HELIX
Environmental Planning

University Innovation District

Biological Technical Report

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University Innovation District
Biological Technical Report

TABLE OF CONTENTS

TABLE OF CONTENTS (cont.)

TABLE OF CONTENTS (cont.)

LIST OF APPENDICES

LIST OF FIGURES

TABLE OF CONTENTS (cont.)

LIST OF TABLES

EXECUTIVE SUMMARY

HELIX Environmental Planning, Inc. (HELIX) has prepared a biological resources technical report for the University Innovation District (UID) (proposed project) located in the City of Chula Vista (City), San Diego County, California. The proposed project generally includes phased development of two parcels in southeastern Chula Vista as part of the Otay Ranch and Eastlake III developments. The two parcels are referred to herein as the Main Campus Property and Lake Property, and together represent the on-site portions of the proposed project. On-site project components include a university campus and supporting academic uses, student housing, a research and development park, and public infrastructure (e.g., streets and utilities) necessary to serve the project. Several off-site facilities are also planned for the project, including storm water and sewer conveyance lines, detention basins, and minor access road improvements. The purpose of this report is to document the existing biological conditions on and in the immediate vicinity of the project site, and provide an analysis of potential impacts to sensitive biological resources with respect to local, state, and federal policy, including consistency with the adopted City Multiple Species Conservation Program (MSCP) Subarea Plan and Chula Vista Municipal Code Section 17.35 (Habitat Loss and Incidental Take Ordinance). This report provides the biological resources technical documentation necessary for project review under the California Environmental Quality Act (CEQA) by the City.

HELIX biologists performed general biological surveys on the Main Campus Property and Lake Property on March 27, 2013, March 11, 2014, April 14, 2016, and April 15, 2016. In addition to disturbed habitat and developed lands, eight native or naturalized vegetation communities were mapped on the site, including freshwater marsh, southern willow scrub, mulefat scrub, vernal pool, maritime succulent scrub, Diegan coastal sage scrub (including disturbed phase), non-native grassland, eucalyptus woodland, and agriculture. Freshwater marsh, southern willow scrub, mulefat scrub, and vernal pool are considered sensitive wetland habitats, and maritime succulent scrub, Diegan coastal sage scrub, and non-native grassland are considered sensitive upland habitats.

Four sensitive plant species were observed during surveys: San Diego sunflower (*Bahiopsis laciniata*), San Diego barrel cactus (*Ferocactus viridescens*), Palmer's grapplinghook (*Harpagonella Palmeri*), and ashy spike-moss (*Selaginella cinerascens*). Two additional sensitive/MSCP covered plant species were determined to have high potential to occur on the site: Otay tarplant (*Deinandra conjugens*) and narrow-leaved nightshade (*Solanum xanti*). Six sensitive animal species were observed during surveys: Belding's orange-throated whiptail (*Aspidoscelis hyperthyra beldingi*), coastal California gnatcatcher (*Polioptila californica californica*), least Bell's vireo (*Vireo bellii pusillus*), northern harrier (*Circus cyaneus*), Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*). Four additional sensitive animal species were determined to have high potential to occur, forage and/or nest on the site: San Diego fairy shrimp (*Branchinecta sandiegonensis*), coastal cactus wren (*Campylorhynchus brunneicapillus couesi*), Ferruginous hawk (*Buteo regalis*), and San Diego horned lizard (*Phrynosoma coronatum blainvillei*).

Three unnamed drainage features traverse the Main Campus Property, two of which are tributaries to Salt Creek, and one a tributary to the Otay River. In addition, the Lake Property supports several vernal pools, which are isolated seasonal wetlands. These features are presumed to be subject to the regulatory jurisdiction of the U.S. Army Corps of Engineers pursuant to Section 404 of the Clean Water Act (CWA), Regional Water Quality Control Board pursuant to Section 401 of the CWA or State Porter Cologne Water Quality Control Act, and the California Department of Fish and Wildlife under Sections 1600 *et seq.* of California Fish and Game Code, and/or Chula Vista Wetlands Protection Policy.

The proposed project would result in direct impacts to sensitive species, wetlands, and sensitive upland habitats on-site. The project site, including both the Main Campus Property and the Lake Property, are situated within the planned development area of the City's MSCP Subarea Plan. Development on the Main Campus Property is associated with a Covered Project (i.e., Otay Ranch / University Project) under the City's MSCP Subarea Plan. Such planned development areas are those in which impacts from planned development are assumed to be sufficiently mitigated by hard-line conserved areas added to the Preserve as part of Project approval. Therefore, impacts to MSCP-covered species and sensitive upland habitats on the Main Campus Property do not require compensatory mitigation as specified in the City's Habitat Loss and Incidental Take (HLIT) ordinance, but are subject to specific conditions in the Otay Ranch and University Project approvals. The HLIT is applicable to campus development on the Lake Property and associated off-site areas, as it would occur outside of the Covered Projects category in the Plan, thereby requiring mitigation for impacts to sensitive resources. In addition, impacts to sensitive resources could occur as a result of the proposed off-site facilities within 100 percent conserved areas of a Covered Project. An analysis of these proposed off-site facilities against Preserve siting criteria and other policy is provided herein. Mitigation measures are proposed herein to mitigate potential impacts of the proposed project below a level of significance.

1.0 INTRODUCTION

HELIX Environmental Planning, Inc. (HELIX) has prepared this biological resources technical report for the University Innovation District (UID) (proposed project) located in the University and Innovation District Planning Area of the City of Chula Vista (City), San Diego County, California. The proposed project generally includes development of a University campus, with a total projected enrollment of 20,000 students, plus faculty and staff, in addition to a research and development park and residential areas. The phasing for the proposed project is tentatively anticipated at up to 30 years in the future, and the project design is subject to change in order to accommodate the needs of the university through build out. Surveys conducted by HELIX for this report occurred over a three-year period in 2013, 2014, and 2016. Protocol-level surveys were performed for several species with potential to occur. Protocol-level surveys were not performed for certain species given the phasing of project components and longer term projection for construction of those components; these species were conservatively identified as having a high potential to occur in this report. Data included in this report also come from surveys conducted for adjacent projects, especially Otay Village 10 (Dudek 2014), which is immediately south of the western portion of the proposed project site. Planned and Future Facilities analyzed in this report are anticipated as necessary to support the proposed development, but the precise location(s) of these facilities is subject to change as the proposed project design is finalized.

1.1 LOCATION

The UID project site is located in the University and Innovation District Planning Area of the City, approximately 16 miles southeast of downtown San Diego and 3.75 miles north of the U.S./Mexico international border (Figure 1). The project site includes areas within the Otay Ranch (350 acres; Main Campus Property) and Eastlake III (30 acres; Lake Property) General Development Plans. The site is generally bounded by Hunte Parkway, the Otay Ranch East Urban Center, Olympic Training Center, and Village 11 to the north; undeveloped portions of Otay Ranch Village 10 and preserve lands to the south; Wueste Road and Lower Otay Reservoir to the east; and undeveloped portions of Otay Ranch Village 9 and State Route (SR) 125 to the west (Figure 2). The project site is located in unsectioned lands of Township 18 South, Range 1 West, on the U.S. Geological Survey (USGS) 7.5-minute Otay Mesa and Jamul Mountain quadrangles (Figure 3).

1.2 PROJECT DESCRIPTION

The proposed project involves phased development of two parcels in southeastern City of Chula Vista as part of the Otay Ranch and Eastlake III developments. The UI District SPA Plan comprises a mixed use community of academic/university, commercial, retail, residential, and recreational development within a series of transects and sectors. The transects consist of areas identified for urban development while the sectors include areas identified to include common areas, pedestrian walkways, and habitat conservation areas. The university-related uses are generally designated in the eastern half of the Main Campus Property while the western half would include mixed-use development (residential, commercial, and office) that would relate and transition to the adjacent mixed-use Village 9 and Millenia areas. The proposed UID project

includes the following University and campus support uses to be implemented over a period of 30 years: approximately 2.3 million gross square feet (gsf) of academic space (i.e., classrooms, laboratories, offices and department space), 1.8 million gsf of academic support space (i.e., administrative offices, library and study areas, assembly and exhibit areas, other administrative department space, and physical education, recreation, and athletic space), 400,000 gsf of auxiliary space (i.e., student union, food service and healthcare services), and 1.6 million gsf of student housing serving up to 9,180 students. The campus would be designed to ultimately serve a population of 20,000 full-time equivalent (FTE) students supported by approximately 6,000 faculty and staff. The innovation portion of the project would include 2 million gsf of innovation buildings (offices, laboratories, retail, and hotel uses) and 2 million gsf of market rate housing (multi-family housing for 2,000 employees).

One off-site storm water conveyance line and detention basin is proposed south of the Main Campus Property in the Otay River Valley. Two off-site sewer conveyance lines are proposed to connect the Main Campus Property and the Lake Property to the Salt Creek Interceptor. Access to off-site facilities will be provided by an existing access road that extends from the existing access road for the Salt Creek Interceptor. The existing access road will require minor improvements to accommodate widths of up to 20 feet. In addition, off-site storm water and sewer facilities are proposed east of the Lake Property and will be entirely contained within the City's limits. Off-site sewer conveyance pipelines will follow existing roads wherever possible. Off-site storm water conveyance and outfall facilities will occur within developed portions of Wueste Road and a parking lot and native habitat areas adjacent to and on either side of Wueste Road. The project includes a number of trails, most of which follow roadways within the development footprint, but two trails cross open space: the Chula Vista Greenbelt and the Salt Creek Sewer Interceptor/Greenbelt Trail. Both trails will follow existing roads in order to minimize impacts. The Chula Vista Greenbelt will follow the sewer access road described above. The Salt Creek Interceptor/Greenbelt follows an existing paved road, so no further impacts are anticipated. The City's trail plans show these trails continuing off-site, but the proposed project's responsibility for trail construction is assumed to end at the property boundary.

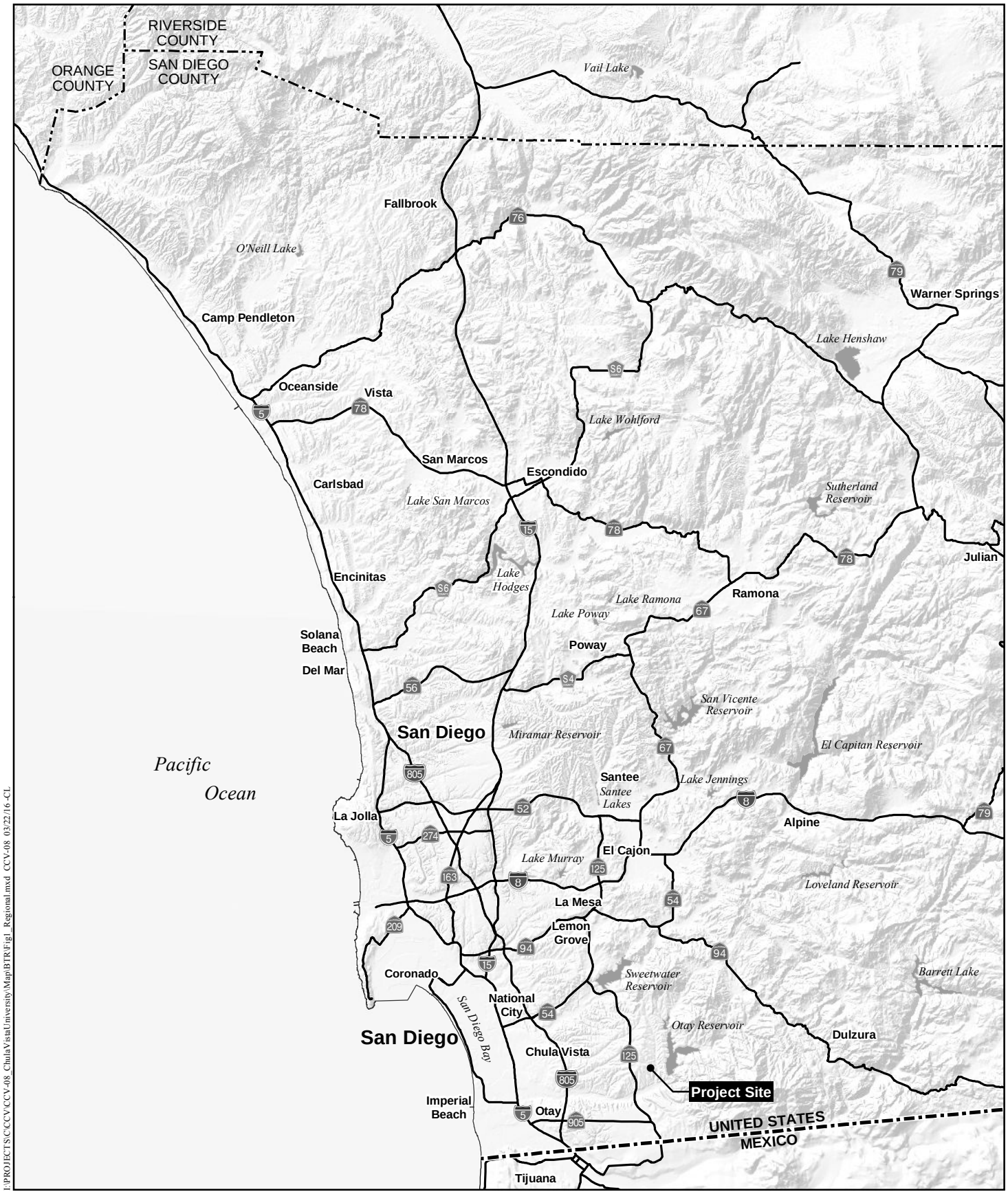
2.0 SURVEY METHODS

2.1 LITERATURE REVIEW

Prior to conducting the biological field survey, HELIX reviewed the following information: (1)-U.S. Fish and Wildlife Service (USFWS) species lists, (2) California Natural Diversity Database (CNDDB), (3) Chula Vista Multiple Species Conservation Program (MSCP) Subarea Plan (SAP) and lists of covered species and narrow endemics, and (4) survey data for adjacent planning areas including Otay Ranch Village 10 and the Otay Ranch Resource Management Plan.

2.2 BIOLOGICAL SURVEYS

An initial general biological survey was conducted on March 27, 2013 by HELIX biologists W. Larry Sward and George Aldridge. An updated general biological survey was conducted on



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Regional Location Map

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N 0 8 Miles

Figure 1

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Project Vicinity

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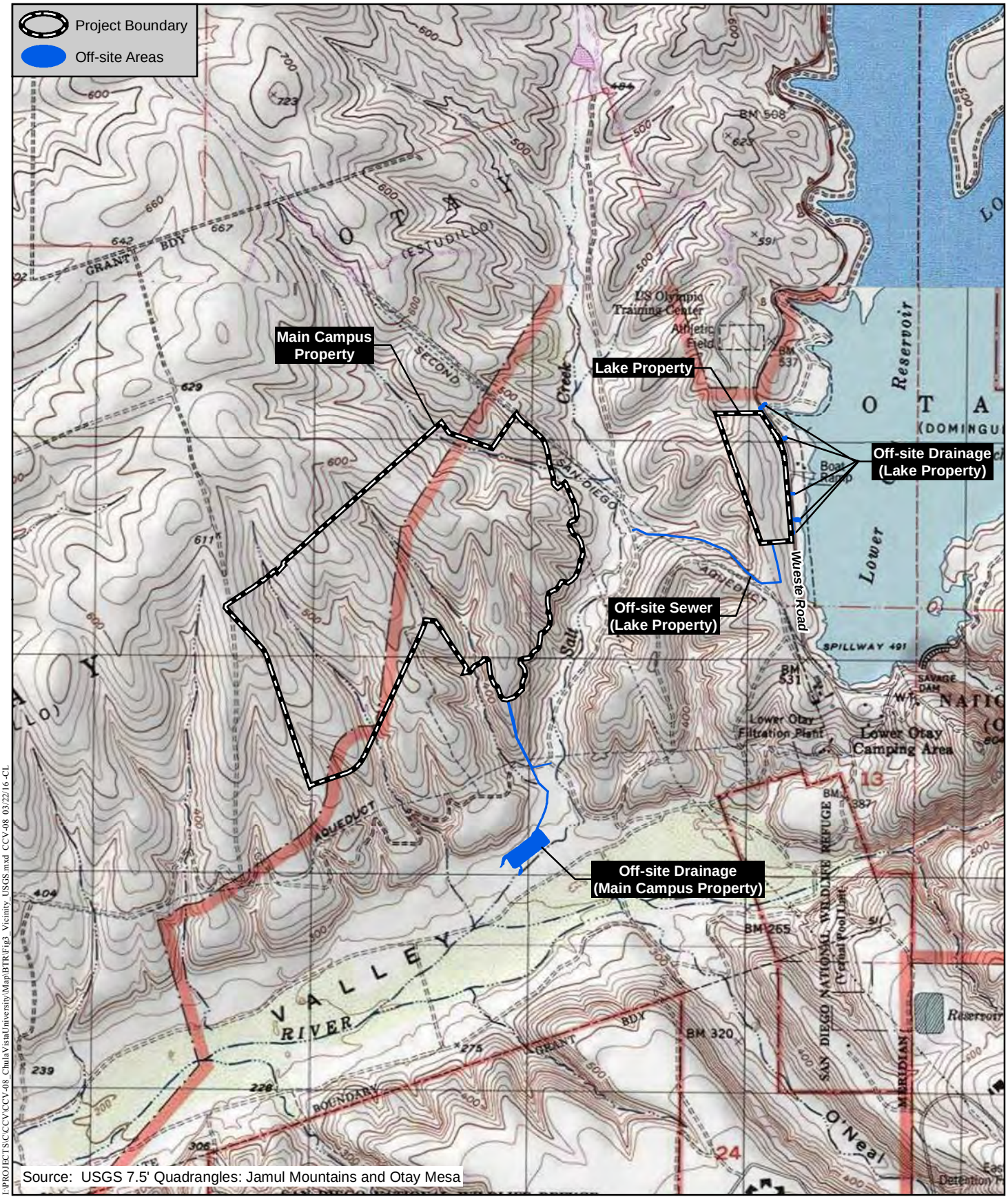
0 2,000 Feet

Figure 2



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Project Vicinity Map (USGS Topography)

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HELIX Environmental Planning

N

0 2,000 Feet

Figure 3

March 11, 2014 by HELIX biologists George Aldridge and Benjamin Rosenbaum in order to verify conditions had not changed substantially since the March 27, 2013 survey. A third updated biological survey, including spring rare plants and burrowing owl survey #1, was conducted on April 14 and 15, 2016 by HELIX biologists Benjamin Rosenbaum, Laura Moreton and Summer Schlageter. Focused surveys #2, #3, and #4 for burrowing owl were completed by HELIX biologists Benjamin Rosenbaum and Hannah Sadowski on May 20, 2016, June 10, 2016, and July 13, 2016, and included a summer blooming rare plant survey on June 10, 2016. Surveys were performed during the early spring, and included inventory and mapping of rare plants and other sensitive species incidentally observed. The surveys also included preliminary assessment and mapping of potential jurisdictional waters and wetlands. Vegetation communities and sensitive species were mapped on a 1"=100' scale map or using a GPS unit. An aerial photograph was used to verify vegetation mapping.

Protocol-level surveys for several species with high potential to occur, specifically Quino checkerspot butterfly (*Euphydryas editha quino*), San Diego fairy shrimp (*Branchinecta sandiegonensis*), coastal California gnatcatcher (*Polioptila californica californica*), and least Bell's vireo (*Vireo bellii pusillus*), were not conducted due to the anticipated long-term implementation of certain project components. Least Bell's vireo and California gnatcatcher are known to be present within the suitable habitat that occurs within the project site based on previous survey findings and incidental observations by HELIX; therefore, potential impacts on these species were identified and analyzed in this report. Quino checkerspot butterfly and San Diego fairy shrimp were not incidentally observed during non-protocol surveys, nevertheless, in the absence of protocol surveys, potential impacts on these species were identified and analyzed in this report.

Nomenclature for this report is from Holland (1986) for vegetation communities, Baldwin et al. (2012) for plants, Crother (2001) for reptiles and amphibians, the American Ornithologists' Union (2013) for birds, and Jones et al. (1997) for mammals. All plant and animal species were identified in the field or later in the laboratory. Animal species were identified by direct observation or indirectly by detection of calls, scat, tracks, or burrows. Lists of plant (Appendix A) and animal (Appendix B) species are included.

2.3 SURVEY LIMITATIONS

Biological surveys were performed on foot and included 100 percent visual coverage of both parcels and areas proposed for off-site facilities; however, some areas were surveyed using binoculars and were not studied in detail. All areas visibly distinct on aerial photos were visited to determine the nature of vegetation corresponding to that aerial signature. Meandering pedestrian transects were conducted over large contiguous areas of homogeneous habitat. All surveys took place during daylight hours, and so nocturnal and crepuscular species might have gone undetected.

2.4 OFF-SITE EVALUATION

The evaluation of off-site facilities in this report is based on interpretation of aerial imagery, a biological survey by HELIX in 2016, and information provided by others (Dudek 2009, 2014,

RECON 2015). This included vegetation mapping, habitat assessment for special-status species, and assessment of potential jurisdictional waters and wetlands. Rare plant surveys and protocol surveys for burrowing owl were also conducted within suitable habitat that occurs within off-site areas. The proposed locations of off-site facilities have been sited in the least environmentally-sensitive areas based on the best survey data available and following the City's MSCP Planned and Future Facility siting criteria. Although a full list of focused biological surveys were not completed in support of the off-site evaluation, sufficient information is provided by the general biological survey data and information provided by others to complete the analysis.

The length of time between project approval and Phase I construction is anticipated to be within 5 years from project approval; therefore, like the on-site impact areas, focused surveys for certain species would have to be performed as part of subsequent studies and prior to construction, as the results of these surveys are generally considered valid for a period of one year. In the event that refinements of facilities to be constructed in the future require alternate siting in new areas, focused surveys would have to be performed as part of subsequent studies.

Performance-based measures are proposed herein that would require additional surveys be performed, as necessary, prior to construction of certain off-site facilities. These measures include appropriate steps and details for avoidance, minimization, and compensatory mitigation. Regulatory requirements are further identified to ensure that permits and approvals are obtained, where necessary.

3.0 RESULTS

3.1 PHYSICAL DESCRIPTION AND LAND USE

3.1.1 Topography and Soils

The Main Campus Property is mostly undeveloped, with the exception of the area occupied by High Tech High, Chula Vista, along Hunte Parkway. On-site topography on the Main Campus Property is undulating in nature, with several small and generally north-south trending mesa/canyon features extending through the parcel and associated drainage moving primarily south to the Otay River. Elevations with the Main Campus Property range from approximately 620 feet above mean sea level (AMSL) along the north-central parcel boundary, to 360 feet AMSL in several of the canyon bottoms. On-site vegetation includes large areas of non-native grassland in the western and central portions of the parcel, native Diegan coastal sage scrub in the eastern and southeastern areas, and minor areas of riparian habitat in portions of the on-site canyons and drainages.

The Lake Property is mostly undeveloped, with existing improvements limited to several unpaved roads and trails and two small electrical distribution lines (with several associated wooden utility poles). On-site topography is characterized by a small, generally flat-topped ridgeline extending north-south through the parcel, with associated elevations ranging from approximately 570 feet AMSL on the ridge top to 480 feet AMSL in the northwestern corner of the parcel. Drainage within the Lake Property varies with topography, with flows eventually

entering Lower Otay Reservoir to the east or the Otay River to the south. On-site vegetation consists predominantly of native Diegan coastal sage scrub, with minor areas of ephemeral basins (road ruts, potential vernal pools), non-native grassland, and eucalyptus woodland.

The off-site impact areas generally consist of existing disturbed areas and/or maintenance roads, with the exception of the main detention basin which contains coastal sage scrub and non-native grassland. One off-site storm water conveyance line and detention basin is proposed south of the Main Campus Property in the Otay River Valley. One off-site sewer conveyance line is proposed to connect to the Salt Creek Interceptor. Access to off-site facilities will be provided by an existing access road that extends from the existing access road for the Salt Creek Interceptor. The existing access road will require minor improvements to accommodate widths of up to 20 feet. In addition, off-site storm water and sewer facilities are proposed east of the Lake Property and will be entirely contained within the City's limits. Off-site sewer conveyance pipelines will follow existing dirt roads wherever possible. Off-site storm water conveyance and outfall facilities will occur within developed portions of Wueste Road and a parking lot and native habitat areas adjacent to and on either side of Wueste Road.

As depicted on Figure 4, the project site is mapped as supporting 7 soil mapping units belonging to 4 soil series (USDA 2014): Diablo clay, 2 to 9 percent slopes; Diablo clay, 9 to 15 percent slopes; Diablo-Olivenhain complex, 9 to 30 percent slopes; Huerhuero loam, 15 to 30 percent slopes, eroded; Linne clay loam 9 to 30 percent slopes; Olivenhain cobbly loam, 2 to 9 percent slopes; Olivenhain cobbly loam, 9 to 30 percent slopes. All of these soil series are categorized as well-drained, with moderate soil moisture capacity, depths to restrictive layer ranging between 24 and 80 inches, and a frequency of ponding of 'none' (USDA 2014).

According to the Otay Ranch Village 10 geotechnical investigation (GEOCON 2014), the Main Campus Property between High Tech High School and Eastlake Parkway is mapped as supporting Otay Formation, alluvium, colluvium, terrace deposits, and previously placed fill. Otay Formation is not a soil type described by the U.S. Department of Agriculture's Natural Resource Conservation Service. Alluvium occurs in drainages and previously placed fill occurs on manufactured slopes around High Tech High School. Similar geotechnical data are not available for the remainder of the Main Campus Property or the Lake Property.

3.1.2 Current Land Uses

Both parcels are primarily undeveloped, with existing on-site uses and facilities outlined below (Figure 3). The Main Campus Property includes an approximately 10-acre charter high school site (High Tech High Chula Vista) along the north-central site boundary (adjacent to Hunte parkway), with associated classroom and related structures, parking lots, outdoor recreation and athletic facilities, landscaping, and native habitat preservation/restoration areas. The remainder of the Main Campus Property includes extensive areas of disturbed (previously cleared and/or tilled) and undisturbed open space, paved and unpaved roads and trails, portions of an electrical transmission line (including several metal lattice towers) in the northeastern area, and a series of storm water/drainage facilities located east of the High Tech High site (including concrete-lined ditches, an outlet structure, and a riprap energy dissipater).

Areas surrounding the Main Campus Property include extensive urban development to the north and northwest (including portions of Otay Ranch and Eastlake), undeveloped areas to the south and west (including portions of Otay Ranch Villages 9 and 10), and undeveloped areas to the east (Figure 3). More distant land uses include extensive urban development to the north and northwest; undeveloped areas, SR-125, and industrial sites (including the Otay Landfill and an aggregate quarry) to the west; additional undeveloped areas (including the Otay River corridor) and industrial uses to the south (including Brown Field Municipal Airport and the Donovan State Prison and East Mesa County Detention Facility); the U.S. Olympic Training Center to the northeast; Lower Otay Reservoir and related recreational facilities (e.g., a boat launch, slips and parking areas) to the east; and Otay Lake County Park and a City of San Diego water treatment facility to the southeast.

Existing land uses surrounding the Lake Property include the U.S. Olympic Training Center to the north, open space to the west and south, and Lower Otay Reservoir and related uses to the east. More distant land uses include urban development to the north (Eastlake III) and northwest (Otay Ranch), similar uses as described above for the Main Campus Property to the west and south, and open space to the east and northeast (east of Lower Otay Reservoir, refer to Figures 2 and 3).

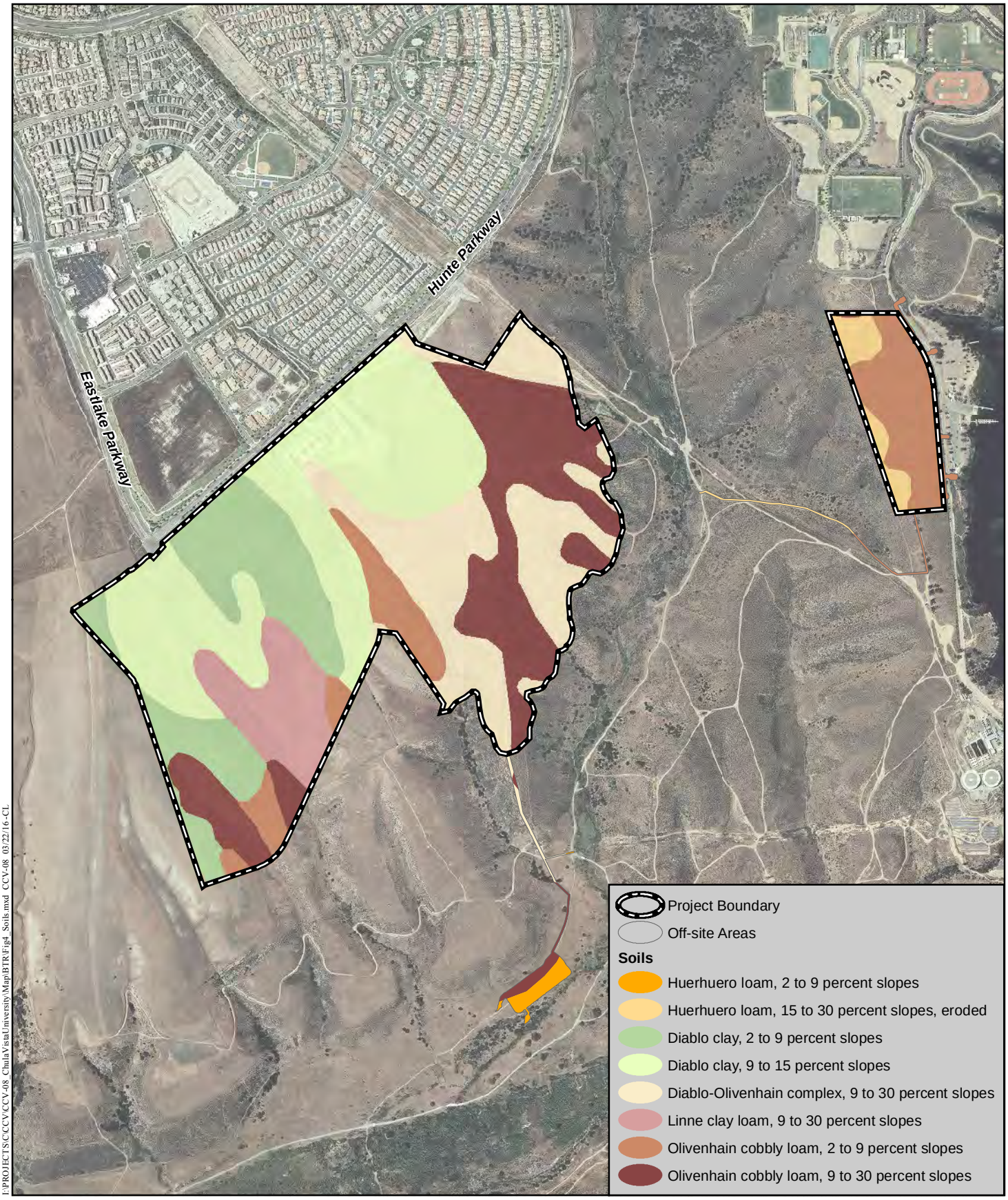
3.1.3 Disturbance

The Main Campus Property has been used historically for agriculture. Such activities occurred until the relatively recent past in the Main Campus Property, as evidenced by large areas of furrowed non-native grassland in the western and central portions. The eastern portion of this parcel includes primarily disturbed and undisturbed areas of native habitat (e.g., Diegan coastal sage scrub), and has apparently not been used for agricultural activities in recent years. Current disturbances on the Main Campus Property include discing in the extreme west end, a charter high school site, portions of an electrical transmission line right-of-way including several metal lattice towers and an access road, a series of storm water/drainage facilities, and recreational traffic by pedestrians and bicyclists. All vehicle access points on the Main Campus Property are currently gated and locked.

