



**US Army Corps
of Engineers®**

**Sepulveda Dam Basin Vegetation Management and
Access Maintenance Plan
Final Environmental Assessment**

November 2017

U.S. Army Corps of Engineers

Los Angeles District

Finding of No Significant Impact

Sepulveda Dam Basin Vegetation Management Plan

The U.S. Army Corps of Engineers (Corps) proposes adopt an updated vegetation management plan for the triangular-shaped, 48-acre parcel in the southeastern corner of the Sepulveda Dam Basin, south of Burbank Boulevard, and upstream of Sepulveda Dam. The adopted plan would supersede the previous vegetation management plan from 2012. The adopted plan also includes an access maintenance plan for existing access roads and the dam operation area within the 48-acre parcel.

Six alternatives, including the No Action Alternative, were evaluated. All action alternatives were developed in coordination and with input from interested stakeholders. Alternative 1 would entail annual vegetation mowing and brush cutting, herbicide application, native tree maintenance, and non-native/dead tree removal. Furthermore, existing access roads and the dam operations area would be maintained.

Alternatives 2 and 3 are variations of Alternative 1 with respect to mowing and brush cutting operations. Both Alternatives 2 and 3 would incrementally decrease mowing to varying degrees. Other vegetation management and access maintenance activities remain unchanged from Alternative 1. Furthermore, both alternatives would adopt a one year pilot program to hand remove invasive and non-native plants. Implementation of the pilot program would require additional coordination with interested stakeholders prior to approval. Continuation of the program beyond the pilot phase would be subject to additional review and authorization by the Corps as appropriate.

Alternatives 4 and 5 are identical to Alternative 3 with respect to vegetation management, access maintenance, and the one year pilot program to hand remove invasive and non-native plants. In addition, Alternative 4 contemplates construction of a marsh; Alternative 5 contemplates construction of a sinuous channel and adjacent marsh.

Alternative 6 is the No Federal Action Alternative. Under the No Federal Action Alternative, the Corps would not conduct any vegetation or access maintenance activities.

Alternatives 1 through 3 are within the scope of existing operations and maintenance authority and funding capabilities. Alternatives 4 and 5 are conceptual and are not within the scope of existing operations and maintenance authority and funding capabilities. Alternatives 4 and 5 could be further evaluated under a separate authorization. The Corps could be a cost-share partner for a study of this nature, but would require a non-federal partner and a study agreement.


Under the existing operations and maintenance authority, Alternative 3 is the preferred alternative since it best balances the Corps' maintenance objectives with minimizing impacts to vegetation.

Some access maintenance measures evaluated as part of all action alternatives, including Alternative 3, such as road grading would require consultation with the State Historic Preservation Officer to ensure compliance with section 106 of the National Historic Preservation Act prior to undertaking any ground disturbing activities.

A draft Environmental Assessment was made available for a 57-day public review period from April 19, 2016 to June 15, 2016. All comments received have been addressed. Suggestions from the stakeholders to: (1) raise the height of mowed vegetation to three feet have been incorporated into all action alternatives; (2) implement a one year pilot program to hand remove invasive and non-native plants have been incorporated into Alternatives 2 through 5; and (3) add a fifth year to the vegetation management cycle in which no mowing would occur have been incorporated as part of Alternatives 3 through 5.

The Environmental Assessment is written in compliance with the National Environmental Policy Act, and all applicable environmental laws and regulations. It is my determination that implementation of the preferred alternative in the Environmental Assessment would not result in significant environmental impacts. Therefore, the preparation of an Environmental Impact Statement is not required.

11-8-17
DATE



Kirk E. Gibbs
Colonel, US Army
Commander and District Engineer

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Appendix A: Response to Comments

1.0 Introduction

The United States (U.S.) Army Corps of Engineers (Corps) has prepared this Environmental Assessment (EA) to evaluate the potential environmental consequences of managing vegetation and maintaining access within a 48-acre area located within the Sepulveda Dam Basin (Basin).

The EA characterizes the existing environmental conditions within the Proposed Action Area and evaluates potential environmental effects of the five action alternatives and the No Action Alternative.

This EA will be used to determine whether a “Finding of No Significant Impact (FONSI)” to the environment would result from undertaking the action or whether an Environmental Impact Statement (EIS) must be prepared.

This document complies with the National Environmental Policy Act (NEPA) of 1969, as amended (42 USC 4321-4347); the Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 CFR 1500-1508); and the Corps’ NEPA Regulations (33 CFR Part 230).

1.1 Location

The Proposed Action would occur in the Basin, which is on the upper Los Angeles River in the San Fernando Valley, approximately 17 miles northwest of downtown Los Angeles, Los Angeles County, California. The Proposed Action Area is a roughly triangular-shaped, 48-acre parcel in the southeastern corner of the Basin, south of Burbank Boulevard, and upstream of Sepulveda Dam (Figure 1-1; Proposed Action Area). Access to the Los Angeles River is located at the confluence of Haskell Creek and the Los Angeles River.

