# INDIVIDUAL BIOLOGICAL ASSESSMENT REPORT

**Site Name/Facility:** Soledad/Flintkote Channels

**Master Program Map No.:** Maps 9, 11, and 12

**Date:** June 11, 2013 (March 4, 2014 revision)

**Biologist Name/Cell Phone No.:** Sundeep Amin / 858.812.9286

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

## EXISTING CONDITIONS

The City of San Diego (City) has developed the Master Storm Water System Maintenance Program (MMP, Master Maintenance Program) to optimize its business processes and environmental protection practices related to channel operation and maintenance activities. The Master Maintenance Program is intended to integrate operation and maintenance planning, and implementation and assessment activities with its water quality protection programs. This document provides a summary of the Individual Biological Assessment (IBA) conducted within the Soledad Creek and Flintkote Channels in order to comply with the MMP's Programmatic Environmental Impact Report (PEIR) (City of San Diego 2011b).

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

This post-maintenance IBA was prepared after emergency maintenance activities took place within the Soledad Creek and Flintkote channels (Figures 1A, 1B, 1C, and Figure

## EXISTING CONDITIONS

2) from January through March of 2011. Pre-impact conditions are estimated based on available information as described in Survey Methods, below.

### PROJECT LOCATION AND DESCRIPTION

### Soledad Creek – (Master Maintenance Program Maps 11 and 12)

Emergency maintenance was performed on the Soledad Creek flood control channel (parallel to Roselle Street, 10635 to 11055 blocks) in the Sorrento Valley area of San Diego between January 28th and March 30th of 2011. The maintenance was performed to remove accumulated sediment, vegetation, and trash/debris from the concrete-lined upper channel segment and vegetation from the earthen lower channel which runs east of Roselle Street to restore original channel capacity and reduce flooding of the surrounding areas. The upper portion (Maps 11 & 12 as shown in Figures 1A, 1B, and 1C) is a trapezoidal concrete-lined drainage channel (approximately 2290 ft. long) and the lower portion (Map 11 as shown in Figure 1A) is an earthen channel (approximately 1590 ft. long). The earthen portion of the channel is approximately 10 to 20 feet wide for most of its length while it transitions to approximately 45 feet at its upstream end. The transition between the concrete and earthen portions of the channels occurs southeast of Sorrento Valley Boulevard. The trapezoidal concrete channel consists of a 5-foot deep, 63-foot wide bottom, and 1.5-to-1 side slope section.

As sediment accumulates in the concrete channel over time, riparian and marsh vegetation become established and restrict the ability of the channel to convey flood flows. The earthen channel also supports a mix of fresh water marsh and riparian vegetation which can become overgrown and reduce the channel's conveyance capacity.

The channel conveys runoff from Carroll Canyon upstream and surrounding businesses in Sorrento Valley and flows into Los Peñasquitos Creek, which ultimately flows into Torrey Pines State Reserve and Los Peñasquitos Lagoon.

### Flintkote (Master Maintenance Program Map 9)

Emergency maintenance was performed in the Flintkote channel on January 16th and 17th, 2011 and March 25th through 27th, 2011. Flintkote is a trapezoidal concrete-lined channel that extends for approximately 1100 feet, from the easterly side of Flintkote Avenue, to the Sorrento Creek near the stream confluence (Figure 2). Reach 7 flows roughly in a southwest to northeast direction, bisecting a light industrial park along its entire length, and crossing Roselle Street. A 2-foot high, 12-foot wide culvert conveys the storm flows under Roselle Street and a dual 36-inch Reinforced Concrete Pipe culvert discharges the storm flows into Sorrento Creek's Reach 2. The trapezoidal

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geometry is described as a 4-foot deep, 8-foot wide bottom, and 1-to-1 side slopes.

The maintenance was performed to remove accumulated trash/debris, vegetation, and sediment within the concrete-lined drainage channel and triple reinforced concrete box culvert crossing under Roselle Street to restore channel capacity and prevent flooding of the surrounding area.

**Survey Methods and Date:**

URS conducted research and review of existing project documentation as part of this biological assessment. Documents reviewed included the Master Storm Water System Maintenance Program, Final Recirculated MMP PEIR; Sorrento/Soledad Creek Channel Maintenance Activity Report (MAR) dated May 30, 2011; Roselle Street/Flintkote Avenue Channel MAR dated May 30, 2011; San Diego Municiple Code Land Development Code Biology Guidelines Amended April 23, 2012 by Resolution No. R-307376; the July 20, 2012 Memo entitled Summary Regulatory Evaluation for Three Priority Coastal Zone Channel Maintenance Areas – Sorrento Valley, Tijuana River Valley, and Mission Bay (Attachment 1); the Conceptual Habitat Mitigation and Monitoring Plan for El Cuervo del Sur (Attachment 2); Army Corps of Engineers (ACOE) Department of the Army Permit (ACOE 2010a); ACOE Regional General Permit No. 63 Authorization (ACOE 2010b); the U.S. Fish and Wildlife Service (USFWS) Regional General Permit 63 concurrence letter (USFWS 2010); and the California Coastal Commission 5 Year Master Coastal Development Permit for Clearing of Sediment and Vegetation and Maintenance of Storm Water Facilities to Provide Adequate Flood Control (California Coastal Commission 2012).

Impacts from the maintenance work were calculated using GIS analysis. The City provided a series of “before and after” photographs taken within the maintenance area, and vegetation maps produced for wetland delineations in the concrete portion that were made prior to the maintenance work. High resolution (30 centimeters/pixel) aerial photographs available from May 2010 and May 2012 were used in combination with the site photos and descriptions of the work provided in the MAR dated May 30, 2011 to generate a vegetation map that was used as the basis for the impacts calculations. In generating the vegetation map from the aerial photographs, URS used the on-site photos as well as field observations to assess the photo signature of the vegetation in the area as seen on the high resolution aerials. The vegetation types, once identified, were outlined on paper versions of the photos and digitized to make measurements. The outline of the impact area was approximated from the MAR and adjusted by on-the-ground inspection of the site where evidence of the maintenance activity remains.

