APPENDIX A

INITIAL STUDY /NOTICE OF PREPARATION

NOTICE OF PREPARATION

Community & Economic Development Department **Planning Division**
3900 Main Street, Riverside, CA 92522 | Phone: (951) 826-5371 | RiversideCA.gov

NOTICE OF PREPARATION

FROM LEAD AGENCY: Brian Norton, Principal Planner
City of Riverside
Community & Economic Development Department
Planning Division
3900 Main Street, 3rd Floor
Riverside, CA 92522

DATE: June 15, 2023

SUBJECT: **NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT (EIR) AND SCOPING MEETING FOR THE ARLINGTON MIXED USE DEVELOPMENT PROJECT**

The City of Riverside will be the Lead Agency and will prepare an Environmental Impact Report (EIR) for the Arlington Mixed Use Development Project (Project). The City is requesting input from you or your agency or organization as to the scope and content of the environmental information that is relevant to your agency or organization's statutory responsibilities or interests in connection with the proposed Project.

This Notice of Preparation (NOP) identifies the Project applicant, contains the proposed Project description including Project setting and location, and identifies the potential environmental effects of the proposed Project. A regional and vicinity map is included in this NOP (**Figure1**).

The environmental determination in this Notice of Preparation is subject to a 30-day public review period per Public Resources Code Section 21080.4(a) and State CEQA Guidelines Section 15082. Due to time limits mandated by State law, your response must be received at the earliest possible date, **but not later than 30 days** after receipt of this NOP. The public comment period for this NOP begins on: **June 15, 2023 and is set to close at 5:00 pm on July 14, 2023**.

Please send written responses to Brian Norton at the address shown above or via e-mail BNorton@riversideca.gov. Please include the name and contact person in your agency.

DOCUMENT AVAILABILITY: The Initial Study is available on the City's website at https://riversideca.gov/cedd/planning/development-projects-and-ceqa-documents or contact

Brian Norton at 951-826-2308 or via e-mail at BNorton@riversideca.gov to obtain a PDF of the Initial Study.

PROJECT TITLE: Arlington Mixed Use Development Project – Planning Case PR-2022-001252 (General Plan Amendment, Re-Zone, Site Plan Review, Tentative Parcel Map No. 38638, and Certificate of Appropriateness)

PROJECT APPLICANT: Riverside Property Owner, LLC

PROJECT LOCATION: The Project site is located at 5261 Arlington Avenue (APN 226-180-015-1) and entails an approximately 17.43 gross acre and 17.37 net acre site located at the northeast corner of Arlington Avenue and Streeter Avenue in the City or Riverside, Riverside County, CA. (Refer to **Figure 1, Vicinity Map** and **Figure 2, Project Site.**) The Project site is located within Sections 3, Township 2 South, Range 5 West, of the San Bernardino Baseline Meridian. The Project also includes approximately 1.5 miles of offsite impacts located within roadway right-of-way along Streeter Avenue, Arlington Avenue, Central Avenue, Hillside Avenue and Mountain View Avenue.

PROJECT SETTING: The Project site is located in the northwestern portion of the City of Riverside. The Project site is an existing vacant developed site utilized as the former Sears Department Store and Auto Center and associated parking. Surrounding land uses include commercial business and office uses to the south, residential and office uses to the east, residential and medical office uses to the north, and commercial, residential and office uses to the west.

PROJECT GENERAL PLAN AND ZONING DESIGNATIONS: The Project site located at 5261 Arlington Avenue has a General Plan land use designation of C - Commercial and is zoned CG - Commercial General.

PROJECT DESCRIPTION: The Project proposes the demolition of the existing 192,139 square foot (sf) former Sears buildings and all appurtenances. The Sears Auto Center is a 13,713-sf structure. The 178,426 sf Sears structure consists of a 90,526 sf basement and 87,900 sf ground level. The Project proposes the development of approximately 576,203 sf of residential and commercial-retail uses. The Project will include several amenities including: onsite leasing office, tuck-under garages, carports, public dog park, outdoor resort style pool and spa, fitness area, clubhouse, shade structures with barbeques and tables, multi-use turf areas, outdoor gaming and play spaces. The residential component of the proposed Project includes development of 27 residential buildings providing for 546,474 sf of residential uses and 4,409 sf Clubhouse/Fitness/Leasing building. The Clubhouse/Fitness/Leasing building will be publicly accessible while the residential portion will be accessible via gates. The residential buildings will allow for a total of 388 dwelling units and be divided between 13 3-story garden style buildings providing for 318 dwelling units and 14 2-story townhome buildings providing for 70 dwelling units. The proposed Project will also provide 25,320 sf of commercial-retail use by way of two commercial-retail buildings in the southern portion of the site along Arlington Avenue. The commercial-retail buildings include: a 5,000 sf multi-tenant retail speculative pad with an

adjoining outdoor dining/flex space that could include a 24-hour operation; and a proposed 20,320 sf grocery store pad. The grocery store will operate between the hours of 9:00 A.M. to 9:00 P.M. seven days a week.

Construction of the Project will occur in two phases with the first phase being commercial parcel, and the second phase being the residential parcel over the course of approximately 23 months. The earthwork is anticipated to balance with 28,000 cubic feet (cf) of cut and 28,000 cf of fill.

Riverside Public Utilities (RPU) provides electrical services to the Project site. All electrical facilities would connect to existing connections in Arlington Avenue and Streeter Avenue. Additional circuits will be required to meet the Project's estimated electric demand. This will require approximately 1.5 miles of offsite trenching to connect to existing RPU electric facilities. Trenching will occur within existing ROW and will include approximately 0.5 miles in Streeter Avenue from Arlington Avenue to Central Avenue; approximately 0.5 miles in Central Avenue from Streeter Avenue to Hillside Avenue; and approximately 0.5 miles in Hillside Avenue to Mountain View Avenue. It is anticipated that trenching may be as deep as 7 to 8 feet below ground. There are some existing conduit and vaults within this alignment. The Project will be required to provide areas of new 6.5-inch conduit and approximately 10 electric vaults sized at 8 feet by 14 feet in order to provide the additional circuit and connect to existing facilities.

The following environmental review and entitlements are requested for implementation of the project:

- Environmental Impact Report (EIR)
- General Plan Amendment (GPA) – To amend the general plan land use designation from C - Commercial to MU-V - Mixed Use-Village.
- Rezone (RZ) – To rezone the site from CG - Commercial General to MU-V - Mixed Use-Village.
- Site Plan Review (PPE): Proposed site design and building elevations.
- Tentative Parcel Map (TPM): To subdivide the 17.43-gross acre site into 2 parcels for financing, conveyance, and phasing purposes.
- Certificate of Appropriateness (COA) – Proposal to demolish existing Sears structures which have been deemed eligible for listing in the California Register of Historic Resources under Criterion 3, National Register for Historic Places, and the City of Riverside Historical Landmarks.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED: The City of Riverside, as the Lead Agency, has determined based on the analysis in the Initial Study that the Project could have a potentially significant impact in the following topic areas, which will be addressed in the forthcoming EIR:

- Aesthetics
- Air Quality
- Cultural Resources
- Energy
- Greenhouse Gas Emissions
- Hazards/Hazardous Materials
- Land Use & Planning
- Noise
- Population/Housing
- Public Services
- Recreation
- Transportation
- Tribal Cultural Resources
- Utilities & Service Systems
- Mandatory Findings of Significance

The EIR will address the short- and long-term effects of the Project on the environment and will evaluate the potential for the project to cause direct and indirect impacts, as well as cumulative impacts in these topic areas. Alternatives to the proposed Project will be addressed as part of the EIR. Analysis of a "No Project" alternative is required by law. In addition to the "No Project" Alternative, at least one additional alternative will be evaluated. The evaluation of alternatives will provide a comparative analysis to the proposed development.

For those impacts determined to be significant, feasible mitigation measures will be proposed. A Mitigation Monitoring and Reporting Program (MMRP) will be developed as required by State CEQA Guidelines Section 15126.4.

Cumulative Impact Analysis: The EIR will include a discussion of the potentially significant cumulative impacts associated with Aesthetics, Air Quality, Cultural Resources, Energy, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Land Use/Planning, Noise, Population/Housing, Public Services, Recreation, Transportation & Traffic, Tribal Cultural Resources, and Utilities/Services Systems of the Arlington Mixed Use Development Project when considered with other past, present, and reasonably foreseeable future projects in the area. Cumulative impacts of other environmental topics have been addressed in the Initial Study.

Other Required Sections: The EIR will also address other information typically required for an EIR, including the following: Introduction; Project Description; Effects Found Not to Be Significant; Environmental Impact Analysis; Growth-Inducing Impacts; Significant Unavoidable Environmental Effects; Significant Irreversible Changes; Consistency with Regional Plans; Discussion and Analysis of Energy Conservation based on Appendix F and G of CEQA Guidelines; Mitigation Measures; References; and List of Preparers.

Based on the analysis in the Initial Study and its supporting technical appendices, the following topics have been determined to have no impacts, a less than significant impact, or a less than significant impact with mitigation incorporated (which mitigation measures would be imposed as conditions of approval on the Project) and will not be addressed in detail in the forthcoming EIR: agriculture and forest resources, biological resources, geology and soils, hydrology/water quality, mineral resources, and wildfire.

In addition, an electronic copy of the Notice of Preparation will be made available on the City of Riverside website: https://riversideca.gov/cedd/planning/development-projects-and-ceqa-documents

Please send your response to Brian Norton, Principal Planner, at the physical or email address shown above. We will need the name of a contact person in your agency or organization, if applicable.

SCOPING MEETING: A virtual scoping meeting will be held about this project in order to hear from interested parties about issues that might need to be addressed in the forthcoming Environmental Impact Report.

Meeting Information: Wednesday July 12, 2023
6:00 – 7:00 pm (Pacific Standard Time)
Attend the virtual meeting live webcast:

Zoom Webinar Information
Webinar Link:
https://us02web.zoom.us/j/88601112418
Webinar ID: 886 0111 2418
Phone: +1(669)444-9171

Note: No pre-registration is required. Entering the web address above will directly take you to the broadcast room sign-in. First name and email address are required to enter the broadcast room to keep track of attendees.

At this meeting, agencies, organizations, and members of the public will be provided a brief presentation on the project and will be able to review the proposed project and provide comments on the scope of the environmental review process for the proposed Arlington Mixed-Use Development Project.

During the Notice of Preparation public review period, public agencies, interested organizations and individuals have the opportunity to identify those environmental issues that have the potential to be affected by the project and that they request be addressed in the EIR. For this project, the public review period is **June 15, 2023, through July 14, 2023**.

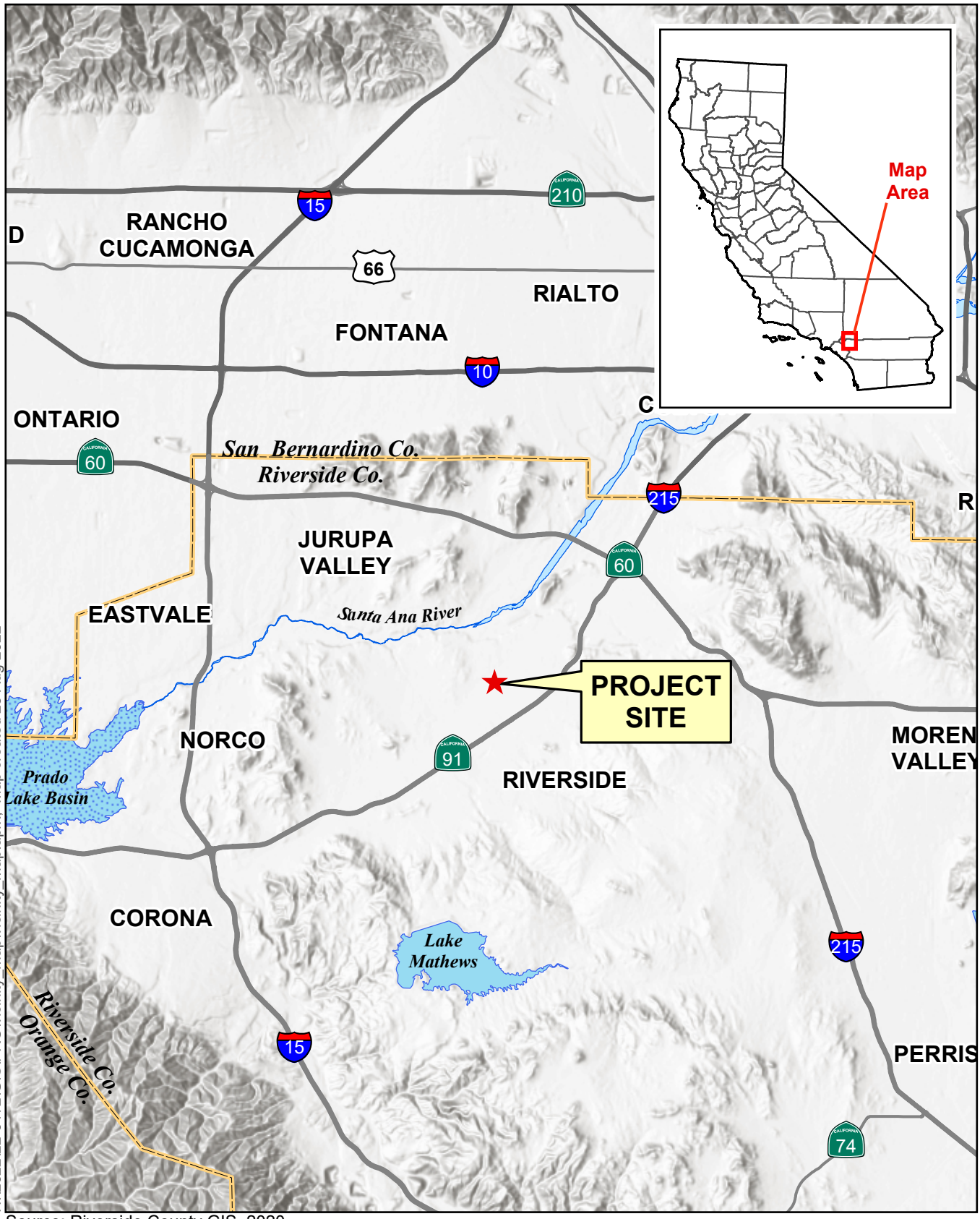
SIGNATURE: _____

TITLE; Brian Norton, Principal Planner – City of Riverside

EMAIL: bnorton@riversideca.gov

TELEPHONE: 951-826-2308

DATE: June 15, 2023



Source: Riverside County GIS, 2020

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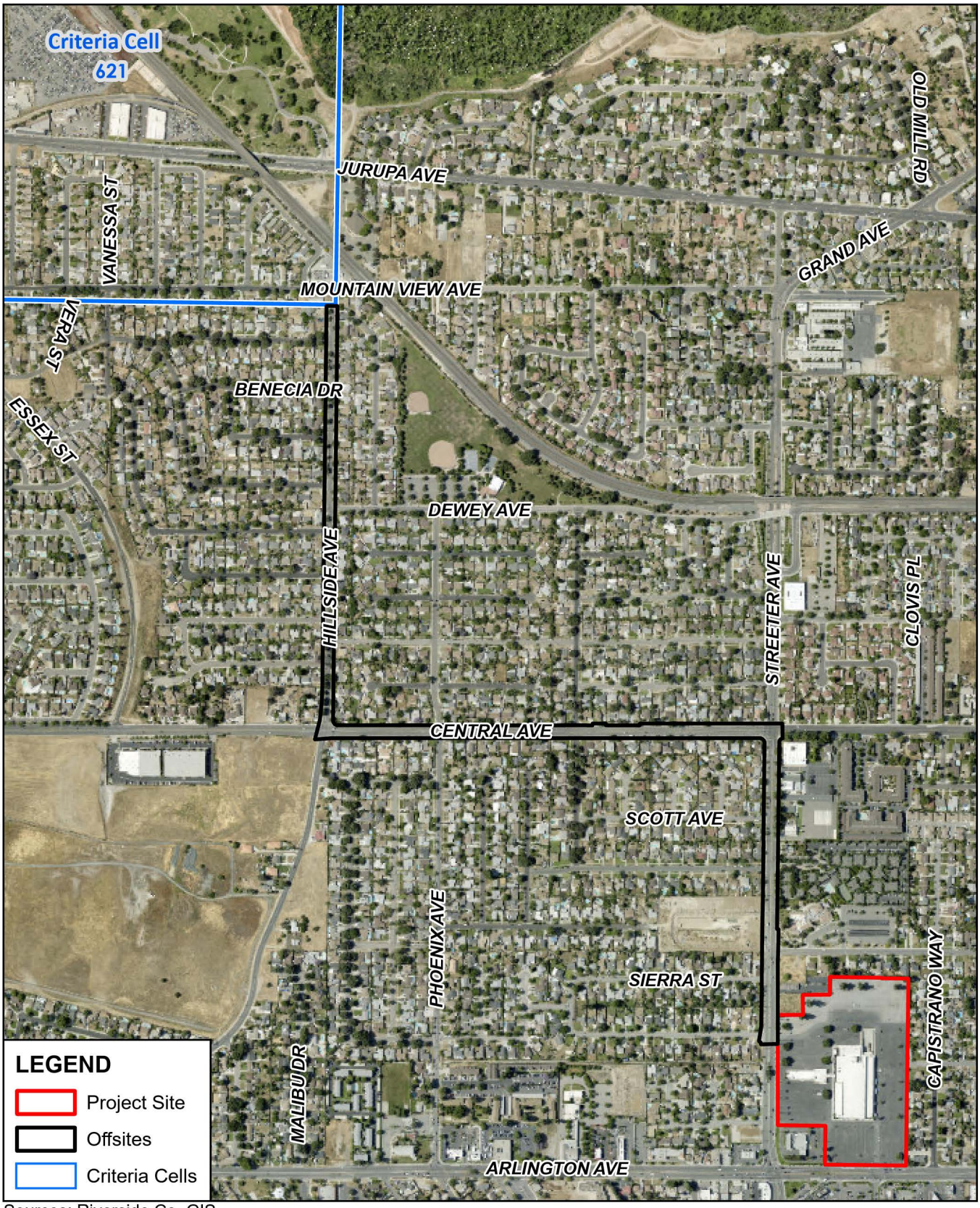
0 2 4 6 Miles

Figure 1 – Vicinity Map

Arlington Mixed Use Project

ALBERT A. WEBB ASSOCIATES



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Sources: Riverside Co. GIS,
2020 (streets) and 2020 (imagery).

0 500 1,000 1,500 Feet

Figure 2 - Project Site

Arlington Mixed Use Project

ALBERT A. WEBB ASSOCIATES

INTIAL STUDY

Draft Initial Study

WARD: 3

1.	**Project Number:**	**PR-2022-001252 (GPA, RZ, PPE, PM, COA, EIR)**
2.	**Project Title:**	Arlington Mixed Use Development
3.	**Scoping Date:**	July 12, 2023
4.	**Lead Agency:**	City of Riverside Community & Economic Development Department Planning Division 3900 Main Street, 3rd Floor Riverside, CA 92522
5.	**Contact Person:** **Phone Number:**	Brian Norton, Principal Planner (951) 826-2308
6.	**Project Location:**	5261 Arlington Avenue, Riverside CA 92506 Assessor Parcel Number (APN) 226-180-015-1 The Project entails an approximately 17.43 gross acre and 17.37 net acre site (after dedication of 0.05 acres along Arlington Avenue for road right-of-way), located at the northeast corner of Arlington Avenue and Streeter Avenue as shown in **Figure 1 – Vicinity Map** and **Figure 2 – Aerial Site Boundary Map,** and **Figure 3 – USGS Topographic Map**[1]. Discussion of Project parcel throughout this document is based upon net acreage of 17.37 acres. The Project also includes approximately 1.5 miles of offsite impacts located within roadway right-of-way as reflected in **Figure 4 – Aerial Site Boundary with Offsites.**

7. Project Applicant/Project Sponsor's Name and Address:

Riverside Property Owner, LLC
12435 Park Potomac Avenue, Suite 200
Potomac, MD 20854
Attn: Jamie Chapman
Phone: (949)546-9572
Email: jchapman@foulgerpratt.com

8. General Plan Designation: C - Commercial as reflected in **Figure 5 – Existing General Plan Land Use Designation**

1. Figures commence on page 13.

9. Zoning Designation: CG - Commercial General as reflected in **Figure 6 – Existing Zoning Designation**

10. Description of Project:

Land Use Applications

The proposed Project includes the following entitlement applications for consideration by the City of Riverside:

- **General Plan Amendment (GPA):** Proposes to amend the general plan land use designation from C - Commercial to MU-V - Mixed Use-Village as per **Figure 7 – Proposed General Plan Land Use**.
- **Change of Zone (RZ):** Proposes to rezone the site from CG - Commercial General to MU-V - Mixed Use-Village as per **Figure 8 – Proposed Zoning**.
- **Site Plan Review (PPE)**: Proposes to develop the 17.37 net acre site with a 576,203 square foot (sf) mixed-use apartment community. Proposal includes development of 27 residential apartment buildings consisting of 2- and 3-story structures that would provide for a total of 388 residential dwelling units, one clubhouse building, and two commercial buildings providing for 546,474 sf of residential use and 4,409 sf associated clubhouse/leasing building, and 25,320 sf of commercial-retail use as per **Figure 9 – Proposed Site Plan**.
- **Tentative Parcel Map No. 38638 (TPM)**: Proposes to subdivide the 17.37-net acre site into 2 parcels for financing, conveyance, and phasing purposes. Parcel 1 will consist of 14.23 net acres for residential development and Parcel 2 will consist of 3.14-net acres for commercial-retail development as per **Figure 10 – Tentative Parcel Map**.
- **Certificate of Appropriateness (COA):** Proposal to demolish the existing, vacant, Sears structures. The Sears structures were built in 1964 and have been deemed eligible for listing in the California Register of Historic Resources under Criterion 3, National Register for Historic Places, and the City of Riverside Historical Landmarks.

Existing Setting and Project Site Conditions

The City of Riverside (City) is located in the northwestern portion of Riverside County. The City is bounded on the north by the Cities of Jurupa Valley, Colton, and Grand Terrace and the unincorporated community of Highgrove, to the east by the City of Moreno Valley, to the south by the unincorporated community of Woodcrest, and to the west by the Cities of Corona and Norco.

The existing Project site includes two existing vacant commercial buildings located on the 17.43 net acre parcel, that are associated with the former Sears Department Store and Automotive Service Center constructed in the mid-1960's[2] as shown in **Figure 11 – Existing Site Conditions**. These structures are eligible for listing in the National Register for Historic Places, California Register for Historic Resources, and the City of Riverside Historical Landmarks.

The former department store is located in the central building, now a vacant structure. The interior of the vacant department store building includes retail areas, warehouse and supply storage areas, sub-grade basement areas, public and freight hydraulic elevators, and restrooms. The basement area contains a disconnected boiler, trash compactor, and emergency generator. A smaller automotive service center structure is located on the western

2. Per ESA, structures built in mid-60's. Per Project applicant Project Description, structures were built in 1964. This will be clarified in the forthcoming Draft EIR.

portion of the property. This building includes six bay doors opening to a concrete-paved former service area with secondary containment structures, nine hydraulic hoists, and a sub-grade oil/water separator. (WEIS, p. 4).

The site formerly contained a vehicle fueling island with three 10,000-gallon gasoline USTs which were removed in 1985 and seven 1,000 to 2,000-gallon oil and waste oil USTs removed in 1987; the fueling station island and distribution lines were removed in 1994. The balance of the remaining site property comprises asphalt-paved parking areas, driveways, and minor landscaping. (WEIS, p. 4).

The existing Project site provides six access points: two along Arlington Avenue and four along Streeter Avenue. Access from Arlington Avenue consists of two full-access driveways leading to a surface parking area containing cement planters for the ornamental trees, a 3-foot cinder block wall (also referred to as Concrete masonry unit wall [CMU wall]) along site frontage and light poles for security lighting. The eastern portion of the site is composed of a surface parking area with ornamental trees and security lighting. The eastern boundary abuts existing residential development where a 6-foot block wall divides the site from the neighboring properties. Access from Streeter Avenue consists of two full-access driveways, leading to the existing Auto Center area, Sears building loading dock, and includes additional surface parking with ornamental trees and security lighting. The northern boundary abuts existing residential development, commercial offices, and a vacant parcel where a 6-foot block wall divides the site from neighboring properties.

The Project site has generally remained vacant since February 2020, when Sears ceased operations. Occasionally, the vacant structure is utilized for the seasonal store "Spirit Halloween" (PE) and the site's parking lot was briefly used in 2020 as a COVID drive-thru testing site. Currently, the Project site surface parking area along the southeast corner has been used by the Riverside Certified Farmers Markets every Friday morning (RUHS).

A majority of the Project site is located within the Airport Land Use Commission Compatibility Zone B1, with portions of site located within Zones C and D of the Riverside Municipal Airport as reflected in **Figure 12 – Existing Airport Land Use Compatibility Zones**.

Demolition

The proposed Project would include the demolition of the existing and vacant 192,139 sf former Sears buildings (Sears building and all appurtenances per **Figure 13 – Demolition Plan**). Sears Auto Center is a 13,713 sf structure. The 178,426 sf Sears Department Store structure consists of a 90,526 sf basement and 87,900 sf ground level. A 6 foot high protection fence with windscreen material will be installed around the site during demolition to obscure views of the site. The Project will utilize crushed concrete and asphaltic concrete materials from the Project site as engineered fill material in accordance with recommendations from the Geotechnical Reports.

Project Characteristics

The Project proposes development of approximately 576,203 sf of residential and commercial-retail uses as reflected in **Figure 9** and **Table A, Building Square Footage Summary**. The Project will include several amenities including: onsite leasing office, tuck-under garages, carports, public dog park, outdoor resort style pool and spa, fitness area, clubhouse, shade structures with barbeques and tables, multi-use turf areas, outdoor gaming and play spaces. The Project also proposes a variety of rooftop and carport solar panels with a fixed tilt of 10 degrees with no rotation, and an orientation of 90 degrees.

Table A, Building Square Footage Summary

Building Type	Building No.	Dwelling Units	Square Footage
Residential			
Garden Style	1	30	39,805
Garden Style	2	30	39,805
Garden Style	3	18	21,000
Garden Style	4	20	25,339
Garden Style	5	20	25,339
Garden Style	6	20	25,339
Garden Style	7	20	25,339
Garden Style	8	20	25,339
Garden Style	9	20	25,339
Garden Style	10	30	39,805
Garden Style	11	30	39,805
Garden Style	12	30	39,805
Garden Style	13	30	39,805
2-Story Townhome	14	5	9,615
2-Story Townhome	15	5	9,615
2-Story Townhome	16	5	9,615
2-Story Townhome	17	5	9,615
2-Story Townhome	18	5	9,615
2-Story Townhome	19	5	9,615
2-Story Townhome	20	5	9,615
2-Story Townhome	21	5	9,615
2-Story Townhome	22	5	9,615
2-Story Townhome	23	5	9,615
2-Story Townhome	24	5	9,615
2-Story Townhome	25	5	9,615
2-Story Townhome	26	5	9,615
2-Story Townhome	27	5	9,615
Residential Subtotal		***388***	***546,474***
Clubhouse/Fitness/Leasing	N/A		4,409
Commercial			
Grocery	N/A	N/A	20,320
Retail	N/A	N/A	5,000
Commercial Subtotal		N/A	***25,320***
TOTALS		**388**	**576,203**

Residential

The residential component of the proposed Project includes development of 27 residential buildings providing for 546,474 sf of residential use and one 4,409 sf Clubhouse/Fitness/Leasing building. The Clubhouse/Fitness/Leasing building will be publicly accessible while the residential portion will be accessible via gates. The residential buildings will allow for a total of 388 dwelling units and be divided between 13 3-story garden style buildings providing for 318 dwelling units and 14 2-story townhome buildings providing for 70 dwelling units. The unit mix will be comprised of 18 studio units, 152 one-bedroom units, 28 two-bedroom units, and 42 three-bedroom units. As reflected in **Figure 9,** buildings 1-13 would be 3-Story garden style residential structures. Buildings 14-27 would be 2-Story townhomes. The 3-Story garden style buildings would introduce 318 residential units, while the 2-Story townhomes would introduce 70 residential units. The 3-Story Garden Style residential buildings will offer varying exterior styles. Proposed residential elevations and floor plans are reflected in **Figure 14 – Proposed Elevations [Garden Style-Type III Front & Left], Figure 15 – Proposed Elevations [Garden Style-Type III-Rear & Right], Figure 16 – Proposed Elevations [Townhomes],** and **Figure 17 – Proposed Floor Plans [Garden Style Plans 1 of 2], Figure 18 – Proposed Floor Plans [Garden Style Plans 2 of 2],** and **Figure 19 – Proposed Floor Plans [Townhome Plans]**. These exterior styles will contain a similar color palette to unify the buildings throughout the Project site. The residential area will also provide a 4,036 sf dog park, pool and spa, shade structures, barbeques and tables, outdoor gaming and play spaces, multi-use turf areas, pedestrian promenade, picnic, and play areas. The dog park will be accessible through a gate on the residential side and accessible to the public via a gate in the commercial area.

Commercial-Retail

The proposed Project will provide 25,320 sf of commercial-retail use by way of two commercial-retail buildings in the southeastern portion of the site along Arlington Avenue. A 5,000 square feet (sq. ft.) multi-tenant retail speculative pad would be located in the southwestern corner of the project site with an adjoining outdoor dining/flex space that could include a 24-hour operation. This area of the site also proposes a 20,320 sq. ft. grocery store pad as reflected in **Figure 20 – Proposed Elevations ALDI Right & Rear, Figure 21 – Proposed Elevations ALDI Left & Front.** The Project is projected to have up to 51 employees.[3]

The proposed grocery store is expected to operate between the hours of 9am and 9pm seven days a week. The store is estimated to include approximately 20 employees; scheduling 3 to 7 employees per shift. Store deliveries are expected to take place once per day, by a WB67 truck from the Moreno Valley warehouse located southwest of Redlands Boulevard and State Route 60. There will also be limited small truck deliveries for beverages and bakery items.

Vehicular Circulation and Site Access

Regional access to the Project Site is provided via State Route 91 (SR-91) from Madison Avenue ramps located approximately 0.8 miles to the south, as well as Arlington Avenue ramps located 1.5 miles to the south. Local access is provided via Arlington Avenue and Streeter Avenue. Arlington Avenue is currently constructed to its ultimate half-section width as an arterial along the Project's frontage from the Project's western boundary to the Project's eastern boundary. Specifically, Arlington Avenue is classified as a 120 feet (ft) arterial street with 6 lanes east of

3. Based on employee generation rate of 500 employees per square foot of commercial retail (500 employees x25,320sf =59 employees) per County of Riverside General Plan Appendix E-2: Socioeconomic Buildout Assumptions and Methodology, Table E-5: Commercial Employment Factors, pg 3, dated April 11, 2017, available at https://planning.rctlma.org/Portals/14/genplan/general_Plan_2017/appendices/Appendix%20E-2_April%202017.pdf?ver=2017-10-23-153612-743, accessed November 14, 2022.

Streeter Avenue and an 88 ft arterial street with 4 lanes west of Streeter Avenue. Also, Streeter Avenue is currently constructed to its ultimate half-section width as an 88 ft arterial along the Project's frontage from the Project's southern boundary to the Project's northern boundary.

The proposed Project site will leave in place four of the six existing full access driveways: two along Arlington Avenue and two along Streeter Avenue. Primary site access for the residential area will be from Streeter Avenue with secondary access from Arlington Avenue. The existing driveway will be enhanced by the addition of decorative pavement and an art installation. The following lists the proposed improvements and is reflected in **Figure 22- Proposed Transportation Improvements**:

- Driveway #1 at the Streeter Avenue and Granada Avenue Intersection – install a stop control on the westbound approach (the Project driveway) and construct a shared left-through right turn lane.
- Driveway #2 at the Streeter Avenue and El Molino Avenue Intersection – install a stop control on the westbound approach (the Project driveway) and construct a shared left-through right turn lane.
- Driveway #3 at the California Avenue and Streeter Avenue Intersection – install a stop control on the southbound approach (the Project driveway) and construct a right turn lane.
- Driveway #4 along Arlington Avenue – construct a shared left-through-right turn lane on the southbound approach (project) and improve the existing traffic signal infrastructure with Audible Push Buttons.
- Streeter Avenue and Arlington Avenue Intersection – improve the existing traffic signal infrastructure with Audible Push Buttons and cut back medians to allow for a clear travel path for pedestrians at all approaches.

Visitor parking will be provided within the entry plaza prior to entering the residential area and several areas throughout the residential portion for residential guests. The residential portion of the Project site will be gated. Primary access to the residential portion of the site will be acquired from Streeter Avenue via two access gates along both sides of the entry driveway. A second and third access gate will be provided from the commercial area. The internal road network is designed to be at least 20 feet wide to allow for emergency vehicle access. The driveway north of the existing Bank of America on Streeter Avenue will serve as egress for future residents and as an emergency access. All entrances and exits will be gate controlled.

Public Transit

The Project area is currently served by the Riverside Transit Agency (RTA). Route 12 travels along Streeter Avenue while Route 15 travels along Arlington Avenue in the Project area. The nearest bus stops and shelters are located on Arlington Avenue and Streeter Avenue. The bus shelter along Arlington Avenue is situated in front of the location of the proposed ALDI. The City will replace the shelter once Arlington Avenue has been widened.

Parking

As shown in **Figure 23 – Proposed Parking Plan**, the Project will provide parking areas for residential occupants, residential guests, and commercial-retail users. The plan provides for a total of 815 parking spaces across the entirety of the site. A total of 683 parking spaces will be dedicated to residential uses and includes 594 standard stalls, 20 Americans with Disability Act (ADA) accessible stalls, 66 electric vehicle charging station (EVCS) stalls, and 3 ADA/EVCS stalls. A total of 132 parking stalls will be dedicated to commercial-retail uses which includes 111 standard stalls, 7 ADA accessible stalls, 12 EVSC stalls, and 2 ADA/EVCS stalls. Additionally, the site will provide 41 stalls for bicycle parking.

Pedestrian Circulation and Site Access

As shown in **Figure 24 – Pedestrian Circulation**, the Project will provide several pedestrian pathways to facilitate the movement of pedestrians within the site. These pathways will be lit to ensure security. The Project site will also provide pedestrian linkage to the surrounding area by providing connection to the existing sidewalks along Streeter Avenue and Arlington Avenue.

Open Space

There are 72 existing ornamental, non-native trees located throughout the site. The Project will remove these trees and instead provide a landscape plant palette consistent with *Riverside Citywide Design Guidelines* for Water Efficient Landscape and Irrigation Design Guidelines, amended January 2019 (RCDG) as well as plants consistent with the Riverside County Airport Land Use Commissions *Landscaping Near Airports: Special Considerations for Preventing or Reducing Wildlife Hazards to Aircraft* (ALUC-A) as reflected in **Figure 25 – Conceptual Landscape Plan, Figure 26 – Landscape Planting Plan, Figure 27 – Plant Palette [1 of 2],** and **Figure 28 – Plant Palette [2 of 2].**

The residential portion of the Project site will be surrounded by a 6 foot high tubular steel fence, 6 foot high block wall, or combination block wall/steel fence as reflected in **Figure 29 – Wall and Fence Plan.** The Project includes details for walls and fences within the site and around the perimeter of the site as well as sign plans, fountain wall, dog park gates, vehicular gates, and access gates for residential access as reflected in **Figure 30 – Wall and Fences Details [1 of 2],** and **Figure 31 – Wall and Fence Details [2 of 2].**

Lighting

The proposed Project will include exterior building lights and pedestrian lighting for safety and security purposes within parking lots, along pathways, and on buildings as identified in **Figure 32 – Proposed Lighting Plan**. All light sources will be shielded so that the light is directed away from streets and adjoining properties. Further, all light fixtures will be required to be consistent with the City of Riverside Municipal Code – Title 19, Zoning Code for illumination. Existing Street lights are located along Streeter Avenue and Arlington Avenue within the right-of-way.

Utilities

As the Project is an existing developed site with existing vacant structures, utilities are provided within and around the site. Several of the existing utility facilities on-site will be removed and replaced or relocated as reflected in **Figure 33 – Existing and Proposed Utility Plan,** to provide connection to existing facilities within the roadway rights-of-way. The site is served by Riverside Public Utilities (RPU) for Electric, discussed below and Southern California Gas for natural gas.

Water

Public water service would be provided by RPU via connection to existing pipelines on Streeter Avenue and Arlington Avenue.

Sewer

Wastewater treatment for the project would be provided by the City Public Works Department at the Riverside Regional Water Quality Control Plant. The proposed project would connect to an existing 8-inch sewer line located on Streeter Avenue and a two 8-inch Arlington Avenue.

Stormwater Facilities

The proposed Project site will be predominantly paved, with landscaping throughout. The proposed Project will relocate and provide new on-site drainage patterns and be designed to incorporate catch basins and biotreatment BMPs and landscaping features to redirect, capture, and treat surface runoff from new development prior to entering the existing storm drain system in Streeter and Arlington Avenue as reflected on **Figure 34 – Proposed Drainage & Grading Plan**

Electricity

RPU provides electrical services to the Project site. All electrical facilities would connect to existing connections in Arlington Avenue and Streeter Avenue. There are existing power poles located along Arlington Avenue located within the right-of-way. An additional circuit will be required to meet the Project's estimated electric demand. This will require approximately 1.5 miles of offsite trenching to connect to existing RPU electric facilities. Trenching will occur within existing ROW and will include approximately 0.5 miles in Streeter Avenue from Arlington Avenue to Central Avenue; approximately 0.5 miles in Central Avenue from Streeter Avenue to Hillside Avenue; and approximately 0.5 miles in Hillside Avenue Central Avenue to Mountain View Avenue. It is anticipated that trenching may be as deep as 7 to 8 feet below ground. There are some existing conduit and vaults within this alignment. The Project will be required to provide areas of new 6.5-inch conduit and approximately 10 electric vaults sized at 8 feet by 14 feet in order to provide the additional circuit and connect to existing facilities. With these improvements RPU has sufficient capacity to serve the Project site.[4]

Construction

Construction is anticipated to take approximately 23 months and will be built in two phases with the first phase being commercial parcel, and the second phase being the residential parcel. The earthwork is anticipated to balance with 28,000 cubic feet (cf) of cut and 28,000 cf of fill. Construction is anticipated to commence July 2024.

Grading would be accomplished with scrapers, motor graders, water trucks, dozers, and compaction equipment. It is anticipated Building materials would be off-loaded and installed using small cranes, boom trucks, forklifts, rubber-tired loaders, rubber-tired backhoes, and other small- to medium-sized construction equipment as needed.

Offsite Improvements

All offsite improvements are related to electric facilities and associated roadway repairs as described above. The offsite area encompasses approximately 13 acres. A small 0.15 acres portion of this offsite improvement area is located within the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Criteria Cell number 621, Subunit 1 – Santa Ana River South as reflected in **Figure 35, Offsite Biological Resources**.

11. Surrounding land uses and setting:

The area surrounding the Project site is highly developed and urbanized with a variety of land uses, including commercial, medium-high density residential, high-density residential, office, and public facilities. Refer to **Table B, Surrounding Land Uses**, for the land use and zoning designations for the surrounding area.

4. Email correspondence with Efren Mejia dated April 12, 2023.

Table B, Surrounding Land Uses

	Existing Land Use	General Plan Land Use Designation	Zoning Designation
Project Site	Existing Vacant Sears Department Store and Auto Center	C – Commercial	CG – Commercial-General
North	Residential Uses	O – Office PF – Public Facilities C – Commercial	R-1-7000 – Single Family Residential
East	Residential and Office Uses	MDR – Medium Density Residential O – Office	R-1-7000 – Single Family Residential O – Office
South (Across Arlington Avenue and California Avenue)	Commercial and Office Uses	C – Commercial HDR – High Density Residential	CR – Commercial Retail CG – Commercial General O – Office
West (Across Streeter Avenue)	Residential, Office and Commercial Uses	MDR – Medium Density Residential O – Office C – Commercial PF – Public Facilities	CG – Commercial General O – Office R-1-7000 – Single Family Residential

12. Other public agencies whose approval is required (e.g., permits, financial approval, or participation agreement.):

Agency	**Approval**
State Water Resources Control Board	National Pollutant Discharge Elimination System Construction General Permit/Stormwater Pollution Prevention Plan
Riverside County Airport Land Use Commission (ALUC)	Consistency Determination
Western Riverside County Regional Conservation Authority	Joint Project Review Determination

13. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significant impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

In accordance with Public Resources Code 21080.3.1, the City of Riverside sent out AB 52 consultation notices on October 25, 2022 and received responses from the following tribes: Yuma Quenchan Tribe, Rincon Band of Luiseno Indians, and San Manuel Band of Mission Indians. Tribal consultation will continue and be concluded prior to certification of the EIR.

14. Sources Referenced in Preparation of this Initial Study:

a. City of Riverside, General Plan 2025

b. City of Riverside, GP 2025 FPEIR

c. City of Riverside Municipal Code Title 16 – Buildings and Construction

d. City of Riverside Municipal Code Title 19 – Zoning

e. City of Riverside Municipal Code Title 20 – Cultural Resources

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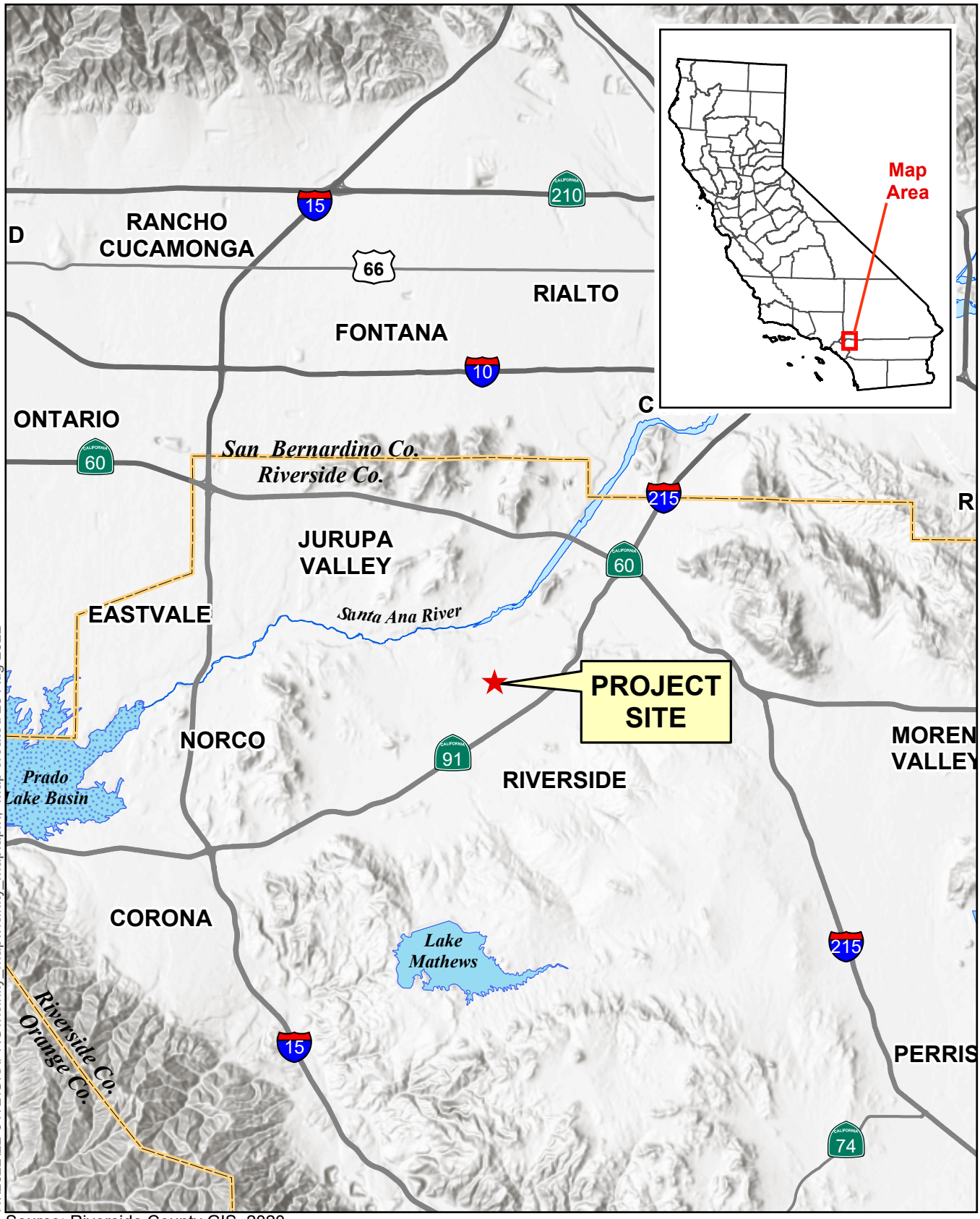
	Joint Project Review, Western Riverside Regional Conservation Authority (RCA)
Appendix B	Geotechnical Investigation Report, Alta California Geotechnical, Inc.(ALTA-A)
	Updated Geotechnical Investigation Report, Alta California Geotechnical, Inc. (ALTA-B)
	Paleontological Resource Inventory Memorandum (DUDEK)
Appendix C	Phase II Environmental Site Assessment, Terracon Consultants, Inc. (TERRACON)
	Phase I Environmental Site Assessment, Weis Environmental (WEIS)
	California Regional Water Quality Control Board (CRWQCB)
Appendix D	Preliminary Drainage Statement (PSOMAS-A)
	Project Specific Water Quality Management plan (PSOMAS-B)

18. Acronyms

AB	Assembly Bill
ADA	Americans with Disabilities Act
APN	Assessor's Parcel Number
AQMP	Air Quality Management Plan
BMP	best management practices
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CARB	California Air Resources Board
CBC	California Building Code
CDC	California Department of Conservation
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFS	Cubic Feet Per Second

CG	Commercial General
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon Monoxide
CRHR	California Register of Historical Resources
DTSC	Department of Toxic Substance Control
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
GHG	greenhouse gas
GPA	General Plan Amendment
GPD	gallons per day
HCP	Habitat Conservation Plans
HMVP	Hazardous Materials Business Plan
LDMF	Local Development Mitigation Fee
LID	low-impact development
LST	Localized Significance Thresholds
MC	Municipal Code
MCL	Maximum Contaminate Levels
MGD	million gallons per day
MRZ	Mineral Resource Zone
MU-V	Mixed Use-Village
MSHCP	Multiple-Species Habitat Conservation Plan
NAHC	Native American Heritage Commission
NOX	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
PCE	Tetrachloroethylene
PM-2.5	Particulate Matter less than 2.5 microns
PM-10	Particulate Matter less than 10 microns
PRC	Public Resources Code
RCA	Regional Conservation Authority
RFD	Riverside Fire Department

RPU	Riverside Public Utilities
RPW	Riverside Public Work
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RUSD	Riverside Unified School District
RWQCB	Regional Water Quality Control Board
SA-RWQCB	Santa Ana Regional Water Quality Control Board
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SF	square feet
SFHA	Special Flood Hazard Area
SKR	Stephens' Kangaroo Rat
SR	State Route
SRA	State Responsibility Area
SWPPP	Storm Water Pollution Prevention Plan
TPH	Petroleum hydrocarbon
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geologic Survey
UST	Underground Storage Tank
VMT	Vehicle Miles Traveled
VOC	Volatile organic chemicals
WQMP	Water Quality Management Plan



H:\2022\22-0172\GIS\PRO\vicinity_map\vicinity_map.aprx; Map created 29 Aug 2022

Source: Riverside County GIS, 2020

0 2 4 6 Miles

Figure 1 – Vicinity Map

Arlington Mixed Use Project

ALBERT A. WEBB ASSOCIATES

H:\2022\22-0172\GIS\PRO\Aerial_boundary\Aerial_boundary.aprx; Map created 24 May 2023

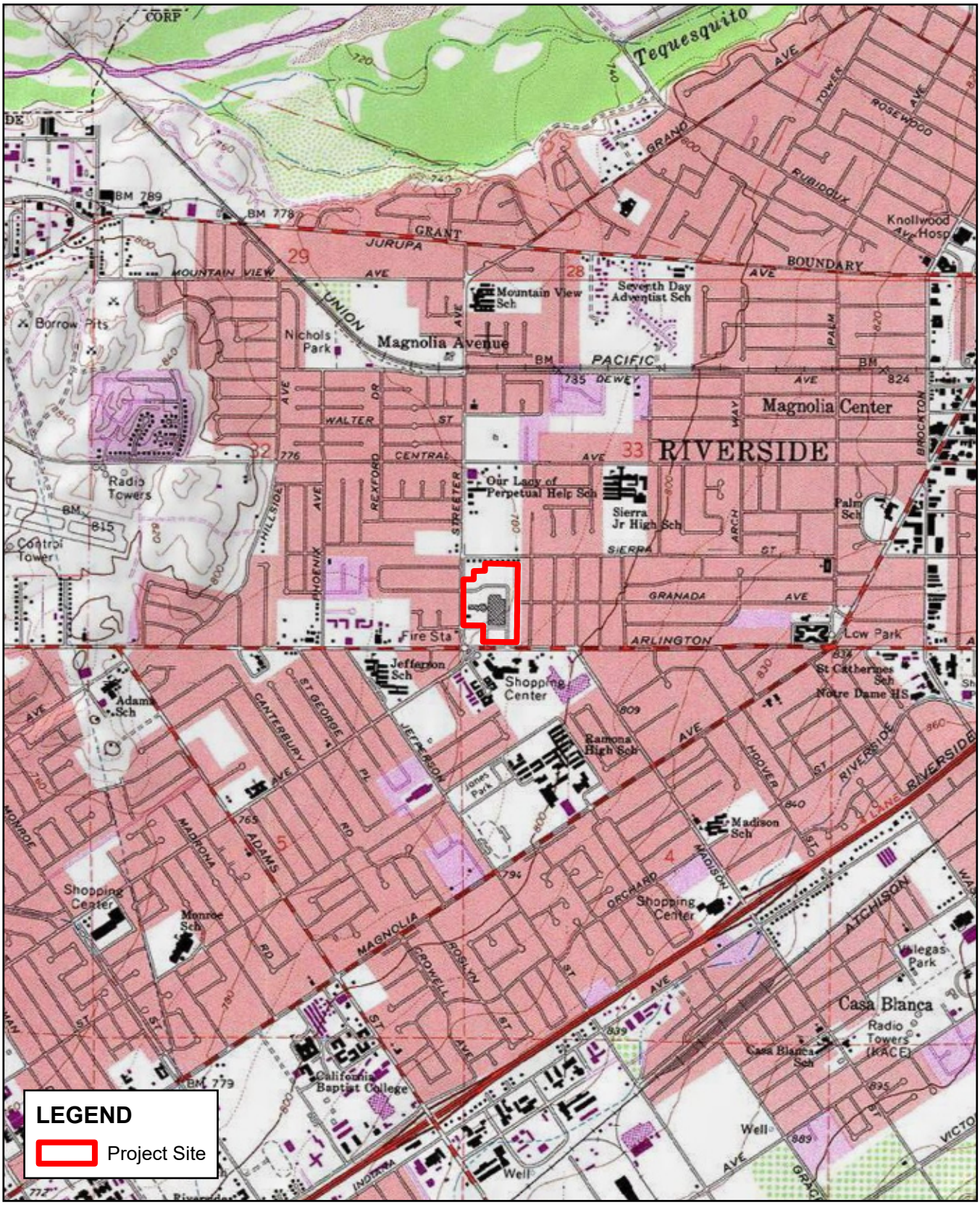
Sources: Riverside Co. GIS,
2020 (streets) and 2020 (imagery).

0 100 200 300 Feet

Figure 2 - Aerial Site Boundary Map

Arlington Mixed Use Project

ALBERT A. WEBB ASSOCIATES



H:\2022\22-0172\GIS\PRO\usgs_topo_map\usgs_topo_map.aprx; Map created 30 Aug 2022; virginiaw

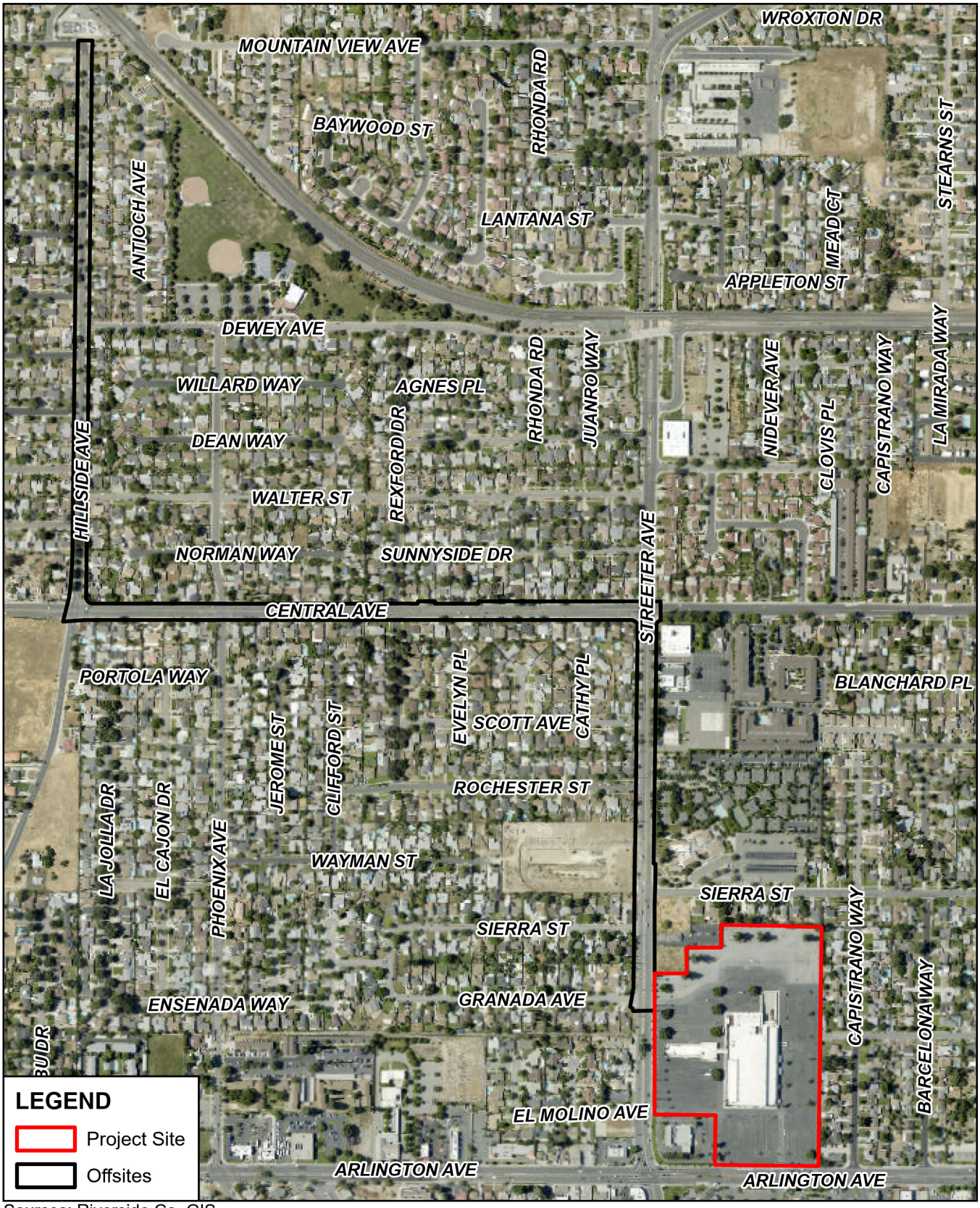
Sources: ESRI / USGS 7.5min Quads:
RIVERSIDE WEST

Figure 3 - USGS Topographic Map

Arlington Mixed Use Project

0 1,000 2,000 3,000 Feet

ALBERT A. WEBB ASSOCIATES



H:\2022\22-0172\GIS\PRO\aerial_site_and_offsites.aprx; Map created 24 May 2023

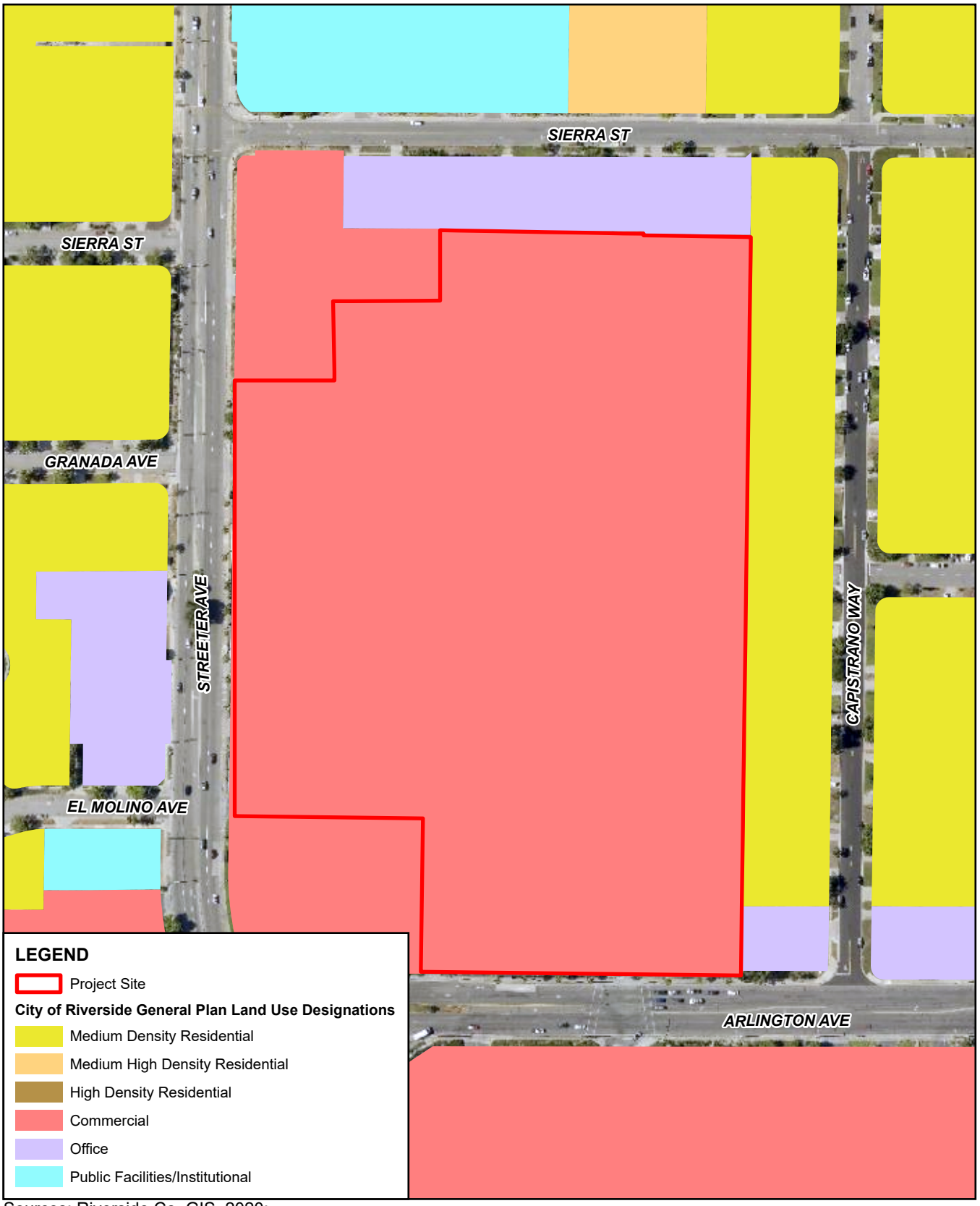
Sources: Riverside Co. GIS, 2020 (streets) and 2020 (imagery).

Figure 4 - Aerial Site Boundary with Offsites

Arlington Mixed Use Project

0 500 1,000 1,500 Feet

ALBERT A. WEBB ASSOCIATES



H:\2022\22-0172\GIS\PRO\gplu\gplu.aprx; Map created 30 Aug 2022

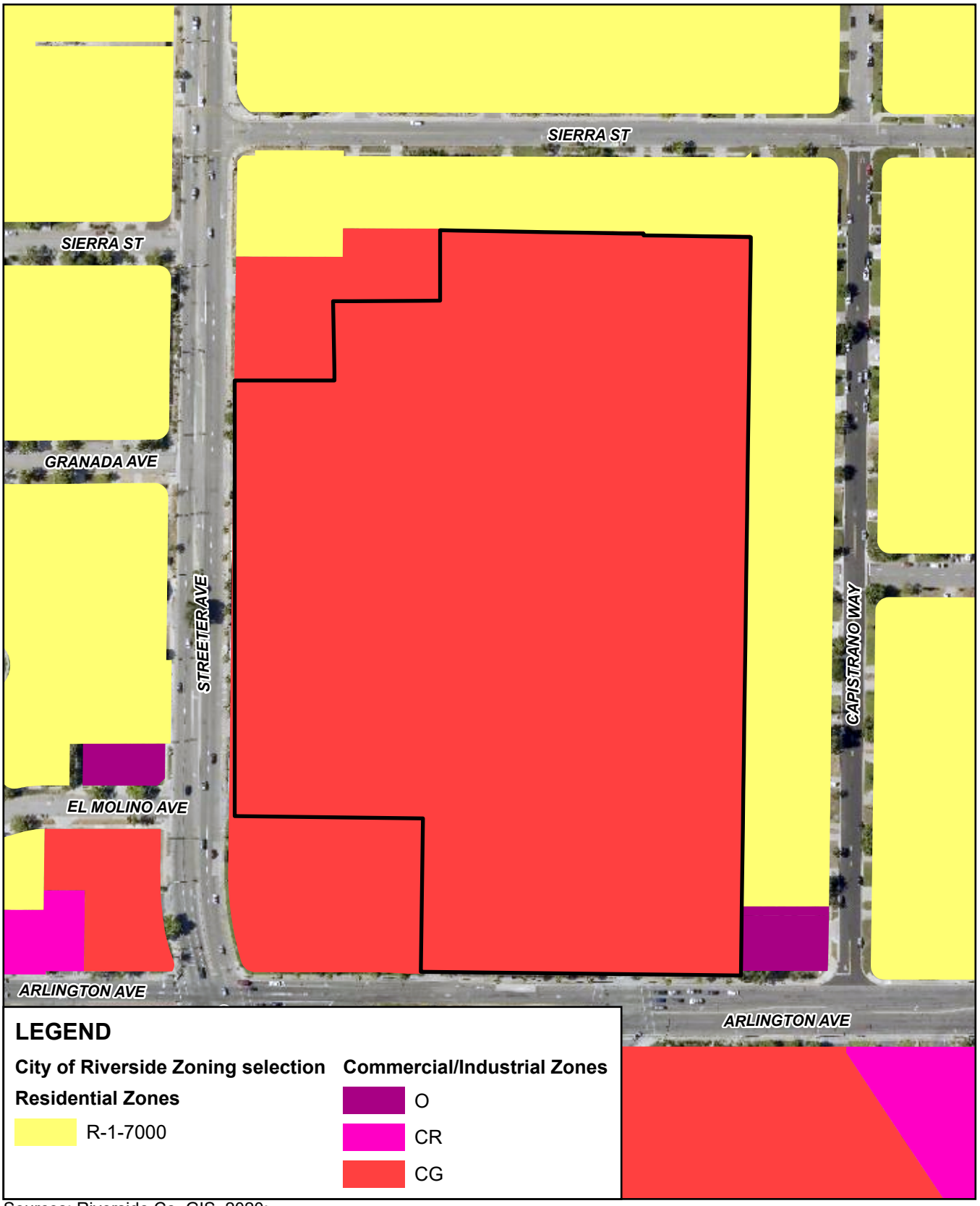
Sources: Riverside Co. GIS, 2020; City of Riverside General Plan Land Use, 2021.

Figure 5 - Existing General Plan Land Use Designation

Arlington Mixed Use Project

0 150 300 450 Feet

ALBERT A. WEBB ASSOCIATES



H:\2022\22-0172\GIS\PRO\zoning.aprx; Map created 26 Sep 2022

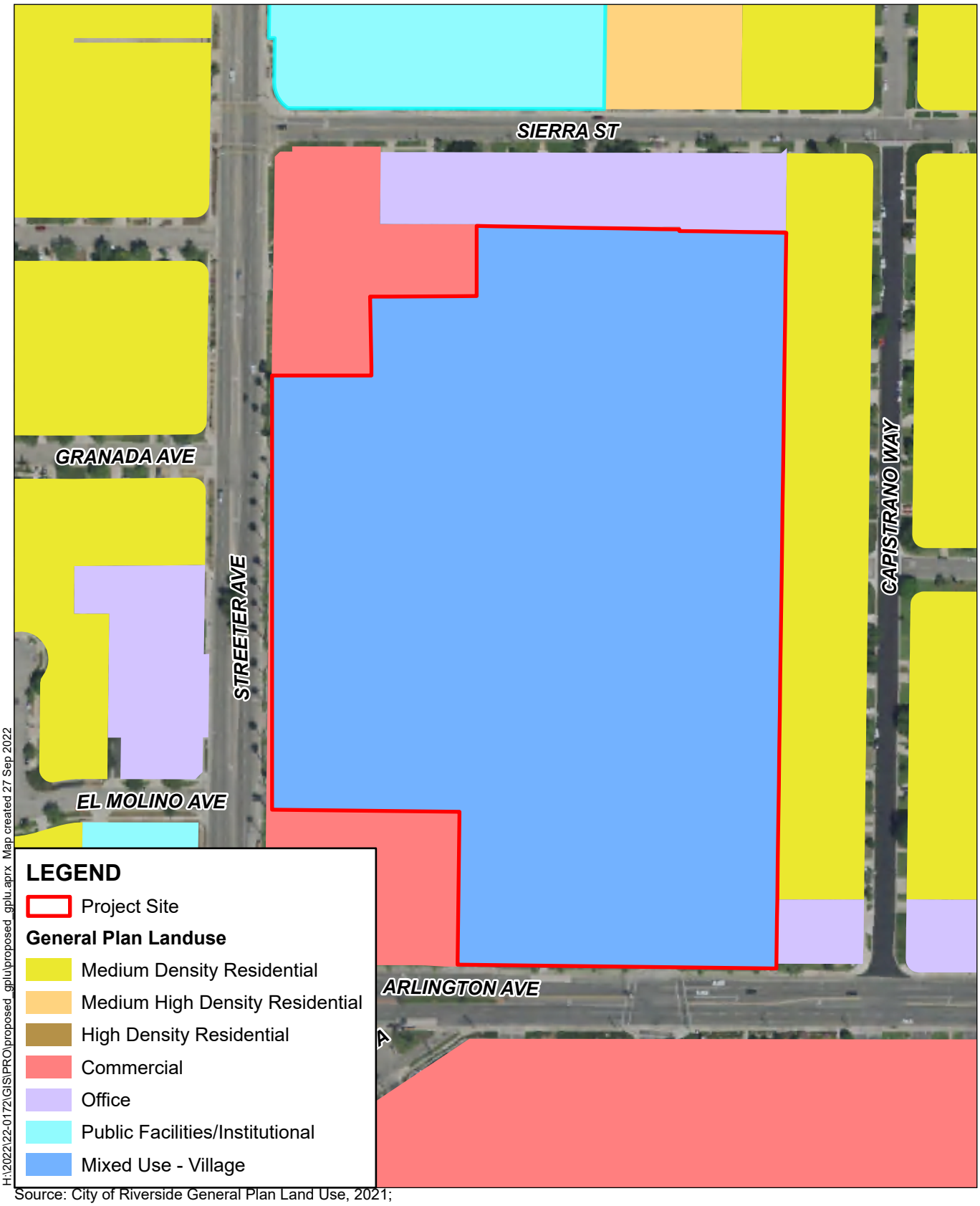
Sources: Riverside Co. GIS, 2020;
City of Riverside General Plan
Land Use, 2021.

0 150 300 450 Feet

Figure 6 - Existing Zoning Designation

Arlington Mixed Use Project

ALBERT A. WEBB ASSOCIATES



H:\2022\22-0172\GIS\PRO\proposed_gplu\proposed_gplu.aprx Map created 27 Sep 2022

Source: City of Riverside General Plan Land Use, 2021;
Riverside Co. GIS, 2020.

Figure 7 - Proposed General Plan Land Use

Arlington Mixed Use Project

0 150 300 450 Feet

ALBERT A. WEBB ASSOCIATES

H:\2022\22-0172\GIS\PRO\proposed_gplu\proposed_gplu.aprx Map created 27 Sep 2022

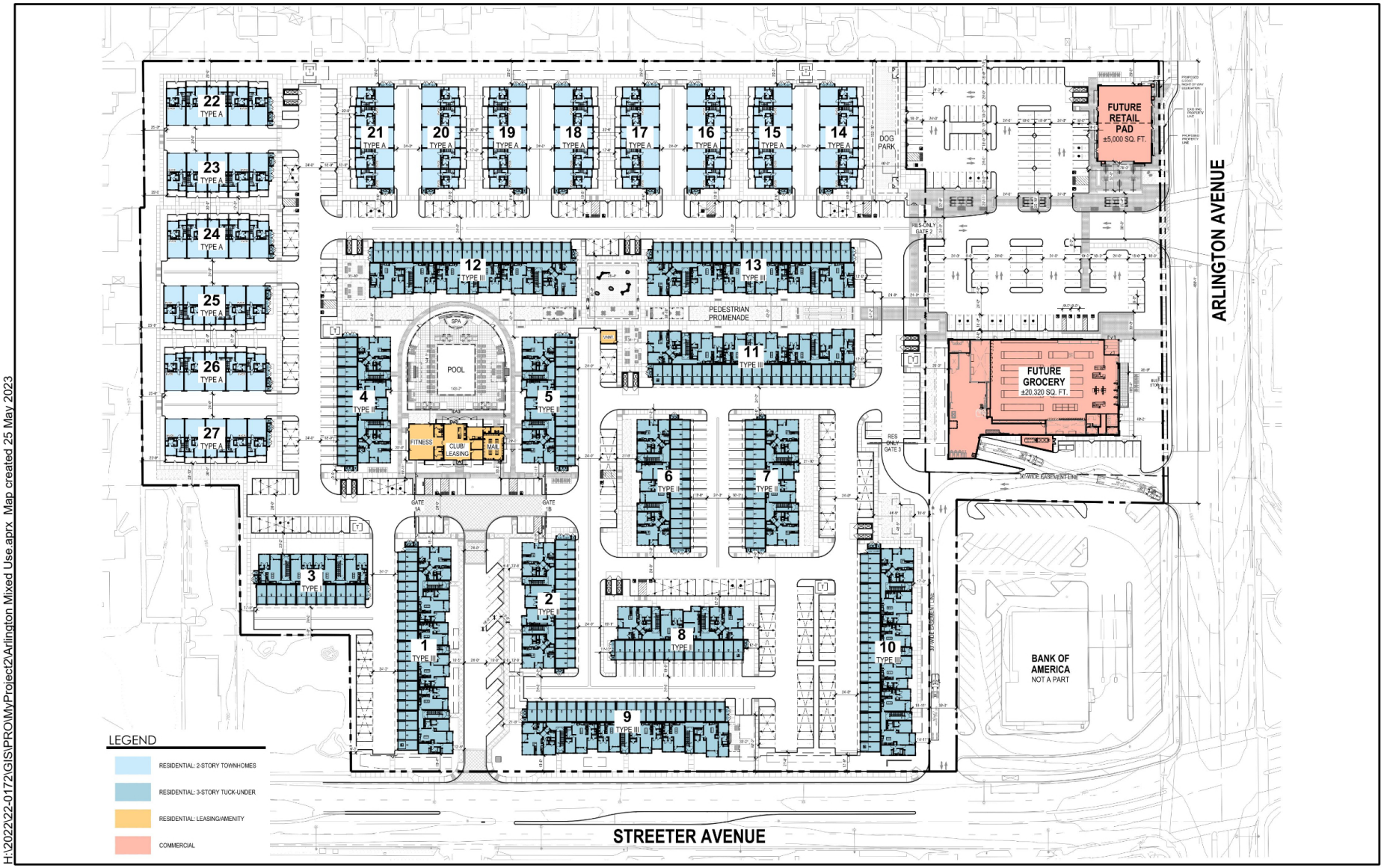
Source: City of Riverside Zoning. 2021;
Riverside Co. GIS, 2020.

0 100 200 300 Feet

Figure 8 - Proposed Zoning

Arlington Mixed Use Project

ALBERT A. WEBB ASSOCIATES



H:\2022\22-0172\GIS\PRO\MyProject2\Arlington Mixed Use.aprx Map created 25 May 2023

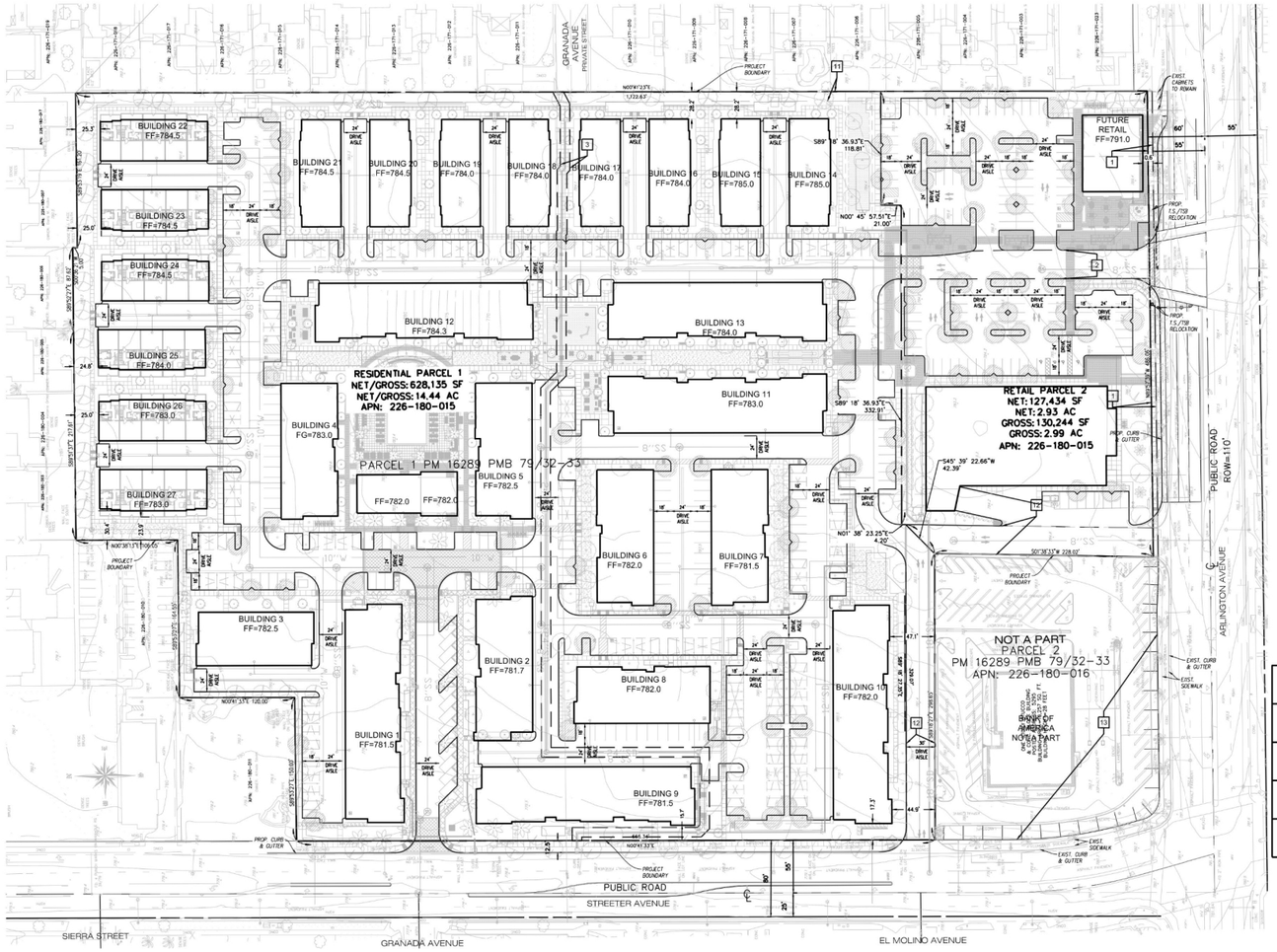
Source: Architects Orange March 29, 2023.

NTS

Figure 9 - Proposed Site Plan

Arlington Mixed Use Project

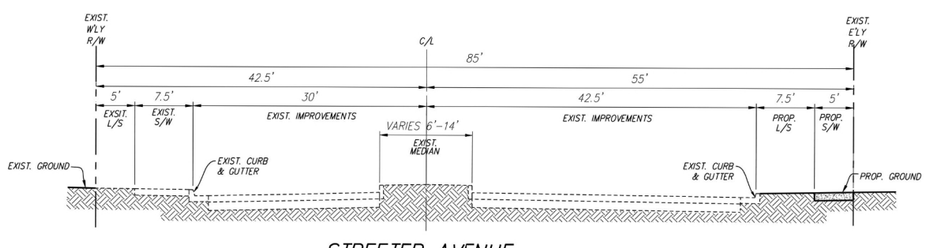
ALBERT A. WEBB ASSOCIATES



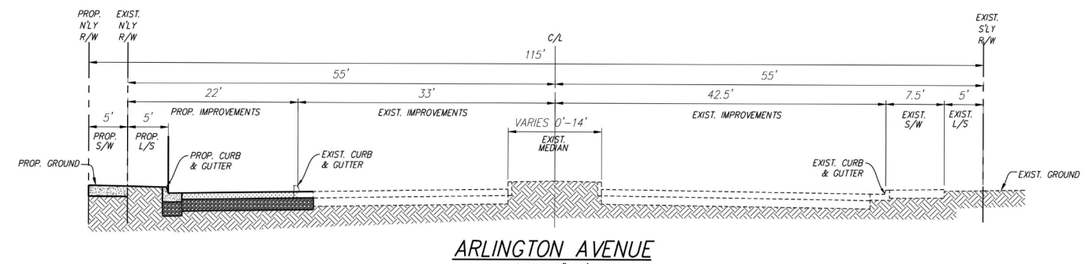
DEVELOPMENT STANDARDS FOR MU-V ZONE		
	REQUIREMENTS	PROPOSED
LOT AREA	20,000 SQ.FT (MINIMUM)	756,836 SQ.FT
LOT DEPTH	100 FT (MINIMUM)	1,123.25 FT
LOT WIDTH	75 FT (MINIMUM)	780.92 FT
FRONT YARD SETBACK	0 FT (MINIMUM)	5 FT
SIDE YARD SETBACK	0 FT (MINIMUM)	25 FT
REAR YARD SETBACK	15 FT (MINIMUM)	15.17 FT
BUILDING HEIGHT	45 FT (MAXIMUM)	41.25 FT (MAXIMUM)
FAR	2.5 (MAXIMUM)	0.6
RESIDENTIAL DENSITY (GROSS)	30 DU/AC (MAXIMUM)	22.30 DU/AC
OPEN SPACE REQUIREMENTS - STAND ALONE RESIDENTIAL	NA	NA
OPEN SPACE REQUIREMENTS - MIXED-USE DEVELOPMENT	NA	NA
PRIVATE OPEN SPACE	50 SQ.FT/DU (MINIMUM)	91.80 SQ.FT/DU
COMMON OPEN SPACE	50 SQ.FT/DU (MINIMUM)	147.90 SQ.FT/DU

PROJECT SUMMARY		
PARCEL NO.	NET SQUARE FEET	NET ACRES
PARCEL 1	628,135	14.44
PARCEL 2	127,434	2.93
TOTAL	755,569	17.37

PROJECT SUMMARY		
PARCEL NO.	GROSS SQUARE FEET	GROSS ACRES
PARCEL 1	628,135	14.44
PARCEL 2	130,244	2.99
TOTAL	758,379	17.43



STREETER AVENUE
SCALE: 1"=10'



ARLINGTON AVENUE
SCALE: 1"=10'

H:\2022\22-0172\GIS\PRO\tentative_parcel\tentative_parcel.aprx Map created 23 May 2023

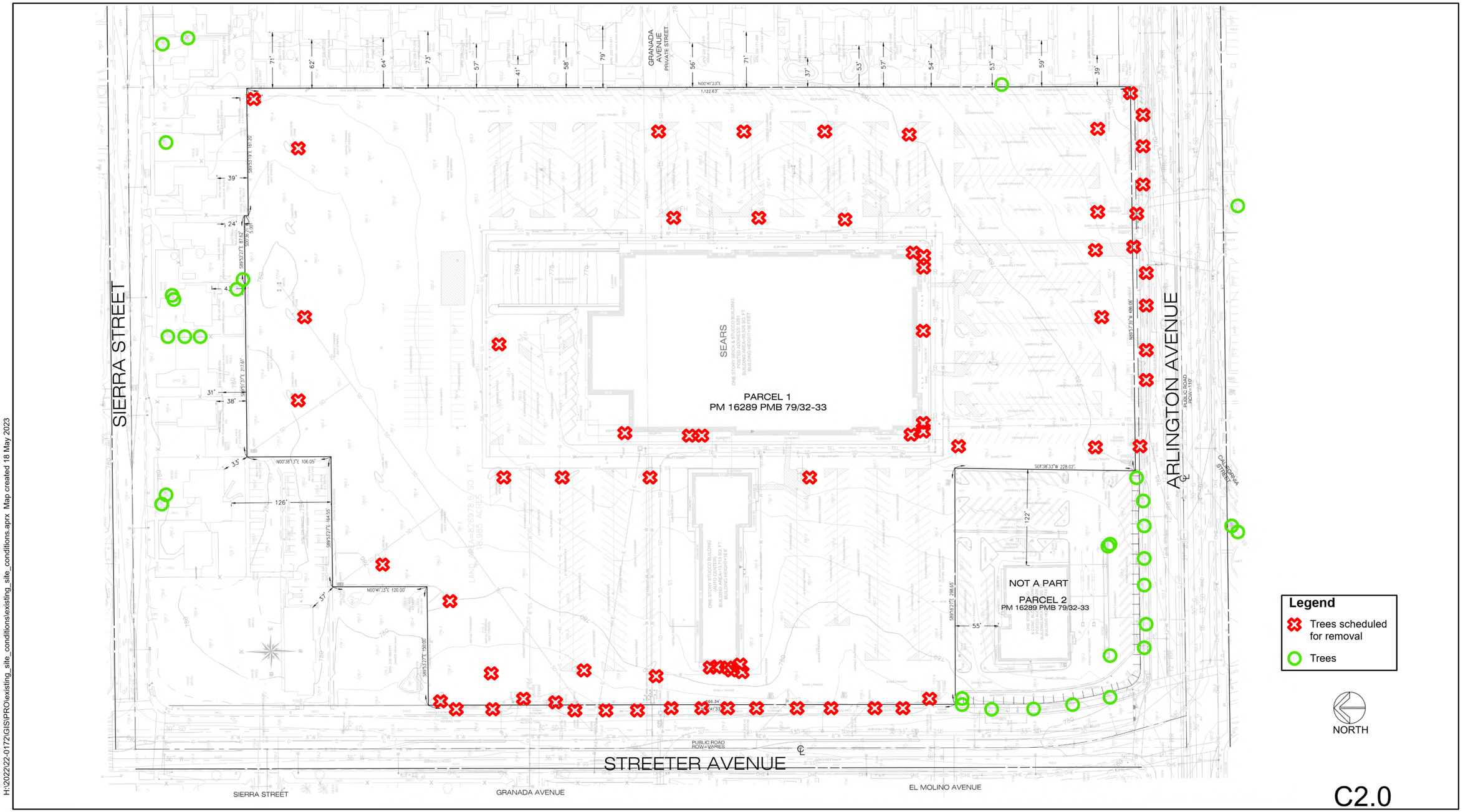
Source: Architects Orange Oct, 2022.

NTS

Figure 10 - Tentative Parcel Map

Arlington Mixed Use Project

ALBERT A. WEBB ASSOCIATES



C2.0

Source: Architects Orange Aug 5, 2022.

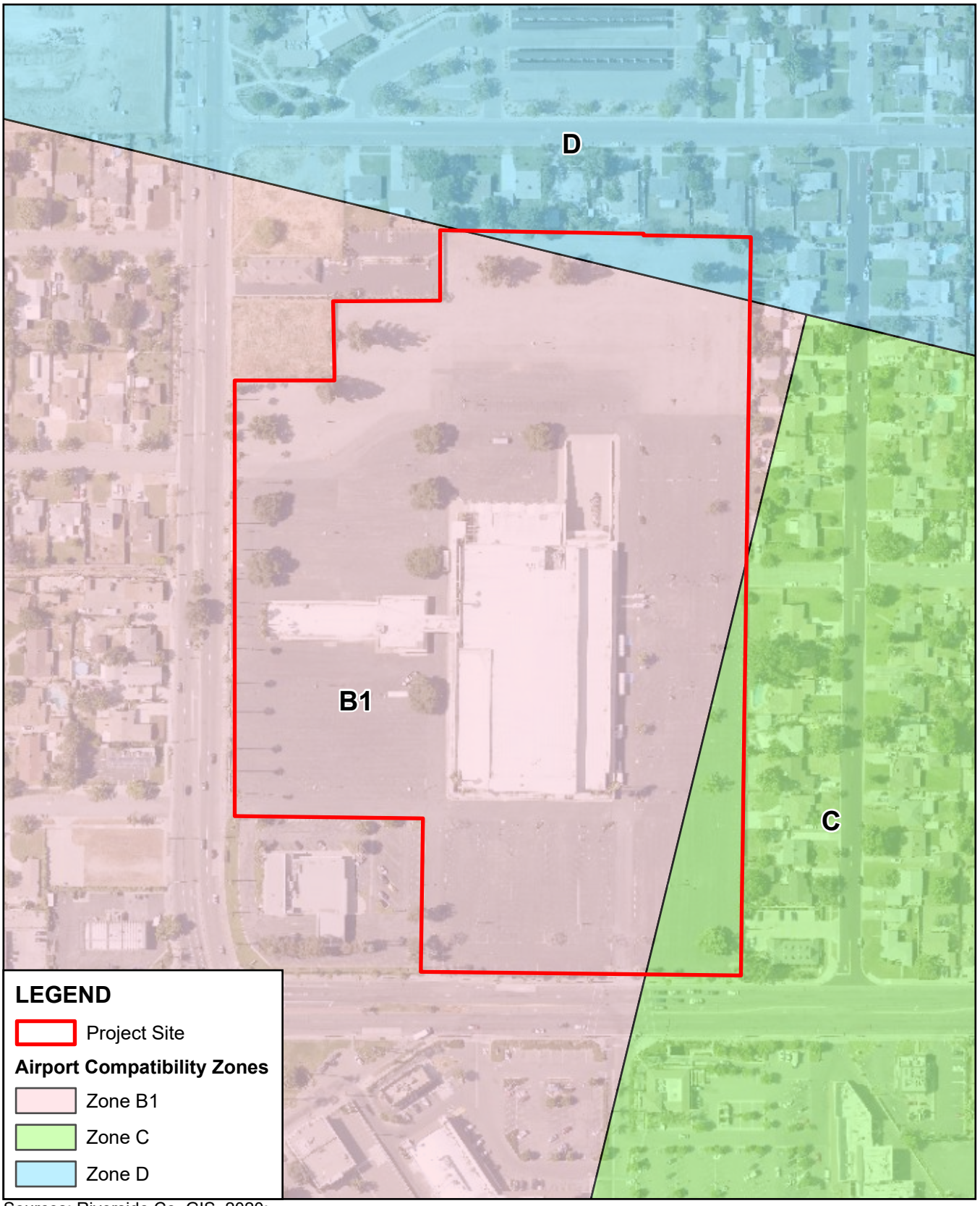
NTS

Figure 11 - Existing Site Conditions

Arlington Mixed Use Project

ALBERT A. WEBB ASSOCIATES

H:\2022\22-0172\GIS\PRO\existing_site_conditions\existing_site_conditions.aprx Map created 18 May 2023



H:\2022\22-0172\GIS\PRO\airport_compat\airport_compatability.aprx; Map created 26 Sep 2022

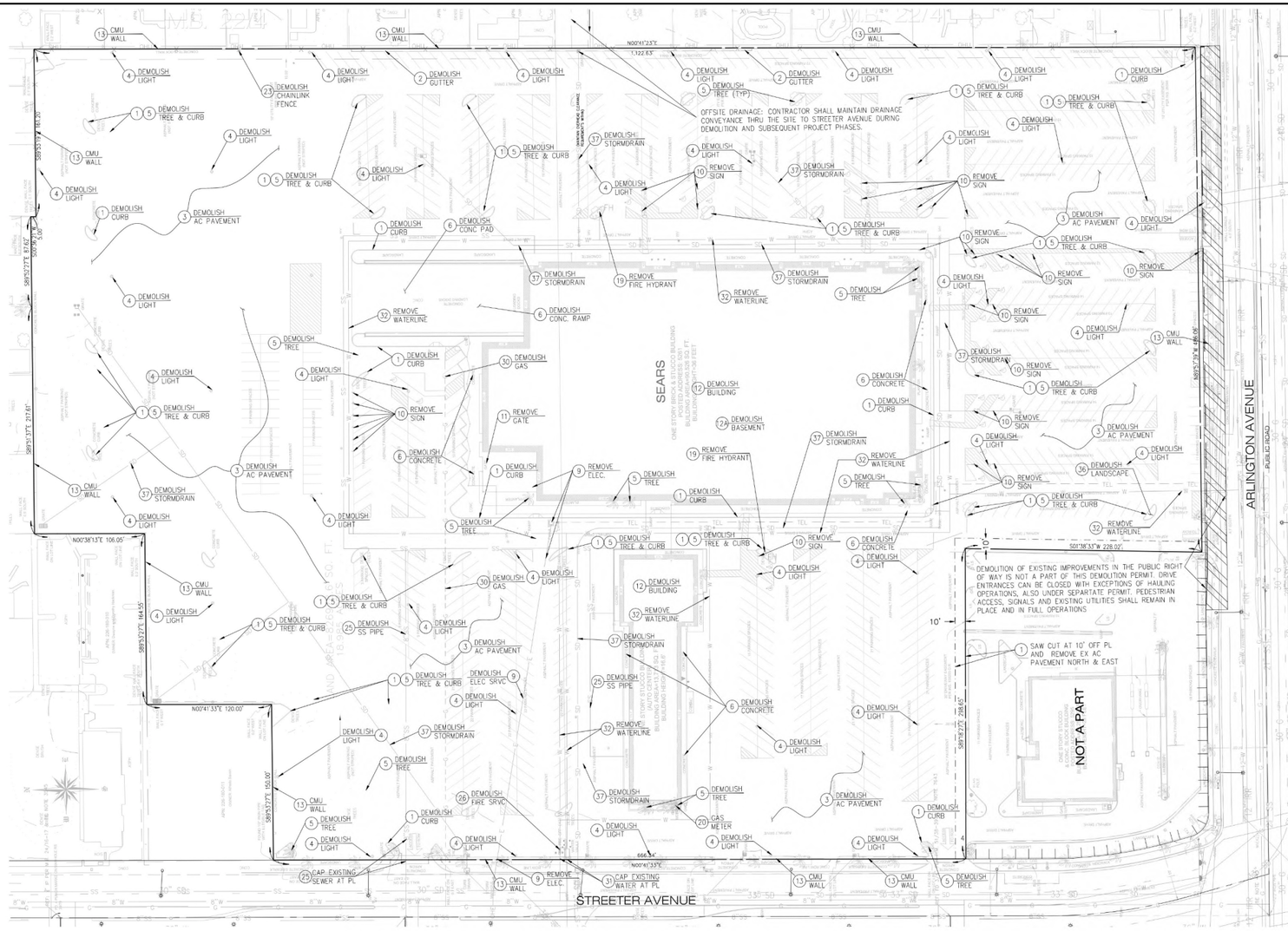
Sources: Riverside Co. GIS, 2020;
Airport Compatibility Zones, 2022.

0 150 300 450 Feet

Figure 12 - Existing Airport Land Use Compatibility Zones

Arlington Mixed Use Project

ALBERT A. WEBB ASSOCIATES



GENERAL DEMOLITION NOTES:

THIS WORK IS INTENDED TO INCLUDE DEMOLITION AND REMOVAL OF CONSTRUCTION INDICATED AND DISCONNECTION, CAPPING AND/OR REMOVAL OF AFFECTED UTILITIES. THE ORDER OR PHASE OF REMOVALS SHALL BE CONTRACTOR MEANS AND METHODS MEETING PERMIT REQUIREMENTS BY THE CITY AND UTILITY COMPANIES. CONTRACTOR SHALL PLAN ACTIVITIES OR PHASES ACCORDINGLY.

1. THE CONTRACTOR SHALL DEMOLISH AND REMOVE ALL EXISTING STRUCTURES AND APPURTENANCES AS INDICATED ON THESE PLANS IN AN ORDERLY AND CAREFUL MANNER.
2. PRIOR TO DEMOLITION, THE CONTRACTOR SHALL VERIFY THE CONDITIONS AND REPORT ANY DISCREPANCY TO THE ENGINEER PRIOR TO START OF DEMOLITION.
3. ALL DEBRIS FROM THE DEMOLITION WORK SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT A DUMP SITE APPROVED BY THE CITY OF RIVERSIDE.
4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND HAUL ROUTE APPROVALS FOR THE DEMOLITION WORK.
5. ALL DEBRIS SHALL BE WET OR COVERED AT TIME OF HANDLING TO PREVENT DUST.
6. CALL INSPECTOR OF RECORD DEPARTMENT FOR INSPECTION AT REQUIRED TIMES INCLUDING PREDEMOLITION, PEDESTRIAN PROTECTION, SEWER CAPPING, BACKFILLING, FINAL INSPECTIONS, ETC.
7. REMOVE DEMOLISHED MATERIALS FROM SITE AS WORK PROGRESSES DAILY. LEAVE SITE IN CLEAN CONDITION. CONTACT CITY OF RIVERSIDE FOR REQUIREMENTS FOR DISPOSAL OF DEMOLITION DEBRIS.
8. CONDUCT DEMOLITION TO MINIMIZE INTERFERENCE WITH ADJACENT STRUCTURES AND PEDESTRIAN ACCESS TO ADJACENT STRUCTURES.
9. PROVIDE, ERECT, AND MAINTAIN TEMPORARY BARRIERS, SECURITY DEVICES, TRAFFIC CONTROL SIGNAGE AND PERSONNEL DURING WORK PERFORMED ADJACENT TO OR WITHIN PEDESTRIAN OR VEHICLE TRAVELWAYS AS REQUIRED BY CODE. WHEN LOCATED IN PUBLIC RIGHT-OF-WAY, IT MUST BE APPROVED AND INSTALLED UNDER USE OF PUBLIC PROPERTY PERMIT ISSUED BY THE CITY OF RIVERSIDE.
10. CONDUCT OPERATIONS WITH MINIMUM INTERFERENCE TO PUBLIC OR PRIVATE ACCESS WAYS. MAINTAIN PROTECTED INGRESS AND EGRESS AT ALL TIMES. DO NOT CLOSE OR OBSTRUCT ROADWAYS OR PEDESTRIAN SIDEWALKS WITHOUT PERMISSION OF OWNER'S REPRESENTATIVE. TRAFFIC CONTROL PLAN IS REQUIRED AND SHOULD BE APPROVED BY THE CITY OF RIVERSIDE.
11. BURNING OF MATERIALS AND/OR USE OF EXPLOSIVES ARE NOT PERMITTED.
12. DEMOLITION SHALL BE WITHIN THE LIMITS OF WORK, UNLESS NOTED OTHERWISE.
13. CONTRACTOR SHALL CONTACT ENGINEER IMMEDIATELY IF ANY ITEMS NOT SHOWN ON THE PLANS REQUIRE REMOVAL. FAILURE TO DO SO DOES NOT RELIEVE CONTRACTOR OF RESPONSIBILITY AND COST FOR REMOVING ITEMS REQUIRED.
14. LOCATION OF ALL UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR IS RESPONSIBLE FOR REPAIR OF ANY DAMAGE CAUSED TO EXISTING UTILITIES AND UTILITY STRUCTURES THAT ARE TO REMAIN.
15. EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS ARE SHOWN IN THEIR APPROXIMATE LOCATIONS BASED UPON RECORD INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF PLANS. NO GUARANTEE IS MADE AS TO THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. THE CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES CONCERNING THE REMOVAL OF UTILITIES IN ADVANCE OF DEMOLITION ON THESE PLANS. ANY ADDITIONAL COSTS INCURRED AS A RESULT OF CONTRACTOR'S FAILURE TO VERIFY LOCATIONS OF EXISTING UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION IN THEIR VICINITY SHALL BE BORNE BY THE CONTRACTOR AND ASSUMED INCLUDED IN THE CONTRACT.
16. THE CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY, AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT.
17. DEMOLITION WORK SHALL NOT START UNLESS REQUIRED PEDESTRIAN PROTECTION STRUCTURES (IF REQUIRED) ARE IN PLACE.
18. ALL WORK WILL BE IN ACCORDANCE WITH 2019 CBC, TITLE 24 OF CALIFORNIA CODE OF REGULATION AND ALL APPLICABLE CODE AND ORDINANCE AND REGULATIONS. NOTHING HEREIN SHALL BE INTERPRETED TO THE CONTRARY.
19. A PRE-DEMOLITION COORDINATION MEETING SHALL BE HELD WITH OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF DEMOLITION ACTIVITIES.
20. CONTRACTOR TO COORDINATE WITH OWNERS REPRESENTATIVE AND RESPECTIVE UTILITY COMPANY AS REQUIRED FOR SCHEDULE OF DEACTIVATION, POINTS OF DISCONNECTION, CAPPING AND/OR RECONNECTION OF UTILITY LINES.
21. CONTRACTOR TO PROVIDE FOR THE TRANSPORT OF EXISTING STORM DRAIN AND WATER FLOWS IN SERVICES TO BE DEMOLISHED OR RELOCATED UNTIL THE RESPECTIVE REPLACEMENT UTILITIES HAVE BEEN CONSTRUCTED.
22. PROTECTION FENCE WITH ATTACHED WINDSCREEN MATERIAL SHALL BE INSTALLED AROUND THE SITE, ALONG THE LIMIT OF DEMOLITION. H=6'

NOTES:

UTILITIES PER RECORD PLANS.

1. CONTRACTOR TO CALL UNDERGROUND SERVICE ALERT OF CALIFORNIA AND PROCEED WITH CAUTION.
2. SEPARATE PERMIT REQUIRED FOR WORK IN THE CITY RIGHT OF WAY, AND REMOVAL OF STREET TREES.
3. SEE GENERAL NOTE 20 FOR COORDINATION WITH UTILITY COMPANY.
4. CONTRACTOR TO REMOVE EXISTING IRRIGATION SYSTEM.
5. CERTIFIED ARBORIST TO BE ON SITE DURING EXCAVATION AND TO PHOTO DOCUMENT ANY ROOT PRUNING. CLEAN TOOLS TO BE USED TO MINIMIZE SPREAD OF DISEASE TO TREE ROOTS. CAMBISTAT OR SIMILAR PLANT GROWTH REGULATOR TO BE UTILIZED.

DEMOLITION CONSTRUCTION NOTES:

1. DEMOLISH CURB & GUTTER
2. DEMOLISH CONCRETE GUTTER
3. DEMOLISH ASPHALT CONCRETE
4. REMOVE LIGHT
5. REMOVE TREE
6. DEMOLISH CONCRETE
7. DEMOLISH CONCRETE SIDEWALK
8. PROTECT IN PLACE FENCE
9. REMOVE ELECTRICAL EQUIP & ELECTRICAL SERVICE
10. REMOVE SIGN
11. REMOVE GATE
12. DEMOLISH BUILDING
12a. DEMOLISH BASEMENT. AREA= 85,634SF
13. DEMOLISH CMU PERIMITER WALL
14. DEMOLISH PARKWAY DRAIN
15. PROTECT IN PLACE SEWER LINE
16. DEMOLISH TRASH ENCLOSURE
17. REMOVE UTILITY VAULT
18. REMOVE ELECTRICAL CABINET
19. REMOVE FIRE HYDRANT
20. REMOVE GAS SERVICE
21. REMOVE UTILITY POLE
22. REMOVE POWER POLE
23. REMOVE CHAINLINK FENCE
25. REMOVE ON-SITE SANITARY SEWER, PLUG AND ABANDON AT STREETER RIGHT OF WAY.
26. REMOVE FIRE SERVICE MAIN. DCDA TO REMAIN TEMPORARY
27. DEMOLISH GUARD POST
28. PROTECT IN PLACE RETAINING WALL
29. CAP GAS LINE AT PROPERTY LINE
30. REMOVE GAS LINE
31. CAP WATER LINE AT PROPERTY LINE
32. REMOVE WATER LINE
33. CAP DRAIN INLET
34. REMOVE BACKFLOW PREVENTER
36. REMOVE LANDSCAPE
37. DEMOLISH AND REMOVE EXISTING SD TO PROPERTY LINE. MAINTAIN CATCH BASIN'S AT R.O.W. AND PROTECT LATERAL'S AT PUBLIC R.O.W.

H:\2022\22-0172\GIS\PRO\proposed_demolition\proposed_demolition.aprx Map created 18 May 2023

Source: Architects Orange Aug 5, 2022.

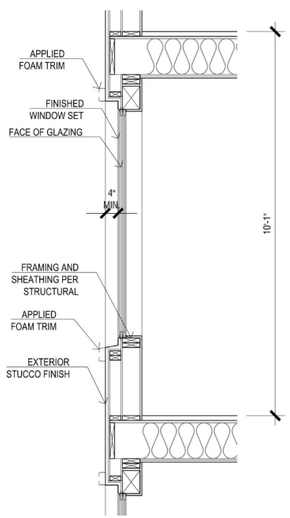
NTS

Figure 13 - Proposed Demolition Plan

Arlington Mixed Use Project

ALBERT A. WEBB ASSOCIATES

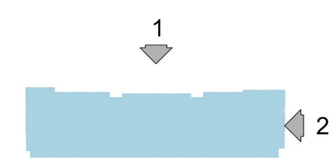
FRONT ELEVATION 1



STUCCO WINDOW - RECESSED 4"
(TO OCCUR ON WINDOWS FACING PUBLIC RIGHT OF WAY)
SCALE: 1/2" =1'-0"

LEFT ELEVATION 2

KEY MAP



H:\2022\22-0172\GIS\PRO\building_elevations\building_elevations.aprx Map created 25 May 2023

Source: Architects Orange Mar 29, 2023.

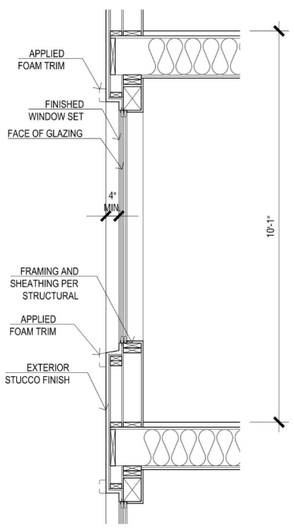
NTS

Figure 14 - Proposed Elevations [Garden Style Type III - Front & Left]

Arlington Mixed Use

ALBERT A. WEBB ASSOCIATES

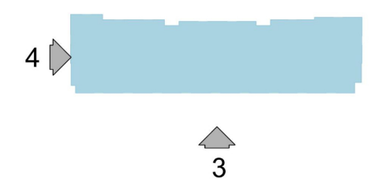
REAR ELEVATION 3



STUCCO WINDOW - RECESSED 4"
(TO OCCUR ON WINDOWS FACING PUBLIC RIGHT OF WAY)
SCALE: 1/2" =1'-0"

RIGHT ELEVATION 4

KEY MAP



H:\2022\22-0172\GIS\PRO\building_elevations\building_elevations.aprx Map created 25 May 2023

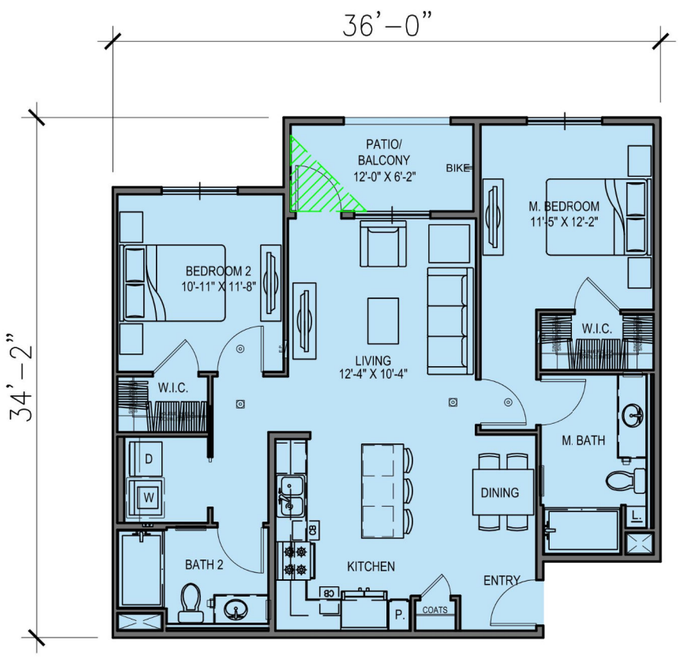
Source: Architects Orange Mar 29, 2023.

NTS

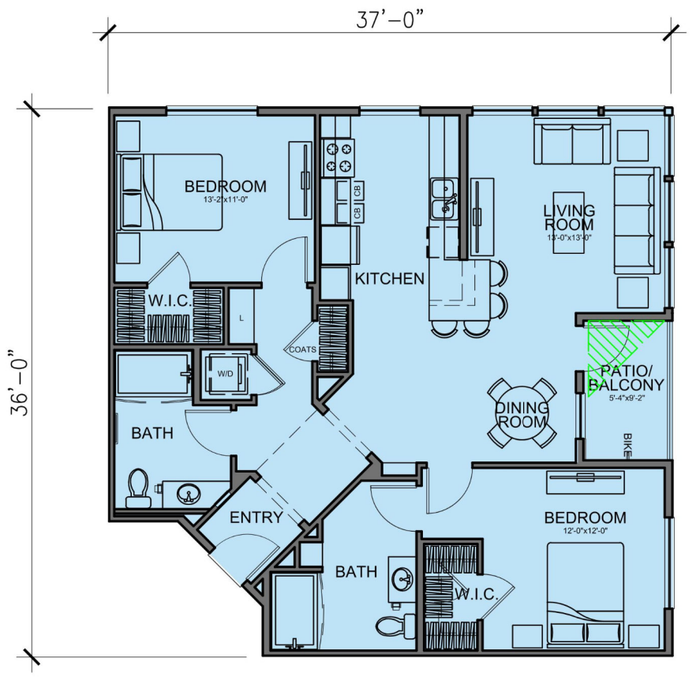
Figure 15 - Proposed Elevations [Garden Style Type III - Rear & Right]

Arlington Mixed Use

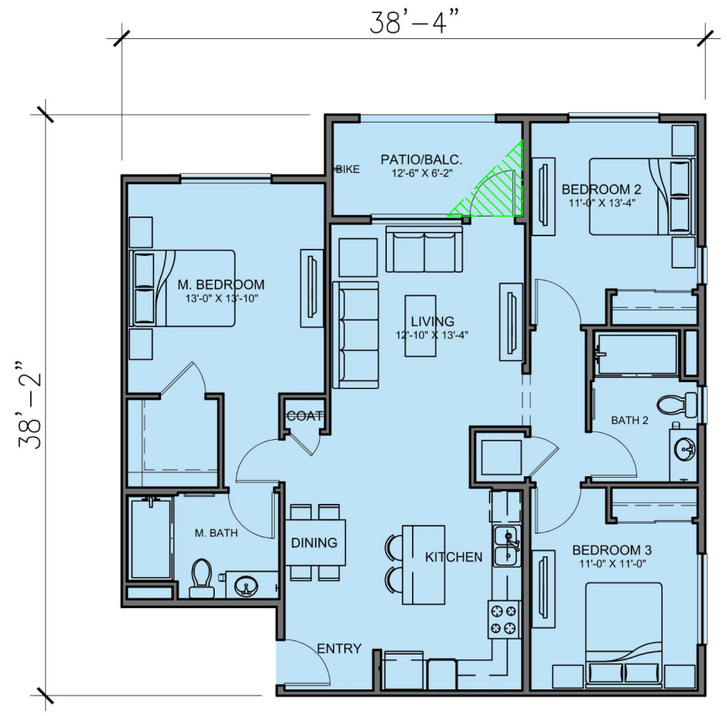
ALBERT A. WEBB ASSOCIATES



UNIT B2 - OPTION 1
2 BED - 2 BATH
NET LIVABLE: 1054 SQ. FT.
PATIO/DECK : 69 SQ. FT.



UNIT B4
2 BEDROOM - 2 BATH
UNIT AREA: 1205 SQ. FT.
PATIO/ BALCONY: 50 SQ. FT.



UNIT C1 - OPTION 1
3 BED - 2 BATH
NET LIVABLE: 1265 SQ. FT.
PATIO/DECK : 77 SQ. FT.

LEGEND

5'x5' MIN. OPEN SPACE DIMENSION

H:\2022\22-0172\GIS\PRO\proposed_floor_plan\proposed_floor_plan.aprx Map created 25 May 2023

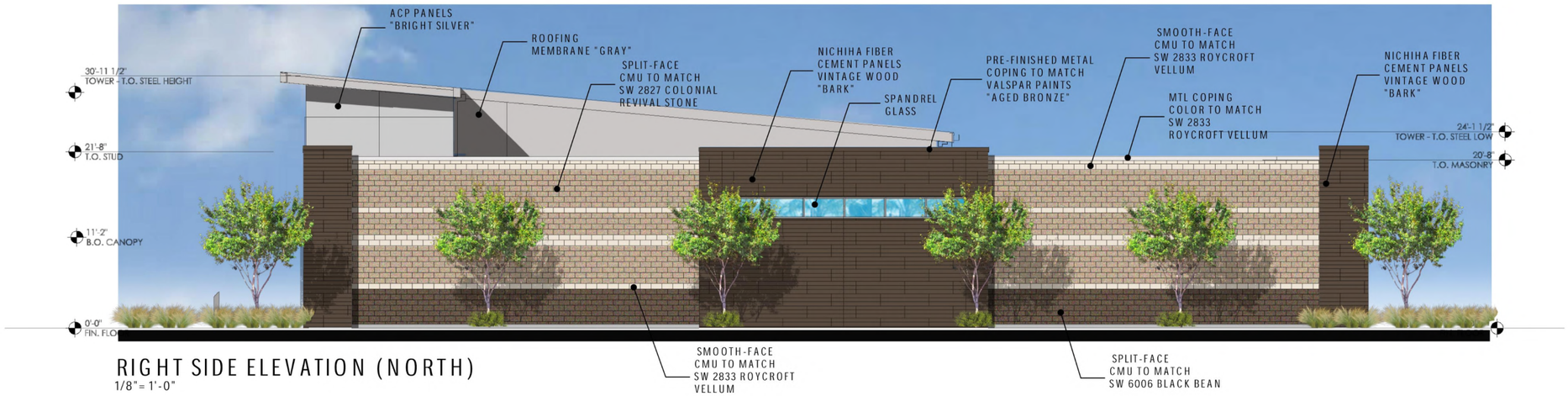
Source: Architects Orange Mar 29, 2023.

NTS

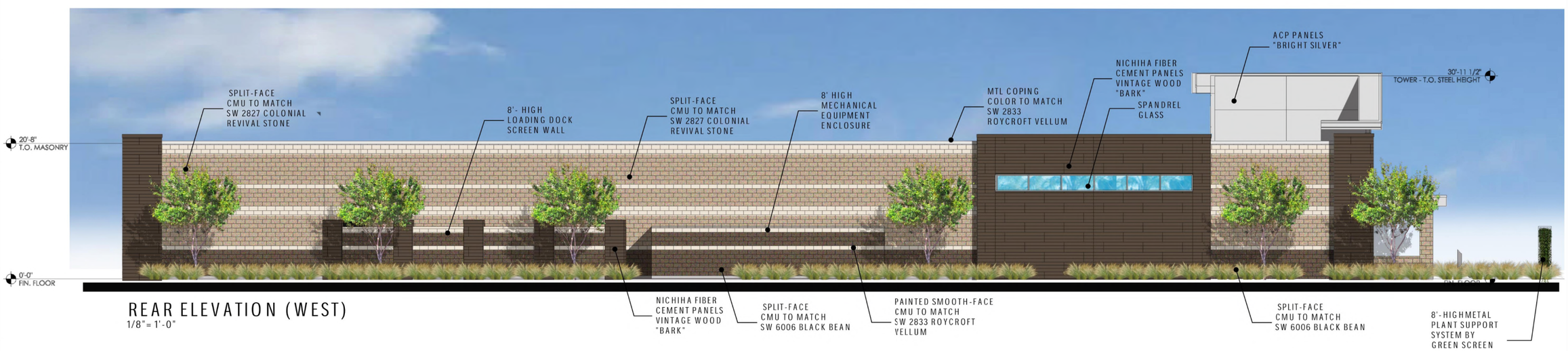
Figure 18 - Proposed Floor Plans [Garden Style Plans 2 of 2]

Arlington Mixed Use Project

ALBERT A. WEBB ASSOCIATES



RIGHT SIDE ELEVATION (NORTH)
1/8"= 1'-0"



REAR ELEVATION (WEST)
1/8"= 1'-0"

H:\2022\22-0172\GIS\PRO\building_elevations\building_elevations.aprx Map created 18 May 2023

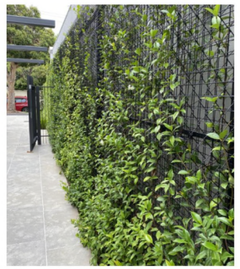
Source: Conceptual Exterior Elevations, ALDI Inc. Mar 22, 2023.

NTS

Figure 20 - Proposed Elevations ALDI Right & Rear

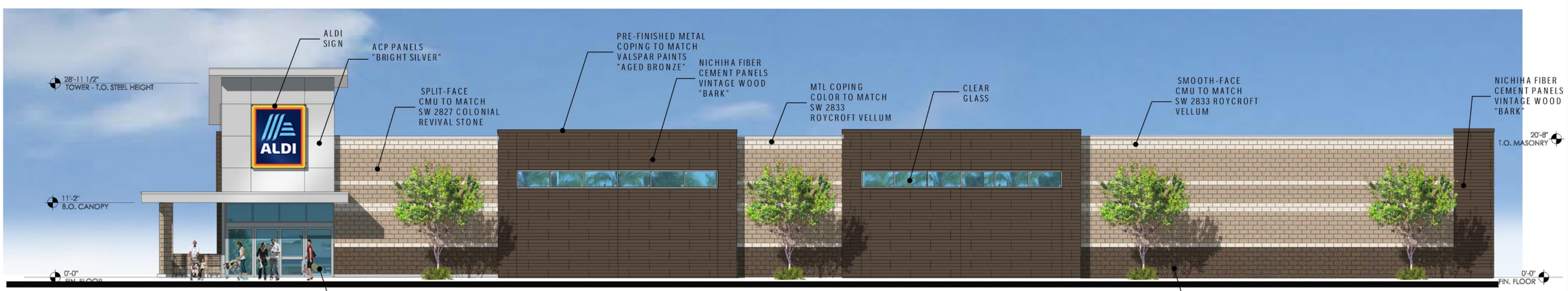
Arlington Mixed Use

ALBERT A. WEBB ASSOCIATES



METAL PLANT SUPPORT SYSTEM PRECEDENT IMAGES

LEFT SIDE ELEVATION (SOUTH)
1/8" = 1'-0"



FRONT ELEVATION (EAST)
1/8" = 1'-0"

H:\2022\22-0172\GIS\PRO\building_elevations\building_elevations.aprx Map created 18 May 2023

Source: Conceptual Exterior Elevations, ALDI Inc. Mar 22, 2023.

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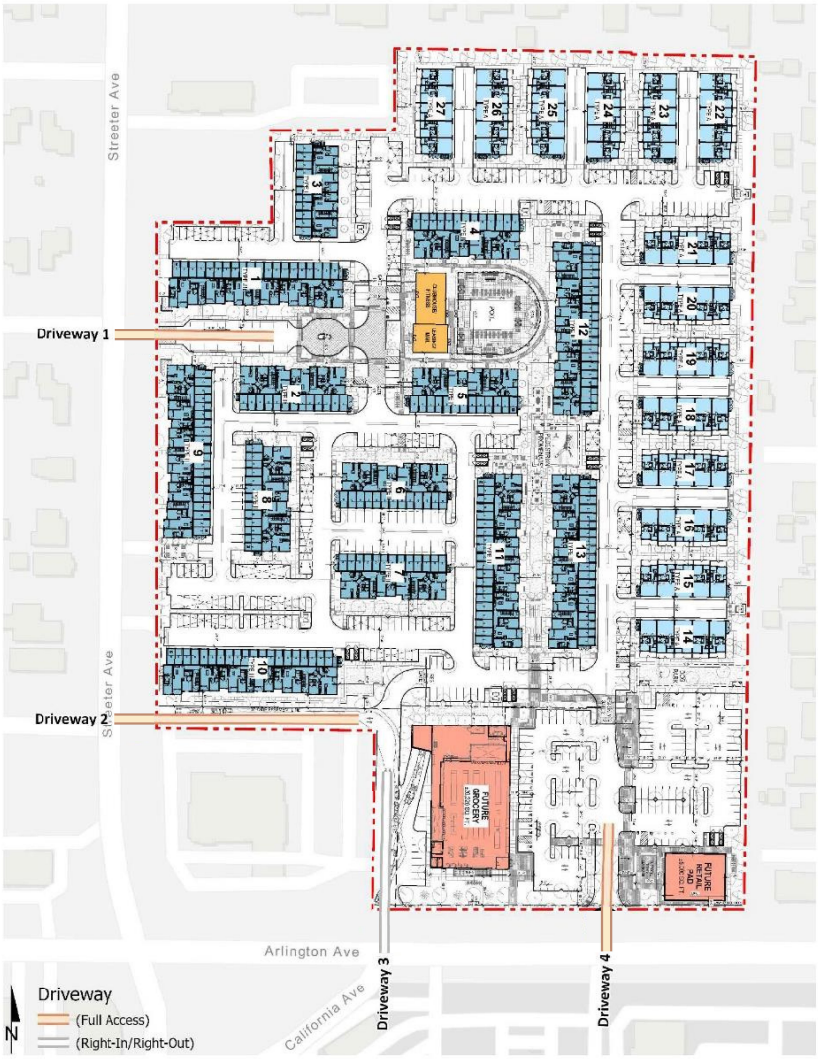
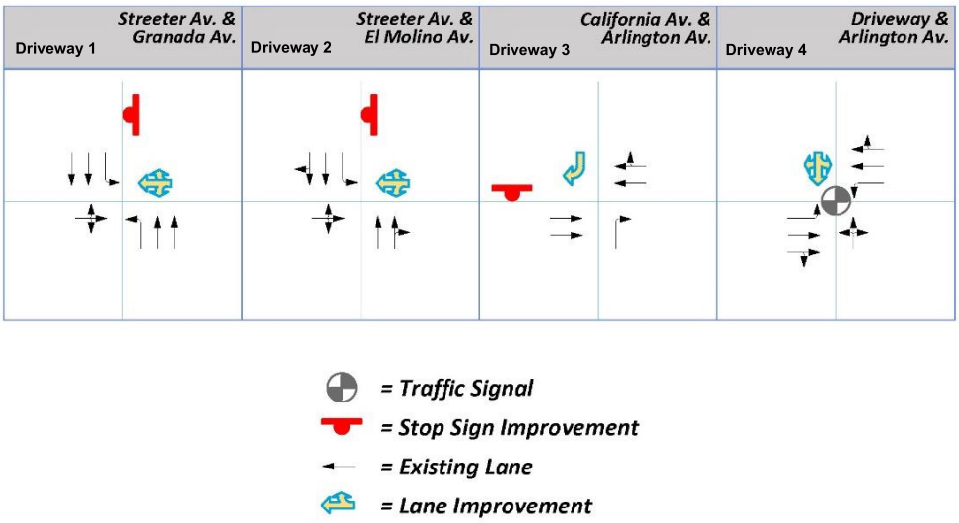
Figure 21 - Proposed Elevations ALDI Left & Front

Arlington Mixed Use

ALBERT A. WEBB ASSOCIATES





\\chqfsvm01\WO4\2022\22-0172\GIS\PRO\Prop_transp_improv\Prop_transp_improv.aprx Map created 07 Mar 2023

Source: Arlington Mixed Use Traffic Analysis, Dec. 23, 2022.

Figure 22 - Proposed Transportation Improvements

Arlington Mixed Use Project

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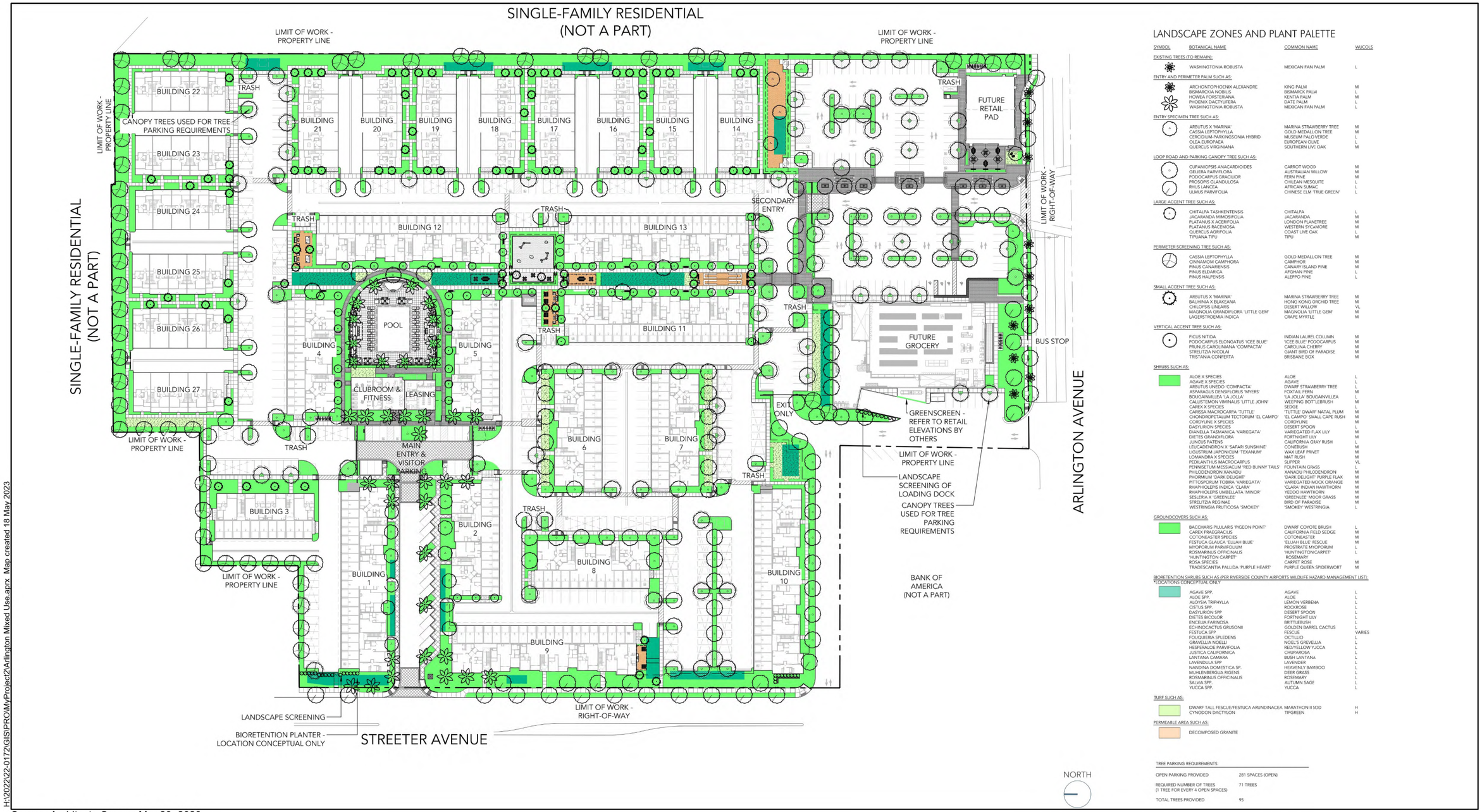
ALBERT A. WEBB ASSOCIATES



LANDSCAPE ZONES AND PLANT PALETTE

SYMBOL	BOTANICAL NAME	COMMON NAME	WUCOLS
EXISTING TREES (TO REMAIN):			
	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	L
ENTRY AND PERIMETER PALM SUCH AS:			
	ARCHONTOPHOENIX ALEXANDRE	KING PALM	M
	BISMARCKIA NOBILIS	BISMARCK PALM	L
	HOWEA FORSTERIANA	KENTIA PALM	M
	PHOENIX DACTYLIFERA	DATE PALM	L
	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	L
ENTRY SPECIMEN TREE SUCH AS:			
	ARBUTUS X 'MARINA'	MARINA STRAWBERRY TREE	M
	CASSIA LEPTOPHYLLA	GOLD MEDALLON TREE	M
	CERCIDIUM-PARKINSONIA HYBRID	MUSEUM PALO VERDE	L
	OLEA EUROPAEA	EUROPEAN OLIVE	L
	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	M
LOOP ROAD AND PARKING CANOPY TREE SUCH AS:			
	CUPANIOPSIS ANACARDIOIDES	CARROT WOOD	M
	GELEIRA PARVIFLORA	AUSTRALIAN WILLOW	M
	PODOCARPUS GRACILIOR	FERN PINE	M
	PROSOPIS GLANDULOSA	CHILEAN MESQUITE	L
	RHUS LANCEA	AFRICAN SUMAC	L
	ULMUS PARVIFOLIA	CHINESE ELM 'TRUE GREEN'	L
LARGE ACCENT TREE SUCH AS:			
	CHITALPA TASHKENTENSIS	CHITALPA	L
	JACARANDA MIMOSIFOLIA	JACARANDA	M
	PLATANUS X ACERIFOLIA	LONDON PLANETREE	M
	PLATANUS RACEMOSA	WESTERN SYCAMORE	M
	QUERCUS AGRIFOLIA	COAST LIVE OAK	L
	TIPUANA TIPU	TIPU	M
PERIMETER SCREENING TREE SUCH AS:			
	CASSIA LEPTOPHYLLA	GOLD MEDALLON TREE	M
	CINNAMOM CAMPHORA	CAMPHOR	M
	PINUS CANARIENSIS	CANARY ISLAND PINE	M
	PINUS ELDARICA	AFGHAN PINE	L
	PINUS HALPENSIS	ALEPPO PINE	L
SMALL ACCENT TREE SUCH AS:			
	ARBUTUS X 'MARINA'	MARINA STRAWBERRY TREE	M
	BAUHINIA X BLAKEANA	HONG KONG ORCHID TREE	M
	CHILOPSIS LINEARIS	DESERT WILLOW	VL
	MAGNOLIA GRANDIFLORA 'LITTLE GEM'	MAGNOLIA 'LITTLE GEM'	M
	LAGERSTROEMIA INDICA	CRAPE MYRTLE	M
VERTICAL ACCENT TREE SUCH AS:			
	FICUS NITIDA	INDIAN LAUREL COLUMN	M
	PODOCARPUS ELONGATUS 'ICEE BLUE'	'ICEE BLUE' PODOCARPUS	M
	PRUNUS CAROLINIANA 'COMPACTA'	CAROLINA CHERRY	M
	STRELITZIA NICOLAI	GIANT BIRD OF PARADISE	M
	TRISTANIA CONFERTA	BRISBANE BOX	M
SHRUBS SUCH AS:			
	ALOE X SPECIES	ALOE	L
	AGAVE X SPECIES	AGAVE	L
	ARBUTUS UNEDO 'COMPACTA'	DWARF STRAWBERRY TREE	L
	ASPARAGUS DENSIFLORUS 'MYERS'	FOXTAIL FERN	M
	BOUGAINVILLEA 'LA JOLLA'	'LA JOLLA' BOUGAINVILLEA	L
	CALLISTEMON VIMINALIS 'LITTLE JOHN'	WEEPING BOTTLEBRUSH	M
	CAREX X SPECIES	SEDGE	L
	CARISSA MACROCARPA 'TUTTLE'	'TUTTLE' DWARF NATAL PLUM	M
	CHONDROPETALUM TECTORUM 'EL CAMPO'	'EL CAMPO' SMALL CAPE RUSH	M
	CORDYLINE X SPECIES	CORDYLINE	M
	DASYLIRION SPECIES	DESERT SPOON	L
	DIANELLA TASMANICA 'VARIEGATA'	VARIEGATED F.AX LILY	M
	DIETES GRANDIFLORA	FORTNIGHT LILY	M
	JUNCUS PATENS	CALIFORNIA GRAY RUSH	L
	LEUCADENDRON X 'SAFARI SUNSHINE'	CONEBUSH	M
	LIGUSTRUM JAPONICUM 'TEXANUM'	WAX LEAF PRIVET	M
	LOMANDRA X SPECIES	MAT RUSH	M
	PEDILANTHUS MACROCARPUS	SLIPPER	VL
	PENNISETUM MESSIACUM 'RED BUNNY TAILS'	FOUNTAIN GRASS	L
	PHILODENDRON XANADU	XANADU PHILODENDRON	M
	PHORMIUM 'DARK DELIGHT'	'DARK DELIGHT' PURPLE FLAX	M
	PITTOSPORUM TOBIRA 'VARIEGATA'	VARIEGATED MOCK ORANGE	M
	RHAPHIOLEPIS INDICA 'CLARA'	'CLARA' INDIAN HAWTHORN	M
	RHAPHIOLEPIS UMBELLATA 'MINOR'	YEDDO HAWTHORN	M
	SESLERIA X 'GREENLEE'	'GREENLEE' MOOR GRASS	M
	STRELITZIA REGINAE	BIRD OF PARADISE	M
	WESTRINGIA FRUTICOSA 'SMOKEY'	'SMOKEY' WESTRINGIA	L
GROUNDCOVERS SUCH AS:			
	BACCHARIS PILULARIS 'PIGEON POINT'	DWARF COYOTE BRUSH	L
	CAREX PRAEGRACILIS	CALIFORNIA FIELD SEDGE	M
	COTONEASTER SPECIES	COTONEASTER	M
	FESTUCA GLAUCA 'ELIJAH BLUE'	'ELIJAH BLUE' FESCUE	M
	MYOPORUM PARVIFOLIUM	PROSTRATE MYOPORUM	L
	ROSMARINUS OFFICINALIS	'HUNTINGTON CARPET' ROSEMARY	L
	ROSA SPECIES	CARPET ROSE	M
	TRADESCANTIA PALLIDA 'PURPLE HEART'	PURPLE QUEEN SPIDERWORT	M
BIORETENTION SHRUBS SUCH AS (PER RIVERSIDE COUNTY AIRPORTS WILDLIFE HAZARD MANAGEMENT LIST): *LOCATIONS CONCEPTUAL ONLY			
	AGAVE SPP.	AGAVE	L
	ALOE SPP.	ALOE	L
	ALOYSIA TRIPHYLLA	LEMON VERBENA	L
	CISTUS SPP.	ROCKROSE	L
	DASYLIRION SPP	DESERT SPOON	L
	DIETES BICOLOR	FORTNIGHT LILY	L
	ENCELIA FARINOSA	BRITTLEBUSH	L
	ECHINOCACTUS GRUSONII	GOLDEN BARREL CACTUS	L
	FESTUCA SPP	FESCUE	VARIES
	FOUQUIERIA SPLEDENS	OCTILLIO	L
	GRAVELLIA NOELLI	NOEL'S GREVELLIA	L
	HESPERALOE PARVIFOLIA	RED/YELLOW YUCCA	L
	JUSTICA CALIFORNICA	CHUPAROSA	L
	LANTANA CAMARA	BUSH LANTANA	L
	LAVENDULA SPP	LAVENDER	L
	NANDINA DOMESTICA SP.	HEAVENLY BAMBOO	L
	MUHLENBERGUA RIGENS	DEER GRASS	L
	ROSMARINUS OFFICINALIS	ROSEMARY	L
	SALVIA SPP.	AUTUMN SAGE	L
	YUCCA SPP.	YUCCA	L
TURF SUCH AS:			
	DWARF TALL FESCUE/FESTUCA ARUNDINACEA	MARATHON II SOD	H
	CYNODON DACTYLON	TIFGREEN	H
PERMEABLE AREA SUCH AS:			
	DECOMPOSED GRANITE		

TREE PARKING REQUIREMENTS	
OPEN PARKING PROVIDED	281 SPACES (OPEN)
REQUIRED NUMBER OF TREES (1 TREE FOR EVERY 4 OPEN SPACES)	71 TREES
TOTAL TREES PROVIDED	95

Source: Architects Orange Mar 29, 2023.

NTS

Figure 26 - Landscape Planting Plan

Arlington Mixed Use

ALBERT A. WEBB ASSOCIATES

TREES:

WASHINGTONIA ROBUSTA
MEXICAN FAN PALM

OLEA EUROPAEA
EUROPEAN OLIVE

PROSOPIS CHILENSIS
CHILEAN MESQUITE

CASSIA LEPTOPHYLLA
GOLD MEDALLION TREE

JACARANDA MIMOSIFOLIA
JACARANDA

PINUS CANARIENSIS
CANARY ISLAND PINE

ARBUTUS X 'MARINA'
MARINA STRAWBERRY TREE MULTI

TRISTANIA CONFERTA
BRISBANE BOX

PODOCARPUS 'ICEE BLUE'
ICEE BLUE YELLOW-WOOD

CUPANIOPSIS ANACARDIODES
CARROTWOOD

CHITALPA TASHKENTENSIS
CHITALPA

SHRUBS AND BMP SHRUBS:

ALOE SPP
ALOE

AGAVE SPP
AGAVE

ARBUTUS UNEDO 'COMPACTA'
DWARF STRAWBERRY TREE

ASPARAGUS DENSIFLORUS 'MYERS'
FOXTAIL FERN

BOUGAINVILLEA 'LA JOLLA'
'LA JOLLA' BOUGAINVILLEA

CALLISTEMON VIMINALIS 'LITTLE JOHN' /
WEEPING BOTTLEBRUSH

CAREX SPP
SEDGE

CARISSA MACROCARPA 'TUTTLE'
'TUTTLE' DWARF NATAL PLUM

CHONDROPETALUM TECTORUM 'EL CAMPO'
'EL CAMPO' SMALL CAPE RUSH

CORDYLINE SPP.
CORDYLINE

DASYLIRION SPP
DESERT SPOON

DIANELLA TASMANICA 'VARIEGATA'
VARIEGATED FLAX LILY

DIETES GRANDIFLORA
FORTNIGHT LILY

JUNCUS PATENS
CALIFORNIA GRAY RUSH

LEUCADENDRON X 'SAFARI SUNSHINE'
CONEBUSH

H:\2022\22-0172\GIS\PRO\MyProject2\Arlington Mixed Use.aprx Map created 18 May 2023

Source: Architects Orange Mar 29, 2023.

Figure 27 - Plant Palette [1 of 2]

Arlington Mixed Use

ALBERT A. WEBB ASSOCIATES

SHRUBS (CONTINUED)

LIGUSTRUM JAPONICUM 'TEXTANUM'
WAX LEAF PRIVET

LOMANDRA SPP
MAT RUSH

PEDILATHUS MACROCARPUS
SLIPPER

PENNISETUM MESSIACUM 'RED BUNNY TAILS'
FOUNTAIN GRASS

PHILODENDRON XANADU
XANADU PHILODENDRON

PHORMIUM 'DARK DELIGHT'
'DARK DELIGHT' PURPLE FLAX

PITTOSPORUM TOBIRA 'VARIEGATA'
VARIEGATED MOCK ORANGE

RHAPHIOLEPIS INDICA 'CLARA'
'CLARA' INDIAN HAWTHORN

RHAPHIOLEPIS UMBELLATA 'MINOR'
YEDDO HAWTHORN

SESLERIA X 'GREENLEE'
'GREENLEE' MOOR GRASS

STRELITZIA REGINAE
BIRD OF PARADISE

WESTRINGIA FRUTICOSA 'SMOKEY'
'SMOKEY' WESTRINGIA

GROUND COVERS:

BACCHARIS PILULARIS 'PIGEON POINT'
DWARF COYOTE BUSH

CAREX PRAEGRACILIS
CALIFORNIA FIELD SEDGE

COTONEASTER SPP
COTONEASTER

FESTUDCA GLAUCA 'ELIJAH BLUE'
'ELIJAH BLUE' FESCUE

MYOPORUM PARVIFOLIUM
PROSTRATE MYOPORUM

ROSMARINUS OFFICINALIS 'HUNTINGTON CARPET'
'HUNTINGTON CARPET' ROSEMARY

ROSA SPP
CARPET ROSE

TRADESCANTIA

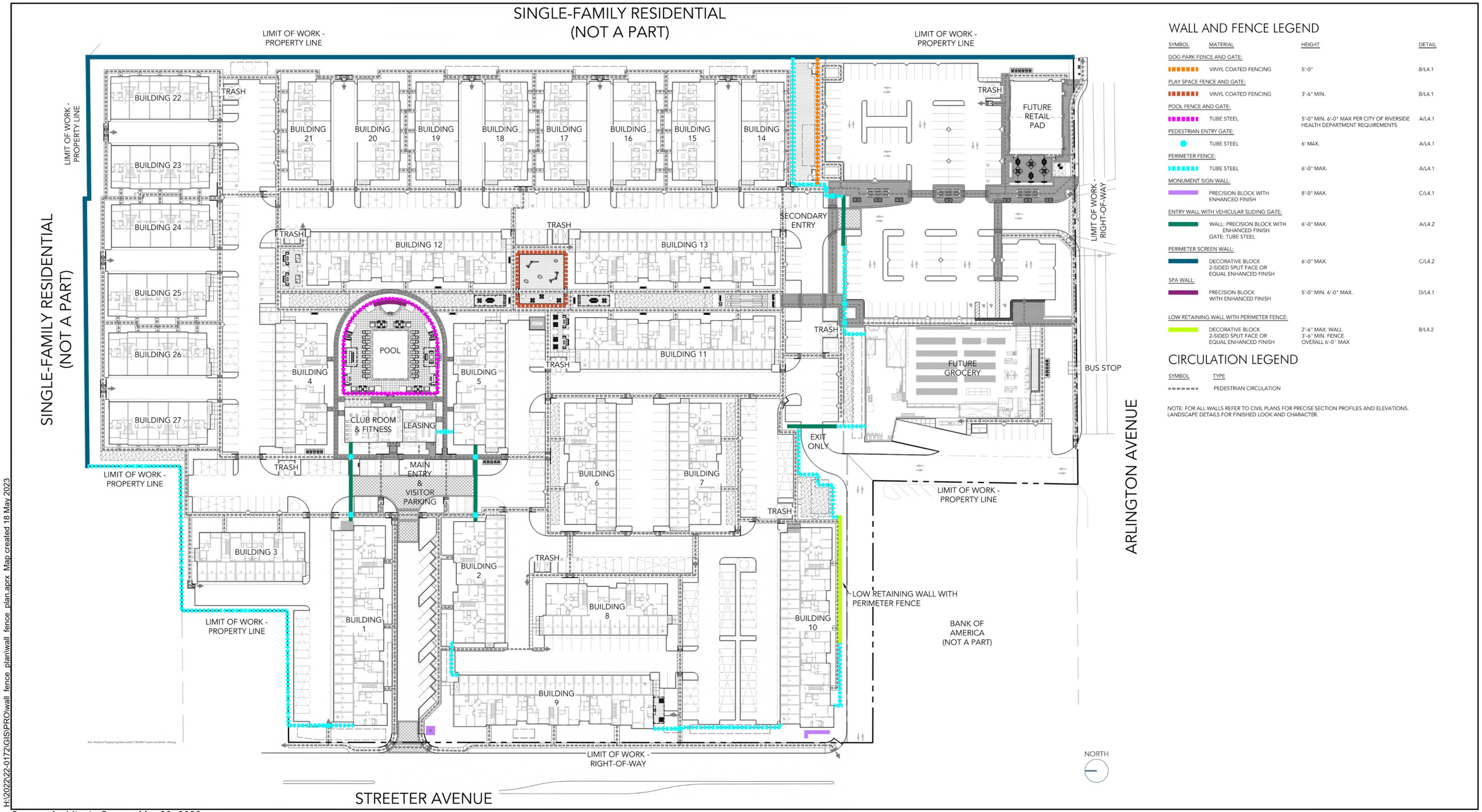
H:\2022\22-0172\GIS\PRO\MyProject2\Arlington Mixed Use.aprx Map created 18 May 2023

Source: Architects Orange Mar 29, 2023.

Figure 28 - Plant Palette [2 of 2]

Arlington Mixed Use

ALBERT A. WEBB ASSOCIATES



WALL AND FENCE LEGEND

SYMBOL	MATERIAL	HEIGHT	DETAIL
DOG PARK FENCE AND GATE:			
	VINYL COATED FENCING	5'-0"	B/L4.1
PLAY SPACE FENCE AND GATE:			
	VINYL COATED FENCING	3'-6" MIN.	B/L4.1
POOL FENCE AND GATE:			
	TUBE STEEL	5'-0" MIN. 6'-0" MAX PER CITY OF RIVERSIDE HEALTH DEPARTMENT REQUIREMENTS	A/L4.1
PEDESTRIAN ENTRY GATE:			
	TUBE STEEL	6' MAX.	A/L4.1
PERIMETER FENCE:			
	TUBE STEEL	6'-0" MAX.	A/L4.1
MONUMENT SIGN WALL:			
	PRECISION BLOCK WITH ENHANCED FINISH	8'-0" MAX.	C/L4.1
ENTRY WALL WITH VEHICULAR SLIDING GATE:			
	WALL: PRECISION BLOCK WITH ENHANCED FINISH GATE: TUBE STEEL	6'-0" MAX.	A/L4.2
PERIMETER SCREEN WALL:			
	DECORATIVE BLOCK 2-SIDED SPLIT FACE OR EQUAL ENHANCED FINISH	6'-0" MAX.	C/L4.2
SPA WALL:			
	PRECISION BLOCK WITH ENHANCED FINISH	5'-0" MIN. 6'-0" MAX.	D/L4.1
LOW RETAINING WALL WITH PERIMETER FENCE:			
	DECORATIVE BLOCK 2-SIDED SPLIT FACE OR EQUAL ENHANCED FINISH	2'-6" MAX. WALL 3'-6" MIN. FENCE OVERALL 6'-0" MAX	B/L4.2

CIRCULATION LEGEND

SYMBOL	TYPE
	PEDESTRIAN CIRCULATION

NOTE: FOR ALL WALLS REFER TO CIVIL PLANS FOR PRECISE SECTION PROFILES AND ELEVATIONS. LANDSCAPE DETAILS FOR FINISHED LOOK AND CHARACTER.

H:\2022\22-0172\GIS\PRO\wall_fence_plan\wall_fence_plan.aprx Map created 18 May 2023

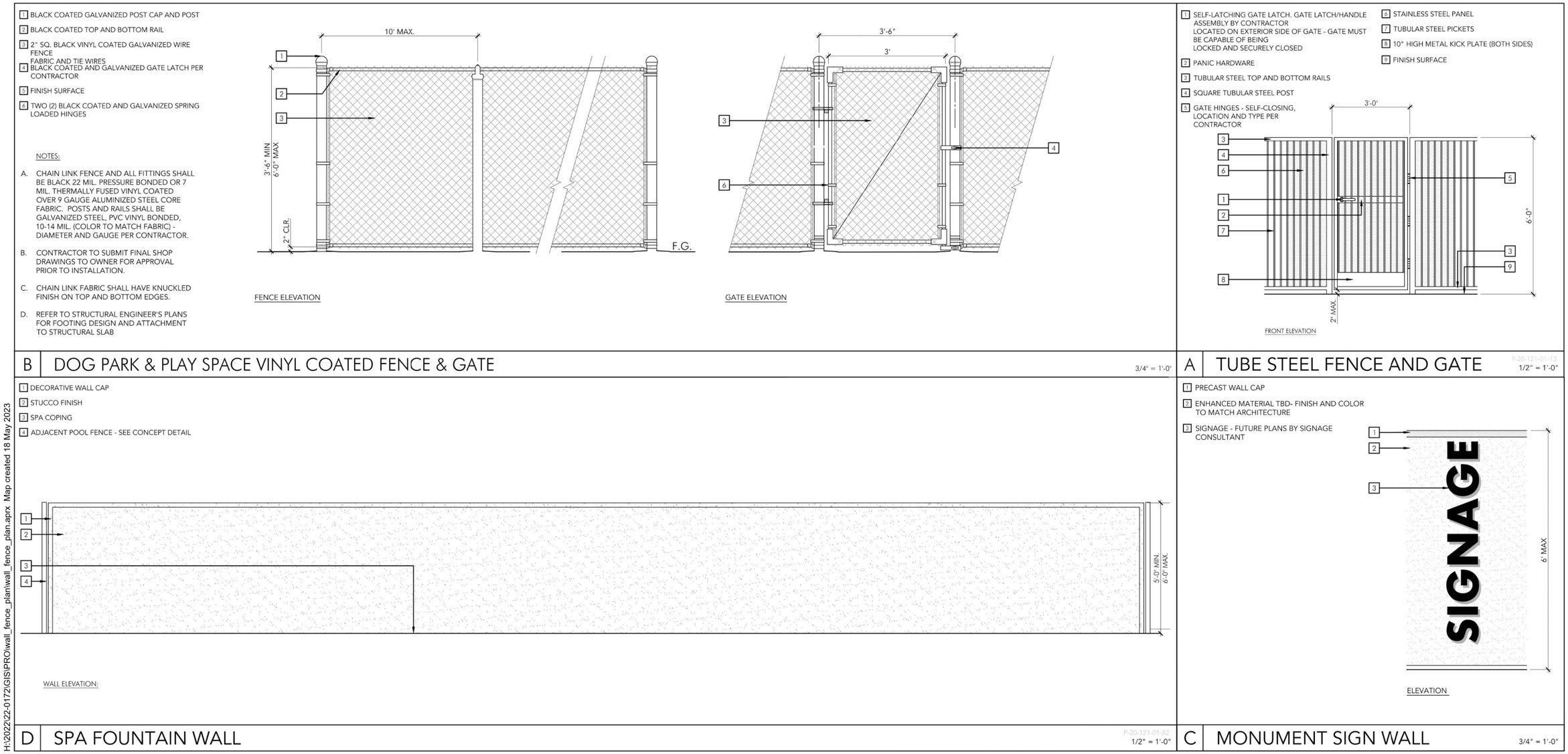
Source: Architects Orange Mar 29, 2023.

NTS

Figure 29 - Wall and Fence Plan

Arlington Mixed Use

ALBERT A. WEBB ASSOCIATES



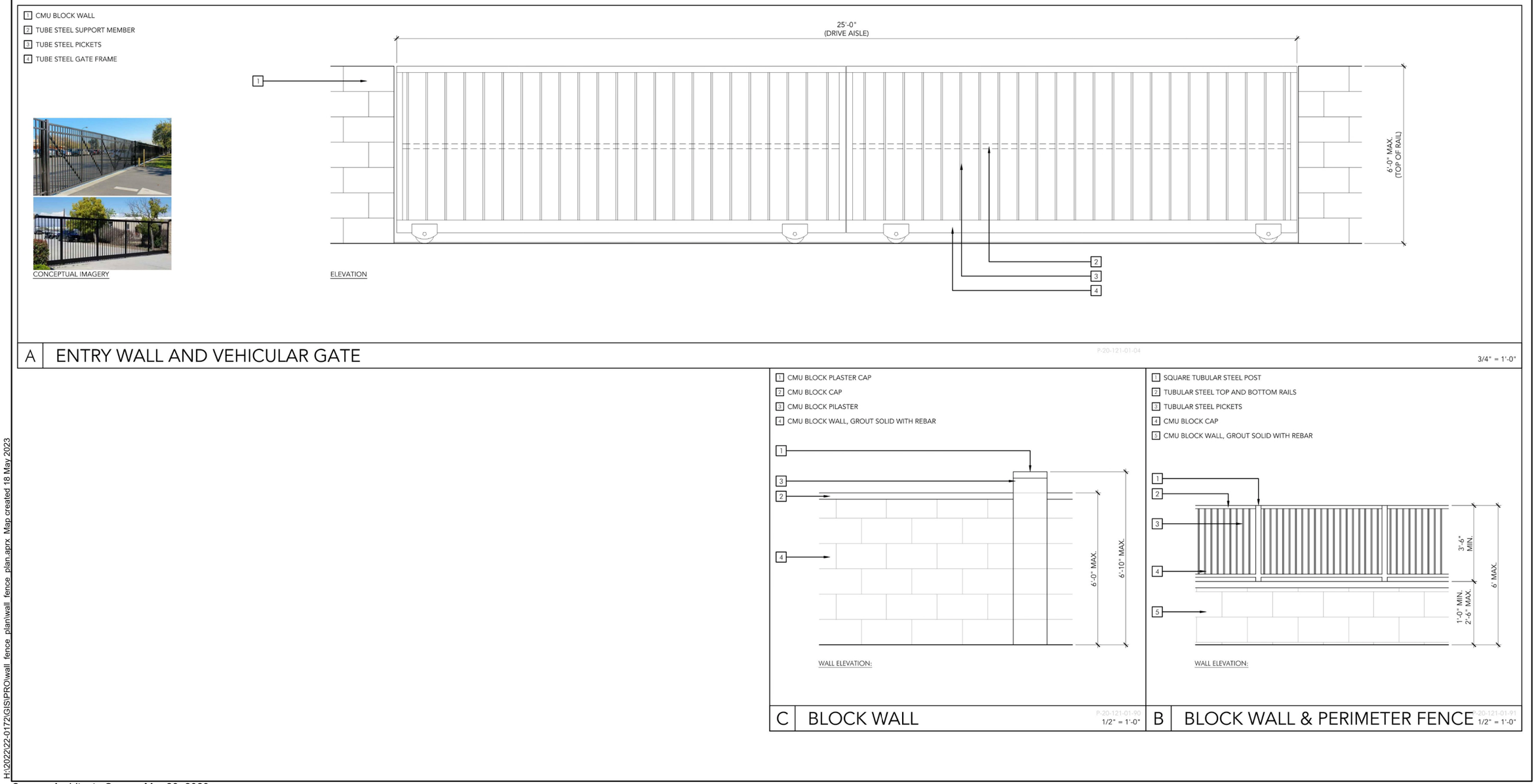
H:\2022\22-0172\GISPRO\wall_fence_plan\wall_fence_plan.aprx Map created 18 May 2023

Source: Architects Orange Mar 29, 2023.

Figure 30 - Wall and Fence Details [1 of 2]

Arlington Mixed Use

ALBERT A. WEBB ASSOCIATES

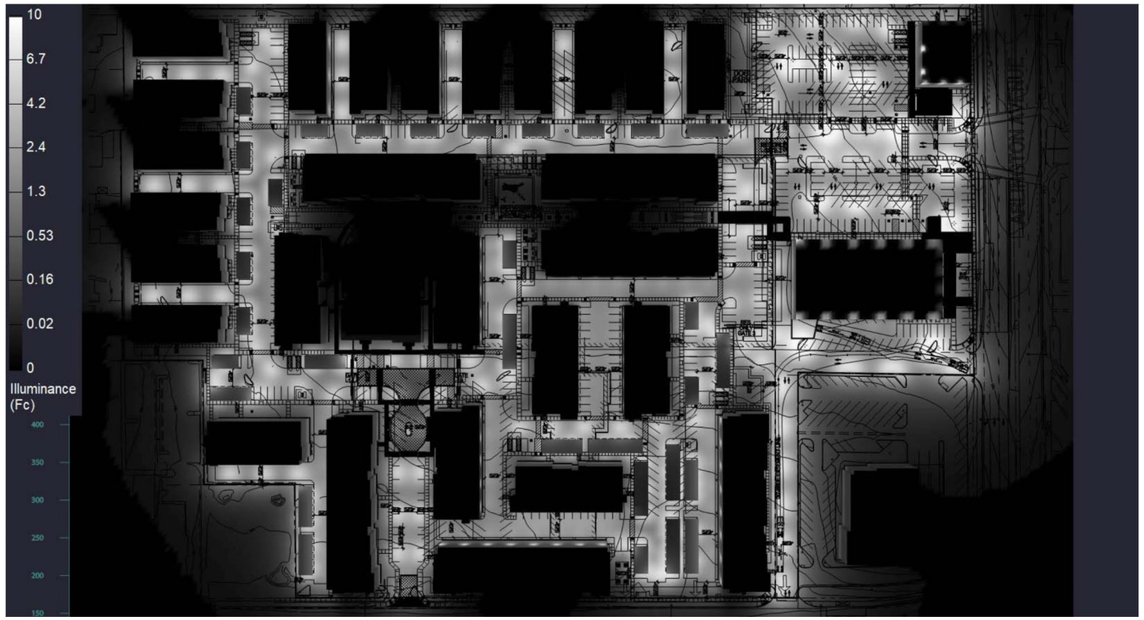


H:\2022\22-0172\GIS\PRO\wall_fence_plan\wall_fence_plan.aprx Map created 18 May 2023

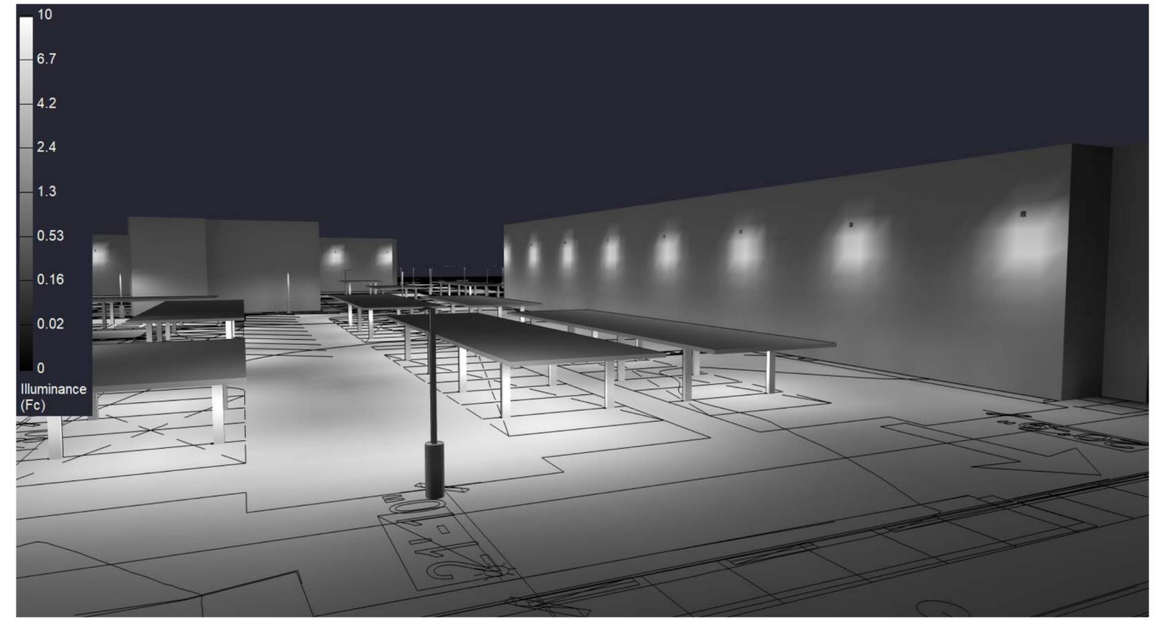
Source: Architects Orange Mar 29, 2023.

Figure 31 - Wall and Fence Details [2 of 2]

Arlington Mixed Use



Top View : Grayscale Rendering



Canopy Isometric View : Grayscale Rendering

H:\2022\22-0172\GIS\PRO\prop_lighting_plan\prop_lighting_plan.aprx Map created 18 May 2023

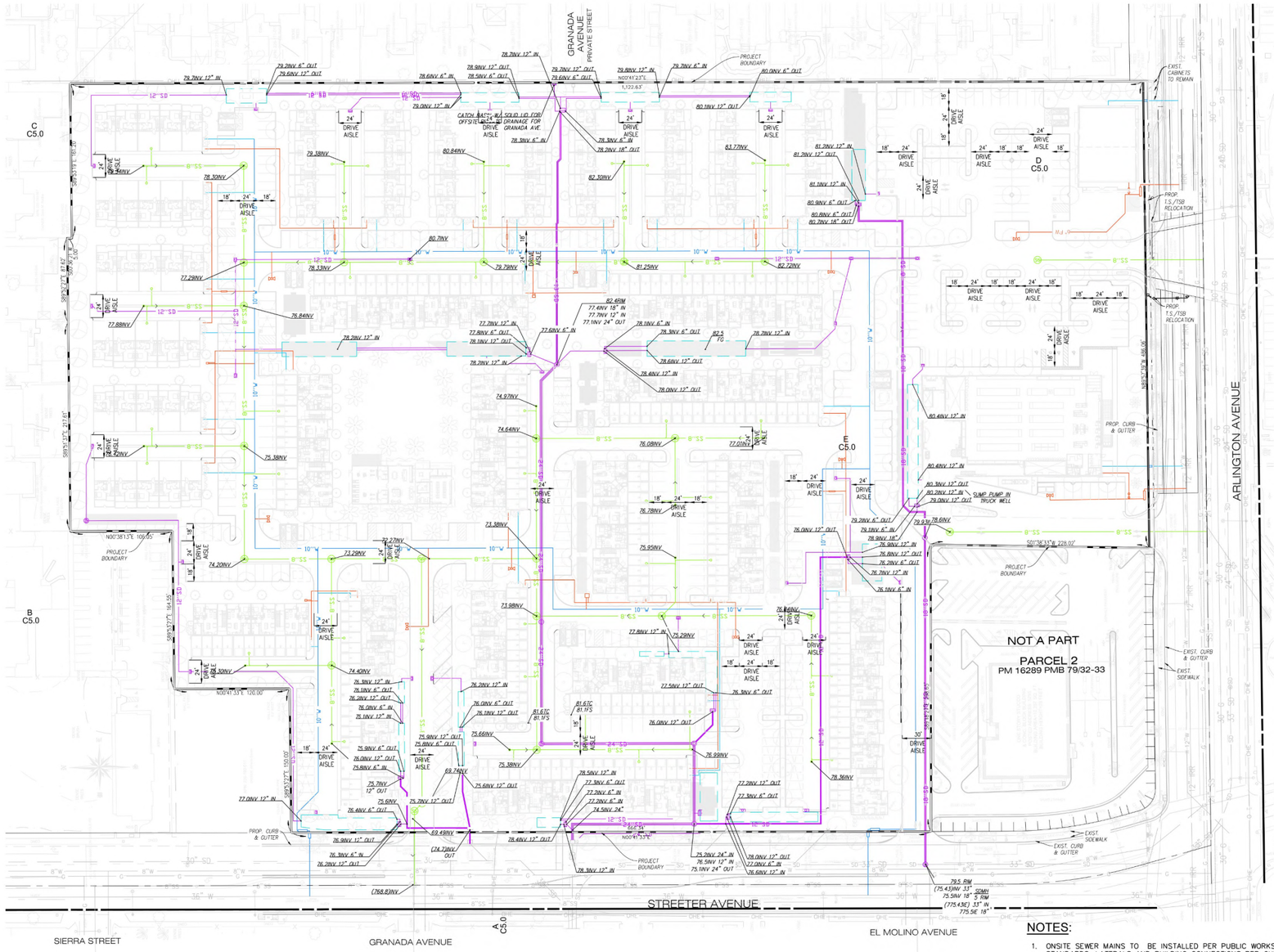
Source: RAB Riverside Development, Nov 8, 2022.

NTS

Figure 32 - Proposed Lighting Plan

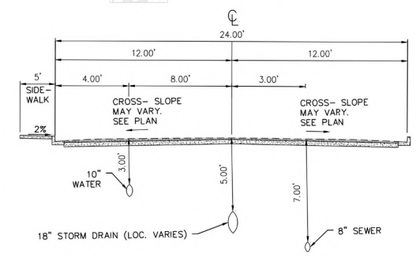
Arlington Mixed Use

ALBERT A. WEBB ASSOCIATES



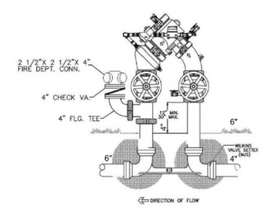
UTILITY LEGEND:

- PROPOSED SEWER MAIN AND MANHOLE
- SEWER CLEANOUT
- PRIVATE FIRE SERVICE
- PROPOSED WATER MAIN
- 10" METER AND BACKFLOW
- FIRE HYDRANT
- D.C.D.A
- PROPOSED PRE-TREATMENT HDPE STORM DRAIN AND MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED STORM DRAIN CONNECTOR
- PROPOSED STORMWATER BMP
- PROPOSED POST-TREATMENT STORM DRAIN
- EXISTING PRIVATE WATER/FIRE MAIN
- EXISTING EASEMENT
- EXISTING SEWER
- PROPOSED ELECTRICAL PAD



TYPICAL UTILITY PLACEMENT SECTION

NOT TO SCALE



6" ON-SITE DOUBLE DETECTOR CHECK

NOT TO SCALE

NORTH

NOTES:

1. ONSITE SEWER MAINS TO BE INSTALLED PER PUBLIC WORKS STANDARDS. LATERALS AND BUILDING CONNECTIONS PER CURRENT CPC.
2. ONSITE PRIVATE FIRE SYSTEM AND HYDRANT LOCATIONS PER CITY FIRE DEPARTMENT.
3. ONSITE PRIVATE DOMESTIC WATER PER CITY WATER DEPARTMENT.
4. DOMESTIC WATER LATERALS FROM ONSITE PRIVATE WATER MAINS TO BUILDINGS PER CURRENT CPC WITH SUBMETERING AS REQUIRED.

H:\2022\22-0172\GIS\PRO\utility_plan\utility_plan.aprx Map created 18 May 2023

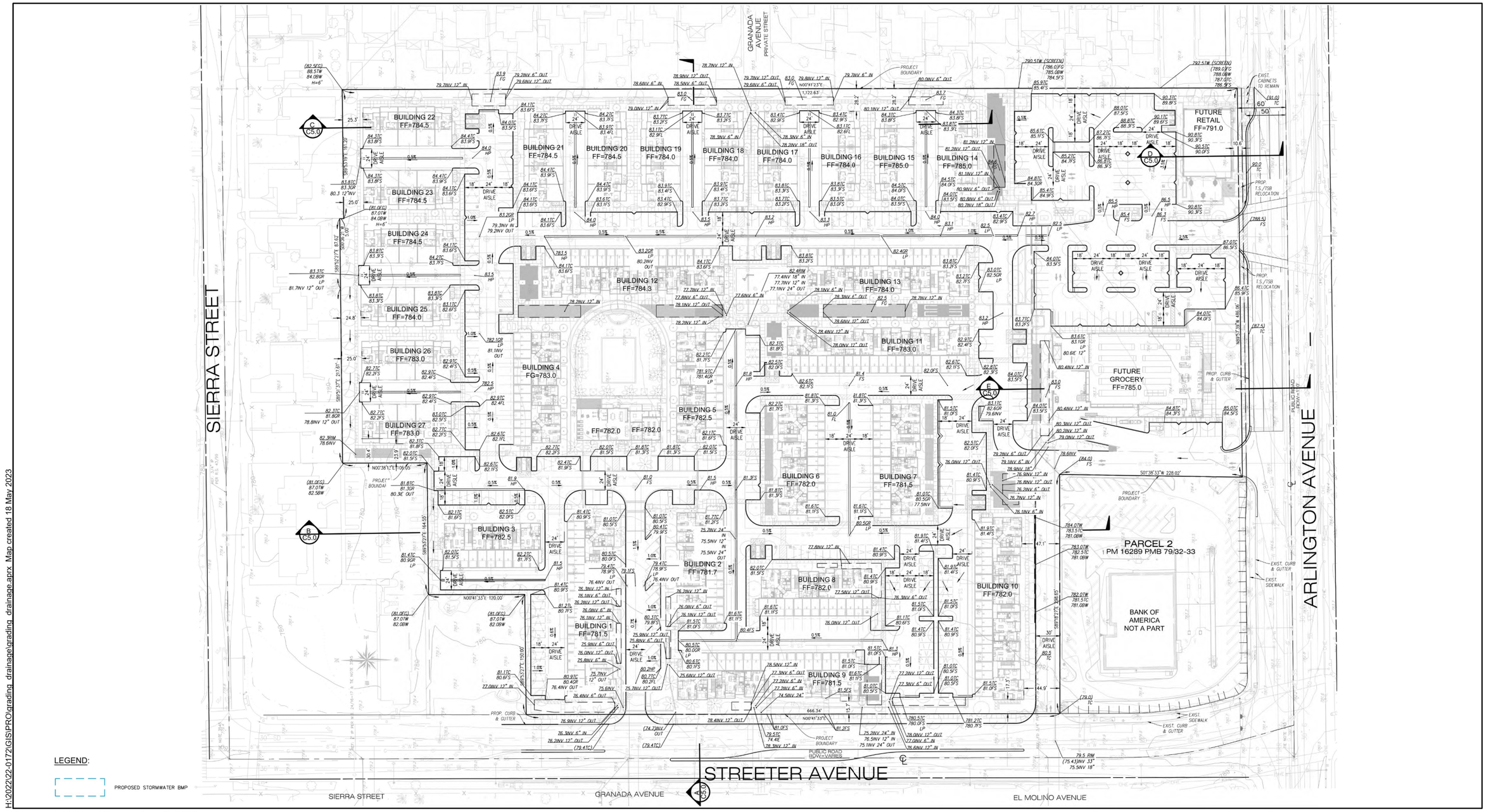
Source: Architects Orange Aug 5, 2022.

NTS

Figure 33 - Existing and Proposed Utility Plan

Arlington Mixed Use

ALBERT A. WEBB ASSOCIATES



H:\2022\22-0172\GIS\PRO\grading_drainage\grading_drainage.aprx Map created 18 May 2023

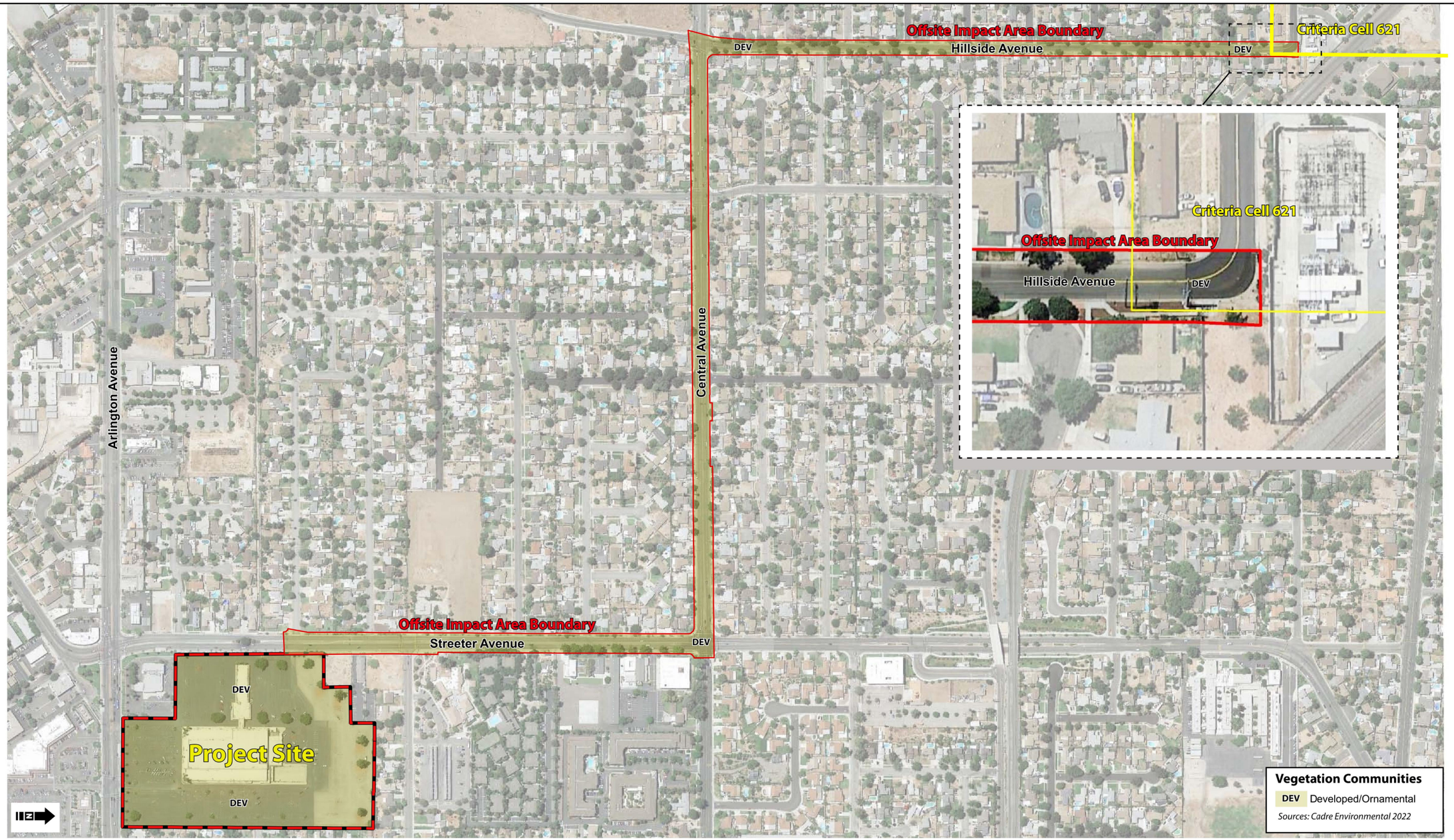
Source: Architects Orange Aug 5, 2022.

NTS

Figure 34 - Proposed Drainage and Grading Plan

Arlington Mixed Use

ALBERT A. WEBB ASSOCIATES



APN 226-180-015 and Right-of-Way

Project Site (Permanent Impact Area)

Offsite (Temporary Impact Area)

Source: CADRE Environmental May, 2023.

NTS

Figure 35 - Off-Site Biological Resources

Arlington Mixed Use

ALBERT A. WEBB ASSOCIATES

H:\2022\22-0172\GIS\PRO\off-site_bio_resources\off-site_bio_resources.aprx Map created 23 May 2023

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☒ Aesthetics	☐ Agriculture & Forest Resources	☒ Air Quality
☐ Biological Resources	☒ Cultural Resources	☒ Energy
☐ Geology/Soils	☒ Greenhouse Gas Emissions	☒ Hazards & Hazardous Materials
☐ Hydrology/Water Quality	☒ Land Use/Planning	☐ Mineral Resources
☒ Noise	☒ Population/Housing	☒ Public Services
☒ Recreation	☒ Transportation	☒ Tribal Cultural Resources
☒ Utilities/Service Systems	☐ Wildfire	☒ Mandatory Findings of Significance

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation which reflects the independent judgment of the City of Riverside, it is recommended that:

The City of Riverside finds that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. ☐

The City of Riverside finds that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared. ☐

The City of Riverside finds that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. ☒

The City of Riverside finds that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed. ☐

The City of Riverside finds that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required. ☐

Signature _____ Date _____

Printed Name & Title Brian Norton, Principal Planner For City of Riverside

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063©(3)(D). In this case, a brief discussion should identify the following:

    a. **Earlier Analysis Used.** Identify and state where they are available for review.

    b. **Impacts Adequately Addressed.** Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

    c. **Mitigation Measures.** For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measure which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) The explanation of each issue should identify:

    a. the significance criteria or threshold, if any, used to evaluate each question; and

    b. the mitigation measure identified, if any, to reduce the impact to less than significance.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
1. AESTHETICS Except as provided in Public Resources Code Section 21099, would the project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐

1a. Response: *(Source: GP; GP PEIR)*

Less Than Significant Impact. Scenic vistas are the view of an area that is visually or aesthetically pleasing. Development projects may potentially impact scenic vistas in two ways: 1) directly diminishing the scenic quality of the vista, or 2) by blocking the view corridors or "vistas" of scenic resources. The proposed Project site is not a scenic resource. Vista points can be found throughout the City both from urban areas toward the hills and from wilderness areas looking on to Riverside. Long-distance views of natural terrain and vegetation can be found throughout the La Sierra/Norco Hills, Sycamore Canyon Wilderness Park, and Box Springs Park (GP, p. OS-3). Like most of the development in the City, the proposed Project will be developed within the valley floor. As such, the Project site is not part of the City's view corridors. Thus, the implementation of the Project would not have a substantial adverse effect on a scenic vista. Therefore, impacts would be **less than significant** and this topic will not be discussed further in the forthcoming EIR.

b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐

1b. Response: *(Source: ALUC-A; CRM; CMR-II; GP PEIR; MC; OHP; RCDG)*

Less Than Significant Impact. The Project site does not contain any rock outcroppings but does contain non-native tree species throughout the existing parking areas. The Project proposes to remove the existing non-native tree species, as shown on **Figure 11** above to accommodate the proposed Project development. The existing non-native tree species located within the right-of-way will also be removed as part of the Project as requested by the City. However, the Project will be required to incorporate a landscape plant palette consistent with Riverside Citywide Design Guidelines for Water Efficient Landscape and Irrigation Design Guidelines, amended January 2019 (RCDG) as well as plants consistent with the Riverside County Airport Land Use Commissions Landscaping Near Airports: Special Considerations for Preventing or Reducing Wildlife Hazards to Aircraft (ALUC-A) as reflected in **Figures 25** through **28**, above**.**

There are no state scenic highways within the City that could potentially be impacted by the proposed Project (GP PEIR, p.5.1-20). However, Arlington Avenue has been designated as a Scenic Boulevard and Scenic Parkway (GP PEIR, p. 5.1-4). As shown in **Figure 9** above, the Project does not propose changing existing entry points along Arlington Avenue. Therefore, implementation of the Project would not increase existing impacts along Arlington Avenue. As mentioned above, the Project will remove existing non-native tree species located within right-of-way. However, these trees will be replaced with new trees and vegetation as approved by the City consistent with special landscape requirements for scenic boulevards. Nonetheless, Arlington Avenue is not designated as a state scenic highway, therefore, impacts to a state scenic highway are not anticipated.

According to the State CEQA Guidelines, a cultural resources considered "historically significant" is considered a historical resource, if it is included in a local register of historical resources or is listed in or determined eligible for listing on the California Register of Historical Resources (CRHR) under any one of the criteria. Since the existing vacant Sears Department store was built in 1964, it has been deemed eligible for listing in the CRHR under Criterion 3 which indicates structures may be eligible if they embody the distinctive characteristics of a

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
type, period, region, or method of construction or represents the work of a master or possesses high artistic value (OHP). The City of Riverside has included this building in their *Modernism Context Statement* dated November 3, 2009 (CRM) and *Citywide Modernism Intensive Survey* dated September 13 (CRM-II) as a Mid-Century Modern structure that may be deemed eligible for listing in the Local and/or National register. Regardless, the Project is not located along a state scenic highway. Thus, impacts from Project implementation would not substantially damage scenic resources related to trees, rock outcroppings, or state scenic highways. Therefore, impacts would be **less than significant** impact so this topic will not be further analyzed in the forthcoming EIR.				
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly-accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☒	☐	☐	☐
1c. Response: *(Source: DOF; GP PEIR; Project Description; Zoning Code)* **Potentially Significant Impact.** According to *CEQA Statue and Guidelines* §21071, an urbanized area is defined as a city that has a population of at least 100,000. In 2022, the City of Riverside's population is approximately 317,847 residents so the City is considered an urbanized area. (DOF). As part of the Project, a change of zone (RZ) and a General Plan Amendment (GPA) is proposed to change designations from CG - Commercial General to MU-V Mixed-Use-Village. The Project will be required to comply with regulations regarding scenic quality but may result in impacts. Thus, the project is in an urbanized area and may conflict with applicable zoning and other regulations governing scenic quality. Therefore, the Project may result in a **potentially significant** impact so this topic will be further analyzed and addressed in the forthcoming EIR.				
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐
1d. Response: *(Source: GP PEIR; MC)* **Less than Significant Impact.** The Project site is an existing vacant development, and as such, existing streetlights are located along Streeter Avenue and Arlington Avenue within the roadway right-of-way. The proposed Project would add additional exterior building lights and exterior lighting for safety and security purposes within parking lots, along pathways and on buildings. All light sources would be shielded so that the light is directed away from streets and adjoining properties. Further, all light fixtures would be required to be consistent with City's Riverside Municipal Code (MC) Title 19 - Zoning Code for illumination. Although the Project would add new sources of potential light and glare (i.e. new lights and windows), the Project would not adversely affect day or nighttime views as the existing Project site and surrounding areas are fully developed and urbanized with existing lighting. Thus, the Project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. Therefore, impacts would be **less than significant** and this topic will not be further analyzed in the forthcoming EIR.				

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
2. AGRICULTURE AND FOREST RESOURCES				
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information complied by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and the forest carbon measurement methodology provided in the Forest Protocols adopted by the California Air Resources Board. Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒

2a. Response: *(Source: CDC; GP)*

No Impact. As previously stated in Response 1(c), above. the Project is located within an urbanized area. The Project site was previously used for the Sears department store so the site is an existing vacant development with buildings, parking lots, and pavement. The area surrounding the Project site is also fully developed with a variety of land uses such as commercial, office, public facilities, single-family residential, medium-high density residential and high density residential. Additionally, as shown in the City's 2025 General Plan, Figure OS-2 Agricultural Suitability map, the Project site is located in an area designated as Urban and Built-Up Land (GP, p. OS-11). According to the California Department of Conservation (CDC) California Important Farmland Finder Map, the Project site does not support Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Furthermore, since the surrounding areas do not support farmland, implementation of the proposed Project would not affect off-site farmland. Thus, the Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. Therefore, **no impacts** are anticipated so this topic will not be further analyzed and addressed in the forthcoming EIR.

b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒

2b. Response: *(Source: GP)*

No Impact. The site is currently zoned CG - Commercial General. The Project proposes to rezone the site to MU-V - Mixed Use-Village. As noted in Response 2a., the Project site is an existing vacant development and does not support farmland or agriculture uses. The Project site is not located in an area designated as a Williamson Act Preserve or Contracted Land (GP, p.OS-12). Thus, the Project would not create a conflict with existing agricultural zoning for agricultural use or a Williamson Act contract. Therefore, **no impacts** are anticipated so this topic will not be further analyzed and addressed in the forthcoming EIR.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)) timberland (as defined in Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
2c. Response: *(Source: CDC; COR GP; GP)* **No Impact.** Forest land is defined as land supporting at least 10 percent native tree cover of any species, including hardwoods, under natural conditions that allow for management of one or more forest resource, including timber (COR GP, p. LU-26). As shown on City of Riverside General Plan, Figure OS-2 - Agricultural Suitability, there are no areas within City limits that are designated for forestland or timberland and the City of Riverside has no forestland that can support 10 percent native tree cover nor any timberland. Thus, the Project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. Therefore, **no impacts** are anticipated so this topic will not be further analyzed and addressed in the forthcoming EIR.				
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
2d. Response: *(Source: CDC; GP)* **No Impact.** As previously mentioned in Response 2(c), above. There is no designated forestland on or adjacent to the Project site. Thus, the Project would not result in the loss of forest land or conversion of forest land to non-forest use. Therefore, **no impacts** are anticipated so this topic will not be further analyzed and addressed in the forthcoming EIR.				
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒
2e. Response: *(Source: CDC; GP)* **No Impact**. As previously mentioned in Responses 2(a) through 2(d), above. the lands affected by the Project are not located within an agricultural use area and do not support designated farmland or forestland. Thus, the Project would not result in changes in the existing environment that could result in conversion of farmland to non-agricultural use or conversion of forestland to non-forest use. Therefore, **no impacts** are anticipated so this topic will not be further analyzed and addressed in the forthcoming EIR.				
3. AIR QUALITY				
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☒	☐	☐	☐
3a. Response: *(Source: GP PEIR; SCAQMD-A; SCAQMD-B; SCAQMD-C)*				

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

Potentially Significant Impact. The City is located within the South Coast Air Basin. The South Coast Air Quality Management District (SCAQMD) has jurisdiction in the basin (GP PEIR, p. 5.3-3). In order to reduce emissions, the SCAQMD adopted the 2016 Air Quality Management Plan (AQMP), which establishes a program of rules and regulations directed at reducing air pollutant emissions and achieving state and federal air quality standards. The 2016 AQMP is a regional and multi-agency effort including the SCAQMD, California Air Resources Board (CARB), the Southern California Association of Governments (SCAG), and the US Environmental Protection Agency (EPA) (SCAQMD-A).

The 2016 AQMP pollutant control strategies are based on the latest scientific and technical information and planning assumptions, including the *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy* (2016-2040 RTP/SCS), updated emission inventory methodologies for various source categories, and SCAG's latest growth forecasts. SCAG's latest growth forecasts were defined in consultation with local governments and with reference to local general plans. SCAG has recently adopted the *2020-2045 Regional Transportation Plan/Sustainable Communities Strategy* (2020-2045 RTP/SCS). A draft 2022 AQMP was released which utilizes the population and growth estimates compiled by SCAG in their latest 2020-2045 RTP/SCS (SCAQMND-B). Land use data is compiled from the City's GP. If a project demonstrates compliance with local land use plans and/or population projections from the 2016 RTP/SCS, which would have been taken into account by SCAQMD, then the project is consistent with the 2016 AQMP. (SCAQMD-C).

The proposed Project includes a change of zone and a GPA to allow for MU-V land use, which would allow for residential and commercial uses onsite. Due to the change of land use, the Project may increase emissions above SCAQMD thresholds. Thus, the Project may conflict with or obstruct implementation of the applicable air quality plan. Therefore, the Project may result in a **potentially significant** impact so an Air Quality Analysis will be prepared and this topic will be further analyzed and addressed in the forthcoming EIR.

b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☒	☐	☐	☐

3b. Response: *(Source: CARB-A; SCAQMD-C)*

Potentially Significant Impact. The portion of the Air Basin within which the proposed Project site is located is designated as a non-attainment area for particulate matter less than 10 microns in diameter (PM-10) under state standards, and for ozone and particulate matter less than 2.5 microns in diameter (PM-2.5) under both state and federal standards (CARB-A). The SCAQMD considers the thresholds for project-specific impacts and cumulative impacts to be the same (SCAQMD-C). Hence, projects that exceed project-specific significance thresholds are considered by SCAQMD to be cumulatively considerable.

Air quality impacts can be described in short-term and long-term perspectives. Short-term impacts occur during site preparation and Project construction, whereas long-term impacts are associated with Project operation. The Project's short-term and long-term emissions will be evaluated using the latest industry standard air quality modeling software and analyzed for compliance with SCAQMD regional significance thresholds.

The proposed Project includes a change of zone and a GPA to allow for MU-V land use, which would allow for residential and commercial uses onsite. Due to the change of land use, the Project may result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard. Therefore, the Project may result in a **potentially**

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
significant impact so an Air Quality Analysis will be prepared and this topic will be further analyzed and addressed in the forthcoming EIR.				
c. Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐	☐
3c. Response: *(Source: CARB-B; SCAQMND-D)* **Potentially Significant Impact.** Air Quality impacts to sensitive receptors can be analyzed via Localized Significance Thresholds (LST) analysis, which is recommended, but not required, by SCAQMD. LSTs are applicable to nitrogen oxides (NOX), carbon monoxide (CO), particulate matter less than 10 microns (PM-10), as well as particulate matter less than 2.5 microns (PM-2.5) and represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard on sensitive receptors (SCAQMD-D, pp. 1-1 – 1-2). Sensitive receptors include residential uses, school playgrounds, childcare facilities, athletic facilities, hospitals, retirement homes, and convalescent homes. (CARB-B, p. 2-1). Demolition and redevelopment of the Project site may have the potential to expose nearby sensitive receptors to substantial pollutant concentrations. Therefore, the Project may result in a **potentially significant** impact so an Air Quality Analysis will be prepared and this topic will be further analyzed and addressed in the forthcoming EIR.				
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐
3d. Response: *(Source: CARB-B)* **Less Than Significant Impact.** The California Air Resources Board developed an Air Quality and Land Use Handbook to outline common sources of odor complaints. The sources of odors include sewage treatment plants, landfills, recycling facilities, and petroleum refineries (CARB-B). Odor impacts during Project operation will be minimal because the land uses proposed on the Project site are not included on CARB's list of facilities that are known to be prone to generate odors. Potential sources of operational odors generated by the Project would include disposal of miscellaneous refuse. Consistent with City requirements, all Project generated refuse is required to be stored in covered containers and removed at regular intervals in compliance with solid waste regulations, thereby precluding substantial generation of odors due to temporary holding of refuse on-site. Moreover, construction-source odor emissions would be temporary, short-term, and intermittent in nature and would not result in persistent impacts that would affect substantial numbers of people. Thus, the Project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. Therefore, impacts would be **less than significant** so this topic will not be further analyzed and addressed in the forthcoming EIR.				
4. BIOLOGICAL RESOURCES Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
4a. Response: *(Source: CADRE; GP; RCA)* **Less Than Significant Impact with Mitigation Incorporated.** The proposed Project will be located on a fully				

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

developed site, amongst an urbanized area completely surrounded by existing development. The Project site is designated as Residential/Urban/Exotic which means that the Project site is not expected to support sensitive habitat (GP, p. OS-20). A *Biological Resources Technical Report* was prepared by Cadre Environmental (CADRE) dated April 2023 and is included as Appendix A to this Initial Study.

A literature review and field survey were conducted on September 9, 2022 and February 2, 2023 covering both the Project site and offsite improvement alignment. This was conducted in order to characterize and identify potential sensitive plant and wildlife habitats, and to establish the accuracy of the data identified in the literature search and previous surveys. Geologic and soil maps were also examined to identify local soil types that may support sensitive taxa. Aerial photograph, topographic maps, and vegetation and rare plant maps prepared by previous studies in the region were used to determine community types and other physical features that may support sensitive plants/wildlife, uncommon taxa, or rare communities that occur within the Project Site and offsite impact area (CADRE, p.4).

A 0.15 acre portion of the offsite area included for improvements is located within the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Criteria Cell number 621, Subunit 1 – Santa Ana River South. Conservation within this Cell will contribute to assembly of Existing Core A. The MSHCP states, "Conservation within this Cell will focus on lands expanding existing conserved wetland habitat along the Santa Ana River. Conservation within this Cell will be approximately 5 percent of the Cell focusing in the northeastern portion of the Cell" (CADRE, p. 33). However, the 0.15 acre portion of this offsite impact area which extends into the southeastern region of MSHCP Criteria Cell 621 is characterized as a paved portion of the Hillside Avenue right-of-way. This area is completely surrounded by existing residential development and power grid facility. Further, this area is not located within the northeastern region of Criteria Cell 621 where conservation is identified. The 0.15 acre of developed land will be temporarily impacted as a result of infrastructure improvements proposed within the offsite impact area right-of-way extending into Criteria Cell 621, but the proposed impacts within this offsite area would not conflict with the reserve design goals, Existing Core A or the Santa Ana River.

No other portion of the Project site is located within a MSHCP criteria cell, narrow endemic plant species area, criteria area, or sensitive plant species survey area. Furthermore, no state or federally listed threatened or endangered plant species were detected or are expected to occur onsite. Additionally, no other California Native Plant Society (CNPS), special-status plants, or species of local concern were observed onsite. There were no sensitive vegetation communities listed by the California Department of Fish and Game (CDFG) documented within or adjacent to the Project site (CADRE, p. 19).

Further, the Project site does not occur within a predetermined MSHCP Survey Area for the burrowing owl, amphibians, or mammals and no state or federally listed threatened or endangered wildlife species were detected or are expected to occur onsite. Additionally, no other special status wildlife species, or species or local concern were observed or expected to occur onsite (CADRE, pp. 22-26).

The proposed Project site is fully developed. Ornamental non-native tree species and some landscaping are present in the planters along building frontages and in the parking lot including Canary Island pine (*Pinus canariensis*), southern live oak (*Quercus virginiana*), Mexican fan palm (*Washingtonia robusta*), Chinese tallow (*Sapium sebifrum*), fern pine (*Podocarpus gracilior*), and southern magnolia (*Magnolia grandiflora*). No native vegetation is present within or adjacent to the Project Site (CADRE, p. 6). The site is surrounded by existing residential, office and commercial uses. No natural habitats are located on site. Hence, no habitat to support listed or protected species has been identified. The existing ornamental non-native tree species on site will be removed. If construction occurs outside of the nesting season (between September 1 and January 31), no pre-removal nesting

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

surveys would be required. If construction occurs during the nesting season (between February 1 and August 31) implementation of Mitigation Measure **MM BIO-1** will ensure that no nesting birds, regardless of their listing status, will be impacted through compliance with CDFG Code Section 3503 and the Migratory Bird Treaty Act.

> **MM BIO-1**: **Nesting Birds.** Prior to issuance of grading, should tree and/or vegetation removals be required during the nesting/breeding season (between February 1st and August 31st,), a pre-removal nesting bird survey shall be required. If construction is proposed a qualified biologist shall conduct a nesting bird survey(s) no more than three (3) days prior to initiation of grading to document the presence or absence of nesting birds within or directly adjacent (100 feet) to the Project Site. The survey(s) shall focus on identifying any raptors and/or bird nests that are directly or indirectly affected by construction activities. If active nests are documented, species specific measures shall be prepared by a qualified biologist and implemented to prevent abandonment of the active nest. At a minimum, grading in the vicinity of a nest shall be postponed until the young birds have fledged. The perimeter of the nest setback zone shall be fenced or adequately demarcated with stakes and flagging at 20-foot intervals, and construction personnel and activities restricted from the area. A survey report by a qualified biologist verifying that no active nests are present, or that the young have fledged, shall be submitted to the City of Riverside for review and approval prior to initiation of grading in the nest-setback zone. The qualified biologist shall serve as a construction monitor during those periods when construction activities occur near active nest areas to ensure that no inadvertent impacts on these nests occur. A final monitoring report of the findings, prepared by a qualified biologist, shall be submitted to the City of Riverside documenting compliance with the CDFG Code. Any nest permanently vacated for the season shall not warrant protection pursuant to the CDFG Code.

Because a small portion of the offsite footprint is located within Criteria Cell 621, the Project is required to undergo a Joint Project Review (JPR) by the Western Riverside County Regional Conservation Authority (RCA). As reflected in **Figure 35** and stated above, the 0.15 acre portion of offsite improvements for electrical facilities would not conflict with the reserve design goals, existing Core A or the Santa Ana River. (CADRE, p. 37). As required, the Project was reviewed by the RCA. A determination indicating the Project is consistent with the MSCHP was made in June 2023 and is included in Appendix A of this Initial Study (RCA, p. 1).

Thus, as the Project site is an existing developed but vacant site that does not contain suitable habitat or existing habitat for and with implementation of **MM BIO-1**, the Project would not result in substantial adverse effects, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. Therefore, impacts would be **less than significant with mitigation incorporated** so this topic will not be further analyzed and addressed in the forthcoming EIR.

b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒

4b. Response: *(Source: CADRE; GP)*

No Impact. The Project site is an existing vacant developed site and located in an urbanized area and does not contain riparian habitat or other sensitive natural communities (CADRE, pp. 33-34, 42). Thus, the proposed Project would not have a substantial adverse effect on riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(CDFW)or US Fish and Wildlife Service (USFWS). Therefore, **no impacts** are anticipated so this topic will not be further analyzed in the forthcoming EIR.				
c. Have a substantial adverse effect on state or federally-protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
4c. Response: *(Source: CADRE)* **No Impact.** The Project is an existing vacant developed site and is located within an urbanized area. There are no federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) on-site or within proximity to the Project site. Further, the Project site does not contain any wetlands or jurisdictional resources regulated by the US Army Corps of Engineers (USACE), CDFW or Regional Water Quality Control Board (RWQCB). (CADRE, pp. 37-38, 42). Thus, the proposed Project would not have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. Therefore, **no impacts** are anticipated so this topic will not be further analyzed and addressed in the forthcoming EIR.				
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
4d. Response: *(Source: CADRE)* **No Impact.** As discussed in Response 4(a) above, the Project site is an existing vacant developed site and is located within an urban built-up area. The Project site does not represent a regional wildlife movement corridor and provides no cover, food, and no natural unrestricted water courses that would facilitate regional wildlife movement onsite and is not located in a MSHCP designated core, extension of existing core, non-contiguous habitat block, constrained linkage or linkage area intended to protect lands for wildlife movement. The Project site is completely surrounded by high density residential/ mixed use retail development and high traffic roads. (CADRE, p. 26.) Thus, the proposed Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites. Therefore, **no impacts** are anticipated so this topic will not be further analyzed and addressed in the forthcoming EIR.				
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
4e. Response: *(Source: CADRE; MC)* **Less Than Significant.** The 2025 General Plan includes policies to ensure that future development would not conflict with any local policies or ordinances protecting biological resources. Objectives and policies that relate to biological resources include the following:				

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

Objective OS-5: Protect biotic communities and critical habitats for endangered species throughout the General Plan Area.

- **Policy OS-5.2:** Continue to participate in the MSHCP Program and ensure all projects comply with applicable requirements.
- **Policy OS-5.3:** Continue to participate in the Stephens' Kangaroo Rat (SKR) Habitat Conservation Plan including collection of mitigation fees.

The Project applicant shall be required to pay the SKR fees in accordance with County of Riverside Ordinance 663.10 (COR 663.10) and City of Riverside MSHCP Local Development Mitigation Fees (LDMF), established by MC Section 16.72.040 (CADRE, p. 43). Further, the Project site is an existing vacant development and does not contain any biological resources. Through payment of applicable fees, the Project will not conflict with any of the 2025 General Plan policies listed above. The City's Municipal Code Section 13.25.020 establishes guidelines for removal, trimming and trenching around trees in City rights-of-way (MC). The project does not propose to remove or plant any trees within the City's rights-of-way. (CADRE, p. 39). Thus, implementation of the proposed Project would not conflict with any local policies or ordinances protecting biological resources. Therefore, impacts would be **less than significant impact** so this topic will not be further analyzed in the forthcoming EIR.

f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☒	☐	☐

4f. Response: *(Source: CADRE)*

Less Than Significant with Mitigation Incorporated. The Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) is a comprehensive multi-jurisdictional effort that includes western Riverside County and eighteen (18) cities including the City of Riverside. Rather than addressing sensitive species on an individual basis, the MSHCP focuses on conservation of 146 species, including those listed at the federal and state levels and those that could become listed in the future. The MSHCP proposed a reserve system of approximate 500,000 acres, of which 347,000 acres are currently within public ownership and 153,000 acres will need to be assembled from lands currently in private ownership. The MHSCP allows the County and other permittees (including the City of Riverside) to issue take permits for listed species so that applicants do not need to receive endangered species incidental take authorization from the USFWS and CDFW. On June 7th, 2003, the County of Riverside Board of Supervisors adopted the MSHCP, certified the Environmental Impact Report/Environmental Impact Statement, and authorized the Chairman to sign the Implementing Agreement with the respective wildlife agencies. The Incidental Take Permit was issued by the wildlife agencies on June 22nd, 2004. The City of Riverside is a Permittee under the MSHCP. Regions of the MHSCP have been organized into Area Plans that generally coincide with logical political boundaries, including city limits or long-standing unincorporated communities. The Project Site is located within the Cities of Riverside/Norco Area Plan. The Cities of Riverside/Norco Area Plan has a target conservation acreage of 3,465 to 3,615 acres. (CADRE, p. 33). The project site is located within the MSHCP and the Stephens Kangaroo Rat (SKR) Fee Area as outlined in the SKR Habitat Conservation Plan. Project compliance with the SKR HCP consists of paying the SKR fee. (CADRE, p.43).

The MSHCP requires project consistency with Sections 6.1.1 (Property Owner Initiated Habitat Evaluation and Acquisition Negotiation Strategy), 6.1.2 (Protection of Species within Riparian/Riverine Areas and Vernal Pools), 6.1.3 (Protection of Narrow Endemic Plant Species), 6.1.4 (Urban Wildlands Interface), 6.3.2 (Additional Survey Needs and Procedures), 6.4 (Fuels Management), Appendix C (Standard Best Management Practices), and 7.5.3

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

(Construction Guidelines). As a Permittee to the MSHCP, the City is required to ensure that all projects are consistent with these Sections of the MSHCP.

Consistency with MSHCP Section 6.1.1

The Project site is located within the MSHCP. A 0.15 acre of offsite improvements is located within a MSHCP designated Criteria Cell as identified under Section 6.1.1, *Property Owner Initiated Habitat Evaluation and Acquisition Negotiation Strategy (HANS)* as discussed in Threshold 4(a) above. As such, the Project has undergone Joint Project Review (JPR). (CADRE, pp. 32-33). A determination indicating the Project is consistent with the MSCHP was made by the RCA in June 2023. Further, the Project footprint does not fall within, nor is it adjacent to, Public Quasi-Public (PQP) or other MSHCP Conserved Lands (COR PQP). Thus, the proposed Project is consistent with Section 6.1.1 of the MSHCP.

Consistency with MSHCP Section 6.1.2

Section 6.1.2, *Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools,* of the MSHCP requires that projects develop avoidance alternatives, if feasible, that would allow for full or partial avoidance of riparian/riverine areas. Section 6.1.2 of the MSHCP defines Riparian/Riverine areas as "lands which contain Habitat dominated by trees, shrubs, persistent emergent, or emergent mosses and lichens, which occur close to, or which depend upon soil moisture from a nearby fresh water source; or areas with freshwater flow during all or a portion of the year." The Proposed Project site has already been developed and does not support riparian, riverine, fairy shrimp and vernal pool habitats and no species associated with these habitat types are present on the site. As such, no focused surveys are required nor a MSHCP Determination of Biologically Equivalent or Superior Preservation (DBESP) report. Thus, the proposed Project is consistent with Section 6.1.2 of the MSHCP. (CADRE, pp. 33-34, 42).

Consistency with MSHCP Section 6.1.3

Section 6.1.3, *Protection of Narrow Endemic Plant Species*, of the MSHCP requires that within identified Narrow Endemic Plant Species Survey Areas (NEPSSA), site-specific focused surveys for Narrow Endemic Plants Species will be required for all public and private projects where appropriate soils and habitat are present. The Project site does not occur within an MSHCP predetermined Survey Area for narrow endemic plant species and is therefore not required to survey for any narrow endemic plants. Thus, the Project is consistent with Section 6.1.3 of the MSHCP. (CADRE, p. 33, 42).

Consistency with MSHCP Section 6.1.4

Section 6.1.4, *Guidelines Pertaining to the Urban/Wildlife Interface,* outlines the minimization of indirect effects associated with locating development in proximity to a MSHCP Conservation Area. The Project site is not located adjacent to an existing or proposed MSHCP Conservation Area. Thus, the Project is consistent with Section 6.1.4 of the MSHCP. (CADRE, p. 43).

Consistency with MSHCP Section 6.3.2

Section 6.3.2, *Additional Survey Needs and Procedures,* requires additional surveys for certain species if a project is located within criteria areas shown on *Figure 6-2 (Criteria Area Species Survey Area)*, *Figure 6-3 (Amphibian Species Survey Areas with Critical Area)*, *Figure 6-4 (Burrowing Owl Survey Areas with Criteria Area)* and *Figure 6-5 (Mammal Species Survey Areas with Criteria Area)* of the MSHCP. The Project site does not occur within the Amphibian Species Survey Area, Mammal Species Survey Area, Narrow Endemic Plant Survey Area, Burrowing Owl Area, Criteria Area Species, or Invertebrate Survey Area. The Project Site is not located within an Amphibian Species Survey Area, Mammal Species Survey Area, Narrow Endemic Plant Survey Area, Burrowing Owl Area,

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

Criteria Area Species, or Invertebrate Survey Area. Thus, no focused surveys are required so the Project is consistent with Section 6.3.2 of the MSHCP. (CADRE, p. 33).

Consistency with MSHCP Section 6.4

Section 6.4, *Fuels Management,* of the MSHCP provides guidelines to address brush management activities around new development within, or adjacent to, MSHCP Conservation Areas. The Project Site is not located adjacent to an existing or proposed MSHCP Conservation Area so this section is not applicable to the proposed Project (CADRE, p. 35). Therefore, the Project is consistent with MSHCP Section 6.4.

MSHCP Appendix C and Section 7.5.3

The MSHCP's Appendix C, *Standard Best Management Practices* and Section 7.5.3, *Construction Guidelines*, lists standard best management practices and guidelines to be implemented during project construction that will minimize potential impacts to sensitive habitats in the vicinity of a project. The guidelines relate to water pollution and erosion control, equipment storage, fueling, and staging, dust control, exotic plant control and timing of construction. Implementation of mitigation measure **MM BIO-1** will address potential construction impacts to nesting birds. Thus, with mitigation the proposed Project is consistent with Appendix C and Section 7.5.3 of the MSHCP.

Hence, with implementation of mitigation measure **MM BIO-1**, the proposed Project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, impacts are **less than significant with mitigation incorporated** so this topic will not be further analyzed in the forthcoming EIR.

5. CULTURAL RESOURCES Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	☒	☐	☐	☐

5a. Response: *(Source: CRM; CRM-II)*

Potentially Significant Impact. Cultural resources include places, objects, and settlements that reflect group or individual religious, archaeological, architectural, or paleontological activities. Such resources provide information on scientific progress, environmental adaptations, group ideology, or other human advancements. By statute, CEQA is primarily concerned with two classes of cultural resources: "historical resources," which are defined in Public Resources Code (PRC) Section 21084.1 and CEQA Guidelines Section 15064.5; and "unique archaeological resources," which are defined in PRC Section 21083.2. This section addresses the proposed project's potential impacts in relation to historical and archaeological resources. Project impacts to tribal cultural resources are evaluated in *Section 18, Tribal Cultural Resources,* of this Initial Study.

The Project proposes to demolish the existing vacant buildings associated with the former Sears Department Store and Automotive Service Center and construct a mixed use development in its place. The City of Riverside has included the Sears building in the *Modernism Context Statement* dated November 3, 2009 (CRM) and *Citywide Modernism Intensive Survey* dated September 13 (CRM-II) as a Mid-Century Modern structure that may be deemed eligible for listing. Hence, these structures may be eligible for listing in the National Register for Historic Places, California Register for Historic Resources, and the City of Riverside Historical Landmarks so the proposed Project does involve the restoration, rehabilitation, alteration, or demolition of a historical resource as defined under Section 15064.5(a) of the *State CEQA Guidelines*. Thus, the proposed Project may cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5. Therefore, the Project may result in a **potentially significant impact** so this topic will be further analyzed and addressed in the forthcoming EIR.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b. Cause a substantial adverse change in the significance of an archeological resource pursuant to § 15064.5?	☒	☐	☐	☐

5b. Response: *(Source: Project Description)*

Potentially Significant Impact. As stated in Response 5(a), above the Project proposes to demolish the existing vacant buildings associated with the former Sears Department Store and Automotive Service Center and construct a mixed use development in its place. Demolition and construction of the site involves ground disturbing activities which could result in accidental discovery of archaeological resources below the surface. Thus, the Project may have the potential to cause a substantial adverse change in the significance of an archeological resource pursuant to § 15064.5. Therefore, the Project may result in a **potentially significant impact** so this topic will be further analyzed and addressed in the forthcoming EIR.

c. Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☒	☐

5c. Response: *(Source: Project Description)*

Less than Significant Impact with Mitigation Incorporated. No known cemeteries are located on the Project site or along the off-sites. Pursuant to California Health and Safety Code regulations Sections 57051 and 7054, and California Public Resources Code Section 5097.98, in the unlikely event that suspected human remains are uncovered during construction, all activities in the vicinity of the remains shall cease and the contractor shall notify the proper authorities and standard procedures for the respectful handling of human remains will be adhered to. The proposed Project would also be required to comply with regulatory requirements for treatment of Native American human remains contained in California Health and Safety Code Sections 7050.5 and 7052 as well as California Public Resource Code (PRC) Section 5097. These regulations prohibit the interference with any human remains or "cause severe irreparable damage to any Native American sanctified cemetery, place of worship, religious or ceremonial site or sacred shrine." If human remains are found during construction, all work must halt and a qualified archaeologist must contact the city and shall ensure reasonable protection measures are taken to protect the discovery from disturbance. Implementation of mitigation measures MM CR-1 will further ensure impacts to human remain are less than significant.

> **MM CR-1**: **Human Remains**. If human remains are discovered, no further disturbance shall occur in the affected area until the County Coroner has made necessary findings as to origin. If the County Coroner determines that the remains are potentially Native American, the California Native American Heritage Commission shall be notified within 24 hours of the published finding to be given a reasonable opportunity to identify the "most likely descendant". The "most likely descendant" shall then make recommendations and engage in consultations concerning the treatment of the remains (California Public Resources Code 5097.98).

Through compliance with existing regulations and implementation of mitigation measure CR-1, impacts with regard to disturbing human remains, including those interred outside of dedicated cemeteries will be less than significant. Therefore, this impact will not be analyzed in the EIR. Therefore, impacts are **less than significant with mitigation incorporated** so this topic will not be further analyzed and addressed in the forthcoming EIR.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
6. ENERGY Would the project:				
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☒	☐	☐	☐
6a. Response: *(Source: Project Description)* **Potentially Significant Impact.** As previously mentioned, the Project includes a zoning change and a general plan amendment to MU-V – Mixed Use-Village to permit construction of a mixed-use development. Implementation of the Project would incorporate a residential use which would result in an increase in population density. An increase in population may have the potential to increase energy consumed by the Project site. Thus, implementation of the proposed Project may have the potential to result in significant impacts. To determine the severity of Project-related impacts regarding wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation an Energy Analysis will need to be prepared. Therefore, the Project may result in a **potentially significant impact** so this topic will be further analyzed and addressed in the forthcoming EIR.				
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☒	☐	☐	☐
6b. Response: *(Source: Project Description)* **Potentially Significant Impact.** The Project's compliance with state and local plans for renewable energy or energy efficiency cannot be determined without an analysis of the Project's energy consumption, which is not yet available. Thus, pending this analysis, the Project may conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Therefore, the Project may result in a **potentially significant impact** so this topic will be further analyzed and addressed in the forthcoming EIR.				
7. GEOLOGY AND SOILS Would the project:				
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
7i. Response: *(Source: ALTA-A; ALTA-B; GP)* **Less Than Significant Impact.** Seismic activity is to be expected in Southern California. As shown in the City's 2025 General Plan Public Safety Element, Figure PS-1 Regional Fault Zones, there are no Alquist-Priolo zones in the City. (GP, p. PS-5.) Furthermore, a *Geotechnical Investigation* was prepared by Alta California Geotechnical, Inc, in February 2020 (ALTA-A), as well as an *Updated Geotechnical Investigation*, in February 2023 (ALTA-B), both included as Appendix B to this Initial Study. California has eight provinces, which are divided into blocks and sub-blocks. The Project site is located within Structural Province I, Peninsular Range Block, Riverside sub-block (ALTA-A, p. 8). It was determined that several large active fault systems, occur in the region surrounding				

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
the Project site such as; Whitter-Elsinore, San Jacinto, and the San Andreas (ALTA-A, p. 9). The Project site is located approximately 11.9 miles east of the Whitter-Elsinore Fault zone, 10.9 miles west of San Jacinto Fault zone, and 17.5 miles west of San Andres Fault zone. As such, the potential for fault rupture or seismic shaking is very low (ALTA-A, p.10). Additionally, the Project would be required to comply with all California Building Code (CBC) regulations. Thus, the Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of known earthquake fault. Therefore, impacts are **less than significant** so this topic will not be further analyzed and addressed in the forthcoming EIR.				
ii. Strong seismic ground shaking?	☐	☐	☒	☐
7ii. Response: *(Source: ALTA-A; GP)* **Less Than Significant Impact.** As discussed above in Response 7(a)(i), the Project site is located on the northern portion of the Riverside sub-block. Due to the Project site being approximately 10 to 17 miles away from fault zones, as mentioned above, ground shaking hazards caused by earthquakes can occur that have the potential to cause moderate to intense ground shaking (ALTA-A, p,10). However, the proposed Project would be required to comply with CBC regulations. Thus, the Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. Therefore, impacts are **less than significant** so this topic will not be further analyzed and addressed in the forthcoming EIR.				
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
7iii. Response: *(Source: ALTA-A; ALTA-B; GP)* **Less Than Significant Impact.** Liquefaction is a process whereby strong seismic ground shaking causes sediment layers that are saturated with groundwater to lose solidity and behave as a liquid. Factors influencing a site's potential for liquefaction include area seismicity, on-site soil type and consistency, and groundwater level. Liquefaction effects can manifest in several ways including; loss of bearings, lateral spread, dynamic settlement, and flow failure (ALTA-A, p. 11). The project site is located in an area designated with a moderate to high potential for liquefaction (GP, p. PS-8). Liquefaction analysis of the soils underlying the site was performed utilizing data from the hollow-stem auger boring and laboratory test results. Groundwater was encountered during subsurface investigations at a depth of approximately 41 to 43 feet below the ground surface. (ALTA-A, p.11). Based on liquefaction calculations outlined in the Geotechnical Investigation, it was determined that the potential for loss of bearing, lateral spreading and flow failure was nil based on the depth of the ground water, the density of deposits onsite, and the horizontal deposition of underlaying deposits. Settlement due to seismic shaking can occur as a result of both liquefaction of saturated sediments and rearrangement of dry sand particles. The analysis shows the amount of dynamic settlement due to liquefaction is low. (ALTA-A, pp. 10-11). Total seismic settlement at the ground surface is expected to be less than 1 inch, and the differential settlement would be less than 0.5 inches over a horizontal distance of 40 feet (ALTA-A, p.24). The Project would be required to comply with CBC regulations and with recommendations outlined in the Geotechnical Investigations (ALTA-A, pp. 15-35; ALTA-B, pp. 2-5). Thus, the Project is not anticipated to directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction. Therefore, through adherence with the CBC regulations and the recommendation from the Geotechnical Investigations impacts are **less than significant** so this topic will not be further analyzed and addressed further in the forthcoming EIR.				

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
iv. Landslides?	☐	☐	☐	☒

7iv. Response: *(Source: GP PEIR)*

No Impact. The Project site is located in an urbanized area with generally flat topography and is not located in an area prone to landslides (GP PEIR, p. 5.6-3). Because the site is relatively flat and not close to significant slopes, the potential for earthquake-induced landslides to occur at the site is considered very low. Thus, the Project is not anticipated to directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including landslides. Therefore, **no impacts** are anticipated so this topic will not be further analyzed and addressed in the forthcoming EIR.

b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐

7b. Response: *(Source: GP PEIR; MC)*

Less Than Significant Impact. As previously discussed in Response 7(a)(iv) above, the Project site is flat. However, erosion and loss of topsoil could occur as a result of Project construction. As such, the Project will be required to comply with the State and federal requirements regarding the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) establishing erosion and sediment controls for construction activities. The Project is also required to comply with the National Pollutant Discharge Elimination System (NPDES) regulations. Additionally, with the erosion control standards for which all development activity must comply (Title 18), the Grading Code (Title 17) requires the implementation of measures designed to minimize soil erosion (MC). Further, a six foot high protection fence with windscreen material will be installed around the Project site during demolition. This will further help to contain dust and materials within the Project site. Thus, through compliance with state and federal requirements as well as with Titles 18 and 17 the Project would not result in substantial soil erosion or loss of topsoil. Therefore, impacts would be a **less than significant** so this topic will not be further analyzed and addressed in the forthcoming EIR.

c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐

7c. Response: *(Source: ALTA-A; ALTA-B; GP; GPPEIR)*

Less Than Significant Impact. The Project site is located in an urbanized area and the general topography of the subject site is flat. The Project site is currently developed with existing vacant structures and parking lots. As stated in Response 7(a)(iv) above, the Project site is not located in an area prone to landslides (GP PEIR, p. 5.6-3).

As stated in Response 7(a)(iii) above, due to the depth of the ground water, the density of deposits onsite and the horizontal deposition of the underlying deposits, liquefaction, hazard at the site is considered low. Total seismic settlement at the ground surface is expected to be less than 1 inch, and the differential settlement would be less than 0.5 inches over a horizontal distance of 40 feet (ALTA-A, pp. 8-12, 26).

Lateral spreading is the lateral displacement of surficial blocks of sediment as a result of liquefaction in a subsurface layer. Lateral Spreading can occur on sites with gently sloping (1 percent or more) ground, as found on the Project site. Potential of liquefaction-induced lateral spreading at the Project site is considered nil based on the depth to groundwater and the density of the deposits found onsite. Therefore, lateral spreading is not anticipated (ALTA-A, p. 12).

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
As discussed above, the Project site is located in an urbanized area that is not prone to landslides, lateral spreading, flow failure, and loss of bearings. The Project will be required to comply with CBC requirements and recommendations outlined in the Geotechnical Reports, which include general standards of care related to site preparation, unsuitable soil removal, over-excavation, backfill placement, compaction, and structural design (ALTA-A, pp. 15-35; ALTA-B, pp. 2-5). Thus, the Project is not located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. Therefore, impacts would be **less than significant** so this topic will not be further analyzed and addressed in the forthcoming EIR.				
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
7d. Response: *(Source: ALTA-A; ALTA-B; MC)* **Less Than Significant Impact.** A majority of the Project site is classified as low to medium in expansion potential (ALTA-A, p. 32). Since soils have come expansive potential, all design and construction shall comply with the recommendations outlined in the Geotechnical Reports (ALTA-A, pp. 15-35; ALTA-B, pp. 2-5). Thus, through compliance with the recommendations of the Geotechnical Investigation report, applicable provisions of the City's Subdivision Code Title 18, and the CBC with regard to expansive soils, the Project would not create substantial direct or indirect risks to life or property. Therefore, impacts would be **less than significant** so this topic will not be further analyzed and addressed in the forthcoming EIR.				
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
7e. Response: *(Source: ALTA-A)* **No Impact.** As previously mentioned in Response 7(c), the Project site is an existing vacant development located within an urbanized area. The Project will connect to and be served by existing sewer infrastructure. The Project does not propose the use of a septic system. Thus, soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater is not applicable to the proposed Project. Therefore, **no impacts** are anticipated so this topic will not be further analyzed and addressed in the forthcoming EIR**.**				
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
7f. Response: *(Source: DUDEK)* **Less Than Significant With Mitigation Incorporated.** A *Paleontological Resource Inventory Memorandum*, was prepared by DUDEK dated March 2023 (DUDEK) and is included as Appendix B to this Initial Study. The Project proposes development of approximately 576,203 sf of residential and commercial-retail uses. Construction will include grading of the site and will be achieved using scrapers, motor graders, water trucks, dozers, and compaction equipment. The Project also includes the trenching of approximately 1.5 miles off-site to provide connection to existing RPU electric facilities. Trenching will occur within existing ROW and involve approximately 13 acres. Offsite improvements will impact approximately 0.5 miles in Streeter Avenue from Arlington Avenue to Central Avenue; approximately 0.5 miles in Central Avenue from Streeter Avenue to				

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

Hillside Avenue; and approximately 0.5 miles in Hillside Central Avenue to Mountain View Avenue. Trenching is expecting to reach up to eight feet in depth (DUDEK, p. 2).

Although the record searches did not identify any paleontological resources within the Project site, including offsite footprint, because portions of the Project site and surrounding area is considered to have a high paleontological sensitivity, all Project construction-related ground-disturbing activities have the potential to destroy a unique paleontological resource or site unless mitigation is incorporated. (DUDEK, p. 6.) Implementation of mitigation measure **MM GEO-1** below, will reduce potential Project-related impacts to unique paleontological resources and/or sites.

> **MM GEO-1: Paleontological Resources Impact Mitigation Program and Paleontological Monitoring.** Prior to issuance of grading permit, the Project proponent shall retain a qualified paleontologist per the Society of Vertebrate Paleontology (2010) guidelines. The qualified paleontologist shall prepare a Paleontological Resources Impact Mitigation Program (PRIMP) for the Project that shall be consistent with the SVP (2010) guidelines and outline requirements for preconstruction meeting attendance and worker environmental awareness training, where paleontological monitoring is required within the Project site based on construction plans and/or geotechnical reports, procedures for adequate paleontological monitoring and discoveries treatment, and paleontological methods (including sediment sampling for microinvertebrate and microvertebrate fossils), reporting, and collections management. A qualified paleontological monitor shall be on the Project site during initial rough grading and other significant ground-disturbing activities (including augering) in areas underlain by Pleistocene alluvial deposits and below a depth of five feet below the ground surface in areas underlain by Holocene alluvium to determine if they are old enough to preserve scientifically significant paleontological resources. No paleontological monitoring shall be necessary during ground disturbance within artificial fill. In the event that paleontological resources (e.g., fossils) are unearthed during grading, the paleontological monitor shall temporarily halt and/or divert grading activity to allow recovery of paleontological resources. The area of discovery shall be roped off with a 50-foot radius buffer. Once documentation and collection of the find is completed, the monitor shall allow grading to recommence in the area of the find.

Thus, with implementation of mitigation measure **MM GEO-1**, the Project will not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. Therefore, impacts are **less than significant with mitigation incorporated** and this topic will not be further analyzed and addressed in the forthcoming EIR.

8. GREENHOUSE GAS EMISSIONS Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☒	☐	☐	☐

8a. Response: *(Source: Project Description)*

Potentially Significant Impact. The Project includes a zoning change and a general plan amendment to MU-V – Mixed Use-Village to facilitate construction of a mixed use project. Implementation of the Project would incorporate residential use which would result in an increase in population density. This increased density may have the potential to increase greenhouse gas emissions above SCAQMD thresholds. As such, a Greenhouse Gas Analysis will be prepared. The Greenhouse Gas Analysis will address the GHG generated from the proposed

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
construction and operation activities using the CalEEMod software. Thus, the Project may have the potential to generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. Therefore, impacts may **be potentially significant** so this topic will be further analyzed and addressed in the forthcoming EIR.				
b. Conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☒	☐	☐	☐
8b. Response: *(Source: Project Description)* **Potentially Significant Impact.** As discussed in Response 8(a) above, the Project may have the potential to increase GHG emissions to levels that may impact the environment. The preparation of the Greenhouse Gas Analysis will determine the Project's operational GHG emissions and whether those emissions exceed applicable GHG plans, policies, or regulations. Thus, the proposed Project may have the potential to conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases Therefore, impacts may be **potentially significant** so topic will be further analyzed and addressed in the forthcoming EIR.				
9. HAZARDS & HAZARDOUS MATERIALS Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
9a. Response: *(Source: GP PEIR; HMBP; MC)* **Less Than Significant Impact.** The routine transport, use, and disposal of hazardous materials can result in potential hazards to the public through accidental release. Such hazards are typically associated with certain types of land uses, such as chemical manufacturing facilities, industrial processes, waste disposal, and storage and distribution facilities. *Demolition and Construction* The Project entails demolition of the existing vacant site and construction of new residential and commercial uses on the site. Construction and demolition of the Project site would involve the transport of fuels, lubricants, and various other liquids for operation of construction equipment. These materials will be transported to the Project site by equipment service trucks. In addition, workers will commute to the Project via private vehicles and will operate construction vehicles and equipment on public streets. Hence, the potential exists for direct impacts to human health and the environment from accidental spills of small amounts of hazardous materials during Project construction through the transport, use, and disposal of construction-related hazardous materials such as fuels, lubricants, and solvents. However, Several federal and state agencies prescribe strict regulations for the safe transportation of hazardous materials. Hazardous material transport, storage and response to upsets or accidents are primarily subject to federal regulation by the United States DOT Office of Hazardous Materials Safety in accordance with Title 49 Part 171-180 of the CFR. Title 49 Part 171-180 regulates the safe transportation of hazardous materials and appropriate documentation for all hazardous waste that is transported is required. OSHA protects workers from being killed or seriously harmed at work, specifically 29 CFR §§1910 and 1926 address the handling of toxic materials. Cal OSHA, under 8 CCR §§337-340, specify requirements for employee training, availability of safety equipment, accident prevention programs, and hazardous substance exposure warnings. Management of Hazardous Waste, under CCR Title 22 Division 4.5, establishes permits for the storage and disposal of hazardous material that cannot be disposed of in landfills. The California Hazardous Waste Control Law, under				

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

Chapter 6.95 of the Health and Safety Code, describes strict regulations for the safe transportation and storage of hazardous materials. Compliance with all applicable laws and regulations will reduce potential impacts associated with routine transport, use, or disposal of hazardous materials.

The transportation of hazardous materials can result in accidental spills, leaks, toxic releases, fire, or explosion. Further, it is possible that licensed vendors may bring some hazardous materials to and from the Project site as a result of the proposed Project. However, appropriate documentation for all hazardous waste that is transported in connection with specific Project-site activities would be provided as required for compliance with existing hazardous materials regulations codified in Titles 8, 22, and 26 of the CCR, and their enabling legislation set forth in Chapter 6.95 of the CHSC. In addition, future users would be required to comply with all applicable Federal, State, and local laws and regulations pertaining to the transport, use, disposal, handling, and storage of hazardous waste, including but not limited to the United States Department of Transportation (DOT) Office of Hazardous Materials Safety Title 49 of the CFR, and implemented by Title 13 of the CCR which prescribes strict regulations for the safe transportation of hazardous materials. Compliance with the applicable federal and state laws related to the transportation of hazardous materials, would reduce the likelihood and severity of accidents during transit

Operation

Residential uses have a limited use of potentially hazardous materials during their operations (typical materials include household cleaners and household waste). As such, generation of hazardous materials for residential units would be low. Non-residential uses allowable as identified by MC Title 19, *Table 19.150.020.A-Permitted Uses*, pose a minor potential for household hazardous products to be stored or transported to the site during operation. However, any hazardous materials utilized during operation would not be manufactured at the Project site. All uses would be required comply with the regulations, standards, and guidelines established by the Environmental Protection Agency (EPA), the State and City of Riverside related to storage, use, and disposal of hazardous materials. Additionally, both Federal and State governments require all businesses that handle more than a specified number of hazardous materials to submit a business plan to regulating agency. Specifically, any new business that meets the specified criteria must submit a full hazardous materials disclosure report that includes an inventory of the hazardous materials generated, used, stored, handled, or emitted; and emergency response plans and procedures to be used in the event of a significant or threatened significant release of a hazardous material. (GP PEIR, p. 5.7-30).

Additionally, the City's Municipal Code Chapter 9.48 – Unified Hazardous Materials Program, requires any business that utilizes, stores, and or handles a hazardous materials to submit a Hazardous Material Business Plan (HMBP) (MC). Should any implementing use utilize, store, and or handle a hazardous material as part of operations, they will be required to submit a HMBP.

Thus, because the Project would be required to comply with all applicable federal and state laws related to the transportation, use, storage and response to upsets or accidents that may involve hazardous materials, it would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Therefore, impacts would be **less than significant** so this topic will not be further analyzed and addressed in the forthcoming EIR.

b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☒	☐	☐	☐

9b. Response: *(Source: CRWQCB; GP PEIR; MC; WEIS)*

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

Potentially Significant Impact. All tenants of the proposed buildings are not yet known at this time. As such, there is the potential that hazardous materials such as petroleum products, pesticides, fertilizer, and other household hazardous products may be stored and transported during construction and operation but, these hazardous materials would not be manufactured at the Project site and would only be stored short-term before transport. And transportation of such materials would be required to comply with Titles 8, 22, and 26 of the CCR, and their enabling legislation set forth in Chapter 6.95 of the CHSC in addition to all applicable Federal, State, and local laws and regulations pertaining to the transport, use, disposal, handling, and storage of hazardous waste, including but not limited to the United States Department of Transportation (DOT) Office of Hazardous Materials Safety Title 49 of the CFR, and implemented by Title 13 of the CCR as stated above. Should there be a need for short-term storage of hazardous materials, these materials are required to be stored in designated areas designed to prevent accidental release to the environment. The California Fire Code (CFC) requirements prescribe safe accommodations for materials that present a moderate explosion hazard, high fire or physical hazard, or health hazards. Compliance with all applicable federal and state laws related to the storage of hazardous materials would maximize containment and provide for prompt and effective clean-up if an accidental release occurs.

One of the two existing vacant commercial buildings found on the Project site is the former Automotive Service Center associated with the Sears Department Store. The Automotive Service Center previously contained ten underground storage tanks (UST) and distribution lines which were removed during 1985-1994 (WEIS, p. 10). A Phase I Environmental Site Assessment (ESA) dated December 18, 2014 as well as Phase II ESA dated April 7, 2015 was prepared by Terracon Consultants, Inc. (TERRACON) and is included as Appendix C to this Initial Study. An updated Phase I Environmental Site Assessment (ESA) was prepared by Weis Environmental in November 2021 (WEIS) and is also included as Appendix C to this Initial Study.

During the removal of the ten UST's, a leak was found which required soil investigation and groundwater monitoring by California Regional Water Quality Control Board - Santa Ana Region (CRWQCB) (WEIS, p. 10). In 2003, CRWQCB granted regulatory closure for the UST's, via a "No Further Action" letter included as Appendix C to this Initial Study. The CRWQCB letter indicated corrective action should be reviewed in the future if land use changes are proposed; particularly, residential land uses (CRWQCB). The updated Phase I ESA found that the former presence of the UST at the Project site and the release of petroleum hydrocarbons was considered to be a historical recognized environmental condition. (WEIS, p. 29).

Thus, because the Project is proposing to change existing land-use designation to allow for residential use, assessment from the CRWQCB will be required. Thus, the Project may potentially create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Therefore, the Project may result in **potentially significant impacts** so this topic will be further analyzed and addressed in the forthcoming EIR.

c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐

9c. Response: *(Source: GE)*

Less Than Significant Impact. The schools nearest the site are: Jefferson Elementary located approximately 0.35 miles southwest of the Project site, Our Lady of Perpetual Help Catholic School located 0.39 miles north of the Project site, and Sierra Middle School located 0.51 miles northeast (GE). As such, there are no existing or proposed schools within one-quarter mile of the Project site. Thus, given the distance to the nearest school and compliance with existing federal and state regulations, the Project site would not emit hazardous emissions or

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Therefore, impacts would be **less than significant** so this topic will not be further analyzed and addressed in the forthcoming EIR.				
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
9d. Response: *(Source: DTSC)* **Less Than Significant Impact.** While the Project site will require additional oversight as identified in Response 9(b) above, the Project site is not included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.25 (DTSC). The nearest site listed as a voluntary cleanup is a dry cleaning business located at 5190 Arlington Avenue; less than one quarter mile south of site. Thus, the Project would not result in a significant hazard to the public or the environment. Therefore, impacts would be **less than significant** so this topic will not be further analyzed and addressed in the forthcoming EIR.				
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☒	☐	☐	☐
9e. Response: *(Source: ALUC-B; GE)* **Potentially Significant Impact.** The Project site is located in the Riverside Municipal Airport Comprehensive Land Use Plan (RMCLUP) and is approximately one mile from the airport runway (GE). A majority of the Project site is located within the Riverside Municipal Airport Influence Area Zone B1 with smaller portions located with Zones C and D as shown in **Figure 12**, above The proposed Project will be required to be reviewed by the Airport Land Use Commission for its consistency with the RMCLUP. Thus, because the Project is located within an airport land use plan and will increase site intensity it may potentially result in a safety hazard or excessive noise for people residing or working in the project area. Therefore, the impacts may be **potentially significant** so this topic will be analyzed and addressed in the forthcoming EIR.				
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
9f. Response: *(Source: GP; HMBP; MC)* **Less Than Significant Impact.** The proposed Project site is located along Arlington Avenue which has been identified as one of the City's potential evacuation routes (GP, p. PS 40). The proposed Project will be required to comply with the City's Local Hazard Mitigation Plan adopted July 30, 2018 (LHMP). This plan provides the planned response to extraordinary emergency situations associated with natural disasters, national security emergencies, and technological incidents affecting the City. Construction activities will be generally confined within the Project site. Any construction activities that may temporarily restrict vehicular traffic will be required to implement adequate and appropriate measures to facilitate the passage of persons and vehicles through/around any required road closures in accordance with the City's LHMP.				

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

All local roadways would remain open during Project construction and operation. Hence, the Project would not result in closures of local roadways that may have an effect on emergency response or evacuation plans in the vicinity of the Project site Further, construction activities occurring within the Project site would comply with all conditions, including grading permit conditions regarding fire access, and would not restrict access for emergency vehicles responding to incidents on the site or in the surrounding area.

During operation, the Project site will be accessible via four driveways: two along Streeter Avenue and two along Arlington Avenue. The driveways will be designed and constructed pursuant to applicable local, state, and/or federal requirements related to emergency access and evacuation plans. Additionally, the design of Project access and internal circulation routes, as well as the size and location of fire suppression facilities (e.g., hydrants and sprinklers), would be subject to City standards and conditions of approval. The City Fire Department would also review the proposed development plans prior to Project approval to ensure that adequate emergency access and on-site circulation are provided. Thus, implementation of the proposed Project would not impair or physically interfere with an emergency response plan or evacuation plan. Therefore, impacts would be **less than significant** so this topic will not be further analyzed and addressed in the forthcoming EIR.

g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

9g. Response: *(Source: CALFIRE; GP)*

Less Than Significant Impact. As further discussed in *Section 20, Wildfire,* the Project site is not identified as being in a very high fire hazard severity zone according to the Fire Hazard Severity Zones in the State Responsibility Area Map produced by the California Department of Forestry and Fire Protection (CALFIRE). Additionally, the Project site is not located within the City's moderate, high, or very high hazard rating area (GP, p. PS-30). As such, the Project site will not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. Therefore, impacts would be **less than significant** so this topic will not be further analyzed and addressed in the forthcoming EIR.

10. HYDROLOGY AND WATER QUALITY Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐

10a. Response: *(Source: PSOMAS-A; PSOMAS-B)*

Less Than Significant Impact. The Project site is located within the Middle Santa Ana River Basin and Riverside-D Groundwater Management Zone. Depth to groundwater is approximately 25 to 30 feet below surface. (WEIS, pp. 6-7). A Preliminary Drainage Statement dated April 27, 2023was prepared for the project by PSOMAS (PSOMAS-A) and is included as Appendix D to this Initial Study. A Preliminary Water Quality Management Plan (PWQMP) dated April 14, 2023 was also prepared for the project by PSOMAS (PSOMAS-B); also included as Appendix D to this Initial Study.

Construction

Potential threats to surface and ground water quality associated with the off-site areas, short-term grading and construction activities include discharges of construction-related sediment and hazardous materials (e.g., fuels).

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

To ensure that on-site and off-site construction activities do not impair water quality of downstream receiving waters, and because the total land disturbance area is greater than 1 acre, the applicant will obtain coverage under the statewide National Pollutant Discharge Elimination System (NPDES) permit for construction activities (i.e., Construction General Permit) which requires preparation of an effective Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Practitioner (QSP) and implemented onsite by a certified Qualified SWPPPP Developer (QSD), with annual reporting and monitoring requirements and enforcement by the RWQCB. The SWPPP would address both on-site and off-site areas of land disturbance by listing Best Management Practices (BMPs) for erosion and sediment control to minimize to the extent practicable the release of construction-related stormwater and non-stormwater discharges into off-site areas and storm drains. Said BMPs are expected to include silt fencing, gravel bags, stockpile covers, stabilized entrance/exit, secondary containment around hazardous materials, temporary sediment basins, and housekeeping measures to keep construction materials from leaving the boundaries of the project due to rain or wind. Additionally, the SWPPP would contain a visual monitoring program, a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs, and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment (CWA Section 303(d) requires states to identify "impaired" water bodies as those which do not meet water quality standards and states are required to compile this information in a list and submit the list to the US Environmental Protection Agency (EPA) for review and approval). Therefore, through compliance with the NPDES permit and implementation of standard required BMPs, project impacts to surface and ground water quality would be less than significant.

Operations

Potential pollutants discharged to storm drains and downstream water bodies resulting from long-term occupancy and operations of the proposed project include litter, trash, and debris; oil, grease, metals, vehicle hydrocarbons; and sediments, nutrients, pesticides, and fertilizers from landscaped areas. The Project site is tributary to Santa Ana River Reach 3. This receiving water's list of impairments includes copper, indicator bacteria, and lead. Designated beneficial uses include agricultural supply, groundwater recharge, water contact recreation, noncontact water recreation, warm freshwater habitat, wildlife habitat, and for preservation of rare and endangered species (located approximately just over one mile downstream).

Under existing conditions, the site has minimal landscape and is approximately 99 percent impervious. Off-site storm water runoff from Granada Avenue to the east is conveyed through the site but bypasses the existing LID treatment devices. The northern portion of the site discharges to an existing 30-inch onsite storm drain system. The middle of the site discharges to another existing 30-inch storm drain while the south side of the site discharges to an existing 33-inch storm drain within Streeter Avenue; all entering the municipal storm drain system. . The Project side includes eight Drainage Management Areas (DMAs) with three discharge locations (PSOMAS- A, p. 2).

As described in the project-specific PWQMP, the proposed Project will include post-construction stormwater treatment. The site was determined to experience low percolation rates as the soil characteristics do not support on-site infiltration. Further, allowing storm water to infiltration the on-site soil increases the potential for settlement, liquefaction and water-related damage to structures/improvements so has been recommended to be avoided where possible, by the Geotechnical recommendations. As such, modular wetlands are proposed to treat the stormwater. The existing vegetation onsite does not meet current development standards and will need to be removed. New drought tolerant landscaping is proposed through the site, which will significantly increase the pervious area. This will decrease the impervious area from 99 percent to approximately 72 percent. As such, development flows will also be reduced due to an increase in pervious area. Stormwater will be integrated into the site landscaping and pre-treated through biotreatment with modular wetlands before discharging directly into the City storm drains in Streeter Avenue. The drainage from the building roofs and interior roadways will be collected through roof drains,

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
site area drains, and catch basins. This collected stormwater will be routed though the proposed storm drain system into the corresponding modular wetland BMPs for biotreatment before it is discharged into the flood control channel on Streeter Avenue. (PSOMAS-A, p. 4; PSOMAS-B, pp.7, 10, 13) The post-development condition includes Low Impact Development (LID) Principles and LID BMPs have been incorporated into the site design to fully address all DMAs. Further, it was determined that the LID design will not create a hydrologic condition of concern (HCOC) because the volume and time of concentration of storm water runoff for the post-development condition is not significantly different from the pre-development condition for a 2-year storm event. A difference of 5 percent or less is considered insignificant. The Project's existing condition results in a volume of 27,483 cubic feet (cf) but will be reduced to 24,078 cf in the developed condition. Hence the project results in a difference of less than 5 percent (PSOMAS-B, pp. 16-17). This system is incorporated into the project design pursuant to the NPDES permit for the Riverside County municipal storm drain system. Said permit allows the use of bioretention basins designed according to the WQMP manual and considers them an effective treatment method of incorporating LID into stormwater treatment. Further, in the existing condition, a 2-year storm event will generate 18.58 cubic feet per second (cfs) in discharge. In the developed, condition, the discharge rate will be reduced to 16.44 cfs; a 2.14 cfs reduction. As such, the existing storm drain system has sufficient capacity. (PSOMAS-A, p. 4). Through compliance with existing regulations that address operational-phase discharges, project impacts to surface and ground waters will be **less than significant.** This topic will not be analyzed in the EIR.				
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
10b. Response: *(Source: UWMP)* **Less than Significant Impact.** The Project site does not use on-site groundwater or support groundwater wells on-site. The project site is located in the Arlington groundwater basin and would be served by the Riverside Public Utilities (RPU) for domestic water supply. According to RPU's 2020 Urban Water Management Plan, RPU's water supply from 2016 to 2020 has not included groundwater from the Arlington basin (UWMP, p. 6-7). Because the Arlington basin is not adjudicated, a Groundwater Management Plan (GWMP) was developed and currently, a Groundwater Sustainability Plan (GSP) is being prepared pursuant to the Sustainable Groundwater Management Act of 2014. The existing Project site is developed with 99 percent impervious surfaces, such as concrete, and limited landscaping so natural infiltration on-site is considered minimal. Therefore, the project site provides minimal groundwater recharge. As discussed in Response 10(a) above, the proposed Project will increase the pervious areas of the site, integrate stormwater into the site landscaping and will be pre-treated through six biotreatment modular wetland facilities before it is discharged into the flood control channel on Streeter Avenue. As also discussed, in Response 10(a) above, contribution to groundwater recharge is also expected to be minimal because of the poor infiltration rate of the underlying soils and increased potential for settlement, liquefaction and water-related damage to structures/improvements that could be caused by infiltration. Although the Project will increase the amount of pervious area, the existing soil conditions limit the recharge ability of the site. Thus, the Project will not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. Therefore, impacts are **less than significant** so this topic will not be further analyzed or addressed in the forthcoming EIR.				
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the				

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i. Result in substantial erosion or siltation on-or-off-site?	☐	☐	☒	☐

10i Response: *(Source: Project Description)*

Less than Significant Impact. The Project site is located in an urbanized area that has been fully developed. Features such as a course of a stream or river are not located near or at the Project site. The Project site is an existing developed site containing two structures and a parking lot. In its existing condition, the Project site is covered in mostly impervious surfaces and some landscaped planters bordering the building structures and within the parking areas as shown in **Figure 11**.

As shown in **Figure 33**, the existing on-site drainage system would be replaced in order to accommodate the proposed Project. Flows from Project site will be captured and treated as discussed in Response 10(a) above, prior to entering the existing municipal storm drain system in Streeter Avenue. As identified in Response 10(a), above, implementation of BMPs as required by the SWPPP would ensure that project construction does not result in substantial erosion or siltation on- or off-site.

During construction activities potential for substantial erosion is minimized through the implementation of a SWPPP during construction and catch basins and biotreatment BMP's post construction. As such the proposed Project would not result in a substantial change in drainage patterns of the Project site that would cause substantial erosion or siltation, nor substantially increase the rate or amount of surface runoff in a manner that would result in flooding. Therefore, impacts would be **less than significant** so this topic will not be further analyzed and addressed in the forthcoming EIR.

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-or-off-site?	☐	☐	☒	☐

10ii Response: *(Source: PSOMAS-A)*

Less Than Significant Impact. As discussed in Response 10(a) above, the proposed Project will increase the pervious areas of the site which will actually reduce flows since the site is currently 99 percent impervious. In the 10 year storm event, the site currently generates a peak runoff of 21.07 cfs and 31.31 cfs in the 100 year storm event. Post development runoff in the same storm events would result in 17.73 cfs and 25.45 cfs, respectively. (PSOMAS, p. 3) . Since the developed condition will actually decrease volumes, the Project will improve current flow conditions. As such the Project will not substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-or-off-site. Thus, impacts would be **less than significant** so this topic will not be further analyzed and addressed in the forthcoming EIR.

iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐

10iii Response: *(Source: PSOMAS-A)*

Less Than Significant Impact. As indicated in Response 10(a) and 10(c.ii), above, the Project will result in a reduction of peak flows and volumes. As such the Project will not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
of polluted runoff. Thus, impacts would be **less than significant** so this topic will not be further analyzed and addressed in the forthcoming EIR.				
iv. Impede or redirect flood flows?	☐	☐	☒	☐

10iv Response: *(Source: DWR; FEMA)*

Less Than Significant Impact. According to the Flood Insurance Rate Map (FIRM) prepared by the Federal Emergency Management Agency (FEMA) (Panel No. 06065C0710G, effective Aug. 28, 2008), the Project site is located in "Zone X – Other Flood Areas." These are defined as "areas of 0.2 percent annual chance flood; areas of 1 percent annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1 percent annual chance flood." Further, the California Department of Water Resources identifies a small portion of the Project site parking lot as partially within the dam inundation zone of Mary Street Dam (DWR). However, the potential for impact by a dam breach is very low. The City of Riverside Municipal Code Section 16.18 does not include Zone X (as shown on said FIRM map) as a Special Flood Hazard Area (SFHA), and it is therefore not subject to the City's requirements pertaining to SFHAs. The property is not required to pay flood insurance within this flood zone designation.

The proposed Project will incorporate an internal drainage system that would still connect to existing storm drains within the Public right-of-way along Streeter and Arlington Avenue. Also, the Project will not alter the course of a stream or river. Furthermore, since the Project site is an existing vacant developed site with two structures and parking lot, implementation of the Project would not introduce additional impervious area. Thus, the Project is not expected to impede or redirect flood flows as a result of such actions. Therefore, impacts would be **less than significant** so this topic will not be further analyzed and addressed in the forthcoming EIR.

d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐

10d. Response: *(Source: DWR; FEMA;GE)*

Less Than Significant Impact. The Flood Insurance Rate Map (FIRM) prepared by the Federal Emergency Management Agency (FEMA) (Panel No. 06065C0710G, effective Aug. 28, 2008), shows the Project site is located in "Zone X – Other Flood Areas." This is defined as "areas of 0.2 percent annual chance flood; areas of 1 percent annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1 percent annual chance flood." Further, the California Department of Water Resources identifies a small portion of the Project site parking lot with a very low potential for being impacted by a dam breach from the Mary Street Dam (DWR). The City of Riverside Municipal Code Section 16.18 does not include Zone X (as shown on said FIRM map) as a Special Flood Hazard Area (SFHA), and it is therefore not subject to the City's requirements pertaining to SFHAs. The property is not required to pay flood insurance within this flood zone designation.

The Project will not substantially change the overall drainage pattern of the Project site. In the event of inundation, the project would not risk a pollutant release any more than the risk from surrounding properties.

The Project is not located within an identified seiche zone. A seiche is a surface wave created when a body of water is shaken, usually by earthquake activity. Seiches are of concern relative to water storage facilities because inundation from a seiche can occur if the wave overflows a containment wall, such as the wall of a reservoir,

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

water storage tank, dam, or other artificial body of water. Because of the distance from the proposed project site to surrounding large water bodies and reservoirs, inundation due to seiche is unlikely.

The Project is not located within an identified tsunami zone. Tsunamis are a type of earthquake-induced flooding that is produced by large-scale sudden disturbances of the sea floor and can result in an increased wave height and a destructive wave surge into low-lying coastal areas. Because tsunamis occur in coastal areas and the project is located approximately 47 miles east of the Pacific Ocean, inundation due to tsunami is unlikely (GE).

As such, the Project would not be exposed to the release of pollutants due to project inundation from flood, tsunami, or seiche. Therefore, impacts would be **less than significant** so this topic will not be further analyzed and addressed in the forthcoming EIR.

e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

10e. Response: *(Source: UWMP)*

Less Than Significant Impact. As indicated in Responses 10(a) and 10(c), above. The local water quality control plan (Basin Plan) outlines the regulatory programs of the RWQCB, which address ground and surface water quality. Said programs include requirements from various NPDES permits including the Construction General Permit and municipal separate storm sewer system (MS4) permit for post-construction BMPs at new and re-development sites. Because the project applicant would prepare and implement a SWPPP during construction and provide the required post-construction storm water quality treatment, no conflicts or obstructions with the Basin Plan are anticipated.

Western Municipal Water District has prepared a groundwater management plan for the Arlington basin and is in the process of superseding that plan with a Groundwater Sustainability Plan (GSP) for the Arlington basin due to the state by 2022. The GSP will outline projects to ensure the basin is sustainable pursuant to the Sustainable Groundwater Management Act of 2014. The Project's land uses are consistent with the existing land uses and are unlikely to result in activities that would conflict with the forthcoming GSP.

Thus, the Project will not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Therefore, impacts would be **less than significant** so this topic will not be further analyzed and addressed in the forthcoming EIR.

11. LAND USE AND PLANNING Would the project:				
a. Physically divide an established community?	☐	☐	☐	☒

11a. Response: *(Source: Project Description)*

No Impact. The Project site is an existing vacant developed site with buildings, parking lots, and pavement. The Project site is surrounded by office and commercial uses to the north; medium-density residential and office uses to the east; commercial and high-density residential uses to the south; and medium-density residential, office, and commercial uses to the west. Further, the Project does not propose any new roadways that could physically divide the existing community. Thus, the Project would not divide an established community. Therefore, **no impacts** are anticipated so this topic will not be further analyzed and addressed in the forthcoming EIR.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☒	☐	☐	☐

11b. Response: *(Source: GP; Zoning Code)*

Potentially Significant Impact. The Project proposes to change the General Plan land use designation from Commercial to Mixed Use-Village and the Zoning designation from Commercial General to Mixed-Use Village. These changes may affect existing land use documents resulting in potential impacts to land use plans, polices and/or regulations adopted for the purpose of avoiding or mitigating and environmental effect. Therefore, impacts are **potentially significant** so this topic will be further analyzed and addressed in the forthcoming EIR.

12. MINERAL RESOURCES Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the residents of the state?	☐	☐	☐	☒

12a. Response: *(Source: GP PEIR)*

No Impact. Portions of the City are located in Mineral Resource Zone (MRZ)-2 and MRZ-4. MRZ-2 is defined as Mineral Resource Zone where adequate information indicates that significant mineral deposits are present or there is a high likelihood for their presence and development should be controlled. MRZ-4 is defined as a Mineral Resource Zone where there is insufficient data to assign any other MRZ designation. (GP PEIR, p. 5.10-4).

The Project site is located in MRZ-4. As such, there is no sufficient data to determine the existence of mineral resources on-site. Additionally, the Project site is an existing vacant development and is fully paved. The Project does not involve extraction of mineral resources. No mineral resources have been identified on the Project site and there is no historical use of the site or surrounding area for mineral extraction purposes. The Project site is not, nor is it adjacent to, a locally important mineral resource recovery site delineated in the 2025 General Plan, or other land use plan.

For the reasons stated above, the Project is not anticipated to result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. Therefore, **no impacts** are anticipated so this topic will not be further analyzed and addressed in the forthcoming EIR.

b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

12b. Response: *(Source: GP PEIR)*

No Impact. As mentioned in Response 12(a), above, the Project site is located in an area with no known mineral resources of local or state importance. Since the Project site has previously been developed, implementation of proposed Project would not result in the loss of available resources. Therefore, **no impacts** are anticipated so this topic will not be further analyzed and addressed in the forthcoming EIR.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
13. NOISE Would the project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☒	☐	☐	☐
13a. Response: *(Source: GP)* **Potentially Significant Impact.** The proposed Project will include demolition of existing vacant development, construction and may result in increased traffic related noise levels due to proposed residential and commercial uses. Thus, the Project may generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Therefore, impacts would be **potentially significant** so this topic will be further analyzed and addressed in the forthcoming EIR.				
b. Generation of excessive groundborne vibration or groundborne noise levels?	☒	☐	☐	☐
13b. Response: *(Source: Project Description)* **Potentially Significant Impact.** Groundborne vibration and groundborne noise levels are not typically associated with residential and commercial uses. However, demolition and construction activity associated may result in vibration depending on the equipment and methods employed. Thus, the Project may generate excessive groundborne vibration or groundborne noise levels. Therefore, impacts are **potentially significant** so this topic will be further analyzed and addressed in the forthcoming EIR.				
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☒	☐	☐	☐
13c. Response: *(Source: RMCLUP)* **Potentially Significant Impact.** As mentioned in Response 9(c) above, the Project lies within the Riverside Municipal Airport Comprehensive Land Use Plan (RMCLUP) and is located approximately one mile the airport runway. The Project site is located within RMCLUP 60 CNEL and 55 CNEL noise contours (RMCLUP, p. 3-33. Thus, the Project is located within the vicinity of an airport land use plan and may expose people residing or working in the project area to excessive noise levels. Therefore, impacts may be **potentially significant** so this topic will be further analyzed and addressed in the forthcoming EIR.				

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
14. POPULATION AND HOUSING Would the project:				
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☒	☐	☐	☐
14a. Response: *(Source: DOF; GP; USCB)* **Potentially Significant Impact.** The proposed Project proposes to change the existing General Plan land use designation from C – Commercial to MU-V – Mixed Use Village and change the existing zoning designation from CG – Commercial General to MU-V. The Project proposes to develop 27 residential buildings consisting of 2- and 3-story structures which would result in a total of 388 residential dwelling units. It is project that implementation of the Project would introduce approximately 1,215[5] additional residents to the City of Riverside. Thus, the Project may induce substantial unplanned population growth in an area, either directly or indirectly. Therefore, impacts may be **potentially significant** so this topic will be further analyzed and addressed in the forthcoming EIR.				
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
14b. Response: *(Source: Project Description)* **No Impact.** The Project site is an existing vacant commercial development that is currently vacant. Hence, no housing units would be displaced as a result of Project construction. Thus, the Project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. Therefore, **no impacts** are anticipated and this topic will not be further analyzed and addressed in the forthcoming EIR.				
15. PUBLIC SERVICES.				
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a. Fire protection?	☒	☐	☐	☐
15a. Response: *(Source: GE; GP PEIR)* **Potentially Significant Impact.** The City of Riverside Fire Department (RFD) has 14 fire stations throughout the City of Riverside (GP PEIR, p. 5.13-6). The Project site is located approximately 0.83 miles east of the Airport Station No.5 at 5883 Arlington Avenue and approximately 1.70 miles southwest of the Magnolia Center Station No. 3 at 6395 Riverside Avenue (GE). The Project proposes to introduce new residential uses to the area. Thus, the Project may result in substantial adverse physical impacts associated with the provision of new or physically				

5. Based on household generation factor of 3.13 people per dwelling unit for City of Riverside (DOF).

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection. Therefore, the Project may result in **potentially significant impacts** so this topic will be further analyzed and addressed in the forthcoming EIR.				
b. Police protection?	☒	☐	☐	☐
15b. Response: *(Source: GE; GP PEIR)* **Potentially Significant Impact.** Police protection services for the Project area are provided by the Riverside Police Department (GP PEIR, pp. 5.13-2 – 5.13-5). The nearest police station to the project site is located approximately 1.74 miles to the south at 8181 Lincoln Avenue (GE). The Project proposes to introduce new residential uses to the area. Thus, the Project may result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection. Therefore, the Project may result in **potentially significant impacts** so this topic will be further analyzed and addressed in the forthcoming EIR.				
c. Schools?	☒	☐	☐	☐
15c. Response: *(Source: GP PEIR)* **Potentially Significant Impact.** The proposed project is located within the Riverside Unified School District (RUSD). The City's 2025 General Plan PEIR identified that due to rapid growth in the City, RUSD schools are at capacity (GP PEIR, p. 5.13-8). The Project proposes to introduce new residential uses to the area. Thus, the Project may result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for schools. Therefore, the Project may result in **potentially significant impacts** so this topic will be further analyzed and addressed in the forthcoming EIR.				
d. Parks?	☒	☐	☐	☐
15d. Response: *(Source: GP)* **Potentially Significant Impact.** The City of Riverside maintains 52 public parks and open space areas encompassing more than 2,300 acres (GP, p. PR-3) The City of Riverside has adopted a standard for developed park acreage of three (3) acres per 1,000 residents. The standard is further broken down to favor neighborhood parks, with two (2) acres of neighborhood park provided per 1,000, and one (1) acre of community park land per 1,000 persons, for a 2:1 ratio. Based on adopted classifications and standards, neighborhood parks should be located within a one-half-mile (1.5) radius of every residence and community parks within a two-mile (2) radius. (GP, p. PR-15). The Project proposes to introduce new residential uses to the area. With residential development, open space and park areas will be included as part of the Project to serve residents. However, the Project may result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for parks. Therefore, the Project may result in **potentially significant impacts** so this topic will be further analyzed and addressed in the forthcoming EIR.				

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e. Other public facilities?	☒	☐	☐	☐

15e. Response: *(Source: Project Description)*

Potentially Significant Impact. The Project proposes to introduce new residential uses to the area. Thus, the Project may result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for other public facilities. Therefore, the Project may result in **potentially significant impacts** so this topic will be further analyzed and addressed in the forthcoming EIR.

16. RECREATION				
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☒	☐	☐	☐

16a. Response: *(Source: Project Description)*

Potentially Significant Impact. The Project proposes to introduce new residential uses to the area. With residential development, open space and park areas will be included as part of the Project to serve residents. However, the Project may result in an increase in the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. Therefore, the Project may result in **potentially significant impacts** so this topic will be further analyzed and addressed in the forthcoming EIR.

b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☒	☐	☐	☐

16b. Response: *(Source: Project Description)*

Potentially Significant Impact. The Project proposes to introduce new residential uses to the area. With residential development, open space and park areas will be included as part of the Project to serve residents. The Project will include recreational facilities or require the construction of recreational facilities which might have an adverse physical effect on the environment. Therefore, the Project may result in **potentially significant impacts** so this topic will be further analyzed and addressed in the forthcoming EIR.

