



THE CITY OF SAN DIEGO

DEVELOPMENT SERVICES DEPARTMENT

Date of Notice: JULY 9, 2009

**PUBLIC NOTICE OF AVAILABILITY FOR A
DRAFT ENVIRONMENTAL IMPACT REPORT**

JO: 007460

The City of San Diego Entitlements Division has prepared a draft Program Environmental Impact Report (PEIR) for the following project and is inviting your comments regarding the adequacy of the document. **Your comments must be received by AUGUST 22, 2009 to be included in the final document considered by the decision-making authorities.** Please send your written comments to the following address: **Myra Herrmann, Environmental Planner, City of San Diego Development Services Center, 1222 First Avenue, MS 501, San Diego, CA 92101** or e-mail your comments to DSDEAS@sandiego.gov with the Project Number in the subject line.

General Project Information:

- Project: **MASTER STORM WATER SYSTEM MAINTENANCE PROGRAM (MSWSMP)**
- Project No. **42891**, SCH No. **200101032**
- Community Plan Area: **CITYWIDE** Council District: **ALL COUNCIL DISTRICTS**

Subject: MASTER SITE DEVELOPMENT (SDP) and COASTAL DEVELOPMENT PERMIT (CDP) for the long-term maintenance of storm water facilities maintained by the City of San Diego's Storm Water Department (SWD). The storm water facilities include a series of natural and/or constructed drainage channels along with associated drainage control structures (e.g. outfalls and detention basins) located throughout the metropolitan area. The MSWSMP identifies the maintenance activities anticipated to be carried out for each drainage facility. The Master Program also establishes a series of protocols to be carried out during maintenance activities that are intended to minimize impacts related to soil and erosion, water quality, and wildlife disruption. A Substantial Conformance Review (SCR) procedure will also be established as part of the permit approval and environmental document certification. **Applicant:** City of San Diego, Storm Water Department

Recommended Finding: The Draft PEIR concludes that the project would result in significant, but mitigated impacts to **Historical and Paleontological Resources (Direct)**; and significant, unmitigated impacts to **Aesthetics/Neighborhood Character (Direct)**, **Biological Resources (Direct/Indirect)**, **Land Use (MSCP/MHPA) (Direct)**, **Water Quality (Direct)** and **Solid Waste Disposal (Cumulative)**.

Availability in Alternative Format: To request this Notice, the Program Environmental Impact Report (PEIR), Initial Study, and/or supporting documents in alternative format call the Development Services Department at 619-446-5460 or (800) 735-2929 (TEXT TELEPHONE).

Additional Information: For environmental review information, contact Myra Herrmann at (619) 446-5372. The draft PEIR has been posted on the City's Storm Water Department website at <http://www.sandiego.gov/thinkblue/>. Although not part of the CEQA process, informational meetings will be held in late July by the Storm Water Department. Please see the Think Blue website for more details. The draft PEIR, Initial Study, and supporting documents may be reviewed or purchased for the cost of reproduction, at the Fifth floor of the Development Services Center. For information regarding public hearings on this project, contact Project Manager Patricia Grabski at (619) 446-5277. This notice was published in the SAN DIEGO DAILY TRANSCRIPT, placed on the City of San Diego web-site (<http://www.sandiego.gov/city-clerk/officialdocs/notices/index.shtml>) and distributed on **JULY 9, 2009**.

Cecilia Gallardo, AICP
Assistant Deputy Director
Development Services Department



Land Development
Review Division
(619) 446-5460

ENVIRONMENTAL IMPACT REPORT

Project No. 42891
SCH No. 200101032

SUBJECT: MASTER STORM WATER SYSTEM MAINTENANCE PROGRAM (MSWSMP):
MASTER SITE DEVELOPMENT (SDP) and COASTAL DEVELOPMENT PERMIT (CDP) for the long-term maintenance of storm water facilities maintained by the City of San Diego's Storm Water Department (SWD). The storm water facilities include a series of natural and/or constructed drainage channels along with associated drainage control structures (e.g. outfalls and detention basins) located throughout the metropolitan area. The MSWSMP identifies the maintenance activities anticipated to be carried out for each drainage facility. The Master Program also establishes a series of protocols to be carried out during maintenance activities that are intended to minimize impacts related to soil and erosion, water quality, and wildlife disruption. On an annual basis, the SWD would identify specific maintenance activities to be undertaken the next fiscal year which would then be subject to a Substantial Conformance Review (SCR) of Individual Maintenance Plans (IMPs) with the MSWSMP and the Mitigation Monitoring and Reporting Program (MMRP). **Applicant:** City of San Diego, Storm Water Department.

CONCLUSIONS:

The Program Environmental Impact Report (PEIR) analyzes the environmental impacts of the proposed Master Storm Water System Maintenance Program. The proposed discretionary actions consist of a Master Site Development Permit and Coastal Development Permit's (City of San Diego), Section 404 Permit (U.S. Army Corps of Engineers [Corps]), Streambed Alteration Agreement (California Department of Fish and Game [CDFG]), and 401 Certification (California Regional Water Quality Control Board [RWQCB]). If surface discharges of water are involved, maintenance would require a Wastewater Discharge Permit from the RWQCB.

Implementation of the proposed Mitigation Monitoring and Reporting Program (MMRP) included in Chapter 11 of the EIR would reduce the environmental effects of the project. However, because of the difficulty predicting the future impacts and ability to mitigate for those impacts, direct impacts related to Aesthetics, Biological Resources, Land Use Conservation Policies, and Water Quality are considered significant and unmitigated. As the project may not be able to recycle or re-use all of the vegetation removed in the course of maintenance, and future landfill space is unknown, the cumulative impacts of the waste generated by maintenance activities is also considered significant and unmitigated. Mitigation proposed for historical and paleontological resources is considered adequate to reduce direct impacts to below a level of significance.

SIGNIFICANT UNMITIGATED IMPACTS:

Aesthetics (Direct)

Maintenance of storm water facilities could require removal of large stands of trees that occur within those facilities. The loss of these trees would result in potentially significant aesthetic/neighborhood character impacts. Implementation of Protocol #24 which would “Retain wetland vegetation during maintenance when retention would not interfere with the goal of facilitating the conveyance of floodwaters, and protecting adjacent life and property”, would reduce the potential impact of maintenance to large stands of trees and the resulting aesthetic/neighborhood character impacts. However, in most cases, it is anticipated that large stands of trees would conflict with the flood control function of the facilities and would have to be removed. Thus, aesthetic/neighborhood character impacts from maintenance are considered significant and unmitigated.

Biological Resources (Direct)

Maintenance associated with the proposed project would impact both sensitive upland and wetland habitats. Wetland impacts would occur within the drainage channels.

Upland impacts would occur on the upper elevations of the channels and in association with new or improved roads used for equipment access to channels. In addition to vegetation impacts, maintenance could also affect sensitive bird species including least Bell’s vireo and southern willow flycatcher in wetlands as well as coastal California gnatcatcher in upland coastal sage scrub. Similarly, sensitive plants located within or adjacent to drainages could be significantly impacted by maintenance.

Predicting the actual amount of impact to sensitive biological resources is speculative at this time because detailed maintenance plans for affected storm water system facilities have not been completed. Furthermore, it is anticipated that the initial maintenance in affected channels will be

completed over a 3-5 year period. In order to provide an estimate of the maximum amount of impact, the Storm Water Department predicted the maximum width of clearing within the affected channels. Based on this approach, the PEIR indicates that up to approximately 70.40 acres of vegetated wetland habitat and 24.63 acres of unvegetated earthen-bottom streambed/natural flood channel could be affected by maintenance. An estimated 42 acres of upland habitat could be impacted.

Mitigation for biological resource impacts would be accomplished through a combination of creation, preservation, restoration, and/or enhancement. The PEIR establishes specific mitigation ratios that are based on the specific resource to be impacted and the degree of impact that would occur.

Mitigation for wetland impacts would be accomplished through habitat enhancement and/or restoration at the ratios specified in Table 4.3-10 in the PEIR. Habitat enhancement would consist of the removal of invasive plants. On the other hand, habitat restoration would consist of removal of invasive plants followed by installation of wetland plant species.

The decision to mitigate through habitat enhancement or restoration will be largely dependent on the frequency of maintenance. When maintenance in a specific channel segment is expected to occur more frequently than every three years (high frequency maintenance), mitigation would be achieved through habitat restoration. Once restoration has been completed, the restored area would be subject to a five-year monitoring and maintenance program. In addition, the mitigation area would be maintained for as long as the maintenance for which it is intended to compensate continues. No further mitigation will be required for maintenance within a specific channel segment as long as the associated mitigation area continues to meet initial success criteria.

When maintenance is expected to occur at intervals greater than every three years (low frequency maintenance), mitigation could occur through habitat enhancement as well as restoration. Habitat enhancement would involve initial removal of invasive species followed by a pro-active two-year maintenance program that would control the re-establishment of invasive species. Unlike restoration, enhancement would not provide permanent mitigation for the affected channel. Rather, enhancement would be undertaken every time maintenance occurs in a specific channel.

Mitigation for upland impacts would occur through acquisition of comparable habitat or mitigation credits at the mitigation ratios identified in Table 4.3-11 of the PEIR. For impacts less than five acres, payment into the City's Habitat Acquisition Fund may be made in lieu of direct purchase of upland mitigation land or credits.

Biological Resources (Indirect)

The loss of vegetation could increase downstream urban pollutants due to the loss of natural removal through root systems of in-channel vegetation. No mitigation exists to compensate for the potential reduction in the ability of the storm water facilities to remove urban runoff pollutants because mitigation would require retention of vegetation that would interfere with the primary objective of maintenance to maximize the flood control function of these facilities.

Water Quality (Direct)

Clearing vegetation could substantially reduce the removal of urban runoff pollutants that occurs in earthen channels from infiltration, sedimentation and root absorption.

No mitigation exists to compensate for the potential reduction in the ability of the storm water facilities to remove urban runoff pollutants because mitigation would require retention vegetation that would interfere with the primary objective of maintenance to maximize the flood control function of these facilities.

Solid Waste Disposal (Cumulative)

The majority of the vegetation and a portion of the sediment removed in the course of maintenance would be taken to local landfills for disposal. Combined with the demand created for landfill space by future development in the metropolitan area, the proposed maintenance activities would have a significant cumulative impact with respect to solid waste disposal. Maintenance protocols are included in the MSWSMP that would encourage recycling of vegetation, but some of the vegetation (most notably, Arundo) is too fibrous for recycling; in which case, landfill disposal would be required. Thus, the project impacts with respect to solid waste disposal are considered significant and not mitigated.

RECOMMENDED ALTERNATIVES FOR REDUCING SIGNIFICANT UNMITIGATED IMPACTS:

The PEIR analyzes alternatives that fall into two categories: non-structural and structural. Non-structural alternatives focus on management of vegetation within existing channels while structural alternatives focus on increasing the capacity of the storm water facilities to convey floodwater without regular removal of vegetation.

Non-structural Alternatives

- No Project (Past Approach); and
- No Maintenance;

Structural Alternatives

- Raising the channel banks by constructing walls or berms along the top of the channels;
- Diverting storm water in pipes around constrained segments; and
- Widening channels to accommodate vegetation.

Maintenance in Accordance with Past Approach (No Project) Alternative

Under this alternative, storm water facility maintenance would continue in the manner in which it has occurred in the past. The City generally conducted regular maintenance activities on a two-year cycle. However, in recent years, there has been increasing regulatory constraints on channel cleaning and maintenance. Consequently, maintenance on an “as needed” basis is no longer feasible, given the long lead times required to obtain permission from Resource Agencies and to undertake mitigation. As a result, most local agencies, including the City, have largely suspended their regular maintenance activities pending approval of regional permits such as proposed as part of the MSWSMP. Thus, under this alternative, it is likely that maintenance would be primarily restricted to activities that clearly meet the Resource Agency definitions of emergency maintenance. In addition, the maintenance would be done without the benefit of maintenance protocols (Protocols) included in the proposed MSWSMP.

Although this alternative would potentially impact less wetlands, have less impact on the natural ability of channels to remove urban pollutants, and create less solid waste, the City rejected the alternative because it would not fulfill the basic objective to protect life and property from flooding. The overgrowth within the storm water facilities that would occur from lack of regular maintenance would impede flood waters and cause flooding.

No Maintenance Alternative

Under this alternative, the City would not conduct any maintenance activities within the storm water system. Vegetation would grow unchecked within the channels and sediment would not be removed.

Although this alternative would avoid all impacts of the proposed project, the City rejected the alternative because it would not fulfill the basic objective to protect life and property from flooding. The overgrowth within the storm water facilities that would occur from lack of regular maintenance would impede floodwaters and cause flooding.

Raised Bank Alternative

Under this alternative, levees or walls would be added along the top of channels to allow them to contain vegetation without compromising their ability to transport floodwaters. The structures would offset the effect of vegetation and sediment by allowing water elevations to increase without spilling out into adjacent areas. However, accumulation of sediment and vegetation would ultimately eliminate the increased flood capacity created by the structures. Channel-specific engineering would be undertaken to determine the additional “bank” height needed.

Although this alternative would potentially impact less wetlands, allow natural removal of urban pollutants to continue and generate less solid waste, the City rejected the alternative for factors related to wildlife habitat, cost, visual quality, and the temporary nature of the solution. With respect to wildlife habitat, the structures along storm water facilities would have an adverse impact on wildlife by making it more difficult for upland wildlife to access the channels for water, food and cover. Walling off the storm water facilities would also have an adverse visual impact. The cost of designing and constructing walls or levees along existing drainage facilities would be substantial. In addition, the cost would be increased by the need to acquire private property to accommodate the structures. Lastly, this alternative would not be effective in the long-term because accumulation of sediment would likely eventually offset the additional capacity created by the structures.

Channel By-pass Alternative

This alternative would involve construction of underground pipes that would divert some or all of the flow around a channel segment to allow the channel to be naturally vegetated. Channel-specific engineering would be undertaken to determine the location and sizing of by-pass pipes to assure that vegetated channel segments can continue to support vegetation without resulting in flooding.

Although this alternative would potentially impact less wetlands, allow natural removal of urban pollutants to continue and generate less solid waste, the City rejected the alternative as financially infeasible. The cost of constructing the by-pass pipes would be high. Beyond the cost of acquiring easements, adjacent development would make it difficult to construct by-pass pipes without impacting structures including homes and businesses. Condemning structures would further add to the cost of the by-pass alternative. In addition, this alternative would not be effective in the long-term because accumulation of sediment in the main channel would likely eventually offset the additional capacity created by the by-pass pipe and may not be able to accommodate flood waters. Given the factors identified above, this alternative is considered infeasible.

Widened Channel Alternative

Under this alternative, the configuration of channels would be modified to increase the volume capacity of the channel. The goal of increasing the channel volume would be to enable vegetation to exist in the channel without causing flooding. Channel-specific hydraulic analysis would be undertaken to determine the additional width needed. In most cases, the capacity would likely be increased by widening a cross-section of the channel at its narrowest point. Increasing the depth of the channel would also increase capacity but is expected to be difficult to achieve in most cases due to constraints imposed by the slope limitations on the channel banks and maintaining downstream gradients.

Allowing vegetation to remain in the widened channels would reduce the impact of maintenance on water quality and solid waste. The vegetation remaining within the channels would allow the natural process of urban pollutant control to continue. This alternative would also reduce the long-term impact on solid waste disposal. Although the initial widening effort would generate plant material requiring offsite disposal, subsequent clearing and related disposal would be reduced in the long-term.

Although this alternative would reduce wetland impacts by allowing vegetation to remain over some portion of the widened channels without periodic maintenance, the initial widening would impact the same amount of vegetation as the full maintenance approach. Ultimately, some portion of the vegetation within a widened channel would be allowed to remain during future maintenance which would reduce the long-term impact of maintenance on wetland habitat. Also, as with the proposed project, the actions within channels would not result in the permanent loss of the channels themselves.

Although not considered a feasible alternative to the proposed maintenance approach, on a case-by-case basis, the City may consider channel widening as a mitigation option for wetland impacts. Where channel widening is feasible and could create a net increase in the wetlands, the net increase could serve to offset impacts from maintaining other channels. However, in general, the City expects the social and economic cost of condemning and purchasing adjacent development needed to allow for widened channels to render this alternative infeasible.

MITIGATION, MONITORING AND REPORTING PROGRAM INCORPORATED INTO THE PROJECT:

A series of mitigation measures are identified in the PEIR to reduce environmental impacts. These measures are summarized below. The detailed mitigation measures are contained in Chapter 11 of the PEIR.

LAND USE (DIRECT)

Implementation of the following mitigation measures would reduce impacts related to maintenance noise impacts on sensitive birds protected under the City's Environmentally Sensitive Lands Regulation to below a level of significance.

Mitigation Measure 4.1.1 requires verification that all MHPA boundaries and limits of work have been delineated on all maintenance documents.

Mitigation Measure 4.1.2 requires a qualified biologist to survey areas suspected to serve as habitat (based on historical records or site conditions) for sensitive birds covered by the MSCP.

Mitigation Measure 4.1.3 requires, 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 activities to identify the location of the 60 dB(A) Leq noise contour and identify measures to be undertaken during maintenance to reduce noise levels.

Mitigation Measure 4.1.4 requires the Project Biologist to determine if maintenance has the potential to impact breeding activities of listed species. If impacts could occur, maintenance, whenever possible, maintenance would be restricted during the breeding season.

Mitigation Measure 4.1.5 requires, if maintenance cannot be avoided during the breeding season for a listed bird, monitoring the nearby breeding bird activities by a qualified acoustician and biologist to determine the effectiveness of noise attenuation measures. If the noise attenuation is determined to be inadequate, 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.

Mitigation Measure 4.1.6 requires a pre-maintenance meeting where the Project Biologist to discuss the sensitive nature of the adjacent habitat with the crew and subcontractor. The limits of work would be clearly delineated before the meeting.

Mitigation Measure 4.1.7 requires maintenance plans be designed to avoid the use of invasive plants, control lighting, and manage trash.

Mitigation Measure 4.1.8 requires the Multi-Habitat Planning Area (MHPA) boundaries and measures to protect coastal California gnatcatchers be shown on the maintenance plans.

BIOLOGICAL RESOURCES (DIRECT)

Implementation of the following mitigation measures would reduce impacts related to sensitive biological resources. However, in the absence of specific information regarding the exact impact and mitigation, it cannot be concluded that implementation of these mitigation measures would be sufficient to reduce impacts to below a level of significance.

Mitigation Measure 4.3.1 requires an Individual Maintenance Plan (IMP) be prepared and approved prior to commencing any maintenance activity to determine the amount of disturbance and the best management practices to be followed during maintenance.

Mitigation Measure 4.3.2 requires an Individual Biological Assessment (IBA) be prepared based on the IMP prior to commencing maintenance to quantify the impacts to biological resources and define mitigation prior to commencing maintenance.

Mitigation Measure 4.3.3 requires mitigation plans be prepared prior to any maintenance activity that could impact significant biological resources. These plans must identify success criteria and include a maintenance and monitoring program to assure that the success criteria are met.

Mitigation 4.3.4 requires impacted, occupied coastal California gnatcatcher habitat be compensated through preservation of offsite habitat or acquisition of credits equal to a ratio of 1:1. The compensation shall occur within six months of completion of maintenance is completed.

Mitigation Measure 4.3.5 requires impacts to wetland vegetation from high frequency maintenance (occurring more often than every three years) to be compensated through a combination of restoration, enhancement or mitigation credit acquisition. Specific mitigation ratios are established based on wetland vegetation type as identified in Table 4.3-10. Mitigation areas shall be maintained for the life of MSWSMP, pursuant to specified success criteria. The initial restoration, enhancement or purchase of mitigation credits shall occur within six months of the date the related maintenance is completed.

Mitigation Measure 4.3.6 requires impacts to wetland vegetation from low frequency maintenance (occurring less often than every three years) to be compensated through a program of exotic species removal (e.g. giant reed) each time the maintenance occurs. Specific mitigation ratios are established based on wetland vegetation type as identified in Table 4.3-10. The initial removal of invasives shall occur within six months of the date the related maintenance is completed. Control of invasives within mitigation areas shall continue for a period of two years following the initial control effort.

Mitigation Measure 4.3.7 requires impacts to upland vegetation be compensated through habitat preservation or purchase of suitable mitigation credits. Specific mitigation ratios are established based on upland vegetation type as identified in Table 4.3-11. The upland mitigation would occur within six months of the date the related maintenance is completed.

Mitigation Measure 4.3.8 prohibits initiation of maintenance activities before the City's Assistant Deputy Director (ADD) Environmental Designee and appropriate Resource Agencies have approved the IMPs and IBAs including proposed mitigation for each of the proposed activities.

Mitigation Measure 4.3.9 prohibits any maintenance activities until the City's Assistant Deputy Director (ADD) Environmental Designee and MMC have approved the qualifications of the Biological Consultant.

Mitigation Measure 4.3.10 requires the monitoring biologist to submit an annual summary of the monitoring activities and any remedial measures taken to minimize biological impacts.

Mitigation Measure 4.3.11 requires minimizing impacts to floodplains, to the greatest extent practicable, through project design and coordination with the regulating agencies.

Mitigation Measure 4.3.12 requires minimizing the use of new riprap, concrete, or other unnatural material within channels located within MHPA, to the maximum extent practicable.

Mitigation Measure 4.3.13 requires temporary access and staging along channels be restricted to those areas where no such facilities currently exist. Impacts to sensitive habitat and/or sensitive species would be minimized, to the greatest extent practicable, through project design measures, such as locating the facilities in the least sensitive habitat possible.

Mitigation Measure 4.3.14 requires a pre-maintenance meeting be held with the maintenance workers and the monitoring biologist to review mitigation measures included in the IBA.

Mitigation Measure 4.3.15 requires the monitoring biologist to confirm that mitigation actions (e.g. sensitive resource fencing, noise attenuation measures and equipment setbacks) have been adequately implemented before maintenance begins and monitor maintenance activities, when required.

Mitigation Measure 4.3.16 requires the monitoring biologist to submit a letter report within 90 days of the end of maintenance describing the monitoring activities and any remedial measures taken to minimize biological impacts associated with each maintenance activity. Within 90 days of receiving comments on the draft monitoring report, one copy of the final monitoring report

Mitigation Measure 4.3.17 requires evidence of compliance with other permitting authorities, if applicable, before maintenance begins.

Mitigation Measure 4.3.18 requires monitoring of access roads and staging areas for presence of exotic species, and exotic species removal, as appropriate. Removal of exotics in the course of maintenance activities would also be required.

Mitigation Measure 4.3.19 prohibits physical erosion control measures such as fiber mulch, hay bales, etc. from harboring seeds from invasive species.

Mitigation Measure 4.3.20 requires creation of a mitigation account to provide sufficient funds to implement all biological mitigation associated with the proposed maintenance activities.

Mitigation Measure 4.3.21 requires impacts to listed or endemic sensitive plant species to be offset through implementation of one or combination of: salvage and relocation; seed collection and replanting off site; and/or preservation of offsite populations.

Mitigation Measure 4.3.22 requires specific distance setbacks for maintenance activities from habitat and/or nests associated with sensitive animals.

Mitigation Measure 4.3.23 controls maintenance noise in excess of 60 dB(A) L_{eq} during the breeding season of sensitive birds.

Mitigation Measure 4.3.24 requires surveys of adjacent habitat suspected to support sensitive birds prior to maintenance that would occur during the breeding season for the potentially present bird species.

Mitigation Measure 4.3.25 requires the presence of sensitive birds be assumed if suitable habitat may be affected by maintenance noise but specific surveys are not conducted. In this event, the City would comply with Mitigation Measure 4.2-26.

Mitigation Measure 4.3.26 specifies that, if no surveys are completed and no sound attenuation devices are installed, maintenance activities that would generate more than 60dB(A) L_{eq} within the habitat requiring protection 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 4.3.27 requires a pre-maintenance survey for raptor nests if maintenance occurs during the raptor breeding season (February 1 to August 1). If active raptor nests are found,

maintenance is prohibited within distances which are specific to the affected raptor until any fledglings have left the nest or until after August 1.

Mitigation Measure 4.3.28 requires trees and/or grasslands supporting active raptor nests not be removed until after the breeding season or until the young have fledged.

Mitigation Measure 4.3.29 requires surveys be conducted to determine the existence of listed fish species prior to maintenance. Appropriate mitigation measures (e.g., exclusionary fencing, dewatering of the activity area, live-trapping, and translocation to suitable habitat) would be required, as necessary, before maintenance.

Mitigation Measure 4.3.30 requires delineation and fencing of areas supporting listed and/or narrow endemic plants which can be avoided during maintenance.

HISTORICAL RESOURCES

Implementation of the following mitigation measures would reduce impacts to significant historical resources, which may be encountered in the course of maintenance activities, to below a level of significance.

Mitigation Measure 4.4.1 would require an Individual Historical Assessment (IHA) prior to any maintenance activity for any maintenance area determined to have a moderate to high potential for the occurrence of important historical resources. If such a potential exists, an IHA would be prepared to determine if significant historic resources could be affected and define appropriate preservation or salvage actions.

Mitigation Measure 4.4.2 would require preparation of a phased research design and data recovery program (up to 15 percent sample) for any significant historical resources which may be impacted by maintenance, and summarized in a final results report.

Mitigation Measure 4.4.3 would require monitoring and implementation of historical protection or mitigation measures set forth in the IHA for specific maintenance activities.

PALEONTOLOGICAL RESOURCES (DIRECT)

Implementation of the following mitigation measure would reduce impacts to significant paleontological resources, which may be encountered in the course of maintenance activities, to below a level of significance.

Mitigation Measure 4.7.1 requires monitoring during maintenance activities where the potential exists for subsurface paleontological resources. The monitoring paleontologist shall have the authority to redirect maintenance away from any subsurface resources which are encountered to allow recovery of important scientific information associated with those resources. Draft and final reports shall be submitted to summarize the results of any recovery programs.

RESULTS OF PUBLIC REVIEW:

- () No comments were received during the public input period.
- () Comments were received but did not address the accuracy or completeness of the draft Environmental Impact Report (EIR). No response is necessary and the letters are attached at the end of the EIR.
- () Comments addressing the accuracy or completeness of the draft Environmental Impact Report (EIR) were received during the public input period. The letters and responses are attached in an Appendix to the FEIR.

Copies of the draft PEIR, the Mitigation Monitoring and Reporting Program and any technical appendices may be reviewed in the office of the Entitlements Division, or purchased for the cost of reproduction.



Cecilia Gallardo, AICP
Assistant Deputy Director

July 9, 2009
Date of Draft Report

Date of Final Report

Analyst: Myra Herrmann

PUBLIC REVIEW:

The following individuals, organizations, and agencies received a copy or notice of the draft EIR and were invited to comment on its accuracy and sufficiency:

Federal Agencies

U.S. EPA (19)
U.S. Border Patrol (22)
U. S. Fish and Wildlife Service (23)
U. S. Army Corps of Engineers (26)

Military

Naval Facilities Engineering Command, San Diego Branch (8)
Naval Facilities Engineering Command, SW Division, Environmental Planning (12)
MCAS Miramar (13)

State of California

Departments

Department of Transportation, District 11 (31)
California Transportation Commission, Attention: Susan Bransen
1120 N Street, MS 52, Sacramento, CA 95814
Department of Fish and Game (32)
Toxic Substance Control (39)
Department of Parks and Recreation (40)
Water Resources (45)
State Clearinghouse (46A)

Agencies

Resources Agency (43)
Regional Water Quality Control Board, Region 9 (44)
California Environmental Protection Agency (37A)

Commissions/Boards

California Coastal Commission (47)
Native American Heritage Commission (56)
Water Resources Control Board (55)

San Diego County

Department of Planning and Land Use (68)
Department of Parks and Recreation (69)
Department of Public Works (70/72)
Department of Environmental Health (75/76)
Air Pollution Control District (65)

City of San Diego

Office of the Mayor (91)
Council President Hueso, District 8 (MS 10A)
Councilmember Lightner, District 1 (MS 10A)
Councilmember Faulconer, District 2 (MS 10A)
Councilmember Gloria, District 3 (MS 10A)
Councilmember Young, District 4 (MS 10A)
Councilmember DeMaio, District 5 (MS 10A)
Councilmember Frye, District 6 (MS 10A)
Councilmember Emerald, District 7 (MS 10A)
Councilmember City Attorney - Shannon Thomas (MS 59)

Departments

Development Services Department
 LDR EAS – Myra Herrmann (MS 501)
 LDR Floodplain – Steve Lindsay (MS 501)
 LDR Engineering - Don Weston (MS 501)
 LDR Planning – Gary Geiler (MS 501)
 Project Manager Patricia Grabski (MS 301)
Park and Recreation Department (89)
 Deborah Sharpe (MS 5A)
Environmental Services Department – Lisa Wood (MS 1102A)
Water Department – Nicole McGinnis (MS 906)
Metropolitan Wastewater Department – Laura Ball (MS 901)
Library Gov't Documents Department (81 & 81A)
City Planning & Community Investment Department
 MSCP Reviewer – Jeanne Krosch & Kristen Forburger (MS 5A)
 Facilities Financing – John Tracana (MS 606F)
Governmental Relations Department (MS 51M)
Real Estate Assets Department (85)
Engineering and Capital Projects Department (86)
 Kerry Santoro, Project Officer II (MS 908A)
Storm Water Department
 Daniel Lottermoser, Associate Engineer (MS 44)
 Drew Kleis, Biologist III (MS 1900)

City Agencies

Redevelopment Agency (MS 904)
Southeastern Economic Development Corporation (SEDC) (448)
Centre City Development Corporation (MS 51-D)
Housing Commission (MS 49N)

Advisory Boards

Historical Resources Board (87)
Community Forest Advisory Board (90)
Wetland Advisory Board (91A)

Advisory Committees

Mission Bay Park Committee (320)
Balboa Park Committee (MS 35)

Libraries (NOTICE ONLY)

Balboa Branch Library (81B)
Beckwourth Branch Library (81C)
Benjamin Branch Library (81D)
Carmel Mountain Ranch Branch (81E)
Carmel Valley Branch Library (81F)
City Heights/Weingart Branch Library (81G)
Clairemont Branch Library (81H)
College-Rolando Branch Library (81I)
Kensington-Normal Heights Branch Library (81K)
La Jolla/Riford branch Library (81L)
Linda Vista Branch Library (81M)
Logan Heights Branch Library (81N)
Malcolm X Library & Performing Arts Center (81O)
Mira Mesa Branch Library (81P)
Mission Hills Branch Library (81Q)
Mission Valley Branch Library (81R)
North Clairemont Branch Library (81S)
North Park Branch Library (81T)
Oak Park Branch Library (81U)
Ocean Beach Branch Library (81V)
Otay Mesa-Nestor Branch Library (81W)
Pacific Beach/Taylor Branch Library (81V)
Paradise Hills Branch Library (81Y)
Point Loma/Hervey Branch Library (81Z)
Rancho Bernardo Branch Library (81AA)
Rancho Peñasquitos Branch Library (81BB)
San Carlos Branch Library (81DD)
San Ysidro Branch Library (81EE)
Scripps Miramar Ranch Branch Library (81FF)
Serra Mesa Branch Library (81GG)
Skyline Hills Branch Library (81HH)
Tierrasanta Branch Library (81II)
University Community Branch Library (81JJ)

University Heights Branch Library (81KK)
Malcolm A. Love Library (457)

Other Cities

City of Chula Vista (94)
City of Del Mar (96)
City of Escondido (98)
City of Imperial Beach (99)
City of La Mesa (100)
City of Lemon Grove (101)
City of National City (102)
City of Poway (103)
City of Santee (104)

Native Americans

Carmen Lucas (206)
Ron Christman (215)
Louie Guassac (215A)
Clint Linton (215B)
Kumeyaay Cultural Repatriation Committee (225)
Native American Bands and Groups (225A - Q) NOTICE ONLY

Other Agencies

San Diego Association of Governments (108)
Sempra (114)
Metropolitan Transit Systems (115)
Otay River Park Joint Powers Authority
5201 Ruffin Road, Suite P, San Diego, CA 92123
San Dieguito River Park Joint Power Authority (425A)
County Water Authority (73)
Unified Port District (109)
San Diego Gas & Electric (381)

Community Groups, Associations, Boards, Committees and Councils

Community Planners Committee (194) (NOTICE ONLY)

Community Planning Groups

Balboa Park Committee (226A)
Black Mountain Ranch –Subarea I (226C)
Otay Mesa - Nestor Planning Committee (228)
Otay Mesa Planning Committee (235)
Clairemont Mesa Planning Committee (248)
Greater Golden Hill Planning Committee (259)

Serra Mesa Planning Group (263A)
Kearny Mesa Community Planning Group (265)
Linda Vista Community Planning Committee (267)
La Jolla Community Planning Association (275)
City Heights Area Planning Committee (287)
Kensington-Talmadge Planning Committee (290)
Normal Heights Community Planning Committee (291)
Eastern Area Planning Committee (302)
North Bay Community Planning Group (307)
Mira Mesa Community Planning Group (310)
Mission Beach Precise Planning Board (325)
Mission Valley Unified Planning Organization (331)
Navajo Community Planners Inc. (336)
Carmel Valley Community Planning Board (350)
Del Mar Mesa Community Planning Board (361)
Greater North Park Planning Committee (363)
Ocean Beach Planning Board (367)
Old Town Community Planning Committee (368)
Pacific Beach Community Planning Committee (375)
Pacific Highlands Ranch – Subarea III (377A)
Rancho Peñasquitos Planning Board (380)
Peninsula Community Planning Board (390)
Rancho Bernardo Community Planning Board (400)
Sabre Springs Community Planning Group (406B)
Sabre Springs Community Planning Group (407)
San Pasqual - Lake Hodges Planning Group (426)
San Ysidro Planning and Development Group (433)
Scripps Ranch Community Planning Group (437)
Miramar Ranch North Planning Committee (439)
Skyline - Paradise Hills Planning Committee (443)
Torrey Hills Community Planning Board (444A)
Southeastern San Diego Planning Committee (449)
Encanto Neighborhoods Community Planning Group (449A)
College Area Community Council (456)
Tierrasanta Community Council (462)
Torrey Highlands – Subarea IV (467)
Torrey Pines Community Planning Group (469)
University City Community Planning Group (480)
Uptown Planners (498)

Town/Community Councils

Town Council Presidents Association (197)
Harborview Community Council (243)

Carmel Mountain Ranch Community Council (344)
Clairemont Town Council (257)
Serra Mesa Community Council (264)
Rolando Community Council (288)
Oak Park Community Council (298)
Webster Community Council (301)
Darnell Community Council (306)
La Jolla Town Council (273)
Mission Beach Town Council (326)
Mission Valley Community Council (328 C)
San Carlos Area Council (338)
Ocean Beach Town Council, Inc. (367 A)
Pacific Beach Town Council (374)
Rancho Penasquitos Community Council (378)
Rancho Bernardo Community Council, Inc. (398)
Rancho Penasquitos Town Council (383)
United Border Community Town Council (434)
San Dieguito Planning Group (412)
Murphy Canyon Community Council (463)

Community Associations/Committees

North Park Community Association (366)
Normal Heights Community Center (293)
Normal Heights Community Association (292)
Fox Canyon Neighborhood Association (295)
La Jollans for Responsible Planning (282)
Fairmount Park Neighborhood Association (303)
Mission Hills Association (327)
La Jolla Shores Association (272)
Southeastern San Diego Development Committee (449)
Arroyo Sorrento Homeowners Association (356)
Burlingame Homeowners Association (364)
Crown Point Association (376)
Torrey Pines Association (379)
The San Dieguito Lagoon Committee (409)
Scripps Ranch Civic Association (440)
Torrey Pines Association (472)
Crest Canyon Citizens Advisory Committee (475)
University City Community Association (486)
Hillside Protection Association (501)
Banker's Hill canyon Association (502)
Allen Canyon Committee (504)

Other Interested Parties

San Dieguito River Park (116)
San Diego Regulatory Alert (174)
San Diego Baykeeper (173)
San Diego Chamber of Commerce (157)
Building Industry Association/Federation (158)
San Diego River Park Foundation (163)
Sierra Club (165)
San Diego Natural History Museum (166)
San Diego Audubon Society (167, 167A)
San Diego River Conservancy (168)
Environmental Health Coalition (169)
California Native Plant Society (170)
San Diego Coast & Baykeeper (173)
Center for Biological Diversity (176)
Citizens Coordinate for Century 3 (179)
Endangered Habitats League (182 & 182A)
Carmel Mountain Conservancy (184)
Torrey Pines Association (186)
San Diego Tracking Team (187)
League of Women Voters (192)
Dr. Jerry Schaefer (208A)
South Coastal Information Center (210)
San Diego Historical Society (211)
San Diego Archaeological Center (212)
Save Our Heritage Organization (214)
San Diego County Archaeological Society Inc. (218)
Otay Valley Regional Park CAC – John Willett (227)
Tijuana River National Estuarine Reserve (229)
Theresa Quiroz (230)
Chuck Tanner – County San Diego OVRP Rep (232)
Marilyn Pongeggi - City of Chula Vista OVRP Rep (233)
Deron Bear – Marion Bear Natural Park Recreation Council (253)
Tecolote Canyon Citizens Advisory Committee (254)
Friends of Tecolote Canyon (255)
Tecolote Canyon Rim Owner’s Protection Association (256)
Friends of Switzer Canyon (260)
Marion Bear Natural Park Recreation Council (266A)
Marian Bear Natural Park Recreation Council (267 A)
UCSD Natural Reserve System (284)
John Stump (304)
Chollas Lake Park Recreation Council (305)
Friends of Los Peñasquitos Canyon Preserve, Inc. (313)

Surfer's Tired of Pollution (318)
San Diego Baykeeper (319)
Debbie Knight (320)
League of Conservation Voters (322)
Mission Bay Lessees (323)
Citizens Coordinate for Century III (324A)
San Diego River Conservancy (330A)
Friends of the Mission Valley Preserve (330B)
River Valley Preservation Project (334)
Mission Trails Regional Park Citizens Advisory Committee (341)
Carmel Valley Trail Riders Coalition (351)
Carmel Mountain Conservancy (354)
Los Peñasquitos Canyon Preserve Citizens Advisory Committee (360)
Los Peñasquitos Canyon Preserve Citizens Advisory Committee (385)
Ocean Beach Merchant's Association (367B)
Friends of Rose Canyon (386)
San Dieguito Lagoon Committee (409)
San Dieguito River Park CAC (415)
Friends of San Dieguito River Valley (419)
San Dieguito River Valley Conservancy (421)
RVR PARC (423)
Beeler Canyon Conservancy (436)
Jim Dawe (445)
Mission Trails Regional Park (465)
San Diego Civic Solutions (*Canyonlands*)
Lee Sherwood, RECON Environmental
Leonard Smith
Bruce McIntyre, HELIX Environmental (Project Consultant)

School Districts (NOTICE ONLY)

San Ysidro School District (127)
San Dieguito Union High School District (126)
San Diego Unified School District (125)
Poway Unified School District (124)
South Bay Unified School District (130)
San Diego City Schools (132)

Community College Districts

San Diego Community College District (133)

MASTER STORM WATER SYSTEM
MAINTENANCE PROGRAM

DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT
SCH. NO. 2005101032; PROJECT NO. 42891

JULY 2009

Prepared for:

CITY OF SAN DIEGO
STORM WATER DEPARTMENT
2781 Caminito Chollas
San Diego, California 92105

**MASTER STORM WATER SYSTEM MAINTENANCE PROGRAM
DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT**

TABLE OF CONTENTS

<u>Chapter</u>	<u>Title</u>	<u>Page</u>
ES	EXECUTIVE SUMMARY	ES-1
	ES-1 Introduction.....	ES-1
	ES-2 Project Description and Location.....	ES-1
	ES-3 Summary of Environmental Effects and Mitigation.....	ES-3
	ES-4 Alternatives	ES-3
	ES-5 Areas of Controversy/Issues to be Resolved	ES-7
1.0	INTRODUCTION	1-1
	1.1 The Proposed Project	1-1
	1.2 Purpose of EIR.....	1-2
	1.3 Scope of PEIR.....	1-3
	1.4 Organization of EIR.....	1-4
	1.4.1 Volume 1 (PEIR)	1-4
	1.4.2 Volume 2 (Technical Reports).....	1-6
	1.4.3 Volume 3 (Vegetation Maps).....	1-6
	1.5 EIR Review Process.....	1-6
	1.6 Subsequent Environmental Review	1-6
2.0	ENVIRONMENTAL SETTING	2-1
	2.1 Location	2-1
	2.2 Physical Characteristics	2-1
	2.3 Applicable Land Use Plans.....	2-2
3.0	PROJECT DESCRIPTION.....	3-1
	3.1 Background Information.....	3-1
	3.1.1 History.....	3-1
	3.1.2 Existing Storm Water System.....	3-1
	3.2 Objectives of Program	3-3
	3.3 Characteristics of Program.....	3-13
	3.3.1 Storm Water Facility Maintenance	3-13
	3.3.2 Procedures.....	3-20
	3.3.3 Individual Maintenance Activity Process	3-24
	3.4 Discretionary Actions	3-25
	3.4.1 City Permits	3-25
	3.4.2 Non-City Permits	3-26

TABLE OF CONTENTS (cont.)

<u>Chapter</u>	<u>Title</u>	<u>Page</u>
4.0	ENVIRONMENTAL ANALYSIS	4.1-1
4.1	Land Use	4.1-1
	4.1.1 Existing Conditions.....	4.1-1
	4.1.2 Impacts.....	4.1-9
4.2	Aesthetics/Neighborhood Character	4.2-1
	4.2.1 Existing Conditions.....	4.2-1
	4.2.2 Impacts.....	4.2-2
4.3	Biological Resources	4.3-1
	4.3.1 Existing Conditions.....	4.3-1
	4.3.2 Impacts.....	4.3-26
4.4	Historical Resources	4.4-1
	4.4.1 Existing Conditions.....	4.4-1
	4.4.2 Impacts.....	4.4-17
4.5	Hydrology/Water Quality	4.5-1
	4.5.1 Existing Conditions.....	4.5-1
	4.5.2 Impacts.....	4.5-12
4.6	Noise	4.6-1
	4.6.1 Existing Conditions.....	4.6-1
	4.6.2 Impacts.....	4.6-4
4.7	Paleontological Resources	4.7-1
	4.7.1 Existing Conditions.....	4.7-1
	4.7.2 Impacts.....	4.7-8
5.0	GROWTH INDUCEMENT.....	5-1
6.0	CUMULATIVE IMPACTS.....	6-1
6.1	Previous Storm Water Facility Emergency Maintenance Projects	6-1
6.2	Regional Plans	6-2
6.3	Cumulative Impacts Found to be Significant.....	6-3
	6.3.1 Solid Waste	6-3
6.4	Cumulative Impacts Found Not to be Significant.....	6-4
	6.4.1 Aesthetics/Neighborhood Character	6-4
	6.4.2 Biological Resources	6-4
	6.4.3 Historical Resources	6-4
	6.4.4 Hydrology/Water Quality	6-5
	6.4.5 Land Use	6-6
	6.4.6 Noise	6-6
	6.4.7 Paleontological Resources	6-7
7.0	ALTERNATIVES.....	7-1
7.1	No Project: Maintenance in Accordance With Past Approach.....	7-2
	7.1.1 Description.....	7-2
	7.1.2 Impact Analysis	7-3
	7.1.3 Basis for Rejection.....	7-6

TABLE OF CONTENTS (cont.)

<u>Chapter</u>	<u>Title</u>	<u>Page</u>
7.0	ALTERNATIVES (cont.)	
7.2	No Maintenance Alternative.....	7-6
	7.2.1 Description.....	7-6
	7.2.2 Impact Analysis	7-6
	7.2.3 Basis for Rejection.....	7-9
7.3	Raised Bank Alternative	7-9
	7.3.1 Description.....	7-9
	7.3.2 Impact Analysis	7-10
	7.3.3 Basis for Rejection.....	7-12
7.4	Channel By-pass Alternative	7-13
	7.4.1 Description.....	7-13
	7.4.2 Impact Analysis	7-13
	7.4.3 Basis for Rejection.....	7-16
7.5	Widened Channel Alternative.....	7-16
	7.5.1 Description.....	7-16
	7.5.2 Impact Analysis	7-17
	7.5.3 Basis for Rejection.....	7-20
8.0	EFFECTS FOUND NOT TO BE SIGNIFICANT	8-1
8.1	Agriculture	8-1
8.2	Air Quality	8-1
8.3	Energy	8-2
8.4	Geology and Soils.....	8-3
8.5	Light, Glare and Shading	8-3
8.6	Mineral Resources	8-3
8.7	Population and Housing.....	8-3
8.8	Public Services and Utilities	8-4
8.9	Recreational Resources.....	8-4
8.10	Transportation/Circulation.....	8-4
8.11	Water Conservation	8-5
9.0	SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES THAT WOULD BE INVOLVED IN THE PROPOSED ACTION, SHOULD IT BE IMPLEMENTED.....	9-1

TABLE OF CONTENTS (cont.)

<u>Chapter</u>	<u>Title</u>	<u>Page</u>
10.0	SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS.....	10-1
11.0	MITIGATION MONITORING AND REPORTING PROGRAM.....	11-1
12.0	REFERENCES	12-1
13.0	INDIVIDUALS AND AGENCIES CONSULTED	13-1
14.0	CERTIFICATION PAGE.....	14-1

LIST OF APPENDICES

APPENDIX A Notice of Preparation and Responses (Bound with Draft EIR)

Volume 2

APPENDIX B Master Storm Water System Maintenance Program

Volume 3

APPENDIX C.1 Biological Technical Report

APPENDIX C.3 Conceptual Wetland Restoration Plan

APPENDIX D Historical Resources Report

Volume 4

APPENDIX C.2 Vegetation/Wetland Delineation Maps

TABLE OF CONTENTS (cont.)

LIST OF TABLES

<u>Number</u>	<u>Title</u>	<u>Page</u>
ES-1	Impacts and Proposed Mitigation	ES-8
ES-2	Comparison of Environmental Effects of the Proposed Project with Project Alternatives	ES-21
3-1	Storm Water System Channels and Detention Basins	3-4
4.1-1	General, Community and Area Plans Consistency Evaluation.....	4.1-12
4.1-2	MSCP Consistency Evaluation	4.1-53
4.3-1	Existing Vegetation Communities	4.3-2
4.3-2	Existing Corps Jurisdictional Areas.....	4.3-9
4.3-3	Existing CDFG and City Jurisdictional Areas	4.3-10
4.3-4	Narrow Endemic Species with Potential to Occur.....	4.3-13
4.3-5	Listed or Sensitive Plant Species with Potential to Occur	4.3-14
4.3-6	Listed or Sensitive Animal Species with Potential to Occur	4.3-21
4.3-7	Estimated Area of Vegetation Communities Affected	4.3-29
4.3-8	Estimated CDFG and City Jurisdictional Areas Affected	4.3-33
4.3-9	Estimated CDFG and City Jurisdictional Areas Affected	4.3-34
4.3-10	Wetland Mitigation Ratios	4.3-44
4.3-11	Upland Habitat Mitigation Ratios.....	4.3-45
4.4-1	Known Historical Resources.....	4.4-6
4.4-2	Historical Resources Sensitivity by Channel/Basin.....	4.4-14
4.5-1	Summary of Typical Contaminant Sources for Urban Storm Water Runoff.....	4.5-4
4.5-2	Typical Contaminant Loadings In Runoff for Various Land Uses.....	4.5-4
4.6-1	Land Use - Noise Compatibility Guidelines.....	4.6-2
4.6-2	City of San Diego Noise Ordinance Limits	4.6-3
4.6-3	Equipment Noise Levels	4.6-6
4.6-4	Surrounding Noise Levels from In-channel Maintenance (Full).....	4.6-6
4.6-5	Surrounding Noise Levels from In-channel Maintenance (Partial).....	4.6-7
4.6-6	Surrounding Noise Levels from Edge of Channel Maintenance	4.6-7
4.6-7	Surrounding Noise Levels from Hand Clearing	4.6-8
4.7-1	Paleontological Resource Potential of Geologic Formations	4.7-1
6.1-1	Impacts from Past Emergency Maintenance Activities	6-2
11-1	Wetland Mitigation Ratios	11-4
11-2	Upland Habitat Mitigation Ratios.....	11-5

TABLE OF CONTENTS (cont.)

LIST OF FIGURES

<u>Number</u>	<u>Title</u>	<u>Follows Page</u>
2-1	Regional Location Map.....	2-2
3-1	Storm Water System Relationship to Hydrologic Basins	3-12
3-2a	Storm Water Facilities – Rancho Bernardo Area	3-12
3-2b	Storm Water Facilities – Soledad Area.....	3-12
3-2c	Storm Water Facilities – I-8 Corridor.....	3-12
3-2d	Storm Water Facilities – Central San Diego Area.....	3-12
3-2e	Storm Water Facilities – Otay Mesa Area	3-12

LIST OF ACRONYMS

The following list of acronyms used within this Program Environmental Impact Report is provided for the reader's reference.

ADD	Assistant Deputy Director
ADRP	Archaeological Data Recovery Program
AMSL	above mean sea level
APE	Area of Potential Effects
ARDDRP	Archaeological Research Design and Data Recovery Program
Basin Plan	Water Quality Control Plan for the San Diego Basin
BAT	best available technology economically achievable
BCH	beach
BCT	best conventional pollutant control technology
BI	Building Inspector
BMPs	Best Management Practices
BOD	biological oxygen demand
BS	broom baccharis scrub
CAM	cismontane alkali marsh
CBM	coastal brackish marsh
CDFG	California Department of Fish and Game
CDP	Coastal Development Permit
CEQA	California Environmental Quality Act
CH ₄	methane
City	City of San Diego
CLOW	coast live oak woodland
CNDDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO ₂	carbon dioxide
COD	chemical oxygen demand
Corps	U.S. Army Corps of Engineers
CSCS	coastal sage-chaparral scrub
CSM	coastal saltmarsh
CSVR	Consultant Site Visit Record
CWA	federal Clean Water Act
dB	decibel
dB(A)	A-weighting decibel
DCSS	Diegan coastal sage scrub
DEV	developed land
DH/RUD	disturbed habitat/ruderal
DW	disturbed wetland
EAS	Environmental Analysis Section
ERM	Environmental Review Manager
ESL	Environmentally Sensitive Lands
EW	eucalyptus woodland

LIST OF ACRONYMS (cont.)

FWM	freshwater marsh
General Plan gpd	City of San Diego Progress Guide and General Plan gallons per day
HELIX	HELIX Environmental Planning, Inc.
HRG	City of San Diego's Historical Resources Guidelines
HU	Hydrologic Unit
HUD	U.S. Department of Housing and Urban Development
IBA	Individual Biological Assessment
IHA	Individual Historical Assessment
IMP	Individual Maintenance Plan
JURMP	Jurisdictional Urban Runoff Management Plan
L _{dn}	artificial decibel increment added to quiet time noise levels in a 24-hour noise descriptor
L _{eq}	noise equivalent level
LCP	Local Coastal Plan
LUP	Land Use Plan
MBTA	Migratory Bird Treaty Act
MC	Maintenance Contractor
MEP	maximum extent practicable
MFS	mule fat scrub
MHPA	Multi-Habitat Planning Area
MLD	Most Likely Descendent
MM	Maintenance Manager
MMC	Mitigation Monitoring Coordinator
MMRP	Mitigation Monitoring and Reporting Plan
MSCP	Multiple Species Conservation Program
MWSMP	Master Storm Water System Maintenance Program
N ₂ O	nitrous oxide
NAHC	Native American Heritage Commission
NCCP	Natural Communities Conservation Planning
NFC	City natural flood channel
NHPA	National Historic Preservation Act
NNG	non-native grassland
NNV/ORN	non-native vegetation/ornamental
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
ODS	other drainage systems

LIST OF ACRONYMS (cont.)

PEIR	Program Environmental Impact Report
PI	Principal Investigator
Porter-Cologne Act	State Porter-Cologne Water Quality Act
PRC	Public Resources Code
Precon	Pre-maintenance
RE	Resident Engineer
RS	riparian scrub
RSWFI	Routine Storm Water Facility Inspection
RURMP	Regional Urban Runoff Management Plan
RW	riparian woodland
RWQCB	Regional Water Quality Control Board
SCR	Substantial Conformance Review
SDP	Site Development Permit
SFD	southern foredunes
SMC	southern mixed chaparral
SNI	Service Notification Inspection
SOC	scrub oak chaparral
SPI	Storm Patrol Inspection
SRF	southern riparian forest
SRW	southern sycamore riparian woodland
STM/OW	streambed/open water
SUSMP	Standard Urban Storm Water Mitigation Plan
SWD	City of San Diego, Storm Water Department
SWPPP	Storm Water Pollution Prevention Plan
SWQCB	State Water Quality Control Board
SWRCB	State Water Resources Control Board
SWS	southern willow scrub
SWSAS	Storm Water Sampling and Analysis Strategy
TDS	total dissolved solids
TMDL	total maximum daily load
TSS	total suspended solids
URMP	Urban Runoff Management Plan
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
WDR	Wastewater Discharge Regulations
WURMP	Watershed Urban Runoff Management Plan
WUS	Waters of the U.S.

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

ES-1 INTRODUCTION

This summary provides a brief synopsis of the project description, the results of the environmental analysis and the project alternatives considered within this Program Environmental Impact Report (PEIR). By necessity, this summary does not contain the extensive background and analysis found in the document. Therefore, the reader should review the entire document to fully understand the project and its environmental consequences.

ES-2 PROJECT DESCRIPTION AND LOCATION

The subject of this PEIR is a long-term maintenance program proposed by the City of San Diego to assure that the municipal storm water system provides adequate flood control. To guide maintenance activities, the City has prepared a Master Storm Water System Maintenance Program (MSWSMP). The MSWSMP describes the maintenance techniques to be employed as well as the protocols to be followed to minimize the impact of maintenance activities with respect to environmental resources.

The primary objectives of the MSWSMP include:

- Develop a comprehensive Program to govern future maintenance activities needed to maximize the effectiveness of the City's existing storm water system;
- Minimize the disruption of adjacent property from storm water system maintenance;
- Set forth a series of BMPs to be implemented during storm water system maintenance which balance the flood protection function while maintaining, to the greatest degree possible, the aesthetic and biological value of the system; and
- Develop a Substantial Conformance Review (SCR) process to simplify the authorization process required from local, state and federal agencies with regulatory power over wetlands for annual maintenance activities consistent with the proposed MSWSMP.

The City's storm water system is comprised of a number of different types of facilities designed to transport storm runoff through the metropolitan area. The storm water system includes a number of facility types ranging from street curb and gutters to large concrete channels. The focus of the MSWSMP is on channels and detention basins because these structures require proactive maintenance to assure adequate flood control function. Channels include man-made structures (concrete and/or earthen) created specifically for the conveyance of storm water as

well as natural channels which carry water through urbanized areas. Detention basins are man-made excavated areas which serve to intercept sediment. Other facilities associated with the storm water system include culverts which transport storm water under ground and outfalls which form the transition point between the storm water system and natural drainage courses or bodies of water.

Maintenance of channels and basins primarily involves the removal of vegetation and/or sediment to minimize disruption of storm water flow. Vegetation causes flooding by slowing the velocity of floodwater while sediment diminishes the capacity of the facility to handle flow. In addition to restoring flood capacity, removal of sediment often has a positive impact on water quality by removing pollutants that have accumulated in the sediment (e.g. heavy metals and bacteria).

Vegetation and sediment are most frequently removed by mechanized equipment operating within the facility or from the banks. Occasionally, maintenance is done by hand when equipment access is difficult but, wherever feasible, maintenance is done with machinery because of the reduced labor cost. Normally, maintenance is completed within a matter of days. Maintenance may occur as often as once a year depending on the accumulation of vegetation and/or sediment.

The MSWSMP includes a process by which storm water facility maintenance would be authorized on an annual basis by local, state and federal agencies with regulatory authority over these facilities. This process would be known as Substantial Conformance Review (SCR). Under the SCR process, the City would prepare Individual Maintenance Plans (IMPs) for each proposed maintenance activity. As a part of preparing the IMPs, a programmatic hydrology/hydraulic analysis would be conducted to determine if any vegetation could be retained in the channel after maintenance without substantially affecting the facility's ability to convey floodwater. Based on the results of this analysis, more detailed hydraulic studies would be conducted to determine the amount of vegetation and sediment to be removed and the process by which it would be removed.

Based on the IMPs, site-specific assessments would be performed to determine if these activities would impact sensitive biological or historical resources; these studies would be referred to as Individual Biological Assessment (IBAs) and Individual Historical Assessments (IHAs). Where potential impacts could occur, the associated IBA or IHA would describe the mitigation measures to be implemented to minimize impacts. The IMPs, IBAs and IHAs would be submitted along with the City's annual request for authorization to designated City departments as well as state and federal agencies. Based on a review of this information, designated City

departments, and state and federal agencies would decide whether to authorize the maintenance activities as proposed or with modifications. At the end of the annual maintenance, year-end reports would be submitted to designated City departments and state and federal agencies. These reports would include a summary of the amount and type of biological or historical resources impacted and the mitigation measures that were implemented.

Implementation of the maintenance activities included in the MSWSMP would require a variety of discretionary actions. Due to the long-term nature of the MSWSMP, long-term (master) permits from the City as well as state and federal agencies are being sought to streamline the maintenance process. Long-term authorizations include a Site Development Permit (City of San Diego), Coastal Development Permit (City of San Diego), Section 404 Permit (U.S. Army Corps of Engineers [Corps]), Section 1602 Streambed Alteration Agreement (California Department of Fish and Game [CDFG]), and Section 401 Certification (California Regional Water Quality Control Board [RWQCB]). If surface discharges of water are involved, maintenance would require a Wastewater Discharge Permit from the RWQCB.

ES-3 SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION

The PEIR addresses the following major environmental issues: aesthetics/neighborhood character, biological resources, historical resources, hydrology/water quality, land use, noise, and paleontological resources. The analyses and conclusions for each environmental issue are found in Sections 4.1 through 4.7, respectively. The environmental effects discussed in Chapter 4.0 of the PEIR are summarized in Table ES-1, Impacts and Proposed Mitigation. In addition, Table ES-1 summarizes the mitigation measures identified in Chapter 4.0 that would reduce project impacts and indicates whether implementation of the mitigation measures would reduce impacts to below a level of significance. Potential direct impacts related to aesthetics, biological resources, water quality, and land use conservation policies are considered significant and unmitigated. Potential direct impacts related to historical and paleontological resources are considered significant but mitigable. Potential direct impacts related to hydrology and noise are considered not significant. With the exception of solid waste disposal, cumulative impacts would not be significant. As the project cannot alleviate the potential future shortage of landfill space, the cumulative impact of the waste generated by maintenance activities is considered significant and unmitigated.

ES-4 ALTERNATIVES

This EIR analyzes the following alternatives which fall into two categories: Non-structural and Structural. Non-structural alternatives focus on management of vegetation within existing channels while structural alternatives focus on increasing the capacity of the storm water facilities to convey flood water without regular removal of vegetation.

Non-structural Alternatives

- No Project (Past Approach); and
- No Maintenance.

Structural Alternatives

- Raising the channel banks by constructing walls or berms along the top of the channels;
- Diverting storm water in pipes around constrained segments; and
- Widening channels to accommodate vegetation.

Table ES-2, Comparison of Environmental Effects of the Proposed Project with Project Alternatives, summarizes the direct and cumulative environmental effects of the project in comparison with the alternatives. These alternatives are summarized below. As illustrated in Table ES-2, the No Maintenance Alternative would be the environmentally-preferred alternative because it would eliminate all impacts associated with the proposed project.

Maintenance in Accordance with Past Approach (No Project) Alternative

Under this alternative, storm water facility maintenance would continue in the manner in which it has occurred in the past. The City generally conducted regular maintenance activities on a two-year cycle. However, in recent years, there has been increasing regulatory constraints on channel cleaning and maintenance. Consequently, maintenance on an “as needed” basis is no longer feasible, given the long lead times required to obtain permission from Resource Agencies and to undertake mitigation. As a result, most local agencies, including the City, have largely suspended their regular maintenance activities pending approval of regional permits such as proposed as part of the MSWSMP. Thus, under this alternative, it is likely that maintenance would be primarily restricted to activities which clearly meet the Resource Agency definitions of emergency maintenance. In addition, the maintenance would be done without the benefit of maintenance protocols (Protocols) included in the proposed MSWSMP.

Although this alternative would potentially impact less wetlands, have less impact on the natural ability of channels to remove urban pollutants, and create less solid waste, the City rejected the alternative because it would not fulfill the basic objective to protect life and property from flooding. The overgrowth within the storm water facilities that would occur from lack of regular maintenance would impede flood waters and cause flooding.

No Maintenance Alternative

Under this alternative, the City would not conduct any maintenance activities within the storm water system. Vegetation would grow unchecked within the channels and sediment would not be removed.

Although this alternative would avoid all impacts of the proposed project, the City rejected the alternative because it would not fulfill the basic objective to protect life and property from flooding. The overgrowth within the storm water facilities that would occur from lack of regular maintenance would impede flood waters and cause flooding.

Raised Bank Alternative

Under this alternative, levees or walls would be added along the top of channels to allow them to contain vegetation without compromising their ability to transport flood waters. The structures would offset the effect of vegetation and sediment by allowing water elevations to increase without spilling out into adjacent areas. However, accumulation of sediment and vegetation would ultimately eliminate the increased flood capacity created by the structures. Channel-specific engineering would be undertaken to determine the additional “bank” height needed.

Although this alternative would potentially impact less wetlands, allow natural removal of urban pollutants to continue and generate less solid waste, the City rejected the alternative for factors related to wildlife habitat, cost, visual quality, and the temporary nature of the solution. With respect to wildlife habitat, the structures along storm water facilities would have an adverse impact on wildlife by making it more difficult for upland wildlife to access the channels for water, food and cover. Walling off the storm water facilities would also have an adverse visual impact. The cost of designing and constructing walls or levees along existing drainage facilities would be substantial. In addition, the cost would be increased by the need to acquire private property to accommodate the structures. Lastly, this alternative would not be effective in the long-term because accumulation of sediment would likely eventually offset the additional capacity created by the structures.

Channel By-pass Alternative

This alternative would involve construction of underground pipes that would divert some or all of the flow around a channel segment to allow the channel to be naturally vegetated. Channel-specific engineering would be undertaken to determine the location and sizing of by-pass pipes to assure that vegetated channel segments can continue to support vegetation without resulting in flooding.

Although this alternative would potentially impact less wetlands, allow natural removal of urban pollutants to continue and generate less solid waste, the City rejected the alternative as financially infeasible. The cost of constructing the by-pass pipes would be high. Beyond the cost of acquiring easements, adjacent development would make it difficult to construct by-pass pipes without impacting structures including homes and businesses. Condemning structures would further add to the cost of the by-pass alternative. In addition, this alternative would not be effective in the long-term because accumulation of sediment in the main channel would likely eventually offset the additional capacity created by the by pass. Given these cost factors, accommodating flood waters with by-pass pipes is considered infeasible.

Widened Channel Alternative

Under this alternative, the configuration of channels would be modified to increase the volume capacity of the channel. The goal of increasing the channel volume would be to enable vegetation to exist in the channel without causing flooding. Channel-specific hydraulic analysis would be undertaken to determine the additional width needed. In most cases, the capacity would likely be increased by widening the cross-section of the channel. Increasing the depth of the channel would also increase capacity but is expected to be difficult to achieve in most cases due to constraints imposed by the slope limitations on the channel banks and maintaining downstream gradients.

Allowing vegetation to remain in the widened channels would reduce the impact of maintenance on water quality and solid waste. The vegetation remaining within the channels would allow the natural process of urban pollutant control to continue. This alternative would also reduce the long-term impact on solid waste disposal. Although the initial widening effort would generate plant material requiring offsite disposal, subsequent clearing and related disposal would be reduced in the long-term.

Although this alternative would reduce wetland impacts by allowing vegetation to remain over some portion of the widened channels without periodic maintenance, the initial widening would impact the same amount of vegetation as the full maintenance approach. Ultimately, some portion of the vegetation within a widened channel would be allowed to remain during future maintenance which would reduce the long-term impact of maintenance on wetland habitat. Also, as with the proposed project, the actions within channels would not result in the permanent loss of the channels themselves.

Although not considered a feasible alternative to the proposed maintenance approach, on a case-by-case basis, the City may consider channel widening as a mitigation option for wetland impacts. Where channel widening is feasible and could create a net increase in the wetlands, the net increase could serve to offset impacts from maintaining other channels. However, in general,

the City expects the social and economic cost of condemning and purchasing adjacent development needed to allow for widened channels to render this alternative infeasible.

ES-5 AREAS OF CONTROVERSY/ISSUES TO BE RESOLVED

Mitigation for impacts to wetland vegetation is expected to be controversial due to the varying opinions regarding the degree and permanency of impacts associated with storm water facility maintenance. Traditionally, local, state and federal agencies have applied the same mitigation ratios that have been applied to developments which have resulted in the permanent loss of the drainage course as well as the associated vegetation. However, implementation of the proposed MSWSMP would not result in the loss of any drainages. In addition, the maintenance activity would not result in a permanent absence of vegetation. Wetland vegetation is expected to re-grow to varying degrees between maintenance events. In most all cases, cat-tails and other emergent vegetation would be anticipated to re-establish and attain a height of approximately one foot within six months of maintenance. When maintenance events are separated by at least three years more diverse wetland vegetation including willow trees would in many cases become established as well. Willows and other woody plants such as elderberry would likely establish along the edge of the cat-tails. However, the likelihood of willows establishing is dependent on two primary factors. First, the root base of on-site wetland plants must be partially retained after maintenance and/or there must be adequate seed stock onsite or upstream. Second, limited depth of excavation for maintenance (e.g., less than one foot) is more conducive to the reestablishment of willows. Provided these factors are met, willows would be expected to attain a height of between 5 and 10 feet within three years of a maintenance event. With the retention of the drainage course and the interim re-establishment of wetland vegetation, the value of drainage courses with respect to wildlife, would be maintained even with regular maintenance. Thus, it would be up to the City and the Resource Agencies to determine appropriate mitigation ratios for wetland impacts related to maintenance.

Table ES-1		
IMPACTS AND PROPOSED MITIGATION		
IMPACT	MITIGATION MEASURES	ANALYSIS OF SIGNIFICANCE AFTER MITIGATION
AESTHETICS/NEIGHBORHOOD CHARACTER (Direct)		
Significant removal of vegetation, including mature trees along natural drainage courses, would result in the loss of a major visual element.	No mitigation measures are available because retention of vegetation within storm water facilities would may be contrary to the overall goal of the MSWSMP to provide adequate flood control in urban areas.	Significant
BIOLOGICAL RESOURCES (Direct)		
Loss of significant vegetation communities consisting of up to: 70.27 acres of wetland vegetation ranging from mature southern willow scrub to freshwater marsh; 26.64 acres of unvegetated channel bottom; and 105.70 acres of sensitive upland vegetation communities including coast live oak woodland, scrub oak chaparral, Diegan coastal sage scrub, coastal sage-chaparral scrub, southern mixed chaparral and non-native grassland.	<p>Mitigation Measure 4.3.1 requires an Individual Maintenance Plan (IMP) be prepared and approved prior to commencing any maintenance activity to determine the amount of disturbance and the best management practices to be followed during maintenance.</p> <p>Mitigation Measure 4.3.2 requires an Individual Biological Assessment (IBA) be prepared based on the IMP prior to commencing maintenance to quantify the impacts to biological resources and define mitigation prior to commencing maintenance.</p> <p>Mitigation Measure 4.3.3 requires mitigation plans be prepared prior to any maintenance activity that could impact significant biological resources. These plans must identify success criteria and include a maintenance and monitoring program to assure that the success criteria are met.</p>	Significant ¹

Table ES-1 (cont.)		
IMPACTS AND PROPOSED MITIGATION		
IMPACT	MITIGATION MEASURES	ANALYSIS OF SIGNIFICANCE AFTER MITIGATION
BIOLOGICAL RESOURCES (Direct) (cont.)		
	<p><i>Mitigation Measure 4.3.5</i> requires impacts to wetland vegetation from high frequency maintenance (occurring more often than every three years) to be compensated through a combination of restoration, enhancement or mitigation credit acquisition. Specific mitigation ratios are established based on wetland vegetation type, as identified in Table 4.3-10. Mitigation areas shall be required to be maintained for the life of MSWSMP, pursuant to specified success criteria. The initial restoration, enhancement or purchase of mitigation credits shall occur within six months of the date the related maintenance is completed.</p> <p><i>Mitigation Measure 4.3.6</i> requires impacts to wetland vegetation from low frequency maintenance (occurring less often than every three years) to be compensated through a program of exotic species removal (e.g. giant reed) each time the maintenance occurs. Specific mitigation ratios are established based on wetland vegetation type, as identified in Table 4.3-10. The initial removal of invasives would occur within six months of the date the related maintenance is completed. Control of invasives within mitigation areas would continue for a period of two years following the initial control effort.</p>	

Table ES-1 (cont.)		
IMPACTS AND PROPOSED MITIGATION		
IMPACT	MITIGATION MEASURES	ANALYSIS OF SIGNIFICANCE AFTER MITIGATION
BIOLOGICAL RESOURCES (Direct) (cont.)		
	<p><i>Mitigation Measure 4.3.7</i> requires impacts to upland vegetation be compensated through habitat preservation or purchase of suitable mitigation credits. Specific mitigation ratios are established based on upland vegetation type, as identified in Table 4.3-11. The upland mitigation would occur within six months of the date the related maintenance is completed.</p> <p><i>Mitigation Measure 4.3.8</i> prohibits initiation of maintenance activities before the City’s Assistant Deputy Director (ADD) Environmental Designee and appropriate Resource Agencies have approved the IMPs and IBAs including proposed mitigation for each of the proposed activities.</p> <p><i>Mitigation Measure 4.3.9</i> prohibits any maintenance activities until the City’s Assistant Deputy Director (ADD) Environmental Designee and MMC have approved the qualifications of the Biological Consultant.</p> <p><i>Mitigation Measure 4.3.10</i> requires the monitoring biologist to submit an annual summary of the monitoring activities and any remedial measures taken to minimize biological impacts.</p> <p><i>Mitigation Measure 4.3.11</i> requires minimizing impacts to floodplains, to the greatest extent practicable, through project design and coordination with the regulating agencies.</p>	

Table ES-1 (cont.)		
IMPACTS AND PROPOSED MITIGATION		
IMPACT	MITIGATION MEASURES	ANALYSIS OF SIGNIFICANCE AFTER MITIGATION
BIOLOGICAL RESOURCES (Direct) (cont.)		
	<p><i>Mitigation Measure 4.3.12</i> requires minimizing the use of new riprap, concrete, or other unnatural material within channels located within MHPA, to the maximum extent practicable.</p> <p><i>Mitigation Measure 4.3.13</i> requires temporary access and staging along channels be restricted to those areas where no such facilities currently exist. Impacts to sensitive habitat and/or sensitive species would be minimized, to the greatest extent practicable, through project design measures, such as locating the facilities in the least sensitive habitat possible.</p> <p><i>Mitigation Measure 4.3.14</i> requires a pre-maintenance meeting be held with the maintenance workers and the monitoring biologist to review mitigation measures included in the IBA.</p> <p><i>Mitigation Measure 4.3.15</i> requires the monitoring biologist to confirm that mitigation actions (e.g. sensitive resource fencing, noise attenuation measures and equipment setbacks) have been adequately implemented before maintenance begins and monitor maintenance activities, when required. of receiving comments from the MMC on the draft monitoring report, one copy of the final monitoring report shall be submitted to the MMC.</p>	

Table ES-1 (cont.)		
IMPACTS AND PROPOSED MITIGATION		
IMPACT	MITIGATION MEASURES	ANALYSIS OF SIGNIFICANCE AFTER MITIGATION
BIOLOGICAL RESOURCES (Direct) (cont.)		
	<p><i>Mitigation Measure 4.3.16</i> requires the monitoring biologist to submit a letter report within 90 days of the end of maintenance describing the monitoring activities and any remedial measures taken to minimize biological impacts associated with each maintenance activity. Within 90 days of receiving comments on the draft monitoring report, one copy of the final monitoring report</p> <p><i>Mitigation Measure 4.3.17</i> requires evidence of compliance with other permitting authorities, if applicable, before maintenance begins.</p> <p><i>Mitigation Measure 4.3.19</i> prohibits physical erosion control measures such as fiber mulch, hay bales, etc. from harboring seeds from invasive species.</p> <p><i>Mitigation Measure 4.3.20</i> requires creation of a mitigation account to provide sufficient funds to implement all biological mitigation associated with the proposed maintenance activities.</p>	
Loss of habitat for sensitive birds including the coastal California gnatcatchers, least Bell’s vireo, or raptors.	<i>Mitigation 4.3.4</i> requires impacted, occupied coastal California gnatcatcher habitat be compensated through preservation of offsite habitat or acquisition of credits equal to a ratio of 1:1. The compensation shall occur within six months of completion of maintenance.	Significant ¹

Table ES-1 (cont.)		
IMPACTS AND PROPOSED MITIGATION		
IMPACT	MITIGATION MEASURES	ANALYSIS OF SIGNIFICANCE AFTER MITIGATION
BIOLOGICAL RESOURCES (Direct) (cont.)		
Loss of habitat for sensitive fish species.	<i>Mitigation Measure 4.3.29</i> requires surveys be conducted to determine the existence of listed fish species prior to maintenance. Appropriate mitigation measures (e.g., exclusionary fencing, dewatering of the activity area, live-trapping, and translocation to suitable habitat) would be required, as necessary, before maintenance.	Significant ¹
Loss of sensitive plant species with potential to occur.	<i>Mitigation Measure 4.3.18</i> requires monitoring of access roads and staging areas for presence of exotic species, and exotic species removal, as appropriate. Removal of exotics in the course of maintenance activities would also be required. <i>Mitigation Measure 4.3.21</i> requires impacts to listed or endemic sensitive plant species to be offset through implementation of one or combination of: salvage and relocation; seed collection and replanting off site; and/or preservation of offsite populations. <i>Mitigation Measure 4.3.30</i> requires delineation and fencing of areas supporting listed and/or narrow endemic plants which can be avoided during maintenance.	Significant ¹

Table ES-1 (cont.) IMPACTS AND PROPOSED MITIGATION		
IMPACT	MITIGATION MEASURES	ANALYSIS OF SIGNIFICANCE AFTER MITIGATION
BIOLOGICAL RESOURCES (Indirect)		
Loss of vegetation could increase downstream urban pollutants due to the loss of natural removal through root systems of in-channel vegetation.	No mitigation exists to compensate for the potential reduction in the ability of the storm water facilities to remove urban runoff pollutants because mitigation would require retention of vegetation which would interfere with the primary objective of maintenance to maximize the flood control function of these facilities.	Significant ¹
Disruption of breeding activities of sensitive birds including the coastal California gnatcatchers, least Bell's vireo, or raptors.	<p>Mitigation Measure 4.3.22 requires specific distance setbacks for maintenance activities from habitat and/or nests associated with sensitive animals.</p> <p>Mitigation Measure 4.3.23 controls maintenance noise in excess of 60 dB(A) L_{eq} during the breeding season of sensitive birds.</p> <p>Mitigation Measure 4.3.24 requires surveys of adjacent habitat suspected to support sensitive birds prior to maintenance that would occur during the breeding season for the potentially present bird species.</p> <p>Mitigation Measure 4.3.25 requires the presence of sensitive birds be assumed if suitable habitat may be affected by maintenance noise but specific surveys are not conducted. In this event, the City would comply with Mitigation Measure 4.2-26.</p> <p>Mitigation Measure 4.3.26 specifies that, if no surveys are completed and no sound attenuation devices are installed, maintenance activities that would generate more than</p>	Significant ¹

Table ES-1 (cont.) IMPACTS AND PROPOSED MITIGATION		
IMPACT	MITIGATION MEASURES	ANALYSIS OF SIGNIFICANCE AFTER MITIGATION
BIOLOGICAL RESOURCES (Indirect)		
	<p>60dB(A) L_{eq} within the habitat requiring protection shall cease for the duration of the breeding season of the appropriate species and a qualified biologist shall establish a limit of work.</p> <p>Mitigation Measure 4.3.27 requires a pre-maintenance survey for raptor nests if maintenance occurs during the raptor breeding season (February 1 to August 1). If active raptor nests are found, maintenance is prohibited within distances which are specific to the affected raptor until any fledglings have left the nest or until after August 1.</p> <p>Mitigation Measure 4.3.28 requires trees and/or grasslands supporting active raptor nests not be removed until after the breeding season or until the young have fledged.</p> <p>Implementation of Mitigation Measures 4.1-2 through 4.1-8 would reduce indirect impacts to sensitive birds.</p>	

Table ES-1 (cont.) IMPACTS AND PROPOSED MITIGATION		
IMPACT	MITIGATION MEASURES	ANALYSIS OF SIGNIFICANCE AFTER MITIGATION
HISTORICAL RESOURCES (Direct)		
Potential loss of unknown historical resources and previously identified historical resources.	<p>Mitigation Measure 4.4.1 would require an Individual Historical Assessment (IHA) prior to any maintenance activity for any maintenance area determined to have a moderate to high potential for the occurrence of important historical resources. If such a potential exists, an IHA would be prepared to determine if significant historic resources could be affected and define appropriate preservation or salvage actions.</p> <p>Mitigation Measure 4.4.2 would require preparation of a phased research design and data recovery program (up to 15 percent sample) for any significant historical resources which may be impacted by maintenance, and summarized in a final results report.</p> <p>Mitigation Measure 4.4.3 would require monitoring and implementation of historical protection or mitigation measures set forth in the IHA for specific maintenance activities.</p>	Not Significant

Table ES-1 (cont.)		
IMPACTS AND PROPOSED MITIGATION		
IMPACT	MITIGATION MEASURES	ANALYSIS OF SIGNIFICANCE AFTER MITIGATION
LAND USE (Direct)		
Impacts to MSCP-protected species	<p>Mitigation Measure 4.1.1 requires verification that all MHPA boundaries and limits of work have been delineated on all maintenance documents.</p> <p>Mitigation Measure 4.1.2 requires a qualified biologist to survey areas suspected to serve as habitat (based on historical records or site conditions) for sensitive birds covered by the MSCP.</p> <p>Mitigation Measure 4.1.3 requires, 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 activities to identify the location of the 60 dB(A) Leq noise contour and identify measures to be undertaken during maintenance to reduce noise levels.</p> <p>Mitigation Measure 4.1.4 requires the Project Biologist to determine if maintenance has the potential to impact breeding activities of listed species. If impacts could occur, maintenance, whenever possible, maintenance would be restricted during the breeding season.</p>	

Table ES-1 (cont.)		
IMPACTS AND PROPOSED MITIGATION		
IMPACT	MITIGATION MEASURES	ANALYSIS OF SIGNIFICANCE AFTER MITIGATION
LAND USE (Direct) (cont.)		
	<p><i>Mitigation Measure 4.1.5</i> requires, if maintenance cannot be avoided during the breeding season for a listed bird, monitoring the nearby breeding bird activities by a qualified acoustician and biologist to determine the effectiveness of noise attenuation measures. If the noise attenuation is determined to be inadequate, 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.</p> <p><i>Mitigation Measure 4.1.6</i> requires a pre-maintenance meeting where the Project Biologist to discuss the sensitive nature of the adjacent habitat with the crew and subcontractor. The limits of work would be clearly delineated before the meeting.</p> <p><i>Mitigation Measure 4.1.7</i> requires maintenance plans be designed to avoid the use of invasive plants, control lighting, and manage trash.</p> <p><i>Mitigation Measure 4.1.8</i> requires the Multi-Habitat Planning Area (MHPA) boundaries and measures to protect coastal California gnatcatchers be shown on the maintenance plans.</p>	

Table ES-1 (cont.)		
IMPACTS AND PROPOSED MITIGATION		
IMPACT	MITIGATION MEASURES	ANALYSIS OF SIGNIFICANCE AFTER MITIGATION
LAND USE (Direct) (cont.)		
Conflict with open space and conservation goals of the City's General and Community Plans due to the loss of vegetation within storm water facilities.	No mitigation measures are available because retention of vegetation within storm water facilities would be contrary to the overall goal of the MSWSMP to provide adequate flood control in urban areas.	Significant
Conflict with open space and conservation goals of the regional resource plans due to the loss of vegetation within storm water facilities.	Implementation of biological would reduce the regional impact of vegetation removal and wildlife impacts by preserving, creating and/or enhancing vegetation within other areas of the City.	Significant
Potential loss of significant unknown historical resources and previously identified historical resources.	Implementation of historical would reduce the regional impact by preserving and/or mitigating significant historical resources impacted by maintenance in accordance with the Historical Resources Guidelines.	Not Significant
PALEONTOLOGICAL RESOURCES (Direct)		
Potential impacts to fossil-bearing geologic formations through constructing new or reconstructing existing access roads.	<i>Mitigation Measure 4.7.1</i> would require monitoring during maintenance activities where the potential exists for subsurface paleontological resources. The monitoring paleontologist shall have the authority to redirect maintenance away from any subsurface resources which are encountered to allow recovery of important scientific information associated with those resources. Draft and final reports shall be submitted to summarize the results of any recovery programs.	Not Significant

Table ES-1 (cont.)		
IMPACTS AND PROPOSED MITIGATION		
IMPACT	MITIGATION MEASURES	ANALYSIS OF SIGNIFICANCE AFTER MITIGATION
SOLID WASTE DISPOSAL (Cumulative)		
Diminished landfill capacity resulting from disposal of dredge spoil, vegetation and rubbish produced by maintenance activities.	Although the MSWSMP contains specific maintenance protocols aimed at reducing the amount of material transported to local landfills, the City cannot assure that the majority of this material would be recycled and/or reused.	Significant
WATER QUALITY (Direct)		
Clearing vegetation could substantially reduce the removal of urban runoff pollutants that occurs in earthen channels from infiltration, sedimentation and root absorption.	No mitigation exists to compensate for the potential reduction in the ability of the storm water facilities to remove urban runoff pollutants because mitigation would require retention of vegetation which would interfere with the primary objective of maintenance to maximize the flood control function of these facilities.	Significant ¹

¹ Because the degree of impact and capacity to mitigate for each maintenance activity is unknown, the impacts from maintenance are considered significant and unmitigated.

