APPENDIX D-3
AQUATIC RESOURCES DELINEATION REPORT





±920-Acre Eliot Facility Study Area

Aquatic Resources Delineation Report

March 2020 | CXC-01

Prepared for:

RMC Pacific Materials, LLC 2365 Iron Point Road, Suite 120 Folsom, CA 95630

Prepared by:

HELIX Environmental Planning, Inc. 1677 Eureka Road, Suite 100 Roseville, CA 95661

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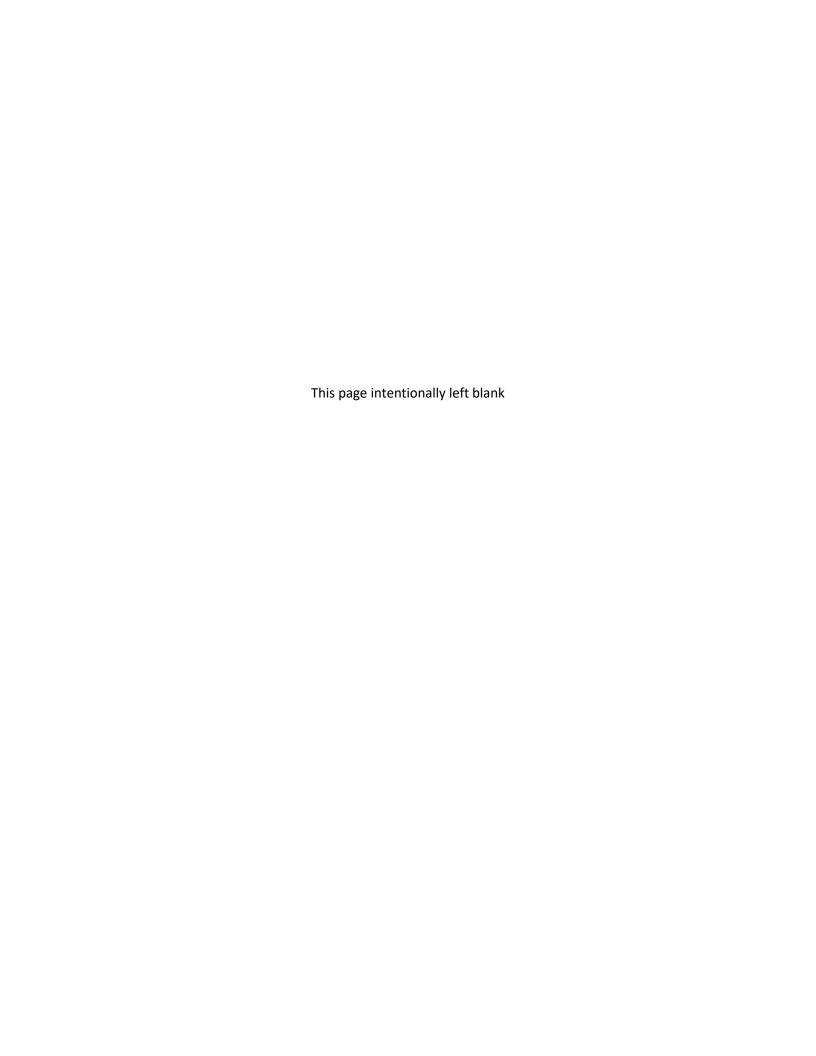


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ACRONYMS AND ABBREVIATIONS

CEMEX RMC Pacific Materials, LLC

CWA Clean Water Act

FAC facultative plants

FACU facultative upland plants FACW facultative wetland plants

GIS Geographic Information System

GPS Global Positioning System

HELIX Environmental Planning, Inc.

HUC Hydrologic Unit Code

msl mean sea level

NRCS Natural Resources Conservation Service

OBL obligate wetland plants
OHWM ordinary high water mark

SWRCB State Water Resources Control Board

UPL upland

U.S. United States

USACE U.S. Army Corps of Engineers
USDA U.S. Department of Agriculture

USEPA U.S. Environmental Protection Agency

USFWS U.S. Fish and Wildlife Service

USGS U.S. Geological Survey

WQC Water Quality Certification

EXECUTIVE SUMMARY

This report presents the results of the updated delineation of the aquatic resources at the ±920-acre Eliot Facility Study Area (Study Area), located in Alameda County, California. Aquatic resources were identified and delineated following the technical guidelines provided in the *Corps of Engineers Wetlands Delineation Manual* (USACE Manual) (Environmental Laboratory 1987) and the U.S. Army Corps of Engineers (USACE) *Arid West Regional Supplement* (Regional Supplement) (USACE 2008b). The Regional Supplement presents wetland indicators, delineation guidance, and other information that is specific to the Arid West Region. The jurisdictional boundaries for other waters of the U.S. were identified based on the presence of an ordinary high water mark (OHWM) as defined in 33 C.F.R. 328.3(c)(6).

A total of 318.98 acres of aquatic resources were delineated within the Study Area consisting of depressional seasonal marsh, riverine seasonal marsh, willow riparian wetland, intermittent streams, a perennial stream (Arroyo del Valle), ephemeral drainage, breached quarry ponds, seasonal excavated basin, quarry ponds, silt pond, percolation ponds, and excavated basin.



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1.0 INTRODUCTION

The purpose of this document is to present the results of a formal delineation of aquatic resources, including wetlands, within the ±920-acre Eliot Facility Study Area located in unincorporated Alameda County (Figure 1, *Site and Vicinity*). This report and the resulting delineation were prepared in accordance with the Minimum Standards for Acceptance of Aquatic Resources Delineation Reports (USACE 2016), The Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (2008b) and A Field Guide to the Identification of the ordinary high water mark (OHWM) in the Arid West Region of the Western United States (2008a). This report presents the results from Foothill Associates and HELIX Environmental Planning (HELIX) review of available literature, aerial photographs, soil surveys (Figure 2, *Soils*), and fieldwork within the Study Area (Foothill Associates 2019). The delineation methodology is described in this report, followed by the results of the delineation. Contact information and directions to the Study Area are provided in Appendix A. Details regarding soils, topography, hydrology, and vegetation are summarized herein. Wetland Delineation Data Forms are provided in Appendix B. A detailed delineation map that illustrates potential waters of the U.S. within the Study Area is included as Figure 3, *Aquatic Resources Delineation Map* and a list of plant species observed during the delineation is provided in Appendix C.

1.1 PROJECT DESCRIPTION

RMC Pacific Materials, LLC (CEMEX) owns and operates the Eliot Quarry, a ±920-acre sand and gravel mining facility, located between the cities of Livermore and Pleasanton, at 1544 Stanley Boulevard in unincorporated Alameda County. CEMEX and its predecessors-in-interest have been continuously mining for sand and gravel at the Eliot Quarry since at least 1906. In addition to mining and reclamation, existing permitted and accessory uses at the Eliot Quarry include aggregate, asphalt and ready-mix concrete processing, as well as ancillary uses such as aggregate stockpiling, load-out, sales, construction materials recycling, and equipment storage and maintenance. CEMEX's mining operations at the site are vested per pre-1957 mining activities and Alameda County Quarry Permits Q-1 (1957), Q-4 (1957), and Q-76 (1969). Surface mining reclamation activities at the site are currently conducted pursuant to Surface Mining Permit and Reclamation Plan No. SMP-23 (SMP-23), approved in 1987.

Under the Eliot Quarry SMP-23 Reclamation Plan Amendment Project (Project), CEMEX proposes a revised Reclamation Plan that serves to adjust reclamation boundaries and contours, enhance drainage and water conveyance facilities, incorporate a pedestrian and bike trail, and achieve current surface mining reclamation standards. The planned post-mining end uses are water management, open space, and agriculture (non-prime).

Consistent with prior approvals, the Project will develop Lake A and Lake B, which are the first two lakes in the Chain of Lakes pursuant to the Alameda County Specific Plan for Livermore-Amador Valley Quarry Area Reclamation adopted in 1981 (Specific Plan). Upon reclamation, Lake A and Lake B, along with their appurtenant water conveyance facilities, will be dedicated to the Zone 7 Water Agency (Zone 7) for purposes of water storage, conveyance and recharge management.

Lake A reclamation will include installation of a surface water diversion from the Arroyo del Valle to Lake A; conversion of a berm that crosses the west side of the lake to a small island to allow water to flow across the lake; installation of a water conveyance pipeline from Lake A to future Lake C (located off-site to the northwest); and an overflow outlet to allow water to flow back into Arroyo del Valle when



Lake A water levels are high to prevent flooding in the localized area. The final surface area of Lake A will be 81 acres as compared to 208 acres in SMP-23. No further mining will occur in Lake A.

Lake B reclamation will include installation of a pipeline turn-out from Lake A, a water pipeline conduit to future Lake C, and an overflow outlet to allow water to flow back into Arroyo del Valle when Lake B water levels are high. The final bottom elevation of Lake B is proposed at 150 feet above mean sea level (msl), in order to maximize the available aggregate resource. The final surface area of Lake B will be 208 acres as compared to 243 acres in SMP-23.

To facilitate the southerly progression of Lake B, the Project includes realignment and restoration of a ±5,800 linear foot reach of the Arroyo del Valle. The proposed Arroyo del Valle realignment will result in an enhanced riparian corridor that flows around, rather than through (as currently anticipated in SMP-23), Lake B. The Arroyo del Valle realignment was contemplated in the Specific Plan and subject to environmental review in 1981.

Outside of Lake A and Lake B, reclamation treatment for other disturbed areas, including the Lake J excavation (not part of the Chain of Lakes), processing plant sites, and process water ponds will involve backfills and/or grading for a return to open space and/or agriculture.

The Project is a modification of an approved project. Except as outlined above, CEMEX proposes no change to any fundamental element of the existing operation (e.g., mining methods, processing operations, production levels, truck traffic, or hours of operation). A more complete description of the proposed Project is contained in CEMEX's Project Description, Revised Reclamation Plan, and other application materials provided to the County.

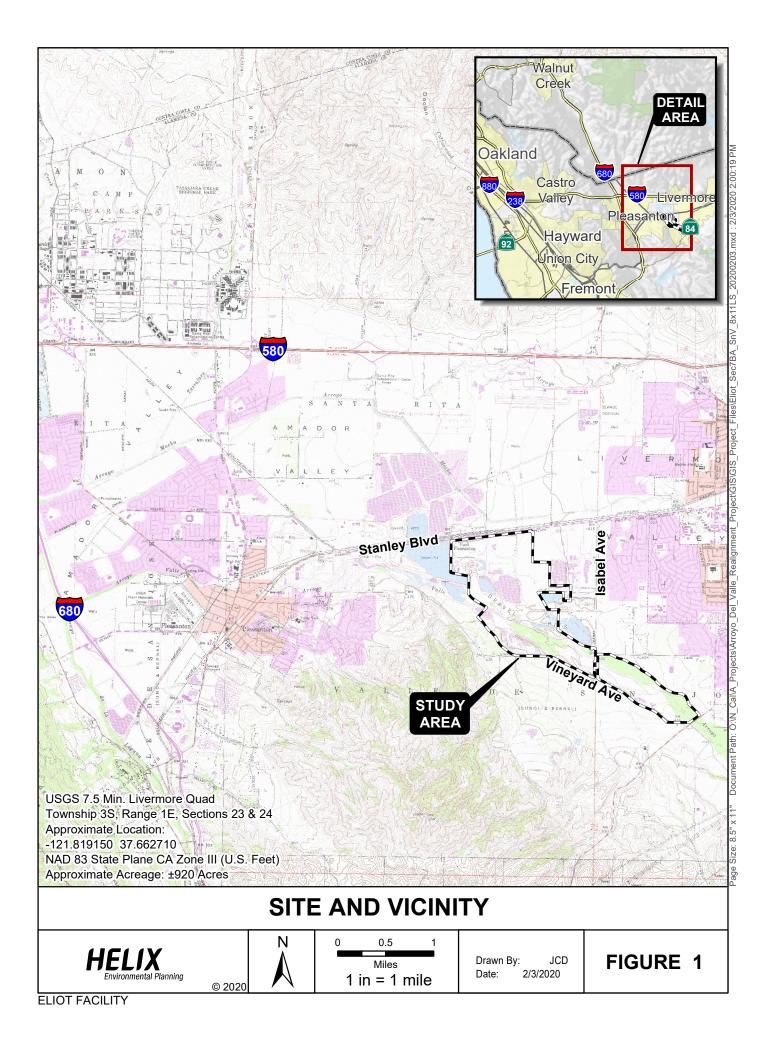
2.0 REGULATORY SETTING

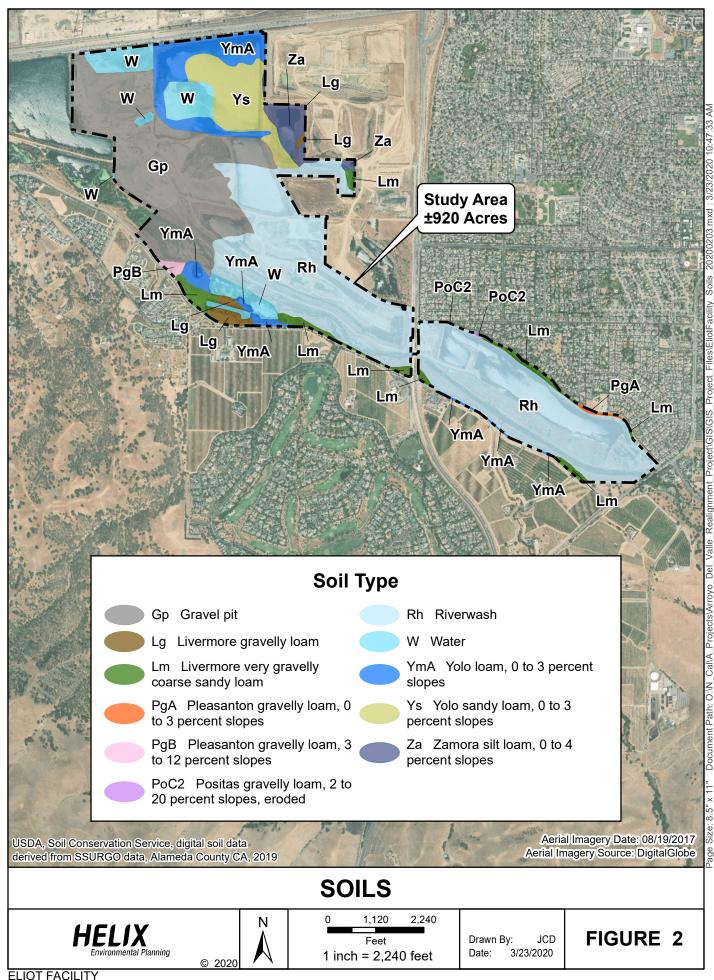
The U.S. Army Corps of Engineers (USACE) regulates discharge of dredged or fill material into waters of the United States under Section 404 of the Clean Water Act (CWA). Section 401 of the CWA (33 U.S.C. 1341) requires any applicant for a Federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

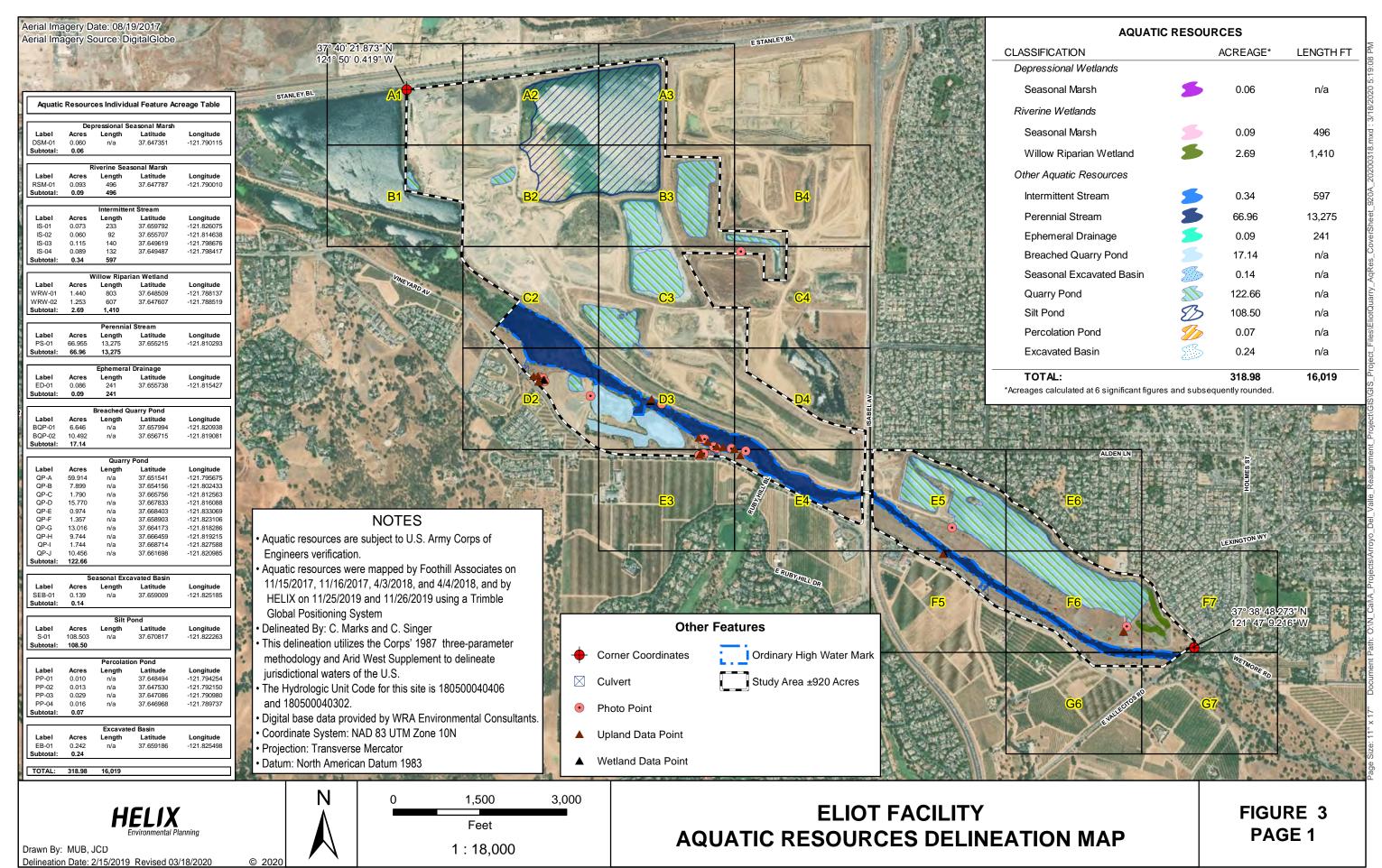
Section 404 of the CWA requires approval prior to discharging dredged or fill material into the waters of the United States. Typical activities requiring Section 404 permits are:

- Depositing of fill or dredged material in waters of the U.S. or adjacent wetlands;
- Site development for residential, commercial, or recreational developments resulting in discharging dredged or fill material into waters of the United States;
- Construction of revetments, groins, breakwaters, levees, dams, dikes, and weirs; and
- Placement of riprap and road fills.