Jurisdictional waters boundaries were drawn from existing maps included in the PEIR, current field observations of vegetation, and aerial imagery. The assumption was that all

## EXISTING CONDITIONS

wetland and riparian vegetation and unvegetated streambeds were under the jurisdiction of the Army Corps of Engineers, State Water Resources Control Board, California Department of Fish and Wildlife, and the City of San Diego.

Potential occurrence of sensitive species was determined by habitat suitability assessment, and by historical records from the California Natural Diversity Database (CNDDB, accessed February 11, 2013) and from the U.S. Fish and Wildlife Service, Carlsbad Office's Listing of Multiple Species database (accessed February 11, 2013). Only species (on the CNDDB or USFWS lists for the area) that are found in riparian or marsh habitats and noise-sensitive species that may occur in adjacent upland habitat were included in impact considerations. Biological monitors were present during the maintenance activities. No special-status species were observed by the monitors during the maintenance activity period.

**Biological Resources:**

| Stream Type: | Perennial | ☐ | Intermittent | ☒ | Ephemeral | ☐ |
|---|---|---|---|---|---|---|

Soledad Creek is assumed to be intermittent based on the stream designation depicted on a USGS topographical map and the presence of hydrophytic vegetation; however, flow type may be affected by urban runoff contributions. Perennial flow occurs downstream at the confluence with Los Peñasquitos Creek, and Soledad Creek appears to become increasingly more perennial moving towards this confluence. Flintkote channel is assumed to be intermittent and supplied mainly by urban runoff allowing the channel to support hydrophytic vegetation.

**Vegetation/Habitat**

The maintenance area contains the following vegetation categories (with Holland/Oberbauer [Oberbauer 1996] classification numbers in parentheses): Disturbed Wetland (11200); Freshwater Marsh (52400); Riparian Scrub, disturbed (63000); Southern Riparian Forest (61300); Southern Willow Scrub (63320); Open Water (13100); and Non-Vegetated Channel (13200). (see PEIR Appendix D.1 [Biological Resources Report] for descriptions of vegetation categories.) There are no impacts to upland habitats associated with the emergency maintenance.

The disturbed status of wetland areas in the Soledad concrete and Flintkote concrete channels is due to disturbance from previous maintenance (presumably in 2006). Photographs taken prior to the 2011 maintenance show vegetation such as young willows and cattails establishing in areas that were mapped as non-vegetated channel in the 2007-2008 mapping effort for the PEIR. Unlike other channel areas mapped as disturbed, these areas do not represent stands of giant reed (*Arundo donax*) or other invasive species. Giant reed is present within the Southern Willow Scrub habitat along

## EXISTING CONDITIONS

the earthen portion of the Soledad channel, but does not occur in patches large enough to map.

In Soledad channel, approximately 3,200 linear feet were cleared of vegetation, including 2,300 feet of concrete-lined and 900 feet of earthen-bottom channel. In the Flintkote channel, approximately 1,150 linear feet of concrete-lined channel were cleared of vegetation. Vegetation that was removed was mainly sparse freshwater marsh with cattails (*Typha* sp.). Acreages of each habitat type in the concrete and earthen channel segments are summarized in Table 1 below.

**Table 1. Habitat Within the Soledad Creek and Flintkote Channel Emergency Maintenance Areas (acres)**

| Holland/Oberbauer (1996) Vegetation Category | City Habitat Designation | Soledad concrete | Soledad earthen | Flintkote concrete | Total Acreage |
|---|---|---|---|---|---|
| **JURISDICTIONAL WETLANDS** | | | | | |
| Disturbed Wetland (11200) | Disturbed Wetland | 0.50 | 0 | 0.06 | 0.56 |
| Freshwater Marsh (52400) | Freshwater Marsh | 1.15 | 0.11 | 0 | 1.26 |
| Riparian Scrub, disturbed (63000) | Riparian Scrub | 0.16 | 0 | 0 | 0.16 |
| Southern Riparian Forest (61300) | Riparian Forest | 0 | 0.42 | 0 | 0.42 |
| Southern Willow Scrub (63320) | Riparian Scrub | 0.04 | 0 | 0 | 0.04 |
| ***Subtotal*** | | **1.85** | **0.53** | **0.06** | **2.44** |
| **NON-WETLAND JURISDICTIONAL WATERS** | | | | | |
| Developed (12000) includes non-vegetated concrete-lined channel | Disturbed (Tier IV)* | 1.35 | 0 | 0.18 | 1.53 |
| Open Water (13100) | Natural Flood Channel | 0 | 0.14 | 0 | 0.14 |
| ***Subtotal*** | | **1.35** | **0.14** | **0.18** | **1.67** |
| **TOTAL** | | **3.20** | **0.67** | **0.24** | **4.11** |

