

East Bay Regional Park District



0 5 Miles



East Bay Regional Park District



0 10 Miles



**East Bay Regional Park District
Routine Maintenance Project Impact Assessment
US Army Corps of Engineers
Regional General Permit
(Attachment A)**

| Maintenance Activity | Avoid and Minimizing Measures | Performance Objective(s) | Temporary Effects (Impacts) | Long-term and/or Permanent Effects (Impacts) | Predicted Five Year Effects and Impacts |
|---|---|---|---|---|---|
| Replacement of existing culverts: (same size culverts) | Replace with the appropriate size culvert. Install culverts at existing stream grade. In ephemeral or intermittent streams install culverts in dry site conditions. In perennial streams install culverts in low flow (dry season) conditions. Removal of riparian vegetation will be minimized. | To improve flow, reduce stream erosion, and sediment-loading. | Potential temporary loss of riparian and/or bankside vegetation. These impacts are minimal ranging from 0.0001 acres to 0.018 acres per culvert (mean per culvert = 0.007 acres). | Minimizes follow-up maintenance and no permanent wetland loss. | Temporary effects to small drainages and streams impacting approximately 0.07 – 0.084 acres wetlands. |
| Replacement of existing culverts: (upgrade size of culverts) and install new head and tailwalls | Replace with the appropriate size culvert. Install culverts at existing stream grade. In ephemeral or intermittent streams install culverts in dry site conditions. In perennial streams install culverts in low flow (dry season) conditions. Removal of riparian vegetation will be minimized. | To improve flow, reduce stream erosion, and sediment-loading. | Potential temporary loss of riparian and/or bankside vegetation. These impacts are minimal ranging from 0.0001 acres to 0.018 acres per culvert (mean per culvert = 0.007 acres). | These upgrades will significantly reduce follow-up maintenance with minimal permanent impacts to wetlands ranging from 0.0001 acres to 0.018 acres per culvert (mean per culvert = 0.007 acres). | Temporary and permanent effects to small drainages, and streams impacting approximately 0.20 – 0.25 acres of wetlands. |
| Installation of culvert headwalls and tailwalls: | In ephemeral or intermittent streams install culvert headwalls and tailwalls in dry site conditions. In perennial streams install culvert headwalls and tailwalls in low flow (dry season) conditions. When feasible use porous materials or other techniques to allow plant growth. Removal of riparian vegetation will be minimized. | Reduces bank and stream erosion, widening and down-cutting. | Potential temporary loss of riparian and/or bankside vegetation. These impacts are minimal ranging from 0.002 acres – 0.005 acres per project (mean = 0.0038 acres). | Stabilizes the culvert, minimizes follow-up maintenance and culvert clearing with minimal permanent impacts to wetlands ranging from 0.002 acres – 0.005 acres per project (mean = 0.0038 acres). | Temporary and permanent effects to small drainages and streams impacting approximately 0.020 – 0.03 acres of wetlands. |
| Installation of culvert discharge plates (energy dissipaters): | In ephemeral or intermittent streams install energy dissipaters in dry site conditions. In perennial streams install energy dissipaters in low flow (dry season) conditions. When feasible use porous materials or other techniques to allow plant growth. Removal of riparian vegetation will be minimized. | Reduces downstream erosion bank widening and down-cutting. | Potential temporary loss of riparian and/or bankside vegetation. These impacts are minimal ranging from 0.001 acres – 0.01 acres per project (mean = 0.0046 acres). | Reduces downstream erosion, bank widening, and down-cutting with minimal ranging from 0.001 acres – 0.01 acres per project (mean = 0.0046 acres). | Temporary and permanent effects to small drainages and streams impacting approximately 0.014 – 0.024 acres of wetlands. |

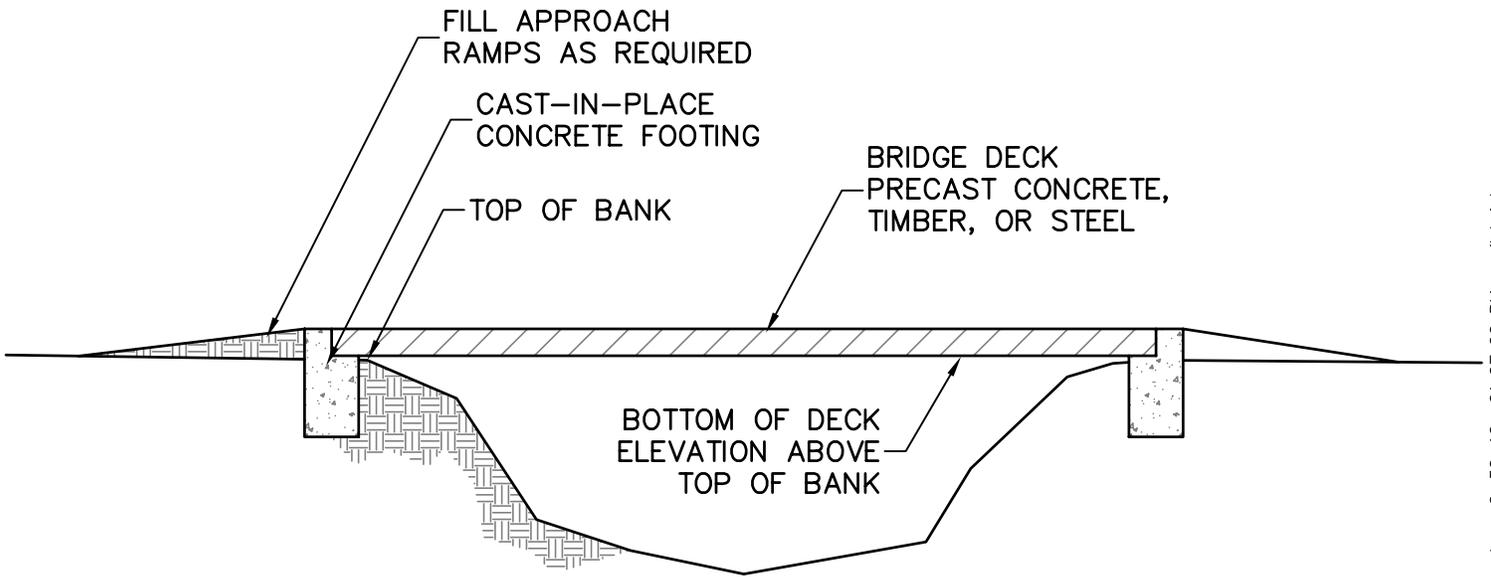
The data on impacts and effects in the above table are based on data collected during the last eleven years of routine maintenance project implementation from April 1998 to October 2009.

| Maintenance Activity | Avoid and Minimizing Measures | Performance Objective(s) | Temporary Effects (Impacts) | Long-term and/or Permanent Effects (Impacts) | Predicted Five Year Effects and Impacts |
|---|---|--|--|---|--|
| Installation of armored crossings, replacing culverts with articulated concrete fords or installing new armored fords in natural crossings. | In ephemeral or intermittent streams install fords in dry site conditions. In perennial streams install fords in low flow (dry season) conditions, and temporarily diverted water around the work area to maintain down stream flow. Stream crossing width and grading will be minimized and sediments are left in dry portion of the stream channel. | To restore and/or maintain stream channel, improves flow, reduces stream erosion, and sediment-loading. | Potential temporary increase in sediment discharge and loss of riparian or wetland vegetation. These impacts are minimal ranging from 0.004 acres – 0.009 acres per project (mean = 0.0058 acres). | Daylights stream reaches with culverts, reestablishes and maintains natural stream gradient and cross-sectional area, significantly reduces erosion, and follow-up maintenance. The permanent impacts are minimal ranging from 0.004 acres – 0.009 acres per project (mean = 0.0058 acres). | Temporary and permanent effects to small drainages and streams impacting approximately 0.035 – 0.06 acres of wetlands. |
| Maintenance of existing rock stream fords: | In ephemeral or intermittent streams install natural rock fords in dry site conditions. In perennial streams install natural fords in low flow (dry season) conditions, and temporarily divert water around the work area to maintain down stream flow. Stream crossing width and grading will be minimized and sediments are left in dry portion of the stream channel. | Maintain stream channel, improves flow, reduces stream erosion, and sediment-loading. | Potential temporary increase in sediment discharge and loss of riparian or wetland vegetation. These impacts are minimal ranging from 0.005 acres – 0.01 acres per project (mean = 0.0063 acres). | Maintains natural stream gradient and cross-sectional area, significantly reduces erosion, and follow-up maintenance. The permanent impacts are minimal ranging from 0.005 acres – 0.01 acres per project (mean = 0.0063 acres). | Temporary and permanent effects to small drainages and streams impacting approximately 0.02 – 0.04 acres of wetlands. |
| Bank stabilization: | Includes replacing existing rip-rap, installing log crib-walls, natural rock weirs, vegetative and riparian planting and other bio-engineering techniques involving shorelines, streams, and lakes. In ephemeral or intermittent streams replace rip-rap and/or install other stabilizing structures in low flow in dry site conditions. In perennial streams replace rip-rap and/or install other stabilizing structures in low flow (dry season) conditions, and temporarily diverted water around the work area to maintain down stream flow. Along coastal and inland shorelines replace rip-rap and/or install other stabilizing structures in dry season. When feasible use porous materials or other techniques to allow plant growth. | Provides streambank and/or shoreline protection, prevents erosion, reduces erosion, widening, down-cutting and sediment-loading. | Potential temporary loss of riparian and/or bank vegetation. These impacts are minimal ranging from 0.0001 acres – 0.09 acres per project (mean = 0.021 acres). | Stabilizes and protects banks from scour and significantly reduces erosion. The permanent impacts are minimal ranging from 0.0001 acres – 0.09 acres per project (mean = 0.021 acres). | Temporary and permanent effects to various waterbodies impacting approximately 0.172 – 0.252 acres of wetlands. |

