INDIVIDUAL BIOLOGICAL ASSESSMENT REPORT

Site Name/Facility:	Murphy Canyon
Master Program Map No.:	58 and 58a
Date:	June 2013 (corrected November 2013 in ~~strikeout~~/underline)
Biologist Name/Cell Phone No.:	Thomas Liddicoat / 619.573.7791

Instructions: This form must be completed for each storm water facility identified in the Annual Maintenance Needs Assessment report and prior to commencing any maintenance activity on the facility. The Existing Conditions information shall be collected prior to preparing of the Individual Maintenance Plan (IMP) to assist in developing the IMP. The remaining sections shall be completed after the IMP has been prepared. Attach additional sheets as needed.

EXISTING CONDITIONS

The City of San Diego (City) has developed the Master Storm Water System Maintenance Program (MMP, Master Maintenance Program) (City of San Diego 2011a) to govern channel operation and maintenance activities in an efficient, economic, environmentally and aesthetically acceptable manner to provide flood control for the protection of life and property. This document provides a summary of the Individual Biological Assessment (IBA) components conducted for the Murphy Canyon Channel to comply with the MMP's Programmatic Environmental Impact Report (PEIR) (City of San Diego 2011b).

IBA procedures under the MMP provide the guidelines for an in-depth inspection of the proposed maintenance activity site including access routes, and temporary spoils storage and staging areas. A qualified biologist will determine whether or not sensitive biological resources could be affected by the proposed maintenance and potential ways to avoid impacts in accordance with the measures identified in the Mitigation, Monitoring and Reporting Program (MMRP) of the PEIR and the MMP protocols. This document provides a summary of the biological resources associated with the storm water facility, a quantification of impacts to sensitive biological resources, and the mitigation measures required to mitigate for those impacts, if any found.

Project Description

The proposed maintenance activities would occur within a portion of the Murphy Canyon channel, between the Qualcomm Stadium parking lot to the west and Interstate 15 to the east, and north of Interstate 8. Murphy Canyon channel (commonly known as

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Murphy Creek) is a part of the San Diego Basin situated within the San Diego River Watershed (City of San Diego, 2008). The Murphy Canyon channel (Maps 58 and 58a) is broken into five channel reaches pertinent to the hydrology and hydraulic analysis conducted for the Individual Hydrology and Hydraulic Assessment (IHHA). Reaches 1 and 2 are included on MMP Map 58 and Reaches 3 and 4 are included on MMP Map 58a (City of San Diego 2011a). Based on the current IHHA results, the City is proposing to routinely maintain Reaches 1 and a portion of 2, through periodic removal of trash, debris, vegetation and accumulated sediment. The northern portion of Murphy Canyon consists of Reaches 3 and 4, (Map 58a), which are potential maintenance areas, but are not proposed for maintenance this year.

Although brief descriptions for all potential maintenance areas (i.e., Reaches 1 through 4) have been included below, it is important to note that **Reach 1** and a portion of **Reach 2** are the focal drainage facilities (i.e., proposed maintenance areas) of this assessment (See Figures 1 through 4). Detailed technical assessments pertaining to Reaches 3 through 4 will be prepared as maintenance activities to those areas are proposed in the future.

A more detailed discussion of Reaches 1 through 4 is provided below.

Reaches 1 and 2

Reaches 1 and 2 are a combination of earthen with rip-rap sides (Reach 1) and concrete (Reach 2) trapezoidal channel types that parallels I-15 to the east and Qualcomm Stadium and a Kinder Morgan tank farm facility to the west. The Qualcomm parking lot has a history of flooding issues by storm water flows from the channel, most recently in 2010. Reach 1 has a length of approximately 1,662 feet from the downstream end of the concrete channel to the property line located approximately 40 feet south of the Stadium Road bridge. The City maintained portion of Reach 2 extends from 110 feet north of San Diego Mission Road to 96 feet south of San Diego Mission Road for a length of approximately 206 feet. The upstream portion of the Reach 2 is on Caltrans right-of-way and will not be maintained as part of the proposed project.

Reaches 3 and 4

Reaches 3 and 4 are the upstream continuation of the Murphy Canyon channel north of the southern box culvert. These reaches are bounded by industrial and golf facilities to the west and Murphy Canyon Road to the east. Reach 3 is an approximate 610-foot long concrete-lined trapezoidal channel in Murphy Creek. Reach 4 is an approximate 1,520-foot long earthen portion of Murphy Creek. The project area is mapped within the Federal Emergency Management Agency's (FEMA) flood areas; Reaches 1 and 2 and the adjacent stadium parking lot area are within the FEMA Special Flood Hazard Areas Subject to Inundation by the 1-percent Annual Chance Flood (100-year floodplain) designated Zone A. Reaches 3 and 4 and the adjacent area is within FEMA's Special

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Flood Hazard Areas Subject to Inundation by the 1-percent Annual Chance Flood (100-year floodplain) designated Zone AE. In the current condition, Reaches 1 and 2 do not completely contain the 2-year storm event flows between their banks and cause flooding in the surrounding areas. Reaches 3 and 4 currently have capacity to convey their original design flows; thus no maintenance is recommended at this time.

The project area is located in the Mission Valley Planned District (MVPD) within the City's Municipal Code and specific land-use designations are described in the Mission Valley Community Plan. The potential maintenance areas associated with Reaches 1 and 2 are zoned MV-CV (Mission Valley Commercial Visitor) and MV-I (Industrial), which is designated for commercial businesses and professional offices. The potential maintenance areas associated with Reaches 3 and 4 are zoned MV-I (Industrial) and IL-2-I (Industrial-Light), which are designated for industrial businesses and mixed professional office uses.

The project area is not located within the City's Multiple Species Conservation Program's (MSCP) Multi-Habitat Planning Area (MHPA) as the nearest MHPA boundary is located immediately south (approximately 125 feet) of the Reach 1 maintenance area associated with the San Diego River corridor.

The channelization and maintenance of the five Reaches have been previously permitted and maintained since initial construction of the channel in 1965. Maintenance of the Reaches has been inconsistent since 1965, including a redesign as-built in 1978 to include a berm along the west bank of Reaches 1 and 2. The City was conducting as-needed maintenance to these Reaches up until 2003. Since 2003, the City received an emergency authorization (i.e., Regional General Permit 63) for maintenance activities which were conducted in 2005 (200500753-GS). Most recently in 2011, the City applied for additional emergency authorizations; however, only a draft Streambed Alteration Agreement (SAA1600-2010-0269-R5) from the California Department of Fish and Wildlife (CDFW) was issued as a result of the 2011 applications. Maintenance activities were not conducted but the SAA remains valid until December 2015 pending updates to the project description and impacts analysis.

All of the potential maintenance areas (i.e., Reaches 1-4) described herein are included in the MMP and can be characterized as listed below:

- Reach 1 – Murphy Creek – earthen channel (MMP Map 58)
- Reach 2 – Murphy Creek – concrete channel (MMP Map 58)
- Reach 3 – Murphy Creek – concrete channel (MMP Map 58a)
- Reach 4 – Murphy Creek – earthen channel (MMP Map 58a)

The proposed maintenance areas (i.e., Reaches 1 and 2) are consistent with the MMP as delineated within or less than the project impact footprint described. Reaches 3 and 4

are potential maintenance areas, but are not currently proposed for maintenance, and thus are not discussed further in this IBA.

The currently proposed maintenance (i.e., Reaches 1 and 2) within Murphy Canyon includes the periodic dredging and vegetation trimming and removal of approximately 8,000 to 11,500 cubic yards of materials (i.e., sediment and vegetation debris) within approximately 2.66 acres including all proposed work areas (i.e., maintenance area, access/loading areas, staging/stockpiling area). In subsequent maintenance years, site surveys will be conducted prior to maintenance to assess actual target removal locations and the volume of sediment removal needed to restore the conveyance capacity of the channel.

Reach 1

Murphy Creek – earthen (rip-rap sides) channel (MMP Map 58): This channel segment extends from approximately 150 feet north of the confluence to the San Diego River, upstream approximately 1,662 feet to Reach 2. This proposed maintenance area footprint is approximately 1,662 feet (length) x 32 feet (width) x 5-7 feet (depth), occupying approximately 2.57 acres. Initial channel construction was performed in 1965 and redesign as-built drawings were approved in 1978. As prescribed by the MMP's IHHA requirements, this segment of Murphy Creek requires dredging and vegetation removal to retain the as-built storm water conveyance capacity.

Reach 2

Murphy Creek – concrete channel (MMP Map 58): Starting at the upstream end of Reach 1, this segment of Murphy Creek was constructed as a concrete-lined (bed and banks) trapezoidal channel, and extends northward through Murphy Canyon. The proposed maintenance of this channel segment includes approximately 206 feet (length) x 20 feet (width) x 1-3 feet (depth), occupying approximately 0.09 acre. Please note that the northern (upstream) portion of Reach 2 is located in Caltrans right-of-way and is not included in the proposed maintenance area.

Access, Loading, and Staging Areas

Four Access/Loading Areas for the proposed maintenance are identified on Figures 3 and 4. Access into the channel will occur via a bulldozer and loader at one location (i.e., Access/Loading Area D) and three additional areas (i.e., Access/Loading Areas A, B, and C) will be utilized by an excavator for loading of removed material. Although Access/Loading Area ~~A~~ D is the only area designated with an earthen ramp into the channel for machine access, all ~~three areas~~ four may be used for foot-traffic egress/regress from the maintenance area. Access/Loading Areas A, B, and C do not include access ramps into the channel as an excavator will be positioned atop of the existing berm (i.e., outside of the channel). Access/~~l~~Loading ~~a~~Areas~~s~~ A, B, C, and D would measure~~s~~ approximately ~~30 × 250 feet, 30 × 73 feet, 30 × 72 feet, and 30 × 65~~

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~~feet, respectively~~30 feet wide by 60-75 feet long.

One access route that runs parallel to and outside of the channel will be used during maintenance activities for hauling removed material from the Access/Loading Areas to the Staging Area. Specifically, this access route includes the existing concrete bike path/driveway; and the concrete Qualcomm Stadium parking lot.

Maintenance operations will remove a large volume of sediment and require the use of temporary stockpile sites to store and process excavated material prior to transport. One staging area is identified for the proposed maintenance and is located within the Qualcomm Stadium parking lot approximately 200 feet west of the channel. This area is approximately 250 feet (length) x 250 feet (width) and will be utilized for equipment staging and sediment/vegetation removal stockpiling. No excavation or grading will be necessary in this area.

MMP protocols and mitigation measures will be implemented and adhered to prior to, during, and following maintenance work to ensure impacts to environmental resources are avoided and minimized to the maximum extent feasible.

Survey Methods and Date:

Desktop Literature Review

Dudek performed a detailed review of existing project documentation and previously acquired project permits as part of this IBA. Document review included the Master Storm Water System Maintenance Program; Master Stormwater System Maintenance Program Final Recirculated Program Environmental Impact Report (City 2011b) and Appendices; draft CDFW Streambed Alteration Agreement #1600-2010-0269-R5 (November 23, 2010); application for California Regional Water Quality Control Board (RWQCB), San Diego Region, Section 401 Water Quality Certification, October 2011; and application for U.S. Army Corps of Engineers (ACOE) Nationwide Permit, September 2011.

Potential occurrence of special-status species to occur within the project was determined by a habitat suitability assessment, a review of historical records from the California Natural Diversity Database (CNDDB, accessed April 2, 2013), species occurrence data from the U.S. Fish and Wildlife Service (USFWS), Carlsbad Office's (database accessed April 2, 2013), and the California Native Plant Society (CNPS), rare plant online inventory (accessed April 2, 2013). The U.S. Geological Survey 7.5 minute La Mesa Quadrangle and surrounding 8 quadrangles were searched for special-status plant and wildlife species occurrence records. Results of the database searches within the proposed maintenance areas, incapsulating a one-mile buffer, is presented in Figure 4.

For purposes of this IBA, only species that are associated with riparian or marsh habitats and noise-sensitive species that may occur in adjacent upland habitats were

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included in the potential to occur determination and impact considerations.

Biological Survey and Site Assessment

Dudek conducted a biological survey and site assessment of the proposed maintenance areas (Reaches 1 and 2) on April 3, 2013. The survey was conducted on foot to cover 100% of the project site and under favorable survey conditions for detecting most spring-blooming plants and conspiscuous wildlife species (0% cloud cover, 2-8 mile per hour winds, 64 degrees Fahreinheit). The survey incorporated the proposed project impact footprint and a surrounding 100-foot buffer.

Mapping of existing site conditions, biological resources, and jurisdictional waters of the U.S./State, including wetlands, was performed directly in the field onto a 100-scale (1 inch = 100 feet) color aerial map of the site. For consistency with the PEIR and associated Biological Resources Technical Report (City 2011b) the vegetation community and land cover mapping follows the classifications described by Holland (1986), as adopted in the City of San Diego Land Development Code, Biology Guidelines (City 2004). Areas on site that supported less than 20% native plant species cover were mapped as disturbed habitat (DH) and areas that supported at least 20% native plant species, but fewer than 50% native cover were mapped as a disturbed native vegetation community (e.g., disturbed southern willow scrub (disturbed southern willow scrub). All plant and animal species detected by sight, calls, tracks, scat, or other signs were recorded directly into a field notebook. Observable biological resources including perennial plants and conspicuous wildlife (i.e., birds and some reptiles) commonly accepted as regionally sensitive by the CNPS, CDFW, and USFWS were recorded directly onto the field map, where applicable. Additionally, an assessment and determination of potential for locally recognized special-status species (i.e., Narrow Endemic and Covered Species listed in the Multiple Species Conservation Program (MSCP)) to occur on site was conducted. All of the information recorded onto the field map (e.g., vegetation communities and plant/animal species locations) was subsequently digitized into a Geographic Information Systems (GIS) format, and presented on a Biological Resources Map (Figure 3).

Protocol surveys for selected special-status riparian bird species are in progress and to date, no least Bell's vireo have been detected within Reaches 1 and 2. A program-level jurisidictional wetland delineation was conducted for the City's MMP but a site-specific formal delineation has not been conducted.

Biological Resources:

Stream Type:	Perennial	☒	Intermittent	☐	Ephemeral	☐

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Stream type designations are based on USGS topographical map stream designations and field visit review of the stream channels. Reaches 1 and 2 are mapped by USGS as an intermittent blue-line stream on the La Mesa Quadrangle Map. However, due to extensive urbanization, the proximity of adjacent development, and attendant year-round runoff (most likely from Kinder Morgan dewatering activities), the creek at this location is likely perennial. At the time of the site visit, both Reaches 1 and 2 had flowing water and supported sections of wetland-obligate vegetation (i.e., freshwater marsh).

Vegetation:

For purposes of this IBA, only vegetation or land covers within the proposed maintenance area (Reaches 1 and 2), including associated work areas (i.e., Access, Loading, Staging Areas), are described below.

A total of three vegetation communities (including disturbed forms) and four land cover types were identified during the assessment: freshwater marsh, southern willow scrub, southern riparian forest, open water, disturbed/ruderal habitat, developed land, and developed/concrete channel. Also see PEIR Appendix D.1 [Biological Resources Report] for general descriptions of vegetation categories and land cover types within the MMP (City 2011b).

The vegetation communities and land cover types mapped within the proposed maintenance area, access/loading areas, and staging/stockpiling areas are presented in Tables 1 and 2 below, with Holland classification numbers in parentheses, where applicable. The spatial distributions of the vegetation communities and land covers are presented on Figure 3. Permanent impacts as a result of proposed maintenance include the channel maintenance areas, the access/loading areas, and the staging/stockpiling area.

Table 1
Existing Waters of the U.S./State in Study Area by Reach

Vegetation Community or Land Cover Type (Holland Code)	City MSCP Habitat Designation/Tier	Reach 1 (ac)	Reach 2** (ac)	Total (ac)
Freshwater Marsh* (52400)	Freshwater Marsh	0.65	0.07	0.72
Southern Riparian Forest* (61300)	Riparian Forest	0.21	—	0.21
Disturbed Southern Willow Scrub (63320)	Riparian Scrub	0.25	—	0.25
Open Water/Natural Flood Channel (11000)	Natural Flood Channel	0.04	—	0.04
Developed/Concrete Channel (None)	Disturbed/Tier IV****	—	0.02	0.02
	Total***	1.15	0.09	1.24

* Includes disturbed form

** Concrete-lined channel

*** Total may not be precise due to rounding

**** Although described in Appendix D, Section 3.1.2 of the PEIR as a Tier IV upland community, concrete-lined channels are considered waters of the U.S. and as such are subject to regulation by the ACOE, CDFW,

RWQCB, and City.

Table 2
Existing Uplands Vegetation in Study Area by Reach

Vegetation Community or Land Cover Type (Holland Code)	City MSCP Habitat Designation/Tier	Reach 1 (ac)	Reach 2 (ac)	Total (ac)
Disturbed/Ruderal Habitat (None)	Disturbed/Tier IV	0.14	0.01	0.15
Developed Land (None)	Disturbed/Tier IV	1.29	—	1.29
	Total*	1.43	0.01	1.44

* Total may not be precise due to rounding

Reach 1

Study (Maintenance) Area:

Vegetation communities mapped within the proposed maintenance area impacts for Reach 1 include: freshwater marsh, disturbed freshwater marsh, disturbed southern willow scrub, and disturbed southern riparian forest. The general onsite characteristics of each community, including a list of dominant species present, are described below. For a list of all plant species observed by reach please refer to Attachment 5.

Freshwater Marsh (including disturbed)

Onsite, freshwater marsh is the largest vegetation community mapped within the proposed maintenance areas and is directly the associated with the Murphy Creek channel flows. The freshwater marsh mapped within Reach 1 supports thick monotypic clusters of cattail (*Typha* sp.) with a few young (less than 6-inch diameter at breast height) arroyo willows (*Salix lasiolepis*) occurring along the edges of the channel. Disturbed freshwater marsh is similar in species composition to undisturbed freshwater marsh but it supports a higher percent cover of non-native species.

The following dominant species were mapped in this vegetation community:

- Cattail (*Typha* sp.)
- Arroyo willow (*Salix lasiolepis*)
- Curly dock (*Rumex crispus*)

Southern Willow Scrub (including disturbed)

Southern willow scrub is often described as a dense, broad-leafed, winter-deciduous riparian thicket dominated by several species of willow (Holland 1986). Most stands are too dense to allow much understory development (Holland 1986). Southern willow scrub is found along stream channels on loose, sandy, or fine gravelly alluvium deposits. This habitat is considered seral due to repeated disturbance/flooding and is therefore unable to develop into the taller southern riparian forest (Holland 1986). Disturbed southern willow scrub is similar in native species composition to southern

willow scrub, but it supports a higher percent cover of non-native species.

The following dominant species were mapped in this vegetation community:

- Arroyo willow
- Mulefat (*Baccharis salicifolia*)
- Pampas grass (*Cortaderia selloana*)

Southern Riparian Forest (including disturbed)

Southern riparian forest is similar to southern willow scrub in terms of species composition but it is represented by a higher percentage of mature riparian forest species with limited stratification of herbs and shrubs in the understory. Unlike southern willow scrub, which is open and comprised of smaller, scrubbier willows, southern riparian forest is characterized by a closed, or nearly closed, canopy of mature trees. Disturbed southern riparian forest is similar in native species composition to southern riparian forest, but it supports a higher percent cover of non-native species.

The following dominant species were mapped in this vegetation community:

- Willows (*Salix* spp.)
- Whitetop (*Lepidium draba*)
- Pampas grass

Access and Loading Areas:

The Access/Loading Areas and Staging/Stockpiling Areas for Reaches 1 and 2 are mapped as developed, disturbed habitat, and disturbed southern willow scrub. The mapped disturbed southern willow scrub is within a portion of Access/Loading Area A.

Developed

The staging areas and access areas are mapped as developed. Developed lands lack native vegetation due to previous disturbance and include manmade features such as parking lots streets, and structures.

Disturbed/Ruderal Habitat

Disturbed/ruderal habitat refers to areas in the maintenance area characterized by limited native vegetation and bare ground resulting in low function ecological processes. Many have been altered from their natural states for human uses and provide little habitat and foraging potential for wildlife due to the lack of significant cover by native vegetation. In most cases, disturbed lands refer to areas lacking vegetation completely, e.g., dirt roads or trails.

Disturbed Southern Willow Scrub

Disturbed southern willow scrub refers to areas of southern willow scrub that have been disturbed by the spread of non-native species.

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The following dominant species were mapped in this vegetation community:

- Arroyo willow
- Giant reed (*Arundo donax*)
- Pampas grass

Open Water/Natural Flood Channel

Open water/natural flood channel refers to unvegetated drainages with a natural channel bottom. Areas mapped as open water are either known to support perennial surface flows or were inundated at the time of mapping. Open water was mapped along the northernmost portion of Reach 1.

Reach 2

Study (Maintenance) Area:

Freshwater Marsh/Concrete Channel

Freshwater marsh/concrete channel is the only vegetation community mapped within the proposed maintenance area impacts for Reach 2. The freshwater marsh within Reach 2 occurs on a concrete-lined trapezoidal channel and was mapped as freshwater marsh/concrete channel for purposes of the project impact analysis.

The following dominant species were mapped in this vegetation community:

- Cattail
- Arroyo willow

For a list of all plant species observed by reach please refer to Attachment 5.

Developed/Concrete Channel

Developed/concrete channel, while not described by Holland (1986), is a common land cover type in the study area referring to unvegetated, concrete-lined channels that are subject to the jurisdiction of the ACOE and RWQCB, pursuant to Sections 401 and 404 of the federal Clean Water Act, and the CDFW pursuant to Sections 1600-1605 of the California Fish and Game Code.

Special-Status Species:

No federally- or state-listed plant or animal species were detected during the field survey. Additionally, no species considered special-status (i.e., "covered") under the City of San Diego Multiple Species Conservation Program (MSCP, adopted March 1997) were detected. No raptors were detected during the field survey.

The determination of special-status species potential to occur was from the combined analysis of the database search results (CNDDB, USFWS, and CNPS) and the field survey

investigation. No special-status species were recorded on site by the database searches and none were detected during the field investigation. However, there are habitats within and surrounding the proposed maintenance impact areas that have potential to support special-status wildlife species, including raptors. Such habitats include: riparian (southern riparian forest and southern willow scrub) and wetland (freshwater marsh) (including the disturbed forms of these communities). The potential for special-status species to occur within each proposed maintenance area are described by reach below.

Reach 1

Southern riparian forest and southern willow scrub, including the disturbed forms of these communities, have a moderate to high potential to support least Bell's vireo (*Vireo bellii pusillus*, vireo)(State-/Federally-listed Endangered and MSCP covered) and yellow warbler (*Dendroica petechia brewsteri*) (CDFW State Species of Special Concern). Additionally, the riparian habitat (i.e., southern riparian forest and southern willow scrub, including the disturbed forms) have a moderate potential to support nesting raptors including red-shouldered hawk (*Buteo lineatus*), red-tailed hawk (*Buteo jamaicensis*), and Cooper's hawk (*Accipiter cooperii*) (CDFW State Species of Special Concern and MSCP covered species). The freshwater marsh habitat, including the disturbed form, has the potential to support least bittern (*Ixobrychus exilis*) (CDFW State Species of Special Concern) and light-footed clapper rail (*Rallus longirostris levipes*) (State-/Federally-listed Endangered and MSCP covered).

According to the San Diego Bird Atlas (Unitt 2004), least bittern (*Ixobrychus exilis*) (CDFW State Species of Special Concern) has been documented breeding in the project vicinity (i.e., La Mesa Quadrangle) within the San Diego River habitat corridor downstream of the proposed maintenance area. Additionally, post breeding season light-footed clapper rail individuals have also been documented to occur downstream of the project within the San Diego River habitat corridor (Mock, pers. comm. 2013).

Reach 2

The few young willow trees within the maintenance area may provide habitat for yellow warbler, but do not contain substantial habitat and cover to support nesting least Bell's vireo. Additionally, due to the lack of habitat it is unlikely that raptors would occupy these young willows identified within mapped freshwater marsh habitat for nesting.

The mapped freshwater marsh habitat may support least bittern as this species has been documented breeding in the project vicinity (i.e., La Mesa Quadrangle) within the San Diego River habitat corridor downstream of the proposed maintenance area (Unitt 2004). Additionally, post breeding season light-footed clapper rail individuals (*Rallus longirostris levipes*) (State-/Federally-listed Endangered and MSCP covered) have also been documented to occur within suitable freshwater marsh habitat downstream of the

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project within the San Diego River habitat corridor (Mock, pers. comm. 2013).