Table ES-2 COMPARISON OF ENVIRONMENTAL EFFECTS OF THE PROPOSED PROJECT WITH PROJECT ALTERNATIVES (Direct/Cumulative)						
Environmental Issue	Proposed Project	No Project (Past Approach)	No Maintenance	Raised Bank	Channel By-pass	Widened Channel
Aesthetics/ Neighborhood Character	SNM/NS	SNM/NS	NS/NS	SNM/NS	SNM/NS	NS/NS
Biological Resources (Direct)	SNM/NS	SNM/NS	NS/NS	SNM/NS	SNM/NS	SNM/NS
Biological Resources (Indirect)	SNM/NS	SNM/NS	NS/NS	SNM/NS	SNM/NS	SNM/NS
Historical Resources	SM/NS	SM/NS	NS/NS	SM/NS	SM/NS	SM/NS
Hydrology	NS/NS	SNM/NS	NS/NS	NS/NS	NS/NS	NS/NS
Land Use	SNM/NS	SNM/NS	NS/NS	SNM/NS	SNM/NS	SNM/NS
Paleontological Resources	SM/NS	SM/NS	NS/NS	SM/NS	SM/NS	SM/NS
Solid Waste Disposal	NS/SNM	NS/SNM	NS/NS	NS/NS	NS/NS	NS/NS
Water Quality	SNM/NS	SNM/NS	NS/NS	NS/NS	NS/NS	NS/NS

NS: Not significant
 SM: Significant but mitigable
 SNM: Significant and not mitigable

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CHAPTER 1.0

INTRODUCTION

CHAPTER 1.0 – INTRODUCTION

This Program Environmental Impact Report (PEIR) addresses the potential environmental effects of maintenance activities associated with the proposed Master Storm Water System Maintenance Program (MSWSMP). The MSWSMP is limited to those storm water facilities that are maintained by the City's Storm Water Department (SWD). As the City of San Diego (City) would be responsible for approving the MSWSMP, the City is acting as the Lead Agency in accordance with Section 15050(a) of the California Environmental Quality Act (CEQA) Guidelines. The City's SWD would be responsible for carrying out subsequent maintenance activities pursuant to the MSWSMP.

1.1 THE PROPOSED PROJECT

The primary objectives of the MSWSMP include:

- Develop a comprehensive program to govern future maintenance activities needed to maximize the effectiveness of the City's storm water system in order to provide for public safety and protection of property;
- Set forth a series of Best Management Practices (BMPs) to be implemented during facility maintenance which balance the flood protection function while maintaining, to the greatest degree possible, the aesthetic and biological value of the storm water system; and
- Develop a Substantial Conformance Review (SCR) process to simplify the authorization process required from local, state and federal agencies with regulatory authority over wetlands for annual maintenance activities consistent with the proposed MSWSMP.

The City's storm water system is comprised of a number of different types of facilities, but is primarily characterized by channels and detention basins. Channels include man-made structures (concrete and/or earthen) created specifically for the conveyance of storm water. Natural channels are also included in the storm water system whenever pro-active maintenance is necessary to prevent property damage during periods of high storm water runoff. As a consequence, relatively few natural drainages would be maintained under the MSWSMP. Detention basins are man-made earthen structures intended to control flooding and/or improve water quality. Other facilities associated with the storm water system include culverts which transport storm water under ground and outfalls which form the transition point between the storm water system and natural drainage courses or bodies of water.

The storm water facilities that are identified and analyzed in this document are those that have been historically maintained by the SWD. While every effort has been made to identify the locations where maintenance has been carried out in the past or may need to be conducted in the future, it is likely that additional storm water facilities may require maintenance in the future. The SCR process was specifically developed to accommodate these unanticipated maintenance areas. The evaluation of impacts associated with maintenance and the mitigation identified in this PEIR are expected to be applicable to additional maintenance areas. However, subsequent environmental review during the SCR process would confirm this assumption. If this PEIR is not adequate, additional environmental review would be conducted by the City pursuant to CEQA.

The nature of maintenance activities would be determined by the individual characteristics associated with each component of the storm water system. Maintenance activities would range between selective to full removal of sediment and/or vegetation. Occasionally, maintenance would be done by hand but, in most cases, it would include various types of excavation equipment and transport trucks. Each maintenance activity would follow maintenance protocols identified in the MSWSMP to prevent degradation of water quality and downstream sedimentation.

The frequency of maintenance under the proposed MSWSMP would vary with the type of facility, as well as seasonal considerations, but it is anticipated that most facilities would not be maintained more frequently than once every three years on average. However, some facilities may need to be maintained on an annual basis. Individual maintenance activities would generally be completed within a matter of days.

1.2 PURPOSE OF EIR

This document has been prepared as a PEIR in accordance with Section 15168 (a)(3) of the State CEQA Guidelines. Under this section, a PEIR “may be prepared on a series of actions that can be characterized as one large project and are related...in connection with the issuance of rules, regulations, plans or other general criteria to govern the continuing program.” This PEIR has been prepared to achieve the following objectives:

- Inform decision-makers and the general public of the potential environmental consequences of the approval and implementation of the proposed MSWSMP;
- Identify project alternatives or mitigation measures that are available to avoid or reduce potential significant environmental impacts;

- Serve as a basis for environmental review of subsequent maintenance activities associated with maintaining the City's storm water system;
- Provide environmental review for responsible agencies with jurisdiction over maintenance activities within the City's storm water system; and
- Reduce the environmental review required as subsequent maintenance activities occur.

In order to meet the first objective, this PEIR establishes a series of baseline conditions for resources which may be impacted by maintenance activities. This effort included extensive biological surveys of the storm water system. In addition, the City identified the probable extent and nature of activities which would be conducted under the MSWSMP. Based on this foundation, the PEIR identifies physical changes in the environment that may result from future maintenance activities (refer to Chapter 4.0). In addition, the PEIR identifies mitigation measures that are available to avoid or minimize effects that would result in significant environmental impacts. These mitigation measures are identified in Chapter 4.0 of the PEIR as well as the Mitigation Monitoring and Reporting Plan (MMRP) included in Chapter 11.0. These measures include measures that are to be carried out as part of subsequent maintenance.

1.3 SCOPE OF PEIR

The scope of this PEIR was determined by an Initial Study completed by the City as well as comments received during a scoping meeting held on July 20, 2005 and in response to a Notice of Preparation (NOP) that was distributed on July 25, 2005. The Initial Study, NOP and the comment letters that were received are contained in Appendix A.

Based on this information, it was determined that implementation activities under the proposed MSWSMP might result in potentially significant adverse environmental impacts in the following areas:

- Aesthetics/Neighborhood Character;
- Biological Resources;
- Historical Resources;
- Hydrology/Water Quality;
- Land Use;
- Noise;
- Paleontological Resources; and
- Solid Waste.

1.4 ORGANIZATION OF EIR

The PEIR is comprised of a series of volumes. Volume 1 is commonly referred to as the PEIR because it contains all of the basic elements mandated by CEQA. As such, Volume 1 contains a complete description of the proposed MSWSMP, a comprehensive discussion of impacts and mitigations associated with implementation of the MSWSMP and a discussion of alternatives and cumulative impacts. Volume 1 also contains Appendix A, which documents comments and public involvement on the project. Volume 2 contains all of the technical reports and other documents that are referenced in the Draft PEIR. Subsequent volumes in the Final EIR may be required to contain responses to those comments received on the Draft PEIR.

1.4.1 Volume 1 (PEIR)

This volume is organized into the following chapters:

- **Executive Summary**, provides a summary of the proposed MSWSMP along with a table identifying significant impacts, proposed mitigation measures, and impact rating after mitigation. This chapter also contains a summary of the project alternatives that have been considered and compares the potential impacts of the alternatives with those of the proposed MSWSMP.
- **Chapter 1.0, Introduction**, contains an overview of the proposed MSWSMP and the environmental review process.
- **Chapter 2.0, Environmental Setting**, contains a description of the physical environmental conditions in the vicinity of the project area from both a local and regional perspective. The environmental setting is intended, in part, to constitute the baseline physical conditions against which the PEIR determines whether an impact is significant.
- **Chapter 3.0, Project Description**, provides a detailed discussion of the proposed MSWSMP. It also includes a list of discretionary actions that may be required to implement the MSWSMP.
- **Chapter 4.0, Environmental Analysis**, provides a detailed evaluation of specific issue areas that may be associated with significant environmental impacts. The discussion of each issue begins with a discussion of the existing conditions related to the issue to serve as a basis of analysis. An evaluation of potential impacts follows. The discussion of impacts is preceded by a statement of specific thresholds that are used to determine if the

impacts would be significant. Once the impacts have been evaluated, specific mitigation measures are identified to avoid or reduce significant impacts.

- **Chapter 5.0, Growth Inducement**, evaluates the potential influence the proposed MSWSMP may have on growth within the region.
- **Chapter 6.0, Cumulative Effects**, identifies the impact of the proposed MSWSMP in combination with other planned and future development in the region.
- **Chapter 7.0, Alternatives**, provides a description of alternatives to the proposed MSWSMP.
- **Chapter 8.0, Effects Found Not to be Significant**, lists all of the issues determined in the Initial Study to be not significant, including a brief summary of the basis for this determination.
- **Chapter 9.0, Significant Irreversible Environmental Changes that Would Be Involved in the Proposed Action, Should It Be Implemented**, identifies all of the significant impacts related to the implementation of the proposed MSWSMP.
- **Chapter 10.0, Significant Unavoidable Adverse Impacts**, identifies environmental impacts which cannot be avoided.
- **Chapter 11.0, Mitigation Monitoring and Reporting Program**, identifies the mitigation measures from Chapter 4.0 which would reduce environmental impacts associated with implementation of the MSWSMP.
- **Chapter 12.0, References**, lists all of the documents which are cited in the PEIR but not included in the appendix volumes.
- **Chapter 13.0, Individuals and Agencies Consulted**, lists all of the individuals who are cited in the PEIR.
- **Chapter 14.0, Certification Page**, identifies all of the persons who were directly involved in the preparation of the PEIR.
- **Appendix A**, includes the scoping letter, NOP, comments, and the scoping meeting minutes.

1.4.2 Volume 2 (Technical Reports)

Volume 2 contains the two technical reports (Biological Report and Historical Resources Report), which were prepared in association with the PEIR. In addition, it contains a letter analyzing the effectiveness of several maintenance techniques to achieve flood control objectives. These reports are referenced throughout the PEIR.

1.4.3 Volume 3 (Vegetation Maps)

Volume 3 contains the complete set of vegetation and wetland delineation maps for the channels to be maintained under the proposed MSWSMP.

1.5 EIR REVIEW PROCESS

The EIR process occurs in two basic stages. The first stage is the Draft PEIR, which offers the public the opportunity to comment on the document, while the second stage is the Final PEIR, which provides the basis for approving the proposed MSWSMP. The Final PEIR process would include preparation of detailed responses to comments received during the public review period and modifications to the Draft PEIR which are warranted based on public comment. The culmination of this process is the public hearing where the City Council would determine whether to certify the Final PEIR as being complete in accordance with CEQA.

1.6 SUBSEQUENT ENVIRONMENTAL REVIEW

Environmental review for subsequent maintenance activities would be accomplished through a SCR process described in the MSWSMP. The SCR process requires an Individual Maintenance Plan (IMP) be prepared for each maintenance activity. In addition, an Individual Biological Assessment (IBA) would be conducted to quantify the impacts to biological resources and define the amount of mitigation required. An Individual Historical Assessment (IHA) would also be conducted to identify mitigation measures for any historic resources that may be affected by maintenance.

Based on an Initial Study (pursuant to Section 15063 of the CEQA Guidelines) prepared for each maintenance activity, the City would determine whether the activity is sufficiently addressed in the PEIR. If the Initial Study identifies new impacts or substantial changes in circumstances assumed in the PEIR, additional environmental documentation would be undertaken. The form of this documentation would depend upon the nature of the impacts of the specific maintenance activity. Should maintenance result in new or substantially more severe significant impacts that are not adequately covered in the PEIR, there is a substantial change in circumstances that would require

major revisions to the PEIR, or new information comes to light which was not known at the time the previous PEIR was certified, a Subsequent PEIR or Supplement to the PEIR would be prepared in accordance with Sections 15162 and 15163 of the CEQA Guidelines. If potential new significant impacts can be fully mitigated, a Mitigated Negative Declaration would be prepared. More detailed activity-specific studies (e.g., IBAs and IHAs) conducted as part of this subsequent environmental review would further quantify environmental impacts and generate activity-specific mitigation measures to avoid or minimize significant environmental impacts of specific developments.

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CHAPTER 2.0

ENVIRONMENTAL SETTING

CHAPTER 2.0 – ENVIRONMENTAL SETTING

2.1 LOCATION

The proposed MSWSMP would include the maintenance of a variety of storm water facilities that are maintained by the SWD. The specific types of facilities that are maintained include channels, basins, and outfalls. Figure 2-1, Regional Location Map, provides an overview of the total study area, indicating the general location of the major storm water channels and basins that would be included in the MSWSMP. Due to the large number of storm water outfalls, it is infeasible to display them on Figure 2-1. Chapter 3.0, Project Description, provides a more detailed delineation of the location of each major channel and basin.

2.2 PHYSICAL CHARACTERISTICS

The City's storm water system is distributed over the 342.4 square-mile metropolitan area. As a result, the physical characteristics vary with the individual components of the storm water system. However, the general characteristics of the metropolitan area are described below.

The landform features are typical of the coastal plain area. The coastal plain slopes gently upwards to the eastern foothills and has eroded into separate mesas. The coastal plain has been incised by numerous side canyons flowing into major storm water facilities that generally flow westward towards the coast. These major facilities include Alvarado Creek, Chollas Creek, Rose Creek, Nestor Creek, San Diego River, Peñasquitos Creek, Otay River, and Tijuana River.

While east-west canyons and valleys divide the coastal plain into north-south components, three marine terraces separate the coastal plain into three platform mesas. Each terrace steps up in elevation towards the inland foothills. The La Jolla Terrace is closest to the coast at elevations of 50 to 70 feet above mean sea level (AMSL). Further east at elevations of 300 to 500 feet AMSL is the Linda Vista Terrace, which is the largest terrace and contains such "mesa" communities as Mira Mesa, Kearny Mesa, and Clairemont Mesa. The majority of the third terrace, the Poway Terrace, has been eroded away and is no longer a distinct landform.

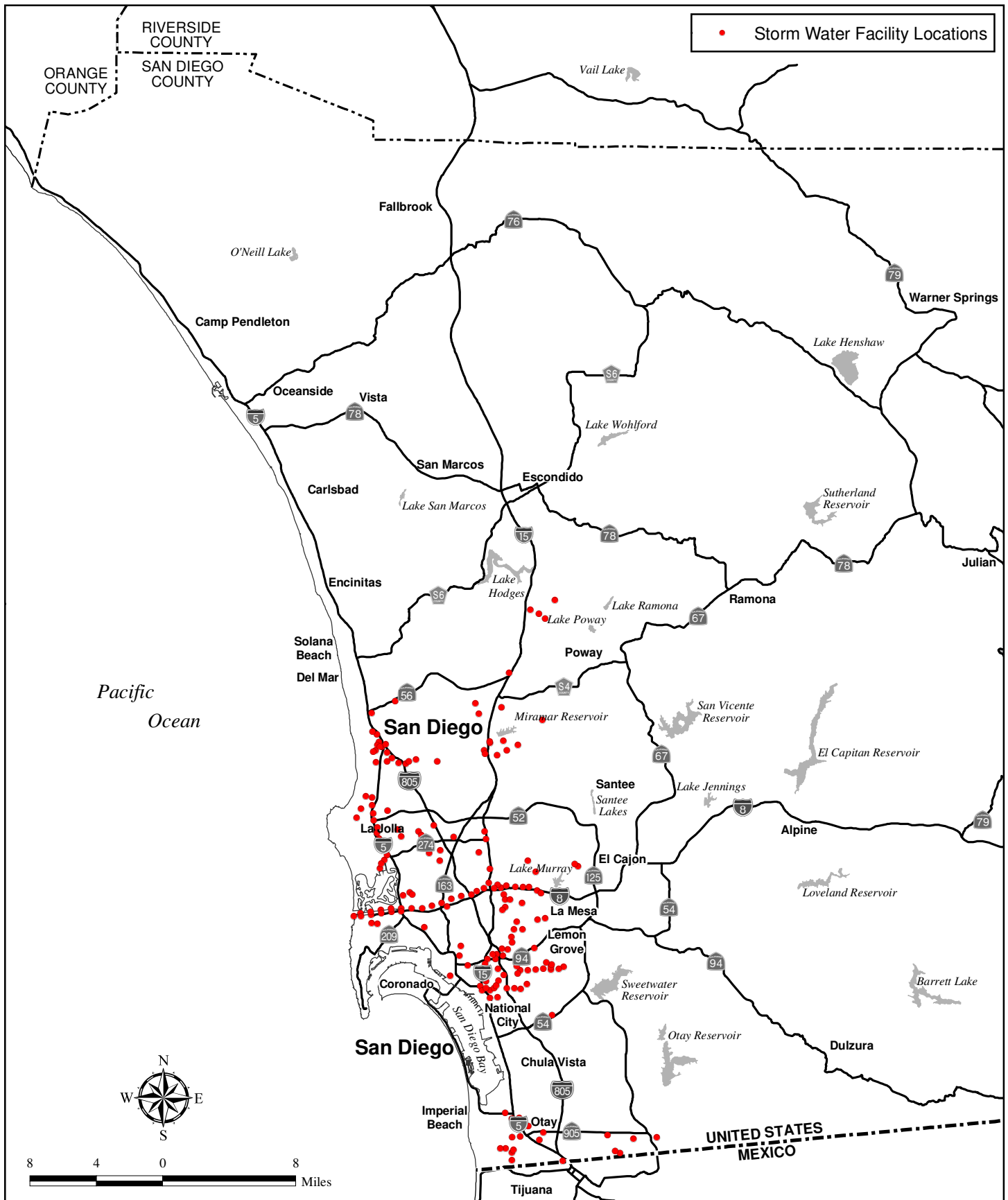
The study area has a large diversity of vegetation and wildlife. Twelve wetland/riparian and thirteen upland vegetation communities occur within the study area. Wetland/riparian vegetation communities include southern riparian forest, southern sycamore riparian woodland, southern willow scrub, riparian woodland, mule fat scrub, riparian scrub, freshwater marsh, cismontane alkali marsh, southern coastal salt marsh, coastal brackish marsh, disturbed wetland, and natural flood channel/open water/streambed. Upland vegetation communities include coast live oak

woodland, scrub oak chaparral, southern foredunes, beach, Diegan coastal sage scrub, coastal sage-chaparral scrub, broom baccharis scrub, southern mixed chaparral, non-native grassland, eucalyptus woodland, non-native vegetation/ornamental, disturbed habitat/ruderal, and developed land. A total of 96 animal species were observed/detected within the study area, including 12 butterflies (among other invertebrates), 1 amphibian, 3 reptiles, 72 birds, and 8 mammals.

2.3 APPLICABLE LAND USE PLANS

The following planning documents are applicable to the MSWSMP and are further discussed in Section 4.1, Land Use:

- City of San Diego General Plan (General Plan);
- Community, Land Use, Park/Preserve, and Other City Area Plans;
- City of San Diego Environmentally Sensitive Lands (ESL) Regulations;
- City of San Diego Historical Resources Regulations; and
- City of San Diego Multiple Species Conservation Program (MSCP) Subarea Plan.



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Regional Location Map

CITY OF SAN DIEGO MASTER STORM WATER SYSTEM MAINTENANCE PROGRAM

Figure 2-1

PROJECT DESCRIPTION

CHAPTER 3.0 – PROJECT DESCRIPTION

3.1 BACKGROUND INFORMATION

3.1.1 History

During the early 20th century, prior to the establishment of major communities and development, the City relied on natural hydrology to provide conveyance of runoff. Pro-active maintenance of storm water facilities began in 1933 under the Depression-era federal Works Project Administration. Facilities were manually cleaned using shovels and buckets. During World War II, the City witnessed exponential growth, including the construction of new streets and housing, and vast changes to its landscape to accommodate war-related facilities. These activities increased the amount of impervious surface, changed drainage flow patterns, and altered the natural balance between runoff and natural absorption. This, in turn, substantially increased the volume, frequency, and velocity of storm water flows. Although the City constructed storm water facilities, the pace of growth still dictated the need for improved capacity and preventative maintenance.

Mechanized maintenance was first introduced after World War II. The City acquired surplus military equipment, power shovels, and farm tractors. Maintenance consisted of grading channels and pushing the waste material to the sides in a practice called sidecasting. By the mid-1950s, the City implemented annual inspections, completed the first mapping of its storm water infrastructure, and adopted requirements for private construction of storm water infrastructure associated with new commercial and residential developments. In subsequent decades, the number of storm water structures increased, generally paralleling population and economic growth trends. Likewise, the City modernized its equipment to include bulldozers, excavators, backhoes, and skid-steers, thus providing more efficient and flexible maintenance methods. The practice of sidecasting was also replaced with disposal of waste to landfills.

In the mid-1990s, after a statewide initiative to educate local governments about the environmental regulations associated with the maintenance of urban storm water infrastructure, the SWD embarked on its first application for a master storm water system maintenance permit. In 2002, this effort was postponed after it was recognized that a programmatic approach to storm water facilities maintenance would provide a more thorough and comprehensive analysis of the environmental impacts of the proposed program.

3.1.2 Existing Storm Water System

The City's storm water system is composed of a variety of structures that ultimately transport surface runoff to the Pacific Ocean or other forms of containment (e.g., lakes). Storm water

primarily starts on private property and public roadways. It makes its way to gutters through surface flows or curb outlet systems. Larger projects may tie directly into a public storm drain system but the majority of properties simply drain into the gutter fronting the property. The flow is then carried in the gutter until it becomes large enough to warrant the need for a curb inlet and undergrounding. The flow drops into the inlet and then enters a storm drain pipe (typically reinforced concrete pipe). As the flow moves down the drainage basin, more and more pipes connect and the system gradually gets larger to handle the additional water. Eventually, the storm drain pipes discharge their water into an open channel, which could either be public or private, that discharges to the ocean or other containment body.

The focus of the MSWSMP is on the channels, detention basins and outfalls, as these facilities are the ones that require regular maintenance. A discussion of each of these facility types is provided below.

Channels

The backbone of the storm water system is a series of approximately 50 miles of channels that include man-made structures (concrete and/or earthen), as well as natural storm water facilities. Man-made structures are created specifically for the conveyance of storm water. Natural channels are also included in the storm water system whenever pro-active maintenance is required to prevent property damage during periods of high storm water runoff. As a consequence, relatively few natural storm water facilities would be maintained under the MSWSMP.

Detention Basins

Detention basins are man-made earthen structures intended to help remove sediment from the runoff before it enters creeks, rivers, and lagoons. Most of the detention basins are naturally lined with a few having armored sides. They typically range from a few thousand square feet up to two acres.

Outfalls

Outfalls form the transition point between the storm water system and natural drainage courses or bodies of water. These outfalls are typically composed of riprap and are intended to decrease the velocity of runoff discharged to minimize potential erosion. Typically, the area associated with an outfall is less than 100 square feet.

As illustrated in Figure 3-1, Storm Water System Relationship to Hydrologic Basins, the City's major channels and detention basin facilities occur within eight separate drainage basins (referred to as Hydrologic Units [HUs]) as established by the Regional Water Quality Control Board (RWQCB). Figures 3-2a through 3-2e, Storm Water Facilities, illustrate the location of these facilities on larger scale aerial photographs.

Table 3-1 identifies the channel segments and detention basins currently proposed to be maintained under the proposed MSWSMP. This table contains a variety of pertinent information including a general description of the facility, construction type, proposed maintenance method and the estimated width of disturbance caused by anticipated maintenance. For the sake of analysis, a numbering system is assigned to each channel segment. The Map Numbers corresponds with a series of 11-inch by 17-inch color photos upon which information has been plotted regarding the location, disturbance limits, and vegetation. Channels and basins illustrated on Figures 3-1 and 3-2 include these Map Numbers. The City Equipment Number represents a numbering system employed by the SWD for identifying these facilities in their overall facility inventory.

3.2 OBJECTIVES OF PROGRAM

The objectives of the MSWSMP can be summarized as follows:

- Develop a comprehensive Program to govern future maintenance activities needed to maximize the effectiveness of the City's existing storm water system;
- Set forth a series of BMPs to be implemented during storm water system maintenance which balance the flood protection function while maintaining, to the greatest degree possible, the aesthetic and biological value of the system;
- Minimize the disruption of adjacent property from storm water system maintenance; and
- Develop an SCR process to simplify the authorization process required from local, state and federal agencies with regulatory power over wetlands for annual maintenance activities consistent with the proposed Program.

Table 3-1 STORM WATER SYSTEM CHANNELS AND DETENTION BASINS						
Map No.	City Equipment No.	Hydrologic Unit	Facility Description	Type	Maintenance Method	Estimated Disturbance Width (feet)
Channel						
1	88000504	San Dieguito	Rancho Bernardo Rd & Bernardo Center Dr	C	4	12
2-3	88000192 88000194 88000196 88000198	San Dieguito	Rancho Bernardo	C	2	10
4	88000505	Peñasquitos	11044 Via San Marco	C	2	4
5	NA	Peñasquitos	Scripps Poway Pkwy & Scripps Summit Dr	C	1	10
6	88000321	Peñasquitos	11689 Sorrento Valley Rd	C	2	20
6a	NA	Peñasquitos	3000 Industrial Court	C	1	12
7-8	88000138 88000317	Peñasquitos	Los Peñasquitos Channel	E	3	50
9	88000251	Peñasquitos	11000 Roselle St / 11100 Flinkote Ave	C	1/2	8
10	88000250	Peñasquitos	Dunhill St & Roselle St	E	4	4
11-12	88000247 88000249 88000250 88000251	Peñasquitos	Soledad Creek Channel	Part E, Part C	1	20
13-17	88000247 88000249 88000250 88000251	Peñasquitos	Soledad Creek Channel	E	1	20
18	88000321	Peñasquitos	Maya Linda & Via Pasar	E	4/1	8
19	88000502	Peñasquitos	Candida & Via Pasar	C	2	8
20	88000502	Peñasquitos	10205 Pomerado Rd	C	4	10
21	88000502	Peñasquitos	10249 Pinetree Dr	C	3	20
22	88000321	Peñasquitos	NE Corner Pomerado Rd & Scripps Ranch Blvd	C	1	4
23	NA	Peñasquitos	Pomerado Rd & Avenida Magnifica	C	1	6
24	88000748	Peñasquitos	Scenic Pl & Cliff Ridge	E	1	10

Table 3-1 (cont.) STORM WATER SYSTEM CHANNELS AND DETENTION BASINS						
Map No.	City Equipment No.	Hydrologic Unit	Facility Description	Type	Maintenance Method	Estimated Disturbance Width (feet)
Channel (cont.)						
25	88000321	Peñasquitos	Ardath Rd from Esterel to Ardath Ln	C	4	4
26	88000321	Peñasquitos	Hillside Dr from Rue Adriane to Via Capri	C	4	4
27	88000199	Peñasquitos	Rose Creek Channel	E	1/4	60
28	88000199 88000201	Peñasquitos	Rose Creek Channel	E except south of Gilman is C	1 or 4	68
29-30 30a-30b	88000203 88000205 88000206 88000207	Peñasquitos	Rose Creek Channel	½ E, ½ C	1	20-100
31	88000321	Peñasquitos	3053 Renault Way	C	4	7.5
32	88000207 88000208	Peñasquitos	Rose Creek Channel	E west of railroad, remainder is C	1	90
33	88000209	Peñasquitos	Rose Creek Channel	C	1	100-130
34	88000210 88000211	Peñasquitos	Rose Creek Channel	Approx 375 linear feet C, remainder is E	1	50-150
35	88000211	Peñasquitos	Rose Creek Channel	E	1	80
36	88000502	Peñasquitos	Mission Bay High School	C	2	4
37	88000321	Peñasquitos	Pacific Beach Dr & Olney St	E	4	10
38	80025515	Peñasquitos	Drain Structures – Lakehurst Ave	E	1	9
39	80025600	Peñasquitos	Drain Structures – Clairemont Dr	E	5	15
40-42	88000024 88000026 88000029 88000031 88000033	Peñasquitos	Chateau Channel	C	2	30
43	88000502	Peñasquitos	Thornwood St & Mario Pl	C	2	5
44	80025801	Peñasquitos	Drain Structures – Beal St	E	1	9
45	80025988	Peñasquitos	Drain Structures – Mesa College Way	E	3	2

Table 3-1 (cont.) STORM WATER SYSTEM CHANNELS AND DETENTION BASINS						
Map No.	City Equipment No.	Hydrologic Unit	Facility Description	Type	Maintenance Method	Estimated Disturbance Width (feet)
Channel (cont.)						
46	NA	Peñasquitos	Clairemont Mesa & 805 behind Hotel	E	5	2
47	88000321	San Diego	7969 & 7971 Engineer Rd	E in middle; C either end	2	3
48	NA	San Diego	3860 Calle Fortunada	E	1	4
49-50	88000146 88000148	San Diego	Murphy Canyon Channel	E	3	80
51	NA	San Diego	Red River Dr & Conestoga Dr	C	1	50
52	88000321	San Diego	Camino del Arroyo	C	1/2	4
53	88000065	San Diego	Cowles Mtn Channel	C	2	15
54	88000212 88000214	San Diego	San Carlos Channel	C	1 & 2	30
55	80031810	Peñasquitos	West Morena Blvd	E	1 & 2	40-50
55-57	88000295 88000296 88000298	Peñasquitos	Tecolote Creek Channel	C	2	40-50
58	88000155 88000156	San Diego	Murphy Canyon Channel	E	1	70
58a	88000150	San Diego	Murphy Canyon	E	2	40
58a	88000151	San Diego	Murphy Canyon	E	1	40
58a	88000152	San Diego	Murphy Canyon	C	3	30
59-60	88000019 88000020 88000022	San Diego	Alvarado Channel	½ E, ½ C	1	45
61-62	88000009 88000011 88000013 88000015 88000016	San Diego	Alvarado Channel	C	1	60
62a	88000008	San Diego	Alvarado Channel	E	1	70
63	88000004	San Diego	Alvarado Channel	E	4	12-40
64	88000002 88000003 88000004	San Diego	Alvarado Channel	½ E, ½ C	1 & 2	12-35
65	88000085	San Diego	Fairmont Channel	E	2	8

Table 3-1 (cont.) STORM WATER SYSTEM CHANNELS AND DETENTION BASINS						
Map No.	City Equipment No.	Hydrologic Unit	Facility Description	Type	Maintenance Method	Estimated Disturbance Width (feet)
Channel (cont.)						
65a	88000087	San Diego	Fairmont Channel	C	1	10
65a	88000089	San Diego	Fairmont Channel	C	2	5
65b	88000091	San Diego	Fairmont Channel	E	2	20
65b	88000093	San Diego	Fairmont Channel	C	3	5
65b-c	88000095	San Diego	Fairmont Channel	E	3	4
66	88000142 88000143 88000145	San Diego	Montezuma Channel	C	1 & 2	20
66a	88000140	San Diego	Montezuma Channel	E	1	16
67	88000104 88000106	Pueblo San Diego	Home Avenue Channel	E	1	8
67a	88000044 88000046	Pueblo San Diego	Chollas Creek	E	1	10
68	88000108 88000110 88000112	Pueblo San Diego	Home Avenue Channel	½ E, ½ C	2	12
69	88000112 88000114	Pueblo San Diego	Home Avenue Channel	C	1	20
70	88000117 88000119	Pueblo San Diego	Home Avenue Channel	Approx. 994 linear ft E, 430 linear ft C	1	40
71-72	88000037 88000039 88000041 88000042	Pueblo San Diego	Chollas Creek Channel	Approx 806 linear ft E, remainder C	2	40
73-75	88000048	Pueblo San Diego	Chollas Creek Channel	E	3	20-70

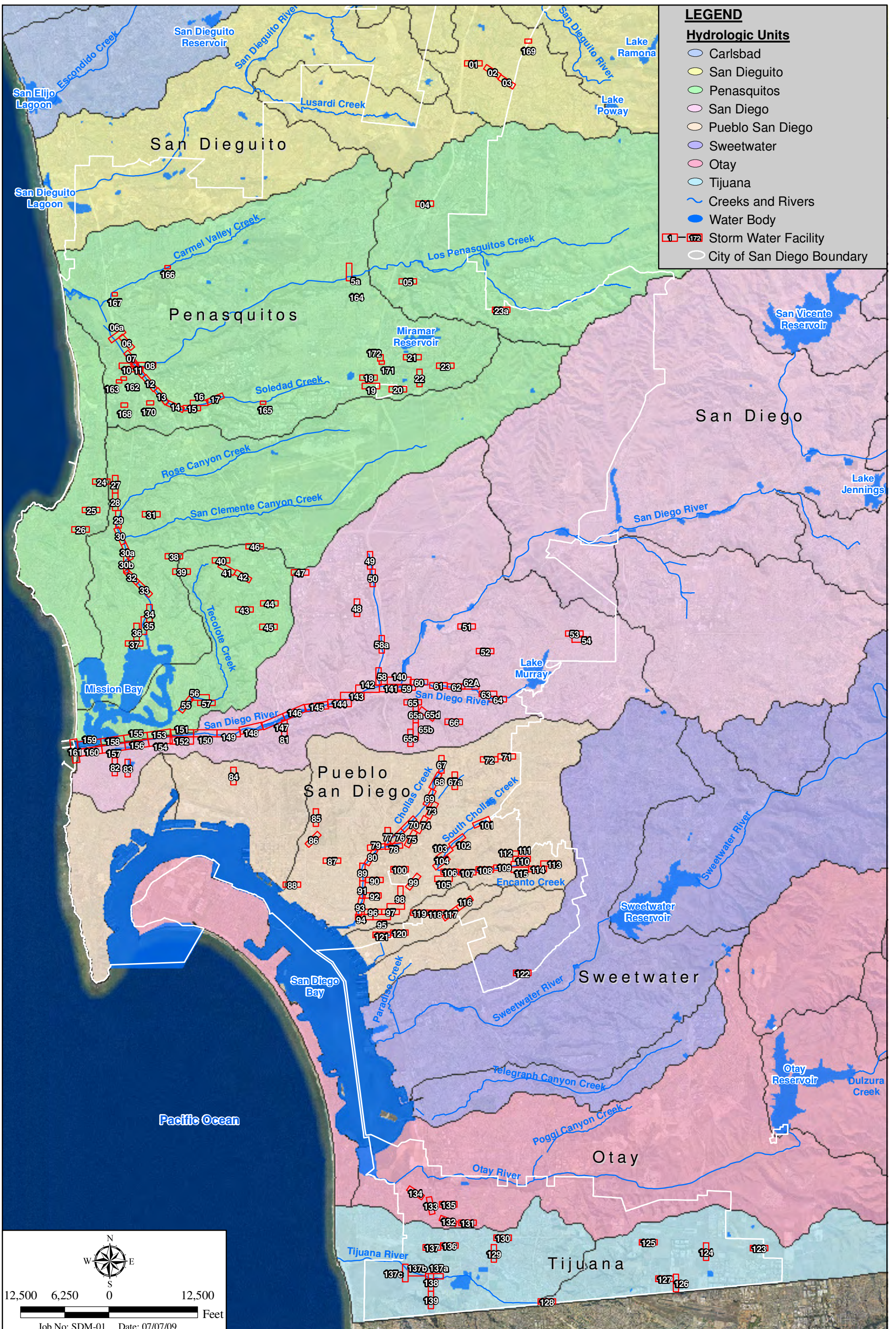
Table 3-1 (cont.) STORM WATER SYSTEM CHANNELS AND DETENTION BASINS						
Map No.	City Equipment No.	Hydrologic Unit	Facility Description	Type	Maintenance Method	Estimated Disturbance Width (feet)
Channel (cont.)						
76-77	88000121 88000123 88000125	Pueblo San Diego	Home Avenue Channel	E	2 & 3	40
78-80	88000050 88000051	Pueblo San Diego	Chollas Creek Channel	C, except approx 1200 linear ft on Map 80 is E	2	70
79	88000066	Pueblo San Diego	Delevan Dr	E	1	30
81	88000502	San Diego	Camino de la Reina & Camino del Arroyo	C	4	4
82	88000181 88000182	San Diego	Nimitz Channel	Approx 188 linear ft earthen bottom, 320 linear ft C	4	10
82	88000183	San Diego	Nimitz Channel	E	1	5
83	88000183	San Diego	Famosa Blvd & Valeta St	C	2	10
84	88000312 88000313 88000314	Pueblo San Diego	Washington Channel	Approx. 150 linear ft E, 56 linear ft C	1	15
85	88000102 88000103	Pueblo San Diego	Florida Canyon Channel	E	1	50
86	88000189 88000190 88000191	Pueblo San Diego	Pershing Channel	C	2	35
87	80028073	Pueblo San Diego	Drain Structures – between 26th St and 27th St	E	4	12
88	88000293	Pueblo San Diego	Switzer Creek Channel	C	1	50
89	88000051 88000053	Pueblo San Diego	Chollas Creek Channel	C	2	70
90	NA	Pueblo San Diego	Imperial Ave & Gillette St	E	4	12
91	88000053	Pueblo San Diego	Chollas Creek Channel	C	1	70
92	80039275	Pueblo San Diego	35th St & Martin Ave	E	4	12

Table 3-1 (cont.) STORM WATER SYSTEM CHANNELS AND DETENTION BASINS						
Map No.	City Equipment No.	Hydrologic Unit	Facility Description	Type	Maintenance Method	Estimated Disturbance Width (feet)
Channel (cont.)						
93	88000053 88000054 88000055	Pueblo San Diego	Chollas Creek Channel	Part E, part C	1	60
94-95	88000055 88000292	Pueblo San Diego	South Chollas Creek Channel	Concrete sides, E bottom	1	70
96	80028356	Pueblo San Diego	Drain Structures – Boston Ave & Z St	E	1	15
97a, 97-99	88000282 88000285 88000287 88000288 88000289 88000290 88000291 88000292	Pueblo San Diego	South Chollas Creek Channel	Concrete sides, E bottom	1	50
100	88000321	Pueblo San Diego	42nd & J St	E	4	3
101-104	88000261 88000262 88000266 88000268 88000270 88000272 88000274 88000276	Pueblo San Diego	South Chollas Creek Channel	Part E, part C	2 & 3	20-50
105	NA	Pueblo San Diego	Euclid & Castana	E	4	12
106-107	88000079 88000080 88000081	Pueblo San Diego	Encanto Channel	Part E, part C	1 & 2	30-65

Table 3-1 (cont.)						
STORM WATER SYSTEM CHANNELS AND DETENTION BASINS						
Map No.	City Equipment No.	Hydrologic Unit	Facility Description	Type	Maintenance Method	Estimated Disturbance Width (feet)
Channel (cont.)						
108-111	88000069 88000071 88000073 88000075 88000077 88000079	Pueblo San Diego	Encanto Channel	C	2	20
109	88000136	Pueblo San Diego	Jamacha Channel	E	4	15
112	880038398	Pueblo San Diego	Madera & Broadway	C	2	20
113-115	88000126 88000128 88000130 88000132 88000134 88000136	Pueblo San Diego	Jamacha Channel	E	1 & 2	30
116	88000253 88000255	Pueblo San Diego	Solola Channel	E	1	30
117	88000255 88000256 88000258	Pueblo San Diego	Solola Channel	Part E, part C	2	30
118-119	88000258 88000260	Pueblo San Diego	Solola Channel	C	2	30
120-121	88000056 88000058 88000060 88000062 88000064	Pueblo San Diego	Cottonwood Channel	C	2	30
122	88000188	Sweetwater	Parkside Channel	C	2	35
123	88000229	Tijuana	Sanyo Channel	C	2	50
124	NA	Tijuana	La Media & Airway	E	4	25
125	NA	Tijuana	Camino Maquiladora & Cactus	C	2 & 4	20
126	88000321 88000502	Tijuana	Siempre Viva & Bristow	E	4	12-25
127	NA	Tijuana	Britannia & Bristow	E	4	20

Table 3-1 (cont.) STORM WATER SYSTEM CHANNELS AND DETENTION BASINS						
Map No.	City Equipment No.	Hydrologic Unit	Facility Description	Type	Maintenance Method	Estimated Disturbance Width (feet)
Channel (cont.)						
128	88000308 88000309 88000311	Tijuana	Virginia Channel	E	2 & 4	15
129	88000238 88000239 88000240 88000242 88000244	Tijuana	Smythe Channel	C, except southernmost 110 linear ft is E	2	30-50
130	88000233	Tijuana	Smythe Channel	E	2	60
131	88000157 88000159 88000160 88000163	Otay	Nestor Creek Channel	Part E, part C	1 & 2	30
132-133	88000167 88000169 88000174 88000176	Otay	Nestor Creek Channel	E	1 & 2	30-50
134	88000178 88000180	Otay	Nestor Creek Channel	C	1 & 2	30-50
135	88000322	Otay	Elm & Harris	C	4	4
136-137	88000301 88000303 88000305	Tijuana	Tocayo Channel	C except for westernmost 55 linear ft	2	35
137a-c	88000300	Tijuana	Tijuana River	E	1	24
138-139	88000232	Tijuana	Smugglers Gulch Channel	E	1	50
140-161	88000217 88000219 88000221 88000223 88000225 88000227 88000228	San Diego	San Diego River	E	NA	NA

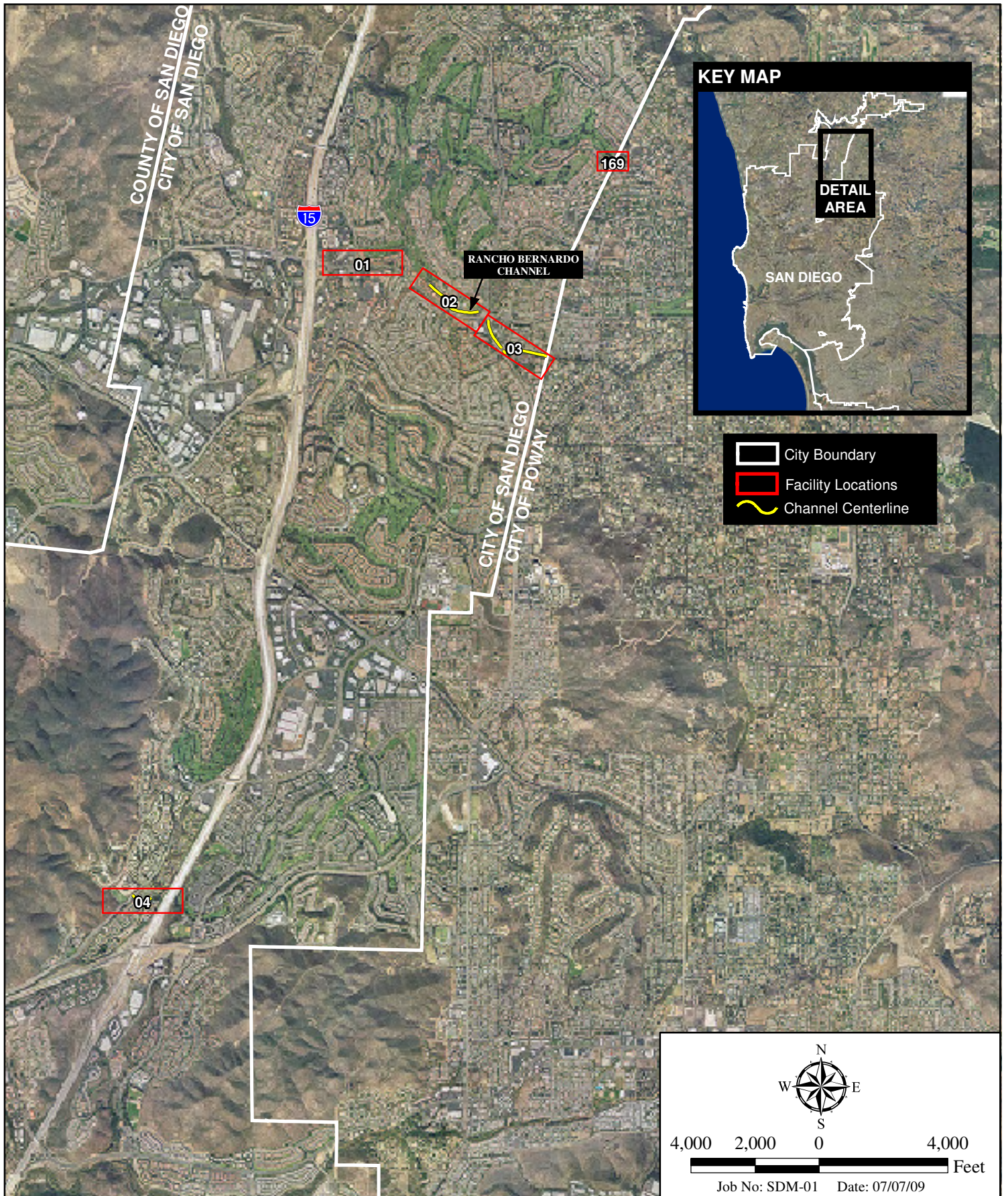
Table 3-1 (cont.) STORM WATER SYSTEM CHANNELS AND DETENTION BASINS						
Map No.	City Equipment No.	Hydrologic Unit	Facility Description	Type	Maintenance Method	Estimated Disturbance Width (feet)
Basin						
162-163	NA	Peñasquitos	Tower Road	1	1	100
164	NA	Peñasquitos	Black Mountain Road south of Westview	1	1	80
5a	NA	Peñasquitos	12350 Black Mountain Road n/o Mercy Road	1	1	50
165	NA	Peñasquitos	9262 Camino Santa Fe	1	1	10
166	NA	Peñasquitos	Carmel Country Rd Bridge south of SR 56	1	1	200
167	NA	Peñasquitos	Westside El Camino Real south of SR 56	1	1	50
168	NA	Peñasquitos	Northside Genesee east of Science Center Dr	1	1	100
169	NA	San Dieguito	13153 Paseo del Verano	1	1	140
170	NA	Peñasquitos	Roselle Street (Deadend)	1	1	100
171-172	NA	Peñasquitos	Scripps Lake Drive west of Treena Street	1	1	15-20
23a	NA	Peñasquitos	12660 Legacy Road	1	1	100
131	NA	Otay	30 th & Del Sol Blvd	1	1	300



Storm Water System Relationship to Hydrologic Basins

CITY OF SAN DIEGO MASTER STORM WATER SYSTEM MAINTENANCE PROGRAM

Figure 3-1

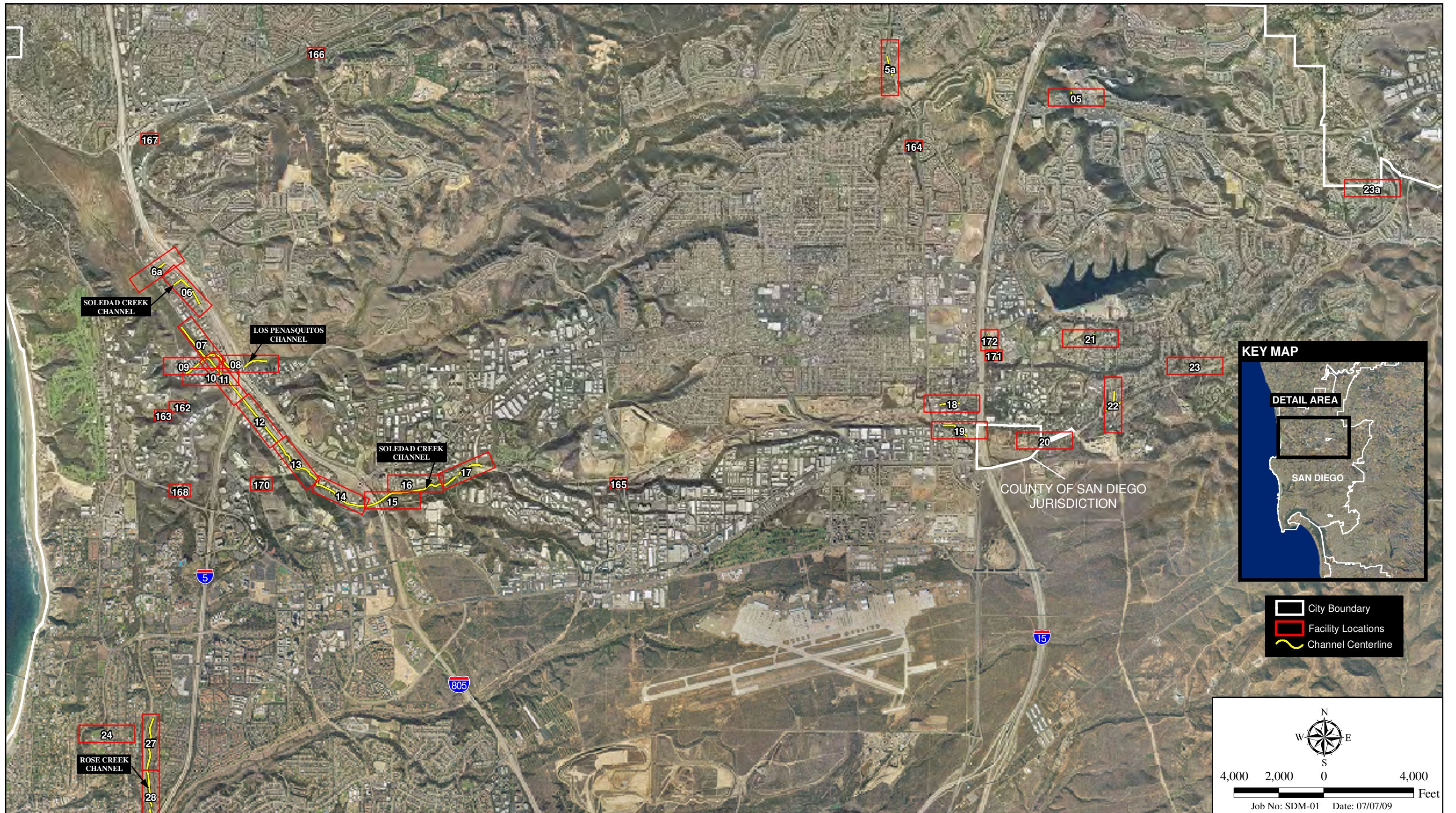


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Storm Water Facilities - Rancho Bernardo Area

CITY OF SAN DIEGO MASTER STORM WATER SYSTEM MAINTENANCE PROGRAM

Figure 3-2a

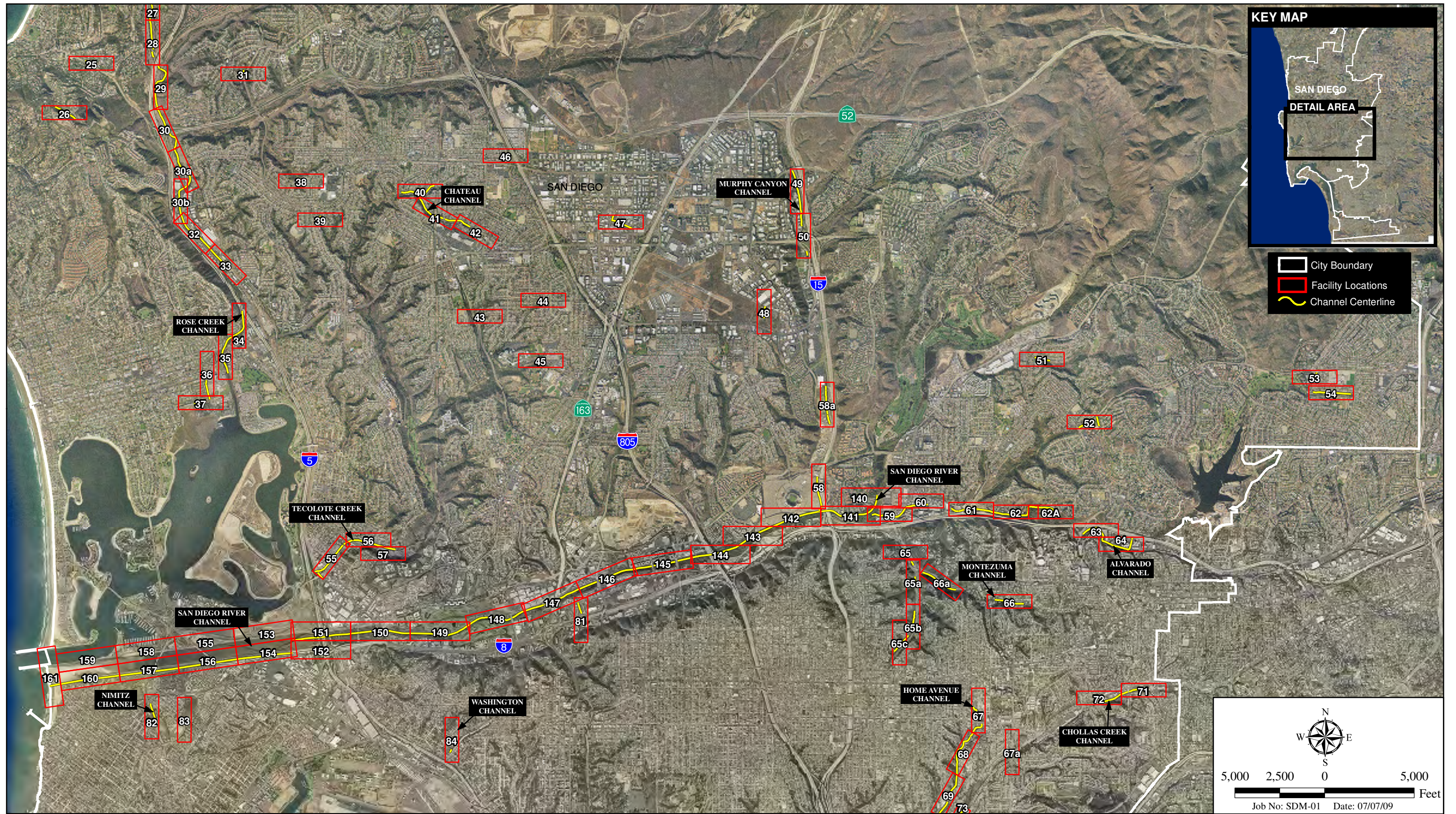


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Storm Water Facilities - Soledad Area

CITY OF SAN DIEGO MASTER STORM WATER SYSTEM MAINTENANCE PROGRAM

Figure 3-2b

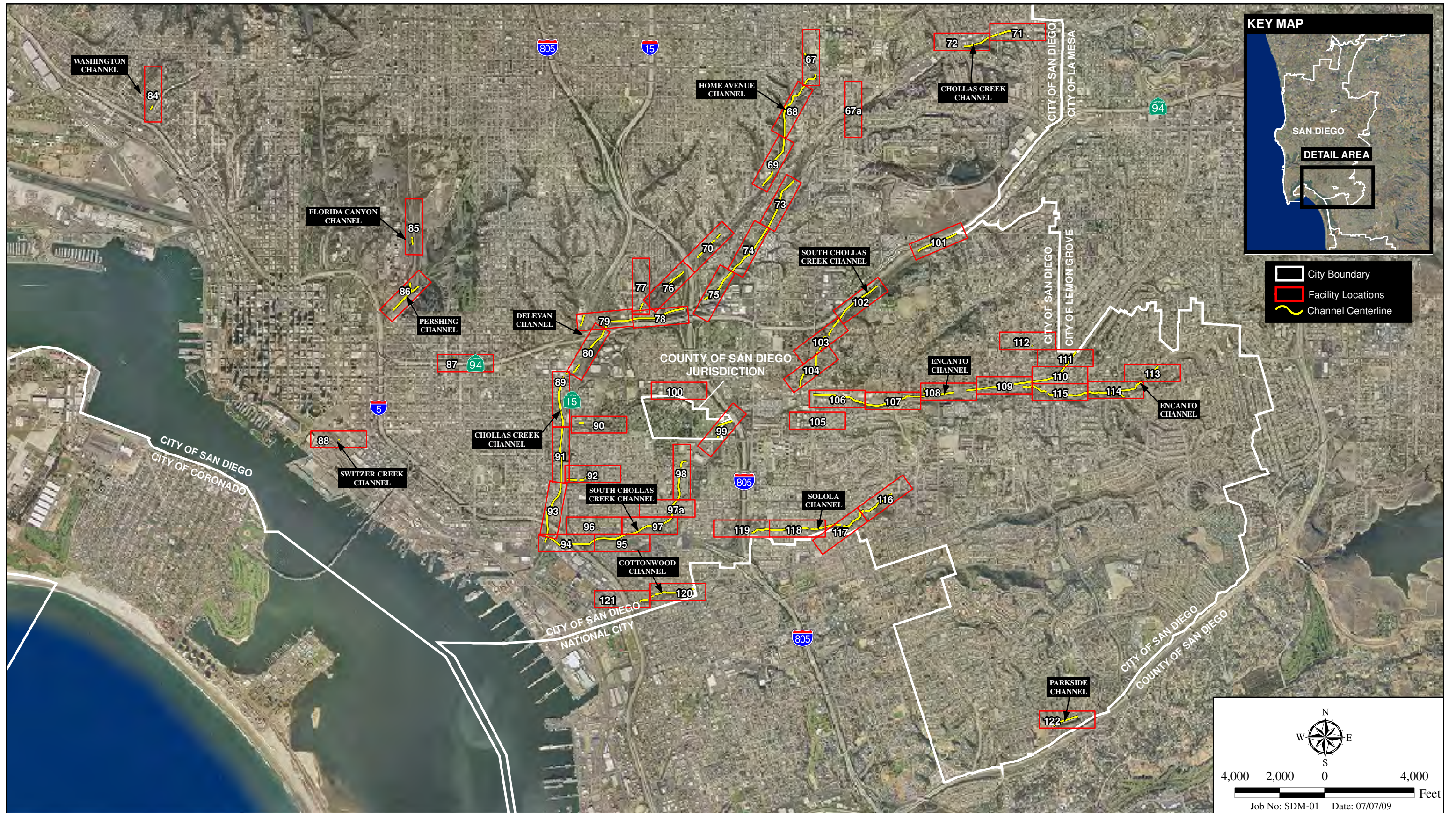


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Storm Water Facilities - I-8 Corridor

CITY OF SAN DIEGO MASTER STORM WATER SYSTEM MAINTENANCE PROGRAM

Figure 3-2c



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Storm Water Facilities - Central San Diego Area

CITY OF SAN DIEGO MASTER STORM WATER SYSTEM MAINTENANCE PROGRAM

Figure 3-2d



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Storm Water Facilities - Otay Mesa Area

CITY OF SAN DIEGO MASTER STORM WATER SYSTEM MAINTENANCE PROGRAM

Figure 3-2e

3.3 CHARACTERISTICS OF PROGRAM

The City prepared the MSWSMP to guide future maintenance activities. The MSWSMP describes the maintenance techniques to be employed as well as the protocols to be followed to minimize the impact of maintenance activities with respect to environmental resources. It also identifies a process whereby annual maintenance activities would be defined and reviewed by state and federal agencies with jurisdiction over the storm water facilities. The following discussion addresses these aspects of the MSSWMP in more detail. A complete copy of this document is included in Appendix B.

3.3.1 Storm Water Facility Maintenance

Determination of Need

Routine inspection and assessment activities are conducted by the SWD to identify storm water system facilities in need of maintenance. These inspections include Storm Patrol Inspection (SPI), Routine Storm Water Facility Inspection (RSWFI), and Service Notification Inspection (SNI).

SPIs occur on an infrequent basis, typically during the rain events. An SPI is triggered when rainfall prevents crews from performing their regularly assigned duties. SPIs are focused on inspecting storm water facilities that have been deemed critical and/or adversely affected as a result of recent rain events.

RSWFIs typically are scheduled on an annual basis. These inspections note drainage conditions, including external conditions that may lead to system failures, and/or equipment access problems. The frequency of routine inspections is normally increased if site conditions, drainage conditions, or maintenance history show that it is warranted.

SNIs are based upon notification from the public that a specific facility may need maintenance. The primary source of public complaints is illegally dumped materials such as trash, appliances, furniture, shopping carts, and tires.

Frequency of Maintenance

The frequency of storm water facility maintenance would be based upon routine inspections and past maintenance history. Maintenance frequencies typically occur at three-year intervals. Facilities that have a known history of flooding and/or accumulation of soil, debris, and

vegetation and have the potential to increase the risk to life and property would be placed on a priority maintenance list which would require maintenance annually or bi-annually.

Equipment Selection

Mechanized equipment clearing would be utilized whenever possible to reduce cost. Depending on the conditions associated with each facility, different types of mechanized equipment would be utilized. The decision as to which mechanized equipment would be used would be based upon the density and volume of accumulated material, vegetation growth, the size of the facility, the flow characteristics of the facility, and the need to complete maintenance activities in a timely and efficient manner. The types of mechanized equipment would include, but not be limited to, skid-steers, backhoes, Gradalls, excavators, loaders, dump trucks, and bulldozers. Equipment would range in size from 4 feet wide for the smallest skid-steer to 12.5 feet wide for the largest bulldozer. Smaller equipment such as skid-steers would typically be used for smaller channels. For all equipment clearing activities, the depth of material to be removed would be based upon the design capacity of the facility.

Maintenance equipment would utilize existing access roads, whenever possible. In some cases, the maintenance activity would require creating access pathways. Depending on the terrain and vegetation density, bulldozers may be used to create access paths.

Maintenance Methods

Depending on the characteristics of the storm water facility to be maintained, maintenance would affect the entire channel including bottom and banks (referred to as “full maintenance”) or affect only that portion of the channel required to achieve the necessary flood control capacity (referred to as “selective maintenance”). A description of each of these techniques including a discussion of the conditions under which they would be appropriate follows.

Full-width Maintenance

Many of the storm water facilities in the urbanized areas were not designed to support vegetation. As a result, retention of any amount of vegetation would impede the flow of flood water and cause flooding on adjacent property. In these circumstances, full removal of vegetation on the banks as well as channel bottom would be the only way to avoid or, at least, minimize the risk of flooding along these facilities. In these cases, mechanized equipment would be used to remove above-ground vegetation and sediment would be excavated from the channel. In most cases, the root systems of vegetation would be likely removed in the course of full channel maintenance. This would be particularly true on the channel bottoms because the root

systems are commonly associated with the sediment that must also be removed to restore flood conveyance capacity. Scraping would be limited to the amount of excavation required to remove plant material and sediment needed to restore the original channel condition.

Selective Maintenance

Selective maintenance would be based on a combination of empirical evidence and hydraulic analysis. These two methods would be used to determine the minimum amount of sediment and vegetation which must be removed to enable a storm water facility to safely convey flood water. A number of approaches may be used to achieve the necessary flood capacity. These are described below.

Parallel-strip Maintenance. This approach would rely on clearing a strip of vegetation along the centerline of the channel parallel to the direction of flow; this area is commonly referred to as a “pilot channel”. Mechanized equipment would remove the quantity of vegetation and sediment which is necessary to transport flood water. This form of maintenance would optimize the flow of flood water by creating sufficient area free of vegetation and sediment. While portions of the channel cleared of vegetation would promote the capacity of the storm water facility to convey flood water, under certain circumstances, the removal of plant material and the root system could encourage scouring which could cause downstream sedimentation.

Perpendicular-strip Maintenance. This approach would involve removing strips of vegetation perpendicular to the direction of flow. Mechanized equipment would excavate vegetation and sediment in alternating strips ranging in width from 10-25 feet. As with the parallel maintenance approach, the width of the strips would be designed to provide adequate flood control capacity. Each strip would be excavated to a depth required to remove vegetation and accumulated sediment. This technique would create a series of depressions that would function as individual sediment basins. The intervening vegetation would intercept debris and trash carried in runoff. Implementation of this approach would be limited to channels where access allows equipment to create these strips while not impacting intervening vegetation. Normally, this would require continuous access from at least one bank of the channel.

While this approach would provide water quality benefits during periods of low flow, this approach could create water quality impacts during periods of high flows. The excavated strips would increase the velocity of water as it drops into the excavated strip and would cause scouring that could create downstream sediment deposition. In addition to the increased potential for sediment production during high flows, the tendency of the intervening vegetation to intercept trash and debris during low flow could actually be disadvantageous during high flows. The vegetation and debris collected in the vegetation could slow the water which could cause flooding because the floodwater would not be allowed to move out of the channel as

quickly as with an unvegetated channel.

Half and Half Maintenance. Under this approach, storm water facilities would be cleared parallel to the direction of flow. However, in this case, half of the channel would be cleared in alternating sequence using mechanized equipment. Although the amount of vegetation and sediment to be removed would be essentially the same as parallel-strip technique, the half and half approach would affect different sides of the channels during maintenance rather than constantly affecting the centerline of the channel.

Above-Ground Vegetation Removal Maintenance. This approach would be used in storm water facilities where the primary reason for decreased flood control capacity is related to vegetation rather than sediment accumulation. In these circumstances, the above-ground vegetation would be periodically mowed with mechanized equipment or removed by hand where mowing equipment access is unavailable. If the cut vegetation would not interfere with flood capacity, it would be left within the channel. Where this would not be possible, the cut vegetation would be collected and disposed in a suitable off-site location. With mowing or hand clearing, the root system would remain in place to hold the channel substrate.

Maintenance Protocols

In order to minimize the impact of storm water maintenance on the environment, the maintenance activities would incorporate the following protocols, as appropriate.

Erosion Control

- Protocol #1 Minimize new ground disturbance to the maximum extent feasible, through efforts such as limiting grading to the minimum areas required, and restricting vehicle access and maneuvering to designated areas (with an emphasis on using existing roads).
- Protocol #2 Minimize maintenance operations during the rainy season (October 1 to April 30).
- Protocol #3 When maintenance cannot be avoided during the rainy season, prepare and implement a “weather triggered” action plan for activities to provide enhanced erosion and sediment control measures prior to predicted storm events (i.e., 40 percent or greater chance of rain).
- Protocol #4 Schedule grading, earth disturbing and restoration activities as far in advance of the start of the rainy season as feasible, to maximize the opportunity for revegetated areas to establish prior to the advent of storm runoff.

- Protocol #5 Stabilize access roads (or other graded areas) proposed to be permanently retained through the use of measures such as permeable protective surfacing (e.g., grasscrete), storm water diversion structures (e.g., brow ditches or berms), or crossing structures (e.g., culverts).
- Protocol #6 During maintenance, use sediment controls within channels, access paths and staging areas to prevent off-site sediment transport, including measures such as silt fence, fiber rolls, gravel bags, temporary sediment basins, stabilized construction access points (e.g., shaker plates), containment barriers (e.g., silt fence, fiber rolls and/or berms) for material stockpiles, and properly fitted covers for material transport vehicles. Remove temporary erosion control measures upon completion of maintenance.
- Protocol #7 Store BMP materials on site to provide “standby” capacity adequate to provide complete protection of exposed areas and prevent off-site sediment transport.
- Protocol #8 Provide appropriate training for personnel responsible for BMP installation and maintenance.
- Protocol #9 As appropriate, implement revegetation efforts on all slopes, access paths and staging areas using native or naturalized vegetation, non-invasive plant material as soon as feasible during or after maintenance operations. Revegetated areas shall be monitored and maintained for a period of no less than 25 months.
- Protocol #10 Monitor erosion control measures during the rainy season to assure effectiveness.
- Protocol #11 Implement sampling/analysis, monitoring/reporting and post-construction management programs per NPDES and/or City requirements.
- Protocol #12 Comply with local dust control requirements, including measures such as material stockpile and transport vehicle control (as noted above), regular watering or use of soil binders, and restriction of grading during high winds.

Water Quality

- Protocol #13 Minimize the amount of hazardous materials stored on site, and restrict storage/use locations to areas at least 50 feet from storm drains and surface waters.
- Protocol #14 Store construction-related trash in areas at least 50 feet from storm drains and surface waters, and implement regular (at least weekly) removal of trash by a licensed operator for disposal at an approved site.

- Protocol #15 Cover and/or enclose storage facilities for hazardous materials and trash, and maintain accurate and up-to-date written hazardous material inventories.
- Protocol #16 Store hazardous materials off the ground surface (e.g., on pallets) and in their original containers, with the legibility of labels protected. Replace damaged labels.
- Protocol #17 Use berms, ditches and/or impervious liners (or other applicable methods) in material storage and vehicle/equipment maintenance and fueling areas to provide a containment volume of 1.5 times the volume of stored/used materials and prevent discharge in the event of a spill.
- Protocol #18 Place warning/information signs in areas of hazardous material use or storage to identify the types of materials present, as well as applicable use restrictions and containment/clean-up procedures.
- Protocol #19 Mark storm drains (or other appropriate locations) to discourage inappropriate hazardous material or trash disposal.
- Protocol #20 Provide training for applicable employees in the proper use, handling, and disposal of hazardous materials, as well as appropriate action to take in the event of a spill.
- Protocol #21 Store readily accessible absorbent and clean-up materials in applicable locations, such as hazardous material storage and vehicle/equipment maintenance areas.
- Protocol #22 Post regulatory agency telephone numbers and a summary guide of clean-up procedures in a conspicuous location at or near the job site trailer.
- Protocol #23 Monitor and maintain hazardous material use/storage facilities and operations to ensure proper working order on at least a monthly basis.

Biological Resource Protection

- Protocol #24 Retain wetland vegetation during maintenance when retention would not interfere with the goal of facilitating the conveyance of floodwaters, and protecting adjacent life and property.
- Protocol #25 Vehicles operating outside storm water facilities shall use existing/approved access roads.
- Protocol #26 The size and number of equipment used for maintenance shall be selected to minimize disturbance associated with maintenance.

Protocol #27 All sensitive biological resource areas shall be flagged in the field prior to initiation of maintenance activities. Where necessary, a qualified biologist shall be present to monitor the work to assure impacts to the resource are avoided.

Protocol #28 Physical erosion control measures (e.g., fiber mulch, rice straw, etc.) shall not carry seed from invasive species.

Protocol #29 Maintenance activities within areas potentially supporting sensitive wildlife shall be avoided, whenever possible. Pre-construction surveys would be conducted to determine the presence of any sensitive animal species and to determine appropriate protection measures to be implemented during maintenance.

Protocol #30 If maintenance activities occur near active raptor nests, necessary setbacks shall be maintained during the period of nest use.

Historical Resource Protection

Protocol #31 All historical resource areas shall be flagged, capped or fenced, as appropriate, prior to initiation of maintenance activities. Where necessary, a qualified historical resource specialist shall be present to monitor the work to assure impacts to the resource are avoided.

Waste Management

Protocol #32 Green waste material shall be diverted from disposal and put to the highest and best use (e.g., compost or landfill cover), to the maximum extent possible.

Protocol #33 Soil, sand, and silt shall be screened to remove waste debris and re-used as fill material, aggregate, or other raw material usage, to the maximum extent possible.

Protocol #34 Waste tires shall be separated and transported to an appropriate disposal facility. If more than nine tires are in a vehicle or waste bin at any one time, they shall be transported under a completed Comprehensive Trip Log (CTL) to document that the tires were taken to an appropriate disposal facility.

Protocol #35 Hazardous materials encountered during maintenance shall be logged and transported under a hazardous materials manifest to an approved hazardous

waste storage, recycling, treatment, or disposal facility. Personnel handling hazardous materials shall have appropriate training. Hazardous materials (e.g., machine oil, mercury switcher and refrigerant gases) shall be removed from appliances and disposed in accordance with this protocol.

Access

The majority of storm water facilities have existing access such as utility roads and/or concrete or earthen ramps. It is the responsibility of the SWD to maintain access paths used solely by the SWD. Joint-use paths are maintained in cooperation with all responsible agencies/entities (i.e., other City departments, County of San Diego, and other public utilities). Maintenance of access roads precedes maintenance of the storm water system facility. Maintenance normally involves trimming vegetation, but in some cases would involve removal of individual plants.

New access would be created for facilities where none currently exist. Hand clearing of facilities would only require footpath access, which would result in minimal soil and vegetation disturbance, if any. Access for smaller equipment would require a minimum width of four feet while the heaviest equipment would require a width of up to 18 feet. Access for equipment would be achieved via grading access roads; importing soil into the facility to create access ramps where access roads exist, followed by the subsequent removal of all imported soil and restoration of the facility to its pre-impact contours; or “dropping in” smaller equipment such as skid-steers from the channel banks. Where possible, access for channel maintenance would be achieved within the concrete-lined portions to avoid and/or minimize impacts to sensitive resources.

The type of access needed would be based on the site-specific characteristics of the storm water facility (i.e., surrounding land uses and vegetation, concrete-lined vs. earthen, adjacency of public right-of-way, etc.) and the type of equipment necessary to complete maintenance activities. The facilities would be designed to minimize and/or avoid, impacts to sensitive environmental resources, along with engineering and property ownership considerations. All created access paths would incorporate BMPs during and after maintenance activities.

3.3.2 Procedures

Annual Maintenance Approval Process

Future maintenance activities would be approved by designated City departments as well as state and federal agencies with approval authority on an annual basis through a process known as SCR. The SCR process would be defined in each of the long-term maintenance permits issued

by local, state and federal agencies with jurisdiction over the specific facility where a maintenance action is proposed. The overall goal of the SCR process is to allow maintenance activities to proceed under the terms of the master permits as long as impacts and mitigation were appropriately identified in the PEIR and program-level permits prepared for the MSWSMP and the appropriate mitigation measures either have been or would be accomplished as part of the proposed maintenance activity. While the SCR process may vary with each master permit, the overall process is expected to include the following steps.

Step One: Annual Maintenance Needs Assessment

On an annual basis, the SWD shall determine which storm water facilities require maintenance in the coming fiscal year.

Step Two: Individual Maintenance Plans

An IMP will be prepared for each maintenance activity. The IMP will identify the following: width of channel clearing, maintenance method(s) to be used; equipment type; access roads/paths; staging areas; spoils storage sites; and schedule. As part of preparing the IMPs, a preliminary hydrology/hydraulic analysis would be conducted to determine if any vegetation could be retained in the channel after maintenance without affecting the facilities ability to convey floodwater. Based on the results of this analysis, a maintenance program would be defined to determine the amount of vegetation and sediment to be removed and the process by which it would be removed.

As appropriate, the IMP shall incorporate construction BMPs required by the RWQB to prevent pollutants from further conveyance by the storm system, the maintenance protocols identified earlier and compensatory mitigation identified in Section 4.3 of this PEIR. The maintenance requirements shall be based on empirical and/or quantitative evaluation of what is required to achieve the desired flood control capacity of the subject storm water facility.

Pursuant to Council Policies 700-13 and 14, the IMP will utilize existing access paths within environmentally sensitive lands that serve other utilities including sewer, water, natural gas, and power to minimize the need for creating new access paths. As an alternative, the IMP may propose alternative access to replace existing utility access paths when that new access can reduce effects on environmentally sensitive resources.

Step Three: Individual Resource Assessments

Individual Biological Assessment

An IBA would be prepared for any facility that supports native vegetation or occurs adjacent to habitat that has the potential to support sensitive species. Once the limits of maintenance have been defined for a specific facility, a qualified biologist would visit the affected facility to determine the extent and condition of biological resources and determine the extent of impact which would occur to those resources. The results of this survey would be summarized in an IBA. An IBA would include the following components:

- Description of maintenance to be performed including length, width and depth;
- Protocol surveys, as needed;
- Scaled map of each affected storm water facility illustrating pre-maintenance vegetation including wetland boundaries based on evaluation of above-ground indicators of the resources; excavation of soil pits, and completion of Corps wetland determination data forms, or completion of Corps preliminary or approved jurisdictional determination forms are not proposed;
- Location of sensitive species;
- Quantification of impacts to all sensitive biological resources;
- Two, digital, date-stamped photos of the affected area;
- Specific maintenance protocols from the MSWSMP that should be implemented as part of the IMP;
- Identification of any biological monitoring required during maintenance; and
- Specific compensation that would be required to mitigate impacts to biological resources (e.g., wetland creation/enhancement/restoration or offsite upland habitat acquisition).

Individual Noise Assessment

An INA would be prepared for any facility that occurs adjacent to habitat for sensitive bird species. The INA would include the following components:

- Baseline noise survey would be conducted to determine the ambient noise levels;
- Location of 60 L_{eq} noise contour in relationship to bird habitat; and
- Mitigation strategy for maintenance during a sensitive bird's breeding season.