1.2 Background

Prior to 2011, the Proposed Action Area under the Sepulveda Basin Master Plan was designated as “Multiple Resource Management-Vegetation Management” for the protection and development of forest and vegetative cover. The Proposed Action Area was heavily vegetated with a mixture of native and non-native species. In addition, the vegetation provided dense cover for a variety of unauthorized activities including encampments. The range of unauthorized activities include lewd activities and drug dealing. Walkers and joggers who use the maintenance roads through the area reported mugging incidents. Corps personnel have also been threatened. The presence of unauthorized encampments has resulted in accidental fires. The density and robust growth of vegetation resulted in at least one death because emergency responses to the area were impeded.

In 2011, the Corps issued an updated Sepulveda Basin Master Plan. In the updated master plan, the Proposed Action Area was re-designated as a “vegetation maintenance area.” Consistent with the 2011 master plan, in 2012, the Corps developed a vegetation management plan for the

Proposed Action Area to address flood risk management and public safety concerns (Corps 2012).

The 2012 vegetation management plan also incorporated requirements of Engineering Technical Letter (ETL) 1110-2-571 which mandated a vegetation free zone surrounding all levees, floodwalls, embankment dams, and critical appurtenant structures in all Corps maintained flood risk management systems. In particular, the ETL, requires a dam operations zone extending 50 feet outwards from the toe of dam to be kept clear of vegetation.

The selected plan from the 2012 vegetation management plan and associated EA consisted of eradication of non-native vegetation and vegetative debris within the area of the Proposed Action followed by a two year period of herbicide application to control re-emergence of non-native invasive vegetation and restoration of the area to oak woodland grassland, coastal sage scrub, and riverine marsh.

In December 2012, the Corps began implementing the approved plan in the area south of Haskell Creek, initially trampling vegetation and removing trees. While this work was occurring, local stakeholders who frequented the area for nature walks and wildlife viewing voiced their concerns about the impacts of the activity on native and non-native vegetation. Concerns were also raised about the 2012 EA. In response, the Corps temporarily suspended vegetation management activities in the area and agreed to re-evaluate vegetation management and access maintenance activities within the Proposed Action Area to address stakeholder concerns.

While the re-evaluation was underway, in January 2014, the Corps, in coordination with local stakeholders, applied herbicides to manage invasive vegetation and removed non-native trees from the Proposed Action Area.

From early 2013 through 2015, the Corps held a number of scoping meetings with local stakeholders as well as representatives from the City of Los Angeles and field representatives of various elected officials to gather their input on the issues, potential impacts and alternatives. In re-evaluating potential action alternatives, the Corps' ability to implement an alternative requires an independent evaluation of the Corps' existing authority as well as resource constraints and flood risk management project priorities. The Corps receives annual appropriations for operation, maintenance and related activities at water resources development projects for which the Corps retains responsibility. Operation and maintenance funds are allocated for the purpose of maintenance, repair, replacement, rehabilitation, and operations of structures and other facilities. A subset of operations and maintenance dollars are provided specifically for environmental and natural resources stewardship (ENS). The types of activities that may be undertaken with ENS funds include non-native/invasive species removal, species surveys, pest control, and landscaping of native plants in a manner that is compatible with the flood risk management purpose. Only limited amounts of funding are available for ENS work. Activities beyond the scope of the operations and maintenance appropriation may not be compliant with Corps fiscal policy and will not receive funding through the operations and maintenance funds.

Where an alternative contemplates planting, mowing, removal or similar activities that do not significantly change the onsite conditions, operations and maintenance funds as well as ENS

funds may be used at the discretion of the Corps. Significant changes that alter the land or structures located on a water resources and development project may not be implemented without further study and may require separate authorization. The Corps could be a cost-share partner for a study of this nature, but would require a non-federal partner and a study agreement. If a third party wishes to independently implement an alteration or modification on federal land, that party must apply for a permit pursuant to 33 U.S.C. Section 408 and/or a lease or easement from the U.S. if the U.S. is the fee owner such as the case at the Basin.

1.3 Purpose and Need

As discussed above, the Proposed Action Area is designated as a “vegetation management area” pursuant to the 2011 Sepulveda Basin Master Plan. Growth of native and nonnative invasive plants in the interior of the Proposed Action Area provide dense cover for a variety of unauthorized activities including encampments. The density and robust growth of vegetation also impede emergency responses to the area and dam operations, as vegetation growth impacts basin capacity. A need exists to manage vegetation to maintain dam operations and improve public safety.

The growth of native and non-native vegetation within the area over time has contributed to use of the area for recreation such as nature walks and bird watching. Managing vegetation in support of maintaining dam operations and improving public safety affects the existing vegetation in the area, a valued resource for recreational users of the area. The purpose of the Proposed Action is to manage vegetation to maintain dam operations and improve public safety while supporting compatible biological resources.