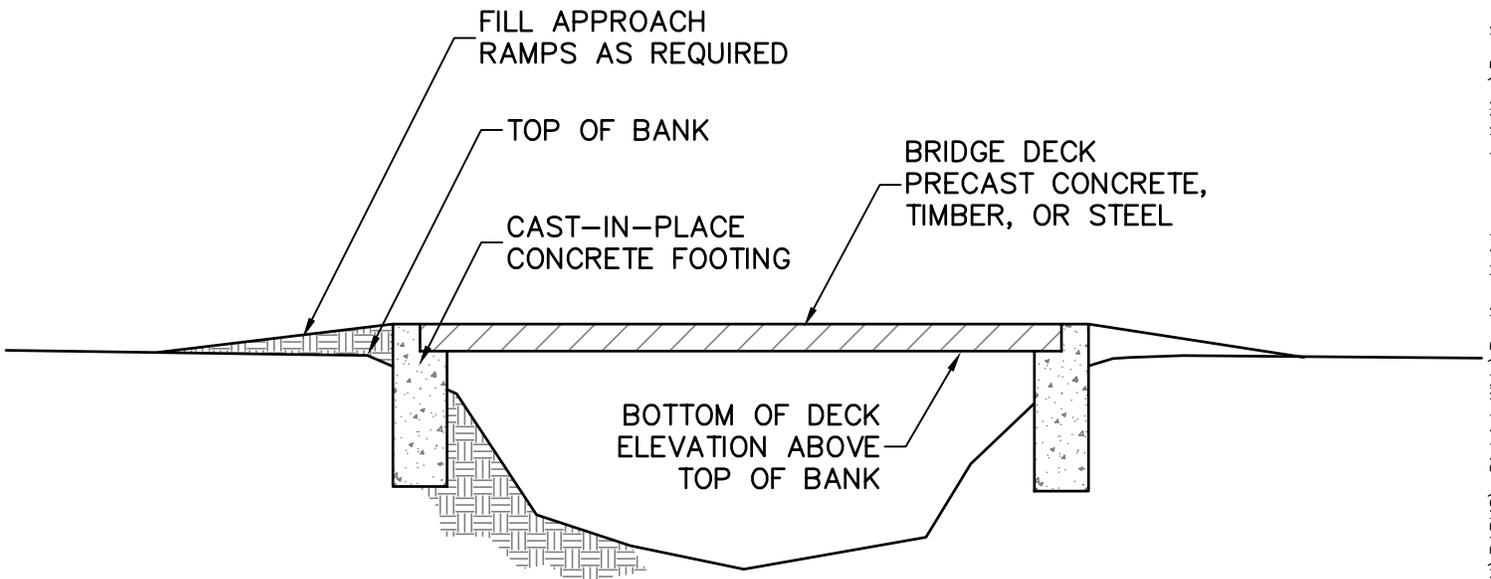
| Maintenance Activity | Avoid and Minimizing Measures | Performance Objective(s) | Temporary Effects (Impacts) | Long-term and/or Permanent Effects (Impacts) | Predicted Five Year Effects and Impacts |
|--|--|--|--|---|---|
| Maintenance of existing culverts (sediment and debris removal from blocked culverts) in streams and other waterbodies: | During winter high flow debris is removed using equipment from top of bank or by hand crews. Woody debris that does not cause a problem is left in stream to provide habitat for aquatic species. | To clear culverts, restore flow, prevent flooding and bank instability. | Potential temporary increase sediment in discharge. These impacts are minimal ranging from 0.0001 acres – 0.043 acres per project (mean = 0.007 acres). | Maintains stream flow and transportation of sediments, protects streambank erosion or flooding with no permanent loss of wetlands. | Temporary effects to small drainages, streams, and other waterbodies impacting approximately 0.05 – 0.075 acres of wetlands. |
| Maintenance and installation of clear span bridges: | Equipment operation will avoid standing or flowing water. New concrete will not be poured in locations that contact natural waterbodies. Removal of riparian vegetation will be minimized. | Replace culverts or dysfunctional stream crossings with clear-span bridges to re-establish natural drainage cross section, gradient, flow, and reduce erosion. | Potential temporary impacts to streambanks and bankside vegetation. These impacts are minimal ranging from 0.001 acres – 0.01 acres per project (mean = 0.0042 acres). | Often removes culverts from drainages and daylight stream reaches, re-establishes and/or maintains natural conditions, stream cross section, gradient, flow conditions, reduces erosion and flooding, and significantly minimizes follow-up maintenance. Often no permanent wetland loss and the impacts are minimal ranging from 0.001 acres – 0.01 acres per project (mean = 0.0042 acres). | Overall can have a beneficial effect with minimal temporary and permanent impacts of approximately 0.003 – 0.031 acres of wetlands. |
| Routine maintenance dredging of ponds and lakes: | When feasible, work will be performed in dry conditions and above water. Removal of riparian vegetation will be minimized. Within listed species habitat only dry ponds unoccupied by California red-legged frogs and/or California tiger salamanders will be dredged. Wherever feasible, dredged ponds and earthen dams will be reconfigured to enhance habitat for federally listed species. All removed dredged sediments will be disposed in appropriate upland locations. | To maintain silt basins, restore and enhance open water conditions for special status and/or other aquatic species. | Potential temporary increase in sediment discharge and loss of riparian or wetland vegetation. These impacts are minimal ranging from 0.014 acres – 0.03 acres per project (mean = 0.026 acres). | Properly maintains existing silt basins to control sediment discharge in order to protect downstream water quality, and preserve open water habitat for special status and/or other aquatic species. Generally, no permanent wetland loss and the temporary impacts are minimal ranging from 0.014 acres – 0.03 acres per project (mean = 0.026 acres). | Overall can have a beneficial effect with minimal temporary and permanent impacts of approximately 0.592 acres of wetlands |

| Maintenance Activity | Avoid and Minimizing Measures | Performance Objective(s) | Temporary Effects (Impacts) | Long-term and/or Permanent Effects (Impacts) | Predicted Five Year Effects and Impacts |
|--|---|---|--|--|---|
| Maintenance of existing shoreline facilities: docks, fishing piers, boat launches, marsh board walks and overlooks: | Suitable (non-toxic) materials will be used. Appropriate erosion and sediment controls will be used during construction. When feasible, work will be performed in dry conditions and from above water. | To properly maintain existing structures, provide public access, and ensure public safety. | Potential temporary disturbance to substrate and increase in sediment discharge. These impacts are minimal ranging from 0.005 acres – 0.02 acres per project (mean = 0.01 acres). | Properly maintains existing structures and significantly increases the facilities longevity, which reduces impacts associated with major repairs or replacement. Generally, no permanent wetland loss and the temporary impacts are minimal ranging from 0.005 acres – 0.02 acres per project (mean = 0.01 acres). | Temporary effects to various waterbodies impacting approximately 0.04 – 0.08 acres of wetlands. |
| Removal of hazardous man-made structures from waterbodies: | Whenever possible structures and/or materials will be removed in their entirety. When feasible, work will be performed in dry conditions and from above water. Appropriate erosion and sediment controls will be used during removal. Affected areas will be returned to their pre-existing conditions. During winter high flow debris is removed using equipment from top of bank or by hand crews. Removal of natural riparian and/or shoreline vegetation will be minimized. | To remove in-stream barriers to fish and other aquatic species, and/or hazardous structures for public safety. | Potential temporary disturbance to substrate, increase in sediment discharge, and loss of riparian or wetland vegetation. These impacts vary and are minimal. There are no measurable adverse effects to wetlands. | Typically, the impacts are very minimal and no measurable adverse affects to wetlands. These projects reestablish natural conditions, may enhance habitat for special status and/or other aquatic species, and improve water quality. | No projected measurable adverse affects to wetlands. |
| Removal of Vessels: | When feasible, work will be performed in dry conditions and from above water. Appropriate erosion and sediment controls will be used during removal. Affected area(s) will be returned to their pre-existing conditions. | To remove hazardous vessels for public safety, restore and enhance habitat conditions for fish and other aquatic species. | Potential temporary disturbance to substrate, increase sediment discharge, and loss of riparian or wetland vegetation. These impacts vary and are minimal. There are no measurable adverse effects to wetlands. | Typically, the impacts vary and are minimal. There are no measurable adverse affects to wetlands. These projects reestablish natural conditions, may enhance habitat for special status and/or other aquatic species, and improve water quality. | No projected measurable adverse affects to wetlands. |
| SUMMARY: The Predicted Five Year Effects and Impacts to Various Waterbodies (Temporary 0.71 to 0.76 acres and Permanent 0.55 – 0.76 acres) an overall range of 1.266 to 1.518 acres | | | | | |

ATTACHMENT B



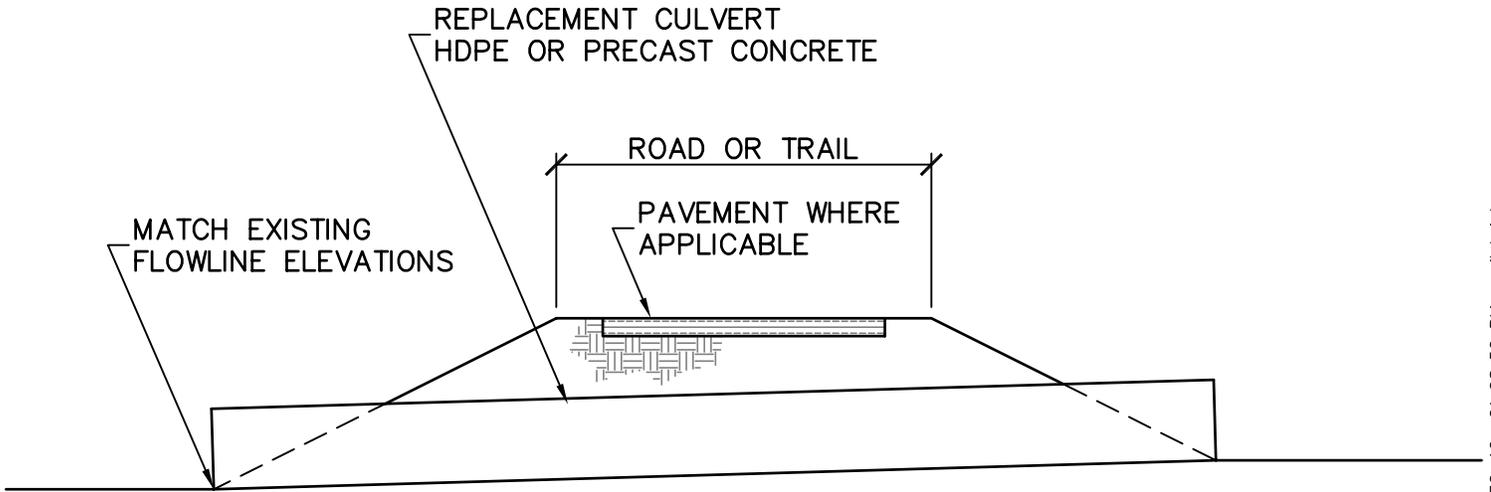
CLEAR-SPAN BRIDGE – FOOTINGS OUTSIDE OF TOP OF BANK



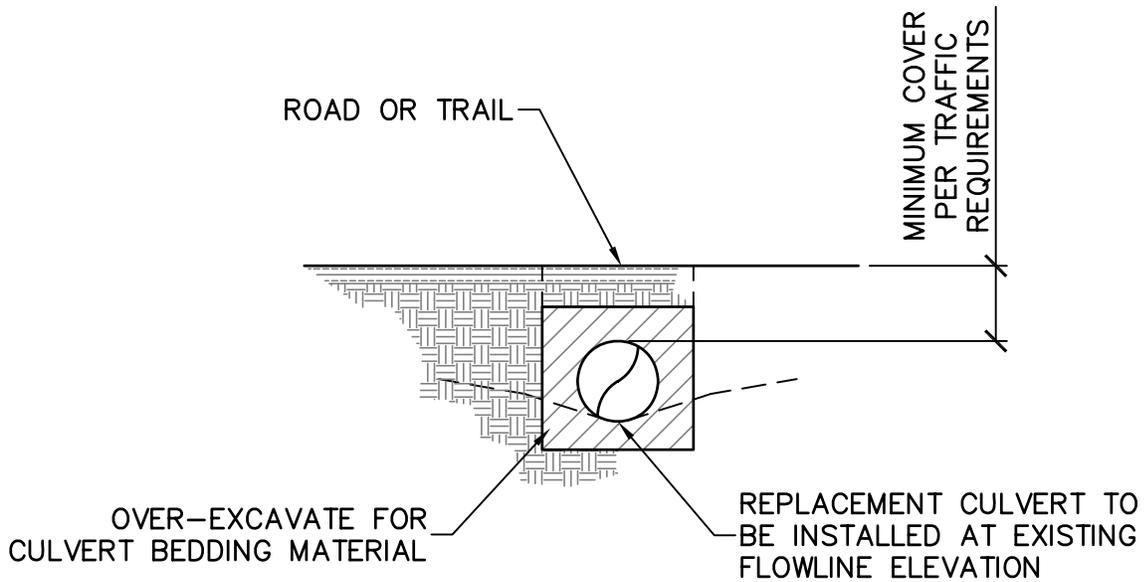
CLEAR-SPAN BRIDGE – FOOTINGS INSIDE OF TOP OF BANK

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|--|--|--------------|--|-------------|-----------|
| | INSTALLATION OF CLEAR-SPAN BRIDGES | SCALE | NONE | DRAWING NO. | SHEET NO. |
| | ROUTINE MAINTENANCE ACTIVITIES - CONCEPTUAL SKETCHES | DATE | MARCH 2010 | | OF |
| | PROJECT NO. | CONTRACT NO. | EAST BAY REGIONAL PARK DISTRICT | | |