17. TRANSPORTATION Would the project:				
a. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	☒	☐	☐	☐

17a. Response: *(Source: GP, Project Description)*

Potentially Significant Impact. The Project proposes to introduce new residential uses to the area and provide for new commercial uses which may increase traffic volumes on the surrounding roadways. Thus, while the Project is not expected to result in conflicts with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities, nonetheless, the forthcoming EIR will provide a more detailed analysis of the potential impacts related to this issue.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☒	☐	☐	☐

17b. Response: *(Source: Project Description)*

Potentially Significant Impact. The Project proposes to introduce new residential uses to the area and provide for new commercial uses which may increase traffic volumes on the surrounding roadways. While Project is not expected to result in conflicts with or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b), nonetheless, the forthcoming EIR will provide a more detailed analysis of the potential impacts related to this issue.

c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐

17c. Response: *(Source: GP; Project Description)*

Less than Significant Impact. Regional access to the Project Site is provided via State Route 91 (SR-91) from Madison Avenue ramps located approximately 0.8 miles to the south. Local access is provided via Arlington Avenue and Streeter Avenue. Arlington Avenue is classified as a 120 feet (ft) arterial street with 6 lanes east of Streeter Avenue and an 88 ft arterial street with 4 lanes west of Streeter Avenue. Streeter Avenue which will be the Projects frontage is classified as an 88 ft arterial street with 4 lanes. (GP, p. CCM-16). The proposed Project site will leave in place four of the six existing full access driveways: two along Arlington Avenue and two along Streeter Avenue. Primary site access for the residential area will be from Streeter Avenue with secondary access from Arlington Avenue.

The northern most existing driveway along Streeter Avenue will be enhanced by the addition of a roundabout with an art installation. Visitor parking will be provided near the entry plaza prior to entering the residential area and several areas throughout the residential portion of the Project site. Primary access to the residential portion of the site will be acquired from Streeter Avenue via two access gates along both sides of the entry driveway. A second and third access gate will be provided from the commercial area.

The internal road network is designed to be at minimum 20 feet wide to allow for emergency vehicle access. The driveway north of the existing Bank of America on Streeter Avenue will serve as egress for future residents and as an emergency access as reflected in **Figure 9**.

The proposed Project's internal road network would be designed to comply with the City's development review process including review for compliance with all applicable fire code requirements for construction and access to the site. Project access does not include new travel lanes outside of the Project's footprint and has been designed in conformance with the City's engineering and fire department standards. Additionally, the Project would continue to utilize four of the six existing driveways. As a result, the project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses. Therefore, impacts would be **less than significant** so this topic will not be further analyzed and addressed in the forthcoming EIR.

d. Result in inadequate emergency access?	☐	☐	☒	☐

17d. Response: *(Source: GP; Project Description)*

Less Than Significant Impact. The Project will leave in place four of the existing full access driveways: two

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
along Arlington Avenue and two along Streeter Avenue. All project access improvements have been designed in conformance with City engineering and fire department standards for emergency access and circulation. Additionally, Arlington Avenue is an arterial street that has been identified as a potential evacuation route (GP, p. PS 40). It is anticipated that all local roadways would remain open during Project construction and operation. Hence, the Project would not result in closures of local roadways that may have an effect on emergency access in the vicinity of the Project site. Further, construction activities occurring within the Project site would comply with all conditions, including grading permit conditions regarding fire access, and would not restrict access for emergency vehicles responding to incidents on the site or in the surrounding area. Additionally, the design of Project access and internal circulation routes, as well as the size and location of fire suppression facilities (e.g., hydrants and sprinklers), would be subject to City standards and conditions of approval. The City Fire Department would also review the proposed development plans prior to Project approval to ensure that adequate emergency access and on-site circulation are provided. Thus, implementation of the proposed Project would not Result in inadequate emergency access. Therefore, impacts would be **less than significant** so this topic will not be further analyzed and addressed in the forthcoming EIR.				
18. TRIBAL CULTURAL RESOURCES. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	☒	☐	☐	☐
18a. Response: (*Source: Project Description)* **Potentially Significant Impact.** The proposed Project may have the potential to affect tribal cultural resources, as defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe. The Project proposes to demolish the existing vacant buildings associated with the former Sears Department Store and Automotive Service Center and construct a mixed use development in its place which are over 50 years of age, but these structures are not associated with any California Native American tribe. As identified in Response to 5(a) above, because these structures are over 50 years of age, they meet the definition of a historic resource. As such, the Project site is eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k). Therefore, the Project may result in a **potentially significant impact** so this topic will be further analyzed and addressed in the forthcoming EIR.				
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section	☒	☐	☐	☐

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.				

18b. Response: *(Source: Project Description)*

Potentially Significant Impact. As of July 1, 2015, AB52, signed into law in 2014, amends CEQA and establishes new requirements for tribal consultation. The law applies to all projects that have a notice of preparation or notice of negative declaration/mitigated negative declaration. It also broadly defines a new resource category of "tribal cultural resource" and establishes a more robust process for meaningful consultation between the lead agency and Native American Tribes that includes: prescribed notification and response timelines, consultation on alternatives, resource identification, significance determinations, impact evaluation, and mitigation measures, and documentation of all consultation efforts to support CEQA findings. The City, as lead agency, is also required to coordinate with Native American Tribes through the SB18 consultation when an amendment or adoption of a general plan or specific plan, or designation of open space. Because a General Plan Amendment is proposed as part of the Project, both AB52 and SB18 consultation are required. Thus, the Project may cause a substantial adverse change in the significance of a tribal cultural resource determined to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. Therefore, the Project may result in a **potentially significant impact** so this topic will be further analyzed and addressed in the forthcoming EIR.

19. UTILITIES AND SYSTEM SERVICES. Would the project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?	☒	☐	☐	☐

19a. Response: *(Source: MC; Project Description; PSOMAS-A)*

Potentially Significant Impact. As discussed in Response 10(a) above, the existing storm drain system has sufficient capacity to serve the Project site and will not require new or relocated facilities. Natural gas services for the Project site will be provided by Southern California Gas. However, the Project's use of natural gas will be reduced through compliance with Municipal Code 16.26 (MC) so no new or relocated facilities are anticipated. Further, the Project will connect to existing telecommunication facilities located along the Project frontage.

RPU provides electrical services to the Project site. All electrical facilities would connect to existing connections in Arlington Avenue and Streeter Avenue. There are existing power poles located along Arlington Avenue located within the right-of-way. An additional circuit will be required to meet the Project's estimated electric demand. This will require approximately 1.5 miles of offsite trenching to connect to existing RPU electric facilities. Trenching will occur within existing ROW and will include approximately 0.5 miles in Streeter Avenue from Arlington Avenue to Central Avenue; approximately 0.5 miles in Central Avenue from Streeter Avenue to Hillside Avenue; and approximately 0.5 miles in Hillside Avenue Central Avenue to Mountain View Avenue. It is anticipated that trenching may be as deep as 7 to 8 feet below ground. There are some existing conduit and vaults within this alignment. The Project will be required to provide areas of new 6.5-inch conduit and approximately 10 electric vaults sized at 8 feet by 14 feet in order to provide the additional circuit and connect to existing facilities. With these improvements RPU has sufficient capacity to serve the Project site.[6]

6. Email correspondence with Efren Mejia dated April 12, 2023.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
As identified in Responses 19(b) and 19(c) below, water and wastewater will be further analyzed in the forthcoming EIR to ensure there is adequate capacity in the existing system. Thus, the Project will not require or result in the relocation or construction of new or expanded facilities related to stormwater drainage, electric power, natural gas or telecommunications so these impacts will be less than significant and not be further analyzed in the forthcoming EIR. However, the Project may require or result in the relocation or construction of new or expanded water or wastewater treatment facilities. Therefore, impacts are **potentially significant** so this topic will be further analyzed and addressed in the forthcoming EIR.				
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☒	☐	☐	☐
19b. Response: *(Source: GP PEIR; Project Description)* **Potentially Significant Impact.** The Project site is located within the Riverside Public Utilities (RPU) Service Area (GP PEIR, p. 5.16-8). The Project would replace 192,139 square feet of commercial uses with 388 residential dwelling units and 25,320 square feet of mixed use commercial. Further analysis will be required to determine if sufficient water supplies are available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years. Therefore, the Project may result in **potentially significant impacts** so this topic will be further analyzed and addressed in the forthcoming EIR.				
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☒	☐	☐	☐
19c. Response: *(Source: GP PEIR; Project Description)* **Potentially Significant Impact.** The Project site is located within the Riverside Public Utilities (RPU) service area (GP PEIR, p. 5.16-13). The Project would replace 192,139 square feet of commercial uses with 388 residential dwelling units and 25,320 square feet of mixed use commercial. Further analysis will be required to determine if the wastewater treatment provider which serves the site, has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments. Therefore, the Project may result in **potentially significant impacts** so this topic will be further analyzed and addressed in the forthcoming EIR.				
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☒	☐	☐	☐
19d. Response: *(Source: CALR; GP PEIR; Project Description)* **Potentially Significant Impact.** The project area is currently served by three landfills: Badlands Landfill, Lamb Canyon, and El Sobrante Landfill. Badlands accepts up to 5,000 tons of solid waste per day and is not anticipated to close until 2059. Lamb Canyon accepts up to 5,000 tons of solid waste per day and is not anticipated to close in 2032. El Sobrante accepts 16,054 tons of solid waste per day and is not anticipated to close in 2051. (CALR). Solid waste collection services are provided by three companies in the City of Riverside. Burrtec provides solid waste collection services to the existing site and provides sustainable waste and recycling services in addition to having an extensive network of processing facilities that would manage the Project site's waste stream to include solid waste, recyclables, green waste, food waste, construction and demolition waste, and electronic waste. The Project may potentially generate solid waste in excess of State or local standards, or in excess of the capacity of				

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
local infrastructure, or otherwise impair the attainment of solid waste reduction goals. Therefore, impacts are **potentially significant** so this topic will be further analyzed and addressed in the forthcoming EIR.				
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

19e. Response: *(Source: Project Description)*

Less Than Significant. The Project would generate solid waste during construction and operation activities, thus requiring consideration of waste reduction and recycling measures. The 1989 California Integrated Waste Management Act (AB 939) requires that specific waste diversion goals be achieved for all California cities and counties, including an overall reduction in solid waste produced by 50 percent by the year 2000. In addition, the California Solid Waste Reuse and Recycling Access Act of 1991, as amended, requires expanded or new development projects to incorporate storage areas for recycling bins into the proposed design. Additionally, AB 341 (2011) established a state goal to reduce, recycle, or compost no less than 75 percent of waste generated by the year 2020. The City is currently achieving a 60 percent diversion rate, well above AB 939 requirements. CALGreen also requires all developments to divert 50 percent of non-hazardous construction and demolition debris for all projects and 100 percent of excavated soil and land clearing debris for all nonresidential projects beginning January 1, 2011. Hence, the proposed Project will be required to comply with the City's waste disposal requirements as well as CALGreen. Thus, the Project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste. Therefore, the impacts would be **less than significant** so this topic will not be further analyzed in the EIR.

20. WILDFIRE

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐

20a. Response: *(Source: CALFIRE; GP)*

Less Than Significant Impact. The Project site is not located in a State Responsibility Area (SRA) or in an area that is identified as being in a very high fire hazard severity zone according to the Fire Hazard Severity Zones in the SRA Map produced by the California Department of Forestry and Fire Protection (CALFIRE). Further, the City of Riverside has not designated the site as a very high, high, or moderate wildfire rating (GP, p. PS-30). As discussed in response to 9(f) above, the Project will not impair an adopted emergency response plan or emergency evacuation plan Therefore, impacts would be **less than significant** so this topic will not be further analyzed and addressed in the forthcoming EIR.

b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐

20b. Response: *(Source: Initial Study Checklist)*

Less Than Significant Impact. As discussed in Responses 7(a)(iv) and 20(a), above, the Project site is not located within a SRA very high fire, high or moderate hazard severity zone and the Project site is generally flat with no steep slopes located on or adjacent to the affected lands that would exacerbate wildfire risk (i.e., from upslope winds). No other natural features are present on-site that would exacerbate wildfire risks. Thus, the

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Project would not, due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Therefore, impacts would **be less than significant** and this topic will not be further analyzed and addressed in the forthcoming EIR.				
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
20c. Response: *(Source: Initial Study Checklist)* **No Impact.** As discussed in Response 20(b), above, the Project site is generally flat with no steep slopes located on or adjacent to the landsite and the site is not located in or adjacent to a very high fire, high or moderate hazard severity zone. The Project site is fully served by existing roads and utilities. As such, Project will not need to construct any new roads, fuel breaks, power lines or other utilities. Thus, the Project would not require the installation or maintenance of new associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or result in temporary or ongoing impacts to the environment. Therefore, **no impacts** are anticipates so this topic will not be further analyzed and addressed in the forthcoming EIR.				
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒
20d. Response: *(Source: Initial Study Checklist)* **No Impact.** As discussed in Response 20(b), above, the Project site and surrounding lands are relatively flat and the site is not located in or adjacent to a very high fire, high or moderate hazard severity zone. As such, the risk of downslope or downstream flooding or landslide hazards is considered to be low to nonexistent. Thus, the Project would not expose people or structures to significant risks including downslope or downstream flooding or landslides as a result of runoff, post-fire slope instability, or drainage changes. Therefore, **no impacts** are anticipated so this topic will not be further analyzed and addressed in the forthcoming EIR.				
21. MANDATORY FINDINGS OF SIGNIFICANCE.				
a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or an endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐	☐
21a. Response: *(Source: Initial Study Checklist)*				

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Potentially Significant Impact. The Project site is an existing vacant developed site surrounded by existing development. As discussed in *Section 4 – Biological Resources* of this Initial Study, the Project site is fully developed and is not located within an area designated for nor does it contain suitable habitat for an endangered species, candidate, sensitive, or special-status species. Nonetheless, the Project would be required to comply with Mitigation Measure **MM BIO-1**, which requires a pre-construction bird survey during nesting season. Through compliance with **MM BIO-1** as described in *Section 4 – Biological Resources* of this Initial Study, the proposed Project would have less than significant impacts with mitigation incorporated on biological resources. As discussed in *Section 5 – Cultural Resources* of this Initial Study, the site includes structures known to be over 50 years of age and are eligible for listing in. the National Register for Historic Places, California Register for Historic Resources, and the City of Riverside Historical Landmarks. As such, impacts to Cultural Resources will be analyzed and addressed in the forthcoming EIR. Last, as discussed in *Section 18 – Tribal Cultural Resources* of this Initial Study, the Project is subject to AB52 and SB18 so will be further analyzed and discussed in the forthcoming EIR. Therefore, the project may result in potentially significant impacts related to California history or prehistory.				
b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☒	☐	☐	☐
21b. Response: *(Source: Initial Study Checklist)* **Potentially Significant Impact.** The following topics will not be addressed in the forthcoming EIR, as they do not have the potential to result in significant impacts and will not result in cumulatively considerable impacts. Agriculture: The Project site does not contain Prime Farmland, Prime Farmland, Unique Farmland, or Farmland of Statewide Importance and does not contain Williamson Act contracts. Furthermore, the City of Riverside does not contain any lands designated for forestland or timberland. Additionally, the Project site was previously zoned as Commercial General, and is proposed to change to Mixed Use-Village. As such the Project will not convert existing agricultural or forest land to non-agricultural or non-forest use. Thus, the Project will not create cumulatively considerable impacts. Biological Resources: A small portion of the offsite footprint is located within Criteria Cell 621. However, a determination indicating the Project is consistent with the MSCHP was made by the RCA in June 2023. Further, the Project site is an existing developed but vacant site that does not contain suitable habitat or existing habitat. Implementation of mitigation measure **MM BIO-1** ensures Project would not result substantial impacts to biological resources. Thus, the Project will not create cumulatively considerable impacts. Geological Resources: The Project will not result in direct or indirect substantial adverse effects, including the risk of loss, injury, or death related to geological resources, Further, will				

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
implementation of mitigation measure **MM GEO-1**, impacts to paleontological resources are less than significant. Thus, the Project will not create cumulatively considerable impacts. Hydrology: The Project will not violate any water quality standards, waste discharge requirements, degrade ground water quality or result in substantial erosion or flooding. Further, there is sufficient capacity to in existing storm drain facilities to serve the proposed Project. Thus, the Project will not create cumulatively considerable impacts. Mineral Resources: The project site is located in MRZ-4, therefore there isn't sufficient data to determine mineral resources on-site, therefore, development of the proposed Project will not have a cumulatively considerable impact on mineral resources. Wildfire: There is no significant risk of wildfire and wildfire impacts due to the Project's location. Since the Project site has been previously developed and is located within an urbanized area, the Project site is not located on lands classified with very high fire hazard severity zone. Additionally, the Project would be required to adhere to City and CBC buildings codes and California Fire Code standards. The proposed Project will not cause cumulatively considerable impacts. The potential cumulative impacts related to the **potentially significant impacts** of the proposed Project will be addressed in the forthcoming EIR.				
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐
21c. Response: *(Source: Initial Study Checklist)* **Potentially Significant Impact.** The Project may potentially contribute to an exceedance of SCAQMD thresholds for air quality and greenhouse gases, which pose a threat to human health. Likewise, noise and traffic impacts associated with construction and operation of the proposed Project may impact human health and comfort. Project-specific air quality, noise, and traffic studies will be prepared to assess these impacts. Therefore, because all Project-related impacts have not been fully quantified, the Project may have a **potentially significant impact** to human health so this topic will be considered in the forthcoming EIR.				

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INTIAL STUDY – APPENDIX A

BIOLOGICAL RESOURCES

Biological Resource Assessment

CADRE

Biological Resources Technical Report

Arlington Mixed Use Project Site
City of Riverside, California

FINAL REPORT

APN 226-180-015 & Right-of-Way

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April 2023

CADRE Environmental

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GLOSSARY

APN	Assessor's Parcel Number
CAPSA	Criteria Area Plant Survey Areas
CDFG	California Department of Fish and Game (CDFW effective Jan 1st 2013)
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Ranking
CWA	Clean Water Act
DBESP	Determination of Biological Equivalent or Superior Preservation
EPA	United States Environmental Protection Agency
FESA	federal Endangered Species Act
GIS	Geographic Information System
HANS	Habitat Acquisition and Negotiation Strategy
JPR	Joint Project Review
MBTA	Migratory Bird Treaty Act
MSHCP	Multiple Species Habitat Conservation Plan
NCCP	Natural Communities Conservation Plan
NEPS	Narrow Endemic Plant Species
NEPSA	Narrow Endemic Plant Survey Areas
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NWPR	Navigable Water Protection Rule
OHWM	Ordinary High-Water Mark
RCA	Western Riverside County Regional Conservation Authority
RCIP	Riverside County Integrated Project
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SSC	California Species of Special Concern
SWRCB	State Water Resources Control Board
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

INTRODUCTION

The following biological technical report describes a detailed assessment of potential sensitive natural resources located within and immediately adjacent to the Arlington Mixed Use Project. Specifically, the report has been prepared to support the California Environmental Quality Act (CEQA) and Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) documentation, compliance and review process conducted by the City of Riverside. As discussed below, the assessment includes a thorough literature review, site reconnaissance characterizing baseline conditions (including floral and faunal and dominate vegetation communities), impact analysis, and proposed mitigation measures.

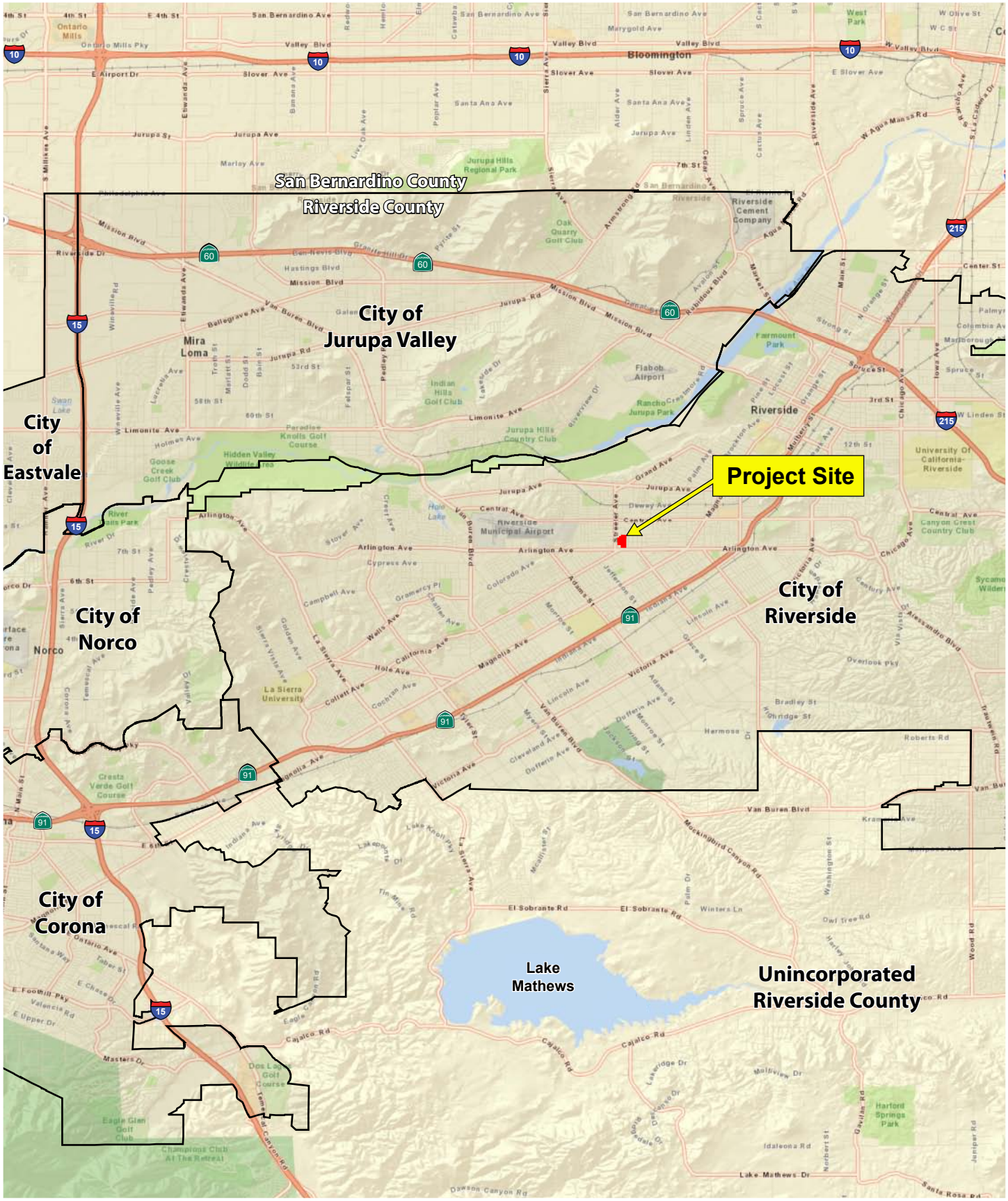
PROJECT LOCATION & DESCRIPTION

The 17.43-acre Project Site, Assessor Parcel Numbers (APN) 226-180-015 is located south of Sierra Street, east of Streeter Avenue, and north of Arlington Avenue in the City of Riverside, western Riverside County, California (U.S. Geological Survey (USGS)) 7.5' series Riverside West Quadrangle, Riverside County, Township 2 South, Range 5 West, Section 33, as shown in Figure 1, *Regional Location Map*. A 13.10-acre offsite impact area extends north along Streeter Avenue, west along Central Avenue and north along Hillside Avenue within existing right-of-way's as illustrated in Figure 2, *Project Site Map.*

The Project Site and offsite impact area are located within the Western Riverside County MSHCP Cities of Riverside and Norco Plan Area outside of a designated Linkage Area (Western Riverside County Regional Conservation Authority (RCA) Geographic Information System (GIS) Data Downloads 2022). The northern 0.15-acre of the offsite impact area located within the Hillside Avenue right-of-way at the confluence of Mountain View Avenue extends into MSHCP Criteria Cell 621, Subunit 1 – Santa Ana River South.

The Project Site and offsite impact area are completely developed with scattered ornamental vegetation, as illustrated in Figure 2, *Project Site Map.*

The proposed action represents a redevelopment project that will demolish a closed Sears department store, appurtenant structures and facilities for a mixed-use development including high-density residential homes, park, retail and grocery store.



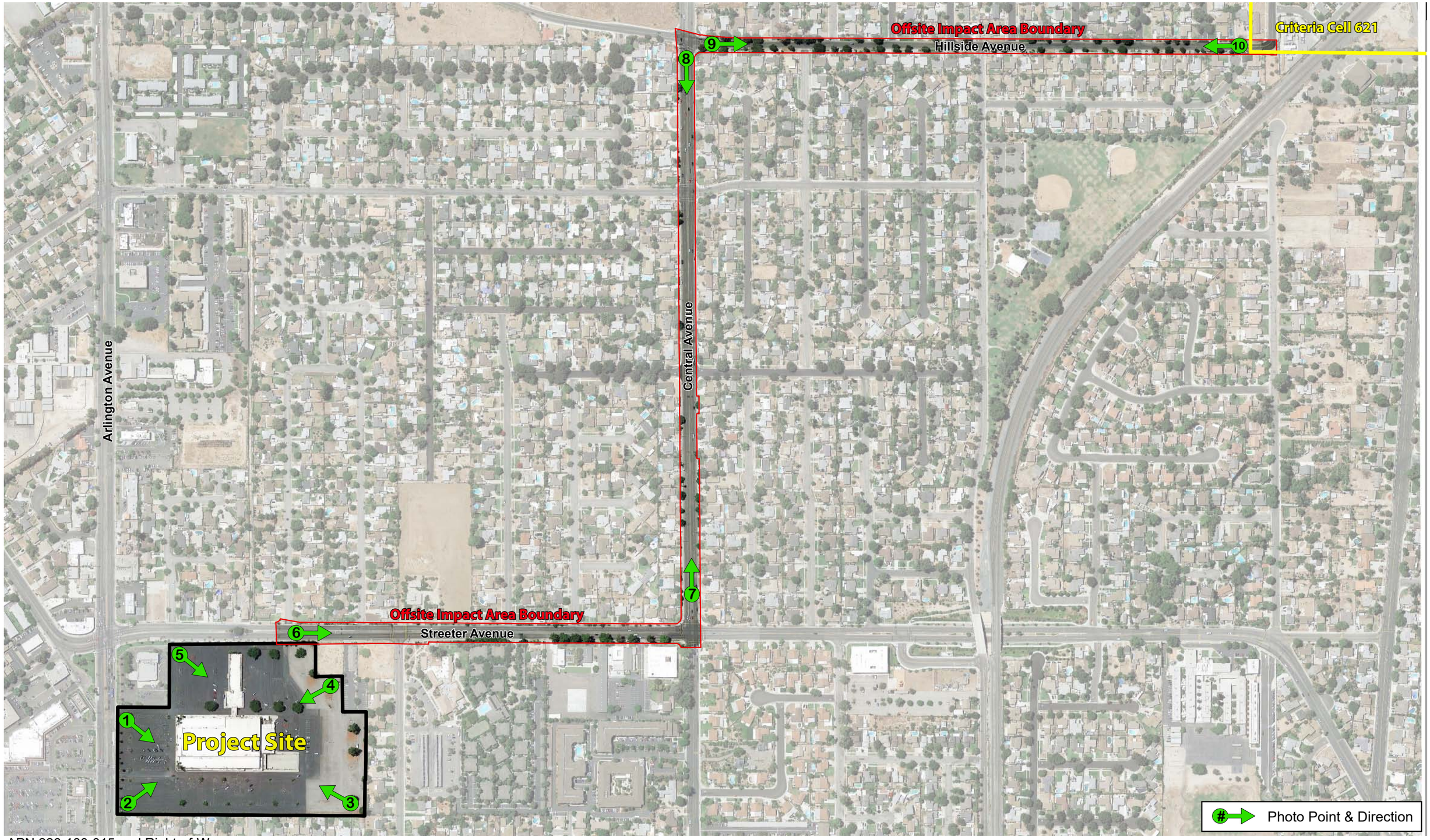
APN 226-180-015

Figure 1 - Regional Location Map

Biological Resources Technical Report
Arlington Mixed Use Project Site, City of Riverside

CADRE Environmental

not to scale



APN 226-180-015 and Right-of-Way

Figure 2 - Project Site Map

Biological Resources Technical Report
Arlington Mixed Use Project Site, City of Riverside

CADRE Environmental

1 inch = 400 feet

LITERATURE REVIEW

Existing biological resource conditions within and adjacent to the Project Site and offsite impact area were initially investigated through review of pertinent scientific literature. Federal register listings, protocols, and species data provided by the USFWS were reviewed in conjunction with anticipated federally listed species potentially occurring within the Project Site and offsite impact area. The California Natural Diversity Database (CNDDB 2022a), a CDFW Natural Heritage Division species account database, was also reviewed for all pertinent information regarding the locations of known occurrences of sensitive species in the vicinity of the property. In addition, numerous regional floral and faunal field guides were utilized in the identification of species and suitable habitats. Combined, the sources reviewed provided an excellent baseline from which to inventory the biological resources potentially occurring in the area. Other sources of information included the review of unpublished biological resource letter reports and assessments. Other CDFW reports and publications consulted include the following:

- Special Animals (CDFW 2022b);
- State and Federally Listed Endangered and Threatened Animals of California (CDFW 2022c);
- Endangered, Threatened, and Rare Plants of California (CDFW 2022d); and
- Special Vascular Plants and Bryophytes List (CDFW 2022e).

FIELD SURVEYS

Reconnaissance surveys of the Project Site and offsite impact area were conducted by Ruben Ramirez, Cadre Environmental on September 9th, 2022 and February 2nd, 2023 in order to characterize and identify potential sensitive plant and wildlife habitats, and to establish the accuracy of the data identified in the literature search and previous surveys. Geologic and soil maps were examined to identify local soil types that may support sensitive taxa. Aerial photograph, topographic maps, and vegetation and rare plant maps prepared by previous studies in the region were used to determine community types and other physical features that may support sensitive plants/wildlife, uncommon taxa, or rare communities that occur within the Project Site and offsite impact area.

Vegetation Communities/Habitat Classification Mapping

Natural community names and hierarchical structure follows the CDFW “List of California Terrestrial Natural Communities” and/or Holland (1986) classification systems, which have been refined and augmented where appropriate to better characterize the habitat types observed onsite when not addressed by the MSHCP classification system.

Floristic Plant Inventory

A general plant survey was conducted throughout the Project Site and offsite impact area during the reconnaissance surveys in a collective effort to identify all species occurring onsite.

All plants observed during the survey efforts were either identified in the field or collected and later identified using taxonomic keys. Plant taxonomy follows Hickman (1993). Scientific nomenclature and common names used in this report generally follow Roberts et al. (2004) or Baldwin et al. (2012) for updated taxonomy. Scientific names are included only at the first mention of a species; thereafter, common names alone are used.

Wildlife Resources Inventory

All animals identified during the reconnaissance survey by sight, call, tracks, scat, or other characteristic sign were recorded onto a 1:200 scale orthorectified color aerial photograph or documented using a global positioning system (GPS). In addition to species actually detected, expected use of the site by other wildlife was derived from the analysis of habitats on the site, combined with known habitat preferences of regionally occurring wildlife species.

Vertebrate taxonomy followed in this report is according to the Center for North American Herpetology (2022 for amphibians and reptiles), the American Ornithologists' Union (1988 and supplemental) for birds, and Baker et al. (2003) for mammals. Both common and scientific names are used during the first mention of a species; common names only are used in the remainder of the text.

Regional Connectivity/Wildlife Movement Corridors

The analysis of wildlife movement corridors associated with the Project Site, offsite impact area and immediate vicinity is based on information compiled from literature, analysis of the aerial photograph and direct observations made in the field during the reconnaissance site visit.

A literature review was conducted that includes documents on island biogeography (studies of fragmented and isolated habitat "islands"), reports on wildlife home range sizes and migration patterns, and studies on wildlife dispersal. Wildlife movement studies conducted in southern California were also reviewed. Use of field-verified digital data, in conjunction with the GIS database, allowed proper identification of regional vegetation communities and drainage features. This information was crucial to assessing the relationship of the Project Site and offsite impact area to large open space areas in the immediate vicinity and was also evaluated in terms of connectivity and habitat linkages. Relative to corridor issues, the discussions in this report are intended to focus on wildlife movement associated within the Project Site and the immediate vicinity.

Jurisdictional Delineation

The Project Site and offsite impact area were assessed for jurisdiction resources regulated by the United States Army Corps of Engineers (USACE), CDFW, and/or Regional Water Quality Control Board (RWQCB). Specifically, the assessment determined the boundaries or absence of potential wetland and non-wetland waters regulated by the USACE pursuant to Clean Water Act (CWA) Section 404; wetland and non-wetland waters of the State subject to the regulatory jurisdiction of the RWQCB pursuant to CWA Section 401 and State Porter-Cologne Water Quality Control Act (Porter-Cologne); streambed and riparian habitat subject to the regulatory jurisdiction of

the CDFW pursuant Sections 1600 *et seq*. of the California Fish and Game Code (CDFG Code); and Riparian/Riverine Areas and Vernal Pools defined in Section 6.1.2 of the Western Riverside County MSHCP.

EXISTING ENVIRONMENTAL SETTING

SURROUNDING LAND USES/TOPOGRAPHY/SOILS

The entire Project Site and offsite impact area are developed and characterized as a closed Sears department store including scattered ornamental vegetation and developed reaches of Streeter Avenue, Central Avenue, and Hillside Avenue, as illustrated in Figure 3, *Vegetation Communities Map* and Figures 4 to 8, *Current Project Site Photographs*. Although no exposed soils are present, the Soil Survey of Western Riverside Area has the following soils mapped within the boundary of the Project Site and offsite impact area as shown on Figure 9, *Soils Association Map*:

- BhA – Buchenau loam, slightly saline-alkaline, 0 to 2 percent slopes
- BuC2 – Buren fine sandy loam, 2 to 8 precent slopes, eroded
- HcA – Hanford course sandy loam, 0 to 2 precent slopes

VEGETATION COMMUNITIES

Natural community names follow the CDFW "List of California Terrestrial Natural Communities" and/or Holland (1986) classification system, which have been refined and where appropriate to better characterize the habitat types onsite when not addressed by the MSHCP classification system. Acreage totals for vegetation communities documented onsite and offsite are listed in Table 1. *Vegetation Communities Acreages*.

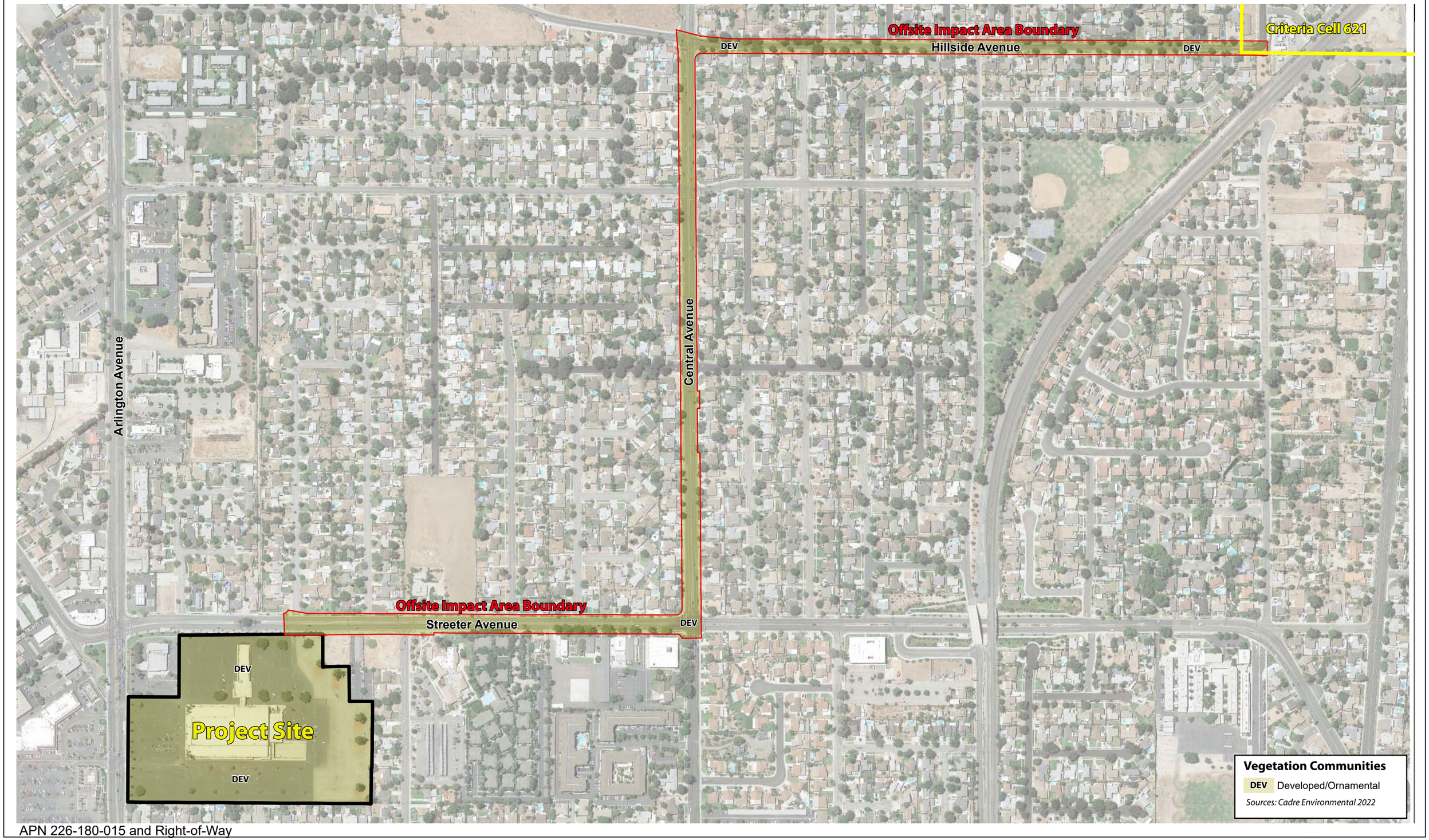
Table 1.
Vegetation Communities Acreages

*Vegetation Type	Onsite Acres	offsite Acres	Total Acres
Developed/Ornamental	17.43	13.10	30.53
TOTAL	**17.43**	**13.10**	**30.53**

**Source: Cadre Environmental 2022.*

Developed/Ornamental

As previously stated, the entire Project Site and offsite impact area are developed and characterized as a closed Sears department store, parking lots, scattered ornamental vegetation and developed reaches of Streeter Avenue, Central Avenue, and Hillside Avenue. Ornamental vegetation documented onsite includes Canary Island pine (*Pinus canariensis*), southern live oak (*Quercus virginiana*), Mexican fan palm (*Washingtonia robusta*), Chinese tallow (*Sapium sebifrum*), fern pine (*Podocarpus gracilior*), and southern magnolia (*Magnolia grandiflora*). No native vegetation is present within or adjacent to the Project Site or offsite impact area.



APN 226-180-015 and Right-of-Way

Figure 3 - Vegetation Communities Site Map

Biological Resources Technical Report
Arlington Mixed Use Project Site, City of Riverside

CADRE Environmental

1 inch = 400 feet

PHOTOGRAPH 1

PHOTOGRAPH 2

Refer to Figure 2 - Project Site Map for Photographic Key

Figure 4 - Current Project Site Photographs

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PHOTOGRAPH 3

PHOTOGRAPH 4

Refer to Figure 2 - Project Site Map for Photographic Key

Figure 5 - Current Project Site Photographs

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PHOTOGRAPH 5

PHOTOGRAPH 6

Refer to Figure 2 - Project Site Map for Photographic Key

Figure 6 - Current Project Site Photographs

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PHOTOGRAPH 7

PHOTOGRAPH 8

Refer to Figure 2 - Project Site Map for Photographic Key

Figure 7 - Current Project Site Photographs

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PHOTOGRAPH 9

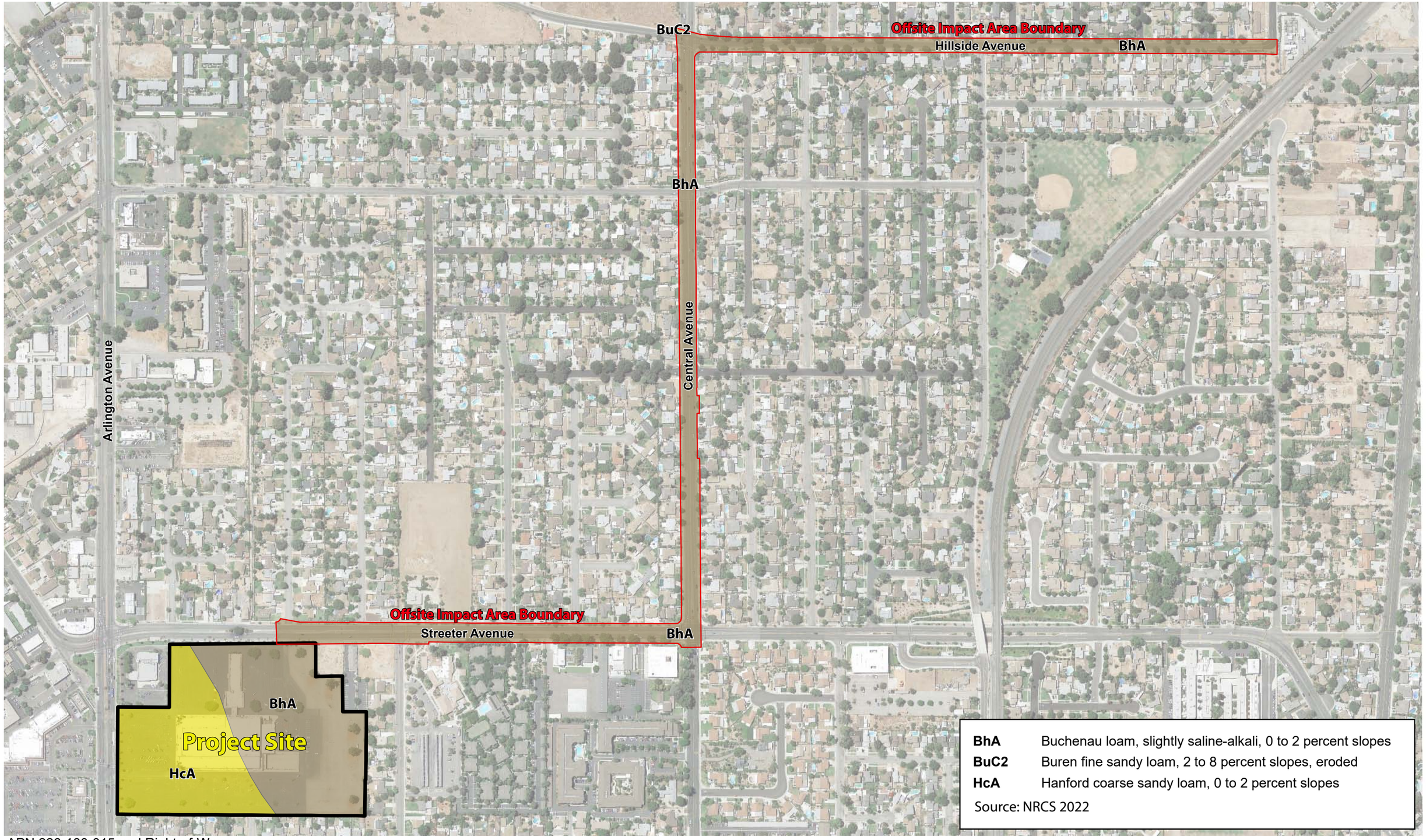
PHOTOGRAPH 10

Refer to Figure 2 - Project Site Map for Photographic Key

Figure 8 - Current Project Site Photographs

Biological Resources Technical Report
Arlington Mixed Use Project Site, City of Riverside

CADRE Environmental



APN 226-180-015 and Right-of-Way

Figure 9 - Soils Association Map

Biological Resources Technical Report
Arlington Mixed Use Project Site, City of Riverside

CADRE Environmental

1 inch = 400 feet

GENERAL PLANT & WILDLIFE SPECIES

A complete list of plants documented onsite is presented in the previous section, Vegetation Communities.

General wildlife species documented on site include American crow (*Corvus brachyrhynchos*), mourning dove (*Zenaida macroura*), black phoebe (*Sayornis nigricans*), house finch (*Haemorhous mexicanus*), and house sparrow (Passer domesticus).

JURISDICTIONAL RESOURCES

No wetlands or jurisdictional resources regulated by the USACE, CDFW, or RWQCB were documented within or adjacent to the Project Site or offsite impact area.

MSHCP Riparian/Riverine/Vernal Pool Resources

No MSHCP Section 6.1.2 vernal pool, riparian or riverine resources are located within or adjacent to the Project site of offsite impact area. Specifically, no riparian scrub, forest or woodland habitat is located within or adjacent to the Project Site or offsite impact area.

No evidence of vernal pools, seasonal depressions, seasonally inundated road ruts or other wetland features were recorded on the Project Site or offsite impact area. Vernal pools are depressions in areas where a hard-underground layer prevents rainwater from draining downward into the subsoils. When rain fills the pools in the winter and spring, the water collects and remains in the depressions. In the springtime, the water gradually evaporates away, until the pools became completely dry in the summer and fall. Vernal pools tend to have an impermeable layer that results in ponded water. The soil texture (the amount of sand, silt, and clay particles) typically contains higher amounts of fine silts and clays with lower percolation rates. Pools that retain water for a sufficient length of time will develop hydric cells. Hydric cells form when the soil is saturated from flooding for extended periods of time and anaerobic conditions (lacking oxygen or air) develop. Consistent with conditions documented onsite and as previously stated, the Project Site and offsite impact area are characterized as Buchenau loam, slightly saline-alkaline, 0 to 2 percent slopes (BhA), Buren fine sandy loam, 2 to 8 precent slopes, eroded (BuC2), and Hanford course sandy loam, 0 to 2 precent slopes (HcA), all types possessing well drained substrates (drainage class). No indication of clay substrates or hydric soils were documented within the Project Site or offsite impact area. A review of historic aerials was conducted to determine if inundated features (vernal pools) were present during years of high rainfall when features would certainly be documented. Historic aerials taken in 2011 represent an ideal baseline during which known (previously documented) inundated vernal pools, seasonal depressions and road ruts can easily be seen. No sign or indication of inundation was documented within the Project Site or offsite impact area during a review of historic aerials.

In summary, none of the conditions (i.e., no inundated depressions including road ruts, hydric soils, historic inundation, etc.) were observed on documented within the Project Site or offsite impact area. No features are present that would support fairy shrimp. No standing water or other sign of areas that pond water was recorded.

SENSITIVE BIOLOGICAL RESOURCES

The following discussion describes the plant and wildlife species present, or potentially present within the property boundaries, that have been afforded special recognition by federal, state, or local resource conservation agencies and organizations, principally due to the species' declining or limited population sizes, usually resulting from habitat loss. Also discussed are habitats that are unique, of relatively limited distribution, or of particular value to wildlife. Protected sensitive species are classified by state and/or federal resource management agencies, or both, as threatened or endangered, under provisions of the state and federal endangered species act. Vulnerable or "at-risk" species that are proposed for listing as threatened or endangered (and thereby for protected status) are categorized administratively as "candidates" by the USFWS. CDFW uses various terminology and classifications to describe vulnerable species. There are additional sensitive species classifications applicable in California. These are described below.

Sensitive biological resources are habitats or individual species that have special recognition by federal, state, or local conservation agencies and organizations as endangered, threatened, or rare. The CDFW, USFWS, and special groups like the California Native Plant Society maintain watch lists of such resources. For the purpose of this assessment sources used to determine the sensitive status of biological resources are:

Plants: USFWS (2022), CNDDB (CDFW 2022a), CDFW (2022b), CNPS (2022), and Skinner and Pavlik (1994),

Wildlife: California Wildlife Habitat Relationships (2008), USFWS (2022), CNDDB (CDFW 2022a), and CDFW (2022).

Habitats: CNDDB (CDFW 2022).

FEDERAL PROTECTION AND CLASSIFICATIONS

The Federal Endangered Species Act of 1973 (FESA) defines an endangered species as "any species that is in danger of extinction throughout all or a significant portion of its range..." Threatened species are defined as "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Under provisions of Section 9(a)(1)(B) of the FESA it is unlawful to "take" any listed species. "Take" is defined as follows in Section 3(18) of the FESA: "...harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Further, the USFWS, through regulation, has interpreted the terms "harm" and "harass" to include certain types of habitat modification as forms of a "take." These interpretations, however, are generally considered and applied on a case-by-case basis and often vary from species to species. In a case where a property owner seeks permission from a federal agency for an action that could affect a federally listed plant and animal species, the property owner and agency are required to consult with USFWS. Section 9(a)(2)(b) of the FESA addresses the protections afforded to listed plants. Recently, the USFWS instituted changes in the listing status of former candidate species. Former C1 (candidate) species are now referred to simply as candidate species and

represent the only candidates for listing. Former C2 species (for which the USFWS had insufficient evidence to warrant listing at this time) and C3 species (either extinct, no longer a valid taxon or more abundant than was formerly believed) are no longer considered as candidate species. Therefore, these species are no longer maintained in list form by the USFWS, nor are they formally protected. However, some USFWS field offices have issued memoranda stating that former C2 species are henceforth to be considered Federal Species of Concern. This term is employed in this document but carries no official protections. All references to federally protected species in this report (whether listed, proposed for listing or candidate) include the most current published status or candidate category to which each species has been assigned by USFWS.

For purposes of this assessment, the following acronyms are used for federal status species:

FE	Federal Endangered
FT	Federal Threatened
FPE	Federal Proposed Endangered
FPT	Federal Proposed Threatened
FC	Federal Candidate for Listing

The designation of critical habitat can also have a significant impact on the development of land designated as "*critical habitat*." The FESA prohibits federal agencies from taking any action that will "*adversely modify or destroy*" critical habitat (16 U.S.C. § 1536(a)(2)). This provision of the FESA applies to the issuance of permits by federal agencies. Before approving an action affecting critical habitat, the federal agency is required to consult with the USFWS who then issues a biological opinion evaluating whether the action will "*adversely modify"* critical habitat. Thus, the designation of critical habitat effectively gives the USFWS extensive regulatory control over the development of land designated as critical habitat.

The MBTA makes it unlawful to "*take*" any migratory bird or part, nest, or egg of such bird listed in wildlife protection treaties between the United States and Great Britain, the Republic of Mexico, Japan, and the Union of Soviet States. For purposes of the MBTA, "*take*" is defined as to pursue, hunt, capture, kill, or possess or attempt to do the same.

The Bald Eagle and Golden Eagle Protection Act explicitly protects the bald eagle and golden eagle and imposes its own prohibition on any taking of these species. As defined in this act, take means to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, or molest or disturb. Current USFWS policy is not to refer the incidental take of bald eagles for prosecution under the Bald Eagle and Golden Eagle Protection Act (16 U.S.C. 668-668d).

STATE PROTECTION AND CLASSIFICATIONS

California's Endangered Species Act (CESA) defines an endangered species as "...a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation,

predation, competition, or disease." The State defines a threatened species as "...a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as rare on or before January 1, 1985 is a threatened species." Candidate species are defined as "...a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list." Candidate species may be afforded temporary protection as though they were already listed as threatened or endangered at the discretion of the Fish and Game Commission. Unlike FESA, CESA does not include listing provisions for invertebrate species.

Article 3, Sections 2080 through 2085, of CESA addresses the taking of threatened or endangered species by stating "No person shall import into this state, export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided..." Under CESA, "take" is defined as "...hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Exceptions authorized by the state to allow "take" require "...permits or memorandums of understanding..." and can be authorized for "...endangered species, threatened species, or candidate species for scientific, educational, or management purposes." Sections 1901 and 1913 of the California Fish and Game Code provide that notification is required prior to disturbance.

Additionally, some sensitive mammals and birds are protected by the State as Fully Protected Mammals or Fully Protected Birds, as described in the California Fish and Game Code, Sections 4700 and 3511, respectively. SSC ("special" animals and plants) listings include special status species, including all state and federal protected and candidate taxa, Bureau of Land Management and US Forest Service sensitive species, species considered to be declining or rare by the CNPS or National Audubon Society, and a selection of species which are considered to be under population stress but are not formally proposed for listing. This list is primarily a working document for the CDFW's CNDDB project. Informally listed taxa are not protected per se but warrant consideration in the preparation of biotic assessments. For some species, the CNDDB is only concerned with specific portions of the life history, such as roosts, rookeries, or nest sites. For the purposes of this assessment, the following acronyms are used for State status species:

SE	State Endangered
ST	State Threatened
SCE	State Candidate Endangered
SCT	State Candidate Threatened
SFP	State Fully Protected
SP	State Protected

SR	State Rare
SSC	California Species of Special Concern
CWL	California Watch List

The CNPS is a private plant conservation organization dedicated to the monitoring and protection of sensitive species in the State. This organization has compiled an inventory comprised of the information focusing on geographic distribution and qualitative characterization of rare, threatened, or endangered vascular plant species of California (Tibor 2001). The list serves as the candidate list for listing as threatened and endangered by CDFW. The CNPS has developed five categories of rarity (CRPR):

CRPR 1A	Presumed extinct in California.
CRPR 1B	Rare, threatened, or endangered in California and elsewhere.
CRPR 2A	Plants presumed extirpated in California but common elsewhere
CRPR 2B	Plants rare, threatened, or endangered in California but more common elsewhere
CRPR 3	Plants about which we need more information – a review list.
CRPR 4	Species of limited distribution in California (i.e., naturally rare in the wild), but whose existence does not appear to be susceptible to threat.

As stated by the CNPS:

> "*Threat Rank is an extension added onto the California Rare Plant Rank and designates the level of endangerment by a 1 to 3 ranking with 1 being the most endangered and 3 being the least endangered. A Threat Rank is present for all California Rare Plant Rank 1B's, 2's, 4's, and the majority of California Rare Plant Rank 3's. California Rare Plant Rank 4 plants are seldom assigned a Threat Rank of 0.1, as they generally have large enough populations to not have significant threats to their continued existence in California; however, certain conditions exist to make the plant a species of concern and hence be assigned a California Rare Plant Rank. In addition, all California Rare Plant Rank 1A (presumed extinct in California), and some California Rare Plant Rank 3 (need more information) plants, which lack threat information, do not have a Threat Rank extension." (CNPS 2010)*

0.1	Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
0.2	Fairly threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
0.3	Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

SENSITIVE HABITATS

As stated by CDFW:

> "*One purpose of the vegetation classification is to assist in determining the level of rarity and imperilment of vegetation types. Ranking of alliances according to their degree of imperilment (as measured by rarity, trends, and threats) follows NatureServe's* Heritage Methodology*, in which all alliances are listed with a G (global) and S (state) rank. For alliances with State ranks of S1-S3, all associations within them are also considered to be highly imperiled*" (CDFW 2012)

No vegetation communities listed by CDFW as sensitive were documented within or adjacent to the Project Site or offsite impact area.

SENSITIVE PLANTS

The Project Site and offsite impact area are not located within an MSHCP narrow endemic or criteria area sensitive plant species survey area. No focused surveys required.

No state or federally listed threatened or endangered plant species were detected or are expected to occur onsite. No other CNPS, special-status plants, or species of local concern were observed onsite as outlined in Table 2, *Sensitive Plant Species with Potential to Occur Onsite*.

Table 2.
Sensitive Plant Species with Potential to Occur Onsite.

Species Name (*Scientific Name*) Status	**Habitat Description**	**Comments**
Chaparral sand- verbena *Abronia villosa var. aurita* CRPR 1B.1	Chaparral, coastal scrub, sandy areas. 80-1,600 m elevation.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.
Munz's onion *Allium munzii* FE, SE CRPR 1B.1 MSHCP Covered Species	Chaparral, coastal scrub, cismontane woodland, pinyon- juniper woodland, valley and foothill grassland. Only in Riverside Co. Heavy clay soils; grows in grasslands and openings within shrublands or woodlands. 300-1,035m elevation.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.

Species Name (*Scientific Name*) Status	**Habitat Description**	**Comments**
San Diego ambrosia *Ambrosia pumila* FE, CRPR 1B.1 MSHCP Covered Species	Chaparral, coastal scrub, valley and foothill grassland, vernal pools. In the U.S., known only from San Diego and Riverside Co. Sandy loam or clay soil. In valleys, persists where disturbance has been superficial. 20-415m elevation.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.
Marsh sandwort *Arenaria paludicola* FE, SE CRPR 1B.1	Marshes and swamps. Growing up through dense mats of *Typha*, *Juncus*, *Scirpus*, etc. in freshwater marsh.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.
Smooth tarplant *Centromadia pungens ssp. laevis* CRPR 1B.1 MSHCP Covered Species	Valley and foothill grassland, chenopod scrub, meadows, playas, riparian woodland. Alkali meadow, alkali scrub; also, in disturbed places. 0-480m elevation.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.
Parry's spineflower *Chorizanthe parryi var. parryi* CRPR 1B.1 MSHCP Covered Species	Coastal scrub, chaparral. Dry slopes and flats; sometimes at interface of 2 vegetation such as chaparral and oak woodland; dry, sandy soils. 40-1,705m elevation.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.
Long-spined spineflower *Chorizanthe polygonoides var. longispina* CRPR 1B.2 MSHCP Covered Species	Chaparral, coastal scrub, meadows, valley, and foothill grassland. Gabbroic clay. 30-1,450m elevation.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.
Slender-horned spineflower *Dodecahema leptoceras* FE, SE, CRPR 1B.2 MSHCP Covered Species	Chaparral, coastal scrub (alluvial fan sage scrub), flood deposited terraces and washes.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.
Many-stemmed dudleya *Dudleya multicaulis* CRPR 1B.2 MSHCP Covered Species	Chaparral, coastal scrub, valley and foothill grassland. In heavy, often clayey soils or grassy slopes. 0- 790m elevation.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.

Species Name (*Scientific Name*) Status	**Habitat Description**	**Comments**
Round-leaved filaree *Erodium macrophyllum* MSHCP Covered Species	Cismontane woodland, valley and foothill grassland. Clay soils. 15- 1,200m elevation.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.
Coulter's goldfields *Lasthenia glabrata ssp. coulteri* CRPR 1B.1 MSHCP Covered Species	Coastal salt marshes, playas, valley and foothill grassland, vernal pools. Alkaline soils in playas, sinks, and grasslands. 1-1,400m elevation.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.
Robinson's pepper-grass *Lepidium virginicum var. robinsonii* CRPR 4.3 MSHCP Covered Species	Chaparral, coastal scrub. Dry soils, shrubland. 1-945m elevation.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.
Parish's desert- thorn *Lycium parishii* CRPR 2B.3 MSHCP Covered Species	Coastal scrub, Sonoran Desert scrub, 300-1,000m elevation.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.
Rayless ragwort *Senecio aphanactis* CRPR 2B.2 MSHCP Covered Species	Cismontane woodland, coastal scrub, drying alkaline flats. 20-575m elevation.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.

California Native Plant Society (CNPS): California Rare Plant Rank (CRPR)
CRPR 1A – plants presumed extinct in California
CRPR 1B – plants rare, threatened, or endangered in California, but more common elsewhere
CRPR 2A – plants presumed extirpated in California but common elsewhere
CRPR 2B – plants rare, threatened, or endangered in California but more common elsewhere
CRPR 3 – plants about which we need more information, a review list
CRPR 4 – plants of limited distribution, a watch list
.1 – Seriously endangered in California
.2 – Fairly endangered in California
.3 – Not very endangered in California

Federal (USFWS) Protection and Classification
FE – Federally Endangered
FT – Federally Threatened
FC – Federal Candidate for Listing

State (CDFW) Protection and Classification
SE – State Endangered
ST – State Threatened

Source: Cadre Environmental 2022.

SENSITIVE WILDLIFE

The Project Site and offsite impact area do not occur within a predetermined MSHCP Survey Area for the burrowing owl (*Athene cunicularia*), amphibians or mammals (RCA GIS Database 2022). No focused surveys required.

No state or federally listed threatened or endangered wildlife species were detected or are expected to occur onsite. No other special-status wildlife species, or species of local concern were observed or expected to occur onsite as outlined in Table 3, *Sensitive Wildlife Species with Potential to Occur Onsite*.

Table 3.
Sensitive Wildlife Species with Potential to Occur Onsite.

Species Name (*Scientific Name*) Status	**Habitat Description**	**Comments**
INVERTEBRATES		
Riverside fairy shrimp *Streptocephalus woottoni* FE MSHCP Covered Species	Areas of tectonic swales/earth slump basins in grassland and coastal sage scrub. Inhabit seasonally astatic pools filled by winter/spring rains. Hatch in warm water later in the season.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.
FISH		
Santa Ana sucker *Catostomus santaanaae* FT, SSC MSHCP Covered Species	Small-medium-sized permanent streams in water of varying depth. Usually found in clear water, they are able to tolerate seasonal turbidity. Prefers substrates that are generally coarse and consist of gravel, rubble, and boulder, but are occasionally found on sandy or muddy substrates.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.
Arroyo chub *Gila orcuttii* SSC MSHCP Covered Species	Lowland habitats, and prefers freshwater streams and rivers with steady currents and emergent vegetation. Prefers slower-moving pools and ponded areas of streams with mud or sand substrates.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.

Species Name (*Scientific Name*) Status	**Habitat Description**	**Comments**
Santa Ana speckled dace *Rhinichthys osculus ssp. 3* SSC	Requires permanent flowing streams. Typically, streams are maintained by outflows of cool springs. Inhabits shallow cobble and gravel riffles.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.
AMPHIBIANS & REPTILES		
Orange throated whiptail *Aspidoscelis hyperythrus* SSC MSHCP Covered Species	Inhabits low-elevation coastal scrub, chaparral and valley-foothill hardwood habitats. Prefers washes and other sandy areas with patches of brush and rocks.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.
Coastal western whiptail *Aspidoscelis tigris stejnegeri* SSC MSHCP Covered Species	Found in deserts and semiarid areas with sparse vegetation and open areas. Also found in woodland and riparian areas. Ground may be firm soil, sandy or rocky.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.
Rosy boa *Charina trivirgata* SSC	Desert and chaparral. Prefers moderate to dense vegetation and rocky cover. Mix of brushy cover and rocky soil such as coastal canyons and hillsides, desert canyons, washes and mountains.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.
Northern red- diamond rattlesnake *Crotalus ruber ruber* SSC MSHCP Covered Species	Chaparral, woodland, grassland, and desert areas. Occurs in rocky areas and dense vegetation. Needs rodent burrows, cracks in rocks or surface cover objects.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.
Coast (San Diego) Horned Lizard *Phrynosoma coronatum (blainvillei)* SSC MSHCP Covered Species	Open or sparse scrub and chaparral communities. This species prefers loose, friable soil for burrowing.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.

Species Name (*Scientific Name*) Status	**Habitat Description**	**Comments**
Western spadefoot *Spea hammondii* SSC	Grassland, coastal sage scrub and habitats with open sandy gravel soils. Breeds in vernal pools and temporary ponds/pools. Primarily a species of the lowlands, frequenting washes, floodplains of rivers.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.
BIRDS		
Tricolor blackbird *Agelaius tricolor* SSC MSHCP Covered Species	Freshwater marshes. Suitable breeding habitat includes cattails and bulrushes, as well as non-native thistles and mustards.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.
Southern California rufous-crowned sparrow *Aimophila ruficeps canescens* SSC MSHCP Covered Species	Rocky slopes, especially where a relatively open shrub cover dominated by California sagebrush is interspersed with grassy areas.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.
Bell's sage sparrow *Amphispiza belli belli* SSC MSHCP Covered Species	Relatively open chaparral, especially where dominated by chamise, but also occurs in sage scrub, especially in the more arid associations of this plant community.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.
Burrowing owl *Athene cunicularia* SSC MSHCP Covered Species	Requires fairly large expanses of relatively open level terrain, including grasslands, agricultural fields, and dairies and occasionally may use undisturbed edges of golf courses or airports.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.
Western yellow-billed cuckoo *Coccyzus americanus occidentalis* FT, SE MSHCP Covered Species	Restricted to extensive deciduous riparian thickets or forest with dense, low-level or understory foliage which occur along slow-moving watercourses, backwaters or seeps.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.

Species Name (*Scientific Name*) Status	**Habitat Description**	**Comments**
	Willows are almost always a dominant component-nesting habitat.	
Bald eagle *Haliaeetus leucocephalus* FT, SE MSHCP Covered Species	Open areas, forest edges and mountains near large lakes and rivers. Requires tall trees for nesting.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.
Yellow-breasted chat *Icteria virens* SSC MSHCP Covered Species	Edges of woods, fencerows, dense thickets and brambles in low wet places near streams, pond edges or swamps and in old overgrown clearings and fields. Nests in small trees such as wild rose, hawthorn and snowberry thickets, elderberry and saskatoon.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.
Loggerhead shrike *Lanius ludovicianus* SSC MSHCP Covered Species	Open areas (e.g., grassland, rangeland, fallow agricultural fields), especially where there are scattered large shrubs or trees.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.
Coastal California gnatcatcher *Polioptila californica californica* FT, SSC MSHCP Covered Species	Obligate resident of several distinct sub-associations of the coastal sage scrub plant community.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.
Least Bell's vireo *Vireo bellii pusillus* FE, SE MSHCP Covered Species	Mature riparian habitat with a dense understory of young willows, mule fat, blue elderberry, California rose, desert wild grape, and a variety of other shrubby species.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.
MAMMALS		
Northwestern San Diego pocket mouse *Chaetodipus fallax fallax* SSC MSHCP Covered Species	Coastal scrub, chamise-redshank chaparral, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.

Species Name (*Scientific Name*) Status	**Habitat Description**	**Comments**
	juniper and annual grassland in sandy herbaceous areas, usually in association with rocks or course gravel.	
Stephens' Kangaroo Rat *Dipodomys stephensi* FE, ST MSHCP Covered Species	Inhabits annual grassland with sparse perennial vegetation in the San Jacinto Valley and adjacent areas of western Riverside and northwestern San Diego County.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.
San Diego black-tailed jackrabbit *Lepus californicus bennettii* SSC MSHCP Covered Species	Arid regions supporting short-grass habitats such as annual grassland, Riversidean sage scrub, alluvial fan sage scrub. Great Basin sagebrush, chaparral, disturbed habitat and agriculture.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.
Los Angeles pocket mouse *Perognathus longimembris Brevinasus* SSC MSHCP Covered Species	Restricted to lower elevation grasslands and coastal sage scrub associations in the Los Angeles Basin.	No Potential – The entire Project Site and offsite impact area are developed and no natural vegetation communities or exposed soils are present onsite.

Federal (USFWS) Protection and Classification
FE – Federally Endangered
FT – Federally Threatened
FC – Federal Candidate for Listing

State (CDFW) Protection and Classification
SE – State Endangered
ST – State Threatened
SSC – State Species of Special Concern
CWL – California Watch List
SPF – State Fully Protected

Sources: Cadre Environmental 2022.

Critical habitat designations by the USFWS were researched to determine if any of the Project Site and offsite impact area are located within USFWS critical habitat. The Project Site and offsite impact area do not occur within a designated critical habitat for federally endangered or threatened species.

REGIONAL CONNECTIVITY/WILDLIFE MOVEMENT CORRIDORS

Overview

Wildlife corridors link areas of suitable habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated "islands" of wildlife habitat. In the absence of habitat linkages that allow movement to adjoining open space areas, various studies have concluded that some wildlife species, especially the larger and more mobile mammals, will not likely persist over time in fragmented or isolated habitat areas because they prohibit the infusion of new individuals and genetic information (MacArthur and Wilson 1967; Soule 1987; Harris and Gallager 1989; Bennett 1990). Corridors effectively act as links between different populations of a species. A group of smaller populations (termed "demes") linked together via a system of corridors is termed a "metapopulation." The long-term health of each deme within the metapopulation is dependent upon its size and the frequency of interchange of individuals (immigration vs. emigration). The smaller the deme, the more important immigration becomes, because prolonged inbreeding with the same individuals can reduce genetic variability. Immigrant individuals that move into the deme from adjoining demes mate with individuals and supply that deme with new genes and gene combinations that increases overall genetic diversity. An increase in a population's genetic variability is generally associated with an increase in a population's health. Corridors mitigate the effects of habitat fragmentation by:

(1) allowing animals to move between remaining habitats, which allows depleted populations to be replenished and promotes genetic diversity;

(2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk that catastrophic events (such as fires or disease) will result in population or local species extinction; and

(3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs (Noss 1983; Fahrig and Merriam 1985; Simberloff and Cox 1987; Harris and Gallagher 1989).

Wildlife movement activities usually fall into one of three movement categories: (1) dispersal (e.g., juvenile animals from natal areas, individuals extending range distributions); (2) seasonal migration; and (3) movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover). A number of terms have been used in various wildlife movement studies, such as "wildlife corridor", "travel route", "habitat linkage", and "wildlife crossing" to refer to areas in which wildlife moves from one area to another. To clarify the meaning of these terms and facilitate the discussion on wildlife movement in this study, these terms are defined as follows:

Travel Route: A landscape feature (such as a ridge line, drainage, canyon, or riparian strip) within a larger natural habitat area that is used frequently by animals to facilitate movement and provide access to necessary resources (e.g., water, food, cover, den sites). The travel route is generally preferred because it provides the least amount of topographic resistance in moving from one area to another; it contains adequate food,

water, and/or cover while moving between habitat areas; and provides a relatively direct link between target habitat areas.

Wildlife Corridor: A piece of habitat, usually linear in nature, that connects two or more habitat patches that would otherwise be fragmented or isolated from one another. Wildlife corridors are usually bounded by urban land areas or other areas unsuitable for wildlife. The corridor generally contains suitable cover, food, and/or water to support species and facilitate movement while in the corridor. Larger, landscape-level corridors (often referred to as “habitat or landscape linkages”) can provide both transitory and resident habitat for a variety of species.

Wildlife Crossing: A small, narrow area, relatively short in length and generally constricted in nature, that allows wildlife to pass under or through an obstacle or barrier that otherwise hinders or prevents movement. Crossings typically are manmade and include culverts, underpasses, drainage pipes, and tunnels to provide access across or under roads, highways, pipelines, or other physical obstacles. These are often “choke points” along a movement corridor.

Wildlife Movement within Project Site and offsite Impact Area

The Project Site and offsite impact area do not represent a regional wildlife movement corridor and provides no cover, food, and no natural unrestricted water courses that would facilitate regional wildlife movement onsite. The Project Site and offsite impact area are not located within an MSHCP designated core, extension of existing core, non-contiguous habitat block, constrained linkage, or linkage area. The Project Site and offsite impact area are completely surrounded by high density residential/mixed use retail development and high traffic roads.

REGIONAL AND REGULATORY SETTING

FEDERAL

Federal Endangered Species Act

The MSHCP serves as an HCP pursuant to Section 10(a)(1)(B) of the FESA of 1973, allowing participating jurisdictions to authorize "*take*" of plant and wildlife species. The MSHCP has been issued under this Section and provides incidental take for all covered species.

Clean Water Act

The Clean Water Act (CWA), Section 401 provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation’s waters. Section 401 requires a project operator to obtain a federal license or permit that allows activities resulting in a discharge to waters of the United States to obtain state certification, thereby ensuring that the discharge will comply with provisions of the CWA. The Regional Water Quality Control Board administers the certification program in California. Section 404 establishes a permit program administered by the USACE that regulates the

discharge of dredged or fill material into waters of the United States, including wetlands. The USACE implementing regulations are found at 33 CFR 320 and 330. Guidelines for implementation are referred to as the Section 404(b)(1) Guidelines, which were developed by the United States Environmental Protection Agency in conjunction with the USACE (40 CFR 230). The guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have less adverse impacts.

Wetland Definition Pursuant to Section 404 of the Clean Water Act

Aquatic resources, including riparian areas, wetlands, and certain aquatic vegetation communities, are considered sensitive biological resources and fall under the jurisdiction of several regulatory agencies. The USACE exerts jurisdiction over waters of the United States, including all waters that are subject to the ebb and flow of the tide; wetlands and other waters such as lakes, rivers, streams (including intermittent or ephemeral streams), mudflats, sandflats, sloughs, prairie potholes, vernal pools, wet meadows, playa lakes, or natural ponds; and tributaries of the above features. The extent of waters of the United States is generally defined as the portion that falls within the limits of the Ordinary High-Water Mark (OHWM). The OHWM is defined as the “line on the shore established by the fluctuation of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.”

On April 21, 2020 the U.S. Environmental Protection Agency (EPA) and the USACE published the Navigable Waters Protection Rule to define “Waters of the United States” in the Federal Register. The April 2020 definition includes four simple categories of jurisdictional waters, including: (1) the territorial seas and traditional navigable waters; (2) perennial and intermittent tributaries to those waters; (3) certain lakes, ponds and impoundments; and (4) wetlands adjacent to jurisdictional waters. The April 2020 definition provides clear exclusions for many water features that traditionally have been regulated, such as ephemeral drainages. The April 2020 definition has been formally adopted by EPA and the USACE and was used for this Jurisdictional Delineation. However, the April 2020 definition was challenged in August 2021 in the case Pascua Yaqui Tribe v. EPA resulting in reverting to the pre-2015 interpretation. The pre-2015 definition of Navigable Waters includes (1) all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (2) All interstate waters including interstate wetlands; (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters: (4) All impoundments of waters otherwise defined as waters of the United States under this definition; (5) Tributaries of waters identified in paragraphs (s)(1) through (4) of this section; (6) The territorial sea; and (7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (s)(1) through (6) of this section (Carlson Strategic Land Solutions, Inc. 2022).

Wetlands, including swamps, bogs, seasonal wetlands, seeps, marshes, and similar areas, are defined by USACE as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3[b]; 40 CFR 230.3[t]). Indicators of three wetland parameters (i.e., hydric soils, hydrophytic vegetation, and wetlands hydrology), as determined by field investigation, must be present for a site to be classified as a wetland by USACE (USACE 1987).

It is important to note that the RWQCB definition of wetland was redefined and the new definition went into effect May 28, 2020. The definition of a wetland is as follows: An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area’s vegetation is dominated by hydrophytes or the area lacks vegetation. This RWQCB modified three-parameter definition is similar to the federal definition in that it identifies three wetland characteristics that determine the presence of a wetland: wetland hydrology, hydric soils, and hydrophytic vegetation. Unlike the federal definition, however, the RWQCB wetland definition allows for the presence of hydric substrates as a criterion for wetland identification (not just wetland soils) and wetland hydrology for an area devoid of vegetation (less than 5% cover) to be considered a wetland (Carlson Strategic Land Solutions, Inc. 2022). .

However, if any vegetation is present, then the USACE delineation procedures would apply to the vegetated component (i.e., hydrophytes must dominate). Examples of waters that would be considered wetlands by the RWQCB definition, but not by the federal wetland definition, are non-vegetated wetlands, or wetlands characterized by exposed bare substrates like mudflats and playas, as long as they meet the three-parameters as described in the RWQCB definition. It is important to note that while the USACE may not designate a feature as a wetland, that feature could be considered a special aquatic site or other water of the U.S. by the USACE and potentially subject to USACE jurisdiction (Carlson Strategic Land Solutions, Inc. 2022).

Migratory Bird Treaty and Bald and Golden Eagle Protection Acts

Migratory birds including resident raptors and passerines are protected under the federal MBTA. The MBTA of 1918 implemented the 1916 convention between the United States and Great Britain for the protection of birds migrating between the U.S. and Canada. Similar conventions between the United States and Mexico (1936), Japan (1972) and the Union of Soviet Socialists Republics (1976) further expanded the scope of international protection of migratory birds. Each new treaty has been incorporated into the MBTA as an amendment and the provisions of the new treaty are implemented domestically. These four treaties and their enabling legislation, the MBTA, established Federal responsibilities for the protection of nearly all species of birds, their eggs and nests. The MBTA made it illegal for people to "take" migratory birds, their eggs, feathers or nests. Take is defined in the MBTA to include by any means or in any manner, any attempt at hunting, pursuing, wounding, killing, possessing or transporting any migratory bird, nest, egg, or part thereof. The Bald and Golden Eagle Protection Act affords additional protection to all bald and golden eagles.

STATE

California Endangered Species Act

The CESA is similar to FESA in that it contains a process for listing of species regulating potential impacts to listed species. Section 2081 of the CESA authorizes the CDFW to enter into a memorandum of agreement for take of listed species for scientific, educational, or management purposes. The MSHCP serves as an HCP pursuant the Natural Communities Conservation Plan (NCCP) under the NCCP Act of 2001, allowing participating jurisdictions to authorize "*Take*" of plant and wildlife species.
As stated by CDFW:

> "*On June 22, 2004, the Department issued NCCP Approval and Take Authorization for the Western Riverside County MSCHP per Section 2800 et seq. of the California Fish and Game Code. The MSHCP establishes a multiple species conservation program to minimize and mitigate habitat loss and the incidental take of covered species in association with activities covered under the permit*." (CDFG 2004)

California Fish and Game Code 3503 and 3513

As stated by CDFW:

> "*CHAPTER 1. General Provisions [3500 - 3516] (Chapter 1 enacted by Stats. 1957, Ch. 456.) It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. (Amended by Stats. 1971, Ch. 1470.)"*

Native Plant Protection Act

The Native Plant Protection Act (NPPA) enacted a process by which plants are listed as rare or endangered. The NPPA regulates collection, transport, and commerce in plants that are listed. The CESA follows the NPPA and covers both plants and wildlife determined to be threatened with extinction or endangered. Plants listed as rare under the NPPA are designated as threated under the CESA. No plants listed under the CESA occur on the Project Site or offsite impact area.

Regional Water Quality Control Board

The RWQCB also has jurisdiction over waters deemed "isolated" or not subject to Section 404 jurisdiction under the Solid Waste Agency of Northern Cook County v. Corps decision. Dredging, filling, or excavation of isolated waters constitutes a discharge of waste to waters of the state and prospective dischargers are required to obtain authorization through an Order of Waste Discharge or waiver thereof from the RWQCB and comply with other requirements of Porter-Cologne Act.

Under Section 401 of the CWA, the local RWQCB must certify that actions receiving authorization under Section 404 of the CWA also meet state water quality standards. The

RWQCB requires projects to avoid impacts to wetlands if feasible and requires that projects do not result in a net loss of wetland acreage or a net loss of wetland function and values. Compensatory mitigation for impacts to wetlands and/or waters of the state is required.

CDFW Streambed Alteration Agreement

Waters of the State are regulated by the California Department of Fish and Wildlife (CDFW) through Section 1600 et seq. of the California Fish and Game Code. Section 1600 et seq. requires notifying the CDFW prior to any project activity that might (1) substantially divert or obstruct the natural flow of any river, stream, or lake; (2) substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. If, after this notification, the CDFW determines that the activity may substantially adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement will need to be obtained. CDFW may then place conditions in the Section 1602 Streambed Alteration Agreement to avoid, minimize, and mitigate any potentially significant adverse impacts within CDFW jurisdictional limits.

The limits of Waters of the State are defined as the “body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation." Therefore, the limits extend from the channel bed to the top of the bank, with the addition of the canopy of any riparian habitat associated with the watercourse.

LOCAL

Western Riverside County Multiple Species Habitat Conservation Plan Compliance Analysis

The proposed Project Site and offsite impact area are located completely within the MSHCP, which is a comprehensive multi-jurisdictional effort that includes western Riverside County and eighteen (18) cities including the City of Riverside. Rather than addressing sensitive species on an individual basis, the MSHCP focuses on conservation of 146 species, including those listed at the federal and state levels and those that could become listed in the future. The MSHCP proposed a reserve system of approximate 500,000 acres, of which 347,000 acres are currently within public ownership and 153,000 acres will need to be assembled from lands currently in private ownership. The MHSCP allows the County and other permittees (including the City of Riverside) to issue take permits for listed species so that applicants do not need to receive endangered species incidental take authorization from the USFWS and CDFW.

On June 7th, 2003, the County Board of Supervisors adopted the MSHCP, certified the Environmental Impact Report/Environmental Impact Statement, and authorized the Chairman to sign the Implementing Agreement with the respective wildlife agencies. The Incidental Take Permit was issued by the wildlife agencies on June 22nd, 2004. The City of Riverside is a Permittee under the MSHCP.

MSHCP Reserve Design & Criteria Area Objectives

Regions of the MHSCP have been organized into Area Plans that generally coincide with logical political boundaries, including city limits or long-standing unincorporated communities. The Project Site and offsite impact area are located within the Cities of Riverside/Norco Area Plan. The Cities of Riverside/Norco Area Plan has a target conservation acreage of 3,465 to 3,615 acres.

The Project Site is not located within an MSHCP Criteria Area Cell, Cell Group, or Linkage Area. However, the northern 0.15-acre of the offsite impact area located within the Hillside Avenue right-of-way at the confluence of Mountain View Avenue extends into MSHCP Criteria Cell 621, Subunit 1 – Santa Ana River South. As stated in the MSHCP:

> "*Conservation within this Cell will contribute to assembly of Existing Core A. Conservation within this Cell will focus on lands expanding existing conserved wetland habitat along the Santa Ana River. Conservation within this Cell will be approximately 5% of the Cell focusing in the northeastern portion of the Cell*" (MSHCP 2004)

The 0.15-acre portion of the offsite impact area which extends into the southeastern region of MSHCP Criteria Cell 621 is characterized as the paved portion of the Hillside Avenue right-of-way. This area is completely surrounded by existing residential development and power grid facility and is not located within the northeastern region of Criteria Cell 621 where conservation is identified. The proposed impacts within the offsite impact area would not conflict with the reserve design goals, Existing Core A or the Santa Ana River.

MSHCP Sensitive Species Surveys

The Project Site and offsite impact area do not occur within an MSHCP predetermined Survey Area for narrow endemic plant species; therefore, no surveys are required (RCA GIS Data Downloads 2022). The project is consistent with MSHCP Section 6.1.3

The Project Site and offsite impact area are not located within a Criteria Area Species Survey Area; therefore, no surveys are required (RCA GIS Data Downloads 2022). The project is consistent with MSHCP Section 6.3.2.

The Project Site and offsite impact area are not located within an MSHCP Amphibian or Mammal Species Survey Area; therefore, no surveys are required (RCA GIS Data Downloads 2022). The project is consistent with MSHCP Section 6.3.2.

The Project Site and offsite impact area do not occur within a predetermined Survey Area for the burrowing owl; therefore, no surveys are required (RCA GIS Data Downloads 2022). The project is consistent with MSHCP Section 6.3.2.

MSHCP Riparian, Riverine, Vernal Pool Resources

Regulated activities within inland streams, wetlands and riparian areas in Western Riverside County California fall under the jurisdiction of the MSHCP. The MSHCP

requires, among other things, assessments for riparian/riverine and vernal pool resources. As projects are proposed within the MSHCP Plan Area, an assessment of the potentially significant effects of those projects on riparian/riverine areas, and vernal pools are required, as currently mandated by CEQA, using available information augmented by project-specific mapping provided to and reviewed by the permittee's biologist(s). Riparian/riverine areas and vernal pools are defined for this section as follows in accordance with Section 6.1.2, Vol. I, of the Final MSHCP Plan:

> "*Riparian/Riverine Areas are lands which contain habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year*." (MSHCP 2004)

It is assumed the first part of the definition defines riparian habitat, and the second part defines riverine areas. Vernal pools are defined as:

> "…*seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation and hydrology) during the wetter portion of the growing season but normally lack wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season. Obligate hydrophytes and facultative wetlands plant species are normally dominant during the wetter portion of the growing season, while upland species (annuals) may be dominant during the drier portion of the growing season*". (MSHCP 2004)

No MSHCP Section 6.1.2 vernal pool, riparian or riverine resources are located within or adjacent to the Project Site or offsite impact area.

Specifically, no riparian scrub, forest or woodland habitat is located within or adjacent to the Project Site or offsite impact area.

No evidence of vernal pools, seasonal depressions, seasonally inundated road ruts or other wetland features were recorded on the Project Site or offsite impact area. Vernal pools are depressions in areas where a hard-underground layer prevents rainwater from draining downward into the subsoils. When rain fills the pools in the winter and spring, the water collects and remains in the depressions. In the springtime, the water gradually evaporates away, until the pools became completely dry in the summer and fall. Vernal pools tend to have an impermeable layer that results in ponded water. The soil texture (the amount of sand, silt, and clay particles) typically contains higher amounts of fine silts and clays with lower percolation rates. Pools that retain water for a sufficient length of time will develop hydric cells. Hydric cells form when the soil is saturated from flooding for extended periods of time and anaerobic conditions (lacking oxygen or air) develop. Consistent with conditions documented onsite and as previously stated, the Project Site and offsite impact area are characterized as Buchenau loam, slightly saline-alkaline, 0 to 2 percent slopes (BhA), Buren fine sandy loam, 2 to 8 precent slopes, eroded (BuC2), and Hanford course sandy loam, 0 to 2 precent slopes (HcA), all types possessing well drained substrates (drainage class). No indication of clay substrates or hydric soils were documented within the Project Site or offsite impact area. A review of historic aerials was

conducted to determine if inundated features (vernal pools) were present during years of high rainfall when features would certainly be documented. Historic aerials taken in 2011 represent an ideal baseline during which known (previously documented) inundated vernal pools, seasonal depressions and road ruts can easily be seen. No sign or indication of inundation was documented within the Project Site or offsite impact area during a review of historic aerials.

In summary, none of the conditions (i.e., no inundated depressions including road ruts, hydric soils, historic inundation, etc.) were observed on documented within the Project Site or offsite impact area. No features are present that would support fairy shrimp. No standing water or other sign of areas that pond water was recorded.

No vernal pool or seasonal depression resources representing suitable habitat for sensitive fairy shrimp were detected onsite. No riparian scrub, forest or woodland habitat suitable for the least Bell's vireo, southwestern willow flycatcher or western yellow-billed cuckoo is present within or adjacent to the Project Site or offsite impact area. The project is consistent with MSHCP Section 6.1.2.

An MSHCP Determination of Biological Equivalent or Superior Preservation (DBESP) will not be required.

MSHCP Urban/Wildlands Interface Guidelines

The MSHCP Urban/Wildlands Interface guidelines presented in Section 6.1.4 are intended to address indirect effects associated with locating commercial, mixed uses and residential developments in proximity to an MSHCP Conservation Area. The Project Site and offsite impact area are not located adjacent to an existing or proposed MSHCP Conservation Area. The project is consistent with MSHCP Section 6.1.4.

MSHCP Fuels Management Guidelines

The fuels management guidelines presented in Section 6.4 of the MSHCP are intended to address brush management activities around new development within or adjacent to MSHCP Conservation Areas. The Project Site and offsite impact area are not located adjacent to an existing or proposed MSHCP Conservation Area. The project is consistent with MSHCP Section 6.4.

City of Riverside Municipal Code 13.25.020

13.25.020 - Removal, trimming, and trenching around. No trees or shrubs planted or growing along the public streets of the City shall be removed except pursuant to the policy established by the Park, Recreation and Community Services Commission and no trees along the streets shall be cut, pruned or trimmed except pursuant to the policy established by the Commission and approved by the City Council; nor shall anyone not authorized by said policy trench around or alongside of any tree, plant or shrub with a view to cutting the roots of same. (Ord. 7459 § 27, 2019; Ord. 7362 § 5, 2017)

A total of 72 ornamental trees and palms will be removed as a result of the proposed action. No native oak trees will be impacted as a result of project initiation. A landscape

plan will be submitted to the City of Riverside Planning Department for review and approval.

City of Riverside General Plan - Open Space and Conservation Element

As outlined below, the City of Riverside's 2025 General Plan Open Space and Conservation Element (Chapter 12) Goals and Polices for the preservation and protection of critical open space and natural resources have been assessed for compliance.

Policy OS-5.1: Preserve significant habitat and environmentally sensitive areas, including hillsides, rock outcroppings, creeks, streams, viewsheds and arroyos through application of the RC Zone standards and the Hillside/Arroyo standards of the City's Grading Code.

Policy OS-5.2: Continue to participate in the MSHCP Program and ensure all projects comply with applicable requirements

Policy OS-5.3: Continue to participate in the Stephens' Kangaroo Rat (SKR) Habitat Conservation Plan including collection of mitigation fees.

Policy OS-5.4: Protect native plant communities in the General Plan Area, including sage scrub, riparian areas and vernal pools, consistent with the MSHCP.

Policy OS-6.1: Protect and enhance known wildlife migratory corridors and create new corridors as feasible

Policy OS-6.2: Support regional and local efforts to acquire, develop and maintain open space linkages.

Policy OS-6.3: Preserve the integrity of Riverside's arroyos and riparian habitat areas through the preservation of native plants.

Policy OS-6.4: Continue with efforts to establish a wildlife movement corridor between Sycamore Canyon Wilderness Park and the Box Springs Mountain Regional Park as shown on the MSHCP. New developments in this area shall be conditioned to provide for the corridor and Caltrans shall be encouraged to provide an underpass at the 60/215 Freeway.

The Project Site and offsite impact area falls within the SKR Fee Area outlined in the Riverside County SKR HCP. The project applicant shall pay the fees pursuant to County Ordinance 663.10 for the SKR HCP Fee Assessment Area as established and implemented by the County of Riverside.

The entire Project Site and offsite impact area are developed by a closed Sears department store including scattered ornamental vegetation as illustrated in Figure 3, *Vegetation Communities Map* and Figures 4 to 8, *Current Project Site Photographs*. The Project Site and offsite impact area are not located within or adjacent to the Santa Ana River, regulated arroyo (Ordinance 17.08.011) or wildlife movement corridor. The proposed action would not conflict with any General Plan Open Space and Conservation

Element (Chapter 12) Goals and Polices for the preservation and protection of critical open space and natural resources.

Also, as previously stated, the 0.15-acre portion of the offsite impact area which extends into the southeastern region of MSHCP Criteria Cell 621 is characterized as the paved portion of the Hillside Avenue right-of-way. This area is completely surrounded by existing residential development and power grid facility and is not located within the northeastern region of Criteria Cell 621 where conservation is identified. The proposed impacts within the offsite impact area would not conflict with the reserve design goals, Existing Core A or the Santa Ana River.

City of Riverside 16.72.040 - Establishment of the Multiple Species Habitat Conservation Plan Fee

The project applicant shall pay MSHCP Local Development Mitigation fees as established and implemented by the City of Riverside (Municipal Code Sec. 16.72.040 - Western Riverside County Multiple Species Habitat Conservation Plan mitigation fee). Five categories of the fee are defined and include: Residential, density less than 8.0 dwelling units per acre $1,651 per dwelling unit; Residential, density between 8.1 and 14.0 dwelling units per acre $1.057 per dwelling unit; Residential, density greater than 14.1 dwelling units per acre $859 per dwelling unit; Commercial $5,620 per acre; and Industrial $5,620 per acre.

ENVIRONMENTAL IMPACTS

The following sections include an analysis of the direct impacts, indirect impacts, and cumulative effects of the proposed action on sensitive biological resources. This analysis characterizes the project related activities that are anticipated to adversely impact the species, and when feasible, quantifies such impacts. Direct effects are defined as actions that may cause an immediate effect on the species or its habitat, including the effects of interrelated actions and interdependent actions. Indirect effects are caused by or result from the proposed actions, are later in time, and are reasonably certain to occur. Indirect effects may occur outside of the area directly affected by the proposed action.

Cumulative impacts refer to incremental, individual environmental effects of two or more projects when considered together. These impacts taken individually may be minor but may be collectively significant. Cumulative effects include future tribal, local, or private actions that are reasonably certain to occur in the proposal vicinity considered in this report. A cumulative impact to biological resources may occur if a project has the potential to collectively degrade the quality of the environment, substantially reduce the habitat of wildlife species or cause a population to drop below self-sustaining levels, thereby threatening to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal species.

THRESHOLD OF SIGNIFICANCE

The environmental impacts relative to biological resources are assessed using impact significance criteria which mirror the policy statement contained in the CEQA at Section

21001 (c) of the Public Resources Code. This section reflects that the legislature has established it to be the policy of the state to:

> "*Prevent the elimination of fish and wildlife species due to man's activities, ensure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities*…"

The following definitions apply to the significance criteria for biological resources:

- "*Endangered*" means that the species is listed as endangered under state or federal law.
- "*Threatened*" means that the species is listed as threatened under state or federal law.
- "*Rare*" means that the species exists in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens.
- "*Region*" refers to the area within southern California that is within the range of the individual species.
- "*Sensitive habitat*" refers to habitat for plants and animals (1) which plays a special role in perpetuating species utilizing the habitat on the property, and (2) without which there would be substantial danger that the population of that species would drop below self-perpetuating levels.
- "*Substantial effect*" means significance loss or harm of a magnitude which, based on current scientific data and knowledge, (1) would cause a species or a native plant or animal community to drop below self-perpetuating levels on a statewide or regional basis or (2) would cause a species to become threatened or endangered.

Impacts to biological resources may result in a significant adverse impact if one or more of the following conditions would result from implementation of the proposed project.

- Have a substantial adverse effect, either directly or through habitat modification, on any endangered, or threatened species, as listed in Tittle 14 of the California Code of Regulations (Sections 670.2 or 670.5) or Title 50, Code of Federal Regulations (Sections 17.11 or 17.12).
- Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS, and meets the definition of Section 15380 (b), (c), or (d) of the CEQA Guidelines.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS.
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident migratory wildlife corridors, or impede the use of native nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

- Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state conservation plan.

Also, the determination of impacts has been made according to the federal definition of "*take*". The federal FESA prohibits the "*taking*" of a member of an endangered or threatened wildlife species or removing, damaging, or destroying a listed plant species by any person (including private individuals and private or government entities). The FESA defines "*take*" as "*to harass, harm, pursue, hunt, shoot, would, kill, trap, capture or collect*" an endangered or threatened species, or to attempt to engage in these activities.

DIRECT IMPACTS

Vegetation Communities

A total of 17.43 acres of existing developed lands will be directly and permanently impacted as a result of project implementation as summarized in Table 4, *Vegetation Community Impacts,* and illustrated on Figure 10*, Onsite Vegetation Communities Impact Map*. A total of 13.10 acres of existing developed lands may be temporarily impacted as a result of infrastructure improvements proposed within the offsite impact area as summarized in Table 4, *Vegetation Community Impacts,* and illustrated on Figure 11*, offsite Vegetation Communities Impact Map*. As previously stated, no vegetation communities listed by CDFW as sensitive were documented within or adjacent to the Project Site or offsite impact area. The project applicant will be required to comply with the City of Riverside Municipal Code 16.72.040, which requires the project applicant to pay MSHCP Local Development Mitigation fees.

Table 4. Vegetation Community Impacts

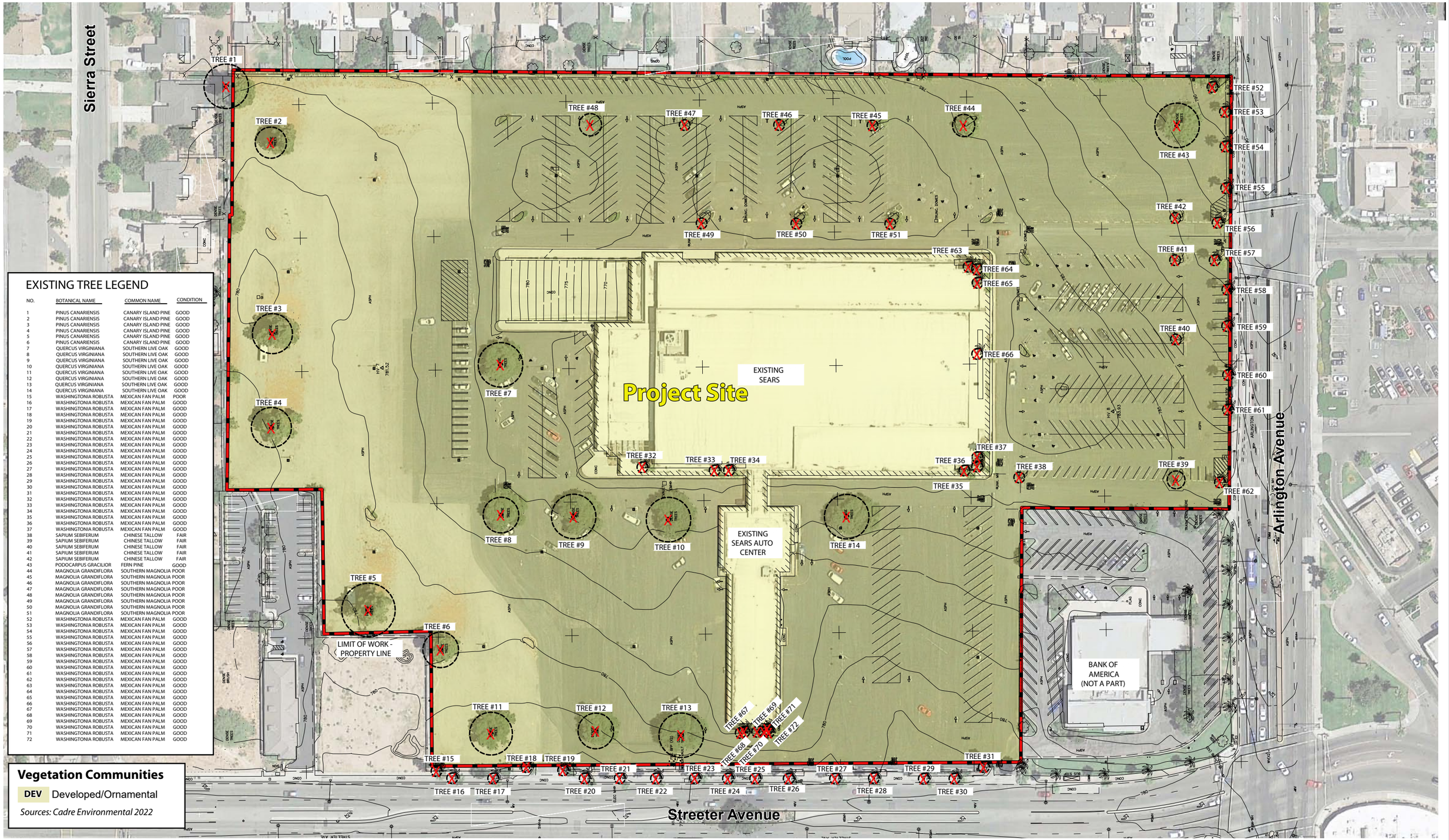
*Vegetation Type	Onsite Permanent Impacts Acres	offsite Temporary Impacts Acres
Developed/Ornamental	17.43	13.10
TOTAL	**17.43**	**13.10**

**Source: Cadre Environmental 2022.*

Protected Trees

No native trees or oak species occur onsite and the removal of ornamental trees and palms would not conflict with the City of Riverside Municipal Code 13.25.020 – "*Removal, trimming, and trenching around. No trees or shrubs planted or growing along the public streets of the City shall be removed except pursuant to the policy established by the Park, Recreation and Community Services Commission and no trees along the streets shall be cut, pruned or trimmed except pursuant to the policy established by the Commission and approved by the City Council; nor shall anyone not authorized by said policy trench around or alongside of any tree, plant or shrub with a view to cutting the roots of same. (Ord. 7459 § 27, 2019; Ord. 7362 § 5, 2017)*"

A landscape plan will be submitted to the City of Riverside Planning Department for review and approval. No Impact.



EXISTING TREE LEGEND

NO.	BOTANICAL NAME	COMMON NAME	CONDITION
1	PINUS CANARIENSIS	CANARY ISLAND PINE	GOOD
2	PINUS CANARIENSIS	CANARY ISLAND PINE	GOOD
3	PINUS CANARIENSIS	CANARY ISLAND PINE	GOOD
4	PINUS CANARIENSIS	CANARY ISLAND PINE	GOOD
5	PINUS CANARIENSIS	CANARY ISLAND PINE	GOOD
6	PINUS CANARIENSIS	CANARY ISLAND PINE	GOOD
7	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	GOOD
8	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	GOOD
9	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	GOOD
10	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	GOOD
11	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	GOOD
12	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	GOOD
13	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	GOOD
14	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	GOOD
15	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	POOR
16	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
17	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
18	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
19	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
20	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
21	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
22	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
23	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
24	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
25	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
26	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
27	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
28	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
29	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
30	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
31	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
32	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
33	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
34	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
35	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
36	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
37	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
38	SAPIUM SEBIFERUM	CHINESE TALLOW	FAIR
39	SAPIUM SEBIFERUM	CHINESE TALLOW	FAIR
40	SAPIUM SEBIFERUM	CHINESE TALLOW	FAIR
41	SAPIUM SEBIFERUM	CHINESE TALLOW	FAIR
42	SAPIUM SEBIFERUM	CHINESE TALLOW	FAIR
43	PODOCARPUS GRACILIOR	FERN PINE	GOOD
44	MAGNOLIA GRANDIFLORA	SOUTHERN MAGNOLIA	POOR
45	MAGNOLIA GRANDIFLORA	SOUTHERN MAGNOLIA	POOR
46	MAGNOLIA GRANDIFLORA	SOUTHERN MAGNOLIA	POOR
47	MAGNOLIA GRANDIFLORA	SOUTHERN MAGNOLIA	POOR
48	MAGNOLIA GRANDIFLORA	SOUTHERN MAGNOLIA	POOR
49	MAGNOLIA GRANDIFLORA	SOUTHERN MAGNOLIA	POOR
50	MAGNOLIA GRANDIFLORA	SOUTHERN MAGNOLIA	POOR
51	MAGNOLIA GRANDIFLORA	SOUTHERN MAGNOLIA	POOR
52	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
53	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
54	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
55	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
56	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
57	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
58	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
59	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
60	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
61	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
62	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
63	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
64	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
65	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
66	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
67	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
68	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
69	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
70	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
71	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD
72	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	GOOD

Figure 10 - Onsite Vegetation Communities Impact Map

Biological Resources Technical Report
Arlington Mixed Use Project Site, City of Riverside

Source: Architects Orange 2022

CADRE Environmental

1 inch = 100 feet

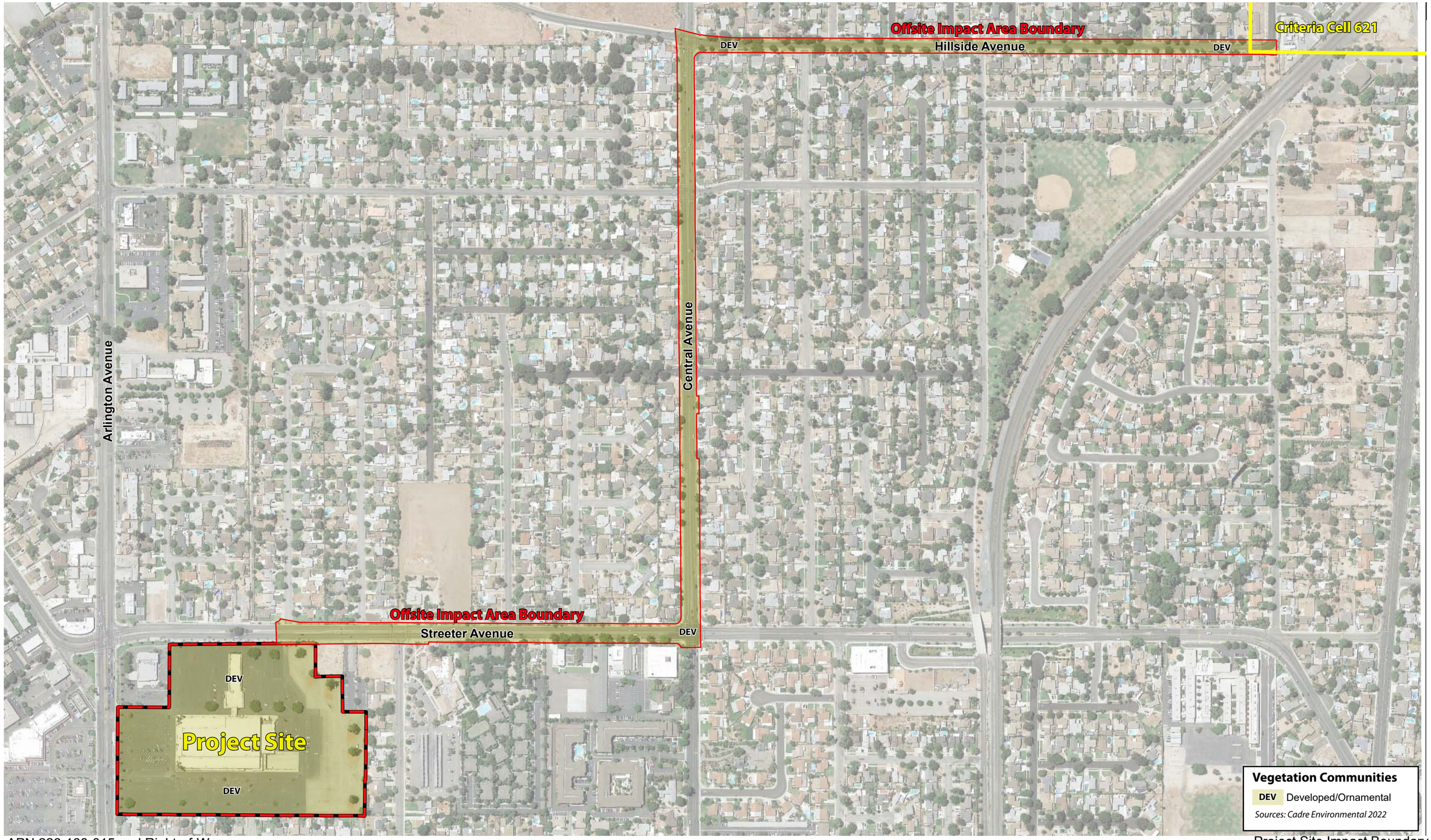


Figure 11 - Offsite Vegetation Communities Site Map

Biological Resources Technical Report
Arlington Mixed Use Project Site, City of Riverside

CADRE Environmental

1 inch = 400 feet

Jurisdictional Resources

No wetlands or jurisdictional resources regulated by the USACE, CDFW, or RWQCB were documented within or adjacent to the Project Site or offsite impact area. No Impact.

MSHCP Riparian/Riverine/Vernal Pool Resources

No MSHCP Section 6.1.2 vernal pool, riparian or riverine resources are located within or adjacent to the Project Site or offsite impact area. No Impact. Specifically, no riparian scrub, forest or woodland habitat is located within or adjacent to the Project Site or offsite impact area. No Impact.

No evidence of vernal pools, seasonal depressions, seasonally inundated road ruts or other wetland features were recorded on the Project Site or offsite impact area. Vernal pools are depressions in areas where a hard-underground layer prevents rainwater from draining downward into the subsoils. When rain fills the pools in the winter and spring, the water collects and remains in the depressions. In the springtime, the water gradually evaporates away, until the pools became completely dry in the summer and fall. Vernal pools tend to have an impermeable layer that results in ponded water. The soil texture (the amount of sand, silt, and clay particles) typically contains higher amounts of fine silts and clays with lower percolation rates. Pools that retain water for a sufficient length of time will develop hydric cells. Hydric cells form when the soil is saturated from flooding for extended periods of time and anaerobic conditions (lacking oxygen or air) develop. Consistent with conditions documented onsite and as previously stated, the Project Site and offsite impact area are characterized as Buchenau loam, slightly saline-alkaline, 0 to 2 percent slopes (BhA) and Hanford course sandy loam, 0 to 2 precent slopes (HcA), all types possessing well drained substrates (drainage class). No indication of clay substrates or hydric soils were documented within the Project Site or offsite impact area. A review of historic aerials was conducted to determine if inundated features (vernal pools) were present during years of high rainfall when features would certainly be documented. Historic aerials taken in 2011 represent an ideal baseline during which known (previously documented) inundated vernal pools, seasonal depressions and road ruts can easily be seen. No sign or indication of inundation was documented within the Project Site or offsite impact area during a review of historic aerials.

In summary, none of the conditions (i.e., no inundated depressions including road ruts, hydric soils, historic inundation, etc.) were observed on documented within the Project Site or offsite impact area. No features are present that would support fairy shrimp. No standing water or other sign of areas that pond water was recorded. No Impact.

Sensitive Plants

The Project Site and offsite impact area are not located within an MSHCP narrow endemic or criteria area sensitive plant species survey area. No focused surveys required.

No state or federally listed threatened or endangered plant species were detected or are expected to occur onsite. No other CNPS, special-status plants, or species of local concern were observed onsite as outlined in Table 2, *Sensitive Plant Species with Potential to Occur Onsite*. No Impact.

Sensitive Wildlife

The Project Site and offsite impact area do not occur within a predetermined MSHCP Survey Area for the burrowing owl, amphibians or mammals (RCA GIS Database 2022). No focused surveys required.

No state or federally listed threatened or endangered wildlife species were detected or are expected to occur onsite. No other special-status wildlife species, or species of local concern were observed or expected to occur onsite as outlined in Table 3, *Sensitive Wildlife Species with Potential to Occur Onsite*. No Impact.

The Project Site and offsite impact area possess vegetation including ornamental trees and palms expected to potentially provide nesting habitat for raptors and migratory birds protected under the CDFG Codes. Measures for potential direct/indirect impacts to common and sensitive bird and raptor species will require compliance with the CDFG Code Section 3503. Construction outside the nesting season (between September 1st and February 15th) does not require preconstruction nesting bird surveys. However, if construction is proposed between February 16th and August 31st, a qualified biologist will conduct a preconstruction nesting bird survey(s) no more than three (3) days prior to initiation of grading to document the presence or absence of nesting birds or raptors within or directly adjacent (100 feet) to the Project Site and offsite impact area. Loss of an active nest would be considered a potentially significant impact. Impacts to potential nesting bird and raptor habitat would be reduced to less than significant with the implementation of Biological Mitigation and Avoidance Measure (**BIO-MM1**).

The Project Site and offsite impact area falls within the SKR Fee Area outlined in the Riverside County SKR HCP. The project applicant shall pay the fees pursuant to County Ordinance 663.10 for the SKR HCP Fee Assessment Area as established and implemented by the County of Riverside.

Western Riverside County Multiple Species Habitat Conservation Plan Compliance Analysis

INDIRECT IMPACTS

All MSHCP Urban/Wildlands Interface guidelines presented in Section 6.1.4 are intended to address indirect effects associated with locating commercial, mixed uses and residential developments in proximity to an MSHCP Conservation Area. The Project Site and offsite impact area are not located adjacent to an existing or proposed MSHCP Conservation Area. The project is consistent with MSHCP Section 6.1.4. No Impact.

Water Quality/Hydrology

The project will comply with all applicable water quality regulations, including obtaining and complying with those conditions established in (WDRs) and a National Pollutant Discharge Elimination System (NPDES) permits. Both of these permits include the treatment of all surface runoff from paved and developed areas, the implementation of applicable Best Management Practices (BMPs) during construction activities and the

installation and proper maintenance of structural BMPs to ensure adequate long-term treatment of water.

Toxics

Storm water treatment systems will be designed to prevent the release of toxins, chemicals, petroleum products, exotic plant material, or other elements that could degrade or harm downstream biological or aquatic resources. Toxic sources within the Project Site would be limited to those commonly associated with residential, commercial, and mixed-use development, such as pesticides, insecticides, herbicides, fertilizers, and vehicle emissions. In order to mitigate the potential effects of these toxics, the project will incorporate structural BMPs, as required in association with compliance with WDRs and the NPDES permit system.

Lighting

No natural vegetation communities or sensitive receptors are located within or adjacent to the Project Site. No Impact.

Noise

No natural vegetation communities or sensitive receptors are located within or adjacent to the Project Site. No Impact.

Invasive Species

The landscape plans for the residential and mixed development shall avoid the use of invasive species for the portions of the development areas adjacent to the open space areas. The Project Site and offsite impact area are not located within or adjacent to an open space or conservation area. No Impact.

Barriers

Barriers are intended to reduce or minimize unauthorized public access and associated impacts to protected resources. The Project Site and offsite impact area are not located adjacent to an existing or proposed MSHCP Conservation Area. No Impact.

CUMULATIVE IMPACTS

The temporary direct and/or indirect impacts of the project would not result in significant cumulative impacts (CEQA Section 15310) to environmental resources within the region of the Project Site and offsite impact area. Cumulative impacts refer to incremental effects of an individual project when assessed with the effects of past, current, and proposed projects. The project would result in the permanent loss of 17.43 acres of existing developed lands and temporary impacts to 13.10 acres of exiting roadways. The proposed project has been designed and mitigated to remain in compliance with all MSHCP conservation goals and guidelines and therefore will not result in an adverse cumulative impact.

MITIGATION & AVOIDANCE MEASURE

The following biological mitigation and avoidance measure addresses potential adverse impacts determined to be potentially significant or is relevant to the protection of biological resources to the extent practicable as part of ensuring compliance and consistency with MSHCP and CEQA guidelines.

BIO-MM1 Regulatory Requirement CDFG Code

Regulatory requirement for potential direct/indirect impacts to nesting common bird and raptor species will require compliance with the CDFG Code Section 3503. Construction outside the nesting season (between September 1st and January 31st) do not require pre-removal nesting bird surveys. If construction is proposed between February 1st and August 31st, a qualified biologist will conduct a nesting bird survey(s) no more than three (3) days prior to initiation of grading to document the presence or absence of nesting birds within or directly adjacent (100 feet) to the Project Site and offsite impact area.

The survey(s) will focus on identifying any raptors and/or bird nests that are directly or indirectly affected by construction activities. If active nests are documented, species-specific measures will be prepared by a qualified biologist and implemented to prevent abandonment of the active nest. At a minimum, grading in the vicinity of a nest will be postponed until the young birds have fledged. The perimeter of the nest setback zone will be fenced or adequately demarcated with stakes and flagging at 20-foot intervals, and construction personnel and activities restricted from the area. A survey report by a qualified biologist verifying that no active nests are present, or that the young have fledged, will be submitted to the City of Riverside for review and approval prior to initiation of grading in the nest-setback zone.

The qualified biologist will serve as a construction monitor during those periods when construction activities occur near active nest areas to ensure that no inadvertent impacts on these nests occur. A final monitoring report of the findings, prepared by a qualified biologist, will be submitted to the City of Riverside documenting compliance with the CDFG Code. Any nest permanently vacated for the season would not warrant protection pursuant to the CDFG Code.

Implementation of Mitigation and Avoidance Measure **BIO-MM1** would reduce potential significant unavoidable impacts on biological resources below a level of significance and ensure compliance with MSHCP and CEQA requirements.

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Certification "*I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge.*

Author:_____Date: April 3rd, 2023

Contact: Ruben S. Ramirez, Jr. 949-300-0212, r.ramirez@cadreenvironmental.com

JPR-RCA Findings

RCA

RCA Joint Project Review (JPR) Findings

JPR: 23-05-11-01
Date: 06/08/23

Project Information

Permittee:	**City of Riverside**
Case Information:	**PR-2022-001252 / Arlington Mixed Use Development**
Site Acreage:	**30.53 acres (17.43 on-site permanent and 13.10 off-site temporary), of which 0.15 acres off-site temporary are located within the Criteria Area[1]**
Portion of Site Proposed for MSHCP Conservation Area:	**0 acres**

Criteria Consistency Review

Consistency Conclusion: The project is consistent with both the Criteria and Other Plan requirements with implementation of the measures presented in these Findings (including any within the project information provided to the Regional Conservation Authority by the Permittee for this JPR).

Applicable Core/Linkage: Existing Core A
Area Plan: Cities of Riverside and Norco

APN	Sub-Unit	Cell Group	Cell
226-180-015 Right-of-way	SU1- Santa Ana River South	Independent	621

Project Information

a. **Project Documentation**. JPR submittal materials provided by the Permittee included a JPR Application Form (April 13, 2023), and a *Biological Resources Technical Report Arlington Mixed Use Project Site*, prepared by Cadre Environmental (*Report*, May 2023).

b. **Project Location**. The proposed project is located is the City of Riverside, south of Jurupa Avenue, east of Fremont Street and Hillside Avenue, and north of Arlington Avenue (Exhibit A). It is located in the northwestern portion of the MSHCP Area (Exhibit B).

[1] Joint Project Review (JPR) only occurs within MSHCP Criteria Cells. Any portion of the project that extends beyond the Criteria is not included as part of this JPR review nor these Findings.

c. **Project Description**. The proposed project involves a redevelopment plan and associated demolition of a closed Sears department store, as well as related structures and facilities. The redevelopment plan includes a mixed-use development that encompasses high-density residential homes, a park, and retail and grocery stores. The proposed project also includes off-site infrastructure improvements within Streeter Avenue, Central Avenue, and Hillside Avenue right of way. The on-site portion of the project (APN 226-180-015), as well as the off-site impact area infrastructure are currently developed.

The approximate 30.53-acre proposed project site includes permanent on-site development of 17.43 acres and temporary off-site improvements of 13.10 acres (Exhibit E). Of the 30.53-acre project, 0.15 off-site acres are located within MSHCP Criteria Area (specifically, Cell 621), and as such, only the 0.15-acre proposed off-site improvement is the subject of these JPR Findings (hereafter referred to as "**project site**"). The 0.15-acre project site consists of temporary improvements within Hillside Ave right of way (Exhibit E). It should be noted that JPR 12-07-16-01 (Riverside Transmission Reliability Public Project), an overhead and underground transmission line project, overlaps the proposed project site. However, there are no MSHCP compliance conflicts with this overlap. The project is not adjacent to any existing conservation area. No fuel modification or weed abatement zones are proposed. All staging of equipment and construction materials will be located within the proposed development footprint.

The site is surrounded by existing high-density residential and includes a power grid facility and rail line to the north. According to the *Report*, vegetation communities within the 0.15-acre project site are developed/ornamental. MSHCP baseline vegetation communities (1994) within the site consist of developed or disturbed land (Exhibit C). Soil series within the 0.15-acre project site include Buchenau loam, slightly saline-alkali, 0 to 2 percent slopes (Exhibit D). None of these soils are directly related to or support Narrow Endemic Plant Species, Criteria Area Plant Species, or Delhi Sands Flower-loving Fly which are further discussed in Section 6.1.3 and 6.3.2 below.

Relation to Reserve Assembly

a. **Reserve Assembly Summary**. As stated in Section 3.2.3 of the MSHCP, "Existing Core A consists of Prado Basin and the Santa Ana River, located in the northwest region of the Plan Area. This southwest-to-northeast trending swath of land is composed largely of Public/Quasi-Public Lands owned by a variety of entities, but it also contains a small number of privately-owned lands. The Core also functions as a Linkage, connecting Orange County to the west with San Bernardino County to the north. Existing Core A is connected to Existing Core B (Cleveland National Forest) via both and upland and a riparian connection (Proposed Constrained Linkage 1 and Proposed Constrained Linkage 2, respectively). This Core is constrained on all sides by existing urban development and agricultural use, and planned land uses surrounding the Core consist largely of high impact land uses such as city and community Development. Therefore, high quality riparian Habitat within the Core and along the edges must be maintained for species such as southwestern willow flycatcher, yellow warbler, yellow-breasted chat, western yellow-billed cuckoo, and others listed in the table below. Guidelines Pertaining to Urban/Wildlands Interface for the management of edge factors

such as lighting, urban runoff, toxics, and domestic predators are presented in Section 6.1 of this document [MSHCP]. Maintenance of existing floodplain processes and water quality along the Santa Ana River is also important to Santa Ana River woollystar and arroyo chub. Management entities in this existing Core include: the County of Riverside Parks and Open Space District, U.S. Army Corps of Engineers, Orange County Water District, and California Department of Parks and Recreation."

A portion of the project site (0.15 off-site acres) is located within Cell 621, independent of a Cell Group. As stated in Section 3.3.17 of the MSHCP, "Conservation within this Cell will contribute to assembly of Existing Core A. Conservation within this Cell will focus on lands expanding existing conserved wetland habitat along the Santa Ana River. Conservation within this Cell will be approximately 5% of the Cell focusing in the northeastern portion of the Cell."

As discussed above, the 0.15-acre off-site area is located within Cell 621. Conservation within this Cell will contribute to assembly of Existing Core A and will be approximately 5% of the Cell focusing in the northeastern portion of the Cell.

Cell 621 totals approximately 173.5 acres. Using the 5% goal, approximately 8.7 acres are described for conservation within this Cell. To date, 143.8 acres have been developed or are approved for development in this Cell, which includes but is not limited to the 0.15-acre proposed project acreage, and 9.1 acres of covered roads acreage. In addition, there are 25.7 acres of Public-Quasi Public Lands that cannot be counted towards the Additional Reserve Lands (ARL). There are 0 acres in this Cell that have already been conserved or are proposed for conservation. Therefore, 8.7 acres are still needed for conservation in order to achieve the goal of 5%. There are 4.1 undeveloped acres available within the Cell, all of which is located within areas described for conservation. In summary, with 4.1 undeveloped acres available for conservation that could also functionally contribute to Existing Core A, Cell 621 could not achieve the 5% goal of 8.7 acres. While Cell 621 cannot achieve it's 5% goal, the proposed project is located in the southeast corner of the Cell, not in an area described for conservation and would not functionally contribute to Existing Core A. Therefore, the project is consistent with reserve assembly and would not impede the conservation goals for Existing Core A, nor result in issues regarding fragmentation.

b. **Rough Step.** The proposed project is within Rough Step Unit 1. As stated in Section 4 of the MSHCP 2021 Annual Report, "Rough Step Unit 1 encompasses 93,945 acres within the northwestern corner of western Riverside County and includes the Prado Basin, Santa Ana River, and the Jurupa Mountains (*see Figure 4-2, Rough Step Unit #1*). The Unit is bound by Interstate 91 to the southeast, Cleveland National Forest to the southwest, and Orange and San Bernardino Counties to the west and north, respectively. Only that portion within Criteria Cells is tracked by Rough Step and not all vegetation or land cover within a Rough Step Unit has acreage goals. In Rough Step Unit 1 there are seven vegetation/land cover types, but only three of these have Rough Step acreage goals; coastal sage scrub; grasslands; and riparian scrub, woodland, forest. *Table 4-3, Rough Step Unit 1 Acreage Totals* provides the losses and gains and resulting allowable development acreage for each of the three vegetation communities with acreage goals. Through 2021, a total of 653 acres of conservation has occurred for the three tracked vegetation communities within Rough Step Unit 1. Losses to

this unit total 124 acres, with remaining development allowance as follows: 100 acres of coastal sage scrub, 39 acres of grasslands, and 40 acres of riparian scrub, woodland, forest."

Although the 2022 Annual Report has not been finalized, the remaining development allowance as of the end of 2022 is preliminary as follows: 100 acres of coastal sage scrub, 30 acres of grassland, 29 acres of riparian scrub, woodland, and forest. As of the end of 2022, this unit remains in Rough Step. Baseline vegetation (1994) for the area of the site located within Criteria Cell 621 consists of Developed or Disturbed land only and is not tracked for Rough Step (Exhibit C). Therefore, no additional measures regarding Rough Step are required. Based on the above discussion the proposed project does not conflict with Rough Step.

Other Plan Requirements (MSHCP Volume I)

Section 6.1.2 – Was Riparian/Riverine/Vernal Pool Mapping or Information Provided?

Yes. There are no Riparian/Riverine areas on the project site. There are no vernal pools on the project site, and the soils and topography present on the site do not support habitat considered suitable for fairy shrimp. There is no suitable riparian bird habitat on the project site.

Section 6.1.3 – Was Narrow Endemic Plant Species Survey Information Provided?

Yes. The project site is not located within a Narrow Endemic Plant Species Survey Area.

Section 6.3.2 – Was Additional Survey Information Provided?

Yes. The project site is not located in a Criteria Area Species Survey Area for plants. The project site is not located in Additional Survey Needs and Procedures Areas for burrowing owl, amphibians or small mammals. The project site does not support Delhi sands (Exhibit D) or in areas that would trigger additional review for Delhi sands flower-loving fly.

Section 6.1.4 – Was Information Pertaining to Urban/Wildland Interface Guidelines Provided?

Yes. The property is not located adjacent to existing or proposed conservation areas.

Comments on Other Plan Requirements:

a. **Section 6.1.2.** The following discusses each requirement under this policy.

Riparian/Riverine. The *Report* assessed the project site for riparian/riverine features on September 9, 2022, and February 2, 2023. The project site did not contain any definable riparian/riverine features. There were no indications of hydrology, hydric soils, or hydrophytic vegetation that support riparian/riverine areas. According to the *Report*, riparian/riverine resources are absent from the site.

Vernal Pools/Fairy Shrimp. According to the *Report* the project site lacks the soils and hydrology to support vernal pools. There was no onsite evidence of clay soils, hardpan, bedrock or other impermeable soils observed that support vernal pool features. No evidence of vernal pools, seasonal depressions,

seasonally inundated road ruts or other wetland features that would support fairy shrimp were observed on site. Due to the absence of suitable fairy shrimp habitat, focused surveys were deemed unwarranted.

Riparian Birds. According to the *Report*, vegetation present on the site includes ornamental trees. Therefore, due to the absence of riparian/riverine features and suitable habitat that would support riparian birds, they are considered absent from the site. Therefore, focused surveys were not warranted.

Based on the information provided in the *Report*, the project demonstrates consistency with Section 6.1.2 of the MSHCP.

b. **Section 6.1.3 NEPSSA Plants**. The project site is not located within a Narrow Endemic Plant Species Survey Area.

Based on the information provided in the *Report*, the project demonstrates consistency with Section 6.1.3 of the MSHCP.

c. **Section 6.3.2. Additional Survey Needs and Procedures.** The project site is not located in a Criteria Area Species Survey Area for plants. The project site is not located in Additional Survey Needs and Procedures Areas for burrowing owl, amphibians or small mammals.

Based on the information provided in the *Report*, the project demonstrates consistency with Section 6.3.2 of the MSHCP.

d. **Section 6.1.4. Urban/Wildlands Interface Guidelines.** Although the project site is not adjacent to or connected to any MSHCP Conservation Areas, the guidelines contained in Section 6.1.4 related to controlling adverse effects for development adjacent to the MSHCP Conservation Area should be considered by the Permittee in their actions relative to the project. Therefore, the Permittee should include the following measures as project conditions of approval, as applicable:

SECTION 6.1.4 MEASURE.

i. **Incorporate measures to control the quantity and quality of runoff from the site entering the MSHCP Conservation Area. In particular, measures shall be put in place to avoid discharge of untreated surface runoff from developed and paved areas into MSHCP Conservation Areas. Best Management Practices (BMPs) will be implemented to prevent the release of toxins, chemicals, petroleum products, exotic plant materials, or other elements that might degrade or harm downstream biological resources or ecosystems.**

ii. **Land uses proposed in proximity to the MSHCP Conservation Area that use chemicals or generate bioproducts, such as manure, that are potentially toxic or may adversely affect wildlife species, Habitat, or water quality shall incorporate measures to ensure that application of such chemicals does not result in discharge to the MSHCP Conservation Area. The greatest risk is from landscaping fertilization overspray and runoff.**

iii. **Night lighting shall be directed away from the MSHCP Conservation Area and the avoided area on site to protect species from direct night lighting.**

iv. **Proposed noise-generating land uses affecting the MSHCP Conservation Area, including designated avoidance areas, shall incorporate setbacks, berms, or walls to minimize the effects of noise on MSHCP Conservation Area resources pursuant to applicable rules, regulations, and guidelines related to land use noise standards.**

v. **Avoid use of invasive, non-native plant species listed in Table 6-2 of the MSHCP in approving landscape plans for the portions of the project that are adjacent to the MSHCP Conservation Area, including avoidance areas. Considerations in reviewing the applicability of this list shall include proximity of planting areas to the MSHCP Conservation Areas and designated avoidance areas, species considered in the planting plans, resources being protected within the MSHCP Conservation Area and their relative sensitivity to invasion, and barriers to plant and seed dispersal, such as walls, topography, and other features.**

vi. **Proposed land uses adjacent to the MSHCP Conservation Area shall incorporate barriers, where appropriate, in individual project designs to minimize unauthorized public access, domestic animal predation, illegal trespass, or dumping into existing and future MSHCP Conservation Areas. Such barriers may include native landscaping, rocks/boulders, fencing, walls, signage, and/or other appropriate mechanisms.**

vii. **Manufactured slopes associated with proposed site development shall not extend into the MSHCP Conservation Area.**

viii. **Weed abatement and fuel modification activities are not permitted in the Conservation Area, including designated avoidance areas.**

Based on the information provided in the *Report*, the project demonstrates consistency with Section 6.1.4 of the MSHCP.

e. **Appendix C**. The following best management practices (BMPs), as applicable, shall be implemented for the duration of construction:

APPENDIX C MEASURE.

i. **A condition shall be placed on grading permits requiring a qualified biologist to conduct a training session for project personnel prior to grading. The training shall include a description of the species of concern and its habitats, the general provisions of the Endangered Species Act (Act) and the MSHCP, the need to adhere to the provisions of the Act and the MSHCP, the penalties associated with violating the provisions of the Act, the general measures that are being**

implemented to conserve the species of concern as they relate to the project, and the access routes to and project site boundaries within which the project activities must be accomplished.

ii. Water pollution and erosion control plans shall be developed and implemented in accordance with RWQCB requirements.

iii. The footprint of disturbance shall be minimized to the maximum extent feasible. Access to sites shall be via pre-existing access routes to the greatest extent possible.

iv. The upstream and downstream limits of projects disturbance plus lateral limits of disturbance on either side of the stream shall be clearly defined and marked in the field and reviewed by the biologist prior to initiation of work.

v. Projects should be designed to avoid the placement of equipment and personnel within the stream channel or on sand and gravel bars, banks, and adjacent upland habitats used by target species of concern.

vi. Projects that cannot be conducted without placing equipment or personnel in sensitive habitats should be timed to avoid the breeding season of riparian species identified in MSHCP Global Species Objective No. 7.

vii. When stream flows must be diverted, the diversions shall be conducted using sandbags or other methods requiring minimal instream impacts. Silt fencing of other sediment trapping materials shall be installed at the downstream end of construction activity to minimize the transport of sediments off site. Settling ponds where sediment is collected shall be cleaned out in a manner that prevents the sediment from reentering the stream. Care shall be exercised when removing silt fences, as feasible, to prevent debris or sediment from returning to the stream.

viii. Equipment storage, fueling, and staging areas shall be located on upland sites with minimal risks of direct drainage into riparian areas or other sensitive habitats. These designated areas shall be located in such a manner as to prevent any runoff from entering sensitive habitat. Necessary precautions shall be taken to prevent the release of cement or other toxic substances into surface waters. Project related spills of hazardous materials shall be reported to appropriate entities including but not limited to applicable jurisdictional city, FWS, and CDFG [CDFW], RWQCB and shall be cleaned up immediately and contaminated soils removed to approved disposal areas.

ix. Erodible fill material shall not be deposited into water courses. Brush, loose soils, or other similar debris material shall not be stockpiled within the stream channel or on its banks.

x. **The qualified project biologist shall monitor construction activities for the duration of the project to ensure that practicable measures are being employed to avoid incidental disturbance of habitat and species of concern outside the project footprint.**

xi. **The removal of native vegetation shall be avoided and minimized to the maximum extent practicable. Temporary impacts shall be returned to pre-existing contours and revegetated with appropriate native species.**

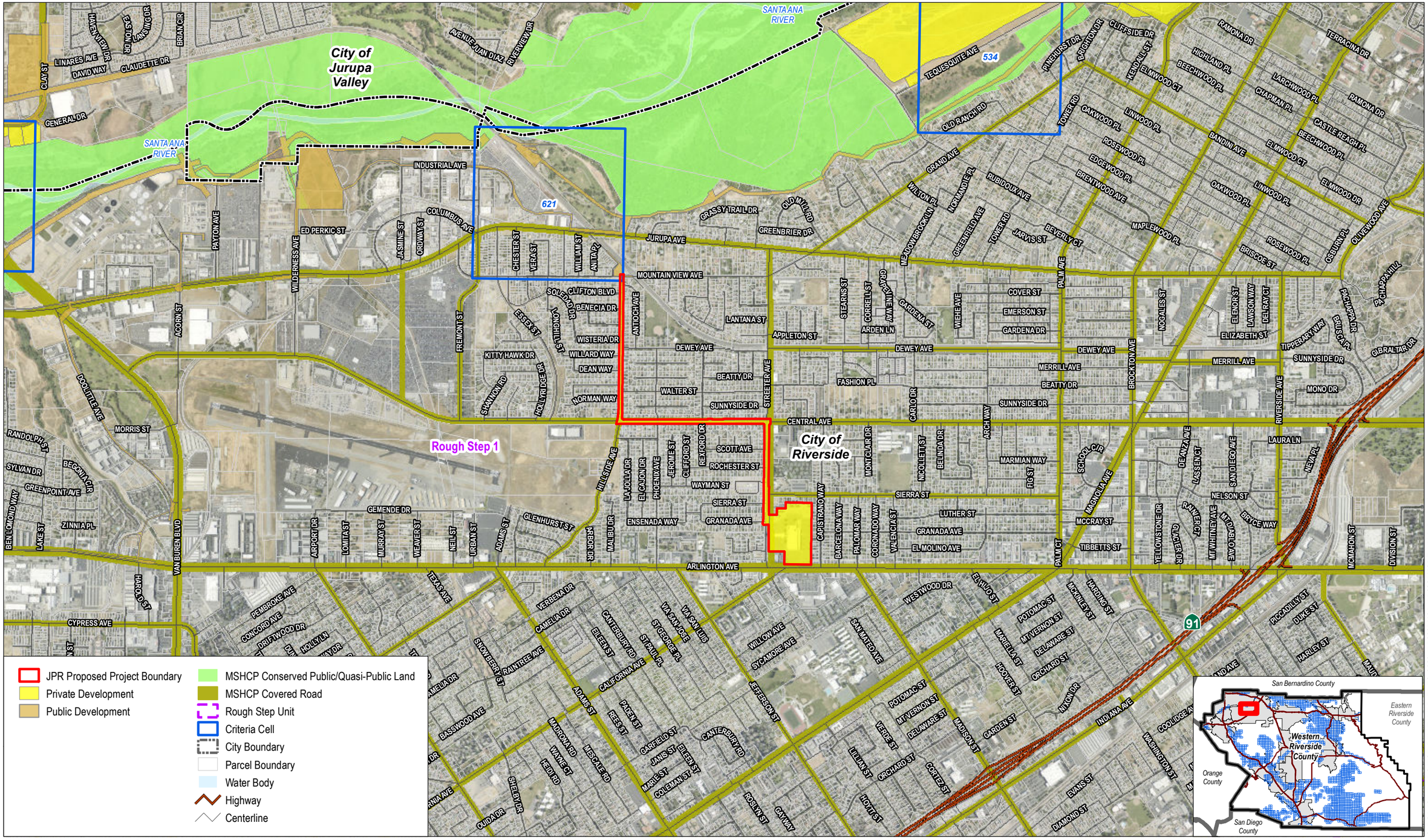
xii. **Exotic species that prey upon or displace target species of concern should be permanently removed from the site to the extent feasible.**

xiii. **To avoid attracting predators of the species of concern, the project site shall be kept as clean of debris as possible. All food related trash items shall be enclosed in sealed containers and regularly removed from the site(s).**

xiv. **Construction employees shall strictly limit their activities, vehicles, equipment, and construction materials to the proposed project footprint and designated staging areas and routes of travel. The construction area(s) shall be the minimal area necessary to complete the project and shall be specified in the construction plans. Construction limits will be fenced with orange snow screen. Exclusion fencing should be maintained until the completion of all construction activities. Employees shall be instructed that their activities are restricted to the construction areas.**

xv. **The Permittee shall have the right to access and inspect any sites of approved projects including any restoration/enhancement area for compliance with project approval conditions, including these BMPs.**

CT



SOURCE: Western Riverside County Regional Conservation Authority 2023; County of Riverside 2023; Esri Basemap 2023. Map created on 5/16/2023.

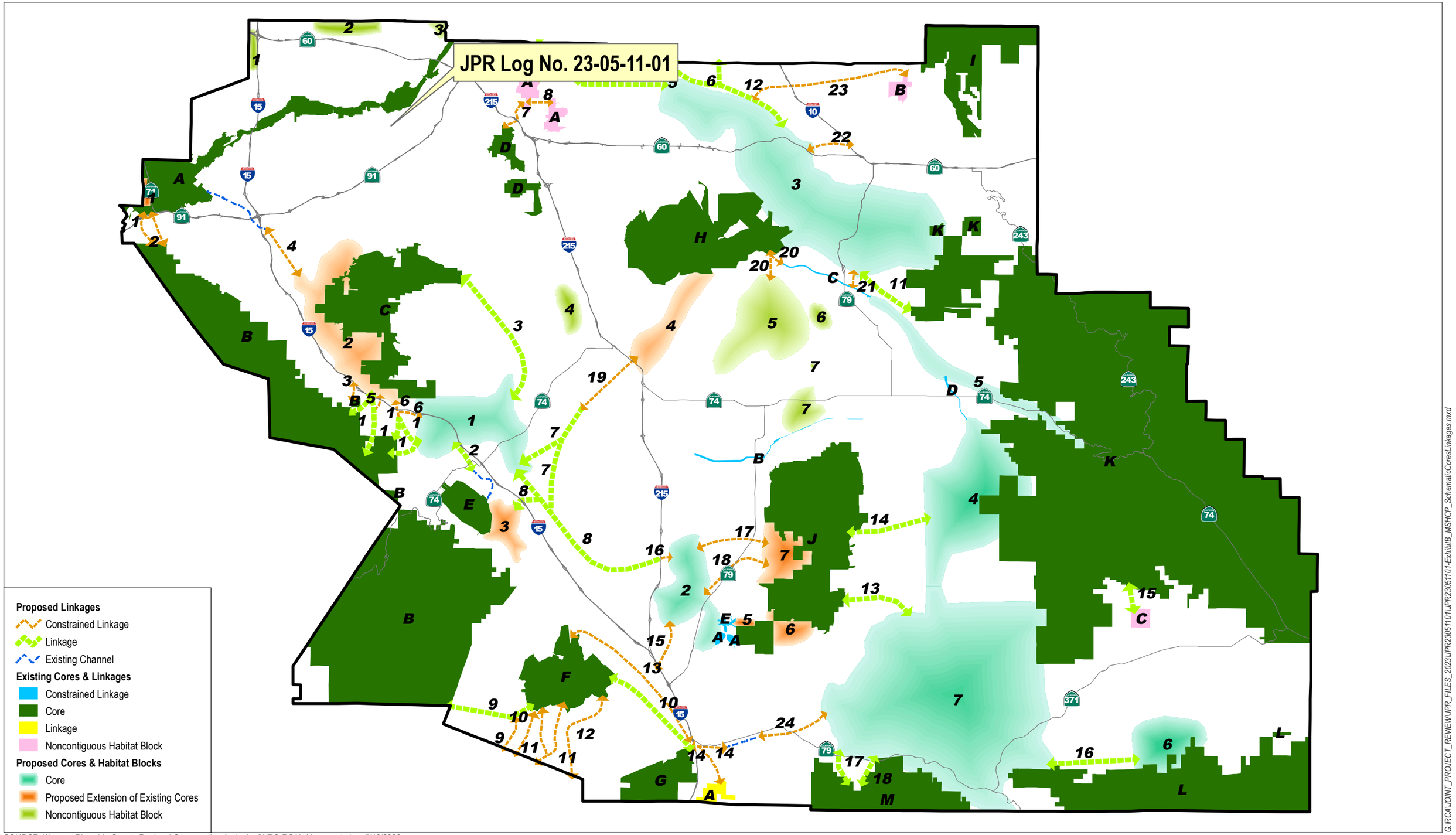
Regional Conservation Authority
Western Riverside County

r14523
Permittee: City of Riverside
PR-2022-001252 / Arlington Mixed Use Development

0 1,000 2,000 Feet

EXHIBIT A

JPR Log No. 23-05-11-01 - Regional



SOURCE: Western Riverside County Regional Conservation Authority (WRC-RCA). Map created on 5/16/2023

Regional Conservation Authority
Western Riverside County

r14523
Permittee: City of Riverside
PR-2022-001252 / Arlington Mixed Use Development

0 2 4 Miles

EXHIBIT B

JPR Log No. 23-05-11-01 - Vicinity Map with MSHCP Schematic Cores and Linkages

SOURCE: WRC-RCA MSHCP Baseline Vegetation (1994). Map created on 5/16/2023.

Regional Conservation Authority
Western Riverside County

r14523
Permittee: City of Riverside
PR-2022-001252 / Arlington Mixed Use Development

0 500 1,000 Feet

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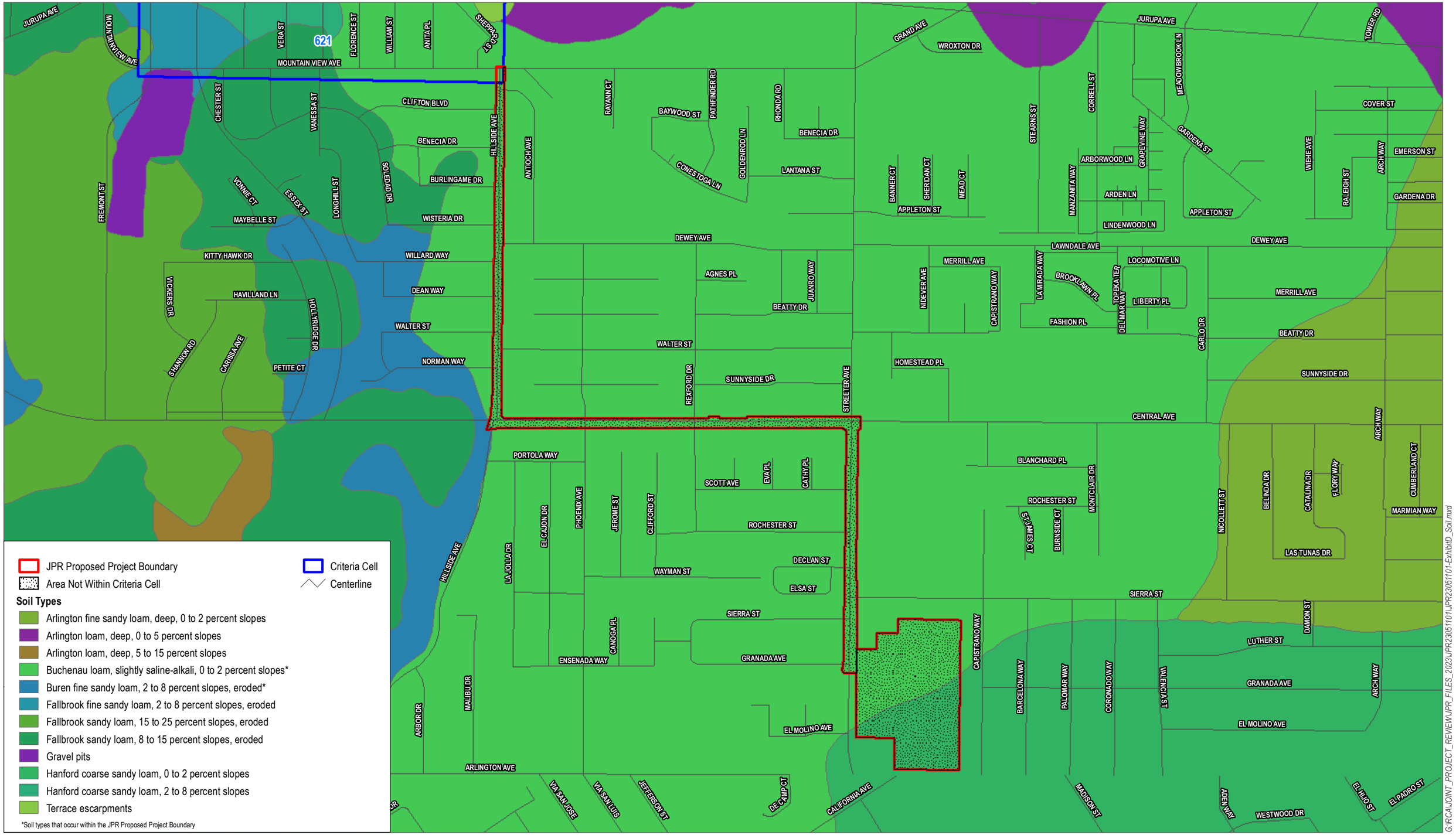
EXHIBIT C

JPR Log No. 23-05-11-01 - MSHCP 1994 Baseline Vegetation



SOURCE: Western Riverside County Regional Conservation Authority 2023; County of Riverside 2023; USDA/NRCS Soils 2020

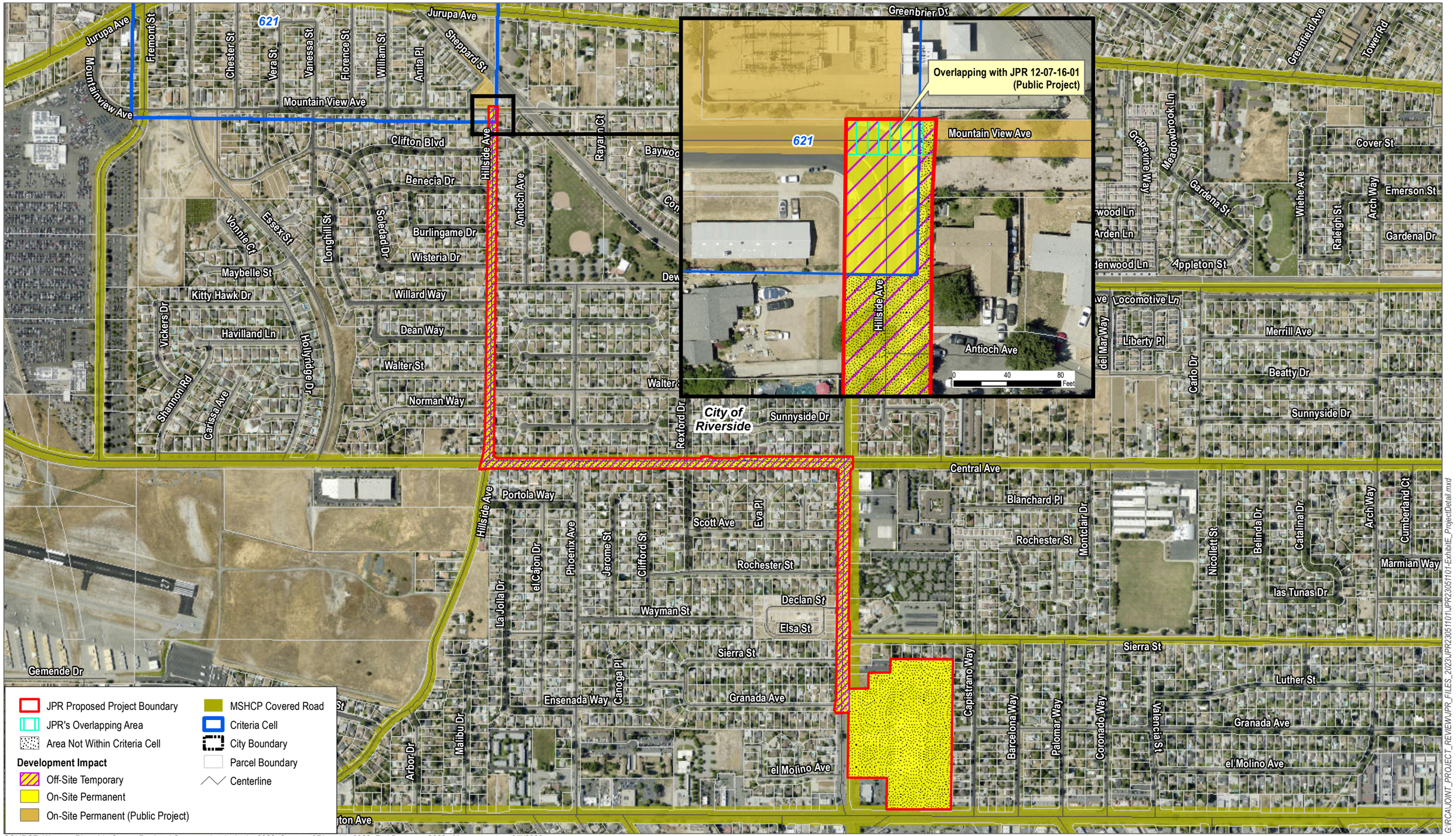
Regional Conservation Authority
Western Riverside County

r14523
Permittee: City of Riverside
PR-2022-001252 / Arlington Mixed Use Development

0 500 1,000 Feet

EXHIBIT D

JPR Log No. 23-05-11-01 - Soil



SOURCE: Western Riverside County Regional Conservation Authority 2023; County of Riverside 2023; Esri Basemap 2023. Map created on 6/7/2023.

Regional Conservation Authority
Western Riverside County

r14523
Permittee: City of Riverside
PR-2022-001252 / Arlington Mixed Use Development

0 500 1,000 Feet

EXHIBIT E

JPR Log No. 23-05-11-01 - Project Detail

INTIAL STUDY – APPENDIX B

GEOLOGICAL RESOURCES

Geotechnical Investigation

ALTA-A

ALTA CALIFORNIA
GEOTECHNICAL INC.

170 North Maple Street, Suite 108
Corona, CA 92880
www.altageotechnical.com

FOULGER-PRATT
136 Calle de Los Molinos
San Clemente, CA 92672

February 24, 2020
Proposal No. 1-0312

Attention: Mr. Jim Ivory

Subject: **GEOTECHNICAL INVESTIGATION**
5261 Arlington Avenue
City of Riverside, California

References: See Appendix A

Dear Mr. Ivory:

Alta California Geotechnical, Inc. (Alta) is pleased to present this geotechnical investigation for the proposed residential and retail development located at 5261 Arlington Avenue, in the City of Riverside, California. This report is based on a recent subsurface investigation conducted by Alta, laboratory testing, and review of the referenced reports and the Site Plan (enclosed Plate 1).

Alta's review of the data and site plan indicates that the proposed development is feasible, from a geotechnical perspective, provided that the recommendations presented in this report are incorporated into the grading and improvement plans and implemented during site development.

Also included in this report are:

- Discussion of the site geotechnical conditions;
- Recommendations for remedial and site grading, including unsuitable soil removals;
- Geotechnical site construction recommendations;
- Foundation design parameters.

If you have any questions or should you require any additional information, please contact the undersigned at (951) 509-7090. Alta appreciates the opportunity to provide geotechnical consulting services for your project.

Sincerely,
Alta California Geotechnical, Inc.

FERNANDO RUIZ
Civil Engineering Associate

JAMES B. COYNE
Engineering Geology Associate

Reviewed By:

SCOTT A. GRAY/RGE 2857
Reg. Exp.: 12-31-20
Registered Geotechnical Engineer
Vice President

REGISTERED PROFESSIONAL ENGINEER
SCOTT A. GRAY
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GEOTECHNICAL
STATE OF CALIFORNIA

THOMAS J. MCCARTHY/CEG 2080
Reg. Exp.: 9-30-20
Certified Engineering Geologist
Vice President

CERTIFIED ENGINEERING GEOLOGIST
THOMAS J. McCARTHY
No. CEG 2080
Exp. 9-30-20
STATE OF CALIFORNIA

Distribution: (1) Addressee

SAG:-1-0312, February 24th, 2020 (Geo Investigation, 5261 Arlington Avenue, Riverside)

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1.0 INTRODUCTION

The following report presents Alta's findings, conclusions, and geotechnical recommendations for the proposed residential and retail development located at 5261 Arlington Avenue, in the City of Riverside, California.

1.1 Purpose

The purpose of this report is to examine the existing onsite geotechnical conditions and assess the impacts that the geotechnical conditions may have on the proposed development. The property is depicted on the enclosed Site Plan (Plate 1). This report is suitable for use in developing grading plans and engineer's cost estimates.

1.2 Scope of Work

Alta's *Scope of Work* for this geotechnical investigation included the following:

- Reviewing the referenced reports and air photos (Appendix A);
- Site geologic mapping;
- Excavating, logging, and sampling twelve (12) hollow-stem auger borings to a maximum depth of 51.5-feet below the existing surface (Appendix B);
- Conducting laboratory testing on samples obtained during our investigation (Appendix C);
- Performing an infiltration study to provide an assessment of the infiltration characteristics of the onsite soil and their impact on storm water disposal;
- Evaluating engineering geologic and geotechnical engineering data, including laboratory data, to develop recommendations for site remedial grading including specialized grading techniques for unsuitable soil removals along the property boundary, import soil, foundations and utilities;
- Preparing this report and accompanying exhibits.

1.3 Report Limitations

The conclusions and recommendations presented in this report are based on the field and laboratory information generated during this investigation, and a review of the referenced reports. The information contained in this report is intended to be used for development of grading plans and preliminary construction cost estimates.

2.0 PROJECT DESCRIPTION

2.1 Site Location and Existing Conditions

The irregular-shaped site is located on the northeast corner of Arlington Avenue and Streeter Avenue in Riverside at an elevation of approximately 775 feet above sea level. There is a former Sears structure and associated parking lot onsite. The site is bounded to the south by Arlington Avenue, to the west by Streeter Avenue, and to the east and north by residential developments.

Review of vintage air photos (Historic Aerials, 2020) indicates that the current development was constructed after 1948 but before 1966. In 1948, a few small structures were present near the western boundary with the site mainly used for agriculture. By 1966, the current development was completed, and the site has remained largely unchanged.

2.2 Proposed Development

Based on our review of the Site Plan, the existing structures and parking lot will be demolished, and 18 multi-story residential structures, 2 retail structures, one pool/pool house and associated improvements will be developed. Alta anticipates that remedial grading will be required to develop the site to support the proposed structures with shallow foundations and reinforced concrete slabs-on-grade. Significant height slopes are not anticipated for the project.

3.0 SITE INVESTIGATION

3.1 Investigation and Laboratory Testing

Alta conducted a subsurface investigation on January 28 and 29, 2020, consisting of the excavation, logging and select sampling of twelve (12) hollow-stem auger borings. The locations of the borings are shown on enclosed Plate 1 and the boring logs are presented in Appendix B.

Laboratory testing was performed on bulk and ring samples obtained during the field investigation. A brief description of the laboratory test procedures and the test results are presented in Appendix C.

3.2 Infiltration Testing

It is Alta's understanding that the project may utilize infiltration systems for storm water disposal. Details of the system are not known at this time.

Infiltration testing was undertaken using three (3) borings, P-1 and P-2 which were five (5) feet in depth and P-3 which was ten (10) feet in depth. The testing was performed on January 30, 2020 in general accordance with the County of Riverside WQMP standards. The three test wells were presoaked, and water level readings were recorded every 30 minutes. During the test, the borings were filled with water and measured every 30 minutes until the readings stabilized.

The data was then adjusted to provide an infiltration rate utilizing the Porchet Method. The resulting infiltration rates for P-1, P-2 and P-3 are presented in Table 3-1. The results do not include a factor of safety. Recommendations for infiltration BMP design are presented in Section 6.2.

Table 3-1-Summary of Infiltration Testing (No Factor of Safety)			
Test Designation	P-1	P-2	P-3
Approximate Depth of Test	5 ft	5 ft	10 ft
Time Interval	30 minutes	30 minutes	30 minutes
Radius of Test Hole	4 inches	4 inches	4 inches
Tested Infiltration Rate	0.0 (in/hr)	0.1 (in/hr)	0.1 (in/hr)

4.0 GEOLOGIC CONDITIONS

4.1 Geologic and Geomorphic Setting

Regionally, the site is located in the Peninsular Ranges geomorphic province, which characterizes the southwest portion of southern California. The Peninsular Ranges province is composed of plutonic and metamorphic rock, lesser amounts of Tertiary volcanic and sedimentary rock, and Quaternary drainage in-fills and sedimentary veneers.

4.2 Stratigraphy

Based on our literature review and subsurface investigation, the site is underlain by undocumented artificial fill, and young and old alluvial fan deposits. These geologic units are briefly described below.

4.2.1 Artificial Fill - Undocumented (map symbol afu)

The undocumented artificial fill observed at the site consists mainly of brown silt, clayey silt, and sandy silt in a dry to slightly moist, moderately firm to very stiff condition. The unit was logged to a depth of 2 to 6.5 feet below the ground surface and is underlain by young and old alluvial fan deposits.

4.2.2 Young Alluvial Fan Deposits (map symbol Qyf)

The young alluvial deposits observed at the site consist mainly of light brown, brown, and tannish brown silty clay, clayey silt, sandy silt, and

sand, in a dry to slightly moist, firm to very stiff/dense condition. The unit was logged to a depth of 20 feet below the ground surface and is underlain by old alluvial fan deposits.

4.2.3 Old Alluvial Fan Deposits (map symbol Qof)

The old alluvial deposits observed at the site consist mainly of gray, tan, light brown, and brown clayey sand, silty sandy, sand, and gravelly sand, in a dry to wet, medium dense to very dense condition. The unit was logged to a depth of 51.5 feet below the ground surface.

4.3 Geologic Structure

4.3.1 Tectonic Framework

Jennings and Bryant (2010, 1985) defined eight structural provinces within California that have been classified by predominant regional fault trends and similar fold structure. These provinces are in turn divided into blocks and sub-blocks that are defined by "major Quaternary faults." These blocks and sub-blocks exhibit similar structural features. Within this framework, the subject site is located within Structural Province I, which is controlled by the dominant northwest trend of the San Andreas Fault and is divided into two blocks, the Coast Range Block and the Peninsular Range Block. The Peninsular Range Block, on which this site is located, is characterized by a series of parallel, northwest trending faults that exhibit right lateral dip-slip movement. These faults are terminated by the Transverse Range block to the north and extend southward into the Baja Peninsula. These northwest trending faults divide the Peninsular Range block into eight sub-blocks. The site is located on the Riverside sub-block, one of the eight sub-blocks, and it is bounded on the west by the Elsinore fault zone and on the east by the San Jacinto fault zone.

4.3.2 Regionally Mapped Active Faults

Several large, active fault systems, including the Whittier-Elsinore, the San Jacinto, and the San Andreas occur in the region surrounding the site. These fault systems have been studied extensively and in a large part control the geologic structure of southern California.

4.3.3 Geologic Structure

Based upon our site investigation and literature review, the sediments are of Quaternary, and are not folded, or faulted.

4.4 Groundwater

Groundwater was encountered during our investigation in Borings B-2, B-4, B-7, and B-8 at a depth between 41 to 43 feet below the ground surface, corresponding to an elevation between 732 to 735 feet above sea level. Several nearby groundwater wells exist within a 2-mile radius of the site. Recent groundwater data recorded from state well numbers 02S05W32B001S, 03S05W03F001S, 03S05W08E002S, 03S05W06Q003S, and 03S05W09E001S in October of 2019 indicates that groundwater ranges from 730 to 756 feet above sea level in the area (CDWR, 2020), roughly corresponding to the elevations observed onsite.

4.5 Earthquake Hazards

The subject site is located in southern California, which is a tectonically active area. The type and magnitude of seismic hazards affecting a site are dependent on the distance to the causative fault and the intensity and magnitude of the seismic event. The seismic hazard may be primary, such as surface rupture and/or ground shaking, or secondary, such as liquefaction and/or ground lurching.

4.5.1 Local and Regional Faulting

The site is located on the northern portion of the Riverside sub-block, approximately 10.9 miles west of the San Jacinto Fault zone, 11.9 miles east of the Whittier-Elsinore Fault zone, and 17.5 miles west of the San Andreas Fault Zone.

4.5.2 Surface Rupture

Active faults are not known to exist within the project and a review of Special Publication 42 indicates the site is not within a California State designated earthquake fault zone. Accordingly, the potential for fault surface rupture on the subject site is very low.

4.5.3 Seismicity

Ground shaking hazards caused by earthquakes along other active regional faults do exist. The 2019 California Building Code requires use-modified spectral accelerations and velocities for most structural designs. Seismic design parameters using soil profile types identified in the 2019 California Building Code are presented in Section 7.3.

4.5.4 Liquefaction

Seismic agitation of relatively loose saturated sands, silty sands, and some silts can result in a buildup of pore pressure. If the pore pressure exceeds the overburden stresses, a temporary quick condition known as liquefaction can occur. Liquefaction effects can manifest in several ways including: 1) loss of bearing; 2) lateral spread; 3) dynamic settlement; and 4) flow failure. Lateral spreading has typically been the most damaging mode of failure.

In general, the more recent that a sediment has been deposited, the more likely it will be susceptible to liquefaction. Other factors that must

be considered are: groundwater, confining stresses, relative density, and the intensity and duration of seismically-induced ground shaking.

Groundwater was encountered during our subsurface investigation at a depth approximately 41 to 43 feet below the ground surface. The regional groundwater data indicates that high groundwater levels average 40 below the ground surface (CDWR, 2020). The site is located in a low (old alluvial fan deposits) to high (young alluvial fan deposits) potential liquefaction zones and potential subsidence zones designated by Riverside County per the Riverside County Mapping Portal (RCMP, 2020).

Alta performed a liquefaction analysis utilizing data from the hollow-stem auger borings and laboratory test results. A description of Alta's analysis and calculations are presented in Appendix D of this report. A groundwater level of 40 feet below existing ground surface was assumed in the calculations. The results of our findings are discussed below under the headings of the specific types of liquefaction which can be manifested during seismic shaking. Our liquefaction calculations are presented in Appendix D.

- **Loss of Bearing:**
  Liquefaction can potentially cause foundation bearing failure due to ground softening and near-failure in bearing. Based on the depth to groundwater, the potential for loss of bearing is considered nil.
- **Lateral Spreading:**
  The lateral displacement of surficial blocks of sediment can occur as a result of liquefaction in a subsurface layer. The most pervasive forms of lateral spreading typically involve sites located near a "free-face" (large slopes, channels, etc.), however, it has

been noted that lateral spreading can occur on sites with gently sloping (1% or more) ground, such as the subject site.

Determination of the potential for lateral spread is based on the presence of continuous potentially liquefiable soil layers underneath the structures, the presence of lateral confinement, and various analyses such as empirical modeling. Bartlett, Hansen and Youd (2002) states that surface manifestation of lateral spread is typically limited to sites with liquefiable soils within 10 meters (32 feet) of grade, and that sites underlain by soils with $(N1)_{60}$ values 15 and greater do not experience significant displacements from earthquakes with magnitudes less than 8.

Based on the depth to groundwater and the density of the deposits onsite, the potential for lateral spread is considered nil.

- **Settlement:**

  Settlement due to seismic shaking can occur as a result of both liquefaction of saturated sediments or rearrangement of dry sand particles. Our liquefaction analysis was performed utilizing SPT from the hollow-stem auger borings and laboratory test results to analyze the potential amount of settlement. A description of Alta's analysis and calculations are presented in Appendix D of this report. In summary, the analysis showed that the amount of dynamic settlement due to liquefaction is low. Design dynamic settlement parameters are presented in Table 7-1.

- **Flow Failure:**

  Due to the relatively flat nature of the site, and the relatively horizontal deposition of the underlying deposits, the potential for flow failure onsite is considered nil.

4.5.5 Dry Sand Settlement

Dry sand settlement is the process of non-uniform settlement of the ground surface during a seismic event. Based on our subsurface investigation and our removal/recompaction recommendations, the potential for dry sand settlement is anticipated to be low and within foundation design tolerances. Design dynamic settlement parameters are presented in Table 7-1.

5.0 ENGINEERING PROPERTIES AND ANALYSIS

5.1 Materials Properties

Presented herein is a general discussion of the engineering properties of the onsite materials that will be encountered during construction of the proposed project. Descriptions of the soil (Unified Soil Classification System) are presented on the boring logs in Appendix B.

5.1.1 Excavation Characteristics

Based on the data provided from the subsurface investigations, it is our opinion that the majority of the onsite materials possess favorable excavation characteristics such that conventional earth moving equipment can be utilized.

5.1.2 Compressibility

The artificial fill and upper portions of the young alluvial fan deposits and old alluvial fan deposits onsite are considered compressible and unsuitable to support the proposed improvements. Recommended removal depths are presented in Section 6.1.2.

5.1.3 Hydro-Consolidation

Hydro-consolidation is the effect of introducing water into soil that is prone to collapse. Upon loading and initial wetting, the soil structure and apparent strength are altered resulting in almost immediate settlement. That settlement can have adverse impacts on engineered structures, particularly in areas where it is manifested differentially. Differential settlements are typically associated with differential wetting, irregularities in the subsurface soil conditions, or irregular loading patterns.

Based on our laboratory testing (Appendix C), the potential for hydro-collapse onsite is minimal and should be within foundation tolerances upon the completion of the recommended unsuitable soil removals.

5.1.4 Expansion Potential

Expansion index testing was performed on samples taken during our subsurface investigation. Based on the results, it is anticipated that the majority of materials onsite are "low" to "medium" in expansion potential (21≤EI≤90, Appendix C) when tested per ASTM D: 4829.

5.1.5 Earthwork Adjustments

The values presented in Table 5-1 are deemed appropriate for estimating purposes and may be used in an effort to balance earthwork quantities. As is the case with every project, contingencies should be made to adjust the earthwork balance when grading is in-progress and actual conditions are better defined.

TABLE 5-1
Earthwork Adjustment Factors

Geologic Unit	Adjustment Factor Range	Average
Artificial Fill-undocumented	Shrink 10% to 14%	12%
Young and old alluvial fan deposits	Shrink 6% to 10%	8%

5.1.6 Chemical Analyses

Chemical testing was performed on samples of material underlying the proposed site. Soluble sulfate test results indicate that the soluble sulfate concentrations of the soils tested are classified as negligible (Category S0) per ACI 318-14.

Negligible chloride levels were detected in the onsite soils. Resistivity testing conducted as part of this investigation, indicates that the soils are corrosive to buried metals (per Romanoff, 1989). Additional discussions

on corrosion are presented in Section 7.9. Corrosion tests results are presented in Appendix C.

5.2 Engineering Analysis

Presented below is a general discussion of the engineering analysis methods that were utilized to develop the conclusions and recommendations presented in this report.

5.2.1 Bearing Capacity and Lateral Earth Pressures

Ultimate bearing capacity values were obtained using the graphs and formula presented in NAVFAC DM-7.1. Allowable bearing was determined by applying a factor of safety of at least 3 to the ultimate bearing capacity. Static lateral earth pressures were calculated using Rankine methods for active and passive cases. If it is desired to use Coulomb forces, a separate analysis specific to the application can be conducted.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on Alta's findings during our subsurface investigation, the laboratory test results, our staff's previous experience in the area, it is Alta's opinion that the development of the site is feasible from a geotechnical perspective. Presented below are recommendations that should be incorporated into site development and construction plans.

6.1 General Earthwork Recommendations

All grading shall be accomplished under the observation and testing of the project geotechnical consultant in accordance with the recommendations contained herein and the City of Riverside criteria.

6.1.1 Site Preparation

Vegetation, construction debris, and other deleterious materials are unsuitable as structural fill material and should be disposed of off-site

prior to commencing grading/construction. Any septic tanks, seepage pits or wells should be abandoned as per the County of Riverside Department of Health Services.

Existing concrete should be removed prior to the placement of engineered fill. The demolished concrete may be incorporated into compacted, engineered fills after it is crushed to a maximum size of six (6) inches. Prior to placement as engineered fill any protruding steel rebar should be cut from the concrete pieces and disposed of offsite.

Existing asphaltic concrete should be removed prior to the placement of engineered fill. From a geotechnical perspective, this material may be incorporated into compacted, engineered fills after it is crushed to a maximum size of six (6) inches. The crushed asphalt should not be placed under residential structures, but rather, it can be placed in approved non-residential areas, such as streets, parking areas or open space.

These recommendations should be verified by the environmental consultant.

6.1.2 Unsuitable Soil Removals

The undocumented artificial fill and the uppermost portions of the young and old alluvial fan deposits onsite are compressible and as such, are not suitable to support the proposed structures. Accordingly, it is recommended to completely remove the undocumented artificial fills and the highly weathered portions of the underlying young and old alluvial deposits across the site and as close to the property boundaries as possible.

It is anticipated that the upper five (5) to seven (7) feet of existing soils will require removal and recompaction, extending a minimum of five (5)

feet horizontally outside the proposed building envelopes. Removal bottoms should be observed by the Project Geotechnical Consultant to make a final determination that suitable (non-weathered, limited porosity) soils have been exposed. Removal bottoms should be tested to determine that the exposed soils have a minimum relative compaction of 85% of the laboratory maximum density (per ASTM test method D-1557). Both observations and tests must be accomplished to determine that suitable bottoms have been exposed. This recommended removal combined with the foundation recommendations presented in Section 7.1 should provide suitable support for the proposed structures.

For fill areas in streets, in general, a minimum removal and recompaction of two (2) feet is recommended, however all undocumented artificial fill shall be removed and recompacted, which may require deeper removals (see boring logs in Appendix B). For cuts deeper than the two (2) feet in street areas, removals are not required provided all the undocumented artificial fill is removed. Cuts less than the thickness of the undocumented fill should extend down to the fan deposits.

The Project Geotechnical Consultant should observe the removal bottom prior to placing fill. If unsuitable soils such as undocumented artificial fill are exposed upon the completion of the removals recommended above, additional removals may be required. Material removed as part of the unsuitable soil removals can be used as artificial fill, provided it is free of deleterious materials.

6.1.3 Over-excavation of Building Pads

Footings for structures should be underlain by a minimum of two (2) feet of compacted fill. As such, for building pads where unsuitable soil

removals do not provide the minimum depth of compacted fill, or where design grades and/or remedial grading activities create cut/fill transitions, the cut and shallow fill portions of the building pads should be over-excavated during grading and replaced with compacted fill.

6.1.4 Compaction Standards

All fill and processed natural ground shall be compacted to a minimum relative compaction of 90 percent, as determined by ASTM Test Method: D-1557. Fill material should be moisture conditioned to optimum moisture or above, and as generally discussed in Alta's Earthwork Specification Section presented in Appendix F. Compaction shall be achieved with the use of sheepsfoot rollers or similar kneading type equipment. Mixing and moisture conditioning will be required in order to achieve the recommended moisture conditions.

6.1.5 Groundwater/Seepage

It is anticipated that groundwater will not be encountered during construction. It is possible that perched water conditions could be encountered depending on the time of year construction occurs.

6.1.6 Documentation of Removals

All removal/over-excavation bottoms should be observed and approved by the project Geotechnical Consultant prior to fill placement. Consideration should be given to surveying the removal bottoms and undercuts after approval by the geotechnical consultant and prior to the placement of fill. Staking should be provided in order to verify undercut locations and depths.

6.1.7 Treatment of Removal Bottoms

At the completion of removals/over-excavation, the exposed removal bottom should be ripped to a minimum depth of eight (8) inches,

moisture-conditioned to above optimum moisture content and compacted in-place to the project standards.

6.1.8 Fill Placement

After removals, scarification, and compaction of in-place materials are completed, additional fill may be placed. Fill should be placed in eight-inch bulk maximum lifts, moisture conditioned to optimum moisture content or above, compacted and tested as grading/construction progresses until final grades are attained.

6.1.9 Mixing

Mixing of materials may be necessary to prevent layering of different soil types and/or different moisture contents. The mixing should be accomplished prior to and as part of compaction of each fill lift.

6.1.10 Import Soils

Import soils, if necessary, should consist of clean, structural quality, compactable materials similar to the on-site soils and should be free of trash, debris, or other objectionable materials. The project Geotechnical Consultant should be notified not less than 72 hours in advance of the locations of any soils proposed for import. Import sources should be sampled, tested, and approved by the project Geotechnical Consultant at the source prior to the importation of the soils to the site. The project Civil Engineer should include these requirements on plans and specifications for the project.

6.1.11 Utility Trenches

6.1.11.1 Excavation

Utility trenches should be supported, either by laying back excavations or shoring, in accordance with applicable OSHA standards. In general, existing site soils are classified as Soil

Types "B" per OSHA standards. Upon completion of the recommended removals and recompaction, the artificial fill will be classified as Soil Type "B". The Project Geotechnical Consulting should be consulted if geologic conditions vary from what is presented in this report.

6.1.11.2 Backfill

Trench backfill should be compacted to at least 90 percent of maximum dry density as determined by ASTM D-1557. Onsite soils will not be suitable for use as bedding material but will be suitable for use in backfill provided oversized materials are removed. No surcharge loads should be imposed above excavations. This includes spoil piles, lumber, concrete trucks, or other construction materials and equipment. Drainage above excavations should be directed away from the banks. Care should be taken to avoid saturation of the soils. Compaction should be accomplished by mechanical means. Jetting of native soils will not be acceptable.

6.1.12 Backcut Stability

Temporary backcuts, if required during unsuitable soil removals, should be made no steeper than 1:1 without review and approval of the geotechnical consultant. Flatter backcuts may be necessary where geologic conditions dictate and where minimum width dimensions are to be maintained.

Care should be taken during remedial grading operations in order to minimize risk of failure. Should failure occur, complete removal of the disturbed material will be required.

In consideration of the inherent instability created by temporary construction backcuts for removals, it is imperative that grading schedules are coordinated to minimize the unsupported exposure time of these excavations. Once started, these excavations and subsequent fill operations should be maintained to completion without intervening delays imposed by avoidable circumstances. In cases where five-day workweeks comprise a normal schedule, grading should be planned to avoid exposing at-grade or near-grade excavations through a non-work weekend. Where improvements may be affected by temporary instability, either on or offsite, further restrictions such as slot cutting, extending workdays, implementing weekend schedules, and/or other requirements considered critical to serving specific circumstances may be imposed.

6.2 Storm Water Infiltration Systems

Municipalities have been increasing the requirement for onsite storm water infiltration, rather than allowing water to enter storm drain systems. From a geotechnical perspective, allowing storm water to infiltrate the onsite soil in concentrated areas increases the potential for settlement, liquefaction, and water-related damage to structures/improvements, such as wet slabs or pumping subgrade, and should be avoided where possible. If infiltration systems are required on this site, care should be taken in designing systems that control the storm water as much as possible.

Preliminary infiltration testing was conducted at the site as part of this investigation, and the methodology is discussed in 3.2. The resulting infiltration rates for P-1, P-2 and P-3 were calculated to be 0.0-inches per hour, 0.1-inches per hour and 0.1-inches per hour, respectively. The results do not include a factor

of safety. Groundwater was encountered during our investigation ranging between 41 to 43 feet below the ground surface.

The Project Geotechnical Consultant should review the final WQMP design prior to construction.

6.3 Boundary Conditions

The site is bounded to the south by Arlington Avenue, to the west by Streeter Avenue, and to the east and north by residential developments. Construction of retaining/screen walls along these boundaries may require additional geotechnical recommendations concerning unsuitable soil removals and foundation design parameters. Boundary conditions for the project should be reviewed by the Project Geotechnical Consultant as the design progresses.

7.0 DESIGN CONSIDERATIONS

7.1 Structural Design

It is anticipated that multi-story wood-framed residential and retail structures with slab on-grade and shallow foundations will be constructed. Upon the completion of rough grading, finish grade samples should be collected and tested in order to provide specific recommendations as they relate to the individual building pad. These test results and corresponding design recommendations should be presented in a final rough grading report. Final slab and foundation design recommendations should be made based upon specific structure sitings, loading conditions, and as-graded soil conditions.

It is anticipated that the majority of onsite soils will possess "low" to "medium" expansion potential when tested in general accordance with ASTM Test Method D: 4829. For budgeting purposes, the following foundation design requirements for a range of potential expansion characteristics are presented.

7.1.1 Foundations

Foundations may be preliminary designed based on the values presented in Table 7-1 below.

Table 7-1 Foundation Design Parameters*	
Allowable Bearing	2000 lbs/ft^2(assuming a minimum width and embedment of 12-inches).
Lateral Bearing	250 lbs/ft^2 at a depth of 12 inches plus 250 lbs/ft^2 for each additional 12 inches of embedment to a maximum of 2000 lbs/ft^2
Sliding Coefficient	0.30
Differential Settlement	Dynamic: Differential = 1 inches in 40 feet Static: Differential = 0.5 inches in 40 feet

*These values may be increased as allowed by Code to resist transient loads such as wind or seismic. Building code and structural design considerations may govern depth and reinforcement requirements and should be evaluated.

7.1.2 Conventional Slab/Foundation Systems

Based on the onsite soils conditions and information supplied by the 2019 CBC, conventional slab/foundation systems may be designed in accordance with Tables 7-1 and 7-2.

TABLE 7-2 CONVENTIONAL FOUNDATION DESIGN PARAMETERS		
Expansion Potential	***Low***	***Medium***
Soil Category	I	II
Design Plasticity Index	12	20 (Expansive per 2019 CBC)
Minimum Footing Embedment	12 inches*	18 inches*
*The minimum footing embedments presented herein are based on expansion indexes. The structural engineer should determine minimum embedments based on the number of floors supported by the footings, the structural loading, and the requirements of the latest California Building Code.		
Minimum Footing Width	12-inches-The structural engineer should determine the minimum footing width based on loading and the latest California Building Code.	
Minimum Footing Reinforcement	No. 4 rebar, two (2) on top, two (2) on bottom	
Minimum Slab Thickness	4 inches (actual)	
Minimum Slab Reinforcement	No. 3 rebar spaced 18 inches on center, each way	No. 3 rebar spaced 15 inches on center, each way
Under-Slab Requirement	See Section 7.2	
Slab Subgrade Moisture	Minimum of 110 percent of optimum moisture to a depth of 12 inches prior to placing concrete.	Minimum of 120 percent of optimum moisture to a depth of 12 inches prior to placing concrete.
Footing Embedment Adjacent to Swales and Slopes	If exterior footings adjacent to drainage swales are to exist within five (5) feet horizontally of the swale, the footing should be embedded sufficiently to assure embedment below the swale bottom is maintained. Footings adjacent to slopes should be embedded such that at least five- (5) feet is provided horizontally from edge of the footing to the face of the slope.	

7.1.3 Post-Tensioned Slabs/Foundation Design Recommendations

Post-tensioned slabs for the project may be preliminarily designed utilizing the parameters presented in Tables 7-1 and 7-3. The parameters presented herein are based on methodology provided in the Design of Post-Tensioned Slabs-On-Ground, Third Edition, by the Post-Tensioning Institute, in accordance with the 2019 CBC.

TABLE 7-3
POST-TENSION SLAB DESIGN PARAMETERS

Category	Expansion Potential	Minimum Embedment	Edge Lift		Center Lift	
			Em (ft)	Ym (inch)	Em (ft)	Ym (inch)
I	Low	12 inches*	5.4	0.61	9.0	0.26
II	Medium	18 inches*	5.5	1.10	9.0	0.46

Slab Subgrade Moisture

Category I	Minimum 110% of optimum moisture to a depth of 12 inches prior to pouring concrete
Category II	Minimum 120% of optimum moisture to a depth of 12 inches prior to pouring concrete

Embedment*

The minimum footing embedments presented herein are based on expansion indexes. The structural engineer should determine minimum embedments based on the number of floors supported by the footings, the structural loading, and the requirements of the latest California Building Code. If mat slabs are utilized, alternate embedment depths can be provided.

Moisture Barrier

A moisture barrier should be provided in accordance with the recommendations presented in Section 7.2

The parameters presented herein are based on procedures presented in the Design of Post-Tensioned Slabs-On-Ground, Third Edition. No corrections for vertical barriers at the edge of the slab, or for adjacent vegetation have been assumed. The design parameters are based on a Constant Suction Value of 3.9 pF.

7.2 Moisture Barrier

A moisture and vapor retarding system should be placed below the slabs-on-grade in portions of the structure considered to be moisture sensitive and should be capable of effectively preventing the migration of water and reducing the transmission of water vapor to acceptable levels. Historically, a 10-mil plastic membrane, such as Visqueen, placed between two to four inches of clean sand, has been used for this purpose. The use of this system or other systems can be considered, at the discretion of the designer, provided the system reduces the vapor transmission rates to acceptable levels.

7.3 Seismic Design

In accordance with the requirements in Section 11.4.8 of ASCE 7-16 for sites with Site Class D and S1 values greater than 0.2, Alta has performed a site-specific ground motion analysis for the subject project. The analysis was performed in accordance with Chapter 21 of ASCE 7-16, the 2019 CBC, and the 2014 USGS Ground Acceleration Maps. The USGS Unified Hazard Tool (https://earthquake.usgs.gov/hazards/interactive/index.php) and the USGS National Seismic Hazard Map source model was utilized to perform the analysis.

The site class was determined based on the subsurface investigation and published geologic maps in the area in general conformance with Chapter 20 of ASCE 7-16. Based on density of the underlying soil, a Site Class of D was selected (shear wave velocity of 259 m/s).

Probabilistic (MCER) ground motions were determined in accordance with Method 1 of Section 21.2.1 of ACE 7-16. At each spectral response period for which the acceleration was computed, ordinates of the probabilistic ground motion response spectrum were determined as the project of the risk coefficient, CR, and the spectral response acceleration from a 5% damped acceleration response spectrum that has a 2% probability of exceedance within a 50-year period. The site specific MCER was taken as the lesser of the probabilistic and deterministic ground motions.

The design response spectrum was determined per Section 21.3 of ASCE 7-16. Design acceleration parameters were determined per Section 21.4 of ASCE 7-16 and the results are presented in Table A. These parameters should be verified by the structural engineer. Additional parameters should be determined by the structural engineer based on the Occupancy Category of the proposed structures.

TABLE 7-4 Seismic Ground Motion Values 2019 CBC and ASCE 7-16	
Parameter	*Value*
Site Class	D
Site Latitude	33.9476
Site Longitude	-117.4170
Spectral Response Acceleration Parameter, S_S	1.5
Spectral Response Acceleration Parameter, S_1	0.574
Site Coefficient, F_a	1
Site Coefficient, F_v (Per Table 11.4-2 of ASCE 7-16. Site Specific Parameters Govern)	1.7
Site Specific Parameters Per Chapter 21 of ASCE 7-16	
MCE Spectral Response Acceleration Parameter, S_{MS}	1.65
MCE Spectral Response Acceleration Parameter, S_{M1}	1.28
Design Spectral Response Acceleration Parameter, S_{DS}	1.1
Design Spectral Response Acceleration Parameter, S_{D1}	0.85
Peak Ground Acceleration, PGA_M	0.75

7.4 Pool Design Recommendations

It is anticipated that the proposed pool can be designed for medium expansive conditions. Steel reinforcement may be required within the pool shell and should be verified by the pool designer. The pressure from existing soils that will act of the pool walls that can be utilized in pool design is 45 psf/ft for the active condition.

Where pools are to be constructed in proximity to other structures or subjected to transient loads, the effects of those stresses should be considered in the pool

and/or spa design. The pool/spa should be provided with a pressure release valve system below the bottom.

Pool/spa decking shall have a minimum thickness of four (4) inches (actual). Consideration should be given to underlying the decking with at least six (6) inches of three-quarter- (3/4) inch crushed rock (or other non-expansive materials). Backfill for all conduits and any retaining walls shall be compacted to at least 90 percent of maximum density as determined by ASTM: D 1557.

Subgrade soils below the concrete decking shall be moisture-conditioned to a minimum of 120 percent of optimum moisture to a depth of twelve (12) inches prior to placing concrete. The subgrade soils should be shaped to provide a minimum gradient of one (1) percent away from the pool shell and toward a subsurface drainage system. The subsurface drainage system should be designed to collect subsurface water and discharge it into the area drain system.

The outside edges of the decking should be thickened to provide a perimeter beam that is eight- (8) inches wide and twelve- (12) inches deep. Slabs should be reinforced with a minimum of No. 3 bars at twenty-four (24) inches on center, each way, or an equivalent section of welded wire mesh. Final determination of reinforcement requirements is under the purview of the pool designer. The decking should be separated from the pool/spa coping. Expansion joints should be periodically maintained. Deep tool joints, extending at least one-third (1/3) of the thickness of the slab into the slab, should be provided at a maximum spacing of six (6) feet.

7.5 Fence and Garden Walls

Block walls, if used, should be embedded a minimum of 2 feet below the lowest adjacent grade. Construction joints (not more than 20 feet apart) should be

included in the block wall construction. Side yard walls should be structurally separated from the rear yard wall.

7.6 Footing Excavations

Soils from the footing excavations should not be placed in slab-on-grade areas unless properly compacted and tested. The excavations should be cleaned of all loose/sloughed materials and be neatly trimmed at the time of concrete placement. The Project Geotechnical Consultant should observe the footing excavations prior to the placement of concrete to determine that the excavations are founded in suitably compacted material.

7.7 Retaining Walls

Retaining walls should be founded on engineered fill and should be backfilled with granular soils that allow for drainage behind the wall. Foundations may be designed in accordance with the recommendations presented in Table 7-1, above. Unrestrained walls, free to horizontally move 0.0005H (for dense cohesionless backfill), may be designed to resist lateral pressures imposed by a fluid with a unit weight determined in accordance with the Table 7-5 below. The table also presents design parameters for restrained (at-rest) retaining walls. These parameters may be used to design retaining walls that may be considered as restrained due to the method of construction or location (corner sections of unrestrained retaining walls).

TABLE 7-5
Equivalent Fluid Pressures for 90% Compacted Fill (Select Material)

Backfill	Active Pressure (psf/ft)	At-Rest Pressure (psf/ft)
Level	35	55

Per the requirements of the 2019 CBC, the seismic force acting on the retaining walls with backfill exceeding 6-feet in height may be resolved utilizing the formula $16H^2$ lb/lineal ft (H=height of the wall). This force acts at approximately 0.6H

above the base of the wall. The seismic value can be converted as required by the retaining wall engineer. Retaining walls should be designed in general accordance with Section 1807A.2 of the 2019 CBC.

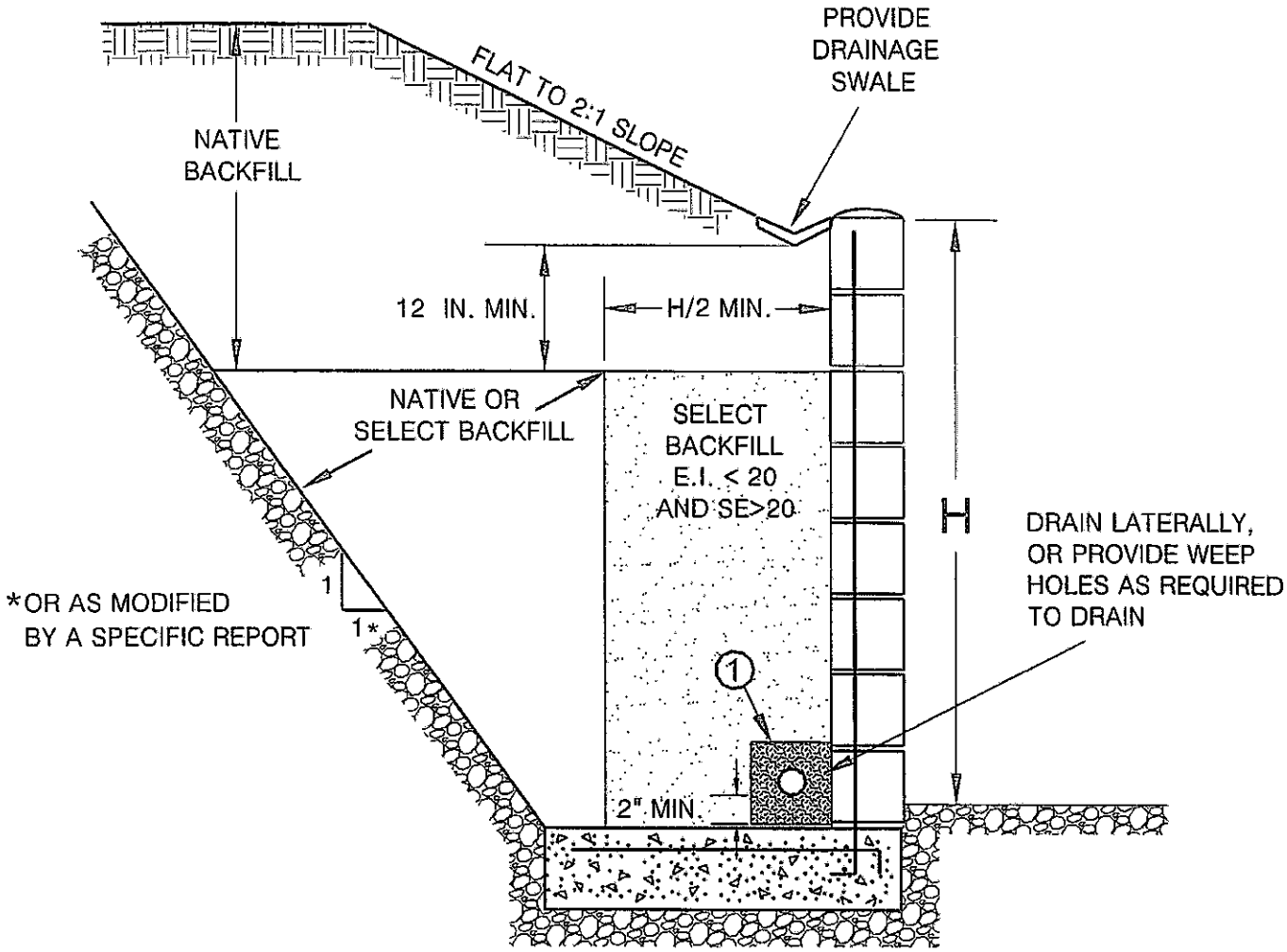
- Restrained retaining walls should be designed for "at-rest" conditions.
- The design loads presented in the above table are to be applied on the retaining wall in a horizontal fashion and as such friction between wall and retained soils should not be allowed in the retaining wall analyses.
- Additional allowances should be made in the retaining wall design to account for the influence of construction loads, temporary loads, and possible nearby structural footing loads.
- Select backfill should be granular, structural quality backfill with a Sand Equivalent of 20 or better and an ASCE Expansion Index of 20 or less. The backfill must encompass the full active wedge area. The upper one foot of backfill should be comprised of native on-site soils (see Plate A).
- The wall design should include waterproofing (where appropriate) and backdrains or weep holes for relieving possible hydrostatic pressures. The backdrain should be comprised of a 4-inch perforated PVC pipe in a 1 ft. by 1 ft., ¾-inch gravel matrix, wrapped with a geofabric. The backdrain should be installed with a minimum gradient of 2 percent and should be outletted to an appropriate location. For subterranean walls this may include drainage by sump pumps.
- No backfill should be placed against concrete until minimum design strengths are achieved.

It should be noted that the allowable bearing and lateral bearing values presented in Table 7-1 are based on level conditions at the toe. Modified design parameters can be presented for retaining walls with sloping condition at the toe. Other conditions should be evaluated on a case by case basis.

7.8 Exterior Slabs and Walkways

Exterior concrete slabs and walkways should be designed and constructed in consideration of the following recommendations.

RETAINING WALL BACKFILL DETAIL



1

PIPE: 4-INCH PERFORATED PVC, SCHEDULE 40, SDR35 OR APPROVED ALTERNATE MINIMUM 8 PERFORATIONS (1/4-IN. DIA.) PER LINEAL FT. IN BOTTOM HALF OF PIPE

ROCK: MINIMUM VOLUME OF 1 CU. FT. OF 3/4-IN. MAX. ROCK PER. LINEAL FOOT OF PIPE, OR APPROVED ALTERNATE

FILTER FABRIC: MIRAFI 140 FILTER FABRIC OR APPROVED EQUIVALENT

ALTA CALIFORNIA GEOTECHNICAL, INC .
VER. 1/10

PLATE A

PATH:S:\Drafting\ALTA GEOTECHNICAL\GRADING DETAILS\PLATE A.dwg

7.8.1 Subgrade Compaction

The subgrade below exterior concrete slabs should be compacted to a minimum of 90 percent relative compaction as determined by ASTM Test Method: D 1557.

7.8.2 Subgrade Moisture

The subgrade below concrete slabs should be moisture conditioned to a minimum of 110 percent of optimum moisture (low expansion) to 120 percent of optimum moisture (medium expansion) prior to concrete placement.

7.8.3 Concrete Slab Thickness

Concrete flatwork and driveways should be designed utilizing four-inch minimum thickness.

7.8.4 Concrete Slab Reinforcement

Utilization of reinforcement for flatwork and driveways is subject to a cost/benefit analysis. Reinforcement will decrease the amount of cracking that may occur in flatwork, however, planning for occasional repairs may be more cost effective. Utilizing closely spaced control joints is likely more cost-effective than utilizing reinforcement. The majority of the soils onsite are classified as low to medium in expansion potential. Consideration should be given to reinforcing flatwork with irregular (non-square/rectangular) shapes.

7.8.5 Control Joints

Weakened plane joints should be installed on walkways at intervals of approximately eight feet (maximum) or less. Exterior slabs should be designed to withstand shrinkage of the concrete.

7.9 Concrete Design

As stated in Section 5.1.6, negligible concentrations of sulfates were detected in the onsite soils (Class S0). Therefore, the use of sulfate resistant concrete is not required per ACI 318-14 at this time. Post-grading conditions should be evaluated and final recommendations made at that time.

7.10 Corrosion

Based on preliminary testing, the onsite soils are corrosive to buried metal objects. Buried ferrous metals should be protected against the effects of corrosive soils in accordance with the manufacturer's recommendations. Typical measures may include using non-corrosive backfill, protective coatings, wrapping, plastic pipes, or a combination of these methods. A corrosion engineer should be consulted if specific design recommendations are required by the improvement designer.

Per ACI 318-14, an exposure class of C1 would be applicable to metals encased in concrete (rebar in footings) due to being exposed to moisture from surrounding soils. Per Table 19.3.2.1 of ACI 318-14, the requirements for concrete with an exposure class of C1 are a minimum compressive strength of 2500 psi and a maximum water-soluble chloride ion content in concrete of 0.30 (percent by weight of cement).

7.11 Pavement Design

Pavement sections for the proposed streets shall be designed based on laboratory testing conducted on samples taken from the soil subgrade. Preliminarily, based on an assumed R-Value of 10, the pavement may be designed utilizing the sections presented in Table 7-6. These sections should be verified upon the completion of grading, based on R-Value testing. The ultimate pavement section design for public streets is under the City of Riverside's purview.

Table 7-6 Preliminary Pavement Sections		
Traffic Index	Pavement Section Options OR	
5.0	3-inch AC on 9-inch AB	4-inch AC on 7-inch AB
5.5	3-inch AC on 11-inch AB	4-inch AC on 8.5-inch AB
6.0	3.5-inch AC on 12-inch AB	4-inch AC on 10.5-inch AB
AC-Asphalt Concrete AB-Caltrans Class II Base		

Construction of the streets should be accomplished in accordance with the current criteria of the City of Riverside. Prior to the placement of base material, the subgrade should be suitably moisture conditioned, processed and compacted to a minimum 95 percent of the laboratory maximum density (ASTM: D 1557) to at least twelve (12) inches below subgrade. After subgrade compaction, the exposed grade should then be "proof"-rolled with heavy equipment to ensure the grade does not "pump" and is verified as non-yielding. Aggregate base material should be placed on the compacted subgrade and compacted in-place to a minimum 95 percent of the laboratory standard obtained per ASTM: D 1557.

7.12 Site Drainage

Positive drainage away from the proposed structures should be provided and maintained. Roof, pad, and lot drainage should be collected and directed away from the structures toward approved disposal areas through drainage terraces, gutters, down drains, and other devices. Design fine grade elevations should be maintained through the life of the structure or if design fine grade elevations are altered, adequate area drains should be installed in order to provide rapid discharge of water, away from structures.

8.0 LOT MAINTENANCE

Ongoing maintenance of the improvements is essential to the long-term performance of structures. As such, the owners must implement certain maintenance procedures. The attached " Maintenance and Improvement Considerations" presented in the Appendix D

may be included as part of the sales packet to educate the owners in issues related to drainage, maintenance, improvements, etc. The following recommendations should also be implemented.

8.1 Lot Drainage

Roof, pad, and lot drainage should be collected and directed away from structures and slopes and toward approved disposal areas. Design fine grade elevations should be maintained through the life of the structure or if design fine grade elevations are altered, adequate area drains should be installed in order to provide rapid discharge of water, away from structures and slopes. Residents should be made aware that they are responsible for maintenance and cleaning of all drainage terraces, down drains, and other devices that have been installed to promote structure and slope stability.

8.2 Burrowing Animals

Owners should undertake a program for the elimination of burrowing animals.

9.0 FUTURE PLAN REVIEWS

This report represents a geotechnical review of the site. As the project design for the project progresses, site specific geologic and geotechnical issues should be considered in the design and construction of the project. Consequently, future plan reviews may be necessary. These reviews may include reviews of:

- Grading Plans
- Foundation Plans
- Utility Plans

These plans should be forwarded to the project Geotechnical Consultant for review.

10.0 CLOSURE

10.1 Geotechnical Review

For the purposes of this report, multiple working hypotheses were established for the project, utilizing the available data and the most probable model is used for the analysis. Future information collected during the proposed grading operations is intended to evaluate the hypothesis and as such, some of the assumptions summarized in this report may need to be changed. Some modifications of the grading recommendations may become necessary, should the conditions encountered in the field differ from the conditions hypothesized in this report.

Plans and sections of the project specifications should be reviewed by Alta to evaluate conformance with the intent of the recommendations contained in this report. If the project description or final design varies from that described in herein, Alta must be consulted regarding the applicability of the recommendations contained herein and whether any changes are required. Alta accepts no liability for any use of its recommendations if the project description or final design varies and Alta is not consulted regarding the alterations.

10.2 Limitations

This report is based on the following: 1) the project as presented on the attached plan; 2) the information obtained from Alta's laboratory testing included herein; and 3) from the information presented in the referenced reports. The findings and recommendations are based on the results of the subsurface investigation, laboratory testing, and office analysis combined with an interpolation and extrapolation of conditions between and beyond the subsurface excavation locations. However, the materials adjacent to or beneath those observed may have different characteristics than those observed, and no precise representations are made as to the quality or extent of the materials not

observed. The results reflect an interpretation of the direct evidence obtained. Work performed by Alta has been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the geotechnical profession currently practicing in the same locality under similar conditions. No other representation, either expressed or implied, and no warranty or guarantee is included or intended.

The recommendations presented in this report are based on the assumption that an appropriate level of field review will be provided by a geotechnical consultant who is familiar with the design and site geologic conditions. That field review shall be sufficient to confirm that geotechnical and geologic conditions exposed during grading are consistent with the geologic representations and corresponding recommendations presented in this report.

The conclusions and recommendations included in this report are applicable to the specific design of this project as discussed in this report. They have no applicability to any other project or to any other location and any and all subsequent users accept any and all liability resulting from any use or reuse of the data, opinions, and recommendations without the prior written consent of Alta.

Alta has no responsibility for construction means, methods, techniques, sequences, procedures, safety precautions, programs in connection with the construction, acts or omissions of the CONTRACTOR or any other person performing any of the construction, or for the failure of any of them to carry out the construction in accordance with the final design drawings and specifications.

APPENDIX A

REFERENCES

APPENDIX A

Selected References

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APPENDIX B

Subsurface Investigation

APPENDIX B

Subsurface Investigation

Alta's subsurface investigation consisted of excavating, logging, and sampling twelve (12) hollow-stem auger borings. Details of the subsurface investigation are presented in Table B-1. The approximate location of the exploratory excavation is shown on the accompanying Concept Design plan (Plate 1) and the Geotechnical Logs are attached.

TABLE B-1
SURFACE INVESTIGATION DETAILS

Equipment	Range of Depths	Sampling Methods	Sample Locations
Hollow-stem auger	Up to 51.5 feet	1. Bulk 2. Ring Samples	1. Bulk-Select Depth 2. Every 5-feet

UNIFIED SOIL CLASSIFICATION SYSTEM

Major Divisions		grf	ltr	Description
Coarse Grained Soils More than 50% retained on No. 200 sieve	Gravel and Gravelly Soils More than 50% of coarse fraction retained on No. 4 sieve		GW	Well-graded gravels or gravel sand mixtures, little or no fines
			GP	Poorly-graded gravels or gravel sand mixture, little or no fines
			GM	Silty gravels, gravel-sand-silt mixtures
			GC	Clayey gravels, gravel-sand-clay mixtures
	Sand and Sandy Soils More than 50% of coarse fraction passes on No. 4 sieve		SW	Well-graded sands or gravelly sands, little or no fines
			SP	Poorly-graded sands or gravelly sands, little or no fines
			SM	Silty sands, sand-silt mixtures
			SC	Clayey sands, and-clay mixtures

Major Divisions		grf	ltr	
Fine Grained Soils More than 50% passes on No. 200 sieve	Silts And Clays LL,<50		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
			OL	Organic silts and organic silt-clays of low plasticity
	Silts And Clays LL,<50		MH	Inorganic silts, micaceous or diatomaceous fine or silty soils, elastic silts
			VH	Inorganic clays of high plasticity, fat clays
			OH	Organic clays of medium to high plasticity
Highly Organic Soils			PT	Peat and other highly organic soils

BOUNDARY CLASSIFICATION: Soils possessing characteristics of two groups are designated by combinations of group symbols.

PARTICLE SIZE LIMITS

U.S. STANDARD SERIES SIEVE: 200, 40, 10, 4

CLEAR SQUARE SIEVE OPENINGS: 3/4", 3", 12"

Silts and Clays	Sand			Gravel		Cobbles	Boulders
	Fine	Medium	Coarse	Fine	Coarse		

RELATIVE DENSITY

Sands and Gravels	Blows/Foot (SPT)
Very Loose	<4
Loose	4-10
Medium Dense	11-30
Dense	31-50
Very Dense	>50

CONSISTENCY CLASSIFICATION

Silts and Clays	Criteria
Very Soft	Thumb penetrates soil >1 in.
Soft	Thumb penetrates soil 1 in.
Firm	Thumb penetrates soil 1/4 in.
Stiff	Readily indented with thumbnail
Very Stiff	Thumbnail will not indent soil

HARDNESS

Bedrock
Soft
Moderately Hard
Hard
Very Hard

LABORATORY TESTS

Symbol	Test
DS	Direct Shear
DSR	Direct Shear
CON	(Remolded)
SA	Sieve Analysis
MAX	Maximum Density
RV	Resistance (R) Value
EI	Expansion Index
SE	Sand Equivalent
AL	Atterberg Limits
CHEM	Chemical Analysis
HY	Hydrometer Analysis

SOIL MOISTURE

Increasing Visual Moisture Content

Dry - Dry to touch

Moist - Damp, but no visible free water

wet - Visible free water

SIZE PROPORTIONS

Trace - <5%

Few - 5 to 10%

Some - 15 to 25%

KEY TO EXPLORATORY BORING LOGS

ALTA CALIFORNIA GEOTECHNICAL INC.

PLATE B

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0312	PROJECT NAME	5261 Arlington		
DATE STARTED	1/28/20	GROUND ELEV.	779	BORING DESIG.	B-01
DATE FINISHED	1/28/20	GW DEPTH (FT)		LOGGED BY	JC
DRILLER	2R	DRIVE WT.	140 lbs.	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
					ML	3" Asphaltic Concrete over 3" of 3/4" Base **ARTIFICIAL FILL-UNDOCUMENTED**(afu): SILT, brown, slightly moist, firm, trace very fine to fine grained sand.				
	775	R	7				8.5	104	38	
5		R	19		ML	**YOUNG ALLUVIAL FAN DEPOSITS**(Qyf): SANDY SILT, very fine grained, brown, slightly moist, very stiff, trace pores.	13.2	114	78	CON, HY
	770									
10		R	20		SP	@10.0ft. SAND, medium to coarse grained, brown, dry, medium dense.	3.6	107	17	
	765									
15		R	22			@15.0ft. very fine to fine grained, tannish brown.	7.5	109	39	
	760									
20		R	37		CL	**OLD ALLUVIAL FAN DEPOSITS**(Qof): SANDY CLAY, very fine grained, gray with orange mottling, slightly moist, very stiff.	23.4	102	99	
	755									
25		R	45		SP	@25.0ft. SAND, fine to coarse grained, tan, dry, dense.	4.2	121	30	
						TOTAL DEPTH 26 FEET NO GROUNDWATER ENCOUNTERED NO CAVING OBSERVED				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

▼ GROUNDWATER
► SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0312

PLATE B-1

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0312	PROJECT NAME	5261 Arlington		
DATE STARTED	1/28/20	GROUND ELEV.	778	BORING DESIG.	B-02
DATE FINISHED	1/28/20	GW DEPTH (FT)	42	LOGGED BY	JC
DRILLER	2R	DRIVE WT.	140 lbs.	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
						3" Asphaltic Concrete over 5" of 3/4" Base				
					ML	**ARTIFICIAL FILL-UNDOCUMENTED**(afu): SILT, brown, slightly moist, firm, trace very fine to fine grained sand.				
	775	R	15				15.6	111	83	
					CL-ML	**YOUNG ALLUVIAL FAN DEPOSITS**(Qyf): SILTY CLAY, brown, slightly moist, very stiff, trace very fine grained sand.				
		B								
5		R	41				15.4	117	98	DSR, MAX, EI, HY, CHEM
	770									
10		R	18		SP	@10ft. SAND, very fine to fine grained, light brown, dry, medium dense.	4.9	109	25	
	765									
15		R	36		SC	**OLD ALLUVIAL FAN DEPOSITS**(Qof): CLAYEY SAND, very fine grained, gray, slightly moist, dense, trace calcium carbonates.	15.4	113	88	
	760									
20		R	53		SP	@20.0ft. SAND, medium to coarse grained, dry, dense.	3.3	107	16	
	755									
25		R	46				2.4	102	10	
	750									
30		S	37		SM	@30.0ft. SILTY SAND, medium to coarse grained, dry, dense, trace fine gravel <1/2".				SIEVE HY
	745									
35		S	37							
	740									
						Continued.				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

▼ GROUNDWATER
► SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0312

PLATE B-2

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0312	PROJECT NAME	5261 Arlington		
DATE STARTED	1/28/20	GROUND ELEV.	778	BORING DESIG.	B-02
DATE FINISHED	1/28/20	GW DEPTH (FT)	42	LOGGED BY	JC
DRILLER	2R	DRIVE WT.	140 lbs.	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
		S	54		SP	**OLD ALLUVIAL FAN DEPOSITS**(Qof): Continued; SAND, medium to coarse grained, wet, dense.				SIEVE HY
	735					▼ @42.0ft. GROUNDWATER ENCOUNTERED				
45		S	42							
	730									
50		S	53			@50.0ft. few fine to coarse gravel <3".				
						TOTAL DEPTH 51.5 FEET GROUNDWATER ENCOUNTERED AT 42.0 FEET NO CAVING OBSERVED.				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

▼ GROUNDWATER
► SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0312

PLATE B-2

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0312	PROJECT NAME	5261 Arlington		
DATE STARTED	1/28/20	GROUND ELEV.	777	BORING DESIG.	B-03
DATE FINISHED	1/28/20	GW DEPTH (FT)		LOGGED BY	JC
DRILLER	2R	DRIVE WT.	140 lbs.	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
					ML	3" Asphaltic Concrete over 3" of 3/4" Base **ARTIFICIAL FILL-UNDOCUMENTED**(afu): SANDY SILT, very fine grained, brown, slightly moist, stiff.				
	775	R	10				16.5	109	83	
5		R	30		ML	**YOUNG ALLUVIAL FAN DEPOSITS**(Qyf): SANDY SILT, very fine to fine grained, brown, slightly moist, very stiff.	17.0	112	95	
	770									
10		R	42		ML	**OLD ALLUVIAL FAN DEPOSITS**(Qof): SANDY SILT, very fine grained, tannish gray, dry, stiff, trace pores, trace calcium carbonates.	15.3	93	52	CON, HY
	765									
15		R	41				20.2	107	98	
	760									
20		R	31			@20.0ft. very fine to medium grained, brown, slightly moist, stiff.	8.8	112	49	
	755									
25		R	42		SP	@25.0ft. SAND, fine grained, gray, dry, dense.	2.7	97	10	
						TOTAL DEPTH 26 FEET NO GROUNDWATER ENCOUNTERED NO CAVING OBSERVED				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

GROUNDWATER
SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0312

PLATE B-3

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0312	PROJECT NAME	5261 Arlington		
DATE STARTED	1/29/20	GROUND ELEV.	776	BORING DESIG.	B-04
DATE FINISHED	1/29/20	GW DEPTH (FT)	43	LOGGED BY	JC
DRILLER	2R	DRIVE WT.	140 lbs.	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
	775				ML	3" Asphaltic Concrete over 3" of 3/4" Base **ARTIFICIAL FILL-UNDOCUMENTED**(afu): SANDY SILT, very fine grained, brown, slightly moist, stiff.				
		R	14				16.0	110	84	
5	770	R	31		ML	**OLD ALLUVIAL FAN DEPOSITS**(Qof): SANDY SILT, very fine grained, brown, slightly moist, stiff.	13.1	121	94	DS, HY
10	765	R	33		SP	@10.0ft. SAND, very fine to fine grained, tan, dry, dense, trace fine gravel <1/2".	11.7	101	49	
15	760	R	65		SM	@15.0ft. SILTY SAND, very fine grained, gray, dry, very dense, trace pores.	14.1	116	88	
20	755	R	31		SP	@20.0ft. SAND, very fine to fine grained, light brown with orange mottling, slightly moist, dense.	14.7	101	61	
25	750	R	29				5.0	98	19	
30	745	S	38		SP	@30.0ft. GRAVELLY SAND, coarse grained, tan, dry, dense, fine gravel <1/2".				
35	740	S	39							
						Continued.				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

▼ GROUNDWATER
► SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

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P.N. 1-0312

PLATE B-4

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0312	PROJECT NAME	5261 Arlington		
DATE STARTED	1/29/20	GROUND ELEV.	776	BORING DESIG.	B-04
DATE FINISHED	1/29/20	GW DEPTH (FT)	43	LOGGED BY	JC
DRILLER	2R	DRIVE WT.	140 lbs.	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
	735	S	48		SP	**OLD ALLUVIAL FAN DEPOSITS**(Qof): Continued; orangish tan, wet.				
						@43.0ft. GROUNDWATER ENCOUNTERED.				
45	730	S	65			@45.0ft. fine to coarse gravel <3".				
50	725	S	86							
						TOTAL DEPTH 51.5 FEET GROUNDWATER ENCOUNTERED AT 43.0 FEET NO CAVING OBSERVED.				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

▼ GROUNDWATER
► SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

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P.N. 1-0312

PLATE B-4

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0312	PROJECT NAME	5261 Arlington		
DATE STARTED	1/28/20	GROUND ELEV.	775	BORING DESIG.	B-05
DATE FINISHED	1/28/20	GW DEPTH (FT)		LOGGED BY	JC
DRILLER	2R	DRIVE WT.	140 lbs.	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
	775					Highly Weathered Asphaltic Concrete 3" over 4" of 3/4" Base.				
					ML	@0.7ft. **ARTIFICIAL FILL-UNDOCUMENTED**(afu): SANDY SILT, very fine grained, brown, slightly moist, stiff.				
		R	39		SM	**OLD ALLUVIAL FAN DEPOSITS**(Qof): SILTY SAND, very fine to fine grained, tan, dry, dense, trace pores, trace calcium carbonates.	5.6	113	32	
5	770	R	52		SP	@5.0ft. SAND, fine to coarse grained, grayish brown, dry, dense.	6.5	128	59	
10	765	R	41			@10.0ft. very fine to fine grained, gray, some clay.	7.7	98	29	
15	760	R	48			@15.0ft. grayish brown.	10.2	118	68	
20	755	R	37			@20.0ft. gray, slightly moist, trace clay	18.3	103	80	
25	750	R	37			@25.0ft. fine to medium grained, dry.	2.7			
						TOTAL DEPTH 26 FEET NO GROUNDWATER ENCOUNTERED NO CAVING OBSERVED				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

▼ GROUNDWATER
► SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

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PLATE B-5

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0312	PROJECT NAME	5261 Arlington		
DATE STARTED	1/29/20	GROUND ELEV.	776	BORING DESIG.	B-06
DATE FINISHED	1/29/20	GW DEPTH (FT)		LOGGED BY	JC
DRILLER	2R	DRIVE WT.	140 lbs.	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
	775				ML	3" Asphaltic Concrete over 2" of 3/4" Base **ARTIFICIAL FILL-UNDOCUMENTED**(afu): SANDY SILT, very fine grained, brown, slightly moist, very stiff.				
		R	16				10.9	99	43	
5	770	R	23		ML	**OLD ALLUVIAL FAN DEPOSITS**(Qof): SANDY SILT, very fine to fine grained, grayish tan, dry, firm, few calcium carbonates.	8.2	111	45	
		B								MAX, EI, HY, CHEM
10	765	R	49		SP	@10.0ft. SAND, very fine grained, gray, dry, dense, trace calcium carbonates.	4.0	113	23	
15	760	R	50				7.6	108	38	
20	755	R	51			@20.0ft. fine to medium grained, gray and tan.	2.8	101	12	
25	750	R	64				8.0	107	38	
						TOTAL DEPTH 26 FEET NO GROUNDWATER ENCOUNTERED NO CAVING OBSERVED				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

▼ GROUNDWATER
► SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

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PLATE B-6

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0312	PROJECT NAME	5261 Arlington		
DATE STARTED	1/29/20	GROUND ELEV.	774	BORING DESIG.	B-07
DATE FINISHED	1/29/20	GW DEPTH (FT)	43	LOGGED BY	JC
DRILLER	2R	DRIVE WT.	140 lbs.	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
					ML	3" Asphaltic Concrete over 4" of 3/4" Base **ARTIFICIAL FILL-UNDOCUMENTED**(afu): SANDY SILT, very fine grained, brown, slightly moist, stiff.				
	770	R	13				16.8	109	86	
5		R	17		ML	**YOUNG ALLUVIAL FAN DEPOSITS**(Qyf): SANDY SILT, very fine grained, brown, dry, very stiff.	11.7	114	69	
	765									
10		R	35		CL	**OLD ALLUVIAL FAN DEPOSITS**(Qof): CLAYEY SILT, very fine grained, brown, slightly moist, stiff, trace pores, some calcium carbonates.	15.1	115	91	CON, HY
	760									
15		R	53			@10.0ft. tannish gray, dry, very dense.	19.2	105	89	
	755									
20		R	40		SP	@20.0ft. SAND, very fine grained to fine grained, gray, dry, dense.	14.4	100	58	
	750									
25		R	38			@25.0ft. gray with orange mottling.	7.9	100	32	
	745									
30		S	36		SP	@30.0ft. GRAVELLY SAND, medium to coarse grained, gray, dry, medium dense, fine gravel <3/4".				
	740									
35		S	52		SP	@35.0ft. SAND, very fine to fine grained, grayish tan, dry, dense.				
	735					Continued.				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

▼ GROUNDWATER
► SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0312

PLATE B-7

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0312	PROJECT NAME	5261 Arlington		
DATE STARTED	1/29/20	GROUND ELEV.	774	BORING DESIG.	B-07
DATE FINISHED	1/29/20	GW DEPTH (FT)	43	LOGGED BY	JC
DRILLER	2R	DRIVE WT.	140 lbs.	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
		S	23		SP	**OLD ALLUVIAL FAN DEPOSITS**(Qof): Continued; GRAVELLY SAND, coarse grained, gray, wet, medium dense, fine to coarse gravel <3".				
						▼ @42.5ft. GROUNDWATER ENCOUNTERED.				
	730									
45		S	44			@45.0ft. fine gravel <1/2".				
	725									
50		S	73							
						TOTAL DEPTH 51.5 FEET GROUNDWATER ENCOUNTERED AT 42.5 FEET NO CAVING OBSERVED.				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

▼ GROUNDWATER
► SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0312

PLATE B-7

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0312	PROJECT NAME	5261 Arlington		
DATE STARTED	1/29/20	GROUND ELEV.	774	BORING DESIG.	B-08
DATE FINISHED	1/29/20	GW DEPTH (FT)	41	LOGGED BY	JC
DRILLER	2R	DRIVE WT.	140 lbs.	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
					ML	3" Asphaltic Concrete over 3" of 3/4" Base **ARTIFICIAL FILL-UNDOCUMENTED**(afu): SILT, brown, slightly moist, stiff, trace clay, trace fine grained sand.				
	770	R	10				15.1	108	75	
5		R	26		ML	**YOUNG ALLUVIAL FAN DEPOSITS**(Qyf): CLAYEY SILT, brown, slightly moist, very stiff, trave very fine grained, sand, trace pores.	15.0	116	92	CON, HY
	765	B								
10		R	27			@10.0ft. some very fine to fine grained sand.	19.5	107	95	
	760									
15		R	42		SM	**OLD ALLUVIAL FAN DEPOSITS**(Qof): SILTY SAND, very fine to fine grained, tannish gray, dry, dense, trace clay.	19.0	110	97	
	755									
20		R	29		SP	@20.0ft. SAND, very fine to fine grained, tan with orange mottling, dry, medium dense.	15.2	95	54	
	750									
25		R	54			@25.0ft. coarse grained, gray, dry, very dense, trace fine gravel <1/2".	2.1	101	9	
	745									
30		S	29			@30.0ft. very fine to fine grained, slightly moist, medium dense.				
	740									
35		S	30			@35.0ft. some clay.				
	735					Continued.				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

▼ GROUNDWATER
► SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0312

PLATE B-8

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0312	PROJECT NAME	5261 Arlington		
DATE STARTED	1/29/20	GROUND ELEV.	774	BORING DESIG.	B-08
DATE FINISHED	1/29/20	GW DEPTH (FT)	41	LOGGED BY	JC
DRILLER	2R	DRIVE WT.	140 lbs.	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
		S	35		SP	**OLD ALLUVIAL FAN DEPOSITS**(Qof): Continued;				
						@40.8ft. GRAVELLY SAND, coarse grained, gray, wet, medium dense, fine gravel <3/4".				
						@41.0ft. GROUNDWATER ENCOUNTERED				
	730									
45		S	69			@45.0ft. very dense.				
	725									
50		S	48			@50.0ft. fine to coarse gravel <3".				
						TOTAL DEPTH 51.5 FEET GROUNDWATER ENCOUNTERED AT 41.0 FEET NO CAVING OBSERVED.				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

GROUNDWATER
SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

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P.N. 1-0312

PLATE B-8

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0312	PROJECT NAME	5261 Arlington		
DATE STARTED	1/28/20	GROUND ELEV.	776	BORING DESIG.	B-09
DATE FINISHED	1/28/20	GW DEPTH (FT)		LOGGED BY	JC
DRILLER	2R	DRIVE WT.	140 lbs.	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
						4" Asphaltic Concrete over 4" of 3/4" Base				
	775				ML	**ARTIFICIAL FILL-UNDOCUMENTED**(afu): SILT, brown, dry, firm, trace fine grained sand, trace gravel <3/4".				
		R	14				14.4	108	72	
5	770	R	25			@5.0ft. very stiff.	16.1	112	89	
					ML	**YOUNG ALLUVIAL FAN DEPOSITS**(Qyf): SANDY SILT, fine grained, brown, slightly moist, very stiff, trace clay.				
10	765	R	21				16.8	112	93	
15	760	R	30		SC	@15.0ft.CLAYEY SAND, fine to medium grained, brown with orange mottling, slightly moist, medium dense.	10.5	114	61	
20	755	R	40		SC	**OLD ALLUVIAL FAN DEPOSITS**(Qof): CLAYEY SAND, very fine to fine grained, gray with orange mottling, moist, dense.	26.7	91	87	
25	750	R	84		SP	@25.0ft. SAND, medium to coarse grained, tan, dry, very dense.				
						TOTAL DEPTH 26 FEET NO GROUNDWATER ENCOUNTERED NO CAVING OBSERVED				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

GROUNDWATER
SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

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P.N. 1-0312

PLATE B-9

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0312	PROJECT NAME	5261 Arlington		
DATE STARTED	1/28/20	GROUND ELEV.	774	BORING DESIG.	P-01
DATE FINISHED	1/28/20	GW DEPTH (FT)		LOGGED BY	JC
DRILLER	2R	DRIVE WT.	140 lbs.	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
						3" Asphaltic Concrete over 5" of 3/4" Base				
					ML	**ARTIFICIAL FILL-UNDOCUMENTED**(afu): SANDY SILT, very fine grained, brown, dry, stiff.				
					SM	**OLD ALLUVIAL FAN DEPOSITS**(Qof): SILTY SAND, very fine to fine grained, tan, dry, dense.				
	770									
5						TOTAL DEPTH 5 FEET NO GROUNDWATER ENCOUNTERED NO CAVING OBSERVED				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

GROUNDWATER
SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0312

PLATE B-10

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0312	PROJECT NAME	5261 Arlington		
DATE STARTED	1/29/20	GROUND ELEV.	772	BORING DESIG.	P-02
DATE FINISHED	1/29/20	GW DEPTH (FT)		LOGGED BY	JC
DRILLER	2R	DRIVE WT.	140 lbs.	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
						Highly Weathered Asphaltic Concrete 3" over 4" of 3/4" Base.				
					ML	**ARTIFICIAL FILL-UNDOCUMENTED**(afu): SILT, brown, slightly moist, stiff, trace very fine grained sand.				
	770				SM	@1.0ft. concrete debris				
						OLD ALLUVIAL FAN DEPOSITS(Qof): SILTY SAND, very fine to fine grained, tan, dry, dense.				
5						TOTAL DEPTH 5 FEET NO GROUNDWATER ENCOUNTERED NO CAVING OBSERVED				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

▼ GROUNDWATER
► SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

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P.N. 1-0312

PLATE B-11

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0312	PROJECT NAME	5261 Arlington		
DATE STARTED	1/29/20	GROUND ELEV.	777	BORING DESIG.	P-03
DATE FINISHED	1/29/20	GW DEPTH (FT)		LOGGED BY	JC
DRILLER	2R	DRIVE WT.	140 lbs.	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
					SM	**ARTIFICIAL FILL-UNDOCUMENTED**(afu): SANDY SILT, fine grained, brown, slightly moist, medium dense, with roots.				
	775									
5										
	770				ML	**YOUNG ALLUVIAL FAN DEPOSITS**(Qyf): CLAYEY SILT, brown, moist, firm to stiff.				
10						TOTAL DEPTH 10.0 FEET NO GROUNDWATER ENCOUNTERED NO CAVING OBSERVED				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

▼ GROUNDWATER
► SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

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P.N. 1-0312

APPENDIX C

Laboratory Testing

LABORATORY TESTING

The following laboratory tests were performed on a representative sample in accordance with the applicable latest standards or methods from the ASTM, California Building Code (CBC) and California Department of Transportation.

Classification

Soils were classified with respect to the Unified Soil Classification System (USCS) in accordance with ASTM D-2487 and D-2488.

Particle Size Analysis

Modified hydrometer testing was conducted to aid in classification of the soil. The results of the particle size analysis are presented in Table C.

Maximum Density/Optimum Moisture

The maximum dry density and optimum moisture content of two representative bulk samples were evaluated in accordance with ASTM D-1557. The results are summarized in Table C.

Expansion Index Tests

Two (2) expansion index tests were performed to evaluate the expansion potential of typical on-site soil. Testing was carried out in general conformance with ASTM Test Method D-4829. The results are presented in Table C.

Consolidation Tests

Consolidation testing was performed on four (4) relatively "undisturbed" soil samples at their natural moisture content in accordance with procedures outlined in ASTM D-2435. The samples were placed in a consolidometer and loads were applied incrementally in geometric progression. The samples (2.42-inches in diameter and 1-inch in height) were permitted to consolidate under each load increment until the slope of the characteristic linear secondary compression portion of the thickness versus log of time plot was apparent. The percent consolidation for each load cycle was recorded as the ratio of the amount of vertical

compression to the original 1-inch height. The consolidation test results are shown on Plates C-1 through C-4.

Direct Shear Testing

Direct shear testing in general conformance with ASTM test method D 3080, was performed on one sample remolded to 90% of the maximum density, and on one relatively "undisturbed" sample. The results of these tests are presented on Plates C-5 and C-6.

Sieve Analyses

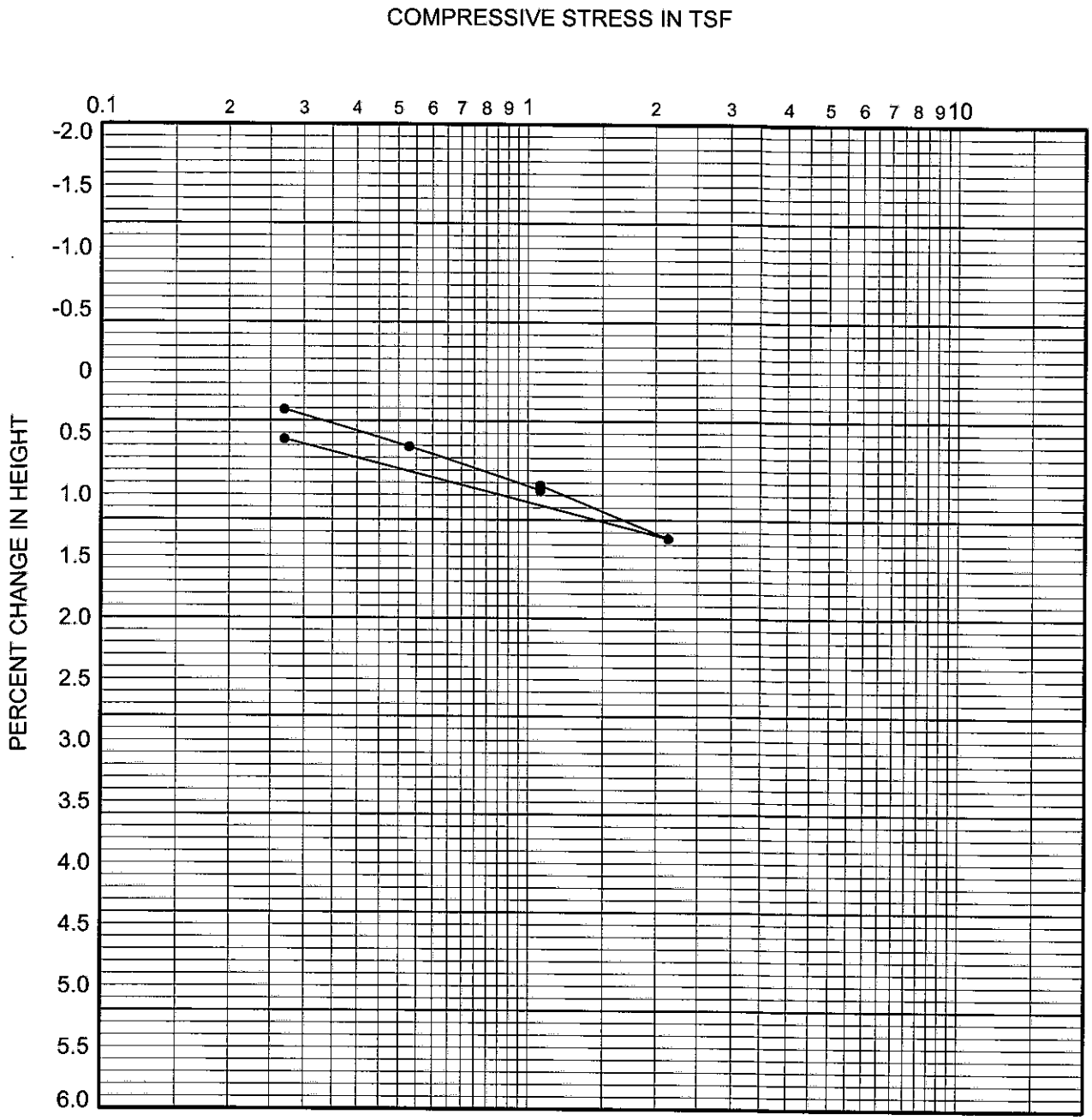
Sieve analysis testing, in general conformance with ASTM test method D 6913, was performed on two select samples. The results of these tests are presented on Plates C-7 and C-8.

Chemical Analyses

Chemical testing was performed on two select samples. The results of these tests (sulfate content, resistivity, chloride content and pH) are presented on Table C.

TABLE C
SUMMARY OF LABORATORY TEST DATA
P.N. 1-0312

BORING	DEPTH (FEET)	SOIL DESCRIPTION	GROUP SYMBOL	MAXIMUM DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	DIRECT SHEAR	PLUS NO.4 SEIVE (plus 4.76mm) (%)	SAND (4.76mm-0.075mm) (%)	SILT (0.075mm-0.005mm) (%)	CLAY (minus 0.005mm) (%)	EXPANSION INDEX UBC 18-2	CONSOL	OTHER TESTS REMARKS
B-01	5	Sandy Silt (Qyf)	ML				0	30	50	20		SEE PLATE C-1	
B-02	4.5	Silty Clay (Qyf)	CL	128.7	9.9	SEE PLATE C-5	1	24	49	26	53		Sulf: ND, Chlor: 15ppm, pH:8.2, Res.: 2500 ohm cm
B-02	30	Silty Sand (Qof)	SM				16	66	12	8			
B-02	40	Sand (Qof)	SP				0	92	4	4			
B-03	10	Sandy Silt (Qof)	ML				0	21	73	6		SEE PLATE C-2	
B-04	5	Sandy Silt (Qof)	ML			SEE PLATE C-6	0	33	40	27			
B-06	8	Sandy Silt (Qof)	ML	126.5	10.3		4	44	30	22	31		Sulf: 110 ppm, Chlor: 15ppm, pH:8.4, Res.: 2200 ohm cm
B-07	10	Clayey Silt (Qof)	ML				0	20	46	34		SEE PLATE C-3	
B-08	5	Clayey Silt (Qyf)	ML				0	20	56	24		SEE PLATE C-4	



boring	depth (ft.)	dry density (pcf)	in situ moist. (%)	in situ satur. (%)	-200 sieve (%)	group symbol	typical names
B-01	5.0	114	13.2	78	70	ML	Sandy Silt (Qyf)

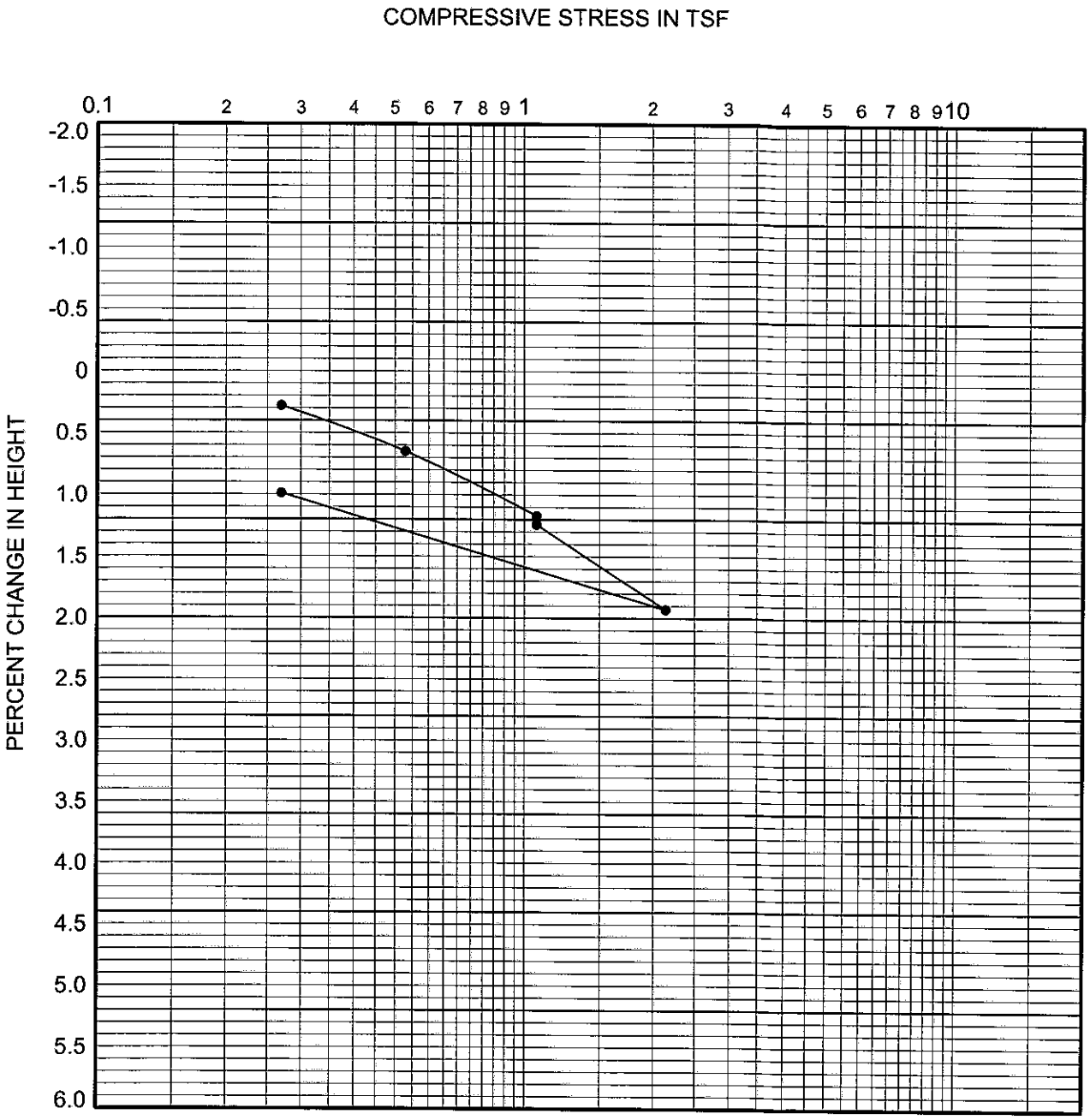
REMARKS: WATER ADDED AT 1.07 TSF

CONSOLIDATION CURVE

Alta California Geotechnical, Inc.

P.N. 1-0312

PLATE C-1



boring	depth (ft.)	dry density (pcf)	in situ moist. (%)	in situ satur. (%)	-200 sieve (%)	group symbol	typical names
B-03	10.0	93	15.3	52	79	ML	Sandy Silt (Qof)

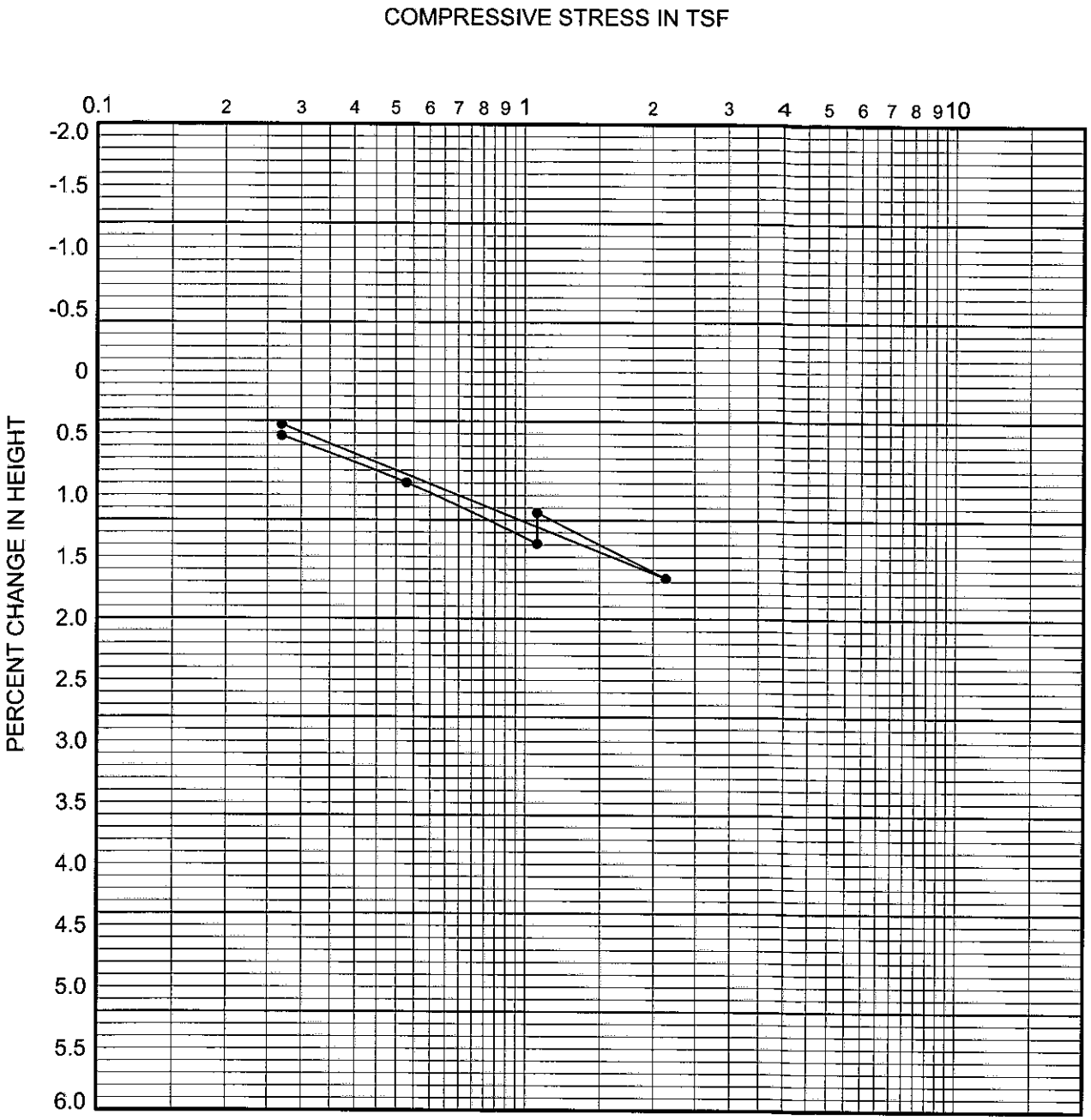
REMARKS: WATER ADDED AT 1.07 TSF

CONSOLIDATION CURVE

Alta California Geotechnical, Inc.

P.N. 1-0312

PLATE C-2



boring	depth (ft.)	dry density (pcf)	in situ moist. (%)	in situ satur. (%)	-200 sieve (%)	group symbol	typical names
B-07	10.0	115	15.1	91	80	ML	Clayey Silt (Qof)

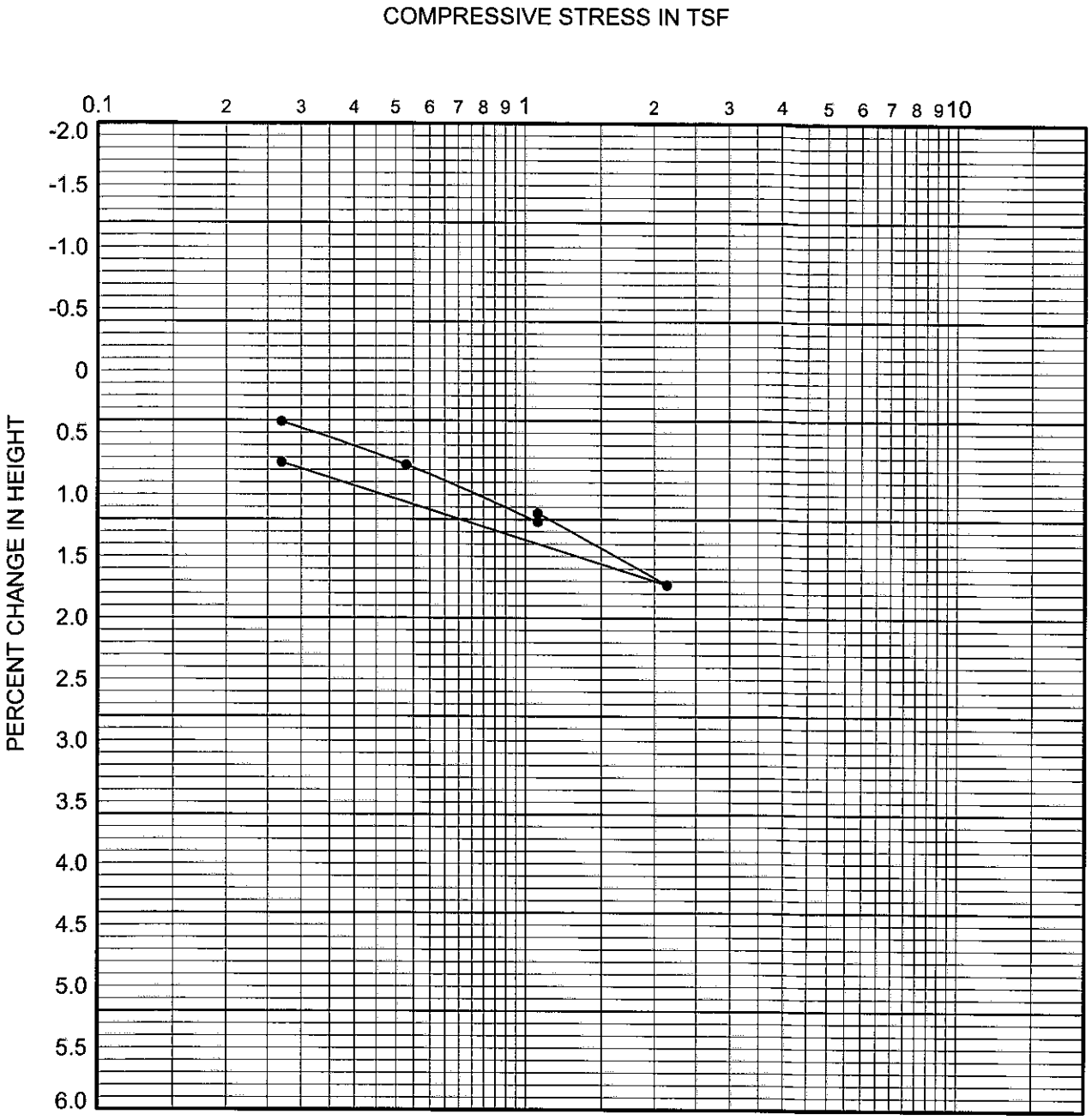
REMARKS: WATER ADDED AT 1.07 TSF

CONSOLIDATION CURVE

Alta California Geotechnical, Inc.

P.N. 1-0312

PLATE C-3



boring	depth (ft.)	dry density (pcf)	in situ moist. (%)	in situ satur. (%)	-200 sieve (%)	group symbol	typical names
B-08	5.0	116	15.0	92	80	ML	Clayey Silt (Qyf)

REMARKS: WATER ADDED AT 1.07 TSF

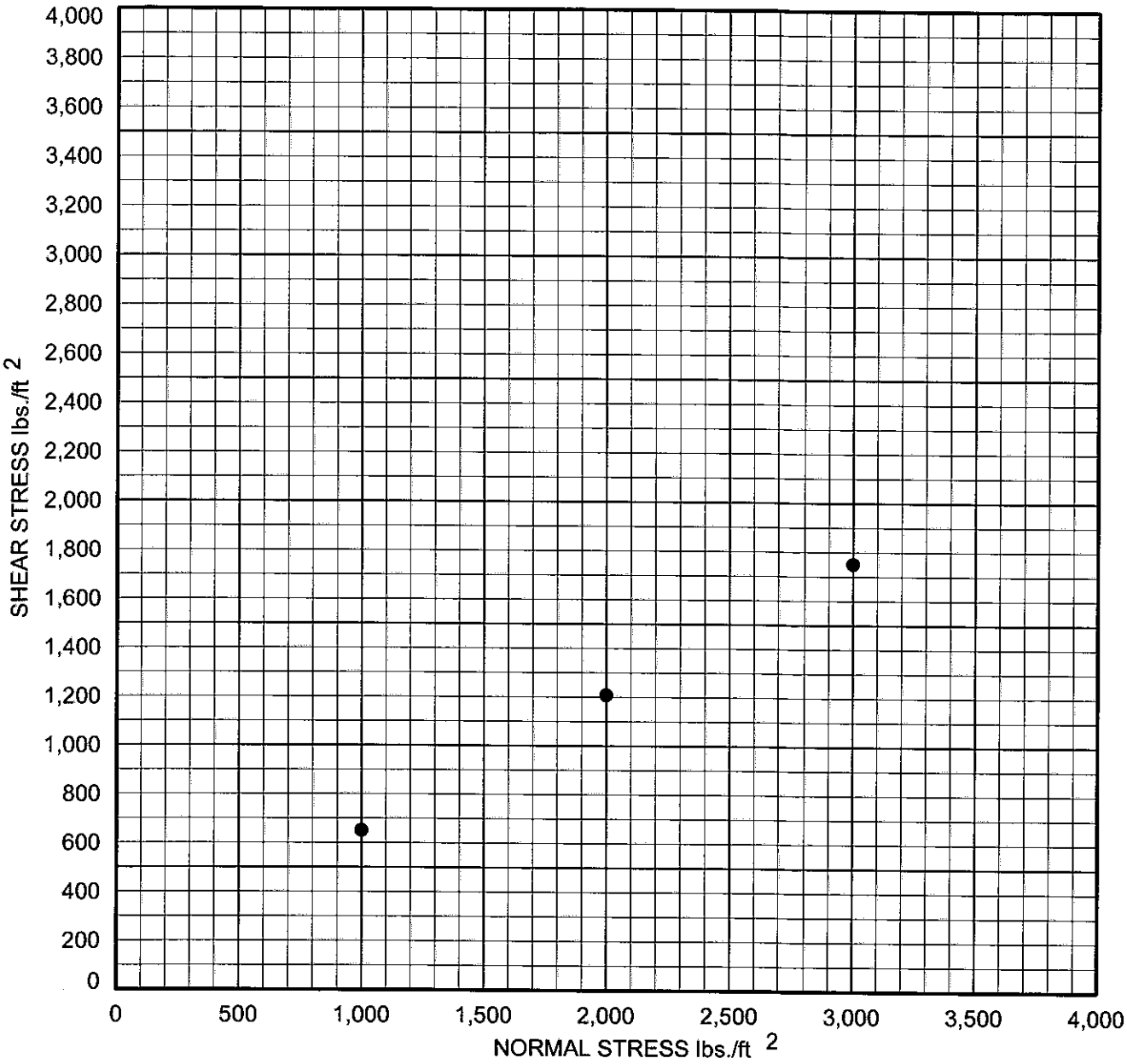
CONSOLIDATION CURVE

Alta California Geotechnical, Inc.

P.N. 1-0312

PLATE C-4

DIRECT SHEAR TEST
Remolded at 90% Relative Compaction



boring	depth (ft.)	dry density (pcf)	in situ moist. (%)	-200 sieve (%)	group symbol	typical names
B-02	4.5			75	CL	Silty Clay (Qyf)

COHESION	100	psf.
FRICTION ANGLE	28.0	degrees

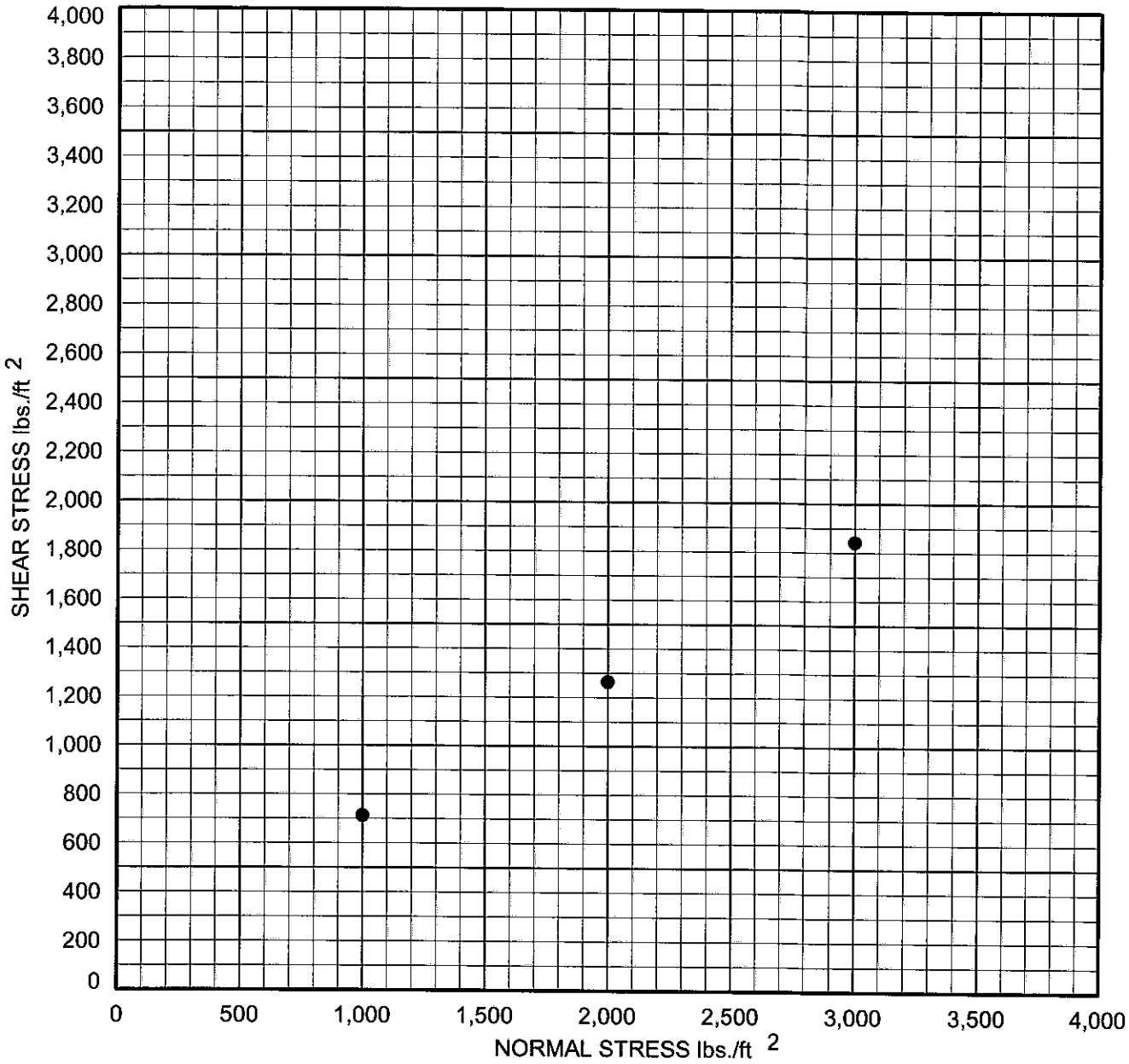
DIRECT SHEAR TEST

Alta California Geotechnical, Inc.

P.N. 1-0312

PLATE C-5

DIRECT SHEAR TEST
Undisturbed



boring	depth (ft.)	dry density (pcf)	in situ moist. (%)	-200 sieve (%)	group symbol	typical names
B-04	5.0	121	13.1	67	ML	Sandy Silt (Qof)

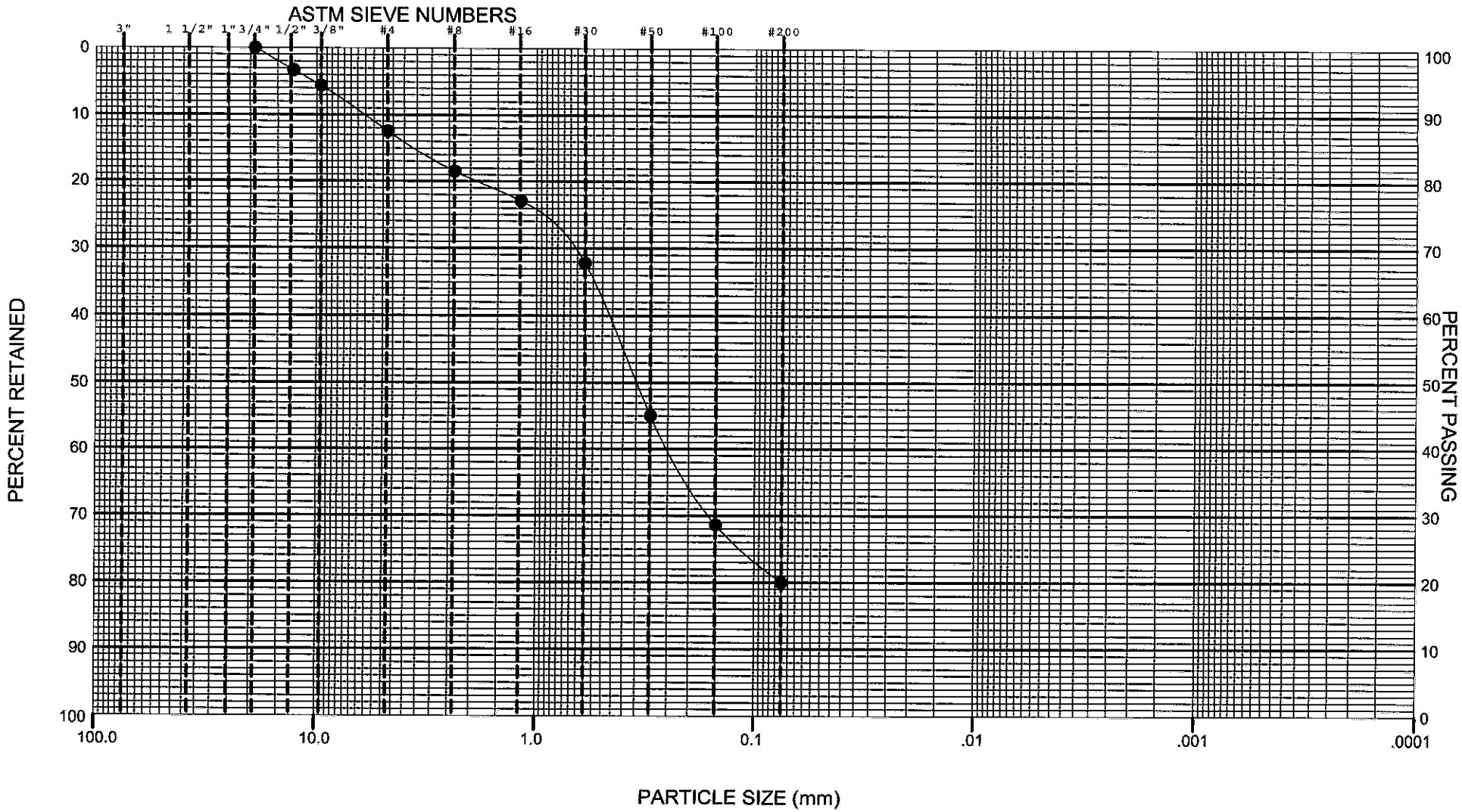
COHESION	145	psf.
FRICTION ANGLE	30.0	degrees

DIRECT SHEAR TEST

Alta California Geotechnical, Inc.