1.4 Scoping

The Corps held number of scoping meetings in the development of the vegetation management and access maintenance alternatives as shown in Table 1-1.

**TABLE 1-1
SCOPING AND ALTERNATIVES DEVELOPMENT MEETINGS**

Meeting Date	Location	Stakeholder(s)
January 8, 2013	Sepulveda Dam	Representative Brad Sherman and staff
January 9, 2013	Los Angeles	Los Angeles City Councilmember Ed Reyes, District 1; Los Angeles City Councilmember Tom LaBonge, District 4
January 9, 2013	Los Angeles	San Fernando Valley Audubon Society
January 11, 2013	Encino	San Fernando Valley Audubon Society
January 11, 2013	Los Angeles	California State Senator Kevin de León
January 11, 2013	Los Angeles	Sierra Club Angeles Chapter
January 16, 2013	Los Angeles	Los Angeles City Councilmember Jan Perry, District 9

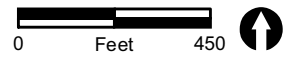
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Meeting Date	Location	Stakeholder(s)
January 17, 2013	Conference call	California State Senator Fran Pavley staff
January 22, 2013	Los Angeles	Sepulveda Wildlife Steering Committee, Audubon Society; Neighborhood Councils; Los Angeles City Councilmember Paul Koretz, District 5; City of Los Angeles
January 28, 2013	Los Angeles	Ad Hoc Los Angeles River Committee
February 6, 2013	Encino	Sepulveda Wildlife Steering Committee, Audubon Society
February 7, 2013	Sepulveda Basin	City of Los Angeles Bureau of Sanitation
February 12, 2013	Sepulveda Basin	Colonel Mark Toy, Corps; District Leadership; Sepulveda Wildlife Steering Committee, Audubon Society
February 21, 2013	Encino	Sepulveda Wildlife Steering Committee, Audubon Society
February 25, 2013	Los Angeles	Los Angeles City Councilmembers, Los Angeles River Ad Hoc Committee
February 26, 2013	Encino	Sepulveda Wildlife Steering Committee, Audubon Society
February 27, 2013	Los Angeles	City of Los Angeles Bureau of Sanitation
March 19, 2013	Los Angeles	Los Angeles City Councilmembers, Los Angeles River Ad Hoc Committee
March 20, 2013	Encino	Sepulveda Wildlife Steering Committee, Audubon Society
April 23, 2013	Encino	Sepulveda Wildlife Steering Committee, Audubon Society
May 28, 2013	Encino	Sepulveda Wildlife Steering Committee, Audubon Society
March 25, 2014	Encino	Sepulveda Wildlife Steering Committee, Audubon Society
May 13, 2014	Encino	Sepulveda Wildlife Steering Committee, Audubon Society
August 1, 2014	Encino	Sepulveda Wildlife Steering Committee, Audubon Society
October 30, 2014	Encino	Sepulveda Wildlife Steering Committee, Audubon Society
December 15, 2014	Encino	Sepulveda Wildlife Steering Committee, Audubon Society
August 25, 2015	Encino	Sepulveda Wildlife Steering Committee, Audubon Society

All comments received by the Corps have been considered in the scoping stage of the planning process and have been used to inform the development of alternatives.

1.5 Proposed Action

Depending on the selected alternative, vegetation management would include a combination of tree removal and maintenance, mowing and brush cutting, herbicide application, revegetation, and regular maintenance of the vegetated areas, vehicular access roads, and the 2.3-acre dam operation zone. In addition, emergency access for police and fire personnel would be improved and pedestrian access formalized. The specific vegetation management and access maintenance activities proposed in the alternatives are described in Chapter 2.



 Project Boundary - USACE Sepulveda Dam Basin

FIGURE 1-1
Proposed Action Area

2.0 Alternatives

2.1 Alternative 1 – Active Management Alternative

Alternative 1 is within the scope of existing operations and maintenance authority and funding capabilities. The Active Management Alternative is depicted in Figure 2-1.

Vegetation Management Activities

Herbicide Application: Herbicide would be applied as needed to all nonnative vegetation in the Proposed Action Area with either backpack sprayers or with a truck-mounted herbicide sprayer under the direction of a qualified biologist and a qualified herbicide applicator. All herbicide spraying would occur outside the bird nesting and breeding season. Herbicide application would occur for Zone B, Zone Q, Zone L, and Zone SG.

Mowing and Brush Cutting: All shrubs in Zone B and Zone Q would be annually mowed and brush cut, respectively, to a height of approximately 3 feet, outside of the bird nesting and breeding season. Cut vegetation would be mulched and left on-site.