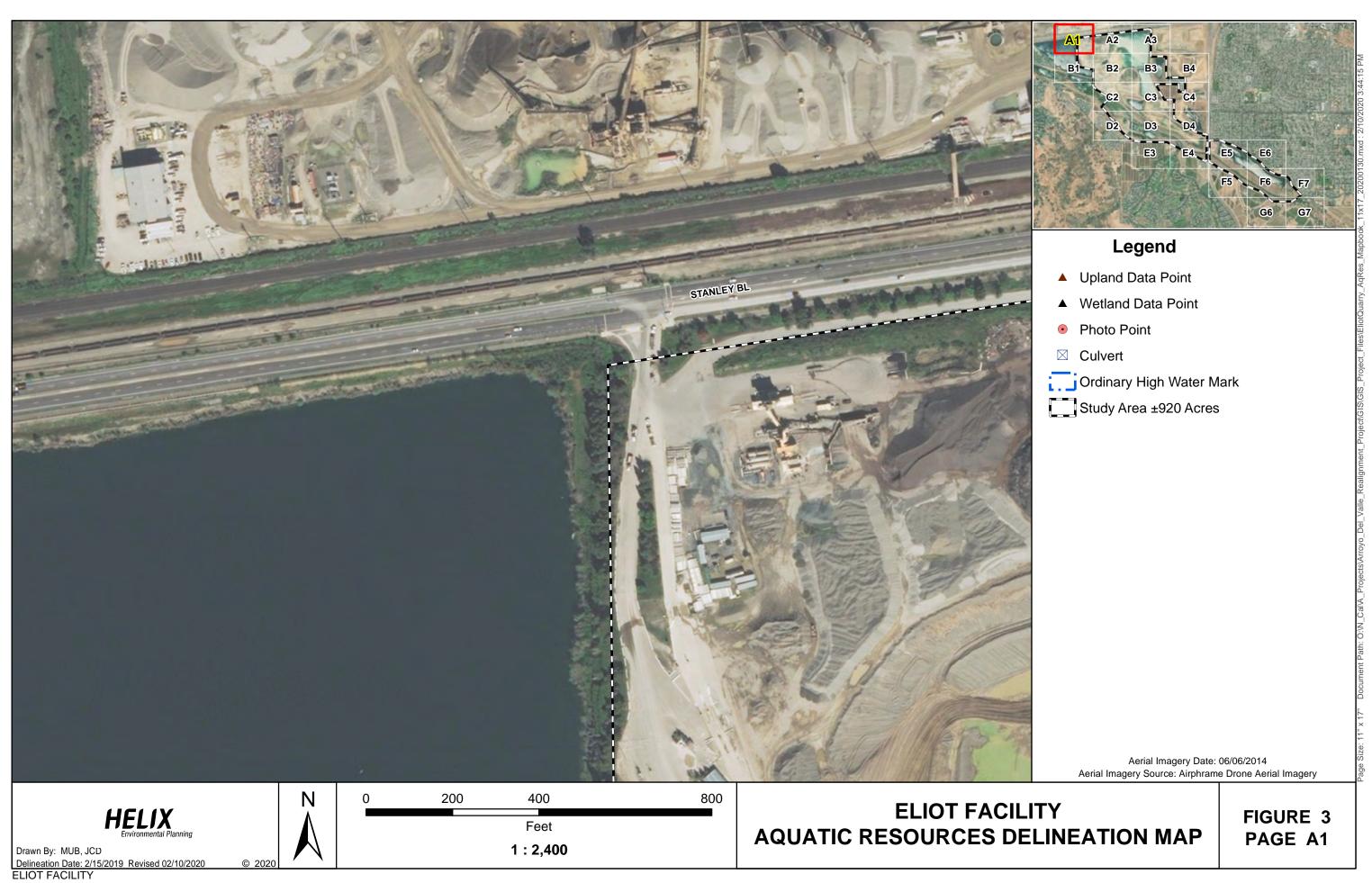


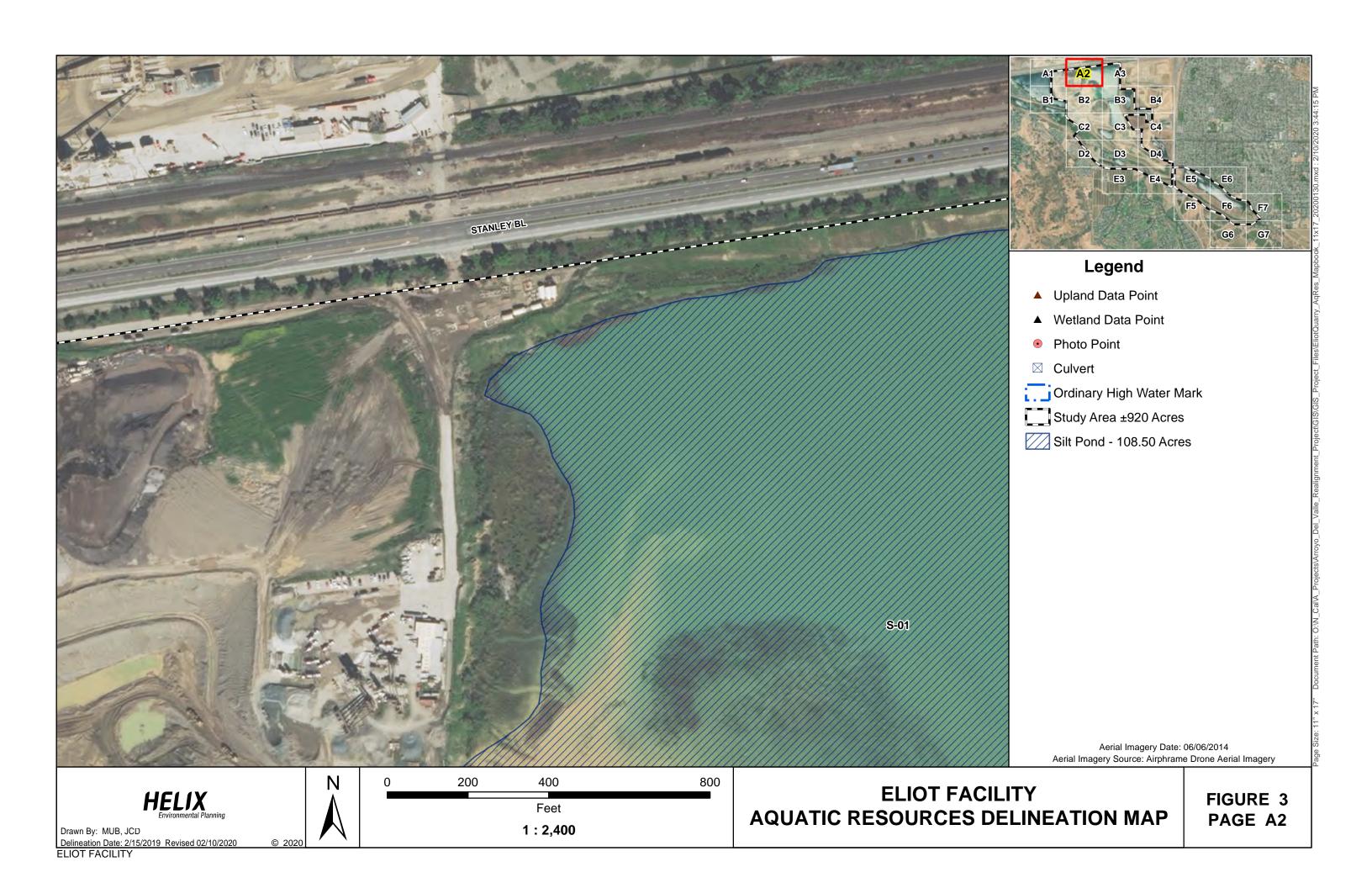


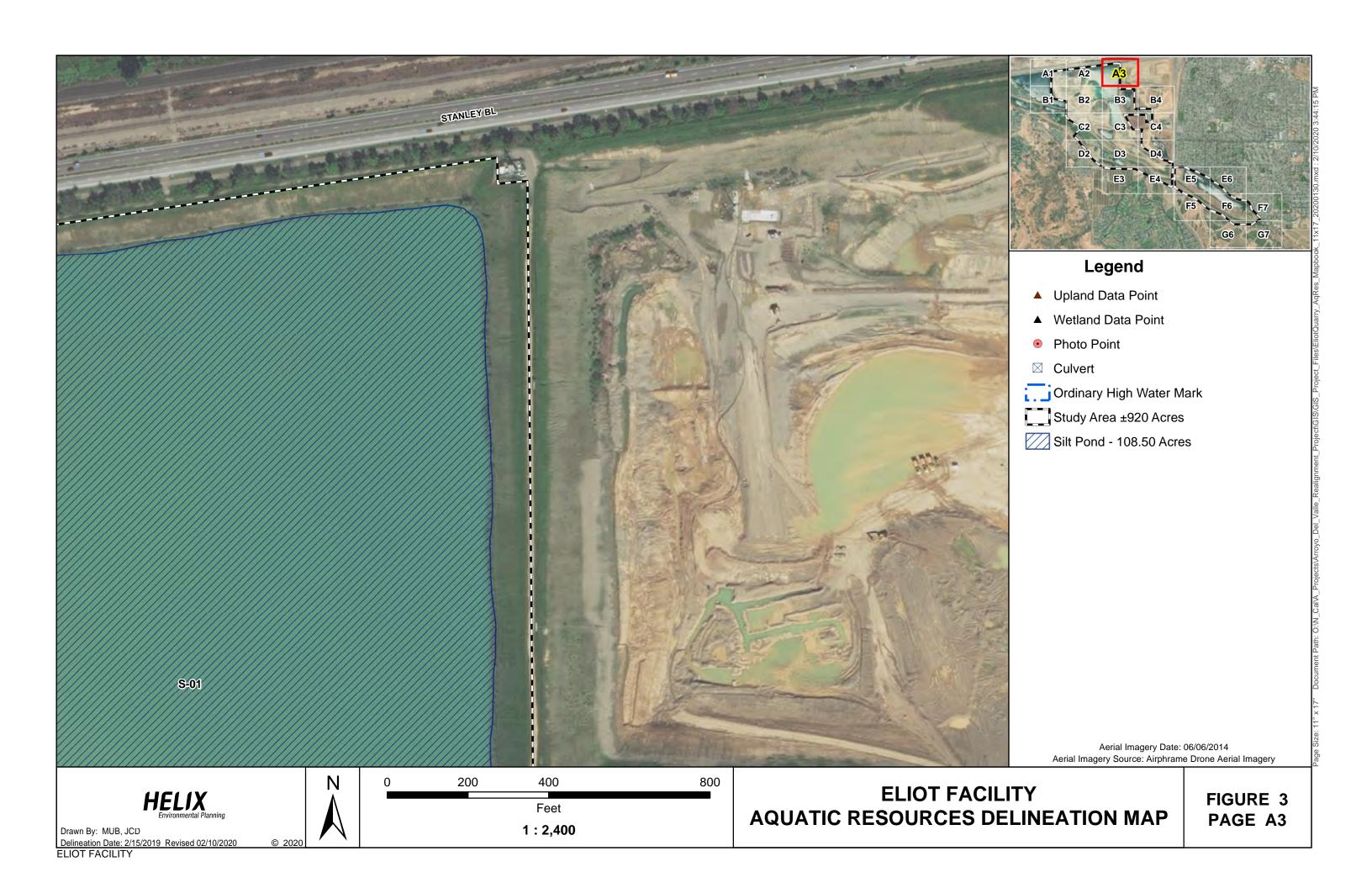


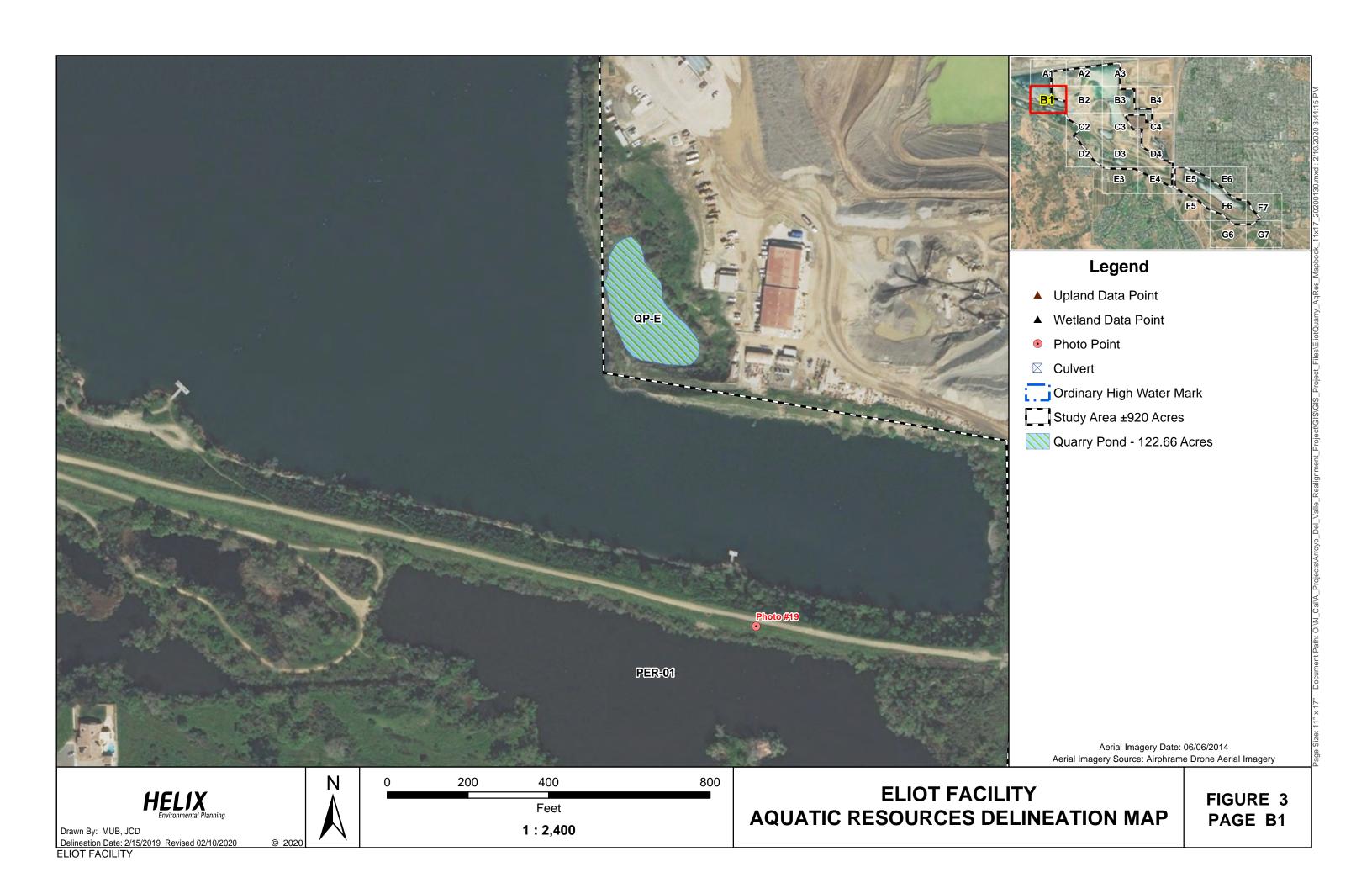


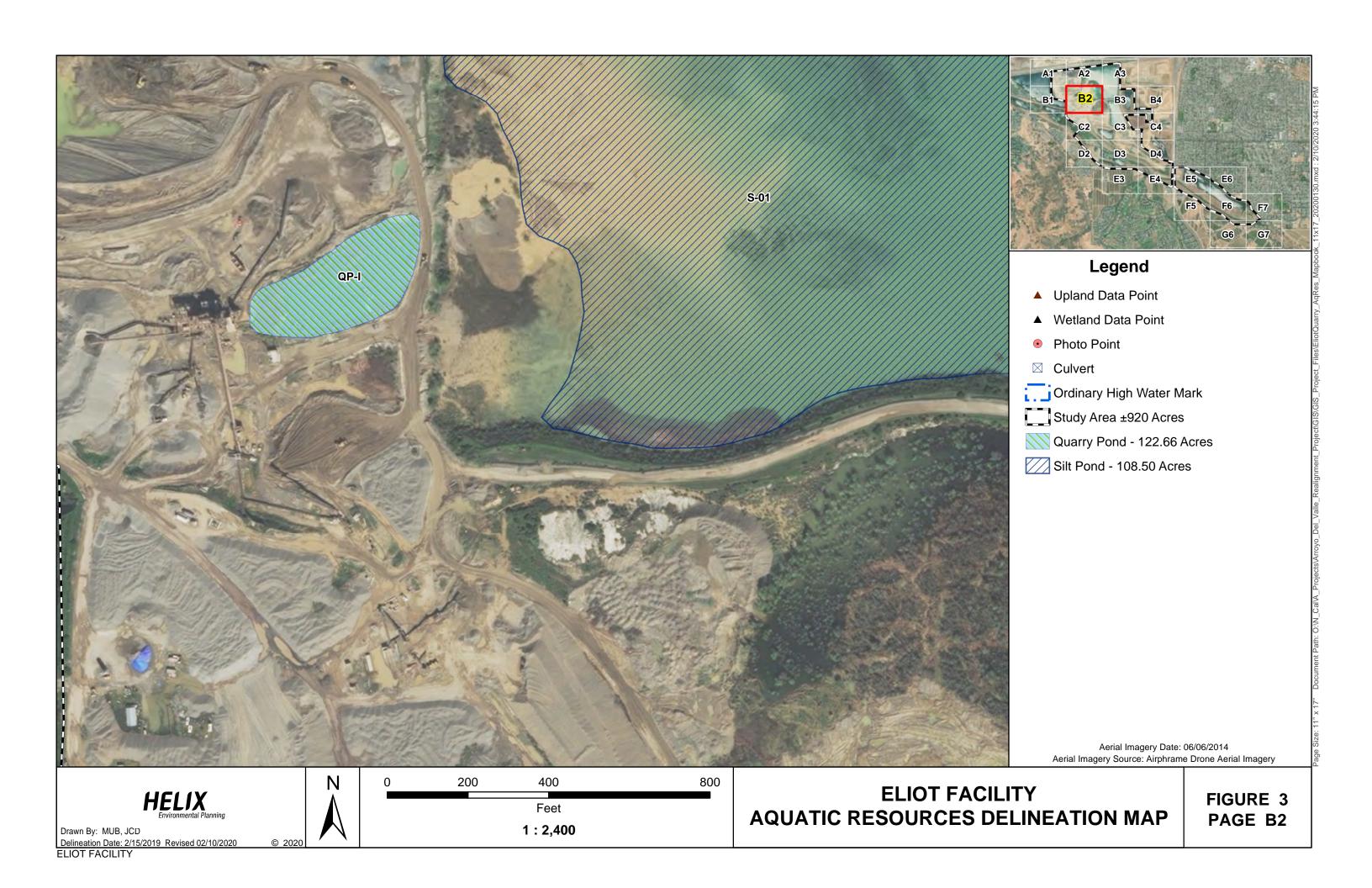
ELIOT FACILITY

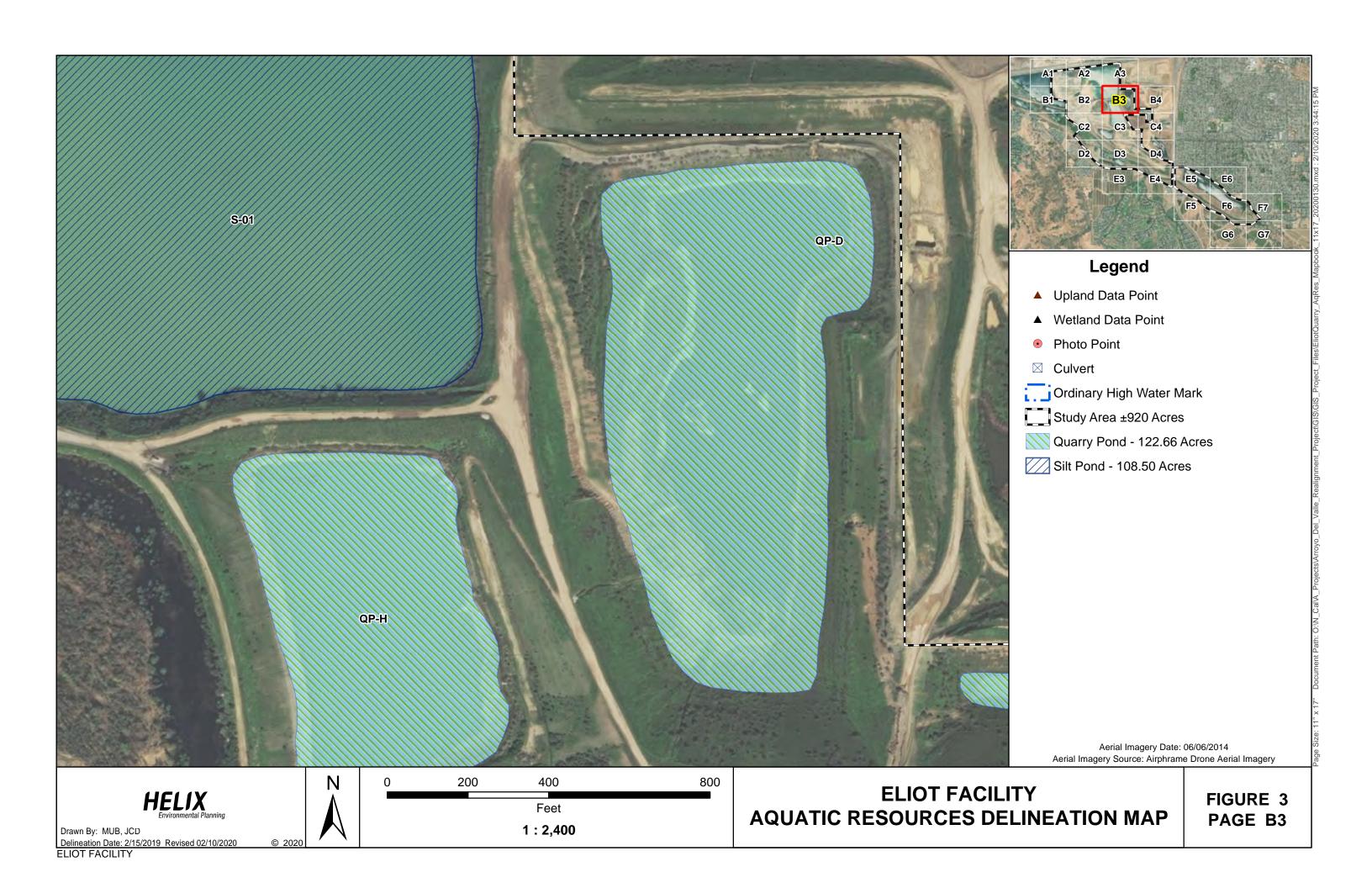


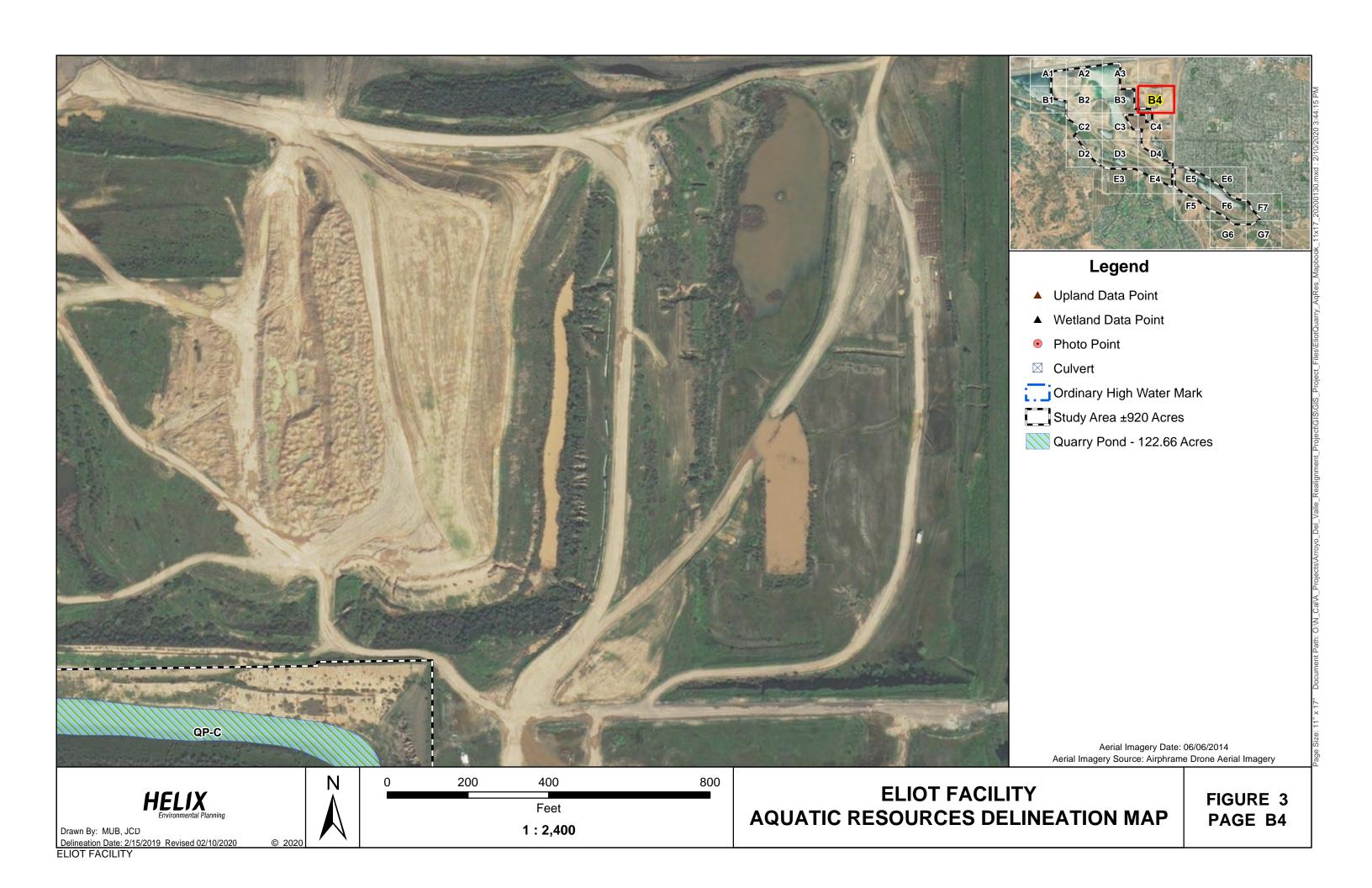


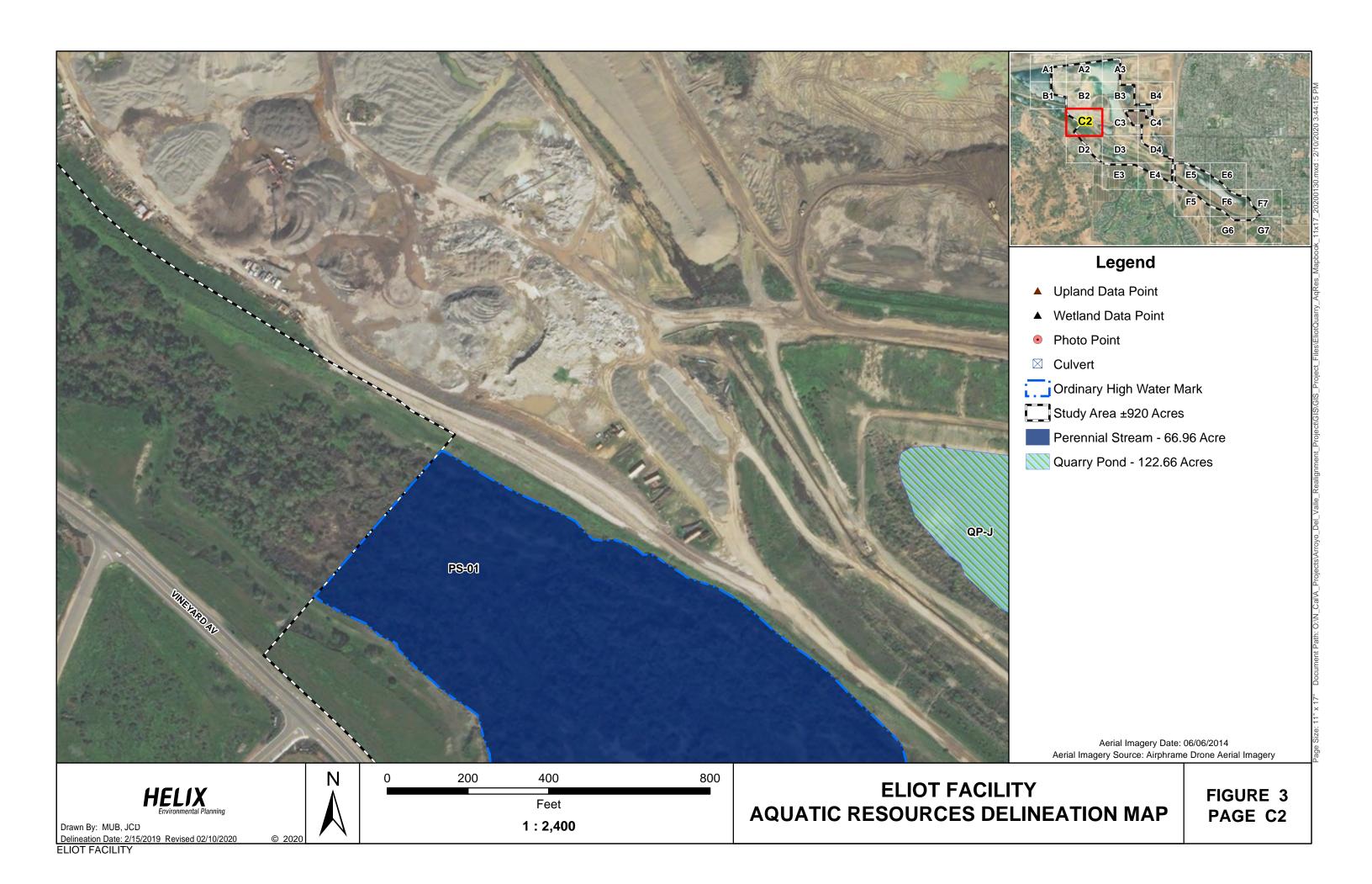


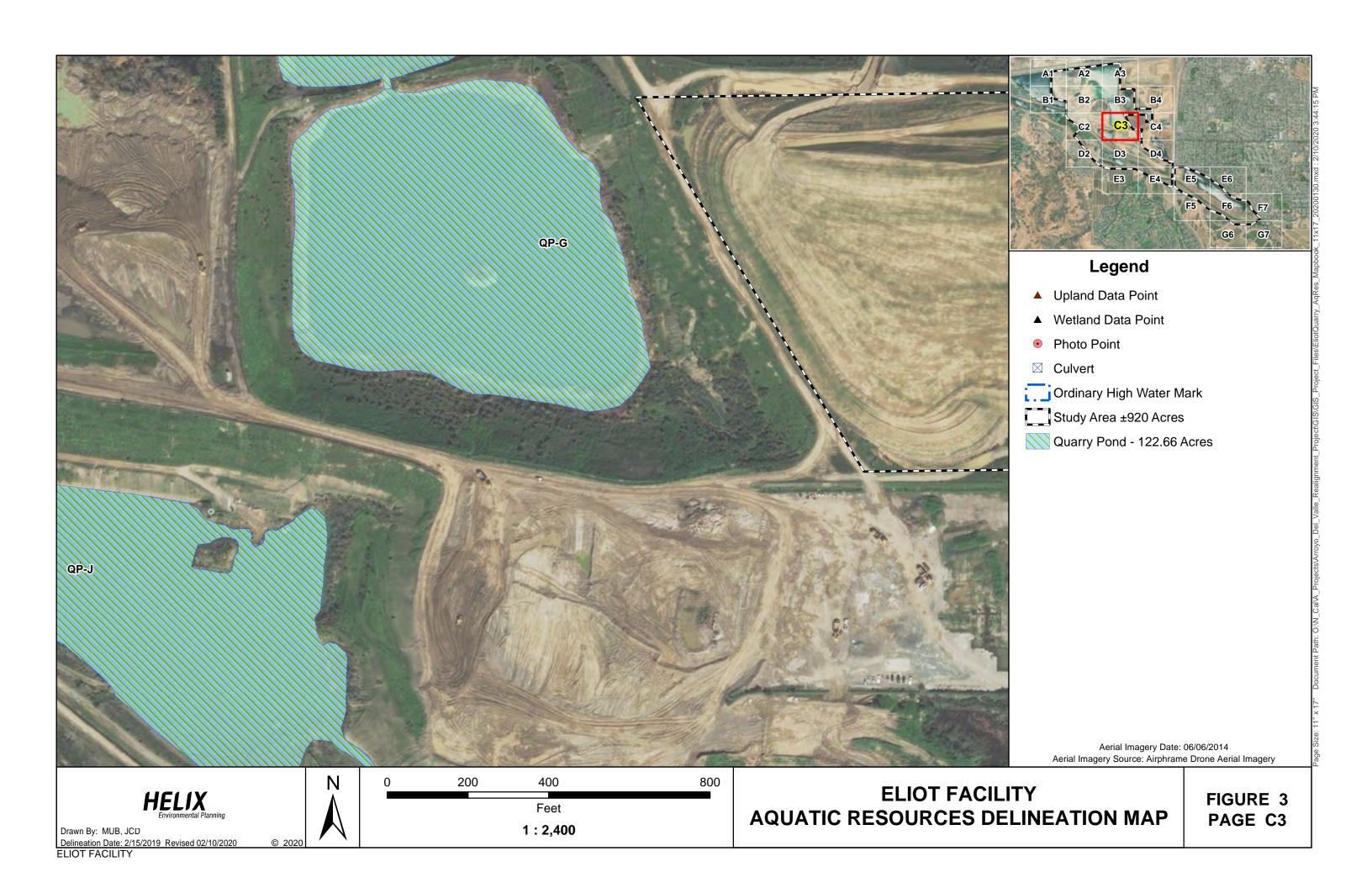


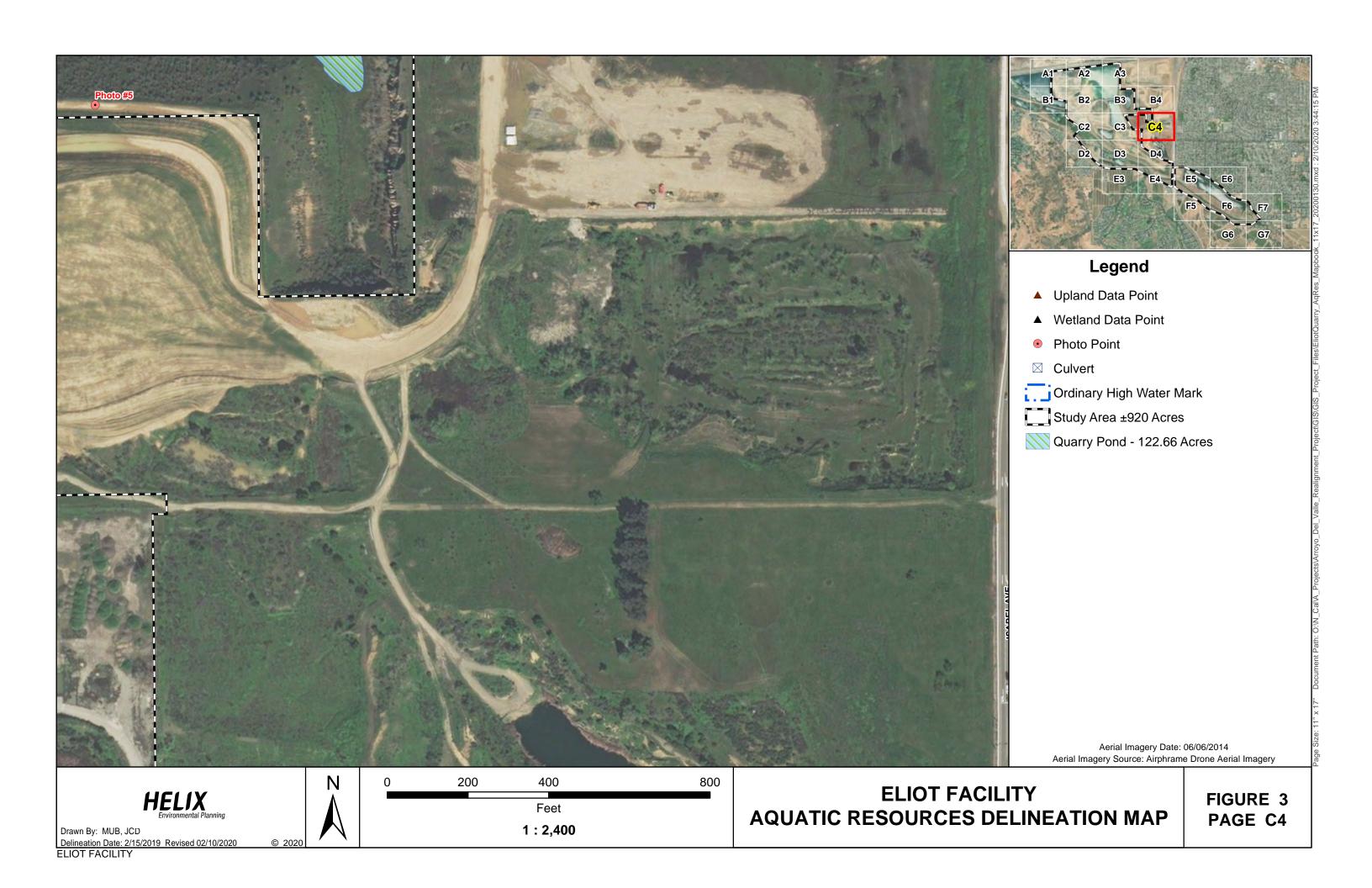


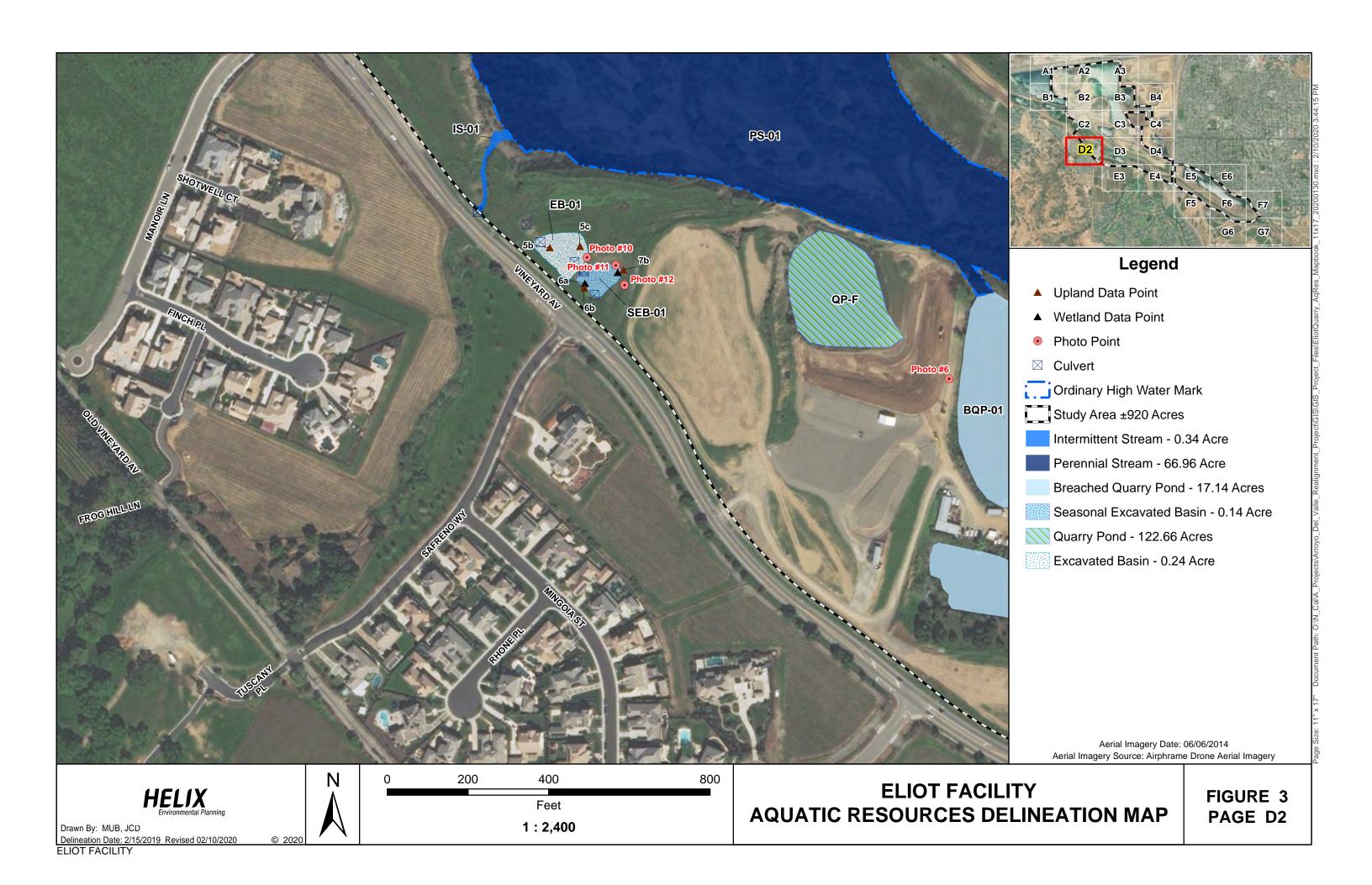


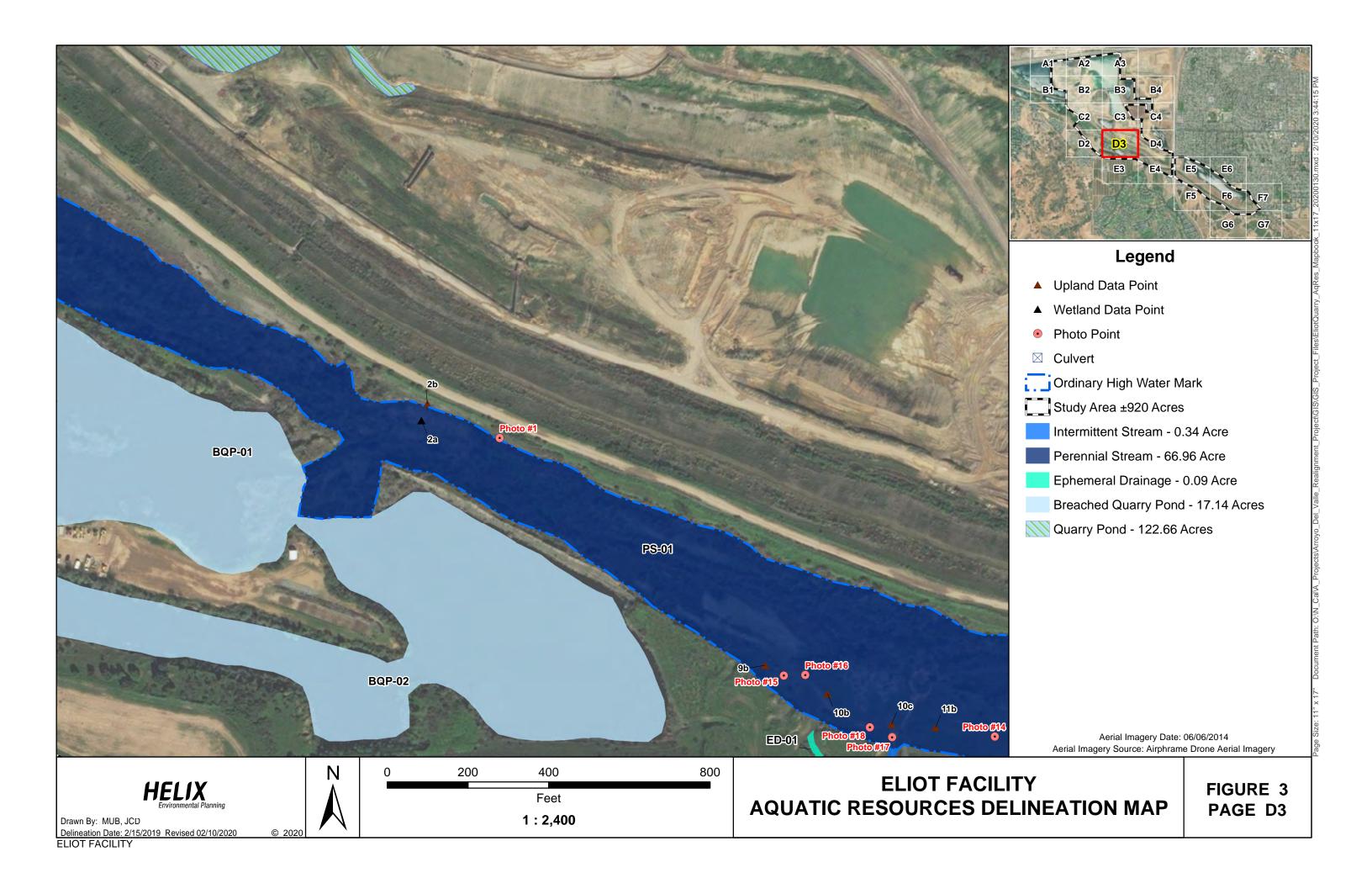


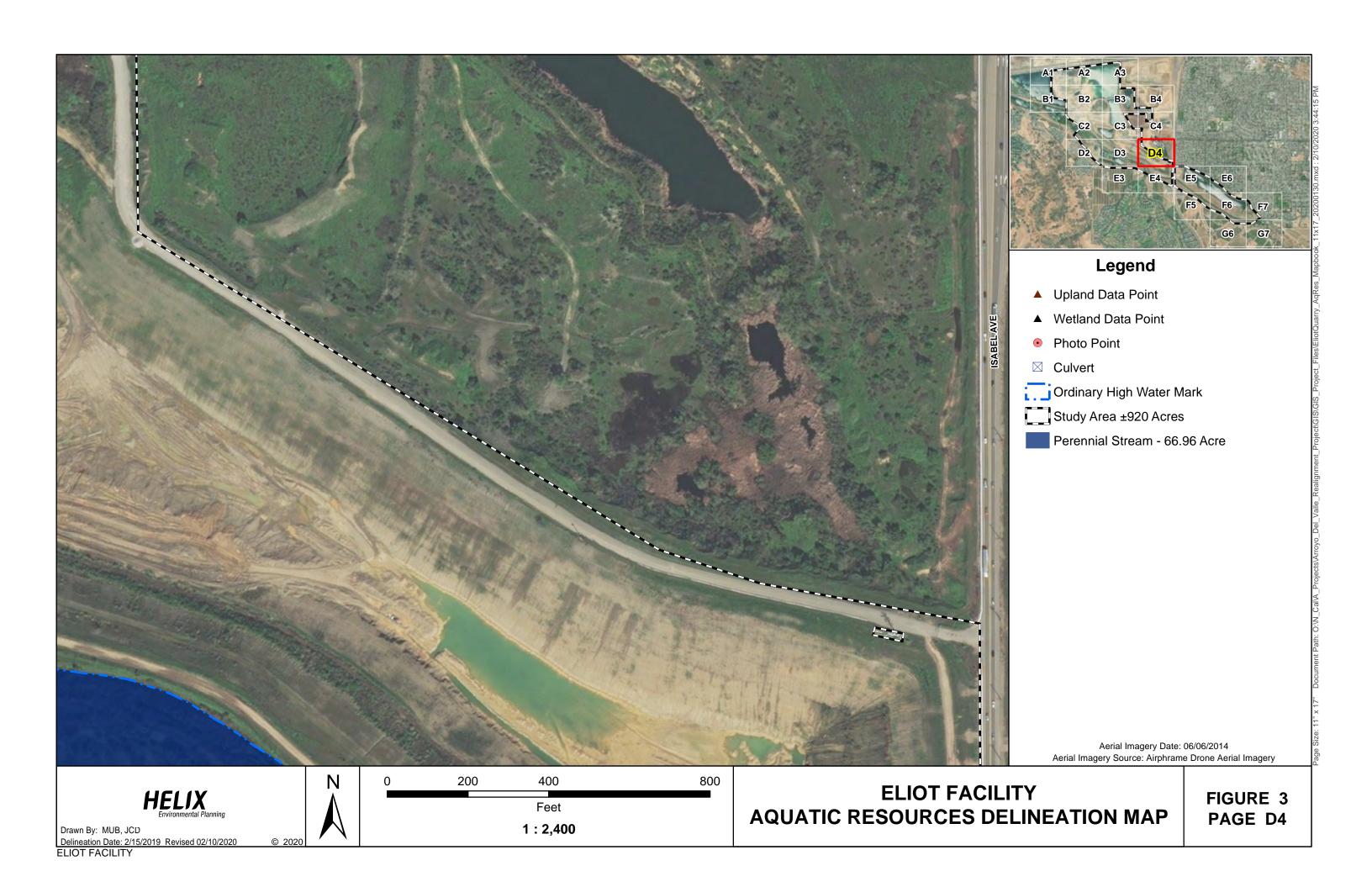


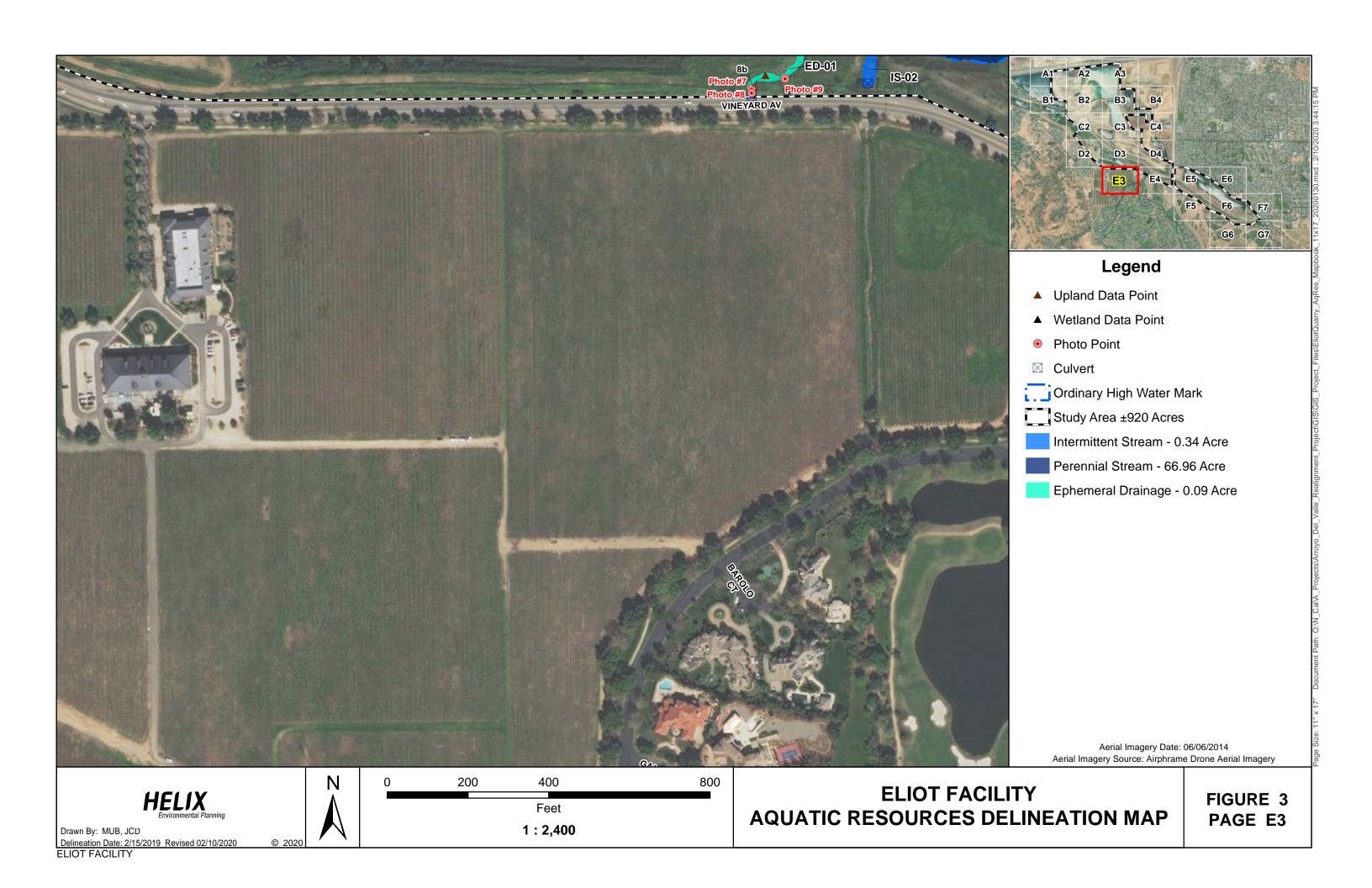


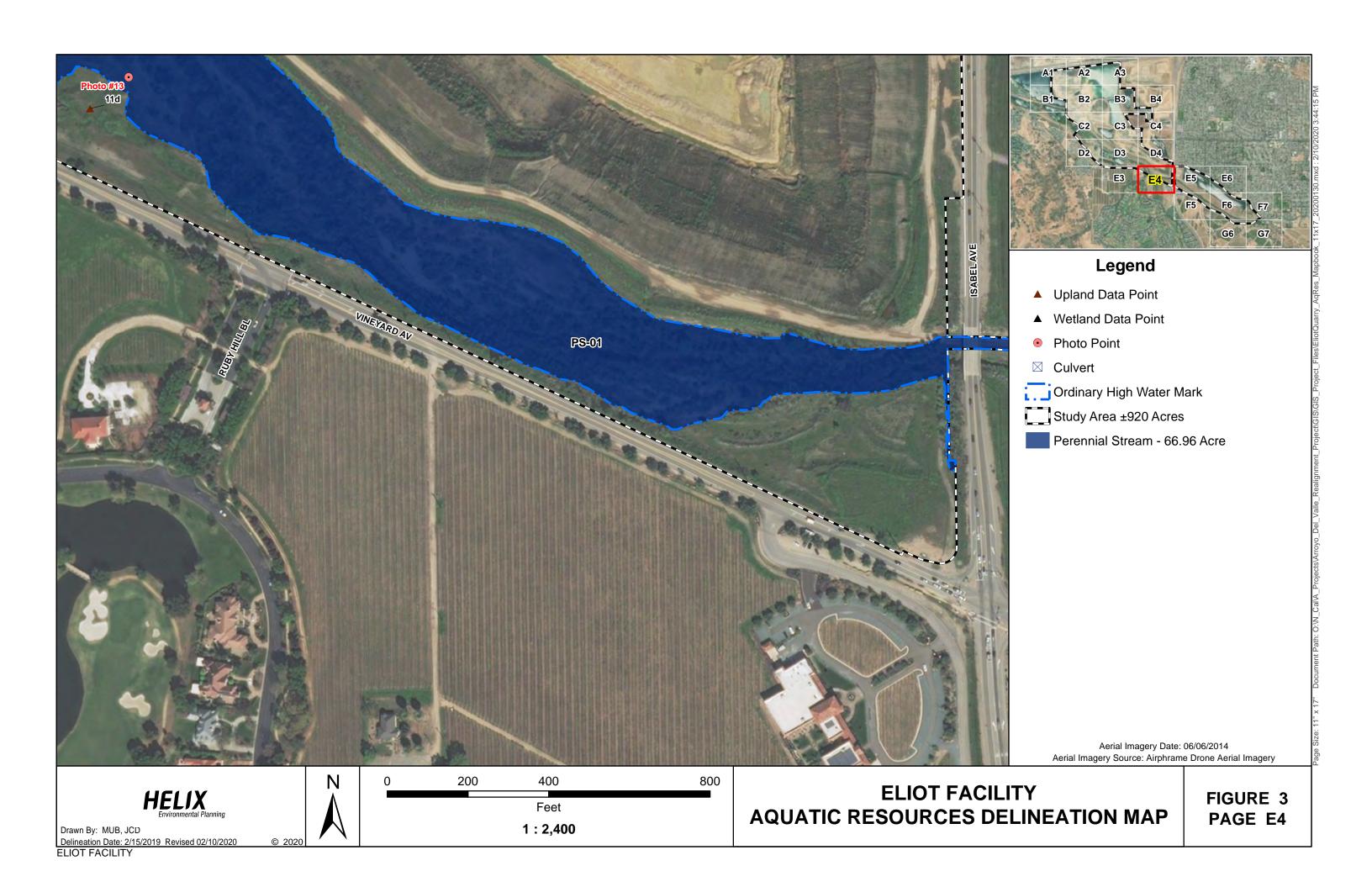


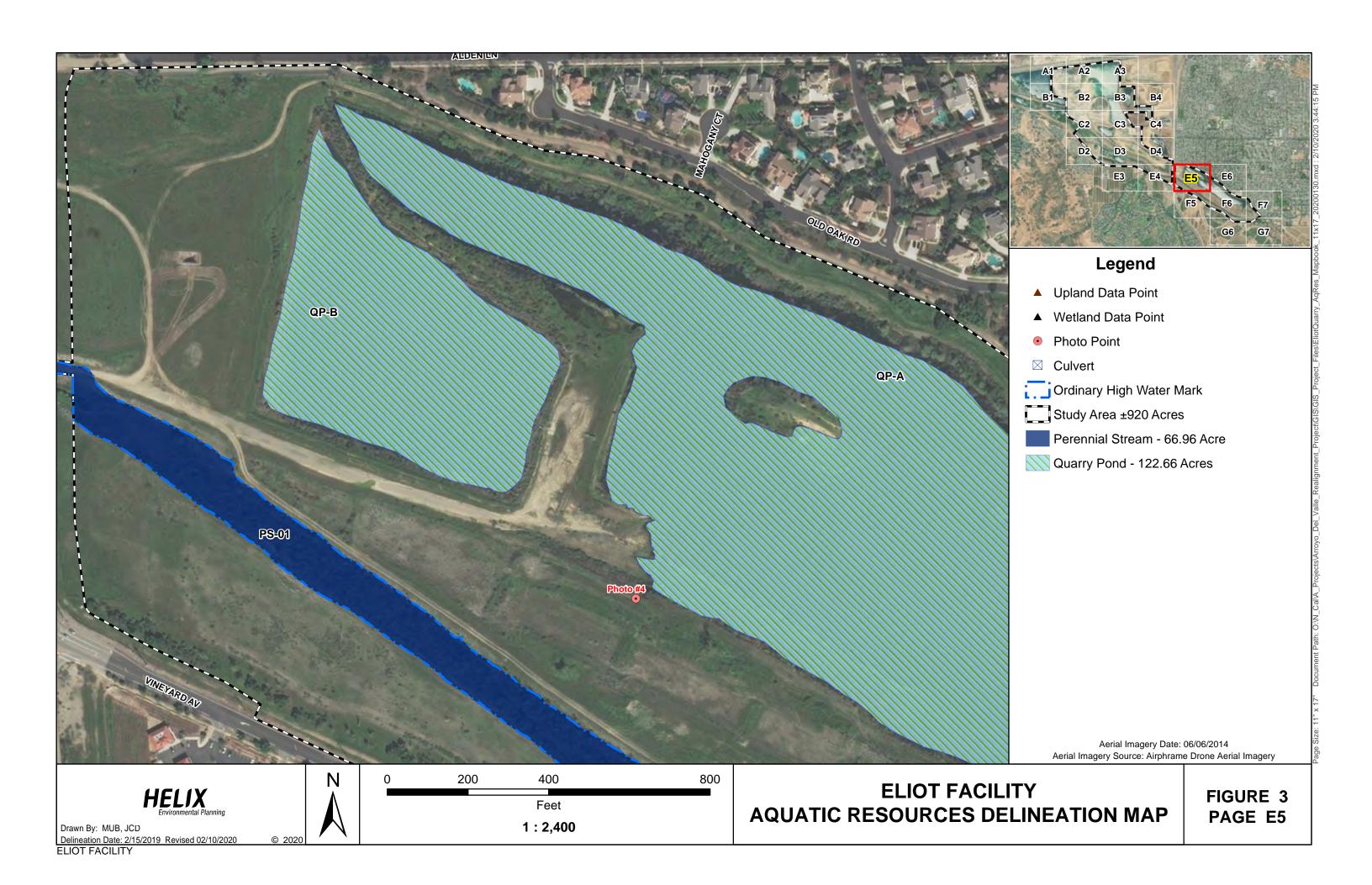


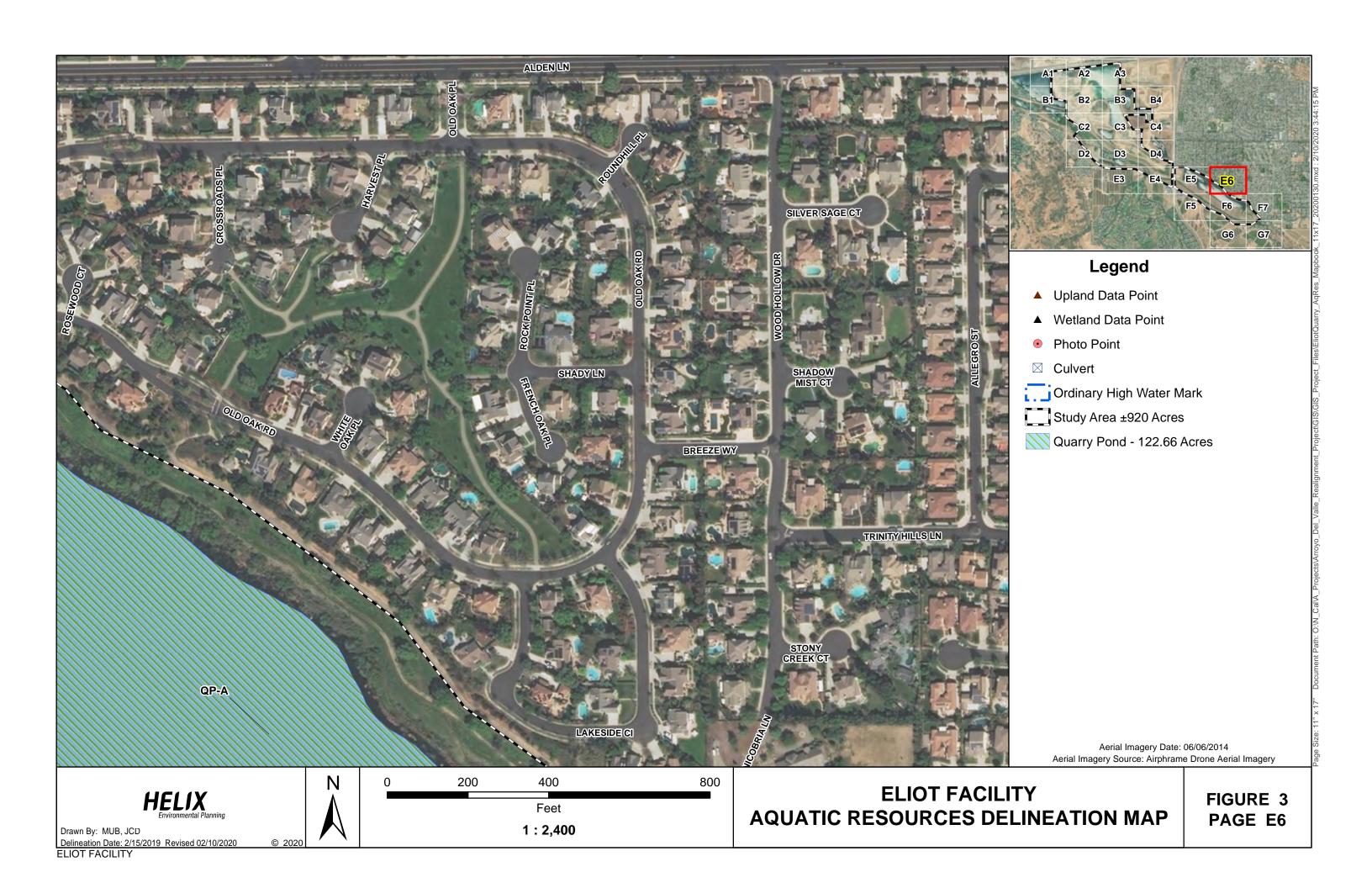


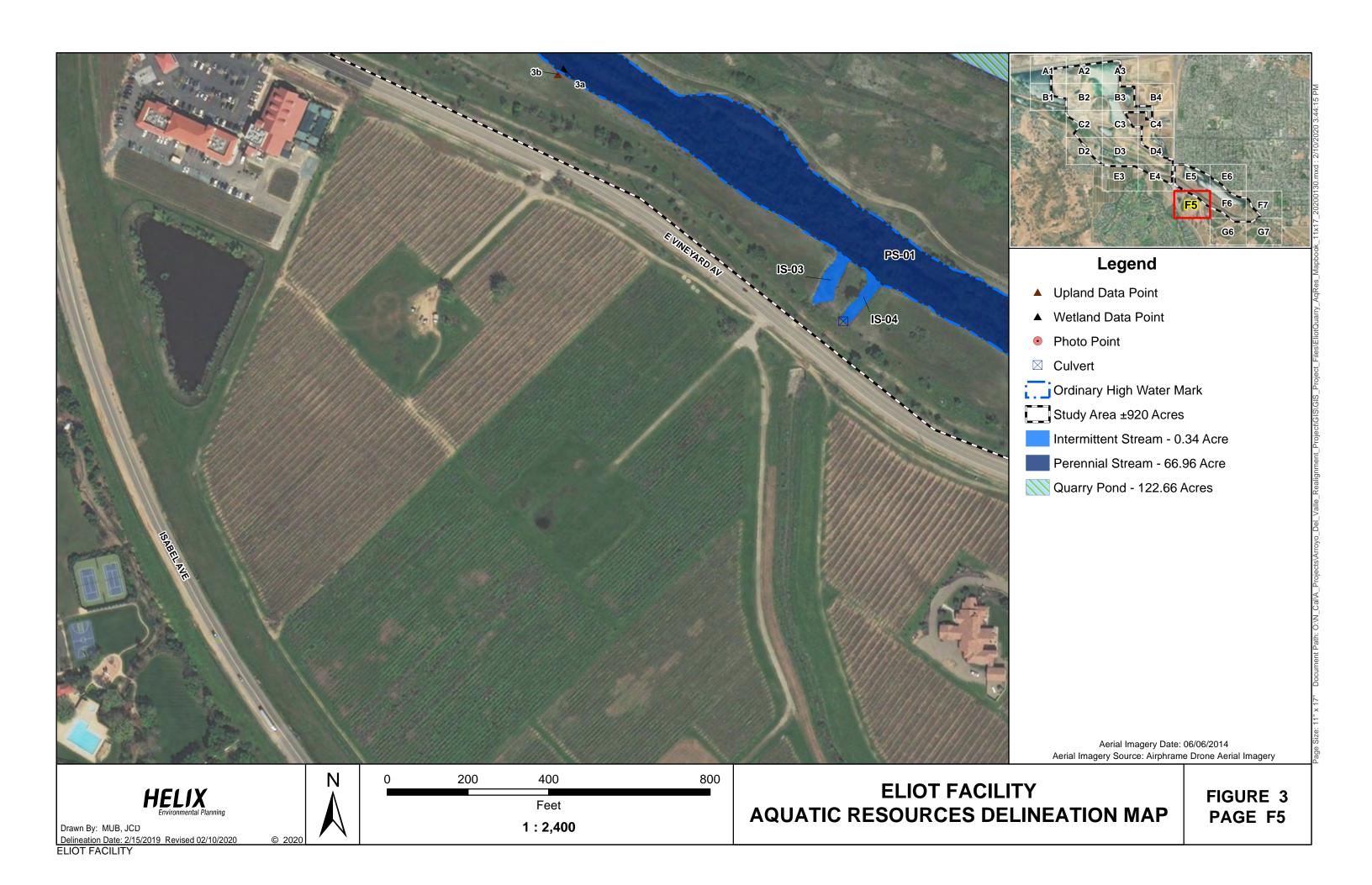


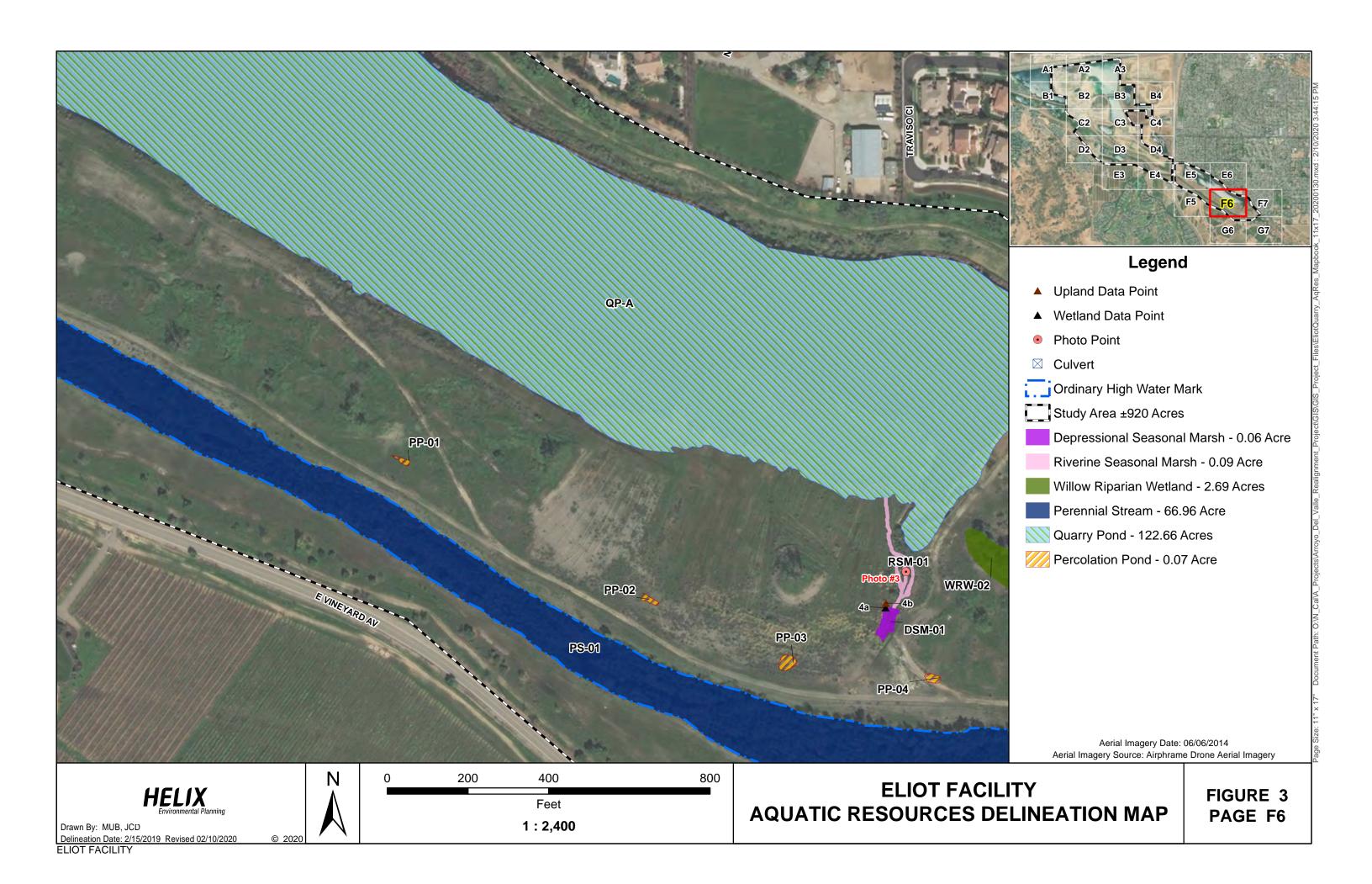


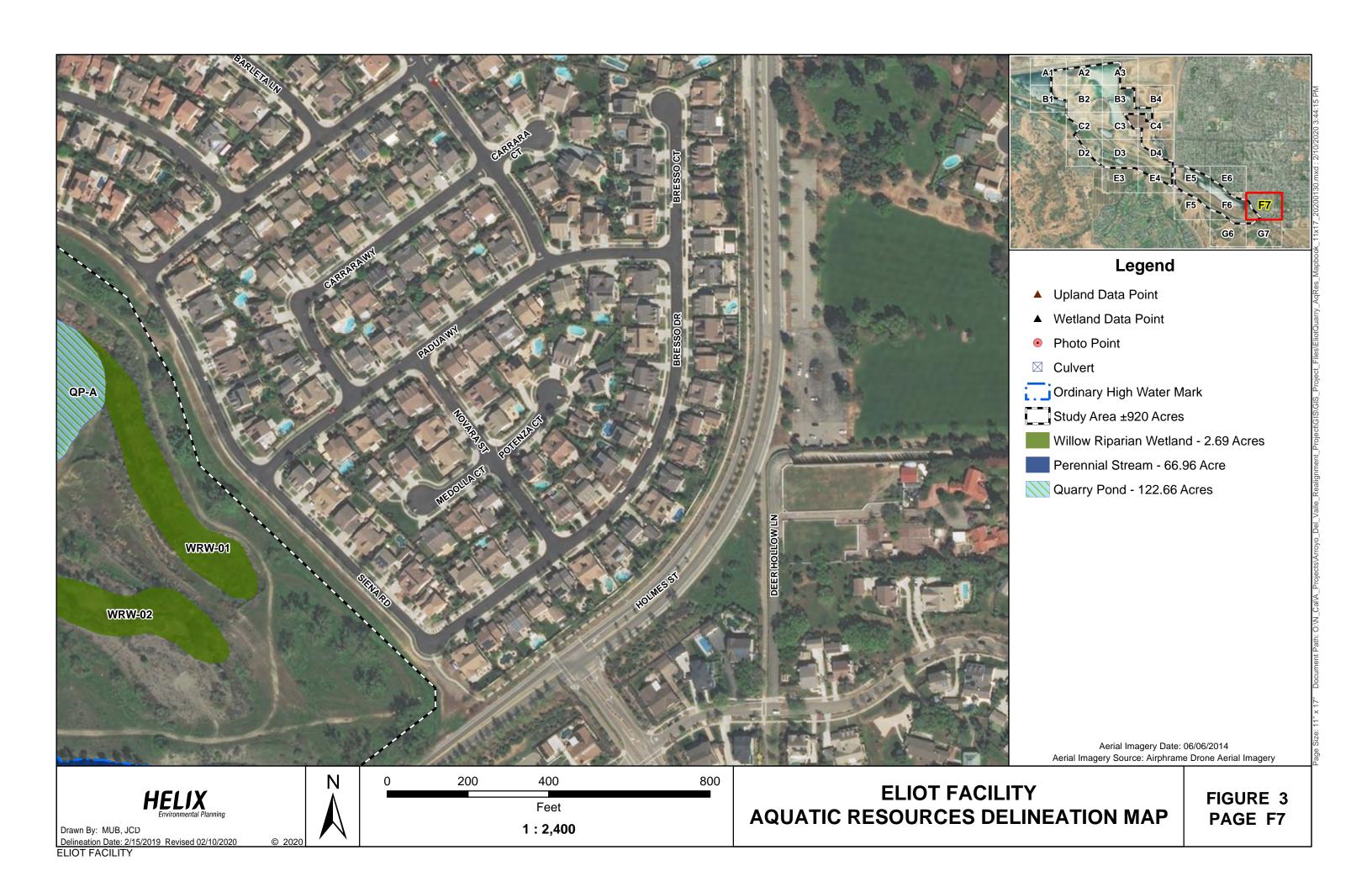


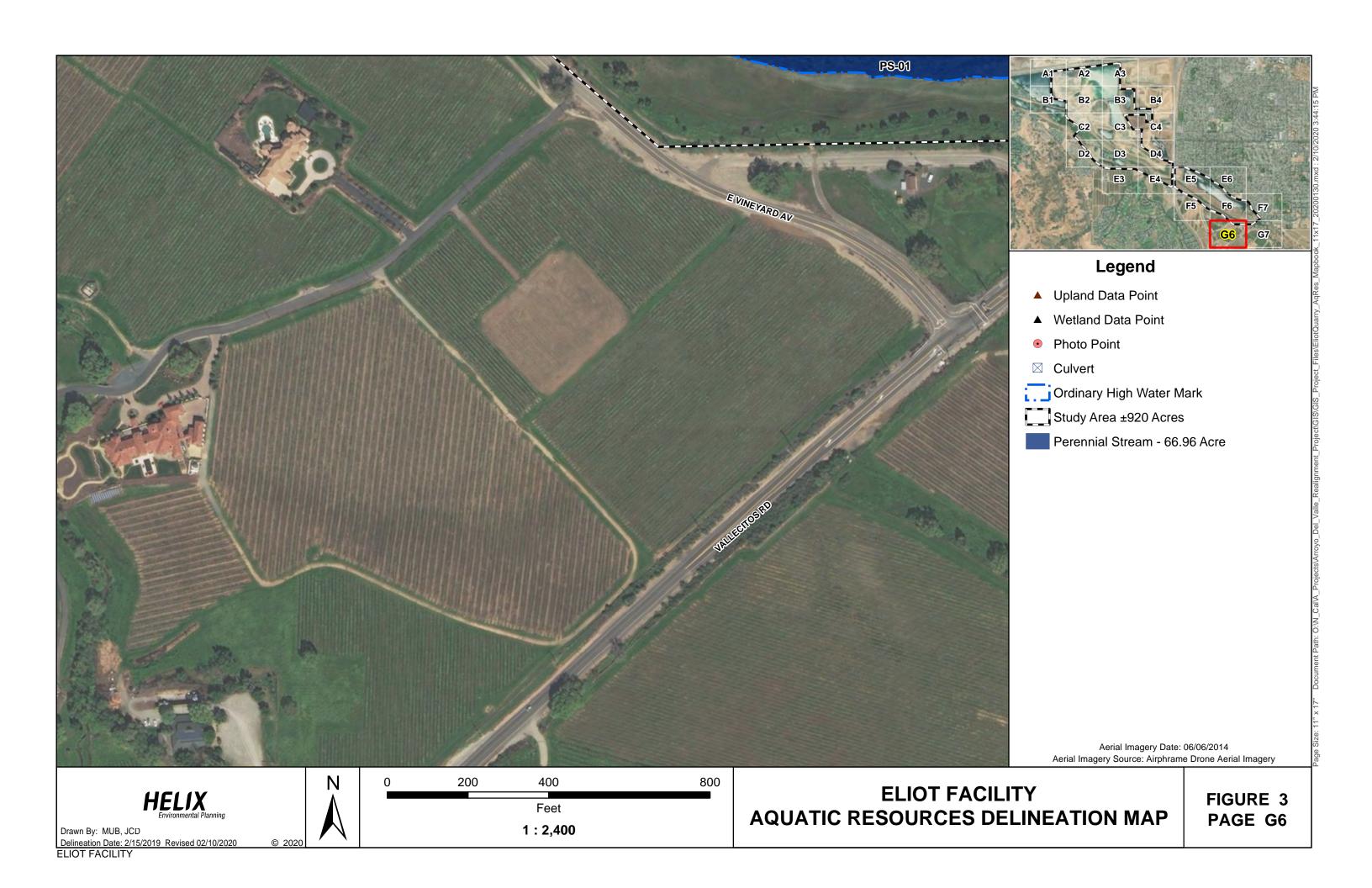


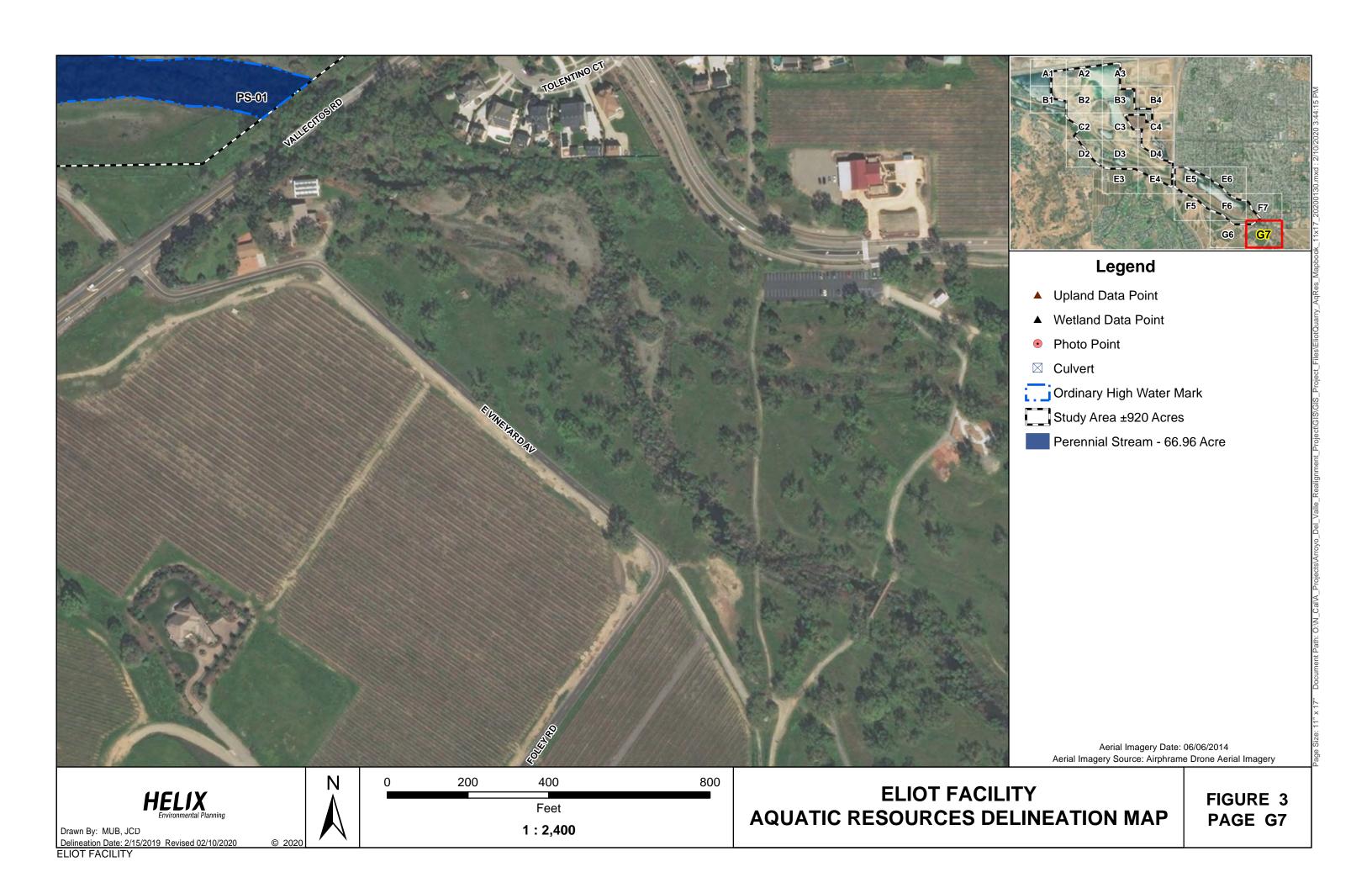












2.1.1 Waters of the U.S.

Any person, firm, or agency planning to alter or work in Waters of the U.S., including the discharge of dredged or fill material, must first obtain authorization from the USACE under Section 404 of the Clean Water Act (CWA; 33 United States Code [USC] 1344). Waters of the U.S. are defined as:

- (1) All waters which are currently used, 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) The territorial seas;
- (4) All impoundments of waters otherwise identified as waters of the United States under this section;
- (5) All tributaries, as defined in paragraph (c)(3) of this section, of waters identified in paragraphs (a)(1) through (3) of this section;
- (6) All waters adjacent to a water identified in paragraphs (a)(1) through (5) of this section, including wetlands, ponds, lakes, oxbows, impoundments, and similar waters;
- (7) All waters in paragraphs (a)(7)(i) through (v) of this section where they are determined, on a case-specific basis, to have a significant nexus to a water identified in paragraphs (a)(1) through (3) of this section. The waters identified in each of paragraphs (a)(7)(i) through (v) of this section are similarly situated and shall be combined, for purposes of a significant nexus analysis, in the watershed that drains to the nearest water identified in paragraphs (a)(1) through (3) of this section. Waters identified in this paragraph shall not be combined with waters identified in paragraph (a)(6) of this section when performing a significant nexus analysis. If waters identified in this paragraph are also an adjacent water under paragraph (a)(6), they are an adjacent water and no case-specific significant nexus analysis is required.
 - (i) *Prairie potholes.* Prairie potholes are a complex of glacially formed wetlands, usually occurring in depressions that lack permanent natural outlets, located in the upper Midwest.
 - (ii) Carolina bays and Delmarva bays. Carolina bays and Delmarva bays are ponded, depressional wetlands that occur along the Atlantic coastal plain.
 - (iii) *Pocosins*. Pocosins are evergreen shrub and tree dominated wetlands found predominantly along the Central Atlantic coastal plain.
 - (iv) Western vernal pools. Western vernal pools are seasonal wetlands located in parts of California and associated with topographic depression, soils with poor drainage, mild, wet winters and hot, dry summers.
 - (v) *Texas coastal prairie wetlands*. Texas coastal prairie wetlands are freshwater wetlands that occur as a mosaic of depressions, ridges, intermound flats, and mima mound wetlands located along the Texas Gulf Coast.



(8) All waters located within the 100-year floodplain of a water identified in paragraphs (a)(1) through (3) of this section and all waters located within 4,000 feet of the high tide line or ordinary high water mark of a water identified in paragraphs (a)(1) through (5) of this section where they are determined on a case-specific basis to have a significant nexus to a water identified in paragraphs (a)(1) through (3) of this section. For waters determined to have a significant nexus, the entire water is a water of the United States if a portion is located within the 100-year floodplain of a water identified in paragraphs (a)(1) through (3) of this section or within 4,000 feet of the high tide line or ordinary high water mark. Waters identified in this paragraph shall not be combined with waters identified in paragraph (a)(6) of this section when performing a significant nexus analysis. If waters identified in this paragraph are also an adjacent water under paragraph (a)(6), they are an adjacent water and no case-specific significant nexus analysis is required.

Within non-tidal waters that meet the definition given above, and in the absence of adjacent wetlands, the indicator used by the USACE to determine the lateral extent of its jurisdiction is the OHWM, which is defined as that line on the shore established by the fluctuations 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.

Wetlands are defined under the CFR Part 328.3 as those areas that are inundated or saturated by surface or ground water at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

The USACE has determined that not all features which meet the waters of the U.S. definition are, in fact, considered waters of the U.S. Normally, features not considered waters of the U.S. include:

- (1) Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA.
- (2) Prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with the U.S. Environmental Protection Agency (USEPA).
- (3) The following ditches:
 - (i) Ditches with ephemeral flow that are not a relocated tributary or excavated in a tributary.
 - (ii) Ditches with intermittent flow that are not a relocated tributary, excavated in a tributary, or drain wetlands.
 - (iii) Ditches that do not flow, either directly or through another water, into a water identified in paragraphs (a)(1) through (3) of this section.
- **(4)** The following features:
 - (i) Artificially irrigated areas that would revert to dry land should application of water to that area cease;
 - (ii) Artificial, constructed lakes and ponds created in dry land such as farm and stock watering ponds, irrigation ponds, settling basins, fields flooded for rice growing, log cleaning ponds, or cooling ponds;



- (iii) Artificial reflecting pools or swimming pools created in dry land;
- (iv) Small ornamental waters created in dry land;
- (v) Water-filled depressions created in dry land incidental to mining or construction activity, including pits excavated for obtaining fill, sand, or gravel that fill with water;
- (vi) Erosional features, including gullies, rills, and other ephemeral features that do not meet the definition of tributary, non-wetland swales, and lawfully constructed grassed waterways; and
- (5) Groundwater, including groundwater drained through subsurface drainage systems.
- **(6)** Stormwater control features constructed to convey, treat, or store stormwater that are created in dry land.
- (7) Wastewater recycling structures constructed in dry land; detention and retention basins built for wastewater recycling; groundwater recharge basins; percolation ponds built for wastewater recycling; and water distributary structures built for wastewater recycling.

Other features may be excluded based on Federal court rulings (e.g., SWANCC and Rapanos) or by regulation. Permits, licenses, variances, or similar authorization may also be required by other federal, state, and local statutes. The California Department of Fish and Wildlife (CDFW) requires notification prior to commencement, and a Streambed Alteration Agreement (SAA) pursuant to California Fish and Game Code Subsection 1600 et seq., if a proposed activity would result in the alteration of a stream, river, or lake in California.

On January 23, 2020, the USEPA and the USACE finalized the Navigable Waters Protection Rule to define Waters of the U.S. and establish federal regulatory authority under the Clean Water Act. The rule will become effective 60 days after publication in the Federal Register. To date, the rule has not yet been published.

2.1.2 Waters of the State

(vii) Puddles.

Any action requiring a CWA Section 404 permit, or a Rivers and Harbors Act Section 10 permit, must also obtain a CWA Section 401 Water Quality Certification. The State of California Water Quality Certification (WQC) Program was formally initiated by the State Water Resources Control Board (SWRCB) in 1990 under the requirements stipulated by section 401 of the Federal CWA. Although the Clean Water Act is a Federal law, section 401 of the CWA recognizes that states have the primary authority and responsibility for setting water quality standards. In California, under section 401, the State and Regional Water Boards are the authorities that certify that issuance of a federal license or permit does not violate California's water quality standards (i.e., that they do not violate Porter-Cologne and the Water Code). The WQC Program currently issues WQC for discharges requiring U.S. Army Corps of Engineers' (Corps) permits for fill and dredge discharges within waters of the United States, and now also implements the State's wetland protection and hydromodification regulation program under the Porter Cologne Water Quality Control Act.

On April 2, 2019, the SWRCB adopted a State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures), for inclusion in the forthcoming Water



Quality Control Plan for Inland Surface Waters and Enclosed Bays and Estuaries and Ocean Waters of California. The Procedures consist of four major elements: 1) a wetland definition; 2) a framework for determining if a feature that meets the wetland definition is a water of the state; 3) wetland delineation procedures; and 4) procedures for the submittal, review and approval of applications for Water Quality Certifications and Waste Discharge Requirements for dredge or fill activities. The Office of Administrative Law approved the Procedures on August 28, 2019, and the Procedures will become effective on May 28, 2020. The SWRCB circulated draft implementation Guidance on the Procedures in February 2020, with final Guidance anticipated in April 2020.

Under the Procedures and the State Water Code (Water Code §13050(e)), "waters of the State" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state." Unless excluded by the Procedures, any activity that could result in discharge of dredged or fill material to waters of the State, which includes waters of the U.S. and non-federal waters of the State, requires filing of an application under the Procedures.

3.0 METHODS

3.1 SITE SPECIFIC REFERENCES

Available information pertaining to the natural resources of the region and specific to the Study Area were reviewed. All references reviewed for this delineation are listed in Section 6.0. Pertinent site-specific reports, online resources and general references utilized for the delineation include the following:

- Baldwin. G., D. Goldman, D. Keil, R. Patterson, and T.J. Rosatti. 2012. *The Jepson Manual, 2nd Edition*. Vascular Plants of California. ISBN: 9780520253124. January 12, 2013. 1,600 pp;
- Calflora. 2017. *Information on California plants for education, research and conservation. Berkeley, California*. Available online at: http://www.calflora.org/;
- Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. U.S. Army Corps of Engineers Waterways Experiment Station. Vicksburg, MS;
- GretagMacbeth. 2000. Munsell Soil Color Charts. New Windsor, NY;
- Lichvar, R.W., Butterwick, M., Melvin, N.C., and Kirchner, W. 2016. The National Wetland Plant List: 2016 Wetland Ratings. Phytoneuron 2016-30: 1–17. Published April 28, 2016. ISSN 2153 733X;
- U.S. Army Corps of Engineers (USACE). 2008a. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. U.S. Army Engineer Research and Development Center. Vicksburg, MS;
- USACE. 2008b. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). U.S. Army Engineer Research and Development Center. Vicksburg, MS;



- USACE. 2016b. National Wetland Plant List Viewer v3.3. Available: http://wetland_plants.usace.army.mil;
- U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS). 1966.
 Soil Survey of the Alameda Area, California. USDA, NRCS, in cooperation with the Regents of the University of California (Agricultural Experiment Station);