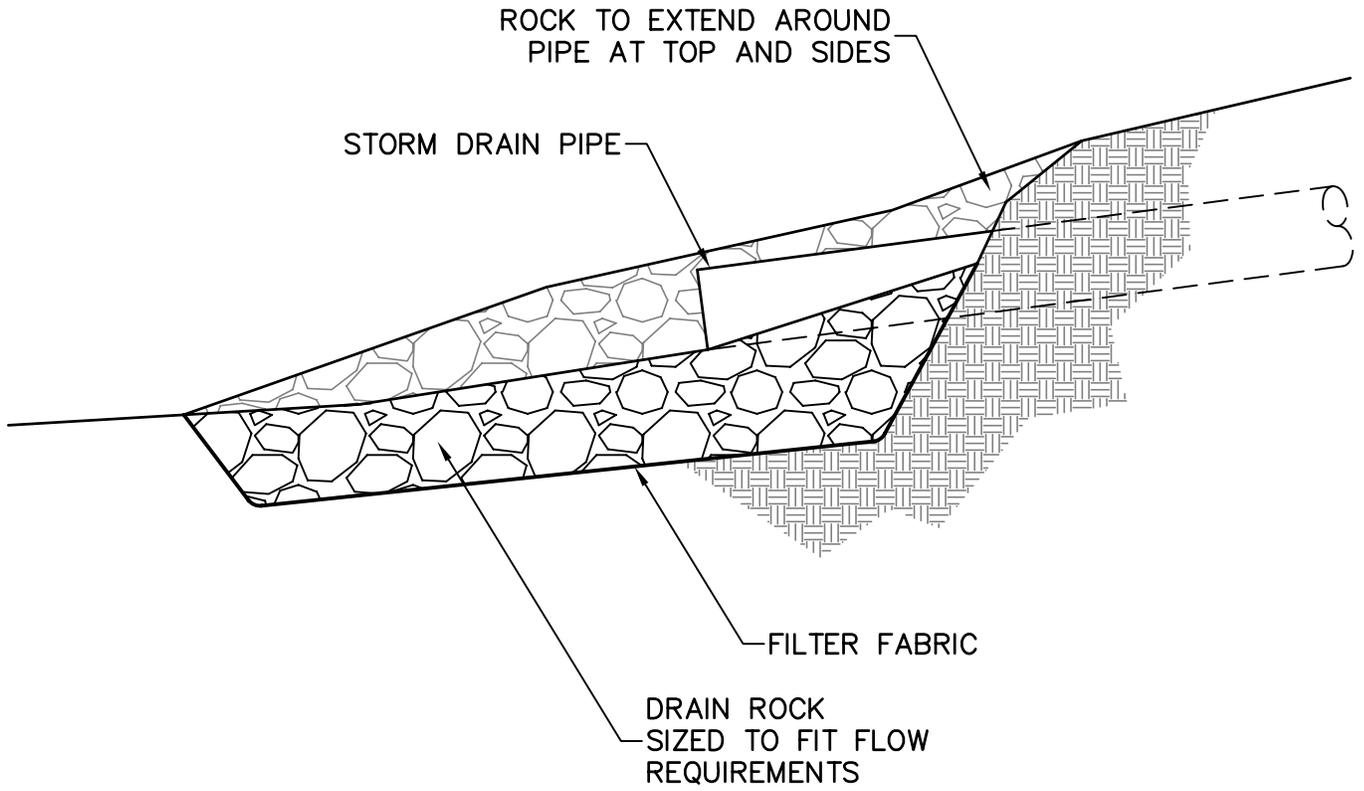


CULVERT – LONGITUDINAL SECTION

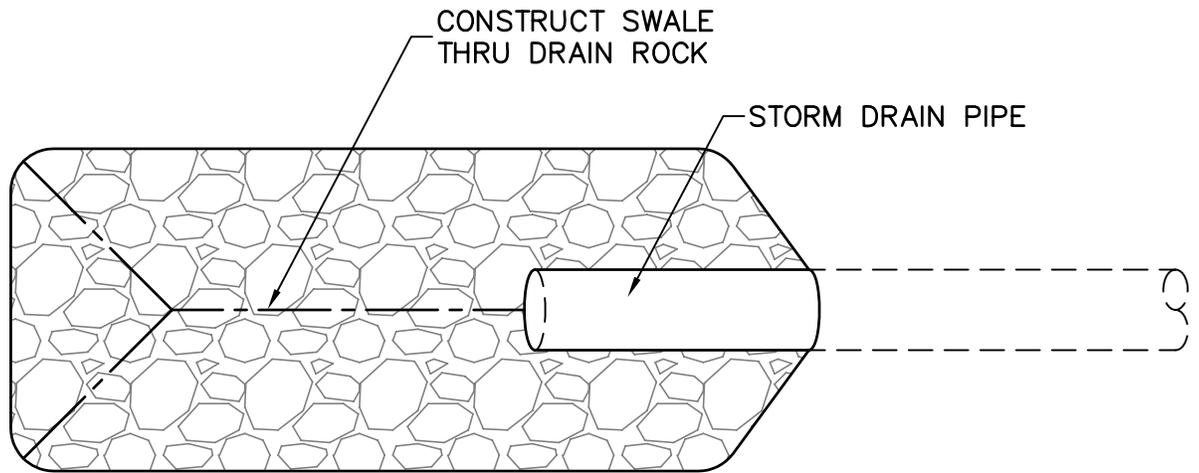


CULVERT – TRANSVERSE SECTION

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| | CULVERT REPLACEMENT | SCALE | NONE | DRAWING NO. | SHEET NO. |
| | ROUTINE MAINTENANCE ACTIVITIES - CONCEPTUAL SKETCHES | DATE | MARCH 2010 | | 2 |
| | PROJECT NO. | CONTRACT NO. | EAST BAY REGIONAL PARK DISTRICT | | |



ENERGY DISSIPATER – LONGITUDINAL SECTION



ENERGY DISSIPATER – PLAN VIEW

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ENERGY DISSIPATERS

ROUTINE MAINTENANCE ACTIVITIES - CONCEPTUAL SKETCHES

PROJECT NO.

CONTRACT NO.

SCALE

NONE

DATE

MARCH 2010

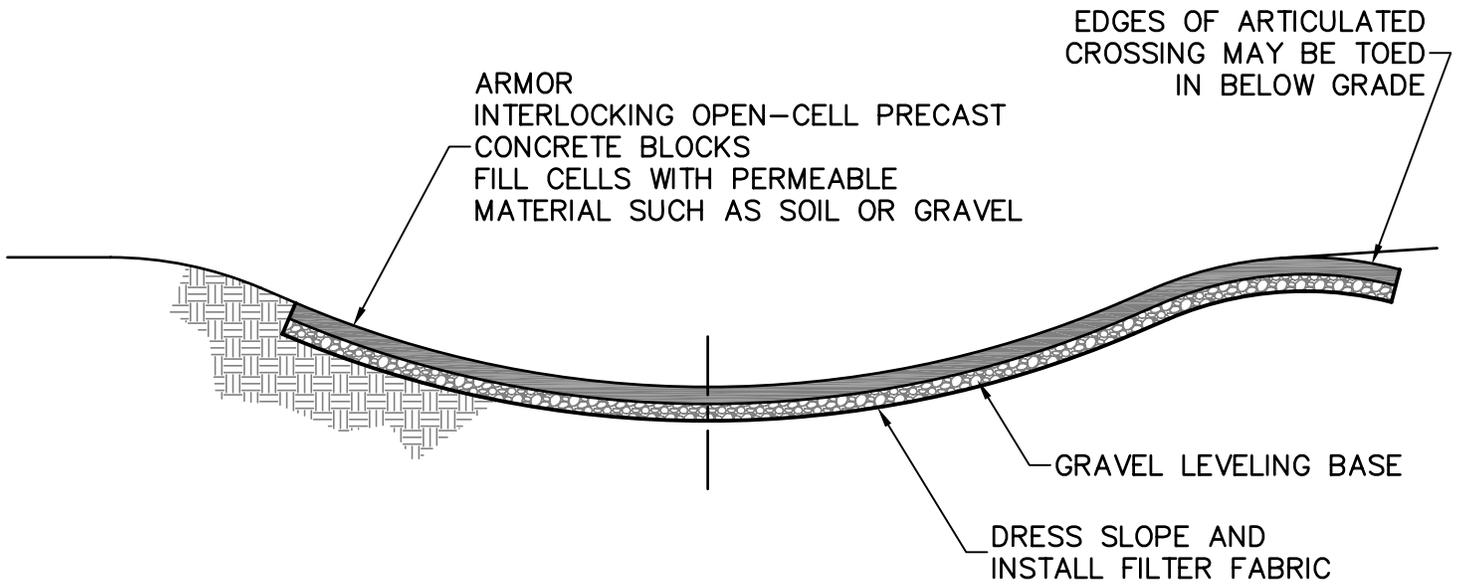
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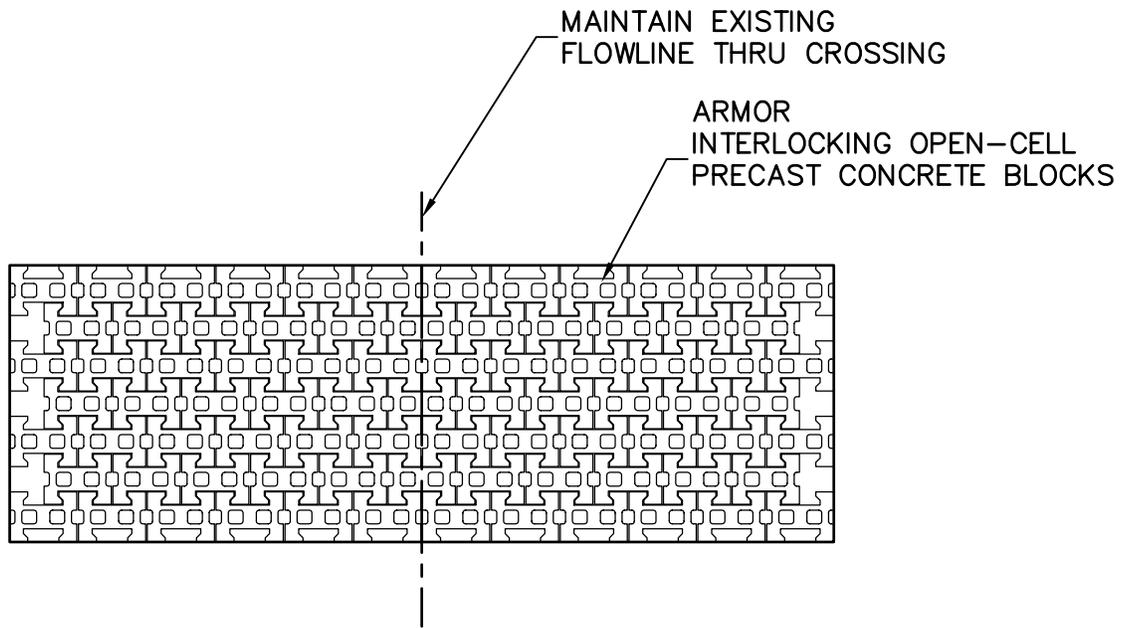
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EAST BAY REGIONAL PARK DISTRICT



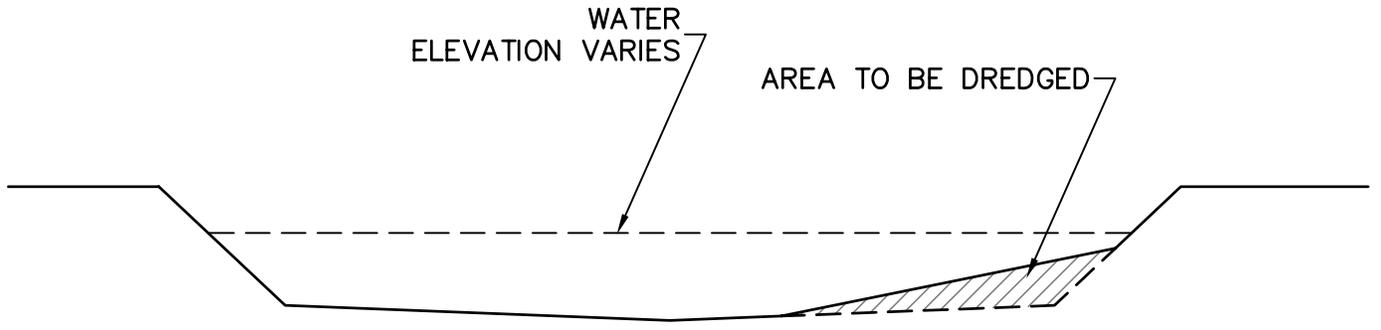
ARTICULATED CROSSING – LONGITUDINAL SECTION