The Lake Property currently supports a predominance of native habitat and is not reported as being been farmed in the past. Current/previous disturbances in this parcel include vehicle traffic on unpaved utility roads and recreational traffic by pedestrians and bicyclists. At the time of baseline surveys there was an un-gated access point on Wueste Road allowing vehicles to enter the Lake Property.

3.2 VEGETATION COMMUNITIES/HABITATS

Ten native or naturalized vegetation communities occur in the development area (Figures 5 and 6): agriculture (fallow), Diegan coastal sage scrub (including disturbed phase), Diegan coastal sage scrub / non-native grassland, Eucalyptus woodland, freshwater marsh, maritime succulent scrub, mulefat scrub, non-native grassland, southern willow scrub, and vernal pool (Table 1). Disturbed habitat and developed lands also occur in the development area.



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Soil Classifications

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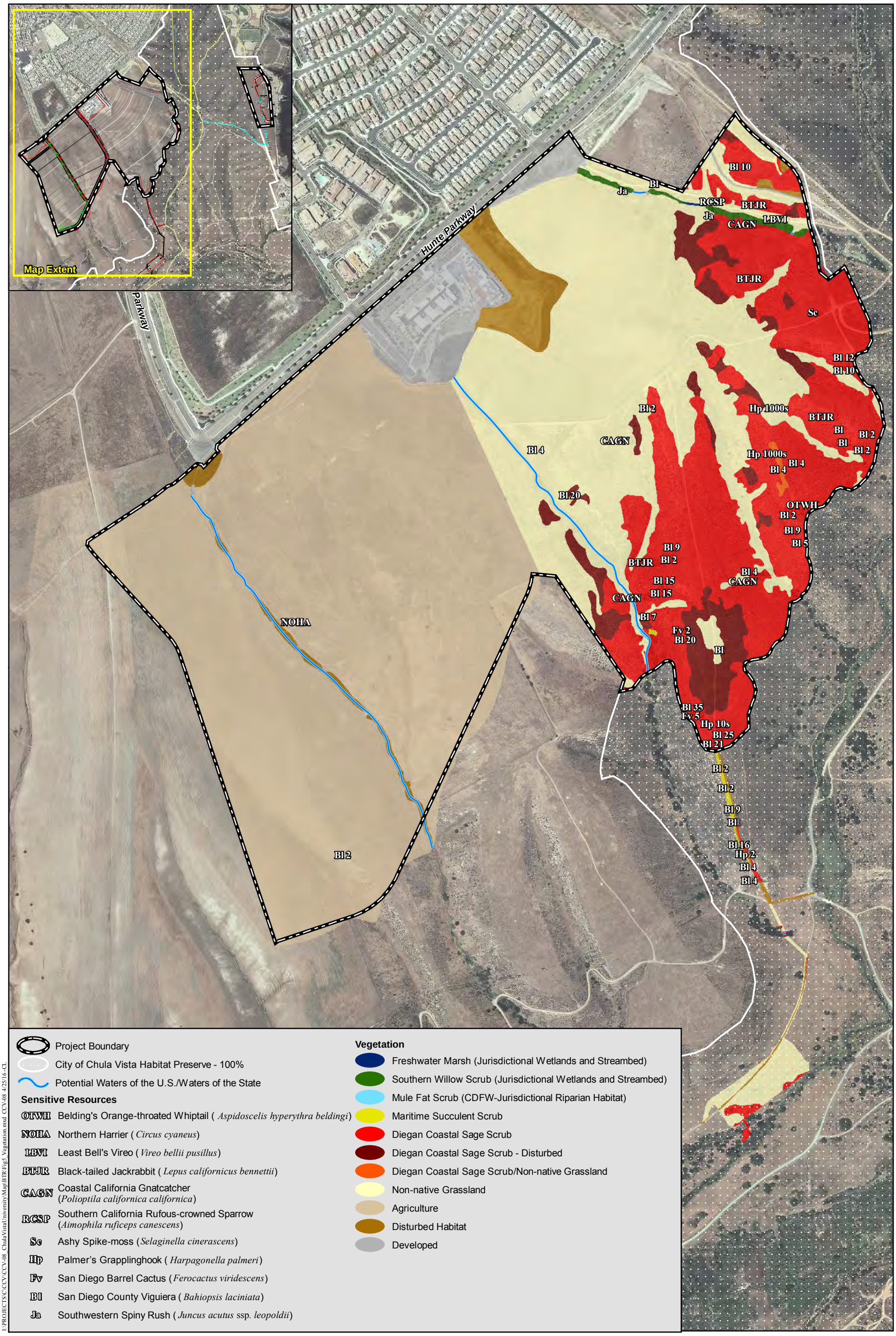
N

0 1,300 Feet

Figure 4



Vegetation and Sensitive Resources: Main Campus Property

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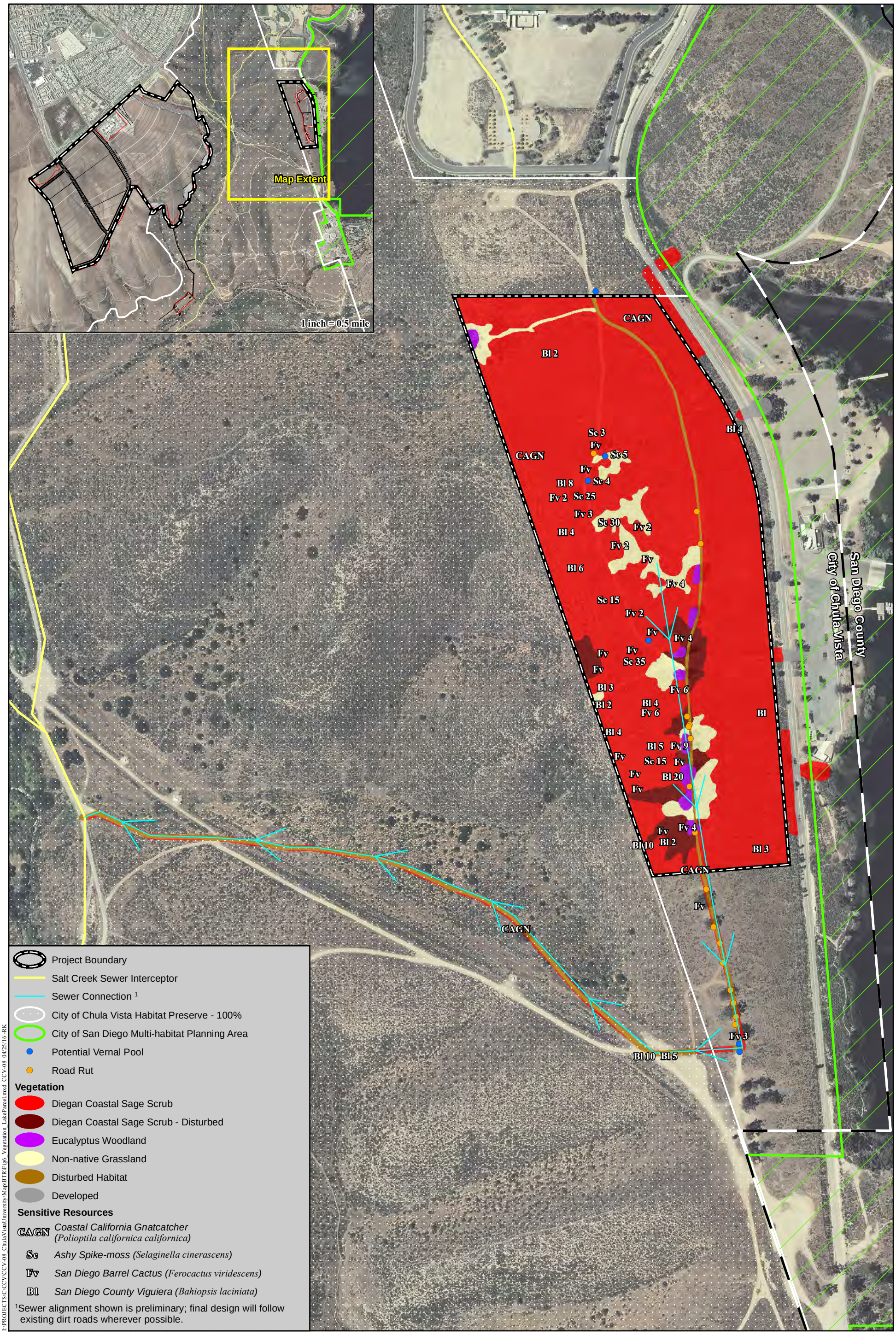
N 0 600 Feet

Figure 5



Vegetation and Sensitive Resources: Lake Property

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N 0 300 Feet

Figure 6

Table 1
VEGETATION COMMUNITIES WITHIN THE PROJECT/DEVELOPMENT AREA (ac.)

COMMUNITY	MAIN CAMPUS PROPERTY[3]	LAKE PROPERTY[4]	TOTAL
On-site[1]			
Agriculture (fallow)	157.1	--	157.1
Developed	15.9	--	15.9
Diegan Coastal Sage Scrub/Non-Native Grassland	0.37	--	0.37
Diegan Coastal Sage Scrub‡	78.29	27.77	106.06
Disturbed Land	9.8	0.4	10.2
Eucalyptus Woodland	--	0.4	0.4
Freshwater Marsh	0.05	--	0.05
Maritime Succulent Scrub	0.04	--	0.04
Mulefat Scrub	0.08	--	0.08
Non-native Grassland	90.07	1.93	92.00
Southern Willow Scrub	1.12	--	1.12
Vernal Pool	--	<0.01	<0.01
Subtotal On-site	**352.76**	**30.52**	**383.28**
Off-site[1]			
Agriculture (fallow)[2]	4.0	--	4.0
Developed	<0.1	0.3	0.3
Diegan Coastal Sage Scrub/Non-Native Grassland	--	--	--
Diegan Coastal Sage Scrub‡	0.81	1.21	2.02
Disturbed Land	0.9	1.1	2.0
Eucalyptus Woodland	--	--	--
Freshwater Marsh	--	--	--
Maritime Succulent Scrub	0.34	--	0.34
Mulefat Scrub	--	--	--
Non-native Grassland	3.71	--	3.71
Southern Willow Scrub	--	--	--
Vernal Pool	--	--	--
Subtotal Off-site	**9.70**	**2.63**	**12.33**
TOTAL	**362.46**	**33.15**	**395.61**

‡Includes disturbed phase.
[1]Non-sensitive acreage is rounded to 0.1; sensitive acreage is rounded to 0.01. Totals do not include rounding error.
[2]Inside the Development Area of the Village 10 SPA.
[3]Inclusive of off-site sewer laterals, access roads, trails, drainage and water quality facilities.
[4]Inclusive of off-site sewer laterals, access roads, drainage and water quality facilities.

3.2.1 Freshwater Marsh

Coastal and valley freshwater marsh is dominated by perennial, emergent monocots, 5 to 13 feet tall, forming incomplete to completely closed canopies. This vegetation type occurs along the coast and in coastal valleys near river mouths and around the margins of lakes and springs, freshwater or brackish marshes. These areas are semi- or permanently flooded yet lack a significant current. Dominant species include cattails (*Typha* spp.) and bulrushes (*Schoenoplectus* spp.), along with umbrella sedges (*Cyperus* spp.), rushes (*Juncus* spp.), and spike-sedge (*Eleocharis* spp.). Freshwater marsh on the site occurs in small patches along the creek formed by the storm drain outflow east of the high school, near the northeast corner of the project site. These patches are dominated by cattail and sedge and comprise 0.05 acre on site.

3.2.2 Southern Willow Scrub

Southern willow scrub consists of dense, broadleaved, winter-deciduous stands of trees dominated by shrubby willows (*Salix* spp.) in association with mulefat (*Baccharis salicifolia*), and with scattered emergent cottonwood (*Populus fremontii*) and western sycamore (*Platanus racemosa*) trees. This vegetation community occurs on loose, sandy or fine gravelly alluvium deposited near stream channels during flood flows. Frequent flooding maintains this early seral community, preventing succession to a riparian woodland or forest. Southern willow scrub on the project site occurs along the creek formed by the storm drain east of the high school, and covers 1.12 acre on site.

3.2.3 Mulefat Scrub

Mulefat scrub is a depauperate, shrubby riparian scrub community dominated by mulefat and interspersed with small willows. This vegetation community occurs along intermittent stream channels with a fairly coarse substrate and moderate depth to the water table. This early seral community is maintained by frequent flooding, the absence of which would lead to a cottonwood or sycamore dominated riparian woodland or forest. Mulefat scrub on the site occurs as two small patches in the seasonal watercourse that drains the center of the site and the high school campus. These patches are located in the canyon bottom, surrounded by non-native grassland and Diegan coastal sage scrub, and cover 0.08 acre on site.

3.2.4 Vernal Pool and Road Ruts

Vernal pools are a highly specialized habitat supporting a unique flora and fauna. Natural vernal pools are normally associated with two important physical conditions: a subsurface hardpan or claypan that inhibits the downward percolation of water and topography characterized by a series of low hummocks (mima mounds) and depressions (vernal pools). These two physical conditions allow water to collect in the depressions during the rainy season. Water that has collected in these depressions gradually evaporates with the passing of the rainy season, creating centripetal gradients of water availability in the soil and solute concentration in the water. A temporal succession of plant species occurs at the receding pool margins, depending upon the physical and chemical microenvironmental characteristics of the pool.

Six ephemeral basins were identified in the Lake Property during HELIX's surveys. Three of the basins in the western half of the Lake Property contained vernal pool indicator and associated plant species during the 2013 survey, including slender woolly-heads (*Psilocarphus tenellus*), adobe popcornflower (*Plagiobothrys acanthocarpus*), toad rush (*Juncus bufonius*), and grass poly (*Lythrum hyssopifolia*). Given the observation of vernal pool indicators, these three basins are considered to be potential vernal pools. The remaining three ephemeral basins are in a dirt road in the eastern half of the Lake Property and contained no vegetation at the time of the surveys. These ruts contained mud or standing water remaining from heavy rains. Given the lack of vernal pool indicators, these basins are better classified as road ruts.

3.2.5 Maritime Succulent Scrub

Maritime succulent scrub is a low open scrub community that is dominated by a mixture of stem and leaf succulent species and drought deciduous species that also occur within sage scrub communities. This vegetation community occurs on thin, rocky or sandy soils, on steep slopes of coastal headlands and bluffs. Maritime succulent scrub is restricted to within a few miles of the coast from about Torrey Pines to Baja California and on San Clemente and Santa Catalina islands. The dominant species typically found within this vegetation community include coast barrel cactus (*Ferocactus viridescens*), velvet cactus (*Bergerocactus emoryi*), prickly pear cactus (*Opuntia littoralis*), cliff spurge (*Euphorbia misera*), dudleya (*Dudleya* spp.), desert thorn (*Lycium californicum*), and California encelia (*Encelia californica*). Maritime succulent scrub on the site consists of dense patches of coastal cholla (*Cylindropuntia prolifera*) surrounded by Diegan coastal sage scrub on west-facing slopes of the Main Campus Property, and covers 0.04 acre on site and 0.34 in the off-site impact area.

3.2.6 Diegan Coastal Sage Scrub (including Disturbed Phase)

Diegan coastal sage scrub occurs on xeric sites and steep slopes. It consists mostly of low-growing shrubs, many of which are drought-deciduous. Characteristic species include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), lemonadeberry (*Rhus integrifolia*), and laurel sumac (*Malosma laurina*). Almost the entire Lake Property, and the southeast-facing slopes of the Main Campus Property are covered by Diegan coastal sage scrub.

Where Diegan coastal sage scrub is heavily invaded by non-native species, it is considered a disturbed phase that provides habitat value much lower than that typical of Tier II uplands. These areas occur along roads and in places where soil disturbance is more recent, facilitating invasion by non-native grasses and forbs such as black mustard (*Brassica nigra*) and filaree (*Erodium* spp.) found in nearby non-native grassland. A total of 106.06 acres of Diegan coastal sage scrub, including disturbed, occurs on the project site, and an additional 2.02 acres in the off-site impact area.

3.2.7 Diegan Coastal Sage Scrub/Non-native Grassland

Diegan coastal sage scrub /non-native grassland includes areas that have a relatively equal cover of Diegan coastal sage scrub - and non-native grassland -associated species. The habitat is

characterized by a sparse arrangement of California sagebrush and California buckwheat shrubs with an expansive understory of non-native grasses and forbs. Diegan coastal sage scrub /non-native grassland covers 0.37 acre of the project site on the Main Campus Property.

3.2.8 Non-native Grassland

Non-native grassland includes areas dominated by a dense to sparse cover of annual grasses, and can include native forbs. Common species in San Diego are oats (*Avena* spp.), brome grasses (*Bromus* spp.), black mustard, and filaree. Non-native grassland usually occurs on fine soils that are wet in winter and dry in summer. Non-native grassland covers the majority of the Main Campus Property, especially in the west and north, while it occurs in pockets along roads in the Lake Property. The total area of non-native grassland within the project site is 92.00 acres, and 3.71 acres in the off-site impact area.

3.2.9 Eucalyptus Woodland

Eucalyptus woodland is dominated by gum trees (*Eucalyptus* spp.), introduced species that have often been planted for wind blocking, ornamental, and hardwood production purposes. Most groves are monotypic with the most common species being either blue gum (*Eucalyptus globulus*) or red gum (*E. camaldulensis* ssp. *obtusa)*. The understory within well-established groves is usually very sparse due to the closed canopy and allelopathic nature of the abundant leaf and bark litter. The sparse understory offers only limited wildlife habitat; however, these woodlands provide excellent nesting sites for a variety of raptors, including red-shouldered hawks (*Buteo lineatus*). During winter migrations, a large variety of warblers may be found feeding on the insects that are attracted to the eucalyptus flowers. Eucalyptus trees with active raptor nests are considered sensitive. Eucalyptus woodland occupies 0.4 acre in the Lake Property.

3.2.10 Agriculture

Extensive agriculture is comprised of areas that are or were recently plowed or disced, with evidence of past or present agricultural practices. The areas are characterized by species typical of dry farming or row crops. The areas often occur in floodplains or upland areas with high soil quality. Approximately 157.1 acres of agriculture is mapped within the Main Campus Property, and 4.0 acre in the off-site impact area.

3.2.11 Disturbed Land

Disturbed land is highly disturbed land that retains a soil substrate. If it is vegetated, it supports an assemblage of almost exclusively non-native, weedy, upland species that colonize after human disturbance. There is no recognizable native or naturalized vegetation association, and characteristic species vary considerably depending on local colonization potential. Disturbed land on the project site includes severely eroded ground in a creek formed by a storm drain outflow at the end of Eastlake Parkway, and a large area north and east of the high school. The total area of disturbed land within the project site is 10.2 acres, and 2.0 acres in the off-site impact area.

3.2.12 Developed

Developed land is land that has been built upon, or physically altered such that it no longer naturally supports vegetation. Developed land includes buildings, pavement, unpaved roads and hardscape, and irrigated landscaping. Developed land on the project site includes the high school campus and surrounding landscaped areas, landscaped manufactured slopes near the storm drain outfall east of the high school, and the concrete and rip rap storm drain outflow at the end of Eastlake Parkway. The total area of developed land within the project site is 15.9 acres, and 0.3 in the off-site impact area.

3.3 PLANTS

A total of 132 plant species were recorded during surveys, of which 74 are native and 58 non-native (Appendix A).

3.4 ANIMALS

A total of 63 animal species were observed or detected during surveys (Appendix B).

3.5 JURISDICTIONAL WATERS AND WETLANDS

In the context of this assessment, jurisdictional waters and wetlands generally include wetland and non-wetland waters of the U.S. regulated by the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the federal Clean Water Act (CWA); waters of the State regulated by the Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the CWA and State Porter-Cologne Water Quality Control Act; streambed and riparian habitat regulated by the California Department of Fish and Wildlife (CDFW) pursuant to Sections 1600 et seq. of the California Fish and Game Code (CFG Code); and/or, City wetlands regulated under the City's Wetlands Protection Program.

3.5.1 Federal and State Jurisdiction

Water and wetland resources potentially under federal and state jurisdiction occur on both the Main Campus Property and the Lake Property (Figure 5; Table 2). Freshwater marsh (0.05 acre) and southern willow scrub (1.12 acres) occur in the drainage feature that flows across the northeast corner of the Main Campus Property from the storm drain outflow east of the high school and south of Hunte Parkway. These vegetation types are dominated by hydrophytic species and usually indicate wetland and/or riparian conditions. Portions of the drainage that do not support hydrophytic vegetation exhibit an incised channel with a defined ordinary high water mark and bed and bank. These attributes are characteristic of potential non-wetland waters of the U.S. and State. All of this channel is outside of the proposed development area.

Storm drain outflows from the high school and the end of Eastlake Parkway drain southward through the center and western end of the Main Campus Property, respectively. Vegetation in both drainages is almost entirely non-native grassland or disturbed land. In addition, potential vernal pools occur in and beside dirt roads in the Lake Property.

No jurisdictional waters or wetlands were found within the planned and future facilities areas.

Table 2
POTENTIAL JURISDICTIONAL WATERS AND WETLANDS (ac)

WETLAND VEGETATION COMMUNITY	JURISDICTION	MAIN CAMPUS PROPERTY	LAKE PROPERTY	TOTAL
Development Area Outside of Preserve				
Freshwater Marsh	USACE/CDFW/RWQCB	0.05	--	0.05
Mulefat Scrub	CDFW	0.08	--	0.08
Southern Willow Scrub	USACE/CDFW/RWQCB	1.12	--	1.12
Vernal Pool	USACE/RWQCB	--	<0.01	<0.01
Streambed	USACE/CDFW/RWQCB	0.41	--	0.41
	TOTAL	**1.66**	**<0.01**	**1.66**

4.0 SENSITIVE RESOURCES

4.1 SENSITIVE VEGETATION COMMUNITIES/HABITATS

Seven sensitive vegetation communities or habitats were observed on the site, including wetlands and Tier I, Tier II, and Tier III uplands.

4.1.1 Wetlands

Two wetland habitat types associated with one of the three unnamed drainage features occur on the Main Campus Property. Freshwater marsh and southern willow scrub occur along the northernmost drainage feature on the Main Campus Property, which was formed by the storm drain outflow east of the high school. This outflow occurs across Hunte Parkway from the end of Discovery Falls Drive, and drains Otay Ranch Village 11 development north of Hunte Parkway. The drainage feature flows southeast across the northern end of the project site, eventually joining Salt Creek. The drainage is a man-made engineered channel constructed as part of Village 11 development. Due to the presence of an ordinary high water mark (OHWM), stream bed and bank, and apparent connectivity to Salt Creek, the northernmost drainage feature and associated wetland habitat represent potential jurisdictional waters and wetlands. A drainage feature in the middle of the Main Campus Property runs south from High Tech High to Salt Creek, and exhibits intermittent signs of OHWM. Flow in this channel also results from an engineered storm drain outfall, but the channel is considered jurisdictional streambed because of OHWM and connectivity to Salt Creek. This drainage continues south of the Main Campus Property and crosses the project's off-site storm water conveyance line. A patch of mulefat scrub adjacent to this channel is considered State-jurisdictional riparian vegetation. Another drainage channel flows across the western portion of the Main Campus Property from the end of Eastlake Parkway to the Otay River, and exhibits an OHWM. Flow in this channel is also the result of an

engineered storm drain outfall. This channel supports no riparian vegetation, but is considered a jurisdictional streambed because of an OHWM and connectivity to the Otay River.

In addition, potential vernal pools occur in and beside dirt roads in the Lake Property. Three of these contained vernal pool indicator flora. Three others are entirely within ruts and areas lacking vernal pool indicators. Road ruts that retain water for a period after rain might provide habitat for sensitive species of fairy shrimp despite not supporting vernal pool indicator plant species. Additional road ruts were observed along the off-site sewer alignment for the Lake Property in 2016. Unvegetated road ruts would not be considered jurisdictional wetlands, even if they did support fairy shrimp.

4.1.2 Uplands

Maritime succulent scrub is considered a "rare upland" (Tier I) in the City MSCP Subarea Plan. Maritime succulent scrub on the project site occurs in small patches on the west-facing slopes of the canyon that runs southeast from High Tech High. These patches are dominated by coastal cholla and surrounded by Diegan coastal sage scrub vegetation.

Diegan coastal sage scrub is considered an "uncommon upland" (Tier II) in the City MSCP subarea plan and a sensitive vegetation community due to the relatively high number of sensitive plant and animal species associated with it. Most of the south and east facing slopes in the eastern half of the main campus support Diegan coastal sage scrub vegetation, dominated by California sagebrush and California buckwheat. The Lake Property is almost entirely covered with Diegan coastal sage scrub vegetation.

Non-native grassland is considered a "common upland" (Tier III) in the City MSCP Subarea Plan and a sensitive vegetation community because it can include sensitive native plant species associated with grasslands and the edaphic conditions that promote their formation (clay soils, xeric sites, fire). Non-native grasslands also can provide foraging habitat for sensitive raptor species. The non-native grassland on the Main Campus Property occupies almost of the middle of the parcel. The western half of the Main Campus Property in general appears more furrowed, with shorter and more uniform non-native grass vegetation, and lacks native shrubs and forbs in significant numbers. This area is mapped as fallow agriculture in this report. The eastern half of the Main Campus Property appears to have been undisturbed for longer than the western half, and non-native grassland in this half is taller, denser, and includes more native forbs such as morning-glory (*Convolvulus arvensis*), goldenstar (*Bloomeria crocea*), and blue-dicks (*Dichelostemma capitata*). Non-native grassland on the Lake Property occurs as pockets within Diegan coastal sage scrub and is in a more disturbed condition, including a higher proportion of invasive broadleaf species such as black mustard and filaree.

4.2 SENSITIVE PLANTS

Four sensitive plant species were observed during surveys in 2013, 2014, and 2016 (Appendix C): San Diego sunflower (*Bahiopsis laciniata*), San Diego barrel cactus (*Ferocactus viridescens*), Palmer's grapplinghook (*Harpagonella palmeri*), and ashy spike-moss (*Selaginella cinerascens*). The status of these species on the project site is discussed below.

San Diego sunflower (*Bahiopsis laciniata*)
Sensitivity Designation: --/--; CNPS List 4.2
Distribution: California, Baja California, and Sonora.
Habitat and Biology: A small shrub that generally occurs in chaparral and coastal sage scrub below 4,000 feet amsl. Flowering period is February – August.
Status On Site: Approximately 376 individuals were recorded on the Main Campus Property and the Lake Property, as well as in the off-site impact areas.

San Diego barrel cactus (*Ferocactus viridescens*)
Sensitivity Designation: --/--; CNPS List 2.1; City MCSP Covered
Distribution: San Diego County; Baja California, Mexico
Habitat: Optimal habitat for this cactus appears to be Diegan coastal sage scrub hillsides, often at the crest of slopes and growing among cobbles. Occasionally found on vernal pool periphery and mima mound topography in Otay Mesa.
Status On Site: Approximately 60 individuals were recorded in all parts of the Lake Property. An additional seven individuals were recorded in the southern tip of the eastern half of the Main Campus Property.

Palmer's grapplinghook (*Harpagonella palmeri*)
Sensitivity Designation: --/--; CNPS List 4.2
Distribution: Below approximately 3,300 feet in elevation in Los Angeles, Orange, Riverside, and San Diego counties; Baja California and Sonora, Mexico; San Clemente Island; Arizona
Habitat: Clay soils in annual grasslands and coastal sage scrub
Status On Site: Occurs in patches on two mesa tops in the southern portion of the eastern half of the Main Campus Property; observed in 2013 but not in 2014. Patches range in size from 10s to 1000s of individuals. Two individuals were observed along the proposed sewer alignment south of the Main Campus Property in 2016.

Ashy spike-moss (*Selaginella cinerascens*)
Sensitivity Designation: --/--; CNPS List 4.1
Distribution: Orange and San Diego counties; northwestern Baja California, Mexico
Habitat: Flat mesas in coastal sage scrub and chaparral. A good indicator of site degradation, as it rarely inhabits disturbed soils.
Status On Site: Occurs in one location on the eastern side of the Main Campus Property and on the Lake Property, where it is widespread in patches ranging in size from 3 to 30 square meters, in open areas along the utility road.

Twenty special status plant species were analyzed for potential to occur on the Main Campus Property, Lake Property, and off-site improvement areas based on habitat preferences, species range, and known occurrences (Appendix C). Of these, three have high potential to occur, including one that was observed on the site: San Diego barrel cactus; Otay tarplant (*Deinandra conjugens*); and narrow-leaved nightshade (*Solanum xanti*). San Diego barrel cactus is present on both the Main Campus Property and the Lake Property. Otay tarplant has high potential to occur based on suitable soils, the site being within the species' range, and an identified location in the Village 10 SPA south of the project site boundary (Dudek 2014). Narrow-leaved nightshade has

high potential to occur based on suitable habitat; however, this taxon has been revised and is considered synonymous with a non-sensitive species.