- USDA, NRCS. 2017b. Web Soil Survey. Available: http://websoilsurvey.sc.egov.usda.gov;
- U.S. Fish and Wildlife Service. 2018. *National Wetlands Inventory Mapper*. Available at: https://www.fws.gov/wetlands/data/Mapper.html. Accessed; and
- U.S. Geological Survey (USGS). 1961. *Livermore, California*. 7.5-minute series topographic quadrangle (photo revised 1980). U.S. Department of the Interior.

3.2 RESEARCH AND FIELD METHODOLOGY

This delineation utilized the USACE's 1987 three-parameter (vegetation, hydrology, and soils) methodology to delineate aquatic resources. The Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid west Region was also used in conjunction with the Corps Manual for delineations. Where differences in the two documents occur, the Regional Supplement takes precedence over the Corps Manual. In addition, the USACE's Field Guide to the Identification of the OHWM in the Arid west Region of the United States was utilized in order to delineate other waters of the U.S.

The Arid west Region consists of all or significant portions of 11 states, including California (USACE 2008b). This region is differentiated from other surrounding areas by having a predominantly dry climate and long summer dry season. Vegetation characteristics of the Arid west Region include little to no forest cover consisting of mainly annual grasslands, shrublands, hardwood savannas, deciduous woodlands, and pinyon/juniper woodlands. The Arid west Supplement was used on this site because it is located in the Mediterranean California Land Resource Region (LRR C), an area which is characterized by warm, wet winters and dry summers.

The three-parameter methodology requires the collection of data on soils, vegetation, and hydrology at several locations to establish the jurisdictional boundary of wetlands. Additional methods to identify and delineate other waters of the U.S. (e.g., streams, drainages, lakes) were used as applicable. The method typically used for delineation of non-wetland waters of the U.S. is the delineation of the OHWM.

A review of historic and recent aerial photographs, topographic maps, and soils survey data was conducted before reviewing and conducting the delineation of the Study Area (USDA 2018). Initial field surveys were conducted on November 15 and 16, 2017, and April 3 and 4, 2018. On November 5, 2019, a field verification of aquatic resources delineated within the Study Area was conducted with representatives from HELIX and the USACE. A subsequent email from the USACE was received on November 7, 2019, with questions regarding additional features that needed to be evaluated, as well as a reassessment of the previously mapped boundary of the Arroyo del Valle OHWM. At the request of the USACE, HELIX biologists conducted another site assessment on November 25 and 26, 2019, to delineate potential new aquatic features within an added portion in the southwest portion of the Study Area, and to confirm existing mapping of previously delineated features.



The Study Area was visually inspected on foot and data collected on vegetation, soils, and hydrology. The channel of the Arroyo del Valle was surveyed for wetland hydrology indicators such as, but not limited to, the presence of litter or debris, wracking, matted vegetation, scouring, deposition and the presence of a bed and bank. A list of all plant species observed during the delineation and their respective wetland indicator status is provided in Appendix C. Correlations were developed between the three parameters (vegetation, hydrology, and soils) to make wetland determinations. Specifically, plots at data point locations were evaluated to determine the composition and identification of dominant plant species. The indicator status of all dominant plant species [as determined by the current National Wetland Plant List] (USACE 2019) was applied and evaluated as part of the vegetation assessment portion of the wetland determination process. The plant indicator status includes the following categories:

Obligate wetland plants (OBL): Occur almost always under natural wetland conditions

(estimated probability > 99%).

Facultative wetland plants (FACW): Usually occur in wetlands, but occasionally found in non-

wetlands (67-99%).

Facultative plants (FAC): Equally likely to occur in wetlands and non-wetlands

(34-66%).

Facultative upland plants (FACU): Usually occur in non-wetlands, but occasionally found in

wetlands (1-33%).

Upland (UPL): Occur almost always under natural conditions in non-

wetlands (>99%); may occur in wetlands in other regions.

The absolute cover was estimated for each vegetation stratum; these strata include tree, sapling/shrub, herb, and woody vine. Species that are dominant in more than one stratum were counted multiple times. Some wetland plant communities may fail a test based only on dominant species. Where indicators of hydric soils and hydrology are present, and vegetation is not dominated by hydrophytes, the vegetation was re-evaluated with the prevalence index, which takes into consideration all plant species in the community, not just the subset of dominant species.

The onsite soils were examined for hydric indicators. Hydric soil indicators are described in the Field Indicators of Hydric Soils in the U.S., Version 7.0 (USDA, NRCS 1966 and 2019). If one or more of these indicators are present, then the soil is hydric. Nearly all hydric soils exhibit characteristic morphologies that are caused by anaerobic, reduced soil conditions due to prolonged soil saturation. The most commonly observed indicators are related to iron (Fe) and manganese (Mn) redox concentrations or depletions. Less commonly observed indicators include gleyed matrix and black histic (low amounts of Fe-Mn and accumulations of organic carbon).

Observations were made and recorded for both primary and secondary wetland hydrology indicators, if present. Without monitoring or direct observation of inundation/saturation, indirect indicators of wetland hydrology are typically used and include primary indicators such as water marks, drift lines, and sediment deposits, or secondary indicators such as crayfish burrows or the FAC-neutral test. These results are presented in Figure 3.



3.3 GPS DATA INTEGRATION

Boundaries of wetlands and other waters of the U.S. within the Study Area were surveyed and mapped with a Trimble GeoXT Global Positioning System (GPS) hand-held unit. This is a mapping-grade GPS unit capable of real-time differential correction and sub-meter accuracy. The GPS data were downloaded from the unit and differentially corrected utilizing Trimble Pathfinder Office software and appropriate base station data, and then converted to ESRI® shape file format. Data are typically exported to the Geographic Information System (GIS) software in the State Plane coordinate system (NAD 83) with units as "survey feet". Within the GIS, data are edited, and linear features are built into polygons using recorded width information. All wetland shape files are merged to create a single wetland file with calculated acreages.

4.0 RESULTS

4.1 SITE LOCATION AND LAND USE

4.1.1 Site Location

The approximate 920-acre Study Area is located in unincorporated Alameda County, between the cities of Pleasanton and Livermore. The Study Area occurs within portions of Sections 13, 14, 19, 23, 24, 29, and 30, within Township 3 South, and Ranges 1 and 2 East of the USGS 7.5-minute series Livermore quadrangle. The approximate location of the center of the Study Area is 37° 39′ 40.438″ North, 121° 48′ 54.723″ West (Figure 1).

4.1.2 Land Use

The majority of the Study Area is an active sand and gravel quarry that has been continuously mined for over 100 years. Primary land uses surrounding the Study Area include industrial scale mining activities (Vulcan Materials Quarry), residential housing, agricultural activities, and open space in the form of Shadow Cliffs Regional Recreation Area and Sycamore Grove Park. There is no foreign commerce associated with aquatic resources within the Study Area.

4.1.3 Site History

The Eliot Facility is a sand and gravel quarry that has been mined for over 100 years. During that time, nearly the entirety of the Study Area has been repeatedly and regularly disturbed by mining activities, including the Arroyo del Valle. Mining activities are currently ongoing and dynamic. The long-term actively mined nature of the Study Area has produced a highly degraded non-natural landscape both within the Arroyo del Valle and within the surrounding upland areas.

4.2 PHYSICAL FEATURES

4.2.1 Soils

The Natural Resource Conservation Service (NRCS) has mapped and identified eleven map units occurring within the Study Area (Figure 2): Livermore Gravelly Loam; Livermore Very Gravelly Coarse Sandy Loam; Pleasanton Gravelly Loam, 0 to 3 Percent Slopes; Pleasanton Gravelly Loam, 3 to



12 Percent Slopes; Positas Gravelly Loam, 2 to 20 Percent Slopes, Eroded; Yolo Loam, 0 to 3 Percent Slopes; Yolo Loam Over Gravel, 0 to 3 Percent Slopes; Yolo Sandy Loam, 0 to 3 Percent Slopes; Zamora Silt Loam, 0 to 4 Percent Slopes; Gravel Pit; and Riverwash. Also depicted in Figure 2 there are features consisting largely of open water, including silt ponds and quarry ponds. The general characteristics and properties associated with these map units are described below.

(Lg) Livermore Gravelly Loam: This soil type occurs on alluvial fans and fluvial terraces. The parent material is alluvium derived from sandstone and shale. Most areas of this soil type are nearly level and have slopes of three percent or less. The amount of gravel ranges from 20 to 40 percent. The available water storage is low, and it is somewhat excessively drained. The hydric soils list for Alameda County does not identify this soil type as hydric (USDA, NRCS 1966 and 2019).

(Lm) Livermore Very Gravelly Coarse Sandy Loam: This soil type occurs on alluvial fans and fluvial terraces. The parent material is alluvium derived from sandstone and shale. Most areas of this soil type are level or nearly so, with slopes no greater than seven percent. The percent of gravel ranges from 40 to 75 percent. The available water storage is low, and it is somewhat excessively drained. The hydric soils list for Alameda County does not identify this soil type as hydric (USDA, NRCS 1966 and 2019).

(PgA) Pleasanton Gravelly Loam, 0 to 3 Percent Slopes: This soil type occurs on alluvial fans and fluvial terraces. The parent material is alluvium derived from sandstone and shale. It is reddish-brown in color, medium acidic to moderately alkaline clay substrate. This soil type is extremely hard when dry and plastic when wet. The available water storage is moderate, and it is well drained. This soil type is used for pasture, range, and dry farming. The hydric soils list for Alameda County does not identify this soil type as hydric (USDA, NRCS 1966 and 2019).

(PgB) Pleasanton Gravelly Loam, 3 to 12 Percent Slopes: This soil type occurs on alluvial fans and fluvial terraces. The parent material is alluvium derived from sandstone and shale. The available water storage is moderate, and it is well drained. This soil type is used for farming activities. The hydric soils list for Alameda County does not identify this soil type as hydric (USDA, NRCS 1966 and 2019).

(PoC2) Positas Gravelly Loam, 2 to 20 Percent Slope, Eroded: This soil type is located on fluvial terraces. The parent material is alluvium derived from sandstone and shale. The available water storage is low, and it is well drained. These soils have less than 35 percent clay, moderate drainage, very slow permeability, and very high runoff. The hydric soils list for Alameda County does not identify this soil type as hydric (USDA, NRCS 1966 and 2019).

(YmA) Yolo Loam, 0 to 3 Percent Slopes: This soil type occurs on alluvial fans. The parent material is alluvium derived from sedimentary rock. The available water storage is high, and it is well drained. This soil type is composed of 85 percent of Yolo and similar soils, and 15 percent of minor components made up of 5 percent Unnamed, 5 percent Sycamore, and 5 percent Livermore soils. The hydric soils list for Alameda County does not identify this soil type as hydric; however, the unnamed soil inclusion is rated as hydric (USDA, NRCS 1966 and 2019).