P.N. 1-0312

PLATE C-6



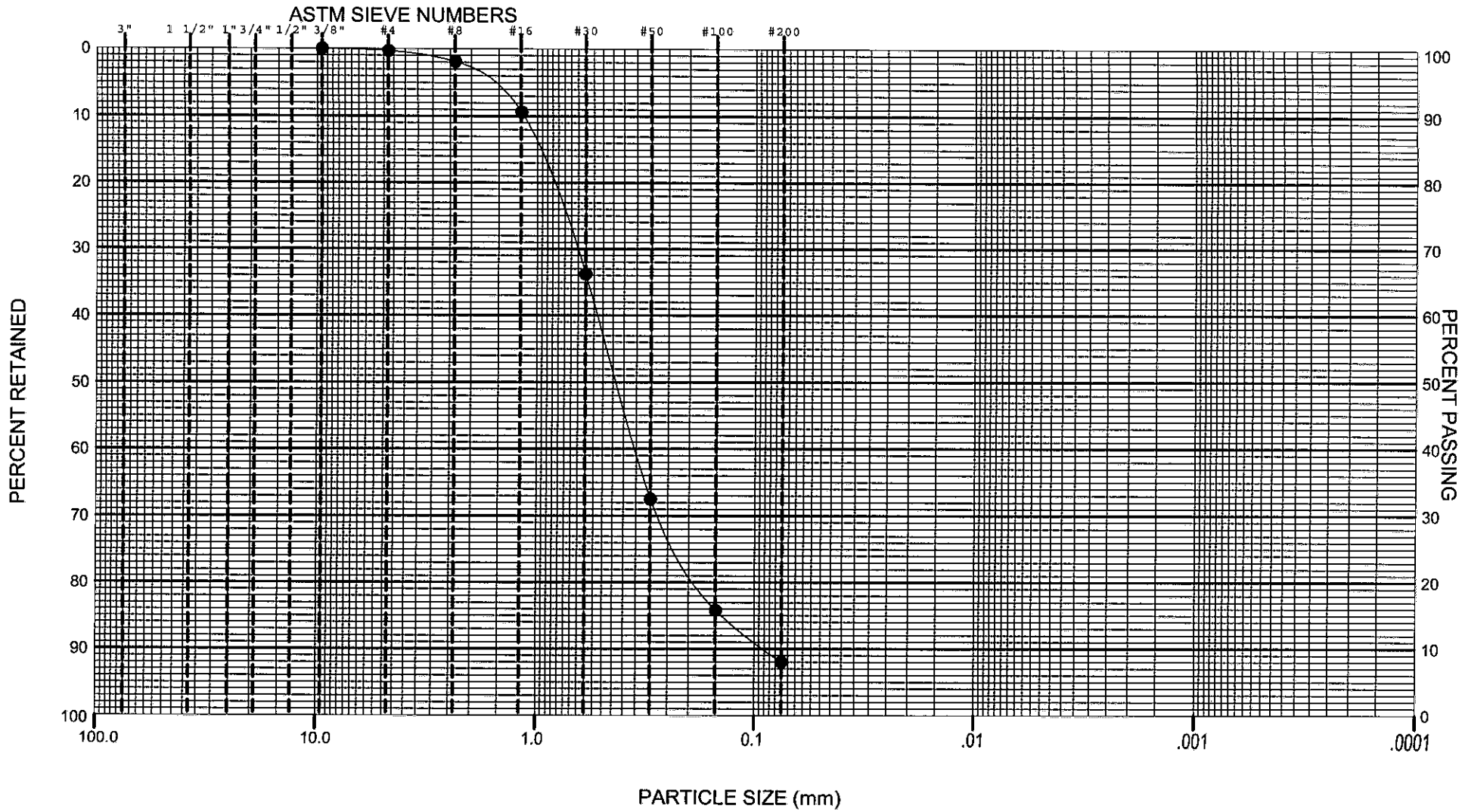
GRAVEL	SAND			SILT	CLAY	COLLOIDS
	COARSE	MEDIUM	FINE			

symbol	boring or trench	depth(ft.)	L.L.	P.L.	sand equiv.	% passing #200 sieve	group symbol	typical names
●	B-02	30				20.0	SM	Silty Sand (Qof)

GRAIN SIZE DISTRIBUTION

Alta California Geotechnical, Inc.

P.N. 1-0312 PLATE C-7



symbol	boring or trench	depth(ft.)	L.L.	P.L.	sand equiv.	% passing #200 sieve	group symbol	typical names
●	B-02	40				8.0	SP	Sand (Qof)

GRAIN SIZE DISTRIBUTION

Alta California Geotechnical, Inc.

P.N. 1-0312 PLATE C-8

APPENDIX D

Liquefaction Analysis

APPENDIX D

LIQUEFACTION ANALYSIS

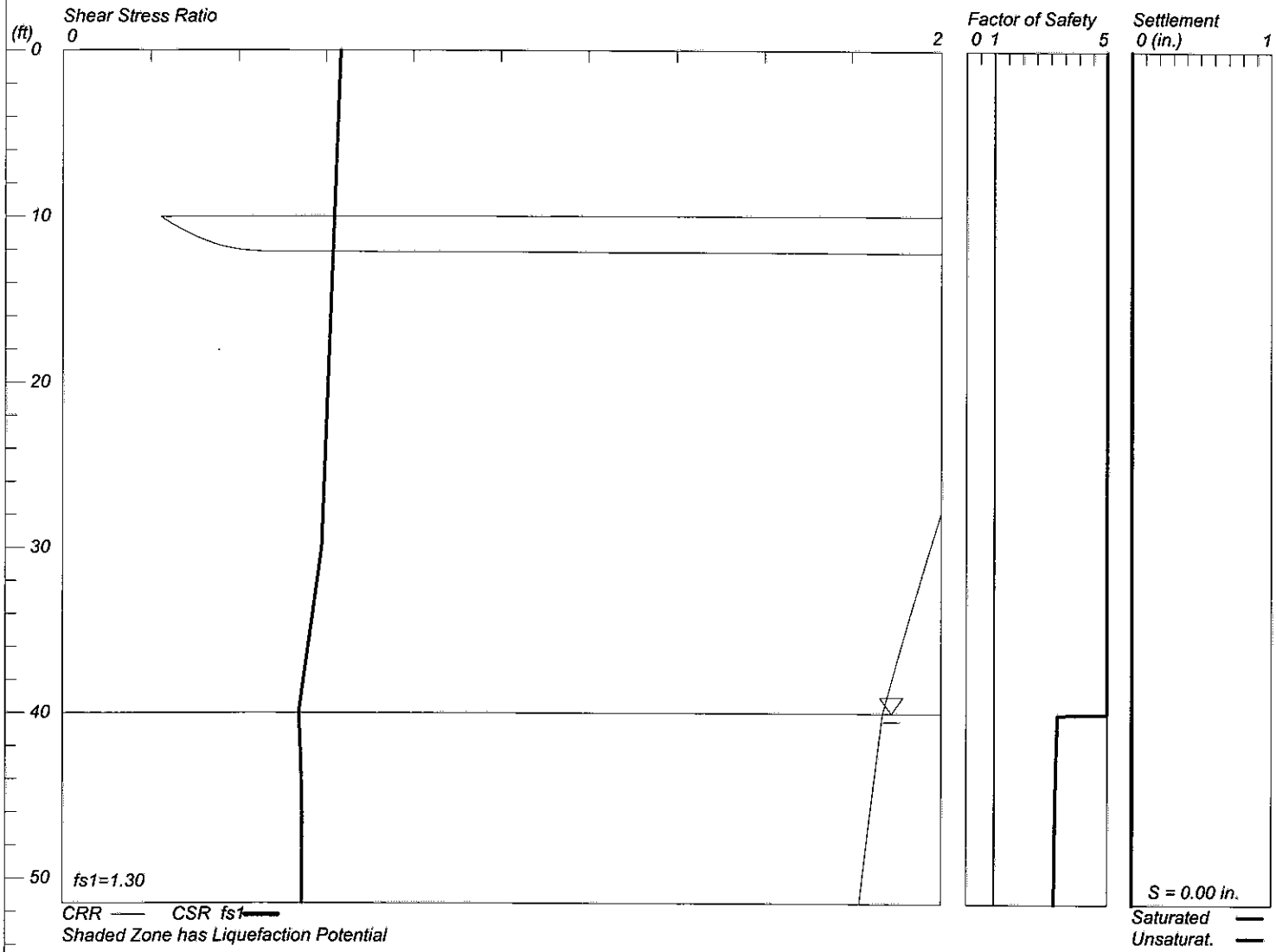
A liquefaction analysis was performed for the site based on SPT data gained from the hollow stem auger drilling. The Ishihara/Yoshimine method to analyze dynamic settlement for the SPT data. The calculations used the following constants: 0.75g for site acceleration, 7.7 for the magnitude of the earthquake, and a groundwater depth of 40 feet below existing grade. A factor of safety of 1.3 was utilized. The results are presented on Plate D-1 through D-4.

LIQUEFACTION ANALYSIS

5261 Arlington Avenue

Hole No.=B-2 Water Depth=40 ft Surface Elev.=777

Magnitude=7.7
Acceleration=0.75g



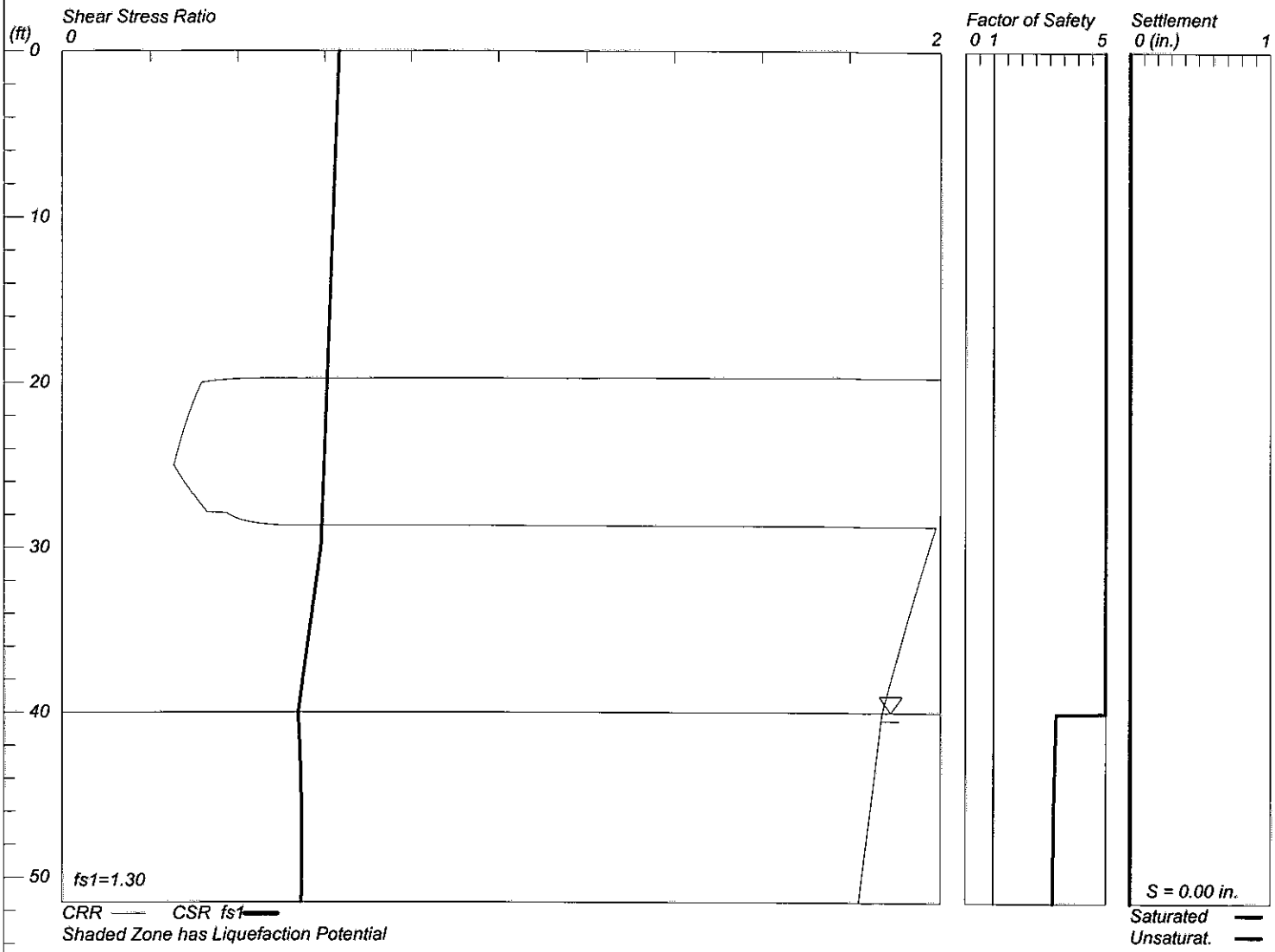
LiquefyPro CivilTech Software USA www.civiltech.com

LIQUEFACTION ANALYSIS

5261 Arlington Avenue

Hole No.=B-4 Water Depth=40 ft Surface Elev.=777

Magnitude=7.7
Acceleration=0.75g



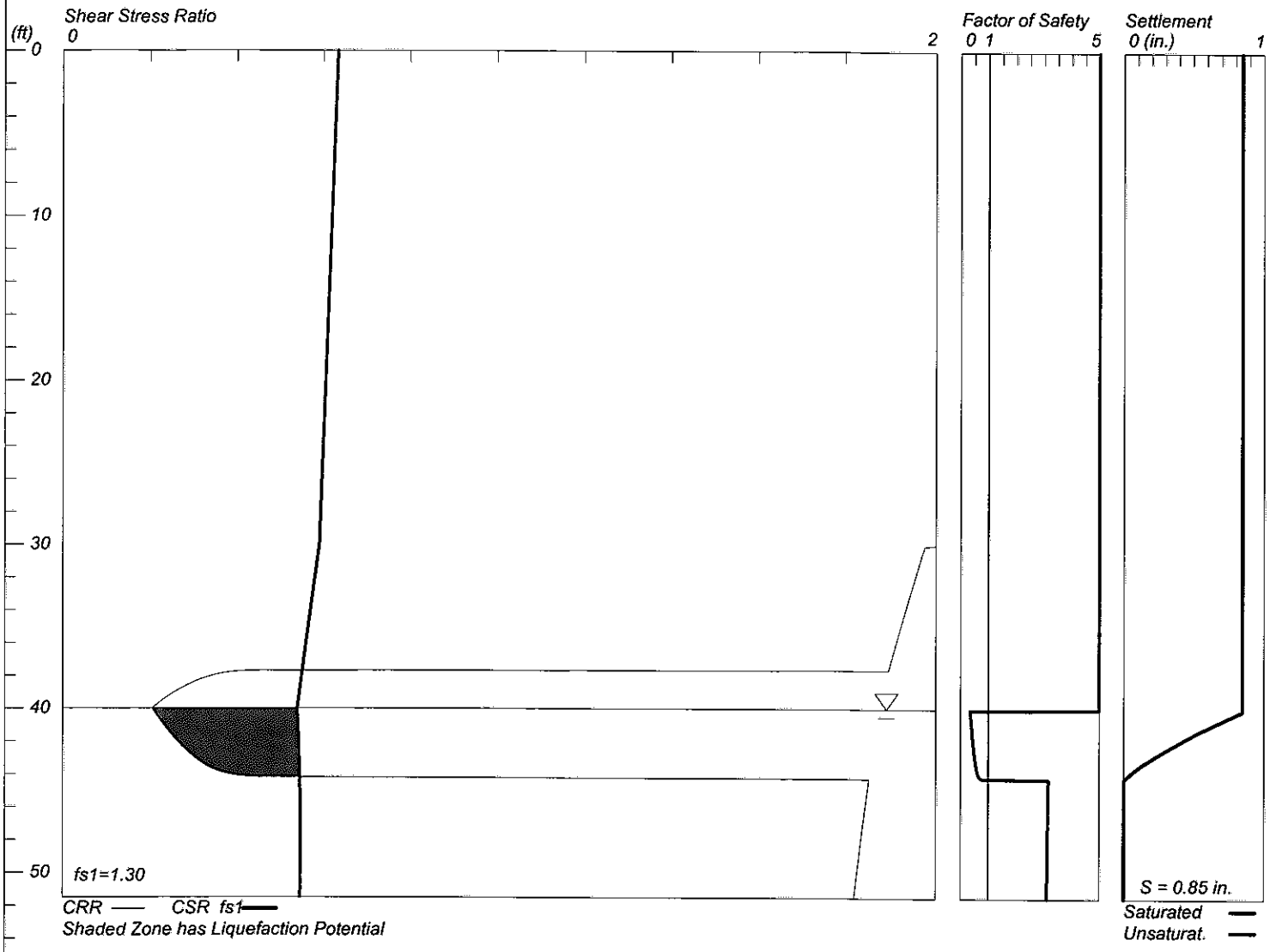
LiquefyPro CivilTech Software USA www.civiltech.com

LIQUEFACTION ANALYSIS

5261 Arlington Avenue

Hole No.=B-7 Water Depth=40 ft Surface Elev.=777

Magnitude=7.7
Acceleration=0.75g



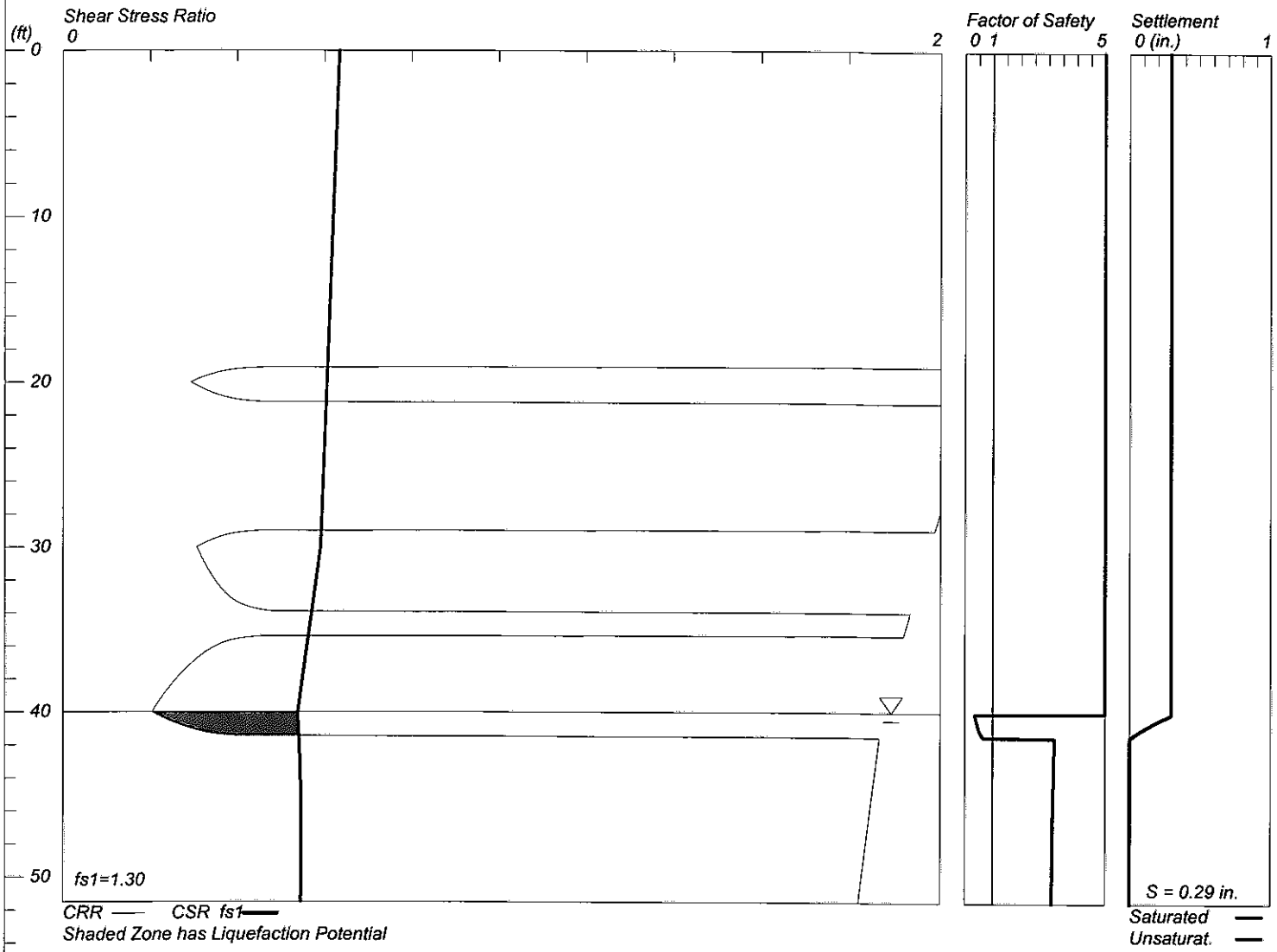
LiquefyPro CivilTech Software USA www.civiltech.com

LIQUEFACTION ANALYSIS

5261 Arlington Avenue

Hole No.=B-8 Water Depth=40 ft Surface Elev.=777

Magnitude=7.7
Acceleration=0.75g



LiquefyPro CivilTech Software USA www.civiltech.com

APPENDIX E

Maintenance and Improvement Considerations

MAINTENANCE AND IMPROVEMENT CONSIDERATIONS

General

Owners purchasing property must assume a certain degree of responsibility for improvements and for maintaining conditions around their home. Of primary importance from a geotechnical standpoint are maintaining drainage patterns and minimizing the soil moisture variation below all improvements. Such design, construction and owner maintenance provisions may include:

- Employing contractors for improvements who design and build in recognition of local building codes and specific site soils conditions.
- Establishing and maintaining positive drainage away from all foundations, walkways, driveways, patios, and other improvements.
- Avoiding the construction of planters adjacent to structural improvements. Alternatively, planter sides/bottoms can be sealed with an impermeable membrane and drained away from the improvements via subdrains into approved disposal areas.
- Sealing and maintaining construction/control joints within concrete slabs and walkways to reduce the potential for moisture infiltration into the subgrade soils.
- Utilizing landscaping schemes with vegetation that requires minimal watering. Watering should be done in a uniform manner, as equally as possible on all sides of the foundation, keeping the soil "moist" but not allowing the soil to become saturated.
- Maintaining positive drainage away from structures and providing roof gutters on all structures with downspouts that are designed to carry roof runoff directly into area drains or discharged well away from the foundation areas.
- Avoiding the placement of trees closer to the proposed structures than a distance of one-half the mature height of the tree.
- Observation of the soil conditions around the perimeter of the structure during extremely hot/dry or unusually wet weather conditions so that modifications can be made in irrigation programs to maintain relatively uniform moisture conditions.

Sulfates

Owners should be cautioned against the import and use of certain inorganic fertilizers, soil amendments, and/or other soils from offsite sources in the absence of specific information relating to their chemical composition. Some fertilizers have been known to leach sulfate compounds into soils and increase the sulfate concentrations to potentially detrimental levels.

Site Drainage

- The owners should be made aware of the potential problems that may develop when drainage is altered through construction of hardscape improvements. Ponded water, drainage over the slope face, leaking irrigation systems, overwatering, or other conditions which could lead to ground saturation must be avoided.
- No water should be allowed to flow over the slopes. No alteration of pad gradients should be allowed that would prevent pad and roof runoff from being directed to approved disposal areas.
- Drainage patterns have been established at the time of the fine grading should be maintained throughout the life of the structure. No alterations to these drainage patterns should be made unless designed by qualified professionals in compliance with local code requirements and site-specific soils conditions.

Slope Drainage

- Residents should be made aware of the importance of maintaining and cleaning all interceptor ditches, drainage terraces, down drains, and any other drainage devices, which have been installed to promote slope stability.
- Subsurface drainage pipe outlets may protrude through slope surfaces and/or wall faces. These pipes, in conjunction with the graded features, are essential to slope and wall stability and must be protected in-place. They should not be altered or damaged in any way.

Planting and Irrigation of Slopes

- Seeding and planting of the slopes should be planned to achieve, as rapidly as possible, a well-established and deep-rooted vegetal cover requiring minimal watering.
- It is the responsibility of the landscape architect to provide such plants initially and of the residents to maintain such planting. Alteration of such a planting scheme is at the resident's risk.
- The resident is responsible for proper irrigation and for maintenance and repair of properly installed irrigation systems. Leaks should be fixed immediately.
- Sprinklers should be adjusted to provide maximum uniform coverage with a minimum of water usage and overlap. Overwatering with consequent wasteful runoff and serious ground saturation must be avoided.
- If automatic sprinkler systems are installed, their use must be adjusted to account for seasonal and natural rainfall conditions.

Burrowing Animals

- Residents must undertake a program to eliminate burrowing animals. This must be an ongoing program in order to promote slope stability.

Owner Improvement

Owner improvements (pools, spas, patio slabs, retaining walls, planters, etc.) should be designed to account for the terrain of the project, as well as expansive soil conditions and chemical characteristics. Design considerations on any given lot may need to include provisions for differential bearing materials, ascending/descending slope conditions, bedrock structure, perched (irrigation) water, special geologic surcharge loading conditions, expansive soil stresses, and long-term creep/settlement.

All owner improvements should be designed and constructed by qualified professionals utilizing appropriate design methodologies, which account for the on-site soils and geologic conditions. Each lot and proposed improvement should be evaluated on an individual basis.

Setback Zones

Manufactured slopes maybe subject to long-term settlement and creep that can manifest itself in the form of both horizontal and vertical movement. These movements typically are produced as a result of weathering, erosion, gravity forces, and other natural phenomenon. A setback adjacent to slopes is required by most building codes, including the California Building Code. This zone is intended to locate and support the residential structures away from these slopes and onto soils that are not subject to the potential adverse effects of these natural phenomena.

The owner may wish to construct patios, walls, walkways, planters, swimming pools, spas, etc. within this zone. Such facilities may be sensitive to settlement and creep and should not be constructed within the setback zone unless properly engineered. It is suggested that plans for such improvements be designed by a professional engineer who is familiar with grading ordinances and design and construction requirements. In addition, we recommend that the

designer and contractor familiarize themselves with the site specific geologic and geotechnical conditions on the specific lot.

APPENDIX F

Earthwork Specifications

ALTA CALIFORNIA GEOTECHNICAL, INC.
EARTHWORK SPECIFICATIONS

These specifications present the generally accepted standards and minimum earthwork requirements for the development of the project. These specifications shall be the project guidelines for earthwork except where specifically superseded in preliminary geology and soils reports, grading plan review reports or by the prevailing grading codes or ordinances of the controlling agency.

A. GENERAL

1. The Contractor shall be responsible for the satisfactory completion of all earthwork in accordance with the project plans and specifications.

2. The project Geotechnical Engineer and Engineering Geologist, or their representatives, shall provide observation and testing services, and Geotechnical consultation for the duration of the project.

3. All clearing, grubbing, stripping and site preparation for the project shall be accomplished by the Contractor to the satisfaction of the Geotechnical Engineer/Engineering Geologist.

4. It is the Contractor's responsibility to prepare the ground surface to receive fill to the satisfaction of the Geotechnical Engineer and to place, spread, mix, moisture condition, and compact the fill in accordance with the job specifications and as required by the Geotechnical Engineer. The Contractor shall also remove all material considered by the Geotechnical Engineer to be unsuitable for use in the construction of engineered fills.

5. The Contractor shall have suitable and sufficient equipment in operation to handle the amount of fill being placed. When necessary, equipment will be shut down temporarily in order to permit the proper preparation of fills.

B. PREPARATION OF FILL AREAS

1. Excessive vegetation and all deleterious material should be disposed of offsite as required by the Geotechnical Engineer.

   Existing fill, soil, alluvium or rock materials determined by the Geotechnical Engineer as being unsuitable for placement in compacted fills shall be removed and hauled from the site. Where applicable, the Contractor may obtain the

approval of the Soils Engineer and the controlling authorities for the project to dispose of the above described materials, or a portion thereof, in designated areas onsite.

After removal of the deleterious materials have been accomplished, earth materials deemed unsuitable in their natural, in-place condition, shall be removed as recommended by the Geotechnical Engineer/Engineering Geologist.

2. Upon achieving a suitable bottom for fill placement, the exposed removal bottom shall be disced or bladed by the Contractor to the satisfaction of the Geotechnical Engineer. The prepared ground surfaces shall then be brought to the specified moisture content mixed as required, and compacted and tested as specified. In localities where it is necessary to obtain the approval of the controlling agency prior to placing fill, it will be the Contractor's responsibility to contact the proper authorities to visit the site.

3. Any underground structure such as cesspools, cisterns, mining shafts, tunnels, septic tanks, wells, pipelines or other structures not located prior to grading are to be removed or treated in a manner prescribed by the Geotechnical Engineer and/or the controlling agency for the project.

C. ENGINEERED FILLS

1. Any material imported or excavated on the property may be utilized as fill, provided the material has been determined to be suitable by the Geotechnical Engineer. Deleterious materials shall be removed from the fill as directed by the Geotechnical Engineer.

2. Rock or rock fragments less than twelve inches in the largest dimension may be utilized in the fill, provided they are not placed in concentrated pockets and the distribution of the rocks is approved by the Geotechnical Engineer.

3. Rocks greater than twelve inches in the largest dimension shall be taken offsite, or placed in accordance with the recommendations of the Geotechnical Engineer in areas designated as suitable for rock disposal.

4. All materials to be used as fill, shall be tested in the laboratory by the Geotechnical Engineer. Proposed import materials shall be approved by the Geotechnical Engineer 48 hours prior to importation.

5. The fill materials shall be placed by the Contractor in lifts, that when compacted, shall not exceed six inches. Each lift shall be spread evenly and shall be

thoroughly mixed to achieve a near uniform moisture condition and a uniform blend of materials.

All compaction shall be achieved at or above the optimum moisture content, as determined by the applicable laboratory standard. The Contractor will be notified if the fill materials are too wet or too dry to achieve the required compaction standard.

6. When the moisture content of the fill material is below the limit specified by the Geotechnical Engineer, water shall be added and the materials shall be blended until a uniform moisture content, within specified limits, is achieved. When the moisture content of the fill material is above the limits specified by the Geotechnical Engineer, the fill materials shall be aerated by discing, blading, mixed with dryer fill materials, or other satisfactory methods until the moisture content is within the specified limits.

7. Each fill lift shall be compacted to the minimum project standards, in compliance with the testing methods specified by the controlling governmental agency, and in accordance with recommendations of the Geotechnical Engineer.

   In the absence of specific recommendations by the Geotechnical Engineer to the contrary, the compaction standard shall be the most recent version of ASTM:D 1557.

8. Where a slope receiving fill exceeds a ratio of five-horizontal to one-vertical, the fill shall be keyed and benched through all unsuitable materials into sound bedrock or firm material, in accordance with the recommendations and approval of the Geotechnical Engineer.

9. Side hill fills shall have a minimum key width of 15 feet into bedrock or firm materials, unless otherwise specified in the soil report and approved by the Geotechnical Engineer in the field.

10. Drainage terraces and subdrainage devices shall be constructed in compliance with the ordinances of the controlling governmental agency and/or with the recommendations of the Geotechnical Engineer and Engineering Geologist.

11. The Contractor shall be required to maintain the specified minimum relative compaction out to the finish slope face of fill slopes, buttresses, and stabilization fills as directed by the Geotechnical Engineer and/or the governing agency for the project. This may be achieved by either overbuilding the slope and cutting

back to the compacted core; by direct compaction of the slope face with suitable equipment; or by any other procedure which produces the required result.

12. The fill portion of fill-over-cut slopes shall be properly keyed into rock or firm material; and the fill area shall be stripped of all soil or unsuitable materials prior to placing fill.

    The design cut portion of the slope should be made first and evaluated for suitability by the Engineering Geologist prior to placement of fill in the keyway above the cut slope.

13. Pad areas in cut or natural ground shall be approved by the Geotechnical Engineer. Finished surfaces of these pads may require scarification and recompaction, or over excavation as determined by the Geotechnical Engineer.

D. CUT SLOPES

1. The Engineering Geologist shall observe all cut slopes and shall be notified by the Contractor when cut slopes are to be started.

2. If, during the course of grading, unforeseen adverse or potentially adverse geologic conditions are encountered, the Engineering Geologist and Soil Engineer shall investigate, analyze and make recommendations to remediate these problems.

3. Non-erodible interceptor swales shall be placed at the top of cut slopes that face the same direction as the superjacent, prevailing drainage.

4. Unless otherwise specified in specific geotechnical reports, no cut slopes shall be excavated higher or steeper than that allowed by the ordinances of controlling governmental agencies.

5. Drainage terraces shall be constructed in compliance with the ordinances of the controlling governmental agencies, and/or in accordance with the recommendations of the Geotechnical Engineer or Engineering Geologist.

E. GRADING CONTROL

1. Fill placement shall be observed and tested by the Geotechnical Engineer and/or his representative during grading.

   Field density tests shall be made by the Geotechnical Engineer and/or his representative to evaluate the compaction and moisture compliance of each fill lift. Density tests shall be conducted at intervals not to exceed two feet of fill

height. Where sheepsfoot rollers are used, the fill may be disturbed to a depth of several inches. Density determinations shall be taken in the compacted material below the disturbed surface at a depth determined by the Geotechnical Engineer or his representative.

2. Where tests indicate that the density of any layer of fill, or portion thereof, is below the required relative compaction, or improper moisture content is in evidence, that particular layer or portion thereof shall be reworked until the required density and/or moisture content has been attained. Additional fills shall not be placed over an area until the previous lift of fill has been tested and found to meet the density and moisture requirements for the project and the previous lift is approved by the Geotechnical Engineer.

3. When grading activities are interrupted by heavy rains, fill operations shall not be resumed until field observations and tests by the Geotechnical Engineer indicate the moisture content and density of the fill are within the specified limits.

4. During construction, the Contractor shall properly grade all surfaces to maintain good drainage and prevent the ponding of water. The Contractor shall take remedial action to control surface water and to prevent erosion of graded areas until such time as a permanent drainage and erosion devices have been installed.

5. Observation and testing by the Geotechnical Engineer and/or his representative shall be conducted during filling and compacting operations in order that he will be able to state in his opinion that all cut and filled areas are graded in accordance with the approved specifications.

6. Upon the completion of grading activities and after the Geotechnical Engineer and Engineering Geologist have finished their observations of the work, final reports shall be submitted. No further excavation or fill placement shall be undertaken without prior notification of the Geotechnical Engineer and/or Engineering Geologist.

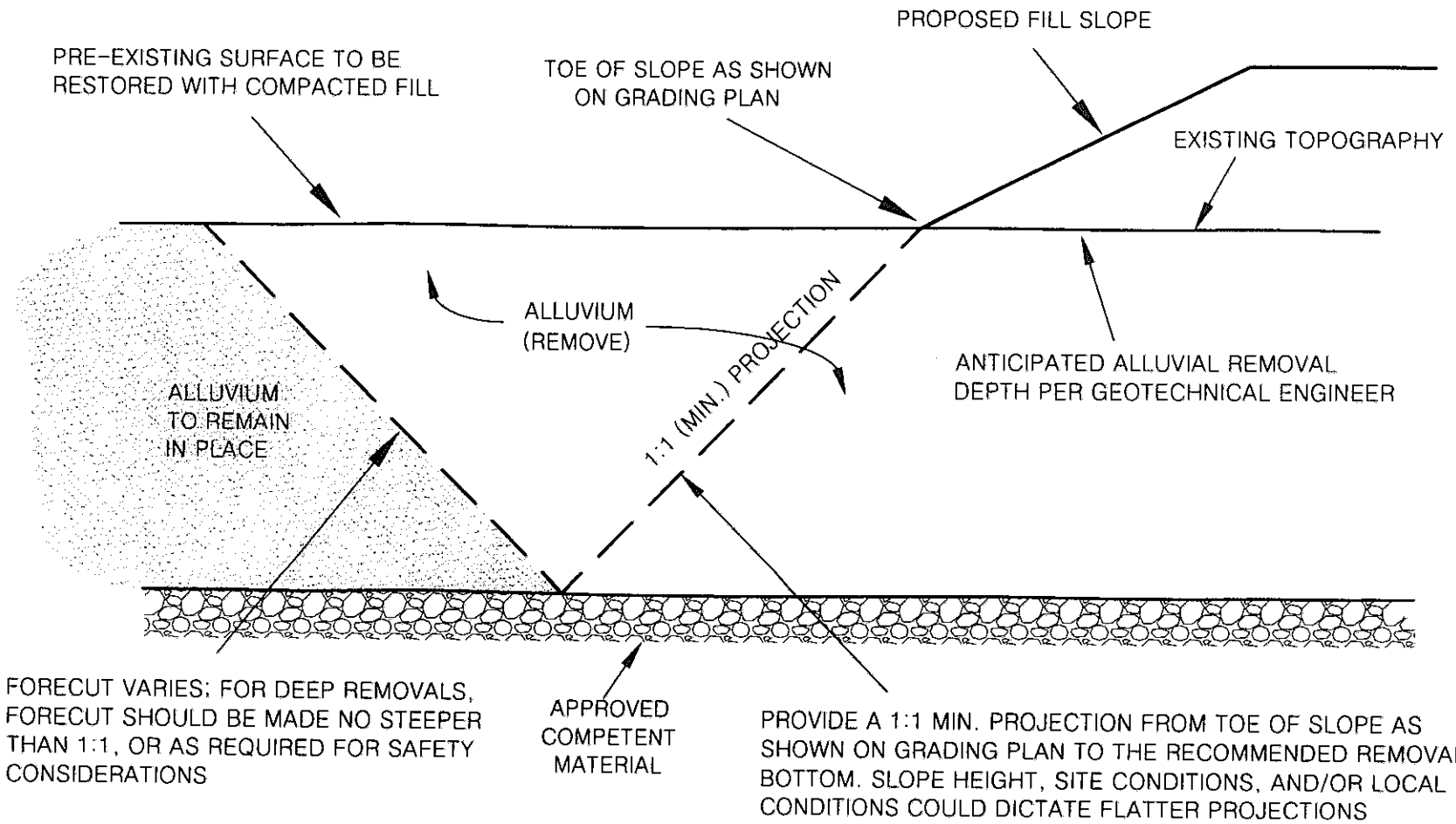
F. FINISHED SLOPES

All finished cut and fill slopes shall be planted and irrigated and/or protected from erosion in accordance with the project specifications, governing agencies, and/or as recommended by a landscape architect.

APPENDIX G

Grading Details

DETAIL FOR FILL SLOPE TOEING OUT ON FLAT ALLUVIATED CANYON

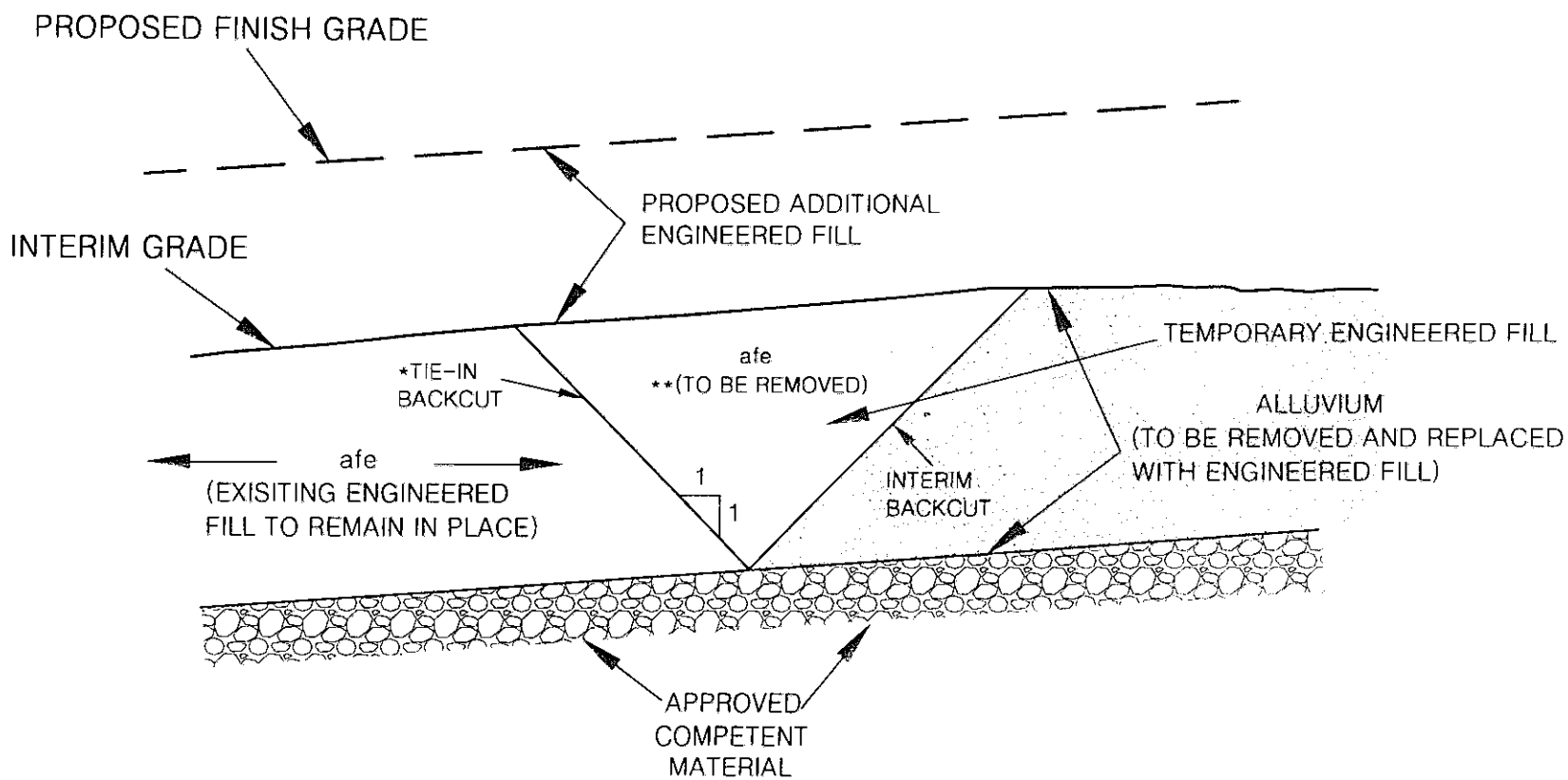


ALTA CALIFORNIA GEOTECHNICAL, INC.
VER. 3/12

PLATE G-1

PATH: C:\Users\Jinks\Desktop\Drafting\GRADING DETAILS\G-1.dwg

REMOVAL ADJACENT TO EXISTING FILL



*INITIATE 1:1 TIE-IN BACKCUT TO INTERCEPT TOE OF INTERIM BACKCUT

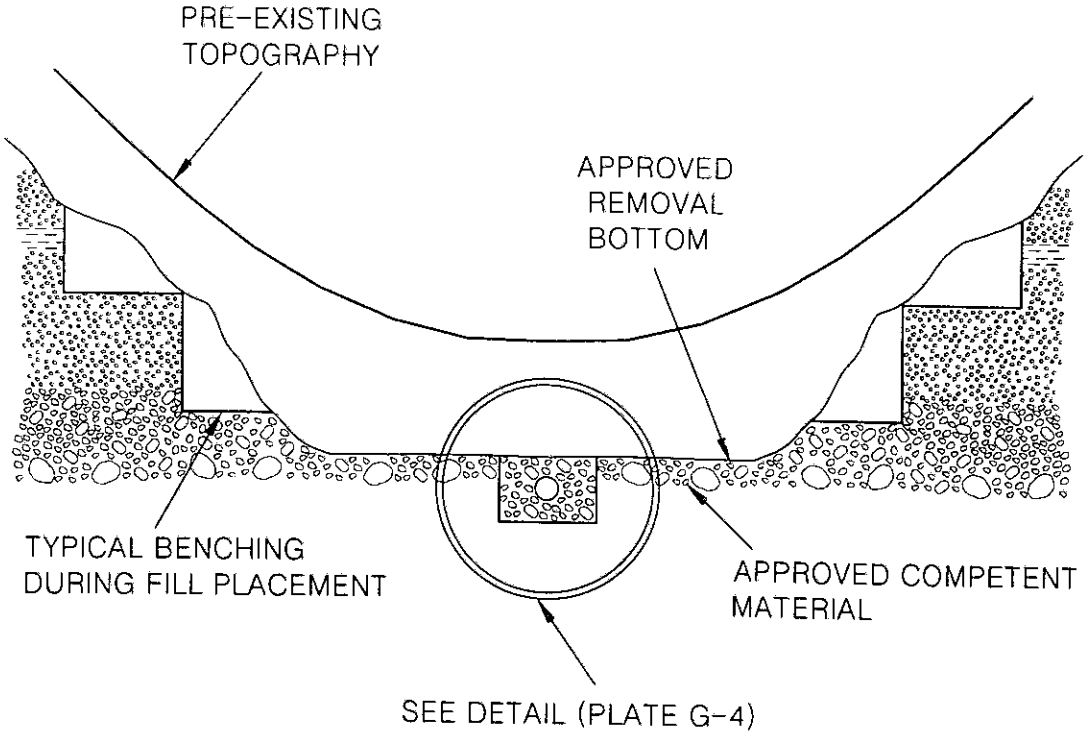
**AS PART OF TIE-IN FOR ADDITIONAL ENGINEERED FILL

ALTA CALIFORNIA GEOTECHNICAL, INC.
VER. 3/12

PLATE G-2

PATH:C:\Users\Jlnks\Desktop\Drafting\GRADING DETAILS\G-2.dwg

CANYON SUBDRAIN



ALTA CALIFORNIA GEOTECHNICAL, INC.
VER. 3/12

PLATE G-3

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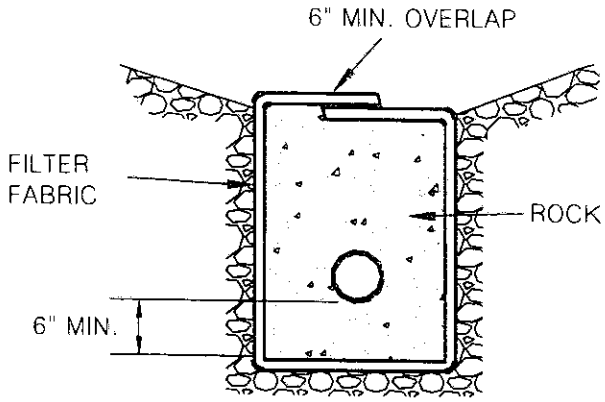
CANYON SUBDRAIN DETAIL



PERFORATED PIPE SURROUNDED WITH ROCK AND FILTER FABRIC

ROCK: MIN. VOLUME OF 9 CU.FT. PER LINEAR FT. OF 3/4 IN. MAX. ROCK

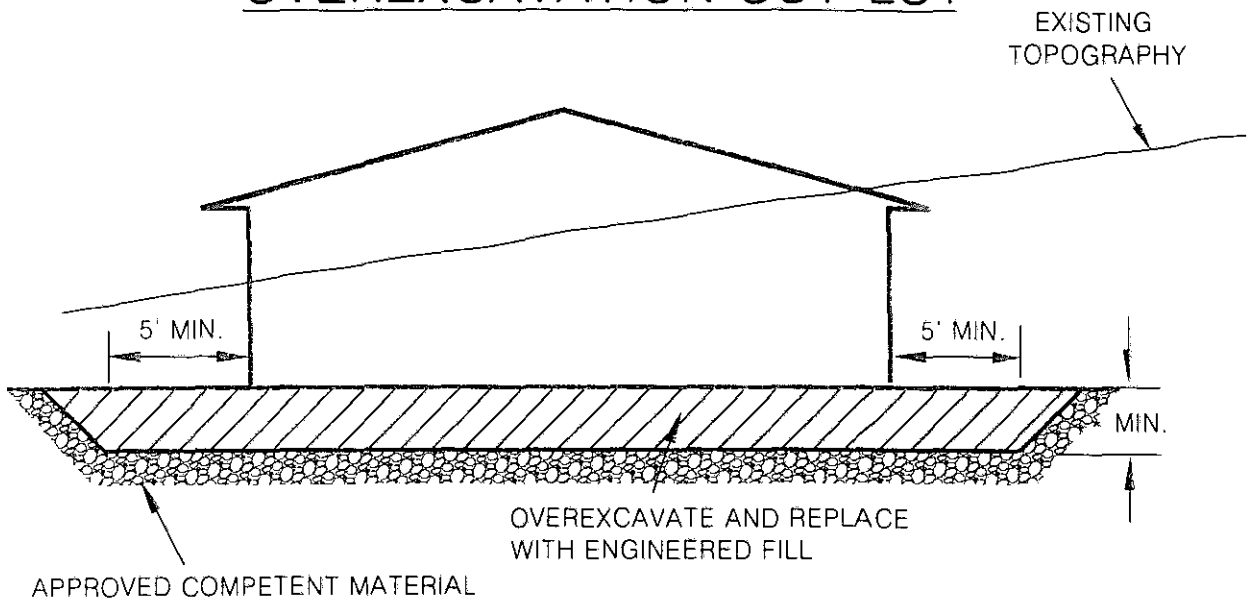
PIPE: 6 IN. ABS OR PVC PIPE WITH A MINIMUM OF 8 PERFORATIONS (1/4-IN. DIA.) PER LINEAL FT. IN BOTTOM HALF OF PIPE ASTM D2751, SDR 35, OR ASTM D3034 OR ASTM D1527, SCHD. 40 ASTM D1785, SCHD. 40

FILTER FABRIC: MIRAFI 140 FILTER FABRIC OR APPROVED EQUIVALENT

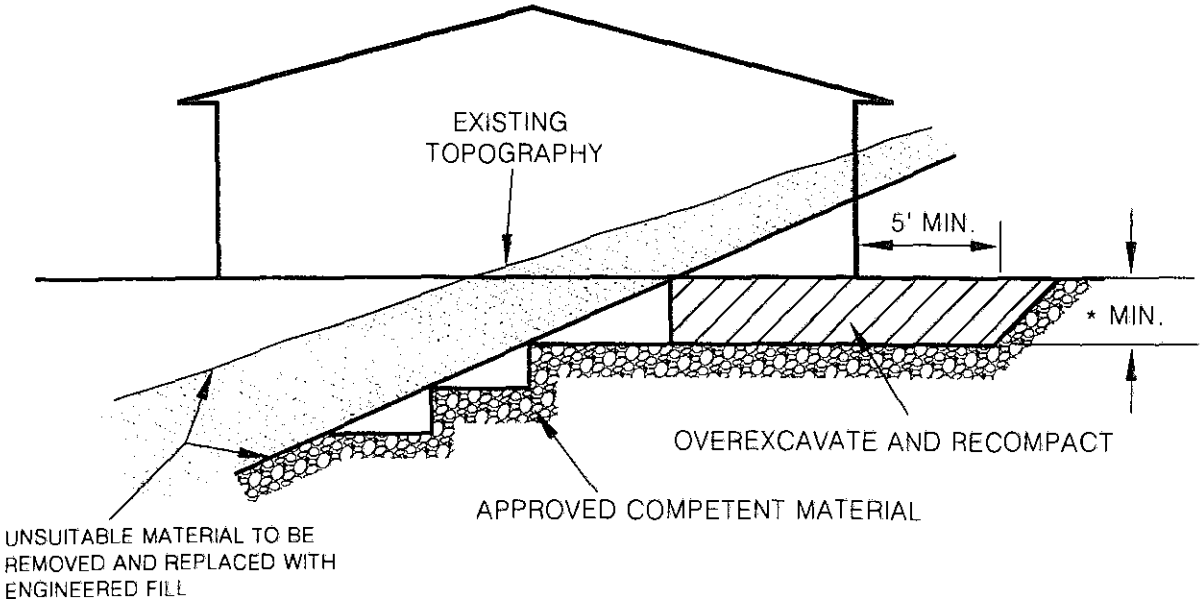
NOTES:

1. FOR CONTINUOUS RUN IN EXCESS OF 500. FT USE 8 IN. DIA. PIPE
2. ENGINEERED FILL PLACED BELOW DRAINS SHALL BE COMPACTED TO 93% OF THE LABORATORY MAXIMUM DRY DENSITY (ASTM:D1557)

OVEREXCAVATION CUT LOT



CUT-FILL LOT (TRANSITION)



*NOTE ALL BUILDING PADS SHALL BE OVER EXCAVATED TO A MINIMUM OF ⅓ OF THE MAXIMUM DEPTH OF FILL BELOW THE BUILDING PAD TO A MAXIMUM OF 17 FEET (SEE PLATE G-16)

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VER. 3/12

PLATE G-5

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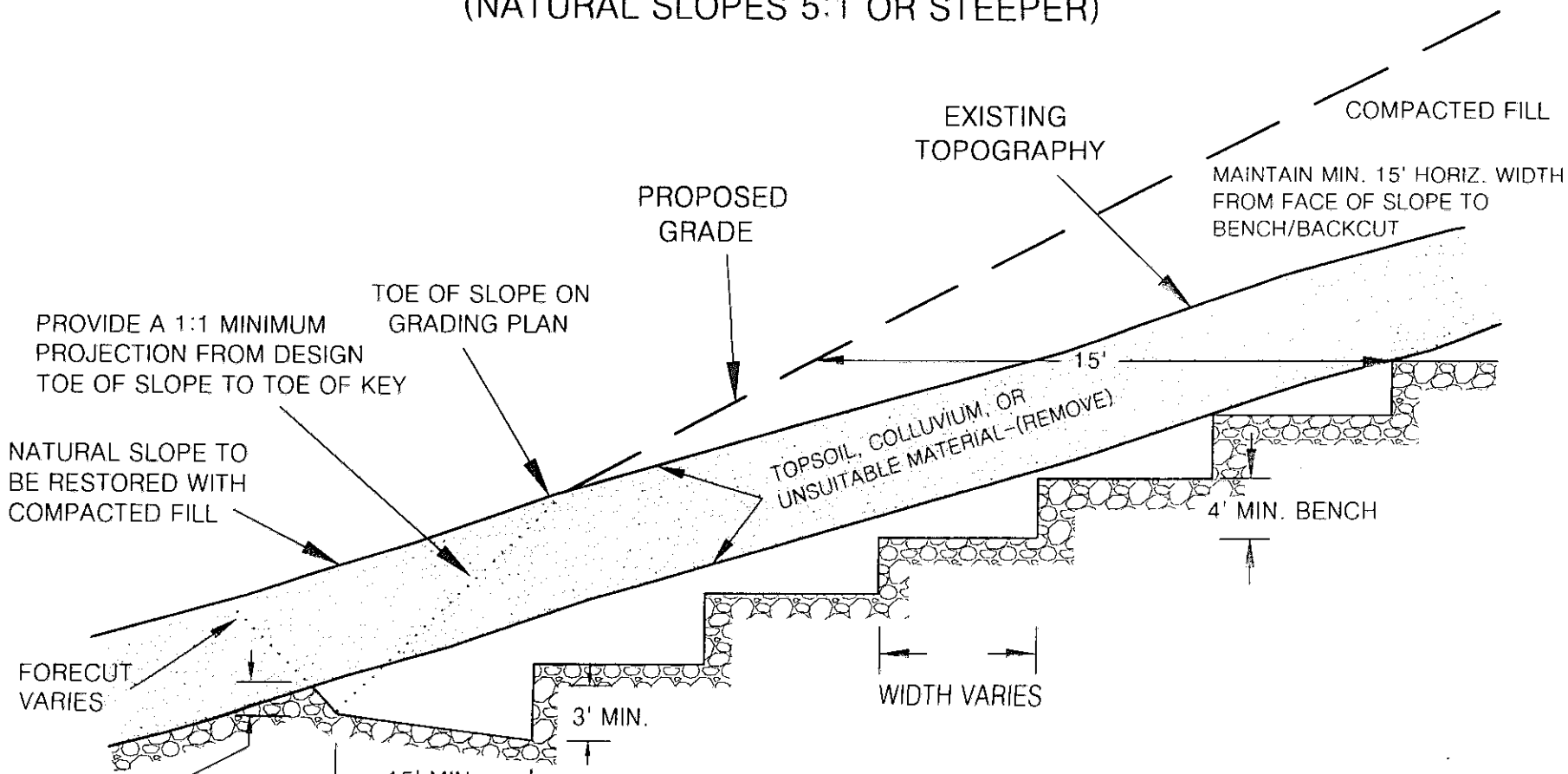
SIDE HILL SLOPE FILL DETAIL

(NATURAL SLOPES 5:1 OR STEEPER)



NOTES:

1. WHERE NATURAL SLOPE GRADIENT IS 5:1 OR LESS, SEE PLATE G-1. WHERE THE NATURAL SLOPE APPROACHES OR EXCEEDS THE DESIGN SLOPE RATIO, SPECIAL RECOMMENDATIONS WILL BE PROVIDED BY THE GEOTECHNICAL ENGINEER.
2. THE NEED FOR AND PLACEMENT OF DRAINS WILL BE DETERMINED BY THE GEOTECHNICAL ENGINEER OR GEOLOGIST BASED UPON EXPOSED FIELD CONDITIONS.

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PLATE G-6

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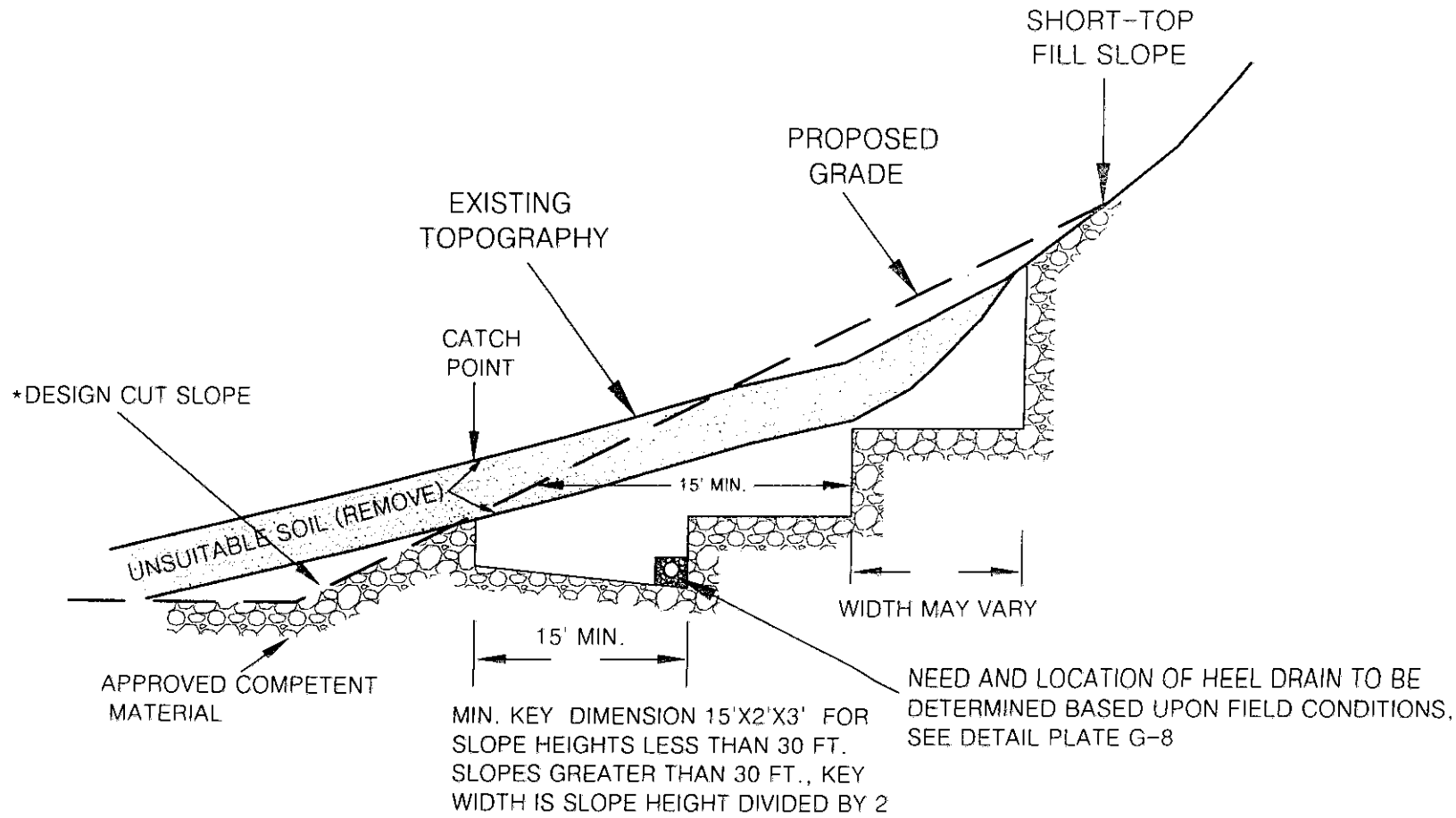
FILL OVER CUT SLOPE DETAIL



*THE CUT PORTION OF THE SLOPE SHOULD BE EXCAVATED AND EVALUATED BY THE ENGINEERING GEOLOGIST/GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTING THE FILL SLOPE

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PLATE G-7

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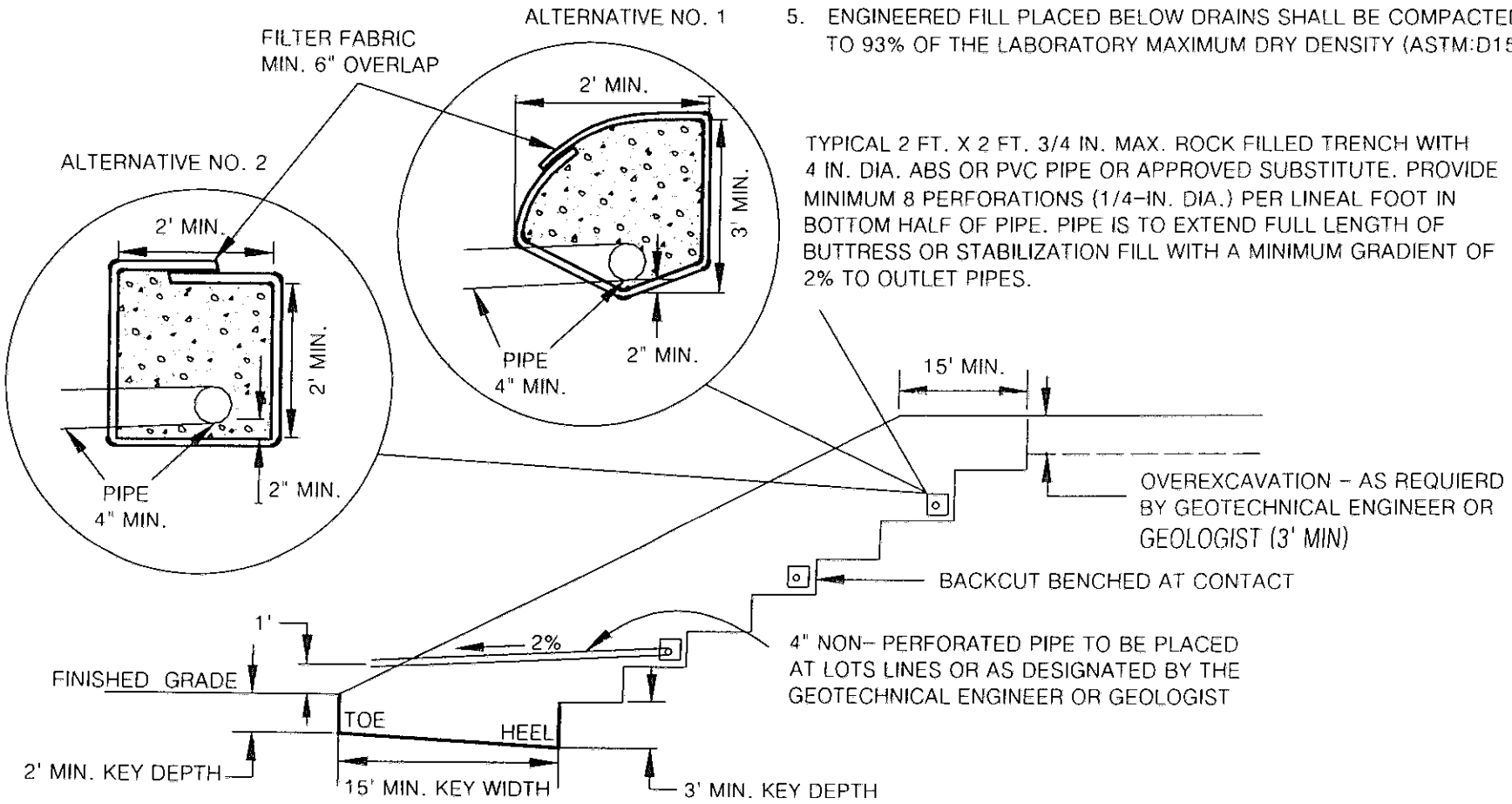
STABILIZATION/BUTTRESS FILL BACKDRAIN

NOTE:

1. ASTM D2751, SDR 35, OR ASTM D3034 OR ASTM D1527, SCHD. 40 ASTM D1785, SCHD. 40
2. SOLID PIPE OUTLETS TO BE PROVIDED EVERY 100 FT. AND JOINED TO PERFORATED BACKDRAIN PIPE WITH "L" OR "T"s. MIN. 2% GRADIENT.
3. GRAVEL TRENCH TO BE FILLED WITH 3/4 IN. MAXIMUM ROCK
4. THE NECESSITY FOR UPPER TIER BACKDRAINS SHALL BE DETERMINED IN THE FIELD BY THE GEOTECHNICAL ENGINEER OR GEOLOGIST. UPPER TIER OUTLETS SHOULD DRAIN INTO PAVED TERRACE DRAINS.
5. ENGINEERED FILL PLACED BELOW DRAINS SHALL BE COMPACTED TO 93% OF THE LABORATORY MAXIMUM DRY DENSITY (ASTM:D1557)



TYPICAL 2 FT. X 2 FT. 3/4 IN. MAX. ROCK FILLED TRENCH WITH 4 IN. DIA. ABS OR PVC PIPE OR APPROVED SUBSTITUTE. PROVIDE MINIMUM 8 PERFORATIONS (1/4-IN. DIA.) PER LINEAL FOOT IN BOTTOM HALF OF PIPE. PIPE IS TO EXTEND FULL LENGTH OF BUTTRESS OR STABILIZATION FILL WITH A MINIMUM GRADIENT OF 2% TO OUTLET PIPES.

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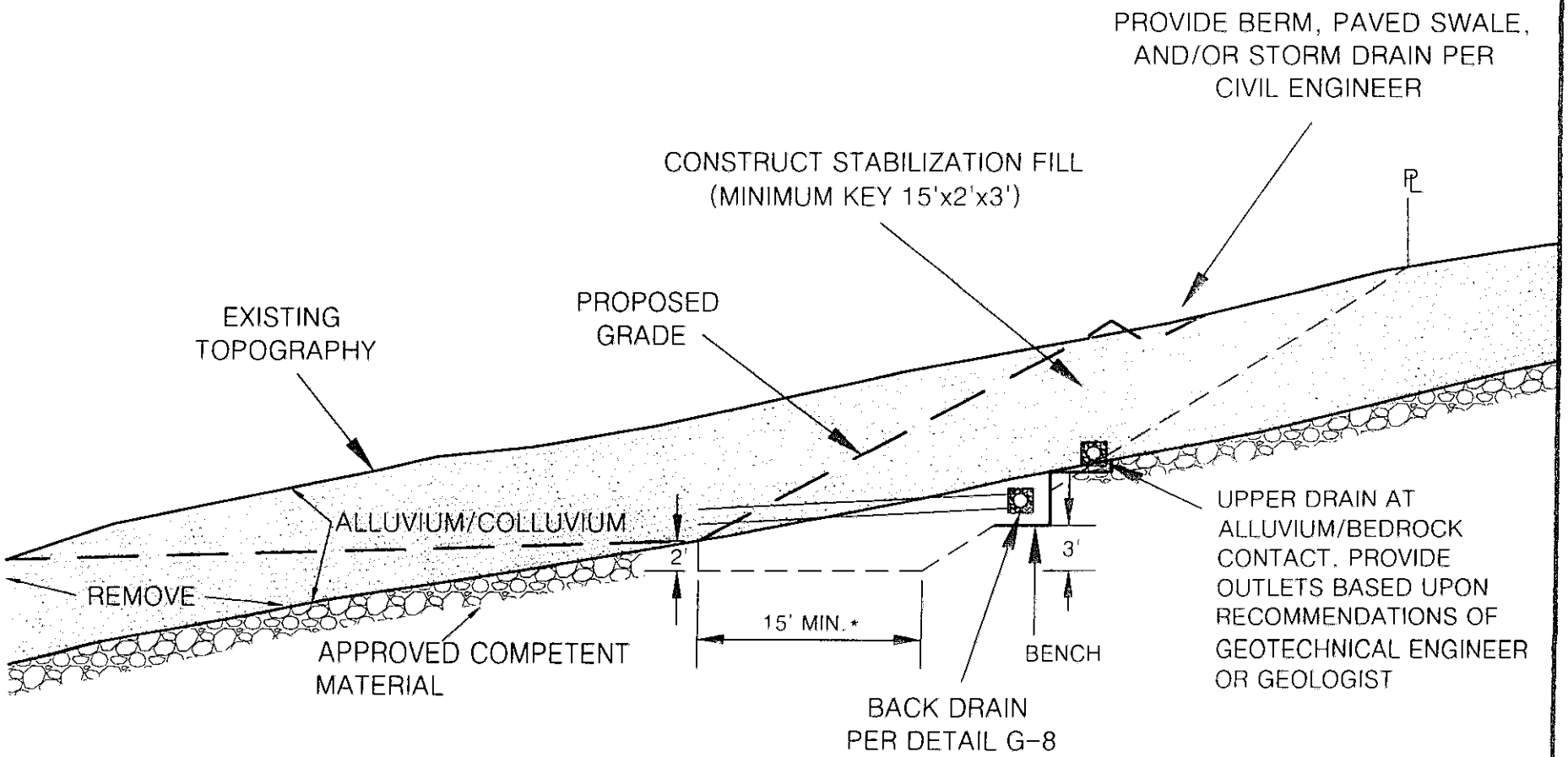
VER. 3/12

PLATE G-8

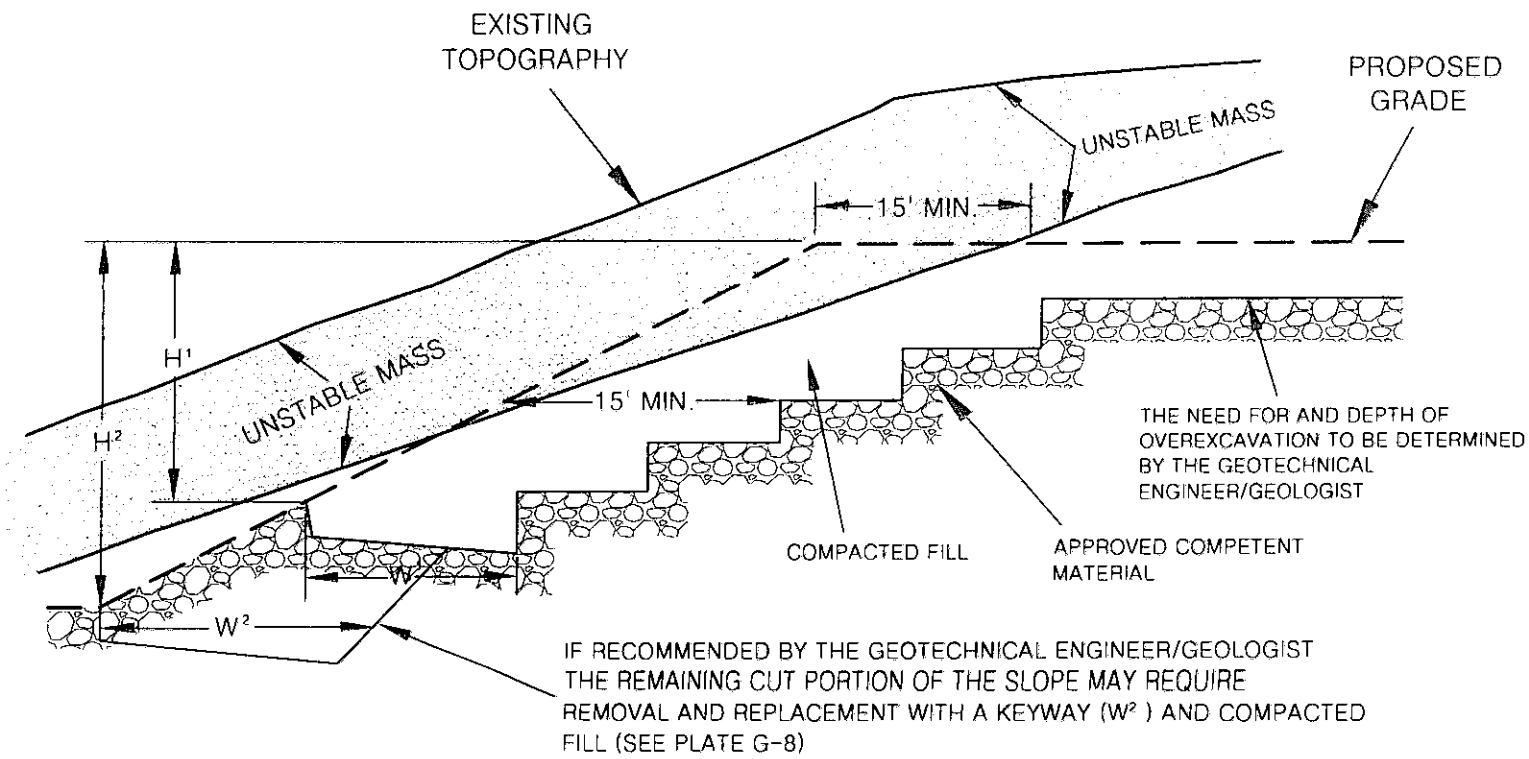
PATH:C:\Users\Jinks\Desktop\Drafting\GRADING DETAILS\G-8.dwg

STABILIZATION FILL
(UPSLOPE ALLUVIATED AREA)



* FOR SLOPE HEIGHTS LESS THAN 30 FT. SLOPES GREATER THAN 30 FT., KEY WIDTH IS SLOPE HEIGHT DIVIDED BY 2

SELECTIVE GRADING DETAIL FOR STABILIZATION FILL
UNSTABLE MATERIAL EXPOSED IN PORTION OF CUT SLOPE



NOTES:

1. BACKDRAINS ARE NOT REQUIRED UNLESS SPECIFIED.
2. "W" SHALL BE EQUIPMENT WIDTH (15') FOR SLOPE HEIGHT LESS THAN 25 FEET. FOR SLOPES GREATER THAN 25 FEET, "W" SHALL BE DETERMINED BY THE PROJECT GEOTECHNICAL ENGINEER/GEOLOGIST. AT NO TIME SHALL "W" BE LESS THAN H/2.

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PLATE G-10

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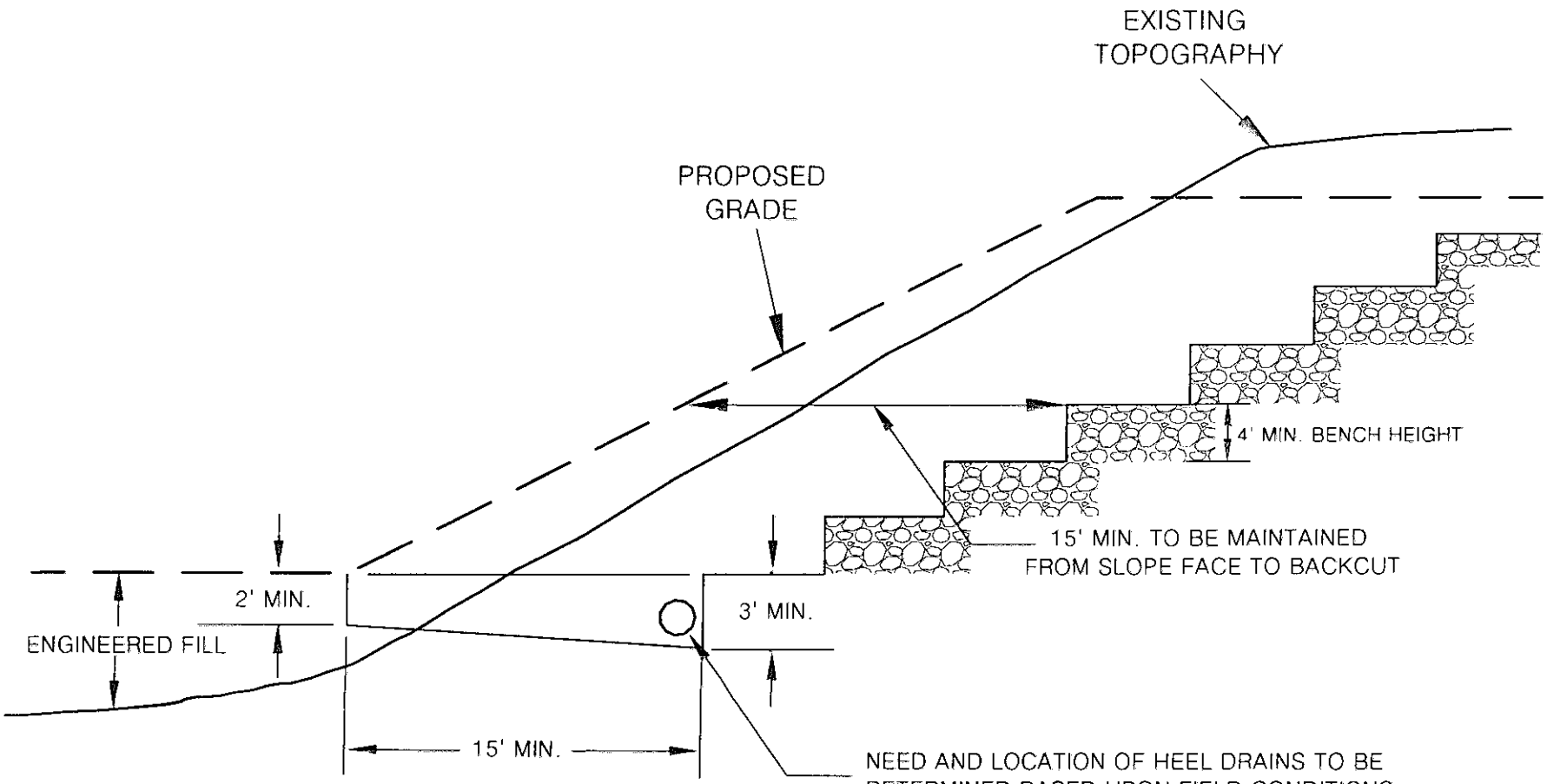
SKIN FILL SLOPE OVER NATURAL GROUND



MIN. KEY DIMENSIONS 15'X2'X3' FOR SLOPE HEIGHTS LESS THAN 30 FT. SLOPES GREATER THAN 30 FT., KEY WIDTH IS SLOPE HEIGHT DIVIDED BY 2

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VER. 1/18

PLATE G-11

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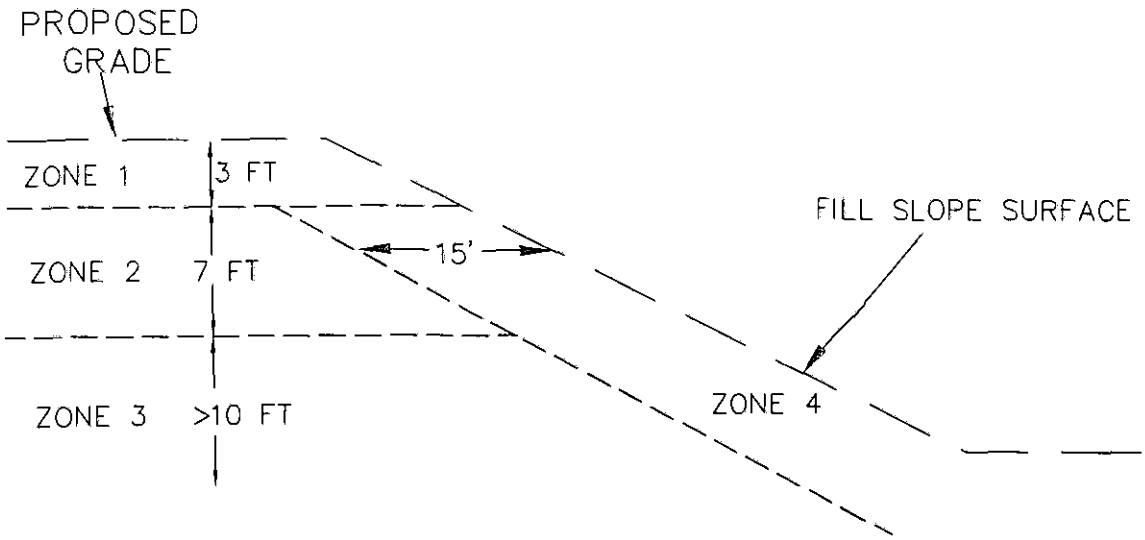
DETAIL FOR MAXIMUM PARTICLE DIMENSION



ZONE	DEPTH	PARTICLE MAX. DIMENSION	PLACEMENT METHOD
1	0-3 ft.	≤1.0 ft.	STANDARD OR CONVENTIONAL COMPACTION METHODS (SEE EARTHWORK SPECIFICATIONS)
2	3-10 ft.	≤2.0 ft.	ROCK BLANKETS (SEE PLATE G-13)
3	>10 ft.	≤8.0 ft.	ROCK BLANKETS (PLATE G-13) ROCK WINDROW (PLATE G-14) INDIVIDUAL ROCK BURIED (PLATE G-15)
4	15 HORIZONTAL FEET FROM FILL SLOPE FACE	≤1.0 ft.	STANDARD OR CONVENTIONAL COMPACTION METHODS (SEE EARTHWORK SPECIFICATIONS)

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PLATE G-12

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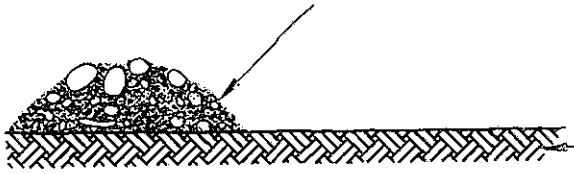
ROCK BLANKET DETAILS

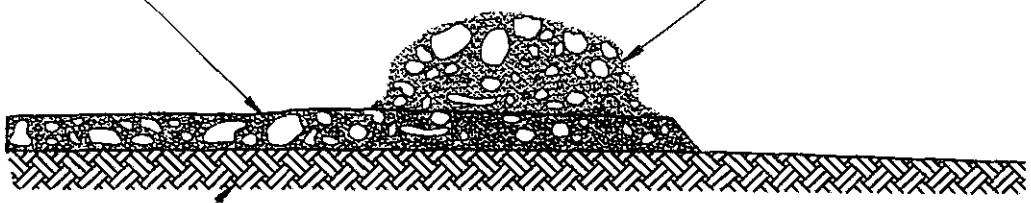
LOOSE PILE 1
LOOSE, DUMPED ROCK, GRAVEL AND SAND MIXTURE REMOVE FRAGMENTS LARGER THAT 2 FEET FOR ISOLATED BURIAL (PLATE G-15) OR WINDROW (PLATE G-10)



APPROVED BOTTOM, OR TOP OF PREVIOUSLY APPROVED BLANKET FILL

COMPACT PILE 1
SPREAD LOOSE PILE FORWARD WITH HEAVY TRACKED DOZER (D-8 OR LARGER). HEAVILY WATER, TRACK, AND APPLY ADDITIONAL SAND AND GRAVEL AS NECESSARY TO FILL VOIDS AND CREATE A DENSE MATRIX OF ROCK, COBBLES, GRAVEL AND SAND (2 FOOT MAXIMUM THICKNESS)

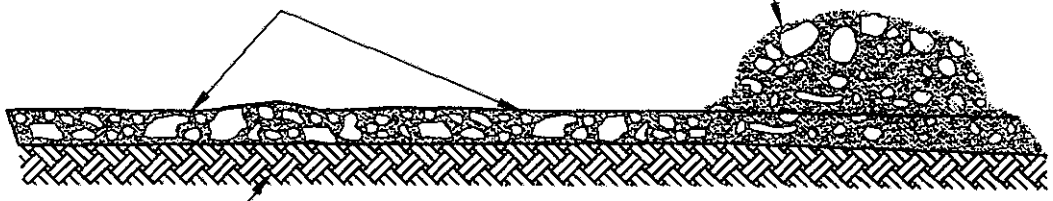
LOOSE PILE 2
DUMP SUCCESSIVE PILES OF LOOSE ROCK, GRAVEL AND SAND MIXTURE ON FORWARD EDGE OF PREVIOUSLY COMPACTED LIFT WITH TRUCKS AND/OR SCRAPERS. USE PREVIOUS LIFT TO ACCESS AND FURTHER COMPACT PILE 1.



APPROVED BOTTOM, OR TOP OF PREVIOUSLY APPROVED BLANKET FILL

LOOSE PILE 3
DUMP SUCCESSIVE PILES OF LOOSE ROCK, GRAVEL AND SAND MIXTURE ON FORWARD EDGE OF PREVIOUSLY COMPACTED LIFT WITH TRUCKS AND/OR SCRAPERS. USE PREVIOUS LIFT TO ACCESS AND FURTHER COMPACT EXISTING BLANKET.

COMPACTED PILES 1 AND 2



APPROVED BOTTOM, OR TOP OF PREVIOUSLY APPROVED BLANKET FILL

OBSERVATION TESTING AND APPROVAL PROCEDURES

OBSERVE EQUIPMENT. SCRAPERS AND TRUCKS SHOULD BE FULLY SUPPORTED ON BLANKET WITHOUT SIGNIFICANT YIELDING. EXCAVATE TEST/OBSERVATION PITS TO CONFIRM EXISTENCE OF MIXTURE OF VARIOUS PARTICLE SIZES, WITHOUT SIGNIFICANT VOIDS, AND FORMING A DENSE, COMPACTED FILL MATRIX. TEST BY ASTM D1556, D2922 AND/OR D3017 WHEN APPROPRIATE. RECORD LIMITS AND ELEVATION OF BLANKET. ALL FILL AND COMPACTION OPERATIONS TO BE CONDUCTED UNDER THE OBSERVATION OF THE GEOTECHNICAL ENGINEER. SUBSEQUENT LIFTS TO BE APPLIED ONLY AFTER OBSERVATION AND CONFIRMATION OF SUITABILITY OF FILL AND RELEASE BY THE GEOTECHNICAL ENGINEER. BLANKETS TO BE CONSTRUCTED IN ACCORDANCE WITH PLATE G-12.

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VER. 3/12

PLATE G-13

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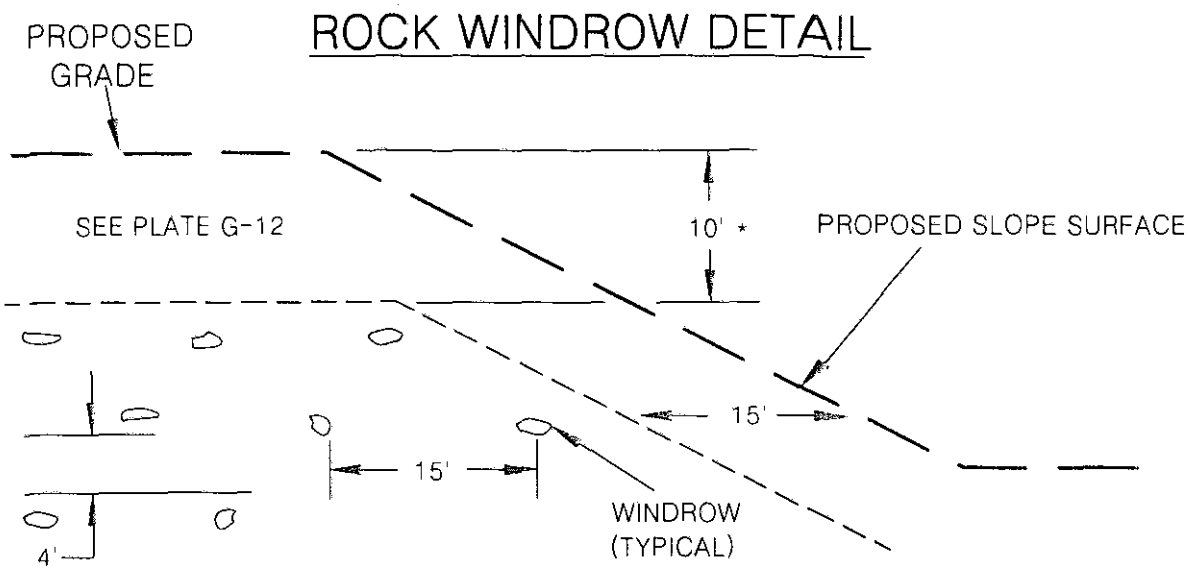
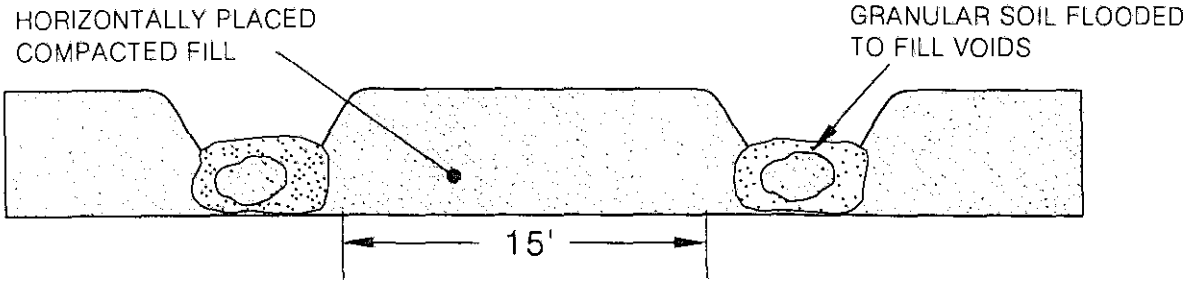
ROCK WINDROW DETAIL



NOTE: OVERSIZED MATERIAL SHOULD BE REMOVED FROM THE 15' CLEAR ZONES WITH SPECIAL EQUIPMENT, SUCH AS A ROCK RAKE, PRIOR TO PLACING THE NEXT FILL LIFT.
*VARIANCES TO THE ABOVE ROCK HOLD DOWN MAY BE GRANTED SUBJECT TO APPROVAL BY THE OWNER, GEOTECHNICAL ENGINEER, AND GOVERNING AGENCY

TYPICAL WINDROW DETAIL (END VIEW)



NOTE: COMPACTED FILL SHALL BE BROUGHT UP TO A HIGHER ELEVATION ALONG EACH WINDROW SO GRANULAR SOIL CAN BE FLOODED IN A "TRENCH CONDITION".

PROFILE VIEW

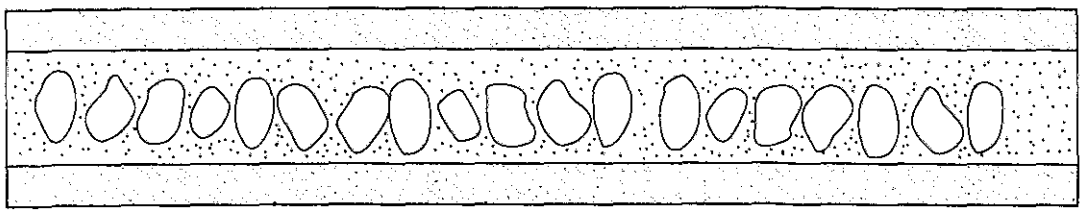


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PLATE G-14

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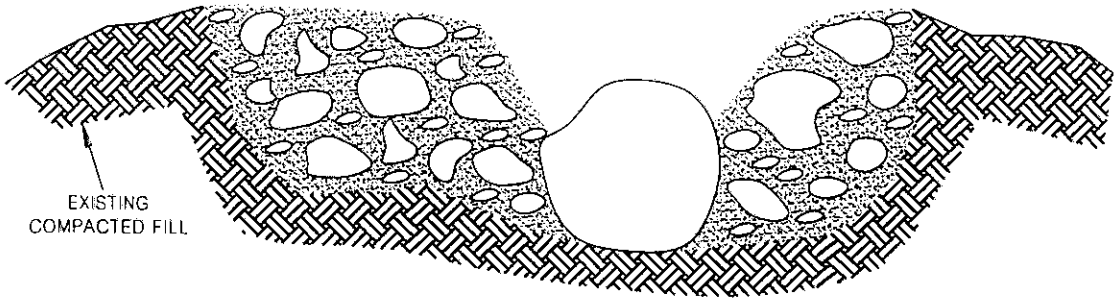
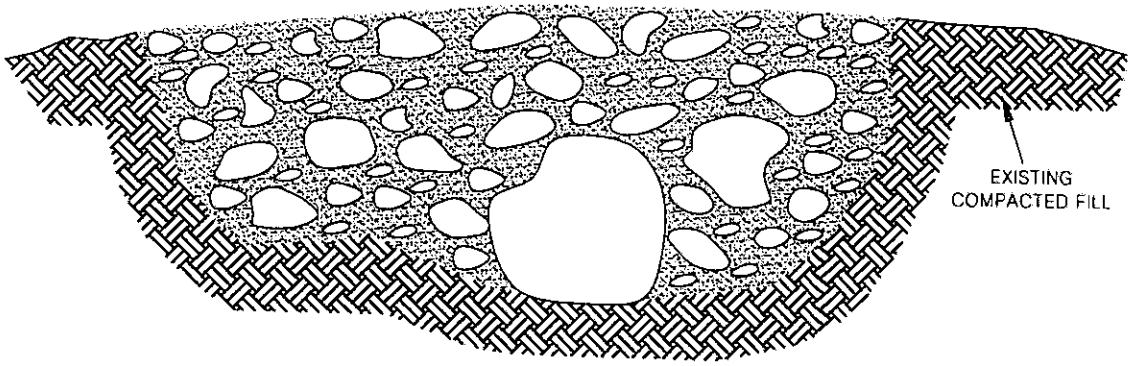
ISOLATED ROCK BURIAL DETAILS

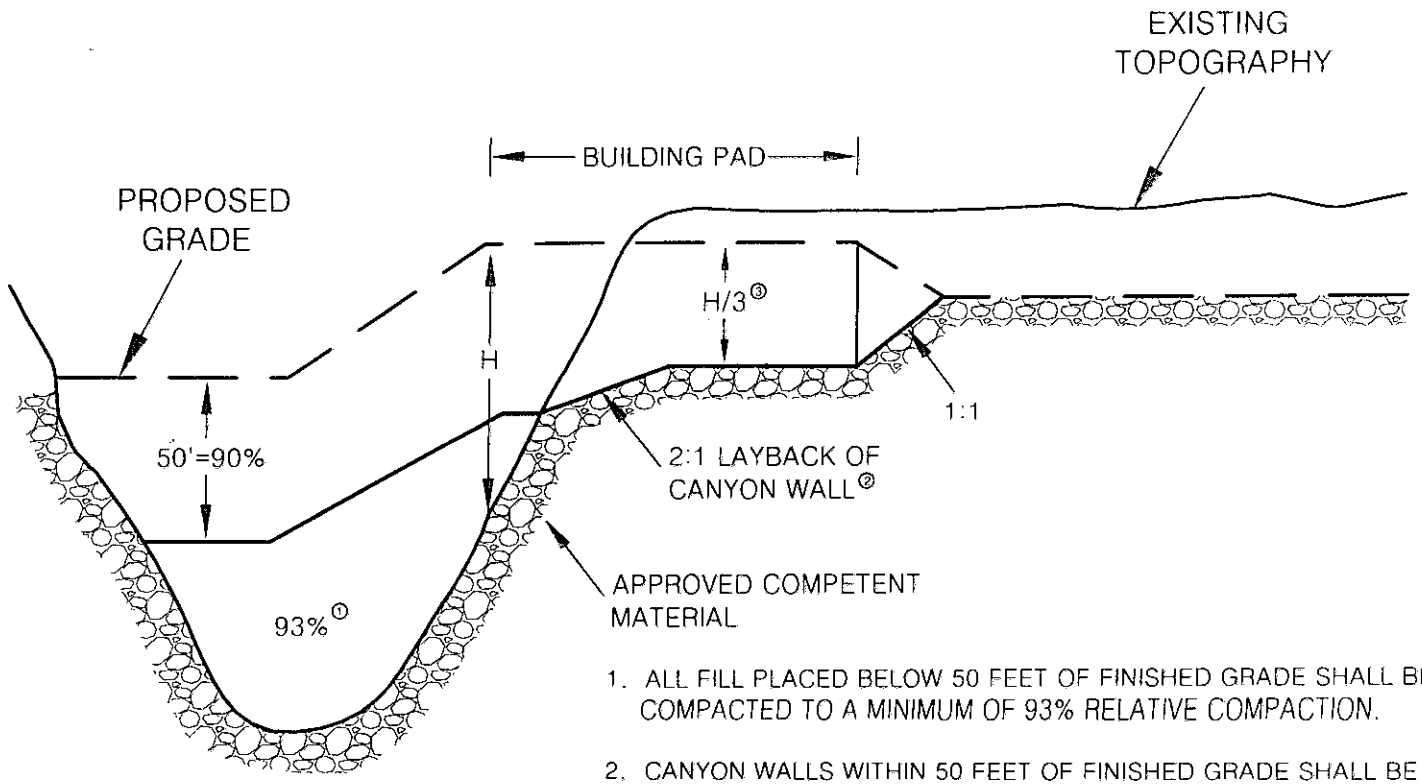


EXCAVATE HOLE INTO EXISTING FILL PRISM, PLACE BOULDER (< 8 feet in maximum dimension) INTO EXISTING COMPACTED FILL. SURROUND WITH SAND, GRAVEL, COBBLES AND WATER HEAVILY. TRACK WITH D8 OR LARGER EQUIPMENT UNTIL RESULTING FILL FULLY SUPPORTS EQUIPMENT. OBSERVE AND/OR TEST IN ACCORDANCE WITH ASTM D1556, D2922 OR D3017. ROCKS LARGER THAN 8 FEET SHALL BE FURTHER REDUCED IN SIZE BY SECONDARY BREAKING.



RELATIVE COMPACTION VS. DEPTH

CANYON WALL LAY BACK
DIFFERENTIAL FILL OVEREXCAVATION DETAILS



1. ALL FILL PLACED BELOW 50 FEET OF FINISHED GRADE SHALL BE COMPACTED TO A MINIMUM OF 93% RELATIVE COMPACTION.

2. CANYON WALLS WITHIN 50 FEET OF FINISHED GRADE SHALL BE LAID BACK TO A SLOPE RATIO OF 2:1 OR FLATTER.

3. ALL BUILDING PADS SHALL BE OVER EXCAVATED TO A MINIMUM OF 1/3 OF THE MAXIMUM DEPTH OF FILL BELOW THE BUILDING PAD TO A MAXIMUM OF 17 FEET.

4. IF THE 2:1 LAY BACK OF THE CANYON WALL IS IMPRACTICAL, THEN AS AN ALTERNATIVE THE INCREASED COMPACTION STANDARDS IN NOTE 1 SHOULD BE EXTENDED UP TO H/3 AND THE LAY BACK WILL NOT BE REQUIRED.

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VER. 3/12

PLATE G-16

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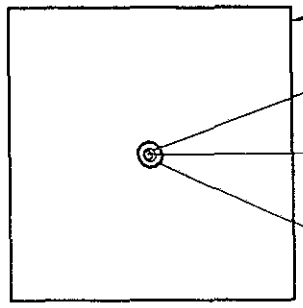
SETTLEMENT PLATE DETAIL

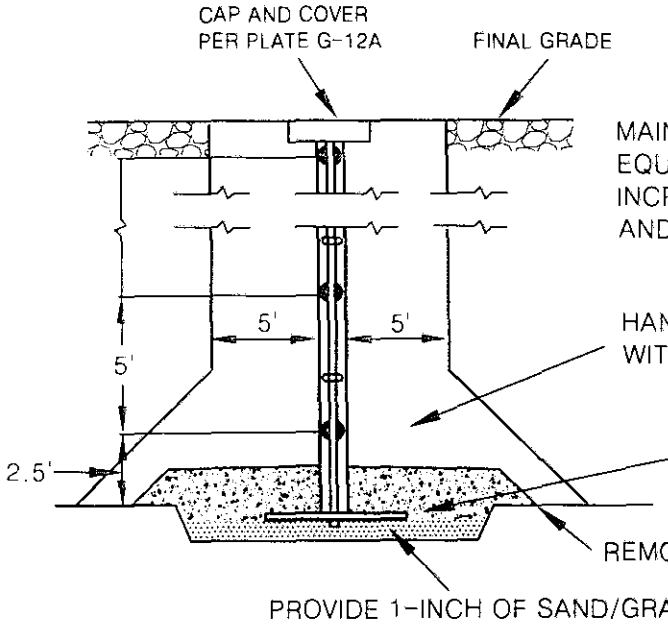


2'X2' X 1/4" STEEL PLATE

STANDARD 3/4" PIPE NIPPLE, WELDED TOP AND UNDERSIDE OF PLATE.

3/4" DIA. X 5' LONG GALVANIZED PIPE, STANDARD PIPE THREADS TOP AND BOTTOM. EXTENSIONS THREADED BOTH ENDS AND ADDED IN 5' INCREMENTS.

3" DIA. SCHEDULE 40 PVC, ADD IN 5' INCREMENTS, GLUE JOINTS.



NOTES:

1) LOCATIONS OF SETTLEMENT PLATES SHALL BE CLEARLY MARKED AND READILY VISIBLE (RED FLAGGED) TO EQUIPMENT OPERATORS.

2) CONTRACTOR SHALL MAINTAIN 10' HORIZONTAL CLEARANCE FOR HEAVY EQUIPMENT WITHIN 5' (VERTICAL) OF PLATE BASE. FILL WITHIN CLEARANCE AREA SHALL BE HAND COMPACTED TO PROJECT SPECIFICATIONS OR COMPACTED BY ALTERNATIVE APPROVED BY THE GEOTECHNICAL ENGINEER.

3) AFTER 5' (VERTICAL) OF FILL IS IN PLACE, CONTRACTOR SHALL MAINTAIN 5' HORIZONTAL EQUIPMENT CLEARANCE. FILL IN CLEARANCE AREA SHALL BE HAND COMPACTED (OR APPROVED ALTERNATIVE) IN VERTICAL INCREMENTS NOT TO EXCEED 2 FEET.

4) IN THE EVENT OF DAMAGE TO SETTLEMENT PLATE OR EXTENSION RESULTING FROM EQUIPMENT OPERATING WITHIN PRESCRIBED CLEARANCE AREA, CONTRACTOR SHALL IMMEDIATELY NOTIFY GEOTECHNICAL ENGINEER AND SHALL BE RESPONSIBLE FOR RESTORING THE SETTLEMENT PLATE AND EXTENSION RODS TO WORKING ORDER.

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VER. 3/12

PLATE G-17

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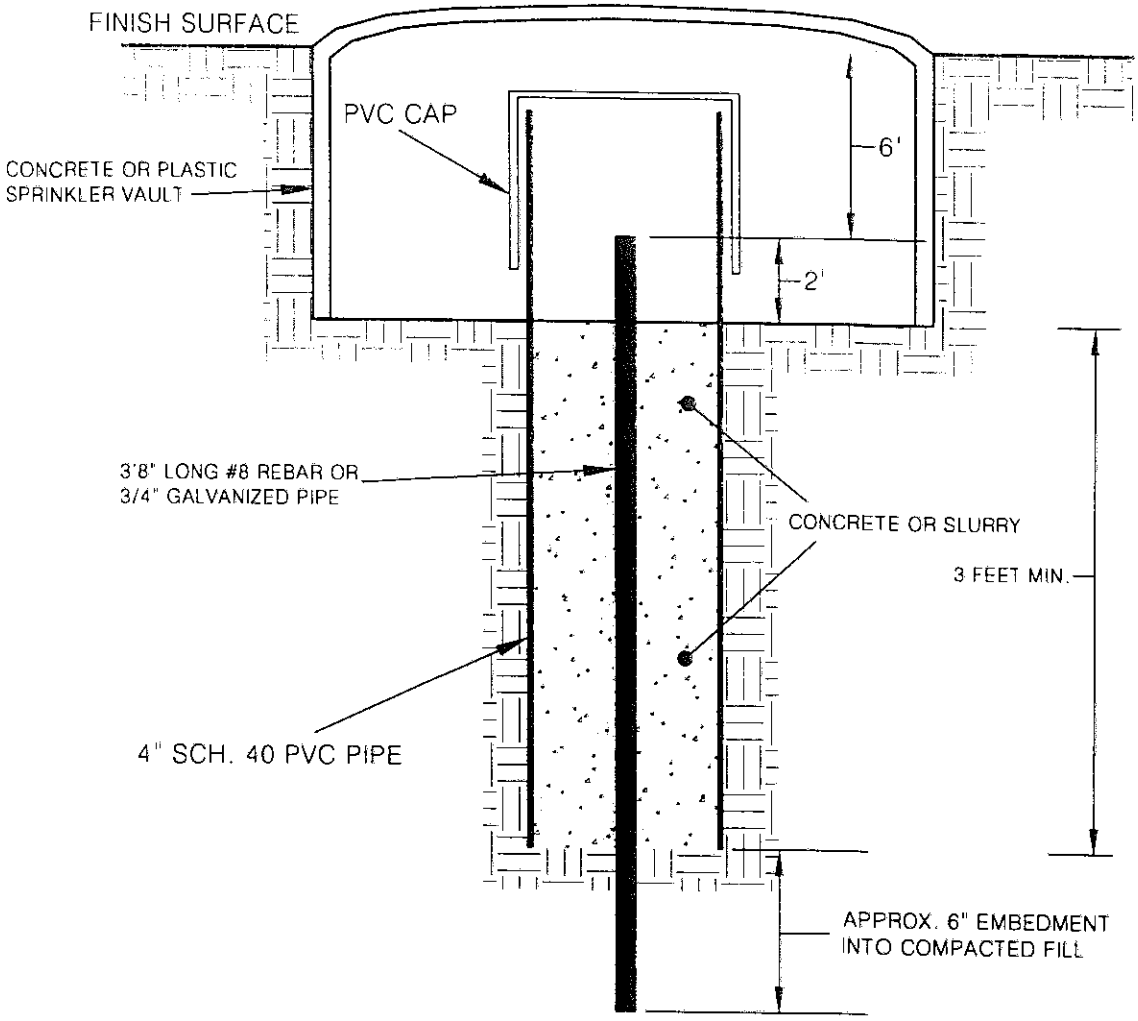
SURFACE SETTLEMENT MONUMENT DETAIL



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VER. 3/12

PLATE G-18

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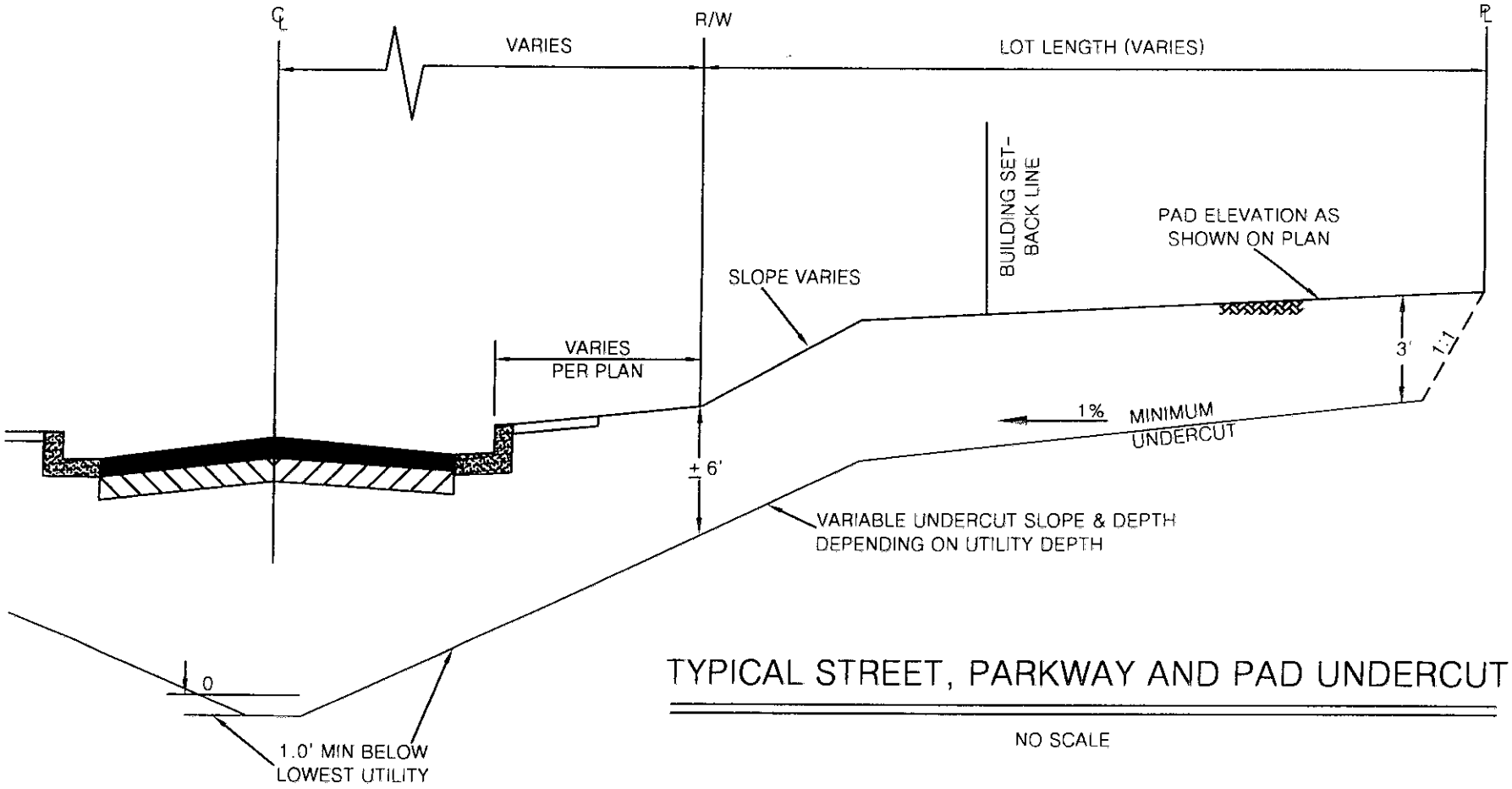

TYPICAL STREET, PARKWAY AND PAD UNDERCUT

NO SCALE

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VER. 3/13

PLATE G-19

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5261 Arlington Ave | Riverside, CA 92504

0' 50' 100' 200'

SCALE: 1" = 100'

Unit Mix	Units	%	Space per DU	Parking Spaces Req.
1BR	128	36%	1.5	192
2BR	115	32%	2	230
3BR	117	33%	2	234
Total	360	100%		656

LEGEND

afu - Artificial Fill-Undocumented

Qyf - Young Alluvial Fan Deposits (Bracketed where Buried)

Qof - Old Alluvial Fan Deposits (Bracketed where Buried)

B-1 - Approx. Location of Boring

P-1 - Approx. Location of Infiltration Test

- Approx. Location of Buried Geologic Contact

RETAIL TOTAL	Area
Pad 1	4,460 SF
Pad 2	11,715 SF
Total	16,175 SF

Parking Designation	Parking Spaces
Outdoor Walk-Up Residential	500
Tuck-under Indoor Tandem	80
Outdoor Tandem	80
Residential Parking Total	660
Retail Parking	96
Total Parking Spaces	756

PLATE 1

ALTA CALIFORNIA GEOTECHNICAL, INC.
170 N. MAPLE STREET, STE 108, CORONA, CA 92880
TELEPHONE: (951)509-7090
PROJECT NUMBER:1-0312 DATE: 2-24-2020

steinberg hart

SERITAGE GROWTH PROPERTIES

RIVERSIDE | YIELD STUDY

SITEPLAN
04.10.2019

Updated Geotechnical Report

ALTA-B

ALTA CALIFORNIA
GEOTECHNICAL INC.

170 North Maple Street, Suite 108
Corona, CA 92880
www.altageotechnical.com

FOULGER-PRATT
136 Calle de Los Molinos
San Clemente, CA 92672

February 24, 2023
Project No. 1-0312

Attention: Mr. Jim Ivory

Subject: **UPDATED GEOTECHNICAL REPORT**
5261 Arlington Avenue
City of Riverside, California

References:
1.) Alta California Geotechnical, Inc., 2020, Geotechnical Investigation, 5261 Arlington Avenue, City of Riverside, California, dated February 24, 2020 (Project Number 1-0312).
2.) City of Riverside, 2020, Standard Plans for Public Works Construction, Public Works Department, Engineering Division, City of Riverside, California; https://www.riversideca.gov/publicworks/drawings.asp

Dear Mr. Ivory:

Presented herein is Alta California Geotechnical, Inc.'s (Alta) Updated Geotechnical Report for the proposed development at 5261 Arlington Avenue, in the City of Riverside, California. This report is based on a review of the site plan provided to Alta and the recommendations presented in Alta's previous report. Alta had previously prepared a geotechnical investigation report (Reference 1) for the subject site.

Alta has reviewed the latest site plan for the project provided by Architects Orange with respect to the geotechnical recommendations presented in the referenced reports. The site plan was found to be feasible with respect to the geotechnical recommendations for the project.

Included in this report is an updated geotechnical map utilizing the engineering site plan as a base. The recommendations presented in the Alta's previous report (Reference 1) with respect to general grading recommendations and improvement design remain applicable to the proposed development unless superseded herein. Updated remedial grading specific to the proposed development shown on the site plan are presented herein.

1.0 UPDATED GEOTECHNICAL MAP

An updated geotechnical map utilizing the site plan as a base is enclosed as Plate 1. The map depicts the geologic units, locations of previous exploratory excavations, and proposed remedial grading. Logs of previous exploratory excavations are presented in Alta's Geotechnical Investigation (Reference 1).

2.0 UPDATED PROPOSED DEVELOPMENT

Based on our review of the Site Plan, the existing structures and parking lot will be demolished, and 27 multi-story residential structures, 2 retail structures, one pool, one club house and associated improvements will be developed. Alta anticipates that remedial grading will be required to develop the site to support the proposed structures with shallow foundations and reinforced concrete slabs-on-grade. Significant height slopes are not anticipated for the project.

3.0 UPDATED REMEDIAL GRADING RECOMMENDATIONS

Remedial grading recommendations were previously presented in Reference 1 and are shown on the enclosed Plate 1. Presented below is a summary of the recommendations specific to the engineering site plan.

3.1 Site Preparation/Unsuitable Soil Removals

All grading shall be accomplished under the observation and testing of the project geotechnical consultant in accordance with the recommendations contained herein and the City of Riverside criteria.

3.1.1 Site Preparation

Vegetation, construction debris, and other deleterious materials are unsuitable as structural fill material and should be disposed of off-site prior to commencing grading/construction. Any septic tanks, seepage pits or wells should be abandoned as per the County of Riverside Department of Health Services.

Existing concrete should be removed prior to the placement of engineered fill. The demolished concrete may be incorporated into compacted, engineered fills after it is crushed to a maximum size of six (6) inches. Prior to placement as engineered fill any protruding steel rebar should be cut from the concrete pieces and disposed of offsite.

Existing asphaltic concrete should be removed prior to the placement of engineered fill. From a geotechnical perspective, this material may be incorporated into compacted, engineered fills after it is crushed to a maximum size of six (6) inches. The crushed asphalt should not be placed under residential structures, but rather, it can be placed in approved non-residential areas, such as streets, parking areas or open space. These recommendations should be verified by the environmental consultant.

3.1.2 Unsuitable Soil Removals

The undocumented artificial fill and the uppermost portions of the young and old alluvial fan deposits onsite are compressible and as such, are not suitable to support the proposed structures. Accordingly, it is recommended to completely remove the undocumented artificial fills and the highly weathered portions of the underlying young and old alluvial deposits across the site and as close to the property boundaries as possible.

It is anticipated that the upper five (5) to seven (7) feet of existing soils will require removal and recompaction, extending a minimum of five (5) feet horizontally outside the proposed building envelopes. Removal bottoms should be observed by the Project Geotechnical Consultant to make a final determination that suitable (non-weathered, limited porosity) soils have been exposed. Removal bottoms should be tested to

determine that the exposed soils have a minimum relative compaction of 85% of the laboratory maximum density (per ASTM test method D-1557). Both observations and tests must be accomplished to determine that suitable bottoms have been exposed. As noted in Alta's report (Alta, 2020), if unsuitable soils are exposed upon the completion of the removal, additional removals may be required.

Footings for structures should be underlain by a minimum of two (2) feet of compacted fill. As such, for building pads where unsuitable soil removals do not provide the minimum depth of compacted fill, or where design grades and/or remedial grading activities create cut/fill transitions, the cut and shallow fill portions of the building pads should be over-excavated during grading and replaced with compacted fill. Based on the proposed design, the recommended unsuitable soil removals shall provide the minimum section of engineered fill.

For fill areas in streets, in general, a minimum removal and recompaction of two (2) feet is recommended, however all undocumented artificial fill shall be removed and recompacted, which may require deeper removals. For cuts deeper than the two (2) feet in street areas, removals are not required provided all the undocumented artificial fill is removed. Cuts less than the thickness of the undocumented fill should extend down to the fan deposits.

Material removed as part of the unsuitable soil removals can be used as artificial fill, provided it is free of deleterious materials.

4.0 UPDATED FOUNDATION DESIGN RECOMMENDATIONS

The foundation design recommendations presented in the Alta's previous report (Reference 1) were originally prepared under the 2019 CBC. Based on a review of the referenced report, the slab, foundation and improvement design recommendations presented in the referenced report remain applicable under the 2022 CBC.

5.0 OFFSITE UTILITIES

It is our understanding that offsite utility construction shall be accomplished as part of the project. Per the Aerial Site Boundary and Off-site detail provided by Albert A. Webb Associates (Plate 2), the installation of offsite utilities will extend along the existing Streeter Avenue, Central Avenue and Hillside Avenue. Trench backfill shall be accomplished per the City of Riverside Trench Backfill Standard Drawing No. 453 (Reference 2 or current standards) and the general trench backfill recommendations presented in the Reference 1 report. The ultimate pavement repair for public streets is under the City of Riverside's purview and should be verified by the city prior to construction.

6.0 LIMITATIONS

The conclusions and recommendations in this report are based on the information generated during the previous investigation, review of the referenced reports, and our review of the site plan. The materials immediately adjacent to or beneath those observed may have different characteristics than those observed, and no representations are made as to the quality or extent of material not observed.

If you have any questions or should you require any additional information, please contact the undersigned at (951) 509-7090. Alta appreciates the opportunity to provide geotechnical consulting services for your project.

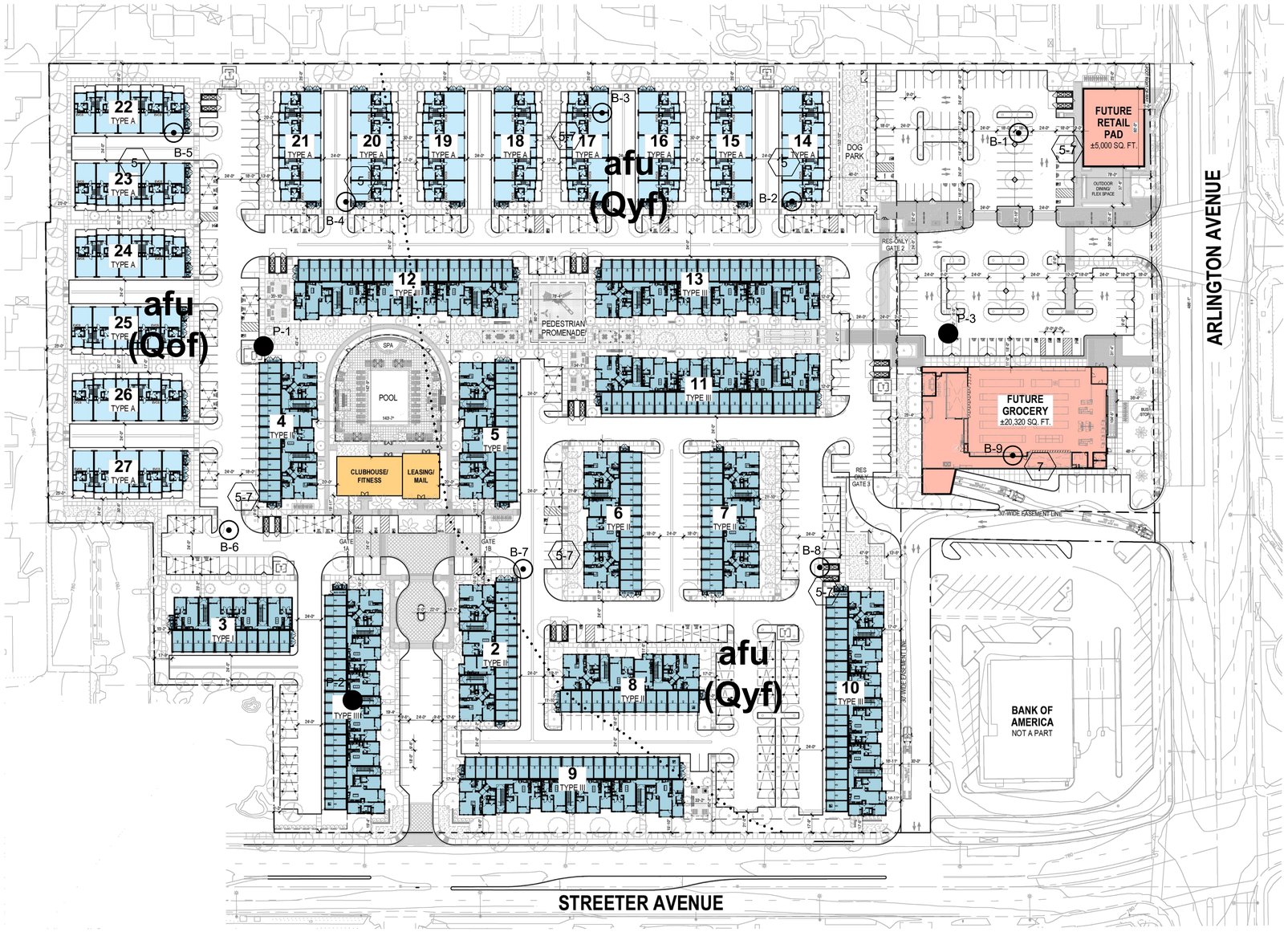
Sincerely,
Alta California Geotechnical, Inc.

JAMES B. COYNE
Staff Geologist
Project Manager

SCOTT A. GRAY/RGE 2857
Reg. Exp.: 12-31-24
Registered Geotechnical Engineer
President

Distribution: (3) Addressee

SAG: 1-0312 February 24, 2023 (Updated Geo Report, 5261 Arlington Ave.)



LEGEND

- RESIDENTIAL: 2-STORY TOWNHOMES
- RESIDENTIAL: 3-STORY TUCK-UNDER
- RESIDENTIAL: LEASING/AMENITY
- COMMERCIAL

Legend

afu	ARTIFICIAL FILL-UNDOCUMENTED
Qyf	YOUNG ALLUVIAL FAN DEPOSITS (BRACKETED WHERE BURIED)
Qof	OLD ALLUVIAL FAN DEPOSITS (BRACKETED WHERE BURIED)
B-1	APPROXIMATE LOCATION OF BORING
P-1	APPROXIMATE LOCATION OF INFILTRATION TEST
. . . . .	APPROXIMATE LOCATION OF BURIED GEOLOGIC CONTACT
5-7	ANTICIPATED REMOVAL DEPTH IN FEET

PLATE 1

ALTA CALIFORNIA GEOTECHNICAL, INC.
170 N. MAPLE STREET, STE 108, CORONA, CA 92880
TELEPHONE: (951) 509-7090
PROJECT NUMBER: 1-0312 DATE: Feb. 22, 2023

NORTH

1"=50'-0" 0 25' 50' 100' 150'

SITE PLAN

A1.2

ARLINGTON MIXED USE

RIVERSIDE, CA

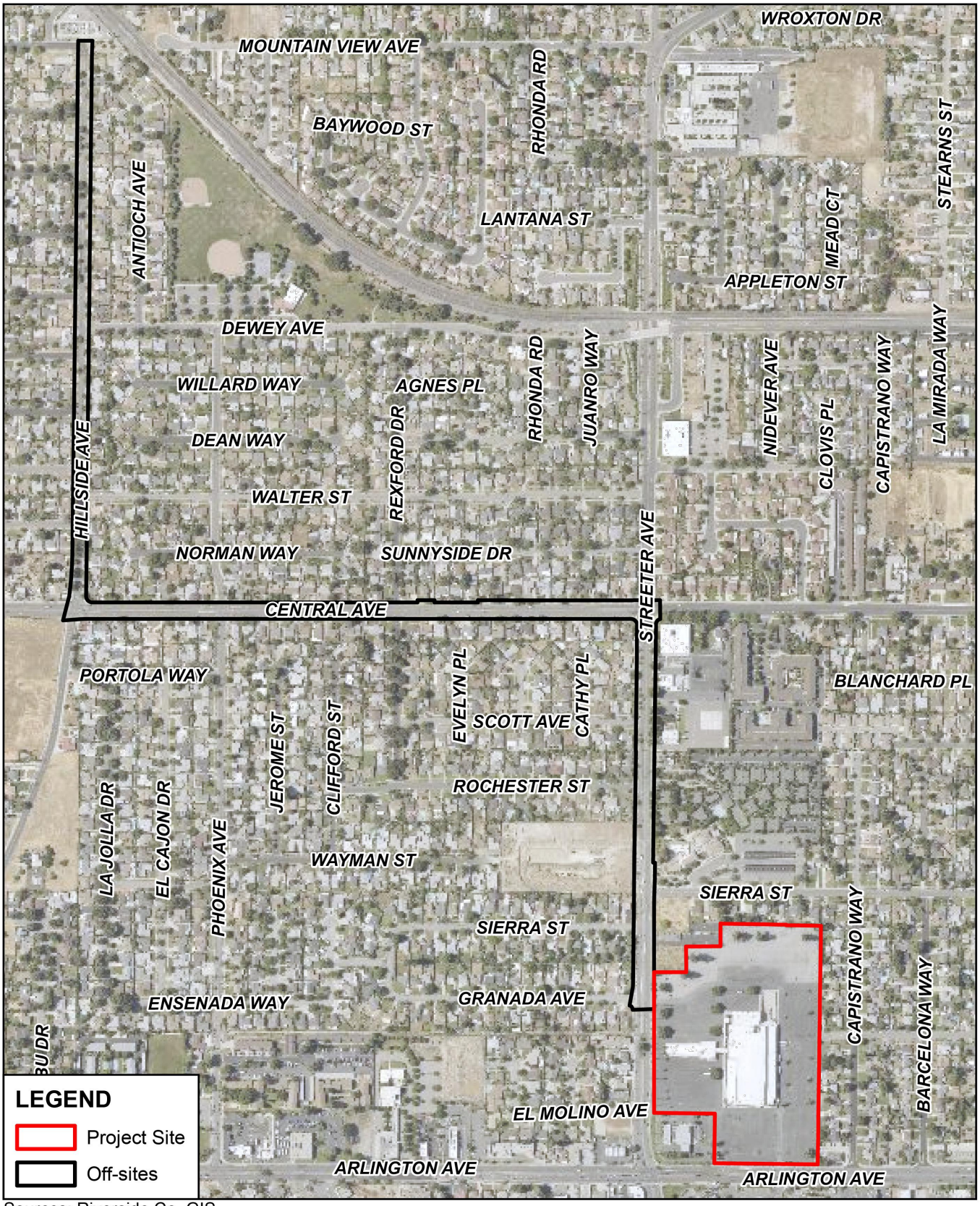
DATE: 08-05-2022
JOB NO.: 2020-055

FOULGER-PRATT

SERITAGE GROWTH PROPERTIES

ARCHITECTS ORANGE
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture. Design. Relationships.



H:\2022\22-0172\GIS\PRO\aerial_site_and_offsites.aprx; Map created 31 Jan 2023

Sources: Riverside Co. GIS, 2020 (streets) and 2020 (imagery).

0 500 1,000 1,500 Feet

Aerial Site Boundary and Off-sites

Arlington Mixed Use Project

ALBERT A. WEBB ASSOCIATES

PLATE 2

ALTA CALIFORNIA GEOTECHNICAL, INC.
170 N. MAPLE STREET, STE 108, CORONA, CA 92880
TELEPHONE: (951) 509-7090
PROJECT NUMBER: 1-0312 DATE: Feb. 22, 2023

Paleontological Resource Inventory Memorandum

DUDEK

DUDEK
MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 800.450.1818 F 760.632.0164

March 24, 2023 14391

RIVERSIDE PROPERTY OWNER LLC.
136 Calle de Los Molinos
San Clemente, CA 92672
Contact: Jamie Chapman

Subject: Paleontological Resources Inventory Memorandum for the 5261 Arlington Avenue Project, City of Riverside, Riverside County, California

Dear Jamie Chapman:

This letter documents the results of the paleontological resources inventory conducted by Dudek in support of the proposed 5261 Arlington Avenue Mixed-Use Project (project) in the city of Riverside (City), California. The approximately 17.43-gross-acre project site is in located at the northeast corner of Arlington Avenue and Streeter Avenue. (Figure 1 – Project Location Map). The project site consists of assessor parcel number (APN) 226-180-015-1; specifically located at 5261 Arlington Avenue, Riverside CA 92506. Project parcel throughout this document is based upon net acreage of 17.37 acres. The Project also includes approximately 1.5 miles of offsite impacts.

To determine the paleontological sensitivity of the project site, Dudek performed a paleontological resources inventory for the project to comply with the California Environmental Quality Act (CEQA) and Society of Vertebrate Paleontology (SVP 2010) guidelines for successful paleontological mitigation. The inventory consisted of a Natural History Museum of Los Angeles County (LACM) and Western Science Center (WSC) paleontological records search and review of geological mapping and geological and paleontological literature. The results of the paleontological records searches were negative for paleontological resources within the project site; however, the LACM reported six fossil localities near the project site, and the WSC reported numerous fossil localities across Southern California from Pleistocene geological units.

1 Project Description

The project would include the demolition of the existing vacant 192,139 square foot (sf) former Sears buildings (Sears building and all appurtenances) and remove existing vegetation including trees. Sears Auto Center is a 13,713-sf structure. The 178,426 sf Sears structure consists of a 90,526 sf basement and 87,900 sf ground level. A protection fence with windscreen material will be installed around the site during demolition to obscure views of the site.

The project proposes development of approximately 576,203 sf of residential and commercial-retail uses and provide several amenities including: onsite leasing office, tuck-under garages, carports, public dog park, outdoor resort style pool and spa, fitness area, clubhouse, shade structures with barbeques and tables, multi-use turf areas, outdoor gaming and play spaces. The project also proposes a variety of rooftop and carport solar panels with a fixed tilt of 10 degrees with no rotation, and an orientation of 90 degrees.

The residential portion of the project site will be surrounded by a 6-foot-high tubular steel fence, 6 foot high block wall, or combination block wall/steel fence. The project includes details for walls and fences within the site and around the perimeter of the site as well as sign plans, fountain wall, dog park gates, vehicular gates, and access gates for residential access.

Grading of the site would be accomplished with scrapers, motor graders, water trucks, dozers, and compaction equipment. It is anticipated Building materials would be off-loaded and installed using small cranes, boom trucks, forklifts, rubber-tired loaders, rubber-tired backhoes, and other small- to medium-sized construction equipment as needed.

The project will also be required to trench approximately 1.5 miles offsite to connect to existing riverside Public Utilities electric facilities. Trenching will occur within existing ROW and will include approximately 0.5 miles in Streeter Avenue from Arlington Avenue to Central Avenue; approximately 0.5 miles in Central Avenue from Streeter Avenue to Hillside Avenue; and approximately 0.5 miles in Hillside Avenue Central Avenue to Mountain View Avenue. It is anticipated that trenching may be as deep as 7 to 8 feet below ground. There is some existing conduit and vaults within this alignment but in order to connect to existing facilities, the project will be required to provide areas of new 6.5-inch conduit and approximately 10 electric vaults sized at 8 feet by 14 feet.

2 Paleontological Resources

Paleontological resources are the remains or traces of plants and animals that are preserved in earth's crust, and per the Society of Vertebrate Paleontology ([SVP] 2010) guidelines, are older than written history or older than approximately 5,000 years. They are limited, nonrenewable resources of scientific and educational value and are afforded protection under state laws and regulations. This study satisfies requirements in accordance with state guidelines (13 California Public Resources Code [PRC], 21000 et seq.) and PRC Section 5097.5 (Stats 1965, c 1136, p. 2792). This analysis also complies with guidelines and significance criteria specified by SVP (2010). Table 1 provides definitions for high, undetermined, low, and no paleontological resource potential, or sensitivity, as set forth in and by the SVP (2010) Guidelines for Determining Significance: Paleontological Resources.

Table 1. Paleontological Resource Sensitivity Criteria

Resource Sensitivity / Potential	Definition
High	Rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered are considered to have a high potential for containing additional significant paleontological resources. Rocks units classified as having high potential for producing paleontological resources include, but are not limited to, sedimentary formations and some volcaniclastic formations (e. g., ashes or tephras), and some low-grade metamorphic rocks which contain significant paleontological resources anywhere within their geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils (e. g., middle Holocene and older, fine-grained fluvial sandstones, argillaceous and carbonate-rich paleosols, cross-bedded point bar sandstones, fine-grained marine sandstones, etc.). Paleontological potential consists of both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, plant, or trace fossils and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, paleoecologic, taphonomic, biochronologic, or stratigraphic data. Rock units which contain potentially datable organic remains older than late Holocene, including deposits associated with animal nests or middens, and rock units which may contain new vertebrate deposits, traces, or trackways are also classified as having high potential.
Undetermined Potential	Rock units for which little information is available concerning their paleontological content, geologic age, and depositional environment are considered to have undetermined potential. Further study is necessary to determine if these rock units have high or low potential to contain significant paleontological resources. A field survey by a qualified professional paleontologist (see “definitions” section in this document) to specifically determine the paleontological resource potential of these rock units is required before a paleontological resource impact mitigation program can be developed. In cases where no subsurface data are available, paleontological potential can sometimes be determined by strategically located excavations into subsurface stratigraphy.
Low Potential	Reports in the paleontological literature or field surveys by a qualified professional paleontologist may allow determination that some rock units have low potential for yielding significant fossils. Such rock units will be poorly represented by fossil specimens in institutional collections, or based on general scientific consensus only preserve fossils in rare circumstances and the presence of fossils is the exception not the rule, e. g. basalt flows or Recent colluvium. Rock units with low potential typically will not require impact mitigation measures to protect fossils.
No Potential	Some rock units have no potential to contain significant paleontological resources, for instance high- grade metamorphic rocks (such as gneisses and schists) and plutonic igneous rocks (such as granites and diorites). Rock units with no potential require no protection nor impact mitigation measures relative to paleontological resources.

Source: SVP (2010)

2 Regulatory Framework

2.1 California Environmental Quality Act

The CEQA Guidelines require that all private and public activities not specifically exempted be evaluated against the potential for environmental damage, including effects to paleontological resources. Paleontological resources, which are limited, nonrenewable resources of scientific, cultural, and educational value, are recognized as part of the environment under these state guidelines. This study satisfies project requirements in accordance with CEQA (13 PRC [Public Resources Code], 21000 et seq.).

Paleontological resources are explicitly afforded protection by CEQA, specifically in Section VII(f) of CEQA Guidelines Appendix G, the "Environmental Checklist Form," which addresses the potential for adverse impacts to "unique paleontological resource[s] or site[s] or … unique geological feature[s]." This provision covers fossils of signal importance – remains of species or genera new to science, for example, or fossils exhibiting features not previously recognized for a given animal group – as well as localities that yield fossils significant in their abundance, diversity, preservation, and so forth.

2.2 PRC Section 5097.5

The PRC Section 5097.5 (Stats 1965, c 1136, p. 2792) regulates removal of paleontological resources from state lands, defines unauthorized removal of fossil resources as a misdemeanor, and requires mitigation of disturbed sites.

3 Methods

3.1 Geological Map Review, Literature Review, and Paleontological Records Search

Published geological maps and published and unpublished reports were reviewed to identify geological units on the site and determine their paleontological sensitivity.

A paleontological records search request was sent to the LACM and WSC on February 8, 2023. The purpose of the records searches was to determine whether there are any known fossil localities in or near the project site to aid in determining whether a paleontological mitigation program is warranted to avoid or minimize potential adverse effects of construction on paleontological resources.

4 Results

4.1 Geological Map Review, Literature Review, and Paleontological Records Search

The project site lies within the northernmost Peninsular Ranges Geomorphic Province, which extends from the tip of the Baja California Peninsula to the Transverse Ranges (the San Gabriel and San Bernardino Mountains) and includes the Los Angeles Basin, offshore islands (Santa Catalina, Santa Barbara, San Nicholas, and San Clemente), and continental shelf. The eastern boundary is the Colorado Desert Geomorphic Province (California Geological Survey 2002; Morton and Miller 2006). The ancestral Peninsular Ranges were formed by uplift of plutonic igneous rock resulting from the subduction of the Farallon Plate underneath the North American Plate during the latter portion of the Mesozoic era (approximately 125 to 90 million years ago) (Abbott 1999).

According to the published geological mapping at a scale of 1:24,000 by Dibblee and Minch (2004), the project site is underlain by Pleistocene (approximately 11,700 years ago to 2.6 million years ago; Cohen et al. [2022]) alluvial fan deposits (map unit Qoa). The geotechnical report indicated the project site is immediately underlain by artificial fill to a maximum depth of 6.5 feet below the ground surface (bgs), followed by Holocene alluvial deposits to a maximum depth of 20 feet bgs, and Pleistocene alluvial deposits underlying the Holocene alluvial deposits (Alta California Geotechnical 2020). According to the test pits and geotechnical borings, the depth of Pleistocene alluvial deposits is variable across the project site, with the northern portion of the project site containing Pleistocene alluvial deposits immediately underlying the thin veneer of artificial fill.

While Holocene alluvial deposits are generally too young to yield significant paleontological resources, Pleistocene alluvial deposits are known to produce significant fossils in this part of Riverside County. Jefferson (1991) reported a fossil mammoth (*Mammuthus* sp.) from Riverside and fossil fish (Osteichthyes), reptile (Sauria), rabbit (Lagomorpha), rodent, (*Microtus* sp.), deer (*Odocoileus* sp.), mastodon (*Mammut* sp.), horse (*Equus* sp.), camel (cf. *Camelops* sp.), and bison (*Bison* sp.) from Corona.

The LACM and WSC records search results letters were received on February 19, 2023 and March 3, 2023, respectively. No records of fossil localities were found within the boundaries of the project site; however, the LACM reported six fossil localities in the vicinity of project site, and the WSC reported numerous fossil localities from Pleistocene geological units across Southern California (Confidential Attachment A). The fossil localities are summarized in Table 2 below.

Table 2. LACM Paleontological Records Search Results

Locality Number	Location	Formation or Unit	Taxa	Depth (ft bgs)
LACM VP 4619	Wineville Avenue in Eastvale	Unknown Pleistocene unit	Mammoth (*Mammuthus*)	100
LACM VP 7811	West of Orchard Park in Chino Valley	Unknown Pleistocene unit	Whip snake (*Masticophis*)	9 to 11
LACM VP 7268 and 7271	South of Los Serranos Golf Course	Unknown Pleistocene unit	Horse (*Equus*)	Unknown

Table 2. LACM Paleontological Records Search Results

Locality Number	Location	Formation or Unit	Taxa	Depth (ft bgs)
LACM VP 1207	One mile north-northwest of Corona	Unknown Pleistocene unit	Bovidae	Unknown
LACM VP 4550	San Jacinto Valley	Unknown Pleistocene unit	Horse (Equidae)	Unknown

VP, Vertebrate Paleontology; bgs below the ground surface

5 Summary and Management Recommendations

No paleontological resources were identified within the project site as a result of the institutional records search, desktop geological review. The paleontological records searches conducted by the LACM revealed six nearby fossil localities, and the WSC reported numerous fossil localities from similar Pleistocene geological units across Southern California. Pleistocene alluvial deposits immediately underlying the artificial fill in the northern portion of project site and at variable depths within the central and southern portions of the project site, have high paleontological sensitivity; Holocene alluvial deposits have low paleontological sensitivity on the surface, increasing with depth; and artificial fill has no paleontological sensitivity. Based on the records search results and map and literature review, the project site has high potential to produce paleontological resources during planned construction activities in areas underlain by Pleistocene alluvial deposits. In the event that intact paleontological resources are discovered on the project site, ground-disturbing activities associated with construction of the project, such as grading and large diameter drilling during site preparation and trenching for utilities, have the potential to destroy a unique paleontological resource or site. Without mitigation, the potential damage to paleontological resources during construction would be a potentially significant impact. With implementation of the following recommended mitigation measure (MM), impacts would be reduced to below a level of significance. Impacts of the project are considered less than significant with mitigation incorporated during construction.

MM GEO-1: Paleontological Resources Impact Mitigation Program and Paleontological Monitoring. Prior to commencement of any grading activity on site, the applicant shall retain a qualified paleontologist per the Society of Vertebrate Paleontology (2010) guidelines. The qualified paleontologist shall prepare a Paleontological Resources Impact Mitigation Program (PRIMP) for the project that shall be consistent with the SVP (2010) guidelines and outline requirements for preconstruction meeting attendance and worker environmental awareness training, where paleontological monitoring is required within the project site based on construction plans and/or geotechnical reports, procedures for adequate paleontological monitoring and discoveries treatment, and paleontological methods (including sediment sampling for microinvertebrate and microvertebrate fossils), reporting, and collections management. A qualified paleontological monitor shall be on site during initial rough grading and other significant ground-disturbing activities (including augering) in areas underlain by Pleistocene alluvial deposits and below a depth of five feet below the ground surface in areas underlain by Holocene alluvium to determine if they are old enough to preserve scientifically significant paleontological resources. No paleontological monitoring is necessary during ground disturbance within artificial fill. In the event that paleontological resources (e.g., fossils) are unearthed during grading, the paleontological monitor will temporarily halt and/or divert grading activity to allow

recovery of paleontological resources. The area of discovery will be roped off with a 50-foot radius buffer. Once documentation and collection of the find is completed, the monitor will allow grading to recommence in the area of the find.

Should you have any questions relating to this report and its findings please contact Michael Williams (mwilliams@dudek.com) or Sarah Siren (ssiren@dudek.com).

Respectfully Submitted,

Michael Williams, Ph.D.
Senior Paleontologist
Mobile: 225.892.7622
Email: mwilliams@dudek.com

Att.: *Figure 1, Regional Location Map*
Attachment A, Confidential Paleontological Records Search Results

cc: *Sarah Siren, Dudek*

6 References

Abbott, P.L. 1999. "The Rise and Fall of San Diego: 150 Million Years of History Recorded in Sedimentary Rocks." San Diego, California: Sunbelt Publications.

Alta California Geotechnical, Inc. 2020. Geotechnical Investigation, 5261 Arlington Avenue, City of Riverside, California. Prepared for Foulger-Pratt.

California Geological Survey. 2002. California Geomorphic Provinces: Note 36. 4 pp.

Dibblee, T.W. and J.A. Minch. 2004. Geologic map of the Riverside West / South ½ of Fontana Quadrangles, San Bernardino and Riverside Counties, California, Dibblee Geological Foundation, Dibblee Foundation Map DF-128, 1:24,000.

Jefferson, G.T. 1991. A Catalog of Late Quaternary Vertebrates from California. Natural History Museum of Los Angeles County, Technical Reports 7:1-174. Unpublished revision: 18 May 2012.

Morton, D.M., and F.K. Miller. 2006. Geologic Map of the San Bernardino and Santa Ana 30-minute x 60-minute quadrangles, California, Geology and Description of Map Units, Version 1.0: U.S. Geological Survey, Open-File Report OF-2006-1217. 194 pp.

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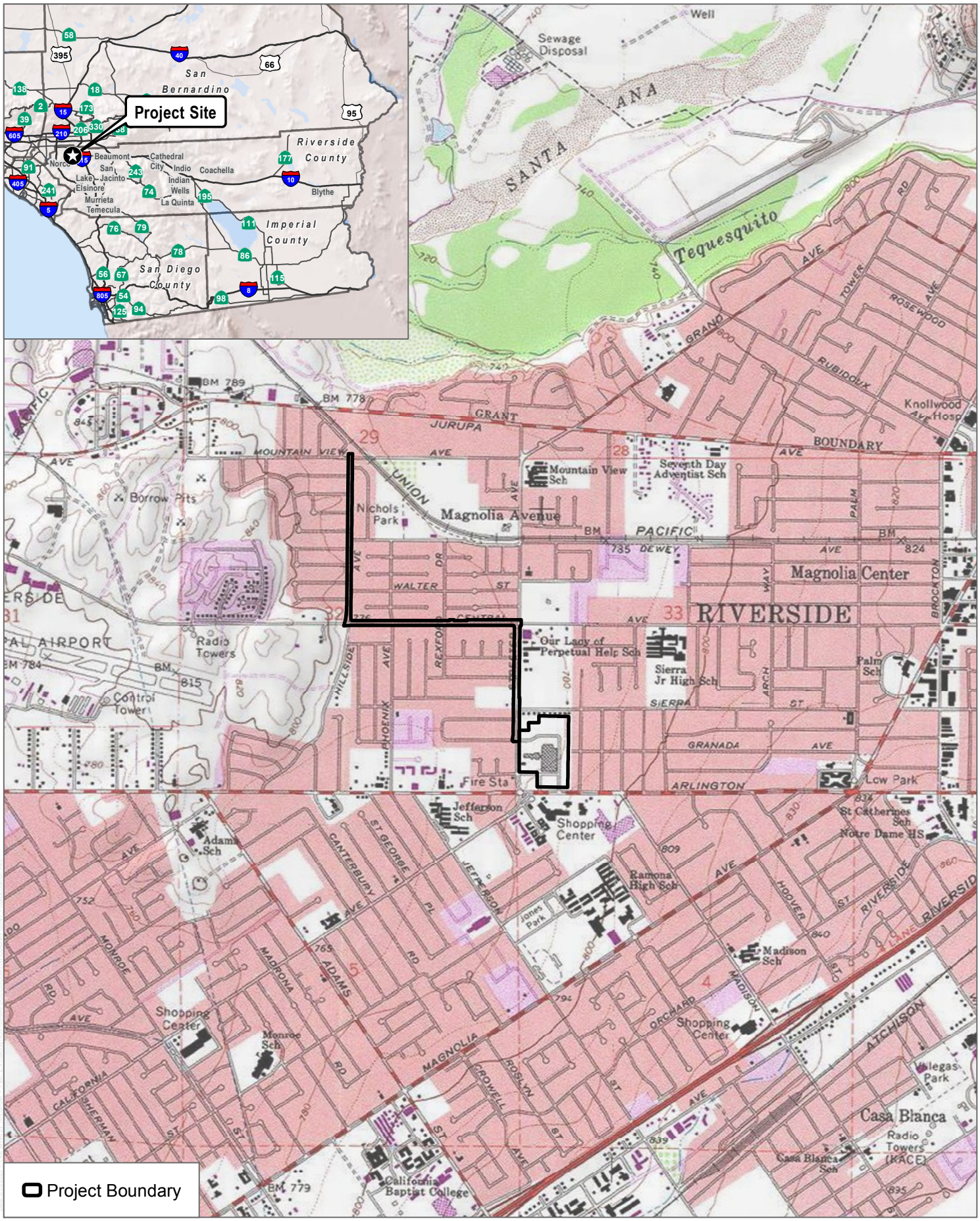

SOURCE: USGS 7.5-Minute Series Riverside West Quadrangle
Township 2S; Range 5W; Sections 33, Township 3S; Range 5W; Sections 04

DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

5261 Arlington Avenue

Attachment A

Paleontological Records Search Results (Confidential)

Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007

tel 213.763.DINO
www.nhm.org

Research & Collections

e-mail: paleorecords@nhm.org

February 19, 2023

Dudek

Attn: Michael Williams

re: Paleontological resources for the Arlington Mixed-Use Project (PN: 14391) Project

Dear Michael:

I have conducted a thorough search of our paleontology collection records for the locality and specimen data for proposed development at the Arlington Mixed-Use project area as outlined on the portion of the Riverside West USGS topographic quadrangle map that you sent to me via e-mail on February 8, 2023. We do not have any fossil localities that lie directly within the proposed project area, but we do have fossil localities nearby from the same sedimentary deposits that occur in the proposed project area, either at the surface or at depth.

The following table shows the closest known localities in the collection of the Natural History Museum of Los Angeles County (NHMLA).

Locality Number	Location	Formation	Taxa	Depth
LACM VP 4619	Wineville Ave, Eastvale, CA	Unknown Formation (Pleistocene)	Mammoth (*Mammuthus*)	100 feet bgs
LACM VP 7811	W of Orchard Park, Chino Valley	Unknown formation (eolian, tan silt; Pleistocene)	Whip snake (*Masticophis*)	9-11 feet bgs
LACM VP 7268, 7271	Sundance Condominiums, S of Los Serranos Golf Course	Unknown (Pleistocene)	Horse (*Equus*)	Unknown
LACM VP 1207	Hill on east side of sewage disposal plant; 1 mile N-NW of Corona	Unknown formation (Pleistocene)	Bovidae	Unknown
LACM VP 4540	Junction of Jackrabbit Trail & Gilman Springs Road; San Jacinto Valley	Unnamed Formation (Pleistocene, gravel pit)	Horse Family (Equidae)	Unknown

VP, Vertebrate Paleontology; IP, Invertebrate Paleontology; bgs, below ground surface

This records search covers only the records of the NHMLA. It is not intended as a paleontological assessment of the project area for the purposes of CEQA or NEPA. Potentially fossil-bearing units are present in the project area, either at the surface or in the subsurface. As

such, NHMLA recommends that a full paleontological assessment of the project area be conducted by a paleontologist meeting Bureau of Land Management or Society of Vertebrate Paleontology standards.

Sincerely,

Alyssa Bell, Ph.D.
Natural History Museum of Los Angeles County

enclosure: invoice

WESTERN SCIENCE CENTER

March 3rd, 2023

DUDEK
Michael Williams
605 Third Street
Encinitas, CA 92024

Dear Mr. Williams,

This letter presents the results of a record search conducted for Arlington Mixed-Use Project located in the city of Riverside, Riverside County, CA. The project site is located north of Arlington Avenue, south of Sierra Street, east of Streeter Avenue, and west of Capistrano Way on Section 33 of Township 2 South, Range 5 West on the *Riverside West, CA* USGS 7.5 minute quadrangle.

The geologic units underlying this project are mapped entirely as alluvial fan deposits of sand and gravel from the Pleistocene epoch (Dibblee and Minch 2004). Pleistocene units are considered to be fossiliferous and highly paleontologically sensitive. The Western Science Center does not have localities within the project area or within a one mile radius, but does have localities from similar mapped units across Southern California.

Any fossil specimens recovered from Arlington Mixed-Use Project would be scientifically significant. Excavation activity associated with the development of the project area would impact the paleontologically sensitive Pleistocene units, and it is the recommendation of the Western Science Center that a paleontological resource mitigation program be put in place to monitor, salvage, and curate any recovered fossils from the study area.

If you have any questions please feel free to contact me at bstoneburg@westerncentermuseum.org.

Sincerely,

Brittney Elizabeth Stoneburg, MSc
Collections Manager

INTIAL STUDY – APPENDIX C

HAZARDS & HAZARDOUS MATERIALS

Phase I Environmental Site Assessment

WEIS

Phase I Environmental Site Assessment

5261 Arlington Avenue
Riverside, California 92504

November 11, 2021

Foulger Pratt
136 Calle de los Molinos
San Clemente, CA 92672

Project Number 21-09-002

Prepared by:

Weis ENVIRONMENTAL

1938 Kellogg Avenue, Suite 116
Carlsbad, CA 92008
(760) 585-7070
www.weisenviro.com

1938 Kellogg Avenue, Suite 116, Carlsbad, CA 92008
(760) 585-7070
www.weisenviro.com

November 11, 2021

Jim Ivory
Vice President, Development
Foulger Pratt
136 Calle de Los Molinos
San Clemente, CA 92672

Subject: Phase I Environmental Site Assessment
5261 Arlington Avenue
Riverside, California 92504
Project Number 21-09-002

Dear Mr. Ivory:

Weis Environmental, LLC has completed the contracted environmental consulting services for the above-referenced project. The services were performed in accordance with our proposal and agreement fully executed by all parties. The Phase I Environmental Site Assessment has been performed in accordance with ASTM International (ASTM) Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, ASTM Designation E1527-13 and Title 40 of the Code of Federal Regulations (40 CFR) Part 312. We appreciate the opportunity to be of service to you on this project. Please contact us if you have any questions or comments regarding this report or if we can be of further assistance.

Sincerely,

Weis Environmental, LLC

Daniel Weis, R.E.H.S.
Environmental Manager

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1.0 INTRODUCTION

This report presents the methods and findings of a Phase I Environmental Site Assessment (ESA) of the property located at 5261 Arlington Avenue, in the City of Riverside, Riverside County, California (Site) performed in conformance with the contract/agreement for this assignment and the scope and limitations of ASTM Standard Practice E1527-13 and United States Environmental Protection Agency (EPA) Standards and Practices for All Appropriate Inquiries (AAI) as published in 40 Code of Federal Regulations (CFR) Part 312. EPA promulgated the AAI rule that became effective in November 2006 and has indicated that the ASTM E1527 practice is consistent with the requirements of AAI and may be used to comply with the provisions of the AAI rule.

1.1 Purpose

The purpose of the ASTM E1527 practice (framework for this Phase I ESA) is to define good commercial and customary practice in the United States of America for conducting an ESA of a parcel of real estate with respect to the range of contaminants within the scope of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (Title 42 United States Code (U.S.C.) Section 9601)) and petroleum products. As such, this practice is intended to permit a user to satisfy one of the requirements to qualify for the innocent landowner, contiguous property owner, or bona fide prospective purchaser limitations on CERCLA liability (hereinafter, the "landowner liability protections," or "LLPs"): that is, the practice that constitutes all appropriate inquiries into the previous ownership and uses of the property consistent with good commercial and customary practice as defined at 42 U.S.C. Section 9601(35)(B).

In defining a standard of good commercial and customary practice for conducting this Phase I ESA of the Site, the goal of the processes established by the ASTM E1527 practice is to identify, to the extent feasible, recognized environmental conditions. The term recognized environmental conditions is defined as the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. In addition, controlled recognized environmental conditions, historical recognized environmental conditions, and/or de minimis conditions, if identified during the completion of the assessment, are discussed herein. Definitions of these terms and other key terminology relevant to the practice are included in Section 14.0 of this report.

1.2 Scope of the Assessment

In general terms, this Phase I ESA included the acquisition of readily available/accessible and practically reviewable regulatory records and historical information, a site reconnaissance, interviews, and preparation of this written report of findings. A more detailed description of the four primary components of the Phase I ESA is presented below.

Records Review - A review of Federal, State, Tribal, and local standard ASTM and non-ASTM regulatory databases for a myriad of environmental identifiers including but not limited to properties with underground storage tanks (USTs), properties with leaking USTs, properties that have reported spills/releases that did not occur from a leaking UST, businesses that utilize hazardous materials, and/or generate hazardous waste and hazardous waste disposal locations. The regulatory review may also include public records requests with one or more Federal, State, Tribal and/or local agencies. A review

of historical sources is also completed to help ascertain previous land uses of the property in question and in the surrounding area.

Site Reconnaissance - A property inspection and viewing of adjacent and surrounding properties for conditions that could be recognized environmental conditions.

Interviews - Interviews with present and past owners, operators and/or occupants of a property and local government officials.

Reporting - Evaluation of the information gathered during the completion of the Phase I ESA and the subsequent preparation of a written report.

1.3 Limitations and Exceptions

Concerns regarding liability under the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. 9601 et seq. (CERCLA) and analogous State laws, have been a primary driver for Phase I ESA assignments in commercial real estate transactions. While the ASTM E1527 practice can be used in many contexts, a familiarity with CERCLA and its potential LLPs is critical in understanding and applying the ASTM E1527 practice. We advise consultation with legal counsel if further inquiry or information is desired.

AAI represents the minimum level of inquiry necessary to support the LLPs. However, it is important to understand that additional inquiry ultimately may be necessary or desirable for legal as well as business reasons depending upon the outcome of this inquiry and the particular risk tolerances of a given user. For example, additional inquiry may assist a user of a Phase I ESA in determining whether he or she would have continuing obligations in the event he or she acquires a given property and may also assist the user in defining the scope of future steps to be taken to satisfy such obligations. In addition, a user may be concerned about business environmental risks or non-scope ASTM considerations that do not fall within the definition of a recognized environmental condition. In addition, this assessment did not include subsurface or other invasive exploration. Users are also cautioned that Federal, State, Tribal and local laws may impose environmental assessment obligations that are beyond the scope of the ASTM E1527 practice.

The evaluation, opinion, and conclusions presented herein are based solely on visual observations and regulatory, historical, and personal knowledge related information that existed at the time our assessment was completed. The use of the gathered information is exclusively for the purposes outlined in this report and only for the Site. Our firm can make no warranty, either express or implied, except that the services conducted were performed in accordance with generally accepted environmental assessment practices applicable at the time and location of the assessment and that the conclusions of the assessment have been based in part on professional judgment/experience, an interpretation of readily available data, and the standard of care normally followed by similar professionals practicing in a similar locale and under similar circumstances. Any opinions presented cannot apply to Site changes of which our firm is unaware and has not had the opportunity to evaluate. In addition, this report cannot feasibly include any evaluation of undocumented activities at the Site or on adjacent or nearby properties. Lastly, a Phase I ESA meeting or exceeding this practice and completed less than 180 days prior to the date of acquisition of a given property or (for transactions not involving an acquisition) the date of the intended transaction is presumed to be valid.

1.4 Special Terms and Conditions

This Phase I ESA was prepared in accordance with the terms and conditions of the contract/agreement for the work as executed between our firm and the client. There are no other special terms and conditions established between our firm and the client pertinent to the findings of this ESA or methodology used to complete this assessment. In addition, our firm has no final or other vested interest in the Site or adjacent/surrounding properties, or in any entity that owns or occupies the Site or adjacent/surrounding properties.

1.5 Limiting Conditions and Deviations

There were no significant limiting conditions that would inhibit our ability to identify recognized environmental conditions noted during the completion of this assessment. In addition, there were no deviations from the ASTM E1527 standard noted during the completion of this assessment. Any limiting conditions that are not considered to be ones that would inhibit our ability to identify recognized environmental conditions at the Site are referenced in applicable sections of this report.

1.6 Data Failure and Data Gaps

No instances of data failure were encountered during the completion of this assessment. In addition, no data gaps of significance (i.e. those that would inhibit our ability to identify recognized environmental conditions) were identified during the completion of this assessment. Any data gaps that are not considered to be ones that would inhibit our ability to identify recognized environmental conditions at the Site are referenced in applicable sections of this report.

1.7 Reliance

This report has been prepared for the exclusive use of our client. This report may not be relied upon by any other person or entity without the written consent of both our firm and our client. The scope of services performed for this assessment may not be appropriate to satisfy the specific needs of other users, and any use or reuse of this document would be at the sole risk of said users. Any other party seeking liability protection under CERCLA must take independent action to accomplish its objective.

2.0 SITE DESCRIPTION

2.1 Location and Legal Description

The Site is a reported 17.43 acres (759,250 square feet), is addressed as 5261 Arlington Avenue, and is further identified by County of Riverside Assessor's Parcel Number (APN) 226-180-015. The Site is located north of Arlington Avenue and east of Streeter Avenue in the City of Riverside, California. A Vicinity Map is included as Figure 1. A Site Plan is included as Figure 2.

2.2 Site and Vicinity Characteristics

The Site and the surrounding vicinity are situated in the City of Riverside that consists primarily of commercial and residential properties and public roadways. Additional details pertaining to the Site and its adjoining properties are provided in the sections below.

2.3 Current Use of the Site

The Site is currently developed with a single-story department store structure with basement level occupying the central portion of the property and an single-story automotive center with basement level in the western portion of the property. The department store structure is vacant except for the southeastern portion of the ground level which is temporarily occupied by Spirit Halloween. The automotive service structure is vacant. The two on-Site strucutes were formerly occupied by a Sears department store and Sears Auto Center. It is our understanding that the Site is planned for future redevelopment which will include demolition and conventional grading (i.e., removal and recompaction of soil) and a change in land use to residential.

2.4 Description of Site Improvements

There are two commercial buildings located on the Site. The central building is an approximate 170,000-square foot vacant department store structure. The interior of the vacant department store building includes retail areas, warehouse and supply storage areas, sub-grade basement areas, public and freight hydraulic elevators, and restrooms. The basement area contains a disconnected boiler, trash compactor, and emergency generator. A smaller, approximately 28,000-square foot automotive service structure is located on the western portion of the property. This building includes six bay doors opening to a concrete-paved former service area with secondary contaimnent structures, nine hydraulic hoists, and a sub-grade oil/water separator. The construction date of the two structure is likely the early- to mid-1960s based on review of historical documentation. The Site formerly contained a vehicle fueling island with three 10,000-gallon gasoline USTs which were removed in 1985 and seven 1,000 to 2,000-gallon oil and waste oil USTs removed in 1987; the fueling station island and distribution lines were removed in 1994. The balance of the remaining Site property comprises asphalt-paved parking areas, driveways, and minor landscaping.

Access to the Site is provided from Arlington Avenue and Streeter Avenue along the southern and western sides of the property, respectively. Indicators of various utility systems are present throughout the Site, primarily adjoining the building exteriors and along the Site perimeter. A higher level of confidence regarding the nature of extent of surface indicators of subsurface features can be obtained from a utility or geophysical consultant.

2.5 Utilities

Utilities that are reported to be present at the Site or provide service in the surrounding area are noted below along with their municipal provider where applicable. If certain utility systems are not provided by public agencies or entities, they are noted as privately maintained.

Utility	Provider (Where Applicable)
Potable Water	Riverside Public Utilities
Sewage Maintenance	Riverside Public Utilities
Electrical	Riverside Public Utilities
Natural Gas	Southern California Gas
Solid Waste Disposal	City of Riverside

2.6 Description of Adjoining Properties

Adjoining properties are defined as any real property or properties, the border of which is contiguous or partially contiguous with that of the subject property of a Phase I ESA, or that would be contiguous or partially contiguous with that of a subject property but for a street, road, or other public thoroughfare separating them. To the extent feasible, our firm performed a visual inspection of adjoining properties from the Site boundaries and along public right of ways. We did not encroach on to adjoining private property during the completion of this assessment. The following table identifies the adjoining property uses:

Direction	Adjoining Property Use
North	Residential properties with a chiropractic office to the northwest.
East	Residential properties.
South	Arlington Avenue then commercial properties.
Southwest	Bank of America property.
West	Streeter Avenue then primarily residential properties. A Chevron service station is located west of the Bank of America property.

3.0 PHYSICAL SETTING

3.1 Topography

The Site is depicted on the United States Geological Survey (USGS) topographic map for the Riverside West 7.5-minute quadrangle. The Site is shown on the map as being situated at an elevation of approximately 780 feet above mean sea level. The Site and surrounding area appear relatively level with a slight gradient to the west. There are no improvements , structures or surface waters depicted on-Site on the map. Adjoining and surrounding roadways are depicted on the map. The Site as depicted on a topographic map is included as Figure 3.

3.2 Hydrology

The Site is situated within the Middle Santa Ana River Basin. There are no known substantial hydrologic features at the Site including major storm drain inlets or obvious drainages, channels, or surface waters. Due to the substantial amount of current paving at the Site, infiltration of precipitation to the Site is likely to be relatively minor. Currently, excess water appears to flow generally north and west as surface runoff to on-Site storm drains located in the parking areas and near the Site perimeter. On-Site storm drains appear to discharge to the municipal stormwater conveyance system. The Site does not appear to receive significant drainage from off-Site properties.

3.3 Geology

General geologic information pertaining to the Site is presented in the table below.

Geologic Consideration	Details
California Geomorphic Province	Peninsular Ranges.
Mapped Soils or Formation	The Site is underlain by holocene and pleistocene-age unconsolidated sand and pebble- to gravel-sand alluvial fan deposits.
Description of Soils or Formation	Accoridng to lithological descriptions provided during prior subsurface investigative work, the Site is underlain by dark brown sandy clay and olive brown sandy silt to approximately 21 feet below ground surface and olive brown poorly graded sand to 35 to 45 feet below ground surface.
Distance/Direction to Mapped Faults	Mapped unnamed faults within the western portion of the San Jacinto Fault Zone are located approximately eight miles east of the Site.

3.4 Hydrogeology

General hydrogeologic information pertaining to the Site is presented in the table below.

Hydrogeologic Consideration	Details
Groundwater Basin or Unit	Upper Santa Ana Valley groundwater basin. Riverside-D Groundwater Management Zone.
Beneficial Uses	Municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.

Hydrogeologic Consideration	Details
Estimated Depth to Groundwater	Based on previous subsurface investigative work, depth to groundwater is approximately 25 to 30 feet below ground surface.
Estimated Flow of Groundwater	Northwest.
Known Site or Regional Groundwater Contamination Issues	Previous subsurface assessments identified petroleum imapcts associated with former hydrocarbon USTs and chlorinated solvents potentially associated with an up-gradient off-Site former dry cleaning operation.

3.5 Oil and Gas Exploration

According to online resources provided by the California Department of Conservation, Geologic Energy Management Division (CalGEM), there are no oil, gas or geothermal wells located on the Site or its adjacent properties.

4.0 USER PROVIDED INFORMATION

A representative of the user of this report (Foulger Pratt) was interviewed during the completion of this assessment. The questions posed during the interview are defined by the ASTM E1527 practice. The client also provided our firm with any land title records and judicial records that may be available for the Site as part of the required evaluation for environmental liens and activity and use limitations (AULs) in connection with the subject property of a Phase I ESA. As stated in the ASTM E1527 practice, it is the responsibility of the user of the report to provide any available records pertaining to environmental liens and AULs that may exist in connection with a given property. Any land title and judicial recorded provided to our firm are discussed below. If such information is not discussed in the sections below, it was not provided by the user of the report.

In addition to the contact information obtained, the user of the report was also asked if they are aware of other useful documents that may exist and if so whether copies can be provided to the environmental professional within reasonable time and cost constraints. A list of typical useful documents is included in Section 10.8.1 of the ASTM E1527 practice and include but are not limited to environmental assessment reports, compliance audits and permits, registrations for tank and other aboveground or underground systems, safety plans, spill prevention and other facility related plans and geological/geotechnical studies and environmental governmental agency notices, and/or correspondence. The user provided prior Phase I and II ESAs performed at the Site by Terracon dated December 18, 2014, and April 7, 2015, and an asbestos survey performed at the Site by Watterson dated March 3, 2020. Additionally, the user provided email correspondence with the SA-RWQCB concerning planned future Site development.

4.1 Title Records

Our firm was not provided with title records pertaining to the Site.

4.2 Environmental Liens

The client is unaware of environmental liens in connection with the Site.

4.3 Activity and Use Limitations

The client is unaware of AULs in connection with the Site.

4.4 Specialized or Actual Knowledge or Experience

The client provided email correspondence with the Santa Ana Regional Water Quality Control Board (SA-RWQCB) concerning future Site development, land use changes, and potential oversight. Relevant findings and requirements include:

- A “No Further Action” letter was issued by the SA-RWQCB for former on-Site petroleum hydrocarbon USTs in 2003. The letter included a requirement that the SA-RWQCB be contacted and findings/recommendations reevaluated should land use change be proposed for the Site.
- An oversight agreement between the developer and the SA-RWQCB would be needed for consideration of land use changes relative to environmental constraints.

- Existing supplemental documentation (e.g., prior Phase I and II ESAs) have been provided to the SA-RWQCB for review.
- The developer will prepare a work plan detailing any data gaps and a proposed scope of work for SA-RWQCB review and approval.
- The future work plan is expected to include a soil gas investigation beneath existing structures, soil gas plume delineation to non-detect or 2019 environmental screening levels as established by the San Fransico Bay RWQCB, and a minimum of two rounds of indoor air sampling during at least two different seasons.
- Following implementation of the work plan, a written report of findings will be prepared for SA-RWQCB and Office of Environmental Health Hazard Assessment review and approval.
- The report of findings will include a human health risk assessment and proposed implementation of remedial strategies and mitigation measures.

4.5 Commonly Known or Reasonably Ascertainable Information

The client is unaware of commonly known or reasonably ascertainable information within the local community that is material to recognized environmental conditions in connection with the Site.

4.6 Valuation Reduction for Environmental Issues

The client is unaware of information pertaining to an undervalued purchase price of the Site relative to the estimated fair market value of the Site due to the presence of contamination.

4.7 Owner, Property Manager, and Occupant Information

The Site is owned by Seritage SRC Finance and is currently temporarily occupied by Spirit Halloween. Sears Roebuck & Co. (department store and automotive service center) was the Site occupant from the early to mid-1960s to mid-2010s.

4.8 Reason for Performing Phase I ESA

The client has commissioned this Phase I ESA as part of Site redevelopment. The Phase I ESA is also being completed to assist the client in complying with 40 CFR Part 312.

4.9 Proceedings Involving the Site

The client is unaware of pending, threatened, or past litigation and administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the Site. The client is also unaware of notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products in connection with the Site.

4.10 Other Provided Documents

The following prior Phase I and II ESAs performed for the Site were provided by the client:

- Terracon. 2014. 1298 – Final Phase I ESA (12-18-14), Sears Store #1298 and Sear Auto Center #6711, 5261 Arlington Avenue, Riverside, Riverside County, California. December 18, 2014.

- Terracon. 2014. 1298 –Phase II ESA Report, 1298_CA_DD_Final Phase II ESA Report, Sears Store #1298 and Sear Auto Center #6711, 5261 Arlington Avenue, Riverside, Riverside County, California. April 7, 2015.

Terracon prepared these reports on behalf of Sears Holdings Management Corporation. The Phase I ESA was performed in general accordance with ASTM Standard E1527-13 and consisted of a site reconnaissance, interviews with knowledgeable personnel, review of historical documentation, and review of federal, state, and local regulatory databases. Findings, relevant information, and conclusions presented in the Terracon Phase I ESA include:

- The Site was occupied by Sears and improved with two buildings, a retail department store and an automotive service center. Sears operations began in the early to mid-1960s; prior land use was agricultural.
- Ten USTs were formerly located on-Site: three 10,000-gallon gasoline USTs, one 1,000-gallon waste oil tank, four 1,000-gallon oil tanks, and two 2,000-gallon oil tanks. The tanks were associated with the auto center and a former fueling island located on the western portion of the property. The tanks were removed in 1985 and 1987 and the fueling island and associated distribution lines were removed in 1994.
- A leak was discovered during UST removal. Soil investigation and groundwater monitoring took place between 1993 and 2003. The SA-RWQCB granted regulatory closure for the UST release via a "No Further Action" letter dated June 26, 2003. The letter indicates that corrective action should be reviewed in the future if land use changes. Terracon determined that groundwater contaminants were present at the Site at concentrations exceeding regulatory risk-based groundwater screening levels (specifically total petroleum hydrocarbons [TPH] as gasoline, ethylbenzene, xylenes, and tetrachloroethene [PCE]). The former USTs were identified as a controlled recognized environmental condition.
- The automotive center oil/water separator was identified as a recognized environmental condition. Evidence supporting this conclusion included the long duration of automotive service (approximately 60 years at the time), unknown chemical usage, hazardous waste management disposal activities, lack of soil/groundwater data, and absence of continuous service records.
- PCE detected in groundwater was also identified as a recognized environmental condition. The Crown Cleaners facility located approximately 600 feet south (up-gradient) of the Site in the Heritage Plaza Shopping Mall was the location of a documented release and was identified as the likely source.
- 2002 Site asbestos abatement work included the removal of sheetrock joint compound, acoustic ceiling tile adhesive, vinyl floor tile, and flooring adhesive. Additional asbestos containing materials reportedly remains on Site.

Based on the above findings, a Phase II ESA was performed by Terracon. The general scope of work and associated findings and conclusions are as follows:

- On March 6, 2015, five direct push boring locations were advanced to a maximum depth of 45 feet below ground surface for co-located soil and groundwater sampling. Sample locations were chosen to characterize potential impacts related to the former on-Site UST system, the automotive center oil/water separator, and solvent releases from the up-gradient off-Site Crown Cleaners facility.

- TPH concentrations below the applicable Los Angeles RWQCB maximum screening levels and volatile organic compound (VOC) concentrations below the United States Environmental Protection Agency (USEPA) Region 9 Regional Screening Levels were detected in soil collected from the former UST and oil/water separator areas.
- PCE was detected in groundwater collected from each of the five locations at concentrations above the laboratory method detection limits but below the USEPA Region 9 Regional Screening Level.
- VOCs (specifically benzene, ethylbenzene, 1,2-dichloroethane, and total xylenes) were detected at concentrations greater than California Environmental Protection Agency (CalEPA) Maximum Contaminant Levels (MCLs) in groundwater collected from one location near the former fueling island and area. VOCs were also detected in groundwater collected near the automotive service center, but at concentrations below respective CalEPA MCLs.
- TPH (gasoline, diesel, and oil range fractions) was detected at concentrations above the San Francisco RWQCB Regional Environmental Screening Levels in the vicinity of the former USTs, oil/water separator, and southeast portion of the Site.

5.0 REGULATORY RECORDS REVIEW

Our firm commissioned the preparation of a regulatory database report from Environmental Risk Information Services (ERIS) as part of the regulatory records review. ERIS searches a myriad of Federal, State, and local government environmental databases during the preparation of their deliverables. Certain databases are specifically required by the ASTM E1527 practice and are referenced as "standard ASTM regulatory databases." Such databases are searched to at least the minimum search distance around a given property as defined in the practice. Other regulatory databases are also searched that are not specifically referenced in ASTM E1527. Such databases are referenced as "non-ASTM regulatory databases" and are searched as varying radii around a given property as selected by ERIS.

Descriptions of each database searched and the dates that the regulatory databases were last updated by the applicable agencies are included in the ERIS report. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of an updates. ERIS updates databases in accordance with ASTM E1527 which states that government information from nongovernmental sources may be considered current if the source updates the information at least every 90 days, or, for information that is updated less frequently than quarterly by the government agency, within 90 days of the date the government agency makes the information available to the public.

Our firm also reviewed unplottable sites listed in the database report by cross-referencing reasonably ascertainable information pertaining to such properties that may include facility names, street names, zip codes or other information. Unplottable sites are ones that cannot be formally mapped or geocoded due to various reasons, including limited geographic information. Unplottable sites that we identify within the specified search radii have been evaluated as part of the preparation of this report. A copy of the regulatory database report is included in Appendix A.

5.1 Standard ASTM Regulatory Database Search

The tables below present the standard Federal, State, Tribal and local ASTM databases that were searched by ERIS including the search distances from the Site. Below the tables are descriptions of any listings for the Site that may appear in the databases. In addition, a discussion of adjoining properties or properties in the Site vicinity that are listed in one or more regulatory databases that in our professional judgment and opinion have the potential to adversely impact the Site due to current or former releases of hazardous substances and/or petroleum products that occurred at said properties is presented. This practice of discussing only properties of potential environmental concern to the Site is noted in ASTM E1527 which states that the environmental professional may make statements applicable to multiple properties listed in regulatory databases that are not likely to have current or former releases of hazardous substances and/or petroleum products with the potential to migrate to the a given subject property. Our professional judgment and opinions discussed herein are based on several factors including the nature of the regulatory database listings, distance of the off-Site listed properties from the Site, orientation of the listed properties relative to the Site, interpreted the direction of groundwater flow, and/or regulatory case status information for the various properties as described in the databases.

The following Federal standard ASTM databases were searched:

Standard Environmental Record Source Name	ERIS Regulatory Database Identification	Search Distance From Site (Miles)
National Priorities List (NPL) Site List	NPL – Proposed NPL – Superfund Record of Decision (ROD)	1.0
Delisted NPL Site List	Deleted NPL	0.5
Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) List	CERCLIS - SEMS – SEMS Archive – ODI – IODI	0.5
CERCLIS List	CERCLIS LIENS – SEMS LIEN	Site
CERCLIS No Further Remedial Action Planned (NFRAP) Site List	CERCLIS NFRAP	0.5
Resource Conservation and Recovery Act (RCRA) Corrective Action Sites (CORRACTS) Facilities List	RCRA CORRACTS – Department of Energy (DOE) Formerly Utilized Sites Remedial Action Program (FUSRAP)	1.0
RCRA Non-CORRACTS Treatment, Storage and Disposal (TSD) Facilities List	RCRA TSD	0.5
RCRA Generators List	RCRA LQG – RCRA SQG – RCRA VSQG – RCRA NON GEN – BULK TERMINAL – REFN – FEMA UST – Facility Response Plan (FRP) – HIST GAS STATIONS	0.25
Institutional Control/Engineering Control Registries	FED ENG – FED INST – FED Brownfields – Land Use Control Information System (LUCIS)	0.5
Emergency Response Notification System (ERNS) List	ERNS – ERNS 1982 to 1986 – ERNS 1987 to 1989	Site

Site –Sears No. 1298/6711 is listed at 5261 Arlington Avenue in the RCRA NON GEN database. The records identify Sears as an implementor not a generator. The RCRA NON GEN database identifies persons or sites that do not presently generate hazardous waste. No spills or violations are noted.

Adjoining Properties – Adjoining properties are listed on the RCRA SQG and RCRA NON GEN standard Federal ASTM regulatory databases.

- Chevron Station at 5305 Arlington Avenue is listed on the RCRA SQG database which identifies generators of small quantities of hazardous waste. Records indicate Chevron generated ignitable and benzene-containing wastes. There are no spills, monitoring, enforcement, or violations associated with this facility in this listing. This property is not considered to be a significant environmental concern to the Site.

- Jones Dry Cleaners at 5335 Arlington Avenue is listed on the RCRA SQG database which identifies generators of small quantities of hazardous waste. The record identifies a 1993 facility inspection. There are no spills, monitoring, enforcement, or violations associated with

this facility in this listing. This property is not considered to be a significant environmental concern to the Site.

- USA #1 Photo at 5222 Arlington Avenue Suite D in the southern adjoining Heritage Plaza Shopping Mall is listed on the RCRA SQG database which identifies generators of small quantities of hazardous waste. Specific wastes are not identified in this listing. There are no spills, monitoring, enforcement, or violations associated with this facility in this record. This property is not considered to be a significant environmental concern to the Site.

- Smart & Final #514, Saloncentric Inc., and R & T Oil Inc. at 5202, 5222, and 5305 Arlington Avenue, respectively, are listed on the RCRA NON GEN database. The RCRA NON GEN database identifies persons or sites that do not presently generate hazardous waste. No spills or violations are noted. This property is not considered to be a significant environmental concern to the Site.

Other Properties – There are 20 listings pertaining to multiple properties in the surrounding area that are identified on various databases including RCRA TSD (two listings), RCRA SQG (two listings), and RCRA NON GEN (16 listings). These properties are not considered to be significant environmental concerns to the Site.

The following State, Tribal, and local standard ASTM databases were searched:

Standard Environmental Record Sources Name	ERIS Regulatory Database Identification	Search Distance From Site (Miles)
Equivalent NPL	RESPONSE	1.0
Equivalent CERCLIS	ENVIROSTOR – DELISTED ENVS – HWP – HHSS	0.5
Landfill and/or Solid Waste Disposal Site Lists	SWF/LF – LDS – SWAT – SWRCB SWF – Construction and Demolition (C & D) DEBRIS RECY – CONTAINER RECY – RECYCLING – PROCESSORS	0.5
Leaking Storage Tank Lists	LUST – DELISTED LST – UST CLOSURE – CLEANUP SITES – INDIAN LUST – DELISTED ILST – LOP RIVERSIDE	0.5
Registered Storage Tank Lists	UST – AST – AST SWRCB – TANK OIL GAS – DELISTED TNK – CERS TANK – DELISTED CTNK – HIST TANK – UST SWEEPS – INDIAN UST – DELISTED IUST – DELISTED COUNTY – UST RIVERSIDE	Site and Adjoining Properties
Institutional Control/Engineering Control Registries	LUR – HLUR - DEED	Site
Voluntary Cleanup Sites	VCP	0.5
Brownfield Sites	CALSITES	0.5

Site –The Site is listed on the following the State, Tribal, and local standard ASTM regulatory databases: LUST, HHSS, DELISTED CTNK, HIST TANK, and LOP RIVERSIDE. Historical tank listings indicate that 10 USTs were installed on-Site in 1964: three 10,000-gallon fuel tanks, one 500-gallon waste oil tank, and six 1,000- to 2,000-gallon product/oil tanks. The fuel tanks were removed in 1985, the oil tanks were removed in 1987, and the fueling island and associated distribution lines were removed in 1994.

Listings identify that in June 1985, leakage from on-Site gasoline USTs was detected during tank removal and closure activities. In 1988, the leakage case was referred to the SA-RWQCB. Six groundwater monitoring wells were installed in 1985; these wells were abandoned in 1992 when four new wells were installed. Five more wells were installed, and quarterly groundwater monitoring began in 1993. Remedial activities reportedly included removal of free product and impacted soil. A "No Further Action" letter indicating regulatory closure for the release was issued on June 26, 2003. The letter indicates that corrective action should be reviewed in the future if land use changes.

Adjoining Properties – Adjoining properties are listed on the following State, Tribal, and local standard ASTM regulatory databases: RECYCLING, CLEANUP SITES, VCP, ENVIROSTOR, DELISTED TNK, LUST, HHSS, UST, CERS TANK, HIST TANK, UST SWEEPS, LOP RIVERSIDE and UST RIVERSIDE

- Alexys Recycling at 5204 Arlington Avenue in the southern adjoining Heritage Plaza Shopping Mall is listed on the RECYCLING database. This database is a list of certified recycling centers that are operating under the State of California's Beverage Container Recycling Program. There are no spills, monitoring, enforcement, or violations associated with this facility in this record. This property is not considered to be a significant environmental concern to the Site.

- Crown Cleaners at 5190 Arlington Avenue in the southern adjoining Heritage Plaza Shopping Mall is listed on the CLEANUP SITES, VCP, and ENVIROSTOR databases. Listings identify a leak at this facility discovered on February 1, 2003, and reported on April 25, 2003. Remediation via excavation of PCE-impacted soil (defined as soil containing 1.5 parts per million [ppm] PCE or greater) was reported on July 1, 2003. The excavation took place beneath the former dry cleaning equipment and the adjacent suite to a depth of nine feet below ground surface; PCE was not detected above 1.5 ppm in excavation confirmation samples. Case closure was provided via a "No Further Action" letter from the SA-RWQCB on October 7, 2003. On December 9, 2019, a standard voluntary cleanup agreement was entered into by the Tarski Group, LLC with the CalEPA Department of Toxic Substances Control (DTSC) for the Crown Cleaners site. A Preliminary Environmental Assessment Report, approved on March 26, 2020, identified PCE impacts at the facility and recommended additional investigation and/or remediation. A supplemental site investigation evaluating the nature and extent of contamination was completed on March 31, 2021. The supplemental evaluation concluded that human receptor exposure pathways via dermal contact with soil and volatilization from soil to soil gas were potentially complete; the exposure pathway from soil to groundwater to a human receptor was not considered complete due to the reportedly low concentrations (less than the MCL) of PCE in groundwater. Groundwater sample results were not available for review. As described in Section 4.0, potential contaminant migration from the Crown Cleaners facility to the Site was considered and evaluated in the 2015 subsurface evaluation of the Site. Subsequent investigations of the Crown Cleaners facility have identified PCE-impacted environmental media; however, only low groundwater PCE concentrations were reported. PCE that was

previously identified in the subsurface at the Site is potentially due to the release of drycleaning solvents that occurred at this property.

- Chevron Station #93673 and R & T Oil, Inc. at 5305 Arlington Avenue are listed on the DELISTED TNK, LUST, HHSS, UST, CERS TANK, HIST TANK, UST SWEEPS, LOP RIVERSIDE, and UST RIVERSIDE databases. Listings identify four removed and three active gasoline USTs at this facility. On October 23, 1986, a petroleum hydrocarbon leak was discovered and reported during UST removal. Six groundwater monitoring wells were installed and between 4.9 and 19.7 inches of free product were measured. A vapor extraction system was installed in 1995 and operated until July 26, 1996 reportedly extracting 15,719 pounds of hydrocarbon vapors. Subsequent groundwater monitoring confirmed much of the source had been removed during remedial activities and no free product was observed. The UST case was closed and a "No Further Action" letter issued by the SA-RWQCB on May 14, 2002. Based on reviewed regulatory closure and the cross- or down-gradient location, this property is not considered to be a significant environmental concern to the Site.

Other Properties – There are three listings on the State, Tribal and local standard ASTM regulatory databases pertaining to multiple properties in the surrounding area that are identified on the CONTAINER RECY (one listing), LUST (one listing), and UST SWEEPS (one listing) databases. These properties are not considered to be significant environmental concerns to the Site.

5.2 Non-ASTM Regulatory Database Search

A myriad of non-ASTM regulatory databases was searched by ERIS as noted in the regulatory database report.

Site – The Site is listed on the following non-ASTM databases: FINDS/FRS, HIST CHMIRS, HAZNET, HIST MANIFEST, and DELISTED HAZ databases.

- Sears & Roebuck Co. is listed on the FINDS/FRS, HAZNET, HIST MANIFEST, and DELISTED HAZ databases. Findings include storage, manifesting, and disposal of hazardous waste materials including alkaline solutions, aqueous solutions with organic residue, asbestos containing waste, paint sludge, hydrocarbon solvents, halogenated solvents, liquids with halogenated compounds, waste oil, latex, unspecified organic material and liquids, and other unspecified solvents and inorganic waste. Reviewed listings are consistent with ASTM database findings and previously identified historical information. There are no spills or violations indicative of potential releases noted.

- 5261 Arlington Avenue is listed on the HIST CHMIRS which identifies a propane release due to mechanical failure of a tank on a Winnebago R/V. This listing is not considered an environmental concern to the Site.

Adjoining Properties – Adjoining properties are listed on the following non-ASTM databases: HAZNET, CDL, FED DRYCLEANERS, DRYCLEANERS, EMISSIONS, CERS HAZ, HWG RIVERSIDE, and MED WST RIVERSIDE databases.

- William G. Byrne, D.D.S. at 5171 Arlington Avenue Suite 8 and Riverside West Dental Group at 6945 Streeter Avenue are listed on the MED WST RIVERSIDE database. Both facilities are

identified as small quantity generators of medical waste. There are no violations or releases noted. This property is not considered to be a significant environmental concern to the Site.

- An illegal drug lab was identified at 6975 Capistrano Street in the CDL database. This property is not considered to be a significant environmental concern to the Site.
- Crown Cleaners and Jones Dry Cleaners at 5190 and 5335 Arlington Avenue, respectively, are listed on one or more of the DRYCLEANERS, FED DRYCLEANERS, and EMISSIONS databases. Reviewed information is consistent with previously described ASTM database and historical documentation findings. PCE that was previously identified in the subsurface at the Site is potentially due to the release of drycleaning solvents that occurred at the 5190 Arlington Avenue property.
- Wing Stop, Smart & Final, and Del Taco at 5200, 5202, and 5290 Arlington Avenue, respectively, are listed on one or both the CERS HAZ and HWG RIVERSIDE databases. Findings pertaining to minor violations (e.g., site map, business plan, employee training, and reporting requirements) are identified. Listed violations are not indicative of chemical releases at these facilities. This property is not considered to be a significant environmental concern to the Site.
- R & T Oil, Inc. at 5305 Arlington Avenue is listed on the EMISSIONS and HWG RIVERSIDE databases. There are no violations or releases noted. This property is not considered to be a significant environmental concern to the Site.

Other Properties – There are ten listings on the non-ASTM regulatory databases pertaining to properties in the surrounding area that are identified on the FED DRYCLEANERS (one listing), MRDS (one listing), DRYCLEANERS (one listing), CERS HAZ (one listing), EMISSIONS (one listing), CDL (one listing), HWG RIVERSIDE (one listing), and MED WST RIVERSIDE (three listings) databases. These properties are not considered to be significant environmental concerns to the Site.

5.3 Regulatory Agency File Reviews

If a property being assessed under a Phase I ESA or any of the adjoining properties are identified on one or more of the above referenced standard environmental record sources, pertinent regulatory files and/or records associated with such listings should be reviewed to assist the environmental professional in evaluating if recognized environmental conditions existing at a given subject property in connection with any listings. However, if in the environmental professional's opinion, such a review is not warranted, file reviews need not be conducted if the environmental professional provides justification for not doing so.

Agency file reviews for the Site completed during this assessment are noted below. No file reviews for adjoining properties or properties in the surrounding area were deemed warranted with the exception of research completed on the State Water Resources Control Board Geotracker database regarding properties in the surrounding area of the Site. The agency inquiries were performed by way of on-line searches/queries of published databases, and/or direct inquiries with public records clerks at one or more agencies.

Regulatory Agency	Jurisdiction	Date of Inquiry or Request	Contact	Response or Information From Agency
United States EPA Envirofacts/ECHO/ TRIS	Federal	9/27/2021	Online https://enviro.epa.gov/ https://echo.epa.gov/facilities/facility-search https://www.epa.gov/toxics-release-inventory-tri-program	Records Identified
California Department of Toxic Substances Control	State	9/27/2021	https://www.envirostor.dtsc.ca.gov/public https://hwts.dtsc.ca.gov/	No Records Identified
State Water Resources Control Board/Regional Water Quality Control Board	State	9/27/2021	https://geotracker.waterboards.ca.gov/ https://geotracker.waterboards.ca.gov/historical_ust_facilities	Records Identified

As shown in the table above, records pertaining to the Site were provided by each of the agencies contacted. Records pertaining to adjoining properties and properties in the vicinity of the Site were provided by two of the agencies contacted. A records search with the Riverside County DEH was not deemed warranted due to the SA-RWQCB being the lead regulatory agency for the former release case at the Site. The records provided as discussed below.

United States Environmental Protection Agency – Sears #1298/6711 was identified in the RCRAInfo Facility Information and Enforcement and Compliance databases. No waste codes, process information, reports, or violations were identified for the Site. Information from these records is consistent with mapped regulatory database findings discussed in Sections 5.1 and 5.2. No records regarding previously unidentified violations, USTs, or specific hazardous substance use, storage, or releases were found.

DTSC – No records were identified in the DTSC ENVIROSTOR or Hazardous Waste Tracking System databases.

State Water Resources Control Board – Sears Retail is listed as a closed case with no further action as of June 25, 2003. This closure is related to the previously identified petroleum hydrocarbon UST leakage from 1985. A June 25, 2003 "No Further Action" letter issued by SA-RWQCB for the Site was available on the GeoTracker database. Information from these records is consistent with mapped regulatory database findings discussed in Sections 5.1 and 5.2. No records were found regarding previously unidentified violations, USTs, or specific hazardous substance use, storage, or releases. A copy of the SD-RWQCB issued "No Further Action" letter is included in Appendix B.

The Site-adjoining Chevron #3673 and Crown Cleaners are listed as closed cases with no further action as of May 14, 2002 and October 7, 2003, respectively. These closures are related to the previously discussed petroleum hydrocarbon and PCE leak cases. "No Further Action" letters issued by SA-RWQCB for the Sites are available on the GeoTracker database. Information from these records is consistent with mapped regulatory database findings discussed in Section 5.2. No records were found

regarding previously unidentified violations, USTs, or specific hazardous substance use, storage, or releases.

6.0 HISTORICAL RESOURCE REVIEW

The objective of consulting historical sources is to develop a history of the previous uses of a property and surrounding area, in order to help identify the likelihood of past uses having led to recognized environmental conditions in connection with a given property. The goal of the historical research is to identify all obvious uses of a subject property from the present, back to the property's first developed use, or back to 1940, whichever is earlier. The environmental professional exercises professional judgment in reviewing only as many of the standard historical sources referenced in ASTM E1527 that are deemed necessary, are reasonably ascertainable and are likely to be useful. Historical resources reviewed during the completion of this assessment are referenced below. Copies of the historical resources were obtained from the 2014 Phase I ESA prepared by Terracon and are included in Appendix C.

6.1 Aerial Photographs

We reviewed historical aerial photographs from the years 1938, 1948, 1953, 1966, 1977, 1985, 1990, 1994, 2005, 2006, 2009, 2010, and 2012 obtained by Environmental Data Resources, Inc. (EDR). The table below presents the results of the photograph review.

Photograph Year	Site Observations	Adjoining Property Observations
1938	The Site appears to be part of a larger agricultural use area. Several small structures are visible in the southern portion of the Site. Arlington Avenue and Streeter Avenue are present to the south and west of the Site, respectively.	Adjoining properties appear to be part of a larger agricultural use area. Several small structures are present to the north, south, and west of the Site. The eastern adjoining property appears to be an open field.
1948	The Site configuration appears consistent with the previous year except that there is an additional small strucutre on the northwest corner of the Site.	Adjoining properties to the north, west, and south appear consistent with the previous year. Significant residential development consistent with current confirgurations appear on the eastern adjoining property.
1953	The Site configuration appears consistent with the previous years except that there are additional small strucutres on the western and southern portions of the Site.	Significant residential development has taken place to the west and north of the Site, replacing former agricultural areas. Two large commercial strucutres and a parking lot are depicted on the southern adjoining property. Adjoining property configurations to the east appear consistent with the previous year.
1966 to 1977	The large retail and automotive center structures and parking areas are depicted on-Site. The former fueling island is depicted on the western portion of the Site.	Additional commercial and residential development has taken place at the southern and northern adjoining properties, respectively. Adjoining properties to the east and west are fully developed and appear generally consistent with current configurations.
1985 to 1990	The Site confirguartion appears consistent with aerial photographs dating back to 1966.	Additional commercial development has taken place at the southern adjoining properties including the Bank of America building immediately southwest of the Site. Adjoining properties to the north, east, and appear generally consistent with previous years.

Photograph Year	Site Observations	Adjoining Property Observations
1994	The Site confirguartion appears consistent with aerial photographs dating back to 1966.	The adjoining properties appear generally consistent with current configurations.
2005 to 2012	The small fueling island structure is no longer present on the western portion of the Site. The Site appears consistent with the current configuration.	The adjoining properties appear generally consistent with current configurations.

As stated above, the Site has been previously used for agricultural purposes. During historical agricultural activities throughout the State of California, various pesticides and more specifically organochlorine pesticides (OCPs) were commonly applied during the normal course of agricultural operations. Such compounds have since been banned from production and use in the United States. Based on the regulatory and historical research completed during the preparation of this assessment, no information has been revealed that would lead us to believe that an accidental spill or release of pesticide products has occurred at the Site. As such, the potential presence of residual agricultural chemicals in Site soils is not considered to be a recognized environmental condition in connection with the Site. Regardless, during future soil sampling analysis to be completed at the Site, shallow soils can be screening for the potential present of residual agricultural chemicals.

6.2 Topographic Maps

Our firm reviewed topographic maps from the years 1901, 1942, 1947, 1953, 1967, 1973, and 1980 obtained by EDR.

- Beginning in 1901 until 1947, several small structures are depicted on the southern portion of the Site. Roads appear along the southern and western portions of the Site. Small structures are depicted on the adjoining properties in all directions and generally increase in density over time.
- In 1953, an increased number of small structures are depicted on the western and southern portions of the Site. Significant residential development is depicted on the western and eastern adjoining properties. Two larger structures are visible on the southern adjoining property.
- Beginning in 1967, the large retail and automotive center structures are depicted on-Site. The former fueling island is depicted on the western portion of the Site. Adjoining properties appear generally consistent with current configurations.

6.3 City Directories

Our firm reviewed a city directory abstract prepared by Terracon in the client-provided Terracon 2014 Phase I ESA. The abstract was prepared using city directories available through EDR dated 1921 to 2013 and were reviewed at approximate five-year intervals, if readily available. Listings for the Site begin in 1966 when Allstate Insurance Co and Sears Roebuck & Co are identified. Sears retail operation is identified throughout the reviewed directories. Other identified Site listings include Rosenbaum S A optometrist (1977-1981), Sears Driving School (1977-1996), H&R Block (1986-2001), Katz Neil OD (1986-1996), Sears Dry Cleaners (1986), Miracle Ear Center (2002-2013), Cole Vision Corp (2008), Dr. Pham Tahoo OD (2008-2013), Gary Group (2008), and Univance Telecommunications (2008). The city directories are generally consistent with previously identified Site knowledge.

Adjoining and nearby properties in the surrounding area are primarily referenced in the directories as individual residences and/or as being used for general commercial and retail purposes. Findings were consistent with previously identified knowledge.

6.4 Fire Insurance Maps

No fire insurance maps were found showing the Site or nearby properties.

6.5 Other Historical Sources

Other historical sources are referenced in the ASTM E1527 practice as any source or sources other than the standard historical sources referenced in the practice that are credible to a reasonable person and that identify past uses of a subject property. This category includes, but is not limited to miscellaneous maps and directories, newspaper archives, internet sites, community organizations, local libraries, historical societies, current owners or occupants of neighboring properties, or records in the files and/or personal knowledge of the property owner and/or occupants. No historical sources other than the standard sources described above were deemed necessary and useful to assist in identifying recognized environmental conditions.

7.0 SITE RECONAISSANCE

The objective of the Site reconnaissance is to obtain information indicating the likelihood of identifying recognized environmental conditions in connection with a subject property. The Site visit for our assessment was completed on September 22, 2021, by James Wright who was unaccompanied during the reconnaissance.

7.1 Methodology and Limiting Conditions

The Site reconnaissance consisted of observing the exterior grounds of the Site on foot, the accessible portions of the retail department store building interior, and walking publicly accessible areas surrounding the Site. Keys and/or property management with access to the automotive service center building and limited portions of the retail building basement level were not available during the site visit. Specific limitations are noted in Section 7.4. However, this is not considered a data gap as in-place features were reviewed and documented during a 2014 Phase I ESA. Select photographs of the Site obtained during the Site reconnaissance are included in Appendix D.

7.2 Current General Site and Vicinity Characteristics

The Site and the surrounding vicinity are situated in the City of Riverside that consists primarily of commercial and residential properties and public roadways. The Site is currently developed with a single-story department store structure with basement level occupying the central portion of the property and an single-story automotive center with basement level in the western portion of the property. The department store structure is vacant except for the southeastern portion of the ground level which is temporarily occupied by Spirit Halloween. The automotive service structure is vacant. The two on-Site strucutes were formerly occupied by a Sears department store and Sears Auto Center. It is our understanding that the Site is planned for future redevelopment which will include demolition and conventional grading (i.e., removal and recompaction of soil) and a change in land use to residential.

7.3 Indications of Past Site and Vicinity Uses

Evidence of historical Site use and operations are consistent with known and previously discussed information. No previously unidentified indications of past use of the Site or adjoining properties suggestive of environmental concerns were observed during Site reconnaissance.

7.4 Site-Specific Observations

We examined visible and accessible areas of the Site for the features and conditions noted in the table below.

Feature or Condition	Details
General Description of Structures	The primary retail building at the Site is an approximately 170,000-square foot structure with a basement level. The building was formerly occupied by Sears. Currently the southeastern portion of the ground level is occupied by Spirit Halloween and the remainder of the building is vacant. A vacant automotive service center formerly occupied by Sears is present in the western portion of the Site. The auto center is reportedly 28,000-square feet with a basement level. The auto center building and portions of the retail building were not accessible during site reconnaissance. The two structures are surrounded by an asphalt-paved parking area with minor landscaping. There are two commercial buildings located on the Site. The central building is an approximate 170,000-square foot vacant department store structure. The interior of the vacant department store building includes retail areas, warehouse and supply storage areas, sub-grade basement areas, public and freight hydraulic elevators, and restrooms. The basement area contains a disconnected boiler, trash compactor, and emergency generator. A smaller, approximately 28,000-square foot automotive service structure is located on the western portion of the property. This building includes six bay doors opening to a concrete-paved former service area with secondary contaimnent structures, nine hydraulic hoists, and a sub-grade oil/water separator. The construction date of the two structure is likely the early- to mid-1960s based on review of historical documentation. The Site formerly contained a vehicle fueling island with three 10,000-gallon gasoline USTs which were removed in 1985 and seven 1,000 to 2,000-gallon oil and waste oil USTs removed in 1987; the fueling station island and distribution lines were removed in 1994. The balance of the remaining Site property comprises asphalt-paved parking areas, driveways, and minor landscaping. Access to the Site is provided from Arlington Avenue and Streeter Avenue along the southern and western sides of the property, respectively. Indicators of various utility systems are present throughout the Site, primarily adjoining the building exteriors and along the Site perimeter.
Drains and Sumps	Interior floor drains are present in the bathrooms and former maintenance areas of the retail building. Reportedly, two sumps are present in the retail building basement; however, these areas were not accessible during site reconnaissance. Exterior stormwater drains are present throughout the parking area.
Heating/Cooling Systems	A chiller and disconnected boiler are present in the retail building basement level.
Potable Water Supply	Riverside Public Utilities.
Roads	Arlington Avenue and Streeter Avenue border the southern and western sides of the Site, respectively.
Septic Systems / Sewage Disposal System	Riverside Public Utilities.
Wastewater and Stormwater Discharges	None observed. Stormwater appears to flow as surface runoff to storm drains located throughout the parking area. Stormwater drains appear to discharge to the municipal stormwater system.
Wells	None observed.

Feature or Condition	Details
Drums	None observed.
Electrical or Hydraulic Equipment Known to Contain PCBs or Likely to Contain PCBs	Two public and two freight hydraulic elevators were observed in the retail building. With the exception of the central freight elevator, maintenance rooms were inaccessible during site reconnaissance. No staining was observed in the accessible elevator maintenance room. Reportedly, one elevator and nine hydraulic hoists are present in the vacant automotive service center building. The auto center building was inaccessible during site reconnaissance.
Hazardous Substances and Petroleum Products in Connection with Identified Uses	Reportedly, the retail building contains a natural gas-fueled emergency generator and air compressor in the basement level, and the auto center building contains three air compressors, a subsurface oil/water separator, and former hazardous materials storage areas. Due to accessibility issues, these areas and features were not observed during site reconnaissance and their continued presence and/or condition are unknown.
Hazardous Substance and Petroleum Products Not Necessarily in Connection With Identified Uses	None observed.
Odors	None noted.
Pits, Ponds or Lagoons	None observed.
Pools of Liquid	None observed.
Solid Waste (Including Fill Material)	A loading dock and solid waste recepicle are present at the northern portion of the retail building. A trash compactor is present in the retail building basement. Minor staining was observed of the concrete floor in the trash compactor area.
Stained Soil or Pavement	Minor asphalt staining consistent with typical automotive parking areas was observed.
Stains or Corrosion	As noted above, minor staining was observed of the concrete floor in the trash compactor area.
Chemical Storage Tanks	None observed.
Stressed Vegetation	None observed.
Unidentified Substance Containers	None observed.

8.0 INTERVIEWS

8.1 Site Owner

A representative of the Site owner was interviewed during the preparation of this assessment. The Site owner is aware of the former leaking UST case for the Site and the requirement from the SA-RWQCB to complete additional assessment in conjunction with the future change in land use.

8.2 Key Site Manager

The Site owner representative is also the Key Site Manager. Please refer to Section 8.1 above.

8.3 Current Occupants

The southeastern portion of the ground level of the retail building is temporarily occupied by Spirit Halloween a seasonal retail operation selling Halloween costumes and decoration. The remainder of the retail building and the automotive center building are unoccupied. The temporary Site occupant was not interviewed during the completion of this assessment. This is not considered to be a data gap of signficance.

8.4 Local Government Official

Local government officials were not contacted during the preparation of this assessment. This is not considered to be a data gap of significance as it is well known that additional assessment at the Site will be required by the SA-RWQCB in conjunction with the future change in land use.

8.5 Other Parties

Interviews with other persons were not conducted during the preparation of this assessment. As stated in the ASTM E1527 practice, interviews with past owners, operators, and occupants of a subject property who are likely to have material information regarding the potential for contamination at a given property shall be conducted to the extent that they have been identified and that the information likely to be obtained is not duplicative of information already obtained from other sources. Interviews with persons with past association with the Site were not deemed warranted during the completion of this assessment.

9.0 ADDITIONAL SERVICES – NON-SCOPE ASTM CONSIDERATIONS

No additional services as defined by ASTM were completed by our firm during the preparation of this assessment. Several non-scope ASTM considerations are referenced in the ASTM E1527 practice that a user of a report may wish to evaluate. Listed considerations in the practice include asbestos-containing building materials, biological agents, cultural and historic resources, ecological resources, endangered species, health and safety, indoor air quality (unrelated to releases of hazardous substances or petroleum products into the environment), industrial hygiene, lead-based paint, lead in drinking water, mold, radon, regulatory compliance and wetlands. No implication is intended by the practice as to the relative importance of inquiry into such non-scope considerations, and the list of considerations is not intended to be all-inclusive. An evaluation of one or more of the non-scope considerations was not requested of our firm as part of the scope of services for the assessment. Therefore, no findings, opinions and conclusions of this assessment are based on said non-scope ASTM considerations.

10.0 FINDINGS AND OPINIONS

No features and/or conditions indicating the presence or likely presence of hazardous substances and/or petroleum products at the Site that are considered to have the potential to adversely impact the Site were identified during the completion of this assessment, with the exception of the following:

- The former presence of USTs at the Site and the release of petroleum hydrocarbons that occurred at the Site.

The former USTs and release is considered to be a historical recognized environmental condition in connection with the Site. As stated previously, the SA-RWQCB issued a "No Further Action" letter for the Site based on the existing land use at the time (commercial). Because the Site will change land use to residential, additional assessment will be required under SA-RWQCB oversight.

11.0 CONCLUSIONS AND RECOMMENDATIONS

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM International Practice E1527 of the Site located at 5261 Arlington Avenue in the City of Riverside, Riverside County, California. Any exceptions to, or deletions from, this practice are described in Section 1.5 of this report. This assessment has revealed no evidence of current or controlled recognized environmental conditions in connection with the Site. The former presence of USTs at the Site and the release of petroleum hydrocarbons that occurred at the Site is considered to be a historical recognized environmental condition. Future additional assessment at the Site will be conducted under the oversight of the SA-RWQCB.

12.0 ENVIRONMENTAL PROFESSIONAL STATEMENT

I declare that, to the best of my professional knowledge and belief, I meet the definition of environmental professional as defined in Section 312.10 of 40 CFR. I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the Site. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312. Qualifications of personnel involved with the completion of this report are included in Appendix E.

Daniel Weis, R.E.H.S.
Environmental Manager

13.0 ASSUMPTIONS

No Phase I ESA effort can eliminate uncertainty regarding the potential for recognized environmental conditions to exist in connection with a given property. Performance of the ASTM E1527 practice may reduce such uncertainty but in no way should the findings and report be misconstrued as insurance or a guarantee regarding the potential for recognized environmental conditions in connection with a given property. The ASTM E1527 practice recognizes reasonable limits of time and cost relative to the completion of a Phase I ESA.

During the completion of this ESA, our firm relied on certain information obtained from secondary sources, including but not limited to the user of the report, government agencies, historical research business entities, environmental databases, and interviews with one or more persons. The sources obtained and/or consulted are assumed to be reliable. However, our firm cannot warranty or guarantee that the information provided by these other sources is wholly accurate or complete. Our firm is not responsible for any misrepresentations or false statements that may be provided by others or the lack of pertinent/relevant information that should have been provided/disclosed by others and we assume no responsibility for any consequence as a result of such omissions or withheld information.

Accuracy and completeness of records varies among information sources, including from governmental agencies. As a result, there is a possibility that even with the proper application of the methodologies presented in ASTM E1527, conditions may exist that could not be identified within the scope of this assessment or which were not reasonably identifiable from the available information. In addition, any responses received from Federal, State, Tribal, and local regulatory agency secondary sources of information after the issuance of this report may change certain findings and conclusions of this report.

Estimations and opinions regarding the potential for off-Site properties to adversely impact a given subject property is one of the key components of a Phase I ESA. In most cases, recent property-specific or adjacent-property specific measured groundwater data or other hydrogeological information is not reasonably ascertainable. In the absence of such data, reasonable assumptions regarding the depth and flow of groundwater are made based on various sources including comparisons to surface elevations, land topography and available hydrogeological on the State of California Geotracker database. In addition, estimations and opinions regarding potential impacts from off-Site locations may be based on certain assumptions that a hazardous substance or petroleum product may not migrate laterally within unsaturated soil for a substantial distance and that contaminants that have reached saturated soil and groundwater may attenuate over time and/or may decrease in concentration relative to distance from its source. While any interpretations presented herein may be effective in reducing uncertainty regarding potential impacts to a subject property from off-Site locations, in no way should the findings and report be misconstrued as insurance or a guarantee regarding the potential for such impacts to occur. Greater certainty regarding subsurface conditions at a given property can only be achieved by way of a subsurface sampling effort of one or more media.

14.0 DEFINITIONS

Definitions of key terminology relevant to the ASTM E1527 practice are presented below.

Recognized Environmental Condition - The presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.

Controlled Recognized Environmental Condition - A recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).

Data Failure - A failure to achieve the historical research objectives as outlined in the ASTM E1527 practice even after reviewing the standard historical sources that are reasonably ascertainable and likely to be useful. Data failure is one type of data gap.

Data Gap - A lack of or inability to obtain information required by this practice despite good faith efforts by the environmental professional to gather such information. Data gaps may result from incompleteness in any of the activities required by the ASTM E1527 practice, including, but not limited to site reconnaissance (for example, an inability to conduct the site visit), and interviews (for example, an inability to interview the key site manager, regulatory officials, etc.). Data gaps are only considered to be significant if they affect the ability of the environmental professional to identify recognized environmental conditions.

De Minimis Condition - A condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis conditions are not recognized environmental conditions nor controlled recognized environmental conditions.

Environment - (A) the navigable waters, the waters of the contiguous zone, and the ocean waters of which the natural resources are under the exclusive management authority of the United States under the Magnuson-Stevens Fishery Conservation and Management Act [16 U.S.C. §§ 1801 et seq.], and (B) any other surface water, groundwater, drinking water supply, land surface or subsurface strata, or ambient air within the United States or under the jurisdiction of the United States.

Good Faith - The absence of any intention to seek an unfair advantage or to defraud another party; an honest and sincere intention to fulfill one's obligations in the conduct or transaction concerned.

Hazardous Substance - Includes hazardous substances designated under section 311 of the Clean Water Act (CWA) or Section 102 of CERCLA, any toxic pollutant listed under Section 307(a) of the CWA, any waste that has been listed as a RCRA hazardous waste or possesses a RCRA hazardous waste characteristic, any substance that is identified as a hazardous pollutant under Section 112 of the Clean Air Act (CAA), and any imminently hazardous chemical that EPA has taken action pursuant to Section 7 of the Toxic Substances Control Act (TSCA).

Historical Recognized Environmental Condition - A past release of any hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority or

meeting unrestricted use criteria established by a regulatory authority, without subjecting the property in question to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).

Petroleum Exclusion – While the definition of a CERCLA hazardous substance specifically excludes petroleum products and crude oil, the EPA has determined that the petroleum exclusion applies to petroleum products such as gasoline and other fuels containing lead, benzene or other hazardous substances that are normally added during the refining process. Notwithstanding the existence of the petroleum exclusion, petroleum products are included within the scope of the ASTM E1527 practice for multiple reasons. Petroleum products have historically been widely used at commercial properties. In addition, other federal and state laws may impose liability for releases or spills of petroleum products.

Reasonably Ascertainable Information - Information that is (1) publicly available, (2) obtainable from its source within reasonable time and cost constraints and (3) practically reviewable.

Release or Threatened Release - Spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing into the environment (including the abandonment or discarding of barrels, containers and other closed receptacles containing any hazardous substance, or pollutant or contaminant).

15.0 REFERENCES

Sources of information consulted during the completion of our Phase I ESA are noted in the sections below.

15.1 Documents, Plans and Reports

- All Appropriate Inquiry" as necessary to satisfy the defenses available under 42 U.S.C. §§ 9607(b)(3), 9607(r)(1), and 9607(q), relying on definitions provided at 42 U.S.C. §§ 9601(35)(B); and as further explained in 40 CFR §§ 312.1 – 312.31.
- ASTM International, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process," ASTM Designation E 1527-13, Published November 2013.
- California Geological Survey, 2002, California Geomorphic Provinces Note 36, Electronic Copy, Revised December.
- California State Water Resources Control Board, Water Quality Control Plan for the Santa Ana River Basin (8), California, Published 2019.
- ERIS Database Report dated September 8, 2021.
- State Water Resources Control Board (SWRCB), GeoTracker, accessed September 17, 2021.
- USGS topographic map, Tustin, California Quadrangle (2016).
- Stantec. 2018. Phase I Environmental Site Assessment, Warner Red Hill, 2300, 2310, and 2320 Red Hill Avenue, Santa Ana, California. Prepared for: RHW Holdings, LLC c/o CT Realty. July 2, 2018.
- Stantec. 2018. Phase II Environmental Site Assessment, Former Ricoh Electronics, Inc. Facility, 2300, 2310, and 2320 Red Hill Avenue, Santa Ana, California. Prepared for: RHW Holdings, LLC c/o CT Realty. July 24, 2018.

15.2 Personal Communications

- Designated Site Owner Representative – Mr. Chris Campbell
- Key Site Manager – Mr. Chris Campbell

15.3 Agencies Consulted

- California Department of Conservation, Geologic Energy Management Division (CalGEM)
- California Department of Toxic Substances Control
- California State Water Resources Control Board
- United States EPA

FIGURES

FIGURE 1
VICINITY MAP

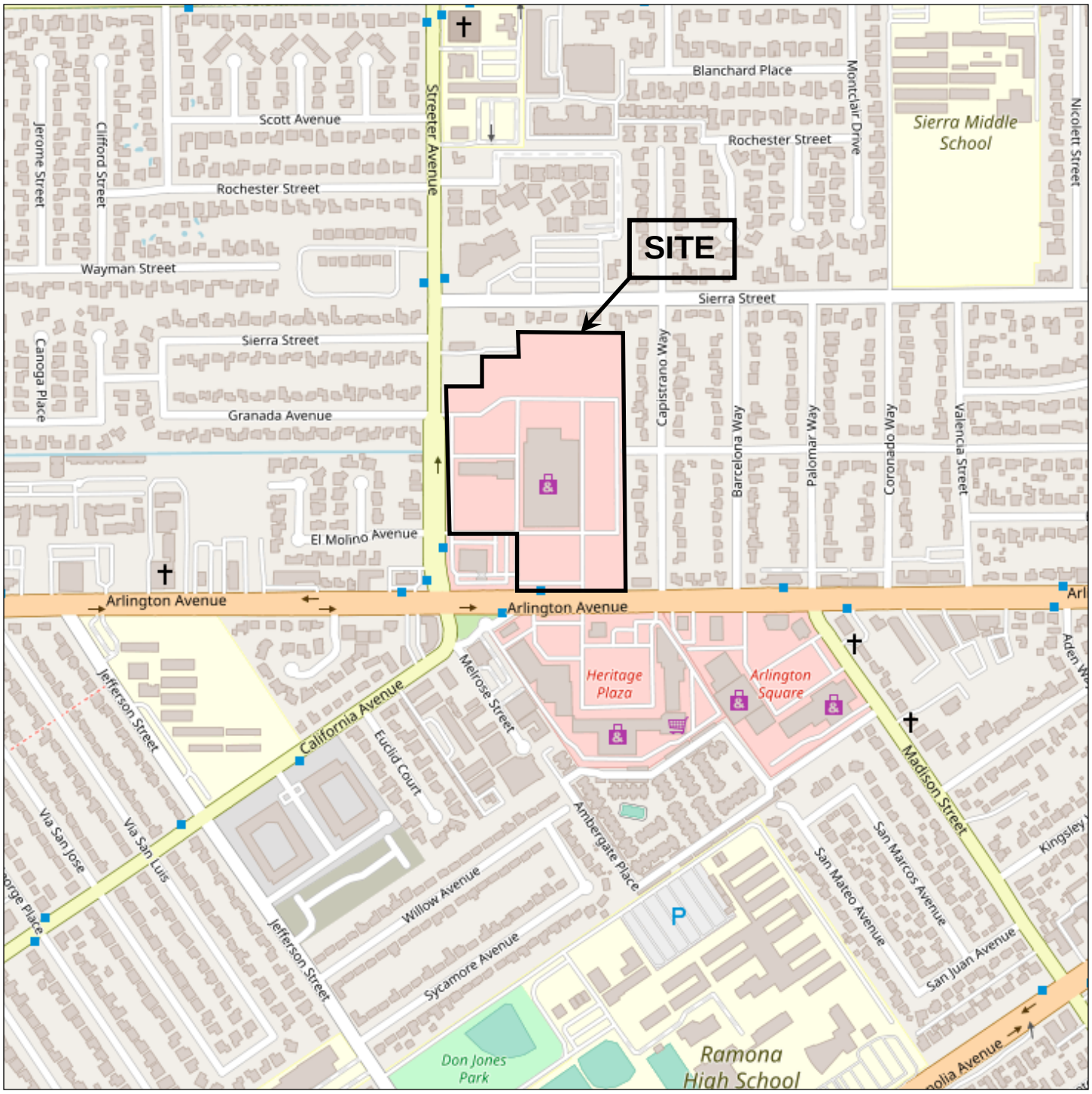

Figure 1 - Vicinity Map

5261 Arlington Avenue
Riverside, California

N

Prepared by:

Weis Environmental
1938 Kellogg Avenue, Suite 116
Carlsbad, CA 92008

FIGURE 2
SITE PLAN

Figure 2 - Site Plan

5261 Arlington Avenue
Riverside, California

N

Prepared by:

Weis Environmental
1938 Kellogg Avenue, Suite 116
Carlsbad, CA 92008

FIGURE 3
TOPOGRAPHIC MAP

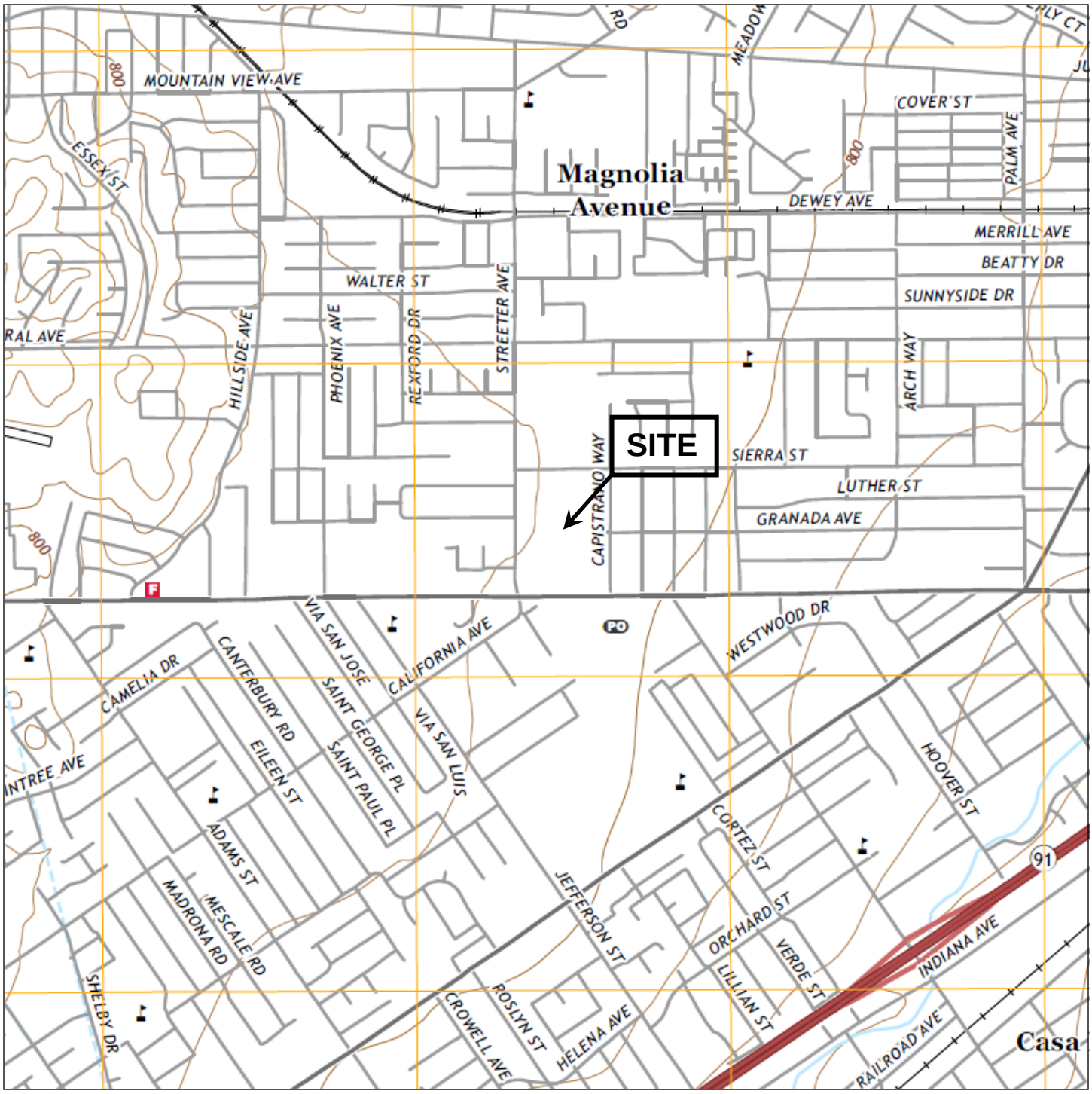

Figure 3 - Topographic Map

5261 Arlington Avenue
Riverside, California

N

Prepared by:

Weis Environmental
1938 Kellogg Avenue, Suite 116
Carlsbad, CA 92008

Weis ENVIRONMENTAL

APPENDICES

APPENDIX A

REGULATORY DATABASE REPORT

DATABASE REPORT

Project Property:	*5261 Arlington Avenue* *5261 Arlington Avenue* *Riverside CA 92504*
Project No:	
Report Type:	*Database Report*
Order No:	*21090700657*
Requested by:	*Weis Environmental, LLC*
Date Completed:	*September 8, 2021*

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

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Executive Summary

Property Information:

Project Property:	*5261 Arlington Avenue* *5261 Arlington Avenue Riverside CA 92504*
Project No:	
Coordinates:	
Latitude:	*33.9478276*
Longitude:	*-117.41703993*
UTM Northing:	*3,756,449.55*
UTM Easting:	*461,463.61*
UTM Zone:	*11S*
Elevation:	*781 FT*

Order Information:

Order No:	*21090700657*
Date Requested:	*September 7, 2021*
Requested by:	*Weis Environmental, LLC*
Report Type:	*Database Report*

Historicals/Products:

ERIS Xplorer	*ERIS Xplorer*
Excel Add-On	*Excel Add-On*

Executive Summary: Report Summary

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
Standard Environmental Records								
Federal								
DOE FUSRAP	Y	1	0	0	0	0	0	0
NPL	Y	1	0	0	0	0	0	0
PROPOSED NPL	Y	1	0	0	0	0	0	0
DELETED NPL	Y	0.5	0	0	0	0	-	0
SEMS	Y	0.5	0	0	0	0	-	0
SEMS ARCHIVE	Y	0.5	0	0	0	0	-	0
ODI	Y	0.5	0	0	0	0	-	0
CERCLIS	Y	0.5	0	0	0	0	-	0
IODI	Y	0.5	0	0	0	0	-	0
CERCLIS NFRAP	Y	0.5	0	0	0	0	-	0
CERCLIS LIENS	Y	PO	0	-	-	-	-	0
RCRA CORRACTS	Y	1	0	0	0	0	0	0
RCRA TSD	Y	0.5	0	0	**2**	0	-	**2**
RCRA LQG	Y	0.25	0	0	0	-	-	0
RCRA SQG	Y	0.25	0	**5**	0	-	-	**5**
RCRA VSQG	Y	0.25	0	0	0	-	-	0
RCRA NON GEN	Y	0.25	**3**	**6**	**13**	-	-	**22**
FED ENG	Y	0.5	0	0	0	0	-	0
FED INST	Y	0.5	0	0	0	0	-	0
LUCIS	Y	0.5	0	0	0	0	-	0
ERNS 1982 TO 1986	Y	PO	0	-	-	-	-	0
ERNS 1987 TO 1989	Y	PO	0	-	-	-	-	0
ERNS	Y	PO	0	-	-	-	-	0
FED BROWNFIELDS	Y	0.5	0	0	0	0	-	0
FEMA UST	Y	0.25	0	0	0	-	-	0
FRP	Y	0.25	0	0	0	-	-	0
HIST GAS STATIONS	Y	0.25	0	0	0	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
REFN	Y	0.25	0	0	0	-	-	0
BULK TERMINAL	Y	0.25	0	0	0	-	-	0
SEMS LIEN	Y	PO	0	-	-	-	-	0
SUPERFUND ROD	Y	1	0	0	0	0	0	0
State								
RESPONSE	Y	1	0	0	0	0	0	0
ENVIROSTOR	Y	1	0	**1**	0	0	0	**1**
DELISTED ENVS	Y	1	0	0	0	0	0	0
SWF/LF	Y	0.5	0	0	0	0	-	0
SWRCB SWF	Y	0.5	0	0	0	0	-	0
HWP	Y	1	0	0	0	0	0	0
SWAT	Y	0.5	0	0	0	0	-	0
C&D DEBRIS RECY	Y	0.5	0	0	0	0	-	0
RECYCLING	Y	0.5	0	**1**	0	0	-	**1**
PROCESSORS	Y	0.5	0	0	0	0	-	0
CONTAINER RECY	Y	0.5	0	0	0	**1**	-	**1**
LDS	Y	0.5	0	0	0	0	-	0
LUST	Y	0.5	**1**	**1**	0	**1**	-	**3**
DELISTED LST	Y	0.5	0	0	0	0	-	0
UST	Y	0.25	0	**1**	0	-	-	**1**
UST CLOSURE	Y	0.5	0	0	0	0	-	0
HHSS	Y	0.25	**2**	**1**	0	-	-	**3**
UST SWEEPS	Y	0.25	0	**2**	0	-	-	**2**
AST	Y	0.25	0	0	0	-	-	0
AST SWRCB	Y	0.25	0	0	0	-	-	0
TANK OIL GAS	Y	0.25	0	0	0	-	-	0
DELISTED TNK	Y	0.25	0	**1**	0	-	-	**1**
CERS TANK	Y	0.25	0	**1**	0	-	-	**1**
DELISTED CTNK	Y	0.25	**1**	0	0	-	-	**1**
HIST TANK	Y	0.25	**2**	**1**	0	-	-	**3**
LUR	Y	0.5	0	0	0	0	-	0
CALSITES	Y	0.5	0	0	0	0	-	0
HLUR	Y	0.5	0	0	0	0	-	0
DEED	Y	0.5	0	0	0	0	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
VCP	Y	0.5	0	**1**	0	0	-	**1**
CLEANUP SITES	Y	0.5	0	**1**	0	0	-	**1**
DELISTED COUNTY	Y	0.25	0	0	0	-	-	0
Tribal								
INDIAN LUST	Y	0.5	0	0	0	0	-	0
INDIAN UST	Y	0.25	0	0	0	-	-	0
DELISTED ILST	Y	0.5	0	0	0	0	-	0
DELISTED IUST	Y	0.25	0	0	0	-	-	0
County								
LOP RIVERSIDE	Y	0.5	**1**	**1**	0	0	-	**2**
UST RIVERSIDE	Y	0.25	0	**1**	0	-	-	**1**
Additional Environmental Records								
Federal								
PFAS NPL	Y	0.5	0	0	0	0	-	0
FINDS/FRS	Y	PO	**3**	-	-	-	-	**3**
TRIS	Y	PO	0	-	-	-	-	0
PFAS TRI	Y	0.5	0	0	0	0	-	0
PFAS WATER	Y	0.5	0	0	0	0	-	0
HMIRS	Y	0.125	0	0	-	-	-	0
NCDL	Y	0.125	0	0	-	-	-	0
TSCA	Y	0.125	0	0	-	-	-	0
HIST TSCA	Y	0.125	0	0	-	-	-	0
FTTS ADMIN	Y	PO	0	-	-	-	-	0
FTTS INSP	Y	PO	0	-	-	-	-	0
PRP	Y	PO	0	-	-	-	-	0
SCRD DRYCLEANER	Y	0.5	0	0	0	0	-	0
ICIS	Y	PO	0	-	-	-	-	0
FED DRYCLEANERS	Y	0.25	0	**2**	0	-	-	**2**
DELISTED FED DRY	Y	0.25	0	0	0	-	-	0
FUDS	Y	1	0	0	0	0	0	0
FORMER NIKE	Y	1	0	0	0	0	0	0
PIPELINE INCIDENT	Y	PO	0	-	-	-	-	0
MLTS	Y	PO	0	-	-	-	-	0
HIST MLTS	Y	PO	0	-	-	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
MINES	Y	0.25	0	0	0	-	-	0
SMCRA	Y	1	0	0	0	0	0	0
MRDS	Y	1	0	0	0	0	**1**	**1**
URANIUM	Y	1	0	0	0	0	0	0
ALT FUELS	Y	0.25	0	0	0	-	-	0
SSTS	Y	0.25	0	0	0	-	-	0
PCB	Y	0.5	0	0	0	0	-	0
State								
DRYCLEANERS	Y	0.25	0	**6**	0	-	-	**6**
DELISTED DRYCLEANERS	Y	0.25	0	0	0	-	-	0
DRYC GRANT	Y	0.25	0	0	0	-	-	0
PFAS	Y	0.5	0	0	0	0	-	0
PFAS GW	Y	0.5	0	0	0	0	-	0
HWSS CLEANUP	Y	0.5	0	0	0	0	-	0
DTSC HWF	Y	0.5	0	0	0	0	-	0
INSP COMP ENF	Y	1	0	0	0	0	0	0
SCH	Y	1	0	0	0	0	0	0
CHMIRS	Y	PO	0	-	-	-	-	0
HIST CHMIRS	Y	PO	**1**	-	-	-	-	**1**
HAZNET	Y	PO	**5**	**1**	-	-	-	**6**
HIST MANIFEST	Y	PO	**2**	-	-	-	-	**2**
HW TRANSPORT	Y	0.125	0	0	-	-	-	0
WASTE TIRE	Y	PO	0	-	-	-	-	0
MEDICAL WASTE	Y	0.25	0	0	0	-	-	0
HIST CORTESE	Y	0.5	0	0	0	0	-	0
CDO/CAO	Y	0.5	0	0	0	0	-	0
CERS HAZ	Y	0.125	0	**4**	-	-	-	**4**
DELISTED HAZ	Y	0.5	**1**	0	0	0	-	**1**
GEOTRACKER	Y	0.125	0	0	-	-	-	0
MINE	Y	1	0	0	0	0	0	0
LIEN	Y	PO	0	-	-	-	-	0
WASTE DISCHG	Y	0.25	0	0	0	-	-	0
EMISSIONS	Y	0.25	0	**4**	0	-	-	**4**
CDL	Y	0.125	0	**2**	-	-	-	**2**

Tribal ***No Tribal additional environmental record sources available for this State.***

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
County								
HWG RIVERSIDE	Y	0.125	0	**3**	-	-	-	**3**
HZH RIVERSIDE	Y	0.125	0	0	-	-	-	0
MED WST RIVERSIDE	Y	0.25	0	**3**	**3**	-	-	**6**
RMP RIVERSIDE	Y	PO	0	-	-	-	-	0
	Total:		**22**	**50**	**18**	**2**	**1**	**93**

**** PO – Property Only***
**** 'Property and adjoining properties' database search radii are set at 0.25 miles.***

Executive Summary: Site Report Summary - Project Property

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
1	RCRA NON GEN	SEARS RIVERSIDE NO 1298	5261 ARLINGTON AVE RIVERSIDE CA 92504 ***EPA Handler ID:*** *CAD981396583*	WSW	0.00 / 0.00	0	34
1	FINDS/FRS	SEARS #1298/6711	5261 ARLINGTON AVE. RIVERSIDE CA 92504 ***Registry ID:*** *110055670313*	WSW	0.00 / 0.00	0	35
1	FINDS/FRS	SEARS RIVERSIDE NO 1298	5261 ARLINGTON AVE RIVERSIDE CA 92504 ***Registry ID:*** *110002693201*	WSW	0.00 / 0.00	0	35
1	LOP RIVERSIDE	Sears Retail	5261 Arlington Ave Riverside CA ***Site ID | Status Desc:*** *89161 |*	WSW	0.00 / 0.00	0	36
1	LUST	SEARS RETAIL	5261 ARLINGTON AVE RIVERSIDE CA 92504 ***Global ID | Status | Status Date:*** *T0606500039 | COMPLETED - CASE CLOSED | 6/25/2003*	WSW	0.00 / 0.00	0	36
1	HHSS	SEARS ROEBUCK	5261 ARLINGTON AVE RIVERSIDE CA 92504	WSW	0.00 / 0.00	0	41
1	HHSS	SEARS ROEBUCK AND COMPANY	5261 ARLINGTON AVENUE RIVERSIDE CA 92504	WSW	0.00 / 0.00	0	41
1	HIST CHMIRS		5261 ARLINGTON RIVERSIDE CA	WSW	0.00 / 0.00	0	41
1	HAZNET	SEARS ROEBUCK& CO	5261 ARLINGTON AVE RIVERSIDE CA 925040000	WSW	0.00 / 0.00	0	41
1	HAZNET	SEARS #1298/6711	5261 ARLINGTON AVE RIVERSIDE CA 925042604	WSW	0.00 / 0.00	0	42
1	HAZNET	SEARS RIVERSIDE NO 1298	5261 ARLINGTON AVE RIVERSIDE CA 925040000	WSW	0.00 / 0.00	0	61
1	HAZNET	SEARS #1298/6711	5261 ARLINGTON AVE RIVERSIDE CA 92504	WSW	0.00 / 0.00	0	63
1	HAZNET	SEARS ROEBUCK AND CO	5261 ARLINGTON AVE RIVERSIDE CA 925640000	WSW	0.00 / 0.00	0	64

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
1	HIST MANIFEST		5261 ARLINGTON AVE RIVERSIDE CA 925042604	WSW	0.00 / 0.00	0	64
1	HIST MANIFEST		5261 ARLINGTON AVE RIVERSIDE CA 925040000	WSW	0.00 / 0.00	0	68
1	FINDS/FRS	SEARS RETAIL	5261 ARLINGTON AVE RIVERSIDE CA 92504 ***Registry ID:*** *110064989543*	WSW	0.00 / 0.00	0	69
1	HIST TANK	SEAR ROEBUCK	5261 ARLINGTON AVE RIVERSIDE CA	WSW	0.00 / 0.00	0	70
1	HIST TANK	SEARS, ROEBUCK AND COMPANY	5261 ARLINGTON AVENUE RIVERSIDE CA	WSW	0.00 / 0.00	0	70
1	DELISTED HAZ	Sears #1298/6711	5261 ARLINGTON AVE RIVERSIDE CA 92504	WSW	0.00 / 0.00	0	70
1	DELISTED CTNK	Sears #1298/6711	5261 ARLINGTON AVE RIVERSIDE CA 92504	WSW	0.00 / 0.00	0	70
1	RCRA NON GEN	SEARS #1298/6711	5261 ARLINGTON AVE RIVERSIDE CA 92504-2604 ***EPA Handler ID:*** *CAD057780512*	WSW	0.00 / 0.00	0	71
1	RCRA NON GEN	SEARS #1298/6711	5261 ARLINGTON AVE RIVERSIDE CA 92504 ***EPA Handler ID:*** *CAL000409156*	WSW	0.00 / 0.00	0	72

Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
2	HAZNET	JAMES M. SLEPSKI DDS	5171 ARLINGTON AVE RIVERSIDE CA 925040000	SE	0.02 / 105.56	10	73
2	MED WST RIVERSIDE	WILLIAM G. BYRNE, D.D. S.-OOB	5171 ARLINGTON AVE STE 8 RIVERSIDE CA 92504-2639	SE	0.02 / 105.56	10	73
2	MED WST RIVERSIDE	JAMES M. SLEPSKI, D.D. S.	5171 ARLINGTON AVE RIVERSIDE CA 92504-2639	SE	0.02 / 105.56	10	73
3	RECYCLING	ALEXYS RECYCLING	5204 ARLINGTON AVE RIVERSIDE CA 92504	SSE	0.02 / 115.39	9	74
4	CDL		6975 CAPISTRANO ST RIVERSIDE CA 92504	SE	0.03 / 155.66	10	74
5	MED WST RIVERSIDE	RIVERSIDE WEST DENTAL GROUP	6945 STREETER AVE RIVERSIDE CA 92504	WSW	0.03 / 158.01	-2	74
6	CLEANUP SITES	CROWN CLEANERS, HARDMAN CENTER	5190 ARLINGTON AVENUE RIVERSIDE CA	SSE	0.04 / 187.99	10	74
			***Status	Site Facility Type:*** COMPLETED - CASE CLOSED | CLEANUP PROGRAM SITE			
6	DRYCLEANERS	CROWN CLEANERS	5190 ARLINGTON AVE RIVERSIDE CA 925040000	SSE	0.04 / 187.99	10	77
6	DRYCLEANERS	CROWN CLEANERS	5190 ARLINGTON AVE RIVERSIDE CA 925040000	SSE	0.04 / 187.99	10	78
6	DRYCLEANERS	CROWN CLEANERS	5190 ARLINGTON AVE RIVERSIDE CA 925040000	SSE	0.04 / 187.99	10	78
6	DRYCLEANERS	CROWN CLEANERS	5190 ARLINGTON AVE RIVERSIDE CA 925040000	SSE	0.04 / 187.99	10	78
6	EMISSIONS	CROWN CLEANERS, ABDUL CHAUTHAN	5190 ARLINGTON AVE RIVERSIDE CA 92506	SSE	0.04 / 187.99	10	78

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
6	EMISSIONS	CROWN CLEANERS, HARSHAYU I. PA	5190 ARLINGTON AVE RIVERSIDE CA 92504	SSE	0.04 / 187.99	10	79
6	VCP	CROWN CLEANERS (HERITAGE PLAZA)	5190 ARLINGTON AVENUE RIVERSIDE CA 92504	SSE	0.04 / 187.99	10	79
			Estor/EPA ID | Cleanup Status: 60002822 | ACTIVE AS OF 5/17/2019				
6	ENVIROSTOR	CROWN CLEANERS (HERITAGE PLAZA)	5190 ARLINGTON AVENUE RIVERSIDE CA 92504	SSE	0.04 / 187.99	10	81
			Estor/EPA ID | Cleanup Status: 60002822 | ACTIVE AS OF 5/17/2019				
7	CERS HAZ	Del Taco #111	5290 ARLINGTON AVE RIVERSIDE CA 92504	SSW	0.04 / 190.88	5	83
8	CERS HAZ	WingStop	5200 ARLINGTON AVE STE 120 RIVERSIDE CA 92504	SSE	0.05 / 283.69	10	86
9	RCRA SQG	CHEVRON STATION NO 93673	5305 ARLINGTON AVE RIVERSIDE CA 92504-2502	SW	0.06 / 311.74	0	91
			EPA Handler ID: CAR000122515				
9	DELISTED TNK	CHEVRON #93673	5305 ARLINGTON AVE. Riverside CA 92504	SW	0.06 / 311.74	0	92
9	LOP RIVERSIDE	Chevron #3673	5305 Arlington Ave Riverside CA	SW	0.06 / 311.74	0	92
			Site ID | Status Desc: 89201 |				
9	HWG RIVERSIDE	R and T Oil, Inc	5305 Arlington Ave Riverside CA 92504	SW	0.06 / 311.74	0	92
9	UST RIVERSIDE	R and T Oil, Inc	5305 Arlington Ave Riverside CA 92504	SW	0.06 / 311.74	0	92
			No of Tanks: 3				
9	LUST	CHEVRON #3673 (CHEVRON #93673)	5305 ARLINGTON AVE RIVERSIDE CA 92504	SW	0.06 / 311.74	0	92
			Global ID | Status | Status Date: T0606500052 | COMPLETED - CASE CLOSED | 5/14/2002				
9	HHSS	93673	5305 ARLINGTON AVE RIVERSIDE CA 92504	SW	0.06 / 311.74	0	96
9	UST	R AND T OIL INC.	5305 Arlington Ave Riverside CA 92504	SW	0.06 / 311.74	0	96
			Facility ID: FA0026992				

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
9	CERS TANK	R AND T OIL INC.	5305 ARLINGTON AVE RIVERSIDE CA 92504 ***Site ID:*** 400191	SW	0.06 / 311.74	0	96
9	HIST TANK	93673	5305 ARLINGTON AVE RIVERSIDE CA	SW	0.06 / 311.74	0	106
9	RCRA NON GEN	R & T OIL INC	5305 ARLINGTON AVE RIVERSIDE CA 92504-2502 ***EPA Handler ID:*** CAL000329177	SW	0.06 / 311.74	0	106
9	EMISSIONS	R AND T OIL INCORPORATED	5305 ARLINGTON AVE RIVERSIDE CA 92504	SW	0.06 / 311.74	0	107
9	UST SWEEPS	CHEVRON #93673	5305 ARLINGTON AVE RIVERSIDE CA ***C C | Status:*** A33-000-128 | ACTIVE ***Tank ID:*** 000002, 000003, 000001	SW	0.06 / 311.74	0	108
10	RCRA SQG	STEADY PEDALER BICYCLES	5300 ARLINGTON AVE RIVERSIDE CA 92504 ***EPA Handler ID:*** CAD982428617	SW	0.06 / 328.94	0	109
11	RCRA SQG	JONES DRY CLEANERS	5335 ARLINGTON AVE RIVERSIDE CA 92504 ***EPA Handler ID:*** CAD981640071	SW	0.07 / 390.47	0	110
11	DRYCLEANERS	JONES DRY CLEANERS	5335 ARLINGTON AVE RIVERSIDE CA 925040000	SW	0.07 / 390.47	0	111
11	FED DRYCLEANERS	JONES DRY CLEANERS	5335 ARLINGTON AVE RIVERSIDE CA 92504 ***FRS Facility ID:*** 110002735247	SW	0.07 / 390.47	0	111
12	UST SWEEPS	J & J GOODYEAR	7726 CALIFORNIA AVE RIVERSIDE CA ***C C | Status:*** A33-000-1861 | ACTIVE ***Tank ID:*** 000001	SSW	0.08 / 419.55	3	112
13	RCRA SQG	SCHER TIRE NO 13 D B A GOODYEAR	5110 ARLINGTON AVE RIVERSIDE CA 93504 ***EPA Handler ID:*** CAR000088203	SE	0.08 / 448.64	15	112
14	HWG RIVERSIDE	Jones Dry Cleaners	5360 Arlington Ave Riverside CA 92504	SW	0.09 / 486.49	-1	113
14	DRYCLEANERS	JONES DRY CLEANING	5360 ARLINGTON AVE RIVERSIDE CA 925042503	SW	0.09 / 486.49	-1	113
14	EMISSIONS	A & G JONES DRY CLEANING INC	5360 ARLINGTON AVE RIVERSIDE CA 92504	SW	0.09 / 486.49	-1	113

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
14	CERS HAZ	Jones Dry Cleaners	5360 ARLINGTON AVE RIVERSIDE CA 92504	SW	0.09 / 486.49	-1	115
14	RCRA NON GEN	JONES DRY CLEANING	5360 ARLINGTON AVE RIVERSIDE CA 92504-2503 ***EPA Handler ID:*** CAL000304205	SW	0.09 / 486.49	-1	121
14	FED DRYCLEANERS	JONES DRY CLEANING	5360 ARLINGTON AVE RIVERSIDE CA 92504 ***FRS Facility ID:*** 110065855480	SW	0.09 / 486.49	-1	123
15	CDL		4133 MELROSE RIVERSIDE CA 92504	SSW	0.09 / 499.68	5	123
16	RCRA NON GEN	JUAN CARLOS FIGUEROA	5361 SIERRA ST RIVERSIDE CA 92504-2122 ***EPA Handler ID:*** CAC003060680	WNW	0.10 / 511.95	-4	123
17	RCRA SQG	USA #1 PHOTO	5222-D ARLINGTON AVE RIVERSIDE CA 92504 ***EPA Handler ID:*** CAD981640543	SSE	0.11 / 582.32	12	124
17	RCRA NON GEN	SALONCENTRIC INC 6030	5222 ARLINGTON AVE RIVERSIDE CA 92504 ***EPA Handler ID:*** CAL000394395	SSE	0.11 / 582.32	12	125
18	RCRA NON GEN	PHYLLIS DEAN	6763 SAINT JAMES CT RIVERSIDE CA 92504 ***EPA Handler ID:*** CAC003089148	NE	0.12 / 627.31	8	126
19	HWG RIVERSIDE	Smart & Final # 514	5202 Arlington Ave Riverside CA 92504	SSE	0.12 / 641.88	13	127
19	CERS HAZ	Smart & Final # 514	5202 ARLINGTON AVE RIVERSIDE CA 92504	SSE	0.12 / 641.88	13	127
19	RCRA NON GEN	SMART & FINAL #514	5202 ARLINGTON AVE RIVERSIDE CA 92504 ***EPA Handler ID:*** CAL000374078	SSE	0.12 / 641.88	13	131
20	RCRA NON GEN	BRIAN STARKEY	6865 PALOMAR WAY RIVERSIDE CA 92504 ***EPA Handler ID:*** CAC002981118	ENE	0.15 / 813.41	13	132
21	RCRA NON GEN	ESAU, DANNY	5348 ROCHESTER DRIVE RIVERSIDE CA 92504 ***EPA Handler ID:*** CAC003108150	NW	0.17 / 898.41	-2	133

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
22	MED WST RIVERSIDE	AFFINITY HOME HEALTH CARE SERVICES	5033 ARLINGTON AVE STE A RIVERSIDE CA 92504	ESE	0.18 / 935.79	21	134
23	RCRA NON GEN	ROSS DRESS FOR LESS #0020	4080 MADISON ST RIVERSIDE CA 92504-2642 ***EPA Handler ID:*** CAL000397325	ESE	0.18 / 938.26	22	134
24	RCRA NON GEN	LAURIE BARNETT	4145 EUCLID CT RIVERSIDE CA 92504-2512 ***EPA Handler ID:*** CAC003057020	SSW	0.18 / 965.70	2	135
25	RCRA NON GEN	DOLLAR TREE #02244	4074 MADISON ST # 4076 RIVERSIDE CA 92504-2642 ***EPA Handler ID:*** CAL000380792	ESE	0.19 / 994.45	23	136
26	RCRA TSD	TERRI JOHNSON	5436 GRANADA AVE. RIVERSIDE CA 92504 ***EPA Handler ID:*** CAC003015325	W	0.19 / 1,011.04	-7	137
26	RCRA NON GEN	TERRI JOHNSON	5436 GRANADA AVE. RIVERSIDE CA 92504 ***EPA Handler ID:*** CAC003015325	W	0.19 / 1,011.04	-7	138
27	RCRA NON GEN	OLIVIA SMITH	4134 EUCLID CT RIVERSIDE CA 92504-2513 ***EPA Handler ID:*** CAC003046539	SSW	0.19 / 1,019.67	2	139
28	MED WST RIVERSIDE	MAN VO, DDS	5013 ARLINGTON AVE STE A RIVERSIDE CA 92504	ESE	0.20 / 1,072.09	23	140
29	RCRA NON GEN	MARY MYERS	5328 SCOTT AVE RIVERSIDE CA 92504 ***EPA Handler ID:*** CAC003098764	NNW	0.20 / 1,078.12	-1	141
30	RCRA NON GEN	VAQUERO RIVERSIDE PARTNERS LP	5445 ARLINGTON AVE. RIVERSIDE CA 92504 ***EPA Handler ID:*** CAC002990829	WSW	0.21 / 1,097.36	-6	142
31	RCRA NON GEN	PNS - BIG LOTS #4256	4022 MADISON ST RIVERSIDE CA 92504 ***EPA Handler ID:*** CAL000391621	ESE	0.22 / 1,138.35	24	143
32	RCRA NON GEN	BROWN, CLARISSA	5378 SCOTT AVENUE RIVERSIDE CA 92504 ***EPA Handler ID:*** CAC002973715	NW	0.24 / 1,261.08	-2	144
33	MED WST RIVERSIDE	DIAMOND MEDICAL GROUP	4990 ARLINGTON AVE STE #G RIVERSIDE CA 92504	ESE	0.25 / 1,297.88	25	145
33	RCRA NON GEN	DIAMOND MEDICAL GROUP	4990 ARLINGTON AVE STE G	ESE	0.25 / 1,297.88	25	145

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
			RIVERSIDE CA 92504 ***EPA Handler ID:*** CAL000461193				
34	RCRA TSD	OUR LADY OF PERPETUAL HELP CHURCH	5250 CENTRAL AVE RIVERSIDE CA 92504 ***EPA Handler ID:*** CAC003013053	NNW	0.25 / 1,313.80	1	146
34	RCRA NON GEN	OUR LADY OF PERPETUAL HELP CHURCH	5250 CENTRAL AVE RIVERSIDE CA 92504 ***EPA Handler ID:*** CAC003013053	NNW	0.25 / 1,313.80	1	147
35	LUST	March Air Reserve Base - March Air Reserve Base	Bldg 2406 Site 39 Graber Street MARCH ARB CA 92518 ***Global ID | Status | Status Date:*** T0606500293 | Completed - Case Closed | 10/10/2000	ESE	0.32 / 1,700.90	30	149
36	CONTAINER RECY	RECYCLING CLUB OF SIERRA MIDDLE SCHOOL	4950 CENTRAL AVE RIVERSIDE CA 92504	NE	0.39 / 2,074.29	14	160
37	MRDS	UNNAMED PIT	RIVERSIDE COUNTY RIVERSIDE CA 92504 ***Dep ID:*** 10140210	W	0.90 / 4,731.70	-9	161

Executive Summary: Summary by Data Source

Standard

Federal

RCRA TSD - RCRA non-CORRACTS TSD Facilities

A search of the RCRA TSD database, dated Jun 14, 2021 has found that there are 2 RCRA TSD site(s) within approximately 0.50 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
OUR LADY OF PERPETUAL HELP CHURCH	5250 CENTRAL AVE RIVERSIDE CA 92504 ***EPA Handler ID**: CAC003013053*	NNW	0.25 / 1,313.80	34

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
TERRI JOHNSON	5436 GRANADA AVE. RIVERSIDE CA 92504 ***EPA Handler ID**: CAC003015325*	W	0.19 / 1,011.04	26

RCRA SQG - RCRA Small Quantity Generators List

A search of the RCRA SQG database, dated Jun 14, 2021 has found that there are 5 RCRA SQG site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
STEADY PEDALER BICYCLES	5300 ARLINGTON AVE RIVERSIDE CA 92504 ***EPA Handler ID**: CAD982428617*	SW	0.06 / 328.94	10
SCHER TIRE NO 13 D B A GOODYEAR	5110 ARLINGTON AVE RIVERSIDE CA 93504 ***EPA Handler ID**: CAR000088203*	SE	0.08 / 448.64	13
USA #1 PHOTO	5222-D ARLINGTON AVE RIVERSIDE CA 92504 ***EPA Handler ID**: CAD981640543*	SSE	0.11 / 582.32	17

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
CHEVRON STATION NO 93673	5305 ARLINGTON AVE RIVERSIDE CA 92504-2502 ***EPA Handler ID**: CAR000122515*	SW	0.06 / 311.74	9
JONES DRY CLEANERS	5335 ARLINGTON AVE RIVERSIDE CA 92504 ***EPA Handler ID**: CAD981640071*	SW	0.07 / 390.47	11

RCRA NON GEN - RCRA Non-Generators

A search of the RCRA NON GEN database, dated Jun 14, 2021 has found that there are 22 RCRA NON GEN site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
SALONCENTRIC INC 6030	5222 ARLINGTON AVE RIVERSIDE CA 92504 ***EPA Handler ID**: CAL000394395*	SSE	0.11 / 582.32	17
PHYLLIS DEAN	6763 SAINT JAMES CT RIVERSIDE CA 92504 ***EPA Handler ID**: CAC003089148*	NE	0.12 / 627.31	18
SMART & FINAL #514	5202 ARLINGTON AVE RIVERSIDE CA 92504 ***EPA Handler ID**: CAL000374078*	SSE	0.12 / 641.88	19
BRIAN STARKEY	6865 PALOMAR WAY RIVERSIDE CA 92504 ***EPA Handler ID**: CAC002981118*	ENE	0.15 / 813.41	20
ROSS DRESS FOR LESS #0020	4080 MADISON ST RIVERSIDE CA 92504-2642 ***EPA Handler ID**: CAL000397325*	ESE	0.18 / 938.26	23
LAURIE BARNETT	4145 EUCLID CT RIVERSIDE CA 92504-2512 ***EPA Handler ID**: CAC003057020*	SSW	0.18 / 965.70	24
DOLLAR TREE #02244	4074 MADISON ST # 4076 RIVERSIDE CA 92504-2642 ***EPA Handler ID**: CAL000380792*	ESE	0.19 / 994.45	25
OLIVIA SMITH	4134 EUCLID CT RIVERSIDE CA 92504-2513 ***EPA Handler ID**: CAC003046539*	SSW	0.19 / 1,019.67	27
PNS - BIG LOTS #4256	4022 MADISON ST RIVERSIDE CA 92504 ***EPA Handler ID**: CAL000391621*	ESE	0.22 / 1,138.35	31
DIAMOND MEDICAL GROUP	4990 ARLINGTON AVE STE G RIVERSIDE CA 92504 ***EPA Handler ID**: CAL000461193*	ESE	0.25 / 1,297.88	33
OUR LADY OF PERPETUAL HELP CHURCH	5250 CENTRAL AVE RIVERSIDE CA 92504 ***EPA Handler ID**: CAC003013053*	NNW	0.25 / 1,313.80	34

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
SEARS RIVERSIDE NO 1298	5261 ARLINGTON AVE RIVERSIDE CA 92504	WSW	0.00 / 0.00	1

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
	***EPA Handler ID**: CAD981396583*			
SEARS #1298/6711	5261 ARLINGTON AVE RIVERSIDE CA 92504-2604	WSW	0.00 / 0.00	1
	***EPA Handler ID**: CAD057780512*			
SEARS #1298/6711	5261 ARLINGTON AVE RIVERSIDE CA 92504	WSW	0.00 / 0.00	1
	***EPA Handler ID**: CAL000409156*			
R & T OIL INC	5305 ARLINGTON AVE RIVERSIDE CA 92504-2502	SW	0.06 / 311.74	9
	***EPA Handler ID**: CAL000329177*			
JONES DRY CLEANING	5360 ARLINGTON AVE RIVERSIDE CA 92504-2503	SW	0.09 / 486.49	14
	***EPA Handler ID**: CAL000304205*			
JUAN CARLOS FIGUEROA	5361 SIERRA ST RIVERSIDE CA 92504-2122	WNW	0.10 / 511.95	16
	***EPA Handler ID**: CAC003060680*			
ESAU, DANNY	5348 ROCHESTER DRIVE RIVERSIDE CA 92504	NW	0.17 / 898.41	21
	***EPA Handler ID**: CAC003108150*			
TERRI JOHNSON	5436 GRANADA AVE. RIVERSIDE CA 92504	W	0.19 / 1,011.04	26
	***EPA Handler ID**: CAC003015325*			
MARY MYERS	5328 SCOTT AVE RIVERSIDE CA 92504	NNW	0.20 / 1,078.12	29
	***EPA Handler ID**: CAC003098764*			
VAQUERO RIVERSIDE PARTNERS LP	5445 ARLINGTON AVE. RIVERSIDE CA 92504	WSW	0.21 / 1,097.36	30
	***EPA Handler ID**: CAC002990829*			
BROWN, CLARISSA	5378 SCOTT AVENUE RIVERSIDE CA 92504	NW	0.24 / 1,261.08	32
	***EPA Handler ID**: CAC002973715*			

State

ENVIROSTOR - EnviroStor Database

A search of the ENVIROSTOR database, dated Jun 14, 2021 has found that there are 1 ENVIROSTOR site(s) within approximately 1.00 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
CROWN CLEANERS (HERITAGE PLAZA)	5190 ARLINGTON AVENUE RIVERSIDE CA 92504	SSE	0.04 / 187.99	6

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
	***Estor/EPA ID | Cleanup Status**: 60002822 | ACTIVE AS OF 5/17/2019*			

RECYCLING - Recycling Centers

A search of the RECYCLING database, dated Nov 2, 2020 has found that there are 1 RECYCLING site(s) within approximately 0.50 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
ALEXYS RECYCLING	5204 ARLINGTON AVE RIVERSIDE CA 92504	SSE	0.02 / 115.39	3

CONTAINER RECY - Listing of Certified Dropoff, Collection, and Community Service Programs

A search of the CONTAINER RECY database, dated Dec 16, 2020 has found that there are 1 CONTAINER RECY site(s) within approximately 0.50 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
RECYCLING CLUB OF SIERRA MIDDLE SCHOOL	4950 CENTRAL AVE RIVERSIDE CA 92504	NE	0.39 / 2,074.29	36

LUST - Leaking Underground Fuel Tank Reports

A search of the LUST database, dated Jun 22, 2021 has found that there are 3 LUST site(s) within approximately 0.50 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
March Air Reserve Base - March Air Reserve Base	Bldg 2406 Site 39 Graber Street MARCH ARB CA 92518	ESE	0.32 / 1,700.90	35
	***Global ID | Status | Status Date**: T0606500293 | Completed - Case Closed | 10/10/2000*			

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
SEARS RETAIL	5261 ARLINGTON AVE RIVERSIDE CA 92504	WSW	0.00 / 0.00	1
	***Global ID | Status | Status Date**: T0606500039 | COMPLETED - CASE CLOSED | 6/25/2003*			
CHEVRON #3673 (CHEVRON #93673)	5305 ARLINGTON AVE RIVERSIDE CA 92504	SW	0.06 / 311.74	9
	***Global ID | Status | Status Date**: T0606500052 | COMPLETED - CASE CLOSED | 5/14/2002*			

UST - Permitted Underground Storage Tank (UST) in GeoTracker

A search of the UST database, dated Jul 25, 2021 has found that there are 1 UST site(s) within approximately 0.25 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
R AND T OIL INC.	5305 Arlington Ave Riverside CA 92504	SW	0.06 / 311.74	9

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
	***Facility ID**: FA0026992*			

HHSS - Historical Hazardous Substance Storage Information Database

A search of the HHSS database, dated Aug 27, 2015 has found that there are 3 HHSS site(s) within approximately 0.25 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
SEARS ROEBUCK AND COMPANY	5261 ARLINGTON AVENUE RIVERSIDE CA 92504	WSW	0.00 / 0.00	1
SEARS ROEBUCK	5261 ARLINGTON AVE RIVERSIDE CA 92504	WSW	0.00 / 0.00	1
93673	5305 ARLINGTON AVE RIVERSIDE CA 92504	SW	0.06 / 311.74	9

UST SWEEPS - Statewide Environmental Evaluation and Planning System

A search of the UST SWEEPS database, dated Oct 1, 1994 has found that there are 2 UST SWEEPS site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
J & J GOODYEAR	7726 CALIFORNIA AVE RIVERSIDE CA ***C C	Status**: A33-000-1861	ACTIVE* ***Tank ID**: 000001*	SSW	0.08 / 419.55	12

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
CHEVRON #93673	5305 ARLINGTON AVE RIVERSIDE CA ***C C	Status**: A33-000-128	ACTIVE* ***Tank ID**: 000002, 000003, 000001*	SW	0.06 / 311.74	9

DELISTED TNK - Delisted Storage Tanks

A search of the DELISTED TNK database, dated Jul 25, 2021 has found that there are 1 DELISTED TNK site(s) within approximately 0.25 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
CHEVRON #93673	5305 ARLINGTON AVE. Riverside CA 92504	SW	0.06 / 311.74	9

CERS TANK - California Environmental Reporting System (CERS) Tanks

A search of the CERS TANK database, dated Apr 29, 2021 has found that there are 1 CERS TANK site(s) within approximately 0.25 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
R AND T OIL INC.	5305 ARLINGTON AVE RIVERSIDE CA 92504 ***Site ID**: 400191*	SW	0.06 / 311.74	9

DELISTED CTNK - Delisted California Environmental Reporting System (CERS) Tanks

A search of the DELISTED CTNK database, dated Apr 29, 2021 has found that there are 1 DELISTED CTNK site(s) within approximately 0.25 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
Sears #1298/6711	5261 ARLINGTON AVE RIVERSIDE CA 92504	WSW	0.00 / 0.00	1

HIST TANK - Historical Hazardous Substance Storage Container Information - Facility Summary

A search of the HIST TANK database, dated May 27, 1988 has found that there are 3 HIST TANK site(s) within approximately 0.25 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
SEAR ROEBUCK	5261 ARLINGTON AVE RIVERSIDE CA	WSW	0.00 / 0.00	1
SEARS, ROEBUCK AND COMPANY	5261 ARLINGTON AVENUE RIVERSIDE CA	WSW	0.00 / 0.00	1
93673	5305 ARLINGTON AVE RIVERSIDE CA	SW	0.06 / 311.74	9

VCP - Voluntary Cleanup Program

A search of the VCP database, dated Jun 14, 2021 has found that there are 1 VCP site(s) within approximately 0.50 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
CROWN CLEANERS (HERITAGE PLAZA)	5190 ARLINGTON AVENUE RIVERSIDE CA 92504 ***Estor/EPA ID | Cleanup Status**: 60002822 | ACTIVE AS OF 5/17/2019*	SSE	0.04 / 187.99	6

CLEANUP SITES - GeoTracker Cleanup Program Sites

A search of the CLEANUP SITES database, dated Jun 22, 2021 has found that there are 1 CLEANUP SITES site(s) within approximately 0.50 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
CROWN CLEANERS, HARDMAN CENTER	5190 ARLINGTON AVENUE RIVERSIDE CA	SSE	0.04 / 187.99	6

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
	Status* | *Site Facility Type: *COMPLETED - CASE CLOSED* | *CLEANUP PROGRAM SITE*			

County

LOP RIVERSIDE - Riverside County - Local Oversight Program List

A search of the LOP RIVERSIDE database, dated Jul 22, 2021 has found that there are 2 LOP RIVERSIDE site(s) within approximately 0.50 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
Sears Retail	5261 Arlington Ave Riverside CA	WSW	0.00 / 0.00	1
	Site ID* | *Status Desc: *89161* |			
Chevron #3673	5305 Arlington Ave Riverside CA	SW	0.06 / 311.74	9
	Site ID* | *Status Desc: *89201* |			

UST RIVERSIDE - Riverside County - Underground Storage Tanks List

A search of the UST RIVERSIDE database, dated Jul 22, 2021 has found that there are 1 UST RIVERSIDE site(s) within approximately 0.25 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
R and T Oil, Inc	5305 Arlington Ave Riverside CA 92504	SW	0.06 / 311.74	9
	No of Tanks: *3*			

Non Standard

Federal

FINDS/FRS - Facility Registry Service/Facility Index

A search of the FINDS/FRS database, dated Nov 2, 2020 has found that there are 3 FINDS/FRS site(s) within approximately 0.02 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
SEARS RETAIL	5261 ARLINGTON AVE RIVERSIDE CA 92504	WSW	0.00 / 0.00	1
	Registry ID: *110064989543*			
SEARS #1298/6711	5261 ARLINGTON AVE. RIVERSIDE CA 92504	WSW	0.00 / 0.00	1
	Registry ID: *110055670313*			
SEARS RIVERSIDE NO 1298	5261 ARLINGTON AVE RIVERSIDE CA 92504	WSW	0.00 / 0.00	1
	Registry ID: *110002693201*			

FED DRYCLEANERS - Drycleaner Facilities

A search of the FED DRYCLEANERS database, dated May 5, 2021 has found that there are 2 FED DRYCLEANERS site(s) within approximately 0.25 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
JONES DRY CLEANERS	5335 ARLINGTON AVE RIVERSIDE CA 92504 ***FRS Facility ID**: 110002735247*	SW	0.07 / 390.47	11
JONES DRY CLEANING	5360 ARLINGTON AVE RIVERSIDE CA 92504 ***FRS Facility ID**: 110065855480*	SW	0.09 / 486.49	14

MRDS - Mineral Resource Data System

A search of the MRDS database, dated Mar 15, 2006 has found that there are 1 MRDS site(s) within approximately 1.00 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
UNNAMED PIT	RIVERSIDE COUNTY RIVERSIDE CA 92504 ***Dep ID**: 10140210*	W	0.90 / 4,731.70	37

State

DRYCLEANERS - Dry Cleaning Facilities

A search of the DRYCLEANERS database, dated Feb 22, 2021 has found that there are 6 DRYCLEANERS site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
CROWN CLEANERS	5190 ARLINGTON AVE RIVERSIDE CA 925040000	SSE	0.04 / 187.99	6
CROWN CLEANERS	5190 ARLINGTON AVE RIVERSIDE CA 925040000	SSE	0.04 / 187.99	6
CROWN CLEANERS	5190 ARLINGTON AVE RIVERSIDE CA 925040000	SSE	0.04 / 187.99	6
CROWN CLEANERS	5190 ARLINGTON AVE RIVERSIDE CA 925040000	SSE	0.04 / 187.99	6

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
JONES DRY CLEANERS	5335 ARLINGTON AVE RIVERSIDE CA 925040000	SW	0.07 / 390.47	11

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
JONES DRY CLEANING	5360 ARLINGTON AVE RIVERSIDE CA 925042503	SW	0.09 / 486.49	14

HIST CHMIRS - Historical California Hazardous Material Incident Report System (CHMIRS)

A search of the HIST CHMIRS database, dated Jan 1, 1993 has found that there are 1 HIST CHMIRS site(s) within approximately 0.02 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
	5261 ARLINGTON RIVERSIDE CA	WSW	0.00 / 0.00	1

HAZNET - Hazardous Waste Manifest Data

A search of the HAZNET database, dated Oct 24, 2016 has found that there are 6 HAZNET site(s) within approximately 0.02 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
JAMES M. SLEPSKI DDS	5171 ARLINGTON AVE RIVERSIDE CA 925040000	SE	0.02 / 105.56	2

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
SEARS ROEBUCK& CO	5261 ARLINGTON AVE RIVERSIDE CA 925040000	WSW	0.00 / 0.00	1
SEARS #1298/6711	5261 ARLINGTON AVE RIVERSIDE CA 92504	WSW	0.00 / 0.00	1
SEARS RIVERSIDE NO 1298	5261 ARLINGTON AVE RIVERSIDE CA 925040000	WSW	0.00 / 0.00	1
SEARS #1298/6711	5261 ARLINGTON AVE RIVERSIDE CA 925042604	WSW	0.00 / 0.00	1
SEARS ROEBUCK AND CO	5261 ARLINGTON AVE RIVERSIDE CA 925640000	WSW	0.00 / 0.00	1

HIST MANIFEST - Historical Hazardous Waste Manifest Data

A search of the HIST MANIFEST database, dated Dec 31, 1992 has found that there are 2 HIST MANIFEST site(s) within approximately 0.02 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
	5261 ARLINGTON AVE RIVERSIDE CA 925042604	WSW	0.00 / 0.00	1
	5261 ARLINGTON AVE RIVERSIDE CA 925040000	WSW	0.00 / 0.00	1

CERS HAZ - California Environmental Reporting System (CERS) Hazardous Waste Sites

A search of the CERS HAZ database, dated Feb 9, 2021 has found that there are 4 CERS HAZ site(s) within approximately 0.12 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
Del Taco #111	5290 ARLINGTON AVE RIVERSIDE CA 92504	SSW	0.04 / 190.88	7
WingStop	5200 ARLINGTON AVE STE 120 RIVERSIDE CA 92504	SSE	0.05 / 283.69	8
Smart & Final # 514	5202 ARLINGTON AVE RIVERSIDE CA 92504	SSE	0.12 / 641.88	19

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
Jones Dry Cleaners	5360 ARLINGTON AVE RIVERSIDE CA 92504	SW	0.09 / 486.49	14

DELISTED HAZ - Delisted Environmental Reporting System (CERS) Hazardous Waste Sites

A search of the DELISTED HAZ database, dated Nov 29, 2018 has found that there are 1 DELISTED HAZ site(s) within approximately 0.50 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
Sears #1298/6711	5261 ARLINGTON AVE RIVERSIDE CA 92504	WSW	0.00 / 0.00	1

EMISSIONS - Toxic Pollutant Emissions Facilities

A search of the EMISSIONS database, dated Dec 31, 2019 has found that there are 4 EMISSIONS site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
CROWN CLEANERS, HARSHAYU I. PA	5190 ARLINGTON AVE RIVERSIDE CA 92504	SSE	0.04 / 187.99	6

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
CROWN CLEANERS, ABDUL CHAUTHAN	5190 ARLINGTON AVE RIVERSIDE CA 92506	SSE	0.04 / 187.99	6

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
R AND T OIL INCORPORATED	5305 ARLINGTON AVE RIVERSIDE CA 92504	SW	0.06 / 311.74	9
A & G JONES DRY CLEANING INC	5360 ARLINGTON AVE RIVERSIDE CA 92504	SW	0.09 / 486.49	14

CDL - Clandestine Drug Lab Sites

A search of the CDL database, dated Jan 19, 2021 has found that there are 2 CDL site(s) within approximately 0.12 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
	6975 CAPISTRANO ST RIVERSIDE CA 92504	SE	0.03 / 155.66	4
	4133 MELROSE RIVERSIDE CA 92504	SSW	0.09 / 499.68	15

County

HWG RIVERSIDE - Riverside County - Hazardous Waste Generator Sites List

A search of the HWG RIVERSIDE database, dated Jul 22, 2021 has found that there are 3 HWG RIVERSIDE site(s) within approximately 0.12 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
Smart & Final # 514	5202 Arlington Ave Riverside CA 92504	SSE	0.12 / 641.88	19

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
R and T Oil, Inc	5305 Arlington Ave Riverside CA 92504	SW	0.06 / 311.74	9
Jones Dry Cleaners	5360 Arlington Ave Riverside CA 92504	SW	0.09 / 486.49	14

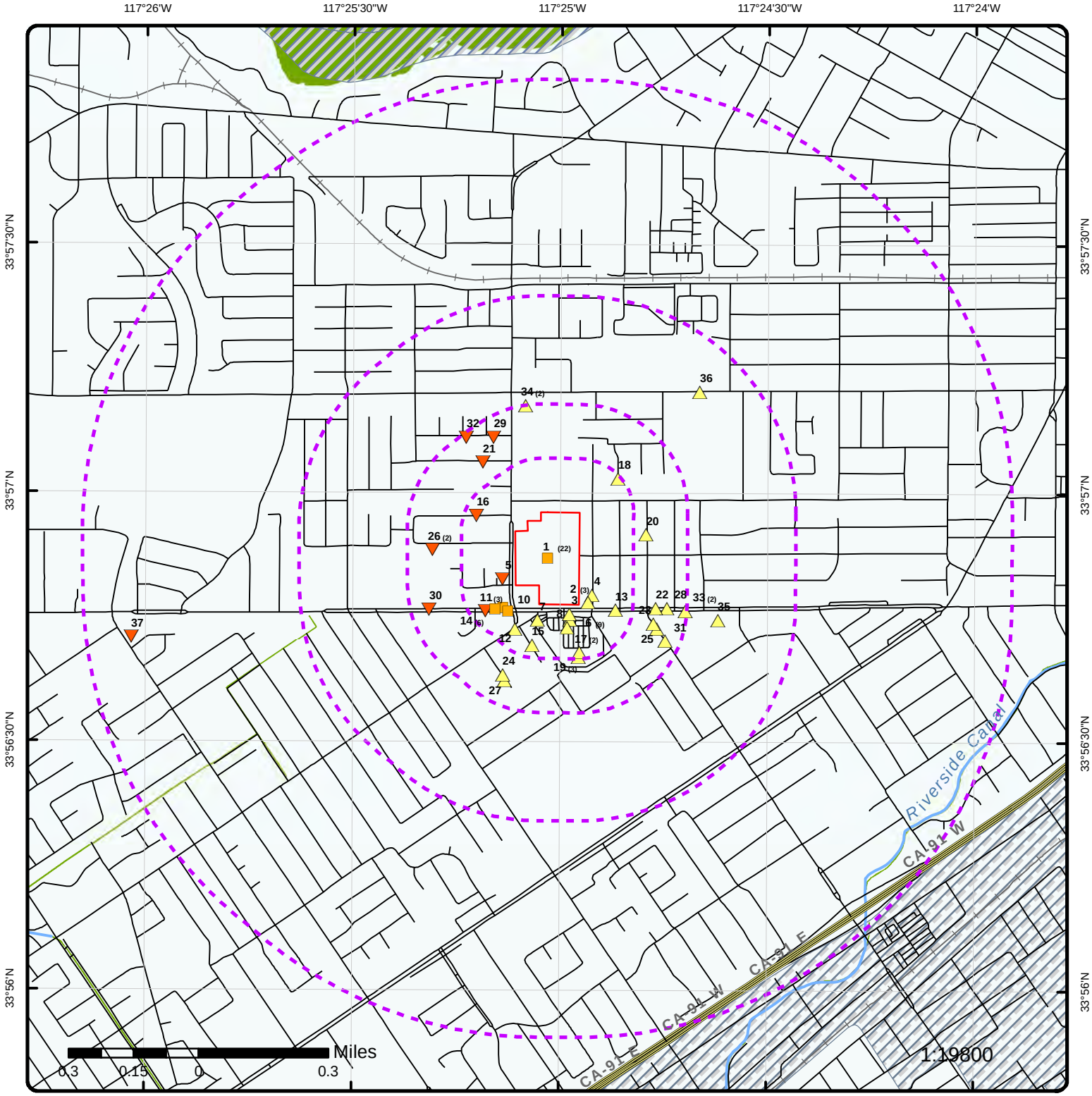
Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key

MED WST RIVERSIDE - Riverside County - Medical Waste Facilities

A search of the MED WST RIVERSIDE database, dated Sep 1, 2020 has found that there are 6 MED WST RIVERSIDE site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
JAMES M. SLEPSKI, D.D.S.	5171 ARLINGTON AVE RIVERSIDE CA 92504-2639	SE	0.02 / 105.56	2
WILLIAM G. BYRNE, D.D.S.-OOB	5171 ARLINGTON AVE STE 8 RIVERSIDE CA 92504-2639	SE	0.02 / 105.56	2
AFFINITY HOME HEALTH CARE SERVICES	5033 ARLINGTON AVE STE A RIVERSIDE CA 92504	ESE	0.18 / 935.79	22
MAN VO, DDS	5013 ARLINGTON AVE STE A RIVERSIDE CA 92504	ESE	0.20 / 1,072.09	28
DIAMOND MEDICAL GROUP	4990 ARLINGTON AVE STE #G RIVERSIDE CA 92504	ESE	0.25 / 1,297.88	33

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
RIVERSIDE WEST DENTAL GROUP	6945 STREETER AVE RIVERSIDE CA 92504	WSW	0.03 / 158.01	5



Map: 1.0 Mile Radius

Order Number: 21090700657

Address: 5261 Arlington Avenue, Riverside, CA

Buffer Outline	Rails	State Boundary	FWS Special Designation Areas	Plume
Eris Sites with Higher Elevation	Major Highways	National Priority List Sites	State Brownfield Sites	
Eris Sites with Same Elevation	Major Highways Ramps	National Wetland	State Brownfield Areas	
Eris Sites with Lower Elevation	Major Roads	Indian Reserve Land	State Superfund Areas:Dept. of Defense	
Eris Sites with Unknown Elevation	Major Roads Ramps	100 Year Flood Zone	State Superfund Areas:NPL	
County Boundary	Secondary Roads	500 Year Flood Zone	WQARF Areas	
	Secondary Roads Ramps	Historic Fill	Federal Lands: Dept. of Defense (owned/administered areas)	
	Local Roads and Ramps			

Source: © 2016 ESRI

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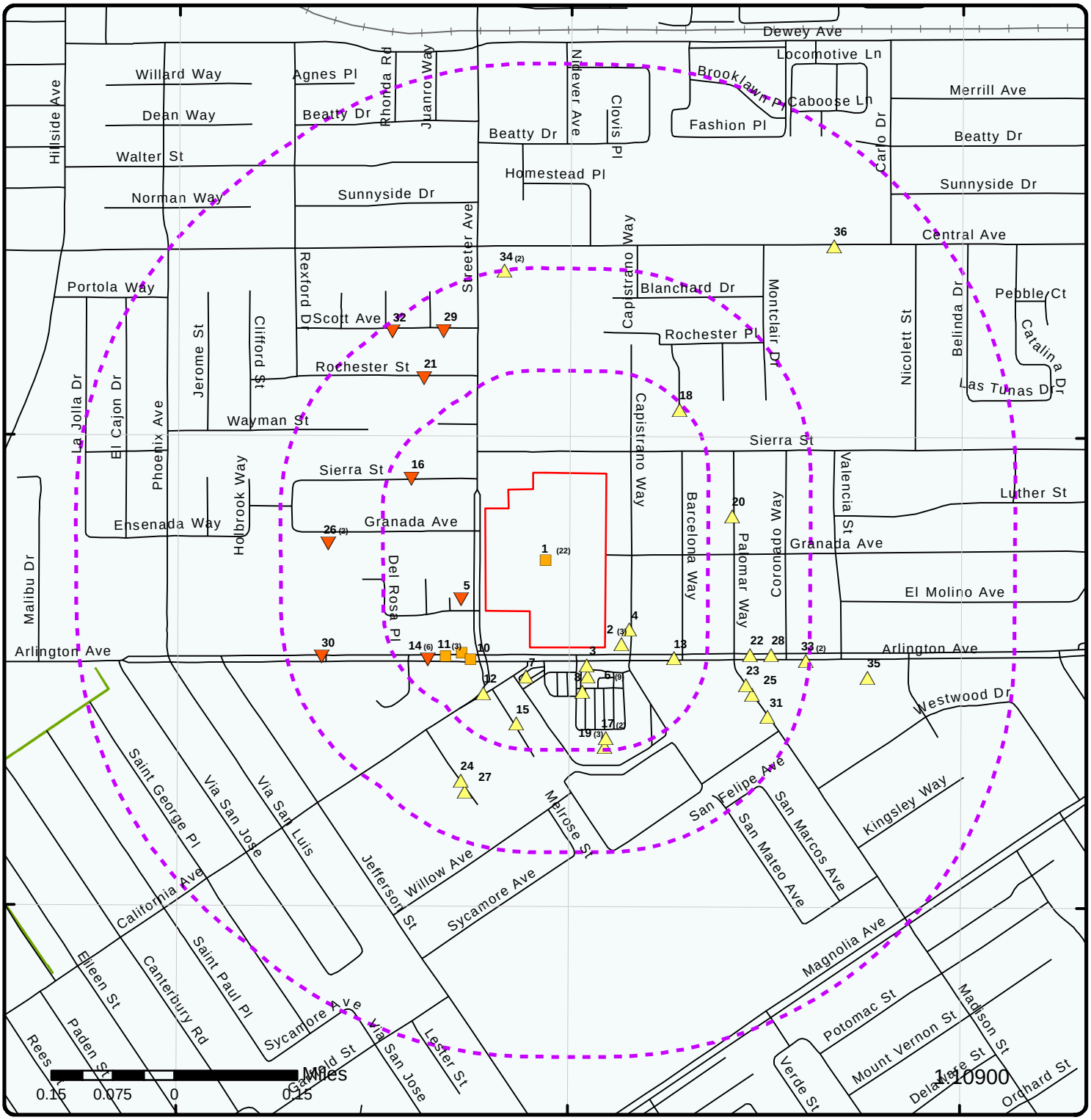


Map: 0.5 Mile Radius

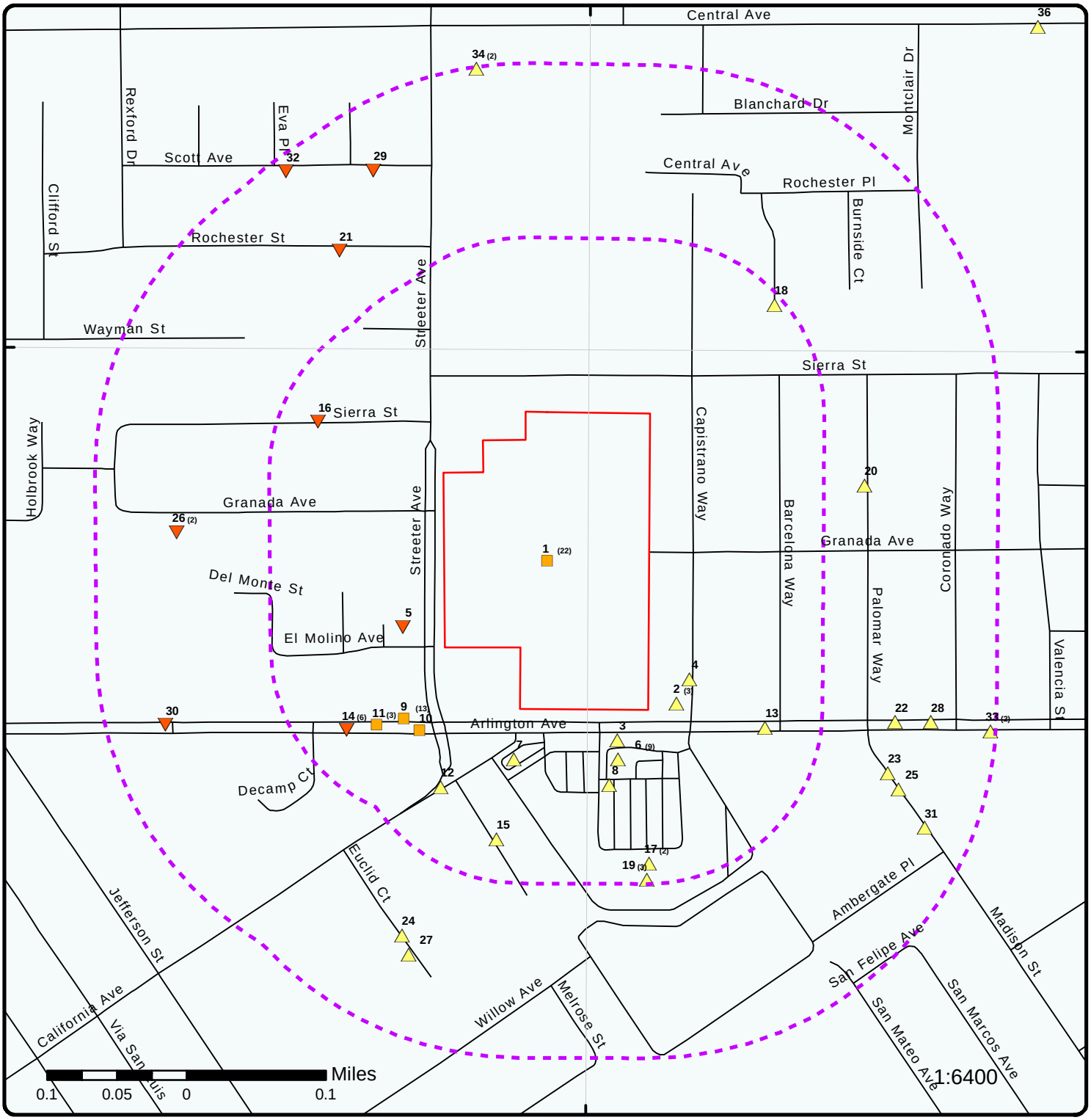
Order Number: 21090700657

Address: 5261 Arlington Avenue, Riverside, CA

- Buffer Outline
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- County Boundary
- Rails
- Major Highways
- Major Highways Ramps
- Major Roads
- Major Roads Ramps
- Secondary Roads
- Secondary Roads Ramps
- Local Roads and Ramps
- State Boundary
- National Priority List Sites
- National Wetland
- Indian Reserve Land
- 100 Year Flood Zone
- 500 Year Flood Zone
- Historic Fill
- FWS Special Designation Areas
- State Brownfield Sites
- State Brownfield Areas
- State Superfund Areas:Dept. of Defense
- State Superfund Areas:NPL
- WQARF Areas
- Federal Lands: Dept. of Defense (owned/administered areas)
- Plume

Source: © 2016 ESRI

© ERIS Information Inc.