Tree Maintenance (Native Trees): Branches of large (greater than 18 inches diameter breast height) native trees below 8 feet in Zones B, Q, L, and SG would be pruned to open the canopy, add light, and improve public safety in the Proposed Action Area. Large branches that cannot be mulched would be disposed off-site. Mulched vegetation would be left on-site. Native trees would be monitored annually and treated as needed between the months of September and March.

Tree Removal (Non-native and Dead Trees): Non-native and dead trees would be periodically removed and/or mulched in Zones B, Q, L, and SG between the months of September and March as needed and as resources permit. Trees would be cut at the base of the trunk. The root mass would be left intact in the ground. Large trunks and branches that cannot be mulched would be disposed off-site. Mulched vegetation would be left on-site. Native trees would be monitored annually and treated as needed.

Access Maintenance Activities

Maintenance of Vehicular Access Roads: Existing vehicular access roads would be kept clear of vegetation annually between the months of September and March. The vehicular access roads in the Proposed Action Area would be graded and leveled with decomposed granite as needed to facilitate access by maintenance vehicles as well as police patrol and emergency vehicles.

A 3-foot by 3-foot buffer along the vehicular access roads would be maintained. Trees within 3 feet of access roads would be pruned up to 12 feet. Likewise, shrubs within 3 feet of access roads would be trimmed to a height of 3 feet. Branches overhanging the roads would be cut. Large branches that cannot be mulched would be disposed off-site. Mulched vegetation would be left on-site. Vegetation maintenance may include the use of hand tools or line trimmers. All maintenance would occur annually between the months of September and March.

Maintenance of Dam Operations Zone: Pursuant to ETL 1110-2-571, a dam operations zone extending 50 feet outwards from the toe of dam would be kept clear of vegetation with the exception of large native trees on the upstream side of the dam operations zone which would remain in place and be pruned up to 12 feet to facilitate access. This work would occur annually between the months of September and March. The access road located within the area would be subject to the same road maintenance regimen described above. Large branches that cannot be mulched would be disposed off-site. Mulched vegetation would be left on-site. Vegetation removal may include the use of hand tools, line trimmers, and/or herbicide application with either backpack sprayers or with a truck-mounted herbicide sprayer.

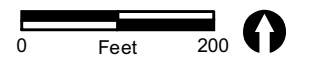
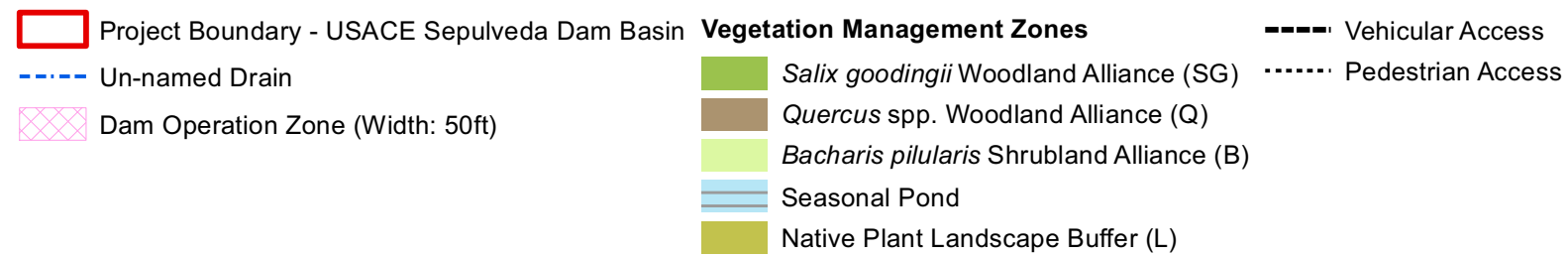
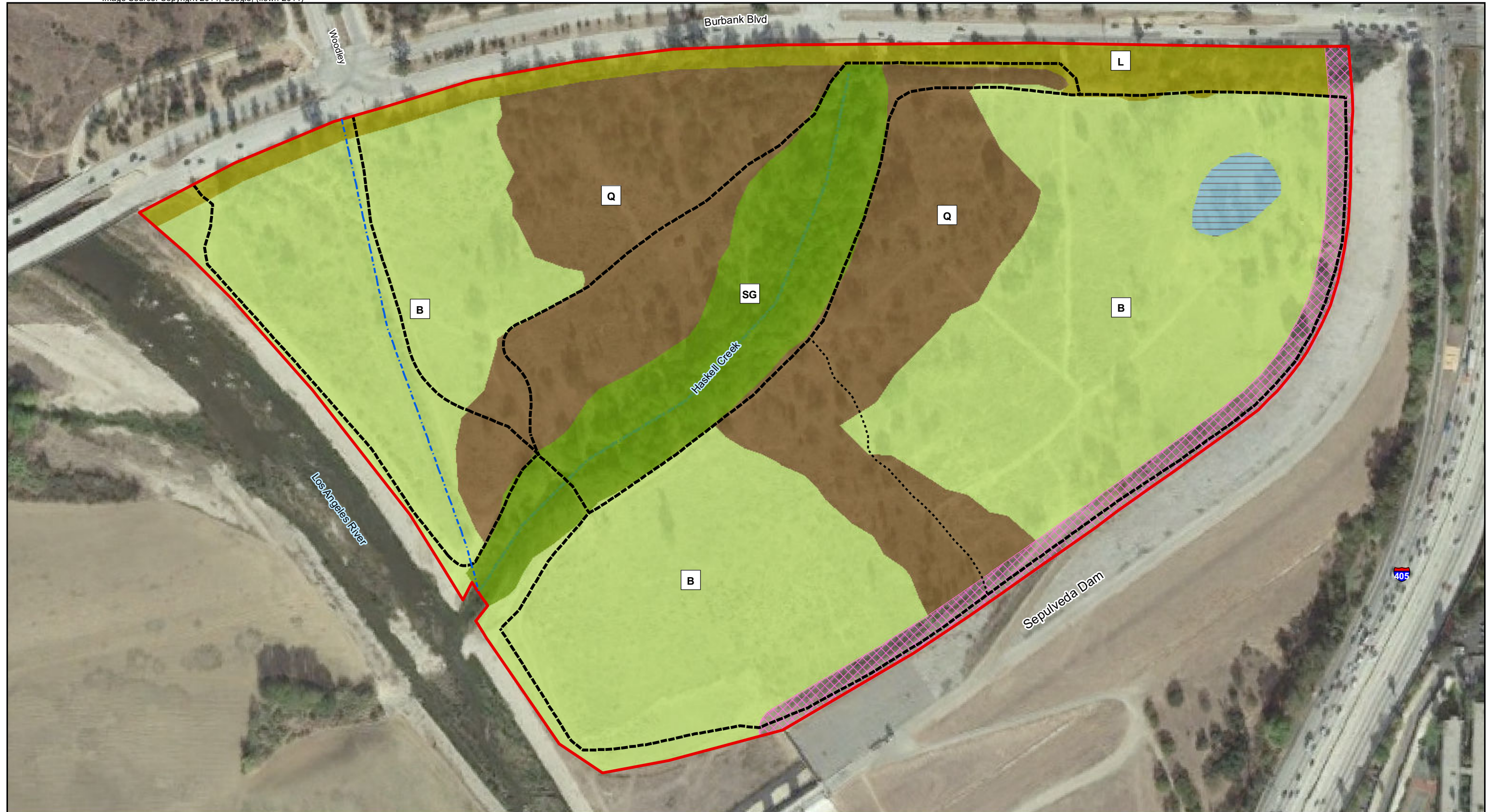
Table 2-1 shows the schedule for activities under the Active Management Alternative.