(Yo) Yolo Loam Over Gravel, 0 to 3 Percent Slopes: This soil type is located on valley floors. The parent material is alluvium derived from sandstone and shale. The available water storage is moderate, and it is well drained. The permeability is moderately-high to high and the surface runoff is low. This soil type is composed of 85 percent of Yolo and similar soils, and 15 percent of minor components made up of 5 percent Unnamed, 5 percent Sycamore, and 5 percent Livermore soils. The hydric soils list for Alameda



County does not identify this soil type as hydric; however, the unnamed soil inclusion is rated as hydric (USDA, NRCS 1966 and 2019).

- **(Ys) Yolo Sandy Loam, 0 to 3 Percent Slopes:** This soil type occurs on fans and valley floors. The parent material is alluvium derived from sandstone and shale. The available water storage is moderate, and it is well drained. This soil type is composed of 85 percent of Yolo and similar soils, and 15 percent of minor components made up of 5 percent Unnamed, 5 percent Sycamore, and 5 percent Livermore soils. The hydric soils list for Alameda County does not identify this soil type as hydric; however, the unnamed soil inclusion is rated as hydric (USDA, NRCS 1966 and 2019).
- (Za) Zamora Silt Loam, 0 to 4 Percent Slopes: This soil type occurs on flood plains. The available water storage is high, and it is well drained. This soil has parent material consisting of alluvium derived from sandstone and shale. This soil is composed of 85 percent of Zamora and similar soils, and 15 percent of minor components made up of 10 percent Pleasanton, and 5 percent Rincon soils. The hydric soils list for Alameda County does not identify this soil type as hydric (USDA, NRCS 1966 and 2019).
- **(GP) Gravel Pit:** This unit consists of gravel substrate. It is composed of 95 percent Gravel pit, and 5 percent of minor components made up of 5 percent of Unnamed soils. The hydric soils list for Alameda County does not identify this unit as hydric; however, the unnamed soil inclusion is rated as hydric (USDA, NRCS 1966 and 2019).
- **(Rh) Riverwash:** This unit occurs in channels and is excessively drained. The permeability is very high, and the surface runoff is negligible. This soil has parent material consisting of alluvium derived from sandstone and shale. This soil is composed of 100 percent Riverwash. The hydric soils list for Alameda County identifies this soil type as hydric (USDA, NRCS 1966 and 2019). Riverwash is the map unit that occurs within the Arroyo del Valle. The hydric soils list for Alameda County identifies this map unit as having a positive hydric rating and a hydric criterion of four. According to the NRCS, a map unit with a hydric criterion of four is correlated to map unit components that are frequently flooded for a long duration or very long duration during the growing season such that:
 - a. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
 - b. Show evidence that the soils meet the definition of a hydric soil.

(W) Water: Areas mapped as water in the Study Area generally consist of relatively large areas of open water, such as quarry ponds and silt ponds (USDA, NRCS 2019).

4.2.2 Topography

The vast majority of the topography within the Study Area has been severely altered as the result of continual mining activities for over 100 years, resulting in a highly degraded, artificially contoured landscape. The topography within the Study Area varies from nearly flat to steeply sloped and consists of many man-made topographic alterations including but not limited to basins, ponds, the channel of the Arroyo del Valle and adjacent slopes, actively mined areas, gravel piles, sand piles and an intricate and dynamic road network that facilitates the movement of heavy mining equipment as well as the accrual and removal of aggregate material. The elevation within the Study Area ranges from approximately 254 to 460 feet (77 to 140 meters) above msl.



4.2.3 Regional Hydrology

The Study Area is located within Land Resource Region C, an area characterized as having a Mediterranean climate of relatively warm wet winters and dry summers. Most precipitation falls between November and April (U.S. Climate Data 2019). According to Weather Underground, the average annual rainfall for Livermore, located approximately four miles northeast of the Study Area, is 14.61 inches (Weather Underground 2017). At the time the initial delineation was conducted, rainfall totals for the 2017-2018 season were below normal. However, the 2016-2017 water year was officially California's second wettest year on record and many primary and secondary wetland hydrology indicators from that water year, if present, would persist into the 2017-2018 water year.

Direct precipitation, runoff from adjacent uplands, groundwater, stormwater runoff, arroyos, creeks, tidal lagoons (Lake Merritt) and artificial impoundments in the form of ponds and reservoirs constitute the majority of the hydrologic resources within the greater region.

The hydrology of the region has been significantly and permanently altered via the construction and management of a network of flood control structures such as levees, pump stations and related hydrologic resource manipulation and management activities such as the channelization of natural creeks and the impoundment of hydrologic resources. For example, the construction of Del Valle Dam resulted in the creation Lake Del Valle, a reservoir. Currently, the hydrology of the Arroyo del Valle is supplemented via controlled releases from Del Valle Dam and it now functions as an unnatural, highly altered and degraded system.

The Arroyo del Valle flows through the southern portion of the Study Area and is part of the Alameda Creek Watershed, one of the major drainages of the Livermore/Amador Valley. The Arroyo del Valle begins in northeastern Santa Clara County and flows northwesterly into Alameda County where it is impounded by Del Valle Dam and forms Lake Del Valle. The Arroyo del Valle then flows downstream and westward from Lake Del Valle and eventually through the Study Area. The Arroyo del Valle is tributary to Arroyo de la Laguna, itself a tributary to Alameda Creek. In turn, Alameda Creek is tributary to the San Francisco Bay, a Traditionally Navigable Water, approximately 18 air miles from the Study Area.

4.2.4 Site-Specific Hydrology

The Study Area is located within two watersheds: Dry Creek-Arroyo Valle, Hydrologic Unit Code (HUC) 180500040503 and Lower Arroyo Mocho, HUC 180500040503. The hydrology within the Study Area has been severely altered due to continual mining activities which have occurred for over 100 years and the upstream construction of flood control/prevention infrastructure, i.e., the Del Valle Dam.

Mining activities have resulted in the repeated channelization and relocation of the Arroyo del Valle, affecting the duration and rate of flows as well as overall stream flow dynamics. The upstream section of the Arroyo del Valle, from the Study Area's southeastern boundary at Vallecitos Road and approximately to the point where it flows under Highway 84, has been artificially straightened and channelized; it is relatively narrow and constrained to a much greater degree than the channel downstream of Highway 84, which exhibits a meandering nature.

The Arroyo del Valle is a perennial stream depicted as a blue-line waterway on the USGS Livermore, California 7.5-minute series topographic quadrangle. Prior to the construction of Del Valle Dam in 1968, the Arroyo del Valle would have conveyed flows after significant storm events during the wet season



and/or after significant unseasonable storm events. Post-dam construction, the Arroyo del Valle flows year-round due to the controlled release of water from Del Valle Dam.

Direct precipitation, runoff from adjacent uplands, groundwater, stormwater runoff and the controlled upstream release of water from Del Valle Dam constitute the majority of the hydrologic resources within the Study Area. Artificially created aquatic resources on the site include silt ponds used to capture and store stormwater runoff, quarry ponds that were created when excavation activities occurred at a depth below the water table, causing the permeation of groundwater and periodic stream flows through inlet channels into inactive mine pits, percolation ponds, as well as breached quarry ponds that are artificial excavated pits within the OHWM of the Arroyo del Valle. Additional hydrologic features identified and mapped within the Study Area include one perennial stream (the Arroyo del Valle) and three intermittent streams. Diagnostic characteristics of the features mapped within the Study Area are defined and discussed below in Section 4.4.

The U.S. Fish and Wildlife Wetland Inventory Mapper has mapped five (5) wetland communities within the Study Area including Freshwater Forested/Shrub Wetland, Riverine habitat, Lake, Freshwater Pond, and Freshwater Emergent Wetland (USFWS 2019).

4.3 VEGETATION

The vegetation communities within the Study Area have been severely degraded as a result of intensive and ongoing mining activities for over 100 years. The majority of vegetation communities that once occurred within the Study Area have either been entirely displaced with primarily non-native species or have been severely altered and/or impacted by continual mining activities occurring for over 100 years. The vegetation within the actively mined portions of the Study Area is predominantly limited to locations around mining infrastructure, between and alongside roads utilized to access the active quarry, relatively undisturbed piles of sand and gravel, and other areas that have remained undisturbed for sufficient periods of time to allow colonization by primarily annual non-native plant species. In the southern and western portions of the Study Area immediately adjacent to and within the Arroyo del Valle, the vegetation has had much longer to re-establish in areas that were previously impacted by mining activities and broadly consists of more perennial, riparian plant species. The vegetation types occurring in the Study Area are described below. A complete list of plant species observed within the Study Area is included in Appendix C.

Upland Vegetation Communities

4.3.1 Disturbed/Developed/Actively Mined

Current and past mining-related activities have created a large amount of disturbed and degraded land within the Study Area. These areas are dominated by ruderal plant species; in other words, those plant species first able to colonize disturbed areas. Representative plant species observed within these portions of the Study Area include but are not limited to the following species: soft chess (*Bromus hordeaceous*), ripgut brome (*Bromus diandrus*), foxtail chess (*Bromus madritensis*), slim oat (*Avena barbata*), and yellow star-thistle (*Centaurea solstitialis*).

Within the Facility, there are several active mining and gravel extraction areas and pits that have been excavated to depths that sometimes reach the groundwater level and therefore are at least periodically inundated on aerial imagery. These areas are categorized as active industrial mining ponds. These active



industrial mining ponds do not have formal delineated boundaries as they are subject to change due to ongoing mining activities. These active industrial mining ponds have been excavated in upland areas and their groundwater pools are solely the result of the depth of excavation of the pits. Therefore, these features are not represented on Figure 3 and are not further discussed in this report.

4.3.2 Sycamore Woodland

Sycamore woodland occurs within the southeastern portion of the Study Area. This vegetation type is comprised primarily of California sycamore (*Platanus racemosa*) with an understory most commonly composed of non-native plant species such as, smilo grass (*Stipa miliacea* var. *miliacea*), milk thistle (*Silybum marianum*), soft chess, ripgut brome, slim oat, and yellow star-thistle.

4.3.3 Native Revegetation Area

Native revegetation areas occur primarily within the southeastern portion of the Study Area. This vegetation type is comprised of valley oak (*Quercus lobata*), coast live oak (*Quercus agrifolia* var. *agrifolia*), and occasionally northern California black walnut (*Juglans hindsii*), and California sycamore.

4.3.4 Ruderal grassland

Ruderal grasslands are areas that have been disturbed by human activity. When vegetation is present, the areas are similar to non-native grasslands and include ripgut brome (*Bromus diandrus*), slender oat (*Avena barbata*), soft chess (*Bromus hordeaceus*), and milk thistle (*Silybum marianum*). Some native species were also present within this biological community including coyote brush (*Baccharis pilularis*) and toyon (*Heteromeles arbutifolia*).

Aquatic Communities

4.3.5 Willow Riparian Wetland

Willow riparian wetland occurs both Swithin and outside of the OHWM of the Arroyo del Valle within the Study Area. For the portions of this community within the OHWM of the Arroyo del Valle, it is included in the perennial stream acreage in Figure 3. This vegetation type is comprised primarily of narrow-leaved willow (Salix exigua var. hindsiana) cattails (Typha spp.), tall flatsedge (Cyperus eragrostis), tule (Schoenoplectus acutus var. occidentalis), Bigelow's sneezeweed (Helenium bigelovii), watercress (Nasturtium officinale), red willow (Salix laevigata), arroyo willow (Salix lasiolepis), Fremont cottonwood (Populus fremontii ssp. fremontii), and white alder (Alnus rhombifolia).

4.3.6 Giant Reed-Willow Riparian Wetland

This biological community is similar to willow riparian wetland described above, but is dominated by giant reed (*Arundo donax*) and willow (*Salix* spp.) trees, with interspersed pampas grass. This community is entirely within the OHWM of the Arroyo del Valle and therefore included in the perennial stream acreage in Figure 3.

4.3.7 Freshwater Marsh

Freshwater marsh includes both depressional and riverine seasonal marsh habitats. Portions of these communities occur both within the OHWM of the Arroyo del Valle and outside of the OHWM. The



portion of this community that occurs within the OHWM of the Arroyo del Valle is included in the perennial stream acreage in Figure 3. Marsh habitats outside of the OHWM of the Arroyo del Valle are mapped as unique features in Figure 3. This vegetation type is comprised of common reed (*Phragmites australis*), tall flatsedge, tule, and cattails.

4.3.8 Breached Quarry Pond

These features are hydrologically connected to the Arroyo del Valle stream channel and receive flows directly from the Arroyo del Valle. Overstory vegetation surrounding these features include red, sand bar, and arroyo willow. Dominant understory vegetation in the centrally located breached ponds includes tall flatsedge, fennel (*Foeniculum vulgare*), Himalayan blackberry (*Rubus armeniacus*), and rough cocklebur (*Xanthium strumarium*). The northern breached quarry pond is dominated by overstory of cottonwoods and willows with steep banks dominated by coyote brush and non-native grasses.

4.3.9 Quarry Pond

These man-made features are a result of aggregate mining activities. These mining pits are now used for water storage and supply for the active mining and processing operations. Dominant vegetation within riparian fringes of these features include red willow, and arroyo willow along the eastern portion of Quarry Pond A. Additionally, elderberry shrubs (*Sambucus nigra* ssp. *caerulea*) and white sage (*Salvia apiana*) line the margins of Quarry Pond A in the eastern portion of the Study Area.

4.3.10 Silt Pond

This actively managed man-made basin is part of ongoing quarry operations. Vegetation cover is moderate and dominated by non-native grasses and forbs such as soft chess, ripgut brome, and slim oat. Milk thistle and coyote brush line the steep slopes of the pond.

4.4 CLASSIFICATION OF AQUATIC RESOURCES

As discussed previously in Section 2.0, aquatic resources are classified into multiple types based on topography, edaphics (soils), vegetation, and hydrologic regime. Primarily, the USACE recognizes two distinctions: wetlands and non-wetland waters of the U.S. Non-wetland waters are commonly referred to as "other waters".

Aquatic features delineated within the Study Area include: 0.06 acre of depressional seasonal marsh, 0.09 acre of riverine seasonal marsh, 2.69 acres of willow riparian wetland, 0.34 acre of intermittent stream, 66.96 acres of perennial stream (Arroyo del Valle), 0.09 acre of ephemeral drainage, 17.14 acres of breached quarry ponds, 0.14 acre of seasonal excavated basin, 122.66 acres of quarry ponds, 108.50 acres of silt ponds, 0.07 acre of percolation ponds, and 0.24 acre of excavated basin (Figure 3). A description of all the features delineated within the Study Area are provided in the following sections. Representative photographs of aquatic features are included in Appendix D.

4.4.1 Depressional Seasonal Marsh

A total of 0.06 acre of depressional seasonal marsh was delineated within the Study Area outside of the Arroyo Del Valle (Figure 3). Depressional seasonal marshes are wetlands that are seasonally inundated or saturated, but inundation/saturation persists for some period into the warm season. The persistence



of inundation/saturation into the warm season permits the growth of primarily perennial herbaceous plant species capable of withstanding extended periods of inundation or saturated soil conditions. These features are typically located on the fringes of naturally occurring or artificially created impoundments, such as ponds or reservoirs. These features are also associated with slow moving riverine systems where natural and/or artificial flows persist into the warm season. The depressional seasonal marsh within the Study Area appears to be associated with the historic alignment of the Arroyo del Valle although it is not hydrologically connected to the current stream alignment. Vegetation observed in the seasonal marsh within the Study Area included: cattail, pampas grass (*Cortaderia jubata*), and stinkwort (*Dittrichia graveolens*).

4.4.2 Riverine Seasonal Marsh

A total of 0.09 acre (approximately 496 linear feet) of riverine seasonal marsh was delineated within the Study Area outside of the Arroyo del Valle (Figure 3). Seasonal marshes are those wetlands that are seasonally saturated and/or inundated and the saturation/inundation persists for some period into the warm season, but generally not beyond. Plants species found within riverine seasonal marshes are typically adapted to this hydrologic regime. Riverine seasonal marshes are dominated by unidirectional flow of water for some portion of the wet season. Riverine seasonal marshes are typically represented by areas that receive additional hydrology from nearby perennial features during high flow or flood level events. These features are typically located along the fringes of slow moving, low gradient riverine systems or at the lower extents of the downstream terminus of riverine seasonal features. Vegetation observed in the riverine seasonal marsh within the Study Area was similar to the depressional seasonal marsh described above.

4.4.3 Willow Riparian Wetland

A total of 2.69 acres (approximately 1,410 linear feet) of willow riparian wetland was delineated within the Study Area outside of the Arroyo del Valle (Figure 3). Riparian wetlands support a relatively dense vegetation cover comprised mainly of riparian tree and shrub species. Riparian wetlands typically occur adjacent to perennial, flowing features such as creeks and streams. In this case, the willow riparian wetland is associated with an arm of Quarry Pond A. From a review of historical photos, this area appears to follow the historical alignment of the Arroyo del Valle before it was realigned for mining operations associated with Quarry Pond A. The willow riparian wetland does not appear to be hydrologically connected with the current alignment of the Arroyo del Valle. Plant species observed within this community are described in Section 4.3.3.

4.4.4 Intermittent Stream

A total of 0.34 acre (approximately 597 linear feet) of intermittent streams were delineated within the Study Area (Figure 3). The intermittent streams originate from outside of the Study Area. They are conveyed into the Study Area via culverts installed on Vineyard Avenue and are directly tributary to the Arroyo del Valle. These features generally lack adjacent wetland vegetation, the banks being commonly dominated by upland non-native plant species, but generally exhibit a well-defined bed and bank and were flowing at the time they were delineated.



4.4.5 Perennial Stream (Arroyo del Valle)

A total of 66.96 acres of perennial stream (the Arroyo del Valle) (approximately 13,275 linear feet) was delineated within the Study Area (Figure 3). Perennial streams are features that may not meet the three-parameter criteria for hydrophytic vegetation, wetland hydrology, and hydric soils but do convey water and exhibit an OHWM. Perennial streams generally convey unidirectional water flows throughout the entire year and typically consist of a bed and bank and a channel which may be vegetated in part or in full or devoid of vegetation altogether due to the scouring effects of flowing water. Perennial streams are often bordered by wetland vegetation communities of various composition and cover depending on flow rates, duration of flows and soil types. Perennial streams also often include wetland vegetation types within the OHWM, as is the case with the Arroyo del Valle.

The majority of the channel of the Arroyo del Valle is vegetated with hydrophytic plant species such as, but not limited to, the following: mule fat (*Baccharis salicifolia* ssp. *salicifolia*) red willow, arroyo willow, narrow leaved willow, white alder, giant reed, common reed, tule, and cattails. Conversely, there are many gravel bars (primarily but not solely within the lower stretch of the Arroyo del Valle, downstream of Highway 84) that are nearly unvegetated or sparsely vegetated. These gravel bars are generally bound by perennial hydrophytic vegetation on one or both sides.

Additionally, it was observed that some areas within the OHWM exhibit soil deposition and development as opposed to the more dominant gravel and cobble riverwash in the majority of the Arroyo del Valle. These soils are assumed to be hydric based on their submersed setting and, in conjunction with the associated dominant hydrophytic perennial plant species and wetland hydrology, support wetlands. These wetland types occur entirely within the OHWM of the Arroyo del Valle as depicted in Figure 3 and therefore were not differentiated from the perennial stream.

A thorough examination of indicators observed in the field was undertaken to evaluate whether the Arroyo del Valle consists of one or more confined, narrow, and entrenched channels or whether it constitutes a broader area constrained by local topography. The following physical characteristics and indicators were observed within the OHWM of the Arroyo del Valle: presence of litter and debris, wracking, matted vegetation, disturbed leaf litter, scouring, deposition, and the presence of a bed and bank.

Based on the indicators observed in the field, it was determined that the Arroyo del Valle does not consist of one or more confined, narrow channels but is a broad channel confined by local topography.

4.4.6 Ephemeral Drainage

A total of 0.09 acre of ephemeral drainage (approximately 241 linear feet) was delineated within the Study Area (Figure 3). This feature occurs immediately to the north of Vineyard Avenue within the southern portion of the Study Area. This feature is described as a riverine feature that only exists for a short period of time. This feature did not contain hydric soils or support hydrophytic vegetation, but demonstrated an OHWM. This feature is fed by a large concrete culvert that runs under Vineyard Avenue, and water flows in a general south to north direction. This feature terminates at the dirt road that bisects the OHWM of the perennial stream (Arroyo del Valle). Upon analysis of aerial imagery, this drainage does not appear to inundate for long durations. However, scouring was observed at the terminus of this feature and it appears that during rain events with high water flows, water drains north



across the dirt road, along the down sloping topography, which eventually flows into the perennial stream (Arroyo Del Valle).

4.4.7 Breached Quarry Ponds

A total of 17.14 acres of breached quarry ponds were delineated within the Study Area (Figure 3). These features were created as result of excavation directly related to past mining activities. These features either receive direct flows from the Arroyo del Valle or otherwise contribute to the hydrology of the Arroyo del Valle. These features were initially created during the regular process of mining activities and are entirely man-made.

4.4.8 Seasonal Excavated Basin

A total of 0.14 acre of seasonal excavated basin was delineated within the Study Area (Figure 3). This feature occurs immediately to the north of Vineyard Avenue within the south-central portion of the Study Area. This feature is an excavated, palustrine feature that contains persistent emergent hydrophytic vegetation and is seasonally flooded. This feature is an artificially excavated basin, and it meets the three parameter criteria for a wetland, demonstrating indicators for hydric soils, hydrology, and hydrophytic vegetation. This feature receives water from direct seasonal precipitation, stormwater run-off from the surrounding landscape, and overflow from two culverts. One culvert runs under Vineyard Avenue and drains directly into the southern portion of the basin. The other culvert occurs along the northwestern border and receives water from the excavated basin described below.

4.4.9 Quarry Pond

A total of 122.66 acres of quarry ponds were delineated within the Study Area (Figure 3). All of the quarry ponds within the Study Area were formed when excavation activities associated with sand and gravel mining occurred at depths greater than the water table, causing water to fill them. There is no above ground hydrologic connection between the quarry ponds within the Study Area and the Arroyo del Valle. As stated in 40 CFR § 120.2 (2)(ix) and 33 CFR §328.3 (b)(9), water-filled depressions created in dry land incidental to mining or construction activity including pits excavated for obtaining fill, sand, or gravel that fill with water may not meet the definition of waters of the U.S.

4.4.10 Silt Pond

A total of 108.50 acres of silt ponds were delineated within the Study Area (Figure 3). As with the quarry ponds, the silt ponds within the Study Area were formed when excavation activities associated with sand and gravel mining occurred below the level of the water table, thus allowing water to fill them. There is no above ground hydrologic connection between the silt ponds within the Study Area and the Arroyo del Valle. As stated in 40 CFR § 120.2 (2)(ix) and 33 CFR §328.3 (b)(9), water-filled depressions created in dry land incidental to mining or construction activity including pits excavated for obtaining fill, sand, or gravel that fill with water may not meet the definition of waters of the U.S.

4.4.11 Percolation Pond

A total of 0.07 acre of percolation ponds were delineated within the Study Area (Figure 3). As with the other pond features, the percolation ponds were constructed and associated with sand and gravel mining. These small features were created to allow accumulated water to percolate back into the water



table. These features were generally dry during the site visits and based on the grassland community within these features observed during the site visit, they appear to generally be dry. There is no above ground hydrologic connection between the percolation ponds and the Arroyo del Valle. As stated in 40 CFR 120.2(2)(ix) and 33 CFR §328.3 (b)(9), water-filled depressions created in dry land incidental to mining or construction activity including pits excavated for obtaining fill, sand, or gravel that fill with water may not meet the definition of waters of the U.S.

4.4.12 Excavated Basin

A total of 0.24 acre of excavated basin was mapped within the Study Area in the follow up field delineation based on USACE comments on the draft delineation (Figure 3). This feature occurs immediately to the north of Vineyard Avenue within the south-central portion of the Study Area. This feature is an excavated, palustrine feature that has an unconsolidated bottom, and becomes saturated. This feature is an artificially excavated basin, that does not contain hydric soil indicators or support hydrophytic vegetation, but contains an OHWM. This feature collects water from direct seasonal precipitation and stormwater run-off from the surrounding landscape. A culvert runs under a dirt road along the top of the basin and has two outfalls, one to the northwest that drains down a hillslope that eventually terminates into the perennial stream (Arroyo del Valle), and one to the southeast that drains into the excavated basin. These culvert outfalls occur at the same elevation and drain water either to the northwest or southeast; however, if inundation levels were to reach maximum capacity of the feature, it does not appear that water would overflow onto the opposite side of the culvert outfall. Another culvert occurs along the southeastern edge of this feature that drains southeast into the seasonal excavated basin described above.



5.0 CONCLUSIONS

A total of 318.98 acres of aquatic resources, were mapped within the Study Area. Wetlands delineated within the Study Area include depressional seasonal marsh, riverine seasonal marsh, willow riparian wetland, and seasonal excavated basin. Other aquatic resources mapped within the Study Area include intermittent streams, perennial stream, ephemeral drainage, breached quarry pond, quarry ponds, silt ponds, percolation ponds, and excavated basin. Table 1 below provides the resource type, corresponding Cowardin alpha numeric code, acreage per feature type, linear feet, if applicable, and summary of the total acreage of other waters delineated within the Study Area. The likely jurisdictional status of each feature type under the Clean Water Act is included in Table 1. Jurisdiction of aquatic resource types is subject to verification by the USACE. Appendix E includes the complete Aquatic Resources Spreadsheet.

Table 1
AQUATIC RESOURCES WITHIN THE STUDY AREA

	Aquatic Resources	Aquatic Re	Potentially	
Aquatic Resources Classification	Classification (Cowardin Code)	(acres)	(linear feet)	Jurisdictional
Depressional Seasonal Marsh	PEM	0.06	_	Yes
Riverine Seasonal Marsh	PEM	0.09	496	Yes
Willow Riparian Wetland	PFO	2.69	1,410	Yes
Intermittent Stream	R4SB	0.34	597	Yes
Perennial Stream (Arroyo del Valle)	R2UB	66.96	13,275	Yes
Breached Quarry Pond	R2UB	17.14	_	Yes
Quarry Pond	L1UB	122.66	_	No
Silt Pond	L2UB	108.50	_	No
Percolation Pond	L2UB	0.07	_	No
Seasonal Excavated Basin	PEM	0.14	_	Yes
Excavated Basin	PUB	0.24	_	No
Ephemeral Drainage	R6	0.09	241	Yes
	TOTAL:	318.98	16,019	

PEM = palustrine emergent; PFO = palustrine forested



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Appendix A

Contact Information and Directions



Appendix A Contact Information and Directions

Client Contact Information: Yasha Saber

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Cristian Singer, Senior Botanist

Foothill Associates 590 Menlo Drive, Suite 5 Rocklin, CA 95765

Phone Number: (916) 435-1202

Directions to the Study Area: From Sacramento, take Interstate 80 (I-80) West

towards San Francisco for approximately 50 miles. Take exit 40 for Interstate 680 (I-680) toward Benicia/San Jose. Take I-680 for approximately 40 miles. Take exit 30A in order to merge onto Interstate 580 East (I-580) toward Stockton. Take exit 47 for Santa Rita Road toward Tassajara Road. Follow the signs for Downtown and merge onto Santa Rita Road. Turn left onto Valley Avenue and then turn left again onto Stanley Boulevard. Travel for approximately 1.5 miles, and the Study Area

will be on the right at 1544 Stanley Boulevard.

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Appendix B

Routine Wetland Determination Data Sheets



Project/Site: Eliot Facility	(City/County	: Unincor	oorated/Alameda	Sampling Date: _	04/03/2018
Applicant/Owner: CEMEX				State: CA	Sampling Point: _	1A
Investigator(s): David Bise, Cristian Singer	;	Section, To	wnship, Ra	nge: 23, T3S, R1E		
Landform (hillslope, terrace, etc.): <u>Drainage</u>		Local relief	(concave,	convex, none): concave	e Slop	e (%): <u>~1</u>
Subregion (LRR): Land Resource Region C	Lat: 37.6	662962		Long: <u>-121.827347</u>	Datun	n: NAD 83
				NWI classific		
Are climatic / hydrologic conditions on the site typical for this			_			
Are Vegetation, Soil, or Hydrologysi	-			"Normal Circumstances"		, No
Are Vegetation, Soil, or Hydrologyna				eeded, explain any answe		
SUMMARY OF FINDINGS – Attach site map s						aturos oto
		Jampiin	g point i		, important lea	itures, etc.
Hydrophytic Vegetation Present? Yes ✓ No.		Is th	e Sampled	Area		
Hydric Soil Present? Yes No		with	in a Wetlar	nd? Yes <u>√</u>	No	
Wetland Hydrology Present? Yes ✓ No Remarks:)					
Wetland vegetation dominant, hydric soil in	ndicator	s preser	it, wetiai	na nyarology inaic	ators present.	
VEGETATION – Use scientific names of plant	ts.					
Tree Stratum (Plot size:)		Dominant Species?		Dominance Test work		
1				Number of Dominant S That Are OBL, FACW,		(Δ)
2						(//)
3.				Total Number of Domir Species Across All Stra		(B)
4.						(-)
		= Total Co		Percent of Dominant S That Are OBL, FACW,		O (A/B)
Sapling/Shrub Stratum (Plot size:)	20	V	E A C) A /			
Arundo donax Baccharis salicifolia ssp. salicifolia			FACW FAC	Prevalence Index wor Total % Cover of:		, by:
_				OBL species		-
3				FACW species		
5.				FAC species		
		= Total Co	ver	FACU species		
Herb Stratum (Plot size:)		•		UPL species	x 5 =	0
1. Berula erecta		Yes	OBL	Column Totals:) (A)	0 (B)
2. Rumex sp.			FAC	Dunivalance Index	. – D/A – Na	.NI
3				Hydrophytic Vegetation	c = B/A = Na	.IN
4				✓ Dominance Test is		
5				Prevalence Index i		
6 7					aptations ¹ (Provide s	supporting
8			-	data in Remark	s or on a separate s	sheet)
		= Total Co	ver	Problematic Hydro	phytic Vegetation ¹ ((Explain)
Woody Vine Stratum (Plot size:)		•		1		
1				¹ Indicators of hydric so be present, unless dist		
2						
		= Total Co	ver	Hydrophytic Vegetation		
% Bare Ground in Herb Stratum 48 % Cover	of Biotic Cı	rust		Present? Ye	es No	
Remarks:						
Hydrophytic vegetation dominant.						

SOIL	Sampling Point:	1A

Depth (inches)	Matrix Color (moist)	%	Color (moist)	ox Features %	Type ¹	Loc ²	Texture	Remarks
-								
0-12	10YR 3/2	95	7.5YR 4/6	5	<u> </u>	_M	Sandy,co 	Cobble up to 3-4" diameter
								-
Type: C=Co	oncentration, D=Dep	letion. RM=	Reduced Matrix. C	S=Covered	d or Coate	ed Sand G	rains. ² Loc	cation: PL=Pore Lining, M=Matrix.
•	Indicators: (Applic							for Problematic Hydric Soils ³ :
Histosol	(A1)		✓ Sandy Red	lox (S5)			1 cm N	Muck (A9) (LRR C)
	pipedon (A2)		Stripped M					Muck (A10) (LRR B)
Black His			Loamy Mu	cky Minera	l (F1)		Reduc	ed Vertic (F18)
	n Sulfide (A4)		Loamy Gle	-	(F2)			arent Material (TF2)
	d Layers (A5) (LRR (C)	Depleted N				✓ Other	(Explain in Remarks)
	ick (A9) (LRR D)	(8.4.4)	Redox Dar	,	,			
	d Below Dark Surfac	e (A11)	Depleted D		, ,		31	
	ark Surface (A12) lucky Mineral (S1)		Redox Dep Vernal Poo		-8)			of hydrophytic vegetation and hydrology must be present,
_	Gleyed Matrix (S4)		vernar Foc)IS (I 9)				isturbed or problematic.
	_ayer (if present):						1	istarbed of problematic.
Туре:							Hydric Soil	Present? Ves / No
Type: Depth (inc Remarks:	ches):							Present? Yes ✓ No
Type: Depth (ind Remarks: Riverwash cobble. Ro	ches): h is classified a edox features	s a hydri	c soil on the N			•	oils. Soil pr	Present? Yes No Tofile is mixture of sand and mulated sufficiently.
Type: Depth (ind Remarks: Riverwash cobble. Ro	ches):h is classified a edox features (s a hydrio observed	c soil on the N			•	oils. Soil pr	ofile is mixture of sand and
Type:	ches): h is classified a edox features of the control of	s a hydrio observed	c soil on the N I in portions o	f soil pro		•	oils. Soil pr nd has accu	ofile is mixture of sand and mulated sufficiently.
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Type:	ches):	s a hydricobserved ine) inei inriverine) imagery (B7 fes	c soil on the N I in portions o c check all that app Salt Crust Biotic Cru Aquatic Ir Hydrogen Oxidized Presence Recent Ir Thin Muc Other (Ex	f soil produly) t (B11) st (B12) evertebrate s Sulfide Oc Rhizospher of Reduce on Reduction k Surface (plain in Re enches):	s (B13) dor (C1) res along d Iron (C4 on in Tille C7) marks)	Living Root A Soils (Co	Oils. Soil production of the second of the s	rofile is mixture of sand and amulated sufficiently. Indary Indicators (2 or more required) Vater Marks (B1) (Riverine) Rediment Deposits (B2) (Riverine) Rediment Deposits (B3) (Riverine) Rediment Deposits (B10) Rediment Deposits (B10) Rediment Deposits (B10) Rediment Deposits (B2) (Riverine) Rediment Deposits (B3) (Riverine) Rediment Deposits (Rive
Type:	ches):	s a hydricobserved ine) inei inriverine) imagery (B7 fes	c soil on the N I in portions o c check all that app Salt Crust Biotic Cru Aquatic Ir Hydrogen Oxidized Presence Recent Ir Thin Muc Other (Ex	f soil produly) t (B11) st (B12) evertebrate s Sulfide Oc Rhizospher of Reduce on Reduction k Surface (plain in Re enches):	s (B13) dor (C1) res along d Iron (C4 on in Tille C7) marks)	Living Root A Soils (Co	Oils. Soil production of the second of the s	rofile is mixture of sand and amulated sufficiently. Indary Indicators (2 or more required) Vater Marks (B1) (Riverine) Rediment Deposits (B2) (Riverine) Rediment Deposits (B3) (Riverine) Rediment Deposits (B10) Rediment Deposits (B10) Rediment Deposits (B10) Rediment Deposits (B2) (Riverine) Rediment Deposits (B3) (Riverine) Rediment Deposits (Rive
Type:	ches):	ine) Imagery (B7 YesN YesN Tagauge, more	c soil on the N I in portions o c check all that app Salt Crust Biotic Cru Aquatic Ir Hydrogen Oxidized Presence Recent Ir Thin Muc Other (Ex	f soil produly) t (B11) st (B12) evertebrate s Sulfide Oc Rhizospher of Reduce on Reduction k Surface (plain in Re enches):	s (B13) dor (C1) res along d Iron (C4 on in Tille C7) marks)	Living Root A Soils (Co	Oils. Soil production of the second of the s	rofile is mixture of sand and amulated sufficiently. Indary Indicators (2 or more required) Vater Marks (B1) (Riverine) Pediment Deposits (B2) (Riverine) Perift Deposits (B3) (Riverine) Perint Deposits (B10) Peristrange Patterns (B10) Pery-Season Water Table (C2) Perayfish Burrows (C8) aturation Visible on Aerial Imagery (C5) hallow Aquitard (D3) AC-Neutral Test (D5)

Project/Site: Eliot Facility	(City/County	: Unincorp	oorated/Alameda	Sampling Date: 04/03/2018
Applicant/Owner: CEMEX				State: CA	Sampling Point: 1B
Investigator(s): David Bise, Cristian Singer		Section, To	wnship, Raı	nge: N23, T3S, R1E	
Landform (hillslope, terrace, etc.): Hillslope		Local relief	(concave, o	convex, none): none	Slope (%): ~55
Subregion (LRR): Land Resource Region C	Lat: 37.0	66298		Long: -121.827338	Datum: NAD 83
				NWI classifi	
Are climatic / hydrologic conditions on the site typical for this					
Are Vegetation, Soil, or Hydrology si					present? Yes <u>√</u> No
Are Vegetation, Soil, or Hydrologyn				eded, explain any answe	
SUMMARY OF FINDINGS – Attach site map s				-	
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Hydrology Present?	o <u> </u>		e Sampled in a Wetlar		No <u>√</u> _
Remarks: Upland vegetation dominant, no hydric soi	l indicat	ors, no v	vetland h	nydrology indicato	ors, upland topography.
VEGETATION - Use scientific names of plant	ts.				
Tree Stratum (Plot size:) 1	% Cover	Dominant Species?	Status	Dominance Test wor Number of Dominant S That Are OBL, FACW,	
2	·			Total Number of Domin Species Across All Str	
4		= Total Co		Percent of Dominant S That Are OBL, FACW,	Species , or FAC: 0 (A/B)
1				Prevalence Index wo	rksheet:
2				Total % Cover of:	Multiply by:
3					x 1 =0
4	·				x 2 =0
5					x 3 =
Herb Stratum (Plot size:)	0	= Total Co	ver	-	x 4 =0
1. Lupinus bicolor	15	Yes	UPL		x = 0
Bromus diandrus	15	Yes	UPL	Column Totals:	0 (A) 0 (B)
3. Centaurea solstitiaglis		Yes	UPL	Prevalence Inde	x = B/A = <u>NaN</u>
4. Erodium botrys		No	FACU	Hydrophytic Vegetati	ion Indicators:
5. Avena sp.	5	No	UPL	Dominance Test is	s >50%
6. Eschscholzia californica	5	No	UPL	Prevalence Index	is $\leq 3.0^{1}$
7. Carduus pycnocephalus	5	No	UPL	Morphological Ada	aptations ¹ (Provide supporting ks or on a separate sheet)
8					ophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:)	70	= Total Co	ver		ppy.uo vogotauo (=xp.a)
1				¹ Indicators of hydric so be present, unless dist	oil and wetland hydrology must turbed or problematic.
% Bare Ground in Herb Stratum 30 % Cover		= Total Co		Hydrophytic Vegetation Present? Ye	es No _ √
Remarks:	OI DIULIC CI	iust		riesellt: 16	#5 NU <u>▼</u>
Upland vegetation dominant.					

SOIL	Sampling Point:	1B

Profile Desc	ription: (Describe	to the dep	th needed to docu	nent the in	ndicator	or confirm	n the absence	e of indicators.)
Depth	Matrix			x Features				
(inches)	Color (moist)	<u></u> %	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-12	7.5YR 3/2	100	N/A: No redox				Silty, san	
				-				
		· 						
			Reduced Matrix, CS			d Sand Gr		cation: PL=Pore Lining, M=Matrix.
-		able to all	LRRs, unless othe		ea.)			s for Problematic Hydric Soils ³ :
Histosol	(AT) ipedon (A2)		Sandy Red Stripped Ma	. ,				Muck (A9) (LRR C) Muck (A10) (LRR B)
Black His			Loamy Muc		(F1)			ced Vertic (F18)
	n Sulfide (A4)		Loamy Gle					Parent Material (TF2)
	Layers (A5) (LRR 0	S)	Depleted M	, ,			Other	(Explain in Remarks)
	ck (A9) (LRR D)	(8.4.4)	Redox Dark		,			
	l Below Dark Surface rk Surface (A12)	e (A11)	Depleted D Redox Dep				3Indicators	of hydrophytic vegetation and
	ucky Mineral (S1)		Vernal Poo		0)			hydrology must be present,
	leyed Matrix (S4)		_	- (- /				disturbed or problematic.
Restrictive L	.ayer (if present):							
Type:								
Depth (inc	:hes):						Hydric Soi	I Present? Yes No _✓
Remarks:							1	
Riverwasł	n is classified as	s a hvdr	ic soil on the N	ational I	ist of I	Hvdric S	oils but no	hydric soil indicators
						•		n adjacent, steep hillslope.
HYDROLO	GY							
Wetland Hyd	Irology Indicators:							
Primary Indic	ators (minimum of o	ne require	d; check all that appl	y)			<u>Seco</u>	ndary Indicators (2 or more required)
Surface	Water (A1)		Salt Crust	(B11)				Vater Marks (B1) (Riverine)
	ter Table (A2)		Biotic Crus	, ,				Sediment Deposits (B2) (Riverine)
Saturatio	, ,			vertebrates				Orift Deposits (B3) (Riverine)
· · · · · · · · · · · · · · · · · · ·	arks (B1) (Nonriveri	•	Hydrogen		. ,	Livina Doa	· · · · · · · · · · · · · · · · · · ·	Orainage Patterns (B10)
	t Deposits (B2) (Noi osits (B3) (Nonrive			Rhizospher of Reduce	_	-		Ory-Season Water Table (C2) Crayfish Burrows (C8)
	Soil Cracks (B6)	iiie)		n Reduction			· · · · · · · · · · · · · · · · · · ·	Saturation Visible on Aerial Imagery (C9)
	on Visible on Aerial I	magery (R		Surface (2 00113 (00		Shallow Aquitard (D3)
	ained Leaves (B9)			olain in Rei				FAC-Neutral Test (D5)
Field Observ	` '				,			. ,
Surface Water	er Present? Y	es	No <u>√</u> Depth (in	ches):				
Water Table			No <u>✓</u> Depth (in					
Saturation Pr			No <u>✓</u> Depth (in				and Hydrolog	y Present? Yes No✓_
(includes cap	illary fringe)							
Describe Red	corded Data (stream	gauge, mo	onitoring well, aerial	pnotos, pre	evious ins	pections),	ıt avallable:	
Damartin								
Remarks:				_				
No wetlar	nd hydrology in	dicator	s. Upland topo	graphy;	point i	s above	the bed o	f the arroyo on a hillslope.