Individual Historical Assessment

An IHA would be completed by a qualified archaeologist. The IHA would be conducted in two phases. Phase One would involve an initial assessment of the potential for a maintenance activity to affect a significant historical resource. This determination would be primarily based on the age of any structures that may be affected and/or the occurrence of undisturbed areas which have a moderate to high potential for encountering pre-historical or historical resources. If a moderate to high potential for significant historical resources is determined to exist, a Phase Two assessment would be done which includes the following:

- Description of maintenance to be performed;
- Records search;
- Field reconnaissance (survey) with Native American participation; and
- Preparation of a report containing: (1) description of historical resources which may be affected, (2) discussion of the resource value including research potential, and (3) recommendations for protection and/or mitigation of affected resources.

Step Four: Agency Notification

The SWD would provide written notice to designated City department, as well as state and federal agency with jurisdiction over storm water facilities that are proposed to be maintained in the upcoming fiscal year. The written notice would include the IMP, IBA, INA, and IHA for each facility.

Step Five: SCR Determination

Based on the information provided with the notification package, those City departments designated in the MSWSMP, along with state and federal agencies with permit jurisdiction, would determine whether the proposed maintenance activities are in substantial conformance with the analysis contained in the PEIR and the specific terms of the general permit issued for maintenance activities in accordance with the MSWSMP. Where it is determined that one or more of the maintenance activities would not be in substantial conformance, additional measures would be identified to bring those activities into compliance with the PEIR and the master permit conditions.

Step Six: Annual Report

The SWD would prepare an annual report for designated City departments and state and federal agencies with jurisdiction over storm water facilities that were maintained during the past year. This report would include the following:

- Tabular summary of the acreage of sensitive vegetation lost by the facility that was maintained;
- Scaled map of each affected storm water facility illustrating pre- and post-maintenance vegetation;
- Updated master storm water facility list to reflect the facilities which have been mitigated and, for which, no additional mitigation shall be required;
- Summary of the status of mitigation which has been carried out during the current and previous years to compensate for impacts to upland and wetland vegetation, as well as sensitive species;
- Two digital, date-stamped photographs of each of the areas that were maintained in the current year; and
- Description of any remedial actions and the outcome of their implementation for each affected storm water facility.

3.3.3 Individual Maintenance Activity Process

After securing the necessary SCR determination or additional permits, the maintenance activities would occur in the following manner.

Storm Water Facility and Access Route Field Delineation

Approved access routes would be field marked per the IMP. When mandated by the IBA or IHA, a qualified biologist or archaeologist would stake sensitive resource areas that are to be avoided and delineate the limits of resource areas that have been approved for clearing or crossing. The biologist/archaeologist would check for any substantial change in site conditions from those shown on the IMP and have the ability to refine the access routes and maintenance methods, whenever possible, to avoid or reduce impacts to sensitive resources as maintenance progresses in the field.

Sensitive Biological Resource Clearance

Within a minimum of 72 hours of initiating any clearing or grubbing activities which may adversely affect a sensitive biological resource, a qualified biologist would conduct any necessary pre-maintenance surveys, including bird nest surveys to provide for compliance with the Migratory Bird Treaty Act (MBTA).

Historical Resource Mitigation

If historical resources were identified during the IHA, a qualified archaeologist would undertake any monitoring and/or mitigation measures identified in the IHA in cooperation with the City's Development Services Department (DSD).

Access Route Clearing (if necessary)

Access routes would be cleared of brush, low-hanging branches, and obstacles. Limited grading would be conducted, as necessary, to allow equipment to be transported to the work areas. BMPs would be installed in accordance with the IMP.

Maintenance Activities

Storm water facility maintenance would be completed using the methodology described in the IMP.

Weed/Erosion Control

Weeds would be removed from access areas to prevent introduction of these or other invasive species from taking over the area. Areas would be monitored by the SWD staff during routine inspections.

Waste Management

All debris accumulated during the maintenance process would be removed from the site either by vacuum/pressure truck or dump truck, and disposed of at an appropriate off-site location.

Site Close-out

Following completion of the maintenance activities and removal of all maintenance wastes and equipment, site close-out activities would, as appropriate, include: installation of erosion control

devices such as straw wattles, geotextile blankets/nets, and/or hydroseed; implementation of on-site wetland/streambed restoration measures required by the PEIR, as well as any additional measures imposed as part of the SCR determination; and/or securing site from public access.

3.4 DISCRETIONARY ACTIONS

3.4.1 City Permits

A Master Site Development Permit (SDP) would be required to carry out maintenance activities in environmentally sensitive areas identified in the ESL Regulations of the City's Land Development Code (LDC). The Master SDP would be designed to allow: (1) cleaning and maintenance of storm water facilities; (2) maintenance of existing access, potential relocation of existing access, and creation of new access to storm water facilities; and (3) approval of IMPs. A SCR by the City's DSD would determine if a particular plan is consistent with the Master SDP based on conformance with the permit conditions, the Master SDP Performance Criteria, and the Mitigation Monitoring and Reporting Program (MMRP) for this PEIR, or if a separate, new permit would be required.

Issuance of a Master Coastal Development Permit (CDP) may also be required for maintenance activities within the Coastal Zone areas identified by the City's Local Coastal Plans (LCPs). As with the SDP, the CDP would be designed to allow: (1) cleaning and maintenance of storm water facilities; (2) maintenance of existing access, potential relocation of existing access, and creation of new access to storm water facilities; and (3) approval of IMPs.

3.4.2 Non-City Permits

Under the state and federal regulations, maintenance activities which would impact wetland habitat and/or species protected by state and federal endangered species acts would require one or more of the following permits or approvals.

404 Permit

Under Section 404 of the federal Clean Water Act (CWA), a permit issued by the U.S. Army Corps of Engineers (Corps) would be required for maintenance proposals that would impact wetlands or "Waters of the U.S."

401 Certification

A Section 401 Water Quality Certification issued by the RWQCB would be required for all maintenance proposals within the Corps' jurisdiction that have potential to affect water quality.

1602 Streambed Alteration Agreement

A Section 1602 Streambed Alteration Agreement issued by the California Department of Fish and Game (CDFG) would be required for maintenance proposals that would impact streambeds.

National Pollutant Discharge Elimination System Permit

A National Pollutant Discharge Elimination System (NPDES) Permit issued by the state RWQCB, and/or compliance with the state General Permit for Construction Activities relative to potential water quality impacts during maintenance.

Wastewater Discharge Regulations

Wastewater Discharge Regulations (WDRs) would be required from the state RWQCB whenever dewatering would occur as part of a maintenance activity.

Coastal Development Permit

Individual CDPs issued by the California Coastal Commission would be required for access path proposals within the Coastal Commission Permit jurisdiction and the Deferred Certification Areas of the Coastal Zone. Within these areas, the Coastal Commission is the governing agency for the issuance of CDPs.

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CHAPTER 4.0

ENVIRONMENTAL ANALYSIS

CHAPTER 4.0 – ENVIRONMENTAL ANALYSIS

4.1 LAND USE

4.1.1 Existing Conditions

Existing Land Use Setting

The storm water facilities included in the MSWSMP occur in various land use contexts. The majority of uses surrounding the affected storm water facilities are open space/park/preserve areas, residential and/or commercial. The open space, park and preserve areas primarily serve as passive/limited activity recreational resources and/or habitat and wildlife preservation areas. In the more urban, older communities of San Diego, some of the MSWSMP canyon areas serve as passive recreational areas for local residents, who use the canyons and have, over time, created footpaths along the canyon floors in many of these locations. The majority of the subject storm water facilities within the bottom of canyons are located on slopes that have a less than 25 percent gradient. Storm water facilities within urban areas are mostly concrete-lined and adjacent to roadways and residential and commercial land uses.

Relevant Planning Documents

City of San Diego General, Community, Park/Preserve and Other Plans

Land use regulations are guided by the City General Plan (March 2008). The General Plan provides overall land use goals, objectives and recommendations for the entire City. The City's General Plan contains a Strategic Framework section and ten elements: Land Use and Community Planning; Mobility; Urban Design; Economic Prosperity; Public Facilities, Services and Safety Element; Recreation; Conservation; Historic Preservation; Noise; and Housing. The applicable goals and recommendations within relevant elements pertaining to the MSWSMP are summarized below. Specific policy language from the plan is listed in Table 4.1-1, General, Community and Area Plans Consistency Evaluation.

Land Use and Community Planning Element

The purpose of the Land Use and Community Planning Element (Land Use Element) is “to guide future growth and development into a sustainable citywide development pattern, while maintaining or enhancing quality of life in our communities.” The Land Use Element addresses land use issues that apply to the City as a whole and identifies the community planning program as the mechanism to designate land uses, identify site-specific recommendations, and refine city-

wide policies as needed. The Land Use Element establishes a structure that respects the diversity of each community and includes policies that govern the preparation of community plans. The Land Use Element addresses zoning and policy consistency, the plan amendment process, airport-land use planning, annexation policies, balanced communities, equitable development, and environmental justice.

Urban Design Element

The purpose of the Urban Design Element is “to guide physical development toward a desired image that is consistent with the social, economic and aesthetic values of the City.” These Element policies capitalize on San Diego’s natural beauty and unique neighborhoods by calling for development that respects the natural setting, enhances the distinctiveness of its neighborhoods, strengthens the natural and built linkages, and creates mixed-use, walkable villages throughout the City. Urban Design Element policies help support and implement land use and transportation decisions, encourage economic revitalization, and improve the quality of life in San Diego. Ultimately, the Urban Design Element influences the implementation of all of the General Plan’s elements and community plans as it sets goals and policies for the pattern and scale of development and the character of the built environment.

Public Facilities, Services, and Safety Element

The purpose of the Public Facilities, Services, and Safety Element (Public Facilities Element) is “to provide the public facilities and services needed to serve the existing population and new growth.” This Element contains policies that address public financing strategies, public and developer financing responsibilities, prioritization, and the provision of specific facilities and services that must accompany growth. The policies within the Public Facilities Element also apply to transportation, and park and recreation facilities and services. This Element also provides policies to guide the provision of a wide range of public facilities and services, including fire-rescue, police, wastewater, storm water infrastructure, water infrastructure, waste management, libraries, schools, information infrastructure, public utilities, regional facilities, healthcare services and facilities, disaster preparedness, and seismic safety.

Recreation Element

The purpose of the Recreation Element is “to preserve, protect, acquire, develop, operate, maintain, and enhance public recreation opportunities and facilities throughout the City for all users.” The goals and policies of the Recreation Element have been developed to take advantage of the City’s natural environment and resources, to build upon existing recreation facilities and services, to help achieve an equitable balance of recreational resources, and to adapt to future

recreation needs. The Recreation Element provides policies to guide the City's vision and goals for park and recreation facilities citywide and within individual communities. Recreation Element policies also support joint use and cooperative agreements; protection and enjoyment of the City's canyon-lands; creative methods of providing "equivalent" recreation facilities and infrastructure in constrained areas; and implementation of a financing strategy to better fund park facility development and maintenance.

The City provides three categories of parks and recreation for residents and visitors: population-based, resource-based, and open space. These categories, including land, facilities and programming, constitute San Diego's municipal park and recreation system. Population-based parks are to be provided at a minimum ratio of 2.8 usable acres per 1,000 residents. In recognition of the City's land constraints, it is proposed that some of the 2.8 acres could be satisfied through "equivalencies," which are alternative ways to meet population-based park standards.

Conservation Element

The purpose of the Conservation Element is "to become an international model of sustainable development and conservation. To provide for the long-term conservation and sustainable management of the rich and natural resources that help define the City's identity, contribute to its economy, and improve its quality of life." The Conservation Element contains policies to guide the conservation of resources that are fundamental components of San Diego's environment, that help define the City's identity, and that are relied upon for continued economic prosperity. San Diego's resources include, but are not limited to: water, land, air, biodiversity, minerals, natural materials, recyclables, topography, viewsheds, and energy. The Element contains policies for sustainable development, preservation of open space and wildlife, management of resources, and other initiatives to protect the public health, safety, and welfare.

Historic Preservation Element

The purpose of the Historic Preservation Element is "to guide the preservation, protection, restoration and rehabilitation of historical and cultural resources and maintain a sense of the City. To improve the quality of the built environment, encourage appreciation for the City's history and culture, maintain the character and identity of communities, and contribute to the City's economic vitality through historic preservation." This Element contains goals and policies designed to integrate effective historic preservation into the larger planning process to achieve greater preservation of historical and cultural resources. The Historic Preservation Element recommends the continuation of existing programs and the development of new approaches as needed. As future growth in San Diego shifts attention from building on open land to a focus on

reinvestment in existing communities, there will need to be a continued effort to protect historical and cultural resources.

Community Plans and Park/Preserve and Other Plans

In addition to the General Plan, there are 26 community plans in the City of San Diego that are relevant to the MSWSMP, as well as several adopted area planning documents for parks and special resource areas. Table 4.1-1 summarizes the planning goals, objectives, recommendations and proposals of the City and General Plan, the community plans, and park/preserve and other plans that specifically relate to the MSWSMP. Due to its size, Table 4.1-1 is located at the end of this subchapter. The City community, park, and special resource areas plans that relate to the proposed MSWSMP are listed below:

Community Plans

- Carmel Valley (North City West) Community Plan
- Centre City Community Plan
- Clairemont Mesa Community Plan
- College Area Community Plan
- Kearny Mesa Community Plan
- La Jolla Community Plan and Local Coastal Plan (LCP) Land Use Plan
- Linda Vista Community Plan and LCP Land Use Plan
- Mid-City Communities Plan (which covers the communities of Normal Heights, Kensington-Talmadge, City Heights and Eastern Area)
- Mira Mesa Community Plan
- Miramar Ranch North Community Plan
- Navajo Community Plan
- Otay Mesa Community Plan
- Otay Mesa-Nestor Community Plan
- Pacific Beach Community Plan and LCP Land Use Plan
- Peninsula Community Plan and LCP Land Use Plan
- Rancho Bernardo Community Plan
- Rancho Peñasquitos Community Plan
- San Ysidro Community Plan
- Scripps Miramar Ranch Community Plan
- Skyline-Paradise Hills Community Plan
- Southeastern San Diego Community Plan (which also covers the community of Encanto)

- Tijuana River Valley LCP Land Use Plan
- Torrey Pines Community Plan
- University Community Plan
- Uptown Community Plan

Park/Preserve and Other Plans

- Chollas Creek Enhancement Plan
- Famosa Slough Enhancement Plan
- Otay Valley Regional Park Concept Plan
- Western Otay Valley Regional Park Natural Resource Management Plan (Draft)

City of San Diego Local Coastal Plan

The City's LCP governs the decisions that determine the short- and long-term conservation and use of the City's coastal resources. The LCP consists of two components: the Land Use Plan (LUP) and the implementing ordinances found in the zoning and land development sections of the Land Development Code. The City of San Diego has elected to divide their coastal zone jurisdictions into twelve segments. Thus, there are 12 LCPs that make up the City's overall LCP. Policies and recommendations that make up the various LCPs are included and incorporated into the community plans and/or other planning documents for the segment areas, as appropriate. The following LCPs and associated community and other planning documents may be affected by, or relevant to, the implementation of the MSWSMP:

- North City LCP
- La Jolla/La Jolla Shores LCP
- Pacific Beach LCP
- Peninsula LCP
- Otay Mesa/Nestor LCP
- Tijuana River Valley LCP

All 12 of the City's LCPs have been certified by the California Coastal Commission (CCC); thus, the City is the governing agency for issuance of Coastal Development Permits (CDPs). However, there are some "areas of suspended certification" within various coastal zone segments that await resolution by the Commission. Within these suspended certification areas, the CCC is the governing agency for the issuance of CDPs.

City of San Diego Environmentally Sensitive Lands Regulations

The purpose of the ESL Regulations (San Diego Land Development Code, Chapter 14, Article 3, Division 1) is to “protect, preserve and, where damaged, restore the environmentally sensitive lands of San Diego and the viability of the species supported by those lands.” The ESL regulations serve to implement the Multiple Species Conservation Program (MSCP) by placing priority on the preservation of biological resources within the Multi-Habitat Planning Area (MHPA).

Unless specifically exempted, ESL regulations apply to all proposed development when any of the following environmentally sensitive lands are present on the project area: sensitive biological resources; steep hillsides (defined generally as all lands that have a slope with a natural gradient of 25 percent or greater with a length of 50 feet or more); coastal beaches; sensitive coastal bluffs; and 100-year floodplains.

All proposed developments subject to ESL that encroach into environmentally sensitive lands must obtain either a Neighborhood Development Permit or a Site Development Permit (SDP). If development is proposed in the Coastal Overlay Zone, a CDP is also required. Limited exceptions to ESL regulations apply in certain circumstances.

The ESL regulations contain development regulations for each type of sensitive land (sensitive biological resources, steep hillsides, coastal beaches, etc.). Outside the Coastal Overlay Zone, City linear utility projects, such as the proposed MSWSMP, are exempt from the development area regulations for steep hillsides and sensitive biological resources. In addition, section 142.0111(i) of the ESL specifically exempts encroachment into steep slopes and biological resources associated with public maintenance access associated with the proposed project.

Within the Coastal Overlay Zone, the ESL regulations generally establish a 25 percent allowable development area in steep hillside areas, although development of up to 40 percent is permitted under certain circumstances for certain types of development, including public utility systems. Additionally, the ESL regulations for projects occurring within the Coastal Overlay Zone require a 100-foot buffer to be maintained around all wetlands, as appropriate, to protect the functions and values of the wetland. A lesser or greater buffer may be warranted based on consultation with the resources agencies (i.e., Corps, U.S. Fish and Wildlife Service [USFWS] and the CDFG). The exemption for public maintenance access impacts to steep slopes and biological resources applies in the Coastal Overly Zone.

Plans submitted in accordance with the ESL regulations shall, to the maximum extent feasible, comply with the various ESL regulations. If a proposed development does not comply with all

applicable development regulations of the ESL, the decision-maker may approve, conditionally approve, or deny the proposed SDP, subject to the decision-maker making findings in accordance with Section 126.0504 of the Land Development Code.

City of San Diego Historical Resources Regulations

The purpose of the Historical Resources Regulations (San Diego Land Development Code, Chapter 14, Article 3, Division 2) is to “protect, preserve, and, where damaged, restore the historical resources of San Diego, which include historical buildings, historical structures or historical objects, important archaeological sites, historical districts, historical landscapes, and traditional cultural properties.”

Minor alteration of a designated historic resource may be permitted if it would not adversely affect the special character or special historical, architectural, archaeological or cultural value of the resource and would be consistent with the Secretary of the Interior’s Standards for Rehabilitation (Rehabilitation Standards) and Illustrated Guidelines for Rehabilitating Historic Buildings (Guidelines). A Construction Permit is required for any development on a premise that has historical resources on a site that would not adversely affect the historical resources and is consistent with one or more of the exemption criteria outlined in the regulations. A SDP is required for certain development proposals that do not qualify for an exemption in accordance with the regulations.

Important archaeological sites generally are to be conserved, except in cases when impacts are necessary to achieve a reasonable development area, with up to 25 percent encroachment into any important archaeological site allowed. Any encroachment into important archaeological sites is required to include measures to mitigate for the partial loss of the resource as a condition of approval. The mitigation is required to include preservation through avoidance of the remaining portion of the important archaeological site, and implementation of a research design and data recovery program that recovers the scientific value of the portion of the site that would be impacted. If a proposed development cannot, to the maximum extent feasible, comply with the Historical Resources Regulations, a deviation may be granted subject to the decision-maker making findings in accordance with Section 126.0504 of the Land Development Code.

City of San Diego Multiple Species Conservation Program Subarea Plan

The MSCP is a comprehensive habitat conservation planning program for southwestern San Diego County. A goal of the MSCP is to preserve a network of habitat and open space, and protecting biodiversity. The MSCP also is intended to provide an economic benefit by reducing constraints on future development, and decreasing the costs of compliance with federal and state

laws protecting biological resources by streamlining permit procedures for development projects which impact habitat. Local jurisdictions, including the City, implement their portions of the MSCP Plan through subarea plans.

The City's MSCP Subarea Plan is a plan and process for the issuance of permits under the federal and state Endangered Species Act and the California NCCP Act of 1991. The primary goal of the MSCP Subarea Plan is to conserve viable populations of sensitive species and to conserve regional biodiversity. In July 1997, the City signed an Implementing Agreement with USFWS and CDFG. The Implementing Agreement serves as a binding contract between the City, USFWS and CDFG that identifies the roles and responsibilities of the parties to implement the MSCP and Subarea Plan. The Agreement became effective on July 17, 1997, and allows the City to issue Incidental Take Authorizations under the provisions of the MSCP. Applicable state and federal permits would still be required for wetlands and listed species that are not covered by the MSCP.

The MSCP identifies a 56,831-acre MHPA in the City for preservation of core biological resource areas and corridors targeted for preservation. Portions of the storm water facilities to be maintained occur within the MHPA.

Water Quality Regulatory Framework

The regulatory framework for water quality includes the CWA, which established the NPDES permit program to regulate the discharge of pollutants from industrial, commercial and institutional processes, and point sources to waters of the United States, and the Porter-Cologne Water Quality Act and the Federal Water Pollution Control Act Amendments of 1972, which require that Water Quality Control Plans (Basin Plans) be prepared for the nine state-designated hydrologic basins in California, including the San Diego Region basin. The water quality regulatory framework is more fully described in Subchapter 4.5, Hydrology/ Water Quality. As indicated in Subchapter 4.5, the City has prepared a Jurisdictional Urban Runoff Management Plan (JURMP), and the Standard Urban Stormwater Mitigation Plan (SUSMP), in accordance with requirements of the State Water Resources Control Board NPDES permit procedure. These documents address the process that the City would undertake to improve water quality. In addition to the JURMP and SUSMP, protection of surface water quality is also provided through the NPDES General Construction Permit and General Industrial Permit for the State of California.

4.1.2 Impacts

Significance Criteria

The City of San Diego's Significance Determination Thresholds (2007) state that a project may significantly impact land use if it would:

- Conflict or be inconsistent with the environmental goals, objectives or guidelines of a community or general plan; or
- Conflict or be inconsistent or conflict with adopted environmental plans for an area.

Analysis of Impacts

Issue 1: Would the Project be inconsistent with any adopted general and community plan goals, objectives, recommendations or land use designation for the study area?

Consistency with the General Plan, Community Plans and LCPs

As discussed in Table 4.1-1, maintenance of storm water facilities would potentially conflict with planning goals and policies related to open space and conservation due to the fact that the vegetation within the storm water facilities is recognized as a desirable feature of open space areas. However, as discussed earlier, this vegetation diminishes the ability of the storm water facilities to safely transport floodwaters. As a result, there is an inherent conflict between the open space/conservation goals of the City's General and Community Plans and the goals of the MSWSMP.

Park/Preserve and Other Plans

Relevant goals and objectives of park/preserve and other environmental documents are listed and discussed in Table 4.1-1. In general, the competing goals of encouraging native vegetation and providing adequate flood control result in inconsistencies between the Park/Preserve Plans and the MSWSMP in relationship to native habitat protection and associated recreational activities.

Significance of Impacts

The removal of vegetation within storm water facilities is considered a potentially significant impact with respect to the various goals and objectives related to open space and conservation.

Mitigation Measures, Monitoring and Reporting

Encroachment into riparian areas would be necessary to maintain City storm water facilities; however, implementation of mitigation measures contained in Subchapter 4.3, Biological Resources, would reduce these impacts. However, because the degree of impact and capacity to mitigate for each maintenance activity is unknown, the loss of riparian habitat is considered significant and unmitigated.

Issue 2: Would the Project conflict with any adopted regional plans or with environmental plans, including applicable habitat conservation plans?

City of San Diego Environmentally Sensitive Lands Regulations

Potential conflicts with the City's ESL regulations would result from encroachment into the resources protected by the regulations including biological resources and special flood hazard area resulting from maintenance activities. No impacts to steep slopes would occur with proposed maintenance because the slopes are not natural and/or would not exceed a height greater than 50 feet. The exemption granted to public maintenance access would preclude any conflicts with ESL in relationship to steep slopes or biological resources.

Encroachment into biological resources would result from removal of sensitive vegetation related to maintenance activities within or adjacent to the channels. As discussed in Subchapter 4.3, Biological Resources, channel maintenance is anticipated to impact a variety of upland as well as wetland vegetation types that are protected by ESL.

Equipment noise would have an indirect impact on sensitive bird species due to interference with breeding behavior. The effects of sound are subjective insofar as the receptor determines the level of nuisance, and there is a wide range of tolerance. Unwanted sound can cause disruption in communication (e.g., avian nestlings calling to their parents) and disruption of sleep or rest patterns (e.g., daytime sounds as they affect primarily nocturnal animals). For the least Bell's vireo, southwestern willow flycatcher, and the coastal California gnatcatcher, a season level of 60 dBA L_{eq} is used as the sensitive bird breeding noise impact threshold in the San Diego region. In practice, this threshold has been modified to address the common occurrence where ambient pre-project noise levels in the nesting habitat exceed 60 dBA L_{eq} . As discussed in Subchapter 4.6, Noise, the 60 dBA L_{eq} contour could extend from 243 to 739 feet from the maintenance activity; the lowest distance represents hand clearing while the highest distance is associated with mechanized equipment.

Indirect noise impacts to nesting/breeding coastal California gnatcatchers, least Bell's vireo, or raptors could occur if maintenance activities create noise in excess of 60 dB(A) L_{eq} in occupied habitat during the gnatcatcher breeding season (March 1 to August 15), vireo breeding season (March 15 to September 15), or raptor breeding season (February 1 to August 1). Thus, significant impacts to ESL-protected biological resources could occur from maintenance.

Construction activities could also impact raptors protected under the ESL regulations, which have potential to occur in trees within riparian woodlands and eucalyptus woodlands, or in adjacent grasslands. Construction impacts to these birds are considered when construction occurs within 300 feet of an active Cooper's hawk nest, 900 feet of an active northern harrier nest, or 500 feet of any other raptor nest. Such activity may cause temporary or permanent abandonment of a nest, which would expose eggs or nestlings to predation or exposure to the elements.

By definition, maintenance would occur in areas that are identified as special flood areas. Maintenance would impact these areas through removal of accumulated sediment and/or vegetation protected under ESL regulations.

City of San Diego Historical Resources Regulations

Although access routes for drainage maintenance would be designed to minimize impacts to sensitive resources, it is possible that impacts to significant historical resources may occur from ground disturbance activities associated with the MSWSMP. As discussed in Subchapter 4.4, Historical Resources, implementation of mitigation measures would reduce potential impacts to historical resources to below a level of significance.

City of San Diego Multiple Species Conservation Program Subarea Plan

As illustrated in Table 4.1-2, MSCP Consistency Evaluation, maintenance activities would be consistent with relevant policies and guidelines of the City's MSCP.

**Table 4.1-1
 GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION**

GOALS, OBJECTIVES, AND RECOMMENDATIONS		PROGRAM'S CONSISTENCY	
CITY OF SAN DIEGO GENERAL PLAN (March 2008)			
<p>Land Use Element</p> <p>Goal:</p> <ul style="list-style-type: none"> Equitable distribution of public facilities, infrastructure and services throughout all communities. 		<p>The MSWSMP would not include the construction of any new public utilities. The MSWSMP would ensure that the City's storm water facilities are cleaned and maintained to provide ongoing adequate water drainage and to avoid potential future flooding.</p> <p>The MSWSMP would be consistent with this goal.</p>	
<p>Urban Design Element</p> <p>Goals:</p> <ul style="list-style-type: none"> A built environment that respects San Diego's natural environment and climate. Utilization of landscape as an important aesthetic and unifying element throughout the City. 		<p>The MSWSMP would not alter the natural landforms and would not result in the loss of open space. While maintenance activities would eliminate vegetation including trees, mitigation (e.g. revegetation and acquisition) would occur, but would likely not occur within the immediate area of the loss. Thus, the loss of vegetation would conflict with this goal.</p>	
<p>Public Facilities, Services, and Safety Element</p> <p>Goals:</p> <ul style="list-style-type: none"> Public facilities and services that are equitably and effectively provided through application of prioritization guidelines. Adequate public facilities that are available at the time of need. Protection of life, property, and environment by delivering the highest level of emergency and fire-rescue services, hazard prevention, and safety education. Protection of beneficial water resources through pollution prevention and interception efforts. A storm water conveyance system that effectively reduces pollutants in urban runoff and storm water to the maximum extent practicable. Public utility services provided in the most cost-effective and environmentally sensitive way. Public utilities that sufficiently meet existing and future demand with facilities and maintenance practices that are sensible, efficient and well-integrated into the natural and urban landscape. 		<p>Failure to properly maintain storm water facilities could result in flooding of adjacent properties, increasing the risk of loss of life and property. The MSWSMP would ensure that the City's storm water facilities are cleaned and maintained to provide ongoing adequate water drainage and to avoid potential future flooding. Storm water facilities that have a known history of flooding and/or accumulation of soil, debris and vegetation, and have the potential to impact adjacent properties and increase the risk to life and property, would be placed on a priority maintenance list, which will require maintenance annually or bi-annually.</p> <p>The MSWSMP would help improve and maintain water quality within affected storm water facilities by removing illegally dumped materials such as trash, appliances, furniture, shopping carts, and tires, as well as debris and sediment. BMPs and mitigation measures contained in Subchapter 4.5, Hydrology/ Water Quality, would reduce potential water quality impacts associated with the MSWSMP to less than significant levels.</p> <p>The MSWSMP would not include the construction of any new public utilities, and would not alter natural landforms.</p> <p>The MSWSMP would be consistent with these goals.</p>	

**Table 4.1-1 (cont.)
 GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION**

CITY OF SAN DIEGO GENERAL PLAN (March 2008) (cont.)

<p>Recreation Element</p> <p>Goals:</p> <ul style="list-style-type: none"> • An open space and resource-based park system that provides for the preservation and management of natural resources, enhancement of outdoor recreation opportunities, and protection of public health and safety. • Preservation of the natural terrain and drainage systems of San Diego’s open space lands and resource-based parks. 	<p>The MSWSMP would not alter the natural landforms and would not result in the loss of open space. The configuration and continuity of the drainage system would be unchanged by maintenance activities. No filling or reconfiguration of the affected storm water facilities would occur as part of the MSWSMP. Although the drainage course configuration would be unaffected by the MSWSMP, the vegetation associated with storm water facilities would be routinely removed. Thus, the MSWSMP would not fully comply with the goal of maintaining natural drainage systems.</p>
<p>Conservation Element</p> <p>Goals:</p> <ul style="list-style-type: none"> • Coastal resource preservation and enhancement. • Protection and restoration of water bodies, including reservoirs, coastal waters, creeks, bays, and wetlands. • Preservation of natural attributes of both the floodplain and floodway without endangering life and property. • Preservation of San Diego’s rich biodiversity and heritage through the protection and restoration of wetland resources. • Preservation of all existing wetland habitat in San Diego through a “no-net-loss” approach. 	<p>Failure to properly maintain storm water facilities could result in flooding of adjacent properties, increasing the risk of loss of life and property. The MSWSMP would ensure that the City’s storm water facilities are cleaned and maintained to provide ongoing adequate water drainage and to avoid potential future flooding. Storm water facilities that have a known history of flooding and/or accumulation of soil, debris and vegetation, and have the potential to impact adjacent properties and increase the risk to life and property, would be placed on a priority maintenance list, which will require maintenance annually or bi-annually.</p> <p>The MSWSMP would help improve and maintain water quality within affected storm water facilities by removing illegally dumped materials such as trash, appliances, furniture, shopping carts, and tires, as well as debris and sediment. BMPs and mitigation measures contained in Subchapter 4.5, Hydrology/ Water Quality, would reduce potential water quality impacts associated with the MSWSMP to less than significant levels.</p> <p>The MSWSMP access routes and maintenance activities would be designed to avoid or minimize impacts to sensitive biological resources, such as wetlands. Any impacts to wetlands would be mitigated through implementation of mitigation measures defined in Subchapter 4.3, Biological Resources.</p> <p>The MSWSMP would be consistent with these goals.</p>
<p>Historic Preservation Element</p> <p>Goal:</p> <ul style="list-style-type: none"> • Preservation of the City’s important historical resources. 	<p>There is a potential for impacts to occur to historical resources during implementation of the MSWSMP. Potential impacts to historical resources associated with the MSWSMP would be reduced to less than significant levels with the implementation of the mitigation measures outlined within Subchapter 4.4, Historical Resources.</p> <p>The MSWSMP would be consistent with this goal.</p>

Table 4.1-1 (cont.)	
GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION	
GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
COMMUNITY PLANS	
Carmel Valley (North City West) Community Plan (February 1, 1975)	
<p>Park, Recreation and Open Space Element</p> <p>Objective:</p> <ul style="list-style-type: none"> • In order to promote preservation of the natural environment, development of either a public or private nature should not be allowed on lands designated for open space unless the proposed development is compatible with open space use. 	<p>No development would occur as a result of the MSWSMP. While maintenance activities would eliminate vegetation, the drainage facilities would remain in their current configuration.</p> <p>The MSWSMP would be consistent with this objective.</p>
<p>Public Services and Facilities Element</p> <p>Objective:</p> <p>In order to promote North City West as a balanced community, provision of public services and facilities of high quality are necessary to attract the balanced community population, diverse in age groups, social and economic status.</p>	<p>The MSWSMP would ensure that the City's storm water facilities are cleaned and maintained to provide ongoing adequate drainage and to avoid potential future flooding.</p> <p>The MSWSMP would be consistent with this objective.</p>
Centre City Community Plan (2006)	
None applicable to the MSWSMP.	Not applicable.
Clairemont Mesa Community Plan (September 26, 1989, last amended December 5, 2005)	
<p>Open Space and Environmental Resources Element</p> <p>Goal:</p> <ul style="list-style-type: none"> • Provide an open space system which preserves existing canyons and hillsides and dedicate open space areas as infill development occurs in the community. <p>Objectives:</p> <ul style="list-style-type: none"> • Reduce runoff and the alterations of the natural drainage system. • Protect the resource value of canyon areas and plant and animal wildlife within the community. • Protect the resource value of artifacts and paleontological remains and the community's heritage for future generations. 	<p>Implementation of the MSWSMP would not result in the loss of open space. However, as discussed earlier, removal of vegetation in the drainages included in the City's storm water system would conflict with the goal of maintaining a natural drainage system. The removal of vegetation would also have a localized impact on wildlife.</p> <p>Potential impacts to cultural and paleontological resources associated with the MSWSMP would be reduced to less than significant levels with the implementation of mitigation outlined within Subchapter 4.4, Historical Resources, and Subchapter 4.7, Paleontological Resources, respectively.</p> <p>Thus, the MSSCP would not fully comply with this goal.</p>

**Table 4.1-1 (cont.)
 GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION**

GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
COMMUNITY PLANS (cont.)	
Clairemont Mesa Community Plan (September 26, 1989, last amended December 5, 2005) (cont.)	
<p>Open Space Recommendations:</p> <p>Revegetation: As part of development permit approval, requirements should be established in the environmental review process for the rehabilitation of disturbed on-site open space areas. Plans should be reviewed by the Park and Recreation Department to ensure that plantings will be compatible with the native vegetation and will not be intrusive into existing open space.</p> <p>Design:</p> <ul style="list-style-type: none"> • Any development proposed within or adjacent to the designated open space areas should be subject to development standards of the Hillside Overlay Zone and Design and Development Guidelines and the Tecolote Canyon Rim Development Guidelines in order to protect the natural resources and preserve community identity. • All public improvements such as roads, drainage channels and utility service and maintenance facilities should be developed in a manner which minimizes the visual and physical impacts of such improvements on the open space system. • Public property leased by the City should conform to the same development guidelines that apply to private property. 	<p>No development would occur as a result of the MSWSMP.</p> <p>The MSWSMP would be consistent with this recommendation.</p> <p>No development would occur as a result of the MSWSMP.</p> <p>The MSWSMP would be consistent with this recommendation.</p>
<p>Biological Resources Recommendations:</p> <ul style="list-style-type: none"> • <u>Preservation</u>. In order to preserve the native flora and fauna, development should not be permitted in the open space areas. If development does occur on property with sensitive environmental areas, development should be clustered and located away from sensitive plant and animal habitats. • <u>Revegetation</u>: Disturbed areas should be revegetated with native plant species placed in appropriate soils in accordance with the mitigation requirements specified by a qualified biologist during the environmental review process. • <u>Preservation of Trees</u>: Significant native tree stands should be preserved as part of the protection of sensitive habitat areas. 	<p>No development would occur as a result of the MSWSMP. While maintenance activities would eliminate vegetation including trees, mitigation (e.g. revegetation and acquisition) would occur which would offset impacts to biological resources.</p> <p>With implementation of biological mitigation, the MSWSMP would be consistent with these recommendations.</p>

Table 4.1-1 (cont.)	
GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION	
GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
COMMUNITY PLANS (cont.)	
Clairemont Mesa Community Plan (September 26, 1989, last amended December 5, 2005) (cont.)	
<p>Water Resources Recommendation:</p> <ul style="list-style-type: none"> Hillside Review Standards. Development of hillsides in the Hillside Review Overlay Zone should conform to the development standards of the Hillside Review Overlay Zone and Design Development Guidelines. Property adjacent to Tecolote Canyon should be subject to and must continue to conform to the Tecolote Canyon Rim Development Guidelines in addition to the city-wide Hillside Review Guidelines. 	<p>No storm water facilities under this MSWSMP occur within Tecolote Canyon. As required, long-term maintenance access routes within canyons would be designed to comply with Hillside Development Guidelines, to the extent feasible. Grading/clearing activities within or adjacent to open space/sensitive areas would be restricted to the minimum amount necessary to provide required maintenance access, while also avoiding or minimizing impacts to existing environmental resources.</p> <p>The MSWSMP would be consistent with this recommendation.</p>
<p>Paleontological and Cultural Resources Recommendation:</p> <ul style="list-style-type: none"> If paleontological and archaeological resources have been determined by a qualified archeologist to exist on a proposed development site, excavation should take place in accordance with the mitigation requirements specified during the environmental review process. 	<p>Potential impacts to cultural and paleontological resources associated with the MSWSMP would be reduced to less than significant levels with the implementation of mitigation outlined within Subchapter 4.4, Historical Resources, and Subchapter 4.7, Paleontological Resources, respectively.</p> <p>The MSWSMP would be consistent with this recommendation.</p>
College Area Community Plan (May 2, 1989, last amended August 5, 2002)	
<p>Public Facilities Goal:</p> <ul style="list-style-type: none"> Maintain public utilities at a level which conforms to citywide standards. 	<p>The MSWSMP would ensure that the City's storm water facilities are cleaned and maintained to provide ongoing adequate water drainage and to avoid potential future flooding.</p> <p>The MSWSMP would be consistent with this goal.</p>

**Table 4.1-1 (cont.)
 GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION**

GOALS, OBJECTIVES, AND RECOMMENDATIONS		PROGRAM'S CONSISTENCY
COMMUNITY PLANS (cont.)		
Kearny Mesa Community Plan (October 6, 1992, last amended October 25, 2005)		
<p>Conservation and Open Space Element</p> <p>Goal:</p> <ul style="list-style-type: none"> • Preserve open and environmentally sensitive areas for the aesthetic, psychological, and recreational benefits they provide to the community. <p>Policies:</p> <ul style="list-style-type: none"> • In order to conserve natural resources, prevent incompatible uses from locating a constrained land. • Sites designated as open space in this plan shall be preserved with non-building or negative open space easements determined on a case by case evaluation. <p>Recommendations:</p> <ul style="list-style-type: none"> • Maintain the natural drainage system and minimize the use of impervious surfaces. Concentrations of runoff should be adequately controlled to prevent an increase in downstream erosion. Irrigation systems should be properly designed to avoid over watering. • Retain native vegetation where possible. Graded slopes that are adjacent to natural hillsides and canyons should be revegetated with native or drought tolerant species to restore pre-development drainage conditions. 	<p>Maintenance would be anticipated to result in a loss of native vegetation. While this loss of vegetation would be mitigated through the implementation of biological mitigation measures, the mitigation would likely not occur within the immediate area of the loss. Thus, the loss of vegetation within a specific drainage would conflict with this goal. In addition, the loss of vegetation would have localized aesthetic impact, as discussed in Subchapter 4.2. However, the maintenance would not interfere with recreational benefits nor would it have a psychological impact on local residents. The configuration of drainages would not be changed by maintenance nor would any loss of open space occur. Thus, the MSWSMP would not be fully consistent with this goal.</p> <p>However, the MSWSMP includes a series of protocols which will be implemented during maintenance activities to reduce erosion and protect water quality in downstream areas. Additionally, no new impermeable surface area would be created as part of the MSWSMP.</p>	

Table 4.1-1 (cont.) GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION	
GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
COMMUNITY PLANS (cont.)	
Kearny Mesa Community Plan (October 6, 1992, last amended October 25, 2005) (cont.)	
<p>Community Facilities and Services Element</p> <p>Goal:</p> <ul style="list-style-type: none"> • Maintain all existing community facilities and services, and secure financing to upgrade those which are impacted by community growth and change. 	<p>Failure to properly maintain storm water facilities could result in flooding of adjacent properties, increasing the risk of loss of life and property. The MSWSMP would ensure that the City's storm water facilities are cleaned and maintained to provide ongoing adequate water drainage and to avoid potential future flooding. Storm water facilities that have a known history of flooding and/or accumulation of soil, debris and vegetation, and have the potential to impact adjacent properties and increase the risk to life and property, would be placed on a priority maintenance list, which will require maintenance annually or bi-annually.</p> <p>The MSWSMP would be consistent with this goal.</p>
La Jolla Community Plan and LCP Land Use Plan (February 2004)	
<p>None applicable to the MSWSMP.</p>	<p>Not applicable.</p>
Linda Vista Community Plan and LCP Land Use Plan (December 1, 1998)	
<p>Open Space Element</p> <p>Goals:</p> <ul style="list-style-type: none"> • Preserve Tecolote Canyon and its tributary canyons as open space. • Protect public views to and from Tecolote Canyon and ensure that development adjacent to the canyon is visually compatible with the natural state of the canyon. • Preserve the remaining undeveloped canyons and slopes of Linda Vista to allow public use and enjoyment of these areas. <p>Policy:</p> <ul style="list-style-type: none"> • Sensitive resources, such as coastal sage scrub and riparian (stream side) vegetation, which occur within areas designated for open space, shall be preserved. 	<p>Although implementation of the MSWSMP would not alter the natural landforms or result in the loss of open space, the removal of vegetation to accommodate flood waters would result in the localized loss of biological resources. Although biological resource impacts would be mitigated, the compensation may not occur within the immediate area of the maintenance. Thus, the MSWSMP would not be fully consistent with this goal related to preserving native vegetation.</p>

Table 4.1-1 (cont.)	
GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION	
GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
COMMUNITY PLANS (cont.)	
Mid-City Communities Plan (August 4, 1998, amended September 23, 2003)	
<p>Natural and Cultural Resources Element</p> <p><u>Environmental Quality</u></p> <p><i>Biological Resources</i></p> <p>Goals:</p> <ul style="list-style-type: none"> • Protect canyon, hillside, and creek-side natural wildlife habitats from urban encroachment and conflicting uses. • Improve and enhance riparian habitat in Chollas Creek (City Heights and Eastern Area). <p><i>Water Quality</i></p> <p>Goal: Improve and enhance riparian habitat in Chollas Creek as a means of improving water quality.</p> <p><u>Open Space</u></p> <p><i>Land Form – Canyons and Creeks</i></p> <p>Goals:</p> <ul style="list-style-type: none"> • Permanently link and preserve all canyons, slopes and floodways, designated as such in this plan as open space. • Develop passive recreational space in undeveloped canyons, where the natural integrity of the canyon can be preserved. • Preserve sensitive hillside areas. • Preserve areas of native vegetation. <p><u>Chollas Creek</u></p> <ul style="list-style-type: none"> • Preserve and enhance Chollas Creek as a linear open space system to provide passive recreational opportunities, visual relief and biological habitat preservation. 	<p>Although implementation of the MSWSMP would not alter the natural landforms or result in the loss of open space, the removal of vegetation to accommodate flood waters would result in the localized loss of biological resources. Although biological resource impacts would be mitigated, the compensation may not occur within the immediate area of the maintenance. Thus, the MSWSMP would not be fully consistent with this goal related to preserving native vegetation.</p> <p>Although implementation of the MSWSMP would not alter the natural landforms or result in the loss of open space, the removal of vegetation to accommodate flood waters would result in the localized loss of biological resources. Although biological resource impacts would be mitigated, the compensation may not occur within the immediate area of the maintenance. Thus, the MSWSMP would not be fully consistent with this goal related to preserving native vegetation.</p> <p>The MSWSMP would help improve and maintain water quality within affected storm water facilities by removing illegally dumped materials such as trash, appliances, furniture, shopping carts, and tires, as well as debris and sediment. BMPs and mitigation measures contained in Subchapter 4.5, Hydrology/ Water Quality, would reduce potential water quality impacts associated with the MSWSMP but, the potential exists in some segments for the removal of vegetation to have an adverse impact on water quality due to the loss of the natural biofiltration capacity of in-channel vegetation (refer to Subchapter 4.5).</p>

Table 4.1-1 (cont.)	
GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION	
GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
COMMUNITY PLANS (cont.)	
Mid-City Communities Plan (August 4, 1998, amended September 23, 2003) (cont.)	
<p>Natural and Cultural Resources Element (cont.)</p> <p><u>Environmental Quality (cont.)</u></p> <p><i>Water Quality (cont.)</i></p> <p>Recommendation:</p> <ul style="list-style-type: none"> • Preserve sensitive slopes, canyons, floodways and other areas designated as open space through acquisition, zoning, resource regulation or other available methods. <p><i>Parks and Open Space</i></p> <p>Goals:</p> <ul style="list-style-type: none"> • Protect biological, visual, and topographic resources. Insure the preservation of an open space system through appropriate designation and protection. <p><u>Visual Resources</u></p> <p><i>Views</i></p> <p>Goal:</p> <ul style="list-style-type: none"> • Preserve and enhance panoramic public views of the bay, open spaces, and mountains from street rights-of-way and other public areas. <p><u>Cultural Resources</u></p> <p><i>Archaeological and Paleontological Resources</i></p> <p>Goal:</p> <ul style="list-style-type: none"> • Preserve areas of Mid-City possessing significant archaeological and paleontological interest. 	<p>The proposed MSWSMP consists of the construction of unpaved access routes and clearing of storm water facilities. The MSWSMP would not result in the obstruction of views to scenic resources from public viewing areas.</p> <p>The MSWSMP would be consistent with this goal.</p> <p>Potential impacts to cultural and paleontological resources associated with the MSWSMP would be reduced to less than significant levels with the implementation of the mitigation measures outlined within Subchapter 4.4, Historical Resources, and Subchapter 4.7, Paleontological Resources, respectively.</p> <p>The MSWSMP would be consistent with this goal.</p>

**Table 4.1-1 (cont.)
 GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION**

GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
COMMUNITY PLANS (cont.)	
Mira Mesa Community Plan (October 6, 1992, last amended June 19, 2001)	
<p>Sensitive Resources and Open Space Element</p> <p>Goals: A community-wide open space system that:</p> <ul style="list-style-type: none"> • Preserves sensitive resources, including plant and animal habitats, and wildlife linkages. • Preserves natural drainage systems. • Provide linkages in the regional open space system of interconnected canyons and hillsides. <p><u>Policies</u></p> <p>Open Space Preservation:</p> <ul style="list-style-type: none"> • Sensitive areas of community-wide and regional significance shall be preserved as open space. • Discretionary review (a PRD, PCD, or PID) shall be required for any proposed development in or adjacent to designated open space to ensure the application of the Policies and Proposals of this plan. <p>Wildlife Corridors:</p> <ul style="list-style-type: none"> • Construction or improvements of roadways in sensitive habitat or designated wildlife corridors shall be designed to impact the least amount of sensitive area feasible. Bridges, elevated causeways or other mechanisms determined to be appropriate for the safe passage of wildlife by the Planning Director shall be used in place of culverts and fill in order to maintain wildlife crossings and open space connections. 	<p>Although implementation of the MSWSMP would not alter the natural landforms or result in the loss of open space, the removal of vegetation to accommodate flood waters would result in the localized loss of biological resources. The MSWSMP would not preclude the linkage of canyons and hillsides as part of an overall regional natural open space system. Although biological resource impacts would be mitigated, the compensation may not occur within the immediate area of the maintenance. Thus, the MSWSMP would not be fully consistent with this goal related to preserving native vegetation.</p> <p>No major roadways would be constructed as part of the MSWSMP. Although small paths may be created to allow equipment access. These paths would not cross any drainages in a way that would impede wildlife movement. Any ramps constructed to provide equipment access would be removed upon completion of maintenance.</p> <p>The City will obtain all permits required to affect sensitive species and/or sensitive habitat.</p> <p>Impacts to sensitive vegetation communities would be mitigated below a level of significance in accordance with the City's Biology Guidelines. In addition, any potential impacts to sensitive plants and animals also would be reduced through implementation of mitigation measures identified in Subchapter 4.3, Biological Resources, for additional details regarding potential impacts and mitigation measures.</p> <p>While the elimination of native vegetation within the drainage courses would reduce the cover available to wildlife moving through these areas, the configuration and continuity of the drainage system would be unchanged by maintenance activities. No filling or reconfiguration of the affected storm water facilities would occur as part of the MSWSMP.</p> <p>The SWSMPs included in the Program would prohibit the use of non-native or invasive species in revegetation associated with maintenance.</p>

Table 4.1-1 (cont.)	
GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION	
GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
COMMUNITY PLANS (cont.)	
Mira Mesa Community Plan (October 6, 1992, last amended June 19, 2001) (cont.)	
<p>Sensitive Resources and Open Space Element (cont.)</p> <p><u>Resource Management:</u></p> <ul style="list-style-type: none"> • No rare, threatened, endangered, or candidate species, species of concern, or those that qualify for Federal or State listing shall be disturbed without all necessary City, State and/or Federal permit approvals. • No filling, clearing, grubbing or other disturbance to biologically sensitive habitat shall be permitted without all necessary City, State and Federal permit approvals and completion of mitigation requirements. • No encroachments shall be permitted into wetlands, including vernal pools. Encroachment into native grasslands, coastal sage scrub, and maritime chaparral shall be consistent with the Resource Protection Ordinance. Purchase, creation, or enhancement of or replacement habitat area shall be required at ratios determined by the Resources Protection Ordinance or State and Federal agencies, as appropriate. In areas of native vegetation that are connected to an open space system, the City shall require that as much native vegetation as possible be preserved as open space. • Sensitive habitat that is degraded or disturbed by development activity or other human impacts shall be restored or enhanced with the appropriate native plant community. This is critically important when the disturbed area is adjacent to other biologically sensitive habitats. Manufactured slopes and graded areas adjacent to sensitive habitat shall be revegetated with the appropriate native plant community, as much as is feasible considering the City's brush management regulations. • Exotic or invasive plant species shall not be planted within or adjacent to existing sensitive habitats. 	

**Table 4.1-1 (cont.)
 GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION**

GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
COMMUNITY PLANS (cont.)	
Mira Mesa Community Plan (October 6, 1992, last amended June 19, 2001) (cont.)	
<p>Sensitive Resources and Open Space Element (cont.)</p> <p><i>Riparian areas:</i></p> <ul style="list-style-type: none"> All other riparian areas [other than Los Peñasquitos Canyon Preserve] should be preserved in their natural state with a buffer of adjoining upland habitat having a minimum width of 100 feet. The buffer shall start at the outside edge of the defined riparian habitat, or at the outside edge of the 100-year flood FEMA plain, whichever is wider or outermost. Development adjacent to riparian areas shall be designed to avoid erosion, sedimentation, and other potentially damaging impacts (such as pollution from urban run off) which would degrade the quality of the resources in the area including wildlife habitat, vegetation, water quality or quantity, and visual quality. <p><i>Vernal Pools:</i></p> <ul style="list-style-type: none"> The remaining vernal pool habitat in the community shall be protected from vehicular or other human-caused damage, encroachment in their watershed areas, and urban runoff. <p><i>Oak Woodlands:</i></p> <ul style="list-style-type: none"> No loss of natural stands of oaks or oak woodland habitat shall be permitted, nor shall grading or other disturbance be permitted within the oak woodland habitat area. No changes shall be made to the watershed/drainage area of oak woodlands that could affect the surface or subsurface hydrology and no irrigation shall be permitted within 200 feet of the trunk of an oak tree. <p><i>Coastal Sage Scrub:</i></p> <ul style="list-style-type: none"> Coastal sage scrub shall be protected from grading or impacts from development. Encroachment into this habitat type, or mitigation for any impacts upon it, shall comply with the Resource Protection Ordinance and the U.S. Fish and Wildlife Service recommendations. If these overlap, the policy that requires the higher degree of protection will take precedence. 	<p>While maintenance activities would not affect buffer widths, they would be anticipated to result in a loss of riparian vegetation. While this loss of vegetation would be mitigated through the implementation of biological mitigation measures, the mitigation would likely not occur within the immediate area of the loss. Thus, the loss of vegetation within a specific drainage would conflict with this goal. Thus, the MSWSMP would not be fully consistent with this goal.</p> <p>Each maintenance activity under the MSWSMP would be designed to minimize erosion and sedimentation impacts to downstream water bodies and associated resources. It is anticipated that the mitigation measures contained in Subchapter 4.5, Hydrology/Water Quality, would reduce potential hydrology and water quality impacts associated with the MSWSMP.</p> <p>The MSWSMP access routes and maintenance activities would be designed to avoid or minimize impacts to sensitive biological resources, such as vernal pools, oak woodlands, coastal sage scrub, maritime chaparral and grassland, and to be consistent with the City's MSCP Subarea Plan. Maintenance activities may require the removal of some vegetation within the storm water facilities and channels; however, any impacts to sensitive vegetation communities as well as sensitive plants and animals also would be mitigated through implementation of mitigation measures defined in Subchapter 4.3, Biological Resources.</p> <p>The MSWSMP would be consistent with the policies associated with sensitive vegetation communities.</p>

**Table 4.1-1 (cont.)
 GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION**

GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
COMMUNITY PLANS (cont.)	
Mira Mesa Community Plan (October 6, 1992, last amended June 19, 2001) (cont.)	
<p>Sensitive Resources and Open Space Element (cont.)</p> <p><i>Maritime Chaparral:</i></p> <ul style="list-style-type: none"> Maritime chaparral shall be protected from impacts due to adjacent development, including grading and brush management, that may cause damage or degradation to the habitat qualities of this resource. <p><i>Grassland:</i></p> <ul style="list-style-type: none"> Grasslands that serve as raptor foraging areas or are physically linked to other sensitive habitat shall be preserved in, or restored to, their natural state. <p>Proposals:</p> <p><i>Open Space Preservation:</i></p> <ul style="list-style-type: none"> Preserve the flood plain and adjacent slopes of the five major canyon systems that traverse the community—Los Peñasquitos Canyon, Lopez Canon, Carroll Canyon, Rattlesnake Canyon and Soledad Canyon, and the remaining vernal pool sites (as shown generally on Figure 6 of the Community Plan)—in a natural state as open space. <p><i>Wildlife Corridors:</i></p> <ul style="list-style-type: none"> Preserve and maintain the wildlife connections as shown generally on Figure 8 (of the Community Plan) in a natural state. 	<p>While the configuration of drainages would not be changed by maintenance nor would any loss of open space occur, maintenance would be anticipated to result in a loss of native vegetation. While this loss of vegetation would be mitigated through the implementation of biological mitigation measures, the mitigation would likely not occur within the immediate area of the loss. Thus, the loss of vegetation within a specific drainage would conflict with this goal. Thus, the MSWSMP would not be fully consistent with this goal.</p> <p>The MSWSMP would not preclude the linkage of canyons and hillsides for wildlife movement within the regional natural open space system.</p>

Table 4.1-1 (cont.)	
GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION	
GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
COMMUNITY PLANS (cont.)	
Mira Mesa Community Plan (October 6, 1992, last amended June 19, 2001) (cont.)	
<p>Sensitive Resources and Open Space Element (cont.)</p> <p>Resource Management: Carroll, Rattlesnake and Soledad Canyons:</p> <ul style="list-style-type: none"> • Preserve (or restore if disturbed) riparian areas in Carroll and Rattlesnake Canyons to the full width of the flood plain. In order to foster conditions that allow for healthy ecological functioning and provide for adequate wildlife movement, upland habitat such as coastal sage scrub, grasslands, and maritime chaparral shall be preserved or restored adjacent to the riparian area wherever possible to provide a buffer with a minimum width of 100 feet. • Prevent and control the run off of fertilizers, pesticides, and other urban pollution into riparian and flood plain areas by using techniques such as storm water drainage basins and filtering systems and non-toxic, organic products in minimal amounts. • Restore wildlife connections between Soledad Canyon and Rose Canyon wherever possible. <p>Park and Recreation Facilities Element</p> <p>Goal:</p> <ul style="list-style-type: none"> • Preservation of areas notable for scenic, natural, or cultural attractions as resources-based parks. 	<p>While maintenance activities would not affect buffer widths, they would be anticipated to result in a loss of riparian vegetation. While this loss of vegetation would be mitigated through the implementation of biological mitigation measures, the mitigation would likely not occur within the immediate area of the loss. Thus, the loss of vegetation within a specific drainage would conflict with this goal. Thus, the MSWSMP would not be fully consistent with this goal.</p> <p>The MSWSMP includes SWSMPs to control urban pollutants.</p> <p>The MSWSMP would not preclude the linkage of canyons and hillsides for wildlife movement within the regional natural open space system.</p> <p>The MSWSMP would not interfere with the scenic, nature or cultural resource within resource-based parks. Drainages within resource-based parks are not bordered by development which requires flood control. Thus, these areas are not included in the MSWSMP.</p> <p>The MSWSMP would be consistent with this goal.</p>
Miramar Ranch North Community Plan (March 4, 1980, as amended September 29, 1998)	
<p>Public Services Element</p> <p><u>Utilities</u></p> <p>Objective:</p> <ul style="list-style-type: none"> • Provide adequate utility service for development in the community. 	<p>The MSWSMP would ensure that the City's storm water facilities located in environmentally sensitive lands are cleaned and maintained to provide ongoing adequate water drainage and to avoid potential future flooding.</p> <p>The MSWSMP would be consistent with this objective.</p>

**Table 4.1-1 (cont.)
 GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION**

GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
COMMUNITY PLANS (cont.)	
Navajo Community Plan (December 7, 1982, last amended August 5, 2002)	
<p>Other Community Facilities</p> <p>Objective:</p> <ul style="list-style-type: none"> • The community's objective is to assure that a high level of all public services is reached and maintained by adhering to standards set forth in the Progress Guide and General Plan as a minimum. <p>Proposal:</p> <ul style="list-style-type: none"> • Design and implement flood control facilities to insure adequate protection for the community, while preserving the natural topography and minimizing the adverse environmental effects on the community. If channelization is necessary, the channels should be soft-bottomed and soft-sided, and should be designed of sufficient width to support riparian vegetation across the width of the channel. <p>Community Environment</p> <p>Objective:</p> <ul style="list-style-type: none"> • To preserve and enhance the natural beauty and amenities of the Navajo community. <p>MSWSMPs - Natural:</p> <ul style="list-style-type: none"> • Establish and maintain an open space system to conserve natural resources, preserve scenic beauty, and define urban form. • Strengthen environmental pollution control measures. Support research into causes and prevention of environmental pollution. • Prevent deterioration of natural watershed areas. 	<p>The MSWSMP would ensure that the City's storm water facilities are cleaned and maintained to provide ongoing adequate water drainage and to avoid potential future flooding. Storm water facilities that have a known history of flooding and/or accumulation of soil, debris and vegetation, and have the potential to impact adjacent properties and increase the risk to life and property, would be placed on a priority maintenance list, which will require maintenance annually or bi-annually.</p> <p>The MSWSMP would be consistent with this objective and proposal.</p> <p>Implementation of the MSWSMP would not result in the loss of open space. However, as discussed earlier, removal of vegetation in the drainages included in the City's storm water system would conflict with the goal of maintaining a natural resources. On the other hand, maintenance activities would help reduce deterioration of watershed areas. SWSMPs would help control urban pollutants.</p>

Table 4.1-1 (cont.)	
GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION	
GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
COMMUNITY PLANS (cont.)	
Otay Mesa Community Plan (1981, last amended October 12, 1993)	
<p>Overall Goal:</p> <ul style="list-style-type: none"> • To assure standard public facilities and services commensurate with development of the planning area. <p>Land Use Element</p> <p><u>Open Space</u></p> <p>Proposal:</p> <ul style="list-style-type: none"> • These open spaces should be initially maintained in their natural state and future uses should be compatible with the open space concept. Examples of these uses are: hiking, horseback riding, bicycling, sightseeing, wildlife and fossil study. Studies should be undertaken to determine if activities which may require minor alterations of the natural open space should be allowed. Examples of these are: picnicking, camping, golf, archery, botanical gardens (natural and man-made), food cultivation, and ornamental landscaping. 	<p>The MSWSMP would ensure that the City's storm water facilities are cleaned and maintained to provide ongoing adequate water drainage and to avoid potential future flooding.</p> <p>The MSWSMP would be consistent with this goal.</p> <p>The maintenance and clearing of storm water facilities for safety issues would be compatible with open space use and would not preclude future recreational development within, or use of, open space areas.</p> <p>The MSWSMP would be consistent with this proposal.</p>

Table 4.1-1 (cont.)	
GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION	
GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
COMMUNITY PLANS (cont.)	
Otay Mesa Community Plan (1981, last amended October 12, 1993)	
<p>Land Use Element (cont.)</p> <p><u>Historic Heritage</u></p> <p>Objective:</p> <ul style="list-style-type: none"> • To recognize the importance of cultural resources and to mitigate potential adverse impacts upon them. <p>Proposals:</p> <ul style="list-style-type: none"> • Preservation is usually preferable to salvage for the mitigation of impacts to archaeological resources by a project, because it permits study of the resources with methods and techniques not yet developed, and to answer questions which are yet to be raised. • In cases where preservation of sites is not feasible, efforts should be made to expedite salvage of sites threatened by impending subdivision and development. This should include coordination between professional archaeologists, college or university classes, archaeological and historical societies, museums, and interested laymen capable of assisting in salvage work under the supervision of qualified professionals. • All field work, reports, recordation and curation of archaeological and historical resources should be, as a minimum, in accordance with current standards in the City and County for such work, and under the supervision of qualified professionals. 	<p>Potential impacts to cultural resources associated with the MSWSMP would be reduced to less than significant levels with the implementation of the mitigation measures outlined within Subchapter 4.4, Historical Resources.</p> <p>The MSWSMP would be consistent with this objective and proposals.</p>
Pacific Beach Community Plan and LCP Land Use Plan (February 28, 1995)	
<p>Parks and Open Space Element</p> <p>Goals:</p> <ul style="list-style-type: none"> • Conserve and enhance the natural amenities of the community such as its open space, topography, beach and plant life and achieve a desirable relationship between the natural and developed areas of the community, as is exemplified by Kate Sessions Park. • Preserve significant environmental resource areas, such as the City-owned Kate Sessions Park, Rose Creek, Coastal Bluffs, and the Northern Wildlife Preserve in their natural state. 	<p>Although implementation of the MSWSMP would not alter the natural landforms, the removal of vegetation to accommodate flood waters, would change the local character of the area in which the maintenance occurs. Thus, the MSWSMP would not be fully consistent with this goal.</p>

**Table 4.1-1 (cont.)
 GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION**

GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
COMMUNITY PLANS (cont.)	
Pacific Beach Community Plan and LCP Land Use Plan (February 28, 1995) (cont.)	
<p>Parks and Open Space Element (cont.)</p> <p>Policies:</p> <ul style="list-style-type: none"> • The Planning Department, through the City Projects Review Task Force, shall review any new access (via trails, etc.) into and through Open Space areas, proposed by the Park and Recreation Department or other City Departments. Any project shall be subject to environmental analysis to ensure sensitivity to resource preservation, with designated trails that would not significantly disrupt habitat areas. The Planning Department shall seek public input before any open space is developed. • The City shall maintain and improve, as needed, facilities at existing parks, beaches and bay-areas. <p><u>Specific Proposals</u></p> <p>Resource Protection:</p> <ul style="list-style-type: none"> • Any public improvement projects adjacent to or within designated open space areas shall be reviewed by the Planning Department through the City Projects Review Task Force for potential environmental impacts and conformance with the policies and proposals of this plan. • Placement of new utility infrastructure shall avoid open space areas serving habitat preserves or conservation. Facilities shall avoid all sensitive habitats, plants, and animals when being located in any open space area and be absolutely excluded from open-space sites serving as mitigation and/or serving habitat preservation and conservation purposes. Other open space areas allowing public access and activity would be available for infrastructure with appropriate mitigation. The City shall work with public utilities to ensure their sensitivity to environmental considerations before granting permits for new facilities. 	<p>Each individual clearing/maintenance project would be subject to environmental analysis and review by the City's DSD. As part of the environmental review process, public hearings/meetings would be conducted to solicit public input prior to final design.</p> <p>The MSWSMP would ensure that the City's storm water facilities located in environmentally sensitive lands are cleaned and maintained to provide ongoing adequate water drainage and to avoid potential future flooding.</p> <p>The MSWSMP would be consistent with these policies.</p> <p>Each individual clearing/maintenance project would be subject to environmental analysis and review by the City's DSD. As part of the environmental review process, public hearings/meetings would be conducted to solicit public input prior to final design.</p> <p>The MSWSMP would not include the construction of any new public utilities. The MSWSMP would ensure that the City's storm water facilities are cleared and maintained to provide ongoing adequate water drainage and to avoid potential future flooding.</p> <p>The MSWSMP would be consistent with these proposals.</p>

**Table 4.1-1 (cont.)
 GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION**

GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
COMMUNITY PLANS (cont.)	
Peninsula Community Plan and LCP Land Use Plan (July 14, 1987, last amended April 27, 2004)	
<p>Community Facilities Element</p> <p><u>Public Works</u></p> <p>Objective:</p> <ul style="list-style-type: none"> • To maintain public works facilities which will provide a high level of service to the existing and future population of the Peninsula Community. <p>Recommendation:</p> <ul style="list-style-type: none"> • The public works infrastructure should be continuously monitored to assure that a high level of service is maintained. <p>Conservation and Environmental Quality Element</p> <p>Recommendations:</p> <ul style="list-style-type: none"> • The Famosa Slough should be recognized as a sensitive habitat area and, as such, it should be protected, preserved and enhanced through designation as open space and dedication as a park, in addition to establishing appropriate development guidelines. • Guidelines and restrictions for development adjacent to the Famosa Slough should be prepared to prevent direct or indirect encroachment into this area. Development of vacant lots adjacent to the Slough should be maintained as view corridors and physical access points. 	<p>The MSWSMP would ensure that the City's storm water facilities are cleared and maintained to provide ongoing adequate water drainage and to avoid potential future flooding. Storm water facilities that have a known history of flooding and/or accumulation of soil, debris and vegetation, and have the potential to impact adjacent properties and increase the risk to life and property, would be placed on a priority maintenance list, which will require maintenance annually or bi-annually.</p> <p>The MSWSMP would be consistent with this objective and recommendation.</p> <p>One storm water facility is located adjacent to Famosa Slough; however, due to environmental constraints, maintenance is prohibited.</p> <p>The MSWSMP would be consistent with these recommendations.</p>

Table 4.1-1 (cont.) GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION	
GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
COMMUNITY PLANS (cont.)	
Peninsula Community Plan and LCP Land Use Plan (July 14, 1987, last amended April 27, 2004) (cont.)	
<p>Cultural and Heritage Resources Element</p> <p>Objective:</p> <ul style="list-style-type: none"> • Archaeological and historical resources in the Peninsula Community which have been designated by appropriate authorities as being significant and worthy of preservation should be protected and enhanced. <p>Recommendations:</p> <ul style="list-style-type: none"> • All significant historical, archaeological and paleontological resources of the community which have been designated by the City Historical Site Board should be preserved. • Projects located within or adjacent to an historical, archaeological or paleontological site should be evaluated in terms of their impact upon and/or compatibility with the resource. An Environmental Impact Report may be required for such projects, addressing in detail the nature of the resource, potential impacts and proposed mitigation measures. A person qualified in analyzing the resources should prepare the report. Such resources should be preserved in a manner which would not degrade the resource or impair its educational value. To the extent feasible, the resource should be preserved on site in its present or original use, or an adaptive use which enhance the community's character and historical heritage should be sought. 	<p>Potential impacts to cultural and paleontological resources associated with the MSWSMP would be reduced to less than significant levels with the implementation of the mitigation measures outlined within Subchapter 4.4, Historical Resources, and Subchapter 4.7, Paleontological Resources, respectively.</p> <p>The MSWSMP would be consistent with this objective and recommendations.</p>
Rancho Bernardo Community Plan (March 28, 1978, last amended January 11, 1999)	
None applicable to the MSWSMP.	Not applicable.
Rancho Peñasquitos Community Plan (March 30, 1993, last amended March 30, 2004)	
None applicable to the MSWSMP.	Not applicable.