**TABLE 2-1
SCHEDULE
ALTERNATIVE 1, ACTIVE MANAGEMENT ALTERNATIVE**

Management Activity	Schedule	Management Zone	Acreage*
Tree removal (Non-native and Dead Trees)	Periodically between the months of September and March as needed and as resources permit. Trees would be cut at base of trunk.	Zone B Zone Q Zone L Zone SG	31.5 acres 15.1 acres 3.3 acres 5.8 acres
Herbicide application	As needed between the months of September and March. Timing would be dependent on current weather conditions and type of plant being controlled.	Zone B Zone Q Zone L Zone SG	31.5 acres 15.1 acres 3.3 acres 5.8 acres
Tree maintenance (Native Trees)	Annually between the months of September and March as needed.	Zone B Zone Q Zone L Zone SG	31.5 acres 15.1 acres 3.3 acres 5.8 acres
Mowing and Brush Cutting	Annually between the months of September and March.	Zone B Zone Q	31.5 acres 15.1 acres
Maintenance of vehicular access roads	Annually between the months of September and March.	Throughout the Proposed Action Area (see Figure 2-1)	8,778 linear feet, 14-foot width
Maintenance of dam operations zone	Annually between the months of September and March.	Dam operations zone	2.3 acres

† See Figure 1-2.

* Acreages may not total equal to the Proposed Action Area due to rounding.



2.2 Alternative 2 – Passive Management Alternative

Alternative 2 is within the scope of existing operations and maintenance authority and funding capabilities. The Passive Management Alternative is depicted in Figure 2-2.

Vegetation Management Activities

Herbicide Application: Herbicide would be similar to that described under Alternative 1 – Active Management Alternative.

Mowing: Shrubs in Zone B would be mowed to a height of approximately 3 feet, outside of the bird nesting and breeding season once every three years. Mowed vegetation would be mulched and left on-site.

Brush Cutting: Native monotypic vegetation (i.e., *Baccharis pilularis*) within Zone Q would be delineated from other vegetation and cut with hand-held brush cutters to a height of 3 feet. Brush cutting would occur in conjunction (i.e., at the same time) with the mowing of Zone B. Cut vegetation would be mulched and left on-site.