Project/Site: Eliot Facility	City/	County: Unincor	porated/Alameda	Sampling Date:	04/03/2018	
Applicant/Owner: CEMEX		Sampling Point:	2A			
Investigator(s): David Bise, Cristian Singer	Section, Township, Range: 24, T 3S, R 1E					
Landform (hillslope, terrace, etc.): <u>Drainage</u>	Loc	al relief (concave,	convex, none): none	Slo	ope (%):~1	
Subregion (LRR): Land Resource Region C						
			NWI classi			
Are climatic / hydrologic conditions on the site typical for t		_				
Are Vegetation, Soil, or Hydrology	_		"Normal Circumstances		✓ No	
Are Vegetation, Soil, or Hydrology			eeded, explain any ansv		<u>, , , , , , , , , , , , , , , , , , , </u>	
SUMMARY OF FINDINGS – Attach site maj					oaturos oto	
			ocations, transec	ts, important it		
Hydrophytic Vegetation Present? Yes Vegetation Present?		Is the Sampled	l Area			
Hydric Soil Present? Yes Wetland Hydrology Present? Yes ✓		within a Wetla	nd? Yes	✓ No	_	
Remarks:	140					
Coarse textured soil lacking clear hydric soil indicators. I	n the absence of o	clear hydric soil inc	dicators, soils were cons	sidered hydric base	d on presence	
of wetland vegetation and wetland hydrology and positi						
VEGETATION – Use scientific names of pla	ints.					
Trac Stratum (Diat aire)		minant Indicator	Dominance Test wo	rksheet:		
Tree Stratum (Plot size:)		ecies? Status	Number of Dominant That Are OBL, FACW		1 (A)	
1 2			That Ale Obc, I ACV	7, 01 FAC	<u> </u>	
3.			Total Number of Dom Species Across All St		1 (B)	
4.					<u> </u>	
	<u> </u>		Percent of Dominant That Are OBL, FACW		00 (A/B)	
Sapling/Shrub Stratum (Plot size:)					(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
1			Prevalence Index w		. h. a basas	
2				f: Multip		
3			OBL species			
4			FAC species			
5		otal Cover	FACU species			
Herb Stratum (Plot size:)		0141 00101	UPL species			
1. Phragmites australis	<u>95</u> Ye	s FACW	Column Totals:	0 (A)	0 (B)	
2				5.4. h	I - NI	
3				ex = B/A = N	<u> 1911 </u>	
4			Hydrophytic Vegeta ✓ Dominance Test			
5			Prevalence Index			
6				daptations¹ (Provide	e supportina	
7 8				rks or on a separate		
0	= T		Problematic Hyd	rophytic Vegetation	¹ (Explain)	
Woody Vine Stratum (Plot size:)		0141 00101				
1			¹ Indicators of hydric s be present, unless di			
2				Starbed or problems		
	= T	otal Cover	Hydrophytic Vegetation			
% Bare Ground in Herb Stratum 5	ver of Biotic Crust		Present?	Yes <u>√</u> No _		
Remarks:			1			
Hydrophytic vegetation dominant.						
, , , , , , , , , , , , , , , , , , , ,						

SOIL Sampling Po	int:	2A
<u> </u>		

Profile Desc	ription: (Describe	to the dep	oth needed to docur	nent the i	ndicator	or confirm	the absence	of indicators.)
Depth	Matrix			x Features		. 2		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>	Remarks
0-12	7.5YR 3/2	100	N/A: No redox				Sandy, gr ⊞	
	-		-	-				
				<u> </u>				
¹Type: C=Co	ncentration D=Der	letion RM	=Reduced Matrix, CS	S=Covered	d or Coate	d Sand Gr	ains ² l oc	eation: PL=Pore Lining, M=Matrix.
			LRRs, unless other			a cana on		for Problematic Hydric Soils ³ :
Histosol			Sandy Red				1 cm N	fluck (A9) (LRR C)
	pipedon (A2)		Stripped Ma					fluck (A10) (LRR B)
Black His	stic (A3)		Loamy Muc	ky Minera	I (F1)		Reduce	ed Vertic (F18)
	n Sulfide (A4)		Loamy Gley		(F2)			arent Material (TF2)
	Layers (A5) (LRR (C)	Depleted M				✓ Other (Explain in Remarks)
	ck (A9) (LRR D)		Redox Dark		. ,			
	Below Dark Surfac	e (A11)	Depleted D		. ,		31	of budges but is a septation and
	rk Surface (A12) lucky Mineral (S1)		Redox Dep Vernal Pool		F8)			of hydrophytic vegetation and hydrology must be present,
	leyed Matrix (S4)		Vernai Fooi	is (i 9)				isturbed or problematic.
	ayer (if present):						1	otarboa or problematic.
	, ,							
Depth (inc							Hydric Soil	Present? Yes ✓ No
Remarks:							,	
This location	n has very coarse t	extured s	oils that lack enoug	gh fine ma	aterial in	order for o	clear hydric so	ared to previous wetland point (1A). oil indicators to be observed. Point ue bed of the arroyo.
HYDROLO	GY							
	drology Indicators:							
•			d; check all that appl	v)			Secon	dary Indicators (2 or more required)
-	Water (A1)	nie require	<u>u, check all that appl</u> Salt Crust	-				/ater Marks (B1) (Riverine)
	ter Table (A2)		Biotic Crus	, ,				ediment Deposits (B2) (Riverine)
Saturatio	, ,		Aquatic In		e (B13)		·	rift Deposits (B3) (Riverine)
	arks (B1) (Nonrive r	ino)	Hydrogen					rainage Patterns (B10)
	nt Deposits (B2) (No					Living Roo	· 	ry-Season Water Table (C2)
	oosits (B3) (Nonrive		Presence		•	-		rayfish Burrows (C8)
	Soil Cracks (B6)	11110)	Recent Iro					aturation Visible on Aerial Imagery (C9)
	on Visible on Aerial	Imagery (B				2 00110 (00	-	hallow Aquitard (D3)
	tained Leaves (B9)		Other (Exp					AC-Neutral Test (D5)
Field Observ					,			
Surface Water		'es	No ✓ Depth (in	ches):				
Water Table			No ✓ Depth (in					
Saturation Pr			No ✓ Depth (in				and Hydrology	y Present? Yes No
(includes cap	oillary fringe)							
Describe Red	corded Data (stream	ı gauge, m	onitoring well, aerial	pnotos, pr	evious ins	pections), i	ır avaılable:	
Domarka								
Remarks:	andrala - 1 - 11							
wetland l	nydrology indic	cators p	resent.					

Project/Site: Eliot Facility	City/County: Uninco	orporated/Alameda	Sampling Date: 04/03/2018
Applicant/Owner: CEMEX		State: CA	Sampling Point: 2B
Investigator(s): David Bise, Cristian Singer	Section, Township, F	Range: 24, T 3S, R 1E	
Landform (hillslope, terrace, etc.): Hillslope	Local relief (concave	e, convex, none): none	Slope (%):~1
Subregion (LRR): Land Resource Region C			
Are climatic / hydrologic conditions on the site typical for this ti			
Are Vegetation, Soil, or Hydrology sign	-		resent? Yes <u>√</u> No
Are Vegetation, Soil, or Hydrology nati		needed, explain any answers	
SUMMARY OF FINDINGS – Attach site map sh			
Attach site map si	, and the sampling point	Tocations, transcots,	
Hydrophytic Vegetation Present? Yes No _	Is the Sample	ed Area	
Hydric Soil Present? Yes No _ Wetland Hydrology Present? Yes No _	within a Wetl	and? Yes	No <u>√</u>
Remarks:	<u> </u>		
Point is unvegetated, lacks hydric soil indicate	ors lacks wotland hydr	cology indicators and	ovhihits upland
topography.	ors, lacks wetland flydi	ology illulcators allu	exhibits upland
VEGETATION – Use scientific names of plants	Dominant Indicator	Dominance Test works	ahaat:
	6 Cover Species? Status		
1		_ That Are OBL, FACW, o	
2		Total Number of Domina	ant
3			
4		Percent of Dominant Spe	
Sapling/Shrub Stratum (Plot size:)	0 = Total Cover	That Are OBL, FACW, o	or FAC: NaN (A/B)
1		Prevalence Index work	sheet:
2		Total % Cover of:	Multiply by:
3			x 1 =0
4			x 2 = 0
5		- · · · · · · · · · · · · · · · · · ·	x 3 = 0
Herb Stratum (Plot size:)	0 = Total Cover	FACU species	x 4 = 0 x 5 = 0
1		Column Totals: 0	
2		_	
3		_	= B/A = <u>NaN</u>
4		_ Hydrophytic Vegetation	
5		_ Dominance Test is	
6		Prevalence Index is	≤3.0 otations¹ (Provide supporting
7			or on a separate sheet)
8	0 = Total Cover	Problematic Hydrop	hytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:)	= Total Cover		
1		 Indicators of hydric soil be present, unless disture 	and wetland hydrology must
2			
-	= Total Cover	Hydrophytic Vegetation	
% Bare Ground in Herb Stratum 100 % Cover of	f Biotic Crust		s No_ <u>√</u>
Remarks:			
Unvegetated.			

SOIL	Sampling Point:	2B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)					
Depth Matrix	Redox Features				5
(inches) Color (moist) %	Color (moist) %	Type' L	oc²	Texture	Remarks
<u>0-10</u> <u>2.5Y 3/2</u> <u>100</u> <u>I</u>	N/A: No redox			Sandy, cœ	
	·				
					
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix.					
Hydric Soil Indicators: (Applicable to all L			ana Oran	Indicators for Proble	
Histosol (A1)	Sandy Redox (S5)	,		1 cm Muck (A9) (L	•
Histic Epipedon (A2)	Stripped Matrix (S6)		2 cm Muck (A10)	
Black Histic (A3)				Reduced Vertic (F18)	
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2)			Red Parent Material (TF2)		
Stratified Layers (A5) (LRR C) Depleted Matrix (F3)			Other (Explain in Remarks)		
1 cm Muck (A9) (LRR D) Redox Dark Surface (F6)					
Depleted Below Dark Surface (A11)	Depleted Dark Surf	, ,		3	
Thick Dark Surface (A12) Redox Depressions (F8)			³ Indicators of hydrophytic vegetation and		
Sandy Mucky Mineral (S1) Vernal Pools (F9) Sandy Gleyed Matrix (S4)			wetland hydrology must be present, unless disturbed or problematic.		
Restrictive Layer (if present):				uniess disturbed of	problematic.
Type:					
Depth (inches):				Hydric Soil Present?	Yes No √
	<u> </u>			nyunc 3011 Fresent:	165 NO_ <u>V</u>
Remarks:					
Riverwash is classified as a hydric soil on the National List of Hydric Soils but this point lacks hydric soil indicators, lacks wetland					
vegetation, lacks wetland hydrology indicators and the position of the point within the landscape is upland (located above the bed of					
the arroyo).					
HYDROLOGY					
Wetland Hydrology Indicators:					
Primary Indicators (minimum of one required;	check all that apply)			Secondary Indica	tors (2 or more required)
Surface Water (A1) Salt Crust (B11)			Water Marks (B1) (Riverine)		
Guitade Water (A1) Gait Crust (B11) High Water Table (A2) Biotic Crust (B12)			Sediment Deposits (B2) (Riverine)		
Saturation (A3) Aquatic Invertebrates (B13)				Drift Deposits	
Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1)				Drainage Pat	
Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2)					
Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8)					
Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery					· ·
Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7)			` ,	Shallow Aqui	itard (D3)
Water-Stained Leaves (B9)	Other (Explain in I	. ,		FAC-Neutral	
Field Observations:		,			. ,
	o Depth (inches): _				
	o ✓ Depth (inches):				
· · · · · · · · · · · · · · · · · · ·	o ✓ Depth (inches): _	-	Wotlan	d Hydrology Present?	Yes No <u>√</u>
(includes capillary fringe)	o 🔻 Deptil (iliches)		vvetiali	a nyarology riesell!	169 NO_ V
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks:					
No wetland hydrology indicators.	Point is located abo	nve the hed	of the	arrovo	
ivo wedana nyarology malcators.	i onit is located ab	ove the bed	טו נוופ	. arroyo.	

Project/Site: Eliot Facility	City	//County: Unincorp	oorated/Alameda	Sampling Date: <u>04/03/2018</u>
Applicant/Owner: CEMEX			State: CA	Sampling Point: 3A
Investigator(s): David Bise, Cristian Singer	Sec	ction, Township, Rai	nge: <u>19, T 3S, R2E</u>	
Landform (hillslope, terrace, etc.): Drainage	Lo	cal relief (concave, o	convex, none): none	Slope (%):~1
Subregion (LRR): Land Resource Region C	Lat: 37.65	1068	Long: -121.800944	Datum: NAD 83
			-	eation: R3 (Upper perennial, ri
Are climatic / hydrologic conditions on the site typical for thi		_		
Are Vegetation, Soil, or Hydrology	-			oresent? Yes <u>√</u> No
Are Vegetation, Soil, or Hydrology			eded, explain any answe	
SUMMARY OF FINDINGS – Attach site map	snowing sa	impling point le	ocations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes <u>✓</u> N		Is the Sampled	Area	
Hydric Soil Present? Yes N		within a Wetlar	_	No
Wetland Hydrology Present? Yes <u>√</u> N	No			
Remarks:				
Hydrophytic vegetation dominant, hydric	soil indicate	or present, we	tland hydrology pro	esent.
VEGETATION – Use scientific names of plan	nts.			
Tree Stratum (Plot size:)		ominant Indicator	Dominance Test work	
1		pecies? Status	Number of Dominant Sp That Are OBL, FACW, of	
2				
3.			Total Number of Domini Species Across All Stra	
4.				. , ,
	= -		Percent of Dominant Sp That Are OBL, FACW, of	pecies or FAC: <u>100</u> (A/B)
Sapling/Shrub Stratum (Plot size:)				
1			Prevalence Index worl	KSneet: Multiply by:
2				x 1 = 0
3				x 2 = 0
5.				x 3 =0
	0 =	Total Cover	FACU species	
Herb Stratum (Plot size:)			UPL species	x 5 =0
1. Typha angustifoia		es OBL	Column Totals:0	(A) <u>0</u> (B)
2. <u>Lysimachia arvensis</u>		o FAC	Provalence Index	= B/A = <u>NaN</u>
3			Hydrophytic Vegetation	
4			✓ Dominance Test is	
5			Prevalence Index is	
7				ptations ¹ (Provide supporting
8.				s or on a separate sheet)
		Total Cover	Problematic Hydror	phytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:)			1 maliantana ne la valuin nai	
1			be present, unless distu	l and wetland hydrology must urbed or problematic.
2			Hydrophytic	
	=		Vegetation	/
	er of Biotic Crus	t	Present? Yes	s No
Remarks:				
Hydrophytic vegetation dominant.				

SOIL Sampling Point: 3A

Profile Desc	ription: (Describe	to the dep	th needed to docu	nent the i	ndicator	or confirm	n the absence	of indicators.)
Depth	Matrix			x Features		. 2		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		Remarks
0-4	10YR 3/1	100	N/A: No redox				Coarse si	Somewhat mucky, greasy
				-				
		· ——		- (
		· ——					<u> </u>	
1							. 2.	
	oncentration, D=Dep Indicators: (Applic					ed Sand G		cation: PL=Pore Lining, M=Matrix. for Problematic Hydric Soils ³ :
Histosol		able to all	Sandy Red		.,			Muck (A9) (LRR C)
	pipedon (A2)		Stripped Ma					Muck (A10) (LRR B)
Black Hi			Loamy Muc		l (F1)			ced Vertic (F18)
	n Sulfide (A4)		Loamy Gley					arent Material (TF2)
	d Layers (A5) (LRR (S)	Depleted M	, ,			✓ Other	(Explain in Remarks)
	ick (A9) (LRR D)	(8.4.4)	Redox Dark					
	d Below Dark Surfac ark Surface (A12)	e (A11)	Depleted D Redox Dep				3Indicators	of hydrophytic vegetation and
	fucky Mineral (S1)		Vernal Poo		-0)			hydrology must be present,
-	Gleyed Matrix (S4)			(. 0)				listurbed or problematic.
	_ayer (if present):							`
Type:								
Depth (inc	ches):						Hydric Soil	Present? Yes <u>√</u> No
Remarks:								
Divorwaci	h is classified a	s a hydri	c soil on the N	ational	lict of l	Judric 9	Soils Vory I	ow chroma. Soil texture
						•	•	to large cobbles.
Somewna	it illucky, greas	y. 3110VE	er rerusar just b	eyona c	иерин о	i ioui ii	ilches due	to large coubles.
HYDROLO	GY							
Wetland Hy	drology Indicators:							
_	cators (minimum of o	ne required	d; check all that appl	v)			Seco	ndary Indicators (2 or more required)
	Water (A1)		Salt Crust					Vater Marks (B1) (Riverine)
_	iter Table (A2)		Biotic Crus	` '			_	Gediment Deposits (B2) (Riverine)
✓ Saturation	, ,		Aquatic In	` '	s (B13)			Prift Deposits (B3) (Riverine)
Water M	arks (B1) (Nonriver	ine)	Hydrogen	Sulfide Od	dor (C1)			Prainage Patterns (B10)
Sedimer	nt Deposits (B2) (No	nriverine)	✓ Oxidized F	Rhizosphe	res along	Living Ro	ots (C3) C	Ory-Season Water Table (C2)
Drift Dep	oosits (B3) (Nonrive	rine)	Presence	of Reduce	d Iron (C4	1)	0	Crayfish Burrows (C8)
Surface	Soil Cracks (B6)		Recent Iro	n Reduction	on in Tille	d Soils (C	6) <u> </u>	Saturation Visible on Aerial Imagery (C9)
	on Visible on Aerial I	magery (B					· · · · · · · · · · · · · · · · · · ·	shallow Aquitard (D3)
	tained Leaves (B9)		Other (Exp	olain in Re	marks)		F	AC-Neutral Test (D5)
Field Obser			,					
Surface Water			No Depth (in			-		
Water Table		_	No Depth (in			-		
Saturation Projection (includes cap		es 🗸	No Depth (in	ches): <u>5"</u>		Wet	land Hydrolog	y Present? Yes <u>√</u> No
	corded Data (stream	gauge, mo	onitoring well, aerial	photos, pro	evious ins	pections),	if available:	
Remarks:								
Wetland	hydrology indic	ators or	esent.					
	, 2.367	Pi	- 2 3 -					

Project/Site: Eliot Facility	(City/County	: Unincorp	orated/Alameda	_ Sampling Dat	te: <u>04/03</u>	/2018
Applicant/Owner: CEMEX				State: CA	_ Sampling Poi	nt:3	В
Investigator(s): David Bise, Cristian Singer	;	Section, To	wnship, Rar	nge: <u>19, T 3S, R2E</u>			
Landform (hillslope, terrace, etc.): Hillslope		Local relief	(concave, c	convex, none): none		Slope (%):	~1
Subregion (LRR): Land Resource Region C							
				NWI classifi			
Are climatic / hydrologic conditions on the site typical for this			_			•	
Are Vegetation, Soil, or Hydrology sig	-			Normal Circumstances"		✓ No	1
Are Vegetation, Soil, or Hydrology na				eded, explain any answe			
SUMMARY OF FINDINGS – Attach site map s							s, etc.
		<u> </u>	<u> </u>	·			'
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No		Is th	e Sampled			_	
Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No		with	in a Wetlan	id? Yes	No <u></u>	<u></u>	
Remarks:							
Upland vegetation dominant, no hydric soil	indicato	ore no v	vetland h	avdrology indicate	arc		
Opiana vegetation dominant, no nyane son	mulcati	013, 110 V	vetiana i	Tydrology malcate	л э.		
VEGETATION – Use scientific names of plants							
		Dominant Species?		Dominance Test work			
1				Number of Dominant S That Are OBL, FACW,		1	(A)
2.							` '
3				Total Number of Domii Species Across All Stra		5	(B)
4				Percent of Dominant S			, ,
	0	= Total Co	ver	That Are OBL, FACW,		20	(A/B)
Sapling/Shrub Stratum (Plot size:) 1. Baccharis pilularis ssp. consanguinea	-	Voc	LIDI	Prevalence Index wo	rkshoot:		
				Total % Cover of:		Itinly by	
2 3				OBL species			
4				FACW species			
5.				FAC species			
		= Total Co	ver	FACU species	x 4 = _	0	_
Herb Stratum (Plot size:)	4.5			UPL species	x 5 = _	0	_
1. Dittrichia graveolens		Yes	UPL	Column Totals:	<u>0</u> (A) _	0	_ (B)
Festuca bromoides Bromus hordeaceus	<u>15</u> 10	Yes	<u>UPL</u> FACU	Prevalence Index	x = R/A =	NaN	
4 Diameter of Investment	10	Yes Yes	FAC	Hydrophytic Vegetati			
Plantago lanceolata Foeniclulum vulgare	5	No	UPL	Dominance Test is			
6. Avena sp.		No	UPL	Prevalence Index	is ≤3.0 ¹		
7. Centaurea solstitialis		No	UPL	Morphological Ada	aptations¹ (Prov	ide supporti	ing
8.					ks or on a separ	•	
	65	= Total Co	ver	Problematic Hydro	ophytic Vegetati	on' (Explair	1)
Woody Vine Stratum (Plot size:)				¹ Indicators of hydric so	ail and watland I	hudralagu m	
1				be present, unless dist			เนรเ
2		= Total Co		Hydrophytic			
				Vegetation		,	
	of Biotic Cr	rust		Present? Ye	es No	,	
Remarks:							
Upland vegetation dominant.							

SOIL	Sampling Point:	3B
Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicator	ors.)	

Depth	Matrix	e to the de	pth needed to document the indicator or Redox Features	commit the absence of mulcators.)
(inches)	Color (moist)	%	Color (moist) % Type ¹	Loc ² Texture Remarks
0-8	10YR 3/2	100	N/A: No redox	<u>Coarse,g</u> <u></u>
				
¹Type: C=C	oncentration, D=De	epletion, RM	1=Reduced Matrix, CS=Covered or Coated S	Sand Grains. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators: (Appl	icable to al	I LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
Histosol	(A1)		Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
	pipedon (A2)		Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
	istic (A3)		Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
	en Sulfide (A4) d Layers (A5) (LRF) C\	Loamy Gleyed Matrix (F2) Depleted Matrix (F3)	Red Parent Material (TF2)
	uck (A9) (LRR D)	()	Redox Dark Surface (F6)	Other (Explain in Remarks)
	d Below Dark Surfa	ace (A11)	Depleted Dark Surface (F7)	
	ark Surface (A12)	, ,	Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and
Sandy N	Mucky Mineral (S1)		Vernal Pools (F9)	wetland hydrology must be present,
	Gleyed Matrix (S4)			unless disturbed or problematic.
	Layer (if present):			
Depth (in	ches):			Hydric Soil Present? Yes No _✓
Shovel refu	sal at 8 inches.	/drology ir	dicators and the position of the point v	vithin the landscape is upland (located on a hillslope
IYDROLO				
•	drology Indicators			
		one require	ed; check all that apply)	Secondary Indicators (2 or more required)
	Water (A1)		Salt Crust (B11)	Water Marks (B1) (Riverine)
	ater Table (A2)		Biotic Crust (B12)	Sediment Deposits (B2) (Riverine)
Saturation	` '	orino)	Aquatic Invertebrates (B13)	Drift Deposits (B3) (Riverine)
	farks (B1) (Nonrive nt Deposits (B2) (N		Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10) ing Roots (C3) Dry-Season Water Table (C2)
	posits (B3) (Nonriv		Presence of Reduced Iron (C4)	Crayfish Burrows (C8)
	Soil Cracks (B6)	JJ)	Recent Iron Reduction in Tilled S	
	on Visible on Aeria	l Imagery (E		Shallow Aquitard (D3)
	stained Leaves (B9)		Other (Explain in Remarks)	FAC-Neutral Test (D5)
Field Obser	vations:			
Surface Wat	er Present?	Yes	No <u>✓</u> Depth (inches):	
Water Table	Present?	Yes	No <u>√</u> Depth (inches):	
Saturation P			No _ ✓ _ Depth (inches):	Wetland Hydrology Present? Yes No
		m gauge, m	nonitoring well, aerial photos, previous inspe	ctions), if available:
_				
Remarks:				
Upland to	ppography: po	int is loc	ated on a slope.	
- 1			•	
			•	

Project/Site: Eliot Facility		City/County	: Unincor	porated/Alameda	Sampling Date: <u>04/03/2018</u>
Applicant/Owner: CEMEX				State: CA	Sampling Point: 4A
Investigator(s): David Bise, Cristian Singer					
Landform (hillslope, terrace, etc.): Hillslope		Local relief	(concave,	convex, none): concav	e Slope (%): ~5
Subregion (LRR): Land Resource Region C	Lat: 37.	647451	•	Long: -121.790129	Datum: NAD 83
				_	cation: RP
Are climatic / hydrologic conditions on the site typical for this					
Are Vegetation, Soil, or Hydrology si					present? Yes <u>√</u> No
Are Vegetation, Soil, or Hydrology no				eeded, explain any answe	
				-	
SUMMARY OF FINDINGS – Attach site map s	silowilly	Sampiin	g point i	ocations, transects	s, important leatures, etc.
Hydrophytic Vegetation Present? Yes No	·	Is th	e Sampled	l Area	
Hydric Soil Present? Yes _ ✓ No		with	in a Wetlar	nd? Yes <u>√</u>	No
Wetland Hydrology Present? Yes <u>√</u> No	<u> </u>				
Remarks:					
Coarse textured soil lacking clear hydric soil indicators. In the wetland vegetation and wetland hydrology indicators and po					
, ,			<u> </u>	, , , , , , , , , , , , , , , , , , ,	,
VEGETATION – Use scientific names of plant	ts.				
Tree Chrotium (Diet eine)		Dominant		Dominance Test work	ksheet:
		Species?		Number of Dominant S	
1				That Are OBL, FACW,	01 FAC 2 (A)
2				Total Number of Domir Species Across All Stra	
4				Species Across Air Stra	ata2 (b)
		= Total Co		Percent of Dominant S That Are OBL. FACW.	species or FAC:100 (A/B)
Sapling/Shrub Stratum (Plot size:)					
1. Salix sp.				Prevalence Index wor	
2					Multiply by:
3					x 1 = 0 x 2 = 0
4				*	x 3 = 0
5		= Total Co	ver	1	x 4 = 0
Herb Stratum (Plot size:)				UPL species	x 5 =0
1. Typha angustifolia	50	Yes	OBL	*	O (A) O (B)
2. Medicago sp.		No	FACU		
3. Cortaderia jubata			FACU		x = B/A = <u>NaN</u>
4. <u>Dittrichia graveolens</u>				Hydrophytic Vegetati	
5				✓ Dominance Test is ✓ Prevalence Index	
6					aptations¹ (Provide supporting
7			-	data in Remark	is or on a separate sheet)
8		= Total Co	·····	Problematic Hydro	ophytic Vegetation ¹ (Explain)
Woody Vine Stratum (Plot size:)	12	_ = 10ta1 C0	ivei		
1					il and wetland hydrology must
2				be present, unless dist	turbed or problematic.
		_ = Total Co	ver	Hydrophytic	
% Bare Ground in Herb Stratum 28 % Cover	of Biotic C	rust		Vegetation Present? Ye	es <u>√</u> No
Remarks:					 _
Indicator status of Salix sp. applied based of	n ecolo	منحما حم	ting (cati	irated soil) Hudro	nhytic vegetation
dominant.	TI ECUIU	Bicai seti	ung (satt	arateu sonj. Hydro	priytic vegetation

SOIL Sampling Point: 4A

Profile Desc	ription: (Describe	to the de	oth needed to docur	nent the i	indicator	or confirn	n the absence	e of indicators.)
Depth	Matrix			x Feature				
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type'	Loc ²	<u>Texture</u>	Remarks
0-2	2.5Y 3/2	100	N/A: No redox				Gravelly 🖪	
3-10	5Y 3/1	100	N/A: no redox				Gravelly #	
					· ——			
				· ———				
¹ Type: C=Co	oncentration, D=Dep	oletion, RM	l=Reduced Matrix, CS	S=Covered	d or Coate	d Sand Gi	rains. ² Lo	cation: PL=Pore Lining, M=Matrix.
			I LRRs, unless other					s for Problematic Hydric Soils ³ :
Histosol	(A1)		Sandy Redo	ox (S5)			1 cm l	Muck (A9) (LRR C)
Histic Ep	oipedon (A2)		Stripped Ma	atrix (S6)			2 cm l	Muck (A10) (LRR B)
Black Hi			Loamy Muc	-				ced Vertic (F18)
	en Sulfide (A4)		Loamy Gley		(F2)			Parent Material (TF2)
	d Layers (A5) (LRR	C)	Depleted M				✓ Other	(Explain in Remarks)
	ick (A9) (LRR D)	- (011)	Redox Dark		` '			
	d Below Dark Surfac ark Surface (A12)	e (ATT)	Depleted Date Redox Dep		. ,		3Indicators	s of hydrophytic vegetation and
	fucky Mineral (S1)		Vernal Pool		10)			hydrology must be present,
	Bleyed Matrix (S4)		vernar i oor	3 (1 3)				disturbed or problematic.
	Layer (if present):							
Type:								
Depth (inc	ches):						Hydric Soi	I Present? Yes No
Remarks:							1 -	
Divorusch i	a liatad as budria s	n +ha Na	tional list of lludric	. Coile Le		- Coore	. +	il la dring class budsic soil indicators
								il lacking clear hydric soil indicators.
			tion within the land		a nyaric t	based on	presence of	wetland vegetation and strong
		and posi	tion within the land	изсирс.				
HYDROLO								
Wetland Hy	drology Indicators:							
Primary India	cators (minimum of c	one require	ed; check all that appl	y)			Seco	ndary Indicators (2 or more required)
Surface	Water (A1)		Salt Crust	(B11)			V	Nater Marks (B1) (Riverine)
High Wa	ater Table (A2)		Biotic Crus	st (B12)			8	Sediment Deposits (B2) (Riverine)
✓ Saturation	on (A3)		Aquatic In	vertebrate	es (B13)		[Orift Deposits (B3) (Riverine)
Water M	larks (B1) (Nonriver	rine)	Hydrogen	Sulfide O	dor (C1)		0	Orainage Patterns (B10)
Sedimer	nt Deposits (B2) (No	nriverine)	✓ Oxidized F	Rhizosphe	res along	Living Roo	ots (C3) [Ory-Season Water Table (C2)
Drift Dep	oosits (B3) (Nonrive	rine)	Presence	of Reduce	ed Iron (C4	!)	0	Crayfish Burrows (C8)
Surface	Soil Cracks (B6)		Recent Iro	n Reducti	on in Tilled	d Soils (C6	6) 8	Saturation Visible on Aerial Imagery (C9)
Inundation	on Visible on Aerial	Imagery (E	37) Thin Muck	Surface ((C7)		8	Shallow Aquitard (D3)
Water-S	tained Leaves (B9)		Other (Exp	olain in Re	emarks)		F	FAC-Neutral Test (D5)
Field Obser			,					
Surface Water			No ✓ Depth (in					
Water Table		_	No _ ✓ Depth (in					_
Saturation Projection (includes cap	oillary fringe)		No Depth (in	-				gy Present? Yes <u>√</u> No
Describe Re	corded Data (stream	n gauge, m	onitoring well, aerial	photos, pr	evious ins	pections),	if available:	
Remarks:								
Wetland	hydrology indic	cators p	resent.					
	·	,						

Project/Site: Eliot Facility	(City/County	: Unincorp	oorated/Alameda	Sampling Date: 04	/03/2018
Applicant/Owner: CEMEX				State: CA	Sampling Point:	4B
Investigator(s): David Bise, Cristian Singer	;	Section, To	wnship, Rar	nge: <u>30, T3S, R2E</u>		
Landform (hillslope, terrace, etc.): Hillslope		Local relief	(concave, c	convex, none): none	Slope (%): <u>~1</u>
Subregion (LRR): Land Resource Region C						
• , , ,				NWI classific		
Are climatic / hydrologic conditions on the site typical for this			_			
Are Vegetation, Soil, or Hydrology sig	-			Normal Circumstances" p		Nο
Are Vegetation, Soil, or Hydrology na				eded, explain any answe		
						uras ata
SUMMARY OF FINDINGS – Attach site map s	nowing	Sampiin	g point it		iniportant leatt	ires, etc.
Hydrophytic Vegetation Present? Yes No	<u> </u>	ls th	e Sampled	Area		
Hydric Soil Present? Yes No			in a Wetlan		No <u>√</u>	
Wetland Hydrology Present? Yes No Remarks:						
Upland vegetation dominant, no hydric soil	indicate	ors, no v	vetland r	nydrology indicato	rs.	
VEGETATION – Use scientific names of plant						
		Dominant Species?		Dominance Test work		
1				Number of Dominant S That Are OBL, FACW,		(A)
2						
3				Total Number of Domin Species Across All Stra		(B)
4				Percent of Dominant S		` ` /
	0	= Total Co	ver	That Are OBL, FACW,		(A/B)
Sapling/Shrub Stratum (Plot size:) 1. Baccharis pilularis ssp. consanguinea	20	Voc	LIDI	Prevalence Index wor	rkshoot:	
				Total % Cover of:		<i>r</i> .
2 3				OBL species		
4				FACW species		
5				FAC species		
		= Total Co	ver	FACU species	x 4 =0	
Herb Stratum (Plot size:)				UPL species	x 5 =0	<u></u>
1. Cortaderia jubata		Yes	FACU	Column Totals:) (A) <u>0</u>	(B)
2. Bromus hordeaceus		Yes	FACU	Provalance Index	c = B/A =NaN	
3. Medicago sp.		Yes	FACU	Hydrophytic Vegetation	· · · · · · · · · · · · · · · · · · ·	
4. <u>Geranium dissectum</u>		No	UPL	Dominance Test is		
5 6				Prevalence Index i		
7					aptations ¹ (Provide sup	porting
8.				data in Remark	s or on a separate she	eet)
		= Total Co		Problematic Hydro	phytic Vegetation¹ (Ex	plain)
Woody Vine Stratum (Plot size:)				1		
1				¹ Indicators of hydric so be present, unless disti		gy must
2					<u> </u>	
		= Total Co		Hydrophytic Vegetation	,	
% Bare Ground in Herb Stratum 25 % Cover	of Biotic Cr	rust		Present? Ye	es No_ <u>√</u>	_
Remarks:						
Upland vegetation dominant.						

SOIL Sampling Point: 4B

Profile Description: (Describe to the depth needed to document the indicator or or	confirm the absence of indicators.)
Depth Matrix Redox Features	
(inches) Color (moist) % Color (moist) % Type ¹ L	_oc ² Texture Remarks
<u>0-12</u> <u>2.5Y 3/2</u> <u>100</u> <u>N/A: No redox</u>	Gravelly 📅
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated S	Sand Grains. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
Histosol (A1) Sandy Redox (S5)	1 cm Muck (A9) (LRR C)
Histic Epipedon (A2) Stripped Matrix (S6)	2 cm Muck (A10) (LRR B)
Black Histic (A3) Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
Stratified Layers (A5) (LRR C) Depleted Matrix (F3)	Other (Explain in Remarks)
1 cm Muck (A9) (LRR D) Redox Dark Surface (F6)	
Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8)	³ Indicators of hydrophytic vegetation and
Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) Vernal Pools (F9)	wetland hydrology must be present,
Sandy Gleyed Matrix (S4)	unless disturbed or problematic.
Restrictive Layer (if present):	aocc alottal 200 of production
Type:	
Depth (inches):	Hydric Soil Present? Yes No _✓
Remarks:	
Diversize his classified as a hydric soil on the National List of Hydric Soils hut t	his point lacks hydric soil indicators, lacks watland
Riverwash is classified as a hydric soil on the National List of Hydric Soils but t vegetation, lacks wetland hydrology indicators and the position of the point w	
Shovel refusal at 12 inches.	vicinii the landscape is upland (located on a milisiope).
HYDROLOGY	
Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
Surface Water (A1) Salt Crust (B11)	Water Marks (B1) (Riverine)
High Water Table (A2) Biotic Crust (B12)	Sediment Deposits (B2) (Riverine)
Saturation (A3) Aquatic Invertebrates (B13)	Drift Deposits (B3) (Riverine)
Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
	ing Roots (C3) Dry-Season Water Table (C2)
Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4)	Crayfish Burrows (C8)
Surface Soil Cracks (B6) Recent Iron Reduction in Tilled So	
Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9) Other (Explain in Remarks)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No ✓ Depth (inches):	W. W. W. L. D. 10 V. W. J.
Saturation Present? Yes No ✓ Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes No✓
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspec	ctions), if available:
Remarks:	
No wetland hydrology indicators.	