Map: 0.25 Mile Radius

Order Number: 21090700657

Address: 5261 Arlington Avenue, Riverside, CA

Buffer Outline	Rails	State Boundary	FWS Special Designation Areas	Plume
Eris Sites with Higher Elevation	Major Highways	National Priority List Sites	State Brownfield Sites	
Eris Sites with Same Elevation	Major Highways Ramps	National Wetland	State Brownfield Areas	
Eris Sites with Lower Elevation	Major Roads	Indian Reserve Land	State Superfund Areas:Dept. of Defense	
Eris Sites with Unknown Elevation	Major Roads Ramps	100 Year Flood Zone	State Superfund Areas:NPL	
County Boundary	Secondary Roads	500 Year Flood Zone	WQARF Areas	
	Secondary Roads Ramps	Historic Fill	Federal Lands: Dept. of Defense (owned/administered areas)	
	Local Roads and Ramps			

Source: © 2016 ESRI

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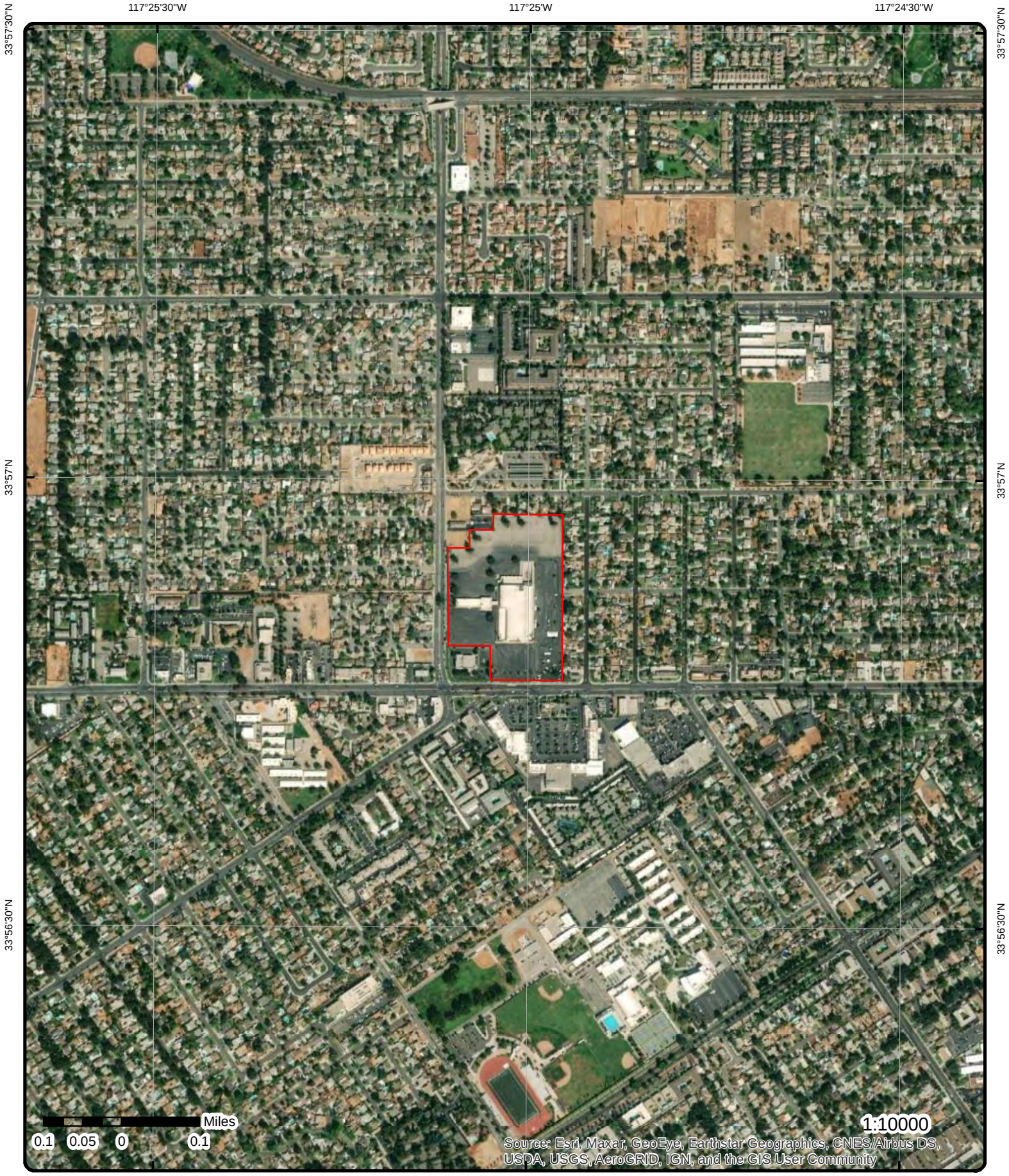

Aerial **Year: 2020**

Order Number: 21090700657

Address: 5261 Arlington Avenue, Riverside, CA

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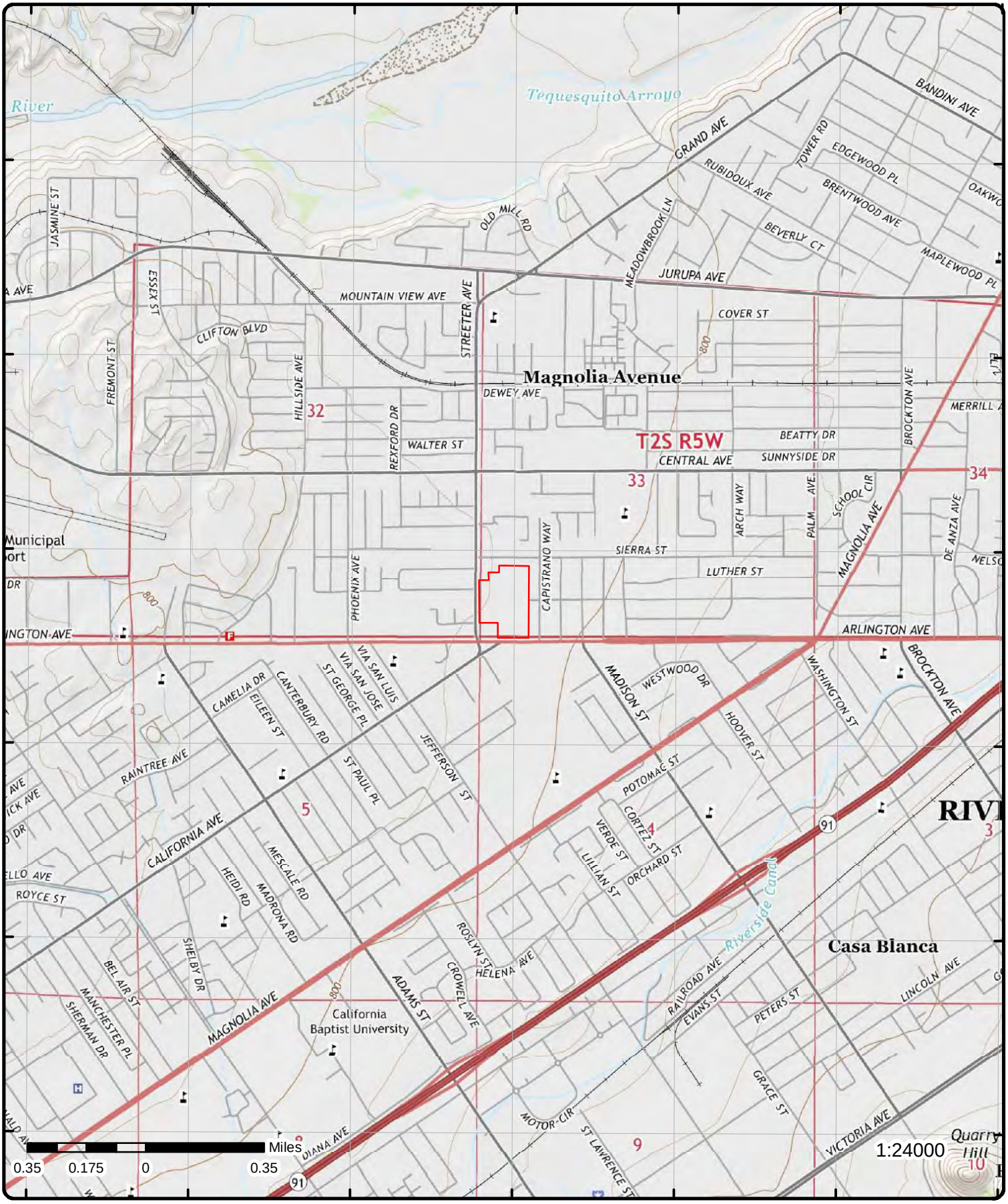
Source: ESRI World Imagery



Topographic Map

Year: 2015

Order Number: 21090700657

Address: 5261 Arlington Avenue, CA

Quadrangle(s): Riverside West, CA

Source: USGS Topographic Map

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Detail Report

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	1 of 22	WSW	0.00 / 0.00	781.29 / 0	SEARS RIVERSIDE NO 1298 5261 ARLINGTON AVE RIVERSIDE CA 92504	RCRA NON GEN

EPA Handler ID: CAD981396583
Gen Status Universe: No Report
Contact Name: ENVIRONMENTAL MANAGER
Contact Address: 5261 ARLINGTON AVE , , RIVERSIDE , CA, 92504 , US
Contact Phone No and Ext: 818-576-4301
Contact Email:
Contact Country: US
County Name: RIVERSIDE
EPA Region: 09
Land Type:
Receive Date: 19860421
Location Latitude:
Location Longitude:

Violation/Evaluation Summary

Note: NO RECORDS: As of Jun 2021, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 19860421
Handler Name: SEARS RIVERSIDE NO 1298
Source Type: Notification
Federal Waste Generator Code: N
Generator Code Description: Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind: Current Owner
Type: Private
Street No:
Street 1: NOT REQUIRED

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Name:	SEARS	**Street 2:**	
Date Became Current:		**City:**	NOT REQUIRED
Date Ended Current:		**State:**	ME
Phone:	415-555-1212	**Country:**	
Source Type:	Notification	**Zip Code:**	99999
Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Private	**Street 1:**	NOT REQUIRED
Name:	NOT REQUIRED	**Street 2:**	
Date Became Current:		**City:**	NOT REQUIRED
Date Ended Current:		**State:**	ME
Phone:	415-555-1212	**Country:**	
Source Type:	Notification	**Zip Code:**	99999

1	2 of 22	WSW	0.00 / 0.00	781.29 / 0	SEARS #1298/6711 5261 ARLINGTON AVE. RIVERSIDE CA 92504	FINDS/FRS

Registry ID:	110055670313
FIPS Code:	33
HUC Code:	18070203
Site Type Name:	STATIONARY
Location Description:	
Supplemental Location:	
Create Date:	15-SEP-13
Update Date:	10-OCT-15
Interest Types:	OTHER HAZARDOUS WASTE ACTIVITIES, STATE MASTER
SIC Codes:	5311
SIC Code Descriptions:	DEPARTMENT STORES
NAICS Codes:	452111
NAICS Code Descriptions:	DEPARTMENT STORES (EXCEPT DISCOUNT DEPARTMENT STORES).
Conveyor:	FRS-GEOCODE
Federal Facility Code:	
Federal Agency Name:	
Tribal Land Code:	
Tribal Land Name:	
Congressional Dist No:	44
Census Block Code:	060650310013006
EPA Region Code:	09
County Name:	RIVERSIDE
US/Mexico Border Ind:	
Latitude:	33.94782
Longitude:	-117.41702
Reference Point:	CENTER OF A FACILITY OR STATION
Coord Collection Method:	ADDRESS MATCHING-HOUSE NUMBER
Accuracy Value:	30
Datum:	NAD83
Source:	
Facility Detail Rprt URL:	https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110055670313
Program Acronyms:	

CA-CERS:10140787, CA-ENVIROVIEW:66379, RCRAINFO:CAD057780512, RCRAINFO:CAL000409156

1	3 of 22	WSW	0.00 / 0.00	781.29 / 0	SEARS RIVERSIDE NO 1298 5261 ARLINGTON AVE RIVERSIDE CA 92504	FINDS/FRS

Registry ID:	110002693201
FIPS Code:	06065
HUC Code:	18070203
Site Type Name:	STATIONARY
Location Description:	
Supplemental Location:	
Create Date:	01-MAR-00
Update Date:	06-AUG-10

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Interest Types:	UNSPECIFIED UNIVERSE
SIC Codes:	
SIC Code Descriptions:	
NAICS Codes:	
NAICS Code Descriptions:	
Conveyor:	FRS-GEOCODE
Federal Facility Code:	
Federal Agency Name:	
Tribal Land Code:	
Tribal Land Name:	
Congressional Dist No:	44
Census Block Code:	060650310013006
EPA Region Code:	09
County Name:	RIVERSIDE
US/Mexico Border Ind:	
Latitude:	33.94608
Longitude:	-117.41587
Reference Point:	CENTER OF A FACILITY OR STATION
Coord Collection Method:	ADDRESS MATCHING-HOUSE NUMBER
Accuracy Value:	30
Datum:	NAD83
Source:	
Facility Detail Rprt URL:	https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110002693201
Program Acronyms:	

RCRAINFO:CAD981396583

1	4 of 22	WSW	0.00 / 0.00	781.29 / 0	Sears Retail 5261 Arlington Ave Riverside CA	LOP RIVERSIDE

Site ID:	89161	**Closed Code:**	R
Status Code:	0	**Closed Desc:**	Case referred to RWQCB or oversight
Status Desc:		**Employee:**	Bunchek
Case Type Code:	G		
Case Type Desc:	GROUNDWATER IS IMPACTED		

1	5 of 22	WSW	0.00 / 0.00	781.29 / 0	SEARS RETAIL 5261 ARLINGTON AVE RIVERSIDE CA 92504	LUST

Global ID:	T0606500039	**County:**	RIVERSIDE
Status:	COMPLETED - CASE CLOSED	**Latitude:**	33.9478
Status Date:	6/25/2003	**Longitude:**	-117.417161
Case Type:	LUST CLEANUP SITE		
Date Source:	LUST Cleanup Sites & Military UST Site from GeoTracker Project Search Results Export; LUST Cleanup Sites & Military UST Site from GeoTracker Cleanup Sites Data Download		

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case No:	083300337T	**Potential COC:**	Gasoline
Local Case No:	89161	**How Discovered:**	Tank Closure
Begin Date:	6/17/1985	**Stop Method:**	
Lead Agency:	SANTA ANA RWQCB (REGION 8)	**Stop Description:**	
Local Agency:	RIVERSIDE COUNTY LOP	**Case Worker:**	RS
CUF Case:	NO	**File Location:**	Regional Board
Potential Media of Concern:	Aquifer used for drinking water supply		
How Discovered Description:			
Calwater Watershed Name:	Santa Ana River - Middle Santa Ana River - Riverside (801.27)		
DWR GW Subbasin Name:	Upper Santa Ana Valley - Riverside-Arlington (8-002.03)		
Disadvantaged Community:			
Calenviroscreen Score:	71-75%		
Site History:			

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Regulatory Activity

Action Type: ENFORCEMENT
Date : 6/26/2003
Action: Closure/No Further Action Letter

Action Type: ENFORCEMENT
Date : 3/17/2003
Action: Site Visit / Inspection / Sampling

Action Type: ENFORCEMENT
Date : 3/13/2003
Action: Meeting

Action Type: RESPONSE
Date : 3/13/2003
Action: Other Report / Document

Action Type: ENFORCEMENT
Date : 3/13/2003
Action: * Verbal Communication

Action Type: RESPONSE
Date : 1/30/2003
Action: Monitoring Report - Quarterly

Action Type: RESPONSE
Date : 10/31/2002
Action: Monitoring Report - Quarterly

Action Type: RESPONSE
Date : 7/30/2002
Action: Monitoring Report - Quarterly

Action Type: ENFORCEMENT
Date : 1/1/1988
Action: Referral to Regional Board - #Riv Co Site File

Action Type: Other
Date : 6/17/1985
Action: Leak Reported

Action Type: Other
Date : 6/17/1985
Action: Leak Stopped

Action Type: Other
Date : 6/17/1985
Action: Leak Discovery

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Regulatory Contacts

Contact Type: Regional Board Caseworker
Contact Name: ROSE SCOTT
City: RIVERSIDE
Organization Name: SANTA ANA RWQCB (REGION 8)
Address: 3737 MAIN STREET, SUITE 500
Email: rose.scott@waterboards.ca.gov
Phone No: 9513206375

Contact Type: Local Agency Caseworker
Contact Name: Riverside County LOP
City: RIVERSIDE
Organization Name: RIVERSIDE COUNTY LOP
Address: 3880 LEMON ST SUITE 200
Email:
Phone No: 9519558980

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Status History

Status: Completed - Case Closed
Status Date: 6/25/2003

Status: Open - Verification Monitoring
Status Date: 12/1/2001

Status: Open - Remediation
Status Date: 7/15/1999

Status: Open - Site Assessment
Status Date: 11/18/1985

Status: Open - Case Begin Date
Status Date: 6/17/1985

LUST Sites from GeoTracker Search - Regulatory Profile

Site Facility Name: SEARS RETAIL
Site Facility Type: LUST CLEANUP SITE
Cleanup Status: COMPLETED - CASE CLOSED
Project Status:
WDR Place Type:
WDR File:
WDR Order:
CUF Priority Assig:
CUF Amount Paid:
Potential COC: GASOLINE
Facility Type:
Composting Method:
Address: 5261 ARLINGTON AVE
City: RIVERSIDE
Zip: 92504
County: RIVERSIDE
CUF Claim:
File Location: REGIONAL BOARD
Designated Beneficial Use: MUN, AGR, IND, PROC - Note: Also incl parts of 801.26.
Project Oversight Agencies:
Report Link: https://geotracker.waterboards.ca.gov/profile_report?global_id=T0606500039
Cleanup Status Detail: COMPLETED - CASE CLOSED AS OF 6/25/2003
Cleanup History Link: https://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0606500039&tabname=regulatoryhistory
Potential Media of Concern: AQUIFER USED FOR DRINKING WATER SUPPLY
User Defined Beneficial Use:
DWR GW Sub Basin: Upper Santa Ana Valley - Riverside-Arlington (8-002.03)
Calwater Watershed Name: Santa Ana River - Middle Santa Ana River - Riverside (801.27)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: SANTA ANA RWQCB (REGION 8) (LEAD) - CASE #: 083300337T
CASEWORKER: ROSE SCOTT
RIVERSIDE COUNTY LOP - CASE #: 89161
CASEWORKER: Riverside County LOP
Gndwater Monitoring Freque:
Designated Beneficial Use Desc: Municipal and Domestic Supply, Agricultural Supply, Industrial Service Supply, Industrial Process Supply - Note: Also incl parts of 801.26.
Site History:

No site history available

LUST Sites from GeoTracker Search - Cleanup Status History

Status: Completed - Case Closed
Date : 6/25/2003

Status: Open - Verification Monitoring
Date : 12/1/2001

Status: Open - Remediation
Date : 7/15/1999

Status: Open - Site Assessment
Date : 11/18/1985

Status: Open - Case Begin Date
Date : 6/17/1985

LUST Sites from GeoTracker Search - Regulatory Activities (as of May 29, 2021)

Action Type: Other Regulatory Actions
Action Date: 6/26/2003
Received Issue Date: 6/26/2003
Action: Closure/No Further Action Letter
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500039&enforcement_id=5978098&temptable=ENFORCEMENT
Title Description Comments:

SEARS RETAIL CASE CLOSURE SUMMARY

Action Type: Other Regulatory Actions
Action Date: 3/17/2003
Received Issue Date: 3/17/2003
Action: Site Visit / Inspection / Sampling
Doc Link:
Title Description Comments:

Observed final round of water sampling for confirmation of groundwater monitoring program.

Action Type: Other Regulatory Actions
Action Date: 3/13/2003
Received Issue Date: 3/13/2003
Action: * Verbal Communication
Doc Link:
Title Description Comments:

Meeting with URS at Regional Board Office in Riverside. Discussed plan for closure and scheduled sampling for Monday March 17th.

Action Type: Response Requested - Other
Action Date: 3/13/2003
Received Issue Date: 3/13/2003
Action: Other Report / Document
Doc Link:
Title Description Comments:

Technical Report - Draft Tables and format for closure request.

Action Type: Other Regulatory Actions
Action Date: 3/13/2003
Received Issue Date: 3/13/2003
Action: Meeting
Doc Link:
Title Description Comments:

Meeting with consultants regarding upcoming sampling, recent draft submittals and preliminary closure request.

Action Type: Response Requested - Reports
Action Date: 1/30/2003
Received Issue Date: 2/13/2003
Action: Monitoring Report - Quarterly
Doc Link:
Title Description Comments:

Monitoring Report - Quarterly

Action Type: Response Requested - Reports
Action Date: 10/31/2002
Received Issue Date: 12/13/2002
Action: Monitoring Report - Quarterly
Doc Link:
Title Description Comments:

Monitoring Report - Quarterly

Action Type: Response Requested - Reports
Action Date: 7/30/2002
Received Issue Date: 8/15/2002
Action: Monitoring Report - Quarterly
Doc Link:
Title Description Comments:

Monitoring Report - Quarterly

Action Type: Referral to Other Agency
Action Date: 1/1/1988
Received Issue Date: 1/1/1988
Action: Referral to Regional Board - #Riv Co Site File
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500039&enforcement_id=6232546&temptable=ENFORCEMENT
Title Description Comments:

Riverside County transferred lead agency oversight to RWQCB

Action Type: Leak Action
Action Date: 6/17/1985
Received Issue Date:
Action: Leak Discovery
Doc Link:
Title Description Comments:

Action Type: Leak Action
Action Date: 6/17/1985
Received Issue Date:
Action: Leak Stopped
Doc Link:
Title Description Comments:

Action Type: Leak Action
Action Date: 6/17/1985
Received Issue Date:
Action: Leak Reported
Doc Link:
Title Description Comments:

LUST Sites from GeoTracker Search - Documents (as of May 29, 2021)

Document Type: Site Documents ***Size :*** 137 KB
Document Date: 1/3/2008 ***Submitted By:*** (REGULATOR)
Type: LETTER ***Submitted:***
Title: CASE CLOSURE
Title Link: https://geotracker.waterboards.ca.gov/site_documents/3954543888/Sears%20Center%20No%2E%201293%5F5261%20Arlington%20Ave%5F%20Rievrside%20%5FRS%5FCase%20Closure%2Epdf

Document Type: Site Documents ***Size :***
Document Date: 6/26/2003 ***Submitted By:*** (REGULATOR)
Type: CLOSURE/NO FURTHER ACTION LETTER ***Submitted:***
Title: SEARS RETAIL CASE CLOSURE SUMMARY
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500039&enforcement_id=5978098

Document Type: Site Documents ***Size :***
Document Date: 1/1/1988 ***Submitted By:*** SHARON BOLTINGHOUSE (REGULATOR)
Type: REFERRAL TO REGIONAL BOARD ***Submitted:***
Title: RIVERSIDE COUNTY TRANSFERRED LEAD AGENCY OVERSIGHT TO RWQCB
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500039&enforcement_id=6232546

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	6 of 22	WSW	0.00 / 0.00	781.29 / 0	SEARS ROEBUCK 5261 ARLINGTON AVE RIVERSIDE CA 92504	HHSS

County: Riverside
Pdf File Url: http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0001f962.pdf

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	7 of 22	WSW	0.00 / 0.00	781.29 / 0	SEARS ROEBUCK AND COMPANY 5261 ARLINGTON AVENUE RIVERSIDE CA 92504	HHSS

County: Riverside
Pdf File Url: http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0001f964.pdf

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	8 of 22	WSW	0.00 / 0.00	781.29 / 0	5261 ARLINGTON RIVERSIDE CA	HIST CHMIRS

OES Control NO:	9010098	**Incident Date:**	2/22/1990
Release Factors:	Mechanical Failure	**Date Reported:**	2/22/1990
Release Text:		**Fatalities:**	0
Equipm Involved:	No Equip Involved	**Other Injury:**	0
Action Taken Text:		**Other Decon:**	0
Chemicals:	PROPANE	**Other Fatal:**	0
Case Number:		**Vehicle:**	WINNEBAGO R/V
HazMat Other:		**State:**	CA
HM Injury:	0	**CA DOT PUC ICC:**	YVB265
Decon:	0	**Company Name:**	
Agency Name:	RIVERSIDE FD	**County:**	RIVERSIDE
HazMat Pers:	On-site Fire Services		
Action Taken:	Remove Hazard (Neutralize)		
More than three involved?:	2		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	9 of 22	WSW	0.00 / 0.00	781.29 / 0	SEARS ROEBUCK& CO 5261 ARLINGTON AVE RIVERSIDE CA 925040000	HAZNET

SIC Code:		**Mailing City:**	RIVERSIDE
NAICS Code:		**Mailing State:**	CA
EPA ID:	CAX000113159	**Mailing Zip:**	925040000
Create Date:	9/19/1984	**Region Code:**	3
Fac Act Ind:	No	**Owner Name:**	--
Inact Date:	6/30/1998	**Owner Addr 1:**	--
County Code:	33	**Owner Addr 2:**	
County Name:	Riverside	**Owner City:**	--
Mail Name:		**Owner State:**	99
Mailing Addr 1:	--	**Owner Zip:**	--
Mailing Addr 2:		**Owner Phone:**	0000000000
Owner Fax:			

Contact Information

--	--
Contact Name:	NEIL CRAMPTON
Street Address 1:	INACT PER 98VQ FINAL NOTICE
Street Address 2:	- BATCH 4/27
City:	--
State:	99
Zip:	--
Phone:	7146889400
--	--

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	10 of 22	WSW	0.00 / 0.00	781.29 / 0	SEARS #1298/6711 5261 ARLINGTON AVE RIVERSIDE CA 925042604	HAZNET

SIC Code:	5311,5331,5399,5531	**Mailing City:**	HOFFMAN ESTATES
NAICS Code:	45211,45299	**Mailing State:**	IL
EPA ID:	CAD057780512	**Mailing Zip:**	601790000
Create Date:	4/10/1987	**Region Code:**	4
Fac Act Ind:	Yes	**Owner Name:**	KMART CORPORATION
Inact Date:		**Owner Addr 1:**	3333 BEVERLY RD B5-362A
County Code:	33	**Owner Addr 2:**	
County Name:	Riverside	**Owner City:**	HOFFMAN ESTATES
Mail Name:		**Owner State:**	IL
Mailing Addr 1:	3333 BEVERLY RD B5-348A	**Owner Zip:**	601790000
Mailing Addr 2:		**Owner Phone:**	8472867222
Owner Fax:	8472866786		

Contact Information

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Contact Name:	CYNTHIA MILLER
Street Address 1:	3333 BEVERLY ROAD, B5-348A
Street Address 2:	
City:	HOFFMAN ESTATES
State:	IL
Zip:	601790000
Phone:	8472860037
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Tanner Information

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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD008364432
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	122
State Waste Code Desc.:	Alkaline solution without metals pH >= 12.5
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.0035
Year:	2012
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD008364432
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	122
State Waste Code Desc.:	Alkaline solution without metals pH >= 12.5
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.0075
Year:	2015
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAT080025711
TSD County Code:	36
TSD County:	San Bernardino
State Waste Code:	133
State Waste Code Desc.:	Aqueous solution with total organic residues 10 percent or more
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-

H135)
Tons: 0.7506
Year: 2014
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Generator EPA ID: CAD057780512
Generator County Code: 33
Generator County: Riverside
TSD EPA ID: CAT080025711
TSD County Code: 36
TSD County: San Bernardino
State Waste Code: 133
State Waste Code Desc.: Aqueous solution with total organic residues 10 percent or more
Method Code: H141
Method Description: STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons: 0.72975
Year: 2015
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Generator EPA ID: CAD057780512
Generator County Code: 33
Generator County: Riverside
TSD EPA ID: CAT000613927
TSD County Code: 36
TSD County: San Bernardino
State Waste Code: 134
State Waste Code Desc.: Aqueous solution with total organic residues less than 10 percent
Method Code: H141
Method Description: STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons: 0.2604
Year: 2006
-- --
Generator EPA ID: CAD057780512
Generator County Code: 33
Generator County: Riverside
TSD EPA ID: CAT000613927
TSD County Code: 36
TSD County: San Bernardino
State Waste Code: 134
State Waste Code Desc.: Aqueous solution with total organic residues less than 10 percent
Method Code: H141
Method Description: STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons: 0.3696
Year: 2007
-- --
Generator EPA ID: CAD057780512
Generator County Code: 33
Generator County: Riverside
TSD EPA ID: CAT000613927
TSD County Code: 36
TSD County: San Bernardino
State Waste Code: 134
State Waste Code Desc.: Aqueous solution with total organic residues less than 10 percent
Method Code: H141
Method Description: STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons: 0.7224
Year: 2008
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Generator EPA ID: CAD057780512
Generator County Code: 33
Generator County: Riverside
TSD EPA ID: CAT000613927
TSD County Code: 36
TSD County: San Bernardino
State Waste Code: 134
State Waste Code Desc.: Aqueous solution with total organic residues less than 10 percent
Method Code: H141

Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.252
Year:	2009
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAT000613927
TSD County Code:	36
TSD County:	San Bernardino
State Waste Code:	134
State Waste Code Desc.:	Aqueous solution with total organic residues less than 10 percent
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.042
Year:	2010
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAT000613927
TSD County Code:	36
TSD County:	San Bernardino
State Waste Code:	134
State Waste Code Desc.:	Aqueous solution with total organic residues less than 10 percent
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.147
Year:	2011
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAT000613927
TSD County Code:	36
TSD County:	San Bernardino
State Waste Code:	134
State Waste Code Desc.:	Aqueous solution with total organic residues less than 10 percent
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.1176
Year:	2012
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAT000613927
TSD County Code:	36
TSD County:	San Bernardino
State Waste Code:	134
State Waste Code Desc.:	Aqueous solution with total organic residues less than 10 percent
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.084
Year:	2013
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAT000613927
TSD County Code:	36
TSD County:	San Bernardino
State Waste Code:	134
State Waste Code Desc.:	Aqueous solution with total organic residues less than 10 percent

Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.084
Year:	2014
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAT000613927
TSD County Code:	36
TSD County:	San Bernardino
State Waste Code:	134
State Waste Code Desc.:	Aqueous solution with total organic residues less than 10 percent
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.105
Year:	2015
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAT000613893
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	134
State Waste Code Desc.:	Aqueous solution with total organic residues less than 10 percent
Method Code:	H01
Method Description:	Transfer station
Tons:	0.504
Year:	1998
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAT000613927
TSD County Code:	36
TSD County:	San Bernardino
State Waste Code:	134
State Waste Code Desc.:	Aqueous solution with total organic residues less than 10 percent
Method Code:	H01
Method Description:	Transfer station
Tons:	0.5628
Year:	2000
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAT000613927
TSD County Code:	36
TSD County:	San Bernardino
State Waste Code:	134
State Waste Code Desc.:	Aqueous solution with total organic residues less than 10 percent
Method Code:	H01
Method Description:	Transfer station
Tons:	0.7392
Year:	2001
--	--
Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAT000613927
TSD County Code:	36
TSD County:	San Bernardino
State Waste Code:	134
State Waste Code Desc.:	Aqueous solution with total organic residues less than 10 percent
Method Code:	H01
Method Description:	Transfer station

Tons:	0.6174
Year:	2002
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAT000613927
TSD County Code:	36
TSD County:	San Bernardino
State Waste Code:	134
State Waste Code Desc.:	Aqueous solution with total organic residues less than 10 percent
Method Code:	H01
Method Description:	Transfer station
Tons:	0.9198
Year:	2003
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAT000613927
TSD County Code:	36
TSD County:	San Bernardino
State Waste Code:	134
State Waste Code Desc.:	Aqueous solution with total organic residues less than 10 percent
Method Code:	H01
Method Description:	Transfer station
Tons:	0.5838
Year:	2004
--	--
Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAT000613927
TSD County Code:	36
TSD County:	San Bernardino
State Waste Code:	134
State Waste Code Desc.:	Aqueous solution with total organic residues less than 10 percent
Method Code:	H01
Method Description:	Transfer station
Tons:	0.798
Year:	2005
--	--
Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAT000613927
TSD County Code:	36
TSD County:	San Bernardino
State Waste Code:	134
State Waste Code Desc.:	Aqueous solution with total organic residues less than 10 percent
Method Code:	H01
Method Description:	Transfer station
Tons:	0.6846
Year:	2006
--	--
Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD009007626
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	151
State Waste Code Desc.:	Asbestos containing waste
Method Code:	D80
Method Description:	Disposal, landfill
Tons:	50.568
Year:	1999
--	--
Generator EPA ID:	CAD057780512

Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD009007626
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	151
State Waste Code Desc.:	Asbestos containing waste
Method Code:	D80
Method Description:	Disposal, landfill
Tons:	6.7424
Year:	2002
--	--
Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD009007626
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	151
State Waste Code Desc.:	Asbestos containing waste
Method Code:	D80
Method Description:	Disposal, landfill
Tons:	32.8692
Year:	2003
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	NVT330010000
TSD County Code:	99
TSD County:	Unknown
State Waste Code:	181
State Waste Code Desc.:	Other inorganic solid waste
Method Code:	H132
Method Description:	LANDFILL OR SURFACE IMPOUNDMENT THAT WILL BE CLOSED AS LANDFILL(TO INCLUDE ON-SITE TREATMENT AND/OR STABILIZATION)
Tons:	0.075
Year:	2008
--	--
Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	NVT330010000
TSD County Code:	99
TSD County:	Unknown
State Waste Code:	181
State Waste Code Desc.:	Other inorganic solid waste
Method Code:	H132
Method Description:	LANDFILL OR SURFACE IMPOUNDMENT THAT WILL BE CLOSED AS LANDFILL(TO INCLUDE ON-SITE TREATMENT AND/OR STABILIZATION)
Tons:	0.03
Year:	2009
--	--
Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	NVT330010000
TSD County Code:	99
TSD County:	Unknown
State Waste Code:	181
State Waste Code Desc.:	Other inorganic solid waste
Method Code:	H132
Method Description:	LANDFILL OR SURFACE IMPOUNDMENT THAT WILL BE CLOSED AS LANDFILL(TO INCLUDE ON-SITE TREATMENT AND/OR STABILIZATION)
Tons:	0.1
Year:	2010
--	--
Generator EPA ID:	CAD057780512
Generator County Code:	33

Generator County:	Riverside
TSD EPA ID:	NVT330010000
TSD County Code:	99
TSD County:	Unknown
State Waste Code:	181
State Waste Code Desc.:	Other inorganic solid waste
Method Code:	H132
Method Description:	LANDFILL OR SURFACE IMPOUNDMENT THAT WILL BE CLOSED AS LANDFILL(TO INCLUDE ON-SITE TREATMENT AND/OR STABILIZATION)
Tons:	0.05
Year:	2011
--	--
Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	NVT330010000
TSD County Code:	99
TSD County:	Unknown
State Waste Code:	181
State Waste Code Desc.:	Other inorganic solid waste
Method Code:	H132
Method Description:	LANDFILL OR SURFACE IMPOUNDMENT THAT WILL BE CLOSED AS LANDFILL(TO INCLUDE ON-SITE TREATMENT AND/OR STABILIZATION)
Tons:	0.225
Year:	2012
--	--
Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD008364432
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	181
State Waste Code Desc.:	Other inorganic solid waste
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.02
Year:	2015
--	--
Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD008364432
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	213
State Waste Code Desc.:	Hydrocarbon solvents (benzene, hexane, Stoddard, Etc.)
Method Code:	H01
Method Description:	Transfer station
Tons:	0.4587
Year:	2003
--	--
Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD008364432
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	213
State Waste Code Desc.:	Hydrocarbon solvents (benzene, hexane, Stoddard, Etc.)
Method Code:	H01
Method Description:	Transfer station
Tons:	1
Year:	2004
--	--
Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside

TSD EPA ID:	CAD008364432
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	213
State Waste Code Desc.:	Hydrocarbon solvents (benzene, hexane, Stoddard, Etc.)
Method Code:	T01
Method Description:	Treatment, tank
Tons:	1.668
Year:	2002
--	--
Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD008364432
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	213
State Waste Code Desc.:	Hydrocarbon solvents (benzene, hexane, Stoddard, Etc.)
Method Code:	T01
Method Description:	Treatment, tank
Tons:	1.668
Year:	2003
--	--
Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD008364432
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	214
State Waste Code Desc.:	Unspecified solvent mixture
Method Code:	H061
Method Description:	FUEL BLENDING PRIOR TO ENERGY RECOVERY AT ANOTHER SITE
Tons:	0.025
Year:	2014
--	--
Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD008364432
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	214
State Waste Code Desc.:	Unspecified solvent mixture
Method Code:	H061
Method Description:	FUEL BLENDING PRIOR TO ENERGY RECOVERY AT ANOTHER SITE
Tons:	0.0575
Year:	2015
--	--
Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	AZD081705402
TSD County Code:	99
TSD County:	Unknown
State Waste Code:	214
State Waste Code Desc.:	Unspecified solvent mixture
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.0205
Year:	2010
--	--
Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	AZD081705402
TSD County Code:	99
TSD County:	Unknown

State Waste Code:	214
State Waste Code Desc.:	Unspecified solvent mixture
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.039
Year:	2011
--	--
Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD093459485
TSD County Code:	10
TSD County:	Fresno
State Waste Code:	214
State Waste Code Desc.:	Unspecified solvent mixture
Method Code:	H01
Method Description:	Transfer station
Tons:	0.792
Year:	1995
--	--
Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD093459485
TSD County Code:	10
TSD County:	Fresno
State Waste Code:	214
State Waste Code Desc.:	Unspecified solvent mixture
Method Code:	H01
Method Description:	Transfer station
Tons:	0.7344
Year:	1996
--	--
Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD093459485
TSD County Code:	10
TSD County:	Fresno
State Waste Code:	214
State Waste Code Desc.:	Unspecified solvent mixture
Method Code:	H01
Method Description:	Transfer station
Tons:	0.7812
Year:	1997
--	--
Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD093459485
TSD County Code:	10
TSD County:	Fresno
State Waste Code:	214
State Waste Code Desc.:	Unspecified solvent mixture
Method Code:	H01
Method Description:	Transfer station
Tons:	0.2592
Year:	1998
--	--
Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAT000613893
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	214
State Waste Code Desc.:	Unspecified solvent mixture
Method Code:	H01

Method Description:	Transfer station
Tons:	0.0432
Year:	1998
--	--
Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAT080025711
TSD County Code:	36
TSD County:	San Bernardino
State Waste Code:	221
State Waste Code Desc.:	Waste oil and mixed oil
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.874
Year:	2014
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAT080025711
TSD County Code:	36
TSD County:	San Bernardino
State Waste Code:	221
State Waste Code Desc.:	Waste oil and mixed oil
Method Code:	H01
Method Description:	Transfer station
Tons:	6.175
Year:	2003
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAT080025711
TSD County Code:	36
TSD County:	San Bernardino
State Waste Code:	221
State Waste Code Desc.:	Waste oil and mixed oil
Method Code:	H01
Method Description:	Transfer station
Tons:	13.794
Year:	2004
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAT080025711
TSD County Code:	36
TSD County:	San Bernardino
State Waste Code:	221
State Waste Code Desc.:	Waste oil and mixed oil
Method Code:	H01
Method Description:	Transfer station
Tons:	10.108
Year:	2005
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	KYD053348108
TSD County Code:	99
TSD County:	Unknown
State Waste Code:	221
State Waste Code Desc.:	Waste oil and mixed oil
Method Code:	H01
Method Description:	Transfer station
Tons:	0.065
Year:	2002

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Generator EPA ID: CAD057780512
Generator County Code: 33
Generator County: Riverside
TSD EPA ID: CAD980883177
TSD County Code: 15
TSD County: Kern
State Waste Code: 221
State Waste Code Desc.: Waste oil and mixed oil
Method Code: R01
Method Description: Recycler
Tons: 1.292
Year: 1993
--
Generator EPA ID: CAD057780512
Generator County Code: 33
Generator County: Riverside
TSD EPA ID: CAD981458466
TSD County Code: 19
TSD County: Los Angeles
State Waste Code: 221
State Waste Code Desc.: Waste oil and mixed oil
Method Code: R01
Method Description: Recycler
Tons: 3.3478
Year: 1994
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Generator EPA ID: CAD057780512
Generator County Code: 33
Generator County: Riverside
TSD EPA ID: CAT080013352
TSD County Code: 19
TSD County: Los Angeles
State Waste Code: 221
State Waste Code Desc.: Waste oil and mixed oil
Method Code: R01
Method Description: Recycler
Tons: 1.52
Year: 2005
--
Generator EPA ID: CAD057780512
Generator County Code: 33
Generator County: Riverside
TSD EPA ID: CAT080013352
TSD County Code: 19
TSD County: Los Angeles
State Waste Code: 221
State Waste Code Desc.: Waste oil and mixed oil
Method Code:
Method Description:
Tons: 3.8
Year: 1993
--
Generator EPA ID: CAD057780512
Generator County Code: 33
Generator County: Riverside
TSD EPA ID: CAT080013352
TSD County Code: 19
TSD County: Los Angeles
State Waste Code: 222
State Waste Code Desc.: Oil/water separation sludge
Method Code: H039
Method Description: OTHER RECOVERY OF RECLAMATION FOR REUSE INCLUDING ACID REGENERATION, ORGANICS RECOVERY ECT
Tons: 0.834
Year: 2009
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Generator EPA ID: CAD057780512
Generator County Code: 33

Generator County:	Riverside
TSD EPA ID:	CAT080013352
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	222
State Waste Code Desc.:	Oil/water separation sludge
Method Code:	R01
Method Description:	Recycler
Tons:	1.77225
Year:	2004
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAT080013352
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	222
State Waste Code Desc.:	Oil/water separation sludge
Method Code:	R01
Method Description:	Recycler
Tons:	3.336
Year:	2005
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD008364432
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	223
State Waste Code Desc.:	Unspecified oil-containing waste
Method Code:	T01
Method Description:	Treatment, tank
Tons:	3.89895
Year:	2002
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD008364432
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	291
State Waste Code Desc.:	Latex waste
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.248
Year:	2012
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD008364432
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	291
State Waste Code Desc.:	Latex waste
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.0565
Year:	2013
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD008364432

TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	291
State Waste Code Desc.:	Latex waste
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.01
Year:	2014
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD008364432
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	331
State Waste Code Desc.:	Off-specification, aged or surplus organics
Method Code:	H061
Method Description:	FUEL BLENDING PRIOR TO ENERGY RECOVERY AT ANOTHER SITE
Tons:	0.074
Year:	2012
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD008364432
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	331
State Waste Code Desc.:	Off-specification, aged or surplus organics
Method Code:	H061
Method Description:	FUEL BLENDING PRIOR TO ENERGY RECOVERY AT ANOTHER SITE
Tons:	0.0565
Year:	2013
--	--
Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD008364432
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	331
State Waste Code Desc.:	Off-specification, aged or surplus organics
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.079
Year:	2012
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD008364432
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	331
State Waste Code Desc.:	Off-specification, aged or surplus organics
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.005
Year:	2013
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD008364432
TSD County Code:	19

TSD County:	Los Angeles
State Waste Code:	331
State Waste Code Desc.:	Off-specification, aged or surplus organics
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.007
Year:	2014
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD008364432
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	331
State Waste Code Desc.:	Off-specification, aged or surplus organics
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.017
Year:	2015
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	AZD081705402
TSD County Code:	99
TSD County:	Unknown
State Waste Code:	331
State Waste Code Desc.:	Off-specification, aged or surplus organics
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.065
Year:	2008
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	IND093219012
TSD County Code:	99
TSD County:	Unknown
State Waste Code:	331
State Waste Code Desc.:	Off-specification, aged or surplus organics
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.003
Year:	2008
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	AZD081705402
TSD County Code:	99
TSD County:	Unknown
State Waste Code:	331
State Waste Code Desc.:	Off-specification, aged or surplus organics
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.0055
Year:	2010
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	AZD081705402

TSD County Code:	99
TSD County:	Unknown
State Waste Code:	331
State Waste Code Desc.:	Off-specification, aged or surplus organics
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.021
Year:	2011
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAT080022148
TSD County Code:	36
TSD County:	San Bernardino
State Waste Code:	331
State Waste Code Desc.:	Off-specification, aged or surplus organics
Method Code:	H01
Method Description:	Transfer station
Tons:	0.8085
Year:	1995
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	
TSD County Code:	
TSD County:	
State Waste Code:	331
State Waste Code Desc.:	Off-specification, aged or surplus organics
Method Code:	R01
Method Description:	Recycler
Tons:	1.65
Year:	1995
--	--
Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD044429835
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	343
State Waste Code Desc.:	Unspecified organic liquid mixture
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.025
Year:	2015
--	--
Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAT080013352
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	343
State Waste Code Desc.:	Unspecified organic liquid mixture
Method Code:	R01
Method Description:	Recycler
Tons:	0.7985
Year:	2003
--	--
Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAT080013352
TSD County Code:	19
TSD County:	Los Angeles

State Waste Code:	343
State Waste Code Desc.:	Unspecified organic liquid mixture
Method Code:	R01
Method Description:	Recycler
Tons:	2.193
Year:	2004
--	--
Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAT080013352
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	343
State Waste Code Desc.:	Unspecified organic liquid mixture
Method Code:	R01
Method Description:	Recycler
Tons:	1.785
Year:	2005
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAT080013352
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	343
State Waste Code Desc.:	Unspecified organic liquid mixture
Method Code:	
Method Description:	
Tons:	
Year:	2005
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	NVT330010000
TSD County Code:	99
TSD County:	Unknown
State Waste Code:	352
State Waste Code Desc.:	Other organic solids
Method Code:	H132
Method Description:	LANDFILL OR SURFACE IMPOUNDMENT THAT WILL BE CLOSED AS LANDFILL(TO INCLUDE ON-SITE TREATMENT AND/OR STABILIZATION)
Tons:	2
Year:	2009
--	--
Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	NVT330010000
TSD County Code:	99
TSD County:	Unknown
State Waste Code:	352
State Waste Code Desc.:	Other organic solids
Method Code:	H132
Method Description:	LANDFILL OR SURFACE IMPOUNDMENT THAT WILL BE CLOSED AS LANDFILL(TO INCLUDE ON-SITE TREATMENT AND/OR STABILIZATION)
Tons:	0.025
Year:	2011
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD044429835
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	352
State Waste Code Desc.:	Other organic solids

Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.05
Year:	2014
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD044429835
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	352
State Waste Code Desc.:	Other organic solids
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.05
Year:	2015
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD008364432
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	352
State Waste Code Desc.:	Other organic solids
Method Code:	H01
Method Description:	Transfer station
Tons:	0.75
Year:	2002
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAT080022148
TSD County Code:	36
TSD County:	San Bernardino
State Waste Code:	352
State Waste Code Desc.:	Other organic solids
Method Code:	H01
Method Description:	Transfer station
Tons:	0.15
Year:	1995
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD008364432
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	512
State Waste Code Desc.:	Other empty containers 30 gallons or more
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.1105
Year:	2015
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	TXD077603371
TSD County Code:	99
TSD County:	Unknown
State Waste Code:	741
State Waste Code Desc.:	Liquids with halogenated organic compounds >= 1,000 Mg./L
Method Code:	H061

Method Description:	FUEL BLENDING PRIOR TO ENERGY RECOVERY AT ANOTHER SITE
Tons:	0.075
Year:	2008
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	TXD077603371
TSD County Code:	99
TSD County:	Unknown
State Waste Code:	741
State Waste Code Desc.:	Liquids with halogenated organic compounds >= 1,000 Mg./L
Method Code:	H061
Method Description:	FUEL BLENDING PRIOR TO ENERGY RECOVERY AT ANOTHER SITE
Tons:	0.05
Year:	2009
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	TXD077603371
TSD County Code:	99
TSD County:	Unknown
State Waste Code:	741
State Waste Code Desc.:	Liquids with halogenated organic compounds >= 1,000 Mg./L
Method Code:	H061
Method Description:	FUEL BLENDING PRIOR TO ENERGY RECOVERY AT ANOTHER SITE
Tons:	0.025
Year:	2011
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAT000613893
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	741
State Waste Code Desc.:	Liquids with halogenated organic compounds >= 1,000 Mg./L
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.025
Year:	2012
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD008364432
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	
State Waste Code Desc.:	
Method Code:	H061
Method Description:	FUEL BLENDING PRIOR TO ENERGY RECOVERY AT ANOTHER SITE
Tons:	0.01
Year:	2012
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	TXD077603371
TSD County Code:	99
TSD County:	Unknown
State Waste Code:	
State Waste Code Desc.:	
Method Code:	H061
Method Description:	FUEL BLENDING PRIOR TO ENERGY RECOVERY AT ANOTHER SITE
Tons:	0.0765
Year:	2008

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Generator EPA ID: CAD057780512
Generator County Code: 33
Generator County: Riverside
TSD EPA ID: TXD077603371
TSD County Code: 99
TSD County: Unknown
State Waste Code:
State Waste Code Desc.:
Method Code: H061
Method Description: FUEL BLENDING PRIOR TO ENERGY RECOVERY AT ANOTHER SITE
Tons: 0.05
Year: 2009
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Generator EPA ID: CAD057780512
Generator County Code: 33
Generator County: Riverside
TSD EPA ID: CAD008364432
TSD County Code: 19
TSD County: Los Angeles
State Waste Code:
State Waste Code Desc.:
Method Code: H141
Method Description: STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:
Year: 2012
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Generator EPA ID: CAD057780512
Generator County Code: 33
Generator County: Riverside
TSD EPA ID: CAD008364432
TSD County Code: 19
TSD County: Los Angeles
State Waste Code:
State Waste Code Desc.:
Method Code: H141
Method Description: STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons: 0.0045
Year: 2013
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Generator EPA ID: CAD057780512
Generator County Code: 33
Generator County: Riverside
TSD EPA ID: CAD008364432
TSD County Code: 19
TSD County: Los Angeles
State Waste Code:
State Waste Code Desc.:
Method Code: H141
Method Description: STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons: 0.0075
Year: 2014
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Generator EPA ID: CAD057780512
Generator County Code: 33
Generator County: Riverside
TSD EPA ID: CAT000613927
TSD County Code: 36
TSD County: San Bernardino
State Waste Code:
State Waste Code Desc.:
Method Code: H141
Method Description: STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:
Year: 2008

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	AZD081705402
TSD County Code:	99
TSD County:	Unknown
State Waste Code:	
State Waste Code Desc.:	
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	
Year:	2008
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	IND093219012
TSD County Code:	99
TSD County:	Unknown
State Waste Code:	
State Waste Code Desc.:	
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.072
Year:	2008
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD008364432
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	
State Waste Code Desc.:	
Method Code:	T01
Method Description:	Treatment, tank
Tons:	
Year:	2002
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Generator EPA ID:	CAD057780512
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD008364432
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	
State Waste Code Desc.:	
Method Code:	
Method Description:	
Tons:	0.4587
Year:	2002
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1	11 of 22	WSW	0.00 / 0.00	781.29 / 0	SEARS RIVERSIDE NO 1298 5261 ARLINGTON AVE RIVERSIDE CA 925040000	HAZNET

SIC Code:		Mailing City:	HOFFMAN ESTATES
NAICS Code:		Mailing State:	IL
EPA ID:	CAD981396583	Mailing Zip:	601792604
Create Date:	4/10/1987	Region Code:	4
Fac Act Ind:	No	Owner Name:	SEARS ROEBUCK AND CO
Inact Date:	6/30/1998	Owner Addr 1:	3333 BEVERLY ROAD
County Code:	33	Owner Addr 2:	
County Name:	Riverside	Owner City:	HOFFMAN ESTATES

Mail Name:		***Owner State:***	IL
Mailing Addr 1:	3333 BEVERLY ROAD A2-242A	***Owner Zip:***	601790000
Mailing Addr 2:		***Owner Phone:***	8472868616
Owner Fax:			

Contact Information

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Contact Name:	DAWN A JESS
Street Address 1:	INACTIVE PER VQ98 - BMI
Street Address 2:	
City:	HOFFMAN ESTATES
State:	IL
Zip:	601790000
Phone:	8472868616
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Tanner Information

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Generator EPA ID:	CAD981396583
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD044429835
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	123
State Waste Code Desc.:	Unspecified alkaline solution
Method Code:	D99
Method Description:	Disposal, other
Tons:	0.025
Year:	1997
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Generator EPA ID:	CAD981396583
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	OHD000816629
TSD County Code:	99
TSD County:	Unknown
State Waste Code:	135
State Waste Code Desc.:	Unspecified aqueous solution
Method Code:	
Method Description:	
Tons:	5.8968
Year:	1998
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Generator EPA ID:	CAD981396583
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	OHD000816629
TSD County Code:	99
TSD County:	Unknown
State Waste Code:	135
State Waste Code Desc.:	Unspecified aqueous solution
Method Code:	
Method Description:	
Tons:	1.89
Year:	1999
--	--
Generator EPA ID:	CAD981396583
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAT080033681
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	181
State Waste Code Desc.:	Other inorganic solid waste
Method Code:	D99
Method Description:	Disposal, other
Tons:	0.0275
Year:	1997

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

--	--
Generator EPA ID:	CAD981396583
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAT080013352
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	221
State Waste Code Desc.:	Waste oil and mixed oil
Method Code:	H039
Method Description:	OTHER RECOVERY OF RECLAMATION FOR REUSE INCLUDING ACID REGENERATION, ORGANICS RECOVERY ECT
Tons:	8.36
Year:	2010
--	--
Generator EPA ID:	CAD981396583
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD044429835
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	331
State Waste Code Desc.:	Off-specification, aged or surplus organics
Method Code:	D99
Method Description:	Disposal, other
Tons:	0.0043
Year:	1997
--	--
Generator EPA ID:	CAD981396583
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD028409019
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	352
State Waste Code Desc.:	Other organic solids
Method Code:	H141
Method Description:	STORAGE, BULKING, AND/OR TRANSFER OFF SITE--NO TREATMENT/REOVERY (H010-H129) OR (H131-H135)
Tons:	0.3
Year:	2010
--	--
Generator EPA ID:	CAD981396583
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD044429835
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	791
State Waste Code Desc.:	Liquids with pH <= 2
Method Code:	D99
Method Description:	Disposal, other
Tons:	0.0041
Year:	1997
--	--

1	***12 of 22***	***WSW***	***0.00 / 0.00***	***781.29 / 0***	***SEARS #1298/6711 5261 ARLINGTON AVE RIVERSIDE CA 92504***	***HAZNET***

SIC Code:	5311	**Mailing City:**	HOFFMAN ESTATES
NAICS Code:	45211	**Mailing State:**	IL
EPA ID:	CAL000409156	**Mailing Zip:**	601790001
Create Date:	8/7/2015 3:58:53 PM	**Region Code:**	4
Fac Act Ind:	Yes	**Owner Name:**	SEARS OPERATIONS LLC
Inact Date:		**Owner Addr 1:**	3333 BEVERLY RD # B5-348A
County Code:	33	**Owner Addr 2:**	
County Name:	Riverside	**Owner City:**	HOFFMAN ESTATES

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Mail Name:		**Owner State:**	IL
Mailing Addr 1:	3333 BEVERLY RD # B5-348A	**Owner Zip:**	601790001
Mailing Addr 2:		**Owner Phone:**	8472860037
Owner Fax:	8477479057		

Contact Information

--	--
Contact Name:	ROBYN WEST
Street Address 1:	3333 BEVERLY RD # B5-348A
Street Address 2:	
City:	HOFFMAN ESTATES
State:	IL
Zip:	601790001
Phone:	8472860037
--	--

1	13 of 22	WSW	0.00 / 0.00	781.29 / 0	SEARS ROEBUCK AND CO 5261 ARLINGTON AVE RIVERSIDE CA 925640000	HAZNET

SIC Code:		**Mailing City:**	HOFFMAN ESTATES
NAICS Code:		**Mailing State:**	IL
EPA ID:	CAL912674757	**Mailing Zip:**	601792604
Create Date:	9/24/1991	**Region Code:**	4
Fac Act Ind:	No	**Owner Name:**	SEARS ROEBUCK AND CO
Inact Date:	6/30/2000	**Owner Addr 1:**	3333 BEVERLY ROAD
County Code:	33	**Owner Addr 2:**	
County Name:	Riverside	**Owner City:**	HOFFMAN ESTATES
Mail Name:		**Owner State:**	IL
Mailing Addr 1:	3333 BEVERLY ROAD A2-242A	**Owner Zip:**	601792604
Mailing Addr 2:		**Owner Phone:**	8472868616
Owner Fax:			

Contact Information

--	--
Contact Name:	DAWN A JESS
Street Address 1:	INACT 00VQ FINAL NOTICE - BATCH
Street Address 2:	4/10/01
City:	HOFFMAN ESTATES
State:	IL
Zip:	601790000
Phone:	8472868616
--	--
--	--

Tanner Information

--	--
Generator EPA ID:	CAL912674757
Generator County Code:	33
Generator County:	Riverside
TSD EPA ID:	CAD028409019
TSD County Code:	19
TSD County:	Los Angeles
State Waste Code:	134
State Waste Code Desc.:	Aqueous solution with total organic residues less than 10 percent
Method Code:	T01
Method Description:	Treatment, tank
Tons:	2.1
Year:	1998
--	--

1	14 of 22	WSW	0.00 / 0.00	781.29 / 0	5261 ARLINGTON AVE RIVERSIDE CA 925042604	HIST MANIFEST

Gen EPA ID:	CAD057780512
Create Date:	04/10/1987 0:00
Inact Date:	
Facility Mail Street:	3333 BEVERLY RD B5-348A

Facility Mail City: HOFFMAN ESTATES
Facility Mail State: IL
Facility Mail Zip: 601790000
Contact Phone(s): 8472860037
File Year(s): 1988; 1989; 1990; 1991; 1992
Contact Name(s): CYNTHIA MILLER

Tanner Information

Method Description:
Tons: 0
Year: 1990
Generator County Code: 33
Generator County: Riverside
Method Code:
Tsd County Code: 19
Tsd County: Los Angeles
State Waste Code:
State Waste Code Desc:
Tsd Epa ID: CAD089446710

Tanner Information

Method Description:
Tons: 0
Year: 1989
Generator County Code: 33
Generator County: Riverside
Method Code:
Tsd County Code: 42
Tsd County: Santa Barbara
State Waste Code:
State Waste Code Desc:
Tsd Epa ID: CAD020748125

Tanner Information

Method Description:
Tons: 0
Year: 1992
Generator County Code: 33
Generator County: Riverside
Method Code:
Tsd County Code: 19
Tsd County: Los Angeles
State Waste Code:
State Waste Code Desc:
Tsd Epa ID: CAT080013352

Tanner Information

Method Description:
Tons: 4.17
Year: 1992
Generator County Code: 33
Generator County: Riverside
Method Code: R01
Tsd County Code: 19
Tsd County: Los Angeles
State Waste Code: 221
State Waste Code Desc: Waste oil and mixed oil
Tsd Epa ID: CAT080013352

Tanner Information

Method Description:
Tons: 0
Year: 1990
Generator County Code: 33
Generator County: Riverside
Method Code:
Tsd County Code: 19
Tsd County: Los Angeles
State Waste Code:
State Waste Code Desc:
Tsd Epa ID: CAD042245001

Tanner Information

Method Description:
Tons: 0.45
Year: 1988
Generator County Code: 33
Generator County: Riverside
Method Code: D80
Tsd County Code: 42
Tsd County: Santa Barbara
State Waste Code: 461
State Waste Code Desc: Paint sludge
Tsd Epa ID: CAD020748125

Tanner Information

Method Description:
Tons: 0
Year: 1991
Generator County Code: 33
Generator County: Riverside
Method Code:
Tsd County Code: 19
Tsd County: Los Angeles
State Waste Code:
State Waste Code Desc:
Tsd Epa ID: CAD089446710

Tanner Information

Method Description:
Tons: 0.6
Year: 1989
Generator County Code: 33
Generator County: Riverside
Method Code: D80
Tsd County Code: 42
Tsd County: Santa Barbara
State Waste Code: 461
State Waste Code Desc: Paint sludge
Tsd Epa ID: CAD020748125

Tanner Information

Method Description:
Tons: 0.07
Year: 1990
Generator County Code: 33
Generator County: Riverside
Method Code: R01

Tsd County Code: 19
Tsd County: Los Angeles
State Waste Code: 341
State Waste Code Desc: Organic liquids (nonsolvents) with halogens
Tsd Epa ID: CAD042245001

Tanner Information

Method Description:
Tons: 0.2
Year: 1990
Generator County Code: 33
Generator County: Riverside
Method Code: D80
Tsd County Code: 19
Tsd County: Los Angeles
State Waste Code: 352
State Waste Code Desc: Other organic solids
Tsd Epa ID: CAD089446710

Tanner Information

Method Description:
Tons: 0
Year: 1988
Generator County Code: 33
Generator County: Riverside
Method Code:
Tsd County Code: 42
Tsd County: Santa Barbara
State Waste Code:
State Waste Code Desc:
Tsd Epa ID: CAD020748125

Tanner Information

Method Description:
Tons: 0.7
Year: 1991
Generator County Code: 33
Generator County: Riverside
Method Code: D80
Tsd County Code: 99
Tsd County: Unknown
State Waste Code: 461
State Waste Code Desc: Paint sludge
Tsd Epa ID: NVT330010000

Tanner Information

Method Description:
Tons: 0
Year: 1988
Generator County Code: 33
Generator County: Riverside
Method Code:
Tsd County Code: 19
Tsd County: Los Angeles
State Waste Code:
State Waste Code Desc:
Tsd Epa ID: CAD050806850

Tanner Information

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Method Description:
Tons: 1.25
Year: 1988
Generator County Code: 33
Generator County: Riverside
Method Code: T01
Tsd County Code: 19
Tsd County: Los Angeles
State Waste Code: 135
State Waste Code Desc: Unspecified aqueous solution
Tsd Epa ID: CAD050806850

Tanner Information

Method Description:
Tons: 0.2
Year: 1991
Generator County Code: 33
Generator County: Riverside
Method Code: R01
Tsd County Code: 19
Tsd County: Los Angeles
State Waste Code: 221
State Waste Code Desc: Waste oil and mixed oil
Tsd Epa ID: CAD089446710

Tanner Information

Method Description:
Tons: 0
Year: 1991
Generator County Code: 33
Generator County: Riverside
Method Code:
Tsd County Code: 99
Tsd County: Unknown
State Waste Code:
State Waste Code Desc:
Tsd Epa ID: NVT330010000

1	15 of 22	WSW	0.00 / 0.00	781.29 / 0	5261 ARLINGTON AVE RIVERSIDE CA 925040000	HIST MANIFEST

Gen EPA ID: CAX000113159
Create Date: 9/19/1984 0:00:00
Inact Date: 6/30/1998 0:00:00
Facility Mail Street: --
Facility Mail City: RIVERSIDE
Facility Mail State: CA
Facility Mail Zip: 925040000
Contact Phone(s): 7146889400
File Year(s): 1984; 1987
Contact Name(s): NEIL CRAMPTON

Tanner Information

Method Description:
Tons: 0
Year: 1984
Generator County Code: 19
Generator County: Los Angeles
Method Code:
Tsd County Code: 19

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Tsd County: Los Angeles
State Waste Code:
State Waste Code Desc:
Tsd Epa ID: CAD042245001

Tanner Information

Method Description:
Tons: 0.4
Year: 1984
Generator County Code: 19
Generator County: Los Angeles
Method Code: 1
Tsd County Code: 19
Tsd County: Los Angeles
State Waste Code: 211
State Waste Code Desc: Halogenated solvents (chloroforms, methyl chloride, perchloroethylene, etc)
Tsd Epa ID: CAD042245001

Tanner Information

Method Description:
Tons: 10.5
Year: 1987
Generator County Code: 19
Generator County: Los Angeles
Method Code: R01
Tsd County Code: 19
Tsd County: Los Angeles
State Waste Code: 241
State Waste Code Desc: Tank bottom waste
Tsd Epa ID: CAD028409019

Tanner Information

Method Description:
Tons: 0
Year: 1987
Generator County Code: 19
Generator County: Los Angeles
Method Code:
Tsd County Code: 19
Tsd County: Los Angeles
State Waste Code:
State Waste Code Desc:
Tsd Epa ID: CAD028409019

1	16 of 22	WSW	0.00 / 0.00	781.29 / 0	SEARS RETAIL 5261 ARLINGTON AVE RIVERSIDE CA 92504	FINDS/FRS

Registry ID: 110064989543
FIPS Code:
HUC Code: 18070203
Site Type Name: STATIONARY
Location Description:
Supplemental Location:
Create Date: 10-OCT-15
Update Date:
Interest Types: STATE MASTER
SIC Codes:
SIC Code Descriptions:
NAICS Codes:
NAICS Code Descriptions:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Conveyor:	FRS-GEOCODE
Federal Facility Code:	
Federal Agency Name:	
Tribal Land Code:	
Tribal Land Name:	
Congressional Dist No:	44
Census Block Code:	060650310013006
EPA Region Code:	09
County Name:	RIVERSIDE
US/Mexico Border Ind:	
Latitude:	33.94782
Longitude:	-117.41702
Reference Point:	CENTER OF A FACILITY OR STATION
Coord Collection Method:	ADDRESS MATCHING-HOUSE NUMBER
Accuracy Value:	30
Datum:	NAD83
Source:	
Facility Detail Rprt URL:	https://ofmpub.epa.gov/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110064989543
Program Acronyms:	

CA-ENVIROVIEW:192011

1	17 of 22	WSW	0.00 / 0.00	781.29 / 0	SEAR ROEBUCK 5261 ARLINGTON AVE RIVERSIDE CA	HIST TANK

Owner Name:	SEAR ROEBUCK	**No of Containers:**	8
Owner Street:	5261 ARLINGTON AVE	**County:**	RIVERSIDE
Owner City:	RIVERSIDE	**Facility State:**	CA
Owner State:	CA	**Facility Zip:**	92504
Owner Zip:	92504		

1	18 of 22	WSW	0.00 / 0.00	781.29 / 0	SEARS, ROEBUCK AND COMPANY 5261 ARLINGTON AVENUE RIVERSIDE CA	HIST TANK

Owner Name:	SEARS, ROEBUCK AND COMPANY	**No of Containers:**	2
Owner Street:	5261 ARLINGTON AVENUE	**County:**	RIVERSIDE
Owner City:	RIVERSIDE	**Facility State:**	CA
Owner State:	CA	**Facility Zip:**	92504
Owner Zip:	92504		

1	19 of 22	WSW	0.00 / 0.00	781.29 / 0	Sears #1298/6711 5261 ARLINGTON AVE RIVERSIDE CA 92504	DELISTED HAZ

Siteid:	66379
Latitude:	33.947600
Longitude:	-117.417600
Original Source:	CHAZ
Record Date:	09-JUL-2018

1	20 of 22	WSW	0.00 / 0.00	781.29 / 0	Sears #1298/6711 5261 ARLINGTON AVE RIVERSIDE CA 92504	DELISTED CTNK

Site ID:	66379	**Latitude:**	33.947600
County:	Riverside County	**Longitude:**	-117.417600
Tank Type:			

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
Original Source:		CTNK				
Record Date:		18-NOV-2019				

1	21 of 22	WSW	0.00 / 0.00	781.29 / 0	SEARS #1298/6711 5261 ARLINGTON AVE RIVERSIDE CA 92504-2604	RCRA NON GEN

EPA Handler ID:	CAD057780512
Gen Status Universe:	No Report
Contact Name:	JAMES TUNNEY
Contact Address:	3333 BEVERLY ROAD, B5-348A , , HOFFMAN ESTATES , IL, 60179 ,
Contact Phone No and Ext:	847-286-3667
Contact Email:	JAMES.TUNNEY@SEARSHC.COM
Contact Country:	
County Name:	RIVERSIDE
EPA Region:	09
Land Type:	
Receive Date:	19870410
Location Latitude:	33.947532
Location Longitude:	-117.416939

Violation/Evaluation Summary

Note: NO RECORDS: As of Jun 2021, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	19870410
Handler Name:	SEARS #1298/6711
Source Type:	Implementer
Federal Waste Generator Code:	N
Generator Code Description:	Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Other	**Street 1:**	3333 BEVERLY RD B5-362A
Name:	KMART CORPORATION	**Street 2:**	
Date Became Current:		**City:**	HOFFMAN ESTATES
Date Ended Current:		**State:**	IL
Phone:	847-286-7222	**Country:**	
Source Type:	Implementer	**Zip Code:**	60179-0000

Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Other	**Street 1:**	3333 BEVERLY ROAD, B5-348A
Name:	JAMES TUNNEY	**Street 2:**	
Date Became Current:		**City:**	HOFFMAN ESTATES
Date Ended Current:		**State:**	IL
Phone:	847-286-3667	**Country:**	
Source Type:	Implementer	**Zip Code:**	60179

1	22 of 22	WSW	0.00 / 0.00	781.29 / 0	SEARS #1298/6711 5261 ARLINGTON AVE RIVERSIDE CA 92504	RCRA NON GEN

EPA Handler ID:	CAL000409156
Gen Status Universe:	No Report
Contact Name:	JAMES TUNNEY
Contact Address:	3333 BEVERLY RD STE B5-348A , , HOFFMAN ESTATES , IL, 60179 ,
Contact Phone No and Ext:	847-286-3667
Contact Email:	JAMES.TUNNEY@SEARSHC.COM
Contact Country:	
County Name:	RIVERSIDE
EPA Region:	09
Land Type:	
Receive Date:	20150807
Location Latitude:	33.947532
Location Longitude:	-117.416939

Violation/Evaluation Summary

Note: NO RECORDS: As of Jun 2021, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20150807
Handler Name:	SEARS #1298/6711
Source Type:	Implementer
Federal Waste Generator Code:	N
Generator Code Description:	Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Other	**Street 1:**	3333 BEVERLY RD STE B5-348A

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Name:	SEARS OPERATIONS LLC	**Street 2:**	
Date Became Current:		**City:**	HOFFMAN ESTATES
Date Ended Current:		**State:**	IL
Phone:	847-286-3667	**Country:**	
Source Type:	Implementer	**Zip Code:**	60179-0001
Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Other	**Street 1:**	3333 BEVERLY RD STE B5-348A
Name:	JAMES TUNNEY	**Street 2:**	
Date Became Current:		**City:**	HOFFMAN ESTATES
Date Ended Current:		**State:**	IL
Phone:	847-286-3667	**Country:**	
Source Type:	Implementer	**Zip Code:**	60179

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
2	1 of 3	SE	0.02 / 105.56	791.67 / 10	JAMES M. SLEPSKI DDS 5171 ARLINGTON AVE RIVERSIDE CA 925040000	HAZNET

SIC Code:		**Mailing City:**	RIVERSIDE
NAICS Code:		**Mailing State:**	CA
EPA ID:	CAL000157744	**Mailing Zip:**	925040000
Create Date:	7/24/1996	**Region Code:**	4
Fac Act Ind:	No	**Owner Name:**	JAMES SLEPSKI
Inact Date:	6/30/1999	**Owner Addr 1:**	5171 ARLINGTON AVE.
County Code:	33	**Owner Addr 2:**	
County Name:	Riverside	**Owner City:**	RIVERSIDE
Mail Name:		**Owner State:**	CA
Mailing Addr 1:	5171 ARLINGTON AVE	**Owner Zip:**	925042639
Mailing Addr 2:		**Owner Phone:**	9097851209
Owner Fax:			

Contact Information

--	--
Contact Name:	KYMBERLI A CROSETTI
Street Address 1:	INACTIVE PER VQ99 - BMI
Street Address 2:	
City:	RIVERSIDE
State:	CA
Zip:	925042639
Phone:	9097851209
--	--

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
2	2 of 3	SE	0.02 / 105.56	791.67 / 10	WILLIAM G. BYRNE, D.D.S.-OOB 5171 ARLINGTON AVE STE 8 RIVERSIDE CA 92504-2639	MED WST RIVERSIDE

Fac ID:	FA0000697	**State:**	CA
Rec ID:	PR0000962	**City:**	RIVERSIDE
County:		**Zip:**	92504-2639
Address:	5171 ARLINGTON AVE STE 8		

Details

Current Status:		**Phone No:**	9096876040
Last Bill:	01/01/11	**Count:**	677
Fixed Fee:	43	**Mailing Zip:**	925042756
PE:	4332		
Facility Description:	MED SMALL QUANTITY GENERATOR		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
2	3 of 3	SE	0.02 / 105.56	791.67 / 10	JAMES M. SLEPSKI, D.D.S. 5171 ARLINGTON AVE RIVERSIDE CA 92504-2639	MED WST RIVERSIDE

Fac ID:	FA0000583	**State:**	CA
Rec ID:	PR0000844	**City:**	RIVERSIDE

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

County: **Zip:** 92504-2639
Address: 5171 ARLINGTON AVE

Details

Current Status: **Phone No:** 9097851209
Last Bill: 01/01/11 **Count:** 562
Fixed Fee: 43 **Mailing Zip:** 925042639
PE: 4332
Facility Description: MED SMALL QUANTITY GENERATOR

3	1 of 1	SSE	0.02 / 115.39	790.43 / 9	ALEXYS RECYCLING 5204 ARLINGTON AVE RIVERSIDE CA 92504	RECYCLING

Cert ID: RC191717.001
Operation: 01/02/2014
Rural: N
Organization: ALEXYS RECYCLING
Aluminium: Yes
Glass: Yes
Plastic: Yes
Bimetal: Yes
Agency: N/A
Grand Fath: N
Cert Status: OPERATIONAL
Operatione:
Monday Hou: 9:00 am - 5:00 pm; Closed 1:00 pm - 2:00 pm
Tuesday Ho: 9:00 am - 5:00 pm; Closed 1:00 pm - 2:00 pm
Wednesday: 9:00 am - 5:00 pm; Closed 1:00 pm - 2:00 pm
Thursday H: 9:00 am - 5:00 pm; Closed 1:00 pm - 2:00 pm
Friday Hou: 9:00 am - 5:00 pm; Closed 1:00 pm - 2:00 pm
Saturday H: 9:00 am - 5:00 pm; Closed 1:00 pm - 2:00 pm
Sunday Hou: 9:00 am - 2:00 pm
Mailing Ad: 5842 DEAN WAY
Mailing Ci: RIVERSIDE
Mailing St: CA
Mailing Zi: 92504
Phone No: (951) 224-2834
Website:
Email: alexyshtorres38@gmail.com
Hours of Ope:
County: RIVERSIDE

4	1 of 1	SE	0.03 / 155.66	790.94 / 10	6975 CAPISTRANO ST RIVERSIDE CA 92504	CDL

Clue: 1997-10-038
Date: 10/8/1997
County: RIVERSIDE
Lab Type: L
Lab Type Description: Illegal Drug Lab - location where an illegal drug lab was operated or drug lab equipment and/or materials were stored.

5	1 of 1	WSW	0.03 / 158.01	779.76 / -2	RIVERSIDE WEST DENTAL GROUP 6945 STREETER AVE RIVERSIDE CA 92504	MED WST RIVERSIDE

Fac ID: FA0000460 **State:** CA
Rec ID: PR0000703 **City:** RIVERSIDE
County: **Zip:** 92504
Address: 6945 STREETER AVE

Details

Current Status: **Phone No:** 9097882770
Last Bill: 01/01/11 **Count:** 432
Fixed Fee: 43 **Mailing Zip:** 925042206
PE: 4332
Facility Description: MED SMALL QUANTITY GENERATOR

6	1 of 9	SSE	0.04 / 187.99	790.87 / 10	CROWN CLEANERS, HARDMAN CENTER	CLEANUP SITES

5190 ARLINGTON AVENUE
RIVERSIDE CA

Global ID:	SL0606503378	***Latitude:***	33.946017
Status:	COMPLETED - CASE CLOSED	***Longitude:***	-117.417149
Status Date:	10/7/2003	***County:***	RIVERSIDE
Site Facility Type:	CLEANUP PROGRAM SITE		
Data Source:	Cleanup Program Sites from GeoTracker Search; Cleanup Sites from GeoTracker Cleanup Sites Data Download		

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case No:		***Stop Method:***	Other Means
Local Case No:		***CUF Case:***	NO
Begin Date:	2/1/2003	***Case Worker:***	JPL
File Location:			
Lead Agency:	SANTA ANA RWQCB (REGION 8)		
Local Agency:			
Potential COC:			
Potential Media of Concern:			
How Discovered:	* Other Means		
How Discovered Description:	SOIL AND GROUNDWATER INVESTIGATION CONDUCTED AS PART OF DUE DILIGENCE IN CONNECTION WITH A SALE OF THE HARDMAN CENTER.		
Stop Description:	VACATE CROWN CLEANERS AND THE CLEANUP OF PCE- IMPACTED SOILS BENEATH THE CLEANERS.		
CalWater Watershed Name:	Santa Ana River - Middle Santa Ana River - Riverside (801.27)		
DWR GW Subbasin Name:	Upper Santa Ana Valley - Riverside-Arlington (8-002.03)		
Disadvantaged Community:			
CalEnviroScreen Score:	81-85%		
Site History:			

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Regulatory Activity

Action Type:	ENFORCEMENT
Date:	2003-10-07 00:00:00
Action:	Closure/No Further Action Letter
Action Type:	REMEDIATION
Date:	2003-07-01 00:00:00
Action:	Excavation
Action Type:	Other
Date:	2003-05-01 00:00:00
Action:	Leak Stopped
Action Type:	Other
Date:	2003-04-25 00:00:00
Action:	Leak Reported
Action Type:	Other
Date:	2003-02-01 00:00:00
Action:	Leak Discovery

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Status History

Status:	Completed - Case Closed
Status Date:	2003-10-07 00:00:00
Status:	Completed - Case Closed
Status Date:	2003-07-01 00:00:00
Status:	Open - Case Begin Date
Status Date:	2003-02-01 00:00:00

Cleanup Sites from GeoTracker Cleanup Sites Data Download - Regulatory Contacts

Contact Type: Regional Board Caseworker
Contact Name: JOANNE LEE
Phone No:
Organization Name: SANTA ANA RWQCB (REGION 8)
Email: joanne.lee@waterboards.ca.gov
Address: 3737 MAIN STREET, SUITE 500
City: RIVERSIDE

Cleanup Program Sites from GeoTracker Search - Regulatory Profile (as of May 29, 2021)

Project Status:
Cuf Claim No:
CUF Priority Assign:
CUF Amount Paid:
Composting Method:
File Location:
User Defined Beneficial Use:
Designated Beneficial Use: MUN, AGR, IND, PROC - Note: Also incl parts of 801.26.
Designated Beneficl Use Desc: Municipal and Domestic Supply, Agricultural Supply, Industrial Service Supply, Industrial Process Supply - Note: Also incl parts of 801.26.
Project Oversight Agencies:
Report Link: https://geotracker.waterboards.ca.gov/profile_report?global_id=SL0606503378
Cleanup Status Detail: COMPLETED - CASE CLOSED AS OF 10/7/2003
Potential COC: PCE
Potential Media of Concern: NONE SPECIFIED
Groundwater Monitoring Frequen:
DWR GW Sub Basin: Upper Santa Ana Valley - Riverside-Arlington (8-002.03)
CalWater Watershed Name: Santa Ana River - Middle Santa Ana River - Riverside (801.27)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: SANTA ANA RWQCB (REGION 8) (LEAD)
CASEWORKER: JOANNE LEE
RIVERSIDE COUNTY
Cleanup History Link: https://geotracker.waterboards.ca.gov/profile_report_include?global_id=SL0606503378&tabname=regulatoryhistory
Site History:

No site history available

Sites from GeoTracker Search - Cleanup Action Report (as of May 29, 2021)

Action Type: EXCAVATION
Phase: Soil
Begin Date: 7/1/2003
End Date: 10/7/2003
Description: PCE-IMPACTED SOIL OF 1.5 PPM OR GREATER (USEPA PRG RESIDENTIAL CLEANUP GOAL)BENEATH THE DRY CLEANING EQUIPMENT WILL BE REMOVED AND DISPOSED OFF PROPERLY.
Contaminant Mass Removed:

Sites from GeoTracker Search - Regulatory Activities (as of May 29, 2021)

Action Type: Other Regulatory Actions
Action Date: 10/7/2003
Received Issue Date: 10/7/2003
Action: Closure/No Further Action Letter
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL0606503378&enforcement_id=6043149&temptable=ENFORCEMENT
Title Description Comments:

Site Closure

Action Type: Cleanup Action
Action Date: 7/1/2003
Received Issue Date:
Action: Excavation
Doc Link:
Title Description Comments:

PCE-IMPACTED SOIL OF 1.5 PPM OR GREATER (USEPA PRG RESIDENTIAL CLEANUP GOAL)BENEATH THE DRY CLEANING EQUIPMENT WILL BE REMOVED AND DISPOSED OFF PROPERLY.

Action Type: Leak Action
Action Date: 5/1/2003
Received Issue Date:
Action: Leak Stopped
Doc Link:
Title Description Comments:

Action Type: Leak Action
Action Date: 4/25/2003
Received Issue Date:
Action: Leak Reported
Doc Link:
Title Description Comments:

Action Type: Leak Action
Action Date: 2/1/2003
Received Issue Date:
Action: Leak Discovery
Doc Link:
Title Description Comments:

Sites from GeoTracker Search - Documents (as of May 29, 2021)

Document Type: Site Documents
Document Date: 10/7/2003
Size :
Title: SITE CLOSURE
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=SL0606503378&enforcement_id=6043149
Type: CLOSURE/NO FURTHER ACTION LETTER
Submitted:
Submitted By: (REGULATOR)

Sites from GeoTracker Search - Cleanup Status History (as of May 29, 2021)

Status: Completed - Case Closed
Date: 10/7/2003

Status: Completed - Case Closed
Date: 7/1/2003

Status: Open - Case Begin Date
Date: 2/1/2003

6	2 of 9	SSE	0.04 / 187.99	790.87 / 10	CROWN CLEANERS 5190 ARLINGTON AVE RIVERSIDE CA 925040000	DRYCLEANERS

EPA ID: CAL000025663
Create Date: 5/10/1990
Facility Act Ind: No
Inact Date: 6/1/1997
Reason: Cleaners
Region Code: 4
DD Latitude: 33.946068
DD Longitude: -117.412456
Facility County Code: 33
Mail Name:
Owner Name: PARIKH HARSHAYU
Owner Street 1: --
Owner Street 2:
Owner City: --
Owner State: 99
Owner Zip: --
Owner Phone: 0
Owner Fax:
Contact Name: --
Contact Street 1: --
Contact Street 2:
Contact City: --
Contact State: 99
Contact Zip: --
Contact Phone: --
Contact Fax:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
6	3 of 9	SSE	0.04 / 187.99	790.87 / 10	CROWN CLEANERS 5190 ARLINGTON AVE RIVERSIDE CA 925040000	DRYCLEANERS

EPA ID:	CAD981624182	**Owner City:**	--
Create Date:	7/3/1987	**Owner State:**	99
Facility Act Ind:	No	**Owner Zip:**	--
Inact Date:	6/30/1995	**Owner Phone:**	0
Reason:	Cleaners	**Owner Fax:**	
Region Code:	4	**Contact Name:**	CANCELLED PER 95 FEE FORM HN
DD Latitude:	33.946068	**Contact Street 1:**	--
DD Longitude:	-117.412456	**Contact Street 2:**	
Facility County Code:	33	**Contact City:**	--
Mail Name:		**Contact State:**	99
Owner Name:	--	**Contact Zip:**	--
Owner Street 1:	--	**Contact Phone:**	--
Owner Street 2:		**Contact Fax:**	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
6	4 of 9	SSE	0.04 / 187.99	790.87 / 10	CROWN CLEANERS 5190 ARLINGTON AVE RIVERSIDE CA 925040000	DRYCLEANERS

EPA ID:	CAL000013767	**Owner City:**	--
Create Date:	11/14/1989	**Owner State:**	99
Facility Act Ind:	No	**Owner Zip:**	--
Inact Date:	6/30/1995	**Owner Phone:**	0
Reason:	Cleaners	**Owner Fax:**	
Region Code:	4	**Contact Name:**	INACT PER FEE FORM 10-95 GP
DD Latitude:	33.946068	**Contact Street 1:**	--
DD Longitude:	-117.412456	**Contact Street 2:**	
Facility County Code:	33	**Contact City:**	--
Mail Name:		**Contact State:**	99
Owner Name:	KOTHARI NIRU	**Contact Zip:**	--
Owner Street 1:	--	**Contact Phone:**	--
Owner Street 2:		**Contact Fax:**	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
6	5 of 9	SSE	0.04 / 187.99	790.87 / 10	CROWN CLEANERS 5190 ARLINGTON AVE RIVERSIDE CA 925040000	DRYCLEANERS

EPA ID:	CAL000033046	**Owner City:**	RIVERSIDE
Create Date:	5/10/1990	**Owner State:**	CA
Facility Act Ind:	No	**Owner Zip:**	925040000
Inact Date:	6/30/2017	**Owner Phone:**	9516887922
Reason:	SIC/NAICS	**Owner Fax:**	0
Region Code:	4	**Contact Name:**	HARSHAYU PARIKH
DD Latitude:	33.946017	**Contact Street 1:**	5190 ARLINGTON AVE
DD Longitude:	-117.417114	**Contact Street 2:**	
Facility County Code:	33	**Contact City:**	RIVERSIDE
Mail Name:		**Contact State:**	CA
Owner Name:	PARIKH HARSHAYU	**Contact Zip:**	925040000
Owner Street 1:	5190 ARLINGTON AVE	**Contact Phone:**	9516887922
Owner Street 2:		**Contact Fax:**	0

NAICS Details

NAICS Code:	81232
NAICS Description:	Drycleaning and Laundry Services (except Coin-Operated)
SIC Code:	7211
SIC Description:	Power Laundries, Family and Commercial

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
6	6 of 9	SSE	0.04 / 187.99	790.87 / 10	CROWN CLEANERS, ABDUL CHAUTHAN 5190 ARLINGTON AVE	EMISSIONS

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
					RIVERSIDE CA 92506	

1987 Criteria Data

Facility ID:	54898	CERR Code:	
Facility SIC Code:	7216	TOGT:	.6
CO:	33	ROGT:	0
Air Basin:	SC	COT:	
District:	SC	NOXT:	
COID:	RIV	SOXT:	
DISN:	SOUTH COAST AQMD	PMT:	
CHAPIS:		PM10T:	

1987 Toxic Data

Facility ID:	54898	COID:	RIV
Facility SIC Code:	7216	DISN:	SOUTH COAST AQMD
CO:	33	CHAPIS:	
Air Basin:	SC	CERR Code:	
District:	SC		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

6	7 of 9	SSE	0.04 / 187.99	790.87 / 10	CROWN CLEANERS, HARSHAYU I. PA 5190 ARLINGTON AVE RIVERSIDE CA 92504	EMISSIONS

1990 Criteria Data

Facility ID:	69217	CERR Code:	
Facility SIC Code:	7216	TOGT:	1.2
CO:	33	ROGT:	0
Air Basin:	SC	COT:	
District:	SC	NOXT:	
COID:	RIV	SOXT:	
DISN:	SOUTH COAST AQMD	PMT:	
CHAPIS:		PM10T:	

1990 Toxic Data

Facility ID:	69217	COID:	RIV
Facility SIC Code:	7216	DISN:	SOUTH COAST AQMD
CO:	33	CHAPIS:	
Air Basin:	SC	CERR Code:	
District:	SC		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

6	8 of 9	SSE	0.04 / 187.99	790.87 / 10	CROWN CLEANERS (HERITAGE PLAZA) 5190 ARLINGTON AVENUE RIVERSIDE CA 92504	VCP

Estor/EPA ID:	60002822	Permit Renewal Lead:	
Site Code:	401875	Project Manager:	JOHNSON ABRAHAM

Nat Priority List:	NO	***Supervisor:***	SHAHIR HADDAD
Acres:	0.18 ACRES	***Public Partici Spclst:***	
Special Program:	VOLUNTARY CLEANUP PROGRAM	***Census Tract:***	6065031402
Funding:	SITE PROPONENT	***County:***	RIVERSIDE
Assembly District:	, 61	***Latitude:***	33.944847
Senate District:	, 31	***Longitude:***	-117.415384
School District:			

APN: NONE SPECIFIED
Cleanup Status: ACTIVE AS OF 5/17/2019
Cleanup Oversight Agencies: DTSC - SITE CLEANUP PROGRAM - LEAD AGENCY
Site Type: VOLUNTARY CLEANUP
Office: SOUTHERN CALIFORNIA SCHOOLS & BROWNFIELDS OUTREACH
Past Use that Caused Contam: DRY CLEANING
Potential Media Affected: SOIL, SOIL VAPOR, UNDER INVESTIGATION
Potential Contamin of Concern:

TETRACHLOROETHYLENE (PCE)

Site History:

The Site consists of approximately 7,872 square feet within a 10.81 acres multi-tenant commercial retail center (Heritage Plaza). The Site is bordered by asphalt-paved parking areas to the north and south, retail units to the east and west, and an apartment complex to the south. A 10-foot wall is situated between the dry-cleaning unit and the apartment complex, which is about 112-feet southwest of the subject property.

The Site was developed for agriculture from 1938 through 1948. By 1953, the northern portion of the Site was developed with three (3) commercial/retail buildings and a gasoline service station on the northwestern portion of the Site. In 1985, the service station and the canopy were demolished and paved over. The existing six (6) structures were constructed between 1966 and 2009. In 1981, Martin Cleaners occupied the facility. Sky Cleaners operated onsite in 1986. Crown Cleaners operated at the Site since1990, which currently operates as a drop-off dry cleaning facility only.

On March 26, 2020, DTSC approved a Preliminary Environmental Assessment (PEA) Report. The PEA included subsurface soil, soil vapor and groundwater investigation. The PEA concluded that the Site was impacted with volatile organic compound (VOCs) including tetrachloroethylene (PCE) and recommends additional investigation and/or remediation. The response action proposed includes an SSI to determine the nature and extent of contamination that may be followed by a removal or remedial action.

Status: ACTIVE
Program Type: VOLUNTARY CLEANUP
CalEnviroScreen Score: 71-75%
Summary Link: https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=60002822

Future Activities

Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Supplemental Site Investigation Report
Due Date: 2021

Completed Activities

Title: Cost Exceedence Letter
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002822&enforcement_id=60478602
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Annual Oversight Cost Estimate
Date Completed: 5/19/2020
Comments: Sent the Cost Exceedance Letter to the project proponent.

Title: Supplemental Site Investigation Workplan
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002822&doc_id=60477112
Area Name:
Area Link:
Sub Area:
Sub Area Link:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Document Type: Supplemental Site Investigation Workplan
Date Completed: 6/19/2020
Comments:

Title: Standard Voluntary Agreement
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002822&enforcement_id=60460785
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Standard Voluntary Agreement
Date Completed: 12/9/2019
Comments: DTSC signed the agreement.

Title: Annual Oversight Cost Estimate - FY 2020/21
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002822&enforcement_id=60479481
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Annual Oversight Cost Estimate
Date Completed: 9/2/2020
Comments:

Title: Fieldwork
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002822&doc_id=60483809
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Fieldwork
Date Completed: 11/9/2020
Comments:

Title: Voluntary Cleanup Program Application
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002822&doc_id=60460433
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Application
Date Completed: 7/30/2019
Comments: completed

Title: PEA Equivalent Report
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002822&doc_id=60465294
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Preliminary Endangerment Assessment Report
Date Completed: 3/26/2020
Comments:

6	9 of 9	SSE	0.04 / 187.99	790.87 / 10	CROWN CLEANERS (HERITAGE PLAZA) 5190 ARLINGTON AVENUE RIVERSIDE CA 92504	ENVIROSTOR

Estor/EPA ID:	60002822	***Assembly District:***	, 61
Site Code:	401875	***Senate District:***	, 31
Nat Priority List:	NO	***Permit Renewal Lead:***	
APN:	NONE SPECIFIED	***Public Partici Spclst:***	
Census Tract:	6065031402	***Project Manager:***	JOHNSON ABRAHAM
Site Type:	VOLUNTARY CLEANUP	***County:***	RIVERSIDE
Address Description:	5190 ARLINGTON AVENUE	***Latitude:***	33.944847
Office:	SOUTHERN CALIFORNIA SCHOOLS & BROWNFIELDS OUTREACH	***Longitude:***	-117.415384

Special Program: VOLUNTARY CLEANUP PROGRAM **Acres:** 0.18 ACRES
Funding: SITE PROPONENT **Supervisor:** SHAHIR HADDAD
Cleanup Status: ACTIVE AS OF 5/17/2019
Cleanup Oversight Agencies: DTSC - SITE CLEANUP PROGRAM - LEAD AGENCY
School District:
Past Use that Caused Contam: DRY CLEANING
Potential Media Affected: SOIL, SOIL VAPOR, UNDER INVESTIGATION
Potential Contamin of Concern:

TETRACHLOROETHYLENE (PCE)

Site History:

The Site consists of approximately 7,872 square feet within a 10.81 acres multi-tenant commercial retail center (Heritage Plaza). The Site is bordered by asphalt-paved parking areas to the north and south, retail units to the east and west, and an apartment complex to the south. A 10-foot wall is situated between the dry-cleaning unit and the apartment complex, which is about 112-feet southwest of the subject property.

The Site was developed for agriculture from 1938 through 1948. By 1953, the northern portion of the Site was developed with three (3) commercial/retail buildings and a gasoline service station on the northwestern portion of the Site. In 1985, the service station and the canopy were demolished and paved over. The existing six (6) structures were constructed between 1966 and 2009. In 1981, Martin Cleaners occupied the facility. Sky Cleaners operated onsite in 1986. Crown Cleaners operated at the Site since1990, which currently operates as a drop-off dry cleaning facility only.

On March 26, 2020, DTSC approved a Preliminary Environmental Assessment (PEA) Report. The PEA included subsurface soil, soil vapor and groundwater investigation. The PEA concluded that the Site was impacted with volatile organic compound (VOCs) including tetrachloroethylene (PCE) and recommends additional investigation and/or remediation. The response action proposed includes an SSI to determine the nature and extent of contamination that may be followed by a removal or remedial action.

Status: ACTIVE
A2 Program Type: VOLUNTARY CLEANUP
CalEnviroScreen Score: 71-75%
Summary Link: https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=60002822

Future Activities

Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Supplemental Site Investigation Report
Due Date: 2021

Completed Activities

Title: Cost Exceedence Letter
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002822&enforcement_id=60478602
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Annual Oversight Cost Estimate
Date Completed: 5/19/2020
Comments: Sent the Cost Exceedance Letter to the project proponent.

Title: PEA Equivalent Report
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002822&doc_id=60465294
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Preliminary Endangerment Assessment Report
Date Completed: 3/26/2020
Comments:

Title: Annual Oversight Cost Estimate - FY 2020/21
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002822&enforcement_id=60479481
Area Name:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Area Link:
Sub Area:
Sub Area Link:
Document Type: Annual Oversight Cost Estimate
Date Completed: 9/2/2020
Comments:

Title: Voluntary Cleanup Program Application
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002822&doc_id=60460433
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Application
Date Completed: 7/30/2019
Comments: completed

Title: Standard Voluntary Agreement
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002822&enforcement_id=60460785
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Standard Voluntary Agreement
Date Completed: 12/9/2019
Comments: DTSC signed the agreement.

Title: Fieldwork
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002822&doc_id=60483809
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Fieldwork
Date Completed: 11/9/2020
Comments:

Title: Supplemental Site Investigation Workplan
Title Link: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002822&doc_id=60477112
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Supplemental Site Investigation Workplan
Date Completed: 6/19/2020
Comments:

7	1 of 1	SSW	0.04 / 190.88	786.15 / 5	Del Taco #111 5290 ARLINGTON AVE RIVERSIDE CA 92504	CERS HAZ

Site ID: 24492
Latitude: 33.946018
Longitude: -117.417128
County:

Regulated Programs

EI ID: 10595731 **EI Description:** Chemical Storage Facilities

Violations

Violation Date: 08/04/2017 **Violation Source:** CERS
Violation Program: HMRRP **Violation Division:** Riverside City Fire Department
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Notes:

Returned to compliance on 08/29/2017.

Violation Description:

Failure to annually review and electronically certify that the business plan is complete and accurate on or before the annual due date.

Violations

Violation Date: 05/10/2018
Violation Source: CERS
Violation Program: HMRRP
Violation Division: Riverside City Fire Department
Citation: Un-Specified
Violation Notes:

Returned to compliance on 06/22/2018. No NFPA 704 placard observed on building - RP advised to have one placed on rear exit door

Violation Description:

Business Plan Program - Operations/Maintenance - General Local Ordinance

Violations

Violation Date: 05/10/2018
Violation Source: CERS
Violation Program: HMRRP
Violation Division: Riverside City Fire Department
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Notes:

Returned to compliance on 06/22/2018. site map incorrectly identifies ansul system - re submit with correct identification

Violation Description:

Failure to complete and electronically submit a site map with all required content.

Enforcements

Enf Action Date: 08/04/2017
Enf Action Program: HMRRP
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Source: CERS
Enf Action Division: Riverside City Fire Department
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes:

Fines/Penalties Assessed: $100.00. Administrative Citation.

Evaluations

Eval Date: 05/10/2018
Violations Found: Yes
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Riverside City Fire Department
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Eval Date: 08/04/2017
Violations Found: Yes
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Riverside City Fire Department
Eval Program: HMRRP
Eval Source: CERS

Eval Notes:

Affiliations

Affil Type Desc: Parent Corporation
Entity Name: Del Taco
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Document Preparer
Entity Name: Monica Johanson
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Legal Owner
Entity Name: DEL TACO LLC
Entity Title:
Address: 25521 Commercentre Dr., Ste. 200
City: Lake Forest
State: CA
Country: United States
Zip Code: 92630
Phone: (949) 462-9300

Affil Type Desc: Environmental Contact
Entity Name: Travis Nicholson
Entity Title:
Address: 25521 COMMERCENTER DR STE 200
City: LAKE FOREST
State: CA
Country:
Zip Code: 92630
Phone:

Affil Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title:
Address: 5290 Arlington Ave
City: Riverside
State: CA
Country:
Zip Code: 92504
Phone:

Affil Type Desc: CUPA District
Entity Name: Riverside Cnty Env Health
Entity Title:
Address: 4065 County Circle Drive, Room 104
City: Riverside
State: CA
Country:
Zip Code: 92503
Phone: (951) 358-5055

Affil Type Desc: Property Owner
Entity Name: WPI-ARCAL, LLC
Entity Title:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Address: c/o Newmark Merrill Co., 5850 Canoga Ave.
City: Woodland Hills
State: CA
Country: United States
Zip Code: 91367
Phone: (760) 630-8247

Affil Type Desc: Identification Signer
Entity Name: Dean Norby
Entity Title: Senior Facilities Director
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Operator
Entity Name: Del Taco #111
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone: (951) 687-5397

Coordinates

Env Int Type Code: HMBP
Program ID: 10595731
Latitude: 33.946020
Longitude: -117.417130
Coord Name:
Ref Point Type Desc: Center of a facility or station.

8	1 of 1	SSE	0.05 / 283.69	791.12 / 10	WingStop 5200 ARLINGTON AVE STE 120 RIVERSIDE CA 92504	CERS HAZ

Site ID: 568088
Latitude: 33.945730
Longitude: -117.416260
County:

Regulated Programs

EI ID: 10850947
EI Description: Chemical Storage Facilities

Violations

Violation Date: 11/06/2020
Violation Program: HMRRP
Citation: Un-Specified
Violation Notes:
Violation Source: CERS
Violation Division: Riverside City Fire Department

Returned to compliance on 12/22/2020. 100 - Current permit issued/posted. [RMC 9.48.140] - No current permit was posted. Obtain the current permit and post in a conspicuous location.

Violation Description:

Business Plan Program - Administration/Documentation - General Local Ordinance

Violations

Violation Date: 10/22/2020
Violation Source: CERS

Violation Program: HMRRP ***Violation Division:*** Riverside City Fire Department
Citation: Un-Specified
Violation Notes:

Returned to compliance on 12/22/2020. 100 - Current permit issued/posted. [RMC 9.48.140] - No current permit was posted. Obtain the current permit and post in a conspicuous location.

Violation Description:

Business Plan Program - Administration/Documentation - General Local Ordinance

Violations

Violation Date: 10/22/2020 ***Violation Source:*** CERS
Violation Program: HMRRP ***Violation Division:*** Riverside City Fire Department
Citation: Un-Specified
Violation Notes:

Returned to compliance on 11/06/2020. 104A - NFPA 704 sign(s) properly posted. [RMC 16.32.020; CFC, Section 5003.5] - No NFPA 704 is posted. Provide the required NFPA 704 signage in the following locations: front exterior side of bldg and on on exterior side of back door.

Violation Description:

Business Plan Program - Operations/Maintenance - General Local Ordinance

Violations

Violation Date: 12/10/2020 ***Violation Source:*** CERS
Violation Program: HMRRP ***Violation Division:*** Riverside City Fire Department
Citation: Un-Specified
Violation Notes:

Returned to compliance on 12/22/2020. 100 - Current permit issued/posted. [RMC 9.48.140] - No current permit was posted. Obtain the current permit and post in a conspicuous location.

Violation Description:

Business Plan Program - Administration/Documentation - General Local Ordinance

Violations

Violation Date: 09/18/2020 ***Violation Source:*** CERS
Violation Program: HMRRP ***Violation Division:*** Riverside City Fire Department
Citation: Un-Specified
Violation Notes:

Returned to compliance on 12/22/2020. 100 - Current permit issued/posted. [RMC 9.48.140] - No current permit was posted. Obtain the current permit and post in a conspicuous location.

Violation Description:

Business Plan Program - Administration/Documentation - General Local Ordinance

Violations

Violation Date: 09/18/2020 ***Violation Source:*** CERS
Violation Program: HMRRP ***Violation Division:*** Riverside City Fire Department
Citation: HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4)
Violation Notes:

Returned to compliance on 11/06/2020. No training records were available for review. Provide documentation on training being conducted for the past 1-3 years.

Violation Description:

Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years.

Violations

Violation Date: 10/22/2020 ***Violation Source:*** CERS
Violation Program: HMRRP ***Violation Division:*** Riverside City Fire Department
Citation: HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4)
Violation Notes:

Returned to compliance on 12/22/2020. No training records were available for review. Provide documentation on training being conducted for the past 1-3 years.

Violation Description:

Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years.

Violations

Violation Date: 11/06/2020 ***Violation Source:*** CERS
Violation Program: HMRRP ***Violation Division:*** Riverside City Fire Department
Citation: HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4)
Violation Notes:

Returned to compliance on 12/22/2020. No training records were available for review. Provide documentation on training being conducted for the past 1-3 years.

Violation Description:

Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years.

Violations

Violation Date: 12/10/2020 ***Violation Source:*** CERS
Violation Program: HMRRP ***Violation Division:*** Riverside City Fire Department
Citation: HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4)
Violation Notes:

Returned to compliance on 12/22/2020. No training records were available for review. Provide documentation on training being conducted for the past 1-3 years.

Violation Description:

Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years.

Violations

Violation Date: 09/18/2020 ***Violation Source:*** CERS
Violation Program: HMRRP ***Violation Division:*** Riverside City Fire Department
Citation: Un-Specified
Violation Notes:

Returned to compliance on 11/06/2020. 104A - NFPA 704 sign(s) properly posted. [RMC 16.32.020; CFC, Section 5003.5] - No NFPA 704 is posted. Provide the required NFPA 704 signage in the following locations: front exterior side of bldg and on on exterior side of back door.

Violation Description:

Business Plan Program - Operations/Maintenance - General Local Ordinance

Evaluations

Eval Date: 09/18/2020
Violations Found: Yes
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Riverside City Fire Department
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Inspector D. Larez; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 11/06/2020
Violations Found: Yes
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Riverside City Fire Department
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Reinspection - D. Larez; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 12/10/2020
Violations Found: Yes
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Riverside City Fire Department
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Reinspection - D. Larez; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 10/22/2020
Violations Found: Yes
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Riverside City Fire Department
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Reinspection - D. Larez; Note: data in [EVAL Notes] field for some records is truncated from the source.

Affiliations

Affil Type Desc: Identification Signer
Entity Name: Lindsey Dumas
Entity Title: Preconstruction Manager
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Parent Corporation
Entity Name: Wingstop

Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title:
Address: PO Box 572408
City: Murray
State: UT
Country:
Zip Code: 84157
Phone:

Affil Type Desc: Environmental Contact
Entity Name: Carmen Madrigal
Entity Title:
Address: PO Box 572408
City: Murray
State: UT
Country:
Zip Code: 84157
Phone:

Affil Type Desc: CUPA District
Entity Name: Riverside Cnty Env Health
Entity Title:
Address: 4065 County Circle Drive, Room 104
City: Riverside
State: CA
Country:
Zip Code: 92503
Phone: (951) 358-5055

Affil Type Desc: Document Preparer
Entity Name: Lindsey Dumas
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Operator
Entity Name: Various
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone: (951) 394-9464

Affil Type Desc: Legal Owner
Entity Name: Ray Gantus
Entity Title:
Address: PO Box 572408
City: Murray
State: UT
Country: United States
Zip Code: 84157
Phone: (760) 977-0767

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
9	1 of 13	SW	0.06 / 311.74	781.21 / 0	CHEVRON STATION NO 93673 5305 ARLINGTON AVE RIVERSIDE CA 92504-2502	RCRA SQG

EPA Handler ID: CAR000122515
Gen Status Universe: Small Quantity Generator
Contact Name: KATHY NORRIS
Contact Address: P O BOX 6004 , , SAN RAMON , CA, 94583 , US
Contact Phone No and Ext: 925-842-5931
Contact Email:
Contact Country: US
County Name: RIVERSIDE
EPA Region: 09
Land Type: Private
Receive Date: 20020516
Location Latitude: 33.946389
Location Longitude: -117.418991

Violation/Evaluation Summary

Note: NO RECORDS: As of Jun 2021, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20020516
Handler Name: CHEVRON STATION NO 93673
Federal Waste Generator Code: 2
Generator Code Description: Small Quantity Generator
Source Type: Notification

Waste Code Details

Hazardous Waste Code: D001
Waste Code Description: IGNITABLE WASTE

Hazardous Waste Code: D018
Waste Code Description: BENZENE

Owner/Operator Details

Owner/Operator Ind: Current Owner
Type: Private
Name: CHEVRON PRODUCTS CO
Street No:
Street 1: P O BOX 6004
Street 2:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Date Became Current:		**City:**	SAN RAMON
Date Ended Current:		**State:**	CA
Phone:	925-842-5931	**Country:**	
Source Type:	Notification	**Zip Code:**	94583

9	2 of 13	SW	0.06 / 311.74	781.21 / 0	CHEVRON #93673 5305 ARLINGTON AVE. Riverside CA 92504	DELISTED TNK

Delisted Storage Tanks

Facility ID:	80158	**Latitude:**	33.9477519
Permitting Agency:	RIVERSIDE COUNTY	**Longitude:**	-117.417617
County:	Riverside		
Original Source:	UST		
Record Date:	30-JAN-2017		

9	3 of 13	SW	0.06 / 311.74	781.21 / 0	Chevron #3673 5305 Arlington Ave Riverside CA	LOP RIVERSIDE

Site ID:	89201	**Closed Code:**	R
Status Code:	0	**Closed Desc:**	Case referred to RWQCB or oversight
Status Desc:		**Employee:**	Bunchek
Case Type Code:	G		
Case Type Desc:	GROUNDWATER IS IMPACTED		

9	4 of 13	SW	0.06 / 311.74	781.21 / 0	R and T Oil, Inc 5305 Arlington Ave Riverside CA 92504	HWG RIVERSIDE

9	5 of 13	SW	0.06 / 311.74	781.21 / 0	R and T Oil, Inc 5305 Arlington Ave Riverside CA 92504	UST RIVERSIDE

No of Tanks: 3

9	6 of 13	SW	0.06 / 311.74	781.21 / 0	CHEVRON #3673 (CHEVRON #93673) 5305 ARLINGTON AVE RIVERSIDE CA 92504	LUST

Global ID:	T0606500052	**County:**	RIVERSIDE
Status:	COMPLETED - CASE CLOSED	**Latitude:**	33.9461943
Status Date:	5/14/2002	**Longitude:**	-117.4185652
Case Type:	LUST CLEANUP SITE		
Date Source:	LUST Cleanup Sites & Military UST Site from GeoTracker Project Search Results Export; LUST Cleanup Sites & Military UST Site from GeoTracker Cleanup Sites Data Download		

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Facilities Detail

RB Case No:	083300484T	**Potential COC:**	Gasoline
Local Case No:	89201	**How Discovered:**	Tank Closure
Begin Date:	10/23/1986	**Stop Method:**	
Lead Agency:	SANTA ANA RWQCB (REGION 8)	**Stop Description:**	
Local Agency:	RIVERSIDE COUNTY LOP	**Case Worker:**	MAO
CUF Case:	YES	**File Location:**	

Potential Media of Concern: Aquifer used for drinking water supply
How Discovered Description:
Calwater Watershed Name: Santa Ana River - Middle Santa Ana River - Riverside (801.27)
DWR GW Subbasin Name: Upper Santa Ana Valley - Riverside-Arlington (8-002.03)
Disadvantaged Community:
Calenviroscreen Score: 91-95%
Site History:

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Regulatory Activity

Action Type: ENFORCEMENT
Date : 7/22/2020
Action: Historic Files

Action Type: ENFORCEMENT
Date : 5/9/2008
Action: Closure/No Further Action Letter

Action Type: ENFORCEMENT
Date : 10/16/1996
Action: File review

Action Type: Other
Date : 10/23/1986
Action: Leak Discovery

Action Type: Other
Date : 10/23/1986
Action: Leak Stopped

Action Type: Other
Date : 10/23/1986
Action: Leak Reported

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Regulatory Contacts

Contact Type: Local Agency Caseworker
Contact Name: Riverside County LOP
City: RIVERSIDE
Organization Name: RIVERSIDE COUNTY LOP
Address: 3880 LEMON ST SUITE 200
Email:
Phone No: 9519558980

Contact Type: Regional Board Caseworker
Contact Name: MIGUEL OVIEDO
City: RIVERSIDE
Organization Name: SANTA ANA RWQCB (REGION 8)
Address: 3737 Main Street, Suite 500
Email: miguel.oviedo@waterboards.ca.gov
Phone No: 9517823238

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Status History

Status: Completed - Case Closed
Status Date: 5/14/2002

Status: Open - Remediation
Status Date: 9/21/1996

Status: Open - Site Assessment
Status Date: 7/20/1987

Status: Open - Case Begin Date
Status Date: 10/23/1986

LUST Sites from GeoTracker Search - Regulatory Profile

Site Facility Name: CHEVRON #3673 (CHEVRON #93673)
Potential COC: GASOLINE

Site Facility Type:	LUST CLEANUP SITE	***Facility Type:***	
Cleanup Status:	COMPLETED - CASE CLOSED	***Composting Method:***	
Project Status:		***Address:***	5305 ARLINGTON AVE
WDR Place Type:		***City:***	RIVERSIDE
WDR File:		***Zip:***	92504
WDR Order:		***County:***	RIVERSIDE
CUF Priority Assig:	D	***CUF Claim:***	4712
CUF Amount Paid:	$303,473		

File Location:
Designated Beneficial Use: MUN, AGR, IND, PROC - Note: Also incl parts of 801.26.
Project Oversight Agencies:
Report Link: https://geotracker.waterboards.ca.gov/profile_report?global_id=T0606500052
Cleanup Status Detail: COMPLETED - CASE CLOSED AS OF 5/14/2002
Cleanup History Link: https://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0606500052&tabname=regulatoryhistory
Potential Media of Concern: AQUIFER USED FOR DRINKING WATER SUPPLY
User Defined Beneficial Use:
DWR GW Sub Basin: Upper Santa Ana Valley - Riverside-Arlington (8-002.03)
Calwater Watershed Name: Santa Ana River - Middle Santa Ana River - Riverside (801.27)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: SANTA ANA RWQCB (REGION 8) (LEAD) - CASE #: 083300484T
CASEWORKER: MIGUEL OVIEDO
RIVERSIDE COUNTY LOP - CASE #: 89201
CASEWORKER: Riverside County LOP
Gndwater Monitoring Freque:
Designated Beneficial Use Desc: Municipal and Domestic Supply, Agricultural Supply, Industrial Service Supply, Industrial Process Supply - Note: Also incl parts of 801.26.
Site History:

No site history available

LUST Sites from GeoTracker Search - Cleanup Status History

Status: Completed - Case Closed
Date : 5/14/2002

Status: Open - Remediation
Date : 9/21/1996

Status: Open - Site Assessment
Date : 7/20/1987

Status: Open - Case Begin Date
Date : 10/23/1986

LUST Sites from GeoTracker Search - Regulatory Activities (as of May 29, 2021)

Action Type: Other Regulatory Actions
Action Date: 7/22/2020
Received Issue Date: 7/22/2020
Action: Historic Files
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500052&enforcement_id=6442578&temptable=ENFORCEMENT
Title Description Comments:

Historic Files

Action Type: Other Regulatory Actions
Action Date: 5/9/2008
Received Issue Date: 5/9/2008
Action: Closure/No Further Action Letter
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500052&enforcement_id=6064219&temptable=ENFORCEMENT
Title Description Comments:

cLOSURE LETTER

Action Type: Other Regulatory Actions
Action Date: 10/16/1996
Received Issue Date: 10/16/1996
Action: File review
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500052&enforcement_id=6383730&temptable=ENFORCEMENT
Title Description Comments:

File Review

Action Type: Leak Action
Action Date: 10/23/1986
Received Issue Date:
Action: Leak Discovery
Doc Link:
Title Description Comments:

Action Type: Leak Action
Action Date: 10/23/1986
Received Issue Date:
Action: Leak Stopped
Doc Link:
Title Description Comments:

Action Type: Leak Action
Action Date: 10/23/1986
Received Issue Date:
Action: Leak Reported
Doc Link:
Title Description Comments:

LUST Sites from GeoTracker Search - Site Maps (as of May 29, 2021)

Title: GEO_MAP
Link: https://geotracker.waterboards.ca.gov/esi/uploads/geo_map/4819776237/T0606500052.pdf
Size : 96 KB
Submitted By: JASON LEE (RP)
Submitted: 8/20/2002*

LUST Sites from GeoTracker Search - Documents (as of May 29, 2021)

Document Type: Site Documents ***Size :***
Document Date: 7/22/2020 ***Submitted By:*** ADMINISTRATOR (REGULATOR)
Type: HISTORIC FILES ***Submitted:***
Title: HISTORIC FILES
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500052&enforcement_id=6442578

Document Type: Site Documents ***Size :***
Document Date: 5/9/2008 ***Submitted By:*** (REGULATOR)
Type: CLOSURE/NO FURTHER ACTION LETTER ***Submitted:***
Title: CLOSURE LETTER
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500052&enforcement_id=6064219

Document Type: Site Documents ***Size :*** 64 KB
Document Date: 5/9/2008 ***Submitted By:*** (REGULATOR)
Type: LETTER ***Submitted:***
Title: CASE CLOSURE
Title Link: https://geotracker.waterboards.ca.gov/site_documents/6370085000/Checvron%20station%20Number%209%2D3673%5F5305%20Arlington%20Avenue%5FRiverside%5FTME%5FCase%20Closure%2Epdf

Document Type: Site Documents ***Size :***

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Document Date: 10/16/1996 **Submitted By:** ZACHARY RICCIARDULLI (REGULATOR)
Type: FILE REVIEW **Submitted:**
Title: FILE REVIEW
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500052&enforcement_id=6383730

9	7 of 13	SW	0.06 / 311.74	781.21 / 0	93673 5305 ARLINGTON AVE RIVERSIDE CA 92504	HHSS

County: Riverside
Pdf File Url: http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0001f4cd.pdf

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9	8 of 13	SW	0.06 / 311.74	781.21 / 0	R AND T OIL INC. 5305 Arlington Ave Riverside CA 92504	UST

Facility ID: FA0026992 **Latitude:** 33.9464
CERS ID: 10490311 **Longitude:** -117.41897
County: Riverside
Permitting Agency: Riverside County Department of Environmental Health
Note: Information related to facilities can be searched on Geo Tracker Website: https://geotracker.waterboards.ca.gov/search
Site Facility Type: PERMITTED UNDERGROUND STORAGE TANK (UST)

9	9 of 13	SW	0.06 / 311.74	781.21 / 0	R AND T OIL INC. 5305 ARLINGTON AVE RIVERSIDE CA 92504	CERS TANK

Site ID: 400191 **Latitude:** 33.946404
Longitude: -117.418968

Regulated Programs

EI ID: 10490311
EI Description: Underground Storage Tank

EI ID: 10490311
EI Description: Chemical Storage Facilities

EI ID: 10490311
EI Description: Hazardous Waste Generator

Violations

Violation Date: 06/29/2015 **Violation Source:** CERS
Violation Program: UST **Violation Division:** Riverside County Department of Env Health
Citation: 23 CCR 16 2715(c)(2) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(c)(2)
Violation Notes:

Violation Description:

Violations

Violation Date: 06/30/2014 **Violation Source:** CERS
Violation Program: HW **Violation Division:** Riverside County Department of Env Health
Citation: 22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f)
Violation Notes:

Violation Description:

Violations

Violation Date: 03/23/2020 ***Violation Source:*** CERS
Violation Program: UST ***Violation Division:*** Riverside County Department of Env Health
Citation: 23 CCR 16 2716(e) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2716(e)
Violation Notes:

Violation Description:

Violations

Violation Date: 03/23/2020 ***Violation Source:*** CERS
Violation Program: UST ***Violation Division:*** Riverside County Department of Env Health
Citation: HSC 6.7 25284.2 - California Health and Safety Code, Chapter 6.7, Section(s) 25284.2
Violation Notes:

Violation Description:

Violations

Violation Date: 03/23/2020 ***Violation Source:*** CERS
Violation Program: HW ***Violation Division:*** Riverside County Department of Env Health
Citation: 22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f)
Violation Notes:

Violation Description:

Violations

Violation Date: 06/30/2014 ***Violation Source:*** CERS
Violation Program: UST ***Violation Division:*** Riverside County Department of Env Health
Citation: HSC 6.7 Multiple Sections - California Health and Safety Code, Chapter 6.7, Section(s) Multiple Sections
Violation Notes:

Violation Description:

Violations

Violation Date: 06/30/2014 ***Violation Source:*** CERS
Violation Program: HW ***Violation Division:*** Riverside County Department of Env Health
Citation: 22 CCR 15 66265.173 - California Code of Regulations, Title 22, Chapter 15, Section(s) 66265.173
Violation Notes:

Violation Description:

Violations

Violation Date: 09/30/2014 ***Violation Source:*** CERS
Violation Program: HMRRP ***Violation Division:*** Riverside City Fire Department
Citation: HSC 6.95 25504(a) - California Health and Safety Code, Chapter 6.95, Section(s) 25504(a)
Violation Notes:

Violation Description:

Violations

Violation Date: 03/25/2019 ***Violation Source:*** CERS

Violation Program: UST **Violation Division:** Riverside County Department of Env Health
Citation: HSC 6.7 25284.2 - California Health and Safety Code, Chapter 6.7, Section(s) 25284.2
Violation Notes:

Violation Description:

Violations

Violation Date: 06/29/2015 **Violation Source:** CERS
Violation Program: UST **Violation Division:** Riverside County Department of Env Health
Citation: 23 CCR 16 2665 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2665
Violation Notes:

Violation Description:

Violations

Violation Date: 06/29/2015 **Violation Source:** CERS
Violation Program: UST **Violation Division:** Riverside County Department of Env Health
Citation: 23 CCR 16 2666(c) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2666(c)
Violation Notes:

Violation Description:

Violations

Violation Date: 03/23/2020 **Violation Source:** CERS
Violation Program: HW **Violation Division:** Riverside County Department of Env Health
Citation: 40 CFR 1 265.173 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.173
Violation Notes:

Violation Description:

Violations

Violation Date: 03/23/2020 **Violation Source:** CERS
Violation Program: UST **Violation Division:** Riverside County Department of Env Health
Citation: 23 CCR 16 2712(i) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(i)
Violation Notes:

Violation Description:

Violations

Violation Date: 03/23/2021 **Violation Source:** CERS
Violation Program: UST **Violation Division:** Riverside County Department of Env Health
Citation: 23 CCR 16 2716(e) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2716(e)
Violation Notes:

Violation Description:

Violations

Violation Date: 06/30/2014 **Violation Source:** CERS
Violation Program: UST **Violation Division:** Riverside County Department of Env Health
Citation: 23 CCR 16 2638(f) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2638(f)
Violation Notes:

Violation Description:

Violations

Violation Date: 06/29/2016 ***Violation Source:*** CERS
Violation Program: UST ***Violation Division:*** Riverside County Department of Env Health
Citation: 23 CCR 16 2636(f)(1) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2636(f)(1)
Violation Notes:

Violation Description:

Violations

Violation Date: 06/30/2014 ***Violation Source:*** CERS
Violation Program: UST ***Violation Division:*** Riverside County Department of Env Health
Citation: HSC 6.7 25291 - California Health and Safety Code, Chapter 6.7, Section(s) 25291
Violation Notes:

Violation Description:

Violations

Violation Date: 03/25/2019 ***Violation Source:*** CERS
Violation Program: UST ***Violation Division:*** Riverside County Department of Env Health
Citation: 23 CCR 16 2665(b) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2665(b)
Violation Notes:

Violation Description:

Violations

Violation Date: 03/25/2019 ***Violation Source:*** CERS
Violation Program: UST ***Violation Division:*** Riverside County Department of Env Health
Citation: 23 CCR 16 2712(b)(1)(G) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(b)(1)(G)
Violation Notes:

Violation Description:

Violations

Violation Date: 03/23/2020 ***Violation Source:*** CERS
Violation Program: UST ***Violation Division:*** Riverside County Department of Env Health
Citation: HSC 6.7 25284, 25286 - California Health and Safety Code, Chapter 6.7, Section(s) 25284, 25286
Violation Notes:

Violation Description:

Violations

Violation Date: 03/27/2017 ***Violation Source:*** CERS
Violation Program: UST ***Violation Division:*** Riverside County Department of Env Health
Citation: 23 CCR 16 2637 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2637
Violation Notes:

Violation Description:

Violations

Violation Date: 06/29/2015 ***Violation Source:*** CERS
Violation Program: UST ***Violation Division:*** Riverside County Department of Env Health
Citation: 23 CCR 16 2636(f)(2) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2636(f)(2)
Violation Notes:

Violation Description:

Violations

Violation Date: 03/18/2015 ***Violation Source:*** CERS
Violation Program: HMRRP ***Violation Division:*** Riverside City Fire Department
Citation: 19 CCR 4 2729.5 - California Code of Regulations, Title 19, Chapter 4, Section(s) 2729.5
Violation Notes:

Violation Description:

Violations

Violation Date: 03/23/2020 ***Violation Source:*** CERS
Violation Program: UST ***Violation Division:*** Riverside County Department of Env Health
Citation: 23 CCR 16 2641(h) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2641(h)
Violation Notes:

Violation Description:

Violations

Violation Date: 03/23/2020 ***Violation Source:*** CERS
Violation Program: UST ***Violation Division:*** Riverside County Department of Env Health
Citation: HSC 6.7 25292.1(a) - California Health and Safety Code, Chapter 6.7, Section(s) 25292.1(a)
Violation Notes:

Violation Description:

Violations

Violation Date: 06/30/2014 ***Violation Source:*** CERS
Violation Program: UST ***Violation Division:*** Riverside County Department of Env Health
Citation: HSC 6.7 Multiple Sections - California Health and Safety Code, Chapter 6.7, Section(s) Multiple Sections
Violation Notes:

Violation Description:

Violations

Violation Date: 06/29/2015 ***Violation Source:*** CERS
Violation Program: UST ***Violation Division:*** Riverside County Department of Env Health
Citation: HSC 6.7 25291 - California Health and Safety Code, Chapter 6.7, Section(s) 25291
Violation Notes:

Violation Description:

Violations

Violation Date: 06/29/2015 ***Violation Source:*** CERS

Violation Program: UST **Violation Division:** Riverside County Department of Env Health
Citation: 23 CCR 16 2666(c) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2666(c)
Violation Notes:

Violation Description:

Enforcements

Enf Action Date: 06/30/2014 **Enf Action Program:** UST
Enf Action Type: Notice of Violation (Unified Program) **Enf Action Source:** CERS
Enf Action Division: Riverside County Department of Env Health
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes:

Enf Action Date: 03/18/2015 **Enf Action Program:** HMRRP
Enf Action Type: Notice of Violation (Unified Program) **Enf Action Source:** CERS
Enf Action Division: Riverside City Fire Department
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes:

Enf Action Date: 06/29/2015 **Enf Action Program:** UST
Enf Action Type: Notice of Violation (Unified Program) **Enf Action Source:** CERS
Enf Action Division: Riverside County Department of Env Health
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes:

Evaluations

Eval Date: 06/29/2016
Violations Found: Yes
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS
Eval Notes:

Eval Date: 03/23/2020
Violations Found: Yes
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS
Eval Notes:

Eval Date: 06/29/2015
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS
Eval Notes:

Eval Date: 06/29/2015
Violations Found: Yes
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: UST

Eval Source: CERS
Eval Notes:

Eval Date: 06/30/2014
Violations Found: Yes
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS
Eval Notes:

Eval Date: 03/25/2019
Violations Found: Yes
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS
Eval Notes:

Eval Date: 04/23/2018
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS
Eval Notes:

Eval Date: 02/01/2018
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS
Eval Notes:

Eval Date: 03/23/2020
Violations Found: Yes
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS
Eval Notes:

Eval Date: 09/30/2014
Violations Found: Yes
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Riverside City Fire Department
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Eval Date: 03/27/2017
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HW

Eval Source: CERS
Eval Notes:

Eval Date: 04/18/2018
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Riverside City Fire Department
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Eval Date: 06/29/2016
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS
Eval Notes:

Eval Date: 01/28/2015
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Riverside City Fire Department
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Eval Date: 03/18/2015
Violations Found: Yes
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Riverside City Fire Department
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Eval Date: 03/23/2021
Violations Found: Yes
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS
Eval Notes:

Eval Date: 03/27/2018
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS
Eval Notes:

Eval Date: 03/27/2017
Violations Found: Yes
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: UST

Eval Source: CERS
Eval Notes:

Eval Date: 03/25/2021
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Riverside City Fire Department
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Eval Date: 06/30/2014
Violations Found: Yes
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS
Eval Notes:

Affiliations

Affil Type Desc: Environmental Contact
Entity Name: RAFI BARTANIYAN
Entity Title:
Address: 5305 Arlington Ave
City: Riverside
State: CA
Country:
Zip Code: 92504
Phone:

Affil Type Desc: CUPA District
Entity Name: Riverside Cnty Env Health
Entity Title:
Address: 4065 County Circle Drive, Room 104
City: Riverside
State: CA
Country:
Zip Code: 92503
Phone: (951) 358-5055

Affil Type Desc: UST Tank Operator
Entity Name: RAFI BARTANIYAN
Entity Title:
Address: R AND T OIL INC. 5305 Arlington Ave
City: Riverside
State: CA
Country: United States
Zip Code: 92504
Phone: (714) 287-4477

Affil Type Desc: Property Owner
Entity Name: R AND T OIL INC.
Entity Title:
Address: 5305 Arlington Ave
City: Riverside
State: CA
Country: United States
Zip Code: 92504
Phone: (714) 287-4477

Affil Type Desc: Parent Corporation
Entity Name: R AND T CHEVRON

Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: UST Tank Owner
Entity Name: R AND T OIL, INC
Entity Title:
Address: R AND T OIL INC. 5305 Arlington Ave
City: Riverside
State: CA
Country: United States
Zip Code: 92504
Phone: (714) 287-4477

Affil Type Desc: Operator
Entity Name: R AND T OIL INC.
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone: (951) 687-2645

Affil Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title:
Address: 5305 Arlington Ave
City: Riverside
State: CA
Country:
Zip Code: 92504
Phone:

Affil Type Desc: Document Preparer
Entity Name: RAFI BARTANIYAN
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Identification Signer
Entity Name: RAFI BARTANIYAN
Entity Title: OWNER
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: UST Property Owner Name
Entity Name: R AND T OIL, INC
Entity Title:
Address: R AND T OIL INC. 5305 Arlington Ave
City: Riverside
State: CA
Country: United States
Zip Code: 92504
Phone: (714) 287-4477

Affil Type Desc: UST Permit Applicant

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Entity Name: Rafi Bartaniyan
Entity Title: OWNER
Address:
City:
State:
Country:
Zip Code:
Phone: (714) 287-4477

Affil Type Desc: Legal Owner
Entity Name: R AND T OIL INC.
Entity Title:
Address: 5305 Arlington Ave
City: Riverside
State: CA
Country: United States
Zip Code: 92504
Phone: (714) 287-4477

Coordinates

Env Int Type Code:	HMBP	**Longitude:**	-117.418970
Program ID:	10490311	**Coord Name:**	
Latitude:	33.946400	**Ref Point Type Desc:**	Center of a facility or station.

9	10 of 13	SW	0.06 / 311.74	781.21 / 0	93673 5305 ARLINGTON AVE RIVERSIDE CA	HIST TANK

Owner Name:	CHEVRON U.S.A. INC.	**No of Containers:**	4
Owner Street:	575 MARKET	**County:**	RIVERSIDE
Owner City:	SAN FRANCISCO	**Facility State:**	CA
Owner State:	CA	**Facility Zip:**	92504
Owner Zip:	94105		

9	11 of 13	SW	0.06 / 311.74	781.21 / 0	R & T OIL INC 5305 ARLINGTON AVE RIVERSIDE CA 92504-2502	RCRA NON GEN

EPA Handler ID: CAL000329177
Gen Status Universe: No Report
Contact Name: RAFI BARTANIYAN
Contact Address: 5305 ARLINGTON AVE , , RIVERSIDE , CA, 92504 ,
Contact Phone No and Ext: 951-687-2645
Contact Email: RBARTANIYAN@YAHOO.COM
Contact Country:
County Name: RIVERSIDE
EPA Region: 09
Land Type:
Receive Date: 20080128
Location Latitude: 33.946389
Location Longitude: -117.418991

Violation/Evaluation Summary

Note: NO RECORDS: As of Jun 2021, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20080128
Handler Name:	R & T OIL INC
Source Type:	Implementer
Federal Waste Generator Code:	N
Generator Code Description:	Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Other	***Street 1:***	5305 ARLINGTON AVE
Name:	R & T OIL INC	***Street 2:***	
Date Became Current:		***City:***	RIVERSIDE
Date Ended Current:		***State:***	CA
Phone:	951-687-2645	***Country:***	
Source Type:	Implementer	***Zip Code:***	92504-2502

Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Other	***Street 1:***	5305 ARLINGTON AVE
Name:	RAFI BARTANIYAN	***Street 2:***	
Date Became Current:		***City:***	RIVERSIDE
Date Ended Current:		***State:***	CA
Phone:	951-687-2645	***Country:***	
Source Type:	Implementer	***Zip Code:***	92504

9	***12 of 13***	***SW***	***0.06 / 311.74***	***781.21 / 0***	***R AND T OIL INCORPORATED 5305 ARLINGTON AVE RIVERSIDE CA 92504***	***EMISSIONS***

2017 Toxic Data

Facility ID:	154426	***COID:***	RIV
Facility SIC Code:	5541	***DISN:***	SOUTH COAST AQMD
CO:	33	***CHAPIS:***	
Air Basin:	SC	***CERR Code:***	
District:	SC		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2018 Toxic Data

Facility ID:	154426	***COID:***	RIV
Facility SIC Code:	5541	***DISN:***	SOUTH COAST AQMD
CO:	33	***CHAPIS:***	
Air Basin:	SC	***CERR Code:***	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

District: SC
TS:
Health Risk Asmt:
Non-Cancer Chronic Haz Ind:
Non-Cancer Acute Haz Ind:

2019 Toxic Data

CO:	33	**CHAPIS:**	
Air Basin:	SC	**CERR Code:**	
Faccility ID:	154426	**TS:**	
District:	SC	**Health Risk Asmt:**	
Facility SIC Code:	5541	**NonCncrChrnicHazInd:**	
COID:	RIV	**NonCncrActeHazInd:**	
DISN:	SOUTH COAST AQMD		

9	13 of 13	SW	0.06 / 311.74	781.21 / 0	CHEVRON #93673 5305 ARLINGTON AVE RIVERSIDE CA	UST SWEEPS

C C:	A33-000-128	**D Filename:**	SITE16A
BOE:	44-032934	**Page No:**	94
Comp:	128	**County:**	RIVERSIDE
Status:	ACTIVE	**State :**	CA
No of Tanks:	3	**Zip:**	92504
Jurisdict:	RIVERSIDE COUNTY	**Latitude:**	33.946135
Agency:	ENVIRONMENTAL HEALTH - U.S.T.	**Longitude:**	-117.414663
Phone:		**Georesult:**	S5HPNTSCZA

Tank Details

Tank ID:	000002	**S Contain:**	
O Tank ID:	2	**Stg:**	P
SWRCB No:	33-000-000128-000002	**Storage :**	
Removed:		**Storag Type:**	PRODUCT
Installed:		**P Contain:**	
A Date:	05-13-94	**Content:**	REG UNLEADED
Capac:	1000	**ONA:**	
Tank Use:	M.V. FUEL	**D File Name:**	TANK16A

Tank Details

Tank ID:	000003	**S Contain:**	
O Tank ID:	3	**Stg:**	P
SWRCB No:	33-000-000128-000003	**Storage :**	
Removed:		**Storag Type:**	PRODUCT
Installed:		**P Contain:**	
A Date:	05-13-94	**Content:**	REG UNLEADED
Capac:	1000	**ONA:**	
Tank Use:	M.V. FUEL	**D File Name:**	TANK16A

Tank Details

Tank ID:	000001	**S Contain:**	
O Tank ID:	1	**Stg:**	P
SWRCB No:	33-000-000128-000001	**Storage :**	
Removed:		**Storag Type:**	PRODUCT
Installed:		**P Contain:**	
A Date:	05-13-94	**Content:**	PRM UNLEADED
Capac:	10000	**ONA:**	
Tank Use:	M.V. FUEL	**D File Name:**	TANK16A

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
10	1 of 1	SW	0.06 / 328.94	781.66 / 0	STEADY PEDALER BICYCLES 5300 ARLINGTON AVE RIVERSIDE CA 92504	RCRA SQG

EPA Handler ID:	CAD982428617
Gen Status Universe:	Small Quantity Generator
Contact Name:	ENVIRONMENTAL MANAGER
Contact Address:	5300 ARLINGTON AVE , , RIVERSIDE , CA, 92504 , US
Contact Phone No and Ext:	714-688-5515
Contact Email:	
Contact Country:	US
County Name:	RIVERSIDE
EPA Region:	09
Land Type:	Other
Receive Date:	19900716
Location Latitude:	33.945705
Location Longitude:	-117.418667

Violation/Evaluation Summary

Note:	NO RECORDS: As of Jun 2021, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	19900716
Handler Name:	STEADY PEDALER BICYCLES
Federal Waste Generator Code:	2
Generator Code Description:	Small Quantity Generator
Source Type:	Notification

Owner/Operator Details

Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Private	**Street 1:**	NOT REQUIRED
Name:	LEWIS RICHARD	**Street 2:**	
Date Became Current:		**City:**	NOT REQUIRED
Date Ended Current:		**State:**	ME
Phone:	415-555-1212	**Country:**	
Source Type:	Notification	**Zip Code:**	99999

Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Private	**Street 1:**	NOT REQUIRED
Name:	NOT REQUIRED	**Street 2:**	

Date Became Current:		**City:**	NOT REQUIRED
Date Ended Current:		**State:**	ME
Phone:	415-555-1212	**Country:**	
Source Type:	Notification	**Zip Code:**	99999

11	1 of 3	SW	0.07 / 390.47	781.03 / 0	JONES DRY CLEANERS 5335 ARLINGTON AVE RIVERSIDE CA 92504	RCRA SQG

EPA Handler ID:	CAD981640071
Gen Status Universe:	Small Quantity Generator
Contact Name:	
Contact Address:	US
Contact Phone No and Ext:	
Contact Email:	
Contact Country:	US
County Name:	RIVERSIDE
EPA Region:	09
Land Type:	
Receive Date:	19960901
Location Latitude:	33.946533
Location Longitude:	-117.419274

Violation/Evaluation Summary

Note:	NO VIOLATIONS: All of the compliance records associated with this facility (EPA ID) indicate NO VIOLATIONS; Compliance Monitoring and Enforcement table dated Jun, 2021.

Evaluation Details

Evaluation Start Date:	19930328
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description:	
Return to Compliance Date:	
Evaluation Agency:	State Contractor/Grantee

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	19870224
Handler Name:	JONES DRY CLEANERS
Federal Waste Generator Code:	1
Generator Code Description:	Large Quantity Generator
Source Type:	Notification

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	19960901
Handler Name:	JONES DRY CLEANERS
Federal Waste Generator Code:	2
Generator Code Description:	Small Quantity Generator
Source Type:	Implementer

Owner/Operator Details

Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Private	***Street 1:***	NOT REQUIRED
Name:	NOT REQUIRED	***Street 2:***	
Date Became Current:		***City:***	NOT REQUIRED
Date Ended Current:		***State:***	ME
Phone:	415-555-1212	***Country:***	
Source Type:	Implementer	***Zip Code:***	99999

Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Private	***Street 1:***	NOT REQUIRED
Name:	BUD JONES	***Street 2:***	
Date Became Current:		***City:***	NOT REQUIRED
Date Ended Current:		***State:***	ME
Phone:	415-555-1212	***Country:***	
Source Type:	Notification	***Zip Code:***	99999

Historical Handler Details

Receive Dt:	19870224
Generator Code Description:	Large Quantity Generator
Handler Name:	JONES DRY CLEANERS

11	***2 of 3***	***SW***	***0.07 / 390.47***	***781.03 / 0***	***JONES DRY CLEANERS 5335 ARLINGTON AVE RIVERSIDE CA 925040000***	***DRYCLEANERS***

EPA ID:	CAD981640071	***Owner City:***	RIVERSIDE
Create Date:	7/3/1987	***Owner State:***	CA
Facility Act Ind:	No	***Owner Zip:***	925040000
Inact Date:	6/30/2004	***Owner Phone:***	0
Reason:	Cleaners	***Owner Fax:***	
Region Code:	4	***Contact Name:***	ENV MGR
DD Latitude:	33.946128	***Contact Street 1:***	5335 ARLINGTON AVE
DD Longitude:	-117.419393	***Contact Street 2:***	
Facility County Code:	33	***Contact City:***	RIVERSIDE
Mail Name:		***Contact State:***	CA
Owner Name:	--	***Contact Zip:***	925040000
Owner Street 1:	5335 ARLINGTON AVE	***Contact Phone:***	0
Owner Street 2:		***Contact Fax:***	

11	***3 of 3***	***SW***	***0.07 / 390.47***	***781.03 / 0***	***JONES DRY CLEANERS 5335 ARLINGTON AVE RIVERSIDE CA 92504***	***FED DRYCLEANERS***

FRS Facility ID:	110002735247
NPDES IDs:	
NAICS Codes:	81232
SIC Codes:	
Latitude:	33.94606
Longitude:	-117.41928

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
12	1 of 1	SSW	0.08 / 419.55	783.95 / 3	J & J GOODYEAR 7726 CALIFORNIA AVE RIVERSIDE CA	UST SWEEPS

C C:	A33-000-1861	**D Filename:**	SITE16A
BOE:		**Page No:**	97
Comp:	1861	**County:**	RIVERSIDE
Status:	ACTIVE	**State :**	CA
No of Tanks:	1	**Zip:**	92504
Jurisdict:	RIVERSIDE COUNTY	**Latitude:**	33.945692
Agency:	ENVIRONMENTAL HEALTH - U.S.T.	**Longitude:**	-117.417942
Phone:		**Georesult:**	S5HPNTSCZA

Tank Details

Tank ID:	000001	**S Contain:**	
O Tank ID:	1859	**Stg:**	W
SWRCB No:	33-000-001861-000001	**Storage :**	
Removed:		**Storag Type:**	WASTE
Installed:		**P Contain:**	
A Date:	02-27-92	**Content:**	WASTE OIL
Capac:	500	**ONA:**	
Tank Use:	OIL	**D File Name:**	TANK16A

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
13	1 of 1	SE	0.08 / 448.64	796.31 / 15	SCHER TIRE NO 13 D B A GOODYEAR 5110 ARLINGTON AVE RIVERSIDE CA 93504	RCRA SQG

EPA Handler ID:	CAR000088203
Gen Status Universe:	Small Quantity Generator
Contact Name:	KAREN SHANLEY
Contact Address:	3863 TYLER ST , , RIVERSIDE , CA, 92503 , US
Contact Phone No and Ext:	909-343-3100
Contact Email:	
Contact Country:	US
County Name:	RIVERSIDE
EPA Region:	09
Land Type:	Private
Receive Date:	20001211
Location Latitude:	33.946069
Location Longitude:	-117.414524

Violation/Evaluation Summary

Note: NO RECORDS: As of Jun 2021, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20001211
Handler Name:	SCHER TIRE NO 13 D B A GOODYEAR
Federal Waste Generator Code:	2
Generator Code Description:	Small Quantity Generator
Source Type:	Notification

Waste Code Details

Hazardous Waste Code:	D001
Waste Code Description:	IGNITABLE WASTE
Hazardous Waste Code:	D039
Waste Code Description:	TETRACHLOROETHYLENE

Owner/Operator Details

Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Private	***Street 1:***	3863 TYLER ST
Name:	BRUCE I SCHER	***Street 2:***	
Date Became Current:		***City:***	RIVERSIDE
Date Ended Current:		***State:***	CA
Phone:	909-343-3100	***Country:***	
Source Type:	Notification	***Zip Code:***	92503

14	*1 of 6*	*SW*	*0.09 / 486.49*	*780.28 / -1*	***Jones Dry Cleaners*** ***5360 Arlington Ave*** ***Riverside CA 92504***	***HWG RIVERSIDE***

14	*2 of 6*	*SW*	*0.09 / 486.49*	*780.28 / -1*	***JONES DRY CLEANING*** ***5360 ARLINGTON AVE*** ***RIVERSIDE CA 925042503***	***DRYCLEANERS***

EPA ID:	CAL000304205	***Owner City:***	RIVERSIDE
Create Date:	3/8/2006 10:48:41 AM	***Owner State:***	CA
Facility Act Ind:	Yes	***Owner Zip:***	925042503
Inact Date:		***Owner Phone:***	9516873282
Reason:	SIC/NAICS	***Owner Fax:***	0
Region Code:	4	***Contact Name:***	BUD JONES
DD Latitude:	33.946007	***Contact Street 1:***	5360 ARLINGTON AVE
DD Longitude:	-117.419835	***Contact Street 2:***	
Facility County Code:	33	***Contact City:***	RIVERSIDE
Mail Name:		***Contact State:***	CA
Owner Name:	A & G JONES DRY CLEAN INC.	***Contact Zip:***	92504
Owner Street 1:	5360 ARLINGTON AVE	***Contact Phone:***	9516873282
Owner Street 2:		***Contact Fax:***	0

NAICS Details

NAICS Code:	81232
NAICS Description:	Drycleaning and Laundry Services (except Coin-Operated)
SIC Code:	7211
SIC Description:	Power Laundries, Family and Commercial

14	*3 of 6*	*SW*	*0.09 / 486.49*	*780.28 / -1*	***A & G JONES DRY CLEANING INC*** ***5360 ARLINGTON AVE*** ***RIVERSIDE CA 92504***	***EMISSIONS***

1990 Criteria Data

Facility ID:	57534	***CERR Code:***	
Facility SIC Code:	7216	***TOGT:***	6
CO:	33	***ROGT:***	0
Air Basin:	SC	***COT:***	0
District:	SC	***NOXT:***	.1
COID:	RIV	***SOXT:***	
DISN:	SOUTH COAST AQMD	***PMT:***	
CHAPIS:		***PM10T:***	

1990 Toxic Data

Facility ID:	57534	***COID:***	RIV
Facility SIC Code:	7216	***DISN:***	SOUTH COAST AQMD
CO:	33	***CHAPIS:***	
Air Basin:	SC	***CERR Code:***	
District:	SC		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2015 Toxic Data

Facility ID:	57534	***COID:***	RIV
Facility SIC Code:	7216	***DISN:***	SOUTH COAST AQMD
CO:	33	***CHAPIS:***	
Air Basin:	SC	***CERR Code:***	
District:	SC		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2016 Toxic Data

Facility ID:	57534	***TS:***	
Facility SIC Code:	7216	***HRA:***	
CERR CODE:		***CH Index:***	
COID:	RIV	***AH Index:***	
CO:	33	***Air Basin:***	SC
DISN:	SOUTH COAST AQMD	***District:***	SC
CHAPIS:			

2017 Toxic Data

Facility ID:	57534	***COID:***	RIV
Facility SIC Code:	7216	***DISN:***	SOUTH COAST AQMD
CO:	33	***CHAPIS:***	
Air Basin:	SC	***CERR Code:***	
District:	SC		
TS:			
Health Risk Asmt:			
Non-Cancer Chronic Haz Ind:			
Non-Cancer Acute Haz Ind:			

2018 Toxic Data

Facility ID:	57534	***COID:***	RIV

Facility SIC Code: 7216
CO: 33
Air Basin: SC
District: SC
TS:
Health Risk Asmt:
Non-Cancer Chronic Haz Ind:
Non-Cancer Acute Haz Ind:
DISN: SOUTH COAST AQMD
CHAPIS:
CERR Code:

2019 Toxic Data

CO: 33
Air Basin: SC
Faccility ID: 57534
District: SC
Facility SIC Code: 7216
COID: RIV
DISN: SOUTH COAST AQMD
CHAPIS:
CERR Code:
TS:
Health Risk Asmt:
NonCncrChrnicHazInd:
NonCncrActeHazInd:

14	4 of 6	SW	0.09 / 486.49	780.28 / -1	Jones Dry Cleaners 5360 ARLINGTON AVE RIVERSIDE CA 92504	CERS HAZ

Site ID: 176880
Latitude: 33.945782
Longitude: -117.419662
County:

Regulated Programs

EI ID: 10520419 **EI Description:** Chemical Storage Facilities

EI ID: 10520419 **EI Description:** Hazardous Waste Generator

Violations

Violation Date: 08/24/2018 **Violation Source:** CERS
Violation Program: HMRRP **Violation Division:** Riverside City Fire Department
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Notes:

Returned to compliance on 12/19/2018. add phone numbers for UPA and Local Water Quality Control Board

Violation Description:

Failure to establish and electronically submit an adequate emergency response plan and procedures for a release or threatened release of a hazardous material.

Violations

Violation Date: 08/24/2018 **Violation Source:** CERS
Violation Program: HMRRP **Violation Division:** Riverside City Fire Department
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Notes:

Returned to compliance on 12/19/2018. add water shut off to site map

Violation Description:

Failure to complete and electronically submit a site map with all required content.

Violations

Violation Date: 06/20/2016 ***Violation Source:*** CERS
Violation Program: HMRRP ***Violation Division:*** Riverside City Fire Department
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Notes:

Returned to compliance on 08/09/2016.

Violation Description:

Failure to annually review and electronically certify that the business plan is complete and accurate on or before the annual due date.

Violations

Violation Date: 09/10/2020 ***Violation Source:*** CERS
Violation Program: HW ***Violation Division:*** Riverside County Department of Env Health
Citation: 22 CCR 12 66262.40(a) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.40(a)
Violation Notes:

Returned to compliance on 09/11/2020. OBSERVATION: No manifests available during inspection for the year of 2020. CORRECTIVE ACTION: Owner/operator shall obtain all manifests for hazardous waste shipments which occurred in the past 3 years. Manifests shall be made available for inspection. According to the start accumulation date on the hazardous waste drums (toxic solids and liquid) the last pick up was on 07/09/2020. Provide the manifest to the department within 30 days.

Violation Description:

Failure to keep a copy of each properly signed manifest for at least three years from the date the waste was accepted by the initial transporter. The manifest signed at the time the waste was accepted for transport shall be kept until receiving a signed copy from the designated facility which received the waste.

Violations

Violation Date: 06/29/2016 ***Violation Source:*** CERS
Violation Program: HW ***Violation Division:*** Riverside County Department of Env Health
Citation: 22 CCR 12 66262.40(a) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.40(a)
Violation Notes:

Returned to compliance on 10/24/2016.

Violation Description:

Failure to keep a copy of each properly signed manifest for at least three years from the date the waste was accepted by the initial transporter. The manifest signed at the time the waste was accepted for transport shall be kept until receiving a signed copy from the designated facility which received the waste.

Violations

Violation Date: 09/30/2014 ***Violation Source:*** CERS
Violation Program: HMRRP ***Violation Division:*** Riverside City Fire Department
Citation: HSC 6.95 25504(c) - California Health and Safety Code, Chapter 6.95, Section(s) 25504(c)
Violation Notes:

Returned to compliance on 09/30/2014. COS

Violation Description:

Failure to include provisions in the business plan to ensure that appropriate personnel receive initial and annual training.

Violations

Violation Date: 06/12/2018 **Violation Source:** CERS
Violation Program: HMRRP **Violation Division:** Riverside City Fire Department
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Notes:

Returned to compliance on 12/19/2018.

Violation Description:

Failure to annually review and electronically certify that the business plan is complete and accurate on or before the annual due date.

Violations

Violation Date: 12/03/2018 **Violation Source:** CERS
Violation Program: HMRRP **Violation Division:** Riverside City Fire Department
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Notes:

Returned to compliance on 12/19/2018.

Violation Description:

Failure to annually review and electronically certify that the business plan is complete and accurate on or before the annual due date.

Violations

Violation Date: 06/29/2016 **Violation Source:** CERS
Violation Program: HW **Violation Division:** Riverside County Department of Env Health
Citation: 40 CFR 1 265.31 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.31
Violation Notes:

Returned to compliance on 10/24/2016.

Violation Description:

Failure to maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

Violations

Violation Date: 06/25/2020 **Violation Source:** CERS
Violation Program: HMRRP **Violation Division:** Riverside City Fire Department
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Notes:

Returned to compliance on 07/16/2020.

Violation Description:

Failure to annually review and electronically certify that the business plan is complete and accurate on or before the annual due date.

Violations

Violation Date: 09/30/2014 **Violation Source:** CERS
Violation Program: HMRRP **Violation Division:** Riverside City Fire Department
Citation: HSC 6.95 Multiple - California Health and Safety Code, Chapter 6.95, Section(s) Multiple
Violation Notes:

Returned to compliance on 09/30/2014. Obtain spill kit (COS)

Violation Description:

Business Plan Program - Release/Leaks/Spills - General

Violations

Violation Date: 09/30/2014 ***Violation Source:*** CERS
Violation Program: HMRRP ***Violation Division:*** Riverside City Fire Department
Citation: HSC 6.95 Multiple - California Health and Safety Code, Chapter 6.95, Section(s) Multiple
Violation Notes:

Returned to compliance on 01/28/2015. post emergency phone numbersLocal emergency response personnel (Fire, paramedics, police or sheriff) ……..911 California Emergency Management Agency……..….(800) 852-7550 or (916) 845-8911 Immediately call the appropriate jurisdiction: County of Riverside Hazardous Materials Management Branch…….(951) 358-5055 City of Riverside Fire Department…….(951) 826-5737

Violation Description:

Business Plan Program - Administration/Documentation - General

Violations

Violation Date: 09/30/2014 ***Violation Source:*** CERS
Violation Program: HMRRP ***Violation Division:*** Riverside City Fire Department
Citation: HSC 6.95 Multiple - California Health and Safety Code, Chapter 6.95, Section(s) Multiple
Violation Notes:

Returned to compliance on 01/28/2015. No plan on site

Violation Description:

Business Plan Program - Administration/Documentation - General

Enforcements

Enf Action Date: 12/03/2018 ***Enf Action Program:*** HMRRP
Enf Action Type: Notice of Violation (Unified Program) ***Enf Action Source:*** CERS
Enf Action Division: Riverside City Fire Department
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes:

Fines/Penalties Assessed: $200.00. Administrative Citation.

Enf Action Date: 06/12/2018 ***Enf Action Program:*** HMRRP
Enf Action Type: Notice of Violation (Unified Program) ***Enf Action Source:*** CERS
Enf Action Division: Riverside City Fire Department
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes:

Fines/Penalties Assessed: $100.00. administrative citation.

Enf Action Date: 06/25/2020 ***Enf Action Program:*** HMRRP
Enf Action Type: Notice of Violation (Unified Program) ***Enf Action Source:*** CERS
Enf Action Division: Riverside City Fire Department
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes:

Administrative Citation Warning.

Enf Action Date: 06/20/2016 ***Enf Action Program:*** HMRRP
Enf Action Type: Notice of Violation (Unified Program) ***Enf Action Source:*** CERS
Enf Action Division: Riverside City Fire Department
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection

Enf Action Notes:

Warning citation.

Evaluations

Eval Date: 09/30/2014
Violations Found: Yes
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Riverside City Fire Department
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Eval Date: 06/25/2020
Violations Found: Yes
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Riverside City Fire Department
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Eval Date: 01/28/2015
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Riverside City Fire Department
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Eval Date: 06/12/2018
Violations Found: Yes
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Riverside City Fire Department
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Eval Date: 12/03/2018
Violations Found: Yes
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Riverside City Fire Department
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Eval Date: 09/10/2020
Violations Found: Yes
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS
Eval Notes:

Facility waste streams are waste Tetrachloroethylene (UN1897) and waste toxic solid (filters and debris).; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 06/29/2016
Violations Found: Yes
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS
Eval Notes:

Eval Date: 08/24/2018
Violations Found: Yes
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Riverside City Fire Department
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Eval Date: 06/20/2016
Violations Found: Yes
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Riverside City Fire Department
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Affiliations

Affil Type Desc: Property Owner
Entity Name: jerri williams
Entity Title:
Address: 5360 Arlington Ave
City: Riverside
State: CA
Country: United States
Zip Code: 92504
Phone: (951) 674-2889

Affil Type Desc: CUPA District
Entity Name: Riverside Cnty Env Health
Entity Title:
Address: 4065 County Circle Drive, Room 104
City: Riverside
State: CA
Country:
Zip Code: 92503
Phone: (951) 358-5055

Affil Type Desc: Document Preparer
Entity Name: Bud Jones
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Operator
Entity Name: bud jones
Entity Title:
Address:
City:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

State:
Country:
Zip Code:
Phone: (951) 312-9320

Affil Type Desc: Legal Owner
Entity Name: a & g jones dry cleaning
Entity Title:
Address: 5360 Arlington Ave
City: Riverside
State: CA
Country: United States
Zip Code: 92504
Phone: (951) 687-3282

Affil Type Desc: Environmental Contact
Entity Name: bud jones
Entity Title:
Address: 5360 Arlington Ave
City: Riverside
State: CA
Country:
Zip Code: 92504
Phone:

Affil Type Desc: Parent Corporation
Entity Name: Jones Dry Cleaners
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title:
Address: 5360 Arlington ave
City: Rivervside
State: CA
Country:
Zip Code: 92504
Phone:

Affil Type Desc: Identification Signer
Entity Name: Bud Jones
Entity Title: owner /vp /manager
Address:
City:
State:
Country:
Zip Code:
Phone:

Coordinates

Env Int Type Code:	HMBP	**Longitude:**	-117.419660
Program ID:	10520419	**Coord Name:**	
Latitude:	33.945780	**Ref Point Type Desc:**	Center of a facility or station.

14	5 of 6	SW	0.09 / 486.49	780.28 / -1	JONES DRY CLEANING 5360 ARLINGTON AVE RIVERSIDE CA 92504-2503	RCRA NON GEN

EPA Handler ID: CAL000304205
Gen Status Universe: No Report

Contact Name:	BUD JONES
Contact Address:	5360 ARLINGTON AVE , , RIVERSIDE , CA, 92504 ,
Contact Phone No and Ext:	951-687-3282
Contact Email:	BUDNDAISY@AOL.COM
Contact Country:	
County Name:	RIVERSIDE
EPA Region:	09
Land Type:	
Receive Date:	20060308
Location Latitude:	33.945696
Location Longitude:	-117.419657

Violation/Evaluation Summary

Note:	NO RECORDS: As of Jun 2021, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20060308
Handler Name:	JONES DRY CLEANING
Source Type:	Implementer
Federal Waste Generator Code:	N
Generator Code Description:	Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Other	***Street 1:***	5360 ARLINGTON AVE
Name:	BUD JONES	***Street 2:***	
Date Became Current:		***City:***	RIVERSIDE
Date Ended Current:		***State:***	CA
Phone:	951-687-3282	***Country:***	
Source Type:	Implementer	***Zip Code:***	92504
Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Other	***Street 1:***	5360 ARLINGTON AVE
Name:	A & G JONES DRY CLEAN INC.	***Street 2:***	
Date Became Current:		***City:***	RIVERSIDE
Date Ended Current:		***State:***	CA
Phone:	951-687-3282	***Country:***	
Source Type:	Implementer	***Zip Code:***	92504-2503

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
14	6 of 6	SW	0.09 / 486.49	780.28 / -1	JONES DRY CLEANING 5360 ARLINGTON AVE RIVERSIDE CA 92504	FED DRYCLEANERS

FRS Facility ID:	110065855480
NPDES IDs:	
NAICS Codes:	81232
SIC Codes:	
Latitude:	33.94578
Longitude:	-117.41966

15	1 of 1	SSW	0.09 / 499.68	786.56 / 5	4133 MELROSE RIVERSIDE CA 92504	CDL

Clue:	1998-01-059
Date:	1/15/1998
County:	RIVERSIDE
Lab Type:	A
Lab Type Description:	Abandoned Drug Lab Waste - location away from an actual illegal drug lab where drug lab waste and/or equipment were abandoned.

16	1 of 1	WNW	0.10 / 511.95	777.23 / -4	JUAN CARLOS FIGUEROA 5361 SIERRA ST RIVERSIDE CA 92504-2122	RCRA NON GEN

EPA Handler ID:	CAC003060680
Gen Status Universe:	No Report
Contact Name:	JUAN CARLOS FIGUEROA
Contact Address:	5361 SIERRA ST , , RIVERSIDE , CA, 92504-2122 ,
Contact Phone No and Ext:	951-202-2588
Contact Email:	TAMMYHURLEY@ALLIANCE-ENVIRO.COM
Contact Country:	
County Name:	RIVERSIDE
EPA Region:	09
Land Type:	
Receive Date:	20200319
Location Latitude:	
Location Longitude:	

Violation/Evaluation Summary

Note:	NO RECORDS: As of Jun 2021, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20200319
Handler Name:	JUAN CARLOS FIGUEROA
Source Type:	Implementer
Federal Waste Generator Code:	N
Generator Code Description:	Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Other	***Street 1:***	5361 SIERRA ST
Name:	JUAN CARLOS FIGUEROA	***Street 2:***	
Date Became Current:		***City:***	RIVERSIDE
Date Ended Current:		***State:***	CA
Phone:	951-202-2588	***Country:***	
Source Type:	Implementer	***Zip Code:***	92504-2122
Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Other	***Street 1:***	5361 SIERRA ST
Name:	JUAN CARLOS FIGUEROA	***Street 2:***	
Date Became Current:		***City:***	RIVERSIDE
Date Ended Current:		***State:***	CA
Phone:	951-202-2588	***Country:***	
Source Type:	Implementer	***Zip Code:***	92504-2122

17	***1 of 2***	***SSE***	***0.11 / 582.32***	***793.72 / 12***	***USA #1 PHOTO 5222-D ARLINGTON AVE RIVERSIDE CA 92504***	***RCRA SQG***

EPA Handler ID:	CAD981640543
Gen Status Universe:	Small Quantity Generator
Contact Name:	ENVIRONMENTAL MANAGER
Contact Address:	5222 D ARLINGTON AVE , , RIVERSIDE , CA, 92504 , US
Contact Phone No and Ext:	714-688-4747
Contact Email:	
Contact Country:	US
County Name:	RIVERSIDE
EPA Region:	09
Land Type:	
Receive Date:	19870129
Location Latitude:	33.946027
Location Longitude:	-117.424183

Violation/Evaluation Summary

Note:	NO RECORDS: As of Jun 2021, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No

Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 19870129
Handler Name: USA #1 PHOTO
Federal Waste Generator Code: 2
Generator Code Description: Small Quantity Generator
Source Type: Notification

Owner/Operator Details

Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Private	**Street 1:**	NOT REQUIRED
Name:	CHOON S RO	**Street 2:**	
Date Became Current:		**City:**	NOT REQUIRED
Date Ended Current:		**State:**	ME
Phone:	415-555-1212	**Country:**	
Source Type:	Notification	**Zip Code:**	99999

Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Private	**Street 1:**	NOT REQUIRED
Name:	NOT REQUIRED	**Street 2:**	
Date Became Current:		**City:**	NOT REQUIRED
Date Ended Current:		**State:**	ME
Phone:	415-555-1212	**Country:**	
Source Type:	Notification	**Zip Code:**	99999

17	2 of 2	SSE	0.11 / 582.32	793.72 / 12	SALONCENTRIC INC 6030 5222 ARLINGTON AVE RIVERSIDE CA 92504	RCRA NON GEN

EPA Handler ID: CAL000394395
Gen Status Universe: No Report
Contact Name: JUAN CARLOS BOBEA
Contact Address: 28145 W. HARRISON PARKWAY , , VALENCIA , CA, 91355 ,
Contact Phone No and Ext: 661-295-4887
Contact Email: JBOBEARIVAS@SALONCENTRIC.COM
Contact Country:
County Name: RIVERSIDE
EPA Region: 09
Land Type:
Receive Date: 20140226
Location Latitude: 33.946006
Location Longitude: -117.41645

Violation/Evaluation Summary

Note: NO RECORDS: As of Jun 2021, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No

Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20140226
Handler Name:	SALONCENTRIC INC 6030
Source Type:	Implementer
Federal Waste Generator Code:	N
Generator Code Description:	Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Other	***Street 1:***	10101 DR MARTIN LUTHER KING ST
Name:	SALONCENTRIC INC	***Street 2:***	SUITE 100
Date Became Current:		***City:***	ST. PETERSBURG
Date Ended Current:		***State:***	FL
Phone:	727-369-2623	***Country:***	
Source Type:	Implementer	***Zip Code:***	33716-0000
Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Other	***Street 1:***	28145 W. HARRISON PARKWAY
Name:	JUAN CARLOS BOBEA	***Street 2:***	
Date Became Current:		***City:***	VALENCIA
Date Ended Current:		***State:***	CA
Phone:	661-295-4887	***Country:***	
Source Type:	Implementer	***Zip Code:***	91355

18	*1 of 1*	*NE*	*0.12 / 627.31*	*788.88 / 8*	***PHYLLIS DEAN*** ***6763 SAINT JAMES CT*** ***RIVERSIDE CA 92504***	***RCRA NON GEN***

EPA Handler ID:	CAC003089148
Gen Status Universe:	No Report
Contact Name:	PHYLLIS DEAN
Contact Address:	6763 SAINT JAMES CT , , RIVERSIDE , CA, 92504 ,
Contact Phone No and Ext:	951-452-9767
Contact Email:	SCHEDULING@PWSEI.COM
Contact Country:	
County Name:	RIVERSIDE
EPA Region:	09
Land Type:	
Receive Date:	20201020
Location Latitude:	
Location Longitude:	

Violation/Evaluation Summary

Note: NO RECORDS: As of Jun 2021, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20201020
Handler Name:	PHYLLIS DEAN
Source Type:	Implementer
Federal Waste Generator Code:	N
Generator Code Description:	Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Other	**Street 1:**	6763 SAINT JAMES CT
Name:	PHYLLIS DEAN	**Street 2:**	
Date Became Current:		**City:**	RIVERSIDE
Date Ended Current:		**State:**	CA
Phone:	951-452-9767	**Country:**	
Source Type:	Implementer	**Zip Code:**	92504

Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Other	**Street 1:**	6763 SAINT JAMES CT
Name:	PHYLLIS DEAN	**Street 2:**	
Date Became Current:		**City:**	RIVERSIDE
Date Ended Current:		**State:**	CA
Phone:	951-452-9767	**Country:**	
Source Type:	Implementer	**Zip Code:**	92504

19	*1 of 3*	*SSE*	*0.12 / 641.88*	*794.06 / 13*	***Smart & Final # 514*** ***5202 Arlington Ave*** ***Riverside CA 92504***	***HWG RIVERSIDE***

19	*2 of 3*	*SSE*	*0.12 / 641.88*	*794.06 / 13*	***Smart & Final # 514*** ***5202 ARLINGTON AVE*** ***RIVERSIDE CA 92504***	***CERS HAZ***

Site ID:	68444
Latitude:	33.946030
Longitude:	-117.416202
County:	

Regulated Programs

EI ID:	10329739	**EI Description:**	Chemical Storage Facilities
EI ID:	10329739	**EI Description:**	Hazardous Waste Generator

Violations

Violation Date: 04/24/2018 ***Violation Source:*** CERS
Violation Program: HMRRP ***Violation Division:*** Riverside City Fire Department
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Notes:

Returned to compliance on 05/23/2018. Update chemical inventory to include R-22 refrigerant and CW-1210 cooling tower treatment.

Violation Description:

Failure to complete and electronically submit hazardous material inventory information for all reportable hazardous materials on site at or above reportable quantities.

Violations

Violation Date: 04/24/2018 ***Violation Source:*** CERS
Violation Program: HMRRP ***Violation Division:*** Riverside City Fire Department
Citation: HSC 6.95 25508.1(a)-(f) - California Health and Safety Code, Chapter 6.95, Section(s) 25508.1(a)-(f)
Violation Notes:

Returned to compliance on 05/23/2018. Update CERS to reflect change in chemical inventory.

Violation Description:

Failure to electronically update business plan within 30 days of any one of the following events:
A 100 percent or more increase in the quantity of a previously disclosed material.
Any handling of a previously undisclosed hazardous materials at or above reportable quantities.
A change of business address, business ownership, or business name.
A substantial change in the handler's operations that requires modification to any portion of the business plan.

Violations

Violation Date: 04/24/2018 ***Violation Source:*** CERS
Violation Program: HMRRP ***Violation Division:*** Riverside City Fire Department
Citation: Un-Specified
Violation Notes:

Returned to compliance on 05/23/2018. Install 704 placard on front exterior and rear exterior of store. Placards shall be labeled with highest hazard on site.

Violation Description:

Business Plan Program - Operations/Maintenance - General Local Ordinance

Violations

Violation Date: 06/16/2016 ***Violation Source:*** CERS
Violation Program: HW ***Violation Division:*** Riverside County Department of Env Health
Citation: 40 CFR 1 262.34(d)(5)(iii) - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 262.34(d)(5)(iii)
Violation Notes:

Returned to compliance on 07/05/2016.

Violation Description:

Failure to ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures, relevant to their responsibilities during normal facility operations and emergencies.

Enforcements

Enf Action Date: 01/05/2018 ***Enf Action Program:*** UNSPEC

Enf Action Type: Notice of Violation (Unified Program) ***Enf Action Source:*** CERS
Enf Action Division: Riverside City Fire Department
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes:

Fines/Penalties Assessed: $100.00. ADMIN CITE.

Evaluations

Eval Date: 06/16/2016
Violations Found: Yes
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS
Eval Notes:

Travel & 02; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 04/24/2018
Violations Found: Yes
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Riverside City Fire Department
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Eval Date: 05/15/2019
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS
Eval Notes:

This retail store is a SQG with waste retails that include: waste flammable solids, waste flammable liquids and waste aerosols. NOTE: 1)Manager on site was advised to provide a box for the six foot used light bulbs that were extending from the observed current box until they are shipped off site by a registered hauler. 2) Update Emergency equipment, safety and first aid section, on CERS to reflect the correct items being used on site. Observed " Air- purifying respirators" marked under the emergency equipment; non was observed on site, but simple masks. ; Note: data in [EVAL Notes] field for some records is truncated from the source.

Affiliations

Affil Type Desc: Identification Signer
Entity Name: Darryl Dinson
Entity Title: Environmental Health Compliance Manager
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Document Preparer
Entity Name: Darryl Dinson
Entity Title:
Address:
City:
State:
Country:
Zip Code:

Phone:

Affil Type Desc: Environmental Contact
Entity Name: Darryl Dinson
Entity Title:
Address: P.O. Box 512377
City: Los Angeles
State: CA
Country:
Zip Code: 90051-0377
Phone:

Affil Type Desc: Parent Corporation
Entity Name: Smart and Final Stores
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Legal Owner
Entity Name: SMART & FINAL STORES LLC
Entity Title:
Address: P.O. Box 512377
City: Los Angeles
State: CA
Country: United States
Zip Code: 90051-0377
Phone: (323) 869-7500

Affil Type Desc: Operator
Entity Name: Smart & Final #514
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone: (951) 689-1880

Affil Type Desc: CUPA District
Entity Name: Riverside Cnty Env Health
Entity Title:
Address: 4065 County Circle Drive, Room 104
City: Riverside
State: CA
Country:
Zip Code: 92503
Phone: (951) 358-5055

Affil Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title:
Address: P.O. Box 512377
City: Los Angeles
State: CA
Country:
Zip Code: 90051-0377
Phone:

Coordinates

Env Int Type Code:	HWG	***Longitude:***	-117.416200
Program ID:	10329739	***Coord Name:***	
Latitude:	33.946030	***Ref Point Type Desc:***	Center of a facility or station.

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
19	3 of 3	SSE	0.12 / 641.88	794.06 / 13	SMART & FINAL #514 5202 ARLINGTON AVE RIVERSIDE CA 92504	RCRA NON GEN

EPA Handler ID: CAL000374078
Gen Status Universe: No Report
Contact Name: DARRYL DINSON
Contact Address: 600 CITADEL DR , , COMMERCE , CA, 90040-1562 ,
Contact Phone No and Ext: 323-869-7704
Contact Email: DARRYL.DINSON@SMARTANDFINAL.COM
Contact Country:
County Name: RIVERSIDE
EPA Region: 09
Land Type:
Receive Date: 20120427
Location Latitude: 33.946009
Location Longitude: -117.416222

Violation/Evaluation Summary

Note: NO RECORDS: As of Jun 2021, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20120427
Handler Name: SMART & FINAL #514
Source Type: Implementer
Federal Waste Generator Code: N
Generator Code Description: Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind: Current Operator
Type: Other
Name: DARRYL DINSON
Date Became Current:
Date Ended Current:
Phone: 323-869-7704
Source Type: Implementer

Street No:
Street 1: 600 CITADEL DR
Street 2:
City: COMMERCE
State: CA
Country:
Zip Code: 90040-1562

Owner/Operator Ind: Current Owner
Type: Other
Name: SMART & FINAL STORES CORP

Street No:
Street 1: 600 CITADEL DR
Street 2:

Date Became Current:		**City:**	COMMERCE
Date Ended Current:		**State:**	CA
Phone:	323-869-6210	**Country:**	
Source Type:	Implementer	**Zip Code:**	90040-0000

20	1 of 1	ENE	0.15 / 813.41	793.96 / 13	BRIAN STARKEY 6865 PALOMAR WAY RIVERSIDE CA 92504	RCRA NON GEN

EPA Handler ID:	CAC002981118
Gen Status Universe:	No Report
Contact Name:	BRIAN STARKEY
Contact Address:	6865 PALOMAR WAY , , RIVERSIDE , CA, 92504 ,
Contact Phone No and Ext:	951-565-1819
Contact Email:	ANDREWC@PWSEI.COM
Contact Country:	
County Name:	RIVERSIDE
EPA Region:	09
Land Type:	
Receive Date:	20180919
Location Latitude:	33.948606
Location Longitude:	-117.413196

Violation/Evaluation Summary

Note: NO RECORDS: As of Jun 2021, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20180919
Handler Name:	BRIAN STARKEY
Source Type:	Implementer
Federal Waste Generator Code:	N
Generator Code Description:	Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Other	**Street 1:**	6865 PALOMAR WAY
Name:	BRIAN STARKEY	**Street 2:**	
Date Became Current:		**City:**	RIVERSIDE
Date Ended Current:		**State:**	CA
Phone:	951-565-1819	**Country:**	

Source Type:	Implementer	**Zip Code:**	92504
Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Other	**Street 1:**	6865 PALOMAR WAY
Name:	BRIAN STARKEY	**Street 2:**	
Date Became Current:		**City:**	RIVERSIDE
Date Ended Current:		**State:**	CA
Phone:	951-565-1819	**Country:**	
Source Type:	Implementer	**Zip Code:**	92504

21	1 of 1	NW	0.17 / 898.41	779.03 / -2	ESAU, DANNY 5348 ROCHESTER DRIVE RIVERSIDE CA 92504	RCRA NON GEN

EPA Handler ID:	CAC003108150
Gen Status Universe:	No Report
Contact Name:	ESAU, DANNY
Contact Address:	5348 ROCHESTER DRIVE , , RIVERSIDE , CA, 92504 ,
Contact Phone No and Ext:	951-342-7913
Contact Email:	DANNY@FRONTIERFIRE.NET
Contact Country:	
County Name:	RIVERSIDE
EPA Region:	09
Land Type:	
Receive Date:	20210302
Location Latitude:	
Location Longitude:	

Violation/Evaluation Summary

Note: NO RECORDS: As of Jun 2021, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20210302
Handler Name:	ESAU, DANNY
Source Type:	Implementer
Federal Waste Generator Code:	N
Generator Code Description:	Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Owner	**Street No:**	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Type:	Other	**Street 1:**	5348 ROCHESTER DRIVE
Name:	EASU, DANNY	**Street 2:**	
Date Became Current:		**City:**	RIVERSIDE
Date Ended Current:		**State:**	CA
Phone:	951-342-7913	**Country:**	
Source Type:	Implementer	**Zip Code:**	92504
Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Other	**Street 1:**	5348 ROCHESTER DRIVE
Name:	ESAU, DANNY	**Street 2:**	
Date Became Current:		**City:**	RIVERSIDE
Date Ended Current:		**State:**	CA
Phone:	951-342-7913	**Country:**	
Source Type:	Implementer	**Zip Code:**	92504

22	1 of 1	ESE	0.18 / 935.79	802.49 / 21	AFFINITY HOME HEALTH CARE SERVICES 5033 ARLINGTON AVE STE A RIVERSIDE CA 92504	MED WST RIVERSIDE

Fac ID:	FA0002099	**State:**	CA
Rec ID:	PR0001939	**City:**	RIVERSIDE
County:		**Zip:**	92504
Address:	5033 ARLINGTON AVE STE A		

Details

Current Status:	ACTIVE	**Phone No:**	9517851287
Last Bill:	01/01/11	**Count:**	1188
Fixed Fee:	40	**Mailing Zip:**	
PE:	4336		
Facility Description:	MED LIMITED QUANTITY HAULING PERMIT		

23	1 of 1	ESE	0.18 / 938.26	803.24 / 22	ROSS DRESS FOR LESS #0020 4080 MADISON ST RIVERSIDE CA 92504-2642	RCRA NON GEN

EPA Handler ID:	CAL000397325
Gen Status Universe:	No Report
Contact Name:	KATHY HATCH
Contact Address:	5130 HACIENDA DR , 3RD FLOOR , DUBLIN , CA, 94568 ,
Contact Phone No and Ext:	925-965-4015
Contact Email:	ERIC.GUARD@ROS.COM
Contact Country:	
County Name:	RIVERSIDE
EPA Region:	09
Land Type:	
Receive Date:	20140604
Location Latitude:	33.945574
Location Longitude:	-117.412911

Violation/Evaluation Summary

Note: NO RECORDS: As of Jun 2021, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No

Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20140604
Handler Name:	ROSS DRESS FOR LESS #0020
Source Type:	Implementer
Federal Waste Generator Code:	N
Generator Code Description:	Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Other	***Street 1:***	5130 HACIENDA DR
Name:	ROSS DRESS FOR LESS INC	***Street 2:***	
Date Became Current:		***City:***	DUBLIN
Date Ended Current:		***State:***	CA
Phone:	925-965-4831	***Country:***	
Source Type:	Implementer	***Zip Code:***	94568
Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Other	***Street 1:***	5130 HACIENDA DR
Name:	KATHY HATCH	***Street 2:***	3RD FLOOR
Date Became Current:		***City:***	DUBLIN
Date Ended Current:		***State:***	CA
Phone:	925-965-4015	***Country:***	
Source Type:	Implementer	***Zip Code:***	94568

24	***1 of 1***	***SSW***	***0.18 / 965.70***	***783.81 / 2***	***LAURIE BARNETT 4145 EUCLID CT RIVERSIDE CA 92504-2512***	***RCRA NON GEN***

EPA Handler ID:	CAC003057020
Gen Status Universe:	No Report
Contact Name:	LAURIE BARNETT
Contact Address:	4145 EUCLID CT , , RIVERSIDE , CA, 92504-2512 ,
Contact Phone No and Ext:	951-565-0793
Contact Email:	KRISTINE.RAMOS@PEAS1.COM
Contact Country:	
County Name:	RIVERSIDE
EPA Region:	09
Land Type:	
Receive Date:	20200221
Location Latitude:	
Location Longitude:	

Violation/Evaluation Summary

Note: NO RECORDS: As of Jun 2021, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No

Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20200221
Handler Name:	LAURIE BARNETT
Source Type:	Implementer
Federal Waste Generator Code:	N
Generator Code Description:	Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Other	***Street 1:***	4145 EUCLID CT
Name:	LAURIE BARNETT	***Street 2:***	
Date Became Current:		***City:***	RIVERSIDE
Date Ended Current:		***State:***	CA
Phone:	951-565-0793	***Country:***	
Source Type:	Implementer	***Zip Code:***	92504-2512
Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Other	***Street 1:***	4145 EUCLID CT
Name:	LAURIE BARNETT	***Street 2:***	
Date Became Current:		***City:***	RIVERSIDE
Date Ended Current:		***State:***	CA
Phone:	951-565-0793	***Country:***	
Source Type:	Implementer	***Zip Code:***	92504-2512

25	*1 of 1*	*ESE*	*0.19 / 994.45*	*804.10 / 23*	***DOLLAR TREE #02244*** ***4074 MADISON ST # 4076*** ***RIVERSIDE CA 92504-2642***	***RCRA NON GEN***

EPA Handler ID:	CAL000380792
Gen Status Universe:	No Report
Contact Name:	ANGELA JONES
Contact Address:	500 VOLVO PKWY , , CHESAPEAKE , VA, 23320-1604 ,
Contact Phone No and Ext:	757-321-5761
Contact Email:	AJONES@DOLLARTREE.COM
Contact Country:	
County Name:	RIVERSIDE
EPA Region:	09
Land Type:	
Receive Date:	20121206
Location Latitude:	33.945375
Location Longitude:	-117.412747

Violation/Evaluation Summary

Note: NO RECORDS: As of Jun 2021, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20121206
Handler Name:	DOLLAR TREE #02244
Source Type:	Implementer
Federal Waste Generator Code:	N
Generator Code Description:	Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Other	***Street 1:***	500 VOLVO PKWY
Name:	DOLLAR TREE STORES, INC.	***Street 2:***	
Date Became Current:		***City:***	CHESAPEAKE
Date Ended Current:		***State:***	VA
Phone:	757-321-5000	***Country:***	
Source Type:	Implementer	***Zip Code:***	23320-1604
Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Other	***Street 1:***	500 VOLVO PKWY
Name:	ANGELA JONES	***Street 2:***	
Date Became Current:		***City:***	CHESAPEAKE
Date Ended Current:		***State:***	VA
Phone:	757-321-5761	***Country:***	
Source Type:	Implementer	***Zip Code:***	23320-1604

26	*1 of 2*	*W*	*0.19 / 1,011.04*	*774.11 / -7*	***TERRI JOHNSON*** ***5436 GRANADA AVE.*** ***RIVERSIDE CA 92504***	***RCRA TSD***

EPA Handler ID:	CAC003015325
Gen Status Universe:	No Report
Contact Name:	TERRI JOHNSON
Contact Address:	5436 GRANADA AVE. , , RIVERSIDE , CA, 92504 ,
Contact Phone No and Ext:	951-441-8492
Contact Email:	ANDREWC@PWSEI.COM
Contact Country:	
Land Type:	
County Name:	RIVERSIDE
EPA Region:	09
Receive Date:	20190516
Location Latitude:	33.948264
Location Longitude:	-117.42175

Violation/Evaluation Summary

Note: NO RECORDS: As of Jun 2021, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Smelting, Melting and Refining:	No
Underground Injection Control:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20190516
Handler Name:	TERRI JOHNSON
Federal Waste Generator Code:	N
Generator Code Description:	Not a Generator, Verified
Source Type:	Implementer

Owner/Operator Details

Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Other	***Street 1:***	5436 GRANADA AVE.
Name:	TERRI JOHNSON	***Street 2:***	
Date Became Current:		***City:***	RIVERSIDE
Date Ended Current:		***State:***	CA
Phone:	951-441-8492	***Country:***	
Source Type:	Implementer	***Zip Code:***	92504

Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Other	***Street 1:***	5436 GRANADA AVE.
Name:	TERRI JOHNSON	***Street 2:***	
Date Became Current:		***City:***	RIVERSIDE
Date Ended Current:		***State:***	CA
Phone:	951-441-8492	***Country:***	
Source Type:	Implementer	***Zip Code:***	92504

26	***2 of 2***	***W***	***0.19 / 1,011.04***	***774.11 / -7***	***TERRI JOHNSON 5436 GRANADA AVE. RIVERSIDE CA 92504***	***RCRA NON GEN***

EPA Handler ID:	CAC003015325
Gen Status Universe:	No Report
Contact Name:	TERRI JOHNSON
Contact Address:	5436 GRANADA AVE. , , RIVERSIDE , CA, 92504 ,
Contact Phone No and Ext:	951-441-8492
Contact Email:	ANDREWC@PWSEI.COM
Contact Country:	
County Name:	RIVERSIDE
EPA Region:	09
Land Type:	

Receive Date: 20190516
Location Latitude: 33.948264
Location Longitude: -117.42175

Violation/Evaluation Summary

Note: NO RECORDS: As of Jun 2021, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20190516
Handler Name: TERRI JOHNSON
Source Type: Implementer
Federal Waste Generator Code: N
Generator Code Description: Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind: Current Owner
Type: Other
Name: TERRI JOHNSON
Date Became Current:
Date Ended Current:
Phone: 951-441-8492
Source Type: Implementer
Street No:
Street 1: 5436 GRANADA AVE.
Street 2:
City: RIVERSIDE
State: CA
Country:
Zip Code: 92504

Owner/Operator Ind: Current Operator
Type: Other
Name: TERRI JOHNSON
Date Became Current:
Date Ended Current:
Phone: 951-441-8492
Source Type: Implementer
Street No:
Street 1: 5436 GRANADA AVE.
Street 2:
City: RIVERSIDE
State: CA
Country:
Zip Code: 92504

27	1 of 1	SSW	0.19 / 1,019.67	783.77 / 2	OLIVIA SMITH 4134 EUCLID CT RIVERSIDE CA 92504-2513	RCRA NON GEN

EPA Handler ID: CAC003046539
Gen Status Universe: No Report
Contact Name: OLIVIA SMITH
Contact Address: 4134 EUCLID CT , , RIVERSIDE , CA, 92504-2513 ,
Contact Phone No and Ext: 951-646-3119

Contact Email:	KARLA@SUPERIORENV.COM
Contact Country:	
County Name:	RIVERSIDE
EPA Region:	09
Land Type:	
Receive Date:	20191210
Location Latitude:	
Location Longitude:	

Violation/Evaluation Summary

Note:	NO RECORDS: As of Jun 2021, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20191210
Handler Name:	OLIVIA SMITH
Source Type:	Implementer
Federal Waste Generator Code:	N
Generator Code Description:	Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Other	**Street 1:**	4134 EUCLID CT
Name:	OLIVIA SMITH	**Street 2:**	
Date Became Current:		**City:**	RIVERSIDE
Date Ended Current:		**State:**	CA
Phone:	951-646-3119	**Country:**	
Source Type:	Implementer	**Zip Code:**	92504-2513

Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Other	**Street 1:**	4134 EUCLID CT
Name:	OLIVIA SMITH	**Street 2:**	
Date Became Current:		**City:**	RIVERSIDE
Date Ended Current:		**State:**	CA
Phone:	951-646-3119	**Country:**	
Source Type:	Implementer	**Zip Code:**	92504-2513

28	1 of 1	ESE	0.20 / 1,072.09	803.86 / 23	MAN VO, DDS 5013 ARLINGTON AVE STE A RIVERSIDE CA 92504	MED WST RIVERSIDE

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Fac ID:	FA0045751	**State:**	CA
Rec ID:		**City:**	RIVERSIDE
County:		**Zip:**	92504
Address:	5013 ARLINGTON AVE STE A		

Details

Current Status:		**Phone No:**	
Last Bill:		**Count:**	
Fixed Fee:		**Mailing Zip:**	92504
PE:			
Facility Description:			

29	1 of 1	NNW	0.20 / 1,078.12	780.70 / -1	MARY MYERS 5328 SCOTT AVE RIVERSIDE CA 92504	RCRA NON GEN

EPA Handler ID:	CAC003098764
Gen Status Universe:	No Report
Contact Name:	MARY MYERS
Contact Address:	5328 SCOTT AVE , , RIVERSIDE , CA, 92504 ,
Contact Phone No and Ext:	951-660-6413
Contact Email:	KARLA@SUPERIORENV.COM
Contact Country:	
County Name:	RIVERSIDE
EPA Region:	09
Land Type:	
Receive Date:	20211228
Location Latitude:	
Location Longitude:	

Violation/Evaluation Summary

Note: NO RECORDS: As of Jun 2021, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20211228
Handler Name:	MARY MYERS
Source Type:	Implementer
Federal Waste Generator Code:	N
Generator Code Description:	Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Other	***Street 1:***	5328 SCOTT AVE
Name:	MARY MYERS	***Street 2:***	
Date Became Current:		***City:***	RIVERSIDE
Date Ended Current:		***State:***	CA
Phone:	951-660-6413	***Country:***	
Source Type:	Implementer	***Zip Code:***	92504
Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Other	***Street 1:***	5328 SCOTT AVE
Name:	MARY MYERS	***Street 2:***	
Date Became Current:		***City:***	RIVERSIDE
Date Ended Current:		***State:***	CA
Phone:	951-660-6413	***Country:***	
Source Type:	Implementer	***Zip Code:***	92504

30	***1 of 1***	***WSW***	***0.21 / 1,097.36***	***775.09 / -6***	***VAQUERO RIVERSIDE PARTNERS LP 5445 ARLINGTON AVE. RIVERSIDE CA 92504***	***RCRA NON GEN***

EPA Handler ID:	CAC002990829
Gen Status Universe:	No Report
Contact Name:	KELLY AGNOR
Contact Address:	2900 WINGATE ST., STE. 200 , , FORT WORTH , TX, 76107 ,
Contact Phone No and Ext:	512-983-1793
Contact Email:	KANGOR@VAQUEROVENTURES.COM
Contact Country:	
County Name:	RIVERSIDE
EPA Region:	09
Land Type:	
Receive Date:	20181128
Location Latitude:	33.946073
Location Longitude:	-117.42201

Violation/Evaluation Summary

Note: NO RECORDS: As of Jun 2021, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20181128

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Handler Name: VAQUERO RIVERSIDE PARTNERS LP
Source Type: Implementer
Federal Waste Generator Code: N
Generator Code Description: Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Other	**Street 1:**	2900 WINGATE ST., STE. 200
Name:	VAQUERO RIVERSIDE PARTNERS LP	**Street 2:**	
Date Became Current:		**City:**	FORT WORTH
Date Ended Current:		**State:**	TX
Phone:	512-983-1793	**Country:**	
Source Type:	Implementer	**Zip Code:**	76107

Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Other	**Street 1:**	2900 WINGATE ST., STE. 200
Name:	KELLY AGNOR	**Street 2:**	
Date Became Current:		**City:**	FORT WORTH
Date Ended Current:		**State:**	TX
Phone:	512-983-1793	**Country:**	
Source Type:	Implementer	**Zip Code:**	76107

31	1 of 1	ESE	0.22 / 1,138.35	805.77 / 24	PNS - BIG LOTS #4256 4022 MADISON ST RIVERSIDE CA 92504	RCRA NON GEN

EPA Handler ID: CAL000391621
Gen Status Universe: No Report
Contact Name: DENA FERARU
Contact Address: 300 PHILLIPI RD. , , COLUMBUS , OH, 43228-5311 ,
Contact Phone No and Ext: 614-278-2708
Contact Email: DFERARU@BIGLOTS.COM
Contact Country:
County Name: RIVERSIDE
EPA Region: 09
Land Type:
Receive Date: 20131125
Location Latitude: 33.94498
Location Longitude: -117.412427

Violation/Evaluation Summary

Note: NO RECORDS: As of Jun 2021, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20131125
Handler Name:	PNS - BIG LOTS #4256
Source Type:	Implementer
Federal Waste Generator Code:	N
Generator Code Description:	Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Other	***Street 1:***	300 PHILLIPI RD.
Name:	DENA FERARU	***Street 2:***	
Date Became Current:		***City:***	COLUMBUS
Date Ended Current:		***State:***	OH
Phone:	614-278-2708	***Country:***	
Source Type:	Implementer	***Zip Code:***	43228-5311
Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Other	***Street 1:***	300 PHILLIPI RD
Name:	PNS STORES INC	***Street 2:***	
Date Became Current:		***City:***	COLUMBUS
Date Ended Current:		***State:***	OH
Phone:	614-278-6800	***Country:***	
Source Type:	Implementer	***Zip Code:***	43228-1310

32	***1 of 1***	***NW***	***0.24 / 1,261.08***	***779.55 / -2***	***BROWN, CLARISSA 5378 SCOTT AVENUE RIVERSIDE CA 92504***	***RCRA NON GEN***

EPA Handler ID:	CAC002973715
Gen Status Universe:	No Report
Contact Name:	BROWN, CLARISSA
Contact Address:	5378 SCOTT AVENUE , , RIVERSIDE , CA, 92504 ,
Contact Phone No and Ext:	951-378-6488
Contact Email:	ANDREWC@PWSEI.COM
Contact Country:	
County Name:	RIVERSIDE
EPA Region:	09
Land Type:	
Receive Date:	20180801
Location Latitude:	33.951844
Location Longitude:	-117.420446

Violation/Evaluation Summary

Note: NO RECORDS: As of Jun 2021, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No

Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20180801
Handler Name: BROWN, CLARISSA
Source Type: Implementer
Federal Waste Generator Code: N
Generator Code Description: Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind: Current Operator
Type: Other
Name: BROWN, CLARISSA
Date Became Current:
Date Ended Current:
Phone: 951-378-6488
Source Type: Implementer
Street No:
Street 1: 5378 SCOTT AVENUE
Street 2:
City: RIVERSIDE
State: CA
Country:
Zip Code: 92504

Owner/Operator Ind: Current Owner
Type: Other
Name: BROWN, CLARISSA
Date Became Current:
Date Ended Current:
Phone: 951-378-6488
Source Type: Implementer
Street No:
Street 1: 5378 SCOTT AVENUE
Street 2:
City: RIVERSIDE
State: CA
Country:
Zip Code: 92504

33	1 of 2	ESE	0.25 / 1,297.88	806.17 / 25	DIAMOND MEDICAL GROUP 4990 ARLINGTON AVE STE #G RIVERSIDE CA 92504	MED WST RIVERSIDE

Fac ID: FA0048019
Rec ID:
County:
Address: 4990 ARLINGTON AVE STE #G
State: CA
City: RIVERSIDE
Zip: 92504

Details

Current Status:
Last Bill:
Fixed Fee:
PE:
Facility Description:
Phone No: 9099783452
Count:
Mailing Zip: 91765

33	2 of 2	ESE	0.25 / 1,297.88	806.17 / 25	DIAMOND MEDICAL GROUP 4990 ARLINGTON AVE STE G RIVERSIDE CA 92504	RCRA NON GEN

EPA Handler ID: CAL000461193
Gen Status Universe: No Report
Contact Name: JACE BRAMWELL
Contact Address: 4990 ARLINGTON AVE STE G , , RIVERSIDE , CA, 92504 ,
Contact Phone No and Ext: 951-343-3150
Contact Email: JACE.P.BRAMWELL@QTCM.COM
Contact Country:
County Name: RIVERSIDE
EPA Region: 09
Land Type:
Receive Date: 20210322
Location Latitude:

Location Longitude:

Violation/Evaluation Summary

Note: NO RECORDS: As of Jun 2021, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20210322
Handler Name:	DIAMOND MEDICAL GROUP
Source Type:	Implementer
Federal Waste Generator Code:	N
Generator Code Description:	Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Other	**Street 1:**	924 OVERLAND CT
Name:	QTC MEDICAL GROUP INC	**Street 2:**	
Date Became Current:		**City:**	SAN DIMAS
Date Ended Current:		**State:**	CA
Phone:	213-309-7641	**Country:**	
Source Type:	Implementer	**Zip Code:**	91773
Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Other	**Street 1:**	4990 ARLINGTON AVE STE G
Name:	JACE BRAMWELL	**Street 2:**	
Date Became Current:		**City:**	RIVERSIDE
Date Ended Current:		**State:**	CA
Phone:	951-343-3150	**Country:**	
Source Type:	Implementer	**Zip Code:**	92504

34	*1 of 2*	*NNW*	*0.25 / 1,313.80*	*782.63 / 1*	***OUR LADY OF PERPETUAL HELP CHURCH*** ***5250 CENTRAL AVE*** ***RIVERSIDE CA 92504***	***RCRA TSD***

EPA Handler ID:	CAC003013053
Gen Status Universe:	No Report
Contact Name:	OUR LADY OF PERPETUAL HELP CHURCH
Contact Address:	5250 CENTRAL AVE , , RIVERSIDE , CA, 92504 ,
Contact Phone No and Ext:	951-689-8921
Contact Email:	KYLE.BIAS@US.BELFOR.COM

Contact Country:	
Land Type:	
County Name:	RIVERSIDE
EPA Region:	09
Receive Date:	20190502
Location Latitude:	33.953308
Location Longitude:	-117.417742

Violation/Evaluation Summary

Note: NO RECORDS: As of Jun 2021, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Smelting, Melting and Refining:	No
Underground Injection Control:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20190502
Handler Name:	OUR LADY OF PERPETUAL HELP CHURCH
Federal Waste Generator Code:	N
Generator Code Description:	Not a Generator, Verified
Source Type:	Implementer

Owner/Operator Details

Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Other	**Street 1:**	5250 CENTRAL AVE
Name:	OUR LADY OF PERPETUAL HELP CHURCH	**Street 2:**	
Date Became Current:		**City:**	RIVERSIDE
Date Ended Current:		**State:**	CA
Phone:	951-689-8921	**Country:**	
Source Type:	Implementer	**Zip Code:**	92504

Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Other	**Street 1:**	5250 CENTRAL AVE
Name:	OUR LADY OF PERPETUAL HELP CHURCH	**Street 2:**	
Date Became Current:		**City:**	RIVERSIDE
Date Ended Current:		**State:**	CA
Phone:	951-689-8921	**Country:**	
Source Type:	Implementer	**Zip Code:**	92504

34	2 of 2	NNW	0.25 / 1,313.80	782.63 / 1	OUR LADY OF PERPETUAL HELP CHURCH 5250 CENTRAL AVE RIVERSIDE CA 92504	RCRA NON GEN

EPA Handler ID:	CAC003013053
Gen Status Universe:	No Report
Contact Name:	OUR LADY OF PERPETUAL HELP CHURCH
Contact Address:	5250 CENTRAL AVE , , RIVERSIDE , CA, 92504 ,
Contact Phone No and Ext:	951-689-8921
Contact Email:	KYLE.BIAS@US.BELFOR.COM
Contact Country:	
County Name:	RIVERSIDE
EPA Region:	09
Land Type:	
Receive Date:	20190502
Location Latitude:	33.953308
Location Longitude:	-117.417742

Violation/Evaluation Summary

Note:	NO RECORDS: As of Jun 2021, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20190502
Handler Name:	OUR LADY OF PERPETUAL HELP CHURCH
Source Type:	Implementer
Federal Waste Generator Code:	N
Generator Code Description:	Not a Generator, Verified

Owner/Operator Details

Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Other	***Street 1:***	5250 CENTRAL AVE
Name:	OUR LADY OF PERPETUAL HELP CHURCH	***Street 2:***	
Date Became Current:		***City:***	RIVERSIDE
Date Ended Current:		***State:***	CA
Phone:	951-689-8921	***Country:***	
Source Type:	Implementer	***Zip Code:***	92504

Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Other	***Street 1:***	5250 CENTRAL AVE
Name:	OUR LADY OF PERPETUAL HELP CHURCH	***Street 2:***	
Date Became Current:		***City:***	RIVERSIDE
Date Ended Current:		***State:***	CA
Phone:	951-689-8921	***Country:***	
Source Type:	Implementer	***Zip Code:***	92504

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
35	1 of 1	ESE	0.32 / 1,700.90	811.07 / 30	March Air Reserve Base - March Air Reserve Base Bldg 2406 Site 39 Graber Street MARCH ARB CA 92518	LUST

Global ID: T0606500293
Status: Completed - Case Closed
Status Date: 10/10/2000
Case Type: Military UST Site
County: Riverside
Latitude: 33.9457461
Longitude: -117.4103167
Date Source: LUST Cleanup Sites & Military UST Site from GeoTracker Cleanup Sites Data Download

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Regulatory Activity

Action Type: ENFORCEMENT
Date : 9/25/2019
Action: Technical Correspondence / Assistance / Other

Action Type: RESPONSE
Date : 6/30/2018
Action: Meetings

Action Type: RESPONSE
Date : 6/11/2018
Action: Verbal Communication

Action Type: ENFORCEMENT
Date : 8/13/2013
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 5/7/2013
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 10/10/2000
Action: Closure/No Further Action Letter

Action Type: ENFORCEMENT
Date : 3/31/2000
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 3/29/2000
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 3/20/2000
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 1/3/2000
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 12/29/1999
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 11/8/1999
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 9/15/1999
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 9/3/1999

Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 7/6/1999
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 6/30/1999
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 3/29/1999
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 3/15/1999
Action: Technical Correspondence / Assistance / Other

Action Type: REMEDIATION
Date : 2/1/1999
Action: Other (Use Description Field)

Action Type: ENFORCEMENT
Date : 12/23/1998
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 9/29/1998
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 8/7/1998
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 7/22/1998
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 6/26/1998
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 5/26/1998
Action: Technical Correspondence / Assistance / Other

Action Type: ENFORCEMENT
Date : 2/20/1998
Action: Technical Correspondence / Assistance / Other

Action Type: Other
Date : 8/13/1992
Action: Leak Reported

Action Type: Other
Date : 7/18/1991
Action: Leak Discovery

Action Type: Other
Date : 7/18/1991
Action: Leak Stopped

Action Type: ENFORCEMENT
Date : 9/18/1990
Action: * Historical Enforcement

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Regulatory Contacts

Contact Type:	Regional Board Caseworker	**Address:**	3737 MAIN STREET, SUITE 500
Contact Name:	PATRICIA HANNON	**Email:**	patricia.hannon@waterboards.ca.gov
City:	RIVERSIDE	**Phone No:**	
Organization Name:	SANTA ANA RWQCB (REGION 8)		

Contact Type:	Local Agency Caseworker	**Address:**	3880 LEMON ST SUITE 200
Contact Name:	SHARON BOLTINGHOUSE	**Email:**	sbolting@rivco.org
City:	RIVERSIDE	**Phone No:**	9519558980
Organization Name:	RIVERSIDE COUNTY LOP		

LUST Cleanup Sites from GeoTracker Cleanup Sites Data Download - Status History

Status: Completed - Case Closed
Status Date: 10/10/2000

Status: Open - Site Assessment
Status Date: 2/10/1997

Status: Open - Case Begin Date
Status Date: 9/18/1990

LUST Sites from GeoTracker Search - Regulatory Profile

Site Facility Name:	MARCH AIR RESERVE BASE - MARCH AIR RESERVE BASE	**Potential COC:**	GASOLINE
Site Facility Type:	MILITARY UST SITE	**Facility Type:**	
Cleanup Status:	COMPLETED - CASE CLOSED	**Composting Method:**	
Project Status:		**Address:**	BLDG 2406 SITE 39 GRABER STREET
WDR Place Type:		**City:**	MARCH ARB
WDR File:		**Zip:**	92518
WDR Order:		**County:**	RIVERSIDE
CUF Priority Assig:		**CUF Claim:**	
CUF Amount Paid:			
File Location:			

Designated Beneficial Use: MUN, AGR, IND, PROC - Note: Also incl parts of 801.26.
Project Oversight Agencies:
Report Link: https://geotracker.waterboards.ca.gov/profile_report?global_id=T0606500293
Cleanup Status Detail: COMPLETED - CASE CLOSED AS OF 10/10/2000
Cleanup History Link: https://geotracker.waterboards.ca.gov/profile_report_include?global_id=T0606500293&tabname=regulatoryhistory
Potential Media of Concern: SOIL
User Defined Beneficial Use:
DWR GW Sub Basin: Upper Santa Ana Valley - Riverside-Arlington (8-002.03)
Calwater Watershed Name: Santa Ana River - Middle Santa Ana River - Arlington (801.26)
Post Closure Site Management:
Future Land Use:
Cleanup Oversight Agencies: SANTA ANA RWQCB (REGION 8) (LEAD) - CASE #: 083302119T
CASEWORKER: PATRICIA HANNON
Gndwater Monitoring Freque:
Designated Beneficial Use Desc: Municipal and Domestic Supply, Agricultural Supply, Industrial Service Supply, Industrial Process Supply - Note: Also incl parts of 801.26.
Site History:

No site history available

LUST Sites from GeoTracker Search - Cleanup Status History

Status: Completed - Case Closed
Date : 10/10/2000

Status: Open - Site Assessment
Date : 2/10/1997

Status: Open - Case Begin Date
Date : 9/18/1990

LUST Sites from GeoTracker Search - Cleanup Action Report (as of May 29, 2021)

Action Type: OTHER (USE DESCRIPTION FIELD) ***Begin Date:*** 2/1/1999
Phase: Soil ***End Date:*** 12/31/1999
Contaminant Mass Removed:
Description: treatment - bioventing

LUST Sites from GeoTracker Search - Regulatory Activities (as of May 29, 2021)

Action Type: Other Regulatory Actions
Action Date: 9/25/2019
Received Issue Date: 9/25/2019
Action: Technical Correspondence / Assistance / Other
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6415734&temptable=ENFORCEMENT
Title Description Comments:

Response to Final Fourth Five Year Review Report

Action Type: Response Requested - JEP Activity
Action Date: 6/30/2018
Received Issue Date: 4/17/2018
Action: Meetings
Doc Link:
Title Description Comments:

Basewide - Meetings - Meetings -- (7/16 - 6/18) - meeting dates: 2016- March 15-16, June 7,Sept 27; 2017 Jan 31-Feb 1, May 9, August 15,

Action Type: Response Requested - Other
Action Date: 6/11/2018
Received Issue Date: 6/11/2018
Action: Verbal Communication
Doc Link: https://geotracker.waterboards.ca.gov/view_documents_all?global_id=T0606500293&doc_id=6178479
Title Description Comments:

RPM meeting minutes for April 17, 2018

Action Type: Other Regulatory Actions
Action Date: 8/13/2013
Received Issue Date: 8/13/2013
Action: Technical Correspondence / Assistance / Other
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6171499&temptable=ENFORCEMENT
Title Description Comments:

comments on Draft Basewide Land Use Control Management Plan, Performance-Based Remediation,

Action Type: Other Regulatory Actions
Action Date: 5/7/2013
Received Issue Date: 5/7/2013
Action: Technical Correspondence / Assistance / Other
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6158729&temptable=ENFORCEMENT
Title Description Comments:

Change in RPM

Action Type: Other Regulatory Actions
Action Date: 10/10/2000
Received Issue Date: 10/10/2000
Action: Closure/No Further Action Letter
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6153381&temptable=ENFORCEMENT

Title Description Comments:

Closure of Underground Stroage Tank Case

Action Type: Other Regulatory Actions
Action Date: 3/31/2000
Received Issue Date: 3/31/2000
Action: Technical Correspondence / Assistance / Other
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209618&temptable=ENFORCEMENT
Title Description Comments:

REVIEW OF DRAFT REPORT OF ADDITIONAL CHARACTERIZATION AND AQUIFER EVALUATION, BUILDING 2307

Action Type: Other Regulatory Actions
Action Date: 3/29/2000
Received Issue Date: 3/29/2000
Action: Technical Correspondence / Assistance / Other
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209616&temptable=ENFORCEMENT
Title Description Comments:

REVIEW OF DRAFT WORK PLAN, 5-YEAR REVIEW REJ\.1EDIAL ACTIONS

Action Type: Other Regulatory Actions
Action Date: 3/20/2000
Received Issue Date: 3/20/2000
Action: Technical Correspondence / Assistance / Other
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209577&temptable=ENFORCEMENT
Title Description Comments:

REVIEW OF DRAFT QUALITY PROGRAM PLAN

Action Type: Other Regulatory Actions
Action Date: 3/20/2000
Received Issue Date: 3/20/2000
Action: Technical Correspondence / Assistance / Other
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209613&temptable=ENFORCEMENT
Title Description Comments:

REVIEW OF PROCESS MONITORING REPORT, SITE 39

Action Type: Other Regulatory Actions
Action Date: 1/3/2000
Received Issue Date: 1/3/2000
Action: Technical Correspondence / Assistance / Other
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209534&temptable=ENFORCEMENT
Title Description Comments:

REVIEW OF THE DRAFT TREATABILITY REPORT, SITE 42

Action Type: Other Regulatory Actions
Action Date: 12/29/1999
Received Issue Date: 12/29/1999
Action: Technical Correspondence / Assistance / Other
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209670&temptable=ENFORCEMENT
Title Description Comments:

REVIEW OF THE ADDITIONAL EXCAVATION, TRANSFORMER B

Action Type: Other Regulatory Actions
Action Date: 12/29/1999
Received Issue Date: 12/29/1999
Action: Technical Correspondence / Assistance / Other
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209671&temptable=ENFORCEMENT
Title Description Comments:

REVIEW OF THE FINAL ANNUAL GROUNDWATER REPORT

Action Type: Other Regulatory Actions
Action Date: 11/8/1999
Received Issue Date: 11/8/1999
Action: Technical Correspondence / Assistance / Other
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209668&temptable=ENFORCEMENT
Title Description Comments:

REVIEW OF REVISED DRAFT WELL DESTRUCTION PLAN

Action Type: Other Regulatory Actions
Action Date: 11/8/1999
Received Issue Date: 11/8/1999
Action: Technical Correspondence / Assistance / Other
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209655&temptable=ENFORCEMENT
Title Description Comments:

REVIEW OF RECOMMENDATION MONITORING WELL DESTRUCTION

Action Type: Other Regulatory Actions
Action Date: 11/8/1999
Received Issue Date: 11/8/1999
Action: Technical Correspondence / Assistance / Other
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209656&temptable=ENFORCEMENT
Title Description Comments:

REVIEW OF REDUCTION COCs GWM

Action Type: Other Regulatory Actions
Action Date: 9/15/1999
Received Issue Date: 9/15/1999
Action: Technical Correspondence / Assistance / Other
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209632&temptable=ENFORCEMENT
Title Description Comments:

REVIEW OF THE DRAFT WELL DESTRUCTION WORK PLAN

Action Type: Other Regulatory Actions
Action Date: 9/3/1999
Received Issue Date: 9/3/1999
Action: Technical Correspondence / Assistance / Other
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209630&temptable=ENFORCEMENT
Title Description Comments:

REVIEW OF LETTER REPORT ON BUILDING 373

Action Type: Other Regulatory Actions
Action Date: 7/6/1999
Received Issue Date: 7/6/1999
Action: Technical Correspondence / Assistance / Other
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?

global_id=T0606500293&enforcement_id=6209622&temptable=ENFORCEMENT

Title Description Comments:

REVIEW OF INTERRIM REPORT, GRAVIMETRIC MAPPING

Action Type: Other Regulatory Actions
Action Date: 6/30/1999
Received Issue Date: 6/30/1999
Action: Technical Correspondence / Assistance / Other
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209761&temptable=ENFORCEMENT
Title Description Comments:

REVIEW OF CONSTRUCTION REPORT, SITE 39

Action Type: Other Regulatory Actions
Action Date: 6/30/1999
Received Issue Date: 6/30/1999
Action: Technical Correspondence / Assistance / Other
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209762&temptable=ENFORCEMENT
Title Description Comments:

REVIEW OF STARTUP/OPTIMIZATION REPORT, SITE 39

Action Type: Other Regulatory Actions
Action Date: 3/29/1999
Received Issue Date: 3/29/1999
Action: Technical Correspondence / Assistance / Other
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209691&temptable=ENFORCEMENT
Title Description Comments:

REVIEW OF EBS CATEGORY UPDATE

Action Type: Other Regulatory Actions
Action Date: 3/15/1999
Received Issue Date: 3/15/1999
Action: Technical Correspondence / Assistance / Other
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209690&temptable=ENFORCEMENT
Title Description Comments:

REVIEW OF DRAFT OPERATIONS & MAINTENANCE MANUAL, SITE 39

Action Type: Other Regulatory Actions
Action Date: 12/23/1998
Received Issue Date: 12/23/1998
Action: Technical Correspondence / Assistance / Other
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209521&temptable=ENFORCEMENT
Title Description Comments:

REVIEW OF FINAL WORK PLAN AND COMMENT RESPONSE, BUILDING 2307

Action Type: Other Regulatory Actions
Action Date: 12/23/1998
Received Issue Date: 12/23/1998
Action: Technical Correspondence / Assistance / Other
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209522&temptable=ENFORCEMENT
Title Description Comments:

REVIEW OF WELL DESTRUCTION REPORT

Action Type: Other Regulatory Actions
Action Date: 9/29/1998
Received Issue Date: 9/29/1998
Action: Technical Correspondence / Assistance / Other
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209497&temptable=ENFORCEMENT
Title Description Comments:

REVIEW OF WELL DESTRUCTION REPORT

Action Type: Other Regulatory Actions
Action Date: 8/7/1998
Received Issue Date: 8/7/1998
Action: Technical Correspondence / Assistance / Other
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209482&temptable=ENFORCEMENT
Title Description Comments:

DRAFT ANNUAL GROUNDWATER REPORT

Action Type: Other Regulatory Actions
Action Date: 7/22/1998
Received Issue Date: 7/22/1998
Action: Technical Correspondence / Assistance / Other
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209479&temptable=ENFORCEMENT
Title Description Comments:

INTEGRATED WORK PLAN WELL DESTRUCTION

Action Type: Other Regulatory Actions
Action Date: 6/26/1998
Received Issue Date: 6/26/1998
Action: Technical Correspondence / Assistance / Other
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209476&temptable=ENFORCEMENT
Title Description Comments:

WORK PLAN, BUILDING 2307

Action Type: Other Regulatory Actions
Action Date: 5/26/1998
Received Issue Date: 5/26/1998
Action: Technical Correspondence / Assistance / Other
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209469&temptable=ENFORCEMENT
Title Description Comments:

WELL ABANDONMENT WORK PLAN

Action Type: Other Regulatory Actions
Action Date: 2/20/1998
Received Issue Date: 2/20/1998
Action: Technical Correspondence / Assistance / Other
Doc Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209385&temptable=ENFORCEMENT
Title Description Comments:

DRAFT WORK PLAN & QPP, BASEWIDE RI/FS

Action Type: Enforcement/Orders
Action Date: 9/18/1990
Received Issue Date: 9/18/1990
Action: * Historical Enforcement

Doc Link:
Title Description Comments:

Action Type: Cleanup Action
Action Date: 2/1/1999
Received Issue Date:
Action: Other (Use Description Field)
Doc Link:
Title Description Comments:

treatment - bioventing

Action Type: Leak Action
Action Date: 8/13/1992
Received Issue Date:
Action: Leak Reported
Doc Link:
Title Description Comments:

Action Type: Leak Action
Action Date: 7/18/1991
Received Issue Date:
Action: Leak Discovery
Doc Link:
Title Description Comments:

Action Type: Leak Action
Action Date: 7/18/1991
Received Issue Date:
Action: Leak Stopped
Doc Link:
Title Description Comments:

LUST Sites from GeoTracker Search - Documents (as of May 29, 2021)

Document Type: Site Documents ***Size :***
Document Date: 9/25/2019 ***Submitted By:*** PATRICIA HANNON (REGULATOR)
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER ***Submitted:***
Title: RESPONSE TO FINAL FOURTH FIVE YEAR REVIEW REPORT
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6415734

Document Type: Site Documents ***Size :***
Document Date: 6/11/2018 ***Submitted By:*** PATRICIA HANNON (REGULATOR)
Type: VERBAL COMMUNICATION ***Submitted:***
Title: RPM MEETING MINUTES FOR APRIL 17, 2018
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&document_id=6178479

Document Type: Site Documents ***Size :***
Document Date: 8/13/2013 ***Submitted By:*** PATRICIA HANNON (REGULATOR)
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER ***Submitted:***
Title: COMMENTS ON DRAFT BASEWIDE LAND USE CONTROL MANAGEMENT PLAN, PERFORMANCE-BASED REMEDIATION,
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6171499

Document Type: Site Documents ***Size :***
Document Date: 5/7/2013 ***Submitted By:*** PATRICIA HANNON (REGULATOR)
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER ***Submitted:***
Title: CHANGE IN RPM
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6158729

Document Type: Site Documents ***Size :***

Document Date: 10/10/2000 **Submitted By:** (REGULATOR)
Type: CLOSURE/NO FURTHER ACTION LETTER **Submitted:**
Title: CLOSURE OF UNDERGROUND STROAGE TANK CASE
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6153381

Document Type: Site Documents **Size :**
Document Date: 3/31/2000 **Submitted By:** VICTOR STURDIVANT (REGULATOR)
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER **Submitted:**
Title: REVIEW OF DRAFT REPORT OF ADDITIONAL CHARACTERIZATION AND AQUIFER EVALUATION, BUILDING 2307
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209618

Document Type: Site Documents **Size :**
Document Date: 3/29/2000 **Submitted By:** VICTOR STURDIVANT (REGULATOR)
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER **Submitted:**
Title: REVIEW OF DRAFT WORK PLAN, 5-YEAR REVIEW REJ\.1EDIAL ACTIONS
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209616

Document Type: Site Documents **Size :**
Document Date: 3/20/2000 **Submitted By:** VICTOR STURDIVANT (REGULATOR)
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER **Submitted:**
Title: REVIEW OF PROCESS MONITORING REPORT, SITE 39
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209613

Document Type: Site Documents **Size :**
Document Date: 3/20/2000 **Submitted By:** VICTOR STURDIVANT (REGULATOR)
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER **Submitted:**
Title: REVIEW OF DRAFT QUALITY PROGRAM PLAN
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209577

Document Type: Site Documents **Size :**
Document Date: 1/3/2000 **Submitted By:** VICTOR STURDIVANT (REGULATOR)
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER **Submitted:**
Title: REVIEW OF THE DRAFT TREATABILITY REPORT, SITE 42
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209534

Document Type: Site Documents **Size :**
Document Date: 12/29/1999 **Submitted By:** VICTOR STURDIVANT (REGULATOR)
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER **Submitted:**
Title: REVIEW OF THE ADDITIONAL EXCAVATION, TRANSFORMER B
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209670

Document Type: Site Documents **Size :**
Document Date: 12/29/1999 **Submitted By:** VICTOR STURDIVANT (REGULATOR)
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER **Submitted:**
Title: REVIEW OF THE FINAL ANNUAL GROUNDWATER REPORT
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209671

Document Type: Site Documents **Size :**
Document Date: 11/8/1999 **Submitted By:** VICTOR STURDIVANT (REGULATOR)
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER **Submitted:**
Title: REVIEW OF REDUCTION COCS GWM
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209656

Document Type: Site Documents **Size :**
Document Date: 11/8/1999 **Submitted By:** VICTOR STURDIVANT (REGULATOR)
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER **Submitted:**
Title: REVIEW OF RECOMMENDATION MONITORING WELL DESTRUCTION
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209655

Document Type: Site Documents **Size :**

Document Date: 11/8/1999 **Submitted By:** VICTOR STURDIVANT (REGULATOR)
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER **Submitted:**
Title: REVIEW OF REVISED DRAFT WELL DESTRUCTION PLAN
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209668

Document Type: Site Documents **Size :**
Document Date: 9/15/1999 **Submitted By:** VICTOR STURDIVANT (REGULATOR)
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER **Submitted:**
Title: REVIEW OF THE DRAFT WELL DESTRUCTION WORK PLAN
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209632

Document Type: Site Documents **Size :**
Document Date: 9/3/1999 **Submitted By:** VICTOR STURDIVANT (REGULATOR)
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER **Submitted:**
Title: REVIEW OF LETTER REPORT ON BUILDING 373
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209630

Document Type: Site Documents **Size :**
Document Date: 7/6/1999 **Submitted By:** VICTOR STURDIVANT (REGULATOR)
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER **Submitted:**
Title: REVIEW OF INTERRIM REPORT, GRAVIMETRIC MAPPING
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209622

Document Type: Site Documents **Size :**
Document Date: 6/30/1999 **Submitted By:** VICTOR STURDIVANT (REGULATOR)
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER **Submitted:**
Title: REVIEW OF STARTUP/OPTIMIZATION REPORT, SITE 39
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209762

Document Type: Site Documents **Size :**
Document Date: 6/30/1999 **Submitted By:** VICTOR STURDIVANT (REGULATOR)
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER **Submitted:**
Title: REVIEW OF CONSTRUCTION REPORT, SITE 39
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209761

Document Type: Site Documents **Size :**
Document Date: 3/29/1999 **Submitted By:** VICTOR STURDIVANT (REGULATOR)
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER **Submitted:**
Title: REVIEW OF EBS CATEGORY UPDATE
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209691

Document Type: Site Documents **Size :**
Document Date: 3/15/1999 **Submitted By:** VICTOR STURDIVANT (REGULATOR)
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER **Submitted:**
Title: REVIEW OF DRAFT OPERATIONS & MAINTENANCE MANUAL, SITE 39
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209690

Document Type: Site Documents **Size :**
Document Date: 12/23/1998 **Submitted By:** VICTOR STURDIVANT (REGULATOR)
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER **Submitted:**
Title: REVIEW OF WELL DESTRUCTION REPORT
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209522

Document Type: Site Documents **Size :**
Document Date: 12/23/1998 **Submitted By:** VICTOR STURDIVANT (REGULATOR)
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER **Submitted:**
Title: REVIEW OF FINAL WORK PLAN AND COMMENT RESPONSE, BUILDING 2307
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209521

Document Type: Site Documents **Size :**

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Document Date: 9/29/1998 **Submitted By:** VICTOR STURDIVANT (REGULATOR)
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER **Submitted:**
Title: REVIEW OF WELL DESTRUCTION REPORT
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209497

Document Type: Site Documents **Size :**
Document Date: 8/7/1998 **Submitted By:** VICTOR STURDIVANT (REGULATOR)
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER **Submitted:**
Title: DRAFT ANNUAL GROUNDWATER REPORT
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209482

Document Type: Site Documents **Size :**
Document Date: 7/22/1998 **Submitted By:** VICTOR STURDIVANT (REGULATOR)
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER **Submitted:**
Title: INTEGRATED WORK PLAN WELL DESTRUCTION
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209479

Document Type: Site Documents **Size :**
Document Date: 6/26/1998 **Submitted By:** VICTOR STURDIVANT (REGULATOR)
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER **Submitted:**
Title: WORK PLAN, BUILDING 2307
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209476

Document Type: Site Documents **Size :**
Document Date: 5/26/1998 **Submitted By:** VICTOR STURDIVANT (REGULATOR)
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER **Submitted:**
Title: WELL ABANDONMENT WORK PLAN
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209469

Document Type: Site Documents **Size :**
Document Date: 2/20/1998 **Submitted By:** VICTOR STURDIVANT (REGULATOR)
Type: TECHNICAL CORRESPONDENCE / ASSISTANCE / OTHER **Submitted:**
Title: DRAFT WORK PLAN & QPP, BASEWIDE RI/FS
Title Link: https://geotracker.waterboards.ca.gov/view_documents?global_id=T0606500293&enforcement_id=6209385

36	1 of 1	NE	0.39 / 2,074.29	795.11 / 14	RECYCLING CLUB OF SIERRA MIDDLE SCHOOL 4950 CENTRAL AVE RIVERSIDE CA 92504	CONTAINER RECY

Certification ID: SP0104
Certification Status:
Registration ID:
Application ID:
Operation Begin Date: 12/30/91
Operation End Date: 04/15/96
Org or Agency:
Agency:
Grand Fathered:
Phone No: (714) 788-7501
County: RIVERSIDE
Rural:
Organization:
Mailing Address:
Mailing City:
Mailing State:
Mailing Zip:
Website:
Email:

Monday Hours:
Tuesday Hours:
Wednesday Hours:
Thursday Hours:
Friday Hours:
Saturday Hours:
Sunday Hours:
Aluminium: YES
Glass: YES
Plastic: YES
Bimetal:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
37	1 of 1	W	0.90 / 4,731.70	772.59 / -9	UNNAMED PIT RIVERSIDE COUNTY RIVERSIDE CA 92504	MRDS

Dep ID:	10140210	**I1:**	20
Dev Status:	PAST PRODUCER	**Latitude:**	33.945129
Code List:	STN_C	**Longitude:**	-117.433899
Url:	http://mrdata.usgs.gov/mrds/show-mrds.php?dep_id=10140210		

Commodity

I1:	24	**Line:**	1
Code:	STN_C	**Inserted By:**	MAS migration
Commodity:	Stone, Crushed/Broken	**Insert Date:**	29-OCT-2002 09:00:24
Commodity Type:	Non-metallic	**Updated By:**	USGS
Commodity Group:	Stone, Crushed	**Update Date:**	29-OCT-2002 09:01:29
Importance:	Primary		

Names

I1:	14	**Inserted By:**	MAS migration
Status:	Previous	**Insert Date:**	29-OCT-02
Site Name:	Pit	**Updated By:**	USGS
Line:	2	**Update Date:**	29-OCT-02

Names

I1:	10	**Inserted By:**	MAS migration
Status:	Current	**Insert Date:**	29-OCT-02
Site Name:	Unnamed Pit	**Updated By:**	USGS
Line:	1	**Update Date:**	29-OCT-02

Unplottable Summary

Total: 0 Unplottable sites

DB	Company Name/Site Name	Address	City	Zip	ERIS ID

No unplottable records were found that may be relevant for the search criteria.