Table 4.1-1 (cont.)
GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION

GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
COMMUNITY PLANS (cont.)	
San Ysidro Community Plan (September 18, 1990, last amended December 2, 2003)	
<p>Community Facilities and Services Element</p> <p>Goal:</p> <ul style="list-style-type: none"> • Provide a full and balanced range of employment opportunities, medical facilities, public utilities, and educational, social, and recreational facilities and services. <p>Objective:</p> <ul style="list-style-type: none"> • Ensure the maintenance and periodic upgrading of public utilities services. <p>Cultural and Historical Resources Element</p> <p>Goal:</p> <ul style="list-style-type: none"> • Recognize, preserve and rehabilitate historical or significant buildings, districts, landscaping, archaeological and paleontological sites and urban environments. <p>Objective:</p> <ul style="list-style-type: none"> • Preserve historic structures on site and in their historic context whenever possible. • Preserve paleontological resources. <p>Recommendation:</p> <ul style="list-style-type: none"> • Evaluate projects located within or adjacent to a historic, archaeological or paleontological site in terms of their impact upon and/or compatibility with the resource. Preserve such resources in a manner which would not degrade the resource or impair its educational value. 	<p>The MSWSMP would ensure that the City's storm water facilities are cleared and maintained to provide ongoing adequate water drainage and to avoid potential future flooding. Storm water facilities that have a known history of flooding and/or accumulation of soil, debris and vegetation, and have the potential to impact adjacent properties and increase the risk to life and property, would be placed on a priority maintenance list, which will require maintenance annually or bi-annually.</p> <p>The MSWSMP would be consistent with this goal and objective. Potential impacts to cultural and paleontological resources associated with the MSWSMP would be reduced to less than significant levels with the implementation of the mitigation measures outlined within Subchapter 4.4, Historical Resources, and Subchapter 4.7, Paleontological Resources, respectively.</p> <p>The MSWSMP would be consistent with this goal, objective and recommendation.</p>

Table 4.1-1 (cont.)
GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION

GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
COMMUNITY PLANS (cont.)	
Scripps Miramar Ranch Community Plan (July 18, 1987, last amended October 19, 1999)	
<p>Overall goal:</p> <ul style="list-style-type: none"> • Preserve and enhance the valued natural resources of the Scripps Miramar Ranch community; hills, trees, water resources, Miramar Reservoir, Carroll Canyon, and subsidiary canyons; maximize public benefit through public ownership and/or access, both visual and physical, to these resources. <p>Parks, Recreation and Open Space Element</p> <p>Objectives: In order to provide a well-balanced and aesthetically pleasing system of open spaces, and recreational facilities and opportunities, the following objectives have been selected to meet this goal:</p> <ul style="list-style-type: none"> • Maximize preservation of existing mature eucalyptus groves, natural slopes and major canyons through careful siting of roadways and structures. • Preserve and enhance the valued natural resources of the Scripps Miramar Ranch community: hills, trees, water resources, Miramar Reservoir, Carroll Canyon, and subsidiary canyons. • Support preservation of wildlife preserves, historical structures, and bodies of water, all of which enhance this community. • Preserve Carroll Canyon in its present state and encourage its inclusion in the open space network. <p>Public Facilities and Services Element</p> <p>Goal:</p> <ul style="list-style-type: none"> • Assure the availability of adequate public facilities and services to the Scripps Miramar Ranch community and minimize public and private expenditures through prudent planning of these facilities. 	<p>Maintenance would be anticipated to result in a loss of native vegetation. While this loss of vegetation would be mitigated through the implementation of biological mitigation measures, the mitigation would likely not occur within the immediate area of the loss. Thus, the loss of vegetation within a specific drainage would conflict with this goal. In addition, the loss of vegetation would have localized aesthetic impact, as discussed in Subchapter 4.2. However, the maintenance would not interfere with recreational benefits nor would it have a psychological impact on local residents. The configuration of drainages would not be changed by maintenance nor would any loss of open space occur. Thus, the MSWSMP would not be fully consistent with this goal.</p> <p>The MSWSMP would be consistent with this goal and objectives.</p> <p>The MSWSMP would ensure that the City's storm water facilities are cleared and maintained to provide ongoing adequate water drainage and to avoid potential future flooding. Storm water facilities that have a known history of flooding and/or accumulation of soil, debris and vegetation, and have the potential to impact adjacent properties and increase the risk to life and property, would be placed on a priority maintenance list, which will require maintenance annually or bi-annually.</p> <p>The MSWSMP would be consistent with this goal.</p>

**Table 4.1-1 (cont.)
 GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION**

GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
COMMUNITY PLANS (cont.)	
Scripps Miramar Ranch Community Plan (July 18, 1987, last amended October 19, 1999) (cont.)	
<p>Community Environment Element</p> <p>Objectives: On behalf of Scripps Miramar Ranch residents and the greater San Diego community, this Plan seeks to ensure a desirable, healthful, and comfortable living and working environment for Scripps Miramar Ranch while preserving the community's valuable natural resources and amenities. To this end the following objectives have been adopted.</p> <ul style="list-style-type: none"> • Permit only compatible land uses within and adjacent to recreation areas, open spaces, Carroll Canyon and Miramar Reservoir. • Encourage preservation of significant natural features of the area, such as Carroll Canyon, and avoid creation of a totally urbanized landscape. • Minimize visual impacts associated with land uses in and around Carroll Canyon and Miramar Reservoir. • Maximize the utility of open space as wildlife habitat by creating contiguous open space systems. • Preserve the habitats of sensitive and/or critical biological resources. • Encourage the preservation of significant historical and archaeological sites. <p>Proposals:</p> <ul style="list-style-type: none"> • Any archaeological resources should be investigated and documented by a competent archaeologist. Determination of the site's importance will be made during the environmental review process. 	<p>Although implementation of the MSWSMP would not alter the natural landforms or loss of open space, the removal of vegetation to accommodate flood waters, would change the local character of the area in which the maintenance occurs. Thus, the MSWSMP would not be fully consistent with this goal.</p> <p>Potential impacts to cultural resources associated with the MSWSMP would be reduced to less than significant levels with the implementation of the mitigation measures outlined within Subchapter 4.4, Historical Resources.</p> <p>As part of each maintenance project, a maintenance access plan would be developed to minimize impacts related to erosion/water quality, biological resources, and visual quality. Any revegetation of disturbed areas would use only native plant species with low water requirements.</p> <p>The MSWSMP would be consistent with these objectives and proposals.</p>

**Table 4.1-1 (cont.)
 GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION**

GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
COMMUNITY PLANS (cont.)	
Skyline-Paradise Hills Community Plan (June 30, 1987, amended May 24, 2005)	
<p>Open Space Element</p> <p>Goal:</p> <ul style="list-style-type: none"> • Provide an open space system which preserves existing canyons and hillsides and ensures open space accessibility. <p>Objectives:</p> <ul style="list-style-type: none"> • Develop specified open space areas for passive recreational uses such as hiking or bike trails. • Preserve visual and physical access to open space areas from public rights-of-way to increase passive recreational use. <p>Recommendations:</p> <ul style="list-style-type: none"> • The community's linear open space parks, although not part of a larger open space system, are a unique resource in this community as they provide a pedestrian linkage system to public facilities and, therefore, should continue to be maintained as open space. • Any development adjacent to open space areas should be designed in accordance with the guidelines outlined in the Urban Design Element of this plan. • All slopes which meet the criteria of the Hillside Review (HR) Overlay Zone should be zoned HR and should be developed in accordance with the guidelines for Hillside and Slope Development contained in the Urban Design Element of this Plan. 	<p>Although implementation of the MSWSMP would not alter the natural landforms or loss of open space, the removal of vegetation to accommodate flood waters, would change the local character of the area in which the maintenance occurs. Thus, the MSWSMP would not be fully consistent with this goal.</p> <p>The MSWSMP would be consistent with this goal, objectives and recommendations.</p>

**Table 4.1-1 (cont.)
 GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION**

GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
COMMUNITY PLANS (cont.)	
Skyline-Paradise Hills Community Plan (June 30, 1987, amended May 24, 2005) (cont.)	
<p>Cultural and Historical Resources Element</p> <p>Goal:</p> <ul style="list-style-type: none"> • Preserve the cultural and historical resources of the Skyline-Paradise Hills community. <p>Objectives:</p> <ul style="list-style-type: none"> • Protect the resource value of archaeological artifacts and paleontological resources within the community. • Preserve buildings of architectural and historical interest in the community. <p>Recommendation:</p> <ul style="list-style-type: none"> • Developments that might impact archaeological or paleontological sites should be identified during the permit process. These impacts should be mitigated through the environmental review process. <p>Public Facilities Element</p> <p>Goal:</p> <ul style="list-style-type: none"> • Establish and maintain a high level of public facilities and services to meet community needs. 	<p>Potential impacts to cultural and paleontological resources associated with the MSWSMP would be reduced to less than significant levels with the implementation of the mitigation measures outlined within Subchapter 4.4, Historical Resources, and Subchapter 4.7, Paleontological Resources, respectively.</p> <p>The MSWSMP would be consistent with this goal, objectives and recommendations.</p> <p>The MSWSMP would ensure that the City's storm water facilities are cleared and maintained to provide ongoing adequate water drainage and to avoid potential future flooding. Storm water facilities that have a known history of flooding and/or accumulation of soil, debris and vegetation, and have the potential to impact adjacent properties and increase the risk to life and property, would be placed on a priority maintenance list, which will require maintenance annually or bi-annually.</p> <p>The MSWSMP would be consistent with this goal.</p>

**Table 4.1-1 (cont.)
 GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION**

GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
COMMUNITY PLANS (cont.)	
Southeastern San Diego Community Plan (July 13, 1987, last amended October 18, 2006)	
<p>Open Space and Recreation Element</p> <p>Objective:</p> <ul style="list-style-type: none"> • Preserve hillsides, canyons and drainage areas in their natural state to the extent possible. <p>Recommendations:</p> <ul style="list-style-type: none"> • Public Views. Care should be taken to maintain and enhance views to designated open space areas from public rights-of-way. These views should be considered in the review of discretionary permits. • Creeks. Preserve creeks and drainage areas in their natural state. The Chollas Creek system is an important linear open area resource. All creeks in the community should be made available for passive recreation where safe. 	<p>Although implementation of the MSWSMP would not alter the natural landforms, the removal of vegetation to accommodate flood waters, would change the local character of the area in which the maintenance occurs. Thus, the MSWSMP would not be fully consistent with this goal.</p> <p>The proposed MSWSMP consist of unpaved, access routes and the clearing of storm water facilities, which would not result in the obstruction of views to scenic resources such as canyons, hillsides, or other open space areas from public viewing areas. Visual impacts would be minimized as described above under the General Plan compliance section.</p> <p>The MSWSMP would not result in the alteration of natural storm water facilities, other than the removal of debris and vegetation. The MSWSMP would not involve the realignment of any storm water facilities.</p> <p>The MSWSMP would be consistent with this objective and recommendations.</p>

Table 4.1-1 (cont.) GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION	
GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
COMMUNITY PLANS (cont.)	
Southeastern San Diego Community Plan (July 13, 1987, last amended October 18, 2006) (cont.)	
<p>Public Facilities Element</p> <p>Drainage/Flood Objective:</p> <ul style="list-style-type: none"> Protect property from flooding while retaining the natural appearance of drainage areas to the extent feasible. <p>Drainage/Flood Recommendations:</p> <ul style="list-style-type: none"> In undeveloped portions of the drainage basin, flood control should be provided which ensures the safety of structures and active land uses upon development. Flood control in the Chollas system should be accomplished through the use of natural and/or landscaped facilities. The use of concrete channels shall not be permitted. <p>Neighborhood Element</p> <p><u>Objectives</u></p> <p>Encanto:</p> <ul style="list-style-type: none"> Preserve the natural canyons and slopes of Encanto. <p>Lincoln Park:</p> <ul style="list-style-type: none"> Retain the hills and canyons of the neighborhood. <p>South Encanto:</p> <ul style="list-style-type: none"> Preserve and protect the natural canyons and slopes of South Encanto. <p>Valencia Park:</p> <ul style="list-style-type: none"> Valencia Canyon is an attractive natural canyon and should be preserved for future generations. 	<p>Failure to properly maintain storm water facilities could result in flooding of adjacent properties, increasing the risk of loss of life and property. The MSWSMP is designed to clear and maintain facilities to avoid flooding. Storm water facilities that have a known history of flooding and/or accumulation of soil, debris and vegetation, and have the potential to impact adjacent properties and increase the risk to life and property, would be placed on a priority maintenance list, which will require maintenance annually or bi-annually.</p> <p>As previously stated, grading/clearing activities would be restricted to the minimum amount necessary and would avoid or minimize impacts to existing sensitive environmental resources, as well as retain the natural features of the drainage to the extent practicable.</p> <p>The MSWSMP would be consistent with this objective and recommendations.</p> <p>Although implementation of the MSWSMP would not alter the natural landforms, the removal of vegetation to accommodate flood waters, would change the local character of the area in which the maintenance occurs. Thus, the MSWSMP would not be fully consistent with this goal.</p> <p>The MSWSMP would be consistent with these objectives.</p>

Table 4.1-1 (cont.)	
GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION	
GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
COMMUNITY PLANS (cont.)	
Tijuana River Valley LCP Land Use Plan (December 8, 1976, last amended June 1, 1999)	
One drainage to be maintained is located within the Tijuana River Valley community planning area; however, due to environmental constraints, access to the drainage is prohibited. Goals and objectives within this community plan are not applicable as no impacts would occur to this area.	Not applicable.
Torrey Pines Community Plan (March 6, 1975, amended January 10, 1995)	
<p>Key Policy:</p> <ul style="list-style-type: none"> Public projects (utilities, roads, railroads, etc.) that cross or encroach into open space areas shall eliminate or avoid loss to biological resources, shall result in no net loss to wetlands, and shall be required to contribute to the restoration and enhancement of those open space areas. <p>Resource Management and Open Space Element</p> <p>Goals:</p> <ul style="list-style-type: none"> Ensure long term sustainability of the unique ecosystem in the Torrey Pines Community, including all soil, water, air, and biological components which interact to form healthy functioning ecosystems. Conserve, restore, and enhance plant communities and wildlife habitat, especially habitat for rare, threatened, and endangered species. Retain viable, connected systems of wildlife habitat, and maintain these areas in their natural state. Identify, inventory and preserve the unique paleontological, archaeological, Native American, and historical resources of Torrey Pines for their educational, cultural, and scientific values. Preserve, enhance, and restore all natural open space and sensitive resource areas, including Los Peñasquitos Lagoon and associated uplands, Torrey Pines State Park and Reserve Extension areas with its distinctive sandstone bluffs and red rock, Crest Canyon, San Dieguito Lagoon and River Valley, Carroll Canyon Wetland/Wildlife Corridor through Sorrento Valley, and all selected corridors providing linkage between these areas. 	<p>In accordance with mitigation measures contained in Subchapter 4.3, Biological Resources, maintenance activities would be accompanied by habitat preservation, creation and/or enhancement. The MSWSMP would be consistent with this policy.</p> <p>Maintenance would be anticipated to result in a loss of native vegetation. While this loss of vegetation would be mitigated through the implementation of biological mitigation measures, the mitigation would likely not occur within the immediate area of the loss. Thus, the loss of vegetation within a specific drainage would conflict with this goal. In addition, the loss of vegetation would have localized aesthetic impact, as discussed in Subchapter 4.2. However, the maintenance would not interfere with recreational benefits nor would it have a psychological impact on local residents. The configuration of drainages would not be changed by maintenance nor would any loss of open space occur. Thus, the MSWSMP would not be fully consistent with this goal.</p> <p>However, the MSWSMP includes a series of protocols which will be implemented during maintenance activities to reduce erosion and protect water quality in downstream areas. Additionally, no new impermeable surface area would be created as part of the MSWSMP.</p> <p>Potential impacts to cultural and paleontological resources associated with the MSWSMP would be reduced to less than significant levels with the implementation of the mitigation measures outlined within Subchapter 4.4, Historical Resources, and Subchapter 4.7, Paleontological Resources, respectively.</p>

Table 4.1-1 (cont.)	
GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION	
GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
COMMUNITY PLANS (cont.)	
Torrey Pines Community Plan (March 6, 1975, amended January 10, 1995) (cont.)	
<p>Resource Management and Open Space Element</p> <p>Policies:</p> <ul style="list-style-type: none"> • Development impacts to rare, threatened, endangered, or candidate species shall be minimized or eliminated. • No filling, clearing, grubbing, or other disturbance of biologically sensitive habitats shall be permitted without approved mitigation plans. • New development adjacent to and impacting biologically sensitive areas shall be responsible for the restoration and enhancement of that area. In particular, when mitigation areas are needed for public projects, the disturbed areas in Crest Canyon should be revegetated with coastal mixed chaparral and Torrey pines. • Riparian vegetation in channels through the Sorrento Valley industrial area shall be preserved in its natural state in order to maintain its vital wildlife habitat value. When vegetation removal is necessary for flood control, the required State and Federal permits shall be obtained. • Preserve and enhance all open space and wildlife corridors (see Figure 6 of the Community Plan), especially those linking the Los Peñasquitos Lagoon with Torrey Pines State Reserve Extension and the Carroll Canyon Creek corridor. • New development, both public and private, should incorporate site planning and design features which would avoid or mitigate impacts to cultural resources. When sufficient plan flexibility does not permit avoiding construction on cultural resource sites, mitigation shall be designed in accordance with guidelines of the State Office of Historic Preservation and the State of California Native American Heritage Commission. • Conditions of approval for all development impacts adjacent to open space areas should include restoration and enhancement measures for that particular area. 	<p>Please see the discussion above under this community plan related to avoidance or minimization of impacts to sensitive biological and historical resources.</p> <p>The MSWSMP would be consistent with these policies.</p>

Table 4.1-1 (cont.)	
GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION	
GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
COMMUNITY PLANS (cont.)	
Torrey Pines Community Plan (March 6, 1975, amended January 10, 1995) (cont.)	
<p>The Torrey Pines Community Plan contains specific development guidelines and policies for the San Dieguito Lagoon and River Valley, Crest Canyon, Torrey Pines State Reserve Extension, Los Peñasquitos Lagoon, and Carroll Canyon Wetland/Wildlife Corridor.</p> <p>The Torrey Pines Community Plan contains Local Coastal Policies related to hillsides, grading/water quality, wetlands/environmentally sensitive resources, visual resources, and the Los Peñasquitos Watershed Restoration and Enhancement Fee that apply to all development in the Torrey Pines Community Planning Area within the Coastal Zone. In the event these policies conflict with the goals, policies, or proposals contained elsewhere in the Plan, the Local Coastal MSWSMP Policies shall take precedence.</p>	<p>Analysis of the relevant individual project's consistency with the specific development guidelines and policies for the San Dieguito Lagoon and River Valley, Crest Canyon, Torrey Pines State Reserve Extension, Los Peñasquitos Lagoon, and Carroll Canyon Wetland/Wildlife Corridor would be reviewed in light of applicable plans and policies.</p> <p>Maintenance located within the coastal zone would require a Coastal Development Permit and would be designed to comply with the Local Coastal MSWSMP Policies, to the extent feasible.</p>
University Community Plan (July 7, 1987, amended January 16, 1990)	
<p>Open Space and Recreation Element</p> <p>Goals:</p> <ul style="list-style-type: none"> • Preserve the present amenities of San Clemente Canyon, Rose Canyon, and other primary canyons within the community. • Preserve the natural environment including wildlife, vegetation and terrain. • Permit uses within the canyons which are strictly compatible with the open space concept. • Insure that all public improvements such as roads, drainage channels and utility services and all private lessee developments are compatible with the natural environment. 	<p>Maintenance would be anticipated to result in a loss of native vegetation. While this loss of vegetation would be mitigated through the implementation of biological mitigation measures, the mitigation would likely not occur within the immediate area of the loss. Thus, the loss of vegetation within a specific drainage would conflict with this goal. In addition, the loss of vegetation would have localized aesthetic impact, as discussed in Subchapter 4.2. However, the maintenance would not interfere with recreational benefits nor would it have a psychological impact on local residents. The configuration of drainages would not be changed by maintenance nor would any loss of open space occur. Thus, the MSWSMP would not be fully consistent with this goal.</p> <p>However, the MSWSMP includes a series of protocols which will be implemented during maintenance activities to reduce erosion and protect water quality in downstream areas. Additionally, no new impermeable surface area would be created as part of the MSWSMP.</p>

**Table 4.1-1 (cont.)
 GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION**

GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
COMMUNITY PLANS (cont.)	
University Community Plan (July 7, 1987, amended January 16, 1990) (cont.)	
<p><u>Proposals</u></p> <p>Rose Canyon</p> <ul style="list-style-type: none"> • City-owned land within Rose Canyon should be preserved as dedicated open space. • Future uses of Rose Canyon should consider the topography, vegetation and scenic value of the canyon. For this reason, passive recreational uses are recommended rather than active uses requiring major grading and construction. <p>Resource Management Element</p> <p>Goal:</p> <ul style="list-style-type: none"> • Preserve the community's natural topography, particularly in the coastal zone and in major canyon systems. <p>Proposal:</p> <ul style="list-style-type: none"> • <u>Landform Preservation</u>. Canyons, hillsides and natural drainage systems should be preserved. Grading should be kept to a minimum, particularly adjacent to designated open space areas. Specific proposals for development of resource-based parks and hillsides are contained in the Open Space and Recreation Element. <p>Goal:</p> <ul style="list-style-type: none"> • Protect biological resources through the wise management and use of community's natural open space and parks. <p>Proposal:</p> <ul style="list-style-type: none"> • <u>Biological Resources</u>. Many of the community's biological resources are proposed for preservation in natural parks, as specifically addressed in the Open Space and Recreation Element. In other areas, native vegetation should be retained wherever feasible to reduce erosion, to preserve native species and representative habitats and to buffer open space parks and canyons from urban encroachment. Disturbed areas should be revegetated. 	<p>Please see the discussions above under this community plan related to avoidance or minimization of impacts to sensitive resources, compatibility of the MSWSMPs with open space uses, and measures to minimize landform alteration.</p> <p>As part of each maintenance project, an IMP would be developed to minimize impacts related to erosion/water quality, biological resources, and visual quality. Any revegetation of disturbed areas would use only native plant species with low water requirements.</p> <p>The MSWSMP would be consistent with these proposals. Although implementation of the MSWSMP would not alter the natural landforms, the removal of vegetation to accommodate flood waters, would change the local character of the area in which the maintenance occurs. Thus, the MSWSMP would not be fully consistent with this goal.</p>

Table 4.1-1 (cont.)	
GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION	
GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
COMMUNITY PLANS (cont.)	
with native flora.	
University Community Plan (July 7, 1987, amended January 16, 1990) (cont.)	
<p>Resource Management Element (cont.)</p> <p>Goal:</p> <ul style="list-style-type: none"> Contribute to the maintenance or improvement of regional water quality by controlling siltation and urban pollutants. <p>Proposal:</p> <ul style="list-style-type: none"> <u>Water Quality/Erosion</u>. Development should minimize erosion and sedimentation. If a project site is on or adjacent to sloping lands, drainage systems should be designed so that the peak rate of runoff for the 10-year-frequency storm event will not exceed the rate under undeveloped conditions. Runoff control should be accomplished by catchment basins, siltation traps or detention basins along with energy dissipating measures or by other methods which are equally effective. Grading during the rainy season should be avoided wherever possible. Erosion should be minimized by grading in increments during the rainy season and by using temporary erosion control measures. In areas where grading is completed, all disturbed slopes should be stabilized by vegetation or other means prior to the rainy season. <p>Goal:</p> <ul style="list-style-type: none"> Provide for the identification and recovery of significant paleontological resources. <p>Proposal:</p> <ul style="list-style-type: none"> <u>Paleontology</u>. Although many areas with a moderate to high potential for fossil remains coincide with designated open space, resources may be lost by grading activities associated with development. Impacts to paleontological resources should be identified and mitigated, if necessary, through the environmental review process. 	<p>SWSMPs included in the MSWSMP would protect regional water quality.</p> <p>The MSWSMP would be consistent with this goal and proposal.</p> <p>Potential impacts to historical and paleontological resources associated with the MSWSMP would be reduced to less than significant levels with the implementation of the mitigation measures outlined within Subchapter 4.4, Historical Resources, and Subchapter 4.7, Paleontological Resources, respectively.</p> <p>The MSWSMP would be consistent with these goals and proposals.</p>

Table 4.1-1 (cont.)	
GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION	
GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
COMMUNITY PLANS (cont.)	
University Community Plan (July 7, 1987, amended January 16, 1990) (cont.)	
<p>Resource Management Element (cont.)</p> <p>Goal:</p> <ul style="list-style-type: none"> Ensure the effective preservation and management of significant archaeological and historical resources. <p>Proposal:</p> <ul style="list-style-type: none"> <u>Cultural Resources</u>. Potential impacts to archaeological resources should be identified during the permit process. If the impact of the proposed development is determined to be significant, mitigation measures should be determined by a qualified archaeologist and required as part of project approval. 	
Uptown Community Plan (February 2, 1988, last amended May 7, 2002)	
<p>Community Facilities and Services Element</p> <p>Goal:</p> <ul style="list-style-type: none"> Establish and maintain a high level of community facilities and services to meet the needs of the community. 	<p>The MSWSMP would ensure that the City's storm water facilities are cleared and maintained to provide ongoing adequate water drainage and to avoid potential future flooding. Storm water facilities that have a known history of flooding and/or accumulation of soil, debris and vegetation, and have the potential to impact adjacent properties and increase the risk to life and property, would be placed on a priority maintenance list, which will require maintenance annually or bi-annually.</p> <p>The MSWSMP would be consistent with this goal.</p>

**Table 4.1-1 (cont.)
 GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION**

GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
PARK AND PRESERVE PLANS	
Chollas Creek Enhancement Plan (Please also see the discussions under the Mid-City Communities and Southeastern San Diego community plans for additional goals, objectives, and recommendations related to Chollas Creek.)	
<p>Design/Development Guidelines</p> <p><u>Natural Setting:</u></p> <ul style="list-style-type: none"> Existing vegetation should be preserved, enhanced and maintained. All non-native, invasive plant material should be removed from the creek. Retention of the natural ravines, watercourses, drainage areas, and topographic features shall be a primary consideration. In addition, new landscaping should complement the natural selections. Watercourses should not be altered, nor should they be covered, or undergrounded. When some alteration of watercourses has to occur, a natural setting should be re-created, without concrete channeling, and without covering the channel. <p><u>Avoid Channelization</u></p> <p>Avoid new channelization: channelizing the creek creates in turn a new set of environmental problems, visual dilemmas and physical safety issues that can be avoided by improving the creek's edge and upland area. The creek can be wrapped with stepping edges to ensure a safe exit from the channel</p> <p><u>Restore Disturbed Areas</u></p> <ul style="list-style-type: none"> In general, disturbed areas where some form of channelization has taken place with relatively wide earth bottoms make wetland and vegetative restoration possible. Channels can be replaced by berms or "block-crete" that support steep grading and permit water drainage, aquifer recharge, and plant growth between structural elements. <p><u>Restore Native Wetland Vegetation:</u></p> <ul style="list-style-type: none"> Restore native soils and vegetation in the Creek channel and sides to re-establish its natural wetland function and appearance. <p><u>Maintain Natural Drainage Patterns:</u></p> <ul style="list-style-type: none"> Natural drainage should be maintained by: preserving slopes and soil elevation to maintain natural runoff patterns; maintaining soil composition that allows natural water filtration, and carefully assessing appropriate ground cover and new soil import to assure that the natural runoff and drainage patterns are not changed. 	<p>Assuring adequate flood capacity within Chollas Creek will require removal of vegetation associated with the channel bottom and side slopes which would conflict with the goal of retaining natural water courses. Thus, the MSWSMP would not be consistent with this goal.</p> <p>The proposed MSWSMP would not include the channelization of any storm water facilities, but would include the clearing of storm water facilities.</p> <p>Wherever possible wetland vegetation would be retained, enhanced and/or restored in Chollas Creek.</p> <p>Maintenance activities would not change the natural drainage patterns.</p>

**Table 4.1-1 (cont.)
 GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION**

GOALS, OBJECTIVES, AND RECOMMENDATIONS		PROGRAM'S CONSISTENCY	
PARK AND PRESERVE PLANS (cont.)			
Chollas Creek Enhancement Plan (Please also see the discussions under the Mid-City Communities and Southeastern San Diego community plans for additional goals, objectives, and recommendations related to Chollas Creek.) (cont.)			
Design/Development Guidelines (cont.)			
<p><u>Recharge the Creek's Aquifer:</u></p> <ul style="list-style-type: none"> Maintain porous and natural materials to permit the natural recharge of the aquifer. If grading in the creek is undertaken, assure that a soil analysis is made and new soils or surfaces applied will allow for proper drainage, filtering, and aquifer recharge. <p><u>Maintain and Enhance Water Quality:</u></p> <ul style="list-style-type: none"> Maintain and enhance the creek's water filtering function, if at all possible, by maintaining natural soils. If grading is necessary, replace with new soils and ground cover that will maintain and enhance water quality. Sandy soils, porous soils, and plant materials that provide cleansing action should be used to restore disturbed areas. <p><u>Control Erosion:</u></p> <ul style="list-style-type: none"> Prior to any grading or changes in topography, an analysis should be made of erosion-related issues through an evaluation of new soils or surfaces applied, projected water velocity, vegetation impacts on the slowing down of water, and siltation conditions. Water de-celeration structures and erosion control structures may need to be considered where high erosion levels are identified. <p><u>Flood Safety:</u></p> <ul style="list-style-type: none"> All new improvements in the Chollas Creek Park will address flood safety. 		<p>The MSWSMP would include removal of vegetation and sediment within storm water facilities to maintain flow and avoid flooding. These activities would not affect the drainage, filtering, and aquifer recharge of the creek.</p> <p>The MSWSMP would include removal of vegetation and sediment within storm water facilities to maintain flow and avoid flooding. These activities would not affect the filtering function of the creek. SWSMPs and mitigation measures contained in Subchapter 4.5, Hydrology/ Water Quality, would reduce potential water quality impacts.</p> <p>SWSMPs are included in the MSWSMP to prevent erosion impacts to adjacent properties and sedimentation downstream. In addition, maintenance activities may include replacement of channel bank riprap due to storm water displacement and erosion, and installation of new riprap due to erosion of earthen channel banks.</p> <p>The MSWSMP would ensure that the City's storm water facilities are cleared and maintained to provide ongoing adequate water drainage and to avoid potential future flooding. Storm water facilities that have a known history of flooding and/or accumulation of soil, debris and vegetation, and have the potential to impact adjacent properties and increase the risk to life and property, would be placed on a priority maintenance list, which will require maintenance annually or bi-annually.</p>	
Famosa Slough Enhancement Plan			
<p>Goal:</p> <ul style="list-style-type: none"> ...to restore and preserve the Slough and Channel as a natural habitat, to provide sanctuary for wildlife, and to educate the public in the appreciation of the plants and animals that comprise a wetland system. 		<p>One drainage is located adjacent to Famosa Slough; however, due to environmental constraints, maintenance is prohibited.</p> <p>The MSWSMP would be consistent with these recommendations.</p>	

**Table 4.1-1 (cont.)
 GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION**

GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
PARK AND PRESERVE PLANS (cont.)	
Otay Valley Regional Park Concept Plan	
<p>Goal Statement: The Otay Valley Regional Park will represent one of the major open space areas within the southern area of San Diego County, linking south San Diego Bay with lower Otay Lake. The park will fulfill the need to:</p> <ul style="list-style-type: none"> • Provide a mix of active and passive recreational activities, • Protect environmentally sensitive areas, • Protect cultural and scenic resources, and • Encourage compatible agricultural uses in the park. <p>Open Space/Core Preserve Area</p> <p>Policies:</p> <ul style="list-style-type: none"> • Restore and enhance disturbed areas in the Open Space/Core Preserve Area consistent with the MSCP. • Maintain the natural floodplain; prohibit channelization of the floodplain. 	<p>Implementation of the MSWSMP would not result in the loss of open space. However, as discussed earlier, removal of vegetation in the drainages included in the City's storm water system would conflict with the goal of maintaining a natural drainage system. The removal of vegetation would also have a localized impact on wildlife.</p> <p>Potential impacts to historical resources associated with the MSWSMP would be reduced to less than significant levels with the implementation of mitigation outlined within Subchapter 4.4, Historical Resources.</p> <p>Maintenance activities would not interfere with potential agricultural uses.</p> <p>The proposed MSWSMP would not include the channelization of any storm water facilities, but would include the clearing of storm water facilities.</p>
Tecolote Canyon Natural Park Master Plan	
<p>Objectives:</p> <ul style="list-style-type: none"> • Provide an accessible natural park to meet the needs of residents of San Diego, especially those in the Clairemont and Linda Vista area surrounding Tecolote Canyon Natural Park. • Preserve the natural creek which supports vegetation and wildlife habitat. • Plant native plants in depleted areas, for erosion control and restoration of areas disturbed by construction or grading. • Preserve the open space to provide visual enjoyment, as well as to protect the natural habitat. 	<p>No maintenance would occur within the Tecolote Canyon Park.</p>

**Table 4.1-1 (cont.)
 GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION**

GOALS, OBJECTIVES, AND RECOMMENDATIONS		PROGRAM'S CONSISTENCY	
PARK AND PRESERVE PLANS (cont.)			
Western Otay Valley Regional Park Natural Resource Management Plan			
<p>Objectives:</p> <ul style="list-style-type: none"> • To establish management practices and means for implementation which will foster cooperative joint City of San Diego-City of Chula Vista management to preserve and protect cultural and biological resources while providing for future passive and active recreational use, maintenance, and land use in the Park. • To enhance and restore native habitats in the Park. • To manage native habitat and wildlife species for their survival. • To identify and maintain important wildlife corridors and the connectivity between open space areas. • To control erosion throughout the Park and protect the watershed. • To protect and maintain paleontological and archaeological resources. • To protect, restore, and maintain cultural resources. • To facilitate public use of the Western Otay Valley Regional Park, exclusive of active recreation areas designated in the Concept Plan, which is compatible with the protection and preservation of the natural and cultural resources, such as picnicking, multi-use trails, and other low intensity (passive) recreational activities. • To develop and implement measures that ensure compatibility of existing land uses within and/or adjacent to Western Otay Valley Regional Park with natural resources. • To enhance and maintain the quality of water resources in the Park. • To ensure all individual projects proposed within the Park meet federal, state, and local environmental standards and requirements. • To develop procedures for facility and utility siting, maintenance, and repair which are sensitive to species, habitat, and aesthetics. • To develop response procedures for unexpected public health and safety emergencies which safe-guard sensitive species and habitat. • To ensure that all improvements and maintenance activities consider and provide for public safety. 		<p>Implementation of the MSWSMP would not result in the loss of open space. However, as discussed earlier, removal of vegetation in the drainages included in the City's storm water system would conflict with the goal of maintaining a natural drainage system. The removal of vegetation would also have a localized impact on wildlife.</p> <p>Potential impacts to cultural and paleontological resources associated with the MSWSMP would be reduced to less than significant levels with the implementation of mitigation outlined within Subchapter 4.4, Historical Resources, and Subchapter 4.7, Paleontological Resources, respectively.</p> <p>Several types of BMPs would be used during maintenance operations to prevent erosion impacts to adjacent properties and sedimentation downstream. In addition, maintenance activities may include replacement of channel bank riprap due to storm water displacement and erosion, and installation of new riprap due to erosion of earthen channel banks.</p> <p>Maintenance of storm water facilities and clearing for access routes would not preclude future recreational development within, or use of, open space areas.</p>	

**Table 4.1-1 (cont.)
 GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION**

GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
PARK AND PRESERVE PLANS (cont.)	
Western Otay Valley Regional Park Natural Resource Management Plan (cont.)	
<p>Park Maintenance Projects:</p> <ul style="list-style-type: none"> • Maintenance and installation of gates, chains, and locks as needed to prevent illegal entrance. <p>Maintenance, Usage, and Development Guidelines:</p> <p>Utility Maintenance:</p> <ul style="list-style-type: none"> • Applicable city, state, and/or federal permits shall be required prior to conducting any maintenance activity. Additionally, all such activity shall comply with guidelines in the Natural Resource Management Plan (NRMP). Approval from the City of San Diego Park and Recreation and City of Chula Vista Planning and Building departments is required for all maintenance activity design, implementation, and mitigation to ensure the guidelines adopted in the NRMP are being incorporated. • Necessary underground public facilities are permitted to cross open space areas if no permanent damage is sustained. Revegetation would be required, as well as any other required mitigation outlined in appropriate permits. • A Memorandum of Understanding or Letter of Agreement with each utility which conducts maintenance activities within the WOVRP should be developed to outline specific conditions for maintenance of their facilities and easements. • All SDG&E, Otay Water District (OWD), and City work crews shall undergo training programs to make crews alert to the sensitivity of the habitats in which they are working. The City of San Diego and SDG&E have training programs for crews working in environmentally sensitive areas, as well as sensitive plant, animal, and habitat reference guide. Crews should be routinely trained and advised on how to minimize environmental impacts during maintenance activities. 	<p>Any new access routes would control public pedestrian and vehicular access using appropriate means (i.e., gates, fences, signs, etc.). Such means would be maintained as necessary to control access.</p> <p>All appropriate local, state and/or federal permits would be obtained prior to initiation of any maintenance activities. The SWD would coordinate with the City of San Diego Park and Recreation and City of Chula Vista Planning and Building departments, as required, to ensure that the guidelines adopted in the NRMP are being incorporated into maintenance activity design, implementation and mitigation.</p> <p>As part of each maintenance project, a maintenance access plan would be developed to minimize impacts related to erosion/water quality, biological resources, and visual quality. Any revegetation of disturbed areas would use only native grass/plant species with low water requirements.</p> <p>The SWD would assist in the development of, and sign, a Memorandum of Understanding or Letter of Agreement that outlines specific conditions for maintenance of their facilities and easements.</p> <p>The SWD work crews would undergo training programs to make crews alert to the sensitivity of the habitats in which they are working. Crews would be routinely trained and advised on how to minimize environmental impacts during maintenance activities.</p> <p>The SWD maintenance activities would be coordinated with a Park Ranger, who shall in turn notify, if necessary, the City of San Diego Park and Recreation Natural Resource Manager. Notification to City of San Diego and/or City of Chula Vista, as appropriate, personnel would also occur as soon as possible when emergency action is required.</p> <p>Please see the discussions above under this park plan related to avoidance or minimization of impacts to sensitive biological resources and mitigation for impacts to cultural resources.</p>

Table 4.1-1 (cont.)	
GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION	
GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
PARK AND PRESERVE PLANS (cont.)	
Western Otay Valley Regional Park Natural Resource Management Plan (cont.)	
<p>Maintenance, Usage, and Development Guidelines: (cont.)</p> <ul style="list-style-type: none"> • Maintenance activities and other uses of easements held by SDG&E, OWD, and MWWD must be coordinated with a Park Ranger, who shall in turn notify, if necessary, the City of San Diego Park and Recreation Natural Resource Manager. Notification to City of San Diego and/or City of Chula Vista, as appropriate, personnel should also occur as soon as possible when emergency action is required. • If a maintenance activity could result in direct or indirect impacts to surrounding habitat or sensitive resources, the maintenance work area should be coned or flagged by a Park Ranger, Natural Resource Planner, or qualified biologist and/or archaeologist to aid the maintenance personnel in keeping the impact confined to the work area. • Prior to conducting any maintenance activity which disturbs substrate, a site check for archaeological resources shall be conducted by a qualified archaeologist. Results should be given to the City of Chula Vista (Contact: Environmental Review Coordinator) and City of San Diego (Contact: Park Ranger or Natural Resource Planner for review by Development Services archaeologist) for review and evaluation. If the potential for indirect impacts exist, the site shall be flagged to keep work crews away. If direct impacts are found to be likely, the project should: 1) try to avoid the area; 2) minimize the impact; and 3) develop and implement a plan for recovery of resources subject to approval by the City contacts provided earlier. Native American consultation should be made, when appropriate, during impact analysis and mitigation design and implementation. A stewardship program for prehistoric and historical resources should be instituted for the Park in conjunction with a Cultural Resource Site Management Plan. A designated steward would then be involved in consultations about projects and possible impacts to cultural sites. • Regular maintenance activity and new construction should avoid nesting/breeding season of sensitive species (approximately February – September). 	<p>Please see the discussions above under this park plan related to avoidance or minimization of impacts to sensitive biological resources and mitigation for impacts to historical resources.</p> <p>Several types of BMPs would be used during maintenance operations to prevent erosion impacts to adjacent properties and sedimentation downstream. In addition, maintenance activities may include replacement of channel bank riprap due to storm water displacement and erosion, and installation of new riprap due to erosion of earthen channel banks. Any revegetation of disturbed areas would use only native plant species with low water requirements. As part of the project-specific environmental review, maintenance access plans would be reviewed by appropriate resource and local agencies, including the City Park and Recreation Department.</p> <p>Please see the discussion above under this plan related to measures to reduce potential hydrology and water quality impacts.</p> <p>Project activities would be conducted in accordance with San Diego Air Pollution Control District standards which may require dust suppression methods such as the use of water trucks.</p>

Table 4.1-1 (cont.)	
GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION	
GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
PARK AND PRESERVE PLANS (cont.)	
Western Otay Valley Regional Park Natural Resource Management Plan (cont.)	
<p>Maintenance, Usage, and Development Guidelines: (cont.)</p> <ul style="list-style-type: none"> • If work crews find an unidentified, potentially sensitive plant, nest, or burrow in the maintenance area, the Project Biologist shall be contacted. The Project Biologist will determine appropriate action to avoid or minimize impacts prior to resuming work. • Utility easements and siting of access roads should be reviewed to identify changes which could be made to minimize erosion and the impact on sensitive areas and species, cultural sites, wetlands, and aesthetic values. No activity should increase the size of existing access roads. If re-routing of access roads occurs, the vacated area(s) should be made available for sensitive plant/habitat restoration. • Parking or driving of maintenance and ranger vehicles under all large native trees, especially oak trees, shall not be permitted in order to protect the tree root system. • Stream crossings by vehicles shall be minimized and limited to previously designated crossing locations to reduce water quality impacts. • All construction and maintenance materials shall be disposed of in an appropriate manner and not in or near wetlands. • All construction and maintenance activities should use best management practices for erosion control at construction/work site and should provide for park user safety, such as temporary signs and/or barricades. 	

Table 4.1-1 (cont.)	
GENERAL, COMMUNITY AND AREA PLANS CONSISTENCY EVALUATION	
GOALS, OBJECTIVES, AND RECOMMENDATIONS	PROGRAM'S CONSISTENCY
PARK AND PRESERVE PLANS (cont.)	
Western Otay Valley Regional Park Natural Resource Management Plan (cont.)	
<p>Maintenance, Usage, and Development Guidelines: (cont.)</p> <ul style="list-style-type: none"> • Erosion on access roads shall be minimized using appropriate measures, such as water bars. • For all grading work, dust shall be controlled with regular watering. • Mowing, rather than grading, should be the method of vegetation removal if needed to eliminate/reduce fire hazard, to provide safe access, or to improve view of utility facility. <p>In addition, the Western Otay Valley Regional Park NRMP contains mitigation options and guidelines to avoid or minimize impacts to biological and cultural resources. The Plan also contains guidelines for the enhancement and restoration of biological and cultural resources.</p>	<p>Analysis of the relevant individual projects' consistency with the mitigation options and guidelines and enhancement and restoration guidelines contained in the Western Otay Valley Regional Park NRMP would be reviewed in light of applicable plans and policies.</p>

**Table 4.1-2
 MSCP CONSISTENCY EVALUATION**

MSCP Policy/Guideline	Evaluation	Consistent?
General Planning Policies and Guidelines		
<p>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 the 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.</p>	<p>While implementation of the MSWSMP would periodically remove natural vegetation associated with earthen storm water facilities to assure proper flood control function, the natural configuration of the storm water facilities would not be modified other than to remove accumulated sediment. Impacts to wetland vegetation associated with the channel would depart from the overall goal of maintaining natural drainage courses. This impact is unavoidable given the primary goal of retaining the channels ability to safely transport floodwaters. However, as these impacts would not occur without authorization from appropriate federal, state, or local agencies and compensation would be required.</p>	<p>Yes</p>
<p>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.</p>	<p>The MSWSMP is focused on maintaining existing storm water facilities. Thus, construction of new berms, channels or barriers would be minimal. However, should new construction be required as part of maintenance activities, the activity would adhere to the mitigation measures requiring compensation for impacts to biological resources.</p>	<p>Yes</p>
<p>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 movement.</p>	<p>The MSWSMP is focused on maintaining existing storm water facilities which would include replacing existing riprap, concrete or unnatural material. While installation of new riprap, concrete or other materials may be necessary, it would not be expected to be a common occurrence. Furthermore, mitigation for the additional impacts would be required.</p>	<p>Yes</p>
<p>Temporary construction areas and roads, staging areas, or permanent access roads must not disturb existing habitats unless determined to be unavoidable. All such activities must occur on existing agricultural lands or other disturbed areas rather than in habitat. If temporary habitat disturbance is unavoidable, then restoration of, and/or mitigation for the disturbed areas after project completion will be required.</p>	<p>Construction of temporary access and staging may occur along certain channels where no such facilities currently exist. Wherever possible, all such impacts would be limited to disturbed habitat or the least biologically sensitive habitat present. Such impacts would be considered significant if sensitive habitat or sensitive species were impacted and mitigation would be required.</p>	<p>Yes</p>

Table 4.1-2 (cont.) MSCP CONSISTENCY EVALUATION		
MSCP Policy/Guideline	Evaluation	Consistent ?
General Planning Policies and Guidelines (cont.)		
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.	Maintenance activities would be of limited durations (typically less than one week) and would occur during daylight hours when wildlife movement is limited.	Yes
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.	Access would only be provided, as necessary, to gain entry to channels or basins to be maintained.	Yes
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.	As necessary, access may be necessary within canyon bottoms. However, the access would be used on a very limited basis, not interfere substantially with wildlife movement, and would not bisect any channels/canyon bottoms. In addition, mitigation for impacts would be provided.	Yes
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.	Access roads would be constructed to the minimum width required to accommodate moving equipment in and out of the channels.	Yes
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.	Wherever possible, access for maintenance would occur along existing roads and paths.	Yes
MHPA Adjacency Guidelines		
Lighting of all developed adjacent areas should be directed away from the MHPA. Where necessary, development should provide adequate shielding with non-invasive plant materials (preferably native), berms, and/or other methods to protect MHPA and sensitive species from night lighting.	Maintenance activities would be of limited durations (typically less than one week) and would occur during daylight hours. Lighting would only be used in emergencies when maintenance cannot be limited to daylight hours.	Yes

**Table 4.1-2 (cont.)
 MSCP CONSISTENCY EVALUATION**

MSCP Policy/Guideline	Evaluation	Consistent ?
MHPA Adjacency Guidelines (cont.)		
Uses in or adjacent to the MHPA should be designed to minimize noise impacts. Excessively noisy uses or activities adjacent to breeding areas must incorporate noise reduction measures and be curtailed during the breeding season of sensitive species.	Wherever possible, maintenance activities would avoid breeding seasons for sensitive bird species. Where avoidance during the breeding season is not possible, noise reductions measures would be incorporated into the maintenance activities, as stipulated in the SWSMPs.	Yes
No invasive non-native plant species shall be introduced into areas adjacent to the MHPA.	The MSWSMP contains maintenance protocols which prohibit the use of invasive plants in revegetation efforts as well as measures to limit the spread of existing invasive species into downstream areas during removal.	Yes
General Management Directives		
Mitigation, when required as part of project approvals, shall be performed in accordance with the City of San Diego ESL Ordinance and Biology Guidelines.	Mitigation measures would be carried out in compliance with the ESL and Biology Guidelines.	Yes
Restoration or revegetation undertaken within the MHPA shall be performed in a manner acceptable to the City. Wetland restoration/revegetation proposals are subject to permit authorization by federal and state agencies.	Restoration or revegetation would be subject to approval by the City as well as state and federal agencies.	Yes
Remove giant reed, tamarisk, pampas grass, castor bean, artichoke thistle, and other exotic invasive species from creek and river systems, canyons and slopes, and elsewhere within the MHPA as funding or other assistance becomes available. Avoid removal activities during the reproductive seasons of sensitive species and avoid/minimize impacts to sensitive species or native habitats.	By their nature, maintenance activities would promote this guideline because they would remove these species due to their adverse impact on the flood control function of storm water facilities. In addition, the MSWSMP includes maintenance protocols to minimize the downstream spread of invasive species during removal.	Yes
Perform standard maintenance, such as clearing and dredging of existing flood channels, during the non-breeding or nesting season of sensitive bird or wildlife species utilizing the riparian habitat. For the least Bell's vireo, the non-breeding season generally includes mid-September through mid-March.	The MSWSMP contains specific maintenance protocols that would preclude clearing of suitable habitat during the designated breeding seasons for potentially occurring sensitive birds (e.g., coastal California gnatcatcher and least Bell's vireo). In addition, noise attenuation barriers would be required when maintenance noise levels could interfere with breeding activities.	Yes
Review existing flood control channels within the MHPA periodically (every 5 to 10 years) to determine the need for their retention and maintenance, and to assess alternatives, such as restoration of natural rivers and floodplains.	The MSWSMP would provide for the routine inspections and maintenance identified in this guideline.	Yes

**Table 4.1-2 (cont.)
 MSCP CONSISTENCY EVALUATION**

MSCP Policy/Guideline	Evaluation	Consistent ?
Special Conditions for Covered Species		
Area-specific management directives for the coastal California gnatcatcher must include measures to reduce edge effects and minimize disturbance during the nesting period, fire protection measures to reduce the potential for habitat degradation due to unplanned fire, and management measures to improve habitat quality including vegetation structure. No clearing of occupied habitat within the City’s MHPA may occur between March 1 and August 15.	The MSWSMP contains specific maintenance protocols that would preclude clearing of suitable habitat during the designated breeding season for the coastal California gnatcatcher. In addition, noise attenuation barriers would be required when maintenance noise levels could interfere with breeding activities within the MHPA.	Yes
Area-specific management directives for least Bell’s vireo and southwestern willow flycatcher must include measures to provide appropriate successional habitat, upland buffers for all known populations, cowbird control, and specific measures to protect against detrimental edge effects to this species. Any clearing of occupied habitat must occur between September 15 and March 15 for the vireo and between September 1 and May 1 for the willow flycatcher (i.e., outside of the nesting season).	The MSWSMP contains specific maintenance protocols that would preclude clearing of suitable habitat during the designated breeding seasons for the southwestern willow flycatcher and least Bell’s vireo. In addition, noise attenuation barriers would be required when maintenance noise levels could interfere with breeding activities within the MHPA.	Yes
Area-specific management directives for the Cooper’s hawk must include 300-foot impact avoidance areas around active nests, and minimization of disturbance in oak woodlands and oak riparian forests.	The MSWSMP includes a maintenance protocol which would require maintenance activities to maintain a setback of 300 feet from active nests.	Yes
Area-specific management directives for the Northern Harrier must: manage agricultural and disturbed lands within 4 miles of nesting habitat to provide foraging habitat; include an impact avoidance area (900 feet) around active nests; and include measures for maintaining winter foraging habitat in preserve areas in Proctor Valley, around Sweetwater Reservoir, San Miguel Ranch, Otay Ranch east of Wueste Road, Lake Hodges, and San Pasqual Valley.	The MSWSMP includes a maintenance protocol which would require maintenance activities to maintain a setback of 900 feet from active nests.	Yes
Area-specific management directives for San Diego barrel cactus must include measures to protect this species from edge effects, unauthorized collection, and include appropriate fire management/control practices to protect against a too-frequent fire cycle.	The MSWSMP includes maintenance protocol which result in relocation or replanting in the event a substantial number of sensitive plants would be lost in the course of maintenance.	Yes
Area specific management directives for Nuttall’s lotus must include specific measures to protect against detrimental edge effects.	The MSWSMP includes maintenance protocol which result in relocation or replanting in the event a substantial number of sensitive plants would be lost in the course of maintenance.	Yes

Water Quality Regulatory Framework

As discussed in Subchapter 4.5, Hydrology/Water Quality, implementation of the MSWSMP would help improve and maintain water quality within affected storm water facilities by removing illegally dumped materials such as trash, appliances, furniture, shopping carts and tires, as well as debris and sediment. In so doing, the MSWSMP would support the intent, goals, objectives, and policies of the San Diego Basin Plan, as well as the JURMP and SUSMP, in protecting surface water quality within the region.

Significance of Impacts

Removal of vegetation within these facilities would result in a significant land use impact due to the loss of sensitive vegetation and the associated wildlife protected by the City's ESL regulations as well as regional conservation plans. Indirect, significant land use impacts could arise from noise impacts to nesting/breeding coastal California gnatcatchers, least Bell's vireo, or raptors if maintenance activities create noise in excess of 60 dB(A) L_{eq} in occupied habitat during the breeding season of each species.

The potential also exists for the construction of access roads to adversely impact historical resources protected by ESL regulations.

Mitigation Measures, Monitoring and Reporting

The requirement that Individual Historical Assessments be conducted prior to conducting maintenance in areas which could possess important historical resources (Mitigation Measure 4.4.1 coupled with maintenance monitoring provisions when historical resources are determined to be present or potentially present (Mitigation Measure 4.4.2) would reduce potential impacts to historical resources to below a level of significance.

Implementation of the following mitigation measures would reduce the potential impacts to sensitive species targeted for protection by the MSCP to below a level of significance.

Mitigation Measure 4.1.1: Prior to the 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 or 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. (Appendix C.1 MM 7.2.3a) 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 Section 4.3, Biological Resources, required shall be implemented. (Appendix C.1 MM 7.1.5d)

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 activities 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. The analysis shall identify the location of the 60 dB(A) Leq 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 significantly impacted by maintenance, then maintenance (inside and outside the MHPA) shall, whenever possible, be restricted during the breeding season as follows:

- 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 cannot be avoided during an identified breeding season for a listed bird which is determined to be potentially significantly affected by maintenance, 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 insure 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 or 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. (Appendix C.1 MM 7.2.3b)

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 Department (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 approved the 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.

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 Multi-Habitat Planning Area (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 CITY MANAGER:

- 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 CONSTRUCTION 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 City Manager, 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.

Issue 3: Would the Project be in conflict with any policy or regulation of an agency with jurisdiction over the Project?

Agencies that have jurisdiction over the MSWSMP would include the Corps, USFWS, RWQCB, Coastal Commission, and CDFG with regard to jurisdictional wetlands. Projects are required to abide by the “no net loss” policy with regard to wetlands per both state and federal law. The Corps and RWQCB must authorize wetland disturbance through permits issued pursuant to the CWA (Sections 404 and 401). USFWS and CDFG would issue permits for take of listed species. In addition, CDFG must issue Section 1602 Streambed Alteration Agreement for maintenance proposals that would impact streambeds. A NPDES Permit issued by RWQCB would be required. Individual CDPs issued by the CCC would be required for access roads within the Coastal Permit jurisdiction and the Deferred Certification Areas of the Coastal Zone.

The MSWSMP would not conflict with any policy or regulation mandated by the Corps, USFWS, CDFG, RWQCB or CCC, as compliance would be required to issue necessary permits.

Significance of Impacts

As stated above, the MSWSMP would not conflict with any policy or regulation mandated by the Corps, USFWS, CDFG, RWQCB or CCC, as compliance would be required to issue necessary permits.

Mitigation Measures, Monitoring and Reporting

No significant impacts are identified; therefore, no mitigation measures are required.

Issue 4: Would the Project be in conflict with adjacent land uses?

Maintenance activities have the potential to adversely affect adjacent development. Land use activities that would be sensitive to disruption from maintenance include residential, recreation, hospitals, and schools. Equipment noise and dust would be the primary sources of impact. As discussed in Subchapter 4.6, Noise, hourly average noise levels could reach 75 dB(A) within approximately 50 feet from the edge of the channel. The disruption would primarily be associated with activities within the storm water facilities. However, disruption would also occur from use of access roads as well as staging areas outside the storm water facilities. In limited cases, disruption may occur from the creation of access roads where none exist.

With respect to noise-sensitive land uses, several factors serve to reduce the noise impact. First, maintenance activities would be required to comply with the City of San Diego Noise Abatement and Control Ordinance. As a result, maintenance activities would be limited to the hours of 7 a.m. to 7 p.m., Monday through Saturday, excluding holidays and would not exceed an hourly average of 75 dB(A) over an 8-hour period (refer to Subchapter 4.6, Noise, for more detail). Thus, maintenance noise would not disrupt the early morning and evening activities (e.g. sleep), which tend to be the most sensitive to noise.

Standard dust control measures required by the City's grading ordinance would be implemented to control dust.

In addition to the regulatory controls on maintenance, the limited duration and frequency of maintenance within specific channels also would serve to minimize the impact on adjacent areas. As discussed in Chapter 3.0, Project Description, most maintenance would be completed within a matter of days and would occur, on average, no more frequently than once every three years.

Natural areas would also be affected by noise and dust, especially if they are occupied by sensitive bird species which have been proven to be adversely affected by high noise levels during their breeding season. While recreation activities (e.g. hiking) may be disrupted by equipment noise, the short-duration and frequency of these activities within specific storm water facilities would minimize the impact. Should sensitive birds be determined to be adversely affected by maintenance noise, implementation of controls on the season and level of noise during the breeding season would be required (refer to Subchapter 4.3, Biological Resources).

Significance of Impacts

As stated above, land use conflict potential would be reduced to less than significant levels through regulatory controls and compliance with City of San Diego ordinances.

Mitigation Measures, Monitoring and Reporting

No significant impacts are identified; therefore, no mitigation measures are required.

4.2 AESTHETICS/NEIGHBORHOOD CHARACTER

4.2.1 Existing Conditions

Visual Setting and Site Characteristics

The storm water facilities included in the MSWSMP occur in various visual settings. The majority of areas surrounding the affected storm water facilities are open space/park/preserve areas, residential and commercial. Within urban settings, the storm water facilities which are more natural in appearance are considered aesthetic features which enhance the neighborhood character by providing visual relief from development.

Other visual resources located within the vicinity of the storm water facilities subject to the MSWSMP include water bodies (e.g., the Pacific Ocean, Mission Bay, and San Diego Bay), hillsides, canyons, coastal bluffs and beaches, and other open space areas such as parks and preserves. Many of the storm water facilities segments are located within or near visual resources identified and/or designated in the City's General Plan and community plans. A number of these scenic resources are visible from public roads or paths adjacent to or within the resources. In addition, many of these resources are visible from adjacent residential and other private land uses.

The existing storm water facilities, as detailed in Table 3-1, range in type from natural, soft-bottomed storm water facilities with mature vegetation to concrete-lined, unvegetated storm water facilities and range in width from 2 to 150 feet. A few lined- and unlined- detention basins are also included. In general, the soft-bottomed, vegetated channels and basins are most often seen as natural storm water courses that are aesthetically pleasing while the concrete-lined channels and basins detract aesthetic value from the neighborhood. It is noted that there are cases where natural, soft-bottomed storm water facilities are considered a negative aesthetic feature, such as when the storm water facilities are immensely overgrown, filled with trash and debris, and when they act as camps for homeless people. Storm water facilities, both concrete-lined and soft-bottomed, often become overgrown and collect trash and debris when they are not maintained.

Neighborhood Character

The neighborhood characteristics for storm water facilities vary, as they are scattered throughout different neighborhoods within the City. Many are within residential neighborhoods, commercial areas, natural canyons/river valleys, and industrial areas.

Views

In general, the public views of the storm water facilities are from roadways. The facilities are often hidden from view by dense vegetation in the area adjacent to the proposed maintenance or by topography since many of the facilities are located at valley bottoms. Many of the facilities are only visible from private residences or commercial areas, which are not generally considered sensitive views.

4.2.2 Impacts

Significance Criteria

The City of San Diego's Significance Determination Thresholds (2007) state that a project may significantly impact aesthetics and/or neighborhood character if it would:

- Result in the physical loss, isolation or degradation of a community identification symbol or landmark (e.g., stand of trees, coastal bluff, and/or historic landmark), which is identified in the General Plan, applicable community plan or local coastal program; or
- Strongly contrast with the surrounding development or natural topography through excessive height, bulk, signage, or architectural projections.

Analysis of Impacts

Issue 1: Would the Project substantially alter the existing character of the study area?

Issue 2: Would the Project result in the loss of any distinctive or landmark tree(s), or a stand of mature trees?

Aesthetic/neighborhood character impacts related to the proposed maintenance activities would be associated with the loss of large stands of trees and the aesthetic value to the surrounding area associated with those large stands of trees. As the maintenance activities would be associated with maintenance of existing channels and would not result in new channels or buildings, these activities would not constitute a strong contrast with surrounding development or natural topography.

As described in Chapter 3.0, Project Description, the proposed MSWSMP includes a range of maintenance activities. Depending on the conditions of the storm water facility, vegetation and debris removal and/or dredging is completed by either hand-clearing methods or the use of heavy

equipment. The selection of maintenance method and equipment depends largely on the site-specific characteristics of each storm water facility, including size (width and depth), flow-characteristics, surrounding land uses and vegetation, availability of access, and whether the facility is concrete lined or natural bottom. In some cases, the maintenance activity would require water diversion, dewatering and/or maintenance/ creation of access pathways. The frequency of maintenance would vary with facility and seasonal conditions, but it is anticipated that most facilities would be maintained every three years. IMPs would be developed for each storm water facility and basin to ensure proper maintenance.

As indicated earlier, implementation of the proposed maintenance activities have the potential to adversely affect the aesthetic/neighborhood character of the area by impacting large stands of trees located within channels. The removal of large stands of riparian trees, which are anticipated to be dominated by various species of willows, would be required to restore the flood capacity. Although the City would retain mature trees wherever they would not interfere with the flood control function (Protocol #24), it is anticipated that most of the large trees would be required to be removed. Where these stands of trees are large enough that they represent a major visual element, their removal would adversely affect the aesthetic/neighborhood character of the surrounding area. Thus, the proposed maintenance activities would have a potentially significant aesthetic/neighborhood character impact.

Disturbance of areas outside the affected storm water facilities could occur from equipment operations outside the channel, temporary stockpiling of material removed from the channel and staging areas. Aesthetic impacts related to these activities would be temporary in nature as they would normally not be present for more than 30 days. In addition, Protocol #9 requires disturbed areas which are not needed to maintain the flood control function of a facility would be revegetated as soon as possible during or after completion of the maintenance.

The potential aesthetic/neighborhood character impact related to construction of new access paths is considered low. Most of the facilities to be maintained have existing access paths. Where new access paths are required, the paths would range between 4 and 18 feet; the width would depend on the size of equipment needed to conduct the maintenance. In addition, the alignment of these access paths would be selected to minimize loss of mature trees, wherever possible. In addition, pursuant to Protocol #9, disturbed areas outside the limits of the access path would be revegetated. These factors, in combination, with the relatively minimal width and disturbance area would preclude the potential for new access roads to result in a significant aesthetic/neighborhood character impacts, as they are a major aesthetically pleasing element in some neighborhoods.

Significance of Impacts

Maintenance of storm water facilities could require removal of large stands of trees which occur within those facilities. This action would result in potentially significant aesthetic/neighborhood character impacts.

Mitigation Measures, Monitoring and Reporting

Implementation of Protocol #24 which would “Retain wetland vegetation during maintenance when retention would not interfere with the goal of facilitating the conveyance of floodwaters, and protecting adjacent life and property”, would reduce the potential impact of maintenance to large stands of trees and the resulting aesthetic/neighborhood character impacts. However, in most cases, it is anticipated that large stands of trees would conflict with the flood control function of the facilities and would have to be removed. Thus, aesthetic/neighborhood character impacts from maintenance are considered significant and unmitigated.

4.3 BIOLOGICAL RESOURCES

The following discussion is based on a biological resources study completed for the proposed MSWSMP by HELIX Environmental Planning, Inc. (HELIX) in June 2009. A copy of the study is included as Appendix C.1.

The baseline biological resource conditions described in this report are based on field visits to each of the storm water facilities that are discussed in the report. The study area was surveyed on foot, with the aid of binoculars when necessary. Access was limited in certain portions of the study area, and in these areas vegetation was mapped using aerial interpretation combined with upstream and/or downstream observations.

Vegetation communities were mapped in accordance with the City's Guidelines for Conducting Biological Surveys (2002b). Detailed vegetation mapping for each of the storm water facilities is included in Appendix C.2. Plant and animal species observed/detected within the study area during site visits were recorded and are also presented in Appendix C.1.

4.3.1 Existing Conditions

Vegetation Communities

Twelve wetland/riparian and thirteen upland vegetation communities occur within the study area, which cover approximately 884.95 acres (Table 4.3-1). Wetland/riparian vegetation communities within the study area include southern riparian forest, southern sycamore riparian woodland, southern willow scrub, riparian woodland, mule fat scrub, riparian scrub, freshwater marsh, cismontane alkali marsh, southern coastal saltmarsh, coastal brackish marsh, disturbed wetland, and streambed/open water/natural flood channel. Approximately 635.62 acres of wetland/riparian habitat were mapped within the study area (Table 4.3-1).

Upland vegetation communities include coast live oak woodland, scrub oak chaparral, southern foredunes, beach, Diegan coastal sage scrub, coastal sage-chaparral scrub, broom baccharis scrub, southern mixed chaparral, non-native grassland, eucalyptus woodland, non-native vegetation/ornamental, disturbed habitat/ruderal, and developed land. Approximately 249.4 acres of upland habitat, including developed land, was mapped within the study area (Table 4.3-1).

**Table 4.3-1
 EXISTING VEGETATION COMMUNITIES¹**

HU	Wetlands ²												Total
	SRF	SRW	RW	SWS	MFS	RS	FWM	CAM	CSM	CBM	DW	STM/OW	
San Dieguito	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.00	0.00	0.00	0.02	0.02	0.38
Peñasquitos	11.26	0.05	0.18	25.84	0.84	0.00	10.79	0.00	1.71	0.53	2.90	10.08	64.18
San Diego	149.02	0.88	0.00	30.89	10.97	0.02	21.66	5.47	87.09	0.00	2.95	210.64	519.59
Pueblo San Diego	0.00	0.00	0.00	3.79	2.65	0.52	5.52	0.00	0.53	0.00	6.93	13.62	33.56
Sweetwater	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.03
Otay	0.00	0.00	0.00	0.59	0.00	0.00	2.42	0.00	0.00	0.00	0.07	0.04	3.12
Tijuana	0.00	0.00	0.00	4.72	1.93	0.00	1.88	0.00	0.00	0.00	2.93	3.30	14.76
TOTAL	160.28	0.93	0.18	65.83	16.39	0.54	42.61	5.47	89.33	0.53	15.83	237.70	635.62

HU	Uplands ²													Total
	Tier I				Tier II			Tier IIIA	Tier IIIB	Tier IV				
	CLOW	SOC	SFD	BCH	DCSS	CSCS	BS	SMC	NNG	EW	NNV/ORN	DH/RUD	DEV	
San Dieguito	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	4.4	4.7
Peñasquitos	0.2	0.0 [‡]	0.0	0.0	2.5	0.0 [‡]	0.6	0.8	2.2	3.7	6.3	2.1	25.4	43.8
San Diego	0.2	0.0	13.0	23.1	3.7	0.0	0.8	0.1	2.3	2.5	5.6	8.4	55.1	114.8
Pueblo San Diego	0.0	0.0	0.0	0.0	11.9	0.0	0.3	0.3	6.0	0.2	4.1	3.9	39.58	66.28
Sweetwater	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
Otay	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	1.4	0.0	0.6	4.2	1.8	8.3
Tijuana	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	1.3	1.4	5.8	10.5
TOTAL	0.4	0.0³	13.0	23.1	18.4	0.0³	1.7	1.2	13.9	6.4	18.2	20.0	133.10	249.4

Source: HELIX (2009)

¹ Upland habitats are rounded to the nearest 0.1 acre, while wetland habitats are rounded to the nearest 0.01; thus, totals reflect rounding

² Habitat acronyms: BCH=beach, BS=broom baccharis scrub, CAM=cismontane alkali marsh, CBM=coastal brackish marsh, CLOW=coast live oak woodland, CSCS=coastal sage-chaparral scrub, CSM=coastal saltmarsh, DCSS=Diegan coastal sage scrub, DEV=developed land, DH/RUD=disturbed habitat/ruderal, DW=disturbed wetland, EW=eucalyptus woodland, FWM=freshwater marsh, MFS=mule fat scrub, NNG=non-native grassland, NNV/ORN=non-native vegetation/ornamental, RS=riparian scrub, RW=riparian woodland, SFD=southern foredunes, SMC=southern mixed chaparral, SOC=scrub oak chaparral, SRF=southern riparian forest, SRW=southern sycamore riparian woodland, STM/OW=streambed/open water, SWS=southern willow scrub

³ On-site totals comprise 0.01 acre.

Wetland/Riparian Vegetation Communities

Southern Riparian Forest (including disturbed)

Southern riparian forests are composed of winter deciduous trees that require an abundant supply of water at or near the soil surface for most of the year. Species such as willows (*Salix* spp.) and western cottonwood (*Populus fremontii*) form a dense, medium-height canopy. Typical species present in this habitat in the study area include red willow (*Salix laevigata*), western sycamore (*Platanus racemosa*), black willow (*S. gooddingii*), arroyo willow (*S. lasiolepis*), stinging nettle (*Urtica dioica*), pampas grass (*Cortaderia selloana*), and giant reed (*Arundo donax*).

Southern Sycamore Riparian Woodland (including disturbed)

Southern sycamore riparian woodland is a tall, open, broad-leaved, winter-deciduous streamside woodland dominated by western sycamore (*Platanus racemosa*). These stands of woodlands seldom form closed canopy forests, and even may appear as trees scattered in a shrubby thicket of sclerophyllous and deciduous species. Species present on site include western sycamore, poison oak (*Toxicodendron diversilobum*), western cottonwood, castor bean (*Ricinus communis*), and ripgut grass (*Bromus diandrus*).

Riparian Woodland

Riparian woodland is a tall, open, streamside woodland dominated by any of several species of trees (e.g., coast live oak, willow, sycamore, or cottonwood). This habitat is atypical in its species composition in that the dominant plant is blue elderberry (*Sambucus mexicana*), with an understory of poison oak, but is strongly affiliated with a drainage. The elderberry forms a moderately dense woodland within and adjacent to streambed habitat.

Southern Willow Scrub (including disturbed)

Southern willow scrub consists of dense, broad-leaved, winter-deciduous stands of trees dominated by shrubby willows in association with mule fat (*Baccharis salicifolia*), and with scattered emergent cottonwood and western sycamores. Typical species occurring in this habitat within the study area include arroyo willow, red willow, black willow, sandbar willow (*Salix exigua*), mule fat, western sycamore, tamarisk (*Tamarix* sp.), Brazilian pepper (*Schinus terebinthifolius*), Mexican fan palm (*Washingtonia robusta*), pampas grass, giant reed, and cattails (*Typha* spp.).

Mule Fat Scrub (including disturbed)

Mule fat scrub is a depauperate, shrubby, riparian scrub community dominated by mule fat and interspersed with shrubby willows. This vegetation community occurs along intermittent stream channels with a fairly coarse substrate and moderate depth to the water table

Riparian Scrub (including disturbed)

Riparian scrub is a generic term for several shrub-dominated communities that occur along storm water facilities and/or riparian corridors. Typical species in this habitat within the study area include mule fat, Hooker's evening primrose (*Oenothera elata* ssp. *hookeri*), and San Diego golden-bush (*Isocoma menziesii* var. *menziesii*).

Freshwater Marsh (including disturbed)

Freshwater marsh is dominated by perennial emergent monocots that can reach a height between 12 and 15 feet. This vegetation type occurs along the coast and in coastal valleys near river mouths and around the margins of lakes and springs. Species present in this habitat in the study area include cattails, California bulrush (*Scirpus californicus*), umbrella sedge (*Cyperus involucratus*), tall flatsedge (*C. eragrostis*), watercress (*Rorippa nasturtium-aquaticum*), spike-rush (*Eleocharis* spp.), and rabbitsfoot grass (*Polypogon monspeliensis*).

Cismontane Alkali Marsh (including disturbed)

Cismontane alkali marsh is dominated by perennial, emergent, herbaceous monocots. Standing water or saturated soils are present during most or all of the year, and high evaporation and low input of fresh water render these marshes somewhat salty. Characteristic species include yerba mansa (*Anemopsis californica*), sedges (*Carex* spp.), saltgrass (*Distichlis spicata*), beardless wild rye grass (*Leymus triticoides*), and rushes (*Juncus* spp.), among others. Yerba mansa, saltgrass, Mexican rush (*Juncus mexicanus*), bristly ox-tongue (*Picris echioides*), Hooker's evening primrose, and southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*) were the dominant species in this habitat on site.

Southern Coastal Saltmarsh

Coastal saltmarsh is dominated by plants adapted to the higher soil salinity levels and frequent inundation. These areas are periodically flooded by salt water. Typical plant species include California seablite (*Suaeda californica*), common glasswort and pickleweed (*Salicornia* spp.), and saltgrass. Species present on site included glasswort, alkali-heath (*Frankenia salina*), fleshy

jaumea (*Jaumea carnosa*), western marsh-rosemary (*Limonium californicum*), California loosestrife (*Lythrum californicum*) and saltgrass.

Coastal Brackish Marsh

Coastal brackish marsh is dominated by perennial, emergent, herbaceous monocots that are adapted to varying soil salinities due to input from saltwater and freshwater. It is very similar to cismontane alkali marsh, with many of the same species. This habitat typically intergrades with coastal salt marshes toward the ocean and occasionally with freshwater marshes at the mouths of rivers. Species observed in this habitat on site include cattails, southwestern spiny rush, saltgrass, and glasswort.

Disturbed Wetland

This community is typically dominated by exotic wetland species that have likely become established following previous disturbance(s), although it may also contain native species. The composition of disturbed wetland is highly variable based on the hydrology, soils, and type and frequency of disturbance. Species present in this habitat within the study area include rabbitfoot grass, curly dock (*Rumex crispus*), giant reed, bristly ox-tongue, cockle-bur (*Xanthium strumarium*), umbrella sedge, common celery (*Apium graveolens*), Bermuda grass (*Cynodon dactylon*), and poison hemlock (*Conium maculatum*).

Streambed/Open Water

Streambed/open water habitat includes unvegetated drainages with a natural bottom. Areas mapped as open water either support perennial surface flows, or were inundated at the time of mapping.

Upland Vegetation Communities

Coast Live Oak Woodland (Tier I)

Coast live oak woodland is an evergreen woodland or forest community, dominated by coast live oak (*Quercus agrifolia*) that may reach a height of 35 to 80 feet. The shrub layer generally consists of toyon (*Heteromeles arbutifolia*), Mexican elderberry, fuchsia-flowered gooseberry (*Ribes speciosum*), and poison oak. A dense herbaceous understory is dominated by miner's lettuce (*Claytonia perfoliata* var. *perfoliata*), chickweed (*Stellaria media*), and various grasses.

Scrub Oak Chaparral (Tier I)

Scrub oak chaparral is a dense, evergreen chaparral up to 20 feet tall, dominated by Nuttall's scrub oak (*Quercus dumosa*) with considerable mountain mahogany (*Cercocarpus betuloides*).

Southern Foredunes (Tier I)

Southern foredunes are dominated by low, often succulent, perennial herbs and subshrubs. A small amount of perennial grasses may also occur. Foredunes are similar to active coastal dunes, but have less wind and/or a smaller supply of sand and/or more available groundwater. Species observed within this habitat include beach evening primrose (*Camissonia cheiranthifolia* ssp. *suffruticosa*), sea rocket (*Cakile maritima*), and beach-bur (*Ambrosia chamissonis*).

Beach (Tier I)

The beach community refers to the expanse of sandy substrate between mean tide and the foredune or, in the absence of a foredune, to the furthest inland reach of storm waves.

Diegan Coastal Sage Scrub (including disturbed; Tier II)

Diegan coastal sage scrub is dominated by low, soft-woody subshrubs on xeric sites characterized by shallow soils. Typical species found on site include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum* ssp. *fasciculatum*), laurel sumac (*Malosma laurina*), black sage (*Salvia mellifera*), California encelia (*Encelia californica*), lemonadeberry (*Rhus integrifolia*), and coast prickly-pear (*Opuntia littoralis*). Disturbed Diegan coastal sage scrub contains many of the same shrub species as undisturbed Diegan coastal sage scrub but is more sparse and has a higher proportion of non-native annual species.

Coastal Sage-Chaparral Scrub (Tier II)

Coastal sage-chaparral scrub is a mixed community of sclerophyllous, woody chaparral species and drought-deciduous sage scrub species, which often occurs as an ecotone transitioning between the two vegetation communities. Typical species observed include California sagebrush, black sage and chamise (*Adenostoma fasciculatum*).

Broom Baccharis Scrub (Tier II)

Although not listed as a native plant community by Holland (1986), baccharis scrub is an upland community recognized by resources agencies as a subtype of coastal sage scrub that develops under a variety of circumstances following Diegan coastal sage scrub disturbance. This vegetation community is dominated by broom baccharis (*Baccharis sarothroides*) and may also support coyote brush (*Baccharis pilularis*).

Southern Mixed Chaparral (including disturbed) (Tier IIIA)

Southern mixed chaparral is composed of broad-leaved sclerophyllous shrubs that can reach 6 to 10 feet in height and form dense often nearly impenetrable stands with poorly developed understories. Species present on site include chamise, toyon (*Heteromeles arbutifolia*), mountain mahogany, and laurel sumac.

Non-native Grassland (Tier IIIB)

Non-native grassland is a dense to sparse cover of annual grasses, often associated with numerous species of showy-flowered native annual forbs. Characteristic species include oats (*Avena* spp.), foxtail chess (*Bromus madritensis* ssp. *rubens*), ripgut grass, ryegrass (*Lolium* sp.) and mustard (*Brassica* spp.).

Eucalyptus Woodland (Tier IV)

Eucalyptus woodland is dominated by any of several species of eucalyptus (*Eucalyptus* spp.), all of which are large, non-native trees that produce abundant amounts of leaf and bark litter. The chemical and physical characteristics of this litter limit the ability of other species to grow in the understory, causing floristic diversity to decrease.

Non-native Vegetation/Ornamental (Tier IV)

Non-native vegetation/ornamental consists of cultivated plants that have naturalized into otherwise native habitat areas or were put in place by humans, usually for the purpose of beautification, windbreaks, or other related purposes. Species observed in this habitat include Peruvian pepper (*Schinus terebinthifolius*), Brazilian pepper, golden wattle (*Acacia longifolia*), myoporum (*Myoporum laetum*), sea-fig (*Carpobrotus chilensis*), hottentot-fig (*Carpobrotus edulis*), oleander (*Nerium oleander*), Canary Island date palm (*Phoenix canariensis*), fountain grass (*Pennisetum setaceum*), and carrotwood (*Cupaniopsis anacardioides*).

Disturbed Habitat/Ruderal (Tier IV)

Disturbed habitat/ruderal areas are devoid of vegetation due to soil disturbance (dirt roads and/or grading) or are dominated by exotic, annual forbs without a major grass component. Pursuant to City guidelines for mapping disturbed habitat, these areas can be bare ground, or when vegetated, are dominated by at least 50 percent cover of invasive broad-leaved non-native plant species. Plants observed in this community on site include garland daisy (*Chrysanthemum coronarium*), Russian thistle (*Salsola tragus*), castor-bean (*Ricinus communis*), star-thistle (*Centaurea melitensis*), shortpod mustard (*Hirschfeldia incana*), fennel (*Foeniculum vulgare*), horehound (*Marrubium vulgare*), cheeseweed (*Malva parviflora*), and filaree (*Erodium* spp.).

Developed/Concrete Channel

Developed land is where permanent structures and/or pavement have been placed. Unvegetated concrete-lined channels constitute the majority of developed land mapped in the study area.

Plant Species Observed

A total of 127 plant species were observed within the study area. A list of plant species observed during the site visits is provided in Appendix C.1.

Animal Species Observed or Detected

A total of 96 animal species were observed/detected within the study area, including 12 butterflies (among other invertebrates), 1 amphibian, 3 reptiles, 72 birds, and 8 mammals (Appendix C.1). All animal species were identified by direct observation or vocalizations, presence of scat and/or tracks, or other sign.

Wetland Jurisdictional Areas

A program-level jurisdictional delineation was conducted within subject storm water channels and detention basins, and the results categorized by Hydrologic Units (HUs). An estimate of the amount of jurisdictional wetlands within each HU is shown in Tables 4.3-2 and 4.3-3.

Table 4.3-2
EXISTING CORPS JURISDICTIONAL AREAS (acre[s])¹

HU ²	Wetlands ³												Non-wetland WUS		Total
	SRF	SRW	RW	SWS	MFS	RS	FWM	CAM	CSM	CBM	DW	Subtotal	Earthen	Concrete	
San Dieguito	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.02	1.68	1.71
Peñasquitos	1.07	0.00	0.00	6.25	0.09	0.00	8.58	0.00	1.71	0.31	0.30	18.31	16.56	14.52	49.39
San Diego	103.67	0.00	0.00	16.44	1.22	0.00	20.26	3.47	86.74	0.00	0.44	232.24	213.57	5.62	451.43
Pueblo San Diego	0.00	0.00	0.00	1.55	0.32	0.36	5.46	0.00	0.53	0.00	3.91	12.13	14.45	15.34	41.92
Sweetwater	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.28
Otay	0.00	0.00	0.00	0.53	0.00	0.00	2.05	0.00	0.00	0.00	0.04	2.62	0.04	0.74	3.40
Tijuana	0.00	0.00	0.00	2.54	0.67	0.00	1.68	0.00	0.00	0.00	2.29	7.18	5.66	1.58	14.42
TOTAL	104.74	0.00	0.00	27.31	2.30	0.36	38.04	3.47	88.98	0.31	6.98	272.49	250.30	39.76	562.55

Source: HELIX (2009)

¹Totals reflect rounding

²The HUs correspond to the following Storm Water Facility Maps in Appendix C.1: San Dieguito HU=Maps 1-3 and 169; Peñasquitos HU=Maps 4-46, 55-57, 163-168, and 170-172; San Diego HU=Maps 47-54, 58-66, 81-83, and 140-161; Pueblo San Diego HU= Maps 67-80 and 84-121; Sweetwater HU= Map 122; Otay HU= Maps 131-135; Tijuana HU= Maps 123-130 and 136-139

³Habitat acronyms: CAM=cismontane alkali marsh, CBM=coastal brackish marsh, CSM=coastal saltmarsh, 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, WUS=Waters of the U.S.

**Table 4.3-3
 EXISTING CDFG AND CITY JURISDICTIONAL AREAS (acre[s])¹**

Hydrologic Unit (HU) ²	Wetland/Riparian Habitat ³												Drainage	Total CDFG/ City	
	SRF	SRW	RW	SWS	MFS	RS	FWM	CAM	CSM	CBM	DW	CLOW (CDFG only)	Wetland/ Riparian Total		STM/ NFC
San Dieguito	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.00	0.00	0.00	0.02	0.00	0.36	0.02	0.38
Peñasquitos	11.26	0.05	0.18	25.84	0.84	0.00	10.79	0.00	1.71	0.53	2.90	0.24	54.34⁴ 54.10⁵	10.08	64.42⁴ 64.18⁵
San Diego	149.02	0.88	0.00	30.89	10.97	0.02	21.66	5.47	87.09	0.00	2.95	0.16	309.11⁴ 308.95⁵	210.64	519.75⁴ 519.59⁵
Pueblo San Diego	0.00	0.00	0.00	3.79	2.65	0.52	5.52	0.00	0.53	0.00	6.93	0.00	19.94	13.62	33.56
Sweetwater	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.03	0.00	0.03
Otay	0.00	0.00	0.00	0.59	0.00	0.00	2.42	0.00	0.00	0.00	0.07	0.00	3.08	0.04	3.12
Tijuana	0.00	0.00	0.00	4.72	1.93	0.00	1.88	0.00	0.00	0.00	2.93	0.00	11.46	3.30	14.76
TOTAL	160.28	0.93	0.18	65.83	16.39	0.54	42.61	5.47	89.33	0.53	15.83	0.40	398.32⁴ 397.92⁵	237.70	636.02⁴ 635.62⁵

Source: HELIX (2009)

¹Totals reflect rounding

²The HUs correspond to the following Storm Water Facility Maps in Appendix C.1: San Dieguito HU=Maps 1-3 and 169; Peñasquitos HU=Maps 4-46, 55-57, 163-168, and 170-172; San Diego HU=Maps 47-54, 58-66, 81-83, and 140-161; Pueblo San Diego HU=Maps 67-80 and 84-121; Sweetwater HU=Map 122; Otay HU=Maps 131-135; Tijuana HU=Maps 123-130 and 136-139

³Habitat acronyms: CAM=cismontane alkali marsh, CBM=coastal brackish marsh, CLOW=coast live oak woodland, CSM=coastal saltmarsh, DW=disturbed wetland, FWM=freshwater marsh, MFS=mule fat scrub, NFC=City natural flood channel, RS=riparian scrub, RW=riparian woodland, SRF=southern riparian forest, SRW=southern sycamore riparian woodland, STM=CDFG streambed (includes open water habitat), SWS=southern willow scrub

⁴CDFG Acreage

⁵City Acreage

Federal (Corps) Jurisdictional Areas

The total area under Corps jurisdiction is approximately 562.55 acres. Of this total, 272.49 acres are considered wetlands. The balance, 290.06 acres, are considered non-wetland Waters of the United States (WUS). The non-wetland category includes 250.30 acres of unvegetated earthen channels and 39.76 acres of concrete channels. The 39.76 acres of concrete channels represents an exaggeration of the Corps jurisdiction because this acreage includes the full constructed channel width when only the portion of the concrete channels below the ordinary high water mark would actually be within the Corps jurisdiction. As illustrated in Table 4.3-2, the majority of wetland habitat occurs along named storm water channels within the San Diego, Pueblo, and Peñasquitos HUs.

State (California Department of Fish and Game Jurisdictional Areas

CDFG jurisdictional areas constitute approximately 636.02 acres within the study area. As illustrated in Table 4.3-3, the approximate acreages of each of the different types of wetlands that are included in the CDFG's jurisdiction area: 160.28 acres of southern riparian forest, 0.93 acre of southern sycamore riparian woodland, 0.18 acre of riparian woodland, 66.10 acres of southern willow scrub, 16.39 acres of mule fat scrub, 0.54 acre of riparian scrub, 42.61 acres of freshwater marsh, 5.47 acres of cismontane alkali marsh, 89.33 acres of coastal saltmarsh, 0.53 acre of coastal brackish marsh, 15.83 acres of disturbed wetland, 0.40 acre of coast live oak woodland, and 237.70 acres of unvegetated streambed.

City Wetlands

City wetlands include all the same areas as noted above for CDFG jurisdiction, except for the 0.40 acre of coast live oak woodland, which is not considered a wetland habitat under the City's Biology Guidelines (City 2001). Therefore, City jurisdictional areas constitute approximately 635.62 acres within the study area, of which 237.70 acres are unvegetated natural flood channels (Table 4.3-3).

Sensitive Resources

Sensitive Vegetation Communities

Sensitive vegetation communities are considered rare within the region or sensitive by CDFG (Holland 1986) or the City (City 1997a and 2001). These communities in any form are considered sensitive because they have been historically depleted, are naturally uncommon, or support sensitive species. The study area supports the following 21 sensitive vegetation communities: southern riparian forest, southern sycamore riparian woodland, riparian woodland, southern willow scrub, mule fat scrub, riparian scrub, freshwater marsh, cismontane alkali marsh, southern coastal saltmarsh, coastal brackish marsh, disturbed wetland, natural flood channel, coast

live oak woodland, scrub oak chaparral, southern foredunes, beach, Diegan coastal sage scrub, coastal sage-chaparral scrub, broom baccharis scrub, southern mixed chaparral, and non-native grassland.

Sensitive Plants

No federally- or state-listed species or City narrow endemic plants species were observed within the study area; however, the following five sensitive plant species were observed: single-whorl burrobush (*Ambrosia monogyra*), San Diego marsh-elder (*Iva hayesiana*), southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*), Nuttall's scrub oak (*Quercus dumosa*), and San Diego sunflower (*Viguiera laciniata*). These species are described in more detail below.

The single-whorl burrobush (*Ambrosia monogyra*) is a California Native Plant Society (CNPS) List 2.2 plant. It was observed in ruderal habitat on the banks of a minor channel paralleling Delevan Drive, west of Chollas Creek. The California Natural Diversity Database (CNDDDB) also reports this species in the general vicinity of Smuggler's Gulch.

The San Diego marsh-elder (*Iva hayesiana*) is a CNPS List 2.2 plant. It was observed in riparian scrub and Diegan coastal sage scrub adjacent to South Chollas Creek. This species is fairly widespread in San Diego County and would be expected to occur in other locations within the study area.

The southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*) is a CNPS List 4.3 plant. It was observed at the base of the slope adjacent to the Black Mountain Road basin, in cismontane alkali marsh adjacent to the El Camino Real basin, in a seep adjacent to the Alvarado Channel, and in marsh habitat within South Chollas Creek and the San Diego River.