ARTICULATED CROSSING – PLAN VIEW

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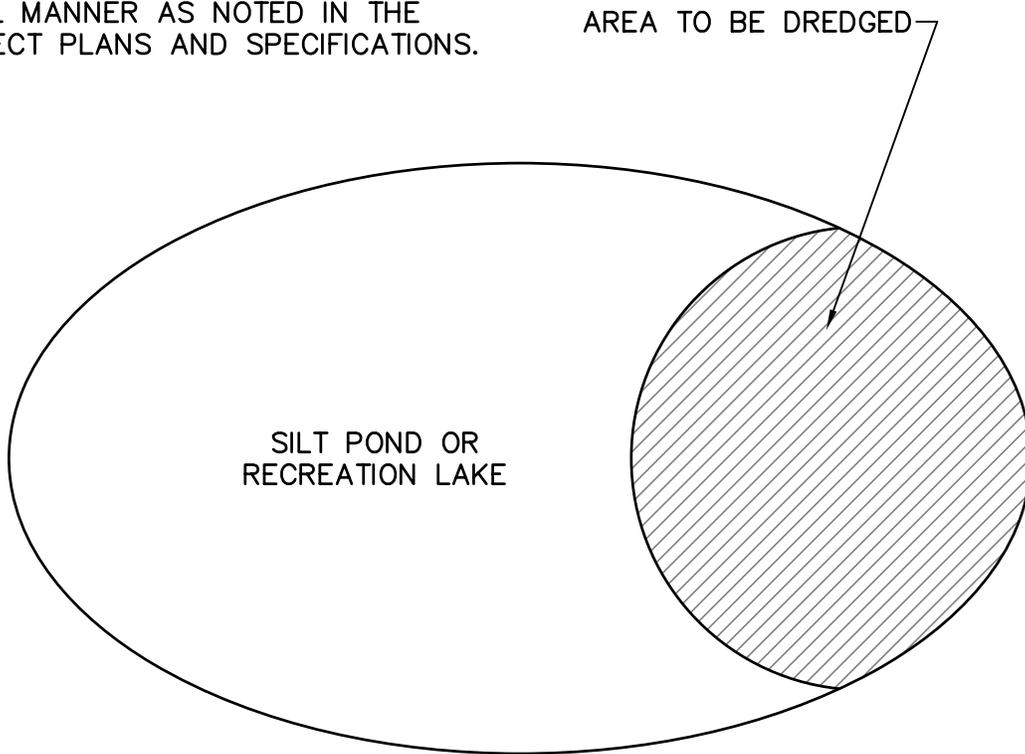
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| | ARTICULATED CROSSING | SCALE | NONE | DRAWING NO. | SHEET NO. |
| | ROUTINE MAINTENANCE ACTIVITIES - CONCEPTUAL SKETCHES | DATE | MARCH 2010 | 4 | OF |
| | PROJECT NO. | CONTRACT NO. | EAST BAY REGIONAL PARK DISTRICT | | |



SILT DREDGING – SECTION

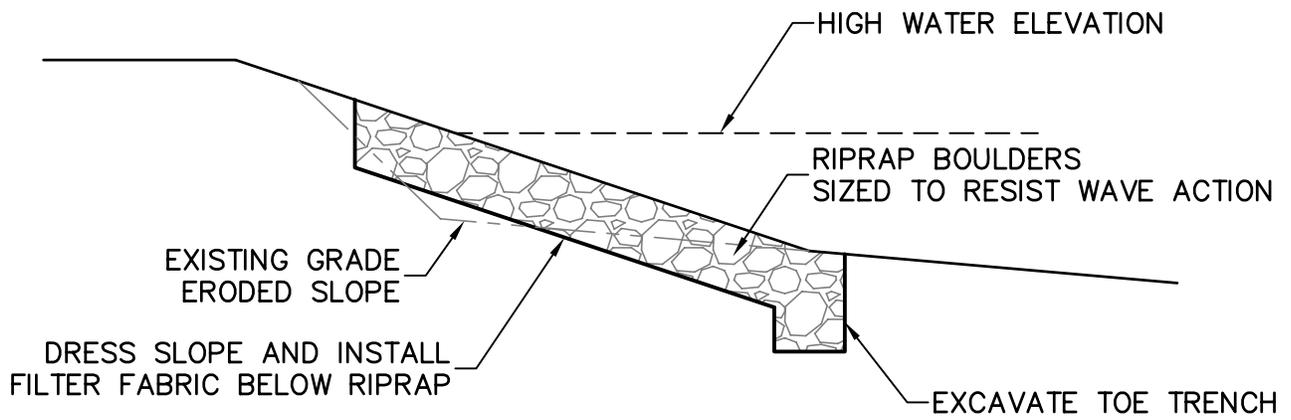
NOTES

1. ONLY DREDGE AREA NOTED ON PLANS.
2. DO NOT REMOVE MORE MATERIAL THAN ALLOWED BY PERMIT.
3. DISPOSE OF DREDGED MATERIAL IN A LEGAL MANNER AS NOTED IN THE PROJECT PLANS AND SPECIFICATIONS.

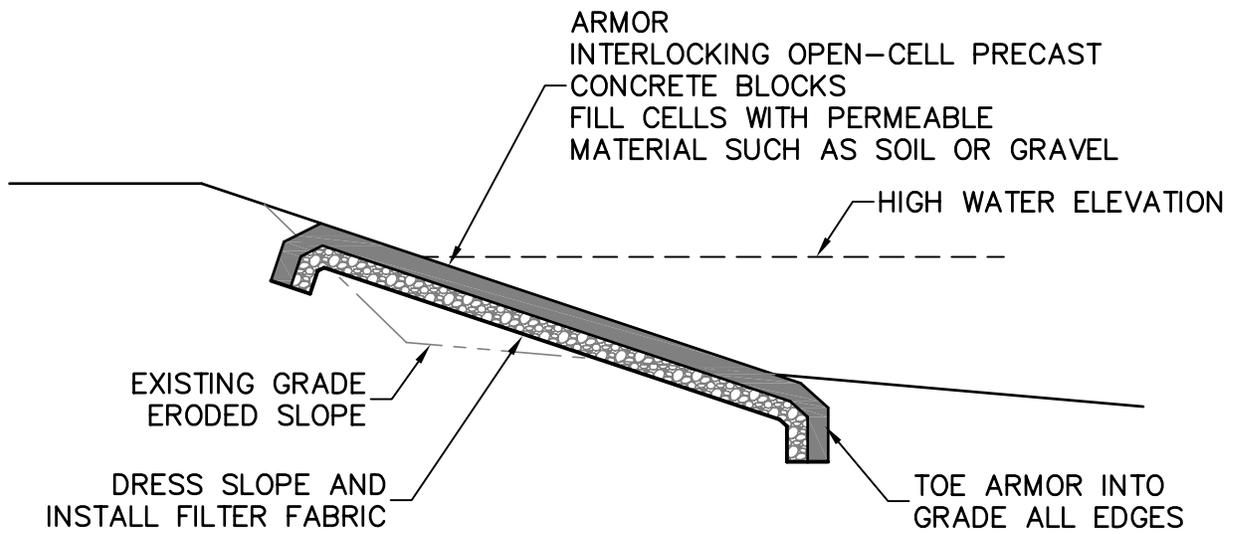


SILT DREDGING – PLAN VIEW

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|--|--|--------------|--|------------|-------------|-----------|
| | DREDGING OF PONDS OR RECREATION LAKES | | SCALE | NONE | DRAWING NO. | SHEET NO. |
| | ROUTINE MAINTENANCE ACTIVITIES - CONCEPTUAL SKETCHES | | DATE | MARCH 2010 | | OF |
| | PROJECT NO. | CONTRACT NO. | EAST BAY REGIONAL PARK DISTRICT | | | |



