AGUA MANSA DEVELOPMENT PROJECT

CITY OF BLOOMINGTON, SAN BERNARDINO COUNTY, CALIFORNIA

DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

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June 2015

JN 146722

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The undersigned certify that this report is a complete and accurate account of the findings and conclusions of a jurisdictional "waters of the United States" (including wetlands) and "waters of the State" determination for the above-referenced project.

Thomas C. Millington
Biologist
Natural Resources

Thomas J. McGill, Ph.D.
Vice President
Natural Resources

June 2015

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Executive Summary

RBF Consulting, a Michael Baker International Company (RBF), has prepared this Delineation of State and Federal Jurisdictional Waters for the Agua Mansa Development Project, located in the City of Bloomington, San Bernardino County, California. The delineation documents the regulatory authority of the U.S. Army Corps of Engineers Los Angeles District (Corps), the Santa Ana Regional Water Quality Control Board (Regional Board), and the California Department of Fish and Wildlife Inland Deserts Region (CDFW) pursuant to Section 401 and 404 of the Federal Clean Water Act (CWA), the California Porter-Cologne Water Quality Control Act, and Section 1600 *et seq*. of the Fish and Game Code.

Drainage A is an ephemeral drainage feature that exhibits a surface hydrologic connection to the Santa Ana River (Relatively Permanent Water) and ultimately the Pacific Ocean (Traditional Navigable Water). Therefore, Drainage A qualifies as waters of the United States and falls under the jurisdiction of the Corps, Regional Board, and CDFW. Refer to Table ES-1 for a summary of jurisdictional areas within the project site.

Table ES- 1: Jurisdictional Area Summary

Jurisdictional Feature	Corps/Regional Board Jurisdiction Non-Wetland Waters		CDFW Jurisdiction Streambed	
	Acreage	Linear Feet	Acreage	Linear Feet
Drainage A	0.16	1,070	0.42	1,070
Totals	**0.16**	**1,070**	**0.42**	**1,070**

Based on a review of conceptual grading plans, the project applicant must obtain the following regulatory approvals prior to development of the project site: Corps CWA Section 404 Nationwide Permit No. 39: *Commercial and Institutional Developments*, Regional Board CWA Section 401 Water Quality Certification, and CDFW Section 1602 Streambed Alteration Agreement. Refer to Sections 1 – 7 for a detailed analysis of site conditions and recommendations.

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EXHIBITS

APPENDIX

LIST OF ACRONYMS

CDFW	California Department of Fish and Wildlife
CFR	Code of Federal Regulations
Corps	United States Army Corps of Engineers
CWA	Clean Water Act
EPA	Environmental Protection Agency
FAC	Facultative Vegetation
FACU	Facultative Upland Vegetation
FACW	Facultative Wetland Vegetation
JD	Jurisdictional Determination
NRCS	Natural Resources Conservation Service
OBL	Obligate Wetland Vegetation
OHWM	Ordinary High Water Mark
RBF	RBF Consulting, a Michael Baker International Company
Regional Board	Santa Ana Regional Water Quality Control Board
RPW	Relatively Permanent Waters
SWANCC	Solid Waste Agency of Northern Cook County
TNW	Traditional Navigable Water
UPL	Obligate Upland Vegetation
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

Section 1 Introduction and Purpose

This delineation has been prepared for Allard Engineering in order to document the jurisdictional authority of the Corps, Regional Board, and CDFW pursuant to Section 401 and 404 of the Federal CWA, the California Porter-Cologne Water Quality Control Act, and Section 1600 *et seq*. of the Fish and Game Code, respectively. The field work for this delineation was conducted on May 21, 2015.

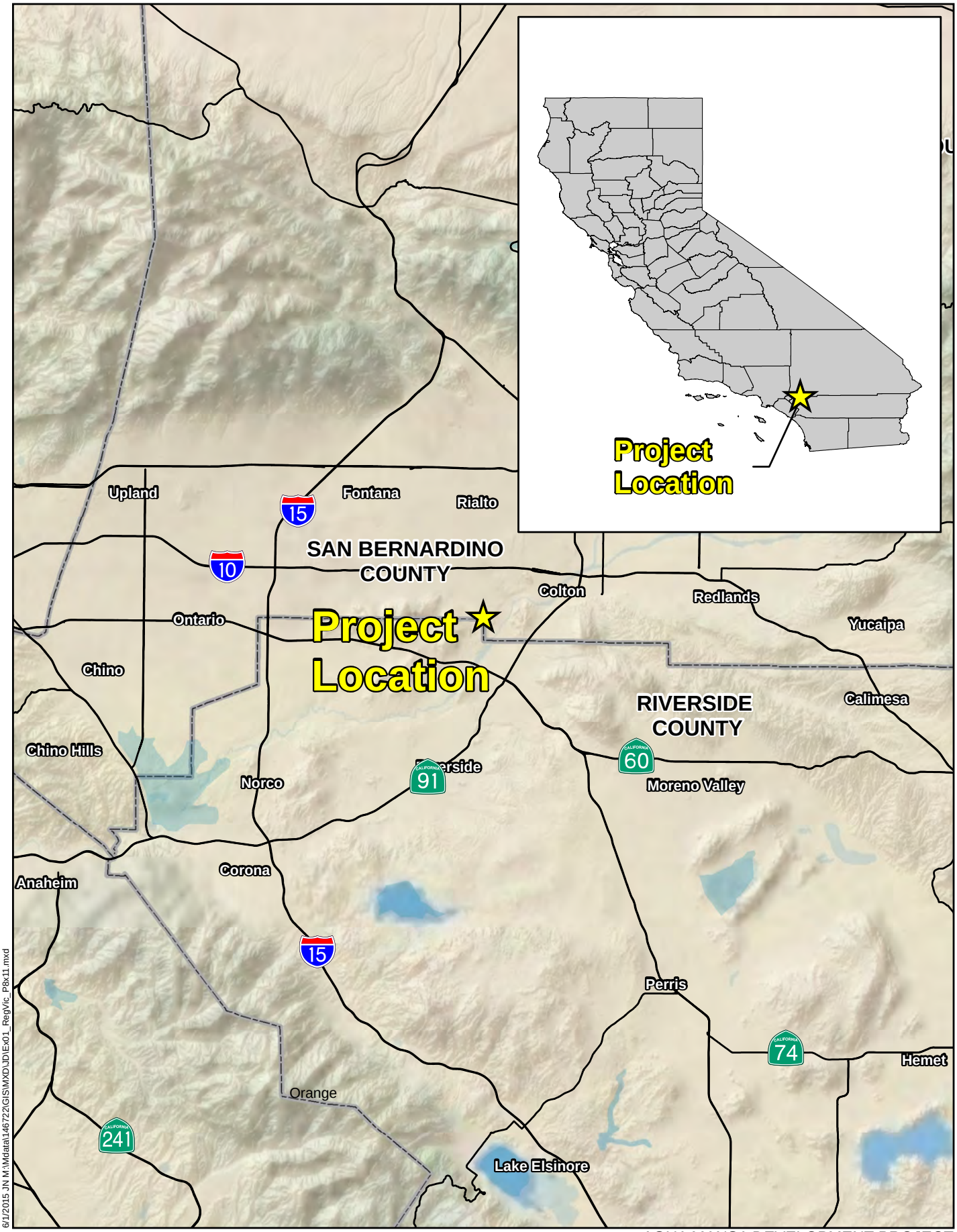
This delineation documents the findings made by RBF, and explains the methodology used to define the jurisdictional authority of the regulatory agencies. This report presents our best effort at determining the jurisdictional boundaries using the most up-to-date regulations, written policy, and guidance from the regulatory agencies. Ultimately the regulatory agencies make the final determination of jurisdictional boundaries.

1.1 PROJECT LOCATION

The Agua Mansa Development Project, hereinafter referred to as the project site, is generally located north of State Route 60, south of Interstate 10, east of Interstate 15, and west of Interstate 215 in the City of Bloomington, San Bernardino County, California (Exhibit 1, *Regional Vicinity*). The project site is depicted on the Fontana and San Bernardino South quadrangles of the United States Geological Survey (USGS) 7.5-minute topographic map series in Section 35 of Township 1 south, Range 5 west (Exhibit 2, *Site Vicinity*). Specifically, the project site is located north of El Rivino Road, west of Agua Mansa Road, east of Hall Avenue, and south of an industrial complex containing warehouses and distribution centers (Exhibit 3, *Project Site*).