Wildlife value:

Within the proposed maintenance areas, southern riparian forest, southern willow scrub, and freshwater marsh provide potential nesting and foraging habitat for a variety of songbirds. The open water mapped in the southern terminus of Reach 1 may provide habitat for waterfowl. White-throated swifts were observed nesting in crevices beneath the overpass for San Diego Mission Road above Reach 2. A combined list of the 12 wildlife species detected during the site survey is provided below.

- Anna's Hummingbird (*Calypte anna*)
- Bewick's Wren (*Thryomanes bewickii*)
- Black Phoebe (*Sayornis nigricans*)
- California Towhee (*Melozone crissalis*)
- Common Yellowthroat (*Geothlypis trichas*)
- House Finch (*Haemorhous mexicanus*)
- Lesser Goldfinch (*Spinus psaltria*)
- Mallard (*Anas platyrhynchos*)
- Northern Rough-winged Swallow (*Stelgidopteryx serripennis*)
- Song Sparrow (*Melospiza melodia*)
- White-throated Swift (*Aeronautes saxatalis*)
- Wrentit (*Chamaea fasciata*)

Are there current levels of anthropogenic influences on habitat within the project footprint (e.g., homeless encampment, illegal dumping)?	Yes	X
	No	

If yes, describe the influence: Anthropogenic influences on habitat in the maintenance areas include small amounts of trash and debris (no large dump sites were noted), noise from adjacent freeways/overpasses/roads, the routine maintenance of the roadside easement associated with the freeway, and man-made structures such as overpass bridges that block light and inhibit plant growth in certain portions of Reach 1.

Are there any conservation easements which have been previously recorded within the maintenance area?	Yes	
	No	X

Please provide a written rationale for a "Yes" or "No" answer:

Based on a search of the California Protected Areas Database (CPAD), there are no conservation easements within or adjacent to the proposed maintenance areas. The nearest conservation easements are the Serra Mesa Open Space located approximately 0.17-miles northwest of the proposed maintenance and the San Diego River Ecological

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Reserve located approximately 0.2-miles to the southwest (CPAD 2012.)
Jurisdictional Areas:
A program-level jurisdictional delineation was conducted for the City's MMP within subject storm water facility channels and sedimentation basins with results summarized by Hydrological Units. The majority of the channel maintenance areas were determined to be subject to regulations under Federal, State, and City jurisdiction. Areas under CDFW and City jurisdiction often extend beyond the limits of ACOE and RWQCB jurisdiction; however, in this case the identified jurisdictional boundaries overlapped completely. Given the previous program-level delineation, the current biological assessment and defined, urban nature of the channels within Reaches 1 and 2, the extent of jurisdictional waters was assumed to include the full channel widths (top of bank to top of bank) within these reaches. As required by the MMP Substantial Conformance Review (SCR), this IBA documents the current conditions of the specific proposed maintenance areas. Results of the site survey for the proposed maintenance areas are consistent with the MMP mapping. In addition to the maintenance area presented in the MMP (i.e., Map 58), the currently proposed maintenance described in the Individual Maintenance Plan (IMP) for the project includes "Access/Loading Areas" needed for conducting channel maintenance. Of the four Access/Loading Areas identified, the south-most (i.e., Access/Loading Area A) location is partially within mapped disturbed southern willow scrub vegetation, which is considered jurisdictional under ACOE, CDFW, RWQCB, and City regulations. A site-specific formal jurisdictional delineation of "waters of the United States," including wetlands, under the jurisdiction of the ACOE, CDFW, and RWQCB was not conducted for the proposed maintenance area. For purposes of this IBA, the entire proposed channel maintenance area is assumed to be within ACOE, RWQCB, and CDFW jurisdiction. There are no areas subject to CDFW-jurisdiction only. A portion of Access/Loading Area A is within disturbed southern willow scrub on the channel banks above the observed Ordinary High Water Mark that would normally be considered CDFW and City jurisdictional only; however due to the small size of this area (0.01 acre) it is also included as an ACOE/RWQCB jurisdictional area. The proposed maintenance of Reaches 1 and 2 will result in impacts to 1.24 acres of jurisdictional waters of the U.S., including wetlands, as presented in Table 3 below.

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Table 3
Impacts to Waters of the U.S./State by Reach

Vegetation Community	Jurisdictional Wetlands Acreage Impacts (ACOE, RWQCB, CDFW, City)		Total
	Reach 1	*Reach 2*	
Freshwater Marsh*	0.65	0.07	0.72
Southern Riparian Forest**	0.21	—	0.21
Disturbed Southern Willow Scrub	0.25	—	0.25
Open Water/Natural Flood Channel	0.04	—	0.04
Developed/Concrete Channel	—	0.02	0.02
Total	1.15	0.09	1.24

* Includes freshwater marsh, disturbed freshwater marsh, and freshwater marsh/concrete channel

** Includes disturbed southern riparian forest

In summary, the total impacts to ACOE, RWQCB, CDFW, and City regulated waters of the U.S./State, including wetlands, in Reach 1 is approximately 1.15 acres and in Reach 2 is 0.09 acre.

Equipment staging and access will result in impacts to 1.44 acres of developed and disturbed/ruderal habitat which are considered Tier IV habitats per the City of San Diego (1997) (Table 4). Tier IV habitats refer to lands that do not support natural vegetation (e.g., disturbed lands, developed lands, agricultural lands, and eucalyptus woodlands) and as a result provide little habitat and foraging potential for wildlife. Because Tier IV habitats are not considered sensitive, they are not regulated by the MSCP. Thus, impacts to Tier IV habitats do not require mitigation.

Table 4
Upland Vegetation Impacts by Reach

Vegetation Community or Land Cover Type (Holland Code)	City MSCP Habitat Designation/Tier	Reach 1 (ac.)	Reach 2 (ac.)	Total (ac.)
Disturbed/Ruderal Habitat	Other Uplands/Tier IV	0.14	0.01	0.15
Developed Land	Other Uplands/Tier IV	1.29	—	1.29
	Total*	1.43	0.01	1.44

* Total may not be precise due to rounding

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Sensitive Plant Species Observed/Detected				**Sensitive Animal Species Observed/Detected:**			
YES		NO	X	YES		NO	X
If yes, what species were observed and where?				If yes, what species were observed/detected and where?			
No special-status plant species were observed during the field survey.				No special-status animal species were observed during the field survey.			
If yes, complete a California Native Species Field Survey Form and submit it to the California Natural Diversity Database.				If yes, complete a California Native Species Field Survey Form and submit it to the California Natural Diversity Database.			
N/A				N/A			
*Sensitive species shall include those listed by state or federal agencies as well as species that could be considered sensitive under Sections 15380(b) and (c) and 15126(c) of the CEQA Guidelines.				*Sensitive species shall include those listed by state or federal agencies as well as species that could be considered sensitive under Sections 15380(b) and (c) and 15126(c) of the CEQA Guidelines.			
Is any portion of the maintenance activity within an MHPA?				YES		NO	X
Please provide a written rationale for a "Yes" or No" answer:							
The MHPA lands are located 125 feet downstream south of Reach 1. To maintain conformance with the MMP and City's MSCP, Section 1.4.3 (Land Use Adjacency Guidelines) is also included in **Attachment 2** (i.e., MSCP Conformance Review Table) and applies to portions of the project area adjacent to the MHPA.							

EXISTING CONDITIONS				
Is there moderate or high potential for listed animal species to occur in or adjacent to the impact area?				
YES	X	NO		
If yes, which species (check all that apply) and describe any surveys which should be undertaken to determine whether those species could occur within the maintenance area:				
X	Least Bell's Vireo		Riverside fairy shrimp	
	Southwestern Willow Flycatcher		California Least Tern	
	Arroyo toad	X	Light-footed Clapper Rail	
	Coastal California Gnatcatcher		Western Snowy Plover	
	San Diego fairy shrimp	X	Other:	Nesting Birds and Raptors

Least Bell's Vireo

Least Bell's vireos are known to occur near Reach 1 and within the San Diego River corridor south of the proposed maintenance area. The riparian habitat within the proposed maintenance area is contiguous with that found in the San Diego River corridor. In compliance with Master Program PEIR Mitigation Measure 4.1.2, protocol surveys for least Bell's vireo (vireo) are required if maintenance is proposed during the vireo breeding season (March 15 through September 15).

Protocol-level surveys for vireo are currently being conducted for this IBA as requested by the USFWS and CDFW. As of the date of this report, no vireos have been detected within Reaches 1 and 2. If vireos are detected, applicable avoidance and minimization measures to protect vireo will be implemented as part of the project.

Light-Footed Clapper Rail

In compliance with the Master Program PEIR Mitigation Measure 4.1.2, protocol surveys for light-footed clapper rails will be conducted by a qualified biologist (possessing a valid Endangered Species Act Section 10(a)(1)(a) recovery permit) prior to implementation of the channel maintenance activities to determine presence. Furthermore, if evidence indicates the potential is moderate to high for light-footed clapper rails to occur on site, daily pre-maintenance surveys will be conducted by a qualified biologist to confirm that clapper rails are not present within the work area.

To avoid impacts to light-footed clapper rail, maintenance within or adjacent to suitable freshwater marsh habitat shall occur outside of the known breeding season (February 15

EXISTING CONDITIONS
through August 15), unless postponing maintenance would result in a threat to human life or property (PEIR Mitigation Measure 4.3.17 and 4.3.25). **Nesting Raptors** Vegetation communities that may support nesting raptors consist of all riparian habitats in the maintenance area (i.e., southern riparian forest and southern willow scrub, including the disturbed forms). These vegetation communities have a moderate potential to support nesting raptors including red-shouldered hawk, red-tailed hawk, and Cooper's hawk. If maintenance is planned during the raptor nesting season (January 15 through August 31), pre-maintenance surveys would be necessary to identify whether nesting raptors are present within or adjacent to the maintenance area and where maintenance setbacks may need to be established (PEIR Mitigation Measure 4.3.13). Pre-maintenance raptor nest surveys should cover nesting habitat to the limits of the nest buffers specified in PEIR Mitigation Measure 4.3.16. **Migratory Bird Treaty Act Protected Birds** In order to avoid impacts to nesting avian species, including those species not covered by the MSCP, maintenance within or adjacent to avian nesting habitat should occur outside of the avian breeding season (January 15 to August 31) unless postponing maintenance would result in a threat to human life or property (PEIR Mitigation Measure 4.3.25). If work is proposed during the avian breeding season, nesting bird surveys shall be conducted.
Attach documentation to support the determination of the presence or absence of listed animal species with a moderate or high potential to occur (e.g., California Natural Diversity Database records searches).
Attachment 1 contains CNDDB animal records for project quadrangle and surrounding eight quadrangles.
Is there moderate or high potential for listed plant species to occur in or adjacent to the impact area?

YES		NO	X

If yes, identify which species may occur and describe any surveys which should be undertaken to determine whether those species could occur within the maintenance area. If no, please provide a written rationale as to why species may not be present:

EXISTING CONDITIONS			
There are no recorded CNDDB occurrences of special-status plants within or adjacent to the proposed maintenance area. Additionally, based on observations during the survey, there is a low potential for special-status plant species to occur within the maintenance area due to a lack of appropriate habitats and substrate.			
Attach documentation to support the determination of the presence or absence of listed plant species with a moderate or high potential to occur (e.g., California Natural Diversity Database records searches).			
Attachment 1 contains CNDDB plant records for the project quadrangle.			
Could maintenance disrupt the integrity of an important habitat (i.e., disruption of a wildlife corridor and/or an extensive riparian woodland:			
YES		NO	X
If yes, discuss which habitat could be impacted and how. If no, please provide a written rationale as to why the project would not disrupt the integrity of an important habitat:			
Vegetation removal within the extent of the channel footprint is not expected to disrupt the integrity of the surrounding riparian habitat or its function as a wildlife corridor. Maintenance work will occur during the daytime when nocturnal species are absent. Wildlife movement is expected to continue following completion of the maintenance activities.			
Could work be conducted during the avian breeding season (January 15 – August 31 without the need for pre-construction nesting surveys:			
YES		NO	X
If yes, discuss which habitat could be impacted and how. If no, please provide a written rationale:			
NOTE: PEIR Mitigation Measure 4.3.19 states: If T&SWD chooses not to do the required surveys, then it shall be assumed that the appropriate avian species are present and all necessary protection and mitigation measures shall be required as described in Mitigation Measures 4.3.21, 4.3.22, and 4.3.25.			
Is it anticipated that maintenance activities would generate noise in excess of 60 dB(A) L_{eq}?			
YES	X	NO	

EXISTING CONDITIONS
<u>If yes, what measures should be taken to avoid adverse impacts on avian bird breeding within or adjacent to the maintenance?</u>
As described in the INA, temporary construction noise from the use of heavy equipment would generate noise in excess of 60 dB(A) L_{eq} during the maintenance period. Noise-generating maintenance activities occurring in or adjacent to mature riparian woodland and scrub habitat should be conducted outside of the breeding season for listed birds that may have moderate to high potential to occur on site. Maintenance conducted outside the breeding/nesting season for protected avian species would not result in a significant indirect noise impact and no noise attenuation mitigation is required. According to Master Program PEIR Mitigation Measure 4.3.17, "If evidence indicates the potential is high for a listed species to be present, based on historical records or site conditions, then clearing, grubbing, or grading (inside and outside the MHPA) shall be restricted during the breeding season." If special-status species are known or suspected to be present all appropriate surveys and mitigation measures will be implemented. According to Master Program PEIR Mitigation Measure 4.3.20, "If no surveys are completed and no sound attenuation devices are installed, it will be assumed that the habitat in question is occupied by the appropriate species and that maintenance activities would generate more than 60 dB(A) L_{eq} within the habitat requiring protection. All such activities shall cease for the duration of the breeding season of the appropriate species and a qualified biologist shall establish a limit of work."
Biological Resource Conditions Relative to Original Survey Conducted for MASTER PROGRAM Final Program EIR (May 2010) (vegetation communities present, including adjacent uplands; general habitat quality/level of disturbance):
The majority of habitat mapping and jurisdictional delineation work for the PEIR was conducted in late winter and early spring of 2007 and 2008. Based on 2012 aerial photographs and the 2013 field survey, the distribution of established habitats such as southern willow scrub and southern riparian forest appeared to be relatively stable and fairly similar to those described in PEIR Appendix D. Minor changes to the vegetation mapping scheme between 2005 and 2013 within the proposed maintenance area are most likely due to changing sediment accumulation patterns, seasonal plant growth, annual winter storm/flood events, and the 2005 emergency maintenance work that was conducted. The current vegetation mapping for the proposed maintenance area is provided within this IBA as seen on Figure 3.

MAINTENANCE IMPACTS					
Maintenance Methodology (based on IMP)					
Please refer to Attachment 3 – IMP Maintenance Methodology Table.					
Vegetation/Land Cover Impacts:			2.68 acres		
Wetland:			1.24 acres		
Upland[1]:			1.44 acres		
Jurisdictional Areas: U.S. Army Corps of Engineers, Regional Water Quality Control Board, California Department of Fish and Wildlife					
Wetlands:			1.18 acres		
Non-wetland Waters of the U.S.:			0.06 acres		
Other Jurisdictional Areas: None.					
Is there moderate or high potential for listed animal species to be impacted?		YES	☒	NO	☐
If yes, which species (check all that apply):					
☒	Least Bell's vireo	☐	Riverside fairy shrimp		
☐	Southwestern willow flycatcher	☐	California least tern		
☐	Arroyo toad	☐	Light-footed clapper rail		
☐	Coastal California gnatcatcher	☐	Western snowy plover		
☐	San Diego fairy shrimp	☒	Other:	Nesting birds and raptors	

[1] Project upland impacts are limited to Tier IV habitats which do not require mitigation. See Mitigation discussion for further details.

MAINTENANCE IMPACTS

Although least Bell's vireo has a moderate to high potential to occur in or adjacent to the proposed maintenance area, there is very low potential that this species would be impacted by the project because maintenance activities will be phased to occur outside of the breeding season for this species (March 15 through September 15).

Any maintenance activity occurring between January 15 and March 1 will be subject to applicable raptor nesting general avian nesting mitigation measures. The mitigation and minimization and avoidance measures will be implemented in accordance with the PEIR and other applicable project permits and guidelines (see **Attachments 2 and 3 of the IBA and IMP**).

Furthermore, the implementation of applicable Mitigation Measures 4.1-1 through 4.1-8, and 4.3.15 through 4.3.25 of the PEIR would reduce the potential direct and indirect impacts to special-species to below a level of significance. These are listed in the Applicable PEIR Mitigation Measures section below.

MITIGATION

Applicable Maintenance Protocols (list the applicable maintenance protocols based on the biological resources occurring or likely to occur on-site – include any special protocols required):

Bio-1 Restrict vehicles to access designated in the master program plan.

Bio-2 Flag and delineate all sensitive biological resources to remain within or adjacent to the maintenance area prior to initiation of maintenance activities in accordance with the site-specific IBA, IHHA, and/or IMP.

Bio-3 Conduct a pre-maintenance meeting on-site prior to the start of any maintenance activity that occurs within or adjacent to sensitive biological resources. The pre-maintenance meeting shall include the qualified biologist, field engineer/planner, equipment operators/superintendent and any other key personnel conducting or involved with the channel maintenance activities. The qualified biologist shall point out or identify sensitive biological resources to be avoided during maintenance, flag/delineate sensitive resources to be avoided, review specific measures to be implemented to minimize direct/indirect impacts, and direct crews or other personnel to protect sensitive biological resources as necessary. The biologist shall also review the proposed erosion control methods to confirm that they would not pose a risk to wildlife (e.g., non-biodegradable blankets which may entangle wildlife).

Bio-4 Avoid introduction of invasive plant species with physical erosion control measures (e.g., fiber mulch, rice straw, etc.).

MITIGATION
Bio-5 Conduct appropriate pre-maintenance protocol surveys if maintenance is proposed during the breeding season of a special-status animal species. If sensitive animal species covered by the PEIR are identified, then applicable measures from the MMRP shall be implemented under the direction of a qualified biologist to avoid significant direct and/or indirect impacts to identified sensitive animal species. If sensitive animal species are identified during pre-maintenance surveys that are not covered by the PEIR, the City shall contact the appropriate wildlife agencies and additional environmental review under CEQA will be required. Bio-6 Remove arundo through one, or a combination of, the following methods : (1) foliar spray (spraying herbicide on leaves and stems without cutting first) when arundo occurs in monotypic stands, or (2) cut and paint (cutting stems close to the ground and spraying or painting herbicide on cut stem surface) when arundo is intermixed with native plants. When sediment supporting arundo must be removed, the sediment shall be excavated to a depth sufficient to remove the rhizomes, wherever feasible. Following removal of sediment containing rhizomes, loose rhizome material shall be removed from the channel and disposed offsite. After the initial treatment, the area of removal shall be inspected on a quarterly basis for up two years, or until no resprouting is observed during an inspection. If resprouting is observed, the cut and paint method shall be applied to all resprouts. Bio-7 Avoid mechanized maintenance within 300 feet of a Cooper's hawk nest, 900 feet of a northern harrier's nest, or 500 feet of any other raptor's nest until any fledglings have left the nest.
Applicable PEIR mitigation measures:
General Mitigation 1, 2, 3, and 4; Biological Resources 4.3.1, 4.3.2, 4.3.3, 4.3.4, 4.3.5, 4.3.6, 4.3.7, 4.3.8, 4.3.9, 4.3.10, 4.3.13, 4.3.14, 4.3.15, 4.3.16, 4.3.17, 4.3.18, 4.3.19, 4.3.20, 4.3.21, 4.3.22, 4.3.24, 4.3.25; and Land Use 4.1.1, 4.1.2, 4.1.3, 4.1.4, 4.1.5, 4.1.6, 4.1.7, 4.1.8. Applicable PEIR Mitigation Measures have been included in their entirety in **Attachment 4**.
Other mitigation measures:
Additional mitigation measures and conditions apply from the following sources : 1. California Department of Fish and Wildlife Streambed Alteration Agreement [1600-2010-0269-R5; permit extension pending] 2. US. Army Corps of Engineers 404 Nationwide Permit [permit pending]

MITIGATION

3. California Regional Water Quality Control Board, San Diego Region Section 401 Water Quality Certification and Waiver of Waste Discharge Requirements [permit pending]

These additional measures are provided as an **Attachment to the IMP**.

Environmental Mitigation Requirements (including wetland enhancement, restoration, creation, and/or purchase of wetland credits in a mitigation bank; off-site upland habitat acquisition/payment into the City's habitat acquisition fund):

The project will impact 1.24 acres of jurisdictional wetlands and/or waters, in which mitigation is required. No previous mitigation has been performed for the proposed maintenance area.

For the purposes of this mitigation discussion, it should be noted that the ACOE, RWQCB, CDFW do not require mitigation for any impacts to the concrete-lined section of the proposed maintenance area (i.e., Reach 2). However, the City does require mitigation, under the PEIR, for impacts to vegetation/habitat on concrete-lined channels (i.e., freshwater marsh in Reach 2).

Impacts to Tier IV upland habitats are not considered sensitive because these lands lack natural vegetation and as a result provide little habitat and foraging potential for wildlife. Thus, Tier IV impacts greater than 0.1 acre are not considered sensitive and do not require mitigation.

Proposed mitigation, in accordance with the PEIR mitigation ratios are presented in Table 5 below.

Table 5
Mitigation for Proposed Channel Maintenance Impacts
(Maintenance, Access/Loading, and Staging/Stockpiling)

Jurisdictional Areas	Channel Maintenance (ac.)	Access/ Loading (ac.)	Mitigation Ratio	Total (ac.)
Freshwater Marsh*	0.72	—	4:1	2.88
Southern Riparian Forest**	0.21	—	3:1	0.63
Disturbed Southern Willow Scrub	0.24	0.01	3:1	0.75
Open Water/Natural Flood Channel	0.04	—	2:1	0.08
Developed/Concrete Channel	0.02	—	0	0
Total***	1.23	0.01	—	4.34

* Includes disturbed form and freshwater march/concrete channel

** Includes disturbed form

*** Numbers may not total precisely due to rounding

MITIGATION

Mitigation is proposed off-site within the Stadium Wetland Preserve as described in a Conceptual Wetlands Mitigation Plan prepared by Helix Environmental, Inc. (May 2012) with updated information provided by URS Corporation (July 2013) (Attachment 6).

ACOE/RWQCB/CDFW Jurisdictional Wetlands:

The proposed maintenance will require mitigation to compensate for approximately 1.15-acres of impacts to areas jointly regulated by the ACOE, RWQCB, and CDFW. Please note this acreage does not include 0.09 acre of Reach 2 impacts occurring on concrete-lined channel substrate. Per discussions with resource agency personnel on April 24, 2013, mitigation is not required for impacts to concrete-lined substrate. Thus, approximately 1.78 acres of wetlands mitigation will be provided to compensate for 1.15 acres of impacts to earthen channel, as shown in Table 6 below. The ratios used to determine the mitigation acreage are consistent with a draft Lake and Streambed Alteration Agreement issued by CDFW in November 2010 and include the following: freshwater marsh, 1:1; southern riparian forest, 3:1; and disturbed southern willow scrub, 2:1.

Table 6
ACOE/RWQCB/CDFW Mitigation Summary

Vegetation Communities	Regulated Impacts[1]	Mitigation Ratio[2]	Total
Freshwater marsh	0.65	1:1	0.65
Southern riparian forest	0.21	3:1	0.63
Disturbed southern willow scrub	0.25	2:1	0.50
Open water/natural flood channel	0.04	0	0
Developed/concrete channel	0	0	0
Total	1.15	—	1.78

[1] The term "regulated impacts" refers to earthen channel impacts that are regulated by the ACOE, RWQCB, and CDFW.
[2] The City may require additional and/or higher mitigation ratios for wetland types consistent with the PEIR and amended SDP.

Additional mitigation may be provided to meet the requirements of the City PEIR and amended Site Development Permit (SDP) as illustrated in Table 5 above.

CDFW-only Jurisdictional Wetlands:

There are no CDFW-only jurisdictional wetlands present.