Project/Site: Eliot Facility / Arroyo del Valle	(City/Co	ounty:	Unincorp	porated Alameda Co. Sampling Date: 11/25/2019
Applicant/Owner: CEMEX					State: <u>CA</u> Sampling Point: <u>5B</u>
Investigator(s): Charlotte Marks and Marisa Brilts		Section	n, Tow	nship, Ran	nge: Land Grant
Landform (hillslope, terrace, etc.): terrace		Local	relief (concave, c	convex, none): CONCAVE Slope (%): <1.0
Subregion (LRR): C	Lat: 37.6	55922	29261	5	Long: -121.825601498 Datum: NAD 83
Soil Map Unit Name: Pleasanton gravelly loam, 3 to 12					
Are climatic / hydrologic conditions on the site typical for this					
Are Vegetation, Soil, or Hydrology sig	-				"Normal Circumstances" present? Yes✓ No
Are Vegetation, Soil, or Hydrology na					eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map s					
Hydrophytic Vegetation Present? Veg No. No.					
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No				Sampled	_
Wetland Hydrology Present? Yes ✓ No			withir	n a Wetlan	nd? Yes No✓
Remarks:					
Excavated artificial basin; 2 culverts located at	the east	and	west	of basin	n; overflow drains west into another basin.
Photo points 10 and 11					
VEGETATION – Use scientific names of plants					
· · · · · · · · · · · · · · · · · · ·		Dom	inant	Indicator	Dominanaa Taat waxkahaati
	Absolute % Cover				Dominance Test worksheet: Number of Dominant Species
1					That Are OBL, FACW, or FAC:0 (A)
2					Total Number of Dominant
3					Species Across All Strata: (B)
	0	= Tota	al Cov	er	Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)		. 0	u. 001		That Are OBL, FACW, or FAC:0 (A/B)
1					Prevalence Index worksheet:
2					Total % Cover of: Multiply by:
3					OBL species x 1 =0
4					FACW species x 2 =0
5					FAC species $x = 0$
Herb Stratum (Plot size:)	0	= 10ta	al Cov	er	FACU species x 4 = 0 UPL species x 5 = 0
1. *Avena spp.	82	Yes		UPL	Column Totals: 0 (A) 0 (B)
2. Rumex crispus		No		FAC	Column Totals. (A)
3. Vicia spp.	5	No		UPL	Prevalence Index = B/A = NaN
4. Silybum marianum	3	No		UPL	Hydrophytic Vegetation Indicators:
5. Geranium molle	2	No		UPL	Dominance Test is >50%
6					Prevalence Index is ≤3.0 ¹
7					Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8					Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size:)	100	= Tota	al Cov	er	
1					¹ Indicators of hydric soil and wetland hydrology must
2					be present, unless disturbed or problematic.
				er	Hydrophytic
% Bare Ground in Herb Stratum % Cover of	of Biotic Cr	ust			Vegetation Present? Yes No✓
Remarks:				Į.	
*At time of survey, grass within the botton	of the b	asin	was	not ider	ntifiable due to lack of seed heads;
however, prior season Avena spp. was obse					
,,				0 -	

SOIL									S	ampling	Point:	5B	_
													_

Profile Description: (Describ	e to the dep	th needed to docur	ment the	indicator	or confirn	n the absence o	of indicators.)
Depth Matrix			x Feature		. 2	- .	5
(inches) Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
<u>0-6</u> <u>10 YR 3/2</u>	99	5 YR 4/6	<1	<u>C</u>	_M	Clay	
							<u> </u>
					-		
			_				
¹ Type: C=Concentration, D=De					ed Sand G		ation: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Appl	icable to all			ed.)		Indicators f	or Problematic Hydric Soils ³ :
Histosol (A1)		Sandy Red					uck (A9) (LRR C)
Histic Epipedon (A2)		Stripped Ma					uck (A10) (LRR B)
Black Histic (A3)		Loamy Muc	-	. ,			d Vertic (F18)
Hydrogen Sulfide (A4)) (C)	Loamy Gley		((F2)			rent Material (TF2)
Stratified Layers (A5) (LRR 1 cm Muck (A9) (LRR D)	(C)	Depleted M Redox Dark		(E6)		<u>√</u> Other (i	Explain in Remarks)
Depleted Below Dark Surfa	ace (A11)	Nedox Dan		. ,			
Thick Dark Surface (A12)	(* 1. 1.)	Redox Dep		, ,		³ Indicators of	of hydrophytic vegetation and
Sandy Mucky Mineral (S1)		Vernal Pool		,			ydrology must be present,
Sandy Gleyed Matrix (S4)						unless dis	sturbed or problematic.
Restrictive Layer (if present):							
Type: None		<u></u>					
Depth (inches):						Hydric Soil F	Present? Yes <u>√</u> No
Remarks:							
Due to denth restrictions	nresence	of hydric soil indi	icators c	ould onl	v he rule	ed out to a ma	aximum depth of 6 inches;
•	•	•			•		oils are assumed to be present.
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		, , , , , ,			,	, ,	
HYDROLOGY							
Wetland Hydrology Indicators	s:						
Primary Indicators (minimum of		d; check all that appl	v)			Second	dary Indicators (2 or more required)
Surface Water (A1)	•	Salt Crust					ater Marks (B1) (Riverine)
High Water Table (A2)		Biotic Crus	. ,				diment Deposits (B2) (Riverine)
Saturation (A3)		Aquatic In	. ,	es (B13)			ift Deposits (B3) (Riverine)
Water Marks (B1) (Nonrive	erine)	Hydrogen					ainage Patterns (B10)
Sediment Deposits (B2) (N		Oxidized F			Living Roo		y-Season Water Table (C2)
Drift Deposits (B3) (Nonriv		Presence		-	-	· · · —	ayfish Burrows (C8)
Surface Soil Cracks (B6)	,	Recent Iro					turation Visible on Aerial Imagery (C9)
✓ Inundation Visible on Aeria	I Imagery (B	7) Thin Muck	Surface	(C7)		Sh	allow Aquitard (D3)
Water-Stained Leaves (B9))	Other (Exp	olain in Re	emarks)		FA	.C-Neutral Test (D5)
Field Observations:							
Surface Water Present?	Yes	No Depth (in	ches):				
Water Table Present?	Yes	No Depth (in	ches):				
		No ✓ Depth (in				and Hydrology	Present? Yes _ ✓ No
(includes capillary fringe)						if accellable.	
Describe Recorded Data (strea	m gauge, mo	onitoring well, aerial	photos, pi	evious ins	pections),	if available:	
Describe Recorded Data (strea	m gauge, mo	onitoring well, aerial	photos, pi	evious ins	pections),	ir available:	
	m gauge, mo	onitoring well, aerial	photos, pi	evious ins	pections),	ii available:	
Describe Recorded Data (strea Remarks:			photos, pi	evious ins	pections),	ir available:	
Describe Recorded Data (strea			photos, pi	evious ins	pections),	ir available:	

Project/Site: Eliot Facility / Arroyo del Valle	(City/County	: Unincorp	porated Alameda Co. Sampling Date: 11/25/2019
				State: CA Sampling Point: 5C
Investigator(s): Charlotte Marks and Marisa Brilts				
Landform (hillslope, terrace, etc.): terrace				
Subregion (LRR): C			,	
Soil Map Unit Name: Pleasanton gravelly loam, 3 to 12				
Are climatic / hydrologic conditions on the site typical for this			,	
Are Vegetation, Soil, or Hydrology sig	-			"Normal Circumstances" present? Yes ✓ No No No No No No No
Are Vegetation, Soil, or Hydrology na SUMMARY OF FINDINGS – Attach site map s				eeded, explain any answers in Remarks.) ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No			e Sampled	
Wetland Hydrology Present? Yes ✓ No		with	in a Wetlar	nd? Yes No <u>√</u>
Remarks:				
Excavated artificial basin; 2 culverts located a	t the eas	st and w	est of bas	sin: overflow drains west into another basin
Photo points 10 and 11				, 6.66 6.6 1.6
·				
VEGETATION – Use scientific names of plant		Dominant	Indicator	Dominanaa Taat warkahaat:
Tree Stratum (Plot size:)	Absolute % Cover			Dominance Test worksheet: Number of Dominant Species
1				That Are OBL, FACW, or FAC: 0 (A)
2 3				Total Number of Dominant Species Across All Strata:2 (B)
4				Percent of Dominant Species
Conline/Chruib Stratum (Diet aire)	0	= Total Co	ver	That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum (Plot size:) 1				Prevalence Index worksheet:
2.				Total % Cover of: Multiply by:
3.				OBL species x 1 =0
4.				FACW species x 2 =0
5				FAC species x 3 =0
	0	= Total Co	ver	FACU species x 4 =0
Herb Stratum (Plot size:)	45	Voc	LIDI	UPL species x 5 =0
*Avena spp. Erodium spp.		Yes Yes	UPL FACU	Column Totals: 0 (A) 0 (B)
3. Vicia spp.		No	UPL	Prevalence Index = B/A = NaN
4				Hydrophytic Vegetation Indicators:
5.				Dominance Test is >50%
6.				Prevalence Index is ≤3.0 ¹
7				Morphological Adaptations ¹ (Provide supporting
8				data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
W 1 1/2 01 1 (D) 1	65	= Total Co	ver	Problematic Hydrophytic Vegetation (Explain)
Woody Vine Stratum (Plot size:)				¹ Indicators of hydric soil and wetland hydrology must
1 2				be present, unless disturbed or problematic.
		= Total Co	ver	Hydrophytic
% Bare Ground in Herb Stratum35 % Cover				Vegetation Present? Yes No
Remarks:				1
*At time of survey, grass within the botton	of the b	asin wa	s not ide	ntifiable due to lack of seed heads:
however, prior season Avena spp. was obse				
- , , · · · · · · · · · · · · · · · · ·		0 3		

SOIL								Sampling Po	oint:	5C	_

Profile Description: (Describe to the depth	needed to docum	nent the indica	tor or con	nfirm the abs	sence of indicators.)
Depth Matrix		K Features	1 .	2 – .	B
(inches) Color (moist) %	Color (moist)	<u>%</u> <u>Typ</u>	e ¹ Loc	Z Textu	
0-4 10 YR 3/3 100					Sandy Clay Loam
					
					
¹ Type: C=Concentration, D=Depletion, RM=F			oated San		² Location: PL=Pore Lining, M=Matrix. cators for Problematic Hydric Soils ³ :
Hydric Soil Indicators: (Applicable to all Li					•
Histosol (A1) Histic Epipedon (A2)	Sandy Redomer Stripped Ma				1 cm Muck (A9) (LRR C) 2 cm Muck (A10) (LRR B)
Black Histic (A3)		ky Mineral (F1)			Reduced Vertic (F18)
Hydrogen Sulfide (A4)		ed Matrix (F2)			Red Parent Material (TF2)
Stratified Layers (A5) (LRR C)	Depleted Ma				Other (Explain in Remarks)
1 cm Muck (A9) (LRR D)	Redox Dark	Surface (F6)			
Depleted Below Dark Surface (A11)		irk Surface (F7))	2	
Thick Dark Surface (A12)	Redox Depr				cators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)Sandy Gleyed Matrix (S4)	Vernal Pools	s (F9)			etland hydrology must be present, lless disturbed or problematic.
Restrictive Layer (if present):				un	ness disturbed of problematic.
Type: None					
Depth (inches):				Hydrid	c Soil Present? Yes No
Remarks:	<u> </u>			Tiyana	c con resent: res_v No
Due to depth restrictions, presence of however, since other hydric soil indicated the hydrocology	•		•		•
Wetland Hydrology Indicators:					
Primary Indicators (minimum of one required;	check all that annly	()		9	Secondary Indicators (2 or more required)
Surface Water (A1)	Salt Crust				Water Marks (B1) (Riverine)
High Water Table (A2)	Biotic Crus	` '		-	Sediment Deposits (B2) (Riverine)
Saturation (A3)		ertebrates (B13	3)	-	Drift Deposits (B3) (Riverine)
Water Marks (B1) (Nonriverine)		Sulfide Odor (C	,	•	Drainage Patterns (B10)
Sediment Deposits (B2) (Nonriverine)		hizospheres ald		Roots (C3)	Dry-Season Water Table (C2)
Drift Deposits (B3) (Nonriverine)		of Reduced Iron	-	· / -	Crayfish Burrows (C8)
Surface Soil Cracks (B6)		n Reduction in T		s (C6)	Saturation Visible on Aerial Imagery (C9)
✓ Inundation Visible on Aerial Imagery (B7)	Thin Muck	Surface (C7)			Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Other (Exp	lain in Remarks	s)		FAC-Neutral Test (D5)
Field Observations:					
Surface Water Present? Yes No	o <u>√</u> Depth (inc	:hes):			
Water Table Present? Yes No	Depth (inc	ches):			
(includes capillary fringe)	Depth (inc				rology Present? Yes No
Describe Recorded Data (stream gauge, mon	itoring well, aerial p	notos, previous	s inspection	ns), it availab	DIE:
Remarks:					
Topographical low area; excavate	d basın				

Project/Site: Eliot Facility / Arroyo del Valle		City/Coun	nty: Unincor	porated Alameda Co.	Sampling Dat	te: <u>11/25/2019</u>
Applicant/Owner: CEMEX				State: CA	_ Sampling Poi	nt: <u>6a</u>
Investigator(s): Charlotte Marks and Marisa Brilts		Section, 7	Township, Ra	nge: Land Grant		
Landform (hillslope, terrace, etc.): terrace		Local reli	ief (concave,	convex, none): conca	ve	Slope (%): <u>1-2</u>
Subregion (LRR): C						
Soil Map Unit Name: Pleasanton gravelly loam, 3 to 12						•
Are climatic / hydrologic conditions on the site typical for thi						
Are Vegetation, Soil, or Hydrologys	-			"Normal Circumstances		✓ No
Are Vegetation, Soil, or Hydrology r				eeded, explain any ansv		
SUMMARY OF FINDINGS – Attach site map						
Hydrophytic Vegetation Present? Yes ✓ N Yes ✓ N			the Sampled		,	
Wetland Hydrology Present? Yes ✓ N		wi	thin a Wetlai	nd? Yes <u> </u>	No	
Remarks:		I				
Excavated depressional basin; 2 culverts located at the wes	t and south	of basin; r	eceives overf	low from basin to the we	est and water fro	m culvert in south
Photo points 11 and 12						
VEGETATION – Use scientific names of plan	ite					
VEGETATION – Use scientific flames of plan	Absolute	Domino	nt Indicator	Dominance Test we	rkahaati	
Tree Stratum (Plot size:)			nt Indicator Status	Dominance Test wo Number of Dominant		
1. Salix laevigata	24	Yes	FACW	That Are OBL, FACW		2 (A)
2		-		Total Number of Dom	inant	
3				Species Across All St		2 (B)
4				Percent of Dominant	Species	
Sapling/Shrub Stratum (Plot size:)	24	= Total (Cover	That Are OBL, FACW		(A/B)
1				Prevalence Index we	orksheet:	
2.				Total % Cover of	: <u>Mu</u>	Itiply by:
3.				OBL species	x 1 = _	0
4				FACW species	x 2 = _	0
5				FAC species	x 3 = _	0
Horb Stratum (Diet size)	0	= Total C	Cover	FACU species		
Herb Stratum (Plot size:) 1. Schoenoplectus acutus var. occidentalis	55	Yes	OBL	UPL species		
Cyperus eragrostis		No	FACW	Column Totals:	<u>U</u> (A) _	(B)
3. Rumex crispus		No	FAC	Prevalence Inde	ex = B/A =	NaN
4. Lythrum hyssopifolia		No	OBL	Hydrophytic Vegeta	tion Indicators:	
5				✓ Dominance Test		
6				Prevalence Index		
7				Morphological Ac	daptations¹ (Prov rks or on a separ	ride supporting
8				Problematic Hydi		,
Woody Vine Stratum (Plot size:)	71	= Total (Cover	1 100101114110111941	opriyas vogstaa	Cir (Explain)
1				¹ Indicators of hydric s	oil and wetland I	hydrology must
2.				be present, unless dis	sturbed or proble	matic.
				Hydrophytic		
% Bare Ground in Herb Stratum5		=		Vegetation Present?	′es ✓ No)
Remarks:	י אווטונע ני			i resent:	- NO	<u> </u>
romano.						

SOIL

Sampling Point: 6a

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix			x Feature		. ?		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-12	10 YR 3/2	88	2.5 YR 3/6	12	<u>C</u>	PL	Clay	
	-							
	-							·
					· -			
	-							
1T C-C		alatian DM	- Dadward Matrix CC				21 222	ion. DI -Dono I ining. M-Matrix
			=Reduced Matrix, CS LRRs, unless other			a Sana Gi		ion: PL=Pore Lining, M=Matrix. or Problematic Hydric Soils ³ :
-		cable to al			eu.)			•
Histosol	pipedon (A2)		Sandy Redo Stripped Ma					ck (A9) (LRR C) ck (A10) (LRR B)
	istic (A3)		Loamy Muc		d (F1)			Vertic (F18)
	en Sulfide (A4)		Loamy Gley	-				ent Material (TF2)
	d Layers (A5) (LRR	C)	Depleted Ma		· (· =)			xplain in Remarks)
	uck (A9) (LRR D)	,	✓ Redox Dark	. ,	(F6)			,
	d Below Dark Surfac	ce (A11)	Depleted Da	ark Surfac	e (F7)			
Thick Da	ark Surface (A12)		Redox Depr	essions (F8)		³ Indicators of	hydrophytic vegetation and
Sandy N	Mucky Mineral (S1)		Vernal Pools	s (F9)			wetland hy	drology must be present,
	Gleyed Matrix (S4)						unless dist	urbed or problematic.
	Layer (if present):							
Type: No	one							_
Depth (in	ches):						Hydric Soil Pi	resent? Yes No
Remarks:							•	
HYDROLO)GY							
	drology Indicators							
_			ed; check all that apply	٨			Cocondo	any Indiantora (2 or more required)
	•	one require						ary Indicators (2 or more required)
	Water (A1)		Salt Crust	, ,				ter Marks (B1) (Riverine)
	ater Table (A2)		Biotic Crus		- (D40)			liment Deposits (B2) (Riverine)
Saturati	` ,	-1	Aquatic Inv					t Deposits (B3) (Riverine)
	Marks (B1) (Nonrive		Hydrogen			Linda a Da		inage Patterns (B10)
	nt Deposits (B2) (No				-	_	· · · · · ·	-Season Water Table (C2)
	posits (B3) (Nonrive	erine)	Presence o					yfish Burrows (C8)
	Soil Cracks (B6)	I	Recent Iron			a Solis (Co		uration Visible on Aerial Imagery (C9)
_	ion Visible on Aerial	imagery (E	, <u>—</u>					Illow Aquitard (D3)
Field Obser	Stained Leaves (B9)		Other (Exp	nam m Re	emarks)	1	FAC	C-Neutral Test (D5)
		,						
Surface Wat			No ✓ Depth (inc					
Water Table			No <u>✓</u> Depth (inc					,
Saturation P		res	No <u>✓</u> Depth (inc	ches):		Wetl	and Hydrology F	Present? Yes <u>√</u> No
	pillary fringe) corded Data (stream	n dalide m	onitoring well, aerial p	photos pr	evious ins	nections)	if available:	
2000.100 110	ou bata (ou can	. gaago, III	Simoning Won, donar p	οισο, ρι	211000 1110	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	aranasio.	
Domarka:								
Remarks:								
Topograp	phical low area	; excava	ted basin; soil m	noist				

Project/Site: Eliot Facility / Arroyo del Valle	(City/Cou	ınty: <u>Unincor</u>	porated Alameda Co.	_ Sampling Date	e: <u>11/25</u>	5/2019
Applicant/Owner: CEMEX				State: CA	_ Sampling Poir	nt: <u>6</u>	5b
Investigator(s): Charlotte Marks and Marisa Brilts		Section,	Township, Ra	inge: Land Grant			
Landform (hillslope, terrace, etc.): hillslope		Local re	elief (concave,	convex, none): convex	<u>(</u>	Slope (%):	2
Subregion (LRR): C							
Soil Map Unit Name: Pleasanton gravelly loam, 3 to 1				=			
Are climatic / hydrologic conditions on the site typical for the			,				
Are Vegetation, Soil, or Hydrology	-			"Normal Circumstances"		✓ No	0
Are Vegetation, Soil, or Hydrology				eeded, explain any answ			
SUMMARY OF FINDINGS – Attach site map							s, etc.
		Ť	<u> </u>	•	•		
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes	No V		s the Sample			,	
Wetland Hydrology Present? Yes		W	vithin a Wetla	nd? Yes	No <u>√</u>		
Remarks:							
Photo points 11 and 12							
VECETATION Lies esignific names of pla	nto						
VEGETATION – Use scientific names of pla		Domin	ant Indicator	Dominance Test wor	kahaati		
Tree Stratum (Plot size:)			es? Status	Number of Dominant S			
1				That Are OBL, FACW,		0	(A)
2				Total Number of Domi	nant		
3				Species Across All Str		2	(B)
4				Percent of Dominant S			
Sapling/Shrub Stratum (Plot size:)	0	= Total	Cover	That Are OBL, FACW,	or FAC:	0	(A/B)
1				Prevalence Index wo	rksheet:		
2.				Total % Cover of:	<u>Mul</u>	tiply by:	_
3				OBL species	x 1 =	0	_
4				FACW species			
5				FAC species			_
Herb Stratum (Plot size:)	0	= Total	Cover	FACU species			_
1. Avena spp.	76	Yes	UPL	UPL species Column Totals:			
2. Geranium molle		Yes	UPL	Column rotals.	<u> </u>		_ (b)
3. Vicia spp.	_ 1	No	UPL	Prevalence Inde	x = B/A =	NaN	_
4				Hydrophytic Vegetat			
5				Dominance Test is			
6				Prevalence Index Morphological Ad			41
7					ks or on a separa		
8		= Total	Cover	Problematic Hydro	ophytic Vegetation	on¹ (Explai	n)
Woody Vine Stratum (Plot size:)		= Total	Cover				
1				¹ Indicators of hydric so be present, unless dis			nust
2				be present, unless dis	turbed of brobler	mauc.	
		= Total	Cover	Hydrophytic Vegetation			
% Bare Ground in Herb Stratum3	er of Biotic C	rust			es No	<u>√</u>	
Remarks:				ı			

SOIL Sampling Point: 6b

Depth	cription: (Describ Matrix		Rec	dox Feature	s			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>	Remarks
0-8	10 YR 3/2	99	10 YR 6/8	1	<u>C</u>	_M	Clay Loam	
						<u> </u>		
			M=Reduced Matrix,			ed Sand G		cation: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators: (Appl	icable to a	III LRRs, unless oth	erwise not	ed.)		Indicators	for Problematic Hydric Soils ³ :
Histosol	, ,		Sandy Re	, ,				Muck (A9) (LRR C)
	pipedon (A2)			Matrix (S6)				Muck (A10) (LRR B)
	istic (A3)			ucky Minera				ed Vertic (F18)
	en Sulfide (A4)			eyed Matrix	(F2)			arent Material (TF2)
	d Layers (A5) (LRR	(C)		Matrix (F3) ark Surface	(F6)		Other	(Explain in Remarks)
	uck (A9) (LRR D) d Below Dark Surfa	rce (Δ11)		Dark Surface	` '			
	ark Surface (A12)	icc (ATT)		epressions (. ,		3Indicators	of hydrophytic vegetation and
	Mucky Mineral (S1)		Vernal Po		. 0)			hydrology must be present,
	Gleyed Matrix (S4)		_	(-)				listurbed or problematic.
Restrictive	Layer (if present):							
Type: No	one							
Type. It								
	ches):						Hydric Soil	Present? Yes No _✓
Depth (in Remarks:	ches):		present throug	shout soi	l profil	e	Hydric Soil	Present? Yes No
Depth (in Remarks: Depth re	striction due t			shout soi	l profil	e	Hydric Soil	Present? Yes No
Depth (in Remarks: Depth res	striction due t	o rocks		rhout soi	l profil	e	Hydric Soil	Present? Yes No
Depth (in Remarks: Depth res	striction due t	o rocks	present throug		l profil	e		
Depth (in Remarks: Depth resident of the second of the se	striction due t OGY drology Indicators cators (minimum of	o rocks	present throug	pply)	l profil	e	Secon	ndary Indicators (2 or more required)
Depth (in Remarks: Depth resident of the second of the se	striction due t OGY drology Indicators cators (minimum of Water (A1)	o rocks	present throug red; check all that ap Salt Cru	oply) st (B11)	l profil	e	<u>Secor</u> V	ndary Indicators (2 or more required) Vater Marks (B1) (Riverine)
Depth (in Remarks: Depth resident of the second of the se	striction due t OGY drology Indicators cators (minimum of Water (A1) ater Table (A2)	o rocks	present throug red; check all that ap Salt Cru Biotic Cr	nply) st (B11) rust (B12)		e	<u>Secor</u> V S	ndary Indicators (2 or more required) Vater Marks (B1) (Riverine) sediment Deposits (B2) (Riverine)
Depth (in Remarks: Depth resident of the second of the se	striction due t OGY Idrology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3)	o rocks	present throug red; check all that ap Salt Cru Biotic Cr Aquatic	oply) st (B11) rust (B12) Invertebrate	es (B13)	e	Secon	ndary Indicators (2 or more required) Vater Marks (B1) (Riverine) sediment Deposits (B2) (Riverine) Orift Deposits (B3) (Riverine)
Depth (in Remarks: Depth resident of the second of the se	striction due t GGY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) (Nonrive	o rocks s: one requirerine)	red; check all that ap Salt Cru Biotic Cr Aquatic Hydroge	ply) st (B11) rust (B12) Invertebrate en Sulfide O	es (B13) dor (C1)		Secon V S D D	ndary Indicators (2 or more required) Vater Marks (B1) (Riverine) Vediment Deposits (B2) (Riverine) Verift Deposits (B3) (Riverine) Veriftage Patterns (B10)
Depth (in Remarks: Depth resident of the second of the se	striction due t OGY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) (Nonrive nt Deposits (B2) (N	o rocks s: one requirerine) onriverine	red; check all that ap Salt Cru Biotic Cr Aquatic Hydroge Oxidized	ply) st (B11) rust (B12) Invertebrate en Sulfide O d Rhizosphe	es (B13) dor (C1) eres alonç	J Living Roo	Secon V S D D D D D D D D D	ndary Indicators (2 or more required) Vater Marks (B1) (Riverine) dediment Deposits (B2) (Riverine) derainage Patterns (B10) dry-Season Water Table (C2)
Depth (in Remarks: Depth reserved by Primary Indi Surface High Water Mater Mater Mater Mater Depth (in Remarks: Depth reserved by Primary Indi Sedime Drift De	striction due t OGY Ordrology Indicators Cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) (Nonrive nt Deposits (B2) (Nonrive posits (B3) (Nonrive	o rocks s: one requirerine) onriverine	red; check all that ap Salt Cru Biotic Cr Aquatic Hydroge Oxidized Presence	st (B11) rust (B12) Invertebrate en Sulfide O d Rhizosphe e of Reduce	es (B13) dor (C1) eres along ed Iron (C	g Living Roo 34)	Secon V S D D D D D D D D D D	ndary Indicators (2 or more required) Vater Marks (B1) (Riverine) viediment Deposits (B2) (Riverine) virift Deposits (B3) (Riverine) virinage Patterns (B10) viry-Season Water Table (C2) viryfish Burrows (C8)
Depth (in Remarks: Depth res IYDROLO Wetland Hy Primary Indi Surface High Wa Saturati Water N Sedime Drift De Surface	striction due t OGY Orology Indicators Cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) (Nonrive nt Deposits (B2) (Noposits (B3) (Nonrive Soil Cracks (B6)	o rocks s: one requirerine) onriverine erine)	red; check all that ap Salt Cru Biotic Cr Aquatic Hydroge Oxidized Presenc Recent I	nply) st (B11) rust (B12) Invertebrate en Sulfide O d Rhizosphe e of Reduce	es (B13) dor (C1) eres alonç ed Iron (C ion in Tilli	g Living Roo 34)	Secor V S S S S S S S S S S S S S S S S S S S	ndary Indicators (2 or more required) Vater Marks (B1) (Riverine) vediment Deposits (B2) (Riverine) verift Deposits (B3) (Riverine) verinage Patterns (B10) very-Season Water Table (C2) veryfish Burrows (C8) veryfish Burrows (C8) veryfish Veryfish (C2)
Depth (in Remarks: Depth research IYDROLO Wetland Hy Primary India Surface High Water Many Sedime Drift De Surface Inundati	striction due t OGY Ordrology Indicators Cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) (Nonrive nt Deposits (B2) (Nonrive posits (B3) (Nonrive	o rocks s: one requir erine) onriverine erine)	red; check all that ap Salt Cru Biotic Cr Aquatic Hydroge Oxidized Presenc Recent I	st (B11) rust (B12) Invertebrate en Sulfide O d Rhizosphe e of Reduce	es (B13) dor (C1) eres along ed Iron (C ion in Tille (C7)	g Living Roo 34)	Secor V S D	ndary Indicators (2 or more required) Vater Marks (B1) (Riverine) viediment Deposits (B2) (Riverine) virift Deposits (B3) (Riverine) virinage Patterns (B10) viry-Season Water Table (C2) viryfish Burrows (C8)
Depth (in Remarks: Depth research IYDROLO Wetland Hy Primary India Surface High Water Management Sedime Drift De Surface Inundati Water-S	striction due t OGY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) (Nonrive nt Deposits (B2) (N posits (B3) (Nonriv Soil Cracks (B6) ion Visible on Aeria Stained Leaves (B9)	o rocks s: one requir erine) onriverine erine)	red; check all that ap Salt Cru Biotic Cr Aquatic Hydroge Oxidized Presenc Recent I	st (B11) rust (B12) Invertebrate en Sulfide O d Rhizosphe e of Reduce iron Reducti	es (B13) dor (C1) eres along ed Iron (C ion in Tille (C7)	g Living Roo 34)	Secor V S D	ndary Indicators (2 or more required) Vater Marks (B1) (Riverine) Vediment Deposits (B2) (Riverine) Verift Deposits (B3) (Riverine) Verinage Patterns (B10) Very-Season Water Table (C2) Verayfish Burrows (C8) Verayfish Burrows (C8) Verayfish Verification Visible on Aerial Imagery (Cathallow Aquitard (D3)
Depth (in Remarks: Depth research IYDROLO Wetland Hy Primary Indi Surface High Water Mater	striction due t OGY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) (Nonrive nt Deposits (B2) (N posits (B3) (Nonriv Soil Cracks (B6) ion Visible on Aeria Stained Leaves (B9) rvations:	o rocks cone require cone require conerine cerine)	red; check all that ap Salt Cru Biotic Cr Aquatic Hydroge Oxidized Presenc Recent I	st (B11) rust (B12) Invertebrate en Sulfide O d Rhizosphe e of Reduce fron Reducti ck Surface (explain in Re	es (B13) dor (C1) eres along ed Iron (C ion in Tillo (C7) emarks)	g Living Roo (4) ed Soils (Co	Secor V S D	ndary Indicators (2 or more required) Vater Marks (B1) (Riverine) Vediment Deposits (B2) (Riverine) Verift Deposits (B3) (Riverine) Verinage Patterns (B10) Very-Season Water Table (C2) Verayfish Burrows (C8) Verayfish Burrows (C8) Verayfish Verification Visible on Aerial Imagery (Cathallow Aquitard (D3)
Depth (in Remarks: Depth research IYDROLO Wetland Hy Primary Indi Surface High Water Mand Sedime Drift De Surface Inundati Water-S Field Obser Surface Water	striction due t OGY Orology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) (Nonrive nt Deposits (B2) (N posits (B3) (Nonriv Soil Cracks (B6) ion Visible on Aeria Stained Leaves (B9) rvations: ter Present?	o rocks s: one requir erine) onriverine erine) I Imagery (red; check all that ap Salt Cru Biotic Cr Aquatic Hydroge Oxidized Presenc Recent I B7) Thin Mu Other (E	st (B11) rust (B12) Invertebrate en Sulfide O d Rhizosphe e of Reduce iron Reducti ck Surface (explain in Re	es (B13) dor (C1) eres along ed Iron (C ion in Tille (C7) emarks)	g Living Roo 34) ed Soils (Co	Secor V S D	ndary Indicators (2 or more required) Vater Marks (B1) (Riverine) Vediment Deposits (B2) (Riverine) Verift Deposits (B3) (Riverine) Verinage Patterns (B10) Very-Season Water Table (C2) Verayfish Burrows (C8) Verayfish Burrows (C8) Verayfish Verification Visible on Aerial Imagery (Cathallow Aquitard (D3)
Depth (in Remarks: Depth research IYDROLO Wetland Hy Primary India Surface High Water Many Sedime Drift De Surface Inundati Water-S Field Obser Surface Water Surface Water Table Saturation P	striction due t OGY Idrology Indicators Cators (minimum of Water (A1) Parer Table (A2) On (A3) Marks (B1) (Nonrive Int Deposits (B2) (Nonrive Int Deposits (B3) (Nonrive Int Deposits (B6) Int Deposits (B6) Int Deposits (B6) Int Deposits (B8) (Nonrive Int Deposit	o rocks s: one requir erine) onriverine erine) I Imagery () Yes	red; check all that ap Salt Cru Biotic Cr Aquatic Hydroge Oxidized Presenc Recent I B7) Thin Mu Other (E	st (B11) rust (B12) Invertebrate en Sulfide O d Rhizosphe e of Reduce fron Reducti ck Surface (explain in Re	es (B13) dor (C1) eres alonç ed Iron (C ion in Tillo (C7) emarks)	g Living Roo (24) ed Soils (Co	Secor V S D	ndary Indicators (2 or more required) Vater Marks (B1) (Riverine) Vediment Deposits (B2) (Riverine) Verift Deposits (B3) (Riverine) Verinage Patterns (B10) Very-Season Water Table (C2) Verayfish Burrows (C8) Verayfish Burrows (C8) Verayfish Verification Visible on Aerial Imagery (Cathallow Aquitard (D3)
Depth (in Remarks: Depth res IYDROLO Wetland Hy Primary Indi Surface High Water Many Sedime Drift De Surface Inundati Water-S Field Obser Surface Water Table Saturation P (includes ca	striction due t OGY Orology Indicators Cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) (Nonrive nt Deposits (B2) (N posits (B3) (Nonriv Soil Cracks (B6) ion Visible on Aeria Stained Leaves (B9) Tvations: ter Present? Present? Present? Present?	o rocks s: one requir erine) onriverine erine) I Imagery () Yes Yes Yes	red; check all that ap Salt Cru Biotic Cr Aquatic Hydroge Presenc Recent I B7) Thin Mu Other (E	st (B11) rust (B12) Invertebrate en Sulfide O d Rhizosphe e of Reduce ron Reducti ck Surface (explain in Re inches): inches): inches):	es (B13) dor (C1) eres along ed Iron (C ion in Tilla (C7) emarks)	g Living Roo (24) ed Soils (Co	Secor V S D	ndary Indicators (2 or more required) Vater Marks (B1) (Riverine) Vediment Deposits (B2) (Riverine) Verift Deposits (B3) (Riverine) Verinage Patterns (B10) Very-Season Water Table (C2) Verayfish Burrows (C8) Veraturation Visible on Aerial Imagery (Cathallow Aquitard (D3) AC-Neutral Test (D5)
Depth (in Remarks: Depth research IYDROLO Wetland Hy Primary Indi Surface High Water Mater Mater Mater Surface Inundati Water Surface Inundati Water Surface Surface Water Surface Water Table Saturation P (includes ca	striction due t OGY Orology Indicators Cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) (Nonrive nt Deposits (B2) (N posits (B3) (Nonriv Soil Cracks (B6) ion Visible on Aeria Stained Leaves (B9) Tvations: ter Present? Present? Present? Present?	o rocks s: one requir erine) onriverine erine) I Imagery () Yes Yes Yes	present through red; check all that ap Salt Cru Biotic Cr Aquatic Hydroge Presenc Recent I B7) Thin Mu Other (E	st (B11) rust (B12) Invertebrate en Sulfide O d Rhizosphe e of Reduce ron Reducti ck Surface (explain in Re inches): inches): inches):	es (B13) dor (C1) eres along ed Iron (C ion in Tilla (C7) emarks)	g Living Roo (24) ed Soils (Co	Secor V S D	ndary Indicators (2 or more required) Vater Marks (B1) (Riverine) Vediment Deposits (B2) (Riverine) Verift Deposits (B3) (Riverine) Verinage Patterns (B10) Very-Season Water Table (C2) Verayfish Burrows (C8) Veraturation Visible on Aerial Imagery (Cathallow Aquitard (D3) AC-Neutral Test (D5)
Depth (in Remarks: Depth research rese	striction due t OGY Orology Indicators Cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) (Nonrive nt Deposits (B2) (N posits (B3) (Nonriv Soil Cracks (B6) ion Visible on Aeria Stained Leaves (B9) Tvations: ter Present? Present? Present? Present?	o rocks s: one requir erine) onriverine erine) I Imagery () Yes Yes Yes	red; check all that ap Salt Cru Biotic Cr Aquatic Hydroge Presenc Recent I B7) Thin Mu Other (E	st (B11) rust (B12) Invertebrate en Sulfide O d Rhizosphe e of Reduce ron Reducti ck Surface (explain in Re inches): inches): inches):	es (B13) dor (C1) eres along ed Iron (C ion in Tilla (C7) emarks)	g Living Roo (24) ed Soils (Co	Secor V S D	ndary Indicators (2 or more required) Vater Marks (B1) (Riverine) Vediment Deposits (B2) (Riverine) Verift Deposits (B3) (Riverine) Verinage Patterns (B10) Very-Season Water Table (C2) Verayfish Burrows (C8) Veraturation Visible on Aerial Imagery (Cathallow Aquitard (D3) AC-Neutral Test (D5)
Depth (in Remarks: Depth research rese	striction due t OGY Orology Indicators Cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) (Nonrive nt Deposits (B2) (N posits (B3) (Nonriv Soil Cracks (B6) ion Visible on Aeria Stained Leaves (B9) Tvations: ter Present? Present? Present? Present?	o rocks s: one requir erine) onriverine erine) I Imagery () Yes Yes Yes m gauge, r	red; check all that ap Salt Cru Biotic Cr Aquatic Hydroge Oxidized Presenc Recent I B7) Thin Mu Other (E	st (B11) rust (B12) Invertebrate en Sulfide O d Rhizosphe e of Reduce ron Reducti ck Surface (explain in Re inches): inches): inches):	es (B13) dor (C1) eres along ed Iron (C ion in Tilla (C7) emarks)	g Living Roo (24) ed Soils (Co	Secor V S D	ndary Indicators (2 or more required) Vater Marks (B1) (Riverine) Vediment Deposits (B2) (Riverine) Verift Deposits (B3) (Riverine) Verinage Patterns (B10) Very-Season Water Table (C2) Verayfish Burrows (C8) Veraturation Visible on Aerial Imagery (Cathallow Aquitard (D3) AC-Neutral Test (D5)
Depth (in Remarks: Depth research rese	striction due t OGY Idrology Indicators Cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) (Nonrive nt Deposits (B2) (N posits (B3) (Nonrive Soil Cracks (B6) ion Visible on Aeria Stained Leaves (B9) rvations: ter Present? Present? Present? Present? Present? Present? Present? Present? Present?	o rocks s: one requir erine) onriverine erine) I Imagery () Yes Yes Yes m gauge, r	red; check all that ap Salt Cru Biotic Cr Aquatic Hydroge Oxidized Presenc Recent I B7) Thin Mu Other (E	st (B11) rust (B12) Invertebrate en Sulfide O d Rhizosphe e of Reduce ron Reducti ck Surface (explain in Re inches): inches): inches):	es (B13) dor (C1) eres along ed Iron (C ion in Tilla (C7) emarks)	g Living Roo (24) ed Soils (Co	Secor V S D	ndary Indicators (2 or more required) Vater Marks (B1) (Riverine) Vediment Deposits (B2) (Riverine) Verift Deposits (B3) (Riverine) Verinage Patterns (B10) Very-Season Water Table (C2) Verayfish Burrows (C8) Veraturation Visible on Aerial Imagery (Cathallow Aquitard (D3) AC-Neutral Test (D5)

Project/Site: Eliot Facility / Arroyo del Valle		City/Cou	nty: <u>Unincor</u>	porated Alameda Co.	Sampling Date:	11/25/2019
Applicant/Owner: CEMEX				State: CA	Sampling Point:	7a
Investigator(s): Charlotte Marks and Marisa Brilts		Section,	Township, Ra	nge: Land Grant		
Landform (hillslope, terrace, etc.): <u>terrace</u>		Local re	lief (concave,	convex, none): concav	e sle	ope (%):1
Subregion (LRR): C						
Soil Map Unit Name: Pleasanton gravelly loam, 3 to 12				_		
Are climatic / hydrologic conditions on the site typical for this						
Are Vegetation, Soil, or Hydrologys	-			'Normal Circumstances"		√ No
Are Vegetation, Soil, or Hydrology n				eeded, explain any answe		
SUMMARY OF FINDINGS – Attach site map						eatures, etc.
			9 po		,	
Hydrophytic Vegetation Present? Yes ✓ No Hydric Soil Present? Yes ✓ No No Yes ✓ No		Is	the Sampled		,	
Wetland Hydrology Present? Yes ✓ No.		w	ithin a Wetlar	nd? Yes <u>√</u>	No	_
Remarks:						
 Seasonal excavated basin; Photo points 11	and 12					
Seasonal exeavated basin, Frioto points 11	ana 12					
VEGETATION – Use scientific names of plan	te					
VEGETATION OSC SCIONANIC NAMICS OF Plan		Domina	ant Indicator	Dominance Test worl	ksheet:	
Tree Stratum (Plot size:)			s? Status	Number of Dominant S		
1				That Are OBL, FACW,	or FAC:	1 (A)
2				Total Number of Domin		
3				Species Across All Stra	ata:	<u>1</u> (B)
4				Percent of Dominant S		
Sapling/Shrub Stratum (Plot size:)	0	= 10tai	Cover	That Are OBL, FACW,	or FAC:1	<u>00</u> (A/B)
1				Prevalence Index wo	rksheet:	-
2				Total % Cover of:	Multip	oly by:
3				OBL species		
4				FACW species		
5				FACILIANAISE		
Herb Stratum (Plot size:)	0	= Total	Cover	FACU species		
1. Schoenoplectus acutus var. occidentalis	74	Yes	OBL	Column Totals: (
2. Cyperus eragrostis	5	No	FACW	Column Totalo.	(//)	(D)
3. Rumex crispus	5	No	FAC	Prevalence Index		<u>laN</u>
4. <u>Erodium spp.</u>	1	No	FACU	Hydrophytic Vegetati		
5				✓ Dominance Test is		
6				Prevalence Index Morphological Ada		a augmenting
7					is or on a separat	
8		= Total	Cover	Problematic Hydro	phytic Vegetation	¹ (Explain)
Woody Vine Stratum (Plot size:)		= Total	Cover			
1				¹ Indicators of hydric so		
2				be present, unless dist	urbed or problem	atic.
		= Total	Cover	Hydrophytic Vegetation		
% Bare Ground in Herb Stratum15	of Biotic C	rust			es_√No_	
Remarks:				1		