1.2 PROJECT DESCRIPTION

The proposed project includes a General Plan Amendment (GPA) to change the Agua Mansa Specific Plan Zoning Designation from Single Family Residential to Medium Industrial on 31-acres; a Conditional Use Permit (CUP) to establish a 475,847 square foot warehouse building and a 30,059 square foot warehouse on 31-acres, a Tentative Parcel Map to create 2 parcels on 31 acres within Assessor Parcel Numbers (APNs) 0260-032-11, -12, -13, and -14; 0260-041-01, and -17; 0260-033-01, -02, and -03; 0260-051-06, -07, -08, -09, -10, -11, -12 and -13, within the City of Bloomington, County of San Bernardino, California. Refer to Exhibit 4, *Conceptual Grading Plan*, for depiction of the proposed project.



6/1/2015 JN M:\Mdata\146722\GIS\MXD\JD\Ex01_RegVic_P8x11.mxd

Michael Baker INTERNATIONAL

0 3 6 Miles

Source: ESRI Basemap Imagery, 2014

AGUA MANSA DEVELOPMENT PROJECT
DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

Regional Vicinity

Exhibit 1

6/1/2015 JN M:\Mdata\146722\GIS\MXD\JD\Ex02_SiteVic_P8x11.mxd

Michael Baker INTERNATIONAL

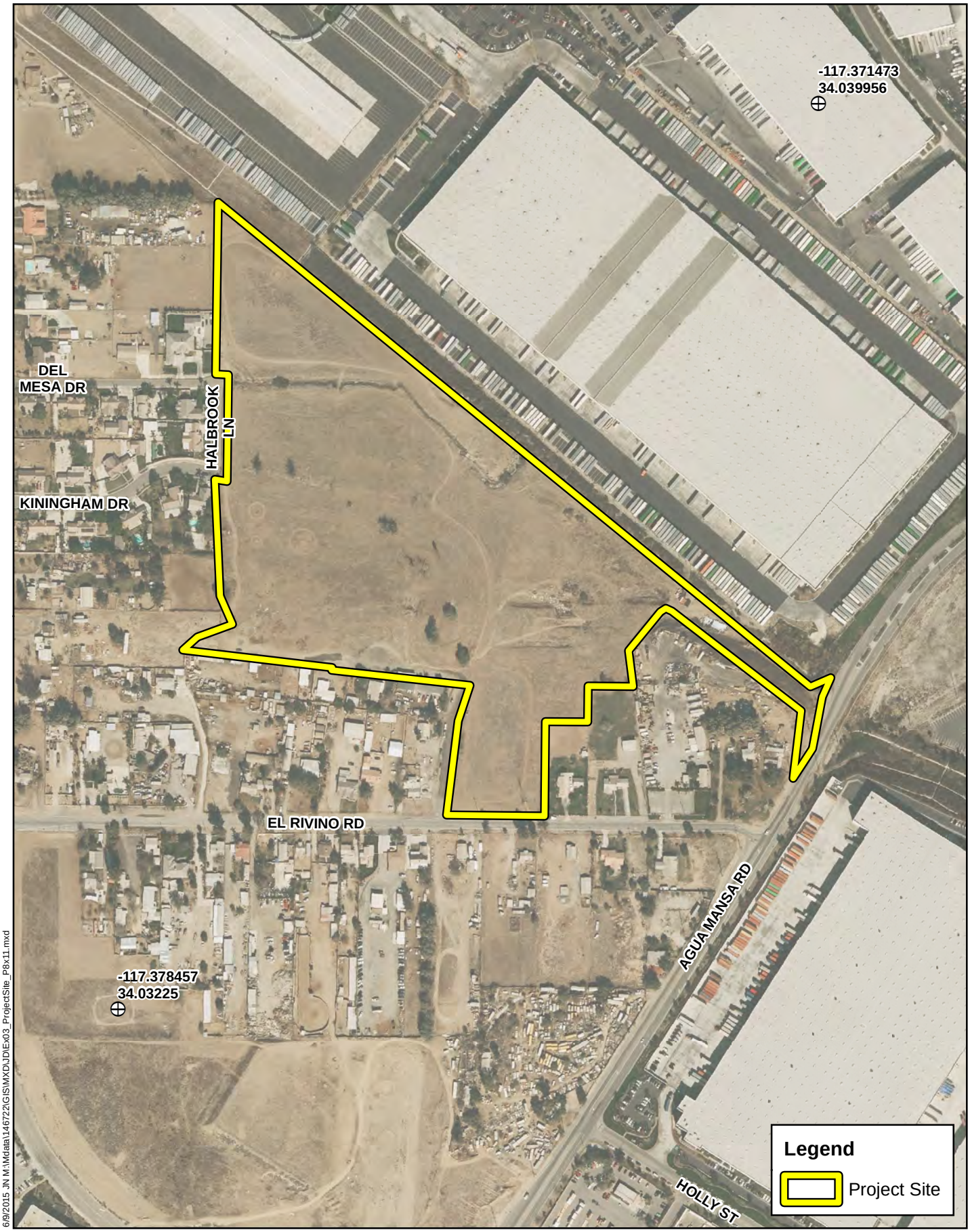
0 0.5 1 Miles

Source: ESRI USA Topographic Maps

AGUA MANSA DEVELOPMENT PROJECT
DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

Site Vicinity

Exhibit 2



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AGUA MANSA DEVELOPMENT PROJECT
DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

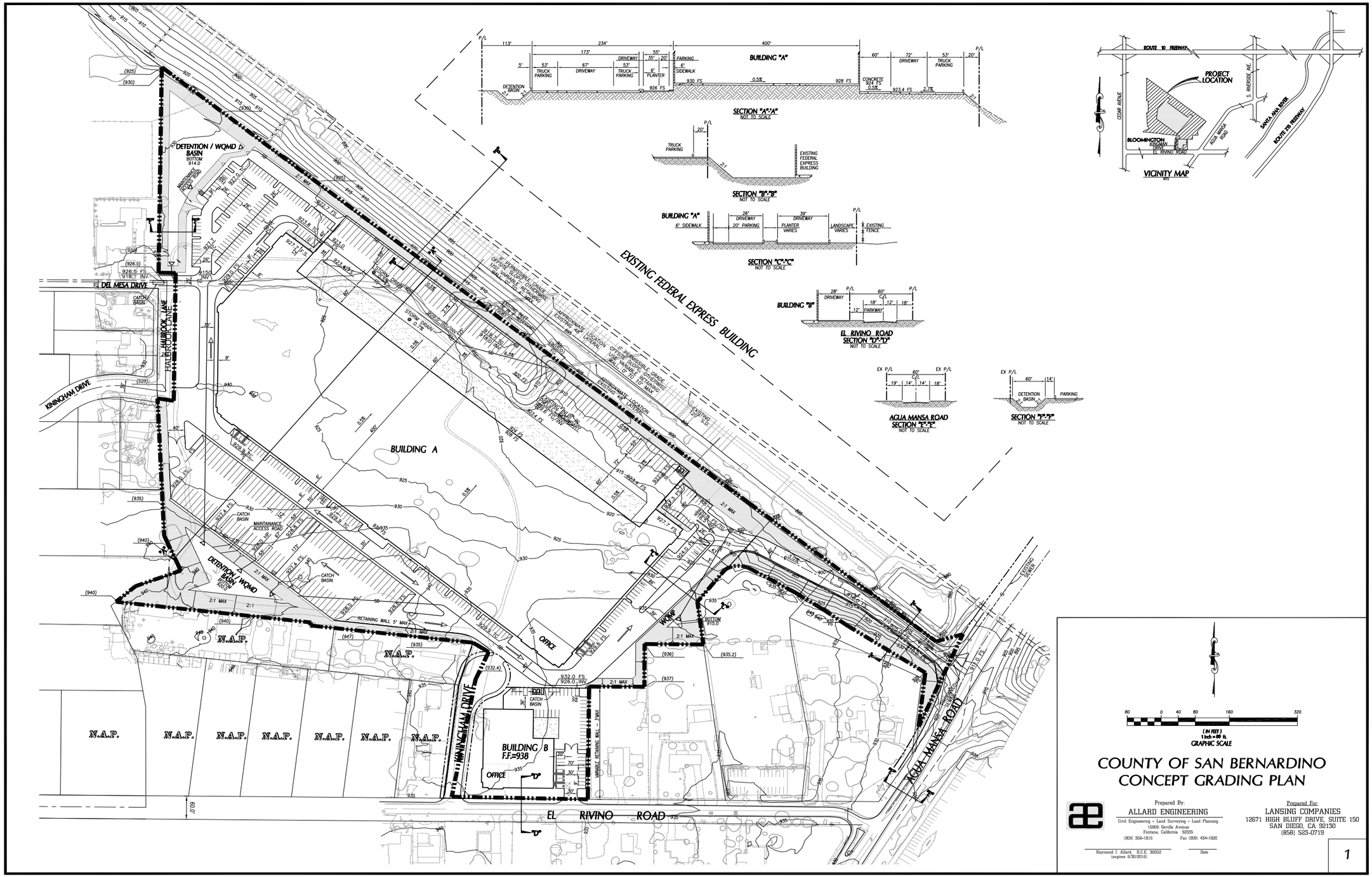
Michael Baker INTERNATIONAL

0 400 800 Feet

Source: Eagle Aerial 2014

Project Site

Exhibit 3



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Source: Allard Engineering

AGUA MANSA DEVELOPMENT PROJECT
DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