City-only Jurisdictional Areas:

The proposed maintenance will require mitigation to compensate for approximately 0.07 acre of impacts to areas regulated under City jurisdiction only (i.e., freshwater marsh/concrete channel) (see Table 1). Mitigation for proposed maintenance impacts to freshwater marsh (all forms) may be required at a 4:1 ratio as presented in Table 5 above.

MITIGATION

Mitigation Description/Location:

No mitigation banks or in-lieu fee programs are available within this watershed. Mitigation is proposed within the Stadium Wetland Preserve as described in a Conceptual Wetlands Mitigation Plan prepared by Helix Environmental, Inc. (May 2012) with updated information provided by URS Corporation (July 2013) (Attachment 6). Projected impacts associated with this project, as well as other City of San Diego projects, would be mitigated at the proposed site. Mitigation is proposed within the same watershed as the project impacts and located directly downstream of the project within the San Diego River corridor. The southern portion of the project is conjunctive with the San Diego River corridor.

ADDITIONAL COMMENTS OR RECOMMENDATIONS

Individual Biological Assessment Report Attachments:

Attachment 1: CNDDB RareFind4 Records Search of La Mesa Quadrangle

Attachment 2: MSCP Conformance Review Table

Attachment 3: IMP Maintenance Methodology Table.

Attachment 4: Applicable PEIR Mitigation Measures

Attachment 5: Plant Compendium by Reach

Attachment 6: Conceptual Wetlands Mitigation Plan and Amendment Memo – Stadium Wetland Preserve (Helix 2012 and URS 2013)

References:

California Department of Fish and Wildlife (CDFW). 2010. Streambed Alteration Agreement #1600-2010-0269-R5. November 23, 2010.

California Proteted Areas Database (CPAD). 2012. State Agency Level Online Databse. http://www.calands.org/. Accessed April 2013.

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City of San Diego, 2008. San Diego Watershed Urban Runoff Management Plan, San Diego River Watershed, San Diego County, California. March 2008.

MITIGATION

City of San Diego. 2011a. Master Storm Water Maintenance Program. San Diego, California: October 2011

City of San Diego. 2011b. Final Recirculated Master Storm Water System Maintenance Program PEIR. San Diego, California: October 2011.

Dudek. 2012. Summary Regulatory Evaluation for Three Priority Coastal Zone Channel Maintenance Areas – Sorrento Valley, Tijuana River Valley, and Mission Bay, July 20.

Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. California Department of Fish and Game, Sacramento, California.

Mock, P. 2013. Occurrence information for light-footed clapper rail within the San Diego River. Telephone conversation between P. Mock (URS Corporation) and T. Liddicoat (Dudek). May 15, 2013.

SANGIS. 2012. FEMA Hydrology and Floodplain mapping GIS shapefiles. Accessed April 2013.

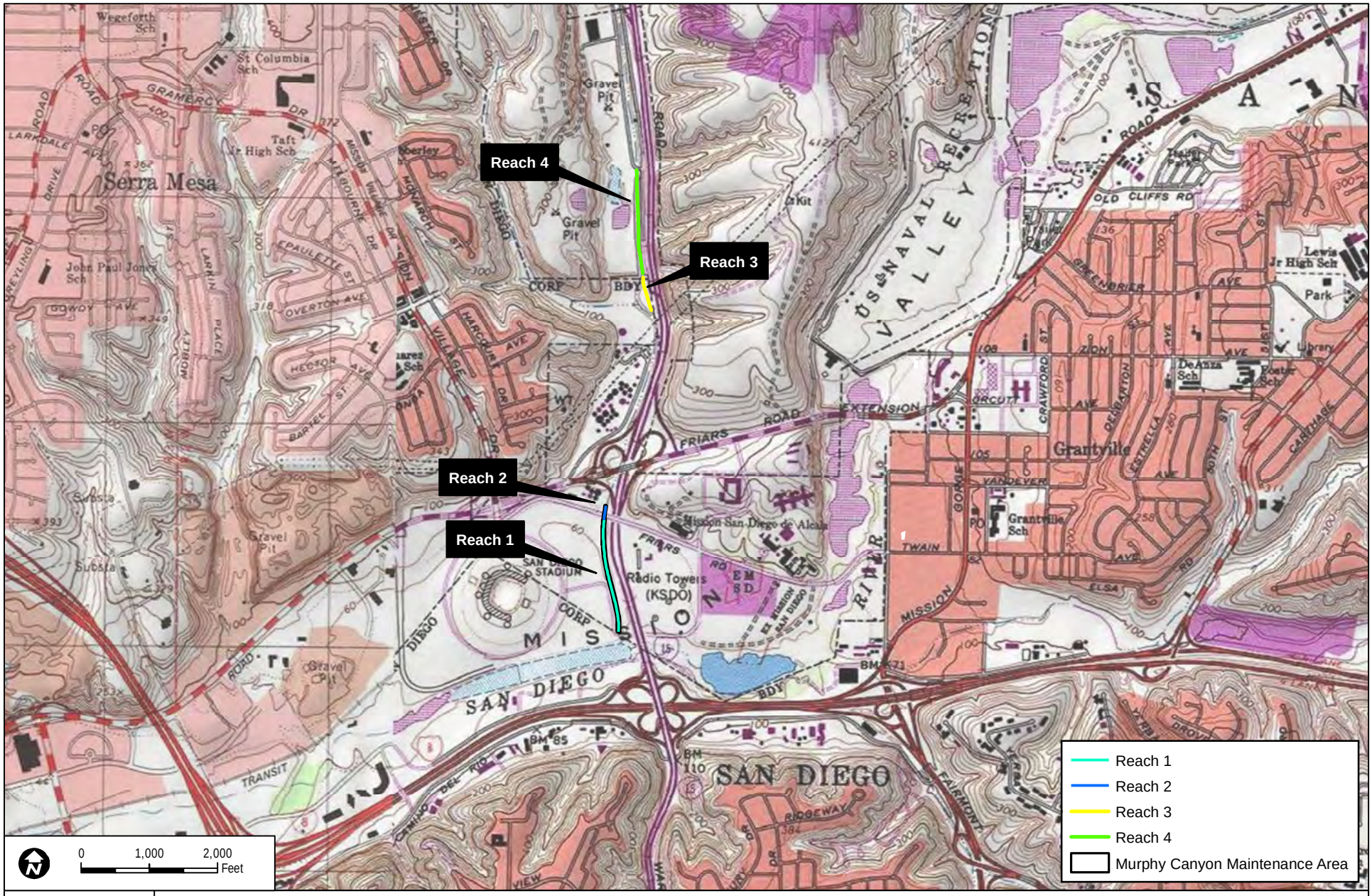
DUDEK

7165

FIGURE 1

Regional Map

MURPHY INDIVIDUAL BIOLOGICAL ASSESSMENT (IBA)



DUDEK

SOURCE: URS 2012; USGS 7.5-Minute Series La Mesa Quadrangle.

FIGURE 2

Vicinity Map

7165

MURPHY INDIVIDUAL BIOLOGICAL ASSESSMENT (IBA)

DUDEK

SOURCE: URS 2013; SANDAG; Bing Maps

FIGURE 3A

Biological Resources

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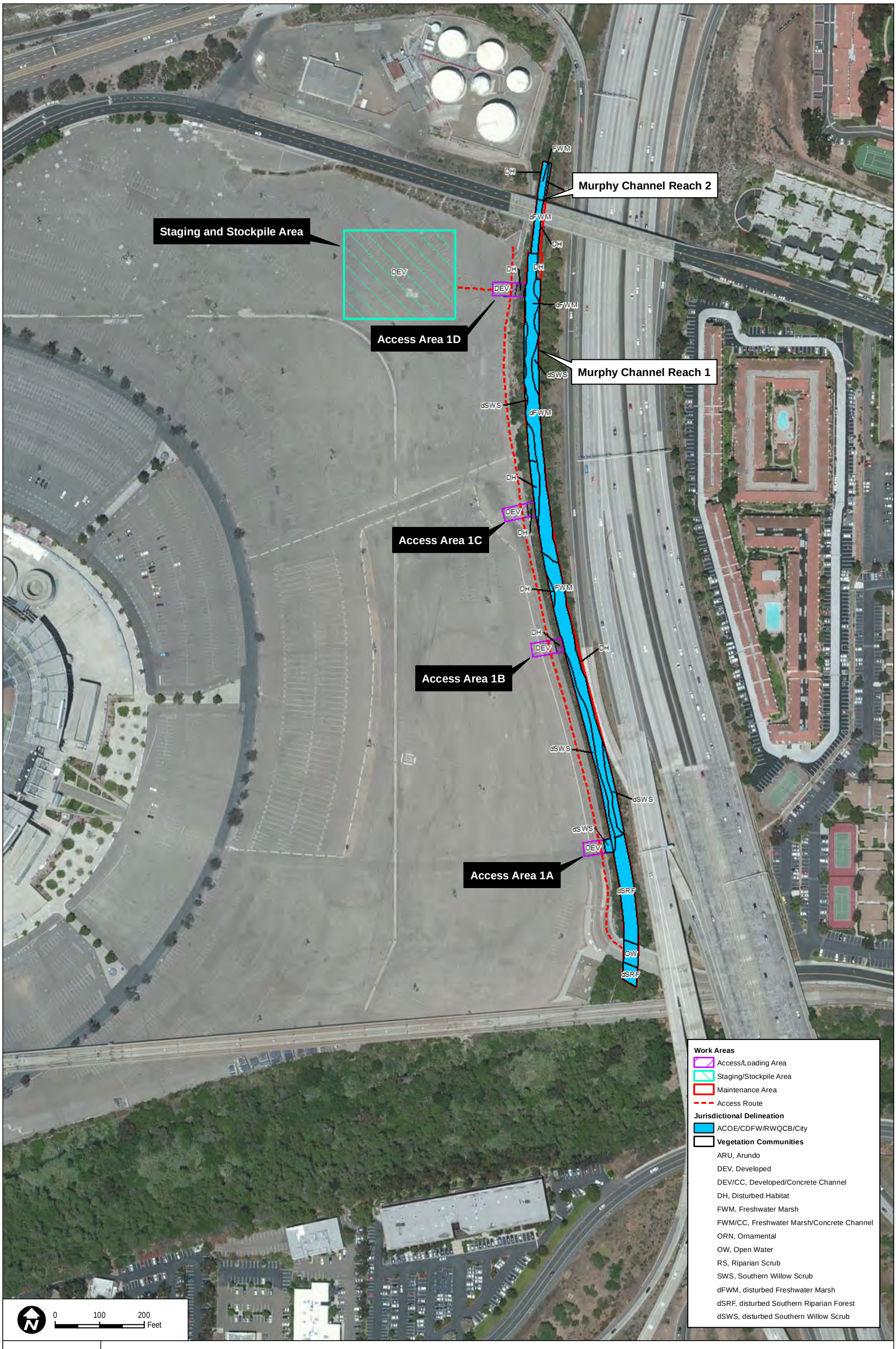
MURPHY INDIVIDUAL BIOLOGICAL ASSESSMENT (IBA)



DUDEK

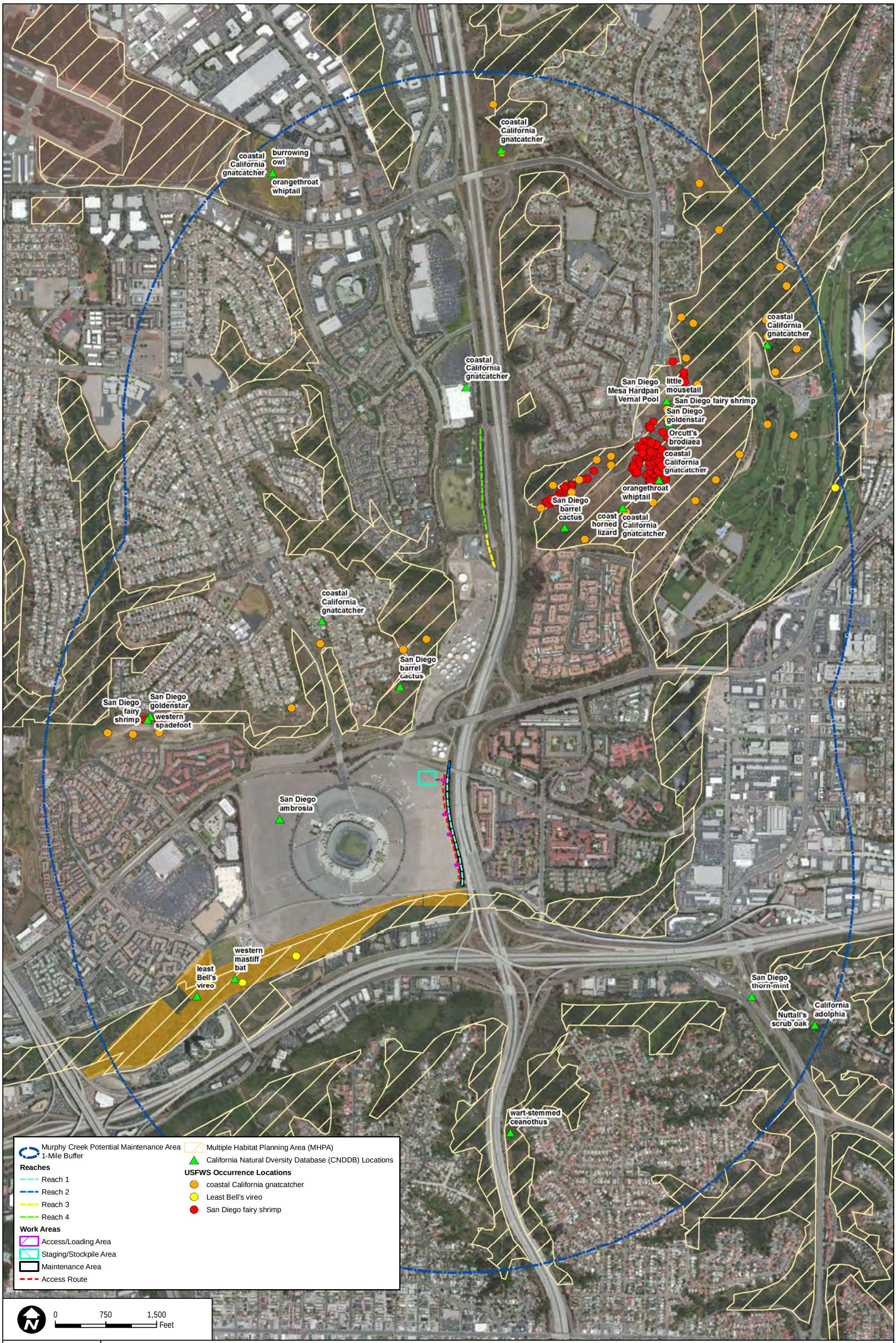
SOURCE: URS 2013; SANDAG; Bing Maps

FIGURE 3B

Biological Resources/Jurisdictional Delineation

7165

MURPHY INDIVIDUAL BIOLOGICAL ASSESSMENT (IBA)



DUDEK

7165

SOURCE: URS 2013; DFG 2013; USFWS; SANDAG; Bing Maps

FIGURE 4

Sensitive Species Occurrences within One Mile of Murphy Project Components

MURPHY INDIVIDUAL BIOLOGICAL ASSESSMENT (IBA)

ATTACHMENT 1

CNDDB RareFind4 Records Search of La Mesa Quadrangle

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
big free-tailed bat *Nyctinomops macrotis*	AMACD04020	None	None	G5	S2	SSC
burrowing owl *Athene cunicularia*	ABNSB10010	None	None	G4	S2	SSC
California adolphia *Adolphia californica*	PDRHA01010	None	None	G3G4	S2	2.1
chaparral ragwort *Senecio aphanactis*	PDAST8H060	None	None	G3?	S2	2.2
coast horned lizard *Phrynosoma blainvillii*	ARACF12100	None	None	G4G5	S3S4	SSC
coast patch-nosed snake *Salvadora hexalepis virgultea*	ARADB30033	None	None	G5T3	S2S3	SSC
coastal cactus wren *Campylorhynchus brunneicapillus sandiegensis*	ABPBG02095	None	None	G5T3Q	S3	SSC
coastal California gnatcatcher *Polioptila californica californica*	ABPBJ08081	Threatened	None	G3T2	S2	SSC
Coronado Island skink *Plestiodon skiltonianus interparietalis*	ARACH01114	None	None	G5T2T3Q	S1S2	SSC
decumbent goldenbush *Isocoma menziesii var. decumbens*	PDAST57091	None	None	G3G5T2T3	S2.2	1B.2
Del Mar manzanita *Arctostaphylos glandulosa ssp. crassifolia*	PDERI040E8	Endangered	None	G5T2	S2	1B.1
Dulzura pocket mouse *Chaetodipus californicus femoralis*	AMAFD05021	None	None	G5T3	S2?	SSC
Hermes copper butterfly *Lycaena hermes*	IILEPC1160	None	None	G1G2	S1S2	
hoary bat *Lasiurus cinereus*	AMACC05030	None	None	G5	S4?	
least Bell's vireo *Vireo bellii pusillus*	ABPBW01114	Endangered	Endangered	G5T2	S2	
least bittern *Ixobrychus exilis*	ABNGA02010	None	None	G5	S1	SSC
little mousetail *Myosurus minimus ssp. apus*	PDRAN0H031	None	None	G5T2Q	S2.2	3.1
long-spined spineflower *Chorizanthe polygonoides var. longispina*	PDPGN040K1	None	None	G5T3	S3	1B.2
northwestern San Diego pocket mouse *Chaetodipus fallax fallax*	AMAFD05031	None	None	G5T3	S2S3	SSC
Nuttall's scrub oak *Quercus dumosa*	PDFAG050D0	None	None	G2	S2	1B.1
oil neststraw *Stylocline citroleum*	PDAST8Y070	None	None	G2	S2	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
orangethroat whiptail *Aspidoscelis hyperythra*	ARACJ02060	None	None	G5	S2	SSC
Orcutt's brodiaea *Brodiaea orcuttii*	PMLIL0C0B0	None	None	G1	S1	1B.1
Otay Mesa mint *Pogogyne nudiuscula*	PDLAM1K040	Endangered	Endangered	G1	S1	1B.1
Palmer's goldenbush *Ericameria palmeri var. palmeri*	PDAST3L0C1	None	None	G4T2T3	S1	1B.1
Palmer's grapplinghook *Harpagonella palmeri*	PDBOR0H010	None	None	G4	S3.2	4.2
pocketed free-tailed bat *Nyctinomops femorosaccus*	AMACD04010	None	None	G4	S2S3	SSC
prairie falcon *Falco mexicanus*	ABNKD06090	None	None	G5	S3	WL
prostrate vernal pool navarretia *Navarretia prostrata*	PDPLM0C0Q0	None	None	G2	S2	1B.1
purple stemodia *Stemodia durantifolia*	PDSCR1U010	None	None	G5	S2.1?	2.1
quino checkerspot butterfly *Euphydryas editha quino*	IILEPK405L	Endangered	None	G5T1	S1	
red-diamond rattlesnake *Crotalus ruber*	ARADE02090	None	None	G4	S2?	SSC
Robinson's pepper-grass *Lepidium virginicum var. robinsonii*	PDBRA1M114	None	None	G5T3	S3	1B.2
San Diego ambrosia *Ambrosia pumila*	PDAST0C0M0	Endangered	None	G1	S1	1B.1
San Diego barrel cactus *Ferocactus viridescens*	PDCAC08060	None	None	G4	S2	2.1
San Diego black-tailed jackrabbit *Lepus californicus bennettii*	AMAEB03051	None	None	G5T3?	S3?	SSC
San Diego button-celery *Eryngium aristulatum var. parishii*	PDAPI0Z042	Endangered	Endangered	G5T1	S1	1B.1
San Diego desert woodrat *Neotoma lepida intermedia*	AMAFF08041	None	None	G5T3?	S3?	SSC
San Diego fairy shrimp *Branchinecta sandiegonensis*	ICBRA03060	Endangered	None	G1	S1	
San Diego goldenstar *Bloomeria clevelandii*	PMLIL1H010	None	None	G2	S2	1B.1
San Diego marsh-elder *Iva hayesiana*	PDAST580A0	None	None	G3?	S2.2?	2.2
San Diego Mesa Hardpan Vernal Pool *San Diego Mesa Hardpan Vernal Pool*	CTT44321CA	None	None	G2	S2.1	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
San Diego mesa mint *Pogogyne abramsii*	PDLAM1K010	Endangered	Endangered	G1	S1	1B.1
San Diego thorn-mint *Acanthomintha ilicifolia*	PDLAM01010	Threatened	Endangered	G2	S2	1B.1
singlewhorl burrobrush *Ambrosia monogyra*	PDAST50010	None	None	G5	S2.2	2.2
southern California rufous-crowned sparrow *Aimophila ruficeps canescens*	ABPBX91091	None	None	G5T2T4	S2S3	WL
Southern Cottonwood Willow Riparian Forest *Southern Cottonwood Willow Riparian Forest*	CTT61330CA	None	None	G3	S3.2	
Southern Riparian Scrub *Southern Riparian Scrub*	CTT63300CA	None	None	G3	S3.2	
Southern Sycamore Alder Riparian Woodland *Southern Sycamore Alder Riparian Woodland*	CTT62400CA	None	None	G4	S4	
summer holly *Comarostaphylis diversifolia ssp. diversifolia*	PDERI0B011	None	None	G3T2	S2	1B.2
two-striped garter snake *Thamnophis hammondii*	ARADB36160	None	None	G3	S2	SSC
Valley Needlegrass Grassland *Valley Needlegrass Grassland*	CTT42110CA	None	None	G3	S3.1	
variegated dudleya *Dudleya variegata*	PDCRA040R0	None	None	G2	S2.2	1B.2
wart-stemmed ceanothus *Ceanothus verrucosus*	PDRHA041J0	None	None	G3	S2.2	2.2
western mastiff bat *Eumops perotis californicus*	AMACD02011	None	None	G5T4	S3?	SSC
western red bat *Lasiurus blossevillii*	AMACC05060	None	None	G5	S3?	SSC
western spadefoot *Spea hammondii*	AAABF02020	None	None	G3	S3	SSC
western yellow bat *Lasiurus xanthinus*	AMACC05070	None	None	G5	S3	SSC
willowy monardella *Monardella viminea*	PDLAM180D4	Endangered	Endangered	G1	S1	1B.1
woven-spored lichen *Texosporium sancti-jacobi*	NLTEST7980	None	None	G3	S1	
yellow warbler *Dendroica petechia brewsteri*	ABPBX03018	None	None	G5T3?	S2	SSC
Yuma myotis *Myotis yumanensis*	AMACC01020	None	None	G5	S4?	

Record Count: 62

ATTACHMENT 2

MSCP Conformance Review Table

Attachment 2

MSCP Conformance Review: Sections 1.4.2 and Section 1.4.3

Based on the Individual Biological Assessment Report and Master Storm Water System Maintenance Program (T&SWD 2011)

Section 1.4.2 - General Planning Policies and Design Guidelines	
Roads and Utilities - Construction and Maintenance Policies:	**Compliance**
1. All proposed utility lines (e.g., sewer, water, etc.) should be designed to avoid or minimize intrusion into the MHPA. These facilities should be routed through developed or developing areas rather than the MHPA, where possible. If no other routing is feasible, then the lines should follow previously existing roads, easements, rights-of-way and disturbed areas, minimizing habitat fragmentation.	Not applicable.
2. All new development for utilities and facilities within or crossing the MHPA shall be planned, designed, located and constructed to minimize environmental impacts. All such activities must avoid disturbing the habitat of MSCP covered species, and wetlands. If avoidance is infeasible, mitigation will be required.	Not applicable.
3. Temporary construction areas and roads, staging areas, or permanent access roads must not disturb existing habitat unless determined to be unavoidable. All such activities must occur on existing agricultural lands or in other disturbed areas rather than in habitat. If temporary habitat disturbance is unavoidable, then restoration of, and/or mitigation for, the disturbed area after project completion will be required.	Project staging and stockpiling areas along with access roads are located within existing disturbed areas adjacent in Qualcomm Stadium parking lot.
4. Construction and maintenance activities in wildlife corridors must avoid significant disruption of corridor usage. Environmental documents and mitigation monitoring and reporting programs covering such development must clearly specify how this will be achieved, and construction plans must contain all the pertinent information and be readily available to crews in the field. Training of construction crews and field workers must be conducted to ensure that all conditions are met. A responsible party must be specified.	The project includes avoidance and minimization measures to reduce impacts to wildlife usage within the drainage including environmental awareness training.
5. Roads in the MHPA will be limited to those identified in Community Plan Circulation Elements, collector streets essential for area circulation, and necessary maintenance/emergency access roads. Local streets should not cross the MHPA except where needed to access isolated development areas.	Not applicable.
6. Development of roads in canyon bottoms should be avoided whenever feasible. If an alternative location outside the MHPA is not feasible, then the road must be designed to cross the shortest length possible of the MHPA in order to minimize impacts and fragmentation of sensitive species and habitat. If roads cross the MHPA, they should provide for fully functional wildlife movement capability. Bridges are the preferred method of providing for movement, although culverts in selected locations may be acceptable. Fencing, grading and plant cover should be provided where needed to protect and shield animals, and guide them away from roads to appropriate crossings.	Not applicable.
7. Where possible, roads within the MHPA should be narrowed from existing design standards to minimize habitat fragmentation and disruption of wildlife movement and breeding areas. Roads must be located in lower quality habitat or disturbed areas to the extent possible.	Not applicable.
8. For the most part, existing roads and utility lines are considered a compatible use within the MHPA and, therefore, will be maintained. Exceptions may occur where underutilized or duplicative road systems are determined not to be necessary as identified in the Framework Management	Not applicable.