SOIL Sampling Point: 7a

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix			x Feature				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-8	10 YR 3/2	83	2.5 YR 3/6	_17	<u>C</u>	<u>PL</u>		Sandy Clay Loam
		_						
		_					-	
							-	
1 _{Typo: C=C}	oncontration D=Do	olotion DM	I=Reduced Matrix, CS	Covere	d or Coat	nd Sand Gr	raine ² Lo	ocation: PL=Pore Lining, M=Matrix.
			I LRRs, unless other			d Sand Gr		s for Problematic Hydric Soils ³ :
Histosol		ouble to ul	Sandy Redo		.00.,			Muck (A9) (LRR C)
	pipedon (A2)		Stripped Ma					Muck (A10) (LRR B)
	istic (A3)		Loamy Muc		al (F1)			ced Vertic (F18)
	en Sulfide (A4)		Loamy Gley					Parent Material (TF2)
	d Layers (A5) (LRR	C)	Depleted Ma	atrix (F3)				(Explain in Remarks)
	uck (A9) (LRR D)		✓ Redox Dark	Surface	(F6)			
Deplete	d Below Dark Surfac	e (A11)	Depleted Da	ark Surfac	ce (F7)			
	ark Surface (A12)		Redox Depr		(F8)			s of hydrophytic vegetation and
	Mucky Mineral (S1)		Vernal Pool	s (F9)				I hydrology must be present,
	Gleyed Matrix (S4)						unless	disturbed or problematic.
	Layer (if present):							
Type: No								
Depth (in	ches):						Hydric Soi	I Present? Yes No
Remarks:								
HYDROLO	GV							
_	drology Indicators			,				
		one require	ed; check all that apply					andary Indicators (2 or more required)
	Water (A1)		Salt Crust	, ,				Water Marks (B1) (Riverine)
	ater Table (A2)		Biotic Crus		(D40)			Sediment Deposits (B2) (Riverine)
Saturati	` '		Aquatic Inv					Drift Deposits (B3) (Riverine)
	larks (B1) (Nonrive		Hydrogen					Drainage Patterns (B10)
	nt Deposits (B2) (No				_	_		Dry-Season Water Table (C2)
	posits (B3) (Nonrive	erine)	Presence				·	Crayfish Burrows (C8)
	Soil Cracks (B6)	l	Recent Iro			a Solis (Cb		Saturation Visible on Aerial Imagery (C9)
_	on Visible on Aerial	imagery (E	, <u>—</u>					Shallow Aquitard (D3)
Field Obser	tained Leaves (B9)		Other (Exp	nain in Re	emarks)			FAC-Neutral Test (D5)
		,	N / D # #					
Surface Wat			No <u>✓</u> Depth (inc					
Water Table			No <u>√</u> Depth (inc					
Saturation P (includes cap		/es	No <u>✓</u> Depth (inc	ches):		Wetla	and Hydrolog	gy Present? Yes <u>√</u> No
		n gauge, m	onitoring well, aerial p	photos, pr	revious ins	spections),	if available:	
	`					. ,.		
Remarks:								
	lata a Lila		Last baset 19					
ropograp	onical low area	; excava	ted basin; soil n	noist				

Project/Site: Eliot Facility / Arroyo	del Valle	(City/Co	unty: Uninc	corporated A	lameda Co.	Sampling Da	ite: 11/2	25/2019
Applicant/Owner: CEMEX					Stat	te: CA	Sampling Po	int:	7b
Investigator(s): Charlotte Marks a	nd Marisa Brilts	(Section	n, Township,	Range: Land	Grant			
Landform (hillslope, terrace, etc.): hi	illslope		Local r	relief (concav	ve, convex, no	ne): convex		Slope (%):2
Subregion (LRR): C		_ Lat: _37.6	55907	22746	Long: <u>-1</u>	21.82497309	93 ı	Datum: NA	AD 83
Soil Map Unit Name: Pleasanton g									
Are climatic / hydrologic conditions or									
Are Vegetation, Soil,		-			re "Normal Cir			1	Nο
Are Vegetation, Soil,					f needed, expl				
SUMMARY OF FINDINGS -						-			as atc
Command of Findings	<u> </u>		Juin	pinig poni	Tt 100dt10110	,	, importan	· routur	
Hydrophytic Vegetation Present?	Yes No			Is the Samp	oled Area				
Hydric Soil Present? Wetland Hydrology Present?	Yes No Yes No			within a Wet	tland?	Yes	No	<u>/</u>	
Remarks:	16510	<u> </u>							
Photo points 11 and 12									
VEGETATION III : ('	<u> </u>								
VEGETATION – Use scientif	ric names of plant		Domi	nont Indicate	or Demine	nce Test work	rahaati		
Tree Stratum (Plot size:)			nant Indicato ies? <u>Status</u>		of Dominant S			
1						OBL, FACW,		0	(A)
2					Total Nu	mber of Domir	ant		
3						Across All Stra		1	(B)
4					Percent	of Dominant S	pecies		
Sapling/Shrub Stratum (Plot size:)	0	= Tota	al Cover		OBL, FACW,		0	_ (A/B)
1					Prevaler	nce Index wor	ksheet:		
2.					Tota	I % Cover of:	Mı	ultiply by:	
3					OBL spe	cies	x 1 =	0	_
4					FACW s	pecies	x 2 =	0	_
5						cies			
Herb Stratum (Plot size:)	0	= Tota	al Cover		ecies		_	
	/	85	Yes	UPL		cies Totals: <u> </u>			(D)
2. Erodium spp.		. ——	No	FACU	Column	Totals	<u>) </u>	0	(D)
3. Eschscholzia californica			No	UPL	Pre	valence Index	= B/A =	NaN	
4					Hydroph	ytic Vegetati	on Indicators	:	
5						inance Test is			
6						alence Index i			
7						ohological Ada ata in Remark			
8						lematic Hydro	•		,
Woody Vine Stratum (Plot size:)	95	= Tota	al Cover					
1						rs of hydric so			must
2					be prese	nt, unless dist	urbed or probl	ematic.	
			= Tota	al Cover	Hydroph				
% Bare Ground in Herb Stratum		of Biotic Cr	ust		Vegetati Present	on ? Ye	sN	o <u> </u>	
Remarks:				<u> </u>					

SOIL	Sampling Point:	7b

Depth Matr		oth needed to docur Redo	x Features				,
inches) Color (moist		Color (moist)	%	Type ¹	Loc ² 1	exture	Remarks
0-6 <u>10 YR 3/3</u>	100						Sandy Clay Loam
						-	
		·-					
ype: C=Concentration, D=	Depletion, RM	=Reduced Matrix, CS	S=Covered o	r Coated S	Sand Grains	² Loc	ation: PL=Pore Lining, M=Matrix.
dric Soil Indicators: (Ap	plicable to all	LRRs, unless other	rwise noted.	.)	I		for Problematic Hydric Soils ³ :
_ Histosol (A1)		Sandy Red	ox (S5)		_	1 cm N	luck (A9) (LRR C)
_ Histic Epipedon (A2)		Stripped Ma			_		luck (A10) (LRR B)
_ Black Histic (A3)			ky Mineral (F		-		ed Vertic (F18)
_ Hydrogen Sulfide (A4)	35.0 \		/ed Matrix (F.	2)	_		arent Material (TF2)
Stratified Layers (A5) (LI1 cm Muck (A9) (LRR D		Depleted M	atrix (F3) : Surface (F6	2)	-	V Otner (Explain in Remarks)
Depleted Below Dark Su			ark Surface (Fo	,			
Thick Dark Surface (A12			ressions (F8)		3	Indicators	of hydrophytic vegetation and
Sandy Mucky Mineral (S		Vernal Pool		,			hydrology must be present,
_ Sandy Gleyed Matrix (S4			, ,				sturbed or problematic.
strictive Layer (if presen	t):						
• ` •							
Type: None							
					H	ydric Soil	Present? Yes <u>√</u> No
Type: None Depth (inches):emarks:			cators cou	ıld only l			
Type: None Depth (inches): emarks: ue to depth restriction owever, since other hy	s, presence	of hydric soil indi			be ruled o	ut to a m	Present? Yes No aximum depth of 6 inches; soils are assumed to be present
Type: None Depth (inches): emarks: ue to depth restriction owever, since other hy	s, presence dric soil ind	of hydric soil indi			be ruled o	ut to a m	aximum depth of 6 inches;
Type: None Depth (inches):emarks: ue to depth restriction owever, since other hy DROLOGY etland Hydrology Indicate	s, presence dric soil ind	of hydric soil indi icators may be pr	esent at fu		be ruled o	ut to a m	aximum depth of 6 inches; soils are assumed to be present
Type: None Depth (inches): emarks: ue to depth restriction owever, since other hy DROLOGY etland Hydrology Indicate imary Indicators (minimum	s, presence dric soil ind	of hydric soil indi icators may be pr d; check all that appl	esent at fu		be ruled o	ut to a m	aximum depth of 6 inches; soils are assumed to be present dary Indicators (2 or more required)
Type: None Depth (inches): emarks: Let o depth restriction owever, since other hy DROLOGY etland Hydrology Indicate imary Indicators (minimum _ Surface Water (A1)	s, presence dric soil ind	of hydric soil indi icators may be pr d; check all that appl Salt Crust	y) (B11)		be ruled o	ut to a m n hydric: Secon	aximum depth of 6 inches; soils are assumed to be present dary Indicators (2 or more required) dater Marks (B1) (Riverine)
Type: None Depth (inches): emarks: Depth depth restriction of the powever, since other hyperements of the powever, since other hyperements of the powever of the powe	s, presence dric soil ind	of hydric soil indi icators may be pr d; check all that appl Salt Crust Biotic Crus	y) (B11) st (B12)	urther de	be ruled o	ut to a m n hydric : Secon W S	aximum depth of 6 inches; soils are assumed to be present dary Indicators (2 or more required) (ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine)
Type: None Depth (inches):emarks: ue to depth restriction owever, since other hy DROLOGY etland Hydrology Indicate imary Indicators (minimum _ Surface Water (A1) _ High Water Table (A2) _ Saturation (A3)	s, presence dric soil ind ors: of one require	of hydric soil indicators may be pr d; check all that appl Salt Crust Biotic Crus Aquatic In	y) (B11) st (B12) vertebrates (B13)	be ruled o	ut to a m n hydric: Secon Secon Secon D	aximum depth of 6 inches; soils are assumed to be present adary Indicators (2 or more required) ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine)
Type: None Depth (inches): emarks: ue to depth restriction owever, since other hy DROLOGY etland Hydrology Indicate imary Indicators (minimum _ Surface Water (A1) _ High Water Table (A2) _ Saturation (A3) _ Water Marks (B1) (Nonr	s, presence dric soil ind ors: of one require	of hydric soil indicators may be produced by the control of the co	y) (B11) st (B12) vertebrates (I	B13)	be ruled or	Secon Se	aximum depth of 6 inches; soils are assumed to be present adary Indicators (2 or more required) atter Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10)
Type: None Depth (inches):emarks: ue to depth restriction owever, since other hy DROLOGY etland Hydrology Indicate imary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonr Sediment Deposits (B2)	s, presence dric soil ind ors: of one require iverine) (Nonriverine)	of hydric soil indicators may be produced by the control of the co	y) (B11) st (B12) vertebrates (I) Sulfide Odor Rhizospheres	B13) (C1) s along Liv	be ruled or	Secon S D D 33) D	aximum depth of 6 inches; soils are assumed to be present adary Indicators (2 or more required) (ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2)
Type: None Depth (inches):emarks: ue to depth restriction owever, since other hy TDROLOGY etland Hydrology Indicate imary Indicators (minimum _ Surface Water (A1) _ High Water Table (A2) _ Saturation (A3) _ Water Marks (B1) (Nonr _ Sediment Deposits (B2) _ Drift Deposits (B3) (Non	s, presence dric soil ind	of hydric soil indicators may be produced by the control of the co	y) (B11) st (B12) vertebrates (i Sulfide Odor Rhizospheres of Reduced I	B13) (C1) s along Liv	be ruled or epths, ther	Secon W S D D S3) D	aximum depth of 6 inches; soils are assumed to be present dary Indicators (2 or more required) (ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8)
Type: None Depth (inches):emarks: ue to depth restriction owever, since other hy DROLOGY etland Hydrology Indicationary Indicators (minimum and surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonrace Sediment Deposits (B2) Drift Deposits (B3) (Nonsatrace Soil Cracks (B6)	s, presence dric soil ind	of hydric soil indicators may be produced in the produced in t	y) (B11) st (B12) vertebrates (i Sulfide Odor Rhizospheres of Reduced I in Reduction	B13) (C1) s along Liv lron (C4) in Tilled S	be ruled or epths, ther	Secon Secon Secon S S S S S S S S S S S S S	aximum depth of 6 inches; soils are assumed to be present dary Indicators (2 or more required) dater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (Carterine)
Type: None Depth (inches): emarks: ue to depth restriction owever, since other hy DROLOGY etland Hydrology Indication imary Indicators (minimum _ Surface Water (A1) _ High Water Table (A2) _ Saturation (A3) _ Water Marks (B1) (Nonr _ Sediment Deposits (B2) _ Drift Deposits (B3) (Non	s, presence dric soil ind	of hydric soil indicators may be produced by the presence by the produced by the presence by t	y) (B11) st (B12) vertebrates (i Sulfide Odor Rhizospheres of Reduced I	B13) (C1) s along Liv lron (C4) in Tilled S	be ruled or epths, ther	Secon W S D D C S C S	aximum depth of 6 inches; soils are assumed to be present dary Indicators (2 or more required) (ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8)
Type: None Depth (inches):emarks: ue to depth restriction owever, since other hy DROLOGY etland Hydrology Indicate imary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonr Sediment Deposits (B2) Drift Deposits (B3) (Non Surface Soil Cracks (B6) Inundation Visible on Ae Water-Stained Leaves (B	s, presence dric soil ind	of hydric soil indicators may be produced by the presence by the produced by the presence by t	y) (B11) st (B12) vertebrates (I) Sulfide Odor Rhizospheres of Reduced I on Reduction	B13) (C1) s along Liv lron (C4) in Tilled S	be ruled or epths, ther	Secon W S D D C S C S	aximum depth of 6 inches; soils are assumed to be present dary Indicators (2 or more required) (ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (Canallow Aquitard (D3)
Type: None Depth (inches): emarks: ue to depth restriction owever, since other hy DROLOGY etland Hydrology Indication imary Indicators (minimum _ Surface Water (A1) _ High Water Table (A2) _ Saturation (A3) _ Water Marks (B1) (Nonr _ Sediment Deposits (B2) _ Drift Deposits (B3) (Non _ Surface Soil Cracks (B6) _ Inundation Visible on Ae _ Water-Stained Leaves (Beld Observations:	s, presence dric soil independence of one require (Nonriverine) riverine) rial Imagery (B	of hydric soil indicators may be produced by the presence by the produced by the presence by t	y) (B11) st (B12) vertebrates (I) Sulfide Odor Rhizospheres of Reduced I on Reduction Surface (C7 blain in Rema	B13) (C1) s along Liv lron (C4) in Tilled S	be ruled or epths, ther	Secon W S D D C S C S	aximum depth of 6 inches; soils are assumed to be present dary Indicators (2 or more required) (ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (Canallow Aquitard (D3)
Type: None Depth (inches):emarks: ue to depth restriction owever, since other hy DROLOGY etland Hydrology Indicate imary Indicators (minimum and processes) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (None and processes (B2) Drift Deposits (B3) (None and processes (B3) (None and processes (B6) Inundation Visible on Ae and Water-Stained Leaves (Bell of Control of Co	s, presence dric soil indicate	of hydric soil indicators may be produced in the control of the co	y) (B11) st (B12) vertebrates (i Sulfide Odor Rhizospheres of Reduced I in Reduction Surface (C7 blain in Rema	B13) (C1) s along Liv lron (C4) in Tilled S (') arks)	be ruled or epths, ther	Secon W S D D C S C S	aximum depth of 6 inches; soils are assumed to be present dary Indicators (2 or more required) (ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (Canallow Aquitard (D3)
Type: None Depth (inches): emarks: ue to depth restriction owever, since other hy TOROLOGY Tetland Hydrology Indicate timary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (None Sediment Deposits (B2) Drift Deposits (B3) (None Surface Soil Cracks (B6) Inundation Visible on Ae Water-Stained Leaves (Bell of the Water Table Present? Teturation Present? Teturation Present? Teturation Present?	s, presence dric soil ind ors: of one require (Nonriverine) riverine) rial Imagery (B 39) Yes Yes Yes Yes	of hydric soil indicators may be produced by the produced of the produced of the produced of the presence of	y) (B11) st (B12) vertebrates (i Sulfide Odor Rhizospheres of Reduced I in Reduction Surface (C7 blain in Rema	B13) (C1) s along Liv lron (C4) in Tilled S () arks)	ving Roots (C	Secon Secon Secon S S S S S S S S S S S S S	aximum depth of 6 inches; soils are assumed to be present dary Indicators (2 or more required) (ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (Canallow Aquitard (D3)
Type: None Depth (inches): emarks: ue to depth restriction owever, since other hy //DROLOGY //etland Hydrology Indicate rimary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (None Sediment Deposits (B2) Drift Deposits (B3) (None Surface Soil Cracks (B6) Inundation Visible on Ae	s, presence dric soil ind ors: of one require (Nonriverine) riverine) rial Imagery (B 39) Yes Yes Yes Yes	of hydric soil indicators may be produced by the produced of the produced of the produced of the presence of	y) (B11) st (B12) vertebrates (i Sulfide Odor Rhizospheres of Reduced I in Reduction Surface (C7 blain in Rema	B13) (C1) s along Liv lron (C4) in Tilled S () arks)	ving Roots (C	Secon Secon Secon S S S S S S S S S S S S S	aximum depth of 6 inches; soils are assumed to be present dary Indicators (2 or more required) (ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (Canallow Aquitard (D3) AC-Neutral Test (D5)
Type: None Depth (inches): emarks: ue to depth restriction owever, since other hy TOROLOGY Tetland Hydrology Indicate timary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (None Sediment Deposits (B2) Drift Deposits (B3) (None Surface Soil Cracks (B6) Inundation Visible on Ae Water-Stained Leaves (Bell Observations: Uniface Water Present? Vater Table Present? Vater Table Present? Vater Table Present? Vater Table Recorded Data (strength)	s, presence dric soil ind ors: of one require (Nonriverine) riverine) rial Imagery (B 39) Yes Yes Yes Yes	of hydric soil indicators may be produced by the produced of the produced of the produced of the presence of	y) (B11) st (B12) vertebrates (i Sulfide Odor Rhizospheres of Reduced I in Reduction Surface (C7 blain in Rema	B13) (C1) s along Liv lron (C4) in Tilled S () arks)	ving Roots (C	Secon Secon Secon S S S S S S S S S S S S S	aximum depth of 6 inches; soils are assumed to be present dary Indicators (2 or more required) (ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (Canallow Aquitard (D3) AC-Neutral Test (D5)
Type: None Depth (inches): emarks: ue to depth restriction owever, since other hy DROLOGY Vetland Hydrology Indicate imary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (None Sediment Deposits (B2) Drift Deposits (B3) (None Surface Soil Cracks (B6) Inundation Visible on Ae Water-Stained Leaves (Billed Observations: urface Water Present? Vater Table Present? aturation Present?	s, presence dric soil ind ors: of one require (Nonriverine) riverine) rial Imagery (B 39) Yes Yes Yes Yes eam gauge, mo	of hydric soil indicators may be produced by the produced of the produced of the produced of the presence of	y) (B11) st (B12) vertebrates (i Sulfide Odor Rhizospheres of Reduced I in Reduction Surface (C7 blain in Rema	B13) (C1) s along Liv lron (C4) in Tilled S () arks)	ving Roots (C	Secon Secon Secon S S S S S S S S S S S S S	aximum depth of 6 inches; soils are assumed to be present dary Indicators (2 or more required) (ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (Canallow Aquitard (D3) AC-Neutral Test (D5)

Project/Site: Eliot Facility / Arroyo del Valle	(City/Count	y: <u>Unincor</u> ı	oorated Alameda	Co. Sam	npling Date: _	11/25/	′2019
Applicant/Owner: CEMEX				State: CA	Sam	npling Point:	8b)
Investigator(s): Charlotte Marks and Marisa Brilts	:	Section, To	ownship, Ra	nge: Land Grant				
Landform (hillslope, terrace, etc.): terrace		Local relie	ef (concave,	convex, none): COI	ncave	Slo	pe (%): _	<1
Subregion (LRR): C								
Soil Map Unit Name: Yolo Loam, calcareous substratum								
Are climatic / hydrologic conditions on the site typical for this								
Are Vegetation, Soil, or Hydrology sig	-						/ No	
Are Vegetation, Soil, or Hydrology na								
SUMMARY OF FINDINGS – Attach site map s							atures,	, etc.
Hydrophytic Vegetation Present? Yes No				•		<u> </u>		
Hydric Soil Present? Yes ✓ No			he Sampled	r Area nd? Yes		No 🗸		
Wetland Hydrology Present? Yes No		WILI	iiii a vvetiai	id? Tes	,	NO ¥	-	
Remarks:								
established bed and bank; channelized flow	due to la	arge cer	ment box	culvert at Vine	yard Av	e		
Photo Points 7 and 8								
VEGETATION - Use scientific names of plants	S.							
	Absolute % Cover		t Indicator Status	Dominance Test				
1. Juglans hindsii				Number of Domir That Are OBL, FA			((A)
2.								(/
3.				Total Number of Species Across A		3	<u> </u>	(B)
4				Percent of Domir				
Continue/Charle Charles (Diet size)	25	= Total C	over	That Are OBL, FA			3((A/B)
Sapling/Shrub Stratum (Plot size:) 1				Prevalence Inde	x workshe	et·		
2.				Total % Cove			v bv:	
3.				OBL species			-	
4.				FACW species				
5				FAC species _		x 3 =	0	
		= Total C	over	FACU species _				
Herb Stratum (Plot size:)	45	Voc	UPL	UPL species _				
Carduus pycnocephalus ssp. pycnocephalus Silybum marianum		Yes Yes	UPL	Column Totals: _	0	_ (A)	0	(B)
3. Avena spp.			UPL	Prevalence	Index = B/	'A = N	aN	_
4				Hydrophytic Veg	getation Inc	dicators:		
5.				Dominance				
6				Prevalence I				
7				Morphologica		ons¹ (Provide on a separate		ng
8				Problematic		•)
Woody Vine Stratum (Plot size:)	75	= Total C	over		n iyan opinya c	o vogotation	(Explain)	,
1				¹ Indicators of hyd	Iric soil and	wetland hyd	rology mu	ust
2.				be present, unles	s disturbed	or problema	tic.	
		= Total C		Hydrophytic				
% Bare Ground in Herb Stratum % Cover of	of Biotic Ci	rust		Vegetation Present?	Yes	No	✓	
Remarks:				1				

SOIL	Sampling Point:	8b
Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of in-	dicators.)	

Profile Desc	ription: (Describe	to the dept	n needed to docum	nent the i	ndicator	or confirm	the absence	e of indicators.)
Depth	Matrix			K Features	S			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
<u>0-5</u>	7.5 YR 3/2	100					Clay	· <u></u>
							-	
								·
							-	·
								·
			Reduced Matrix, CS			d Sand Gra		ocation: PL=Pore Lining, M=Matrix.
_		cable to all L	RRs, unless other		ed.)			s for Problematic Hydric Soils ³ :
Histosol	(A1) pipedon (A2)		Sandy Redo Stripped Ma					Muck (A9) (LRR C) Muck (A10) (LRR B)
Black Hi			Suipped Ma	. ,	I (F1)			ced Vertic (F18)
	n Sulfide (A4)		Loamy Gley					Parent Material (TF2)
	Layers (A5) (LRR	C)	Depleted Ma		,			(Explain in Remarks)
	ck (A9) (LRR D)		Redox Dark					
	Below Dark Surface	ce (A11)	Depleted Da				3	
	ark Surface (A12) lucky Mineral (S1)		Redox Depr Vernal Pools	•	-8)			s of hydrophytic vegetation and
	Bleyed Matrix (S4)		vernai Pools	s (F9)				I hydrology must be present, disturbed or problematic.
	_ayer (if present):						unic33 (distarbed of problematic.
Type: No								
	ches):						Hydric Soi	I Present? Yes No
Remarks:							, , , , , ,	
			CI I					
			•			•		naximum depth of 5 inches;
nowever, s	ance other nyun	ic son maic	ators may be pro	esent at	rurtner	deptiis, i	men nyunc	soils are assumed to be present.
HYDROLO	GV							
_	drology Indicators		-llll-4l4				0	
-		one required:	check all that apply					andary Indicators (2 or more required)
	Water (A1)		Salt Crust	` '				Water Marks (B1) (Riverine)
<u> </u>	ter Table (A2)		Biotic Crus	` '	o (D12)			Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine)
Saturatio	arks (B1) (Nonrive	rino)	Aquatic Inv				·	Orainage Patterns (B10)
	nt Deposits (B2) (No					Living Roo		Dry-Season Water Table (C2)
	oosits (B3) (Nonrive		Presence of		_	_		Crayfish Burrows (C8)
	Soil Cracks (B6)	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Recent Iron		•	•		Saturation Visible on Aerial Imagery (C9)
	on Visible on Aerial	Imagery (B7						Shallow Aquitard (D3)
	tained Leaves (B9)	3 , ()	✓ Other (Exp	•	,		· · · · · · · · · · · · · · · · · · ·	FAC-Neutral Test (D5)
Field Observ	vations:				<u> </u>			
Surface Water	er Present?	/es N	o 🗸 Depth (inc	:hes):				
Water Table			o Depth (inc					
Saturation Pr	resent?	/es N	o <u>√</u> Depth (inc	hes):		Wetla	and Hydrolog	gy Present? Yes No
(includes cap	oillary fringe)							
Describe Red	corded Data (stream	n gauge, mor	nitoring well, aerial p	motos, pr	evious ins	pections), i	ıı avallable:	
Damini								
Remarks:								
Bed and b	ank; OHWM;	topograp	hically low cha	nnel				

Project/Site: Eliot Facility / Arroyo del Valle		City/Cou	nty: Unincor	porated Alameda Co	Sampling Da	te: 11/25/2019
Applicant/Owner: CEMEX				State: CA	Sampling Poi	nt: 8c
Investigator(s): Charlotte Marks and Marisa Brilts		Section,	Township, Ra	nge: Land Grant		
Landform (hillslope, terrace, etc.): <u>terrace</u>		Local re	lief (concave,	convex, none): conca	ıve	Slope (%):1
Subregion (LRR): C						
Soil Map Unit Name: Livermore very gravelly coarse sa				-		
Are climatic / hydrologic conditions on the site typical for this			_			
Are Vegetation, Soil, or Hydrologys	-			"Normal Circumstances		√ No
Are Vegetation, Soil, or Hydrology n				eeded, explain any ans		
SUMMARY OF FINDINGS – Attach site map						,
			31			
Hydrophytic Vegetation Present? Yes N Hydric Soil Present? Yes✓ N			the Sampled			
Wetland Hydrology Present? Yes ✓ N		w	rithin a Wetlaı	nd? Yes	No <u>v</u>	<u>/</u>
Remarks:						
Established bed and bank; channelized flow	due to l	arge ce	ement box	culvert at Vineva	rd Ave.	
Photo point 9						
VEGETATION – Use scientific names of plan	ts.					
		Domina	ant Indicator	Dominance Test wo	orksheet:	
Tree Stratum (Plot size:)			s? Status	Number of Dominant		
1				That Are OBL, FACV	V, or FAC:	<u>0</u> (A)
2				Total Number of Don		3 (D)
3				Species Across All S	trata:	(B)
4	0			Percent of Dominant That Are OBL, FACV		0 (A/B)
Sapling/Shrub Stratum (Plot size:)		· rotar	00101			<u> </u>
1				Prevalence Index w		
2				Total % Cover o		
3				OBL species		
4				FACW species FAC species		
5	0	= Total	Cover	FACU species		
Herb Stratum (Plot size:)		_ Total	OOVCI	UPL species		
1. Avena spp.		Yes	UPL	Column Totals:		
2. <u>Bromus hordeaceus</u>		Yes	UPL		D/A	NaN
3. Epilobium brachycarpum					ex = B/A =	
4				Hydrophytic Vegeta Dominance Test		
5				Prevalence Inde		
6				Morphological A		vide supporting
8.				data in Rema	arks or on a sepa	rate sheet)
		= Total		Problematic Hyd	rophytic Vegetat	ion¹ (Explain)
Woody Vine Stratum (Plot size:)				1 maliantana af bundain		be also be seen as east
1				¹ Indicators of hydric s be present, unless di		
2				Hydrophytic	·	
				Vegetation		/
% Bare Ground in Herb Stratum % Cover	r of Biotic C	rust		Present?	Yes No	·
Remarks:						

SOIL Profile Des	cription: (Describe	to the de	oth needed to docun	nent the	indicator	or confirn	n the absence	Sampling Point: 8c of indicators.)
Depth (inches)	Matrix Color (moist)	%	Redo Color (moist)	x Feature	es Type ¹	Loc ²	Texture	Remarks
0-4	7.5 YR 3/2	100						Sandy Clay Loam

ydric Soil Indicators: (Applicable to all	Indicators for Problematic Hydric Soils ³ :	
 Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) (LRR C) 	 Sandy Redox (S5) Stripped Matrix (S6) Loamy Mucky Mineral (F1) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) 	1 cm Muck (A9) (LRR C) 2 cm Muck (A10) (LRR B) Reduced Vertic (F18) Red Parent Material (TF2) Other (Explain in Remarks)
1 cm Muck (A9) (LRR D) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)	 Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) Vernal Pools (F9) 	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Due to depth restrictions, presence of hydric soil indicators could only be ruled out to a maximum depth of 4 inches; however, since other hydric soil indicators may be present at further depths, then hydric soils are assumed to be present.

Remarks:

HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) ___ Surface Water (A1) Salt Crust (B11) ___ Water Marks (B1) (Riverine) ___ High Water Table (A2) ___ Biotic Crust (B12) ___ Sediment Deposits (B2) (Riverine) ___ Drift Deposits (B3) (Riverine) Saturation (A3) Aquatic Invertebrates (B13) Water Marks (B1) (Nonriverine) ___ Hydrogen Sulfide Odor (C1) ✓ Drainage Patterns (B10) Sediment Deposits (B2) (Nonriverine) ___ Oxidized Rhizospheres along Living Roots (C3) ___ Dry-Season Water Table (C2) ___ Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) ___ Crayfish Burrows (C8) ___ Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) ___ Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3) ___ FAC-Neutral Test (D5) Water-Stained Leaves (B9) ✓ Other (Explain in Remarks) Field Observations: Yes _____ No _✓ Depth (inches): ___ Surface Water Present? Yes _____ No <u>√</u> Depth (inches): _____ Water Table Present? Yes No ✓ Depth (inches): Wetland Hydrology Present? Yes ____ No __ Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Defined bed and bank with an OHWM; topographically low channel

Project/Site: Eliot Facility / Arroyo del Valle	(City/Cou	ınty: <u>Unincor</u> ı	porated Alameda Co	. Sampling Daf	te: 11/26/2019
Applicant/Owner: CEMEX				State: CA	Sampling Poi	nt: 9b
Investigator(s): Charlotte Marks and Marisa Brilts		Section,	, Township, Ra	nge: Land Grant		
Landform (hillslope, terrace, etc.): <u>terrace</u>		Local re	elief (concave,	convex, none): none		Slope (%):0
Subregion (LRR): C						
Soil Map Unit Name: Riverwash (Rh)						
Are climatic / hydrologic conditions on the site typical for t			_			
Are Vegetation, Soil, or Hydrology	-			'Normal Circumstances		✓ No
Are Vegetation, Soil, or Hydrology				eeded, explain any ansv		
SUMMARY OF FINDINGS – Attach site ma						
		Ť		·		
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes✓			s the Sampled			/
Wetland Hydrology Present? Yes ✓		V	vithin a Wetlar	nd? Yes	No <u>v</u>	<u>r</u>
Remarks:						
Occurs within the OHWM of the Arroyo	del Valle; F	hoto	Points 15 a	and 16		
,	,					
VEGETATION – Use scientific names of pla	ınts					
VEGETATION – 030 30101111110 Hallies of pie		Domin	ant Indicator	Dominance Test wo	rksheet:	
Tree Stratum (Plot size:)			es? Status	Number of Dominant		
1				That Are OBL, FACV		0 (A)
2				Total Number of Don		
3				Species Across All S	trata:	(B)
4				Percent of Dominant		
Sapling/Shrub Stratum (Plot size:)	0	= rotai	Cover	That Are OBL, FACV	/, or FAC:	(A/B)
1				Prevalence Index w	orksheet:	
2				Total % Cover of	f: Mu	Itiply by:
3				OBL species		
4				FACW species		
5				FAC species		
Herb Stratum (Plot size:)	0	= I otal	Cover	FACU species UPL species		
1. Centaurea solstitialis	45	Yes	UPL	Column Totals:		
2. Avena spp.		Yes	UPL	Column Fotals:	(//) _	(B)
3. Eriogonum spp.	5	No	<u>UPL</u>		ex = B/A =	
4				Hydrophytic Vegeta		
5				Dominance Test		
6				Prevalence Inde		vide currenting
7					irks or on a sepai	
8		= Total	Cover	Problematic Hyd	rophytic Vegetati	ion¹ (Explain)
Woody Vine Stratum (Plot size:)		_ TO(a)	Cover			
1				¹ Indicators of hydric s be present, unless di		
2				be present, unless di		mauc.
	-	= Total	Cover	Hydrophytic Vegetation		
% Bare Ground in Herb Stratum8	er of Biotic C	rust			YesNo	· <u> </u>
Remarks:				1		

SOIL Sampling Point: 9b

Profile Desc	ription: (Describe	e to the depth	needed to docu	ment the i	ndicator	or confirm	n the absence	e of indicators.)
Depth	Matrix			x Features		. 2	- .	
(inches)	Color (moist)	%	Color (moist)	%	Type'	Loc ²	Texture	Remarks
<u>0-10</u>	10 YR 3/2	100						Sandy Clay Cobble (2"-3" cobble)
							-	
							-	
¹ Type: C=Co	oncentration, D=De	epletion, RM=F	Reduced Matrix, C	S=Covered	d or Coate	d Sand Gr	rains. ² Lo	cation: PL=Pore Lining, M=Matrix.
Hydric Soil I	Indicators: (Appli	icable to all L	RRs, unless othe	rwise note	ed.)		Indicators	s for Problematic Hydric Soils ³ :
Histosol	(A1)		Sandy Red	ox (S5)			1 cm	Muck (A9) (LRR C)
-	oipedon (A2)		Stripped M					Muck (A10) (LRR B)
Black Hi			Loamy Mud	-				ced Vertic (F18)
	en Sulfide (A4)		Loamy Gle		(F2)			Parent Material (TF2)
	d Layers (A5) (LRR	(C)	Depleted M Redox Darl	` '	FC)		_✓ Other	(Explain in Remarks)
	ick (A9) (LRR D) d Below Dark Surfa	oce (Δ11)	Redox Dan	,	,			
	ark Surface (A12)	ice (ATT)	Redox Dep				3Indicators	s of hydrophytic vegetation and
	fucky Mineral (S1)		Vernal Poo		-,			hydrology must be present,
Sandy G	Sleyed Matrix (S4)			, ,				disturbed or problematic.
Restrictive I	Layer (if present):							
Type: No	one		<u>—</u>					
Depth (inc	ches):						Hydric Soi	I Present? Yes <u>√</u> No
Remarks:							1	
Riverwash i	s classified as a h	nvdric soil on	the National Lis	t of Hvdri	c Soils. So	oil profile	is mixture o	f sand and
								triction due to rocks/cobble present
throughout				, ,			,	·
HYDROLO	GY							
	drology Indicators	8'						
	cators (minimum of		check all that ann	lv)			Seco	ndary Indicators (2 or more required)
-	Water (A1)	one required,	Salt Crust	•				Water Marks (B1) (Riverine)
	iter Table (A2)		Biotic Cru					Sediment Deposits (B2) (Riverine)
Saturation			Aquatic In		s (B13)			Orift Deposits (B3) (Riverine)
	larks (B1) (Nonriv e	arine)	Hydrogen					Orainage Patterns (B10)
	nt Deposits (B2) (N					Living Roc		Ory-Season Water Table (C2)
	posits (B3) (Nonriv		Presence		_	-		Crayfish Burrows (C8)
-	Soil Cracks (B6)	······	Recent Iro					Saturation Visible on Aerial Imagery (C9)
, <u> </u>	on Visible on Aeria	l Imagery (B7)				(Shallow Aguitard (D3)
	tained Leaves (B9)		✓ Other (Ex	`	,			FAC-Neutral Test (D5)
Field Observ		<u>'</u>			· ·			. ,
Surface Water	er Present?	Yes N	o 🗸 Depth (in	ches):				
Water Table			o ✓ Depth (in					
Saturation Pr			o <u>√</u> Depth (in				and Hydrolog	gy Present? Yes No
(includes cap	oillary fringe)							<u> </u>
Describe Red	corded Data (strea	m gauge, mon	itoring well, aerial	photos, pre	evious ins	pections),	if available:	
Remarks:								
topograp	hically low; wi	ithin the O	HMW of the	Arroyo (del Vall	e		
				•				

Project/Site: Eliot Facility / Arroyo del Valle	C	ity/County: Unincor	<u>porated Alameda Co.</u>	_ Sampling Date:	11/26/2019
Applicant/Owner: CEMEX			State: CA	_ Sampling Point:	10b
Investigator(s): Charlotte Marks and Marisa Brilt	s S	ection, Township, Ra	inge: Land Grant		
Landform (hillslope, terrace, etc.): <u>terrace</u>	L	ocal relief (concave,	convex, none): none	Slope	e (%): <u>0</u>
Subregion (LRR): C	Lat: <u>37.6</u>	562111841	Long: -121.8151547	775 Datum	: NAD 83
Soil Map Unit Name: Riverwash (Rh)			=		
Are climatic / hydrologic conditions on the site typical		_			
Are Vegetation, Soil, or Hydrology	_		"Normal Circumstances"		No
Are Vegetation, Soil, or Hydrology			eeded, explain any answ		
SUMMARY OF FINDINGS – Attach site r		•		,	tures, etc.
					<u> </u>
	No <u> </u>	Is the Sampleo		,	
	No	within a Wetla	nd? Yes	No <u>✓</u>	
Remarks:	<u> </u>				
Occurs within the OHWM of the Arroy	o del Valle				
	o del vane				
VECETATION . Her estantific names of	mla mta				
VEGETATION – Use scientific names of	<u> </u>	Danis and Indiantan	I Barrela and Tarrela and Tarr	desta esta	
Tree Stratum (Plot size:)		Dominant Indicator Species? Status	Dominance Test wor		
1			Number of Dominant : That Are OBL, FACW		(A)
2			Total Number of Dom	inant	
3			Species Across All St		(B)
4			Percent of Dominant S	Snecies	
Capling/Chrub Ctratum /Dlat aire	0:	= Total Cover	That Are OBL, FACW		(A/B)
Sapling/Shrub Stratum (Plot size:)			Prevalence Index wo	rksheet:	
1 2			Total % Cover of:		bv:
3.			OBL species		-
4.			FACW species		
5			FAC species		
	0	= Total Cover	FACU species	x 4 =	0
Herb Stratum (Plot size:)		V UDI	UPL species		0
1. Avena spp.		Yes UPL	Column Totals:	<u>0</u> (A)	<u>0</u> (B)
Centaurea solstitialis Eschscholzia californica		Yes UPL No UPL	Prevalence Inde	x = B/A = Na	N
4			Hydrophytic Vegetat		
5.			Dominance Test		
6			Prevalence Index	is ≤3.0 ¹	
7			Morphological Ad	aptations ¹ (Provide s	upporting
8				ks or on a separate s	,
		= Total Cover	Problematic Hydr	ophytic Vegetation (Explain)
Woody Vine Stratum (Plot size:)			¹ Indicators of hydric se	oil and wotland hydro	logy must
1			be present, unless dis		
2		= Total Cover	Hydrophytic		
_			Vegetation		,
% Bare Ground in Herb Stratum5 %	Cover of Biotic Cru	ust	Present? Y	es No <u>√</u>	
Remarks:					