Conceptual Grading Plan

Exhibit 4

Section 2 Regulations

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The Corps Regulatory Division regulates activities pursuant to Section 404 of the Federal Clean Water Act (CWA), Section 10 of the Rivers and Harbors Act, and Section 103 of the Marine Protection, Research, and Sanctuaries Act. The Regional Board regulates activities pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act and the CDFW regulates activities under the Sections 1600 *et seq*. of the Fish and Game Code.

2.1 U.S. ARMY CORPS OF ENGINEERS

Since 1972, the Corps and U.S. Environmental Protection Agency (EPA) have jointly regulated the discharge of dredged or fill material into waters of the United States, including wetlands, pursuant to Section 404 of the CWA. The Corps and EPA define "fill material" to include any "material placed in waters of the United States where the material has the effect of: (i) replacing any portion of a water of the United States with dry land; or (ii) changing the bottom elevation of any portion of the waters of the United States." Examples include, but are not limited to, sand, rock, clay, construction debris, wood chips, and "materials used to create any structure or infrastructure in the waters of the United States." The terms *waters of the United States* and *wetlands* are defined under CWA Regulations 33 Code of Federal Regulations (CFR) §328.3 (a) through (b) and Appendix B of this report.

2.2 REGIONAL WATER QUALITY CONTROL BOARD

Pursuant to Section 401 of the CWA, any applicant for a federal license or permit to conduct any activity which may result in any discharge to waters of the United States must provide certification from the State or Indian tribe in which the discharge originates. This certification provides for the protection of the physical, chemical, and biological integrity of waters, addresses impacts to water quality that may result from issuance of federal permits, and helps insure that federal actions will not violate water quality standards of the State or Indian tribe. In California, there are nine Regional Boards that issue or deny certification for discharges to waters of the United States and waters of the State, including wetlands, within their geographical jurisdiction. The State Water Resources Control Board assumed this responsibility when a project has the potential to result in the discharge to waters within multiple Regional Boards.

Additionally, the California Porter-Cologne Water Quality Control Act gives the State very broad authority to regulate waters of the State, which are defined as any surface water or groundwater, including saline waters. The Porter-Cologne Water Quality Control Act has become an important tool post *Solid Waste Agency of Northern Cook County v. United States Corps of Engineers*[1] and *Rapanos*

[1] Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers, 531 U.S. 159 (2001)

v. United States[2] (Rapanos) court cases with respect to the State's authority over isolated and insignificant waters. Generally, any applicant proposing to discharge waste into a water body must file a Report of Waste Discharge in the event that there is no Section 404/401 nexus. Although "waste" is partially defined as any waste substance associated with human habitation, the Regional Board also interprets this to include discharge of dredged and fill material into water bodies.

2.3 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

Section 1600 *et seq.* of the Fish and Game Code establishes a fee-based process to ensure that projects conducted in and around lakes, rivers, or streams do not adversely impact fish and wildlife resources, or, when adverse impacts cannot be avoided, ensures that adequate mitigation and/or compensation is provided. Pursuant to Section 1602 of the Fish and Game Code, a notification must be submitted to the CDFW for any activity that will divert or obstruct the natural flow or change the bed, channel, or bank (which may include associated biological resources) of a river or stream or use material from a streambed. This includes activities taking place within rivers or streams that flow perennially or episodically and that are defined by the area in which surface water currently flows, or has flowed, over a given course during the historic hydrologic regime, and where the width of its course can reasonably be identified by physical and biological indicators.

2 Rapanos v. United States, 547 U.S. 715 (2006)

Section 3 Methodology

The analysis presented in this document is supported by field surveys and verification of site conditions conducted on May 21, 2015. RBF conducted a site investigation to determine the jurisdictional limits of "waters of the United States" and "waters of the State" (including potential wetlands and vernal pools), located within the boundaries of the project site. While in the field, jurisdictional features were recorded on a base map at a scale of 1" = 50' using topographic contours and visible landmarks as guidelines. Data points were obtained with a Garmin Map62 Global Positioning System to record and identify specific widths for the ordinary high water mark (OHWM) indicators and the locations of soil pits, photograph locations, and other pertinent jurisdictional features. This data was then transferred via USB port as a .shp file and added to the project's jurisdictional map. The jurisdictional exhibits were prepared in ESRI ArcInfo Version 10.

3.1 WATERS OF THE UNITED STATES

In the absence of adjacent wetlands, the limits of the Corps' jurisdiction in non-tidal waters extend to 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.*"[3] Indicators of an OHWM are defined in *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Corps 2008). An OHWM can be determined by the observation of a natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; presence of litter and debris; wracking; vegetation matted down, bent, or absent; sediment sorting; leaf litter disturbed or washed away; scour; deposition; multiple observed flow events; bed and banks; water staining; and/or change in plant community. The Regional Board shares the Corps' jurisdictional methodology, unless SWANCC or Rapanos conditions are present. In the latter case, the Regional Board considers such drainages to be jurisdictional waters of the State.

Pursuant to the 1987 Corps Wetland Delineation Manual, the identification of wetlands is based on a three-parameter approach involving indicators of hydrophytic vegetation, hydric soils, and wetland hydrology. In order to qualify as a wetland, a feature must exhibit at least minimal characteristics within these three parameters. It should also be noted that both the Regional Board and CDFW follow the methods utilized by the Corps to indentify wetlands. For this project location, Corps jurisdictional wetlands are delineated using the methods outlined in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2* (Corps 2008). Please refer to Apprendix B for additional methodology used throughout the course of this delineation.

[3] CWA regulations 33 CFR §328.3(e).

3.2 WATERS OF THE STATE

3.2.1 REGIONAL WATER QUALITY CONTROL BOARD

The California *Porter-Cologne Water Quality Control Act* gives the Regional Board very broad authority to regulate waters of the State, which are defined as any surface water or groundwater, including saline waters. The Regional Board shares the Corps' methodlogy for delineating the limits of jurisdiction based on the identification of an OHWM and utilizing the three-parameter approach for wetlands.

3.2.2 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

Section 1600 *et seq*. of the Fish and Game Code applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state. Generally, the CDFW's jurisdiction limit is not defined by a specific flow event, nor by the path of surface water as this path might vary seasonally. Instead, CDFW's jurisdictional limit is based on the topography or elevation of land that confines surface water to a definite course when the surface water rises to its highest point. Further, the CDFW's jurisdictional limit extends to include any habitat (e.g. Riversidean alluvial fan sage scrub, riparian, riverine), including wetlands, supported by a river, stream, or lake regardless of the presence or absence of hydric soils and saturated soil conditions. For this project location, CDFW jurisdictional limits were delineated using the methods outlined in the *The MESA Field Guide* (CDFW 2014), which was developed to provide guidance on the methods utilized to describe and delineate episodic streams within the inland deserts region of southern California.

Section 4 Literature Review

RBF conducted a thorough review of relevant literature and materials to preliminarily identify areas that may fall under the jurisdiction of the regulatory agencies. A summary of materials utilized during RBF's literature review is provided in detail below and in Appendix C. In addition, refer to Section 8 for a complete list of references used throughout the course of this delineation.