Fencing, Lighting, and Signage	Compliance
1. Fencing or other barriers will be used where it is determined to be the best method to achieve conservation goals and adjacent to land uses incompatible with the MHPA. For example, use chain link or cattle wire to direct wildlife to appropriate corridor crossings, natural rocks/boulders or split rail fencing to direct public access to appropriate locations, and chain link to provide added protection of certain sensitive species or habitats (e.g., vernal pools).	Silt fencing and/or construction fencing will be used on a temporary basis, as appropriate, around work areas and staging areas.
2. Lighting shall be designed to avoid intrusion into the MHPA and effects on wildlife. Lighting in areas of wildlife crossings should be of low-sodium or similar lighting. Signage will be limited to access and litter control and educational purposes.	No lighting will be installed as part of the project.
Materials Storage	**Compliance**
Prohibit storage of materials (e.g., hazardous or toxic, chemicals, equipment, etc.) within the MHPA and ensure appropriate storage per applicable regulations in any areas that may impact the MHPA, especially due to potential leakage.	Temporary storage of hazardous materials such as equipment fuel will follow all applicable rules and guidelines.
Mining, Extraction, and Processing Facilities	**Compliance**
1. Mining operations include mineral extraction, processing and other related mining activities (e.g. asphaltic processing). Currently permitted mining operations that have approved restoration plans may continue operating in the MHPA. New or expanded mining operations on lands conserved as part of the MHPA are incompatible with MSCP preserve goals for covered species and their habitat unless otherwise agreed to by the wildlife agencies at the time the parcel is conserved. New operations are permitted in the MHPA if: 1) impacts have been assessed and conditions incorporated to mitigate biological impacts and restore mined areas; 2) adverse impacts to covered species in the MHPA have been mitigated consistent with the Subarea Plan; and 3) requirements of other City land use policies and regulations (e.g. Adjacency Guidelines, Conditional Use Permit) have been satisfied. Existing and any newly permitted operations adjacent to or within the MHPA shall meet noise, air quality and water quality regulation requirements, as identified in the conditions of any existing or new permit, in order to adequately protect adjacent preserved areas and covered species. Such facilities shall also be appropriately restored upon cessation of mining activities.	Not applicable.
2. All mining and other related activities must be consistent with the objectives, guidelines, and recommendations in the MSCP plan, the City of San Diego's Environmentally Sensitive Lands Ordinance, all relevant long-range plans, as well as with the State Surface Mining and Reclamation Act (SMARA) of 1975.	Not applicable.
3. Any sand removal activities should be monitored for noise impacts to surrounding sensitive habitats, and all new sediment removal or mining operations proposed in proximity to the MHPA, or changes in existing operations must include noise reduction methods that take into consideration the breeding and nesting seasons of sensitive bird species.	Not applicable.
4. All existing and future mined lands adjacent to or within the MHPA shall be reclaimed pursuant to SMARA. Ponds are considered compatible uses where they provide native wildlife and wetland habitats and do not conflict with conservation goals of the MSCP and Subarea Plan.	Not applicable.
5. Any permitted mining activity including reclamation of sand must consider changes and impacts to water quality, water table level, fluvial hydrology, flooding, and wetland and habitats upstream and downstream, and provide adequate mitigation.	Not applicable.

Flood Control	Compliance
1. Flood control should generally be limited to existing agreements with resource agencies unless demonstrated to be needed based on a cost benefit analysis and pursuant to a restoration plan. Floodplains within the MHPA, and upstream from the MHPA if feasible, should remain in a natural condition and configuration in order to allow for the ecological, geological, hydrological, and other natural processes to remain or be restored.	The project is consistent with flood control maintenance that occurred when the MSCP was established. The project is also in conformance with MMP (2011) and PEIR (2011). As recommended by the IHHA, proposed channel maintenance involves the minimum amount of sediment /trash removal in order to allow for natural processes and to minimize erosion and sedimentation.
2. No berming, channelization, or man-made constraints or barriers to creek, tributary, or river flows should be allowed in any floodplain within the MHPA unless reviewed by all appropriate agencies, and adequately mitigated. Review must include impacts to upstream and downstream habitats, flood flow volumes, velocities and configurations, water availability, and changes to the water table level.	The project does not include the construction of man-made barriers or substantial modification of the channels.
3. No riprap, concrete, or other unnatural material shall be used to stabilize river, creek, tributary, and channel banks within the MHPA. River, stream, and channel banks shall be natural, and stabilized where necessary with willows and other appropriate native plantings. Rock gabions may be used where necessary to dissipate flows and should incorporate design features to ensure wildlife	The project does not include the placement of riprap, concrete, or other unnatural materials. The existing rock gabion structure at the confluence may be repaired if necessary.

Section 1.4.3 – Land Use Adjacency Guidelines

Drainage	Compliance
1. All new and proposed parking lots and developed areas in and adjacent to the preserve must not drain directly into the MHPA. 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 MHPA. This can be accomplished using a variety of methods including natural detention basins, grass swales or mechanical trapping devices. These systems should be maintained approximately once per year, or as often as needed, to ensure proper functioning. Maintenance should include dredging out of sediments if needed, removing exotic plant materials, and adding chemical-neutralizing compounds (e.g. clay compounds) when necessary and appropriate.	All maintenance of construction equipment (e.g., refueling, oil changing, hydraulic maintenance) will be conducted within designated BMP fortified areas in the staging areas or off site in a manner that will not allow the release of toxins, chemicals, petroleum.
Toxics	**Compliance**
2. Land uses, such as recreation and agriculture, that use chemicals or generate by-products such as manure, that are potentially toxic or impactive to wildlife, sensitive species, habitat, or water quality need to incorporate measures to reduce impacts caused by the application and/or drainage of such materials into the MHPA. Such measures should include drainage/detention basins, swales, or holding areas with non-invasive grasses or wetland-type native vegetation to filter out the toxic materials. Regular maintenance should be provided. Where applicable, this requirement should be incorporated into leases on publicly owned property as leases come up for renewal.	See response above. No domestic pets are allowed on the construction site.
Lighting	**Compliance**
3. Lighting of all developed areas adjacent to the MHPA should be directed away from the MHPA. Where necessary, development should provide adequate shielding with non-invasive plant materials (preferably native), berming, and/or other methods to protect the MHPA and sensitive species from night lighting.	No lighting will be installed as part of the project.

Noise	Compliance
4. Uses in or adjacent to the MHPA should be designed to minimize noise impacts. Berms or walls should be constructed adjacent to commercial areas, recreational areas, and any other use that may introduce noises that could impact or interfere with wildlife utilization of the MHPA. Excessively noisy uses or activities adjacent to breeding areas must incorporate noise reduction measures and be curtailed during the breeding season of sensitive species. Adequate noise reduction measures should also be incorporated for the remainder of the year.	Project activities will be conducted outside the sensitive bird breeding season in order that the effects of noise are not adverse.
Barriers	**Compliance**
5. New development adjacent to the MHPA may be required to provide barriers (e.g., non-invasive vegetation, rocks/boulders, fences, walls, and/or signage) along the MHPA boundaries to direct public access to appropriate locations and reduce domestic animal predation.	Not applicable.
Invasives	**Compliance**
6. No invasive non-native plant species shall be introduced into areas adjacent to the MHPA.	The project will not include introduction of invasive species, and does include removal of invasive species.
Brush Management	**Compliance**
7. New residential development located adjacent to and topographically above the MHPA (e.g., along canyon edges) must be set back from slope edges to incorporate Zone 1 brush management areas on the development pad and outside of the MHPA. Zones 2 and 3 will be combined into one zone (Zone 2) and may be located in the MHPA upon granting of an easement to the City (or other acceptable agency) except where narrow wildlife corridors require it to be located outside of the MHPA. Zone 2 will be increased by 30 feet, except in areas with a low fire hazard severity rating where no Zone 2 would be required. Brush management zones will not be greater in size that is currently required by the City's regulations. The amount of woody vegetation clearing shall not exceed 50 percent of the vegetation existing when the initial clearing is done. Vegetation clearing shall be done consistent with City standards and shall avoid/minimize impacts to covered species to the maximum extent possible. For all new development, regardless of the ownership, the brush management in the Zone 2 area will be the responsibility of a homeowners association or other private party. For existing project and approved projects, the brush management zones, standards and locations, and clearing techniques will not change from those required under existing regulations.	Not applicable.
Grading/Land Development	**Compliance**
8. Manufactured slopes associated with site development shall be included within the development footprint for projects within or adjacent to the MHPA.	Not applicable.

ATTACHMENT 3

IMP Maintenance Methodology Table

DRAFT Murphy Canyon Channels – Reach 1 & 2 – MMP MAP No. 58

Attachment 3 – IMP Maintenance Methodology

FACILITY/CHANNEL	MURPHY CANYON CREEK (REACH 1 & 2)	
DIMENSIONS	REACH 1 EARTHEN (RIP-RAP SIDES) CHANNEL: 1,662' LENGTH APPROX. 50' TOP WIDTH 20' BOTTOM WIDTH 10' IN DEPTH 5-7' OF SEDIMENT 7,000-10,000 CUBIC YARDS MAXIMUM CUBIC YARDS: 12,000	REACH 2 TRAPAZOIDAL CONCRETE CHANNEL: 206' LENGTH APPROX. 40' TOP WIDTH 20' BOTTOM WIDTH 8' IN DEPTH 1-4' OF SEDIMENT 1,000-1,500 CUBIC YARDS MAXIMUM CUBIC YARDS: 3,000
MAINTENANCE METHOD	MECHANIZED SEDIMENT & VEGETATION REMOVAL	
EQUIPMENT (EQUIPMENT WILL BE EQUIVALENT OR SMALLER IN SIZE/TYPE)	• BULLDOZER (CAT D-8) • EXCAVATOR(S) (CAT 320 WITH THUMB) • SKID STEER (BOBCAT S650) • DUMP TRUCK(S) & PUP TRAILER (20 YD)	• SWEEPER (JOHNSON 4000 OR TYMCO 500X) • LOADER (S) (CAT 950) • VACTOR (2100 PLUS PD) • 4" OR 6" TRASH PUMPS (WACKER OR GODWIN - FOR DRY WEATHER FLOW DIVERSION)
SCHEDULE: IN CHANNEL WORK WILL TAKE 6-8 WEEKS – 7 DAYS A WEEK; 6 AM TO 6 PM; ADDITIONAL 6-8 WEEKS TO REMOVE STOCKPILE **STAFFING**: MON-FRI – 12 TO 14 PEOPLE; SA-SUN – 14 TO 18 PEOPLE (ADDITIONAL TRUCK DRIVERS MAY BE AVAILABLE)		
MAINTENANCE PROCEDURE		
CHANNEL SEQUENCE	1. PORTION OF REACH 1 – STATION 15+78 TO 16+61 – ACCESS & LOADING AREA-1D TO CONCRETE LINED CHANNEL 2. REACH 2 – STATION 16+61 TO 18+68 - CONCRETE LINED CHANNEL FROM END OF EARTHEN CHANNEL TO CALTRANS ROW 206' NORTH 3. REMAINDER OF REACH 1 – STATION 0+00 TO 15+78 - EARTHEN CHANNEL FROM ACCESS & LOADING AREA-1D SOUTH TO APPROXIMATELY RANCHO MISSION ROAD BRIDGE (1,662')	
ACCESS & LOADING AREA(S)	ACCESS INTO & OUT OF CHANNEL WILL BE THROUGH EACH ACCESS & LOADING AREA. ALL ARE 30'WIDE & 60' LONG AND EQUIPMENT WILL TAKE ACCESS INTO THE EARTHEN CHANNEL FROM WEST SIDE. ACCESS & LOADING AREA-1A FOR REACH 1 - STATION 3+15 – APPROX 215' NORTH OF RANCHO MISSION ROAD BRIDGE ACCESS & LOADING AREA-1B FOR REACH 1 - STATION 7+78 - APPROX 678' NORTH OF RANCHO MISSION ROAD BRIDGE ACCESS & LOADING AREA-1C FOR REACH 1 - STATION 10+89 - APPROX 989' NORTH OF RANCHO MISSION ROAD BRIDGE ACCESS & LOADING AREA-1D FOR REACH 1 - STATION 15+78 - APPROX	

	1,478' NORTH OF RANCHO MISSION ROAD BRIDGE EXCAVATOR WILL BE STATIONED ON TOP OF CHANNEL BERM, REACH INTO CHANNEL, SCOOP MATERIAL, & THEN LOAD MATERIAL INTO WATING DUMP TRUCKS WITHIN STADIUM PARKING LOT. THESE AREA(S) MAY ALSO BE NEEDED AS ACCESS POINTS.
STAGING & STOCKPILE AREA	STAGING & STOCKPILE AREA: LOCATED APPROXIMATLY 150' WEST OF STATION 15+78 IS 200' WIDE AND 250' DEEP 1. BMPS INSTALLED IN STAGING AREA TO ALLOW EXCAVATED MATERIALS TO DRY 2. RUBBER TIRED LOADERS ARE USED TO MAINTAIN STOCKPILE & LOAD DUMP TRUCKS 3. DUMP TRUCK HAULS MATERIAL TO APPROPRIATE DISPOSAL FACILITY.
METHODOLOGY	<u>PORTION OF REACH 1</u> 1. DRY WEATHER FLOW DIVERSION BERM (SANDBAGS AND VISQUEEN), DIVERSION PIPES, & PUMPS WILL BE PLACED AT NORTHERN LIMITS OF CHANNEL CLEANING. 2. BULLDOZER ENTER/EXIT(S) CHANNEL AT ACCESS & LOADING AREA-1D. 3. BULLDOZER WILL BEGIN CLEANING EARTHEN CHANNEL NORTH OF ACCESS & LOADING AREA-1D & PUSHES MATERIAL TO ACCESS & LOADING AREA-1D. 4. EXCAVATOR STATIONED AT ACCESS & LOADING AREA-1D SCOOPS MATERIAL FROM CHANNEL & LOADS MATERIAL INTO WAITING DUMP TRUCK LOCATED WITHIN STADIUM PARKING LOT. 5. DUMP TRUCK SHORT-HAULS LOADS TO STAGING & STOCKPILE AREA. 6. BULLDOZER EXITS CHANNEL. <u>REACH 2:</u> 7. LOADER ENTER/EXIT(S) CHANNEL ONCE REACH 1 NORTH OF ACCESS & LOADING AREA-1D IS CLEARED. 8. LOADER PUSHES MATERIAL IN CONCRETE CHANNEL TO EXCAVATOR AT ACCESS & LOADING AREA-1D UNTIL IT REACHES NORTHERN LIMIT OF WORK. 9. EXCAVATOR CONTINUES TO LOAD EXCAVATED MATERIALS INTO DUMP TRUCK. 10. DUMP TRUCK SHORT-HAULS LOADS TO STAGING & STOCKPILE AREA. <u>REMAINDER OF REACH 1:</u> 1. BULLDOZER RE-ENTER/EXIT(S) CHANNEL AT ACCESS/LOADING AREA(S) & PUSHES MATERIAL TO EXCAVATOR LOCATED AT ACCESS & LOADING AREA(S) TO MINIMIZE DISTANCES MATERIAL

	IS PUSHED. 2. EXCAVATOR LOADS MATERIAL INTO WAITING DUMP TRUCK LOCATED WITHIN STADIUM PARKING LOT. 3. DUMP TRUCK SHORT-HAULS LOAD TO STAGING & STOCKPILE AREA. 4. DRY WEATHER DIVERSION BERM, DIVERSION PIPES, & PUMPS REMOVED. 5. DUMP TRUCKS HAUL STOCKPILE TO LEGAL DISPOSAL SITE.
POST-MAINTENANCE	DEMOBILIZE EQUIPMENT. RESTORE SITE, INCLUDING TEMPORARY ACCESS & LOADING AREA(S), TO PRE-MAINTENANCE OR AS-BUILT CONDITION (INCLUDING THE REPLACEMENT OF K-RAILS AND FENCE). REMOVE TEMPORARY CONSTRUCTION BMPS.
OTHER NOTES	SWEEPERS WILL SWEEP ALL STAGING AREAS, ADJACENT PUBLIC RIGHTS OF WAY, & TRUCK ROUTES NIGHTLY. REMOVE STANDING WATER (IF ANY) WITHIN DRAINAGE FACILITY WITH PUMPS OR VACTOR. EQUIPMENT FUELED OUTSIDE CHANNEL & LOCATED AT LEAST 150' FROM WATERS OF US/STATE. BICYCLE/PEDESTRIAN PATH TO BE CLOSED DURING MAINTENANCE ACTIVITIES.

ATTACHMENT 4

Applicable PEIR Mitigation Measures

Attachment 4
Applicable PEIR Mitigation Measures

GENERAL

General Mitigation 1: Prior to commencement of work, the Assistant Deputy Director (ADD) Environmental Designee of the Entitlements Division shall verify that mitigation measures for impacts to biological resources (Mitigation Measures 4.3.1 through 4.3.20), historical resources (Mitigation Measures 4.4.1 and 4.4.2), land use policy (Mitigation Measures 4.1.1 through 4.1.13), paleontological resources (Mitigation Measure 4.7.1), and water quality (Mitigation Measures 4.8.1 through 4.8.3) have been included in entirety on the submitted maintenance documents and contract specifications, and included under the heading, "Environmental Mitigation Requirements." In addition, the requirements for a Pre-maintenance Meeting shall be noted on all maintenance documents.

General Mitigation 2: Prior to the commencement of work, a Pre-maintenance Meeting shall be conducted and include, as appropriate, the MMC, SWD Project Manager, Biological Monitor, Historical Monitor, Paleontological Monitor, Water Quality Specialist, and Maintenance Contractor, and other parties of interest.

General Mitigation 3: Prior to the commencement of work, evidence of compliance with other permitting authorities is required, if applicable. Evidence shall include either copies of permits issued, letters of resolution issued by the Responsible Agency documenting compliance, or other evidence documenting compliance and deemed acceptable by the ADD Environmental Designee.

General Mitigation 4: Prior to commencement of work and pursuant to Section 1600 et seq. of the State of California Fish & Game Code, evidence of compliance with Section 1605 is required, if applicable. Evidence shall include either copies of permits issued, letters of resolution issued by the Responsible Agency documenting compliance, or other evidence documenting compliance and deemed acceptable by the ADD Environmental Designee.

BIOLOGICAL RESOURCES

Mitigation Measure 4.3.1: Prior to commencement of any activity within a specific annual maintenance program, a qualified biologist shall prepare an IBA for each area proposed to be maintained. The IBA shall be prepared in accordance with the specifications included in the Master Program.

Mitigation Measure 4.3.2: No maintenance activities within a proposed annual maintenance program shall be initiated before the City's Assistant Deputy Director (ADD) Environmental Designee and state and federal agencies with jurisdiction over maintenance activities have approved the IMPs and IBAs including proposed mitigation for each of the proposed activities. In their review, the ADD Environmental Designee and agencies shall confirm that the appropriate maintenance protocols have been incorporated into each IMP.

Mitigation Measure 4.3.3: No maintenance activities within a proposed annual maintenance program shall be initiated until the City's ADD Environmental Designee and Mitigation Monitoring Coordinator (MMC) have approved the qualifications for biologist(s) who shall be responsible for monitoring maintenance activities which may impact sensitive biological resources.

Mitigation Measure 4.3.4: Prior to undertaking any maintenance activity included in an annual maintenance program, a mitigation account shall be established to provide sufficient funds to implement

all biological mitigation associated with the proposed maintenance activities. The fund amount shall be determined by the ADD Environmental Designee. The account shall be managed by the City's SWD, with quarterly status reports submitted to DSD. The status reports shall separately identify upland and wetland account activity. Based upon the impacts identified in the IBAs, money shall be deposited into the account, as part of the project submittal, to ensure available funds for mitigation.

Mitigation Measure 4.3.5: Prior to commencing any activity that could impact wetlands, evidence of compliance with other permitting authorities is required, if applicable. Evidence shall include copies of permits issued, letters of resolution issued by the Responsible Agency documenting compliance, or other evidence documenting compliance and deemed acceptable by the ADD Environmental Designee.

Mitigation Measure 4.3.6: Prior to commencing any activity where the IBA indicates significant impacts to biological resources may occur, a pre-maintenance meeting shall be held on site with the following in attendance: City's SWD Maintenance Manager (MM), MMC, and Maintenance Contractor (MC). The biologist selected to monitor the activities shall be present. At this meeting, the monitoring biologist shall identify and discuss the maintenance protocols that apply to the maintenance activities. At the pre-maintenance meeting, the monitoring biologist shall submit to the MMC and MC a copy of the maintenance plan (reduced to 11"x17") that identifies areas to be protected, fenced, and monitored. This data shall include all planned locations and design of noise attenuation walls or other devices. The monitoring biologist also shall submit a maintenance schedule to the MMC and MC indicating when and where monitoring is to begin and shall notify the MMC of the start date for monitoring.

Mitigation Measure 4.3.7: Within three months following the completion of mitigation monitoring, two copies of a written draft report summarizing the monitoring shall be prepared by the monitoring biologist and submitted to the MMC for approval. The draft monitoring report shall describe the results including any remedial measures that were required. Within 90 days of receiving comments from the MMC on the draft monitoring report, the biologist shall submit one copy of the final monitoring report to the MMC.

Mitigation Measure 4.3.8: Within six months of the end of an annual storm water facility maintenance program, the monitoring biologist shall complete an annual report which shall be distributed to the following agencies: the City of San Diego DSD, CDFG, RWQCB, USFWS, and Corps. At a minimum, the report shall contain the following information:

- Tabular summary of the biological resources impacted during maintenance and the mitigation;
- Master table containing the following information for each individual storm water facility or segment which is regularly maintained;
- Date and type of most recent maintenance;
- Description of mitigation which has occurred; and
- Description of the status of mitigation which has been implemented for past maintenance activities.

Mitigation Measure 4.3.9: Wetland impacts resulting from maintenance shall be mitigated in one of the following two ways: (1) habitat creation, restoration, and/or enhancement, or (2) mitigation credits. The amount of mitigation shall be in accordance with ratios in Table 4.3-10 unless different mitigation ratios are required by state or federal agencies with jurisdiction over the impacted wetlands. In this event, the mitigation ratios required by these agencies will supersede, and not be in addition to, the ratios defined in Table 4.3-10. No maintenance shall commence until the ADD Environmental Designee has determined that mitigation proposed for a specific maintenance activity meets one of these two options.

Table 4.3-10 WETLAND MITIGATION RATIOS	
WETLAND TYPE	**MITIGATION RATIO**
Southern riparian forest	3:1
Southern sycamore riparian forest	3:1
Riparian woodland	3:1
Coastal saltmarsh	4:1
Coastal brackish marsh	4:1
Southern willow scrub	2:1
Mule fat scrub	2:1
Riparian scrub[1]	2:1
Freshwater marsh[2]	2:1
Cismontane alkali marsh	4:1
Disturbed wetland	2:1
Streambed/natural flood channel	2:1

1 Mitigation ratio within the Coastal Zone will be 3:1
2 Mitigation ratio within the Coastal Zone will be 4:1

Mitigation locations for wetland impacts shall be selected using the following order of preference, based on the best mitigation value to be achieved.