The remaining 17 species have low potential or are not expected to occur due to lack of suitable habitat or species range restrictions. Of the 8 MSCP narrow endemic species known or expected to occur within the Chula Vista Subarea, only Otay tarplant has better than low potential to occur in the project site based on habitat preference, species range, and a nearby reported occurrence. The adjacent University Villages EIR also analyzed the following species, which were determined not likely to occur in this analysis: San Diego bur-sage (*Ambrosia chenopodiifolia*), singlewhorl burrobush (*Ambrosia monogyra*), south coast saltscale (*Atriplex pacifica*), and Robinson's pepper grass (*Lepidium virginicum var. robinsonii*). These species were not observed during HELIX's 2013, 2014, or 2016 surveys and are not expected to occur due to the site being located at distances greater than one mile from known occurrences, absence of suitable habitat, or limited amount of marginal habitat.

4.3 SENSITIVE ANIMALS

Six sensitive animal species were observed on the project site during surveys (Appendix D): Belding's orange-throated whiptail (*Aspidoscelis hyperthyra beldingi*), coastal California gnatcatcher (*Polioptila californica californica*), northern harrier (*Circus cyaneus*), Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*). The status of these species on the site is discussed below.

Belding's orange-throated whiptail (*Aspidoscelis hyperythrus beldingi*)
Sensitivity Designation: --/SSC, MSCP Covered
Distribution: Southern Orange County and southern San Bernardino County, south through Baja California
Habitat and Biology: Coastal sage scrub, chaparral, edges of riparian woodlands, and washes. Also found in weedy, disturbed areas adjacent to these habitats. Important habitat requirements include open, sunny areas, shaded areas, and abundant insect prey base, particularly termites (*Reticulitermes* sp.).
Status On Site: One individual observed in the eastern part of the Main Campus Property in 2016.

Coastal California gnatcatcher (*Polioptila californica californica*)
Sensitivity Designation: FT/SSC; MSCP covered
Distribution: In San Diego County, occurs throughout coastal lowlands.
Habitat and Biology: Coastal sage scrub, coastal bluff scrub, and coastal sage – chaparral scrub.
Status On Site: Incidentally observed in both parcels in 2013, 2014, and 2016. Observed at a single location within the Main Campus Property and a single location within the Lake Property in 2014; observed at two locations within the Main Campus Property in 2013. Observed at two locations on the Lake Property, one location along the off-site sewer alignment for the Lake Property, and seven locations on the Main Campus Property in 2016. Figure 5 shows four locations on the Main Campus Property, since some observations were close together and may have been repeat observations of the same individual or pair.

Northern harrier (*Circus cyaneus*)
Sensitivity Designation: --/SSC; County MSCP Covered
Distribution: In San Diego County, distribution primarily scattered throughout lowlands but can also be observed in foothills, mountains, and desert
Habitat(s): Open grassland and marsh
Status On Site: One individual observed foraging in the Main Campus Property in 2013.

Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)
Sensitivity Designation: --/WL; MSCP Covered
Distribution: Observed throughout coastal lowlands and foothills of San Diego County
Habitat(s): Coastal sage scrub and open chaparral as well as shrubby grasslands
Status On Site: One individual observed in the northeast corner of the Main Campus Property in 2013.

Least Bell's vireo (*Vireo bellii pusillus*)
Sensitivity Designation: FE, BCC/SE, MSCP Covered
Distribution: Observed throughout much of San Diego County in the breeding season but in smaller numbers in foothills and mountains
Habitat(s): Mature riparian woodland
Status On Site: One individual incidentally detected (by call) within riparian habitat along eastern boundary of Main Campus Property during April 2016 survey.

San Diego black-tailed jackrabbit (*Lepus californicus bennettii*)
Sensitivity Designation: --/SSC
Distribution: Southern Santa Barbara County, south on the coastal slope to the vicinity of San Quintin, Baja California, Mexico. Localities on the eastern edge of its range include Jacumba and San Felipe Valley in San Diego County.
Habitat: Occurs primarily in open habitats including coastal sage scrub, chaparral, grasslands, croplands, and open, disturbed areas if there is at least some shrub cover present.
Status On Site: One individual observed in the east end of the Main Campus Property in 2013 and in 2014. Three individuals observed on the eastern side of the Main Campus Property in 2016.

Forty-three special status animal species were analyzed for potential to occur on the Main Campus Property, Lake Property, and off-site improvement areas based on habitat preferences, species ranges, and CNDDB records within 1.5 miles of the project site (Appendix D). Of these, four species have high potential to occur, but were not observed on the site. Of these four species, the San Diego fairy shrimp (*Branchinecta sandiegonensis*) is federally-listed as endangered and Ferruginous hawk (*Buteo regalis*), coastal cactus wren (*Campylorhynchus brunneicapillus couesi*), and San Diego horned lizard (*Phrynosoma coronatum blainvillei*) are designated as species of special concern.

5.0 REGIONAL AND REGULATORY CONTEXT

5.1 REGULATORY ISSUES

As stated above, the regulations and plans that apply to project development include the federal and state ESAs, Migratory Bird Treaty Act (MBTA), CWA, California Environmental Quality Act (CEQA), California Fish and Game Code, the Porter-Cologne Water Quality Control Act, City's MSCP Subarea Plan, Wetland Protection Program, Preserve Adjacency Management Issues, and the Otay Ranch Resource Management Plan (RMP).

5.1.1 Federal

Endangered Species Act

Administered by the USFWS, the federal ESA provides the legal framework for the listing and protection of species (and their habitats) that are listed as endangered or threatened with extinction. Actions that jeopardize endangered or threatened species and the habitats upon which they rely are considered a "take" under the ESA. Section 9(a) of the ESA defines take as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." "Harm" and "harass" are further defined in federal regulations and case law to include actions that adversely impair or disrupt a listed species' natural behavioral patterns.

Sections 7 and 10(a) of the federal ESA regulate actions that could jeopardize endangered or threatened species. Section 7 describes a process of federal interagency consultation for use when federal actions may adversely affect listed species. A biological assessment is required for any major construction activity if it may affect listed species. In this case, take is authorized via a letter of biological opinion, issued by the USFWS for non-marine related listed species issues. A Section 7 consultation (formal or informal) is required when there is a nexus between federally listed species' use of the site and impacts to USACE jurisdictional areas. Section 10(a) allows issuance of permits for incidental take of endangered or threatened species with preparation of a habitat conservation plan (HCP). The term "incidental" applies if the taking of a listed species is incidental to, and not the purpose of, an otherwise lawful activity. An HCP demonstrating how the taking would be minimized and how steps taken would ensure the species' survival must be submitted for issuance of Section 10(a) permits.

The USFWS identifies critical habitat for endangered and threatened species. Critical habitat is defined as areas of land that are considered necessary for endangered or threatened species to recover. The ultimate goal is to restore healthy populations of listed species within their native habitat so they can be removed from the list of threatened or endangered species. Once an area is designated as critical habitat pursuant to the federal ESA, all federal agencies must consult with the USFWS to ensure that any action they authorize, fund, or carry out is not likely to result in destruction or adverse modification of the critical habitat.

Migratory Bird Treaty Act

All migratory bird species native to the United States or its territories are protected under the federal MBTA. The MBTA is generally protective of migratory birds but does not actually stipulate the type of protection required. In common practice, the MBTA is now used to place restrictions on disturbance of active bird nests during the nesting season (generally February 1 to August 31). In addition, the USFWS commonly places restrictions on disturbances allowed near active raptor nests.

Federal Clean Water Act

The Water Pollution Control Act, passed by Congress in 1948, authorized the Surgeon General of the Public Health Service to prepare comprehensive programs for eliminating or reducing the pollution of interstate waters and tributaries and improving the sanitary condition of surface and underground waters. The Act was later amended to become the Federal Water Pollution Control Act Amendments of 1972, commonly known as the CWA. The CWA was designed to restore and maintain the chemical, physical, and biological integrity of the WUS and gave the EPA the authority to implement pollution control programs, including setting wastewater standards for industry and water quality standards for contaminants in surface waters. The EPA has delegated responsibility for implementation of portions of the CWA in California to the State Water Resources Control Board (SWRCB) and the RWQCB, including water quality control planning and control programs.

The CWA also prohibits the discharge of any pollutants from a point source into navigable waters, except as allowed by permits issued under certain sections of the CWA. Specifically, Section 404 authorizes the USACE to issue permits for and regulate the discharge of dredged or fill materials into wetlands or other WUS. Under the CWA and its implementing regulations, WUS are broadly defined as rivers, creeks, streams, and lakes extending to their headwaters, including adjacent wetlands. Further, Section 401 allows states to certify or deny federal permits or licenses that might result in a discharge to State waters, including wetlands. Section 401 certifications are issued by the SWRCB or RWQCB for activities requiring a federal permit or license that may result in the discharge of pollutants into WUS.

CWA Section 402 establishes the National Pollutant Discharge Elimination System (NPDES) program to regulate both point source and nonpoint source discharges of pollutants to surface WUS. In California, the SWRCB and its RWQCBs administer the NPDES program and issue permits Section 303 of the CWA requires states to identify surface waters that have been impaired. Under Section 303(d), states, territories, and authorized tribes are required to develop a list of water quality segments that do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology.

5.1.2 State

Primary environmental legislation in California is found in CEQA and its implementing guidelines (State CEQA Guidelines), requiring that projects with potential adverse effects or impact to the environment undergo environmental review. Adverse impact to the environment is

typically mitigated as a result of the environmental review process in accordance with existing laws and regulations.

The California ESA is similar to the federal ESA in that it contains a process for listing of species and regulating potential impact to listed species. Section 2081 of the California ESA authorizes the CDFW to enter into a memorandum of agreement for take of listed species for scientific, educational, or management purposes.

The Native Plant Protection Act (NPPA) enacted a process by which plants are listed as rare or endangered. The NPPA regulates collection, transport, and commerce in plants that are listed. The California ESA follows the NPPA and covers both plants and animals determined to be endangered or threatened with extinction. Plants listed as rare under the NPPA are also designated as rare under the California ESA.

California Fish and Game Code (CFG Code)

The CFG Code regulates the taking or possession of birds, mammals, fish, amphibians, and reptiles, as well as natural resources such as wetlands and waters of the State. It includes the CESA (Sections 2050-2115) and Streambed Alteration Agreement regulations (Sections 1600-1616), as well as provisions for legal hunting and fishing, and tribal agreements for activities involving take of native wildlife. The CFG Code also includes protection of birds (Sections 3500 *et seq.*) and the NPPA (Sections 1900-1913), which directed CDFW to carry out the Legislature's intent to "preserve, protect and enhance rare and endangered plants in this State."

Pursuant to CFG Code Section 3503, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the code or any regulation made pursuant thereto. Raptors (birds of prey) and owls and their active nests are protected by CFG Code Section 3503.5, which states that it is unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird unless authorized by the CDFW. In common practice, CDFW places timing restrictions on clearing of potential nesting habitat (e.g., vegetation), as well as restrictions on disturbances allowed near active raptor nests.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act provides for Statewide coordination of water quality regulations. The Act established the California SWRCB as the Statewide authority and nine separate RWQCBs to oversee smaller regional areas within the State. The Act authorizes the SWRCB to adopt, review, and revise policies for all waters of the State (including both surface and ground waters); and directs the RWQCBs to develop regional Basin Plans. Section 13170 of the California Water Code also authorizes the SWRCB to adopt water quality control plans on its own initiative. The Basin Plan for the San Diego Region is designed to preserve and enhance the quality of water resources in the San Diego region for the benefit of present and future generations. The purpose of the plan is to designate beneficial uses of the region's surface and ground waters, designate water quality objectives for the reasonable protection of those uses, and establish an implementation plan to achieve the objectives.

5.1.3 City of Chula Vista

Otay Ranch General Development Plan (GDP) and Resource Management Plan (RMP)

The Main Campus Property of the UID project site is part of the Otay Ranch GDP and RMP, which were approved by the City in 1993. The GDP contains conceptual development, circulation, and preservation plans. The RMP consists of two separate documents: the Phase 1 RMP identifies conservation areas within Otay Ranch and contains policies regarding species and habitat conservation and long-term management of the Preserve; the Phase 2 RMP includes Ranch-wide studies and provides additional detail on conveyance, management, and funding of the Preserve. The RMP Preserve provides CEQA mitigation for development proposed in the GDP, including the Main Campus Property of the UID project. Otay Ranch project designs must demonstrate conformance with the conservation goals and Preserve boundaries in the GDP and RMP. The Lake Property is not inside the boundary of the Otay Ranch Preserve Management Area or the Otay Ranch planning area, and therefore is not covered by the GDP or RMP.

Chula Vista Multiple Species Conservation Program Subarea Plan

The MSCP is a long-term plan to mitigate for potential losses of covered species and their habitats due to direct, indirect, and cumulative impacts of urban growth in San Diego County. The MSCP is a subregional plan under the California Natural Community Conservation Planning Act of 1991, and is implemented through local subarea plans. The Chula Vista Subarea Plan was adopted in 2003 and implements the MSCP subregional preserve within the City of Chula Vista. Take authorization was granted to the City in January 2005, through the execution of the Implementing Agreement between the City and resource agencies. The MSCP Subarea Plan provides for conservation of upland habitats and covered species through Preserve design, regulation of impacts and uses, and management of the Preserve. Any project authorized by the City of Chula Vista must be in conformance with the Chula Vista Subarea Plan. Projects involving land use development for which hard-line preserve boundaries (100 percent Conservation Areas) have already been established, and for which conservation measures consistent with the MSCP Subregional Plan and Chula Vista Subarea Plan have been or will be specified as binding conditions of approval, are considered Covered Projects under the City's MSCP Subarea Plan.

MSCP Subarea Plan Covered Projects

Development of the Main Campus Property of the UID project is a Covered Project under the MSCP Subarea Plan. The Main Campus Property is inside the Covered Projects boundary for the Otay Ranch Preserve Management Area in the MSCP Subarea Plan, while the Lake Property is not. Development on the Lake Property is development outside of a covered project and therefore subject to the City's Habitat Loss and Incidental Take (HLIT) ordinance. The Otay Ranch RMP and its management studies, plans, and policies serve as the Framework Management Plan for development of the Main Campus Property, but not for development of the Lake Property. In addition, the MSCP Subarea Plan includes the following conditions of coverage for the project:

1. 20.6 acres of disturbed area within Salt Creek will be restored/enhanced to Diegan coastal sage scrub. Prior to approval of a grading plan for the UID project, a restoration/enhancement plan consistent with the guidelines in the Otay Ranch Coastal Sage Scrub Master Plan will be prepared;

2. Disturbance of coastal sage scrub within the development areas on the east side of Salt Creek will be subject to grading restrictions during coastal California gnatcatcher breeding season;

3. Any impacts from grading that encroach into habitat areas will be restored consistent with the guidelines in the Otay Ranch RMP; and,

4. All brush management activities will be conducted within the development areas and consistent with the requirements of the Otay Ranch RMP.

Take of covered species and habitat within development areas of Covered Projects will not require an HLIT permit. Both parcels are outside a 100 percent Conservation Area, but proposed off-site impacts south of the Main Campus Property are within a 100 percent Conservation Area. Any portions of Covered Projects that are located within 100 percent Conservation Areas must be consistent with specific land uses within the Preserve, and are subject to the narrow endemic species policy and the Wetland Protection Program. Development outside the boundaries of the Otay Ranch Preserve Management Area (i.e., the Lake Property and off-site impacts to the east of it) will be subject to the HLIT ordinance.

Habitat Loss and Incidental Take Ordinance

The HLIT ordinance establishes mitigation standards for biological resources and implements the City's MSCP Subarea Plan for development projects outside the Covered Projects category, as identified in the City's MSCP Subarea Plan. Provisions for protection of Narrow Endemic Species apply to all areas regulated by the HLIT ordinance. The HLIT ordinance calls for impacts to wetlands to be avoided and minimized to the maximum extent practicable, and requires mitigation for all permanent impacts to wetlands and natural vegetation at ratios provided in the MSCP Subarea Plan. Development on the Lake Property and off-site to the east of it will be subject to the HLIT Ordinance.

Narrow Endemic Species Protection

<u>Development Area within Covered Projects</u>

Covered Projects provide protection for Narrow Endemic Species through consideration of Narrow Endemic Species in the preserve design for those projects. Take of Covered Species, including Narrow Endemic Species, for Development Areas within Covered Projects will be extended at the time of development approval. There are no limitations on impacts to Narrow Endemic Species within Development Areas of Covered Projects, other than those specified in project-specific management requirements or conditions for coverage.

The Main Campus Property is within the Development Area of a Covered Project and included in the Preserve design of the Otay Ranch Preserve Management Area. The Lake Property is not within the Development Area of a Covered Project. There would be no restrictions on impacts to narrow endemic species on the Main Campus Property; however, development on the Lake Property and all off-site development associated with both parcels would be subject to restrictions on impacts to narrow endemic species.

100 percent Conservation Areas within Covered Projects

Projects located within the 100 percent Conservation Areas of Covered Projects are limited to uses described in Sections 6.1 – 6.3 of the MSCP Subarea Plan. Impacts to Narrow Endemic Species from Planned and Future Facilities located within the 100 percent Conservation Areas of Covered Projects will be avoided to the maximum extent practicable. Where impacts are demonstrated to be unavoidable, impacts will be limited to 5 percent of the total Narrow Endemic Species population in the Project Area. Unavoidable impacts to Narrow Endemic Species are subject to equivalency findings, limitations, and provisions of Section 5.2.3.6 of the MSCP Subarea Plan. If impacts exceed 5 percent of the Narrow Endemic Species population in the project area, the City must make a determination of biologically superior preservation consistent with Section 5.2.3.7 of the MSCP Subarea Plan. Regardless of the percent of impact to Narrow Endemic Species population, findings of equivalency and wildlife agency concurrence are required.

Development Areas Outside of Covered Projects

Projects located within Development Areas outside of Covered Projects are limited to uses described in Sections 6.1 – 6.3 of the MSCP Subarea Plan. Impacts to Narrow Endemic Species from development outside of Covered Projects will be avoided to the maximum extent practicable. Where impacts are demonstrated to be unavoidable, impacts will be limited to 20 percent of the total Narrow Endemic Species population in the Project Area. Unavoidable impacts to Narrow Endemic Species are subject to equivalency findings, limitations, and provisions of Section 5.2.3.6 of the MSCP Subarea Plan. If impacts exceed 20 percent of the Narrow Endemic Species population in the project area, the City must make a determination of biologically superior preservation consistent with Section 5.2.3.7 of the MSCP Subarea Plan. Regardless of the percent of impact to Narrow Endemic Species population, findings of equivalency and wildlife agency concurrence are required.

On-site impacts proposed on the Lake Property, and east of it, are in development area outside of a Covered Project. These impacts would be designed to avoid Narrow Endemic Species that might be present in those areas to the maximum extent practicable. Quantification of the precise extent of potential impacts to Narrow Endemic Species in the development area would require focused surveys in those areas.

100 percent Conservation Areas outside of Covered Projects

Projects located within the 100 percent Conservation Areas outside of Covered Projects are limited to uses described in Sections 6.1 – 6.3 of the MSCP Subarea Plan. Impacts to Narrow

Endemic Species from Planned and Future Facilities located within the 100 percent Conservation Areas will be avoided to the maximum extent practicable. Where impacts are demonstrated to be unavoidable, impacts will be limited to 5 percent of the total Narrow Endemic Species population in the Project Area. Unavoidable impacts to Narrow Endemic Species are subject to equivalency findings, limitations, and provisions of Section 5.2.3.6 of the MSCP Subarea Plan. If impacts exceed 5 percent of the Narrow Endemic Species population in the project area, the City must make a determination of biologically superior preservation consistent with Section 5.2.3.7 of the MSCP Subarea Plan. Regardless of the percent of impact to Narrow Endemic Species population, findings of equivalency and wildlife agency concurrence are required.

On-site impacts proposed on the Main Campus Property are in the Development Area of a Covered Project and are not limited in regards to Narrow Endemic Species.

Off-site impacts proposed in the Preserve south of the Main Campus Property are in 100 percent Conservation Areas within a Covered Project. These impacts would be designed to avoid Narrow Endemic Species that might be present in those areas to the maximum extent practicable. Quantification of the precise extent of potential impacts to Narrow Endemic Species in the 100 percent Conservation Area would require focused surveys in those areas.

Off-site impacts proposed in the Preserve north and southwest of the Lake Property are in 100 percent Conservation Areas outside of a Covered Project and these impacts would be designed to avoid Narrow Endemic Species that might be present in those areas to the maximum extent practicable. Quantification of the precise extent of potential impacts to Narrow Endemic Species in the 100 percent Conservation Area would require focused surveys in those areas.

Wetland Protection Program

Pursuant to this section of the City's MSCP Subarea Plan, wetlands protection will be provided throughout the Subarea through individual project entitlement reviews and the associated CEQA process. The process will provide an evaluation of wetlands avoidance and minimization and will ensure compensatory mitigation within the City's Subarea or Chula Vista Planning Area for unavoidable impacts to wetlands, thereby achieving no overall net loss of wetlands. As part of the CEQA review, development projects which contain wetlands will be required to demonstrate that impacts to wetlands have been avoided to the greatest extent practicable and, where impacts are nonetheless proposed, that such impacts have been minimized. For unavoidable impacts to wetlands, the City will apply the wetlands mitigation ratios identified in Table 5-6 of the City's MSCP Subarea Plan. The wetlands mitigation ratios provide a standard for each habitat type but may be adjusted depending on the functions and values of both the impacted wetlands as well as the wetlands mitigation proposed by the project. The City may also consider the wetland habitat type(s) being impacted and utilized for mitigation in establishing whether these standards have been met.

Planned Facilities

Planned facilities are roads and major infrastructure that have been planned for development through existing plans, and will be allowed to be constructed, operated, and maintained in the

Preserve. These Planned Facilities are anticipated to be required to serve development in areas authorized for take. Specific alignments of Planned Facilities will be determined at the time of facility alignment approval and will include appropriate environmental review pursuant to CEQA. Siting of Planned Facilities will be subject to Facilities Siting Criteria in Section 6.3.3.4 of the MSCP Subarea Plan. No mitigation for take of Covered Species resulting from the implementation of Planned Facilities is required, beyond implementation of the MSCP Subarea Plan.

Figure 6-3 of the MSCP Subarea Plan depicts a planned sewer line connecting the Main Campus Property to the Salt Creek Interceptor in the Preserve and another planned sewer connection to the east toward the Lake Property. Thus both sewer connections qualify as Planned Facilities in the Preserve and therefore would not require additional avoidance or mitigation for impacts to Covered Species. Implementation criteria for planned sewer lines associated with the Salt Creek Interceptor include conditions in the Otay Ranch RMP Infrastructure Plan. New sewer access roads in Salt Creek are limited to 12 feet wide in a 20-foot disturbance corridor.

Future Facilities

Future Facilities are necessary to support planned development and had not been or could not be identified and/or located at the time the MSCP Subarea Plan was adopted. Permanent impacts to covered habitats from Future Facilities in the Preserve may not exceed a cumulative total of 50 acres without concurrence from the wildlife agencies. No single Future Facility in the Preserve may permanently impact more than 2 acres of covered habitat without concurrence from the wildlife agencies and mitigation. Temporary impacts from Future Facilities will not be subject to these limits, but all temporary impacts must be revegetated pursuant to Section 6.3.3.5 of the MSCP Subarea Plan. All Future Facilities are subject to the Narrow Endemic Species policy described above including equivalency findings for all Narrow Endemic Species impacts, and to siting criteria in Section 6.3.3.4 of the MSCP Subarea Plan.

Figure 6-2 of the MSCP Subarea Plan depicts a "future detention basin" in the Preserve near Salt Creek, south of the Main Campus Property of the UID project site. The proposed off-site detention basin corresponds to this facility, although the precise location of the proposed detention basin is undetermined. Siting of this Future Facility would be in accordance with the siting criteria in Section 6.3.3.4 of the MSCP Subarea Plan.

Off-site impacts from drainage facilities and utility lines between the Lake Property and Lower Otay Lake would not be located in the Preserve, and therefore, not subject to Future Facilities area limits or siting criteria. A portion of the sewer line for the Lake Property is also located outside of the Preserve. These proposed impacts would require an HLIT permit and findings of consistency.

Off-site impacts from drainage facilities north of the Lake Property are located within the Preserve, and would be subject to Future Facilities limits and siting criteria.

Preserve Siting Criteria

The main campus covered by the UID is located within the area designated for development under the Chula Vista MSCP Subarea Plan, with the exception of the off-site utilities that would traverse through designated Preserve areas, as conceptually planned. The off-site utilities include the construction of a storm drain pipeline, detention basin and sewer line within the MSCP Preserve. Land use compatibility with the MCSP Preserve area is further described in Section 6.0, Land Use Consideration in the Preserve, of the Chula Vista MSCP Subarea Plan. Project components located within the Preserve are subject to the facilities siting criteria contained in Section 6.3.3.4 of the Subarea Plan. Compliance with the facilities siting criteria ensures that impacts to the Preserve have been minimized to the maximum extent practical. Although not in the Preserve, the Lake Property is in an area designated for development under the Chula Vista MSCP Subarea Plan, as noted above.

Adjacency Management Issues

The City's MSCP Subarea Plan addresses indirect impacts to the 100 percent conservation area (Preserve) from adjacent development in Section 7.5.2, Adjacency Management Issues (City 2003). This section provides guidelines for land uses adjacent to the Preserve in order to minimize indirect impacts to the sensitive resources contained therein. Because the Main Campus Property borders the Preserve on the east and south, and the Lake Property is surrounded by the Preserve on the north and west, the following guidelines would be applicable to the project, in addition to preparation of an Edge Plan:

Drainage/Toxics

All developed and paved areas must prevent the release of toxins, chemicals, petroleum products, exotic plant materials, and other elements that might degrade or harm the natural environment or ecosystem processes within the Preserve.

Develop and implement urban runoff and drainage plans, which will create the least impact practicable for all development adjacent to the Preserve. All development projects will be required to meet National Pollutant Discharge Elimination System (NPDES) standards and incorporate best management practices (BMPs), as defined by the City of Chula Vista's Standard Urban Storm Mitigation Plan (SUSMP).

Pursuant to the San Diego RWQCB Municipal Permit, and the City of Chula Vista Storm Water Management Standards Requirements Manual, which includes the SUSMP, all development and redevelopment located within or directly adjacent to, or discharging directly to an environmentally sensitive area (as defined in the Municipal Permit and the Local SUSMP), are required to implement site design, source control, and treatment control BMPs.

Lighting

Lighting of all developed areas adjacent to the Preserve should be directed away from the Preserve, wherever feasible, and consistent with public safety. Where necessary, development

should provide adequate shielding with non-invasive plant materials (preferably native), berming, and/or other methods to protect the Preserve and sensitive species from night lighting. Consideration should be given to the use of low-pressure sodium lighting.

Noise

Uses in or adjacent to the Preserve should be designed to minimize noise impacts. Berms or walls should be constructed adjacent to commercial areas and any other use that may introduce noises that could impact or interfere with wildlife utilization of the Preserve, although none are currently anticipated. Excessively noisy uses or activities adjacent to breeding areas, including grading activities, must incorporate noise reduction measures or be curtailed during the breeding season of sensitive bird species, consistent with Table 3-5 of the MSCP Subarea Plan.

Invasives

No invasive non-native plant species shall be introduced into areas immediately adjacent to the Preserve. All open space slopes immediately adjacent to the Preserve should be planted with native species that reflect the adjacent native habitat. The plant list contained in Appendix L of the City's MSCP Subarea Plan must be reviewed and used to the maximum extent practicable when developing landscaping plans in areas adjacent to the Preserve.

Buffers

There shall be no requirements for buffers outside the Preserve, except as may be required for wetlands pursuant to federal and/or state permits, or by local agency mitigation conditions. All open space requirements for the Preserve shall be incorporated into the Preserve. Fuel modification zones must be consistent with Section 7.4.4 of this Subarea Plan.

5.1.4 City of San Diego

Proposed off-site impacts associated with the Lake Property include very limited areas east of Wueste Road, inside the City of San Diego Multi-habitat Planning Area (MHPA), that are planned for several storm drain outfalls. Most of the MHPA in the vicinity of the proposed off-site impacts is currently developed as a parking lot and boat launching facility, though some of the off-site impacts are located in areas of Diegan coastal sage scrub adjacent to the developed facilities. Utilities are an approved use inside the MHPA. Because this area is within the City of Chula Vista jurisdiction, impacts will be mitigated according to the City of Chula Vista HLIT Ordinance.

5.2 SPECIAL CONDITIONS FOR MSCP-COVERED SPECIES

The MSCP includes species-specific special conditions for the 86 covered species identified as take authorized. As noted above, five MSCP-covered species were observed on the project site (see Sections 4.1 and 4.2). Chula Vista MSCP Subarea Plan specific conditions for these five species are as follows:

For San Diego barrel cactus, area-specific management directives must include measures to protect against edge effects and unauthorized collection, as well as fire management policies to protect against a too-frequent fire cycle.

For Belding's orange-throated whiptail, area-specific management directives must address edge effects.

For northern harrier, area-specific management directives must manage agricultural and disturbed lands that become part of the preserve within 4 miles of nesting habitat to preserve foraging habitat, include an impact avoidance area at least 900 feet around active nests, and maintain winter foraging habitat in preserve areas including those in Otay Ranch east of Wueste Road.

For coastal California gnatcatcher, the Otay Ranch RMP calls for restoration of contiguous or interconnected patches of coastal sage scrub. No clearing of occupied habitat in 100 percent Conservation Areas may occur between February 15 and August 15. Adjacency guidelines related to noise also apply.

For Southern California rufous-crowned sparrow, the Otay Ranch RMP calls for restoration of contiguous patches of coastal sage scrub and maritime succulent scrub.

6.0 IMPACTS

Project impacts may be considered either direct or indirect. A direct impact occurs when the primary effects of the project replace existing habitat with graded or developed areas. An indirect impact consists of secondary effects of a project, including habitat insularization, edge effects, exotic species invasion, increased lighting, vehicular noise, and increased human intrusion. The magnitude of an indirect impact may be the same as a direct impact; however, the effect usually takes longer to become apparent.