4.1 WATERSHED REVIEW

The survey area is located within the Santa Ana River Watershed (HUC 18070203). The Santa Ana River watershed is located in southern California, south and east of the city of Los Angeles. The watershed includes much of Orange County, the northwestern corner of Riverside County, the southwestern corner of San Bernardino County, and a small portion of Los Angeles County. The watershed is bounded on the south by the Santa Margarita watershed, on the east by the Salton Sea and Southern Mojave watersheds, and on the north/west by the Mojave and San Gabriel watersheds. The watershed is approximately 2,800 square miles in area.

The Santa Ana River watershed is located in the Peninsular Ranges and Transverse Ranges Geomorphic Provinces of Southern California (California Geological Survey Note 36). The highest elevations (upper reaches) of the watershed occur in the San Bernardino Mountains (San Gorgonio Peak – 11,485 feet in elevation), eastern San Gabriel Mountains (Transverse Ranges Province; Mt. Baldy – 10,080 feet in elevation), and San Jacinto Mountains (Peninsular Ranges Province, Mt. San Jacinto – 10,804 feet in elevation). Further downstream, the Santa Ana Mountains and the Chino Hills form a topographic high before the river flows into the Coastal Plain (in Orange County) and into the Pacific Ocean. Primary slope direction is northeast to southwest, with secondary slopes controlled by local topography.

This watershed is in an arid region, and therefore has little natural perennial surface water. Surface waters start in the upper erosion zone of the watershed, primarily in the San Bernardino and San Gabriel Mountains. This upper zone has the highest gradient and soils/geology that do not allow large quantities of percolation of surface water into the ground. Flows consist mainly of snowmelt and storm runoff from the lightly developed San Bernardino National Forest; this water is generally high quality at this point. In this zone, the Santa Ana River is generally confined in its lateral movement, contained by the slope in the mountainous regions. In the upper valley, flows from the Seven Oaks dam to the city of San Bernardino consist mainly of storm flows, flows from the San Timoteo Creek, and groundwater that is rising due to local geological conditions. From the City of San Bernardino to the City of Riverside, the river flows perennially, and it includes treated discharges from wastewater treatment plants. From the City of Riverside to the recharge basins below Imperial Highway, river flow consists of highly treated wastewater discharges, urban runoff, irrigation runoff, and groundwater forced to the surface by shallow/rising bedrock. Near Corona, the river cuts through the Santa Ana Mountains and the Puente-Chino Hills. The river then flows into the Orange County Coastal Plain; the channel lessens

and the gradient decreases. In a natural environment, a river in this area would have a much wider channel, increased meandering, and increased sediment build-up. However, much of the Santa Ana River channel in this area has been contained in concrete-lined channels, which modifies the flow regime and sediment deposition environment. The only major tributary of the Santa Ana River in Orange County is Santiago Creek, which joins the river in the City of Santa Ana. There is only one natural freshwater lake of any size – Lake Elsinore. A variety of water storage reservoirs (Lake Perris, Lake Mathews, and Big Bear Lake) and Flood Control areas (Prado Dam area and Seven Oaks Dam area) have been created to hold surface water.

4.2 LOCAL CLIMATE

San Bernardino County features a somewhat cooler version of a Mediterranean climate, or semi-arid climate, with warm, sunny, dry summers and cool, rainy, mild winters. Relative to other areas in southern California, winters are colder with chilly to cold morning temperatures common. Climatological data obtained for the City of Bloomington indicates the annual precipitation averages 10.67 inches per year. Almost all of the precipitation occurs in the months between November and April, with hardly any occurring between the months of May and October. The wettest month is January, with a monthly average total precipitation of 2.47 inches. The average maximum and minimum temperatures for the City of Bloomington are 79.3 and 50.9 degrees Fahrenheit (F) respectively with July and August (monthly averages 94.0° F) being the hottest months and December (monthly average 41.0° F) being the coldest. Temperatures during the site visit were in the mid-60s (degrees Fahrenheit) with light winds and variable cloud cover.

4.3 USGS TOPOGRAPHIC QUADRANGLE

The project site is located within the Fontana and San Bernardino South quadrangles of the USGS 7.5-minute topographic map series in Section 35 of Township 1 south, Range 5 west. Surface elevations within the project site range from approximately 900 to 945 feet above mean sea level and generally slope from south to north. According to the topographic map, the project site is comprised of vacant, mostly undeveloped land surrounded by rural residential and commercial development. The surrounding area consists of residential neighborhoods to the west, south, and east, and warehouses and distribution centers to the north and east. Unimproved dirt trails are located throughout the site.

4.4 AERIAL PHOTOGRAPH

Prior to the field visit, RBF reviewed current and historical aerial photographs of the project site from Google Earth Pro Imaging (Version 7.1). Aerial photographs can be useful during the delineation process, as the photographs often indicate the presence or absence of drainage features, ponded areas, and riparian vegetation within the boundaries of the project site.

1993 – 1995: According to the 1993 through 1995 aerial photographs, the project site appears to consist primarily of vacant undeveloped land. A residential property appears to be present in the center of the site, with evidence of high amounts of weed abatement and mowing in areas adjacent to the property (within site boundaries). No vegetation is visible in the on-site drainage channel. Surrounding land uses consist of single-family residential lots, roadways, and vacant undeveloped land.

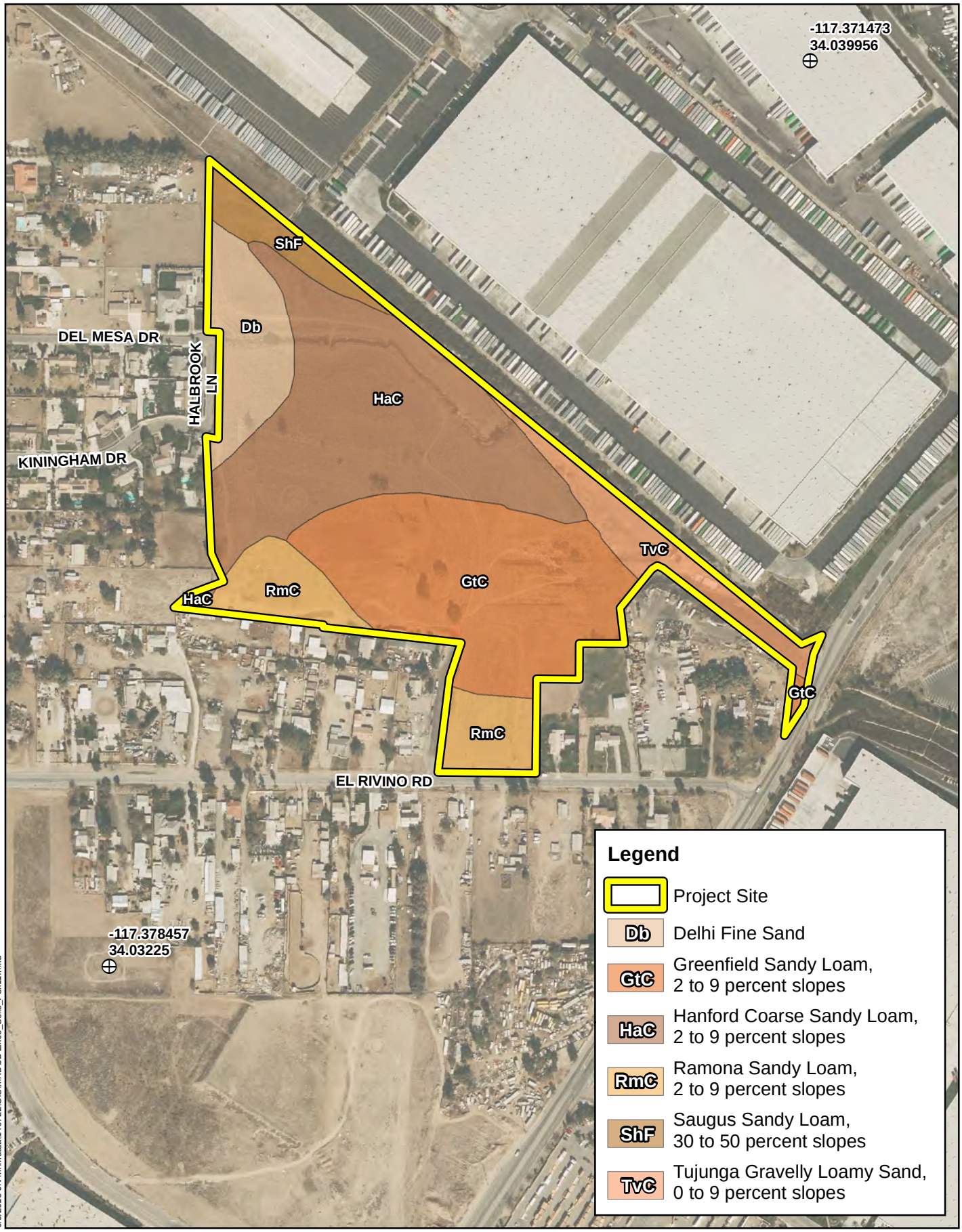
2002: According to the 2002 aerial photographs, the project site appears to continue to consist primarily of vacant undeveloped land. The residential property in the center of the site on the 1993 and 1995 aerial photographs is no longer present. There are small signs of the site being used for materials storage within a vacant area on its eastern side. No vegetation is visible in the on-site drainage channel. Surrounding land uses consist of single-family residential lots, roadways, and vacant undeveloped land.