1. Within impacted watershed, within City limits.
2. Within impacted watershed, outside City limits on City-owned or other publicly-owned land.
3. Outside impacted watershed, within City limits.
4. Outside impacted watershed, outside City limits on City-owned or other publically-owned land.

In order to mitigate for impacts in an area outside the limits of the watershed within which the impacts occur, the SWD must demonstrate to the satisfaction of the ADD Environmental Designee in consultation with the Resource Agencies that no suitable location exists within the impacted watershed.

Mitigation Measure 4.3.10: Whenever maintenance will impact wetland vegetation, a wetland mitigation plan shall be prepared in accordance with the Conceptual Wetland Restoration Plan contained in Appendix H of the Biological Technical Report, included as Appendix D.3 of the PEIR. Mitigation which involves habitat enhancement, restoration or creation shall include a wetland mitigation plan containing the following information:

- Conceptual planting plan including planting zones, grading, and irrigation;
- Seed mix/planting palette;
- Planting specifications;
- Monitoring program including success criteria; and
- Long-term maintenance and preservation plan.

Mitigation which involves habitat acquisition and preservation shall include the following:

- Location of proposed acquisition;
- Description of the biological resources to be acquired including support for the conclusion that the acquired habitat mitigates for the specific maintenance impact; and

- Documentation that the mitigation area would be adequately preserved and maintained in perpetuity.

Mitigation which involves the use of mitigation credits shall include the following:

- Location of the mitigation bank;
- Description of the credits to be acquired including support for the conclusion that the acquired habitat mitigates for the specific maintenance impact; and
- Documentation that the credits are associated with a mitigation bank which has been approved by the appropriate Resource Agencies.

(Mitigation Measure 4.3.11 not applicable)
(Mitigation Measure 4.3.12 not applicable)

Mitigation Measure 4.3.13: Prior to commencing any maintenance activity which may impact sensitive biological resources, the monitoring biologist shall verify that the following actions have been taken, as appropriate:

- Fencing, flagging, signage, or other means to protect sensitive resources to remain after maintenance have been implemented;
- Noise attenuation measures needed to protect sensitive wildlife are in place and effective; and/or
- Nesting raptors have been identified and necessary maintenance setbacks have been established if maintenance is to occur between January 15 and August 31.

The designated biological monitor shall be present throughout the first full day of maintenance, whenever mandated by the associated IBA. Thereafter, through the duration of the maintenance activity, the monitoring biologist shall visit the site weekly to confirm that measures required to protect sensitive resources (e.g., flagging, fencing, noise barriers) continue to be effective. The monitoring biologist shall document monitoring events via a Consultant Site Visit Record. This record shall be sent to the MM each month. The MM will forward copies to MMC.

Mitigation Measure 4.3.14: Whenever off-site mitigation would result in a physical disturbance to the proposed mitigation area, the City will conduct an environmental review of the proposed mitigation plan in accordance with CEQA. If the off-site mitigation would have a significant impact on biological resources associated with the mitigation site, mitigation measures will be identified and implemented in accordance with the MMRP resulting from that CEQA analysis.

Mitigation Measure 4.3.15: Impacts to listed or endemic sensitive plant species shall be offset through implementation of one or a combination of the following actions:

- Impacted plants would be salvaged and relocated;
- Seeds from impacted plants would be collected for use at an off-site location;
- Off-site habitat that supports the species impacted shall be enhanced and/or supplemented with seed collected on site; and/or
- Comparable habitat at an off-site location shall be preserved.

Mitigation which involves relocation, enhancement or transplanting sensitive plants shall include the following:

- Conceptual planting plan including grading and, if appropriate, temporary irrigation;
- Planting specifications;
- Monitoring Program including success criteria; and
- Long-term maintenance and preservation plan.

Maintenance Measure 4.3.16: Maintenance activities shall not occur within the following areas:

- 300 feet from any nesting site of Cooper's hawk (*Accipiter cooperii*);
- 1,500 feet from known locations of the southern pond turtle (*Clemmys marmorata pallida*);
- 900 feet from any nesting sites of northern harriers (*Circus cyaneus*);
- 4,000 feet from any nesting sites of golden eagles (*Aquila chrysaetos*); or
- 300 feet from any occupied burrow or burrowing owls (*Athene cunicularia*).

Mitigation Measure 4.3.17: If evidence indicates the potential is high for a listed species to be present, based on historical records or site conditions, then clearing, grubbing, or grading (inside and outside the MHPA) shall be restricted during the breeding season where development may impact the following species:

- Western snowy plover (between March 1 and September 15);
- Least tern (between April 1 and September 15);
- Cactus wren (between February 15 and August 15); or
- Tricolored black bird (between March 1 and August 1.

When other sensitive species, including, but not limited to, the arroyo toad, burrowing owl, or Quino checkerspot butterfly are known or suspected to be present all appropriate protocol surveys and mitigation measures shall be implemented.

Mitigation Measure 4.3.18: If a subject species is not detected during the protocol survey, the qualified biologist shall submit substantial evidence to the ADD Environmental Designee and an applicable resource agency which demonstrates whether or not mitigation measures such as noise walls are necessary between the dates stated for each species. If this evidence concludes that no impacts to this species are anticipated, no mitigation measures would be necessary.

Mitigation Measure 4.3.19: If the SWD chooses not to do the required surveys, then it shall be assumed that the appropriate avian species are present and all necessary protection and mitigation measures shall be required as described in Mitigation Measure 4.3.21.

Mitigation Measure 4.3.20: If no surveys are completed and no sound attenuation devices are installed, it will be assumed that the habitat in question is occupied by the appropriate species and that maintenance activities would generate more than 60dB(A) L_{eq} within the habitat requiring protection. All such activities adjacent to protected habitat shall cease for the duration of the breeding season of the appropriate species and a qualified biologist shall establish a limit of work.

Mitigation Measure 4.3.21: If maintenance occurs during the raptor breeding season (January 15 to August 31), a pre-maintenance survey for active raptor nests shall be conducted in areas supporting suitable habitat. If active raptor nests are found, maintenance shall not occur within 300 feet of a

Cooper's hawk nest, 900 feet of a northern harrier's nest, or 500 feet of any other raptor's nest until any fledglings have left the nest.

Mitigation Measure 4.3.22: If removal of any eucalyptus trees or other trees used by raptors for nesting within a maintenance area is proposed during the raptor breeding season (January 15 through August 31), a qualified biologist shall ensure that no raptors are nesting in such trees. If maintenance occurs during the raptor breeding season, a pre-maintenance survey shall be conducted and no maintenance shall occur within 300 feet of any nesting site of Cooper's hawk or other nesting raptor until the young fledge. Should the biologist determine that raptors are nesting, the trees shall not be removed until after the breeding season. In addition, if removal of grassland or other habitat appropriate for nesting by northern harriers, a qualified biologist shall ensure that no harriers are nesting in such areas. If maintenance occurs during the raptor breeding season, a pre-maintenance survey shall be conducted and no maintenance shall occur within 900 feet of any nesting site of northern harrier until the young fledge.

(Mitigation Measure 4.3.23 not applicable)

Mitigation Measure 4.2.24: If maintenance activities will occur within areas supporting listed and/or narrow endemic plants, the boundaries of the plant populations designated sensitive by the resource agencies will be clearly delineated with flagging or temporary fencing that must remain in place for the duration of the activity.

Mitigation Measure 4.2.25: In order to avoid impacts to nesting avian species, including those species not covered by the MSCP, maintenance within or adjacent to avian nesting habitat shall occur outside of the avian breeding season (January 15 to August 31) unless postponing maintenance would result in a threat to human life or property.

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Mitigation Measure 4.1.1: Prior to commencing maintenance on any storm water facility within, or immediately adjacent to, a Multi-Habitat Planning Area (MHPA), the ADD Environmental Designee shall verify that all MHPA boundaries and limits of work have been delineated on all maintenance documents.

Mitigation Measure 4.1.2: A qualified biologist (possessing a valid Endangered Species Act Section 10(a)(1)(a) recovery permit) shall survey those habitat areas inside and outside the MHPA suspected to serve as habitat (based on historical records of site conditions) for the coastal California gnatcatcher, least Bell's vireo and/or other listed species. Surveys for the appropriate species shall be conducted pursuant to the protocol survey guidelines established by the U.S. Fish and Wildlife Service. When other sensitive species, including, but not limited to, the arroyo toad, burrowing owl, or Quino checkerspot butterfly are known or suspected to be present all appropriate protocol surveys and mitigation measures identified in Subchapter 4.3, Biological Resources, required shall be implemented.

Mitigation Measure 4.1.3: If a listed species is located within 500 feet of a proposed maintenance activity and maintenance would occur during the associated breeding season, an analysis of the noise generated by maintenance activity shall be completed by a qualified acoustician (possessing current noise engineer license or registration with monitoring noise level experience with listed animal species) and approved by the ADD Environmental Designee. The analysis shall identify the location of the 60dB(A) L_{eq} noise contour on the maintenance plan. The report shall also identify measures to be undertaken during maintenance to reduce noise levels.

Mitigation Measure 4.1.4: Based on the location of the 60 dB(A) Leq noise contour and the results of the protocol surveys, the Project Biologist shall determine if maintenance has the potential to impact

breeding activities of listed species. If one or more of the following species are determined to be significantly impacted by maintenance, then maintenance (inside and outside the MHPA) shall avoid the following breeding seasons unless it is determined that maintenance is needed to protect life or property.

- Coastal California gnatcatcher (between March 1 and August 15 inside the MHPA only; no restrictions outside MHPA);
- Least Bell's vireo (between March 15 and September 15); and
- Southwestern willow flycatcher (between May 1 and September 1).

Mitigation Measure 4.1.5: If maintenance is required during the breeding season for a listed bird to protect life or property, then the following conditions must be met:

- At least two weeks prior to the commencement of maintenance activities, under the direction of a qualified acoustician, noise attenuation measures (e.g., berms, walls) shall be implemented to ensure that noise levels resulting from maintenance activities shall not exceed 60 dB(A) hourly average at the edge of occupied habitat. Concurrent with the commencement of maintenance activities and the maintenance of necessary noise attenuation facilities, noise monitoring shall be conducted at the edge of the occupied habitat area to ensure that noise levels do not exceed 60 dB(A) hourly average. If the noise attenuation techniques implemented are determined to be inadequate by the qualified acoustician or biologist, then the associated maintenance activities shall cease until such time that adequate noise attenuation is achieved or until the end of the breeding season of the subject species, as noted above.
- Maintenance noise shall continue to be monitored at least twice weekly on varying days, or more frequently depending on the maintenance activity, to verify that noise levels at the edge of occupied habitat are maintained below 60 dB(A) hourly average. If not, other measures shall be implemented in consultation with the biologist and the ADD, as necessary, to reduce noise levels to below 60 dB(A) hourly average or to the ambient noise level if it already exceeds 60 dB(A) hourly average. Such measures may include, but are not limited to, limitations on the placement of maintenance equipment and the simultaneous use of equipment.
- Prior to the commencement of maintenance activities that would disturb sensitive resources during the breeding season, the biologist shall ensure that all fencing, staking and flagging identified as necessary on the ground have been installed properly in the areas restricted from such activities.
- If noise attenuation walls of other devices are required to assure protection to identified wildlife, then the biologist shall make sure such devices have been properly constructed, located, and installed.

Mitigation Measure 4.1.6: A pre-maintenance meeting shall be held with the Maintenance Contractor, City representative and the Project Biologist. The Project Biologist shall discuss the sensitive nature of the adjacent habitat with the crew and subcontractor. Prior to the pre-maintenance meeting, the following shall be completed:

- The Storm Water Division (SWD) shall provide a letter of verification to the Mitigation
- Monitoring Coordination Section stating that a qualified biologist, as defined in the City of San Diego Biological Resources Guidelines, has been retained to implement the projects MSCP monitoring Program. The letter shall include the names and contact information of all persons involved in the Biological Monitoring of the project. At least thirty days prior to the pre-maintenance meeting, the qualified biologist shall submit all

required documentation to MMC, verifying that any special reports, maps, plans and time lines, such as but not limited to, revegetation plans, plant relocation requirements and timing, MSCP requirements, avian or other wildlife protocol surveys, impact avoidance areas or other such information has been completed and updated.

- The limits of work shall be clearly delineated. The limits of work, as shown on the approved maintenance plan, shall be defined with orange maintenance fencing and checked by the biological monitor before initiation of maintenance. All native plants or species of special concern, as identified in the biological assessment, shall be staked, flagged and avoided within Brush Management Zone 2, if applicable.

Mitigation Measure 4.1.7: Maintenance plans shall be designed to accomplish the following.

- Invasive non-native plant species shall not be introduced into areas adjacent to the MHPA. Landscape plans shall contain non-invasive native species adjacent to sensitive biological areas, as shown on the approved maintenance plan.
- All lighting adjacent to, or within, the MHPA shall be shielded, unidirectional, low pressure sodium illumination (or similar) and directed away from sensitive areas using appropriate placement and shields. If lighting is required for nighttime maintenance, it shall be directed away from the preserve and the tops of adjacent trees with potentially nesting raptors, using appropriate placement and shielding.
- All maintenance activities (including staging areas and/or storage areas) shall be restricted to the disturbance areas shown on the approved maintenance plan. The project biologist shall monitor maintenance activities, as needed, to ensure that maintenance activities do not encroach into biologically sensitive areas beyond the limits of work as shown on the approved maintenance plan.
- No trash, oil, parking or other maintenance-related activities shall be allowed outside the established maintenance areas including staging areas and/or storage areas, as shown on the approved maintenance plan. All maintenance related debris shall be removed off-site to an approved disposal facility.
- Access roads through MHPA-designated areas shall comply with the applicable policies contained in the "Roads and Utilities Construction and Maintenance Policies" identified in Section 1.4.2 of the City's Subarea Plan.

Mitigation Measure 4.1.8: Prior to commencing any maintenance in, or within 500 feet of any area determined to support coastal California gnatcatchers, the ADD Environmental Designee shall verify that the MHPA boundaries and the following project requirements regarding the coastal California gnatcatcher are shown on the maintenance plans:

NO MAINTENANCE ACTIVITIES SHALL OCCUR BETWEEN MARCH 1 AND AUGUST 15, THE BREEDING SEASON OF THE COASTAL CALIFORNIA GNATCATCHER, UNTIL THE FOLLOWING REQUIREMENTS HAVE BEEN MET TO THE SATISFACTION OF THE ADD ENVIRONMENTAL DESIGNEE:

a. A QUALIFIED BIOLOGIST (POSSESSING A VALID ENDANGERED SPECIES ACT SECTION 10(a)(1)(A) RECOVERY PERMIT) SHALL SURVEY THOSE HABITAT AREAS WITHIN THE MHPA THAT WOULD BE SUBJECT TO MAINTENANCE NOISE LEVELS EXCEEDING 60 DECIBELS [dB(A)] HOURLY AVERAGE FOR THE PRESENCE OF THE COASTAL CALIFORNIA GNATCATCHER. SURVEYS FOR THE COASTAL CALIFORNIA GNATCATCHER SHALL BE CONDUCTED PURSUANT TO THE PROTOCOL SURVEY GUIDELINES ESTABLISHED BY THE U.S. FISH AND

WILDLIFE SERVICE WITHIN THE BREEDING SEASON PRIOR TO THE COMMENCEMENT OF ANY MAINTENANCE. IF GNATCATCHERS ARE PRESENT, THEN THE FOLLOWING CONDITIONS MUST BE MET:

1. BETWEEN MARCH 1 AND AUGUST 15, MAINTENANCE OF OCCUPIED GNATCATCHER HABITAT SHALL BE PERMITTED. AREAS RESTRICTED FROM SUCH ACTIVITIES SHALL BE STAKED OR FENCED UNDER THE SUPERVISION OF A QUALIFIED BIOLOGIST; AND

2. BETWEEN MARCH 1 AND AUGUST 15, NO MAINTENANCE ACTIVITIES SHALL OCCUR WITHIN ANY PORTION OF THE SITE WHERE MAINTENANCE ACTIVITIES WOULD RESULT IN NOISE LEVELS EXCEEDING 60 dB(A) HOURLY AVERAGE AT THE EDGE OF OCCUPIED GNATCATCHER HABITAT. AN ANALYSIS SHOWING THAT NOISE GENERATED BY MAINTENANCE ACTIVITIES WOULD NOT EXCEED 60 dB(A) HOURLY AVERAGE AT THE EDGE OF OCCUPIED HABITAT MUST BE COMPLETED BY A QUALIFIED ACOUSTICIAN (POSSESSING CURRENT NOISE ENGINEER LICENSE OR REGISTRATION WITH MONITORING NOISE LEVEL EXPERIENCE WITH LISTED ANIMAL SPECIES) AND APPROVED BY THE CITY MANAGER AT LEAST TWO WEEKS PRIOR TO THE COMMENCEMENT OF MAINTENANCE ACTIVITIES. PRIOR TO THE COMMENCEMENT OF MAINTENANCE ACTIVITIES DURING THE BREEDING SEASON, AREAS RESTRICTED FROM SUCH ACTIVITIES SHALL BE STAKED OR FENCED UNDER THE SUPERVISION OF A QUALIFIED BIOLOGIST; OR

3. AT LEAST TWO WEEKS PRIOR TO THE COMMENCEMENT OF MAINTENANCE ACTIVITIES, UNDER THE DIRECTION OF A QUALIFIED ACOUSTICIAN, NOISE ATTENUATION MEASURES (e.g., BERMS, WALLS) SHALL BE IMPLEMENTED TO ENSURE THAT NOISE LEVELS RESULTING FROM MAINTENANCE ACTIVITIES WILL NOT EXCEED 60 dB(A) HOURLY AVERAGE AT THE EDGE OF HABITAT OCCUPIED BY THE COASTAL CALIFORNIA GNATCATCHER. CONCURRENT WITH THE COMMENCEMENT OF MAINTENANCE ACTIVITIES AND THE MAINTENANCE OF NECESSARY NOISE ATTENUATION FACILITIES, NOISE MONITORING* SHALL BE CONDUCTED AT THE EDGE OF THE OCCUPIED HABITAT AREA TO ENSURE THAT NOISE LEVELS DO NOT EXCEED 60 dB(A) HOURLY AVERAGE. IF THE NOISE ATTENUATION TECHNIQUES IMPLEMENTED ARE DETERMINED TO BE INADEQUATE BY THE QUALIFIED ACOUSTICIAN OR BIOLOGIST, THEN THE ASSOCIATED MAINTENANCE ACTIVITIES SHALL CEASE UNTIL SUCH TIME THAT ADEQUATE NOISE ATTENUATION IS ACHIEVED OR UNTIL THE END OF THE BREEDING SEASON (AUGUST 16).

* Maintenance noise shall continue to be monitored at least twice weekly on varying days, or more frequently depending on the maintenance activity, to verify that noise levels at the edge of occupied habitat are maintained below 60 dB(A) hourly average or to the ambient noise level if it already exceeds 60 dB(A) hourly average. If not, other measures shall be implemented in consultation with the biologist and the ADD environmental designee, as necessary, to reduce noise levels to below 60 dB(A) hourly average or to the ambient noise level if it already exceeds 60 dB(A) hourly average. Such measures may include, but are not limited to, limitations on the placement of maintenance equipment and the simultaneous use of equipment.

b. IF COASTAL CALIFORNIA GNATCATCHERS ARE NOT DETECTED DURING THE PROTOCOL SURVEY, THE QUALIFIED BIOLOGIST SHALL SUBMIT SUBSTANTIAL EVIDENCE TO THE CITY MANAGER AND APPLICABLE RESOURCE AGENCIES WHICH DEMONSTRATES WHETHER OR NOT MITIGATION MEASURES SUCH AS NOISE WALLS ARE NECESSARY BETWEEN MARCH 1 AND AUGUST 15 AS FOLLOWS:

1. IF THIS EVIDENCE INDICATES THE POTENTIAL IS HIGH FOR COASTAL CALIFORNIA GNATCATCHER TO BE PRESENT BASED ON HISTORICAL RECORDS OR SITE CONDITIONS, THEN CONDITION A.III SHALL BE ADHERED TO AS SPECIFIED ABOVE.

2. IF THIS EVIDENCE CONCLUDES THAT NO IMPACTS TO THIS SPECIES ARE ANTICIPATED, NO MITIGATION MEASURES WOULD BE NECESSARY.

ATTACHMENT 5

Plant Compendium by Reach

Attachment 5
Plant Compendium by Reach

Plant Species List			
Scientific Name	**Common Name**	**Reach 1**	**Reach 2**
Acacia longifolia	Sydney golden wattle	present	-
Apium graveolens	celery	present	-
Arundo donax	giant reed	present	-
Avena fatua	wild oat	present	-
Baccharis salicifolia	mulefat	present	-
Brassica nigra	black mustard	present	-
Bromus sp.	brome	present	-
Centaurea melitensis	Maltese star thistle	present	-
Conyza canadensis	horseweed	present	-
Cortaderia selloana	pampas grass	present	-
Festuca myuros	foxtail fescue	present	-
Foeniculum vulgare	fennel	present	-
Glebionis coronaria	crown daisy	Present	-
Heterotheca grandiflora	telegraph weed	present	-
Lactuca serriola	prickly lettuce	present	-
Lepidium draba	whitetop	present	-
Raphanus sativus	wild radish	present	-
Ricinus communis	castor bean	present	-
Rumex crispus	curly dock	present	present
Salix laevigata	red willow	present	-
Salix lasiolepis	arroyo willow	present	present
Typha sp.	cattail	present	present

ATTACHMENT 6

Conceptual Wetlands Mitigation Plan and Amendment Memo – Stadium Wetland Preserve (Helix 2012 and URS 2013)

Technical Memorandum

Date: March 6, 2013 (Updated June 6, 2013 and July 10, 2013)

To: Stephanie Bracci, Transportation and Storm Water Division, City of San Diego

From: Mark Tucker, URS

CC: Anne Jarque, City of San Diego

Subject: **Amendments to the Stadium Mitigation Plan**

The following memo provides an addendum to the "City of San Diego Storm Water System Stadium Wetland Preserve Mitigation Plan" prepared by Helix, May 2012 (Helix Plan). This addendum outlines additions, deletions, and replacements to the Helix Plan to bring it up to date with current information and project approach. Maintenance impacts to storm water channels (Section 2) within the San Diego Hydrologic Unit (HU) have changed since the Helix Plan finalization. The proposed mitigation approach has also changed to reflect the need for restoration as well as enhancement credits. Wetland restoration, like wetland creation, has traditionally been used to offset permanent impacts and provide "no net loss" of wetland function. The City's Public Utilities Department is in the process of further refining the concept and developing the project as a mitigation bank or advanced multi-project mitigation area for City of San Diego projects.

Modifications to the plan as outlined below include:

- Updating figures and tables as needed
- Updating specific definitions of restoration and functions (Section 1)
- Adding rehabilitation-type restoration as "no net loss" mitigation credit for portions of the Stadium site (Section 1)
- Updating site-specific mitigation acreages (Section 2) and mitigation requirements (Section 2 and 3)
- Refining the implementation and monitoring plan including the addition of a plant palette and seed mix for the rehabilitation areas (Section 4)
- Global edits

Table and Figure Updates -Tables 1 and 2 were updated to reflect the current project list, impact acres, required mitigation acres, and the estimated amount and types of mitigation credits available at the Stadium Mitigation Site. The Stadium Mitigation Site is outside the coastal zone and therefore references to the Peñasquitos HU and associated impacts were deleted because those impacts occur within the Coastal Zone and will need to be mitigated within the Coastal Zone. Emergency work conducted in 2010 in Chollas Creek (maps 91 and 93) within the Pueblo HU did not require mitigation, and reference to this work in the tables has been removed. The impacts acreages for the emergency work conducted in 2010 in the Alvarado Channel within the San Diego HU were corrected from earlier estimates based on a detailed GIS analysis.

A new facility maintenance project in Murphy Canyon (map 58) is scheduled to begin in the fall of 2013 and will mitigate impacts at the Stadium Mitigation Site. The new project is located

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along Murphy Canyon Creek immediately north of the confluence with the San Diego River near the eastern boundary of the Stadium Mitigation Site. Impact and mitigation acreages for the Murphy Canyon maintenance are based on the May 2013 Murphy Canyon Individual Biological Assessment.

Mitigation ratios in the tables were corrected to reflect the results of the settlement agreement, calling for CDP mitigation ratios applicable in the coastal zone to be applied in non-coastal areas. The change in impact acres and mitigation ratios resulted in an updated acreage for required mitigation.