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

### Sensitive species:

Based on a 2012 records search of the CNDDB, four sensitive species have known occurrences within one half mile of the impact area: San Diego marsh-elder (*Iva hayesiana*), Coastal California Gnatcatcher (*Polioptila californica californica*), Least Bell's Vireo (*Vireo bellii pusillus*), and Light-footed Clapper Rail (*Rallus longirostris levipes*) (Figure 3). Implementation of project conservation measures allowed for the

| **EXISTING CONDITIONS** |
|---|
| minimization and avoidance of potential adverse effects to these sensitive species during the emergency maintenance activities. No incidental take occurred for any state or federally listed species.<br><br>San Diego marsh-elder is a California Rare Plant Rank 2.2 species with documented occurrences near the Soledad Creek maintenance area. This strongly-scented subshrub is generally found in lower elevation riparian and wetland habitats in San Diego. According to the CNDDB search, there are records of its occurrence within 0.5 mile; however, it was not reported by the project biologists at this site.<br><br>The Coastal California Gnatcatcher (federally Threatened, state Species of Special Concern) nests in coastal sage scrub habitat. Coastal sage scrub habitat does not occur in or adjacent to the maintenance area. The San Diego Land Development Code Biology Guidelines restrict clearing, grubbing, and grading from March 1 to August 15 only for areas within the Multi-Habitat Planning Area (MHPA), with no restrictions outside the MHPA; this maintenance area is outside the MHPA.<br><br>The Least Bell's Vireo (federally and state Endangered) may occur in areas with mature riparian forest and woodland, as well as riparian scrub. The earthen-bottomed segment of the channel contains riparian habitat that is contiguous with known occupied vireo habitat and could support vireo. All clearing, grubbing or grading (inside and outside the MHPA) is restricted where it may impact the Least Bell's Vireo during the March 15 to September 15 breeding season, according to the San Diego Land Development Code Biology Guidelines.<br><br>The Light-footed Clapper Rail (state and federally Endangered) has been known to occur along Los Peñasquitos Creek. The occurrences are separated from the maintenance areas by the Interstate 5 and 805 freeways. A permitted monitor for this species (John Konecny) performed a preconstruction survey and a monitor was present during maintenance activities; no clapper rails were documented (site maintenance report).<br><br>The Southwestern Willow Flycatcher (*Empidonax traillii extimus*) has a low to moderate potential to occur in nearby areas that support mature riparian woodland. There were no CNDDB records within a half mile of the maintenance area for this species, and habitat mapped as Southern Riparian Forest habitat along the earthen-bottomed segment of the channel may be too linear and marginal to attract this species.<br><br>**Wildlife value:**<br><br>Vegetation along the channel banks in some areas provides habitat for birds and other wildlife. The Soledad Creek channel and banks may serve as a wildlife corridor (City of San Diego 2011b) connecting Los Peñasquitos Creek to other areas. The channels provide a water source for various terrestrial species and foraging habitat for wading |

| **EXISTING CONDITIONS** | | |
|---|---|---|
| birds such as herons and egrets. In other areas, the wildlife value of the habitat in the channel is limited, particularly along portions of the concrete channel where there is no vegetation or sediment. The non-vegetated concrete-lined channel and disturbed wetland habitat within the Flintkote channel provides little value to wildlife and the channel does not function as a wildlife corridor. | | |
| Are there current levels of anthropogenic influences on habitat within the project footprint (e.g., homeless encampment, illegal dumping)? | Yes | X |
| | No | |
| If yes, describe the influence:<br>The channel is in close proximity to the Interstate 5 and 805 freeways, contributing to the high ambient noise level in the area. Most land immediately adjacent to the site is developed and development interrupts the patches of native habitat in the surrounding area. Trash is present in the channel, but no large dump sites were identified in the MAR or site photos. | | |
| Are there any conservation easements which have been previously recorded within the maintenance area? | Yes | |
| | No | X |
| If yes, describe them and their purpose:<br>NA | | |
| **Jurisdictional Areas:** | | |
| For the Master Storm Water System Maintenance Program, a program-level jurisdictional delineation was conducted within subject storm water facility channels and sedimentation basins with results categorized by HUs. Mapping was conducted along segments of several major and minor water areas, including Soledad Creek. State, Federal, and City jurisdictional areas within the study area consist of Disturbed Wetland, Freshwater Marsh, Open Water, Disturbed Riparian Scrub, Southern Riparian Forest, Southern Willow Scrub, and other Waters of the U.S. The State, Federal, and City jurisdictional areas were assumed to overlap completely. (CDFW jurisdiction often extends further from the outer or upper limit of the water body than Army Corps of Engineers [ACOE] jurisdiction, but in this case the limits of both are set by the narrow extents of the maintenance area.)<br>The total jurisdictional impact area is 4.09 acres (Table 2). | | |

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**Table 2. Soledad/Flintkote Emergency Maintenance Jurisdictional Areas**

| Jurisdictional Areas | Soledad (concrete) | Soledad (earthen) | Flintkote (concrete) | Total |
|---|---|---|---|---|
| Jurisdictional Wetlands | 1.85 | 0.53 | 0.06 | **2.44** |
| Non-Wetland Waters of the U.S. | 1.35 | 0.14 | 0.18 | **1.65** |
| **Total** | **3.20** | **0.67** | **0.24** | **4.09** |

Attach documentation supporting the determination of jurisdictional areas:

Please refer to the 2011 PEIR jurisdictional wetland delineation for additional information.

| **Sensitive Plant Species Observed:** | | | | | **Sensitive Animal Species Observed/Detected:** | | | | |
|---|---|---|---|---|---|---|---|---|---|
| YES | | | NO | X | YES | | | NO | X |
| If yes, what species were observed and where? | | | | | If yes, what species were observed/detected and where? | | | | |
| San Diego marsh-elder (*Iva hayesiana*), a sensitive plant with potential to occur in Soledad Creek, was not documented by the project biologists at this site. | | | | | No sensitive animal species observations were noted in the MAR. | | | | |
| <u>If yes, complete a California Native Species Field Survey Form and submit it to the California Natural Diversity Database.</u> | | | | | <u>If yes, complete a California Native Species Field Survey Form and submit it to the California Natural Diversity Database.</u> | | | | |
| *<u>Sensitive species shall include those listed by state or federal agencies as well as species that could be considered sensitive under Sections 15380(b) and (c) and 15126(c) of the CEQA Guidelines.</u> | | | | | *<u>Sensitive species shall include those listed by state or federal agencies as well as species that could be considered sensitive under Sections 15380(b) and (c) and 15126(c) of the CEQA Guidelines.</u> | | | | |

| **Is any portion of the maintenance activity within an MHPA?** | YES | | NO | X | |
|---|---|---|---|---|---|