One Year Pilot Program to Hand Remove Invasive and Non-native Plants:

In order to reduce the use of herbicides within the Los Angeles River watershed, local stakeholders would organize and implement a one year pilot program that would utilize volunteers to remove invasive and non-native plants. Volunteers would use hand tools to remove invasive and non-native plants. Once removed, the plants would be placed within appropriate containers such as trash bags and disposed off-site.

Implementation of the program would require and be dependent upon successful completion of additional coordination with the stakeholders on a number of matters encompassing technical (e.g., development of success criteria for invasive plant coverage); logistical (e.g., schedules, site access, etc.); and legal (e.g., memoranda of agreement, volunteer program, etc.). Continuation of the program beyond the pilot phase would be subject to additional review and authorization by the Corps as appropriate. The Corps would proceed with use of herbicides in areas not designated for the pilot program. If the pilot program is not renewed, herbicides would be applied to the vacated area. The Corps would also proceed with use of herbicides in the Proposed Action Area during the period in which the coordination for the one-year pilot program is ongoing or in the event the pilot program does not go forward.

Tree Maintenance (Native Trees): Maintenance of native trees would be similar to that described under Alternative 1 – Active Management Alternative.

Tree Removal (Non-native and Dead Trees): Removal of non-native and dead trees would be similar to that described under Alternative 1 – Active Management Alternative.

Access Maintenance Activities

Maintenance of Vehicular Access Roads: Maintenance of vehicular access roads would be similar to that described under Alternative 1 – Active Management Alternative.

Maintenance of Dam Operations Zone: Maintenance of the Dam Operation Zone would be similar to that described under Alternative 1 – Active Management Alternative.

Schedule

Table 2-2 shows the schedule for proposed activities under Alternative 2.

**TABLE 2-2
 SCHEDULE
 ALTERNATIVE 2, PASSIVE MANAGEMENT**

Management Activity	Schedule	Management Zone	Acreage*
Tree removal (Non-native and Dead Trees)	Periodically between the months of September and March as needed and as resources permit. Trees would be cut at base of trunk.	Zone B Zone Q Zone SG Zone L	31.5 acres 15.1 acres 5.8 acres 3.3 acres
Herbicide application	As needed between the months of September and March. Timing would be dependent on current weather conditions and type of plant being controlled.	Zone B Zone Q Zone SG Zone L	31.5 acres 15.1 acres 5.8 acres 3.3 acres
Tree maintenance (Native Trees)	Annually between the months of September and March as needed.	Zone B Zone Q Zone L Zone SG	31.5 acres 15.1 acres 3.3 acres 5.8 acres
Mowing	Once every three years between the months of September and March.	Zone B	31.5 acres
Brush cutting	Once every three years between the months of September and March in conjunction with Zone B mowing (i.e., at the same time).	Zone Q	15.1 acres
Maintenance of vehicular access roads	Annual maintenance between the months of September and March.	Throughout the Proposed Action Area (see Figure 2-1)	8,778 linear feet, 14-foot width
Maintenance of dam operations zone	Annual maintenance between the months of September and March.	Dam operations zone	2.3 acres
One Year Pilot Program to Hand Remove Invasive and Non-native Plants	To be determined.	To be determined.	To be determined.

* Acreages may not total equal to the Proposed Action Area due to rounding.