SOIL Sampling Point: 10b

Profile Desc	cription: (Describ	e to the depti	n needed to docu	ment the i	ndicator	or confirm	n the absence	of indicators.)
Depth (inches)	Matrix			ox Features		1.5.2	Ta	Damada
(inches)	Color (moist)		Color (moist)	%	Type'	Loc ²	<u>Texture</u>	Remarks
0-11	10 YR 3/2	100						Sandy Cobble (3"-5" cobble)
				_				
	-							
-								
						-		
			Reduced Matrix, C			d Sand G		cation: PL=Pore Lining, M=Matrix.
_		licable to all L	RRs, unless othe		ed.)			for Problematic Hydric Soils ³ :
Histosol	` '		Sandy Red					Muck (A9) (LRR C)
	pipedon (A2)		Stripped M	, ,	L (E4)			Muck (A10) (LRR B)
	istic (A3) en Sulfide (A4)		Loamy Mud Loamy Gle	•	. ,			ed Vertic (F18) arent Material (TF2)
	d Layers (A5) (LR I	3 C)	Depleted M		(Г2)			(Explain in Remarks)
	uck (A9) (LRR D)	,	Redox Dar		F6)		Outlot	(
	d Below Dark Surf	ace (A11)	Depleted D	,	,			
Thick Da	ark Surface (A12)		Redox Dep	ressions (F	- 8)		³ Indicators	of hydrophytic vegetation and
	Mucky Mineral (S1)		Vernal Poo	ls (F9)				hydrology must be present,
	Gleyed Matrix (S4)						unless d	listurbed or problematic.
	Layer (if present)	:						
Type: No								
	ches):						Hydric Soil	Present? Yes No
Remarks:								
Riverwash	is classified as a	hydric soil on	the National Lis	t of Hydri	c Soils. So	oil profile	e is mixture of	f sand and
		e not observ	ed within the soi	l profile, l	nowever,	there w	as depth rest	riction due to rocks/cobble present
throughout	t soil.							
HYDROLO	GY							
Wetland Hy	drology Indicator	's:						
Primary Indi	cators (minimum o	f one required;	check all that app	ly)			Secor	ndary Indicators (2 or more required)
Surface	Water (A1)		Salt Crust	(B11)			v	Vater Marks (B1) (Riverine)
High Wa	ater Table (A2)		Biotic Cru	st (B12)			s	ediment Deposits (B2) (Riverine)
Saturati	on (A3)		Aquatic Ir	vertebrate	s (B13)		D	rift Deposits (B3) (Riverine)
Water M	Marks (B1) (Nonriv	erine)	Hydrogen	Sulfide Oc	dor (C1)		D	rainage Patterns (B10)
Sedime	nt Deposits (B2) (N	Nonriverine)	Oxidized	Rhizosphei	res along l	Living Roo	ots (C3) D	ry-Season Water Table (C2)
Drift De	posits (B3) (Nonri	verine)	Presence	of Reduce	d Iron (C4	!)	C	crayfish Burrows (C8)
Surface	Soil Cracks (B6)		Recent Iro	on Reduction	on in Tilled	d Soils (Ce		aturation Visible on Aerial Imagery (C9)
Inundati	on Visible on Aeria	al Imagery (B7)) Thin Mucl	s Surface (C7)		s	hallow Aquitard (D3)
Water-S	Stained Leaves (B9	9)	✓ Other (Ex	plain in Re	marks)		F	AC-Neutral Test (D5)
Field Obser			,					
Surface Wat	ter Present?		o 🗸 Depth (ir					
Water Table	Present?		o 🗸 Depth (ir					,
Saturation P		Yes N	o 🗸 Depth (ir	iches):		Wetl	land Hydrolog	y Present? Yes <u>√</u> No
(includes ca Describe Re		am gauge, mor	nitoring well, aerial	photos, pre	evious ins	pections).	if available:	
	(51.5	33-,	3 , , , , ,	, ,		, ,		
Remarks:								
	hically lowers	ithin tha ∩	HMW of the	Arrovo	الد/ اما	Δ		
tohograh	ilically low, W	Tullin the O	THINING OF LIFE	AIIUyU (a c ı vallı	C		

Project/Site: Eliot Facility / Arroyo del Valle	(City/Co	unty: Unincor	porated Alameda Co.	_ Sampling Date	e: <u>11/26/2019</u>
Applicant/Owner: CEMEX				State: CA	_ Sampling Poin	nt: <u>10c</u>
Investigator(s): Charlotte Marks and Marisa Brilts		Section	n, Township, Ra	ange: Land Grant		
Landform (hillslope, terrace, etc.): terrace		Local r	relief (concave,	convex, none): concav	ve s	Slope (%):1
Subregion (LRR): C						
Soil Map Unit Name: Riverwash (Rh)						
Are climatic / hydrologic conditions on the site typical for th			_			
Are Vegetation, Soil, or Hydrology	-			"Normal Circumstances"		✓ No
Are Vegetation, Soil, or Hydrology				eeded, explain any answ		
SUMMARY OF FINDINGS – Attach site map						
			omig pomit			
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes I			Is the Sample			
Wetland Hydrology Present? Yes I		,	within a Wetla	nd? Yes	No <u>√</u>	
Remarks:						
Occurs within the OHWM of the Arroyo de	ıl Valle: Ph	noto F	Points 17 ar	nd 18		
Geed's Within the Grivin of the Arroyo de	.i valic, i i	10101	Onics 17 di	10 10		
VECETATION . He a significance of ale	4-					
VEGETATION – Use scientific names of plan		D	a and the disease of	B T	-ll4:	
Tree Stratum (Plot size:)			nant Indicator ies? Status	Number of Dominant		
1				That Are OBL, FACW		0 (A)
2				Total Number of Dom	inant	
3				Species Across All St		1 (B)
4				Percent of Dominant	Species	
Sapling/Shrub Stratum (Plot size:)	0	_ = Tota	al Cover	That Are OBL, FACW		(A/B)
1				Prevalence Index wo	orksheet:	
2.				Total % Cover of:	Mult	tiply by:
3				OBL species	x 1 =	0
4				FACW species	x 2 =	0
5				FAC species		
Herb Stratum (Plot size:)		= Tota	al Cover	FACU species		
1. Avena spp.	C 2	Yes	UPL	UPL species		
2. Hirschfeldia incana		No	UPL	Column Totals:	<u>U</u> (A) _	<u> </u>
3. Centaurea solstitialis	10	No	UPL	Prevalence Inde	ex = B/A =	NaN
4. <u>Trifolium hirtum</u>	10	No	<u>UPL</u>	Hydrophytic Vegetat		
5. Dittrichia graveolens	5	No	UPL	Dominance Test		
6				Prevalence Index		
7				Morphological Add	laptations" (Provi	
8				Problematic Hydr		
Woody Vine Stratum (Plot size:)	100	_ = 1 ota	al Cover			
1				¹ Indicators of hydric s		
2				be present, unless dis	turbed or probler	natic.
			al Cover	Hydrophytic Vegetation		
% Bare Ground in Herb Stratum % Cove	er of Biotic C	rust		Present? Y	'es No	<u>✓</u>
Remarks:						

SOIL Sampling Point: 10c

Profile Desc	ription: (Describ	e to the dept	h needed to docu	nent the indica	tor or confir	rm the absence	of indicators.)		
Depth	Matrix			x Features	4 2	_			
(inches)	Color (moist)	%	Color (moist)	<u>%</u> Typ	e ¹ Loc ²	Texture	Remarks		
0-5	10 YR 3/4	100				_	Sandy Loam		
5-8	10 YR 3/4	100					Sandy Loam Cobble (1"-3" cobb		
	-					_			
				 					
						_			
1T C-C	tration D-D	anlatian DM	Dadward Matrix C			21.0	action. DI - Deve Lining M-Matrix		
		•	Reduced Matrix, C: RRs, unless othe		oated Sand C		cation: PL=Pore Lining, M=Matrix. for Problematic Hydric Soils ³ :		
_		ilcable to all i					•		
Histosol	oipedon (A2)		Sandy Red Stripped Ma	. ,			Muck (A9) (LRR C) Muck (A10) (LRR B)		
	stic (A3)			ky Mineral (F1)			ced Vertic (F18)		
	en Sulfide (A4)			/ed Matrix (F2)			Parent Material (TF2)		
	d Layers (A5) (LR I	R C)	Depleted M				(Explain in Remarks)		
	ick (A9) (LRR D)	,		Surface (F6)			,		
Depleted	d Below Dark Surf	ace (A11)	Depleted D	ark Surface (F7))				
	ark Surface (A12)			ressions (F8)			of hydrophytic vegetation and		
	lucky Mineral (S1		Vernal Poo	ls (F9)			hydrology must be present,		
	Bleyed Matrix (S4)					unless o	disturbed or problematic.		
	Layer (if present)	:							
Type: No							,		
Depth (inc	ches):					Hydric Soi	I Present? Yes No		
Remarks:									
Riverwash i	s classified as a	hydric soil or	n the National List	of Hydric Soil	s. Soil profil	le is mixture o	f sand and		
		•		•			riction due to rocks/cobble present		
throughout	soil.					-	·		
HYDROLO	CV								
	drology Indicator								
				`		0			
	•	t one required	; check all that appl	* *			ndary Indicators (2 or more required)		
Surface			Salt Crust				Vater Marks (B1) (Riverine)		
	ater Table (A2)		Biotic Cru				Sediment Deposits (B2) (Riverine)		
Saturation	, ,			vertebrates (B13			Orift Deposits (B3) (Riverine)		
	larks (B1) (Nonriv			Sulfide Odor (C			Orainage Patterns (B10)		
	nt Deposits (B2) (N						Ory-Season Water Table (C2)		
-	posits (B3) (Nonri	verine)		of Reduced Iron	. ,		Crayfish Burrows (C8)		
	Soil Cracks (B6)	- I I (D.7		n Reduction in T	i illea Solis (C	· —	Saturation Visible on Aerial Imagery (C9)		
, <u> </u>	on Visible on Aeria		· —	, ,	. \		Shallow Aquitard (D3)		
	tained Leaves (B9	9)	<u>▼</u> Other (Ex	olain in Remarks	5)		FAC-Neutral Test (D5)		
Field Obser									
Surface Water			lo <u>√</u> Depth (in						
Water Table			No <u>√</u> Depth (in				,		
Saturation Pr		Yes N	No 🗸 Depth (in	ches):	We	tland Hydrolog	y Present? Yes <u>√</u> No		
(includes cap Describe Red		am daude mo	nitoring well, aerial	nhotos previous	s inspections) if available:			
2000,100 110	22.404 2444 (01106	gaago, 1110		p5100, providuo		,, αταπασιο.			
Remarks:	Domorko								
			_						
topograp	hically low; w	ithin the C	OHMW of the	Arroyo del V	/alle				

Project/Site: Eliot Facility / Arroyo del Valle	(City/Co	unty: Unincor	porated Alameda Co	Sampling Da	ate: 11/26/2019		
Applicant/Owner: CEMEX				State: CA	Sampling Po	oint: 11b		
Investigator(s): Charlotte Marks and Marisa Brilts Section, Township, Range: Land Grant								
Landform (hillslope, terrace, etc.): terrace		Local r	elief (concave,	convex, none): conca	ve	Slope (%):<1_		
Subregion (LRR): C								
Soil Map Unit Name: Riverwash (Rh)								
Are climatic / hydrologic conditions on the site typical for			_					
Are Vegetation, Soil, or Hydrology	-			'Normal Circumstances		s 🗸 No		
Are Vegetation, Soil, or Hydrology				eeded, explain any ansv				
SUMMARY OF FINDINGS – Attach site ma				-				
Hydrophytic Vegetation Present? Yes	No. ✓							
Hydric Soil Present? Yes			s the Sampled		Ma	/		
Wetland Hydrology Present? Yes ✓		'	within a Wetlai	nd? Yes	No	<u>v</u>		
Remarks:								
Occurs within the OHWM of the Arroyo	del Valle							
VEGETATION – Use scientific names of pla	ants.							
Tura Objektura (Distraina)			nant Indicator	Dominance Test wo	rksheet:			
Tree Stratum (Plot size:)			es? Status	Number of Dominant That Are OBL, FACW		0 (A)		
1 2				That Are OBL, FACW	7, 01 FAC	(A)		
3.				Total Number of Dom Species Across All St		1 (B)		
4.						(D)		
	0			Percent of Dominant That Are OBL, FACW		0 (A/B)		
Sapling/Shrub Stratum (Plot size:)				Prevalence Index we				
1				Total % Cover of		ultiply by:		
2				OBL species				
3				FACW species				
5.		-		FAC species				
	0	= Tota	l Cover	FACU species	x 4 =	0		
Herb Stratum (Plot size:)				UPL species	x 5 =	0		
1. Avena spp.		Yes	UPL	Column Totals:	0 (A)	0 (B)		
Centaurea solstitialis Hirschfeldia incana		No No	UPL UPL	Prevalence Inde	ex = B/A =	NaN		
Hirschfeldia incana Bromus hordeaceus			UPL	Hydrophytic Vegeta		<u> </u>		
5				Dominance Test				
6.				Prevalence Index				
7.				Morphological Ad				
8					rks or on a sepa	,		
W I M O I M O I	100	= Tota	l Cover	Problematic Hyd	ropnytic vegeta	tion (Explain)		
Woody Vine Stratum (Plot size:)				¹ Indicators of hydric s	soil and wetland	hydrology must		
1				be present, unless dis				
2				Hydrophytic				
9/ Para Cround in Llorb Stratum				Vegetation	/oo N	/		
% Bare Ground in Herb Stratum % Cor Remarks:	ver or blotic Ci	iust		Present?	/es N	<u> </u>		
remans.								

SOIL Sampling Point: 11b

Profile Desc	ription: (Describe	e to the depth	needed to docu	ment the i	ndicator o	or confirm	n the absenc	e of indicators.)	
Depth	Matrix			x Features			-		
(inches)	Color (moist)		Color (moist)	%	Type'	Loc ²	<u>Texture</u>	Remarks	
<u>0-6</u>	10 YR 3/2							Sandy Loam Cobble (1"-2" cobb	
6-8	10 YR 3/2							Sandy Loam Cobble (2"-4" cobb	
							-		
							-		
	oncentration, D=De					d Sand Gr		ocation: PL=Pore Lining, M=Matrix.	
_	Indicators: (Appli	icable to all L			ed.)			s for Problematic Hydric Soils ³ :	
Histosol	` '		Sandy Red					Muck (A9) (LRR C)	
-	oipedon (A2)		Stripped M					Muck (A10) (LRR B)	
Black Hi			Loamy Muc	-				ced Vertic (F18)	
	en Sulfide (A4) d Layers (A5) (LRR) (C)	Loamy Gle		(FZ)			Parent Material (TF2) r (Explain in Remarks)	
	ick (A9) (LRR D)	()	Redox Darl	` '	F6)		<u>v</u> Other	(Explain in Remarks)	
	d Below Dark Surfa	ice (A11)	Depleted D	,	,				
	ark Surface (A12)	()	Redox Dep				3Indicators	s of hydrophytic vegetation and	
	Mucky Mineral (S1)		Vernal Poo		•			d hydrology must be present,	
	Gleyed Matrix (S4)						unless	disturbed or problematic.	
	Layer (if present):								
Type: No	one								
Depth (inc	ches):						Hydric So	il Present? Yes <u>√</u> No	
Remarks:									
Riverwash i	s classified as a h	vdric soil on	the National Lis	t of Hvdri	c Soils. So	oil profile	is mixture o	of sand and	
								triction due to rocks/cobble present	
throughout				, ,			·	, ,	
HYDROLOGY									
	drology Indicators	<u> </u>							
	cators (minimum of		check all that ann	lv)			Sacc	ondary Indicators (2 or more required)	
-	-	One required,		•				Water Marks (B1) (Riverine)	
	Surface Water (A1) Salt Crust (B11)								
_	High Water Table (A2) Biotic Crust (B12) Saturation (A3) Aquatic Invertebrates (B13)							Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine)	
	` ,	rino)							
	larks (B1) (Nonrive nt Deposits (B2) (N		Hydrogen			Living Poo		Drainage Patterns (B10) Dry-Season Water Table (C2)	
	oosits (B3) (Nonriv		Oxidized i						
	Soil Cracks (B6)	erine)	Recent Iro					Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)	
	on Visible on Aeria	l Imageny (R7)				2 30113 (00		Shallow Aquitard (D3)	
	tained Leaves (B9)		✓ Other (Ex	,	,			FAC-Neutral Test (D5)	
Field Observ		<u> </u>	· Other (EX	piaiii iii i i i	marks)		_	1 AO-Neutral Test (BO)	
Surface Water		Yes N	o 🗸 Depth (in	rches).					
Water Table			o <u>√</u> Depth (in						
							and Usdrala	my Drescent 2 Vec / No	
Saturation Proceed (includes cap		Yes N	o Depth (in	icnes):		_ vveti	and Hydrolog	gy Present? Yes <u>√</u> No	
	corded Data (strea	m gauge, mon	itoring well, aerial	photos, pro	evious insp	pections),	if available:		
Remarks:									
topogran	hically low: hi	storically f	loods during	rain eve	nts: wit	hin OH	MW of Ar	rovo del Valle	
L P. ab	topographically low; historically floods during rain events; within OHMW of Arroyo del Valle								

Project/Site: Eliot Facility / Arroyo del Valle	(City/Cou	nty: Unincor	oorated Alameda Co.	_ Sampling Date:	11/26/2019
Applicant/Owner: CEMEX				State: CA	_ Sampling Point	: <u>11c</u>
Investigator(s): Charlotte Marks and Marisa Brilts	:	Section,	Township, Ra	nge: Land Grant		
Landform (hillslope, terrace, etc.): terrace		Local re	elief (concave,	convex, none): none	SI	ope (%):0
Subregion (LRR): C						
Soil Map Unit Name: Riverwash (Rh)						
Are climatic / hydrologic conditions on the site typical for			_			
Are Vegetation, Soil, or Hydrology	-			'Normal Circumstances"		✓ No
Are Vegetation, Soil, or Hydrology				eeded, explain any answ		
SUMMARY OF FINDINGS – Attach site ma						eatures, etc.
Hydrophytic Vegetation Present? Yes	No <u> </u>					
	No		s the Sampled vithin a Wetlar		No <u>√</u>	
Wetland Hydrology Present? Yes <u>√</u>	No	w	nunin a vveuar	id? fes	NO <u>V</u>	
Remarks:						
Occurs within the OHWM of the Arroyo	del Valle; P	hoto	Point 14			
VEGETATION – Use scientific names of p	lants.					
Total Objections (Distriction	Absolute		ant Indicator	Dominance Test wor	rksheet:	
Tree Stratum (Plot size:) 1. Populus fremontii			s? Status	Number of Dominant That Are OBL, FACW		0 (A)
2.						<u> </u>
3.				Total Number of Dom Species Across All St		2 (B)
4.						(5)
		= Total		Percent of Dominant 3 That Are OBL, FACW		0 (A/B)
Sapling/Shrub Stratum (Plot size:)						\ ,
1				Prevalence Index wo		alv by:
2				OBL species		
3 4				FACW species		
5.				FAC species		
	0	= Total	Cover	FACU species		
Herb Stratum (Plot size:)				UPL species	x 5 =	0
1. Avena spp.		Yes	UPL	Column Totals:	<u>0</u> (A)	<u>0</u> (B)
2. <u>Centaurea solstitialis</u>		No No	<u>UPL</u>	Prevalence Inde	ex = B/A =	NaN
Trifolium hirtum Amaranthus albus		No No	<u>UPL</u> FACU	Hydrophytic Vegetat		
4. Amaranthus albus 5.				Dominance Test		
6				Prevalence Index		
7				Morphological Ad	laptations ¹ (Provid	
8.					ks or on a separat	,
		= Total		Problematic Hydr	ophytic Vegetation	n' (Explain)
Woody Vine Stratum (Plot size:)				¹ Indicators of hydric s	oil and wotland by	drology must
1				be present, unless dis		
2				Hydrophytic		
N. D. O				Vegetation		/
% Bare Ground in Herb Stratum 2 % C	over of Biotic Ci	rust		Present? Y	'es No _	<u>*</u>
Remarks:						

SOIL Sampling Point: 11c

Profile Desc	ription: (Describ	e to the depth	needed to docu	ment the i	ndicator	or confirm	n the absence	e of indicators.)	
Depth	Matrix			x Features		. 2	-		
(inches)	Color (moist)	%	Color (moist)	%	Type'	Loc ²	Texture	Remarks	
<u>0-6</u>	10 YR 3/3	100						Sandy Clay Loam	
							-		
							-		
	oncentration, D=De					d Sand Gr		ocation: PL=Pore Lining, M=Matrix.	
_	Indicators: (Appl	icable to all L			ed.)			s for Problematic Hydric Soils ³ :	
Histosol	` '		Sandy Red					Muck (A9) (LRR C)	
-	oipedon (A2)		Stripped M		/E1)			Muck (A10) (LRR B) ced Vertic (F18)	
Black His	en Sulfide (A4)		Loamy Mud Loamy Gle	-				Parent Material (TF2)	
	d Layers (A5) (LRF	S C)	Depleted M		(1 2)			(Explain in Remarks)	
	ick (A9) (LRR D)	()	Redox Dar	` '	F6)		<u></u> Other	(Explain in Remarks)	
	d Below Dark Surfa	ace (A11)	Depleted D	,	,				
Thick Da	ark Surface (A12)	. ,	Redox Dep				³ Indicators	s of hydrophytic vegetation and	
Sandy M	lucky Mineral (S1)		Vernal Poo	ls (F9)			wetland	I hydrology must be present,	
	Bleyed Matrix (S4)						unless	disturbed or problematic.	
	_ayer (if present):								
Type: No			<u> </u>						
	ches):						Hydric Soi	il Present? Yes <u>√</u> No	
Remarks:									
Riverwash i	s classified as a h	nydric soil on	the National Lis	t of Hydri	c Soils. So	oil profile	is mixture c	of sand and	
cobble. Red	lox features were	e not observe	ed within the soi	l profile, l	nowever,	there wa	as depth res	triction due to rocks/cobble present	
throughout	soil								
HYDROLO	GY								
Wetland Hyd	drology Indicators	s:							
	cators (minimum of		check all that app	ly)			Seco	ondary Indicators (2 or more required)	
Surface	Water (A1)	-	Salt Crust	(B11)				Water Marks (B1) (Riverine)	
	` '		Biotic Cru					Sediment Deposits (B2) (Riverine)	
	High Water Table (A2)Saturation (A3)Biotic Crust (B12)Aquatic Invertebrates (B13)							Drift Deposits (B3) (Riverine)	
	arks (B1) (Nonriv e	erine)	Hydrogen					Drainage Patterns (B10)	
	nt Deposits (B2) (N					Living Roc		Dry-Season Water Table (C2)	
	oosits (B3) (Nonriv		Presence	of Reduce	d Iron (C4	ł)	(Crayfish Burrows (C8)	
-	Soil Cracks (B6)		Recent Iro				B)	Saturation Visible on Aerial Imagery (C9)	
Inundation	on Visible on Aeria	ıl Imagery (B7)	Thin Mucl	Surface (C7)		;	Shallow Aquitard (D3)	
Water-S	tained Leaves (B9)	✓ Other (Ex	plain in Re	marks)		!	FAC-Neutral Test (D5)	
Field Observ	vations:								
Surface Water	er Present?	Yes N	o 🇹 Depth (in	ches):		_			
Water Table	Present?	Yes N	o 🖌 Depth (in	ches):		_			
Saturation Pr	resent?	Yes N	o 🖌 Depth (in	ches):		Wetla	and Hydrolog	gy Present? Yes <u>√</u> No	
(includes cap		m gallas man	itoring well serial	nhotos na	ovious iss	noctions)	if available:		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:									
Domarka									
Remarks:									
topograpl	hically low; w	ithin the O	HMW of the	Arroyo (del Vall	e			

Project/Site: Eliot Facility / Arroyo del Valle	(City/Cou	unty: Unincor	porated Alameda Co	. Sampling D	ate: 11/2	6/2019	
Applicant/Owner: CEMEX				State: CA	Sampling P	oint:	11d	
nvestigator(s): Charlotte Marks and Marisa Brilts Section, Township, Range: Land Grant								
Landform (hillslope, terrace, etc.): terrace		Local re	elief (concave,	convex, none): CONCA	ve	_ Slope (%)	: <1	
Subregion (LRR): C								
Soil Map Unit Name: Riverwash (Rh)								
Are climatic / hydrologic conditions on the site typical for			_					
Are Vegetation, Soil, or Hydrology	_			"Normal Circumstances		es ✓ N	lo.	
Are Vegetation, Soil, or Hydrology				eeded, explain any ansv	•			
SUMMARY OF FINDINGS – Attach site ma							es, etc.	
Hydrophytic Vegetation Present? Yes	No. 1							
Hydric Soil Present? Yes			s the Sampled			/		
Wetland Hydrology Present? Yes		V	vithin a Wetlaı	nd? Yes	No	<u> </u>		
Remarks:		ı						
Photo Point 13								
VEGETATION – Use scientific names of pla	ants							
		Domin	ant Indicator	Dominance Test wo	rksheet:			
Tree Stratum (Plot size:)			es? Status	Number of Dominant				
1				That Are OBL, FACV	V, or FAC:	0	(A)	
2				Total Number of Don				
3				Species Across All S	trata:	3	_ (B)	
4				Percent of Dominant				
Sapling/Shrub Stratum (Plot size:)	0	= Total	Cover	That Are OBL, FACV	V, or FAC:	0	(A/B)	
1				Prevalence Index w	orksheet:			
2				Total % Cover or				
3				OBL species				
4				FACW species				
5		T-4-1		FACULARISION				
Herb Stratum (Plot size:)	0	= Total	Cover	FACU species UPL species			_	
1. Bromus hordeaceus	40	Yes	UPL	Column Totals:			(B)	
2. Avena spp.	35	Yes	UPL		(/ (/		(5)	
3. <u>Trifolium hirtum</u>	25	Yes	UPL	Prevalence Ind	<u></u>		_	
4				Hydrophytic Vegeta		s:		
5				Dominance Test				
6				Prevalence Inde Morphological A		ovido suppo	ortina	
7					rks or on a sep			
8		= Total		Problematic Hyd	rophytic Veget	ation¹ (Expla	ain)	
Woody Vine Stratum (Plot size:)		- Total	Cover					
1				¹ Indicators of hydric s be present, unless di			must	
2					sturbed or prot	nemanc.		
		= Total	Cover	Hydrophytic Vegetation				
% Bare Ground in Herb Stratum % Co	ver of Biotic C	rust			Yes I	√ or		
Remarks:				1				

SOIL Sampling Point: 11d

Profile Desc	ription: (Describe	to the depth	needed to docur	nent the i	ndicator	or confirm	the absenc	e of indicators.)			
Depth	Matrix	0/		x Features		. 2	- .	B			
(inches)	Color (moist)	<u></u> %	Color (moist)	%	Type'	Loc ²	<u>Texture</u>	Remarks			
0-13	10 YR 3/2	100						Sandy Clay Loam			
	-										
											
¹Type: C=Co	oncentration, D=Dep	letion, RM=F	Reduced Matrix, CS	S=Covered	or Coate	d Sand Gra	ains. ² Lo	ocation: PL=Pore Lining, M=Matrix.			
	ndicators: (Applic							s for Problematic Hydric Soils ³ :			
Histosol	(A1)		Sandy Red	ox (S5)			1 cm	Muck (A9) (LRR C)			
Histic Ep	pipedon (A2)		Stripped Ma	atrix (S6)			2 cm	Muck (A10) (LRR B)			
Black His	stic (A3)		Loamy Muc	-				iced Vertic (F18)			
	n Sulfide (A4)		Loamy Gley		(F2)		Red Parent Material (TF2)				
	Layers (A5) (LRR	C)	Depleted M	. ,			Other (Explain in Remarks)				
	ck (A9) (LRR D)	- (0.4.4)	Redox Dark	,	,						
	d Below Dark Surfac ark Surface (A12)	e (ATT)	Depleted Da		. ,		3Indicator	s of hydrophytic vegetation and			
	lucky Mineral (S1)		Vernal Pool		0)			d hydrology must be present,			
-	Sleyed Matrix (S4)		verriar r oor	3 (1 0)				disturbed or problematic.			
	ayer (if present):							р			
Type: No											
	ches):						Hvdric So	il Present? Yes No _✓_			
Remarks:							,				
Rocks/col	oble present th	roughout	t soil profile								
HYDROLO(GY										
Wetland Hyd	drology Indicators:										
Primary Indic	ators (minimum of o	ne required;	check all that appl	y)			Seco	ondary Indicators (2 or more required)			
Surface	Water (A1)		Salt Crust	(B11)				Water Marks (B1) (Riverine)			
High Wa	iter Table (A2)		Biotic Crus	st (B12)				Sediment Deposits (B2) (Riverine)			
Saturation	on (A3)		Aquatic In		s (B13)		Drift Deposits (B3) (Riverine)				
Water M	arks (B1) (Nonriver	ine)	Hydrogen					Drainage Patterns (B10)			
Sedimen	nt Deposits (B2) (No	nriverine)	Oxidized F	Rhizosphei	res along	Living Root		Dry-Season Water Table (C2)			
Drift Dep	oosits (B3) (Nonrive	rine)	Presence	of Reduce	d Iron (C4	!)		Crayfish Burrows (C8)			
Surface	Soil Cracks (B6)		Recent Iro	n Reductio	on in Tilled	d Soils (C6)		Saturation Visible on Aerial Imagery (C9)			
Inundatio	on Visible on Aerial	Imagery (B7)	Thin Muck	Surface (C7)			Shallow Aquitard (D3)			
Water-St	tained Leaves (B9)		Other (Exp	olain in Re	marks)			FAC-Neutral Test (D5)			
Field Observ	vations:										
Surface Water	er Present? Y	'es No	o 🗸 Depth (in	ches):		_					
Water Table	Present? Y	'es No	o 🗸 Depth (in	ches):							
							nd Hydrolo	gy Present? Yes No			
(includes cap	oillary fringe)							<u> </u>			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:											
Remarks:											
On elevat	ed hill above t	he OHMV	V of the Arrov	o del Va	alle						
					-						

Appendix C

Plant Species Observed in the Study Area



Appendix C Plant Species Observed in the Study Area

Family	Species Name	Common Name	Rating*
Sapindaceae	Acer negundo	Boxelder	FACW
Fabaceae	Acmispon glaber var. glaber	Deerweed	UPL
Sapindaceae	Aesculus californica	California buckeye	UPL
Poaceae	Aira caryophyllea	Silver hairgrass	FACU
Betulaceae	Alnus rhombifolia	White alder	FACW
Amaranthaceae	Amaranthus albus	Tumbleweed	FACU
Asteraceae	Artemisia californica	Coastal sage brush	UPL
Asteraceae	Artemisia douglasiana	Douglas' sagewort	FAC
Poaceae	Arundo donax	Giant reed	FACW
Poaceae	Avena barbata	Slender oat	UPL
Azollaceae	Azolla filiculoides	American water fern	OBL
Asteraceae	Baccharis glutinosa	Douglas' baccharis	FACW
Asteraceae	Baccharis pilularis ssp. consanguinea	Coyote brush	UPL
Asteraceae	Baccharis salicifolia ssp. salicifolia	Mule fat	FAC
Apiaceae	Berula erecta	Cut leaved water parsnip	OBL
Poaceae	Bromus diandrus	Ripgut brome	UPL
Poaceae	Bromus hordeaceus	Soft chess	FACU
Poaceae	Bromus madritensis	Foxtail chess	UPL
Asteraceae	Carduus pycnocephalus ssp. pycnocephalus	Italian thistle	UPL
Orobanchaceae	Castilleja exserta ssp. exserta	Purple owl's clover	UPL
Rhamnaceae	Ceanothus cuneatus var. cuneatus	Buckbrush	UPL
Asteraceae	Centaurea solstitialis	Yellow star thistle	UPL
Asteraceae	Cirsium vulgare	Bull thistle	FACU
	Conium maculatum	Poison hemlock	FACU
Apiaceae Poaceae	Cortaderia jubata	Pampas grass	FACU
Euphorbiaceae	Croton setiger	Turkey-mullein	UPL
	Cyperus eragrostis	Tall flatsedge	FACW
Cyperaceae Solanaceae	Datura stramonium	Jimson weed	UPL
	Daucus carota	Wild carrot	UPL
Apiaceae			
Dipsacaceae	Dipsacus fullonum	Fuller's teasel Stinkwort	FAC UPL
Asteraceae	Dittrichia graveolens		
Onagraceae	Epilobium brachycarpum	Annual fireweed	UPL
Onagraceae	Epilobium ciliatum	Fringed willowherb	FACW
Boraginaceae	Eriodictyon californicum	Yerba santa	UPL
Polygonaceae	Eriogonum sp.	Buckwheat	UPL
Geraniaceae	Erodium botrys	Broad leaf filaree	FACU
Geraniaceae	Erodium moschatum	Whitestem filaree	UPL
Papaveraceae	Eschscholzia californica	California poppy	UPL
Myrtaceae	Eucalyptus sp.	Eucalyptus	UPL
Asteraceae	Euthamia occidentalis	Western goldenrod	FACW
Poaceae	Festuca perennis (=Lolium perenne)	Perennial ryegrass	FAC
Moraceae	Ficus carica	Edible fig	FACU
Apiaceae	Foeniculum vulgare	Fennel	UPL
Rubiaceae	Galium aparine	Common bedstraw	FACU
Fabaceae	Genista monspessulana	French broom	UPL
Geraniaceae	Geranium molle	Crane's bill geranium	UPL
Asteraceae	Gnaphalium palustre	Lowland cudweed	FACW
Asteraceae	Helenium bigelovii	Bigelow's sneezeweed	FACW
Boraginaceae	Heliotropium curassavicum var. occulartum	Alkali heliotrope	FACU

Appendix C (cont.) Plant Species Observed in the Study Area

Family	Species Name	Common Name	Rating*
Asteraceae	Helminthotheca echioides	Bristly ox-tongue	FAC
Rosaceae	Heteromeles arbutifolia	Toyon	UPL
Asteraceae	Heterotheca grandiflora	Telegraph weed	UPL
Brassicaceae	Hirschfeldia incana	Mediterranean hoary mustard	UPL
Poaceae	Hordeum marinum ssp. gussoneanum	Seaside barley	FAC
Poaceae	Hordeum murinum	Foxtail barley	FACU
Asteraceae	Hypochaeris glabra	Smooth cat's ear	UPL
Juglandaceae	Juglans hindsii	Northern California black walnut	FAC
Asteraceae	Lactuca serriola	Prickly lettuce	FACU
Araceae	Lemna sp.	Duckweed	OBL
Brassicaceae	Lepidium latifolium	Broadleaved pepperweed	FAC
Brassicaceae	Lobularia maritima	Sweet alyssum	UPL
Asteraceae	Logfia gallica	Narrowleaf cottonrose	UPL
Fabaceae	Lotus corniculatus	Bird's foot trefoil	FAC
Fabaceae	Lupinus sp.	Lupine	UPL
Myrsinaceae	Lysimachia arvensis	Scarlet pimpernel	FAC
Lythraceae	Lythrum hyssopifolia	Hyssop loosestrife	OBL
Lamiaceae	Marrubium vulgare	White horehound	FACU
Fabaceae	Melilotus albus	White sweetclover	UPL
Lamiaceae	Mentha spicata	Spearmint	FACW
Brassicaceae	Nasturtium officinale	Watercress	OBL
Apocynaceae	Nerium oleander	Oleander	UPL
Solanaceae	Nicotiana cf. acuminata var. multiflora	Tobacco	UPL
Oleaceae	Olea europaea	Olive	UPL
Poaceae	Paspalum dilatatum	Dallis grass	FAC
Polygonaceae	Persicaria cf. hydropiper	Common smartweed	OBL
Arecaceae	Phoenix canariensis	Canary island date palm	UPL
Poaceae	Phragmites australis	Common reed	FACW
Pinaceae	Pinus sp.	Pine	UPL
Plantaginaceae	Plantago lanceolata	English plantain	FAC
Platanaceae	Platanus racemosa	California sycamore	FAC
Poaceae	Polypogon monspeliensis	Rabbitfoot grass	FACW
Salicaceae	Populus fremontii ssp. fremontii	Fremont cottonwood	UPL
Portulacaceae	Portulaca oleracea	Common purslane	FAC
Rosaceae	Prunus dulcis	Domestic almond	UPL
Fagaceae	Quercus agrifolia ssp. agrifolia	Coast live oak	UPL
Fagaceae	Quercus lobata	Valley oak	FACU
Fabaceae	Robinia pseudoacacia	Black locust	FACU
Rosaceae	Rubus armeniacus	Himalayan blackberry	FAC
Polygonaceae	Rumex crispus	Curly dock	FAC
Polygonaceae	Rumex pulcher	Fiddle dock	FAC
Salicaceae	Salix exigua var. hindsiana	Narrow-leaved willow	FACW
Salicaceae	Salix laevigata	Red willow	FACW
Salicaceae	Salix lasiolepis	Arroyo willow	FACW
Chenopodiaceae	Salsola tragus	Tumbleweed	FACU
Lamiaceae	Salvia apiana	White sage	UPL
Adoxaceae	Sambucus nigra ssp. caerulea	Blue elderberry	UPL
	January Ingra Japi Cacrarca	Jide ciderberry	FACU

Appendix C (cont.) Plant Species Observed in the Study Area

Family	Species Name	Common Name	Rating*
Cyperaceae	Schoenoplectus acutus var. occidentalis	Tule	OBL
Cupressaceae	Sequoia sempervirens	Coast redwood	UPL
Asteraceae	Silybum marianum	Milk thistle	UPL
Poaceae	Stipa miliacea var. miliacea	Smilo grass	UPL
Tamaricaceae	Tamarix sp.	Tamarisk	FAC
Anacardiaceae	Toxicodendron diversilobum	Poison-oak	FACU
Lamiaceae	Trichostema lanceolatum	Vinegarweed	FACU
Fabaceae	Trifolium dubium	Shamrock	UPL
Fabaceae	Trifolium hirtum	Rose clover	UPL
Typhaceae	Typha sp.	Cattails	OBL
Urticaceae	Urtica dioica	Stinging nettle	FAC
Scrophulariaceae	Verbascum thapsus	Common mullein	FACU
Fabaceae	Vicia sp.	Vetch	~
Asteraceae	Xanthium strumarium	Rough cockleburr	FAC

Scientific and common names from:

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, D.H. Wilken, editors. 2012. The Jepson Manual: Vascular Plants of California, second edition. University of California Press, Berkley

U.S. Army Corps of Engineers Cold Regions Research and Engineering Laboratory, *Arid West 2016 Regional Wetland Plant List* (USACE 2016)

^{*} Acronyms: FAC – facultative, FACU – facultative upland, FACW – facultative wetland, UPL – upland, OBL – obligate, -- Not Listed, considered upland

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Appendix D

Representative Site Photographs





Photo Point 1. Looking northwest along the gravel bar within the OHWM of the perennial stream (Arroyo del Valle) in the central portion of the Study Area, during the October 26, 2017 biological survey.



Photo Point 2. Looking northwest across the perennial pond located within the northwest portion of the Study Area, during the November 1, 2017 biological survey.



Photo Point 3. Marsh habitat within the southeastern portion of the Study Area, during the April 3, 2018 delineation survey.



Photo Point 4. Looking east along Quarry Pond A in the southeastern portion of the Study Area, during the April 4, 2018 delineation survey.





Photo Point 5. Looking east along Quarry Pond C within the northeastern portion of the Study Area, during the November 2, 2017 biological survey.



Photo Point 6. Looking east along one of the breached quarry ponds in the central portion of the Study Area, during the October 26, 2017 biological survey.







Photo Point 7. Looking north along the ephemeral drainage in the central portion of the Study Area, during the November 16, 2017 delineation survey.



Photo Point 8. Looking south at the culvert that feeds the ephemeral drainage mapped during the November 25, 2019 delineation survey.





Photo Point 9. Looking southwest along the ephemeral drainage in the southern portion of the Study Area, during the November 25, 2019 delineation survey.



Photo Point 10. Looking southwest at the upper excavated basin in the southern portion of the Study Area, during the November 25, 2019 delineation survey.



Photo Point 11. Looking south at the lower excavated depressional basin in the southern portion of the Study Area, during the November 25, 2019 delineation survey.



Photo Point 12. Looking south at both excavated basins in the southern portion of the Study Area, during the November 25, 2019 delineation survey.

Photo Point 13. Looking west across the floodplain within the OHWM of the perennial stream (Arroyo del Valle) in the southern portion of the Study Area, during the November 25, 2019 delineation survey.



Photo Point 14. Looking east across the floodplain within the OHWM of the perennial stream (Arroyo del Valle) in the southern portion of the Study Area, during the November 25, 2019 delineation survey.

Photo Point 15. Looking northwest across the floodplain within the OHWM of the perennial stream (Arroyo del Valle) in the southern portion of the Study Area, during the November 25, 2019 delineation survey.



Photo Point 16. Looking west across the floodplain with OHWM of the perennial stream (Arroyo del Valle) within the southern portion of the Study Area, during the November 15, 2017 delineation survey.

Photo Point 17. Looking west across an intermittent stream in the southern portion of the Study Area, during the November 25, 2019 delineation survey.



Photo Point 18. Looking west across the floodplain within the OHWM of the perennial stream (Arroyo del Valle) in the southern portion of the Study Area, during the November 25, 2019 delineation survey.



Photo Point 19. Looking south across the perennial pond in the northeastern portion of the Study Area, during the November 26, 2019 delineation survey.



Photo Point 20. Looking south across the perennial stream (Arroyo del Valle) in the northern portion of the Study Area, during the November 26, 2019 delineation survey.



Appendix E

Aquatic Resources Excel Spreadsheet (To be Provided in the Final Version)