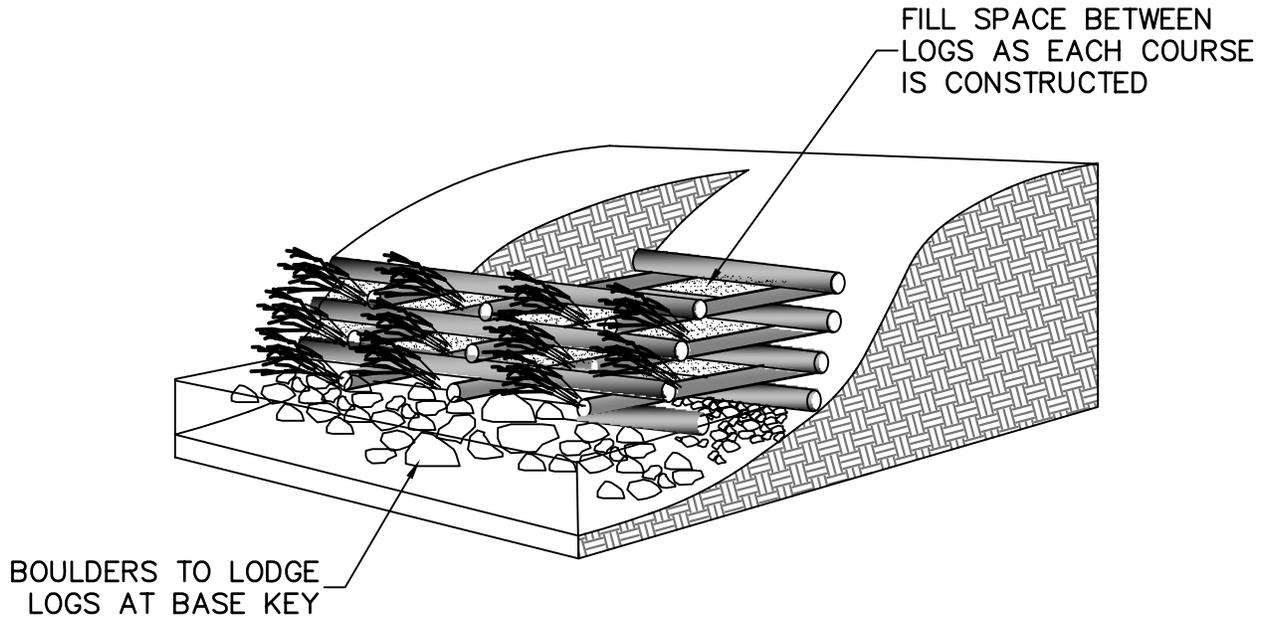
RIPRAP – SECTION



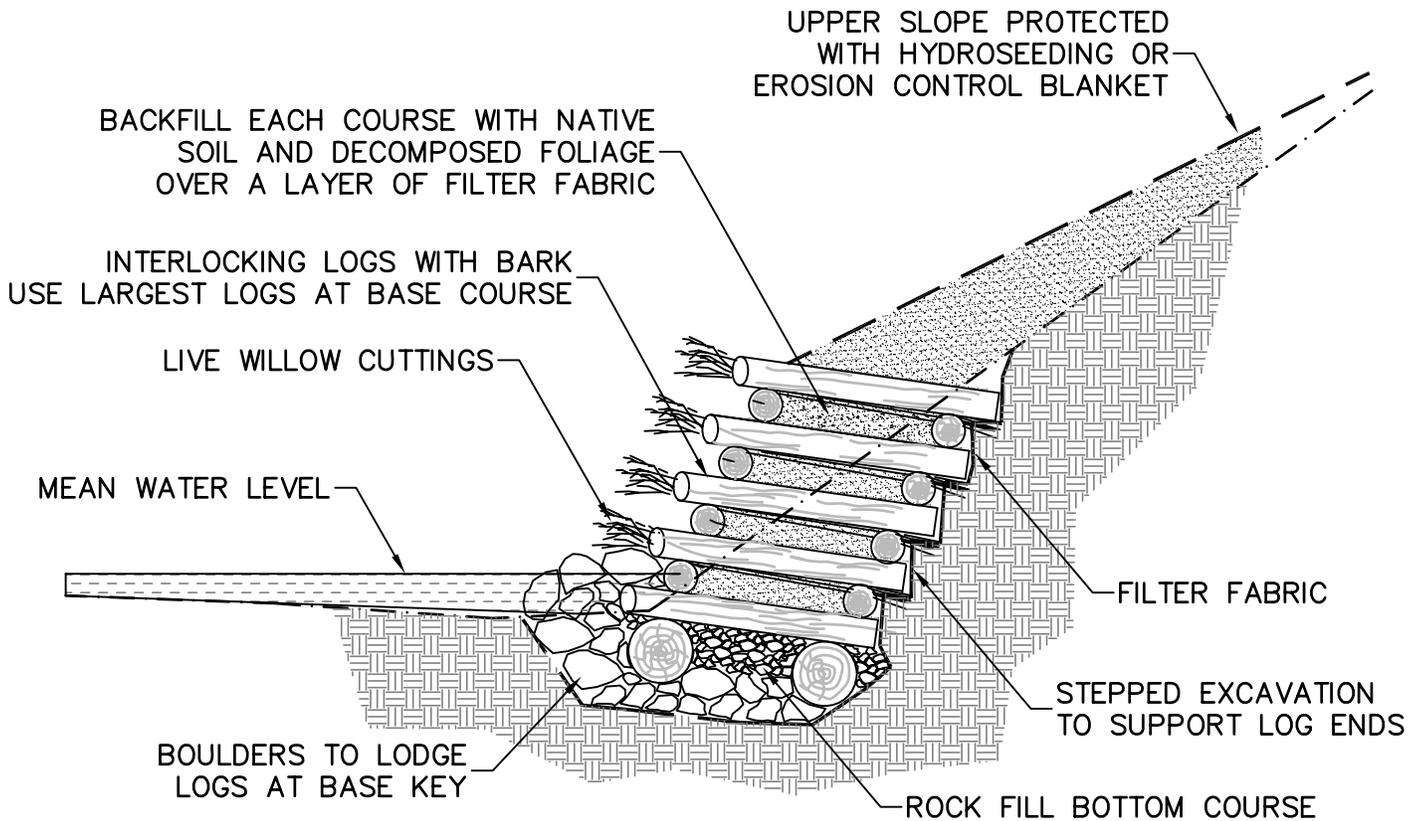
MODULAR CONCRETE UNIT ARMOR – SECTION

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| | BANK STABILIZATION & EROSION CONTROL | SCALE | NONE | DRAWING NO. | SHEET NO. |
| | ROUTINE MAINTENANCE ACTIVITIES - CONCEPTUAL SKETCHES | DATE | MARCH 2010 | | 6 |
| | PROJECT NO. | CONTRACT NO. | EAST BAY REGIONAL PARK DISTRICT | | |



CRIBWALL – ISOMETRIC VIEW



LOG CRIB WALL – SECTION

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BANK STABILIZATION & EROSION CONTROL

ROUTINE MAINTENANCE ACTIVITIES - CONCEPTUAL SKETCHES

PROJECT NO.

CONTRACT NO.

SCALE

NONE

DATE

MARCH 2010

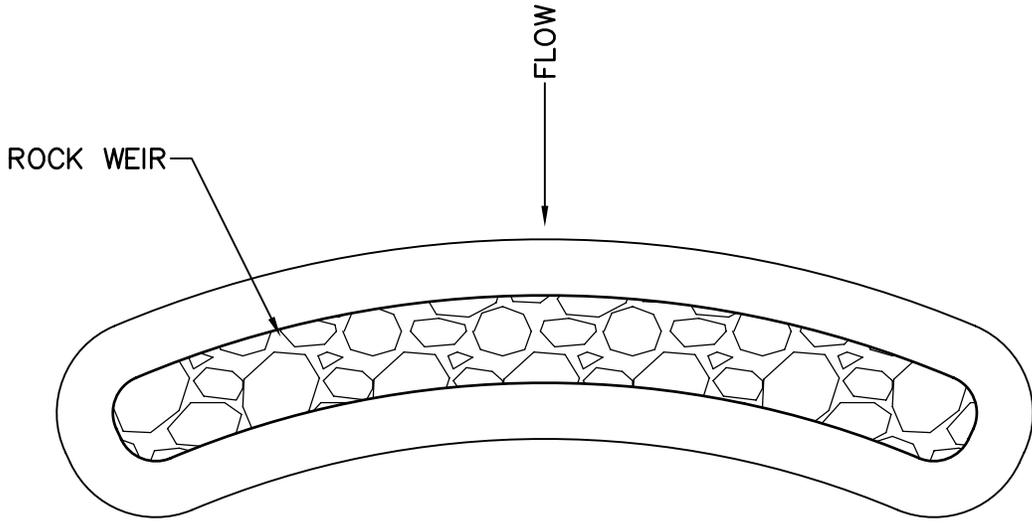
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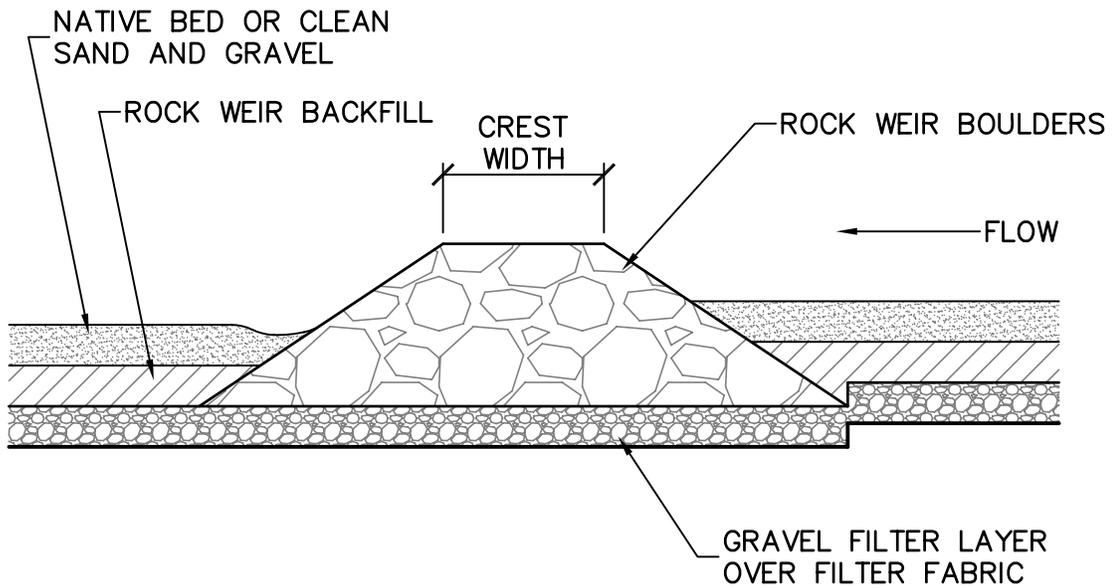
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EAST BAY REGIONAL PARK DISTRICT



ROCK WEIR – PLAN VIEW



ROCK WEIR – SECTION VIEW

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BANK STABILIZATION & EROSION CONTROL

ROUTINE MAINTENANCE ACTIVITIES - CONCEPTUAL SKETCHES

PROJECT NO.

CONTRACT NO.

SCALE

NONE

DATE

MARCH 2010

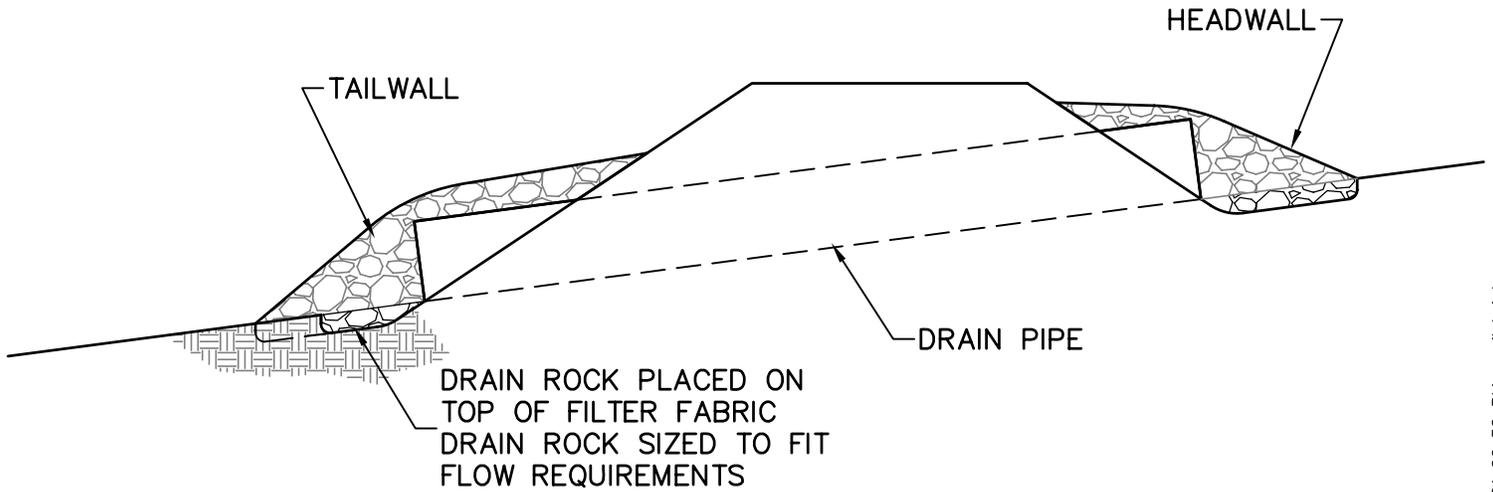
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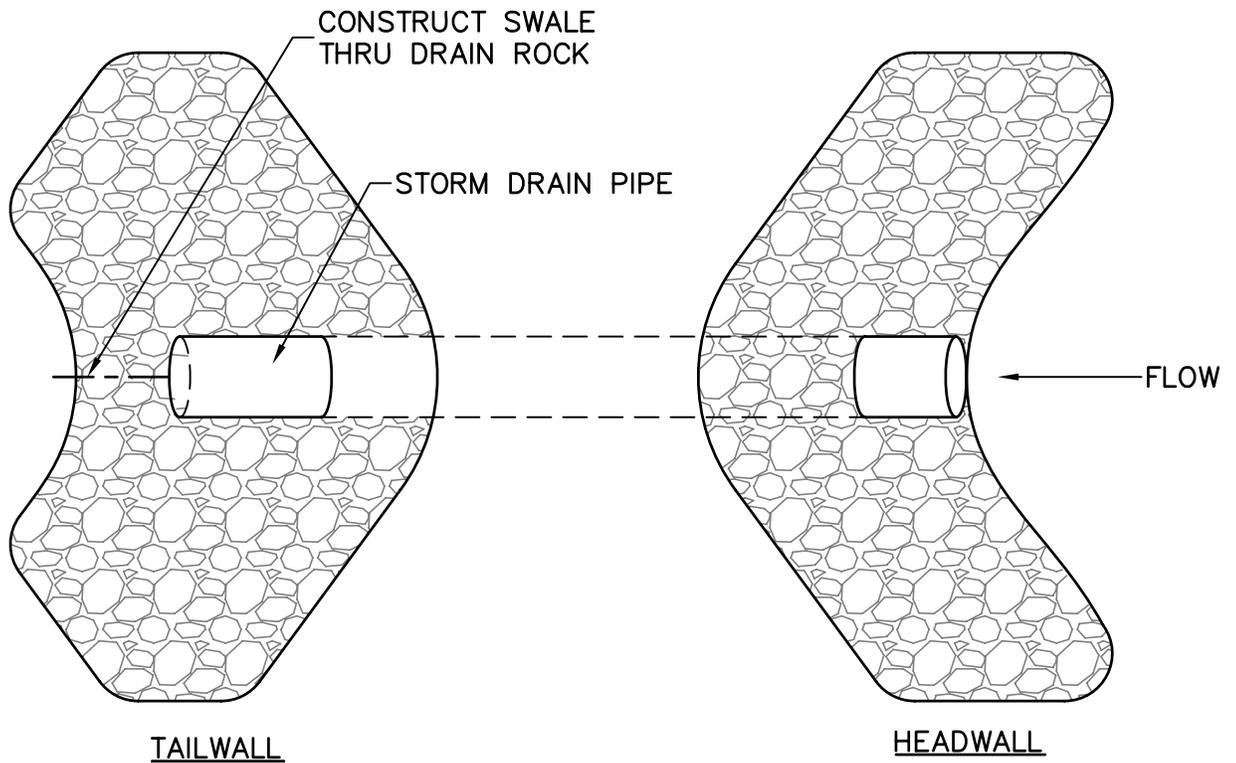
OF

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EAST BAY REGIONAL PARK DISTRICT



HEADWALL AND TAILWALL – LONGITUDINAL SECTION



HEADWALL AND TAILWALL – PLAN VIEW

| | | | | | |
|--|--|--------------|--|-------------|-----------|
| | HEADWALL AND TAILWALL | SCALE | NONE | DRAWING NO. | SHEET NO. |
| | ROUTINE MAINTENANCE ACTIVITIES - CONCEPTUAL SKETCHES | DATE | MARCH 2010 | 9 | OF |
| | PROJECT NO. | CONTRACT NO. | EAST BAY REGIONAL PARK DISTRICT | | |

ATTACHMENT C

BEST MANAGEMENT PRACTICES (BMP'S) FOR REGIONAL ROUTINE MAINTENANCE ACTIVITIES IN WATERWAYS, STREAMS, PONDS AND LAKES IN EAST BAY REGIONAL PARK DISTRICT, ALAMEDA AND CONTRA COSTA COUNTIES, CALIFORNIA.