Figure 4 was updated to reflect the results of a detailed investigation of parcel information including ownership, easements, future City projects, and previous mitigation uses. The map shows the locations of available, unencumbered enhancement areas as well as areas that may require treatment but may not be available for credit within a mitigation program.

Figure 5 should be deleted from the report, as should its reference in the "List of Figures" in the Table of Contents. The excerpt "(Figures 4 and 5)" appearing in Section 3.4, paragraph 1 shall be amended to *"(Figure 4)"*, and the following language shall replace the Section 3.4, paragraph 2 discussion of the figure:

The proposed mitigation will be implemented in the context of implementation of the entire site. Mitigation may proceed in phases from upstream to downstream, starting at the eastern project boundary, as shown in Figure 4.

Section 1.0 Introduction - The Helix Plan provides a very general definition of wetland mitigation with no clear distinction between restoration and enhancement and uses the words restoration and enhancement interchangeably through-out the plan. There are agency definitions of restoration and enhancement that are relevant to the discussion of mitigation options as outlined in the wetland mitigation plan. Additions and substitutions to this section are outlined below.

The paragraphs below replace the 3rd and 4th paragraphs of Section 1.0:

The traditional definitions of wetland creation, restoration, and enhancement are used by the City and the following list provides operational definitions of the four types of activities that constitute wetland mitigation under ESL in the Land Development Manual- Biology Guidelines dated June 2012:

> ***Wetland creation*** *is an activity that results in the formation of new wetlands in an upland area. An example is excavation of uplands adjacent to existing wetlands and the establishment of native wetland vegetation.*
>
> ***Wetland restoration*** *is an activity that re-establishes the habitat functions of a former wetland. An example is the excavation of agricultural fill from historic wetlands and the re-establishment of native wetland vegetation.*
>
> ***Wetland enhancement*** *is an activity that improves the self-sustaining habitat functions of an existing wetland. An example is removal of exotic species from existing riparian habitat.*

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> ***Wetland acquisition*** *may be considered in combination with any of the three mitigation activities above.*

The Biology Guidelines further state that:

> *Wetland enhancement and wetland acquisition focus on the preservation or the improvement of existing wetland habitat and function, and do not result in an increase in wetland area; therefore, a net loss of wetland may result. As such, acquisition and/or enhancement of existing wetlands may be considered as partial mitigation only, for any balance of the remaining mitigation requirement after restoration or creation if wetland acreage is provided at a minimum of a 1:1 ratio.*

However, the Biology Guidelines acknowledge that:

> *Wetland mitigation required as part of any federal (404) or state (1601/1603) wetland permit will supersede and will not be in addition to any mitigation identified in the CEQA document for those wetland areas covered under any federal or state wetland permit.*

CDFW does not have official definitions of wetland mitigation but has typically followed the tradition definitions like those in the City's Biology Guidelines. CDFW has discretion in evaluating the appropriateness of mitigation proposals in light of the project impacts and available mitigation options. CDFW works closely with the Corps when evaluating mitigation options.

The Corps has three definitions for wetland mitigation; establishment, restoration, and enhancement, as found in their 2008 document "Compensatory Mitigation for Losses of Aquatic Resources":

1. *<u>Establishment</u> (creation) - the manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area and functions.*

2. *<u>Restoration</u> - the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: reestablishment and rehabilitation.*

   2a. <u>Re-establishment</u> - the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/ historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.

   2b. <u>Rehabilitation</u> - the manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/ historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

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3. *Enhancement - the manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.*

Like the Corps, the RWQCB divides restoration into two activities, re-establishment and rehabilitation as follows:

- *Re-establishment is defined as the return of natural/historic functions to a site where vegetated or unvegetated waters of the U.S. and/or State previously existed (e.g., removal of fill material to restore a drainage).*

- *Rehabilitation is defined as the improvement of the general suite of functions of degraded vegetated or unvegetated waters of the U.S. and/or State (e.g., removal of a heavy infestation or monoculture of exotic plant species from jurisdictional areas and replacing with native species).*

The RWQCB defines enhancement as:

- *The improvement to one or two functions of existing vegetated or unvegetated waters of the U.S. and/or State (e.g., removal of small patches of exotic plant species from an area containing predominantly natural plant species).*

The Corps and RWQCB definitions of rehabilitation and enhancement explicitly distinguish between (1) the removal of a heavy infestation or monoculture of exotic plant species from jurisdictional areas followed by establishing native species and (2) the removal of small patches of exotic plant species from an area containing predominantly natural plant species. Both conditions exist at the stadium site.

No-net loss credit for extensive rehabilitation of relatively large patches of arundo monocultures is proposed for certain City project activities as part of the Stadium mitigation site planning. Specifically these mitigation areas would be considered rehabilitation as defined above. As such they should be considered as mitigation for certain permanent impacts. The use of rehabilitation-type restoration has been used for no net loss credit by the Corps and other agencies in the past on a project-by-project basis and in the context of programmatic mitigation projects such as the Santa Ana River Mitigation Bank and Santa Margarita Arundo Control Fund In-Lieu Fee Mitigation Program.

Section 2.0 Maintenance Description –

Update text in Section 2.2, paragraph 3 under "Maps 59, 60, 63, and 64 (Alvarado Creek)" to read as follows:

The amount of Waters of the U.S. (WUS), and CDFG and City jurisdictional areas affected was 1.17 acre comprised of 0.12 acre of southern willow scrub, 0.97 acre of fresh water marsh, 0.08 acre of disturbed wetland, and 0.45 acre of unvegetated streambed (Tables 1 and 2).

Section 3.0 Mitigation Site Description

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Between the 1st and 2nd paragraph of Section 3.4 add a new paragraph below:

The areas of native vegetation interspersed with exotics as described above will be used as enhancement areas. The project area is also currently infested with large monocultures of arundo (and other invasive non-native plant species) that have little value for wildlife. The conceptual goal of the restoration portion of the project will be to rehabilitate all areas of arundo that are greater than 0.10 acres (Figure 4). Figure 4 reflects the results of a detailed investigation of parcel information including ownership, easements, future City projects, and previous mitigation uses. The map shows the locations of available unencumbered restoration (rehabilitation) and enhancement areas as well as areas that are within sewer and road easements, but are proposed for treatment but may not be available for credit within a mitigation program. Rehabilitation areas were mapped and digitized using SanGIS 1-foot resolution aerial imagery taken in May, 2012. Enhancement areas were mapped by Helix Environmental in 2010 and supplemented with data from the San Diego County Invasive Species shapefiles provided by Helix.

There are 7.74 acres of stands of heavy monocultures of arundo greater than 0.10 acre that are proposed for rehabilitation credit. These relatively large monoculture stands of arundo will be removed and native habitat will be restored through the use of native cuttings, container plants, and seeds as described in Section 4. There are an estimated 14.99 acres of estimated enhancement credit available within the mitigation area boundary.

Replace the number "18.37" in Section 3.4, paragraph 2, with the following:
22.73

Delete references to Figure 5 in in Section 3.4, paragraph 2.

Section 4.0 Implementation Plan - Update Section 4.4 Implementation Schedule to read:

Proposed mitigation activities would occur at the end of the nesting bird breeding season, with herbicide application of arundo and drilling/herbicide inoculation of palm species. After approximately three months, the arundo would be cut down and either removed or mulched depending on feasibility of removal. After removal and or mulching, planting would occur to ensure that pole cuttings, container plants, and seed mixes are installed within the rainy season in the rehabilitation areas.

Section 4.6 Invasive Plant Removal - Add the paragraphs below at the end of this section to describe the removal of palms:

Mexican fan palms and canary date palms would be removed by a drill and kill method. This involves removal of fronds, drilling to the center of the palm, and then injecting the palm with herbicide specific to the palm. After kill, the palms can be left in place, as they slump upon themselves, and native vines tend to grow over them quickly. Large stands of palms would need to be cut and removed to open up an area to allow the planting of natives.

Only the above-ground biomass will be treated, soils will not be disturbed. Every effort will be made to prevent the drift of herbicide onto native vegetation. Herbicides will be applied only when wind speed is below 5 mph. Low pressure applicators may be used to minimize over-spray onto adjacent native vegetation. All chemical treatments on-site will follow all federal and state laws, regulations, labeled directions, and safety precautions. Only water-safe herbicides shall be used in wet areas or near open water as approved by applicable regulatory agencies (including

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US Environmental Protection Agency). Some legally registered herbicides may pose a threat to avian species; thus, for all herbicides used on site the label will be reviewed prior to treatment for information on proper timing and application rates. No mixing or preparation of chemicals shall occur within the riparian corridor or within or directly adjacent to drainages or waterways.

Hand removal or physical extraction of invasives/weeds may be used around desirable native species or clusters to be preserved, where other control methods are impractical, or would cause damage to the native species. Special care will be taken not to trample adjacent native vegetation while hand removing target invasive species. The labor crew's ability to identify and distinguish between target invasives and native species as seedlings is required to limit impacts on adjacent native habitat. Crews will be assisted by a qualified biologist in plant species identification.

4.7 Container Planting and Seed Mixes - Create a new subsection after Section 4.6 and before 4.7 Pole Cutting Installation, insert language below, and renumber remaining subsections accordingly.

A mixture of container plantings and seeding will be utilized. A plant palette and seed mix for riparian habitat are presented in Tables 3 and 4. All rehabilitation areas will be planted with container plants and cuttings as well as the application of seed mix. Rehabilitation areas plantings should be supplemented where possible with trench or augur planting of large tree cuttings (large cuttings placed directly into the water table). All mitigation areas will require ongoing weed maintenance. Effective control of target exotic plants is required prior to re-vegetation to avoid situations where re-treatments would harm a significant number of plantings. For areas that are treated first and then biomass is reduced, the planting may occur in the first year. Areas that reduced first and then have re-growth treated will typically not be planted with natives until the second year. Supplemental irrigation is not proposed at this time.

Table 3
Riparian Scrub Plant Palette

Species	**Common Name**	**Bulk Application Rate (lbs/acre)**	**Purity/Germination**	**Pounds of Pure Live Seed (PLS) per Acre**
Species[2]	**Common Name**	**Container Size**	**Spacing (feet on center)**	**Density Per Acre[3]**
Baccharis salicifolia	mulefat	1-gallon	15	194
Iva hayesiana	San Diego marsh-elder	1-gallon	30	48
Populus fremontii	Fremont cottonwood	5-gallon	40	27
Rosa californica	California rose	1-gallon	50	17
Rubus ursinus	California blackberry	1-gallon	50	17
Salix exigua	sandbar willow	1-gallon	50	17
Salix gooddingii	black willow	1-gallon	20	109
Salix laevigata	red willow	1-gallon	30	48
Salix lasiolepis	arroyo willow	1-gallon	20	109
Total				**586**

Table 4
Riparian Scrub Seed Mix

Species	Common Name	Bulk Application Rate (lbs/acre)	Purity/Germination	Pounds of Pure Live Seed (PLS) per Acre
Ambrosia psilostachya	western ragweed	1.0	20/30	0.06
Artemisia douglasiana	Douglas' mugwort	2.0	15/50	0.15
Artemisia palmeri	San Diego sagewort	1.0	20/50	0.20
Elymus triticoides	beardless wild ryegrass	3.0	90/80	2.16
Juncus mexicanus	Mexican rush	1.0	95/60	0.57
Lotus scoparius	deerweed	1.0	95/80	0.76
Lupinus truncatus	collar lupine	2.0	95/85	1.62
Mimulus guttatus	seep monkey flower	1.0	10/60	0.06
Muhlenbergia rigens	deergrass	3.0	80/70	1.68
Oenothera elata hookerii	evening primrose	1.0	98/80	0.78
Total		**16.0**		**8.04**

6.4 Technical Monitoring – Replace current text in its entirety with the language below adapted from the *Conceptual Wetland Restoration Plan for the City of San Diego Master Storm Water System Maintenance Program (May 2011).*

In addition to maintenance monitoring visits, the restoration specialist will conduct annual monitoring of enhancement and restoration (rehabilitation) areas, preferably in May of each year, during the five year maintenance and monitoring period. The visits are scheduled for May to coincide with the peak of the growing season for most native herbs and shrubs; however the exact timing of the visits will depend on site and weather conditions.

Annual monitoring will include both qualitative (visual assessment) and quantitative (transect data collection) sampling within the enhancement and restoration areas. This sampling will include assessments of cover (native and non-native), observations of plant recruitment, and lists of wildlife and plant species observed on site each year. A functional assessment (including hydrological and biogeochemical assessments) of the enhancement and restoration (rehabilitation) areas will be conducted. In Years 1 and 2, monitoring will only be qualitative and be based on a visual survey of all mitigation areas. In Years 3 through 5, quantitative transect monitoring will be conducted in the enhancement and restoration areas, while the enhancement areas will continue to be monitored qualitatively. Success criteria milestones are provided in Section 7.0, below.

Vegetation

Fifty-meter transects will be used to collect data for the annual monitoring of enhancement and restoration areas during Years 3 through 5. The number of transects will vary depending on the size, type, and location of the individual enhancement and restoration areas. Transects will be randomly located during the first quantitative sampling event (to occur in Year 3), and permanently marked with rebar to facilitate their use in subsequent years. Vegetative data will be

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collected along each transect using the point intercept line transect sampling methods described in the California Native Plant Society's Field Sampling Protocol (Sawyer and Keeler-Wolf 1995). Species cover data will be collected by recording all of the species intercepted at each 0.5-meter interval along the length of each transect. Vegetation will be recorded separately for herb (0 to 0.6 meter), shrub (0.6 to 2 meters), and tree (greater than 2 meters) layers. Species richness data will be collected by noting all species occurring within a 5-meter belt transect centered on each line transect.

Animal Diversity

Wildlife use will be noted incidentally during each annual assessment by hearing species-specific vocalizations or by observing the species, or their tracks, scat, or dens. No focused wildlife surveys will be conducted.

Photo Documentation

In addition to the qualitative and quantitative monitoring, several permanent stations for photo documentation will be established prior to installation. Photos will be taken as part of all five annual monitoring events and will be included in the respective year's annual report.

Annual Reports

An annual report will be prepared each year during the five-year monitoring period and submitted to the Corps, CDFG, RWQCB, and City (SWD and Development Services Department Mitigation Monitoring Coordination Section [MMC]).

7.0 Success Criteria – Replace current text in its entirety with the language below adapted from the *Conceptual Wetland Restoration Plan for the City of San Diego Master Storm Water System Maintenance Program (May 2011).*

The following sections provide standards to determine the successful completion of the mitigation effort as well as measurement methods for success criteria (Table 5). Attainment of these standards indicates that the mitigation area is progressing toward, and has the habitat function and services specified by this plan.

Table 5
Success Criteria

Criteria	Year 1	Year 2	Year 3	Year 4	Year 5
Species Richness (number of species)	*	*	3	4	5
Native Cover	*	*	50	60	75
Non-Native Cover	10	10	10	10	10
Invasive Plant Cover	0	0	0	0	0

*No success criteria for Years 1 and 2

7.1 120-Day Establishment Period

Success at the end of the 120-day establishment period will be met if all targeted non-native species located within the project area have been eradicated (by removing to ground level and killing any remaining stumps to prevent resprouting), there is 100 percent survivorship of

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container stock within planting areas, seed has been installed, any installed irrigation provides adequate cover and application rates, and there are no erosion-related issues. Container stock shall be in the ground for at least 30 days prior to the end of the 120-day establishment period.

7.2 Five-Year Maintenance Period

Species Richness

Species richness is the number of native species present in a given area. Species richness will be determined by visual assessment during the Year 1 and 2 annual monitoring events. While no species richness success criteria have been established for Years 1 or 2, there should be an indication that sufficient species are present to meet Years 3 through 5 goals. In Years 3 through 5, species richness within the enhancement and restoration areas will be determined within the belt transects centered on the sampled line transects. The annual success criterion for native plant species richness varies by year (Table 5). If the species richness goal for a given year is not met, corrective measures (e.g., reseeding, planting, etc.) will be taken to ensure eventual achievement of the five-year goal.

Native Cover

Annual performance goals for native cover track the progress of the mitigation effort. No specific cover criteria have been established for Years 1 or 2; however, sufficient cover should be observed to indicate that the enhancement and restoration effort is on track to meet final success criteria. For Years 3, 4, and 5, plant cover will be determined along the sampled line transects (Table 5). If the annual goals for native cover are not met, additional measures (e.g., reseeding, planting, weeding, etc.) will be taken as necessary to ensure final success.

Non-native Plant Cover

Cover by non-native species in the enhancement and restoration areas should not exceed 10 percent in any year of monitoring, including Years 1 and 2, while target weed species discussed below should be completely eradicated each year.

Invasive Plant Cover

At least 7 species are targeted for eradication within all enhancement and restoration areas including: giant reed, pampas grass, castor-bean, Mexican fan palm, Canary Island date palm, tamarisk, and Brazilian pepper tree. These species include the Cal-IPC High- or Moderate-rated species that have been observed, or have potential to occur, within the mitigation sites. Each year of the maintenance and monitoring period, the acceptable cover value for each of the targeted weed species will be zero. Additional species may be added to this list if found to be a threat to the long-term success of the mitigation effort.

Irrigation

To provide evidence that vegetation is self-sufficient, direct irrigation of the enhancement and restoration areas must be shut off at least 2 years prior to the end of the maintenance/monitoring period.

Overall Global Edits: The change in specific definitions for wetland mitigation discussed in paragraphs 3 and 4 of Section 1.0 require edits through-out the entire document to correct the use

of the words restoration, enhancement, and rehabilitation in accordance with the definitions provided above. Impact and mitigation acreages need to be made consistent with Tables 1 and 2, including adding references to Murphy Canyon where appropriate.

HELIX
Environmental Planning

City of San Diego Storm Water System - Stadium

Wetland Mitigation Plan

May 31, 2012

Prepared for:
City of San Diego
Transportation and Storm Water Department
9370 Chesapeake Drive, Suite 100
MS 1900
San Diego, CA 92123

Prepared by:
HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard, Suite 200
La Mesa, CA 91942

City of San Diego Storm Water System - Stadium Wetland Mitigation Plan

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1.0 INTRODUCTION

This aquatic resource mitigation plan (Plan) offsets wetland impacts that have occurred as a result of recent emergency maintenance activities conducted within the City of San Diego's (City's) storm water system facilities (e.g. drainage channels, detention basins, and outfalls) under the federal Clean Water Act section 404, Regional General Permit (RGP) 63 for Repair and Protection Activities in Emergency Situations in 2010/2011. In addition, this Plan can provide compensatory mitigation for the effects of routine maintenance of the City's storm water system facilities under the City's Master Storm Water System Maintenance Program (MSWSMP; City of San Diego Transportation & Storm Water Department 2011 and HELIX 2011b). This Plan provides one-time, permanent compensatory mitigation for emergency or routine maintenance of facilities and all future routine maintenance of those same facilities.

Maintenance impacts include the removal of vegetation and sediment impeding the ability of these facilities to effectively convey floodwaters; however, the underlying condition of the facilities (e.g. concrete or earthen substrate) remained unchanged. Wetland compensation pursuant to this Plan would provide mitigation for impacts to U.S. Army Corps of Engineers (Corps) jurisdictional areas under Section 404 of the federal Clean Water Act, California Department of Fish and Game (CDFG) jurisdictional areas under Section 1602 of the California Fish and Game Code, and areas considered wetlands by the San Diego Regional Water Quality Control Board (RWQCB) and City. The proposed wetland compensation would also implement the goals and objectives of the City's Multiple Species Conservation Program (MSCP) Subarea Plan (City 1997a) by enhancing wetland habitat located within the City (Figures 1 through 3).

All wetland mitigation would occur as restoration, comprised of the removal of invasive non-native vegetation and enhancement through installation of pole cuttings of trees native to the site. Since the mitigation provides permanent one-time compensation for current and future maintenance of the subject facilities by repairing the natural or historic functions of the currently degraded wetlands, the restoration sites will be maintained as long as the facilities are maintained.

This report uses *restoration* to mean the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource, as defined in the Corps' Wetland Mitigation Rule (Corps 2008). In this case, the category of restoration is *rehabilitation* because the area is already jurisdictional; therefore, the restoration results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area (Corps 2008).

2.0 MAINTENANCE DESCRIPTION

2.1 MAINTENANCE LOCATION

Emergency maintenance of storm water facilities during the 2010/2011 rainy season occurred at 3 locations, within 3 Hydrologic Units (HUs [watersheds]), as defined in the San Diego RWQCB Water Quality Control Plan for the San Diego Basin. Maps 59, 60, 63, and 64 are within the San

Diego HU; Maps 91 and 93 are within the Pueblo San Diego HU and Maps 9, 11, 12, and 13 are within the Los Peñasquitos HU (Figure 3). Future routine maintenance activities under the City's MSWSMP (City of San Diego Transportation and Storm Water Department 2011 and HELIX 2011b) include vegetation clearing, sediment removal, and trash removal. Map numbers shown on Figure 3 correspond to Appendix B of the Biological Technical Report for the City of San Diego's Master Storm Water System Maintenance Program (HELIX 2011a), which provides detailed mapping of vegetation communities and jurisdictional areas.

2.2 MAINTENANCE IMPACTS

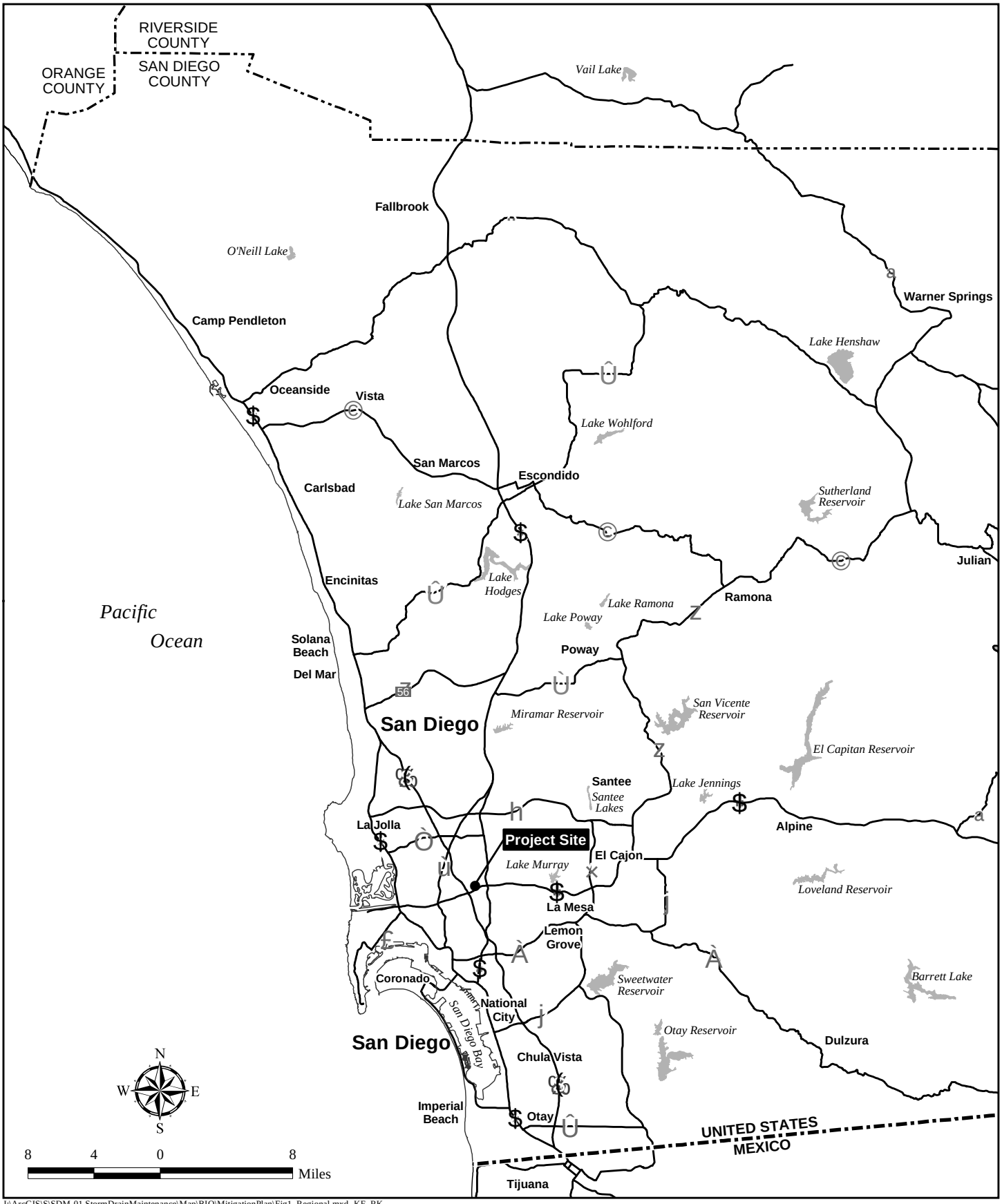
The affected facilities are storm water channels. The major channels consist of named creeks, some of which have been channelized and/or lined with concrete and/or riprap along portions of their lengths. The maintenance impacts include vegetation clearing; sediment removal and trash removal are based on facility-specific hydraulic and hydrologic studies that determined the specific area to be maintained, and then on each Individual Maintenance Plan (IMP).