Unplottable Report

No unplottable records were found that may be relevant for the search criteria.

Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. ERIS updates databases as set out in ASTM Standard E1527-13, Section 8.1.8 Sources of Standard Source Information:

"Government information from nongovernmental sources may be considered current if the source updates the information at least every 90 days, or, for information that is updated less frequently than quarterly by the government agency, within 90 days of the date the government agency makes the information available to the public."

Standard Environmental Record Sources

Federal

Formerly Utilized Sites Remedial Action Program: DOE FUSRAP

The U.S. Department of Energy (DOE) established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from the Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations. The DOE Office of Legacy Management (LM) established long-term surveillance and maintenance (LTS&M) requirements for remediated FUSRAP sites. DOE evaluates the final site conditions of a remediated site on the basis of risk for different future uses. DOE then confirms that LTS&M requirements will maintain protectiveness.

Government Publication Date: Mar 4, 2017

National Priority List: NPL

National Priorities List (Superfund)-NPL: EPA's (United States Environmental Protection Agency) list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. The NPL, which EPA is required to update at least once a year, is based primarily on the score a site receives from EPA's Hazard Ranking System. A site must be on the NPL to receive money from the Superfund Trust Fund for remedial action.

Government Publication Date: Jun 25, 2021

National Priority List - Proposed: PROPOSED NPL

Includes sites proposed (by the EPA, the state, or concerned citizens) for addition to the NPL due to contamination by hazardous waste and identified by the Environmental Protection Agency (EPA) as a candidate for cleanup because it poses a risk to human health and/or the environment.

Government Publication Date: Jun 25, 2021

Deleted NPL: DELETED NPL

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Government Publication Date: Jun 25, 2021

SEMS List 8R Active Site Inventory: SEMS

The Superfund Program has deployed the Superfund Enterprise Management System (SEMS), which integrates multiple legacy systems into a comprehensive tracking and reporting tool. This inventory contains active sites evaluated by the Superfund program that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The Active Site Inventory Report displays site and location information at active SEMS sites. An active site is one at which site assessment, removal, remedial, enforcement, cost recovery, or oversight activities are being planned or conducted.

Government Publication Date: Mar 23, 2021

SEMS List 8R Archive Sites: SEMS ARCHIVE

The Superfund Enterprise Management System (SEMS) Archived Site Inventory displays site and location information at sites archived from SEMS. An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time.

Government Publication Date: May 25, 2021

Inventory of Open Dumps, June 1985: ODI

The Resource Conservation and Recovery Act (RCRA) provides for publication of an inventory of open dumps. The Act defines "open dumps" as facilities which do not comply with EPA's "Criteria for Classification of Solid Waste Disposal Facilities and Practices" (40 CFR 257).

Government Publication Date: Jun 1985

Comprehensive Environmental Response, Compensation and Liability Information System - CERCLIS: CERCLIS

Superfund is a program administered by the United States Environmental Protection Agency (EPA) to locate, investigate, and clean up the worst hazardous waste sites throughout the United States. CERCLIS is a database of potential and confirmed hazardous waste sites at which the EPA Superfund program has some involvement. It contains sites that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The EPA administers the Superfund program in cooperation with individual states and tribal governments; this database is made available by the EPA.

Government Publication Date: Oct 25, 2013

EPA Report on the Status of Open Dumps on Indian Lands: IODI

Public Law 103-399, The Indian Lands Open Dump Cleanup Act of 1994, enacted October 22, 1994, identified congressional concerns that solid waste open dump sites located on American Indian or Alaska Native (AI/AN) lands threaten the health and safety of residents of those lands and contiguous areas. The purpose of the Act is to identify the location of open dumps on Indian lands, assess the relative health and environment hazards posed by those sites, and provide financial and technical assistance to Indian tribal governments to close such dumps in compliance with Federal standards and regulations or standards promulgated by Indian Tribal governments or Alaska Native entities.

Government Publication Date: Dec 31, 1998

CERCLIS - No Further Remedial Action Planned: CERCLIS NFRAP

An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time. The Archive designation means that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Government Publication Date: Oct 25, 2013

CERCLIS Liens: CERCLIS LIENS

A Federal Superfund lien exists at any property where EPA has incurred Superfund costs to address contamination ("Superfund site") and has provided notice of liability to the property owner. A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Jan 30, 2014

RCRA CORRACTS-Corrective Action: RCRA CORRACTS

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. At these sites, the Corrective Action Program ensures that cleanups occur. EPA and state regulators work with facilities and communities to design remedies based on the contamination, geology, and anticipated use unique to each site.

Government Publication Date: Jun 14, 2021

RCRA non-CORRACTS TSD Facilities: RCRA TSD

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. This database includes Non-Corrective Action sites listed as treatment, storage and/or disposal facilities of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Government Publication Date: Jun 14, 2021

RCRA Generator List: RCRA LQG

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Large Quantity Generators (LQGs) generate 1,000 kilograms per month or more of hazardous waste or more than one kilogram per month of acutely hazardous waste.

Government Publication Date: Jun 14, 2021

RCRA Small Quantity Generators List: RCRA SQG

RCRA Info is the EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Small Quantity Generators (SQGs) generate more than 100 kilograms, but less than 1,000 kilograms, of hazardous waste per month.

Government Publication Date: Jun 14, 2021

RCRA Very Small Quantity Generators List: RCRA VSQG

RCRA Info is the EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Very Small Quantity Generators (VSQG) generate 100 kilograms or less per month of hazardous waste, or one kilogram or less per month of acutely hazardous waste. Additionally, VSQG may not accumulate more than 1,000 kilograms of hazardous waste at any time.

Government Publication Date: Jun 14, 2021

RCRA Non-Generators: RCRA NON GEN

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Non-Generators do not presently generate hazardous waste.

Government Publication Date: Jun 14, 2021

Federal Engineering Controls-ECs: FED ENG

Engineering controls (ECs) encompass a variety of engineered and constructed physical barriers (e.g., soil capping, sub-surface venting systems, mitigation barriers, fences) to contain and/or prevent exposure to contamination on a property. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Feb 23, 2021

Federal Institutional Controls- ICs: FED INST

Institutional controls are non-engineered instruments, such as administrative and legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. Although it is EPA's (United States Environmental Protection Agency) expectation that treatment or engineering controls will be used to address principal threat wastes and that groundwater will be returned to its beneficial use whenever practicable, ICs play an important role in site remedies because they reduce exposure to contamination by limiting land or resource use and guide human behavior at a site.

Government Publication Date: Feb 23, 2021

Land Use Control Information System: LUCIS

The LUCIS database is maintained by the U.S. Department of the Navy and contains information for former Base Realignment and Closure (BRAC) properties across the United States.

Government Publication Date: Sep 1, 2006

Emergency Response Notification System: ERNS 1982 TO 1986

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1982-1986

Emergency Response Notification System: ERNS 1987 TO 1989

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1987-1989

Emergency Response Notification System: ERNS

Database of oil and hazardous substances spill reports made available by the United States Coast Guard National Response Center (NRC). The NRC fields initial reports for pollution and railroad incidents and forwards that information to appropriate federal/state agencies for response. These data contain initial incident data that has not been validated or investigated by a federal/state response agency.

Government Publication Date: Jul 26, 2021

The Assessment, Cleanup and Redevelopment Exchange System (ACRES) Brownfield Database: FED BROWNFIELDS

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties protects the environment, reduces blight, and takes development pressures off greenspaces and working lands. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Aug 20, 2021

FEMA Underground Storage Tank Listing: FEMA UST

The Federal Emergency Management Agency (FEMA) of the Department of Homeland Security maintains a list of FEMA owned underground storage tanks.

Government Publication Date: Dec 31, 2017

Facility Response Plan: FRP

List of facilities that have submitted Facility Response Plans (FRP) to EPA. Facilities that could reasonably be expected to cause "substantial harm" to the environment by discharging oil into or on navigable waters are required to prepare and submit Facility Response Plans (FRPs). Harm is determined based on total oil storage capacity, secondary containment and age of tanks, oil transfer activities, history of discharges, proximity to a public drinking water intake or sensitive environments.

Government Publication Date: Dec 2, 2020

Historical Gas Stations: HIST GAS STATIONS

This historic directory of service stations is provided by the Cities Service Company. The directory includes Cities Service filling stations that were located throughout the United States in 1930.

Government Publication Date: Jul 1, 1930

Petroleum Refineries: REFN

List of petroleum refineries from the U.S. Energy Information Administration (EIA) Refinery Capacity Report. Includes operating and idle petroleum refineries (including new refineries under construction) and refineries shut down during the previous year located in the 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, and other U.S. possessions. Survey locations adjusted using public data.

Government Publication Date: Jul 10, 2020

Petroleum Product and Crude Oil Rail Terminals: BULK TERMINAL

List of petroleum product and crude oil rail terminals made available by the U.S. Energy Information Administration (EIA). Includes operable bulk petroleum product terminals located in the 50 States and the District of Columbia with a total bulk shell storage capacity of 50,000 barrels or more, and/or the ability to receive volumes from tanker, barge, or pipeline; also rail terminals handling the loading and unloading of crude oil that were active between 2017 and 2018. Petroleum product terminals comes from the EIA-815 Bulk Terminal and Blender Report, which includes working, shell in operation, and shell idle for several major product groupings. Survey locations adjusted using public data.

Government Publication Date: Apr 28, 2020

LIEN on Property: SEMS LIEN

The EPA Superfund Enterprise Management System (SEMS) provides LIEN information on properties under the EPA Superfund Program.

Government Publication Date: May 25, 2021

Superfund Decision Documents: SUPERFUND ROD

This database contains a listing of decision documents for Superfund sites. Decision documents serve to provide the reasoning for the choice of (or) changes to a Superfund Site cleanup plan. The decision documents include Records of Decision (ROD), ROD Amendments, Explanations of Significant Differences (ESD), along with other associated memos and files. This information is maintained and made available by the US EPA (Environmental Protection Agency).

Government Publication Date: Jun 28, 2021

State

State Response Sites: RESPONSE

A list of identified confirmed release sites where the Department of Toxic Substances Control (DTSC) is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk. This database is state equivalent NPL.

Government Publication Date: Jun 14, 2021

EnviroStor Database: ENVIROSTOR

The EnviroStor Data Management System is made available by the Department of Toxic Substances Control (DTSC). Includes Corrective Action sites, Tiered Permit sites, Historical Sites and Evaluation/Investigation sites. This database is state equivalent CERCLIS.

Government Publication Date: Jun 14, 2021

Delisted State Response Sites: DELISTED ENVS

Sites removed from the list of State Response Sites made available by the EnviroStor Data Management System, Department of Toxic Substances Control (DTSC).

Government Publication Date: Jun 14, 2021

Solid Waste Information System (SWIS): SWF/LF

The Solid Waste Information System (SWIS) database made available by the Department of Resources Recycling and Recovery (CalRecycle) contains information on solid waste facilities, operations, and disposal sites throughout the State of California. The types of facilities found in this database include landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, waste tire sites, and closed disposal sites.

Government Publication Date: Jul 20, 2021

Solid Waste Disposal Sites with Waste Constituents Above Hazardous Waste Levels: SWRCB SWF

This is a list of solid waste disposal sites identified by California State Water Resources Control Board with waste constituents above hazardous waste levels outside the waste management unit.

Government Publication Date: Sep 20, 2006

EnviroStor Hazardous Waste Facilities: HWP

A list of hazardous waste facilities including permitted, post-closure and historical facilities found in the Department of Toxic Substances Control (DTSC) EnviroStor database.

Government Publication Date: Jun 14, 2021

Sites Listed in the Solid Waste Assessment Test (SWAT) Program Report: SWAT

In a 1993 Memorandum of Understanding, the State Water Resources Control Board (SWRCB) agreed to submit a comprehensive report on the Solid Waste Assessment Test (SWAT) Program to the California Integrated Waste Management Board (CIWMB). This report summarizes the work completed to date on the SWAT Program, and addresses both the impacts that leakage from solid waste disposal sites (SWDS) may have upon waters of the State and the actions taken to address such leakage.

Government Publication Date: Dec 31, 1995

Construction and Demolition Debris Recyclers: C&D DEBRIS RECY

This listing of Construction and Demolition Debris Recyclers is maintained by the California Intergrated Waste Management Board-common C&D materials include lumber, drywall, metals, masonry (brick, concrete, etc.), carpet, plastic, pipe, rocks, dirt, paper, cardboard, or green waste related to land development.

Government Publication Date: Jun 20, 2018

Recycling Centers: RECYCLING

This list of Certified Recycling Centers that are operating under the state of California's Beverage Container Recycling Program is maintained by the California Department of Resources Recycling and Recovery.

Government Publication Date: Nov 2, 2020

Listing of Certified Processors: PROCESSORS

This list of Certified Processors that are operating under the state of California's Beverage Container Recycling Program is maintained by the California Department of Resources Recycling and Recovery.

Government Publication Date: Oct 27, 2020

Listing of Certified Dropoff, Collection, and Community Service Programs: CONTAINER RECY

This list of Certified Dropoff, Collection, and Community Service Programs (non-buyback) operating under the state of California's Beverage Container Recycling Program is maintained by the California Department of Resources Recycling and Recovery.

Government Publication Date: Dec 16, 2020

Land Disposal Sites: LDS

Land Disposal Sites in GeoTracker, the State Water Resources Control Board (SWRCB)'s data management system. The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units. Waste management units include waste piles, surface impoundments, and landfills.

Government Publication Date: Jun 22, 2021

Leaking Underground Fuel Tank Reports: LUST

List of Leaking Underground Storage Tanks within the Cleanup Sites data in GeoTracker database. GeoTracker is the State Water Resources Control Board's (SWRCB) data management system for managing sites that impact groundwater, especially those that require groundwater cleanup (Underground Storage Tanks, Department of Defense and Site Cleanup Program) as well as permitted facilities such as operating Underground Storage Tanks. The Leak Prevention Program that overlooks LUST sites is the SWRCB in California's Environmental Protection Agency.

Government Publication Date: Jun 22, 2021

Delisted Leaking Storage Tanks: DELISTED LST

List of Leaking Underground Storage Tanks (LUST) cleanup sites removed from GeoTracker, the State Water Resources Control Board (SWRCB)'s database system, as well as sites removed from the SWRCB's list of UST Case closures.

Government Publication Date: Jun 22, 2021

Permitted Underground Storage Tank (UST) in GeoTracker: UST

List of Permitted Underground Storage Tank (UST) sites made available by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency (EPA).

Government Publication Date: Jul 25, 2021

Proposed Closure of Underground Storage Tank Cases: UST CLOSURE

List of UST cases that are being considered for closure by either the California Environmental Protection Agency, State Water Resources Control Board or the Executive Director that have been posted for a 60-day public comment period.

Government Publication Date: May 5, 2021

Historical Hazardous Substance Storage Information Database: HHSS

The Historical Hazardous Substance Storage database contains information collected in the 1980s from facilities that stored hazardous substances. The information was originally collected on paper forms, was later transferred to microfiche, and recently indexed as a searchable database. When using this database, please be aware that it is based upon self-reported information submitted by facilities which has not been independently verified. It is unlikely that every facility responded to the survey and the database should not be expected to be a complete inventory of all facilities that were operating at that time. This database is maintained by the California State Water Resources Control Board's (SWRCB) Geotracker.

Government Publication Date: Aug 27, 2015

Statewide Environmental Evaluation and Planning System: UST SWEEPS

The Statewide Environmental Evaluation and Planning System (SWEEPS) is a historical listing of active and inactive underground storage tanks made available by the California State Water Resources Control Board (SWRCB).

Government Publication Date: Oct 1, 1994

Aboveground Storage Tanks: AST

A statewide list from 2009 of aboveground storage tanks (ASTs) made available by the Cal FIRE Office of the State Fire Marshal (OSFM). This list is no longer maintained or updated by the Cal FIRE OSFM.

Government Publication Date: Aug 31, 2009

SWRCB Historical Aboveground Storage Tanks: AST SWRCB

A list of aboveground storage tanks made available by the California State Water Resources Control Board (SWRCB). Effective January 1, 2008, the Certified Unified Program Agencies (CUPAs) are vested with the responsibility and authority to implement the Aboveground Petroleum Storage Act (APSA).

Government Publication Date: Dec 1, 2007

Oil and Gas Facility Tanks: TANK OIL GAS

Locations of oil and gas tanks that fall under the jurisdiction of the Geologic Energy Management Division of the California Department of Conservation (CalGEM) (CCR 1760). CalGEM was formerly the Division of Oil, Gas, and Geothermal Resources (DOGGR).

Government Publication Date: Jun 28, 2021

Delisted Storage Tanks: DELISTED TNK

This database contains a list of storage tank sites that were removed by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency (EPA) and the Cal FIRE Office of State Fire Marshal (OSFM).

Government Publication Date: Jul 25, 2021

California Environmental Reporting System (CERS) Tanks: CERS TANK

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs. The CalEPA oversees the statewide implementation of the Unified Program which applies regulatory standards to protect Californians from hazardous waste and materials.

Government Publication Date: Apr 29, 2021

Delisted California Environmental Reporting System (CERS) Tanks: DELISTED CTNK

This database contains a list of Aboveground Petroleum Storage and Underground Storage Tank sites that were removed from in the California Environmental Protection Agency (CalEPA) Regulated Site Portal.

Government Publication Date: Apr 29, 2021

Historical Hazardous Substance Storage Container Information - Facility Summary: HIST TANK

The State Water Resources Control Board maintained the Hazardous Substance Storage Containers listing and inventory in th 1980s. This facility summary lists historic tank sites where the following container types were present: farm motor vehicle fuel tanks; waste tanks; sumps; pits, ponds, lagoons, and others; and all other product tanks. This set, published in May 1988, lists facility and owner information, as well as the number of containers. This data is historic and will not be updated.

Government Publication Date: May 27, 1988

Site Mitigation and Brownfields Reuse Program Facility Sites with Land Use Restrictions: LUR

The Department of Toxic Substances Control (DTSC) Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents land use restrictions that are active. Some sites have multiple land use restrictions.

Government Publication Date: Jun 14, 2021

CALSITES Database: CALSITES

This historical database was maintained by the Department of Toxic Substance Control (DTSC) for more than a decade. CALSITES contains information on Brownfield properties with confirmed or potential hazardous contamination. In 2006, DTSC introduced EnviroStor as the latest Brownfields site database.

Government Publication Date: May 1, 2004

Hazardous Waste Management Program Facility Sites with Deed / Land Use Restrictions: HLUR

The Department of Toxic Substances Control (DTSC) Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Government Publication Date: Feb 18, 2021

Deed Restrictions and Land Use Restrictions: DEED

List of Deed Restrictions, Land Use Restrictions and Covenants in GeoTracker made available by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency. A deed restriction (land use covenant) may be required to facilitate the remediation of past environmental contamination and to protect human health and the environment by reducing the risk of exposure to residual hazardous materials.

Government Publication Date: Jun 22, 2021

Voluntary Cleanup Program: VCP

List of sites in the Voluntary Cleanup Program made available by the Department of Toxic Substances and Control (DTSC). The Voluntary Cleanup Program was designed to respond to lower priority sites. Under the Voluntary Cleanup Program, DTSC enters site-specific agreements with project proponents for DTSC oversight of site assessment, investigation, and/or removal or remediation activities, and the project proponents agree to pay DTSC's reasonable costs for those services.

Government Publication Date: Jun 14, 2021

GeoTracker Cleanup Program Sites: CLEANUP SITES

A list of Cleanup Program sites in the state of California made available by The State Water Resources Control Board (SWRCB) of the California Environmental Protection Agency (EPA). SWRCB tracks leaking underground storage tank cleanups as well as other water board cleanups.

Government Publication Date: Jun 22, 2021

Delisted County Records: DELISTED COUNTY

Records removed from county or CUPA databases. Records may be removed from the county lists made available by the respective county departments because they are inactive, or because they have been deemed to be below reportable thresholds.

Government Publication Date: Jul 9, 2021

Tribal

Leaking Underground Storage Tanks (LUSTs) on Indian Lands: INDIAN LUST

LUSTs on Tribal/Indian Lands in Region 9, which includes California.

Government Publication Date: Apr 8, 2020

Underground Storage Tanks (USTs) on Indian Lands: INDIAN UST

USTs on Tribal/Indian Lands in Region 9, which includes California.

Government Publication Date: Apr 8, 2020

Delisted Tribal Leaking Storage Tanks: DELISTED ILST

Leaking Underground Storage Tank facilities which have been removed from the Regional Tribal LUST lists made available by the EPA.

Government Publication Date: Apr 14, 2020

Delisted Tribal Underground Storage Tanks: DELISTED IUST

Underground Storage Tank facilities which have been removed from the Regional Tribal UST lists made available by the EPA.

Government Publication Date: Apr 14, 2020

County

Riverside County - Local Oversight Program List: LOP RIVERSIDE

A list of Leaking Underground Storage Tank (LUST) facilities in Riverside County. This list is made available by Riverside County Department of Environmental Health. Environmental Cleanup Program provides oversight of assessments and cleanups at properties that have been, or may have been, contaminated with hazardous substances from LUSTs or releases associated with other commercial/industrial use.

Government Publication Date: Jul 22, 2021

Riverside County - Underground Storage Tanks List: UST RIVERSIDE

A list of registered Underground Storage Tank (UST) sites in Riverside County. This list is made available by Riverside County Department of Environmental Health. The Hazardous Materials Management Branch (HMMB) regulates and oversees the inspections of constructions, repairs, upgrades, system operation and removal of UST systems.

Government Publication Date: Jul 22, 2021

Additional Environmental Record Sources

Federal

PFOA/PFOS Contaminated Sites: PFAS NPL

List of sites where PFOA or PFOS contaminants have been found in drinking water or soil. Made available by the Federal Environmental Protection Agency (EPA).

Government Publication Date: Mar 1, 2021

Facility Registry Service/Facility Index: FINDS/FRS

The Facility Registry Service (FRS) is a centrally managed database that identifies facilities, sites, or places subject to environmental regulations or of environmental interest. FRS creates high-quality, accurate, and authoritative facility identification records through rigorous verification and management procedures that incorporate information from program national systems, state master facility records, and data collected from EPA's Central Data Exchange registrations and data management personnel. This list is made available by the Environmental Protection Agency (US EPA).

Government Publication Date: Nov 2, 2020

Toxics Release Inventory (TRI) Program: TRIS

The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U. S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment. One of TRI's primary purposes is to inform communities about toxic chemical releases to the environment.
Government Publication Date: Feb 19, 2020

Perfluorinated Alkyl Substances (PFAS) Releases: PFAS TRI

List of Toxics Release Inventory (TRI) facilities at which the reported chemical is a Per- or polyfluorinated alkyl substance (PFAS) included in the Environmental Protection Agency (EPA)'s consolidated PFAS Master List of PFAS Substances. The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U.S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment.
Government Publication Date: Feb 19, 2020

Perfluorinated Alkyl Substances (PFAS) Water Quality: PFAS WATER

The Water Quality Portal (WQP) is a cooperative service sponsored by the United States Geological Survey (USGS), the Environmental Protection Agency (EPA), and the National Water Quality Monitoring Council (NWQMC). This listing includes records from the Water Quality Portal where the characteristic (environmental measurement) is in the Environmental Protection Agency (EPA)'s consolidated PFAS Master List of PFAS Substances.
Government Publication Date: Jul 20, 2020

Hazardous Materials Information Reporting System: HMIRS

US DOT - Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) Incidents Reports Database taken from Hazmat Intelligence Portal, U.S. Department of Transportation.
Government Publication Date: Sep 1, 2020

National Clandestine Drug Labs: NCDL

The U.S. Department of Justice ("the Department") provides this data as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy.
Government Publication Date: Oct 5, 2020

Toxic Substances Control Act: TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.
The CDR enables EPA to collect and publish information on the manufacturing, processing, and use of commercial chemical substances and mixtures (referred to hereafter as chemical substances) on the TSCA Chemical Substance Inventory (TSCA Inventory). This includes current information on chemical substance production volumes, manufacturing sites, and how the chemical substances are used. This information helps the Agency determine whether people or the environment are potentially exposed to reported chemical substances. EPA publishes submitted CDR data that is not Confidential Business Information (CBI).
Government Publication Date: Apr 11, 2019

Hist TSCA: HIST TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.
The 2006 IUR data summary report includes information about chemicals manufactured or imported in quantities of 25,000 pounds or more at a single site during calendar year 2005. In addition to the basic manufacturing information collected in previous reporting cycles, the 2006 cycle is the first time EPA collected information to characterize exposure during manufacturing, processing and use of organic chemicals. The 2006 cycle also is the first time manufacturers of inorganic chemicals were required to report basic manufacturing information.
Government Publication Date: Dec 31, 2006

FTTS Administrative Case Listing: FTTS ADMIN

An administrative case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.
Government Publication Date: Jan 19, 2007

FTTS Inspection Case Listing: FTTS INSP

An inspection case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.
Government Publication Date: Jan 19, 2007

Potentially Responsible Parties List: PRP

Early in the cleanup process, the Environmental Protection Agency (EPA) conducts a search to find the potentially responsible parties (PRPs). EPA looks for evidence to determine liability by matching wastes found at the site with parties that may have contributed wastes to the site.

Government Publication Date: Jun 25, 2021

State Coalition for Remediation of Drycleaners Listing: SCRD DRYCLEANER

The State Coalition for Remediation of Drycleaners (SCRD) was established in 1998, with support from the U.S. Environmental Protection Agency (EPA) Office of Superfund Remediation and Technology Innovation. Coalition members are states with mandated programs and funding for drycleaner site remediation. Current members are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Government Publication Date: Nov 08, 2017

Integrated Compliance Information System (ICIS): ICIS

The Integrated Compliance Information System (ICIS) is a system that provides information for the Federal Enforcement and Compliance (FE&C) and the National Pollutant Discharge Elimination System (NPDES) programs. The FE&C component supports the Environmental Protection Agency's (EPA) Civil Enforcement and Compliance program activities. These activities include Compliance Assistance, Compliance Monitoring and Enforcement. The NPDES program supports tracking of NPDES permits, limits, discharge monitoring data and other program reports.

Government Publication Date: Jun 14, 2021

Drycleaner Facilities: FED DRYCLEANERS

A list of drycleaner facilities from Enforcement and Compliance History Online (ECHO) online search. The Environmental Protection Agency (EPA) tracks facilities that possess NAIC and SIC codes that classify businesses as drycleaner establishments.

Government Publication Date: May 5, 2021

Delisted Drycleaner Facilities: DELISTED FED DRY

List of sites removed from the list of Drycleaner Facilities (sites in the EPA's Integrated Compliance Information System (ICIS) with NAIC or SIC codes identifying the business as a drycleaner establishment).

Government Publication Date: May 5, 2021

Formerly Used Defense Sites: FUDS

Formerly Used Defense Sites (FUDS) are properties that were formerly owned by, leased to, or otherwise possessed by and under the jurisdiction of the Secretary of Defense prior to October 1986, where the Department of Defense (DoD) is responsible for an environmental restoration. This list is published by the U.S. Army Corps of Engineers.

Government Publication Date: May 26, 2021

Former Military Nike Missile Sites: FORMER NIKE

This information was taken from report DRXTH-AS-IA-83A016 (Historical Overview of the Nike Missile System, 12/1984) which was performed by Environmental Science and Engineering, Inc. for the U.S. Army Toxic and Hazardous Materials Agency Assessment Division. The Nike system was deployed between 1954 and the mid-1970's. Among the substances used or stored on Nike sites were liquid missile fuel (JP-4); starter fluids (UDKH, aniline, and furfuryl alcohol); oxidizer (IRFNA); hydrocarbons (motor oil, hydraulic fluid, diesel fuel, gasoline, heating oil); solvents (carbon tetrachloride, trichloroethylene, trichloroethane, stoddard solvent); and battery electrolyte. The quantities of material a disposed of and procedures for disposal are not documented in published reports. Virtually all information concerning the potential for contamination at Nike sites is confined to personnel who were assigned to Nike sites. During deactivation most hardware was shipped to depot-level supply points. There were reportedly instances where excess materials were disposed of on or near the site itself at closure. There was reportedly no routine site decontamination.

Government Publication Date: Dec 2, 1984

PHMSA Pipeline Safety Flagged Incidents: PIPELINE INCIDENT

A list of flagged pipeline incidents made available by the U.S. Department of Transportation (US DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA). PHMSA regulations require incident and accident reports for five different pipeline system types.

Government Publication Date: Jul 7, 2020

Material Licensing Tracking System (MLTS): MLTS

A list of sites that store radioactive material subject to the Nuclear Regulatory Commission (NRC) licensing requirements. This list is maintained by the NRC. As of September 2016, the NRC no longer releases location information for sites. Site locations were last received in July 2016.

Government Publication Date: May 11, 2021

Historic Material Licensing Tracking System (MLTS) sites: HIST MLTS

A historic list of sites that have inactive licenses and/or removed from the Material Licensing Tracking System (MLTS). In some cases, a site is removed from the MLTS when the state becomes an "Agreement State". An Agreement State is a State that has signed an agreement with the Nuclear Regulatory Commission (NRC) authorizing the State to regulate certain uses of radioactive materials within the State.

Government Publication Date: Jan 31, 2010

Mines Master Index File: MINES

The Master Index File (MIF) contains mine identification numbers issued by the Department of Labor Mine Safety and Health Administration (MSHA) for mines active or opened since 1971. Note that addresses may or may not correspond with the physical location of the mine itself.

Government Publication Date: Nov 3, 2020

Surface Mining Control and Reclamation Act Sites: SMCRA

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by the Office of Surface Mining Reclamation and Enforcement (OSMRE) to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of Abandoned Mine Land (AML) impacts, as well as information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Government Publication Date: Dec 18, 2020

Mineral Resource Data System: MRDS

The Mineral Resource Data System (MRDS) is a collection of reports describing metallic and nonmetallic mineral resources throughout the world. Included are deposit name, location, commodity, deposit description, geologic characteristics, production, reserves, resources, and references. This database contains the records previously provided in the Mineral Resource Data System (MRDS) of USGS and the Mineral Availability System/Mineral Industry Locator System (MAS/MILS) originated in the U.S. Bureau of Mines, which is now part of USGS. The USGS has ceased systematic updates of the MRDS database with their focus more recently on deposits of critical minerals while providing a well-documented baseline of historical mine locations from USGS topographic maps.

Government Publication Date: Mar 15, 2006

Uranium Mill Tailings Radiation Control Act Sites: URANIUM

The Legacy Management Office of the Department of Energy (DOE) manages radioactive and chemical waste, environmental contamination, and hazardous material at over 100 sites across the U.S. The L.M. Office manages this database of sites registered under the Uranium Mill Tailings Control Act (UMTRCA).

Government Publication Date: Mar 4, 2017

Alternative Fueling Stations: ALT FUELS

List of alternative fueling stations made available by the US Department of Energy's Office of Energy Efficiency & Renewable Energy. Includes Biodiesel stations, Ethanol (E85) stations, Liquefied Petroleum Gas (Propane) stations, Ethanol (E85) stations, Natural Gas stations, Hydrogen stations, and Electric Vehicle Supply Equipment (EVSE). The National Renewable Energy Laboratory (NREL) obtains information about new stations from trade media, Clean Cities coordinators, a Submit New Station form on the Station Locator website, and through collaborating with infrastructure equipment and fuel providers, original equipment manufacturers (OEMs), and industry groups.

Government Publication Date: Jul 12, 2021

Registered Pesticide Establishments: SSTS

List of active EPA-registered foreign and domestic pesticide-producing and device-producing establishments based on data from the Section Seven Tracking System (SSTS). The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Section 7 requires that facilities producing pesticides, active ingredients, or devices be registered. The list of establishments is made available by the EPA.

Government Publication Date: Apr 13, 2021

Polychlorinated Biphenyl (PCB) Notifiers: PCB

Facilities included in the national list of facilities that have notified the United States Environmental Protection Agency (EPA) of Polychlorinated Biphenyl (PCB) activities. Any company or person storing, transporting or disposing of PCBs or conducting PCB research and development must notify the EPA and receive an identification number.

Government Publication Date: Nov 19, 2020

State

Dry Cleaning Facilities: DRYCLEANERS

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial, linen supply, commercial laundry, dry cleaning and pressing machines - Coin Operated Laundry and Dry Cleaning. This is provided by the Department of Toxic Substance Control.

Government Publication Date: Feb 22, 2021

Delisted Drycleaners: DELISTED DRYCLEANERS

Sites removed from the list of drycleaner related facilities that have EPA ID numbers, made available by the California Department of Toxic Substance Control.

Government Publication Date: Feb 22, 2021

Non-Toxic Dry Cleaning Incentive Program: DRYC GRANT

A list of grant recipients of the Non-Toxic Dry Cleaning Incentive Program made available by the California Air Resources Board (CARB). The program provides grants to eligible dry cleaning businesses to assist them in transitioning away from PERC machines to alternative non-toxic and non-smog forming technologies.

Government Publication Date: Feb 28, 2018

Per- and Polyfluoroalkyl Substances (PFAS): PFAS

List of sites from the State Water Resources Control Board (SWRCB)'s GeoTracker at which one or more of the potential contaminants of concern are in the PFAS Master List of PFAS Substances made available by the Environmental Protection Agency (US EPA).

Government Publication Date: Jun 22, 2021

PFOA/PFOS Groundwater: PFAS GW

A list of water wells from the Groundwater Ambient Monitoring and Assessment Program (GAMA) Groundwater Information System with the groundwater chemical perfluorooctanoic acid (PFOA) (NL = 0.014 UG/L) or perfluorooctanoic sulfonate (PFOS) (NL = 0.013 UG/L). The GAMA Groundwater Information System search is made available by California Water Boards.

Government Publication Date: Oct 22, 2020

Hazardous Waste and Substances Site List - Site Cleanup: HWSS CLEANUP

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies and developers to comply with the California Environmental Quality Act requirements in providing information about the location of hazardous materials release sites. This list is published by California Department of Toxic Substance Control.

Government Publication Date: May 20, 2021

List of Hazardous Waste Facilities Subject to Corrective Action: DTSC HWF

This is a list of hazardous waste facilities identified in Health and Safety Code (HSC) § 25187.5. These facilities are those where Department of Toxic Substances Control (DTSC) has taken or contracted for corrective action because a facility owner/operator has failed to comply with a date for taking corrective action in an order issued under HSC § 25187, or because DTSC determined that immediate corrective action was necessary to abate an imminent or substantial endangerment.

Government Publication Date: Jul 18, 2016

EnviroStor Inspection, Compliance, and Enforcement: INSP COMP ENF

A list of permitted facilities with inspections and enforcements tracked in the Department of Toxic Substance Control (DTSC) EnviroStor.

Government Publication Date: Apr 29, 2021

School Property Evaluation Program Sites: SCH

A list of sites registered with The Department of Toxic Substances Control (DTSC) School Property Evaluation and Cleanup (SPEC) Division. SPEC is responsible for assessing, investigating and cleaning up proposed school sites. The Division ensures that selected properties are free of contamination or, if the properties were previously contaminated, that they have been cleaned up to a level that protects the students and staff who will occupy the new school.

Government Publication Date: Jun 14, 2021

California Hazardous Material Incident Report System (CHMIRS): CHMIRS

A list of reported hazardous material incidents, spills, and releases from the California Hazardous Material Incident Report System (CHMIRS). This list has been made available by the California Office of Emergency Services (OES).

Government Publication Date: Jan 21, 2021

Historical California Hazardous Material Incident Report System (CHMIRS): HIST CHMIRS

A list of reported hazardous material incidents, spills, and releases from the California Hazardous Material Incident Report System (CHMIRS) prior to 1993. This list has been made available by the California Office of Emergency Services (OES).

Government Publication Date: Jan 1, 1993

Hazardous Waste Manifest Data: HAZNET

A list of hazardous waste manifests received each year by Department of Toxic Substances Control (DTSC). The volume of manifests is typically 900,000 - 1,000,000 annually, representing approximately 450,000 - 500,000 shipments.

Government Publication Date: Oct 24, 2016

Historical Hazardous Waste Manifest Data: HIST MANIFEST

A list of historic hazardous waste manifests received by the Department of Toxic Substances Control (DTSC) from year the 1980 to 1992. The volume of manifests is typically 900,000 - 1,000,000 annually, representing approximately 450,000 - 500,000 shipments.

Government Publication Date: Dec 31, 1992

DTSC Registered Hazardous Waste Transporters: HW TRANSPORT

The California Department of Toxic Substances Control (DTSC) maintains this list of Registered Hazardous Waste Transporters.

Government Publication Date: Oct 19, 2020

Registered Waste Tire Haulers: WASTE TIRE

This list of registered waste tire haulers is maintained by the California Department of Resources Recycling and Recovery.

Government Publication Date: Dec 16, 2020

California Medical Waste Management Program Facility List: MEDICAL WASTE

This list of Medical Waste Management Program Facilities is maintained by the California Department of Public Health. The Medical Waste Management Program (MWMP) regulates the generation, handling, storage, treatment, and disposal of medical waste by providing oversight for the implementation of the Medical Waste Management Act (MWMA). The MWMP permits and inspects all medical waste off-site treatment facilities, medical waste transporters, and medical waste transfer stations. This list contains transporters, treatment, and transfer facilities.

Government Publication Date: Dec 31, 2020

Historical Cortese List: HIST CORTESE

List of sites which were once included on the Cortese list. The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies and developers to comply with the California Environmental Quality Act requirements for providing information about the location of hazardous sites.

Government Publication Date: Nov 13, 2008

Cease and Desist Orders and Cleanup and Abatement Orders: CDO/CAO

The California Environment Protection Agency "Cortese List" of active Cease and Desist Orders (CDO) and Cleanup and Abatement Orders (CAO). This list contains many CDOs and CAOs that do NOT concern the discharge of wastes that are hazardous materials. Many of the listed orders concern, as examples, discharges of domestic sewage, food processing wastes, or sediment that do not contain hazardous materials, but the Water Boards' database does not distinguish between these types of orders.

Government Publication Date: Feb 16, 2012

California Environmental Reporting System (CERS) Hazardous Waste Sites: CERS HAZ

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the following regulatory programs: Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, RCRA LQ HW Generator. The CalEPA oversees the statewide implementation of the Unified Program which applies regulatory standards to protect Californians from hazardous waste and materials.

Government Publication Date: Feb 9, 2021

Delisted Environmental Reporting System (CERS) Hazardous Waste Sites: DELISTED HAZ

This database contains a list of sites that were removed from the California Environmental Protection Agency (CalEPA) in the following regulatory programs: Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, RCRA LQ HW Generator.

Government Publication Date: Nov 29, 2018

Sites in GeoTracker: GEOTRACKER

GeoTracker is the State Water Resource Control Boards' data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater. This is a list of sites in GeoTracker that aren't otherwise categorized as LUST, Land Disposal Sites (LDS), Cleanup Sites, or sites having Waste Discharge Requirements (WDR). This listing includes program types such as Underground Injection Control (UIC), Confined Animal Facilities (CAF), Irrigated Lands Regulatory Program, plans, and non-case information.
Government Publication Date: Jun 22, 2021

Mines Listing: MINE

This list includes mine site locations extracted from the Mines Online database, maintained by the California Department of Conservation. Mines Online (MOL) is an interactive web map designed with GIS features that provide information such as the mine name, mine status, commodity sold, location, and other mine specific data. Please note: Mine location information is provided to assist experts in determining the location of mine operators in accordance with California Civil Code section 1103.4 and reflects information reported by mine operators in annual reports provided under Public Resources Code section 2207. While the Division of Mine Reclamation (DMR) attempts to populate MOL with accurate location information, the DMR cannot guarantee the accuracy of operator reported location information.
Government Publication Date: Jan 12, 2021

Recorded Environmental Cleanup Liens: LIEN

The California Department of Toxic Substance Control (DTSC) maintains this list of liens placed upon real properties. A lien is utilized by the DTSC to obtain reimbursement from responsible parties for costs associated with the remediation of contaminated properties.
Government Publication Date: Nov 16, 2020

Waste Discharge Requirements: WASTE DISCHG

List of sites in California State Water Resources Control Board (SWRCB) Waste Discharge Requirements (WDRs) Program in California, made available by the SWRCB via GeoTracker. The WDR program regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.
Government Publication Date: Jun 22, 2021

Toxic Pollutant Emissions Facilities: EMISSIONS

A list of criteria and toxic pollutant emissions data for facilities in California made available by the California Environmental Protection Agency - Air Resources Board (ARB). Risk data may be based on previous inventory submittals. The toxics data are submitted to the ARB by the local air districts as requirement of the Air Toxics "Hot Spots" Program. This program requires emission inventory updates every four years.
Government Publication Date: Dec 31, 2019

Clandestine Drug Lab Sites: CDL

The Department of Toxic Substances Control (DTSC) maintains a listing of drug lab sites. DTSC is responsible for removal and disposal of hazardous substances discovered by law enforcement officials while investigating illegal/clandestine drug laboratories.
Government Publication Date: Jan 19, 2021

Tribal

No Tribal additional environmental record sources available for this State.

County

Riverside County - Hazardous Waste Generator Sites List: HWG RIVERSIDE

A list of Hazardous Waste Generator Sites in the County of Riverside. This list is made available by Riverside County Department of Environmental Health which has been designated as the CUPA for the County.
Government Publication Date: Jul 22, 2021

Riverside County - Disclosure Facility List: HZH RIVERSIDE

A list of facilities disclosed to Riverside County Department of Environmental Health (DEH). This list is made available by Riverside County DEH which has been designated as the CUPA for the County. A business is required to establish and submit a Business Plan if the facility handles hazardous material equal to or greater than 55 gallons, 500 pounds or 200 cubic feet at any time during the year.
Government Publication Date: Jul 22, 2021

Riverside County - Medical Waste Facilities: MED WST RIVERSIDE

This list of active and inactive medical waste facilities is maintained by the County of Riverside Department of Environmental Health.
Government Publication Date: Sep 1, 2020

Riverside County - California Accidental Release Prevention Program Sites: RMP RIVERSIDE

This list of Riverside County California Accidental Release Prevention Program sites is maintained by the County of Riverside Department of Environmental Health. AB 3777 was enacted in 1986 to minimize potential emergencies involving acutely hazardous materials by requiring facilities which handle these materials to submit Risk Management Prevention Plans. The Riverside County Department of Environmental Health Hazardous Materials Branch began implementation of this Program County-wide in January 1991. All cities within Riverside County are included in this list.

Government Publication Date: Jul 29, 2020

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

Unplottables: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.

APPENDIX B

NO FURTHER ACTION LETTER

California Regional Water Quality Control Board
Santa Ana Region

Winston H. Hickox
Secretary for Environmental Protection

Internet Address: http://www.swrcb.ca.gov
3737 Main Street, Suite 500, Riverside, California 92501-3348
Phone (909) 782-4130 • FAX (909) 781-6288

Gray Davis
Governor

June 26, 2003

Mr. Scott DeMuth
Sears Roebuck & Co.
3333 Beverly Rd.
Dept. 824C, A2-158B
Hoffman Estates, IL 60179

SUBJECT: NO FURTHER ACTION
SEARS AUTO CENTER NO. 1293
5261 ARLINGTON AVE., RIVERSIDE, CALIFORNIA
UST CASE NO. 083300337T

Dear Mr. DeMuth:

This letter confirms the completion of the site investigation and remedial action for the underground storage tanks (USTs) formerly located at the above-described location. Enclosed is the Case Summary for the referenced site for your records.

Based upon the available information, including current land use, and with the provision that the information provided to this agency was accurate and representative of site conditions, no further action related to the UST removal is required.

This notice is issued pursuant to a regulation contained in Title 23, California Code of Regulations, Division 3, Chapter 16, Section 2721(e).

Please provide documentation of proper well abandonment, in accordance with your proposal dated May 22, 2003, to this office to complete our file. Please contact Rose Scott of our office at (909) 320-6375 if you have any questions regarding this matter.

Sincerely,

for Gerard J. Thibeault
Executive Officer

Enclosure: Case Closure Summary

cc: URS Corporation, Kevin Russell, J.S. Rowlands, Ryan Hartly

CASE SUMMARY

I. AGENCY INFORMATION

Agency Name: California Regional Water Quality Control Board, Santa Ana Region	Address: 3737 Main Street, Suite 500
City/state/zip: Riverside, CA 92501-3348	Phone: (909) 320-6375 or (909) 782-4130
Staff: Rose T. Scott	Title: Associate Engineering Geologist

II. CASE INFORMATION

Site Name:	Sears Auto Center #1293
Location:	5261 Arlington Ave., Riverside, California
RB Case #	083300337T

Responsible Parties	Address	Phone Number
Sears Roebuck &Co.	3333 Beverly Road, Dept. 824C, A2-158B Hoffman Estates, IL 60179	(847) 286-5530

Tank No.	Size In Gallons	Contents	Closed in-place/ Removed?	Date
1	10,000	Leaded Gasoline	Removed	June 15, 1985
2	10,000	Unleaded Gasoline	Removed	June 15, 1985
3	10,000	Unleaded Gasoline	Removed	June 15, 1985
4	2,000	Oil	Removed	July 1987
5	2,000	Oil	Removed	July 1987
6	1,000	Oil	Removed	July 1987
7	1,000	Oil	Removed	July 1987
8	1,000	Motor oil	Removed	July 1987
9	1,000	Motor oil	Removed	July 1987
10	1,000	Waste oil	Removed	July 1987

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause & type of release: USTs (reported 8/13/87)	Closure report dated: May 22, 2003
Site characterization complete: YES [x] NO	Monitoring Wells installed: YES [x] NO [ ]
Proper screened interval: YES [x] NO [ ] NA [ ]	Most sensitive current groundwater use: Municipal
Shallowest groundwater depth: 28.34 feet bgs	Greatest groundwater depth: 31.45 feet bgs
Flow Direction: variable: north northwest	Hydraulic Gradient: 0.004 to 0.03
Groundwater Sub-Basin: Riverside III	Report(s) on file? Yes
Reports(s) filed: CA Regional Water Quality Control Board	3737 Main Street, Suite 500, Riverside, CA 92501-3348

TREATMENT AND DISPOSAL OF AFFECTED MATERIAL			
MATERIAL	AMOUNT	ACTION, TREATMENT OR DISPOSAL W/DESTINATION	DATE
Soil	18 cubic yards	Offsite Disposal	November 1994
Groundwater	---	---	---

MAXIMUM DOCUMENTED CONTAMINANT CONCENTRATIONS – BEFORE & AFTER CLEANUP				
CONTAMINANT	SOIL (mg/kg)		WATER (µg/l)	
	Before (1985-94)	After (1999)	Before	After
Total Recoverable Petroleum Hydrocarbons – Motor Oil (418.1)	320	ND (<10)	NA	NA
Total Petroleum Hydrocarbons – Gasoline (8015)	1,400	1,800	91,000	688
Araclor	0.2	NA	NA	NA
MTBE	NA	ND (<5)	39	<2
Benzene	0.032	0.007	8,000	<1
Toluene	1.4	52	20,000	<1
Ethylbenzene	2.2	20	3,800	2.4
Xylenes	12	158	43,000	22.7
Trimethylbenzenes	NA	145	NA	ND (<5)
Tetrachloroethene	NA	ND (<0.005)	ND (<500)	11.5
Naphthalene	NA	16	NA	ND (<5)
1,2-dibromoethane	ND(<0.001)	ND (<0.005)	2.4	ND (<0.5)
n-propyl benzene	NA	14	NA	ND (<5)
n-butyl benzene	NA	6.6	NA	ND (<5)
Total Lead	15	NA	90	4.1

NA - Not analyzed
ND - Not detected at method detection limit
* - Nitrate, sulfate and methane data in file.

IV. CLOSURE

Does completed corrective action protect beneficial uses per the basin plan? YES [x] NO [ ]
Does the corrective action protect public health for current land use? YES [x] NO [ ]

SITE MANAGEMENT REQUIREMENTS
Should corrective action be reviewed if land use changes? YES [x] NO [ ]
Monitoring or vapor wells decommissioned: YES [x] NO [x] N/A [ ]
Number decommissioned: Six wells were abandoned in September 1992. Nine remain to be destroyed.

List of enforcement actions taken: none
List enforcement action rescinded: none

V. ADDITIONAL COMMENTS, DATA, ETC.

In June 1985, three gasoline underground storage tanks (USTs) were removed from the site. Six wells were installed in 1985. The before concentrations on the table above are primarily from the sample collected from well TR103-A (sample W1) located within the former tank area on June 19, 1985. In July 1987, one waste oil and six motor oil USTs were removed from the site. On May 26, 1992, a groundwater sample was collected from the downgradient well (TR103-03), but there was not sufficient water to collect samples from the other five wells. The six existing wells were abandoned and four new wells were installed in September 1992. Well MW-2 was installed 10 feet downgradient of well TR103-A. In January 1993, five more wells were installed. Quarterly groundwater monitoring has been conducted since 1993. In November 1994, product lines were removed and contaminated soil, noted on the table above, was transported offsite.

In October 1999, verification sampling of soil and groundwater from six direct push borings was conducted. The after concentrations for soil on the table above are from this event. Elevated levels of petroleum hydrocarbons were detected in the groundwater sample from the probe within the former tank area (GP-3) approximately 5 feet from TR-103A. These are shown on the before column on the table above for total petroleum hydrocarbons as gasoline (TPHg) and ethylbenzene. (The sample from TR-103A did not have reported results for these compounds. Based on a comparison of the xylene and benzene concentrations from the two wells, the concentrations of TPHg and ethylbenzene for the earlier TR103A sample are expected to be greater than those reported on the tablle for the GP-3 sample.)

On October 7, 1994, separate phase petroleum product was present at a thickness of 1.2 feet in well MW-3. It was detected again at 0.1 feet on February 25, 1997 in wells MW-3 and MW-4. Product was not detected for the following six years at similar water levels. Benzene, toluene, ethylbenzene and xylenes are currently not detected in any of the wells. In the wells, methyl tertiary butyl ether (MTBE) was only detected once (October 25, 1999) at a concentration of 39 micrograms per liter and the other fuel oxygenates were not detected. Benzene has remained below the low risk guideline level since June of 1995 in all of the wells. Toluene, ethylbenzene and xylenes have been below the low risk guideline levels for at least the last year in all of the wells.

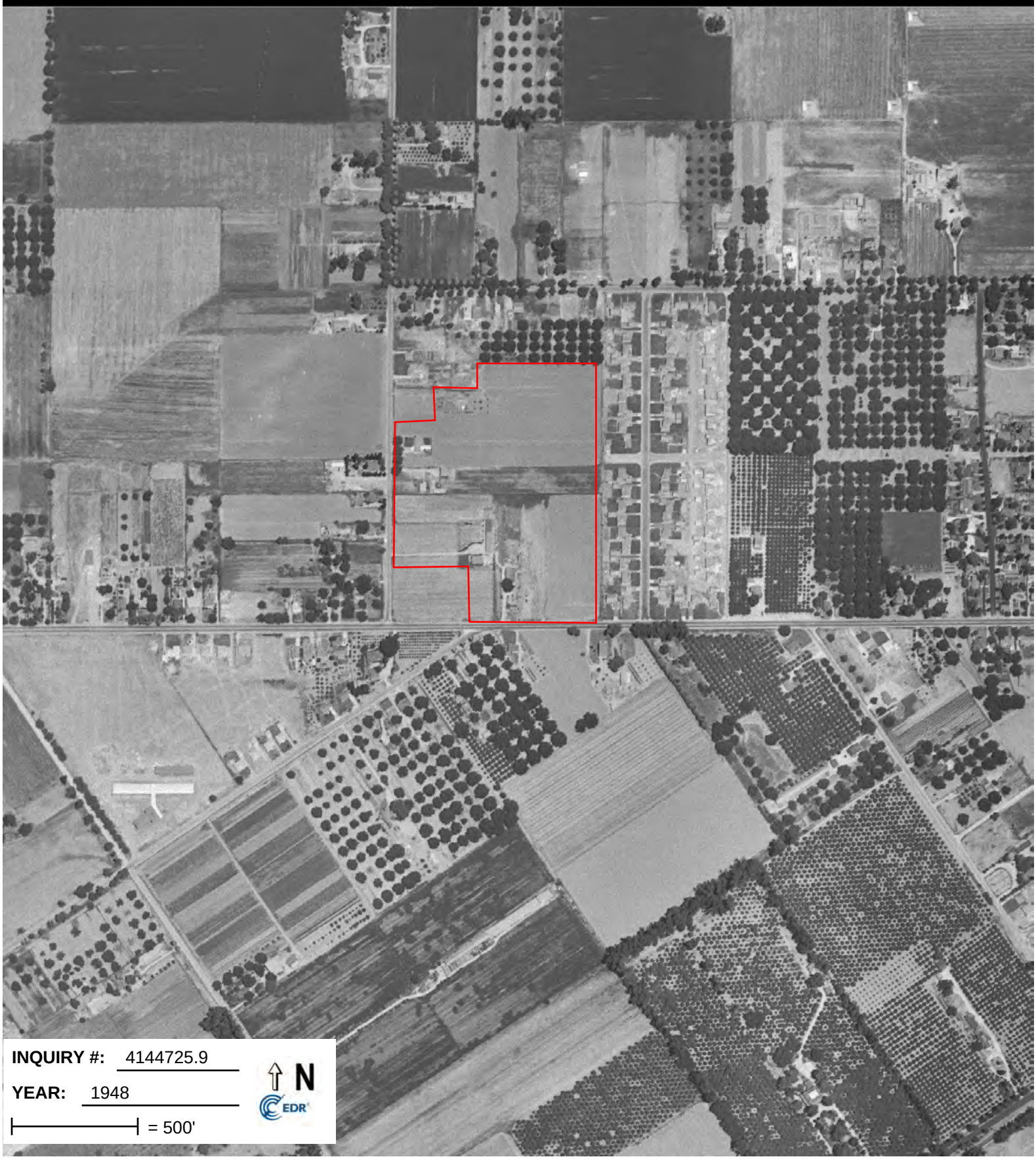
VI. RWQCB AGENCY RESPONSE

Regional Board Staff:

Name: Rose T. Scott	Title: Associate Engineering Geologist
Signature: Rose T. Scott	Date: 6/24/3
Name: Kenneth R. Williams - Senior Engineering Geologist	Response: Concurs with Closure
Signature: Kenneth R. Williams	Date: 6/24/03

APPENDIX C
HISTORICAL RESOURCES

INQUIRY #: 4144725.9
YEAR: 1938
= 500'
N
EDR


INQUIRY #: 4144725.9
YEAR: 1948
= 500'
N
EDR

INQUIRY #: 4144725.9
YEAR: 1953
= 500'
N
EDR

INQUIRY #: 4144725.9
YEAR: 1966
= 500'
N
EDR

INQUIRY #: 4144725.9
YEAR: 1977
= 500'
N
EDR

INQUIRY #: 4144725.9
YEAR: 1985
= 500'
N
EDR

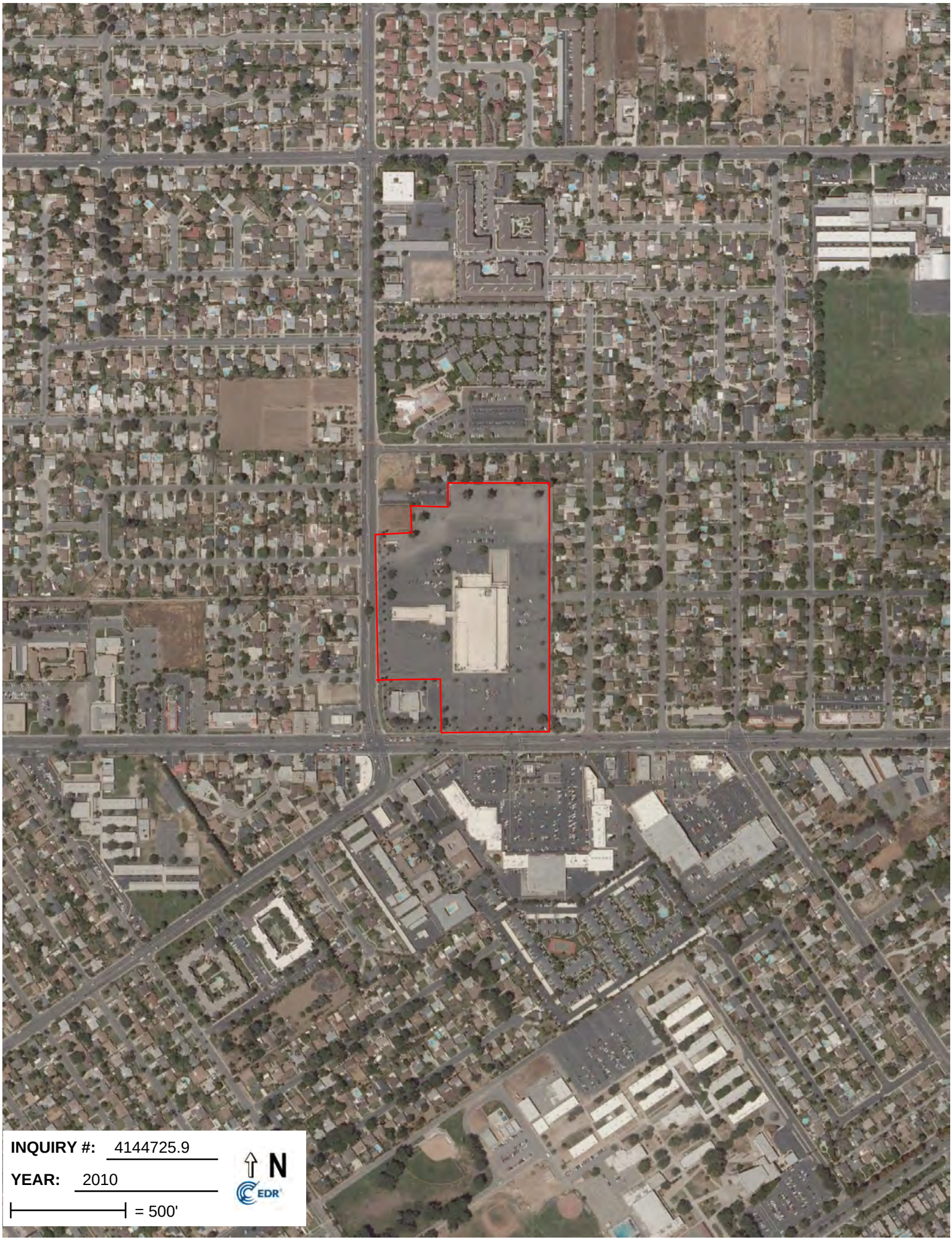
INQUIRY #: 4144725.9
YEAR: 1990
= 500'
N
EDR

INQUIRY #: 4144725.9
YEAR: 1994
= 500'
N
EDR

INQUIRY #: 4144725.9
YEAR: 2005
= 500'
N
EDR

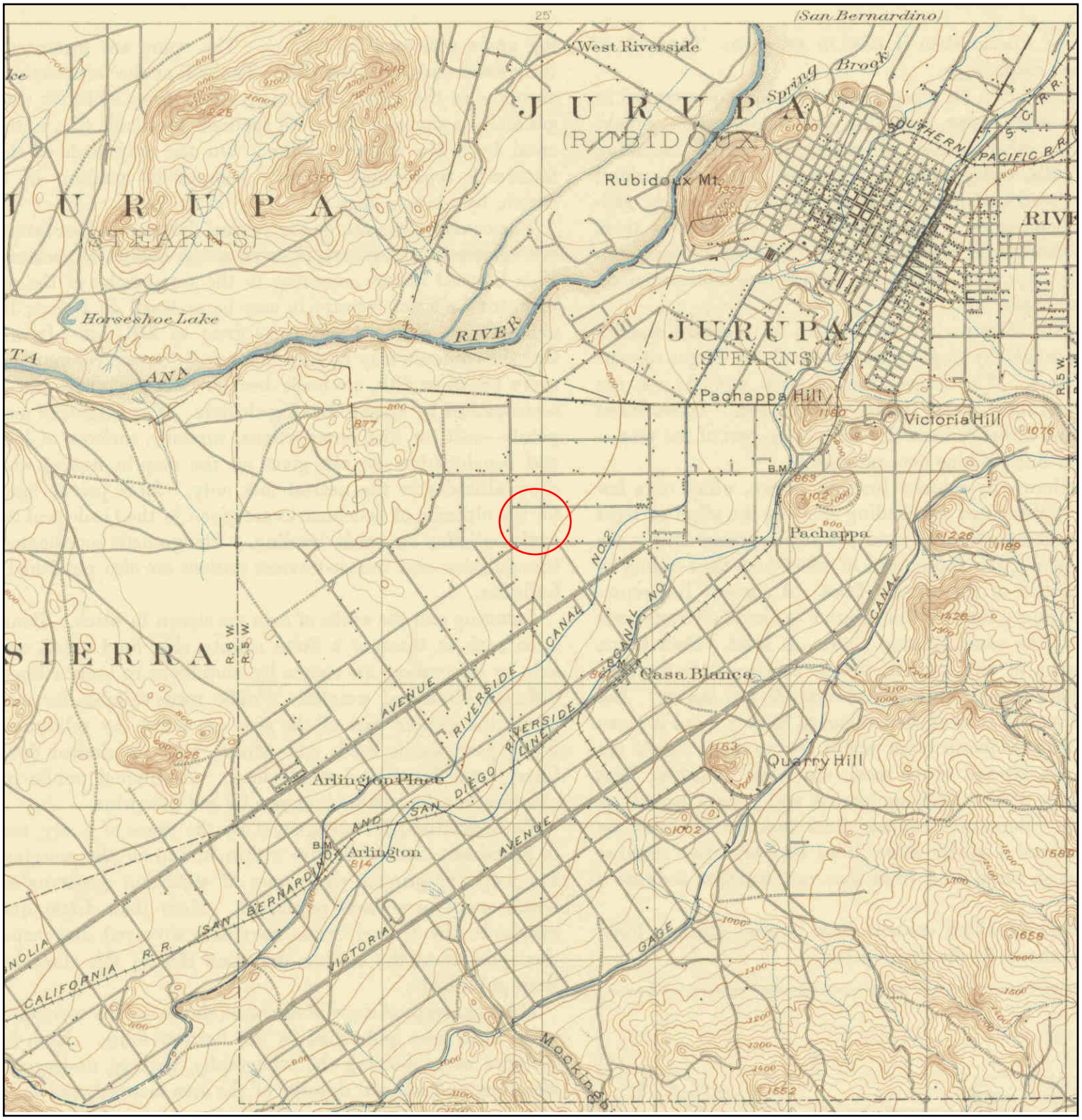
INQUIRY #: 4144725.9
YEAR: 2006
= 500'
N
EDR

INQUIRY #: 4144725.9
YEAR: 2009
= 500'
N
EDR


INQUIRY #: 4144725.9
YEAR: 2010
= 500'
N
EDR

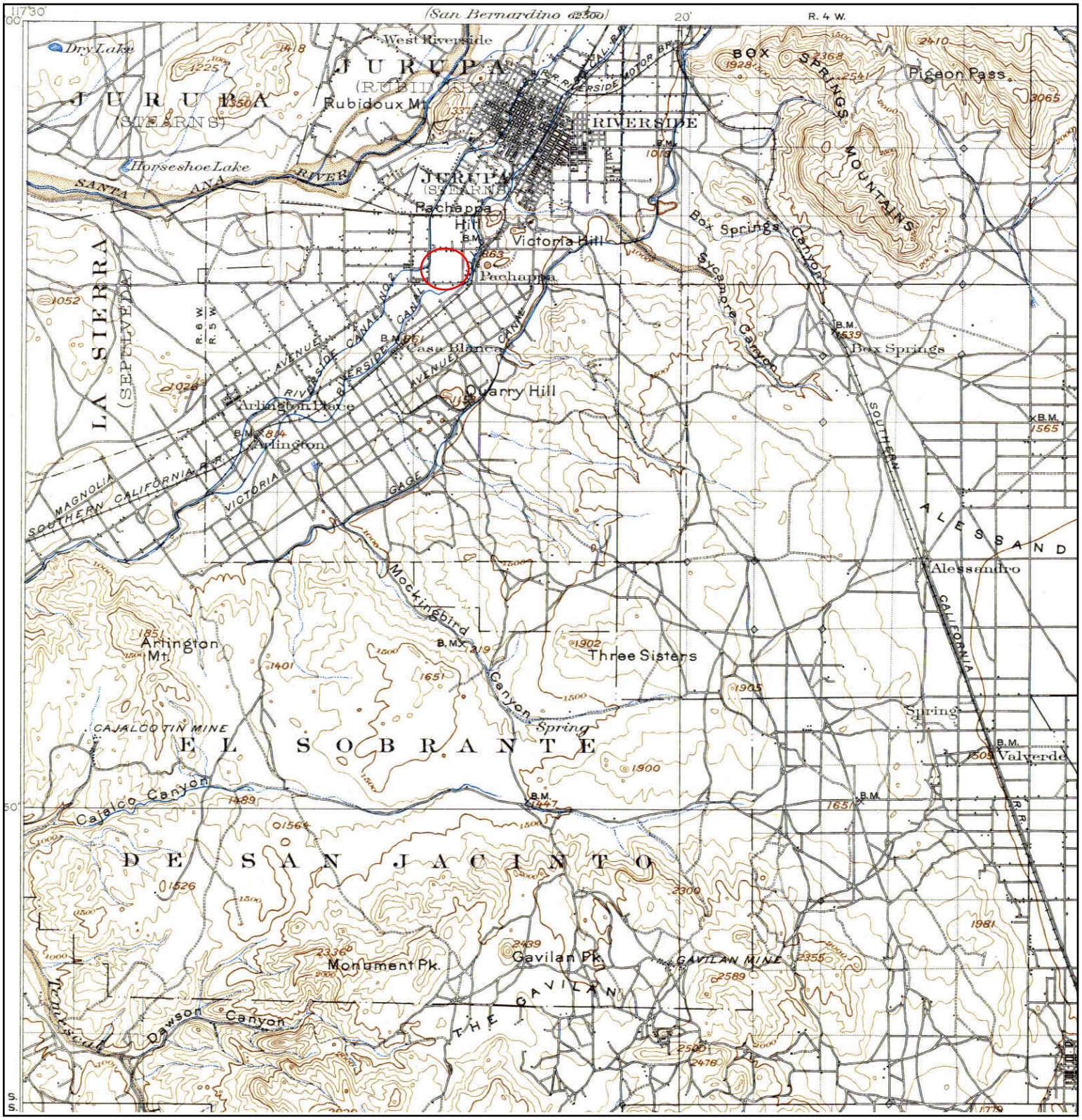
INQUIRY #: 4144725.9
YEAR: 2012
= 500'
N
EDR

Historical Topographic Map



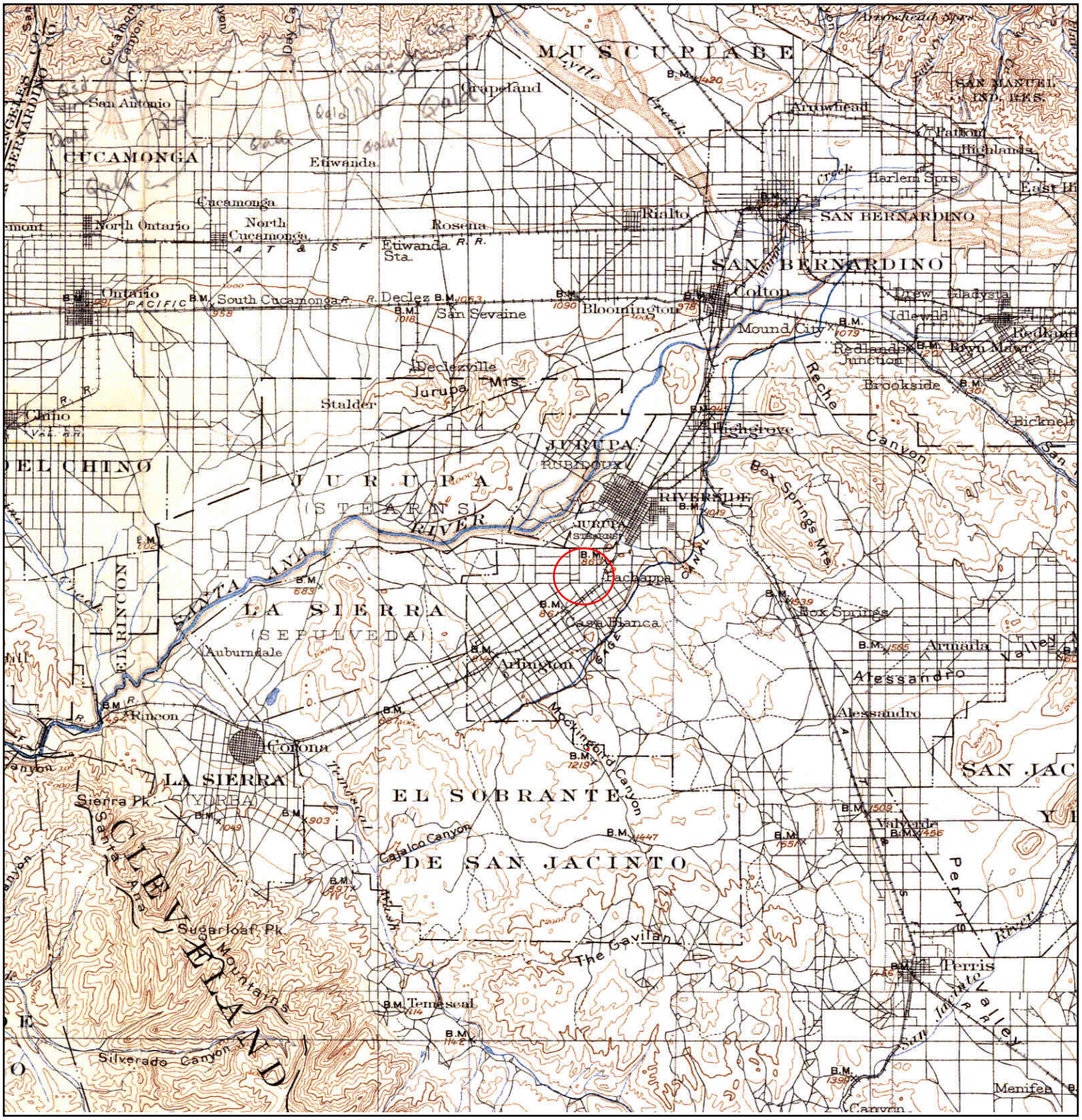
N	TARGET QUAD NAME: RIVERSIDE MAP YEAR: 1901 SERIES: 15 SCALE: 1:62500	SITE NAME: Sears Store #1298 ADDRESS: 5261 Arlington Avenue Riverside, CA 92504 LAT/LONG: 33.9476 / -117.417	CLIENT: Terracon CONTACT: Caitlin Price INQUIRY#: 4144725.4 RESEARCH DATE: 11/25/2014

Historical Topographic Map



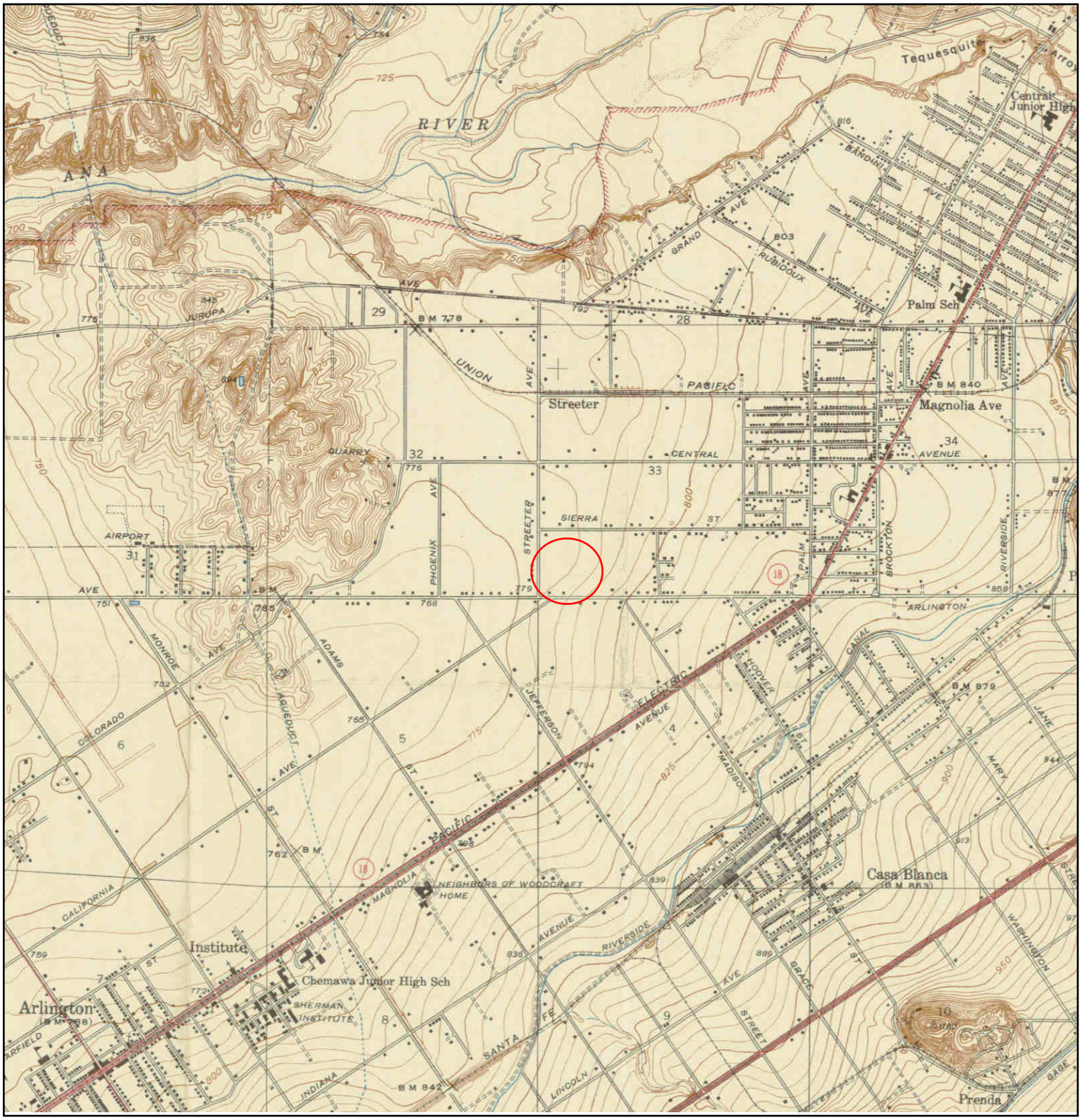
N	TARGET QUAD NAME: ELSINORE MAP YEAR: 1901 SERIES: 30 SCALE: 1:125000	SITE NAME: Sears Store #1298 ADDRESS: 5261 Arlington Avenue Riverside, CA 92504 LAT/LONG: 33.9476 / -117.417	CLIENT: Terracon CONTACT: Caitlin Price INQUIRY#: 4144725.4 RESEARCH DATE: 11/25/2014

Historical Topographic Map



N	TARGET QUAD NAME: SOUTHERN CA SHEET 1 MAP YEAR: 1901 SERIES: 60 SCALE: 1:250000	SITE NAME: Sears Store #1298 ADDRESS: 5261 Arlington Avenue Riverside, CA 92504 LAT/LONG: 33.9476 / -117.417	CLIENT: Terracon CONTACT: Caitlin Price INQUIRY#: 4144725.4 RESEARCH DATE: 11/25/2014

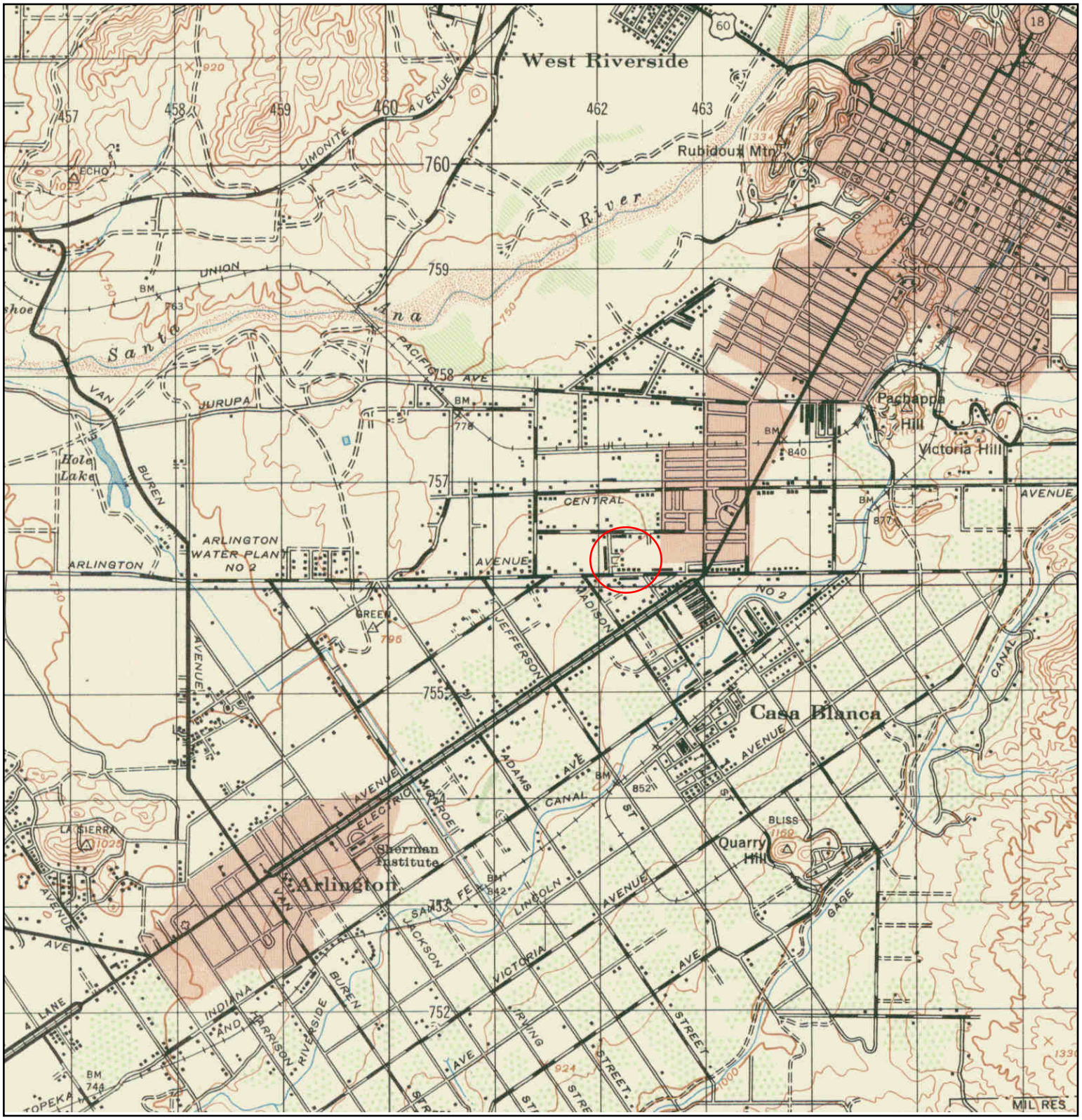
Historical Topographic Map



Unsurveyed Area on the Topographic Map

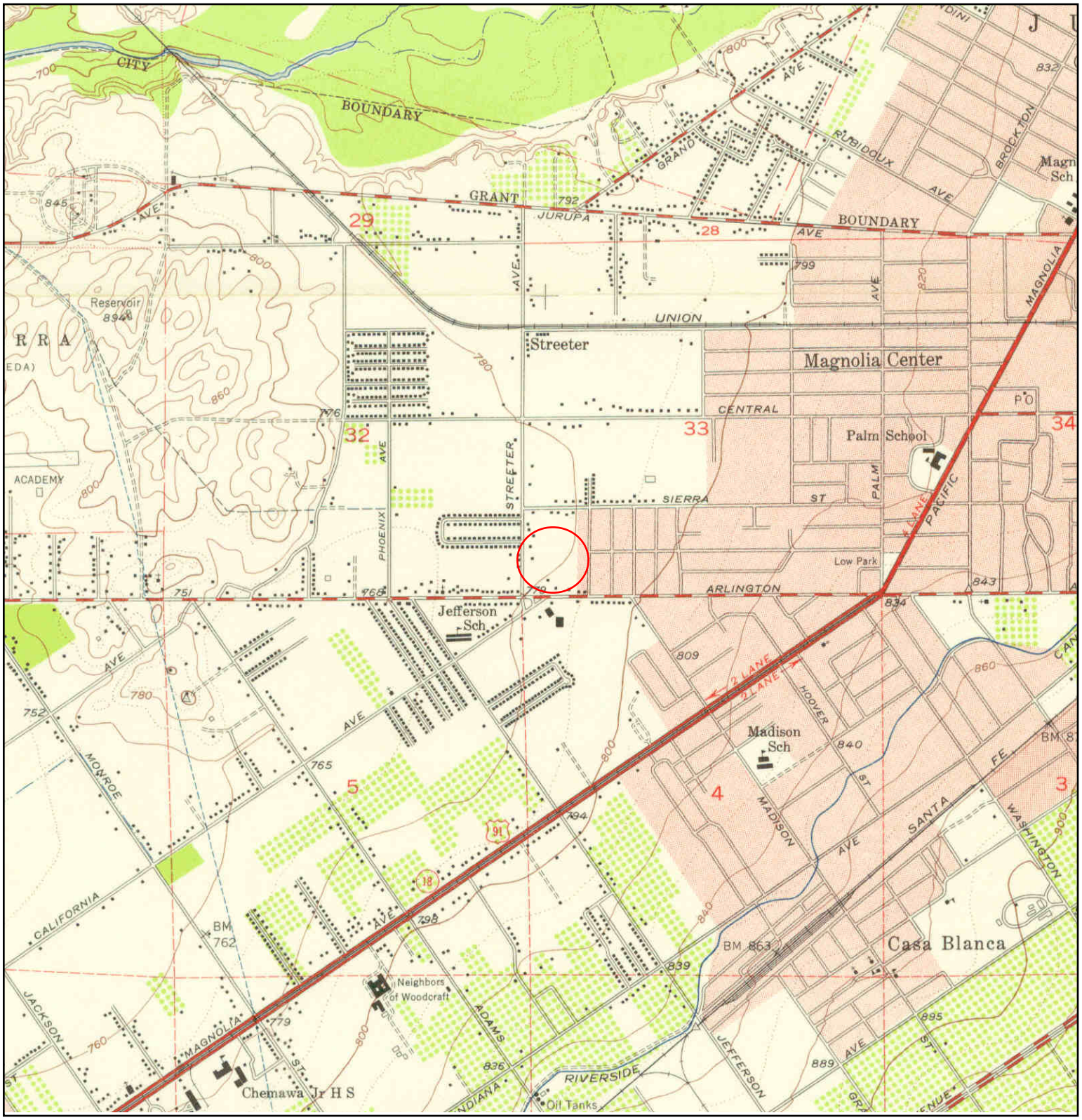
N	TARGET QUAD NAME: RIVERSIDE VICINITY MAP YEAR: 1942 SERIES: 7.5 SCALE: 1:31680	SITE NAME: Sears Store #1298 ADDRESS: 5261 Arlington Avenue Riverside, CA 92504 LAT/LONG: 33.9476 / -117.417	CLIENT: Terracon CONTACT: Caitlin Price INQUIRY#: 4144725.4 RESEARCH DATE: 11/25/2014

Historical Topographic Map



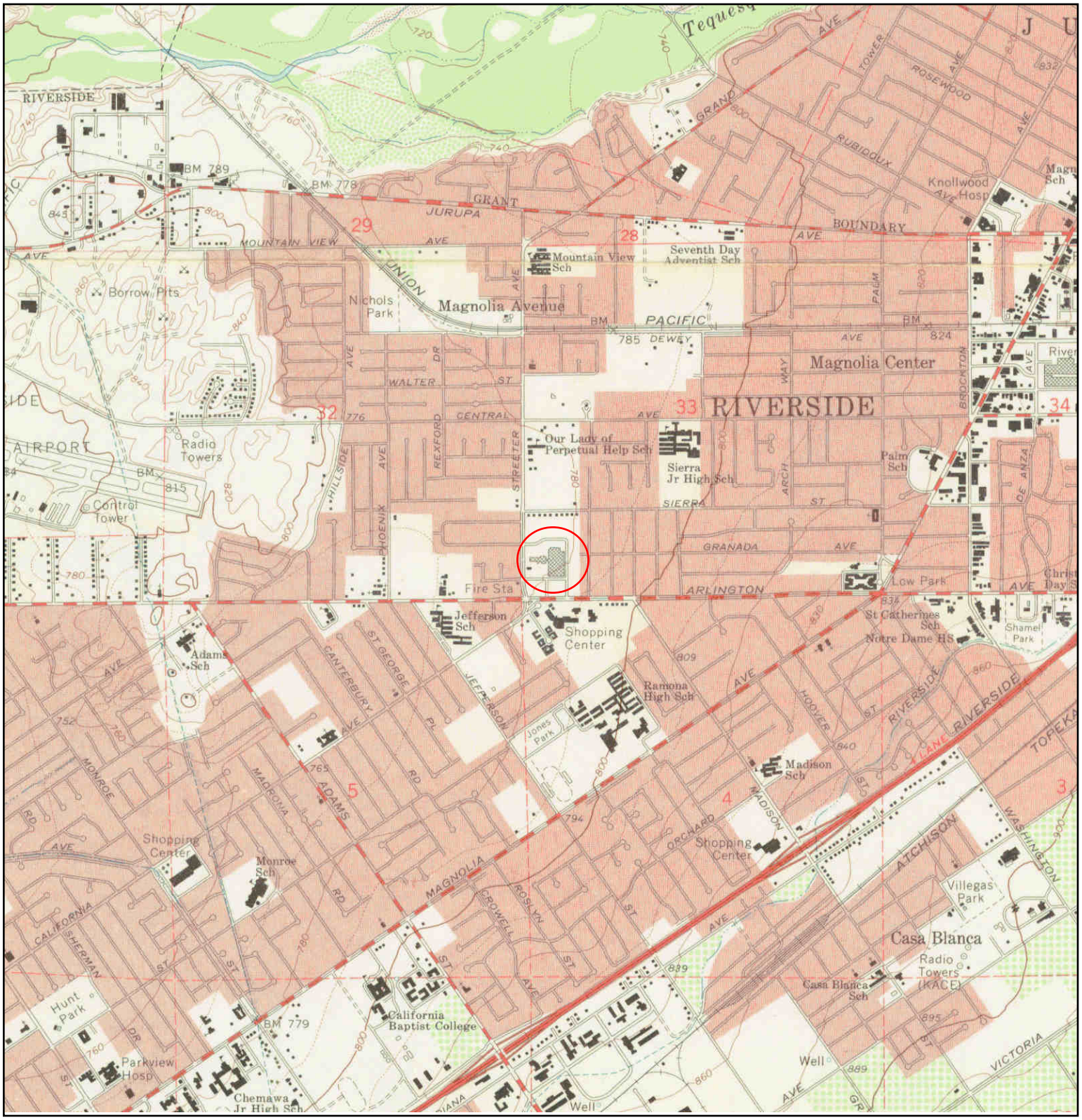
N	TARGET QUAD NAME: RIVERSIDE MAP YEAR: 1947 SERIES: 15 SCALE: 1:50000	SITE NAME: Sears Store #1298 ADDRESS: 5261 Arlington Avenue Riverside, CA 92504 LAT/LONG: 33.9476 / -117.417	CLIENT: Terracon CONTACT: Caitlin Price INQUIRY#: 4144725.4 RESEARCH DATE: 11/25/2014

Historical Topographic Map



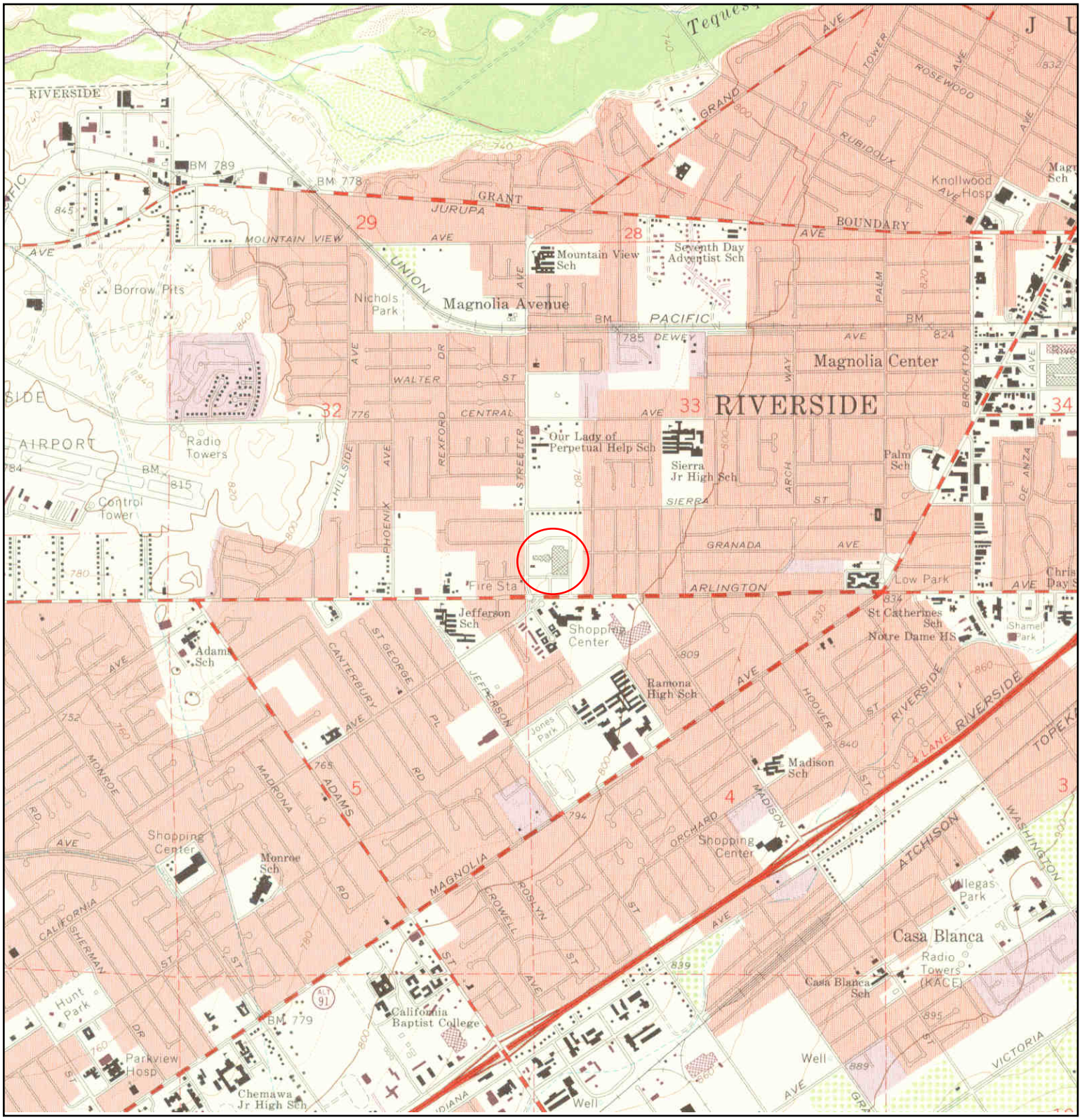
N	TARGET QUAD NAME: RIVERSIDE WEST MAP YEAR: 1953 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Sears Store #1298 ADDRESS: 5261 Arlington Avenue Riverside, CA 92504 LAT/LONG: 33.9476 / -117.417	CLIENT: Terracon CONTACT: Caitlin Price INQUIRY#: 4144725.4 RESEARCH DATE: 11/25/2014

Historical Topographic Map



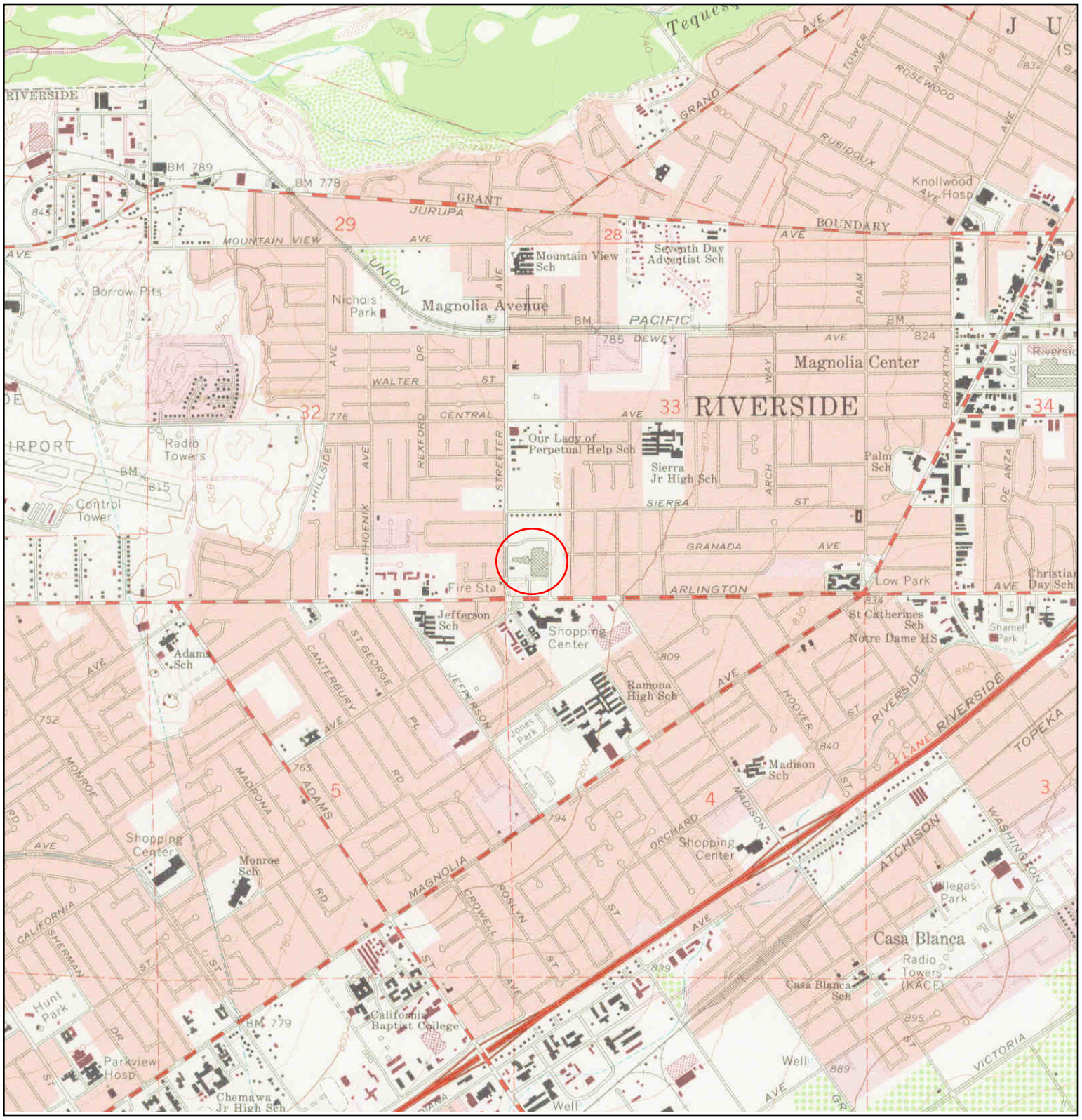
N	TARGET QUAD NAME: RIVERSIDE WEST MAP YEAR: 1967 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Sears Store #1298 ADDRESS: 5261 Arlington Avenue Riverside, CA 92504 LAT/LONG: 33.9476 / -117.417	CLIENT: Terracon CONTACT: Caitlin Price INQUIRY#: 4144725.4 RESEARCH DATE: 11/25/2014

Historical Topographic Map



N	TARGET QUAD NAME: RIVERSIDE WEST MAP YEAR: 1973 PHOTOREVISED FROM :1967 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Sears Store #1298 ADDRESS: 5261 Arlington Avenue Riverside, CA 92504 LAT/LONG: 33.9476 / -117.417	CLIENT: Terracon CONTACT: Caitlin Price INQUIRY#: 4144725.4 RESEARCH DATE: 11/25/2014

Historical Topographic Map



N	TARGET QUAD NAME: RIVERSIDE WEST MAP YEAR: 1980 PHOTOREVISED FROM :1967 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Sears Store #1298 ADDRESS: 5261 Arlington Avenue Riverside, CA 92504 LAT/LONG: 33.9476 / -117.417	CLIENT: Terracon CONTACT: Caitlin Price INQUIRY#: 4144725.4 RESEARCH DATE: 11/25/2014

APPENDIX D
PHOTOGRAPHS

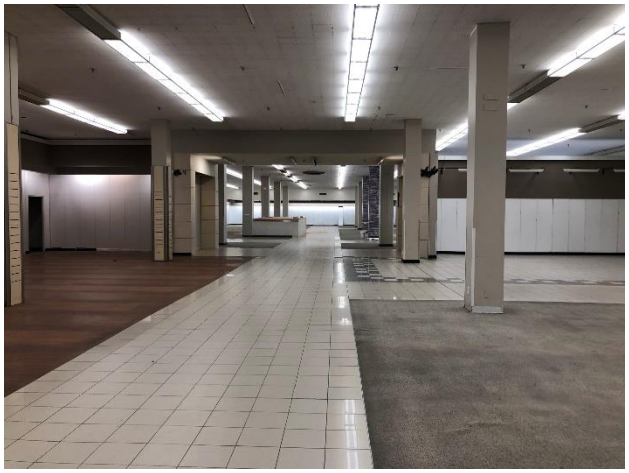
1. View of retail structure facing northwest.

2. View of loading dock on the northern side of the retail structure.

3. View of automotive service center building facing northwest.

4. View of typical storm drain in the parking area.

5. View of retail area occupied by Spirit Halloween.



6. View of typical unoccupied retail area.

7. View of public elevator.

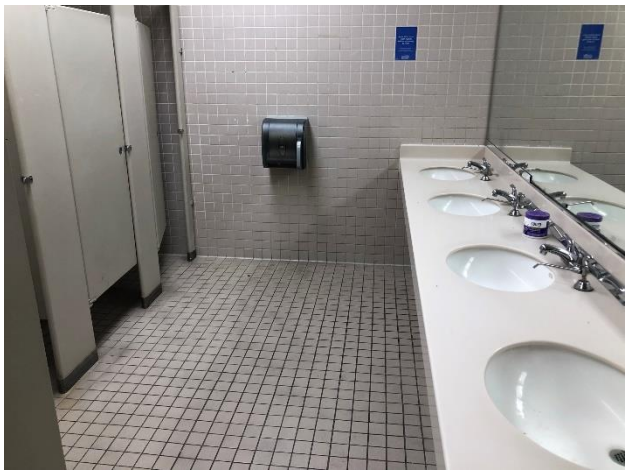
8. View of former maintenance area on the ground level of the retail structure.

9. View of floor drain in the former maintenance area.

10. View of storage area in the retail structure basement level.

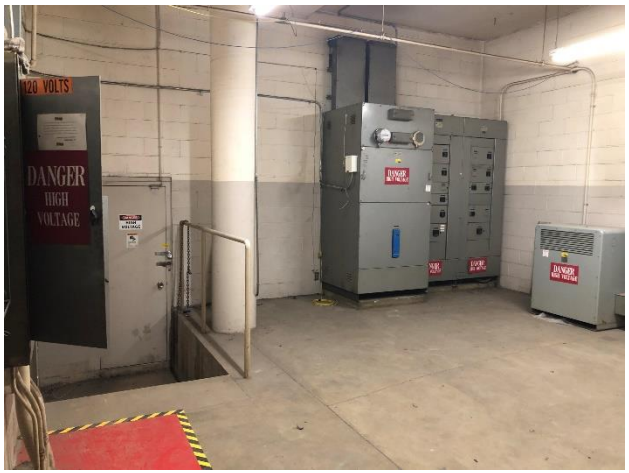
11. View of office space in the retail structure basement level.

12. View of break room in the retail structure basement level.



13. View of typical restroom in the retail structure basement level.

14. View of typical restroom floor drain.



15. View of electrical equipment room in the retail structure basement level.

16. View of freight elevator equipment room in the retail structure basement level.

17. View of disconnected boiler in the retail structure basement level.

18. View of trash compactor in the retail structure basement level.

19. View of the eastern adjoining residential properties.

20. View of Arlington Avenue then the southern adjoining commercial properties.

21. View of the adjoining Bank of America building immediately southwest of the Site.

22. View of the western adjoining residential properties.

23. View of the northern adjoining residential properties.

APPENDIX E
QUALIFICATIONS

Dan Weis, R.E.H.S.

ENVIRONMENTAL MANAGER

1938 Kellogg Avenue, Suite 116, Carlsbad, CA 92008

(760) 585-7070 // (760) 672-6338 // dw@weisenviro.com // www.weisenviro.com

Professional Summary

Environmental Manager and California Registered Environmental Health Specialist with extensive expertise in environmental science and assessment, environmental and public health, risk assessment, health and safety, remedial design and implementation, strategic planning and project/program design and implementation. Over 20 years of professional experience and achievement. Successful completion of projects for a wide range of clientele including, but not limited to, local government entities, developers (affordable housing and market rate), educational institutions, Federal government entities, law firms, architectural and engineering firms, lending institutions, life insurance companies, conservancies, commercial/industrial real estate owners/managers, insurance companies, wireless telecommunication carriers and real estate developers. Extensive experienced in the completion of assessment, construction and remediation quality assurance during the completion of urban redevelopment/brownfields projects and public works projects, many of which have been located in downtown areas of San Diego, Los Angeles, Oakland, San Francisco, and other urban communities throughout the State of California. Proven ability to train and mentor professional, technical and support staff. Manages a comprehensive health and safety program. Holds a Master of Science in Public Health with an emphasis in environmental health science, risk assessment, health and safety, toxicology and environmental policy. Registered Environmental Health Specialist #8172 in the State of California.

Education and Professional Certification

- University of Delaware, Bachelor of Arts, 1995
- San Diego State University, Master of Science, Public/Environmental Health, 2001
- State of California Registered Environmental Health Specialist #8172
- Centers for Disease Control and Prevention National Center for Environmental Health Division of Emergency and Environmental Health Services - Environmental Health Training in Emergency Response
- Occupational Safety and Health Administration (OSHA) 40 Hour Hazardous Waste Operations and Emergency Response Standard (HAZWOPER) Training and Annual 8 Hour HAZWOPER Refresher Training
- OSHA 8 Hour HAZWOPER Supervisor Training

Relevant Skills and Qualifications

- Proven ability to manage staff and programs/projects in challenging and diverse environments and regulatory settings. Consistently meets project schedules, goals, deadlines and budgetary restrictions.
- Completed or managed over 3,000 due diligence related environmental assessments and completed or managed over 500 subsurface environmental investigations of soil gas, soil, groundwater and other media. Investigations have included human health and ecological risk assessments, evaluations of indoor air conditions based on interpretations of subsurface conditions, underground storage tank (UST) evaluation/closure and hazardous waste characterization/management. Subsurface activities performed include the completion of soil borings using various drilling technologies, soil and groundwater sampling, installation and sampling of groundwater monitoring wells, free product evaluations, exploratory trenching and real-time delineation using mobile analytical laboratories and other soil screening technology.
- Managed over 100 remediation or construction management related projects primarily related to source removal of subsurface contaminants, including but not limited to, petroleum hydrocarbons, chlorinated solvents, heavy metals, organochlorine pesticides and other agricultural related chemicals, dioxins and furans and polychlorinated biphenyls. Has also assisted in cost recovery efforts from private parties and State/Federal funding programs for environmental assessment and remediation work and has served as an expert witness during legal proceedings pertaining to environmental related claims.
- Strong collaboration and negotiation skills with environmental regulatory agencies regarding project planning, initiation, status, approvals and implementation. Direct experience in interfacing with members of regulatory agencies including but not limited to the United States Environmental Protection Agency (EPA), California EPA Department of Toxic Substances

Control and Office of Environmental Health Hazard Assessment, County of San Diego Departments of Environmental Health (DEH), Public Works and Planning and Land Use, San Diego Air Pollution Control District, South Coast Air Quality Management District, Riverside County DEH, San Francisco City and County Department of Public Health (DPH), Arizona Department of Environmental Quality, County of Los Angeles County DPH and other local Certified Unified Program Agencies. Develop, manage and implement compliance and best practices efforts with Federal and State laws and regulations.

- Conducted and/or managed hundreds of public/environmental health related assessments including electromagnetic field surveys, radionuclide surveys, indoor air quality investigations, radon surveys, drinking water assessments, asbestos containing materials and lead-based paint surveys and mold/microbial evaluations.
- Recovered over $10,000,000 of assessment and cleanup costs for clientele from various sources including State of California Cleanup Funds, United States Environmental Protection Agency Brownfield grants and private parties including major oil companies.
- Responsible for facilitating a safe and healthy work environment in concert with the mission of the company while ensuring compliance with applicable Federal, State, and local regulations.
- Published technical papers pertaining to geogenic concentrations of metals in San Diego County, radioactive dating and pollutant chronologies in estuarine sediments and various urban runoff related implications.
- Delivered presentations pertaining to various environmental topics including human health risk assessment to membership at local and national trade conferences

Project Experience (Projects Completed at Multiple Firms)

- 14th and Island, San Diego, California – Development of Site Mitigation Plan, contaminated soil management and disposal concurrent with site construction activities at the superblock construction site in downtown San Diego and achievement of regulatory closure with the County of San Diego Department of Environmental Health.
- 2198 Market Street, San Francisco, California – Phase I and II Environmental Site Assessments, supplemental subsurface investigation, Site Mitigation Plan development, contaminated soil management and disposal concurrent with site construction activities and negotiation/achievement of regulatory closure with the City of San Francisco Department of Public Health.
- Former EZ Serve, 9305 Mission Gorge Road, Santee, California – Closure report preparation and San Diego Regional Water Quality Control Board interface and negotiation/achievement of regulatory closure under State of California low-threat policy.
- French Field – Former Vista Burn Dump, Oceanside, California – Oversight of the capping of a former burn dump/landfill facility and restoration for public use as a sports facility. Negotiation and achievement of regulatory closure with the California Department of Toxic Substances Control with concurrence from the San Diego Regional Water Quality Control Board and the County of San Diego Local Enforcement Agency.
- Indoor Skydiving Facility, 1401 Imperial Avenue, San Diego, California – Development of Soil Management Plan and contaminated soil management and disposal concurrent with site construction activities in downtown San Diego.
- Lemon Grove Avenue Realignment Project, Lemon Grove, California – Development of Impacted Soil Management Plan, Community Health and Safety Plan and Worker Health and Safety Plan and oversight of the implementation of such plans during construction activities.
- North Side Interior Road and Utilities Project at San Diego International Airport, San Diego, California - Subsurface assessment, development of Soil Management Plan and Work Health and Safety Plan and implementation and monitoring of soil management strategies.
- Olympic and Hill, Los Angeles, California – Removal of multiple underground storage tanks and underlying contaminated soil and achievement of regulatory closure with the City of Los Angeles Fire Department.
- San Ysidro - U.S. Land Port of Entry, San Diego, California – Subsurface assessment and development and implementation of soil management strategies.
- VA Medical Center Long Beach, 5901 East 7th Street, Long Beach, California - VA Long Beach: Seismic Corrections – Mental Health, Community Living Center and Chiller Replacements Project – Asbestos containing materials and lead-based paint surveys and preparation of abatement contractor bid specifications.

Phase II Environmental Site Assessment

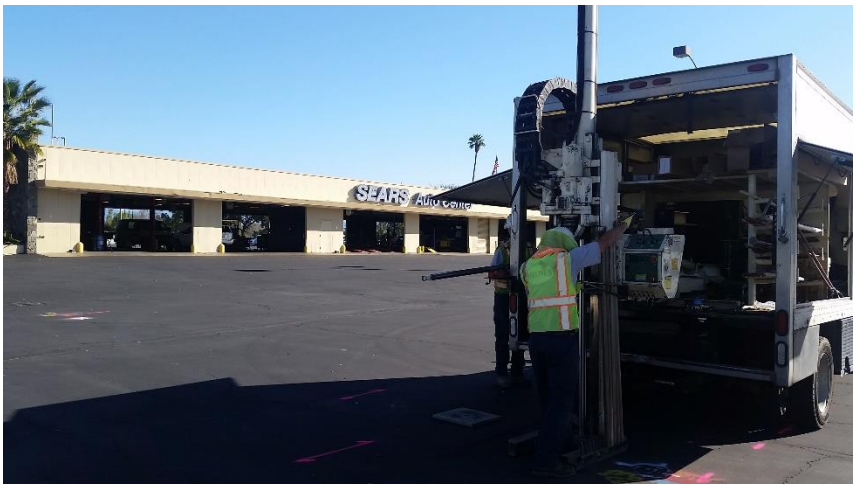
TERRACON

Attorney Client Privilege Prepared at Request of Counsel

Phase II ESA Report

1298_CA_DD_FINAL Phase II ESA Report
Sears Store #1298 and Sears Auto Center #6711
5261 Arlington Avenue
Riverside, Riverside County, California

April 7, 2015
Terracon Project No. 60159016.1298



Prepared for:
Sears Holdings Management Corporation
333 Beverly Road, B5-362A
Hoffman Estates, IL 60179

Prepared by:
Terracon Consultants, Inc.
Irvine, California

Attorney Client Privilege Prepared at Request of Counsel

April 7, 2015

Terracon

Sears Holdings Management Corporation
3333 Beverly Road, B5-362A
Hoffman Estates, Illinois 60179

Attn: Mr. Michael Couvreur
P: (847) 286-9214
F: (847) 747-9056
Michael.couvreur@searsshc.com

Re: Phase II Environmental Site Assessment
1298_CA_DD_FINAL Phase II ESA Report
Sears Store #1298 and Sears Auto Center #6711
5261 Arlington Avenue
Riverside, Riverside County, California
Terracon Project No. 60159016.1298

Dear Mr. Couvreur,

Terracon Consultants, Inc. (Terracon) is pleased to submit our report of Phase II Environmental Site Assessment (Phase II ESA) activities completed at the site referenced above. The report presents data from recent field activities that included the completion of soil borings and the collection of soil and groundwater samples for chemical analysis. The activities were completed to address the findings of the Phase I Environmental Site Assessment (Phase I ESA) of the property dated December 18, 2015. Terracon conducted the Phase II ESA in general accordance with our proposal (P60150041.35) dated March 3, 2015 and your notice to proceed dated February 13, 2015.

Terracon appreciates this opportunity to provide environmental engineering services to Sears Holdings Management Corporation. Should you have any questions or require additional information, please do not hesitate to contact our office.

Sincerely,
Terracon Consultants, Inc.

Charles H Yu (FOR)
Tony McCardell
Project Manager

(FN) Carl A. Parten
Principal/Office Manager

FOS Fouad Abuhamdan (Fred Hamdan), P.E.
Senior Project Manager

TABLE OF CONTENTS

1.0 SITE DESCRIPTION 1
2.0 SCOPE OF SERVICES 2
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4.1 Geology/Hydrogeology 6
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5.1 Soil Sample Results 7
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7.0 FINDINGS 8

APPENDIX A – EXHIBITS
Exhibit 1 – Topographic Map
Exhibit 2 – Boring Location Diagram

APPENDIX B – SOIL BORING LOGS
Unified Soil Classification System
Boring Logs for TSW-1 through TSW-5

APPENDIX C – TABLES

APPENDIX D – ANALYTICAL REPORT AND CHAIN OF CUSTODY

PHASE II ENVIRONMENTAL SITE ASSESSMENT REPORT

1298_CA_DD_FINAL Phase II ESA Report

SEARS STORE #1298 AND SEARS AUTO CENTER #6711
5261 ARLINGTON AVENUE
RIVERSIDE, RIVERSIDE COUNTY, CALIFORNIA

Terracon Project No. 60159016.1298
April 7, 2015

1.0 SITE DESCRIPTION

The subject site is located at 5261 Arlington Avenue in Riverside, Riverside County, California and consists of approximately 17.43 acres of land. The site is improved with two buildings, a retail store and an automotive service center, both of which are one-story buildings with underlying basements. Other site improvements include asphalt-paved parking areas, driveways, and utilities. The site is currently occupied by a Sears Store (#1298) and a Sears Auto Center (#6711). A Topographic Map showing the site location is included as Exhibit 1 and a Boring Location Diagram is included as Exhibit 2 in Appendix A.

Terracon previously performed a Phase I Environmental Site Assessment (ESA) of the property for Sears Holdings Management Corporation (Terracon Project No. 81149324.1298, report dated December 18, 2014.

Based on a review of the historical information, the site consisted of cultivated agricultural land and several residences or farmsteads from as early as 1896 through the mid-1960s, when the current Sears retail store and Sears Auto Center were originally developed. From the mid-1960s to the present, the site has been operated as a Sears store and a Sears Automotive Center and has remained relatively unchanged. Based on the information and documents reviewed, three on-site 10,000-gallon gasoline underground storage tanks (USTs) were removed from the site in 1985. Seven additional USTs were removed from the site in 1986: one 1,000-gallon waste oil tank, four 1,000-gallon oil tanks and two 2,000-gallon oil tanks. In 1994 the associated fuel dispenser island and product lines from the former gasoline USTs were removed. Impacts to site soil from these features were identified; however, each appears to have been investigated to the satisfaction of the regulatory agency.

Based on closure information for the associated release, groundwater contaminants were present at the site at the time of regulatory closure that exceed current regulatory risk-based groundwater screening levels. The NFA letter indicates that corrective action should be reviewed if land uses change. No vapor assessments conducted at the site for residual impacted soil was identified. Based on the condition of the NFA that requires a review during land use changes, and given that contamination is still present in the subsurface, the former USTs and the on-site LUST listing represent a Controlled Recognized Environmental Condition (CREC) for the site. Additionally, chlorinated solvent concentrations were identified in

groundwater at the site during sampling in 1991 and 1992, which were determined to be from an off-site source. The identified chlorinated solvent contamination in groundwater represents a REC.

2.0 SCOPE OF SERVICES

Terracon's Phase II ESA was undertaken in response to the results of our Phase I ESA report dated December 18, 2014 (Terracon Project No. 81149324.1298), which identified the following RECs.

- Based on the duration of automotive servicing for 60 years, unknown historical chemical usage, hazardous waste management disposal activities, the lack of soil/groundwater data, and the absence of continuous service records, there is the potential for an undocumented release to have occurred that may have originated from the oil/water separator (OWS). Therefore, the OWS represent a REC in connection with the Site.

- A release of chlorinated solvents was reported at the Crown Cleaners facility approximately 580 feet south of the site. No groundwater sampling was conducted in association with the identified release. PCE was identified in groundwater at the site in 1991 and 1992. Based on the absence of analytical data relating to potential groundwater impacts, the facility's location in the presumed up-gradient groundwater flow direction, as well as the documented historic presence of PCE in groundwater beneath the site, the Crown Cleaner facility represents a REC associated with the site.

Additionally, the following CREC was identified:

- Based on the information and documents reviewed, ten on-site underground storage tanks (USTs) were previously removed from the site. Impacts to site soil from these features were identified and a LUST was reported for the site in 1985 which appear to have been investigated to the satisfaction of the regulatory agency. However, based on the condition of the NFA that requires a review during land use changes, and given that contamination is still present in the subsurface, the former USTs and the on-site LUST listing represent a CREC for the site.

The Phase II ESA was conducted to evaluate the presence or absence of indicator contaminants associated with the RECs identified by the Phase I ESA. Based on the findings of the Phase I ESA, groundwater was anticipated at a depth of approximately 30 feet below grade

surface (bgs) in the vicinity of the site. The scope of services was not intended to identify every chemical possibly associated with the site. Similarly, the proposed scope was not intended to evaluate the extent or magnitude of any existing contamination.

2.1 Standard of Care

Terracon's services were performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time. Terracon makes no warranties, either express or implied, regarding the findings, conclusions, or recommendations. Please note that Terracon does not warrant the work of laboratories, regulatory agencies, or other third parties supplying information used in the preparation of the report. These Phase II ESA services were performed in accordance with the scope of work agreed with you, our client, as reflected in our proposal and were not restricted by ASTM E1903-11.

2.2 Additional Scope Limitations

Findings, and conclusions, resulting from these services are based upon information derived from the on-site activities and other services performed under this scope of work; such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, nondetectable, or not present during these services. We cannot represent that the site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during this Phase II ESA. Subsurface conditions may vary from those encountered at specific borings or wells or during other surveys, tests, assessments, investigations, or exploratory services. The data, interpretations, and our findings, are based solely upon data obtained at the time and within the scope of these services.

2.3 Reliance

This report has been prepared for the exclusive use of Sears Holdings Management Corporation (SHMC) and Sears Holdings Subsidiaries and Affiliates, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the site) is prohibited without the express written authorization of Sears Holdings Management Corporation and Terracon. Any unauthorized distribution or reuse is at Sears Holdings Management Corporation sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions, and limitations stated in the proposal, Phase II ESA, and Terracon's Master Environmental Services Agreement with Sears Holdings Management Corporation. The limitation of liability defined in the terms and conditions is the

aggregate limit of Terracon's liability to Sears Holdings Management Corporation and all relying parties unless otherwise agreed in writing.

3.0 FIELD INVESTIGATION

Terracon conducted the fieldwork under a safety plan developed for this project. Work was performed using Occupational Safety and Health Administration (OSHA) Level D work attire consisting of hard hats, safety glasses, protective gloves, and protective boots. Prior to drilling activities, the soil boring locations were marked and an Underground Service Alert (Dig Alert Ticket No: A050500164) service was requested by Terracon personnel for clearance of public underground utilities. To further evaluate the presence of underground utilities at the site, a geophysical survey was performed in the vicinity of each boring location where mechanical drilling was to be performed.

Terracon's field activities were conducted on March 6, 2015 by an environmental professional under the supervision of a Principal Geologist with Terracon.

As part of the approved scope of work, a total of five (5) soil borings (TSW-1 through TSW-5) were advanced on the site using direct-push technology drilling (DPT) rig, limited access rig or concrete coring and hand-auger sampling equipment to a maximum depth of approximately 45 feet bgs. The approximate boring locations are presented on Exhibit 2, in Appendix A.

Historical On-Site UST System. Based on the presence of residual impact to soils beneath the historical UST system, Terracon conducted the following scope to evaluate current subsurface conditions at the location of former historical on-site UST system components.

- Terracon advanced two soil borings, TSW-1 and TSW-2, in the area of the historical on-site UST system components to a depth of 35 feet bgs. Terracon collected soil samples continuously for observation and field screening, and selected one soil sample from each soil boring for laboratory analysis. Based on field evidence of impairment and/or PID readings, the soil samples were selected at depths ranging from 21 feet to 26 feet bgs. Groundwater seepage was encountered at approximately 32 feet bgs.

- Following completion of soil borings, TSW-1 and TSW-2, the soil borings were converted into temporary groundwater sampling wells to evaluate on-site groundwater in the vicinity of the historical on-site UST system components. The temporary sampling wells were developed by surging and removing groundwater until fluids appeared relatively free of fine-grained sediment and a groundwater sample was collected from each well.

Oil/Water Separator. Based on the absence of subsurface investigation associated with the oil/water separator system and use of petroleum and halogenated solvents, Terracon conducted the following scope to evaluate subsurface conditions at the oil/water separator.

- Terracon advanced two soil borings, TSW-3 and TSW-4, in the area of the oil/water separator to a depth of 40 feet bgs. Terracon collected soil samples continuously for observation and field screening, and selected one soil sample from each soil boring for laboratory analysis. Based on field evidence of impairment and/or PID readings observed during the collection of soil samples, the soil sample was collected at a depth of 14 to 15 feet bgs. Groundwater seepage was encountered at approximately 32 feet bgs.

- Following completion of the soil borings, TSW-3 and TSW-4, the soil borings were converted into temporary groundwater sampling wells to evaluate on-site groundwater in the vicinity of the oil/water separator. The temporary sampling wells were developed by surging and removing groundwater until fluids appeared relatively free of fine-grained sediment and a groundwater sample was collected from each well.

Crown Cleaners facility. Based on the absence of analytical data relating to potential groundwater impacts by PCE, Terracon conducted the following scope to evaluate groundwater conditions in the presumed down gradient location from the off-site dry cleaning facility.

- Terracon advanced one soil boring, TSW-5, in the presumed down-gradient location from the off-site dry cleaning facility to a depth of 45 feet bgs. Terracon collected soil samples continuously for observation and field screening, and selected one soil sample from the soil boring for laboratory analysis. Based on field evidence of impairment and/or PID readings observed during the collection of soil samples, the soil sample was collected at a depth of 38 to 39 feet bgs. Groundwater seepage was encountered at approximately 39 feet bgs.

- Following completion of the soil boring, TSW-5, the soil boring was converted into a temporary groundwater sampling well to evaluate on-site groundwater the presumed down-gradient location. The temporary sampling well was developed by surging and removing groundwater until fluids appear relatively free of fine-grained sediment and a groundwater sample was collected.

Terracon field representative screened soil samples for organic vapors using a photoionization detector (PID). This device provides a direct reading in parts per million (ppm) isobutylene

equivalents. Upon removal of the sampler from the borehole, Terracon put a portion of each sample in a sealable plastic bag. After a stabilization period, Terracon screened the headspace above the soil using the PID equipped with a 10.2 electron-volt (eV) ultraviolet lamp source. Terracon calibrated the PID in accordance with the manufacturer's recommendations before the field activities. The boring logs include the field screening results for each soil boring. Based on the field screening results, Terracon selected soil samples from each boring for laboratory analysis.

After packaging each sample in laboratory-provided containers, Terracon recorded the sample time on each container label in permanent ink and place the filled containers in an ice-filled cooler for transport to the nearest FedEx location. FedEx then delivered them to Environmental Science Corporation (ESC) in Mt. Juliet, Tennessee, a National Environmental Laboratory Accreditation Program (NELAP)-accredited laboratory, for laboratory analysis on a standard 7-day turnaround basis.

The soil and groundwater samples collected from the five borings were analyzed for Volatile Organic Compounds (VOCs) using United States Environmental Protection Agency (USEPA) Method 8260B and Total Petroleum Hydrocarbons (TPH) using United States Environmental Protection Agency (USEPA) Method 8015M (see Appendix D for Chain of Custody).

At the completion of field activities, Terracon removed the temporary well material and abandoned the borings with hydrated commercial bentonite sealant. The borings completed in the paved areas were completed to surface level with concrete.

4.0 RESULTS OF THE FIELD INVESTIGATION

4.1 Geology/Hydrogeology

The boring logs in Appendix B detail the observed soil stratigraphy. In general, Terracon encountered dark brown sandy clay and olive brown sandy silt below the asphalt to a depth of approximately 21 feet bgs. Olive brown, poorly graded, sand was encountered from below approximately 21 feet bgs to the boring termination depths of ranging from 35 to 45 feet bgs, except for TSW-5 where sandy lean clay was encountered between 23 feet and 45 feet bgs..

Groundwater seepage was observed in all five (5) borings, TSW-1 through, TSW-5, at depths ranging from approximately 32 to 39 feet bgs.

The groundwater flow direction and the depth to shallow groundwater, would likely vary depending upon seasonal variations in rainfall and depth to the soil/bedrock interface. Without

the benefit of on-site groundwater monitoring wells surveyed to a datum, groundwater flow direction beneath the site cannot be ascertained.

4.2 Field Screening

The field screening results are summarized on the boring logs in Appendix B. Elevated readings ranging from 3.2 ppm to 434 ppm were detected in soil samples collected from the borings. The maximum PID reading of 434 ppm was observed in the soil sample collected from TSW-2 at a depth of 25 to 26 feet bgs.

5.0 ANALYTICAL RESULTS

The laboratory analytical report and chain-of-custody record are attached in Appendix D. The following sections describe the results of the testing.

5.1 Soil Sample Results

The soil samples collected at the site did not exhibit TPH concentrations above the laboratory method detection limits, with the exception of relatively low TPH-gasoline (G) and TPH-diesel (D) range concentrations of 1.9 mg/Kg and 26 mg/Kg, respectively, from the soil sample collected from TSW-2 at approximately 25 to 26 feet bgs.

The reported TPH concentrations were compared to the Regional Water Quality Control Board (RWQCB)-Los Angeles Maximum Screening Level (MSL) of the more conservative 100 mg/Kg for TPH-G and TPH-D, and 1,000 mg/Kg for TPH-O, respectively, in soil where groundwater is anticipated at less than 20 feet below the affected zone. The reported TPH concentrations were below their respective RWQCB MSLs.

The soil samples collected from borings TSW-1 through TSW-5 exhibited various VOC constituents above the laboratory method detection limits including n-butylbenzene, sec-butylbenzene, tert-butylbenzene, ethylbenzene, isopropylbenzene, p-isopropyltoluene, naphthalene, n-propylbenzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and total xylenes, which were reported for the soil sample collected at a depth of 25 to 26 feet bgs from boring TSW-2 (Historical On-site UST area). The reported VOC constituents were compared to the USEPA Region 9 Regional Screening Levels (RSLs), and were well below their respective RSLs for industrial and residential land use.

Laboratory analytical results and the chain-of-custody form are provided in Appendix B.

5.2 Groundwater Sample Results

The groundwater samples collected from borings TSW-1 through TSW-5, exhibited various VOC constituents above the laboratory MDLs. The listed constituents were not reported above the July 2014 California Environmental Protection Agency's (Cal-EPA) Maximum Contamination Levels (Cal-MCLs) for groundwater, with the exception of benzene (0.0078 mg/L), ethylbenezene (0.99 mg/L), 1,2-dichloroethane (0.0052 mg/L) and total xylenes (2.6 mg/L) detected in the groundwater sample collected from TSW-2.

The groundwater samples did not exhibit TPH-G range concentrations above the laboratory method detection limits, with the exception of a concentration of 5.7 mg/L from the groundwater sample collected from TSW-2 at approximately 30 to 35 feet bgs.

The groundwater samples collected from TSW-1 through TSW-5 exhibited (one or more TPH carbon ranges) for TPH-G, TPH-D and TPH-O above the laboratory method detection limits.

The reported TPH concentrations were compared to the Regional Water Quality Control Board (RWQCB)-San Francisco Region Environmental Screening Levels (ESLs). The TPH concentrations reported for all five groundwater samples are above the RWQCB ESL of 0.1 mg/L.

6.0 INVESTIGATION DERIVED WASTES

Following completion of the investigation activities, the residual soil cuttings were temporarily stored in a 5-gallon plastic bucket. Due to the relatively small quantity of IDW (less than 5 gallons), the soil cuttings were transported offsite by the drilling contractor (Vironex Drilling) to be disposed at a later date under their general disposal permit.

7.0 FINDINGS

Based on the scope of services described in this report and subject to the limitations described herein, Terracon concludes the following.

- Based on laboratory analysis, the soil in the vicinity of the former UST system fueling island area appears to be affected by low level concentrations of TPH; however, the reported concentrations were not above the applicable RWQCB MSL.

- Based on laboratory analysis, the soil in the vicinity of the former UST system fueling island and oil/water separator appear to be affected by a release of

VOCs; however, the reported concentrations were not above the USEPA Region 9 RSLs.

- Based on laboratory analysis, the groundwater samples collected from each of the five soil borings (TSW-1 through TSW-5) exhibited PCE concentrations above the laboratory method detection limits, but below the USEPA Region 9 RSL of 0.005 mg/L. The presence of PCE, a common dry cleaner compound in the groundwater is potentially indicative of impact from the off-site dry cleaning facility.

- Based on the groundwater sample results from TSW-2, the groundwater appears to be affected by a release of VOCs above the Cal-EPA MCLs in the vicinity of the former fueling island. Of the reported constituents above laboratory MDLs, concentrations of benzene (0.0078 mg/L), ethylbenezene (0.99 mg/L), 1,2-dichloroethane (0.0052 mg/L) and total xylenes (2.6 mg/L) are above their respective Cal-EPA MCLs. Therefore, the usage of petroleum and volatile organic compounds in the vicinity of the former UST system appears to have impacted the groundwater beneath the site. Additionally, petroleum hydrocarbon and chlorinated solvents were detected in the vicinity of the oil/water separator and near the northwesterly (topographically downgradient) corner of the Sears Automotive Service Center, below Cal-EPA MCLs, indicative that a release across the site is more wide-spread and from possibly multiple-point source areas.

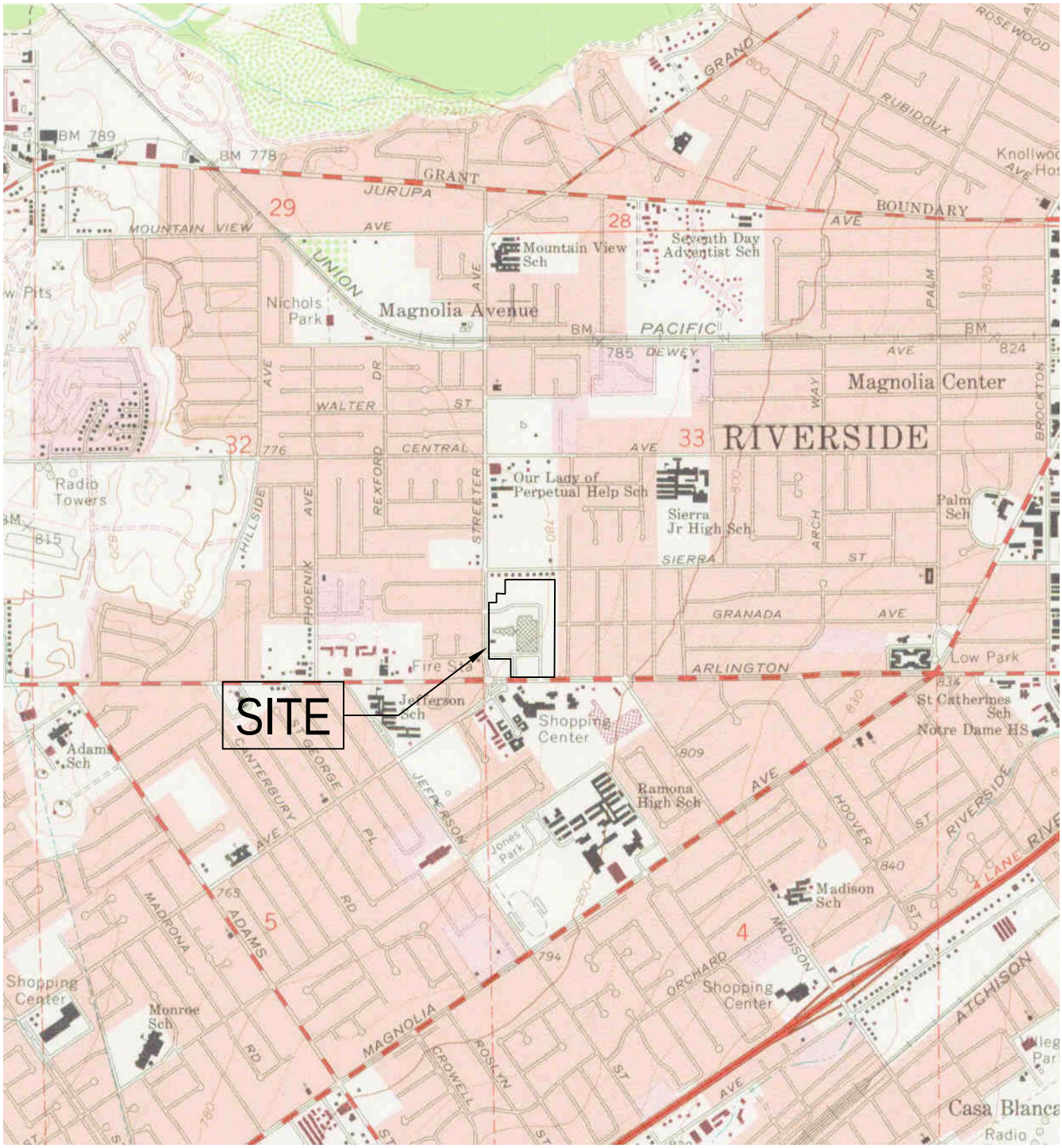
- The groundwater appears to be affected by a release of petroleum hydrocarbons (TPH-G, TPH-D, and TPH-O) above the RWQCB-San Francisco Region ESLs in the vicinity of former UST system components, the oil/water separator, and at the southeast portion of the site. Therefore, the usage of petroleum and volatile organic compounds does appear to have impacted the groundwater at the site.

APPENDIX A – EXHIBITS

Exhibit 1 – Topographic Map

Exhibit 2 – Site Diagram

N

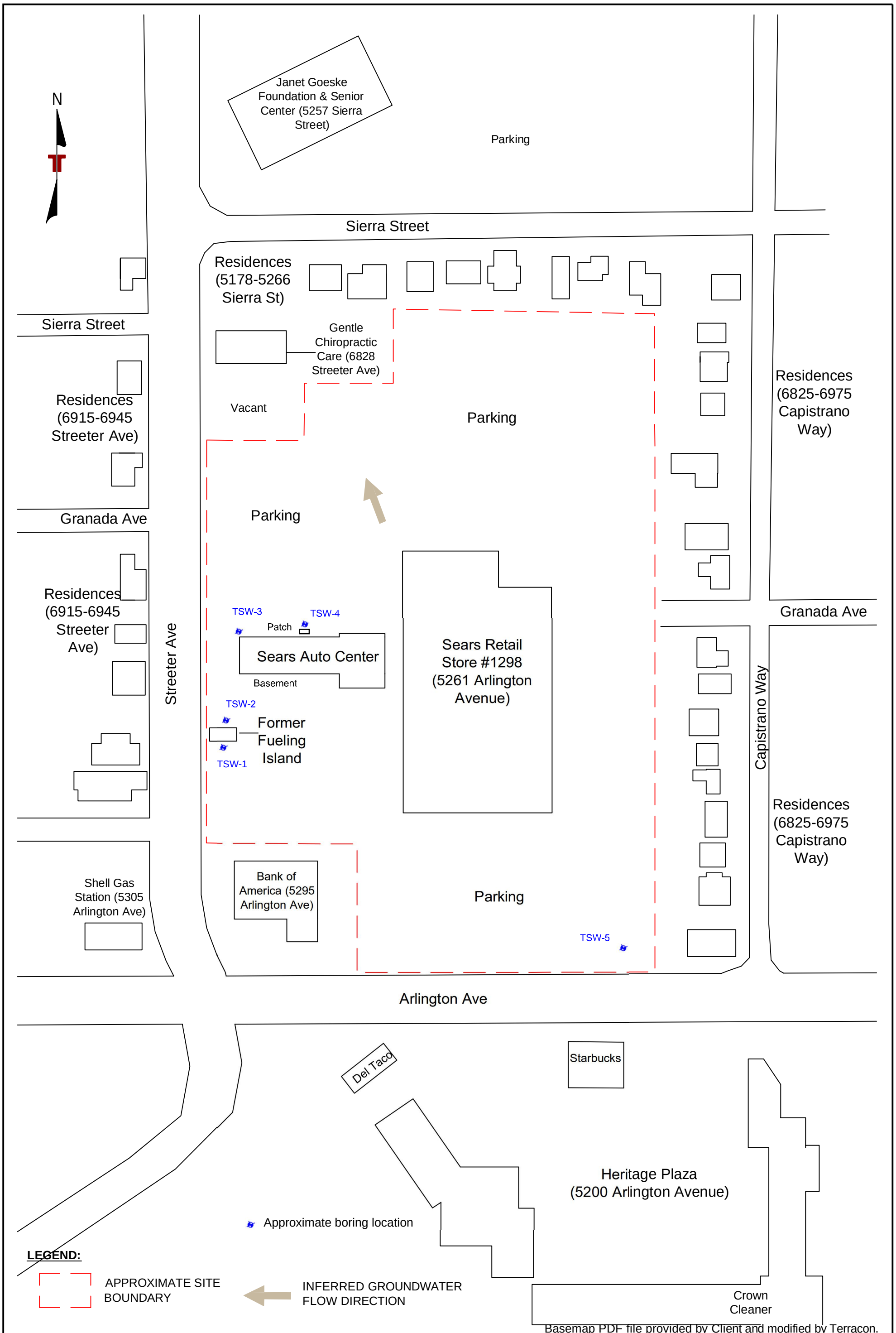


Source: USGS Riverside West, California, 7.5-minute Quadrangle, published 1967, photorevised 1980.

Project Mngr: TAH	Project No. 81149324.1298	Terracon Consulting Engineers and Scientists	**TOPOGRAPHIC MAP**
Drawn By: CJP	Scale:	21905 64th Avenue W., Ste 100 Mountlake Terrace, WA 98043	Sears Store #1298
Checked By: ~	File No. *.dwg		5261 Arlington Avenue
Approved By:	Date:		Riverside, Riverside County, California

FIG. No

1



Basemap PDF file provided by Client and modified by Terracon.

Project Mngr: MYW Drawn By: CJP Checked By: ~ Approved By:	Project No. 81149324.1298 Scale: Not to Scale File No. *.dwg Date:	Terracon Consulting Engineers and Scientists 21905 64th Avenue W., Ste 100 Mountlake Terrace, WA 98043	**SITE DIAGRAM** Sears Store #1298 5261 Arlington Avenue Riverside, Riverside County, Washington	FIG. No 2

APPENDIX B – SOIL BORING LOGS

General Notes

Unified Soil Classification System

Boring Logs for TSW-1 through TSW-5

GENERAL NOTES

DESCRIPTION OF SYMBOLS AND ABBREVIATIONS

SAMPLING

Auger	Shelby Tube	Split Spoon
Rock Core	Macro Core	Modified California Ring Sampler
Grab Sample	No Recovery	Modified Dames & Moore Ring Sampler

WATER LEVEL

- **Water Initially Encountered**
- **Water Level After a Specified Period of Time**
- **Water Level After a Specified Period of Time**

Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.

FIELD TESTS

(HP)	**Hand Penetrometer**
(T)	**Torvane**
(b/f)	**Standard Penetration Test (blows per foot)**
N	**N value**
(PID)	**Photo-Ionization Detector**
(OVA)	**Organic Vapor Analyzer**
(WOH)	Weight of Hammer

DESCRIPTIVE SOIL CLASSIFICATION

Soil classification is based on the Unified Soil Classification System. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; their principal descriptors are: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are principally described as clays if they are plastic, and silts if they are slightly plastic or non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size. In addition to gradation, coarse-grained soils are defined on the basis of their in-place relative density and fine-grained soils on the basis of their consistency.

LOCATION AND ELEVATION NOTES

Unless otherwise noted, Latitude and Longitude are approximately determined using a hand-held GPS device. The accuracy of such devices is variable. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

STRENGTH TERMS

RELATIVE DENSITY OF COARSE-GRAINED SOILS (More than 50% retained on No. 200 sieve.) Density determined by Standard Penetration Resistance Includes gravels and sands.			CONSISTENCY OF FINE-GRAINED SOILS (50% or more passing the No. 200 sieve.) Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance Includes silts and clays.			
Descriptive Term (Density)	**Standard Penetration or N-Value Blows/Ft.**	**Ring Sampler Blows/Ft.**	**Descriptive Term (Consistency)**	**Unconfined Compressive Strength, Qu, psf**	**Standard Penetration or N-Value Blows/Ft.**	**Ring Sampler Blows/Ft.**
Very Loose	0 - 3	0 - 6	Very Soft	less than 500	0 - 1	< 3
Loose	4 - 9	7 - 18	Soft	500 to 1,000	2 - 4	3 - 4
Medium Dense	10 - 29	19 - 58	Medium-Stiff	1,000 to 2,000	4 - 8	5 - 9
Dense	30 - 50	59 - 98	Stiff	2,000 to 4,000	8 - 15	10 - 18
Very Dense	> 50	≥ 99	Very Stiff	4,000 to 8,000	15 - 30	19 - 42
			Hard	> 8,000	> 30	> 42

RELATIVE PROPORTIONS OF SAND AND GRAVEL

Descriptive Term(s) of other constituents	Percent of Dry Weight
Trace	< 15
With	15 - 29
Modifier	> 30

GRAIN SIZE TERMINOLOGY

Major Component of Sample	Particle Size
Boulders	Over 12 in. (300 mm)
Cobbles	12 in. to 3 in. (300mm to 75mm)
Gravel	3 in. to #4 sieve (75mm to 4.75 mm)
Sand	#4 to #200 sieve (4.75mm to 0.075mm
Silt or Clay	Passing #200 sieve (0.075mm)

RELATIVE PROPORTIONS OF FINES

Descriptive Term(s) of other constituents	Percent of Dry Weight
Trace	< 5
With	5 - 12
Modifier	> 12

PLASTICITY DESCRIPTION

Term	Plasticity Index
Non-plastic	0
Low	1 - 10
Medium	11 - 30
High	> 30

Terracon

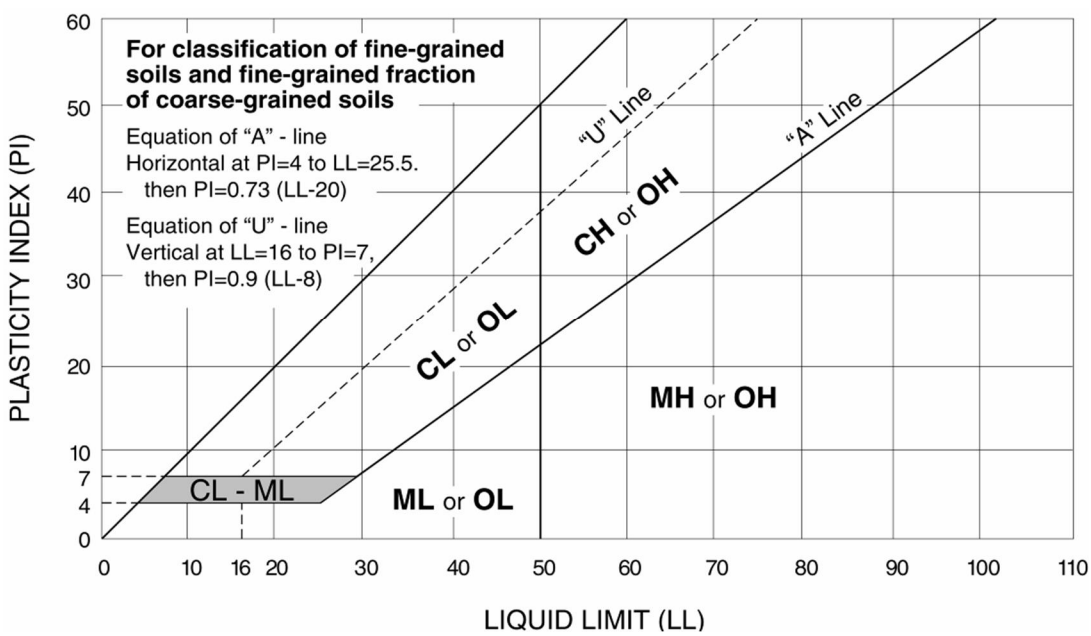
UNIFIED SOIL CLASSIFICATION SYSTEM

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests [A]					Soil Classification	
					Group Symbol	Group Name [B]
Coarse Grained Soils: More than 50% retained on No. 200 sieve	**Gravels:** More than 50% of coarse fraction retained on No. 4 sieve	**Clean Gravels:** Less than 5% fines [C]	$Cu \geq 4$ and $1 \leq Cc \leq 3$ [E]		GW	Well-graded gravel [F]
			$Cu < 4$ and/or $1 > Cc > 3$ [E]		GP	Poorly graded gravel [F]
		Gravels with Fines: More than 12% fines [C]	Fines classify as ML or MH		GM	Silty gravel [F,G,H]
			Fines classify as CL or CH		GC	Clayey gravel [F,G,H]
	Sands: 50% or more of coarse fraction passes No. 4 sieve	**Clean Sands:** Less than 5% fines [D]	$Cu \geq 6$ and $1 \leq Cc \leq 3$ [E]		SW	Well-graded sand [I]
			$Cu < 6$ and/or $1 > Cc > 3$ [E]		SP	Poorly graded sand [I]
		Sands with Fines: More than 12% fines [D]	Fines classify as ML or MH		SM	Silty sand [G,H,I]
			Fines classify as CL or CH		SC	Clayey sand [G,H,I]
Fine-Grained Soils: 50% or more passes the No. 200 sieve	**Silts and Clays:** Liquid limit less than 50	**Inorganic:**	PI > 7 and plots on or above "A" line [J]		CL	Lean clay [K,L,M]
			PI < 4 or plots below "A" line [J]		ML	Silt [K,L,M]
		Organic:	Liquid limit - oven dried	< 0.75	OL	Organic clay [K,L,M,N]
			Liquid limit - not dried			Organic silt [K,L,M,O]
	Silts and Clays: Liquid limit 50 or more	**Inorganic:**	PI plots on or above "A" line		CH	Fat clay [K,L,M]
			PI plots below "A" line		MH	Elastic Silt [K,L,M]
		Organic:	Liquid limit - oven dried	< 0.75	OH	Organic clay [K,L,M,P]
			Liquid limit - not dried			Organic silt [K,L,M,Q]
Highly organic soils:	Primarily organic matter, dark in color, and organic odor				PT	Peat

[A] Based on the material passing the 3-inch (75-mm) sieve
[B] If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.
[C] Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.
[D] Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay

[E] $Cu = D_{60}/D_{10}$ $\quad Cc = \dfrac{(D_{30})^2}{D_{10} \times D_{60}}$

[F] If soil contains ≥ 15% sand, add "with sand" to group name.
[G] If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.
[H] If fines are organic, add "with organic fines" to group name.
[I] If soil contains ≥ 15% gravel, add "with gravel" to group name.
[J] If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.
[K] If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.
[L] If soil contains ≥ 30% plus No. 200 predominantly sand, add "sandy" to group name.
[M] If soil contains ≥ 30% plus No. 200, predominantly gravel, add "gravelly" to group name.
[N] PI ≥ 4 and plots on or above "A" line.
[O] PI < 4 or plots below "A" line.
[P] PI plots on or above "A" line.
[Q] PI plots below "A" line.



Terracon

Exhibit C-2

WELL LOG NO. TSW-1

PROJECT: Sears Store #1298

CLIENT: Sears Holdings Management Corporation
Hoffman Estates, Illinois

SITE: 5261 Arlington Avenue
Riverside, California

LOCATION See Exhibit A-2

INSTALLATION DETAILS
Well Completion: Surface Mount
3/4" Dia. PVC

DEPTH	MATERIAL DESCRIPTION	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	OVA/PID (ppm)	SAMPLE SENT TO LAB (ID NUMBER)
0.3	**ASPHALT CONCRETE**, 3 inches					
0.5	**AGGREGATE BASE COURSE**, 3 inches					
	SANDY LEAN CLAY (CL), fine grained, medium plasticity, dark brown, no odor, moist				<1.0	
					<1.0	
					<1.0	
					<1.0	
		5			<1.0	
					<1.0	
					<1.0	
					<1.0	
					<1.0	
		10			<1.0	
					<1.0	
12.0					<1.0	
	SANDY SILT (ML), fine grained, nonplastic, olive-brown, no odor, moist				<1.0	
					<1.0	
15.0		15			<1.0	
	SANDY LEAN CLAY (CL), fine grained, medium plasticity, dark brown, no odor, moist				<1.0	
					3.8	
	moderate odor				53.8	
					65.0	
		20			34.4	
21.0					136.0	TSW-1 @21-22ft
	POORLY GRADED SAND (SP), fine to medium grained, nonplastic, olive-brown, moderate odor, moist				89.5	

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method:
Direct Push

Abandonment Method:
Borings backfilled with soil cuttings upon completion.

See Appendices for description of field procedures.
See Appendices for description of laboratory procedures and additional data (if any).
See Appendices for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS
Groundwater at 32 feet bgs WD

Terracon
4685 S. Ash Ave., Suite H-4
Tempe, Arizona

Well Started: 3/6/2015
Well Completed: 3/6/2015
Drill Rig: Geoprobe 6600
Driller: CHY
Project No.: 65159016.1298
Exhibit: TSW-1

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. ENVIRONMENTAL SMART LOG 60159016.1298.GPJ TERRACON2012.GDT 3/11/15

WELL LOG NO. TSW-1

PROJECT: Sears Store #1298

CLIENT: Sears Holdings Management Corporation
Hoffman Estates, Illinois

SITE: 5261 Arlington Avenue
Riverside, California

LOCATION See Exhibit A-2

GRAPHIC LOG	DEPTH	MATERIAL DESCRIPTION		DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	OVA/PID (ppm)	SAMPLE SENT TO LAB (ID NUMBER)
		POORLY GRADED SAND (SP), fine to medium grained, nonplastic, olive-brown, moderate odor, moist *(continued)*					26.1	
							29.5	
				25			8.7	
							18.0	
							19.1	
							22.7	
							7.0	
			0.002" Slot Size	30			7.1	
							3.2	TSW-1 @31-32ft
		wet			▽		<1.0	
							<1.0	
							<1.0	
	35.0			35			<1.0	
		Boring Terminated at 35 Feet						

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method:
Direct Push

Abandonment Method:
Borings backfilled with soil cuttings upon completion.

See Appendices for description of field procedures.
See Appendices for description of laboratory procedures and additional data (if any).
See Appendices for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

▽ *Groundwater at 32 feet bgs WD*

Terracon
4685 S. Ash Ave., Suite H-4
Tempe, Arizona

Well Started: 3/6/2015
Well Completed: 3/6/2015
Drill Rig: Geoprobe 6600
Driller: CHY
Project No.: 65159016.1298
Exhibit: TSW-1

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. ENVIRONMENTAL SMART LOG 60159016.1298.GPJ TERRACON2012.GDT 3/11/15

WELL LOG NO. TSW-2

PROJECT: Sears Store #1298

CLIENT: Sears Holdings Management Corporation
Hoffman Estates, Illinois

SITE: 5261 Arlington Avenue
Riverside, California

LOCATION See Exhibit A-2

INSTALLATION DETAILS
Well Completion: Surface Mount

DEPTH	MATERIAL DESCRIPTION	DEPTH (ft)	OVA/PID (ppm)
0.3	**ASPHALT CONCRETE**, 3 inches		
0.5	**AGGREGATE BASE COURSE**, 3 inches		
	POORLY GRADED SAND (SP), fine to medium grained, nonplastic, brown, no odor, moist		<1.0
			<1.0
			<1.0
			<1.0
		5	<1.0
6.0	**SANDY LEAN CLAY (CL)**, fine grained, medium plasticity, dark brown, no odor, moist		46.2
			197.0
			275.0
			24.9
		10	13.5
			20.1
12.0	**SANDY SILT (ML)**, fine grained, nonplastic, olive-brown, no odor, moist		18.5
			<1.0
			<1.0
15.0	**SANDY LEAN CLAY (CL)**, fine grained, medium plasticity, dark brown, no odor, moist	15	<1.0
			<1.0
			<1.0
			<1.0
			<1.0
		20	<1.0
21.0	**POORLY GRADED SAND (SP)**, fine to medium grained, nonplastic, olive-brown, moderate odor, moist		87.5
			118.0

Well Completion: 3/4" Dia. PVC

GRAPHIC LOG | WATER LEVEL OBSERVATIONS | SAMPLE TYPE | SAMPLE SENT TO LAB (ID NUMBER)

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method:
Direct Push

Abandonment Method:
Borings backfilled with soil cuttings upon completion.

See Appendices for description of field procedures.
See Appendices for description of laboratory procedures and additional data (if any).
See Appendices for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

Groundwater at 32 feet bgs WD

Terracon
4685 S. Ash Ave., Suite H-4
Tempe, Arizona

Well Started: 3/6/2015	Well Completed: 3/6/2015
Drill Rig: Geoprobe 6600	Driller: CHY
Project No.: 65159016.1298	Exhibit: TSW-2

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. ENVIRONMENTAL SMART LOG 60159016.1298.GPJ TERRACON2012.GDT 3/11/15

WELL LOG NO. TSW-2

PROJECT: Sears Store #1298

CLIENT: Sears Holdings Management Corporation
Hoffman Estates, Illinois

SITE: 5261 Arlington Avenue
Riverside, California

LOCATION See Exhibit A-2

DEPTH	MATERIAL DESCRIPTION	GRAPHIC LOG	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	OVA/PID (ppm)	SAMPLE SENT TO LAB (ID NUMBER)
	POORLY GRADED SAND (SP), fine to medium grained, nonplastic, olive-brown, moderate odor, moist *(continued)*					220.0	
						223.0	
			25			221.0	TSW-2 @25-26ft
						434.0	
						284.0	
						257.0	
						66.7	
		0.002" Slot Size	30			64.1	TSW-2 @30-31ft
						351.0	
	wet			▽		203.0	
						9.9	
						62.6	
35.0			35			61.1	
	Boring Terminated at 35 Feet						

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method:
Direct Push

Abandonment Method:
Borings backfilled with soil cuttings upon completion.

See Appendices for description of field procedures.
See Appendices for description of laboratory procedures and additional data (if any).
See Appendices for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

▽ *Groundwater at 32 feet bgs WD*

Terracon
4685 S. Ash Ave., Suite H-4
Tempe, Arizona

Well Started: 3/6/2015	Well Completed: 3/6/2015
Drill Rig: Geoprobe 6600	Driller: CHY
Project No.: 65159016.1298	Exhibit: TSW-2

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. ENVIRONMENTAL SMART LOG 60159016.1298.GPJ TERRACON2012.GDT 3/11/15

WELL LOG NO. TSW-3

PROJECT: Sears Store #1298

CLIENT: Sears Holdings Management Corporation
Hoffman Estates, Illinois

SITE: 5261 Arlington Avenue
Riverside, California

LOCATION See Exhibit A-2

INSTALLATION DETAILS
Well Completion: Surface Mount

DEPTH	MATERIAL DESCRIPTION
0.3	**ASPHALT CONCRETE**, 3 inches
0.5	**AGGREGATE BASE COURSE**, 3 inches
	SANDY LEAN CLAY (CL), fine grained, medium plasticity, dark brown, no odor, moist
22.0	**POORLY GRADED SAND (SP)**, trace silt, fine grained, nonplastic, light brown, moist

3/4" Dia. PVC

DEPTH (ft)	OVA/PID (ppm)	SAMPLE SENT TO LAB (ID NUMBER)
	<1.0	
	<1.0	
	<1.0	
	<1.0	
5	<1.0	
	<1.0	
	<1.0	
	<1.0	
	<1.0	
10	<1.0	
	<1.0	
	<1.0	
	<1.0	
	<1.0	TSW-3 @14-15ft
15	<1.0	
	<1.0	
	<1.0	
	<1.0	
20	<1.0	
	<1.0	
	<1.0	

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method:
Direct Push

Abandonment Method:
Borings backfilled with soil cuttings upon completion.

See Appendices for description of field procedures.
See Appendices for description of laboratory procedures and additional data (if any).
See Appendices for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

Groundwater at 32 feet bgs WD
Groundwater at 34 feet bgs AB

Terracon
4685 S. Ash Ave., Suite H-4
Tempe, Arizona

Well Started: 3/6/2015
Well Completed: 3/6/2015
Drill Rig: Geoprobe 6600
Driller: CHY
Project No.: 65159016.1298
Exhibit: TSW-3

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. ENVIRONMENTAL SMART LOG 60159016.1298.GPJ TERRACON2012.GDT 3/11/15

WELL LOG NO. TSW-3

PROJECT: Sears Store #1298

CLIENT: Sears Holdings Management Corporation
Hoffman Estates, Illinois

SITE: 5261 Arlington Avenue
Riverside, California

LOCATION See Exhibit A-2

DEPTH	MATERIAL DESCRIPTION	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	OVA/PID (ppm)	SAMPLE SENT TO LAB (ID NUMBER)
	POORLY GRADED SAND (SP), trace silt, fine grained, nonplastic, light brown, moist *(continued)*				<1.0	
					<1.0	
		25			<1.0	
					<1.0	
					<1.0	
					<1.0	
					<1.0	
		30			<1.0	
					<1.0	TSW-3 @31-32ft
	wet		▽		<1.0	
					<1.0	
			▽		<1.0	
	0.002" Slot Size	35			<1.0	
40.0		40				
	Boring Terminated at 40 Feet					

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method:
Direct Push

Abandonment Method:
Borings backfilled with soil cuttings upon completion.

See Appendices for description of field procedures.
See Appendices for description of laboratory procedures and additional data (if any).
See Appendices for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

▽ *Groundwater at 32 feet bgs WD*

▽ *Groundwater at 34 feet bgs AB*

Terracon
4685 S. Ash Ave., Suite H-4
Tempe, Arizona

Well Started: 3/6/2015
Well Completed: 3/6/2015
Drill Rig: Geoprobe 6600
Driller: CHY
Project No.: 65159016.1298
Exhibit: TSW-3

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. ENVIRONMENTAL SMART LOG 60159016.1298.GPJ TERRACON2012.GDT 3/11/15

WELL LOG NO. TSW-4

PROJECT: Sears Store #1298

CLIENT: Sears Holdings Management Corporation
Hoffman Estates, Illinois

SITE: 5261 Arlington Avenue
Riverside, California

LOCATION See Exhibit A-2

INSTALLATION DETAILS
Well Completion: Surface Mount

DEPTH	MATERIAL DESCRIPTION	INSTALLATION DETAILS	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	OVA/PID (ppm)	SAMPLE SENT TO LAB (ID NUMBER)
0.3	**ASPHALT CONCRETE**, 3 inches	3/4" Dia. PVC					
0.5	**AGGREGATE BASE COURSE**, 3 inches						
	SANDY LEAN CLAY (CL), fine grained, medium plasticity, dark brown, no odor, moist					<1.0	
						<1.0	
						<1.0	
						<1.0	
			5			<1.0	
						<1.0	
						<1.0	
						<1.0	
						<1.0	
			10			<1.0	
						<1.0	
						<1.0	
						<1.0	
						<1.0	TSW-4 @14-15ft
			15			<1.0	
						<1.0	
						<1.0	
						<1.0	
			20			<1.0	
						<1.0	
22.0	**POORLY GRADED SAND (SP)**, trace silt, fine grained, nonplastic, light brown, moist					<1.0	

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method:
Direct Push

Abandonment Method:
Borings backfilled with soil cuttings upon completion.

See Appendices for description of field procedures.
See Appendices for description of laboratory procedures and additional data (if any).
See Appendices for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS
Groundwater at 33 feet bgs WD

Terracon
4685 S. Ash Ave., Suite H-4
Tempe, Arizona

Well Started: 3/6/2015
Well Completed: 3/6/2015
Drill Rig: Geoprobe 6600
Driller: CHY
Project No.: 65159016.1298
Exhibit: TSW-4

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. ENVIRONMENTAL SMART LOG 60159016 1298.GPJ TERRACON2012.GDT 3/11/15

WELL LOG NO. TSW-4

PROJECT: Sears Store #1298

CLIENT: Sears Holdings Management Corporation
Hoffman Estates, Illinois

SITE: 5261 Arlington Avenue
Riverside, California

LOCATION See Exhibit A-2

DEPTH	MATERIAL DESCRIPTION	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	OVA/PID (ppm)	SAMPLE SENT TO LAB (ID NUMBER)
	POORLY GRADED SAND (SP), trace silt, fine grained, nonplastic, light brown, moist *(continued)*				<1.0	
					<1.0	
		25			<1.0	
					<1.0	
					<1.0	
					<1.0	
					<1.0	
		30			<1.0	
					<1.0	
					<1.0	
	wet		▽		<1.0	TSW-4 @33-34ft
					<1.0	
	0.002" Slot Size	35			<1.0	
40.0		40				
	Boring Terminated at 40 Feet					

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method:
Direct Push

Abandonment Method:
Borings backfilled with soil cuttings upon completion.

See Appendices for description of field procedures.
See Appendices for description of laboratory procedures and additional data (if any).
See Appendices for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

▽ *Groundwater at 33 feet bgs WD*

Terracon
4685 S. Ash Ave., Suite H-4
Tempe, Arizona

Well Started: 3/6/2015
Well Completed: 3/6/2015
Drill Rig: Geoprobe 6600
Driller: CHY
Project No.: 65159016.1298
Exhibit: TSW-4

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. ENVIRONMENTAL SMART LOG 60159016.1298.GPJ TERRACON2012.GDT 3/11/15

WELL LOG NO. TSW-5

PROJECT: Sears Store #1298

CLIENT: Sears Holdings Management Corporation
Hoffman Estates, Illinois

SITE: 5261 Arlington Avenue
Riverside, California

LOCATION See Exhibit A-2

INSTALLATION DETAILS
Well Completion: Surface Mount

DEPTH	MATERIAL DESCRIPTION	INSTALLATION DETAILS	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	OVA/PID (ppm)	SAMPLE SENT TO LAB (ID NUMBER)
0.3	**ASPHALT CONCRETE**, 3 inches	3/4" Dia. PVC					
0.5	**AGGREGATE BASE COURSE**, 3 inches						
	SANDY LEAN CLAY (CL), fine grained, medium plasticity, dark brown, no odor, moist					<1.0	
						<1.0	
						<1.0	
						<1.0	
			5			<1.0	
						<1.0	
						<1.0	
						<1.0	
						<1.0	
			10			<1.0	
						<1.0	
						<1.0	
						<1.0	
						<1.0	
			15			<1.0	TSW-3 @15-16ft
16.0						<1.0	
	POORLY GRADED SAND (SP), fine grained, nonplastic, light brown, moist					<1.0	
						<1.0	
						<1.0	
			20			<1.0	
						<1.0	
23.0						<1.0	

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method:
Direct Push

Abandonment Method:
Borings backfilled with soil cuttings upon completion.

See Appendices for description of field procedures.
See Appendices for description of laboratory procedures and additional data (if any).
See Appendices for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS
Groundwater at 39 feet bgs WD

Terracon
4685 S. Ash Ave., Suite H-4
Tempe, Arizona

Well Started: 3/6/2015
Well Completed: 3/6/2015
Drill Rig: Geoprobe 6600
Driller: CHY
Project No.: 65159016.1298
Exhibit: TSW-4

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. ENVIRONMENTAL SMART LOG 60159016.1298.GPJ TERRACON2012.GDT 3/11/15

WELL LOG NO. TSW-5

PROJECT: Sears Store #1298

CLIENT: Sears Holdings Management Corporation
Hoffman Estates, Illinois

SITE: 5261 Arlington Avenue
Riverside, California

LOCATION See Exhibit A-2

DEPTH	MATERIAL DESCRIPTION	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	OVA/PID (ppm)	SAMPLE SENT TO LAB (ID NUMBER)
	SANDY LEAN CLAY (CL), fine grained, medium plasticity, dark brown, no odor, moist				<1.0	
					<1.0	
		25			<1.0	
					<1.0	
					<1.0	
					<1.0	
					<1.0	
		30			<1.0	
					<1.0	
					<1.0	
					<1.0	
					<1.0	
		35			<1.0	
					<1.0	
					<1.0	
					<1.0	TSW-5 @38-39ft
	wet		▽		<1.0	
	0.002" Slot Size	40			<1.0	
					<1.0	
					<1.0	
					<1.0	
					<1.0	
45.0		45			<1.0	
	Boring Terminated at 45 Feet					

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Advancement Method:
Direct Push

Abandonment Method:
Borings backfilled with soil cuttings upon completion.

See Appendices for description of field procedures.
See Appendices for description of laboratory procedures and additional data (if any).
See Appendices for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

▽ *Groundwater at 39 feet bgs WD*

Terracon
4685 S. Ash Ave., Suite H-4
Tempe, Arizona

Well Started: 3/6/2015
Well Completed: 3/6/2015
Drill Rig: Geoprobe 6600
Driller: CHY
Project No.: 65159016.1298
Exhibit: TSW-5

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. ENVIRONMENTAL SMART LOG 60159016.1298.GPJ TERRACON2012.GDT 3/11/15

APPENDIX C – TABLES

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS - VOCs[1] and TPH[2]
Sears Automotive Center - Store #1298
5261 Arlington Avenue
Riverside, California
Terracon Project No. 60159016.1298

Sample I.D.	Sample Depth (feet bgs)	Sample Date	VOCs[3] (mg/kg)	TPH (mg/kg)		
				C5 - C12	C10 - C28	C-28 - C40
TSW-1	21 - 22	03/06/15	ND	ND	ND	ND
TSW-2	25 - 26	03/06/15	n-butylbenzene-0.12 sec-butylbenzene-0.021 tert-butylbenzene-0.001J ethylbenzene-0.0022J isopropylbenzene-0.0045J p-isopropyltoluene-0.03J naphthalene-1 n-propylbenzene-0.037 1,2,4-trimethylbenzene-0.72 1,2,3-trimethylbenzene-0.37 1,3,5-trimethylbenzene-0.14 total xylenes-0.016	1.9	26	ND
TSW-3	14 -15	03/06/15	ND	ND	ND	ND
TSW-4	14 - 15	03/06/15	ND	ND	ND	ND
TSW-5	38 - 39	03/06/15	ND	ND	ND	ND
RSLs (Residential)			n-butylbenzene-3900 sec-butylbenzene-7800 tert-butylbenzene-7800 ethylbenzene-5.8 isopropylbenzene-NE p-isopropyltoluene-NE naphthalene-3.8 n-propylbenzene-NE 1,2,4-trimethylbenzene-58 1,2,3-trimethylbenzene-49 1,3,5-trimethylbenzene-780 total xylenes-580	NE	NE	NE
MSLs			NE	100	100	1,000

1. VOCs = Volatile organic compounds analyzed by **EPA Method 8260B**
2. TPH = Total petroleum hydrocarbons analyzed by **EPA Method 8015**
3. Only those constituents detected above the laboratory detection limit are reported

ND = non detected NA - not applicable
(J) = Estimated value, value is above the laboratory detection limit, but below the laboratory quantitiation limit
Bold denotes concentrations that exceed [State Action/Screening Level]
NE = Not Established
RSLs = Regional Screening Levels for EPA Region 9, California
MSLs = Maximum Screening Levels (MSLs) for soils <20 feet for distance above groundwater, Region 4, Regional Water Quality Control Board-Los Angeles Region, Interim Site Assessment & Cleanup Guidebook, January 2005

TABLE 2
GROUNDWATER SAMPLE ANALYTICAL RESULTS - VOCs[1] and TPH[2]
Sears Automotive Center - Store #1298
5261 Arlington Avenue
Riverside, California
Terracon Project No. 60159016.1298

Sample I.D.	Sample Date	VOCs[3] (mg/L)	TPH (mg/L)		
			C5 - C12	C10 - C28	C-28 - C40
TSW-1	03/06/15	benzene-0.0006J n-butylbenzene-0.0056 sec-butylbenzene-0.004 carbon disulfide-0.00053J ethylbenzene-0.18 isopropylbenzene-0.016 naphthalene-0.022 n-propylbenzene-0.049 tetrachloroethene-0.00043J toluene-0.0019J 1,2,4-trimethylbenzene-0.053 123-trimethylbenzene-0.055 1,3,5-trimethylbenzene-0.016 total xylenes-0.13	NA	**0.49**	**0.15**
TSW-2	03/06/15	**benzene-0.0078** n-butylbenzene-0.021 sec-butylbenzene-0.009 ter-butylbenzene-0.0014 carbon disulfide-0.00032J **1,2-dichloroethane-0.0052** Di-isopropyl ether-0.00048J **ethylbenzene-0.99** Isopropylbenzene-0.051 p-isopropyltoluene-0.0032 naphthalene-0.18 n-propylbenzene-0.14 styrene-0.00081J tetrachloroethene-0.000046J toluene-0.036 1,2,4-trimethylbenzene-1.5 1,2,3-trimethylbenzene-0.36 1,3,5-trimethylbenzene-0.2 **total xylenes-2.6**	**5.7**	**0.41**	0.058J
TSW-3	03/06/15	chloroform-0.0045J ethylbenzene-0.00051J tetrachloroethene-0.0012 1,2,4-trimethylbenzene-0.00083J total xylenes-0.0011J	ND	**0.17**	**0.12**
TSW-4	03/06/15	cis-1,2-dichloroethene-0.00033J tetrachloroethene-0.0042 1,2,4-trimethylzenzene-0.00045J	ND	**0.11**	0.037J
TSW-5	03/06/15	acetone-0.019J tetrachloroethene-0.0026	ND	**1.5**	**0.15**
Cal-MCLs		acetone-NE benzene-0.001 n-butylbenzene-NE sec-butylbenzene-NE ter-butylbenzene-NE carbon disulfide-NE chloroform-NE 1,2-dichloroethane-0.0005 cis-1,2-dichloroethene-0.006 Di-isopropyl ether-NE ethylbenzene-0.3 Isopropylbenzene-NE p-isopropyltoluene-NE naphthalene-NE n-propylbenzene-NE styrene-0.1 tetrachloroethene-0.005 toluene-NE 1,2,4-trimethylbenzene-NE 1,2,3-trimethylbenzene-NE 1,3,5-trimethylbenzene-NE total xylenes-1.75	NE	NE	NE
ESLs		NA	0.1	0.1	0.1

1. VOCs = Volatile organic compounds analyzed by **[8260B]**
2. TPH = Total petroleum hydrocarbons analyzed by **[8015]**
4. Description of State Action/Screening Level
ND = non detected NE = not established
(J) = Estimated value, value is above the laboratory detection limit, but below the laboratory quantitiation limit
Bold denotes concentrations that exceed applicable screening level
ND - non detected NA=not applicable

Cal-MCLs = California's Environmental Protection Agency's Maximum Contamination Levels, July 2014

ESLs - Environmental Screening Levels, established by the Regional Water Quality Control Board, San Francisco Region for Groundwater, December 2013

APPENDIX D – ANALYTICAL REPORT AND CHAIN OF CUSTODY

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Carl Parten
Terracon - Irvine, CA
2817 McGaw Avenue
Irvine, CA 92614

Report Summary

Friday March 13, 2015

Report Number: L752170
Samples Received: 03/07/15
Client Project: 60159016 4432

Description: Sears Store #1298 Riverside

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By: _____

Jarred Willis , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197, FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1, TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

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Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Carl Parten
Terracon - Irvine, CA
2817 McGaw Avenue
Irvine, CA 92614

March 13, 2015

ESC Sample # : L752170-01

Date Received : March 07, 2015
Description : Sears Store #1298 Riverside

Site ID :

Sample ID : TSW-1 (21-22)

Project # : 60159016 4432

Collected By : Charles H. Yoon
Collection Date : 03/06/15 09:00

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Total Solids	98.1	0.0333		%		2540 G-2	03/11/15	1
TPHG C5 - C12	U	0.17	0.51	mg/kg		8015	03/12/15	5
Surrogate Recovery-%								
a,a,a-Trifluorotoluene(FID)	101.			% Rec.		8015	03/12/15	1
Volatile Organics								
Acetone	U	0.050	0.25	mg/kg		8260B	03/11/15	5
Acrylonitrile	U	0.0090	0.051	mg/kg		8260B	03/11/15	5
Benzene	U	0.0014	0.0051	mg/kg		8260B	03/11/15	5
Bromobenzene	U	0.0014	0.0051	mg/kg		8260B	03/11/15	5
Bromodichloromethane	U	0.0013	0.0051	mg/kg		8260B	03/11/15	5
Bromoform	U	0.0021	0.0051	mg/kg		8260B	03/11/15	5
Bromomethane	U	0.0067	0.025	mg/kg		8260B	03/11/15	5
n-Butylbenzene	U	0.0013	0.0051	mg/kg		8260B	03/11/15	5
sec-Butylbenzene	U	0.0010	0.0051	mg/kg		8260B	03/11/15	5
tert-Butylbenzene	U	0.0010	0.0051	mg/kg		8260B	03/11/15	5
Carbon disulfide	U	0.0011	0.0051	mg/kg		8260B	03/11/15	5
Carbon tetrachloride	U	0.0016	0.0051	mg/kg		8260B	03/11/15	5
Chlorobenzene	U	0.0011	0.0051	mg/kg		8260B	03/11/15	5
Chlorodibromomethane	U	0.0019	0.0051	mg/kg		8260B	03/11/15	5
Chloroethane	U	0.0047	0.025	mg/kg		8260B	03/11/15	5
2-Chloroethyl vinyl ether	U	0.012	0.25	mg/kg		8260B	03/11/15	5
Chloroform	U	0.0011	0.025	mg/kg		8260B	03/11/15	5
Chloromethane	U	0.0019	0.013	mg/kg		8260B	03/11/15	5
2-Chlorotoluene	U	0.0015	0.0051	mg/kg		8260B	03/11/15	5
4-Chlorotoluene	U	0.0012	0.0051	mg/kg		8260B	03/11/15	5
1,2-Dibromo-3-Chloropropane	U	0.0052	0.025	mg/kg		8260B	03/11/15	5
1,2-Dibromoethane	U	0.0017	0.0051	mg/kg		8260B	03/11/15	5
Dibromomethane	U	0.0019	0.0051	mg/kg		8260B	03/11/15	5
1,2-Dichlorobenzene	U	0.0015	0.0051	mg/kg		8260B	03/11/15	5
1,3-Dichlorobenzene	U	0.0012	0.0051	mg/kg		8260B	03/11/15	5
1,4-Dichlorobenzene	U	0.0011	0.0051	mg/kg		8260B	03/11/15	5
Dichlorodifluoromethane	U	0.0036	0.025	mg/kg		8260B	03/11/15	5
1,1-Dichloroethane	U	0.0010	0.0051	mg/kg		8260B	03/11/15	5
1,2-Dichloroethane	U	0.0013	0.0051	mg/kg		8260B	03/11/15	5
1,1-Dichloroethene	U	0.0015	0.0051	mg/kg		8260B	03/11/15	5
cis-1,2-Dichloroethene	U	0.0012	0.0051	mg/kg		8260B	03/11/15	5
trans-1,2-Dichloroethene	U	0.0013	0.0051	mg/kg		8260B	03/11/15	5
1,2-Dichloropropane	U	0.0018	0.0051	mg/kg		8260B	03/11/15	5
1,1-Dichloropropene	U	0.0016	0.0051	mg/kg		8260B	03/11/15	5
1,3-Dichloropropane	U	0.0010	0.0051	mg/kg		8260B	03/11/15	5
cis-1,3-Dichloropropene	U	0.0013	0.0051	mg/kg		8260B	03/11/15	5

Results listed are dry weight basis.
U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Carl Parten
Terracon - Irvine, CA
2817 McGaw Avenue
Irvine, CA 92614

March 13, 2015

ESC Sample # : L752170-01

Site ID :

Project # : 60159016 4432

Date Received : March 07, 2015
Description : Sears Store #1298 Riverside

Sample ID : TSW-1 (21-22)

Collected By : Charles H. Yoon
Collection Date : 03/06/15 09:00

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
trans-1,3-Dichloropropene	U	0.0013	0.0051	mg/kg		8260B	03/11/15	5
2,2-Dichloropropane	U	0.0014	0.0051	mg/kg		8260B	03/11/15	5
Di-isopropyl ether	U	0.0012	0.0051	mg/kg		8260B	03/11/15	5
Ethylbenzene	U	0.0015	0.0051	mg/kg		8260B	03/11/15	5
Hexachloro-1,3-butadiene	U	0.0017	0.0051	mg/kg		8260B	03/11/15	5
Isopropylbenzene	U	0.0012	0.0051	mg/kg		8260B	03/11/15	5
p-Isopropyltoluene	U	0.0010	0.0051	mg/kg		8260B	03/11/15	5
2-Butanone (MEK)	U	0.023	0.051	mg/kg		8260B	03/11/15	5
Methylene Chloride	U	0.0050	0.025	mg/kg		8260B	03/11/15	5
4-Methyl-2-pentanone (MIBK)	U	0.0094	0.051	mg/kg		8260B	03/11/15	5
Methyl tert-butyl ether	U	0.0011	0.0051	mg/kg		8260B	03/11/15	5
Naphthalene	U	0.0050	0.025	mg/kg		8260B	03/11/15	5
n-Propylbenzene	U	0.0010	0.0051	mg/kg		8260B	03/11/15	5
Styrene	U	0.0012	0.0051	mg/kg		8260B	03/11/15	5
1,1,1,2-Tetrachloroethane	U	0.0013	0.0051	mg/kg		8260B	03/11/15	5
1,1,2,2-Tetrachloroethane	U	0.0018	0.0051	mg/kg		8260B	03/11/15	5
1,1,2-Trichlorotrifluoroethane	U	0.0018	0.0051	mg/kg		8260B	03/11/15	5
Tetrachloroethene	U	0.0014	0.0051	mg/kg		8260B	03/11/15	5
Toluene	U	0.0022	0.025	mg/kg		8260B	03/11/15	5
1,2,3-Trichlorobenzene	U	0.0015	0.0051	mg/kg		8260B	03/11/15	5
1,2,4-Trichlorobenzene	U	0.0019	0.0051	mg/kg	J3	8260B	03/11/15	5
1,1,1-Trichloroethane	U	0.0014	0.0051	mg/kg		8260B	03/11/15	5
1,1,2-Trichloroethane	U	0.0014	0.0051	mg/kg		8260B	03/11/15	5
Trichloroethene	U	0.0014	0.0051	mg/kg		8260B	03/11/15	5
Trichlorofluoromethane	U	0.0019	0.025	mg/kg		8260B	03/11/15	5
1,2,3-Trichloropropane	U	0.0037	0.013	mg/kg		8260B	03/11/15	5
1,2,4-Trimethylbenzene	U	0.0010	0.0051	mg/kg		8260B	03/11/15	5
1,2,3-Trimethylbenzene	U	0.0014	0.0051	mg/kg		8260B	03/11/15	5
Vinyl chloride	U	0.0014	0.0051	mg/kg		8260B	03/11/15	5
1,3,5-Trimethylbenzene	U	0.0013	0.0051	mg/kg		8260B	03/11/15	5
Xylenes, Total	U	0.0035	0.015	mg/kg		8260B	03/11/15	5
Surrogate Recovery								
Toluene-d8	99.0			% Rec.		8260B	03/11/15	1
Dibromofluoromethane	95.9			% Rec.		8260B	03/11/15	1
a,a,a-Trifluorotoluene	103.			% Rec.		8260B	03/11/15	1
4-Bromofluorobenzene	99.7			% Rec.		8260B	03/11/15	1
Diesel and Oil Ranges								
C10-C28 Diesel Range	U	1.6	4.1	mg/kg		8015	03/10/15	1
C28-C40 Oil Range	U	0.27	4.1	mg/kg		8015	03/10/15	1
Surrogate Recovery								
o-Terphenyl	82.7			% Rec.		8015	03/10/15	1

Results listed are dry weight basis.
U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Carl Parten
Terracon - Irvine, CA
2817 McGaw Avenue
Irvine, CA 92614

March 13,2015

ESC Sample # : L752170-02

Date Received : March 07, 2015
Description : Sears Store #1298 Riverside

Site ID :

Sample ID : TSW-1 (30-35)

Project # : 60159016 4432

Collected By : Charles H. Yoon
Collection Date : 03/06/15 09:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
Acetone	U	10.	50.	ug/l		8260B	03/12/15	1
Acrolein	U	8.9	50.	ug/l		8260B	03/12/15	1
Acrylonitrile	U	1.9	10.	ug/l		8260B	03/12/15	1
Benzene	0.60	0.33	1.0	ug/l	J	8260B	03/12/15	1
Bromobenzene	U	0.35	1.0	ug/l		8260B	03/12/15	1
Bromodichloromethane	U	0.38	1.0	ug/l		8260B	03/12/15	1
Bromoform	U	0.47	1.0	ug/l		8260B	03/12/15	1
Bromomethane	U	0.87	5.0	ug/l		8260B	03/12/15	1
n-Butylbenzene	5.6	0.36	1.0	ug/l		8260B	03/12/15	1
sec-Butylbenzene	4.0	0.36	1.0	ug/l		8260B	03/12/15	1
tert-Butylbenzene	U	0.40	1.0	ug/l		8260B	03/12/15	1
Carbon disulfide	0.53	0.28	1.0	ug/l	J	8260B	03/12/15	1
Carbon tetrachloride	U	0.38	1.0	ug/l		8260B	03/12/15	1
Chlorobenzene	U	0.35	1.0	ug/l		8260B	03/12/15	1
Chlorodibromomethane	U	0.33	1.0	ug/l		8260B	03/12/15	1
Chloroethane	U	0.45	5.0	ug/l		8260B	03/12/15	1
2-Chloroethyl vinyl ether	U	3.0	50.	ug/l		8260B	03/12/15	1
Chloroform	U	0.32	5.0	ug/l		8260B	03/12/15	1
Chloromethane	U	0.28	2.5	ug/l		8260B	03/12/15	1
2-Chlorotoluene	U	0.38	1.0	ug/l		8260B	03/12/15	1
4-Chlorotoluene	U	0.35	1.0	ug/l		8260B	03/12/15	1
1,2-Dibromo-3-Chloropropane	U	1.3	5.0	ug/l		8260B	03/12/15	1
1,2-Dibromoethane	U	0.38	1.0	ug/l		8260B	03/12/15	1
Dibromomethane	U	0.35	1.0	ug/l		8260B	03/12/15	1
1,2-Dichlorobenzene	U	0.35	1.0	ug/l		8260B	03/12/15	1
1,3-Dichlorobenzene	U	0.22	1.0	ug/l		8260B	03/12/15	1
1,4-Dichlorobenzene	U	0.27	1.0	ug/l		8260B	03/12/15	1
Dichlorodifluoromethane	U	0.55	5.0	ug/l		8260B	03/12/15	1
1,1-Dichloroethane	U	0.26	1.0	ug/l		8260B	03/12/15	1
1,2-Dichloroethane	U	0.36	1.0	ug/l		8260B	03/12/15	1
1,1-Dichloroethene	U	0.40	1.0	ug/l		8260B	03/12/15	1
cis-1,2-Dichloroethene	U	0.26	1.0	ug/l		8260B	03/12/15	1
trans-1,2-Dichloroethene	U	0.40	1.0	ug/l		8260B	03/12/15	1
1,2-Dichloropropane	U	0.31	1.0	ug/l		8260B	03/12/15	1
1,1-Dichloropropene	U	0.35	1.0	ug/l		8260B	03/12/15	1
1,3-Dichloropropane	U	0.37	1.0	ug/l		8260B	03/12/15	1
cis-1,3-Dichloropropene	U	0.42	1.0	ug/l		8260B	03/12/15	1
trans-1,3-Dichloropropene	U	0.42	1.0	ug/l		8260B	03/12/15	1
2,2-Dichloropropane	U	0.32	1.0	ug/l		8260B	03/12/15	1
Di-isopropyl ether	U	0.32	1.0	ug/l		8260B	03/12/15	1
Ethylbenzene	180	1.9	5.0	ug/l		8260B	03/13/15	5
Hexachloro-1,3-butadiene	U	0.26	1.0	ug/l		8260B	03/12/15	1

U = ND (Not Detected)
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
MDL = Minimum Detection Limit = LOD = TRRP SDL
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Tax I.D. 62-0814289

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REPORT OF ANALYSIS

Carl Parten
Terracon - Irvine, CA
2817 McGaw Avenue
Irvine, CA 92614

March 13,2015

ESC Sample # : L752170-02

Site ID :

Project # : 60159016 4432

Date Received : March 07, 2015
Description : Sears Store #1298 Riverside

Sample ID : TSW-1 (30-35)

Collected By : Charles H. Yoon
Collection Date : 03/06/15 09:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Isopropylbenzene	16.	0.33	1.0	ug/l		8260B	03/12/15	1
p-Isopropyltoluene	U	0.35	1.0	ug/l		8260B	03/12/15	1
2-Butanone (MEK)	U	3.9	10.	ug/l		8260B	03/12/15	1
Methylene Chloride	U	1.0	5.0	ug/l		8260B	03/12/15	1
4-Methyl-2-pentanone (MIBK)	U	2.1	10.	ug/l		8260B	03/12/15	1
Methyl tert-butyl ether	U	0.37	1.0	ug/l		8260B	03/12/15	1
Naphthalene	22.	1.0	5.0	ug/l		8260B	03/12/15	1
n-Propylbenzene	49.	0.35	1.0	ug/l		8260B	03/12/15	1
Styrene	U	0.31	1.0	ug/l		8260B	03/12/15	1
1,1,1,2-Tetrachloroethane	U	0.38	1.0	ug/l		8260B	03/12/15	1
1,1,2,2-Tetrachloroethane	U	0.13	1.0	ug/l		8260B	03/12/15	1
1,1,2-Trichlorotrifluoroethane	U	0.30	1.0	ug/l		8260B	03/12/15	1
Tetrachloroethene	0.43	0.37	1.0	ug/l	J	8260B	03/12/15	1
Toluene	1.9	0.78	5.0	ug/l	J	8260B	03/12/15	1
1,2,3-Trichlorobenzene	U	0.23	1.0	ug/l		8260B	03/12/15	1
1,2,4-Trichlorobenzene	U	0.36	1.0	ug/l		8260B	03/12/15	1
1,1,1-Trichloroethane	U	0.32	1.0	ug/l		8260B	03/12/15	1
1,1,2-Trichloroethane	U	0.38	1.0	ug/l		8260B	03/12/15	1
Trichloroethene	U	0.40	1.0	ug/l		8260B	03/12/15	1
Trichlorofluoromethane	U	1.2	5.0	ug/l		8260B	03/12/15	1
1,2,3-Trichloropropane	U	0.81	2.5	ug/l		8260B	03/12/15	1
1,2,4-Trimethylbenzene	53.	0.37	1.0	ug/l		8260B	03/12/15	1
1,2,3-Trimethylbenzene	55.	0.32	1.0	ug/l		8260B	03/12/15	1
1,3,5-Trimethylbenzene	16.	0.39	1.0	ug/l		8260B	03/12/15	1
Vinyl chloride	U	0.26	1.0	ug/l		8260B	03/12/15	1
Xylenes, Total	130	1.1	3.0	ug/l		8260B	03/12/15	1
Surrogate Recovery								
Toluene-d8	102.			% Rec.		8260B	03/12/15	1
Dibromofluoromethane	98.3			% Rec.		8260B	03/12/15	1
4-Bromofluorobenzene	92.3			% Rec.		8260B	03/12/15	1
Diesel and Oil Ranges								
C10-C28 Diesel Range	490	22.	100	ug/l		8015	03/10/15	1
C28-C40 Oil Range	150	12.	100	ug/l		8015	03/10/15	1
Surrogate Recovery								
o-Terphenyl	92.8			% Rec.		8015	03/10/15	1

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MDL = Minimum Detection Limit = LOD = TRRP SDL
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REPORT OF ANALYSIS

Carl Parten
Terracon - Irvine, CA
2817 McGaw Avenue
Irvine, CA 92614

March 13, 2015

ESC Sample # : L752170-03

Date Received : March 07, 2015
Description : Sears Store #1298 Riverside

Site ID :

Sample ID : TSW-2 (25-26)

Project # : 60159016 4432

Collected By : Charles H. Yoon
Collection Date : 03/06/15 11:00

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Total Solids	97.8	0.0333		%		2540 G-2	03/11/15	1
TPHG C5 - C12	1.9	0.17	0.51	mg/kg		8015	03/12/15	5
Surrogate Recovery-%								
a,a,a-Trifluorotoluene(FID)	101.			% Rec.		8015	03/12/15	1
Volatile Organics								
Acetone	U	0.050	0.26	mg/kg		8260B	03/11/15	5
Acrylonitrile	U	0.0090	0.051	mg/kg		8260B	03/11/15	5
Benzene	U	0.0014	0.0051	mg/kg		8260B	03/11/15	5
Bromobenzene	U	0.0014	0.0051	mg/kg		8260B	03/11/15	5
Bromodichloromethane	U	0.0013	0.0051	mg/kg		8260B	03/11/15	5
Bromoform	U	0.0021	0.0051	mg/kg		8260B	03/11/15	5
Bromomethane	U	0.0067	0.026	mg/kg		8260B	03/11/15	5
n-Butylbenzene	0.12	0.0013	0.0051	mg/kg		8260B	03/11/15	5
sec-Butylbenzene	0.021	0.0010	0.0051	mg/kg		8260B	03/11/15	5
tert-Butylbenzene	0.0010	0.0010	0.0051	mg/kg	J	8260B	03/11/15	5
Carbon disulfide	U	0.0011	0.0051	mg/kg		8260B	03/11/15	5
Carbon tetrachloride	U	0.0016	0.0051	mg/kg		8260B	03/11/15	5
Chlorobenzene	U	0.0011	0.0051	mg/kg		8260B	03/11/15	5
Chlorodibromomethane	U	0.0019	0.0051	mg/kg		8260B	03/11/15	5
Chloroethane	U	0.0047	0.026	mg/kg		8260B	03/11/15	5
2-Chloroethyl vinyl ether	U	0.012	0.26	mg/kg		8260B	03/11/15	5
Chloroform	U	0.0011	0.026	mg/kg		8260B	03/11/15	5
Chloromethane	U	0.0019	0.013	mg/kg		8260B	03/11/15	5
2-Chlorotoluene	U	0.0015	0.0051	mg/kg		8260B	03/11/15	5
4-Chlorotoluene	U	0.0012	0.0051	mg/kg		8260B	03/11/15	5
1,2-Dibromo-3-Chloropropane	U	0.0052	0.026	mg/kg		8260B	03/11/15	5
1,2-Dibromoethane	U	0.0017	0.0051	mg/kg		8260B	03/11/15	5
Dibromomethane	U	0.0019	0.0051	mg/kg		8260B	03/11/15	5
1,2-Dichlorobenzene	U	0.0015	0.0051	mg/kg		8260B	03/11/15	5
1,3-Dichlorobenzene	U	0.0012	0.0051	mg/kg		8260B	03/11/15	5
1,4-Dichlorobenzene	U	0.0011	0.0051	mg/kg		8260B	03/11/15	5
Dichlorodifluoromethane	U	0.0036	0.026	mg/kg		8260B	03/11/15	5
1,1-Dichloroethane	U	0.0010	0.0051	mg/kg		8260B	03/11/15	5
1,2-Dichloroethane	U	0.0013	0.0051	mg/kg		8260B	03/11/15	5
1,1-Dichloroethene	U	0.0015	0.0051	mg/kg		8260B	03/11/15	5
cis-1,2-Dichloroethene	U	0.0012	0.0051	mg/kg		8260B	03/11/15	5
trans-1,2-Dichloroethene	U	0.0013	0.0051	mg/kg		8260B	03/11/15	5
1,2-Dichloropropane	U	0.0018	0.0051	mg/kg		8260B	03/11/15	5
1,1-Dichloropropene	U	0.0016	0.0051	mg/kg		8260B	03/11/15	5
1,3-Dichloropropane	U	0.0010	0.0051	mg/kg		8260B	03/11/15	5
cis-1,3-Dichloropropene	U	0.0013	0.0051	mg/kg		8260B	03/11/15	5

Results listed are dry weight basis.
U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Carl Parten
Terracon - Irvine, CA
2817 McGaw Avenue
Irvine, CA 92614

March 13, 2015

ESC Sample # : L752170-03

Site ID :

Project # : 60159016 4432

Date Received : March 07, 2015
Description : Sears Store #1298 Riverside

Sample ID : TSW-2 (25-26)

Collected By : Charles H. Yoon
Collection Date : 03/06/15 11:00

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
trans-1,3-Dichloropropene	U	0.0013	0.0051	mg/kg		8260B	03/11/15	5
2,2-Dichloropropane	U	0.0014	0.0051	mg/kg		8260B	03/11/15	5
Di-isopropyl ether	U	0.0012	0.0051	mg/kg		8260B	03/11/15	5
Ethylbenzene	0.0022	0.0015	0.0051	mg/kg	J	8260B	03/11/15	5
Hexachloro-1,3-butadiene	U	0.0017	0.0051	mg/kg		8260B	03/11/15	5
Isopropylbenzene	0.0045	0.0012	0.0051	mg/kg	J	8260B	03/11/15	5
p-Isopropyltoluene	0.030	0.0010	0.0051	mg/kg		8260B	03/11/15	5
2-Butanone (MEK)	U	0.023	0.051	mg/kg		8260B	03/11/15	5
Methylene Chloride	U	0.0050	0.026	mg/kg		8260B	03/11/15	5
4-Methyl-2-pentanone (MIBK)	U	0.0094	0.051	mg/kg		8260B	03/11/15	5
Methyl tert-butyl ether	U	0.0011	0.0051	mg/kg		8260B	03/11/15	5
Naphthalene	1.0	0.0050	0.026	mg/kg		8260B	03/11/15	5
n-Propylbenzene	0.037	0.0010	0.0051	mg/kg		8260B	03/11/15	5
Styrene	U	0.0012	0.0051	mg/kg		8260B	03/11/15	5
1,1,1,2-Tetrachloroethane	U	0.0013	0.0051	mg/kg		8260B	03/11/15	5
1,1,2,2-Tetrachloroethane	U	0.0018	0.0051	mg/kg		8260B	03/11/15	5
1,1,2-Trichlorotrifluoroethane	U	0.0018	0.0051	mg/kg		8260B	03/11/15	5
Tetrachloroethene	U	0.0014	0.0051	mg/kg		8260B	03/11/15	5
Toluene	U	0.0022	0.026	mg/kg		8260B	03/11/15	5
1,2,3-Trichlorobenzene	U	0.0015	0.0051	mg/kg		8260B	03/11/15	5
1,2,4-Trichlorobenzene	U	0.0019	0.0051	mg/kg	J3	8260B	03/11/15	5
1,1,1-Trichloroethane	U	0.0014	0.0051	mg/kg		8260B	03/11/15	5
1,1,2-Trichloroethane	U	0.0014	0.0051	mg/kg		8260B	03/11/15	5
Trichloroethene	U	0.0014	0.0051	mg/kg		8260B	03/11/15	5
Trichlorofluoromethane	U	0.0019	0.026	mg/kg		8260B	03/11/15	5
1,2,3-Trichloropropane	U	0.0037	0.013	mg/kg		8260B	03/11/15	5
1,2,4-Trimethylbenzene	0.72	0.0010	0.0051	mg/kg		8260B	03/11/15	5
1,2,3-Trimethylbenzene	0.37	0.0014	0.0051	mg/kg		8260B	03/11/15	5
Vinyl chloride	U	0.0014	0.0051	mg/kg		8260B	03/11/15	5
1,3,5-Trimethylbenzene	0.14	0.0013	0.0051	mg/kg		8260B	03/11/15	5
Xylenes, Total	0.016	0.0035	0.015	mg/kg		8260B	03/11/15	5
Surrogate Recovery								
Toluene-d8	107.			% Rec.		8260B	03/11/15	1
Dibromofluoromethane	94.4			% Rec.		8260B	03/11/15	1
a,a,a-Trifluorotoluene	98.7			% Rec.		8260B	03/11/15	1
4-Bromofluorobenzene	93.2			% Rec.		8260B	03/11/15	1
Diesel and Oil Ranges								
C10-C28 Diesel Range	26.	1.6	4.1	mg/kg		8015	03/10/15	1
C28-C40 Oil Range	U	0.27	4.1	mg/kg		8015	03/10/15	1
Surrogate Recovery								
o-Terphenyl	81.4			% Rec.		8015	03/10/15	1

Results listed are dry weight basis.
U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
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REPORT OF ANALYSIS

Carl Parten
Terracon - Irvine, CA
2817 McGaw Avenue
Irvine, CA 92614

March 13,2015

ESC Sample # : L752170-04

Date Received : March 07, 2015
Description : Sears Store #1298 Riverside

Site ID :

Sample ID : TSW-2 (30-35)

Project # : 60159016 4432

Collected By : Charles H. Yoon
Collection Date : 03/06/15 11:25

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
TPHG C5 - C12	5700	150	500	ug/l		8015	03/09/15	5
Surrogate Recovery-%								
a,a,a-Trifluorotoluene(FID)	110.			% Rec.		8015	03/09/15	1
Volatile Organics								
Acetone	U	10.	50.	ug/l		8260B	03/12/15	1
Acrolein	U	8.9	50.	ug/l		8260B	03/12/15	1
Acrylonitrile	U	1.9	10.	ug/l		8260B	03/12/15	1
Benzene	7.8	0.33	1.0	ug/l		8260B	03/12/15	1
Bromobenzene	U	0.35	1.0	ug/l		8260B	03/12/15	1
Bromodichloromethane	U	0.38	1.0	ug/l		8260B	03/12/15	1
Bromoform	U	0.47	1.0	ug/l		8260B	03/12/15	1
Bromomethane	U	0.87	5.0	ug/l		8260B	03/12/15	1
n-Butylbenzene	21.	0.36	1.0	ug/l		8260B	03/12/15	1
sec-Butylbenzene	9.0	0.36	1.0	ug/l		8260B	03/12/15	1
tert-Butylbenzene	1.4	0.40	1.0	ug/l		8260B	03/12/15	1
Carbon disulfide	0.32	0.28	1.0	ug/l	J	8260B	03/12/15	1
Carbon tetrachloride	U	0.38	1.0	ug/l		8260B	03/12/15	1
Chlorobenzene	U	0.35	1.0	ug/l		8260B	03/12/15	1
Chlorodibromomethane	U	0.33	1.0	ug/l		8260B	03/12/15	1
Chloroethane	U	0.45	5.0	ug/l		8260B	03/12/15	1
2-Chloroethyl vinyl ether	U	3.0	50.	ug/l		8260B	03/12/15	1
Chloroform	U	0.32	5.0	ug/l		8260B	03/12/15	1
Chloromethane	U	0.28	2.5	ug/l		8260B	03/12/15	1
2-Chlorotoluene	U	0.38	1.0	ug/l		8260B	03/12/15	1
4-Chlorotoluene	U	0.35	1.0	ug/l		8260B	03/12/15	1
1,2-Dibromo-3-Chloropropane	U	1.3	5.0	ug/l		8260B	03/12/15	1
1,2-Dibromoethane	U	0.38	1.0	ug/l		8260B	03/12/15	1
Dibromomethane	U	0.35	1.0	ug/l		8260B	03/12/15	1
1,2-Dichlorobenzene	U	0.35	1.0	ug/l		8260B	03/12/15	1
1,3-Dichlorobenzene	U	0.22	1.0	ug/l		8260B	03/12/15	1
1,4-Dichlorobenzene	U	0.27	1.0	ug/l		8260B	03/12/15	1
Dichlorodifluoromethane	U	0.55	5.0	ug/l		8260B	03/12/15	1
1,1-Dichloroethane	U	0.26	1.0	ug/l		8260B	03/12/15	1
1,2-Dichloroethane	5.2	0.36	1.0	ug/l		8260B	03/12/15	1
1,1-Dichloroethene	U	0.40	1.0	ug/l		8260B	03/12/15	1
cis-1,2-Dichloroethene	U	0.26	1.0	ug/l		8260B	03/12/15	1
trans-1,2-Dichloroethene	U	0.40	1.0	ug/l		8260B	03/12/15	1
1,2-Dichloropropane	U	0.31	1.0	ug/l		8260B	03/12/15	1
1,1-Dichloropropene	U	0.35	1.0	ug/l		8260B	03/12/15	1
1,3-Dichloropropane	U	0.37	1.0	ug/l		8260B	03/12/15	1
cis-1,3-Dichloropropene	U	0.42	1.0	ug/l		8260B	03/12/15	1
trans-1,3-Dichloropropene	U	0.42	1.0	ug/l		8260B	03/12/15	1

U = ND (Not Detected)
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
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REPORT OF ANALYSIS

Carl Parten
Terracon - Irvine, CA
2817 McGaw Avenue
Irvine, CA 92614

March 13,2015

ESC Sample # : L752170-04

Date Received : March 07, 2015
Description : Sears Store #1298 Riverside

Site ID :

Sample ID : TSW-2 (30-35)

Project # : 60159016 4432

Collected By : Charles H. Yoon
Collection Date : 03/06/15 11:25

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
2,2-Dichloropropane	U	0.32	1.0	ug/l		8260B	03/12/15	1
Di-isopropyl ether	0.48	0.32	1.0	ug/l	J	8260B	03/12/15	1
Ethylbenzene	990	3.8	10.	ug/l		8260B	03/13/15	10
Hexachloro-1,3-butadiene	U	0.26	1.0	ug/l		8260B	03/12/15	1
Isopropylbenzene	51.	0.33	1.0	ug/l		8260B	03/12/15	1
p-Isopropyltoluene	3.2	0.35	1.0	ug/l		8260B	03/12/15	1
2-Butanone (MEK)	U	3.9	10.	ug/l		8260B	03/12/15	1
Methylene Chloride	U	1.0	5.0	ug/l		8260B	03/12/15	1
4-Methyl-2-pentanone (MIBK)	U	2.1	10.	ug/l		8260B	03/12/15	1
Methyl tert-butyl ether	U	0.37	1.0	ug/l		8260B	03/12/15	1
Naphthalene	180	1.0	5.0	ug/l		8260B	03/12/15	1
n-Propylbenzene	140	0.35	1.0	ug/l		8260B	03/12/15	1
Styrene	0.81	0.31	1.0	ug/l	J	8260B	03/12/15	1
1,1,1,2-Tetrachloroethane	U	0.38	1.0	ug/l		8260B	03/12/15	1
1,1,2,2-Tetrachloroethane	U	0.13	1.0	ug/l		8260B	03/12/15	1
1,1,2-Trichlorotrifluoroethane	U	0.30	1.0	ug/l		8260B	03/12/15	1
Tetrachloroethene	0.46	0.37	1.0	ug/l	J	8260B	03/12/15	1
Toluene	36.	0.78	5.0	ug/l		8260B	03/12/15	1
1,2,3-Trichlorobenzene	U	0.23	1.0	ug/l		8260B	03/12/15	1
1,2,4-Trichlorobenzene	U	0.36	1.0	ug/l		8260B	03/12/15	1
1,1,1-Trichloroethane	U	0.32	1.0	ug/l		8260B	03/12/15	1
1,1,2-Trichloroethane	U	0.38	1.0	ug/l		8260B	03/12/15	1
Trichloroethene	U	0.40	1.0	ug/l		8260B	03/12/15	1
Trichlorofluoromethane	U	1.2	5.0	ug/l		8260B	03/12/15	1
1,2,3-Trichloropropane	U	0.81	2.5	ug/l		8260B	03/12/15	1
1,2,4-Trimethylbenzene	1500	3.7	10.	ug/l		8260B	03/13/15	10
1,2,3-Trimethylbenzene	360	3.2	10.	ug/l		8260B	03/13/15	10
1,3,5-Trimethylbenzene	200	0.39	1.0	ug/l		8260B	03/12/15	1
Vinyl chloride	U	0.26	1.0	ug/l		8260B	03/12/15	1
Xylenes, Total	2600	11.	30.	ug/l		8260B	03/13/15	10
Surrogate Recovery								
Toluene-d8	103.			% Rec.		8260B	03/12/15	1
Dibromofluoromethane	92.6			% Rec.		8260B	03/12/15	1
4-Bromofluorobenzene	71.0			% Rec.		8260B	03/12/15	1
Diesel and Oil Ranges								
C10-C28 Diesel Range	410	22.	100	ug/l		8015	03/10/15	1
C28-C40 Oil Range	58.	12.	100	ug/l	J	8015	03/10/15	1
Surrogate Recovery								
o-Terphenyl	92.4			% Rec.		8015	03/10/15	1

U = ND (Not Detected)
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
MDL = Minimum Detection Limit = LOD = TRRP SDL
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REPORT OF ANALYSIS

Carl Parten
Terracon - Irvine, CA
2817 McGaw Avenue
Irvine, CA 92614

March 13, 2015

ESC Sample # : L752170-05

Date Received : March 07, 2015
Description : Sears Store #1298 Riverside

Site ID :

Sample ID : TSW-3 (14-15)

Project # : 60159016 4432

Collected By : Charles H. Yoon
Collection Date : 03/06/15 12:10

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Total Solids	91.8	0.0333		%		2540 G-2	03/11/15	1
TPHG C5 - C12	U	0.17	0.54	mg/kg		8015	03/12/15	5
Surrogate Recovery-%								
a,a,a-Trifluorotoluene(FID)	101.			% Rec.		8015	03/12/15	1
Volatile Organics								
Acetone	U	0.050	0.27	mg/kg		8260B	03/11/15	5
Acrylonitrile	U	0.0090	0.054	mg/kg		8260B	03/11/15	5
Benzene	U	0.0014	0.0054	mg/kg		8260B	03/11/15	5
Bromobenzene	U	0.0014	0.0054	mg/kg		8260B	03/11/15	5
Bromodichloromethane	U	0.0013	0.0054	mg/kg		8260B	03/11/15	5
Bromoform	U	0.0021	0.0054	mg/kg		8260B	03/11/15	5
Bromomethane	U	0.0067	0.027	mg/kg		8260B	03/11/15	5
n-Butylbenzene	U	0.0013	0.0054	mg/kg		8260B	03/11/15	5
sec-Butylbenzene	U	0.0010	0.0054	mg/kg		8260B	03/11/15	5
tert-Butylbenzene	U	0.0010	0.0054	mg/kg		8260B	03/11/15	5
Carbon disulfide	U	0.0011	0.0054	mg/kg		8260B	03/11/15	5
Carbon tetrachloride	U	0.0016	0.0054	mg/kg		8260B	03/11/15	5
Chlorobenzene	U	0.0011	0.0054	mg/kg		8260B	03/11/15	5
Chlorodibromomethane	U	0.0019	0.0054	mg/kg		8260B	03/11/15	5
Chloroethane	U	0.0047	0.027	mg/kg		8260B	03/11/15	5
2-Chloroethyl vinyl ether	U	0.012	0.27	mg/kg		8260B	03/11/15	5
Chloroform	U	0.0011	0.027	mg/kg		8260B	03/11/15	5
Chloromethane	U	0.0019	0.014	mg/kg		8260B	03/11/15	5
2-Chlorotoluene	U	0.0015	0.0054	mg/kg		8260B	03/11/15	5
4-Chlorotoluene	U	0.0012	0.0054	mg/kg		8260B	03/11/15	5
1,2-Dibromo-3-Chloropropane	U	0.0052	0.027	mg/kg		8260B	03/11/15	5
1,2-Dibromoethane	U	0.0017	0.0054	mg/kg		8260B	03/11/15	5
Dibromomethane	U	0.0019	0.0054	mg/kg		8260B	03/11/15	5
1,2-Dichlorobenzene	U	0.0015	0.0054	mg/kg		8260B	03/11/15	5
1,3-Dichlorobenzene	U	0.0012	0.0054	mg/kg		8260B	03/11/15	5
1,4-Dichlorobenzene	U	0.0011	0.0054	mg/kg		8260B	03/11/15	5
Dichlorodifluoromethane	U	0.0036	0.027	mg/kg		8260B	03/11/15	5
1,1-Dichloroethane	U	0.0010	0.0054	mg/kg		8260B	03/11/15	5
1,2-Dichloroethane	U	0.0013	0.0054	mg/kg		8260B	03/11/15	5
1,1-Dichloroethene	U	0.0015	0.0054	mg/kg		8260B	03/11/15	5
cis-1,2-Dichloroethene	U	0.0012	0.0054	mg/kg		8260B	03/11/15	5
trans-1,2-Dichloroethene	U	0.0013	0.0054	mg/kg		8260B	03/11/15	5
1,2-Dichloropropane	U	0.0018	0.0054	mg/kg		8260B	03/11/15	5
1,1-Dichloropropene	U	0.0016	0.0054	mg/kg		8260B	03/11/15	5
1,3-Dichloropropane	U	0.0010	0.0054	mg/kg		8260B	03/11/15	5
cis-1,3-Dichloropropene	U	0.0013	0.0054	mg/kg		8260B	03/11/15	5

Results listed are dry weight basis.
U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
Note:
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Tax I.D. 62-0814289

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REPORT OF ANALYSIS

Carl Parten
Terracon - Irvine, CA
2817 McGaw Avenue
Irvine, CA 92614

March 13, 2015

ESC Sample # : L752170-05

Site ID :

Project # : 60159016 4432

Date Received : March 07, 2015
Description : Sears Store #1298 Riverside

Sample ID : TSW-3 (14-15)

Collected By : Charles H. Yoon
Collection Date : 03/06/15 12:10

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
trans-1,3-Dichloropropene	U	0.0013	0.0054	mg/kg		8260B	03/11/15	5
2,2-Dichloropropane	U	0.0014	0.0054	mg/kg		8260B	03/11/15	5
Di-isopropyl ether	U	0.0012	0.0054	mg/kg		8260B	03/11/15	5
Ethylbenzene	U	0.0015	0.0054	mg/kg		8260B	03/11/15	5
Hexachloro-1,3-butadiene	U	0.0017	0.0054	mg/kg		8260B	03/11/15	5
Isopropylbenzene	U	0.0012	0.0054	mg/kg		8260B	03/11/15	5
p-Isopropyltoluene	U	0.0010	0.0054	mg/kg		8260B	03/11/15	5
2-Butanone (MEK)	U	0.023	0.054	mg/kg		8260B	03/11/15	5
Methylene Chloride	U	0.0050	0.027	mg/kg		8260B	03/11/15	5
4-Methyl-2-pentanone (MIBK)	U	0.0094	0.054	mg/kg		8260B	03/11/15	5
Methyl tert-butyl ether	U	0.0011	0.0054	mg/kg		8260B	03/11/15	5
Naphthalene	U	0.0050	0.027	mg/kg		8260B	03/11/15	5
n-Propylbenzene	U	0.0010	0.0054	mg/kg		8260B	03/11/15	5
Styrene	U	0.0012	0.0054	mg/kg		8260B	03/11/15	5
1,1,1,2-Tetrachloroethane	U	0.0013	0.0054	mg/kg		8260B	03/11/15	5
1,1,2,2-Tetrachloroethane	U	0.0018	0.0054	mg/kg		8260B	03/11/15	5
1,1,2-Trichlorotrifluoroethane	U	0.0018	0.0054	mg/kg		8260B	03/11/15	5
Tetrachloroethene	U	0.0014	0.0054	mg/kg		8260B	03/11/15	5
Toluene	U	0.0022	0.027	mg/kg		8260B	03/11/15	5
1,2,3-Trichlorobenzene	U	0.0015	0.0054	mg/kg		8260B	03/11/15	5
1,2,4-Trichlorobenzene	U	0.0019	0.0054	mg/kg	J3	8260B	03/11/15	5
1,1,1-Trichloroethane	U	0.0014	0.0054	mg/kg		8260B	03/11/15	5
1,1,2-Trichloroethane	U	0.0014	0.0054	mg/kg		8260B	03/11/15	5
Trichloroethene	U	0.0014	0.0054	mg/kg		8260B	03/11/15	5
Trichlorofluoromethane	U	0.0019	0.027	mg/kg		8260B	03/11/15	5
1,2,3-Trichloropropane	U	0.0037	0.014	mg/kg		8260B	03/11/15	5
1,2,4-Trimethylbenzene	U	0.0010	0.0054	mg/kg		8260B	03/11/15	5
1,2,3-Trimethylbenzene	U	0.0014	0.0054	mg/kg		8260B	03/11/15	5
Vinyl chloride	U	0.0014	0.0054	mg/kg		8260B	03/11/15	5
1,3,5-Trimethylbenzene	U	0.0013	0.0054	mg/kg		8260B	03/11/15	5
Xylenes, Total	U	0.0035	0.016	mg/kg		8260B	03/11/15	5
Surrogate Recovery								
Toluene-d8	101.			% Rec.		8260B	03/11/15	1
Dibromofluoromethane	95.6			% Rec.		8260B	03/11/15	1
a,a,a-Trifluorotoluene	109.			% Rec.		8260B	03/11/15	1
4-Bromofluorobenzene	103.			% Rec.		8260B	03/11/15	1
Diesel and Oil Ranges								
C10-C28 Diesel Range	U	1.6	4.4	mg/kg		8015	03/10/15	1
C28-C40 Oil Range	U	0.27	4.4	mg/kg		8015	03/10/15	1
Surrogate Recovery								
o-Terphenyl	75.6			% Rec.		8015	03/10/15	1

Results listed are dry weight basis.
U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Carl Parten
Terracon - Irvine, CA
2817 McGaw Avenue
Irvine, CA 92614

March 13,2015

ESC Sample # : L752170-06

Date Received : March 07, 2015
Description : Sears Store #1298 Riverside

Site ID :

Sample ID : TSW-3 (35-40)

Project # : 60159016 4432

Collected By : Charles H. Yoon
Collection Date : 03/06/15 12:50

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
TPHG C5 - C12	U	30.	100	ug/l		8015	03/09/15	1
Surrogate Recovery-%								
a,a,a-Trifluorotoluene(FID)	110.			% Rec.		8015	03/09/15	1
Volatile Organics								
Acetone	U	10.	50.	ug/l		8260B	03/12/15	1
Acrolein	U	8.9	50.	ug/l		8260B	03/12/15	1
Acrylonitrile	U	1.9	10.	ug/l		8260B	03/12/15	1
Benzene	U	0.33	1.0	ug/l		8260B	03/12/15	1
Bromobenzene	U	0.35	1.0	ug/l		8260B	03/12/15	1
Bromodichloromethane	U	0.38	1.0	ug/l		8260B	03/12/15	1
Bromoform	U	0.47	1.0	ug/l		8260B	03/12/15	1
Bromomethane	U	0.87	5.0	ug/l		8260B	03/12/15	1
n-Butylbenzene	U	0.36	1.0	ug/l		8260B	03/12/15	1
sec-Butylbenzene	U	0.36	1.0	ug/l		8260B	03/12/15	1
tert-Butylbenzene	U	0.40	1.0	ug/l		8260B	03/12/15	1
Carbon disulfide	U	0.28	1.0	ug/l		8260B	03/12/15	1
Carbon tetrachloride	U	0.38	1.0	ug/l		8260B	03/12/15	1
Chlorobenzene	U	0.35	1.0	ug/l		8260B	03/12/15	1
Chlorodibromomethane	U	0.33	1.0	ug/l		8260B	03/12/15	1
Chloroethane	U	0.45	5.0	ug/l		8260B	03/12/15	1
2-Chloroethyl vinyl ether	U	3.0	50.	ug/l		8260B	03/12/15	1
Chloroform	0.45	0.32	5.0	ug/l	J	8260B	03/12/15	1
Chloromethane	U	0.28	2.5	ug/l		8260B	03/12/15	1
2-Chlorotoluene	U	0.38	1.0	ug/l		8260B	03/12/15	1
4-Chlorotoluene	U	0.35	1.0	ug/l		8260B	03/12/15	1
1,2-Dibromo-3-Chloropropane	U	1.3	5.0	ug/l		8260B	03/12/15	1
1,2-Dibromoethane	U	0.38	1.0	ug/l		8260B	03/12/15	1
Dibromomethane	U	0.35	1.0	ug/l		8260B	03/12/15	1
1,2-Dichlorobenzene	U	0.35	1.0	ug/l		8260B	03/12/15	1
1,3-Dichlorobenzene	U	0.22	1.0	ug/l		8260B	03/12/15	1
1,4-Dichlorobenzene	U	0.27	1.0	ug/l		8260B	03/12/15	1
Dichlorodifluoromethane	U	0.55	5.0	ug/l		8260B	03/12/15	1
1,1-Dichloroethane	U	0.26	1.0	ug/l		8260B	03/12/15	1
1,2-Dichloroethane	U	0.36	1.0	ug/l		8260B	03/12/15	1
1,1-Dichloroethene	U	0.40	1.0	ug/l		8260B	03/12/15	1
cis-1,2-Dichloroethene	U	0.26	1.0	ug/l		8260B	03/12/15	1
trans-1,2-Dichloroethene	U	0.40	1.0	ug/l		8260B	03/12/15	1
1,2-Dichloropropane	U	0.31	1.0	ug/l		8260B	03/12/15	1
1,1-Dichloropropene	U	0.35	1.0	ug/l		8260B	03/12/15	1
1,3-Dichloropropane	U	0.37	1.0	ug/l		8260B	03/12/15	1
cis-1,3-Dichloropropene	U	0.42	1.0	ug/l		8260B	03/12/15	1
trans-1,3-Dichloropropene	U	0.42	1.0	ug/l		8260B	03/12/15	1

U = ND (Not Detected)
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
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REPORT OF ANALYSIS

Carl Parten
Terracon - Irvine, CA
2817 McGaw Avenue
Irvine, CA 92614

March 13,2015

ESC Sample # : L752170-06

Date Received : March 07, 2015
Description : Sears Store #1298 Riverside

Site ID :

Sample ID : TSW-3 (35-40)

Project # : 60159016 4432

Collected By : Charles H. Yoon
Collection Date : 03/06/15 12:50

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
2,2-Dichloropropane	U	0.32	1.0	ug/l		8260B	03/12/15	1
Di-isopropyl ether	U	0.32	1.0	ug/l		8260B	03/12/15	1
Ethylbenzene	0.51	0.38	1.0	ug/l	J	8260B	03/13/15	1
Hexachloro-1,3-butadiene	U	0.26	1.0	ug/l		8260B	03/12/15	1
Isopropylbenzene	U	0.33	1.0	ug/l		8260B	03/12/15	1
p-Isopropyltoluene	U	0.35	1.0	ug/l		8260B	03/12/15	1
2-Butanone (MEK)	U	3.9	10.	ug/l		8260B	03/12/15	1
Methylene Chloride	U	1.0	5.0	ug/l		8260B	03/12/15	1
4-Methyl-2-pentanone (MIBK)	U	2.1	10.	ug/l		8260B	03/12/15	1
Methyl tert-butyl ether	U	0.37	1.0	ug/l		8260B	03/12/15	1
Naphthalene	U	1.0	5.0	ug/l		8260B	03/13/15	1
n-Propylbenzene	U	0.35	1.0	ug/l		8260B	03/12/15	1
Styrene	U	0.31	1.0	ug/l		8260B	03/12/15	1
1,1,1,2-Tetrachloroethane	U	0.38	1.0	ug/l		8260B	03/12/15	1
1,1,2,2-Tetrachloroethane	U	0.13	1.0	ug/l		8260B	03/12/15	1
1,1,2-Trichlorotrifluoroethane	U	0.30	1.0	ug/l		8260B	03/12/15	1
Tetrachloroethene	1.2	0.37	1.0	ug/l		8260B	03/12/15	1
Toluene	U	0.78	5.0	ug/l		8260B	03/12/15	1
1,2,3-Trichlorobenzene	U	0.23	1.0	ug/l		8260B	03/12/15	1
1,2,4-Trichlorobenzene	U	0.36	1.0	ug/l		8260B	03/12/15	1
1,1,1-Trichloroethane	U	0.32	1.0	ug/l		8260B	03/12/15	1
1,1,2-Trichloroethane	U	0.38	1.0	ug/l		8260B	03/12/15	1
Trichloroethene	U	0.40	1.0	ug/l		8260B	03/12/15	1
Trichlorofluoromethane	U	1.2	5.0	ug/l		8260B	03/12/15	1
1,2,3-Trichloropropane	U	0.81	2.5	ug/l		8260B	03/12/15	1
1,2,4-Trimethylbenzene	0.83	0.37	1.0	ug/l	J	8260B	03/13/15	1
1,2,3-Trimethylbenzene	U	0.32	1.0	ug/l		8260B	03/13/15	1
1,3,5-Trimethylbenzene	U	0.39	1.0	ug/l		8260B	03/12/15	1
Vinyl chloride	U	0.26	1.0	ug/l		8260B	03/12/15	1
Xylenes, Total	1.1	1.1	3.0	ug/l	J	8260B	03/13/15	1
Surrogate Recovery								
Toluene-d8	100.			% Rec.		8260B	03/12/15	1
Dibromofluoromethane	97.8			% Rec.		8260B	03/12/15	1
4-Bromofluorobenzene	95.6			% Rec.		8260B	03/12/15	1
Diesel and Oil Ranges								
C10-C28 Diesel Range	170	22.	100	ug/l		8015	03/10/15	1
C28-C40 Oil Range	120	12.	100	ug/l		8015	03/10/15	1
Surrogate Recovery								
o-Terphenyl	89.8			% Rec.		8015	03/10/15	1

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Tax I.D. 62-0814289

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REPORT OF ANALYSIS

Carl Parten
Terracon - Irvine, CA
2817 McGaw Avenue
Irvine, CA 92614

March 13, 2015

ESC Sample # : L752170-07

Date Received : March 07, 2015
Description : Sears Store #1298 Riverside

Site ID :

Sample ID : TSW-4 (14-15)

Project # : 60159016 4432

Collected By : Charles H. Yoon
Collection Date : 03/06/15 13:20

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Total Solids	83.2	0.0333		%		2540 G-2	03/11/15	1
TPHG C5 - C12	U	0.17	0.60	mg/kg		8015	03/12/15	5
Surrogate Recovery-%								
a,a,a-Trifluorotoluene(FID)	101.			% Rec.		8015	03/12/15	1
Volatile Organics								
Acetone	U	0.050	0.30	mg/kg		8260B	03/11/15	5
Acrylonitrile	U	0.0090	0.060	mg/kg		8260B	03/11/15	5
Benzene	U	0.0014	0.0060	mg/kg		8260B	03/11/15	5
Bromobenzene	U	0.0014	0.0060	mg/kg		8260B	03/11/15	5
Bromodichloromethane	U	0.0013	0.0060	mg/kg		8260B	03/11/15	5
Bromoform	U	0.0021	0.0060	mg/kg		8260B	03/11/15	5
Bromomethane	U	0.0067	0.030	mg/kg		8260B	03/11/15	5
n-Butylbenzene	U	0.0013	0.0060	mg/kg		8260B	03/11/15	5
sec-Butylbenzene	U	0.0010	0.0060	mg/kg		8260B	03/11/15	5
tert-Butylbenzene	U	0.0010	0.0060	mg/kg		8260B	03/11/15	5
Carbon disulfide	U	0.0011	0.0060	mg/kg		8260B	03/11/15	5
Carbon tetrachloride	U	0.0016	0.0060	mg/kg		8260B	03/11/15	5
Chlorobenzene	U	0.0011	0.0060	mg/kg		8260B	03/11/15	5
Chlorodibromomethane	U	0.0019	0.0060	mg/kg		8260B	03/11/15	5
Chloroethane	U	0.0047	0.030	mg/kg		8260B	03/11/15	5
2-Chloroethyl vinyl ether	U	0.012	0.30	mg/kg		8260B	03/11/15	5
Chloroform	U	0.0011	0.030	mg/kg		8260B	03/11/15	5
Chloromethane	U	0.0019	0.015	mg/kg		8260B	03/11/15	5
2-Chlorotoluene	U	0.0015	0.0060	mg/kg		8260B	03/11/15	5
4-Chlorotoluene	U	0.0012	0.0060	mg/kg		8260B	03/11/15	5
1,2-Dibromo-3-Chloropropane	U	0.0052	0.030	mg/kg		8260B	03/11/15	5
1,2-Dibromoethane	U	0.0017	0.0060	mg/kg		8260B	03/11/15	5
Dibromomethane	U	0.0019	0.0060	mg/kg		8260B	03/11/15	5
1,2-Dichlorobenzene	U	0.0015	0.0060	mg/kg		8260B	03/11/15	5
1,3-Dichlorobenzene	U	0.0012	0.0060	mg/kg		8260B	03/11/15	5
1,4-Dichlorobenzene	U	0.0011	0.0060	mg/kg		8260B	03/11/15	5
Dichlorodifluoromethane	U	0.0036	0.030	mg/kg		8260B	03/11/15	5
1,1-Dichloroethane	U	0.0010	0.0060	mg/kg		8260B	03/11/15	5
1,2-Dichloroethane	U	0.0013	0.0060	mg/kg		8260B	03/11/15	5
1,1-Dichloroethene	U	0.0015	0.0060	mg/kg		8260B	03/11/15	5
cis-1,2-Dichloroethene	U	0.0012	0.0060	mg/kg		8260B	03/11/15	5
trans-1,2-Dichloroethene	U	0.0013	0.0060	mg/kg		8260B	03/11/15	5
1,2-Dichloropropane	U	0.0018	0.0060	mg/kg		8260B	03/11/15	5
1,1-Dichloropropene	U	0.0016	0.0060	mg/kg		8260B	03/11/15	5
1,3-Dichloropropane	U	0.0010	0.0060	mg/kg		8260B	03/11/15	5
cis-1,3-Dichloropropene	U	0.0013	0.0060	mg/kg		8260B	03/11/15	5

Results listed are dry weight basis.
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REPORT OF ANALYSIS

Carl Parten
Terracon - Irvine, CA
2817 McGaw Avenue
Irvine, CA 92614

March 13, 2015

ESC Sample # : L752170-07

Date Received : March 07, 2015
Description : Sears Store #1298 Riverside

Site ID :

Sample ID : TSW-4 (14-15)

Project # : 60159016 4432

Collected By : Charles H. Yoon
Collection Date : 03/06/15 13:20

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
trans-1,3-Dichloropropene	U	0.0013	0.0060	mg/kg		8260B	03/11/15	5
2,2-Dichloropropane	U	0.0014	0.0060	mg/kg		8260B	03/11/15	5
Di-isopropyl ether	U	0.0012	0.0060	mg/kg		8260B	03/11/15	5
Ethylbenzene	U	0.0015	0.0060	mg/kg		8260B	03/11/15	5
Hexachloro-1,3-butadiene	U	0.0017	0.0060	mg/kg		8260B	03/11/15	5
Isopropylbenzene	U	0.0012	0.0060	mg/kg		8260B	03/11/15	5
p-Isopropyltoluene	U	0.0010	0.0060	mg/kg		8260B	03/11/15	5
2-Butanone (MEK)	U	0.023	0.060	mg/kg		8260B	03/11/15	5
Methylene Chloride	U	0.0050	0.030	mg/kg		8260B	03/11/15	5
4-Methyl-2-pentanone (MIBK)	U	0.0094	0.060	mg/kg		8260B	03/11/15	5
Methyl tert-butyl ether	U	0.0011	0.0060	mg/kg		8260B	03/11/15	5
Naphthalene	U	0.0050	0.030	mg/kg		8260B	03/11/15	5
n-Propylbenzene	U	0.0010	0.0060	mg/kg		8260B	03/11/15	5
Styrene	U	0.0012	0.0060	mg/kg		8260B	03/11/15	5
1,1,1,2-Tetrachloroethane	U	0.0013	0.0060	mg/kg		8260B	03/11/15	5
1,1,2,2-Tetrachloroethane	U	0.0018	0.0060	mg/kg		8260B	03/11/15	5
1,1,2-Trichlorotrifluoroethane	U	0.0018	0.0060	mg/kg		8260B	03/11/15	5
Tetrachloroethene	U	0.0014	0.0060	mg/kg		8260B	03/11/15	5
Toluene	U	0.0022	0.030	mg/kg		8260B	03/11/15	5
1,2,3-Trichlorobenzene	U	0.0015	0.0060	mg/kg		8260B	03/11/15	5
1,2,4-Trichlorobenzene	U	0.0019	0.0060	mg/kg	J3	8260B	03/11/15	5
1,1,1-Trichloroethane	U	0.0014	0.0060	mg/kg		8260B	03/11/15	5
1,1,2-Trichloroethane	U	0.0014	0.0060	mg/kg		8260B	03/11/15	5
Trichloroethene	U	0.0014	0.0060	mg/kg		8260B	03/11/15	5
Trichlorofluoromethane	U	0.0019	0.030	mg/kg		8260B	03/11/15	5
1,2,3-Trichloropropane	U	0.0037	0.015	mg/kg		8260B	03/11/15	5
1,2,4-Trimethylbenzene	U	0.0010	0.0060	mg/kg		8260B	03/11/15	5
1,2,3-Trimethylbenzene	U	0.0014	0.0060	mg/kg		8260B	03/11/15	5
Vinyl chloride	U	0.0014	0.0060	mg/kg		8260B	03/11/15	5
1,3,5-Trimethylbenzene	U	0.0013	0.0060	mg/kg		8260B	03/11/15	5
Xylenes, Total	U	0.0035	0.018	mg/kg		8260B	03/11/15	5
Surrogate Recovery								
Toluene-d8	102.			% Rec.		8260B	03/11/15	1
Dibromofluoromethane	103.			% Rec.		8260B	03/11/15	1
a,a,a-Trifluorotoluene	101.			% Rec.		8260B	03/11/15	1
4-Bromofluorobenzene	104.			% Rec.		8260B	03/11/15	1
Diesel and Oil Ranges								
C10-C28 Diesel Range	U	1.6	4.8	mg/kg		8015	03/10/15	1
C28-C40 Oil Range	U	0.27	4.8	mg/kg		8015	03/10/15	1
Surrogate Recovery								
o-Terphenyl	72.1			% Rec.		8015	03/10/15	1

Results listed are dry weight basis.
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Tax I.D. 62-0814289

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REPORT OF ANALYSIS

Carl Parten
Terracon - Irvine, CA
2817 McGaw Avenue
Irvine, CA 92614

March 13,2015

ESC Sample # : L752170-08

Date Received : March 07, 2015
Description : Sears Store #1298 Riverside

Site ID :

Sample ID : TSW-4 (35-40)

Project # : 60159016 4432

Collected By : Charles H. Yoon
Collection Date : 03/06/15 14:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
TPHG C5 - C12	U	30.	100	ug/l		8015	03/09/15	1
Surrogate Recovery-%								
a,a,a-Trifluorotoluene(FID)	110.			% Rec.		8015	03/09/15	1
Volatile Organics								
Acetone	U	10.	50.	ug/l		8260B	03/12/15	1
Acrolein	U	8.9	50.	ug/l		8260B	03/12/15	1
Acrylonitrile	U	1.9	10.	ug/l		8260B	03/12/15	1
Benzene	U	0.33	1.0	ug/l		8260B	03/12/15	1
Bromobenzene	U	0.35	1.0	ug/l		8260B	03/12/15	1
Bromodichloromethane	U	0.38	1.0	ug/l		8260B	03/12/15	1
Bromoform	U	0.47	1.0	ug/l		8260B	03/12/15	1
Bromomethane	U	0.87	5.0	ug/l		8260B	03/12/15	1
n-Butylbenzene	U	0.36	1.0	ug/l		8260B	03/12/15	1
sec-Butylbenzene	U	0.36	1.0	ug/l		8260B	03/12/15	1
tert-Butylbenzene	U	0.40	1.0	ug/l		8260B	03/12/15	1
Carbon disulfide	U	0.28	1.0	ug/l		8260B	03/12/15	1
Carbon tetrachloride	U	0.38	1.0	ug/l		8260B	03/12/15	1
Chlorobenzene	U	0.35	1.0	ug/l		8260B	03/12/15	1
Chlorodibromomethane	U	0.33	1.0	ug/l		8260B	03/12/15	1
Chloroethane	U	0.45	5.0	ug/l		8260B	03/12/15	1
2-Chloroethyl vinyl ether	U	3.0	50.	ug/l		8260B	03/12/15	1
Chloroform	U	0.32	5.0	ug/l		8260B	03/12/15	1
Chloromethane	U	0.28	2.5	ug/l		8260B	03/12/15	1
2-Chlorotoluene	U	0.38	1.0	ug/l		8260B	03/12/15	1
4-Chlorotoluene	U	0.35	1.0	ug/l		8260B	03/12/15	1
1,2-Dibromo-3-Chloropropane	U	1.3	5.0	ug/l		8260B	03/12/15	1
1,2-Dibromoethane	U	0.38	1.0	ug/l		8260B	03/12/15	1
Dibromomethane	U	0.35	1.0	ug/l		8260B	03/12/15	1
1,2-Dichlorobenzene	U	0.35	1.0	ug/l		8260B	03/12/15	1
1,3-Dichlorobenzene	U	0.22	1.0	ug/l		8260B	03/12/15	1
1,4-Dichlorobenzene	U	0.27	1.0	ug/l		8260B	03/12/15	1
Dichlorodifluoromethane	U	0.55	5.0	ug/l		8260B	03/12/15	1
1,1-Dichloroethane	U	0.26	1.0	ug/l		8260B	03/12/15	1
1,2-Dichloroethane	U	0.36	1.0	ug/l		8260B	03/12/15	1
1,1-Dichloroethene	U	0.40	1.0	ug/l		8260B	03/12/15	1
cis-1,2-Dichloroethene	0.33	0.26	1.0	ug/l	J	8260B	03/12/15	1
trans-1,2-Dichloroethene	U	0.40	1.0	ug/l		8260B	03/12/15	1
1,2-Dichloropropane	U	0.31	1.0	ug/l		8260B	03/12/15	1
1,1-Dichloropropene	U	0.35	1.0	ug/l		8260B	03/12/15	1
1,3-Dichloropropane	U	0.37	1.0	ug/l		8260B	03/12/15	1
cis-1,3-Dichloropropene	U	0.42	1.0	ug/l		8260B	03/12/15	1
trans-1,3-Dichloropropene	U	0.42	1.0	ug/l		8260B	03/12/15	1

U = ND (Not Detected)
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
MDL = Minimum Detection Limit = LOD = TRRP SDL
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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Carl Parten
Terracon - Irvine, CA
2817 McGaw Avenue
Irvine, CA 92614

March 13,2015

ESC Sample # : L752170-08

Date Received : March 07, 2015
Description : Sears Store #1298 Riverside

Site ID :

Sample ID : TSW-4 (35-40)

Project # : 60159016 4432

Collected By : Charles H. Yoon
Collection Date : 03/06/15 14:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
2,2-Dichloropropane	U	0.32	1.0	ug/l		8260B	03/12/15	1
Di-isopropyl ether	U	0.32	1.0	ug/l		8260B	03/12/15	1
Ethylbenzene	U	0.38	1.0	ug/l		8260B	03/12/15	1
Hexachloro-1,3-butadiene	U	0.26	1.0	ug/l		8260B	03/12/15	1
Isopropylbenzene	U	0.33	1.0	ug/l		8260B	03/12/15	1
p-Isopropyltoluene	U	0.35	1.0	ug/l		8260B	03/12/15	1
2-Butanone (MEK)	U	3.9	10.	ug/l		8260B	03/12/15	1
Methylene Chloride	U	1.0	5.0	ug/l		8260B	03/12/15	1
4-Methyl-2-pentanone (MIBK)	U	2.1	10.	ug/l		8260B	03/12/15	1
Methyl tert-butyl ether	U	0.37	1.0	ug/l		8260B	03/12/15	1
Naphthalene	U	1.0	5.0	ug/l		8260B	03/12/15	1
n-Propylbenzene	U	0.35	1.0	ug/l		8260B	03/12/15	1
Styrene	U	0.31	1.0	ug/l		8260B	03/12/15	1
1,1,1,2-Tetrachloroethane	U	0.38	1.0	ug/l		8260B	03/12/15	1
1,1,2,2-Tetrachloroethane	U	0.13	1.0	ug/l		8260B	03/12/15	1
1,1,2-Trichlorotrifluoroethane	U	0.30	1.0	ug/l		8260B	03/12/15	1
Tetrachloroethene	4.2	0.37	1.0	ug/l		8260B	03/12/15	1
Toluene	U	0.78	5.0	ug/l		8260B	03/12/15	1
1,2,3-Trichlorobenzene	U	0.23	1.0	ug/l		8260B	03/12/15	1
1,2,4-Trichlorobenzene	U	0.36	1.0	ug/l		8260B	03/12/15	1
1,1,1-Trichloroethane	U	0.32	1.0	ug/l		8260B	03/12/15	1
1,1,2-Trichloroethane	U	0.38	1.0	ug/l		8260B	03/12/15	1
Trichloroethene	1.6	0.40	1.0	ug/l		8260B	03/12/15	1
Trichlorofluoromethane	U	1.2	5.0	ug/l		8260B	03/12/15	1
1,2,3-Trichloropropane	U	0.81	2.5	ug/l		8260B	03/12/15	1
1,2,4-Trimethylbenzene	0.45	0.37	1.0	ug/l	J	8260B	03/13/15	1
1,2,3-Trimethylbenzene	U	0.32	1.0	ug/l		8260B	03/12/15	1
1,3,5-Trimethylbenzene	U	0.39	1.0	ug/l		8260B	03/12/15	1
Vinyl chloride	U	0.26	1.0	ug/l		8260B	03/12/15	1
Xylenes, Total	U	1.1	3.0	ug/l		8260B	03/12/15	1
Surrogate Recovery								
Toluene-d8	103.			% Rec.		8260B	03/12/15	1
Dibromofluoromethane	93.4			% Rec.		8260B	03/12/15	1
4-Bromofluorobenzene	93.3			% Rec.		8260B	03/12/15	1
Diesel and Oil Ranges								
C10-C28 Diesel Range	110	22.	100	ug/l		8015	03/10/15	1
C28-C40 Oil Range	37.	12.	100	ug/l	J	8015	03/10/15	1
Surrogate Recovery								
o-Terphenyl	91.6			% Rec.		8015	03/10/15	1

U = ND (Not Detected)
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Carl Parten
Terracon - Irvine, CA
2817 McGaw Avenue
Irvine, CA 92614

March 13, 2015

ESC Sample # : L752170-09

Date Received : March 07, 2015
Description : Sears Store #1298 Riverside

Site ID :

Sample ID : TSW-5 (38-39)

Project # : 60159016 4432

Collected By : Charles H. Yoon
Collection Date : 03/06/15 16:00

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Total Solids	97.1	0.0333		%		2540 G-2	03/11/15	1
TPHG C5 - C12	U	0.17	0.51	mg/kg		8015	03/12/15	5
Surrogate Recovery-%								
a,a,a-Trifluorotoluene(FID)	101.			% Rec.		8015	03/12/15	1
Volatile Organics								
Acetone	U	0.050	0.26	mg/kg		8260B	03/13/15	5
Acrylonitrile	U	0.0090	0.051	mg/kg		8260B	03/13/15	5
Benzene	U	0.0014	0.0051	mg/kg		8260B	03/13/15	5
Bromobenzene	U	0.0014	0.0051	mg/kg		8260B	03/13/15	5
Bromodichloromethane	U	0.0013	0.0051	mg/kg		8260B	03/13/15	5
Bromoform	U	0.0021	0.0051	mg/kg		8260B	03/13/15	5
Bromomethane	U	0.0067	0.026	mg/kg		8260B	03/13/15	5
n-Butylbenzene	U	0.0013	0.0051	mg/kg		8260B	03/13/15	5
sec-Butylbenzene	U	0.0010	0.0051	mg/kg		8260B	03/13/15	5
tert-Butylbenzene	U	0.0010	0.0051	mg/kg		8260B	03/13/15	5
Carbon disulfide	U	0.0011	0.0051	mg/kg		8260B	03/13/15	5
Carbon tetrachloride	U	0.0016	0.0051	mg/kg		8260B	03/13/15	5
Chlorobenzene	U	0.0011	0.0051	mg/kg		8260B	03/13/15	5
Chlorodibromomethane	U	0.0019	0.0051	mg/kg		8260B	03/13/15	5
Chloroethane	U	0.0047	0.026	mg/kg		8260B	03/13/15	5
2-Chloroethyl vinyl ether	U	0.012	0.26	mg/kg		8260B	03/13/15	5
Chloroform	U	0.0011	0.026	mg/kg		8260B	03/13/15	5
Chloromethane	U	0.0019	0.013	mg/kg		8260B	03/13/15	5
2-Chlorotoluene	U	0.0015	0.0051	mg/kg		8260B	03/13/15	5
4-Chlorotoluene	U	0.0012	0.0051	mg/kg		8260B	03/13/15	5
1,2-Dibromo-3-Chloropropane	U	0.0052	0.026	mg/kg		8260B	03/13/15	5
1,2-Dibromoethane	U	0.0017	0.0051	mg/kg		8260B	03/13/15	5
Dibromomethane	U	0.0019	0.0051	mg/kg		8260B	03/13/15	5
1,2-Dichlorobenzene	U	0.0015	0.0051	mg/kg		8260B	03/13/15	5
1,3-Dichlorobenzene	U	0.0012	0.0051	mg/kg		8260B	03/13/15	5
1,4-Dichlorobenzene	U	0.0011	0.0051	mg/kg		8260B	03/13/15	5
Dichlorodifluoromethane	U	0.0036	0.026	mg/kg		8260B	03/13/15	5
1,1-Dichloroethane	U	0.0010	0.0051	mg/kg		8260B	03/13/15	5
1,2-Dichloroethane	U	0.0013	0.0051	mg/kg		8260B	03/13/15	5
1,1-Dichloroethene	U	0.0015	0.0051	mg/kg		8260B	03/13/15	5
cis-1,2-Dichloroethene	U	0.0012	0.0051	mg/kg		8260B	03/13/15	5
trans-1,2-Dichloroethene	U	0.0013	0.0051	mg/kg		8260B	03/13/15	5
1,2-Dichloropropane	U	0.0018	0.0051	mg/kg		8260B	03/13/15	5
1,1-Dichloropropene	U	0.0016	0.0051	mg/kg		8260B	03/13/15	5
1,3-Dichloropropane	U	0.0010	0.0051	mg/kg		8260B	03/13/15	5
cis-1,3-Dichloropropene	U	0.0013	0.0051	mg/kg		8260B	03/13/15	5

Results listed are dry weight basis.
U = ND (Not Detected)
MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
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Tax I.D. 62-0814289

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REPORT OF ANALYSIS

Carl Parten
Terracon - Irvine, CA
2817 McGaw Avenue
Irvine, CA 92614

March 13, 2015

ESC Sample # : L752170-09

Site ID :

Project # : 60159016 4432

Date Received : March 07, 2015
Description : Sears Store #1298 Riverside

Sample ID : TSW-5 (38-39)

Collected By : Charles H. Yoon
Collection Date : 03/06/15 16:00

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
trans-1,3-Dichloropropene	U	0.0013	0.0051	mg/kg		8260B	03/13/15	5
2,2-Dichloropropane	U	0.0014	0.0051	mg/kg		8260B	03/13/15	5
Di-isopropyl ether	U	0.0012	0.0051	mg/kg		8260B	03/13/15	5
Ethylbenzene	U	0.0015	0.0051	mg/kg		8260B	03/13/15	5
Hexachloro-1,3-butadiene	U	0.0017	0.0051	mg/kg		8260B	03/13/15	5
Isopropylbenzene	U	0.0012	0.0051	mg/kg		8260B	03/13/15	5
p-Isopropyltoluene	U	0.0010	0.0051	mg/kg		8260B	03/13/15	5
2-Butanone (MEK)	U	0.023	0.051	mg/kg		8260B	03/13/15	5
Methylene Chloride	U	0.0050	0.026	mg/kg		8260B	03/13/15	5
4-Methyl-2-pentanone (MIBK)	U	0.0094	0.051	mg/kg		8260B	03/13/15	5
Methyl tert-butyl ether	U	0.0011	0.0051	mg/kg		8260B	03/13/15	5
Naphthalene	U	0.0050	0.026	mg/kg		8260B	03/13/15	5
n-Propylbenzene	U	0.0010	0.0051	mg/kg		8260B	03/13/15	5
Styrene	U	0.0012	0.0051	mg/kg		8260B	03/13/15	5
1,1,1,2-Tetrachloroethane	U	0.0013	0.0051	mg/kg		8260B	03/13/15	5
1,1,2,2-Tetrachloroethane	U	0.0018	0.0051	mg/kg		8260B	03/13/15	5
1,1,2-Trichlorotrifluoroethane	U	0.0018	0.0051	mg/kg		8260B	03/13/15	5
Tetrachloroethene	U	0.0014	0.0051	mg/kg		8260B	03/13/15	5
Toluene	U	0.0022	0.026	mg/kg		8260B	03/13/15	5
1,2,3-Trichlorobenzene	U	0.0015	0.0051	mg/kg		8260B	03/13/15	5
1,2,4-Trichlorobenzene	U	0.0019	0.0051	mg/kg		8260B	03/13/15	5
1,1,1-Trichloroethane	U	0.0014	0.0051	mg/kg		8260B	03/13/15	5
1,1,2-Trichloroethane	U	0.0014	0.0051	mg/kg		8260B	03/13/15	5
Trichloroethene	U	0.0014	0.0051	mg/kg		8260B	03/13/15	5
Trichlorofluoromethane	U	0.0019	0.026	mg/kg		8260B	03/13/15	5
1,2,3-Trichloropropane	U	0.0037	0.013	mg/kg		8260B	03/13/15	5
1,2,4-Trimethylbenzene	U	0.0010	0.0051	mg/kg		8260B	03/13/15	5
1,2,3-Trimethylbenzene	U	0.0014	0.0051	mg/kg		8260B	03/13/15	5
Vinyl chloride	U	0.0014	0.0051	mg/kg		8260B	03/13/15	5
1,3,5-Trimethylbenzene	U	0.0013	0.0051	mg/kg		8260B	03/13/15	5
Xylenes, Total	U	0.0035	0.015	mg/kg		8260B	03/13/15	5
Surrogate Recovery								
Toluene-d8	101.			% Rec.		8260B	03/13/15	1
Dibromofluoromethane	96.4			% Rec.		8260B	03/13/15	1
a,a,a-Trifluorotoluene	104.			% Rec.		8260B	03/13/15	1
4-Bromofluorobenzene	105.			% Rec.		8260B	03/13/15	1
Diesel and Oil Ranges								
C10-C28 Diesel Range	U	1.6	4.1	mg/kg		8015	03/10/15	1
C28-C40 Oil Range	U	0.27	4.1	mg/kg		8015	03/10/15	1
Surrogate Recovery								
o-Terphenyl	81.0			% Rec.		8015	03/10/15	1

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REPORT OF ANALYSIS

Carl Parten
Terracon - Irvine, CA
2817 McGaw Avenue
Irvine, CA 92614

March 13, 2015

ESC Sample # : L752170-10

Site ID :

Project # : 60159016 4432

Date Received : March 07, 2015
Description : Sears Store #1298 Riverside

Sample ID : TSW-5 (40-45)

Collected By : Charles H. Yoon
Collection Date : 03/06/15 16:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
TPHG C5 - C12	U	30.	100	ug/l		8015	03/09/15	1
Surrogate Recovery-%								
a,a,a-Trifluorotoluene(FID)	110.			% Rec.		8015	03/09/15	1
Volatile Organics								
Acetone	19.	10.	50.	ug/l	J	8260B	03/12/15	1
Acrolein	U	8.9	50.	ug/l		8260B	03/12/15	1
Acrylonitrile	U	1.9	10.	ug/l		8260B	03/12/15	1
Benzene	U	0.33	1.0	ug/l		8260B	03/12/15	1
Bromobenzene	U	0.35	1.0	ug/l		8260B	03/12/15	1
Bromodichloromethane	U	0.38	1.0	ug/l		8260B	03/12/15	1
Bromoform	U	0.47	1.0	ug/l		8260B	03/12/15	1
Bromomethane	U	0.87	5.0	ug/l		8260B	03/12/15	1
n-Butylbenzene	U	0.36	1.0	ug/l		8260B	03/12/15	1
sec-Butylbenzene	U	0.36	1.0	ug/l		8260B	03/12/15	1
tert-Butylbenzene	U	0.40	1.0	ug/l		8260B	03/12/15	1
Carbon disulfide	U	0.28	1.0	ug/l		8260B	03/12/15	1
Carbon tetrachloride	U	0.38	1.0	ug/l		8260B	03/12/15	1
Chlorobenzene	U	0.35	1.0	ug/l		8260B	03/12/15	1
Chlorodibromomethane	U	0.33	1.0	ug/l		8260B	03/12/15	1
Chloroethane	U	0.45	5.0	ug/l		8260B	03/12/15	1
2-Chloroethyl vinyl ether	U	3.0	50.	ug/l		8260B	03/12/15	1
Chloroform	U	0.32	5.0	ug/l		8260B	03/12/15	1
Chloromethane	U	0.28	2.5	ug/l		8260B	03/12/15	1
2-Chlorotoluene	U	0.38	1.0	ug/l		8260B	03/12/15	1
4-Chlorotoluene	U	0.35	1.0	ug/l		8260B	03/12/15	1
1,2-Dibromo-3-Chloropropane	U	1.3	5.0	ug/l		8260B	03/12/15	1
1,2-Dibromoethane	U	0.38	1.0	ug/l		8260B	03/12/15	1
Dibromomethane	U	0.35	1.0	ug/l		8260B	03/12/15	1
1,2-Dichlorobenzene	U	0.35	1.0	ug/l		8260B	03/12/15	1
1,3-Dichlorobenzene	U	0.22	1.0	ug/l		8260B	03/12/15	1
1,4-Dichlorobenzene	U	0.27	1.0	ug/l		8260B	03/12/15	1
Dichlorodifluoromethane	U	0.55	5.0	ug/l		8260B	03/12/15	1
1,1-Dichloroethane	U	0.26	1.0	ug/l		8260B	03/12/15	1
1,2-Dichloroethane	U	0.36	1.0	ug/l		8260B	03/12/15	1
1,1-Dichloroethene	U	0.40	1.0	ug/l		8260B	03/12/15	1
cis-1,2-Dichloroethene	U	0.26	1.0	ug/l		8260B	03/12/15	1
trans-1,2-Dichloroethene	U	0.40	1.0	ug/l		8260B	03/12/15	1
1,2-Dichloropropane	U	0.31	1.0	ug/l		8260B	03/12/15	1
1,1-Dichloropropene	U	0.35	1.0	ug/l		8260B	03/12/15	1
1,3-Dichloropropane	U	0.37	1.0	ug/l		8260B	03/12/15	1
cis-1,3-Dichloropropene	U	0.42	1.0	ug/l		8260B	03/12/15	1
trans-1,3-Dichloropropene	U	0.42	1.0	ug/l		8260B	03/12/15	1

U = ND (Not Detected)
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL
MDL = Minimum Detection Limit = LOD = TRRP SDL
Note:
The reported analytical results relate only to the sample submitted.
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REPORT OF ANALYSIS

Carl Parten
Terracon - Irvine, CA
2817 McGaw Avenue
Irvine, CA 92614

March 13, 2015

ESC Sample # : L752170-10

Date Received : March 07, 2015
Description : Sears Store #1298 Riverside

Site ID :

Sample ID : TSW-5 (40-45)

Project # : 60159016 4432

Collected By : Charles H. Yoon
Collection Date : 03/06/15 16:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
2,2-Dichloropropane	U	0.32	1.0	ug/l		8260B	03/12/15	1
Di-isopropyl ether	U	0.32	1.0	ug/l		8260B	03/12/15	1
Ethylbenzene	U	0.38	1.0	ug/l		8260B	03/12/15	1
Hexachloro-1,3-butadiene	U	0.26	1.0	ug/l		8260B	03/12/15	1
Isopropylbenzene	U	0.33	1.0	ug/l		8260B	03/12/15	1
p-Isopropyltoluene	U	0.35	1.0	ug/l		8260B	03/12/15	1
2-Butanone (MEK)	U	3.9	10.	ug/l		8260B	03/12/15	1
Methylene Chloride	U	1.0	5.0	ug/l		8260B	03/12/15	1
4-Methyl-2-pentanone (MIBK)	U	2.1	10.	ug/l		8260B	03/12/15	1
Methyl tert-butyl ether	U	0.37	1.0	ug/l		8260B	03/12/15	1
Naphthalene	U	1.0	5.0	ug/l		8260B	03/12/15	1
n-Propylbenzene	U	0.35	1.0	ug/l		8260B	03/12/15	1
Styrene	U	0.31	1.0	ug/l		8260B	03/12/15	1
1,1,1,2-Tetrachloroethane	U	0.38	1.0	ug/l		8260B	03/12/15	1
1,1,2,2-Tetrachloroethane	U	0.13	1.0	ug/l		8260B	03/12/15	1
1,1,2-Trichlorotrifluoroethane	U	0.30	1.0	ug/l		8260B	03/12/15	1
Tetrachloroethene	2.6	0.37	1.0	ug/l		8260B	03/12/15	1
Toluene	U	0.78	5.0	ug/l		8260B	03/12/15	1
1,2,3-Trichlorobenzene	U	0.23	1.0	ug/l		8260B	03/12/15	1
1,2,4-Trichlorobenzene	U	0.36	1.0	ug/l		8260B	03/12/15	1
1,1,1-Trichloroethane	U	0.32	1.0	ug/l		8260B	03/12/15	1
1,1,2-Trichloroethane	U	0.38	1.0	ug/l		8260B	03/12/15	1
Trichloroethene	U	0.40	1.0	ug/l		8260B	03/12/15	1
Trichlorofluoromethane	U	1.2	5.0	ug/l		8260B	03/12/15	1
1,2,3-Trichloropropane	U	0.81	2.5	ug/l		8260B	03/12/15	1
1,2,4-Trimethylbenzene	U	0.37	1.0	ug/l		8260B	03/12/15	1
1,2,3-Trimethylbenzene	U	0.32	1.0	ug/l		8260B	03/12/15	1
1,3,5-Trimethylbenzene	U	0.39	1.0	ug/l		8260B	03/12/15	1
Vinyl chloride	U	0.26	1.0	ug/l		8260B	03/12/15	1
Xylenes, Total	U	1.1	3.0	ug/l		8260B	03/12/15	1
Surrogate Recovery								
Toluene-d8	101.			% Rec.		8260B	03/12/15	1
Dibromofluoromethane	100.			% Rec.		8260B	03/12/15	1
4-Bromofluorobenzene	96.9			% Rec.		8260B	03/12/15	1
Diesel and Oil Ranges								
C10-C28 Diesel Range	1500	22.	100	ug/l		8015	03/10/15	1
C28-C40 Oil Range	150	12.	100	ug/l		8015	03/10/15	1
Surrogate Recovery								
o-Terphenyl	95.0			% Rec.		8015	03/10/15	1