The U.S. Army Corps of Engineers (ACOE) Regional General Permit authorization is required for routine maintenance activities in jurisdictional waterbodies within the East Bay Regional Park District (District) in Alameda and Contra Costa Counties, California. The District will follow the normal notification process and obtain separate authorizations for all projects that do not meet the routine maintenance criteria under the Regional General Permit. In addition, the District will comply with all conditions in the California Department of Fish and Game (CDFG) Lake and Streambed Agreement, the Regional Water Quality Control Board (RWQCB) Waste Discharge Requirements and Water Quality Certification, and Section 7 consultation with the U.S. Fish and Wildlife Service (USFWS) and the U.S. National Marine Fisheries Service (NMFS). To avoid and minimize wetland disturbance the District has and will continue to use the following best management practices (BMPs).

The following practices will be used for all projects:

Whenever feasible the District will implement the Best Management Practices identified in the California's Salmonid Stream Habitat Restoration Manual and the Federal Interagency Stream Corridor Restoration Manual.

All District projects are reviewed by qualified Stewardship staff who works directly with Operations staff to identify site specific BMPs and develop the appropriate protective guidelines for each project. Permitted District biologists familiar with sensitive species will closely monitor each project.

No routine maintenance activity is conducted that substantially disrupts the movements of aquatic indigenous life.

Work within special status species habitat will be performed only between August 1 and October 31 or under dry site conditions, to avoid impacts to California red-legged frogs (*Rana draytonii*), foothill yellow-legged frogs (*Rana boylei*), California tiger salamander (*Ambystoma californiense*), Western pond turtle (*Clemmys marmorata*) and minimize adverse impacts to fish and wildlife resources and their habitats.

Work within California clapper rail (*Rallus longirostris obsoletus*), California least tern (*Sterna antillarum browni*), and Western snowy plover (*Charadrius alexandrinus nivosus*) habitat will be performed only during the non-nesting season between September 1 and January 31 to avoid potential impacts to these species.

Work within Giant garter snake (*Thamnophis gigas*) in water habitat will be only performed between May 1 and October 1 to avoid potential impacts to this species.

Work within Delta smelt (*Hypomesus transpacificus*) in water habitat will be only performed between August 1 and November 30 to avoid potential impacts to this species.

Work within non-listed species habitat will be performed between April 15 and October 31. However, debris removal from culverts immediately necessary to prevent flooding may be conducted at any time.

Debris removal during winter to unclog culverts etc. will be performed by hand crews, or by the use of trucks with winches, and/or backhoes operated from the top of the bank.

As much as possible the District will avoid large woody riparian vegetation and remove only the minimum necessary to complete the project.

Woody debris, which does not cause a problem of bank instability, flooding, or culvert blockage, will be left in place to provide in-stream cover and habitat for California red-legged frogs, Western pond turtles, salmonids, and other aquatic species.

The District will avoid use of equipment in waterways, streams, ponds, and lakes as much as possible.

No equipment will operate in standing or flowing water and disturbance in stream channels will be minimized as much as possible.

The District will avoid using heavy equipment in areas where hand tools or light equipment are capable of performing the task.

Whenever feasible the District will use rubber-tired vehicles as opposed to track mounted equipment to avoid soil compaction and disturbance.

New concrete will not be placed or poured on-site in a location that may contact any natural waterbodies.

Any concrete pouring will be isolated from all natural waterbodies through appropriate wrapping or water barrier implements.

Prior to work, all equipment will be inspected for fuel, oil or hydraulic leaks and repaired.

At the work site, fueling of equipment and vehicles will only occur in upland areas and at a minimum of 100 feet from open water.

To avoid and minimize disturbance the District will plant riparian vegetation by hand or with a rubber-tired backhoe from above top of bank

When necessary to avoid and minimize disturbance and maintain down stream flow, water will be temporarily diverted around the work area using sand bag coffer-dams, hoses, and pumps.

The following practices will be used when performing work on natural stream crossings (fords):

Natural stream crossings are annually evaluated District wide to determine the need for maintenance.

Minimal grading or debris removal will be performed to make the crossing passable.

Stream gravels and sediments will be left within the dry portion of the stream channel rather than moved to upland areas.

Natural crossings (that require less intensive maintenance), through the use of culverts, will be preferred and used where feasible.

The following practices will be used when removing and replacing culverts:

Whenever feasible the District will replace old metal-galvanized culverts with modern plastic culverts. This will minimize the need for follow up maintenance and stream disturbance.

Whenever feasible the District will install replacement culverts large enough to accommodate anticipated 25-year frequency storms events. This will minimize the need for follow up maintenance and stream disturbance.

Replacement of culverts will be installed at the existing grade to maintain natural stream gradient and minimize under cutting and erosion.

Whenever feasible the District will remove culverts to restore and enhance the natural stream corridor and riparian vegetation.

Whenever feasible the District will remove culverts and replace them with clear-span bridges or armored articulated fords. This will re-establish typical stream flow and reduce erosion.

To stabilize culverts the District will construct headwalls, discharge end splash pads, and install armoring with porous materials or other techniques which allow plant growth and avoid the permanent elimination of stream habitat.

The following practices will be used to stabilize banks and prevent or control erosion:

Whenever feasible the District will use bio-engineering such as planting riparian woody vegetation, willow waddles and mattresses, log crib-walls, log and stump deflectors, or vortex weirs to stabilize banks and reduce erosion.

Where appropriate jute netting, whole grown, or other erosion control fabrics will be used to provide protection until adequate plant growth can provide permanent protection.

Where appropriate broadcast and/or hydro-seeding (native mix) and planting of willow, maple, alder, and other native riparian woody vegetation will be utilized to stabilize banks and prevent erosion.

The following practices will be used for routine maintenance dredging of ponds and lakes:

When feasible, the work will be performed in dry conditions and above water level. Otherwise, floating open water turbidity curtains will be used to contain sediment.

Other erosion, sediment and turbidity control measures and procedures may be implemented to contain sediments, minimize siltation, and prevent downstream turbidity.

Whenever feasible, dredging will be done with an excavator from top of bank.

All removed dredged sediments will be disposed of in the appropriate upland location(s).

Removal of riparian vegetation shall be minimized during dredging operations.

The following practices will be used for pond restoration and enhancement:

General pond restoration dredging will occur during dry site conditions.

Stock ponds will only be dredged when dry and after determining no California red-legged frogs, California tiger salamanders, or Western pond turtles are present.

Wherever feasible, dredged ponds and earthen dams will be reconfigured to enhance the habitat for aquatic species.

Proposed restoration and enhancement:

While conducting routine maintenance, the District is incorporating an adaptive management strategy to improve existing conditions. Overall, implementing the above BMPs reduce adverse affects to our parklands and nearby waterbodies. The District will also include restoration and enhancement of existing ponds, streams and other waterbodies to address or off-set any potential temporary impacts associated with our routine maintenance of existing facilities. Restoration and enhancement will include but not be limited to:

- Stream and pond restoration for special status species and other aquatic species.
- Removing instream man-made structures to restore the natural stream conditions
- Planting native riparian and wetland vegetation to improve water quality
- Controlling and removing non-native invasive species (i.e. bullfrogs, exotic fish, Chinese mitten crab etc.)
- Identifying and removing instream barriers to fish and other aquatic species
- Installing nest boxes for riparian bird species (i.e. wood ducks, tree swallows, and flycatchers).

In addition, the District has identified seventeen wetland restoration sites to compensate for any potential temporary, permanent, and cumulative impacts associated with our routine maintenance projects for the next five years. The proposed wetland restoration and enhancement sites were selected to insure the high likelihood of success, within existing wetlands, ponds, or streams or expanding hydrologically functioning waterbodies. The District has calculated the total area (i.e. linear feet, square feet, acres) for each routine project determined to potentially have a temporary or permanent impact (see attached impact assessment). In addition, the total area of each enhancement and restoration project will be similarly calculated and directly applied at a 1:1 ratio to compensate for any permanent and cumulative impacts associated with a routine project. Consequently, for the duration of the five-year permit, the District will create, restore, and/or enhance lentic water, lotic water, and

inter-tidal emergent wetland habitats (see Proposed Regional General Permit Compensatory Restoration Projects). These proposed restoration sites are within the current distributional range of the California red-legged frog, California tiger salamander, California clapper rail, salt marsh harvest mouse and/or Western pond turtle and will be enhanced to provide additional permanent habitat for these special status species. In addition, they will provide long-term habitat for a variety of other aquatic species. Restoring and/or creating permanent aquatic habitat will more than compensate for the small-scale temporary, permanent, and cumulative impacts associated with our routine maintenance projects. Any unused restoration credits that accrue can be used for future routine maintenance projects determined to have impacts. It is also important to recognize that although some may have temporary or permanent impacts, most of our routine maintenance projects are improving existing conditions and enhancing the habitat for aquatic species (i.e. cattails removal from choked out waterbodies, replacing or removing dysfunctional culverts, removing stream obstructions and barriers). Overall, this proposal represents a “self-mitigating” plan for habitat enhancement.

Attachment D

| ACOE Regional General Permit Compensatory Restoration Projects: Tidal Wetlands | | | | | |
|---|--|--|-------------------------|---|--|
| Park | Location and Project Description | Type of Restoration | Habitat Type | Estimated Restoration Area (acres) | Estimated Restoration Area (ft²) |
| Alameda Point | Encinal Beach: Remove iceplant and man-made debris from upland beach area, design/grade sand dunes, plant with and re-establish the appropriate native dune vegetation. | Enhancement | Intertidal sand flat | 0.47 | 20,473 |
| Point Pinole | Point Pinole Wetlands: Remove iceplant and man-made debris to enhance tidal wetland habitat areas for California black rail and other salt water marsh species. | Enhancement | Saline emergent wetland | 5 | 217,800 |
| MLK Shoreline | Damon Slough/San Leandro Bay: Marsh clean-up of man-made debris, non-native <i>Spartina</i> spp. Control to enhance habitat for California clapper rail and other rail species. | Enhancement | Saline emergent wetland | 1 | 43,560 |
| MLK Shoreline | MLK Marsh Complex: Restoration within mean high water and transitional uplands by replanting native vegetation to enhance habitat and provide protective cover for California clapper rail, other rail and avian species. | Enhancement | Saline emergent wetland | 25 | 1,089,000 |
| Crown Beach | Elsie Roemer Marsh enhancement: Iceplant removal, replanting of native vegetation to enhance California clapper rail habitat. | Enhancement | Saline emergent wetland | 2 | 87,120 |
| Crown Beach | Elsie Roemer Marsh restoration: Iceplant removal, sand removal, reestablishment of mud flat and emergent wetland substrate, and replanting of native vegetation to enhance habitat for California clapper rail and other rail species. | Enhancement Restoration Creation | Saline emergent wetland | 0.48 | 20,848 |
| Eastshore | Schoolhouse Creek restoration: Daylighting terminal end of Schoolhouse Creek in North Basin of Berkeley Marina. Create wetland and marsh transition zone from creek into San Francisco Bay. | Enhancement Restoration Creation | Saline emergent wetland | 1.01 | 44,000 |

In the next 5 years, the District plans to restore, but not limited to, approximately 35 acres (1,522,801 sq.ft.) of tidal wetlands.