<u>If yes, describe which portions are within an MHPA</u>:

NA

## EXISTING CONDITIONS

Is there moderate or high potential for listed animal species to occur in or adjacent to the impact area?

| | | | | |
|---|---|---|---|---|
| YES | X | NO | | |

If yes, which species (check all that apply) and describe any surveys which should be undertaken to determine whether those species could occur within the maintenance area:

| | | | |
|---|---|---|---|
| X | Least Bell's Vireo | | Riverside fairy shrimp |
| | Southwestern Willow Flycatcher | | California Least Tern |
| | Arroyo toad | X | Light-footed Clapper Rail |
| | Coastal California Gnatcatcher | | Western Snowy Plover |
| | San Diego fairy shrimp | | Other: |

Listed species historically documented within one half mile of the maintenance area included the Least Bell's Vireo, Coastal California Gnatcatcher, and Light-footed Clapper Rail.

Coastal California Gnatcatchers breed in coastal sage scrub habitat. This habitat does not occur in or adjacent to the Soledad Creek maintenance area; therefore, Coastal California Gnatcatcher surveys would not be necessary. Coastal sage scrub habitat within the MHPA may occur within 750 feet of the Flintkote channel; however, this habitat is separated from the maintenance area by a road and business park.

Least Bell's Vireo may occur in areas with mature riparian forest and woodland, as well as riparian scrub. The earthen segment of the Soledad channel contains potential habitat that is contiguous with known occupied habitat; therefore, either surveys would be required or the species could be assumed present without the need for presence/absence surveys.

Light-footed Clapper Rails are known to occur along Los Peñasquitos Creek. A clapper rail survey conducted prior to maintenance was negative (see site maintenance report).

Attach documentation support the determination of the presence or absence of listed animal species with a moderate or high potential to occur (e.g., California Natural Diversity Database records searches).

**Attachment 3** contains CNDDB records for the project quadrangle. **Figure 3** shows CNDDB sensitive species occurrences within a half mile of the maintenance areas.

**Is there moderate or high potential for listed plant species to occur in or adjacent to the impact area?**

| **EXISTING CONDITIONS** | | | | |
|---|---|---|---|---|
| YES | X | NO | | |
| <u>If yes, identify which species may occur and describe any surveys which should be undertaken to determine whether those species could occur within the maintenance area</u>: | | | | |
| San Diego marsh-elder is a California Rare Plant Rank 2.2 species with documented occurrences near the Soledad Creek maintenance area. San Diego marsh-elder was not observed by the project biologists at this site.<br>Based on a review of CNDDB plant records for the project vicinity, there is low potential for other sensitive plant species to occur within the maintenance area. | | | | |
| <u>Attach documentation to support the determination of the presence or absence of listed plant species with a moderate or high potential to occur (e.g., California Natural Diversity Database records searches).</u> | | | | |
| **Attachment 3** contains CNDDB plant records for the project quadrangle. | | | | |
| **<u>Could maintenance disrupt the integrity of an important habitat (i.e., disruption of a wildlife corridor and/or an extensive riparian woodland:</u>** | | | | |
| YES | | NO | X | |
| <u>If yes, discuss which habitat could be impacted and how:</u> | | | | |
| The channel maintenance did not impact extensive riparian woodland habitat or cause permanent disruption to the Soledad Creek channel's potential function as a wildlife corridor. The Soledad Creek work area's potential function as a wildlife corridor is limited due to the segment of concrete-lined creek bed and adjacent infrastructure. | | | | |
| **<u>Could work be conducted during the avian breeding season (January 15 – August 31 without the need for pre-construction nesting surveys:</u>** | | | | |
| YES | | NO | X | |
| <u>If yes, discuss which habitat could be impacted and how:</u> | | | | |
| Note: PEIR Mitigation Measure 4.3.19 states: If SWD chooses not to do the required surveys, then it shall be assumed that the appropriate avian species are present and all necessary protection and mitigation measures shall be required as described in Mitigation Measure 4.3.21.<br>A pre-construction survey was conducted for clapper rails and the results were negative. A biological monitor was provided on site during maintenance. | | | | |

| **EXISTING CONDITIONS** | | | | |
|---|---|---|---|---|
| **Is it anticipated that maintenance activities would generate noise in excess of 60 dB(A) $L_{eq}$?** | | | | |
| YES | X | NO | | |

<u>If yes, what measures should be taken to avoid adverse impacts on avian bird breeding within or adjacent to the maintenance?</u>

Temporary construction noise from the use of heavy equipment would likely have generated noise in excess of 60 dB(A) $L_{eq}$ during the maintenance period. Heavy equipment was used to clear the concrete-lined portions of the channel, while the earthen portion was cleared manually using hand tools and a boat for deep sections of the channel. Noise-generating maintenance activities occurring in or adjacent to mature riparian woodland habitat can be conducted outside the breeding seasons of listed birds that may have moderate to high potential to occur on site. Maintenance conducted outside the breeding/nesting season for protected avian species would not result in a significant indirect noise impact and no noise attenuation mitigation is required. According to Master Program PEIR Mitigation Measure 4.3.17, "If evidence indicates the potential is high for a listed species to be present, based on historical records or site conditions, then clearing, grubbing, or grading (inside and outside the MHPA) shall be restricted during the breeding season where development may impact the following species: Light-footed clapper rail (between February 15 and August 15)…" Work was conducted during the clapper rail breeding season; a clapper rail survey was conducted and was negative. Therefore, maintenance avoided adverse impacts to the Light-footed Clapper Rail (site maintenance report).