U = ND (Not Detected)
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MDL = Minimum Detection Limit = LOD = TRRP SDL
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Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L752170-01	WG774307	SAMP	1,2,4-Trichlorobenzene	R3024123	J3
L752170-02	WG774291	SAMP	Benzene	R3024364	J
	WG774291	SAMP	Carbon disulfide	R3024364	J
	WG774291	SAMP	Tetrachloroethene	R3024364	J
	WG774291	SAMP	Toluene	R3024364	J
L752170-03	WG774307	SAMP	tert-Butylbenzene	R3024123	J
	WG774307	SAMP	Ethylbenzene	R3024123	J
	WG774307	SAMP	Isopropylbenzene	R3024123	J
	WG774307	SAMP	1,2,4-Trichlorobenzene	R3024123	J3
L752170-04	WG774291	SAMP	Carbon disulfide	R3024364	J
	WG774291	SAMP	Di-isopropyl ether	R3024364	J
	WG774291	SAMP	Styrene	R3024364	J
	WG774291	SAMP	Tetrachloroethene	R3024364	J
	WG774648	SAMP	C28-C40 Oil Range	R3023949	J
L752170-05	WG774307	SAMP	1,2,4-Trichlorobenzene	R3024123	J3
L752170-06	WG774291	SAMP	Chloroform	R3024364	J
	WG775401	SAMP	Ethylbenzene	R3024488	J
	WG775401	SAMP	1,2,4-Trimethylbenzene	R3024488	J
	WG775401	SAMP	Xylenes, Total	R3024488	J
L752170-07	WG774307	SAMP	1,2,4-Trichlorobenzene	R3024123	J3
L752170-08	WG774291	SAMP	cis-1,2-Dichloroethene	R3024364	J
	WG775401	SAMP	1,2,4-Trimethylbenzene	R3024488	J
	WG774648	SAMP	C28-C40 Oil Range	R3023949	J
L752170-10	WG774291	SAMP	Acetone	R3024364	J

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.
J3	The associated batch QC was outside the established quality control range for precision.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods,it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Differrence.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

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Irvine, CA 92614

Quality Assurance Report
Level II

L752170

March 13, 2015

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Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
C10-C28 Diesel Range	< 4	mg/kg			WG774607	03/10/15 01:08
C28-C40 Oil Range	< 4	mg/kg			WG774607	03/10/15 01:08
o-Terphenyl		% Rec.	80.00	50-150	WG774607	03/10/15 01:08
TPHG C5 - C12	< .1	mg/l			WG774317	03/09/15 15:14
a,a,a-Trifluorotoluene(FID)		% Rec.	110.0	62-128	WG774317	03/09/15 15:14
Total Solids	< .1	%			WG774660	03/11/15 06:58
C10-C28 Diesel Range	< .1	mg/l			WG774648	03/10/15 13:33
C28-C40 Oil Range	< .1	mg/l			WG774648	03/10/15 13:33
o-Terphenyl		% Rec.	93.50	50-150	WG774648	03/10/15 13:33
1,1,1,2-Tetrachloroethane	< .001	mg/kg			WG774307	03/11/15 12:29
1,1,1-Trichloroethane	< .001	mg/kg			WG774307	03/11/15 12:29
1,1,2,2-Tetrachloroethane	< .001	mg/kg			WG774307	03/11/15 12:29
1,1,2-Trichloroethane	< .001	mg/kg			WG774307	03/11/15 12:29
1,1,2-Trichlorotrifluoroethane	< .001	mg/kg			WG774307	03/11/15 12:29
1,1-Dichloroethane	< .001	mg/kg			WG774307	03/11/15 12:29
1,1-Dichloroethene	< .001	mg/kg			WG774307	03/11/15 12:29
1,1-Dichloropropene	< .001	mg/kg			WG774307	03/11/15 12:29
1,2,3-Trichlorobenzene	< .001	mg/kg			WG774307	03/11/15 12:29
1,2,3-Trichloropropane	< .0025	mg/kg			WG774307	03/11/15 12:29
1,2,3-Trimethylbenzene	< .001	mg/kg			WG774307	03/11/15 12:29
1,2,4-Trichlorobenzene	< .001	mg/kg			WG774307	03/11/15 12:29
1,2,4-Trimethylbenzene	< .001	mg/kg			WG774307	03/11/15 12:29
1,2-Dibromo-3-Chloropropane	< .005	mg/kg			WG774307	03/11/15 12:29
1,2-Dibromoethane	< .001	mg/kg			WG774307	03/11/15 12:29
1,2-Dichlorobenzene	< .001	mg/kg			WG774307	03/11/15 12:29
1,2-Dichloroethane	< .001	mg/kg			WG774307	03/11/15 12:29
1,2-Dichloropropane	< .001	mg/kg			WG774307	03/11/15 12:29
1,3,5-Trimethylbenzene	< .001	mg/kg			WG774307	03/11/15 12:29
1,3-Dichlorobenzene	< .001	mg/kg			WG774307	03/11/15 12:29
1,3-Dichloropropane	< .001	mg/kg			WG774307	03/11/15 12:29
1,4-Dichlorobenzene	< .001	mg/kg			WG774307	03/11/15 12:29
2,2-Dichloropropane	< .001	mg/kg			WG774307	03/11/15 12:29
2-Butanone (MEK)	< .01	mg/kg			WG774307	03/11/15 12:29
2-Chloroethyl vinyl ether	< .05	mg/kg			WG774307	03/11/15 12:29
2-Chlorotoluene	< .001	mg/kg			WG774307	03/11/15 12:29
4-Chlorotoluene	< .001	mg/kg			WG774307	03/11/15 12:29
4-Methyl-2-pentanone (MIBK)	< .01	mg/kg			WG774307	03/11/15 12:29
Acetone	< .05	mg/kg			WG774307	03/11/15 12:29
Acrylonitrile	< .01	mg/kg			WG774307	03/11/15 12:29
Benzene	< .001	mg/kg			WG774307	03/11/15 12:29
Bromobenzene	< .001	mg/kg			WG774307	03/11/15 12:29
Bromodichloromethane	< .001	mg/kg			WG774307	03/11/15 12:29
Bromoform	< .001	mg/kg			WG774307	03/11/15 12:29
Bromomethane	< .005	mg/kg			WG774307	03/11/15 12:29
Carbon disulfide	< .001	mg/kg			WG774307	03/11/15 12:29
Carbon tetrachloride	< .001	mg/kg			WG774307	03/11/15 12:29
Chlorobenzene	< .001	mg/kg			WG774307	03/11/15 12:29
Chlorodibromomethane	< .001	mg/kg			WG774307	03/11/15 12:29
Chloroethane	< .005	mg/kg			WG774307	03/11/15 12:29
Chloroform	< .005	mg/kg			WG774307	03/11/15 12:29
Chloromethane	< .0025	mg/kg			WG774307	03/11/15 12:29

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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March 13, 2015

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Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
cis-1,2-Dichloroethene	< .001	mg/kg			WG774307	03/11/15 12:29
cis-1,3-Dichloropropene	< .001	mg/kg			WG774307	03/11/15 12:29
Di-isopropyl ether	< .001	mg/kg			WG774307	03/11/15 12:29
Dibromomethane	< .001	mg/kg			WG774307	03/11/15 12:29
Dichlorodifluoromethane	< .005	mg/kg			WG774307	03/11/15 12:29
Ethylbenzene	< .001	mg/kg			WG774307	03/11/15 12:29
Hexachloro-1,3-butadiene	< .001	mg/kg			WG774307	03/11/15 12:29
Isopropylbenzene	< .001	mg/kg			WG774307	03/11/15 12:29
Methyl tert-butyl ether	< .001	mg/kg			WG774307	03/11/15 12:29
Methylene Chloride	< .005	mg/kg			WG774307	03/11/15 12:29
n-Butylbenzene	< .001	mg/kg			WG774307	03/11/15 12:29
n-Propylbenzene	< .001	mg/kg			WG774307	03/11/15 12:29
Naphthalene	< .005	mg/kg			WG774307	03/11/15 12:29
p-Isopropyltoluene	< .001	mg/kg			WG774307	03/11/15 12:29
sec-Butylbenzene	< .001	mg/kg			WG774307	03/11/15 12:29
Styrene	< .001	mg/kg			WG774307	03/11/15 12:29
tert-Butylbenzene	< .001	mg/kg			WG774307	03/11/15 12:29
Tetrachloroethene	< .001	mg/kg			WG774307	03/11/15 12:29
Toluene	< .005	mg/kg			WG774307	03/11/15 12:29
trans-1,2-Dichloroethene	< .001	mg/kg			WG774307	03/11/15 12:29
trans-1,3-Dichloropropene	< .001	mg/kg			WG774307	03/11/15 12:29
Trichloroethene	< .001	mg/kg			WG774307	03/11/15 12:29
Trichlorofluoromethane	< .005	mg/kg			WG774307	03/11/15 12:29
Vinyl chloride	< .001	mg/kg			WG774307	03/11/15 12:29
Xylenes, Total	< .003	mg/kg			WG774307	03/11/15 12:29
4-Bromofluorobenzene		% Rec.	98.20	71-126	WG774307	03/11/15 12:29
Dibromofluoromethane		% Rec.	90.90	78.3-121	WG774307	03/11/15 12:29
Toluene-d8		% Rec.	101.0	88.5-111	WG774307	03/11/15 12:29
a,a,a-Trifluorotoluene		% Rec.	106.0	85-114	WG774307	03/11/15 12:29
1,1,1,2-Tetrachloroethane	< .001	mg/l			WG774291	03/12/15 10:56
1,1,1-Trichloroethane	< .001	mg/l			WG774291	03/12/15 10:56
1,1,2,2-Tetrachloroethane	< .001	mg/l			WG774291	03/12/15 10:56
1,1,2-Trichloroethane	< .001	mg/l			WG774291	03/12/15 10:56
1,1,2-Trichlorotrifluoroethane	< .001	mg/l			WG774291	03/12/15 10:56
1,1-Dichloroethane	< .001	mg/l			WG774291	03/12/15 10:56
1,1-Dichloroethene	< .001	mg/l			WG774291	03/12/15 10:56
1,1-Dichloropropene	< .001	mg/l			WG774291	03/12/15 10:56
1,2,3-Trichlorobenzene	< .001	mg/l			WG774291	03/12/15 10:56
1,2,3-Trichloropropane	< .001	mg/l			WG774291	03/12/15 10:56
1,2,3-Trimethylbenzene	< .001	mg/l			WG774291	03/12/15 10:56
1,2,4-Trichlorobenzene	< .001	mg/l			WG774291	03/12/15 10:56
1,2,4-Trimethylbenzene	< .001	mg/l			WG774291	03/12/15 10:56
1,2-Dibromo-3-Chloropropane	< .005	mg/l			WG774291	03/12/15 10:56
1,2-Dibromoethane	< .001	mg/l			WG774291	03/12/15 10:56
1,2-Dichlorobenzene	< .001	mg/l			WG774291	03/12/15 10:56
1,2-Dichloroethane	< .001	mg/l			WG774291	03/12/15 10:56
1,2-Dichloropropane	< .001	mg/l			WG774291	03/12/15 10:56
1,3,5-Trimethylbenzene	< .001	mg/l			WG774291	03/12/15 10:56
1,3-Dichlorobenzene	< .001	mg/l			WG774291	03/12/15 10:56
1,3-Dichloropropane	< .001	mg/l			WG774291	03/12/15 10:56
1,4-Dichlorobenzene	< .001	mg/l			WG774291	03/12/15 10:56
2,2-Dichloropropane	< .001	mg/l			WG774291	03/12/15 10:56
2-Butanone (MEK)	< .01	mg/l			WG774291	03/12/15 10:56
2-Chloroethyl vinyl ether	< .05	mg/l			WG774291	03/12/15 10:56
2-Chlorotoluene	< .001	mg/l			WG774291	03/12/15 10:56
4-Chlorotoluene	< .001	mg/l			WG774291	03/12/15 10:56
4-Methyl-2-pentanone (MIBK)	< .01	mg/l			WG774291	03/12/15 10:56

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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L752170

March 13, 2015

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Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Acetone	< .05	mg/l			WG774291	03/12/15 10:56
Acrolein	< .025	mg/l			WG774291	03/12/15 10:56
Acrylonitrile	< .01	mg/l			WG774291	03/12/15 10:56
Benzene	< .001	mg/l			WG774291	03/12/15 10:56
Bromobenzene	< .001	mg/l			WG774291	03/12/15 10:56
Bromodichloromethane	< .001	mg/l			WG774291	03/12/15 10:56
Bromoform	< .001	mg/l			WG774291	03/12/15 10:56
Bromomethane	< .005	mg/l			WG774291	03/12/15 10:56
Carbon disulfide	< .001	mg/l			WG774291	03/12/15 10:56
Carbon tetrachloride	< .001	mg/l			WG774291	03/12/15 10:56
Chlorobenzene	< .001	mg/l			WG774291	03/12/15 10:56
Chlorodibromomethane	< .001	mg/l			WG774291	03/12/15 10:56
Chloroethane	< .005	mg/l			WG774291	03/12/15 10:56
Chloroform	< .005	mg/l			WG774291	03/12/15 10:56
Chloromethane	< .0025	mg/l			WG774291	03/12/15 10:56
cis-1,2-Dichloroethene	< .001	mg/l			WG774291	03/12/15 10:56
cis-1,3-Dichloropropene	< .001	mg/l			WG774291	03/12/15 10:56
Di-isopropyl ether	< .001	mg/l			WG774291	03/12/15 10:56
Dibromomethane	< .001	mg/l			WG774291	03/12/15 10:56
Dichlorodifluoromethane	< .005	mg/l			WG774291	03/12/15 10:56
Ethylbenzene	< .001	mg/l			WG774291	03/12/15 10:56
Hexachloro-1,3-butadiene	< .001	mg/l			WG774291	03/12/15 10:56
Isopropylbenzene	< .001	mg/l			WG774291	03/12/15 10:56
Methyl tert-butyl ether	< .001	mg/l			WG774291	03/12/15 10:56
Methylene Chloride	< .005	mg/l			WG774291	03/12/15 10:56
n-Butylbenzene	< .001	mg/l			WG774291	03/12/15 10:56
n-Propylbenzene	< .001	mg/l			WG774291	03/12/15 10:56
Naphthalene	< .005	mg/l			WG774291	03/12/15 10:56
p-Isopropyltoluene	< .001	mg/l			WG774291	03/12/15 10:56
sec-Butylbenzene	< .001	mg/l			WG774291	03/12/15 10:56
Styrene	< .001	mg/l			WG774291	03/12/15 10:56
tert-Butylbenzene	< .001	mg/l			WG774291	03/12/15 10:56
Tetrachloroethene	< .001	mg/l			WG774291	03/12/15 10:56
Toluene	< .005	mg/l			WG774291	03/12/15 10:56
trans-1,2-Dichloroethene	< .001	mg/l			WG774291	03/12/15 10:56
trans-1,3-Dichloropropene	< .001	mg/l			WG774291	03/12/15 10:56
Trichloroethene	< .001	mg/l			WG774291	03/12/15 10:56
Trichlorofluoromethane	< .005	mg/l			WG774291	03/12/15 10:56
Vinyl chloride	< .001	mg/l			WG774291	03/12/15 10:56
Xylenes, Total	< .003	mg/l			WG774291	03/12/15 10:56
4-Bromofluorobenzene		% Rec.	93.20	71-126	WG774291	03/12/15 10:56
Dibromofluoromethane		% Rec.	96.20	78.3-121	WG774291	03/12/15 10:56
Toluene-d8		% Rec.	100.0	88.5-111	WG774291	03/12/15 10:56
a,a,a-Trifluorotoluene		% Rec.	101.0	85-114	WG774291	03/12/15 10:56
1,2,3-Trimethylbenzene	< .001	mg/l			WG775401	03/12/15 20:59
1,2,4-Trimethylbenzene	< .001	mg/l			WG775401	03/12/15 20:59
Ethylbenzene	< .001	mg/l			WG775401	03/12/15 20:59
Naphthalene	< .005	mg/l			WG775401	03/12/15 20:59
Xylenes, Total	< .003	mg/l			WG775401	03/12/15 20:59
4-Bromofluorobenzene		% Rec.	111.0	71-126	WG775401	03/12/15 20:59
Dibromofluoromethane		% Rec.	94.90	78.3-121	WG775401	03/12/15 20:59
Toluene-d8		% Rec.	103.0	88.5-111	WG775401	03/12/15 20:59
a,a,a-Trifluorotoluene		% Rec.	108.0	85-114	WG775401	03/12/15 20:59
TPHG C5 - C12	< .1	mg/kg			WG774452	03/12/15 13:14
a,a,a-Trifluorotoluene(FID)		% Rec.	102.0	59-128	WG774452	03/12/15 13:14

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Irvine, CA 92614

Quality Assurance Report
Level II

L752170

March 13, 2015

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
1,1,1,2-Tetrachloroethane	< .001	mg/kg			WG775215	03/13/15 01:33
1,1,1-Trichloroethane	< .001	mg/kg			WG775215	03/13/15 01:33
1,1,2,2-Tetrachloroethane	< .001	mg/kg			WG775215	03/13/15 01:33
1,1,2-Trichloroethane	< .001	mg/kg			WG775215	03/13/15 01:33
1,1,2-Trichlorotrifluoroethane	< .001	mg/kg			WG775215	03/13/15 01:33
1,1-Dichloroethane	< .001	mg/kg			WG775215	03/13/15 01:33
1,1-Dichloroethene	< .001	mg/kg			WG775215	03/13/15 01:33
1,1-Dichloropropene	< .001	mg/kg			WG775215	03/13/15 01:33
1,2,3-Trichlorobenzene	< .001	mg/kg			WG775215	03/13/15 01:33
1,2,3-Trichloropropane	< .0025	mg/kg			WG775215	03/13/15 01:33
1,2,3-Trimethylbenzene	< .001	mg/kg			WG775215	03/13/15 01:33
1,2,4-Trichlorobenzene	< .001	mg/kg			WG775215	03/13/15 01:33
1,2,4-Trimethylbenzene	< .001	mg/kg			WG775215	03/13/15 01:33
1,2-Dibromo-3-Chloropropane	< .005	mg/kg			WG775215	03/13/15 01:33
1,2-Dibromoethane	< .001	mg/kg			WG775215	03/13/15 01:33
1,2-Dichlorobenzene	< .001	mg/kg			WG775215	03/13/15 01:33
1,2-Dichloroethane	< .001	mg/kg			WG775215	03/13/15 01:33
1,2-Dichloropropane	< .001	mg/kg			WG775215	03/13/15 01:33
1,3,5-Trimethylbenzene	< .001	mg/kg			WG775215	03/13/15 01:33
1,3-Dichlorobenzene	< .001	mg/kg			WG775215	03/13/15 01:33
1,3-Dichloropropane	< .001	mg/kg			WG775215	03/13/15 01:33
1,4-Dichlorobenzene	< .001	mg/kg			WG775215	03/13/15 01:33
2,2-Dichloropropane	< .001	mg/kg			WG775215	03/13/15 01:33
2-Butanone (MEK)	< .01	mg/kg			WG775215	03/13/15 01:33
2-Chloroethyl vinyl ether	< .05	mg/kg			WG775215	03/13/15 01:33
2-Chlorotoluene	< .001	mg/kg			WG775215	03/13/15 01:33
4-Chlorotoluene	< .001	mg/kg			WG775215	03/13/15 01:33
4-Methyl-2-pentanone (MIBK)	< .01	mg/kg			WG775215	03/13/15 01:33
Acetone	< .05	mg/kg			WG775215	03/13/15 01:33
Acrylonitrile	< .01	mg/kg			WG775215	03/13/15 01:33
Benzene	< .001	mg/kg			WG775215	03/13/15 01:33
Bromobenzene	< .001	mg/kg			WG775215	03/13/15 01:33
Bromodichloromethane	< .001	mg/kg			WG775215	03/13/15 01:33
Bromoform	< .001	mg/kg			WG775215	03/13/15 01:33
Bromomethane	< .005	mg/kg			WG775215	03/13/15 01:33
Carbon disulfide	< .001	mg/kg			WG775215	03/13/15 01:33
Carbon tetrachloride	< .001	mg/kg			WG775215	03/13/15 01:33
Chlorobenzene	< .001	mg/kg			WG775215	03/13/15 01:33
Chlorodibromomethane	< .001	mg/kg			WG775215	03/13/15 01:33
Chloroethane	< .005	mg/kg			WG775215	03/13/15 01:33
Chloroform	< .005	mg/kg			WG775215	03/13/15 01:33
Chloromethane	< .0025	mg/kg			WG775215	03/13/15 01:33
cis-1,2-Dichloroethene	< .001	mg/kg			WG775215	03/13/15 01:33
cis-1,3-Dichloropropene	< .001	mg/kg			WG775215	03/13/15 01:33
Di-isopropyl ether	< .001	mg/kg			WG775215	03/13/15 01:33
Dibromomethane	< .001	mg/kg			WG775215	03/13/15 01:33
Dichlorodifluoromethane	< .005	mg/kg			WG775215	03/13/15 01:33
Ethylbenzene	< .001	mg/kg			WG775215	03/13/15 01:33
Hexachloro-1,3-butadiene	< .001	mg/kg			WG775215	03/13/15 01:33
Isopropylbenzene	< .001	mg/kg			WG775215	03/13/15 01:33
Methyl tert-butyl ether	< .001	mg/kg			WG775215	03/13/15 01:33
Methylene Chloride	< .005	mg/kg			WG775215	03/13/15 01:33
n-Butylbenzene	< .001	mg/kg			WG775215	03/13/15 01:33
n-Propylbenzene	< .001	mg/kg			WG775215	03/13/15 01:33
Naphthalene	< .005	mg/kg			WG775215	03/13/15 01:33
p-Isopropyltoluene	< .001	mg/kg			WG775215	03/13/15 01:33
sec-Butylbenzene	< .001	mg/kg			WG775215	03/13/15 01:33
Styrene	< .001	mg/kg			WG775215	03/13/15 01:33
tert-Butylbenzene	< .001	mg/kg			WG775215	03/13/15 01:33

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Quality Assurance Report
Level II

L752170

March 13, 2015

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Tetrachloroethene	< .001	mg/kg			WG775215	03/13/15 01:33
Toluene	< .005	mg/kg			WG775215	03/13/15 01:33
trans-1,2-Dichloroethene	< .001	mg/kg			WG775215	03/13/15 01:33
trans-1,3-Dichloropropene	< .001	mg/kg			WG775215	03/13/15 01:33
Trichloroethene	< .001	mg/kg			WG775215	03/13/15 01:33
Trichlorofluoromethane	< .005	mg/kg			WG775215	03/13/15 01:33
Vinyl chloride	< .001	mg/kg			WG775215	03/13/15 01:33
Xylenes, Total	< .003	mg/kg			WG775215	03/13/15 01:33
4-Bromofluorobenzene		% Rec.	101.0	71-126	WG775215	03/13/15 01:33
Dibromofluoromethane		% Rec.	95.20	78.3-121	WG775215	03/13/15 01:33
Toluene-d8		% Rec.	102.0	88.5-111	WG775215	03/13/15 01:33
a,a,a-Trifluorotoluene		% Rec.	106.0	85-114	WG775215	03/13/15 01:33

Duplicate

Analyte	Units	Result	Duplicate	RPD	Limit	Ref Samp	Batch
Total Solids	%	79.6	79.4	0.246	5	L752168-04	WG774660

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
C10-C28 Diesel Range	mg/kg	60	48.3	80.4	50-100	WG774607
o-Terphenyl				82.40	50-150	WG774607
TPHG C5 - C12	mg/l	5.5	5.40	98.2	64-125	WG774317
a,a,a-Trifluorotoluene(FID)				108.0	62-128	WG774317
Total Solids	%	50	50.0	100.	85-115	WG774660
1,1,1,2-Tetrachloroethane	mg/kg	.025	0.0281	112.	72.9-124	WG774307
1,1,1-Trichloroethane	mg/kg	.025	0.0230	91.9	73.7-124	WG774307
1,1,2,2-Tetrachloroethane	mg/kg	.025	0.0296	118.	69.4-122	WG774307
1,1,2-Trichloroethane	mg/kg	.025	0.0264	105.	79.1-118	WG774307
1,1,2-Trichlorotrifluoroethane	mg/kg	.025	0.0246	98.4	70-146	WG774307
1,1-Dichloroethane	mg/kg	.025	0.0244	97.6	75-124	WG774307
1,1-Dichloroethene	mg/kg	.025	0.0240	96.0	70.4-129	WG774307
1,1-Dichloropropene	mg/kg	.025	0.0242	96.9	74.9-124	WG774307
1,2,3-Trichlorobenzene	mg/kg	.025	0.0264	106.	69.3-131	WG774307
1,2,3-Trichloropropane	mg/kg	.025	0.0298	119.	71.4-123	WG774307
1,2,3-Trimethylbenzene	mg/kg	.025	0.0257	103.	73.6-113	WG774307
1,2,4-Trichlorobenzene	mg/kg	.025	0.0281	112.	71.9-137	WG774307
1,2,4-Trimethylbenzene	mg/kg	.025	0.0262	105.	75.5-122	WG774307
1,2-Dibromo-3-Chloropropane	mg/kg	.025	0.0265	106.	62.8-133	WG774307
1,2-Dibromoethane	mg/kg	.025	0.0255	102.	78.6-120	WG774307
1,2-Dichlorobenzene	mg/kg	.025	0.0264	106.	78.3-118	WG774307
1,2-Dichloroethane	mg/kg	.025	0.0240	96.0	70.1-124	WG774307
1,2-Dichloropropane	mg/kg	.025	0.0251	100.	77.9-119	WG774307
1,3,5-Trimethylbenzene	mg/kg	.025	0.0273	109.	75.9-124	WG774307
1,3-Dichlorobenzene	mg/kg	.025	0.0291	116.	72-126	WG774307
1,3-Dichloropropane	mg/kg	.025	0.0259	104.	79.1-117	WG774307
1,4-Dichlorobenzene	mg/kg	.025	0.0242	97.0	78.3-117	WG774307
2,2-Dichloropropane	mg/kg	.025	0.0241	96.5	61.3-136	WG774307
2-Butanone (MEK)	mg/kg	.125	0.125	100.	53.7-153	WG774307
2-Chloroethyl vinyl ether	mg/kg	.125	0.137	110.	37.7-157	WG774307
2-Chlorotoluene	mg/kg	.025	0.0271	109.	75.6-121	WG774307
4-Chlorotoluene	mg/kg	.025	0.0261	104.	77.3-120	WG774307

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Quality Assurance Report
Level II

L752170

March 13, 2015

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
4-Methyl-2-pentanone (MIBK)	mg/kg	.125	0.145	116.	70.4-137	WG774307
Acetone	mg/kg	.125	0.124	99.5	35.1-175	WG774307
Acrylonitrile	mg/kg	.125	0.124	98.9	56.4-128	WG774307
Benzene	mg/kg	.025	0.0227	90.6	77.1-121	WG774307
Bromobenzene	mg/kg	.025	0.0270	108.	78.2-115	WG774307
Bromodichloromethane	mg/kg	.025	0.0237	95.0	74.9-115	WG774307
Bromoform	mg/kg	.025	0.0265	106.	65.9-132	WG774307
Bromomethane	mg/kg	.025	0.0276	111.	48.7-165	WG774307
Carbon disulfide	mg/kg	.025	0.0232	92.7	66.9-145	WG774307
Carbon tetrachloride	mg/kg	.025	0.0229	91.6	70-124	WG774307
Chlorobenzene	mg/kg	.025	0.0259	104.	79.1-119	WG774307
Chlorodibromomethane	mg/kg	.025	0.0256	102.	73.5-121	WG774307
Chloroethane	mg/kg	.025	0.0246	98.3	66.2-132	WG774307
Chloroform	mg/kg	.025	0.0239	95.6	76.7-122	WG774307
Chloromethane	mg/kg	.025	0.0234	93.7	63.4-131	WG774307
cis-1,2-Dichloroethene	mg/kg	.025	0.0234	93.7	78.2-119	WG774307
cis-1,3-Dichloropropene	mg/kg	.025	0.0264	106.	79.6-120	WG774307
Di-isopropyl ether	mg/kg	.025	0.0231	92.5	70.4-133	WG774307
Dibromomethane	mg/kg	.025	0.0264	106.	79.4-120	WG774307
Dichlorodifluoromethane	mg/kg	.025	0.0222	88.7	57.1-137	WG774307
Ethylbenzene	mg/kg	.025	0.0272	109.	79.7-122	WG774307
Hexachloro-1,3-butadiene	mg/kg	.025	0.0253	101.	68.2-123	WG774307
Isopropylbenzene	mg/kg	.025	0.0250	99.9	80-135	WG774307
Methyl tert-butyl ether	mg/kg	.025	0.0232	92.9	73-129	WG774307
Methylene Chloride	mg/kg	.025	0.0226	90.5	72.6-120	WG774307
n-Butylbenzene	mg/kg	.025	0.0283	113.	77.5-126	WG774307
n-Propylbenzene	mg/kg	.025	0.0251	101.	77.9-123	WG774307
Naphthalene	mg/kg	.025	0.0263	105.	69.8-128	WG774307
p-Isopropyltoluene	mg/kg	.025	0.0288	115.	75.8-129	WG774307
sec-Butylbenzene	mg/kg	.025	0.0265	106.	75.8-126	WG774307
Styrene	mg/kg	.025	0.0273	109.	82.4-126	WG774307
tert-Butylbenzene	mg/kg	.025	0.0276	110.	76.4-126	WG774307
Tetrachloroethene	mg/kg	.025	0.0280	112.	73.9-125	WG774307
Toluene	mg/kg	.025	0.0252	101.	79.7-118	WG774307
trans-1,2-Dichloroethene	mg/kg	.025	0.0233	93.3	73.8-122	WG774307
trans-1,3-Dichloropropene	mg/kg	.025	0.0272	109.	75.9-124	WG774307
Trichloroethene	mg/kg	.025	0.0258	103.	77.9-118	WG774307
Trichlorofluoromethane	mg/kg	.025	0.0238	95.4	67.7-131	WG774307
Vinyl chloride	mg/kg	.025	0.0242	96.8	66.7-130	WG774307
Xylenes, Total	mg/kg	.075	0.0805	107.	78.8-121	WG774307
4-Bromofluorobenzene				106.0	71-126	WG774307
Dibromofluoromethane				96.80	78.3-121	WG774307
Toluene-d8				110.0	88.5-111	WG774307
a,a,a-Trifluorotoluene				105.0	85-114	WG774307
1,1,1,2-Tetrachloroethane	mg/l	.025	0.0253	101.	74.2-124	WG774291
1,1,1-Trichloroethane	mg/l	.025	0.0227	90.7	73.2-123	WG774291
1,1,2,2-Tetrachloroethane	mg/l	.025	0.0242	96.9	70.7-122	WG774291
1,1,2-Trichloroethane	mg/l	.025	0.0243	97.3	77.7-118	WG774291
1,1,2-Trichlorotrifluoroethane	mg/l	.025	0.0238	95.2	67.2-143	WG774291
1,1-Dichloroethane	mg/l	.025	0.0227	91.0	70.7-126	WG774291
1,1-Dichloroethene	mg/l	.025	0.0226	90.6	67.8-129	WG774291
1,1-Dichloropropene	mg/l	.025	0.0232	92.7	73.1-125	WG774291
1,2,3-Trichlorobenzene	mg/l	.025	0.0218	87.2	64.9-135	WG774291
1,2,3-Trichloropropane	mg/l	.025	0.0229	91.5	71.8-121	WG774291
1,2,3-Trimethylbenzene	mg/l	.025	0.0245	98.2	72.3-116	WG774291
1,2,4-Trichlorobenzene	mg/l	.025	0.0220	87.9	69.7-136	WG774291
1,2,4-Trimethylbenzene	mg/l	.025	0.0228	91.1	75-123	WG774291

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Quality Assurance Report
Level II

L752170

March 13, 2015

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
1,2-Dibromo-3-Chloropropane	mg/l	.025	0.0217	87.0	65.4-128	WG774291
1,2-Dibromoethane	mg/l	.025	0.0241	96.5	76.6-121	WG774291
1,2-Dichlorobenzene	mg/l	.025	0.0247	98.9	78.4-117	WG774291
1,2-Dichloroethane	mg/l	.025	0.0241	96.5	68.8-124	WG774291
1,2-Dichloropropane	mg/l	.025	0.0249	99.6	76.5-119	WG774291
1,3,5-Trimethylbenzene	mg/l	.025	0.0235	94.1	75.6-124	WG774291
1,3-Dichlorobenzene	mg/l	.025	0.0233	93.3	70.8-128	WG774291
1,3-Dichloropropane	mg/l	.025	0.0234	93.7	77.4-117	WG774291
1,4-Dichlorobenzene	mg/l	.025	0.0258	103.	78.8-115	WG774291
2,2-Dichloropropane	mg/l	.025	0.0190	76.2	62.4-133	WG774291
2-Butanone (MEK)	mg/l	.125	0.118	94.3	55-149	WG774291
2-Chloroethyl vinyl ether	mg/l	.125	0.121	96.4	43.8-150	WG774291
2-Chlorotoluene	mg/l	.025	0.0240	96.2	74.7-122	WG774291
4-Chlorotoluene	mg/l	.025	0.0225	90.1	77.5-120	WG774291
4-Methyl-2-pentanone (MIBK)	mg/l	.125	0.122	97.5	70.5-133	WG774291
Acetone	mg/l	.125	0.111	88.4	35.6-163	WG774291
Acrolein	mg/l	.125	0.0555	44.4	10-190	WG774291
Acrylonitrile	mg/l	.125	0.114	91.2	55.2-130	WG774291
Benzene	mg/l	.025	0.0229	91.6	74.8-121	WG774291
Bromobenzene	mg/l	.025	0.0228	91.1	77.5-116	WG774291
Bromodichloromethane	mg/l	.025	0.0249	99.7	75.1-116	WG774291
Bromoform	mg/l	.025	0.0249	99.8	67.5-130	WG774291
Bromomethane	mg/l	.025	0.0381	152.	49.9-162	WG774291
Carbon disulfide	mg/l	.025	0.0219	87.7	64.6-140	WG774291
Carbon tetrachloride	mg/l	.025	0.0234	93.6	70.2-123	WG774291
Chlorobenzene	mg/l	.025	0.0248	99.3	78.1-119	WG774291
Chlorodibromomethane	mg/l	.025	0.0246	98.2	74-121	WG774291
Chloroethane	mg/l	.025	0.0326	131.	61.7-135	WG774291
Chloroform	mg/l	.025	0.0221	88.5	76-121	WG774291
Chloromethane	mg/l	.025	0.0233	93.2	61.5-129	WG774291
cis-1,2-Dichloroethene	mg/l	.025	0.0227	90.7	76-119	WG774291
cis-1,3-Dichloropropene	mg/l	.025	0.0238	95.3	78.2-120	WG774291
Di-isopropyl ether	mg/l	.025	0.0223	89.2	65.6-132	WG774291
Dibromomethane	mg/l	.025	0.0251	100.	79.5-118	WG774291
Dichlorodifluoromethane	mg/l	.025	0.0239	95.6	54.8-135	WG774291
Ethylbenzene	mg/l	.025	0.0246	98.3	78.8-122	WG774291
Hexachloro-1,3-butadiene	mg/l	.025	0.0216	86.6	64.7-129	WG774291
Isopropylbenzene	mg/l	.025	0.0238	95.1	78.6-132	WG774291
Methyl tert-butyl ether	mg/l	.025	0.0223	89.3	71.2-126	WG774291
Methylene Chloride	mg/l	.025	0.0223	89.1	70.3-120	WG774291
n-Butylbenzene	mg/l	.025	0.0245	97.9	76.2-126	WG774291
n-Propylbenzene	mg/l	.025	0.0238	95.2	78.2-122	WG774291
Naphthalene	mg/l	.025	0.0207	82.8	68.4-128	WG774291
p-Isopropyltoluene	mg/l	.025	0.0229	91.5	74-131	WG774291
sec-Butylbenzene	mg/l	.025	0.0234	93.4	74.4-127	WG774291
Styrene	mg/l	.025	0.0233	93.2	80.4-126	WG774291
tert-Butylbenzene	mg/l	.025	0.0229	91.8	75.3-126	WG774291
Tetrachloroethene	mg/l	.025	0.0258	103.	72.6-126	WG774291
Toluene	mg/l	.025	0.0237	94.7	79.7-116	WG774291
trans-1,2-Dichloroethene	mg/l	.025	0.0220	88.1	72.6-121	WG774291
trans-1,3-Dichloropropene	mg/l	.025	0.0251	100.	74.3-123	WG774291
Trichloroethene	mg/l	.025	0.0251	100.	77.7-118	WG774291
Trichlorofluoromethane	mg/l	.025	0.0238	95.2	63.5-135	WG774291
Vinyl chloride	mg/l	.025	0.0280	112.	65.9-128	WG774291
Xylenes, Total	mg/l	.075	0.0732	97.5	78.7-121	WG774291
4-Bromofluorobenzene				88.60	71-126	WG774291
Dibromofluoromethane				95.60	78.3-121	WG774291
Toluene-d8				102.0	88.5-111	WG774291
a,a,a-Trifluorotoluene				97.70	85-114	WG774291

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Terracon - Irvine, CA
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2817 McGaw Avenue

Irvine, CA 92614

Quality Assurance Report
Level II

L752170

March 13, 2015

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
1,2,3-Trimethylbenzene	mg/l	.025	0.0241	96.3	72.3-116	WG775401
1,2,4-Trimethylbenzene	mg/l	.025	0.0263	105.	75-123	WG775401
Ethylbenzene	mg/l	.025	0.0243	97.3	78.8-122	WG775401
Naphthalene	mg/l	.025	0.0237	94.8	68.4-128	WG775401
Xylenes, Total	mg/l	.075	0.0787	105.	78.7-121	WG775401
4-Bromofluorobenzene				103.0	71-126	WG775401
Dibromofluoromethane				91.90	78.3-121	WG775401
Toluene-d8				101.0	88.5-111	WG775401
a,a,a-Trifluorotoluene				107.0	85-114	WG775401
TPHG C5 - C12	mg/kg	5.5	5.27	95.8	60-130	WG774452
a,a,a-Trifluorotoluene(FID)				99.40	59-128	WG774452
1,1,1,2-Tetrachloroethane	mg/kg	.025	0.0267	107.	72.9-124	WG775215
1,1,1-Trichloroethane	mg/kg	.025	0.0227	90.6	73.7-124	WG775215
1,1,2,2-Tetrachloroethane	mg/kg	.025	0.0262	105.	69.4-122	WG775215
1,1,2-Trichloroethane	mg/kg	.025	0.0256	102.	79.1-118	WG775215
1,1,2-Trichlorotrifluoroethane	mg/kg	.025	0.0236	94.6	70-146	WG775215
1,1-Dichloroethane	mg/kg	.025	0.0235	94.2	75-124	WG775215
1,1-Dichloroethene	mg/kg	.025	0.0242	96.7	70.4-129	WG775215
1,1-Dichloropropene	mg/kg	.025	0.0244	97.8	74.9-124	WG775215
1,2,3-Trichlorobenzene	mg/kg	.025	0.0255	102.	69.3-131	WG775215
1,2,3-Trichloropropane	mg/kg	.025	0.0258	103.	71.4-123	WG775215
1,2,3-Trimethylbenzene	mg/kg	.025	0.0233	93.1	73.6-113	WG775215
1,2,4-Trichlorobenzene	mg/kg	.025	0.0255	102.	71.9-137	WG775215
1,2,4-Trimethylbenzene	mg/kg	.025	0.0242	96.9	75.5-122	WG775215
1,2-Dibromo-3-Chloropropane	mg/kg	.025	0.0286	114.	62.8-133	WG775215
1,2-Dibromoethane	mg/kg	.025	0.0267	107.	78.6-120	WG775215
1,2-Dichlorobenzene	mg/kg	.025	0.0246	98.3	78.3-118	WG775215
1,2-Dichloroethane	mg/kg	.025	0.0253	101.	70.1-124	WG775215
1,2-Dichloropropane	mg/kg	.025	0.0237	94.6	77.9-119	WG775215
1,3,5-Trimethylbenzene	mg/kg	.025	0.0247	98.9	75.9-124	WG775215
1,3-Dichlorobenzene	mg/kg	.025	0.0252	101.	72-126	WG775215
1,3-Dichloropropane	mg/kg	.025	0.0253	101.	79.1-117	WG775215
1,4-Dichlorobenzene	mg/kg	.025	0.0237	94.8	78.3-117	WG775215
2,2-Dichloropropane	mg/kg	.025	0.0202	80.7	61.3-136	WG775215
2-Butanone (MEK)	mg/kg	.125	0.151	121.	53.7-153	WG775215
2-Chloroethyl vinyl ether	mg/kg	.125	0.141	113.	37.7-157	WG775215
2-Chlorotoluene	mg/kg	.025	0.0240	96.0	75.6-121	WG775215
4-Chlorotoluene	mg/kg	.025	0.0239	95.6	77.3-120	WG775215
4-Methyl-2-pentanone (MIBK)	mg/kg	.125	0.155	124.	70.4-137	WG775215
Acetone	mg/kg	.125	0.145	116.	35.1-175	WG775215
Acrylonitrile	mg/kg	.125	0.138	110.	56.4-128	WG775215
Benzene	mg/kg	.025	0.0245	98.2	77.1-121	WG775215
Bromobenzene	mg/kg	.025	0.0234	93.7	78.2-115	WG775215
Bromodichloromethane	mg/kg	.025	0.0236	94.2	74.9-115	WG775215
Bromoform	mg/kg	.025	0.0265	106.	65.9-132	WG775215
Bromomethane	mg/kg	.025	0.0199	79.6	48.7-165	WG775215
Carbon disulfide	mg/kg	.025	0.0217	86.8	66.9-145	WG775215
Carbon tetrachloride	mg/kg	.025	0.0255	102.	70-124	WG775215
Chlorobenzene	mg/kg	.025	0.0250	100.	79.1-119	WG775215
Chlorodibromomethane	mg/kg	.025	0.0265	106.	73.5-121	WG775215
Chloroethane	mg/kg	.025	0.0201	80.3	66.2-132	WG775215
Chloroform	mg/kg	.025	0.0236	94.6	76.7-122	WG775215
Chloromethane	mg/kg	.025	0.0222	88.6	63.4-131	WG775215
cis-1,2-Dichloroethene	mg/kg	.025	0.0245	98.0	78.2-119	WG775215
cis-1,3-Dichloropropene	mg/kg	.025	0.0248	99.3	79.6-120	WG775215

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Quality Assurance Report
Level II

L752170

March 13, 2015

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
Di-isopropyl ether	mg/kg	.025	0.0240	95.9	70.4-133	WG775215
Dibromomethane	mg/kg	.025	0.0248	99.1	79.4-120	WG775215
Dichlorodifluoromethane	mg/kg	.025	0.0230	92.0	57.1-137	WG775215
Ethylbenzene	mg/kg	.025	0.0244	97.5	79.7-122	WG775215
Hexachloro-1,3-butadiene	mg/kg	.025	0.0250	100.	68.2-123	WG775215
Isopropylbenzene	mg/kg	.025	0.0244	97.8	80-135	WG775215
Methyl tert-butyl ether	mg/kg	.025	0.0256	102.	73-129	WG775215
Methylene Chloride	mg/kg	.025	0.0234	93.6	72.6-120	WG775215
n-Butylbenzene	mg/kg	.025	0.0235	94.1	77.5-126	WG775215
n-Propylbenzene	mg/kg	.025	0.0241	96.5	77.9-123	WG775215
Naphthalene	mg/kg	.025	0.0259	103.	69.8-128	WG775215
p-Isopropyltoluene	mg/kg	.025	0.0252	101.	75.8-129	WG775215
sec-Butylbenzene	mg/kg	.025	0.0244	97.8	75.8-126	WG775215
Styrene	mg/kg	.025	0.0253	101.	82.4-126	WG775215
tert-Butylbenzene	mg/kg	.025	0.0254	102.	76.4-126	WG775215
Tetrachloroethene	mg/kg	.025	0.0257	103.	73.9-125	WG775215
Toluene	mg/kg	.025	0.0245	98.0	79.7-118	WG775215
trans-1,2-Dichloroethene	mg/kg	.025	0.0248	99.3	73.8-122	WG775215
trans-1,3-Dichloropropene	mg/kg	.025	0.0266	106.	75.9-124	WG775215
Trichloroethene	mg/kg	.025	0.0265	106.	77.9-118	WG775215
Trichlorofluoromethane	mg/kg	.025	0.0196	78.5	67.7-131	WG775215
Vinyl chloride	mg/kg	.025	0.0237	94.9	66.7-130	WG775215
Xylenes, Total	mg/kg	.075	0.0731	97.4	78.8-121	WG775215
4-Bromofluorobenzene				99.30	71-126	WG775215
Dibromofluoromethane				98.40	78.3-121	WG775215
Toluene-d8				102.0	88.5-111	WG775215
a,a,a-Trifluorotoluene				103.0	85-114	WG775215

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
C10-C28 Diesel Range	mg/kg	50.0	48.3	83.0	50-100	3.56	20	WG774607
o-Terphenyl				85.30	50-150			WG774607
TPHG C5 - C12	mg/l	5.28	5.40	96.0	64-125	2.36	20	WG774317
a,a,a-Trifluorotoluene(FID)				107.0	62-128			WG774317
1,1,1,2-Tetrachloroethane	mg/kg	0.0274	0.0281	110.	72.9-124	2.53	20	WG774307
1,1,1-Trichloroethane	mg/kg	0.0248	0.0230	99.0	73.7-124	7.70	20	WG774307
1,1,2,2-Tetrachloroethane	mg/kg	0.0278	0.0296	111.	69.4-122	6.11	20	WG774307
1,1,2-Trichloroethane	mg/kg	0.0262	0.0264	105.	79.1-118	0.520	20	WG774307
1,1,2-Trichlorotrifluoroethane	mg/kg	0.0255	0.0246	102.	70-146	3.66	20	WG774307
1,1-Dichloroethane	mg/kg	0.0236	0.0244	94.0	75-124	3.16	20	WG774307
1,1-Dichloroethene	mg/kg	0.0256	0.0240	102.	70.4-129	6.35	20	WG774307
1,1-Dichloropropene	mg/kg	0.0249	0.0242	100.	74.9-124	2.62	20	WG774307
1,2,3-Trichlorobenzene	mg/kg	0.0252	0.0264	101.	69.3-131	4.49	20	WG774307
1,2,3-Trichloropropane	mg/kg	0.0297	0.0298	119.	71.4-123	0.260	20	WG774307
1,2,3-Trimethylbenzene	mg/kg	0.0237	0.0257	95.0	73.6-113	7.86	20	WG774307
1,2,4-Trichlorobenzene	mg/kg	0.0229	0.0281	92.0	71.9-137	20.2*	20	WG774307
1,2,4-Trimethylbenzene	mg/kg	0.0263	0.0262	105.	75.5-122	0.220	20	WG774307
1,2-Dibromo-3-Chloropropane	mg/kg	0.0246	0.0265	98.0	62.8-133	7.23	20	WG774307
1,2-Dibromoethane	mg/kg	0.0254	0.0255	102.	78.6-120	0.140	20	WG774307
1,2-Dichlorobenzene	mg/kg	0.0258	0.0264	103.	78.3-118	2.49	20	WG774307
1,2-Dichloroethane	mg/kg	0.0242	0.0240	97.0	70.1-124	0.920	20	WG774307
1,2-Dichloropropane	mg/kg	0.0260	0.0251	104.	77.9-119	3.44	20	WG774307
1,3,5-Trimethylbenzene	mg/kg	0.0264	0.0273	105.	75.9-124	3.40	20	WG774307
1,3-Dichlorobenzene	mg/kg	0.0260	0.0291	104.	72-126	11.1	20	WG774307

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Quality Assurance Report
Level II

L752170

March 13, 2015

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
1,3-Dichloropropane	mg/kg	0.0241	0.0259	96.0	79.1-117	7.03	20	WG774307
1,4-Dichlorobenzene	mg/kg	0.0240	0.0242	96.0	78.3-117	1.19	20	WG774307
2,2-Dichloropropane	mg/kg	0.0245	0.0241	98.0	61.3-136	1.60	20	WG774307
2-Butanone (MEK)	mg/kg	0.130	0.125	104.	53.7-153	4.13	21.2	WG774307
2-Chloroethyl vinyl ether	mg/kg	0.137	0.137	109.	37.7-157	0.550	20	WG774307
2-Chlorotoluene	mg/kg	0.0269	0.0271	108.	75.6-121	0.900	20	WG774307
4-Chlorotoluene	mg/kg	0.0264	0.0261	106.	77.3-120	1.33	20	WG774307
4-Methyl-2-pentanone (MIBK)	mg/kg	0.145	0.145	116.	70.4-137	0.0100	20	WG774307
Acetone	mg/kg	0.121	0.124	97.0	35.1-175	2.50	26.1	WG774307
Acrylonitrile	mg/kg	0.121	0.124	97.0	56.4-128	2.12	20	WG774307
Benzene	mg/kg	0.0229	0.0227	92.0	77.1-121	1.04	20	WG774307
Bromobenzene	mg/kg	0.0249	0.0270	100.	78.2-115	7.90	20	WG774307
Bromodichloromethane	mg/kg	0.0257	0.0237	103.	74.9-115	7.85	20	WG774307
Bromoform	mg/kg	0.0276	0.0265	110.	65.9-132	4.18	20	WG774307
Bromomethane	mg/kg	0.0293	0.0276	117.	48.7-165	6.01	20	WG774307
Carbon disulfide	mg/kg	0.0237	0.0232	95.0	66.9-145	2.36	20	WG774307
Carbon tetrachloride	mg/kg	0.0239	0.0229	96.0	70-124	4.43	20	WG774307
Chlorobenzene	mg/kg	0.0267	0.0259	107.	79.1-119	2.83	20	WG774307
Chlorodibromomethane	mg/kg	0.0260	0.0256	104.	73.5-121	1.44	20	WG774307
Chloroethane	mg/kg	0.0255	0.0246	102.	66.2-132	3.51	20	WG774307
Chloroform	mg/kg	0.0243	0.0239	97.0	76.7-122	1.63	20	WG774307
Chloromethane	mg/kg	0.0229	0.0234	92.0	63.4-131	2.17	20	WG774307
cis-1,2-Dichloroethene	mg/kg	0.0241	0.0234	96.0	78.2-119	3.06	20	WG774307
cis-1,3-Dichloropropene	mg/kg	0.0262	0.0264	105.	79.6-120	1.02	20	WG774307
Di-isopropyl ether	mg/kg	0.0242	0.0231	97.0	70.4-133	4.58	20	WG774307
Dibromomethane	mg/kg	0.0270	0.0264	108.	79.4-120	2.13	20	WG774307
Dichlorodifluoromethane	mg/kg	0.0221	0.0222	88.0	57.1-137	0.100	20	WG774307
Ethylbenzene	mg/kg	0.0253	0.0272	101.	79.7-122	7.38	20	WG774307
Hexachloro-1,3-butadiene	mg/kg	0.0230	0.0253	92.0	68.2-123	9.51	20	WG774307
Isopropylbenzene	mg/kg	0.0273	0.0250	109.	80-135	8.84	20	WG774307
Methyl tert-butyl ether	mg/kg	0.0245	0.0232	98.0	73-129	5.40	20	WG774307
Methylene Chloride	mg/kg	0.0240	0.0226	96.0	72.6-120	5.73	20	WG774307
n-Butylbenzene	mg/kg	0.0244	0.0283	98.0	77.5-126	14.6	20	WG774307
n-Propylbenzene	mg/kg	0.0252	0.0251	101.	77.9-123	0.210	20	WG774307
Naphthalene	mg/kg	0.0230	0.0263	92.0	69.8-128	13.5	20	WG774307
p-Isopropyltoluene	mg/kg	0.0262	0.0288	105.	75.8-129	9.68	20	WG774307
sec-Butylbenzene	mg/kg	0.0275	0.0265	110.	75.8-126	3.48	20	WG774307
Styrene	mg/kg	0.0259	0.0273	104.	82.4-126	5.23	20	WG774307
tert-Butylbenzene	mg/kg	0.0246	0.0276	98.0	76.4-126	11.6	20	WG774307
Tetrachloroethene	mg/kg	0.0271	0.0280	108.	73.9-125	2.94	20	WG774307
Toluene	mg/kg	0.0258	0.0252	103.	79.7-118	2.57	20	WG774307
trans-1,2-Dichloroethene	mg/kg	0.0244	0.0233	98.0	73.8-122	4.54	20	WG774307
trans-1,3-Dichloropropene	mg/kg	0.0267	0.0272	107.	75.9-124	1.67	20	WG774307
Trichloroethene	mg/kg	0.0263	0.0258	105.	77.9-118	1.99	20	WG774307
Trichlorofluoromethane	mg/kg	0.0243	0.0238	97.0	67.7-131	2.10	20	WG774307
Vinyl chloride	mg/kg	0.0249	0.0242	100.	66.7-130	2.93	20	WG774307
Xylenes, Total	mg/kg	0.0793	0.0805	106.	78.8-121	1.55	20	WG774307
4-Bromofluorobenzene				102.0	71-126			WG774307
Dibromofluoromethane				97.00	78.3-121			WG774307
Toluene-d8				108.0	88.5-111			WG774307
a,a,a-Trifluorotoluene				105.0	85-114			WG774307
1,1,1,2-Tetrachloroethane	mg/l	0.0259	0.0253	104.	74.2-124	2.51	20	WG774291
1,1,1-Trichloroethane	mg/l	0.0233	0.0227	93.0	73.2-123	2.96	20	WG774291
1,1,2,2-Tetrachloroethane	mg/l	0.0250	0.0242	100.	70.7-122	3.15	20	WG774291
1,1,2-Trichloroethane	mg/l	0.0248	0.0243	99.0	77.7-118	2.05	20	WG774291
1,1,2-Trichlorotrifluoroethane	mg/l	0.0233	0.0238	93.0	67.2-143	2.07	20	WG774291
1,1-Dichloroethane	mg/l	0.0228	0.0227	91.0	70.7-126	0.440	20	WG774291

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Quality Assurance Report
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L752170

March 13, 2015

		Laboratory Control Sample Duplicate						
Analyte	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
1,1-Dichloroethene	mg/l	0.0227	0.0226	91.0	67.8-129	0.160	20	WG774291
1,1-Dichloropropene	mg/l	0.0233	0.0232	93.0	73.1-125	0.580	20	WG774291
1,2,3-Trichlorobenzene	mg/l	0.0236	0.0218	94.0	64.9-135	7.74	20	WG774291
1,2,3-Trichloropropane	mg/l	0.0238	0.0229	95.0	71.8-121	3.96	20	WG774291
1,2,3-Trimethylbenzene	mg/l	0.0251	0.0245	100.	72.3-116	2.32	20	WG774291
1,2,4-Trichlorobenzene	mg/l	0.0234	0.0220	94.0	69.7-136	6.49	20	WG774291
1,2,4-Trimethylbenzene	mg/l	0.0234	0.0228	93.0	75-123	2.64	20	WG774291
1,2-Dibromo-3-Chloropropane	mg/l	0.0242	0.0217	97.0	65.4-128	10.7	20	WG774291
1,2-Dibromoethane	mg/l	0.0246	0.0241	98.0	76.6-121	1.85	20	WG774291
1,2-Dichlorobenzene	mg/l	0.0249	0.0247	99.0	78.4-117	0.610	20	WG774291
1,2-Dichloroethane	mg/l	0.0240	0.0241	96.0	68.8-124	0.610	20	WG774291
1,2-Dichloropropane	mg/l	0.0248	0.0249	99.0	76.5-119	0.380	20	WG774291
1,3,5-Trimethylbenzene	mg/l	0.0243	0.0235	97.0	75.6-124	3.20	20	WG774291
1,3-Dichlorobenzene	mg/l	0.0239	0.0233	96.0	70.8-128	2.37	20	WG774291
1,3-Dichloropropane	mg/l	0.0235	0.0234	94.0	77.4-117	0.390	20	WG774291
1,4-Dichlorobenzene	mg/l	0.0254	0.0258	102.	78.8-115	1.51	20	WG774291
2,2-Dichloropropane	mg/l	0.0197	0.0190	79.0	62.4-133	3.48	20	WG774291
2-Butanone (MEK)	mg/l	0.123	0.118	98.0	55-149	4.29	20	WG774291
2-Chloroethyl vinyl ether	mg/l	0.120	0.121	96.0	43.8-150	0.660	20	WG774291
2-Chlorotoluene	mg/l	0.0247	0.0240	99.0	74.7-122	2.70	20	WG774291
4-Chlorotoluene	mg/l	0.0228	0.0225	91.0	77.5-120	1.09	20	WG774291
4-Methyl-2-pentanone (MIBK)	mg/l	0.128	0.122	102.	70.5-133	4.49	20	WG774291
Acetone	mg/l	0.116	0.111	93.0	35.6-163	4.95	23.9	WG774291
Acrolein	mg/l	0.0551	0.0555	44.0	10-190	0.610	28.1	WG774291
Acrylonitrile	mg/l	0.119	0.114	95.0	55.2-130	4.35	20	WG774291
Benzene	mg/l	0.0230	0.0229	92.0	74.8-121	0.280	20	WG774291
Bromobenzene	mg/l	0.0229	0.0228	92.0	77.5-116	0.730	20	WG774291
Bromodichloromethane	mg/l	0.0248	0.0249	99.0	75.1-116	0.480	20	WG774291
Bromoform	mg/l	0.0252	0.0249	101.	67.5-130	0.930	20	WG774291
Bromomethane	mg/l	0.0383	0.0381	153.	49.9-162	0.410	20	WG774291
Carbon disulfide	mg/l	0.0222	0.0219	89.0	64.6-140	1.42	20	WG774291
Carbon tetrachloride	mg/l	0.0237	0.0234	95.0	70.2-123	1.21	20	WG774291
Chlorobenzene	mg/l	0.0248	0.0248	99.0	78.1-119	0.220	20	WG774291
Chlorodibromomethane	mg/l	0.0252	0.0246	101.	74-121	2.69	20	WG774291
Chloroethane	mg/l	0.0329	0.0326	132.	61.7-135	0.880	20	WG774291
Chloroform	mg/l	0.0220	0.0221	88.0	76-121	0.600	20	WG774291
Chloromethane	mg/l	0.0229	0.0233	92.0	61.5-129	1.53	20	WG774291
cis-1,2-Dichloroethene	mg/l	0.0228	0.0227	91.0	76-119	0.410	20	WG774291
cis-1,3-Dichloropropene	mg/l	0.0238	0.0238	95.0	78.2-120	0.210	20	WG774291
Di-isopropyl ether	mg/l	0.0222	0.0223	89.0	65.6-132	0.660	20	WG774291
Dibromomethane	mg/l	0.0255	0.0251	102.	79.5-118	1.56	20	WG774291
Dichlorodifluoromethane	mg/l	0.0222	0.0239	89.0	54.8-135	7.51	20	WG774291
Ethylbenzene	mg/l	0.0248	0.0246	99.0	78.8-122	0.920	20	WG774291
Hexachloro-1,3-butadiene	mg/l	0.0234	0.0216	93.0	64.7-129	7.62	20	WG774291
Isopropylbenzene	mg/l	0.0246	0.0238	98.0	78.6-132	3.43	20	WG774291
Methyl tert-butyl ether	mg/l	0.0227	0.0223	91.0	71.2-126	1.57	20	WG774291
Methylene Chloride	mg/l	0.0226	0.0223	90.0	70.3-120	1.61	20	WG774291
n-Butylbenzene	mg/l	0.0247	0.0245	99.0	76.2-126	0.740	20	WG774291
n-Propylbenzene	mg/l	0.0240	0.0238	96.0	78.2-122	0.640	20	WG774291
Naphthalene	mg/l	0.0231	0.0207	92.0	68.4-128	11.2	20	WG774291
p-Isopropyltoluene	mg/l	0.0240	0.0229	96.0	74-131	5.05	20	WG774291
sec-Butylbenzene	mg/l	0.0243	0.0234	97.0	74.4-127	4.03	20	WG774291
Styrene	mg/l	0.0234	0.0233	94.0	80.4-126	0.360	20	WG774291
tert-Butylbenzene	mg/l	0.0239	0.0229	95.0	75.3-126	3.89	20	WG774291
Tetrachloroethene	mg/l	0.0259	0.0258	104.	72.6-126	0.460	20	WG774291
Toluene	mg/l	0.0236	0.0237	94.0	79.7-116	0.110	20	WG774291
trans-1,2-Dichloroethene	mg/l	0.0221	0.0220	88.0	72.6-121	0.270	20	WG774291
trans-1,3-Dichloropropene	mg/l	0.0253	0.0251	101.	74.3-123	0.710	20	WG774291
Trichloroethene	mg/l	0.0254	0.0251	101.	77.7-118	1.24	20	WG774291

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Irvine, CA 92614

Quality Assurance Report
Level II

L752170

March 13, 2015

		Laboratory Control Sample Duplicate						
Analyte	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
Trichlorofluoromethane	mg/l	0.0240	0.0238	96.0	63.5-135	0.670	20	WG774291
Vinyl chloride	mg/l	0.0276	0.0280	110.	65.9-128	1.50	20	WG774291
Xylenes, Total	mg/l	0.0739	0.0732	98.0	78.7-121	1.05	20	WG774291
4-Bromofluorobenzene				91.10	71-126			WG774291
Dibromofluoromethane				96.10	78.3-121			WG774291
Toluene-d8				101.0	88.5-111			WG774291
a,a,a-Trifluorotoluene				98.50	85-114			WG774291
1,2,3-Trimethylbenzene	mg/l	0.0275	0.0241	110.	72.3-116	13.3	20	WG775401
1,2,4-Trimethylbenzene	mg/l	0.0265	0.0263	106.	75-123	0.920	20	WG775401
Ethylbenzene	mg/l	0.0263	0.0243	105.	78.8-122	7.74	20	WG775401
Naphthalene	mg/l	0.0253	0.0237	101.	68.4-128	6.66	20	WG775401
Xylenes, Total	mg/l	0.0775	0.0787	103.	78.7-121	1.54	20	WG775401
4-Bromofluorobenzene				108.0	71-126			WG775401
Dibromofluoromethane				95.60	78.3-121			WG775401
Toluene-d8				103.0	88.5-111			WG775401
a,a,a-Trifluorotoluene				105.0	85-114			WG775401
TPHG C5 - C12	mg/kg	5.65	5.27	103.	60-130	6.95	20	WG774452
a,a,a-Trifluorotoluene(FID)				99.50	59-128			WG774452
1,1,1,2-Tetrachloroethane	mg/kg	0.0237	0.0267	95.0	72.9-124	12.0	20	WG775215
1,1,1-Trichloroethane	mg/kg	0.0203	0.0227	81.0	73.7-124	11.0	20	WG775215
1,1,2,2-Tetrachloroethane	mg/kg	0.0224	0.0262	90.0	69.4-122	15.5	20	WG775215
1,1,2-Trichloroethane	mg/kg	0.0226	0.0256	90.0	79.1-118	12.4	20	WG775215
1,1,2-Trichlorotrifluoroethane	mg/kg	0.0217	0.0236	87.0	70-146	8.76	20	WG775215
1,1-Dichloroethane	mg/kg	0.0209	0.0235	83.0	75-124	12.1	20	WG775215
1,1-Dichloroethene	mg/kg	0.0209	0.0242	84.0	70.4-129	14.3	20	WG775215
1,1-Dichloropropene	mg/kg	0.0210	0.0244	84.0	74.9-124	15.2	20	WG775215
1,2,3-Trichlorobenzene	mg/kg	0.0226	0.0255	90.0	69.3-131	12.1	20	WG775215
1,2,3-Trichloropropane	mg/kg	0.0213	0.0258	85.0	71.4-123	19.0	20	WG775215
1,2,3-Trimethylbenzene	mg/kg	0.0213	0.0233	85.0	73.6-113	8.91	20	WG775215
1,2,4-Trichlorobenzene	mg/kg	0.0228	0.0255	91.0	71.9-137	11.1	20	WG775215
1,2,4-Trimethylbenzene	mg/kg	0.0222	0.0242	89.0	75.5-122	8.65	20	WG775215
1,2-Dibromo-3-Chloropropane	mg/kg	0.0235	0.0286	94.0	62.8-133	19.3	20	WG775215
1,2-Dibromoethane	mg/kg	0.0232	0.0267	93.0	78.6-120	14.2	20	WG775215
1,2-Dichlorobenzene	mg/kg	0.0217	0.0246	87.0	78.3-118	12.6	20	WG775215
1,2-Dichloroethane	mg/kg	0.0216	0.0253	86.0	70.1-124	15.9	20	WG775215
1,2-Dichloropropane	mg/kg	0.0209	0.0237	84.0	77.9-119	12.5	20	WG775215
1,3,5-Trimethylbenzene	mg/kg	0.0227	0.0247	91.0	75.9-124	8.75	20	WG775215
1,3-Dichlorobenzene	mg/kg	0.0229	0.0252	92.0	72-126	9.46	20	WG775215
1,3-Dichloropropane	mg/kg	0.0218	0.0253	87.0	79.1-117	14.9	20	WG775215
1,4-Dichlorobenzene	mg/kg	0.0215	0.0237	86.0	78.3-117	9.65	20	WG775215
2,2-Dichloropropane	mg/kg	0.0180	0.0202	72.0	61.3-136	11.2	20	WG775215
2-Butanone (MEK)	mg/kg	0.125	0.151	100.	53.7-153	18.3	21.2	WG775215
2-Chloroethyl vinyl ether	mg/kg	0.119	0.141	95.0	37.7-157	17.0	20	WG775215
2-Chlorotoluene	mg/kg	0.0216	0.0240	86.0	75.6-121	10.4	20	WG775215
4-Chlorotoluene	mg/kg	0.0216	0.0239	86.0	77.3-120	10.3	20	WG775215
4-Methyl-2-pentanone (MIBK)	mg/kg	0.131	0.155	104.	70.4-137	16.8	20	WG775215
Acetone	mg/kg	0.122	0.145	98.0	35.1-175	17.2	26.1	WG775215
Acrylonitrile	mg/kg	0.114	0.138	91.0	56.4-128	19.1	20	WG775215
Benzene	mg/kg	0.0213	0.0245	85.0	77.1-121	14.2	20	WG775215
Bromobenzene	mg/kg	0.0209	0.0234	84.0	78.2-115	11.2	20	WG775215
Bromodichloromethane	mg/kg	0.0212	0.0236	85.0	74.9-115	10.3	20	WG775215
Bromoform	mg/kg	0.0234	0.0265	93.0	65.9-132	12.7	20	WG775215
Bromomethane	mg/kg	0.0179	0.0199	71.0	48.7-165	10.8	20	WG775215

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Quality Assurance Report
Level II

L752170

March 13, 2015

Analyte	Units	Laboratory Control Sample Duplicate Result	Ref	%Rec	Limit	RPD	Limit	Batch
Carbon disulfide	mg/kg	0.0192	0.0217	77.0	66.9-145	12.5	20	WG775215
Carbon tetrachloride	mg/kg	0.0228	0.0255	91.0	70-124	11.2	20	WG775215
Chlorobenzene	mg/kg	0.0225	0.0250	90.0	79.1-119	10.6	20	WG775215
Chlorodibromomethane	mg/kg	0.0230	0.0265	92.0	73.5-121	13.8	20	WG775215
Chloroethane	mg/kg	0.0183	0.0201	73.0	66.2-132	9.31	20	WG775215
Chloroform	mg/kg	0.0203	0.0236	81.0	76.7-122	15.5	20	WG775215
Chloromethane	mg/kg	0.0194	0.0222	78.0	63.4-131	13.3	20	WG775215
cis-1,2-Dichloroethene	mg/kg	0.0221	0.0245	88.0	78.2-119	10.3	20	WG775215
cis-1,3-Dichloropropene	mg/kg	0.0216	0.0248	86.0	79.6-120	13.9	20	WG775215
Di-isopropyl ether	mg/kg	0.0210	0.0240	84.0	70.4-133	13.0	20	WG775215
Dibromomethane	mg/kg	0.0214	0.0248	86.0	79.4-120	14.7	20	WG775215
Dichlorodifluoromethane	mg/kg	0.0205	0.0230	82.0	57.1-137	11.5	20	WG775215
Ethylbenzene	mg/kg	0.0214	0.0244	86.0	79.7-122	12.8	20	WG775215
Hexachloro-1,3-butadiene	mg/kg	0.0235	0.0250	94.0	68.2-123	6.23	20	WG775215
Isopropylbenzene	mg/kg	0.0223	0.0244	89.0	80-135	9.24	20	WG775215
Methyl tert-butyl ether	mg/kg	0.0216	0.0256	86.0	73-129	17.0	20	WG775215
Methylene Chloride	mg/kg	0.0210	0.0234	84.0	72.6-120	10.7	20	WG775215
n-Butylbenzene	mg/kg	0.0219	0.0235	87.0	77.5-126	7.33	20	WG775215
n-Propylbenzene	mg/kg	0.0218	0.0241	87.0	77.9-123	10.4	20	WG775215
Naphthalene	mg/kg	0.0226	0.0259	90.0	69.8-128	13.6	20	WG775215
p-Isopropyltoluene	mg/kg	0.0231	0.0252	92.0	75.8-129	8.75	20	WG775215
sec-Butylbenzene	mg/kg	0.0222	0.0244	89.0	75.8-126	9.77	20	WG775215
Styrene	mg/kg	0.0223	0.0253	89.0	82.4-126	12.4	20	WG775215
tert-Butylbenzene	mg/kg	0.0231	0.0254	92.0	76.4-126	9.34	20	WG775215
Tetrachloroethene	mg/kg	0.0231	0.0257	92.0	73.9-125	10.6	20	WG775215
Toluene	mg/kg	0.0220	0.0245	88.0	79.7-118	10.5	20	WG775215
trans-1,2-Dichloroethene	mg/kg	0.0218	0.0248	87.0	73.8-122	12.8	20	WG775215
trans-1,3-Dichloropropene	mg/kg	0.0224	0.0266	90.0	75.9-124	17.2	20	WG775215
Trichloroethene	mg/kg	0.0239	0.0265	96.0	77.9-118	10.1	20	WG775215
Trichlorofluoromethane	mg/kg	0.0180	0.0196	72.0	67.7-131	8.56	20	WG775215
Vinyl chloride	mg/kg	0.0218	0.0237	87.0	66.7-130	8.36	20	WG775215
Xylenes, Total	mg/kg	0.0656	0.0731	87.0	78.8-121	10.8	20	WG775215
4-Bromofluorobenzene				99.00	71-126			WG775215
Dibromofluoromethane				94.40	78.3-121			WG775215
Toluene-d8				101.0	88.5-111			WG775215
a,a,a-Trifluorotoluene				105.0	85-114			WG775215

Analyte	Units	Matrix Spike MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
TPHG C5 - C12	mg/l	5.00	0.0	5.5	91.0	45.1-139	L752068-14	WG774317
a,a,a-Trifluorotoluene(FID)					107.0	62-128		WG774317
1,1,1,2-Tetrachloroethane	mg/kg	0.131	0.0	.025	100.	64-128	L752135-24	WG774307
1,1,1-Trichloroethane	mg/kg	0.114	0.0	.025	91.0	58.7-134	L752135-24	WG774307
1,1,2,2-Tetrachloroethane	mg/kg	0.132	0.0	.025	110.	56-132	L752135-24	WG774307
1,1,2-Trichloroethane	mg/kg	0.118	0.0	.025	94.0	66.3-125	L752135-24	WG774307
1,1,2-Trichlorotrifluoroethane	mg/kg	0.115	0.0	.025	92.0	54.8-154	L752135-24	WG774307
1,1-Dichloroethane	mg/kg	0.115	0.0	.025	92.0	58.5-132	L752135-24	WG774307
1,1-Dichloroethene	mg/kg	0.120	0.0	.025	96.0	51.1-140	L752135-24	WG774307
1,1-Dichloropropene	mg/kg	0.117	0.0	.025	93.0	57.3-136	L752135-24	WG774307
1,2,3-Trichlorobenzene	mg/kg	0.104	0.0	.025	84.0	59.1-138	L752135-24	WG774307
1,2,3-Trichloropropane	mg/kg	0.127	0.0	.025	100.	61.4-128	L752135-24	WG774307
1,2,3-Trimethylbenzene	mg/kg	0.107	0.0	.025	86.0	61.3-122	L752135-24	WG774307
1,2,4-Trichlorobenzene	mg/kg	0.102	0.0	.025	82.0	63.6-143	L752135-24	WG774307
1,2,4-Trimethylbenzene	mg/kg	0.111	0.0	.025	89.0	57.4-137	L752135-24	WG774307
1,2-Dibromo-3-Chloropropane	mg/kg	0.125	0.0	.025	100.	57.3-136	L752135-24	WG774307
1,2-Dibromoethane	mg/kg	0.125	0.0	.025	100.	67.1-125	L752135-24	WG774307

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Quality Assurance Report
Level II

L752170

March 13, 2015

Analyte	Units	MS Res	Matrix Spike Ref Res	TV	% Rec	Limit	Ref Samp	Batch
1,2-Dichlorobenzene	mg/kg	0.108	0.0	.025	86.0	68.2-123	L752135-24	WG774307
1,2-Dichloroethane	mg/kg	0.116	0.0	.025	92.0	60-126	L752135-24	WG774307
1,2-Dichloropropane	mg/kg	0.121	0.0	.025	96.0	64.2-123	L752135-24	WG774307
1,3,5-Trimethylbenzene	mg/kg	0.116	0.0	.025	93.0	63.6-132	L752135-24	WG774307
1,3-Dichlorobenzene	mg/kg	0.115	0.0	.025	92.0	63.1-131	L752135-24	WG774307
1,3-Dichloropropane	mg/kg	0.114	0.0	.025	92.0	67.9-121	L752135-24	WG774307
1,4-Dichlorobenzene	mg/kg	0.106	0.0	.025	85.0	68.6-123	L752135-24	WG774307
2,2-Dichloropropane	mg/kg	0.116	0.0	.025	93.0	50.5-144	L752135-24	WG774307
2-Butanone (MEK)	mg/kg	0.602	0.0	.125	96.0	22.4-138	L752135-24	WG774307
2-Chloroethyl vinyl ether	mg/kg	0.640	0.0	.125	100.	10-155	L752135-24	WG774307
2-Chlorotoluene	mg/kg	0.111	0.0	.025	89.0	63.6-128	L752135-24	WG774307
4-Chlorotoluene	mg/kg	0.112	0.0	.025	89.0	65.7-127	L752135-24	WG774307
4-Methyl-2-pentanone (MIBK)	mg/kg	0.683	0.0	.125	110.	60.8-140	L752135-24	WG774307
Acetone	mg/kg	0.546	0.0139	.125	85.0	10-130	L752135-24	WG774307
Acrylonitrile	mg/kg	0.615	0.0	.125	98.0	49.4-133	L752135-24	WG774307
Benzene	mg/kg	0.107	0.0	.025	86.0	54.3-133	L752135-24	WG774307
Bromobenzene	mg/kg	0.116	0.0	.025	93.0	63.9-124	L752135-24	WG774307
Bromodichloromethane	mg/kg	0.115	0.0	.025	92.0	63.9-121	L752135-24	WG774307
Bromoform	mg/kg	0.123	0.0	.025	99.0	59.5-134	L752135-24	WG774307
Bromomethane	mg/kg	0.163	0.0	.025	130.	41.7-155	L752135-24	WG774307
Carbon disulfide	mg/kg	0.107	0.0	.025	86.0	43.3-149	L752135-24	WG774307
Carbon tetrachloride	mg/kg	0.117	0.0	.025	93.0	55.7-134	L752135-24	WG774307
Chlorobenzene	mg/kg	0.121	0.0	.025	96.0	67-125	L752135-24	WG774307
Chlorodibromomethane	mg/kg	0.117	0.0	.025	94.0	64.3-125	L752135-24	WG774307
Chloroethane	mg/kg	0.120	0.0	.025	96.0	51.5-136	L752135-24	WG774307
Chloroform	mg/kg	0.113	0.0	.025	91.0	63-129	L752135-24	WG774307
Chloromethane	mg/kg	0.112	0.0	.025	90.0	42.4-135	L752135-24	WG774307
cis-1,2-Dichloroethene	mg/kg	0.115	0.0	.025	92.0	59.2-129	L752135-24	WG774307
cis-1,3-Dichloropropene	mg/kg	0.126	0.0	.025	100.	66.4-125	L752135-24	WG774307
Di-isopropyl ether	mg/kg	0.114	0.0	.025	91.0	56.9-136	L752135-24	WG774307
Dibromomethane	mg/kg	0.124	0.0	.025	99.0	68.2-124	L752135-24	WG774307
Dichlorodifluoromethane	mg/kg	0.106	0.0	.025	85.0	40.6-144	L752135-24	WG774307
Ethylbenzene	mg/kg	0.115	0.0	.025	92.0	61.4-133	L752135-24	WG774307
Hexachloro-1,3-butadiene	mg/kg	0.113	0.0	.025	90.0	55.1-136	L752135-24	WG774307
Isopropylbenzene	mg/kg	0.118	0.0	.025	95.0	66.8-141	L752135-24	WG774307
Methyl tert-butyl ether	mg/kg	0.113	0.0	.025	90.0	57.7-134	L752135-24	WG774307
Methylene Chloride	mg/kg	0.113	0.00154	.025	89.0	58.1-122	L752135-24	WG774307
n-Butylbenzene	mg/kg	0.103	0.0	.025	83.0	62.7-140	L752135-24	WG774307
n-Propylbenzene	mg/kg	0.120	0.0	.025	96.0	10-176	L752135-24	WG774307
Naphthalene	mg/kg	0.111	0.0	.025	89.0	58-135	L752135-24	WG774307
p-Isopropyltoluene	mg/kg	0.117	0.0	.025	93.0	63.2-139	L752135-24	WG774307
sec-Butylbenzene	mg/kg	0.122	0.0	.025	97.0	62.2-136	L752135-24	WG774307
Styrene	mg/kg	0.118	0.0	.025	95.0	66.8-133	L752135-24	WG774307
tert-Butylbenzene	mg/kg	0.120	0.0	.025	96.0	63.3-134	L752135-24	WG774307
Tetrachloroethene	mg/kg	0.128	0.0	.025	100.	53-139	L752135-24	WG774307
Toluene	mg/kg	0.117	0.000402	.025	93.0	61.4-130	L752135-24	WG774307
trans-1,2-Dichloroethene	mg/kg	0.119	0.0	.025	95.0	56.5-129	L752135-24	WG774307
trans-1,3-Dichloropropene	mg/kg	0.123	0.0	.025	98.0	64.1-128	L752135-24	WG774307
Trichloroethene	mg/kg	0.122	0.0	.025	98.0	44.1-149	L752135-24	WG774307
Trichlorofluoromethane	mg/kg	0.114	0.0	.025	92.0	49.6-145	L752135-24	WG774307
Vinyl chloride	mg/kg	0.119	0.0	.025	95.0	47.8-137	L752135-24	WG774307
Xylenes, Total	mg/kg	0.364	0.0	.075	97.0	63.3-131	L752135-24	WG774307
4-Bromofluorobenzene					106.0	71-126		WG774307
Dibromofluoromethane					99.00	78.3-121		WG774307
Toluene-d8					110.0	88.5-111		WG774307
a,a,a-Trifluorotoluene					106.0	85-114		WG774307
1,1,1,2-Tetrachloroethane	mg/l	0.0255	0.0	.025	100.	64-128	L752164-01	WG774291

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Irvine, CA 92614

Quality Assurance Report
Level II

L752170

March 13, 2015

Analyte	Units	MS Res	Matrix Spike Ref Res	TV	% Rec	Limit	Ref Samp	Batch
1,1,1-Trichloroethane	mg/l	0.0228	0.0	.025	91.0	58.7-134	L752164-01	WG774291
1,1,2,2-Tetrachloroethane	mg/l	0.0272	0.0	.025	110.	56-132	L752164-01	WG774291
1,1,2-Trichloroethane	mg/l	0.0241	0.0	.025	97.0	66.3-125	L752164-01	WG774291
1,1,2-Trichlorotrifluoroethane	mg/l	0.0221	0.0	.025	88.0	54.8-154	L752164-01	WG774291
1,1-Dichloroethane	mg/l	0.0223	0.0	.025	89.0	58.5-132	L752164-01	WG774291
1,1-Dichloroethene	mg/l	0.0213	0.0	.025	85.0	51.1-140	L752164-01	WG774291
1,1-Dichloropropene	mg/l	0.0226	0.0	.025	90.0	57.3-136	L752164-01	WG774291
1,2,3-Trichlorobenzene	mg/l	0.0230	0.0	.025	92.0	59.1-138	L752164-01	WG774291
1,2,3-Trichloropropane	mg/l	0.0244	0.0	.025	97.0	61.4-128	L752164-01	WG774291
1,2,3-Trimethylbenzene	mg/l	0.0254	0.0	.025	100.	61.3-122	L752164-01	WG774291
1,2,4-Trichlorobenzene	mg/l	0.0253	0.0	.025	100.	63.6-143	L752164-01	WG774291
1,2,4-Trimethylbenzene	mg/l	0.0249	0.0	.025	100.	57.4-137	L752164-01	WG774291
1,2-Dibromo-3-Chloropropane	mg/l	0.0242	0.0	.025	97.0	57.3-136	L752164-01	WG774291
1,2-Dibromoethane	mg/l	0.0239	0.0	.025	96.0	67.1-125	L752164-01	WG774291
1,2-Dichlorobenzene	mg/l	0.0251	0.0	.025	100.	68.2-123	L752164-01	WG774291
1,2-Dichloroethane	mg/l	0.0237	0.0	.025	95.0	60-126	L752164-01	WG774291
1,2-Dichloropropane	mg/l	0.0244	0.0	.025	98.0	64.2-123	L752164-01	WG774291
1,3,5-Trimethylbenzene	mg/l	0.0254	0.0	.025	100.	63.6-132	L752164-01	WG774291
1,3-Dichlorobenzene	mg/l	0.0249	0.0	.025	100.	63.1-131	L752164-01	WG774291
1,3-Dichloropropane	mg/l	0.0231	0.0	.025	92.0	67.9-121	L752164-01	WG774291
1,4-Dichlorobenzene	mg/l	0.0255	0.0	.025	100.	68.6-123	L752164-01	WG774291
2,2-Dichloropropane	mg/l	0.0199	0.0	.025	80.0	50.5-144	L752164-01	WG774291
2-Butanone (MEK)	mg/l	0.128	0.0	.125	100.	22.4-138	L752164-01	WG774291
2-Chloroethyl vinyl ether	mg/l	0.0279	0.0	.125	22.0	10-155	L752164-01	WG774291
2-Chlorotoluene	mg/l	0.0250	0.0	.025	100.	63.6-128	L752164-01	WG774291
4-Chlorotoluene	mg/l	0.0232	0.0	.025	93.0	65.7-127	L752164-01	WG774291
4-Methyl-2-pentanone (MIBK)	mg/l	0.125	0.0	.125	100.	60.8-140	L752164-01	WG774291
Acetone	mg/l	0.129	0.00299	.125	100.	10-130	L752164-01	WG774291
Acrolein	mg/l	0.0738	0.0	.125	59.0	10-200	L752164-01	WG774291
Acrylonitrile	mg/l	0.121	0.0	.125	96.0	49.4-133	L752164-01	WG774291
Benzene	mg/l	0.0225	0.0	.025	90.0	54.3-133	L752164-01	WG774291
Bromobenzene	mg/l	0.0236	0.0	.025	94.0	63.9-124	L752164-01	WG774291
Bromodichloromethane	mg/l	0.0241	0.0	.025	96.0	63.9-121	L752164-01	WG774291
Bromoform	mg/l	0.0252	0.0	.025	100.	59.5-134	L752164-01	WG774291
Bromomethane	mg/l	0.0361	0.0	.025	140.	41.7-155	L752164-01	WG774291
Carbon disulfide	mg/l	0.0208	0.0	.025	83.0	43.3-149	L752164-01	WG774291
Carbon tetrachloride	mg/l	0.0229	0.0	.025	92.0	55.7-134	L752164-01	WG774291
Chlorobenzene	mg/l	0.0245	0.0	.025	98.0	67-125	L752164-01	WG774291
Chlorodibromomethane	mg/l	0.0244	0.0	.025	98.0	64.3-125	L752164-01	WG774291
Chloroethane	mg/l	0.0322	0.0	.025	130.	51.5-136	L752164-01	WG774291
Chloroform	mg/l	0.0216	0.0	.025	86.0	63-129	L752164-01	WG774291
Chloromethane	mg/l	0.0218	0.0	.025	87.0	42.4-135	L752164-01	WG774291
cis-1,2-Dichloroethene	mg/l	0.0222	0.0	.025	89.0	59.2-129	L752164-01	WG774291
cis-1,3-Dichloropropene	mg/l	0.0234	0.0	.025	94.0	66.4-125	L752164-01	WG774291
Di-isopropyl ether	mg/l	0.0216	0.0	.025	87.0	56.9-136	L752164-01	WG774291
Dibromomethane	mg/l	0.0250	0.0	.025	100.	68.2-124	L752164-01	WG774291
Dichlorodifluoromethane	mg/l	0.0210	0.0	.025	84.0	40.6-144	L752164-01	WG774291
Ethylbenzene	mg/l	0.0243	0.0	.025	97.0	61.4-133	L752164-01	WG774291
Hexachloro-1,3-butadiene	mg/l	0.0248	0.0	.025	99.0	55.1-136	L752164-01	WG774291
Isopropylbenzene	mg/l	0.0253	0.000788	.025	98.0	66.8-141	L752164-01	WG774291
Methyl tert-butyl ether	mg/l	0.0226	0.0	.025	90.0	57.7-134	L752164-01	WG774291
Methylene Chloride	mg/l	0.0212	0.0	.025	85.0	58.1-122	L752164-01	WG774291
n-Butylbenzene	mg/l	0.0267	0.000397	.025	100.	62.7-140	L752164-01	WG774291
n-Propylbenzene	mg/l	0.0281	0.00348	.025	98.0	65.9-131	L752164-01	WG774291
Naphthalene	mg/l	0.0230	0.000557	.025	90.0	58-135	L752164-01	WG774291
p-Isopropyltoluene	mg/l	0.0258	0.0	.025	100.	63.2-139	L752164-01	WG774291
sec-Butylbenzene	mg/l	0.0260	0.000451	.025	100.	62.2-136	L752164-01	WG774291
Styrene	mg/l	0.0230	0.0	.025	92.0	66.8-133	L752164-01	WG774291
tert-Butylbenzene	mg/l	0.0247	0.0	.025	99.0	63.3-134	L752164-01	WG774291

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Quality Assurance Report
Level II

L752170

March 13, 2015

Analyte	Units	MS Res	Matrix Spike Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Tetrachloroethene	mg/l	0.0254	0.0	.025	100.	53-139	L752164-01	WG774291
Toluene	mg/l	0.0232	0.0	.025	93.0	61.4-130	L752164-01	WG774291
trans-1,2-Dichloroethene	mg/l	0.0214	0.0	.025	86.0	56.5-129	L752164-01	WG774291
trans-1,3-Dichloropropene	mg/l	0.0253	0.0	.025	100.	64.1-128	L752164-01	WG774291
Trichloroethene	mg/l	0.0236	0.0	.025	94.0	44.1-149	L752164-01	WG774291
Trichlorofluoromethane	mg/l	0.0242	0.0	.025	97.0	49.6-145	L752164-01	WG774291
Vinyl chloride	mg/l	0.0272	0.0	.025	110.	47.8-137	L752164-01	WG774291
Xylenes, Total	mg/l	0.0739	0.0	.075	98.0	63.3-131	L752164-01	WG774291
4-Bromofluorobenzene					92.10	71-126		WG774291
Dibromofluoromethane					98.30	78.3-121		WG774291
Toluene-d8					101.0	88.5-111		WG774291
a,a,a-Trifluorotoluene					98.30	85-114		WG774291
TPHG C5 - C12	mg/kg	27.2	0.0	5.5	99.0	21.6-134	L752170-01	WG774452
a,a,a-Trifluorotoluene(FID)					99.10	59-128		WG774452
1,1,1,2-Tetrachloroethane	mg/kg	0.139	0.0	.025	110.	64-128	L752621-05	WG775215
1,1,1-Trichloroethane	mg/kg	0.126	0.0	.025	100.	58.7-134	L752621-05	WG775215
1,1,2,2-Tetrachloroethane	mg/kg	0.141	0.0	.025	110.	56-132	L752621-05	WG775215
1,1,2-Trichloroethane	mg/kg	0.127	0.0	.025	100.	66.3-125	L752621-05	WG775215
1,1,2-Trichlorotrifluoroethane	mg/kg	0.121	0.0	.025	96.0	54.8-154	L752621-05	WG775215
1,1-Dichloroethane	mg/kg	0.122	0.0	.025	97.0	58.5-132	L752621-05	WG775215
1,1-Dichloroethene	mg/kg	0.131	0.0	.025	100.	51.1-140	L752621-05	WG775215
1,1-Dichloropropene	mg/kg	0.126	0.0	.025	100.	57.3-136	L752621-05	WG775215
1,2,3-Trichlorobenzene	mg/kg	0.119	0.0	.025	95.0	59.1-138	L752621-05	WG775215
1,2,3-Trichloropropane	mg/kg	0.126	0.0	.025	100.	61.4-128	L752621-05	WG775215
1,2,3-Trimethylbenzene	mg/kg	0.120	0.0	.025	96.0	61.3-122	L752621-05	WG775215
1,2,4-Trichlorobenzene	mg/kg	0.119	0.0	.025	95.0	63.6-143	L752621-05	WG775215
1,2,4-Trimethylbenzene	mg/kg	0.123	0.000476	.025	98.0	57.4-137	L752621-05	WG775215
1,2-Dibromo-3-Chloropropane	mg/kg	0.145	0.0	.025	120.	57.3-136	L752621-05	WG775215
1,2-Dibromoethane	mg/kg	0.135	0.0	.025	110.	67.1-125	L752621-05	WG775215
1,2-Dichlorobenzene	mg/kg	0.121	0.0	.025	97.0	68.2-123	L752621-05	WG775215
1,2-Dichloroethane	mg/kg	0.125	0.0	.025	100.	60-126	L752621-05	WG775215
1,2-Dichloropropane	mg/kg	0.118	0.0	.025	95.0	64.2-123	L752621-05	WG775215
1,3,5-Trimethylbenzene	mg/kg	0.128	0.000337	.025	100.	63.6-132	L752621-05	WG775215
1,3-Dichlorobenzene	mg/kg	0.127	0.0	.025	100.	63.1-131	L752621-05	WG775215
1,3-Dichloropropane	mg/kg	0.127	0.0	.025	100.	67.9-121	L752621-05	WG775215
1,4-Dichlorobenzene	mg/kg	0.115	0.0	.025	92.0	68.6-123	L752621-05	WG775215
2,2-Dichloropropane	mg/kg	0.114	0.0	.025	91.0	50.5-144	L752621-05	WG775215
2-Butanone (MEK)	mg/kg	0.707	0.0	.125	110.	22.4-138	L752621-05	WG775215
2-Chloroethyl vinyl ether	mg/kg	0.682	0.0	.125	110.	10-155	L752621-05	WG775215
2-Chlorotoluene	mg/kg	0.123	0.0	.025	99.0	63.6-128	L752621-05	WG775215
4-Chlorotoluene	mg/kg	0.122	0.0	.025	98.0	65.7-127	L752621-05	WG775215
4-Methyl-2-pentanone (MIBK)	mg/kg	0.756	0.0	.125	120.	60.8-140	L752621-05	WG775215
Acetone	mg/kg	0.606	0.0248	.125	93.0	10-130	L752621-05	WG775215
Acrylonitrile	mg/kg	0.662	0.0	.125	110.	49.4-133	L752621-05	WG775215
Benzene	mg/kg	0.125	0.000351	.025	100.	54.3-133	L752621-05	WG775215
Bromobenzene	mg/kg	0.120	0.0	.025	96.0	63.9-124	L752621-05	WG775215
Bromodichloromethane	mg/kg	0.122	0.0	.025	98.0	63.9-121	L752621-05	WG775215
Bromoform	mg/kg	0.139	0.0	.025	110.	59.5-134	L752621-05	WG775215
Bromomethane	mg/kg	0.107	0.0	.025	86.0	41.7-155	L752621-05	WG775215
Carbon disulfide	mg/kg	0.114	0.0	.025	91.0	43.3-149	L752621-05	WG775215
Carbon tetrachloride	mg/kg	0.138	0.0	.025	110.	55.7-134	L752621-05	WG775215
Chlorobenzene	mg/kg	0.129	0.0	.025	100.	67-125	L752621-05	WG775215
Chlorodibromomethane	mg/kg	0.133	0.0	.025	110.	64.3-125	L752621-05	WG775215
Chloroethane	mg/kg	0.109	0.0	.025	87.0	51.5-136	L752621-05	WG775215
Chloroform	mg/kg	0.119	0.0	.025	95.0	63-129	L752621-05	WG775215

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Quality Assurance Report
Level II

L752170

March 13, 2015

Analyte	Units	MS Res	Matrix Spike Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Chloromethane	mg/kg	0.118	0.0	.025	94.0	42.4-135	L752621-05	WG775215
cis-1,2-Dichloroethene	mg/kg	0.128	0.0	.025	100.	59.2-129	L752621-05	WG775215
cis-1,3-Dichloropropene	mg/kg	0.124	0.0	.025	99.0	66.4-125	L752621-05	WG775215
Di-isopropyl ether	mg/kg	0.121	0.0	.025	96.0	56.9-136	L752621-05	WG775215
Dibromomethane	mg/kg	0.122	0.0	.025	97.0	68.2-124	L752621-05	WG775215
Dichlorodifluoromethane	mg/kg	0.124	0.0	.025	100.	40.6-144	L752621-05	WG775215
Ethylbenzene	mg/kg	0.125	0.0	.025	100.	61.4-133	L752621-05	WG775215
Hexachloro-1,3-butadiene	mg/kg	0.114	0.0	.025	91.0	55.1-136	L752621-05	WG775215
Isopropylbenzene	mg/kg	0.132	0.0	.025	110.	66.8-141	L752621-05	WG775215
Methyl tert-butyl ether	mg/kg	0.125	0.0	.025	100.	57.7-134	L752621-05	WG775215
Methylene Chloride	mg/kg	0.120	0.00114	.025	95.0	58.1-122	L752621-05	WG775215
n-Butylbenzene	mg/kg	0.115	0.0	.025	92.0	62.7-140	L752621-05	WG775215
n-Propylbenzene	mg/kg	0.124	0.0	.025	99.0	10-176	L752621-05	WG775215
Naphthalene	mg/kg	0.121	0.000474	.025	97.0	58-135	L752621-05	WG775215
p-Isopropyltoluene	mg/kg	0.128	0.0	.025	100.	63.2-139	L752621-05	WG775215
sec-Butylbenzene	mg/kg	0.128	0.0	.025	100.	62.2-136	L752621-05	WG775215
Styrene	mg/kg	0.129	0.0	.025	100.	66.8-133	L752621-05	WG775215
tert-Butylbenzene	mg/kg	0.136	0.0	.025	110.	63.3-134	L752621-05	WG775215
Tetrachloroethene	mg/kg	0.133	0.0	.025	110.	53-139	L752621-05	WG775215
Toluene	mg/kg	0.127	0.00116	.025	100.	61.4-130	L752621-05	WG775215
trans-1,2-Dichloroethene	mg/kg	0.128	0.0	.025	100.	56.5-129	L752621-05	WG775215
trans-1,3-Dichloropropene	mg/kg	0.128	0.0	.025	100.	64.1-128	L752621-05	WG775215
Trichloroethene	mg/kg	0.132	0.0	.025	100.	44.1-149	L752621-05	WG775215
Trichlorofluoromethane	mg/kg	0.114	0.0	.025	91.0	49.6-145	L752621-05	WG775215
Vinyl chloride	mg/kg	0.135	0.0	.025	110.	47.8-137	L752621-05	WG775215
Xylenes, Total	mg/kg	0.380	0.00131	.075	100.	63.3-131	L752621-05	WG775215
4-Bromofluorobenzene					103.0	71-126		WG775215
Dibromofluoromethane					94.60	78.3-121		WG775215
Toluene-d8					101.0	88.5-111		WG775215
a,a,a-Trifluorotoluene					104.0	85-114		WG775215

Analyte	Units	MSD	Matrix Spike Duplicate Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
TPHG C5 - C12	mg/l	5.35	5.00	97.3	45.1-139	6.93	20	L752068-14	WG774317
a,a,a-Trifluorotoluene(FID)				106.0	62-128				WG774317
1,1,1,2-Tetrachloroethane	mg/kg	0.134	0.131	107.	64-128	2.36	20	L752135-24	WG774307
1,1,1-Trichloroethane	mg/kg	0.121	0.114	96.7	58.7-134	5.61	20	L752135-24	WG774307
1,1,2,2-Tetrachloroethane	mg/kg	0.133	0.132	106.	56-132	0.390	22.2	L752135-24	WG774307
1,1,2-Trichloroethane	mg/kg	0.127	0.118	101.	66.3-125	7.06	20	L752135-24	WG774307
1,1,2-Trichlorotrifluoroethane	mg/kg	0.115	0.115	92.1	54.8-154	0.210	22.5	L752135-24	WG774307
1,1-Dichloroethane	mg/kg	0.121	0.115	96.7	58.5-132	5.00	20	L752135-24	WG774307
1,1-Dichloroethene	mg/kg	0.119	0.120	94.9	51.1-140	1.24	20.2	L752135-24	WG774307
1,1-Dichloropropene	mg/kg	0.116	0.117	92.7	57.3-136	0.760	20	L752135-24	WG774307
1,2,3-Trichlorobenzene	mg/kg	0.110	0.104	88.3	59.1-138	5.59	23.7	L752135-24	WG774307
1,2,3-Trichloropropane	mg/kg	0.127	0.127	102.	61.4-128	0.530	22.4	L752135-24	WG774307
1,2,3-Trimethylbenzene	mg/kg	0.115	0.107	92.0	61.3-122	6.79	20	L752135-24	WG774307
1,2,4-Trichlorobenzene	mg/kg	0.105	0.102	83.8	63.6-143	2.68	21.9	L752135-24	WG774307
1,2,4-Trimethylbenzene	mg/kg	0.119	0.111	94.9	57.4-137	6.37	20	L752135-24	WG774307
1,2-Dibromo-3-Chloropropane	mg/kg	0.124	0.125	98.9	57.3-136	0.800	27	L752135-24	WG774307
1,2-Dibromoethane	mg/kg	0.129	0.125	103.	67.1-125	3.55	20	L752135-24	WG774307
1,2-Dichlorobenzene	mg/kg	0.117	0.108	93.8	68.2-123	8.23	20	L752135-24	WG774307
1,2-Dichloroethane	mg/kg	0.114	0.116	91.5	60-126	1.13	20	L752135-24	WG774307
1,2-Dichloropropane	mg/kg	0.119	0.121	95.5	64.2-123	0.960	20	L752135-24	WG774307
1,3,5-Trimethylbenzene	mg/kg	0.117	0.116	93.9	63.6-132	1.38	20.5	L752135-24	WG774307
1,3-Dichlorobenzene	mg/kg	0.115	0.115	92.2	63.1-131	0.0700	20	L752135-24	WG774307
1,3-Dichloropropane	mg/kg	0.119	0.114	95.0	67.9-121	3.71	20	L752135-24	WG774307

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Terracon - Irvine, CA
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Irvine, CA 92614

Quality Assurance Report
Level II

L752170

March 13, 2015

Analyte	Units	MSD	Matrix Spike Duplicate Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
1,4-Dichlorobenzene	mg/kg	0.103	0.106	82.1	68.6-123	3.69	20	L752135-24	WG774307
2,2-Dichloropropane	mg/kg	0.118	0.116	94.6	50.5-144	1.88	21.9	L752135-24	WG774307
2-Butanone (MEK)	mg/kg	0.604	0.602	96.7	22.4-138	0.440	27	L752135-24	WG774307
2-Chloroethyl vinyl ether	mg/kg	0.600	0.640	95.9	10-155	6.47	40	L752135-24	WG774307
2-Chlorotoluene	mg/kg	0.119	0.111	94.8	63.6-128	6.48	20	L752135-24	WG774307
4-Chlorotoluene	mg/kg	0.122	0.112	97.8	65.7-127	9.10	20	L752135-24	WG774307
4-Methyl-2-pentanone (MIBK)	mg/kg	0.627	0.683	100.	60.8-140	8.55	25.1	L752135-24	WG774307
Acetone	mg/kg	0.577	0.546	90.1	10-130	5.57	27.9	L752135-24	WG774307
Acrylonitrile	mg/kg	0.556	0.615	89.0	49.4-133	10.2	25.3	L752135-24	WG774307
Benzene	mg/kg	0.113	0.107	90.2	54.3-133	5.26	20	L752135-24	WG774307
Bromobenzene	mg/kg	0.114	0.116	91.3	63.9-124	1.50	20	L752135-24	WG774307
Bromodichloromethane	mg/kg	0.117	0.115	93.3	63.9-121	1.20	20	L752135-24	WG774307
Bromoform	mg/kg	0.132	0.123	105.	59.5-134	6.53	20.8	L752135-24	WG774307
Bromomethane	mg/kg	0.174	0.163	139.	41.7-155	6.95	20.5	L752135-24	WG774307
Carbon disulfide	mg/kg	0.112	0.107	89.6	43.3-149	4.46	21	L752135-24	WG774307
Carbon tetrachloride	mg/kg	0.114	0.117	90.8	55.7-134	2.65	20.3	L752135-24	WG774307
Chlorobenzene	mg/kg	0.126	0.121	101.	67-125	4.24	20	L752135-24	WG774307
Chlorodibromomethane	mg/kg	0.124	0.117	99.0	64.3-125	5.58	20	L752135-24	WG774307
Chloroethane	mg/kg	0.123	0.120	98.7	51.5-136	2.85	20.8	L752135-24	WG774307
Chloroform	mg/kg	0.113	0.113	90.6	63-129	0.0500	20	L752135-24	WG774307
Chloromethane	mg/kg	0.113	0.112	90.2	42.4-135	0.360	20	L752135-24	WG774307
cis-1,2-Dichloroethene	mg/kg	0.118	0.115	94.6	59.2-129	2.41	20	L752135-24	WG774307
cis-1,3-Dichloropropene	mg/kg	0.116	0.126	92.4	66.4-125	8.82	20	L752135-24	WG774307
Di-isopropyl ether	mg/kg	0.111	0.114	89.2	56.9-136	1.93	20	L752135-24	WG774307
Dibromomethane	mg/kg	0.118	0.124	94.1	68.2-124	5.03	20	L752135-24	WG774307
Dichlorodifluoromethane	mg/kg	0.102	0.106	81.8	40.6-144	3.42	20.2	L752135-24	WG774307
Ethylbenzene	mg/kg	0.119	0.115	95.2	61.4-133	3.06	20	L752135-24	WG774307
Hexachloro-1,3-butadiene	mg/kg	0.113	0.113	90.4	55.1-136	0.150	23.6	L752135-24	WG774307
Isopropylbenzene	mg/kg	0.129	0.118	103.	66.8-141	8.17	20	L752135-24	WG774307
Methyl tert-butyl ether	mg/kg	0.116	0.113	92.7	57.7-134	3.00	20	L752135-24	WG774307
Methylene Chloride	mg/kg	0.115	0.113	90.9	58.1-122	2.30	20	L752135-24	WG774307
n-Butylbenzene	mg/kg	0.103	0.103	82.5	62.7-140	0.230	20	L752135-24	WG774307
n-Propylbenzene	mg/kg	0.120	0.120	96.0	10-176	0.120	26.6	L752135-24	WG774307
Naphthalene	mg/kg	0.115	0.111	92.2	58-135	3.53	25.5	L752135-24	WG774307
p-Isopropyltoluene	mg/kg	0.113	0.117	90.5	63.2-139	2.95	20.4	L752135-24	WG774307
sec-Butylbenzene	mg/kg	0.116	0.122	92.9	62.2-136	4.66	20.3	L752135-24	WG774307
Styrene	mg/kg	0.126	0.118	101.	66.8-133	6.61	20	L752135-24	WG774307
tert-Butylbenzene	mg/kg	0.127	0.120	102.	63.3-134	5.56	20.3	L752135-24	WG774307
Tetrachloroethene	mg/kg	0.128	0.128	103.	53-139	0.0500	20	L752135-24	WG774307
Toluene	mg/kg	0.104	0.117	83.1	61.4-130	11.5	20	L752135-24	WG774307
trans-1,2-Dichloroethene	mg/kg	0.118	0.119	94.1	56.5-129	1.23	20	L752135-24	WG774307
trans-1,3-Dichloropropene	mg/kg	0.115	0.123	92.2	64.1-128	6.54	20	L752135-24	WG774307
Trichloroethene	mg/kg	0.120	0.122	96.0	44.1-149	1.67	20	L752135-24	WG774307
Trichlorofluoromethane	mg/kg	0.121	0.114	97.0	49.6-145	5.92	21.2	L752135-24	WG774307
Vinyl chloride	mg/kg	0.119	0.119	95.1	47.8-137	0.0400	20	L752135-24	WG774307
Xylenes, Total	mg/kg	0.385	0.364	102.	63.3-131	5.50	20	L752135-24	WG774307
4-Bromofluorobenzene				108.0	71-126				WG774307
Dibromofluoromethane				99.80	78.3-121				WG774307
Toluene-d8				99.50	88.5-111				WG774307
a,a,a-Trifluorotoluene				101.0	85-114				WG774307
1,1,1,2-Tetrachloroethane	mg/l	0.0245	0.0255	98.1	64-128	3.99	20	L752164-01	WG774291
1,1,1-Trichloroethane	mg/l	0.0220	0.0228	88.0	58.7-134	3.56	20	L752164-01	WG774291
1,1,2,2-Tetrachloroethane	mg/l	0.0258	0.0272	103.	56-132	5.32	22.2	L752164-01	WG774291
1,1,2-Trichloroethane	mg/l	0.0237	0.0241	95.0	66.3-125	1.66	20	L752164-01	WG774291
1,1,2-Trichlorotrifluoroethane	mg/l	0.0211	0.0221	84.2	54.8-154	4.97	22.5	L752164-01	WG774291
1,1-Dichloroethane	mg/l	0.0215	0.0223	86.0	58.5-132	3.55	20	L752164-01	WG774291
1,1-Dichloroethene	mg/l	0.0206	0.0213	82.5	51.1-140	3.35	20.2	L752164-01	WG774291

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Quality Assurance Report
Level II

L752170

March 13, 2015

Analyte	Units	Matrix Spike Duplicate MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
1,1-Dichloropropene	mg/l	0.0214	0.0226	85.7	57.3-136	5.41	20	L752164-01	WG774291
1,2,3-Trichlorobenzene	mg/l	0.0232	0.0230	92.8	59.1-138	1.06	23.7	L752164-01	WG774291
1,2,3-Trichloropropane	mg/l	0.0235	0.0244	93.8	61.4-128	3.76	22.4	L752164-01	WG774291
1,2,3-Trimethylbenzene	mg/l	0.0241	0.0254	96.5	61.3-122	5.10	20	L752164-01	WG774291
1,2,4-Trichlorobenzene	mg/l	0.0231	0.0253	92.5	63.6-143	8.90	21.9	L752164-01	WG774291
1,2,4-Trimethylbenzene	mg/l	0.0225	0.0249	89.8	57.4-137	10.3	20	L752164-01	WG774291
1,2-Dibromo-3-Chloropropane	mg/l	0.0231	0.0242	92.3	57.3-136	4.84	27	L752164-01	WG774291
1,2-Dibromoethane	mg/l	0.0236	0.0239	94.5	67.1-125	1.27	20	L752164-01	WG774291
1,2-Dichlorobenzene	mg/l	0.0239	0.0251	95.4	68.2-123	5.11	20	L752164-01	WG774291
1,2-Dichloroethane	mg/l	0.0227	0.0237	91.0	60-126	3.94	20	L752164-01	WG774291
1,2-Dichloropropane	mg/l	0.0232	0.0244	92.8	64.2-123	4.95	20	L752164-01	WG774291
1,3,5-Trimethylbenzene	mg/l	0.0230	0.0254	91.9	63.6-132	10.1	20.5	L752164-01	WG774291
1,3-Dichlorobenzene	mg/l	0.0227	0.0249	90.9	63.1-131	9.24	20	L752164-01	WG774291
1,3-Dichloropropane	mg/l	0.0227	0.0231	90.8	67.9-121	1.58	20	L752164-01	WG774291
1,4-Dichlorobenzene	mg/l	0.0246	0.0255	98.4	68.6-123	3.37	20	L752164-01	WG774291
2,2-Dichloropropane	mg/l	0.0191	0.0199	76.4	50.5-144	4.25	21.9	L752164-01	WG774291
2-Butanone (MEK)	mg/l	0.116	0.128	92.5	22.4-138	9.87	27	L752164-01	WG774291
2-Chloroethyl vinyl ether	mg/l	0.00300	0.0279	2.40*	10-155	161.*	20	L752164-01	WG774291
2-Chlorotoluene	mg/l	0.0234	0.0250	93.5	63.6-128	6.82	20	L752164-01	WG774291
4-Chlorotoluene	mg/l	0.0216	0.0232	86.5	65.7-127	7.00	20	L752164-01	WG774291
4-Methyl-2-pentanone (MIBK)	mg/l	0.122	0.125	97.9	60.8-140	2.45	25.1	L752164-01	WG774291
Acetone	mg/l	0.115	0.129	89.2	10-130	11.8	27.9	L752164-01	WG774291
Acrolein	mg/l	0.0653	0.0738	52.2	10-200	12.2	27.7	L752164-01	WG774291
Acrylonitrile	mg/l	0.118	0.121	94.0	49.4-133	2.61	25.3	L752164-01	WG774291
Benzene	mg/l	0.0219	0.0225	87.4	54.3-133	2.75	20	L752164-01	WG774291
Bromobenzene	mg/l	0.0222	0.0236	88.9	63.9-124	5.77	20	L752164-01	WG774291
Bromodichloromethane	mg/l	0.0235	0.0241	94.1	63.9-121	2.43	20	L752164-01	WG774291
Bromoform	mg/l	0.0246	0.0252	98.4	59.5-134	2.60	20.5	L752164-01	WG774291
Bromomethane	mg/l	0.0366	0.0361	146.	41.7-155	1.16	21.9	L752164-01	WG774291
Carbon disulfide	mg/l	0.0201	0.0208	80.5	43.3-149	3.26	20.3	L752164-01	WG774291
Carbon tetrachloride	mg/l	0.0221	0.0229	88.3	55.7-134	3.65	20	L752164-01	WG774291
Chlorobenzene	mg/l	0.0236	0.0245	94.3	67-125	3.88	20	L752164-01	WG774291
Chlorodibromomethane	mg/l	0.0242	0.0244	96.8	64.3-125	0.940	20.8	L752164-01	WG774291
Chloroethane	mg/l	0.0313	0.0322	125.	51.5-136	2.80	40	L752164-01	WG774291
Chloroform	mg/l	0.0208	0.0216	83.2	63-129	3.64	20	L752164-01	WG774291
Chloromethane	mg/l	0.0214	0.0218	85.6	42.4-135	1.74	20	L752164-01	WG774291
cis-1,2-Dichloroethene	mg/l	0.0216	0.0222	86.4	59.2-129	2.77	20	L752164-01	WG774291
cis-1,3-Dichloropropene	mg/l	0.0224	0.0234	89.4	66.4-125	4.64	20	L752164-01	WG774291
Di-isopropyl ether	mg/l	0.0208	0.0216	83.1	56.9-136	4.08	20	L752164-01	WG774291
Dibromomethane	mg/l	0.0241	0.0250	96.4	68.2-124	3.57	20	L752164-01	WG774291
Dichlorodifluoromethane	mg/l	0.0201	0.0210	80.6	40.6-144	4.34	20.2	L752164-01	WG774291
Ethylbenzene	mg/l	0.0236	0.0243	94.4	61.4-133	3.05	20	L752164-01	WG774291
Hexachloro-1,3-butadiene	mg/l	0.0230	0.0248	92.2	55.1-136	7.17	23.6	L752164-01	WG774291
Isopropylbenzene	mg/l	0.0240	0.0253	92.8	66.8-141	5.37	20	L752164-01	WG774291
Methyl tert-butyl ether	mg/l	0.0219	0.0226	87.6	57.7-134	3.11	20	L752164-01	WG774291
Methylene Chloride	mg/l	0.0206	0.0212	82.3	58.1-122	2.96	20	L752164-01	WG774291
n-Butylbenzene	mg/l	0.0243	0.0267	95.5	62.7-140	9.34	20.3	L752164-01	WG774291
n-Propylbenzene	mg/l	0.0262	0.0281	90.8	65.9-131	6.91	20	L752164-01	WG774291
Naphthalene	mg/l	0.0230	0.0230	89.6	58-135	0.0100	25.5	L752164-01	WG774291
p-Isopropyltoluene	mg/l	0.0227	0.0258	90.9	63.2-139	12.6	20.4	L752164-01	WG774291
sec-Butylbenzene	mg/l	0.0233	0.0260	91.2	62.2-136	11.3	20.3	L752164-01	WG774291
Styrene	mg/l	0.0220	0.0230	88.1	66.8-133	4.44	20	L752164-01	WG774291
tert-Butylbenzene	mg/l	0.0226	0.0247	90.3	63.3-134	9.14	21	L752164-01	WG774291
Tetrachloroethene	mg/l	0.0245	0.0254	98.0	53-139	3.76	20	L752164-01	WG774291
Toluene	mg/l	0.0223	0.0232	89.0	61.4-130	4.28	20	L752164-01	WG774291
trans-1,2-Dichloroethene	mg/l	0.0208	0.0214	83.4	56.5-129	2.83	20	L752164-01	WG774291
trans-1,3-Dichloropropene	mg/l	0.0245	0.0253	98.0	64.1-128	3.03	20	L752164-01	WG774291
Trichloroethene	mg/l	0.0231	0.0236	92.5	44.1-149	2.01	20	L752164-01	WG774291
Trichlorofluoromethane	mg/l	0.0235	0.0242	94.0	49.6-145	3.00	21.2	L752164-01	WG774291

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Tax I.D. 62-0814289

Est. 1970

Terracon - Irvine, CA
Carl Parten
2817 McGaw Avenue

Irvine, CA 92614

Quality Assurance Report
Level II

L752170

March 13, 2015

Analyte	Units	Matrix Spike Duplicate MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
Vinyl chloride	mg/l	0.0262	0.0272	105.	47.8-137	3.82	20	L752164-01	WG774291
Xylenes, Total	mg/l	0.0704	0.0739	93.8	63.3-131	4.81	20	L752164-01	WG774291
4-Bromofluorobenzene				90.00	71-126				WG774291
Dibromofluoromethane				97.70	78.3-121				WG774291
Toluene-d8				100.0	88.5-111				WG774291
a,a,a-Trifluorotoluene				99.10	85-114				WG774291
TPHG C5 - C12	mg/kg	27.4	27.2	99.6	21.6-134	0.780	23.9	L752170-01	WG774452
a,a,a-Trifluorotoluene(FID)				98.20	59-128				WG774452
1,1,1,2-Tetrachloroethane	mg/kg	0.116	0.139	93.1	64-128	18.0	20	L752621-05	WG775215
1,1,1-Trichloroethane	mg/kg	0.108	0.126	86.6	58.7-134	14.8	20	L752621-05	WG775215
1,1,2,2-Tetrachloroethane	mg/kg	0.118	0.141	94.8	56-132	17.2	22.2	L752621-05	WG775215
1,1,2-Trichloroethane	mg/kg	0.109	0.127	87.5	66.3-125	15.0	20	L752621-05	WG775215
1,1,2-Trichlorotrifluoroethane	mg/kg	0.102	0.121	81.6	54.8-154	16.7	22.5	L752621-05	WG775215
1,1-Dichloroethane	mg/kg	0.105	0.122	84.4	58.5-132	14.2	20	L752621-05	WG775215
1,1-Dichloroethene	mg/kg	0.110	0.131	88.0	51.1-140	17.2	20.2	L752621-05	WG775215
1,1-Dichloropropene	mg/kg	0.106	0.126	85.0	57.3-136	16.8	20	L752621-05	WG775215
1,2,3-Trichlorobenzene	mg/kg	0.0988	0.119	79.1	59.1-138	18.8	23.7	L752621-05	WG775215
1,2,3-Trichloropropane	mg/kg	0.104	0.126	83.4	61.4-128	18.6	22.4	L752621-05	WG775215
1,2,3-Trimethylbenzene	mg/kg	0.103	0.120	82.2	61.3-122	15.2	20	L752621-05	WG775215
1,2,4-Trichlorobenzene	mg/kg	0.0994	0.119	79.6	63.6-143	17.9	21.9	L752621-05	WG775215
1,2,4-Trimethylbenzene	mg/kg	0.100	0.123	79.7	57.4-137	20.9*	20	L752621-05	WG775215
1,2-Dibromo-3-Chloropropane	mg/kg	0.125	0.145	99.9	57.3-136	14.8	27	L752621-05	WG775215
1,2-Dibromoethane	mg/kg	0.113	0.135	90.5	67.1-125	17.6	20	L752621-05	WG775215
1,2-Dichlorobenzene	mg/kg	0.104	0.121	83.0	68.2-123	15.3	20	L752621-05	WG775215
1,2-Dichloroethane	mg/kg	0.109	0.125	87.2	60-126	14.0	20	L752621-05	WG775215
1,2-Dichloropropane	mg/kg	0.101	0.118	80.8	64.2-123	16.0	20	L752621-05	WG775215
1,3,5-Trimethylbenzene	mg/kg	0.106	0.128	84.3	63.6-132	19.3	20.5	L752621-05	WG775215
1,3-Dichlorobenzene	mg/kg	0.105	0.127	84.4	63.1-131	18.3	20	L752621-05	WG775215
1,3-Dichloropropane	mg/kg	0.109	0.127	87.0	67.9-121	15.6	20	L752621-05	WG775215
1,4-Dichlorobenzene	mg/kg	0.0990	0.115	79.2	68.6-123	14.6	20	L752621-05	WG775215
2,2-Dichloropropane	mg/kg	0.0972	0.114	77.7	50.5-144	16.1	21.9	L752621-05	WG775215
2-Butanone (MEK)	mg/kg	0.606	0.707	96.9	22.4-138	15.5	27	L752621-05	WG775215
2-Chloroethyl vinyl ether	mg/kg	0.594	0.682	95.1	10-155	13.7	40	L752621-05	WG775215
2-Chlorotoluene	mg/kg	0.107	0.123	85.4	63.6-128	14.4	20	L752621-05	WG775215
4-Chlorotoluene	mg/kg	0.102	0.122	81.2	65.7-127	18.6	20	L752621-05	WG775215
4-Methyl-2-pentanone (MIBK)	mg/kg	0.645	0.756	103.	60.8-140	15.8	25.1	L752621-05	WG775215
Acetone	mg/kg	0.542	0.606	82.7	10-130	11.2	27.9	L752621-05	WG775215
Acrylonitrile	mg/kg	0.577	0.662	92.3	49.4-133	13.8	25.3	L752621-05	WG775215
Benzene	mg/kg	0.108	0.125	86.2	54.3-133	14.7	20	L752621-05	WG775215
Bromobenzene	mg/kg	0.100	0.120	80.4	63.9-124	17.9	20	L752621-05	WG775215
Bromodichloromethane	mg/kg	0.104	0.122	83.0	63.9-121	16.2	20	L752621-05	WG775215
Bromoform	mg/kg	0.115	0.139	92.3	59.5-134	18.6	20.8	L752621-05	WG775215
Bromomethane	mg/kg	0.0902	0.107	72.2	41.7-155	17.3	20.5	L752621-05	WG775215
Carbon disulfide	mg/kg	0.0984	0.114	78.7	43.3-149	14.7	21	L752621-05	WG775215
Carbon tetrachloride	mg/kg	0.120	0.138	95.8	55.7-134	14.4	20.3	L752621-05	WG775215
Chlorobenzene	mg/kg	0.109	0.129	87.4	67-125	16.9	20	L752621-05	WG775215
Chlorodibromomethane	mg/kg	0.113	0.133	90.8	64.3-125	15.6	20	L752621-05	WG775215
Chloroethane	mg/kg	0.0961	0.109	76.9	51.5-136	12.7	20.8	L752621-05	WG775215
Chloroform	mg/kg	0.103	0.119	82.6	63-129	13.9	20	L752621-05	WG775215
Chloromethane	mg/kg	0.0982	0.118	78.6	42.4-135	18.0	20	L752621-05	WG775215
cis-1,2-Dichloroethene	mg/kg	0.107	0.128	85.4	59.2-129	17.8	20	L752621-05	WG775215
cis-1,3-Dichloropropene	mg/kg	0.104	0.124	83.5	66.4-125	17.2	20	L752621-05	WG775215
Di-isopropyl ether	mg/kg	0.104	0.121	83.6	56.9-136	14.4	20	L752621-05	WG775215
Dibromomethane	mg/kg	0.103	0.122	82.8	68.2-124	16.3	20	L752621-05	WG775215
Dichlorodifluoromethane	mg/kg	0.102	0.124	81.4	40.6-144	20.0	20.2	L752621-05	WG775215

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Quality Assurance Report
Level II

L752170

March 13, 2015

Analyte	Units	MSD	Matrix Spike Duplicate Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
Ethylbenzene	mg/kg	0.107	0.125	85.6	61.4-133	15.2	20	L752621-05	WG775215
Hexachloro-1,3-butadiene	mg/kg	0.0953	0.114	76.2	55.1-136	18.0	23.6	L752621-05	WG775215
Isopropylbenzene	mg/kg	0.109	0.132	87.1	66.8-141	19.3	20	L752621-05	WG775215
Methyl tert-butyl ether	mg/kg	0.106	0.125	84.6	57.7-134	17.0	20	L752621-05	WG775215
Methylene Chloride	mg/kg	0.101	0.120	79.9	58.1-122	17.2	20	L752621-05	WG775215
n-Butylbenzene	mg/kg	0.0979	0.115	78.3	62.7-140	15.9	20	L752621-05	WG775215
n-Propylbenzene	mg/kg	0.104	0.124	83.2	10-176	17.4	26.6	L752621-05	WG775215
Naphthalene	mg/kg	0.105	0.121	83.8	58-135	14.3	25.5	L752621-05	WG775215
p-Isopropyltoluene	mg/kg	0.108	0.128	86.6	63.2-139	16.6	20.4	L752621-05	WG775215
sec-Butylbenzene	mg/kg	0.105	0.128	84.1	62.2-136	19.3	20.3	L752621-05	WG775215
Styrene	mg/kg	0.108	0.129	86.6	66.8-133	17.5	20	L752621-05	WG775215
tert-Butylbenzene	mg/kg	0.105	0.136	83.9	63.3-134	25.6*	20.3	L752621-05	WG775215
Tetrachloroethene	mg/kg	0.111	0.133	89.0	53-139	17.8	20	L752621-05	WG775215
Toluene	mg/kg	0.108	0.127	85.6	61.4-130	15.8	20	L752621-05	WG775215
trans-1,2-Dichloroethene	mg/kg	0.113	0.128	90.2	56.5-129	12.5	20	L752621-05	WG775215
trans-1,3-Dichloropropene	mg/kg	0.111	0.128	88.5	64.1-128	14.3	20	L752621-05	WG775215
Trichloroethene	mg/kg	0.114	0.132	91.0	44.1-149	14.8	20	L752621-05	WG775215
Trichlorofluoromethane	mg/kg	0.0367	0.114	29.4*	49.6-145	103.*	21.2	L752621-05	WG775215
Vinyl chloride	mg/kg	0.117	0.135	93.5	47.8-137	14.4	20	L752621-05	WG775215
Xylenes, Total	mg/kg	0.318	0.380	84.5	63.3-131	17.7	20	L752621-05	WG775215
4-Bromofluorobenzene				99.50	71-126				WG775215
Dibromofluoromethane				94.60	78.3-121				WG775215
Toluene-d8				101.0	88.5-111				WG775215
a,a,a-Trifluorotoluene				106.0	85-114				WG775215

Batch number /Run number / Sample number cross reference

WG774607: R3023776: L752170-01 03 05 07 09
WG774317: R3023829: L752170-04 06 08 10
WG774660: R3023927: L752170-01 03 05 07 09
WG774648: R3023949: L752170-02 04 06 08 10
WG774307: R3024123: L752170-01 03 05 07
WG774291: R3024364: L752170-02 04 06 08 10
WG775401: R3024488: L752170-02 04 06 08
WG774452: R3024519: L752170-01 03 05 07 09
WG775215: R3024543: L752170-09

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
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Quality Assurance Report
Level II

L752170

March 13, 2015

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

ENVIRONMENTAL, GEOTECHNICAL AND CONSTRUCTION MATERIALS SERVICES

CHAIN OF CUSTODY RECORD

Terracon
Consulting Engineers & Scientists

Office Location: Irvine, CA

Project Manager: Carl Parten

Laboratory: ESC
Address:
Contact: Jared
Phone:
PO/SO #:

Sampler's Name: CHARLES H. YOON
Sampler's Signature: Charles H. Yoon

Proj. No.: 60159016-4432
Project Name: Sears Store #1298, Riverside
No/Type of Containers: 10/4-oz Jars

Analysis Requested: TPH-GRO, DRO, ORO, EPA Method 8015M; VOCs, EPA Method 8260B; HOLDs

Lab use only
Due Date:
Temp. of coolers when received (C°): 1 2 3 4 5

Page 1 of 2

B063

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 Lt.	250 ml	P/O	TPH-GRO, DRO, ORO, EPA Method 8015M	VOCs, EPA Method 8260B	HOLDs	Lab Sample ID (Lab Use Only)
S	3-6-15	0900		X	P-1 (21-22)							X	X		L752170-01
S		915			P-1 (31-32)									X	
W		930			P-1 (30-35)							X	X		-02
S		1100			P-2 (25-26)							X	X		-03
S		1120			P-2 (30-31)									X	
W		1125			P-2 (30-35)							X	X		-04
S		1210			P-3 (14-15)						ice	~~X~~	~~X~~	~~X~~ c.y.	~~HOLD~~ -05 Analyze (TPH VOCs)
S		1240			P-3 (31-32)							~~X~~	~~X~~	~~X~~	~~Analyze~~ . HOLD.
W		1250			P-3 (~~30-35~~) (35-40)							X	X		-06
S		1320			P-4 (14-15)							X	X		-07

Turn around time: ☒ Normal ☐ 25% Rush ☐ 50% Rush ☐ 100% Rush

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Charles H. Yoon	3-06-15				0900
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date: 3/7/15	Time: 11:00

NOTES: 5, 3.4°C
24 total

03-0021

Matrix: WW - Wastewater; W - Water; S - Soil; SD - Solid; L - Liquid; A - Air Bag; C - Charcoal tube; SL - sludge; O - Oil
Container: VOA - 40 ml vial; A/G - Amber / Or Glass 1 Liter; 250 ml - Glass wide mouth; P/O - Plastic or other

NCF

Orange County Office
2817 McGaw Avenue
Irvine, California 92614
8070 3878 2904
Office (949) 261-0051
Fax (949) 261-6110

ESC
L·A·B S·C·I·E·N·C·E·S

Cooler Receipt Form

Client: Terracon Irvine Tx

Cooler Received On: 3/7/15 and Opened On: 3/7/15 By: Scott Luron

(Signature)

Temperature of cooler when opened: 3.4 Degrees Celsius/ Was sufficient ice used: Yes ☐ No ☐

What kind of packing material was used? Bubblewrap ☒ Peanuts ☐ Other ☐ None ☐

	Yes	No	N/A
Were custody seals on outside of cooler and intact?	☒	☐	☐
Were custody papers properly filled out (ink, signed, etc.)?	☒	☐	☐
Did you sign the custody papers in the appropriate place?	☒	☐	☐
Did all bottles arrive in good condition?	☐	☒	☐
Were all bottle labels complete? (#, date, signed, pres, etc)?	☒	☐	☐
Did all bottle labels and tags agree with custody papers?	☒	☐	☐
Were correct bottles used for the analyses requested?	☒	☐	☐
Was sufficient amount of sample sent in each bottle?	☒	☐	☐
Were correct preservatives used?	☒	☐	☐
If applicable, was an observable VOA headspace present?	☐	☒	☐
Non Conformance Generated: *(See attached NCF if yes)*	☒	☐	

Andy Vann

ESC Lab Sciences
Non-Conformance Form

Login #: L752170	Client: TERRAICA	Date: 03/07/15	Evaluated by: Scott

Non-Conformance (check applicable items)

	Sample Integrity		Chain of Custody Clarification		
	Parameter(s) past holding time		Login Clarification Needed		**If Broken Container:**
	Improper temperature		Chain of custody is incomplete		Insufficient packing material around container
	Improper container type		Please specify Metals requested.	X	Insufficient packing material inside cooler
	Improper preservation		Please specify TCLP requested.		Improper handling by carrier (FedEx / UPS / Couri
	Insufficient sample volume.		Received additional samples not listed on coc.		Sample was frozen
	Sample is biphasic.		Sample ids on containers do not match ids on coc		Container lid not intact
	Vials received with headspace.		Trip Blank not received.		**If no Chain of Custody:**
X	Broken container		Client did not "X" analysis.		Received by:
	Broken container:		Chain of Custody is missing		Date/Time:
	Sufficient sample remains				Temp./Cont. Rec./pH:
					Carrier:
					Tracking#

Login Comments: Received one broken vial for P1 (30-35). Two vials remaining. Not enough sample volume to run all analysis client requests. Please advise.

Client informed by:		Call X		Email		Voice Mail		Date: 3/9/15	Time: 1340
TSR Initials: JW	Client Contact: Charles Yoon								

Login Instructions: Log P1 (30-35) for DROOROLVI and V8260. Please also change sample ID to "TSW-1 (30-35) per client.

No Further Action Letter

CRWQCB

California Regional Water Quality Control Board
Santa Ana Region

Winston H. Hickox
Secretary for Environmental Protection

Internet Address: http://www.swrcb.ca.gov
3737 Main Street, Suite 500, Riverside, California 92501-3348
Phone (909) 782-4130 • FAX (909) 781-6288

Gray Davis
Governor

June 26, 2003

Mr. Scott DeMuth
Sears Roebuck & Co.
3333 Beverly Rd.
Dept. 824C, A2-158B
Hoffman Estates, IL 60179

SUBJECT: NO FURTHER ACTION
SEARS AUTO CENTER NO. 1293
5261 ARLINGTON AVE., RIVERSIDE, CALIFORNIA
UST CASE NO. 083300337T

Dear Mr. DeMuth:

This letter confirms the completion of the site investigation and remedial action for the underground storage tanks (USTs) formerly located at the above-described location. Enclosed is the Case Summary for the referenced site for your records.

Based upon the available information, including current land use, and with the provision that the information provided to this agency was accurate and representative of site conditions, no further action related to the UST removal is required.

This notice is issued pursuant to a regulation contained in Title 23, California Code of Regulations, Division 3, Chapter 16, Section 2721(e).

Please provide documentation of proper well abandonment, in accordance with your proposal dated May 22, 2003, to this office to complete our file. Please contact Rose Scott of our office at (909) 320-6375 if you have any questions regarding this matter.

Sincerely,

for Gerard J. Thibeault
Executive Officer

Enclosure: Case Closure Summary

cc: URS Corporation, Kevin Russell, J.S. Rowlands, Ryan Hartly

CASE SUMMARY

I. AGENCY INFORMATION

Agency Name: California Regional Water Quality Control Board, Santa Ana Region	Address: 3737 Main Street, Suite 500
City/state/zip: Riverside, CA 92501-3348	Phone: (909) 320-6375 or (909) 782-4130
Staff: Rose T. Scott	Title: Associate Engineering Geologist

II. CASE INFORMATION

Site Name:	Sears Auto Center #1293
Location:	5261 Arlington Ave., Riverside, California
RB Case #	083300337T

Responsible Parties	Address	Phone Number
Sears Roebuck &Co.	3333 Beverly Road, Dept. 824C, A2-158B Hoffman Estates, IL 60179	(847) 286-5530

Tank No.	Size In Gallons	Contents	Closed in-place/ Removed?	Date
1	10,000	Leaded Gasoline	Removed	June 15, 1985
2	10,000	Unleaded Gasoline	Removed	June 15, 1985
3	10,000	Unleaded Gasoline	Removed	June 15, 1985
4	2,000	Oil	Removed	July 1987
5	2,000	Oil	Removed	July 1987
6	1,000	Oil	Removed	July 1987
7	1,000	Oil	Removed	July 1987
8	1,000	Motor oil	Removed	July 1987
9	1,000	Motor oil	Removed	July 1987
10	1,000	Waste oil	Removed	July 1987

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause & type of release: USTs (reported 8/13/87)	Closure report dated: May 22, 2003
Site characterization complete: YES [x] NO	Monitoring Wells installed: YES [x] NO [ ]
Proper screened interval: YES [x] NO [ ] NA [ ]	Most sensitive current groundwater use: Municipal
Shallowest groundwater depth: 28.34 feet bgs	Greatest groundwater depth: 31.45 feet bgs
Flow Direction: variable: north northwest	Hydraulic Gradient: 0.004 to 0.03
Groundwater Sub-Basin: Riverside III	Report(s) on file? Yes
Reports(s) filed: CA Regional Water Quality Control Board	3737 Main Street, Suite 500, Riverside, CA 92501-3348

TREATMENT AND DISPOSAL OF AFFECTED MATERIAL			
MATERIAL	AMOUNT	ACTION, TREATMENT OR DISPOSAL W/DESTINATION	DATE
Soil	18 cubic yards	Offsite Disposal	November 1994
Groundwater	---	---	---

MAXIMUM DOCUMENTED CONTAMINANT CONCENTRATIONS – BEFORE & AFTER CLEANUP				
CONTAMINANT	SOIL (mg/kg)		WATER (µg/l)	
	Before (1985-94)	After (1999)	Before	After
Total Recoverable Petroleum Hydrocarbons – Motor Oil (418.1)	320	ND (<10)	NA	NA
Total Petroleum Hydrocarbons – Gasoline (8015)	1,400	1,800	91,000	688
Araclor	0.2	NA	NA	NA
MTBE	NA	ND (<5)	39	<2
Benzene	0.032	0.007	8,000	<1
Toluene	1.4	52	20,000	<1
Ethylbenzene	2.2	20	3,800	2.4
Xylenes	12	158	43,000	22.7
Trimethylbenzenes	NA	145	NA	ND (<5)
Tetrachloroethene	NA	ND (<0.005)	ND (<500)	11.5
Naphthalene	NA	16	NA	ND (<5)
1,2-dibromoethane	ND(<0.001)	ND (<0.005)	2.4	ND (<0.5)
n-propyl benzene	NA	14	NA	ND (<5)
n-butyl benzene	NA	6.6	NA	ND (<5)
Total Lead	15	NA	90	4.1

NA - Not analyzed
ND - Not detected at method detection limit
* - Nitrate, sulfate and methane data in file.

IV. CLOSURE

Does completed corrective action protect beneficial uses per the basin plan? YES [x] NO [ ]
Does the corrective action protect public health for current land use? YES [x] NO [ ]

SITE MANAGEMENT REQUIREMENTS
Should corrective action be reviewed if land use changes? YES [x] NO [ ]
Monitoring or vapor wells decommissioned: YES [x] NO [x] N/A [ ]
Number decommissioned: Six wells were abandoned in September 1992. Nine remain to be destroyed.

List of enforcement actions taken: none
List enforcement action rescinded: none

V. ADDITIONAL COMMENTS, DATA, ETC.

In June 1985, three gasoline underground storage tanks (USTs) were removed from the site. Six wells were installed in 1985. The before concentrations on the table above are primarily from the sample collected from well TR103-A (sample W1) located within the former tank area on June 19, 1985. In July 1987, one waste oil and six motor oil USTs were removed from the site. On May 26, 1992, a groundwater sample was collected from the downgradient well (TR103-03), but there was not sufficient water to collect samples from the other five wells. The six existing wells were abandoned and four new wells were installed in September 1992. Well MW-2 was installed 10 feet downgradient of well TR103-A. In January 1993, five more wells were installed. Quarterly groundwater monitoring has been conducted since 1993. In November 1994, product lines were removed and contaminated soil, noted on the table above, was transported offsite.

In October 1999, verification sampling of soil and groundwater from six direct push borings was conducted. The after concentrations for soil on the table above are from this event. Elevated levels of petroleum hydrocarbons were detected in the groundwater sample from the probe within the former tank area (GP-3) approximately 5 feet from TR-103A. These are shown on the before column on the table above for total petroleum hydrocarbons as gasoline (TPHg) and ethylbenzene. (The sample from TR-103A did not have reported results for these compounds. Based on a comparison of the xylene and benzene concentrations from the two wells, the concentrations of TPHg and ethylbenzene for the earlier TR103A sample are expected to be greater than those reported on the tablle for the GP-3 sample.)

On October 7, 1994, separate phase petroleum product was present at a thickness of 1.2 feet in well MW-3. It was detected again at 0.1 feet on February 25, 1997 in wells MW-3 and MW-4. Product was not detected for the following six years at similar water levels. Benzene, toluene, ethylbenzene and xylenes are currently not detected in any of the wells. In the wells, methyl tertiary butyl ether (MTBE) was only detected once (October 25, 1999) at a concentration of 39 micrograms per liter and the other fuel oxygenates were not detected. Benzene has remained below the low risk guideline level since June of 1995 in all of the wells. Toluene, ethylbenzene and xylenes have been below the low risk guideline levels for at least the last year in all of the wells.

VI. RWQCB AGENCY RESPONSE

Regional Board Staff:

Name: Rose T. Scott	Title: Associate Engineering Geologist
Signature: Rose T. Scott	Date: 6/24/3
Name: Kenneth R. Williams - Senior Engineering Geologist	Response: Concurs with Closure
Signature: Kenneth R. Williams	Date: 6/24/03

INTIAL STUDY – APPENDIX D

HYDROLOGY & WATER QUALITY

Preliminary Drainage Report

PSOMAS-A

PC #2
GP-2022-16929

PSOMAS

ARLINGTON AVENUE MIXED-USE
PRELIMINARY DRAINAGE STATEMENT

APPROVED
As Prelim.
Drainage
Study

05/22/23

Project Title: Arlington Mixed- Use

Project Address: 5261 Arlington Avenue, Riverside

Prepared for:

Foulger- Pratt

136 Calle De Los Molinos

San Clemente, CA 92672

Tel: (949) 596 – 9572

Attn: Jamie Chapman

Prepared by:

Psomas

1650 Spruce Street, Suite 400

Riverside, CA 92507

Tel: (951) 300 – 2805

Attn: David I. Brotchie

REGISTERED PROFESSIONAL ENGINEER
DAVID I. BROTCHIE
No. C62005
CIVIL
STATE OF CALIFORNIA

1.0 Introduction

1.1 Project Description

Foulger- Pratt proposes to demolish an existing retail department building and at grade parking lot and construct 388 residential units across 27 buildings with a leasing office, new grocery store, and a retail unit with on-site at-grade parking, drive aisles, amenities, and landscape withing a 17.43-acre site. The site is located at the northeast corner of the Arlington Avenue and Streeter Avenue. The approximate area after the dedication is 17.37-acres.

1.1 Purpose of the Study

The purpose of this drainage statement is to describe the existing and proposed conditions, and how the proposed drainage improvements comply with the City of Riverside and the Riverside County Flood Control and Water Conservation District requirements.

2.0 Pre- Development Condition Hydrology

2.1 Pre-Development Condition Hydrology

The project is tributary to the Santa Ana River, Reach 3. Under existing conditions, the entire project parcel (17.47 acres) slopes to the west. The lot drains into two existing 30” storm drains and one existing 33” storm drain within Streeter Avenue. From there, the stormwater collected in the municipally maintained stormwater system discharges into a flood control channel.

2.2 Methodology of Hydrology Study

Per the Riverside County Hydrology Design Manual, the 10-yr storm event will be considered the design storm for this project. The 100-yr pre-development peak flow has also been calculated and provided for additional data. The Riverside County Hydrology Design Manual uses the Rational Method for calculation of the pre-development peak discharges. The Rational Method (Q=CIA) calculates the discharge (Q) based on the runoff coefficient ©, rainfall intensity (I) and the area of the watersheds (A) within the project. The runoff coefficient for the existing site was calculated per standard “Urban Landscaping” “C” curves, Plates D-5.3. The rainfall intensity (I) was calculated using the standard Riverside area plate D-4. The project site has been evaluated as the following three drainage areas: EX-1, EX-2, and EX-3. The drainage area EX-2 includes the offsite runoff from the east. The drainage area of that runoff is O1.

2.3 Hydrology Calculations

The resulting 10-year pre-development peak discharges are summarized in **Table 1** below. In these calculations, there was an adjustment for the peak flow at the junction. Since the tributary areas have different times of concentration, the smaller tributary flows were corrected. Point 1 and Point 3 were corrected with the adjustment.

Table 1

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I10 (in/hr)	C	Q (ft^3/s)	Q10 (ft^3/s)
EX-1A	B	Commercial	94,023	2.16	2.23	0.9	4.33	4.33
EX-1B	B	Commercial	207,600	4.77	1.90	0.90	8.15	12.48
TOTAL - Point 1				**6.92**				**8.14**
Drainage Area	**Soil Group**	**Development**	**Area (sf)**	**Area (acre)**	**I10 (in/hr)**	**C**	**Q (ft^3/s)**	**Q10 (ft^3/s)**
O1	B	Commercial	29,058	0.67	1.90	0.8	1.01	1.01
EX-2A	B	Commercial	58,296	1.34	1.40	0.9	1.69	2.70
EX-2B + EX-2C	B	Commercial	301,203	6.91	1.24	0.9	7.72	10.42
TOTAL - Point 2				**8.92**				**10.42**
Drainage Area	**Soil Group**	**Development**	**Area (sf)**	**Area (acre)**	**I10 (in/hr)**	**C**	**Q (ft^3/s)**	**Q10 (ft^3/s)**
EX-3A	B	Commercial	97,888	2.25	2.07	0.9	4.19	4.19
-	B	Commercial	-	2.25	1.97	0.9	3.99	3.99
TOTAL - Point 3				**2.25**				**2.51**

2.4 Results of Pre- Development Hydrology Calculations

In these calculations, there was an adjustment for the peak flow at the junction. Since the tributary areas have different times of concentration, the smaller tributary flows were corrected. Point 1 and Point 3 were corrected with the adjustment. Please refer to **Appendix 1** for the pre-developed 10-year and 100-year calculations with adjustments. The combined pre-development 10-year peak discharge (Q_{10}) for the site results in 21.07cfs. Similarly, the combined pre- development 100-year peak discharge (Q_{100}) for the site results in 31.31cfs.

3.0 Post- Development Conditions

3.1 Post-Development Condition Hydrology

This project proposes to construct 27 buildings with a total of 388 residential units, a leasing office, new grocery store, and a retail unit with at-grade parking, drive aisles, amenities, and landscaping on a 17.37-acre site in the City of Riverside. The proposed condition incorporates stormwater runoff from Granada Avenue to the east. Due to the proposed site design, the computations for sizing the on- site storm drain system and water quality treatment devices there as a total of 8 Drainage Management Area (DMAs) with three discharge locations. Stormwater from Granada Avenue (O1) is conveyed through the site but bypasses the LID treatment devices. The north side of the site discharges to an existing 30” storm drain (Point 1), the middle of the site discharges to an existing 30” storm drain (Point 2), and the south side of the site discharges to an existing 33” storm drain (Point 3) within Streeter Avenue. The stormwater collected then discharges into a flood control channel.

3.2 Methodology of Hydrology Study

The 10-yr peak discharge generated onsite was calculated using the Rational Method. The resulting 10-yr peak discharge has been summarized in **Table 2** below.

Table 2

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I (in/hr)	C	Q (ft^3/s)	Q10 (ft^3/s)
PR-1A	B	Apartment	10,482	0.24	2.42	0.8	0.47	0.47
PR-1B	B	Apartment	111,748	2.57	1.65	0.8	3.39	3.85
-	-	-	0	0.00	1.60	0	0.00	3.85
TOTAL- Point 1				**2.81**				**2.79**
Drainage Area	**Soil Group**	**Development**	**Area (sf)**	**Area (acre)**	**I (in/hr)**	**C**	**Q (ft^3/s)**	**Q10 (ft^3/s)**
PR-2A	B	Apartment	10,466	0.24	2.09	0.8	0.40	0.40
PR-2B	B	Apartment	113,984	2.62	1.81	0.8	3.79	4.19
O1	B	Commercial	29,058	0.67	1.79	0.89	1.06	1.06
PR-2C	B	Apartment	199,674	4.58	1.28	0.8	4.69	9.95
PR-2D	B	Apartment	93,221	2.14	1.17	0.8	2.00	11.95
-	B	-	0	0.00	1.16	0	0.00	11.95
TOTAL- Point 2				**10.25**				**11.95**
Drainage Area	**Soil Group**	**Development**	**Area (sf)**	**Area (acre)**	**I (in/hr)**	**C**	**Q (ft^3/s)**	**Q10 (ft^3/s)**
PR-3A	B	Apartment	13,490	0.31	2.32	0.8	0.57	0.57
PR-3B	B	Apartment	111,609	2.56	1.82	0.8	3.73	4.31
-	B	-	0	0.00	1.67	0	0.00	4.31
TOTAL- Point 3				**2.87**				**2.99**

3.4 Results of Post- Development Hydrology Calculations

In these calculations, there was an adjustment for the peak flow at the junction. Since the tributary areas have different times of concentration, the smaller tributary flows were corrected. Point 1 and Point 3 were corrected with the adjustment. Please refer to **Appendix 2** for the post-developed 10-year and 100-year calculations with adjustments. The combined post- development Q_{10} for the site results in 17.73cfs. Similarly, the combined post- development Q_{100} for the site results in 25.45cfs.

4.0 Comparison of Post- Development and Pre- Development Hydrologic Conditions

4.1 Hydrologic Calculations Methodology

The site is in an area of a Hydrologic Condition of Concern. Therefore, a 2-year storm event was considered. RRIV[1] and Hydrographs[2] software packages were used to route the storm drain system and find the 2- year peak discharge (Q_2). The Q_2 at the point of compliance will generate 18.58cfs in the pre-developed condition. The Q_2 at the point of compliance will generate 16.44cfs in the post-developed condition. This results in a 2.14cfs reduction. This is due to the decrease in imperviousness area from 99% to approximately 72%. While the final impervious area will depend on the final design, a significant reduction of imperviousness generally decreases the peak discharge. Please see **Appendix 3** for the calculations.

5.0 Hydraulic Calculations

5.1 Hydraulic Calculations Methodology

The drainage from the building roofs and interior roadways will be collected through roof drains, site are drains, and catch basins. The site's storm drain system will then route the collected stormwater though the proposed storm drain system into the corresponding modular wetland BMP for biotreatment before it is discharges into the flood control channel on Streeter Avenue. The storm drain system has been preliminary sized using the Rational Method as listed as an acceptable method within the Riverside County Hydrology Manual. Please refer to **Appendix 2** which includes the preliminary pipe size and slope. The final pipe sizing will be analyzed to verify the hydraulic grade line (HGL) based on the 10-year storm event peak flow rates and a summary table will be provided to substantiate sizes during final engineering for the post- development onsite conveyance pipe. Catch basin sizing will also be analyzed and a summary table will be provided to substantiate the size during final engineering.

6.0 Conclusion

The storm drain system has been sized according to the Riverside Country Hydrology Manual by using the Rational Method. The proposed storm drain sizing throughout the site meets the design requirements for capture of the flow generated from the 10-yr storm event, meeting the City of Riverside requirements.

The overall site will generate a peak runoff for a 10-year event of 17.73cfs. The pre-developed site generates a peak runoff of 21.07cfs. The post- development peak runoff has been reduced from the pre- development condition. Therefore, the project will not have an adverse downstream effect or require offsite storm drain mitigation.

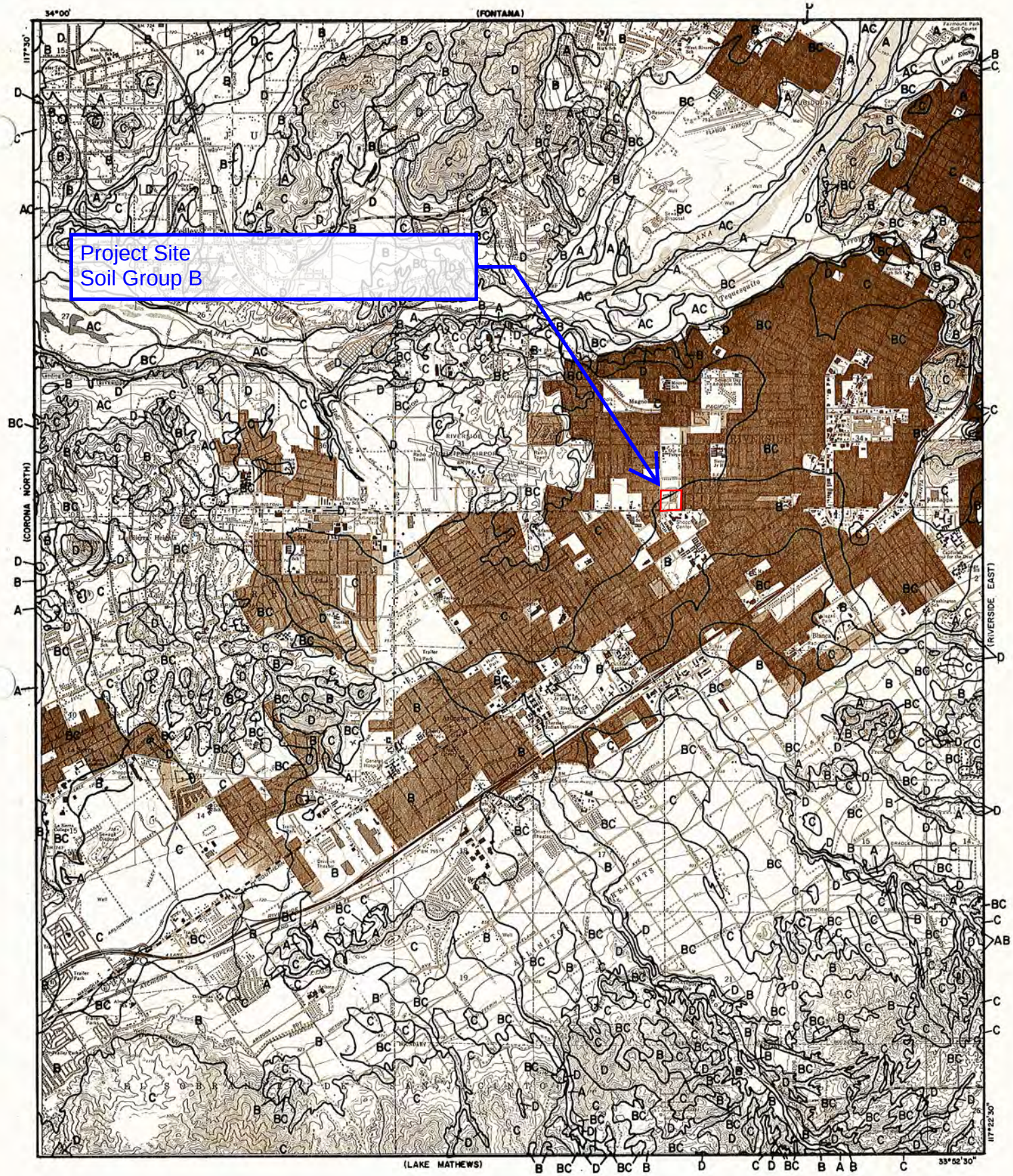
[1] PRIV: Rational Hydrology Method, Riverside County developed by CivilDesign is a widely available and accepted software package for preparing hydrology calculations based on the Riverside County Flood Control and Water Conservation District, Hydrology Manual.
[2] Hydrographs is a software application that is part of the Autodesk Civil 3D suite. It allows users to perform a variety of storm water management tasks, including hydrologic analysis and hydraulic modeling of watersheds.

7.0 Exhibits

Exhibit A: Location Map

PROJECT LOCATION MAP

Exhibit B: Hydrologic Soil Group Map



LEGEND

—— SOILS GROUP BOUNDARY

A SOILS GROUP DESIGNATION

RCFC & WCD

HYDROLOGY MANUAL

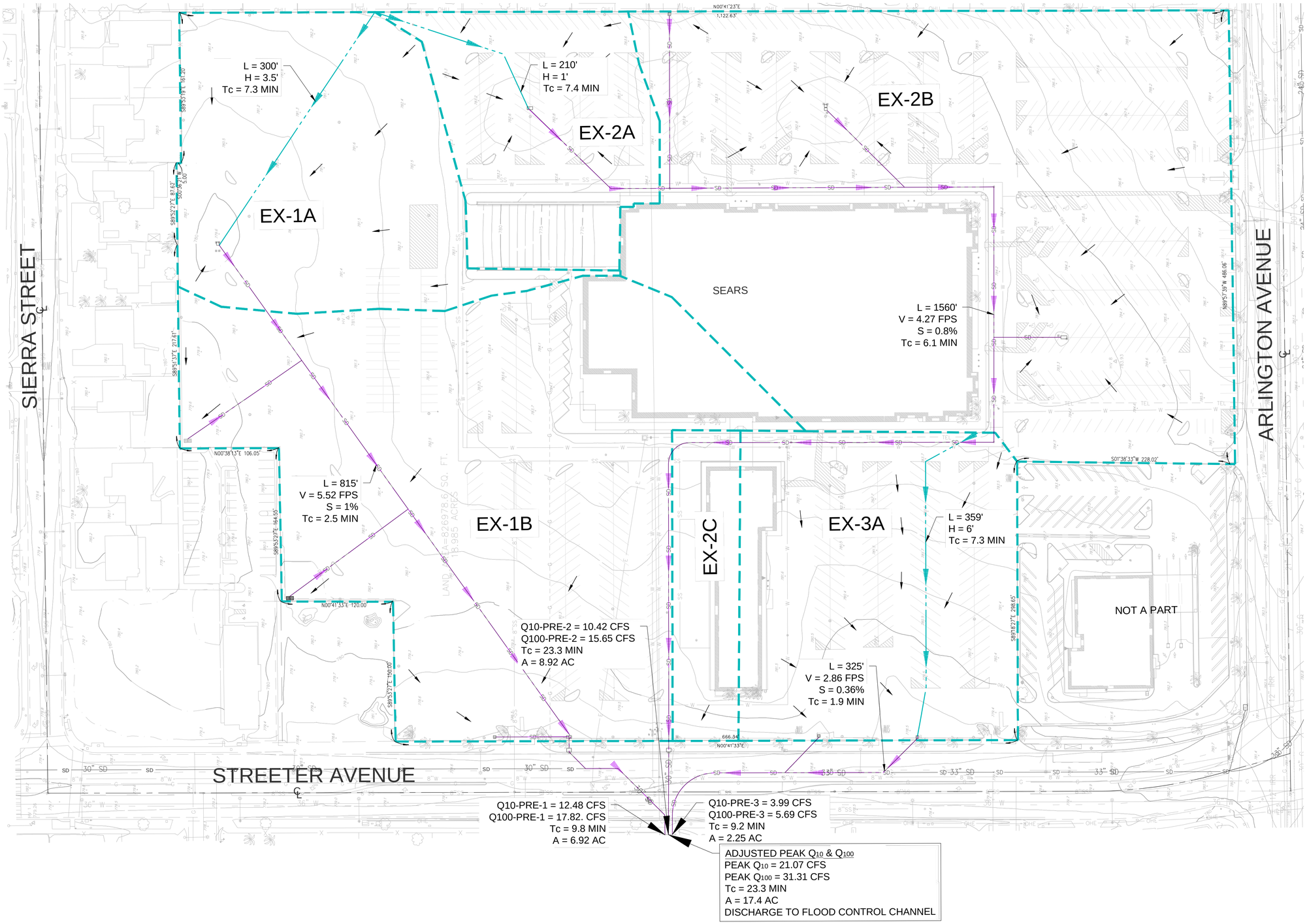
N

0 FEET 5000

HYDROLOGIC SOILS GROUP MAP FOR RIVERSIDE—WEST

PLATE C-1.15

Exhibit C: Pre- Development Hydrology Map



PRE DEVELOPMENT HYDROLOGY

ARLINGTON MIXED USE

RIVERSIDE, CA

DATE: 8-05-2022
JOB NO.: 2020-055

FOULGER-PRATT

SERITAGE GROWTH PROPERTIES

PSOMAS
1650 SPRUCE STREET, SUITE 400
RIVERSIDE, CA 92507
951.300.2818 www.psomas.com

ARCHITECTS ORANGE
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture. Design. Relationships.

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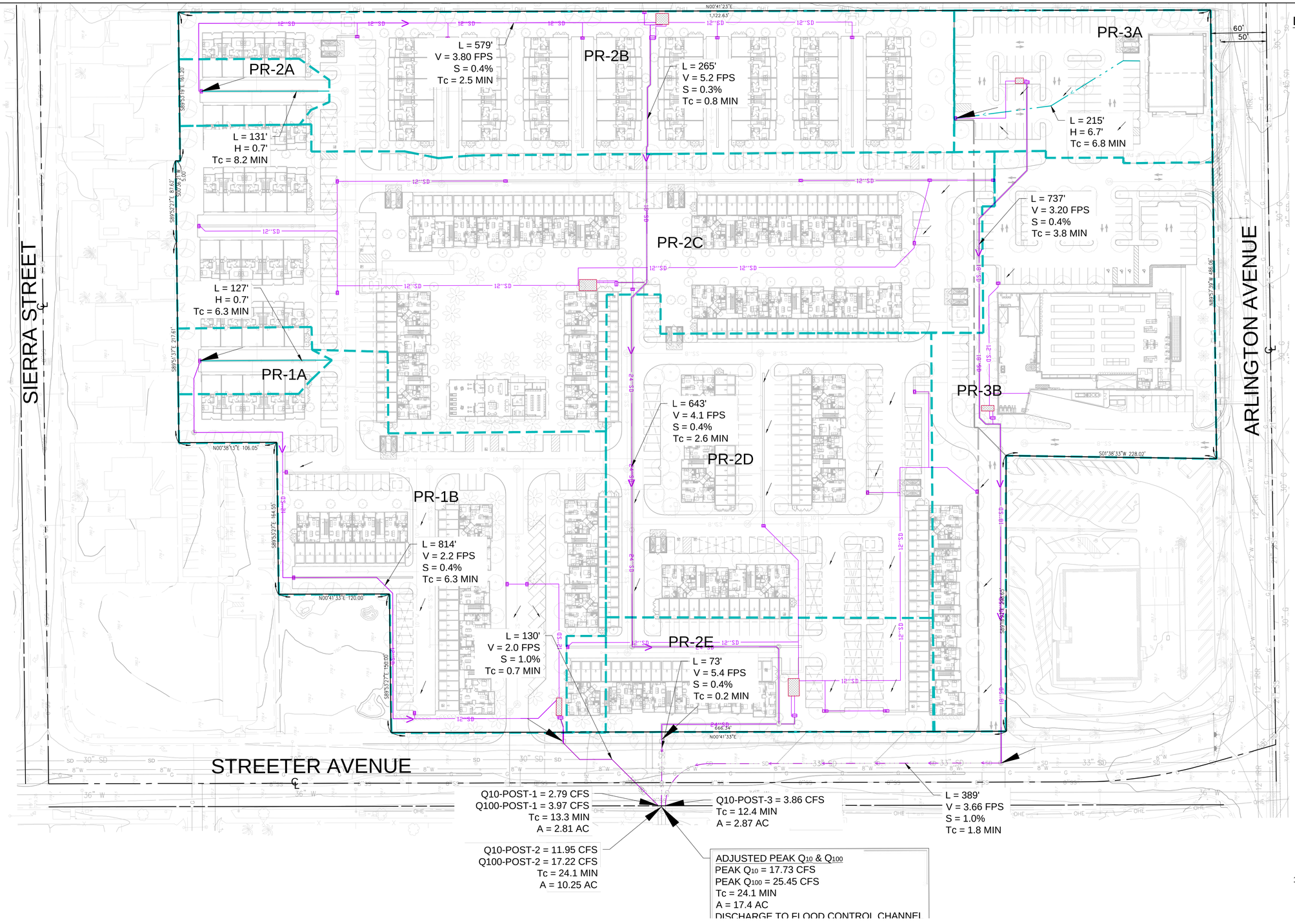
Exhibit D: Post- Development Hydrology Map



POST DEVELOPMENT HYDROLOGY

ARLINGTON MIXED USE

RIVERSIDE, CA

DATE: 8-05-2022
JOB NO.: 2020-055

FOULGER-PRATT

SERITAGE GROWTH PROPERTIES

PSOMAS
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Architecture. Design. Relationships.

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7.0 Appendices

Appendix 1: Pre-Development Hydrology Calculations

Riverside County Pre Development Flow Calculations

Riverside County Flood Control and Water Conservation District Hydrology
Rational Method Calculation Form

Project: Arlington Mixed Use, Riverside, CA

Condition: Pre Development
Frequency: 10-yr
Calculated By: NT 4/24/2023

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I10 (in/hr)	C	Q (ft^3/s)	Q10 (ft^3/s)	Slope	Section	V (ft/s)	L (ft)	H (ft)	T (min)	T (min)	Remarks
EX-1A	B	Commercial	94,023	2.16	2.23	0.9	4.33	4.33	-	-	-	300	3.5	7.3	7.3	H = 9'; Initial Area (Plate D-3)
EX-1B	B	Commercial	207,600	4.77	1.90	0.90	8.15	12.48	0.010	30" Conc Pipe	5.52	815	8.000	2.5	9.8	Assume 18" @ 1% Conc Pipe
					Adjust Q to Tc = 23.3 min.											
TOTAL - Point 1				**6.92**				**8.14**							**23.3**	Peak Q at Tp = 23.3 min.

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I10 (in/hr)	C	Q (ft^3/s)	Q10 (ft^3/s)	Slope	Section	V (ft/s)	L (ft)	H (ft)	T (min)	T (min)	Remarks
O1	B	Commercial	29,058	0.67	1.90	0.8	1.01	1.01	-	-	-	150	0.5	9.8	9.8	
EX-2A	B	Commercial	58,296	1.34	1.40	0.9	1.69	2.70	-	-	-	210	1.0	7.4	17.2	Initial Area (Plate D-3)
EX-2B + EX-2C	B	Commercial	301,203	6.91	1.24	0.9	7.72	10.42	0.008	30" Conc Pipe	4.27	1560	12.5	6.1	23.3	Assume 18" @ 0.8% Conc Pipe
TOTAL - Point 2				**8.92**				**10.42**							**23.3**	Peak Q at Tp = 23.3 min.

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I10 (in/hr)	C	Q (ft^3/s)	Q10 (ft^3/s)	Slope	Section	V (ft/s)	L (ft)	H (ft)	T (min)	T (min)	Remarks
EX-3A	B	Commercial	97,888	2.25	2.07	0.9	4.19	4.19	-	-	-	359	6.0	7.3	7.3	Initial Area (Plate D-3)
-	B	Commercial	-	2.25	1.97	0.9	3.99	3.99	0.0036	33" Conc Pipe	2.86	325	-	1.9	9.2	33" RCP @ 0.36% Conc Pipe
					Adjust Q to Tc = 23.3 min.											
TOTAL - Point 3				**2.25**				**2.51**							**23.3**	Peak Q at Tp = 23.3 min.

Notes

1 Intensity data per standard Riverside area (Plate D-4.1)
2 Runoff coefficient per standard "Urban Landscaping" "C" curves (Plates D-5.3)
3 Site is located entirely within Soil Group BC as classified by USFS. For the purpose of Hydrology analysis, Soil Group B is used as the more conservative approach.

ADJUSTMENTS TO POINT 1

Adjust T_B to T_A = 23.3 min
Q_B = 12.48 cfs (Flow at Tc = 9.8 min)
I_A = 1.24 in/hr (intensity at Tc = 23.3 min)
I_B = 1.90 in/hr (intensity at Tc = 9.8 min)

$Q_{ADJUSTED}$ = 12.48 x (1.24 / 1.9)

$Q_{ADJUSTED}$ = 8.14 cfs

ADJUSTMENTS TO POINT 3

Adjust T_B to T_A = 23.3 min
Q_B = 3.99 cfs (Flow at Tc = 9.2 min)
I_A = 1.24 in/hr (intensity at Tc = 23.3 min)
I_B = 1.97 in/hr (intensity at Tc = 9.2 min)
$Q_{ADJUSTED}$ = 3.99 x (1.24 / 1.97)

$Q_{ADJUSTED}$ = 2.51 cfs

TOTAL DISCHARGE FROM SITE = 8.14 + 10.42 + 2.51

TOTAL PRE-DEVELOPMENT DISCHARGE FROM SITE = 21.07 CFS @ Tc = 23.3 MIN

Riverside County Pre Development Flow Calculations

Riverside County Flood Control and Water Conservation District Hydrology
Rational Method Calculation Form

Project: Arlington Mixed Use, Riverside, CA

Condition: Pre Development
Frequency: 100-yr
Calculated By: NT 4/24/2023

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I100 (in/hr)	C	Q (ft^3/s)	Q100 (ft^3/s)	Slope	Section	V (ft/s)	L (ft)	H (ft)	T (min)	T (min)	Remarks
EX-1A	B	Commercial	94,023	2.16	3.19	0.9	6.20	6.20	-	-	-	300	3.5	7.3	7.3	H = 9'; Initial Area (Plate D-3)
EX-1B	B	Commercial	207,600	4.77	2.71	0.90	11.62	17.82	0.010	30" Conc Pipe	5.520	8.150	8.000	2.5	9.8	Assume 18" @ 1% Conc Pipe
					Adjust Q to Tc = 23.3 min.											
TOTAL - Point 1				**6.92**				**11.97**							**23.3**	Peak Q at Tp = 23.3 min.

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I100 (in/hr)	C	Q (ft^3/s)	Q100 (ft^3/s)	Slope	Section	V (ft/s)	L (ft)	H (ft)	T (min)	T (min)	Remarks
O1	B	Commercial	29,058	0.67	2.99	0.9	1.80	1.80				150	0.5	9.8	9.8	
EX-2A	B	Commercial	58,296	1.34	2.10	0.9	2.53	4.32	-	-	-	210	1.0	7.4	17.2	Initial Area (Plate D-3)
EX-2B + EX-2C	B	Commercial	301,203	6.91	1.82	0.9	11.33	15.65	0.008	30" Conc Pipe	4.27	1560	12.5	6.1	23.3	Assume 18" @ 0.8% Conc Pipe
TOTAL - Point 2				**8.92**				**15.65**							**23.3**	Peak Q at Tp = 23.3 min.

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I100 (in/hr)	C	Q (ft^3/s)	Q100 (ft^3/s)	Slope	Section	V (ft/s)	L (ft)	H (ft)	T (min)	T (min)	Remarks
EX-3A	B	Commercial	97,888	2.25	3.19	0.9	6.45	6.45	-	-	-	359	6.0	7.3	7.3	Initial Area (Plate D-3)
-	B	Commercial	-	2.25	2.81	0.9	5.69	5.69	0.0036	33" Conc Pipe	2.86	325	-	1.9	9.2	33" RCP @ 0.36% Conc Pipe
					Adjust Q to Tc = 23.3 min.											
TOTAL - Point 3				**2.25**				**3.69**							**23.3**	Peak Q at Tp = 23.3 min.

Notes

1 Intensity data per standard Riverside area (Plate D-4.1)
2 Runoff coefficient per standard "Urban Landscaping" "C" curves (Plates D-5.3)
3 Site is located entirely within Soil Group BC as classified by USFS. For the purpose of Hydrology analysis, Soil Group B is used as the more conservative approach.

ADJUSTMENTS TO POINT 1

Adjust T_B to T_A = 23.3 min
Q_B = 17.82 cfs (Flow at Tc = 9.8 min)
I_A = 1.82 in/hr (intensity at Tc = 23.3 min)
I_B = 2.71 in/hr (intensity at Tc = 9.8 min)

$Q_{ADJUSTED}$ = 17.82 x (1.82 / 2.71)
$Q_{ADJUSTED}$ = 11.97 cfs

ADJUSTMENTS TO POINT 3

Adjust T_B to T_A = 23.3 min
Q_B = 5.69 cfs (Flow at Tc = 9.2 min)
I_A = 1.82 in/hr (intensity at Tc = 23.3 min)
I_B = 2.81 in/hr (intensity at Tc = 9.2 min)
$Q_{ADJUSTED}$ = 5.69 x (1.82 / 2.81)
$Q_{ADJUSTED}$ = 3.69 cfs

TOTAL DISCHARGE FROM SITE = 11.97 + 15.65 + 3.69

TOTAL PRE-DEVELOPMENT DISCHARGE FROM SITE = 31.31 CFS @ Tc = 23.3 MIN

Appendix 2: Post-Development Hydrology Calculations

Riverside County Post Development Flow Calculations

Riverside County Flood Control and Water Conservation District Hydrology
Rational Method Calculation Form

Project: 3001 Iowa Ave, Riverside, CA

Condition: Post Development
Frequency: 10-yr
Calculated By: NT 4/27/2023

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I (in/hr)	C	Q (ft^3/s)	Q10 (ft^3/s)	Slope	Section (Pipe Dia.)	Manning's (n)	Vf (ft/s)	Qf	Q/Qf	d/D	V/Vf	V (ft/s)	L (ft)	H (ft)	T (min)	T (min)	Remarks
PR-1A	B	Apartment	10,482	0.24	2.42	0.8	0.47	0.47	-	-	-	-	-	-	-	-	-	127	0.7	6.3	6.3	Initial Area (Plate D-3)
PR-1B	B	Apartment	111,748	2.57	1.65	0.8	3.39	3.85	0.004	15.0	0.012	3.617	4.44	86.8%	0.7	1.1	2.2	815	-	6.3	12.6	
-	-	-	0	0.00	1.60	0	0.00	3.85	0.010	30.0	0.012	9.077	44.56	8.6%	0.2	0.6	2.0	130	-	0.7	13.3	At Flood Control Basin
TOTAL- Point 1				**2.81**				**2.79**													**24.1**	Peak Q at Tp = 24.1 min.

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I (in/hr)	C	Q (ft^3/s)	Q10 (ft^3/s)	Slope	Section	Manning's (n)	Vf (ft/s)	Qf	Q/Qf	d/D	V/Vf	V (ft/s)	L (ft)	H (ft)	T (min)	T (min)	Remarks
PR-2A	B	Apartment	10,466	0.24	2.09	0.8	0.40	0.40	-	-	-	-	-	-	-	-	-	131	0.7	8.2	8.2	Initial Area (Plate D-3)
PR-2B	B	Apartment	113,984	2.62	1.81	0.8	3.79	4.19	0.004	15.0	0.012	3.617	4.44	94.4%	0.8	1.1	3.8	579	-	2.5	10.7	
O1	B	Commercial	29,058	0.67	1.79	0.89	1.06	1.06	-	-	-	-	-	-	-	-	-	150	0.5	9.8	9.8	
PR-2C	B	Apartment	199,674	4.58	1.28	0.8	4.69	9.95	0.004	24.0	0.012	4.947	15.54	64.0%	0.6	1.1	5.2	265	-	0.8	21.3	
PR-2D	B	Apartment	93,221	2.14	1.17	0.8	2.00	11.95	0.004	24.0	0.012	4.947	15.54	76.9%	0.7	1.1	4.1	643	-	2.6	23.9	
-	B	-	0	0.00	1.16	0	0.00	11.95	0.010	30.0	0.012	9.077	44.56	26.8%	0.4	0.9	5.4	73	-	0.2	24.1	At Flood Control Basin
TOTAL- Point 2				**10.25**				**11.95**													**24.1**	Peak Q at Tp = 24.1 min.

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I (in/hr)	C	Q (ft^3/s)	Q10 (ft^3/s)	Slope	Section	Manning's (n)	Vf (ft/s)	Qf	Q/Qf	d/D	V/Vf	V (ft/s)	L (ft)	H (ft)	T (min)	T (min)	Remarks
PR-3A	B	Apartment	13,490	0.31	2.32	0.8	0.57	0.57	-	-	-	-	-	-	-	-	-	215	6.7	6.8	6.8	Initial Area (Plate D-3)
PR-3B	B	Apartment	111,609	2.56	1.82	0.8	3.73	4.31	0.004	18.0	0.012	4.084	7.22	59.7%	0.6	1.1	3.2	737	-	3.8	10.6	
-	B	-	0	0.00	1.67	0	0.00	4.31	0.010	33.0	0.012	9.672	57.45	7.5%	0.2	0.5	3.7	389	-	1.8	12.4	At Flood Control Basin
TOTAL- Point 3				**2.87**				**2.99**													**24.1**	Peak Q at Tp = 24.1 min.

ADJUSTMENTS TO POINT 1

Adjust T_B to T_A = 24.1 min
Q_B = 3.85 cfs (Flow at Tc = 13.3 min)
I_A = 1.16 in/hr (intensity at Tc = 24.1 min)
I_B = 1.60 in/hr (intensity at Tc = 13.3 min)
$Q_{ADJUSTED}$ = 3.85 x (1.16 / 1.6)
$Q_{ADJUSTED}$ = 2.79 cfs

ADJUSTMENTS TO POINT 3

Adjust T_B to T_A = 24.1 min
Q_B = 4.31 cfs (Flow at Tc = 12.4 min)
I_A = 1.16 in/hr (intensity at Tc = 24.1 min)
I_B = 1.67 in/hr (intensity at Tc = 12.4 min)
$Q_{ADJUSTED}$ = 4.31 x (1.16 / 1.67)
$Q_{ADJUSTED}$ = 2.99 cfs

TOTAL DISCHARGE FROM SITE = 2.79 + 11.95 + 2.99

TOTAL POST-DEVELOPMENT DISCHARGE FROM SITE = 17.73 CFS @ Tc = 24.1 MIN

Riverside County Post Development Flow Calculations

Riverside County Flood Control and Water Conservation District Hydrology
Rational Method Calculation Form

Project: 3001 Iowa Ave, Riverside, CA

Condition: Post Development
Frequency: 100-yr
Calculated By: NT 4/27/2023

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I (in/hr)	C	Q (ft^3/s)	Q100 (ft^3/s)	Slope	Section (Pipe Dia.)	Manning's (n)	Vf (ft/s)	Qf	Q/Qf	d/D	V/Vf	V (ft/s)	L (ft)	H (ft)	T (min)	T (min)	Remarks
PR-1A	C	Apartment	10,482	0.24	3.46	0.8	0.67	0.67	-	-	-	-	-	-	-	-	-	127	0.7	6.3	6.3	Initial Area (Plate D-3)
PR-1B	C	Apartment	111,748	2.57	2.36	0.8	4.84	5.51	0.004	18.0	0.012	3.874	6.85	80.5%	0.7	1.1	2.2	794	-	6.3	12.6	
-	-	-	0	0.00	2.29	0	0.00	5.51	0.010	30.0	0.012	9.077	44.56	12.4%	0.2	0.6	2.0	130	-	0.7	13.3	At Flood Control Basin
					Adjust Q to Tc = 24.1 min.																	
TOTAL- Point 1				**2.81**				**3.97**													**24.1**	Peak Q at Tp = 24.1 min.

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I (in/hr)	C	Q (ft^3/s)	Q100 (ft^3/s)	Slope	Section	Manning's (n)	Vf (ft/s)	Qf	Q/Qf	d/D	V/Vf	V (ft/s)	L (ft)	H (ft)	T (min)	T (min)	Remarks
PR-2A	B	Apartment	10,466	0.24	2.97	0.8	0.57	0.57	-	-	-	-	-	-	-	-	-	131	0.7	8.2	8.2	Initial Area (Plate D-3)
PR-2B	B	Apartment	113,984	2.62	2.58	0.8	5.40	5.97	0.004	18.0	0.012	3.874	6.85	87.2%	0.7	1.1	3.8	579	-	2.5	10.7	
O1	B	Commercial	29,058	0.67	2.71	0.89	1.61	1.61										150	0.5	9.8	9.8	
PR-2C	B	Apartment	199,674	4.58	1.82	0.8	6.67	14.25	0.004	24.0	0.012	4.947	15.54	91.7%	0.7	1.1	5.2	265	-	0.8	21.3	
PR-2D	B	Apartment	93,221	2.14	1.73	0.8	2.96	17.22	0.005	24.0	0.012	5.531	17.38	99.1%	0.8	1.2	4.1	643	-	2.6	23.9	
-	B	-	0	0.00	1.65	0	0.00	17.22	0.010	30.0	0.012	9.077	44.56	38.6%	0.4	0.9	5.4	73	-	0.2	24.1	At Flood Control Basin
TOTAL- Point 2				**10.25**				**17.22**													**24.1**	Peak Q at Tp = 24.1 min.

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I (in/hr)	C	Q (ft^3/s)	Q100 (ft^3/s)	Slope	Section	Manning's (n)	Vf (ft/s)	Qf	Q/Qf	d/D	V/Vf	V (ft/s)	L (ft)	H (ft)	T (min)	T (min)	Remarks
PR-3A	B	Apartment	13,490	0.31	3.32	0.8	0.82	0.82	-	-	-	-	-	-	-	-	-	215	6.7	6.8	6.8	Initial Area (Plate D-3)
PR-3B	B	Apartment	111,609	2.56	2.60	0.8	5.33	6.15	0.004	18.0	0.012	4.084	7.22	85.2%	0.7	1.1	3.2	737	-	3.8	10.6	
-	B	-	0	0.00	2.38	0	0.00	6.15	0.004	33.0	0.012	5.803	34.47	17.8%	0.3	0.7	3.7	389	-	1.8	12.4	At Flood Control Basin
					Adjust Q to Tc = 24.1 min.																	
TOTAL- Point 3				**2.87**				**4.26**													**24.1**	Peak Q at Tp = 24.1 min.

ADJUSTMENTS TO POINT 1

Adjust T_B to T_A = 24.1 min
Q_B = 5.51 cfs (Flow at Tc = 13.3 min)
I_A = 1.65 in/hr (intensity at Tc = 24.1 min)
I_B = 2.29 in/hr (intensity at Tc = 13.3 min)
$Q_{ADJUSTED}$ = 5.51 x (1.65 / 2.29)
$Q_{ADJUSTED}$ = 3.97 cfs

ADJUSTMENTS TO POINT 3

Adjust T_B to T_A = 24.1 min
Q_B = 6.15 cfs (Flow at Tc = 12.4 min)
I_A = 1.65 in/hr (intensity at Tc = 24.1 min)
I_B = 2.38 in/hr (intensity at Tc = 12.4 min)
$Q_{ADJUSTED}$ = 6.15 x (1.65 / 2.38)
$Q_{ADJUSTED}$ = 4.26 cfs

TOTAL DISCHARGE FROM SITE = 3.97 + 17.22 + 4.26

TOTAL POST-DEVELOPMENT DISCHARGE FROM SITE = 25.45 CFS @ Tc = 24.1 MIN

Appendix 3: Hydraulic Conditions of Concern Calculations

```
        U n i t   H y d r o g r a p h   A n a l y s i s

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                Study date  03/15/23 File: EXARLINGTON112.out


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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978


Program License Serial Number 6538

--------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format



--------------------------------------------------------------------
EXISTING POINT 1
ARLINGTON
03/15/2023

-------------------------------------------------------------------
Drainage Area =       6.92(Ac.)  =      0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       6.92(Ac.)  =      0.011 Sq. Mi.
Length along longest watercourse =    1115.00(Ft.)
Length along longest watercourse measured to centroid =     708.00(Ft.)
Length along longest watercourse =      0.211 Mi.
Length along longest watercourse measured to centroid =      0.134 Mi.
Difference in elevation =       5.50(Ft.)
Slope along watercourse =     26.0448 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time =    0.050 Hr.
Lag time =     3.00 Min.
25% of lag time =     0.75 Min.
40% of lag time =     1.20 Min.
Unit time =     5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        6.92            0.50                    3.46

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        6.92            1.00                    6.92
```

```
STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    0.500(In)
Area Averaged 100-Year Rainfall =    1.000(In)

Point rain (area averaged) =    0.500(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    0.500(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     6.920           56.00         0.900
 Total Area Entered =      6.92(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
56.0  56.0      0.511     0.900        0.097       1.000      0.097
                                                  Sum (F) =   0.097
Area averaged mean soil loss (F) (In/Hr) =  0.097
Minimum soil loss rate ((In/Hr)) =  0.049
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.180
---------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5500
---------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                        VALLEY S-Curve
---------------------------------------------------------------
                Unit Hydrograph Data
---------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                           Graph %            (CFS)
---------------------------------------------------------------------
    1   0.083        166.620         36.969              2.578
    2   0.167        333.241         45.769              3.192
    3   0.250        499.861         10.303              0.719
    4   0.333        666.481          4.370              0.305
    5   0.417        833.102          2.589              0.181
                                 Sum = 100.000   Sum=       6.974
-----------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
   1   0.08     3.30      0.198       (  0.097)       0.036        0.162
   2   0.17     4.20      0.252       (  0.097)       0.045        0.207
   3   0.25     4.40      0.264       (  0.097)       0.048        0.216
   4   0.33     4.80      0.288       (  0.097)       0.052        0.236
   5   0.42     5.20      0.312       (  0.097)       0.056        0.256
   6   0.50     6.20      0.372       (  0.097)       0.067        0.305
   7   0.58     6.80      0.408       (  0.097)       0.073        0.335
   8   0.67     8.80      0.528       (  0.097)       0.095        0.433
   9   0.75    13.90      0.834          0.097    (  0.150)        0.737
```

```
 10   0.83    31.40      1.884          0.097    (  0.339)        1.787
 11   0.92     7.20      0.432       (  0.097)       0.078        0.354
 12   1.00     3.80      0.228       (  0.097)       0.041        0.187
                (Loss Rate Not Used)
    Sum =     100.0                                   Sum =     5.2
       Flood volume = Effective rainfall      0.43(In)
        times area       6.9(Ac.)/[(In)/(Ft.)] =       0.3(Ac.Ft)
       Total soil loss =      0.07(In)
       Total soil loss =     0.038(Ac.Ft)
       Total rainfall =      0.50(In)
       Flood volume =       10916.1 Cubic Feet
       Total soil loss =        1642.9 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      7.431(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                           1 - H O U R    S T O R M
                      R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ----------------------------------------------------------------------
   0+ 5       0.0029      0.42  VQ        |         |         |         |
   0+10       0.0101      1.05  |V  Q     |         |         |         |
   0+15       0.0193      1.33  |  V Q    |         |         |         |
   0+20       0.0296      1.50  |   VQ    |         |         |         |
   0+25       0.0411      1.66  |     Q   |         |         |         |
   0+30       0.0540      1.88  |      QV |         |         |         |
   0+35       0.0687      2.13  |       Q V         |         |         |
   0+40       0.0861      2.53  |         Q  V      |         |         |
   0+45       0.1113      3.66  |         |   Q  V  |         |         |
   0+50       0.1625      7.43  |         |         |    V   Q|         |
   0+55       0.2131      7.34  |         |         |        Q|   V     |
   1+ 0       0.2351      3.20  |         | Q       |         |      V  |
   1+ 5       0.2456      1.53  |     Q   |         |         |        V|
   1+10       0.2495      0.57  | Q       |         |         |        V|
   1+15       0.2504      0.12  Q         |         |         |        V|
   1+20       0.2506      0.03  Q         |         |         |         V
-----------------------------------------------------------------------
```

```
        U n i t   H y d r o g r a p h   A n a l y s i s

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                Study date  03/15/23 File: EXARLINGTON212.out


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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978


Program License Serial Number 6538

--------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format



--------------------------------------------------------------------
EXISTING POINT 2
ARLINGTON
03/15/2023

-------------------------------------------------------------------
Drainage Area =       8.25(Ac.)  =      0.013 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       8.25(Ac.)  =      0.013 Sq. Mi.
Length along longest watercourse =    1770.00(Ft.)
Length along longest watercourse measured to centroid =     730.00(Ft.)
Length along longest watercourse =      0.335 Mi.
Length along longest watercourse measured to centroid =      0.138 Mi.
Difference in elevation =       5.50(Ft.)
Slope along watercourse =     16.4068 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time =    0.066 Hr.
Lag time =     3.95 Min.
25% of lag time =     0.99 Min.
40% of lag time =     1.58 Min.
Unit time =     5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        8.25            0.50                    4.13

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        8.25            1.00                    8.25
```

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.000(In)

Point rain (area averaged) = 0.500(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 0.500(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
8.250	56.00	0.900

Total Area Entered = 8.25(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
56.0	56.0	0.511	0.900	0.097	1.000	0.097
					Sum (F) =	0.097

Area averaged mean soil loss (F) (In/Hr) = 0.097
Minimum soil loss rate ((In/Hr)) = 0.049
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.180

Slope of intensity-duration curve for a 1 hour storm =0.5500

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	126.555	27.068	2.251
2	0.167	253.110	48.461	4.029
3	0.250	379.666	12.764	1.061
4	0.333	506.221	5.735	0.477
5	0.417	632.776	3.175	0.264
6	0.500	759.331	1.752	0.146
7	0.583	885.886	1.044	0.087
			Sum = 100.000	Sum= 8.314

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	3.30	0.198	(0.097)	0.036	0.162
2	0.17	4.20	0.252	(0.097)	0.045	0.207
3	0.25	4.40	0.264	(0.097)	0.048	0.216
4	0.33	4.80	0.288	(0.097)	0.052	0.236
5	0.42	5.20	0.312	(0.097)	0.056	0.256
6	0.50	6.20	0.372	(0.097)	0.067	0.305
7	0.58	6.80	0.408	(0.097)	0.073	0.335

```
  8   0.67     8.80      0.528       (  0.097)       0.095        0.433
  9   0.75    13.90      0.834          0.097    (  0.150)        0.737
 10   0.83    31.40      1.884          0.097    (  0.339)        1.787
 11   0.92     7.20      0.432       (  0.097)       0.078        0.354
 12   1.00     3.80      0.228       (  0.097)       0.041        0.187
                (Loss Rate Not Used)
    Sum =     100.0                                   Sum =     5.2
       Flood volume = Effective rainfall      0.43(In)
        times area       8.3(Ac.)/[(In)/(Ft.)] =       0.3(Ac.Ft)
       Total soil loss =      0.07(In)
       Total soil loss =     0.045(Ac.Ft)
       Total rainfall =      0.50(In)
       Flood volume =       13014.0 Cubic Feet
       Total soil loss =        1958.6 Cubic Feet
       --------------------------------------------------------------------
        Peak flow rate of this hydrograph =      9.145(CFS)
       --------------------------------------------------------------------
       ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                           1 - H O U R    S T O R M
                      R u n o f f      H y d r o g r a p h
       --------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       --------------------------------------------------------------------
  Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
  ----------------------------------------------------------------------
    0+ 5       0.0025      0.37  VQ        |         |         |         |
    0+10       0.0102      1.12  |V  Q     |         |         |         |
    0+15       0.0205      1.49  | V  Q    |         |         |         |
    0+20       0.0322      1.70  |   V Q   |         |         |         |
    0+25       0.0453      1.90  |     VQ  |         |         |         |
    0+30       0.0601      2.15  |       Q |         |         |         |
    0+35       0.0771      2.47  |        QV         |         |         |
    0+40       0.0970      2.88  |         |QV       |         |         |
    0+45       0.1247      4.03  |         |     Q   |         |         |
    0+50       0.1781      7.75  |         |         |  V      |Q        |
    0+55       0.2411      9.14  |         |         |         | V   Q   |
    1+ 0       0.2706      4.29  |         |      Q  |         |     V   |
    1+ 5       0.2862      2.27  |        Q|         |         |       V |
    1+10       0.2930      0.98  |  Q      |         |         |        V|
    1+15       0.2965      0.51  | Q       |         |         |        V|
    1+20       0.2982      0.26  |Q        |         |         |        V|
    1+25       0.2986      0.06  Q         |         |         |        V|
    1+30       0.2988      0.02  Q         |         |         |         V
-----------------------------------------------------------------------
```

```
        U n i t   H y d r o g r a p h   A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978


Program License Serial Number 6538

--------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format



--------------------------------------------------------------------
EXISTING POINT 3
ARLINGTON
03/15/2023

-------------------------------------------------------------------
Drainage Area =       2.25(Ac.)  =      0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       2.25(Ac.)  =      0.004 Sq. Mi.
Length along longest watercourse =     359.00(Ft.)
Length along longest watercourse measured to centroid =     180.00(Ft.)
Length along longest watercourse =      0.068 Mi.
Length along longest watercourse measured to centroid =      0.034 Mi.
Difference in elevation =       5.50(Ft.)
Slope along watercourse =     80.8914 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time =    0.016 Hr.
Lag time =     0.93 Min.
25% of lag time =     0.23 Min.
40% of lag time =     0.37 Min.
Unit time =     5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        2.25            0.50                    1.13

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        2.25            1.00                    2.25
```

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.000(In)

Point rain (area averaged) = 0.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.500(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
2.250	56.00	0.900

Total Area Entered = 2.25(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
56.0	56.0	0.511	0.900	0.097	1.000	0.097
					Sum (F) =	0.097

Area averaged mean soil loss (F) (In/Hr) = 0.097
Minimum soil loss rate ((In/Hr)) = 0.049
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.180

Slope of intensity-duration curve for a 1 hour storm =0.5500

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	534.909	72.572	1.646
2	0.167	1069.818	27.428	0.622
		Sum =	100.000	Sum= 2.268

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	3.30	0.198	(0.097)	0.036	0.162
2	0.17	4.20	0.252	(0.097)	0.045	0.207
3	0.25	4.40	0.264	(0.097)	0.048	0.216
4	0.33	4.80	0.288	(0.097)	0.052	0.236
5	0.42	5.20	0.312	(0.097)	0.056	0.256
6	0.50	6.20	0.372	(0.097)	0.067	0.305
7	0.58	6.80	0.408	(0.097)	0.073	0.335
8	0.67	8.80	0.528	(0.097)	0.095	0.433
9	0.75	13.90	0.834	0.097	(0.150)	0.737
10	0.83	31.40	1.884	0.097	(0.339)	1.787
11	0.92	7.20	0.432	(0.097)	0.078	0.354
12	1.00	3.80	0.228	(0.097)	0.041	0.187

```
                (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     5.2
       Flood volume = Effective rainfall      0.43(In)
        times area       2.3(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
       Total soil loss =      0.07(In)
       Total soil loss =     0.012(Ac.Ft)
       Total rainfall =      0.50(In)
       Flood volume =        3549.5 Cubic Feet
       Total soil loss =         534.2 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      3.401(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                           1 - H O U R    S T O R M
                      R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
  Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
  ----------------------------------------------------------------------
    0+ 5       0.0018      0.27  VQ        |         |         |         |
    0+10       0.0049      0.44  |QV       |         |         |         |
    0+15       0.0082      0.49  |Q  V     |         |         |         |
    0+20       0.0118      0.52  | Q  V    |         |         |         |
    0+25       0.0157      0.57  | Q    V  |         |         |         |
    0+30       0.0203      0.66  | Q      V|         |         |         |
    0+35       0.0254      0.74  | Q       | V       |         |         |
    0+40       0.0317      0.92  |  Q      |    V    |         |         |
    0+45       0.0419      1.48  |    Q    |         V         |         |
    0+50       0.0654      3.40  |         |  Q      |         | V       |
    0+55       0.0770      1.70  |     Q   |         |         |      V  |
    1+ 0       0.0807      0.53  | Q       |         |         |        V|
    1+ 5       0.0815      0.12  Q         |         |         |        V|
-----------------------------------------------------------------------
```

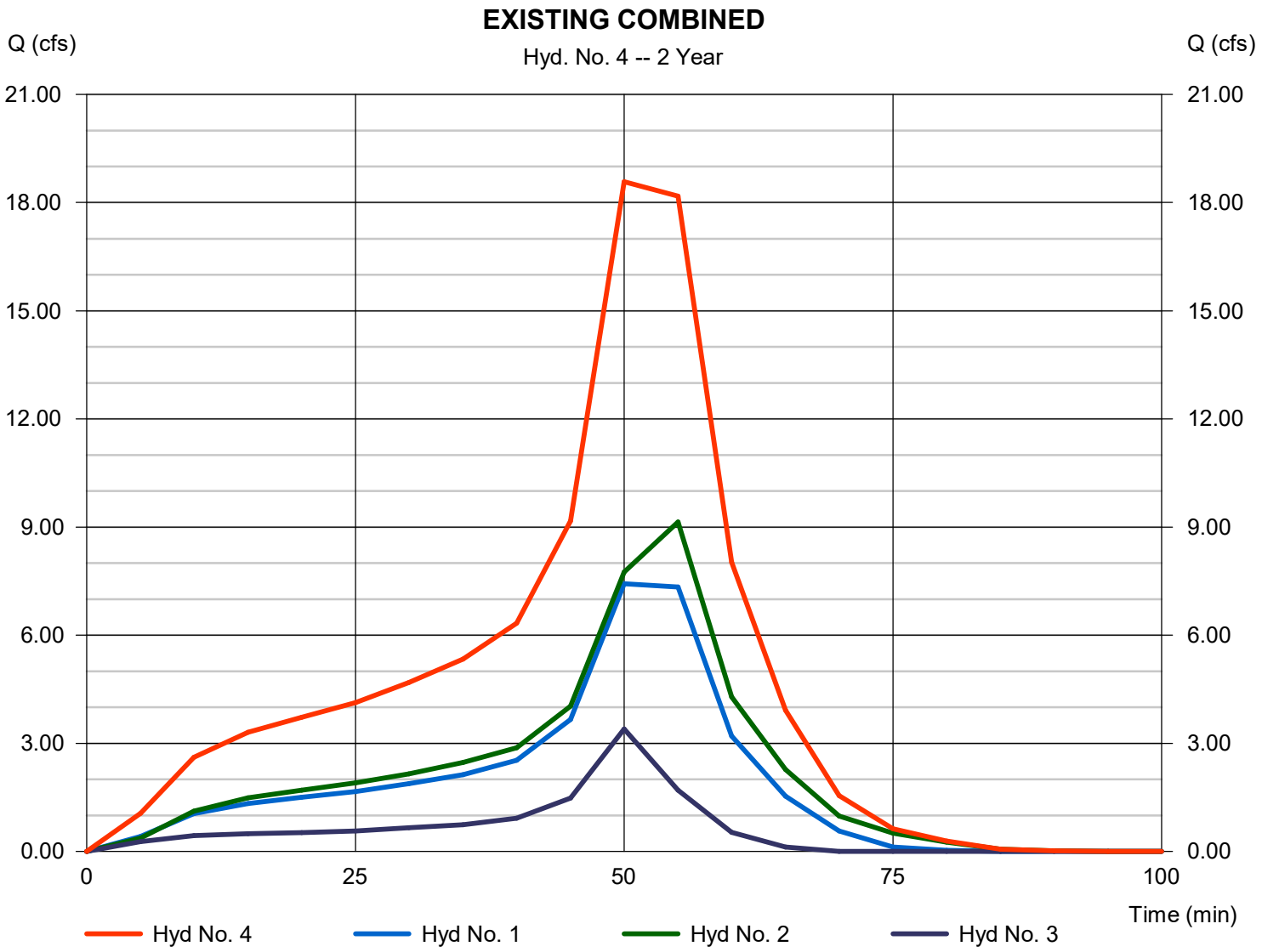
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Wednesday, 03 / 15 / 2023

Hyd. No. 4

EXISTING COMBINED

Hydrograph type	= Combine	Peak discharge	= 18.58 cfs
Storm frequency	= 2 yrs	Time to peak	= 50 min
Time interval	= 5 min	Hyd. volume	= 27,483 cuft
Inflow hyds.	= 1, 2, 3	Contrib. drain. area	= 0.000 ac



```
        U n i t   H y d r o g r a p h   A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978


Program License Serial Number 6538

--------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format



--------------------------------------------------------------------
POST POINT 1
ARLINGTON
03/15/2023

-------------------------------------------------------------------
Drainage Area =       2.81(Ac.)  =      0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       2.81(Ac.)  =      0.004 Sq. Mi.
Length along longest watercourse =     921.00(Ft.)
Length along longest watercourse measured to centroid =     524.00(Ft.)
Length along longest watercourse =      0.174 Mi.
Length along longest watercourse measured to centroid =      0.099 Mi.
Difference in elevation =       2.50(Ft.)
Slope along watercourse =     14.3322 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time =    0.046 Hr.
Lag time =     2.79 Min.
25% of lag time =     0.70 Min.
40% of lag time =     1.12 Min.
Unit time =     5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        2.81            0.50                    1.41

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        2.81            1.00                    2.81
```

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.000(In)

Point rain (area averaged) = 0.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.500(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
2.810	56.00	0.900

Total Area Entered = 2.81(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
56.0	56.0	0.511	0.900	0.097	1.000	0.097
					Sum (F) =	0.097

Area averaged mean soil loss (F) (In/Hr) = 0.097
Minimum soil loss rate ((In/Hr)) = 0.049
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.180

Slope of intensity-duration curve for a 1 hour storm =0.5500

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	179.330	39.590	1.121
2	0.167	358.660	44.834	1.270
3	0.250	537.990	9.690	0.274
4	0.333	717.320	3.978	0.113
5	0.417	896.651	1.908	0.054
			Sum = 100.000	Sum= 2.832

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	3.30	0.198	(0.097)	0.036	0.162
2	0.17	4.20	0.252	(0.097)	0.045	0.207
3	0.25	4.40	0.264	(0.097)	0.048	0.216
4	0.33	4.80	0.288	(0.097)	0.052	0.236
5	0.42	5.20	0.312	(0.097)	0.056	0.256
6	0.50	6.20	0.372	(0.097)	0.067	0.305
7	0.58	6.80	0.408	(0.097)	0.073	0.335
8	0.67	8.80	0.528	(0.097)	0.095	0.433
9	0.75	13.90	0.834	0.097	(0.150)	0.737

```
 10   0.83    31.40      1.884          0.097    (  0.339)        1.787
 11   0.92     7.20      0.432       (  0.097)       0.078        0.354
 12   1.00     3.80      0.228       (  0.097)       0.041        0.187
                (Loss Rate Not Used)
    Sum =     100.0                                   Sum =     5.2
       Flood volume = Effective rainfall      0.43(In)
        times area       2.8(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
       Total soil loss =      0.07(In)
       Total soil loss =     0.015(Ac.Ft)
       Total rainfall =      0.50(In)
       Flood volume =        4432.9 Cubic Feet
       Total soil loss =         667.1 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      3.114(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                           1 - H O U R    S T O R M
                      R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ----------------------------------------------------------------------
   0+ 5       0.0013      0.18  Q         |         |         |         |
   0+10       0.0043      0.44  |Q        |         |         |         |
   0+15       0.0081      0.55  | QV      |         |         |         |
   0+20       0.0123      0.61  | Q V     |         |         |         |
   0+25       0.0170      0.68  | Q   V   |         |         |         |
   0+30       0.0223      0.77  |  Q    V |         |         |         |
   0+35       0.0283      0.87  |  Q      |V        |         |         |
   0+40       0.0354      1.04  |   Q     |  V      |         |         |
   0+45       0.0458      1.52  |     Q   |       V |         |         |
   0+50       0.0673      3.11  |         | Q       |     V   |         |
   0+55       0.0875      2.94  |         |Q        |         |   V     |
   1+ 0       0.0962      1.26  |    Q    |         |         |      V  |
   1+ 5       0.1001      0.58  | Q       |         |         |        V|
   1+10       0.1014      0.19  Q         |         |         |        V|
   1+15       0.1017      0.04  Q         |         |         |        V|
   1+20       0.1018      0.01  Q         |         |         |         V
----------------------------------------------------------------------
```

```
        U n i t   H y d r o g r a p h   A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978


Program License Serial Number 6538

--------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format



--------------------------------------------------------------------
POST POINT 2
ARLINGTON
03/15/2023

-------------------------------------------------------------------
Drainage Area =       9.58(Ac.)  =      0.015 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       9.58(Ac.)  =      0.015 Sq. Mi.
Length along longest watercourse =    1796.00(Ft.)
Length along longest watercourse measured to centroid =     898.00(Ft.)
Length along longest watercourse =      0.340 Mi.
Length along longest watercourse measured to centroid =      0.170 Mi.
Difference in elevation =       4.00(Ft.)
Slope along watercourse =     11.7595 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time =    0.076 Hr.
Lag time =     4.58 Min.
25% of lag time =     1.14 Min.
40% of lag time =     1.83 Min.
Unit time =     5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        9.58            0.50                    4.79

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        9.58            1.00                    9.58
```

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.000(In)

Point rain (area averaged) = 0.500(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 0.500(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
9.580	56.00	0.900

Total Area Entered = 9.58(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
56.0	56.0	0.511	0.900	0.097	1.000	0.097
					Sum (F) =	0.097

Area averaged mean soil loss (F) (In/Hr) = 0.097
Minimum soil loss rate ((In/Hr)) = 0.049
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.180

Slope of intensity-duration curve for a 1 hour storm =0.5500

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	109.197	21.998	2.124
2	0.167	218.394	48.820	4.714
3	0.250	327.591	14.402	1.390
4	0.333	436.788	6.585	0.636
5	0.417	545.984	3.657	0.353
6	0.500	655.181	2.291	0.221
7	0.583	764.378	1.344	0.130
8	0.667	873.575	0.902	0.087
			Sum = 100.000	Sum= 9.655

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1 0.08	3.30	0.198	(0.097)	0.036	0.162
2 0.17	4.20	0.252	(0.097)	0.045	0.207
3 0.25	4.40	0.264	(0.097)	0.048	0.216
4 0.33	4.80	0.288	(0.097)	0.052	0.236
5 0.42	5.20	0.312	(0.097)	0.056	0.256
6 0.50	6.20	0.372	(0.097)	0.067	0.305

```
  7   0.58     6.80      0.408       (  0.097)       0.073        0.335
  8   0.67     8.80      0.528       (  0.097)       0.095        0.433
  9   0.75    13.90      0.834          0.097    (  0.150)        0.737
 10   0.83    31.40      1.884          0.097    (  0.339)        1.787
 11   0.92     7.20      0.432       (  0.097)       0.078        0.354
 12   1.00     3.80      0.228       (  0.097)       0.041        0.187
                (Loss Rate Not Used)
    Sum =     100.0                                   Sum =     5.2
       Flood volume = Effective rainfall      0.43(In)
        times area       9.6(Ac.)/[(In)/(Ft.)] =       0.3(Ac.Ft)
       Total soil loss =      0.07(In)
       Total soil loss =     0.052(Ac.Ft)
       Total rainfall =      0.50(In)
       Flood volume =       15111.8 Cubic Feet
       Total soil loss =        2274.3 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =     10.719(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                           1 - H O U R    S T O R M
                      R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
  Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
  ----------------------------------------------------------------------
    0+ 5       0.0024      0.34  Q         |         |         |         |
    0+10       0.0107      1.20  |VQ       |         |         |         |
    0+15       0.0221      1.66  | VQ      |         |         |         |
    0+20       0.0353      1.91  |  QV     |         |         |         |
    0+25       0.0501      2.15  |   QV    |         |         |         |
    0+30       0.0668      2.43  |   Q  V  |         |         |         |
    0+35       0.0861      2.80  |    Q   V|         |         |         |
    0+40       0.1085      3.26  |     Q   | V       |         |         |
    0+45       0.1392      4.46  |       Q |     V   |         |         |
    0+50       0.1964      8.30  |         |     Q   | V       |         |
    0+55       0.2702     10.72  |         |         |Q        |V        |
    1+ 0       0.3068      5.31  |         Q         |         |    V    |
    1+ 5       0.3270      2.94  |    Q    |         |         |      V  |
    1+10       0.3364      1.37  | Q       |         |         |       V |
    1+15       0.3417      0.77  |Q        |         |         |        V|
    1+20       0.3448      0.44  Q         |         |         |        V|
    1+25       0.3464      0.24  Q         |         |         |        V|
    1+30       0.3468      0.06  Q         |         |         |        V|
    1+35       0.3469      0.02  Q         |         |         |         V
-----------------------------------------------------------------------
```

```
        U n i t   H y d r o g r a p h   A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978


Program License Serial Number 6538

--------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format



--------------------------------------------------------------------
POST POINT 3
ARLINGTON
03/15/2023

-------------------------------------------------------------------
Drainage Area =       2.87(Ac.)  =      0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       2.87(Ac.)  =      0.004 Sq. Mi.
Length along longest watercourse =     952.00(Ft.)
Length along longest watercourse measured to centroid =     476.00(Ft.)
Length along longest watercourse =      0.180 Mi.
Length along longest watercourse measured to centroid =      0.090 Mi.
Difference in elevation =      12.00(Ft.)
Slope along watercourse =     66.5546 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time =    0.034 Hr.
Lag time =     2.03 Min.
25% of lag time =     0.51 Min.
40% of lag time =     0.81 Min.
Unit time =     5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        2.87            0.50                    1.44

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        2.87            1.00                    2.87
```

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.000(In)

Point rain (area averaged) = 0.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.500(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
2.870	56.00	0.900

Total Area Entered = 2.87(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
56.0	56.0	0.511	0.900	0.097	1.000	0.097
					Sum (F) =	0.097

Area averaged mean soil loss (F) (In/Hr) = 0.097
Minimum soil loss rate ((In/Hr)) = 0.049
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.180

Slope of intensity-duration curve for a 1 hour storm =0.5500

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	245.895	50.355	1.456
2	0.167	491.789	40.309	1.166
3	0.250	737.684	7.156	0.207
4	0.333	983.579	2.180	0.063
			Sum = 100.000	Sum= 2.892

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	3.30	0.198	(0.097)	0.036	0.162
2	0.17	4.20	0.252	(0.097)	0.045	0.207
3	0.25	4.40	0.264	(0.097)	0.048	0.216
4	0.33	4.80	0.288	(0.097)	0.052	0.236
5	0.42	5.20	0.312	(0.097)	0.056	0.256
6	0.50	6.20	0.372	(0.097)	0.067	0.305
7	0.58	6.80	0.408	(0.097)	0.073	0.335
8	0.67	8.80	0.528	(0.097)	0.095	0.433
9	0.75	13.90	0.834	0.097	(0.150)	0.737
10	0.83	31.40	1.884	0.097	(0.339)	1.787

```
 11   0.92     7.20      0.432       (  0.097)       0.078        0.354
 12   1.00     3.80      0.228       (  0.097)       0.041        0.187
                (Loss Rate Not Used)
    Sum =     100.0                                   Sum =     5.2
       Flood volume = Effective rainfall      0.43(In)
        times area       2.9(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
       Total soil loss =      0.07(In)
       Total soil loss =     0.016(Ac.Ft)
       Total rainfall =      0.50(In)
       Flood volume =        4527.5 Cubic Feet
       Total soil loss =         681.4 Cubic Feet
       --------------------------------------------------------------------
        Peak flow rate of this hydrograph =      3.574(CFS)
       --------------------------------------------------------------------
       ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                           1 - H O U R    S T O R M
                      R u n o f f      H y d r o g r a p h
       --------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       --------------------------------------------------------------------
  Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
  ----------------------------------------------------------------------
    0+ 5       0.0016      0.24  Q         |         |         |         |
    0+10       0.0050      0.49  |Q        |         |         |         |
    0+15       0.0091      0.59  | QV      |         |         |         |
    0+20       0.0135      0.65  | Q  V    |         |         |         |
    0+25       0.0184      0.71  | Q    V  |         |         |         |
    0+30       0.0240      0.81  |  Q     V|         |         |         |
    0+35       0.0302      0.91  |  Q      |V        |         |         |
    0+40       0.0378      1.10  |   Q     |   V     |         |         |
    0+45       0.0493      1.67  |     Q   |       V |         |         |
    0+50       0.0739      3.57  |         |   Q     |       V |         |
    0+55       0.0931      2.78  |         |Q        |         |    V    |
    1+ 0       0.1007      1.10  |   Q     |         |         |       V |
    1+ 5       0.1034      0.40  |Q        |         |         |        V|
    1+10       0.1039      0.06  Q         |         |         |        V|
    1+15       0.1039      0.01  Q         |         |         |         V
-----------------------------------------------------------------------
```

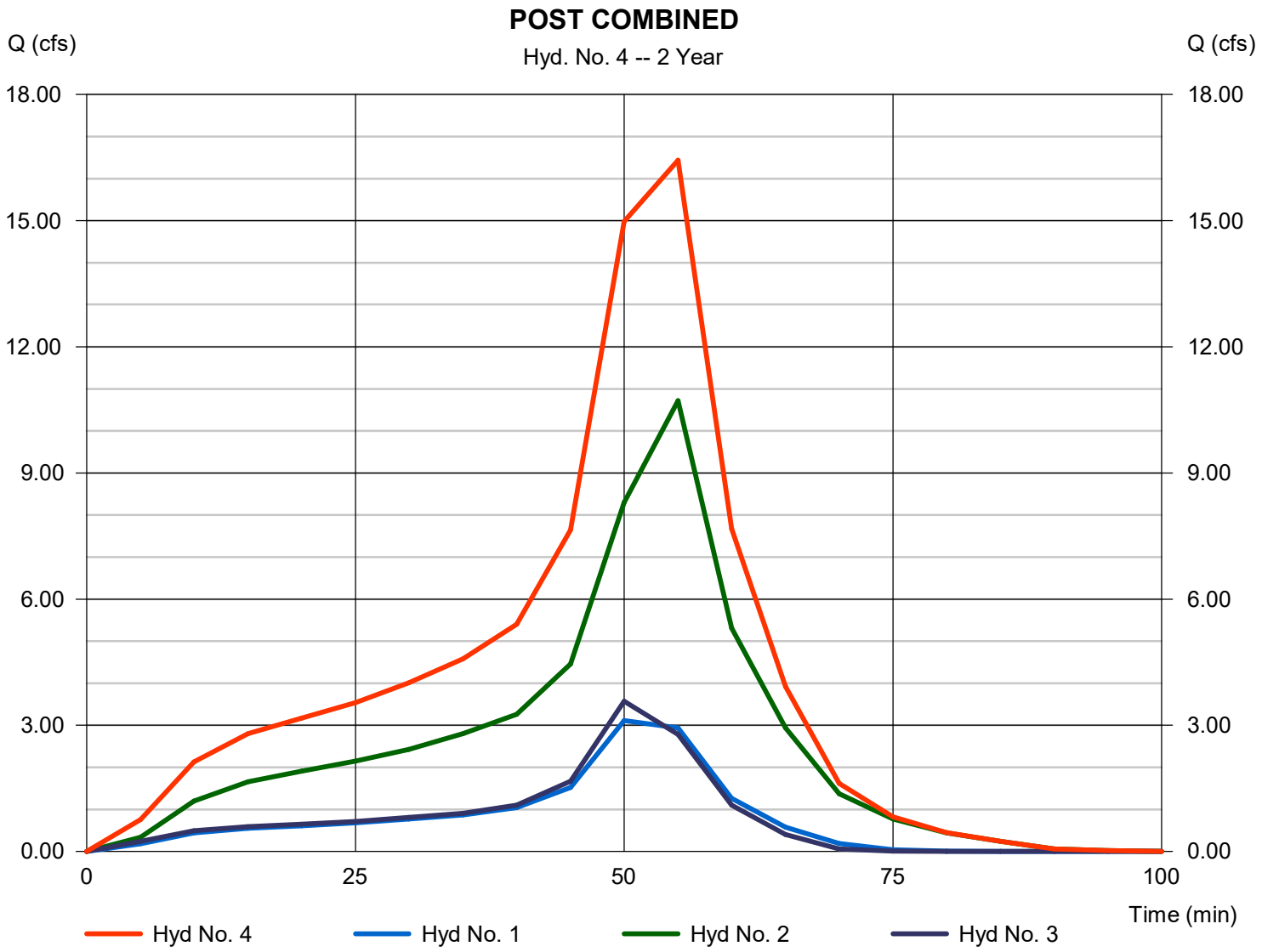
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Wednesday, 03 / 15 / 2023

Hyd. No. 4

POST COMBINED

Hydrograph type	= Combine	Peak discharge	= 16.44 cfs
Storm frequency	= 2 yrs	Time to peak	= 55 min
Time interval	= 5 min	Hyd. volume	= 24,078 cuft
Inflow hyds.	= 1, 2, 3	Contrib. drain. area	= 0.000 ac



Preliminary Water Quality Management Plan

PSOMAS-B

Project Specific Water Quality Management Plan

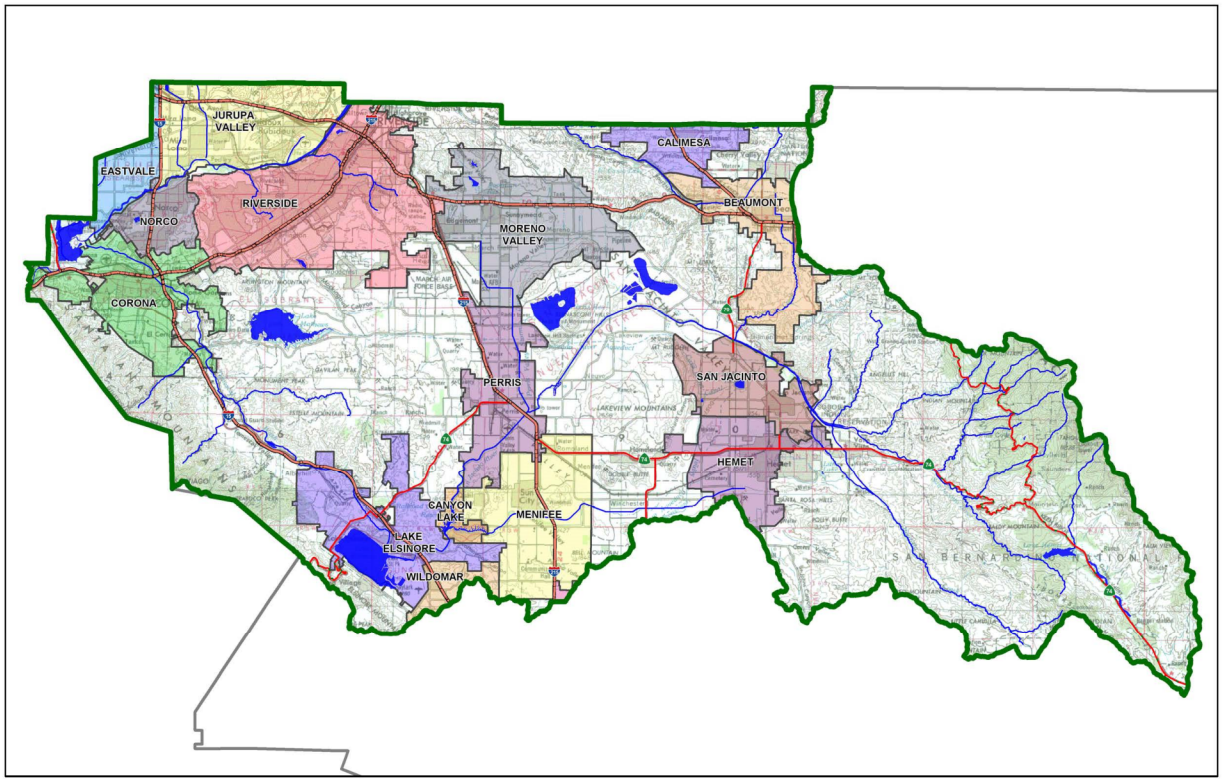
*A Template for Projects located within the **Santa Ana Watershed** Region of Riverside County*

5261 ARLINGTON AVE

Project Title: Arlington Mixed Use Project: 5261 Arlington Avenue, Riverside

Public Works No: GP-2022-16929

Design Review/Case No: PR-2022-001252



Contact Information:

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☒ **Preliminary**
☐ **Final**

Original Date Prepared: August 2, 2022

Revision Date(s): 4/14/2023

Prepared for Compliance with
Regional Board Order No. **R8-2010-0033**
Template revised June 30, 2016

Prepared by: PSOMAS
1650 Spruce Street, Suite 400
Riverside, CA 92507
Tel: (951) 300-2805
Attn. David I. Brotchie

OWNER'S CERTIFICATION

This Project-Specific Water Quality Management Plan (WQMP) has been prepared for entity to Riverside Property Owner, LLC by PSOMAS for the Arlington Avenue Mixed Use project.

This WQMP is intended to comply with the requirements of City of Riverside for Design Review of which includes the requirement for the preparation and implementation of a Project-Specific WQMP.

The undersigned, while owning the property/project described in the preceding paragraph, shall be responsible for the implementation and funding of this WQMP and will ensure that this WQMP is amended as appropriate to reflect up-to-date conditions on the site. In addition, the property owner accepts responsibility for interim operation and maintenance of Stormwater BMPs until such time as this responsibility is formally transferred to a subsequent owner. This WQMP will be reviewed with the facility operator, facility supervisors, employees, tenants, maintenance and service contractors, or any other party (or parties) having responsibility for implementing portions of this WQMP. At least one copy of this WQMP will be maintained at the project site or project office in perpetuity. The undersigned is authorized to certify and to approve implementation of this WQMP. The undersigned is aware that implementation of this WQMP is enforceable under the city of Riverside Water Quality Ordinance (Municipal Code Section 14.12.315).

"I, the undersigned, certify under penalty of law that the provisions of this WQMP have been reviewed and accepted and that the WQMP will be transferred to future successors in interest."

Owner's Signature

05/04/2023
Date

Bryan Faulger
Owner's Printed Name

Authorized Person
Owner's Title/Position

PREPARER'S CERTIFICATION

"The selection, sizing and design of stormwater treatment and other stormwater quality and quantity control measures in this plan meet the requirements of Regional Water Quality Control Board Order No. **R8-2010-0033** and any subsequent amendments thereto."

Preparer's Signature

05/04/2023
Date

Psomas – David I. Brotchie
Preparer's Printed Name

Senior Project Manager, PE C62005
Preparer's Title/Position

Preparer's Licensure:

REGISTERED PROFESSIONAL ENGINEER
DAVID I. BROTCHIE
No. C62005
CIVIL
STATE OF CALIFORNIA

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Section A: Project and Site Information

This project is a proposal to demolish an existing retail department building and at grade parking lot and construct 388 residential units across 27 buildings with a leasing office, a new grocery store, and a retail unit with on-site at-grade parking, roadways, amenities, and landscape within a 17.43-acre site in the City of Riverside. The project is expected to dedicate a 5-foot strip of land to the City. The approximate area after the dedication is 17.37 acres. The site is located on the northeast corner of the Intersection of Arlington Avenue and Streeter Avenue in the City of Riverside. Stormwater from the developed site will be captured in a biotreatment system due to infeasibility of infiltration and harvest and use. The proposed condition site strives to mimic the existing drainage patterns to the existing storm drain system on Streeter Street via street gutter system or direct pipe connection. The existing bank parcel is excluded from the site.

The existing condition of the site consists of an existing retail building and at-grade parking lot. The adjacent neighboring property consists of a bank with at grading parking that will remain protected in place and is not part of this project.

PROJECT INFORMATION	
Type of Project:	Mixed Use Multi Family Retail
Planning Area:	Ward 3, City of Riverside, County of Riverside
Community Name:	Magnolia Center
Development Name:	Arlington Avenue Mixed Use Project
PROJECT LOCATION	
Latitude & Longitude (DMS): LAT: 33° 56’ 55” N, LONG: 117° 25’ 2” W	
Project Watershed and Sub-Watershed: Santa Ana Reach 3;	
Gross Acres: 17.43 acres	
APN(s): 0226-180-015-1	
Map Book and Page No.: MB 226 / 18	
PROJECT CHARACTERISTICS	
Proposed or Potential Land Use(s)	Multi Family Mixed Use
Proposed or Potential SIC Code(s)	1520
Area of Impervious Project Footprint (SF)	546,678 S.F.
Total Area of proposed Impervious Surfaces within the Project Footprint (SF)/or Replacement	546,678 S.F.
Does the project consist of offsite road improvements?	☒ Y ☐ N
Does the project propose to construct unpaved roads?	☐ Y ☒ N
Is the project part of a larger common plan of development (phased project)?	☐ Y ☒ N
EXISTING SITE CHARACTERISTICS	
Total area of existing Impervious Surfaces within the Project limits Footprint (SF)	753,153 sf
Is the project located within any MSHCP Criteria Cell?	☐ Y ☒ N
If so, identify the Cell number:	
Are there any natural hydrologic features on the project site?	☐ Y ☒ N
Is a Geotechnical Report attached?	☒ Y ☐ N
If no Geotech. Report, list the NRCS soils type(s) present on the site (A, B, C and/or D)	N/A
What is the Water Quality Design Storm Depth for the project?	0.58 in

A.1 Maps and Site Plans

When completing your Project-Specific WQMP, include a map of the local vicinity and existing site. In addition, include all grading, drainage, landscape/plant palette and other pertinent construction plans in Appendix 2. At a **minimum**, your WQMP Site Plan should include the following:

- Drainage Management Areas
- Proposed Structural BMPs
- Drainage Path
- Drainage Infrastructure, Inlets, Overflows
- Source Control BMPs
- Buildings, Roof Lines, Downspouts
- Impervious Surfaces
- Standard Labeling
- BMP Locations (Lat/Long)

A.2 Identify Receiving Waters

Using Table A.1 below, list in order of upstream to downstream, the receiving waters that the project site is tributary to. Continue to fill each row with the Receiving Water's 303(d) listed impairments (if any), designated beneficial uses, and proximity, if any, to a RARE beneficial use. Include a map of the receiving waters in Appendix 1.

Table A.1 Identification of Receiving Waters

Receiving Waters	EPA Approved 303(d) List Impairments	Designated Beneficial Uses	Proximity to RARE Beneficial Use
Santa Ana River, Reach 3	***Copper, Indicator Bacteria, Lead***	***AGR, GWR, REC1, REC2, WARM, WILD, RARE***	***1.20 MILES***
Santa Ana River, Reach 2		***AGR, GWR, REC1, REC2, WARM, WILD, RARE, SPWN***	
Santa Ana River, Reach 1		***REC1, REC2***	

A.3 Additional Permits/Approvals required for the Project:

Table A.2 Other Applicable Permits

Agency	Permit Required	
State Department of Fish and Game, 1602 Streambed Alteration Agreement	☐ Y	☒ N
State Water Resources Control Board, Clean Water Act (CWA) Section 401 Water Quality Cert.	☐ Y	☒ N
US Army Corps of Engineers, CWA Section 404 Permit	☐ Y	☒ N
US Fish and Wildlife, Endangered Species Act Section 7 Biological Opinion	☐ Y	☒ N
Statewide Construction General Permit Coverage	☒ Y	☐ N
Statewide Industrial General Permit Coverage	☐ Y	☒ N
Western Riverside MSHCP Consistency Approval (e.g., JPR, DBESP)	☐ Y	☒ N
Other *(please list in the space below as required)*		
City of Riverside Conditional Use Permit	☐ Y	☒ N
City of Riverside Design Review	☒ Y	☐ N
City of Riverside Building Permit	☒ Y	☐ N
City of Riverside Grading Permit	☒ Y	☐ N
City of Riverside Construction Permit	☒ Y	☐ N

Section B: Optimize Site Utilization (LID Principles)

Did you identify and preserve existing drainage patterns? If so, how? If not, why?

Yes, this site strives to keep the drainage proceeding to the western property line, with discharges to multiple City storm drain systems. The existing lot drains into two existing 30" storm drains and one existing 33" storm drain within Streeter Ave. From there, the stormwater collected in the municipally maintained stormwater system discharges into a flood control channel. Stormwater from the Mixed Use development footprint is integrated into the site landscaping pretreating the stormwater through biotreatment with modular wetlands before discharging directly into the City storm drains in Streeter Ave. The current site has minimal landscape and is approximately 99% impervious.

Did you identify and protect existing vegetation? If so, how? If not, why?

Vegetation has been identified, however, the vegetation that exists within the development footprint is minimal and is proposed for demolition to fit within the new site plan. The existing vegetation does not meet current development standards and will need to be removed. New drought tolerant landscaping is proposed through the site, which will significantly increase the pervious area.

Did you identify and preserve natural infiltration capacity? If so, how? If not, why?

A preliminary geotechnical study was performed and reported low percolation rates. The soil characteristics, as investigated by the geotechnical engineer, does not support on-site infiltration. The soils report is attached. The development proposes to install modular wetlands to treat the stormwater.

Did you identify and minimize impervious area? If so, how? If not, why?

Yes, landscape is proposed to surround the impervious portion of the site decreasing the impervious area from 99% to approximately 72%. Development flows will be reduced due to an increase in pervious area, resulting in a lower runoff coefficient.

Did you identify and disperse runoff to adjacent pervious areas? If so, how? If not, why?

Yes, drainage from the building roofs and interior roadways will be collected and sent to modular wetland biotreatment BMP which is integrated with the landscape design for treatment prior to discharging into the City's storm drain system.

Section C: Delineate Drainage Management Areas (DMAs)

Utilizing the procedure in Section 3.3 of the WQMP Guidance Document which discusses the methods of delineating and mapping your project site into individual DMAs, complete Table C.1 below to appropriately categorize the types of classification (e.g., Type A, Type B, etc.) per DMA for your project site. Upon completion of this table, this information will then be used to populate and tabulate the corresponding tables for their respective DMA classifications.

Table C.1 DMA Classifications

DMA Name or ID	Surface Type(s)	Area (Sq. Ft.)	DMA Type
R1E	Concrete or Asphalt/Roofs	89,924	D
R1E	Ornamental Landscape	34,969	A
C1S	Concrete or Asphalt/Roofs	29,558	D
C1S	Ornamental Landscape	11,495	A
C2S	Concrete or Asphalt/Roofs	49,980	D
C2S	Ornamental Landscape	19,437	A
R1C	Concrete or Asphalt/Roofs	144,895	D
R1C	Ornamental Landscape	56,328	A
R1W	Concrete or Asphalt/Roofs	83,446	D
R1W	Ornamental Landscape	32,452	A
R2W	Concrete or Asphalt/Roofs	140,009	D
R2W	Ornamental Landscape	54,446	A

[1]*Reference Table 2-1 in the WQMP Guidance Document to populate this column*
[2]*If multi-surface provide back-up*

Table C.2 Type 'A', Self-Treating Areas

DMA Name or ID	Area (Sq. Ft.)	Stabilization Type	Irrigation Type (if any)
R1E	34,969	Landscape	Per Landscape Architect's Approved Plans
C1S	11,495	Landscape	Per Landscape Architect's Approved Plans
C2S	19,437	Landscape	Per Landscape Architect's Approved Plans
R1C	56,328	Landscape	Per Landscape Architect's Approved Plans
R1W	32,452	Landscape	Per Landscape Architect's Approved Plans
R2W	54,446	Landscape	Per Landscape Architect's Approved Plans

Table C.3 Type 'B', Self-Retaining Areas

Self-Retaining Area				**Type 'C' DMAs that are draining to the Self-Retaining Area**		
DMA Name/ ID	Post-project surface type	Area (square feet)	Storm Depth (inches)	DMA Name / ID	[C] from Table C.4 =	Required Retention Depth (inches)
		[A]	[B]		[C]	[D]
N/A						

Table C.4 Type 'C', Areas that Drain to Self-Retaining Areas

DMA					Receiving Self-Retaining DMA		
DMA Name/ ID	Area (square feet)	Post-project surface type	Impervious fraction	Product	DMA name /ID	Area (square feet)	Ratio
	[A]		[B]	[C] = [A] x [B]		[D]	[C]/[D]
N/A							

Table C.5 Type 'D', Areas Draining to BMPs

DMA Name or ID	BMP Name or ID
R1E	Biotreatment
C1S	Biotreatment
C2S	Biotreatment
R1C	Biotreatment
R1W	Biotreatment
R2W	Biotreatment

Note: More than one drainage management area can drain to a single LID BMP, however, one drainage management area may not drain to more than one BMP.

Section D: Implement LID BMPs

D.1 Infiltration Applicability

Is there an approved downstream 'Highest and Best Use' for stormwater runoff (see discussion in Chapter 2.4.4 of the WQMP Guidance Document for further details)? ☐ Y ☒ N

Geotechnical Report

A Geotechnical Report is required by the City of Riverside to confirm present and past site characteristics that may affect the use of Infiltration BMPs, see Appendix 3.

Is this project classified as a small project consistent with the requirements of Chapter 2 of the WQMP Guidance Document? ☐ Y ☒ N

Infiltration Feasibility

Table D.1 below is meant to provide a simple means of assessing which DMAs on your site support Infiltration BMPs and is discussed in the WQMP Guidance Document in Chapter 2.4.5. Check the appropriate box for each question and then list affected DMAs as applicable. If additional space is needed, add a row below the corresponding answer.

Table D.1 Infiltration Feasibility

Does the project site…	YES	NO
…have any DMAs with a seasonal high groundwater mark shallower than 10 feet?		X
If Yes, list affected DMAs:		
…have any DMAs located within 100 feet of a water supply well?		X
If Yes, list affected DMAs:		

…have any areas identified by the geotechnical report as posing a public safety risk where infiltration of stormwater could have a negative impact?	X	
If Yes, list affected DMAs: All DMAs are affected. Per the geotechnical report, allowing storm water to infiltration the on-site soil increases the potential for settlement, liquefaction and water-related damage to structures/improvements and it has been recommend to be avoided where possible.		
…have measured in-situ infiltration rates of less than 1.6 inches / hour?	X	
If Yes, list affected DMAs: All DMAs are affected. Preliminary infiltration measured test results range from 0.0 in/hr to 0.1 in/hr. Based on the preliminary assessment, the site does not appear to favor infiltration as a BMP measure.		
…have significant cut and/or fill conditions that would preclude in-situ testing of infiltration rates at the final infiltration surface?		X
If Yes, list affected DMAs:		
…geotechnical report identify other site-specific factors that would preclude effective and safe infiltration?	X	
Describe here: Preliminary infiltration test results do not support an infiltration BMP. There was also a concern of potential negative impacts such as liquefaction, settlement, and water-related damages to structures.		

D.2 Harvest and Use Assessment

Please check what applies*:*

☐ Reclaimed water will be used for the non-potable water demands for the project.

☐Downstream water rights may be impacted by Harvest and Use as approved by the Regional Board (verify with the Copermittee).

☐The Design Capture Volume will be addressed using Infiltration Only BMPs. In such a case, Harvest and Use BMPs are still encouraged, but it would not be required if the Design Capture Volume will be infiltrated or evapotranspired.

☒None of the Above.

If any of the above boxes have been checked, Harvest and Use BMPs need not be assessed for the site. If none of the above criteria applies, follow the steps below to assess the feasibility of irrigation use, toilet use and other non-potable uses (e.g., industrial use).

Irrigation Use Feasibility

Complete the following steps to determine the feasibility of harvesting stormwater runoff for Irrigation Use BMPs on your site:

Step 1: Identify the total area of irrigated landscape on the site, and the type of landscaping used.

Total Area of Irrigated Landscape: 4.9 acres

Type of Landscaping (Conservation Design or Active Turf): Conservation Design

Step 2: Identify the planned total of all impervious areas on the proposed project from which runoff might be feasibly captured and stored for irrigation use. Depending on the configuration of buildings and other impervious areas on the site, you may consider the site as a whole, or parts of the site, to evaluate reasonable scenarios for capturing and storing runoff and directing the stored runoff to the potential use(s) identified in Step 1 above.

Total Area of Impervious Surfaces: 12.55 acres

Step 3: Cross reference the Design Storm depth for the project site (see Exhibit A of the WQMP Guidance Document) with the left column of Table 2-3 in Chapter 2 to determine the minimum area of Effective Irrigated Area per Tributary Impervious Area (EIATIA).

Enter your EIATIA factor: 0.68

Step 4: Multiply the unit value obtained from Step 3 by the total of impervious areas from Step 2 to develop the minimum irrigated area that would be required.

Minimum required irrigated area: 8.53 acres

Step 5: Determine if harvesting stormwater runoff for irrigation use is feasible for the project by comparing the total area of irrigated landscape (Step 1) to the minimum required irrigated area (Step 4).

Minimum required irrigated area (Step 4)	Available Irrigated Landscape (Step 1)
8.53 acres	4.9 acres

Toilet Use Feasibility

Complete the following steps to determine the feasibility of harvesting stormwater runoff for toilet flushing uses on your site:

Step 1: Identify the projected total number of daily toilet users during the wet season, and account for any periodic shut downs or other lapses in occupancy:

Projected Number of Daily Toilet Users: Approximately 1000

Project Type: Approx 75% Residential and Approx 25% Commercial

Step 2: Identify the planned total of all impervious areas on the proposed project from which runoff might be feasibly captured and stored for toilet use. Depending on the configuration of buildings and other impervious areas on the site, you may consider the site as a whole, or parts of the site, to evaluate reasonable scenarios for capturing and storing runoff and directing the stored runoff to the potential use(s) identified in Step 1 above.

Total Area of Impervious Surfaces: 12.55 acres

Step 3: Enter the Design Storm depth for the project site (see Exhibit A) into the left column of Table 2-2 in Chapter 2 to determine the minimum number or toilet users per tributary impervious acre (TUTIA).

Enter your TUTIA factor: 108 (weighted)

Step 4: Multiply the unit value obtained from Step 3 by the total of impervious areas from Step 2 to develop the minimum number of toilet users that would be required.

Minimum number of toilet users: 1355

Step 5: Determine if harvesting stormwater runoff for toilet flushing use is feasible for the project by comparing the Number of Daily Toilet Users (Step 1) to the minimum required number of toilet users (Step 4).

Minimum required Toilet Users (Step 4)	Projected number of toilet users (Step 1)
1355	1000

Other Non-Potable Use Feasibility

Are there other non-potable uses for stormwater runoff on the site (e.g. industrial use)? See Chapter 2 of the Guidance for further information. If yes, describe below. If no, write N/A.

N/A

If Irrigation, Toilet and Other Use feasibility anticipated demands are less than the applicable minimum values, Harvest and Use BMPs are not required and you should proceed to utilize LID Bioretention and Biotreatment per Section 3.4.2 of the WQMP Guidance Document.

D.3 Bioretention and Biotreatment Assessment

Other LID Bioretention and Biotreatment BMPs as described in Chapter 2.4.7 of the WQMP Guidance Document are feasible on nearly all development sites with sufficient advance planning.

Select one of the following:

☒ LID Bioretention/Biotreatment BMPs will be used for some or all DMAs of the project as noted below in Section D.4 (note the requirements of Section 3.4.2 in the WQMP Guidance Document).

☐ A site-specific analysis demonstrating the technical infeasibility of all LID BMPs has been performed and is included in Appendix 5. If you plan to submit an analysis demonstrating the technical infeasibility of LID BMPs, request a pre-submittal meeting with the Copermittee to discuss this option. Proceed to Section E to document your alternative compliance measures.

☐ None of the above

D.4 Feasibility Assessment Summaries

From the Infiltration, Harvest and Use, Bioretention and Biotreatment Sections above, complete Table D.2 below to summarize which LID BMPs are technically feasible, and which are not, based upon the established hierarchy.

Table D.2 LID Prioritization Summary Matrix

DMA Name/ID	LID BMP Hierarchy				No LID (Alternative Compliance)
	1. Infiltration	2. Harvest and use	3. Bioretention	4. Biotreatment	
R1E	☐	☐	☐	☒	☐
C1S	☐	☐	☐	☒	☐
C2S	☐	☐	☐	☒	☐
R1C	☐	☐	☐	☒	☐
R1W	☐	☐	☐	☒	☐
R2W	☐	☐	☐	☒	☐

D.5 LID BMP Sizing

Table D.3 DCV Calculations for LID BMPs

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Biotreatment*		
	[A]		[B]	[C]	[A] x [C]			
R1E	89,924	Concrete or Asphalt/Roofs	1.00	0.89	80,212	*Rainfall Intensity (in/hr)*	*Design Flow, Q_{BMP} (cubic feet/sec)*	*Proposed Flow on Plans (cubic feet/sec)*
R1E	34,696	Ornamental Landscape	0.10	0.11	3,863			
	124,893				80,075	0.20	0.4	0.53

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Biotreatment*
	[A]		[B]	[C]	[A] x [C]	

C1S	29,558	Concrete or Asphalt/Roofs	1.00	0.89	26,366	*Rainfall Intensity (in/hr)*	*Design Flow, Q_{BMP} (cubic feet/sec)*	*Proposed Flow on Plans (cubic feet/sec)*
C1S	11,495	Ornamental Landscape	0.10	0.11	1,270			
	41,053				*27,636*	*0.20*	*0.1*	*0.13*

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	***Biotreatment***		
	[A]		[B]	[C]	[A] x [C]			
C2S	49,980	Concrete or Asphalt/Roofs	1.00	0.89	44,582	*Rainfall Intensity (in/hr)*	*Rainfall Intensity (in/hr)*	*Rainfall Intensity (in/hr)*
C2S	19,437	Ornamental Landscape	0.10	0.11	2,147			
	69,417				*46,729*	*0.20*	*0.2*	*0.27*

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	***Biotreatment***		
	[A]		[B]	[C]	[A] x [C]			
R1C	144,895	Concrete or Asphalt/Roofs	1.00	0.89	129,246	*Rainfall Intensity (in/hr)*	*Rainfall Intensity (in/hr)*	*Rainfall Intensity (in/hr)*
R1C	56,328	Ornamental Landscape	0.10	0.11	6,222			
	201,223				*135,468*	*0.20*	*0.6*	*0.8*

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	***Biotreatment***		
	[A]		[B]	[C]	[A] x [C]			
R1W	83,446	Concrete or Asphalt/Roofs	1.00	0.89	74,434	*Rainfall Intensity (in/hr)*	*Rainfall Intensity (in/hr)*	*Rainfall Intensity (in/hr)*
R1W	32,452	Ornamental Landscape	0.10	0.11	3,585			
	115,898				*78,019*	*0.20*	*0.4*	*0.53*

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Biotreatment*		
	[A]		[B]	[C]	[A] x [C]			
R2W	140,009	Concrete or Asphalt/Roofs	1.00	0.89	124,888	*Rainfall Intensity (in/hr)*	*Rainfall Intensity (in/hr)*	*Rainfall Intensity (in/hr)*
R2W	54,446	Ornamental Landscape	0.10	0.11	6,014			
	194,455				*130,902*	*0.20*	*0.6*	*0.8*

[B], [C] is obtained as described in Section 2.3.1 of the WQMP Guidance Document

[E] is obtained from Exhibit A in the WQMP Guidance Document

[G] is obtained from a design procedure sheet, such as in LID BMP Design Handbook and placed in Appendix 6.

Section E: Alternative Compliance (LID Waiver Program)

LID BMPs are expected to be feasible on virtually all projects. Where LID BMPs have been demonstrated to be infeasible as documented in Section D, other Treatment Control BMPs must be used (subject to LID waiver approval by the Copermittee). Check one of the following Boxes:

☒ LID Principles and LID BMPs have been incorporated into the site design to fully address all Drainage Management Areas. No alternative compliance measures are required for this project and thus this Section is not required to be completed.

- *Or* -

☐ The following Drainage Management Areas are unable to be addressed using LID BMPs. A site-specific analysis demonstrating technical infeasibility of LID BMPs has been approved by the Co-Permittee and included in Appendix 5. Additionally, no downstream regional and/or sub-regional LID BMPs exist or are available for use by the project. The following alternative compliance measures on the following pages are being implemented to ensure that any pollutant loads expected to be discharged by not incorporating LID BMPs, are fully mitigated.

Section F: Hydromodification

F.1 Hydrologic Conditions of Concern (HCOC) Analysis

Once you have determined that the LID design is adequate to address water quality requirements, you will need to assess if the proposed LID Design may still create a HCOC. Review Chapters 2 and 3 (including Figure 3-7) of the WQMP Guidance Document to determine if your project must mitigate for Hydromodification impacts. If your project meets one of the following criteria which will be indicated by the check boxes below, you do not need to address Hydromodification at this time. However, if the project does not qualify for Exemptions 1, 2 or 3, then additional measures must be added to the design to comply with HCOC criteria. This is discussed in further detail below in Section F.2.

HCOC EXEMPTION 1: The Priority Development Project disturbs less than one acre. The Copermittee has the discretion to require a Project-Specific WQMP to address HCOCs on projects less than one acre on a case by case basis. The disturbed area calculation should include all disturbances associated with larger common plans of development.

Does the project qualify for this HCOC Exemption? ☐ Y ☒ N

HCOC EXEMPTION 2: The volume and time of concentration[1] of storm water runoff for the post-development condition is not significantly different from the pre-development condition for a 2-year return frequency storm (a difference of 5% or less is considered insignificant) using one of the following methods to calculate:

- Riverside County Hydrology Manual
- Technical Release 55 (TR-55): Urban Hydrology for Small Watersheds (NRCS 1986), or derivatives thereof, such as the Santa Barbara Urban Hydrograph Method
- Other methods acceptable to the Co-Permittee

Does the project qualify for this HCOC Exemption? ☒ Y ☐ N

If Yes, report results in Table F.1 below and provide your substantiated hydrologic analysis in Appendix 7.

Table F.1 Hydrologic Conditions of Concern Summary

	2 year – 24 hour		
	Pre-condition	**Post-condition**	**% Difference**
Time of Concentration	50min	55min	9.5%
Volume (Cubic Feet)	27,483	24,078	-13%

[1] Time of concentration is defined as the time after the beginning of the rainfall when all portions of the drainage basin are contributing to flow at the outlet.

The 2 Year Storm at the point of compliance will generate 18.58 cfs in pre-developed condition. The 2 Year Storm at the point of compliance will generate 16.44 cfs in post-developed condition, resulting in a 2.14 cfs reduction in peak discharge. A preliminary analysis of the Peak Discharge, Qpeak of a 2-year predevelopment and post development concluded that the Qpeak is reduced in the post development condition. This is due to the decrease in impervious area from 99% to approximately 72%. While the final impervious area will depend on the final design, a significant reduction of imperviousness generally decreases the peak discharge.

HCOC EXEMPTION 3: All downstream conveyance channels to an adequate sump (for example, Prado Dam, Lake Elsinore, Canyon Lake, Santa Ana River, or other lake, reservoir or naturally erosion resistant feature) that will receive runoff from the project are engineered and regularly maintained to ensure design flow capacity; no sensitive stream habitat areas will be adversely affected; or are not identified on the Co-Permittees Hydromodification Susceptibility Maps.

Does the project qualify for this HCOC Exemption? ☐ Y ☒ N

Per HCOC Applicability Map, the project site is within the "applicable area". See HCOC Applicability Map on Appendix 7. The site directly drains into an engineered channel across the street, however, this segment of the facility was not designated as an Engineered, Fully Hardened and Maintained (EFHM) facility. Downstream of this channel is a designated EFHM.

F.2 HCOC Mitigation

As an alternative to the HCOC Exemption Criteria above, HCOC criteria is considered mitigated if the project meets one of the following conditions, as indicated:

☐ a. Additional LID BMPS are implemented onsite or offsite to mitigate potential erosion or habitat impacts as a result of HCOCs. This can be conducted by an evaluation of site-specific conditions utilizing accepted professional methodologies published by entities such as the California

Stormwater Quality Association (CASQA), the Southern California Coastal Water Research Project (SCCRWP), or other Co-Permittee approved methodologies for site-specific HCOC analysis.

☐ b. The project is developed consistent with an approved Watershed Action Plan that addresses HCOC in Receiving Waters.

☒ c. Mimicking the pre-development hydrograph with the post-development hydrograph, for a 2-year return frequency storm. Generally, the hydrologic conditions of concern are not significant, if the post-development hydrograph is no more than 10% greater than pre-development hydrograph. In cases where excess volume cannot be infiltrated or captured and reused, discharge from the site must be limited to a flow rate no greater than 110% of the pre-development 2-year peak flow.

☐ d. None of the above.

Section G: Source Control BMPs

The following table identifies the potential sources of runoff pollutants for this project and specifies how they are addressed through permanent controls and operational BMPs:

Table G.1 Permanent and Operational Source Control Measures

Potential Sources of Runoff pollutants	Permanent Structural Source Control BMPs	Operational Source Control BMPs
A. On-site storm drain inlets	-Mark all inlets with the words "Only Rain Down the Storm Drain" or similar. Catch Basin Markers may be available from the Riverside County Flood Control and Water Conservation District, call 951.955.1200 to verify.	- Maintain and periodically repaint or replace inlet markings. - Provide stormwater pollution prevention information to new site owners, lessees, or operators. - See applicable operational BMPs in Fact Sheet SC-44, "Drainage System Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com - Include the following in lease agreements: "Tenant shall not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create a potential discharge to storm drains."
C. Interior parking garages	-Parking garage floor drains will be plumbed to the sanitary sewer per final plumbing plans.	-Inspect and maintain drains to prevent blockages and overflow.
D2. Landscape/ Outdoor Pesticide Use	-Final landscape plans will accomplish all of the following: -Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution. -Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions. -Consider using pest-resistant plants, especially adjacent to hardscape. -To ensure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.	-Maintain landscaping using minimum or no pesticides. - See applicable operational BMPs in "What you should know for…..Landscape and Gardening" at https://www.rcwatershed.org/about/materials-library/ - Provide IPM information to new owners, lessees and operators.

E. Pools, spas, ponds, decorative fountains, and other water features.	Connection will be made according to local requirements.	See applicable operational BMPs in "Guidelines for Maintaining Your Swimming Pool, Jacuzzi and Garden Fountain" at https://www.rcwatershed.org/about/materials-library/
F. Food service	-A proposed grocery store will be located at the southern portion of the site. The grocery store tenant's operations will comply with local requirements.	See the brochure, "The Food Service Industry Best Management Practices for: Restaurants, Grocery Stores, Delicatessens and Bakeries" at https://www.rcwatershed.org/about/materials-library/ Provide this brochure to new site owners, lessees, and operators.
G. Refuse areas	-State how site refuse will be handled and provide supporting detail to what is shown on plans. - State that signs will be posted on or near dumpsters with the words "Do not dump hazardous materials here" or similar.	- Provide adequate number of receptacles. Inspect receptacles regularly; repair or replace leaky receptacles. Keep receptacles covered. Prohibit/prevent dumping of liquid or hazardous wastes. Post "no hazardous materials" signs. Inspect and pick up litter daily and clean up spills immediately. Keep spill control materials available on-site. See Fact Sheet SC-34, "Waste Handling and Disposal" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com
M. Loading Docks	The design of the loading dock area will consider minimizing run-on and will design with discharges to the sanitary sewer system.	Move loaded and unloaded items indoors as soon as possible. See Fact Sheet SC-30, "Outdoor Loading and Unloading," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com
O. Miscellaneous Drain or Wash Water or Other Sources: Rooftop Equipment Roofing, gutters, and trim	Rooftop equipment with potential to produce pollutants shall be roofed and/or have secondary containment.	Provide possible roof drain filters and allow carport runoff to filter thru landscape areas.
P. Plazas, sidewalks, and parking lots.	N/A	Sweep plazas, sidewalks, and parking lots regularly to prevent accumulation of litter and debris. Collect debris from pressure washing to prevent entry into the storm drain system. Collect washwater containing any cleaning agent or degreaser and discharge to the sanitary sewer not to a storm drain.

Section H: Construction Plan Checklist

Table H.1 Construction Plan Cross-reference

BMP No. or ID	BMP Identifier and Description	Plan Sheet Number(s)	Latitude / Longitude
R1E-1	Biotreatment/ Modular Wetland	WQMP Exhibit	
C1S-1	Biotreatment/ Modular Wetland	WQMP Exhibit	
C2S-1	Biotreatment/ Modular Wetland	WQMP Exhibit	
R1C-1	Biotreatment/ Modular Wetland	WQMP Exhibit	
R1W-1	Biotreatment/ Modular Wetland	WQMP Exhibit	
R2W-1	Biotreatment/ Modular Wetland	WQMP Exhibit	

Section I: Operation, Maintenance and Funding

The Copermittee will periodically verify that Stormwater BMPs on your site are maintained and continue to operate as designed. To make this possible, your Copermittee will require that you include in Appendix 9 of this Project-Specific WQMP:

1. A means to finance and implement facility maintenance in perpetuity, including replacement cost.
2. Acceptance of responsibility for maintenance from the time the BMPs are constructed until responsibility for operation and maintenance is legally transferred. A warranty covering a period following construction may also be required.
3. An outline of general maintenance requirements for the Stormwater BMPs you have selected.
4. Figures delineating and designating pervious and impervious areas, location, and type of Stormwater BMP, and tables of pervious and impervious areas served by each facility. Geo-locating the BMPs using a coordinate system of latitude and longitude is recommended to help facilitate a future statewide database system.
5. A separate list and location of self-retaining areas or areas addressed by LID Principles that do not require specialized O&M or inspections but will require typical landscape maintenance as noted in Chapter 5, pages 85-86, in the WQMP Guidance. Include a brief description of typical landscape maintenance for these areas.

See Appendix 9 for a detailed Stormwater BMP Operation and Maintenance Plan that sets forth a maintenance schedule for each of the Stormwater BMPs built on site, and an agreement assigning responsibility for maintenance and providing for inspections and certification.

Maintenance Mechanism: **WQMP Covenant & Agreement**

Will the proposed BMPs be maintained by a Home Owners' Association (HOA) or Property Owners Association (POA)?

☐ Y ☒ N

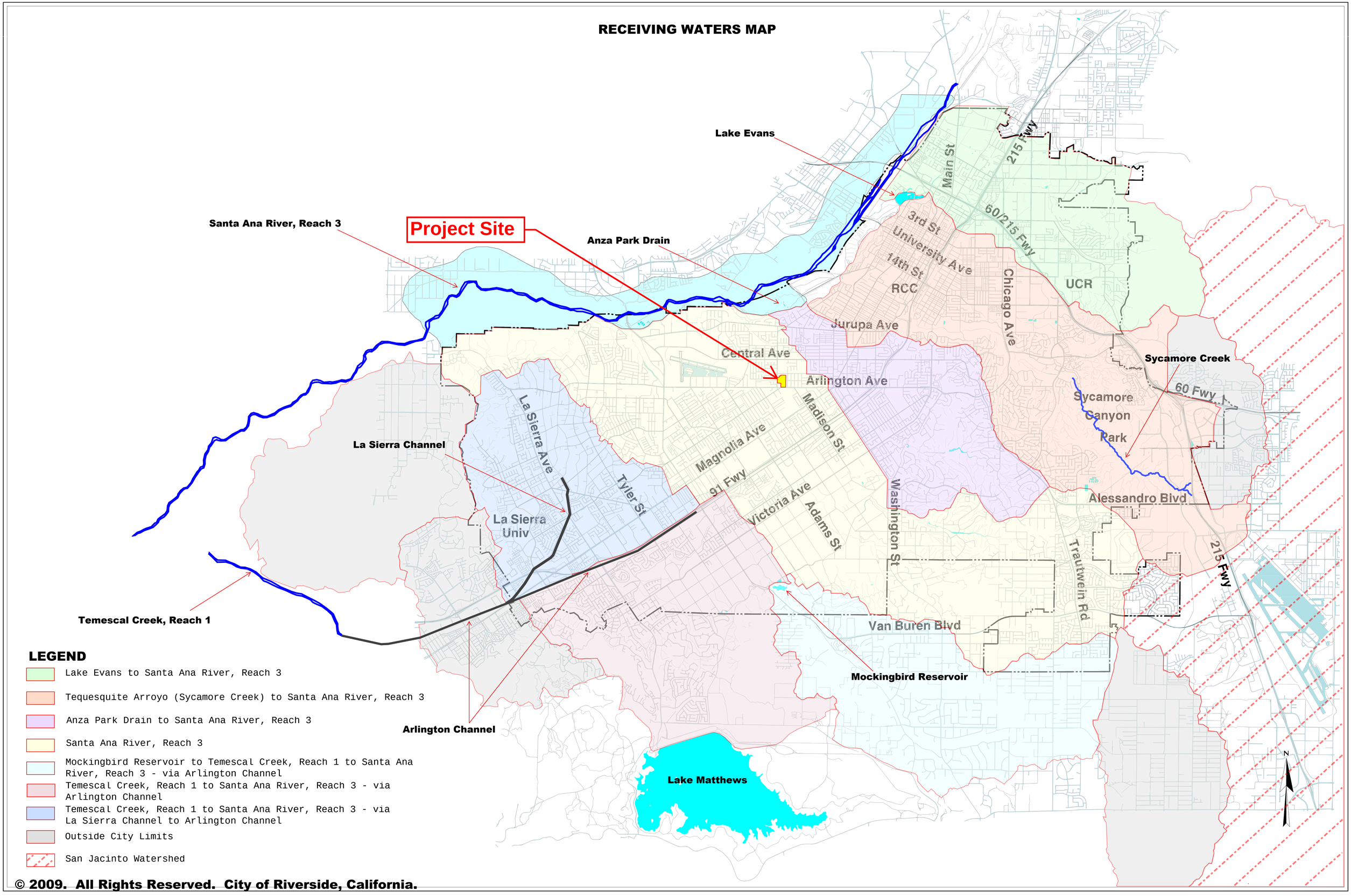
Include your Operation and Maintenance Plan and Maintenance Mechanism in Appendix 9. Additionally, include all pertinent forms of educational materials for those personnel that will be maintaining the proposed BMPs within this Project-Specific WQMP in Appendix 10.