ACOE Regional General Permit Compensatory Restoration Projects: Lentic Waterbodies (Ponds)

| Park | Location and Project Description | Type of Restoration | Habitat Type | Estimated Restoration Area (acres) | Estimated Restoration Area (ft ²) |
|--------------------|---|--|---------------------------------|------------------------------------|---|
| Vargas Plateau | Restore and enhance the hydrologic conditions of a seasonal wetland/natural floodplain by rehabilitation of existing pond (dredging/cattail removal) and grading (remove created berms) to produce uniform sheet flow over extensive area south and south east of pond. | Enhancement Restoration Creation | Perennial and seasonal wetlands | 2.8 | 121,968 |
| Ohlone | Restore and enhance 10-16 seasonal ponds that pre-maturely dry and/or have failed to restore lentic water habitat for California red-legged frog, California tiger salamander, and other aquatic species. | Restoration | Lentic - pond | 1.71 | 74,488 |
| Dublin Hills | Restore two ponds (seasonal and perennial) to enhance habitat for California red-legged frog. The perennial pond will require dewatering, removing cattails, capturing and relocating native aquatic vertebrates including California red-legged frogs. | Restoration | Lentic - pond | 0.58 | 25,439 |
| Sibley/Huckleberry | Restore and reconfigure two ponds to create one large perennial pond to enhance habitat for California red-legged frog. Work includes dewatering, removing cattails and separation berm, bullfrog removal, capturing and relocating native aquatic vertebrates, basin dredging to improve lentic water habitat for native aquatic species, and installing erosion control measures including planting and/or seeding upland vegetation. | Enhancement Restoration | Lentic - pond | 1.07 | 46,888 |
| Pleasanton Ridge | Restoration of 4 perennial ponds including dewatering and re-configuring hydrologic conditions in order to remove non-native bullfrogs to enhance California red-legged frog habitat and other native aquatic species. | Restoration | Lentic - pond | 1.45 | 63,162 |
| Garin | Restore a perennial pond to enhance California red-legged frog habitat including dredging to increase water depth, cattail removal to arrest vegetative encroachment and provide open water habitat for California red-legged frogs and other aquatic herpetofauna and macroinvertebrates. | Restoration | Lentic - pond | 0.5 | 21,780 |

In the next 5 years, the District plans to restore, but not limited to, approximately 8.11 acres (353,725 sq.ft.) of lentic habitat.

| ACOE Regional General Permit Compensatory Restoration Projects: Lotic Waterbodies (Streams/Drainages) | | | | | |
|--|---|----------------------------------|--|---|--|
| Park | Location and Project Description | Type of Restoration | Habitat Type | Estimated Restoration Area (acres) | Estimated Restoration Area (ft²) |
| Sycamore Valley | Enhance habitat for California red-legged frog by removing cattails and dredging a perennial pond within Sycamore Creek: Also remove a non-boundary riparian exclosure fence. | Enhancement Restoration | Lotic and lentic perennial stream and pond | 0.35 | 15,246 |
| Eastshore | Schoolhouse Creek restoration: Daylighting terminal end of Schoolhouse Creek in North Basin of Berkeley Marina. Create wetland and marsh transition zone from creek into San Francisco Bay. | Enhancement Restoration Creation | Lotic - perennial stream (400 linear ft) | 0.18 | 8,000 |
| Tilden | Wildcat Creek Restoration - Tilden Golf Course: Restore perennial stream sinuosity and streambank vegetation to enhance habitat for aquatic species. | Restoration | Lotic - perennial stream (800 linear ft) | 0.28 | 12,000 |
| Tilden | Wildcat Creek instream cement crossing removal: Remove degraded, undercut, instream cement crossing at the end of Brook Road. Restore natural stream flow/channel gradient. | Enhancement Restoration | Lotic - perennial stream (160 linear ft) | 0.07 | 3,200 |

In the next 5 years, the District plans to restore, but not limited to, approximately 0.88 acres (38,446 sq.ft.) of lotic habitat.

Attachment E

Federally listed species that occur within East Bay Regional Park District and potentially occur at various project sites that are covered under the U.S. Fish and Wildlife Service and NOAA – National Marine Fisheries Service programmatic consultation (November 16, 2006).

Longhorn fairy shrimp (*Branchinecta longiantenna*)
Vernal pool fairy shrimp (*Branchinecta lynchi*)
Vernal pool tadpole shrimp (*Lepidurus packardii*)
Delta smelt (*Hypomesus transpacificus*)
Chinook salmon (*Oncorhynchus tshawytscha*)
Steelhead (*Oncorhynchus mykiss*)
California tiger salamander (*Ambystoma californiense*)
California red-legged frog (*Rana draytonii*) formally (*Rana aurora draytonii*)
Giant garter snake (*Thamnophis gigas*)
California clapper rail (*Rallus longirostris obsoletus*)
Salt marsh harvest mouse (*Reithrodontomys raviventris*)
Contra Costa goldfields (*Lasthenia conjugens*)
Soft bird-beak (*Cordylanthus mollis* ssp. *mollis*)

These thirteen covered species could potentially occur at various proposed routine maintenance project sites within the East Bay Regional Park District. To assess potential effects on federally listed we are providing a quantitative and qualitative analysis of all the East Bay Regional Park District's (District) routine maintenance projects conducted under our U.S. Army Corps of Engineer's General permits Numbers 23394S and 28902S. This includes evaluating potential impacts of routine maintenance projects to federally listed species and potential effects to critical habitat. From 1998-2009 the District worked on a total 247 projects in a variety of wetlands throughout our parklands. One hundred twenty three of these projects had no permanent impact or wetland loss and 124 projects had some permanent impact resulting in wetland loss per project ranging from <0.0001 acres to 0.09 acres, for an overall cumulative total of 1.016 acres of permanent wetland loss. To compensate for this wetland loss the District created and/or restored > 2.58 acres of lentic water habitat.

Not all of the 247 routine maintenance projects occurred in habitat that support federally listed species. Within the District, the California red-legged frog (*Rana draytonii*) occurs in 81 ponds and 26 district stream reaches, and California tiger salamander (*Ambystoma californiense*) have been documented breeding in 80 stock ponds, where 39% of the ponds these two species are sympatric. During the eleven year permit period, 116 routine projects were completed in potentially suitable habitat and 55 projects resulted in some permanent wetland loss within the distributional range of the California red-legged frog. The impacts per project ranged from <0.0001 to 0.02 acres, for an overall total of 0.360 acres of permanent wetland loss in areas which potentially provide habitat for this species. The other 61 projects had minimal temporary impact and resulted in no permanent wetland loss or adversely affected aquatic breeding or non-breeding habitats.

While 101 routine projects were completed within the distributional range of California tiger salamander, none of the projects impacted lentic waterbodies or resulted in temporary or permanent loss of aquatic breeding habitat. In addition, the vast majority of routine maintenance projects occurred in various drainages and stream reaches that do not support California tiger salamander breeding populations. The projects primarily include the replacement of culverts and installation of armored fords on existing roads with un-measurable temporary disturbance to suitable upland habitat for California tiger salamanders.

Although these projects occurred in the distributional range of the California red-legged frog and/or California tiger salamander, not all of the projects occurred within critical habitat designation or in areas known to support the species. Large portions of District lands are excluded from critical habitat designation of California tiger salamander (Federal Register: August 23, 2005 – Volume 70, Number 162). In addition as previously stated, none of the routine maintenance projects had a direct, indirect, and/or cumulative effect on aquatic or terrestrial habitat known to support or potentially suitable for California tiger salamanders.

Similarly, the vast majority of the District's parklands in eastern Contra Costa County are excluded from critical habitat designation for California red-legged frog (Federal Register: March 17, 2010 – Volume 75, Number 511). However, critical habitat units in Alameda and Contra Costa Counties include District lands.

Consequently, the District's eleven years of routine maintenance projects permanently impacted 0.287 acres of wetlands within California red-legged frog critical habitat designation, and 0.098 acres of wetland loss within the critical habitat designation for the California tiger salamander (Federal Register: August 23, 2005 – Volume 70, Number 162). However, most of the permanent wetland loss in critical habitat designation occurred at sites where we have not documented these species. In fact, the 0.098 acres of permanent impacts affected lotic habitat and in streams that do not support California tiger salamander breeding populations. Moreover, from 1998-2009 we have not documented any California red-legged frogs or California tiger salamanders at the projects sites. Nevertheless, to assist in the conservation and recovery, the District has restored and/or created 2.40 acres of California red-legged frog and 0.78 acres of California tiger salamander lentic water habitat.

Although District lands support populations of longhorn fairy shrimp (*Branchinecta longiantenna*), vernal pool fairy shrimp (*Branchinecta lynchi*), and vernal pool tadpole shrimp (*Lepidurus packardii*), these species are restricted to isolated rock out-crop waterbody depressions at Vasco Caves and Brushy Peak Regional Preserves (Federal Register: August 11, 2005 – Volume 70, Number 154). We have not documented any of these crustaceans in other waterbody sites. In addition, these rock out-crops are protected features and have not been impacted by anthropogenic effects associated with any project. While routine maintenance projects have occurred in the distributional range of these species, none of the projects have impacted any waterbodies known to support these species. Only one project occurred in critical habitat designation. However, it was within a high gradient seasonal stream which is considered not suitable aquatic habitat to support these species.

Many of the District's shoreline units are within the distributional range of California clapper rail (*Rallus longirostris obsoletus*) and salt marsh harvest mouse (*Reithrodontomys raviventris*). The California clapper rail successfully nests at several shoreline units, most notably at Hayward and Martin Luther King Jr. Regional Shorelines where the dense vegetative cover supports high rail densities. Similarly, the salt marsh harvest mouse have been documented at Coyote Hills, Hayward Marsh, Salt Marsh Harvest Mouse Preserve, Oro Loma Marsh, Emeryville Crescent, Hoffman Marsh, Martinez East, Pittsburg West, and Waterbird (Shell) Marsh. These salt water emergent marshes are pickleweed (*Salicornia virginica*) dominated sites which provide habitat for the salt marsh harvest mouse. Typical routine maintenance projects along our shorelines have consisted of protecting or repairing existing levees and upland structures. During the eleven year permit periods, seven routine projects were completed in potentially suitable habitat and only one project resulted in 0.07 acres of permanent wetland loss within the distributional range of the California clapper rail. An additional 0.05 acres of wetlands were temporarily impacted during the construction period of replacing rip-rap on outboard eroded levees with no vegetation. Likewise, during this period, five routine projects were completed in distributional range of salt marsh harvest mouse and temporarily impacted 0.10 acres of potentially suitable habitat along levees. However, the vast majority of these maintenance project sites were along out-board exposed levees in areas where we have not documented California clapper rail or salt marsh harvest mouse in locations with suitable habitat to support these species.

The north eastern shoreline edge of Contra Costa County is just within the distributional range of the giant garter snake (*Thamnophis gigas*). Although Big Break Regional Shoreline contains suitable habitat to support this species, we have not documented giant garter snake at the shoreline. Moreover, no routine maintenance projects have occurred in this region with aquatic or terrestrial habitat potentially suitable for this species.

District shorelines from Suisun Bay to the Delta Region of the San Joaquin River are in the distribution range of Delta smelt (*Hypomesus transpacificus*) which occupy and disperse into stream channels and tidal backwater sloughs. During the eleven year permit period, four routine projects were completed in potentially suitable habitat and only one project resulted in 0.009 acres of permanent wetland loss within the distributional range of Delta smelt. An additional 0.01 acres of wetlands were temporarily impacted during the period of construction to replace existing rip-rap, culvert, and flapper gate. All four of these projects occurred in critical habitat designation for Delta smelt (Federal Register: December 19, 1994 – Volume 59, Number 242). However, these routine maintenance projects did not impact any submerged or emerged aquatic vegetation and had minimal disturbance or adverse affect to Delta smelt habitat.

The District's shorelines and several parklands are in watersheds with steelhead (*Oncorhynchus mykiss*) and Chinook salmon (*Oncorhynchus tshawytscha*), most notably in lower Alameda Creek and Delta Regions along the San Joaquin River. Though during the eleven year permit periods many routine maintenance projects have been performed in drainages and streams, none have occurred in reaches occupied by these salmonids or considered active spawning corridors. While six routine maintenance projects resulted in 0.07 acres of permanent wetland loss were completed in potentially suitable estuarine salmonid habitat along shorelines of San Francisco and Suisun Bays, these projects consisted of protecting or repairing existing levees and flap gate structures. Additionally, the vast majority of rip-rap was placed above mean high water line with minimal affect to steelhead and Chinook salmon habitat.