6.1 DIRECT IMPACTS

The proposed project would result in direct impacts to sensitive species, riparian scrub, non-wetland aquatic resources, and Tier I, Tier II, and Tier III uplands. These impacts are described in detail in the following sections. Figure 7 provides an overview depiction of the Main Campus Property impacts on vegetation communities and other sensitive biological resources. Figure 8 depicts the project in relation to existing preserve areas. Figure 9 depicts the off-site impacts proposed at the Main Campus Property and Figure 10 depicts the on-site and off-site impacts at the Lake Property.

6.1.1 Impacts to Vegetation Communities in the UID Development Area

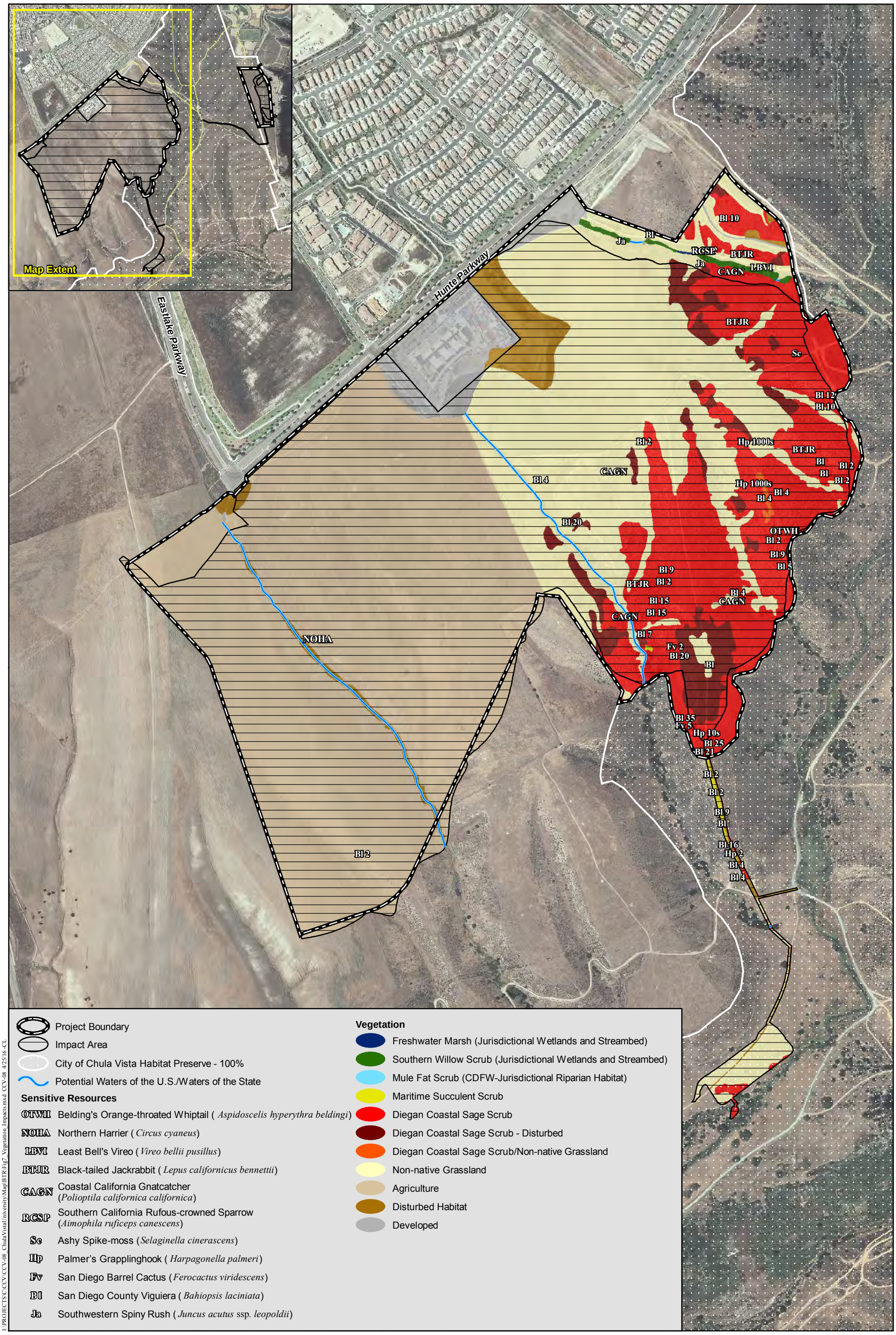
The project would result in direct impacts to 320.04 acres of vegetation for the Main Campus Property and 13.14 acres for the Lake Property (Table 3; Figures 6 and 9), including approximately 4.2 acres south of the Main Campus Property inside the development area of the

Village 10 SPA (Figure 8). Of this total, 314.5 acres would be impacts in the Development Areas of Covered Projects (UID and Village 10 SPA), and 10.33 acres would be impacts in a Development Area outside of a Covered Project (Lake Property). Impacts in the Development Areas of Covered Projects would be covered by project-specific special conditions in the Otay Ranch GDP and RMP, and impacts on the Lake Property would be subject to the HLIT.

Impacts to sensitive vegetation would total 151.44 acres for the Main Campus Property and 11.14 acres for the Lake Property. Sensitive vegetation impacts on the Lake Property would require mitigation at ratios provided in the HLIT. Remaining direct impacts would be to non-sensitive land covers such as eucalyptus woodland, fallow agriculture, and disturbed land. The project would avoid all USACE-jurisdictional vegetation, and all vernal pools.

Table 3
VEGETATION COMMUNITY DIRECT IMPACTS

Community	Existing Acreage[1]	IMPACTS							
		Development Area Outside the Preserve[2]	Temporary Impacts Outside the Preserve[3]	Future Facilities Outside the Preserve	Planned Facilities Inside the Preserve	Future Facilities Inside the Preserve[4]	Temporary Impacts Inside the Preserve[6]	Planned Facilities Outside the Preserve	Total Impacts
MAIN CAMPUS PROPERTY									
Non-sensitive Communities									
Agriculture (fallow)	161.1	155.7	--	--	--	--	--		**155.7**
Disturbed	10.6	8.8	--	--	0.4	0.3	<0.1[5]		**9.5**
Developed	15.9	3.4	--	--	--	--	--		**3.4**
Subtotal	**187.6**	**167.9**	**--**	**--**	**0.4**	**0.3**	**<0.1**		**168.6**
Sensitive Communities									
Diegan Coastal Sage Scrub ‡	79.10	64.49	0.02	--	0.01	0.51	0.25		**65.28**
Diegan Coastal Sage Scrub/Non-native Grassland-	0.37	0.37	--	--	--	--	--		**0.37**
Freshwater Marsh	0.05	--	--	--	--	--	--		--



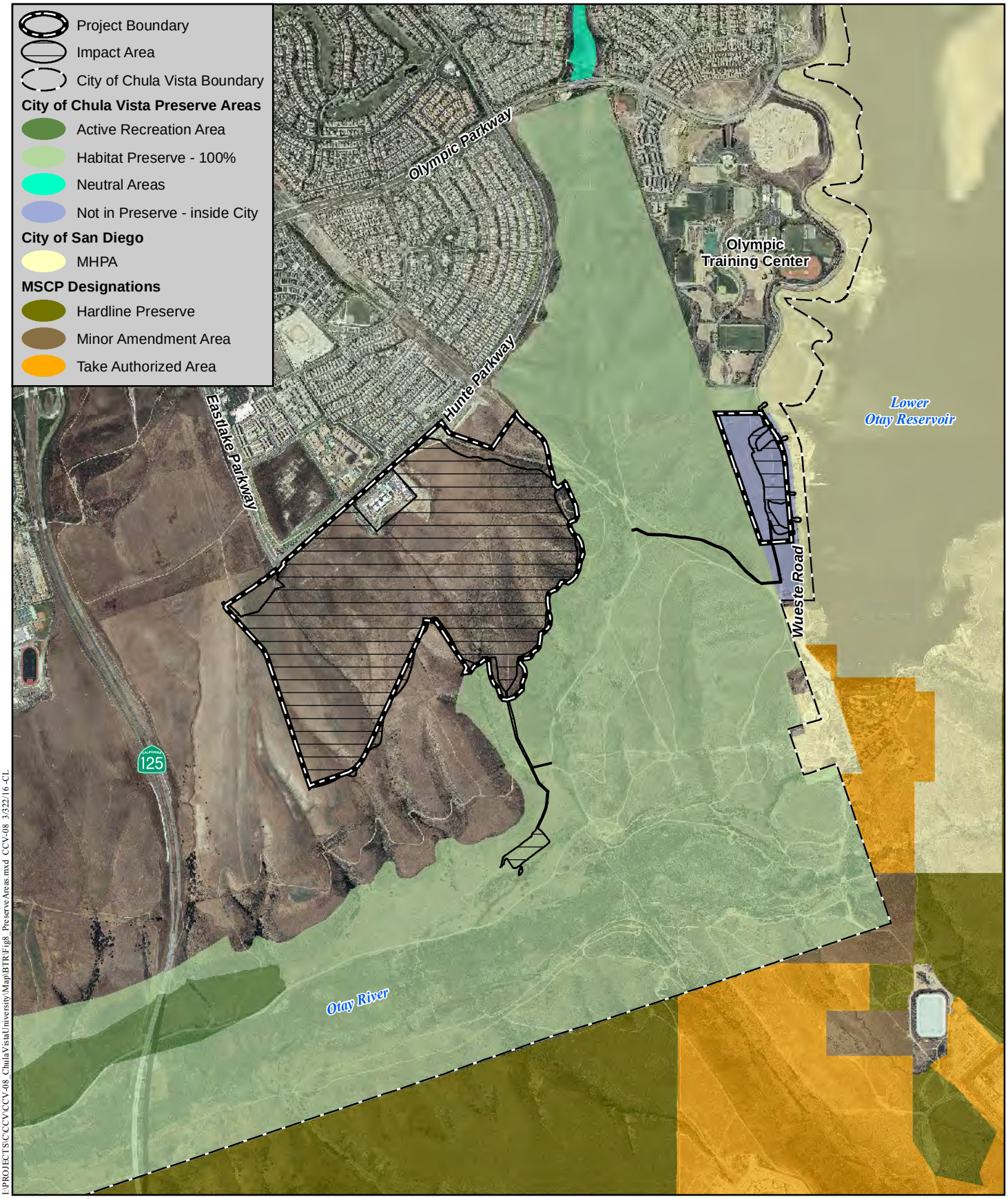
Vegetation and Sensitive Resources Impacts: Main Campus Property

UNIVERSITY INNOVATION DISTRICT

HELIX Environmental Planning

N 0 600 Feet

Figure 7



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Preserve Areas

UNIVERSITY INNOVATION DISTRICT

HELIX Environmental Planning

0 2,000 Feet

Figure 8

Bl 2

Bl 2

Bl 9

Bl

Planned Facility

Bl 16

Hp 2

Bl 4

Bl 4

Future Facility

Map Extent

1 inch = 0.5 mile

Project Boundary

Impact Area

Habitat Preserve - 100%

Potential Waters of the U.S./Waters of the State

Sensitive Resources

Hp Palmer's Grapplinghook (*Harpagonella palmeri*)

Bl San Diego County Viguiera (*Bahiopsis laciniata*)

Vegetation

Maritime Succulent Scrub

Diegan Coastal Sage Scrub

Non-native Grassland

Agriculture

Disturbed Habitat

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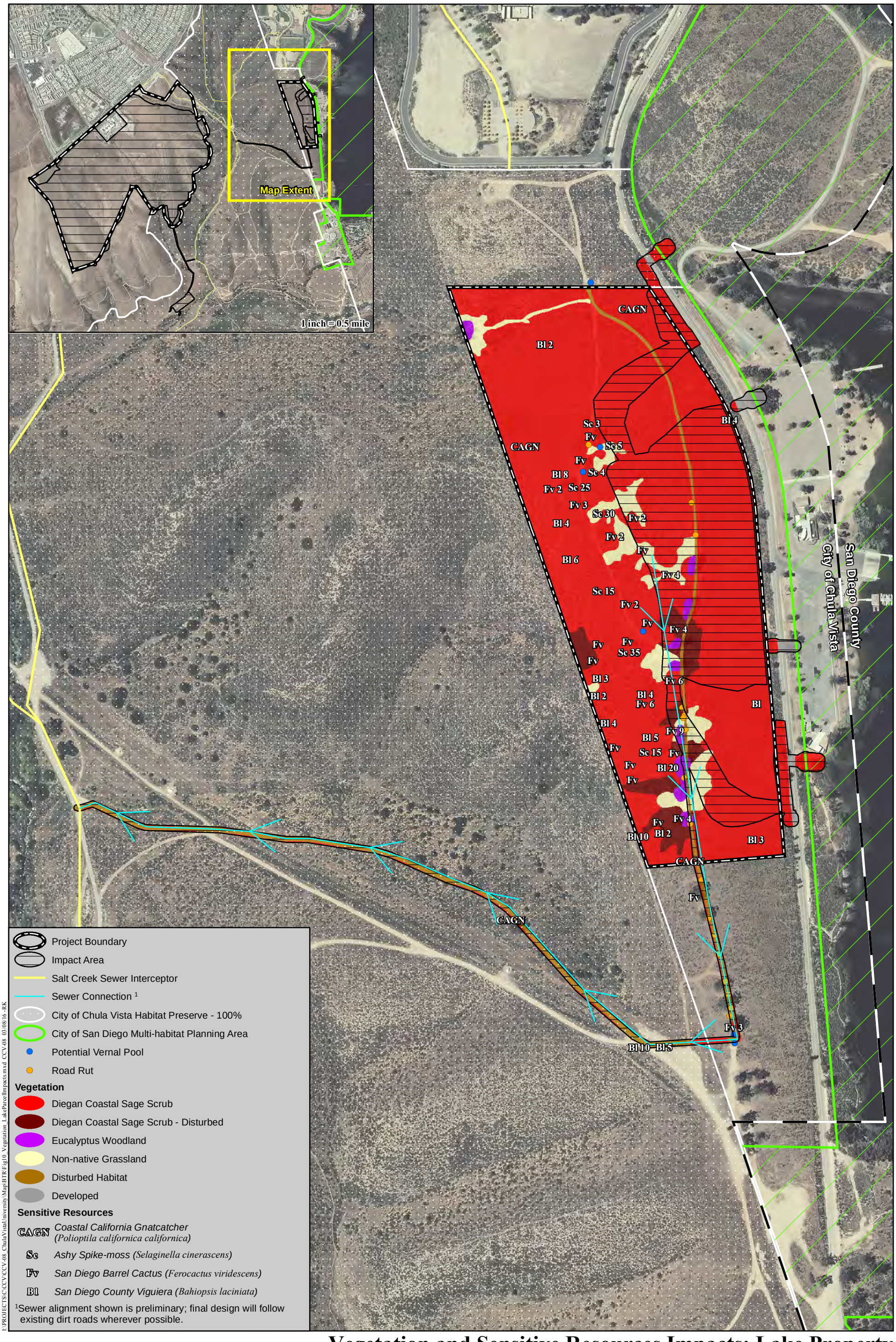
Main Campus Property Off-site Impacts

UNIVERSITY INNOVATION DISTRICT

HELIX Environmental Planning

0 400 Feet

Figure 9



Vegetation and Sensitive Resources Impacts: Lake Property

UNIVERSITY INNOVATION DISTRICT

HELIX Environmental Planning

N 0 300 Feet

Figure 10

Table 3 (cont.)
VEGETATION COMMUNITY DIRECT IMPACTS

Community	Existing Acreage[1]	IMPACTS							
		Development Area Outside the Preserve[2]	Temporary Impacts Outside the Preserve[3]	Future Facilities Outside the Preserve	Planned Facilities Inside the Preserve	Future Facilities Inside the Preserve [4]	Temporary Impacts Inside the Preserve[6]	Planned Facilities Outside the Preserve	Total Impacts
MAIN CAMPUS PROPERTY (cont.)									
Sensitive Communities (cont.)									
Maritime Succulent Scrub	0.38	0.04	--	--	0.03	--	0.31		**0.38**
Mulefat Scrub	0.08	0.08	--	--	--	--	--		**0.08**
Non-native Grassland	93.79	81.62	--	--	--	3.71	0.27		**85.60**
Southern Willow Scrub	1.12	--	--	--	--	--	--		--
Subtotal	**174.88**	**146.6**	**0.02**	--	**0.04**	**3.95**	**0.83**		**151.44**
Parcel Total	**362.48**	**314.5**	**0.02**	--	**0.44**	**4.25**	**0.83**		**320.04**
LAKE PROPERTY									
Non-sensitive Communities									
Disturbed	1.5	0.3	0.1	--	0.6	--	0.3	0.2	**1.5**
Developed	0.3	--	0.2	<0.1[5]	--	<0.1	0.1		**0.3**
Eucalyptus Woodland	0.4	0.2	<0.1[5]	--	--	--	--		**0.2**
Subtotal	**2.2**	**0.5**	**0.3**	**<0.1**	**0.6**	--	**0.4**	**0.2**	**2.0**

Table 3 (cont.)
VEGETATION COMMUNITY DIRECT IMPACTS

Community	Existing Acreage[1]	IMPACTS							
		Development Area Outside the Preserve[2]	Temporary Impacts Outside the Preserve[3]	Future Facilities Outside the Preserve	Planned Facilities Inside the Preserve	Future Facilities Inside the Preserve [4]	Temporary Impacts Inside the Preserve[6]	Planned Facilities Outside the Preserve	Total Impacts
LAKE PROPERTY (cont.)									
Sensitive Communities									
Diegan Coastal Sage Scrub ‡	28.98	9.18	0.24	0.45	0.03	0.05	0.41	0.03	**10.39**
Non-native Grassland	1.93	0.78	--	--	--	--	--		**0.78**
Vernal Pool	<0.01	--	--	--	--	--	--		**--**
Subtotal	**30.91**	**9.93**	**0.24**	**0.45**	**0.03**	**0.05**	**0.41**	**0.03**	**11.14**
Parcel Total	**33.21**	**10.33**	**0.36**	**0.45**	**0.63**	**0.05**	**0.71**	**0.03**	**13.14**
TOTAL	**395.69**	**324.83**	**0.38**	**0.45**	**1.07**	**4.30**	**1.54**	**0.03**	**333.18**

[1]Total of on-site existing and off-site impacts. Non-sensitive acreage is rounded to 0.1; sensitive acreage is rounded to 0.01. Totals reflect rounding error.
[2]Includes off-site impacts outside the Preserve in the Village 10 SPA
[3]Off-site only
[4]This includes 0.04 acre of Diegan coastal sage scrub and 0.007 acre of developed land to be impacted east of the Lake Property that is located in the City of Chula Vista but designated as MHPA by the City of San Diego. Although designated as City of San Diego MHPA, that area is subject to Chula Vista HLIT because it is within Chula Vista jurisdiction.
[5]Estimated at 0.04, 0.05, and 0.02, respectively.
[6]This includes temporary impacts for both Future and Planned Facilities. The sewer alignment for the Lake Property is preliminary, and the final design will follow existing dirt roads wherever possible; therefore, a 12-foot wide permanent impact footprint was centered on the existing dirt road with a 4-foot wide temporary impact on each side. This also includes temporary impact buffers for drainage outlets east of the Lake Property that are located in the City of Chula Vista but designated as MHPA by the City of San Diego.
‡Includes disturbed phase

6.1.2 Off-site Impacts to Vegetation Communities

The project includes impacts outside the boundaries of the Main Campus Property and Lake Property (Figures 8 and 9; Table 3). These off-site impacts include approximately 4.2 acres of grading immediately south of the western half of the Main Campus Property which is inside the Development Area of a Covered Project (Village 10) and included in Section 6.1.1, approximately 5.54 acres south of the Main Campus Property in the Otay River Valley, and

approximately 2.81 acres of off-site impacts for the Lake Property. These off-site impacts include Planned and Future Facilities inside the Preserve, Future Facilities outside the Preserve, temporary impacts inside the Preserve (including inside the City of San Diego MHPA), temporary impacts outside the Preserve, and Future Facilities inside the City of San Diego MHPA, which are treated as Future Facilities inside the Preserve.

Off-site impacts in the Otay River Valley south of the Main Campus Property include Planned and Future Facilities inside the Preserve and temporary impacts inside the Preserve (Table 3). These comprise storm water facilities, including conveyance pipeline and detention basin components, and a wastewater conveyance pipeline linking to the Salt Creek Trunk Sewer. The storm water facilities are Future Facilities and the wastewater pipeline is a Planned Facility. The storm water and wastewater conveyance pipelines are co-linear and co-located in their northern half, and therefore, the northern half of the storm water conveyance pipeline is within the impact footprint of a Planned Facility (Figure 8). Planned Facilities inside the Preserve associated with the Main Campus Property would total 0.44 acre; Future Facilities inside the Preserve associated with the Main Campus Property would total 4.25 acre.

Off-site impacts east of the Lake Property include wastewater conveyance and storm water conveyance and detention facilities. Lands between the Lake Property and Wueste Road in the City of Chula Vista are outside of the Preserve, and inside the Central City Planning Area. They are not inside a Covered Project. Lands east of Wueste Road are in the City of Chula Vista but also inside the City of San Diego's MHPA. Most MHPA lands in the immediate vicinity of the proposed off-site impacts are currently developed as a parking lot and boat launching facility. Off-site impacts east of the Lake Property in the City of Chula Vista would include 0.04 acre of Diegan coastal sage scrub that is under Chula Vista jurisdiction but designated as MHPA by the City of San Diego. Off-site impacts in the City of Chula Vista east of the Lake Property, including the portion designated as City of San Diego MHPA, would be subject to the City's HLIT ordinance. Approximately 0.01 acre of Future Facilities is proposed inside the Preserve north of the Lake Property. These impacts would be to Diegan coastal sage scrub.

Off-site temporary impacts south of the Main Campus Property are associated with Planned and Future Facilities inside the Preserve. These temporary impacts comprise excavation for storm water and wastewater conveyance pipelines. Temporary impacts would total approximately 0.83 acre, and all temporary impact areas would be revegetated with native species.

Off-site temporary impacts associated with the Lake Property include temporary impacts inside the Preserve, temporary impacts outside the Preserve, and temporary impacts inside the City of San Diego MHPA. All temporary impacts would result from excavation and construction buffers around underground utilities. Temporary impacts would total approximately 0.65 acre of Diegan coastal sage scrub, and all temporary impact areas would be revegetated with native species. There may be limitations on the size of shrubs that can be included in the temporary impact revegetation area, in order to avoid roots impacting underground pipelines.

6.1.3 Impacts to Sensitive Plant Species

Impacts to Sensitive Plant Species Known to Occur

San Diego Sunflower, Palmer's Grapplinghook, and Ashy Spike-Moss

The project would result in direct permanent impacts to approximately 219 individuals of San Diego sunflower, three patches of Palmer's grapplinghook, and three patches of ashy spike-moss (Figure 6). These are low-sensitivity species (CNPS-List 4.2 and 4.1) not covered by the MSCP, which are regarded as in need of monitoring for possible population decline, and as "fairly threatened" (San Diego sunflower and Palmer's grapplinghook) in California due to 20 to 80 percent of occurrences threatened, or "seriously threatened" in California (ashy spike-moss) due to more than 80 percent of occurrences threatened. Impacts to Palmer's grapplinghook would be on the Main Campus Property and off-site impacts south of the Main Campus Property, as would most impacts to San Diego sunflower. Impacts to ashy spike-moss would be on the Main Campus Property and the Lake Property. Impacts to these non-listed plant species would be less than significant, as the species are relatively common to the region and adequately conserved under the MSCP.

San Diego Barrel Cactus

The project would result in direct impacts to approximately two individuals of San Diego barrel cactus on the Main Campus Property and 29 on the Lake Property (Figure 6). This species is MSCP-covered and is regarded as rare, threatened or endangered in California but more common elsewhere (CNPS-List 2.1), and as "seriously threatened" in California due to more than 80 percent of occurrences threatened. Impacts to this non-listed, MSCP-covered species would be considered potentially significant. Compliance with the Otay Ranch RMP and MSCP salvage and relocation measures will be required in accordance with mitigation measure BIO-2 to reduce impacts to less than significant levels.

Impacts to Sensitive Plant Species with Potential to Occur

Narrow-Leaved Nightshade

Narrow-leaved nightshade is a non-listed, MSCP-covered species that has a high potential to occur within portions of the Main Campus Property, Lake Property, and off-site areas east of the Lake Property characterized by Diegan coastal sage scrub underlain with Olivenhain cobbly loam. If present, this species would be expected to occur in low numbers, based on the lack of prime rocky microhabitat. Impacts to this non-listed, MSCP-covered plant species would be less than significant, as this species is no longer listed as sensitive by CNPS or CNDDB, and local populations near the east end of Lower Otay Reservoir and elsewhere in the local area are considered to be adequately conserved under the MSCP.

Otay Tarplant

Otay tarplant is a listed, MSCP-covered, Narrow Endemic Species that has a high potential to occur within portions of the main campus and Lake Property characterized by non-native grassland and Diegan coastal sage scrub, as well as similar areas off site. If present, this species could occur in moderate numbers based on the presence of suitable conditions. Potential impacts to this species would be significant. Impacts to Otay tarplant in the Main Campus Property are not restricted. Impacts to Otay tarplant in the Lake Property and off-site impact areas outside of the Preserve would be restricted to no more than 20 percent of the population in the project area, while impacts to Otay tarplant in off-site impact areas within the Preserve would be restricted to no more than 5 percent of the population in the project area. Equivalency findings would be made for all impacts to Otay tarplant in the Lake Property and off-site impact areas. Mitigation measure BIO-2 requires salvage and translocation of Otay tarplant from the impact footprint, if found in rare plant surveys required by mitigation measure BIO-1. Implementation of mitigation measures BIO-1 and BIO-2 would reduce impacts on Otay tarplant to less than significant.

6.1.4 Impacts to Sensitive Animal Species

Impacts to Sensitive Animal Species Known to Occur

Belding's Orange-Throated Whiptail

Belding's orange-throated whiptail is a non-listed, MSCP-covered species observed once within the Diegan coastal sage scrub on the main campus. The state ranking for this species is S2 (imperiled) and it is listed as a state species of special concern. This species occurs in Diegan coastal sage scrub and other habitats that are adequately conserved in the local area under the MSCP. Impacts to this non-listed species would be less than significant, as local populations are considered to be adequately conserved in the local area under the MSCP.

Coastal California Gnatcatcher

The proposed project would result in impacts to occupied habitat of the federally-listed threatened coastal California gnatcatcher. One coastal California gnatcatcher pair and two unpaired individuals were observed on the Main Campus Property in 2013 and 2014. One unpaired coastal California gnatcatcher individual was observed in the northern portion of the Lake Property in 2014. This species is presumed to occupy the Diegan coastal sage scrub on the main campus and Lake Property. Surveys conducted for Otay Ranch Village 10 found no coastal California gnatcatcher in the vicinity of the off-site impact areas in Salt Creek south of the Main Campus Property. Diegan coastal sage scrub vegetation in this area is less well-developed than on the Main Campus Property, and is of lower value as gnatcatcher habitat. Gnatcatcher is not expected in the off-site impact areas south of the Main Campus Property. Off-site impact areas between the Lake Property and Wueste Road contain Diegan coastal sage scrub habitat equivalent to that on the Lake Property itself, and gnatcatcher is presumed to occupy those areas east of the parcel. Impacts to this listed, MSCP-covered species would be considered potentially significant. Pre-construction survey and species-specific avoidance measures are recommended herein to reduce impacts to less than significant levels.

Southern California Rufous-Crowned Sparrow

Southern California rufous-crowned sparrow was observed immediately outside of the proposed impact footprint and is presumed to occupy Diegan coastal sage scrub in the proposed development area including off-site impacts (Figure 6). Impacts to this non-listed, MSCP-covered species would be considered potentially significant if nesting/breeding individuals are present during construction and removal of habitat. Measures are recommended herein to prevent direct impacts to this species and other nesting birds protected under the MBTA and CFG Code.

San Diego Black-Tailed Jackrabbit

San Diego black-tailed jackrabbit was observed in the northern portion of the Main Campus Property, outside of the project impact footprint. This species is likely to occupy the scrub and chaparral habitat types on the Main Campus Property, Lake Property, and off-site areas in relatively low numbers. Impacts to this non-listed species would be less than significant, as local populations are considered to be adequately conserved in the local area under the MSCP.

Impacts to Sensitive Animal Species with Potential to Occur

San Diego Fairy Shrimp

San Diego fairy shrimp has potential to occur within the vernal pools and road ruts on the Lake Property. The project has been specifically designed to avoid vernal pools and watershed areas; however, three road ruts that could support San Diego fairy shrimp occur within the impact footprint. Additional road ruts may occur in the off-site impact areas. The potential for the road ruts to support San Diego fairy shrimp is considered low, as these ruts are apparently of recent origin and likely do not hold water long enough to allow fairy shrimp to complete their life-cycle. Impacts to this listed, MSCP-covered species would be considered significant. Pre-construction survey and avoidance measures are required herein to reduce potential impacts to less than significant.

Quino Checkerspot Butterfly

Quino checkerspot butterfly has potential to occur within grassland and scrub habitats on the main campus and Lake Property that might support the species' host plant(s), based on habitat affinities and species range. Host plants (dot-seed plantain (*Plantago erecta*) and owl's clover (*Castilleja exserta*) are known to occur on the northern slopes of Salt Creek valley in Otay Ranch Village 10 and the Salt Creek Preserve area immediately south of the Main Campus Property (Dudek 2009). Quino checkerspot butterfly was observed on the south slopes of Salt Creek Valley, south of the Main Campus Property, during focused surveys conducted in 2009 (Dudek 2009). Focused surveys in Village 10 conducted in 2011 were negative, although host plants were observed in the same locations reported in 2010 (Dudek 2014). The Biological Technical Report for Village 10 concluded that Quino checkerspot butterfly has a "moderate" potential to occur in Village 10 (Dudek 2014). Dudek has not conducted protocol Quino surveys of Village 10 since 2011.