According to Master Program PEIR Mitigation Measure 4.3.20, "If no surveys are completed and no sound attenuation devices are installed, it will be assumed that the habitat in question is occupied by the appropriate species and that maintenance activities would generate more than 60 dB(A) $L_{eq}$ within the habitat requiring protection. All such activities shall cease for the duration of the breeding season of the appropriate species and a qualified biologist shall establish a limit of work." For this emergency maintenance, only hand tools and a boat were used within the vireo habitat (earthen-bottom channel), however, work continued into the vireo breeding season (through March 18$^{th}$).

**Biological Resource Conditions Relative to Original Survey Conducted for MASTER PROGRAM Final Program EIR (May 2010) (vegetation communities present, including adjacent uplands; general habitat quality/level of disturbance):**

The majority of habitat mapping and jurisdictional delineation work for the PEIR was conducted in late winter and early spring of 2007 and 2008. Based on aerial photographs taken prior to maintenance in 2010, established habitats such as scrub and forest appear to be approximately the same as in 2007-2008. The 2010 distribution of other habitats in Soledad Creek is unclear in aerial imagery. It can be assumed that

| **EXISTING CONDITIONS** |
| --- |
| herbaceous vegetation may be distributed differently based on changing sediment accumulation patterns, seasonal plant growth, and water level differences. Areas classified as disturbed wetland may have recovered from original disturbances between when surveys were conducted for the PEIR in 2007-2008 and when emergency maintenance work took place in early 2011.<br><br>For Flintkote, 2007-2008 habitat mapping shows freshwater marsh habitat along large segments of the channel, while habitat mapping based on 2010 aerials shows more non-vegetated concrete channel and a smaller patch of disturbed wetland. The reduction in Freshwater Marsh habitat could have been caused by storm events washing away accumulated sediment, resulting in a loss of substrate for freshwater marsh vegetation.<br><br>According to the PEIR Biological Report, areas mapped as open water either support perennial surface flows or were inundated at the time of mapping. Water levels at the time of mapping may not reflect water levels at the time maintenance was performed. Sediment may have accumulated in open water and non-vegetated channels areas along the concrete-lined segments, allowing growth of vegetation. Conversely, a large storm event could clear out sediment and cause the loss of freshwater marsh vegetation along concrete-lined segments.<br><br>Concrete-lined segments lacking vegetation or with herbaceous growth would be most likely to undergo changes in habitat between the time when habitat mapping was conducted and when maintenance work was performed. In summary, scrub and forest habitat areas appeared to be relatively stable and similar to original PEIR conditions, but herbaceous and unvegetated areas appeared to be subject to dynamic change since the original PEIR surveys between vegetated, bare sediment, and scoured conditions. |

## MAINTENANCE IMPACTS

### Maintenance Methodology

The Soledad Creek maintenance area was accessed using an existing dirt road along the earthen channel and a cement access ramp into the concrete lined channel. Maintenance required use of the following equipment: a bobcat, an excavator, dump trucks, a loader, boat, machetes, and brush cutters with tri-blades, saw blades, and hedge trimmer attachments. Gravel bags were placed downstream of the sediment removal area. Street sweepers were used as a best management practice to control sediment outside of the channel. Urban Corps Crews cleared vegetation from the bottom and sides of approximately 900 feet of the 1,400 foot earthen channel using hand tools and a boat for deep sections of the channel. The concrete-lined drainage channel was maintained between January 28 and March 30, 2011 with approximately 9,706 tons of material removed.

Flintkote channel maintenance involved the removal of 1,150 linear feet of sand, silt, and debris, including vegetation. Portable pumps and vactors were used to remove sediment from the three 80 foot box culverts crossing under Roselle Street between March 25 and 27, 2011. Street sweepers were used as a best management practice to control sediment outside of the channel. Emergency maintenance was performed in the Flintkote channel on January 16th and 17th, 2011 and March 25th through 27th, 2011.

Jurisdictional Areas impacted by maintenance are summarized in Table 2 below.

**Table 2. Impacts to Jurisdictional Waters by Reach**

| Holland/Oberbauer (1996) Vegetation Category | City Habitat Designation | Jurisdictional Acreage (ACOE, RWQCB, CDFW, City of San Diego) | | | Total Acreage |
|---|---|---|---|---|---|
| | | Soledad concrete | Soledad earthen | Flintkote concrete | |
| **WETLAND WATERS OF THE U.S.** | | | | | |
| Disturbed Wetland (11200) | Disturbed Wetland | 0.50 | 0 | 0.06 | 0.56 |
| Freshwater Marsh (52400) | Freshwater Marsh | 1.15 | 0.11 | 0 | 1.26 |
| Riparian Scrub, disturbed (63000) | Riparian Scrub | 0.16 | 0 | 0 | 0.16 |
| Southern Riparian Forest (61300) | Riparian Forest | 0 | 0.42 | 0 | 0.42 |
| Southern Willow Scrub (63320) | Riparian Scrub | 0.04 | 0 | 0 | 0.04 |
| ***Subtotals*** | | **1.85** | **0.53** | **0.06** | **2.44** |
| **NON-WETLAND WATERS OF THE U.S.** | | | | | |

## MAINTENANCE IMPACTS

| | | | | | |
|---|---|---|---|---|---|
| Developed (12000) includes non-vegetated concrete-lined channel | Disturbed (Tier IV) | 1.35 | 0 | 0.18 | 1.53 |
| Open Water (13100) | Natural Flood Channel | 0 | 0.14 | 0 | 0.14 |
| ***Subtotals*** | | **1.35** | **0.14** | **0.18** | **1.67** |
| **TOTAL** | | **3.20** | **0.67** | **0.24** | **4.11** |

| | |
|---|---|
| Vegetation Impacts: | 2.44 (1.91 acres concrete-lined, 0.53 acres earthen-bottomed) |
| Wetland: | 2.44 acres |
| Upland: | 0 acres |