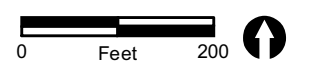
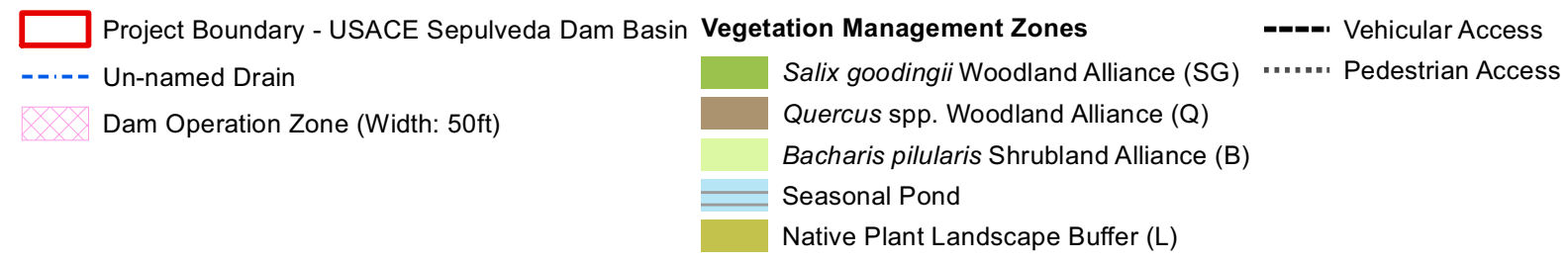
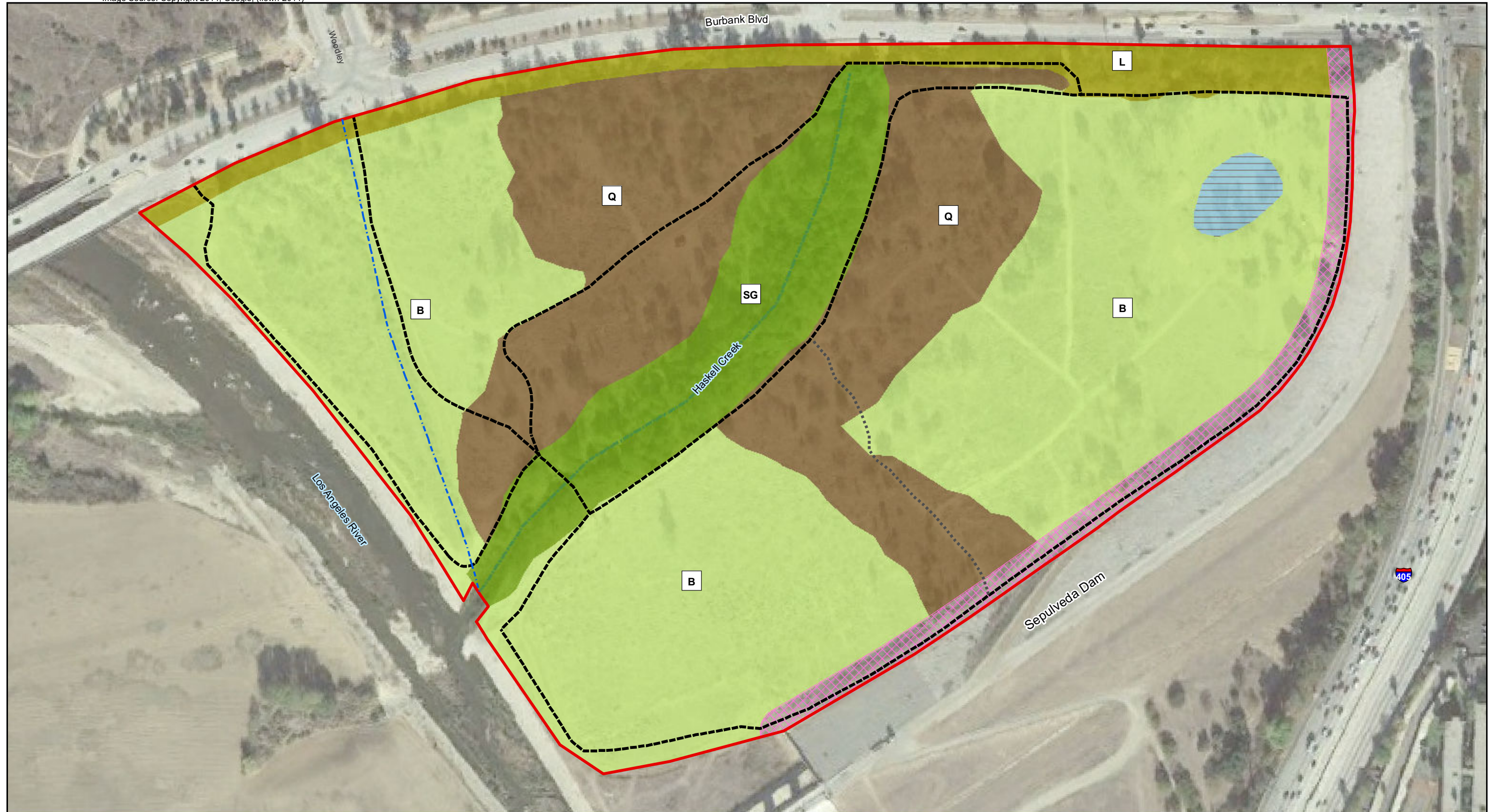


FIGURE 2-2
 Passive Management Alternative

2.3 Alternative 3 – Phased Mowing Alternative

Alternative 3 is within the scope of existing operations and maintenance authority and funding capabilities.

Vegetation Management Activities

Herbicide Application: Herbicide would be similar to that described under Alternative 1 – Active Management Alternative.

Mowing: A five year mowing and brush cutting cycle would be implemented. Shrubs in Zone B would be mowed to a height of approximately 3 feet, outside of the bird nesting season. Zone B would be subdivided into Zone B1 (9.3 acres), Zone B2 (13.1 acres), and Zone B3 (10.1 acres; see Figure 2-2). Mowing would occur once every five years in each sub zone and would be rotated across Zones B1, B2, and B3, with brush cutting (see below) occurring the fourth year. There would be no mowing in the fifth year. Mowed vegetation would be left on-site.