2003 – 2009: According to the 2003 through 2009 aerial photographs, the project site appears to continue to consist primarily of vacant undeveloped land. Material and vehicle storage continues in a vacant area on the eastern side of the site. Vegetation within the on-site drainage channel varies according to the date of the aerial photograph. Surrounding land uses consist of single-family residential lots and roadways, with the northern boundary of the project site abutting large distribution centers.

2011 – 2014: According to the 2011 through 2014 aerial photographs, the project site appears to continue to consist primarily of vacant undeveloped land. Some illegal trash dumping is visible in the area that was previously used for materials storage. Vegetation within the on-site drainage channel varies according to the date of the aerial photograph. Surrounding land uses consist of single-family residential lots, roadways, and industrial warehouses and distribution centers.

4.5 SOIL SURVEY

Soils within and adjacent to the project site were researched prior to the field visit using the U.S. Department of Agriculture (USDA), Soil Conservation Service, the Natural Resources Conservation Service (NRCS), and Custom Soil Resource Report for San Bernardino County Southwestern Part, California. The presence of hydric soils is initially investigated by comparing the mapped soil series for the site to the County list of hydric soils. Soil surveys furnish soil maps and interpretations originally needed in providing technical assistance to farmers and ranchers; in guiding other decisions about soil selection, use, and management; and in planning, research, and disseminating the results of the research. In addition, soil surveys are now heavily utilized in order to obtain soil information with respect to potential wetland environments and jurisdictional areas (i.e., soil characteristics, drainage, and color). According to the Custom Soil Resource Report, the project site is underlain by the following soil units: Delhi fine sand, Greenfield sandy loam (2 to 9 percent), Hanford coarse sandy loam (2 to 9 percent), Ramona sandy loam (2 to 9 percent), Saugus sandy loam (30 to 50 percent), and Tujunga gravelly loamy sand (0 to 9 percent). Refer to Exhibit 5, *Soils*.



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AGUA MANSA DEVELOPMENT PROJECT
DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

Michael Baker INTERNATIONAL

0 400 800 Feet

Source: Eagle Imagery, 2014. USDA, 2015.

Soils

Exhibit 5

4.6 HYDRIC SOILS LIST OF CALIFORNIA

RBF reviewed the Hydric Soils List of California (March 2014), provided by the NRCS, in an effort to verify whether or not on-site soils are considered to be hydric. It should be noted that lists of hydric soils along with soil survey maps are good off-site ancillary tools to assist in wetland determinations, but they are not a substitute for on-site investigations. According to the hydric soils list, Delhi fine sand and Tujunga gravelly loamy sand have been listed as hydric in the soil mapping area designated as San Bernardino County Southwestern Part.

4.7 NATIONAL WETLANDS INVENTORY

RBF reviewed the U.S. Fish and Wildlife Service's (USFWS) National Wetland Inventory maps. No wetland features have been documented within the project site. Multiple wetland features have been documented in areas adjacent to the site, particularly on lands formerly belonging to the now-closed El Rivino Country Club located west of the project site. Refer to Appendix C, *Documentation*.

4.8 FLOOD ZONE

RBF searched the Federal Emergency Management Agency (FEMA) website for flood data for the project site. Based on Flood Insurance Rate Map No. 06071C8686H, the project site is located within Zone D, or areas in which flood hazards are undetermined but are still possible. Flood Insurance Rate Map No. 06071C8686H only covers the eastern half of the project site; the western half of the site is covered by Flood Insurance Rate Map No. 06071C8667H. This panel has not been printed by FEMA for viewing. According to the FEMA website, for panels that are not printed, unincorporated areas fall within Zone D, while all other areas fall within Zone X, or areas that are outside of the 1% (100-year) annual flood plain. Because the City of Bloomington is unincorporated, the western half of the project site also falls into Zone D, or areas in which flood hazards are undetermined but are still possible. Refer to Appendix C, *Documentation*.

Section 5 Site Conditions

RBF biologists Ashley M. Barton, Ryan S. Winkleman, and Thomas C. Millington visited the project site on May 21, 2015 to verify existing site conditions and document potential jurisdictional areas. Temperatures during the site visits were in the mid-60's (degrees Fahrenheit) with light winds and variable cloud cover. RBF field staff were unable to dig soil pits during the site visit due to the presence of a rocky substrate approximately three inches below the surface within the on-site drainage channel. Six (6) soil pits were attempted at different locations at the western end of Drainage A; in every instance the shovel could not penetrate more than approximately three inches below the surface due to an impenetrable layer. Although this would be considered a limitation, RBF relied on available soil data obtained during the literature review and site characteristics including the presence of hydrophytic vegetation and hydrology to document potential wetland features within the project site. No other limitations were encountered throughout the course of this delineation. Refer to Appendix A for representative photographs taken throughout the project site.

5.1 DRAINAGE FEATURES

5.1.1 DRAINAGE A

Drainage A is an unnamed, ephemeral drainage feature on the northern portion of the project site. Generally, Drainage A runs east to southeast from the Del Mesa Drive and Halbrook Lane intersection to an existing detention basin located on the central portion of the project site. Under normal circumstances, Drainage A is only expected to flow during significant storm events as flows are provided by urban runoff from the surrounding residential neighborhoods and surface streets. As surface water from Drainage A is collected within the detention basin, it is then directed to an existing inlet pipe and transported off-site. Based on known information of the region, it is assumed that flows will continue to the southeast via underground storm drains towards the Santa Ana River (approximately 0.5-miles to the southeast). Within the boundaries of the project site, Drainage A measures approximately 1,070 linear feet in length and exhibits an earthen streambed consisting of fine sediment and minimal cobble. Evidence of a Corps OHWM and surface hydrology was observed via the following indicators: scour, shelving, sediment deposition, drainage patterns, and changes in the character of soil and vegetation.

Drainage A is vegetated with a mixture of disturbed and non-native grassland species that have established along the drainage invert/bank. Dominant plant species occurring within Drainage A include shortpodded mustard (*Hirschfeldia incana*, UPL), ripgut brome (*Bromus diandrus*, UPL), and common sunflower (*Helianthus annuus*, FACU). Sparse patches of rabbitsfoot grass (*Polypogon monspeliensis*, FACW), water speedwell (*Veronica anagallis-aquatica*, OBL), yellow sweetclover (*Melilotus indicus,* FACU), mulefat (*Baccharis salicifolia*, FAC), California croton (*Croton californicus*, FACU), and Spanish clover (*Acmispon americanus*, UPL) also occur.

RBF attempted to dig soil pits at the western end of Drainage A due to the presence of a small patch of hydrophytic vegetation (water speedwell). However, a rocky or otherwise hard, impenetrable layer was repeatedly encountered at each of six (6) test points at a depth of approximately three inches below the surface. Therefore, RBF was unable to document any hydric soil indicators in the western portion of Drainage A. However, it was assumed that hydric soil indicators would be limited, if not completely absent, due to the limited amount of hydrophytic vegetation and known hydrology of the area. No additional soil pits were dug in due to the lack of hydrophytic vegetation.

5.2 WETLAND FEATURES

An area must exhibit all three wetland parameters described in the Corps Regional Supplement to be considered a wetland. Based on the results of the field investigation, it was determined that on-site jurisdictional features did not meet all three wetland parameters. Therefore, no wetland features occur on the project site.