Critical habitat designation for salmonids including steelhead and Chinook salmon has been determined throughout various regions of the San Francisco Bay Region (Federal Register: September 2, 2005 – Volume 70, Number 170 and Federal Register: January 5, 2006 – Volume 71, Number 3). However, the streams and drainages within District lands, including previously occupied steelhead habitat areas of Wildcat Creek and upper Alameda Creek are not considered Distinct Population Segments or included in the

critical habitat designation (Federal Register: September 2, 2005 – Volume 70, Number 170 and Federal Register: January 5, 2006 – Volume 71, Number 3). Similarly, District lands are not included in the critical habitat designation for Chinook salmon (Federal Register: September 2, 2005– Volume 70, Number 170). Nevertheless, the District has removed several migratory barriers and been very involved in efforts to re-establish an anadromous steelhead and possibly Chinook salmon to upper Alameda Creek.

Contra Costa goldfields (*Lasthenia conjugens*) are habitat limited to vernal pools in open grassy areas at elevations up to 470 meters. Although several Contra Costa goldfield populations are included in critical habitat designation (Federal Register: August 11, 2005 – Volume 70, Number 154), none of the sites are within District lands. In addition, we have not documented or confirmed any individual plants or populations of Contra Costa goldfields on District lands. Thus, routine maintenance projects have not impacted Contra Costa goldfields or critical habitat designation.

Soft bird's-beak (*Cordylanthus mollis* ssp. *mollis*) occurs on the upper reaches of coastal salt marshes, primarily at the limits of tidal influence. It is associated with *Salicornia virginica*, *Distichlis spicata*, *Jaumea carnosa*, *Frankenia salina*, and *Triglochin maritima*. The only District population occurs on the transition zone between shoreline sand and the pickleweed (*Salicornia virginica*) marsh along the northeast corner of Point Pinole Regional Shoreline, a location where no routine maintenance activities have occurred.

Here are other federally listed species that occur within Alameda and Contra Costa Counties and potentially on District lands and various project sites.

Santa Cruz tarplant (*Holocarpha macradenia*)

Large-flowered fiddleneck (*Amsinckia grandiflora*)

Presidio clarkia (*Clarkia franciscana*)

Antioch Dunes evening primrose (*Oenothera deltoides* ssp. *howellii*)

Pallid manzanita (*Arctostaphylos pallida*)

Alameda whipsnake (*Masticophis lateralis euryxanthus*)

Western snowy plover (*Charadrius alexandrinus nivosus*)

California least tern (*Sterna antillarum browni*)

San Joaquin kit fox (*Vulpes macrotis mutica*)

These additional nine species could potentially occur at various proposed routine maintenance project sites within the East Bay Regional Park District. However, most of these species, except for the Western snowy plover and California least tern, are generally associated with upland habitats. Moreover, excluding the Alameda whipsnake, these species have limited distributional range and/or occurrence on District lands.

Santa Cruz tarplant (*Holocarpha macradenia*) is found on coastal prairies and grasslands, often with clay or sandy-clay soils, between 10 meters and 220 meters elevations. This species is most frequently associated with non-native grasses and non-native French broom (*Genista monpessulana*). Several transplanted populations of Santa Cruz tarplant occur in the non-native annual grasslands of Wildcat Canyon Regional Park. This introduced Santa Cruz tarplant population is within critical habitat designation (Federal Register: October 16, 2002 – Volume 67, Number 200). However, no routine maintenance projects have occurred in this region with known populations or habitat potentially suitable for this species. Nevertheless, for many years the District has been implementing various management actions at the Santa Cruz tarplant population site to enhance the primary constituent elements to improve habitat conditions for this species.

Large-flowered fiddleneck (*Amsinckia grandiflora*) normally occurs in inner coast range grasslands with steep slopes and sandy soils. The only District population was planted on a relatively small site in a non-native annual grassland ridgetop within Black Diamond

Mines Regional Preserve. Moreover, no routine maintenance projects have occurred in this region with known populations or habitat potentially suitable for this species.

Presidio clarkia (*Clarkia franciscana*) grows in grassland communities with serpentine soils. The only District occurrence is a large population on the serpentine prairie of Redwood Regional Park. However, no routine maintenance projects have occurred in this region with known populations or habitat potentially suitable for this species. Instead, the District has implemented various management actions at the serpentine prairie site to enhance the primary constituent elements to improve habitat conditions for Presidio clarkia.

Antioch Dunes evening primrose (*Oenothera deltoides* ssp. *howellii*) occurs on inland sand dunes. The only District occurrence is a small population on the Southwest side of Browns Island in Contra Costa County. However, no routine maintenance projects have occurred in this region or where known populations exist.

Pallid manzanita (*Arctostaphylos pallida*) occurs in chaparral communities with somewhat mesic soils and in coastal scrub, with an elevation range of 200-445m. These soils are generally thin, silica-rich shales. Large populations (>450 individuals) are found in Huckleberry Botanic Preserve and Sobrante Ridge Regional Preserve. About 20 planted pallid manzanitas occur in Tilden Regional Park, and a single plant is found in both Redwood Regional Park and Sibley Volcanic Regional Preserve. However, no routine maintenance projects have occurred in any area with known populations.

The Alameda whipsnake (*Masticophis lateralis euryxanthus*) typically inhabits District parks throughout Alameda and Contra Costa Counties with suitable chaparral, scrub, and oak savanna habitats. This species is closely associated with these uplands habitats but also occurs in riparian and stream corridors. Vast regions of District lands are excluded from critical habitat designation for Alameda whipsnake (Federal Register: October 3, 2000 – Volume 65, Number 192 and Federal Register: October 2, 2006 – Volume 71, Number 190). While 221 routine projects were completed within the distributional

range of the Alameda whipsnake, these projects involve various aquatic habitat types and often in mesic locations without the essential primary constituent elements to support this species. Furthermore, most of these maintenance activities have occurred in areas where we have not documented Alameda whipsnake and had minimal disturbance to suitable upland habitat.

Historically, Western snowy plover (*Charadrius alexandrinus nivosus*) and California least tern (*Sterna antillarum browni*) infrequently occurred and had very limited nesting on District properties. Western snowy plovers nesting attempts at Hayward Regional Shoreline were restricted to an event on Island 5 and one nest attempt on the basin levee. Similarly in 1990, only one nest attempt was documented by California least terns on the same small island at Hayward Regional Shoreline. However, after the District completed a habitat enhancement project on Island 5, California least terns have successfully nested every year since 2007 and appears to have established a stable colony. Correspondingly, on Island 5, Western snowy plover successfully nested in 2008 and each of the subsequent years. During the eleven year permit periods, only two routine maintenance projects were completed at Hayward Regional Shoreline. While these projects resulted in 0.04 acres of temporary and permanent wetland impacts, both projects were on levees at considerable distances from the island supporting Western snowy nests and the California least tern colony. In addition, the construction occurred during the non-nesting season with no disturbance to either species. As a consequence, none of the projects or associated routine maintenance activities impacted Western snowy nests or the California least tern.

The eastern portions of Alameda and Contra Costa Counties are the extreme northern extent of the San Joaquin kit fox (*Vulpes macrotis mutica*) range. This species typically occur in xeric upland habitats, predominantly in the open grassland and oak savanna. Since 1990 only eight San Joaquin kit fox have been documented on District lands with occurrences at Black Diamond Mines, Round Valley, Brushy Peak, and Vasco Caves Regional Preserves. Considering, San Joaquin kit fox are associated with xeric upland habitats, their extremely low density throughout Alameda and Contra Costa Counties,

and the routine maintenance projects occur in aquatic habitats with little disturbance to uplands, it is unlikely the project activities had a measurable effect or impact San Joaquin kit fox habitat.

Summary and Discussion

The proposed activities associated with District's routine maintenance activities including bank stabilization, maintenance and minor modifications of existing boat docks-marinas, installation and maintenance of existing clear-span bridges, replacement and upgrades of existing culverts, minor maintenance dredging of silt basins, and levee maintenance appear to meet the criteria described in the U.S. Army Corps of Engineers programmatic consultation with U.S. Fish and Wildlife Service and NOAA-National Marine Fisheries Service. The District currently manages 66 regional parks, recreation areas, wilderness lands, shorelines, preserves, and land bank areas that encompass over 102,000 acres in Alameda and Contra Costa Counties. Approximately 80 percent of District lands are protected and operated as natural parklands which provide potential habitat for 22 federally listed species. This eleven year Regional General Permit analysis illustrates that the District's routine maintenance projects had minimal direct, indirect, and cumulative effects to these species. In effect, most temporary disturbance and permanent aquatic loss were largely limited within California red-legged frog habitat, with little effect to other aquatic and upland habitats potentially supporting other species.

In addition, many routine maintenance projects that quantitatively resulted in permanent wetland loss, actually improve habitat conditions by restoring natural flow regimes, reducing stream and shoreline erosion, minimizing sediment loading, and maintaining open water conditions. Projects such as replacing culverts with armored fords or clear-span bridges have daylighted stream reaches, prevented scouring, and often improved the hydrological conditions and lotic habitat suitability for California red-legged frog, Delta smelt, steelhead, and Chinook salmon. Other projects such as the stabilization of

existing levees actually protect several shoreline restoration sites including Oro Loma Marsh, Cogswell Marsh, and Hayward Marsh which provide habitat for California clapper rail, California least tern (i.e. Island 5), Western snowy plover (i.e. Island 5), and salt marsh harvest mouse.

Moreover, the District have conducted these routine maintenance projects with a variety of best management practices to avoid and minimize potential adverse affects to listed species (Attachment C). They include but are not limited to the following: Within the distributional range of California red-legged frog and/or California tiger salamander work is performed between August 1 and October 31 or under dry site conditions to avoid potential impacts to aquatic habitats and vulnerable life stages. Similarly, to avoid and minimize potential impacts to California clapper rail, Western snowy plover, and/or California least tern, routine maintenance activities are conducted during the non-nesting season (September 1 to January 1).

On August 6, 1998 the U.S. Fish and Wildlife Service concurred with the US Army Corps of Engineers determination that the District's routine maintenance activities performed under the Regional General Permit are not likely to impact the California red-legged frog (enclosed). In addition, U.S. Fish and Wildlife Service critical habitat designation for California red-legged frog (Federal Register: April 13, 2006 – Volume 71, Number 71 and Federal Register: March 17, 2010 – Volume 75, Number 511) and critical habitat designation for California tiger salamander (Federal Register: August 23, 2005 – Volume 70, Number 162) includes a Special 4d rule exemption for existing routine ranching activities including maintenance of existing waterbodies and water sources created to provide water for livestock. Also on May 5, 1998 the District received a Technical Assistance from U.S. Fish and Wildlife Service that determined the effects of annual road grading and maintenance activities of existing roads and trails are not likely to result in the take of Alameda whipsnake (enclosed).

Within the District's Master Plan 1997, the "conservation of rare, threatened, and endangered species of plants and animals and their supporting habitats will take

precedent over all other activities”. Accordingly, District biologists are involved in the recovery of federally listed species. We have provided information and participated on the California red-legged frog Recovery Plan, developing the survey protocol, and critical habitat designations; California tiger salamander federal and state listing petitions and critical habitat designations; California clapper rail, salt marsh harvest mouse, and San Joaquin kit fox Recovery Plans; Alameda whipsnake Recovery Plan and critical habitat designation; steelhead, Chinook salmon and Santa Cruz tarplant critical habitat designations. In addition, we continue to conduct research and work with USFWS and NMFS biologists to assist in the conservation and recovery of steelhead, California red-legged frog, California tiger salamander, Alameda whipsnake, California clapper rail, California least terns, Western snowy plover, San Joaquin kit fox, Presidio clarkia, large-flowered fiddleneck, and Santa Cruz tarplant.

Because the District’s routine maintenance projects are extremely small scale and work activities are performed with best management practices (Attachment C) which includes very specific avoidance measures to minimize potential impacts to listed species and their habitats, we believe it is unlikely the District’s proposed routine maintenance activities would adversely affect these 22 federally listed species, any distinct population segment, evolutionary significant unit, or critical habitat designation.