No Quino host plants have been observed in the UID project site (either parcel); however, focused surveys have not been performed on either parcel and the presence of host plants or Quino checkerspot butterfly cannot be ruled out entirely. Potential for Quino checkerspot on the Main Campus Property and Lake Property, and off-site impact areas for the Lake Property, is considered low; potential in the off-site impact areas south of the Main Campus Property is considered moderate. Impacts to this listed, MSCP-covered species would be considered significant, including impacts to occupied habitat. The SAP requires that impacts to Quino checkerspot habitat in the Preserve east of SR 125 be avoided to the maximum extent practicable. Patches of dot-seed plantain at least 50 square meters in area, or groups of patches within 200 meters of each other with a combined area of at least 50 square meters, are considered significant Quino habitat. No significant patches of dot-seed plantain have been mapped in the off-site impact areas south of the Main Campus Property, and none are expected to occur. Off-site impacts would be situated so as to avoid any significant Quino habitat in the Otay River Valley.

San Diego Horned-Lizard

San Diego horned-lizard is a non-listed, MSCP-covered species with a high potential to occur within the Diegan coastal sage scrub on the main campus and Lake Property. If present, this species would not be expected to occupy the habitat in very high numbers. State rankings for this species is S3S4 (between moderately threatened and secure). This species occurs in Diegan coastal sage scrub and other habitats that are adequately conserved in the local area under the MSCP. Potential impacts would be considered less than significant.

Coastal Cactus Wren

Coastal cactus wren has potential to occur within portions of the Main Campus Property that support maritime succulent scrub. This non-listed, MSCP-covered species is known to occur in the local area and has been previously observed within scrub habitat to the immediate south of the Main Campus Property and west of the Lake Property. Impacts to coastal cactus wren would be considered significant without mitigation. Pre-construction survey and avoidance measures are required herein to reduce potential impacts to less than significant.

Burrowing Owl

Suitable grassland habitat for burrowing owl exists on the Main Campus Property; therefore, protocol burrowing owl surveys were completed in 2016. Burrowing owl is a non-listed, MSCP-covered species with potential to occur on the Main Campus Property and off-site areas south of it based on habitat affinities and species range. Only a few suitable burrows have been observed during biological surveys of the Main Campus Property, and rodent activity on the parcel is not apparently high. Protocol surveys completed in 2016 were negative; thus the site is considered unoccupied at this time, and the potential for burrowing owl to occur on the Main Campus Property in the future is considered low. Burrowing owl is not expected on the Lake Property and off-site impact areas east of it due to lack of suitable extensive grassland habitat. Potential for burrowing owl in Village 10, south of the Main Campus Property, is considered "moderate to high" in a previous study (Dudek 2014). Impacts to burrowing owl or occupied

burrowing owl habitat as defined by CDFW (2012) would be considered significant without mitigation. Pre-construction survey and avoidance measures are required herein to reduce potential impacts to less than significant.

Northern Harrier

Northern harrier is a non-listed, MSCP-covered species that was observed foraging over the Main Campus Property in 2013. Potential for northern harrier to occur on the Main Campus Property as a resident is considered low, due to presence of only marginal nesting habitat. The loss of foraging habitat would be considered less than significant due to the amount of habitat that is adequately protected in the Otay Ranch Preserve and local area. Potential impacts to nesting northern harrier would be considered significant. Pre-construction survey and avoidance measures are required herein to reduce potential impacts to less than significant.

Least Bell's Vireo

Least Bell's vireo is federally- and State-listed as endangered and is an MSCP-covered species with certain avoidance requirements. Vireo is known to occur and was incidentally observed within the riparian habitat along the northeastern and eastern portion of the Main Campus Property. Direct impacts to vireo and its habitat would not occur. Potential indirect construction noise-related and operation impacts could occur and would be considered significant. Pre-construction survey and avoidance measures are proposed herein to reduce potential construction-related impacts to less than significant. Potential indirect operation-related impacts would be reduced to less than significant through implementation of the project's Preserve Edge Plan.

Nesting Birds

The proposed project would result in the removal of trees, shrubs, and other vegetation that provide suitable nesting habitat for common birds, including raptors, protected under the MBTA and California Fish and Game Code (CFG Code). Construction of the proposed project could result in the removal or trimming of trees and other vegetation during the general bird nesting season (January 15 through September 15) and, therefore, could result in impacts to nesting birds. Direct impacts could occur as a result of removal of vegetation supporting an active nest. Indirect impacts could occur as a result of construction noise and vibration in the immediate vicinity of an active nest, such that the disturbance results in a nest failure. These impacts would be considered significant.

6.1.5 Impacts to Jurisdictional Waters and Wetlands On Site

The project would directly impact an estimated 0.44 acre of USACE-, CDFW-, and RWQCB-jurisdictional waters on site, in the form of streambed in the western portion of the Main Campus Property and 0.08 acre of CDFW-jurisdictional mulefat scrub in the south-central portion of the Main Campus Property (Table 4). The project is designed to avoid freshwater marsh and southern willow scrub in the engineered channel that flows across the northeast corner

of the Main Campus Property. The project is also designed to avoid the vernal pools and watershed areas in the western part of the Lake Property.

Table 4
IMPACTS TO ON-SITE JURISDICTIONAL WATERS AND WETLANDS (ac)

WETLAND VEGETATION COMMUNITY	JURISDICTION	MAIN CAMPUS PROPERTY	LAKE PROPERTY	TOTAL
Development Area Outside of Preserve				
Mulefat Scrub	CDFW	0.08	--	0.08
Streambed	USACE/RWQCB/CDFW	0.36	--	0.36
	TOTAL	0.44	--	0.44

Section 5.2.4 of the SAP states that wetland impacts are to be avoided or minimized to the greatest extent practicable. All USACE-jurisdictional wetland on the Main Campus Property and Lake Property is avoided, and impacts to 0.08 acre of CDFW-jurisdictional mulefat scrub are unavoidable. Impacts to natural drainage channels are minimized to the maximum extent practicable. The streambed in the western portion of the Main Campus Property is the result of an engineered storm drain outfall, and the steep-sided, eroded, gullied nature of the channel suggests that it is of recent origin and was not a natural drainage channel prior to the construction of the storm drain outfall. In addition, the downstream portion of the westernmost drainage will be permanently impacted as a result of Village 10, so that the on-site drainage section will likely not have downstream connectivity when the UID project is built. The streambed in the center of the Main Campus Property is also the result of an engineered storm drain outfall, but has an intermittent channel with less evidence of flow, and also likely was not a natural drainage channel prior to the construction of High Tech High.

The project includes storm water collection systems and detention basins with energy-dissipating outfalls to prevent discharge of sediment-containing storm flows or water at erosive velocities into Salt Creek, Otay River, or Lower Otay Lake. Because the hydrology of the Otay River is controlled by Savage Dam, storm water and runoff from the proposed development would not significantly alter the hydrology of the Otay River downstream of the project.

6.1.6 Off-site Impacts to Jurisdictional Waters and Wetlands

The project would impact 0.001 acre of USACE-, RWQCB-, and CDFW-jurisdictional waters off-site, in the form of streambed, where the proposed storm water conveyance pipeline crosses an unnamed tributary to Salt Creek. These impacts would be temporary, or could be avoided by using jack-and-bore construction methods to go under the streambed without disturbing the ground surface. The project would also impact 0.019 acre of USACE-, RWQCB-, and CDFW-jurisdictional waters off-site, in the form of streambed, in the off-site grading area for the Main Campus Property, within the Village 10 project footprint.

Table 5 IMPACTS TO OFF-SITE JURISDICTIONAL WATERS AND WETLANDS (ac)				
WETLAND VEGETATION COMMUNITY	**JURISDICTION**	**MAIN CAMPUS PROPERTY**	**LAKE PROPERTY**	**TOTAL**
Development Area Outside of Preserve				
Streambed	USACE/CDFW/RWQCB	0.02	--	0.02
	TOTAL	**0.02**	**--**	**0.02**

6.1.7 Impacts to Vernal Pools

The project would not impact any known vernal pools, but development of the Lake Property would impact road ruts that could potentially support fairy shrimp, and road ruts and potential vernal pools occur in off-site impact areas; therefore, fairy shrimp surveys will be required prior to grading (see mitigation measures BIO-3 and BIO-4).

6.1.8 Impacts to Wildlife Movement Corridors and Linkages

Analysis of the UID plan in Section 3.1.5.4 of the MSCP Subarea Plan concluded that the UID plan as adopted in the MSCP Subarea Plan provides significant wildlife movement features in the form of a connection between Preserve lands in Salt Creek and Lower Otay Reservoir, and enhanced connection of Preserve lands in Salt Creek to the Otay River Valley. The connection to Lower Otay Reservoir consisted of an open space corridor across the northern edge of the Lake Property, separating it from the Olympic Training Center to the north. This corridor connects to an archipelago of Diegan coastal sage scrub habitat that reaches to Upper Otay Lake and open space to the north and east. Improved connection of Salt Creek to the Otay River Valley comes from the elimination of an originally planned active recreation area in the eastern Otay River Valley and the elimination of an extension of Alta Road across Salt Creek and the Otay River. A subsequent revision analyzed in the University Villages EIR further improved open space connectivity by providing a second Preserve connection south of the Lake Property.

Off-site Planned and Future Facilities in the Preserve would be underground (conveyance pipelines) or below-grade (storm water detention basin) and thus would not affect line of sight in the Preserve. Construction of the basins and associated outfall will not preclude wildlife from using the area. The detention basin and pipelines have been located on an existing dirt road. The access roads are not expected to preclude wildlife from using the area as wildlife will traverse the road. In addition, the road is not expected to receive much traffic. Construction of the storm and sewer facilities will not preclude wildlife from using the area as these facilities are underground. The area will be revegetated with native upland herbaceous species so as to not preclude movement of wildlife through the area and also to provide foraging opportunities (Mitigation Measure BIO-16).

6.1.9 MSCP Consistency

The proposed UID project would be consistent with the City's MSCP SAP through adherence to project-specific conditions in the Otay Ranch RMP for development on the Main Campus Property, conformance with the HLIT for development on the Lake Property and in off-site areas between it and Lower Otay Lake, and through adherence to Siting Criteria for Planned and Future Facilities inside the Preserve for off-site impacts located in the Preserve south of the Main Campus Property and southwest of the Lake Property. Off-site impacts inside the City of San Diego's MHPA in Chula Vista jurisdiction are an approved use in both the City of San Diego MHPA and City of Chula Vista Preserve and would be mitigated according to the HLIT.

Conditions of Coverage for the University Project

The project would be consistent with the Chula Vista MSCP Subarea Plan Section 7.6.2, which lists the following conditions of coverage for the development of the University Site, as follows:

1. 20.6 acres of disturbed area within Salt Creek will be restored/enhanced to coastal sage scrub habitat (Figure 3-2). Prior to approval of a grading plan for the university project, a restoration/enhancement plan will be prepared consistent with the guidelines established in the Otay Ranch Coastal Sage Scrub Master Plan.

This requirement was included as Mitigation Measure BIO-15.

2. Disturbance of coastal sage scrub within the university development areas on the east side of Salt Creek will be subject to grading restrictions during the coastal California gnatcatcher breeding season;

Coastal California gnatcatcher breeding season restrictions are included in mitigation measure BIO-6.

3. Any temporary impacts from grading that encroach into habitat areas will be restored consistent with the guidelines established in the Otay Ranch RMP;

Temporary impacts to 0.31 acre of maritime succulent scrub inside the Preserve will be restored pursuant to the Otay Ranch RMP restoration requirements per Mitigation Measure BIO-14. Temporary impacts to coastal sage scrub and non-native grassland from Future and Planned Facilities will be revegetated per Mitigation Measure BIO-16. Off-site grading impacts from the Main Campus Property are located outside of the Preserve and will only impact non-sensitive habitat (agriculture and disturbed habitat), and thus do not require mitigation.

4. All brush management activities will be conducted within the development areas and will be consistent with the brush management requirements of the Otay Ranch RMP; and,

According to section 9.8.3 of the SPA Plan, pursuant to the UI District Fire Protection Plan and Chula Vista MSCP Subarea Plan, fuel modification zones have been incorporated into the UI District development areas adjacent to natural open space. These fuel modification zones are

consistent with the requirements of the Chula Vista MSCP Subarea Plan and Otay Ranch Phase 2 RMP. No fuel modification activities will occur within Otay Ranch Preserve/MSCP areas. Graded landscaped slope areas will be maintained pursuant to FPP requirements and will be outside of the Preserve.

Siting Criteria for Planned and Future Facilities Located Within the Preserve

This section outlines the Planned and Future Facilities associated with the proposed project and how they adhere to the siting criteria in Sections 6.3.3, 6.3.3.1, 6.3.3.2, and 6.3.3.4 of the MSCP Subarea Plan. Because of the long term of the proposed project implementation, this analysis is preliminary and subject to change as project designs are finalized. Mitigation measures will be required to reaffirm this analysis once final design plans are available and required focused surveys are performed. Where possible, facilities such as roads, sewer lines, and storm drains were co-located to reduce impacts.

Some of the Future Facilities associated with the Lake Property would be located between the Lake Property and Lower Otay Reservoir outside of the City of Chula Vista's Preserve (Figure 9). These Future Facilities would include storm water conveyance pipelines and a detention basin located between the Lake Property and Wueste Road in an area currently mapped as Diegan coastal sage scrub, and storm water outfalls that would cross Wueste Road into the City of San Diego's MHPA. These areas are currently developed as a parking lot and boat launch facility. The northernmost storm water pipeline crosses the Preserve before crossing Wueste Road and entering the MHPA. In addition, the sewer line for the Lake Property runs south and then northwest through the Preserve to reach the Salt Creek Interceptor. These off-site impacts associated with the Lake Property would be subject to Siting Criteria under the City's SAP.

***Criterion 1* – Such facilities will be located in the least environmentally sensitive location feasible, and use existing roads, trails and other disturbed areas, including use of the active recreation areas in the Otay River Valley, as much as possible (except where such areas are occupied by the Quino checkerspot butterfly). Facilities should be routed through developed or developing areas where possible. If no other routing is feasible, alignments should follow previously existing roads, easements, rights of way, and disturbed areas, minimizing habitat fragmentation.**

Wastewater conveyance pipelines associated with the Salt Creek Interceptor are Planned Facilities in Table 6-1 of the MSCP Subarea Plan. The proposed project includes a wastewater conveyance pipeline connecting the Main Campus Property to the Salt Creek Interceptor (Figure 8). This Planned Facility would begin at the southern tip of the development area at approximately the east-west midpoint of the Main Campus Property and follow an existing dirt road to within 400 feet of the Salt Creek Interceptor. This existing dirt road is currently unmaintained and the width of a single vehicle. The existing dirt road would be widened to a maximum of 12 feet in accordance with restrictions in the Otay Ranch RMP, though temporary disturbance would be up to 20 feet wide for installation of the co-located underground sewer and storm drain lines. The sewer line would traverse the final 400 feet to the Salt Creek Interceptor along another existing dirt road that runs east-west along the northern edge of the Otay River Valley from the Salt Creek Interceptor. The precise nature of this existing dirt road is unknown,

as it lies outside the area of HELIX surveys and no descriptions of it could be found in other documents, but it is at least comparable to the existing road leading from the Main Campus Property and likely is wider. Temporary impact areas would be revegetated following conclusion of construction activities.

No previously existing rights-of-way or easements are available to connect the Main Campus Property to the Salt Creek Interceptor. The area these roads traverse is known to support populations of host plants for Quino checkerspot butterfly (Dudek 2009, 2014; RECON 2015), but no individuals of that species have been recorded in the area. The use of existing roads with only minor improvements would result in no significant increases in habitat fragmentation, and the proposed Planned Facility would be underground and thus have no permanent impact on surface resources beyond the improving of the access road.

The proposed project includes a second wastewater conveyance pipeline connecting the Lake Property to the Salt Creek Interceptor, which is a Planned Facility per Table 6-1 of the MSCP Subarea Plan. This Planned Facility would begin in the middle of the Lake Property and follow an existing dirt road to the south, then turn west into the Preserve and follow another existing dirt road northwest to the Salt Creek Interceptor (Figure 9). There is an approximately 290-foot section between the two dirt roads; this is necessary in order avoid making an acute angle. Access to the sewer lateral should be provided by an existing utility road used by Chula Vista and SDCWA; if necessary, the existing dirt roads would be widened to a maximum of 12 feet in accordance with restrictions in the Otay Ranch RMP, though temporary disturbance would be up to 20 feet wide for installation of the underground sewer line. Temporary impact areas would be revegetated following conclusion of construction activities.

No previously existing rights-of-way or easements are available to connect the Lake Property to the Salt Creek Interceptor. The area these roads traverse within the Preserve is not known to support populations of host plants for Quino checkerspot butterfly (RECON 2015), and no individuals of that species have been recorded in the area. The use of existing roads with only minor improvements would result in no significant increases in habitat fragmentation, and the proposed Planned Facility would be underground and thus have no permanent impact on surface resources beyond the improving of the access road.

The proposed storm drain conveyance pipeline and detention basin south of the Main Campus Property are Future Facilities anticipated as necessary to support development of the UID project. The storm drain line would be co-located with the wastewater line from the Main Campus Property boundary to the second of the two existing dirt roads described above, where the sewer line would turn east to the Salt Creek Interceptor. This segment of the sewer lateral will be co-located in an OVRP trail connector sited in conjunction with Village 10. This co-locating/clustering of facilities serves to minimize impacts/habitat fragmentation as required by this criterion. From that point, the storm drain line would traverse currently undeveloped land mapped as non-native grassland, cross a non-wetland jurisdictional stream channel, and reach another existing dirt road, at which point it would follow the road west to the location of the proposed detention basin. The proposed detention basin is within the Village 10 SPA, located near the Village 10 detention basins, in a former planned active recreation area that was removed from the plan in the University Redesign for the final 2003 MSCP Subarea Plan. This area is

currently mapped as supporting Diegan coastal sage scrub, riparian scrub, and non-native grassland (Figure 5). The proposed detention basin is located between the toe of a slope to the north, and a jurisdictional channel supporting freshwater marsh to the south (Figure 8). The slope supports Diegan coastal sage scrub vegetation and was occupied by coastal California gnatcatcher during previous surveys (Dudek 2014). The detention basin would be sited to avoid wetland vegetation and jurisdictional resources.

The only Future Facility inside the Preserve proposed for the Lake Property is a storm water conveyance pipeline that would cross a corner of the Preserve north of the parcel (Figure 9). This pipeline would be underground, and all impacts associated with it would be temporary. There are no existing roads or easements available in that portion of the preserve for the pipeline to follow; however, it is located in a corner of the Preserve near the Lake Property and Wueste Road, and would not constitute a permanent surface disturbance in the Preserve.

***Criterion 2** – Such facilities shall avoid, to the maximum extent practicable, impacts to covered species and wetlands, and will be subject to the provisions, limits, and mitigation requirements for narrow endemic species and wetlands pursuant to Section 5.2.3 and 5.2.4 of the Subarea Plan.*

The conceptual locations for the off-site facilities are within the least environmentally sensitive locations within the Preserve based on available information to minimize impacts to sensitive species and their habitats. Given the presumed presence of coastal sage scrub, maritime succulent scrub, and non-native grassland located on either side of the alignment and basin footprint, alternate siting would not be expected to substantially reduce impacts to these habitat communities and the sensitive species that they may support. Although sensitive habitat communities would not be entirely avoided, the majority of the off-site facilities have been sited through existing access roads and less biologically sensitive areas based on available information. Presence of narrow endemic species and other sensitive species is not known. The boundaries of potential wetlands located within Salt Creek immediately adjacent to the detention basin have not been formally delineated; however, based on mapped vegetation information, it appears as though wetlands would be avoided by the conceptual location for the basin. Further, trenchless construction methods could be implemented for construction of conveyance facilities in order to avoid impacts to sensitive resources, if feasible.

This criterion will be satisfied once additional studies are completed to verify boundaries of potential wetlands and the presence or absence of narrow endemics and other sensitive species.

***Criterion 3** – Where roads cross the Preserve, they should provide for wildlife movement in areas that are graphically depicted on and listed in the MSCP Subregional Plan generalized core biological resource areas and linkages map as a core biological area or a regional linkage between core biological areas. All roads crossing the Preserve should be designed to result in the least impact feasible to covered species and wetlands. Where possible at wildlife crossings, road bridges for vehicular traffic rather than tunnels for wildlife use will be employed. Culverts will only be used when they can achieve the wildlife crossing/movement goals for a specific location. To the extent feasible, crossings will be designed as follows: the substrate will be left in a natural condition or revegetated if soils engineering requirements*

force subsurface excavation and vegetated with native vegetation if possible; a line-of-sight to the other end will be provided; and if necessary, low-level illumination will be installed in the tunnel.

This criterion applies primarily to public circulation elements that span the Preserve. The proposed off-site impacts include two unpaved utility access roads that would not be open to the driving public and would not regularly carry traffic. The Main Campus Property road would provide access to both the co-located sewer and storm drain lines, and serve as a trail, avoiding redundant roads in the Preserve. The Lake Property road would be used for sewer access only. Both roads would follow existing access roads wherever possible. The proposed facilities would not include lighting, and would be restricted to the northern edge of the Salt Creek and Otay River Valley regional linkage. Temporary impacts associated with the installation of these conveyance pipelines would be revegetated per mitigation measure BIO-16.

Criterion 4 – To minimize habitat disruption, habitat fragmentation, impediments to wildlife movement and impact to breeding areas, road and/or right-of-way width shall be narrowed from existing City design and engineering standards, to the maximum extent practicable. In addition, roads shall be located in lower quality habitat or disturbed areas to the maximum extent practicable.

Existing access roads will be utilized for the off-site storm water pipeline and sewer line. Improvements may be required in some areas to achieve roadway widths of 12 feet. The access roads would be used to access the storm water and sewer facilities, thus avoiding the need to construct redundant access roads through the Preserve and minimizing impacts to wildlife habitats. The proposed roads are located in lower quality habitat or on existing dirt roads. The proposed storm water and wastewater conveyance pipelines have been co-located as far as possible to minimize disturbance. The proposed detention basin would be located in uplands and as much as possible in areas of non-native grassland. Therefore, this criterion has been satisfied.

Criterion 5 – Impacts to covered species and habitats within the Preserve resulting from construction of future facilities will be evaluated by the city during project review and permitting. The city may authorize "take" for impacts to covered species and habitats resulting from construction of future facilities located outside the Preserve, pursuant to the Chula Vista MSCP Subarea Plan and consistent with the facility siting criteria in this section.

This siting criteria analysis is preliminary, given the anticipated long-term of project implementation. Facilities needs, designs, and locations might change as project design is finalized. This preliminary siting criteria analysis has been performed with City oversight, and additional review will be required to affirm these preliminary conclusions once final project designs are available. There are mitigation measures included in this report that require a final siting criteria analysis before acceptance of final project designs.

Criterion 6 – The City may authorize "take" for impacts to covered species resulting from construction of future facilities located within the Preserve, subject to a limitation of two acres of impact for individual projects and a cumulative total of 50 acres for all future facilities. Wildlife agency concurrence will be required for authorization of take for any impacts to

covered species and habitat within the Preserve that exceed two acres that may result from construction of any individual future facility. Wildlife agency concurrence will be required for authorization of take for impacts to covered species and habitat within the Preserve that exceed 50 acres that may result from all future facilities combined.

The total permanent impact from proposed Future Facilities within the Preserve would be 4.30 acres (Table 3). Because the permanent impact from the detention basin exceeds the two acre per facility limit, wildlife agency concurrence is expected to be required. The University Villages Project Draft EIR (August 2014) identified 6.2 acres of cumulative impacts to covered habitat from Future Facilities within Otay Ranch. After adding the 4.30 acres proposed with this project, the cumulative total would be 10.5 acres, still below the 50 acre cumulative limit.

Criterion 7 – Planned and future facilities must avoid impacts to covered narrow endemic species and the Quino checkerspot butterfly to the maximum extent practicable. When such impacts cannot be avoided, planned and future facilities located within the Preserve are subject to the provisions of Section 5.2.3.6 of the Chula Vista MSCP Subarea Plan. Impacts to Quino checkerspot butterfly that will result from construction of planned and future facilities within the Preserve are subject to the provisions of Section 5.2.8 of the Chula Vista MSCP Subarea Plan.

The proposed Planned and Future Facilities for the Main Campus Property are located in an area that supports sparse populations of host (dot-seed plantain) and nectar (owl clover) plants for Quino checkerspot butterfly, but is not considered significant Quino habitat (Dudek 2014). The proposed sewer connection for the Lake Property is located outside of potential Quino habitat (RECON 2015). Historic sightings of Quino checkerspot butterfly in this part of the Salt Creek Valley are rare and generally considered to be transient individuals (Dudek 2009). No other Narrow Endemic Species have been mapped in the location of the proposed facilities.

Planned and Future Facilities – Additional Measures

In accordance with Section 5.2.8.1 of the MSCP Subarea Plan, infrastructure projects constructed within the Preserve will be subject to the following sequence of measures to avoid and minimize impacts to Quino checkerspot butterfly and Quino checkerspot butterfly habitat.

Measure 1 – A habitat assessment will be conducted in potential facility locations as part of the project siting and design process.

Habitat assessments conducted for the Village 10 SPA, in which the proposed Future Facilities are partially located, concluded that Quino checkerspot butterfly has "moderate" potential to occur in the Village 10 SPA and that the location of the proposed detention basin is not significant Quino checkerspot butterfly habitat. Habitat assessment conducted for the Otay Ranch Preserve – Salt Creek Parcels concluded that the Lake Property sewer connection alignment is not significant Quino checkerspot butterfly habitat (RECON 2015).

<u>Measure 2</u> – Quino checkerspot butterfly surveys will be conducted in appropriate habitat by a qualified biologist in accordance with the most recent survey protocol adopted by the USFWS.

The habitat assessment data currently available indicate that the proposed Planned and Future Facilities are located in habitat that is at best low-quality or marginally suitable for Quino checkerspot butterfly, and not expected to warrant protocol surveys. However, a subsequent habitat assessment will be required once project level infrastructure plans are available. Based on the results of the project level habitat assessment, Quino checkerspot butterfly surveys will be conducted in appropriate habitat by a qualified biologist in accordance with the most recent survey protocol adopted by the USFWS.

<u>Measure 3</u> – If Quino checkerspot butterfly are observed within the project area, the project will be designed to avoid impacts to Quino checkerspot butterfly habitat to the maximum extent practicable.

This measure would be satisfied upon completion of the required Quino checkerspot butterfly surveys, which would be conducted when the final design for the off-site facilities is developed.

<u>Measure 4</u> – The following avoidance criteria will be applied specifically to Preserve Habitat-Category A areas located east of SR 125.

> ***a. For Preserve Habitat-Category A areas east of SR 125 that are within the Salt Creek drainage and the Otay River Valley and associated with the property known as the New Millennium Property, single patches of plantago equal to or greater than 50 square meters, or if less than 50 square meters any combination of patches within 200 meters of each other which are equal to or greater than 50 square meters, and as mapped in the habitat assessment prepared by Dudek and Associates (Appendix J of the Chula Vista MSCP Subarea Plan) will be considered "significant QCB habitat patches".***
>
> The project is not located on the New Millennium Property, so this criterion does not apply.
>
> ***b. For Preserve Habitat-Category A areas located east of SR 125 that are within the Salt Creek drainage and the Otay River Valley and outside of the New Millennium Property, a detailed habitat assessment will be conducted using the same methodology employed by Dudek and Associates (1999) to identify patches of QCB habitat, including mapping patches of Plantago erecta and other host plants, if applicable. In this area, single patches of plantago equal to or greater than 50 square meters, or if less than 50 square meters any combination of patches within 200 meters of each other which are equal to or greater than 50 square meters, will be considered "significant QCB habitat patches".***
>
> The off-site impact areas and a small portion of the Main Campus Property are apparently within Preserve Habitat-Category A as shown on Chula Vista MSCP Subarea Plan figure 4-1; therefore, a detailed habitat assessment using this methodology will be conducted when the final design for the off-site facilities is developed, prior to the issuance of any

land development permits, including clearing, grubbing, and grading permits within Preserve Habitat-Category A.

c. Projects shall be designed to avoid "significant QCB habitat patches" to the maximum extent practicable, regardless of whether QCB are observed. If impacts to these habitat patches cannot be avoided, the City will consult with the Wildlife Agencies and the Wildlife Agencies will cooperatively work with the City to site the proposed facility in a location that will best minimize impacts to QCB habitat. The City will submit a written request for input to the Wildlife Agencies. The Wildlife Agencies will meet and confer with the City and, no later than 60 days of receipt by the Wildlife Agencies of written notice from the City, resolution on the appropriate location of the proposed facility will be completed.

The project will comply with this criterion when the detailed habitat assessment is completed, prior to the issuance of any land development permits, including clearing, grubbing, and grading permits within Preserve Habitat-Category A.

d. During joint review of a project proposing to impact one or more "significant QCB habitat patches", a cooperative assessment will be made by the City and Wildlife Agencies to determine the overall significance of the proposed impacts to "significant QCB habitat patches". The assessment will be made within the context of the quality and location of other QCB habitat within the Preserve at the time of the assessment. Evaluation of proposed project impacts to significant habitat patches shall also take into consideration all of the other components of the City's QCB program. In particular, if the planned QCB habitat restoration/enhancement component has demonstrated success, the City and the Wildlife Agencies shall consider the restoration/enhancement component in their evaluation of the individual project's impacts.

This measure would be completed if necessary, although the project is not currently expected to impact "significant QCB habitat patches."

e. When the City has successfully completed, as determined by the Wildlife Agencies, at least 10 acres of QCB restoration/enhancement within the Preserve in the Salt Creek/Otay River Valley area, the provisions of Section 5.2.8.1 (4)(a-d) will no longer be applicable.

The City has not received sign-off from the Wildlife Agencies to date; therefore, the provisions of Section 5.2.8.1 (4)(a-d) are still applicable.

Measure 5* – *For construction in areas adjacent to occupied habitat, dust control measures (i.e., watering) will be applied during grading activities.

Air quality dust control measures and previously adopted air quality mitigation measures from the Otay Ranch GDP PEIR would be implemented during project construction, which would minimize potential indirect fugitive dust-related impacts to sensitive biological resources.

Measure 6* – *As part of the overall Preserve management strategy, a weed control program will be established for all water/sewer line access roads built through potential Quino checkerspot butterfly habitat. This will include road construction using a concrete-treated base material with aggregate rock to prevent vegetation growth on the road surface, while allowing sufficient percolation to minimize flows. The zone of influence to be subject to the weed control program will be determined by the City Habitat Manager based on site-specific conditions.