Section 6 Findings

This delineation has been prepared for Allard Engineering in order to document the jurisdictional authority of the Corps, Regional Board, and CDFW within the boundaries of the project site. This report presents RBF's best effort at determining the extent of jurisdictional features using the most up-to-date regulations, written policy, and guidance from the regulatory agencies. Ultimately the regulatory agencies make the final determination of jurisdictional boundaries.

6.1 U.S. ARMY CORPS OF ENGINEERS

6.1.1 WATERS OF THE UNITED STATES DETERMINATION

Drainages A is tributary to downstream waters and exhibits a surface hydrologic connection to the Santa Ana River (Relatively Permanent Water) and ultimately the Pacific Ocean (Traditional Navigable Water). Therefore, Drainages A qualifies as waters of the United States and falls under the jurisdiction of the Corps. Approximately 0.16-acre (1,070 linear feet) of Corps jurisdiction (non-wetland waters) is located within the boundaries of the project site. Refer to Exhibit 6, *Corps/Regional Board Jurisdiction*.

6.1.2 WETLAND DETERMINATION

An area must exhibit all three wetland parameters described in the Corps Regional Supplement to be considered a wetland. Based on the results of the field investigation, it was determined that no areas met all three wetland parameters. Therefore, no wetland features occur on the project site.

6.2 REGIONAL BOARD WATER QUALITY CONTROL BOARD

No isolated or Rapanos conditions were observed within the boundaries of the project site. Therefore, the Regional Board jurisdictional limit follows that of the Corps and totals approximately 0.16-acre (1,070 linear feet). Refer to Exhibit 6, *Corps/Regional Board Jurisdiction*.

6.3 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

Drainages A exhibits characteristics consistent with methodology identified in CDFW's Field Guide to Lake and Streambed Alteration and would be considered CDFW streambed. Therefore, approximately 0.42-acre (1,070 linear feet) of CDFW streambed is located on the project site. Refer to Exhibit 7, *CDFW Jurisdiction*.

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Michael Baker INTERNATIONAL

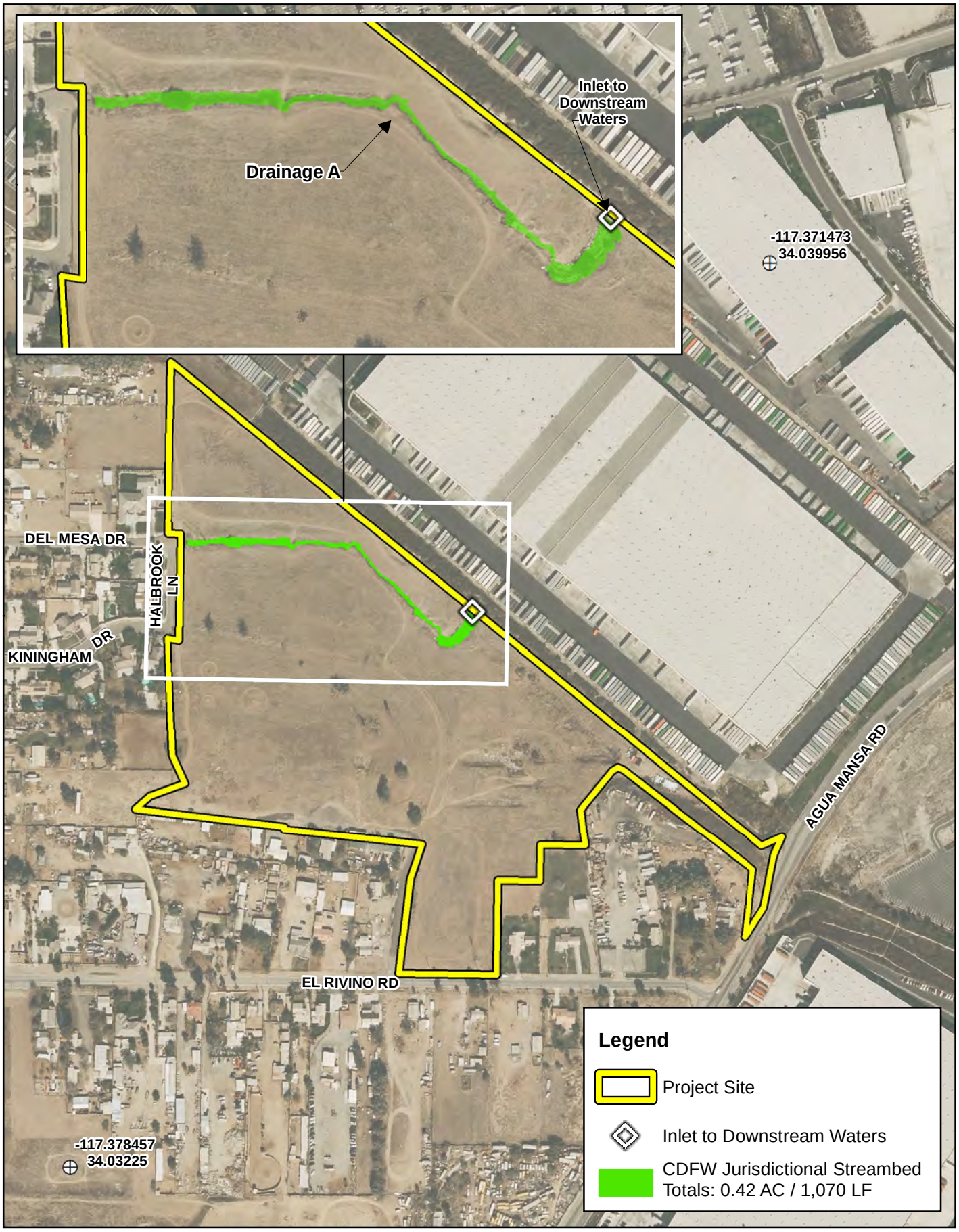
0 200 400 Feet

Source: Eagle Imagery, 2014

AGUA MANSA DEVELOPMENT PROJECT
DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

Corps/Regional Board Jurisdiction

Exhibit 6



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Michael Baker INTERNATIONAL

0 200 400 Feet

Source: Eagle Imagery, 2014

AGUA MANSA DEVELOPMENT PROJECT
DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

CDFW Jurisdiction

Exhibit 7

Section 7 Regulatory Approval Process

The following is a summary of the various permits, certifications, and agreements that may be necessary prior to construction and/or alteration within jurisdictional areas.

7.1 U.S. ARMY CORPS OF ENGINEERS

The Corps regulates the discharge of dredged or fill materials into waters of the United States, including wetlands, pursuant to Section 404 of the CWA. Based on a review of conceptual grading plans, it will be necessary for the project applicant to acquire a CWA Section 404 permit prior to impacts occurring within Corps jurisdictional areas. Since the project will result in the permanent loss of less than ½-acre of Corps jurisdiction, it is anticipated that the proposed project can be authorized via a Nationwide Permit (NWP), specifically NWP No. 39: *Commercial and Institutional Developments*. It should be noted that NWP No. 39 has a linear foot impact threshold of 300 feet for all intermittent and ephemeral streams. The Corps can waive this threshold upon request through a formally submitted application.

7.2 REGIONAL WATER QUALITY CONTROL BOARD

The Regional Board regulates discharges to surface waters pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act. Therefore, it will be necessary for the project applicant to acquire a CWA Section 401 Water Quality Certification prior to impacts occurring within Regional Board jurisdictional areas.

7.3 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

The CDFW regulates activities that will result in the alteration of a river or stream pursuant to Section 1602 of the Fish and Game Code. Therefore, it will be necessary for the project applicant to acquire a Section 1602 Streambed Alteration Agreement prior to impacts occurring within CDFW jurisdictional areas.

7.4 RECOMMENDATION

It is recommended that this delineation be forwarded to the regulatory agencies for their concurrence.

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Appendix A Site Photographs

Photograph 1: Facing east from the corner of Del Mesa Drive and Halbrook Lane into Drainage A, which is fed by water runoff from the adjacent neighborhood and surface streets.

Photograph 2: Facing east along Drainage A.

Photograph 3: Facing east along Drainage A.

Photograph 4: Facing east along Drainage A at an exposed culvert and concrete reinforcement within the drainage.

Photograph 5: Facing east along Drainage A, with a riprap-reinforced detention basin in the background.