The Nuttall's scrub oak (*Quercus dumosa*) is a CNPS List 1.B1 plant. It was observed within scrub oak chaparral on the slopes adjacent to the Black Mountain Road basin.

The San Diego sunflower (*Viguiera laciniata*) is a CNPS List 4.3 plant. It was observed within scrub habitats adjacent to the Black Mountain Road basin, the Camino Santa Fe basin, as well as in Diegan coastal sage scrub abutting Chollas Creek, South Chollas Creek and Encanto Channel.

City narrow endemic plant species not observed during the programmatic-level surveys but with potential to occur within the study area are listed in Table 4.3-4. Additional sensitive plant species that were not observed but have potential to occur in the study area are described in Table 4.3-5.

**Table 4.3-4
 NARROW ENDEMIC SPECIES WITH POTENTIAL TO OCCUR**

SPECIES	STATUS¹	POTENTIAL TO OCCUR
San Diego thorn-mint (<i>Acanthomintha ilicifolia</i>)	FT/SE CNPS List 1B.1 MSCP Covered	Low to moderate. Occurs on clay lenses and friable, cracked, clay soils in open areas within grasslands. Project focused around storm water channels, which typically do not support appropriate habitat. Species has been reported in the general vicinity of Map Nos. 52, 61-64, 147-149, and 164 (CDFG 2003).
Shaw's agave (<i>Agave shawii</i>)	--/-- CNPS List 2.1 MSCP Covered	Low. Generally occurs in coastal sage scrub and maritime succulent scrub, often on volcanic soils.
San Diego ambrosia (<i>Ambrosia pumila</i>)	FE/-- CNPS List 1B.1 MSCP Covered	Moderate. Primarily restricted to flat or sloping grasslands, often along valley bottoms or areas adjacent to vernal pools as well as creek beds, seasonally dry drainages, and flood-plains. Species uncommon but has been reported in the general vicinity of Map No. 164 (CDFG 2003).
Aphanisma (<i>Aphanisma blitoides</i>)	--/-- CNPS List 1B.2 MSCP Covered	Very low. Occurs on coastal bluffs and beach dunes, little of which occur within the study area.
Coastal dunes milk vetch (<i>Astragalus tener</i> var. <i>titi</i>)	FE/SE CNPS List 1B.1 CA Endemic MSCP Covered	Low. Occurs in coastal dune communities. Suitable habitat within the study area only occurs near the mouth of the San Diego River.
Encinitas baccharis (<i>Baccharis vanessae</i>)	FT/SE CNPS List 1B.1 CA Endemic MSCP Covered	Low. Found in southern maritime chaparral and mature but relatively low-growing southern mixed chaparral. Project focused around storm water channels, which do not support appropriate habitat. Species reported in the general vicinity of Map Nos. 164 and 167 (CDFG 2003).
Otay tarplant (<i>Deinandra conjugens</i>)	FT/SE CNPS List 1B.1	Low to moderate. Found on fractured clay soils in grasslands or lightly vegetated coastal sage scrub. Portions of study area within Otay Mesa may support species, which has been reported in the general vicinity of Map Nos. 124-127 (CDFG 2003).
Short-leaved dudleya (<i>Dudleya brevifolia</i>)	--/SE CNPS List 1B.1 CA Endemic MSCP Covered	Low. Occurs in open areas and sandstone bluffs of chamise chaparral or Torrey pine forest, which are not common in the study area. Species reported in the general vicinity of Map Nos. 14-16 (CDFG 2003).
Variegated dudleya (<i>Dudleya variegata</i>)	--/-- CNPS List 1B.2 MSCP Covered	Low to moderate. Found on cobbly clay soils in very open sage scrub and grassland, and especially among vernal pool communities. Habitat within the study area is largely unsuitable. Species reported in the general vicinity of Map Nos. 61-62, 126-127, and 150-152 (CDFG 2003).

Table 4.3-4 (cont.) NARROW ENDEMIC SPECIES WITH POTENTIAL TO OCCUR		
SPECIES	STATUS¹	POTENTIAL TO OCCUR
San Diego button-celery (<i>Eryngium aristulatum</i> var. <i>parishii</i>)	FE/SE CNPS List 1B.1 MSCP Covered	Low to moderate. Found in vernal pool communities and vernal moist areas with mima mound topography. Suitable habitat does not occur within the study area. Species reported in the general vicinity of Map Nos. 6-7, 47, 66, 101, 125-128, and 145-146 (CDFG 2003).
Prostrate navarretia (<i>Navarretia prostrata</i>)	FT/-- CNPS List 1B.1 CA Endemic MSCP Covered	Very low. Occurs in vernal pool communities, which were not observed within the study area. No CNDDDB records within the MSWSMP study area.
Snake cholla (<i>Opuntia californica</i> var. <i>californica</i>)	--/-- CNPS List 1B.1 MSCP Covered	Moderate. Occurs in Diegan coastal sage scrub on xeric hillsides from Point Loma south to Chula Vista. Species reported in the general vicinity of Map Nos. 11-13, 70, 73-78, 85, 162-163, and 168 (CDFG 2003).
California Orcutt grass (<i>Orcuttia californica</i>)	FE/SE CNPS List 1B.1 MSCP Covered	Low to moderate. Occurs in vernal pool communities, which were not observed within the study area. Species reported in the general vicinity of Map No. 128 (CDFG 2003).
San Diego mesa mint (<i>Pogogyne abramsii</i>)	FE/SE CNPS List 1B.1 CA Endemic MSCP Covered	Low. Occurs in vernal pool communities, which were not observed within the study area. Species reported in the general vicinity of Map No. 66 (CDFG 2003).

Source: HELIX (2009)

¹Refer to Appendix D of Appendix C.1 of the PEIR for a listing and explanation of status and sensitivity codes.

Table 4.3-5 LISTED OR SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR		
SPECIES	STATUS¹	POTENTIAL TO OCCUR
California adolphia (<i>Adolphia californica</i>)	--/-- CNPS List 2.1	Moderate to high. Most often found in sage scrub but occasionally occurs in peripheral chaparral habitats, particularly on hillsides above creeks. Reported in the general vicinity of Map Nos. 4-5, 51, 59-65, 76-80, and 164 (CDFG 2003).
San Diego bur-sage (<i>Ambrosia</i> <i>chenopodifolia</i>)	--/-- CNPS List 2.1	Low to moderate. Arid, low-growing, fairly open Diegan coastal sage scrub is preferred. Olivenhain cobbly loam is the soil type mapped for the San Ysidro population. Species reported in the general vicinity of Map Nos. 129-130 (CDFG 2003).
Del Mar manzanita (<i>Arctostaphylos</i> <i>glandulosa</i> ssp. <i>crassifolia</i>)	FE/-- CNPS List 1B.1 MSCP Covered	Low. Generally found in southern maritime chaparral and Torrey pine forest. Although this species has been reported in the vicinity of Map Nos. 5, 7-11, and 162-163 (CDFG 2003), it is not expected to occur within the mapped storm water facilities.

Table 4.3-5 (cont.) LISTED OR SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR		
SPECIES	STATUS¹	POTENTIAL TO OCCUR
Otay manzanita (<i>Arctostaphylos otayensis</i>)	--/-- CNPS List 1B.2 MSCP Covered	Very low. Known only from Otay, San Miguel, Jamul, and Guatay mountains in San Diego County.
Dean's vetch (<i>Astragalus deanei</i>)	--/-- CNPS List 1B.1	Low. Dry hillsides in open coastal sage scrub, chaparral, or southern oak woodland. Rocky sandy loam is the soil type mapped for the Tecate population.
Coulter's saltbush (<i>Atriplex coulteri</i>)	--/-- CNPS List 1B.2	Low. Found in coastal bluff scrub, coastal dunes, valley and foothill grasslands, and desert slopes.
South coast saltscale (<i>Atriplex pacifica</i>)	--/-- CNPS List 1B.2	Moderate. Occurs in coastal bluff scrub or sandy, open coastal sage scrub. Species has been reported in the general vicinity of Map No. 167 (CDFG 2003).
Davidson's saltscale (<i>Atriplex serenana</i> var. <i> davidsonii</i>)	--/-- CNPS List 1B.2	Low. Primarily occurs in coastal bluff scrub, although Reiser (2001) suggests it was historically associated with alkaline flats.
Golden-spined cereus (<i>Bergerocactus emoryi</i>)	--/-- CNPS List 2.2	Low. Sandy soils and dry bluffs along the coast associated with maritime succulent scrub. Species reported in the general vicinity of Map Nos. 128-135 (CDFG 2003).
Thread-leaved brodiaea (<i>Brodiaea filifolia</i>)	FT/SE CNPS List 1B.1 MSCP Covered	Low. Clay soils in vernal moist grasslands and vernal pool periphery are typical locales.
Orcutt's brodiaea (<i>Brodiaea orcuttii</i>)	--/-- CNPS List 1B.1 MSCP Covered	Low to moderate. Occurs in vernal moist grasslands and on the periphery of vernal pools but will occasionally grow on streamside embankments (Reiser 2001). Species reported in the general vicinity of Map Nos. 49-52 (CDFG 2003).
Dunn's mariposa lily (<i>Calochortus dunnii</i>)	--/SR CNPS List 1B.2 MSCP Covered	Low. Dry, stony ridges and firebreaks in chaparral or grassland/chaparral ecotone. Appears to be restricted to gabbroic and metavolcanic soils.
Lakeside ceanothus (<i>Ceanothus cyaneus</i>)	--/-- CNPS List 1B.2 MSCP Covered	Very low. Generally found in inland chaparral from Crest up to the Lakeside foothills (Reiser 2001). Suitable habitat does not occur within the study area.
Wart-stemmed ceanothus (<i>Ceanothus verrucosus</i>)	--/-- CNPS List 2.2 MSCP Covered	Low. Xeric chamise and mixed chaparrals. Species reported in the general vicinity of Map Nos. 6-11, 24-30, 42-44, 59-66, 70, 85-86, 162-163, 165, and 170 (CDFG 2003). However, very little chaparral was mapped in the actual study area.

Table 4.3-5 (cont.) LISTED OR SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR		
SPECIES	STATUS¹	POTENTIAL TO OCCUR
Southern tarplant (<i>Centromadia parryi</i> ssp. <i>australis</i>)	--/-- CNPS List 1B.1	Low. Found in valley and foothill grasslands, particularly near alkaline locales.
Orcutt's pincushion (<i>Chaenactis</i> <i>glabriuscula</i> var. <i>orcuttiana</i>)	--/-- CNPS List 1B.1	Low to moderate. Occurs in open Diegan coastal sage scrub, typically in proximity to moist ocean breezes (Reiser 2001).
Orcutt's spineflower (<i>Chorizanthe orcuttiana</i>)	FE/SE CNPS List 1B.1	Low. Found in coastal chamise chaparral openings with loose sandy substrate (Reiser 2001). Very little chaparral was mapped within the study area.
Long-spined spineflower (<i>Chorizanthe</i> <i>polygonoides</i> var. <i>longispina</i>)	--/-- CNPS List 1B.2	Low. Typically found on clay lenses and on the periphery of vernal pools. Species reported in the general vicinity of Map Nos. 46-47 (CDFG 2003).
Delicate clarkia (<i>Clarkia delicata</i>)	--/-- CNPS List 1B.2	Low. Shaded areas or the periphery of oak woodlands and cismontane chaparral. Very little appropriate habitat occurs within the study area.
Summer holly (<i>Comarostaphylis</i> <i>diversifolia</i> ssp. <i>diversifolia</i>)	--/-- CNPS List 1B.2	Moderate. Mesic north-facing slopes in southern mixed chaparral are preferred habitat of this large, showy shrub. Species has been reported in the general vicinity of Map Nos. 26 and 66 (CDFG 2003).
Salt marsh bird's beak (<i>Cordylanthus</i> <i>maritimus</i> spp. <i>maritimus</i>)	FE/SE CNPS List 1B.2 MSCP Covered	Low. Salt marshes, particularly slightly raised hummocks. Only two native sites definitely extant in San Diego County (Reiser 2001), neither of which is within the study area.
Orcutt's bird's beak (<i>Cordylanthus</i> <i>orcuttianus</i>)	--/-- CNPS List 2.1 MSCP Covered	Moderate to high. Seasonally dry drainages and upland adjacent to riparian habitat is preferred habitat. In the Tijuana River Valley, grows in a cobbly ecotone with sage scrub upslope and disturbed broom baccharis and southern willow scrub near the watercourse. Species reported in the general vicinity of Map Nos. 126-127 (CDFG 2003).
Sea dahlia (<i>Coreopsis maritima</i>)	--/-- CNPS List 2.2	Low. Habitat is coastal bluff scrub. Species reported in the general vicinity of Maps Nos. 24-25 and 27-29 (CDFG 2003).
San Diego sand-aster (<i>Corethrogyne</i> <i>filaginifolia</i> var. <i>incana</i>)	--/-- CNPS List 1B.1	Low. Typically occurs in coastal bluff scrub and coastal chaparral, neither of which occurs within the study area. Species reported in the general vicinity of Map Nos. 138-139, 162-163, and 168 (CDFG 2003).
Del Mar Mesa sand-aster (<i>Corethrogyne</i> <i>filaginifolia</i> var. <i>linifolia</i>)	--/-- CNPS List 1B.1 MSCP Covered	Low. Found in sandy and disturbed areas within southern maritime chaparral. Species reported within the general vicinity of Map Nos. 6-11, 162-163, 165, and 167-168 (CDFG 2003).

Table 4.3-5 (cont.) LISTED OR SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR		
SPECIES	STATUS¹	POTENTIAL TO OCCUR
Tecate cypress (<i>Cupressus forbesii</i>)	--/-- CNPS List 1B.1 MSCP Covered	None. Closed-cone coniferous forest and southern mixed chaparral, particularly on Otay Mountain.
Blochman's dudleya (<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i>)	--/-- CNPS List 1B.1 MSCP Covered	Low to moderate. Dry, stony places associated with coastal sage scrub or chaparral near the coast. Species reported in the general vicinity of Map Nos. 133-134 (CDFG 2003).
Sticky dudleya (<i>Dudleya viscida</i>)	--/-- CNPS List 1B.2 MSCP Covered	Low. This conspicuous succulent perennial grows primarily on very steep north-facing slopes. Species reported in the general vicinity of Map Nos. 82-83, and 160 (CDFG 2003).
Palmer's goldenbush (<i>Ericameria palmeri</i> ssp. <i>palmeri</i>)	--/-- CNPS List 2.2 MSCP Covered	Moderate to high. This sizeable shrub grows along coastal drainages in mesic chaparral sites, or rarely in Diegan coastal sage scrub. Occasionally occurs as a hillside element (usually at higher elevations inland on north-facing slopes). Species reported in the general vicinity of Map Nos. 65-66 and 76-80 (CDFG 2003).
Round-leaved filaree (<i>Erodium macrophyllum</i>)	--/-- CNPS List 1B.1	Moderate. Clay soils in open areas of grassland or sage scrub in coastal valleys.
Coast wallflower (<i>Erysimum ammophilum</i>)	--/-- CNPS List 1B.2 MSCP Covered	Moderate. Coastal dunes and coastal strand. Species reported in the general vicinity of Map Nos. 6, 82-83, and 166 (CDFG 2003).
Cliff spurge (<i>Euphorbia misera</i>)	--/-- CNPS List 2.2	Very low. Occurs in maritime succulent scrub, which does not occur within the study area.
San Diego barrel cactus (<i>Ferocactus viridescens</i>)	--/-- CNPS List 2.1 MSCP Covered	High. Occurs in open coastal sage scrub, often at the crown of hillsides or in association with vernal pools. Species reported in the general vicinity of Map Nos. 5, 12-17, 26-30, 70, 73-80, 84, 101, 149-150, 165, and 170 (CDFG 2003).
Palmer's frankenia (<i>Frankenia palmeri</i>)	--/-- CNPS List 2.1	Low. This low-growing shrub grows on coastal salt marsh periphery, but the only known extant native population in the U.S. is in Chula Vista (Reiser 2001).
Mexican flannelbush (<i>Fremontodendron mexicanum</i>)	FE/SR CNPS List 1B.1	Very low. This large bush occurs in closed-cone coniferous forest and southern mixed chaparral in Otay Mountain habitats. Species reported in the general vicinity of Map No. 85 (CDFG 2003).
Orcutt's hazardia (<i>Hazardia orcuttii</i>)	--/ST CNPS List 1B.1	None. Open chaparral with chamise. The only known U.S. site where this species occurs is in Encinitas (Reiser 2001), as this species is primarily found in Baja California.

Table 4.3-5 (cont.) LISTED OR SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR		
SPECIES	STATUS¹	POTENTIAL TO OCCUR
Ramona horkelia (<i>Horkelia truncata</i>)	--/-- CNPS List 1B.3	Low. A species limited to gabbro soils occurring in chaparral communities (usually chamise chaparral).
Decumbent goldenbush (<i>Isocoma menziesii</i> var. <i>decumbens</i>)	--/-- CNPS List 1B.2	Low to moderate. Presumed to utilize coastal sage scrub habitat intermixed with grassland and is more partial to clay soils than other closely related varieties.
Coulter's goldfields (<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>)	--/-- CNPS List 1B.1	High. Found in coastal salt marshes and vernal pools (Reiser 2001). Species reported in the general vicinity of Map Nos. 6-12, 149-154, and 162-163 (CDFG 2003).
Robinson's pepper grass (<i>Lepidium virginicum</i> var. <i>robinsonii</i>)	--/-- CNPS List 1B.2	Moderate. This annual herb grows in openings in chaparral and sage scrub at the coastal and foothill elevations. Typically observed in relatively dry, exposed locales rather than beneath a shrub canopy or along creeks. Species reported in the general vicinity of Map Nos. 85 and 101 (CDFG 2003).
Gander's pitcher-sage (<i>Lepechinia ganderi</i>)	--/-- CNPS List 1B.3 MSCP Covered	Low. Found in metavolcanic-derived soils in chaparral.
Nuttall's lotus (<i>Lotus nuttallianus</i>)	--/-- CNPS List 1B.1 MSCP Covered	High. Occurs in coastal dune communities. Species reported near the mouth of the San Diego River, in the general vicinity of Map Nos. 55-57, 82-83, and 151-161 (CDFG 2003).
Felt-leaved monardella (<i>Monardella hypoleuca</i> ssp. <i>lanata</i>)	--/-- CNPS List 1B.2 MSCP Covered	Low. Found in the chaparral understory, typically beneath mature stands of chamise in xeric situations.
Jennifer's monardella (<i>Monardella stoneana</i>)	--/-- CNPS List 1B.2	Low. Found in canyons around Otay and Tecate mountains.
Willow monardella (<i>Monardella linoides</i> ssp. <i>viminea</i>)	FE/SE CNPS List 1B.1 MSCP Covered	Moderate. Occurs in coastal and riparian scrub, especially in sandy washes (Reiser 2001). Species reported in the general vicinity of Map Nos. 18-20, 31, and 165 (CDFG 2003).
San Diego goldenstar (<i>Muilla clevelandii</i>)	--/-- CNPS List 1B.1 MSCP Covered	Moderate. Occurs in grasslands, particularly in association with mima mounds and vernal pools. Species reported in the general vicinity of Map Nos. 45, 48, 53-54, 63-66, 84, 126-127, and 148-150 (CDFG 2003).
Little mousetail (<i>Myosurus minimus</i> ssp. <i>apus</i>)	--/-- CNPS List 3.1	Very low. Occurs in vernal pool communities, which do not occur within the study area. Species reported in the general vicinity of Map Nos. 124-127 (CDFG 2003).
Spreading navarretia (<i>Navarretia fossalis</i>)	FT/-- CNPS List 1B.1 MSCP Covered	Low to moderate. Occurs in vernal pool communities, which were not observed within the study area. However, the species has been reported in the general vicinity of Map Nos. 47-50 and 123-127 (CDFG 2003), and species' critical habitat overlaps with portions of Map Nos. 124 and 126.

Table 4.3-5 (cont.) LISTED OR SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR		
SPECIES	STATUS¹	POTENTIAL TO OCCUR
Coast woolly-heads (<i>Nemacaulis denudata</i> var. <i>denudata</i>)	--/-- CNPS List 1B.2	Moderate. Typically found in coastal dune communities. Species reported in the general vicinity of Map Nos. 160-161 near the mouth of the San Diego River (CDFG 2003).
Slender woolly-heads (<i>Nemacaulis denudata</i> var. <i>gracilis</i>)	--/-- CNPS List 2.2	Low. Well-developed dunes whether on the desert or rarely, along the coastal beaches. Species reported in the general vicinity of Map No. 128 (CDFG 2003).
Brand's phacelia (<i>Phacelia stellaris</i>)	--/-- CNPS List 1B.1	Moderate. Occurs in coastal bluff scrub and in sandy coastal sage scrub openings near the beach (Reiser 2001). Species reported in the general vicinity of Map Nos. 150-154 near the San Diego River (CDFG 2003).
Torrey pine (<i>Pinus torreyana</i> ssp. <i>torreyana</i>)	--/-- CNPS List 1B.2 MSCP Covered	None. Occurs in closed-cone coniferous forest along the coast near Del Mar. Would likely have been detected within the study area if present.
Otay Mesa mint (<i>Pogogyne nudiscula</i>)	FE/SE CNPS List 1B.1 MSCP Covered	Low to moderate. Restricted to vernal pools on Otay Mesa and in northern Baja. Species reported in the general vicinity of Map Nos. 85-86, 124-127, and 147-149 (CDFG 2003).
Small-leaved rose (<i>Rosa minutifolia</i>)	--/SE CNPS List 2.1 MSCP Covered	None. No known native U.S. populations remain; only known U.S. site occurred on periphery of coastal sage scrub in Otay Mesa and was transplanted into biological open space to make way for development.
San Miguel savory (<i>Satureja chandleri</i>)	--/-- CNPS List 1B.2 MSCP Covered	Low. Gabbro and metavolcanic soils in interior foothills, chaparral, and oak woodland
Rayless ragwort (<i>Senecio aphanactis</i>)	--/-- CNPS List 2.2	Low. Occurs in open coastal sage scrub, cismontane woodlands, and alkaline flats (Reiser 2001).
Bottle liverwort (<i>Sphaerocarpos drewei</i>)	--/-- CNPS List 1B.1	Low. Occurs under shrubs within coastal sage scrub and chaparral. Species reported in the general vicinity of Map Nos. 85-86 (CDFG 2003).
Purple stemodia (<i>Stemodia durantifolia</i>)	--/-- CNPS List 2.1	High. Small perennial herb typically found growing in wet sand along minor creeks and seasonal drainages. Species reported in the general vicinity of Map Nos. 63-64 (CDFG 2003).
Oil neststraw (<i>Stylocline citroleum</i>)	--/-- CNPS List 1B.1	Low to moderate. Coastal scrub areas and chenopod scrub in clay soils in the vicinity of oilfields.
Estuary seablite (<i>Sueda esteroa</i>)	--/-- CNPS List 1B.2	High. Found on the periphery of coastal salt marsh, soils are usually mapped as tidal flats. Species reported in the general vicinity of Map Nos. 82-83, 134, and 153-158 (CDFG 2003).
Parry's tetracoccus (<i>Tetracoccus dioicus</i>)	--/-- CNPS List 1B.2 MSCP Covered	Low. Gabbro soils in low growing chamise chaparral and sage scrub. Conditions are typically quite xeric with only limited annual growth.

Source: HELIX (2009)

¹Refer to Appendix D of Appendix C.1 of the PEIR for a listing and explanation of status and sensitivity codes

Sensitive Animal Species

The following eight sensitive animal species were observed/detected within the study area during surveys and are described below.

The coastal California gnatcatcher (*Polioptila californica californica*) is a federally-listed threatened species, state species of special concern, and MSCP Covered species. One individual was observed in Diegan coastal sage scrub on the slopes of the Encanto Channel near the post office. This species likely occurs in other areas of appropriate habitat near the mapped channels and basins. CNDDDB records for this species are scattered throughout the City.

The Cooper's hawk (*Accipiter cooperii*) is a state species of special concern and MSCP Covered species. One individual was observed perched in a tree adjacent to Soledad Creek. This is a fairly widespread species and would be expected to occur in several locations within the MSWSMP study area where trees are present.

The northern harrier (*Circus cyaneus*) is a state species of special concern and MSCP Covered species. One individual was observed foraging over grassland near a drainage ditch in the Otay region. Few individuals are expected to occur within the actual study area as most areas are vegetated with trees and shrubs or are developed. Little appropriate habitat occurs along the mapped storm water facilities.

The yellow warbler (*Dendroica petechia brewsteri*) is a state species of special concern. Two individuals were heard calling in southern riparian forest along the San Diego River.

The double-crested cormorant (*Phalacrocorax auritus*) is a state species of special concern. One individual was observed flying over coastal salt marsh habitat in the San Diego River near its confluence with the Pacific Ocean. Except for coastal portions of the San Diego River, this species is unlikely to use any of the other storm water facilities mapped for the MSWSMP study area.

The western bluebird (*Sialia mexicana*) is a MSCP Covered species. One individual was observed perched on a post in ruderal habitat near riparian forest along the San Diego River. This species has a scattered distribution in the central and western portions of San Diego County and is likely to occur in other locations within the MSWSMP study area.

The little blue heron (*Egretta caerulea*) is a bird of conservation concern species. One individual was observed foraging in freshwater marsh habitat in Rose Creek near Mission Bay Drive. This

species is very uncommon in the City and would not likely be found in other locations mapped for the MSWSMP study area.

Additional sensitive animal species that were not observed or detected but have potential to occur within the study area are listed in Table 4.3-6.

Table 4.3-6 LISTED OR SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR		
SPECIES	STATUS¹	POTENTIAL TO OCCUR
INVERTEBRATES		
San Diego fairy shrimp (<i>Branchinecta sandiegonensis</i>)	FE/--	Low. Occurs in vernal pools and road basins on the mesas in San Diego County.
Quino checkerspot butterfly (<i>Euphydryas editha quino</i>)	FE/--	Very low. Occurs in open sage scrub and chaparral. Requires abundant nectar plants and dwarf plantain (<i>Plantago erecta</i>), the primary host plant. Not reported in the project study area (CDFG 2003).
Hermes copper butterfly (<i>Lycaena hermes</i>)	--/--	Low to moderate. Found in southern mixed chaparral and coastal sage scrub with mature spiny redberry (<i>Rhamnus crocea</i>), the larval host plant.
Wandering/saltmarsh skipper (<i>Panoquina errans</i>)	--/--	High. Coastal saltmarshes along river mouths and other brackish waters. Larval host plant is saltgrass (<i>Distichlis spicata</i>).
Riverside fairy shrimp (<i>Streptocephalus woottoni</i>)	FE/--	Low. Occurs in vernal pools and road basins on mesas in San Diego County.
VERTEBRATES		
Reptiles and Amphibians		
Silvery legless lizard (<i>Anniella pulchra pulchra</i>)	--/SSC	Moderate. Occurs in areas with loose soil, particularly in sand dunes and or otherwise sandy soil. Generally found in leaf litter, under rocks, logs, or driftwood in oak woodland, chaparral, and desert scrub.
Arroyo toad (<i>Bufo californicus</i>)	FE/SSC MSCP Covered	Low. Found on banks with open-canopy riparian forest characterized by willows, cottonwoods, or sycamores; breeds in areas with shallow, slowly moving streams but burrows in adjacent uplands during dry months. No recorded CNDDB locations in the study area, and MSCP list of known locations does not include creeks in the study area.
Orange-throated whiptail (<i>Cnemidophorus hyperythrus</i>)	--/SSC MSCP Covered	High. Found in coastal sage scrub, chaparral, and riparian woodland as well as adjacent disturbed areas. Prefers areas with a matrix of open and shady areas with abundant termites (<i>Reticulitermes</i> sp.).
Red-diamond rattlesnake (<i>Crotalus exsul</i>)	--/SSC	Moderate. Found in chaparral, coastal sage scrub, along creek banks, particularly among rock outcrops or piles of debris with a supply of burrowing rodents for prey. Suitable habitat occurs within the study area.

Table 4.3-6 (cont.)		
LISTED OR SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR		
SPECIES	STATUS¹	POTENTIAL TO OCCUR
VERTEBRATES (cont.)		
Coronado skink (<i>Eumeces skiltonianus interparietalis</i>)	--/SSC	Moderate. Found in grasslands, sage scrub, open chaparral, oak woodland, and coniferous forests, usually under rocks, leaf litter, logs, debris, or in the shallow burrows it digs.
San Diego horned lizard (<i>Phrynosoma coronatum</i> ssp. <i>blainvillei</i>)	--/SSC MSCP Covered	High. Found in coastal sage scrub and open chaparral, oak woodlands, and coniferous forests with sufficient basking sites, adequate scrub cover, and areas of loose soil. Their occurrence typically tied to presence of harvester ants (<i>Pogonomyrmex</i> sp.), and they are generally excluded from areas invaded by Argentine ants (<i>Linepithema humile</i>).
Reptiles and Amphibians (cont.)		
Coast patch-nosed snake (<i>Salvadora hexalepis virgultae</i>)	--/SSC	Moderate. Primarily found in chaparral but also inhabits coastal sage scrub and areas of grassland mixed with scrub.
Western spadefoot (<i>Spea hammondi</i>)	--/SSC	Moderate. Occurs in open coastal sage scrub, chaparral, and grassland, along sandy or gravelly washes, floodplains, alluvial fans, or playas; require temporary pools for breeding and friable soils for burrowing.
Two-striped garter snake (<i>Thamnophis hammondi</i>)	--/SSC	High. Occurs along permanent and intermittent streams bordered by dense riparian vegetation but occasionally associated with vernal pools or stock ponds.
Birds		
Tricolored blackbird (<i>Agelaius tricolor</i>)	--/SSC MSCP Covered	Low to moderate. Marsh habitat near grasslands, pastures, and agricultural fields
Southern California rufous-crowned sparrow (<i>Aimophila ruficeps canescens</i>)	--/SSC MSCP Covered	Moderate. Occurs in coastal sage scrub, chaparral, and shrubby grasslands.
Bell's sage sparrow (<i>Amphispiza belli belli</i>)	--/SSC	Low. Chaparral and sage scrub with modest leaf-litter on the ground. Largely eliminated from most coastal areas of San Diego County (Unitt 2004).
Golden eagle (<i>Aquila chrysaetos</i>)	--/SSC MSCP Covered	Low. Nesting occurs on cliff ledges or in trees on steep slopes, with foraging occurring primarily in grassland and sage scrub. Not usually observed near development.
Burrowing owl (<i>Athene cunicularia</i>)	--/SSC MSCP Covered	Low. Occurs in grasslands and open scrub habitats. At present, largely restricted to Otay Mesa and North Island. Majority of the study area likely too urbanized to support species.

Table 4.3-6 (cont.)		
LISTED OR SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR		
SPECIES	STATUS¹	POTENTIAL TO OCCUR
VERTEBRATES (cont.)		
Coastal cactus wren (<i>Campylorhynchus brunneicapillus sandiegensis</i>)	--/SSC MSCP Covered	Moderate. Occurs in coastal sage scrub and chaparral where there are large thickets of cactus in which they nest.
Western snowy plover (<i>Charadrius alexandrinus nivosus</i>)	FT/SSC MSCP Covered	Low. Found on beaches, dunes, and salt flats. Very little appropriate habitat within the study area.
Birds (cont.)		
Western yellow-billed cuckoo (<i>Coccyzus americanus occidentalis</i>)	--/SE	Low to moderate. A rare and sporadic summer visitor to San Diego County, the cuckoo is found only in extensive stands of mature riparian woodland.
Southwestern willow flycatcher (<i>Empidonax traillii extimus</i>)	FE/-- MSCP Covered	Low to moderate. This migratory species uses mature riparian woodland for nesting. As a breeding species, this flycatcher is restricted to modest/small colonies in San Diego County along the Santa Margarita River, San Luis Rey River, Whelan Lake, Guajome Lake, Couser Canyon, and Pala (Unitt 2004).
California horned lark (<i>Eremophila alpestris actia</i>)	--/SSC	Low. Occurs in open fields, grasslands, disturbed areas, and open sage scrub. Open habitat is uncommon in the study area.
Prairie falcon (<i>Falco mexicanus</i>)	--/SSC	Low. Nests on cliff or bluff ledges or occasionally in old hawk or raven nests; forages in grassland or desert habitats. All known nesting locations are at least 23 miles from the coast (Unitt 2004); therefore, study area is likely outside species' range.
Yellow-breasted chat (<i>Icteria virens</i>)	--/SSC	High. Habitat is shrubby willows and riparian woodland. Is likely to occur along willow-dominated drainages within the City, particularly within the MHPA.
Least bittern (<i>Ixobrychis exilis</i>)	--/SSC	Moderate. Found in marshes and other wetland habitat.
California black rail (<i>Laterallus jamaicensis coturniculus</i>)	--/ST	Very low. Found in wetland habitats; presumed extirpated from San Diego County.
Osprey (<i>Pandion heliaetus</i>)	--/SSC	Low. Coasts and inland lakes with open water and a supply of fish.
Belding's savannah sparrow (<i>Passerculus sandwichensis beldingi</i>)	--/SE MSCP Covered	Moderate. Restricted to coastal salt marshes dominated by pickleweed.

Table 4.3-6 (cont.)		
LISTED OR SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR		
SPECIES	STATUS¹	POTENTIAL TO OCCUR
VERTEBRATES (cont.)		
Light-footed clapper rail (<i>Rallus longirostris levipes</i>)	FE/SE	High potential along San Diego River near the coast and in the southern reaches of Rose Creek; low potential elsewhere. Coastal salt marshes, especially those dominated by cordgrass (<i>Spartina</i> sp.), but have been known to use brackish and freshwater sites.
California least tern (<i>Sternula antillarum browni</i>)	FE/SE MSCP Covered	Low. Coastal areas adjacent to the ocean. Very little appropriate habitat within the study area.
Birds (cont.)		
Least Bell's vireo (<i>Vireo bellii pusillus</i>)	FE/SE MSCP Covered	High. Occurs in mature riparian forest and woodland, as well as riparian scrub. CNDDDB records include areas along or near the San Diego River, Smuggler's Gulch, Los Peñasquitos Creek, and Map No. 164. Critical habitat for this species occurs in the Smuggler's Gulch vicinity.
Mammals		
Pallid bat (<i>Antrozous pallidus</i>)	--/SSC	Moderate. Deserts and canyons. Daytime roosts in buildings, crevices; less often in caves, mines, hollow trees, and other shelters.
Dulzura pocket mouse (<i>Chaetodipus californicus femoralis</i>)	--/SSC	Low. Typically found in chaparral, especially where it intergrades with grasslands.
Northwestern San Diego pocket mouse (<i>Chaetodipus fallax fallax</i>)	--/SSC	Moderate. Occurs in open coastal sage scrub, particularly in open, weedy areas with sandy substrates.
Mexican long-tongued bat (<i>Choeronycteris mexicana</i>)	--/SSC	High. Occurs in scrublands and forests, especially canyons with riparian vegetation. Roosts in mines, caves, and buildings. Sporadically reported through much of San Diego County (CDFG 2003).
Spotted bat (<i>Euderma maculatum</i>)	--/SSC	Low. Mountainous regions with ponderosa pines. Roosts primarily in crevices in rocky cliffs and canyons.
Western mastiff bat (<i>Eumops perotis californicus</i>)	--/SSC	Moderate. Chaparral and where coast live oaks are found. Also occurs in arid, rocky areas, cliffs, and canyons.
Silver-haired bat (<i>Lasionycteris noctivagans</i>)	--/SSC	Moderate. Prefers forested areas adjacent to ponds and streams. Roosts under loose bark, in tree hollows and buildings.
Hoary bat (<i>Lasiuris cinereus</i>)	--/SSC	Moderate. Evergreen forests and wooded areas.
San Diego black-tailed jackrabbit (<i>Lepus californicus bennettii</i>)	--/SSC	Moderate. Occurs primarily in open sage scrub, chaparral, grasslands, croplands, and disturbed habitat with at least some shrub cover present.

Table 4.3-6 (cont.) LISTED OR SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR		
SPECIES	STATUS¹	POTENTIAL TO OCCUR
VERTEBRATES (cont.)		
San Diego desert woodrat (<i>Neotoma lepida intermedia</i>)	--/SSC	Moderate. Occurs in open chaparral and coastal sage scrub, often building large, stick nests in rock outcrops or around clumps of cactus or yucca.
Pocketed free-tailed bat (<i>Nyctinomys femorosaccus</i>)	--/SSC	Low. Occurs in arid scrublands, including chaparral; roosts in crevices in cliff faces.
Mammals (cont.)		
Big free-tailed bat (<i>Nyctinomys macrotus</i>)	--/SSC	Low. Occurs in rocky scrublands and woodlands, and roosts in rocky cliff faces. Reported sporadically in variety of San Diego County locations (CDFG 2003).
Pacific pocket mouse (<i>Perognathus longimembris pacificus</i>)	FE/SSC	Low. Fine-grained, sandy or gravelly substrates in coastal strand, coastal dunes, river alluvium, and coastal sage scrub growing on marine terraces.
American badger (<i>Taxidea taxus</i>)	--/SSC MSCP Covered	Low. Occurs in open plains and prairies, farmland, and sometimes edges of woods.

Source: HELIX (2009)

¹Refer to Appendix D of Appendix C.1 of the PEIR for a listing and explanation of status and sensitivity codes

Regional and Regulatory Context

Multiple Species Conservation Program

The City's MSCP Subarea Plan has been prepared to meet the requirements of the California Natural Communities Conservation Planning (NCCP) Act of 1992. The Subarea Plan is consistent with the NCCP and describes how the evaluation of proposed development projects relative to the City's portion of the MSCP Preserve (the Multi-Habitat Planning Area [MHPA]) will be implemented. The Plan was adopted in 1997, allowing the City to issue take permits at the local level. Approximately 56,831 acres of habitat are designated as the City's portion of the MHPA, of which approximately 90 percent is to be preserved and the remaining 10 percent may be developed.

The MHPA is intended to link all core biological areas into a regional wildlife preserve. Many of the natural creeks included in the storm water system encompassed by the project area fall within the MHPA. Approximately 561.50 acres of the project study area are within the MHPA, including portions of the following named channels: San Diego River, Los Peñasquitos Creek, Soledad Creek, Rose Creek, Florida Canyon, Alvarado Creek, Chollas Creek, South Chollas Creek, and Smuggler's Gulch. The San Diego River corridor accounts for the vast majority of the MHPA within the study area (approximately 494 acres, or ninety percent of the total). HUs

supporting habitat within the MHPA for the project area include: Peñasquitos, Pueblo San Diego, San Diego, and Tijuana.

MSCP policies and guidelines that are relevant to the proposed maintenance activities are identified and evaluated in Table 4.1-2 in Subchapter 4.1, Land Use.

Wildlife Corridors

Wildlife corridors can be local or regional in scale; their functions may vary temporally and spatially based on conditions and species presence. Wildlife corridors represent areas where wildlife movement is concentrated due to natural or anthropogenic constraints. Local corridors provide access to resources such as food, water, and shelter. Animals use these corridors, which are often hillsides or tributary drainages, to move between different habitats. Regional corridors provide avenues for wildlife dispersal, migration, and contact between otherwise distinct populations by linking two or more large habitats.

Approximately 561.50 acres of the study area are within the City's MHPA. The MHPA in these portions of the project provides connectivity through several creeks and tributary drainages, as well as the San Diego River corridor. Several storm water channels within the MSWSMP are likely to function as wildlife corridors including but not necessarily limited to the San Diego River, Smuggler's Gulch, Rose Creek, Chollas Creek, Soledad Creek, and Los Peñasquitos Creek.

4.3.2 Impacts

This analysis addresses potential impacts resulting from maintenance in a majority of the City's largest storm water facilities and detention basins. While impacts may occur in the course of gaining equipment access as well as maintaining outfall discharge points, the magnitude of impacts from these sources is not considered substantial with respect to the overall maintenance of channels and basins. Furthermore, it is considered too speculative at this stage to evaluate impacts from these activities.

The following analysis is intended to provide a programmatic estimate of the magnitude of impacts to biological resources that could occur from the various maintenance activities anticipated to result from implementation of the proposed MSWSMP. The impacts are based on estimates made by the City with respect to the maximum amount of disturbance potentially associated with maintaining the major channels and basins included in the MSWSMP. The estimated disturbances are identified in Table 3-1.

The analysis characterizes impacts as direct or indirect. An impact is considered direct when the primary effect is removal of existing habitat and/or species. Direct impacts would result from clearing of vegetation and removal of accumulated sediment and debris, as well as construction of access paths where none currently exist. Indirect impacts occur when secondary effects of adjacent activities, such as noise, reduced water quality, dust, or non-native plant invasion adversely affect adjacent biological resources. The magnitude of an indirect impact may be the same as a direct impact; however, the effect usually takes a longer time to become apparent.

Significance Criteria

According to the City's Significance Determination Thresholds (2007), impacts to biological resources would be significant if the project would:

- Cause a substantial adverse impact on any Tier I, Tier II, Tier IIIA, or Tier IIIB habitats as identified in the Biology Guidelines of the Land Development manual or other sensitive natural community identified in local or regional plans, policies, regulation, or by the CDFG or USFWS;
- Cause a substantial adverse impact on more than 0.01 acre of wetlands (including, but not limited to marsh, vernal pool, riparian, etc.) through direct removal, filling, hydrological interruption, or other means;
- Cause a substantial adverse impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in the MSCP or other local or regional plans, policies or regulations, or by the CDFG or USFWS;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors; including linkages identified in the MSCP Plan, or impede the use of native wildlife nursery sites; and/or
- Cause a conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan, either within the MSCP plan area or in the surrounding region.

Analysis of Impacts

Issue 1: Would the Project impact sensitive habitat, including but not limited to City, State, or federally regulated wetlands through direct removal, filling, hydrological interruption, or other means?

Direct Impacts

Based on the width of disturbance identified in Table 3-1, maintenance activities described in the MSWSMP would affect up to approximately 70.40 acres of vegetated wetland habitat and 24.63 acres of unvegetated earthen-bottom streambed/natural flood channel. An estimated 105.9 acres of upland habitat could be impacted, of which approximately 63.5 acres are developed (Table 4.3-7). This table quantifies the impacts by HU. A segment by segment breakdown of wetland impacts is provided in Appendix C.1. As many as approximately 22.13 acres of wetland impacts, 11.46 acres of unvegetated stream impacts and 4.0 acres of upland impacts would occur within the MHPA.

Approximately 10.64 acres of wetland impacts and 10.59 acres of unvegetated natural flood channel impacts would occur within the coastal overlay zone. However, in reality, the contemplated maintenance activities would occur over an extended period of time and, thus, the estimated areas of impacts would not occur at any one time. Predicting the amount of vegetation that may be impacted in any given year is beyond the level of analysis allowed by current information.

Wetland/Riparian Vegetation Communities

As indicated earlier, maintenance activities would impact up to approximately 70.40 acres of wetland/riparian habitats and unvegetated waters including 6.08 acres of southern riparian forest (including disturbed), 0.17 acre of southern sycamore riparian woodland, 0.18 acre of riparian woodland, 27.36 acres of southern willow scrub (including disturbed), 4.08 acres of mule fat scrub (including disturbed), 0.34 acre of riparian scrub, 20.00 acres of freshwater marsh (including disturbed), 0.01 acre of cismontane alkali marsh, 1.39 acres of coastal saltmarsh, 0.38 acre of coastal brackish marsh, and 10.41 acres of disturbed wetland (Table 4.3-7). In addition, 24.63 acres of streambed/natural flood channel would be impacted. The wetland information associated within each specific channel or detention basin is contained in Appendix C.1.

**Table 4.3-7
 ESTIMATED AREA OF VEGETATION COMMUNITIES AFFECTED¹**

Hydrologic Unit (HU)	SRF	SRW	RW	SWS	MFS	RS	FWM	CAM	CSM	CBM	DW	STM/ NFC	TOTAL
WETLANDS OUTSIDE MHPA²													
San Dieguito	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.01	0.01	0.27
Peñasquitos	1.82	0.00	0.07	6.11	0.50	0.00	4.60	0.00	0.27	0.06	0.90	3.60	17.93
San Diego	1.11	0.17	0.00	5.80	0.00	0.00	3.30	0.01	0.00	0.00	1.48	0.87	12.74
Pueblo San Diego	0.00	0.00	0.00	2.80	1.25	0.34	5.20	0.00	0.45	0.00	5.91	8.65	24.64
Sweetwater	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.03
Otay	0.00	0.00	0.00	0.57	0.00	0.00	2.34	0.00	0.00	0.00	0.06	0.04	3.01
Tijuana	0.00	0.00	0.00	0.65	0.00	0.00	1.57	0.00	0.00	0.00	0.64	0.00	2.86
Non-MHPA Subtotal	2.93	0.17	0.07	15.93	1.75	0.34	17.26	0.01	0.72	0.06	9.03	13.17	61.44
WETLANDS WITHIN MHPA²													
San Dieguito	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Peñasquitos	3.15	0.00	0.11	9.45	0.00	0.00	2.40	0.00	0.67	0.32	0.08	4.62	20.80
San Diego	0.00	0.00	0.00	0.24	0.00	0.00	0.16	0.00	0.00	0.00	0.24	0.12	0.76
Pueblo San Diego	0.00	0.00	0.00	0.09	1.35	0.00	0.03	0.00	0.00	0.00	0.07	4.07	5.61
Sweetwater	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Otay	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tijuana	0.41	0.00	0.00	1.65	0.98	0.00	0.15	0.00	0.00	0.00	0.99	2.65	6.42

Table 4.3-7 (cont.)														
ESTIMATED AREA OF VEGETATION COMMUNITIES AFFECTED¹														
Hydrologic Unit (HU)	Tier I				Tier II			Tier IIIA	Tier IIIB	Tier IV				TOTAL
	CLOW	SOC	SFD	BCH	DCSS	CSCS	BS	SMC	NNG	EW	NNV/ORN	DH/RUD	DEV	
MHPA Subtotal	3.15	0.00	0.10	11.43	2.33	0.00	2.74	0.00	0.97	0.32	1.38	11.46		33.59
WETLANDS TOTAL	6.08	0.17	0.18	27.36	4.08	0.34	20.00	0.01	1.39	0.38	10.41	24.63		95.03
UPLANDS OUTSIDE MHPA²														
Hydrologic Unit (HU)	SRF	SRW	RW	SWS	MFS	RS	FWM	CAM	CSM	CBM	DW	STM/ NFC	TOTAL	
San Dieguito	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
Peñasquitos	0.0	0.0	0.0	0.0	0.7	0.0	0.4	0.5	0.2	0.8	1.9	0.5	17.0	22.0
San Diego	0.1	0.0	0.0	0.0	1.2	0.0	0.7	0.0	0.5	1.3	2.6	1.5	8.4	16.3
Pueblo San Diego	0.0	0.0	0.0	0.0	3.9	0.0	0.2	0.3	3.8	0.1	1.7	1.9	31.1	43.0
Sweetwater	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
Otay	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	1.4	0.0	0.6	3.9	1.6	7.6
Tijuana	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.8	0.7	5.2	8.1
Non-MHPA Subtotal	0.1	0.0	0.0	0.0	5.9	0.0	1.3	0.8	7.3	2.2	7.6	8.5	65.1	98.8
UPLANDS WITHIN MHPA²														
San Dieguito	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Table 4.3-7 (cont.)
 ESTIMATED AREA OF VEGETATION COMMUNITIES AFFECTED¹**

Hydrologic Unit (HU)	Tier I				Tier II			Tier III A	Tier III B	Tier IV				TOTAL
	CLOW	SOC	SFD	BCH	DCSS	CSCS	BS	SMC	NNG	EW	NNV/ ORN	DH/ RUD	DEV	
Peñasquitos	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.1	0.3	0.5	0.1	0.7	2.3
San Diego	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.5	0.7
Pueblo San Diego	0.0	0.0	0.0	0.0	3.3	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	3.7
Sweetwater	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Otay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tijuana	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.4
MHPA Subtotal	0.2	0.0	0.0	0.0	3.3	0.0	0.1	0.3	0.1	0.3	0.8	0.6	1.4	7.1
UPLANDS TOTAL	0.3	0.0	0.0	0.0	9.2	0.0	1.4	1.1	7.4	2.5	8.4	9.1	66.5	105.9

Source: HELIX 2009

¹Totals reflect rounding

²SRF=southern riparian forest, SRW=southern sycamore riparian woodland, RW=riparian woodland, SWS=southern willow scrub, MFS=mule fat scrub, RS=riparian scrub, FWM=freshwater marsh, CAM=cismontane alkali marsh, CSM=coastal saltmarsh, CBM=coastal brackish marsh, DW=disturbed wetland, STM=CDFG streambed (includes open water habitat), NFC= City natural flood channel, CLOW=coast live oak woodland, SOC=scrub oak chaparral, SFD=southern foredunes, BCH=beach, DCSS=Diegan coastal sage scrub, CSCS=coastal sage-chaparral scrub, BS=broom baccharis scrub, SMC=southern mixed chaparral, NNG=non-native grassland, EW=eucalyptus woodland, NNV/ORN=non-native vegetation/ornamental, DH/RUD=disturbed habitat/ruderal, DEV=developed

In addition to the direct loss of wetland habitat, maintenance could affect buffer areas located outside of the wetlands. The ESL requires that buffers be maintained around all wetlands, as appropriate, to protect their functions and values. (e.g., wildlife habitat, food chain productivity, water quality/sediment filtration, ground water recharge, and storm water abatement). Typical buffer zone widths in southern California are 100 feet around wetlands and 50 feet around riparian areas. Buffer widths are typically determined on a case-by-case basis, taking into consideration the size and type of project proposed, sensitivity of the wetland resource to detrimental edge effects, topography, and specific functions and values of the wetland, as well as the need for transitional upland habitat.

Impacts to wetland buffers could occur from construction of access roads and staging areas which would typically be located in buffer areas. Direct impacts could occur from loss of habitat within the buffers. Indirect impacts to wildlife could occur from activities within the buffers such as vehicular access or equipment operation.

Jurisdictional Areas (Corps, CDFG, and City)

Up to approximately 37.66 acres of wetlands and 68.27 acres of non-wetland WUS subject to Corps jurisdiction would be impacted within the channel and basin areas (Table 4.3-8). Of the 68.27 acres of non-wetland WUS, 35.75 acres represents the full constructed width of concrete channels. Appendix C.1 contains a detailed estimate of Corps jurisdictional impacts by channel and basin.

Up to approximately 70.66 acres of wetlands/riparian habitat and 24.63 acres of unvegetated streambed subject to CDFG jurisdiction would be affected by maintenance activities (Table 4.3-9). This includes concrete-lined channels and basins that support wetland vegetation. Appendix C.1 contains a detailed estimate of CDFG jurisdictional impacts by channel and basin.

Up to approximately 70.40 acres of vegetated wetland and 24.63 acres of unvegetated natural flood channel subject to City jurisdiction would be affected by maintenance activities (Table 4.3-9). This includes concrete-lined channels and basins that support wetland vegetation. Approximately 10.55 acres of these impacts would occur to wetlands within the coastal overlay zone and 10.59 acres to unvegetated natural flood channels within the coastal overlay zone. Appendix C.1 contains a detailed list of estimated City jurisdictional impacts by channel and basin.

Table 4.3-8
ESTIMATED CORPS JURISDICTIONAL AREAS (WUS) AFFECTED (acre[s])¹

HU ²	Wetlands ³												Non-wetland WUS		TOTAL
	SRF	SRW	RW	SWS	MFS	RS	FWM	CAM	CSM	CBM	DW	Total Wetland Impacts	Earthen bottom	Concrete bottom	
San Dieguito	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	1.17	1.18
Peñasquitos	0.88	0.00	0.00	3.99	0.00	0.00	5.29	0.00	0.94	0.26	0.09	11.45	12.64	11.53	35.62
San Diego	0.27	0.00	0.00	2.97	0.00	0.00	2.54	0.00	0.00	0.00	0.11	5.89	2.29	5.28	13.46
Pueblo San Diego	0.00	0.00	0.00	1.10	0.32	0.22	5.17	0.00	0.45	0.00	3.76	11.02	13.61	15.18	39.81
Sweetwater	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.28
Otay	0.00	0.00	0.00	0.52	0.00	0.00	1.97	0.00	0.00	0.00	0.04	2.53	0.04	0.74	3.31
Tijuana	0.00	0.00	0.00	0.99	0.15	0.00	1.52	0.00	0.00	0.00	1.11	3.77	3.93	1.57	9.27
TOTAL	1.15	0.00	0.00	9.57	0.47	0.22	16.49	0.00	1.39	0.26	5.11	34.66	32.52	35.75	102.93

Source: HELIX (2009)

¹Totals reflect rounding

²The HUs correspond to the following Storm Water Facility map pages in Appendix C.1: San Dieguito HU=Maps 1-3, 169; Peñasquitos HU=Maps 4-46, 55-57, 163-168, 170-172; San Diego HU=Maps 47-54, 58-66, 81-83, 140-161; Pueblo San Diego HU=Maps 67-80, 84-121; Sweetwater HU=Map 122; Otay HU=Maps 131-135; Tijuana HU=Maps 123-130, 136-139

³Habitat acronyms: CAM=cismontane alkali marsh, CBM=coastal brackish marsh, CSM=coastal saltmarsh, 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

**Table 4.3-9
 ESTIMATED CDFG AND CITY JURISDICTIONAL AREAS AFFECTED (acre[s])¹**

HU ²	Wetland/Riparian Habitat ³												Drainage	Total CDFG/ City	
	SRF	SRW	RW	SWS	MFS	RS	FWM	CAM	CSM	CBM	DW	CLOW (CDFG only)	Total Wetland/ Riparian Impacts		STM/ NFC
San Dieguito	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.01	0.00	0.26	0.01	0.27
Peñasquitos	4.96	0.00	0.18	15.56	0.50	0.00	7.00	0.00	0.94	0.38	0.98	0.21	30.71⁴ 30.50⁵	8.22	38.93⁴ 38.72⁵
San Diego	1.10	0.17	0.00	6.04	0.00	0.00	3.46	0.01	0.00	0.00	1.72	0.05	12.55⁴ 12.50⁵	0.99	13.54⁴ 13.49⁵
Pueblo San Diego	0.00	0.00	0.00	2.89	2.60	0.34	5.23	0.00	0.45	0.00	5.98	0.00	17.49	12.72	30.21
Sweetwater	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.03	0.00	0.03
Otay	0.00	0.00	0.00	0.57	0.00	0.00	2.34	0.00	0.00	0.00	0.06	0.00	2.98	0.04	3.02
Tijuana	0.00	0.00	0.00	2.30	0.98	0.00	1.72	0.00	0.00	0.00	1.63	0.00	6.63	2.65	9.28
TOTAL	6.08	0.17	0.18	27.36	4.08	0.34	20.00	0.01	1.39	0.38	10.41	0.26	70.66⁴ 70.40⁵	24.63	95.29⁴ 95.03⁵

Source: HELIX (2009)

¹Totals reflect rounding

²The HUs correspond to the following Storm Water Facility map pages in Appendix C.1: San Dieguito HU=Maps 1-3, 169; Peñasquitos HU=Maps 4-46, 55-57, 163-168, 170-172; San Diego HU=Maps 47-54, 58-66, 81-83, 140-161; Pueblo San Diego HU=Maps 67-80, 84-121; Sweetwater HU=Map 122; Otay HU=Maps 131-135; Tijuana HU=Maps 123-130, 136-139

³Habitat acronyms: CAM=cismontane alkali marsh, CBM=coastal brackish marsh, CLOW=coast live oak woodland, CSM=coastal saltmarsh, DW=disturbed wetland, FWM=freshwater marsh, MFS=mule fat scrub, NFC= City natural flood channel, RS=riparian scrub, RW=riparian woodland, SRF=southern riparian forest, SRW=southern sycamore riparian woodland, SWS=southern willow scrub, STM=CDFG streambed (includes open water habitat)

⁴CDFG Acreage

⁵City Acreage

Upland Vegetation Communities

Maintenance activities would impact up to 19.4 acres of sensitive upland habitat, including 0.3 acre of coast live oak woodland, 9.2 acres of Diegan coastal sage scrub (including disturbed), 1.4 acres of broom baccharis scrub, 1.1 acres of southern mixed chaparral, and 7.4 acres of non-native grassland (Table 4.3-7). Impacts to these communities would be significant.

Impacts of up to 86.5 acres of non-sensitive uplands (2.5 acres of eucalyptus woodland, 8.4 acres of non-native vegetation/ornamental, 9.1 acres of disturbed habitat/ruderal, and 66.5 acres of developed land) would not be considered significant under the City's Biology Guidelines.

Indirect Impacts

Potential indirect impacts from maintenance activities would normally be associated with secondary effects, including habitat insularization, water quality, lighting, noise, roadkill, exotic plant species, fugitive dust, and human intrusion. The magnitude of an indirect impact would be the same as a direct impact, but the effect usually takes longer to become apparent.

Habitat Insularization

Habitat insularization is fragmentation of large habitat areas into smaller "islands" effectively isolated from one another. Such fragmentation presents barriers to wildlife movement and breeding, splits plant and animal populations, and increases edge effects. Habitat insularization is often associated with local species extinctions because smaller habitat areas support relatively fewer species than larger ones.

No habitat insularization impacts are expected to occur as a result proposed maintenance activities because the activities would not result in the isolation of any habitat areas.

Water Quality

Increased hardscape area resulting from construction of access roads may result in a nominal increase in runoff during and after rain events. Runoff is often associated with increased erosion, sedimentation, and pollution, which have the potential to significantly impact water quality in adjacent and downstream areas. The use of petroleum products (e.g., fuels, oils, and lubricants) by maintenance equipment could potentially contaminate surface water and adversely affect biological resources both in- and outside of the MHPA, and has potential to be significant. As discussed in Subchapter 4.5, Hydrology/Water Quality, the maintenance removal of wetland vegetation occurring as part of the MSWSMP may result in a decrease in pollutant uptake by

plants, as vegetation in the channel and basin bottoms would be removed. As discussed in Subchapter 4.5, most of the storm water facilities are not conducive to pollutant removal by vegetation because many are concrete-lined. For those channels that are vegetated, the runoff doesn't reside long enough around the root systems to allow for the plants to absorb them. However, there may be segments where conditions are favorable to promote root absorption of pollutants. In these cases, significant localized effects on wildlife could occur. Additional impacts to water quality could occur as a result of disturbance of sediment on the drainage bottom during clearing activities, and subsequent increases in turbidity if water is present at the time of maintenance. These impacts could also be significant.

Lighting

Night lighting exposes adjacent wildlife species to an unnatural light regime, may alter their behavior patterns, and consequently result in a loss of species diversity. Except in the case of emergency maintenance, maintenance activities would take place during daylight hours. Due to the short-term duration of emergency maintenance, night-time lighting would not represent a significant impact.

Noise

Project-related noise from such sources as machinery potentially used for clearing (e.g., bulldozers, Gradalls, etc.) could result in a temporary impact to wildlife. Noise-related impacts are usually only significant if a sensitive species would be displaced from their nests or territories and fail to breed. The potential for this impact is discussed Subchapter 4.1, Land Use.

Roadkill

Roadkill is not a significant issue for this project, as all maintenance machinery would be slow-moving and the project would not open up access roads for use by the general public.

Exotic Plant Species

Non-native plants could colonize areas disturbed by maintenance and potentially spread into the adjacent preserve areas. Such invasions would displace native plant species, reducing diversity, increasing flammability and fire frequency, change ground and surface water levels, and adversely affect the native wildlife that are dependent on native vegetation.

The limited amount of clearing that is expected to occur in upland habitats would not open significant amounts of upland areas to invasion by non-native species. Clearing of native

wetland vegetation within the channels and ditches could result in subsequent colonization by invasive, non-native vegetation such as giant reed. However, many of the channels and ditches within the MHPA already support a variety of non-native wetland-affiliated species growing in conjunction with native species. Clearing of the channels would remove both native and non-native species, and quick growing species such as cattails could be expected to recolonize many of the wetter areas over the short-term. Invasion of the MHPA by non-native plants in areas where they previously did not exist would be considered a significant impact.

Fugitive Dust

Fugitive dust produced by maintenance would disperse onto vegetation in the MHPA and cause adverse effects to sensitive vegetation. A continual cover of dust would reduce the overall vigor of individual plants by reducing their photosynthetic capabilities and increasing their susceptibility to pests or disease. In turn, this would affect animals dependent on these plants. Fugitive dust is a temporary maintenance impact and is not expected to be a significant issue due to the restricted areas of potential clearing and the relatively short duration of maintenance within each storm water facility.

Human Intrusion

Increases in human activity in natural areas would result in degradation of sensitive vegetation communities by fragmenting habitat, forming edges (through creation of roads and trails), and removing existing plants. In addition, illegal dumping of landscape debris and trash may occur. No significant impacts would occur as a result of human activity given that many of the areas are already used as homeless encampments and for illegal dumping. Maintenance activities in the basins and storm water facilities are not expected to result in an increase in these activities.

Significance of Impacts

Sensitive habitats that would be directly impacted include wetland and upland associations. As the maintenance would primarily occur within drainage courses, wetland communities would be the most impacted. An estimated 70.40 acres of different wetland vegetation types and 24.63 acres of unvegetated channel bottom would be impacted by maintenance. Impacted wetland/riparian vegetation communities would include southern riparian forest, southern sycamore riparian woodland, southern willow scrub, riparian woodland, mule fat scrub, riparian scrub, freshwater marsh, cismontane alkali marsh, southern coastal saltmarsh, coastal brackish marsh, and disturbed wetland. Maintenance also could impact wetland buffers through direct loss of upland habitat and/or operation of vehicles and equipment.

An estimated 19.4 acres of sensitive upland vegetation communities would be impacted including coast live oak woodland, scrub oak chaparral, southern foredunes, beach, Diegan coastal sage scrub, coastal sage-chaparral scrub, broom baccharis scrub, southern mixed chaparral, and non-native grassland. The impacts to these vegetation communities are considered significant.

Maintenance may also have significant impacts on wildlife due to the loss of urban pollutant removal capabilities associated with vegetated storm water facilities. Where conditions are favorable for vegetation to remove urban pollutants, the removal of that vegetation in the course of maintenance would eliminate this capability and potentially expose downstream wildlife to increased exposure to urban pollutants as well as increased sedimentation. This impact is considered potentially significant.

Mitigation Measures, Monitoring and Reporting

The City is proposing to undertake a compensation program that would involve a combination of habitat preservation, enhancement, and/or creation. The action to be taken would be primarily dependent on the type of habitat that would be impacted. The habitat type falls into two primary categories: upland and wetland. The degree of impact would be primarily dictated by whether the impact would be permanent or temporary.

As discussed in Subchapter 4.5, Hydrology/Water Quality, mitigation for the loss of vegetation that serves to remove urban pollutants is not feasible. Retention of vegetation within channels would conflict with the primary goal of maintenance to provide flood protection to adjacent development.

The overall approach proposed by the City for compensating for wetland and upland impacts is addressed below. This general discussion is followed by specific mitigation measures proposed to implement the approach described below.

Wetlands

Compensation for the loss of wetland habitat would be accomplished through one or a combination of the following invasives removal, enhancement, and/or restoration of wetland habitat. Furthermore, as discussed earlier, the selection of these actions would be largely based on the anticipated maintenance frequency. Frequency is an important consideration because it dictates the degree to which wetland habitat would recover between maintenance events. While the City would compensate for the loss of wetland habitat, the City would not compensate for the loss of unvegetated channels because the drainage course would remain in place, unlike other types of projects that physically eliminate unvegetated wetland areas.

The compensation ratio proposed by the City would vary with the type of wetland habitat and the frequency of maintenance. Typically, state and federal agencies require creation at a ratio of 1:1 to achieve their “no net loss” policies because normally the compensation is associated with a project that results in a permanent loss of wetland habitat and the drainage course that supports it.

Impacts from the storm water maintenance activities are proposed to be compensated through invasives removal, enhancement, and/or restoration. Although the City could choose to mitigate through the creation of new wetlands, habitat creation would not be required for three primary reasons. First, the drainage channel itself would remain after maintenance, and would continue to function for wildlife movement, and, in the case of earthen-bottom facilities, would continue to filter out urban runoff pollutants. Second, wetland vegetation has historically returned to these channels between maintenance events. Third, storm channel maintenance, in most cases, occurs in urban channels where maintenance activities have occurred for many years in the past.

High Frequency Maintenance

The City would compensate for high frequency maintenance impacts through either: (1) enhancement and/or restoration or (2) purchase of mitigation credits on a one-time basis. The compensation ratios would be proportional to the habitat type and quality. Mitigation ratios would be higher for wetland habitat types that have a higher function and diversity, and typically take longer to establish. This type of compensation would be considered “permanent” and, assuming it continues to thrive, would allow storm channel maintenance to occur at the impacted area without additional compensation for future clearing events.

Enhancement would focus on the removal of invasive plants (e.g. giant reed [*Arundo donax*], pampas grass [*Cortaderia* sp.], castor-bean [*Ricinus communis*], Mexican fan palm [*Washingtonia robusta*], Canary Island date palm [*Phoenix canariensis*], Brazilian pepper tree [*Schinus terebinthifolius*], and tamarisk [*Tamarix* sp.]) followed by a proactive maintenance program to control invasive plants for a period of two years after the initial removal.

Restoration would involve the rehabilitation of highly degraded wetlands (i.e., areas infested with exotics such as giant reed) with the goal of repairing natural or historic function of a degraded wetland. Activities would include removal of invasive plants, minor grading to remove accumulated sediment and restore appropriate surface conditions, and installing native wetland plants as seed and/or container stock. Installation of cuttings, container stock, and seed would

begin following removal of any exotic species. Irrigation may be provided, depending on the type and location of the habitat to be restored.

Mitigation through restoration/enhancement activities would, wherever possible, assure that the restoration/enhancement achieves the highest wildlife and water quality value by consolidating mitigation into large, continuous areas (e.g., San Diego River and Rose Creek). In addition, wherever possible, the restoration/enhancement would occur at the uppermost region of a drainage course to minimize the contribution to downstream invasives problems. Wherever feasible, mitigation would occur within the same watershed as the impact.

As an option to enhancement/restoration, the City could choose to purchase mitigation credits. As discussed above, mitigation ratios would be 1:1 for all wetland habitats when the habitat associated with mitigation credits has become fully established in advance of the impact. In some cases, mitigation credits would have a higher value than the impacted habitat.

As another option, the City could choose to offset wetland impacts by creating new wetland habitat by converting upland areas to wetlands by altering the topographic and hydrologic conditions. This action could be accomplished on a localized basis by expanding existing natural drainages or by replacing concrete channels with earthen channels; replacement of concrete channels with earthen channels would also require widening due to the lower capacity of earthen channels to convey floodwater. Although such actions would enhance the biological value of the affected channels and potentially compensate for wetland impacts, opportunities to widen existing natural drainages or replace concrete channels with earthen channels are considered very limited due to the constraints imposed by adjacent development. As the channels which are to be maintained are located in highly urbanized areas, expanded channel widths would require land acquisition and removal of residences and businesses.

Low Frequency Maintenance

The City would compensate for low frequency maintenance impacts through removal of invasives (e.g. giant reed, pampas grass, castor-bean, Mexican fan palm, and tamarisk) followed by a proactive maintenance program that control invasives for a period of two years after the removal has occurred. Invasives removal represents appropriate compensation because of the likelihood that wetland vegetation in temporary maintenance areas would become re-established between maintenance events. Normally, wetland vegetation re-establishes if the maintenance occurs at intervals greater than three years. Typically, cattails and other emergent vegetation re-establish and attain a height of approximately one foot within six months of maintenance. Willows and other woody plants such as mule fat and elderberry would likely establish along the edge of the cattails within the first year provided the root base of onsite wetland plants is

partially retained after maintenance and/or there is adequate seed stock onsite or upstream. Provided these factors are met, willows would be expected to attain a height of between 5-10 feet within three years of a maintenance event.

Uplands

Impacts to upland habitat would be compensated through habitat preservation. Upland mitigation is traditionally accomplished by off-site acquisition of existing habitat. In order to encourage mitigation to occur within areas targeted for preserves, the City has established lower mitigation ratios for upland habitats acquired within preserve areas. Similarly, the mitigation ratios for impacts to habitat within a preserve area are higher in order to discourage impacts within these preserves.

Implementation of the following mitigation measures, in conjunction with incorporation of the maintenance protocols specified in the MSWSMP, would reduce the potential impacts to sensitive habitats to below a level of significance.

Mitigation Measure 4.3.1: Prior to commencement of any activity within a specified annual maintenance program, the SWD shall identify all proposed maintenance activities. An IMP shall be prepared for each activity. The IMP shall identify the following: maintenance method(s) to be used, equipment type, appropriate BMPs, proposed access, staging areas, spoils storage sites, and schedule. In addition, the IMP shall incorporate relevant maintenance protocols as well as specific mitigation measures identified in the IBA for the activity.

Mitigation Measure 4.3.2: 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. Based on the IMP, the biologist shall determine the extent of impact which would occur to sensitive biological resources. The biologist also shall specify compensation which shall be required to mitigate impacts to biological resources (e.g., invasives removal, wetland creation/enhancement/restoration, or off-site upland habitat acquisition). The results of this survey shall be summarized in an IBA. At a minimum, the IBA shall include:

- Description of maintenance to be performed including length, width, and depth;
- Protocol surveys, as needed;
- Detailed vegetation mapping;
- Wetland delineation in compliance with applicable local, state, and federal regulations;
- Location of sensitive plant species;
- Quantification of impacts to all sensitive biological resources;

- Two, digital, date-stamped photos of affected area;
- Specific maintenance protocols from the MSWSMP which should be implemented as part of the IMP;
- Specific biological monitoring required during maintenance; and
- Specific compensation which would be required to mitigate impacts to biological resources (e.g., wetland creation/enhancement/restoration or offsite upland habitat acquisition).

Mitigation Measure 4.3.3: Wetland mitigation plans shall be consistent with the Conceptual Wetland Mitigation Plan contained in Appendix H of the Biological Technical Report, included as Appendix C.3 of the PEIR and shall include:

- 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 compensates 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 compensates 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 which involves payment of funds into the City's Habitat Acquisition Fund would be based on the required per acre cost in effect at the time of the project impact plus a 10 percent administration fee.

Mitigation Measure 4.3.4: Loss of habitat for the coastal California gnatcatcher shall be mitigated through the acquisition of suitable habitat or mitigation credits at a ratio of 1:1. Mitigation shall take place within the MHPA and shall be accomplished within six months of the date maintenance is completed. (Appendix C.1 MM 7.1.5a)

Mitigation for gnatcatcher impacts shall be considered initiated if one of the following conditions is met:

- A mitigation plan (e.g., habitat creation, enhancement, and/or restoration plan) is submitted to DSD for review. Additionally, work must be initiated within 3 months (weather permitting) of mitigation plan approval.
- Debiting credits from an appropriate mitigation bank. If mitigation occurs via debiting credits from an appropriate mitigation bank, all money initially deposited as part of the project submittal shall be rolled-over for use by subsequent projects.
- Withdrawing an appropriate sum of money from the mitigation account to pay into the Habitat Acquisition Fund.

Mitigation Measure 4.3.5: High frequency maintenance wetland impacts shall be compensated with “permanent” wetland mitigation (restoration and/or enhancement or mitigation credits) in accordance with ratios in Table 4.3-10. Restoration/enhancement/creation activities that include an endowment for long-term management are included as a type of permanent mitigation. Mitigation through up-front establishment of the mitigation or through purchase of mitigation credits shall be at a 1:1 ratio. No maintenance shall commence until the following has occurred:

- A mitigation plan (e.g. enhancement and/or restoration plan), consistent with Appendix H of the Biological Technical Report contained in Appendix C.3 of the PEIR, has been approved by DSD and sufficient evidence exists for DSD to conclude that the mitigation shall commence within six months of the date that the related maintenance has been completed; and/or
- Debiting credits have been obtained from an appropriate mitigation bank.

Table 4.3-10 WETLAND MITIGATION RATIOS	
WETLAND TYPE	MITIGATION RATIO¹
Southern riparian forest	3:1
Southern sycamore riparian woodland	3:1
Riparian woodland	3:1
Coastal saltmarsh	3:1
Coastal brackish marsh	3:1
Southern willow scrub	2:1
Mule fat scrub	2:1
Riparian scrub	2:1
Freshwater marsh	1:1
Cismontane alkali marsh	1:1
Disturbed wetland	1:1
Streambed/natural flood channel	NA

¹Mitigation done in advance or through purchase of mitigation credits would be at a 1:1 ratio.

Mitigation Measure 4.3.6: Low frequency maintenance wetland impacts shall be compensated through an invasives removal program at the ratios noted in Table 4.3-10 each time the maintenance occurs. In accordance with the Conceptual Wetland Mitigation Plan contained in Appendix H of the Biological Technical Report contained in Appendix C.3 of the PEIR, removal of invasives (e.g., giant reed, pampas grass) shall be followed by a maintenance program, which would assure that invasives would not re-establish for a period of two years after the removal has occurred. The initial removal of invasive plant material shall be completed within six months of the date the related maintenance has been completed. (Appendix C.3 MM 7.1.3b)

Mitigation Measure 4.3.7: Upland impacts shall be compensated through payment into the City's Habitat Acquisition Fund or acquisition and preservation of specific land in accordance with the ratios identified in Table 4.3-11. Upland mitigation shall be completed within six months of the date the related maintenance has been completed. (Appendix C.1 MM 7.1.2a)

Table 4.3-11 UPLAND HABITAT MITIGATION RATIOS¹			
Vegetation Type	Tier	Location of Impact with Respect to the MHPA	
		Inside	Outside
Coast live oak woodland	I	2:1	1:1
Scrub oak chaparral	I	2:1	1:1
Southern foredunes	I	2:1	1:1
Beach	I	2:1	1:1
Diegan coastal sage scrub	II	1:1	1:1
Coastal sage-chaparral scrub	II	1:1	1:1
Broom baccharis scrub	II	1:1	1:1
Southern mixed chaparral	IIA	1:1	0.5:1
Non-native grassland	IIIB	1:1	0.5:1
Eucalyptus woodland	IV	--	--
Non-native vegetation/ornamental	IV	--	--
Disturbed habitat/ruderal	IV	--	--
Developed	IV	--	--

¹Assumes mitigation occurs within an MHPA

Mitigation Measure 4.3.8: 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 4.3.9: 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 4.3.10: 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 carried out as compensation;

- 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 4.3.11: Impacts to floodplains within the MHPA shall be minimized, to the greatest extent practicable, through project design and coordination with the regulating agencies.

Mitigation Measure 4.3.12: Placement of new riprap, concrete, or other unnatural material into channels in the MHPA would be minimized to the maximum extent practicable. These materials would be used only in the event of severe erosion of earthen banks that cannot feasibly be repaired with the use of natural materials.

Mitigation Measure 4.3.13: Construction of temporary access and staging along channels shall be restricted to those areas where no such facilities currently exist. Impacts to sensitive habitat and/or sensitive species shall be minimized to the greatest extent practicable through project design measures, such as locating the facilities in the least sensitive habitat possible. (Appendix C.1 MM 7.1.6c)

Mitigation Measure 4.3.14: 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 following in attendance: 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 review the maintenance protocols that apply to the maintenance activities, and review the monitoring protocol to be followed.

At the pre-maintenance meeting, the monitoring biologist shall submit to the MMC and MC a copy of the site/grading 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 construction 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 4.3.15: 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 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 February 1 and August 1.

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 4.3.16: 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 4.3.17: 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 4.3.18: Access roads and staging areas shall be monitored for presence of exotic species, and exotic species would be removed as appropriate. Maintenance clearing of storm water facilities also would remove non-native species. Mitigation for direct impacts from the proposed project also may involve the removal of invasive non-native species in and adjacent to storm water facilities within the MHPA. (Appendix C.1 MM 7.2.1a)

Mitigation Measure 4.3.19: Physical erosion control measures such as fiber mulch, hay bales, etc., shall not harbor seeds from invasive species. (Appendix C.1 MM 7.2.1b)

Mitigation Measure 4.3.20: Prior to undertaking any maintenance activity included in an annual maintenance program, the SWD shall create a mitigation account 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 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.

Impact

Issue 2: Would the Project reduce the level of diversity or numbers of any unique, rare, endangered, sensitive, or fully protected species of plants or animals?

Direct Impacts

Sensitive Plant Species

Implementation of the proposed maintenance would directly impact four sensitive plant species observed within the study area: single-whorl burrobush, San Diego marsh-elder, southwestern spiny rush, and San Diego sunflower. These species are not federally or state-listed as threatened or endangered, are not City narrow endemic plant species, and are not covered under the City's MSCP Subarea Plan. In the absence of information concerning the nature of the ultimate maintenance activities on specific storm water facilities, the potential impacts to sensitive plant species from future maintenance activities is considered potentially significant.

Several listed and/or narrow endemic plant species have the potential to occur within the MSWSMP study area. Listed and/or narrow endemic plant species with moderate potential or, low to moderate potential, to occur within or adjacent to the MSWSMP study area include the following: San Diego ambrosia, willowy monardella, Otay tarplant, snake cholla, variegated dudleya, San Diego thorn-mint, San Diego button-celery, California Orcutt grass, Otay Mesa mint, and spreading navarretia. San Diego ambrosia is known to occur within floodplain areas, and willow monardella can be found in dry creek beds, and both have been reported in the vicinity of areas mapped for the MSWSMP. Snake cholla is primarily a sage scrub species, and has been reported in the vicinity of several storm water facilities in the MSWSMP study area. The remaining plants are primarily grassland or vernal pool species and were considered to have low to moderate potential to occur because of their known distributions in the Otay Mesa area where some MSWSMP channels are located, and where critical habitat for spreading navarretia occurs. Critical habitat for spreading navarretia would be expected to support other listed vernal pool plants such as San Diego thorn-mint, San Diego button-celery, California Orcutt grass, and Otay Mesa mint. Although the MSWSMP would not impact vernal pools, vernal pools may

occur near certain areas in which maintenance is proposed. Any impacts to listed or narrow endemic plant species would be considered significant.

The potential for impacts to other listed plant species including coastal dunes milk vetch (*Astragalus tener* var. *titi*), Encinitas baccharis (*Baccharis vanessae*), short-leaved dudleya (*Dudleya brevifolia*), prostrate navarretia (*Navarretia prostrata*), San Diego mesa mint (*Pogogyne abramsii*), thread-leaved brodiaea (*Brodiaea filifolia*), Del Mar manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia*), Orcutt's spineflower (*Chorizanthe orcuttiana*), saltmarsh bird's beak (*Cordylanthus maritimus*), Mexican flannelbush (*Fremontodendron mexicanum*), Orcutt's hazardia (*Hazardia orcuttii*), and small-leaved rose (*Rosa minutifolia*) are low, based on habitat affiliations combined with recent and previous surveys of the study area documented in the CNDDDB and cross-referenced with the areas of proposed impact. As a result, maintenance of basins and storm water facilities occurring as part of the MSWSMP would not be expected to have a significant impact on the sensitive plants listed above.