**Jurisdictional Areas:**
U.S. Army Corps of Engineers

| | |
|---|---|
| Wetland Waters of the U.S. (WUS): | 2.44 |
| Non-wetland WUS: | 1.67 |

**Other Jurisdictional Areas:**

**California Department of Fish and Wildlife/City of San Diego/Regional Water Quality Control Board:**

| | |
|---|---|
| Wetlands: | 2.44 |
| Streambed/Unvegetated Waters: | 1.67 |

| | | | |
|---|---|---|---|
| **Is there moderate or high potential for listed animal species to be impacted?** | YES | ☐ | NO ☒ |

**If yes, which species (check all that apply):**

| | | | |
|---|---|---|---|
| ☐ | Least Bell's vireo | ☐ | Riverside fairy shrimp |
| ☐ | Southwestern willow flycatcher | ☐ | California least tern |
| ☐ | Arroyo toad | ☐ | Light-footed clapper rail |
| ☐ | Coastal California gnatcatcher | ☐ | Western snowy plover |
| ☐ | San Diego fairy shrimp | ☐ | Other: |

Maintenance was completed through March 18th in the earthen segment and included

| **MAINTENANCE IMPACTS** |
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| hand trimming of vegetation along the channel with access by boat. Project documentation does not discuss impacts to Least Bell's vireos or other nesting bird species.<br><br>Mitigation, minimization, and avoidance measures were implemented to the degree possible under emergency conditions in accordance with the PEIR guidelines (see **Attachment 4**).<br><br>No direct impacts to sensitive species were documented in the MARs and the clapper rail survey was negative. Losses of habitat associated with the earthen channels have been previously mitigated for at the El Cuervo Wetland Mitigation Site. |

| **MITIGATION** |
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| **Applicable Maintenance Protocols (list the applicable maintenance protocols based on the biological resources occurring or likely to occur on site – include any special protocols required):** |
| Bio-1 Restrict vehicles to access designated in the master program.<br><br>Bio-2 Flag and delineate all sensitive biological resources to remain within or adjacent to the maintenance area prior to initiation of maintenance activities in accordance with the site-specific Individual Biology Assessment (IBA), Individual Hydrology and Hydraulic Assessment (IHHA) and/or Individual Maintenance Plan (IMP).<br><br>Bio-3 Conduct a pre-maintenance meeting on site prior to the start of any maintenance activity that occurs within or adjacent to sensitive biological resources. The pre-maintenance meeting shall include the qualified biologist, field engineer/planner, equipment operators/superintendent and any other key personnel conducting or involved with the channel maintenance activities. The qualified biologist shall point out or identify sensitive biological resources to be avoided during maintenance, flag/delineate sensitive resources to be avoided, review specific measures to be implemented to minimize direct/indirect impacts, and direct crews or other personnel to protect sensitive biological resources as necessary. The biologist shall also review the proposed erosion control methods to confirm that they would not pose a risk to wildlife (e.g., non-biodegradable blankets which may entangle wildlife).<br><br>Bio-4 Avoid introduction of invasive plant species with physical erosion control measures (e.g., fiber mulch, rice straw, etc.).<br><br>Bio-5 Conduct appropriate pre-maintenance protocol surveys if maintenance is proposed during the breeding season of a sensitive animal species. If sensitive animal species covered by the PEIR are identified, then applicable measures from the MMRP shall be implemented under the direction of a qualified biologist to |

| **MITIGATION** |
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| avoid significant direct and/or indirect impacts to identified sensitive animal species. If sensitive animal species are identified during pre-maintenance surveys that are not covered by the PEIR, SWD shall contact the appropriate wildlife agencies and additional environmental review under CEQA will be required.<br><br>Bio-6 Remove arundo through one, or a combination of, the following methods : (1) foliar spray (spraying herbicide on leaves and stems without cutting first) when arundo occurs in monotypic stands, or (2) cut and paint (cutting stems close to the ground and spraying or painting herbicide on cut stem surface) when arundo is intermixed with native plants. When sediment supporting arundo must be removed, the sediment shall be excavated to a depth sufficient to remove the rhizomes, wherever feasible. Following removal of sediment containing rhizomes, loose rhizome material shall be removed from the channel and disposed offsite. After the initial treatment, the area of removal shall be inspected on a quarterly basis for up two years, or until no resprouting is observed during an inspection. If resprouting is observed, the cut and paint method shall be applied to all resprouts.<br><br>Bio-7 Avoid mechanized maintenance within 300 feet of a Cooper's hawk nest, 900 feet of a northern harrier's nest, or 500 feet of any other raptor's nest until any fledglings have left the nest. |
| **Applicable PEIR mitigation measures:** |
| General Mitigation 1, 2, 3, and 4;<br><br>Biological Resources 4.3.1, 4.3.2, 4.3.3, 4.3.4, 4.3.5, and 4.3.6 except that maintenance was performed under emergency conditions, 4.3.7, 4.3.8, 4.3.9, 4.3.10, 4.3.13, 4.3.14, 4.3.15*, 4.3.16, 4.3.17, 4.3.18, 4.3.19, 4.3.20, 4.3.21, 4.3.22, 4.3.24*, 4.3.25;<br><br>Land Use 4.1.1, 4.1.2, 4.1.3, 4.1.4, 4.1.5, 4.1.6, 4.1.7, and 4.1.8.<br><br>*only if sensitive plants were documented here and impacted<br><br>Applicable PEIR Mitigation Measures have been included in entirety in **Attachment 4**. |
| **Other mitigation measures:** |
| Applicable mitigation measures for avoiding impacts to clapper rails are included in the USFWS concurrence letter for the Regional General Permit 63 Request for Emergency Maintenance of Sorrento Creek (USFWS 2010). |
| **Environmental Mitigation Requirements (including wetland enhancement, restoration, creation, and/or purchase of wetland credits in a mitigation bank; off-site upland habitat acquisition/payment into the City's habitat acquisition fund):** |
| Maintenance work in the earthen-bottom portion of the Soledad Creek (Reach 2) was |