Photograph 6: Facing southwest at the detention basin and inlet to downstream waters.

Photograph 7: Facing northwest from the southern portion of the site.

Photograph 8: Facing southeast from the northwestern corner of the project site.

Appendix B Methodology

WATERS OF THE UNITED STATES

Since 1972, the Corps and U.S. Environmental Protection Agency (EPA) have jointly regulated the filling of "waters of the U.S.", including wetlands, pursuant to Section 404 of the CWA. The Corps has regulatory authority over the discharge of dredged or fill material into the waters of the United States under Section 404 of the CWA. The Corps and EPA define "fill material" to include any "material placed in waters of the United States where the material has the effect of: (i) replacing any portion of a water of the United States with dry land; or (ii) changing the bottom elevation of any portion of the waters of the United States." Examples include, but are not limited to, sand, rock, clay, construction debris, wood chips, and "materials used to create any structure or infrastructure in the waters of the United States." The term "*waters of the United States*" is defined as follows:

(i) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.

(ii) All interstate waters, including interstate wetlands[4].

(iii) The territorial seas.

(iv) All impoundments of waters otherwise defined as watres of the United States under the definition.

(v) All tributaries[5] of waters identified in paragraphs (i) through (iii) mentioned above.

(vi) All waters adjacent[6] to a water identified in paragraphs (i) through (v) mentioned above, including wetlands, ponds, lakes, oxbows, impoundments, and similar waters.

(vii) All prairie potholes, Carolina bays and Delmarva bays, Pocosins, western vernals pools, Texas coastal prairie wetlands, where they are determined, on a case-specific basis, to have a significant nexus to a water identified in paragraphs (i) through (iii) meantioned above.

(viii) All waters located within the 100-year floodplain of a water identified in paragraphs (i) through (iii) mentioned above and all waters located within 4,000 feet of the high tide line or ordinary high water mark of a water identified in paragraphs (i) through (v) mentioned above, where they are determined on a case-specific basis to have a significant nexus to a waters identified in paragraphs (i) through (iii) mentioned above.

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4 The term *wetlands* means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

5 The terms *tributary* and *tributaries* each mean a water that contributes flow, either directly or through another water (including an impoundment identified in paragraph (iv) mentioned above), to a water identified in paragraphs (i) through (iii) mentioned above, that is characterized by the presence of the physical indicators of a bed and banks and an ordinary high water mark.

6 The term *adjacent* means bordering, contiguous, or neighboring a water identified in paragraphs (i) through (v) mentioned above, including waters separated by constructed dikes or barriers, natural river berms, beach dunes, and the like.

The following features are not defined as "waters of the United States" even when they meet the terms of paragraphs (iv) through (viii) mentioned above:

(i) Waste treatment systems, including treatment ponds or lagoons designed to meet the requriements of the Clean Water Act.

(ii) Prior converted cropland.

(iii) The following ditches:

  (A) Ditches with ephemeral flow that are not a relocated tributary or excavated in a tributary.

  (B) Ditches with intermittent flow that are not a relocated tributary, excavated in a tributary, or drain wetlands.

  (C) Ditches that do not flow, either directly or through another water, into a water of the United States as identified in paragraphs (i) through (iii) of the previous section.

(iv) The following features:

  (A) Artificially irrigated areas that would rever to dry land should application of water that area cease;

  (B) 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;

  (C) Artificial reflecting pools or swimming pools created in dry land;

  (D) Small ornamental waters created in dry land;

  (E) 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;

  (F) Erosional features, including gullies, rills, and other ephemeral features that do not meet the definition of a tributary, non-wetland swales, and lawfully constructed grassed waterways; and

  (G) Puddles.

(v) Groundwater, including groundwater drained through subsurface drainage systems.

(vi) Stormwater control features constructed to convey, treat, or store stormwater that are created in dry land.

(vii) 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.

WETLANDS

For this project location, Corps jurisdictional wetlands are delineated using the methods outlined in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0* (Corps, 2008). This document is one of a series of Regional Supplements to the 1987 Corps Wetland Delineation Manual (Corps Manual). According to the Corps Manual, identification of wetlands is based on a three-parameter approach involving indicators of hydrophytic vegetation, hydric soil, and wetland hydrology. In order to be considered a wetland, an area must exhibit at least minimal characteristics within these three (3) parameters. The Regional Supplement presents wetland indicators, delineation guidance, and other information that is specific to the Arid West Region. In the field, vegetation, soils, and evidence of hydrology have been examined using the methodology listed below and documented on Corps' wetland data sheets, when applicable. It should be noted that both the Regional Board and the CDFW jurisdictional wetlands encompass those of the Corps

Vegetation

Nearly 5,000 plant types in the United States may occur in wetlands. These plants, often referred to as hydrophytic vegetation, are listed in regional publications by the U.S. Fish and Wildlife Service (USFWS). In general, hydrophytic vegetation is present when the plant community is dominated by species that can tolerate prolonged inundation or soil saturation during growing season. Hydrophytic vegetation decisions are based on the assemblage of plant species growing on a site, rather than the presence or absence of particular indicator species. Vegetation strata are sampled separately when evaluating indicators of hydrophytic vegetation. A stratum for sampling purposes is defined as having 5 percent or more total plant cover. The following vegetation strata are recommended for use across the Arid West:

- *Tree Stratum:* Consists of woody plants 3 inches or more in diameter at breast height (DBH), regardless of height;
- *Sapling/shrub stratum:* Consists of woody plants less than 3 inches DBH, regardless of height;
- *Herb stratum:* Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size; and,
- *Woody vines:* Consists of all woody vines, regardless of size.

The following indicator is applied per the test method below.[7] Hydrophytic vegetation is present if any of the indicators are satisfied.

Indicator 1 – Dominance Test

Cover of vegetation is estimated and is ranked according to their dominance. Species that contribute to a cumulative total of 50% of the total dominant coverage, plus any species that comprise at least 20% (also known as the "50/20 rule") of the total dominant coverage, are recorded on a wetland data sheet. Wetland indicator status in California (Region 0) is assigned to each species using the *National Wetland Plant List, version 2.4.0* (Corps, 2012). If greater than 50% of the dominant species from all strata were Obligate, Facultative-wetland, or Facultative species, the criteria for wetland vegetation is considered to be met. Plant indicator status categories are described below:

- *Obligate Wetland (OBL):* Plants that almost always occur in wetlands;
- *Facultative Wetland (FACW):* Plants that usually occur in wetlands, but may occur in non-wetlands;
- *Facultative (FAC):* Plants that occur in wetlands and non-wetlands;
- *Facultative Upland (FACU):* Plants that usually occur in non-wetlands, but may occur in wetlands; and,
- *Obligate Upland (UPL):* Plants that almost never occur in wetlands.

Hydrology

Wetland hydrology indicators are presented in four (4) groups, which include:

Group A – Observation of Surface Water or Saturated Soils

Group A is based on the direct observation of surface water or groundwater during the site visit.

Group B – Evidence of Recent Inundation

Group B consists of evidence that the site is subject to flooding or ponding, although it may not be inundated currently. These indicators include water marks, drift deposits, sediment deposits, and similar features.

[7] Although the Dominance Test is utilized in the majority of wetland delineations, other indicator tests may be employed. If one indicator of hydric soil and one primary or two secondary indicators of wetland hydrology are present, then the Prevalence Test (Indicator 2) may be performed. If the plant community satisfies the Prevalence Test, then the vegetation is hydric. If the Prevalence Test fails, then the Morphological Adaptation Test may be performed, where the delineator analyzes the vegetation for potential morphological features.

Group C – Evidence of Recent Soil Saturation

Group C consists of indirect evidence that the soil was saturated recently. Some of these indicators, such as oxidized rhizopheres surrounding living roots and the presence of reduced iron or sulfur in the soil profile, indicate that the soil has been saturated for an extended period.

Group D – Evidence from Other Site Conditions or Data

Group D consists of vegetation and soil features that indicate contemporary rather than historical wet conditions, and include shallow aquitard and the FAC-neutral test.

If wetland vegetation criteria is met, the presence of wetland hydrology is evaluated at each transect by recording the extent of observed surface flows, depth of inundation, depth to saturated soils, and depth to free water in the soil test pits. The lateral extent of the hydrology indicators are used as a guide for locating soil pits for evaluation of hydric soils and jurisdictional areas. In portions of the stream where the flow is divided by multiple channels with intermediate sand bars, the entire area between the channels is considered within the OHWM and the wetland hydrology indicator is considered met for the entire area.