Sensitive Animal Species

With regard to sensitive animal species detected within the study area, proposed maintenance activities would directly impact the federally-listed, threatened coastal California gnatcatcher by clearing small areas of habitat for the construction of access roads and staging areas. These activities also would result in impacts to nesting raptors such as the Cooper's hawk and northern harrier, as well as to other sensitive species such as the western bluebird. In the absence of information concerning the nature of the ultimate maintenance activities on specific storm water facilities, the potential impacts to sensitive animal species from future maintenance activities is considered potentially significant.

Maintenance activities within the channels and basins have the potential to impact other sensitive species such as the yellow warbler, double-crested cormorant, and little blue heron. These impacts would not be considered significant due to the low sensitivity status of these species and measures to avoid disruption during the breeding season. No impacts are proposed to areas that are likely to be used by the federally- and state-listed endangered California brown pelican.

The potential for impacts to listed animal species including San Diego fairy shrimp, Quino checkerspot butterfly, Riverside fairy shrimp, arroyo toad, western snowy plover, California black rail, Belding's savannah sparrow, light-footed clapper rail, California least tern, and Pacific pocket mouse are low based on habitat affiliations combined with recent and previous surveys of the study area documented in the CNDDDB and cross-referenced with the areas of proposed impact. As a result, maintenance of basins and storm water facilities occurring as part of the MSWSMP is not expected to have a significant impact on these sensitive animals.

Although appropriate habitat for the arroyo toad occurs within the MSWSMP study area, this species is considered to have low potential to occur because there are no recorded CNDDDB locations for this species in the study area and the list of known arroyo toad locations provided in the MSCP does not include creeks within the MSWSMP study area.

The western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) and southwestern willow flycatcher (*Empidonax traillii extimus*) have low to moderate potential to occur in areas of the MSWSMP that support mature riparian woodland. Within the MSWSMP, the most probable locations for these two species to occur are along the San Diego River and Soledad Creek. Any impacts to these species would be considered significant.

Implementation of the proposed project is expected to impact the habitat of the federally- and state-listed endangered least Bell's vireo, which has been documented in CNDDDB as occurring in various locations within or near the study area. Any impacts to this species would be significant.

The remaining sensitive animal species with the potential to occur are not federally or state-listed. Of these, the following have high potential to occur within the study area: saltmarsh skipper, orange-throated whiptail, San Diego horned lizard, two-striped garter snake, yellow-breasted chat and Mexican long-tongued bat. Other sensitive species not specifically addressed in this section have low or moderate likelihood of occurring on site.

Implementation of the proposed project is expected to significantly impact the habitat of yellow-breasted chat, which shares the same habitat requirements as the least Bell's vireo. Any impacts to the remaining non-listed sensitive animal species would be adverse but less than significant because these species are not highly sensitive, and their habitat would not be permanently lost due to the frequency and nature of the maintenance clearing.

Because the locations and habitat characteristics of impact areas for new access roads and staging, as well as the numerous ODS, are unknown, there exists the potential for impacts to listed plant and animal species in these areas. Any such impacts would be considered significant.

Indirect Impacts

Indirect impacts resulting from maintenance activities are primarily related to noise. Equipment noise has the potential to disrupt reproductive and feeding activities, communication, and sleep patterns of sensitive avian species. Refer to Subchapter 4.1, Land Use, for further discussion of the potentially significant noise impacts. Disruption of breeding activities of sensitive birds would constitute a significant indirect impact.

Significance of Impacts

Maintenance activities during the nesting/breeding of sensitive birds including the coastal California gnatcatchers, least Bell's vireo, or raptors would have direct and indirect impact on these species resulting from direct mortality, loss of habitat and/or disruption of breeding/nesting activities. Thus, impacts to sensitive animals are considered potentially significant.

Although sensitive plants observed during survey work did not possess particularly high sensitivity classifications or sufficient population numbers to be considered significant, the potential exists for other plants to occur in the maintenance areas that could be significantly impacted by those activities. Thus, impacts to sensitive plants are considered potentially significant.

Mitigation Measures, Monitoring and Reporting

Implementation of Mitigation Measures 4.1-1 through 4.1-8, related to MSCP consistency, in combination with the following measures, would reduce the potential direct and indirect impacts to sensitive species to below a level of significance.

Mitigation Measure 4.3.21: 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;
- Offsite habitat that supports the species impacted shall be enhanced and/or supplemented with seed collected onsite; 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. (Appendix C.1 MM 7.1.4a)

Mitigation Measure 4.3.22: Wherever possible, 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*). (Appendix C.1 MM 7.1.5b)

Mitigation Measure 4.3.23: 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. (Appendix C.1 MM 7.1.5d)

Mitigation Measure 4.3.24: If a subject species is not detected during the protocol survey, the qualified biologist shall submit substantial evidence to the ADD and an applicable resource agency which demonstrates whether or not mitigation measures such as noise walls are necessary between the dates stated above for each species. If this evidence concludes that no impacts to this species are anticipated, no mitigation measures would be necessary. (Appendix C.1 MM 7.2.3c)

Mitigation Measure 4.3.25: If the City 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 4.3.26. (Appendix C.1 MM 7.2.3d)

Mitigation Measure 4.3.26: 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 the 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. (Appendix C.1 MM 7.2.3e)

Mitigation Measure 4.3.27: If maintenance occurs during the raptor breeding season (February 1 to August 1), 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 or until after August 1. (Appendix C.1 MM 7.2.3g)

Mitigation Measure 4.3.28: 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 (February 1 through August 1), 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. (Appendix C.1 MM 7.1.5c)

Mitigation Measure 4.3.29: If maintenance activities would occur at known localities for listed fish species, a biologist shall determine the presence/absence of flowing/standing water and/or the presence/absence of the species. If flowing/standing water is present, a biological monitor would accompany the maintenance crew and supervise the activities. If maintenance activities must occur within suitable habitat for other highly sensitive aquatic species (i.e., southwestern pond turtle) avoidance or minimization measures (i.e., exclusionary fencing, dewatering of the activity area, live-trapping, and translocation to suitable habitat) must be implemented. (Appendix C.1 MM 7.1.5e)

Mitigation Measure 4.3.30: 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. Whenever possible, flagged or fenced areas must be avoided. Where these areas cannot be avoided, proper rehabilitation of the impact area will occur. (Appendix C.1 MM 7.2.2a)

Impact

Issue 3: Would the Project interfere with the movement of any resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors?

Significant impacts to wildlife corridors are not anticipated to occur from proposed maintenance activities. Maintenance would occur periodically and be generally limited to daylight hours when wildlife use is not high. Furthermore, the maintenance activities would not alter the basic topographic characteristics of channels (continuous, easy to traverse topography) that accommodate wildlife movement. Thus, habitat linkages and functions of preserve areas would not be significantly impacted, in the long-term, by periodic maintenance activities. Although the loss of cover associated with maintenance activities would impact habitat for bird species, the impact on wildlife corridor movement from loss of cover is not significant since the narrow aspect of the drainages and urban context within which they occur limits their utility as wildlife corridors for larger animals.

Significance of Impacts

No significant impacts to wildlife corridors or movement would occur from the proposed maintenance activities.

Mitigation Measures, Monitoring and Reporting

No mitigation measures are required.

Impact

Issue 4: Would the Project conflict with the provisions of the ESL, MSCP or other approved local, regional or state habitat conservation plan?

As illustrated in Table 4.1-2 of Subchapter 4.1, Land Use, maintenance activities would be consistent with relevant policies and guidelines of the City's MSCP.

Significance of Impacts

As the proposed maintenance activities would conform to the MSWSMP and previously outlined Mitigation Measures 4.1-1 through 4.1-8 and 4.3.1 through 4.3.30, the project would not conflict with the policies and guidelines of the MSCP, and no significant impacts would occur.

Mitigation Measures, Monitoring and Reporting

No mitigation measures are required.

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4.4 HISTORICAL RESOURCES

The following discussion is based on an archaeological resources analysis completed for the proposed project (Affinis 2008). A copy of the study is included as Appendix D. For the purposes of this discussion, “historical resources” refers to both historic and prehistoric resources.

4.4.1 Existing Conditions

Prehistory

The San Diego region has a diverse historical background. The earliest known human occupation was about 10,000 years ago within the San Dieguito complex. The finds within this complex consisted primarily of scrapers, scraper planes, choppers, large blades, and large projectile points. Sleeping circles, trail shrines, and rock alignments also have been associated with early San Dieguito sites.

The San Dieguito complex is followed by the La Jolla complex at least 7,000 years ago, possibly as long as 9,000 years ago. The sites of this complex typically included millingstone assemblages in shell middens, crude cobble tools (choppers and scrapers), basin metates, manos, discoidals, a small number of Pinto series and Elko series points, and flexed burials.

The Late Prehistoric period is represented by the San Luis Rey complex (Shoshonean predecessors of the ethnohistoric Luiseño) in northern San Diego County and the Cuyamaca complex (Yuman forebears of the Kumeyaay) in the southern portion of the County. Elements of the San Luis Rey complex include small, pressure-flaked projectile points (Cottonwood and Desert Side-notched series); milling implements, including mortars and pestles; Olivella shell beads; ceramic vessels; pictographs and ungathered cremations. The Cuyamaca complex is similar to the San Luis Rey complex, differing in the following points: defined cemeteries away from living areas; use of grave markers; cremations placed in urns; use of specially made mortuary offerings; historic preference for side-notched points; higher numbers of scrapers, scraper planes, etc.; emphasis placed on use of ceramics; wide range of forms and several specialized items; steatite industry; substantially higher frequency of milling stone elements compared with San Luis Rey; and clay-lined hearths. Both the San Luis Rey and Cuyamaca complexes were defined on the basis of village sites in the foothills and mountains.

History

There are three historic periods in San Diego history. The historic periods refer to the time after Spanish colonization and include the study of non-indigenous cultures. While Juan Rodriguez Cabrillo visited San Diego briefly in 1542, the beginning of the historic period in the San Diego

area is generally given as 1769. The Spanish Period was from 1769 to 1820, the Mexican Period was from 1820 to 1846, and the American Period was from 1846 to the present.

In 1769, the Royal Presidio and the first Mission San Diego were founded on a hill overlooking Mission Valley. The Mission San Diego de Alcalá was constructed in its current location five years later. The Spanish Colonial period lasted until 1820 and was characterized by religious and military institutions bringing Spanish culture to the area and attempting to convert the Native American population to Christianity. Mission San Diego was the first mission founded in Southern California. Mission San Luis Rey in Oceanside was founded in 1798.

The Mexican period lasted from 1820 to 1846. Following secularization of the missions in 1834, mission lands were given as large land grants to Mexican citizens as rewards for service to the Mexican government. The society made a transition from one dominated by the church and the military to a more civilian population, with people living on ranchos or in pueblos.

The American period began in 1846, just before California became a state and Metropolitan San Diego began to develop in 1850. While the 1880s were a period of alternating boom and bust, by the 1890s, the City entered a time of steady growth. Subdivisions such as Golden Hill, Sherman Heights, Logan Heights, Banker's Hill, and University Heights began in the 1890s. As the City continued to grow in the early 20th century, the downtown's residential character changed. Streetcars and the introduction of the automobile allowed people to live farther from their downtown jobs. New suburbs were developed in Hillcrest, North Park, Mission Hills, and Normal Heights, as well as Point Loma, Ocean Beach, Pacific Beach, and Mission Beach. In the post-World War II years, San Diego grew significantly, with new jobs created in the aircraft industry, shipbuilding, fishing, and other enterprises.

Study Methods

A "constraints level" analysis was completed for this environmental analysis evaluation of impacts to historical resources, including archaeological resources and historic structures. The constraints level study is based on records searches conducted at the South Coastal Information Center (SCIC), vegetation mapping completed for the project and aerial photograph review.

Sites were plotted on USGS topographic maps, and data relating to site type, dates of original site recording and latest site updates, and site significance were recorded for each site within the study Area of Potential Effects (APE).

Based on the survey coverage maps, an attempt was made to estimate the percentage of each channel/basin segment that had been surveyed for historical resources, in order to aid in assessing the potential for historical resources. Other factors evaluated in order to assess the potential for

historical resources within a segment were topographic features, such as the steepness of slopes, the degree of past disturbance, and the potential for buried historical resources, due to alluvium or other factors. In some cases, the drainage channel itself is quite disturbed (or concrete-lined), but the surrounding area has a potential for historical resources, which could be subject to impacts from drainage maintenance or access.

No field work was undertaken for the current project, so there may be sites that were previously recorded which no longer exist. Conversely, there may be undocumented sites with the study APE. The historical resources were characterized with the following terms.

Habitation Sites

Prehistoric habitation sites were occupied seasonally or on a semi-permanent basis in order to exploit seasonally available resources. Such sites contain a wide variety of artifact types indicating that a range of activities were carried out on site. The range of activities expected at habitation sites includes food preparation, milling, cooking, production of a wide range of tools, construction, ceramic production, leather working, basket weaving, and ritual activities. Subsurface midden or refuse deposits reflecting the length and intensity of occupation are expected at habitation sites.

Temporary Camps

A variety of artifact types are expected at temporary camps, reflecting the range of activities carried out on site. Activities carried out at temporary camps might include any of the activities carried out at habitation sites, but the range of activities is expected to be more restricted. Midden deposits at temporary camps are shallow or non-existent, reflecting the short-term nature of occupation.

Artifact Scatter

Artifact scatters are defined as a surface scatter of artifacts such as ceramics, flaked stone, and ground stone without a subsurface deposit. Some animal bone and/or shell also may be present. Artifact scatters may represent an extractive or special activity area, or a temporary stopping place.

Lithic Scatter

Lithic scatters are defined as low-density scatters of debitage, cores, and other flaked stone debris. They lack diagnostic artifacts that are specific to particular periods and functions.

Bedrock Milling

Bedrock milling is defined as milling features located on bedrock outcrops or large boulders. Such features include mortars, basin metates, and milling slicks. Mortars are deep, conical basins ground

into the rock surface. They were used in conjunction with elongated pestles to crush and grind acorns. Basin metates are generally shallow bowl-shaped depressions ground into the rock surface. They were used with rounded, hand-sized manos or grinding stones to grind seeds, such as chia. Slicks are smooth areas of the rock surface which have developed a polish as a result of grinding. They were produced as a result of grinding seeds with a hand-held mano. A surface artifact scatter may be associated with the milling features. However, if the scatter is dense or if a subsurface component is identified, the bedrock milling is identified as part of a habitation site.

Quarry

A quarry site is defined as an area where lithic (stone) raw material was procured. Quarry sites are extractive sites to which work groups came with the express purpose of procuring stone suitable for tool production. As these sites were only briefly visited as needed, they do not generally contain material associated with habitation sites.

Shell Midden

Shell deposits may or may not be associated with other historic material. If the deposit is not associated with a complex assemblage, it may represent a locus where shellfish were processed. If the shell is associated with subsurface deposits reflecting a range of activities, such as milling and tool production, it is classified as a habitation camp or temporary camp.

Historic Sites

A number of site types have been identified. These include trash scatters, habitation sites, historic buildings, and structures.

Rock Art

Rock art includes petroglyphs, patterns etched into rock walls or boulders; and pictographs, patterns painted on rocks using a variety of pigments. Petroglyphs and pictographs tend to be associated with ceremonial or ritual uses and are generally considered culturally significant by the Native American community.

Records Search Results

The results of the records search and data evaluation were divided by HU, including the San Dieguito, Peñasquitos, San Diego, Pueblo San Diego, Sweetwater, Tijuana, and Otay. Results of the records search are detailed below and in Table 4.4-1.

San Dieguito Hydrologic Unit

Three sites are recorded within the study APE in the San Dieguito HU (Table 4.4-1). The significance of these sites is not noted on the site records, but the pictographs and petroglyphs recorded within CA-SDI-7 are generally of historic importance to the Native American community and are therefore a significant historical resource. CA-SDI-7 is not recorded within the channel segment, but it is mapped within 300 feet of the segment. Because the site records for CA-SDI-7 and CA-SDI-581 have not been updated since their original recording in the late 1950s, it is not known if these sites still exist.

Peñasquitos Hydrologic Unit

Twenty sites have been recorded within 300 feet of the channel segments and basins in the Peñasquitos HU, which includes many areas considered rich in archeological resources (Table 4.4-1). The recorded sites include five lithic scatters and three artifact scatters that are not significant resources. Two sites were described as temporary camps, and another was called a temporary camp or habitation site. Four sites were described as habitations, including portions of the ethnohistoric villages of Ystagua (Sorrento Valley) and Rinconada. Another portion of Ystagua was described as a shell midden. Three sites, one called a lithic scatter and the others not described, apparently have been destroyed by Sorrento Valley Road and decades of development, but there may be subsurface remnants, as the sites are in alluvial settings. The historic site was described as an adobe structure, with prehistoric artifacts and marine shell remnants within the adobe bricks.

**Table 4.4-1
 KNOWN HISTORICAL RESOURCES**

Site Number	Site Type	Originally Recorded By	Year Recorded	Updated By	Last Update	Site Significance
SAN DIEGUITO HU						
CA-SDI-7	Rock art	Haenszel	1957	N/A	N/A	Undetermined
CA-SDI-581	Artifact scatter	True	n.d.	N/A	N/A	Undetermined
CA-SDI-11,023	Bedrock milling	Cardenas	1988	N/A	N/A	Undetermined
PEÑASQUITOS HU						
CA-SDI-1010	Lithic scatter	Kidder	1979	N/A	N/A	Destroyed?
CA-SDI-2723	Temporary camp	Rogers	n.d.	Pigniolo	2002	Undetermined
CA-SDI-4605	Habitation	Falk/Ball	1964	N/A	N/A	Undetermined
CA-SDI-4609	Habitation: part of Village of Ystagua	Krase	1972	N/A	N/A	Significant
CA-SDI-4618	Habitation	Hofmeister, Bull	n.d.	N/A	N/A	Undetermined
CA-SDI-4647	Not reported	Harding	1952	N/A	N/A	Destroyed?
CA-SDI-5017	Habitation: Village of Rinconada	Rogers	n.d.	Bissell	1992	Significant
CA-SDI-5204	Historic	McCoy	1977	Bull	1978	Undetermined
CA-SDI-5443	Shell midden: part of Village of Ystagua	Taylor	1977	N/A	N/A	Significant
CA-SDI-5580	Historic	Norwood	1978	KEA	1996	Undetermined
CA-SDI-10,252	Not cultural	Stein	1985	Gross, Robbins-Wade	1990	Not significant
CA-SDI-10,528	Historic	Wade	1986	Smith	2004	Significant
CA-SDI-11,165	Habitation	Reading	1978	Smith	1989	Undetermined
CA-SDI-11,721	Historic	Clevenger, Briggs	1990	N/A	N/A	Undetermined
CA-SDI-12,087	Not cultural	Gross	1990	Robbins-Wade, Gross	1998	Not significant
CA-SDI-12,090	Habitation and historic	Pigniolo, Briggs	1991	N/A	N/A	Undetermined
CA-SDI-12,091	Habitation	Pigniolo	1991	N/A	N/A	Undetermined
CA-SDI-5605	Lithic scatter	Moriarty	1977	N/A	N/A	Undetermined
CA-SDI-5606	Lithic scatter	Moriarty	1977	N/A	N/A	Undetermined

**Table 4.4-1 (cont.)
 KNOWN HISTORICAL RESOURCES**

Site Number	Site Type	Originally Recorded By	Year Recorded	Updated By	Last Update	Site Significance
PEÑASQUITOS HU (cont.)						
CA-SDI-5608	Lithic scatter	Moriarty	1977	Gallegos, Phillips, Kyle	1995	Not significant
CA-SDI-5609	Lithic scatter	Moriarty	1977	Gallegos, Phillips, Kyle	1995	Not significant
CA-SDI-5826	Habitation or temporary camp	Fulmer	n.d.	N/A	N/A	Undetermined
CA-SDI-10,438	Shell and artifact scatter	Cheever	1985	N/A	N/A	Undetermined
CA-SDI-11,017	Artifact scatter	Smith	1982	N/A	N/A	Undetermined
CA-SDI-12,453	Artifact scatter	Huey, Bass	1991	N/A	N/A	Undetermined
CA-SDI-12,557	Temporary camp	Smith	1992	Bissell	1996	Undetermined
CA-SDI-12,558	Shell midden	Smith	1992	Iversen	2005	Not significant; destroyed?
P-37-014998	Isolated core	Affinis	1990	N/A	N/A	Not significant
P-37-024259	Historic	Pierson	2001	N/A	N/A	Undetermined
P-37-024260	Historic	Pierson	2001	N/A	N/A	Undetermined
CA-SDI-14,162 P-37-014494	Lithic scatter	KEA	1996	N/A	N/A	Undetermined
CA-SDI-14,163 P-37-014495	Historic	KEA	1996	N/A	N/A	Undetermined
CA-SDI-14,164 P-37-014496	Historic	KEA	1996	N/A	N/A	Undetermined
CA-SDI-14,165 P-37-014497	Historic	KEA	1996	N/A	N/A	Undetermined
CA-SDI-14,599 016029	Habitation	Unknown	n.d.	Tift	1997	Destroyed

Table 4.4-1 (cont.) KNOWN HISTORICAL RESOURCES						
Site Number	Site Type	Originally Recorded By	Year Recorded	Updated By	Last Update	Site Significance
SAN DIEGO HU (cont.)						
CA-SDI-17,099 P-37-025706	Shell midden	Hector, Zelenka	2004	N/A	N/A	Undetermined
CA-SDI-17,203 P-37-025853	Habitation	McGinnis	2004	Laguna Mountain	2006	Undetermined
CA-SDI-18,347 P-37-028330	Historic	Jones & Stokes	2005	N/A	N/A	Undetermined
P-37-014493	Historic	Pigniolo, Beck	1996	N/A	N/A	Undetermined
CA-SDI-17,374	Temporary camp	Rogers	n.d.	N/A	N/A	Undetermined
SAN DIEGO HU						
CA-SDI-35	Historic and habitation	Pilling	1949	Schaefer	1990	Significant
CA-SDI-44	Temporary camp	Nelson	n.d.	N/A	N/A	Undetermined
CA-SDI-47	Temporary camp	Nelson	n.d.	DeBarros	1996	Undetermined
CA-SDI-202	Historic and habitation	Treganza	n.d.	N/A	N/A	Significant
CA-SDI-11,767	Habitation	Rogers	n.d.	Huey, Baker	1992	Undetermined
CA-SDI-12,128	Shell midden	Huey and Baker	1992	N/A	N/A	Undetermined
CA-SDI-12,863	Historic	McKenna	1992	N/A	N/A	Destroyed
CA-SDI-13,708, P-37-019016	Habitation	Tift and Strudwick	1994	N/A	N/A	Unknown
CA-SDI-14,152, P-37-014380	Habitation. Part of village of Cosoy	Schaefer	1996	NA	NA	Significant
CA-SDI-16,288, P-37-024558	Shell midden	Harris	2002	Recon	2007	Undetermined

**Table 4.4-1 (cont.)
 KNOWN HISTORICAL RESOURCES**

Site Number	Site Type	Originally Recorded By	Year Recorded	Updated By	Last Update	Site Significance
SAN DIEGO HU (cont.)						
CA-SDI-16,290, P-37-024560	Shell midden	Harris	2002	NA	NA	Undetermined
TIJUANA HU						
CA-SDI-2611	Lithic scatter	Moriarty and Carter	1973	NA	NA	Undetermined
CA-SDI-7208	Lithic scatter	Ferguson	1979	Pierson	2002	Not significant
CA-SDI-10,669	Habitation	Shipek	1976	ACOE	1992	Undetermined
CA-SDI-11,096	Historic	Van Wormer	1989	Van Wormer, Coleman	1994	Destroyed
CA-SDI-17,505, P-37-026708	Historic	Pierson	2005	NA	NA	Not significant
A-SDI-17,240, P-37-025924	Historic	Steely	2004	NA	NA	Significant
OTAY HU						
CA-SDI-13,072	Historic	Wade	1993	NA	NA	Not significant

Source: Affinis (2008)

Bold indicates that the resource is within or immediately adjacent to a channel or basin

San Diego HU

Eleven archaeological sites have been recorded within the APE in the San Diego HU (Table 4.4-1), which includes the San Diego River from Mission Valley to the ocean, as well as portions of Alvarado Canyon, Murphy Canyon, and the Fairmount Avenue canyon. The historic site consists of the remains of foundations and the support system of the historic Mission Bay Bridge. Two sites are described as camps, apparently for shellfish processing, and three sites are shell middens. The five habitation sites include a large site in Mission Valley; deeply buried deposits that represent the ethnohistoric village of Cosoy, also in Mission Valley; a habitation site in the Fairmount Avenue canyon; two site numbers that have been assigned to the Mission San Diego de Alcala, its associated buildings and archaeological deposits; and the ethnohistoric village of Nipaguay, located in the same area as the mission. Although much of this site area (including both CA-SDI-35 and CA-SDI-202) has been subject to a great deal of disturbance, overall the site is archaeologically significant and retains significance as a Native American historical heritage resource. The alluvial setting of Mission Valley is known to contain buried historic deposits.

Pueblo San Diego HU

Twenty historical resources have been recorded within 300 feet of channel segments in the Pueblo San Diego HU, including 10 historic sites, 4 Native American habitation sites, and 1 site that includes both (Table 4.4-1). Other resources include a lithic scatter, a shell midden, and an isolated artifact. Two sites were determined not to be historic (one shell scatter was in fill soils, and one site, noted as a Spanish Rancho, was found to be remnants of a building that post-dates 1950). One site consists of the historic police pistol range, and one site included remains of a structure, but for the most part the historic sites are trash deposits in canyons. The Pueblo San Diego HU includes the Chollas Creek and South Chollas Creek drainages with potential for buried historical resources, both historic and Native American.

Sweetwater HU

A single drainage segment is within the Sweetwater HU. No historical resources are recorded within the APE of this segment.

Tijuana HU

Six historical resources have been recorded within the APE in the Tijuana HU (Table 4.4-1). These include three historic sites, two lithic scatters, and a large buried site that appears to represent the

ethnohistoric village of Millejo (CA-SDI-10,669). Although none of the site records for CA-SDI-10,669 address the site's significance, it appears to have the potential to contain archaeologically and culturally significant deposits. One of the lithic scatter sites, CA-SDI-7208, covers hundreds of acres on Otay Mesa. This site has been tested and determined not to be a significant resource except the portion of the site that has been recorded as CA-SDI-11,424 that is located outside the segment. One historic house has been destroyed, and no historic material was found there during monitoring. The second historic site consists of artifacts found in fill soils, and the third is a bridge on Hollister Avenue over the Tijuana River.

Otay HU

A single historical resource has been recorded within the APE in the Otay HU (Table 4.4-1). CA-SDI-13,072 was described as a 1930s homestead. The site was determined not to be a significant resource.

Potential for Presence of Historical Resources

Over twenty-five years of systematic historical resource survey, evaluation, and data recovery for CEQA mandated projects has resulted in a body of data relating to historical settlement and land use that can be used to construct predictive models of historic settlement. Presented below are some generalizations regarding the location and nature of historic sites within the study area, based on recorded site distributions, the Christenson 1990 study, the Clean Water Program for Greater San Diego study (Gross 1993a and b), and other studies (see Appendix D).

Land Use and Settlement Pattern

Based on studies within San Diego County, several land use and settlement patterns exist. Large habitation sites are usually located in valleys within 210 feet of a seasonal stream, with slopes no greater than 15 percent, generally in grassland areas. Small habitation sites and large resource processing sites were similarly situated, in flat areas of valleys, drainages, or ridges within 295 feet of seasonal streams within chaparral grasslands or southern oak woodlands. Small processing sites were mostly found in flat, grassy valley settings within 525 feet of seasonal streams and were often associated with granitic outcrops. Lithic scatters were found in a variety of locations, but over 50 percent were on flat ridges, terraces, or mesas within 558 feet of water. The average distance of all sites to water was 443 feet.

Hillside and slope locations were the most common landform on which sites occurred (26.6 percent), followed by valley bottom locations (22.7 percent) and hilltop/ridge locations (17.1

percent). Quaternary alluvium (common in valley bottoms) was the most common geologic setting, with the formations of the Poway and La Jolla groups (source of lithic raw material) coming in second.

Gross used statistical analyses to determine whether the patterns noted in landform, underlying geology, elevation, distance to water, and other variables were meaningful, the result of historic selection, or the result of random distribution (1993a and b). These analyses indicated that elevation, distance to water, and differential between site elevation and elevation of the nearest water source are all important considerations in site location. Valley bottom locations were favored, and steep slopes were avoided. Based on these data, one would expect to encounter archaeological sites in valley bottom and valley margin locations. Sites would be much less likely in steep-sided canyons. Lithic quarrying or processing sites may be found on steeper slopes, but these sites would generally not be as significant as habitations or camp sites.

Buried Site Potential

Buried sites hold a great source of research potential since they can reveal chronological data, as well as giving us a “snapshot” of sites that are readily interpretable as temporal and functional units. To determine areas that likely contain subsurface historical resources, various factors that lead to buried sites were examined. For the most part, human activities take place on the ground surface. Artifacts and features arrive in a subsurface context through bioturbation or deposition. The depositional mechanisms of site burial include alluvium (flowing water); colluvium (gravity); eolian (wind-blown) sediments; and anthropogenic (human-caused) mechanisms, such as purposeful burial of materials, or cut and fill activities. Therefore, buried sites are often found near floodplains, mouths of streams, coastal valleys, bottoms of slopes, and within areas graded or leveled by man. Buried historical resources often become surface resources through earth-disturbing activities, including erosional gullies, road cuts, plowing, rodent activity, and grading and trenching.

Archaeological sites within the study APE that are known to have deeply buried deposits include the ethnohistoric villages of Ystagua, Rinconada, Millejo, Cosoy, and Nipaguay. In addition to these sites, buried historic material may be expected in such areas as Sorrento Valley/Soledad Canyon, Rose Creek, Mission Valley, Chollas Valley, and the Tijuana River Valley. Other drainages in the study area have some degree of alluvial or colluvial sediments as well, but buried sites have not yet been found in some areas, such as Alvarado Canyon. It is noted that many drainages in the study area do not offer wide drainage bottoms that would be preferred as a site setting.

Other Factors

Other factors also were taken into consideration to determine the potential presence of historical resources within the study area. These factors include previous survey coverage, channel conditions, and integrity of historical resources.

Channels and basins that were previously surveyed and found to contain no historical resources were considered to have a low potential for historical resources. Channels and basins that were not surveyed were considered to have a moderate to high historical resource potential, unless other factors pointed toward a low likelihood of resources (e.g., channel condition and the predictive modeling factors addressed above).

Generally, channels and basins that are concrete-lined or excavated were considered to have a low potential, while undisturbed channels were considered to have a moderate to high potential for historical resources. Again, factors such as degree of past disturbance and topography may alter the potential for historical resources even in natural channels. In some cases, the drainage channel itself is quite disturbed (or concrete-lined), but the surrounding area has a potential for historical resources, which could be subject to impacts from drainage maintenance or access.

The site integrity also was a factor. Urban areas developed prior to CEQA generally have a low potential for resources. This is due to the fact that prior to CEQA, development took place without regard to the preservation of archaeological and historic sites and development has resulted in the destruction of a high proportion of historical resources.

Predictive Modeling

A predictive model that assigns levels of historical resource sensitivity (low, moderate or high) to each of the channels and basins was developed based on an assessment of the following factors: the existence of known historical resources; previous historical resources surveys conducted; the potential for buried deposits; topography/slope/size of the canyon, availability of land suitable for habitation, and availability of natural resources; and integrity of historical resources. The results of this predictive model are included in Table 4.4-2. It should be noted that the rankings provided are based on a qualitative assessment of factors, rather than a strictly quantitative analysis, and are provided for general information purposes only. A more detailed site-specific historical resource investigation would be completed as part of an Individual Historical Assessment (IHA). In addition, all wetland mitigation areas shall be surveyed prior to approval of wetland mitigation plans. At that time, based on site-specific data, a more definitive determination would be made regarding the potential for resources to be impacted by maintenance.

Table 4.4-2 HISTORICAL RESOURCES SENSITIVITY BY CHANNEL/BASIN		
Channel/ Basin No.	Facility Description	Sensitivity
1	Rancho Bernardo Rd. & Bernardo Center Dr.	Low
2	Rancho Bernardo	Moderate
3	Rancho Bernardo	Moderate
4	11044 Via San Marco	Moderate
5	Scripps Poway Pkwy & Scripps Summit Dr.	Moderate
6	11689 Sorrento Valley Rd.	High
7	Soledad Creek	Moderate
7-8	Los Peñasquitos Channel	Moderate
9	11000 Roselle St./11100 Flinkote Ave.	Moderate
10	Dunhill St & Roselle St.	Moderate
11-12	Soledad Creek Channel	High
13-17	Soledad Creek Channel	High
18	Maya Linda & Via Pasar	Moderate
19	Candida & Via Pasar	Moderate
20	10205 Pomerado Rd.	Moderate
21	10249 Pinetree Dr.	Moderate
22	NE Corner Pomerado Rd. & Scripps Ranch Blvd.	Moderate
23	Pomerado Rd. & Avenida Magnifica	Moderate
23a	12660 Legacy Rd.	Moderate
24	Scenic Pl. & Cliff Ridge	Moderate
25	Ardath Rd. from Esterel to Ardath Ln.	High
26	Hillside Dr. from Rue Adriane to Via Capri	Low
27	Rose Creek Channel	Moderate
28	Rose Creek Channel	Moderate
29	Rose Creek Channel	High
30	Rose Creek Channel	Moderate
30a-b	Rose Creek Channel	Moderate
31	3053 Renault Way	Low
32	Rose Creek Channel	Low
33	Rose Creek Channel	Low
34	Rose Creek Channel	High
35	Rose Creek Channel	High
36	Mission Bay High School	Moderate
37	Pacific Beach Dr. & Olney St.	Moderate
38	Drain Structures – Lakehurst Ave.	Low
39	Drain Structures – Clairemont Dr	Low
40-42	Chateau Channel	Low

Table 4.4-2 (cont.) HISTORICAL RESOURCES SENSITIVITY BY CHANNEL/BASIN		
Channel/ Basin No.	Facility Description	Sensitivity
43	Thornwood St. & Mario Pl.	Moderate
44	Drain Structures – Beal St.	Low
45	Drain Structures – Mesa College Way	Low
46	Clairemont Mesa & I-805 behind Hotel	Low
47	7969 & 7971 Engineer Rd.	Low
48	3860 Calle Fortunada	Low
49-50	Murphy Canyon Channel	Low
51	Red River Dr. & Conestoga Dr.	Low
52	Camino del Arroyo	Low
53	Cowles Mountain Channel	Low
54	San Carlos Channel	Low
55	West Morena Blvd.	High
55-57	Tecolote Creek Channel	Moderate
58	Murphy Canyon Channel	Low
58a	Murphy Canyon Channel	Low
59-60	Alvarado Channel	Moderate
61-62	Alvarado Channel	Low
62a	Alvarado Channel	Low
63	Alvarado Channel	Low
64	Alvarado Channel	Low
65	Fairmont Channel	Low
65a-c	Fairmont Channel	Low
66	Montezuma Channel	Moderate
66d	Montezuma Channel	Moderate
67	Home Avenue Channel	High
67a	Chollas Creek	High
68	Home Avenue Channel	Moderate
69	Home Avenue Channel	High
70	Home Avenue Channel	Low
71-72	Chollas Creek Channel	Low
73	Chollas Creek Channel	Moderate
74-75	Chollas Creek Channel	High
76-77	Home Avenue Channel	High
78	Chollas Creek Channel	High
79	Delevan Dr.	Moderate
80	Chollas Creek Channel	Low
81	Camino de la Reina & Camino del Arroyo	Moderate

Table 4.4-2 (cont.) HISTORICAL RESOURCES SENSITIVITY BY CHANNEL/BASIN		
Channel/ Basin No.	Facility Description	Sensitivity
82	Nimitz Channel	High
83	Famosa Blvd. & Valeta St.	Low
84	Washington Channel	Low
85	Florida Canyon Channel	Low
86	Pershing Channel	High
87	Drain Structures – between 26th and 27th Sts.	Low
88	Switzer Creek Channel	Moderate
89	Chollas Creek Channel	Moderate
90	Imperial Ave. & Gillette St.	Moderate
91	Chollas Creek Channel	High
92	35th St. & Martin Ave.	High
93	Chollas Creek Channel	High
94-95	South Chollas Creek Channel	High
96	Drain Structures – Boston Ave. & Z St.	Moderate
97	South Chollas Creek Channel	High
98-99	South Chollas Creek Channel	Moderate
100	42nd St. & J St.	Low
101-102	South Chollas Creek Channel	High
103-104	South Chollas Creek Channel	Moderate
105	Euclid Ave. & Castana St.	Moderate
106-107	Encanto Channel	Moderate
108-111	Encanto Channel	Low
109	Jamacha Channel	Low
112	Madera St. & Broadway	Low
113-115	Jamacha Channel	Low
116	Solola Channel	Moderate
117	Solola Channel	Moderate
118-119	Solola Channel	Moderate
120-121	Cottonwood Channel	Low
122	Parkside Channel	Low
123	Sanyo Channel	Low
124	La Media Rd. & Airway Rd.	Moderate
125	Camino Maquiladora & Cactus Rd.	Low
126	Siempre Viva Rd. & Bristow Ct.	Moderate
127	Britannia Blvd. & Bristow Ct.	Moderate
128	Virginia Channel	Moderate
129	Smythe Channel	Moderate
130	Smythe Channel	Moderate

Table 4.4-2 (cont.) HISTORICAL RESOURCES SENSITIVITY BY CHANNEL/BASIN		
Channel/ Basin No.	Facility Description	Sensitivity
131	Nestor Creek Channel	Moderate
132-133	Nestor Creek Channel	Moderate
134	Nestor Creek Channel	Moderate
135	Elm Ave. & Harris Ave.	Moderate
136-137	Tocayo Channel	Low
137a-c	Tijuana River	High
138-139	Smugglers Gulch Channel	High
140	San Diego River	High
140-147	San Diego River	Moderate
148-150	San Diego River	High
151-152	San Diego River	Moderate
153-158	San Diego River	Low
159-160	San Diego River	High
161	San Diego River	Low
162-163	Tower Rd.	Low
164	Black Mountain Rd. south of Westview	High
5a	Black Mountain Rd. north of Mercy Rd.	Moderate
165	9262 Camino Santa Fe	Moderate
166	Carmel Country Rd. Bridge south of SR 56	High
167	Westside El Camino Real south of SR 56	High
168	Northside Genesee east of Science Center Dr.	Low
169	13153 Paseo del Verano	Low
170	Roselle St. (dead end)	Moderate
171-172	Scripps Lake Dr. west of Treena St.	Low
23a	12660 Legacy Rd. (behind)	Low
131	30 th St. and Del Sol Blvd.	Moderate

4.4.2 Impacts

Significance Criteria

Generally, a resource shall be considered by the Lead Agency to be historically significant if the resource meets the criteria for listing on the California Register of Historical Resources (Public Resources Code 5024.1, 14 CCR Section 4852), including the following:

- A. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

- B. Is associated with the lives of persons important in our past;
- C. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or,
- D. Has yielded or may be likely to yield information important in prehistory or history.

The California Register includes resources listed in or formally determined eligible for listing in the National Register of Historic Places, as well as some California State Landmarks and Points of Historical Interest. Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory as potentially significant may be eligible for listing in the California Register and are presumed to be significant resources for purposes of CEQA, unless a preponderance of evidence indicates otherwise (Public Resource Code 5024.1, 14 CCR 4850).

The most recent amendments to the CEQA Guidelines direct that lead agencies should first evaluate an archaeological site to determine if it meets the criteria for listing in the California Register. If an archaeological site is an historical resource (i.e., listed or eligible for listing in the California Register) potential adverse impacts to it must be considered (Public Resource Code 21084.1 and 21083.2(l)). If an archaeological site is not an historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment.

The City of San Diego Significance Determination Thresholds (2007) have established the following criteria to be used in the determination of significance under CEQA:

- An archaeological site must consist of at least three associated artifacts/ecofacts (within a 50-square meter area) or a single feature and must be at least 45 years of age. Archaeological sites containing only a surface component are generally considered not significant unless demonstrated otherwise. Such site types may include isolated finds, bedrock milling stations, sparse lithic scatters, and shellfish processing stations. All other archaeological sites are considered potentially significant. The determination of significance is based on a number of factors specific to a particular site including site size, type, and integrity; presence or absence of a subsurface deposit, soil stratigraphy, features, diagnostics, and dateable material; artifact and ecofact density; assemblage complexity; cultural affiliation; association with an important person or event; and ethnic importance.

- The determination of significance for historic buildings, structures, objects, and landscapes is based on age, location, context, association with an important person or event, uniqueness, and integrity.
- A site will be considered to possess ethnic significance if it is associated with a burial or cemetery; religious social or traditional activities of a discrete ethnic population; an important person or event as defined by a discrete ethnic population; or the mythology of a discrete ethnic population.

Projects that have a federal nexus (e.g., permits or funding from a federal agency, crossing federal lands) require compliance with federal regulations. The National Historic Preservation Act (NHPA) and the regulations that implement Section 106 of the Act (36 CFR 800) require federal agencies to consider the effects of their actions on properties listed, or eligible for listing in the National Register of Historic Places. Eligible resources are considered historic properties. The criteria for listing a property on the California Register of Historical Resources were modeled after on those for the National Register of Historic Places, so the significance criteria are quite similar under both sets of regulations.

Section 60.6 of 36 CFR Part 60 presents the criteria for evaluation of cultural resources for nomination to the National Register of Historic Places as follows:

The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of State and local importance that possess integrity of location, design, setting, materials, workmanship, and association, and

- a) that are associated with events that have made a significant contribution to the broad patterns of our history; or
- b) that are associated with the lives of persons significant in our past; or
- c) that embody the distinctive characteristics of a type, period or method or construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction;
or
- d) that have yielded, or may be likely to yield, information important in prehistory or history.

Analysis of Impacts

Issue 1: To what extent would Project impact historical resources?

Issue 2: To what extent would Project impact resources associated with Native American values?

As detailed under the existing conditions, a number of known historical resources within the study area (Table 4.4-1) have been determined to be significant under CEQA and City of San Diego guidelines. In addition, the predictive model indicates there is a potential for significant historical resources within several areas of the APE (Table 4.4-2). It is important to note that the probability assessments of historical resources being found within the channels and basins, presented in Table 4.4-2, are based on very general assumptions and are intended to only provide a plan level of analysis.

The proposed project would significantly impact historical resources through ground-disturbing activities associated with the proposed access/staging and maintenance. It is noted that the potential for impacting significant historical resources is considered lower within the channels and basins themselves since all the basins have been excavated, and many of the channels have been lined with concrete or created through excavation. Nonetheless, the impacts to areas that contain historical resources or with a high or moderate potential to contain historical resources would be considered potentially significant. Impacts to historical resources could also significantly impact Native American values if the resources are determined to have significant value to affiliated Native Americans.

As described in the discussion of mitigation measures below, each project included within the proposed project would undergo a project-specific assessment, referred to as an IHA, to determine the presence and potential impact on archaeological and historical resources at the time maintenance is proposed. At that time, based on more precise data, a more accurate assessment would be made regarding the presence or absence of such resources.

Significance of Impact

Significant impacts to historical resources and Native American values may occur as a result of the proposed project. The proposed project includes access and staging, and maintenance of drainages and channels within areas that have a high potential for historical resources or previously identified historical resources.

Mitigation Measures, Monitoring and Reporting

The following measures shall be implemented prior to the first time maintenance occurs within a drainage facility pursuant to the MSWSMP. Once a maintenance area has been surveyed, significance has been determined, and mitigation measures undertaken to protect (e.g., fencing or soil capping) and/or mitigate (e.g., data recovery) any affected historical resource, in accordance with the City's Historical Resources Guidelines (HRG), no further historical resource investigation shall be required. Implementation of these measures would reduce impacts to historical resources and Native American values to below a level of significance.

Mitigation Measure 4.4.1: Prior to commencement of the first occurrence of maintenance activity within a drainage facility included in the MSWSMP, an archaeologist, meeting the qualifications specified by the City's HRG, shall determine the potential for significant historical resources to occur in the maintenance area. If the archaeologist determines that the potential is moderate to high, an IHA shall be prepared. Based on the IMP for the proposed maintenance activity, the archaeologist shall determine the APE, which shall include access, staging, and maintenance areas. The IHA shall include a field survey of the APE with a Native American monitor, using the standards of the City's HRG. In addition, the archaeologist shall request a record search from the SCIC. Based on the results of the field survey and record search, the archaeologist shall conduct an archaeological testing program for any identified historical resources, using the standards of the City's HRG. If significant historical resources are identified, they shall be taken to the Historical Resources Board for designation as Historic Sites. Avoidance or implementation of an Archaeological Data Recovery Program (ADRP) and Archaeological Monitoring Program shall be required to mitigate project impacts to significant historical resources. The archaeologist shall prepare a report in accordance with City guidelines. At a minimum, the IHA report shall include:

- Description of maintenance to be performed, including length, width, and depth;
- Prehistory and History Background Discussion;
- Results of Record Search;
- Survey Methods;
- Archaeological Testing Methods;
- Impact Analysis; and
- Mitigation Recommendations, including avoidance or implementation of an ADRP and archaeological monitoring program.

In the event that the IHA indicates that no significant historical resources occur within the APE, or have the potential to occur within the APE, no further action shall be required.

Mitigation Measure 4.4.2: Prior to initiating any maintenance activity where the IHA identifies existing significant historical resources within the APE, the following actions shall be taken.

4.4.2.1. The Storm Water Department shall select a Principal Investigator (PI), who shall be approved by the ADD Environmental Designee. The PI must meet the requirements of the City's HRG.

4.4.2.2. Mitigation recommendations from the IHA shall be incorporated into the IMP to the satisfaction of the PI and the ADD Environmental Designee. Typical mitigation measures shall include but not be limited to: delineating resource boundaries on maintenance plans; implementing protective measures such as fencing, signage or capping; and selective monitoring during maintenance activities.

4.4.2.3. If impacts to significant historical resources cannot be avoided, the PI shall prepare an Archaeological Research Design and Data Recovery Program (ARDDRP) for the affected resources, with input from a Native American consultant, and the ARDDRP shall be approved by the ADD Environmental Designee. Based on the approved research design, a phased excavation program shall be conducted, which will include the participation of a Native American. The sample size to be excavated shall be determined by the PI, in consultation with City staff. The sample size shall vary with the nature and size of the archaeological site, but shall not exceed 15 percent of the overall resource area. The area involved in the ARDDRP shall be surveyed, staked and flagged by the archaeological monitor, prior to commencing maintenance activities which could affect the identified resources.

4.4.2.4. A pre-maintenance meeting shall be held on-site prior to commencing any maintenance that may impact a significant historical resource. The meeting shall include representatives from the PI, the Native American consultant, Storm Water Department, Mitigation Monitoring Coordinator (MMC), Resident Engineer (RE), and Maintenance Contractor (MC). The PI shall explain mitigation measures which must be implemented during maintenance. The PI shall also confirm that all protective measures (e.g. fencing, signage or capping) are in place.

4.4.2.5. If human remains are discovered in the course of conducting the ARDDRP, work shall be halted in that area and the following procedures set forth in the California Public Resources Code (Sec. 5097.98) and State Health and Safety Code (Sec. 7050.5) will be taken:

- The PI shall notify the RE, and the MMC. The MMC will notify the appropriate Senior Planner in the Environmental Analysis Section (EAS).
- The PI shall notify the Medical Examiner, after consultation with the RE, either in person or via telephone.
- Work will be redirected away from the location of the discovery and any nearby area reasonably suspected to overlay adjacent human remains until a determination can be made by the Medical Examiner, in consultation with the PI, concerning the provenience of the remains.

- The Medical Examiner, in consultation with the PI, shall determine the need for a field examination to determine the provenience.
- If a field examination is not warranted, the Medical Examiner shall determine, with input from the PI, if the remains are or are most likely to be of Native American origin.
- If Human Remains are determined to be Native American, the Medical Examiner shall notify the Native American Heritage Commission (NAHC). The NAHC shall contact the PI within 24 hours after the Medical Examiner has completed coordination. The NAHC will identify the person or persons determined to be the Most Likely Descendent (MLD) and provide contact information. The PI will coordinate with the MLD for additional coordination. Disposition of Native American human remains will be determined between the MLD and the PI. If (1) the NAHC is unable to identify the MLD, or the MLD fails to make a recommendation within 24 hours after being notified by the Commission; or (2) the landowner or authorized representative rejects the recommendation of the MLD and mediation in accordance with PRC 5097.94 (k) by the NAHC fails to provide measures acceptable to the landowner, the landowner or their authorized representative shall re-inter the human remains and all associated grave goods with appropriate dignity, on the property in a location not subject to subsurface disturbance. Information on this process will be provided to the NAHC.
- If Human Remains are not Native American, the PI shall contact the Medical Examiner and notify them of the historic era context of the burial. The Medical Examiner shall determine the appropriate course of action with the PI and City staff (PRC 5097.98). If the remains are of historic origin, they shall be appropriately removed and conveyed to the Museum of Man for analysis. The decision for reinterment of the human remains shall be made in consultation with MMC, EAS, the landowner, and the Museum.

4.4.2.6. The PI shall be responsible for ensuring: (1) that all cultural materials collected are cleaned, catalogued and permanently curated with an appropriate institution; (2) that a letter of acceptance from the curation institution has been submitted to MMC; (3) that all artifacts are analyzed to identify function and chronology as they relate to the history of the area; (4) that faunal material is identified as to species; and (5) that specialty studies are completed, as appropriate. Curation of artifacts associated with the survey, testing and/or data recovery for this project shall be completed in consultation with LDR and the Native American representative, as applicable.

4.4.2.7. The Archaeologist shall be responsible for updating the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B associated with the ARDDRP in accordance with the City's Historical Resources Guidelines, and submittal of such forms to the SCIC with the Final Results Report.

4.4.2.8. The PI shall prepare a Draft Results Report (even if negative) that describes the results, analysis and conclusions of the ARDDRP (with appropriate graphics). The MMC shall return the Draft Results Report to the PI for revision or for preparation of the Final Report. The PI shall submit the revised Draft Results Report to MMC for approval. The MMC shall provide written verification to the PI of the approved report. The MMC shall notify the RE of receipt of all Draft Result Report submittals and approvals. The MMC shall notify the RE of receipt of the Final Results Report.

Mitigation Measure 4.4.3: Prior to initiating any maintenance activity where the IHA identifies a moderate to high potential for the occurrence of significant historical resources within the APE, the following actions shall be taken:

4.4.3.1. Prior to Permit Issuance or Bid Opening/Bid Award

A. Entitlements Plan Check

1. Prior to permit issuance or Bid Opening/Bid Award, whichever is applicable, the Assistant Deputy Director (ADD) Environmental designee shall verify that the requirements for Archaeological Monitoring and Native American monitoring have been noted on the appropriate construction documents.

B. Letters of Qualification have been submitted to ADD

1. Prior to Bid Award, the applicant shall submit a letter of verification to Mitigation Monitoring Coordination (MMC) identifying the Principal Investigator (PI) for the project and the names of all persons involved in the archaeological monitoring program, as defined in the City of San Diego Historical Resources Guidelines (HRG). If applicable, individuals involved in the archaeological monitoring program must have completed the 40-hour HAZWOPER training with certification documentation.
2. MMC will provide a letter to the applicant confirming the qualifications of the PI and all persons involved in the archaeological monitoring of the project.
3. Prior to the start of work, the applicant must obtain approval from MMC for any personnel changes associated with the monitoring program.

4.4.3.2. Prior to Start of Construction

A. Verification of Records Search

1. The PI shall provide verification to MMC that a site specific records search (1/4 mile radius) has been completed. Verification includes, but is not limited to a copy of a confirmation letter from South Coast Information Center, or, if the search was in-house, a letter of verification from the PI stating that the search was completed.
2. The letter shall introduce any pertinent information concerning expectations and probabilities of discovery during trenching and/or grading activities.

3. The PI may submit a detailed letter to MMC requesting a reduction to the ¼ mile radius.
- B. PI Shall Attend Precon Meetings
1. Prior to beginning any work that requires monitoring; the Applicant shall arrange a Precon Meeting that shall include the PI, Construction Manager (CM) and/or Grading Contractor, Resident Engineer (RE), Building Inspector (BI), if appropriate, and MMC. The qualified Archaeologist and Native American monitor shall attend any grading/excavation related Precon Meetings to make comments and/or suggestions concerning the Archaeological Monitoring program with the Construction Manager and/or Grading Contractor.
 - a. If the PI is unable to attend the Precon Meeting, the Applicant shall schedule a focused Precon Meeting with MMC, the PI, RE, CM or BI, if appropriate, prior to the start of any work that requires monitoring.
 2. Acknowledgement of Responsibility for Curation (CIP or Other Public Projects)
 - a. The applicant shall submit a letter to MMC acknowledging their responsibility for the cost of curation associated with all phases of the archaeological monitoring program.
 3. Identify Areas to be Monitored
 - a. Prior to the start of any work that requires monitoring, the PI shall submit an Archaeological Monitoring Exhibit (AME) based on the appropriate construction documents (reduced to 11x17) to MMC for approval identifying the areas to be monitored including the delineation of grading/excavation limits.
 - b. The AME shall be based on the results of a site specific records search as well as information regarding the age of existing pipelines, laterals and associated appurtenances and/or any known soil conditions (native or formation).
 - c. MMC shall notify the PI that the AME has been approved.
 4. When Monitoring Will Occur
 - a. Prior to the start of any work, the PI shall also submit a construction schedule to MMC through the RE indicating when and where monitoring will occur.
 - b. The PI may submit a detailed letter to MMC prior to the start of work or during construction requesting a modification to the monitoring program. This request shall be based on relevant information such as review of final construction documents which indicate conditions such as age of existing pipe to be replaced, depth of excavation and/or site graded to bedrock, etc., which may reduce or increase the potential for resources to be present.
 5. Approval of AME and Construction Schedule
 - a. After approval of the AME by MMC, the PI shall submit to MMC written authorization of the AME and Construction Schedule from the CM.

4.4.3.3. During Construction

- A. Monitor Shall be Present During Grading/Excavation/Trenching
1. The Archaeological monitor shall be present full-time during grading/excavation/trenching activities including, but not limited to mainline, laterals, jacking and receiving pits, services and all other appurtenances associated with underground utilities as identified on the AME and as authorized by the CM. The Native American monitor shall determine the extent of their presence during construction related activities based on the AME and provide that information to the PI and MMC. **The Construction Manager is responsible for notifying the RE, PI, and MMC of changes to any construction activities.**
 2. The monitor shall document field activity via the Consultant Site Visit Record (CSVr). The CSVr's shall be faxed by the CM to the RE the first day of monitoring, the last day of monitoring, monthly (**Notification of Monitoring Completion**), and in the case of ANY discoveries. The RE shall forward copies to MMC.
 3. The PI may submit a detailed letter to the CM and/or RE for concurrence and forwarding to MMC during construction requesting a modification to the monitoring program when a field condition such as modern disturbance post-dating the previous trenching activities, presence of fossil formations, or when native soils are encountered may reduce or increase the potential for resources to be present.
- B. Discovery Notification Process
1. In the event of a discovery, the Archaeological Monitor shall direct the contractor to temporarily divert trenching activities in the area of discovery and immediately notify the RE or BI, as appropriate.
 2. The Monitor shall immediately notify the PI (unless Monitor is the PI) of the discovery.
 3. The PI shall immediately notify MMC by phone of the discovery, and shall also submit written documentation to MMC within 24 hours by fax or email with photos of the resource in context, if possible.
- C. Determination of Significance
1. The PI and Native American monitor shall evaluate the significance of the resource. If Human Remains are involved, follow protocol in Section 4.4.2.4 below.
 - a. The PI shall immediately notify MMC by phone to discuss significance determination and shall also submit a letter to MMC indicating whether additional mitigation is required.
 - b. If the resource is significant, the PI shall submit an Archaeological Data Recovery Program (ADRP) and obtain written approval of the program from MMC, CM and RE. ADRP and any mitigation must be approved by MMC, RE and/or CM before ground disturbing activities in the area of discovery will be allowed to resume.

- (1) Note: For pipeline trenching projects only, the PI shall implement the Discovery Process for Pipeline Trenching projects identified below under “D.”
- c. If resource is not significant, the PI shall submit a letter to MMC indicating that artifacts will be collected, curated, and documented in the Final Monitoring Report. The letter shall also indicate that that no further work is required.
 - (1) Note: For Pipeline Trenching Projects Only. If the deposit is limited in size, both in length and depth; the information value is limited and is not associated with any other resource; and there are no unique features/artifacts associated with the deposit, the discovery should be considered not significant.
 - (2) Note: for Pipeline Trenching Projects Only: If significance can not be determined, the Final Monitoring Report and Site Record (DPR Form 523A/B) shall identify the discovery as Potentially Significant.
- D. Discovery Process for Significant Resources - Pipeline Trenching Projects
The following procedure constitutes adequate mitigation of a significant discovery encountered during pipeline trenching activities including but not limited to excavation for jacking pits, receiving pits, laterals, and manholes to reduce impacts to below a level of significance:
 1. Procedures for documentation, curation and reporting
 - a. One hundred percent of the artifacts within the trench alignment and width shall be documented in-situ, to include photographic records, plan view of the trench and profiles of side walls, recovered, photographed after cleaning and analyzed and curated. The remainder of the deposit within the limits of excavation (trench walls) shall be left intact.
 - b. The PI shall prepare a Draft Monitoring Report and submit to MMC via the RE as indicated in Section VI-A.
 - c. The PI shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) the resource(s) encountered during the Archaeological Monitoring Program in accordance with the City’s Historical Resources Guidelines. The DPR forms shall be submitted to the South Coastal Information Center for either a Primary Record or SDI Number and included in the Final Monitoring Report.
 - d. The Final Monitoring Report shall include a recommendation for monitoring of any future work in the vicinity of the resource.

4.4.3.4. Discovery of Human Remains

If human remains are discovered, work shall halt in that area and the following procedures as set forth in the California Public Resources Code (Sec. 5097.98) and State Health and Safety Code (Sec. 7050.5) shall be undertaken:

A. Notification

1. Archaeological Monitor shall notify the RE or BI as appropriate, MMC, and the PI, if the Monitor is not qualified as a PI. MMC will notify the appropriate Senior Planner in the Environmental Analysis Section (EAS).

2. The PI shall notify the Medical Examiner after consultation with the RE, either in person or via telephone.
- B. Isolate discovery site
1. Work shall be directed away from the location of the discovery and any nearby area reasonably suspected to overlay adjacent human remains until a determination can be made by the Medical Examiner in consultation with the PI concerning the provenience of the remains.
 2. The Medical Examiner, in consultation with the PI, will determine the need for a field examination to determine the provenience.
 3. If a field examination is not warranted, the Medical Examiner will determine with input from the PI, if the remains are or are most likely to be of Native American origin.
- C. If Human Remains **ARE** determined to be Native American
1. The Medical Examiner will notify the Native American Heritage Commission (NAHC) within 24 hours. By law, **ONLY** the Medical Examiner can make this call.
 2. NAHC will immediately identify the person or persons determined to be the Most Likely Descendent (MLD) and provide contact information.
 3. The MLD will contact the PI within 24 hours or sooner after the Medical Examiner has completed coordination, to begin the consultation process in accordance with the California Public Resource and Health & Safety Codes.
 4. The MLD will have 48 hours to make recommendations to the property owner or representative, for the treatment or disposition with proper dignity, of the human remains and associated grave goods.
 5. Disposition of Native American Human Remains shall be determined between the MLD and the PI, IF:
 - a. The NAHC is unable to identify the MLD, OR the MLD failed to make a recommendation within 48 hours after being notified by the Commission; OR;
 - b. The landowner or authorized representative rejects the recommendation of the MLD and mediation in accordance with PRC 5097.94 (k) by the NAHC fails to provide measures acceptable to the landowner.
 - c. To protect these sites, the landowner shall do one or more of the following:
 - (1) Record the site with the NAHC;
 - (2) Record an open space or conservation easement; or
 - (3) Record a document with the County.
 - d. Upon the discovery of multiple Native American human remains during a ground disturbing land development activity, the landowner may agree that additional conferral with descendants is necessary to consider culturally appropriate treatment of multiple Native American human remains. Culturally appropriate treatment of such a discovery may be ascertained from review of the site utilizing cultural and archaeological standards. Where the parties are

unable to agree on the appropriate treatment measures the human remains and buried with Native American human remains shall be reinterred with appropriate dignity, pursuant to Section 5.c., above.

D. If Human Remains are **NOT** Native American

1. The PI shall contact the Medical Examiner and notify them of the historic era context of the burial.
2. The Medical Examiner will determine the appropriate course of action with the PI and City staff (PRC 5097.98).
3. If the remains are of historic origin, they shall be appropriately removed and conveyed to the Museum of Man for analysis. The decision for internment of the human remains shall be made in consultation with MMC, EAS, the applicant department and/or Real Estate Assets Department (READ) and the Museum of Man.

4.4.3.5. Night and/or Weekend Work

A. If night and/or weekend work is included in the contract

1. When night and/or weekend work is included in the contract package, the extent and timing shall be presented and discussed at the precon meeting.
2. The following procedures shall be followed.
 - a. No Discoveries
In the event that no discoveries were encountered during night and/or weekend work, the PI shall record the information on the CSV and submit to MMC via fax by 8AM of the next business day.
 - b. Discoveries
All discoveries shall be processed and documented using the existing procedures detailed in Sections 4.4.2.3 – During Construction, and 4.4.2.4 – Discovery of Human Remains.
 - c. Potentially Significant Discoveries
If the PI determines that a potentially significant discovery has been made, the procedures detailed under Section 4.4.2.3 – During Construction shall be followed.
 - d. The PI shall immediately contact the RE and MMC, or by 8AM of the next business day to report and discuss the findings as indicated in Section 4.4.2.3-B, unless other specific arrangements have been made.

B. If night and/or weekend work becomes necessary during the course of construction

1. The Construction Manager shall notify the RE or BI, as appropriate, a minimum of 24 hours before the work is to begin.
2. The RE or BI, as appropriate, shall notify MMC immediately.

C. All other procedures described above shall apply, as appropriate.

4.4.3.6. Post Construction

- A. Submittal of Draft Monitoring Report
1. The PI shall submit two copies of the Draft Monitoring Report (even if negative), prepared in accordance with the Historical Resources Guidelines (Appendix D) which describes the results, analysis, and conclusions of all phases of the Archaeological Monitoring Program (with appropriate graphics) to MMC via the RE for review and approval within 90 days following the completion of monitoring.
 - a. For significant archaeological resources encountered during monitoring, the basis for determining archaeological significance and ADRP or Pipeline Trenching Discovery Process shall be included in the Draft Monitoring Report.
 - b. Recording Sites with State of California Department of Parks and Recreation
The PI shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) any significant or potentially significant resources encountered during the Archaeological Monitoring Program in accordance with the City's Historical Resources Guidelines, and submittal of such forms to the South Coastal Information Center with the Final Monitoring Report.
 2. MMC shall return the Draft Monitoring Report to the PI via the RE for revision or, for preparation of the Final Report.
 3. The PI shall submit revised Draft Monitoring Report to MMC via the RE for approval.
 4. MMC shall provide written verification to the PI of the approved report.
 5. MMC shall notify the RE or BI, as appropriate, of receipt of all Draft Monitoring Report submittals and approvals.
- B. Handling of Artifacts
1. The PI shall be responsible for ensuring that all cultural remains collected are cleaned and catalogued
 2. The PI shall be responsible for ensuring that all artifacts are analyzed to identify function and chronology as they relate to the history of the area; that faunal material is identified as to species; and that specialty studies are completed, as appropriate.
- C. Curation of artifacts: Accession Agreement and Acceptance Verification
1. The PI shall be responsible for ensuring that all artifacts associated with the survey, testing and/or data recovery for this project are permanently curated with an appropriate institution. This shall be completed in consultation with MMC and the Native American representative, as applicable.

2. The PI shall submit the Accession Agreement and catalogue record(s) to the RE or BI, as appropriate for donor signature with a copy submitted to MMC.
 3. The RE or BI, as appropriate shall obtain signature on the Accession Agreement and shall return to PI with copy submitted to MMC.
 4. The PI shall include the Acceptance Verification from the curation institution in the Final Monitoring Report submitted to the RE or BI and MMC.
- D. Final Monitoring Report(s)
1. The PI shall submit one copy of the approved Final Monitoring Report to the RE or BI as appropriate, and one copy to MMC (even if negative), within 90 days after notification from MMC of the approved report.
 2. The RE shall, in no case, issue the Notice of Completion until receiving a copy of the approved Final Monitoring Report from MMC which includes the Acceptance Verification from the curation institution.

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4.5 HYDROLOGY/WATER QUALITY

4.5.1 Existing Conditions

Watershed and Drainage Characteristics

The study area for this hydrology/water quality evaluation includes portions of 7 of the 11 HUs identified in the 1994 San Diego RWQCB *Water Quality Control Plan for the San Diego Basin* (Basin Plan). The Basin Plan provides guidance and directives related to the management and control of water quality within the San Diego Region (Region 9), an area encompassing approximately 3,900 square miles in the southwestern portion of California. HUs are defined in the Basin Plan as “[t]he entire watershed of one or more streams...” Summary descriptions of the seven HUs are provided below, with maintenance area locations and descriptions included on Figure 3-1 and Table 3-1 in Chapter 3.0, Project Description.

- San Dieguito HU (5.0) – The San Dieguito HU is a generally rectangular-shaped area of approximately 350 square miles associated with the San Dieguito River watershed. Major tributaries and water bodies include Santa Ysabel and Santa Maria creeks, and Lakes Sutherland, and Lake Hodges. Four maintenance areas identified under the proposed plan are located within the San Dieguito HU.
- Peñasquitos HU (6.0) – The Peñasquitos HU is a rectangular-shaped area of approximately 170 square miles associated with several smaller drainages including Peñasquitos, Rose Canyon, and San Clemente Canyon creeks. Water bodies within this HU include Los Peñasquitos (Sorrento) Lagoon, Mission Bay, and Miramar reservoir.
- San Diego HU (7.0) – The San Diego HU is a long, generally triangular-shaped area of approximately 440 square miles that encompasses the San Diego River watershed. Major water bodies within this area include El Capitan, San Vicente, and Murray reservoirs, as well as Lake Jennings and Lake Cuyamaca.
- Pueblo San Diego HU (8.0) – The Pueblo San Diego HU is a small, rectangular area encompassing approximately 60 square miles. No major drainages occur within this HU, with much of the western HU boundary adjacent to San Diego Bay.
- Sweetwater HU (9.0) – The Sweetwater HU is a linear area encompassing approximately 160 square miles associated with the Sweetwater River watershed. Major water bodies within this unit include the Sweetwater and Loveland reservoirs, as well as the southern portion of San Diego Bay.

- Otay HU (10.0) – The Otay HU is a club-shaped area of approximately 160 square miles associated with the Otay River and related tributaries including Jamul and Dulzura creeks. Major water bodies within this HU include Upper and Lower Otay reservoirs.
- Tijuana HU (11.0) – The Tijuana HU is a triangular-shaped area of approximately 470 square miles that encompasses the portions of the Tijuana River watershed north of the international border. Principal drainages include portions of the Tijuana River in the westernmost portion of the HU, as well as Campo and Cottonwood creeks. Major water bodies within this unit include Morena reservoir, Barrett Lake, and the Tijuana Estuary.

All of the described HUs and associated drainage courses are ultimately tributary to the Pacific Ocean, with several encompassing coastal lagoons and embayments, as noted above.

Groundwater

Groundwater resources within the San Diego Region occur within unconsolidated alluvial materials, semi-consolidated sediment, and bedrock. The principal aquifers within the study area are mainly alluvial and associated with larger drainage courses, including the San Dieguito, San Diego, Sweetwater, Otay, and Tijuana Rivers. Alluvial aquifers in the San Diego Region are typically: (1) associated with unconsolidated deposits of mostly of sand and gravel; (2) shallow in depth, generally not exceeding 200 feet; (3) unconfined (i.e., not under pressure due to confinement by impermeable strata); (4) recharged primarily through infiltration of surface flows (e.g., precipitation and irrigation); and (5) subject to increased contaminant levels in more developed areas. A notable exception to the above discussion occurs in the form of the San Diego Formation Aquifer, which is located in the southwestern portion of San Diego County and occurs in sedimentary strata including sandstone, conglomerate, bentonite, and mudstone. The noted aquifer extends from Mission Bay south to the international border, and east into areas including Mission Valley, Otay Mesa, and the Tijuana River Valley. In addition to the described groundwater sources, perched aquifers also may occur locally within the study area. Perched groundwater generally consists of one or more unconfined aquifers underlain by impermeable or semi-permeable strata, with such aquifers typically limited in volume and extent but subject to variation with seasonal precipitation and/or irrigation levels.

Water Quality

The study area includes substantial urban development as well as significant areas of landscaping (e.g., parks), agricultural use, and open space (including both previously disturbed areas and native habitats). Contaminants are generated from all of these areas, and are disseminated in association with both point and non-point sources. Specifically, point sources encompass

defined flows or discharges such as drainage courses, storm drains, and pipelines, while non-point sources include unconfined drainage such as overland or sheet flow, and are generally not traceable to a specific source.

Urban runoff typically contains greater concentrations of contaminants than non-urban runoff, and potentially includes pollutants such as sediment, floatables (e.g., trash and debris), toxic chemicals (e.g., pesticides and herbicides), organic materials, oxygen-demanding substances (e.g., animal waste), metals, hydrocarbons (e.g., oil and grease), pathogens (e.g., bacteria and viruses), and nutrients (e.g., nitrogen and phosphorus). All of the described contaminants can adversely affect receiving and coastal waters, as well as associated plant and animal life, and human health and safety. Specific contaminant issues and sources may include: (1) the presence of pathogens in coastal waters and related effects to human health due to upstream conditions such as leaking sewer or septic systems; (2) the discharge of toxic concentrations of contaminants such as oil and grease, solvents, and pesticides into biological environments (e.g., wetlands) and related effects to plant and animal life, with contaminant sources including roads, parking areas, and construction sites; (3) the occurrence of eutrophication (e.g., algal blooms) in downstream receiving waters as a result of excessive nutrients from sources including chemical fertilizers; (4) the downstream transport of eroded material (i.e., sedimentation) from sources such as construction-related grading and excavation, with associated adverse effects to aquatic life from conditions including turbidity; and (5) the discharge of metals from sources such as the deterioration of galvanized metal, paint or treated lumber, and associated toxic effects to downstream plant and animal life. A summary of typical contaminant sources and loadings for various land use types is provided in Tables 4.5-1 and 4.5-2. While contaminant levels often exhibit spikes in association with storm runoff, dry season contaminant levels also are considerable due to the large-scale use of imported water for purposes such as landscape and agricultural irrigation.

Historic and current surface water quality monitoring has been or is being conducted within the study area watersheds (among other areas) in association with mandates under the CWA, associated requirements of NPDES, and related local storm water standards (refer to the discussion of regulatory framework below for additional information). Specifically, these on-going efforts include wet and dry season monitoring, bioassessment studies, ambient lagoon/bay monitoring, and coastal storm drain monitoring, most of which have been regularly conducted since 1998. The results of the described monitoring efforts have documented the regular exceedence of established water quality standards (e.g., the RWQCB Basin Plan) for a number of contaminant levels/conditions, including fecal coliform, total dissolved solids (TDS), total suspended solids (TSS), turbidity, chemical pesticides (e.g., diazinon), metals (e.g., lead and copper), chemical oxygen demand (COD), biological oxygen demand (BOD), and toxicity to aquatic test species.

CONTAMINANT	TYPICAL CONTAMINANT SOURCES
Sediment and floatables	Streets, driveways, landscaping, construction, atmospheric deposition, erosion
Pesticides and herbicides	Landscaping, roadsides, utility right-of-ways, soil wash-off
Organic materials	Landscaping, trash collection/disposal areas, animal wastes
Oxygen-demanding substances	Landscaping, animal wastes, trash collection/disposal areas, leaky sanitary sewer lines or septic systems
Metals	Automobiles, bridges, atmospheric deposition, industrial areas, soil erosion, corroding metal surfaces, combustion processes
Oil and grease/hydrocarbons	Roads, driveways, parking lots, vehicle maintenance areas, gas stations, illicit dumping to storm drains
Bacteria and viruses	Landscaping, roads, leaky sanitary sewer lines or septic systems, sanitary sewer cross-connections, animal wastes
Nitrogen and phosphorus	Landscaping fertilizers, atmospheric deposition, automobile exhaust, soil erosion, animal wastes, detergents

Source: U.S. Environmental Protection Agency (USEPA 1999)

Land Use ¹	Contaminant ²									
	TSS	TP	TK N	NH ₃ - N	NO ₂ + NO ₃ - N	BOD	COD	Pb	Zn	Cu
Commercial	1000	1.5	6.7	1.9	3.1	62	420	2.7	2.1	0.4
Parking Lot	400	0.7	5.1	2	2.9	47	270	0.8	0.8	0.04
HDR	420	1	4.2	0.8	2	27	170	0.8	0.7	0.03
MDR	190	0.5	2.5	0.5	1.4	13	72	0.2	0.2	0.14
LDR	10	0.04	0.03	0.02	0.1	N/A ³	N/A	0.01	0.04	0.01
Freeway	880	0.9	7.9	1.5	4.2	N/A	N/A	4.5	2.1	0.37
Industrial	860	1.3	3.8	0.2	1.3	N/A	N/A	2.4	7.3	0.5
Park	3	0.03	1.5	N/A	0.3	N/A	2	0	N/A	N/A
Construction	6000	80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Source: USEPA (1999)

¹HDR=High Density Residential; MDR=Medium Density Residential; LDR=Low Density Residential

²TSS=Total suspended solids; TP=Total Phosphorus; TKN=Total Kjeldahl Nitrogen; NH₃-N=Ammonia-Nitrogen; NO₂+NO₃-N=Nitrite+Nitrate minus Nitrogen; BOD=Biochemical Oxygen Demand; COD=Chemical Oxygen Demand; Pb=Lead; Zn=Zinc; Cu=Copper

³N/A=Not available; insufficient data to characterize

Based on the above information and the extensive level of urban development within the study area, overall surface water quality is expected to be generally moderate to poor. Groundwater quality within the study area also is expected to be generally moderate to poor.

Impaired Water Bodies within the San Diego Region and the Program Study Area

The State Water Resources Control Board (SWRCB) and RWQCBs produce bi-annual qualitative/quantitative assessments of statewide and regional water quality conditions. Since 1998, these assessments have focused on CWA Section 303(d) impaired water listings and priority status for assignment of total maximum daily load (TMDL) requirements. The Section 303(d) and TMDL assessments involve prioritizing waters on the basis of water quality (i.e., impaired) status and the necessity for assigning quantitative contaminant load restrictions (i.e., TMDL), with these data then submitted to the USEPA for review and approval. The most recent 303(d) list for California (including the San Diego Region) covers the period of 2004-2006, and was approved by the USEPA in June 2007 (SWRCB 2007). The current list identifies over 100 individual impaired waters for the San Diego Region (including numerous creeks, surface reservoirs, and coastal water segments), with 46 associated pollutant/stressor categories. The seven hydrologic units identified above that are within, or could be affected by, the proposed plan include a number of the listed water bodies and pollutants/stressors. Many of the point and non-point flows within the study area drain directly or indirectly (i.e., via tributaries) into listed impaired water bodies, with these areas thus having the potential to adversely affect water quality.

Regulatory Framework

Maintenance activities conducted under the MSWSMP would be subject to a number of regulatory requirements related to hydrology and water quality. The principal sources for these requirements include the CWA, the State Porter-Cologne Water Quality Act (Porter-Cologne Act), the San Diego RWQCB Basin Plan, and City grading and storm water standards, as outlined below.

Clean Water Act Standards

The 1972 CWA established the NPDES permit program to regulate the discharge of pollutants to waters of the U.S. from industrial, commercial, institutional, and other point sources. Amendments to the CWA in 1987 established a framework for regulating urban storm water runoff and other non-point source pollutants. Specific NPDES requirements that may be applicable to the proposed maintenance activities are described below.

General Construction Activity Permit

Conformance with the Construction Activity Permit is required prior to disturbance exceeding one acre. This permit is issued by the SWQCB under an agreement with the USEPA. Specific

conformance requirements include implementing a Storm Water Pollution Prevention Plan (SWPPP) and an associated monitoring program as well as a Storm Water Sampling and Analysis Strategy (SWSAS) for applicable projects (i.e., those discharging directly into waters impaired due to sedimentation, or involving potential discharge of non-visible contaminants that may exceed water quality objectives). These plans identify detailed measures to prevent and control the off-site discharge of contaminants in storm water runoff. Specific pollution control measures typically involve the use of best available technology economically achievable (BAT) and/or best conventional pollutant control technology (BCT) levels of treatment, with these requirements implemented through BMPs. While site-specific BMPs can vary with conditions such as proposed grading parameters, slope and soil characteristics, detailed guidance for construction-related BMPs is provided in the Construction Permit text and the City Municipal Code *Land Development Manual-Storm Water Standards*, as well as additional sources including the *Storm Water Best Management Practices Handbooks*, *EPA Nationwide Menu of Best Management Practices for Storm Water Phase II*, and the California Department of Transportation (Caltrans) *Storm Water Quality Handbooks*.

General Groundwater Extraction Permits

Conformance with the noted groundwater permits is required by the RWQCB prior to disposal of extracted groundwater that is tributary to San Diego Bay (Groundwater Permit I), or waters other than San Diego Bay (Groundwater Permit II). For Groundwater Permit I, all discharges of extracted groundwater are subject to the specific numeric and narrative discharge criteria identified in the permit text and the RWQCB Basin Plan (as described below), including standards related to petroleum compounds, organic compounds, metals, toxic pollutants, suspended and settleable solids, and solvents. Requirements under Groundwater Permit II are applicable to discharge activities which either: (1) involve more than 100,000 gallons per day (gpd) of discharge; or (2) include contaminants that would exceed applicable discharge requirements, including the Basin Plan water quality and beneficial use objectives described below. Compliance with these standards typically involves using BMPs for a number of physical and/or chemical parameters, such as (depending on site-specific conditions) erosion/sedimentation controls and testing/treatment of extracted groundwater prior to disposal.

Municipal Storm Water Permit

The Municipal Storm Water Permit identifies waste discharge requirements for urban runoff related to applicable new development, redevelopment and existing development sites under the jurisdiction of co-permittees (including the City). The intent of these requirements is to protect environmentally sensitive areas and provide conformance with applicable water quality standards, including the CWA and the RWQCB Basin Plan (as outlined below). Identified

requirements involve using a number of planning, design, operation, treatment, and enforcement measures to reduce pollutant discharges from individual development projects (and the municipal storm drain system as a whole) to the maximum extent practicable (MEP). Specifically, these measures include: (1) using jurisdictional planning efforts (such as discretionary general plan approvals) to provide water quality protection; (2) requiring coordination between individual jurisdictions to provide watershed-based water quality protection; (3) implementing applicable low impact development, site design, source control, and volume- or flow-based (as defined in the permit text) treatment control BMPs to avoid, reduce, and/or mitigate effects including increased erosion and sedimentation, hydromodification,¹ and the discharge of contaminants in urban runoff; and (4) using appropriate education/outreach, monitoring, reporting, and enforcement efforts to ensure proper implementation, documentation, and (as appropriate) modification of permit requirements.