Appendix 1: Maps and Site Plans

Location Map, WQMP Site Plan and Receiving Waters Map

PROJECT LOCATION MAP

RECEIVING WATERS MAP



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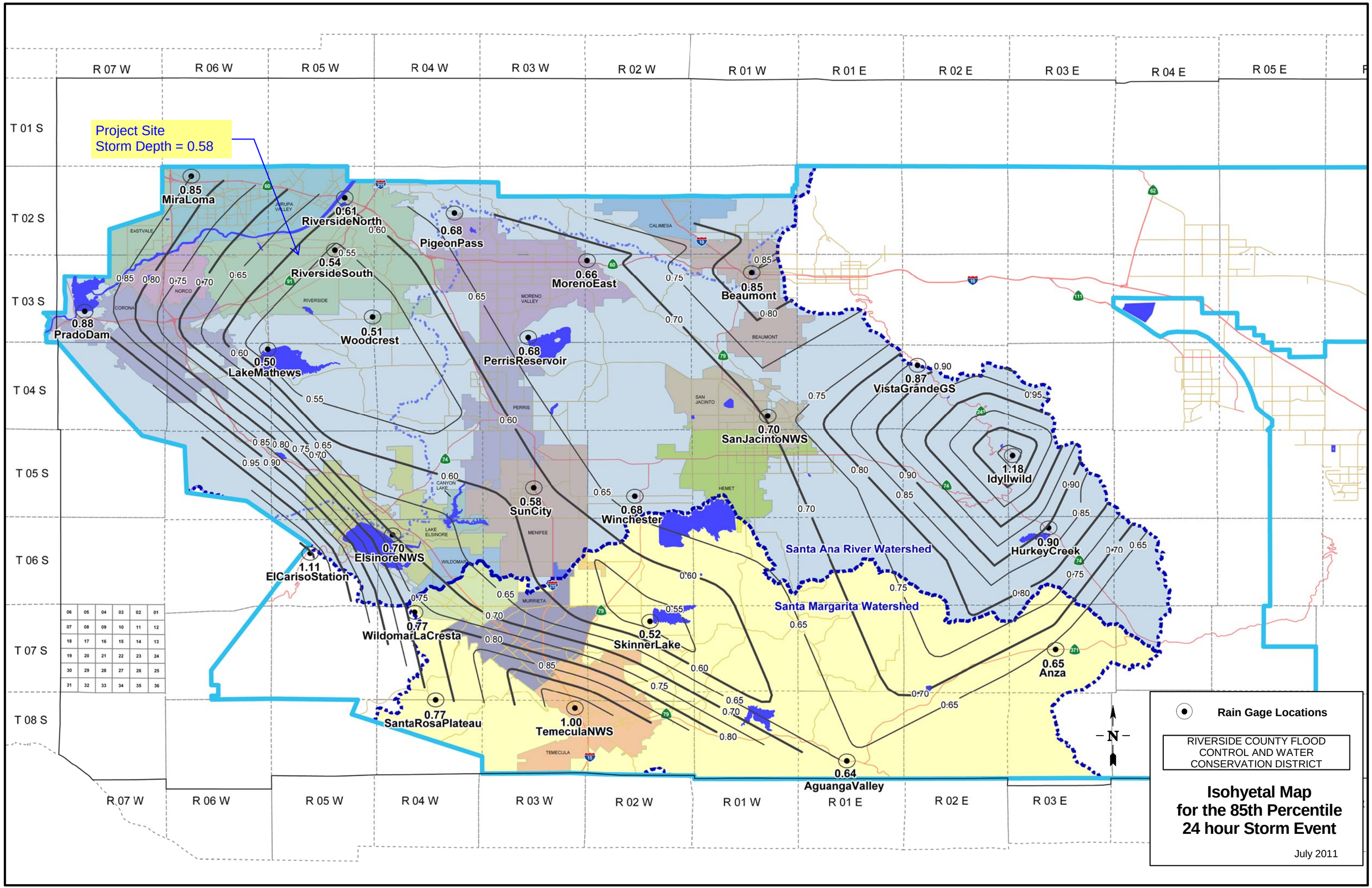
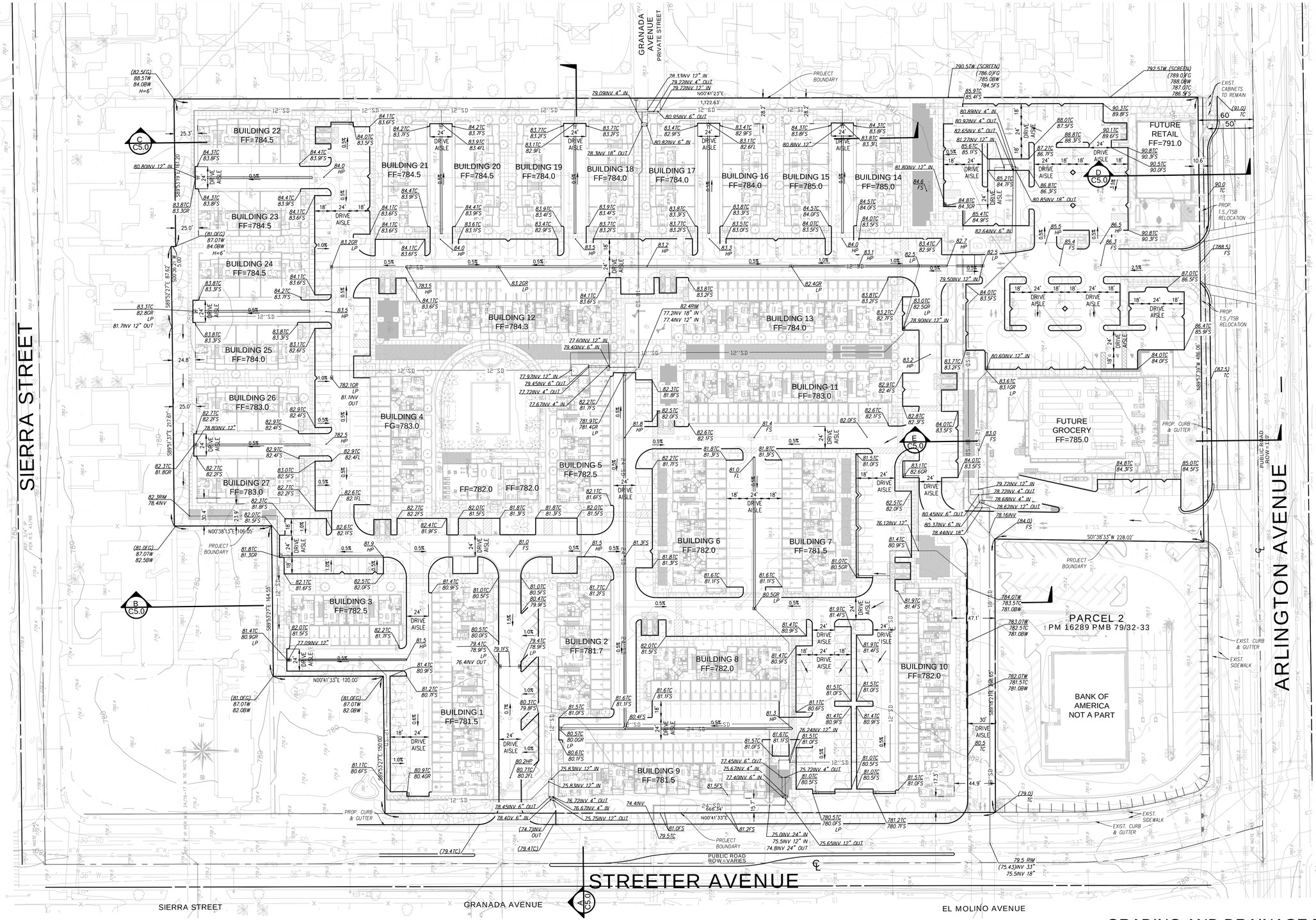

Project Site
Storm Depth = 0.58
R 07 W
R 06 W
R 05 W
R 04 W
R 03 W
R 02 W
R 01 W
R 01 E
R 02 E
R 03 E
R 04 E
R 05 E
T 01 S
T 02 S
T 03 S
T 04 S
T 05 S
T 06 S
T 07 S
T 08 S
0.85 MiraLoma
0.61 RiversideNorth
0.54 RiversideSouth
0.68 PigeonPass
0.66 MorenoEast
0.85 Beaumont
0.88 PradoDam
0.51 Woodcrest
0.50 LakeMathews
0.68 PerrisReservoir
0.87 VistaGrandeGS
0.70 SanJacintoNWS
1.18 Idyllwild
0.58 SunCity
0.68 Winchester
0.90 HurkeyCreek
0.70 ElsinoreNWS
1.11 ElCarisoStation
0.77 WildomarLaCresta
0.52 SkinnerLake
0.65 Anza
0.77 SantaRosaPlateau
1.00 TemeculaNWS
0.64 AguangaValley
Santa Ana River Watershed
Santa Margarita Watershed
N
Rain Gage Locations
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
Isohyetal Map for the 85th Percentile 24 hour Storm Event
July 2011

DMA ID	Project Surface Type	DMA Type	TOTAL AREA (SQ.FT)	PERVIOUS AREA (SQ.FT)	IMPERVIOUS AREA (SQ.FT)	% PERVIOUS	% IMPERVIOUS	Effective Impervious Fraction, If	DMA Runoff Factor	DMA Areas x Runoff Factor	Rainfall Intensity (IN/HR)	Q BMP REQUIRED (CFS)	DESIGN Q PROVIDED (CFS)	PROVIDED Q > REQUIRED Q?	BMP TYPE
R1E	Concrete or Asphalt/Roofs	D	89,924	-	89,924	0%	100%	1.00	0.89	80,212					
R1E	Ornamental Landscape	A	34,969	34,969	-	100%	0%	0.10	0.11	3,863					**BIO-TREATMENT**
R1E	**TOTAL**		**124,893**							**84,075**	0.20	**0.4**	**0.53**	**YES**	
C1S	Concrete or Asphalt/Roofs	D	29,558	-	29,558	0%	100%	1.00	0.89	26,366					
C1S	Ornamental Landscape	A	11,495	11,495	-	100%	0%	0.10	0.11	1,270					**BIO-TREATMENT**
C1S	**TOTAL**		**41,053**							**27,636**	0.20	**0.1**	**0.13**	**YES**	
C2S	Concrete or Asphalt/Roofs	D	49,980	-	49,980	0%	100%	1.00	0.89	44,582					
C2S	Ornamental Landscape	A	19,437	19,437	-	100%	0%	0.10	0.11	2,147					**BIO-TREATMENT**
C2S	**TOTAL**		**69,417**							**46,729**	0.20	**0.2**	**0.27**	**YES**	
R1C	Concrete or Asphalt/Roofs	D	144,895	-	144,895	0%	100%	1.00	0.89	129,246					
R1C	Ornamental Landscape	A	56,328	56,328		100%	0%	0.10	0.11	6,222					**BIO-TREATMENT**
R1C	**TOTAL**		**201,223**							**135,468**	0.20	**0.6**	**0.80**	**YES**	
R1W	Concrete or Asphalt/Roofs	D	83,446	-	83,446	0%	100%	1.00	0.89	74,434					
R1W	Ornamental Landscape	A	32,452	32,452	-	100%	0%	0.10	0.11	3,585					**BIO-TREATMENT**
R1W	**TOTAL**		**115,898**							**78,018**	0.20	**0.4**	**0.53**	**YES**	
R2W	Concrete or Asphalt/Roofs	D	140,009	-	140,009	0%	100%	1.00	0.89	124,888					
R2W	Ornamental Landscape	A	54,446	54,446	-	100%	0%	0.10	0.11	6,014					**BIO-TREATMENT**
R2W	**TOTAL**		**194,455**							**130,902**	0.20	**0.6**	**0.8**	**YES**	

Appendix 2: Construction Plans

Grading Plan, Utility Plan, Landscape Plan



EARTHWORK:

CUT: 18,376 C.Y
FILL: 18,127 C.Y
NET: 249 C.Y
MAX CUT: 5FT
MAX FILL: 2FT

GRADING AND DRAINAGE PLAN

C3.0

ARLINGTON MIXED USE

RIVERSIDE, CA

DATE: 8-05-2022
JOB NO.: 2020-055

FOULGER-PRATT

SERITAGE GROWTH PROPERTIES

PSOMAS
1650 SPRUCE STREET, SUITE 400
RIVERSIDE, CA 92507
951.300.2818 www.psomas.com

ARCHITECTS ORANGE
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

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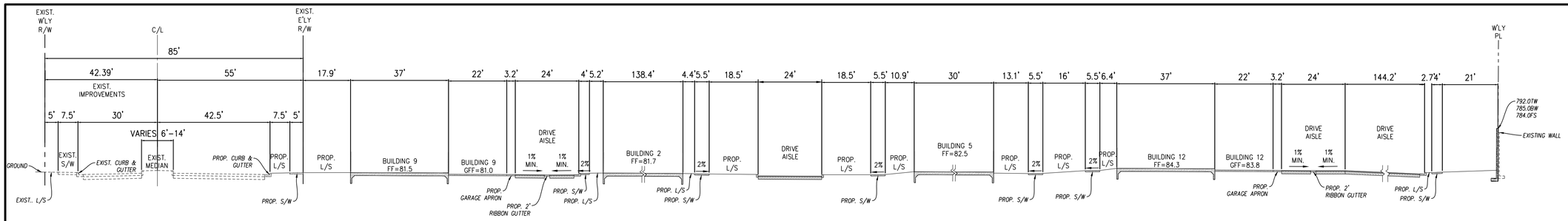

CROSS SECTION A-A

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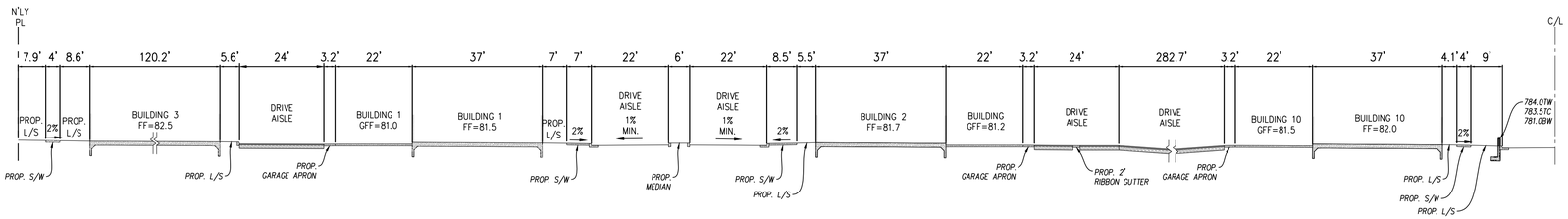

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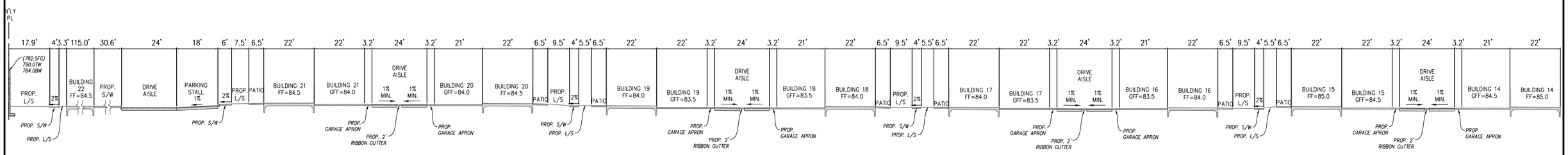

CROSS SECTION C-C

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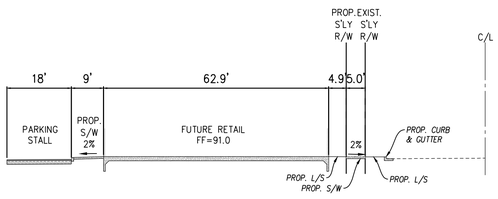

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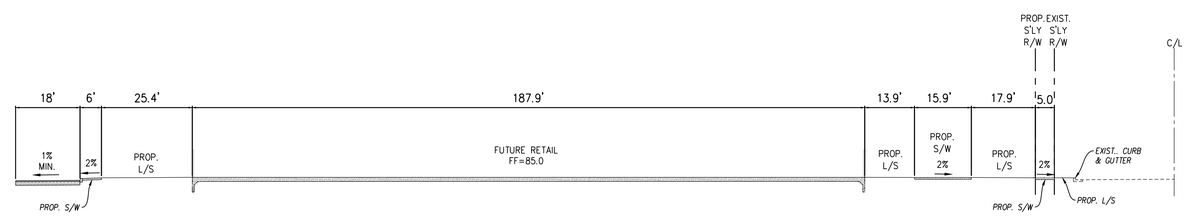

CROSS SECTION E-E

SCALE: 1"=20'

SITE SECTIONS

C5.0

ARLINGTON MIXED USE

RIVERSIDE, CA

DATE: 8-05-2022
JOB NO.: 2020-055

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1650 SPRUCE STREET, SUITE 400
RIVERSIDE, CA 92507
951.300.2818 www.psomas.com

ARCHITECTS ORANGE
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(714) 639-9860

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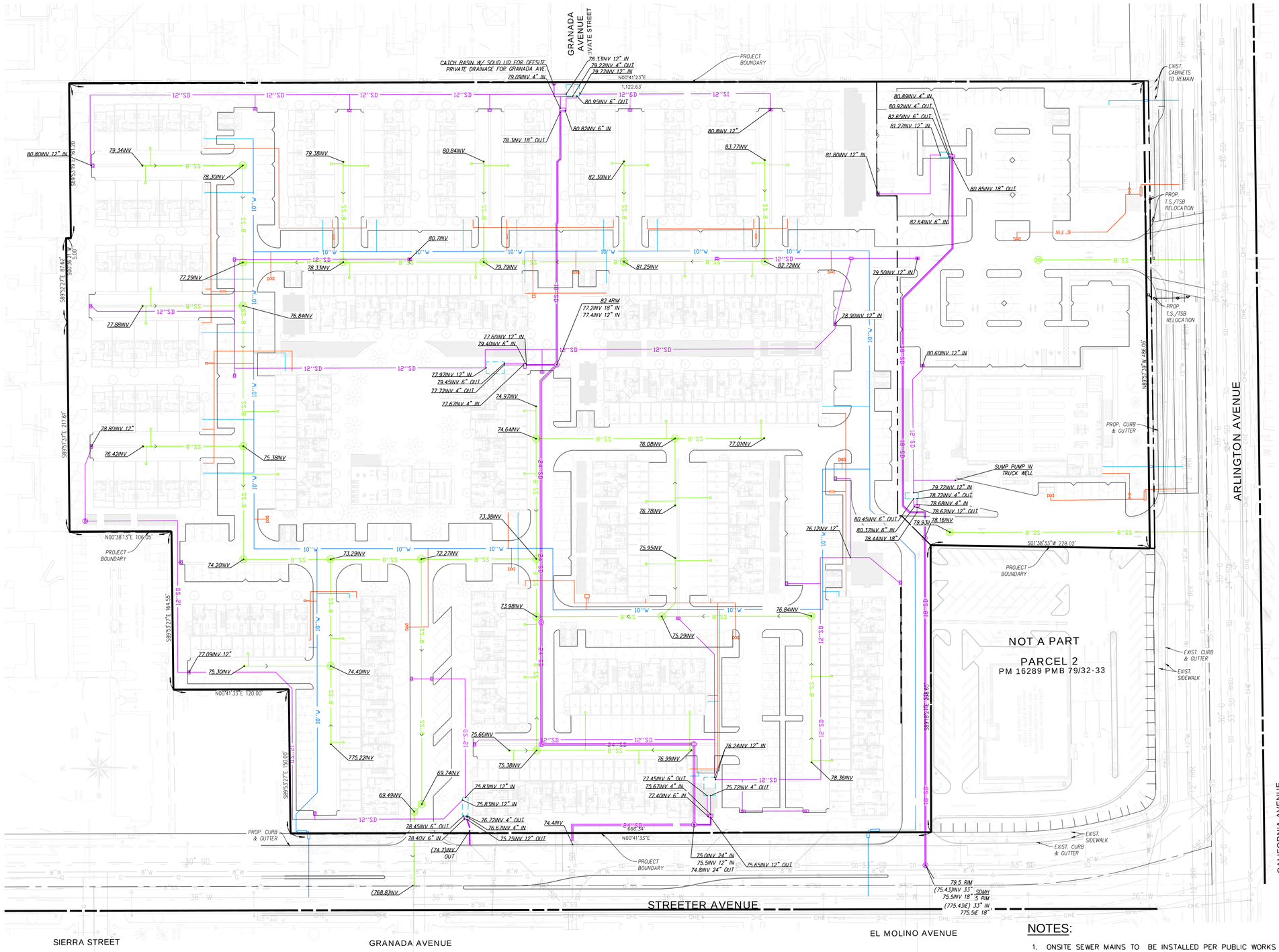
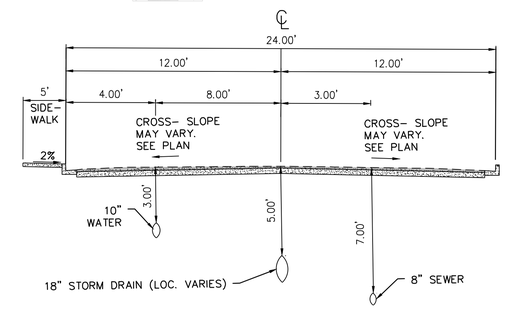


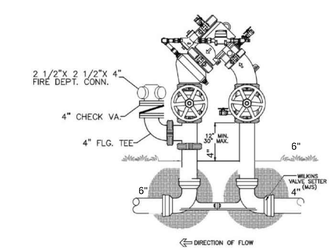
UTILITY LEGEND:

- PROPOSED SEWER MAIN AND MANHOLE
- SEWER CLEANOUT
- PRIVATE FIRE SERVICE
- PROPOSED WATER MAIN
- 10" METER AND BACKFLOW
- FIRE HYDRANT
- D.C.D.A
- PROPOSED PRE-TREATMENT HDPE STORM DRAIN AND MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED STORM DRAIN CONNECTOR
- PROPOSED STORMWATER BMP
- PROPOSED POST-TREATMENT STORM DRAIN
- EXISTING PRIVATE WATER/FIRE MAIN
- EXISTING EASEMENT
- EXISTING SEWER
- PROPOSED ELECTRICAL PAD



TYPICAL UTILITY PLACEMENT SECTION

NOT TO SCALE



6" ON-SITE DOUBLE DETECTOR CHECK

NOT TO SCALE

NORTH

1"=50'-0" 0 25' 50' 100' 150'

NOTES:

1. ONSITE SEWER MAINS TO BE INSTALLED PER PUBLIC WORKS STANDARDS. LATERALS AND BUILDING CONNECTIONS PER CURRENT CPC.
2. ONSITE PRIVATE FIRE SYSTEM AND HYDRANT LOCATIONS PER CITY FIRE DEPARTMENT.
3. ONSITE PRIVATE DOMESTIC WATER PER CITY WATER DEPARTMENT.
4. DOMESTIC WATER LATERALS FROM ONSITE PRIVATE WATER MAINS TO BUILDINGS PER CURRENT CPC WITH SUBMETERING AS REQUIRED.

UTILITY PLAN

C4.0

DATE: 8-05-2022
JOB NO.: 2020-055

ARLINGTON MIXED USE

RIVERSIDE, CA

FOULGER-PRATT

SERITAGE GROWTH PROPERTIES

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1"=50'-0" SCALE

0 50 100

NORTH

LANDSCAPE ILLUSTRATIVE PLAN

L0.0

ARLINGTON MIXED USE

RIVERSIDE, CA

FOULGER PRATT

DATE: 08-05-2022
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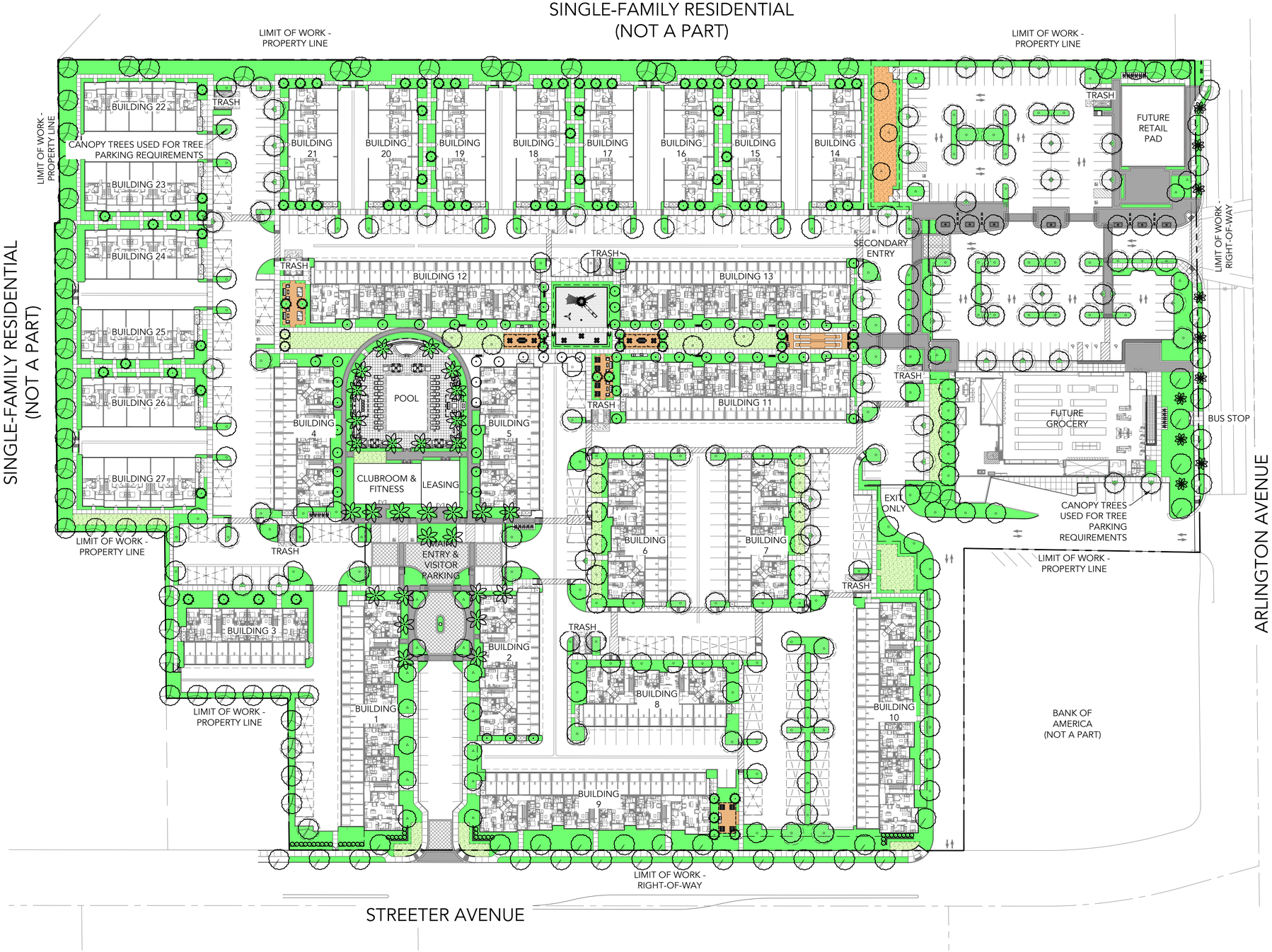

1"=50'-0" SCALE

0 50 100

NORTH

LANDSCAPE ZONES AND PLANT PALETTE

SYMBOL	BOTANICAL NAME	COMMON NAME	WUCOLS
EXISTING TREES (TO REMAIN):			
	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	L
ENTRY AND PERIMETER PALM SUCH AS:			
	ARCHONTOPHOENIX ALEXANDRE	KING PALM	M
	BISMARCKIA NOBILIS	BISMARCK PALM	L
	HOWEA FORSTERIANA	KENTIA PALM	M
	PHOENIX DACTYLIFERA	DATE PALM	L
	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	L
ENTRY SPECIMEN TREE SUCH AS:			
	ARBUTUS X 'MARINA'	MARINA STRAWBERRY TREE	M
	CASSIA LEPTOPHYLLA	GOLD MEDALLION TREE	M
	CERCIDIUM-PARKINGSONIA HYBRID	MUSEUM PALO VERDE	L
	OLEA EUROPAEA	EUROPEAN OLIVE	L
	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	M
LOOP ROAD AND PARKING CANOPY TREE SUCH AS:			
	CUPANIOPSIS ANACARDIOIDES	CARROT WOOD	M
	GEIJERA PARVIFLORA	AUSTRALIAN WILLOW	M
	PODOCARPUS GRACILIOR	FERN PINE	M
	PROSOPIS GLANDULOSA	CHILEAN MESQUITE	L
	RHUS LANCEA	AFRICAN SUMAC	L
	ULMUS PARVIFOLIA	CHINESE ELM 'TRUE GREEN'	L
LARGE ACCENT TREE SUCH AS:			
	CHITALPA TASHKENTENSIS	CHITALPA	L
	JACARANDA MIMOSIFOLIA	JACARANDA	M
	PLATANUS X ACERIFOLIA	LONDON PLANETREE	M
	PLATANUS RACEMOSA	WESTERN SYCAMORE	M
	QUERCUS AGRIFOLIA	COAST LIVE OAK	L
	TIPUANA TIPU	TIPU	M
PERIMETER SCREENING TREE SUCH AS:			
	CASSIA LEPTOPHYLLA	GOLD MEDALLION TREE	M
	CINNAMOM CAMPHORA	CAMPHOR	M
	PINUS CANARIENSIS	CANARY ISLAND PINE	M
	PINUS ELDARICA	AFGHAN PINE	L
	PINUS HALPENSIS	ALEPPO PINE	L
SMALL ACCENT TREE SUCH AS:			
	ARBUTUS X 'MARINA'	MARINA STRAWBERRY TREE	M
	BAUHINIA X BLAKEANA	HONG KONG ORCHID TREE	M
	CHILOPSIS LINEARIS	DESERT WILLOW	VL
	MAGNOLIA GRANDIFLORA 'LITTLE GEM'	MAGNOLIA 'LITTLE GEM'	M
	LAGERSTROEMIA INDICA	CRAPE MYRTLE	M
VERTICAL ACCENT TREE SUCH AS:			
	FICUS NITIDA	INDIAN LAUREL COLUMN	M
	PODOCARPUS ELONGATUS 'ICEE BLUE'	'ICEE BLUE' PODOCARPUS	M
	PRUNUS CAROLINIANA 'COMPACTA'	CAROLINA CHERRY	M
	STREUTZIA NICOLAI	GIANT BIRD OF PARADISE	M
	TRISTANIA CONFERTA	BRISBANE BOX	M
SHRUBS SUCH AS:			
	ALOE X SPECIES	ALOE	L
	AGAVE X SPECIES	AGAVE	L
	ARBUTUS UNEDO 'COMPACTA'	DWARF STRAWBERRY TREE	L
	ASPARAGUS DENSIFLORUS 'MYERS'	FOXTAIL FERN	M
	BOUGAINVILLEA 'LA JOLLA'	'LA JOLLA' BOUGAINVILLEA	L
	CALLISTEMON VIMINALIS 'LITTLE JOHN'	WEEPING BOTTLEBRUSH	M
	CAREX X SPECIES	SEDGE	L
	CARISSA MACROCARPA 'TUTTLE'	'TUTTLE' DWARF NATAL PLUM	M
	CHONDROPETALUM TECTORUM 'EL CAMPO'	'EL CAMPO' SMALL CAPE RUSH	M
	CORDYLINE X SPECIES	CORDYLINE	M
	DASYLIRION SPECIES	DESERT SPOON	L
	DIANELLA TASMANICA 'VARIEGATA'	VARIEGATED FLAX LILY	M
	DIETES GRANDIFLORA	FORTNIGHT LILY	M
	JUNCUS PATENS	CALIFORNIA GRAY RUSH	L
	LEUCADENDRON X 'SAFARI SUNSHINE'	CONEBUSH	M
	LIGUSTRUM JAPONICUM 'TEXANUM'	WAX LEAF PRIVET	M
	LOMANDRA X SPECIES	MAT RUSH	M
	PEDILANTHUS MACROCARPUS	SLIPPER	VL
	PENNISETUM MESSIACUM 'RED BUNNY TAILS'	FOUNTAIN GRASS	L
	PHILODENDRON XANADU	XANADU PHILODENDRON	M
	PHORMIUM 'DARK DELIGHT'	'DARK DELIGHT' PURPLE FLAX	M
	PITTOSPORUM TOBIRA 'VARIEGATA'	VARIEGATED MOCK ORANGE	M
	RHAPHIOLEPIS INDICA 'CLARA'	'CLARA' INDIAN HAWTHORN	M
	RHAPHIOLEPIS UMBELLATA 'MINOR'	YEDDO HAWTHORN	M
	SANSEVIERIA TRIFASCIATA	MOTHER-IN-LAW'S TOUNGE	L
	SESLERIA X 'GREENLEE'	'GREENLEE' MOOR GRASS	M
	STRELITZIA REGINAE	BIRD OF PARADISE	M
	WESTRINGIA FRUTICOSA 'SMOKEY'	'SMOKEY' WESTRINGIA	L
	ZAMIA FURFURACEA	CARDBOARD PALM	M
GROUNDCOVERS SUCH AS:			
	BACCHARIS PILULARIS 'PIGEON POINT'	DWARF COYOTE BRUSH	L
	CAREX PRAEGRACILIS	CALIFORNIA FIELD SEDGE	M
	CARISSA MACROCARPA 'GREEN CARPET'	'GREEN CARPET' NATAL PLUM	M
	COTONEASTER SPECIES	COTONEASTER	M
	FESTUCA GLAUCA 'ELIJAH BLUE'	'ELIJAH BLUE' FESCUE	M
	MYOPORUM PARVIFOLIUM	PROSTRATE MYOPORUM	L
	ROSMARINUS OFFICINALIS 'HUNTINGTON CARPET'	'HUNTINGTON CARPET' ROSEMARY	L
	ROSA SPECIES	CARPET ROSE	M
	SENECIO SERPENS	BLUE CHALKSTICKS	L
	TRADESCANTIA PALLIDA 'PURPLE HEART'	PURPLE QUEEN SPIDERWORT	M
TURF SUCH AS:			
	DWARF TALL FESCUE/FESTUCA ARUNDINACEA	MARATHON II SOD	H
	CYNODON DACTYLON	TIFGREEN	H
PERMEABLE AREA SUCH AS:			
	DECOMPOSED GRANITE		

TREE PARKING REQUIREMENTS

OPEN PARKING PROVIDED	305 SPACES (OPEN)
REQUIRED NUMBER OF TREES (1 TREE FOR EVERY 4 OPEN SPACES)	77 TREES
TOTAL TREES PROVIDED	95

PLANTING PLAN

L3.0

ARLINGTON MIXED USE

RIVERSIDE, CA

FOULGER PRATT

DATE: 08-05-2022
JOB NO.: 2020-055

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Appendix 3: Soils Information

Geotechnical Study and Other Infiltration Testing Data

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San Clemente, CA 92672

February 24, 2020
Proposal No. 1-0312

Attention: Mr. Jim Ivory

Subject: **GEOTECHNICAL INVESTIGATION**
5261 Arlington Avenue
City of Riverside, California

References: See Appendix A

Dear Mr. Ivory:

Alta California Geotechnical, Inc. (Alta) is pleased to present this geotechnical investigation for the proposed residential and retail development located at 5261 Arlington Avenue, in the City of Riverside, California. This report is based on a recent subsurface investigation conducted by Alta, laboratory testing, and review of the referenced reports and the Site Plan (enclosed Plate 1).

Alta's review of the data and site plan indicates that the proposed development is feasible, from a geotechnical perspective, provided that the recommendations presented in this report are incorporated into the grading and improvement plans and implemented during site development.

Also included in this report are:

- Discussion of the site geotechnical conditions;
- Recommendations for remedial and site grading, including unsuitable soil removals;
- Geotechnical site construction recommendations;
- Foundation design parameters.

If you have any questions or should you require any additional information, please contact the undersigned at (951) 509-7090. Alta appreciates the opportunity to provide geotechnical consulting services for your project.

Sincerely,
Alta California Geotechnical, Inc.

FERNANDO RUIZ
Civil Engineering Associate

JAMES B. COYNE
Engineering Geology Associate

Reviewed By:

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STATE OF CALIFORNIA

Distribution: (1) Addressee

SAG:-1-0312, February 24th, 2020 (Geo Investigation, 5261 Arlington Avenue, Riverside)

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1.0 INTRODUCTION

The following report presents Alta's findings, conclusions, and geotechnical recommendations for the proposed residential and retail development located at 5261 Arlington Avenue, in the City of Riverside, California.

1.1 Purpose

The purpose of this report is to examine the existing onsite geotechnical conditions and assess the impacts that the geotechnical conditions may have on the proposed development. The property is depicted on the enclosed Site Plan (Plate 1). This report is suitable for use in developing grading plans and engineer's cost estimates.

1.2 Scope of Work

Alta's *Scope of Work* for this geotechnical investigation included the following:

- Reviewing the referenced reports and air photos (Appendix A);
- Site geologic mapping;
- Excavating, logging, and sampling twelve (12) hollow-stem auger borings to a maximum depth of 51.5-feet below the existing surface (Appendix B);
- Conducting laboratory testing on samples obtained during our investigation (Appendix C);
- Performing an infiltration study to provide an assessment of the infiltration characteristics of the onsite soil and their impact on storm water disposal;
- Evaluating engineering geologic and geotechnical engineering data, including laboratory data, to develop recommendations for site remedial grading including specialized grading techniques for unsuitable soil removals along the property boundary, import soil, foundations and utilities;
- Preparing this report and accompanying exhibits.

1.3 Report Limitations

The conclusions and recommendations presented in this report are based on the field and laboratory information generated during this investigation, and a review of the referenced reports. The information contained in this report is intended to be used for development of grading plans and preliminary construction cost estimates.

2.0 PROJECT DESCRIPTION

2.1 Site Location and Existing Conditions

The irregular-shaped site is located on the northeast corner of Arlington Avenue and Streeter Avenue in Riverside at an elevation of approximately 775 feet above sea level. There is a former Sears structure and associated parking lot onsite. The site is bounded to the south by Arlington Avenue, to the west by Streeter Avenue, and to the east and north by residential developments.

Review of vintage air photos (Historic Aerials, 2020) indicates that the current development was constructed after 1948 but before 1966. In 1948, a few small structures were present near the western boundary with the site mainly used for agriculture. By 1966, the current development was completed, and the site has remained largely unchanged.

2.2 Proposed Development

Based on our review of the Site Plan, the existing structures and parking lot will be demolished, and 18 multi-story residential structures, 2 retail structures, one pool/pool house and associated improvements will be developed. Alta anticipates that remedial grading will be required to develop the site to support the proposed structures with shallow foundations and reinforced concrete slabs-on-grade. Significant height slopes are not anticipated for the project.

3.0 SITE INVESTIGATION

3.1 Investigation and Laboratory Testing

Alta conducted a subsurface investigation on January 28 and 29, 2020, consisting of the excavation, logging and select sampling of twelve (12) hollow-stem auger borings. The locations of the borings are shown on enclosed Plate 1 and the boring logs are presented in Appendix B.

Laboratory testing was performed on bulk and ring samples obtained during the field investigation. A brief description of the laboratory test procedures and the test results are presented in Appendix C.

3.2 Infiltration Testing

It is Alta's understanding that the project may utilize infiltration systems for storm water disposal. Details of the system are not known at this time.

Infiltration testing was undertaken using three (3) borings, P-1 and P-2 which were five (5) feet in depth and P-3 which was ten (10) feet in depth. The testing was performed on January 30, 2020 in general accordance with the County of Riverside WQMP standards. The three test wells were presoaked, and water level readings were recorded every 30 minutes. During the test, the borings were filled with water and measured every 30 minutes until the readings stabilized.

The data was then adjusted to provide an infiltration rate utilizing the Porchet Method. The resulting infiltration rates for P-1, P-2 and P-3 are presented in Table 3-1. The results do not include a factor of safety. Recommendations for infiltration BMP design are presented in Section 6.2.

Table 3-1-Summary of Infiltration Testing (No Factor of Safety)			
Test Designation	P-1	P-2	P-3
Approximate Depth of Test	5 ft	5 ft	10 ft
Time Interval	30 minutes	30 minutes	30 minutes
Radius of Test Hole	4 inches	4 inches	4 inches
Tested Infiltration Rate	0.0 (in/hr)	0.1 (in/hr)	0.1 (in/hr)

4.0 GEOLOGIC CONDITIONS

4.1 Geologic and Geomorphic Setting

Regionally, the site is located in the Peninsular Ranges geomorphic province, which characterizes the southwest portion of southern California. The Peninsular Ranges province is composed of plutonic and metamorphic rock, lesser amounts of Tertiary volcanic and sedimentary rock, and Quaternary drainage in-fills and sedimentary veneers.

4.2 Stratigraphy

Based on our literature review and subsurface investigation, the site is underlain by undocumented artificial fill, and young and old alluvial fan deposits. These geologic units are briefly described below.

4.2.1 Artificial Fill - Undocumented (map symbol afu)

The undocumented artificial fill observed at the site consists mainly of brown silt, clayey silt, and sandy silt in a dry to slightly moist, moderately firm to very stiff condition. The unit was logged to a depth of 2 to 6.5 feet below the ground surface and is underlain by young and old alluvial fan deposits.

4.2.2 Young Alluvial Fan Deposits (map symbol Qyf)

The young alluvial deposits observed at the site consist mainly of light brown, brown, and tannish brown silty clay, clayey silt, sandy silt, and

sand, in a dry to slightly moist, firm to very stiff/dense condition. The unit was logged to a depth of 20 feet below the ground surface and is underlain by old alluvial fan deposits.

4.2.3 Old Alluvial Fan Deposits (map symbol Qof)

The old alluvial deposits observed at the site consist mainly of gray, tan, light brown, and brown clayey sand, silty sandy, sand, and gravelly sand, in a dry to wet, medium dense to very dense condition. The unit was logged to a depth of 51.5 feet below the ground surface.

4.3 Geologic Structure

4.3.1 Tectonic Framework

Jennings and Bryant (2010, 1985) defined eight structural provinces within California that have been classified by predominant regional fault trends and similar fold structure. These provinces are in turn divided into blocks and sub-blocks that are defined by "major Quaternary faults." These blocks and sub-blocks exhibit similar structural features. Within this framework, the subject site is located within Structural Province I, which is controlled by the dominant northwest trend of the San Andreas Fault and is divided into two blocks, the Coast Range Block and the Peninsular Range Block. The Peninsular Range Block, on which this site is located, is characterized by a series of parallel, northwest trending faults that exhibit right lateral dip-slip movement. These faults are terminated by the Transverse Range block to the north and extend southward into the Baja Peninsula. These northwest trending faults divide the Peninsular Range block into eight sub-blocks. The site is located on the Riverside sub-block, one of the eight sub-blocks, and it is bounded on the west by the Elsinore fault zone and on the east by the San Jacinto fault zone.

4.3.2 Regionally Mapped Active Faults

Several large, active fault systems, including the Whittier-Elsinore, the San Jacinto, and the San Andreas occur in the region surrounding the site. These fault systems have been studied extensively and in a large part control the geologic structure of southern California.

4.3.3 Geologic Structure

Based upon our site investigation and literature review, the sediments are of Quaternary, and are not folded, or faulted.

4.4 Groundwater

Groundwater was encountered during our investigation in Borings B-2, B-4, B-7, and B-8 at a depth between 41 to 43 feet below the ground surface, corresponding to an elevation between 732 to 735 feet above sea level. Several nearby groundwater wells exist within a 2-mile radius of the site. Recent groundwater data recorded from state well numbers 02S05W32B001S, 03S05W03F001S, 03S05W08E002S, 03S05W06Q003S, and 03S05W09E001S in October of 2019 indicates that groundwater ranges from 730 to 756 feet above sea level in the area (CDWR, 2020), roughly corresponding to the elevations observed onsite.

4.5 Earthquake Hazards

The subject site is located in southern California, which is a tectonically active area. The type and magnitude of seismic hazards affecting a site are dependent on the distance to the causative fault and the intensity and magnitude of the seismic event. The seismic hazard may be primary, such as surface rupture and/or ground shaking, or secondary, such as liquefaction and/or ground lurching.

4.5.1 Local and Regional Faulting

The site is located on the northern portion of the Riverside sub-block, approximately 10.9 miles west of the San Jacinto Fault zone, 11.9 miles east of the Whittier-Elsinore Fault zone, and 17.5 miles west of the San Andreas Fault Zone.

4.5.2 Surface Rupture

Active faults are not known to exist within the project and a review of Special Publication 42 indicates the site is not within a California State designated earthquake fault zone. Accordingly, the potential for fault surface rupture on the subject site is very low.

4.5.3 Seismicity

Ground shaking hazards caused by earthquakes along other active regional faults do exist. The 2019 California Building Code requires use-modified spectral accelerations and velocities for most structural designs. Seismic design parameters using soil profile types identified in the 2019 California Building Code are presented in Section 7.3.

4.5.4 Liquefaction

Seismic agitation of relatively loose saturated sands, silty sands, and some silts can result in a buildup of pore pressure. If the pore pressure exceeds the overburden stresses, a temporary quick condition known as liquefaction can occur. Liquefaction effects can manifest in several ways including: 1) loss of bearing; 2) lateral spread; 3) dynamic settlement; and 4) flow failure. Lateral spreading has typically been the most damaging mode of failure.

In general, the more recent that a sediment has been deposited, the more likely it will be susceptible to liquefaction. Other factors that must

be considered are: groundwater, confining stresses, relative density, and the intensity and duration of seismically-induced ground shaking.

Groundwater was encountered during our subsurface investigation at a depth approximately 41 to 43 feet below the ground surface. The regional groundwater data indicates that high groundwater levels average 40 below the ground surface (CDWR, 2020). The site is located in a low (old alluvial fan deposits) to high (young alluvial fan deposits) potential liquefaction zones and potential subsidence zones designated by Riverside County per the Riverside County Mapping Portal (RCMP, 2020).

Alta performed a liquefaction analysis utilizing data from the hollow-stem auger borings and laboratory test results. A description of Alta's analysis and calculations are presented in Appendix D of this report. A groundwater level of 40 feet below existing ground surface was assumed in the calculations. The results of our findings are discussed below under the headings of the specific types of liquefaction which can be manifested during seismic shaking. Our liquefaction calculations are presented in Appendix D.

- **Loss of Bearing:**
  Liquefaction can potentially cause foundation bearing failure due to ground softening and near-failure in bearing. Based on the depth to groundwater, the potential for loss of bearing is considered nil.
- **Lateral Spreading:**
  The lateral displacement of surficial blocks of sediment can occur as a result of liquefaction in a subsurface layer. The most pervasive forms of lateral spreading typically involve sites located near a "free-face" (large slopes, channels, etc.), however, it has

been noted that lateral spreading can occur on sites with gently sloping (1% or more) ground, such as the subject site.

Determination of the potential for lateral spread is based on the presence of continuous potentially liquefiable soil layers underneath the structures, the presence of lateral confinement, and various analyses such as empirical modeling. Bartlett, Hansen and Youd (2002) states that surface manifestation of lateral spread is typically limited to sites with liquefiable soils within 10 meters (32 feet) of grade, and that sites underlain by soils with $(N1)_{60}$ values 15 and greater do not experience significant displacements from earthquakes with magnitudes less than 8.

Based on the depth to groundwater and the density of the deposits onsite, the potential for lateral spread is considered nil.

- **Settlement:**

  Settlement due to seismic shaking can occur as a result of both liquefaction of saturated sediments or rearrangement of dry sand particles. Our liquefaction analysis was performed utilizing SPT from the hollow-stem auger borings and laboratory test results to analyze the potential amount of settlement. A description of Alta's analysis and calculations are presented in Appendix D of this report. In summary, the analysis showed that the amount of dynamic settlement due to liquefaction is low. Design dynamic settlement parameters are presented in Table 7-1.

- **Flow Failure:**

  Due to the relatively flat nature of the site, and the relatively horizontal deposition of the underlying deposits, the potential for flow failure onsite is considered nil.

4.5.5 Dry Sand Settlement

Dry sand settlement is the process of non-uniform settlement of the ground surface during a seismic event. Based on our subsurface investigation and our removal/recompaction recommendations, the potential for dry sand settlement is anticipated to be low and within foundation design tolerances. Design dynamic settlement parameters are presented in Table 7-1.

5.0 ENGINEERING PROPERTIES AND ANALYSIS

5.1 Materials Properties

Presented herein is a general discussion of the engineering properties of the onsite materials that will be encountered during construction of the proposed project. Descriptions of the soil (Unified Soil Classification System) are presented on the boring logs in Appendix B.

5.1.1 Excavation Characteristics

Based on the data provided from the subsurface investigations, it is our opinion that the majority of the onsite materials possess favorable excavation characteristics such that conventional earth moving equipment can be utilized.

5.1.2 Compressibility

The artificial fill and upper portions of the young alluvial fan deposits and old alluvial fan deposits onsite are considered compressible and unsuitable to support the proposed improvements. Recommended removal depths are presented in Section 6.1.2.

5.1.3 Hydro-Consolidation

Hydro-consolidation is the effect of introducing water into soil that is prone to collapse. Upon loading and initial wetting, the soil structure and apparent strength are altered resulting in almost immediate settlement. That settlement can have adverse impacts on engineered structures, particularly in areas where it is manifested differentially. Differential settlements are typically associated with differential wetting, irregularities in the subsurface soil conditions, or irregular loading patterns.

Based on our laboratory testing (Appendix C), the potential for hydro-collapse onsite is minimal and should be within foundation tolerances upon the completion of the recommended unsuitable soil removals.

5.1.4 Expansion Potential

Expansion index testing was performed on samples taken during our subsurface investigation. Based on the results, it is anticipated that the majority of materials onsite are "low" to "medium" in expansion potential (21≤EI≤90, Appendix C) when tested per ASTM D: 4829.

5.1.5 Earthwork Adjustments

The values presented in Table 5-1 are deemed appropriate for estimating purposes and may be used in an effort to balance earthwork quantities. As is the case with every project, contingencies should be made to adjust the earthwork balance when grading is in-progress and actual conditions are better defined.

TABLE 5-1
Earthwork Adjustment Factors

Geologic Unit	Adjustment Factor Range	Average
Artificial Fill-undocumented	Shrink 10% to 14%	12%
Young and old alluvial fan deposits	Shrink 6% to 10%	8%

5.1.6 Chemical Analyses

Chemical testing was performed on samples of material underlying the proposed site. Soluble sulfate test results indicate that the soluble sulfate concentrations of the soils tested are classified as negligible (Category S0) per ACI 318-14.

Negligible chloride levels were detected in the onsite soils. Resistivity testing conducted as part of this investigation, indicates that the soils are corrosive to buried metals (per Romanoff, 1989). Additional discussions

on corrosion are presented in Section 7.9. Corrosion tests results are presented in Appendix C.

5.2 Engineering Analysis

Presented below is a general discussion of the engineering analysis methods that were utilized to develop the conclusions and recommendations presented in this report.

5.2.1 Bearing Capacity and Lateral Earth Pressures

Ultimate bearing capacity values were obtained using the graphs and formula presented in NAVFAC DM-7.1. Allowable bearing was determined by applying a factor of safety of at least 3 to the ultimate bearing capacity. Static lateral earth pressures were calculated using Rankine methods for active and passive cases. If it is desired to use Coulomb forces, a separate analysis specific to the application can be conducted.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on Alta's findings during our subsurface investigation, the laboratory test results, our staff's previous experience in the area, it is Alta's opinion that the development of the site is feasible from a geotechnical perspective. Presented below are recommendations that should be incorporated into site development and construction plans.

6.1 General Earthwork Recommendations

All grading shall be accomplished under the observation and testing of the project geotechnical consultant in accordance with the recommendations contained herein and the City of Riverside criteria.

6.1.1 Site Preparation

Vegetation, construction debris, and other deleterious materials are unsuitable as structural fill material and should be disposed of off-site

prior to commencing grading/construction. Any septic tanks, seepage pits or wells should be abandoned as per the County of Riverside Department of Health Services.

Existing concrete should be removed prior to the placement of engineered fill. The demolished concrete may be incorporated into compacted, engineered fills after it is crushed to a maximum size of six (6) inches. Prior to placement as engineered fill any protruding steel rebar should be cut from the concrete pieces and disposed of offsite.

Existing asphaltic concrete should be removed prior to the placement of engineered fill. From a geotechnical perspective, this material may be incorporated into compacted, engineered fills after it is crushed to a maximum size of six (6) inches. The crushed asphalt should not be placed under residential structures, but rather, it can be placed in approved non-residential areas, such as streets, parking areas or open space.

These recommendations should be verified by the environmental consultant.

6.1.2 Unsuitable Soil Removals

The undocumented artificial fill and the uppermost portions of the young and old alluvial fan deposits onsite are compressible and as such, are not suitable to support the proposed structures. Accordingly, it is recommended to completely remove the undocumented artificial fills and the highly weathered portions of the underlying young and old alluvial deposits across the site and as close to the property boundaries as possible.

It is anticipated that the upper five (5) to seven (7) feet of existing soils will require removal and recompaction, extending a minimum of five (5)

feet horizontally outside the proposed building envelopes. Removal bottoms should be observed by the Project Geotechnical Consultant to make a final determination that suitable (non-weathered, limited porosity) soils have been exposed. Removal bottoms should be tested to determine that the exposed soils have a minimum relative compaction of 85% of the laboratory maximum density (per ASTM test method D-1557). Both observations and tests must be accomplished to determine that suitable bottoms have been exposed. This recommended removal combined with the foundation recommendations presented in Section 7.1 should provide suitable support for the proposed structures.

For fill areas in streets, in general, a minimum removal and recompaction of two (2) feet is recommended, however all undocumented artificial fill shall be removed and recompacted, which may require deeper removals (see boring logs in Appendix B). For cuts deeper than the two (2) feet in street areas, removals are not required provided all the undocumented artificial fill is removed. Cuts less than the thickness of the undocumented fill should extend down to the fan deposits.

The Project Geotechnical Consultant should observe the removal bottom prior to placing fill. If unsuitable soils such as undocumented artificial fill are exposed upon the completion of the removals recommended above, additional removals may be required. Material removed as part of the unsuitable soil removals can be used as artificial fill, provided it is free of deleterious materials.

6.1.3 Over-excavation of Building Pads

Footings for structures should be underlain by a minimum of two (2) feet of compacted fill. As such, for building pads where unsuitable soil

removals do not provide the minimum depth of compacted fill, or where design grades and/or remedial grading activities create cut/fill transitions, the cut and shallow fill portions of the building pads should be over-excavated during grading and replaced with compacted fill.

6.1.4 Compaction Standards

All fill and processed natural ground shall be compacted to a minimum relative compaction of 90 percent, as determined by ASTM Test Method: D-1557. Fill material should be moisture conditioned to optimum moisture or above, and as generally discussed in Alta's Earthwork Specification Section presented in Appendix F. Compaction shall be achieved with the use of sheepsfoot rollers or similar kneading type equipment. Mixing and moisture conditioning will be required in order to achieve the recommended moisture conditions.

6.1.5 Groundwater/Seepage

It is anticipated that groundwater will not be encountered during construction. It is possible that perched water conditions could be encountered depending on the time of year construction occurs.

6.1.6 Documentation of Removals

All removal/over-excavation bottoms should be observed and approved by the project Geotechnical Consultant prior to fill placement. Consideration should be given to surveying the removal bottoms and undercuts after approval by the geotechnical consultant and prior to the placement of fill. Staking should be provided in order to verify undercut locations and depths.

6.1.7 Treatment of Removal Bottoms

At the completion of removals/over-excavation, the exposed removal bottom should be ripped to a minimum depth of eight (8) inches,

moisture-conditioned to above optimum moisture content and compacted in-place to the project standards.

6.1.8 Fill Placement

After removals, scarification, and compaction of in-place materials are completed, additional fill may be placed. Fill should be placed in eight-inch bulk maximum lifts, moisture conditioned to optimum moisture content or above, compacted and tested as grading/construction progresses until final grades are attained.

6.1.9 Mixing

Mixing of materials may be necessary to prevent layering of different soil types and/or different moisture contents. The mixing should be accomplished prior to and as part of compaction of each fill lift.

6.1.10 Import Soils

Import soils, if necessary, should consist of clean, structural quality, compactable materials similar to the on-site soils and should be free of trash, debris, or other objectionable materials. The project Geotechnical Consultant should be notified not less than 72 hours in advance of the locations of any soils proposed for import. Import sources should be sampled, tested, and approved by the project Geotechnical Consultant at the source prior to the importation of the soils to the site. The project Civil Engineer should include these requirements on plans and specifications for the project.

6.1.11 Utility Trenches

6.1.11.1 Excavation

Utility trenches should be supported, either by laying back excavations or shoring, in accordance with applicable OSHA standards. In general, existing site soils are classified as Soil

Types "B" per OSHA standards. Upon completion of the recommended removals and recompaction, the artificial fill will be classified as Soil Type "B". The Project Geotechnical Consulting should be consulted if geologic conditions vary from what is presented in this report.

6.1.11.2 Backfill

Trench backfill should be compacted to at least 90 percent of maximum dry density as determined by ASTM D-1557. Onsite soils will not be suitable for use as bedding material but will be suitable for use in backfill provided oversized materials are removed. No surcharge loads should be imposed above excavations. This includes spoil piles, lumber, concrete trucks, or other construction materials and equipment. Drainage above excavations should be directed away from the banks. Care should be taken to avoid saturation of the soils. Compaction should be accomplished by mechanical means. Jetting of native soils will not be acceptable.

6.1.12 Backcut Stability

Temporary backcuts, if required during unsuitable soil removals, should be made no steeper than 1:1 without review and approval of the geotechnical consultant. Flatter backcuts may be necessary where geologic conditions dictate and where minimum width dimensions are to be maintained.

Care should be taken during remedial grading operations in order to minimize risk of failure. Should failure occur, complete removal of the disturbed material will be required.

In consideration of the inherent instability created by temporary construction backcuts for removals, it is imperative that grading schedules are coordinated to minimize the unsupported exposure time of these excavations. Once started, these excavations and subsequent fill operations should be maintained to completion without intervening delays imposed by avoidable circumstances. In cases where five-day workweeks comprise a normal schedule, grading should be planned to avoid exposing at-grade or near-grade excavations through a non-work weekend. Where improvements may be affected by temporary instability, either on or offsite, further restrictions such as slot cutting, extending workdays, implementing weekend schedules, and/or other requirements considered critical to serving specific circumstances may be imposed.

6.2 Storm Water Infiltration Systems

Municipalities have been increasing the requirement for onsite storm water infiltration, rather than allowing water to enter storm drain systems. From a geotechnical perspective, allowing storm water to infiltrate the onsite soil in concentrated areas increases the potential for settlement, liquefaction, and water-related damage to structures/improvements, such as wet slabs or pumping subgrade, and should be avoided where possible. If infiltration systems are required on this site, care should be taken in designing systems that control the storm water as much as possible.

Preliminary infiltration testing was conducted at the site as part of this investigation, and the methodology is discussed in 3.2. The resulting infiltration rates for P-1, P-2 and P-3 were calculated to be 0.0-inches per hour, 0.1-inches per hour and 0.1-inches per hour, respectively. The results do not include a factor

of safety. Groundwater was encountered during our investigation ranging between 41 to 43 feet below the ground surface.

The Project Geotechnical Consultant should review the final WQMP design prior to construction.

6.3 Boundary Conditions

The site is bounded to the south by Arlington Avenue, to the west by Streeter Avenue, and to the east and north by residential developments. Construction of retaining/screen walls along these boundaries may require additional geotechnical recommendations concerning unsuitable soil removals and foundation design parameters. Boundary conditions for the project should be reviewed by the Project Geotechnical Consultant as the design progresses.

7.0 DESIGN CONSIDERATIONS

7.1 Structural Design

It is anticipated that multi-story wood-framed residential and retail structures with slab on-grade and shallow foundations will be constructed. Upon the completion of rough grading, finish grade samples should be collected and tested in order to provide specific recommendations as they relate to the individual building pad. These test results and corresponding design recommendations should be presented in a final rough grading report. Final slab and foundation design recommendations should be made based upon specific structure sitings, loading conditions, and as-graded soil conditions.

It is anticipated that the majority of onsite soils will possess "low" to "medium" expansion potential when tested in general accordance with ASTM Test Method D: 4829. For budgeting purposes, the following foundation design requirements for a range of potential expansion characteristics are presented.

7.1.1 Foundations

Foundations may be preliminary designed based on the values presented in Table 7-1 below.

Table 7-1 Foundation Design Parameters*	
Allowable Bearing	2000 lbs/ft^2(assuming a minimum width and embedment of 12-inches).
Lateral Bearing	250 lbs/ft^2 at a depth of 12 inches plus 250 lbs/ft^2 for each additional 12 inches of embedment to a maximum of 2000 lbs/ft^2
Sliding Coefficient	0.30
Differential Settlement	Dynamic: Differential = 1 inches in 40 feet Static: Differential = 0.5 inches in 40 feet

*These values may be increased as allowed by Code to resist transient loads such as wind or seismic. Building code and structural design considerations may govern depth and reinforcement requirements and should be evaluated.

7.1.2 Conventional Slab/Foundation Systems

Based on the onsite soils conditions and information supplied by the 2019 CBC, conventional slab/foundation systems may be designed in accordance with Tables 7-1 and 7-2.

TABLE 7-2 CONVENTIONAL FOUNDATION DESIGN PARAMETERS		
Expansion Potential	***Low***	***Medium***
Soil Category	I	II
Design Plasticity Index	12	20 (Expansive per 2019 CBC)
Minimum Footing Embedment	12 inches*	18 inches*
*The minimum footing embedments presented herein are based on expansion indexes. The structural engineer should determine minimum embedments based on the number of floors supported by the footings, the structural loading, and the requirements of the latest California Building Code.		
Minimum Footing Width	12-inches-The structural engineer should determine the minimum footing width based on loading and the latest California Building Code.	
Minimum Footing Reinforcement	No. 4 rebar, two (2) on top, two (2) on bottom	
Minimum Slab Thickness	4 inches (actual)	
Minimum Slab Reinforcement	No. 3 rebar spaced 18 inches on center, each way	No. 3 rebar spaced 15 inches on center, each way
Under-Slab Requirement	See Section 7.2	
Slab Subgrade Moisture	Minimum of 110 percent of optimum moisture to a depth of 12 inches prior to placing concrete.	Minimum of 120 percent of optimum moisture to a depth of 12 inches prior to placing concrete.
Footing Embedment Adjacent to Swales and Slopes	If exterior footings adjacent to drainage swales are to exist within five (5) feet horizontally of the swale, the footing should be embedded sufficiently to assure embedment below the swale bottom is maintained. Footings adjacent to slopes should be embedded such that at least five- (5) feet is provided horizontally from edge of the footing to the face of the slope.	

7.1.3 Post-Tensioned Slabs/Foundation Design Recommendations

Post-tensioned slabs for the project may be preliminarily designed utilizing the parameters presented in Tables 7-1 and 7-3. The parameters presented herein are based on methodology provided in the Design of Post-Tensioned Slabs-On-Ground, Third Edition, by the Post-Tensioning Institute, in accordance with the 2019 CBC.

TABLE 7-3
POST-TENSION SLAB DESIGN PARAMETERS

Category	Expansion Potential	Minimum Embedment	Edge Lift		Center Lift	
			Em (ft)	Ym (inch)	Em (ft)	Ym (inch)
I	Low	12 inches*	5.4	0.61	9.0	0.26
II	Medium	18 inches*	5.5	1.10	9.0	0.46

Slab Subgrade Moisture

Category I	Minimum 110% of optimum moisture to a depth of 12 inches prior to pouring concrete
Category II	Minimum 120% of optimum moisture to a depth of 12 inches prior to pouring concrete

Embedment*

The minimum footing embedments presented herein are based on expansion indexes. The structural engineer should determine minimum embedments based on the number of floors supported by the footings, the structural loading, and the requirements of the latest California Building Code. If mat slabs are utilized, alternate embedment depths can be provided.

Moisture Barrier

A moisture barrier should be provided in accordance with the recommendations presented in Section 7.2

The parameters presented herein are based on procedures presented in the Design of Post-Tensioned Slabs-On-Ground, Third Edition. No corrections for vertical barriers at the edge of the slab, or for adjacent vegetation have been assumed. The design parameters are based on a Constant Suction Value of 3.9 pF.

7.2 Moisture Barrier

A moisture and vapor retarding system should be placed below the slabs-on-grade in portions of the structure considered to be moisture sensitive and should be capable of effectively preventing the migration of water and reducing the transmission of water vapor to acceptable levels. Historically, a 10-mil plastic membrane, such as Visqueen, placed between two to four inches of clean sand, has been used for this purpose. The use of this system or other systems can be considered, at the discretion of the designer, provided the system reduces the vapor transmission rates to acceptable levels.

7.3 Seismic Design

In accordance with the requirements in Section 11.4.8 of ASCE 7-16 for sites with Site Class D and S1 values greater than 0.2, Alta has performed a site-specific ground motion analysis for the subject project. The analysis was performed in accordance with Chapter 21 of ASCE 7-16, the 2019 CBC, and the 2014 USGS Ground Acceleration Maps. The USGS Unified Hazard Tool (https://earthquake.usgs.gov/hazards/interactive/index.php) and the USGS National Seismic Hazard Map source model was utilized to perform the analysis.

The site class was determined based on the subsurface investigation and published geologic maps in the area in general conformance with Chapter 20 of ASCE 7-16. Based on density of the underlying soil, a Site Class of D was selected (shear wave velocity of 259 m/s).

Probabilistic (MCER) ground motions were determined in accordance with Method 1 of Section 21.2.1 of ACE 7-16. At each spectral response period for which the acceleration was computed, ordinates of the probabilistic ground motion response spectrum were determined as the project of the risk coefficient, CR, and the spectral response acceleration from a 5% damped acceleration response spectrum that has a 2% probability of exceedance within a 50-year period. The site specific MCER was taken as the lesser of the probabilistic and deterministic ground motions.

The design response spectrum was determined per Section 21.3 of ASCE 7-16. Design acceleration parameters were determined per Section 21.4 of ASCE 7-16 and the results are presented in Table A. These parameters should be verified by the structural engineer. Additional parameters should be determined by the structural engineer based on the Occupancy Category of the proposed structures.

TABLE 7-4 Seismic Ground Motion Values 2019 CBC and ASCE 7-16	
Parameter	*Value*
Site Class	D
Site Latitude	33.9476
Site Longitude	-117.4170
Spectral Response Acceleration Parameter, S_S	1.5
Spectral Response Acceleration Parameter, S_1	0.574
Site Coefficient, F_a	1
Site Coefficient, F_v (Per Table 11.4-2 of ASCE 7-16. Site Specific Parameters Govern)	1.7
Site Specific Parameters Per Chapter 21 of ASCE 7-16	
MCE Spectral Response Acceleration Parameter, S_{MS}	1.65
MCE Spectral Response Acceleration Parameter, S_{M1}	1.28
Design Spectral Response Acceleration Parameter, S_{DS}	1.1
Design Spectral Response Acceleration Parameter, S_{D1}	0.85
Peak Ground Acceleration, PGA_M	0.75

7.4 Pool Design Recommendations

It is anticipated that the proposed pool can be designed for medium expansive conditions. Steel reinforcement may be required within the pool shell and should be verified by the pool designer. The pressure from existing soils that will act of the pool walls that can be utilized in pool design is 45 psf/ft for the active condition.

Where pools are to be constructed in proximity to other structures or subjected to transient loads, the effects of those stresses should be considered in the pool

and/or spa design. The pool/spa should be provided with a pressure release valve system below the bottom.

Pool/spa decking shall have a minimum thickness of four (4) inches (actual). Consideration should be given to underlying the decking with at least six (6) inches of three-quarter- (3/4) inch crushed rock (or other non-expansive materials). Backfill for all conduits and any retaining walls shall be compacted to at least 90 percent of maximum density as determined by ASTM: D 1557.

Subgrade soils below the concrete decking shall be moisture-conditioned to a minimum of 120 percent of optimum moisture to a depth of twelve (12) inches prior to placing concrete. The subgrade soils should be shaped to provide a minimum gradient of one (1) percent away from the pool shell and toward a subsurface drainage system. The subsurface drainage system should be designed to collect subsurface water and discharge it into the area drain system.

The outside edges of the decking should be thickened to provide a perimeter beam that is eight- (8) inches wide and twelve- (12) inches deep. Slabs should be reinforced with a minimum of No. 3 bars at twenty-four (24) inches on center, each way, or an equivalent section of welded wire mesh. Final determination of reinforcement requirements is under the purview of the pool designer. The decking should be separated from the pool/spa coping. Expansion joints should be periodically maintained. Deep tool joints, extending at least one-third (1/3) of the thickness of the slab into the slab, should be provided at a maximum spacing of six (6) feet.

7.5 Fence and Garden Walls

Block walls, if used, should be embedded a minimum of 2 feet below the lowest adjacent grade. Construction joints (not more than 20 feet apart) should be

included in the block wall construction. Side yard walls should be structurally separated from the rear yard wall.

7.6 Footing Excavations

Soils from the footing excavations should not be placed in slab-on-grade areas unless properly compacted and tested. The excavations should be cleaned of all loose/sloughed materials and be neatly trimmed at the time of concrete placement. The Project Geotechnical Consultant should observe the footing excavations prior to the placement of concrete to determine that the excavations are founded in suitably compacted material.

7.7 Retaining Walls

Retaining walls should be founded on engineered fill and should be backfilled with granular soils that allow for drainage behind the wall. Foundations may be designed in accordance with the recommendations presented in Table 7-1, above. Unrestrained walls, free to horizontally move 0.0005H (for dense cohesionless backfill), may be designed to resist lateral pressures imposed by a fluid with a unit weight determined in accordance with the Table 7-5 below. The table also presents design parameters for restrained (at-rest) retaining walls. These parameters may be used to design retaining walls that may be considered as restrained due to the method of construction or location (corner sections of unrestrained retaining walls).

TABLE 7-5
Equivalent Fluid Pressures for 90% Compacted Fill (Select Material)

Backfill	Active Pressure (psf/ft)	At-Rest Pressure (psf/ft)
Level	35	55

Per the requirements of the 2019 CBC, the seismic force acting on the retaining walls with backfill exceeding 6-feet in height may be resolved utilizing the formula $16H^2$ lb/lineal ft (H=height of the wall). This force acts at approximately 0.6H

above the base of the wall. The seismic value can be converted as required by the retaining wall engineer. Retaining walls should be designed in general accordance with Section 1807A.2 of the 2019 CBC.

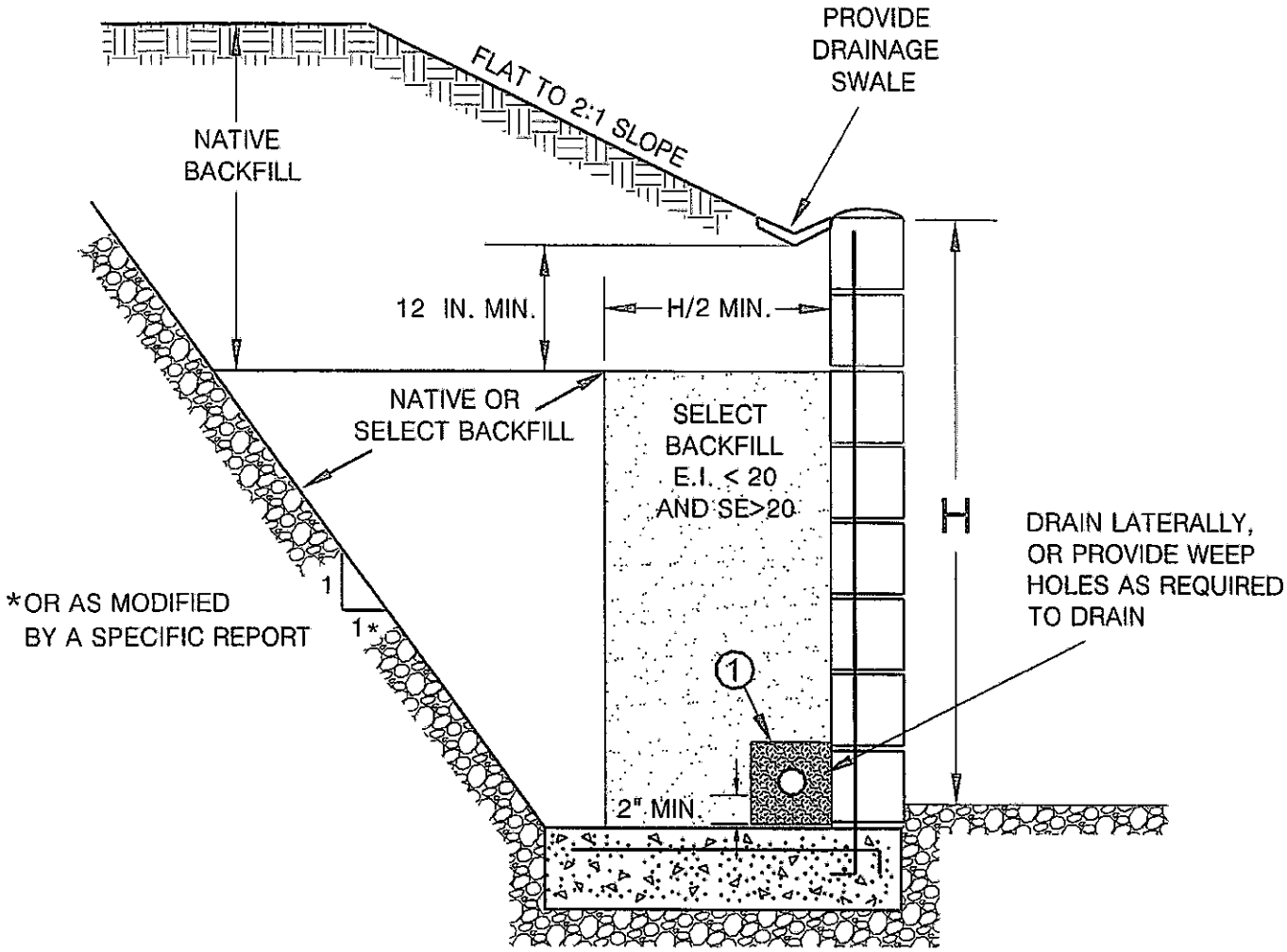
- Restrained retaining walls should be designed for "at-rest" conditions.
- The design loads presented in the above table are to be applied on the retaining wall in a horizontal fashion and as such friction between wall and retained soils should not be allowed in the retaining wall analyses.
- Additional allowances should be made in the retaining wall design to account for the influence of construction loads, temporary loads, and possible nearby structural footing loads.
- Select backfill should be granular, structural quality backfill with a Sand Equivalent of 20 or better and an ASCE Expansion Index of 20 or less. The backfill must encompass the full active wedge area. The upper one foot of backfill should be comprised of native on-site soils (see Plate A).
- The wall design should include waterproofing (where appropriate) and backdrains or weep holes for relieving possible hydrostatic pressures. The backdrain should be comprised of a 4-inch perforated PVC pipe in a 1 ft. by 1 ft., ¾-inch gravel matrix, wrapped with a geofabric. The backdrain should be installed with a minimum gradient of 2 percent and should be outletted to an appropriate location. For subterranean walls this may include drainage by sump pumps.
- No backfill should be placed against concrete until minimum design strengths are achieved.

It should be noted that the allowable bearing and lateral bearing values presented in Table 7-1 are based on level conditions at the toe. Modified design parameters can be presented for retaining walls with sloping condition at the toe. Other conditions should be evaluated on a case by case basis.

7.8 Exterior Slabs and Walkways

Exterior concrete slabs and walkways should be designed and constructed in consideration of the following recommendations.

RETAINING WALL BACKFILL DETAIL



1

PIPE: 4-INCH PERFORATED PVC, SCHEDULE 40, SDR35 OR APPROVED ALTERNATE MINIMUM 8 PERFORATIONS (1/4-IN. DIA.) PER LINEAL FT. IN BOTTOM HALF OF PIPE

ROCK: MINIMUM VOLUME OF 1 CU. FT. OF 3/4-IN. MAX. ROCK PER. LINEAL FOOT OF PIPE, OR APPROVED ALTERNATE

FILTER FABRIC: MIRAFI 140 FILTER FABRIC OR APPROVED EQUIVALENT

ALTA CALIFORNIA GEOTECHNICAL, INC .
VER. 1/10

PLATE A

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7.8.1 Subgrade Compaction

The subgrade below exterior concrete slabs should be compacted to a minimum of 90 percent relative compaction as determined by ASTM Test Method: D 1557.

7.8.2 Subgrade Moisture

The subgrade below concrete slabs should be moisture conditioned to a minimum of 110 percent of optimum moisture (low expansion) to 120 percent of optimum moisture (medium expansion) prior to concrete placement.

7.8.3 Concrete Slab Thickness

Concrete flatwork and driveways should be designed utilizing four-inch minimum thickness.

7.8.4 Concrete Slab Reinforcement

Utilization of reinforcement for flatwork and driveways is subject to a cost/benefit analysis. Reinforcement will decrease the amount of cracking that may occur in flatwork, however, planning for occasional repairs may be more cost effective. Utilizing closely spaced control joints is likely more cost-effective than utilizing reinforcement. The majority of the soils onsite are classified as low to medium in expansion potential. Consideration should be given to reinforcing flatwork with irregular (non-square/rectangular) shapes.

7.8.5 Control Joints

Weakened plane joints should be installed on walkways at intervals of approximately eight feet (maximum) or less. Exterior slabs should be designed to withstand shrinkage of the concrete.

7.9 Concrete Design

As stated in Section 5.1.6, negligible concentrations of sulfates were detected in the onsite soils (Class S0). Therefore, the use of sulfate resistant concrete is not required per ACI 318-14 at this time. Post-grading conditions should be evaluated and final recommendations made at that time.

7.10 Corrosion

Based on preliminary testing, the onsite soils are corrosive to buried metal objects. Buried ferrous metals should be protected against the effects of corrosive soils in accordance with the manufacturer's recommendations. Typical measures may include using non-corrosive backfill, protective coatings, wrapping, plastic pipes, or a combination of these methods. A corrosion engineer should be consulted if specific design recommendations are required by the improvement designer.

Per ACI 318-14, an exposure class of C1 would be applicable to metals encased in concrete (rebar in footings) due to being exposed to moisture from surrounding soils. Per Table 19.3.2.1 of ACI 318-14, the requirements for concrete with an exposure class of C1 are a minimum compressive strength of 2500 psi and a maximum water-soluble chloride ion content in concrete of 0.30 (percent by weight of cement).

7.11 Pavement Design

Pavement sections for the proposed streets shall be designed based on laboratory testing conducted on samples taken from the soil subgrade. Preliminarily, based on an assumed R-Value of 10, the pavement may be designed utilizing the sections presented in Table 7-6. These sections should be verified upon the completion of grading, based on R-Value testing. The ultimate pavement section design for public streets is under the City of Riverside's purview.

Table 7-6 Preliminary Pavement Sections		
Traffic Index	Pavement Section Options OR	
5.0	3-inch AC on 9-inch AB	4-inch AC on 7-inch AB
5.5	3-inch AC on 11-inch AB	4-inch AC on 8.5-inch AB
6.0	3.5-inch AC on 12-inch AB	4-inch AC on 10.5-inch AB
AC-Asphalt Concrete AB-Caltrans Class II Base		

Construction of the streets should be accomplished in accordance with the current criteria of the City of Riverside. Prior to the placement of base material, the subgrade should be suitably moisture conditioned, processed and compacted to a minimum 95 percent of the laboratory maximum density (ASTM: D 1557) to at least twelve (12) inches below subgrade. After subgrade compaction, the exposed grade should then be "proof"-rolled with heavy equipment to ensure the grade does not "pump" and is verified as non-yielding. Aggregate base material should be placed on the compacted subgrade and compacted in-place to a minimum 95 percent of the laboratory standard obtained per ASTM: D 1557.

7.12 Site Drainage

Positive drainage away from the proposed structures should be provided and maintained. Roof, pad, and lot drainage should be collected and directed away from the structures toward approved disposal areas through drainage terraces, gutters, down drains, and other devices. Design fine grade elevations should be maintained through the life of the structure or if design fine grade elevations are altered, adequate area drains should be installed in order to provide rapid discharge of water, away from structures.

8.0 LOT MAINTENANCE

Ongoing maintenance of the improvements is essential to the long-term performance of structures. As such, the owners must implement certain maintenance procedures. The attached " Maintenance and Improvement Considerations" presented in the Appendix D

may be included as part of the sales packet to educate the owners in issues related to drainage, maintenance, improvements, etc. The following recommendations should also be implemented.

8.1 Lot Drainage

Roof, pad, and lot drainage should be collected and directed away from structures and slopes and toward approved disposal areas. Design fine grade elevations should be maintained through the life of the structure or if design fine grade elevations are altered, adequate area drains should be installed in order to provide rapid discharge of water, away from structures and slopes. Residents should be made aware that they are responsible for maintenance and cleaning of all drainage terraces, down drains, and other devices that have been installed to promote structure and slope stability.

8.2 Burrowing Animals

Owners should undertake a program for the elimination of burrowing animals.

9.0 FUTURE PLAN REVIEWS

This report represents a geotechnical review of the site. As the project design for the project progresses, site specific geologic and geotechnical issues should be considered in the design and construction of the project. Consequently, future plan reviews may be necessary. These reviews may include reviews of:

- Grading Plans
- Foundation Plans
- Utility Plans

These plans should be forwarded to the project Geotechnical Consultant for review.

10.0 CLOSURE

10.1 Geotechnical Review

For the purposes of this report, multiple working hypotheses were established for the project, utilizing the available data and the most probable model is used for the analysis. Future information collected during the proposed grading operations is intended to evaluate the hypothesis and as such, some of the assumptions summarized in this report may need to be changed. Some modifications of the grading recommendations may become necessary, should the conditions encountered in the field differ from the conditions hypothesized in this report.

Plans and sections of the project specifications should be reviewed by Alta to evaluate conformance with the intent of the recommendations contained in this report. If the project description or final design varies from that described in herein, Alta must be consulted regarding the applicability of the recommendations contained herein and whether any changes are required. Alta accepts no liability for any use of its recommendations if the project description or final design varies and Alta is not consulted regarding the alterations.

10.2 Limitations

This report is based on the following: 1) the project as presented on the attached plan; 2) the information obtained from Alta's laboratory testing included herein; and 3) from the information presented in the referenced reports. The findings and recommendations are based on the results of the subsurface investigation, laboratory testing, and office analysis combined with an interpolation and extrapolation of conditions between and beyond the subsurface excavation locations. However, the materials adjacent to or beneath those observed may have different characteristics than those observed, and no precise representations are made as to the quality or extent of the materials not

observed. The results reflect an interpretation of the direct evidence obtained. Work performed by Alta has been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the geotechnical profession currently practicing in the same locality under similar conditions. No other representation, either expressed or implied, and no warranty or guarantee is included or intended.

The recommendations presented in this report are based on the assumption that an appropriate level of field review will be provided by a geotechnical consultant who is familiar with the design and site geologic conditions. That field review shall be sufficient to confirm that geotechnical and geologic conditions exposed during grading are consistent with the geologic representations and corresponding recommendations presented in this report.

The conclusions and recommendations included in this report are applicable to the specific design of this project as discussed in this report. They have no applicability to any other project or to any other location and any and all subsequent users accept any and all liability resulting from any use or reuse of the data, opinions, and recommendations without the prior written consent of Alta.

Alta has no responsibility for construction means, methods, techniques, sequences, procedures, safety precautions, programs in connection with the construction, acts or omissions of the CONTRACTOR or any other person performing any of the construction, or for the failure of any of them to carry out the construction in accordance with the final design drawings and specifications.

APPENDIX A

REFERENCES

APPENDIX A

Selected References

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APPENDIX B

Subsurface Investigation

APPENDIX B

Subsurface Investigation

Alta's subsurface investigation consisted of excavating, logging, and sampling twelve (12) hollow-stem auger borings. Details of the subsurface investigation are presented in Table B-1. The approximate location of the exploratory excavation is shown on the accompanying Concept Design plan (Plate 1) and the Geotechnical Logs are attached.

TABLE B-1
SURFACE INVESTIGATION DETAILS

Equipment	Range of Depths	Sampling Methods	Sample Locations
Hollow-stem auger	Up to 51.5 feet	1. Bulk 2. Ring Samples	1. Bulk-Select Depth 2. Every 5-feet

UNIFIED SOIL CLASSIFICATION SYSTEM

Major Divisions		grf	ltr	Description
Coarse Grained Soils More than 50% retained on No. 200 sieve	Gravel and Gravelly Soils More than 50% of coarse fraction retained on No. 4 sieve		GW	Well-graded gravels or gravel sand mixtures, little or no fines
			GP	Poorly-graded gravels or gravel sand mixture, little or no fines
			GM	Silty gravels, gravel-sand-silt mixtures
			GC	Clayey gravels, gravel-sand-clay mixtures
	Sand and Sandy Soils More than 50% of coarse fraction passes on No. 4 sieve		SW	Well-graded sands or gravelly sands, little or no fines
			SP	Poorly-graded sands or gravelly sands, little or no fines
			SM	Silty sands, sand-silt mixtures
			SC	Clayey sands, and-clay mixtures

Major Divisions		grf	ltr	
Fine Grained Soils More than 50% passes on No. 200 sieve	Silts And Clays LL,<50		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
			OL	Organic silts and organic silt-clays of low plasticity
	Silts And Clays LL,<50		MH	Inorganic silts, micaceous or diatomaceous fine or silty soils, elastic silts
			VH	Inorganic clays of high plasticity, fat clays
			OH	Organic clays of medium to high plasticity
Highly Organic Soils			PT	Peat and other highly organic soils

BOUNDARY CLASSIFICATION: Soils possessing characteristics of two groups are designated by combinations of group symbols.

PARTICLE SIZE LIMITS

U.S. STANDARD SERIES SIEVE: 200, 40, 10, 4

CLEAR SQUARE SIEVE OPENINGS: 3/4", 3", 12"

Silts and Clays	Sand			Gravel		Cobbles	Boulders
	Fine	Medium	Coarse	Fine	Coarse		

RELATIVE DENSITY

Sands and Gravels	Blows/Foot (SPT)
Very Loose	<4
Loose	4-10
Medium Dense	11-30
Dense	31-50
Very Dense	>50

CONSISTENCY CLASSIFICATION

Silts and Clays	Criteria
Very Soft	Thumb penetrates soil >1 in.
Soft	Thumb penetrates soil 1 in.
Firm	Thumb penetrates soil 1/4 in.
Stiff	Readily indented with thumbnail
Very Stiff	Thumbnail will not indent soil

HARDNESS

Bedrock
Soft
Moderately Hard
Hard
Very Hard

LABORATORY TESTS

Symbol	Test
DS	Direct Shear
DSR	Direct Shear
CON	(Remolded)
SA	Sieve Analysis
MAX	Maximum Density
RV	Resistance (R) Value
EI	Expansion Index
SE	Sand Equivalent
AL	Atterberg Limits
CHEM	Chemical Analysis
HY	Hydrometer Analysis

SOIL MOISTURE

Increasing Visual Moisture Content

Dry - Dry to touch

Moist - Damp, but no visible free water

wet - Visible free water

SIZE PROPORTIONS

Trace - <5%

Few - 5 to 10%

Some - 15 to 25%

KEY TO EXPLORATORY BORING LOGS

ALTA CALIFORNIA GEOTECHNICAL INC.

PLATE B

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0312	PROJECT NAME	5261 Arlington		
DATE STARTED	1/28/20	GROUND ELEV.	779	BORING DESIG.	B-01
DATE FINISHED	1/28/20	GW DEPTH (FT)		LOGGED BY	JC
DRILLER	2R	DRIVE WT.	140 lbs.	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
					ML	3" Asphaltic Concrete over 3" of 3/4" Base **ARTIFICIAL FILL-UNDOCUMENTED**(afu): SILT, brown, slightly moist, firm, trace very fine to fine grained sand.				
	775	R	7				8.5	104	38	
5		R	19		ML	**YOUNG ALLUVIAL FAN DEPOSITS**(Qyf): SANDY SILT, very fine grained, brown, slightly moist, very stiff, trace pores.	13.2	114	78	CON, HY
	770									
10		R	20		SP	@10.0ft. SAND, medium to coarse grained, brown, dry, medium dense.	3.6	107	17	
	765									
15		R	22			@15.0ft. very fine to fine grained, tannish brown.	7.5	109	39	
	760									
20		R	37		CL	**OLD ALLUVIAL FAN DEPOSITS**(Qof): SANDY CLAY, very fine grained, gray with orange mottling, slightly moist, very stiff.	23.4	102	99	
	755									
25		R	45		SP	@25.0ft. SAND, fine to coarse grained, tan, dry, dense.	4.2	121	30	
						TOTAL DEPTH 26 FEET NO GROUNDWATER ENCOUNTERED NO CAVING OBSERVED				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

▼ GROUNDWATER
► SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0312

PLATE B-1

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0312	PROJECT NAME	5261 Arlington		
DATE STARTED	1/28/20	GROUND ELEV.	778	BORING DESIG.	B-02
DATE FINISHED	1/28/20	GW DEPTH (FT)	42	LOGGED BY	JC
DRILLER	2R	DRIVE WT.	140 lbs.	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
						3" Asphaltic Concrete over 5" of 3/4" Base				
					ML	**ARTIFICIAL FILL-UNDOCUMENTED**(afu): SILT, brown, slightly moist, firm, trace very fine to fine grained sand.				
	775	R	15				15.6	111	83	
					CL-ML	**YOUNG ALLUVIAL FAN DEPOSITS**(Qyf): SILTY CLAY, brown, slightly moist, very stiff, trace very fine grained sand.				
		B								
5		R	41				15.4	117	98	DSR, MAX, EI, HY, CHEM
	770									
10		R	18		SP	@10ft. SAND, very fine to fine grained, light brown, dry, medium dense.	4.9	109	25	
	765									
15		R	36		SC	**OLD ALLUVIAL FAN DEPOSITS**(Qof): CLAYEY SAND, very fine grained, gray, slightly moist, dense, trace calcium carbonates.	15.4	113	88	
	760									
20		R	53		SP	@20.0ft. SAND, medium to coarse grained, dry, dense.	3.3	107	16	
	755									
25		R	46				2.4	102	10	
	750									
30		S	37		SM	@30.0ft. SILTY SAND, medium to coarse grained, dry, dense, trace fine gravel <1/2".				SIEVE HY
	745									
35		S	37							
	740									
						Continued.				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

▼ GROUNDWATER
► SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0312

PLATE B-2

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0312	PROJECT NAME	5261 Arlington		
DATE STARTED	1/28/20	GROUND ELEV.	778	BORING DESIG.	B-02
DATE FINISHED	1/28/20	GW DEPTH (FT)	42	LOGGED BY	JC
DRILLER	2R	DRIVE WT.	140 lbs.	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
		S	54		SP	**OLD ALLUVIAL FAN DEPOSITS**(Qof): Continued; SAND, medium to coarse grained, wet, dense.				SIEVE HY
	735					▼ @42.0ft. GROUNDWATER ENCOUNTERED				
45		S	42							
	730									
50		S	53			@50.0ft. few fine to coarse gravel <3".				
						TOTAL DEPTH 51.5 FEET GROUNDWATER ENCOUNTERED AT 42.0 FEET NO CAVING OBSERVED.				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

▼ GROUNDWATER
► SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0312

PLATE B-2

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0312	PROJECT NAME	5261 Arlington		
DATE STARTED	1/28/20	GROUND ELEV.	777	BORING DESIG.	B-03
DATE FINISHED	1/28/20	GW DEPTH (FT)		LOGGED BY	JC
DRILLER	2R	DRIVE WT.	140 lbs.	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
					ML	3" Asphaltic Concrete over 3" of 3/4" Base **ARTIFICIAL FILL-UNDOCUMENTED**(afu): SANDY SILT, very fine grained, brown, slightly moist, stiff.				
	775	R	10				16.5	109	83	
5		R	30		ML	**YOUNG ALLUVIAL FAN DEPOSITS**(Qyf): SANDY SILT, very fine to fine grained, brown, slightly moist, very stiff.	17.0	112	95	
	770									
10		R	42		ML	**OLD ALLUVIAL FAN DEPOSITS**(Qof): SANDY SILT, very fine grained, tannish gray, dry, stiff, trace pores, trace calcium carbonates.	15.3	93	52	CON, HY
	765									
15		R	41				20.2	107	98	
	760									
20		R	31			@20.0ft. very fine to medium grained, brown, slightly moist, stiff.	8.8	112	49	
	755									
25		R	42		SP	@25.0ft. SAND, fine grained, gray, dry, dense.	2.7	97	10	
						TOTAL DEPTH 26 FEET NO GROUNDWATER ENCOUNTERED NO CAVING OBSERVED				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

GROUNDWATER
SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0312

PLATE B-3

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0312	PROJECT NAME	5261 Arlington		
DATE STARTED	1/29/20	GROUND ELEV.	776	BORING DESIG.	B-04
DATE FINISHED	1/29/20	GW DEPTH (FT)	43	LOGGED BY	JC
DRILLER	2R	DRIVE WT.	140 lbs.	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
	775				ML	3" Asphaltic Concrete over 3" of 3/4" Base **ARTIFICIAL FILL-UNDOCUMENTED**(afu): SANDY SILT, very fine grained, brown, slightly moist, stiff.				
		R	14				16.0	110	84	
5	770	R	31		ML	**OLD ALLUVIAL FAN DEPOSITS**(Qof): SANDY SILT, very fine grained, brown, slightly moist, stiff.	13.1	121	94	DS, HY
10	765	R	33		SP	@10.0ft. SAND, very fine to fine grained, tan, dry, dense, trace fine gravel <1/2".	11.7	101	49	
15	760	R	65		SM	@15.0ft. SILTY SAND, very fine grained, gray, dry, very dense, trace pores.	14.1	116	88	
20	755	R	31		SP	@20.0ft. SAND, very fine to fine grained, light brown with orange mottling, slightly moist, dense.	14.7	101	61	
25	750	R	29				5.0	98	19	
30	745	S	38		SP	@30.0ft. GRAVELLY SAND, coarse grained, tan, dry, dense, fine gravel <1/2".				
35	740	S	39							
						Continued.				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

▼ GROUNDWATER
► SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

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P.N. 1-0312

PLATE B-4

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0312	PROJECT NAME	5261 Arlington		
DATE STARTED	1/29/20	GROUND ELEV.	776	BORING DESIG.	B-04
DATE FINISHED	1/29/20	GW DEPTH (FT)	43	LOGGED BY	JC
DRILLER	2R	DRIVE WT.	140 lbs.	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
	735	S	48		SP	**OLD ALLUVIAL FAN DEPOSITS**(Qof): Continued; orangish tan, wet.				
						@43.0ft. GROUNDWATER ENCOUNTERED.				
45	730	S	65			@45.0ft. fine to coarse gravel <3".				
50	725	S	86							
						TOTAL DEPTH 51.5 FEET GROUNDWATER ENCOUNTERED AT 43.0 FEET NO CAVING OBSERVED.				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

▼ GROUNDWATER
► SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0312

PLATE B-4

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0312	PROJECT NAME	5261 Arlington		
DATE STARTED	1/28/20	GROUND ELEV.	775	BORING DESIG.	B-05
DATE FINISHED	1/28/20	GW DEPTH (FT)		LOGGED BY	JC
DRILLER	2R	DRIVE WT.	140 lbs.	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
	775					Highly Weathered Asphaltic Concrete 3" over 4" of 3/4" Base.				
					ML	@0.7ft. **ARTIFICIAL FILL-UNDOCUMENTED**(afu): SANDY SILT, very fine grained, brown, slightly moist, stiff.				
		R	39		SM	**OLD ALLUVIAL FAN DEPOSITS**(Qof): SILTY SAND, very fine to fine grained, tan, dry, dense, trace pores, trace calcium carbonates.	5.6	113	32	
5	770	R	52		SP	@5.0ft. SAND, fine to coarse grained, grayish brown, dry, dense.	6.5	128	59	
10	765	R	41			@10.0ft. very fine to fine grained, gray, some clay.	7.7	98	29	
15	760	R	48			@15.0ft. grayish brown.	10.2	118	68	
20	755	R	37			@20.0ft. gray, slightly moist, trace clay	18.3	103	80	
25	750	R	37			@25.0ft. fine to medium grained, dry.	2.7			
						TOTAL DEPTH 26 FEET NO GROUNDWATER ENCOUNTERED NO CAVING OBSERVED				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

▼ GROUNDWATER
► SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0312

PLATE B-5

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0312	PROJECT NAME	5261 Arlington		
DATE STARTED	1/29/20	GROUND ELEV.	776	BORING DESIG.	B-06
DATE FINISHED	1/29/20	GW DEPTH (FT)		LOGGED BY	JC
DRILLER	2R	DRIVE WT.	140 lbs.	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
	775				ML	3" Asphaltic Concrete over 2" of 3/4" Base **ARTIFICIAL FILL-UNDOCUMENTED**(afu): SANDY SILT, very fine grained, brown, slightly moist, very stiff.				
		R	16				10.9	99	43	
5	770	R	23		ML	**OLD ALLUVIAL FAN DEPOSITS**(Qof): SANDY SILT, very fine to fine grained, grayish tan, dry, firm, few calcium carbonates.	8.2	111	45	
		B								MAX, EI, HY, CHEM
10	765	R	49		SP	@10.0ft. SAND, very fine grained, gray, dry, dense, trace calcium carbonates.	4.0	113	23	
15	760	R	50				7.6	108	38	
20	755	R	51			@20.0ft. fine to medium grained, gray and tan.	2.8	101	12	
25	750	R	64				8.0	107	38	
						TOTAL DEPTH 26 FEET NO GROUNDWATER ENCOUNTERED NO CAVING OBSERVED				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

▼ GROUNDWATER
► SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0312

PLATE B-6

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0312	PROJECT NAME	5261 Arlington		
DATE STARTED	1/29/20	GROUND ELEV.	774	BORING DESIG.	B-07
DATE FINISHED	1/29/20	GW DEPTH (FT)	43	LOGGED BY	JC
DRILLER	2R	DRIVE WT.	140 lbs.	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
					ML	3" Asphaltic Concrete over 4" of 3/4" Base **ARTIFICIAL FILL-UNDOCUMENTED**(afu): SANDY SILT, very fine grained, brown, slightly moist, stiff.				
	770	R	13				16.8	109	86	
5		R	17		ML	**YOUNG ALLUVIAL FAN DEPOSITS**(Qyf): SANDY SILT, very fine grained, brown, dry, very stiff.	11.7	114	69	
	765									
10		R	35		CL	**OLD ALLUVIAL FAN DEPOSITS**(Qof): CLAYEY SILT, very fine grained, brown, slightly moist, stiff, trace pores, some calcium carbonates.	15.1	115	91	CON, HY
	760									
15		R	53			@10.0ft. tannish gray, dry, very dense.	19.2	105	89	
	755									
20		R	40		SP	@20.0ft. SAND, very fine grained to fine grained, gray, dry, dense.	14.4	100	58	
	750									
25		R	38			@25.0ft. gray with orange mottling.	7.9	100	32	
	745									
30		S	36		SP	@30.0ft. GRAVELLY SAND, medium to coarse grained, gray, dry, medium dense, fine gravel <3/4".				
	740									
35		S	52		SP	@35.0ft. SAND, very fine to fine grained, grayish tan, dry, dense.				
	735					Continued.				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

▼ GROUNDWATER
► SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0312

PLATE B-7

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0312	PROJECT NAME	5261 Arlington		
DATE STARTED	1/29/20	GROUND ELEV.	774	BORING DESIG.	B-07
DATE FINISHED	1/29/20	GW DEPTH (FT)	43	LOGGED BY	JC
DRILLER	2R	DRIVE WT.	140 lbs.	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
		S	23		SP	**OLD ALLUVIAL FAN DEPOSITS**(Qof): Continued; GRAVELLY SAND, coarse grained, gray, wet, medium dense, fine to coarse gravel <3".				
						▼ @42.5ft. GROUNDWATER ENCOUNTERED.				
	730									
45		S	44			@45.0ft. fine gravel <1/2".				
	725									
50		S	73							
						TOTAL DEPTH 51.5 FEET GROUNDWATER ENCOUNTERED AT 42.5 FEET NO CAVING OBSERVED.				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

▼ GROUNDWATER
► SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0312

PLATE B-7

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0312	PROJECT NAME	5261 Arlington		
DATE STARTED	1/29/20	GROUND ELEV.	774	BORING DESIG.	B-08
DATE FINISHED	1/29/20	GW DEPTH (FT)	41	LOGGED BY	JC
DRILLER	2R	DRIVE WT.	140 lbs.	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
					ML	3" Asphaltic Concrete over 3" of 3/4" Base **ARTIFICIAL FILL-UNDOCUMENTED**(afu): SILT, brown, slightly moist, stiff, trace clay, trace fine grained sand.				
	770	R	10				15.1	108	75	
5		R	26		ML	**YOUNG ALLUVIAL FAN DEPOSITS**(Qyf): CLAYEY SILT, brown, slightly moist, very stiff, trave very fine grained, sand, trace pores.	15.0	116	92	CON, HY
	765	B								
10		R	27			@10.0ft. some very fine to fine grained sand.	19.5	107	95	
	760									
15		R	42		SM	**OLD ALLUVIAL FAN DEPOSITS**(Qof): SILTY SAND, very fine to fine grained, tannish gray, dry, dense, trace clay.	19.0	110	97	
	755									
20		R	29		SP	@20.0ft. SAND, very fine to fine grained, tan with orange mottling, dry, medium dense.	15.2	95	54	
	750									
25		R	54			@25.0ft. coarse grained, gray, dry, very dense, trace fine gravel <1/2".	2.1	101	9	
	745									
30		S	29			@30.0ft. very fine to fine grained, slightly moist, medium dense.				
	740									
35		S	30			@35.0ft. some clay.				
	735					Continued.				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

▼ GROUNDWATER
► SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0312

PLATE B-8

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0312	PROJECT NAME	5261 Arlington		
DATE STARTED	1/29/20	GROUND ELEV.	774	BORING DESIG.	B-08
DATE FINISHED	1/29/20	GW DEPTH (FT)	41	LOGGED BY	JC
DRILLER	2R	DRIVE WT.	140 lbs.	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
		S	35		SP	**OLD ALLUVIAL FAN DEPOSITS**(Qof): Continued;				
						@40.8ft. GRAVELLY SAND, coarse grained, gray, wet, medium dense, fine gravel <3/4".				
						@41.0ft. GROUNDWATER ENCOUNTERED				
	730									
45		S	69			@45.0ft. very dense.				
	725									
50		S	48			@50.0ft. fine to coarse gravel <3".				
						TOTAL DEPTH 51.5 FEET GROUNDWATER ENCOUNTERED AT 41.0 FEET NO CAVING OBSERVED.				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

GROUNDWATER
SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0312

PLATE B-8

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0312	PROJECT NAME	5261 Arlington		
DATE STARTED	1/28/20	GROUND ELEV.	776	BORING DESIG.	B-09
DATE FINISHED	1/28/20	GW DEPTH (FT)		LOGGED BY	JC
DRILLER	2R	DRIVE WT.	140 lbs.	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
						4" Asphaltic Concrete over 4" of 3/4" Base				
	775				ML	**ARTIFICIAL FILL-UNDOCUMENTED**(afu): SILT, brown, dry, firm, trace fine grained sand, trace gravel <3/4".				
		R	14				14.4	108	72	
5	770	R	25			@5.0ft. very stiff.	16.1	112	89	
					ML	**YOUNG ALLUVIAL FAN DEPOSITS**(Qyf): SANDY SILT, fine grained, brown, slightly moist, very stiff, trace clay.				
10	765	R	21				16.8	112	93	
15	760	R	30		SC	@15.0ft.CLAYEY SAND, fine to medium grained, brown with orange mottling, slightly moist, medium dense.	10.5	114	61	
20	755	R	40		SC	**OLD ALLUVIAL FAN DEPOSITS**(Qof): CLAYEY SAND, very fine to fine grained, gray with orange mottling, moist, dense.	26.7	91	87	
25	750	R	84		SP	@25.0ft. SAND, medium to coarse grained, tan, dry, very dense.				
						TOTAL DEPTH 26 FEET NO GROUNDWATER ENCOUNTERED NO CAVING OBSERVED				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

GROUNDWATER
SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0312

PLATE B-9

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0312	PROJECT NAME	5261 Arlington		
DATE STARTED	1/28/20	GROUND ELEV.	774	BORING DESIG.	P-01
DATE FINISHED	1/28/20	GW DEPTH (FT)		LOGGED BY	JC
DRILLER	2R	DRIVE WT.	140 lbs.	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
						3" Asphaltic Concrete over 5" of 3/4" Base				
					ML	**ARTIFICIAL FILL-UNDOCUMENTED**(afu): SANDY SILT, very fine grained, brown, dry, stiff.				
					SM	**OLD ALLUVIAL FAN DEPOSITS**(Qof): SILTY SAND, very fine to fine grained, tan, dry, dense.				
	770									
5						TOTAL DEPTH 5 FEET NO GROUNDWATER ENCOUNTERED NO CAVING OBSERVED				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

GROUNDWATER
SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0312

PLATE B-10

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0312	PROJECT NAME	5261 Arlington		
DATE STARTED	1/29/20	GROUND ELEV.	772	BORING DESIG.	P-02
DATE FINISHED	1/29/20	GW DEPTH (FT)		LOGGED BY	JC
DRILLER	2R	DRIVE WT.	140 lbs.	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
						Highly Weathered Asphaltic Concrete 3" over 4" of 3/4" Base.				
					ML	**ARTIFICIAL FILL-UNDOCUMENTED**(afu): SILT, brown, slightly moist, stiff, trace very fine grained sand.				
	770				SM	@1.0ft. concrete debris				
						OLD ALLUVIAL FAN DEPOSITS(Qof): SILTY SAND, very fine to fine grained, tan, dry, dense.				
5						TOTAL DEPTH 5 FEET NO GROUNDWATER ENCOUNTERED NO CAVING OBSERVED				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

▼ GROUNDWATER
► SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0312

PLATE B-11

GEOTECHNICAL BORING LOG

PROJECT NO.	1-0312	PROJECT NAME	5261 Arlington		
DATE STARTED	1/29/20	GROUND ELEV.	777	BORING DESIG.	P-03
DATE FINISHED	1/29/20	GW DEPTH (FT)		LOGGED BY	JC
DRILLER	2R	DRIVE WT.	140 lbs.	NOTE	
TYPE OF DRILL RIG	8" Hollow Stem Auger	DROP	30 in.		

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOWS	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT-URATION (%)	OTHER TESTS
					SM	**ARTIFICIAL FILL-UNDOCUMENTED**(afu): SANDY SILT, fine grained, brown, slightly moist, medium dense, with roots.				
	775									
5										
	770				ML	**YOUNG ALLUVIAL FAN DEPOSITS**(Qyf): CLAYEY SILT, brown, moist, firm to stiff.				
10						TOTAL DEPTH 10.0 FEET NO GROUNDWATER ENCOUNTERED NO CAVING OBSERVED				

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE
- T TUBE SAMPLE

▼ GROUNDWATER
► SEEPAGE
J: JOINTING C: CONTACT
B: BEDDING F: FAULT
S: SHEAR RS: RUPTURE SURFACE

Alta California Geotechnical, Inc.

P.N. 1-0312

APPENDIX C

Laboratory Testing

LABORATORY TESTING

The following laboratory tests were performed on a representative sample in accordance with the applicable latest standards or methods from the ASTM, California Building Code (CBC) and California Department of Transportation.

Classification

Soils were classified with respect to the Unified Soil Classification System (USCS) in accordance with ASTM D-2487 and D-2488.

Particle Size Analysis

Modified hydrometer testing was conducted to aid in classification of the soil. The results of the particle size analysis are presented in Table C.

Maximum Density/Optimum Moisture

The maximum dry density and optimum moisture content of two representative bulk samples were evaluated in accordance with ASTM D-1557. The results are summarized in Table C.

Expansion Index Tests

Two (2) expansion index tests were performed to evaluate the expansion potential of typical on-site soil. Testing was carried out in general conformance with ASTM Test Method D-4829. The results are presented in Table C.

Consolidation Tests

Consolidation testing was performed on four (4) relatively "undisturbed" soil samples at their natural moisture content in accordance with procedures outlined in ASTM D-2435. The samples were placed in a consolidometer and loads were applied incrementally in geometric progression. The samples (2.42-inches in diameter and 1-inch in height) were permitted to consolidate under each load increment until the slope of the characteristic linear secondary compression portion of the thickness versus log of time plot was apparent. The percent consolidation for each load cycle was recorded as the ratio of the amount of vertical

compression to the original 1-inch height. The consolidation test results are shown on Plates C-1 through C-4.

Direct Shear Testing

Direct shear testing in general conformance with ASTM test method D 3080, was performed on one sample remolded to 90% of the maximum density, and on one relatively "undisturbed" sample. The results of these tests are presented on Plates C-5 and C-6.

Sieve Analyses

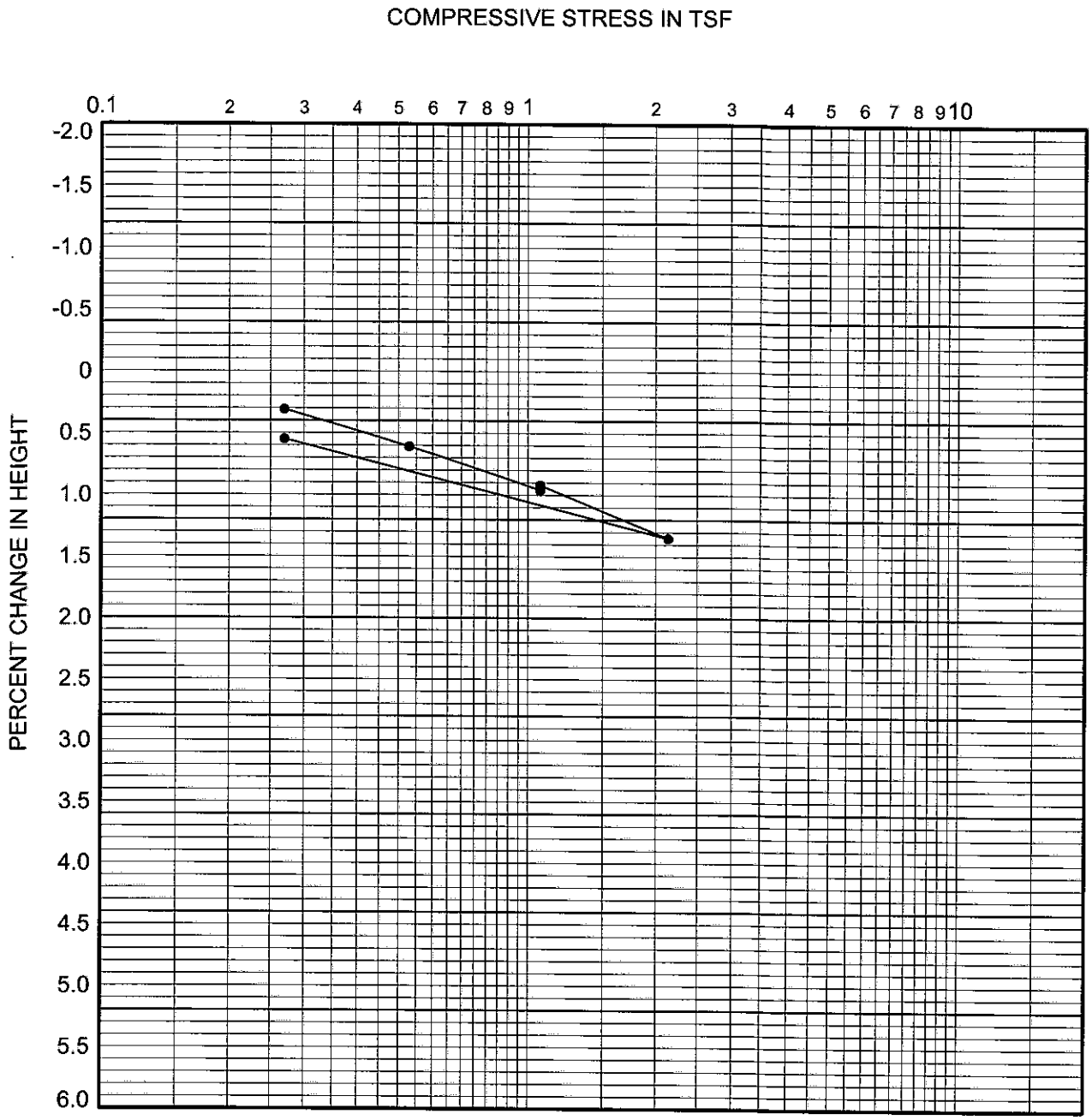
Sieve analysis testing, in general conformance with ASTM test method D 6913, was performed on two select samples. The results of these tests are presented on Plates C-7 and C-8.

Chemical Analyses

Chemical testing was performed on two select samples. The results of these tests (sulfate content, resistivity, chloride content and pH) are presented on Table C.

TABLE C
SUMMARY OF LABORATORY TEST DATA
P.N. 1-0312

BORING	DEPTH (FEET)	SOIL DESCRIPTION	GROUP SYMBOL	MAXIMUM DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	DIRECT SHEAR	PLUS NO.4 SEIVE (plus 4.76mm) (%)	SAND (4.76mm-0.075mm) (%)	SILT (0.075mm-0.005mm) (%)	CLAY (minus 0.005mm) (%)	EXPANSION INDEX UBC 18-2	CONSOL	OTHER TESTS REMARKS
B-01	5	Sandy Silt (Qyf)	ML				0	30	50	20		SEE PLATE C-1	
B-02	4.5	Silty Clay (Qyf)	CL	128.7	9.9	SEE PLATE C-5	1	24	49	26	53		Sulf: ND, Chlor: 15ppm, pH:8.2, Res.: 2500 ohm cm
B-02	30	Silty Sand (Qof)	SM				16	66	12	8			
B-02	40	Sand (Qof)	SP				0	92	4	4			
B-03	10	Sandy Silt (Qof)	ML				0	21	73	6		SEE PLATE C-2	
B-04	5	Sandy Silt (Qof)	ML			SEE PLATE C-6	0	33	40	27			
B-06	8	Sandy Silt (Qof)	ML	126.5	10.3		4	44	30	22	31		Sulf: 110 ppm, Chlor: 15ppm, pH:8.4, Res.: 2200 ohm cm
B-07	10	Clayey Silt (Qof)	ML				0	20	46	34		SEE PLATE C-3	
B-08	5	Clayey Silt (Qyf)	ML				0	20	56	24		SEE PLATE C-4	



boring	depth (ft.)	dry density (pcf)	in situ moist. (%)	in situ satur. (%)	-200 sieve (%)	group symbol	typical names
B-01	5.0	114	13.2	78	70	ML	Sandy Silt (Qyf)

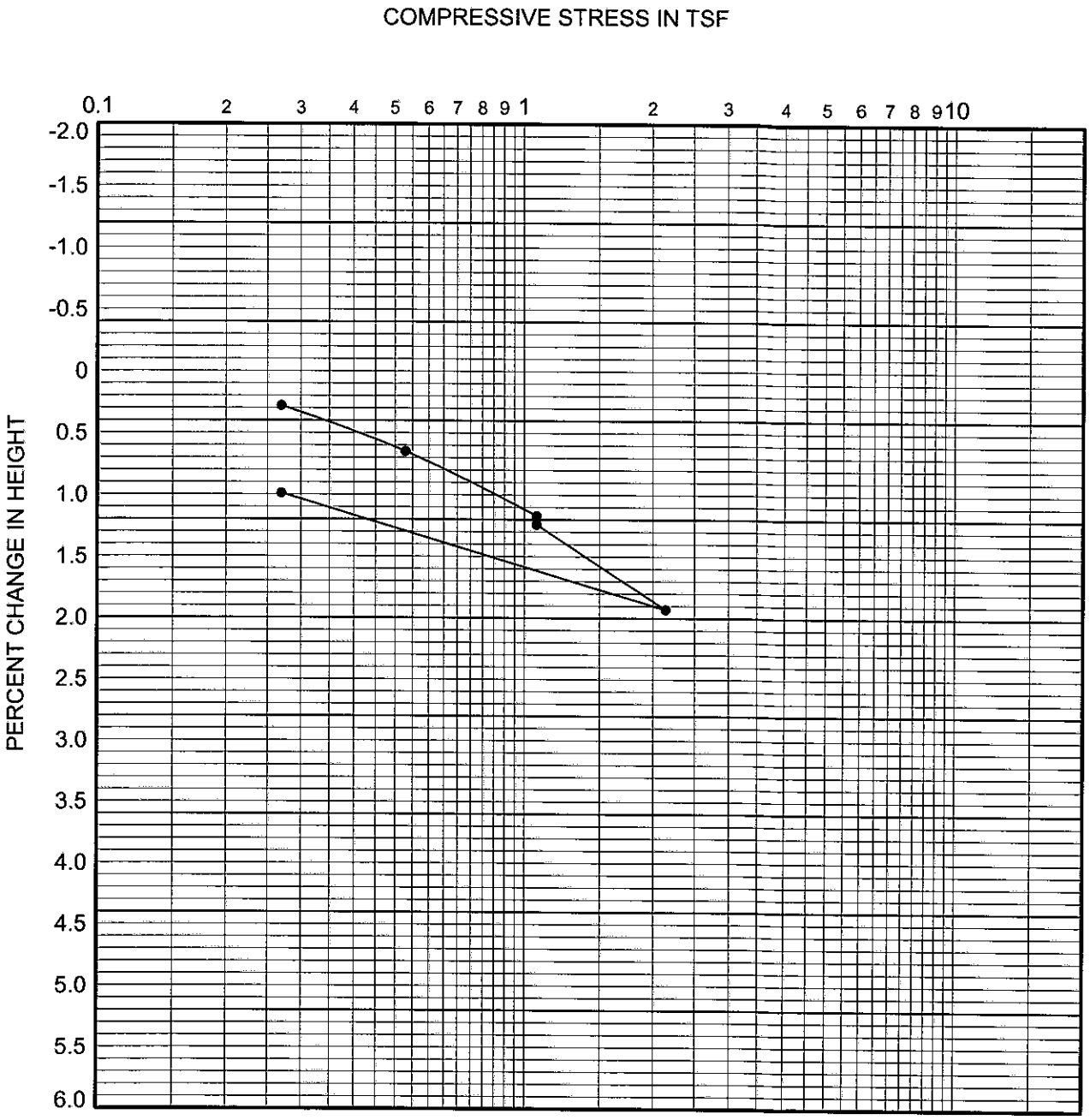
REMARKS: WATER ADDED AT 1.07 TSF

CONSOLIDATION CURVE

Alta California Geotechnical, Inc.

P.N. 1-0312

PLATE C-1



boring	depth (ft.)	dry density (pcf)	in situ moist. (%)	in situ satur. (%)	-200 sieve (%)	group symbol	typical names
B-03	10.0	93	15.3	52	79	ML	Sandy Silt (Qof)

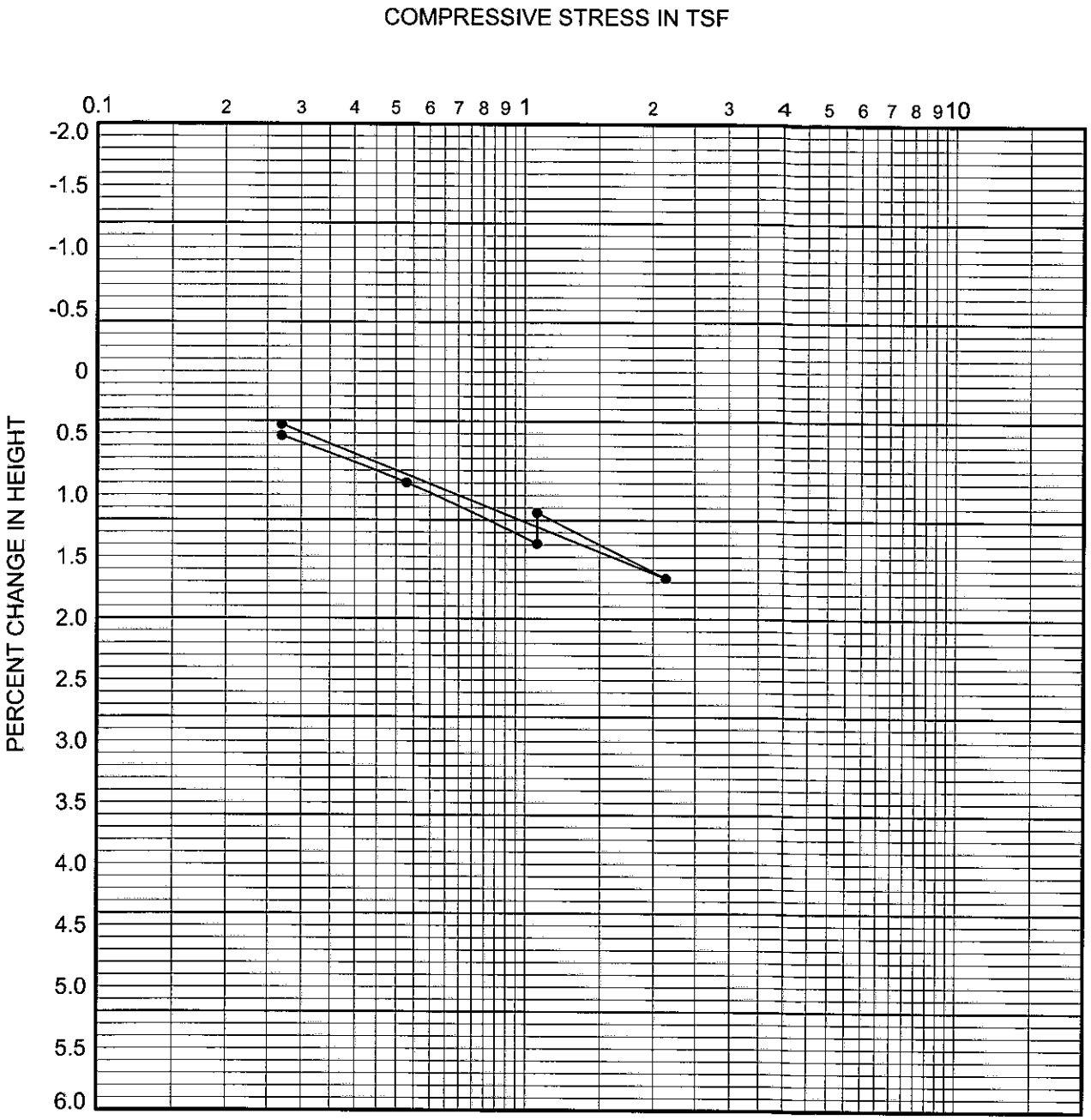
REMARKS: WATER ADDED AT 1.07 TSF

CONSOLIDATION CURVE

Alta California Geotechnical, Inc.

P.N. 1-0312

PLATE C-2



boring	depth (ft.)	dry density (pcf)	in situ moist. (%)	in situ satur. (%)	-200 sieve (%)	group symbol	typical names
B-07	10.0	115	15.1	91	80	ML	Clayey Silt (Qof)

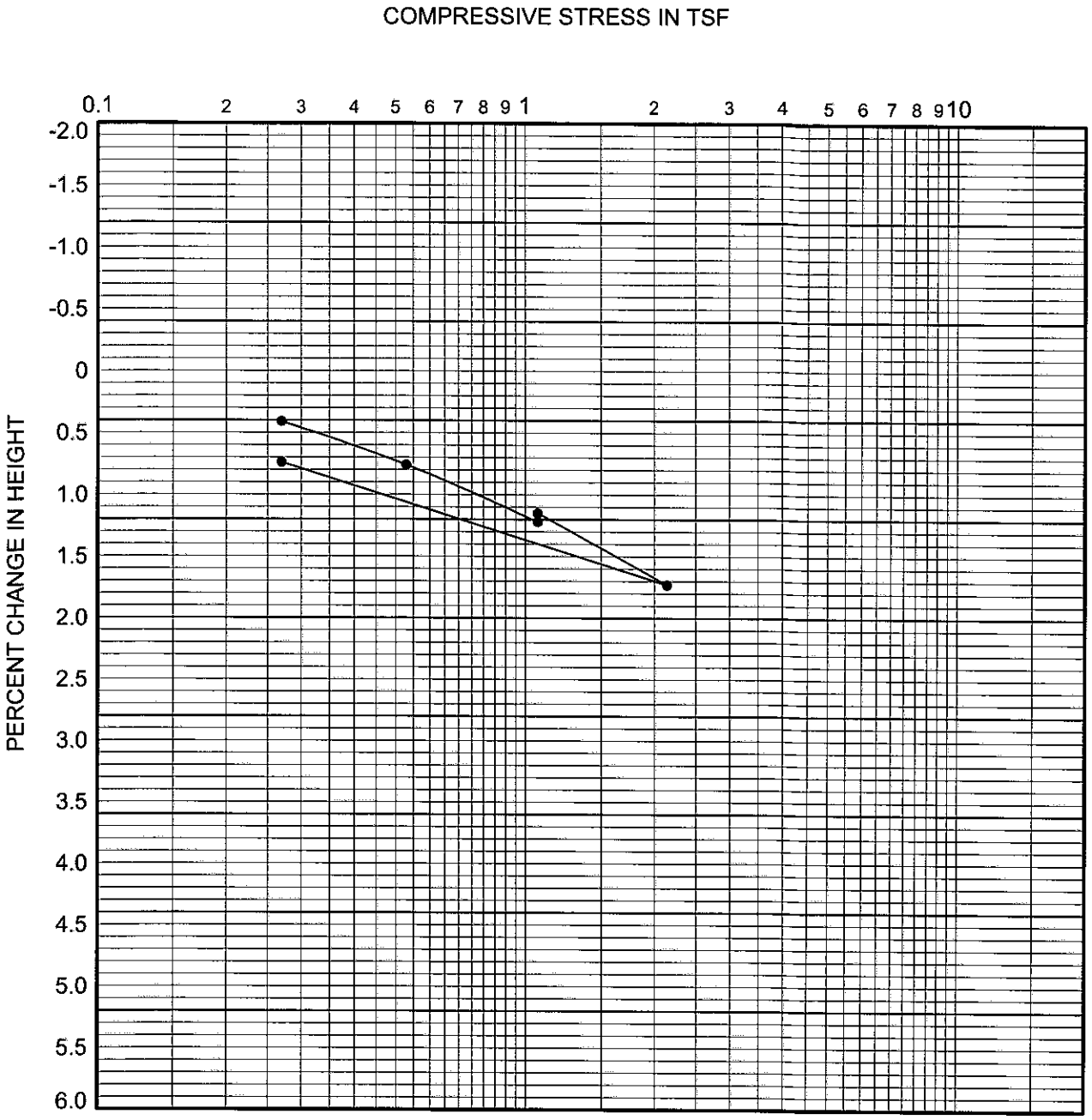
REMARKS: WATER ADDED AT 1.07 TSF

CONSOLIDATION CURVE

Alta California Geotechnical, Inc.

P.N. 1-0312

PLATE C-3



boring	depth (ft.)	dry density (pcf)	in situ moist. (%)	in situ satur. (%)	-200 sieve (%)	group symbol	typical names
B-08	5.0	116	15.0	92	80	ML	Clayey Silt (Qyf)

REMARKS: WATER ADDED AT 1.07 TSF

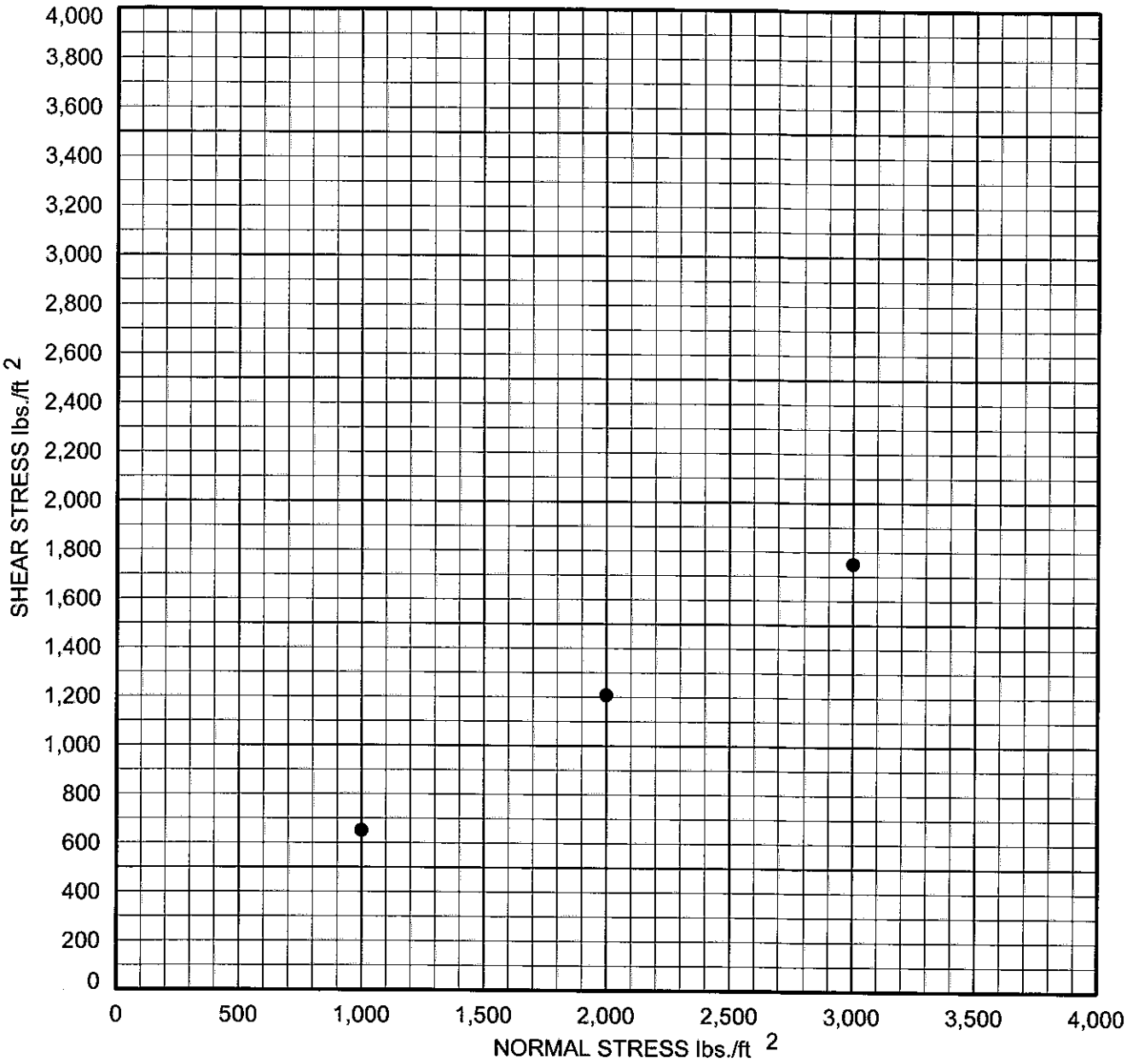
CONSOLIDATION CURVE

Alta California Geotechnical, Inc.

P.N. 1-0312

PLATE C-4

DIRECT SHEAR TEST
Remolded at 90% Relative Compaction



boring	depth (ft.)	dry density (pcf)	in situ moist. (%)	-200 sieve (%)	group symbol	typical names
B-02	4.5			75	CL	Silty Clay (Qyf)

COHESION	100	psf.
FRICTION ANGLE	28.0	degrees

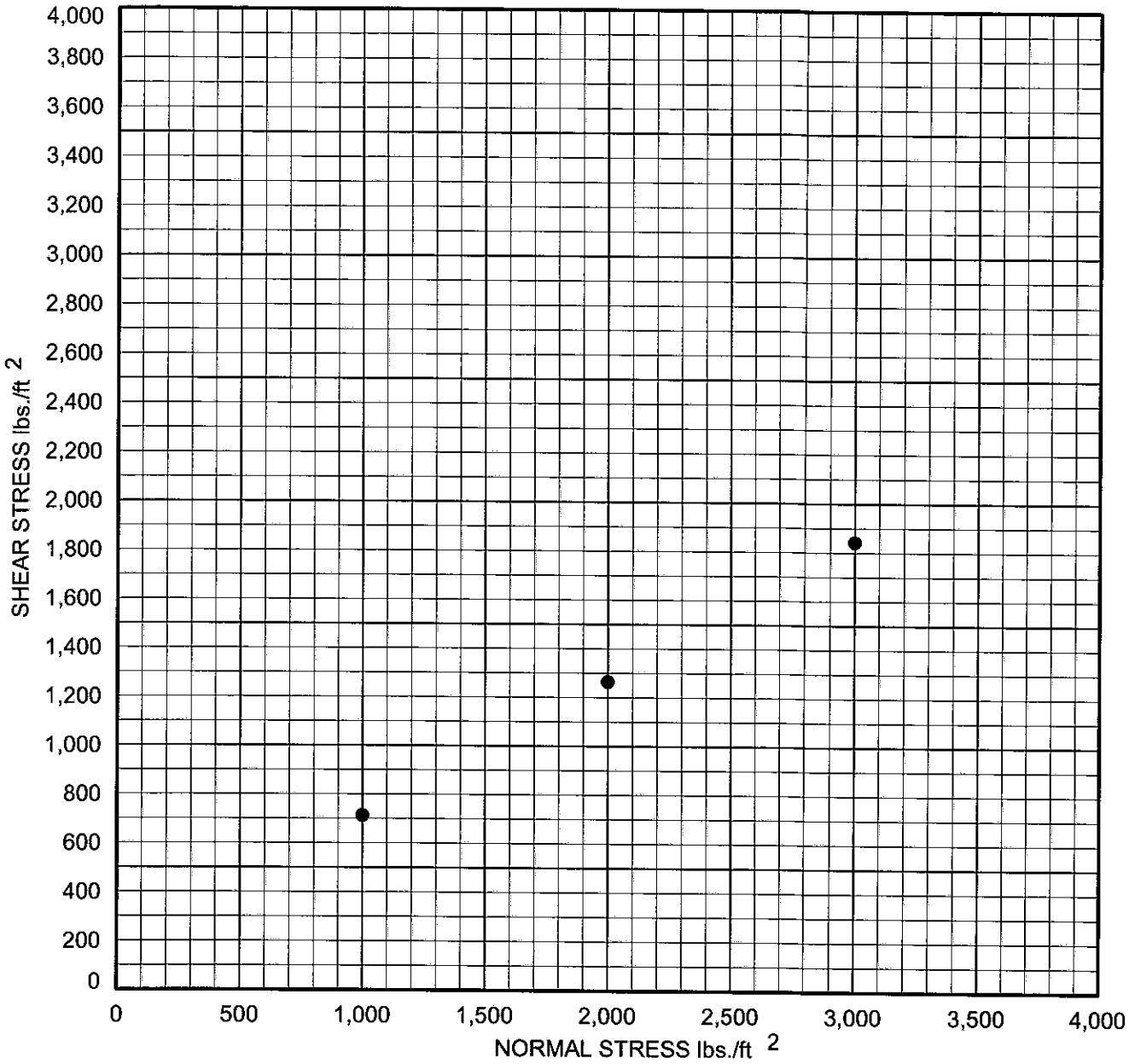
DIRECT SHEAR TEST

Alta California Geotechnical, Inc.

P.N. 1-0312

PLATE C-5

DIRECT SHEAR TEST
Undisturbed



boring	depth (ft.)	dry density (pcf)	in situ moist. (%)	-200 sieve (%)	group symbol	typical names
B-04	5.0	121	13.1	67	ML	Sandy Silt (Qof)

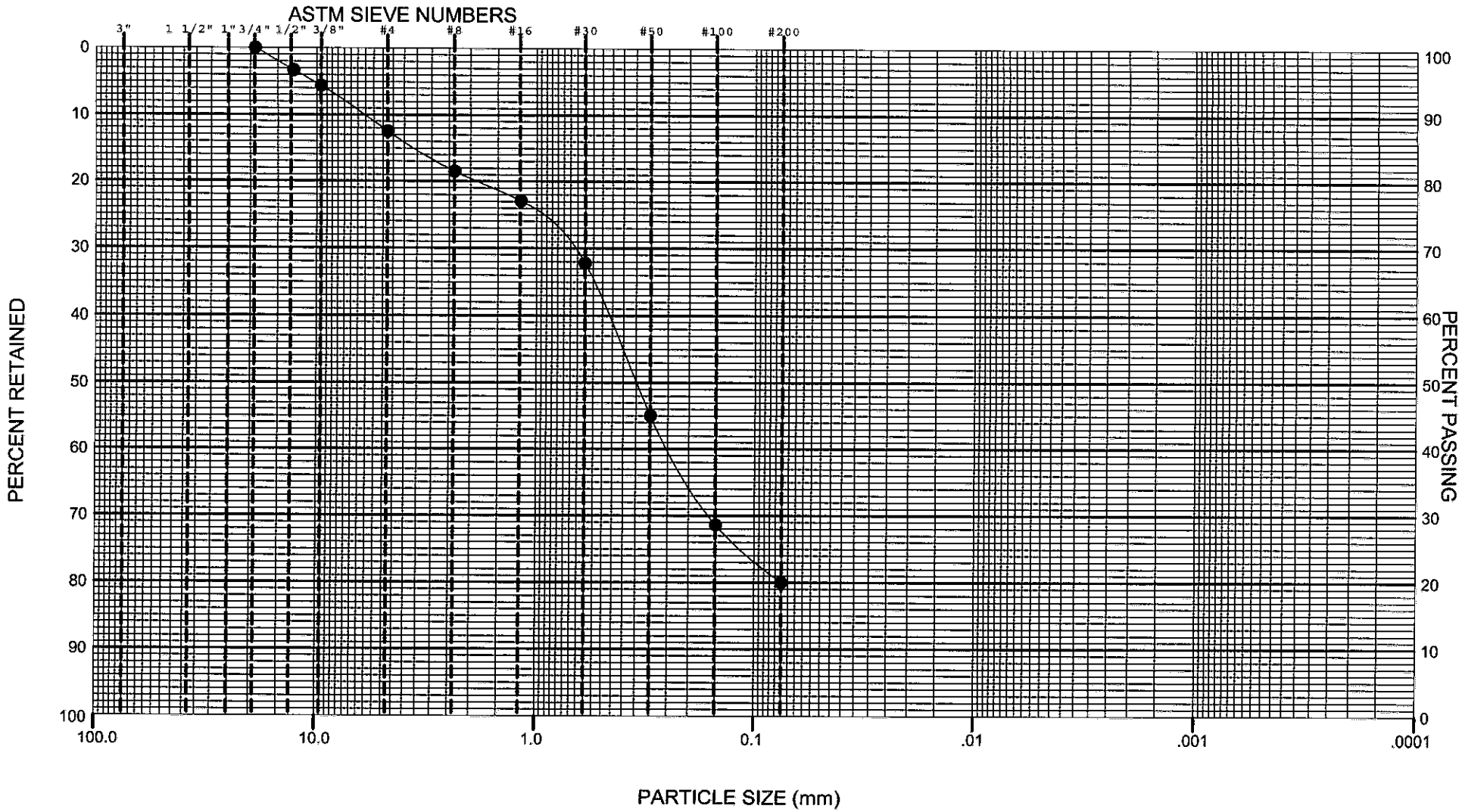
COHESION	145	psf.
FRICTION ANGLE	30.0	degrees

DIRECT SHEAR TEST

Alta California Geotechnical, Inc.

P.N. 1-0312

PLATE C-6



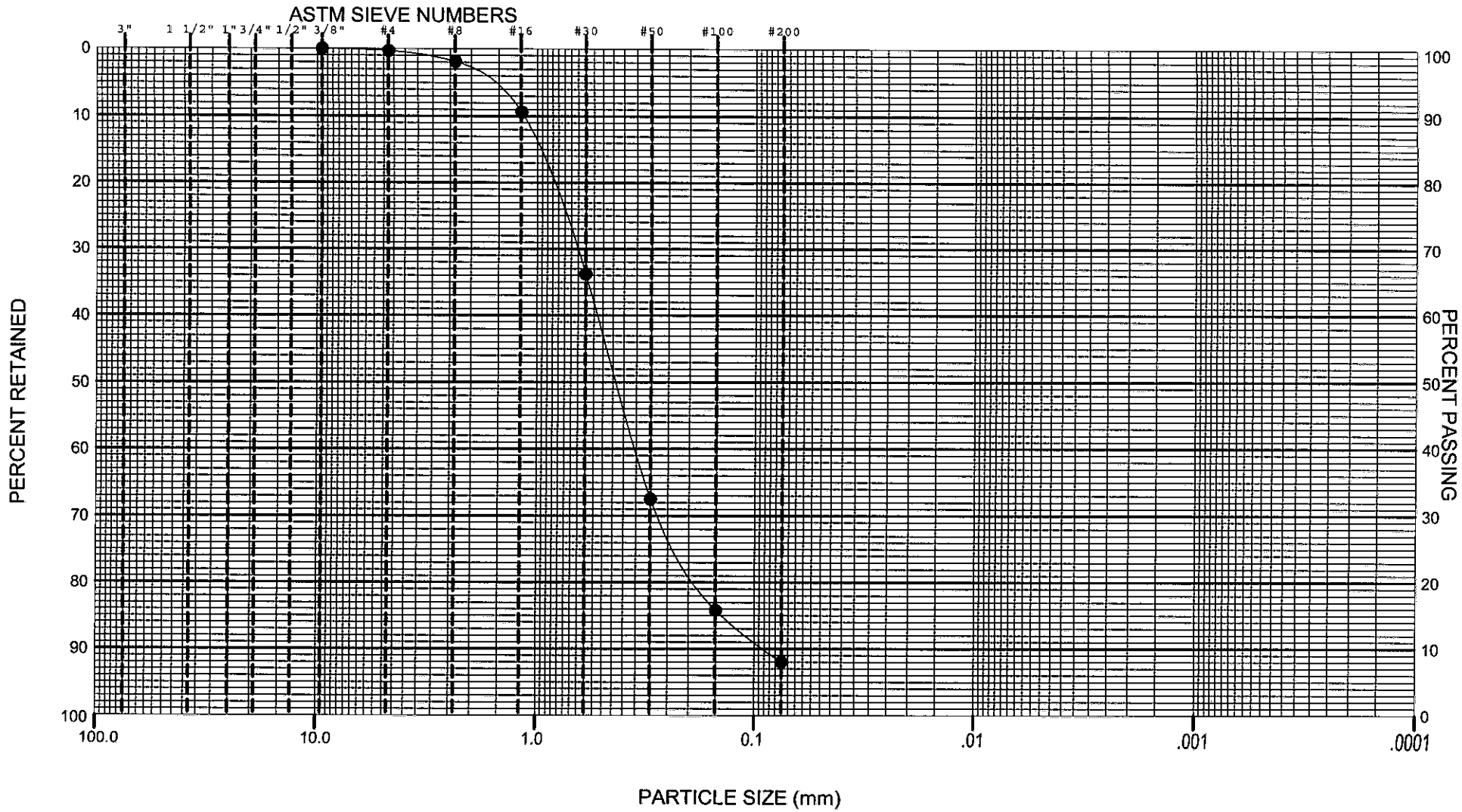
GRAVEL	SAND			SILT	CLAY	COLLOIDS
	COARSE	MEDIUM	FINE			

symbol	boring or trench	depth(ft.)	L.L.	P.L.	sand equiv.	% passing #200 sieve	group symbol	typical names
●	B-02	30				20.0	SM	Silty Sand (Qof)

GRAIN SIZE DISTRIBUTION

Alta California Geotechnical, Inc.

P.N. 1-0312 PLATE C-7



symbol	boring or trench	depth(ft.)	L.L.	P.L.	sand equiv.	% passing #200 sieve	group symbol	typical names
●	B-02	40				8.0	SP	Sand (Qof)

GRAIN SIZE DISTRIBUTION

Alta California Geotechnical, Inc.

P.N. 1-0312 PLATE C-8

APPENDIX D

Liquefaction Analysis

APPENDIX D

LIQUEFACTION ANALYSIS

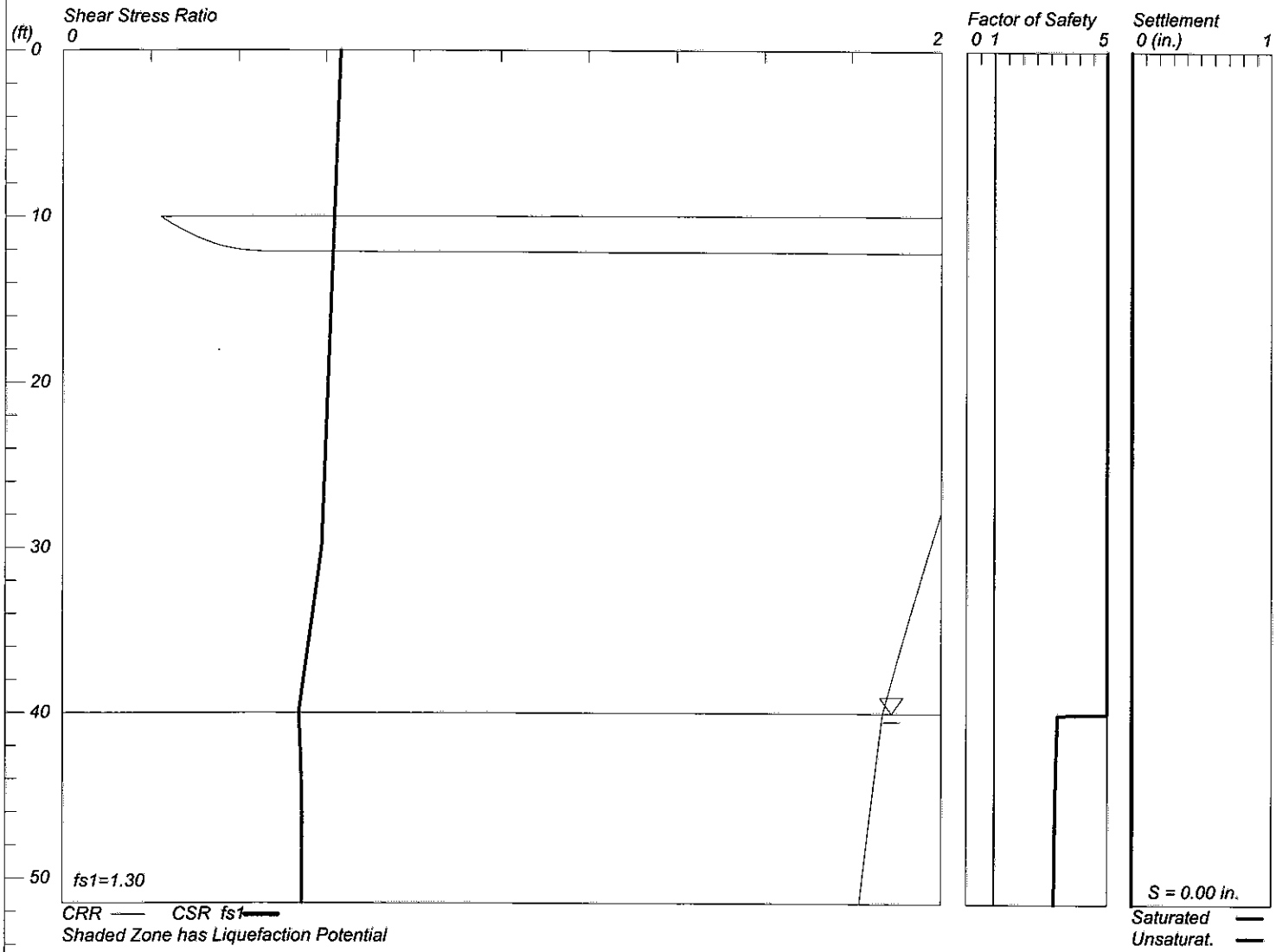
A liquefaction analysis was performed for the site based on SPT data gained from the hollow stem auger drilling. The Ishihara/Yoshimine method to analyze dynamic settlement for the SPT data. The calculations used the following constants: 0.75g for site acceleration, 7.7 for the magnitude of the earthquake, and a groundwater depth of 40 feet below existing grade. A factor of safety of 1.3 was utilized. The results are presented on Plate D-1 through D-4.

LIQUEFACTION ANALYSIS

5261 Arlington Avenue

Hole No.=B-2 Water Depth=40 ft Surface Elev.=777

Magnitude=7.7
Acceleration=0.75g



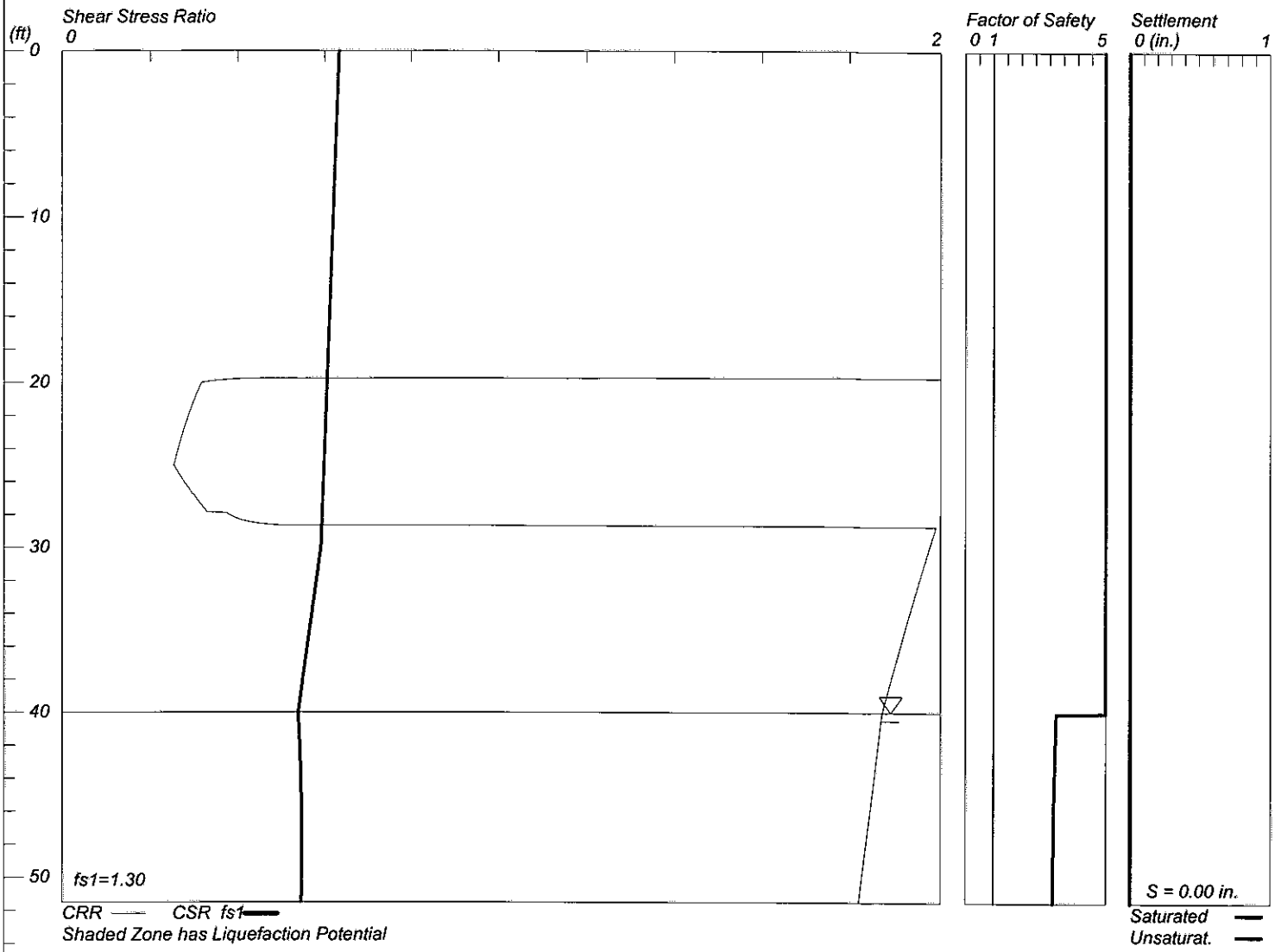
LiquefyPro CivilTech Software USA www.civiltech.com

LIQUEFACTION ANALYSIS

5261 Arlington Avenue

Hole No.=B-4 Water Depth=40 ft Surface Elev.=777

Magnitude=7.7
Acceleration=0.75g



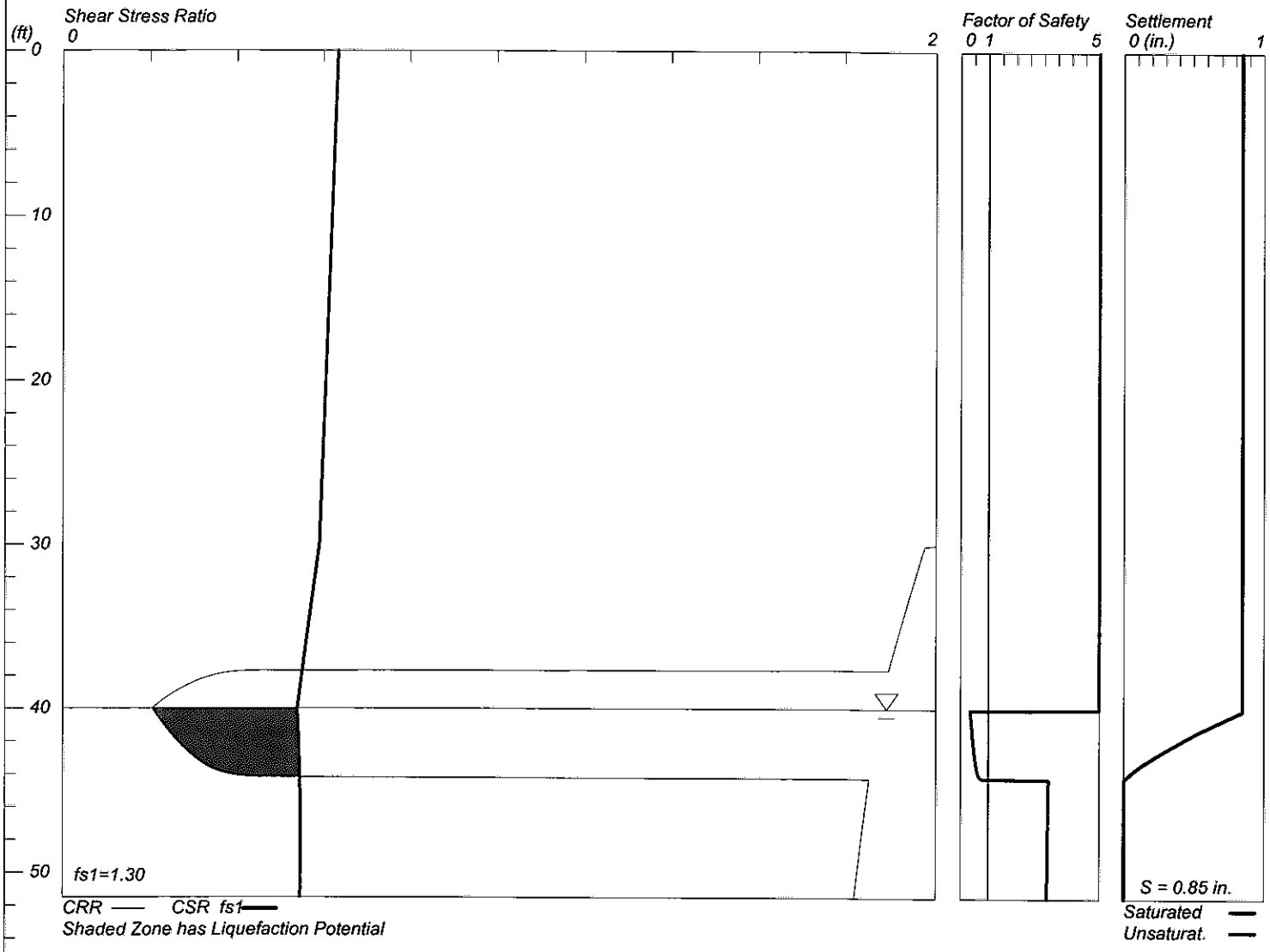
LiquefyPro CivilTech Software USA www.civiltech.com

LIQUEFACTION ANALYSIS

5261 Arlington Avenue

Hole No.=B-7 Water Depth=40 ft Surface Elev.=777

Magnitude=7.7
Acceleration=0.75g



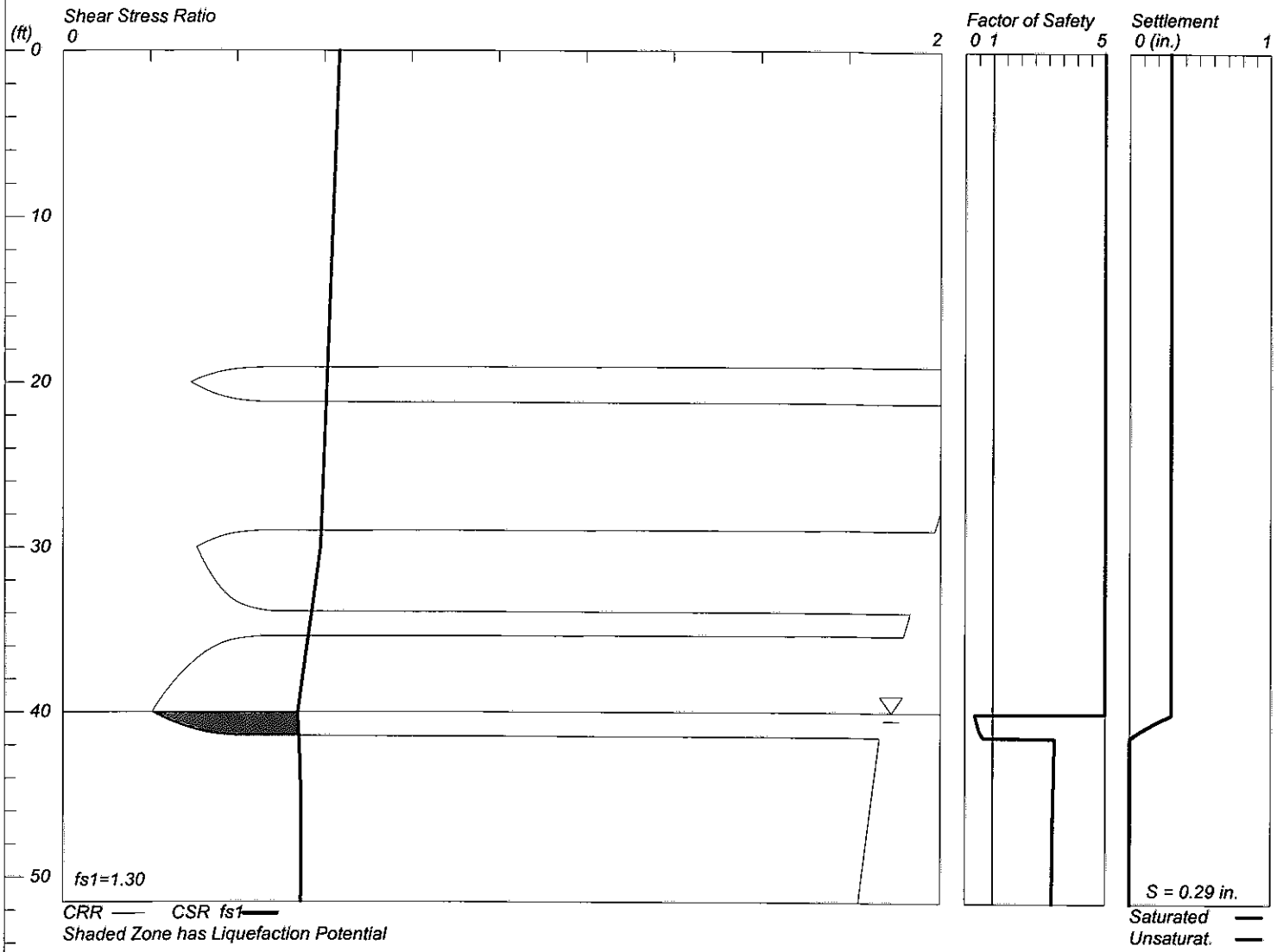
LiquefyPro CivilTech Software USA www.civiltech.com

LIQUEFACTION ANALYSIS

5261 Arlington Avenue

Hole No.=B-8 Water Depth=40 ft Surface Elev.=777

Magnitude=7.7
Acceleration=0.75g



LiquefyPro CivilTech Software USA www.civiltech.com

APPENDIX E

Maintenance and Improvement Considerations

MAINTENANCE AND IMPROVEMENT CONSIDERATIONS

General

Owners purchasing property must assume a certain degree of responsibility for improvements and for maintaining conditions around their home. Of primary importance from a geotechnical standpoint are maintaining drainage patterns and minimizing the soil moisture variation below all improvements. Such design, construction and owner maintenance provisions may include:

- Employing contractors for improvements who design and build in recognition of local building codes and specific site soils conditions.
- Establishing and maintaining positive drainage away from all foundations, walkways, driveways, patios, and other improvements.
- Avoiding the construction of planters adjacent to structural improvements. Alternatively, planter sides/bottoms can be sealed with an impermeable membrane and drained away from the improvements via subdrains into approved disposal areas.
- Sealing and maintaining construction/control joints within concrete slabs and walkways to reduce the potential for moisture infiltration into the subgrade soils.
- Utilizing landscaping schemes with vegetation that requires minimal watering. Watering should be done in a uniform manner, as equally as possible on all sides of the foundation, keeping the soil "moist" but not allowing the soil to become saturated.
- Maintaining positive drainage away from structures and providing roof gutters on all structures with downspouts that are designed to carry roof runoff directly into area drains or discharged well away from the foundation areas.
- Avoiding the placement of trees closer to the proposed structures than a distance of one-half the mature height of the tree.
- Observation of the soil conditions around the perimeter of the structure during extremely hot/dry or unusually wet weather conditions so that modifications can be made in irrigation programs to maintain relatively uniform moisture conditions.

Sulfates

Owners should be cautioned against the import and use of certain inorganic fertilizers, soil amendments, and/or other soils from offsite sources in the absence of specific information relating to their chemical composition. Some fertilizers have been known to leach sulfate compounds into soils and increase the sulfate concentrations to potentially detrimental levels.

Site Drainage

- The owners should be made aware of the potential problems that may develop when drainage is altered through construction of hardscape improvements. Ponded water, drainage over the slope face, leaking irrigation systems, overwatering, or other conditions which could lead to ground saturation must be avoided.
- No water should be allowed to flow over the slopes. No alteration of pad gradients should be allowed that would prevent pad and roof runoff from being directed to approved disposal areas.
- Drainage patterns have been established at the time of the fine grading should be maintained throughout the life of the structure. No alterations to these drainage patterns should be made unless designed by qualified professionals in compliance with local code requirements and site-specific soils conditions.

Slope Drainage

- Residents should be made aware of the importance of maintaining and cleaning all interceptor ditches, drainage terraces, down drains, and any other drainage devices, which have been installed to promote slope stability.
- Subsurface drainage pipe outlets may protrude through slope surfaces and/or wall faces. These pipes, in conjunction with the graded features, are essential to slope and wall stability and must be protected in-place. They should not be altered or damaged in any way.

Planting and Irrigation of Slopes

- Seeding and planting of the slopes should be planned to achieve, as rapidly as possible, a well-established and deep-rooted vegetal cover requiring minimal watering.
- It is the responsibility of the landscape architect to provide such plants initially and of the residents to maintain such planting. Alteration of such a planting scheme is at the resident's risk.
- The resident is responsible for proper irrigation and for maintenance and repair of properly installed irrigation systems. Leaks should be fixed immediately.
- Sprinklers should be adjusted to provide maximum uniform coverage with a minimum of water usage and overlap. Overwatering with consequent wasteful runoff and serious ground saturation must be avoided.
- If automatic sprinkler systems are installed, their use must be adjusted to account for seasonal and natural rainfall conditions.

Burrowing Animals

- Residents must undertake a program to eliminate burrowing animals. This must be an ongoing program in order to promote slope stability.

Owner Improvement

Owner improvements (pools, spas, patio slabs, retaining walls, planters, etc.) should be designed to account for the terrain of the project, as well as expansive soil conditions and chemical characteristics. Design considerations on any given lot may need to include provisions for differential bearing materials, ascending/descending slope conditions, bedrock structure, perched (irrigation) water, special geologic surcharge loading conditions, expansive soil stresses, and long-term creep/settlement.

All owner improvements should be designed and constructed by qualified professionals utilizing appropriate design methodologies, which account for the on-site soils and geologic conditions. Each lot and proposed improvement should be evaluated on an individual basis.

Setback Zones

Manufactured slopes maybe subject to long-term settlement and creep that can manifest itself in the form of both horizontal and vertical movement. These movements typically are produced as a result of weathering, erosion, gravity forces, and other natural phenomenon. A setback adjacent to slopes is required by most building codes, including the California Building Code. This zone is intended to locate and support the residential structures away from these slopes and onto soils that are not subject to the potential adverse effects of these natural phenomena.

The owner may wish to construct patios, walls, walkways, planters, swimming pools, spas, etc. within this zone. Such facilities may be sensitive to settlement and creep and should not be constructed within the setback zone unless properly engineered. It is suggested that plans for such improvements be designed by a professional engineer who is familiar with grading ordinances and design and construction requirements. In addition, we recommend that the

designer and contractor familiarize themselves with the site specific geologic and geotechnical conditions on the specific lot.

APPENDIX F

Earthwork Specifications

ALTA CALIFORNIA GEOTECHNICAL, INC.
EARTHWORK SPECIFICATIONS

These specifications present the generally accepted standards and minimum earthwork requirements for the development of the project. These specifications shall be the project guidelines for earthwork except where specifically superseded in preliminary geology and soils reports, grading plan review reports or by the prevailing grading codes or ordinances of the controlling agency.

A. GENERAL

1. The Contractor shall be responsible for the satisfactory completion of all earthwork in accordance with the project plans and specifications.

2. The project Geotechnical Engineer and Engineering Geologist, or their representatives, shall provide observation and testing services, and Geotechnical consultation for the duration of the project.

3. All clearing, grubbing, stripping and site preparation for the project shall be accomplished by the Contractor to the satisfaction of the Geotechnical Engineer/Engineering Geologist.

4. It is the Contractor's responsibility to prepare the ground surface to receive fill to the satisfaction of the Geotechnical Engineer and to place, spread, mix, moisture condition, and compact the fill in accordance with the job specifications and as required by the Geotechnical Engineer. The Contractor shall also remove all material considered by the Geotechnical Engineer to be unsuitable for use in the construction of engineered fills.

5. The Contractor shall have suitable and sufficient equipment in operation to handle the amount of fill being placed. When necessary, equipment will be shut down temporarily in order to permit the proper preparation of fills.

B. PREPARATION OF FILL AREAS

1. Excessive vegetation and all deleterious material should be disposed of offsite as required by the Geotechnical Engineer.

   Existing fill, soil, alluvium or rock materials determined by the Geotechnical Engineer as being unsuitable for placement in compacted fills shall be removed and hauled from the site. Where applicable, the Contractor may obtain the

approval of the Soils Engineer and the controlling authorities for the project to dispose of the above described materials, or a portion thereof, in designated areas onsite.

After removal of the deleterious materials have been accomplished, earth materials deemed unsuitable in their natural, in-place condition, shall be removed as recommended by the Geotechnical Engineer/Engineering Geologist.

2. Upon achieving a suitable bottom for fill placement, the exposed removal bottom shall be disced or bladed by the Contractor to the satisfaction of the Geotechnical Engineer. The prepared ground surfaces shall then be brought to the specified moisture content mixed as required, and compacted and tested as specified. In localities where it is necessary to obtain the approval of the controlling agency prior to placing fill, it will be the Contractor's responsibility to contact the proper authorities to visit the site.

3. Any underground structure such as cesspools, cisterns, mining shafts, tunnels, septic tanks, wells, pipelines or other structures not located prior to grading are to be removed or treated in a manner prescribed by the Geotechnical Engineer and/or the controlling agency for the project.

C. ENGINEERED FILLS

1. Any material imported or excavated on the property may be utilized as fill, provided the material has been determined to be suitable by the Geotechnical Engineer. Deleterious materials shall be removed from the fill as directed by the Geotechnical Engineer.

2. Rock or rock fragments less than twelve inches in the largest dimension may be utilized in the fill, provided they are not placed in concentrated pockets and the distribution of the rocks is approved by the Geotechnical Engineer.

3. Rocks greater than twelve inches in the largest dimension shall be taken offsite, or placed in accordance with the recommendations of the Geotechnical Engineer in areas designated as suitable for rock disposal.

4. All materials to be used as fill, shall be tested in the laboratory by the Geotechnical Engineer. Proposed import materials shall be approved by the Geotechnical Engineer 48 hours prior to importation.

5. The fill materials shall be placed by the Contractor in lifts, that when compacted, shall not exceed six inches. Each lift shall be spread evenly and shall be

thoroughly mixed to achieve a near uniform moisture condition and a uniform blend of materials.

All compaction shall be achieved at or above the optimum moisture content, as determined by the applicable laboratory standard. The Contractor will be notified if the fill materials are too wet or too dry to achieve the required compaction standard.

6. When the moisture content of the fill material is below the limit specified by the Geotechnical Engineer, water shall be added and the materials shall be blended until a uniform moisture content, within specified limits, is achieved. When the moisture content of the fill material is above the limits specified by the Geotechnical Engineer, the fill materials shall be aerated by discing, blading, mixed with dryer fill materials, or other satisfactory methods until the moisture content is within the specified limits.

7. Each fill lift shall be compacted to the minimum project standards, in compliance with the testing methods specified by the controlling governmental agency, and in accordance with recommendations of the Geotechnical Engineer.

   In the absence of specific recommendations by the Geotechnical Engineer to the contrary, the compaction standard shall be the most recent version of ASTM:D 1557.

8. Where a slope receiving fill exceeds a ratio of five-horizontal to one-vertical, the fill shall be keyed and benched through all unsuitable materials into sound bedrock or firm material, in accordance with the recommendations and approval of the Geotechnical Engineer.

9. Side hill fills shall have a minimum key width of 15 feet into bedrock or firm materials, unless otherwise specified in the soil report and approved by the Geotechnical Engineer in the field.

10. Drainage terraces and subdrainage devices shall be constructed in compliance with the ordinances of the controlling governmental agency and/or with the recommendations of the Geotechnical Engineer and Engineering Geologist.

11. The Contractor shall be required to maintain the specified minimum relative compaction out to the finish slope face of fill slopes, buttresses, and stabilization fills as directed by the Geotechnical Engineer and/or the governing agency for the project. This may be achieved by either overbuilding the slope and cutting

back to the compacted core; by direct compaction of the slope face with suitable equipment; or by any other procedure which produces the required result.

12. The fill portion of fill-over-cut slopes shall be properly keyed into rock or firm material; and the fill area shall be stripped of all soil or unsuitable materials prior to placing fill.

    The design cut portion of the slope should be made first and evaluated for suitability by the Engineering Geologist prior to placement of fill in the keyway above the cut slope.

13. Pad areas in cut or natural ground shall be approved by the Geotechnical Engineer. Finished surfaces of these pads may require scarification and recompaction, or over excavation as determined by the Geotechnical Engineer.

D. CUT SLOPES

1. The Engineering Geologist shall observe all cut slopes and shall be notified by the Contractor when cut slopes are to be started.

2. If, during the course of grading, unforeseen adverse or potentially adverse geologic conditions are encountered, the Engineering Geologist and Soil Engineer shall investigate, analyze and make recommendations to remediate these problems.

3. Non-erodible interceptor swales shall be placed at the top of cut slopes that face the same direction as the superjacent, prevailing drainage.

4. Unless otherwise specified in specific geotechnical reports, no cut slopes shall be excavated higher or steeper than that allowed by the ordinances of controlling governmental agencies.

5. Drainage terraces shall be constructed in compliance with the ordinances of the controlling governmental agencies, and/or in accordance with the recommendations of the Geotechnical Engineer or Engineering Geologist.

E. GRADING CONTROL

1. Fill placement shall be observed and tested by the Geotechnical Engineer and/or his representative during grading.

   Field density tests shall be made by the Geotechnical Engineer and/or his representative to evaluate the compaction and moisture compliance of each fill lift. Density tests shall be conducted at intervals not to exceed two feet of fill

height. Where sheepsfoot rollers are used, the fill may be disturbed to a depth of several inches. Density determinations shall be taken in the compacted material below the disturbed surface at a depth determined by the Geotechnical Engineer or his representative.

2. Where tests indicate that the density of any layer of fill, or portion thereof, is below the required relative compaction, or improper moisture content is in evidence, that particular layer or portion thereof shall be reworked until the required density and/or moisture content has been attained. Additional fills shall not be placed over an area until the previous lift of fill has been tested and found to meet the density and moisture requirements for the project and the previous lift is approved by the Geotechnical Engineer.

3. When grading activities are interrupted by heavy rains, fill operations shall not be resumed until field observations and tests by the Geotechnical Engineer indicate the moisture content and density of the fill are within the specified limits.

4. During construction, the Contractor shall properly grade all surfaces to maintain good drainage and prevent the ponding of water. The Contractor shall take remedial action to control surface water and to prevent erosion of graded areas until such time as a permanent drainage and erosion devices have been installed.

5. Observation and testing by the Geotechnical Engineer and/or his representative shall be conducted during filling and compacting operations in order that he will be able to state in his opinion that all cut and filled areas are graded in accordance with the approved specifications.

6. Upon the completion of grading activities and after the Geotechnical Engineer and Engineering Geologist have finished their observations of the work, final reports shall be submitted. No further excavation or fill placement shall be undertaken without prior notification of the Geotechnical Engineer and/or Engineering Geologist.

F. FINISHED SLOPES

All finished cut and fill slopes shall be planted and irrigated and/or protected from erosion in accordance with the project specifications, governing agencies, and/or as recommended by a landscape architect.

APPENDIX G

Grading Details

DETAIL FOR FILL SLOPE TOEING OUT ON FLAT ALLUVIATED CANYON

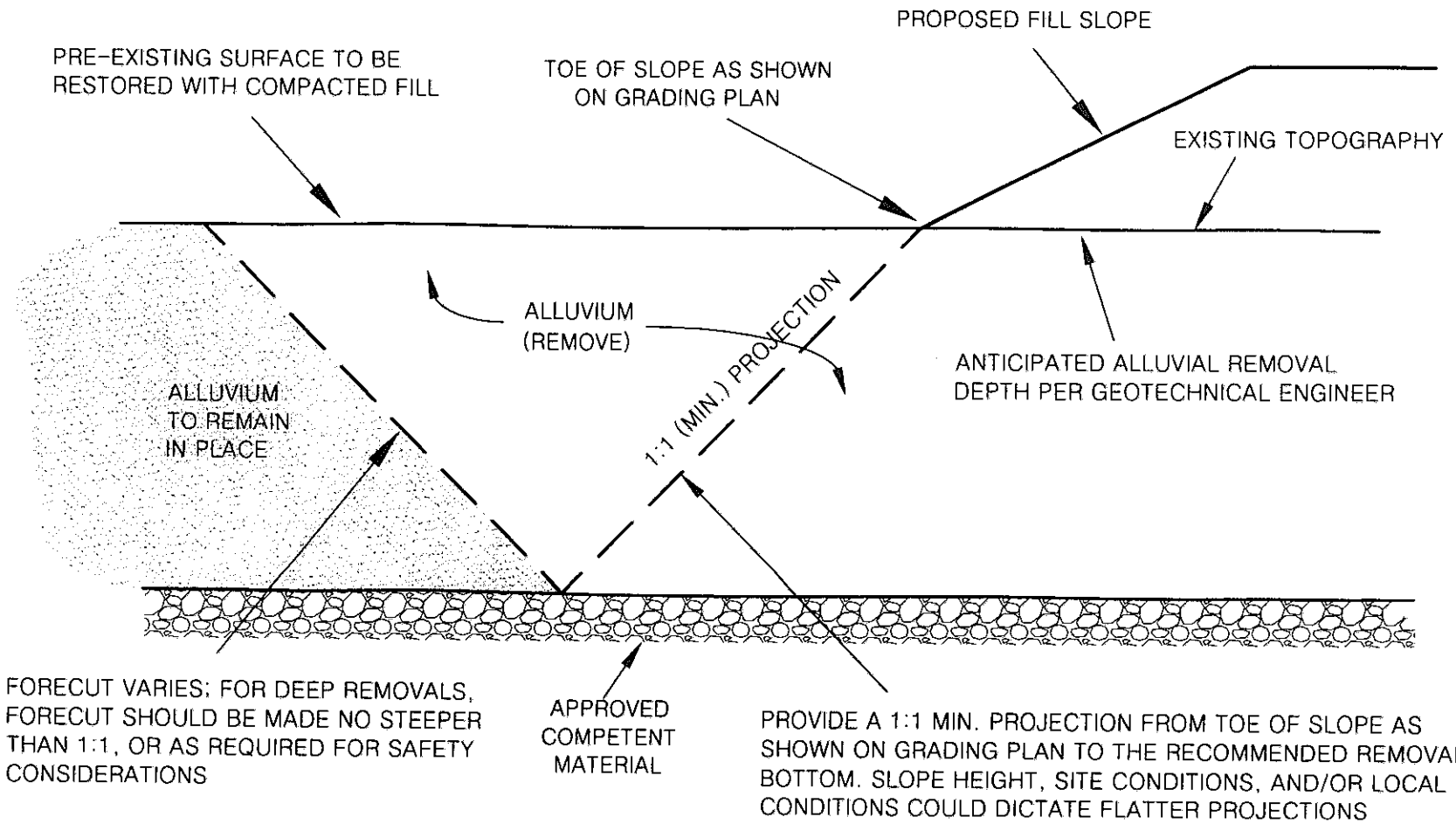


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PLATE G-1

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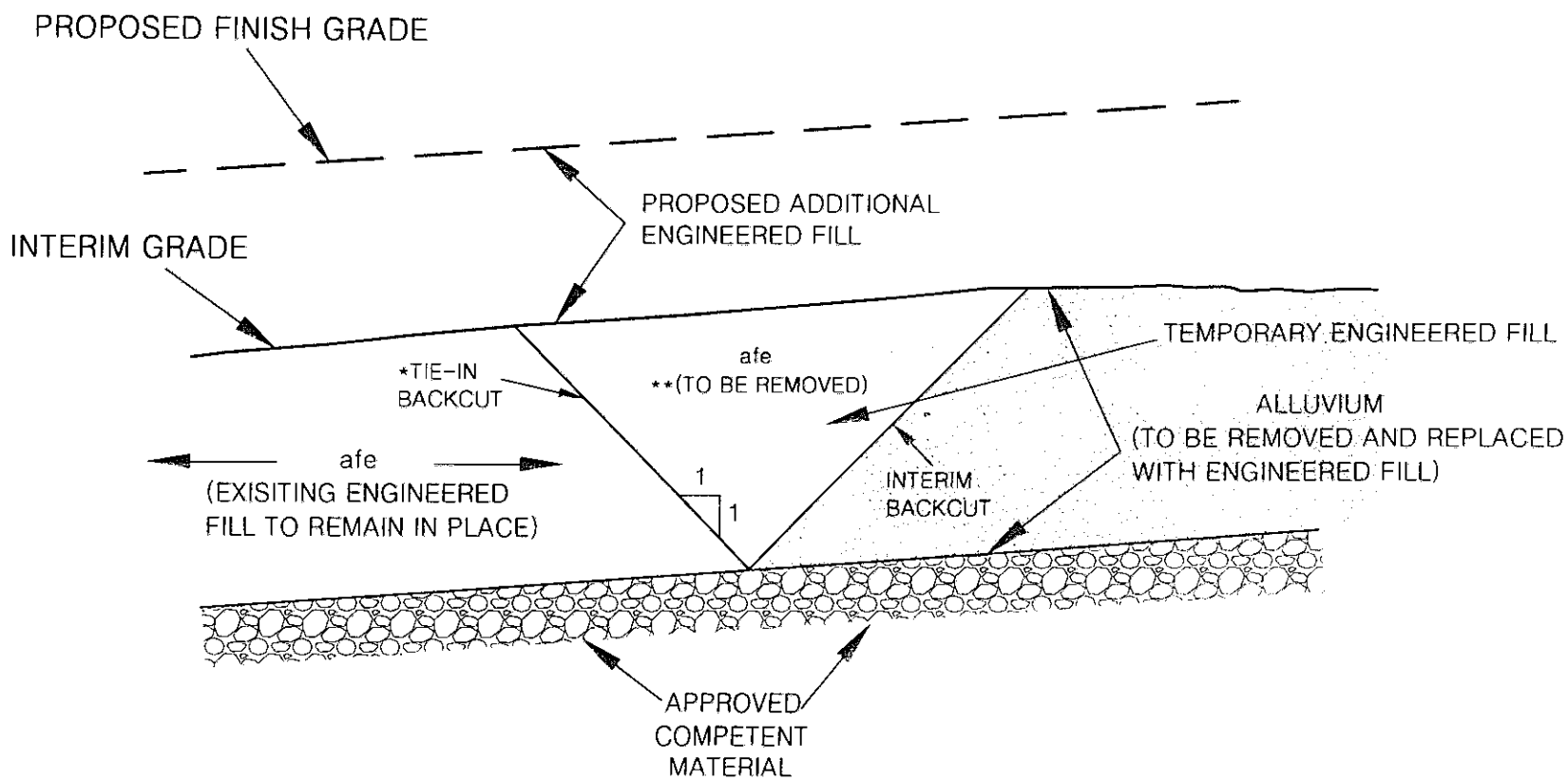
REMOVAL ADJACENT TO EXISTING FILL



*INITIATE 1:1 TIE-IN BACKCUT TO INTERCEPT TOE OF INTERIM BACKCUT

**AS PART OF TIE-IN FOR ADDITIONAL ENGINEERED FILL

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PLATE G-2

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CANYON SUBDRAIN

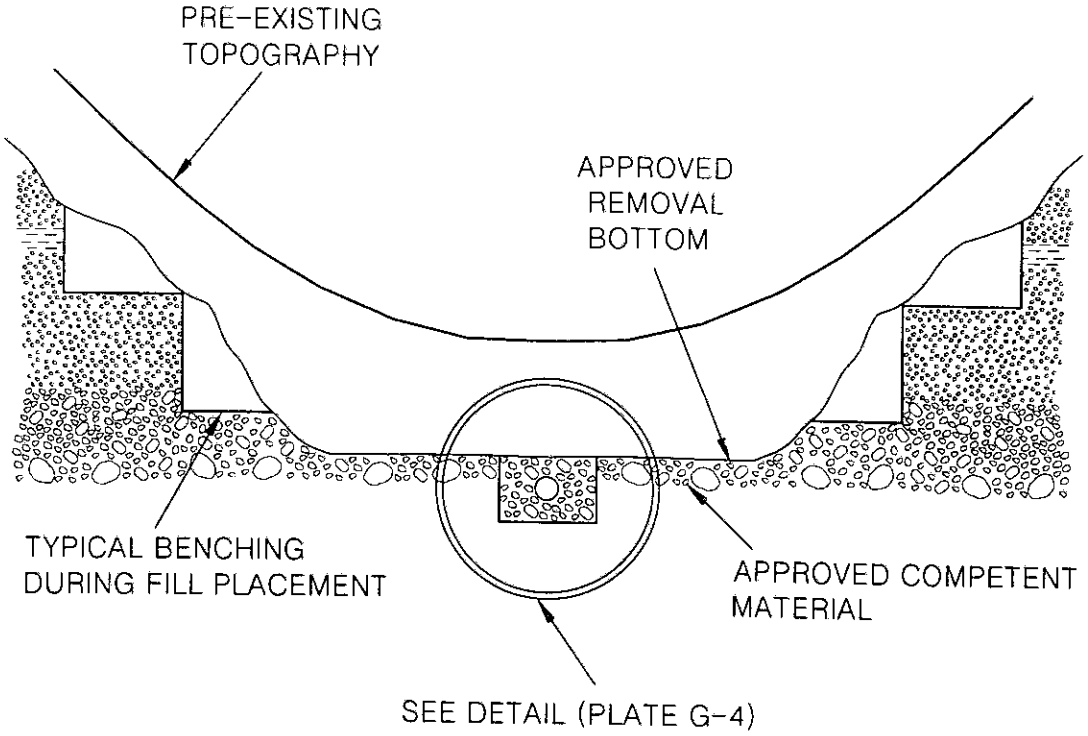

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PLATE G-3

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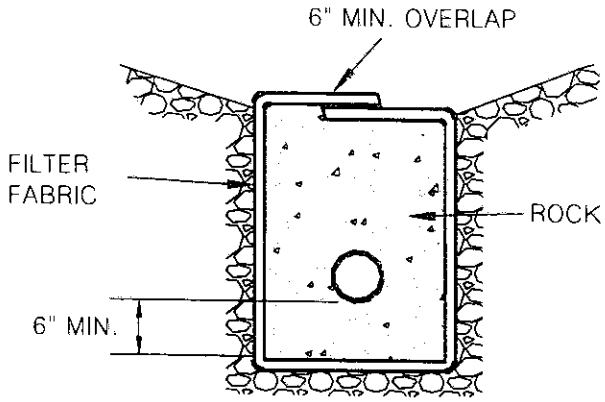
CANYON SUBDRAIN DETAIL



PERFORATED PIPE SURROUNDED WITH ROCK AND FILTER FABRIC

ROCK: MIN. VOLUME OF 9 CU.FT. PER LINEAR FT. OF 3/4 IN. MAX. ROCK

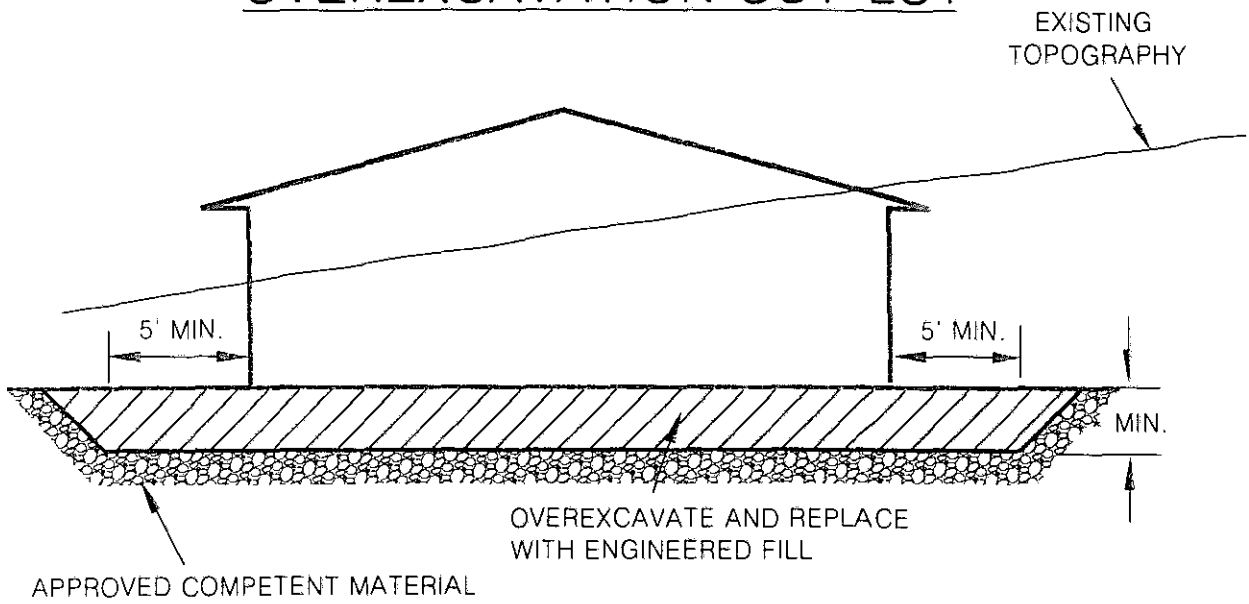
PIPE: 6 IN. ABS OR PVC PIPE WITH A MINIMUM OF 8 PERFORATIONS (1/4-IN. DIA.) PER LINEAL FT. IN BOTTOM HALF OF PIPE ASTM D2751, SDR 35, OR ASTM D3034 OR ASTM D1527, SCHD. 40 ASTM D1785, SCHD. 40

FILTER FABRIC: MIRAFI 140 FILTER FABRIC OR APPROVED EQUIVALENT

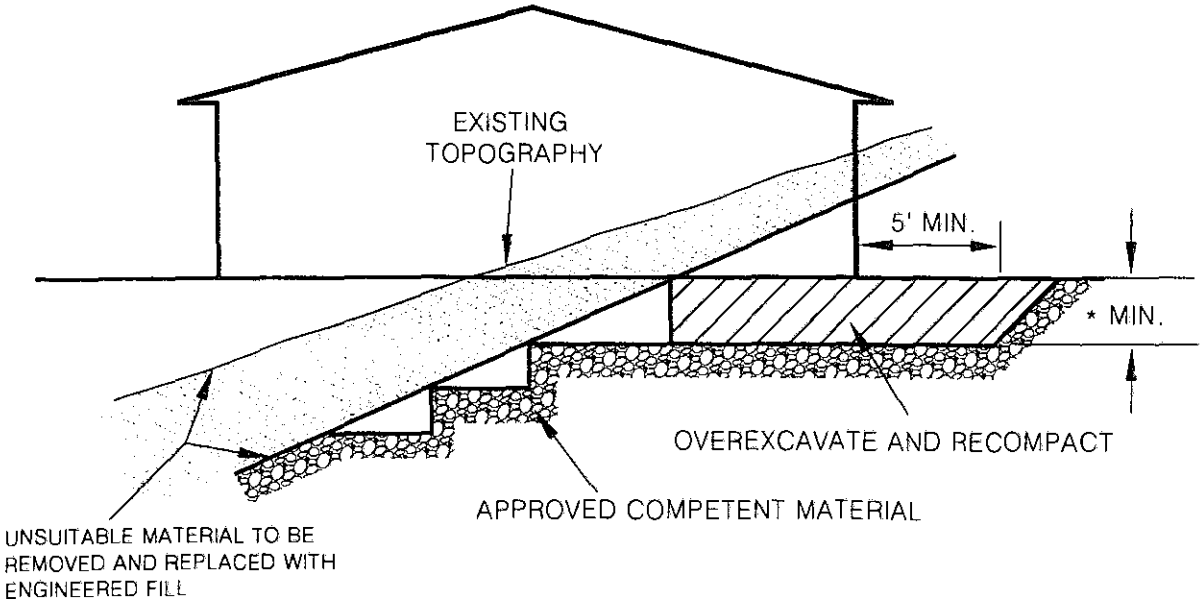
NOTES:

1. FOR CONTINUOUS RUN IN EXCESS OF 500. FT USE 8 IN. DIA. PIPE
2. ENGINEERED FILL PLACED BELOW DRAINS SHALL BE COMPACTED TO 93% OF THE LABORATORY MAXIMUM DRY DENSITY (ASTM:D1557)

OVEREXCAVATION CUT LOT



CUT-FILL LOT (TRANSITION)



*NOTE ALL BUILDING PADS SHALL BE OVER EXCAVATED TO A MINIMUM OF ⅓ OF THE MAXIMUM DEPTH OF FILL BELOW THE BUILDING PAD TO A MAXIMUM OF 17 FEET (SEE PLATE G-16)

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PLATE G-5

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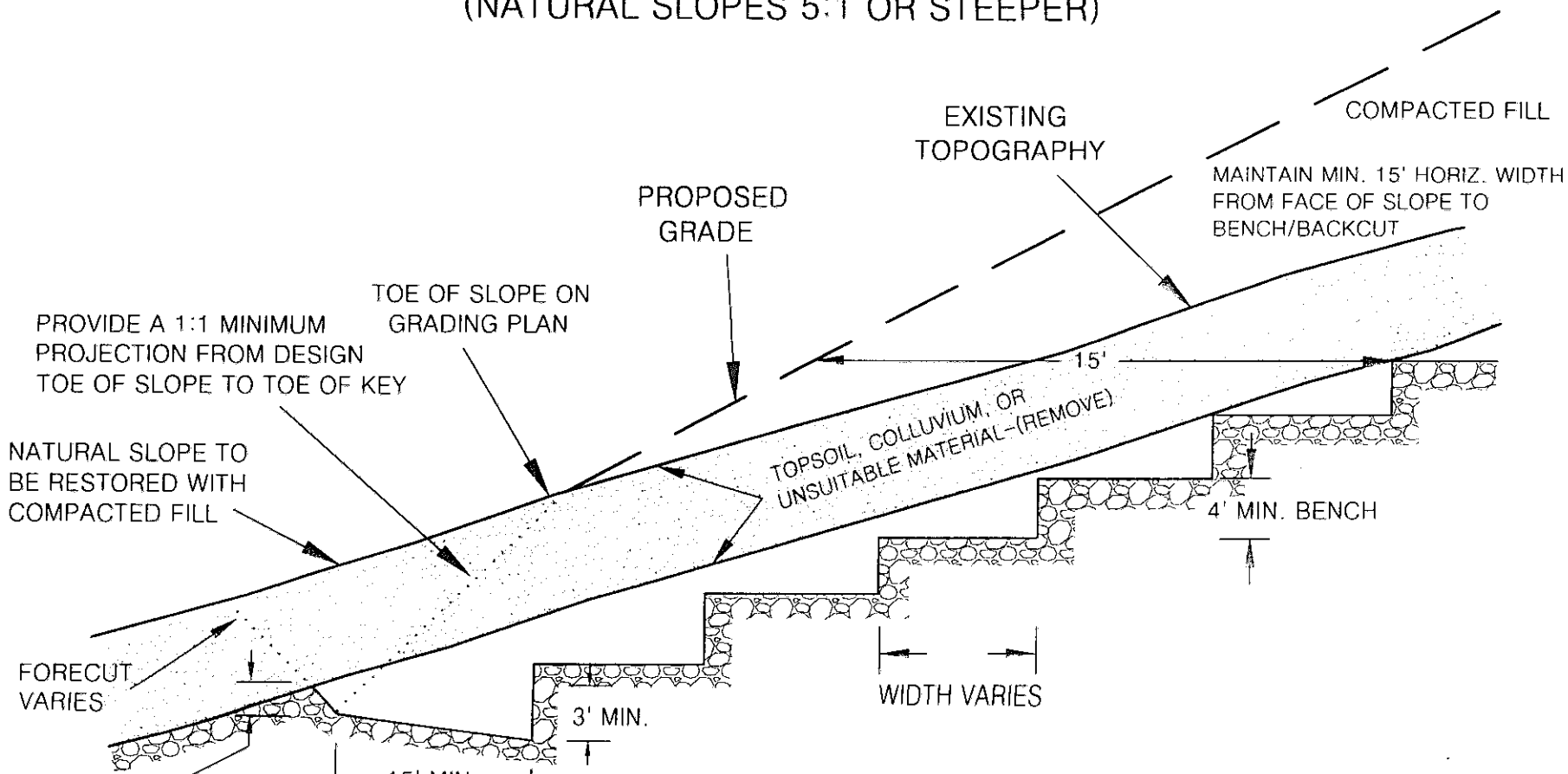
SIDE HILL SLOPE FILL DETAIL

(NATURAL SLOPES 5:1 OR STEEPER)



NOTES:

1. WHERE NATURAL SLOPE GRADIENT IS 5:1 OR LESS, SEE PLATE G-1. WHERE THE NATURAL SLOPE APPROACHES OR EXCEEDS THE DESIGN SLOPE RATIO, SPECIAL RECOMMENDATIONS WILL BE PROVIDED BY THE GEOTECHNICAL ENGINEER.
2. THE NEED FOR AND PLACEMENT OF DRAINS WILL BE DETERMINED BY THE GEOTECHNICAL ENGINEER OR GEOLOGIST BASED UPON EXPOSED FIELD CONDITIONS.

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PLATE G-6

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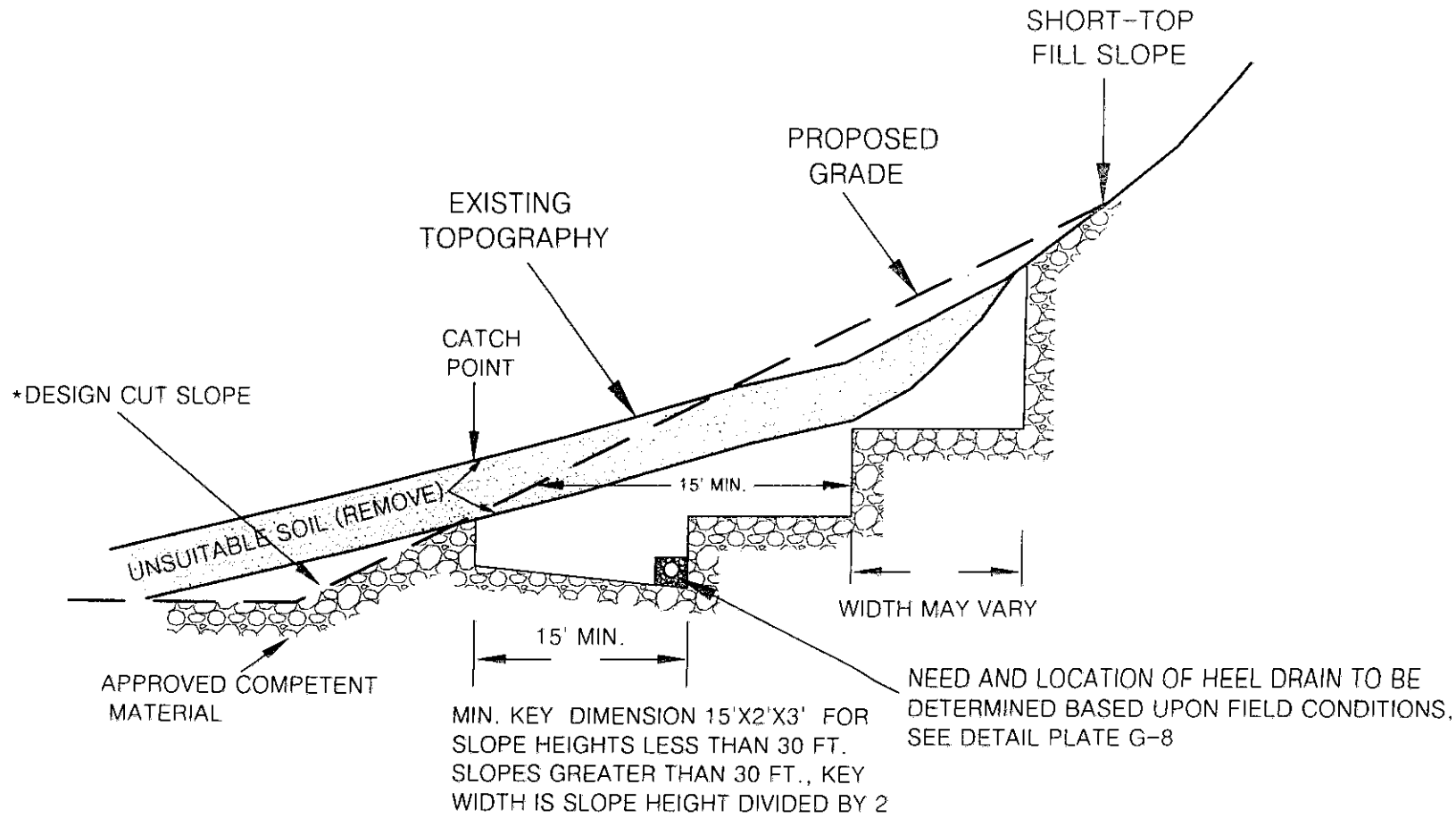
FILL OVER CUT SLOPE DETAIL



*THE CUT PORTION OF THE SLOPE SHOULD BE EXCAVATED AND EVALUATED BY THE ENGINEERING GEOLOGIST/GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTING THE FILL SLOPE

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PLATE G-7

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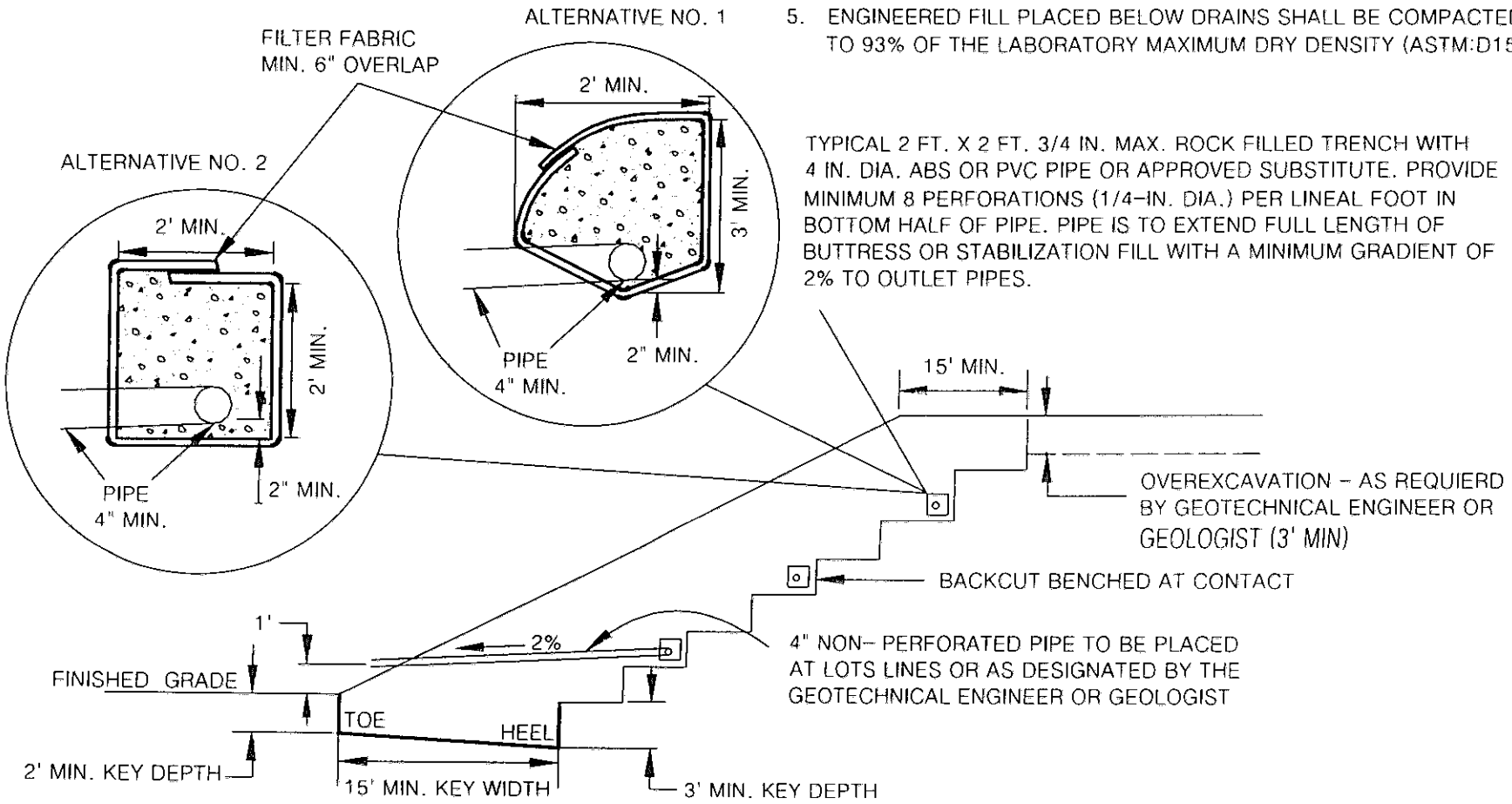
STABILIZATION/BUTTRESS FILL BACKDRAIN

NOTE:

1. ASTM D2751, SDR 35, OR ASTM D3034 OR ASTM D1527, SCHD. 40 ASTM D1785, SCHD. 40
2. SOLID PIPE OUTLETS TO BE PROVIDED EVERY 100 FT. AND JOINED TO PERFORATED BACKDRAIN PIPE WITH "L" OR "T"s. MIN. 2% GRADIENT.
3. GRAVEL TRENCH TO BE FILLED WITH 3/4 IN. MAXIMUM ROCK
4. THE NECESSITY FOR UPPER TIER BACKDRAINS SHALL BE DETERMINED IN THE FIELD BY THE GEOTECHNICAL ENGINEER OR GEOLOGIST. UPPER TIER OUTLETS SHOULD DRAIN INTO PAVED TERRACE DRAINS.
5. ENGINEERED FILL PLACED BELOW DRAINS SHALL BE COMPACTED TO 93% OF THE LABORATORY MAXIMUM DRY DENSITY (ASTM:D1557)



TYPICAL 2 FT. X 2 FT. 3/4 IN. MAX. ROCK FILLED TRENCH WITH 4 IN. DIA. ABS OR PVC PIPE OR APPROVED SUBSTITUTE. PROVIDE MINIMUM 8 PERFORATIONS (1/4-IN. DIA.) PER LINEAL FOOT IN BOTTOM HALF OF PIPE. PIPE IS TO EXTEND FULL LENGTH OF BUTTRESS OR STABILIZATION FILL WITH A MINIMUM GRADIENT OF 2% TO OUTLET PIPES.

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PLATE G-8

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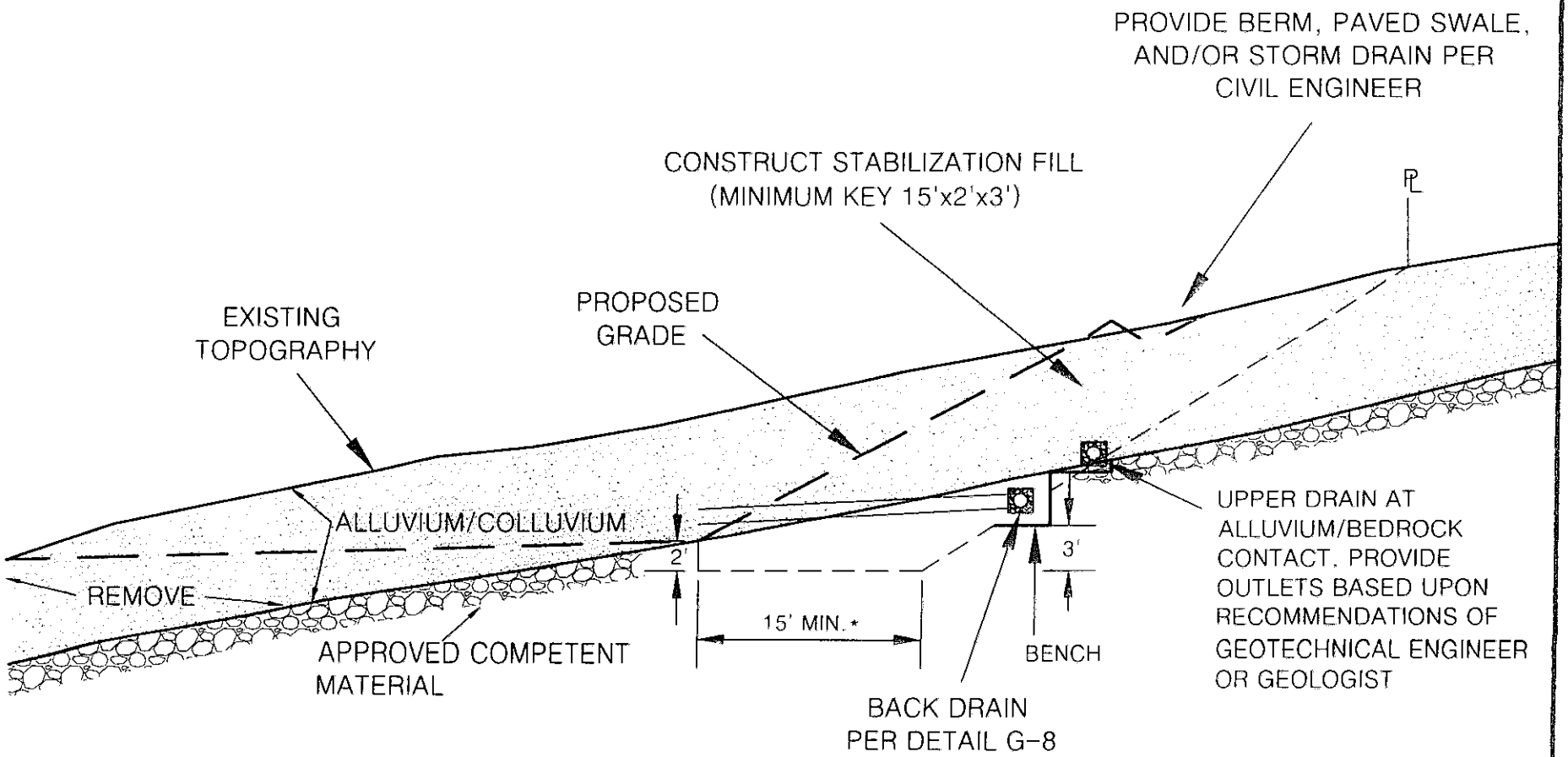
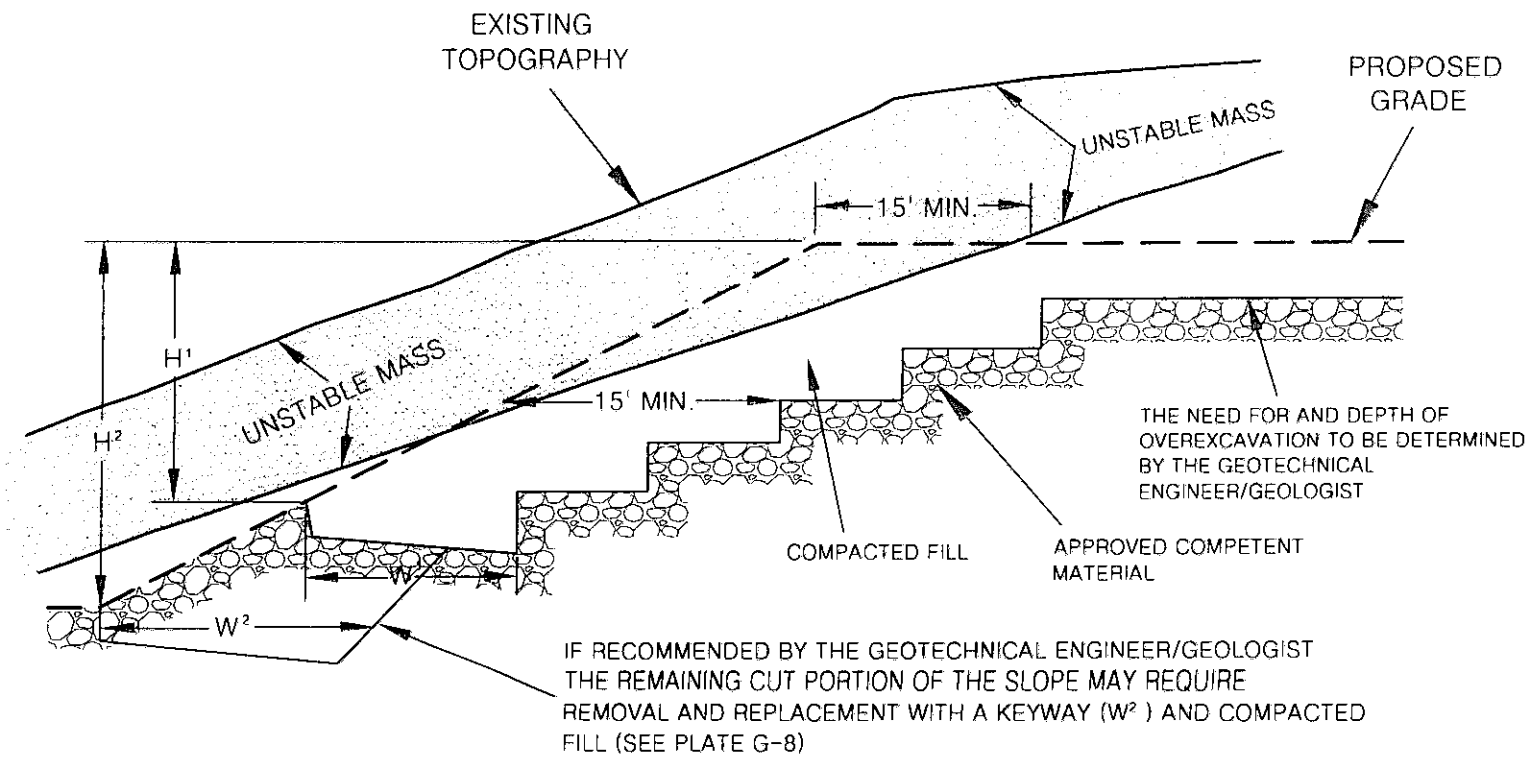
STABILIZATION FILL
(UPSLOPE ALLUVIATED AREA)



* FOR SLOPE HEIGHTS LESS THAN 30 FT. SLOPES GREATER THAN 30 FT., KEY WIDTH IS SLOPE HEIGHT DIVIDED BY 2

SELECTIVE GRADING DETAIL FOR STABILIZATION FILL
UNSTABLE MATERIAL EXPOSED IN PORTION OF CUT SLOPE



NOTES:

1. BACKDRAINS ARE NOT REQUIRED UNLESS SPECIFIED.
2. "W" SHALL BE EQUIPMENT WIDTH (15') FOR SLOPE HEIGHT LESS THAN 25 FEET. FOR SLOPES GREATER THAN 25 FEET, "W" SHALL BE DETERMINED BY THE PROJECT GEOTECHNICAL ENGINEER/GEOLOGIST. AT NO TIME SHALL "W" BE LESS THAN H/2.

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PLATE G-10

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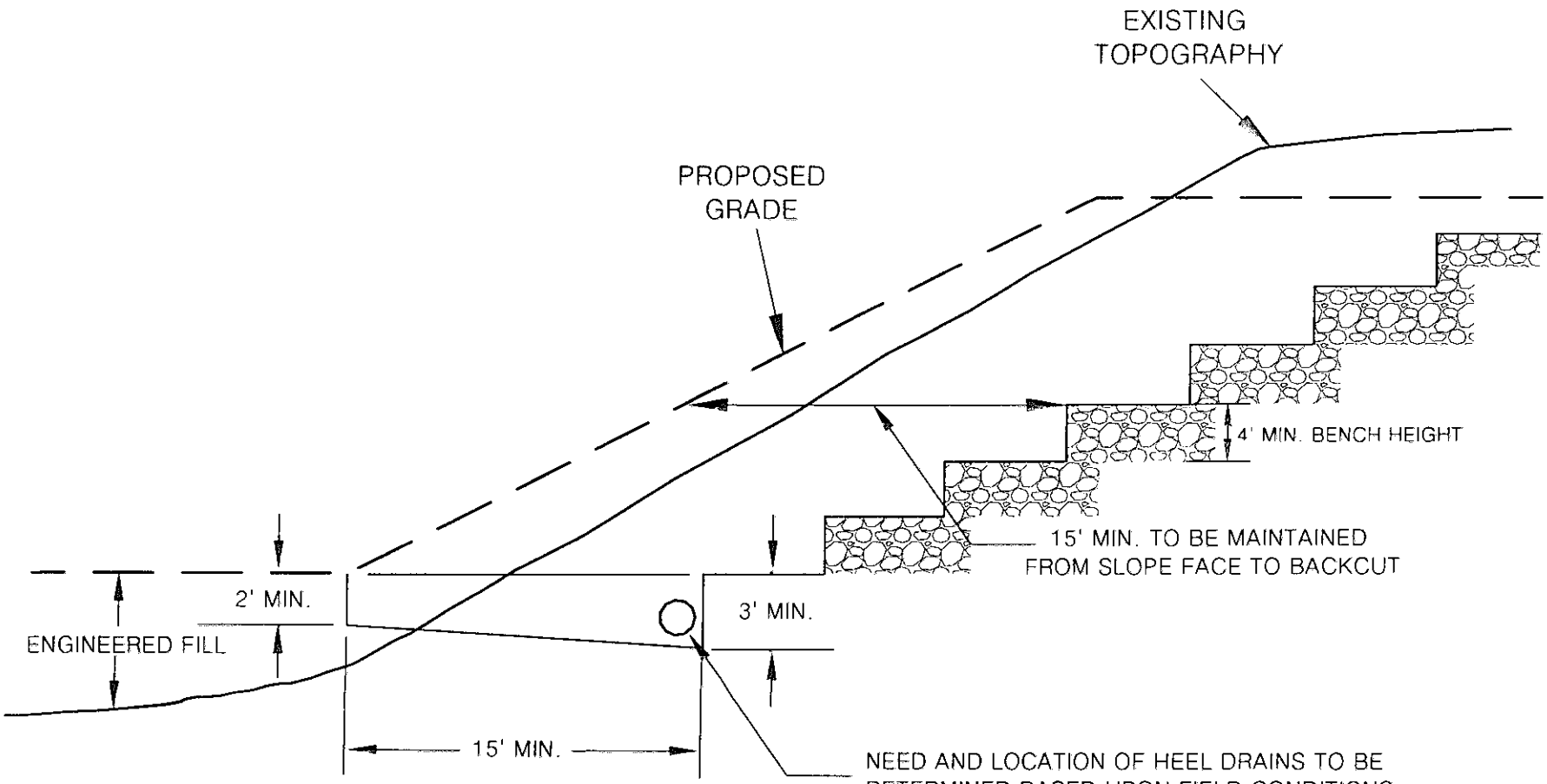
SKIN FILL SLOPE OVER NATURAL GROUND



MIN. KEY DIMENSIONS 15'X2'X3' FOR SLOPE HEIGHTS LESS THAN 30 FT. SLOPES GREATER THAN 30 FT., KEY WIDTH IS SLOPE HEIGHT DIVIDED BY 2

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PLATE G-11

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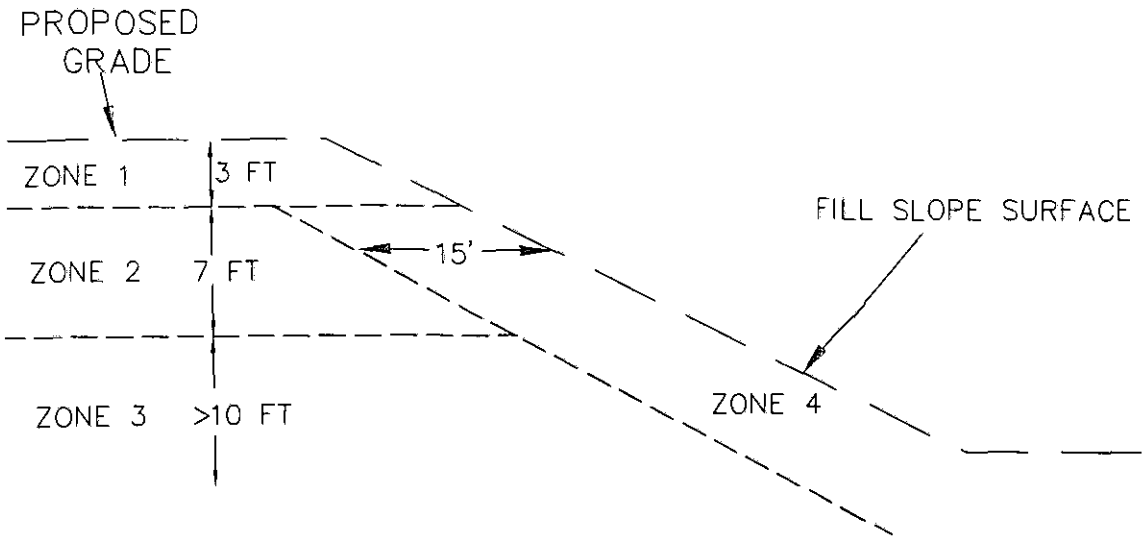
DETAIL FOR MAXIMUM PARTICLE DIMENSION



ZONE	DEPTH	PARTICLE MAX. DIMENSION	PLACEMENT METHOD
1	0-3 ft.	≤1.0 ft.	STANDARD OR CONVENTIONAL COMPACTION METHODS (SEE EARTHWORK SPECIFICATIONS)
2	3-10 ft.	≤2.0 ft.	ROCK BLANKETS (SEE PLATE G-13)
3	>10 ft.	≤8.0 ft.	ROCK BLANKETS (PLATE G-13) ROCK WINDROW (PLATE G-14) INDIVIDUAL ROCK BURIED (PLATE G-15)
4	15 HORIZONTAL FEET FROM FILL SLOPE FACE	≤1.0 ft.	STANDARD OR CONVENTIONAL COMPACTION METHODS (SEE EARTHWORK SPECIFICATIONS)

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PLATE G-12

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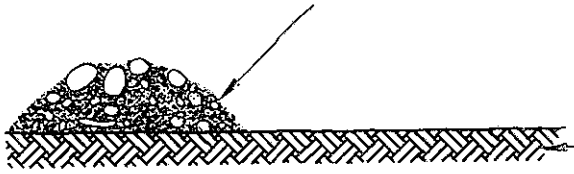
ROCK BLANKET DETAILS

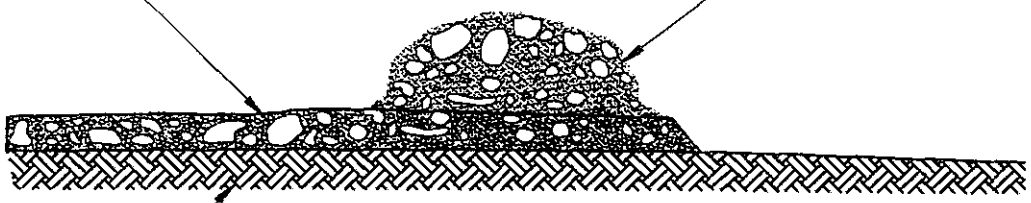
LOOSE PILE 1
LOOSE, DUMPED ROCK, GRAVEL AND SAND MIXTURE REMOVE FRAGMENTS LARGER THAT 2 FEET FOR ISOLATED BURIAL (PLATE G-15) OR WINDROW (PLATE G-10)



APPROVED BOTTOM, OR TOP OF PREVIOUSLY APPROVED BLANKET FILL

COMPACT PILE 1
SPREAD LOOSE PILE FORWARD WITH HEAVY TRACKED DOZER (D-8 OR LARGER). HEAVILY WATER, TRACK, AND APPLY ADDITIONAL SAND AND GRAVEL AS NECESSARY TO FILL VOIDS AND CREATE A DENSE MATRIX OF ROCK, COBBLES, GRAVEL AND SAND (2 FOOT MAXIMUM THICKNESS)

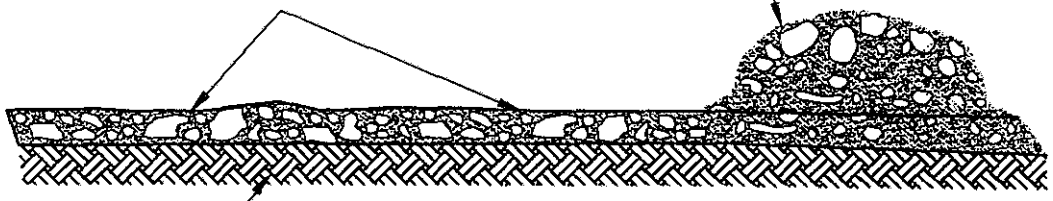
LOOSE PILE 2
DUMP SUCCESSIVE PILES OF LOOSE ROCK, GRAVEL AND SAND MIXTURE ON FORWARD EDGE OF PREVIOUSLY COMPACTED LIFT WITH TRUCKS AND/OR SCRAPERS. USE PREVIOUS LIFT TO ACCESS AND FURTHER COMPACT PILE 1.



APPROVED BOTTOM, OR TOP OF PREVIOUSLY APPROVED BLANKET FILL

LOOSE PILE 3
DUMP SUCCESSIVE PILES OF LOOSE ROCK, GRAVEL AND SAND MIXTURE ON FORWARD EDGE OF PREVIOUSLY COMPACTED LIFT WITH TRUCKS AND/OR SCRAPERS. USE PREVIOUS LIFT TO ACCESS AND FURTHER COMPACT EXISTING BLANKET.

COMPACTED PILES 1 AND 2



APPROVED BOTTOM, OR TOP OF PREVIOUSLY APPROVED BLANKET FILL

OBSERVATION TESTING AND APPROVAL PROCEDURES

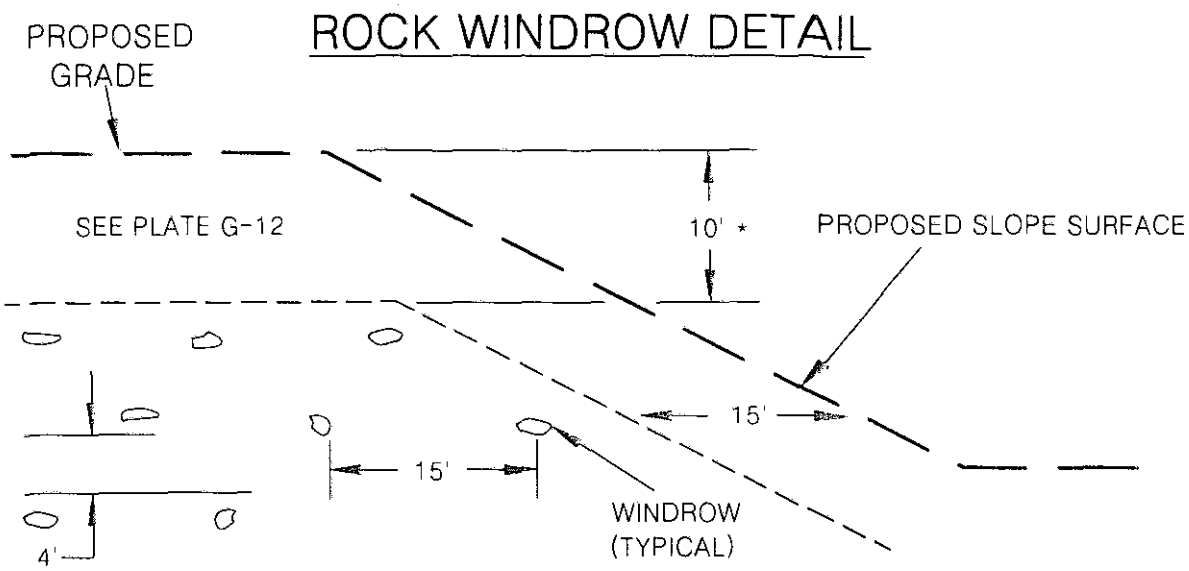
OBSERVE EQUIPMENT. SCRAPERS AND TRUCKS SHOULD BE FULLY SUPPORTED ON BLANKET WITHOUT SIGNIFICANT YIELDING. EXCAVATE TEST/OBSERVATION PITS TO CONFIRM EXISTENCE OF MIXTURE OF VARIOUS PARTICLE SIZES, WITHOUT SIGNIFICANT VOIDS, AND FORMING A DENSE, COMPACTED FILL MATRIX. TEST BY ASTM D1556, D2922 AND/OR D3017 WHEN APPROPRIATE. RECORD LIMITS AND ELEVATION OF BLANKET. ALL FILL AND COMPACTION OPERATIONS TO BE CONDUCTED UNDER THE OBSERVATION OF THE GEOTECHNICAL ENGINEER. SUBSEQUENT LIFTS TO BE APPLIED ONLY AFTER OBSERVATION AND CONFIRMATION OF SUITABILITY OF FILL AND RELEASE BY THE GEOTECHNICAL ENGINEER. BLANKETS TO BE CONSTRUCTED IN ACCORDANCE WITH PLATE G-12.

ALTA CALIFORNIA GEOTECHNICAL, INC.
VER. 3/12

PLATE G-13

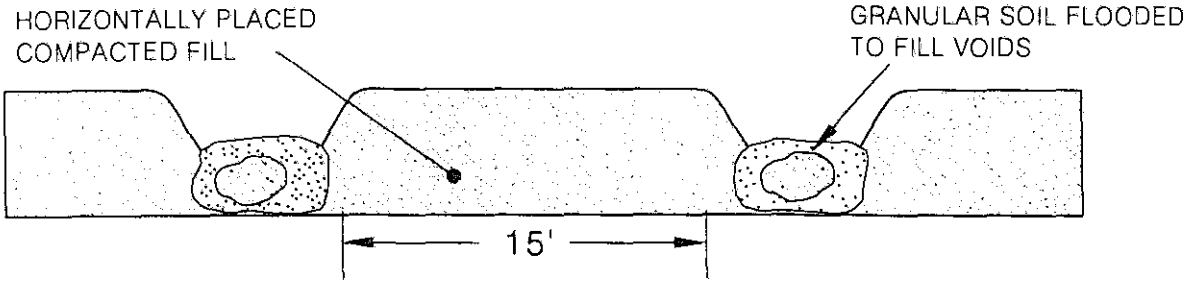
PATH:C:\Users\Jinks\Desktop\Drafting\GRADING DETAILS\G-13.dwg

ROCK WINDROW DETAIL



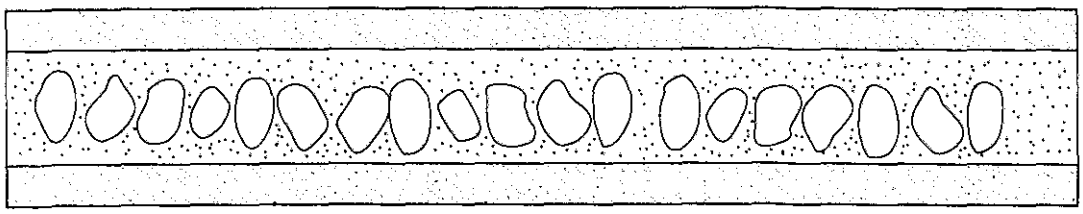
NOTE: OVERSIZED MATERIAL SHOULD BE REMOVED FROM THE 15' CLEAR ZONES WITH SPECIAL EQUIPMENT, SUCH AS A ROCK RAKE, PRIOR TO PLACING THE NEXT FILL LIFT.
*VARIANCES TO THE ABOVE ROCK HOLD DOWN MAY BE GRANTED SUBJECT TO APPROVAL BY THE OWNER, GEOTECHNICAL ENGINEER, AND GOVERNING AGENCY

TYPICAL WINDROW DETAIL (END VIEW)



NOTE: COMPACTED FILL SHALL BE BROUGHT UP TO A HIGHER ELEVATION ALONG EACH WINDROW SO GRANULAR SOIL CAN BE FLOODED IN A "TRENCH CONDITION".

PROFILE VIEW



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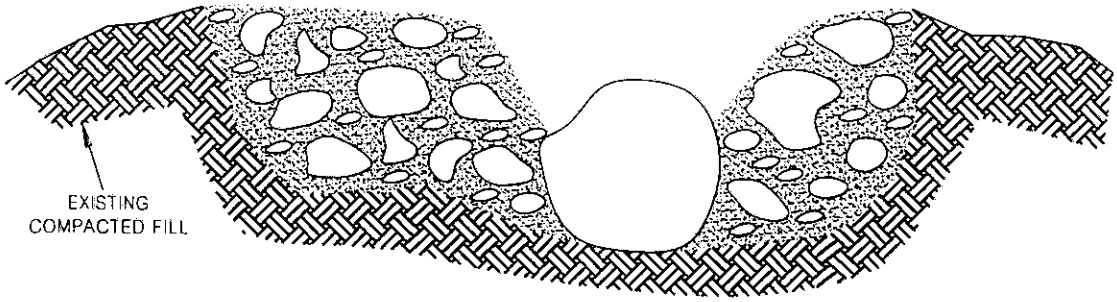
VER. 3/12

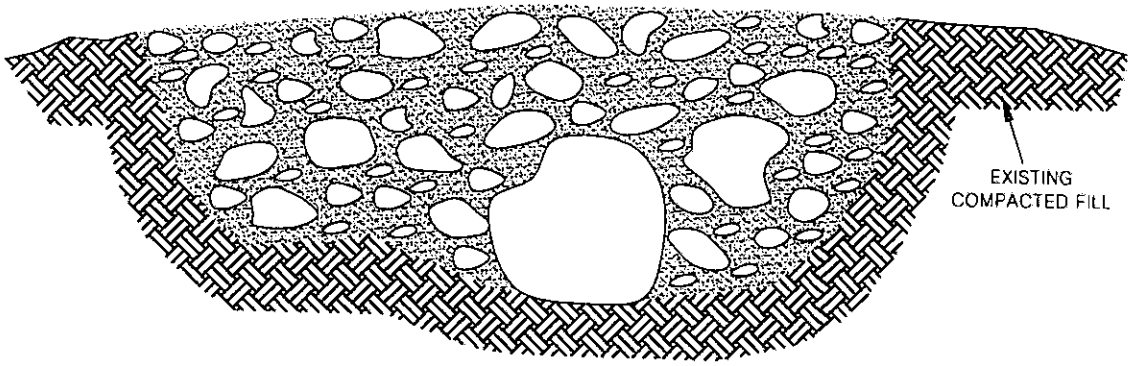
PLATE G-14

PATH:C:\Users\Jinks\Desktop\Drafting\GRADING DETAILS\G-14.dwg

ISOLATED ROCK BURIAL DETAILS

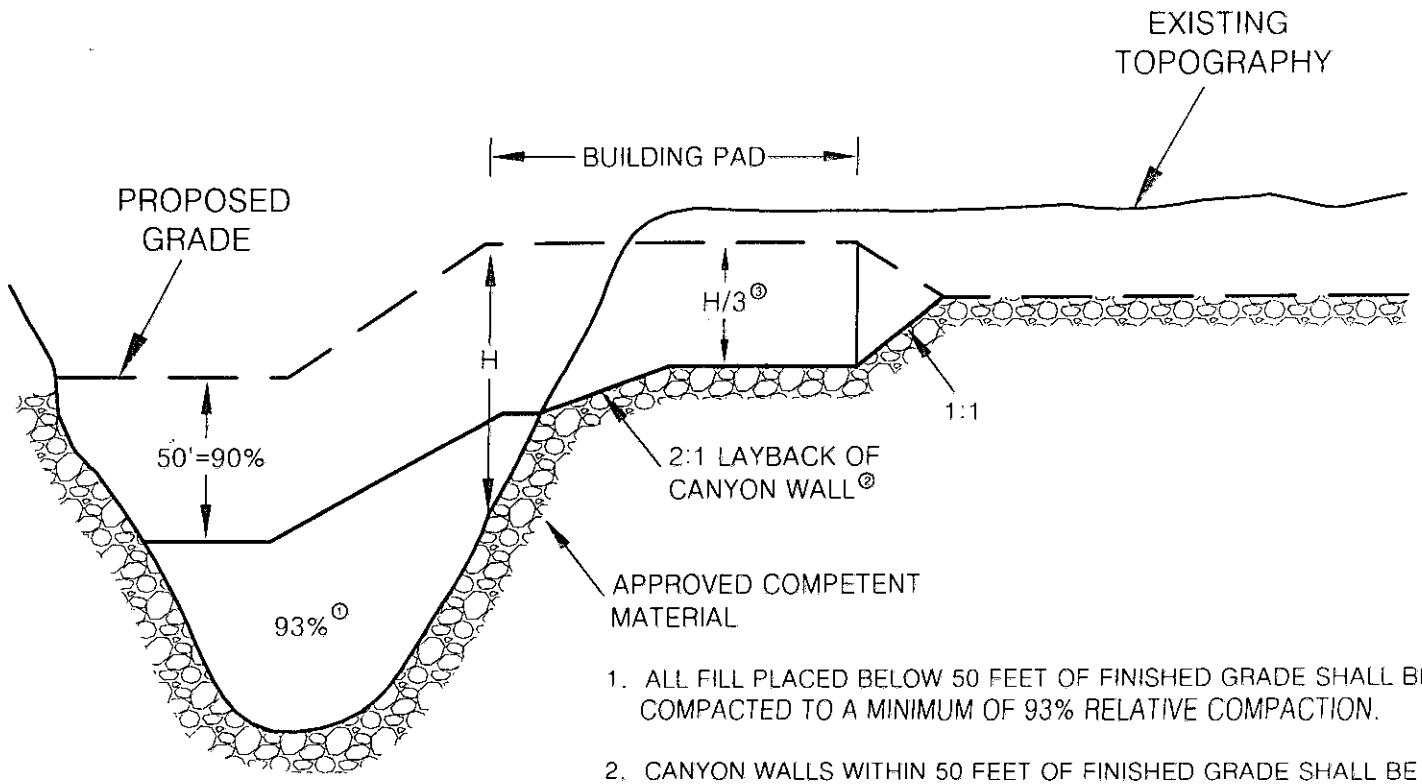


EXCAVATE HOLE INTO EXISTING FILL PRISM, PLACE BOULDER (< 8 feet in maximum dimension) INTO EXISTING COMPACTED FILL. SURROUND WITH SAND, GRAVEL, COBBLES AND WATER HEAVILY. TRACK WITH D8 OR LARGER EQUIPMENT UNTIL RESULTING FILL FULLY SUPPORTS EQUIPMENT. OBSERVE AND/OR TEST IN ACCORDANCE WITH ASTM D1556, D2922 OR D3017. ROCKS LARGER THAN 8 FEET SHALL BE FURTHER REDUCED IN SIZE BY SECONDARY BREAKING.



RELATIVE COMPACTION VS. DEPTH

CANYON WALL LAY BACK
DIFFERENTIAL FILL OVEREXCAVATION DETAILS



1. ALL FILL PLACED BELOW 50 FEET OF FINISHED GRADE SHALL BE COMPACTED TO A MINIMUM OF 93% RELATIVE COMPACTION.

2. CANYON WALLS WITHIN 50 FEET OF FINISHED GRADE SHALL BE LAID BACK TO A SLOPE RATIO OF 2:1 OR FLATTER.

3. ALL BUILDING PADS SHALL BE OVER EXCAVATED TO A MINIMUM OF 1/3 OF THE MAXIMUM DEPTH OF FILL BELOW THE BUILDING PAD TO A MAXIMUM OF 17 FEET.

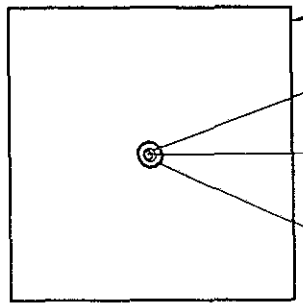
4. IF THE 2:1 LAY BACK OF THE CANYON WALL IS IMPRACTICAL, THEN AS AN ALTERNATIVE THE INCREASED COMPACTION STANDARDS IN NOTE 1 SHOULD BE EXTENDED UP TO H/3 AND THE LAY BACK WILL NOT BE REQUIRED.

ALTA CALIFORNIA GEOTECHNICAL, INC.
VER. 3/12

PLATE G-16

PATH:C:\Users\Jinks\Desktop\Drafting\GRADING DETAILS\G-16.dwg

SETTLEMENT PLATE DETAIL

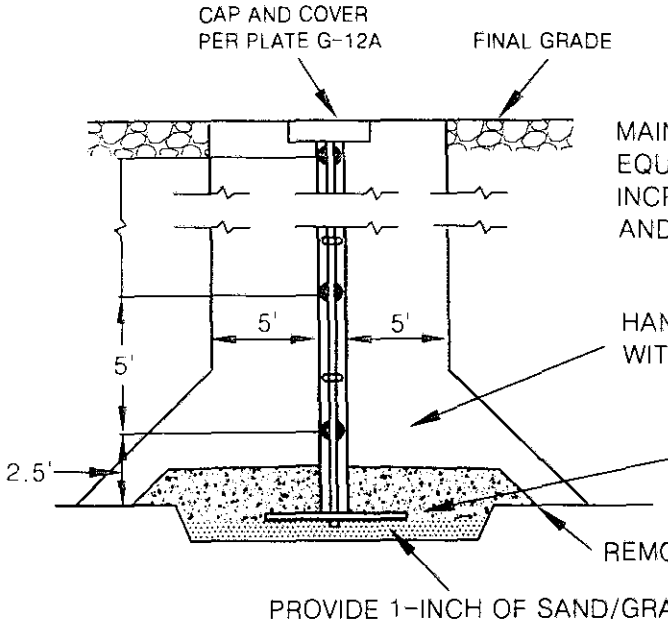


2'X2' X 1/4" STEEL PLATE

STANDARD 3/4" PIPE NIPPLE, WELDED TOP AND UNDERSIDE OF PLATE.

3/4" DIA. X 5' LONG GALVANIZED PIPE, STANDARD PIPE THREADS TOP AND BOTTOM. EXTENSIONS THREADED BOTH ENDS AND ADDED IN 5' INCREMENTS.

3" DIA. SCHEDULE 40 PVC, ADD IN 5' INCREMENTS, GLUE JOINTS.



NOTES:

1) LOCATIONS OF SETTLEMENT PLATES SHALL BE CLEARLY MARKED AND READILY VISIBLE (RED FLAGGED) TO EQUIPMENT OPERATORS.

2) CONTRACTOR SHALL MAINTAIN 10' HORIZONTAL CLEARANCE FOR HEAVY EQUIPMENT WITHIN 5' (VERTICAL) OF PLATE BASE. FILL WITHIN CLEARANCE AREA SHALL BE HAND COMPACTED TO PROJECT SPECIFICATIONS OR COMPACTED BY ALTERNATIVE APPROVED BY THE GEOTECHNICAL ENGINEER.

3) AFTER 5' (VERTICAL) OF FILL IS IN PLACE, CONTRACTOR SHALL MAINTAIN 5' HORIZONTAL EQUIPMENT CLEARANCE. FILL IN CLEARANCE AREA SHALL BE HAND COMPACTED (OR APPROVED ALTERNATIVE) IN VERTICAL INCREMENTS NOT TO EXCEED 2 FEET.

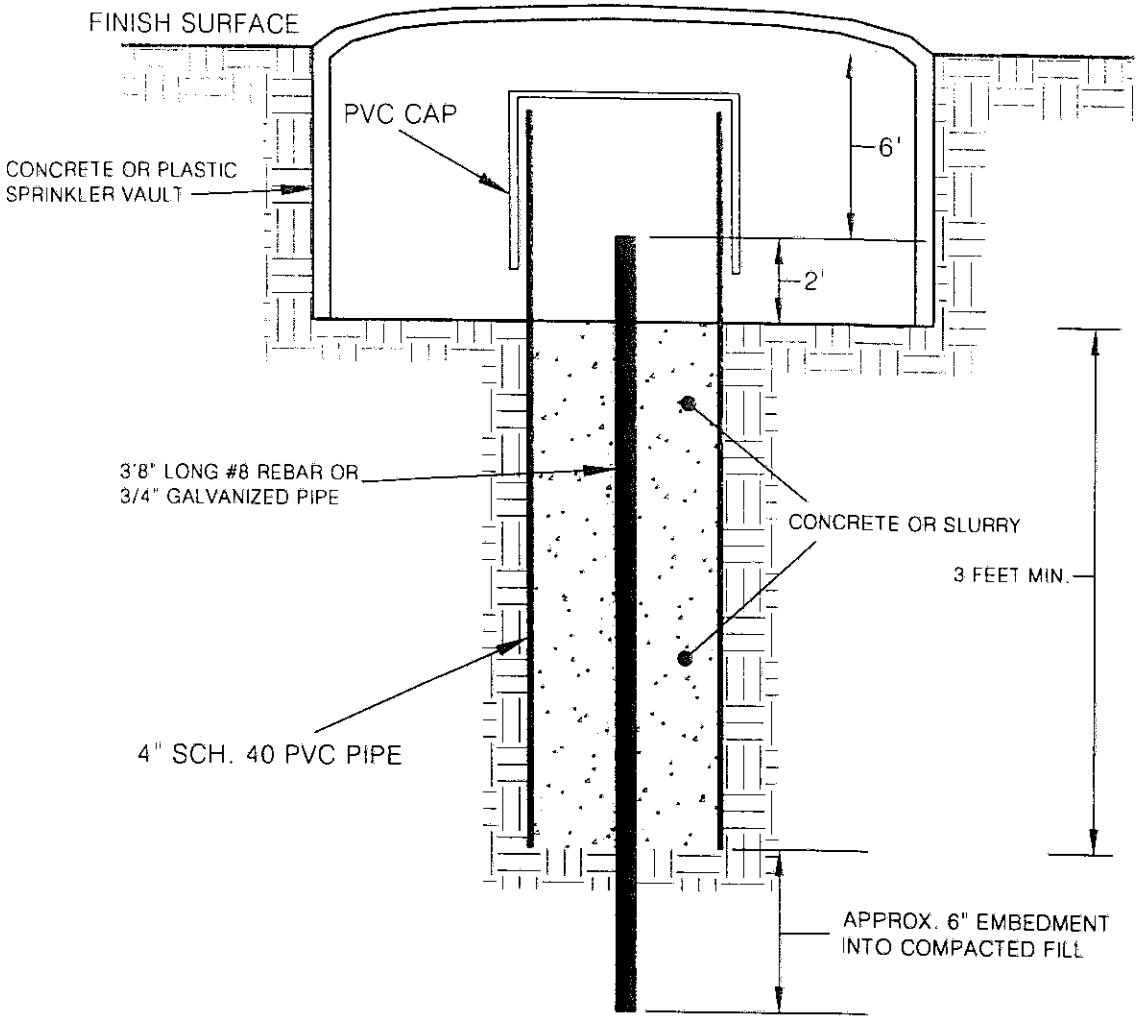
4) IN THE EVENT OF DAMAGE TO SETTLEMENT PLATE OR EXTENSION RESULTING FROM EQUIPMENT OPERATING WITHIN PRESCRIBED CLEARANCE AREA, CONTRACTOR SHALL IMMEDIATELY NOTIFY GEOTECHNICAL ENGINEER AND SHALL BE RESPONSIBLE FOR RESTORING THE SETTLEMENT PLATE AND EXTENSION RODS TO WORKING ORDER.

ALTA CALIFORNIA GEOTECHNICAL, INC .
VER. 3/12

PLATE G-17

PATH:C:\Users\Jinks\Desktop\Drafting\GRADING DETAILS\G-17.dwg

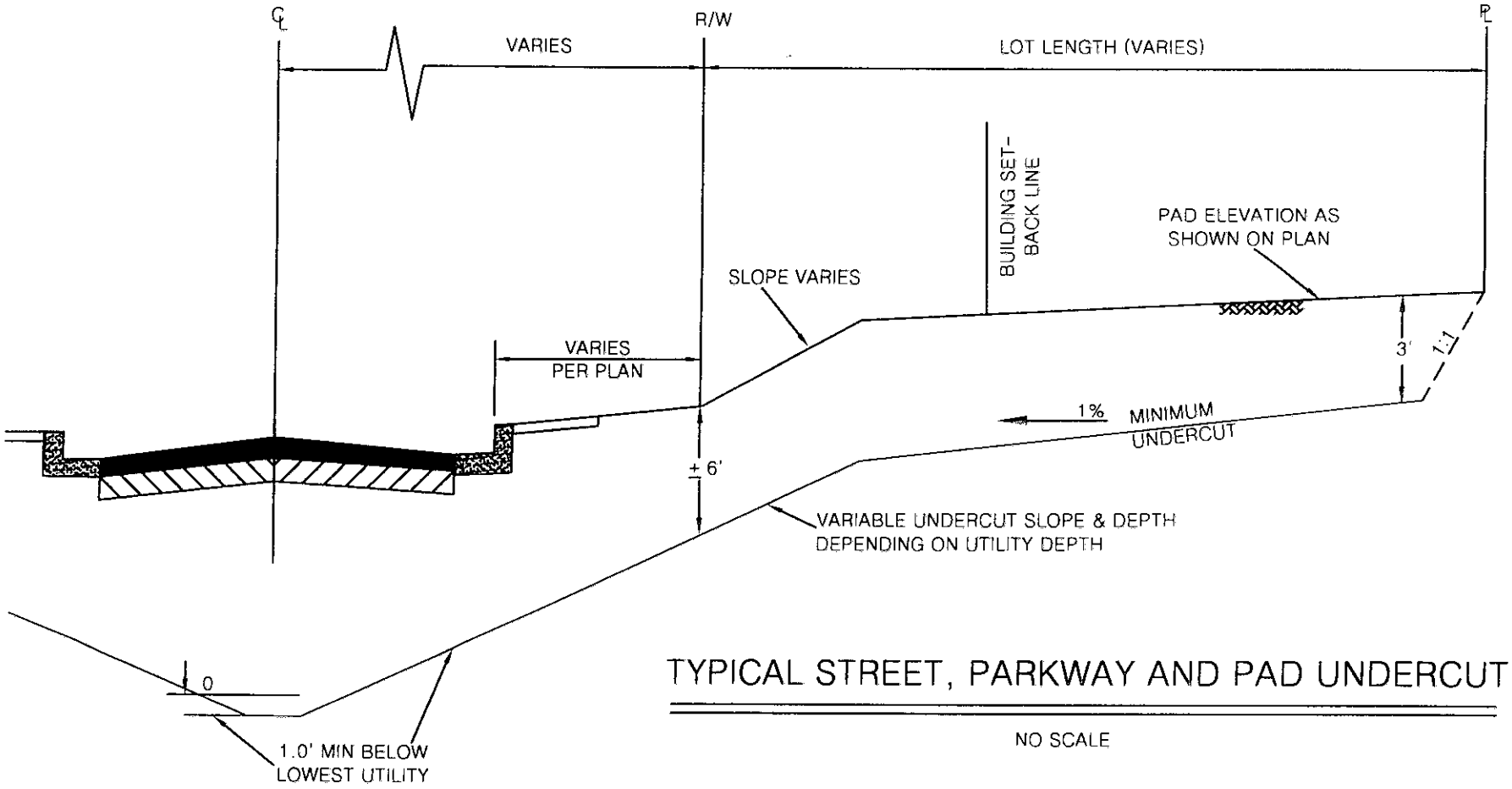
SURFACE SETTLEMENT MONUMENT DETAIL



ALTA CALIFORNIA GEOTECHNICAL, INC.
VER. 3/12

PLATE G-18

PATH:C:\Users\Jinks\Desktop\Drafting\GRADING DETAILS\G-18.dwg



TYPICAL STREET, PARKWAY AND PAD UNDERCUT

NO SCALE

ALTA CALIFORNIA GEOTECHNICAL, INC.
VER. 3/13

PLATE G-19

PATH:C:\Users\Jinks\Desktop\Drafting\GRADING DETAILS\G-19.dwg

5261 Arlington Ave | Riverside, CA 92504

0' 50' 100' 200'

SCALE: 1" = 100'

Unit Mix	Units	%	Space per DU	Parking Spaces Req.
1BR	128	36%	1.5	192
2BR	115	32%	2	230
3BR	117	33%	2	234
Total	360	100%		656

LEGEND

afu - Artificial Fill-Undocumented

Qyf - Young Alluvial Fan Deposits (Bracketed where Buried)

Qof - Old Alluvial Fan Deposits (Bracketed where Buried)

B-1 - Approx. Location of Boring

P-1 - Approx. Location of Infiltration Test

- Approx. Location of Buried Geologic Contact

RETAIL TOTAL	Area
Pad 1	4,460 SF
Pad 2	11,715 SF
Total	16,175 SF

Parking Designation	Parking Spaces
Outdoor Walk-Up Residential	500
Tuck-under Indoor Tandem	80
Outdoor Tandem	80
Residential Parking Total	660
Retail Parking	96
Total Parking Spaces	756

PLATE 1

ALTA CALIFORNIA GEOTECHNICAL, INC.
170 N. MAPLE STREET, STE 108, CORONA, CA 92880
TELEPHONE: (951)509-7090
PROJECT NUMBER:1-0312 DATE: 2-24-2020

steinberg hart

SERITAGE GROWTH PROPERTIES

RIVERSIDE | YIELD STUDY

SITEPLAN
04.10.2019

ALTA CALIFORNIA
GEOTECHNICAL INC.