Soils

A hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper 16-20 inches.[8] The concept of hydric soils includes soils developed under sufficiently wet conditions to support the growth and regeneration of hydrophytic vegetation. Soils that are sufficiently wet because of artificial measures are included in the concept of hydric soils. It should also be noted that the limits of wetland hydrology indicators are used as a guide for locating soil pits. If any hydric soil features are located, progressive pits are dug moving laterally away from the active channel until hydric features are no longer present within the top 20 inches of the soil profile.

Once in the field, soil characteristics are verified by digging soil pits along each transect to an excavation depth of 20 inches; in areas of high sediment deposition, soil pit depth may be increased. Soil pit locations are usually placed within the drainage invert or within adjoining vegetation. At each soil pit, the soil texture and color are recorded by comparison with standard plates within a *Munsell Soil Chart* (2009). Munsell Soil Charts aid in designating color labels to soils, based by degrees of

[8] According to the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0 (Corps 2008), growing season dates are determined through on-site observations of the following indicators of biological activity in a given year: (1) above-ground growth and development of vascular plants, and/or (2) soil temperature.

three simple variables – hue, value, and chroma. Any indicators of hydric soils, such as organic accumulation, iron reduction, translocation, and accumulation, and sulfate reduction, are also recorded.

Hydric soil indicators are present in three groups, which include:

All Soils

"All soils" refers to soils with any United States Department of Agriculture (USDA) soil texture. Hydric soil indicators within this group include histosol, histic epipedon, black histic, hydrogen sulfide, stratified layers, 1 cm muck, depleted below dark surface, and thick dark surface.

Sandy Soils

"Sandy soils" refers to soil materials with a USDA soil texture of loamy fine sand and coarser. Hydric soil indicators within this group include sandy mucky mineral, sandy gleyed matrix, sandy redox, and stripped matrix.

Loamy and Clayey Soils

"Loamy and clayey soils" refers to soil materials with a USDA soil texture of loamy very fine sand and finer. Hydric soil indicators within this group include loamy mucky mineral, loamy gleyed matrix, depleted matrix, redox dark surface, depleted dark surface, redox depressions, and vernal pools.

SWANCC WATERS

The term "isolated waters" is generally applied to waters/wetlands that are not connected by surface water to a river, lake, ocean, or other body of water. In the presence of isolated conditions, the Regional Board and CDFW take jurisdiction through the application of the OHWM/streambed and/or the 3-parameter wetland methodology utilized by the Corps.

RAPANOS WATERS

The Corps will assert jurisdiction over non-navigable, not relatively permanent tributaries and their adjacent wetlands where such tributaries and wetlands have a significant nexus to a TNW. The flow characteristics and functions of the tributary itself, in combination with the functions performed by any wetlands adjacent to the tributary, determine if these waters/wetlands significantly affect the chemical, physical, and biological integrity of the TNWs. Factors considered in the significant nexus evaluation include:

(1) The consideration of hydrologic factors including, but not limited to, the following:

- volume, duration, and frequency of flow, including consideration of certain physical characteristics of the tributary

- proximity to the TNW
- size of the watershed average annual rainfall
- average annual winter snow pack

(2) The consideration of ecologic factors including, but not limited to, the following:

- the ability for tributaries to carry pollutants and flood waters to TNWs
- the ability of a tributary to provide aquatic habitat that supports a TNW
- the ability of wetlands to trap and filter pollutants or store flood waters
- maintenance of water quality

Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow) and ditches (including roadside ditches) excavated wholly in, and draining only, uplands and that do not carry a relatively permanent flow of water, are generally not considered jurisdictional waters.

In the presence of Rapanos drainage conditions, the Regional Board and CDFW take jurisdiction via the OHWM and/or the 3-parameter wetland methodology utilized by the Corps.

Appendix C Documentation

U.S. Fish and Wildlife Service
National Wetlands Inventory

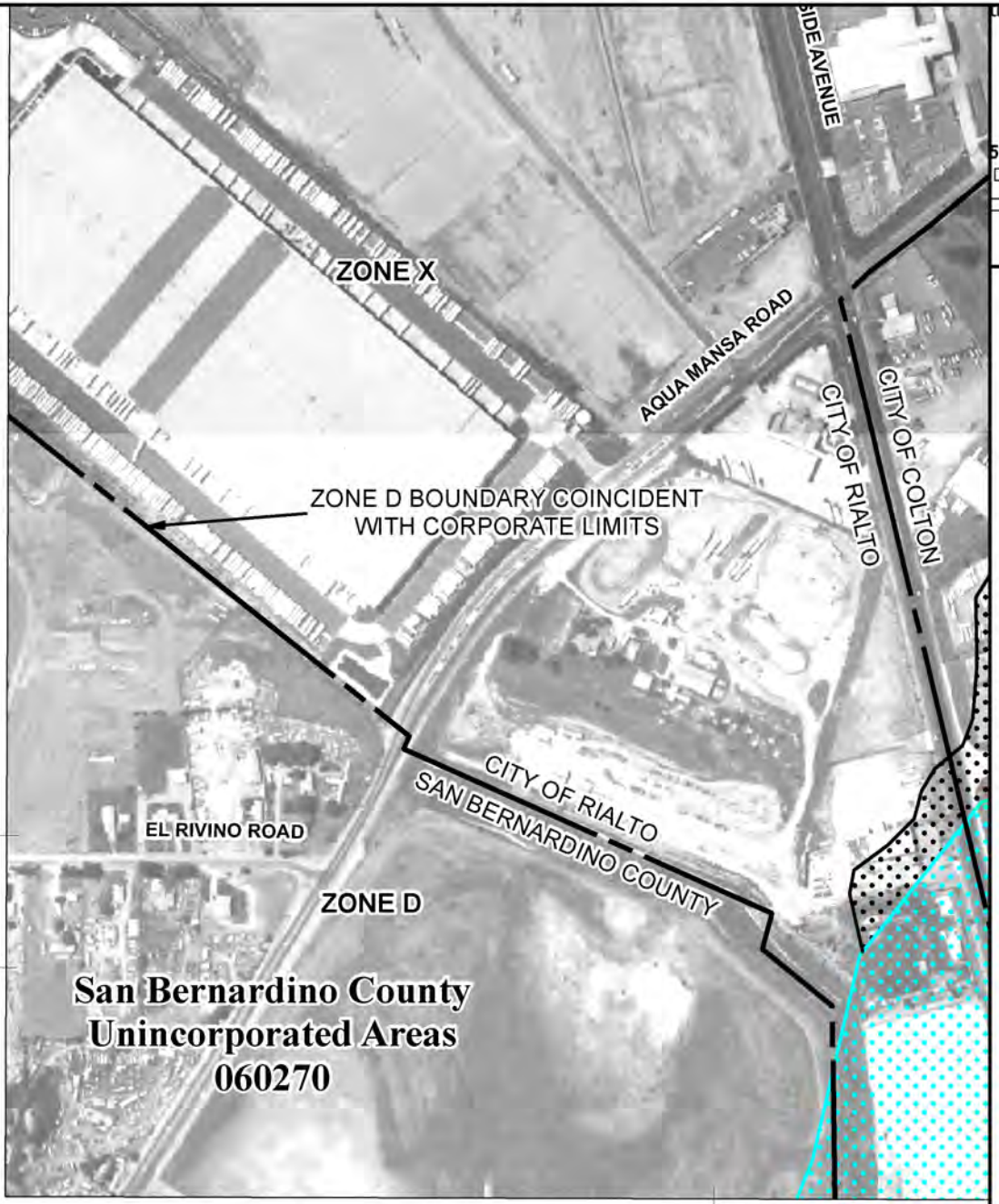
Agua Mansa Development Project

Jun 9, 2015

Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

User Remarks:



...tional Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

50 0 500 1000

FEET

METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 8686H

FIRM

FLOOD INSURANCE RATE MAP

SAN BERNARDINO COUNTY, CALIFORNIA
AND INCORPORATED AREAS
PANEL 8686 OF 9400

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
COLTON, CITY OF	060273	8686	H
RIALTO, CITY OF	060280	8686	H
SAN BERNARDINO COUNTY	060270	8686	H

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06071C8686H

MAP REVISED
AUGUST 28, 2008

Federal Emergency Management Agency