The proposed Planned and Future Facilities are not located in an area that is currently considered significant Quino habitat; however, this will be confirmed by subsequent studies once project level infrastructure plans are available. Proposed access roads would conform to the construction specifications of this Measure. Approval of a weed control program for the proposed Planned and Future Facilities will be a condition of final UID project approval.

Planned and Future Facilities – Implementation Criteria/Assurances

Table 6-1 of the MSCP Subarea Plan identifies implementation criteria/assurances for planned facilities. The off-site storm water pipeline, detention basin, and sewer pipeline would serve the University Park and Research Center SPA. These implementation criteria/assurances include the following:

Assurance 1* – *Siting of the facilities is subject to the Otay Ranch RMP Phase 1 Policy 6.6 and the Otay Ranch RMP Infrastructure Plan, Section 6.0; and Otay Ranch RMP Phase 2 Conceptual Infrastructure Plan.

The development associated with the off-site facilities in the Preserve is consistent with the Otay Ranch RMP Phase 2 Conceptual Infrastructure Plan in that UID has been sited primarily in low quality habitat areas to the extent practicable; temporary impacts to habitat would be mitigated; potential impacts to sensitive species would be mitigated; erosion control would be implemented through the BMPs required by a project-specific SWPPP; and wetland impacts would be avoided and minimized through site design. An MSCP siting criteria analysis in accordance with the MSCP SAP Section 6.3.3.4 is provided in Section 6.1.9.1 of this report.

Assurance 2* – *BMPs will be used to design and maintain these facilities.

Prior to issuance of land development permits, including clearing or grubbing and grading and/or construction permits, the applicant would prepare a SWPPP to the satisfaction of the City Engineer. The BMPs contained in the SWPPP shall include, but are not limited to, silt fences,

fiber rolls, gravel bags, and soil stabilization measures such as erosion control mats and hydro-seeding. Therefore, this assurance is expected to be met.

***Assurance 3* – Storm water lines will be sited to avoid mitigation sites created as mitigation for other projects.**

No mitigation sites are known to occur within the immediate vicinity of the off-site pipeline alignments; therefore, this assurance is expected to be met.

***Assurance 4* – Maintenance access roads related to the facilities will be sited to avoid to the maximum extent practicable impacts to covered species and habitats, including covered narrow endemic species, pursuant to the facilities siting criteria in Section 6.3.3.4 of the Chula Vista MSCP Subarea Plan.**

The project has reduced widths, co-located infrastructure, and located facilities within the least environmentally sensitive areas to avoid to the maximum extent practicable impacts to covered species and habitats.

***Assurance 5* – Through Salt Creek where new maintenance access roads must be developed, road widths will be limited to 12 feet, within a 20-foot disturbance corridor. Through the Otay River Valley where existing unpaved roads will be utilized, road widths will be limited to 20 feet. Maintenance access roads will be constructed as follows: access roads will be constructed of concrete-treated base material with aggregate rock to minimize frequency of maintenance; where access roads exceed a 5 percent grade, concrete or asphalt may be permitted to ensure maintenance vehicle traction; where cross-drainage occurs, concrete aprons may be permitted to minimize erosion.**

Existing access roads will be utilized for the off-site storm water and sewer pipelines, and will not be widened beyond 20 feet. Any new access roads will be limited to 12 feet and will follow the construction specifications above. The western access road would also be used to access the storm water facilities, thus avoiding the need to construct redundant access roads through the Preserve and minimizing impacts to wildlife habitats. Therefore, this assurance is expected to be met.

***Assurance 6* – Temporary impacts related to these sewer facilities will be revegetated pursuant to Section 6.3.3.5 of the Chula Vista MSCP Subarea Plan.**

All temporary impacts resulting from the off-site components would be revegetated per an approved revegetation plan; therefore, this assurance would be met.

***Assurance 7* – Public access to finger canyons associated with the primary canyons involving these facilities will be limited, pursuant to the Otay River Valley Framework Management Plan, Section 7.6.3 of the Chula Vista MSCP Subarea Plan.**

The northern portion of the shared sewer/ storm water access road is also proposed as a rural trail to be built by UID, while the west-east connection to the Salt Creek Interceptor is proposed as a

rural trail to be built by Village 10. According to the Village 10 EIR, post and rail fencing and signage would be placed along the connector trail out of the eastern side of Village Ten, to alert the user to the sensitive nature of the habitat; this also serves to limit public access. By co-locating trails and sewer access roads, additional access points into finger canyons will be limited. Also, section 7.6.3 specifically addresses finger canyons tributary to Wolf Canyon, which is outside of the UID impact area.

6.2 INDIRECT IMPACTS

Both the Main Campus Property and the Lake Property border the Preserve within the Otay Ranch Preserve Management Area (PMA). A small extension of the Preserve across the north edge of the Lake Property is in the Central City PMA, but all other Preserve lands bordered by the Lake Property, and all Preserve lands bordered by the Main Campus Property, are in the Otay Ranch PMA. In accordance with Otay Ranch RMP Policy 7.2, an Edge Plan has been prepared as appendix D to the UID SPA Plan to ensure that proposed land uses will not adversely affect resources within the adjacent Preserve. Adjacency management measures addressed in the UID Edge Plan include: noise, lighting, landscaping, water quality/drainage and brush management. .

6.2.1 Vegetation Communities

Indirect impacts to vegetation communities would result from adverse edge effects. During construction, edge effects could include fugitive dust, erosion, and runoff. Long-term edge effects could include trampling by humans and domestic animals, trash and litter, lighting, invasion by non-native species, exposure to pollutants, and disruption of the natural fire regime. Indirect impacts to vegetation communities are considered significant.

6.2.2 Sensitive Plant Species

Most of the potential indirect effects to vegetation communities discussed above would also adversely affect sensitive plant species. There are no known populations of high-sensitivity plant species in the Preserve near the project boundary; San Diego sunflower and San Diego barrel cactus are the only sensitive species known to occur in the vicinity of either the Main Campus Property or Lake Property. Indirect impacts to sensitive plant species during construction could include fugitive dust, erosion, and runoff. Long-term effects on sensitive plant species could include trampling by humans and domestic animals, collecting, lighting, runoff of herbicides or fertilizers, fire, and hydrological changes. Indirect impacts to sensitive plant species are considered significant.

6.2.3 Sensitive Animal Species

Indirect impacts to sensitive wildlife during construction could include noise, lighting, dust, and trash that attract predators such as ravens. These effects could result in a loss of usable habitat near construction areas. If construction takes place during breeding season of sensitive species, indirect impacts could also result in adverse effects of reproduction. Sensitive species potentially affected by edge effects include, but are not limited to, coastal California gnatcatcher, coastal cactus wren, rufous-crowned sparrow, black-tailed jackrabbit, and raptors. Long-term edge

effects could include noise, lighting, domestic animal predation, and attraction of natural predators such as ravens, skunks, and raccoons. Indirect impacts to sensitive wildlife are considered significant.

6.2.4 Jurisdictional Waters and Wetlands

Adverse edge effects to jurisdictional waters include runoff, erosion, sedimentation, pollution, hydrological changes, non-native species invasion, and habitat type conversion. Indirect impacts to jurisdictional waters are considered significant.

6.2.5 Vernal Pools

Vernal pools occur on the Lake Property, but there are no known vernal pools in the Preserve areas adjacent to the UID project site. Indirect effects to vernal pools on the Lake Property could include runoff, sedimentation, erosion, and non-native species invasion. Indirect effects to vernal pools are considered significant.

6.2.6 Wildlife Movement Corridors and Linkages

Preserve lands in Salt Creek and Otay River Valley are considered an important regional linkage (Ogden 1992). The Lake Property is located between open space in Salt Creek and open space around Lower Otay Reservoir; however, Preserve lands to the north and south of the Lake Property would still allow wildlife movement through this area. Potential edge effects to wildlife movement corridors would be the same as those identified in Section 6.2.3. Indirect effects to wildlife movement corridors and habitat linkages are considered significant.

6.2.7 Adjacency Issues

The project site is adjacent to the City's Preserve on both the Main Campus Property and the Lake Property. The Main Campus Property borders the Preserve along approximately one-third of its perimeter, from the northeastern corner to the south-center. The Lake Property borders the Preserve on its north and west sides. Consequently, the proposed project has the potential to indirectly affect the Preserve. This section provides an analysis of project design features that would minimize indirect impacts from the following sources:

Drainage/Toxics

In order to prevent discharge of toxins and other pollutants into the Preserve, the proposed project would utilize detention basins to be constructed on Otay Ranch Village 10 for Phases 1 and 2 and an off-site detention basin for storm water conveyance and treatment for Phase 3 of the project on the Main Campus Property. This detention basin would allow for control, treatment, and filtration of runoff from development on the Main Campus Property so that the Otay River is unaffected by project runoff. Drainage from the Lake Property would be controlled and treated on-site as part of the project's storm drain system. BMPs would be integrated into the project design to ensure water quality impacts to downstream drainages would be avoided.

Lighting

All lighting in the project would be directed away from the Preserve or shielded from it using appropriate means including lighting fixture design and vegetation where there is potential for overspill into the Preserve. According to the UID SPA Plan Appendix D, the UI District Design Plan includes criteria for the design of lighting for the District, including the 100' Preserve Edge. Improvement plans for the areas within the 100' Preserve Edge will include shielded lighting designs that avoid spillover light in the Preserve. Lighting Plans and a photometric analysis shall be prepared to illustrate the location of proposed lighting standards and type of shielding measures.

Lighting Plans and accompanying photometric analyses must be prepared in conjunction with improvement plans for any improvements within the 100' Preserve Edge to identify the location of proposed lighting fixtures and the type of light shielding measures. The Lighting Plan must demonstrate that light spillage into the Preserve is avoided to the greatest extent possible. City of Chula Vista updated street lighting standards require installation of energy saving LED lamps on all City streets.

The proposed development footprint in the Lake Property would be confined to the eastern half of the parcel, 300 – 400 feet from the nearest boundary with the Preserve. The portions of the Main Campus Property adjacent to the Preserve would be situated at the top of manufactured slopes that place the development substantially above the Preserve topographically. These manufactured slopes, along with areas within the parcel boundary but outside the development footprint, also provide a buffer of 100 – 200 feet between proposed development and the Preserve boundary. These project features in the form of setbacks would combine with lighting plan design to eliminate the potential for overspill of project lighting into the Preserve.

Noise

The same setbacks and manufactured slopes that would reduce the potential for lighting spillover into the Preserve (described above) would also serve to minimize operational noise impacts from campus development. The land uses within the 100' Preserve Edge are low noise generating uses, comprised of native vegetation and trail connections. The land use zone adjacent to the Preserve Edge is T-1: Future Development, which is a low intensity area. Parks with active recreation such as playgrounds and sports courts would be allowed in the T-1 zone and would be expected to generate noise levels of 60 dBA L_{EQ} up to 60 feet from the source; therefore, given the 100-foot buffer zone, these noise levels would not be expected to be significant in the MSCP Preserve.

Invasives

Landscape plans for all development associated with the project would avoid use of invasive species in their designs. According to the Preserve Edge Plan, landscape plans adjacent to the Preserve will not contain any invasive species, as determined by the City of Chula Vista and identified in the MSCP Subarea Plan, Appendix N, List of Invasive Species. Landscape areas within the 100' Preserve Edge including, but not limited to, manufactured slopes, street-adjacent

landscaping and Village Trail feature must comply with the Approved Plant List provided as Attachment "A" to the SPA Plan. This list also meets the requirements outlined in the attachment in the UI District Fire Protection Plan as these manufactured slopes are also within the 100' Brush Management Zone required by the MSCP Subarea Plan. Any changes to the Approved Plant List must be approved by the Development Services Director or the Director's designee. The area may be planted with container stock (liners) or a hydroseed mix.

Buffers

The project is consistent with the Otay Ranch RMP, which requires a 100-foot edge buffer between development and the Preserve within the Otay Ranch PMA. Each SPA must prepare an Edge Plan with consultation by a qualified biologist, who will provide a list of species acceptable for planting in the edge. The edge may not contain any structures except for fences and walls, and those must be designed and landscaped so as to have no adverse visual effect on the Preserve. Fuel modification zones may be included in the edge.

7.0 PROPOSED MITIGATION MEASURES

The UID Project would result in direct impacts to sensitive species, wetlands, and sensitive upland habitats on-site as described in Section 6.1, as well as potential impacts to sensitive resources off-site as discussed in Section 6.2.

The project site, including both the Main Campus Property and the Lake Property, are included in the planned development area of the City's MSCP Subarea Plan. Development on the Main Campus Property is associated with a Covered Project under the City's Subarea Plan. Such planned development areas are those in which impacts from planned development are assumed to be already sufficiently mitigated by hard-line conserved areas added to the Preserve. Therefore, impacts to MSCP-covered species and sensitive upland habitats on the Main Campus Property do not require additional compensatory mitigation. The HLIT is applicable to campus development on the Lake Property as it would occur outside of the Covered Projects category in the Plan, thereby requiring mitigation for impacts to sensitive resources.

7.1 MITIGATION FOR DIRECT IMPACTS

7.1.1 Sensitive Species

The following mitigation measures are proposed to mitigate potential impacts on sensitive species to less than significant levels.

BIO-1 Pre-Construction Rare Plant Surveys for Impacts Outside of Covered Projects. Prior to issuance of any land development permits, including clearing, grubbing, and grading permits for the Lake Property and off-site impact areas, the project Applicant shall retain a City-approved biologist to conduct rare plant surveys for sensitive plant species, including, but not limited to, Otay tarplant (*Deinandra conjugens*) and San Diego barrel

cactus (*Ferocactus viridescens*), which are species determined to be present or to have a high potential to occur and that require additional measures for unavoidable impacts.

If plant species requiring transplantation – snake cholla (*Opuntia parryi* var. *serpentine*), San Diego barrel cactus, dot-seed plantain (*Plantago erecta)*, coast cholla (*Cylindropuntia prolifera*), Otay tarplant – are found within the impact areas, the Applicant shall implement mitigation measure BIO-2, which includes measures for plant salvage and relocation, and preparation and implementation of a resource salvage plan.

Should narrow endemic species listed in table 5-4 of the Chula Vista MSCP Subarea Plan be identified in the proposed off-site impact areas, the project shall be designed so as to avoid them to the maximum extent practicable. If impacts to narrow endemics are unavoidable, they shall be limited as follows: impacts within the Lake Property shall be no more than 20 percent of the total population within the project area; off-site impacts outside of the Preserve shall be no more than 20 percent of the total population within the project area; and off-site impacts within the Preserve shall be no more than 5 percent of the total population within the project area. In addition, impacts shall be mitigated at ratios of 1:1 to 3:1, depending on the sensitivity of the species.

BIO-2 Plant Resource Salvage Plan. Prior to issuance of land development permits, including clearing or grubbing and grading permits for the Main Campus Property, Lake Property and all off-site impact areas, the Applicant shall prepare a resource salvage plan for areas with salvageable plant resources, including Otay tarplant (*Deinandra conjugens*), San Diego barrel cactus (*Ferocactus viridescens*), dot-seed plantain (*Plantago erecta*, Quino checkerspot butterfly larval host plant), and coast cholla and snake cholla (*Cylindropuntia prolifera* and *Opuntia parryi* var. *serpentine*, habitat for cactus wren). The resource salvage plan shall, at a minimum, evaluate options for plant salvage and relocation, including native plant mulching, selective soil salvaging, application of plant materials on manufactured slopes, and application/relocation of resources within the Preserve. Relocation efforts may include seed collection and/or transplantation to a suitable receptor site and will be based on the most reliable methods of successful relocation. The program shall contain a recommendation for method of salvage and relocation/application based on feasibility of implementation and likelihood of success. The program shall include, at a minimum, an implementation plan, maintenance and monitoring program, estimated completion time, and any relevant contingency measures. The resource salvage plan shall be prepared by a City-approved biologist. The Applicant shall also be required to implement the resource salvage plan subject to the oversight of the Development Services Director (or their designee).

BIO-3 Fairy Shrimp Surveys. Prior to issuance of any land development permits, including clearing, grubbing, and grading permits for the Lake Property and off-site impact areas, the project Applicant shall retain a qualified biologist possessing a valid ESA Section 10(a)(1)(A) Recovery Permit to survey potential habitat (i.e., road ruts) inside the proposed impact footprint in the Lake Property and off-site impact areas for presence of listed branchiopod species. The surveys shall be conducted in accordance with the most recent protocol survey guidelines established by the USFWS. If sensitive fairy shrimp

species are found within the impact areas, the Applicant shall implement mitigation measure BIO-4, which includes measures for obtaining take authorization and preparation and implementation of a resource salvage plan.

BIO-4 Fairy Shrimp Take Authorization and Resource Salvage Plan. Prior to issuance of land development permits, including clearing or grubbing and grading permits for the Lake Property and off-site impact areas, if fairy shrimp surveys required by BIO-3 show the project would have unavoidable impacts to listed fairy shrimp species, the Applicant shall consult with the City and USFWS to obtain take authorization pursuant to ESA and the Chula Vista MSCP Subarea Plan. The Applicant shall provide for mitigation as required by the City and USFWS, which may include preparation of a resource salvage plan and translocation of cysts by inoculation into existing suitable habitat within approved preserve areas or into created habitat on-site or within the Preserve, or acquisition and preservation of occupied habitat off-site.

BIO-5 Quino Checkerspot Butterfly and Host Plant Surveys. Prior to issuance of any land development permits, including clearing, grubbing, and grading permits for the Lake Property and off-site impact areas in the Otay River Valley, the project Applicant shall retain a qualified biologist possessing a valid ESA Section 10(a)(1)(A) Recovery Permit to perform a site assessment and presence/absence survey for the Quino checkerspot butterfly. The surveys shall be conducted in accordance with the most recent protocol survey guidelines established by the USFWS. The survey shall include an inventory and mapping of locations of Quino checkerspot and its host plant, *Plantago erecta*. For areas within Preserve Habitat-Category A as shown on Chula Vista MSCP Subarea Plan figure 4-1, a detailed habitat assessment shall be conducted to identify patches of QCB habitat and delineate "significant QCB habitat patches" as described in the Chula Vista MSCP Subarea Plan section 5.2.8.1 (4). Any "significant QCB habitat patches" within Preserve Habitat-Category A shall be avoided to the maximum extent practicable according to section 5.2.8.1 (4). The Applicant shall implement mitigation measure BIO-2, which includes measures for preparation and implementation of a resource salvage plan for *Plantago erecta*.

BIO-6 Coastal California Gnatcatcher Avoidance. For any work proposed between February 15 and August 15, prior to issuance of any land development permits for the Main Campus Property, Lake Property, and off-site impact areas, including clearing, grubbing, grading, and construction permits within or adjacent to suitable breeding habitat for the coastal California gnatcatcher, pre-construction surveys shall be performed in order to determine the presence or absence of the species and extent of occupied habitat. The pre-construction survey area for the coastal California gnatcatcher shall encompass suitable habitat within the project work zone, as well as a 300-foot buffer.

The pre-construction survey shall be performed to the satisfaction of the Development Services Director (or their designee) by a qualified biologist familiar with the City's MSCP Subarea Plan. The results of the pre-construction survey must be submitted in a report to the Development Services Director (or their designee) for review and approval prior to the issuance of any land development permits and prior to initiating any

construction activities. If the coastal California gnatcatcher is detected, a minimum 300-foot buffer delineated by orange biological fencing shall be established around the detected species to ensure that no work shall occur within the occupied habitat from February 15 through August 15 and on-site noise reduction techniques shall be implemented to ensure that construction noise levels not exceed 60 dB(A) Leq-h at the location of any occupied sensitive habitat areas. The Development Services Director (or their designee) shall have the discretion to modify the buffer width depending on-site-specific conditions. If the results of the pre-construction survey determine that the survey area is unoccupied, the work may commence at the discretion of the Development Services Director (or their designee) following the review and approval of the pre-construction report.

BIO-7 Least Bell's Vireo Avoidance. For any work proposed at the northern edge of the Main Campus Property and off-site impact areas between March 15 and September 15, a pre-construction survey for the least Bell's vireo shall be performed in order to reaffirm the presence and extent of occupied habitat. The pre-construction survey area for the species shall encompass all potentially suitable habitat within the project work zone, as well as a 300-foot survey buffer. Habitat presumed to be occupied by least Bell's vireo is confined to southern willow scrub habitat approximately 200 feet northeast of the limit of proposed development. Buffer requirements for occupied habitat would encompass approximately 100 feet along the northeast edge of the proposed development area. The pre-construction survey shall be performed to the satisfaction of the Development Services Director (or their designee) by a qualified biologist familiar with the Chula Vista MSCP Subarea Plan. The results of the pre-construction survey must be submitted in a report to the Development Services Director (or their designee) for review and approval prior to the issuance of any land development permits and prior to initiating any construction activities. If least Bell's vireo is detected, a minimum 300-foot buffer delineated by orange biological fencing shall be established around the detected species to ensure that no work shall occur within occupied habitat from March 15 through September 15. On-site noise reduction techniques shall be implemented to ensure that construction noise levels not exceed 60 dBA Leq at the location of any occupied sensitive habitat areas. The Development Services Director (or their designee) shall have the discretion to modify the buffer width depending on site-specific conditions. If the results of the pre-construction survey determine that the survey area is unoccupied, the work may commence at the discretion of the Development Services Director (or their designee) following the review and approval of the pre-construction report.

BIO-8 Pre-Construction Burrowing Owl Survey. Prior to issuance of any land development permits, including clearing, grubbing, and grading permits for the Main Campus Property and off-site impact areas south of it, the project Applicant shall retain a City-approved biologist to conduct focused pre-construction surveys for burrowing owls. The surveys shall be performed no earlier than 30 days prior to the commencement of any clearing, grubbing, or grading activities. If occupied burrows are detected, the City-approved biologist shall prepare a passive relocation mitigation plan subject to review and approval by the wildlife agencies and the City, including any subsequent burrowing owl relocation plans to avoid impacts from construction-related activities.

BIO-9 Pre-Construction Northern Harrier Survey. Prior to issuance of any land development permits, including clearing, grubbing, and grading permits for the Main Campus Property and off-site impact areas south of it, the project Applicant shall retain a City-approved biologist to conduct focused surveys for northern harrier to determine the presence or absence of this species within 900 feet of the construction area. The pre-construction survey must be conducted within 10 calendar days prior to the start of construction. The results of the survey must be submitted to the City for review and approval. If active nests are detected by the City-approved biologist, a bio-monitor shall be on site during construction to minimize construction impacts and ensure that no nests are removed or disturbed until all young have fledged.

BIO-10 Pre-Construction Nesting Bird Survey. To avoid any direct impacts to raptors and/or any migratory birds protected under the Migratory Bird Treaty Act, removal of habitat that supports active nests on the proposed area of disturbance for the Main Campus Property and Lake Property and all off-site impact areas should occur outside of the breeding season for these species. The breeding season is defined as February 15-August 15 for coastal California gnatcatcher and other non-raptor birds and January 15–August 31 for raptor species. If removal of habitat on the proposed area of disturbance must occur during the breeding season, the project Applicant shall retain a City-approved biologist to conduct a pre-construction survey to determine the presence or absence of nesting birds on the proposed area of disturbance. The pre-construction survey must be conducted within 10 calendar days prior to the start of construction, and the results must be submitted to the City for review and approval prior to initiating any construction activities. If nesting birds are detected, a letter report or mitigation plan, as deemed appropriate by the City, shall be prepared and include proposed measures to be implemented to ensure that disturbance of breeding activities are avoided. The report or mitigation plan shall be submitted to the City for review and approval and implemented to the satisfaction of the City. The City's mitigation monitor shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during construction.

BIO-11 Siting Criteria Analysis. Prior to the issuance of any land development permits, including clearing, grubbing, and grading permits for all Planned and Future Facilities within 100 percent Conservation Areas including Preserve areas south of the Main Campus Property and north and west of the Lake Property, the project Applicant shall complete an updated siting criteria analysis for all proposed Planned and Future Facilities, based on biological surveys completed within one year of construction.

7.1.2 Sensitive Vegetation Communities/Habitats

The following mitigation measures are proposed to mitigate potential impacts on sensitive vegetation communities/habitats to less than significant levels.

BIO-12 Compensatory Mitigation for Impacts to Sensitive Habitat. Impacts to sensitive habitat types from development associated with the Lake Property and off-site impact areas will be mitigated as shown in Table 6 and in accordance with Table 5-3 of the Chula Vista MSCP Subarea Plan. Impacts associated with the Main Campus Property are in the Development Area of a Covered Project or are Planned and Future Facilities within 100 percent Conservation Areas of a Covered Project, and do not require compensatory mitigation above and beyond the restoration requirements specified in the SAP. Mitigation for impacts associated with the Lake Property will be in accordance with the Chula Vista MSCP Subarea Plan and the City's Habitat Loss and Incidental Take (HLIT) Ordinance and as provided in the Draft HLIT Findings (Appendix F).

Prior to issuance of any land development permits, including clearing, grubbing, and grading permits, the project Applicant shall mitigate for direct impacts pursuant to Section 5.2.2 of the City's MSCP Subarea Plan. In compliance with the Chula Vista MSCP Subarea Plan, the Applicant shall secure the appropriate MSCP Tier mitigation credits within a City- and wildlife agency-approved mitigation bank or other approved location offering mitigation credits consistent with the ratios specified in Table 6.

Table 6
MITIGATION FOR IMPACTS TO VEGETATION IN THE LAKE PROPERTY AND OFF-SITE AREAS (HLIT)[1]

COMMUNITY	TIER[2]	IMPACT	MITIGATION RATIO[3]	REQUIRED MITIGATION[3]
Diegan coastal sage scrub outside of the Preserve	II	9.63	1:1	9.63
Diegan coastal sage scrub inside of the Preserve	II	0.59	1.5:1	0.89
Non-native grassland outside of the Preserve	III	0.78	0.5:1	0.39
Non-native grassland inside of the Preserve	III	3.71	1:1	3.71

[1]For the Main Campus Property, this includes impacts of off-site Future Facilities inside the Preserve, since these impacts exceed the 2-acre per facility threshold to require mitigation. On-site impacts and Planned Facilities for the Main Campus Property do not require mitigation and are not included in this table. For the Lake Property, this includes on-site impacts (which are outside of the Preserve), off-site Future and Planned Facilities inside the Preserve, and off-site Future and Planned Facilities outside of the Preserve. This table does not include the temporary impacts inside the preserve; those will be restored/revegetated in place per Mitigation Measures BIO-14 and BIO-16.
[2]Tiers and mitigation ratios are in accordance with the Chula Vista MSCP Subarea Plan's HLIT Upland Habitat Mitigation Ratios. No mitigation is required for Tier IV habitat types (i.e., non-sensitive vegetation communities and land covers including disturbed land, ornamental, or developed land).
[3]It is assumed that mitigation will be located inside the Preserve. Mitigation outside of the Preserve (i.e., Chula Vista MSCP Subarea Plan or Planning Area boundary) will require increased mitigation per Table 5-3.

The project Applicant shall be required to provide verification of purchase to the City prior to issuance of any land development permits.

In the event that a project Applicant is unable to secure mitigation through an established mitigation bank approved by the City and wildlife agencies, the project Applicant shall secure the required mitigation through the conservation of an area containing in-kind MSCP Tier habitat within the City's MSCP Subarea Plan or MSCP Planning Area in accordance with the mitigation ratios contained in Table 5-3 of the City's MSCP Subarea Plan and subject to wildlife agency concurrence.

Prior to issuance of any land development permit, and to the satisfaction and oversight of the City's Development Services Director (or their designee), the applicant shall secure the parcel(s) that will be permanently preserved for impact mitigation, prepare a long-term management and monitoring plan for the mitigation area, secure an appropriate management entity to ensure that long-term biological resource management and monitoring of the mitigation area is implemented in perpetuity, and establish a long-term funding mechanism for the management and monitoring of the mitigation area in perpetuity.

The long-term management and monitoring plan shall provide management measures to be implemented to sustain the viability of the preserved habitat and identify timing for implementing the measures prescribed in the management and monitoring plan. The mitigation parcel shall be restricted from future development and permanently preserved through the recordation of a conservation easement or other mechanism approved by the wildlife agencies as being sufficient to ensure that the lands are protected in perpetuity. The conservation easement or other mechanism approved by the wildlife agencies shall be recorded prior to issuance of any land development permits.

The project Applicant shall be responsible for maintaining the biological integrity of the mitigation area and shall abide by all management and monitoring measures identified in the management and monitoring plan until such time as the established long-term funding mechanism has generated sufficient revenues to enable a City-approved management entity to assume the long-term maintenance and management responsibilities.

BIO-13 Maritime Succulent Scrub Restoration Plan. Prior to the issuance of any land development permits (including clearing and grubbing or grading permits) on the Main Campus Property, the project Applicant shall prepare a restoration plan to restore 0.31 acre of maritime succulent scrub in the temporary impact (grading) footprint within the Preserve. The maritime succulent scrub restoration shall be prepared by a City approved biologist and to the satisfaction of the Development Services Director (or their designee) pursuant to the Otay Ranch RMP restoration requirements. The restoration plan shall include, at a minimum, an implementation strategy; species salvage and relocation, appropriate seed mixtures and planting method; irrigation; quantitative and qualitative success criteria; maintenance, monitoring, and reporting program; estimated completion time; and contingency measures. The project Applicant shall also be required to

implement the restoration plan subject to the oversight and approval of the Development Services Director (or their designee).

BIO-14 Salt Creek Coastal Sage Scrub Restoration Plan. Prior to the issuance of any grading permits for the project, the project Applicant shall prepare a restoration plan to restore 20.6 acres of disturbed habitat within Salt Creek (shown on Figure 3-2 of the Chula Vista MSCP Subarea Plan) to coastal sage scrub habitat. The restoration plan shall be prepared by a City approved biologist and to the satisfaction of the Development Services Director (or their designee) consistent with the guidelines established in the Otay Ranch Coastal Sage Scrub and Maritime Succulent Scrub Habitat Replacement Master Plan. The restoration plan shall include, at a minimum, an implementation strategy; appropriate seed mixtures and planting method; irrigation; quantitative and qualitative success criteria; maintenance, monitoring, and reporting program; estimated completion time; and contingency measures. The project Applicant shall also be required to implement the restoration plan subject to the oversight and approval of the Development Services Director (or their designee).