Pursuant to the described Municipal Storm Water Permit requirements, the City (along with other applicable co-permittees) developed the SUSMP to address storm water quality issues, and adopted the related Storm Water Standards Manual. These documents provide (among other things) direction for applicants to determine if and how they are subject to City storm water and related Municipal Storm Water Permit standards, and identify requirements for the inclusion of permanent BMPs to provide regulatory conformance for applicable projects. The current City Storm Water Standards were most recently updated in March 2008 to specifically address interim requirements under the 2007 Municipal Permit.

The Municipal Storm Water Permit also requires co-permittees to fund and implement Urban Runoff Management Plans (URMPs) to document the specific runoff management measures and programs proposed to comply with the Municipal Permit requirements. Specifically, such measures would ensure that pollutant discharges in urban runoff are reduced to the MEP, and that such discharges would not cause or contribute to a violation of applicable water quality standards. The URMPs involve evaluations conducted on an individual jurisdictional basis (JURMPs), on a multi-jurisdictional watershed-based approach (WURMPs), and on a multi-jurisdictional regional basis (RURMP). Pursuant to these requirements, the City has prepared a JURMP and participated in several WURMPs and the RURMP that encompass portions of the Program study area, with additional information provided below under the discussion of City Standards.

¹Hydromodification is defined in the Municipal Permit as the change in natural watershed hydrologic processes and runoff characteristics (e.g., infiltration and overland flow) caused by urbanization or other land use changes that result in increased stream flows, sediment transport, and morphological changes in the channels receiving the runoff.

RWQCB Basin Plan Requirements

The Porter-Cologne Act and the CWA require that Water Quality Control Plans be prepared for the nine state-designated hydrologic basins in California. Basin Plans guide the conservation and enhancement of water resources and establish beneficial uses of inland surface waters, tidal prisms, harbors, and groundwater basins for each of the nine regions within the state. The San Diego RWQCB Basin Plan establishes a number of beneficial uses and water quality objectives for surface and groundwater resources. Beneficial uses are generally defined in the Basin Plan as “the uses of water necessary for the survival or well being of man, plus plants and wildlife.” Identified beneficial uses include categories such as municipal, industrial, agricultural, recreational, and biological resource applications, with such uses identified for individual hydrologic designations and/or receiving waters in the Basin Plan. Water quality objectives identified in the Basin Plan are based on established beneficial uses, and are defined as “the limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses.” Water quality objectives for individual surface and groundwater resources can include both narrative requirements and specific numeric objectives. Narrative objectives typically include quantitative and/or qualitative standards for identified contaminants, as well as general anti-degradation requirements. In addition to the beneficial use and water quality objective criteria described above, the Basin Plan also identifies implementation programs to protect beneficial uses, establishes surveillance and monitoring activities to evaluate the effectiveness of the Basin Plan, and incorporates all applicable State and Regional Board plans and policies by reference.

In concert with the described Basin Plan policies and directives, the San Diego RWQCB regulates waste discharge and reclaimed water use to minimize and control adverse effects on the quality and beneficial uses of surface and groundwater. To this end, the RWQCB issues permits, (i.e., waste discharge requirements and master reclamation permits), which require that waste and reclaimed water not be discharged in a manner that would cause a violation of applicable water quality objectives or adversely affect identified beneficial uses.

City of San Diego Storm Water Standards

Construction of any project in the City is subject to applicable hydrology/water quality requirements identified in the following: (1) pertinent elements of the Municipal Code, including sections related to storm water management and discharge control (Chapter 4, Article 3, Division 3), and grading (Chapter 14, Article 2, Division 1); (2) the related Land Development Manual/Storm Water Standards (Storm Water Standards Manual, City 2008); (3) the SUSMP and JURMP/WURMP/RURMP documents as noted above under NPDES requirements (and described

in more detail below); and (4) applicable portions of the MSCP related to protecting and enhancing biological ecosystems and associated water quality.

San Diego Municipal Code and Related Grading, Drainage, and Storm Water Standards

Pursuant to the City Storm Water Management and Discharge Control Ordinance (San Diego Municipal Code 43.03 et seq.), all new development in the City is required to comply with the storm water pollution prevention measures identified in Chapter 14, Article 2, Division 1 (grading), and Chapter 14, Article 2, Division 2 (storm water runoff control and drainage) of the Land Development Code. These measures require that development actions prevent erosion, sedimentation, and pollutant discharge to the MEP. Both temporary (construction) and permanent erosion, sedimentation, and water pollution control measures are required to be implemented to the satisfaction of the City, including efforts such as erosion prevention; sediment control; phased grading; BMP selection and operation; and monitoring, maintenance, and (as necessary) modification of implemented measures. The referenced Storm Water Standards Manual provides background information on storm water regulations and the relationship between City, state, and federal standards, and also gives comprehensive direction for maintaining conformance with all applicable storm water requirements. Specifically, the Storm Water Standards Manual identifies procedures for determining applicable storm water requirements, preparing and submitting appropriate plans and technical materials, selecting pertinent short- (construction) and long-term BMPs, and identifying and implementing monitoring and maintenance requirements for BMPs and related programs.

Urban Runoff Management Programs

As discussed above under CWA Standards, the NPDES Municipal Permit requires copermitees to prepare and implement URMPs based on JURMP, WURMP, and RURMP considerations. Pursuant to these requirements the City adopted a JURMP, with the overall goal of this plan to “[r]educe the amount of pollutants carried by urban runoff.” To this end, the City JURMP provides detailed direction on topics such as:

- Ensuring that discharges from municipal urban runoff conveyance systems do not cause or contribute to a violation of water quality standards;
- Effectively prohibiting non-urban runoff discharges; and
- Reducing the discharge of pollutants from urban runoff conveyance systems to the MEP through efforts such as education and enforcement.

Detailed implementation activities for each program area listed above are contained in the JURMP, with individual City departments responsible for performing those tasks that are applicable and necessary to be in compliance with the Municipal Permit and related City standards. Specifically, this includes efforts such as appropriate staff training, monitoring/reporting, performing self-assessments, and modifying programs and activities as necessary.

The City has participated in and co-authored WURMPs for a number of applicable watersheds, including the San Dieguito, Peñasquitos, San Diego River, Mission Bay and La Jolla, San Diego Bay, and Tijuana River watersheds. All of these plans address similar issues as the described JURMP, but are focused on a watershed-based approach that extends across jurisdictional boundaries and entails coordination and cooperation between the various managing agencies.

The City also has participated in and co-authored a RURMP to address similar issues described in the JURMP that are regional in nature and more efficiently addressed at the regional level through collaboration with all copermittees subject to the Municipal Permit.

Standard Urban Storm Water Mitigation Plan

Per requirements in the NPDES Municipal Permit, a Model SUSMP was developed by the Municipal Permit copermittees to address post-construction urban runoff pollution from new development and redevelopment projects that fall under “priority project” categories. The primary goal of the Model SUSMP is to develop and implement practicable policies to ensure that urbanization does not increase the urban runoff flow rates, velocities, or pollutant loads from a project site. This goal may be achieved through site-specific controls and/or drainage area-based or shared structural treatment controls. The Model SUSMP was collectively adopted by the copermittees (including the City) and contains BMPs that must be used for certain designated project types to achieve this goal, which also must be adopted by copermittees in their own Local SUSMPs.

Under the Local (City) SUSMP, the City of San Diego reviews and approves the SUSMP project plan(s) as part of the development plan approval process for discretionary projects, and prior to issuing permits for ministerial projects. To allow flexibility in meeting SUSMP design standards, structural treatment control BMPs may be located on or off site, used singly or in combination, or shared by multiple developments, provided certain conditions are met.

All new development and significant redevelopment projects that fall into one of the various “priority project” categories are subject to these SUSMP requirements (e.g., residential, commercial, or hillside developments that exceed established criteria for size or extent). In the instance where a project feature, such as a parking lot, falls into a priority project category, the

entire project is subject to the associated SUSMP requirements. The majority of the established priority project categories pertains, to urban development and would not apply to the types of activities anticipated under the proposed plan. Two of the noted priority project categories do encompass non-urban development, however, including hillside development and projects that discharge to environmentally sensitive lands.

In addition to the priority project categories indicated above, the City has established standard permanent storm water requirements that apply to projects involving any of the following conditions:

- New impervious areas such as rooftops, roads, parking lots, driveways, paths, and sidewalks;
- New pervious landscape areas and irrigation systems;
- Permanent structures within 100 feet of any natural water bodies;
- Trash storage areas;
- Liquid or solid material loading and unloading areas;
- Vehicle or equipment fueling, washing, or maintenance area;
- A General NPDES Permit for Storm Water Discharges Associated with Industrial Activities (except construction);
- Commercial or industrial waste handling or storage, excluding typical office or household waste;
- Any grading or ground disturbance during construction: and
- Any new storm drains, or alterations to existing storm drains.

Projects involving one or more discretionary actions and including any of the above improvements or activities are subject to the previously described requirements of the City Storm Water Standards Manual. Depending on the nature, location, and characteristics of the proposed project/activities, various BMPs are available to address associated concerns, including site design, source control, and treatment control measures. Appropriate BMPs are identified on a project-by-project basis, as identified on project plans and specifications submitted in conjunction with the application for the necessary discretionary approval(s).

4.5.2 Impacts

Significance Criteria

According to the City's Significance Determination Thresholds (2007), impacts to hydrology would be significant if the project would:

- Substantially increase flooding of upstream or downstream properties or to environmental resources;
- Substantially modify existing drainage patterns if there would be significant impacts on downstream properties or to environmental resources;
- Grade, clear, or grub more than one acre of land that would drain into a sensitive water body or stream causing uncontrolled runoff resulting in erosion and sedimentation; or
- Extract water from an aquifer resulting in decreased aquifer recharge resulting in significant impacts on hydrologic conditions and well-water supplies.

According to the City's Significance Determination Thresholds (2007), impacts to water quality would be significant if the project would:

- Grade, brush, or grub more than one acre of land, especially into slopes over a 25 percent grade, and would drain into any water body or stream (except in limited cases, projects which would disturb over five acres of land would have a significant impact);
- Result in loss of vegetation on slopes (e.g., brush management measures); and/or
- Substantially degrade water quality in a manner that could adversely affect human health/safety or biological resources due to increased sediment loads during site grading and construction as well as urban runoff pollution during the life of the project.

Analysis of Impacts

Issue 1: Would the MSWSMP result in an increase in impervious surfaces or a substantial alteration of on and offsite drainage patterns, affecting the rate and volume of surface runoff, associated flooding hazards, or aquifer recharge?

Maintenance activities under the MSWSMP would not include the installation of additional impervious surfaces such as pavement or structures under any of the identified maintenance scenarios. Accordingly, no adverse impacts related to increased runoff volumes or velocities, associated flooding hazards, or long-term aquifer recharge would occur from the MSWSMP. It also should be noted, as discussed in Subchapter 3.2, that the objectives of the MSWSMP include efforts to reduce potential flood hazards from the accumulation of materials and vegetation within storm water facilities, and related effects to system operation and capacity. As a result, the anticipated maintenance activities would be expected to generate beneficial effects with respect to storm water system function.

Maintenance activities would temporarily affect drainage patterns. Specifically, such effects would be related to the removal of sediment, debris, and vegetation which obstruct flow patterns; the potential construction of access ramps within local drainages; and the implementation of water by-pass operations. No significant adverse drainage alteration impacts would result from these activities. The proposed removal of accumulated sediment, debris, and vegetation would eliminate obstructions to flow within the maintained facilities. While such activities may result in minor local changes to drainage patterns within these facilities (i.e., with flows no longer diverted around such obstructions), the changes would be beneficial in that capacity and performance would be improved by increasing the ability of storm water facilities to function as designed. Overall drainage patterns within the maintained facilities would not be changed.

The construction of access ramps to facilitate equipment access in storm water facilities would generally not result in substantial obstructions that would significantly affect drainage patterns. Such structures would typically be located along one side of the drainage (i.e., they would not span the drainage or extend into the low-flow portion of the channel), and would be removed after completion of maintenance operations.

Water by-pass operations would result in minor, temporary changes to drainage patterns in associated areas by erecting barriers to accommodate maintenance operations and redirecting flows around the barriers. Because diverted flows would be temporary in nature and would be directed to downstream locations within the same storm water facilities (e.g., drainage channels), no associated significant impacts would result.

Maintenance activities would not affect groundwater levels. As no new impermeable surface would be added to the drainage facilities, maintenance would not restrict the absorption of water into the groundwater table. The short-term nature of temporary by-pass operations would minimize any effect on local groundwater levels. In reality, reducing the vegetation within the drainage channel would eliminate the loss of potential groundwater that would otherwise result from transpiration.

Significance of Impacts

Program implementation would not: (1) substantially alter on- or off-site drainage patterns; (2) result in any increase in impervious surface area or associated runoff volumes and velocities; (3) generate any associated flooding hazards; or (4) substantially affect the level or recharge capacity of any groundwater aquifers. As a result, no significant hydrology impacts are anticipated.

Mitigation Measures, Monitoring and Reporting Program

No significant impacts are identified; therefore, no mitigation is required.

Issue 2: Would the MSWSMP increase pollutant discharges, during or following maintenance, including down stream sedimentation, to receiving waters, including to water quality sensitive areas or to impaired water bodies on the Clean Water Act §303(d) list?

Potential impacts to water quality from maintenance activities include erosion and sedimentation from grading activities, the onsite use and storage of hazardous materials related to mechanized equipment use (e.g., fuels, etc.), and trash generation related to maintenance operations/crews, and the dewatering of dredged material, as described below.

Erosion and Sedimentation

Potentially significant erosion and sedimentation impacts would be associated with the following maintenance activities: (1) use of mechanized equipment to remove accumulated materials in unlined drainage facilities; (2) construction of access roads, ramps, and/or staging areas for both concrete-lined and unlined facilities; (3) replacement of riprap in channel banks or energy dissipation structures; and (4) water bypass operations.

No significant erosion and sedimentation impacts would be associated with hand clearing activities or the use of mechanized equipment for maintenance in concrete-lined facilities. Hand clearing activities would not involve the use of mechanized equipment or the construction of new access/staging facilities. As vegetation would be removed above ground, the root system would continue to hold soil. Mechanized equipment used in concrete-lined facilities would not entail any grading or disturbance of previously undisturbed or compacted earthen areas which could promote erosion.

Blading and grubbing within unlined channels would create the greatest potential for erosion. Areas within the primary channel exposed by maintenance activities would pose a substantial source of sediment if proper erosion control measures are not implemented. As discussed in Section 3.3.1, the MSWSMP includes specific maintenance protocols designed to minimize erosion and sedimentation resulting from maintenance activities outside the primary channel.

Relevant protocols include:

- Protocol #1 Minimize new ground disturbance to the maximum extent feasible, through efforts such as limiting grading to the minimum areas required, and restricting vehicle access and maneuvering to designated areas (with an emphasis on using existing roads).
- Protocol #2 Minimize maintenance operations during the rainy season (October 1 to April 30).
- Protocol #3 When maintenance cannot be avoided during the rainy season, prepare and implement a “weather triggered” action plan for activities to provide enhanced erosion and sediment control measures prior to predicted storm events (i.e., 40 percent or greater chance of rain).
- Protocol #4 Schedule grading, earth disturbing and restoration activities as far in advance of the start of the rainy season as feasible, to maximize the opportunity for revegetated areas to establish prior to the advent of storm runoff.
- Protocol #5 Stabilize access roads (or other graded areas) proposed to be permanently retained through the use of measures such as permeable protective surfacing (e.g., grasscrete), storm water diversion structures (e.g., brow ditches or berms), or crossing structures (e.g., culverts).
- Protocol #6 During maintenance, use sediment controls within channels, access paths, and staging areas to protect the maintenance areas and prevent off-site sediment transport, including measures such as silt fence, fiber rolls, gravel bags, temporary sediment basins, check dams, stabilized construction access points (e.g., shaker plates), containment barriers (e.g., silt fence, fiber rolls, and/or berms) for material stockpiles, and properly fitted covers for material transport vehicles. Remove temporary erosion control measures upon completion of maintenance to avoid encouraging sediment accumulation in storm water system.
- Protocol #7 Store BMP materials on site to provide “standby” capacity adequate to provide complete protection of exposed areas and prevent off-site sediment transport.

Protocol #8 Provide appropriate training for personnel responsible for BMP installation and maintenance.

Protocol #9 As appropriate, implement revegetation efforts on all slopes, access paths, and staging areas using native or naturalized, non-invasive plant material as soon as feasible during or after maintenance operations. Revegetated areas shall be monitored and maintained for a period of not less than 25 months.

Protocol #10 Monitor erosion control measures during the rainy season to assure effectiveness.

Protocol #11 Implement sampling/analysis, monitoring/reporting and post-construction management programs per NPDES and/or City requirements.

Protocol #12 Comply with local dust control requirements, including measures such as material stockpile and transport vehicle control (as noted above), regular watering or use of soil binders, and restriction of grading during high winds.

The replacement of riprap could facilitate erosion through the use of mechanized equipment to “prepare” these areas for rock placement. The erosion potential would be limited to the brief period between the removal of the existing riprap and the riprap replacement. As riprap replacement would not occur during high rainfall events, the erosion risk would be minimal. Potential water bypass activities would involve the redirection and/or discharge of water, with associated potential to cause erosion and sedimentation in graded or destabilized areas (e.g., vegetation removal sites). Riprap or other techniques would be used to reduce the discharge velocity of redirected water to prevent downstream erosion.

Construction-related Hazardous Materials/Trash Generation

Maintenance activities involving the use of mechanized equipment would result in the introduction of hazardous materials such as vehicle fuels/lubricants. The accidental discharge of construction-related hazardous materials or trash into the drainage system could potentially result in significant impacts to local and downstream receiving waters, particularly materials such as petroleum compounds that are potentially toxic to aquatic species in low concentrations. However, implementation of the protocols contained in Chapter 5 of the MSWSMP would serve to reduce potential impacts to below a level of significance. These protocols include the following:

- Minimize the amount of hazardous materials stored on site, and restrict storage/use locations to areas at least 50 feet from storm drains and surface waters;

- Store construction-related trash in areas at least 50 feet from storm drains and surface waters, and implement regular (at least weekly) removal of trash by a licensed operator for disposal at an approved site;
- Cover and/or enclose storage facilities for hazardous materials and trash, and maintain accurate and up-to-date written hazardous material inventories;
- Store hazardous materials off the ground surface (e.g., on pallets) and in their original containers, with the legibility of labels protected. Replace damaged labels;
- Use berms, ditches, and/or impervious liners (or other applicable methods) in material storage and vehicle/equipment maintenance and fueling areas to provide a containment volume of 1.5 times the volume of stored/used materials and prevent discharge in the event of a spill;
- Place warning/information signs in areas of hazardous material use or storage to identify the types of materials present, as well as applicable use restrictions and containment/clean-up procedures;
- Mark storm drains (or other appropriate locations) to discourage inappropriate hazardous material or trash disposal;
- Provide training for applicable employees in the proper use, handling, and disposal of hazardous materials as well as appropriate action to take in the event of a spill;
- Store readily accessible absorbent and clean-up materials in applicable locations such as hazardous material storage and vehicle/equipment maintenance areas;
- Post regulatory agency telephone numbers and a summary guide of clean-up procedures in a conspicuous location at or near the job site trailer; and
- Monitor and maintain hazardous material use/storage facilities and operations to ensure proper working order on at least a monthly basis.

Urban Runoff

The storm water facilities that would be maintained under the proposed MSWSMP do not generate the pollutants associated with urban runoff. As described earlier, urban runoff and the associated pollutants are generated by development that surrounds the storm water facilities. As discussed earlier, implementation of storm water controls within existing and new development will be the primary means by which urban pollution will be reduced. Although the storm water facilities do not generate the pollutants associated with urban runoff, several characteristics of the storm water facilities function to remove urban pollutants from runoff as it is transported through the facility.

One way storm water facilities remove urban runoff pollutants is through a process known as infiltration. The porous sediments which typically are associated with earthen-bottom channels allow some of the runoff to soak into the ground. In the process, urban pollutants attached to the water molecules of surface runoff are trapped in the sediment and removed from downstream water bodies. Furthermore, the process of infiltration generally requires slow storm water velocities to allow sufficient time for the infiltration process to occur. Unless, containing substantial amounts of sediment, concrete channels do not provide opportunities for infiltration as a means to remove urban pollutants.

Absorption through the root systems of vegetation associated with the bottom of storm water facilities offers a second way that storm water facilities can remove urban pollutants. This process is commonly referred to as biofiltration. Typically, the following types of urban pollutants can be absorbed by wetland plants: phosphorus, hydrocarbons and trace metals. Similar to the infiltration process in the bottom sediments, the absorbed pollutants are trapped in the plants and removed from runoff. However, conditions that promote root absorption are relatively uncommon in storm water facilities. Absorption through the root systems of channel vegetation requires prolonged exposure (often in excess of 24 hours) to provide sufficient time for the roots to absorb pollutants. In most cases, ponding does not occur in the storm water facilities that would be maintained by the MSWSMP. In addition, urban pollutants are commonly concentrated in the low flows associated with irrigation runoff from urban areas. These low flows often pass through narrow portions of the storm water facilities that are void of vegetation.

Vegetation can also assist with the infiltration process by slowing storm water velocities and allowing more time for infiltration. By slowing the velocity of storm water, vegetation also promotes sedimentation of water-borne sediments and the urban pollutants attached to those sediments.

Determining the impact of storm water facility maintenance on the natural controls of urban runoff pollutants associated with those facilities is difficult at the programmatic level for several reasons. First, not all of the channels offer no natural control capacity. Most notably, concrete-lined channels offer minimum or no opportunities for infiltration and root absorption. Second, the degree of maintenance required to achieve flood control is expected to vary. Where sufficient flood control capacity exists to allow vegetation to remain in the facilities, the natural processes would not be completely eliminated.

The disruption of the natural pollutant-removal processes associated with the facilities to be maintained would, in most cases, be temporary. As described earlier, vegetation that interferes with flood control has the ability to re-establish itself quickly. Often cat-tails along the bottom

of earthen channels are the quickest to re-establish. Cat-tails are effective in promoting the removal of urban pollutants from storm water. They slow the flow of water, allowing urban pollutants attached to sediments to settle out and promote infiltration. In addition, the root systems of cat-tails are effective at removing urban pollutants.

While maintenance would adversely affect the natural processes that help remove water-borne urban pollutants, it would have a beneficial impact on water quality by periodically removing sediment accumulating within the channel. In the process, pollutants trapped in these sediments by the natural processes described earlier would be removed from drainage courses and properly disposed in landfills.

Significance of Impact

Implementation of the maintenance protocols contained in the MSWSMP would reduce potential water quality impacts from erosion and sedimentation, and use and storage of hazardous materials to less than significant levels.

Despite the factors which may limit the impact of maintaining the affected storm water facilities, the potential exists for maintenance to adversely affect the natural ability of these facilities to remove urban pollutants. Where this would occur, the downstream water quality could be adversely affected. Thus, the impact of maintenance activities could result in a significant impact on water quality. Mitigating the potential impacts on water quality would require retaining vegetation within the channels. As stated earlier, the presence of vegetation is one of the primary reasons that maintenance needs to occur in order to maintain the ability of the facilities to safely convey floodwaters. Thus, impacts to water quality are considered potentially significant and not mitigated.

Mitigation Measures, Monitoring and Reporting

As discussed earlier, mitigating for the impact of the vegetation removal within storm water channels would require retention of the vegetation which would be contrary to the primary goal of the maintenance to provide flood control. Thus, no mitigation measure is available to reduce potential water quality impacts to below a level of significance.

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4.6 NOISE

4.6.1 Existing Conditions

Noise Definition

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air. Noise is defined as unwanted sound. The sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level. The unit of measurement of sound pressure is a decibel (dB). Because noise and sound can vary in intensity over one million times within the human hearing range, a logarithmic loudness scale is used to characterize dB values at a convenient and manageable level. Since the human ear is not equally sensitive to all sound frequencies within the entire spectrum, noise levels at maximum human sensitivity are factored more heavily into sound descriptions in a process called “A-weighting,” written as dB(A). Hourly average noise levels are usually expressed as dB(A) L_{eq} or the equivalent noise level over that period of time. Because community receptors are more sensitive to noise intrusion during the evening and at night, state law requires that an artificial dB(A) increment be added to quiet time noise levels in a 24-hour noise descriptor called the Community Noise Equivalent Level (CNEL). Land use compatibility relative to traffic noise is typically displayed as CNEL, which incorporates all single noise events within a weighted 24-hour period. L_{dn} is another 24-hour noise descriptor that is virtually identical (less than 0.5 dB) to the CNEL descriptor. However, it is not weighted between the hours of 7 p.m. and 10 p.m. As such, CNEL is more restrictive.

Noise Standards

General community noise and land use compatibility guidelines are set forth in the Noise Element in the City’s General Plan as shown in Table 4.6-1, Land Use – Noise Compatibility Guidelines Equivalent Level (CNEL) in Decibels. These guidelines are based primarily on noise and land use recommendations from the State Department of Health Office of Noise Control. They are further modified based on the U.S. Department of Housing and Urban Development (HUD) document entitled “Planning Guidelines for Local Agencies.” An exterior noise exposure of 65 dB(A) CNEL is compatible with residential and other noise sensitive uses. Noise standards for offices (business and professional) are 70 dB(A) CNEL. Least sensitive commercial, manufacturing, and some recreational uses are considered compatible with noise levels up to 75 dB(A) CNEL.

**Table 4.6-1
 LAND USE - NOISE COMPATIBILITY GUIDELINES**

Land Use Category	Exterior Noise Exposure (dBA CNEL)				
	>60	60-65	65-70	70-75	75<
Open Space and Parks and Recreational					
Community & Neighborhood Parks; Passive Recreation					
Regional Parks; Outdoor Spectator Sports, Golf Courses; Athletic Fields; Outdoor, Spectator Sports, Water Recreational Facilities; Horse Stables; Park Maintenance Facilities					
Agricultural					
Crop Raising & Farming; Aquaculture, Dairies; Horticulture Nurseries & Greenhouses; Animal Raising, Maintain & Keeping; Commercial Stables					
Residential					
Single Units; Mobile Homes; Senior Housing		45			
Multiple Units; Mixed-Use Commercial/Residential; Live Work; Group Living Accommodations		45	45		
Institutional					
Hospitals; Nursing Facilities; Intermediate Care Facilities; Kindergarten through Grade 12 Educational Facilities; Libraries; Museums; Places of Worship; Child Care Facilities		45			
Vocational or Professional Educational Facilities; Higher Education Institution Facilities (Community or Junior Colleges, Colleges, or Universities)		45	45		
Cemeteries					
Sales					
Building Supplies/Equipment; Food, Beverages & Groceries; Pets & Pet Supplies; Sundries, Pharmaceutical, & Convenience Sales; Wearing Apparel & Accessories			50	50	
Commercial Services					
Building Services; Business Support; Eating & Drinking; Financial Institutions; Assembly & Entertainment; Radio & Television Studios; Golf Course Support			50	50	
Visitor Accommodations		45	45	45	
Offices					
Business & Professional; Government; Medical, Dental & Health Practitioner; Regional & Corporate Headquarters			50	50	
Vehicle and Vehicular Equipment Sales and Services Use					
Commercial or Personal Vehicle Repair & Maintenance; Commercial or Personal Vehicle Sales & Rentals; Vehicle Equipment & Supplies Sales & Rentals; Vehicle Parking					
Wholesale, Distribution, Storage Use Category					
Equipment & Materials Storage Yards; Moving & Storage Facilities; Warehouse; Wholesale Distribution					
Research & Development				50	
	Compatible	Indoor Uses	Standard construction methods should attenuate exterior noise to an acceptable indoor noise level.		
		Outdoor Uses	Activities associated with the land use may be carried out.		
	Conditionally Compatible	Indoor Uses	Building structure must attenuate exterior noise to the indoor noise level indicated by the number for occupied areas.		
		Outdoor Uses	Feasible noise mitigate techniques should be analyzed and incorporated to make the outdoor activities acceptable.		
	Incompatible	Indoor Uses	New construction should not be undertaken.		
		Outdoor Uses	Severe noise interference makes outdoor activities unacceptable.		

An interior sound level of 45 dB(A) is mandated by State law for multi-family dwellings. This interior noise level is considered desirable for single-family dwellings as well by the City. With standard construction practice and closed windows, exterior-to-interior attenuation of 15 dB(A) can generally be achieved. Thus, interior noise levels of 45 dB(A) can normally be met in areas of ambient noise of up to 60 dB(A) CNEL as long as they have the option of closing their windows. The ability to close windows to shut out noise requires supplemental ventilation.

Fixed source and/or operational noise is governed by the City Noise Abatement and Control Ordinance Section 59.5.0401. The applicable sound level is a function of the time of day and land use zone. Sound levels are measured at the property line of the noise source. The limits are given in Table 4.6-2.

Table 4.6-2 CITY OF SAN DIEGO NOISE ORDINANCE LIMITS		
Land Use Zone¹	Time of Day	1-Hour Average Sound Level (dB)
Residential: All R-1	7 a.m. to 7 p.m.	50
	7 p.m. to 10 p.m.	45
	10 p.m. to 7 a.m.	40
All R-2	7 a.m. to 7 p.m.	55
	7 p.m. to 10 p.m.	50
	10 p.m. to 7 a.m.	45
R-3, R-4, and all other residential	7 a.m. to 7 p.m.	60
	7 p.m. to 10 p.m.	55
	10 p.m. to 7 a.m.	50
All commercial	7 a.m. to 7 p.m.	65
	7 p.m. to 10 p.m.	60
	10 p.m. to 7 a.m.	60
Manufacturing, all other industrial (including agriculture and extractive industry)	Any time	75

Source: City Noise Abatement and Control Ordinance Section 59.5.0401

¹The sound level limit at a location on a boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts

Subsections A, B, and C of Section 59.5.0404 of the City Land Development Code establish the following limitations on construction noise.

- A. It shall be unlawful for any person between the hours of 7 p.m. of any day and 7 a.m. of the following day, or on legal holidays as specified in Section 21.04 of the San Diego Land Development Code, with exception of Columbus Day, Washington’s Birthday, or on Sundays, to erect, construct, demolish, excavate for, alter, or repair any building or structure in such a

manner as to create disturbing, excessive, or offensive noise unless a permit has been applied for and granted beforehand by the Noise Abatement and Control Administrator. In granting such a permit, the Administrator shall consider whether the construction noise in the vicinity of the proposed work site would be less objectionable at night than during the daytime because of different population densities or different neighboring activities; whether obstruction and interference with traffic, particularly on streets of major importance, would be less objectionable at night than during the daytime; whether the type of work to be performed emits noises at such a low level as to not cause significant disturbances in the vicinity of the work site; the character and nature of the neighborhood of the proposed work site; whether great economic hardship would occur if the work were spread over a longer time; whether proposed night work is in the general public interest; and the Administrator shall prescribe such conditions, working times, types of construction equipment to be used, and permissible noise levels as he or she deems to be required in the public interest.

- B. Except as provided in Subsection C. hereof, it shall be unlawful for any person, including the City, to conduct any construction activity so as to cause, at or beyond the property lines of any property zoned residential, an average sound level greater than 75 decibels during the 12-hour period from 7:00 a.m. to 7:00 p.m.
- C. The provisions of Subsection B. of this section shall not apply to construction equipment used in connection with emergency work, provided the Administrator is notified within 48 hours after commencement of work.

Existing Ambient Noise Levels

The storm water facilities included in the MSWSMP occur in various land use contexts and, thus, exhibit variable ambient noise levels. The majority of the facilities are located in urban areas where noise levels are dominated by traffic noise although sporadic, localized noise is generated by residential uses (e.g., lawn mowing). Adjacent commercial and industrial areas may generate noise levels related to heating and ventilation equipment and truck deliveries, as well as outdoor equipment operation. Lower ambient noise levels occur where storm water facilities pass through open space areas within the City.

4.6.2 Impacts

The focus of the following analysis is on the potential for the proposed project to result in short-term impacts on adjacent land uses which would result from periodic maintenance activities. Except for noise during maintenance activities, storm water facilities would not generate noise. Thus, no long-term noise-related impacts would occur.

Significance Criteria

The City's Significance Determination Thresholds (2007) state that a project may result in a significant noise impact if it would:

- Result in temporary noise which exceeds noise levels identified in Municipal Code 59.5.0404.

Analysis of Impacts

Issue 1: Would maintenance activities create noise levels that would exceed standards established by the City's Municipal Code?

Implementation of the MSWSMP would result in temporary noise impacts during clearing of access paths and intermittent impacts from operation of equipment within the storm water facilities. As discussed in Chapter 3.0, maintenance would be done by equipment, where feasible, supported with hand work, as necessary. Hand clearing would be done by City maintenance personnel using hand tools such as trimmers and shovels. Cleared material would be manually brought out of the drainage facility and loaded by hand onto a dump truck for off-site disposal.

Equipment clearing would be utilized, whenever possible, to reduce cost. Depending on the conditions associated with each drainage facility, different types of equipment would be utilized. The decision as to which equipment would be used would be based upon the density and volume of accumulated material; the size of the drainage and access, which may preclude the use of certain types of equipment; the flow-characteristics of the drainage; and the need to complete maintenance activities in a timely and efficient manner. The types of equipment would include, but not be limited to, skid-steers, backhoes, Gradalls, excavators, loaders, dump trucks, and bulldozers. Maintenance equipment would utilize existing access roads, whenever possible. In some cases, the maintenance activity would require creating new access pathways. Depending on the terrain and vegetation density, bulldozers and/or a skid-steer may be used to create these pathways.

In order to estimate the potential noise generated by a typical maintenance activity, assumptions were made as to the type of equipment associated with each of the proposed maintenance techniques. Equipment noise levels were based on statistics contained in the Federal Highway Administration's (FHWA) Construction Equipment Noise Levels and Ranges manual. The noise estimate assumes an average channel depth of 10 feet and width of 30 feet with sloping banks. Table 4.6-3 identifies the equipment noise levels based on the FHWA manual as well as an

estimate of the percentage of the time the equipment would be used during maintenance activities.

Equipment	Usage Factor	Noise at 50 Feet
Dump truck	40%	84 dB(A)
Gradall	40%	85 dB(A)
Crane	40%	85 dB(A)
Loader	40%	80 dB(A)
Chainsaw	25%	83 dB(A)
Weed whip	40%	77 dB(A)

In-channel Maintenance (Full)

In most cases, equipment such as a skid-steer or bulldozer would enter the drainage using an existing or constructed access ramp and push the accumulated material with a bucket to a central site within the drainage. From there, material would be scooped up with a loader operating in the drainage, and loaded into a dump truck which also would be located in the drainage. The loaded dump truck would then leave the drainage and transport the material to an approved off-site disposal area; a maximum of five truckloads per hour are assumed. The average noise levels in areas surrounding maintenance activities are identified in Table 4.6-4.

Location	Feet from Channel Edge		dB(A) Distance (feet)			
	50	100	75	70	65	60
Access side	85.4	79.0	158	260	434	739
Opposite side	81.8	77.3	135	237	414	716

In-channel Maintenance (Partial)

Where direct access into the channel is not feasible, maintenance equipment would be lowered into the drainage facility from the bank using a crane or Gradall. Material would be scooped up from the channel using equipment operating from the edge of the drainage facility and loaded into a dump truck for off-site disposal. As with the full in-channel maintenance scenario, a maximum of five truckloads per hour are assumed. The average noise levels in areas surrounding maintenance activities are identified in Table 4.6-5.

Location	Feet from Channel Edge		dB(A) Distance (feet)			
	50	100	75	70	65	60
Access side	86.6	79.5	158	256	424	716
Opposite side	82.3	77.4	138	237	404	689

Edge Maintenance

Where access exists or can be constructed along the edge of the drainage facility, maintenance activities would rely on a Gradall or excavator positioned on the side of the drainage to scoop up the accumulated material. This method would be limited by the width and depth of the drainage, which may exceed the reach of the available equipment. The average noise levels in areas surrounding maintenance activities are identified in Table 4.6-6.

Location	Feet from Channel Edge		dB(A) Distance (feet)			
	50	100	75	70	65	60
Access side	84.1	76.3	115	178	273	440
Opposite side	75.2	71.2	56	119	217	384

Hand Clearing

Where equipment access is unavailable in the channel or along the edge of the channel, hand maintenance would be utilized. Workers would enter the channel with the necessary tools to cut and remove growth (e.g., chainsaws and weed whackers) to clear and cut brush. Brush would be manually hauled from the channel to the closest truck access for disposal. Hand clearing assumes that two chainsaws and two weed whips would be working in the channel with a dump truck making one run per hour. The average noise levels in areas surrounding maintenance activities are identified in Table 4.6-7.

**Table 4.6-7
 SURROUNDING NOISE LEVELS FROM HAND CLEARING**

Location	Feet from Channel Edge		dB(A) Distance			
	50	100	75	70	65	60
Access side	74.2	68.6	46	89	151	253
Opposite side	72.9	67.9	40	79	142	243

As indicated above, noise levels resulting from maintenance activities, depending on distance from maintenance activities, could be high enough to affect nearby sensitive receptors. In general, noise sensitive uses (e.g., residential development, churches, schools, etc) could experience noise levels in excess of 75 dB(A) if they occur within the following distances:

- 138 feet of in-channel (partial);
- 135 feet of in-channel (full);
- 115 feet of edge; and
- 46 feet of hand clearing.

Despite the fact that maintenance activities would likely generate noise levels greater than 75 dB(A), the maintenance activities would be subject to construction noise limitations imposed by the City’s Noise Abatement and Control Ordinance. As a result, the noise levels associated with maintenance would not exceed a 75 dB(A) over an 8-hour period. Similarly, except in emergencies, maintenance would be limited to the hours of 7:00 a.m. and 7:00 p.m. on weekdays and Saturdays. Furthermore, construction equipment would be equipped with properly operating and maintained muffling devices. In addition, the City will strive to notify nearby noise-sensitive uses before undertaking maintenance activities.

Significance of Impact

Mandatory compliance with the City’s Noise Abatement and Control Ordinance combined with advance noticing of nearby noise sensitive uses would reduce maintenance noise impacts to less than significant levels.

Mitigation Measures

As no significant noise impacts would occur, no mitigation measures are required.

4.7 PALEONTOLOGICAL RESOURCES

4.7.1 Existing Conditions

Paleontology is the science dealing with pre-historic plant and non-human animal life. Paleontological resources (or fossils) typically encompass the remains or traces of hard and resistant materials such as bones, teeth, or shells, although plant materials and occasionally less resistant remains (e.g., tissue or feathers) also may be preserved. The potential for fossil remains at a location can be predicted through established correlations between the fossils and geologic formations. For this reason, knowledge of the geology of a particular area and the paleontological resource sensitivity of particular formations makes it possible to predict where fossils may occur.

The area encompassing the City's storm water system includes numerous surficial deposits and geologic formations. As illustrated in Table 4.7-1 and summarized below, a number of these geologic formations have a moderate to high potential to contain significant deposits of fossils.

Geologic Unit	Potential Fossil Localities	Sensitivity Rating
Alluvium	All communities where this unit occurs	Low
Ardath Shale	All communities where this unit occurs	High
Bay Point/Marine Terrace	All communities where this unit occurs	High
Cabrillo Formation	All communities where this unit occurs	Moderate
Delmar Formation	All communities where this unit occurs	High
Friars Formation	All communities where this unit occurs	High
Granitic/Plutonic	All communities where this unit occurs	Zero
Lindavista Formation	A. Mira Mesa/Tierrasanta B. All other areas	A. High B. Moderate
Lusardi Formation	A. Black Mountain Ranch/Lusardi Canyon Poway/ Rancho Santa Fe B. All other areas	A. High B. Moderate
Mission Valley Formation	All communities where this unit occurs	High
Mt. Soledad Formation	All communities where this unit occurs	Moderate
Otay Formation	All communities where this unit occurs	High
Point Loma Formation	All communities where this unit occurs	High
Pomerado Conglomerate	A. Scripps Ranch/Tierrasanta B. All other areas	A. High B. Moderate
River/Stream Terrace Deposits	A. South Eastern Chollas Valley/Fairbanks Ranch Skyline/Paradise Hills/Otay Mesa Nestor/San Ysidro B. All other areas	A. Moderate B. Low
San Diego Formation	All communities where this unit occurs	High

Geologic Unit	Potential Fossil Localities	Sensitivity Rating
Santiago Peak Volcanics A. Metasedimentary B. Metavolcanic	A. Black Mountain Ranch/La Jolla Valley/ Fairbanks Ranch/Mira Mesa/Peñasquitos B. All other areas	A. Moderate B. Zero
Scripps Formation	All communities where this unit occurs	High
Stadium Conglomerate	All communities where this unit occurs	High
Sweetwater Formation	All communities where this unit occurs	High
Torrey Sandstone	A. Black Mountain Ranch/Carmel Valley B. All other areas	A. High B. Low

Source: City (2007)

Alluvium

Alluvial materials are associated primarily with larger active stream channels, and generally encompass variable amounts of silt, sand, and gravel. These deposits are approximately 10,000 years or less in age (Holocene), and typically do not contain important fossils in the Coastal Plain region. Notable exceptions do occur, however, including mammoth remains found in floodplain deposits of the Tijuana River Valley. Within the Program area, late Quaternary alluvial deposits occur within larger drainages and associated floodplains such as Otay, Mission, Sorrento, and San Dieguito valleys as well as Rose Canyon. Because of their relatively young age and mode of deposition (i.e., high energy environments), these formations are assigned a low paleontological resource sensitivity.

Ardath Shale

The Ardath Shale is part of the La Jolla Group, and occurs generally from Soledad Valley to La Jolla, and from Pacific Beach to Clairemont. This formation is approximately 47 to 48 million years old (middle Eocene), and has yielded diverse and well-preserved assemblages of marine microfossils, invertebrates, and vertebrates. Due to the nature and quality of the described fossil assemblages, a high paleontological resource sensitivity is assigned to the Ardath Shale.

Bay Point/Marine Terrace

The Bay Point Formation is a nearshore marine sedimentary deposit that is approximately 220,000 years old (late Pleistocene), and is exposed along the northern shore of Mission Bay (i.e., Crown Point) and portions of the San Diego waterfront. This unit has produced a large and diverse number of well-preserved fossil marine invertebrates, along with rare vertebrate fossils including sharks, rays, and bony fishes. Accordingly, this unit is assigned a high paleontological resource sensitivity.

Unnamed marine terrace deposits are between approximately 80,000 to 180,000 years old (Late Pleistocene). These deposits have a moderate to high paleontological resource sensitivity due to the large variety of marine vertebrate and invertebrate fossils that have been recovered from them.

Cabrillo Formation

The Cabrillo Formation is composed primarily of marine sandstones and conglomerates, and occurs along the eastern and southwestern sides of the Point Loma peninsula in coastal cliffs and road cuts, as well as on Mount Soledad. This formation is approximately 70 million years old (late Cretaceous), and has produced marine invertebrates and vertebrates. Based on the nature of recovered materials, the Cabrillo Formation is assigned a moderate paleontological sensitivity.

Delmar Formation

The Delmar Formation is part of the La Jolla Group, and occurs from Sorrento Valley to Batiquitos Lagoon, with the best exposures located in coastal cliffs between Torrey Pines State Reserve and Encinitas. This formation is approximately 49 to 50 million years old (early to middle Eocene), with fossils from this formation including estuarine vertebrates and invertebrates, aquatic reptiles, and terrestrial mammals. Due to the nature and diversity of associated fossils, the Delmar Formation is assigned a high paleontological resource sensitivity.

Friars Formation

The Friars Formation is the uppermost unit of the La Jolla Group, a series of interbedded marine, lagoonal and non-marine sedimentary rocks. This formation occurs from Mission Valley north to Rancho Santa Fe, and from Tecolote Canyon east to Santee/Lakeside. The Friars Formation is approximately 46 million years old (middle Eocene), with fossil occurrences including a rich assemblage of vertebrates (especially terrestrial mammals), marine microfossils and invertebrates, and terrestrial plants. Accordingly, this formation is assigned a high paleontological resource sensitivity.

Granitic/Plutonic

Much of the San Diego region is underlain by granitic bedrock associated with the Southern California Batholith. These materials are generally early Cretaceous in age and were emplaced as molten material that subsequently crystallized to form regional granitic/plutonic bodies (with these rocks exposed by subsequent uplift/erosion in many areas). Due to their described molten

nature of formation, granitic/plutonic materials exhibit no potential for the occurrence of sensitive paleontological resources.

Lindavista Formation

This distinctive, rust-colored formation includes marine and/or non-marine terraces deposited on level wave-cut platforms during a period of dropping sea levels. The Lindavista Formation is approximately 0.5 to 1.5 million years in age (early Pleistocene), and occurs extensively as mesa surfaces in the Otay Mesa, San Diego Mesa, Linda Vista Mesa, Kearny Mesa, and Mira Mesa areas. Fossils are rare in this formation and have only been recorded in a few areas, including Mira Mesa and Tierrasanta. Accordingly, the Lindavista Formation is assigned a high paleontological resource sensitivity in Mira Mesa and Tierrasanta, and a moderate sensitivity in all other areas.

Lusardi Formation

The Lusardi Formation consists of marine sandstones and conglomerates, with local occurrences including Lusardi and La Zanja canyons near Rancho Santa Fe, and the Poway area. This formation is approximately 80 million years old (late Cretaceous) and has produced a large number of vertebrate and invertebrate fossils. Based on these conditions, the Lusardi Formation is assigned a high paleontological resource sensitivity in the Black Mountain Ranch/Lusardi Canyon, Rancho Santa Fe, and Poway areas, and a moderate sensitivity in other locations.

Mission Valley Formation

This unit is the middle member of the Poway Group and consists of marine and non-marine sedimentary rocks that occur discontinuously from Otay Valley to Miramar Reservoir and from Old Town to Spring Valley and Santee. The Mission Valley Formation is approximately 42 million years old (middle Eocene), with the marine strata having produced abundant and generally well-preserved microfossils, invertebrates, and vertebrates. The non-marine portions of this formation have yielded well-preserved samples of petrified wood as well as fairly large and diverse assemblages of fossil land mammals. The occurrence of both terrestrial and marine fossil assemblages in this formation is extremely important paleontologically, as it allows for the direct correlation of terrestrial and marine faunal time scales. Accordingly, the Mission Valley Formation is assigned a high paleontological resource sensitivity.

Mt. Soledad Formation

The Mount Soledad Formation is the lowest (oldest) member of the La Jolla Group, and occurs in the vicinity of Rose Canyon, Tourmaline Beach, the north end of Point Loma, and Mount Soledad. This formation is approximately 48 to 50 million years old (early to middle Eocene), and has yielded fossils of various kinds of marine organisms (including marine microfossils and invertebrates), as well as pollen. Based on the somewhat limited nature and distribution of fossil occurrences, this formation is assigned a moderate paleontological resource sensitivity.

Otay Formation

The Otay Formation is a fluvial (river deposited) sedimentary unit that is exposed in portions of Otay Mesa, as well as areas west of the Sweetwater Reservoir. This formation is approximately 29 million years old (late Oligocene), with a well-preserved and diverse assemblage of important terrestrial vertebrate fossils recovered from the upper (sandstone-mudstone) unit. Based on these discoveries, the Otay Formation is considered to be the richest source of late Oligocene terrestrial vertebrates in California, and is assigned a high paleontological resource sensitivity.

Point Loma Formation

The Point Loma Formation includes a series of alternating marine shales, mudstones, and sandstones, and occurs along the western side of Point Loma and the northern flank of Mount Soledad. This formation is approximately 75 million years old (late Cretaceous) and has produced numerous well-preserved and diverse marine invertebrates and vertebrates, as well as occasional terrestrial plants and dinosaurs. The paleontological resources of the Point Loma Formation represent some of the best-preserved examples of late Cretaceous marine fossils known from California and one of the few sources of dinosaur fossils in the state. Accordingly, this formation is assigned a high paleontological sensitivity.

Pomerado Conglomerate

The Pomerado Conglomerate is the uppermost formation of the Poway Group, a sequence of primarily non-marine conglomerate and sandstone units. This formation occurs generally from La Mesa north to at least Miramar Reservoir, and east to Santee. The lower and middle portions of the Pomerado Conglomerate are between approximately 40 and 42 million years old (middle Eocene), with the lower member producing terrestrial mammal fossils (including insectivores, primates, and rodents) in the Scripps Ranch area. The middle member has yielded nearshore marine mollusks (e.g., clams and snails) and unidentifiable mammal bone fragments. Based on the noted occurrences, the Pomerado Conglomerate is assigned a high paleontological resource

sensitivity in the Scripps Ranch and Tierrasanta areas, and a moderate sensitivity in other locations.

River/Stream Terrace Deposits

River terrace deposits consist of coarse-grained gravelly sandstones, pebble/cobble conglomerates, and claystones, and are present along the edge of many larger coastal valleys. These materials generally occur at levels above the active stream channels and represent sediments deposited by ancient river courses. River terrace deposits are typically between approximately 10,000 and 500,000 years old (late Pleistocene), and while fossil occurrences are uncommon, important resources have been recovered from these deposits. Specifically, a number of vertebrate remains have been collected from river terrace deposits, including ground sloth, mammoth, wolf, camel, and mastodon fossils from the South Bay Freeway; and well-preserved ground sloth remains from the San Dieguito River Valley. Because fossil occurrences in river terrace deposits are uncommon but high value materials have been recovered, this unit is assigned a moderate paleontological resource sensitivity in the southeastern Chollas Valley, Fairbanks Ranch, Skyline, Paradise Hills, Otay Mesa, Nestor, and San Ysidro areas, and a low sensitivity for other locations.

San Diego Formation

The San Diego Formation is a marine sedimentary deposit, and is extensively exposed from Otay Mesa/Otay Ranch to Mission Valley (with isolated occurrences between Rose Canyon and Pacific Beach). This formation is between approximately 1.5 and 3 million years old (late Pliocene), and has produced extremely diverse assemblages of marine organisms, as well as rare terrestrial mammal and plant fossils. The San Diego Formation represents one of the most important sources of information on Pliocene marine organisms and environments in the world, and is assigned a high paleontological resource sensitivity.

Santiago Peak Volcanics

The Santiago Peak Volcanics include moderately metamorphosed volcanic rocks, including localized deposits of volcanoclastic materials (i.e., sedimentary units derived from weathered volcanic rocks). This formation occurs more commonly in locations east of the Program area, but is exposed or present at shallow depths in portions of Otay Valley, Peñasquitos Canyon, the San Diego River Valley, La Zanja Canyon, and the San Dieguito River Valley. The Santiago Peak Volcanics are approximately 120 to 130 million years old (early Cretaceous), with important marine microfossils and invertebrate fossils known from the volcanoclastic metasedimentary units. Accordingly, metasedimentary rocks from this formation are assigned a

moderate paleontological resource sensitivity in the Black Mountain Ranch, La Jolla Valley, Fairbanks Ranch, Mira Mesa, and Peñasquitos areas. No potential for sensitive paleontological resources is present in all other units and locations of this formation, due to the molten nature of formation for volcanic rocks.

Scripps Formation

The Scripps Formation is part of the La Jolla Group, and occurs from Presidio Park north to Del Mar, and from Clairemont east to La Jolla Valley. This formation is approximately 47 million years old (middle Eocene), and has yielded predominantly marine vertebrate and invertebrate fossils, although reptiles, mammals, and plant remains also have been recovered. Based on the described fossil occurrences, the Scripps Formation is assigned a high paleontological resource sensitivity.

Stadium Conglomerate

The Stadium Conglomerate is the lower member of the Poway Group, and includes two conglomeratic units that are distinct with respect to both composition and the time of formation. The two described units can occur either together or separately, with observed locations in the Mission Valley, Murphy Canyon, Tierrasanta, Rancho Peñasquitos, and Rancho Bernardo areas. Both members of this formation are middle Eocene, with ages ranging from approximately 42 to 43 million years old for the upper member, and 43 to 44 million years for the lower (Cypress Canyon) member. Fossil occurrences in the Stadium Conglomerate include marine microfossils and invertebrates, as well as sparse but well-preserved vertebrates from the upper member, and abundant and diverse assemblages of land mammals from the Cypress Canyon Member. Based on these fossil occurrences, the Stadium Conglomerate is assigned a high paleontological resource sensitivity.

Sweetwater Formation

The Sweetwater Formation is a non-marine sedimentary deposit that occurs in the central and eastern portions of Otay Valley, as well as areas to the north and east (including Lower Otay Lake and Sweetwater Valley). This formation is approximately 37 to 42 million years in age (middle Eocene), and has produced important dental remains of terrestrial mammals. Accordingly, the Sweetwater Formation is assigned a high paleontological resource sensitivity.

Torrey Sandstone

The Torrey Sandstone is a member of the La Jolla Group, and occurs from Sorrento Valley to Batiquitos Lagoon, and inland from the coast to La Jolla Valley. This formation is approximately 48 to 49 million years old (early to middle Eocene) and has produced important fossil plants and marine invertebrates. Based on the nature, location, and quality of recovered materials, the Torrey Sandstone is assigned a high paleontological resource sensitivity in the Black Mountain Ranch/Carmel Valley vicinity, and a low potential in all other areas.

Unnamed Formation

An unnamed formation consisting of terrestrial sedimentary rocks occurs in the Rose Canyon area between Mission Bay and SR-52. This formation is approximately 51 to 55 million years old (early Eocene), with associated fossil discoveries including dental remains of terrestrial mammals. Based on the nature of associated fossil materials, this formation is assigned a high paleontological resource sensitivity.

4.7.2 Impacts

Significance Criteria

The City's Significance Determination Thresholds (2007) state that a project may significantly impact paleontological resources if it would:

- Grade/excavate more than 1,000 cubic yards of material and extend to depths of 10 feet or more in geologic formations with a high paleontological sensitivity rating;
- Grade/excavate more than 2,000 cubic yards of material and extend to depths of 10 feet or more in geologic formations with a moderate paleontological sensitivity rating;
- Grade/excavate to a depth less than 10 feet within an area that has been previously graded and where unweathered formations with moderate or high sensitivity are present at the surface; and/or
- Grade/excavate within a fossil recovery site or near a fossil recovery site within the same geologic formation as the project site.

Analysis of Impacts

Issue 1: Would the project impact paleontological resources?

Despite the presence of a number of fossil-bearing formations, the potential for maintenance activities to significantly impact important fossil resources is considered low. In general, maintenance activities would not penetrate areas which exhibit a moderate to high potential for significant fossil deposits. As described in Chapter 3.0, Project Description, excavation activities within storm water facilities would be limited to sediment removal and would not encroach into undisturbed geologic formations. Although limited, the potential does exist for encroachment into fossil-bearing formations in the course of constructing new or reconstructing existing access roads. Encroachment beyond the significance thresholds cited above would constitute a significant impact on paleontological resources.

Significance of Impact

The potential for significant impacts to paleontological resources from proposed maintenance activities is considered to be generally low, although significant impacts could occur depending on site-specific geologic conditions and proposed grading/ground disturbance. With incorporation of the monitoring and mitigation measures (where applicable), impacts to paleontological resources would be avoided or reduced to less than significant levels.

Mitigation Measures, Monitoring and Reporting

The following measure shall be implemented prior to the first time maintenance occurs within a drainage facility pursuant to the MSWSMP. Once a maintenance area has been surveyed and paleontological resources identified, no further investigation shall be required, provided protective measures required to preserve known sites within the maintenance area are implemented during subsequent maintenance activities, and monitoring measures are in place if the maintenance area has been identified as having a moderate to high potential for paleontological resources.

Mitigation Measure 4.7.1: Prior to initiating any maintenance activity where the IHA identifies existing significant cultural resources within the APE, the following actions shall be taken.

4.7.1.1 Prior to Permit Issuance or Bid Opening/Bid Award

A. Entitlements Plan Check

1. Prior to permit issuance or Bid Opening/Bid Award, whichever is applicable, the Assistant Deputy Director (ADD) Environmental designee shall verify that the requirements for Paleontological Monitoring have been noted on the appropriate construction documents.

B. Letters of Qualification have been submitted to ADD

1. Prior to Bid Award, the applicant shall submit a letter of verification to Mitigation Monitoring Coordination (MMC) identifying the Principal Investigator (PI) for the project and the names of all persons involved in the paleontological monitoring program, as defined in the City of San Diego Paleontology Guidelines.
2. MMC will provide a letter to the applicant confirming the qualifications of the PI and all persons involved in the paleontological monitoring of the project.
3. Prior to the start of work, the applicant shall obtain approval from MMC for any personnel changes associated with the monitoring program.

4.7.1.2 Prior to Start of Construction

A. Verification of Records Search

1. The PI shall provide verification to MMC that a site specific records search has been completed. Verification includes, but is not limited to a copy of a confirmation letter from San Diego Natural History Museum, other institution or, if the search was in-house, a letter of verification from the PI stating that the search was completed.
2. The letter shall introduce any pertinent information concerning expectations and probabilities of discovery during trenching and/or grading activities.

B. PI Shall Attend Precon Meetings

1. Prior to beginning any work that requires monitoring, the Applicant shall arrange a Precon Meeting that shall include the PI, Construction Manager (CM) and/or Grading Contractor, Resident Engineer (RE), Building Inspector (BI), if appropriate, and MMC. The qualified paleontologist shall attend any grading/excavation related Precon Meetings to make comments and/or suggestions concerning the Paleontological Monitoring program with the Construction Manager and/or Grading Contractor.
 - a. If the PI is unable to attend the Precon Meeting, the Applicant shall schedule a focused Precon Meeting with MMC, the PI, RE, CM or BI, if appropriate, prior to the start of any work that requires monitoring.

2. Acknowledgement of Responsibility for Curation (CIP or Other Public Projects)
The applicant shall submit a letter to MMC acknowledging their responsibility for the cost of curation associated with all phases of the paleontological monitoring program.
3. Identify Areas to be Monitored
 - a. Prior to the start of any work that requires monitoring, the PI shall submit a Paleontological Monitoring Exhibit (PME) based on the appropriate construction documents (reduced to 11" x 17") to MMC for approval identifying the areas to be monitored including the delineation of grading/excavation limits.
 - b. The PME shall be based on the results of a site specific records search as well as information regarding existing known soil conditions (native or formation).
 - c. MMC shall notify the PI that the PME has been approved.
4. When Monitoring Will Occur
 - a. Prior to the start of any work, the PI shall also submit a construction schedule to MMC through the RE indicating when and where monitoring will occur.
 - b. The PI may submit a detailed letter to MMC prior to the start of work or during construction requesting a modification to the monitoring program. This request shall be based on relevant information such as review of final construction documents which indicate conditions such as depth of excavation and/or site graded to bedrock, presence or absence of fossil resources, etc., which may reduce or increase the potential for resources to be present.
5. Approval of PME and Construction Schedule
After approval of the PME by MMC, the PI shall submit to MMC written authorization of the PME and Construction Schedule from the CM.

4.7.1.3 During Construction

- A. Monitor Shall be Present During Grading/Excavation/Trenching
 1. The monitor shall be present full-time during grading/excavation/trenching activities including, but not limited to mainline, laterals, jacking and receiving pits, services and all other appurtenances associated with underground utilities as identified on the PME and as authorized by the CM that could result in impacts to formations with high and/or moderate resource sensitivity at depths of 10 feet or greater and as authorized by the construction manager. **The Construction Manager is responsible for notifying the RE, PI, and MMC of changes to any construction activities.**
 2. The monitor shall document field activity via the Consultant Site Visit Record (CSVR). The CSVR's shall be faxed by the CM to the RE the first day of

monitoring, the last day of monitoring, monthly (**Notification of Monitoring Completion**), and in the case of ANY discoveries. The RE shall forward copies to MMC.

3. The PI may submit a detailed letter to the CM and/or RE for concurrence and forwarding to MMC during construction requesting a modification to the monitoring program when a field condition such as trenching activities that do not encounter formational soils as previously assumed, and/or when unique/unusual fossils are encountered, which may reduce or increase the potential for resources to be present.

B. Discovery Notification Process

1. In the event of a discovery, the Paleontological Monitor shall direct the contractor to temporarily divert trenching activities in the area of discovery and immediately notify the RE or BI, as appropriate.
2. The Monitor shall immediately notify the PI (unless Monitor is the PI) of the discovery.
3. The PI shall immediately notify MMC by phone of the discovery, and shall also submit written documentation to MMC within 24 hours by fax or email with photos of the resource in context, if possible.

C. Determination of Significance

1. The PI shall evaluate the significance of the resource.
 - a. The PI shall immediately notify MMC by phone to discuss significance determination and shall also submit a letter to MMC indicating whether additional mitigation is required. The determination of significance for fossil discoveries shall be at the discretion of the PI.
 - b. If the resource is significant, the PI shall submit a Paleontological Recovery Program (PRP) and obtain written approval of the program from MMC, MC and/or RE. PRP and any mitigation must be approved by MMC, RE and/or CM before ground disturbing activities in the area of discovery will be allowed to resume.
 - (1) Note: For pipeline trenching projects only, the PI shall implement the Discovery Process for Pipeline Trenching projects identified below under “D.”
 - c. If resource is not significant (e.g., small pieces of broken common shell fragments or other scattered common fossils) the PI shall notify the RE, or BI as appropriate, that a non-significant discovery has been made. The Paleontologist shall continue to monitor the area without notification to MMC unless a significant resource is encountered.

- d. The PI shall submit a letter to MMC indicating that fossil resources will be collected, curated, and documented in the Final Monitoring Report. The letter shall also indicate that no further work is required.
 - (1) Note: For Pipeline Trenching Projects Only. If the fossil discovery is limited in size, both in length and depth; the information value is limited and there are no unique fossil features associated with the discovery area, then the discovery should be considered not significant.
 - (2) Note: for Pipeline Trenching Projects Only. If significance can not be determined, the Final Monitoring Report and Site Record shall identify the discovery as Potentially Significant.
- D. Discovery Process for Significant Resources - Pipeline Trenching Projects

The following procedure constitutes adequate mitigation of a significant discovery encountered during pipeline trenching activities including but not limited to excavation for jacking pits, receiving pits, laterals, and manholes to reduce impacts to below a level of significance.

 1. Procedures for documentation, curation and reporting
 - a. One hundred percent of the fossil resources within the trench alignment and width shall be documented in-situ photographically, drawn in plan view (trench and profiles of side walls), recovered from the trench and photographed after cleaning, then analyzed and curated consistent with Society of Invertebrate Paleontology Standards. The remainder of the deposit within the limits of excavation (trench walls) shall be left intact and so documented.
 - b. The PI shall prepare a Draft Monitoring Report and submit to MMC via the RE as indicated in Section VI-A.
 - c. The PI shall be responsible for recording (on the appropriate forms for the San Diego Natural History Museum) the resource(s) encountered during the Paleontological Monitoring Program in accordance with the City's Paleontological Guidelines. The forms shall be submitted to the San Diego Natural History Museum and included in the Final Monitoring Report.
 - d. The Final Monitoring Report shall include a recommendation for monitoring of any future work in the vicinity of the resource.

4.7.1.4 Night and/or Weekend Work

- A. If night and/or weekend work is included in the contract
 1. When night and/or weekend work is included in the contract package, the extent and timing shall be presented and discussed at the precon meeting.

2. The following procedures shall be followed.
 - a. No Discoveries
In the event that no discoveries were encountered during night and/or weekend work, The PI shall record the information on the CSVR and submit to MMC via the RE via fax by 8AM on the next business day.
 - b. Discoveries
All discoveries shall be processed and documented using the existing procedures detailed in Sections III - During Construction.
 - c. Potentially Significant Discoveries
If the PI determines that a potentially significant discovery has been made, the procedures detailed under Section III - During Construction shall be followed.
 - d. The PI shall immediately contact the RE and MMC, or by 8AM on the next business day to report and discuss the findings as indicated in Section III-B, unless other specific arrangements have been made.
- B. If night and/or weekend work becomes necessary during the course of construction
 1. The Construction Manager shall notify the RE or BI, as appropriate, a minimum of 24 hours before the work is to begin.
 2. The RE or BI, as appropriate, shall notify MMC immediately.
- C. All other procedures described above shall apply, as appropriate.

4.1.7.5 Post Construction

- A. Preparation and Submittal of Draft Monitoring Report
 1. The PI shall submit two copies of the Draft Monitoring Report (even if negative), prepared in accordance with the Paleontological Guidelines which describes the results, analysis, and conclusions of all phases of the Paleontological Monitoring Program (with appropriate graphics) to MMC via the RE for review and approval within 90 days following the completion of monitoring.
 - a. For significant paleontological resources encountered during monitoring, the Paleontological Recovery Program or Pipeline Trenching Discovery Process shall be included in the Draft Monitoring Report.
 - b. Recording Sites with the San Diego Natural History Museum
The PI shall be responsible for recording (on the appropriate forms) any significant or potentially significant fossil resources encountered during the Paleontological Monitoring Program in accordance with the City's Paleontological Guidelines, and submittal of such forms to the San Diego Natural History Museum with the Final Monitoring Report.
 2. MMC shall return the Draft Monitoring Report to the PI via the RE for revision or, for preparation of the Final Report.

3. The PI shall submit revised Draft Monitoring Report to MMC via the RE for approval.
 4. MMC shall provide written verification to the PI of the approved report.
 5. MMC shall notify the RE or BI, as appropriate, of receipt of all Draft Monitoring Report submittals and approvals.
- B. Handling of Fossil Remains
1. The PI shall be responsible for ensuring that all fossil remains collected are cleaned and catalogued.
- C. Curation of artifacts – Deed of Gift and Acceptance Verification
1. The PI shall be responsible for ensuring that all fossil remains associated with the monitoring for this project are permanently curated with an appropriate institution.
 2. The PI shall submit the Deed of Gift and catalogue record(s) to the RE or BI, as appropriate for donor signature with a copy submitted to MMC.
 3. The RE or BI, as appropriate shall obtain signature on the Deed of Gift and shall return to PI with copy submitted to MMC.
 4. The PI shall include the Acceptance Verification from the curation institution in the Final Monitoring Report submitted to the RE or BI and MMC.
- D. Final Monitoring Report(s)
1. The PI shall submit two copies of the Final Monitoring Report to MMC (even if negative), within 90 days after notification from MMC of the approved report.
 2. The RE shall, in no case, issue the Notice of Completion until receiving a copy of the approved Final Monitoring Report from MMC which includes the Acceptance Verification from the curation institution.

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CHAPTER 5.0

GROWTH INDUCEMENT

CHAPTER 5.0 – GROWTH INDUCEMENT

The purpose of this section is to discuss the ways in which the proposed MSWSMP could foster economic or population growth, or construction of additional housing. A project's growth inducing effects are generally considered indirect impacts because they do not directly result from the completion of a project, or a series of projects under a program; rather, they could result from its existence.

The proposed MSWSMP would not have the potential to induce growth. The maintenance program would maintain storm water facilities that already exist within the City. No new facilities would be created. The proposed removal of vegetation and sediment from storm water facilities would restore rather than increase their capacity to carry floodwaters. As such, no growth inducing impacts, direct or indirect, are anticipated to occur as a result of the implementation of the proposed project.

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CUMULATIVE IMPACTS

CHAPTER 6.0 – CUMULATIVE IMPACTS

This section addresses the potential for impacts from the proposed MSWSMP to combine with impacts from other projects in the study area and result in cumulative impacts to the environment. Section 15355 of the State CEQA Guidelines defines “cumulative impacts” as two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of a project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

Section 15130(b) of the State CEQA Guidelines indicates that the discussion of cumulative impacts needs to include either of the following elements:

- (A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency; or
- (B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact.

While inclusion of either of the two elements described above is adequate for a cumulative impacts analysis, there are aspects of the proposed MSWSMP that are relevant to both elements. The cumulative impacts discussion presented herein includes lists of past and probable future projects as well as incorporation of adopted planning documents that evaluated region-wide conditions pertaining to cumulative impacts.

6.1 PREVIOUS STORM WATER FACILITY EMERGENCY MAINTENANCE PROJECTS

Table 6.1-1 identifies wetland impacts which have occurred as a result of previous emergency maintenance activities that the SWD has carried out over the last four years.

Table 6.1-1 IMPACTS FROM PAST EMERGENCY MAINTENANCE ACTIVITIES					
Date of Activity	Wetland Impact By Watershed (acres)				
	San Diego	Tijuana	Pueblo	Peñasquitos	Total
October-December 2004	0.99	0.0	0.01	0.0	1.00
January-March 2005	0.82	0.77	0.0	0.0	1.59
June 2005	0.0	0.0	0.0	0.12	0.12
October-November 2005	0.0	0.0	0.0	0.13	0.13
March 2006	0.0	0.0	0.0	0.0	0.0
Total	1.81	0.77	0.01	0.25	2.84

Source: Daniel Lottermoser, 2008

6.2 REGIONAL PLANS

In accordance with Section 15130(b)(1)(B), the following analysis of the cumulative effects relies on the regional growth projections provided by the San Diego Association of Governments' (SANDAG) *2030 Regional Growth Forecast Update* (Regional Growth Forecast). The Regional Growth Forecast provides estimates and forecasts of employment, population, and housing for the period between 2004 and 2030. The Regional Growth Forecast is available on file at the City and available for review at the City Planning & Community Investment Department.

According to the forecast, the population of the City is projected to increase by 361,110 persons or approximately 28 percent between 2004 and 2030 to approximately 1,656,257 persons. The population of San Diego County (i.e., the unincorporated areas of the County and all of the incorporated cities) is projected to increase by 971,739 persons or approximately 32 percent between 2004 and 2030 to 3,984,753 persons. The number of housing units is projected to increase by approximately 24 percent within the City and 26 percent within the County during the 2004-2030 period.

The following is a discussion of the cumulative impacts of the proposed MSWSMP. Cumulative impacts are analyzed in light of the significance criteria presented in Chapter 4.0 of this PEIR. Implementation of the mitigation measures identified in Chapter 4.0 would reduce the incremental contribution of the proposed maintenance activities to cumulative impacts to the maximum extent feasible.

6.3 CUMULATIVE IMPACTS FOUND TO BE SIGNIFICANT

6.3.1 Solid Waste

The majority of the solid waste materials generated by maintenance are anticipated to be transported to the Miramar Landfill for disposal. According to the City's ESD, as of April 18, 2008, the Miramar Landfill had a remaining capacity of approximately 87.76 million cubic yards of solid waste. It is anticipated that the Miramar Landfill will reach its maximum capacity by the year 2017.

Storm water maintenance activities are anticipated to generate the following three primary types of materials requiring disposal: dredge spoil, vegetation, and rubbish. Dredge spoil would be comprised of sediment removed from the storm water facilities. This sediment is predominantly composed of soil materials but also contains urban runoff pollutants such as automobile by-products, and pesticides and herbicides associated with landscape maintenance. Vegetation would consist of groundcover, shrubs, and trees removed from storm water facilities. This vegetation may range from minimal groundcover to dense riparian woodland. Large areas of a highly invasive plant, known as *Arundo donax* (giant reed), also are anticipated to be removed in the course of channel maintenance or wetland mitigation. Rubbish is expected to be comprised of a variety of discarded items, including shopping carts, car batteries, furniture and automobile tires.

The MSWSMP includes the following maintenance protocols to minimize the amount of material transported to landfills for disposal:

- Compostable green waste material shall be taken to an approved composting facility, if available. (Protocol #32)
- Soil, sand, and silt shall be screened to remove waste debris and, wherever possible, re-used as fill material, aggregate, or other raw material usage. (Protocol #33)
- Waste tires shall be separated and transported to an appropriate disposal facility. If more than nine tires are in a vehicle or waste bin at any one time, they shall be transported under a completed Comprehensive Trip Log (CTL) to document that the tires were taken to an appropriate disposal facility. (Protocol #34)

Although these protocols would be anticipated to reduce the impact of maintenance on landfill capacity, one of the major components of the vegetation expected to be removed during maintenance (giant reed) is not easily recycled due its high fibrous content. This, in combination

with the uncertainty regarding the availability of suitable reuse sites for dredge material, results in the determination that the proposed maintenance activities would have a potentially significant impact on solid waste disposal. Furthermore, due to the limited control the City has over the ability to recycle or reuse waste generated by storm water maintenance, the cumulative impact is considered significant and unmitigated.

6.4 CUMULATIVE IMPACTS FOUND NOT TO BE SIGNIFICANT

6.4.1 Aesthetics/Neighborhood Character

As discussed in Subchapter 4.2, Aesthetics/Neighborhood Character, the MSWSMP would involve vegetation and debris removal and/or dredging, and possibly water diversion, dewatering, and/or maintenance/creation of access pathways. Although Program-specific impacts would be significant and unmitigated, because the drainages are mostly within urbanized areas and impacts would be localized, cumulative impacts to viewsheds would be less than significant.

6.4.2 Biological Resources

In addition to the impacts associated with past emergency maintenance activities (Table 6.1-1), development pursuant to the Regional Growth Forecast Update would result in the loss of biological resources. While the majority of growth associated with future development within the storm water system area would be expected to occur through infill and redevelopment, future development would occur on or adjacent to undeveloped land, which may result in impacts to biological resources, including native habitat, wetlands, wildlife movement, and sensitive species.

While future projects would impact biological resources, the City has a number of plans, policies, and regulations (e.g., MSCP and ESL) which require individual projects to compensate for their impacts on biological resources. In accordance with these plans, policies, and regulations, compensation also would be carried out to offset impacts associated with the proposed maintenance of storm water facilities. Thus, the proposed project would not result in a significant cumulative impact on biological resources.

6.4.3 Historical Resources

Implementation of development and other maintenance projects throughout the region, particularly those requiring substantial excavation, would potentially result in impacts to

archaeological resources. The placement of structures or infrastructure within areas containing above ground historical resources also would result in potential impacts to such resources. The sensitivity and significance of all of the archaeological resources within the region is unknown at this time. An evaluation to assess the potential to impact buried archaeological and historical resources would be required for all projects as part of project planning. Each project would undergo a project-specific assessment (an IHA) to determine the presence and potential impact on historical resources. Necessary evaluation, documentation, and mitigating of historical resources would occur prior to, or during, excavation. This would be achieved through records searches and field surveys by qualified archaeologists. If significant resources are found, the City would be required to preserve the resource or to conduct a data recovery program and recover the resources from the area prior to ground disturbance. In addition, if it is probable that buried historical resources would be encountered during grading, archeological and Native American monitoring would be required during grading activities to ensure that significant historical resources are not impacted. These measures, as well as other standard mitigation measures, would reduce potentially significant cumulative effects to historical resources to less than significant levels.

6.4.4 Hydrology/Water Quality

Grading and surface disturbance associated with cumulative projects in the region would result in erosion and sedimentation impacts on hydrology and water quality. Short-term construction-related erosion and sedimentation impacts would be addressed through implementation of project-specific BMPs during and following construction activities. The potential for such impacts in the long-term also would be addressed by BMPs, such as revegetation of denuded areas. Other long-term affects may include the development of impervious surfaces, such as pavement or structures, which would affect runoff.

With regard to the proposed MSWSMP, some of the maintenance access roads would be revegetated to avoid long-term water quality issues. The proposed MSWSMP would have no adverse impacts related to increased runoff volumes/velocities, associated flooding hazards, or long-term aquifer recharge would occur from the proposed plan. Proposed maintenance activities under the MSWSMP would temporarily affect drainage patterns related to the removal of sediment, debris, and vegetation which obstruct flow patterns. No significant adverse drainage alteration impacts would result from these activities and the removal of accumulated sediment, debris, and vegetation associated with the MSWSMP would eliminate obstructions to flow within the maintained facilities. Such changes would be beneficial in that capacity and performance would be improved by increasing the ability of storm water facilities to function as designed. Overall drainage patterns within the maintained facilities would not be changed.

Accordingly, impacts to hydrology and water quality associated with the MSWSMP would not be cumulatively considerable and impacts would be less than significant.

While the removal of in-channel vegetation could result in an increased level of urban pollutants being transported downstream, the cumulative impact is not considered significant because effective removal of urban pollutants by vegetation is anticipated to be occurring in relatively few storm drain facilities that would be maintained pursuant to the proposed MSWSMP. In addition, the majority of the areas around the facilities to be maintained are already developed. Furthermore, increasing local and state regulation of runoff generated outside the storm water facilities is anticipated to reduce urban pollutants being transported to the storm water facilities. Thus, significant cumulative impacts to water quality would not occur with the proposed maintenance.

6.4.5 Land Use

As described in Subchapter 4.1, Land Use, implementation of the proposed MSWSMP is not expected to result in significant land use impacts other than one policy dependent of another issue (i.e., biological resources). This policy suggests that riparian areas be preserved in their natural state with a buffer of adjoining upland habitat having a minimum width of 100 feet. The MSWSMP would not be consistent with this policy, as construction and maintenance activities associated with the MSWSMP would encroach within the 100-foot buffer, as well as remove riparian vegetation. In general, the maintenance of storm water drainages is a key component to improving safety to people and properties adjacent to the subject drainages (from potential flooding). Other projects would be required to comply with applicable goals, objectives, recommendations, and proposals within the General Plan, community plans, LCPs, and park/preserve and other environmental documents, as well as the City's ESL regulations, Historical Resources Regulations, and MSCP Subarea Plan. As such, cumulative impacts to land use would be less than significant.

6.4.6 Noise

Cumulative noise impacts would occur if construction activities associated with nearby projects occur simultaneously with the proposed maintenance work included within the MSWSMP. During performance of maintenance tasks and clearing of maintenance access routes, the MSWSMP would contribute to cumulative noise impacts. Cumulative noise impacts would depend on the proximity of noise sensitive receptors to construction/maintenance projects in the area, as well as the timing of equipment use. As stated in Subchapter 4.6, Noise, mandatory compliance with the Noise Abatement and Control Ordinance combined with advance noticing

of nearby noise sensitive uses would reduce maintenance noise impacts to less than significant levels. Compliance with this ordinance also would be required of other development/maintenance projects in the vicinity of proposed maintenance activities. In addition, it should be reiterated that noise impacts associated with the MSWSMP would be temporary, short-term in nature, and localized, and therefore, would not be cumulatively considerable.

6.4.7 Paleontological Resources

As discussed in Subchapter 4.7, Paleontological Resources, implementation of the proposed MSWSMP is considered to pose a low potential for impacts to paleontological resources. It is anticipated that maintenance activities would not penetrate areas which exhibit a moderate to high potential for significant fossil deposits. Excavation activities within storm water facilities would be limited to sediment removal and would not encroach into undisturbed geologic formations. However, the potential does exist for encroachment into fossil-bearing formations in the course of constructing new or reconstructing existing access roads. This potentially significant impact would be reduced to less than significant levels through implementation of mitigation measures described in Subchapter 4.7. Measures include the presence of a paleontological monitor during the initial cutting of previously undisturbed formations with high and moderate resource sensitivity at depths of 10 feet or more. Similar mitigation would be applied to other projects in the region. Therefore, paleontological resources impacts would not be significant at a cumulative level.

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CHAPTER 7.0

ALTERNATIVES

CHAPTER 7.0 – ALTERNATIVES

In accordance with Section 15126.6(a) of the State CEQA Guidelines, an EIR must describe “a range of reasonable alternatives to the project, or to the location of the project, which would reasonably attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project,” as well as “evaluate the comparative merits of the alternatives.” An EIR need not consider every conceivable alternative to the project. Rather, it must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making.