Maps 59, 60, 63, and 64 (Alvarado Creek)

These channels are in the upper (Maps 63 and 64) and lower (Maps 59 and 60, Figures 1 through 3) portions of the Alvarado channel. The lower portion of the channel shown on Maps 59 and 60 is aligned north of Camino Del Rio North Road, which becomes Alvarado Canyon Road just east of Fairmount Avenue. The central and upper portions are bounded by Mission Gorge Road to the north and Alvarado Canyon Road to the south. More specifically, the center of Maps 59 and 60 is located at 32°46' 49.78" north latitude and 117°06'05.54" west longitude.

The IMPs for Map 59 and 60 and Maps 63 and 64 identified the specific areas of channel clearing, maintenance method(s) to be used, equipment type, access roads/paths; and staging areas. These facilities were maintained under Regional General Permit (RGP) 63 for Repair and Protection Activities in Emergency Situations in 2010/2011 to return the channel to the historic design, capacity, and reduce the frequency of flooding.

The amount of Waters of the U.S. (WUS), and CDFG and City jurisdictional areas affected was 0.74 acre comprised of 0.12 acre of southern willow scrub, 0.55 acre of fresh water marsh, and 0.07 acre of disturbed wetland (Tables 1 and 2).



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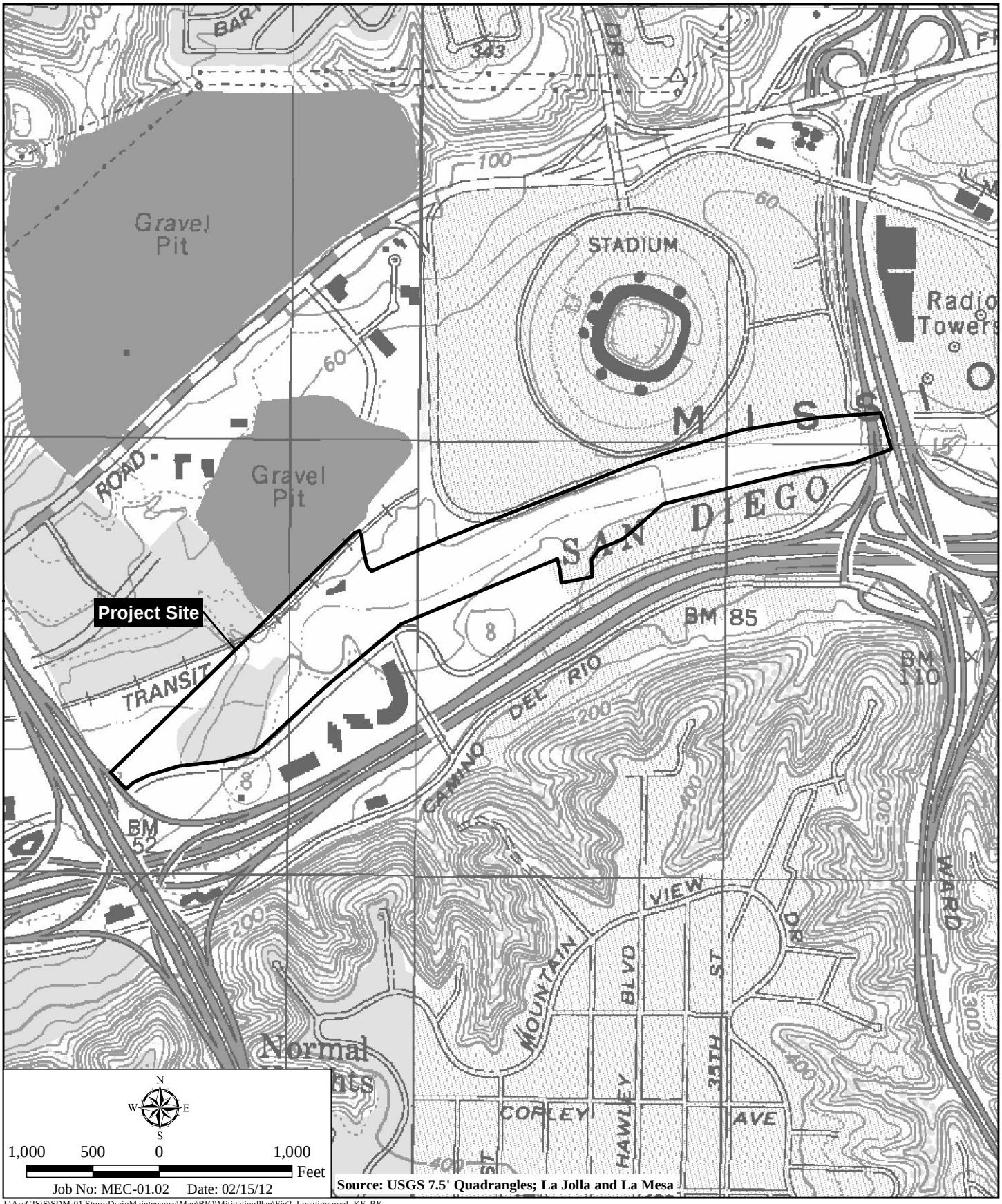
Regional Location Map

CITY OF SAN DIEGO MSWSMP - STADIUM WETLAND MITIGATION SITE

HELIX Environmental Planning

Figure 1



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Project Location Map

CITY OF SAN DIEGO MSWSMP - STADIUM WETLAND MITIGATION SITE

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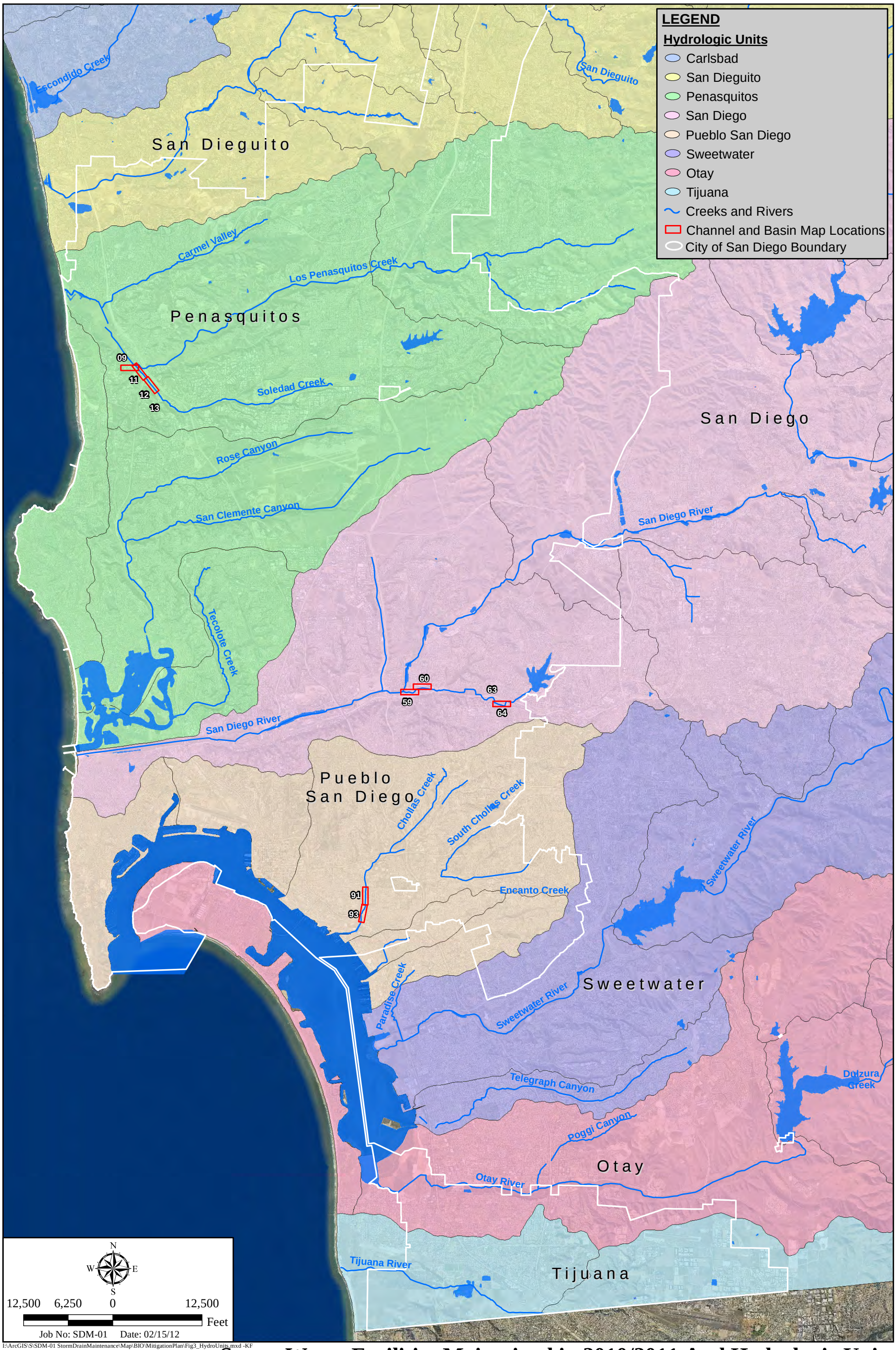
Figure 2



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Storm Water Facilities Maintained in 2010/2011 And Hydrologic Units

CITY OF SAN DIEGO MSWSMP - STADIUM WETLAND MITIGATION SITE

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Figure 3

Table 1
2010/2011 RGP 63 EMERGENCY WETLAND IMPACTS AND MITIGATION
WATERS OF THE U.S.
(acre[s])

CORPS WETLANDS												
HU	**Impacts†**											**Total Impacts‡**
	SRF	**SRW**	**RW**	**SWS**	**MFS**	**RS**	**FWM**	**CAM**	**CSM**	**CBM**	**DW**	
San Diego												
Maps 59, 60, 63 & 64				0.12			0.55				0.07	**0.74**
Pueblo San Diego												
Maps 91 & 93												**0**
Peñasquitos												
Maps 9, 11, 12, & 13							0.62					**0.62**
Total Impacts				**0.12**			**1.17**				**0.07**	**1.36**
	Mitigation											**Mitigation Allocated To Date**
Enhancement Ratio	3:1	3:1	3:1	2:1	2:1	2:1	1:1	4:1	4:1	4:1	1:1	--
Acre(s)				**0.24**			**1.17**				**0.07**	**1.48**

†Habitat acronyms: CAM=cismontane alkali marsh, CBM=coastal brackish marsh, CSM=coastal salt marsh, DW=disturbed wetland, FWM=freshwater marsh, MFS=mule fat scrub, RS=riparian scrub, RW=riparian woodland, SRF=southern riparian forest, SRW=southern sycamore riparian woodland, SWS=southern willow scrub

‡ Does not include impacts from maintenance conducted in cement and unvegetated natural flood channels, as no mitigation is required.

Table 2
STORM WATER FACILITY MAINTENANCE EFFECTS AND MITIGATION ACCOUNTING
STADIUM WETLAND PRESERVE
(acre[s])

WETLANDS													
HU - Year Maintained	**Impacts 2010/2011†**											**Total Impacts‡**	**Mitigation**
	SRF	**SRW**	**RW**	**SWS**	**MFS**	**RS**	**FWM**	**CAM**	**CSM**	**CBM**	**DW**		
San Diego													
Maps 59, 60, 63 & 64 - 2010/211				0.12			0.55				0.07	**0.74**	**0.86**
Pueblo San Diego													
Maps 91 & 93												**0**	**0**
Peñasquitos													
Maps 9, 11, 12, & 13- 2010/211							0.62					**0.62**	**0.62**
Total				**0.12**			**1.17**				**0.07**	**1.36**	**1.48**

ACCOUNTING													
	Mitigation											**Total Used To Date**	**Total Available**
Enhancement Ratio	3:1	3:1	3:1	2:1	2:1	2:1	1:1	4:1	4:1	4:1	1:1	--	
Acre(s)				**0.24**			**1.17**				**0.07**	**1.48**	**16.89**

Maps 91 & 93 (Chollas Creek)

These channels are in the upper (Map 91) and lower (Map 93) portions of the Chollas Creek Channel. The area extends from and flows in a southerly direction for approximately 5,550 feet to a point where the channel intersects with South Las Chollas Creek. This portion of the channel is aligned west of the southbound Interstate (I-) 15.

More specifically, the center of Map 91 is located at 32°42'06.97" north latitude and 117°07'16.69" west longitude. The downstream portion of the study area, shown on Map 93, begins at the South Las Chollas Creek confluence and extends upstream for approximately 1,750 feet. Its downstream section is subject to tidal exchange. More specifically, the center of Map 93 is located at 32°41'43.04" north latitude and 117°07'22.70" west longitude.

The IMPs for Maps 91 and 93 identified the area of channel clearing, maintenance method(s) to be used, equipment type, access roads/paths, and staging areas. The emergency maintenance affected only the trapezoidal concrete-lined drainage channel, and returned those sections to the historic design and capacity to reduce the frequency of flooding.

No WUS, CDFG, or City natural-bottom channel was affected, as shown in Tables 1 and 2.

Maps 9, 11, 12 & 134 (Sorrento Creek)

These storm water channels are located in an industrial complex area in northern San Diego. The subject channels are between Flintkote Street to the west and Roselle Street to the east (Map 9), along Dunhill Street between Tower Road on the west to Roselle Street on the east (Map 10), and the cement-only portion of Sorrento creek at the western end of Map 11 between Roselle Street and I-5 (Map 11), between Sorrento Valley Boulevard to the north and extending approximately 2,200 feet southward (Map 12). All of the facilities are within the Peñasquitos HU within the City of San Diego.

More specifically, the center of the Dunhill channel on Map 9 is located at 32°54'11.43" north latitude and 117°13'41.60" west longitude, the center of the Flintkote channel on Map 10 is located at 32°54'16.21" north latitude and 117°13'48.49" west longitude, the center of the facility on Map 11 is located at 32°54'07.51" north latitude and 117°13'29.44" west longitude, the center of the facility on Map 12 is located at 32°53'56.36" north latitude and 117°13'48.49" west longitude, and the center of the facility on Map 13 is located at 32°53'42.73" north latitude and 117°13'05.21" west longitude.

On Map 9, there is a trapezoidal concrete-lined drainage channel throughout the area of study, located west of Soledad Canyon Channel, east of Flintkote Avenue, north of Dunhill Street, and south of Estuary Way. The upstream portion of the channel begins at the outfall of the 27" and 32" reinforced concrete pipes (RCP's), located immediately east of the Flintkote Avenue. From the outfall of the 27" and 32" RCP's, the channel conveys flows in northwesterly direction for approximately 1,150 feet, crossing Roselle Street and confluencing with Soledad Canyon Channel by two 36" RCP's. This channel is herein referred to as the Roselle/Flintkote Channel.

On Maps 11 and 12, the area extends along Soledad Canyon (also known as Sorrento Valley Creek or Carroll Canyon Creek) from a point located 1,500 feet south of Tansy Street and Roselle Street, and flows in a northwest direction for approximately 8,450 feet. This portion of the channel is aligned west of Sorrento Valley Road and east of Roselle Street. The central portion of the channel, within the project area, is a concrete-lined trapezoidal channel (approximately 2,300 linear feet). The lower and the upper portions of the area of study have an earthen bottom and sides (approximately 6,150 linear feet).

The amount of WUS, CDFG, and City jurisdictional areas affected was 0.62 acre of fresh water marsh (Tables 1 and 2).

2.3 FUNCTIONS AND SERVICES OF AFFECTED AREAS

The storm water facilities within the MSWSMP are diverse in terms of size, vegetative cover, substrate, hydrology, and environmental setting. Vegetative cover ranges from mature riparian forest to marsh habitat, to unvegetated surfaces with substrates including loams, sands, cobbles, rock, and concrete. Hydrology varies from permanently flowing creeks to ephemeral streambeds that flow only following rainfall or in response to urban runoff. These storm water facilities are in highly urbanized settings and present few opportunities for wildlife use as a result of their location and individual characteristics.

The storm water facilities provide varying degrees of storm water conveyance and flood abatement, pollutant assimilation, ground water recharge, wildlife habitat, and wildlife movement corridor. Factors affecting the degree to which each of these functions occurs within a specified storm water facility include its width, substrate condition, habitat type and vegetative cover (if any), and proximity to urban development.

2.4 MITIGATION REQUIREMENTS

The Corps, CDFG, RWQCB, and City require mitigation for impacts to wetland habitat (Tables 1 and 2). Impacts to unvegetated streambed/natural flood channel do not require mitigation, as the channel would remain in place and would only be affected by sediment removal and/or bank support/reconstruction in the case of excessive erosion. Wetland mitigation often consists of a combination of creation, enhancement, or restoration to satisfy local, state, and federal mitigation requirements. Mitigation ratios are proportional to the habitat type and quality, and are typically higher for wetland habitat types that have a higher function and diversity and typically take longer to establish. Typically, creation at a ratio of 1:1 is required as a component of the mitigation. However, in the case of mitigating for storm water facility maintenance activities conducted in natural bottom channels, enhancement, without the traditional creation component, is considered appropriate for 3 primary reasons: (1) the channel itself remains after maintenance and continues to function for wildlife movement and, in the case of earthen bottom facilities, continues to filter out urban runoff pollutants, (2) wetland vegetation has historically returned to these channels between maintenance events, and (3) maintenance, in most cases, occurred in urban channels where repeated maintenance activities have already occurred for many years. These enhancement activities are considered “permanent” mitigation and would allow storm channel maintenance to reoccur without additional mitigation for future clearing events.

3.0 MITIGATION SITE DESCRIPTION

3.1 MITIGATION LOCATION

The Stadium Wetland Mitigation site is located within the San Diego HU on City-owned parcels within and adjacent to the San Diego River in the vicinity of Qualcomm Stadium (Figures 1 and 2). The San Diego River flows in a southwesterly direction through the eastern portion of the City, east of I-15. Shortly before crossing under I-15, the river turns more or less to the west, paralleling the north side of I-8 until the river outfalls at the Pacific Ocean.

3.2 MITIGATION SITE SUITABILITY

The target riparian enhancement areas are considered suitable because they occur within a natural riparian system which supports soil conditions and hydrological regimes conducive to the establishment and persistence of native wetland/riparian vegetation.

3.3 OWNERSHIP STATUS

This portion of the San Diego River is on land owned by the City of San Diego (City) Water Resources, Metropolitan Wastewater, and General Services Departments.

3.4 EXISTING CONDITIONS

The San Diego River within the area proposed for restoration currently contains varied topography, including a main wetland channel, and numerous secondary channels within a larger riparian floodplain. This area contains perennial wetland hydrology within the main channel, intermittent hydrology throughout most of the remainder of the riparian corridor, and areas of ephemeral hydrology in higher elevation pockets. Interspersed with native vegetation is substantial cover by invasive non-native plants (Figures 4 and 5) including (*Arundo donax*), myoporum (*Myoporum* spp.), Mexican fan palm (*Washingtonia robusta*), Canary Island date palm (*Phoenix canariensis*), red gum (*Eucalyptus camaldulensis*), athel tamarisk (*Tamarix aphylla*), smallflower tamarisk (*Tamarix parviflora*), saltcedar (*Tamarix ramosissima*), Brazilian peppertree (*Schinus terebinthifolius*), Peruvian peppertree (*Schinus molle*), pampasgrass (*Cortaderia selloana*), fennel (*Foeniculum vulgare*), perennial pepperweed (*Lepidium latifolium*), hottentot fig (*Carpobrotus edulis*), castor bean (*Rincinus communis*), and edible fig (*Ficus carica*) among others.

As shown on Figure 4, the Stadium Wetland Mitigation site in the San Diego River provides a total of 18.37 acres of opportunity for invasive removal. Only the polygons that contain the target invasive species are included in those 18.37 acres (Figure 4). Figure 5 shows the respective polygon allocation for the facilities maintained in 2010/2011 and the remainder available for future use. Please note that the blue polygons on Figure 4 identify the sewer and water utilities are not included in the 18.37 acres available for mitigation. Nonetheless, invasives should be removed from those areas (not counted as mitigation) to remove that source of potential recruits that could colonize other areas.

This Plan acknowledges that the Draft San Diego River Master Plan (City of San Diego 2010) identifies future pathways along the north and south sides of the River. The pathways are multi-purpose, 14' feet wide but their locations have not been determined.

3.5 EXISTING FUNCTIONS AND SERVICES

Existing functions and services include storm water conveyance and flood abatement, pollutant uptake, ground water recharge, wildlife habitat, and a corridor for wildlife movement. Habitat quality, and therefore functions and services for wildlife, are currently reduced as a result of the high amount of non-native vegetation. Restoration of this area will greatly increase the value to native flora and fauna, and also reduce the spread of non-native species to downstream areas within the watershed.

3.6 TARGET FUNCTIONS AND SERVICES

The goal of wetland enhancement is to establish habitat that can perform the same functions and services (storm water conveyance and flood abatement, pollutant uptake, ground water recharge, wildlife habitat, and corridors for wildlife movement) that have been impacted as part of storm water system maintenance. At the end of 5 years of maintenance and monitoring, the enhanced habitat is expected to be free of the target invasive non-native species and contain increased native cover.

Recent Corps documents (Regulatory Guidance Letter published by the Corps on December 24, 2002, and Special Public Notices published by the Los Angeles District on January 27, 2003, and April 19, 2004) emphasize the importance of maximizing the functions provided by compensatory mitigation, and encourage the use of functional assessments (such as the California Rapid Assessment Method [CRAM]) for evaluating impacted aquatic resources, determining appropriate mitigation ratios and success criteria, and assessing the compensatory mitigation following implementation. However, since mitigation ratios have already been determined in consultation with the resource agencies, and since hydrology, landscape position, and buffer size and quality would not be altered by the proposed enhancement, only the decrease of non-native cover will be targeted and measured by this Plan; therefore, CRAM will not be conducted.

3.7 MSCP LAND USE CONSISTENCY

Maintenance activities would be consistent with relevant policies and guidelines of the City's MSCP (refer to Table 13 of the Biological Technical Report [HELIX 2008a]). Many of the storm water facilities and proposed mitigation areas are located within the City's Multi-habitat Planning Area (MHPA). Disturbed lands within the MHPA can be enhanced or restored to improve the functions and services of the MHPA.