BIO-15 Coastal Sage Scrub and Non-Native Grassland Revegetation Plan. Prior to issuance of land development permits, including clearing, grubbing, grading and construction permits for the Future and Planned Facilities associated with the Main Campus Property and the Lake Property, the Project Applicant shall provide a revegetation plan for temporary impacts of Planned and Future Facilities within the Preserve, estimated at 0.66 acre of coastal sage scrub and 0.27 acre of non-native grassland. The revegetation plan must be prepared by a qualified City-approved biologist familiar with the City's MSCP Subarea Plan and must include, but not be limited to, an implementation plan; appropriate seed mixtures and planting method; irrigation method; quantitative and qualitative success criteria; maintenance, monitoring, and reporting program; estimated completion time; and contingency measures. The Project Applicant shall be required to prepare and implement the revegetation plan subject to the oversight and approval of the Development Services Director (or their designee).

BIO-16 Annexation to Otay Ranch Preserve Community Facilities District (CFD) No. 97-2. Prior to the approval of the First Final Map for the Project on the main campus property, the project Applicant shall coordinate with the City Engineer and annex the project area within the Otay Ranch Preserve Community Facilities District (CFD) No. 97-2.

BIO-17 Land Conveyance to Otay Ranch Preserve Owner/Manager. Prior to recordation of each Final Map, project Applicant shall convey land within the Otay Ranch Preserve to the Otay Ranch Preserve Owner/Manager (POM) or its designee at a ratio of 1.188 acres for each acre of development area (excluding "common use" areas as defined by the GDP and RMP), as defined in the RMP. Access for maintenance purposes shall also be conveyed to the satisfaction of the POM, and each tentative map shall be subject to a condition that the Applicant shall execute a maintenance agreement with the POM stating that it is the responsibility of the Applicant to maintain the conveyed parcel until the Preserve CFD has generated sufficient revenues to enable the POM to assume

maintenance responsibilities. The Applicant shall maintain and manage the offered conveyance property consistent with the RMP Phase 2 until the Preserve CFD has generated sufficient revenues to enable the POM to assume maintenance and management responsibilities.

BIO-18 Area Specific Management Directives for Conveyance Areas. Prior to the POM's formal acceptance of the conveyed land in fee title, the project Applicant shall prepare, to the satisfaction of the POM, Area Specific Management Directives (ASMDs) for the associated conveyance areas. The ASMDs shall incorporate the guidelines and specific requirements of the Otay Ranch RMP plans and programs, management requirements of Table 3-5 of the MSCP Subregional Plan and information and recommendations from any relevant special studies. Guidelines and requirements from these documents shall be evaluated in relationship to the Preserve configuration and specific habitats and species found within the associated conveyance areas and incorporated into the ASMDs to the satisfaction of the POM.

7.1.3 Jurisdictional Waters and Wetlands

The following mitigation measures are proposed to mitigate potential impacts on jurisdictional waters and wetlands to less than significant levels.

BIO-19 Wetland Delineation Studies. Prior to issuance of any land development permits, including clearing, grubbing, and grading permits on the Main Campus Property and Lake Property and off-site impact areas, the project Applicant shall retain a qualified biologist to perform a formal wetland delineation in order to qualify and quantify existing wetland resources potentially subject to the regulatory jurisdiction of the USACE, RWQCB, and/or CDFW. Wetland delineations shall be conducted in accordance with the methods and current regulatory guidance recommended by these agencies. The results of the wetland delineation shall be documented in a report to determine project impacts and avoidance, and if required, facilitate the acquisition of federal and state permits.

BIO-20 Wetland Permits. Prior to issuance of land development permits, including clearing or grubbing and grading permits for areas that impact jurisdictional waters, the project Applicant shall provide evidence that all required regulatory permits, such as those required under Section 404 of the federal CWA, Section 1600 of the California Fish and Game Code, and the Porter Cologne Water Quality Act, have been obtained from the appropriate agencies. Wetland mitigation requirements under these permits might include preparation of a Habitat Mitigation and Monitoring Plan approved by USACE, CDFW, and RWQCB.

7.2 MITIGATION FOR GENERAL CONSTRUCTION ISSUES

The following mitigation measures are proposed to mitigate potential impacts associated with general construction practices to less than significant levels.

BIO-21 Preparation of Storm Water Pollution Prevention Plan. Prior to issuance of grading permits in portions of the UID property that are adjacent to the Preserve, the project Applicant shall develop a storm water pollution prevention plan (SWPPP). The SWPPP shall be developed, approved, and implemented during construction to control storm water runoff such that erosion, sedimentation, pollution, and other adverse effects are minimized. The following performance measures contained in the Edge Plans shall be implemented to avoid the release of toxic substances associated with urban runoff:

- Sediment shall be retained on site by a system of sediment basins, traps, or other appropriate measures.
- Where deemed necessary, storm drains shall be equipped with silt and oil traps to remove oils, debris, and other pollutants. Storm drain inlets shall be labeled "No Dumping—Drains to Ocean." Storm drains shall be regularly maintained to ensure their effectiveness.
- The parking lots shall be designed to allow storm water runoff to be directed to vegetative filter strips and/or oil-water separators to control sediment, oil, and other contaminants.
- Permanent energy dissipaters shall be included for drainage outlets.
- The BMPs contained in the SWPPP shall include, but are not limited to, silt fences, fiber rolls, gravel bags, and soil stabilization measures such as erosion control mats and hydro-seeding.
- The project area drainage basins will be designed to provide effective water quality control measures, as outlined in the project's Water Quality Technical Reports. Design and operational features of the drainage basins will include design features to provide maximum infiltration and maximum detention time for settling of fine particles; maximize the distance between basin inlets and outlets to reduce velocities; and establish maintenance schedules for periodic removal of sedimentation, excessive vegetation, and debris.

BIO-22 Construction Fencing. Prior to issuance of land development permits, including clearing, grubbing, grading, and/or construction permits, the project Applicant shall install fencing in accordance with Chula Vista Municipal Code 17.35.030. Prominently colored, well-installed fencing and signage shall be in place wherever the limits of grading are adjacent to sensitive vegetation communities or other biological resources, as identified by the qualified monitoring biologist. Fencing shall remain in place during all construction activities. All temporary fencing shall be shown on grading plans for areas adjacent to the Preserve and for all off-site facilities constructed within the Preserve. Prior to release of grading and/or improvement bonds (as may be required by the City), a qualified biologist shall provide evidence that work was conducted as authorized under the approved land development permit and associated plans.

BIO-23 Construction Staging Areas. The project Applicant shall ensure proper designation of construction staging areas for project activities such that no staging areas are located within Preserve areas or other sensitive habitat areas. Staging areas shall be identified following the advice of a qualified biologist, and with the approval of the City. Designated staging areas shall be included on construction plans and if located outside of

development areas, project plans shall include revegetation and/or mitigation for staging area impacts according to the HLIT. The construction contractor shall receive approval by the project Applicant prior to mobilizations and staging of equipment outside of the project boundaries.

BIO-24 Best Management Practices. The project Applicant shall ensure that the construction contractor implements BMPs including but not limited to: maintaining the project area free of trash and debris; employing appropriate standard spill prevention practices and clean-up materials; installing and maintaining sediment and erosion control measures in accordance with an approved Storm Water Pollution Prevention Plan; maintaining effective control of fugitive dust; and properly storing, handling, and disposing of all toxins and pollutants including waste materials.

Prior to issuance of land development permits, including clearing, grubbing, grading, and construction permits, the following notes shall be included on the applicable construction plans to the satisfaction of the Development Services Director (or their designee):

- A qualified biologist shall be on site to monitor all vegetation clearing and periodically thereafter to ensure implementation of appropriate resource protection measures.
- Dewatering shall be conducted in accordance with standard regulations of the RWQCB. A permit to discharge water from dewatering activities will be required. This will minimize erosion, siltation, and pollution within sensitive communities.
- During construction, material stockpiles shall be placed such that they cause minimal interference with on-site drainage patterns. This will protect sensitive vegetation from being inundated with sediment-laden runoff.
- Material stockpiles shall be covered when not in use. This will prevent fly-off that could damage nearby sensitive vegetation communities.
- Graded areas shall be periodically watered to minimize dust that may affect adjacent vegetation.

BIO-25 Biological Monitor. Prior to issuance of land development permits, including clearing, grubbing, grading, and/or construction permits, for any areas adjacent to the Preserve and the off-site facilities located within the Preserve, the project Applicant shall provide written confirmation that a City-approved biological monitor has been retained and shall be on site during clearing, grubbing, and/or grading activities. The biological monitor shall attend all pre-construction meetings and be present during the removal of any vegetation to ensure that the approved limits of disturbance are not exceeded and provide periodic monitoring of the impact area including, but not limited to, trenches, stockpiles, storage areas, and protective fencing. The biological monitor shall be authorized to halt all associated project activities that may be in violation of the Chula Vista MSCP Subarea Plan and/or permits issued by any other agencies having jurisdictional authority over the project.

Before construction activities occur in areas containing sensitive biological resources within the off-site facilities area, all workers shall be educated by a City-approved biologist to recognize and avoid those areas that have been marked as sensitive biological resources.

7.3 MITIGATION FOR INDIRECT IMPACTS

The following mitigation measures are proposed to mitigate potential indirect impacts to less than significant levels.

BIO-26 Implement Preserve Edge Plan. Prior to the issuance of grading permits, the project Applicant shall submit evidence, to the satisfaction of the Development Services Director (or their designee), showing that the following features of the Preserve Edge Plans have been incorporated into grading and landscaping plans:

- Provide post and rail fencing and signage for sensitive habitat adjacent to trails. Prior to the issuance of land development permits, including clearing or grubbing and grading and/or construction permits, for the project, the project owner shall submit wall and fence plans depicting appropriate barriers to prevent unauthorized access to the Preserve. The wall and fence plans shall, at a minimum, illustrate the locations and cross-sections of proposed walls, fences, informational and directional signage, access controls, and/or boundary markers along the Preserve boundary and off-site pedestrian trails as conceptually described in the Edge Plans. The required wall and fence plan shall be subject to the approval of the Development Services Director (or their designee).
- Install canyon subdrains to prevent erosion of drainage and wetlands within the Preserve.
- Prevent release of toxins, chemicals, petroleum products, exotic plant materials, and other elements that might degrade or harm the natural environment or ecosystem within the Preserve.
- Implement all necessary requirements for water quality as specified by the state and local agencies.
- Do not allow the introduction of invasive, non-native plant species into areas immediately adjacent to the Preserve. All slopes immediately adjacent to the Preserve shall be planted with native species that reflect the adjacent native habitat, per the Edge Plan. Prior to the issuance of land development permits, including clearing or grubbing and grading and/or construction permits, for areas within the 100-foot Preserve edge, the project Applicant shall prepare and submit to the satisfaction of the Development Services Director (or their designee) landscape plans to ensure that the proposed plant palette is consistent with the plant list contained in the Preserve Edge Plans for each village. The landscape plan shall also incorporate a manual weeding program for areas adjacent to the Preserve. The manual weeding program shall describe, at a minimum, the entity responsible for controlling invasive species, the maintenance activities and methods required to control invasive species, and a maintenance/monitoring schedule.

- Incorporate all fuel modification areas into development plans and do not include any areas within the Preserve.
- In compliance with the Chula Vista MSCP Subarea Plan, all lighting shall be shielded and directed away from the Preserve. Prior to issuance of a building permit, a lighting plan and photometric analysis shall be submitted to the City's Director of Planning and Building for review and approval. The lighting plan shall illustrate the location of the proposed lighting standards and type of shielding measures. Low-pressure sodium lighting shall be used, if feasible, and shall be subject to the approval of the City's Director of Planning and Building and the City Engineer.
- Noise impacts adjacent to the Preserve lands shall be minimized. Berms or walls shall be constructed adjacent to commercial areas and any other use that may introduce noises that could impact or interfere with wildlife utilization of the Preserve, although no such uses are currently proposed within or adjacent to the Preserve Edge. Construction activities shall include noise reduction measures or be conducted outside the breeding season of sensitive bird species.

8.0 CERTIFICATION/QUALIFICATION

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Appendix A

PLANT SPECIES OBSERVED

Appendix A
PLANT SPECIES OBSERVED

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT
DICOTS			
Adoxaceae	*Sambucus nigra* ssp. *canadensis*	black elderberry	NNG[1]
Aizoaceae	*Mesembryanthemum crystallinum**	crystalline iceplant	AG[1]
	*Mesembryanthemum nodiflorum**	slender-leaved iceplant	AG[1]
Alliaceae	*Allium* sp.*	wild onion	DCSS[2]
Anacardiaceae	*Malosma laurina*	laurel sumac	DCSS[1,2]
	Rhus integrifolia	lemonadeberry	DCSS[1,2]
	Schinus molle	Peruvian pepper tree	AG[1]
Apiaceae	*Apiastrum angustifolium*	mock parsley	DCSS[2]
	*Foeniculum vulgare**	fennel	SWS[1]
Asteraceae	*Ambrosia psilostachya*	western ragweed	NNG[1]
	Artemisia californica	California sagebrush	DCSS[1,2]
	Baccharis pilularis	coyote brush	SWS[1]
	Baccharis salicifolia	mule fat	SWS[1], MFS[1]
	Baccharis sarothroides	broom baccharis	NNG[1], SWS[1], DCSS[2]
	Bahiopsis laciniata†	San Diego sunflower	DCSS[1,2]
	*Carduus pycnocephalus**	Italian thistle	AG[1]
	*Centaurea melitensis**	star thistle	NNG[1], DCSS[2]
	Deinandra sp.	tarplant	DCSS[2], NNG[2]
	Deinandra fasciculata	fascicled tarplant	DCSS[1,2]
	Erigeron canadensis	horseweed	NNG[1]
	Eriophyllum confertiflorum	golden-yarrow	DCSS[1]
	*Gazania linearis**	gazania	NNG[1]
	Gutierrezia californica	California matchweed	DCSS[2]
	Gutierrezia sarothrae	San Joaquin matchweed	DCSS[1,2]
	*Hedypnois cretica**	Crete hedypnois	NNG[1], DCSS[2]
	*Helminthotheca echioides**	bristly ox-tongue	NNG[1]
	Heterotheca grandiflora	telegraph weed	DCSS[1]
	*Hypochaeris glabra**	smooth cat's-ear	DCSS[1,2]
	Isocoma menziesii	goldenbush	DCSS[1]
	*Lactuca serriola**	wild lettuce	NNG[1]
	*Logfia gallica**	narrow-leaf filago	DH[1], DCSS[2]
	*Osteospermum fruticosum**	African daisy	NNG[1]

Appendix A (cont.)
PLANT SPECIES OBSERVED

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT
DICOTS (cont.)			
Asteraceae (cont.)	*Pseudognaphalium biolettii*	bicolor cudweed	DCSS[2]
	Pseudognaphalium californicum	California everlasting	DCSS[1]
	*Pseudognaphalium luteoalbum**	everlasting cudweed	DCSS[2]
	Pseudognaphalium stramineum	cotton-batting plant	DCSS[1], NNG[2]
	Psilocarphus tenellus	slender woolly-heads	VP[2]
	*Sonchus asper**	prickly sow thistle	NNG[1]
	*Sonchus oleraceus**	common sow thistle	AG[1]
	Uropappus lindleyi	silver puffs	DCSS[2], NNG[2]
Boraginaceae	*Amsinckia intermedia*	rancher's fiddleneck	DCSS[1]
	Cryptantha sp.	cryptantha	NNG[1]
	Harpagonella palmeri†	Palmer's grapplinghook	NNG[1]
	Plagiobothrys acanthocarpus	adobe popcornflower	VP[2]
	Plagiobothrys collinus var. *gracilis*	graceful popcorn flower	DCSS[1]
Brassicaceae	*Brassica nigra**	black mustard	NNG[1,2]
	*Brassica rapa**	field mustard	NNG[1]
	*Lepidium didymum**	wart cress, spine cress	NNG[1]
Cactaceae	*Cylindropuntia prolifera*	coastal cholla	DCSS[1,2], MSS[1]
	Ferocactus viridescens†	San Diego barrel cactus	DCSS[1,2]
	*Opuntia ficus-indica**	Indian-fig	DCSS[2]
	Opuntia littoralis	coastal prickly pear	DCSS[1,2]
Capparaceae	*Peritoma arborea*	bladderpod	DCSS[1]
Caryophyllaceae	*Silene gallica**	common catchfly	DCSS[2]
Chenopodiaceae	*Atriplex semibaccata**	Australian saltbush	AG[1]
	*Chenopodium album**	pigweed	NNG[1]
	*Salsola tragus**	Russian thistle	NNG[1]
Convolvulaceae	*Calystegia macrostegia*	morning-glory	AG[1], DCSS[1,2]
	*Convolvulus arvensis**	bindweed	NNG[1], DCSS[2]
Crassulaceae	*Crassula connata*	pygmy-weed	DCSS[1,2], NNG[2]
	Dudleya pulverulenta	chalk-lettuce	DCSS[1]
Cucurbitaceae	*Marah macrocarpa*	wild cucumber	
Euphorbiaceae	*Chamaesyce maculata**	spotted spurge	DCSS[1]
	Croton setigerus	dove weed	DCSS[2]
Fabaceae	*Acacia* sp.*	acacia	DCSS[2]
	Acmispon glaber	deerweed	DCSS[1,2]

Appendix A (cont.)
PLANT SPECIES OBSERVED

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT
DICOTS (cont.)			
Fabaceae (cont.)	*Acmispon strigosus*	Bishop's lotus	DCSS[2]
	Astragalus trichopodus var. *lonchus*	ocean locoweed	NNG[1]
	Lupinus bicolor	miniature lupine	NNG[1]
	Lupinus succulentus	arroyo lupine	DCSS[1]
	Lupinus truncatus	collar lupine	DCSS[1]
	Medicago polymorpha *	bur-clover	NNG[1]
	*Melilotus indicus**	Indian sweet clover	NNG[1]
	Vicia sp.*	vetch	NNG[1]
Geraniaceae	*Erodium botrys**	long-beak filaree	DCSS[1]
	*Erodium cicutarium**	red-stem filaree	NNG[1], DCSS[2]
	*Erodium moschatum**	green-stem filaree	NNG[1]
Lamiaceae	*Marrubium vulgare**	horehound	
	Salvia apiana	white sage	DCSS[1]
	Salvia mellifera	black sage	DCSS[2]
	Trichostema lanceolatum	vinegar weed	DCSS[2]
Lythraceae	*Lythrum hyssopifolia**	grass poly	VP[2]
Malvaceae	*Malva parviflora**	cheeseweed	NNG[1]
Myrsinaceae	*Anagallis arvensis**	scarlet pimpernel	NNG[1]
Myrtaceae	*Eucalyptus* sp.*	gum tree	EW[2]
Nyctaginaceae	*Mirabilis laevis* ssp. *crassifolia*	wishbone bush	NNG[1], DCSS[2]
Oxalidaceae	*Oxalis pes-caprae**	Bermuda-buttercup	DCSS[2]
Papaveraceae	*Eschscholzia californica*	California poppy	NNG[1]
Phytolaccaceae	*Phytolacca americana**	pokeweed	NNG[1]
Plantaginaceae	*Plantago erecta*	dwarf plantain	VP[2]
Polemoniaceae	*Navarretia atractyloides*	skunkweed	VP[2]
Polygonaceae	*Eriogonum fasciculatum*	buckwheat	DCSS[1,2]
Polygonaceae	*Rumex crispus**	curly dock	SWS[1]
Portulacaceae	*Calandrinia ciliata*	red maids	NNG[2]
Rhamnaceae	*Rhamnus crocea*	spiny redberry	DCSS[1]
Rubiaceae	*Galium aparine*	goosegrass	DCSS[2]
Salicaceae	*Salix exigua*	narrow-leaved willow	
	Salix gooddingii	Goodding's black willow	SWS[1]
	Salix lasiolepis	arroyo willow	SWS[1]
Solanaceae	*Datura wrightii*	jimson weed	NNG[1]
	*Nicotiana glauca**	tree tobacco	SWS[1]
	Solanum americanum	White nightshade	NNG[1]
	*Solanum elaeagnifolium**	Horse nettle	AG[1]
Tamaricaceae	*Tamarix* sp.*	tamarisk	SWS[1]

Appendix A (cont.)
PLANT SPECIES OBSERVED

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT
MONOCOTS			
Agavaceae	*Chlorogalum parviflorum*	small-flower soap-plant	DCSS[1,2]
Alliaceae	*Allium praecox*	common wild onion	DCSS[1], NNG[2]
Cyperaceae	*Cyperus eragrostis*	tall flatsedge	FWM[1]
Iridaceae	*Sisyrinchium bellum*	blue-eyed grass	DCSS[1,2], NNG[2]
Juncaceae	*Juncus acutus* ssp. *leopoldii*	southwestern spiny rush	SWS[1]
	Juncus bufonius	toad rush	VP[2]
Liliaceae	*Aloe* sp.*	aloe	NNG[1]
	Calochortus splendens	lilac mariposa lily	NNG[1]
Poaceae	*Avena barbata**	slender wild oat	NNG[1]
	*Avena fatua**	wild oat	DCSS[2]
	*Bromus diandrus**	common ripgut grass	NNG[1], DCSS[2]
	*Bromus hordeaceus**	soft chess	NNG[1,2]
	*Bromus madritensis**	foxtail chess	NNG[1,2], DCSS[2]
	Cortaderia sp.*	pampas grass	SWS[1]
	Distichlis spicata	saltgrass	
	*Festuca myuros**	fescue	DCSS[1,2], NNG[2]
	*Festuca perennis**	Italian ryegrass	NNG[1]
	*Hordeum murinum**	barley	NNG[1]
	*Lamarckia aurea**	goldentop	DH[2]
	*Pennisetum setaceum**	purple fountain grass	DCSS[1]
	Polypogon sp.		
	*Schismus barbatus**	Mediterranean grass	NNG[1], DCSS[2]
	Stipa pulchra	purple needlegrass	DCSS[1]
Themidaceae	*Bloomeria crocea*	common goldenstar	DCSS[1]
	Dichelostemma capitatum	blue dicks	DCSS[1,2]
Typhaceae	*Typha latifolia*	broad-leaved cattail	FWM[1]
PTERIDOPHYTES			
Selaginellaceae	*Selaginella cinerascens*†	ashy spike-moss	NNG[2], DCSS[1,2]

†Sensitive species
*Non-native species
Habitats: 1=Main Campus Property; 2=Lake Property; DCSS=Diegan coastal sage scrub; DH=Disturbed habitat; EW=Eucalyptus Woodland; FWM=Freshwater Marsh; MFS=Mulefat Scrub; MSS=Maritime Succulent Scrub; NNG=Non-native Grassland; SWS=Southern Willow Scrub; VP=Vernal Pool; AG= Agricultural Field Plants

Appendix B

ANIMAL SPECIES OBSERVED

Appendix B
ANIMAL SPECIES OBSERVED

ORDER/FAMILY	SPECIES NAME	COMMON NAME
INVERTEBRATES		
Arthropods		
Order Coleoptera		
Tenebrionidae	---	darkling beetle
Order Dermaptera	---	earwig
Order Hymenoptera	---	beehive
Order Isopoda		
Armadillidiidae	---	pill bug
Order Lepidoptera		
Hesperiidae	---	checkered-skipper
Lycaenidae	*Brephidium exila*	western pygmy-blue
	Icaricia acmon acmon	acmon blue
	Strymon melinus pudica	gray hairstreak
Nymphalidae	*Adelpha bredowii californica*	California sister
	Danaus plexippus	monarch
	Nymphalis antiopa	mourning cloak
Papilionidae	*Papilio zelicaon*	anise swallowtail
Pieridae	*Anthocharis sara sara*	Pacific Sara orangetip
	---	sulphur sp.
	---	white sp.
Riodinidae	*Apodemia mormo virgulti*	Behr's metalmark
Order Odonata	---	dragonfly
VERTEBRATES		
Reptiles		
Order Squamata		
Colubridae	*Pituophis catenifer*	gopher snake
Phrynosomatidae	*Sceloporus occidentalis*	western fence lizard
	Uta stansburiana	side-blotched lizard
Teriidae	*Aspidoscelis hyperythra beldingi*†	Belding's orange-throated whiptail
	Aspidoscelis tigris stejnegeri	San Diegan tiger whiptail
Viperidae	*Crotalus atrox*	western diamondback
Birds		
Order Accipitriformes		
Accipitridae	*Buteo jamaicensis*	red-tailed hawk
	Circus cyaneus†	northern harrier
Order Apodiformes		
Trochilidae	*Calypte anna*	Anna's hummingbird
	Selasphorus sp.	selasphorus hummingbird
Order Charadriiformes		
Charadriidae	*Charadrius vociferus*	killdeer

Appendix B (cont.)
ANIMAL SPECIES OBSERVED

ORDER/FAMILY	SPECIES NAME	COMMON NAME
Birds (cont.)		
Order Columbiformes		
Columbidae	*Zenaida macroura*	mourning dove
Order Falconiformes		
Falconidae	*Falco sparverius*	American kestrel
Order Galliformes		
Odontophoridae	*Callipepla californica*	California quail
Order Passeriformes		
Aegithalidae	*Psaltriparus minimus*	bushtit
Corvidae	*Corvus corax*	common raven
Emberizidae	*Aimophila ruficeps*†	rufous-crowned sparrow
	Ammodramus savanarrum	grasshopper sparrow
	Melospiza melodia	song sparrow
	Passerculus sandwichensis	savannah sparrow
	Pipilo crissalis	California towhee
	Zonotrichia leucophrys	white-crowned sparrow
Fringillidae	*Carpodacus mexicanus*	house finch
	Spinus psaltria	lesser goldfinch
Hiruninidae	*Petrochelidon pyrrhonota*	cliff swallow
Icteridae	*Agelaius phoeniceus*	red-winged blackbird
	Icterus cucullatus	hooded oriole
	Sturnella neglecta	western meadowlark
Mimidae	*Mimus polyglottos*	northern mockingbird
	Toxostoma redivivum	California thrasher
Parulidae	*Geothlypis trichas*	common yellowthroat
Passeridae	*Passer domesticus*	house sparrow
Sturnidae	*Sturnus vulgaris*	European starling
Sylviidae	*Chamaea fasciata*	wrentit
	Polioptila californica californica†	coastal California gnatcatcher
Tyrannidae	*Sayornis nigricans*	black phoebe
	Sayornis saya	say's phoebe
	Tyrannus verticalis	western kingbird
	Tyrannus vociferans	Cassin's kingbird
Vireonidae	*Vireo bellii pusillus*†	least Bell's vireo
Order Piciformes		
Picidae	*Melanerpes formicivorus*	acorn woodpecker
Order Strigiformes		
Tytonidae	*Tyto alba*	barn owl
Mammals		
Order Carnivora		
Canidae	*Canis latrans*	coyote
Order Lagomorpha		
Lepidae	*Lepus californicus bennettii*†	San Diego black-tailed jackrabbit

Appendix B (cont.)
ANIMAL SPECIES OBSERVED

ORDER/FAMILY	SPECIES NAME	COMMON NAME
Order Lagomorpha (cont.)		
Lepidae (cont.)	*Sylvilagus audubonii*	desert cottontail
Order Rodentia		
Sciuridae	*Spermophilus beecheyi*	California ground squirrel

†Sensitive species

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Appendix C

SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR

Appendix C SENSITIVE PLANT SPECIES POTENTIAL TO OCCUR				
COMMON NAME	**SPECIES NAME**	**STATUS[1]**	**HABIT, ECOLOGY AND LIFE HISTORY**	**POTENTIAL TO OCCUR**
California Orcutt grass	*Orcuttia californica*	FE/SE CNPS List 1B.1 MSCP Covered	Small annual herb. Occurs in or near vernal pools. This species tends to grow in wetter portions of the vernal pool basins, but does not show much growth until the basins become somewhat desiccated. Elevation range 0-700m. Flowering period April – August.	**Low.** Some suitable habitat occurs on the site, but this species is extremely rare and known from fewer than 20 locations.
Narrow-leaved nightshade	*Solanum xanti*	--/-- CNPS considered but rejected MSCP Covered	Medium perennial herb/shrub. Occurs on open chamise chaparral or Diegan sage scrub, and often occurs near broken surface rock on ridgelines. Elevation range 0-2700m. Flowering period March – April.	**High.** Suitable habitat occurs on the site.
Orcutt brodiaea	*Brodiaea orcuttii*	--/-- CNPS List 1B.1 MSCP Covered Narrow Endemic	Small bulbiferous herb. Occurs only on clay soils in vernally moist environments, usually near vernal pools but occasionally near streams. Elevation range 0-1500m. Flowering period May – July.	**Low**. Vernal pool habitat on the site is of poor quality, and suitable clay soils do not occur on the site.

Appendix C (cont.) **SENSITIVE PLANT SPECIES POTENTIAL TO OCCUR**				
COMMON NAME	**SPECIES NAME**	**STATUS[1]**	**HABIT, ECOLOGY AND LIFE HISTORY**	**POTENTIAL TO OCCUR**
Orcutt's bird's-beak	*Dicranostegia orcuttiana* [*Cordylanthus orcuttianus*]	--/-- CNPS List 2B.1 MSCP Covered	Medium annual, hemiparasitic herb. Occurs in seasonally dry drainages and upland adjacent to riparian habitat. In the Tijuana River Valley, grows in a cobbly ecotone with sage scrub upslope and disturbed broom baccharis and southern willow scrub near the watercourse. Elevation range 0-350m. Flowering period March – August.	**None.** No suitable habitat occurs. The site does not support coastal scrub habitat types.
Otay mesa mint	*Pogogyne nudiuscula*	FE/SE CNPS List 1B.1 MSCP Covered	Small annual herb. Occurs in vernal pools. Elevation range 100-250m. Flowering period March – June.	**Low.** Vernal pool habitat on the site is of poor quality, and this conspicuous species was not observed during surveys.
Otay tarplant	*Deinandra* [*Hemizonia*] *conjugens*	FT/SE CNPS List 1B.1 MSCP Covered Narrow Endemic	Medium annual herb. Occurs in fractured clay soils in grasslands or lightly vegetated coastal sage scrub. Elevation range 20-350m. Flowering period May – June.	**High.** Suitable coastal sage scrub habitat occurs on the site.