| **MITIGATION** |
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| within the same geographic footprint as permitted in the past; mitigation was implemented successfully as required in the original and subsequent permits at the El Cuervo Wetland Mitigation Site in Los Peñasquitos Canyon. The City implemented a total of 12.07 acres of compensatory wetland mitigation in conformance with regulatory permits for flood control maintenance of Sorrento Creek, Los Peñasquitos Creek, and Soledad Creek and minor wetland impacts from implementation of the El Cuervo Wetland Mitigation Project. This acreage included 9.8 acres of mitigation which specifically addressed the mitigation requirement for the Sorrento Creek Channel Maintenance Project as authorized in 1997. Regulatory permits for the project were renewed in 2006 with some modifications that included specification of dredging versus vegetation maintenance areas; no additional mitigation was required for these ongoing maintenance activities.<br><br>Maintenance authorizations issued in 2010 (ACOE Permit No. SPL-2010-00985 and ACOE File No. SPL-2010-01177-MBS) require mitigation for impacts to waters of the U.S. Emergency maintenance work in the concrete lined portions of the channels was not mitigated based on the assumption that maintenance activities within the concrete-lined portions would not require mitigation for the ACOE and CDFW because they do not alter the capacity or change the function of the channel from its original design. However, the 2012 Coastal Development Permit (California Coastal Commission 2012) states that “all wetland impacts shall be mitigated at a ratio of 1:1 for temporary impacts, 2:1 for Natural flood channels, 3:1 for impacts to Riparian habitat, and 4:1 for impacts to Freshwater Marsh and Disturbed wetland”. The California Coastal Commission requirement for mitigation of “all wetland impacts” is interpreted to include impacts to wetland vegetation within concrete-lined channels. Non-vegetated concrete-lined channels are considered developed and do not require mitigation. Wetland creation requirements were calculated at a 1:1 ratio with the remaining mitigation requirement being fulfilled with enhancement.<br><br>While maintenance is planned to be repeated in the same geographic area proposed for future maintenance, mitigation requirements are based on the 2011 emergency maintenance impacts discussed in this IBA and are provided in Table 3 below. Mitigation planned for this channel is consistent with the programmatic approach of one-time mitigation for channels with repeated maintenance activities. The mitigation program for this channel is described below. |

## MITIGATION

### Table 3. Mitigation Summary for Soledad/Flintkote Emergency Maintenance Impacts

| Maintenance Area | 2011 Impact Acreage[1] | Mitigation Ratio[2] | Mitigation | | |
|---|---|---|---|---|---|
| | | | Creation | Enhancement | Total |
| **IMPACTS REQUIRING MITIGATION** | | | | | |
| **Flintkote (concrete) – Reach 7** | | | | | |
| Freshwater Marsh | 0.06 | 4:1 | 0.06 | 0.18 | 0.24 |
| **Soledad (concrete) – Reach 3** | | | | | |
| Freshwater Marsh | 1.15 | 4:1 | 1.15 | 3.45 | 4.60 |
| Disturbed Wetland | 0.50 | 4:1 | 0.50 | 1.50 | 2.00 |
| Southern Willow Scrub | 0.04 | 3:1 | 0.04 | 0.08 | 0.12 |
| Riparian Scrub | 0.16 | 3:1 | 0.16 | 0.32 | 0.48 |
| **subtotal** | **1.85** | **--** | **1.85** | **5.35** | **7.20** |
| **Total** | **1.91** | **--** | **1.91** | **5.53** | **7.44** |
| **Proposed mitigation at Los Penasquitos wetlands creation area (El Cuervo del Sur):** | | | **1.91** | **0** | **1.91** |
| **Proposed mitigation at Los Penasquitos Enhancement Project Site:** | | | **0** | **5.53** | **5.53** |
| **PREVIOUSLY MITIGATED IMPACTS** | | | | | |
| **Soledad Creek (earthen) – portion of Reach 2** | 0.67 | Mitigation: Earthen portions of Soledad Creek (including the portion of Reach 2 impacted by this emergency) have been mitigated at the El Cuervo Wetlands Mitigation Site**.** | | | |

[1] Total mitigation acreage is based on 2011 emergency maintenance impacts. Subsequent or repeat maintenance does not require additional mitigation if conducted within the same geographic footprint, as long as no new sensitive species have been identified that would require new mitigation.

[2] Ratios identified are taken from the most restrictive of the program requirements (City of San Diego amended Site Development Permit).

## MITIGATION

**ACOE Jurisdictional Areas:**

Regional General Permit 63, required impacts to waters of the U.S. to be mitigated at a ratio of 2:1. However, impacts to concrete-lined channels did not require mitigation because they do not alter the capacity or change the function of the channel from its original design. In addition, mitigation of impacts to ACOE jurisdictional areas along earthen portions of the channel are covered by previous mitigation for permanent impacts to Soledad Creek through the El Cuervo Wetlands Mitigation Site. Follow up communication with the ACOE confirmed that no additional actions were required.