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Total Biological and Water Quality Mitigation

CITY OF SAN DIEGO MSWSMP - STADIUM WETLAND MITIGATION SITE

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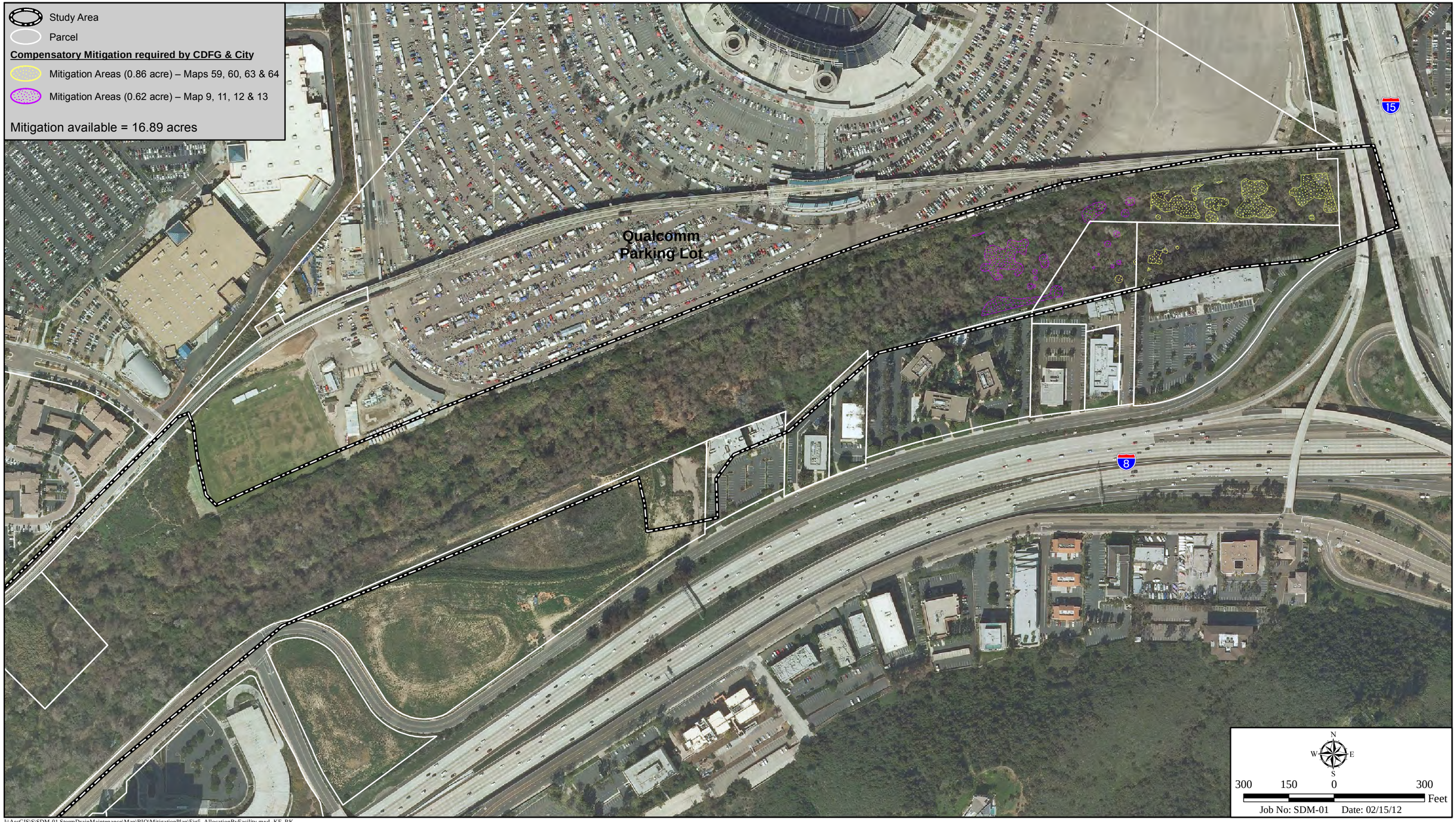
Figure 4



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Allocation of Mitigation Area By Facility

CITY OF SAN DIEGO MSWSMP - STADIUM WETLAND MITIGATION SITE

HELIX Environmental Planning

Figure 5

4.0 IMPLEMENTATION PLAN

4.1 PROJECT RESPONSIBILITY

4.1.1 Project Proponent

Proponent: City of San Diego, Transportation & Storm Water Department
Contact: Anne Jarque, Senior Planner
Address: 2781 Caminito Chollas, MS4
San Diego, CA 92105
Phone: 619-527-313
Email: KMcFadden@sandiego.gov

4.1.2 Restoration Specialist

Overall supervision of the installation, maintenance, and monitoring of this mitigation effort will be the responsibility of a restoration specialist experienced with wetland habitat restoration. The restoration specialist will oversee the efforts of the installation and maintenance contractor(s) for the life of the project. Specific tasks of the restoration specialist include educating all participants with regard to mitigation requirements and goals, discussing avoidance of sensitive habitat and species, directly overseeing invasive plant removal and pole cutting installation, monitoring the enhancement effort for 5 years, and conducting an annual assessment of the status of the mitigation site. Following the completion of each annual assessment, the restoration specialist will prepare an annual report which will be submitted to the Corps, CDFG, RWQCB, and City Development Services Department [DSD] and Transportation & Storm Water Department (T&SWD).

4.1.3 Installation/Maintenance Contractor(s)

The installation and maintenance contractor(s) will have experience in wetland habitat restoration and be under the direction of the restoration specialist who will assist the contractor(s) with the installation and maintenance of the target vegetation types. The installation contractor will be responsible for the initial removal of targeted invasive plants within the enhancement areas and installation of cuttings, including an initial hand watering.

After the installation contract is completed, the T&SWD will hire a maintenance contractor for the duration of the 5-year maintenance and monitoring period. The maintenance contractor and the installation contractor may be the same entity; the T&SWD may change contractors at its discretion. The maintenance contractor should be knowledgeable as to the maintenance of native plant habitat and the difference between native and non-native plants. Maintenance will include, but not be limited to, removal of non-native vegetation and trash and installation of additional cuttings. All activities conducted will be seasonally appropriate and approved by the restoration specialist. The maintenance contractor will meet the restoration specialist at the site when requested and will perform all checklist items in a timely manner as directed.

4.2 RATIONALE FOR EXPECTING IMPLEMENTATION SUCCESS

Restoration of wetland habitat within the designated mitigation areas is anticipated to be successful because the proposed areas are: (1) located within or adjacent to existing wetland habitats, and (2) located in areas containing the same slope, aspect, soils, and hydrology as adjacent native habitat. Habitat restoration would increase the value of existing habitat by creating larger, contiguous blocks of native habitat.

4.3 SENSITIVE HABITAT AND SENSITIVE SPECIES

As a result of the mitigation areas being located within sensitive wetland habitat, all restoration activities will be carried out under the supervision of a restoration specialist who will identify access routes and areas where work is to be conducted. As a result of the potential presence of sensitive animal species such as least Bell's vireo (*Vireo bellii pusillus*) and southwestern willow flycatcher (*Epidonax taillii extimus*), non-native plant removal should not occur during the reproductive seasons of sensitive species in areas where such species may be present (between March 15 and September 15 in riparian forest or scrub habitats). In addition, mechanized or intensive removal activities should not occur within 300 feet of potentially occupied habitat during the same periods, within 500 feet of an active nest of a tree-nesting raptor, or within 800 feet of an active nest of a ground-nesting raptor (typically present between February 1 and July 15). If removal of invasive non-native plants needs to occur between February 1 and July 15, a pre-impact survey for nesting raptors will be required. Likewise, if this removal needs to occur between March 15 and September 15, protocol surveys for least Bell's vireo and southwestern willow flycatcher will need to be conducted prior to impacts. Manual non-native plant removal or control (including use of herbicides) may be conducted in the mitigation areas at any time of year during the establishment and/or maintenance periods.

4.4 IMPLEMENTATION SCHEDULE

Enhancement would occur in December 2012, and planting would occur in the same month or shortly thereafter to ensure that pole cuttings are installed within the rainy season. Additional timing restrictions for vegetation clearing are outlined in Section III. B. above. Maintenance and monitoring of the restoration effort will begin following the completion of installation and will continue for a 5-year period.

4.5 SITE PREPARATION

4.5.1 Pre-construction Meeting

Prior to initiation of restoration activities, an on-site meeting will be held with the installation contractor and the restoration specialist to identify sensitive areas and species, and devise a strategy for avoiding impacts to sensitive resources.

4.5.2 Site Access

Mechanical equipment access may be required for tree removal within the restoration area, as well as chipping or mowing of exotics, such as giant reed. Equipment would be brought into the

site along existing access paths, where present. Temporary staging areas or access roads would be located in existing disturbed areas; native habitats would not be impacted unless determined to be unavoidable. If temporary habitat disturbance is unavoidable, then restoration of and/or mitigation for the disturbed areas after project completion will be required. Some equipment (e.g., container plantings) may be temporarily stored directly inside of delineated restoration areas.

4.5.3 Documenting Pre-mitigation Conditions

A total of 20 point-assessments will be conducted within separate restoration areas at the Stadium Wetland Mitigation site to document the baseline conditions before the start of mitigation. At each point, herb, shrub, and tree layer cover, as well as total cover, will be visually estimated for native and non-native species. Data will be collected within a 5-meter square plot that will be selected in advance on a site map. In addition, each plot will be photographed from a location that will be recorded using a global positioning system (GPS) and mapped for reference. These same plots and photo locations will be assessed following mitigation installation and again in Years 3 and 5 as part of the annual assessment to document the progress of the restoration effort. In addition to data collection, a recent aerial photo will be used to document the pre-restoration condition of the site. This photo will be compared to the most recent aerial photo available at the end of the Year 5 restoration effort.

4.6 INVASIVE PLANT REMOVAL

All target non-native, invasive plant species, as well as trash, will be removed from the restoration areas. It is important to note that, as a result of the density of vegetation within the restoration area, additional areas may become accessible after some non-native removal has been initiated. The species identified for removal will be removed from new areas as well, and any additional acreage will be mapped and recorded using hand-held GPS units.

Certain highly invasive plant species have been targeted for complete eradication within the restoration area: (*Arundo donax*), myoporum (*Myoporum* spp.), Mexican fan palm (*Washingtonia robusta*), Canary Island date palm (*Phoenix canariensis*), red gum (*Eucalyptus camaldulensis*), athel tamarisk (*Tamarix aphylla*), smallflower tamarisk (*Tamarix parviflora*), saltcedar (*Tamarix ramosissima*), Brazilian peppertree (*Schinus terebinthifolius*), Peruvian peppertree (*Schinus molle*), pampasgrass (*Cortaderia selloana*), fennel (*Foeniculum vulgare*), perennial pepperweed (*Lepidium latifolium*), hottentot fig (*Carpobrotus edulis*), castor bean (*Rincinus communis*), and edible fig (*Ficus carica*). These species are rated as either high or moderate in the California Invasive Plant Inventory prepared by the California Invasive Plant Council (Cal-IPC 2006), which includes highly invasive pest plants that have been documented as aggressive invaders that displace natives and disrupt natural habitats. There will be no tolerance for these species within the restoration area. Additional species may be added to this list if found to be a threat to the long-term success of the restoration effort.

All large woody exotics will be cut to ground level with all above-ground portions removed from the site. Remaining stumps will be treated with herbicide, as necessary. Trash and other debris removed from the project area will be disposed of in a licensed landfill. Plant material from

herbaceous species may be mulched and left on site, or may be hauled away and disposed of in a licensed landfill. All tree material will be removed from the site and properly disposed.

The foliar spray herbicide method of giant reed removal, as outlined on the Santa Margarita–San Luis Rey Weed Management Area (SMSLRWMA) program website (SMSLRWMA 2012), is detailed below.

Foliar Spray Herbicide Method. This method involves spraying herbicide on the stems and leaves of giant reed without any cutting. The herbicide that has been found to be effective is a glyphosate. If treatment is in or adjacent to water, Rodeo® or other herbicide approved by the U.S. Environmental Protection Agency (EPA) for use in aquatic systems must be used. Although the manufacturer's recommendations for Rodeo® use on giant reed are to use a 2 percent solution, field tests have indicated that a low rate of kill is achieved with 2 percent foliar application. A much higher kill rate (up to 95 percent with one treatment) has been achieved when using a higher percentage (5 to 6 percent). The leaves and stems need to be thoroughly sprayed - in some cases this is difficult because of the height of the vegetation and the presence of non-target vegetation nearby. Pressurized sprayers (mounted on an all-terrain vehicle) and the use of ladders are helpful where the giant reed is tall. The giant reed can be "prepped" prior to spraying by pulling the stem away from non-target vegetation and pushing it down to the ground. Because the giant reed rhizome mass remains in the ground, if a sub-lethal dose of herbicide is applied, resprouting will occur. While some resprouting usually does occur, it is generally composed of very scattered, small giant reed sprouts. This method can also be followed by mowing and/or cutting.

The stems will be cut and sprayed during October through November. Stems will be mowed and cut, as necessary, between February and March. Resprouts will be re-sprayed in February through March, and again in July through August as needed, unless it poses a threat to nesting of sensitive bird species.

Because removal of the dead giant reed biomass from the mitigation sites can be very expensive, alternative methods of dealing with the biomass have been used by the SMSLRWMA program and are discussed below. In some cases, the biomass can be left on site to decompose naturally over time. However, this could be a concern because of potential flood or fire hazard, aesthetics, or the biomass may need to be removed for native re-planting. The main methods of dealing with giant reed stems that require removal that are used by the SMSLRWMA program are: (1) chipping, and (2) mowing. The following descriptions are taken from the SMSLRWMA website.

(1) Chipping. High-powered drum chippers are recommended because the material is finely chipped and the machine feeds itself, creating a much safer environment for workers and chipping at a faster rate than regular chippers. Although high powered drum chippers are more expensive to rent than regular chippers, crews can work faster. Furthermore, the green giant reed stems are chipped so fine that there is almost no resprouting.

(2) Mowing. Mowing is carried out in place using a hammer-flail mowing attachment that is mounted on the front of a rubber-tired tractor. Alternatively, slope mowers, hydroax, and other mowing devices can be used (not all are rubber tired). Mowing is generally best suited for dense giant reed stands. However, if the stands are very old it may be hard to maneuver through them and there may be hidden obstacles or unexpected drops. Mowing is advantageous because no giant reed material has to be moved by hand or moved off-site. The limitations to mowing include site access, terrain, amount of native vegetation, and noise issues.

4.7 POLE CUTTING INSTALLATION

Following the removal of the targeted non-native species, pole cuttings would be collected from native trees and shrubs growing within the mitigation site and installed in cleared openings. The species that would be installed include, but are not limited to, willow (*Salix* spp.) and mule fat (*Baccharis salicifolia*). Other species may be installed, as directed by the restoration specialist. Cuttings should be collected and installed the same day, whenever possible. If this is not feasible, they may be stored for up to 5 days on site in a 5-gallon bucket filled one-third of the way with water. They should be installed 10 feet on center, whenever feasible, within the cleared areas and in groupings of at least 5 to create habitat that contains more natural plant distributions. The use of rooting hormone is not recommended. Cuttings should be manually watered the day they are installed.

Ideally, cuttings would be collected and installed between November and January, before substantial new growth emerges on the tree and shrub branches. This period is also within the rainy season, increasing the likelihood that cuttings could survive and establish roots before the summer drought. If installed at other times of the year, there may be high cutting mortality, making it likely that replacement cuttings will need to be installed at a later date.

4.8 AS-BUILT DOCUMENTATION

The restoration specialist shall submit a brief letter report to the appropriate regulatory agencies (Corps, CDFG, RWQCB, and City), including an as-built graphic and pre- and post-installation data and photos within 6 weeks of completion of restoration installation. This letter will describe site preparation, installation methods, and the as-built status of the overall mitigation project.

5.0 MAINTENANCE PLAN

A 5-year monitoring program is proposed to ensure the successful establishment and persistence of restored wetland habitat. The maintenance program will involve removal of non-native species and trash, manual watering, and any remedial measures deemed necessary for the success of the mitigation program (e.g., planting of pole cuttings). Maintenance activities will be directed by the restoration specialist and implemented by the maintenance contractor.

5.1 GENERAL MAINTENANCE

The maintenance guidelines are tailored for invasive plant control. Maintenance personnel will be informed of the goals of the enhancement effort and the maintenance requirements. A professional with experience and knowledge in native habitat restoration will supervise all maintenance. It is the maintenance contractor's responsibility to keep all seeded and planted areas free of non-native vegetation and debris, conduct manual watering, monitor the condition and health of plant material, and conduct erosion control, as needed. Damage to plants occurring as a result of unusual weather or vandalism will be repaired as directed by the restoration specialist. The cost of such repairs will be paid for as extra work. The contractor will be responsible for damage caused by the contractor's inadequate maintenance, as determined by the restoration specialist.

5.2 INVASIVE PLANT CONTROL

Within the restoration areas, certain highly invasive plant species rated as either High or Moderate in the California Invasive Plant Inventory prepared by the California Invasive Plant Council (Cal-IPC 2006) are targeted for complete eradication: (*Arundo donax*), myoporum (*Myoporum* spp.), Mexican fan palm (*Washingtonia robusta*), Canary Island date palm (*Phoenix canariensis*), red gum (*Eucalyptus camaldulensis*), athel tamarisk (*Tamarix aphylla*), smallflower tamarisk (*Tamarix parviflora*), saltcedar (*Tamarix ramosissima*), Brazilian peppertree (*Schinus terebinthifolius*), Peruvian peppertree (*Schinus molle*), pampasgrass (*Cortaderia selloana*), fennel (*Foeniculum vulgare*), perennial pepperweed (*Lepidium latifolium*), hottentot fig (*Carpobrotus edulis*), castor bean (*Rincinus communis*), and edible fig (*Ficus carica*).

Additional species may be added to the target list if found to be a threat to the long-term success of the restoration effort. Although some non-native grasses are rated as High or Moderate invasiveness, they will not be targeted for full eradication as a result of their general abundance within San Diego and unlikely impact on the establishment and/or persistence of riparian vegetation along the river corridor (these grasses are generally short and are not dense below the tree canopy).

5.3 OTHER PESTS

Insects, vertebrate pests, and diseases will be monitored. Generally speaking, pests will be tolerated unless they pose a significant threat to project success. If deemed necessary, a licensed pest control adviser will make specific pest control recommendations. All applicable federal and state laws and regulations will be closely followed. The restoration specialist will be consulted on any pest control matters.

5.4 FERTILIZER APPLICATION

Fertilizer will not be applied.

5.5 PRUNING

No post-installation pruning will be conducted.

5.6 SENSITIVE SPECIES ISSUES

Following the initial removal of targeted non-native and invasive species within the restoration areas, which will be conducted per the specifications outlined above, follow-up maintenance activities will not include use of heavy equipment or vehicles and, as such, are not anticipated to have adverse effects on sensitive species.

5.7 MAINTENANCE SCHEDULE

The installation contractor will conduct maintenance at least once per month during the 120-day establishment period until the restoration specialist recommends and the T&SWD approves in writing. The maintenance contractor will be responsible for all maintenance activities during the remainder of the 5-year restoration effort. Maintenance will be conducted at least once per month, or as needed to prevent re-seeding by non-natives, during this period. The installation/maintenance contractor(s) will complete maintenance requests from the restoration specialist within 14 days of any written request or monitoring report.

6.0 MONITORING PLAN

The restoration specialist will monitor habitat enhancement activities during all phases of the mitigation effort, including pre-construction, installation, 5-year maintenance/monitoring, and annual technical assessments. The restoration specialist must inspect and authorize each phase of work before the next phase may begin. Specific details on each phase of monitoring are provided in this section.

6.1 PRE-CONSTRUCTION MONITORING

Prior to the start of the mitigation effort, the restoration specialist will conduct the following tasks:

- Document the pre-restoration status at the 20 designated point assessment locations (Section 4.5.3, above);
- Attend one pre-construction meeting with the installation and maintenance contractor to review project goals, site access, and maintenance timing restrictions (e.g., for use of mechanized equipment);
- Ensure that installation personnel understand the project requirements and limitations.

6.2 INSTALLATION MONITORING

The restoration specialist will monitor all enhancement activities. Monitoring during this phase of the project will include the following:

- Monitor all target non-native and invasive plant removal within existing riparian habitat on a daily basis (Table 3);
- Regularly monitor all pole cutting installation;
- Prepare an as-built letter for submittal to the appropriate regulatory agencies (e.g., Corps, CDFG, RWQCB, and City) stating that the installation is complete, and
- Conduct monthly monitoring during the 120-day establishment period (Table 3).

Table 3
MONITORING SCHEDULE

PHASE	SCHEDULE
Installation Monitoring	
Site preparation and installation	Daily
120-day establishment period	Monthly (4 visits)
Maintenance Monitoring	
Year 1	Monthly (12 visits)
Year 2	
February to July	Monthly (6 visits)
August to January	2 visits
Years 3 to 5 (restoration areas)	6 visits

6.3 MAINTENANCE MONITORING

The 5-year monitoring period will begin after the City T&SWD Project Manager has field verified that all planting has been installed and the site has met conditions for completion of the 120-day establishment period (success criteria are outlined in Section VI.A, below). The restoration specialist will monitor the site monthly during Year 1 (Table 3); 8 times in Year 2 — monthly from February through July (to cover the peak establishment period of both spring and summer germinating species) and twice in the remainder of the year; and 6 times per year for the remainder of the project. This monitoring schedule is the minimum; more frequent inspections may be necessary if there are problems with contractor performance or habitat development. Monitoring memos noting any issues with plant establishment, sediment control, etc., will be provided as necessary to the installation/maintenance contractor(s) and T&SWD. Restoration specialist tasks during this phase of the project will consist of the following:

- Conduct regular maintenance monitoring events (Table 3);
- Monitor any required re-planting of cuttings;
- Prepare regular monitoring memos, as needed; and
- Periodically meet with the maintenance contractor to address any observed issues and/or to direct maintenance activities.

6.4 TECHNICAL MONITORING

In addition to maintenance monitoring visits, the restoration specialist will conduct annual monitoring of enhancement areas, preferably in June of each year, during the 5-year monitoring period. The exact timing of the visits will depend on site and weather conditions.

Each year, annual monitoring will include a combination of qualitative (visual assessment) and quantitative (data collection) sampling within the 20 designated assessment plots. Sampling in each plot will include visual assessments of cover (native and non-native vegetation within the herb, shrub, and tree layers of the canopy), a list of all plants establishing from seed, a list of all plant species observed and their relative abundance, and general observations of plant health and growth. In addition to plot data, all wildlife species heard or observed (either directly or indirectly, i.e., via tracks or scat) will be documented, the overall progress of the restoration effort towards meeting the final project goals will be assessed, and any issues will be documented. Success criteria milestones are provided in Section VI.B. below. Each plot will be photographed to document the progress of the restoration effort. An annual report will be prepared each year and submitted to the Corps, CDFG, RWQCB, and City (T&SWD and Development Services Department Mitigation Monitoring Coordination Section [MMC]).

7.0 SUCCESS CRITERIA

Enhancement activities will continue for 5 years following the completion of initial invasive plant removal and cutting installation. The only success criterion is less than 5 percent cover by invasive non-native species at the end of Year 5. This is also the interim goal each year of maintenance.

8.0 COMPLETION OF MITIGATION

8.1 NOTIFICATION OF COMPLETION

The Corps, CDFG, and RWQCB will be notified of completion of the enhancement effort through submittal of a Year 5 annual report.

8.2 CONFIRMATION

If the enhancement effort meets all success standards at the end of the monitoring period, then the mitigation will be considered a success; if not, the monitoring program will be extended until the standards are met. Specific remedial measures (approved by the Corps, CDFG, and RWQCB) will be used during any extension. Monitoring extensions will be done only for areas that fail to meet final success criteria. This process will continue until all standards are attained or until the Corps, CDFG, RWQCB, and City determine that other mitigation measures are appropriate. If requested, a site visit may be conducted with the Corps, CDFG, and RWQCB to verify site conditions.

9.0 CONTINGENCY MEASURES

9.1 INITIATING PROCEDURES

If the mitigation effort is not meeting success standards for the project, the T&SWD shall notify the Corps, CDFG, RWQCB, and City (T&SWD and MMC) and propose corrective measures.

9.2 ALTERNATIVE LOCATIONS FOR CONTINGENCY MITIGATION

Sufficient contingency mitigation areas may be present in areas near the mitigation site. If the success criteria are not being met on site, the Corps, CDFG, RWQCB, and City will work together to reach an alternative mutually acceptable solution.

10.0 LONG-TERM MANAGEMENT

The long-term management for enhancement areas would be carried out by the City of San Diego Public Utilities Department as long as the subject facilities are maintained.

11.0 CERTIFICATION/QUALIFICATION

The following individuals contributed to the fieldwork and/or preparation of this report:

Sally Trnka*	M.S., Biology, San Diego State University, 1998 B.S., Biological Sciences, University of California-Davis, 1992
Stephen Neudecker	*Certified Senior Ecologist*, Ecological Society of America Ph.D., Ecology, University of California, Davis 1982 M.S., Biology, University of Guam, 1978 B.S., Zoology, University of Kentucky, 1974
Elizabeth Venz	M.B.A, Business, Geographic Information Systems, University of Redlands, 2006 B.A., Geography, Methods of Analysis, San Diego State University, 2000
Aleksandra Richards	M.A., International Relations, University of San Diego, 2010 B.A., Communications, Emphasis in Print Journalism, California State University Fullerton, 2008

*Primary report author

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