Appendix C (cont.) **SENSITIVE PLANT SPECIES POTENTIAL TO OCCUR**				
COMMON NAME	**SPECIES NAME**	**STATUS[1]**	**HABIT, ECOLOGY AND LIFE HISTORY**	**POTENTIAL TO OCCUR**
Palmer's goldenbush	*Ericameria palmeri* ssp. *palmeri*	--/-- CNPS List 1B.1 MSCP Covered Narrow Endemic	Large evergreen shrub. Occurs in coastal drainages, mesic chaparral, and occasionally in coastal sage scrub. Elevation range 0-450m. Flowering period September – November.	**Low**. Soils and habitat on the site are suitable but not consistent with prime habitat (drainages and mesic chaparral).
Parry's tetracoccus	*Tetracoccus dioicus*	--/-- CNPS List 1B.2	Medium shrub. Occurs on gabbro soils in low growing chamise chaparral and sage scrub. Usually in xeric conditions. Elevation range 110-840m. Flowering period April – May, but identifiable year-round by foliage.	**Low.** Suitable sage scrub habitat occurs on the site, but suitable soils do not. Would have been detected if present.
Salt marsh bird's-beak	*Chloropyron maritimum* ssp. *maritimum* [*Cordylanthus maritimus* ssp. *maritimus*]	FE/SE CNPS List 1B.2 MSCP Covered Narrow Endemic	Medium annual, hemiparasitic herb. Occurs in salt marshes, particularly slightly raised hummocks. Elevation range 0-10m. Flowering period May – October.	**None**. No suitable habitat occurs. The site does not support coastal dune, salt marsh, or swamp habitat.

Appendix C (cont.) **SENSITIVE PLANT SPECIES POTENTIAL TO OCCUR**				
COMMON NAME	**SPECIES NAME**	**STATUS[1]**	**HABIT, ECOLOGY AND LIFE HISTORY**	**POTENTIAL TO OCCUR**
San Diego ambrosia	*Ambrosia pumila*	FE/-- CNPS List 1B.1 MSCP Covered Narrow Endemic	Small rhizomatous herb. Occurs in grasslands, valley bottoms and dry drainages, also can occur on slopes, disturbed places, and in coastal sage scrub or chaparral. May occur in vernal pools supported by sandy loam or clay and at alkaline sites. Elevation range 200-600m. ft. Flowering period April – October.	**Low**. Soils and habitat on the site are suitable; however, this species is very rare and known from fewer than 20 locations.
San Diego barrel cactus	*Ferocactus viridescens*	--/-- CNPS List 2B.1 MSCP Covered	Stem succulent. Occurs preferentially on Diegan coastal sage scrub hillsides, often at the crest of slopes and growing among cobbles. Occasionally found on vernal pool periphery and mima mound topography in Otay Mesa. Elevation range 10-150. Flowering period May – June.	**Present.** Widespread in the eastern section of the site along Wueste Road, and occurs in the south-central portion of the western section of the site.

Appendix C (cont.) **SENSITIVE PLANT SPECIES POTENTIAL TO OCCUR**				
COMMON NAME	**SPECIES NAME**	**STATUS[1]**	**HABIT, ECOLOGY AND LIFE HISTORY**	**POTENTIAL TO OCCUR**
San Diego button-celery	*Eryngium aristulatum* var. *parishii*	FE/SE CNPS List 1B.1 MSCP Covered	Small annual/perennial herb. Occurs primarily in vernal pools or mima mound areas with vernally moist conditions. May be present in coastal sage scrub and grassland supported by clay soils and mesic conditions. Elevation range 0-705m. Flowering period May – June.	**Low.** Vernal pool habitat on the site is of poor quality, and this conspicuous species was not observed during surveys.
San Diego goldenstar	*Bloomeria clevelandii*	--/-- CNPS List 1B.1 MSCP Covered	Small bulbiferous herb. Occurs on clay soils in grasslands and coastal sage scrub. Elevation range 0-600m. Flowering period April – May.	**Low**. No suitable clay soils occur on the site.
San Diego marsh-elder	*Iva hayesiana*	--/-- CNPS List 2.2	Medium shrub. Occurs in creeks and intermittent streambeds with open riparian canopy. Prefers sandy alluvial embankments with cobbles. Elevation range 0-880m. Flowering period April – October, but identifiable year-round by foliage.	**Low.** Little suitable habitat occurs on the site, and the species would have been detected if present.
San Diego thorn-mint	*Acanthomintha ilicifolia*	FT/SE CNPS List 1B.1 MSCP Covered Narrow Endemic	Small annual herb. Occurs on clay soils near vernal pools and in grassy openings in coastal sage scrub and chaparral. Elevation range 10-960m. Flowering period April – June.	**Low**. No suitable clay soils occur on the site.

Appendix C (cont.) **SENSITIVE PLANT SPECIES POTENTIAL TO OCCUR**				
COMMON NAME	**SPECIES NAME**	**STATUS[1]**	**HABIT, ECOLOGY AND LIFE HISTORY**	**POTENTIAL TO OCCUR**
San Miguel savory	*Clinopodium chandleri*	--/-- CNPS List 1B.2 MSCP Covered	Small shrub. Occurs on gabbro and metavolcanic soils in interior foothills, chaparral, and oak woodland. Elevation range 0-1100m. Flowering period March – July.	**None.** No suitable soils or habitat occur on the site.
Slender-pod jewelflower	*Caulanthus heterophyllus*	--/delisted CNPS unlisted MSCP Covered	Small annual herb. Occurs in coastal sage scrub and chaparral in the first year after fire. Elevation range 0-1600m. Flowering period March – May.	**Low**. Soils and habitat on the site are suitable, but there is no recent history of fire. Appropriate conditions for the emergence of this species on the site, if it is present, are not expected.
Snake cholla	*Cylindropuntia californica* var. *californica*	--/-- CNPS List 1B.1 MSCP Covered Narrow Endemic	Stem succulent. Occurs in Diegan coastal sage scrub on xeric hillsides. Elevation range 0-250m. Flowering period April – July.	**Low.** Suitable habitat occurs on the site, but this conspicuous species would have been observed if present.
Spreading navarretia	*Navarretia fossalis*	FT/-- CNPS List 1B.1 MSCP Covered	Small annual herb. Occurs in vernal pools. Elevation range 60-1000m. Flowering period April – June.	**Low.** Vernal pool habitat on the site is of very poor quality.

Appendix C (cont.) **SENSITIVE PLANT SPECIES POTENTIAL TO OCCUR**				
COMMON NAME	**SPECIES NAME**	**STATUS[1]**	**HABIT, ECOLOGY AND LIFE HISTORY**	**POTENTIAL TO OCCUR**
Variegated dudleya	*Dudleya variegata*	--/-- CNPS List 1B.2 MSCP Covered Narrow Endemic	Small perennial herb. Occurs on clay soils near vernal pools, and on metavolcanic rocky soils in open coastal sage scrub, chaparral, and grasslands. Elevation range 0-1000m. Flowering period April – June.	**Low**. Vernal pool habitat on the site is of poor quality, and suitable clay or metavolcanic soils do not occur on the site.

[1]Listing is as follows: F = Federal; S = State of California; E = Endangered; T = Threatened; R = Rare

[2]CNPS = California Native Plant Society Lists: 1A – presumed extinct; 1B – rare, threatened, or endangered in California and elsewhere; 2 – rare, threatened, or endangered in California but more common elsewhere; 3 – more information needed; 4 – watch list for species of limited distribution. Extension codes: .1 – seriously endangered; .2 – moderately endangered; .3 – not very endangered.

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Appendix D

SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR

Appendix D SENSITIVE ANIMAL SPECIES POTENTIAL TO OCCUR				
COMMON NAME	**SPECIES NAME**	**STATUS[1]**	**HABITAT ASSOCIATIONS**	**POTENTIAL TO OCCUR**
Aquatic Invertebrates				
Riverside fairy shrimp	*Streptocephalus woottoni*	FE/-- MSCP Covered	Typically deep vernal pools and seasonal wetlands at least 30 centimeters deep (Simovich 1990).	**Low.** Vernal pool basins on the site are less than 30cm deep.
San Diego fairy shrimp	*Branchinecta sandiegonensis*	FE/-- MSCP Covered	Seasonally astatic pools which occur in tectonic swales or earth slump basins and other areas of shallow, standing water often in patches of grassland and agriculture interspersed in coastal sage scrub and chaparral.	**High.** In vernal pools on the lake parcel. **Low**. In road ruts on the lake parcel.
Insects				
Quino checkerspot butterfly	*Euphydryas editha quino*	FE/-- MSCP Covered	Sunny openings within chaparral and coastal sage shrublands. Host plants include dwarf plantain (*Plantago erecta*), bird's beak (*Cordylanthus rigidus*), Chinese houses (*Collinsia* spp.), plantain (*Plantago patagonica*), Coulter's snapdragon (*Antirrhinum coulterianum*), and purple owl's clover (*Castilleja exserta*).	**Low**. Suitable habitat occurs on and adjacent to the site and the species has been recorded to the south across Salt Creek; however, previous studies have concluded that the area supports only marginal habitat and the species is expected only as a rare transient if at all.
Thorne's hairstreak	*Callophrys thornei*	--/-- MSCP narrow endemic	Known only from Otay Mountain where larval host plant (Tecate cypress [*Cupressus forbesii*]) occurs.	**None.** Obligate host plant does not occur on the site.

Appendix D (cont.) **SENSITIVE ANIMAL SPECIES POTENTIAL TO OCCUR**				
COMMON NAME	**SPECIES NAME**	**STATUS[1]**	**HABITAT ASSOCIATIONS**	**POTENTIAL TO OCCUR**
Insects (cont.)				
Wandering (salt marsh) skipper	*Panoquina errans*	--/-- MSCP Covered	Coastal saltmarshes along river mouths and other brackish waters. Larval host plant is saltgrass (*Distichlis spicata*).	**None.** Suitable habitat does not occur on the site.
Reptiles and Amphibians				
Arroyo toad	*Anaxyrus californicus* [*Bufo microscaphus californicus*]	FE/SSC MSCP Covered	Semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash, etc. Requires rivers with sandy banks, willows, cottonwoods, and sycamores; loose, gravelly areas of streams in drier parts of range.	**None**. No suitable sandy or loose, gravelly stream bank habitats occur on the site.
Belding's orange-throated whiptail	*Aspidoscelis hyperythra beldingi* [*Cnemidophorus hyperythrus*]	--/SSC MSCP Covered	Coastal scrub, chaparral, and valley and foothill hardwood habitats. Prefers washes and sandy areas with patches of brush and rocks. Perennial plants required to support its primary prey termites.	**Present**. Observed on the Main Campus Property in 2016.
San Diego horned lizard	*Phrynosoma coronatum blainvillei*	--/SSC MSCP Covered	Coastal sage scrub and chaparral in arid and semiarid climate conditions.	**High**. Suitable coastal sage scrub habitat occurs on the site.

Appendix D (cont.)
SENSITIVE ANIMAL SPECIES POTENTIAL TO OCCUR

COMMON NAME	SPECIES NAME	STATUS[1]	HABITAT ASSOCIATIONS	POTENTIAL TO OCCUR
Reptiles and Amphibians (cont.)				
Southwestern pond turtle	*Emys marmorata* [*Clemmys marmorata allied*]	--/SSC MSCP Covered	Ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation. Requires basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	**None.** Suitable habitat does not occur on the site.
Two-striped garter snake	*Thamnophis hammondii*	--/SSC	Occurs along permanent and intermittent streams bordered by dense riparian vegetation, but occasionally associated with vernal pools or stock ponds	**Low.** Suitable dense riparian vegetation does not occur on the site.
Birds				
American peregrine falcon	*Falco peregrines anatum*	delisted/FP MSCP Covered	(Nesting) Generally, areas with cliffs near water where prey (shorebirds and ducks) is concentrated. Preferred hunting areas are agricultural fields, meadows, marshes, and lakes. Nesting usually occurs on cliff ledges or in a scrape in debris and occasionally in the old nests of other birds.	**Low.** No suitable nesting habitat occurs on the site.
Bald eagle	*Haliaeetus leucocephalus*	delisted/SE MSCP Covered	(Nesting & wintering) Close proximity to lakes or other water bodies.	**Low.** Recorded at Sweetwater Reservoir to the North.

Appendix D (cont.)
SENSITIVE ANIMAL SPECIES POTENTIAL TO OCCUR

COMMON NAME	SPECIES NAME	STATUS[1]	HABITAT ASSOCIATIONS	POTENTIAL TO OCCUR
Birds (cont.)				
Belding's savannah sparrow	*Passerculus sandwichensis beldingi*	--/SE MSCP Covered	Coastal marshes dominated by pickleweed (*Salicornia* spp.).	**None.** Suitable habitat does not occur on the site.
Burrowing owl	*Athene cunicularia* [*Speotyto c. hypogaea*]	--/SSC MSCP Covered	(Burrow sites and some wintering sites) Grassland or open scrub habitats with sufficient small mammal prey and mammal burrows.	**Low**. Suitable grassland habitat and some small mammal prey occur on the site. Protocol surveys in 2016 were negative. **Moderate** in off-site impact areas south of the Main Campus Property.
California brown pelican	*Pelecanus occidentalis californicus*	delisted/FP MSCP Covered	(Nesting) Coastal salt water, beaches, bays, marshes, and on the open ocean.	**None.** Suitable habitat does not occur on the site.
California least tern	*Sternula antillarum browni*	FE/SE, FP MSCP Covered	(Nesting colony) Coastal areas adjacent to the ocean.	**None.** Suitable habitat does not occur on the site.
Canada goose	*Branta canadensis*	--/-- MSCP Covered	Mixed fresh and brackish water habitats with low grass or succulent leaves.	**None.** Suitable habitat does not occur on the site.
Coastal cactus wren	*Campylorhynchus brunneicapillus couesi*	--/SSC MSCP Covered	Cactus thickets.	**High.** Suitable habitat occurs in the south-central portion of the western section of the site.

Appendix D (cont.) **SENSITIVE ANIMAL SPECIES POTENTIAL TO OCCUR**				
COMMON NAME	**SPECIES NAME**	**STATUS[1]**	**HABITAT ASSOCIATIONS**	**POTENTIAL TO OCCUR**
Birds (cont.)				
Coastal California gnatcatcher	*Polioptila californica californica*	FT/SSC MSCP Covered	Coastal sage scrub below 2500 ft in southern California. Low, coastal sage scrub in arid washes, on mesas and slopes. Not all areas classified as coastal sage scrub are occupied.	**Present**. Observed in both sections of the site during biological surveys.
Cooper's hawk	*Accipiter cooperi*	--/WL MSCP Covered	(Nesting) Open, uninterrupted, or marginal woodland. Nest sites mainly found in riparian growths of deciduous trees, live oaks.	**Low.** No suitable nesting habitat occurs on the site.
Elegant tern	*Thalasseus* [*Sterna*] *elegans*	--/WL MSCP Covered	(Nesting colony) Coastal areas adjacent to the ocean.	**None.** Suitable habitat does not occur on the site.
Ferruginous hawk	*Buteo regalis*	--/WL MSCP Covered	(Wintering) Open grasslands.	**High**. Suitable open grassland habitat occurs on the site for foraging only.
Golden eagle	*Aquila chrysaetos*	--/FP, WL MSCP Covered	(Nesting and Wintering) Rolling foothills and mountain areas, juniper-sage flats, and deserts. Primarily associated with cliff-walled canyons and large trees in open habitats for nesting.	**None**. Suitable habitat does not occur on the site.

Appendix D (cont.) **SENSITIVE ANIMAL SPECIES POTENTIAL TO OCCUR**				
COMMON NAME	**SPECIES NAME**	**STATUS[1]**	**HABITAT ASSOCIATIONS**	**POTENTIAL TO OCCUR**
Birds (cont.)				
Large-billed savannah sparrow	*Passerculus sandwichensis rostratus*	--/SSC MSCP Covered	(Wintering) Breeds in marshes along the northern and northeastern Gulf of California coast, dispersing widely to coastal regions of southern California and the Baja peninsula.	**None.** Suitable habitat does not occur on the site.
Least Bell's Vireo	*Vireo bellii pusillus*	FE/SE MSCP Covered	(Nesting) Mature riparian woodland.	**Present.** This species was detected by call in riparian habitat in the northeastern portion of the main campus property outside of the project development footprint in 2016.
Light-footed clapper rail	*Rallus longirostris levipes*	FE/SE, FP MSCP Covered	Coastal salt marshes, especially those dominated by cordgrass (*Spartina* sp.), but has been known to use brackish and freshwater sites.	**None.** Suitable habitat does not occur on the site.
Long-billed curlew	*Numenius americanus*	--/WL MSCP Covered	(Nesting) Tidal mudflats and open coastal grassland.	**None.** Suitable habitat does not occur on the site.

Appendix D (cont.) **SENSITIVE ANIMAL SPECIES POTENTIAL TO OCCUR**				
COMMON NAME	**SPECIES NAME**	**STATUS[1]**	**HABITAT ASSOCIATIONS**	**POTENTIAL TO OCCUR**
Birds (cont.)				
Northern harrier	*Circus cyaneus*	--/SSC MSCP Covered	(Nesting) Coastal salt and freshwater marsh. Nests and forages in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	**Present.** Observed foraging in the Main Campus Property in 2013, but only marginal nesting habitat on Main Campus Property.
Reddish egret	*Egretta rufescens*	--/-- MSCP Covered	Coastal wetlands.	**None.** Suitable habitat does not occur on the site.
Southern California Rufous-crowned sparrow	*Aimophila ruficeps canescens*	--/WL MSCP Covered	Found in coastal sage scrub and sparse mixed chaparral.	**Present**. Observed in the northeast corner of the Main Campus Property in 2013.
Southwestern willow flycatcher	*Empidonax traillii extimus*	FE/SE MSCP Covered	(Nesting) Breeds within thickets of willows or other riparian understory usually along streams, ponds, lakes, or canyons. Migrants may be found among other shrubs in wetter areas.	**Low.** Riparian habitat on the site is too sparse and not suitable for this species.

Appendix D (cont.)
SENSITIVE ANIMAL SPECIES POTENTIAL TO OCCUR

COMMON NAME	SPECIES NAME	STATUS[1]	HABITAT ASSOCIATIONS	POTENTIAL TO OCCUR
Birds (cont.)				
Swainson's hawk	*Buteo swainsoni*	--/ST MSCP Covered	(Nesting) Open grassland. Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch properties. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	**Low.** Suitable grassland habitat occurs on the site. This species is not likely to nest, but has potential to forage during migration.
Tricolored blackbird	*Agelaius tricolor*	--/SSC MSCP Covered	(Nesting colony) Requires open water, protected nesting substrate, and foraging area with available insect prey.	**None.** Suitable habitat does not occur on the site.
Western bluebird	*Sialia mexicana*	--/-- MSCP Covered	Open coniferous and deciduous woodlands, wooded riparian areas, grasslands, farmlands, and edge of burned areas. Prefers open forest habitats. Nests in cavities in trees and snags, or between bark and trunk. Uses nest boxes.	**Low**. Grassland habitat occurs on the site, but suitable nesting habitat does not.
Western snowy plover	*Charadrius nivosus nivosus*	FT, BCC/SSC MSCP Covered	(Nesting) Beaches, dunes, and salt flats.	**None.** Suitable habitat does not occur on the site.
White-faced ibis	*Plegadis chihi*	--/WL MSCP Covered	(Nesting colony) Nests in freshwater marshes and forages in shallow waters and wet, grassy habitats.	**None.** Suitable habitat does not occur on the site.

Appendix D (cont.) **SENSITIVE ANIMAL SPECIES POTENTIAL TO OCCUR**				
COMMON NAME	**SPECIES NAME**	**STATUS[1]**	**HABITAT ASSOCIATIONS**	**POTENTIAL TO OCCUR**
Birds (cont.)				
Yellow-breasted chat	*Icteria virens*	--/SSC MSCP Covered	Mature riparian woodland.	**None.** Suitable habitat does not occur on the site.
Mammals				
American badger	*Taxidea taxus*	--/SSC MSCP Covered	Open plains and prairies, farmland, and sometimes edges of woods.	**Low**. Not likely to occupy the site as a permanent resident.
Mountain lion	*Felis concolor*	--/-- MSCP Covered	Rocky areas, cliffs, and ledges that provide cover within open woodlands and chaparral, as well as riparian areas that provide protective habitat connections for movement between fragmented core habitat. Also, need both vertical and horizontal cover components, such as rocks and downed logs, to feel secure enough to bed.	**Low**. Suitable cliff, ledge, or extensive riparian habitat does not occur on the site. Transient individuals possible, given the regional setting and proximity of large tracts of open space to the south and east.
San Diego black-tailed jackrabbit	*Lepus californicus bennettii*	--/SSC	Occurs primarily in open habitats including coastal sage scrub, chaparral, grasslands, croplands, and open, disturbed areas if there is at least some shrub cover present.	**Present.** Observed on the Main Campus Property in 2014 and 2016.
Southern mule deer	*Odocoileus hemionus*	--/-- MSCP Covered	Mule deer occupy to some extent almost all types of habitat within their range but, in general, they prefer more arid, open conditions.	**Low**. Not likely to occupy the site as a permanent resident.

Appendix D (cont.) **SENSITIVE ANIMAL SPECIES POTENTIAL TO OCCUR**				
COMMON NAME	**SPECIES NAME**	**STATUS[1]**	**HABITAT ASSOCIATIONS**	**POTENTIAL TO OCCUR**
Mammals (cont.)				
Western mastiff bat	*Eumops perotis californicus*	--/SSC	Chaparral and where coast live oaks are found. Also occurs in arid, rocky areas, cliffs, and canyons.	**None.** Suitable habitat does not occur on the site.
Yuma myotis	*Myotis yumanensis*	--/--	Always near ponds, streams, or lakes. By day, under sidings or shingles, caves, mines, buildings, or under bridges	**None.** Suitable surface water habitat does not occur on the site.

[1]Listing codes are as follows: FE = Federally Endangered; FT = Federally Threatened; SE = State of California Endangered; FP = State of California Fully Protected; WL = State of California Watch List; SSC = State of California Species of Special Concern. 'MSCP Covered' and 'Narrow Endemic' species are those listed in the City of Chula Vista MSCP Subarea Plan.

Appendix E

EXPLANATION OF STATUS CODES FOR PLANT AND ANIMAL SPECIES

Appendix E
EXPLANATION OF STATUS CODES FOR PLANT AND ANIMAL SPECIES

FEDERAL, STATE, AND LOCAL CODES

U.S. Fish and Wildlife Service (USFWS)

FE Federally listed endangered
FT Federally listed threatened
BCC Birds of Conservation Concern (see more information below)
WL WatchList (see more information below)

USFWS Birds of Conservation Concern (BCC)

The primary legal authority for Birds of Conservation Concern (2002) is the Fish and Wildlife Conservation Act of 1980 (FWCA), as amended. Other authorities include the Endangered Species Act, Fish and Wildlife Act (1956) and 16 USC §701. A FWCA 1988 amendment (Public Law 100-653, Title VIII) requires the Secretary of the Interior through the USFWS to "identify species, subspecies, and populations of all migratory non-game birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act of 1973." The BCC report is the most recent effort by the USFWS to carry out this proactive conservation mandate.

The BCC report aims to identify accurately the migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that represent the USFWS' highest conservation priorities and draw attention to species in need of conservation action. The USFWS hopes that by focusing attention on these highest priority species, the report will promote greater study and protection of the habitats and ecological communities upon which these species depend, thereby ensuring the future of healthy avian populations and communities. The report is available online at http://www.fws.gov/migratorybirds/reports/BCC2002.pdf.

American Bird Conservancy: U.S. WatchList (WL)

The United States *WatchList* is a joint project between the American Bird Conservancy and the National Audubon Society. It reflects a comprehensive analysis of all the bird species in the United States. It reveals those in greatest need of immediate conservation attention to survive a convergence of environmental challenges, including habitat loss, invasive species, and global warming. The list builds on the species assessments conducted for many years by Partners in Flight (PIF) for land birds. It uses those same PIF standards but it is expanded to cover all bird species, not just land birds. The list is based on the latest available research and assessments from the bird conservation community, along with data from the Christmas Bird Count and Breeding Bird Survey. More information is available online at:
http://www.abcbirds.org/abcprograms/science/watchlist/index.html

Appendix E (cont.)
EXPLANATION OF STATUS CODES FOR PLANT AND ANIMAL SPECIES

California Department of Fish and Wildlife (CDFW)

SE	State listed endangered
SR	State listed rare
ST	State listed threatened
SSC	State species of special concern
Fully Protected	Fully Protected species refers to all vertebrate and invertebrate taxa of concern to the Natural Diversity Data Base regardless of legal or protection status. These species may not be taken or possessed without a permit from the Fish and Game Commission and/or CDFW.

OTHER CODES AND ABBREVIATIONS

Multiple Species Conservation Program (MSCP) Covered

Multiple Species Conservation Program covered species for which the City has take authorization within the MSCP area.

Narrow Endemic (NE) Species

Some native species (primarily plants with restricted geographic distributions, soil affinities, and/or habitats) are referred to as a narrow endemic species. For vernal pools and identified narrow endemic species, the jurisdictions will specify measures in their respective subarea plans to ensure that impacts to these resources are avoided to the maximum extent practicable.

Appendix E (cont.)
EXPLANATION OF STATUS CODES FOR PLANT AND ANIMAL SPECIES

California Native Plant Society (CNPS) Codes

CA Endemic — A "CA Endemic" entry is displayed in the CNPS *Inventory* entries for those tax that only occur in California. This clearly highlights endemic taxa.

Lists

1A = Presumed extinct.

1B = Rare, threatened, or endangered in California and elsewhere. Eligible for state listing.

2 = Rare, threatened, or endangered in California but more common elsewhere. Eligible for state listing.

3 = Distribution, endangerment, ecology, and/or taxonomic information needed. Some eligible for state listing.

4 = A watch list for species of limited distribution. Needs monitoring for changes in population status. Few (if any) eligible for state listing.

List/Threat Code Extensions

.1 = Seriously endangered in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)

.2 = Fairly endangered in California (20 to 80 percent occurrences threatened)

.3 = Not very endangered in California (less than 20 percent of occurrences threatened, or no current threats known)

A "CA Endemic" entry corresponds to those taxa that only occur in California.

All List 1A (presumed extinct in California) and some List 3 (need more information; a review list) plants lacking threat information receive no extension. Threat Code guidelines represent only a starting point in threat level assessment. Other factors, such as habitat vulnerability and specificity, distribution, and condition of occurrences, are considered in setting the Threat Code.

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Appendix F

DRAFT HABITAT LOSS AND INCIDENTAL TAKE PERMIT FINDINGS

A. General Findings

1. The proposed development in the Project Area and associated mitigation is consistent with the Chula Vista MSCP Subarea Plan, the MSCP Implementation Guidelines, and the development standards set forth in Section 17.35.100 of this Chapter.

   The proposed development and mitigation of the Lake Property and off-site impact areas is consistent with the Chula Vista MSCP Subarea Plan, the MSCP Implementation Guidelines, and the development standards set forth in Section 17.35.100 of the HLIT Ordinance, including locating development in the least environmentally sensitive portions of the project area, as discussed in the Biological Technical Report for the University Innovation District and the Chula Vista University and Innovation District SPA EIR.

2. The Project Area is physically suitable for the design and siting of the proposed development and the development results in minimum disturbance to Sensitive Biological Resources, except impacts to Natural Vegetation in mapped Development Areas.

   The physical suitability of the Lake Property and off-site impact areas and minimization of disturbance to sensitive biological resources are discussed in detail in the Biological Technical Report and EIR.

3. The nature and extent of mitigation required as a condition of the permit is reasonably related to and calculated to alleviate negative impacts created in the Project Area.

   The mitigation required as a condition of the permit is reasonably related to and calculated to alleviate negative impacts as discussed in the Biological Technical Report and EIR. EIR Section 5.6.5 includes all required mitigation measures, and EIR Table 5.6.5 shows the habitat impact and mitigation calculations for the project using the Chula Vista MSCP Subarea Plan's HLIT Upland Habitat Mitigation Ratios.

B. Narrow Endemic Findings.

1. Narrow Endemic Species' populations within the Project Area have been avoided or total avoidance is infeasible.

   Should narrow endemic species listed in Table 5-4 of the Chula Vista MSCP Subarea Plan be identified in the proposed off-site impact areas, the project shall be designed so as to avoid them to the maximum extent practicable and compensate any unavoidable impacts in accordance with requirements of the Chula Vista MSCP Subarea Plan, as specified in mitigation measure 5.6-1a.

2. If the impacts to Narrow Endemic Species have not been avoided, one of the following findings shall be made:

   a. In cases where impacts to covered narrow Endemic Species' populations within the Project Area have been limited to 5% in 100% Conservation Areas and 20% in 75-100% Conservation Areas and Development Areas outside of Covered Projects, the proposed project design, including mitigation, will result in conservation of the species that is functionally equivalent to its status without the project, including species numbers and area, and must ensure adequate Preserve design to protect the species in the long-term; or

EIR mitigation measure 5.6-1a requires consistency with this finding.

b. In cases where the 5% or 20% Narrow Endemic Species impact threshold has been exceeded, the proposed project design, including mitigation, results in a Preserve design that would occur if the impact had been limited to 5% in 100% Conservation Areas or 20% in 75-100% Conservation Areas and Development Areas outside of Covered Projects.

This finding is not applicable because the project will be designed not to exceed the 5% or 20% Narrow Endemic Species impact threshold.

C. Wetland Findings

1. Prior to issuance of a Land Development Permit or Clearing and Grubbing Permit, the project proponent will be required to obtain any applicable state and federal permits, with copies provided to the Director of Planning and Building, or his/her designee.

EIR mitigation measure 5.6-11b requires the project proponent to obtain any applicable state and federal permits.

2. Where impacts are proposed to wetlands the following findings shall be made:

a. Impacts to wetlands have been avoided and/or minimized to the maximum extent practicable, consistent with the city of Chula Vista MSCP subarea plan Section 5.2.4.

The off-site facilities have been sited through existing access roads and less biologically sensitive areas based on available information, as described in the Biological Technical Report and EIR. Final wetland impacts will be determined and regulated through mitigation measures 5.6-11a and 5.6-11b, which require a formal wetland delineation and issuance of wetland permits prior to issuance of land development permits.

b. Unavoidable impacts to wetlands have been mitigated pursuant to CVMC 17.35.110. (Ord. 3004 § 1, 2005).

As required by 17.35.110 of the HLIT Ordinance, unavoidable impacts to wetlands will be mitigated pursuant to pursuant to Section 5.2.4 and Table 5-6 of the Chula Vista MSCP subarea plan under EIR mitigation measure 5.6-10a.