As discussed in Chapter 3.0, Project Description, the primary objectives of the proposed project are as follows:

- Develop a comprehensive Program to govern future maintenance activities needed to maximize the effectiveness of the City’s existing storm water system;
- Minimize the disruption of adjacent property from storm water system maintenance;
- Set forth a series of BMPs to be implemented during storm water system maintenance which balance the flood protection function while maintaining, to the greatest degree possible, the aesthetic and biological value of the system; and
- Develop an SCR process to simplify the authorization process required from local, state and federal agencies with regulatory power over wetlands for annual maintenance activities consistent with the proposed Program.

Based on the analysis contained in Chapter 4.0, the project would result in potentially significant impacts related to aesthetics/neighborhood character (direct), biological resources (Direct and Indirect), historical resources (direct), land use (direct), paleontological resources (direct) and solid waste disposal (cumulative). The alternatives identified in this analysis are intended to reduce or avoid these impacts of the project.

Based on the requirement that alternatives meet most of the basic objectives of the proposed project and reduce significant impacts associated with the proposed project, this EIR analyzes the following alternatives which fall into two categories: Non-structural and Structural. Non-structural alternatives focus on management of vegetation within existing channels while structural alternatives focus on increasing the capacity of the storm water facilities to convey flood water without regular removal of vegetation.

Non-structural Alternatives

Non-structural alternatives considered include:

- No Project (Past Approach); and
- No Maintenance.

Structural Alternatives

Structural Alternatives considered include:

- Raising the channel banks by constructing walls or berms along the top of the channels;
- Diverting storm water in pipes around constrained segments; and
- Widening channels to accommodate vegetation.

Alternative locations are not considered given the nature of the proposed project. Proposed maintenance activities must occur within the channel segments included in the MSWSMP in order to achieve the primary goal of the project to protect adjacent property. Conducting maintenance activities in other locations would not achieve this goal and would result in continued flooding of adjacent property.

7.1 NO PROJECT: MAINTENANCE IN ACCORDANCE WITH PAST APPROACH

7.1.1 Description

Section 15126.6(e)(3)(A) of the CEQA Guidelines requires that a No Project alternative discuss what is reasonably expected to occur if a proposed project is not approved. If the proposed MSWSMP is not adopted, storm water facility maintenance would continue in the manner in which it has occurred in the past.

In the past, the City has maintained the storm water facilities in a much less systematic way than would occur with the proposed MSWSMP. The City generally conducted regular maintenance activities largely on an “as needed” basis. However, in recent years, there has been increasing regulatory constraints on channel cleaning and maintenance. Consequently, maintenance on an “as needed” basis is no longer feasible given the long lead times required to obtain permission for Resource Agencies and to undertake mitigation. As a result, most local agencies, including the City, have largely suspended their regular maintenance activities pending approval of regional permits such as proposed as part of the MSWSMP.

Thus, without the adoption of the proposed MSWSMP and accompanying master permits, it is likely that maintenance would be primarily restricted to activities which clearly meet the Resource Agency definitions of emergency maintenance. For example, to qualify as an emergency maintenance under the CWA, the activity must be required due to a threat of imminent loss of life or property from flooding and must be carried out within seven days of the determination that maintenance is required. In addition, the maintenance would be done without the benefit of Protocols included in the proposed MSWSMP.

7.1.2 Impact Analysis

Land Use (Direct)

Similar to the proposed MSWSMP, the No Project Alternative would conflict with the City's General Plan and the applicable community plans and LCPs, relative to preserving natural drainages. As with the proposed MSWSMP, implementation of this alternative would be consistent with the goals and objectives of relevant park/preserve and other environmental documents. Maintenance and construction of new access roads under this alternative, like the proposed MSWSMP, would have a significant impact on sensitive biological resources and potentially significant impact on historical resources.

Equipment noise and dust associated with the proposed MSWSMP would potentially impact residences adjacent to construction and maintenance areas. Under the No Project Alternative, the same potential for temporary disturbance to adjacent residential uses associated with noise and dust would occur as under the proposed MSWSMP.

Aesthetics/Neighborhood Character (Direct)

Similar to the proposed MSWSMP, visual impacts associated the creation of access routes and the maintenance of storm water facilities (i.e., clearing of vegetation) would occur under this alternative. However, impacts would be less frequent under this alternative, which would allow the riparian vegetation to continue to provide visual relief for longer periods of time. Nonetheless, visual impacts under this alternative may potentially be more impactful than maintenance under the proposed MSWSMP due to the absence of the protocols that are included in the MSWSMP.

Similar to the proposed MSWSMP, stands of mature trees, such as willows, would be cleared during maintenance activities for safety (i.e., flood control). Associated visual impacts would be significant.

Biological Resources (Direct and Indirect)

Under the No Project Alternative, it is assumed that less amounts of the vegetation communities within the study area would be impacted because maintenance would be generally less frequent and extensive in nature. As a result, this alternative also would likely impact less jurisdictional habitat than the proposed MSWSMP. Dewatering and processing of dredge spoils would still be necessary under this alternative.

This alternative would allow vegetation to continue to grow within storm water facilities for longer periods of time than would the proposed MSWSMP. This would be beneficial to affected wildlife, as their habitat would be retained for longer periods of time.

Potentially significant indirect impacts from maintenance activities would still occur with implementation of this alternative, including indirect impacts associated with water quality, noise and exotic plant species. Indirect noise impacts to nesting/breeding coastal California gnatcatchers, least Bell's vireo, and/or raptors could occur under this alternative, as well as the proposed MSWSMP, if maintenance activities create noise in excess of 60 dB(A) L_{eq} in occupied habitat during these species' breeding season. Increased downstream urban pollutant levels could adversely affect wildlife with the removal of the vegetation that is effective at removing urban pollutants.

In summary, implementation of this alternative would slightly reduce the biological impacts in comparison with the proposed MSWSMP, but impacts would remain significant.

Historical Resources (Direct)

As stated in Section 4.4, Historical Resources, areas containing historical resources could be encountered along proposed maintenance access routes or along the banks of natural drainages that would be cleared under this alternative. Impacts to historical resources would still potentially occur under this alternative as a result of construction of maintenance access routes and clearing activities. Impacts to such resources would be significant under both the proposed MSWSMP and this alternative. Impacts would be reduced as a result of less extensive maintenance but not substantially in comparison with the proposed MSWSMP.

Hydrology/Water Quality (Direct)

As with the proposed MSWSMP, the No Project Alternative would reduce potential flood hazards from the accumulation of materials and vegetation within storm drain facilities, and

related effects to system operation and capacity, but not the degree as the proposed MSWSMP. As a result, this alternative would not necessarily achieve the objective to protect property and life from flooding as the overgrowth of vegetation from lack of regular maintenance would impede flood waters and result in flooding.

Potentially significant erosion and sedimentation impacts similar to the proposed MSWSMP would occur under this alternative. The short-term water quality effects from maintenance activities related to erosion and sedimentation would potentially affect downstream waters and associated wildlife habitats, with such impacts considered potentially significant. In addition, there is a similar potential for loss of natural pollutant filtration related to removal of vegetation within the channel under this alternative as there is for the proposed MSWSMP.

Similar water quality impacts would potentially occur due to the use of mechanized equipment and storage of hazardous materials (i.e., vehicle fuels and lubricants). The accidental discharge of construction-related hazardous materials or trash into the storm water system would potentially result in significant impacts to local and downstream receiving waters. However, implementation of the BMPs would reduce potential impacts to below a level of significance for the No Project Alternative as well as the proposed MSWSMP.

Paleontological Resources (Direct)

The study area includes numerous surficial deposits and geologic formations, many of which exhibit potential for the occurrence of significant paleontological resources. The potential for significant impacts to paleontological resources from implementation of this alternative, like the proposed MSWSMP, is considered to be generally low; although significant impacts could occur depending on site-specific geologic conditions and proposed ground disturbance.

Solid Waste Disposal (Cumulative)

This alternative could likely result in a reduction in the amount of material requiring solid waste disposal due to the limitations likely to be imposed by the Resource Agencies on the removal of wetland vegetation within storm water facilities. However, the potential remains for the waste generated by maintenance to combine with future demand for solid waste disposal. Thus, as with the proposed MSWSMP, this alternative could have a significant, unmitigated cumulative impact on solid waste disposal.

7.1.3 Basis for Rejection

Although the No Project Alternative could potentially result in less impacts related to wetlands and solid waste disposal, the City rejected the alternative because it would not fulfill the basic objective to protect life and property from flooding. The overgrowth within the storm water facilities which would occur from lack of regular maintenance would impede flood waters and cause flooding.

7.2 NO MAINTENANCE ALTERNATIVE

7.2.1 Description

Under this alternative, the City would not conduct any maintenance activities within the storm water system. Vegetation would grow unchecked within the channels and sediment would not be removed.

7.2.2 Impact Analysis

Land Use (Direct)

While this alternative would be consistent with the goal of retaining natural drainages, it would conflict with the City's General Plan and the applicable community plans and LCPs, which call for the maintenance of existing public facilities, including drainages, and the protection of property from flooding. Implementation of this alternative would be consistent with the ESL regulations, MSCP Subarea Plan, and City HRG, as no ground disturbance would occur.

Equipment noise and dust associated with the proposed MSWSMP would potentially impact residences adjacent to construction and maintenance areas. The No Maintenance Alternative would not result in such impacts, as no construction or maintenance activities would occur.

Aesthetics/Neighborhood Character (Direct)

Under the No Maintenance Alternative, visual impacts associated the creation of access routes and the maintenance of storm water facilities (i.e., clearing of vegetation) would not occur.

Biological Resources (Direct and Indirect)

Approximately 635.62 acres of wetland/riparian habitat and 249.4 acres of upland habitat (including developed land) occur within the study area. Under the No Maintenance Alternative, no impacts would occur to any vegetation communities within the study area, as opposed to the proposed MSWSMP, which would impact approximately 70.4 acres of vegetated wetland habitat, 24.63 acres of unvegetated streambed/natural flood channel, and 105.9 acres of upland habitat (including approximately 63.5 acres of developed land). Impacts under the proposed MSWSMP would include approximately 22.13 acres of wetland communities and 4.0 acres of upland communities within the MHPA. Under the No Maintenance Alternative, wetland vegetation within the channels would be allowed to grow naturally which would enhance wildlife habitat.

In addition, the No Maintenance Alternative would not impact any of the areas within the study area under Corps jurisdiction (approximately 272.49 acres of wetlands and 290.06 acres of non-wetland WUS, for a total of 562.55 acres), CDFG jurisdiction (approximately 636.02 acres), or City jurisdiction (approximately 635.62 acres, of which 237.70 are unvegetated natural flood channels). In comparison, the proposed MSWSMP would impact up to approximately 34.66 acres of wetlands and 68.27 acres of non-wetland Waters of the U.S. subject to Corps jurisdiction, 70.66 acres of wetlands/riparian habitat and 24.63 acres of unvegetated streambed subject to CDFG jurisdiction and 70.40 acres of vegetated wetland and 24.63 acres of unvegetated natural flood channel subject to City jurisdiction. Dewatering and processing of dredge spoils would not be necessary under this alternative, as sediment within the storm water facilities would not be affected.

No impacts would occur to the five sensitive plant species and eight sensitive animal species observed within the study area, compared to the proposed MSWSMP, which would potentially significantly impact single-whorl burrobush, San Diego marsh-elder, southwestern spiny rush, San Diego sunflower, coastal California gnatcatcher, nesting raptors, western yellow-billed cuckoo, southwestern willow flycatcher, least Bell's vireo and yellow-breasted chat, as well as other animal species. No federally- or state-listed plant species or City narrow endemic plant species were observed within the study area; therefore, no impacts would occur to such species under the No Maintenance Alternative, nor the proposed MSWSMP.

Potentially significant indirect impacts from maintenance activities that would occur from implementation of the proposed MSWSMP, including indirect impacts to water quality, noise, and exotic plant species, would not occur under the No Maintenance Alternative. Indirect noise impacts to nesting or breeding coastal California gnatcatchers, least Bell's vireo, and raptors could occur under the proposed MSWSMP if maintenance activities create noise in excess of 60

dB(A) L_{eq} in occupied habitat during the these species' breeding seasons. This significant impact would not occur under the No Maintenance Alternative.

In summary, implementation of the No Maintenance Alternative would eliminate all significant impacts to biological resources in comparison with the proposed MSWSMP.

Historical Resources (Direct)

Because no construction of access routes or maintenance activities would occur under this alternative, no impacts to historical resources would occur, as opposed to the proposed MSWSMP, which could potentially cause significant impacts to such resources.

Hydrology/Water Quality (Direct)

Because no maintenance activities would occur under the No Maintenance Alternative, the flood control capacities of the storm water facilities within the proposed MSWSMP would not be fully achieved. Under this alternative, potential flood hazards from the accumulation of materials and vegetation within storm water facilities, and related effects to system operation and capacity would not be reduced. As a result, flooding would be expected to periodically occur.

Under the proposed MSWSMP, potentially significant erosion and sedimentation impacts could occur from the various maintenance activities. Under the No Maintenance Alternative, these impacts would not occur. In addition, because no vegetation would be cleared, root systems would continue to hold soil. The short-term water quality effects from maintenance activities under the proposed MSWSMP related to erosion and sedimentation would not occur and downstream waters and associated wildlife habitats would not be affected. In the long-term, the natural pollutant filtration value of the vegetation within the channels would be maintained under this alternative, as no vegetation would be removed. However, sediment buildup could cause runoff to circumvent native vegetation thereby reducing natural pollutant filtration.

Without storage or operation of equipment within storm water facilities, this alternative would avoid impacts related to the on-site use and (potentially) storage of hazardous materials such as vehicle fuels or lubricants. The accidental discharge of construction-related hazardous materials or trash into the storm water system during maintenance would also be eliminated.

Paleontological Resources (Direct)

The potential for significant impacts to paleontological resources from implementation of the proposed MSWSMP is generally low, although significant impacts could occur depending on site-specific geologic conditions and proposed ground disturbance. Under the No Maintenance Alternative, no impacts would occur to paleontological resources, as no ground disturbance would take place.

Solid Waste Disposal (Cumulative)

This alternative would eliminate the impact on solid waste disposal because it would eliminate waste material associated with maintenance activities (e.g., dredge spoil, vegetation, and rubbish). Thus, this alternative would not have a significant cumulative impact on solid waste disposal.

7.2.3 Basis for Rejection

Although the No Maintenance Alternative could potentially result in less impacts related to wetlands and solid waste disposal, the City rejected the alternative because it would not fulfill the basic objective to protect life and property from flooding. The overgrowth within the storm water facilities that would occur from lack of regular maintenance would impede flood waters and cause flooding. Overgrowth and sedimentation also may facilitate ponding of water within the channels and increase the risk of mosquito infestation.

7.3 RAISED BANK ALTERNATIVE

7.3.1 Description

Under this alternative, structures (e.g., walls or levees) would be constructed along the top of channels to allow them to contain vegetation without compromising their ability to transport flood waters. The structures would offset the effect of vegetation and sediment by allowing water elevations to increase without spilling out into adjacent areas. However, accumulation of sediment and vegetation could ultimately eliminate the increased flood capacity created by the structures. Channel-specific engineering would be undertaken to determine the additional “bank” height needed.

7.3.2 Impact Analysis

Land Use (Direct)

Retention of the natural drainage courses through this alternative would reduce conflicts with the goals of City's General Plan and the applicable community plans and LCPs to promote retention of natural drainage courses and minimize impacts to biological resources. With the addition of wall or levees, the existing habitat could remain. However, the construction of walls and levees could impact historical resources located along the channels. As with the proposed MSWSMP, implementation of this alternative, with appropriate mitigation, would be consistent with the goals and objectives of the General Plan, as well as the ESL regulations, MSCP Subarea Plan, and City HRG related to historical resources.

Under this alternative, the potential for temporary disturbance to adjacent residential uses associated with noise and dust would be slightly less than under the proposed MSWSMP because no clearing activities associated with drainage maintenance would occur. However, noise impacts would occur from the construction of walls and/or levees.

Aesthetics/Neighborhood Character (Direct)

Similar to the proposed MSWSMP, visual impacts associated with the creation of access routes would occur under this alternative. However, clearing of drainages, including stands of mature trees located within some of the subject drainage facilities, would not occur. As such, the aesthetic value of wildlife associated with channel vegetation would be maintained under this alternative. An impact that would occur under this alternative that would not occur with implementation of the proposed MSWSMP would be associated with adding structures along channels, which would preclude views into the channels. Such an impact could potentially be significant.

Biological Resources (Direct and Indirect)

Under the Raised Bank Alternative, impacts to vegetation communities would be limited to the construction of access routes and the proposed walls or levees. This alternative would not include the clearing of vegetation from storm water facilities. The Raised Bank Alternative also would substantially reduce required impacts to jurisdictional habitat in comparison to the proposed MSWSMP. Dewatering and processing of dredge spoils would not be necessary under this alternative, as sediment within the storm water facilities would not be affected.

Because this alternative would not include the removal of any vegetation within the affected storm water facilities, impacts to wildlife habitat would be substantially reduced and limited to impacts associated with construction of the access routes, walls and/or levees. However, the structures would have an adverse impact on wildlife by making it more difficult for upland wildlife to access the channels for water, food, and cover. Sensitive plant species within the storm water facilities would not be affected by implementation of this alternative.

Potentially significant indirect impacts from construction activities associated with access routes and structures would still occur from implementation of this alternative, including indirect impacts to water quality, noise, and exotic plant species. Indirect noise impacts to nesting or breeding coastal California gnatcatchers, least Bell's vireo, and/or raptors could still occur under this alternative, as well as the proposed MSWSMP, if maintenance activities create noise in excess of 60 dB(A) L_{eq} in occupied habitat during these species' breeding seasons. Increased downstream urban pollutant levels caused by the removal of vegetation associated with the proposed MSWSMP would not occur as vegetation would be retained with this alternative.

In summary, implementation of the Raised Bank Alternative would reduce the biological impacts in comparison with the proposed MSWSMP.

Historical Resources (Direct)

Impacts to historical resources could still potentially occur under this alternative as a result of construction of maintenance access routes and/or structures. Impacts to such resources would be significant under both the proposed MSWSMP and this alternative. Impacts would not be reduced by implementation of this alternative over the proposed MSWSMP.

Hydrology/Water Quality (Direct)

Implementation of this alternative would reduce potential flood hazards posed by in-channel vegetation. As a result, the anticipated maintenance activities would be expected to generate beneficial effects with respect to storm drain function and related flood hazards.

Potentially significant erosion and sedimentation impacts would be associated with the following activities under this alternative: (1) use of mechanized equipment to construct structures and (2) construction of access roads and/or staging areas. The short-term water quality effects from proposed construction activities related to erosion and sedimentation could potentially affect downstream waters and associated wildlife habitats, with such impacts considered potentially

significant. In the long-term, the natural pollutant filtration value of the vegetation within the channels would be maintained under this alternative, as no vegetation would be removed.

Similar water quality impacts could potentially occur due to the use of mechanized equipment and storage of hazardous materials (i.e., vehicle fuels or lubricants). Similar to the proposed MSWSMP, the accidental discharge of construction-related hazardous materials or trash into the drainage system could potentially result in significant impacts to local and downstream receiving waters.

Paleontological Resources (Direct)

The potential for significant impacts to paleontological resources from implementation of this alternative, like the proposed MSWSMP, is considered to be generally low, although significant impacts could occur depending on site-specific geologic conditions and proposed ground disturbance. In addition, there is a potential for encroachment into paleontological resources to install the structures at the top of banks. With incorporation of the described City risk evaluation criteria and associated monitoring and mitigation measures (where applicable), impacts to paleontological resources would be avoided or reduced below a level of significance.

Solid Waste Disposal (Cumulative)

This alternative would eliminate the impact on solid waste disposal because it would eliminate waste material associated with maintenance activities (e.g., dredge spoil, vegetation, and rubbish). Thus, this alternative would not have a significant, cumulative impact on solid waste disposal.

7.3.3 Basis for Rejection

Although this alternative could potentially result in less impacts related to wetlands and solid waste disposal, the City rejected the alternative for factors related to wildlife habitat, cost, visual quality, and the temporary nature of the solution. With respect to wildlife habitat, the structures along storm water facilities would have an adverse impact on wildlife by making it more difficult for upland wildlife to access the channels for water, food, and cover. Walling off the storm water facilities also would have an adverse visual impact. Drainage courses which support varying degrees of vegetation are considered a visual amenity in urban areas. Hiding storm water facilities behind structures would eliminate their visual value. The cost of designing and constructing structures along existing drainage facilities would be substantial. In addition, the cost would be increased by the need to acquire private property to construct the structures. The cost of designing and constructing a six-foot wall along both sides of a 100-foot drainage

channel is estimated to be \$40,000. The minimum cost of purchasing a 20-foot easement for a distance of 100 feet is estimated to be another \$40,000. Given the number of miles of drainage channels within the City, the cost of increasing flood capacity through construction of structures is considered infeasible. Lastly, this alternative would not be effective in the long-term because accumulation of sediment would likely eventually offset the additional capacity created by the structures.

7.4 CHANNEL BY-PASS ALTERNATIVE

7.4.1 Description

This alternative would involve construction of underground pipes that would divert some or all of the flow around a channel segment to allow the channel to be naturally vegetated. Channel-specific modeling would be undertaken to determine the location and sizing of by-pass pipes to assure that vegetated channel segments can continue to support vegetation without resulting in flooding.

7.4.2 Impact Analysis

Land Use (Direct)

Unlike the proposed MSWSMP, this alternative could eliminate the potential conflict planning goals to preserve natural drainages because the riparian areas within storm water facilities would be allowed to persist with the bypass alternative. In addition, as with the proposed MSWSMP, implementation of this alternative would be consistent with the goals and objectives of the General Plan, as well as the ESL regulations, MSCP Subarea Plan, and City HRG.

Under the Channel By-pass Alternative, the potential for temporary disturbance to adjacent residential uses associated with noise and dust would be slightly less than under the proposed MSWSMP, because no clearing activities associated with drainage maintenance would occur. However, this alternative would require the construction of underground pipelines, which would contribute to dust and noise impacts.

The Channel By-pass Alternative also would require additional encroachment into adjacent property for the placement of pipelines.

Aesthetics/Neighborhood Character (Direct)

The aesthetic impacts associated with the Channel By-pass Alternative would be less than the proposed MSWSMP because it would avoid clearing of drainages, including stands of mature

trees located within some of the subject drainages. While some vegetation would need to be cleared for placement of the by-pass pipes, it would be less extensive than with the proposed MSWMP.

Biological Resources (Direct and Indirect)

Under the Channel By-pass Alternative, impacts to vegetation communities would be limited to the construction of access routes and the proposed underground pipes. This alternative would not include the clearing of vegetation from storm water facilities. This alternative also would substantially reduce impacts to jurisdictional habitat in comparison to the proposed MSWSMP.

Because this alternative would not include the removal of vegetation within the affected storm water facilities, impacts to wildlife habitat would be substantially reduced and limited to impacts associated with construction of the access routes and underground pipes. In addition, sensitive plant species within the storm water facilities would not be affected by implementation of this alternative.

Potentially significant indirect impacts from construction activities associated with access routes and pipelines would still occur from implementation of this alternative, including indirect impacts to noise and exotic plant species. Indirect noise impacts to nesting or breeding coastal California gnatcatchers, least Bell's vireo, and/or raptors could still occur under this alternative, as well as the proposed MSWSMP, if maintenance activities create noise in excess of 60 dB(A) L_{eq} in occupied habitat during these species' breeding seasons. Increased downstream urban pollutant levels caused by the removal of vegetation associated with the proposed MSWSMP would not occur as vegetation would be retained with this alternative.

In summary, implementation of the Channel By-pass Alternative would substantially reduce the biological impacts in comparison with the proposed MSWSMP.

Historical Resources (Direct)

Impacts to historical resources may still potentially occur under this alternative as a result of construction of maintenance access routes or underground pipes. Impacts to such resources would be significant under both the proposed MSWSMP and this alternative.

Hydrology/Water Quality (Direct)

Implementation of this alternative would reduce potential flood hazards posed by in-channel vegetation. As a result, the Channel By-pass Alternative would be expected to generate beneficial effects with respect to storm drain function and related flood hazards.

Potentially significant erosion and sedimentation impacts would be associated with the following activities under this alternative: (1) use of mechanized equipment to construct underground pipes, and (2) construction of access roads and/or staging areas. The short-term water quality effects from proposed construction activities related to erosion and sedimentation could potentially affect downstream waters and associated wildlife habitats, with such impacts considered potentially significant. In the long-term, the natural pollutant filtration value of the vegetation within the channels would be maintained under this alternative, as no vegetation would be removed.

Similar water quality impacts could potentially occur due to the use of mechanized equipment and storage of hazardous materials (i.e., vehicle fuels or lubricants). Similar to the proposed MSWSMP, the accidental discharge of construction-related hazardous materials or trash into the drainage system could potentially result in significant impacts to local and downstream receiving waters.

Paleontological Resources (Direct)

The potential for significant impacts to paleontological resources from implementation of this alternative, like the proposed MSWSMP, is considered to be generally low, although significant impacts could occur depending on site-specific geologic conditions and proposed ground disturbance. In addition, there is a potential for encroachment into paleontological resources to install the pipes.

Solid Waste Disposal (Cumulative)

This alternative would eliminate the impact on solid waste disposal because it would eliminate waste material associated with maintenance activities (e.g. dredge spoil, vegetation, and rubbish). Thus, this alternative would not have a significant cumulative impact on solid waste disposal.

7.4.3 Basis for Rejection

Although this alternative could potentially result in less impacts related to wetlands and solid waste disposal, the City rejected the alternative as financially infeasible and posing a burden on adjacent property owners. The cost of constructing the by-pass pipes would be high. It is estimated that the cost to design and construct 100 feet of by-pass pipe would be \$500,000 for small channels. In addition to the cost of pipeline construction, the City would incur additional costs related to acquiring private property through which the pipes would pass. The minimum cost of purchasing a 20-foot easement for a distance of 100 feet is estimated to be \$40,000. These numbers represent a small channel. Many of the City's drainage channels would be considerably larger than the system described above.

Beyond the cost of acquiring easements, adjacent development would make it difficult to construct by-pass pipes without impacting structures including homes and businesses. Condemning structures would further add to the cost of the by-pass alternative. In addition, this alternative would not be effective in the long-term because accumulation of sediment in the main channel would likely eventually offset the additional capacity created by the by pass. Given these cost factors, accommodating flood waters with by-pass pipes is considered infeasible.

7.5 WIDENED CHANNEL ALTERNATIVE

7.5.1 Description

Under this alternative, the configuration of channels would be modified to increase the volume capacity of the channel. The goal of increasing the channel volume would be to enable vegetation to exist in the channel without causing flooding. In order to promote wetland habitat, the modified channels would be completely earthen, and any pre-existing concrete or other impermeable forms of channel protection would be removed.

Channel-specific modeling would be undertaken to determine the additional width needed. In most cases, the capacity would be increased by widening the cross-section of the channel. Increasing the depth of the channel would also increase capacity but is expected to be difficult to achieve in most cases due to constraints imposed by the slope limitations on the channel banks and maintaining downstream gradients.

Implementation of this alternative would require a substantial grading operation within the existing channels as well as encroachment into adjacent areas to accommodate the widened cross-section. As the City typically has little, if any, right-of-way beyond the existing channels, it is anticipated

that implementation of this alternative would require the City to purchase property and/or secure easements from landowners adjacent to the affected channel.

7.5.2 Impact Analysis

Land Use (Direct)

Increasing the width and allowing wetland vegetation to persist in natural drainage courses through this alternative would avoid conflicts with the goals of City's General Plan and the applicable community plans and LCPs to promote retention of natural drainage courses and minimize impacts to biological resources. With the widened cross-section, some portion of the existing habitat could remain. However, increasing the width of existing channels could impact historical resources located along the channels. As with the proposed project, implementation of this alternative, with appropriate mitigation, would be consistent with the goals and objectives of the General Plan, as well as the ESL regulations, MSCP Subarea Plan, and City HRG.

Unlike the non-structural alternatives, the Widened Channel Alternative is expected to have a substantial impact on adjacent development. Given the limited City right-of-way, and the fact that the majority of the affected channels are immediately bordered by residential or commercial development, a large number of homes and businesses would likely need to be eliminated to accommodate the widened channels. This would have significant land use impacts related to the loss of housing and imposition of financial hardship on affected businesses. In addition, for the adjacent development that would remain, this alternative would substantially increase the potential for temporary disturbance to adjacent residential uses over that of the proposed MSWSMP because the grading required to widen channels would involve considerably greater equipment noise and dust generation. The ability of financial compensation to offset the land use impact cannot be determined at this time, but, it is possible that the impacts would not be fully mitigated by financial compensation. Thus, the land use impacts are considered significant and potentially unmitigated.

Aesthetics/Neighborhood Character (Direct)

In the short-term, the widened channels would detract from the visual character of the surrounding areas. However, once the vegetation becomes re-established, this alternative would not have a significant impact on the aesthetics and neighborhood character because the drainage courses would continue to represent an aesthetically-pleasing feature in the local landscape. In addition, any removal of concrete drainage structures that would result from the widening would also improve the visual character of the surrounding area. Similar to the proposed MSWSMP,

visual impacts associated with the creation of access routes for grading equipment would occur under this alternative. However, maintenance activities in the widened channels would be anticipated to be considerably less than the proposed project. While periodic removal of sediment and debris would continue to be necessary, large-scale removal of vegetation would not be required. As such, the aesthetic value of wildlife associated with channel vegetation would be better with this alternative in comparison with the proposed project.

Biological Resources (Direct and Indirect)

With the Widened Channel Alternative, short-term impacts to vegetation communities within the affected channels would be comparable to the proposed project because, in both cases, the majority of the channel vegetation would be removed. However, unlike the proposed project, at least some portion of the vegetation would be able to re-establish within the channel without subsequent removal.

Potentially significant short-term indirect impacts from channel widening would be greater than the proposed project due to the amount of disturbance that would be required within the channels themselves. However, the long-term water quality impacts related to the loss of urban pollutant removal by in-channel vegetation would be avoided, as much of the vegetation would be expected to remain in the widened channels. Uncontrolled erosion and sedimentation during channel widening could impact downstream wildlife habitat. Construction activities in channels could impede the movement of animals through natural drainage corridors. Indirect noise impacts to nesting or breeding coastal California gnatcatchers, least Bell's vireo, and/or raptors could still occur under this alternative, as well as the proposed MSWSMP, if maintenance activities create noise in excess of 60 dB(A) L_{eq} in occupied habitat during these species' breeding seasons.

In summary, implementation of the Widened Channel Alternative would substantially reduce the long-term biological impacts in comparison with the proposed MSWSMP but would have similar short-term impacts. As with the proposed project, it is difficult to forecast whether the short-term impacts could be fully mitigated without more information on the nature of the impact and the ability to implement sufficient mitigation.

Historical Resources (Direct)

Impacts to historical resources may occur under this alternative as a result of encroachment into adjacent property from the widened channel and construction of access routes. In fact, historical impacts would have a high probability of occurring due to the expectation that existing buildings

would likely have to be torn down to accommodate the widened channels. Given the fact that many of these channels occur in older urban sections of the City of San Diego, the chances are high that structures greater than 45 years old would be affected.

The potential for affecting significant historic structures is considered substantially higher with the Widened Channel Alternative than the proposed MSWSMP. As with the proposed project, mitigation is expected to be available to reduce potential impacts to below a level of significance.

Hydrology/Water Quality (Direct)

Implementation of this alternative would substantially reduce, but not entirely avoid, potential flood hazards posed by in-channel vegetation. Periodic removal of sediment, trash and/or invasive plants is likely to continue to be required, albeit, at substantially greater intervals, in comparison with the proposed project.

Potential significant erosion and sedimentation impacts would be associated with the following activities under this alternative: (1) use of mechanized equipment to reconstruct the channels and (2) construction of access roads and/or staging areas. The short-term water quality effects from proposed construction activities related to erosion and sedimentation could potentially affect downstream waters and associated wildlife habitats, with such impacts considered potentially significant. In the long-term, the natural pollutant filtration value of the vegetation with channels would be maintained under this alternative, as vegetation would be allowed to remain within the channel after reconstruction.

Similar water quality impacts could potentially occur due to the use of mechanized equipment and storage of hazardous materials (i.e., vehicle fuels or lubricants). Similar to the proposed MSWSMP, the accidental discharge of construction-related hazardous materials or trash into the drainage system could potentially result in significant impacts to local and downstream receiving waters.

Paleontological Resources (Direct)

The Widened Channel Alternative could result in significant impacts to paleontological resources. Unlike the proposed project, this alternative would involve substantial grading. Where widened channels cross through geologic formations known to exhibit a moderate to high potential for fossils, the excavation needed to increase the width of those channels would potentially impact significant paleontological resources. With incorporation of the described City risk evaluation criteria and associated monitoring and mitigation measures (where

applicable), impacts to paleontological resources would be avoided or reduced to below a level of significance.

Solid Waste Disposal (Cumulative)

While the initial reconstruction of the channel would generate vegetation that must be disposed at landfills, this alternative would reduce the long-term impact on solid waste disposal because it would eliminate or reduce the need to dispose of vegetation waste created during maintenance. Under this alternative, some portion of the vegetation within the channel is expected to be able to remain in the channel without impacting its ability to accommodate flood water. Thus, this alternative would not have a significant, cumulative impact on solid waste disposal.

7.5.3 Basis for Rejection

Although this alternative would potentially result in a substantial reduction in long-term impacts related to wetlands and solid waste disposal, the City rejected the alternative for factors related to cost and impacts on adjacent development.

The cost of designing and constructing wider channels along existing drainage facilities would be substantial. In addition, the cost would be increased by the need to acquire private property to accommodate the widening. Based on a recent channel widening project completed by the City in Chollas Creek, designing and widening a 100-foot section of channel would be cost prohibitive. The minimum cost of purchasing a 20-foot easement for a distance of 100 feet is estimated to be another \$40,000. Given the number of miles of drainage channels within the City, the cost of increasing flood capacity through channel widening is considered infeasible. Lastly, this alternative would not necessarily eliminate the cost of periodic maintenance. Although maintenance frequency and extent would be considerably reduced, no natural drainage course can be maintenance-free. Periodic removal of sediment, debris and, possibly, invasive plant material (e.g. arundo) would still be required to maintain the effectiveness of the channel to safely convey flood water.

In addition to the cost associated with acquiring adjacent property and removing structures, these actions would not achieve the project objective to “Minimize the disruption of adjacent property from storm water system maintenance”. Adjacent home and business owners would be required to relocate their homes and businesses. Even though the City would be required to provide compensation based on fair market value, relocation would be a burden on these home and business owners. The loss of housing could also adversely affect the City’s ability to provide adequate housing. In addition, because many of the affected homes are expected to have property

values below the City-wide median home price, the loss of these homes would adversely affect the affordable housing stock in the City.

Although channel widening is not considered a feasible alternative for general channel maintenance, this technique is recognized in Section 4.3, Biological Resources, as a potential approach to mitigation provided the vegetation does not have to be periodically maintained to retain the flood control function of the widened channel. Where appropriate conditions exist (e.g., vacant land and favorable hydrologic conditions), channel widening could create direct and indirect benefits with respect to biological resources. Where sufficient hydrology conditions exist to support additional wetland vegetation, channel widening could result in a net increase in the amount of wetland habitat. This would constitute wetland creation which is the most valued form of mitigation. The ability to re-establish wetland vegetation within its original location after channel widening would eliminate the repeated temporary loss of habitat that would occur from maintenance under the proposed project.

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EFFECTS FOUND NOT TO BE SIGNIFICANT

CHAPTER 8.0 – EFFECTS FOUND NOT TO BE SIGNIFICANT

Based on an Initial Study and the NOP scoping process completed for the proposed MSWSMP, it was determined that the proposed MSWSMP would not have a significant environmental impact in the following areas: agriculture; air quality; energy; geology and soils; light, glare, and shading; mineral resources; population and housing; public services and utilities; recreational resources; transportation/ circulation; and water conservation. The reasons for the non-significance conclusion are provided below with a discussion of each issue.

8.1 AGRICULTURE

The vast majority of the storm water facilities are not located within existing or designated agricultural areas. A few portions of some of the facilities are within areas that are designated as Prime Farmland, Farmland of Statewide Importance, Farmland of Local Importance, and Grazing Land. However, only a few agricultural operations, particularly in the south bay area, currently exist. Construction of access routes and maintenance of storm water facilities would not preclude future agricultural use in areas that could, in the future, be potentially put into agricultural production. Thus, the proposed MSWSMP would not result in significant impacts to agricultural resources.

8.2 AIR QUALITY

Air quality impacts associated with the proposed MSWSMP would be limited primarily to short-term exhaust and dust emissions from equipment operations as well as odors emitted from temporary stockpiling of dredged soil and vegetation. To help minimize impacts to sensitive environmental resources, most of the equipment to be used would be smaller (i.e., more portable and agile) than the larger, more conventional equipment typically associated with infrastructure projects. Additionally, the nature of activities associated with the proposed MSWSMP is relatively limited, as described in Chapter 3.0, Project Description. The proposed MSWSMP would involve the clearing of brush and minor grading if/where needed to provide access to storm water facilities, as well as the maintenance of storm water facilities (i.e., removal of trash, sediment, vegetation, debris, etc.). Although the proposed MSWSMP may include the generation of fugitive dust during construction of access routes and vehicle travel over the access routes, the limited nature of surface disturbance and vehicle travel is not expected to result in significant levels of dust emissions. Grading and excavation activities associated with drainage clearing or maintenance would generally occur in wet soils, which would preclude the creation of substantial amounts of dust. In addition, project activities would be conducted in accordance with San Diego County Air Pollution Control District standards, which require dust suppression

methods such as the use of water trucks. Therefore, impacts associated with air quality would be less than significant.

Stockpiling would be temporary, as would any odor associated with the dredged material or vegetation. Thus, no significant odor impacts would be generated by stockpiling. In addition, maintenance of storm water facilities would include the removal of any standing water and trash that may create objectionable odors. As such, implementation of the proposed MSWSMP would help eliminate any such odors associated with the existing status of the storm water facilities to be maintained under the proposed MSWSMP. Accordingly, no negative impacts associated with odors would occur.

Global climate change refers to changes in average climatic conditions on Earth as a whole, including temperature, wind patterns, precipitation, and storms. Global temperatures are moderated by naturally occurring atmospheric gases, including water vapor, carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). These gases allow solar radiation (sunlight) into the Earth's atmosphere, but prevent radiative heat from escaping, thus warming the Earth's atmosphere. Gases that trap heat in the atmosphere are often called greenhouse gases, analogous to a greenhouse. Greenhouse gases are emitted by both natural processes and human activities. Emissions from human activities, such as electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere. Global climate change attributable to anthropogenic (human) emissions of greenhouse gases (mainly CO₂, CH₄, and N₂O) is currently one of the most important and widely debated scientific, economic, and political issues in the United States.

Greenhouse gas emissions would be associated with the construction phase of the individual project through use of heavy equipment and vehicle trips. Emissions of greenhouse gases would be temporary. As stated above, the proposed MSWSMP would result in short-term exhaust emissions from equipment operations; however, most of the equipment to be used would be relatively small. Because of the small amount of construction and maintenance that would be required during implementation of the proposed MSWSMP, impacts from greenhouse gas emissions would be less than significant.

8.3 ENERGY

Other than relatively minor amounts of fossil fuel consumption associated with the operation of clearing and maintenance equipment, implementation of the proposed MSWSMP would not have any energy demands. The use associated with such equipment would not be excessive and would be temporary in nature. Implementation of the proposed MSWSMP would not preclude recovery of fossil fuel resources and no known economic fossil fuel resources are present within

the vicinity of the storm water facilities to be maintained. Accordingly, impacts associated with energy would be less than significant.

8.4 GEOLOGY AND SOILS

The proposed MSWSMP would generally not involve any design, engineering, construction, or maintenance efforts that would generate issues related to geology and soils, with the exception of erosion/sedimentation, which is addressed in Subchapter 4.5, Hydrology/Water Quality. Specifically, as described in Chapter 3.0, Background and Description of Proposed MSWSMP, proposed operations would consist largely of removing and disposing of sediment, debris, and associated vegetation that accumulate in storm water facilities over time. In those cases where facilities or operations such as by-pass structures (e.g., check dams to divert flows around maintenance areas), access roads or stockpiling of materials or spoils are required, they would be designed or conducted in accordance with applicable seismic standards and/or geotechnical engineering practices, and no associated significant impacts would result.

8.5 LIGHT, GLARE, AND SHADING

Clearing and maintenance activities associated with the proposed MSWSMP would be temporary and would occur during daylight hours (except under emergency situations) in relatively remote areas. The proposed MSWSMP would not result in the creation of anything that would result in glare. No buildings or other such structures would be constructed during clearing and maintenance activities. As such, no light, glare, or shading impacts would occur.

8.6 MINERAL RESOURCES

Some portions of the subject storm water facilities may cross areas classified by the State Geologist as MRZ-2 (areas where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood for their presence exists). However, implementation of the proposed MSWSMP would not preclude the recovery of any on-site mineral resources. As such, no mineral resource impacts would occur.

8.7 POPULATION AND HOUSING

Maintenance activities under the proposed MSWSMP would take place within existing storm water facilities in canyons, other environmentally sensitive lands and along existing streets and other rights-of-way. The proposed MSWSMP would not impact population growth or displace existing housing or people. The proposed MSWSMP also would not foster population growth,

either directly or indirectly, or necessitate the construction of new housing. No impacts to population or housing would occur.

8.8 PUBLIC SERVICES AND UTILITIES

Failure to properly maintain storm water facilities could result in flooding of adjacent properties, increasing the risk of loss of life and property. The proposed MSWSMP would help improve and maintain water quality within affected storm water facilities by removing illegally dumped materials such as trash, appliances, furniture, shopping carts, and tires, as well as debris, sediment, and vegetation. As such, the proposed MSWSMP would be beneficial to storm water drainage within the City. Police, fire, schools, or parks would not be affected by implementation of the proposed MSWSMP. Utilities related to communications, energy, wastewater, and water would not be significantly impacted because maintenance activities would not result in any new excavation or structures which could impact these existing utilities.

As discussed in Subchapter 6.3.1, solid waste generated by channel maintenance (e.g., green waste and hazardous materials) would not constitute a significant direct impact on solid waste disposal capacity within the City but would contribute to the anticipated challenges in the future associated with solid waste disposal.

8.9 RECREATIONAL RESOURCES

The proposed MSWSMP would not include the construction of any recreational facilities or require the construction or expansion of such facilities. The proposed MSWSMP area includes some canyons and other environmentally sensitive lands located throughout the City, some of which may currently be used for passive recreational uses. Because clearing and maintenance activities would be infrequent and relatively short-term in nature, if such activities preclude access to and/or through recreational areas, it would be temporary and, thus, less than significant.

8.10 TRANSPORTATION/CIRCULATION

Implementation of individual projects under the proposed MSWSMP would temporarily result in minimal traffic to roadways associated with construction and maintenance workers' personal vehicles and the transportation of equipment to and from the work sites. This temporary and minor increase in traffic would not substantially add to the existing traffic volumes on roadways, nor would it affect existing or planned transportation systems.

Activities associated with implementation of the proposed MSWSMP would generally be limited to off-road areas and would not have a significant impact on transportation/circulation. In some cases, staging and/or work areas for individual projects would be within streets and/or rights-of-way. This would require temporary partial or full lane closures and the diversion of traffic around work areas. If such is required, a construction traffic control plan would be prepared and implemented to minimize potential traffic impacts.

Implementation of the proposed MSWSMP would have a minimal effect on parking, as a limited number of maintenance workers would be required for each project. When able to do so, workers would park off the street; however, in some cases they may need to park on the street or within parking lots.

Impacts to transportation/circulation and parking would be less than significant.

8.11 WATER CONSERVATION

Activities associated with implementation of the proposed MSWSMP would not require the use of notable quantities of water. Minor amounts of water may be necessary for dust control during maintenance but due to the temporary nature of the demand for water supply associated with the proposed MSWSMP and the limited quantities typically consumed during the maintenance, impacts on water supply would be less than significant.

Some individual projects may require revegetation of staging areas, if the staging areas would impact sensitive vegetation communities. Temporary irrigation may be required until plants are established. Because the disturbance areas would be relatively small, and therefore would require little water for irrigation, and irrigation would be short term, impacts associated with water conservation would be less than significant.

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SECTION 9.0

SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL
CHANGES THAT WOULD BE INVOLVED IN THE
PROPOSED ACTION, SHOULD IT BE IMPLEMENTED

CHAPTER 9.0 – SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES THAT WOULD BE INVOLVED IN THE PROPOSED ACTION, SHOULD IT BE IMPLEMENTED

Implementation of the MSWSMP would not result in any irreversible environmental changes. Maintenance associated with the MSWSMP would not alter the configuration of natural drainage courses. Although maintenance would remove vegetation within drainage courses, the loss of vegetation would not be irreversible. Wetland vegetation is adapted to recovery after major storm events. As a result, wetland vegetation within the drainages would become re-established with cessation of maintenance. The need for routine clearing of channels is evidence of the fact that maintenance effects on vegetation would not be irreversible.

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CHAPTER 10.0

SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

CHAPTER 10.0 - SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

Section 15126(b) of the State CEQA Guidelines requires an EIR to “describe any significant impacts, including those that can be mitigated but not reduced to a level of insignificance. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons why the project is being proposed, notwithstanding their effect, should be described.”

Chapter 4.0 of this PEIR provides a description of the potential environmental impacts of the proposed Programs and recommends mitigation measures to reduce impacts to a less than significant level, where possible. In some cases, however, the potential for significant impacts to occur and/or the ability to fully mitigate such impacts will depend on the specific setting for, and characteristics of, an individual maintenance activity. More specifically, it can not be conclusively determined at this time that mitigation measures related to biological resources would be able to reduce impacts of individual maintenance areas to less than significant levels. Thus, biological resource impacts are considered unavoidable. As indicated earlier, retention of vegetation, which would be necessary to comply with General and Community Plan goals relative to natural drainages, is incompatible with the goal of the project to provide flood protection. Thus, land use impacts on conservation and open space goals also would be unavoidable.

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CHAPTER 11.0

MITIGATION MONITORING AND REPORTING
PROGRAM

CHAPTER 11.0 – MITIGATION MONITORING AND REPORTING PROGRAM

Section 21081.6 of the State of California Public Resources Code requires a Lead or Responsible Agency that approves or carries out a project where an environmental impact report (EIR) has identified significant environmental effects to adopt a “reporting or monitoring program for adopted or required changes to mitigate or avoid significant environmental effects.” The City of San Diego is the lead Agency for the MSWSMP PEIR, and, therefore, is responsible for implementation of the Mitigation Monitoring and Reporting Program (MMRP). Because the PEIR recommends measures to mitigate these impacts, a MMRP is required to ensure that adopted mitigation measures are implemented.

As Lead Agency for the proposed project under CEQA, the City of San Diego will administer the MMRP for the following environmental issue areas: biological resources, historical resources, land use policies encouraging conservation of wetlands, and paleontological resources.

GENERAL

General Mitigation 1: Prior to commencement of work, the 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 (Mitigation Measures 4.1.1 through 4.1.13), and paleontological resources (Mitigation Measure 4.7.1) 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, 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 1602 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

Potential impacts to biological resources would be reduced to below a level of significance through implementation of the following mitigation measures as well as Mitigation Measures 4.1-1 through 4.1-30.

Mitigation Measure 4.3.1: Prior to commencement of any activity within a specified annual maintenance program, the SWD shall identify all proposed maintenance activities. An IMP shall be prepared for each activity. The IMP shall identify the following: maintenance method(s) to be used, equipment type, appropriate BMPs, proposed access, staging areas, spoils storage sites, and schedule. In addition, the IMP shall incorporate relevant maintenance protocols as well as specific mitigation measures identified in the IBA for the activity.

Mitigation Measure 4.3.2: 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. Based on the IMP, the biologist shall determine the extent of impact which would occur to sensitive biological resources. The biologist also shall specify compensation which shall be required to mitigate impacts to biological resources (e.g., invasives removal, wetland creation/enhancement/restoration, or off-site upland habitat acquisition). The results of this survey shall be summarized in an IBA. At a minimum, the IBA shall include:

- Description of maintenance to be performed including length, width, and depth;
- Protocol surveys, as needed;
- Detailed vegetation mapping;
- Wetland delineation in compliance with applicable local, state, and federal regulations;
- Location of sensitive plant species;
- Quantification of impacts to all sensitive biological resources;
- Two, digital, date-stamped photos of affected area;
- Specific maintenance protocols from the MSWSMP which should be implemented as part of the IMP;
- Specific biological monitoring required during maintenance; and
- Specific compensation which would be required to mitigate impacts to biological resources (e.g., wetland creation/enhancement/restoration or offsite upland habitat acquisition).

Mitigation Measure 4.3.3: Wetland mitigation plans shall be consistent with the Conceptual Wetland Mitigation Plan contained in Appendix H of the Biological Technical Report, included as Appendix C.3 of the PEIR and shall include:

- 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 compensates 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 compensates 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 which involves payment of funds into the City's Habitat Acquisition Fund would be based on the required per acre cost in effect at the time of the project impact plus a 10 percent administration fee.

Mitigation Measure 4.3.4: Loss of habitat for the coastal California gnatcatcher shall be mitigated through the acquisition of suitable habitat or mitigation credits at a ratio of 1:1. Mitigation shall take place within the MHPA and shall be accomplished within six months of the date maintenance is completed. (Appendix C.1 MM 7.1.5a)

Mitigation for gnatcatcher impacts shall be considered initiated if one of the following conditions is met:

- A mitigation plan (e.g., habitat creation, enhancement, and/or restoration plan) is submitted to DSD for review. Additionally, work must be initiated within 3 months (weather permitting) of mitigation plan approval.
- Debiting credits from an appropriate mitigation bank. If mitigation occurs via debiting credits from an appropriate mitigation bank, all money initially deposited as part of the project submittal shall be rolled-over for use by subsequent projects.
- Withdrawing an appropriate sum of money from the mitigation account to pay into the Habitat Acquisition Fund.

Mitigation Measure 4.3.5: High frequency maintenance wetland impacts shall be compensated with “permanent” wetland mitigation (restoration and/or enhancement or mitigation credits) in accordance with ratios in Table 4.3-10. Restoration/enhancement/creation activities that include an endowment for long-term management are included as a type of permanent mitigation. Mitigation through up-front establishment of the mitigation or through purchase of mitigation credits shall be at a 1:1 ratio. No maintenance shall commence until the following has occurred:

- A mitigation plan (e.g. enhancement and/or restoration plan), consistent with Appendix H of the Biological Technical Report contained in Appendix C.3 of the PEIR, has been approved by DSD and sufficient evidence exists for DSD to conclude that the mitigation would commence within 6 months of the date that the related maintenance has been completed; and/or
- Debiting credits have been obtained from an appropriate mitigation bank.

WETLAND TYPE	MITIGATION RATIO¹
Southern riparian forest	3:1
Southern sycamore riparian woodland	3:1
Riparian woodland	3:1
Coastal saltmarsh	3:1
Coastal brackish marsh	3:1
Southern willow scrub	2:1
Mule fat scrub	2:1
Riparian scrub	2:1
Freshwater marsh	1:1
Cismontane alkali marsh	1:1
Disturbed wetland	1:1
Streambed/natural flood channel	NA

¹Mitigation done in advance or through purchase of mitigation credits would be at a 1:1 ratio.

Mitigation Measure 4.3.6: Low frequency maintenance wetland impacts shall be compensated through an invasives removal program at the ratios noted in Table 4.3-10 each time the maintenance occurs. In accordance with the Conceptual Wetland Mitigation Plan contained in Appendix H of the Biological Technical Report contained in Appendix C.3 of the PEIR, removal of invasives (e.g., giant reed, pampas grass) shall be followed by a maintenance program, which would assure that invasives would not re-establish for a period of two years after the removal has occurred. The initial removal of invasive plant material shall be completed within six months of the date the related maintenance has been completed. (Appendix C.3 MM 7.1.3b)

Mitigation Measure 4.3.7: Upland impacts shall be compensated through payment into the City's Habitat Acquisition Fund or acquisition and preservation of specific land in accordance with the ratios identified in Table 4.3-11. Upland mitigation shall be completed within six months of the date the related maintenance has been completed. (Appendix C.1 MM 7.1.2a)

Vegetation Type	Tier	Location of Impact with Respect to the MHPA	
		Inside	Outside
Coast live oak woodland	I	2:1	1:1
Scrub oak chaparral	I	2:1	1:1
Southern foredunes	I	2:1	1:1
Beach	I	2:1	1:1
Diegan coastal sage scrub	II	1:1	1:1
Coastal sage-chaparral scrub	II	1:1	1:1
Broom baccharis scrub	II	1:1	1:1
Southern mixed chaparral	IIA	1:1	0.5:1
Non-native grassland	IIIB	1:1	0.5:1
Eucalyptus woodland	IV	--	--
Non-native vegetation/ornamental	IV	--	--
Disturbed habitat/ruderal	IV	--	--
Developed	IV	--	--

¹Assumes mitigation occurs within an MHPA

Mitigation Measure 4.3.8: 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 4.3.9: 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 4.3.10: 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 carried out as compensation;

- 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 4.3.11: Impacts to floodplains within the MHPA shall be minimized, to the greatest extent practicable, through project design and coordination with the regulating agencies.

Mitigation Measure 4.3.12: Placement of new riprap, concrete, or other unnatural material into channels in the MHPA would be minimized to the maximum extent practicable. These materials would be used only in the event of severe erosion of earthen banks that cannot feasibly be repaired with the use of natural materials.

Mitigation Measure 4.3.13: Construction of temporary access and staging along channels shall be restricted to those areas where no such facilities currently exist. Impacts to sensitive habitat and/or sensitive species shall be minimized to the greatest extent practicable through project design measures, such as locating the facilities in the least sensitive habitat possible. (Appendix C.1 MM 7.1.6c)

Mitigation Measure 4.3.14: 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 following in attendance: 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 review the maintenance protocols that apply to the maintenance activities, and review the monitoring protocol to be followed.

At the pre-maintenance meeting, the monitoring biologist shall submit to the MMC and MC a copy of the site/grading 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 construction 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 4.3.15: 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 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 February 1 and August 1.

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 4.3.16: 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 4.3.17: 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 4.3.18: Access roads and staging areas shall be monitored for presence of exotic species, and exotic species would be removed as appropriate. Maintenance clearing of storm water facilities also would remove non-native species. Mitigation for direct impacts from the proposed project also may involve the removal of invasive non-native species in and adjacent to storm water facilities within the MHPA. (Appendix C.1 MM 7.2.1a)

Mitigation Measure 4.3.19: Physical erosion control measures such as fiber mulch, hay bales, etc., shall not harbor seeds from invasive species. (Appendix C.1 MM 7.2.1b)

Mitigation Measure 4.3.20: Prior to undertaking any maintenance activity included in an annual maintenance program, the SWD shall create a mitigation account 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 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 4.3.21: 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;
- Offsite habitat that supports the species impacted shall be enhanced and/or supplemented with seed collected onsite; 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. (Appendix C.1 MM 7.1.4a)

Mitigation Measure 4.3.22: Wherever possible, 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*). (Appendix C.1 MM 7.1.5b)

Mitigation Measure 4.3.23: 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. (Appendix C.1 MM 7.1.5d)

Mitigation Measure 4.3.24: If a subject species is not detected during the protocol survey, the qualified biologist shall submit substantial evidence to the ADD and an applicable resource agency which demonstrates whether or not mitigation measures such as noise walls are necessary between the dates stated above for each species. If this evidence concludes that no impacts to this species are anticipated, no mitigation measures would be necessary. (Appendix C.1 MM 7.2.3c)

Mitigation Measure 4.3.25: If the City 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 4.3.26. (Appendix C.1 MM 7.2.3d)

Mitigation Measure 4.3.26: 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 the 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. (Appendix C.1 MM 7.2.3e)

Mitigation Measure 4.3.27: If maintenance occurs during the raptor breeding season (February 1 to August 1), 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 or until after August 1. (Appendix C.1 MM 7.2.3g)

Mitigation Measure 4.3.28: 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 (February 1 through August 1), 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. (Appendix C.1 MM 7.1.5c)

Mitigation Measure 4.3.29: If maintenance activities would occur at known localities for listed fish species, a biologist shall determine the presence/absence of flowing/standing water and/or the presence/absence of the species. If flowing/standing water is present, a biological monitor would accompany the maintenance crew and supervise the activities. If maintenance activities must occur within suitable habitat for other highly sensitive aquatic species (i.e., southwestern pond turtle) avoidance or minimization measures (i.e., exclusionary fencing, dewatering of the activity area, live-trapping, and translocation to suitable habitat) must be implemented. (Appendix C.1 MM 7.1.5e)

Mitigation Measure 4.3.30: 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. Whenever possible, flagged or fenced areas must be avoided. Where these areas cannot be avoided, proper rehabilitation of the impact area will occur. (Appendix C.1 MM 7.2.2a)

HISTORICAL RESOURCES

Potential impacts to historical resources would be reduced to below a level of significance through implementation of the following mitigation measures.

Mitigation Measure 4.4.1: Prior to commencement of the first occurrence of maintenance activity within a drainage facility included in the MSWSMP, an archaeologist, meeting the qualifications specified by the City's HRG, shall determine the potential for significant historical resources to occur in the maintenance area. If the archaeologist determines that the potential is moderate to high, an IHA shall be prepared. Based on the IMP for the proposed maintenance activity, the archaeologist shall determine the APE, which shall include access, staging, and maintenance areas. The IHA shall include a field survey of the APE with a Native American monitor, using the standards of the City's HRG. In addition, the archaeologist shall request a record search from the SCIC. Based on the results of the field survey and record search, the archaeologist shall conduct an archaeological testing program for any identified historical resources, using the standards of the City's HRG. If significant historical resources are identified, they shall be taken to the Historical Resources Board for designation as Historic Sites. Avoidance or implementation of an Archaeological Data Recovery Program (ADRP) and Archaeological Monitoring Program shall be required to mitigate project impacts to significant historical resources. The archaeologist shall prepare a report in accordance with City guidelines. At a minimum, the IHA report shall include:

- Description of maintenance to be performed, including length, width, and depth;
- Prehistory and History Background Discussion;
- Results of Record Search;
- Survey Methods;
- Archaeological Testing Methods;
- Impact Analysis; and
- Mitigation Recommendations, including avoidance or implementation of an ADRP and archaeological monitoring program.

In the event that the IHA indicates that no significant historical resources occur within the APE, or have the potential to occur within the APE, no further action shall be required.

Mitigation Measure 4.4.2: Prior to initiating any maintenance activity where the IHA identifies existing significant historical resources within the APE, the following actions shall be taken.

4.4.2.1. The Storm Water Department shall select a Principal Investigator (PI), who shall be approved by the ADD Environmental Designee. The PI must meet the requirements of the City's HRG.

4.4.2.2. Mitigation recommendations from the IHA shall be incorporated into the IMP to the satisfaction of the PI and the ADD Environmental Designee. Typical mitigation measures shall include but not be limited to: delineating resource boundaries on maintenance plans; implementing protective measures such as fencing, signage or capping; and selective monitoring during maintenance activities.

4.4.2.3. If impacts to significant historical resources cannot be avoided, the PI shall prepare an Archaeological Research Design and Data Recovery Program (ARDDRP) for the affected resources, with input from a Native American consultant, and the ARDDRP shall be approved by the ADD Environmental Designee. Based on the approved research design, a phased excavation program shall be conducted, which will include the participation of a Native American. The sample size to be excavated shall be determined by the PI, in consultation with City staff. The sample size shall vary with the nature and size of the archaeological site, but shall not exceed 15 percent of the overall resource area. The area involved in the ARDDRP shall be surveyed, staked and flagged by the archaeological monitor, prior to commencing maintenance activities which could affect the identified resources.

4.4.2.4. A pre-maintenance meeting shall be held on-site prior to commencing any maintenance that may impact a significant historical resource. The meeting shall include representatives from the PI, the Native American consultant, Storm Water Department, Mitigation Monitoring Coordinator (MMC), Resident Engineer (RE), and Maintenance Contractor (MC). The PI shall explain mitigation measures which must be implemented during maintenance. The PI shall also confirm that all protective measures (e.g. fencing, signage or capping) are in place.

4.4.2.5. If human remains are discovered in the course of conducting the ARDDRP, work shall be halted in that area and the following procedures set forth in the California Public Resources Code (Sec. 5097.98) and State Health and Safety Code (Sec. 7050.5) will be taken:

- The PI shall notify the RE, and the MMC. The MMC will notify the appropriate Senior Planner in the Environmental Analysis Section (EAS).
- The PI shall notify the Medical Examiner, after consultation with the RE, either in person or via telephone.
- Work will be redirected away from the location of the discovery and any nearby area reasonably suspected to overlay adjacent human remains until a determination can be made by the Medical Examiner, in consultation with the PI, concerning the provenience of the remains.
- The Medical Examiner, in consultation with the PI, shall determine the need for a field examination to determine the provenience.
- If a field examination is not warranted, the Medical Examiner shall determine, with input from the PI, if the remains are or are most likely to be of Native American origin.
- If Human Remains are determined to be Native American, the Medical Examiner shall notify the Native American Heritage Commission (NAHC). The NAHC shall contact the

PI within 24 hours after the Medical Examiner has completed coordination. The NAHC will identify the person or persons determined to be the Most Likely Descendent (MLD) and provide contact information. The PI will coordinate with the MLD for additional coordination. Disposition of Native American human remains will be determined between the MLD and the PI. If (1) the NAHC is unable to identify the MLD, or the MLD fails to make a recommendation within 24 hours after being notified by the Commission; or (2) the landowner or authorized representative rejects the recommendation of the MLD and mediation in accordance with PRC 5097.94 (k) by the NAHC fails to provide measures acceptable to the landowner, the landowner or their authorized representative shall re-enter the human remains and all associated grave goods with appropriate dignity, on the property in a location not subject to subsurface disturbance. Information on this process will be provided to the NAHC.

- If Human Remains are not Native American, the PI shall contact the Medical Examiner and notify them of the historic era context of the burial. The Medical Examiner shall determine the appropriate course of action with the PI and City staff (PRC 5097.98). If the remains are of historic origin, they shall be appropriately removed and conveyed to the Museum of Man for analysis. The decision for reinterment of the human remains shall be made in consultation with MMC, EAS, the landowner, and the Museum.

4.4.2.6. The PI shall be responsible for ensuring: (1) that all cultural materials collected are cleaned, catalogued and permanently curated with an appropriate institution; (2) that a letter of acceptance from the curation institution has been submitted to MMC; (3) that all artifacts are analyzed to identify function and chronology as they relate to the history of the area; (4) that faunal material is identified as to species; and (5) that specialty studies are completed, as appropriate. Curation of artifacts associated with the survey, testing and/or data recovery for this project shall be completed in consultation with LDR and the Native American representative, as applicable.

4.4.2.7. The Archaeologist shall be responsible for updating the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B associated with the ARDDRP in accordance with the City's Historical Resources Guidelines, and submittal of such forms to the SCIC with the Final Results Report.

4.4.2.8. The PI shall prepare a Draft Results Report (even if negative) that describes the results, analysis and conclusions of the ARDDRP (with appropriate graphics). The MMC shall return the Draft Results Report to the PI for revision or for preparation of the Final Report. The PI shall submit the revised Draft Results Report to MMC for approval. The MMC shall provide written verification to the PI of the approved report. The MMC shall notify the RE of receipt of

all Draft Result Report submittals and approvals. The MMC shall notify the RE of receipt of the Final Results Report.

Mitigation Measure 4.4.3: Prior to initiating any maintenance activity where the IHA identifies a moderate to high potential for the occurrence of significant historical resources within the APE, the following actions shall be taken:

4.4.3.1. Prior to Permit Issuance or Bid Opening/Bid Award

A. Entitlements Plan Check

1. Prior to permit issuance or Bid Opening/Bid Award, whichever is applicable, the Assistant Deputy Director (ADD) Environmental designee shall verify that the requirements for Archaeological Monitoring and Native American monitoring have been noted on the appropriate construction documents.

B. Letters of Qualification have been submitted to ADD

1. Prior to Bid Award, the applicant shall submit a letter of verification to Mitigation Monitoring Coordination (MMC) identifying the Principal Investigator (PI) for the project and the names of all persons involved in the archaeological monitoring program, as defined in the City of San Diego Historical Resources Guidelines (HRG). If applicable, individuals involved in the archaeological monitoring program must have completed the 40-hour HAZWOPER training with certification documentation.
2. MMC will provide a letter to the applicant confirming the qualifications of the PI and all persons involved in the archaeological monitoring of the project.
3. Prior to the start of work, the applicant must obtain approval from MMC for any personnel changes associated with the monitoring program.

4.4.3.2. Prior to Start of Construction

A. Verification of Records Search

1. The PI shall provide verification to MMC that a site specific records search (1/4 mile radius) has been completed. Verification includes, but is not limited to a copy of a confirmation letter from South Coast Information Center, or, if the search was in-house, a letter of verification from the PI stating that the search was completed.
2. The letter shall introduce any pertinent information concerning expectations and probabilities of discovery during trenching and/or grading activities.
3. The PI may submit a detailed letter to MMC requesting a reduction to the 1/4 mile radius.

B. PI Shall Attend Precon Meetings

1. Prior to beginning any work that requires monitoring; the Applicant shall arrange a Precon Meeting that shall include the PI, Construction Manager (CM) and/or Grading Contractor, Resident Engineer (RE), Building Inspector (BI), if

appropriate, and MMC. The qualified Archaeologist and Native American monitor shall attend any grading/excavation related Precon Meetings to make comments and/or suggestions concerning the Archaeological Monitoring program with the Construction Manager and/or Grading Contractor.

- a. If the PI is unable to attend the Precon Meeting, the Applicant shall schedule a focused Precon Meeting with MMC, the PI, RE, CM or BI, if appropriate, prior to the start of any work that requires monitoring.
2. Acknowledgement of Responsibility for Curation (CIP or Other Public Projects)
 - a. The applicant shall submit a letter to MMC acknowledging their responsibility for the cost of curation associated with all phases of the archaeological monitoring program.
3. Identify Areas to be Monitored
 - a. Prior to the start of any work that requires monitoring, the PI shall submit an Archaeological Monitoring Exhibit (AME) based on the appropriate construction documents (reduced to 11x17) to MMC for approval identifying the areas to be monitored including the delineation of grading/excavation limits.
 - b. The AME shall be based on the results of a site specific records search as well as information regarding the age of existing pipelines, laterals and associated appurtenances and/or any known soil conditions (native or formation).
 - c. MMC shall notify the PI that the AME has been approved.
4. When Monitoring Will Occur
 - a. Prior to the start of any work, the PI shall also submit a construction schedule to MMC through the RE indicating when and where monitoring will occur.
 - b. The PI may submit a detailed letter to MMC prior to the start of work or during construction requesting a modification to the monitoring program. This request shall be based on relevant information such as review of final construction documents which indicate conditions such as age of existing pipe to be replaced, depth of excavation and/or site graded to bedrock, etc., which may reduce or increase the potential for resources to be present.
5. Approval of AME and Construction Schedule
 - a. After approval of the AME by MMC, the PI shall submit to MMC written authorization of the AME and Construction Schedule from the CM.

4.4.3.3. During Construction

A. Monitor Shall be Present During Grading/Excavation/Trenching

1. The Archaeological monitor shall be present full-time during grading/excavation/trenching activities including, but not limited to mainline, laterals, jacking and receiving pits, services and all other appurtenances associated with underground utilities as identified on the AME and as authorized

by the CM. The Native American monitor shall determine the extent of their presence during construction related activities based on the AME and provide that information to the PI and MMC. **The Construction Manager is responsible for notifying the RE, PI, and MMC of changes to any construction activities.**

2. The monitor shall document field activity via the Consultant Site Visit Record (CSVR). The CSVR's shall be faxed by the CM to the RE the first day of monitoring, the last day of monitoring, monthly (**Notification of Monitoring Completion**), and in the case of ANY discoveries. The RE shall forward copies to MMC.
 3. The PI may submit a detailed letter to the CM and/or RE for concurrence and forwarding to MMC during construction requesting a modification to the monitoring program when a field condition such as modern disturbance post-dating the previous trenching activities, presence of fossil formations, or when native soils are encountered may reduce or increase the potential for resources to be present.
- B. Discovery Notification Process
1. In the event of a discovery, the Archaeological Monitor shall direct the contractor to temporarily divert trenching activities in the area of discovery and immediately notify the RE or BI, as appropriate.
 2. The Monitor shall immediately notify the PI (unless Monitor is the PI) of the discovery.
 3. The PI shall immediately notify MMC by phone of the discovery, and shall also submit written documentation to MMC within 24 hours by fax or email with photos of the resource in context, if possible.
- C. Determination of Significance
1. The PI and Native American monitor shall evaluate the significance of the resource. If Human Remains are involved, follow protocol in Section 4.4.2.4 below.
 - a. The PI shall immediately notify MMC by phone to discuss significance determination and shall also submit a letter to MMC indicating whether additional mitigation is required.
 - b. If the resource is significant, the PI shall submit an Archaeological Data Recovery Program (ADRP) and obtain written approval of the program from MMC, CM and RE. ADRP and any mitigation must be approved by MMC, RE and/or CM before ground disturbing activities in the area of discovery will be allowed to resume.
 - (1) Note: For pipeline trenching projects only, the PI shall implement the Discovery Process for Pipeline Trenching projects identified below under "D."
 - c. If resource is not significant, the PI shall submit a letter to MMC indicating that artifacts will be collected, curated, and documented in the Final Monitoring Report. The letter shall also indicate that that no further work is required.

- (1) Note: For Pipeline Trenching Projects Only. If the deposit is limited in size, both in length and depth; the information value is limited and is not associated with any other resource; and there are no unique features/artifacts associated with the deposit, the discovery should be considered not significant.
 - (2) Note: for Pipeline Trenching Projects Only: If significance can not be determined, the Final Monitoring Report and Site Record (DPR Form 523A/B) shall identify the discovery as Potentially Significant.
- D. Discovery Process for Significant Resources - Pipeline Trenching Projects
- The following procedure constitutes adequate mitigation of a significant discovery encountered during pipeline trenching activities including but not limited to excavation for jacking pits, receiving pits, laterals, and manholes to reduce impacts to below a level of significance:
1. Procedures for documentation, curation and reporting
 - a. One hundred percent of the artifacts within the trench alignment and width shall be documented in-situ, to include photographic records, plan view of the trench and profiles of side walls, recovered, photographed after cleaning and analyzed and curated. The remainder of the deposit within the limits of excavation (trench walls) shall be left intact.
 - b. The PI shall prepare a Draft Monitoring Report and submit to MMC via the RE as indicated in Section VI-A.
 - c. The PI shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) the resource(s) encountered during the Archaeological Monitoring Program in accordance with the City's Historical Resources Guidelines. The DPR forms shall be submitted to the South Coastal Information Center for either a Primary Record or SDI Number and included in the Final Monitoring Report.
 - d. The Final Monitoring Report shall include a recommendation for monitoring of any future work in the vicinity of the resource.

4.4.3.4. Discovery of Human Remains

If human remains are discovered, work shall halt in that area and the following procedures as set forth in the California Public Resources Code (Sec. 5097.98) and State Health and Safety Code (Sec. 7050.5) shall be undertaken:

- A. Notification
 1. Archaeological Monitor shall notify the RE or BI as appropriate, MMC, and the PI, if the Monitor is not qualified as a PI. MMC will notify the appropriate Senior Planner in the Environmental Analysis Section (EAS).
 2. The PI shall notify the Medical Examiner after consultation with the RE, either in person or via telephone.
- B. Isolate discovery site
 1. Work shall be directed away from the location of the discovery and any nearby area reasonably suspected to overlay adjacent human remains until a determination can be made by the Medical Examiner in consultation with the PI concerning the provenience of the remains.

2. The Medical Examiner, in consultation with the PI, will determine the need for a field examination to determine the provenience.
 3. If a field examination is not warranted, the Medical Examiner will determine with input from the PI, if the remains are or are most likely to be of Native American origin.
- C. If Human Remains **ARE** determined to be Native American
1. The Medical Examiner will notify the Native American Heritage Commission (NAHC) within 24 hours. By law, **ONLY** the Medical Examiner can make this call.
 2. NAHC will immediately identify the person or persons determined to be the Most Likely Descendent (MLD) and provide contact information.
 3. The MLD will contact the PI within 24 hours or sooner after the Medical Examiner has completed coordination, to begin the consultation process in accordance with the California Public Resource and Health & Safety Codes.
 4. The MLD will have 48 hours to make recommendations to the property owner or representative, for the treatment or disposition with proper dignity, of the human remains and associated grave goods.
 5. Disposition of Native American Human Remains shall be determined between the MLD and the PI, IF:
 - a. The NAHC is unable to identify the MLD, **OR** the MLD failed to make a recommendation within 48 hours after being notified by the Commission; **OR**;
 - b. The landowner or authorized representative rejects the recommendation of the MLD and mediation in accordance with PRC 5097.94 (k) by the NAHC fails to provide measures acceptable to the landowner.
 - c. To protect these sites, the landowner shall do one or more of the following:
 - (1) Record the site with the NAHC;
 - (2) Record an open space or conservation easement; or
 - (3) Record a document with the County.
 - d. Upon the discovery of multiple Native American human remains during a ground disturbing land development activity, the landowner may agree that additional conferral with descendants is necessary to consider culturally appropriate treatment of multiple Native American human remains. Culturally appropriate treatment of such a discovery may be ascertained from review of the site utilizing cultural and archaeological standards. Where the parties are unable to agree on the appropriate treatment measures the human remains and buried with Native American human remains shall be reinterred with appropriate dignity, pursuant to Section 5.c., above.
- D. If Human Remains are **NOT** Native American
1. The PI shall contact the Medical Examiner and notify them of the historic era context of the burial.

2. The Medical Examiner will determine the appropriate course of action with the PI and City staff (PRC 5097.98).
3. If the remains are of historic origin, they shall be appropriately removed and conveyed to the Museum of Man for analysis. The decision for internment of the human remains shall be made in consultation with MMC, EAS, the applicant department and/or Real Estate Assets Department (READ) and the Museum of Man.

4.4.3.5. Night and/or Weekend Work

- A. If night and/or weekend work is included in the contract
 1. When night and/or weekend work is included in the contract package, the extent and timing shall be presented and discussed at the precon meeting.
 2. The following procedures shall be followed.
 - a. No Discoveries
In the event that no discoveries were encountered during night and/or weekend work, the PI shall record the information on the CSVR and submit to MMC via fax by 8AM of the next business day.
 - b. Discoveries
All discoveries shall be processed and documented using the existing procedures detailed in Sections 4.4.2.3 – During Construction, and 4.4.2.4 – Discovery of Human Remains.
 - c. Potentially Significant Discoveries
If the PI determines that a potentially significant discovery has been made, the procedures detailed under Section 4.4.2.3 – During Construction shall be followed.
 - d. The PI shall immediately contact the RE and MMC, or by 8AM of the next business day to report and discuss the findings as indicated in Section 4.4.2.3-B, unless other specific arrangements have been made.
- B. If night and/or weekend work becomes necessary during the course of construction
 1. The Construction Manager shall notify the RE or BI, as appropriate, a minimum of 24 hours before the work is to begin.
 2. The RE or BI, as appropriate, shall notify MMC immediately.
- C. All other procedures described above shall apply, as appropriate.

4.4.3.6. Post Construction

- A. Submittal of Draft Monitoring Report
 1. The PI shall submit two copies of the Draft Monitoring Report (even if negative), prepared in accordance with the Historical Resources Guidelines (Appendix D) which describes the results, analysis, and conclusions of all phases of the Archaeological Monitoring Program (with appropriate graphics) to MMC via the

RE for review and approval within 90 days following the completion of monitoring.

- a. For significant archaeological resources encountered during monitoring, the basis for determining archaeological significance and ADRP or Pipeline Trenching Discovery Process shall be included in the Draft Monitoring Report.
 - b. Recording Sites with State of California Department of Parks and Recreation
The PI shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) any significant or potentially significant resources encountered during the Archaeological Monitoring Program in accordance with the City's Historical Resources Guidelines, and submittal of such forms to the South Coastal Information Center with the Final Monitoring Report.
2. MMC shall return the Draft Monitoring Report to the PI via the RE for revision or, for preparation of the Final Report.
 3. The PI shall submit revised Draft Monitoring Report to MMC via the RE for approval.
 4. MMC shall provide written verification to the PI of the approved report.
 5. MMC shall notify the RE or BI, as appropriate, of receipt of all Draft Monitoring Report submittals and approvals.

B. Handling of Artifacts

1. The PI shall be responsible for ensuring that all cultural remains collected are cleaned and catalogued
2. The PI shall be responsible for ensuring that all artifacts are analyzed to identify function and chronology as they relate to the history of the area; that faunal material is identified as to species; and that specialty studies are completed, as appropriate.

C. Curation of artifacts: Accession Agreement and Acceptance Verification

1. The PI shall be responsible for ensuring that all artifacts associated with the survey, testing and/or data recovery for this project are permanently curated with an appropriate institution. This shall be completed in consultation with MMC and the Native American representative, as applicable.
2. The PI shall submit the Accession Agreement and catalogue record(s) to the RE or BI, as appropriate for donor signature with a copy submitted to MMC.
3. The RE or BI, as appropriate shall obtain signature on the Accession Agreement and shall return to PI with copy submitted to MMC.
4. The PI shall include the Acceptance Verification from the curation institution in the Final Monitoring Report submitted to the RE or BI and MMC.

D. Final Monitoring Report(s)

1. The PI shall submit one copy of the approved Final Monitoring Report to the RE or BI as appropriate, and one copy to MMC (even if negative), within 90 days after notification from MMC of the approved report.
2. The RE shall, in no case, issue the Notice of Completion until receiving a copy of the approved Final Monitoring Report from MMC which includes the Acceptance Verification from the curation institution.

LAND USE

Potential impacts to land use policies in the City's General Plan would be reduced to below a level of significance through implementation of the following mitigation measures.

Mitigation Measure 4.1.1: Prior to the 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 or 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. (Appendix C.1 MM 7.2.3a) 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 Section 4.3, Biological Resources, required shall be implemented. (Appendix C.1 MM 7.1.5d)

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 activities 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. The analysis shall identify the location of the 60 dB(A) Leq 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, whenever possible, be restricted during the breeding season as follows:

- 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 cannot be avoided during an identified breeding season for a listed bird which is determined to be potentially significantly affected by maintenance, 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 insure 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 or 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. (Appendix C.1 MM 7.2.3b)

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 Department (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 Review References, 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 approved the 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.

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 Multi-Habitat Planning Area (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 CITY MANAGER:

- 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 CONSTRUCTION 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 City Manager, 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.

CHAPTER 12.0

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CHAPTER 12.0 -REFERENCES

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INDIVIDUALS AND AGENCIES CONSULTED

CHAPTER 13.0 – INDIVIDUALS AND AGENCIES CONSULTED

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CERTIFICATION PAGE

CHAPTER 14.0 – CERTIFICATION PAGE

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