170 North Maple Street, Suite 108
Corona, CA 92880
www.altageotechnical.com

FOULGER-PRATT
136 Calle de Los Molinos
San Clemente, CA 92672

April 14, 2023
Project No. 1-0312

Attention: Mr. Jim Ivory

Subject: ***WQMP SETBACK RECOMMENDATIONS***
Arlington Mixed Use
5261 Arlington Avenue
City of Riverside, California

Reference: Alta California Geotechnical, Inc., 2020, Geotechnical Investigation, 5261 Arlington Avenue, City of Riverside, California, dated February 24, 2020 (Project Number 1-0312).

Dear Mr. Ivory:

Presented herein are Alta California Geotechnical, Inc.'s (Alta) WQMP system setback recommendations for the Arlington Mixed Use project, located at 5261 Arlington Avenue, in the City of Riverside, California. This letter is based on a review of the site plan, review of the proposed modular wetland systems, and the recommendations presented in the referenced report.

It is our understanding that modular wetland systems shall be utilized for WQMP purposes for the subject site, which are bio-treatment systems that do not allow the water to infiltrate into the underlying soils. The site plan indicates these systems shall be placed in close proximity to the proposed structures. From a geotechnical perspective, these systems shall be setback horizontally from the proposed structures such that a 1:1 projection from the bottom of the proposed structure footings extends below the proposed modular systems. Alternatively, footings for the proposed structures can be deepened to provide the recommended projection.

Alta California Geotechnical, Inc. appreciates the opportunity to be of service to you and your organization. Should you have any questions or need additional information, please contact the undersigned at our Corona office.

Sincerely,
Alta California Geotechnical, Inc.

SCOTT A. GRAY/RGE 2857
Reg. Exp.: 12-31-24
Registered Geotechnical Engineer
President

Distribution: (1) Addressee

SAG: LM: 1-0312, April 14, 2023 (Setback Recommendations, Arlington)

Appendix 4: Historical Site Conditions

Phase I Environmental Site Assessment or Other Information on Past Site Use

The site is currently developed with an at-grade paved surface parking lot that surrounds the existing Sears Retail Department Store and Automotive Center which has plans to shut down and vacate the site. The parking lot consists of asphalt paved surfaces, minimal landscape planting areas, parking lot lighting poles and utilities. The property boundary conditions consist of block screen wall along the north and east property lines that separate the site from the existing residential lots. Although physically incorporated into the site, the Bank in the southwest corner of the site is on a separate parcel and the existing improvements will remain. There are no physical boundaries between the two parcels and their adjacencies function as one with site access, utilities and drainage. The site is serviced by below-ground wet and dry utilities within the property as well as within the adjacent properties and surrounding public street networks.

Appendix 5: LID Infeasibility

LID Technical Infeasibility Analysis

N/A

Appendix 6: BMP Design Details

BMP Sizing, Design Details and other Supporting Documentation

Santa Ana Watershed - BMP Design Flow Rate, Q_{BMP}

(Rev. 10-2011)

Legend: Required Entries / Calculated Cells

*(Note this worksheet shall **only** be used in conjunction with BMP designs from the **LID BMP Design Handbook**)*

Company Name	Psomas	Date	4/14/2023
Designed by	NT	Case No	
Company Project Number/Name	4RIV290100		

BMP Identification

BMP NAME / ID: R1E

Must match Name/ID used on BMP Design Calculation Sheet

Design Rainfall Depth

Design Rainfall Intensity: I = 0.20 in/hr

Drainage Management Area Tabulation

Insert additional rows if needed to accommodate all DMAs draining to the BMP

DMAs

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type (use pull-down menu)	Effective Imperivous Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Design Rainfall Intensity (in/hr)*	*Design Flow Rate (cfs)*	*Proposed Flow Rate (cfs)*
R1E	*89,924*	*Concrete or Asphalt*	*1*	*0.89*	*80212.2*			
R1E	*34,969*	*Ornamental Landscaping*	*0.1*	*0.11*	*3862.6*			

Santa Ana Watershed - BMP Design Flow Rate, Q_{BMP}

(Rev. 10-2011)

Legend: Required Entries / Calculated Cells

*(Note this worksheet shall **only** be used in conjunction with BMP designs from the **LID BMP Design Handbook**)*

Company Name	Psomas	Date	4/14/2023
Designed by	NT	Case No	
Company Project Number/Name	4RIV290100		

BMP Identification

BMP NAME / ID: C1S

Must match Name/ID used on BMP Design Calculation Sheet

Design Rainfall Depth

Design Rainfall Intensity: I = 0.20 in/hr

Drainage Management Area Tabulation

Insert additional rows if needed to accommodate all DMAs draining to the BMP

DMAs

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type (use pull-down menu)	Effective Imperivous Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Design Rainfall Intensity (in/hr)*	*Design Flow Rate (cfs)*	*Proposed Flow Rate (cfs)*
C1S	*29,558*	*Concrete or Asphalt*	*1*	*0.89*	*26365.7*			
C1S	*11,495*	*Ornamental Landscaping*	*0.1*	*0.11*	*1269.7*			
	41053	***Total***			**27635.4**	**0.20**	***0.1***	***0.13***

Notes:

Santa Ana Watershed - BMP Design Flow Rate, Q_{BMP}

(Rev. 10-2011)

Legend: Required Entries / Calculated Cells

*(Note this worksheet shall **only** be used in conjunction with BMP designs from the **LID BMP Design Handbook**)*

Company Name	Psomas	Date	4/14/2023
Designed by	NT	Case No	
Company Project Number/Name	4RIV290100		

BMP Identification

BMP NAME / ID: C2S

Must match Name/ID used on BMP Design Calculation Sheet

Design Rainfall Depth

Design Rainfall Intensity: I = 0.20 in/hr

Drainage Management Area Tabulation

Insert additional rows if needed to accommodate all DMAs draining to the BMP

DMAs

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type (use pull-down menu)	Effective Imperivous Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Design Rainfall Intensity (in/hr)*	*Design Flow Rate (cfs)*	*Proposed Flow Rate (cfs)*
C2S	*49,980*	*Concrete or Asphalt*	*1*	*0.89*	*44582.2*			
C2S	*19,437*	*Ornamental Landscaping*	*0.1*	*0.11*	*2147*			
	69417		***Total***		**46729.2**	**0.20**	***0.2***	***0.27***

Notes:

Santa Ana Watershed - BMP Design Flow Rate, Q_{BMP}

(Rev. 10-2011)

Legend: Required Entries / Calculated Cells

*(Note this worksheet shall **only** be used in conjunction with BMP designs from the **LID BMP Design Handbook**)*

Company Name	Psomas	Date	4/14/2023
Designed by	NT	Case No	
Company Project Number/Name	4RIV290100		

BMP Identification

BMP NAME / ID: R1C

Must match Name/ID used on BMP Design Calculation Sheet

Design Rainfall Depth

Design Rainfall Intensity: I = 0.20 in/hr

Drainage Management Area Tabulation

Insert additional rows if needed to accommodate all DMAs draining to the BMP

DMAs

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type (use pull-down menu)	Effective Imperivous Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Design Rainfall Intensity (in/hr)*	*Design Flow Rate (cfs)*	*Proposed Flow Rate (cfs)*
R1C	*144,895*	*Concrete or Asphalt*	*1*	*0.89*	*129246.3*			
R1C	*56,328*	*Ornamental Landscaping*	*0.1*	*0.11*	*6221.9*			

Santa Ana Watershed - BMP Design Flow Rate, Q_{BMP}

(Rev. 10-2011)

Legend: Required Entries / Calculated Cells

*(Note this worksheet shall **only** be used in conjunction with BMP designs from the **LID BMP Design Handbook**)*

Company Name	Psomas	Date	4/14/2023
Designed by	NT	Case No	
Company Project Number/Name	4RIV290100		

BMP Identification

BMP NAME / ID: R1W

Must match Name/ID used on BMP Design Calculation Sheet

Design Rainfall Depth

Design Rainfall Intensity: I = 0.20 in/hr

Drainage Management Area Tabulation

Insert additional rows if needed to accommodate all DMAs draining to the BMP

DMAs

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type (use pull-down menu)	Effective Imperivous Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Design Rainfall Intensity (in/hr)*	*Design Flow Rate (cfs)*	*Proposed Flow Rate (cfs)*
R1W	*83,446*	*Concrete or Asphalt*	*1*	*0.89*	*74433.8*			
R1W	*32,452*	*Ornamental Landscaping*	*0.1*	*0.11*	*3584.6*			

Santa Ana Watershed - BMP Design Flow Rate, Q_{BMP}

(Rev. 10-2011)

Legend: Required Entries / Calculated Cells

*(Note this worksheet shall **only** be used in conjunction with BMP designs from the **LID BMP Design Handbook**)*

Company Name	Psomas	Date	4/14/2023
Designed by	NT	Case No	
Company Project Number/Name	4RIV290100		

BMP Identification

BMP NAME / ID: R2W

Must match Name/ID used on BMP Design Calculation Sheet

Design Rainfall Depth

Design Rainfall Intensity: I = 0.20 in/hr

Drainage Management Area Tabulation

Insert additional rows if needed to accommodate all DMAs draining to the BMP

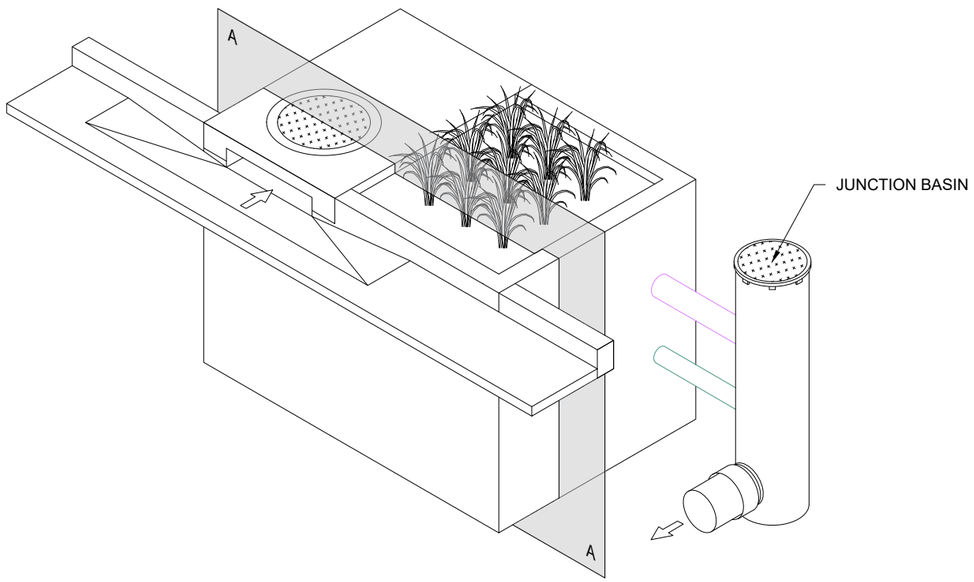
DMAs

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type (use pull-down menu)	Effective Imperivous Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Design Rainfall Intensity (in/hr)*	*Design Flow Rate (cfs)*	*Proposed Flow Rate (cfs)*
R2W	*140,009*	*Concrete or Asphalt*	*1*	*0.89*	*124888*			
R2W	*54,446*	*Ornamental Landscaping*	*0.1*	*0.11*	*6014*			
	194455	***Total***			**130902**	**0.20**	***0.6***	***0.8***

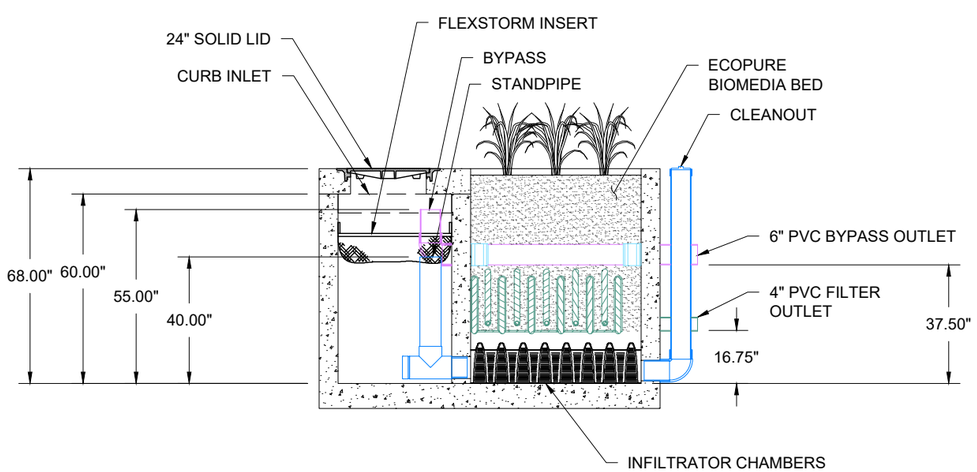
Notes:

ONLINE SITE LAYOUT - CURB INLET

FOR LOW FLOW APPLICATIONS USING INTERNAL BYPASS
*CLEANOUTS OMITTED FROM LAYOUT FOR CLARITY



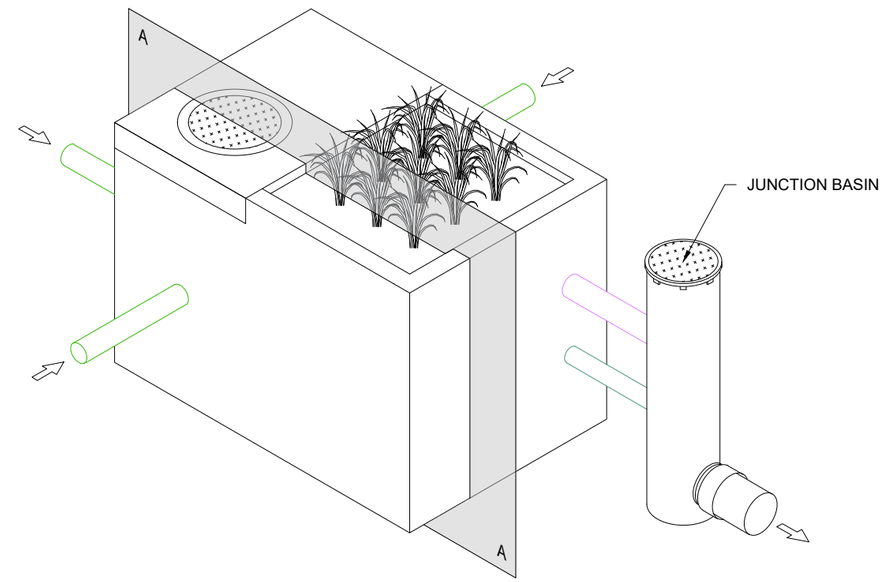
NOTES:
1. THROAT INLET SHOWN. GRATED CURB INLET NOT AVAILABLE.
2. PLANTINGS SHOULD BE DROUGHT RESISTANT, FULL SUNLIGHT PLANTS (GRASS, SHRUBS, AND ORNAMENTAL).
3. FOR DESIGNS THAT REQUIRE A SUMP DEPTH GREATER THAN 68" PLEASE CONTACT ADS.



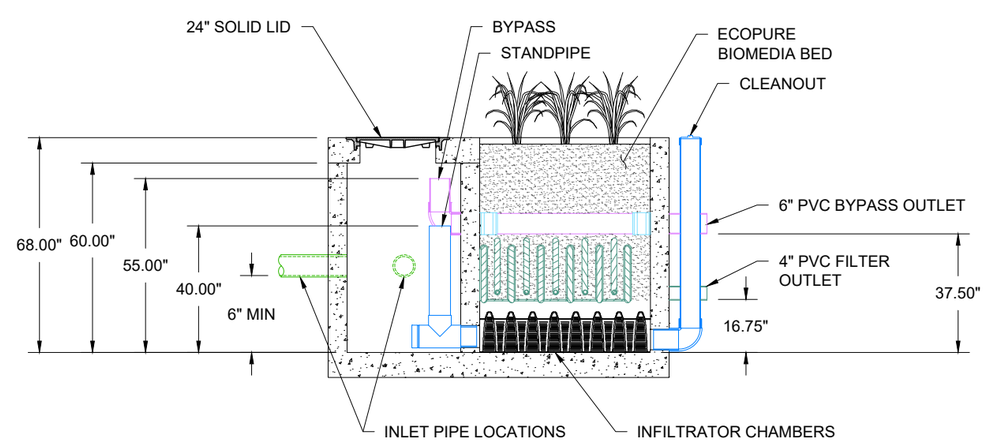
SECTION A-A
NTS

ONLINE SITE LAYOUT - PIPE INLET

FOR LOW FLOW APPLICATIONS USING INTERNAL BYPASS
*CLEANOUTS OMITTED FROM LAYOUT FOR CLARITY



NOTES:
1. PLANTINGS SHOULD BE DROUGHT RESISTANT, FULL SUNLIGHT PLANTS (GRASS, SHRUBS, AND ORNAMENTAL).
2. FOR DESIGNS THAT REQUIRE A SUMP DEPTH GREATER THAN 68" PLEASE CONTACT ADS.



SECTION A-A
NTS

ECOPURE™
STANDARD ONLINE DETAILS

DATE: 8/01/22 | DRAWN: KLJ
PROJECT #: N/A | CHECKED: ----

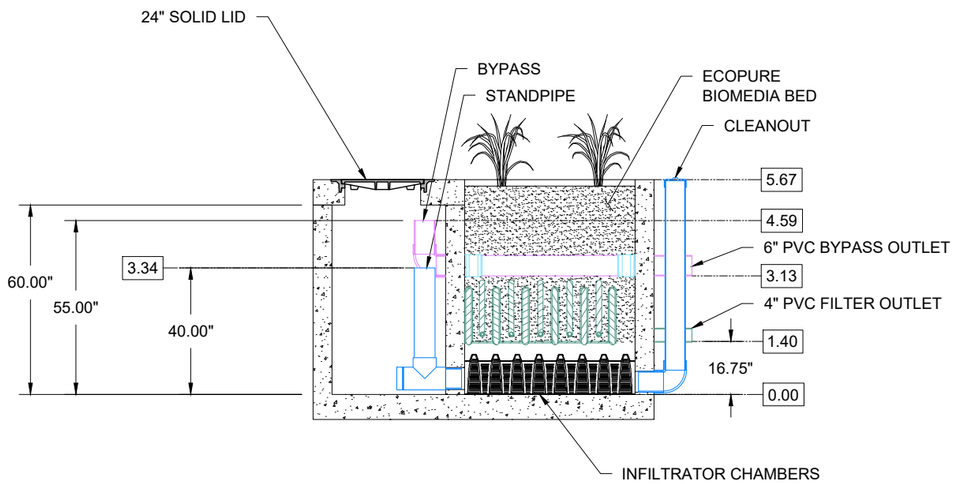
DATE	DRWN	CHKD	DESCRIPTION

EcoPure™ Biofilter
Stormwater Media Filters

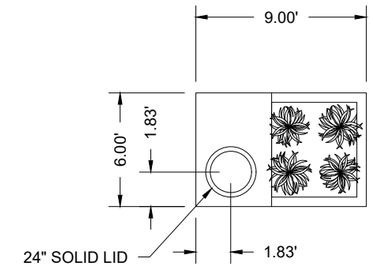
ADS
4640 TRUEMAN BLVD
HILLIARD, OH 43026

NOT TO SCALE

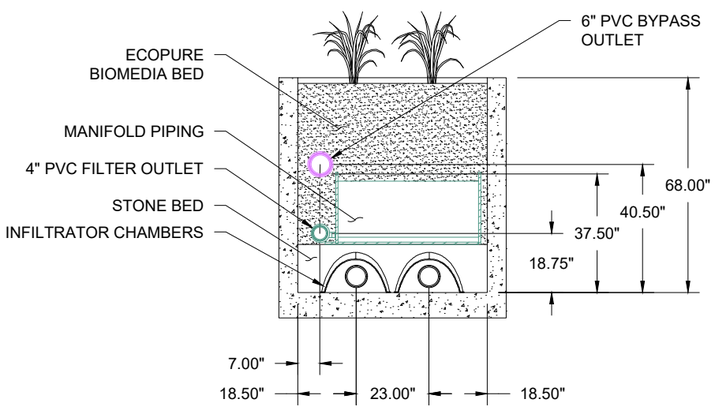
THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS UNDER THE DIRECTION OF THE SITE DESIGN ENGINEER OR OTHER PROJECT REPRESENTATIVE. THE SITE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE SITE DESIGN ENGINEER TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.



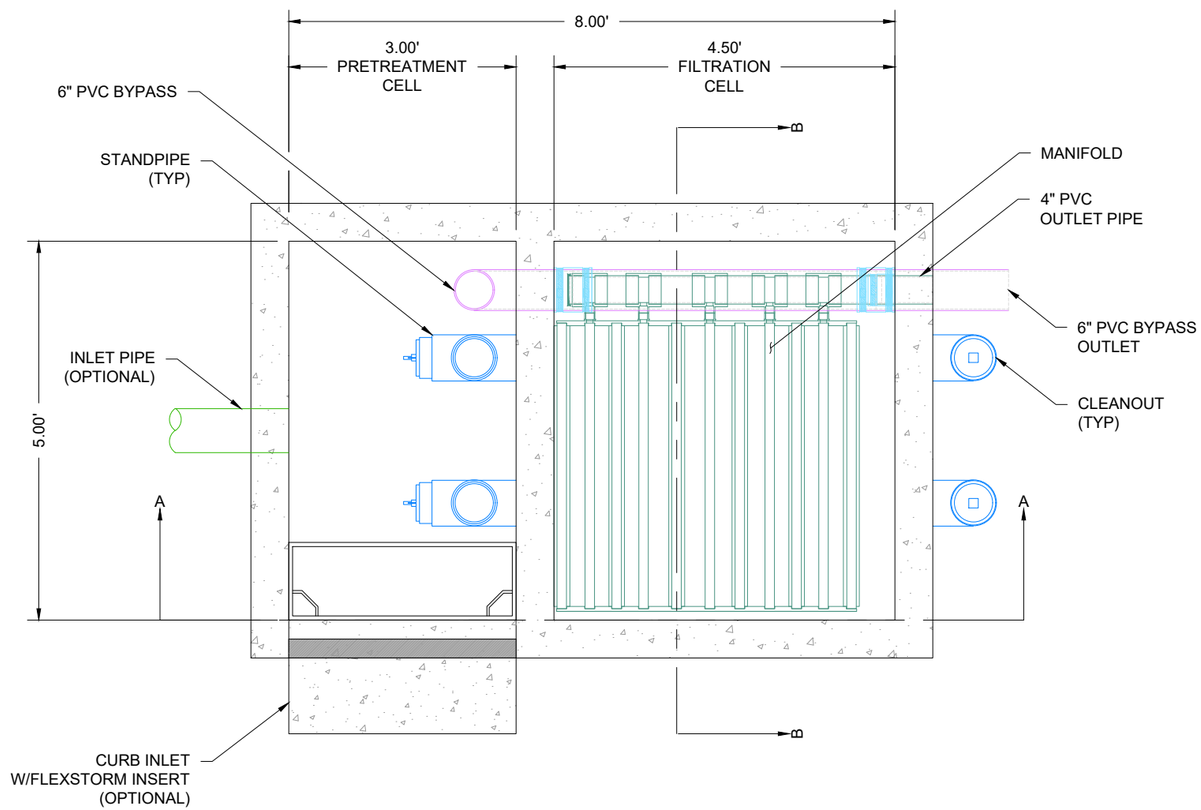
SECTION A-A
NTS



TOP SLAB PLAN VIEW
NTS / PIPE CONNECTIONS NOT SHOWN



SECTION B-B
NTS



PLAN VIEW
NTS

ECOPURE BIOFILTER 60	
WATER QUALITY FLOW RATE	0.13 CFS
EFFECTIVE LOADING RATE	1 GPM/SF
DRAINAGE AREA	0.324 ACRES
TREATED SEDIMENT CAPACITY	194.5 LBS

THE ECOPURE BIOFILTER™ IS A BIOFILTRATION STORMWATER TREATMENT TECHONOLOGY RELIES ON PHYSICAL, CHEMICAL AND BIOLOGICAL MECHANISMS TO REMOVE TOTAL SUSPENDED SOLIDS, TOTAL PHOSPHORUS, TOTAL NITROGEN, HEAVY METALS, OIL and GREASE, TRASH AND BACTERIA. THE ECOPURE SYSTEM PROVIDES LINEAR TREATMENT DESIGN WITH AN UPFRONT PRETREATMENT CHAMBER.

ECOPURE BIOFILTER
60
STANDARD DETAIL

DATE: 6/08/22 DRAWN: KLJ
PROJECT #: CHECKED: KLJ

DATE	DRWN	CHKD	DESCRIPTION

EcoPure™ Biofilter
Stormwater Media Filters

ADS
4640 TRUEMAN BLVD
HILLIARD, OH 43026

NOT TO SCALE

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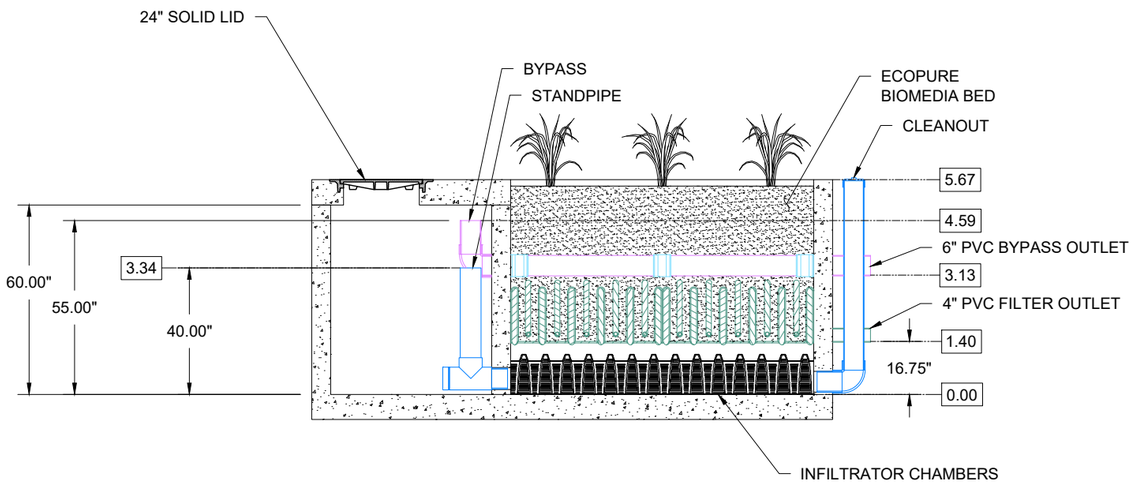
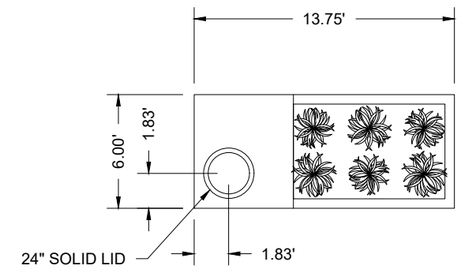


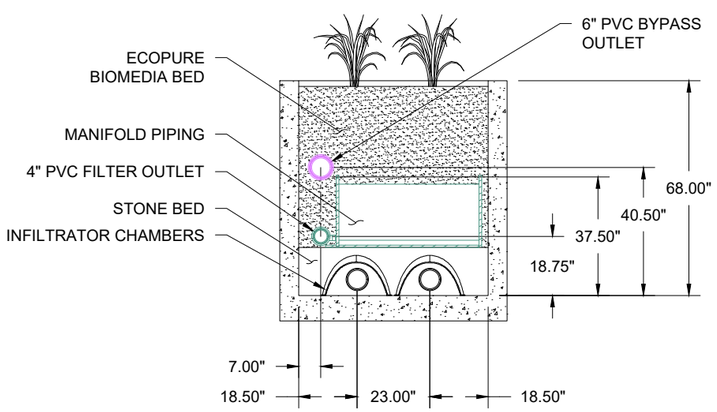
SECTION A-A

NTS



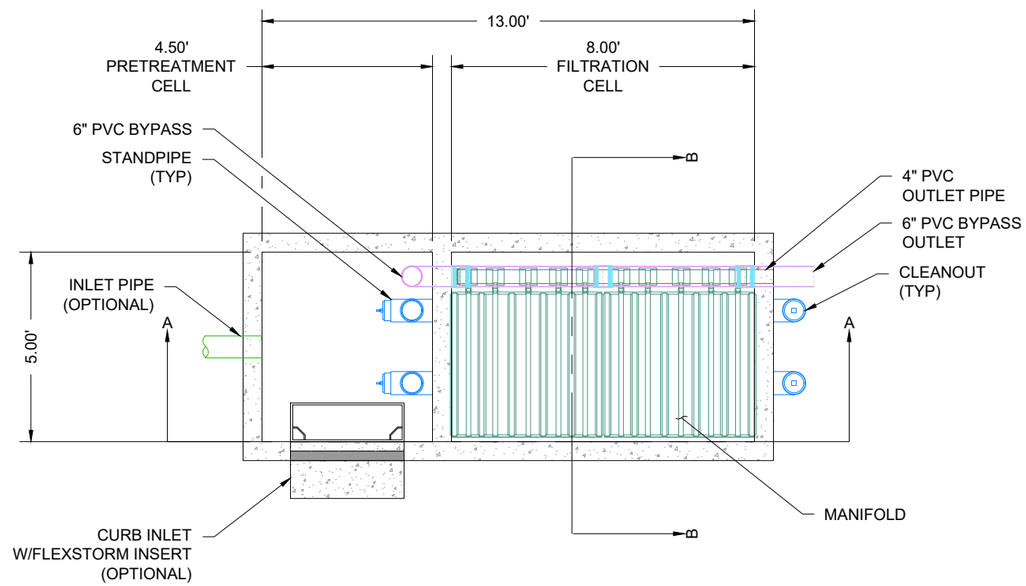
TOP SLAB PLAN VIEW

NTS / PIPE CONNECTIONS NOT SHOWN



SECTION B-B

NTS



PLAN VIEW

NTS

ECOPURE BIOFILTER 120	
WATER QUALITY FLOW RATE	0.27 CFS
EFFECTIVE LOADING RATE	1 GPM/SF
DRAINAGE AREA	0.648 ACRES
TREATED SEDIMENT CAPACITY	389 LBS

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ECOPURE BIOFILTER
120
STANDARD DETAIL

DATE: 6/08/22 DRAWN: KLJ
PROJECT #: CHECKED: KLJ

DATE	DRWN	CHKD	DESCRIPTION

EcoPure™ Biofilter
Stormwater Media Filters

ADS
4640 TRUEMAN BLVD
HILLIARD, OH 43026

NOT TO SCALE

SHEET 1 OF 1

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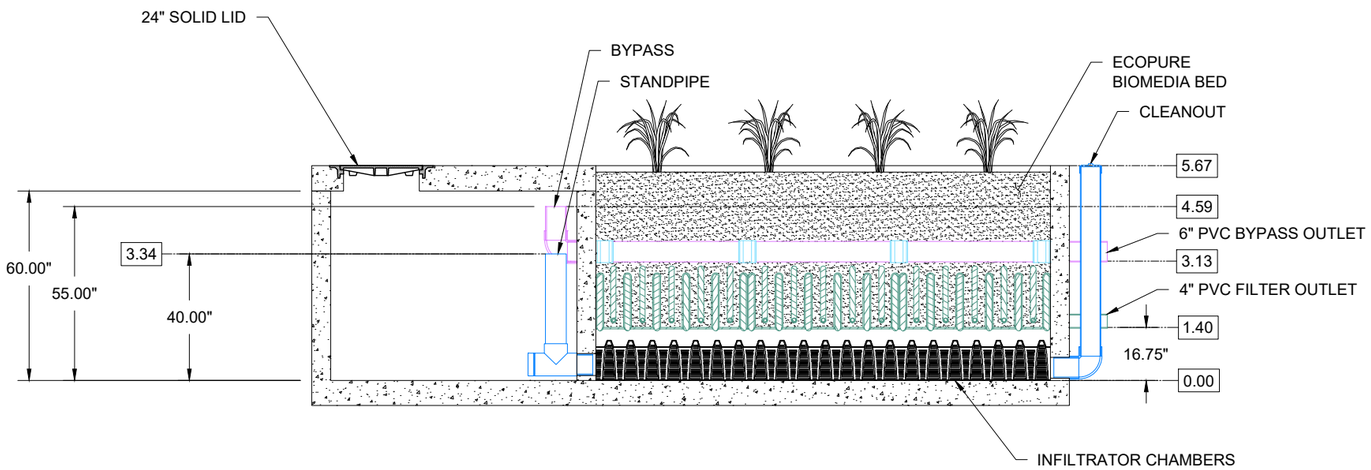
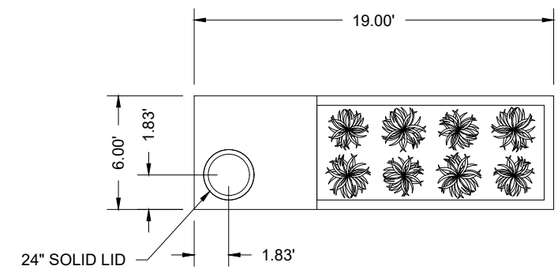
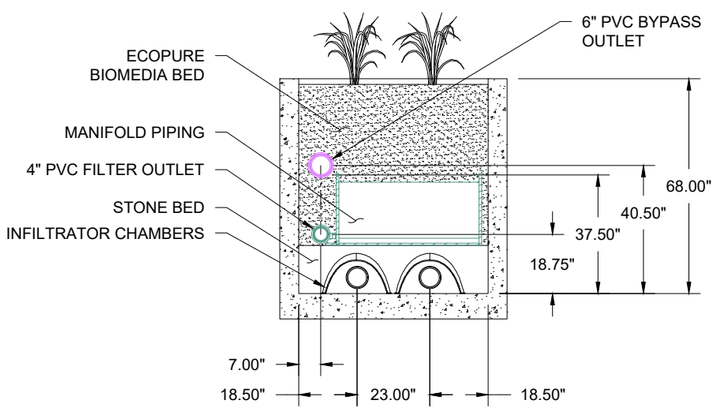


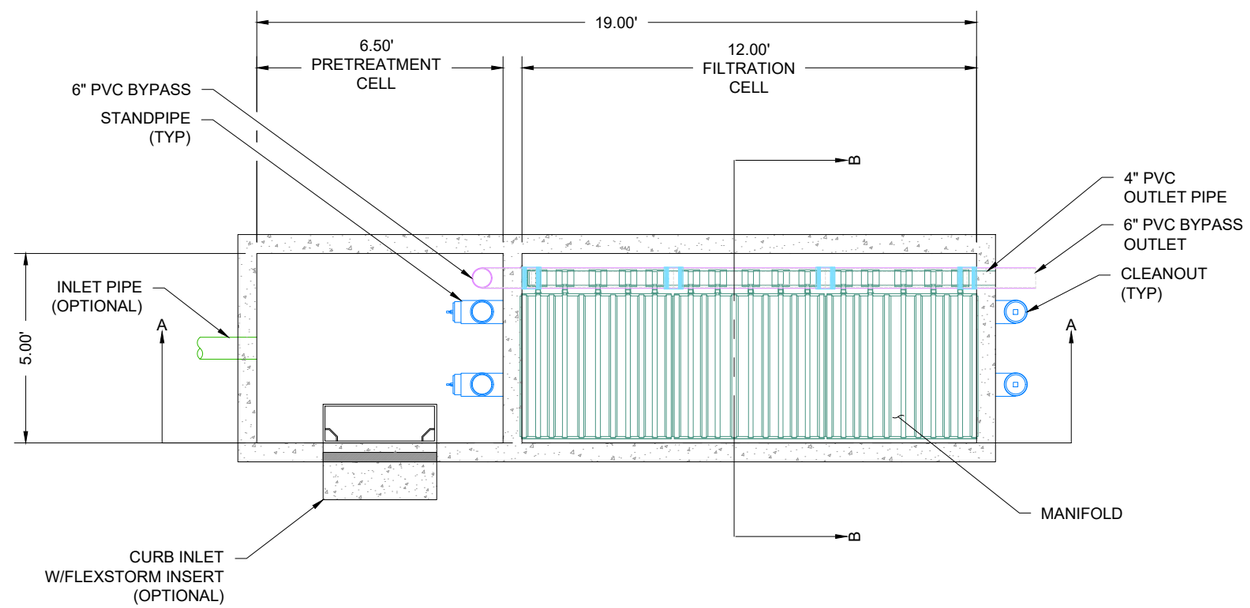
SECTION A-A
NTS



TOP SLAB PLAN VIEW
NTS / PIPE CONNECTIONS NOT SHOWN



SECTION B-B
NTS



PLAN VIEW
NTS

ECOPURE BIOFILTER 180	
WATER QUALITY FLOW RATE	0.40 CFS
EFFECTIVE LOADING RATE	1 GPM/SF
DRAINAGE AREA	0.972 ACRES
TREATED SEDIMENT CAPACITY	583.5 LBS

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ECOPURE BIOFILTER
180
STANDARD DETAIL

DATE: 6/08/22 DRAWN: KLJ
PROJECT #: CHECKED: KLJ

DATE	DRWN	CHKD	DESCRIPTION

EcoPure™ Biofilter
Stormwater Media Filters

ADS
4640 TRUEMAN BLVD
HILLIARD, OH 43026

NOT TO SCALE

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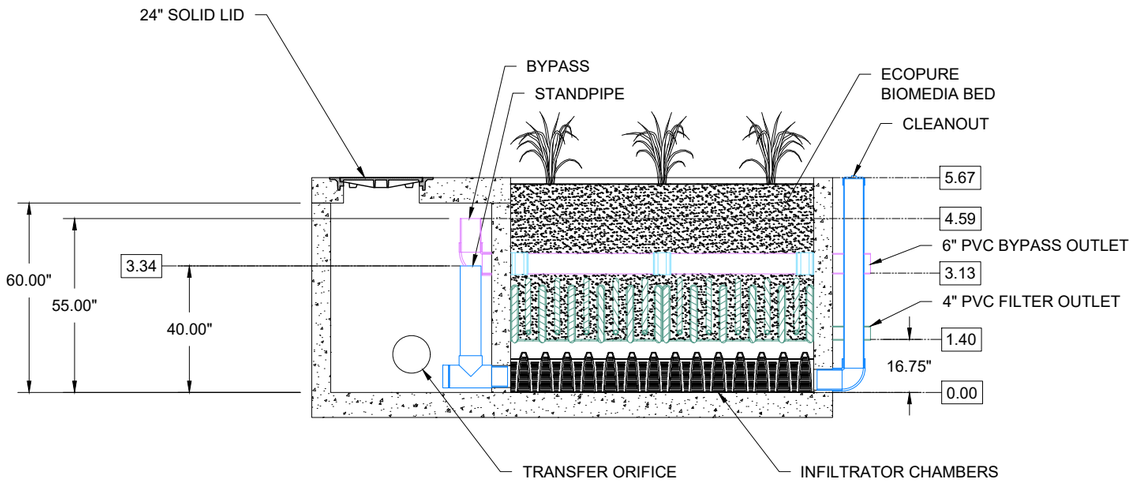
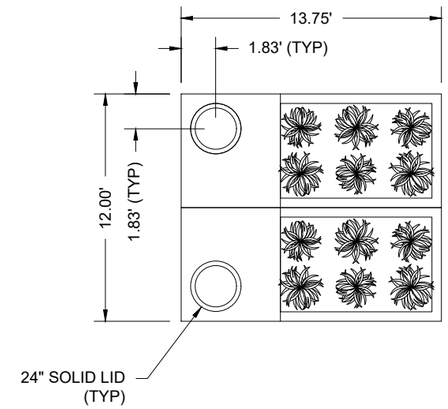


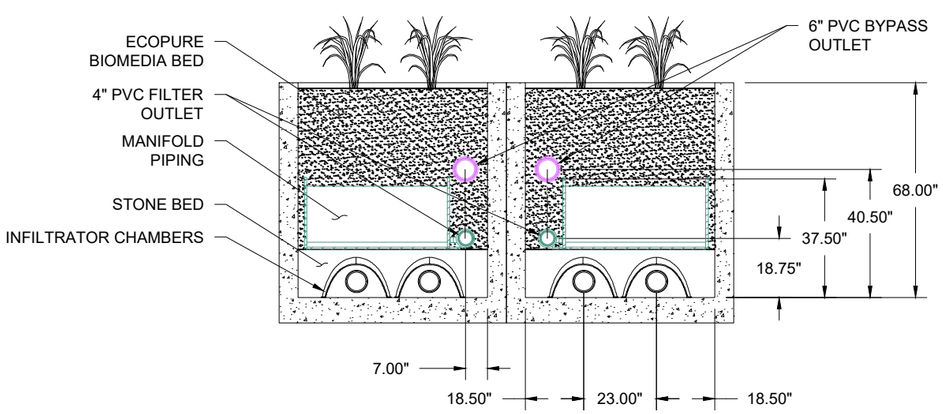
SECTION A-A

NTS



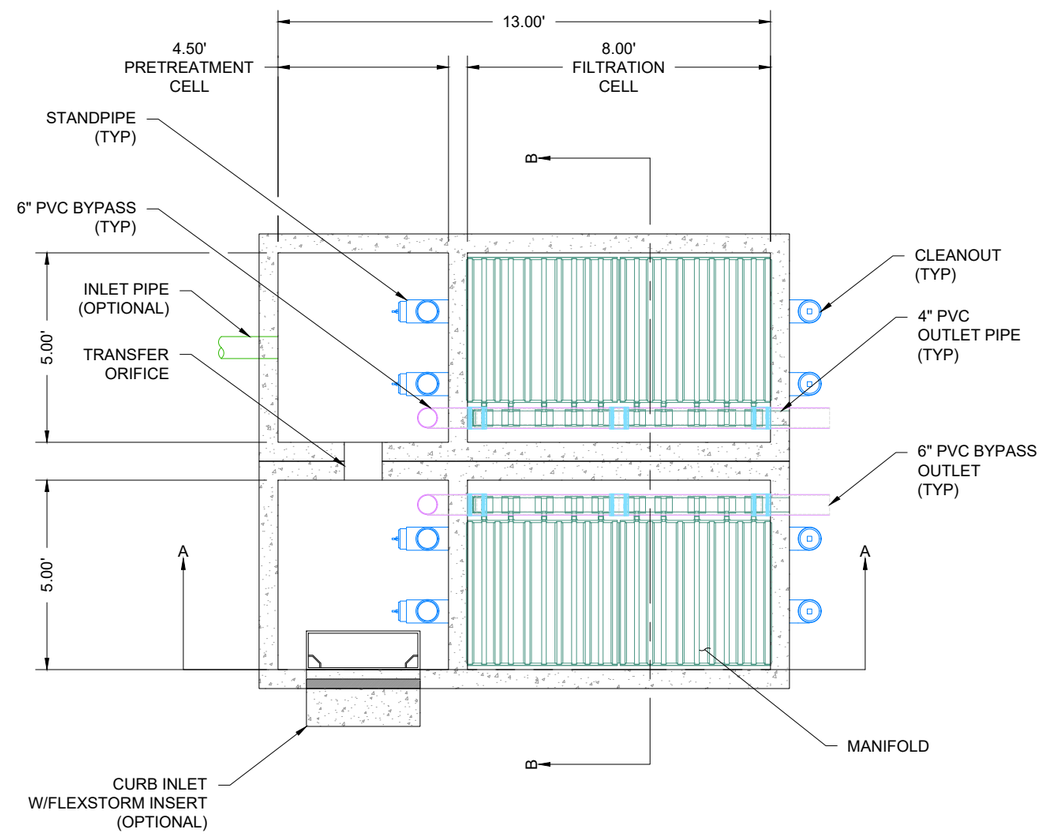
TOP SLAB PLAN VIEW

NTS / PIPE CONNECTIONS NOT SHOWN



SECTION B-B

NTS



PLAN VIEW

NTS

ECOPURE BIOFILTER 240	
WATER QUALITY FLOW RATE	0.53 CFS
EFFECTIVE LOADING RATE	1 GPM/SF
DRAINAGE AREA	1.297 ACRES
TREATED SEDIMENT CAPACITY	778 LBS

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ECOPURE BIOFILTER
240
STANDARD DETAIL

DATE: 6/08/22 DRAWN: KLJ
PROJECT #: CHECKED: KLJ

DATE	DRWN	CHKD	DESCRIPTION

EcoPure™ Biofilter
Stormwater Media Filters

ADS
4640 TRUEMAN BLVD
HILLIARD, OH 43026

NOT TO SCALE

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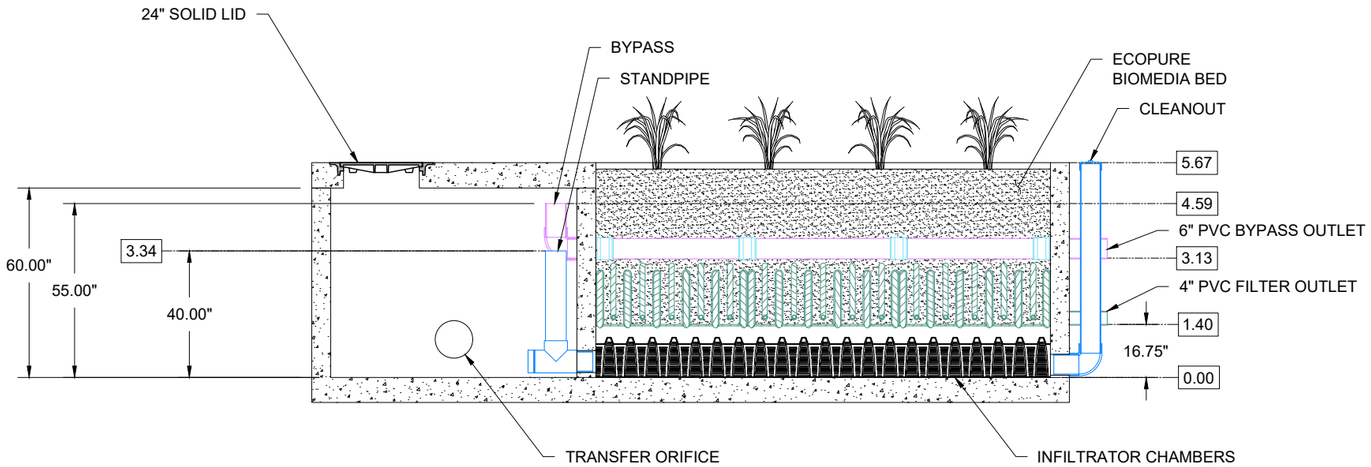
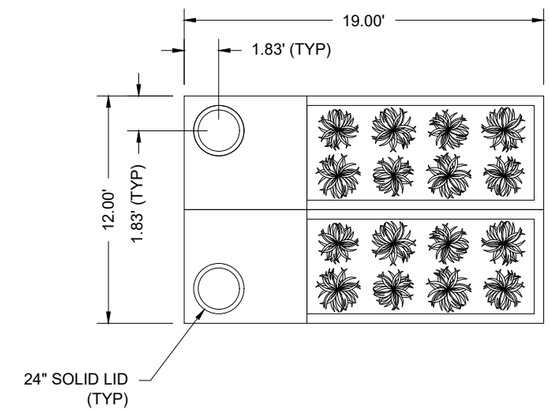
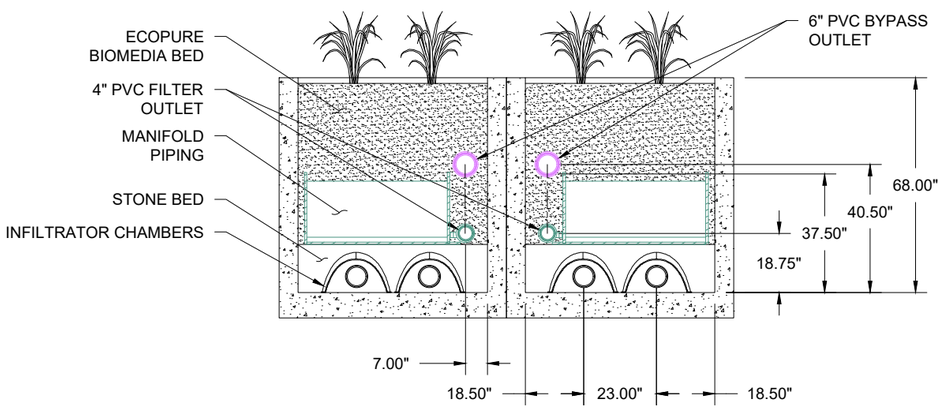


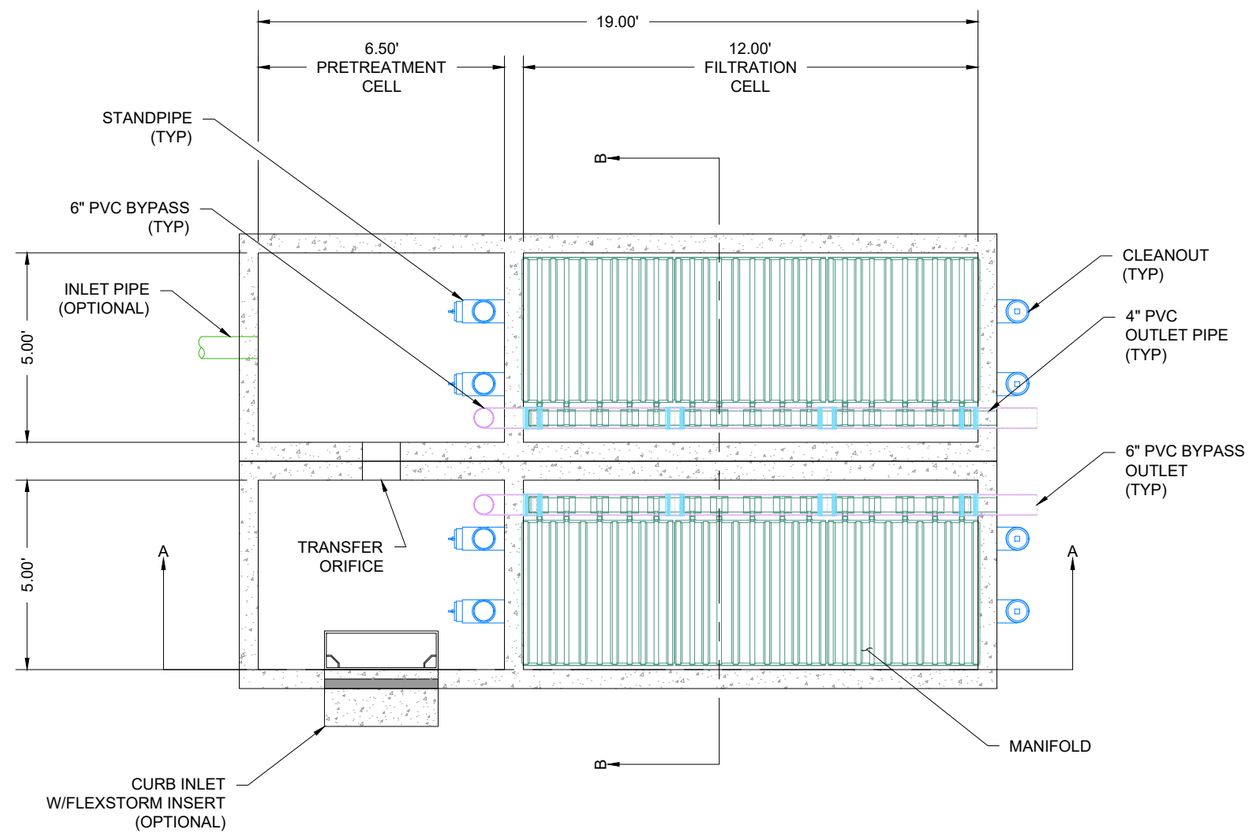
SECTION A-A
NTS



TOP SLAB PLAN VIEW
NTS / PIPE CONNECTIONS NOT SHOWN



SECTION B-B
NTS



PLAN VIEW
NTS

ECOPURE BIOFILTER 360	
WATER QUALITY FLOW RATE	0.80 CFS
EFFECTIVE LOADING RATE	1 GPM/SF
DRAINAGE AREA	1.945 ACRES
TREATED SEDIMENT CAPACITY	1,167 LBS

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ECOPURE BIOFILTER
360
STANDARD DETAIL

DATE: 6/08/22 DRAWN: KLJ
PROJECT #: CHECKED: KLJ

DATE	DRWN	CHKD	DESCRIPTION

EcoPure™ Biofilter
Stormwater Media Filters

ADS
4640 TRUEMAN BLVD
HILLIARD, OH 43026

NOT TO SCALE

SHEET 1 OF 1

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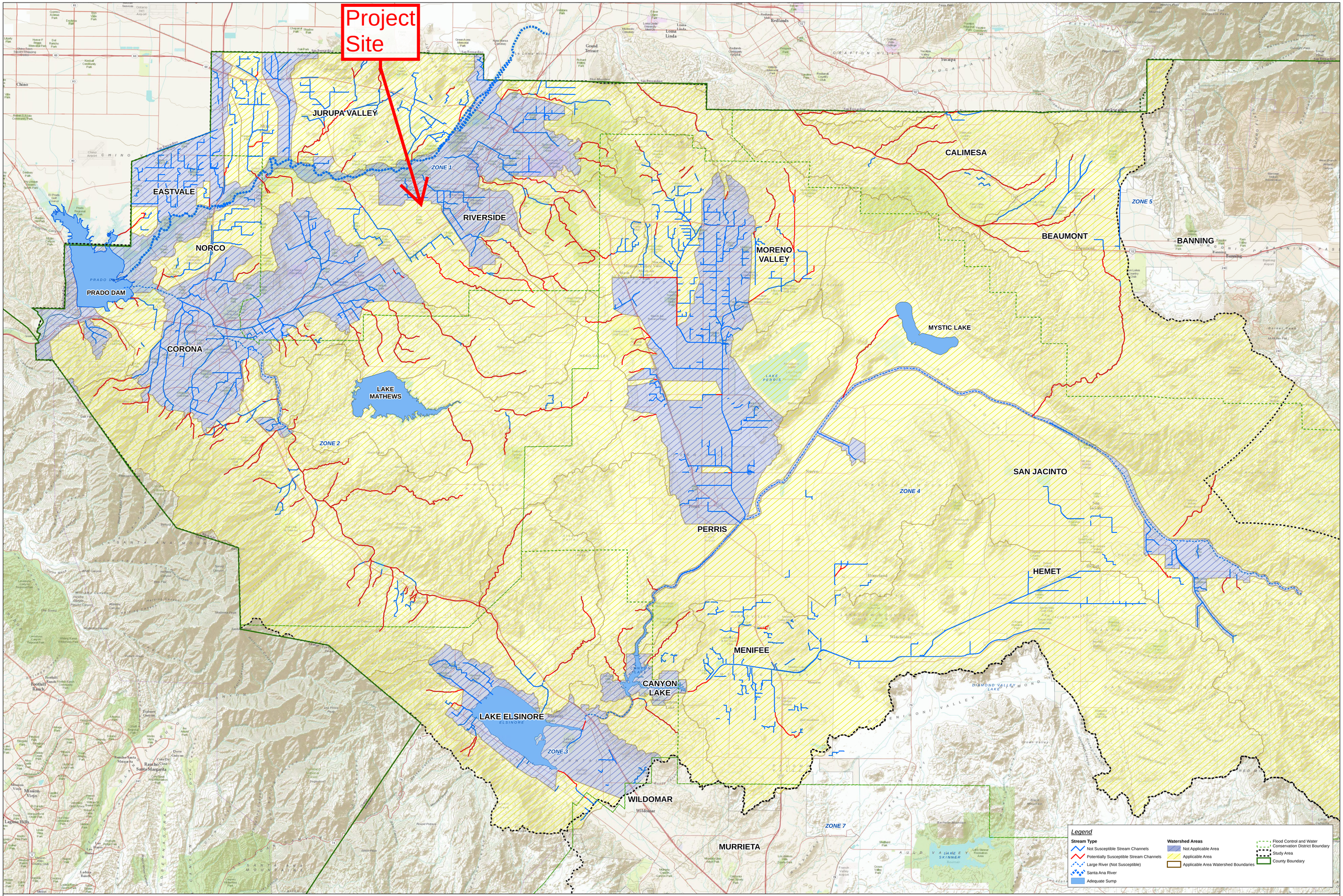
Appendix 7: Hydromodification

Supporting Detail Relating to Hydrologic Conditions of Concern



HCOC Applicability Map

Hydromodification Susceptibility Documentation Report and Mapping
Riverside County Flood Control and Water Conservation District

Map 2

Riverside County Pre Development Flow Calculations

Riverside County Flood Control and Water Conservation District Hydrology
Rational Method Calculation Form

Condition: Pre Development
Frequency: 10-yr
Calculated By: NT 3/14/2023

Project: Arlington Mixed Use, Riverside, CA

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I10 (in/hr)	C	Q10 (ft^3/s)	Q10 (ft^3/s)	Slope	Section	V (ft/s)	L (ft)	H (ft)	T (min)	T (min)	Remarks
EX-1A	C	Commercial	94,023	2.16	2.23	0.89	4.28	4.28	-	-	-	300	3.5	7.3	7.3	Initial Area (Plate D-3)
EX-1B	C	Commercial	207,600	4.77	1.90	0.89	8.06	12.34	0.010	18" Conc Pipe	5.52	815	8.0	2.5	9.8	Assume 18" @ 1% Conc Pipe
					Adjust Q to Tc = 13.5 min.											
TOTAL - Point 1				**6.92**				**10.33**							**13.5**	Peak Q at Tp = 13.5 min.

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I10 (in/hr)	C	Q10 (ft^3/s)	Q10 (ft^3/s)	Slope	Section	V (ft/s)	L (ft)	H (ft)	T (min)	T (min)	Remarks
EX-2A	B	Commercial	58,296	1.34	2.22	0.87	2.58	2.58	-	-	-	210	1.0	7.4	7.4	Initial Area (Plate D-3)
EX-2B + EX-2C	B	Commercial	301,203	6.91	1.59	0.89	9.78	12.36	0.008	18" Conc Pipe	4.27	1560	12.5	6.1	13.5	Assume 18" @ 0.8% Conc Pipe
TOTAL - Point 2				**8.25**	**1.59**			**12.36**							**13.5**	

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I10 (in/hr)	C	Q10 (ft^3/s)	Q10 (ft^3/s)	Slope	Section	V (ft/s)	L (ft)	H (ft)	T (min)	T (min)	Remarks
EX-3A	B	Commercial	97,888	2.25	2.23	0.87	4.36	4.36	-	-	-	359	6.0	7.3	7.3	Initial Area (Plate D-3)
-	B	Commercial	-	2.25	1.97	0.87	3.85	3.85	0.0036	18" Conc Pipe	2.86	325	-	1.9	9.2	33" RCP @ 0.36% Conc Pipe
					Adjust Q to Tc = 13.5 min.											
TOTAL - Point 3				**2.25**				**3.11**							**13.5**	Peak Q at Tp = 13.5 min.

Notes

1 Intensity data per standard Riverside area (Plate D-4.1)
2 Runoff coefficient per standard "Urban Landscaping" "C" curves (Plates D-5.2 and D-5.3)
3 Site is located within Soil Group B and C as classified by Hydrologic Soils Graoup Map for Riverside - West (Plate C-1.16).

ADJUSTMENTS TO POINT 1

Adjust T_B to T_A = 13.5 min
Q_B = 12.34 cfs (Flow at Tc = 9.8 min)
I_A = 1.59 in/hr (intensity at Tc = 13.5 min)
I_B = 1.90 in/hr (intensity at Tc = 9.8 min)

$Q_{ADJUSTED}$ = 12.34 x (1.59 / 1.9)

$Q_{ADJUSTED}$ = 10.33 cfs

ADJUSTMENTS TO POINT 3

Adjust T_B to T_A = 13.5 min
Q_B = 3.85 cfs (Flow at Tc = 9.2 min)
I_A = 1.59 in/hr (intensity at Tc = 13.5 min)
I_B = 1.97 in/hr (intensity at Tc = 9.2 min)

$Q_{ADJUSTED}$ = 3.85 x (1.59 / 1.97)

$Q_{ADJUSTED}$ = 3.11 cfs

TOTAL DISCHARGE FROM SITE = 10.33 + 12.36 + 3.11

TOTAL PRE-DEVELOPMENT DISCHARGE FROM SITE = 25.80 CFS @ Tc = 13.5 MIN

Riverside County Pre Development Flow Calculations

Riverside County Flood Control and Water Conservation District Hydrology
Rational Method Calculation Form

Project: Arlington Mixed Use, Riverside, CA

Condition: Post Development
Frequency: 10-yr
Calculated By: NT 3/14/2023

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I10 (in/hr)	C	Q10 (ft^3/s)	Q10 (ft^3/s)	Slope	Section	V (ft/s)	L (ft)	H (ft)	T (min)	T (min)	Remarks
PR-1A	C	Commercial (90% Impervious)	10,485	0.24	2.34	0.89	0.50	0.50	-	-	-	135	0.5	6.7	6.7	Initial Area (Plate D-3)
PR-1B	C	Apartment (72% Impervious)	111,748	2.57	1.62	0.83	3.45	3.95	0.002	12" HDPE	2.17	815	-	6.3	13.0	DMAs: R1W and R2W
-	-	-	0	0.00	1.52	0	0.00	3.95	0.003	30" RCP	3.04	130	-	0.7	13.7	At Flood Control Basin
					Adjust Q to Tc = 14.3 min.											
TOTAL - Point 1				**2.81**				**3.66**							**14.3**	Peak Q at Tp = 14.3 min.

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I10 (in/hr)	C	Q10 (ft^3/s)	Q10 (ft^3/s)	Slope	Section	V (ft/s)	L (ft)	H (ft)	T (min)	T (min)	Remarks
PR-2A	C	Commercial (90% Impervious)	10,466	0.24	2.32	0.89	0.50	0.50	-	-	-	131	0.7	8.2	8.2	Initial Area (Plate D-3)
PR-2B	C	Apartment (72% Impervious)	113,984	2.62	1.86	0.84	4.09	4.59	0.005	12" HDPE	3.80	579	-	2.5	10.7	DMAs: R1E, R2E, and R3E
PR-2C	C	Apartment (72% Impervious)	199,674	4.58	1.52	0.83	5.78	10.37	0.003	18" RCP	5.20	265	-	0.8	11.5	DMAs: R1C and R2C
PR-2D	B	Apartment (72% Impervious)	93,221	2.14	1.43	0.79	2.42	12.79	0.003	24" RCP	4.07	643	-	2.6	14.1	DMAs: R3W and R4W
-	-	-	0	0.00	1.41	0	0.00	12.79	0.004	30" RCP	5.35	73	-	0.2	14.3	At Flood Control Basin
TOTAL - Point 2				**9.58**				**12.79**							**14.3**	Peak Q at Tp = 14.3 min.

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I10 (in/hr)	C	Q10 (ft^3/s)	Q10 (ft^3/s)	Slope	Section	V (ft/s)	L (ft)	H (ft)	T (min)	T (min)	Remarks
PR-3A	B	Commercial (90% Impervious)	13,490	0.31	2.42	0.88	0.66	0.66	-	-	-	215	6.7	6.8	6.8	Initial Area (Plate D-3)
PR-3B	B	Apartment (72% Impervious)	111,609	2.56	1.56	0.8	3.20	3.86	0.003	18" RCP	3.20	737	-	3.8	10.6	DMAs: R1W and R2W
-	-	-	0	0.00	1.46	0	0.00	3.86	0.003	33" RCP	3.66	389	-	1.8	12.4	At Flood Control Basin
					Adjust Q to Tc = 14.3min.											
TOTAL - Point 1				**2.87**				**3.73**							**14.3**	Peak Q at Tp = 14.3 min.

Notes

1 Intensity data per standard Riverside area (Plate D-4.1)
2 Runoff coefficient per standard "Urban Landscaping" "C" curves (Plates D-5.2 and D-5.3)
3 Site is located within Soil Group B and C as classified by Hydrologic Soils Graoup Map for Riverside - West (Plate C-1.16).

ADJUSTMENTS TO POINT 1

Adjust T_B to T_A = 14.3 min
Q_B = 3.95 cfs (Flow at Tc = 13.7 min)
I_A = 1.41 in/hr (intensity at Tc = 14.3 min)
I_B = 1.52 in/hr (intensity at Tc = 13.7 min)

$Q_{ADJUSTED}$ = 3.95 x (1.41 / 1.52)

$Q_{ADJUSTED}$ = 3.66 cfs

ADJUSTMENTS TO POINT 3

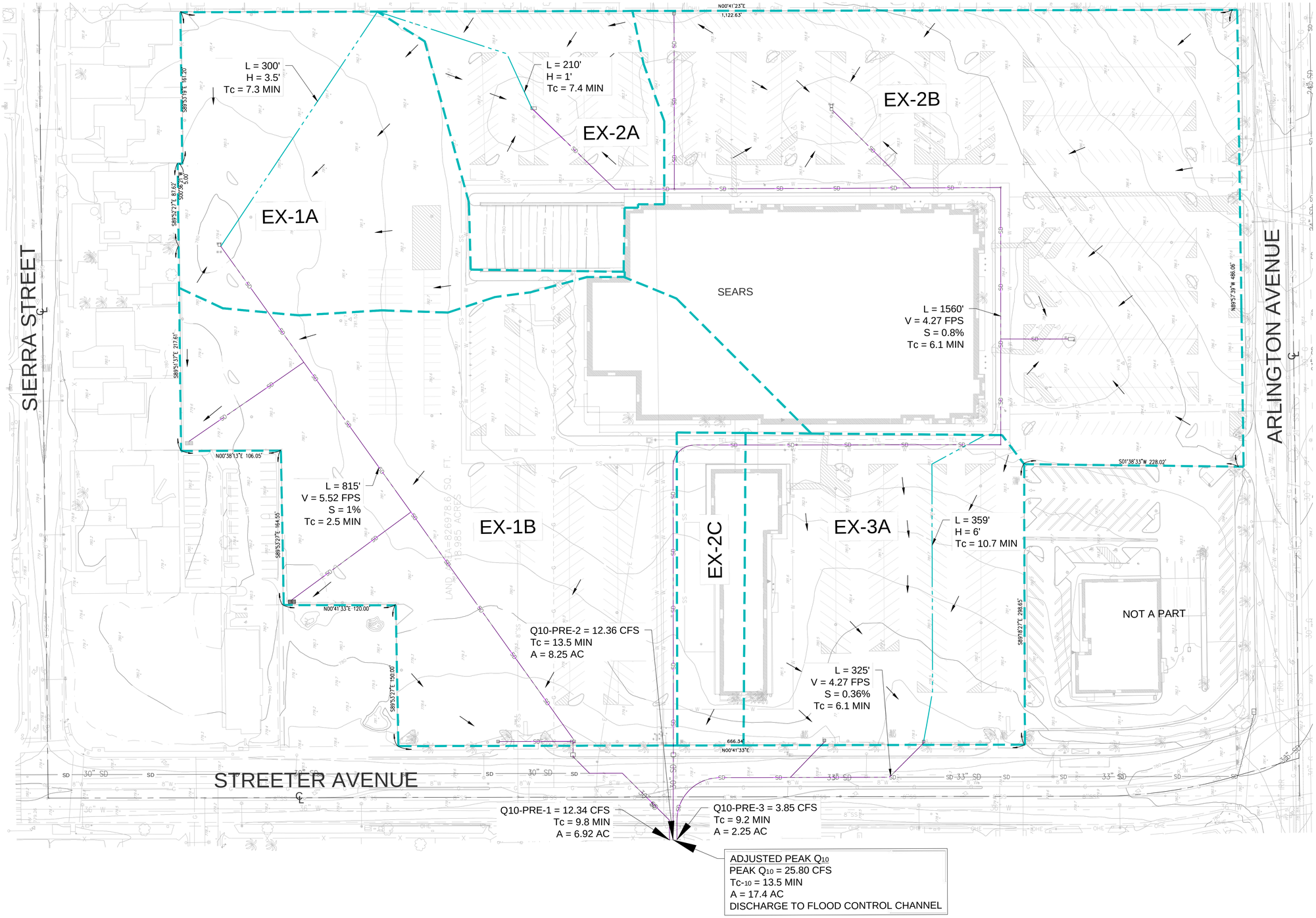
Adjust T_B to T_A = 14.3 min
Q_B = 3.86 cfs (Flow at Tc = 12.4 min)
I_A = 1.41 in/hr (intensity at Tc = 14.3 min)
I_B = 1.46 in/hr (intensity at Tc = 12.4 min)

$Q_{ADJUSTED}$ = 3.86 x (1.41 / 1.46)

$Q_{ADJUSTED}$ = 3.73 cfs

TOTAL DISCHARGE FROM SITE = 3.66 + 12.79 + 3.73

TOTAL POST-DEVELOPMENT DISCHARGE FROM SITE = 20.18 CFS @ Tc = 14.3 MIN



PRE DEVELOPMENT HYDROLOGY

ARLINGTON MIXED USE

RIVERSIDE, CA

DATE: 8-02-2022
JOB NO.: 2020-055

FOULGER-PRATT

SERITAGE GROWTH PROPERTIES

PSOMAS
1650 SPRUCE STREET, SUITE 400
RIVERSIDE, CA 92507
951.300.2818 www.psomas.com

ARCHITECTS ORANGE
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture. Design. Relationships.

R:\4RIV290100\CADD\Design\Exhibits\FP-EXH-HYD-EX.dwg

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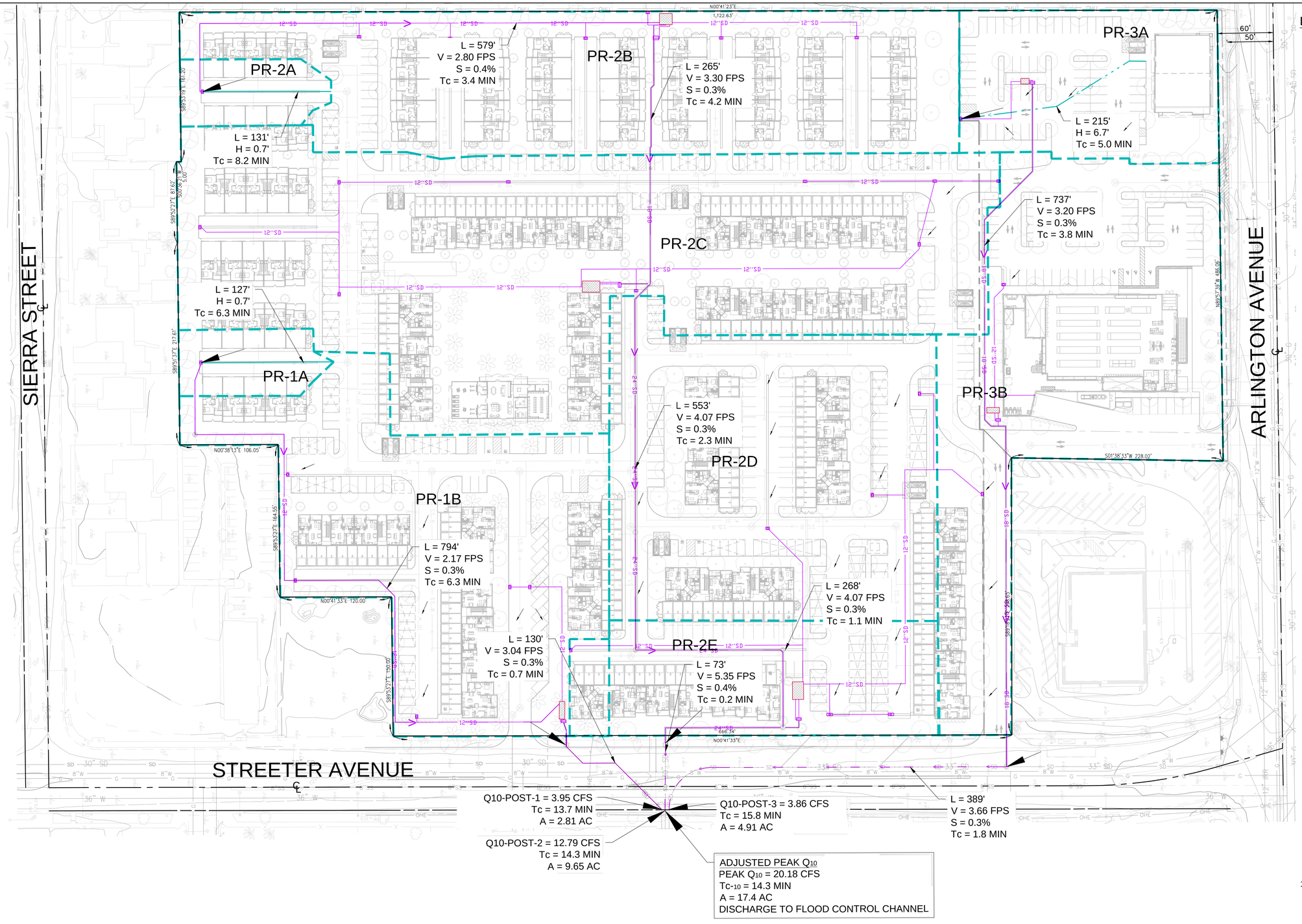

POST DEVELOPMENT HYDROLOGY

ARLINGTON MIXED USE

RIVERSIDE, CA

DATE: 8-05-2022
JOB NO.: 2020-055

FOULGER-PRATT

SERITAGE GROWTH PROPERTIES

PSOMAS
1650 SPRUCE STREET, SUITE 400
RIVERSIDE, CA 92507
951.300.2818 www.psomas.com

ARCHITECTS ORANGE
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture. Design. Relationships.

R:\4RIV290100\CADD\Design\Exhibits\FP-EXH-HYD-PR.dwg

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```
        U n i t   H y d r o g r a p h   A n a l y s i s

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                Study date  03/15/23 File: EXARLINGTON112.out


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
----------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978


Program License Serial Number 6538

--------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format



--------------------------------------------------------------------
EXISTING POINT 1
ARLINGTON
03/15/2023

-------------------------------------------------------------------
Drainage Area =       6.92(Ac.)  =      0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       6.92(Ac.)  =      0.011 Sq. Mi.
Length along longest watercourse =    1115.00(Ft.)
Length along longest watercourse measured to centroid =     708.00(Ft.)
Length along longest watercourse =      0.211 Mi.
Length along longest watercourse measured to centroid =      0.134 Mi.
Difference in elevation =       5.50(Ft.)
Slope along watercourse =     26.0448 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time =    0.050 Hr.
Lag time =     3.00 Min.
25% of lag time =     0.75 Min.
40% of lag time =     1.20 Min.
Unit time =     5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        6.92            0.50                    3.46

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        6.92            1.00                    6.92
```

```
STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    0.500(In)
Area Averaged 100-Year Rainfall =    1.000(In)

Point rain (area averaged) =    0.500(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    0.500(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     6.920           56.00         0.900
 Total Area Entered =      6.92(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
56.0  56.0      0.511     0.900        0.097       1.000      0.097
                                                  Sum (F) =   0.097
Area averaged mean soil loss (F) (In/Hr) =  0.097
Minimum soil loss rate ((In/Hr)) =  0.049
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.180
---------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.5500
---------------------------------------------------------------------

                U n i t  H y d r o g r a p h
                        VALLEY S-Curve
---------------------------------------------------------------
                Unit Hydrograph Data
---------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                           Graph %            (CFS)
---------------------------------------------------------------------
    1   0.083        166.620         36.969              2.578
    2   0.167        333.241         45.769              3.192
    3   0.250        499.861         10.303              0.719
    4   0.333        666.481          4.370              0.305
    5   0.417        833.102          2.589              0.181
                                 Sum = 100.000   Sum=       6.974
-----------------------------------------------------------------------


 The following loss rate calculations reflect use of the minimum calculated loss
 rate subtracted from the Storm Rain to produce the maximum Effective Rain value

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max   |   Low        (In/Hr)
   1   0.08     3.30      0.198       (  0.097)       0.036        0.162
   2   0.17     4.20      0.252       (  0.097)       0.045        0.207
   3   0.25     4.40      0.264       (  0.097)       0.048        0.216
   4   0.33     4.80      0.288       (  0.097)       0.052        0.236
   5   0.42     5.20      0.312       (  0.097)       0.056        0.256
   6   0.50     6.20      0.372       (  0.097)       0.067        0.305
   7   0.58     6.80      0.408       (  0.097)       0.073        0.335
   8   0.67     8.80      0.528       (  0.097)       0.095        0.433
   9   0.75    13.90      0.834          0.097    (  0.150)        0.737
```

```
 10   0.83    31.40      1.884          0.097    (  0.339)        1.787
 11   0.92     7.20      0.432       (  0.097)       0.078        0.354
 12   1.00     3.80      0.228       (  0.097)       0.041        0.187
                (Loss Rate Not Used)
    Sum =     100.0                                   Sum =     5.2
       Flood volume = Effective rainfall      0.43(In)
        times area       6.9(Ac.)/[(In)/(Ft.)] =       0.3(Ac.Ft)
       Total soil loss =      0.07(In)
       Total soil loss =     0.038(Ac.Ft)
       Total rainfall =      0.50(In)
       Flood volume =       10916.1 Cubic Feet
       Total soil loss =        1642.9 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      7.431(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                           1 - H O U R    S T O R M
                      R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ----------------------------------------------------------------------
   0+ 5       0.0029      0.42  VQ        |         |         |         |
   0+10       0.0101      1.05  |V  Q     |         |         |         |
   0+15       0.0193      1.33  |  V Q    |         |         |         |
   0+20       0.0296      1.50  |   VQ    |         |         |         |
   0+25       0.0411      1.66  |     Q   |         |         |         |
   0+30       0.0540      1.88  |      QV |         |         |         |
   0+35       0.0687      2.13  |       Q V         |         |         |
   0+40       0.0861      2.53  |         Q  V      |         |         |
   0+45       0.1113      3.66  |         |   Q  V  |         |         |
   0+50       0.1625      7.43  |         |         |    V   Q|         |
   0+55       0.2131      7.34  |         |         |        Q|   V     |
   1+ 0       0.2351      3.20  |         | Q       |         |      V  |
   1+ 5       0.2456      1.53  |     Q   |         |         |        V|
   1+10       0.2495      0.57  | Q       |         |         |        V|
   1+15       0.2504      0.12  Q         |         |         |        V|
   1+20       0.2506      0.03  Q         |         |         |         V
-----------------------------------------------------------------------
```

```
        U n i t   H y d r o g r a p h   A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978


Program License Serial Number 6538

--------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format



--------------------------------------------------------------------
EXISTING POINT 2
ARLINGTON
03/15/2023

-------------------------------------------------------------------
Drainage Area =       8.25(Ac.)  =      0.013 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       8.25(Ac.)  =      0.013 Sq. Mi.
Length along longest watercourse =    1770.00(Ft.)
Length along longest watercourse measured to centroid =     730.00(Ft.)
Length along longest watercourse =      0.335 Mi.
Length along longest watercourse measured to centroid =      0.138 Mi.
Difference in elevation =       5.50(Ft.)
Slope along watercourse =     16.4068 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time =    0.066 Hr.
Lag time =     3.95 Min.
25% of lag time =     0.99 Min.
40% of lag time =     1.58 Min.
Unit time =     5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        8.25            0.50                    4.13

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        8.25            1.00                    8.25
```

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.000(In)

Point rain (area averaged) = 0.500(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 0.500(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
8.250	56.00	0.900

Total Area Entered = 8.25(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
56.0	56.0	0.511	0.900	0.097	1.000	0.097
					Sum (F) =	0.097

Area averaged mean soil loss (F) (In/Hr) = 0.097
Minimum soil loss rate ((In/Hr)) = 0.049
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.180

Slope of intensity-duration curve for a 1 hour storm =0.5500

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	126.555	27.068	2.251
2	0.167	253.110	48.461	4.029
3	0.250	379.666	12.764	1.061
4	0.333	506.221	5.735	0.477
5	0.417	632.776	3.175	0.264
6	0.500	759.331	1.752	0.146
7	0.583	885.886	1.044	0.087
			Sum = 100.000	Sum= 8.314

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	3.30	0.198	(0.097)	0.036	0.162
2	0.17	4.20	0.252	(0.097)	0.045	0.207
3	0.25	4.40	0.264	(0.097)	0.048	0.216
4	0.33	4.80	0.288	(0.097)	0.052	0.236
5	0.42	5.20	0.312	(0.097)	0.056	0.256
6	0.50	6.20	0.372	(0.097)	0.067	0.305
7	0.58	6.80	0.408	(0.097)	0.073	0.335

```
  8   0.67     8.80      0.528       (  0.097)       0.095        0.433
  9   0.75    13.90      0.834          0.097    (  0.150)        0.737
 10   0.83    31.40      1.884          0.097    (  0.339)        1.787
 11   0.92     7.20      0.432       (  0.097)       0.078        0.354
 12   1.00     3.80      0.228       (  0.097)       0.041        0.187
                (Loss Rate Not Used)
    Sum =     100.0                                   Sum =     5.2
       Flood volume = Effective rainfall      0.43(In)
        times area       8.3(Ac.)/[(In)/(Ft.)] =       0.3(Ac.Ft)
       Total soil loss =      0.07(In)
       Total soil loss =     0.045(Ac.Ft)
       Total rainfall =      0.50(In)
       Flood volume =       13014.0 Cubic Feet
       Total soil loss =        1958.6 Cubic Feet
       --------------------------------------------------------------------
        Peak flow rate of this hydrograph =      9.145(CFS)
       --------------------------------------------------------------------
       ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                           1 - H O U R    S T O R M
                      R u n o f f      H y d r o g r a p h
       --------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       --------------------------------------------------------------------
  Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
  ----------------------------------------------------------------------
    0+ 5       0.0025      0.37  VQ        |         |         |         |
    0+10       0.0102      1.12  |V  Q     |         |         |         |
    0+15       0.0205      1.49  | V  Q    |         |         |         |
    0+20       0.0322      1.70  |   V Q   |         |         |         |
    0+25       0.0453      1.90  |     VQ  |         |         |         |
    0+30       0.0601      2.15  |       Q |         |         |         |
    0+35       0.0771      2.47  |        QV         |         |         |
    0+40       0.0970      2.88  |         |QV       |         |         |
    0+45       0.1247      4.03  |         |     Q   |         |         |
    0+50       0.1781      7.75  |         |         |  V      |Q        |
    0+55       0.2411      9.14  |         |         |         | V   Q   |
    1+ 0       0.2706      4.29  |         |      Q  |         |     V   |
    1+ 5       0.2862      2.27  |        Q|         |         |       V |
    1+10       0.2930      0.98  |  Q      |         |         |        V|
    1+15       0.2965      0.51  | Q       |         |         |        V|
    1+20       0.2982      0.26  |Q        |         |         |        V|
    1+25       0.2986      0.06  Q         |         |         |        V|
    1+30       0.2988      0.02  Q         |         |         |         V
-----------------------------------------------------------------------
```

```
        U n i t   H y d r o g r a p h   A n a l y s i s

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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978


Program License Serial Number 6538

--------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format



--------------------------------------------------------------------
EXISTING POINT 3
ARLINGTON
03/15/2023

-------------------------------------------------------------------
Drainage Area =       2.25(Ac.)  =      0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       2.25(Ac.)  =      0.004 Sq. Mi.
Length along longest watercourse =     359.00(Ft.)
Length along longest watercourse measured to centroid =     180.00(Ft.)
Length along longest watercourse =      0.068 Mi.
Length along longest watercourse measured to centroid =      0.034 Mi.
Difference in elevation =       5.50(Ft.)
Slope along watercourse =     80.8914 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time =    0.016 Hr.
Lag time =     0.93 Min.
25% of lag time =     0.23 Min.
40% of lag time =     0.37 Min.
Unit time =     5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        2.25            0.50                    1.13

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        2.25            1.00                    2.25
```

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.000(In)

Point rain (area averaged) = 0.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.500(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
2.250	56.00	0.900

Total Area Entered = 2.25(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
56.0	56.0	0.511	0.900	0.097	1.000	0.097
					Sum (F) =	0.097

Area averaged mean soil loss (F) (In/Hr) = 0.097
Minimum soil loss rate ((In/Hr)) = 0.049
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.180

Slope of intensity-duration curve for a 1 hour storm =0.5500

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	534.909	72.572	1.646
2	0.167	1069.818	27.428	0.622
		Sum =	100.000	Sum= 2.268

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	3.30	0.198	(0.097)	0.036	0.162
2	0.17	4.20	0.252	(0.097)	0.045	0.207
3	0.25	4.40	0.264	(0.097)	0.048	0.216
4	0.33	4.80	0.288	(0.097)	0.052	0.236
5	0.42	5.20	0.312	(0.097)	0.056	0.256
6	0.50	6.20	0.372	(0.097)	0.067	0.305
7	0.58	6.80	0.408	(0.097)	0.073	0.335
8	0.67	8.80	0.528	(0.097)	0.095	0.433
9	0.75	13.90	0.834	0.097	(0.150)	0.737
10	0.83	31.40	1.884	0.097	(0.339)	1.787
11	0.92	7.20	0.432	(0.097)	0.078	0.354
12	1.00	3.80	0.228	(0.097)	0.041	0.187

```
                (Loss Rate Not Used)
    Sum =     100.0                                    Sum =     5.2
       Flood volume = Effective rainfall      0.43(In)
        times area       2.3(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
       Total soil loss =      0.07(In)
       Total soil loss =     0.012(Ac.Ft)
       Total rainfall =      0.50(In)
       Flood volume =        3549.5 Cubic Feet
       Total soil loss =         534.2 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      3.401(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                           1 - H O U R    S T O R M
                      R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
  Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
  ----------------------------------------------------------------------
    0+ 5       0.0018      0.27  VQ        |         |         |         |
    0+10       0.0049      0.44  |QV       |         |         |         |
    0+15       0.0082      0.49  |Q  V     |         |         |         |
    0+20       0.0118      0.52  | Q  V    |         |         |         |
    0+25       0.0157      0.57  | Q    V  |         |         |         |
    0+30       0.0203      0.66  | Q      V|         |         |         |
    0+35       0.0254      0.74  | Q       | V       |         |         |
    0+40       0.0317      0.92  |  Q      |    V    |         |         |
    0+45       0.0419      1.48  |    Q    |         V         |         |
    0+50       0.0654      3.40  |         |  Q      |         | V       |
    0+55       0.0770      1.70  |     Q   |         |         |      V  |
    1+ 0       0.0807      0.53  | Q       |         |         |        V|
    1+ 5       0.0815      0.12  Q         |         |         |        V|
-----------------------------------------------------------------------
```

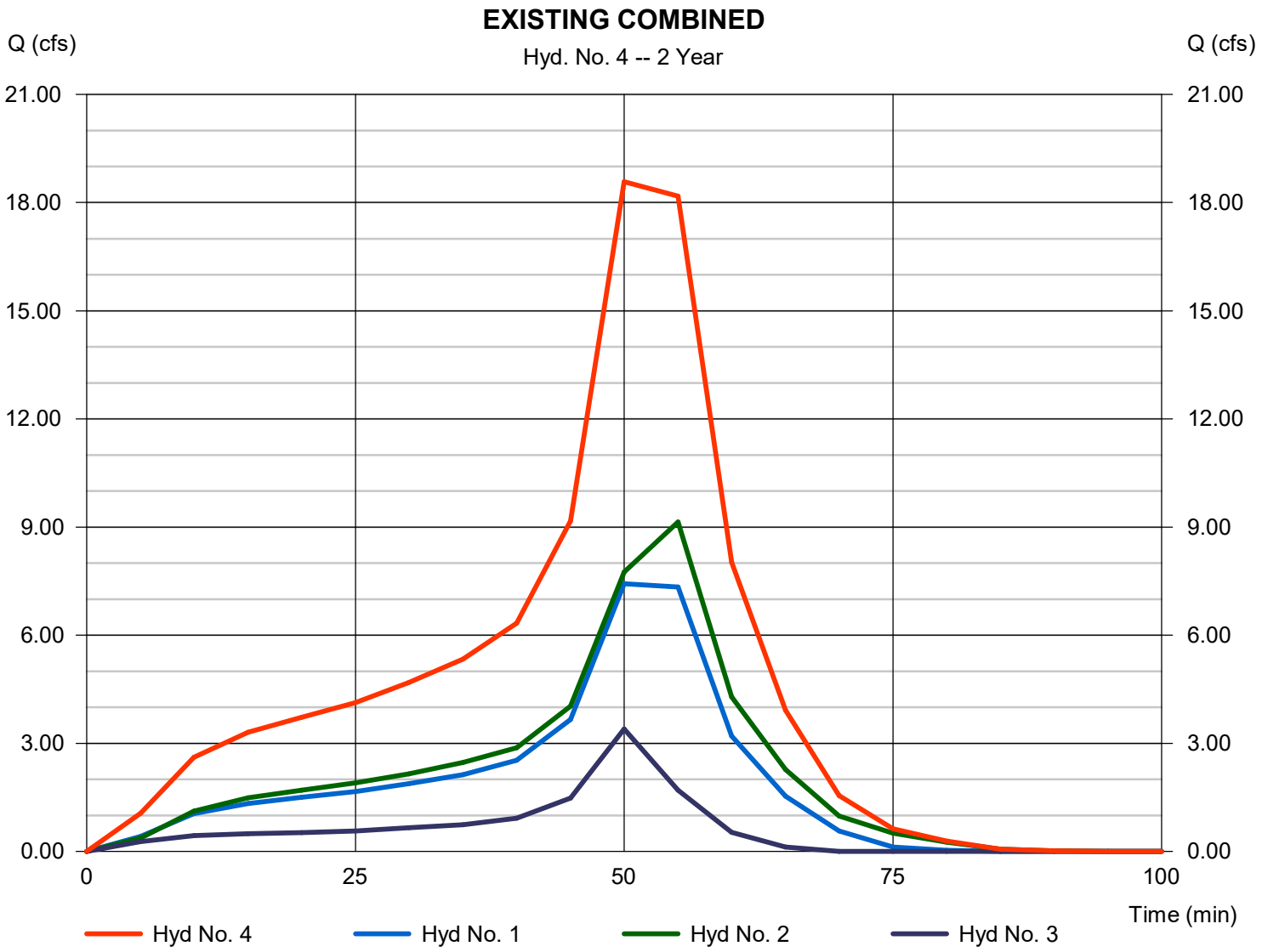
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Wednesday, 03 / 15 / 2023

Hyd. No. 4

EXISTING COMBINED

Hydrograph type	= Combine	Peak discharge	= 18.58 cfs
Storm frequency	= 2 yrs	Time to peak	= 50 min
Time interval	= 5 min	Hyd. volume	= 27,483 cuft
Inflow hyds.	= 1, 2, 3	Contrib. drain. area	= 0.000 ac



```
        U n i t   H y d r o g r a p h   A n a l y s i s

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                Study date  03/15/23 File: POSTARLINGTON112.out


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----------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978


Program License Serial Number 6538

--------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format



--------------------------------------------------------------------
POST POINT 1
ARLINGTON
03/15/2023

-------------------------------------------------------------------
Drainage Area =       2.81(Ac.)  =      0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       2.81(Ac.)  =      0.004 Sq. Mi.
Length along longest watercourse =     921.00(Ft.)
Length along longest watercourse measured to centroid =     524.00(Ft.)
Length along longest watercourse =      0.174 Mi.
Length along longest watercourse measured to centroid =      0.099 Mi.
Difference in elevation =       2.50(Ft.)
Slope along watercourse =     14.3322 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time =    0.046 Hr.
Lag time =     2.79 Min.
25% of lag time =     0.70 Min.
40% of lag time =     1.12 Min.
Unit time =     5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        2.81            0.50                    1.41

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        2.81            1.00                    2.81
```

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.000(In)

Point rain (area averaged) = 0.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.500(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
2.810	56.00	0.900

Total Area Entered = 2.81(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
56.0	56.0	0.511	0.900	0.097	1.000	0.097
					Sum (F) =	0.097

Area averaged mean soil loss (F) (In/Hr) = 0.097
Minimum soil loss rate ((In/Hr)) = 0.049
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.180

Slope of intensity-duration curve for a 1 hour storm =0.5500

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	179.330	39.590	1.121
2	0.167	358.660	44.834	1.270
3	0.250	537.990	9.690	0.274
4	0.333	717.320	3.978	0.113
5	0.417	896.651	1.908	0.054
			Sum = 100.000	Sum= 2.832

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	3.30	0.198	(0.097)	0.036	0.162
2	0.17	4.20	0.252	(0.097)	0.045	0.207
3	0.25	4.40	0.264	(0.097)	0.048	0.216
4	0.33	4.80	0.288	(0.097)	0.052	0.236
5	0.42	5.20	0.312	(0.097)	0.056	0.256
6	0.50	6.20	0.372	(0.097)	0.067	0.305
7	0.58	6.80	0.408	(0.097)	0.073	0.335
8	0.67	8.80	0.528	(0.097)	0.095	0.433
9	0.75	13.90	0.834	0.097	(0.150)	0.737

```
 10   0.83    31.40      1.884          0.097    (  0.339)        1.787
 11   0.92     7.20      0.432       (  0.097)       0.078        0.354
 12   1.00     3.80      0.228       (  0.097)       0.041        0.187
                (Loss Rate Not Used)
    Sum =     100.0                                   Sum =     5.2
       Flood volume = Effective rainfall      0.43(In)
        times area       2.8(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
       Total soil loss =      0.07(In)
       Total soil loss =     0.015(Ac.Ft)
       Total rainfall =      0.50(In)
       Flood volume =        4432.9 Cubic Feet
       Total soil loss =         667.1 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =      3.114(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                           1 - H O U R    S T O R M
                      R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ----------------------------------------------------------------------
   0+ 5       0.0013      0.18  Q         |         |         |         |
   0+10       0.0043      0.44  |Q        |         |         |         |
   0+15       0.0081      0.55  | QV      |         |         |         |
   0+20       0.0123      0.61  | Q V     |         |         |         |
   0+25       0.0170      0.68  | Q   V   |         |         |         |
   0+30       0.0223      0.77  |  Q    V |         |         |         |
   0+35       0.0283      0.87  |  Q      |V        |         |         |
   0+40       0.0354      1.04  |   Q     |  V      |         |         |
   0+45       0.0458      1.52  |     Q   |       V |         |         |
   0+50       0.0673      3.11  |         | Q       |     V   |         |
   0+55       0.0875      2.94  |         |Q        |         |   V     |
   1+ 0       0.0962      1.26  |    Q    |         |         |      V  |
   1+ 5       0.1001      0.58  | Q       |         |         |        V|
   1+10       0.1014      0.19  Q         |         |         |        V|
   1+15       0.1017      0.04  Q         |         |         |        V|
   1+20       0.1018      0.01  Q         |         |         |         V
----------------------------------------------------------------------
```

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        U n i t   H y d r o g r a p h   A n a l y s i s

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                Study date  03/15/23 File: POSTARLINGTON212.out


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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978


Program License Serial Number 6538

--------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format



--------------------------------------------------------------------
POST POINT 2
ARLINGTON
03/15/2023

-------------------------------------------------------------------
Drainage Area =       9.58(Ac.)  =      0.015 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       9.58(Ac.)  =      0.015 Sq. Mi.
Length along longest watercourse =    1796.00(Ft.)
Length along longest watercourse measured to centroid =     898.00(Ft.)
Length along longest watercourse =      0.340 Mi.
Length along longest watercourse measured to centroid =      0.170 Mi.
Difference in elevation =       4.00(Ft.)
Slope along watercourse =     11.7595 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time =    0.076 Hr.
Lag time =     4.58 Min.
25% of lag time =     1.14 Min.
40% of lag time =     1.83 Min.
Unit time =     5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        9.58            0.50                    4.79

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        9.58            1.00                    9.58
```

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.000(In)

Point rain (area averaged) = 0.500(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 0.500(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
9.580	56.00	0.900

Total Area Entered = 9.58(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
56.0	56.0	0.511	0.900	0.097	1.000	0.097
					Sum (F) =	0.097

Area averaged mean soil loss (F) (In/Hr) = 0.097
Minimum soil loss rate ((In/Hr)) = 0.049
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.180

Slope of intensity-duration curve for a 1 hour storm =0.5500

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	109.197	21.998	2.124
2	0.167	218.394	48.820	4.714
3	0.250	327.591	14.402	1.390
4	0.333	436.788	6.585	0.636
5	0.417	545.984	3.657	0.353
6	0.500	655.181	2.291	0.221
7	0.583	764.378	1.344	0.130
8	0.667	873.575	0.902	0.087
			Sum = 100.000	Sum= 9.655

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1 0.08	3.30	0.198	(0.097)	0.036	0.162
2 0.17	4.20	0.252	(0.097)	0.045	0.207
3 0.25	4.40	0.264	(0.097)	0.048	0.216
4 0.33	4.80	0.288	(0.097)	0.052	0.236
5 0.42	5.20	0.312	(0.097)	0.056	0.256
6 0.50	6.20	0.372	(0.097)	0.067	0.305

```
  7   0.58     6.80      0.408       (  0.097)       0.073        0.335
  8   0.67     8.80      0.528       (  0.097)       0.095        0.433
  9   0.75    13.90      0.834          0.097    (  0.150)        0.737
 10   0.83    31.40      1.884          0.097    (  0.339)        1.787
 11   0.92     7.20      0.432       (  0.097)       0.078        0.354
 12   1.00     3.80      0.228       (  0.097)       0.041        0.187
                (Loss Rate Not Used)
    Sum =     100.0                                   Sum =     5.2
       Flood volume = Effective rainfall      0.43(In)
        times area       9.6(Ac.)/[(In)/(Ft.)] =       0.3(Ac.Ft)
       Total soil loss =      0.07(In)
       Total soil loss =     0.052(Ac.Ft)
       Total rainfall =      0.50(In)
       Flood volume =       15111.8 Cubic Feet
       Total soil loss =        2274.3 Cubic Feet
       ---------------------------------------------------------------------
        Peak flow rate of this hydrograph =     10.719(CFS)
       ---------------------------------------------------------------------
       +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                           1 - H O U R    S T O R M
                      R u n o f f      H y d r o g r a p h
       ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       ---------------------------------------------------------------------
  Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
  ----------------------------------------------------------------------
    0+ 5       0.0024      0.34  Q         |         |         |         |
    0+10       0.0107      1.20  |VQ       |         |         |         |
    0+15       0.0221      1.66  | VQ      |         |         |         |
    0+20       0.0353      1.91  |  QV     |         |         |         |
    0+25       0.0501      2.15  |   QV    |         |         |         |
    0+30       0.0668      2.43  |   Q  V  |         |         |         |
    0+35       0.0861      2.80  |    Q   V|         |         |         |
    0+40       0.1085      3.26  |     Q   | V       |         |         |
    0+45       0.1392      4.46  |       Q |     V   |         |         |
    0+50       0.1964      8.30  |         |     Q   | V       |         |
    0+55       0.2702     10.72  |         |         |Q        |V        |
    1+ 0       0.3068      5.31  |         Q         |         |    V    |
    1+ 5       0.3270      2.94  |    Q    |         |         |      V  |
    1+10       0.3364      1.37  | Q       |         |         |       V |
    1+15       0.3417      0.77  |Q        |         |         |        V|
    1+20       0.3448      0.44  Q         |         |         |        V|
    1+25       0.3464      0.24  Q         |         |         |        V|
    1+30       0.3468      0.06  Q         |         |         |        V|
    1+35       0.3469      0.02  Q         |         |         |         V
-----------------------------------------------------------------------
```

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        U n i t   H y d r o g r a p h   A n a l y s i s

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                Study date  03/15/23 File: POSTARLINGTON312.out


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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978


Program License Serial Number 6538

--------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format



--------------------------------------------------------------------
POST POINT 3
ARLINGTON
03/15/2023

-------------------------------------------------------------------
Drainage Area =       2.87(Ac.)  =      0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       2.87(Ac.)  =      0.004 Sq. Mi.
Length along longest watercourse =     952.00(Ft.)
Length along longest watercourse measured to centroid =     476.00(Ft.)
Length along longest watercourse =      0.180 Mi.
Length along longest watercourse measured to centroid =      0.090 Mi.
Difference in elevation =      12.00(Ft.)
Slope along watercourse =     66.5546 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time =    0.034 Hr.
Lag time =     2.03 Min.
25% of lag time =     0.51 Min.
40% of lag time =     0.81 Min.
Unit time =     5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        2.87            0.50                    1.44

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        2.87            1.00                    2.87
```

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.000(In)

Point rain (area averaged) = 0.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 0.500(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
2.870	56.00	0.900

Total Area Entered = 2.87(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
56.0	56.0	0.511	0.900	0.097	1.000	0.097
					Sum (F) =	0.097

Area averaged mean soil loss (F) (In/Hr) = 0.097
Minimum soil loss rate ((In/Hr)) = 0.049
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.180

Slope of intensity-duration curve for a 1 hour storm =0.5500

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	245.895	50.355	1.456
2	0.167	491.789	40.309	1.166
3	0.250	737.684	7.156	0.207
4	0.333	983.579	2.180	0.063
			Sum = 100.000	Sum= 2.892

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	3.30	0.198	(0.097)	0.036	0.162
2	0.17	4.20	0.252	(0.097)	0.045	0.207
3	0.25	4.40	0.264	(0.097)	0.048	0.216
4	0.33	4.80	0.288	(0.097)	0.052	0.236
5	0.42	5.20	0.312	(0.097)	0.056	0.256
6	0.50	6.20	0.372	(0.097)	0.067	0.305
7	0.58	6.80	0.408	(0.097)	0.073	0.335
8	0.67	8.80	0.528	(0.097)	0.095	0.433
9	0.75	13.90	0.834	0.097	(0.150)	0.737
10	0.83	31.40	1.884	0.097	(0.339)	1.787

```
 11   0.92     7.20      0.432       (  0.097)       0.078        0.354
 12   1.00     3.80      0.228       (  0.097)       0.041        0.187
                (Loss Rate Not Used)
    Sum =     100.0                                   Sum =     5.2
       Flood volume = Effective rainfall      0.43(In)
        times area       2.9(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
       Total soil loss =      0.07(In)
       Total soil loss =     0.016(Ac.Ft)
       Total rainfall =      0.50(In)
       Flood volume =        4527.5 Cubic Feet
       Total soil loss =         681.4 Cubic Feet
       --------------------------------------------------------------------
        Peak flow rate of this hydrograph =      3.574(CFS)
       --------------------------------------------------------------------
       ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                           1 - H O U R    S T O R M
                      R u n o f f      H y d r o g r a p h
       --------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

       --------------------------------------------------------------------
  Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
  ----------------------------------------------------------------------
    0+ 5       0.0016      0.24  Q         |         |         |         |
    0+10       0.0050      0.49  |Q        |         |         |         |
    0+15       0.0091      0.59  | QV      |         |         |         |
    0+20       0.0135      0.65  | Q  V    |         |         |         |
    0+25       0.0184      0.71  | Q    V  |         |         |         |
    0+30       0.0240      0.81  |  Q     V|         |         |         |
    0+35       0.0302      0.91  |  Q      |V        |         |         |
    0+40       0.0378      1.10  |   Q     |   V     |         |         |
    0+45       0.0493      1.67  |     Q   |       V |         |         |
    0+50       0.0739      3.57  |         |   Q     |       V |         |
    0+55       0.0931      2.78  |         |Q        |         |    V    |
    1+ 0       0.1007      1.10  |   Q     |         |         |       V |
    1+ 5       0.1034      0.40  |Q        |         |         |        V|
    1+10       0.1039      0.06  Q         |         |         |        V|
    1+15       0.1039      0.01  Q         |         |         |         V
-----------------------------------------------------------------------
```

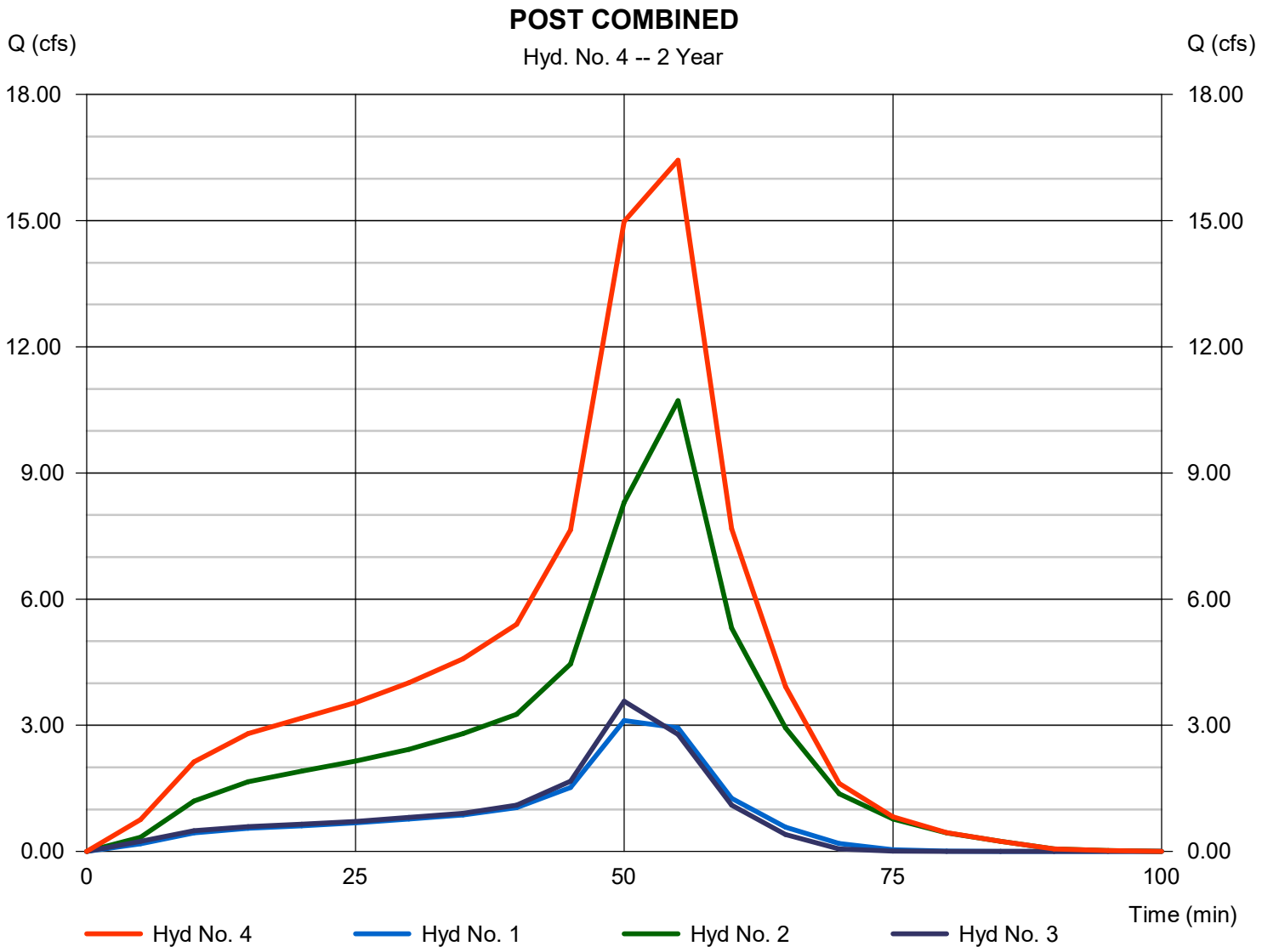
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Wednesday, 03 / 15 / 2023

Hyd. No. 4

POST COMBINED

Hydrograph type	= Combine	Peak discharge	= 16.44 cfs
Storm frequency	= 2 yrs	Time to peak	= 55 min
Time interval	= 5 min	Hyd. volume	= 24,078 cuft
Inflow hyds.	= 1, 2, 3	Contrib. drain. area	= 0.000 ac



Appendix 8: Source Control

Pollutant Sources/Source Control Checklist

STORMWATER POLLUTANT SOURCES / SOURCE CONTROL CHECKLIST

1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Shown on WQMP Drawings	3 Permanent Controls—Listed in WQMP Table and Narrative	4 Operational BMPs—Included in WQMP Table and Narrative
☒ A. On-site storm drain inlets	☒ Locations of inlets.	☒ Mark all inlets with the words "Only Rain Down the Storm Drain" or similar. Catch Basin Markers may be available from the Riverside County Flood Control and Water Conservation District, call 951.955.1200 to verify.	☒ Maintain and periodically repaint or replace inlet markings. ☒ Provide stormwater pollution prevention information to new site owners, lessees, or operators. ☒ See applicable operational BMPs in Fact Sheet SC-44, "Drainage System Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com ☒ Include the following in lease agreements: "Tenant shall not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create a potential discharge to storm drains."
☐ B. Interior floor drains and elevator shaft sump pumps		☐ State that interior floor drains and elevator shaft sump pumps will be plumbed to sanitary sewer.	☐ Inspect and maintain drains to prevent blockages and overflow.
☒ C. Interior parking garages		☒ State that parking garage floor drains will be plumbed to the sanitary sewer.	☒ Inspect and maintain drains to prevent blockages and overflow.

STORMWATER POLLUTANT SOURCES / SOURCE CONTROL CHECKLIST

1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Shown on WQMP Drawings	3 Permanent Controls—Listed in WQMP Table and Narrative	4 Operational BMPs—Included in WQMP Table and Narrative
☐ D1. Need for future indoor & structural pest control		☐ Note building design features that discourage entry of pests.	☐ Provide Integrated Pest Management information to owners, lessees, and operators.
☒ D2. Landscape/ Outdoor Pesticide Use	☐ Show locations of native trees or areas of shrubs and ground cover to be undisturbed and retained. ☒ Show self-retaining landscape areas, if any. ☒ Show stormwater treatment and hydrograph modification management BMPs. (See instructions in Chapter 3, Step 5 and guidance in Chapter 5.)	☒ State that final landscape plans will accomplish all of the following. ☐ Preserve existing native trees, shrubs, and ground cover to the maximum extent possible. ☒ Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution. ☒ Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions. ☒ Consider using pest-resistant plants, especially adjacent to hardscape. ☒ To insure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.	☒ Maintain landscaping using minimum or no pesticides. ☒ See applicable operational BMPs in "What you should know for…..Landscape and Gardening" at http://rcflood.org/stormwater/Downloads/LandscapeGardenBrochure.pdf ☒ Provide IPM information to new owners, lessees and operators.

STORMWATER POLLUTANT SOURCES / SOURCE CONTROL CHECKLIST

1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Shown on WQMP Drawings	3 Permanent Controls—Listed in WQMP Table and Narrative	4 Operational BMPs—Included in WQMP Table and Narrative
☒ E. Pools, spas, ponds, decorative fountains, and other water features.	☒ Show location of water feature and a sanitary sewer cleanout in an accessible area within 10 feet. (Exception: Public pools must be plumbed according to County Department of Environmental Health Guidelines.)	If the Co-Permittee requires pools to be plumbed to the sanitary sewer, place a note on the plans and state in the narrative that this connection will be made according to local requirements.	☒ See applicable operational BMPs in "Guidelines for Maintaining Your Swimming Pool, Jacuzzi and Garden Fountain" at http://rcflood.org/stormwater/
☒ F. Food service	☐ For restaurants, grocery stores, and other food service operations, show location (indoors or in a covered area outdoors) of a floor sink or other area for cleaning floor mats, containers, and equipment. ☐ On the drawing, show a note that this drain will be connected to a grease interceptor before discharging to the sanitary sewer.	☐ Describe the location and features of the designated cleaning area. ☐ Describe the items to be cleaned in this facility and how it has been sized to insure that the largest items can be accommodated.	☒ See the brochure, "The Food Service Industry Best Management Practices for: Restaurants, Grocery Stores, Delicatessens and Bakeries" at http://rcflood.org/stormwater/ Provide this brochure to new site owners, lessees, and operators.
☒ G. Refuse areas	☒ Show where site refuse and recycled materials will be handled and stored for pickup. See local municipal requirements for sizes and other details of refuse areas. ☐ If dumpsters or other receptacles are outdoors, show how the designated area will be covered, graded, and paved to prevent run-on and show locations of berms to prevent runoff from the area. ☐ Any drains from dumpsters, compactors, and tallow bin areas shall be connected to a grease removal device before discharge to sanitary sewer.	☒ State how site refuse will be handled and provide supporting detail to what is shown on plans. ☒ State that signs will be posted on or near dumpsters with the words "Do not dump hazardous materials here" or similar.	State how the following will be implemented: ☒ Provide adequate number of receptacles. Inspect receptacles regularly; repair or replace leaky receptacles. Keep receptacles covered. Prohibit/prevent dumping of liquid or hazardous wastes. Post "no hazardous materials" signs. Inspect and pick up litter daily and clean up spills immediately. Keep spill control materials available on-site. See Fact Sheet SC-34, "Waste Handling and Disposal" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

STORMWATER POLLUTANT SOURCES / SOURCE CONTROL CHECKLIST

1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Shown on WQMP Drawings	3 Permanent Controls—Listed in WQMP Table and Narrative	4 Operational BMPs—Included in WQMP Table and Narrative
☐ H. Industrial processes.	☐ Show process area.	☐ If industrial processes are to be located on site, state: "All process activities to be performed indoors. No processes to drain to exterior or to storm drain system."	☐ See Fact Sheet SC-10, "Non-Stormwater Discharges" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com See the brochure "Industrial & Commercial Facilities Best Management Practices for: Industrial, Commercial Facilities" at http://rcflood.org/stormwater/

1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Shown on WQMP Drawings	3 Permanent Controls—Listed in WQMP Table and Narrative	4 Operational BMPs—Included in WQMP Table and Narrative
☐ I. Outdoor storage of equipment or materials. (See rows J and K for source control measures for vehicle cleaning, repair, and maintenance.)	☐ Show any outdoor storage areas, including how materials will be covered. Show how areas will be graded and bermed to prevent run-on or run-off from area. ☐ Storage of non-hazardous liquids shall be covered by a roof and/or drain to the sanitary sewer system, and be contained by berms, dikes, liners, or vaults. ☐ Storage of hazardous materials and wastes must be in compliance with the local hazardous materials ordinance and a Hazardous Materials Management Plan for the site.	Include a detailed description of materials to be stored, storage areas, and structural features to prevent pollutants from entering storm drains. Where appropriate, reference documentation of compliance with the requirements of Hazardous Materials Programs for: ☐ Hazardous Waste Generation ☐ Hazardous Materials Release Response and Inventory ☐ California Accidental Release (CalARP) ☐ Aboveground Storage Tank ☐ Uniform Fire Code Article 80 Section 103(b) & (c) 1991 ☐ Underground Storage Tank www.cchealth.org/groups/hazmat /	☐ See the Fact Sheets SC-31, "Outdoor Liquid Container Storage" and SC-33, "Outdoor Storage of Raw Materials " in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

STORMWATER POLLUTANT SOURCES / SOURCE CONTROL CHECKLIST

1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Shown on WQMP Drawings	3 Permanent Controls—Listed in WQMP Table and Narrative	4 Operational BMPs—Included in WQMP Table and Narrative
☐ J. Vehicle and Equipment Cleaning	☐ Show on drawings as appropriate: (1) Commercial/industrial facilities having vehicle/equipment cleaning needs shall either provide a covered, bermed area for washing activities or discourage vehicle/equipment washing by removing hose bibs and installing signs prohibiting such uses. (2) Multi-dwelling complexes shall have a paved, bermed, and covered car wash area (unless car washing is prohibited on-site and hoses are provided with an automatic shutoff to discourage such use). (3) Washing areas for cars, vehicles, and equipment shall be paved, designed to prevent run-on to or runoff from the area, and plumbed to drain to the sanitary sewer. (4) Commercial car wash facilities shall be designed such that no runoff from the facility is discharged to the storm drain system. Wastewater from the facility shall discharge to the sanitary sewer, or a wastewater reclamation system shall be installed.	☐ If a car wash area is not provided, describe any measures taken to discourage on-site car washing and explain how these will be enforced.	Describe operational measures to implement the following (if applicable): ☐ Washwater from vehicle and equipment washing operations shall not be discharged to the storm drain system. Refer to "Outdoor Cleaning Activities and Professional Mobile Service Providers" for many of the Potential Sources of Runoff Pollutants categories below. Brochure can be found at http://rcflood.org/stormwater/ ☐ Car dealerships and similar may rinse cars with water only.

STORMWATER POLLUTANT SOURCES / SOURCE CONTROL CHECKLIST

1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Shown on WQMP Drawings	3 Permanent Controls—Listed in WQMP Table and Narrative	4 Operational BMPs—Included in WQMP Table and Narrative
☐ K. Vehicle/Equipment Repair and Maintenance	☐ Accommodate all vehicle equipment repair and maintenance indoors. Or designate an outdoor work area and design the area to prevent run-on and runoff of stormwater. ☐ Show secondary containment for exterior work areas where motor oil, brake fluid, gasoline, diesel fuel, radiator fluid, acid-containing batteries or other hazardous materials or hazardous wastes are used or stored. Drains shall not be installed within the secondary containment areas. ☐ Add a note on the plans that states either (1) there are no floor drains, or (2) floor drains are connected to wastewater pretreatment systems prior to discharge to the sanitary sewer and an industrial waste discharge permit will be obtained.	☐ State that no vehicle repair or maintenance will be done outdoors, or else describe the required features of the outdoor work area. ☐ State that there are no floor drains or if there are floor drains, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements. ☐ State that there are no tanks, containers or sinks to be used for parts cleaning or rinsing or, if there are, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements.	In the Stormwater Control Plan, note that all of the following restrictions apply to use the site: ☐ No person shall dispose of, nor permit the disposal, directly or indirectly of vehicle fluids, hazardous materials, or rinsewater from parts cleaning into storm drains. ☐ No vehicle fluid removal shall be performed outside a building, nor on asphalt or ground surfaces, whether inside or outside a building, except in such a manner as to ensure that any spilled fluid will be in an area of secondary containment. Leaking vehicle fluids shall be contained or drained from the vehicle immediately. ☐ No person shall leave unattended drip parts or other open containers containing vehicle fluid, unless such containers are in use or in an area of secondary containment. Refer to "Automotive Maintenance & Car Care Best Management Practices for Auto Body Shops, Auto Repair Shops, Car Dealerships, Gas Stations and Fleet Service Operations". Brochure can be found at http://rcflood.org/stormwater/ Refer to Outdoor Cleaning Activities and Professional Mobile Service Providers for many of the Potential Sources of Runoff Pollutants categories below. Brochure can be found at http://rcflood.org/stormwater/

STORMWATER POLLUTANT SOURCES / SOURCE CONTROL CHECKLIST

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☐ L. Fuel Dispensing Areas	☐ Fueling areas[6] shall have impermeable floors (i.e., portland cement concrete or equivalent smooth impervious surface) that are: a) graded at the minimum slope necessary to prevent ponding; and b) separated from the rest of the site by a grade break that prevents run-on of stormwater to the maximum extent practicable. ☐ Fueling areas shall be covered by a canopy that extends a minimum of ten feet in each direction from each pump. [Alternative: The fueling area must be covered and the cover's minimum dimensions must be equal to or greater than the area within the grade break or fuel dispensing area[1].] The canopy [or cover] shall not drain onto the fueling area.		☐ The property owner shall dry sweep the fueling area routinely. ☐ See the Fact Sheet SD-30 , "Fueling Areas" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

[6] The fueling area shall be defined as the area extending a minimum of 6.5 feet from the corner of each fuel dispenser or the length at which the hose and nozzle assembly may be operated plus a minimum of one foot, whichever is greater.

STORMWATER POLLUTANT SOURCES / SOURCE CONTROL CHECKLIST

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☒ M. Loading Docks	☐ Show a preliminary design for the loading dock area, including roofing and drainage. Loading docks shall be covered and/or graded to minimize run-on to and runoff from the loading area. Roof downspouts shall be positioned to direct stormwater away from the loading area. Water from loading dock areas shall be drained to the sanitary sewer, or diverted and collected for ultimate discharge to the sanitary sewer. ☐ Loading dock areas draining directly to the sanitary sewer shall be equipped with a spill control valve or equivalent device, which shall be kept closed during periods of operation. ☐ Provide a roof overhang over the loading area or install door skirts (cowling) at each bay that enclose the end of the trailer.		☒ Move loaded and unloaded items indoors as soon as possible. ☒ See Fact Sheet SC-30, "Outdoor Loading and Unloading," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

STORMWATER POLLUTANT SOURCES / SOURCE CONTROL CHECKLIST

1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Shown on WQMP Drawings	3 Permanent Controls—Listed in WQMP Table and Narrative	4 Operational BMPs—Included in WQMP Table and Narrative
☐ N. Fire Sprinkler Test Water		☐ Provide a means to drain fire sprinkler test water to the sanitary sewer.	☐ See the note in Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com
☐ O. Miscellaneous Drain or Wash Water or Other Sources ☐ Boiler drain lines ☐ Condensate drain lines ☒ Rooftop equipment ☐ Drainage sumps ☒ Roofing, gutters, and trim. ☐ Other sources		☐ Boiler drain lines shall be directly or indirectly connected to the sanitary sewer system and may not discharge to the storm drain system. ☐ Condensate drain lines may discharge to landscaped areas if the flow is small enough that runoff will not occur. Condensate drain lines may not discharge to the storm drain system. ☒ Rooftop equipment with potential to produce pollutants shall be roofed and/or have secondary containment. ☐ Any drainage sumps on-site shall feature a sediment sump to reduce the quantity of sediment in pumped water. ☐ Avoid roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff. ☐ Include controls for other sources as specified by local reviewer.	

STORMWATER POLLUTANT SOURCES / SOURCE CONTROL CHECKLIST

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☒ **P. Plazas, sidewalks, and parking lots.**			☒ **Sweep plazas, sidewalks, and parking lots regularly to prevent accumulation of litter and debris. Collect debris from pressure washing to prevent entry into the storm drain system. Collect wash water containing any cleaning agent or degreaser and discharge to the sanitary sewer not to a storm drain.**

Appendix 9: O&M

Operation and Maintenance Plan and Documentation of Finance, Maintenance and Recording Mechanisms

EcoPure BioFilter™
Maintenance Guide

The ADS EcoPure BioFilter system requires periodic inspection and maintenance for it to operate at the design efficiency. The inspection process helps in deciding when and what level of maintenance will be needed to bring the unit up to or near peak efficiency. As with ADS' other water quality products, the maintenance cycle of the EcoPure BioFilter system will be driven mostly by the actual solids and trash/debris load brought into the system.

ADS recommends inspecting the EcoPure BioFilter quarterly for the first year of service, and after every significant storm event occurring during the first six months. The definition of a significant storm event will vary depending on the geographic area, but if the event is greater than 1" (25 mm) of intensity within an hour or 3" (75 mm) within a 24-hour period, the system should be inspected. After the first year, systems should be inspected at least bi-annually and ideally before the spring or rainy season and after the summer season, or prior to fall or winter seasons. It is recommended that some general "good housekeeping" maintenance be performed at the beginning of the rainy or spring season every year. Since the stormwater solids concentration (mg/L as TSS) can be variable, it is possible that the maintenance cycle could be more or less than the projected duration.

For most maintenance needs, the EcoPure BioFilter planting component follows the practices used for handling standard bioretention systems (i.e., general landscaping, cover management, and replacement planting of surface plants).

It may be advisable to "water" or irrigate the EcoPure BioFilter plant area in geographical regions experiencing droughts or prolong periods without rainfall during the first year of service. Watering the plant life will help to ensure the plants can take hold and be established for future growth and treatment capabilities.

Inspection and General Maintenance Equipment

The following is a list of equipment recommended for inspection and general maintenance.

- Personal Protection Equipment (pants, steel-toed shoes, safety glasses, gloves, safety vest, hard hat, etc.)
- Manhole Hook
- Traffic Cones and Signage
- Stadia Rod and Tape Measure
- Inspection Operation and Maintenance Log or other recording method (included at end of guide)
- Flashlight
- Trash Removal "Net" Device
- Shovel, rake, broom and trash receptacle
- Vactor Truck (if more extensive maintenance is required)
- Light Duty Construction Equipment (if bioretention media replacement is required)

General Inspection and Maintenance Procedures

Routine inspection will ensure that the system is performing at optimal conditions and that the risk of public flooding is low. EcoPure BioFilter inspection involves a visual inspection of the plant surface area, structure inlet, pretreatment cell, clean-out ports, and the tertiary cell (if applicable for Metals Removal). This can all be done at the surface and requires no confined space entry into the EcoPure BioFilter unit. An Inspection O&M log should be used, and dates and weather conditions should be noted.

If the EcoPure BioFilter is located in a traffic area (i.e. roadway or automobile travel way), and inspection is not possible without entering the vehicular area, safety measures should be employed -- safety cones setup, etc. -- prior to performing the inspection and maintenance.

Inspection and Maintenance for the Pretreatment Cell and Chamber Cavity

For inspection of the pretreatment cell, the manhole cover should be safely removed (i.e., using a manhole hook). A visual inspection of the condition of the surface concrete and any inlet grates should be noted. If grates are missing or inlets are damaged, contact ADS for recommendation of repair. The suspended trash grate area should be relatively clear of debris. If excessive debris is observed, a trash capture net should be employed, and debris removed. Next a stadia rod should be sent down to the bottom of the pretreatment cell and the level of debris should be recorded in the maintenance log. The trash “tray” will have to be unfolded and opened to allow this to happen. The trash screen has lifting “ports” to pull up and fold the horizontal portion of the screen to the sides of the unit. At the sides, there are “locking” tabs to hold the screen panels to the concrete wall. When the debris in the sump reaches 10” (250mm) in average depth, a Vactor truck should be used to remove the accumulated sump debris. Employing a Vactor track for cleaning the pretreatment cell follows the typical guidelines used for cleaning underground BMPs, e.g., hydrodynamic stormwater devices.

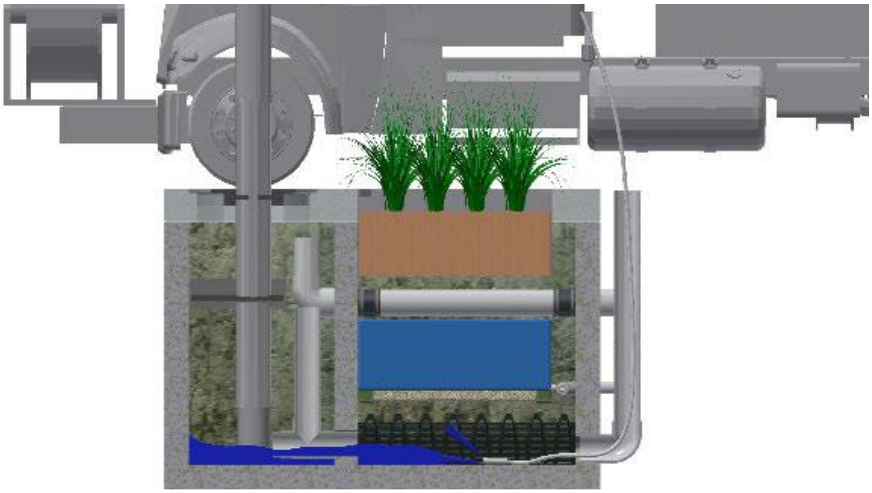
For inspection and cleaning of the chamber section of the EcoPure BioFilter (open cavity under the media cell), it is generally recommended that if the 10” (250mm) sediment mark has been reached in the pre-treatment cell, the owner or O&M contractor should backwash the chamber section of the media cell. With the pre-treatment cell cleaned and dewatered, the cleanout risers should be exercised and low-pressure water (60-80 psi) should be introduced to force and move sediment within the chamber cavities into the pretreatment cell. (The riser tees have a removable cap or “duckbill” valve to facilitate a “bottom” exit at the floor of the chamber cell to the pretreatment cell).

Once it is deemed that most of the chamber “floor” sediment from the planting cell has been backflushed, the introduction of the “cleaning” water flow should cease. The pretreatment cell should be vacuumed dry (during this backflushing procedure), the trash rack reinstalled/repositioned, and the manhole cover replaced. The backflushing process may require confined space entry and all rules and precautions should be adhered to, based on the local jurisdiction regulations or requirements.

Inspection and Maintenance for the Planting and Bioretention Media Layer and Optional Third Cell

A visual inspection of the general appearance of the EcoPure BioFilter should be performed, and notes should be taken detailing the condition of the surface plant life, invasive species intrusion, vandalism, erosion in the planting area and any signs of standing water or

disturbed or “shifted” surface soil bed area. This general system condition should be noted in the inspection/maintenance log.



If the plant life and surface media show signs of distress, general landscaping O&M should be performed, i.e., raking, weeding (removal of invasive plants), and general planting replacement to maximize the cover area in the planting bed/media treatment cell. If ponding of water is present in the media treatment cell and the last rain event was greater than 24 hours prior, further inspection should be performed to ensure the effluent pipe is not blocked.

All blocked pipes should be cleared and cleaned. If the inspection results in the conclusion that the bio media bed is compromised or has reached its service life, total replacement of the media treatment cell is recommended.

When a “three-cell” EcoPure BioFilter is installed, an inspection of the third cell can be conducted. Removal of the manhole cover for this cell should be performed similar to the pretreatment cell with appropriate safety precautions. A visual inspection with a flashlight will inspect the appearance of the metals media bed. If visual sediment is observed on the surface of the metals media or the media bed appears to have been greatly disturbed during preceding storm events (i.e., media or visual water line up the sides of the concrete walls, 12”-18” (300-450 mm) from the base or resting media surface), further inspection during a storm event should be undertaking to see if the system is going into bypass. If bypass is occurring during a normal 1-2 year storm event, media replacement may be recommended. ADS Field Engineering can assist with this analysis. It is generally agreed if the second or bio-media cell media is at the end of it’s service life, that the metals bay media is as well and should be replaced.

ADS should be contacted for material specifications and replacement parts. Media cell replacement will involve utilizing small construction excavation equipment.

Disposal of material from the pretreatment cell, trash debris rack, and chamber cavity should be in accordance with the local municipality’s requirements. Typically, traditional municipal landfills can be used for disposal of solids and trash obtained from servicing the EcoPure BioFilter. The same disposal methods should be used if the media cell is replaced. Call ADS at 800-821-6710 for further information.

EcoPure BioFilter Inspection and O&M Log Sheet

Project Name: _____

Location: _____

Date	Inspection or O&M	Observation/Actions	Operator comments and general description	Inspector

adspipe.com

1-800-821-6710

ADS "Terms and Conditions of Sale" are available on the ADS website, www.ads-pipe.com
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Appendix 10:Educational Materials

BMP Fact Sheets, Maintenance Guidelines and Other End-User BMP Information

1. "A Citizen's Guide to Understanding Stormwater" EPA 833-B-00-002.
2. Stormwater Pollution What You Should Know for "Outdoor Cleaning Activities and Non-point Source Discharges" Riverside County Flood Control
3. "Guidelines for Maintaining Your Swimming Pool, Jacuzzi and Garden Fountain" Riverside County Flood Control
4. "Tips for Landscape and Gardening" Riverside County Flood Control
5. "Food Service Industry Best Practices: Restaurants, Mobile Food Trucks, Grocery Stores, Bakeries, Delicatessens" Riverside County Flood Control
6. CASQA Handouts

    SC-10 Non-Stormwater Discharges

    SC-30 Outdoor Loading/Unloading

    SC-34 Waste Handling and Disposal

    SC-41 Building and Grounds Maintenance

    SC-43 Parking/Storage Area Maintenance

    SC-44 Drainage System Maintenance

    SD-10 Site Design & Landscape Planning

    SD-11 Roof Runoff Controls

    SD-12 Efficient Irrigation

    SD-32 Trash Storage Areas

WHEN IT RAINS IT DRAINS

For more information contact:

or visit
www.epa.gov/npdes/stormwater
www.epa.gov/nps

EPA United States Environmental Protection Agency

EPA 833-B-03-002

January 2003

THE YEAR OF CLEAN WATER
Celebration & Recommitment

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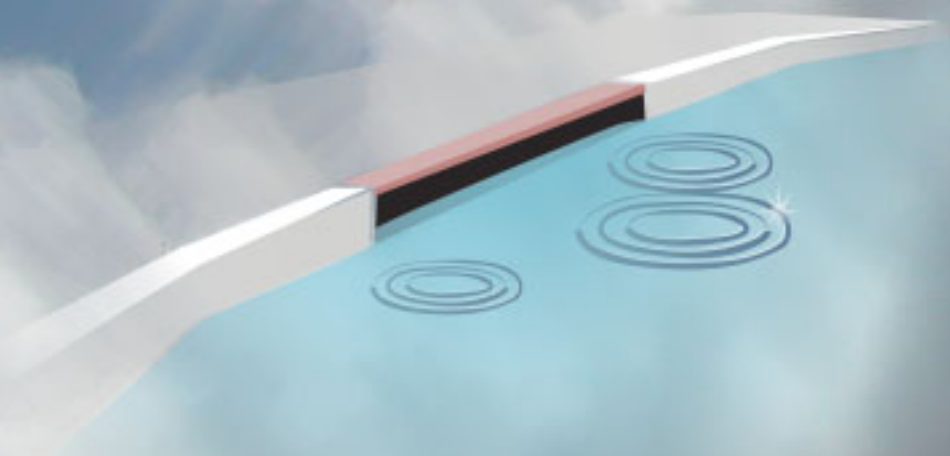
After the Storm



A Citizen's Guide to Understanding Stormwater

WHEN IT RAINS IT DRAINS

What is stormwater runoff?

Stormwater runoff occurs when precipitation from rain or snowmelt flows over the ground. Impervious surfaces like driveways, sidewalks, and streets prevent stormwater from naturally soaking into the ground.

Why is stormwater runoff a problem?

Stormwater can pick up debris, chemicals, dirt, and other pollutants and flow into a storm sewer system or directly to a lake, stream, river, wetland, or coastal water. Anything that enters a storm sewer system is discharged untreated into the waterbodies we use for swimming, fishing, and providing drinking water.

The effects of pollution

Polluted stormwater runoff can have many adverse effects on plants, fish, animals, and people.

- Sediment can cloud the water and make it difficult or impossible for aquatic plants to grow. Sediment also can destroy aquatic habitats.
- Excess nutrients can cause algae blooms. When algae die, they sink to the bottom and decompose in a process that removes oxygen from the water. Fish and other aquatic organisms can't exist in water with low dissolved oxygen levels.

- Bacteria and other pathogens can wash into swimming areas and create health hazards, often making beach closures necessary.
- Debris—plastic bags, six-pack rings, bottles, and cigarette butts—washed into waterbodies can choke, suffocate, or disable aquatic life like ducks, fish, turtles, and birds.
- Household hazardous wastes like insecticides, pesticides, paint, solvents, used motor oil, and other auto fluids can poison aquatic life. Land animals and people can become sick or die from eating diseased fish and shellfish or ingesting polluted water.

- Polluted stormwater often affects drinking water sources. This, in turn, can affect human health and increase drinking water treatment costs.

Stormwater Pollution Solutions

Residential

Recycle or properly dispose of household products that contain chemicals, such as insecticides, pesticides, paint, solvents, and used motor oil and other auto fluids. Don't pour them onto the ground or into storm drains.

Lawn care

Excess fertilizers and pesticides applied to lawns and gardens wash off and pollute streams. In addition, yard clippings and leaves can wash into storm drains and contribute nutrients and organic matter to streams.

- Don't overwater your lawn. Consider using a soaker hose instead of a sprinkler.
- Use pesticides and fertilizers sparingly. When use is necessary, use these chemicals in the recommended amounts. Use organic mulch or safer pest control methods whenever possible.
- Compost or mulch yard waste. Don't leave it in the street or sweep it into storm drains or streams.
- Cover piles of dirt or mulch being used in landscaping projects.

Auto care

Washing your car and degreasing auto parts at home can send detergents and other contaminants through the storm sewer system. Dumping automotive fluids into storm drains has the same result as dumping the materials directly into a waterbody.

- Use a commercial car wash that treats or recycles its wastewater, or wash your car on your yard so the water infiltrates into the ground.
- Repair leaks and dispose of used auto fluids and batteries at designated drop-off or recycling locations.

Septic systems

Leaking and poorly maintained septic systems release nutrients and pathogens (bacteria and viruses) that can be picked up by stormwater and discharged into nearby waterbodies. Pathogens can cause public health problems and environmental concerns.

- Inspect your system every 3 years and pump your tank as necessary (every 3 to 5 years).
- Don't dispose of household hazardous waste in sinks or toilets.

Pet waste

Pet waste can be a major source of bacteria and excess nutrients in local waters.

- When walking your pet, remember to pick up the waste and dispose of it properly. Flushing pet waste is the best disposal method. Leaving pet waste on the ground increases public health risks by allowing harmful bacteria and nutrients to wash into the storm drain and eventually into local waterbodies.

Education is essential to changing people's behavior. Signs and markers near storm drains warn residents that pollutants entering the drains will be carried untreated into a local waterbody.

Residential landscaping

Permeable Pavement—Traditional concrete and asphalt don't allow water to soak into the ground. Instead these surfaces rely on storm drains to divert unwanted water. Permeable pavement systems allow rain and snowmelt to soak through, decreasing stormwater runoff.

Rain Barrels—You can collect rainwater from rooftops in mosquito-proof containers. The water can be used later on lawn or garden areas.

Rain Gardens and Grassy Swales—Specially designed areas planted with native plants can provide natural places for rainwater to collect and soak into the ground. Rain from rooftop areas or paved areas can be diverted into these areas rather than into storm drains.

Vegetated Filter Strips—Filter strips are areas of native grass or plants created along roadways or streams. They trap the pollutants stormwater picks up as it flows across driveways and streets.

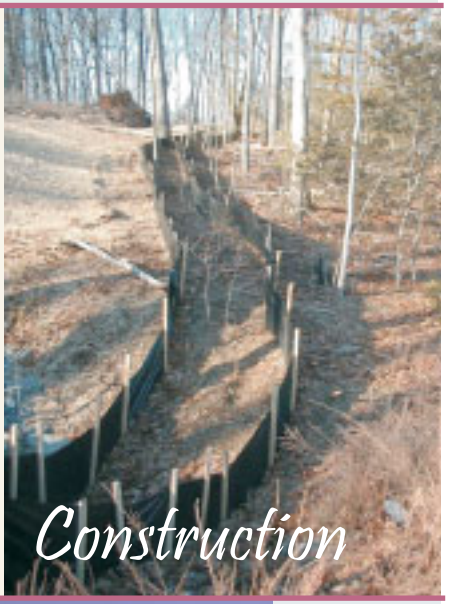
Commercial

Dirt, oil, and debris that collect in parking lots and paved areas can be washed into the storm sewer system and eventually enter local waterbodies.

- Sweep up litter and debris from sidewalks, driveways and parking lots, especially around storm drains.
- Cover grease storage and dumpsters and keep them clean to avoid leaks.
- Report any chemical spill to the local hazardous waste cleanup team. They'll know the best way to keep spills from harming the environment.

Erosion controls that aren't maintained can cause excessive amounts of sediment and debris to be carried into the stormwater system. Construction vehicles can leak fuel, oil, and other harmful fluids that can be picked up by stormwater and deposited into local waterbodies.

- Divert stormwater away from disturbed or exposed areas of the construction site.
- Install silt fences, vehicle mud removal areas, vegetative cover, and other sediment and erosion controls and properly maintain them, especially after rainstorms.
- Prevent soil erosion by minimizing disturbed areas during construction projects, and seed and mulch bare areas as soon as possible.



Construction

Agriculture

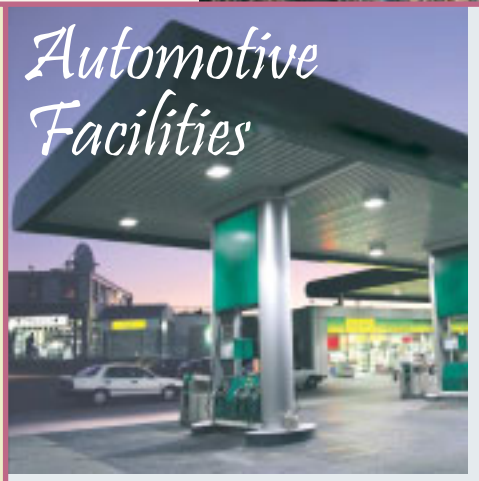
Lack of vegetation on streambanks can lead to erosion. Overgrazed pastures can also contribute excessive amounts of sediment to local waterbodies. Excess fertilizers and pesticides can poison aquatic animals and lead to destructive algae blooms. Livestock in streams can contaminate waterways with bacteria, making them unsafe for human contact.

- Keep livestock away from streambanks and provide them a water source away from waterbodies.
- Store and apply manure away from waterbodies and in accordance with a nutrient management plan.
- Vegetate riparian areas along waterways.
- Rotate animal grazing to prevent soil erosion in fields.
- Apply fertilizers and pesticides according to label instructions to save money and minimize pollution.

Forestry

Improperly managed logging operations can result in erosion and sedimentation.

- Conduct preharvest planning to prevent erosion and lower costs.
- Use logging methods and equipment that minimize soil disturbance.
- Plan and design skid trails, yard areas, and truck access roads to minimize stream crossings and avoid disturbing the forest floor.
- Construct stream crossings so that they minimize erosion and physical changes to streams.
- Expedite revegetation of cleared areas.



Automotive Facilities

Uncovered fueling stations allow spills to be washed into storm drains. Cars waiting to be repaired can leak fuel, oil, and other harmful fluids that can be picked up by stormwater.

- Clean up spills immediately and properly dispose of cleanup materials.
- Provide cover over fueling stations and design or retrofit facilities for spill containment.
- Properly maintain fleet vehicles to prevent oil, gas, and other discharges from being washed into local waterbodies.
- Install and maintain oil/water separators.

Helpful telephone numbers and links:

Riverside County Stormwater Protection Partners

Flood Control District	(951) 955-1200
County of Riverside	(951) 955-1000
City of Banning	(951) 922-3105
City of Beaumont	(951) 769-8520
City of Calimesa	(909) 795-9801
City of Canyon Lake	(951) 244-2955
Cathedral City	(760) 770-0327
City of Coachella	(760) 398-4978
City of Corona	(951) 736-2447
City of Desert Hot Springs	(760) 329-6411
City of Eastvale	(951) 361-0900
City of Hemet	(951) 765-2300
City of Indian Wells	(760) 346-2489
City of Indio	(760) 391-4000
City of Lake Elsinore	(951) 674-3124
City of La Quinta	(760) 777-7000
City of Menifee	(951) 672-6777
City of Moreno Valley	(951) 413-3000
City of Murrieta	(951) 304-2489
City of Norco	(951) 270-5607
City of Palm Desert	(760) 346-0611
City of Palm Springs	(760) 323-8299
City of Perris	(951) 943-6100
City of Rancho Mirage	(760) 324-4511
City of Riverside	(951) 361-0900
City of San Jacinto	(951) 654-7337
City of Temecula	(951) 694-6444
City of Wildomar	(951) 677-7751

REPORT ILLEGAL STORM DRAIN DISPOSAL
1-800-506-2555 or e-mail us at
fcnpdes@rcflood.org

- Riverside County Flood Control and Water Conservation District
  www.rcflood.org

Online resources include:

- California Storm Water Quality Association
  www.casqa.org
- State Water Resources Control Board
  www.waterboards.ca.gov
- Power Washers of North America
  www.thepwna.org

Stormwater Pollution

What you should know for...

Outdoor Cleaning Activities and Professional Mobile Service Providers

Storm drain pollution prevention information for:

- Car Washing / Mobile Detailers
- Window and Carpet Cleaners
- Power Washers
- Waterproofers / Street Sweepers
- Equipment cleaners or degreasers and all mobile service providers

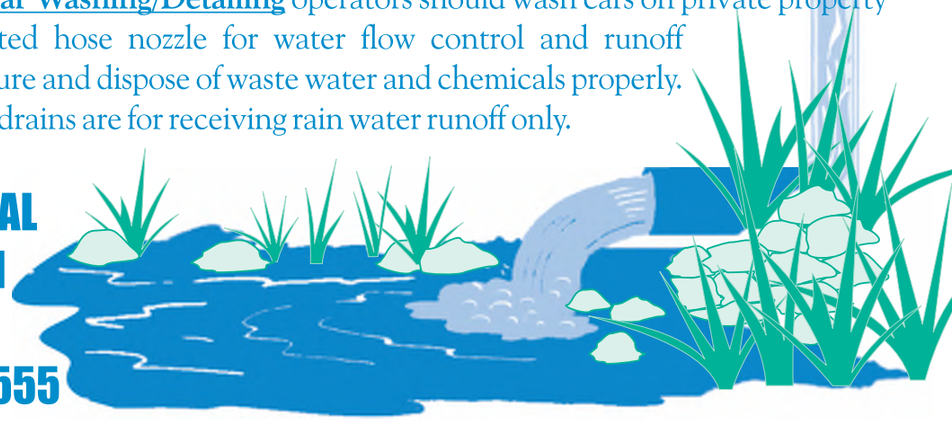
Do you know where street flows actually go?

Storm drains are NOT connected to sanitary sewer systems and treatment plants!

The primary purpose of storm drains is to carry *rain* water away from developed areas to prevent flooding. Pollutants discharged to storm drains are transported directly into rivers, lakes and streams. Soaps, degreasers, automotive fluids, litter and a host of materials are washed off buildings, sidewalks, plazas and parking areas. Vehicles and equipment must be properly managed to prevent the pollution of local waterways.

Unintentional spills by mobile service operators can flow into storm drains and pollute our waterways. **Avoid mishaps.** *Always* have a **Spill Response Kit** on hand to clean up unintentional spills. Only emergency **Mechanical** repairs should be done in City streets, using drip pans for spills. **Plumbing** should be done on private property. Always store chemicals in a leak-proof container and keep covered when not in use. **Window/Power Washing** waste water shouldn't be released into the streets, but should be disposed of in a sanitary sewer, landscaped area or in the soil. Soiled **Carpet Cleaning** wash water should be filtered before being discharged into the sanitary sewer. Dispose of all filter debris properly. **Car Washing/Detailing** operators should wash cars on private property and use a regulated hose nozzle for water flow control and runoff prevention. Capture and dispose of waste water and chemicals properly. Remember, storm drains are for receiving rain water runoff only.

REPORT ILLEGAL STORM DRAIN DISPOSAL 1-800-506-2555



Help Protect Our Waterways!

Use these guidelines for Outdoor Cleaning Activities and Wash Water Disposal

Did you know that disposing of pollutants into the street, gutter, storm drain or body of water is *PROHIBITED* by law and can result in stiff penalties?

Best Management Practices

Waste wash water from Mechanics, Plumbers, Window/Power Washers, Carpet Cleaners, Car Washing and Mobile Detailing activities may contain significant quantities of motor oil, grease, chemicals, dirt, detergents, brake pad dust, litter and other materials.

Best Management Practices, or BMPs as they are known, are guides to prevent pollutants from entering the storm drains. ***Each of us*** can do our part to keep stormwater clean by using the suggested BMPs below:

Simple solutions for both light and heavy duty jobs:

Do...consider dry cleaning methods first such as a mop, broom, rag or wire brush. Always keep a spill response kit on site.

Do...prepare the work area before power cleaning by using sand bags, rubber mats, vacuum booms, containment pads or temporary berms to keep wash water away from the gutters and storm drains.

Do...use vacuums or other machines to remove and collect loose debris or litter before applying water.

Do...obtain the property owner's permission to dispose of ***small amounts*** of power washing waste water on to landscaped, gravel or unpaved surfaces.

Do...check your local sanitary sewer agency's policies on wash water disposal regulations before disposing of wash water into the sewer. (See list on reverse side)

Do...be aware that if discharging to landscape areas, soapy wash water may damage landscaping. Residual wash water may remain on paved surfaces to evaporate. Sweep up solid residuals and dispose of properly. Vacuum booms are another option for capturing and collecting wash water.

Do...check to see if local ordinances prevent certain activities.

Do not let...wash or waste water from sidewalk, plaza or building cleaning go into a street or storm drain.

...ONLY RAIN... DOWN THE STORM DRAIN

Report illegal storm drain disposal
Call Toll Free
1-800-506-2555

Using Cleaning Agents

Try using biodegradable/phosphate-free products. They are easier on the environment, but don't confuse them with being toxic free. Soapy water entering the storm drain system can impact the delicate aquatic environment.

When cleaning surfaces with a ***high-pressure washer*** or ***steam cleaner***, additional precautions should be taken to prevent the discharge of pollutants into the storm drain system. These two methods of surface cleaning can loosen additional material that can contaminate local waterways.

Think Water Conservation

Minimize water use by using high pressure, low volume nozzles. Be sure to check all hoses for leaks. Water is a precious resource, don't let it flow freely and be sure to shut it off in between uses.

Screening Wash Water

Conduct thorough dry cleanup before washing exterior surfaces, such as buildings and decks ***with loose paint***, sidewalks or plaza areas. Keep debris from entering the storm drain after cleaning by first passing the wash water through a "20 mesh" or finer screen to catch the solid materials, then dispose of the mesh in a refuse container. Do not let the remaining wash water enter a street, gutter or storm drain.

Drain Inlet Protection & Collection of Wash Water

- Prior to any washing, block all storm drains with an impervious barrier such as sandbags or berms, or seal the storm drain with plugs or other appropriate materials.
- Create a containment area with berms and traps or take advantage of a low spot to keep wash water contained.
- Wash vehicles and equipment on grassy or gravel areas so that the wash water can seep into the ground.
- Pump or vacuum up all wash water in the contained area.

Concrete/Coring/Saw Cutting and Drilling Projects

Protect any down-gradient inlets by using dry activity techniques whenever possible. If water is used, minimize the amount of water used during the coring/drilling or saw cutting process. Place a barrier of sandbags and/or absorbent berms to protect the storm drain inlet or watercourse. Use a shovel or wet vacuum to remove the residue from the pavement. Do not wash residue or particulate matter into a storm drain inlet or watercourse.

Saltwater Pools

- Salt water pools, although different from regular pools, are in fact, sanitized using chlorine. A salt-chlorine generator separates the chlorine and sodium molecules in salt and reintroduces them into the pool water. The same harmful effects of chlorine still apply.
- A salt water pool is still maintained with chemicals such as Muriatic acid, soda ash and sodium carbonate to help keep a proper pH, total Alkalinity, Calcium Hardness and Stabilizer levels.

- It may be illegal to discharge salt water to land. The salt may kill plants and the build-up of salt in soil puts animals, plants, and groundwater at risk. Consult your city representatives to determine local requirements regarding salt water drainage.

NEVER put unused chemicals into the trash, onto the ground or down a storm drain.

IMPORTANT: The discharge of pollutants into the street, gutter, storm drain system or waterways - without a permit or waiver - is strictly prohibited by local ordinances, state and federal law. Violations may result in monetary fines and enforcement actions.

Helpful telephone numbers and links

Riverside County Water Agencies:

City of Banning	(951) 922-3130
City of Beaumont/Cherry Valley	(951) 845-9581
City of Blythe	(760) 922-6161
City of Coachella	(760) 398-3502
City of Corona	(951) 736-2263
City of Hemet	(951) 765-3710
City of Norco	(951) 270 5607
City of Riverside Public Works	(951) 351-6140
City of San Jacinto	(951) 654-4041
Coachella Valley Water District	(760) 398-2651
Desert Water Agency (Palm Springs)	(760) 323-4971
Eastern Municipal Water District	(951) 928-3777
Elsinore Valley Municipal Water District	(951) 674 3146
Elsinore Water District	(951) 674-2168
Farm Mutual Water Company	(951) 244-4198
Idyllwild Water District	(951) 659-2143
Indio Water Authority	(760) 391-4129
Jurupa Community Services District	(951) 685-7434
Lee Lake Water	(951) 658-3241
Mission Springs Water	(760) 329-6448
Rancho California Water District	(951) 296-6900
Ripley, CSA #62	(760) 922-4951
Riverside Co. Service Area #51	(760) 227-3203
Rubidoux Community Services District	(951) 684-7580
Valley Sanitary District	(760) 347-2356
Western Municipal Water District	(951) 789-5000
Yucaipa Valley Water District	(909) 797-5117

CALL 1-800-506-2555 to:

- Report clogged storm drains or illegal storm drain disposal from residential, industrial, construction and commercial sites into public streets, storm drains and/or water bodies.
- Find out about our various storm drain pollution prevention materials.
- Locate the dates and times of Household Hazardous Waste (HHW) Collection Events.
- Request adult, neighborhood, or classroom presentations.
- Locate other County environmental services.
- Receive grasscycling information and composting workshop information.

Or visit our
Riverside County Flood Control and Water Conservation District
website at: www.rcflood.org

Other links to additional storm drain pollution information:

- County of Riverside Environmental Health: www.rivcoeh.org
- State Water Resources Control Board: www.waterboards.ca.gov
- California Stormwater Quality Association: www.casqa.org
- United States Environmental Protection Agency (EPA): www.epa.gov/compliance/assistance (compliance assistance information)

ONLY RAIN DOWN THE STORM DRAIN

Riverside County's, "Only Rain Down the Storm Drain" Pollution Prevention Program gratefully acknowledges the Bay Area Stormwater Management Agencies Association and the Cleaning Equipment Trade Association for information provided in this brochure.

Guidelines for Maintaining your...

Swimming Pool, Jacuzzi and Garden Fountain

Where does the water go?

Pool, Jacuzzi and Fountain wastewater and rain water runoff (also called stormwater) that reach streets can enter the storm drain and be conveyed directly into local streams, rivers and lakes.

A storm drain's purpose is to prevent flooding by carrying rain water away from developed areas. Storm drains are not connected to sanitary sewers systems and treatment plants!

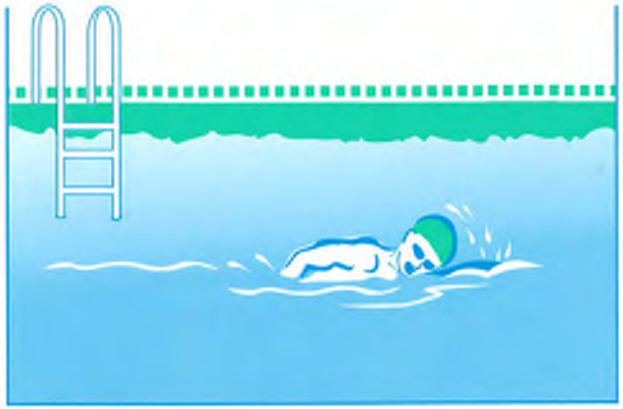
Wastewater, from residential swimming pools, Jacuzzis, fishponds and fountains, often contains chemicals used for sanitizing or cleansing purposes. Toxic chemicals (such as chlorine or copper-based algaecides) may pollute the environment when discharged into a storm drain system.

The Cities and County of Riverside have adopted ordinances that prohibit the discharge of wastewater to the street and storm drain system.

Discharge Regulations

Regulatory requirements for discharging wastewater from your pool may differ from city to city. Chlorinated water should not be discharged into the street, storm drain or surface waters. Check with your water agency to see if disposal to the sanitary sewer line is allowed for pool discharges (see reverse for Riverside County sewer agencies).

If allowed, a hose can be run from the pool Jacuzzi, or fountain to the private sewer cleanout, washing machine drain or a sink or bathtub.



If you cannot discharge to the sewer, you may drain your fountain, pool, or jacuzzi to your landscaping by following these guidelines:

First, reduce or eliminate solids (e.g. debris, leaves or dirt) in the pool water and allow the chemicals in the pool water to dissipate before draining the pool (this could take up to 7 days, verify using a home pool test kit).

Second, slowly drain to a landscaped area away from buildings or structures. Control the flow to prevent soil erosion; it may take more than one day to empty. Do not allow sediment to enter the street, gutter or storm drain.

Maintenance & Chemicals

Cleaning Filters

Filter rinse water and backwash must be discharged to the sanitary sewer, on-site septic tank and drain field system (if properly designed and adequately sized), or a seepage pit. Alternatively, rinse water or backwash may be diverted to landscaped or dirt areas. Filter media and other non-hazardous solids should be picked up and disposed of in the trash.

Algaecides

Avoid using copper-based algaecides unless absolutely necessary. Control algae with chlorine, organic polymers or other alternatives to copper-based pool chemicals. Copper is a heavy metal that can be toxic to aquatic life when you drain your pool.

Chemical Storage and Handling

- Use only the amount indicated on product labels
- Store chlorine and other chemicals in a covered area to prevent runoff. Keep out of reach of children and pets.
- Chlorine kits, available at retail swimming pool equipment and supply stores, should be used to monitor the chlorine and pH levels before draining your pool.
- Chlorine and other pool chemicals should never be allowed to flow into the gutter or storm drain system.

Take unwanted chemicals to a Household Hazardous Waste (HHW) Collection Event. There's no cost for taking HHW items to collection events – it's FREE! Call **1-800-506-2555** for a schedule of HHW events in your community.

Landscaping and garden maintenance activities can be major contributors to water pollution. Soils, yard wastes, over-watering and garden chemicals become part of the urban runoff mix that winds its way through streets, gutters and storm drains before entering lakes, rivers, streams, etc. Urban runoff pollution contaminates water and harms aquatic life!

In Riverside County, report illegal discharges into the storm drain, call
1-800-506-2555
"Only Rain Down the Storm Drain"

Important Links:

Riverside County Household Hazardous Waste Collection Information
1-800-304-2226 or www.rivcowm.org

Riverside County Backyard Composting Program
1-800-366-SAVE

Integrated Pest Management (IPM) Solutions
www.ipm.ucdavis.edu

California Master Gardener Programs
www.mastergardeners.org
www.camastergardeners.ucdavis.edu

California Native Plant Society
www.cnps.org

The Riverside County "Only Rain Down the Storm Drain" Pollution Prevention Program gratefully acknowledges Orange County's Storm Water Program for their contribution to this brochure.

...Only Rain Down ...the Storm Drain

What you should know for... Landscape and Gardening

Best Management tips for:

- Professionals
- Novices
- Landscapers
- Gardeners
- Cultivators

Tips for Landscape & Gardening

This brochure will help you to get the most of your lawn and gardening efforts and keep our waterways clean. Clean waterways provide recreation, establish thriving fish habitats, secure safe sanctuaries for wildlife, and add beauty to our communities. NEVER allow gardening products or waste water to enter the street, gutter or storm drain.

General Landscaping Tips

- Protect stockpiles and materials from wind and rain by storing them under tarps or secured plastic sheeting.
- Prevent erosion of slopes by planting fast-growing, dense ground covering plants. These will shield and bind the soil.

- Plant native vegetation to reduce the amount of water, fertilizers and pesticides applied to the landscape.
- Never apply pesticides or fertilizers when rain is predicted within the next 48 hours.

Garden & Lawn Maintenance

- Do not overwater. Use irrigation practices such as drip irrigation, soaker hoses or micro-spray systems. Periodically inspect and fix leaks and misdirected sprinklers.
- Do not rake or blow leaves, clippings or pruning waste into the street, gutter or storm drain. Instead, dispose of green waste by composting, hauling it to a permitted landfill, or recycling it through your city's program.

- Consider recycling your green waste and adding "nature's own fertilizer" to your lawn or garden.
- Read labels and use only as directed. Do not over-apply pesticides or fertilizers. Apply to spots as needed, rather than blanketing an entire area.
- Store pesticides, fertilizers and other chemicals in a dry covered area to prevent exposure that may result in the deterioration of containers and packaging.
- Rinse empty pesticide containers and re-use rinse water as you would use the product. Do not dump rinse water down storm drains or sewers. Dispose of empty containers in the trash.
- When available, use non-toxic alternatives to traditional pesticides, and use pesticides specifically designed to control the pest you are targeting.
- Try natural long-term common sense solutions first. Integrated Pest Management (IPM) can provide landscaping guidance and solutions, such as:
  - **Physical Controls** - Try hand picking, barriers, traps or caulking holes to control weeds and pests.
  - **Biological Controls** - Use predatory insects to control harmful pests.
  - **Chemical Controls** - Check out www.ipm.ucdavis.edu before using chemicals. Remember, all chemicals should be used cautiously and in moderation.
- If fertilizer is spilled, sweep up the spill before irrigating. If the spill is liquid, apply an absorbent material such as cat litter, and then sweep it up and dispose of it in the trash.
- Take unwanted pesticides to a Household Waste Collection Center to be recycled.
- *Dumping toxics into the street, gutter or storm drain is illegal!*

www.bewaterwise.com Great water conservation tips and drought tolerant garden designs.

www.ourwaterourworld.com Learn how to safely manage home and garden pests.

Additional information can also be found on the back of this brochure.

We ♥ our Watershed!

A clean and healthy watershed is important to all of us.

Trash, debris, chemicals and other contaminants from business activities often make their way into the Riverside County storm drain system. This pollutes our drinking water and contaminates waterways, making them unsafe for people and wildlife.

Did you know?

There is a difference between storm drains and sewers.

Storm drains capture rainwater and flow directly to our rivers, lakes and streams – untreated.

Sewers capture and collect water from sinks, toilets and floor drains, and then it is processed and treated before it is released into the environment.

For more information about how you can protect our watershed, please visit:
www.rcwatershed.org

Questions?

If you have questions about Best Management Practices, or if you have questions about illicit dumping and stormwater pollution visit the Pollution Prevention website: rcwatershed.org.

For more information on requirements for all retail food facilities go to Riverside County Environmental Health's website: rivcoeh.org

RIVERSIDE COUNTY
WATERSHED PROTECTION

Riverside County Watershed Protection Program is managed by Riverside County Flood Control & Water Conservation District in partnership with 27 Cities, the County of Riverside and the Coachella Valley Water District.

OUR MISSION
"To protect, preserve and enhance the quality of Riverside County watersheds by fostering a community-wide commitment to clean water."

Watershed Protection

Food Service Industry Best Practices

Restaurants
Mobile Food Trucks
Grocery Stores
Bakeries
Delicatessens

Best Kitchen Practices

Recycle Oil & Grease

- Never put oil or grease down the drain. Contain grease and oil by using covered grease storage containers or installing a grease interceptor.
- Never overfill your grease storage container or transport it without a cover.
- Grease control devices must be emptied and cleaned by permitted companies and according to manufacturer's specifications.
- Keep maintenance records on site.
- For a list of oil/grease recycling companies, contact CalRecycle www.calrecycle.ca.gov or contact your local sanitation district.

Managing Spills

- Clean food spills in loading and trash areas by using absorbent materials and sweeping then mopping.
- Discharge mop water into the sewer through a grease interceptor.
- Have spill containment and cleanup kits available.
- To report serious toxic spills, call 911.

Handling Toxic Chemicals

- Dispose of all unwanted toxics materials like cleaners, solvents and detergents through a hazardous waste hauler. These items are not trash!
- Use non-toxic cleaning products whenever possible.
- For information on hazardous waste transporters, call (888) 722-4234.

Dumpster Areas

- Keep dumpster lids closed and the areas around them clean.
- Do not fill with liquid waste or hose them out.
- Call your trash hauler to replace any dumpsters that are damaged or leaking.

Cleaning & Maintenance

- Clean equipment, floor mats, filters and garbage cans in a mop sink, wash rack or floor drain connected to a sanitary sewer.
- Sweep outside areas and put the debris in trash containers DO NOT hose down or sweep into the parking lot or street.
- Outside eating areas and sidewalks may not be hosed down or pressure washed UNLESS the following standards are met:
  - ✓ Use dry cleanup methods prior to any pressure washing – absorbing with kitty litter, sweeping, vacuuming, scraping off dried debris.
  - ✓ Wash waters must be captured for proper disposal: collected waters should be discharged to a sanitary drain.
  - ✓ DO NOT use any chemicals or detergents.
  - ✓ DO NOT wash or pour water in a parking lot, alley, sidewalk or street.

Mobile Food Trucks

- The potential for generating stormwater pollution as part of a mobile food business requires special attention. Cleaning activities are required to be conducted at an approved fixed location with a connection to a sanitary sewer. For more information contact Riverside County Environmental Health at (888) 722-4234.
- Do not discharge wash water into storm drains.
- Clean on a properly equipped wash pad and drain wastewater to a sanitary sewer system.

Food Waste Disposal

- Scrape food waste off of plates, pots and food prep areas and dispose of in the trash.
- Food scraps often contain grease, which can clog sewer pipes and result in costly sewer backups and overflows.
- Never put food waste down the drain.

RECYCLE
USED OIL

Non-Stormwater Discharges SC-10

Graphic by: Margie Winter

Objectives

- Contain
- Educate
- Reduce/Minimize

Targeted Constituents

Sediment	☑
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	☑
Oil and Grease	☑
Organics	☑
Oxygen Demanding	☑

Description

Non-stormwater discharges are those flows that do not consist entirely of stormwater. For municipalities non-stormwater discharges present themselves in two situations. One is from fixed facilities owned and/or operated by the municipality. The other situation is non-stormwater discharges that are discovered during the normal operation of a field program. Some non-stormwater discharges do not include pollutants and may be discharged to the storm drain. These include uncontaminated groundwater and natural springs. There are also some non-stormwater discharges that typically do not contain pollutants and may be discharged to the storm drain with conditions. These include car washing, and surface cleaning. However, there are certain non-stormwater discharges that pose environmental concern. These discharges may originate from illegal dumping or from internal floor drains, appliances, industrial processes, sinks, and toilets that are connected to the nearby storm drainage system. These discharges (which may include: process waste waters, cooling waters, wash waters, and sanitary wastewater) can carry substances (such as paint, oil, fuel and other automotive fluids, chemicals and other pollutants) into storm drains. The ultimate goal is to effectively eliminate non-stormwater discharges to the stormwater drainage system through implementation of measures to detect, correct, and enforce against illicit connections and illegal discharges.

Approach

The municipality must address non-stormwater discharges from its fixed facilities by assessing the types of non-stormwater discharges and implementing BMPs for the discharges determined to pose environmental concern. For field programs

CASQA
CALIFORNIA STORMWATER QUALITY ASSOCIATION

the field staff must be trained to now what to look for regarding non-stormwater discharges and the procedures to follow in investigating the detected discharges.

Suggested Protocols

Fixed Facility

General

- Post "No Dumping" signs with a phone number for reporting dumping and disposal. Signs should also indicate fines and penalties for illegal dumping.
- Stencil storm drains, where applicable, to prevent illegal disposal of pollutants. Storm drain inlets should have messages such as "Dump No Waste Drains to Stream" stenciled next to them to warn against ignorant or intentional dumping of pollutants into the storm drainage system.
- Landscaping and beautification efforts of hot spots might also discourage future dumping, as well as provide open space and increase property values.
- Lighting or barriers may also be needed to discourage future dumping.

Illicit Connections

- Locate discharges from the fixed facility drainage system to the municipal storm drain system through review of "as-built" piping schematics.
- Use techniques such as smoke testing, dye testing and television camera inspection (as noted below) to verify physical connections.
- Isolate problem areas and plug illicit discharge points.

Visual Inspection and Inventory

- Inventory and inspect each discharge point during dry weather.
- Keep in mind that drainage from a storm event can continue for several days following the end of a storm and groundwater may infiltrate the underground stormwater collection system. Also, non-stormwater discharges are often intermittent and may require periodic inspections.

Review Infield Piping

- Review the "as-built" piping schematic as a way to determine if there are any connections to the stormwater collection system.
- Inspect the path of floor drains in older buildings.

Smoke Testing

- Smoke testing of wastewater and stormwater collection systems is used to detect connections between the two systems.

- During dry weather the stormwater collection system is filled with smoke and then traced to sources. The appearance of smoke at the base of a toilet indicates that there may be a connection between the sanitary and the stormwater system.

Dye Testing

- A dye test can be performed by simply releasing a dye into either your sanitary or process wastewater system and examining the discharge points from the stormwater collection system for discoloration.

TV Inspection of Storm Sewer

- TV Cameras can be employed to visually identify illicit connections to the fixed facility storm drain system.

Illegal Dumping

- Regularly inspect and clean up hot spots and other storm drainage areas where illegal dumping and disposal occurs.
- Clean up spills on paved surfaces with as little water as possible. Use a rag for small spills, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be sent to a certified laundry (rags) or disposed of as hazardous waste.
- Never hose down or bury dry material spills. Sweep up the material and dispose of properly.
- Use adsorbent materials on small spills rather than hosing down the spill. Remove the adsorbent materials promptly and dispose of properly.
- For larger spills, a private spill cleanup company or Hazmat team may be necessary.
- See fact sheet SC-11 Spill Prevention, Control, and Clean Up.

Field Program

General

- Develop clear protocols and lines of communication for effectively prohibiting non-stormwater discharges, especially ones that involve more than one jurisdiction and those that are not classified as hazardous, which are often not responded to as effectively as they need to be.
- Stencil storm drains, where applicable, to prevent illegal disposal of pollutants. Storm drain inlets should have messages such as "Dump No Waste Drains to Stream" stenciled next to them to warn against ignorant or intentional dumping of pollutants into the storm drainage system.
- See SC-74 Stormwater Drainage System Maintenance for additional information.

Field Inspection

- Regularly inspect and clean up hot spots and other storm drainage areas where illegal dumping and disposal occurs.
- During routine field program maintenance field staff should look for evidence of illegal discharges or illicit connection:
  - Is there evidence of spills such as paints, discoloring, etc.
  - Are there any odors associated with the drainage system
  - Record locations of apparent illegal discharges/illicit connections and notify appropriate investigating agency.
- If trained, conduct field investigation of non-stormwater discharges to determine whether they pose a threat to water quality.

Recommended Complaint Investigation Equipment

- Field Screening Analysis
  - pH paper or meter
  - Commercial stormwater pollutant screening kit that can detect for reactive phosphorus, nitrate nitrogen, ammonium nitrogen, specific conductance, and turbidity
  - Sample jars
  - Sample collection pole
  - A tool to remove access hole covers
- Laboratory Analysis
  - Sample cooler
  - Ice
  - Sample jars and labels
  - Chain of custody forms.
- Documentation
  - Camera
  - Notebook
  - Pens
  - Notice of Violation forms

- Educational materials

Reporting

- A database is useful for defining and tracking the magnitude and location of the problem.
- Report prohibited non-stormwater discharges observed during the course of normal daily activities so they can be investigated, contained and cleaned up or eliminated.
- Document that non-stormwater discharges have been eliminated by recording tests performed, methods used, dates of testing, and any onsite drainage points observed.
- Maintain documentation of illicit connection and illegal dumping incidents, including significant conditionally exempt discharges that are not properly managed.

Enforcement

- Educate the responsible party if identified on the impacts of their actions, explain the stormwater requirements, and provide information regarding Best Management Practices (BMP), as appropriate. Initiate follow-up and/or enforcement procedures.
- If an illegal discharge is traced to a commercial, residential or industrial source, conduct the following activities or coordinate the following activities with the appropriate agency:
  - Contact the responsible party to discuss methods of eliminating the non-stormwater discharge, including disposal options, recycling, and possible discharge to the sanitary sewer (if within POTW limits).
  - Provide information regarding BMPs to the responsible party, where appropriate.
  - Begin enforcement procedures, if appropriate.
  - Continue inspection and follow-up activities until the illicit discharge activity has ceased.
- If an illegal discharge is traced to a commercial or industrial activity, coordinate information on the discharge with the jurisdiction's commercial and industrial facility inspection program.

Training

- Train technical staff to identify and document illegal dumping incidents.
- Well-trained employees can reduce human errors that lead to accidental releases or spills. The employee should have the tools and knowledge to immediately begin cleaning up a spill if one should occur. Employees should be familiar with the Spill Prevention Control and Countermeasure Plan.
- Train employees to identify non-stormwater discharges and report them to the appropriate departments.
- Train staff who have the authority to conduct surveillance and inspections, and write citations for those caught illegally dumping.

- Train municipal staff responsible for surveillance and inspection in the following:
  - OSHA-required Health and Safety Training (29 CFR 1910.120) plus annual refresher training (as needed).
  - OSHA Confined Space Entry training (Cal-OSHA Confined Space, Title 8 and federal OSHA 29 CFR 1910.146).
  - Procedural training (field screening, sampling, smoke/dye testing, TV inspection).
- Educate the identified responsible party on the impacts of his or her actions.

Spill Response and Prevention

- See SC-11 Spill Prevention Control and Clean Up

Other Considerations

- The elimination of illegal dumping is dependent on the availability, convenience, and cost of alternative means of disposal. The cost of fees for dumping at a proper waste disposal facility are often more than the fine for an illegal dumping offense, thereby discouraging people from complying with the law. The absence of routine or affordable pickup service for trash and recyclables in some communities also encourages illegal dumping. A lack of understanding regarding applicable laws or the inadequacy of existing laws may also contribute to the problem.
- Municipal codes should include sections prohibiting the discharge of soil, debris, refuse, hazardous wastes, and other pollutants into the storm drain system.
- Many facilities do not have accurate, up-to-date schematic drawings.
- Can be difficult to locate illicit connections especially if there is groundwater infiltration.

Requirements

Costs

- Eliminating illicit connections can be expensive especially if structural modifications are required such re-plumbing cross connections under an existing slab.
- Minor cost to train field crews regarding the identification of non-stormwater discharges. The primary cost is for a fully integrated program to identify and eliminate illicit connections and illegal dumping. However, by combining with other municipal programs (i.e. pretreatment program) cost may be lowered.
- Municipal cost for containment and disposal may be borne by the discharger.

Maintenance

Not applicable

Supplemental Information

Further Detail of the BMP

What constitutes a "non-stormwater" discharge?

- Non-stormwater discharges are discharges not made up entirely of stormwater and include water used directly in the manufacturing process (process wastewater), air conditioning condensate and coolant, non-contact cooling water, cooling equipment condensate, outdoor secondary containment water, vehicle and equipment wash water, landscape irrigation, sink and drinking fountain wastewater, sanitary wastes, or other wastewaters.

Permit Requirements

- Current municipal NPDES permits require municipalities to effectively prohibit non-stormwater discharges unless authorized by a separate NPDES permit or allowed in accordance with the current NPDES permit conditions. Typically the current permits allow certain non-stormwater discharges in the storm drain system as long as the discharges are not significant sources of pollutants. In this context the following non-stormwater discharges are typically allowed:
  - Diverted stream flows;
  - Rising found waters;
  - Uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20));
  - Uncontaminated pumped ground water;
  - Foundation drains;
  - Springs;
  - Water from crawl space pumps;
  - Footing drains;
  - Air conditioning condensation;
  - Flows from riparian habitats and wetlands;
  - Water line and hydrant flushing ;
  - Landscape irrigation;
  - Planned and unplanned discharges from potable water sources;
  - Irrigation water;
  - Individual residential car washing; and
  - Lawn watering.

Municipal facilities subject to industrial general permit requirements must include a certification that the stormwater collection system has been tested or evaluated for the presence of non-stormwater discharges. The state's General Industrial Stormwater Permit requires that non-stormwater discharges be eliminated prior to implementation of the facility's SWPPP.

Illegal Dumping

- Establish a system for tracking incidents. The system should be designed to identify the following:
  - Illegal dumping hot spots
  - Types and quantities (in some cases) of wastes
  - Patterns in time of occurrence (time of day/night, month, or year)
  - Mode of dumping (abandoned containers, "midnight dumping" from moving vehicles, direct dumping of materials, accidents/spills)
  - Responsible parties

Outreach

One of the keys to success of reducing or eliminating illegal dumping is increasing the number of people on the street who are aware of the problem and who have the tools to at least identify the incident, if not correct it. There we a number of ways of accomplishing this:

- Train municipal staff from all departments (public works, utilities, street cleaning, parks and recreation, industrial waste inspection, hazardous waste inspection, sewer maintenance) to recognize and report the incidents.
- Deputize municipal staff who may come into contact with illegal dumping with the authority to write illegal dumping tickets for offenders caught in the act (see below).
- Educate the public. As many as 3 out of 4 people do not understand that in most communities the storm drain does not go to the wastewater treatment plant. Unfortunately, with the heavy emphasis in recent years on public education about solid waste management, including recycling and household hazardous waste, the sewer system (both storm and sanitary) has been the likely recipient of cross-media transfers of waste.
- Provide the public with a mechanism for reporting incidents such as a hot line and/or door hanger (see below).
- Help areas where incidents occur more frequently set up environmental watch programs (like crime watch programs).
- Train volunteers to notice and report the presence and suspected source of an observed pollutant to the appropriate public agency.

What constitutes a "non-stormwater" discharge?

- Non-stormwater discharges are discharges not made up entirely of stormwater and include water used directly in the manufacturing process (process wastewater), air conditioning condensate and coolant, non-contact cooling water, cooling equipment condensate, outdoor secondary containment water, vehicle and equipment wash water, landscape irrigation, sink and drinking fountain wastewater, sanitary wastes, or other wastewaters.

Permit Requirements

- Current municipal NPDES permits require municipalities to effectively prohibit non-stormwater discharges unless authorized by a separate NPDES permit or allowed in accordance with the current NPDES permit conditions. Typically the current permits allow certain non-stormwater discharges in the storm drain system as long as the discharges are not significant sources of pollutants. In this context the following non-stormwater discharges are typically allowed:
  - Diverted stream flows;
  - Rising found waters;
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  - Uncontaminated pumped ground water;
  - Foundation drains;
  - Springs;
  - Water from crawl space pumps;
  - Footing drains;
  - Air conditioning condensation;
  - Flows from riparian habitats and wetlands;
  - Water line and hydrant flushing ;
  - Landscape irrigation;
  - Planned and unplanned discharges from potable water sources;
  - Irrigation water;
  - Individual residential car washing; and
  - Lawn watering.

Municipal facilities subject to industrial general permit requirements must include a certification that the stormwater collection system has been tested or evaluated for the presence

of non-stormwater discharges. The state's General Industrial Stormwater Permit requires that non-stormwater discharges be eliminated prior to implementation of the facility's SWPPP.

Storm Drain Stenciling

- Stencil storm drain inlets with a message to prohibit illegal dumpings, especially in areas with waste handling facilities.
- Encourage public reporting of improper waste disposal by a HOTLINE number stenciled onto the storm drain inlet.
- See Supplemental Information section of this fact sheet for further detail on stenciling program approach.

Oil Recycling

- Contract collection and hauling of used oil to a private licensed used oil hauler/recycler.
- Comply with all applicable state and federal regulations regarding storage, handling, and transport of petroleum products.
- Create procedures for collection such as; collection locations and schedule, acceptable containers, and maximum amounts accepted.
- The California Integrated Waste Management Board has a Recycling Hotline, (800) 553-2962, that provides information and recycling locations for used oil.

Household Hazardous Waste

- Provide household hazardous waste (HHW) collection facilities. Several types of collection approaches are available including permanent, periodic, or mobile centers, curbside collection, or a combination of these systems.

Training

- Train municipal employees and contractors in proper and consistent methods for waste disposal.
- Train municipal employees to recognize and report illegal dumping.
- Train employees and subcontractors in proper hazardous waste management.

Spill Response and Prevention

- Refer to SC-11, Spill Prevention, Control & Cleanup
- Have spill cleanup materials readily available and in a known location.
- Cleanup spills immediately and use dry methods if possible.
- Properly dispose of spill cleanup material.

Other Considerations

- Federal Regulations (RCRA, SARA, CERCLA) and state regulations exist regarding the disposal of hazardous waste.
- Municipalities are required to have a used oil recycling element and a HHW element within their integrated waste management plan.
- Significant liability issues are involved with the collection, handling, and disposal of HHW.

Examples

The City of Palo Alto has developed a public participation program for reporting dumping violations. When a concerned citizen or public employee encounters evidence of illegal dumping, a door hanger (similar in format to hotel "Do Not Disturb" signs) is placed on the front doors in the neighborhood. The door hanger notes that a violation has occurred in the neighborhood, informs the reader why illegal dumping is a problem, and notes that illegal dumping carries a significant financial penalty. Information is also provided on what citizens can do as well as contact numbers for more information or to report a violation.

The Port of Long Beach has a state of the art database incorporating storm drain infrastructure, potential pollutant sources, facility management practices, and a pollutant tracking system.

The State Department of Fish and Game has a hotline for reporting violations called CalTIP (1-800-952-5400). The phone number may be used to report any violation of a Fish and Game code (illegal dumping, poaching, etc.).

The California Department of Toxic Substances Control's Waste Alert Hotline, 1-800-69TOXIC, can be used to report hazardous waste violations.

References and Resources

http://www.stormwatercenter.net/

California's Nonpoint Source Program Plan http://www.co.clark.wa.us/pubworks/bmpman.pdf

King County Stormwater Pollution Control Manual - http://dnr.metrokc.gov/wlr/dss/spcm.htm

Orange County Stormwater Program,
http://www.ocwatersheds.com/stormwater/swp_introduction.asp

San Diego Stormwater Co-permittees Jurisdictional Urban Runoff Management Program (http://www.projectcleanwater.org)

Santa Clara Valley Urban Runoff Pollution Prevention Program
http://www.scvurppp-w2k.com/pdf%20documents/PS_ICID.PDF

Outdoor Loading/Unloading SC-30

Description

The loading/unloading of materials usually takes place outside on docks or terminals; therefore, materials spilled, leaked, or lost during loading/unloading may collect in the soil or on other surfaces and have the potential to be carried away by wind, stormwater runoff or when the area is cleaned. Additionally, rainfall may wash pollutants from machinery used to unload or move materials. Implementation of the following protocols will prevent or reduce the discharge of pollutants to stormwater from outdoor loading/unloading of materials.

Approach

Reduce potential for pollutant discharge through source control pollution prevention and BMP implementation. Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

General Pollution Prevention Protocols

- ☐ Park tank trucks or delivery vehicles in designated areas so that spills or leaks can be contained.
- ☐ Limit exposure of material to rainfall whenever possible.
- ☐ Prevent stormwater run-on.
- ☐ Check equipment regularly for leaks.

Good Housekeeping

- ☐ Develop an operations plan that describes procedures for loading and/or unloading.
- ☐ Conduct loading and unloading in dry weather if possible.

Objectives
▪ *Cover*
▪ *Contain*
▪ *Educate*
▪ *Reduce/Minimize*
▪ *Product Substitution*

Targeted Constituents	
Sediment	✓
Nutrients	✓
Trash	
Metals	✓
Bacteria	
Oil and Grease	✓
Organics	✓

Minimum BMPs Covered	
Good Housekeeping	✓
Preventative Maintenance	
Spill and Leak Prevention and Response	✓
Material Handling & Waste Management	✓
Erosion and Sediment Controls	
Employee Training Program	✓
Quality Assurance Record Keeping	✓

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- Cover designated loading/unloading areas to reduce exposure of materials to rain.
- Consider placing a seal or door skirt between delivery vehicles and building to prevent exposure to rain.
- Design loading/unloading area to prevent stormwater run-on, which would include grading or berming the area, and position roof downspouts so they direct stormwater away from the loading/unloading areas.
- Have employees load and unload all materials and equipment in covered areas such as building overhangs at loading docks if feasible.
- Load/unload only at designated loading areas.
- Use drip pans underneath hose and pipe connections and other leak-prone spots during liquid transfer operations, and when making and breaking connections. Several drip pans should be stored in a covered location near the liquid transfer area so that they are always available, yet protected from precipitation when not in use. Drip pans can be made specifically for railroad tracks. Drip pans must be cleaned periodically, and drip collected materials must be disposed of properly.
- Pave loading areas with concrete instead of asphalt.
- Avoid placing storm drains inlets in the area.
- Grade and/or berm the loading/unloading area with drainage to sump; regularly remove materials accumulated in sump.

Spill Response and Prevention Procedures

- Keep your spill prevention and control plan up-to-date or have an emergency spill cleanup plan readily available, as applicable.
- Contain leaks during transfer.
- Store and maintain appropriate spill cleanup materials in a location that is readily accessible and known to all employees.
- Ensure that employees are familiar with the site's spill control plan and proper spill cleanup procedures.
- Use drip pans or comparable devices when transferring oils, solvents, and paints.

Material Handling and Waste Management

- Spot clean leaks and drips routinely to prevent runoff of spillage.
- Do not pour liquid wastes into floor drains, sinks, outdoor storm drain inlets, or other storm drains or sewer connections.

- Do not put used or leftover cleaning solutions, solvents, and automotive fluids in the storm drain or sanitary sewer.
- Collect leaking or dripping fluids in drip pans or containers. Fluids are easier to recycle if kept separate.
- Promptly transfer used fluids to the proper waste or recycling drums. Do not leave drip pans or other open containers lying around.
- Minimize the possibility of stormwater pollution from outside waste receptacles by doing at least one of the following:
  - ✓ Use only watertight waste receptacle(s) and keep the lid(s) closed.
  - ✓ Grade and pave the waste receptacle area to prevent run-on of stormwater.
  - ✓ Install a roof over the waste receptacle area.
  - ✓ Install a low containment berm around the waste receptacle area.
  - ✓ Use and maintain drip pans under waste receptacles.
- Post "no littering" signs.
- Perform work area clean-up and dry sweep after daily operations.

Employee Training Program

- Train employees (e.g., fork lift operators) and contractors on proper spill containment and cleanup.
- Have employees trained in spill containment and cleanup present during loading/unloading.
- Train employees in proper handling techniques during liquid transfers to avoid spills.
- Make sure forklift operators are properly trained on loading and unloading procedures.

Quality Assurance and Record Keeping

- Keep accurate maintenance logs that document activities performed, quantities of materials removed, and improvement actions.
- Keep accurate logs of spill response actions that document what was spilled, how it was cleaned up, and how the waste was disposed.
- Establish procedures to complete logs and file them in the central office.
- Keep accurate logs of daily clean-up operations.

Potential Limitations and Work-Arounds

Some facilities may have space constraints, limited staffing and time limitations that may preclude implementation of BMPs. Provided below are typical limitations and recommended "work-arounds."

- ☐ Space and time limitations may preclude all transfers from being performed indoors or under cover.
  - ✓ Designate specific areas for outdoor loading and unloading.
  - ✓ Require employees to understand and follow spill and leak prevention BMPs.
- ☐ It may not be possible to conduct transfers only during dry weather.
  - ✓ Limit materials and equipment rainfall exposure to all extents practicable.
  - ✓ Require employees to understand and follow spill and leak prevention BMPs.

Potential Capital Facility Costs and Operation & Maintenance Requirements

Facilities

Many facilities will already have indoor or covered areas where loading/unloading takes place and will require no additional capital expenditures.

If outdoor activities are required, construction of berms or other means to retain spills and leaks may require appropriate constructed systems for containment. These containment areas may require significant new capital investment.

Capital investments will likely be required at some sites if adequate cover and containment facilities do not exist and can vary significantly depending upon site conditions.

Maintenance

Most of the operations and maintenance activities associated with implementing this BMP are integrally linked to routine operations as previously described. Therefore additional O&M is not required.

- ☐ Conduct regular inspections and make repairs and improvements as necessary.
- ☐ Check loading and unloading equipment regularly for leaks.
- ☐ Conduct regular broom dry-sweeping of area. Do not wash with water.

Supplemental Information

Loading and Unloading of Liquids

- ☐ Loading or unloading of liquids should occur in the manufacturing building so that any spills that are not completely retained can be discharged to the sanitary sewer,

treatment plant, or treated in a manner consistent with local sewer authorities and permit requirements.

- For loading and unloading tank trucks to above and below ground storage tanks, the following procedures should be used:
  - ✓ The area where the transfer takes place should be paved. If the liquid is reactive with the asphalt, Portland cement should be used to pave the area.
  - ✓ The transfer area should be designed to prevent run-on of stormwater from adjacent areas. Sloping the pad and using a curb, like a speed bump, around the uphill side of the transfer area should reduce run-on.
  - ✓ The transfer area should be designed to prevent runoff of spilled liquids from the area. Sloping the area to a drain should prevent runoff. The drain should be connected to a dead-end sump or to the sanitary sewer. A positive control valve should be installed on the drain.
- For transfer from rail cars to storage tanks that must occur outside, use the following procedures:
  - ✓ Drip pans should be placed at locations where spillage may occur, such as hose connections, hose reels, and filler nozzles. Use drip pans when making and breaking connections.
  - ✓ Drip pan systems should be installed between the rails to collect spillage from tank cars.

References and Resources

Minnesota Pollution Control Agency, *Industrial Stormwater Best Management Practices Guidebook BMP 26 Fueling and Liquid Loading/Unloading Operations.* Available online at: http://www.pca.state.mn.us/index.php/view-document.html?gid=10557.

New Jersey Department of Environmental Protection, 2013. *Basic Industrial Stormwater General Permit Guidance Document NJPDES General Permit No NJ0088315.* Available online at: http://www.nj.gov/dep/dwq/pdf/5G2_guidance_color.pdf.

Orange County Stormwater Program, Best Management Practices for Industrial/Commercial Business Activities. Available online at: http://ocwatersheds.com/documents/bmp/industrialcommercialbusinessesactivities.

Oregon Department of Environmental Quality, 2013. *Industrial Stormwater Best Management Practices Manual- BMP 26 Fueling and Liquid Loading/Unloading Operations.* Available online at: http://www.deq.state.or.us/wq/wqpermit/docs/IndBMP021413.pdf.

Sacramento Stormwater Management Program, *Best Management Practices for Industrial Storm Water Pollution Control.* Available online at: http://www.msa.saccounty.net/sactostormwater/documents/guides/industrial-BMP-manual.pdf.

Sacramento County Environmental Management Stormwater Program: *Best Management Practices*. Available online at: http://www.emd.saccounty.net/EnvHealth/Stormwater/Stormwater-BMPs.html.

Santa Clara Valley Urban Runoff Pollution Prevention Program. http://www.scvurppp-w2k.com/.

US EPA. National Pollutant Discharge Elimination System – Industrial Fact Sheet Series for Activities Covered by EPA's Multi Sector General Permit. Available online at: http://cfpub.epa.gov/npdes/stormwater/swsectors.cfm.

Waste Handling & Disposal SC-34

Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

Description

Improper storage and handling of solid wastes can allow toxic compounds, oils and greases, heavy metals, nutrients, suspended solids, and other pollutants to enter stormwater runoff. The discharge of pollutants to stormwater from waste handling and disposal can be prevented and reduced by tracking waste generation, storage, and disposal; reducing waste generation and disposal through source reduction, re-use, and recycling; and preventing runon and runoff.

Targeted Constituents

Sediment	☑
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	☑
Oil and Grease	☑
Organics	☑
Oxygen Demanding	☑

Approach

Pollution Prevention

- Reduction in the amount of waste generated can be accomplished using the following source controls such as:
  - Production planning and sequencing
  - Process or equipment modification
  - Raw material substitution or elimination
  - Loss prevention and housekeeping
  - Waste segregation and separation
  - Close loop recycling
- Establish a material tracking system to increase awareness about material usage. This may reduce spills and minimize contamination, thus reducing the amount of waste produced.
- Recycle materials whenever possible.

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Suggested Protocols

General

- Cover storage containers with leak proof lids or some other means. If waste is not in containers, cover all waste piles (plastic tarps are acceptable coverage) and prevent stormwater runon and runoff with a berm. The waste containers or piles must be covered except when in use.
- Use drip pans or absorbent materials whenever grease containers are emptied by vacuum trucks or other means. Grease cannot be left on the ground. Collected grease must be properly disposed of as garbage.
- Check storage containers weekly for leaks and to ensure that lids are on tightly. Replace any that are leaking, corroded, or otherwise deteriorating.
- Sweep and clean the storage area regularly. If it is paved, do not hose down the area to a storm drain.
- Dispose of rinse and wash water from cleaning waste containers into a sanitary sewer if allowed by the local sewer authority. Do not discharge wash water to the street or storm drain.
- Transfer waste from damaged containers into safe containers.
- Take special care when loading or unloading wastes to minimize losses. Loading systems can be used to minimize spills and fugitive emission losses such as dust or mist. Vacuum transfer systems can minimize waste loss.

Controlling Litter

- Post "No Littering" signs and enforce anti-litter laws.
- Provide a sufficient number of litter receptacles for the facility.
- Clean out and cover litter receptacles frequently to prevent spillage.

Waste Collection

- Keep waste collection areas clean.
- Inspect solid waste containers for structural damage or leaks regularly. Repair or replace damaged containers as necessary.
- Secure solid waste containers; containers must be closed tightly when not in use.
- Place waste containers under cover if possible.
- Do not fill waste containers with washout water or any other liquid.
- Ensure that only appropriate solid wastes are added to the solid waste container. Certain wastes such as hazardous wastes, appliances, fluorescent lamps, pesticides, etc. may not be

disposed of in solid waste containers (see chemical/ hazardous waste collection section below).

- Do not mix wastes; this can cause chemical reactions, make recycling impossible, and complicate disposal.

Good Housekeeping

- Use all of the product before disposing of the container.
- Keep the waste management area clean at all times by sweeping and cleaning up spills immediately.
- Use dry methods when possible (e.g. sweeping, use of absorbents) when cleaning around restaurant/food handling dumpster areas. If water must be used after sweeping/using absorbents, collect water and discharge through grease interceptor to the sewer.
- Stencil storm drains on the facility's property with prohibitive message regarding waste disposal.

Chemical/Hazardous Wastes

- Select designated hazardous waste collection areas on-site.
- Store hazardous materials and wastes in covered containers protected from vandalism, and in compliance with fire and hazardous waste codes.
- Place hazardous waste containers in secondary containment.
- Make sure that hazardous waste is collected, removed, and disposed of only at authorized disposal areas.

Runon/Runoff Prevention

- Prevent stormwater runon from entering the waste management area by enclosing the area or building a berm around the area.
- Prevent the waste materials from directly contacting rain.
- Cover waste piles with temporary covering material such as reinforced tarpaulin, polyethylene, polyurethane, polypropyleneor hypalon.
- Cover the area with a permanent roof if feasible.
- Cover dumpsters to prevent rain from washing waste out of holes or cracks in the bottom of the dumpster.
- Move the activity indoor after ensuring all safety concerns such as fire hazard and ventilation are addressed.

Inspection

- Inspect and replace faulty pumps or hoses regularly to minimize the potential of releases and spills.
- Check waste management areas for leaking containers or spills.
- Repair leaking equipment including valves, lines, seals, or pumps promptly.

Training

- Train staff pollution prevention measures and proper disposal methods.
- Train employees and contractors proper spill containment and cleanup. The employee should have the tools and knowledge to immediately begin cleaning up a spill if one should occur.
- Train employees and subcontractors in proper hazardous waste management.

Spill Response and Prevention

- Refer to SC-11, Spill Prevention, Control & Cleanup.
- Keep your Spill Prevention Control and countermeasure (SPCC) plan up-to-date, and implement accordingly.
- Have spill cleanup materials readily available and in a known location.
- Cleanup spills immediately and use dry methods if possible.
- Properly dispose of spill cleanup material.
- Vehicles transporting waste should have spill prevention equipment that can prevent spills during transport. The spill prevention equipment includes:
  - Vehicles equipped with baffles for liquid waste
  - Trucks with sealed gates and spill guards for solid waste

Other Considerations

- Hazardous waste cannot be re-used or recycled; it must be disposed of by a licensed hazardous waste hauler.

Requirements

Costs

- Capital and operation and maintenance costs will vary substantially depending on the size of the facility and the types of waste handled. Costs should be low if there is an inventory program in place.

Maintenance

- None except for maintaining equipment for material tracking program.

Supplemental Information

Further Detail of the BMP

Land Treatment System

- Minimize the runoff of polluted stormwater from land application of municipal waste on-site by:
  - Choosing a site where slopes are under 6%, the soil is permeable, there is a low water table, it is located away from wetlands or marshes, there is a closed drainage system.
  - Avoiding application of waste to the site when it is raining or when the ground is saturated with water.
  - Growing vegetation on land disposal areas to stabilize soils and reduce the volume of surface water runoff from the site.
  - Maintaining adequate barriers between the land application site and the receiving waters. Planted strips are particularly good.
  - Using erosion control techniques such as mulching and matting, filter fences, straw bales, diversion terracing, and sediment basins.
  - Performing routine maintenance to ensure the erosion control or site stabilization measures are working.

References and Resources

King County Stormwater Pollution Control Manual - http://dnr.metrokc.gov/wlr/dss/spcm.htm

Orange County Stormwater Program
http://www.ocwatersheds.com/StormWater/swp_introduction.asp

Pollution from Surface Cleaning Folder. 1996. Bay Area Stormwater Management Agencies Associations (BASMAA). On-line: http://www.basmaa.org

Building & Grounds Maintenance SC-41

Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

Targeted Constituents

Sediment	☑
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	☑
Oil and Grease	☑
Organics	☑
Oxygen Demanding	☑

Description

Stormwater runoff from building and grounds maintenance activities can be contaminated with toxic hydrocarbons in solvents, fertilizers and pesticides, suspended solids, heavy metals, and abnormal pH. Utilizing the following protocols will prevent or reduce the discharge of pollutants to stormwater from building and grounds maintenance activities by washing and cleaning up with as little water as possible, following good landscape management practices, preventing and cleaning up spills immediately, keeping debris from entering the storm drains, and maintaining the stormwater collection system.

Approach

Pollution Prevention

- Switch to non-toxic chemicals for maintenance when possible.
- Choose cleaning agents that can be recycled.
- Encourage proper lawn management and landscaping, including use of native vegetation.
- Encourage use of Integrated Pest Management techniques for pest control.
- Encourage proper onsite recycling of yard trimmings.
- Recycle residual paints, solvents, lumber, and other material as much as possible.

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Suggested Protocols

Pressure Washing of Buildings, Rooftops, and Other Large Objects

- In situations where soaps or detergents are used and the surrounding area is paved, pressure washers must use a waste water collection device that enables collection of wash water and associated solids. A sump pump, wet vacuum or similarly effective device must be used to collect the runoff and loose materials. The collected runoff and solids must be disposed of properly.
- If soaps or detergents are not used, and the surrounding area is paved, wash water runoff does not have to be collected but must be screened. Pressure washers must use filter fabric or some other type of screen on the ground and/or in he catch basin to trap the particles in wash water runoff.
- If you are pressure washing on a grassed area (with or without soap), runoff must be dispersed as sheet flow as much as possible, rather than as a concentrated stream. The wash runoff must remain on the grass and not drain to pavement. Ensure that this practice does not kill grass.

Landscaping Activities

- Do not apply any chemicals (insecticide, herbicide, or fertilizer) directly to surface waters, unless the application is approved and permitted by the state.
- Dispose of grass clippings, leaves, sticks, or other collected vegetation as garbage, or by composting. Do not dispose of collected vegetation into waterways or storm drainage systems.
- Use mulch or other erosion control measures on exposed soils.
- Check irrigation schedules so pesticides will not be washed away and to minimize non-stormwater discharge.

Building Repair, Remodeling, and Construction

- Do not dump any toxic substance or liquid waste on the pavement, the ground, or toward a storm drain.
- Use ground or drop cloths underneath outdoor painting, scraping, and sandblasting work, and properly dispose of collected material daily.
- Use a ground cloth or oversized tub for activities such as paint mixing and tool cleaning.
- Clean paint brushes and tools covered with water-based paints in sinks connected to sanitary sewers or in portable containers that can be dumped into a sanitary sewer drain. Brushes and tools covered with non-water-based paints, finishes, or other materials must be cleaned in a manner that enables collection of used solvents (e.g., paint thinner, turpentine, etc.) for recycling or proper disposal.

- Use a storm drain cover, filter fabric, or similarly effective runoff control mechanism if dust, grit, wash water, or other pollutants may escape the work area and enter a catch basin. The containment device(s) must be in place at the beginning of the work day, and accumulated dirty runoff and solids must be collected and disposed of before removing the containment device(s) at the end of the work day.

- If you need to de-water an excavation site, you may need to filter the water before discharging to a catch basin or off-site. In which case you should direct the water through hay bales and filter fabric or use other sediment filters or traps.

- Store toxic material under cover with secondary containment during precipitation events and when not in use. A cover would include tarps or other temporary cover material.

Mowing, Trimming, and Planting

- Dispose of leaves, sticks, or other collected vegetation as garbage, by composting or at a permitted landfill. Do not dispose of collected vegetation into waterways or storm drainage systems.

- Use mulch or other erosion control measures when soils are exposed.

- Place temporarily stockpiled material away from watercourses and drain inlets, and berm or cover stockpiles to prevent material releases to the storm drain system.

- Consider an alternative approach when bailing out muddy water; do not put it in the storm drain, pour over landscaped areas.

- Use hand or mechanical weeding where practical.

Fertilizer and Pesticide Management

- Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of fertilizers and pesticides and training of applicators and pest control advisors.

- Follow manufacturers' recommendations and label directions. Pesticides must never be applied if precipitation is occuring or predicted. Do not apply insecticides within 100 feet of surface waters such as lakes, ponds, wetlands, and streams.

- Use less toxic pesticides that will do the job, whenever possible. Avoid use of copper-based pesticides if possible.

- Do not use pesticides if rain is expected.

- Do not mix or prepare pesticides for application near storm drains.

- Use the minimum amount needed for the job.

- Calibrate fertilizer distributors to avoid excessive application.

- Employ techniques to minimize off-target application (e.g. spray drift) of pesticides, including consideration of alternative application techniques.

- Apply pesticides only when wind speeds are low.
- Work fertilizers into the soil rather than dumping or broadcasting them onto the surface.
- Irrigate slowly to prevent runoff and then only as much as is needed.
- Clean pavement and sidewalk if fertilizer is spilled on these surfaces before applying irrigation water.
- Dispose of empty pesticide containers according to the instructions on the container label.
- Use up the pesticides. Rinse containers, and use rinse water as product. Dispose of unused pesticide as hazardous waste.
- Implement storage requirements for pesticide products with guidance from the local fire department and County Agricultural Commissioner. Provide secondary containment for pesticides.

Inspection

- Inspect irrigation system periodically to ensure that the right amount of water is being applied and that excessive runoff is not occurring. Minimize excess watering, and repair leaks in the irrigation system as soon as they are observed.

Training

- Educate and train employees on use of pesticides and in pesticide application techniques to prevent pollution.
- Train employees and contractors in proper techniques for spill containment and cleanup.
- Be sure the frequency of training takes into account the complexity of the operations and the nature of the staff.

Spill Response and Prevention

- Refer to SC-11, Spill Prevention, Control & Cleanup
- Keep your Spill Prevention Control and countermeasure (SPCC) plan up-to-date, and implement accordingly.
- Have spill cleanup materials readily available and in a known location.
- Cleanup spills immediately and use dry methods if possible.
- Properly dispose of spill cleanup material.

Other Considerations

- Alternative pest/weed controls may not be available, suitable, or effective in many cases.

Requirements

Costs

- Overall costs should be low in comparison to other BMPs.

Maintenance

- Sweep paved areas regularly to collect loose particles, and wipe up spills with rags and other absorbent material immediately, do not hose down the area to a storm drain.

Supplemental Information

Further Detail of the BMP

Fire Sprinkler Line Flushing

Building fire sprinkler line flushing may be a source of non-stormwater runoff pollution. The water entering the system is usually potable water though in some areas it may be non-potable reclaimed wastewater. There are subsequent factors that may drastically reduce the quality of the water in such systems. Black iron pipe is usually used since it is cheaper than potable piping but it is subject to rusting and results in lower quality water. Initially the black iron pipe has an oil coating to protect it from rusting between manufacture and installation; this will contaminate the water from the first flush but not from subsequent flushes. Nitrates, poly-phosphates and other corrosion inhibitors, as well as fire suppressants and antifreeze may be added to the sprinkler water system. Water generally remains in the sprinkler system a long time, typically a year, between flushes and may accumulate iron, manganese, lead, copper, nickel and zinc. The water generally becomes anoxic and contains living and dead bacteria and breakdown products from chlorination. This may result in a significant BOD problem and the water often smells. Consequently dispose fire sprinkler line flush water into the sanitary sewer. Do not allow discharge to storm drain or infiltration due to potential high levels of pollutants in fire sprinkler line water.

References and Resources

California's Nonpoint Source Program Plan http://www.swrcb.ca.gov/nps/index.html

King County - ftp://dnr.metrokc.gov/wlr/dss/spcm/Chapter%203.PDF

Orange County Stormwater Program
http://www.ocwatersheds.com/StormWater/swp_introduction.asp

Mobile Cleaners Pilot Program: Final Report. 1997. Bay Area Stormwater Management Agencies Association (BASSMA) http://www.basmaa.org/

Pollution from Surface Cleaning Folder. 1996. Bay Area Stormwater Management Agencies Association (BASMAA) http://www.basmaa.org/

San Diego Stormwater Co-permittees Jurisdictional Urban Runoff Management Program (URMP) -
http://www.projectcleanwater.org/pdf/Model%20Program%20Municipal%20Facilities.pdf

Parking/Storage Area Maintenance SC-43

Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

Targeted Constituents

Sediment	☑
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	☑
Oil and Grease	☑
Organics	☑
Oxygen Demanding	☑

Description

Parking lots and storage areas can contribute a number of substances, such as trash, suspended solids, hydrocarbons, oil and grease, and heavy metals that can enter receiving waters through stormwater runoff or non-stormwater discharges. The following protocols are intended to prevent or reduce the discharge of pollutants from parking/storage areas and include using good housekeeping practices, following appropriate cleaning BMPs, and training employees.

Approach

Pollution Prevention

- Encourage alternative designs and maintenance strategies for impervious parking lots. (See New Development and Redevelopment BMP Handbook).
- Keep accurate maintenance logs to evaluate BMP implementation.

Suggested Protocols

General

- Keep the parking and storage areas clean and orderly. Remove debris in a timely fashion.
- Allow sheet runoff to flow into biofilters (vegetated strip and swale) and/or infiltration devices.
- Utilize sand filters or oleophilic collectors for oily waste in low concentrations.

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- Arrange rooftop drains to prevent drainage directly onto paved surfaces.
- Design lot to include semi-permeable hardscape.

Controlling Litter

- Post "No Littering" signs and enforce anti-litter laws.
- Provide an adequate number of litter receptacles.
- Clean out and cover litter receptacles frequently to prevent spillage.
- Provide trash receptacles in parking lots to discourage litter.
- Routinely sweep, shovel and dispose of litter in the trash.

Surface cleaning

- Use dry cleaning methods (e.g. sweeping or vacuuming) to prevent the discharge of pollutants into the stormwater conveyance system.
- Establish frequency of public parking lot sweeping based on usage and field observations of waste accumulation.
- Sweep all parking lots at least once before the onset of the wet season.
- If water is used follow the procedures below:
  - Block the storm drain or contain runoff.
  - Wash water should be collected and pumped to the sanitary sewer or discharged to a pervious surface, do not allow wash water to enter storm drains.
  - Dispose of parking lot sweeping debris and dirt at a landfill.
- When cleaning heavy oily deposits:
  - Use absorbent materials on oily spots prior to sweeping or washing.
  - Dispose of used absorbents appropriately.

Surface Repair

- Pre-heat, transfer or load hot bituminous material away from storm drain inlets.
- Apply concrete, asphalt, and seal coat during dry weather to prevent contamination form contacting stormwater runoff.
- Cover and seal nearby storm drain inlets (with waterproof material or mesh) and manholes before applying seal coat, slurry seal, etc., where applicable. Leave covers in place until job is complete and until all water from emulsified oil sealants has drained or evaporated. Clean any debris from these covered manholes and drains for proper disposal.

- Use only as much water as necessary for dust control, to avoid runoff.
- Catch drips from paving equipment that is not in use with pans or absorbent material placed under the machines. Dispose of collected material and absorbents properly.

Inspection

- Have designated personnel conduct inspections of the parking facilities and stormwater conveyance systems associated with them on a regular basis.
- Inspect cleaning equipment/sweepers for leaks on a regular basis.

Training

- Provide regular training to field employees and/or contractors regarding cleaning of paved areas and proper operation of equipment.
- Train employees and contractors in proper techniques for spill containment and cleanup.

Spill Response and Prevention

- Refer to SC-11, Spill Prevention, Control & Cleanup.
- Keep your Spill Prevention Control and countermeasure (SPCC) plan up-to-date, nad implement accordingly.
- Have spill cleanup materials readily available and in a known location.
- Cleanup spills immediately and use dry methods if possible.
- Properly dispose of spill cleanup material.

Other Considerations

- Limitations related to sweeping activities at large parking facilities may include high equipment costs, the need for sweeper operator training, and the inability of current sweeper technology to remove oil and grease.

Requirements

Costs

Cleaning/sweeping costs can be quite large, construction and maintenance of stormwater structural controls can be quite expensive as well.

Maintenance

- Sweep parking lot to minimize cleaning with water.
- Clean out oil/water/sand separators regularly, especially after heavy storms.
- Clean parking facilities on a regular basis to prevent accumulated wastes and pollutants from being discharged into conveyance systems during rainy conditions.

Supplemental Information

Further Detail of the BMP

Surface Repair

Apply concrete, asphalt, and seal coat during dry weather to prevent contamination form contacting stormwater runoff. Where applicable, cover and seal nearby storm drain inlets (with waterproof material or mesh) and manholes before applying seal coat, slurry seal, etc. Leave covers in place until job is complete and until all water from emulsified oil sealants has drained or evaporated. Clean any debris from these covered manholes and drains for proper disposal. Use only as much water as necessary for dust control, to avoid runoff.

References and Resources

http://www.stormwatercenter.net/

California's Nonpoint Source Program Plan http://www.swrcb.ca.gov/nps/index.html

Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities. Prepared by City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central Coast Regional Water Quality control Board. July 1998 (Revised February 2002 by the California Coastal Commission).

Orange County Stormwater Program
http://www.ocwatersheds.com/StormWater/swp_introduction.asp

Oregon Association of Clean Water Agencies. Oregon Municipal Stormwater Toolbox for Maintenance Practices. June 1998.

Pollution from Surface Cleaning Folder. 1996. Bay Area Stormwater Management Agencies Association (BASMAA) http://www.basma.org

San Diego Stormwater Co-permittees Jurisdictional Urban Runoff Management Program (URMP)
http://www.projectcleanwater.org/pdf/Model%20Program%20Municipal%20Facilities.pdf

Drainage System Maintenance SC-44

Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize

Targeted Constituents

Sediment	✓
Nutrients	
Trash	✓
Metals	
Bacteria	✓
Oil and Grease	
Organics	

Description

As a consequence of its function, the stormwater conveyance system collects and transports urban runoff and stormwater that may contain certain pollutants. The protocols in this fact sheet are intended to reduce pollutants reaching receiving waters through proper conveyance system operation and maintenance.

Approach

Pollution Prevention

Maintain catch basins, stormwater inlets, and other stormwater conveyance structures on a regular basis to remove pollutants, reduce high pollutant concentrations during the first flush of storms, prevent clogging of the downstream conveyance system, restore catch basins' sediment trapping capacity, and ensure the system functions properly hydraulically to avoid flooding.

Suggested Protocols

Catch Basins/Inlet Structures

- Staff should regularly inspect facilities to ensure compliance with the following:
  - Immediate repair of any deterioration threatening structural integrity.
  - Cleaning before the sump is 40% full. Catch basins should be cleaned as frequently as needed to meet this standard.
  - Stenciling of catch basins and inlets (see SC34 Waste Handling and Disposal).

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- Clean catch basins, storm drain inlets, and other conveyance structures before the wet season to remove sediments and debris accumulated during the summer.
- Conduct inspections more frequently during the wet season for problem areas where sediment or trash accumulates more often. Clean and repair as needed.
- Keep accurate logs of the number of catch basins cleaned.
- Store wastes collected from cleaning activities of the drainage system in appropriate containers or temporary storage sites in a manner that prevents discharge to the storm drain.
- Dewater the wastes if necessary with outflow into the sanitary sewer if permitted. Water should be treated with an appropriate filtering device prior to discharge to the sanitary sewer. If discharge to the sanitary sewer is not allowed, water should be pumped or vacuumed to a tank and properly disposed. Do not dewater near a storm drain or stream.

Storm Drain Conveyance System

- Locate reaches of storm drain with deposit problems and develop a flushing schedule that keeps the pipe clear of excessive buildup.
- Collect and pump flushed effluent to the sanitary sewer for treatment whenever possible.

Pump Stations

- Clean all storm drain pump stations prior to the wet season to remove silt and trash.
- Do not allow discharge to reach the storm drain system when cleaning a storm drain pump station or other facility.
- Conduct routine maintenance at each pump station.
- Inspect, clean, and repair as necessary all outlet structures prior to the wet season.

Open Channel

- Modify storm channel characteristics to improve channel hydraulics, increase pollutant removals, and enhance channel/creek aesthetic and habitat value.
- Conduct channel modification/improvement in accordance with existing laws. Any person, government agency, or public utility proposing an activity that will change the natural (emphasis added) state of any river, stream, or lake in California, must enter into a Steam or Lake Alteration Agreement with the Department of Fish and Game. The developer-applicant should also contact local governments (city, county, special districts), other state agencies (SWRCB, RWQCB, Department of Forestry, Department of Water Resources), and Federal Corps of Engineers and USFWS.

Illicit Connections and Discharges

- Look for evidence of illegal discharges or illicit connections during routine maintenance of conveyance system and drainage structures:
  - Is there evidence of spills such as paints, discoloring, etc?

- Are there any odors associated with the drainage system?
- Record locations of apparent illegal discharges/illicit connections?
- Track flows back to potential dischargers and conduct aboveground inspections. This can be done through visual inspection of upgradient manholes or alternate techniques including zinc chloride smoke testing, fluorometric dye testing, physical inspection testing, or television camera inspection.
- Eliminate the discharge once the origin of flow is established.

- Stencil or demarcate storm drains, where applicable, to prevent illegal disposal of pollutants. Storm drain inlets should have messages such as "Dump No Waste Drains to Stream" stenciled next to them to warn against ignorant or intentional dumping of pollutants into the storm drainage system.
- Refer to fact sheet SC-10 Non-Stormwater Discharges.

Illegal Dumping

- Inspect and clean up hot spots and other storm drainage areas regularly where illegal dumping and disposal occurs.
- Establish a system for tracking incidents. The system should be designed to identify the following:
  - Illegal dumping hot spots
  - Types and quantities (in some cases) of wastes
  - Patterns in time of occurrence (time of day/night, month, or year)
  - Mode of dumping (abandoned containers, "midnight dumping" from moving vehicles, direct dumping of materials, accidents/spills)
  - Responsible parties
- Post "No Dumping" signs in problem areas with a phone number for reporting dumping and disposal. Signs should also indicate fines and penalties for illegal dumping.
- Refer to fact sheet SC-10 Non-Stormwater Discharges.

Training

- Train crews in proper maintenance activities, including record keeping and disposal.
- Allow only properly trained individuals to handle hazardous materials/wastes.
- Have staff involved in detection and removal of illicit connections trained in the following:
  - OSHA-required Health and Safety Training (29 CFR 1910.120) plus annual refresher training (as needed).

- OSHA Confined Space Entry training (Cal-OSHA Confined Space, Title 8 and Federal OSHA 29 CFR 1910.146).
- Procedural training (field screening, sampling, smoke/dye testing, TV inspection).

Spill Response and Prevention

- Investigate all reports of spills, leaks, and/or illegal dumping promptly.
- Clean up all spills and leaks using "dry" methods (with absorbent materials and/or rags) or dig up, remove, and properly dispose of contaminated soil.
- Refer to fact sheet SC-11 Spill Prevention, Control, and Cleanup.

Other Considerations (Limitations and Regulations)

- Clean-up activities may create a slight disturbance for local aquatic species. Access to items and material on private property may be limited. Trade-offs may exist between channel hydraulics and water quality/riparian habitat. If storm channels or basins are recognized as wetlands, many activities, including maintenance, may be subject to regulation and permitting.
- Storm drain flushing is most effective in small diameter pipes (36-inch diameter pipe or less, depending on water supply and sediment collection capacity). Other considerations associated with storm drain flushing may include the availability of a water source, finding a downstream area to collect sediments, liquid/sediment disposal, and prohibition against disposal of flushed effluent to sanitary sewer in some areas.
- Regulations may include adoption of substantial penalties for illegal dumping and disposal.
- Local municipal codes may include sections prohibiting discharge of soil, debris, refuse, hazardous wastes, and other pollutants into the storm drain system.

Requirements

Costs

- An aggressive catch basin cleaning program could require a significant capital and O&M budget.
- The elimination of illegal dumping is dependent on the availability, convenience, and cost of alternative means of disposal. The primary cost is for staff time. Cost depends on how aggressively a program is implemented. Other cost considerations for an illegal dumping program include:
  - Purchase and installation of signs.
  - Rental of vehicle(s) to haul illegally-disposed items and material to landfills.
  - Rental of heavy equipment to remove larger items (e.g., car bodies) from channels.
  - Purchase of landfill space to dispose of illegally-dumped items and material.

- Methods used for illicit connection detection (smoke testing, dye testing, visual inspection, and flow monitoring) can be costly and time-consuming. Site-specific factors, such as the level of impervious area, the density and ages of buildings, and type of land use will determine the level of investigation necessary.

Maintenance

- Two-person teams may be required to clean catch basins with vactor trucks.
- Teams of at least two people plus administrative personnel are required to identify illicit discharges, depending on the complexity of the storm sewer system.
- Arrangements must be made for proper disposal of collected wastes.
- Technical staff are required to detect and investigate illegal dumping violations.

Supplemental Information

Further Detail of the BMP

Storm Drain Flushing

Flushing is a common maintenance activity used to improve pipe hydraulics and to remove pollutants in storm drainage systems. Flushing may be designed to hydraulically convey accumulated material to strategic locations, such as an open channel, another point where flushing will be initiated, or the sanitary sewer and the treatment facilities, thus preventing resuspension and overflow of a portion of the solids during storm events. Flushing prevents "plug flow" discharges of concentrated pollutant loadings and sediments. Deposits can hinder the designed conveyance capacity of the storm drain system and potentially cause backwater conditions in severe cases of clogging.

Storm drain flushing usually takes place along segments of pipe with grades that are too flat to maintain adequate velocity to keep particles in suspension. An upstream manhole is selected to place an inflatable device that temporarily plugs the pipe. Further upstream, water is pumped into the line to create a flushing wave. When the upstream reach of pipe is sufficiently full to cause a flushing wave, the inflated device is rapidly deflated with the assistance of a vacuum pump, thereby releasing the backed up water and resulting in the cleaning of the storm drain segment.

To further reduce impacts of stormwater pollution, a second inflatable device placed well downstream may be used to recollect the water after the force of the flushing wave has dissipated. A pump may then be used to transfer the water and accumulated material to the sanitary sewer for treatment. In some cases, an interceptor structure may be more practical or required to recollect the flushed waters.

It has been found that cleansing efficiency of periodic flush waves is dependent upon flush volume, flush discharge rate, sewer slope, sewer length, sewer flow rate, sewer diameter, and population density. As a rule of thumb, the length of line to be flushed should not exceed 700 feet. At this maximum recommended length, the percent removal efficiency ranges between 65-75% for organics and 55-65% for dry weather grit/inorganic material. The percent removal efficiency drops rapidly beyond that. Water is commonly supplied by a water truck, but fire hydrants can also supply water. To make the best use of water, it is recommended that reclaimed water be used or that fire hydrant line flushing coincide with storm sewer flushing.

References and Resources

California's Nonpoint Source Program Plan http://www.swrcb.ca.gov/nps/index.html

Clark County Storm Water Pollution Control Manual
http://www.co.clark.wa.us/pubworks/bmpman.pdf

Ferguson, B.K. 1991. Urban Stream Reclamation, p. 324-322, Journal of Soil and Water Conservation.

King County Storm Water Pollution Control Manual http://dnr.metrokc.gov/wlr/dss/spcm.htm

Oregon Association of Clean Water Agencies. Oregon Municipal Stormwater Toolbox for Maintenance Practices. June 1998.

Santa Clara Valley Urban Runoff Pollution Prevention Program http://www.scvurppp.org

The Storm Water Managers Resource Center http://www.stormwatercenter.net

United States Environmental Protection Agency (USEPA). 2002. Pollution Prevention/Good Housekeeping for Municipal Operations Storm Drain System Cleaning. On line:
http://www.epa.gov/npdes/menuofbmps/poll_16.htm

Site Design & Landscape Planning SD-10

Design Objectives

- ✓ Maximize Infiltration
- ✓ Provide Retention
- ✓ Slow Runoff
- ✓ Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- Contain Pollutants
- Collect and Convey

Description

Each project site possesses unique topographic, hydrologic, and vegetative features, some of which are more suitable for development than others. Integrating and incorporating appropriate landscape planning methodologies into the project design is the most effective action that can be done to minimize surface and groundwater contamination from stormwater.

Approach

Landscape planning should couple consideration of land suitability for urban uses with consideration of community goals and projected growth. Project plan designs should conserve natural areas to the extent possible, maximize natural water storage and infiltration opportunities, and protect slopes and channels.

Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment.

Design Considerations

Design requirements for site design and landscapes planning should conform to applicable standards and specifications of agencies with jurisdiction and be consistent with applicable General Plan and Local Area Plan policies.

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SD-10 Site Design & Landscape Planning

Designing New Installations

Begin the development of a plan for the landscape unit with attention to the following general principles:

- Formulate the plan on the basis of clearly articulated community goals. Carefully identify conflicts and choices between retaining and protecting desired resources and community growth.

- Map and assess land suitability for urban uses. Include the following landscape features in the assessment: wooded land, open unwooded land, steep slopes, erosion-prone soils, foundation suitability, soil suitability for waste disposal, aquifers, aquifer recharge areas, wetlands, floodplains, surface waters, agricultural lands, and various categories of urban land use. When appropriate, the assessment can highlight outstanding local or regional resources that the community determines should be protected (e.g., a scenic area, recreational area, threatened species habitat, farmland, fish run). Mapping and assessment should recognize not only these resources but also additional areas needed for their sustenance.

Project plan designs should conserve natural areas to the extent possible, maximize natural water storage and infiltration opportunities, and protect slopes and channels.

Conserve Natural Areas during Landscape Planning

If applicable, the following items are required and must be implemented in the site layout during the subdivision design and approval process, consistent with applicable General Plan and Local Area Plan policies:

- Cluster development on least-sensitive portions of a site while leaving the remaining land in a natural undisturbed condition.

- Limit clearing and grading of native vegetation at a site to the minimum amount needed to build lots, allow access, and provide fire protection.

- Maximize trees and other vegetation at each site by planting additional vegetation, clustering tree areas, and promoting the use of native and/or drought tolerant plants.

- Promote natural vegetation by using parking lot islands and other landscaped areas.

- Preserve riparian areas and wetlands.

Maximize Natural Water Storage and Infiltration Opportunities Within the Landscape Unit

- Promote the conservation of forest cover. Building on land that is already deforested affects basin hydrology to a lesser extent than converting forested land. Loss of forest cover reduces interception storage, detention in the organic forest floor layer, and water losses by evapotranspiration, resulting in large peak runoff increases and either their negative effects or the expense of countering them with structural solutions.

- Maintain natural storage reservoirs and drainage corridors, including depressions, areas of permeable soils, swales, and intermittent streams. Develop and implement policies and

regulations to discourage the clearing, filling, and channelization of these features. Utilize them in drainage networks in preference to pipes, culverts, and engineered ditches.

- Evaluating infiltration opportunities by referring to the stormwater management manual for the jurisdiction and pay particular attention to the selection criteria for avoiding groundwater contamination, poor soils, and hydrogeological conditions that cause these facilities to fail. If necessary, locate developments with large amounts of impervious surfaces or a potential to produce relatively contaminated runoff away from groundwater recharge areas.

Protection of Slopes and Channels during Landscape Design

- Convey runoff safely from the tops of slopes.
- Avoid disturbing steep or unstable slopes.
- Avoid disturbing natural channels.
- Stabilize disturbed slopes as quickly as possible.
- Vegetate slopes with native or drought tolerant vegetation.
- Control and treat flows in landscaping and/or other controls prior to reaching existing natural drainage systems.
- Stabilize temporary and permanent channel crossings as quickly as possible, and ensure that increases in run-off velocity and frequency caused by the project do not erode the channel.
- Install energy dissipaters, such as riprap, at the outlets of new storm drains, culverts, conduits, or channels that enter unlined channels in accordance with applicable specifications to minimize erosion. Energy dissipaters shall be installed in such a way as to minimize impacts to receiving waters.
- Line on-site conveyance channels where appropriate, to reduce erosion caused by increased flow velocity due to increases in tributary impervious area. The first choice for linings should be grass or some other vegetative surface, since these materials not only reduce runoff velocities, but also provide water quality benefits from filtration and infiltration. If velocities in the channel are high enough to erode grass or other vegetative linings, riprap, concrete, soil cement, or geo-grid stabilization are other alternatives.
- Consider other design principles that are comparable and equally effective.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under "designing new installations" above should be followed.

SD-10 Site Design & Landscape Planning

Redevelopment may present significant opportunity to add features which had not previously been implemented. Examples include incorporation of depressions, areas of permeable soils, and swales in newly redeveloped areas. While some site constraints may exist due to the status of already existing infrastructure, opportunities should not be missed to maximize infiltration, slow runoff, reduce impervious areas, disconnect directly connected impervious areas.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Stormwater Management Manual for Western Washington, Washington State Department of Ecology, August 2001.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

Roof Runoff Controls SD-11

Rain Garden

Design Objectives

- ✓ Maximize Infiltration
- ✓ Provide Retention
- ✓ Slow Runoff
- Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- ✓ Contain Pollutants
- Collect and Convey

Description

Various roof runoff controls are available to address stormwater that drains off rooftops. The objective is to reduce the total volume and rate of runoff from individual lots, and retain the pollutants on site that may be picked up from roofing materials and atmospheric deposition. Roof runoff controls consist of directing the roof runoff away from paved areas and mitigating flow to the storm drain system through one of several general approaches: cisterns or rain barrels; dry wells or infiltration trenches; pop-up emitters, and foundation planting. The first three approaches require the roof runoff to be contained in a gutter and downspout system. Foundation planting provides a vegetated strip under the drip line of the roof.

Approach

Design of individual lots for single-family homes as well as lots for higher density residential and commercial structures should consider site design provisions for containing and infiltrating roof runoff or directing roof runoff to vegetative swales or buffer areas. Retained water can be reused for watering gardens, lawns, and trees. Benefits to the environment include reduced demand for potable water used for irrigation, improved stormwater quality, increased groundwater recharge, decreased runoff volume and peak flows, and decreased flooding potential.

Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment.

Design Considerations

Designing New Installations

Cisterns or Rain Barrels

One method of addressing roof runoff is to direct roof downspouts to cisterns or rain barrels. A cistern is an above ground storage vessel with either a manually operated valve or a permanently open outlet. Roof runoff is temporarily stored and then released for irrigation or infiltration between storms. The number of rain

barrels needed is a function of the rooftop area. Some low impact developers recommend that every house have at least 2 rain barrels, with a minimum storage capacity of 1000 liters. Roof barrels serve several purposes including mitigating the first flush from the roof which has a high volume, amount of contaminants, and thermal load. Several types of rain barrels are commercially available. Consideration must be given to selecting rain barrels that are vector proof and childproof. In addition, some barrels are designed with a bypass valve that filters out grit and other contaminants and routes overflow to a soak-away pit or rain garden.

If the cistern has an operable valve, the valve can be closed to store stormwater for irrigation or infiltration between storms. This system requires continual monitoring by the resident or grounds crews, but provides greater flexibility in water storage and metering. If a cistern is provided with an operable valve and water is stored inside for long periods, the cistern must be covered to prevent mosquitoes from breeding.

A cistern system with a permanently open outlet can also provide for metering stormwater runoff. If the cistern outlet is significantly smaller than the size of the downspout inlet (say ¼ to ½ inch diameter), runoff will build up inside the cistern during storms, and will empty out slowly after peak intensities subside. This is a feasible way to mitigate the peak flow increases caused by rooftop impervious land coverage, especially for the frequent, small storms.

Dry wells and Infiltration Trenches

Roof downspouts can be directed to dry wells or infiltration trenches. A dry well is constructed by excavating a hole in the ground and filling it with an open graded aggregate, and allowing the water to fill the dry well and infiltrate after the storm event. An underground connection from the downspout conveys water into the dry well, allowing it to be stored in the voids. To minimize sedimentation from lateral soil movement, the sides and top of the stone storage matrix can be wrapped in a permeable filter fabric, though the bottom may remain open. A perforated observation pipe can be inserted vertically into the dry well to allow for inspection and maintenance.

In practice, dry wells receiving runoff from single roof downspouts have been successful over long periods because they contain very little sediment. They must be sized according to the amount of rooftop runoff received, but are typically 4 to 5 feet square, and 2 to 3 feet deep, with a minimum of 1-foot soil cover over the top (maximum depth of 10 feet).

To protect the foundation, dry wells must be set away from the building at least 10 feet. They must be installed in solids that accommodate infiltration. In poorly drained soils, dry wells have very limited feasibility.

Infiltration trenches function in a similar manner and would be particularly effective for larger roof areas. An infiltration trench is a long, narrow, rock-filled trench with no outlet that receives stormwater runoff. These are described under Treatment Controls.

Pop-up Drainage Emitter

Roof downspouts can be directed to an underground pipe that daylights some distance from the building foundation, releasing the roof runoff through a pop-up emitter. Similar to a pop-up irrigation head, the emitter only opens when there is flow from the roof. The emitter remains flush to the ground during dry periods, for ease of lawn or landscape maintenance.

Foundation Planting

Landscape planting can be provided around the base to allow increased opportunities for stormwater infiltration and protect the soil from erosion caused by concentrated sheet flow coming off the roof. Foundation plantings can reduce the physical impact of water on the soil and provide a subsurface matrix of roots that encourage infiltration. These plantings must be sturdy enough to tolerate the heavy runoff sheet flows, and periodic soil saturation.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under "designing new installations" above should be followed.

Supplemental Information

Examples

- City of Ottawa's Water Links Surface –Water Quality Protection Program
- City of Toronto Downspout Disconnection Program
- City of Boston, MA, Rain Barrel Demonstration Program

Other Resources

Hager, Marty Catherine, Stormwater, "Low-Impact Development", January/February 2003. www.stormh2o.com

Low Impact Urban Design Tools, Low Impact Development Design Center, Beltsville, MD. www.lid-stormwater.net

Start at the Source, Bay Area Stormwater Management Agencies Association, 1999 Edition

Efficient Irrigation SD-12

Design Objectives

- ✓ Maximize Infiltration
- ✓ Provide Retention
- ✓ Slow Runoff
- Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- Contain Pollutants
- Collect and Convey

Description

Irrigation water provided to landscaped areas may result in excess irrigation water being conveyed into stormwater drainage systems.

Approach

Project plan designs for development and redevelopment should include application methods of irrigation water that minimize runoff of excess irrigation water into the stormwater conveyance system.

Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment. (Detached residential single-family homes are typically excluded from this requirement.)

Design Considerations

Designing New Installations

The following methods to reduce excessive irrigation runoff should be considered, and incorporated and implemented where determined applicable and feasible by the Permittee:

- Employ rain-triggered shutoff devices to prevent irrigation after precipitation.
- Design irrigation systems to each landscape area's specific water requirements.
- Include design featuring flow reducers or shutoff valves triggered by a pressure drop to control water loss in the event of broken sprinkler heads or lines.
- Implement landscape plans consistent with County or City water conservation resolutions, which may include provision of water sensors, programmable irrigation times (for short cycles), etc.

CASQA
California Stormwater Quality Association

- Design timing and application methods of irrigation water to minimize the runoff of excess irrigation water into the storm water drainage system.
- Group plants with similar water requirements in order to reduce excess irrigation runoff and promote surface filtration. Choose plants with low irrigation requirements (for example, native or drought tolerant species). Consider design features such as:
  - Using mulches (such as wood chips or bar) in planter areas without ground cover to minimize sediment in runoff
  - Installing appropriate plant materials for the location, in accordance with amount of sunlight and climate, and use native plant materials where possible and/or as recommended by the landscape architect
  - Leaving a vegetative barrier along the property boundary and interior watercourses, to act as a pollutant filter, where appropriate and feasible
  - Choosing plants that minimize or eliminate the use of fertilizer or pesticides to sustain growth
- Employ other comparable, equally effective methods to reduce irrigation water runoff.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under "designing new installations" above should be followed.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

Trash Storage Areas SD-32

Design Objectives

- Maximize Infiltration
- Provide Retention
- Slow Runoff
- Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- ✓ Contain Pollutants
- Collect and Convey

Description

Trash storage areas are areas where a trash receptacle (s) are located for use as a repository for solid wastes. Stormwater runoff from areas where trash is stored or disposed of can be polluted. In addition, loose trash and debris can be easily transported by water or wind into nearby storm drain inlets, channels, and/or creeks. Waste handling operations that may be sources of stormwater pollution include dumpsters, litter control, and waste piles.

Approach

This fact sheet contains details on the specific measures required to prevent or reduce pollutants in stormwater runoff associated with trash storage and handling. Preventative measures including enclosures, containment structures, and impervious pavements to mitigate spills, should be used to reduce the likelihood of contamination.

Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment. (Detached residential single-family homes are typically excluded from this requirement.)

Design Considerations

Design requirements for waste handling areas are governed by Building and Fire Codes, and by current local agency ordinances and zoning requirements. The design criteria described in this fact sheet are meant to enhance and be consistent with these code and ordinance requirements. Hazardous waste should be handled in accordance with legal requirements established in Title 22, California Code of Regulation.

Wastes from commercial and industrial sites are typically hauled by either public or commercial carriers that may have design or access requirements for waste storage areas. The design criteria in this fact sheet are recommendations and are not intended to be in conflict with requirements established by the waste hauler. The waste hauler should be contacted prior to the design of your site trash collection areas. Conflicts or issues should be discussed with the local agency.

Designing New Installations

Trash storage areas should be designed to consider the following structural or treatment control BMPs:

- Design trash container areas so that drainage from adjoining roofs and pavement is diverted around the area(s) to avoid run-on. This might include berming or grading the waste handling area to prevent run-on of stormwater.
- Make sure trash container areas are screened or walled to prevent off-site transport of trash.

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- Use lined bins or dumpsters to reduce leaking of liquid waste.
- Provide roofs, awnings, or attached lids on all trash containers to minimize direct precipitation and prevent rainfall from entering containers.
- Pave trash storage areas with an impervious surface to mitigate spills.
- Do not locate storm drains in immediate vicinity of the trash storage area.
- Post signs on all dumpsters informing users that hazardous materials are not to be disposed of therein.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under "designing new installations" above should be followed.

Additional Information

Maintenance Considerations

The integrity of structural elements that are subject to damage (i.e., screens, covers, and signs) must be maintained by the owner/operator. Maintenance agreements between the local agency and the owner/operator may be required. Some agencies will require maintenance deed restrictions to be recorded of the property title. If required by the local agency, maintenance agreements or deed restrictions must be executed by the owner/operator before improvement plans are approved.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

INTIAL STUDY

PUBLIC REVIEW COMMENT LETTERS

From: Beverly Phillips
To: Brian Norton
Subject: [EXTERNAL] Arlington mixed use development project
Date: Saturday, July 01, 2023 2:28:25 PM

CAUTION: This email originated from outside the City of Riverside. It was not sent by any City official or staff. Use caution when opening attachments or links.

Hello, my name is Beverly Phillips. I'm a resident across the street from the site of this development, at 6938 Del Rosa Place. I don't know if it's you I should contact about this or someone else. If not maybe you could let me know who it might be, if not you.
My concern is that the traffic will be so bad the residents of our double cul-de-sac will not be able to exit the housing track at certain times. It's already really hard to get out of our track, making a left turn, during certain times of the day. Two major specific times are when the schools are letting out and around rush hour. If there are 388 dwellings being added, plus shoping I fear we may not be able to exit at all. There is only 1 entrance/exit into the housing track. Can you let me know if there is some plan to help alleviate the traffic that will be created by all of that?
Yours,
Beverly Phillips
951-688-8819

INLAND EMPIRE
BIKING ALLIANCE

14 July 2023

City of Riverside
Attn: Brian Norton, Principal Planner
3900 Main Street, 3rd Floor
Riverside, CA 92522
Submitted via email to BNorton@riversideca.gov.

Re: Arlington Mixed Use Development Project NOP (SCH #2023060428)

Dear Brian Norton,

I am writing on behalf of the Inland Empire Biking Alliance to respond to the Notice of Preparation for the proposed Arlington Mixed Use Development Project which would be built there in Riverside. After reviewing the documents made available with the NOP, I would like to provide the following comments for inclusion in the study of the EIR.

The first and perhaps biggest concern is to ensure that the EIR includes bikes as part of the solution to the transportation portion. Although it is clear from the Project description that a sizable amount of car parking will be provided, it does not have to be an absolute requirement of residents that they use a car for all their trips. While the analyses done for projects typically assume that every household will drive their car(s) multiple times a day, that does not have to be the case. There is a growing body of evidence that shows people are willing to leave their cars at home and use a bike instead when they are provided with safe places to ride their bikes[1] and that increases if they have ebikes[2]. With the Project being located within a mile of several schools, grocery stores, parks, and within two miles of places like Cal Baptist University or Riverside Plaza, there are many destinations which can fill daily needs within easy biking distance. Thus, by designing the Project and any offsite improvements to support (not hinder) biking and ebikes, they can be a truly viable option to reduce Project VMT.

Unfortunately, the information gathered from the NOP documents tells precisely the opposite story. Though no detailed traffic count data is provided as part of the NOP documents, they do indicate that both Arlington Ave. and Streeter Ave. are classified as arterials in the City's General Plan Circulation and Community Mobility Element (CCME) which states that "[t]hey are designed to have the highest

[1] Mekuria, M. C., Furth, P. G., & Nixon, H. (2012). Low-stress bicycling and network connectivity.
[2] Fitch, D. (2019). Electric Assisted Bikes (E-bikes) Show Promise in Getting People out of Cars. *UC Office of the President: University of California Institute of Transportation Studies*. Retrieved from https://escholarship.org/uc/item/3mm040km

traffic carrying capacity in the roadway system with the highest speeds…"[3]. Additionally, the CCME's Figure 6: Master Plan of Trails and Bikeways shows that both Arlington Ave. and Streeter Ave. are supposed to have Class II bike lanes in the Project area (Figures 1 & 2). While that is currently the case for Arlington Ave. along the Project frontage, the most recent Street View imagery from mapping services does not show that there is currently a Class II bike lane on Streeter in the Project area (Figure 3). Thus, at a bare minimum, the Project needs to ensure that the existing bike lane on Arlington Ave. remains and that the missing one on Streeter Ave. is provided.

However, while it is appreciated that there is a planned set of bikeways near the Project, it is also worth pointing out their inadequacy. As previously discussed, people are most likely to bike when they feel safe doing so. Much research has established that physical separation is key to making that happen, culminating in a set of standards put forth by agencies such as Caltrans (Figure 4)[4] or the Federal Highway Administration[5]. Thus, based on those standards, paint is not enough here as both Arlington Ave. and Streeter Ave. have the traffic speed and volume conditions to validate the use of Class IV separated bikeways instead of Class II bike lanes. While it is understood that providing those facilities can be a formidable undertaking in established communities due to the expense of moving curbs, Figure 10 – Tentative Parcel Map shows a cross section for Arlington Ave. which already proposes to move the existing curbs to add 17 feet of pavement on the westbound/northern side. Therefore, it is imperative that this opportunity not be missed and that the Project plans be updated to provide Class IV separated bikeways on both Arlington Ave. and Streeter Ave., taking advantage of the existing plan to move the curb to build curb-separated bikeways in the process.

Another concern is of the driveways. Per the NOP documents, it is stated that the main driveways are intended to be off Streeter and based on Figure 22 – Proposed Transportation Improvements, it appears that they would be in line with existing El Molino Avenue and Granada Avenue intersections and turn both into full intersections. However, Figure 22 also includes the proposed movements which would be allowed and as currently presented, they would constitute hazards of design, particularly for bicyclists and pedestrians. It appears that the current plan is to allow all turns in all directions at both Driveways 1 & 2 yet only provide a stop sign for Driveway traffic. This is unacceptable.

First, Driveway 2 is too close to the intersection of Arlington Ave. and Streeter Ave. for all movements to be safe (unless a traffic light is installed but it is also too close to install another traffic

[3] City of Riverside (2018). https://riversideca.gov/cedd/sites/riversideca.gov.cedd/files/pdf/planning/general-plan/12_Circulation_&_Community%20Mobility_Element_with%20maps.pdf

[4] Flournoy, M. (2020). Contextual guidance for bike facilities. Caltrans. Retrieved from https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/office-of-smart-mobility-and-climate-change/planning-contextual-guidance-memo-03-11-20-a11y.pdf.

[5] Schultheiss, B., Goodman, D., Blackburn, L., Wood, A., Reed, D., & Elbech, M. (2019). *Bikeway selection guide* (No. FHWA-SA-18-077). United States. Federal Highway Administration. Office of Safety.

light), especially with a signed speed limit of 40 MPH on Streeter Ave. Instead, the Driveway 2/El Molino Ave. intersection needs to be restricted to only left in and right-in/right-out and the existing median extended to ensure that going straight is not possible.

The same issue exists with the Driveway 1/Granada Ave. intersection. Again, it is not suited for only using stop control and we do not need to wait until someone is KSI in a crash to rectify what is clearly a glaring safety issue. However, with Driveway 1 intended to be the main entry as well as it being farther from the other adjacent signalized intersections, it is appropriate to provide a traffic signal here as well to control the movements. This is particularly important for pedestrians and bicyclists who would undoubtedly have trouble being able to identify a gap in traffic to safely cross without a signal. (Not providing one would violate Policy CCM-10.3 of the CCME as it is both an injustice and unrealistic to expect pedestrians to take detours of hundreds or even thousands of feet from the ideal path to use crosswalks, especially in situations where cars are allowed to go straight across.)

Moving along, while it is not expected that the Project would be able to solve all transportation problems in the city, it does offer the opportunity to address some of the shortcomings of bike and pedestrian connectivity in the area around it. Specifically, the Project should provide an ungated bike/ped access point to Granada Ave. on the east side which would together with the needed signalized intersection at Driveway 1, patch a hole in the network for active users. This is particularly important for bicyclists as although there are Class II bike lanes on Arlington Ave. east of the Project site, they are often unusable because the City allows parking in them. Though the Project should be installing curb-separated Class IV bikeways along the frontage where curbs are being moved, the rest of Arlington Ave. will remain an impediment. On the other hand, Granada Ave. is a local street in the area and currently dead ends at the Project site and connects to Palm Ave. less than a mile east. Thus, it undoubtedly has lower traffic volumes than Arlington which would make it an ideal candidate for a neighborhood greenway to provide an alternative for bicyclists to enable access to destinations such as Riverside Plaza. While Granada Ave. cannot replace Arlington Ave. since it does not provide access to the same destinations, a study of a bike boulevard improvement to Granada Ave. should be included in the EIR as part of providing VMT reduction.

Finally, the journey to get the Project built is just as important as the Project itself. Construction accommodations for bicyclists will be critical, especially with the work to make connections to the RPU facilities over approximately 1.5 miles of roadway. It is important that the proper warning signage be used for that. Specifically, “share the road” signs have been found to be worse than

useless[6] and should be avoided. Instead, R4-11 signs or a W11-1 sign combined with an "IN LANE" plaque should be used.

Thank you for your time and attention in this matter. If there are any questions regarding the comments provided here, please do not hesitate to reach out for clarification.

Sincerely,

Marven E. Norman, Executive Director

CC: Riverside Bike Club

About IEBA The Inland Empire Biking Alliance is advocating for making the Inland Empire a better place for people from all rolls of life. From the children just learning how to ride to the mountain bikers to those headed back and forth to work, school, or their preferred shopping center and beyond, we speak up to make sure they all have safe and convenient place to ride.

[6] Hess G, Peterson MN (2015) "Bicycles May Use Full Lane" Signage Communicates U.S. Roadway Rules and Increases Perception of Safety. PLoS ONE 10(8): e0136973. https://doi.org/10.1371/journal.pone.0136973

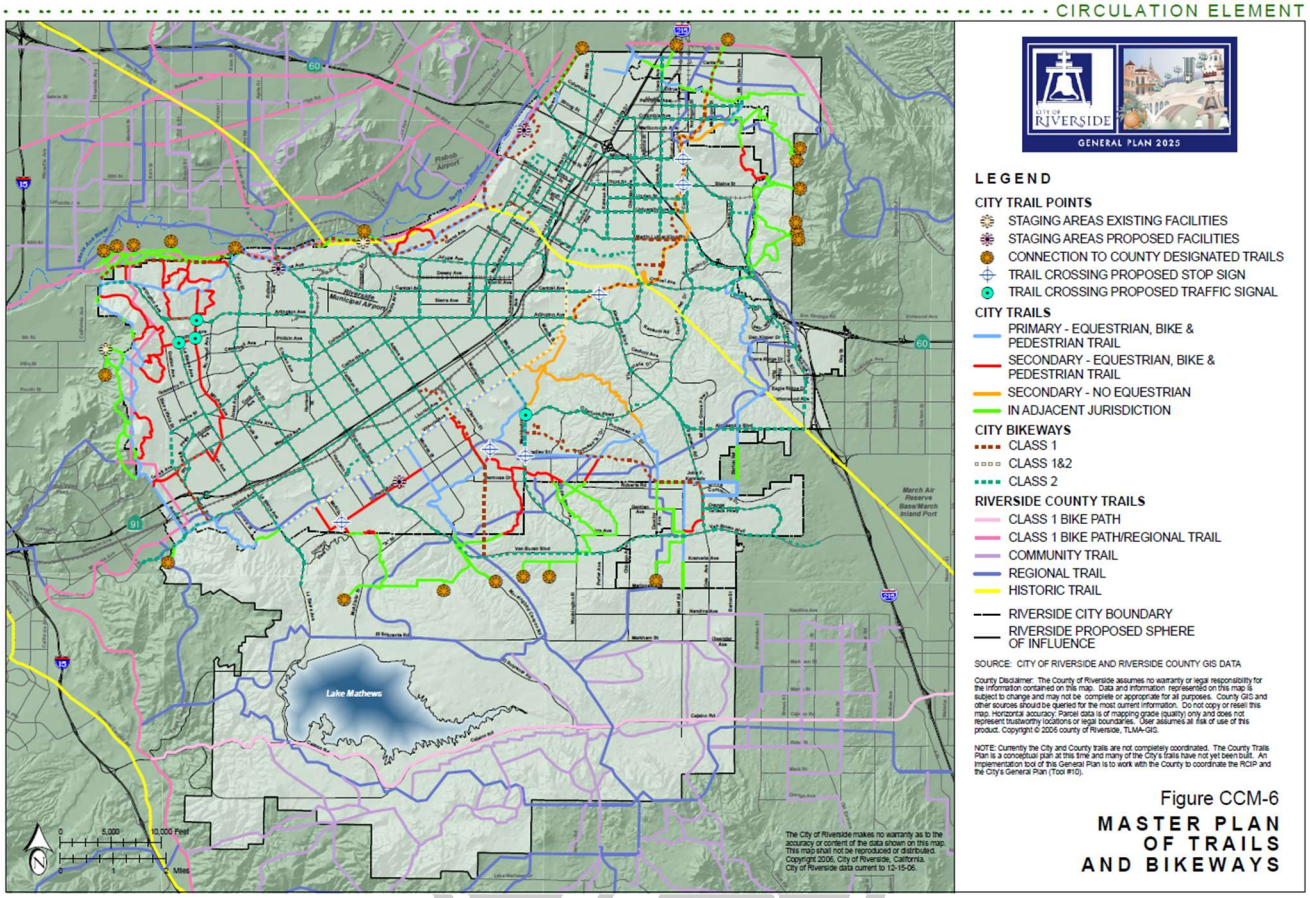

Figure 1: Figure CCM-6: Master Plan of Trails and Bikeways from the City of Riverside General Plan Circulation and Community Mobility Element.

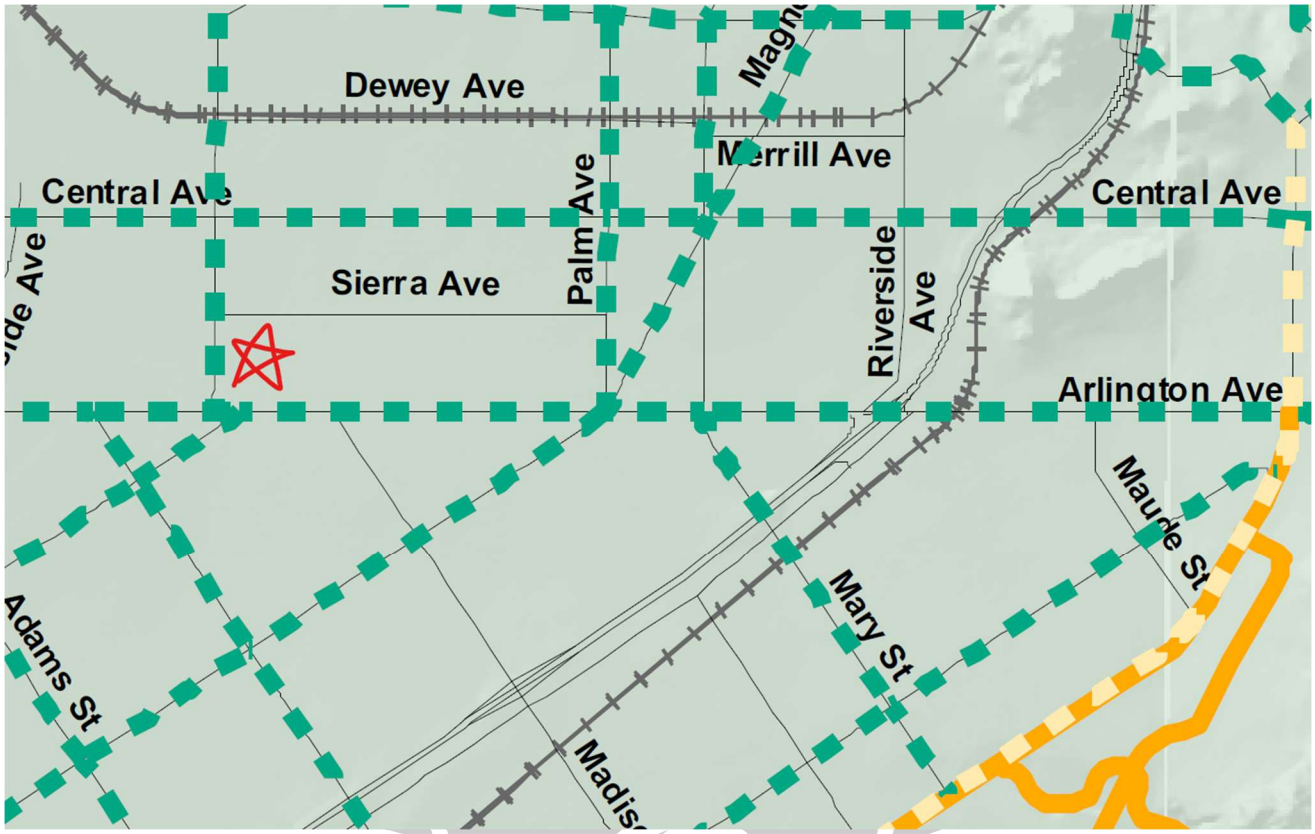

Figure 2: Close-up of Figure CCM-6 showing planned bike facilities in the vicinity of the proposed Project site.

Figure 3: Google Street View imagery of Streeter Avenue looking north along Project frontage.

Attachment A

Caltrans Contextual Guidance for Preferred Bicycle Facilities**					
		Posted Speed			
Place Type and Surrounding Land-Use 1		15-20	25-30	35-45	> 45
Urban Areas & Suburban Main Streets	<2,500	Standard Shoulder or Shared Lane	Standard Shoulder or Shared Lane	Class II or Class IV	Class IV
	2,500-5,000				
	5,000-10,000	Class II or Class IV	Class II or Class IV	Class IV	
	>10,000	Class IV	Class IV		
Rural Areas (Developing Corridors)		15-20	25-30	35-45	> 45
	<2,500	Standard Shoulder (may be designated as a Class III facility)2			
	2,500-5,000				
	5,000-10,000				
	>10,000				
Rural Main Streets		15-20	25-30	35-45	> 45
	<2,500	Standard Shoulder or Shared Lane	Class II	Class II	Class I or IV
	2,500-5,000				
	5,000-10,000	Class II			
	>10,000			Class I, II, or IV	

Design Year ADT

Figure 4: Caltrans Contextual Guidance for Preferred Bicycle Facilities chart.

NATIVE AMERICAN HERITAGE COMMISSION

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June 16, 2023

Brian Norton
City of Riverside
3900 Main St, 3rd Floor
Riverside, CA 92522

Re: 2023060428, Arlington Mixed Use Development Project, Riverside County

Dear Mr. Norton:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

- **a.** A brief description of the project.
- **b.** The lead agency contact information.
- **c.** Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
- **d.** A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

- **a.** For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

- **a.** Alternatives to the project.
- **b.** Recommended mitigation measures.
- **c.** Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

- **a.** Type of environmental review necessary.
- **b.** Significance of the tribal cultural resources.
- **c.** Significance of the project's impacts on tribal cultural resources.
- **d.** If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

- **a.** Whether the proposed project has a significant impact on an identified tribal cultural resource.
- **b.** Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or

b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

a. Avoidance and preservation of the resources in place, including, but not limited to:

i. Planning and construction to avoid the resources and protect the cultural and natural context.

ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

i. Protecting the cultural character and integrity of the resource.

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).

e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).

f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.

b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.

c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).

2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.

3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).

4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:

- **a.** The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
- **b.** Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (https://ohp.parks.ca.gov/?page_id=30331) for an archaeological records search. The records search will determine:

- **a.** If part or all of the APE has been previously surveyed for cultural resources.
- **b.** If any known cultural resources have already been recorded on or adjacent to the APE.
- **c.** If the probability is low, moderate, or high that cultural resources are located in the APE.
- **d.** If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.

- **a.** The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
- **b.** The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:

a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.

b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.

a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.

b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.

c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

cc: State Clearinghouse