**CDFW/RWQCB Jurisdictional Areas/City Wetlands:**

Under the emergency notification process, CDFW and RWQCB did not specify detailed mitigation requirements, though the RWQCB did require mitigation retroactively consistent with RGP. Attachment D Final Report Form for Technically-Conditioned Water Certification Regional General Permit 63 (RGP 63) reported .62 acres (900 linear feet) of temporary impacts to wetlands. However, upon completion of this Individual Biological Assessment Report, the actual impacts have been identified in Table 2. The RWQCB certified the RGP which included a condition that 2:1 mitigation would be required; 2:1 enhancement has been proposed to satisfy the RWQCB's requirement that mitigation be implemented retroactively. Mitigation of impacts to CDFW and RWQCB jurisdictional areas along earthen portions of the channel are covered by previous mitigation for permanent impacts to Soledad Creek through the El Cuervo Wetlands Mitigation Site.

In accordance with City's modified Site Development Permit impacts to the concrete-lined channels (Soledad and Flinkote) would be mitigated at ratios of 4:1 for Freshwater Marsh and Disturbed Wetlands and 3:1 for Southern Willow Scrub and Riparian Scrub. (See Table 3) Mitigation of impacts to City jurisdictional areas along earthen portions of the channel are covered by previous mitigation for permanent impacts to Soledad Creek through the El Cuervo Wetlands Mitigation Site.

**Mitigation Description/Location:**

Mitigation for the earthen-bottom portions of the channel is fullfilled through the El Cuervo Wetland Mitigation Project located in Los Peñasquitos Canyon. Through the El Cuervo Wetland Mitigation Project, 7.27 acres of new jurisdictional wetlands have been created and 4.80 acres of existing wetlands have been enhanced, including the enhancement of 0.84 acre of freshwater marsh. Wetland creation and enhancement at El Cuervo includes mitigation for 2.90 acres of impacts to the earthen-bottomed portion of Soledad Creek that resulted from maintenance authorized in 1996/1997. The 2011

## MITIGATION

emergency maintenance impact area for the earthen-bottomed portion of Soledad Creek was 0.67 acres. See Attachement 5. According to the 2006 Final Annual Monitoring Report for the El Cuervo Wetland Mitigation Project, all required performance standards have been met or exceeded (Attachment 6). A follow up qualitative assessment conducted in 2013 determined that the site continues to meet its final performance standards (Attachment 7).

For unmitigated impacts to the concrete-lined Soledad and Flintkote channels, mitigation is proposed at two sites to achieve one part of the required ratio as wetlands creation/restoration and the remaining portions as wetland enhancement. See El Cuervo Del Sur Wetland Habitat Mitigation and Monitoring Plan (URS 2013a) and the Los Peñasquitos Canyon Preserve Conceptual Wetland Enhancement Plan (URS 2013b) for more details regarding specifics of these sites.

## ADDITIONAL COMMENTS OR RECOMMENDATIONS

**Individual Biological Assessment Report Attachments:**

**Attachments:**

Attachment 1: DUDEK, Inc. 2012. *Summary Regulatory Evaluation for Three Priority Coastal Zone Channel Maintenance Areas – Sorrento Valley, Tijuana River Valley, and Mission Bay High School.* Memo from Vipul Joshi (DUDEK) to Stephanie Bracci (City of San Diego, Transportation and Storm Water Department) dated July 20.

Attachment 2: URS. 2013. Conceptual Habitat Mitigation and Monitoring Plan for El Cuervo del Sur. June.

Attachment 3: CNDDB RareFind4 Records Search of the USGS Del Mar 7.5' Quadrangle

Attachment 4: Applicable PEIR Mitigation Measures from the October 2011 Final Recirculated Master Storm Water System Maintenance Program PEIR

Attachment 5: Maintenance Area Comparison Figure (Previously Mitigated and 2011 Emergency Areas)

Attachment 6: EDAW and AECOM. 2006. Final Annual Monitoring Report for the El Cuervo Wetland Mitigation Project, San Diego, California. September.

Attachment 7: DUDEK. 2013. Current Condition Verification Report for the El Cuervo Wetland Mitigation Project. June

**References:**

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| **ADDITIONAL COMMENTS OR RECOMMENDATIONS** |
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Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. California Department of Fish and Game, Sacramento, California.

Oberbauer 1996. Terrestrial Vegetation Communities of San Diego County Based on Holland's Descriptions. San Diego, California: Revised version: February 2006.

URS. 2013a. El Cuervo Del Sur Conceptual Wetland Habitat Mitigation and Monitoring Plan. July 2013.

URS. 2013b. Los Penasquitos Canyon Preserve Conceptual Wetland Enhancement Plan. July 2013.

U.S. Fish and Wildlife Service (USFWS). 2010. Concurrence Letter for the Regional General Permit 63 Request for Emergency Maintenance of Sorrento Creek. Email message from Patrick Govern on December 23, 2010.

# Site Photos

**PHOTO 1 NOTES:**
Before maintenance, earthen channel at start of map 11

**PHOTO 2 NOTES:**
After maintenance, earthen channel (2/22/2011)

**PHOTO 3 NOTES:**
Before maintenance (1/12/2011)

**PHOTO 4 NOTES:**
After maintenance (2/15/2011)

**PHOTO 5 NOTES:**
Before at Train Station Bridge (1/12/2011)

**PHOTO 6 NOTES:**
Two years after at Train Station Bridge (2/5/2013)


**PHOTO 7 NOTES:**
Flintkote Channel after maintenance, southwest end facing northeast (Source: Google Street View, January 2011). Pre-maintenance photos not available.

**PHOTO 8 NOTES:**
Flintkote Channel after maintenance from Roselle Street facing southwest (Source: Google Street View, January 2011).

**PHOTO 9 NOTES:**
Flintkote Channel after maintenance from Roselle Street facing northeast (Source: Google Street View, January 2011).