Brush Cutting: Native monotypic vegetation (i.e., *Baccharis pilularis*) within Zone Q would be delineated from other vegetation and cut with hand-held brush cutters to a height of 3 feet. Brush cutting would occur in Zone Q once every five years, as part of the mowing cycle for Zones B1, B2, and B3. Brush cutting in Zone Q would not occur during a Zone B mowing year. Native vegetation occurring in low densities (less than 5 percent cover), such as currant (*Ribes sp.*) and gooseberry (*Ribes sp.*), would be avoided. Cut vegetation would be mulched and left on-site.

One Year Pilot Program to Hand Remove Invasive and Non-native Plants:

The pilot program would be similar to that described under Alternative 2 – Passive Management Alternative.

Tree Maintenance (Native Trees): Maintenance of native trees would be similar to that described under Alternative 1 – Active Management Alternative.

Tree Removal (Non-native and Dead Trees): Removal of non-native and dead trees would be similar to that described under Alternative 1 – Active Management Alternative.

Access Maintenance Activities

Maintenance of Vehicular Access Roads: Maintenance of vehicular access roads would be similar to that described under Alternative 1 – Active Management Alternative.

Maintenance of Dam Operations Zone: Maintenance of the Dam Operation Zone would be similar to that described under Alternative 1 – Active Management Alternative.

Schedule

Table 2-3 shows the schedule for proposed activities under Alternative 3.

**TABLE 2-3
SCHEDULE
ALTERNATIVE 3, PHASED MOWING**

Management Activity	Schedule	Management Zone	Acreage*
Tree removal (Non-native and Dead Trees)	Periodically, between the months of September and March as needed and as resources permit. Trees would be cut at base of trunk.	Zone B Zone Q Zone SG Zone L	31.5 acres 15.1 acres 5.8 acres 3.3 acres
Herbicide application	As needed between the months of September and March. Timing would be dependent on current weather conditions and type of plant being controlled.	Zone B Zone Q Zone SG Zone L	31.5 acres 15.1 acres 5.8 acres 3.3 acres
Tree maintenance (Native Trees)	Annually between the months of September and March as needed.	Zone B Zone Q Zone L Zone SG	31.5 acres 15.1 acres 3.3 acres 5.8 acres
Mowing	Zone B would be subdivided into three Zones: Zone B1 (9.3 acres), Zone B2 (13.1 acres; including the seasonal pond), and Zone B3 (10.1 acres). Each Zone would be mowed once every five years between the months of September and March. Mowing would be rotated across Zones B1, B2, and B3, with brush cutting in Zone Q occurring the fourth year. No mowing would occur in the fifth year.	Zone B1 Zone B2 Zone B3	9.3 acres 13.1 acres 10.1 acres
Brush cutting	Once every five years between the months of September and March, in the rotation cycle associated with the Zone B mowing schedule. However, brush cutting in Zone Q would not occur during a Zone B mowing year. Native vegetation occurring in low densities (less than 5 percent cover), such as currant (<i>Ribes sp.</i>) and gooseberry (<i>Ribes sp.</i>), would be avoided.	Zone Q	15.1 acres
Maintenance of vehicular access roads	Annual maintenance between the months of September and March.	Throughout the Proposed Action Area (see Figure 2-2)	8,778 linear feet, 14-foot width

Maintenance of dam operations zone	Annual maintenance between the months of September and March.	Dam operations zone	2.3 acres
One Year Pilot Program to Hand Remove Invasive and Non-native Plants	To be determined.	To be determined.	To be determined.

* Acreages may not total equal to the Proposed Action Area due to rounding.

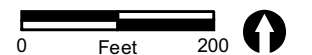
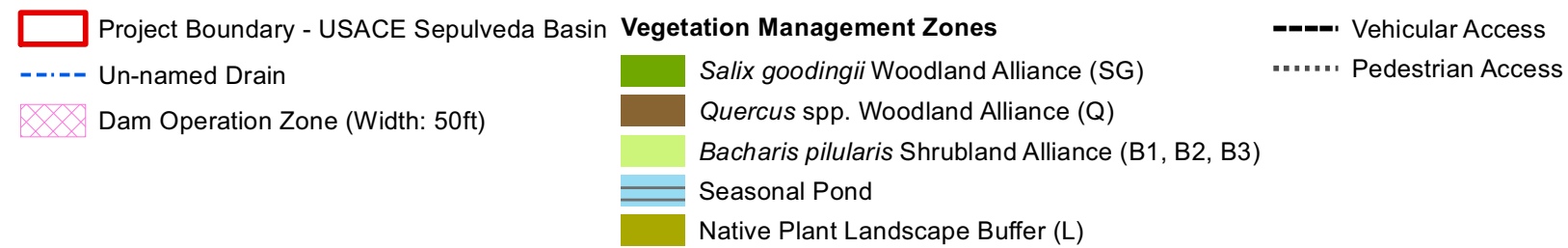
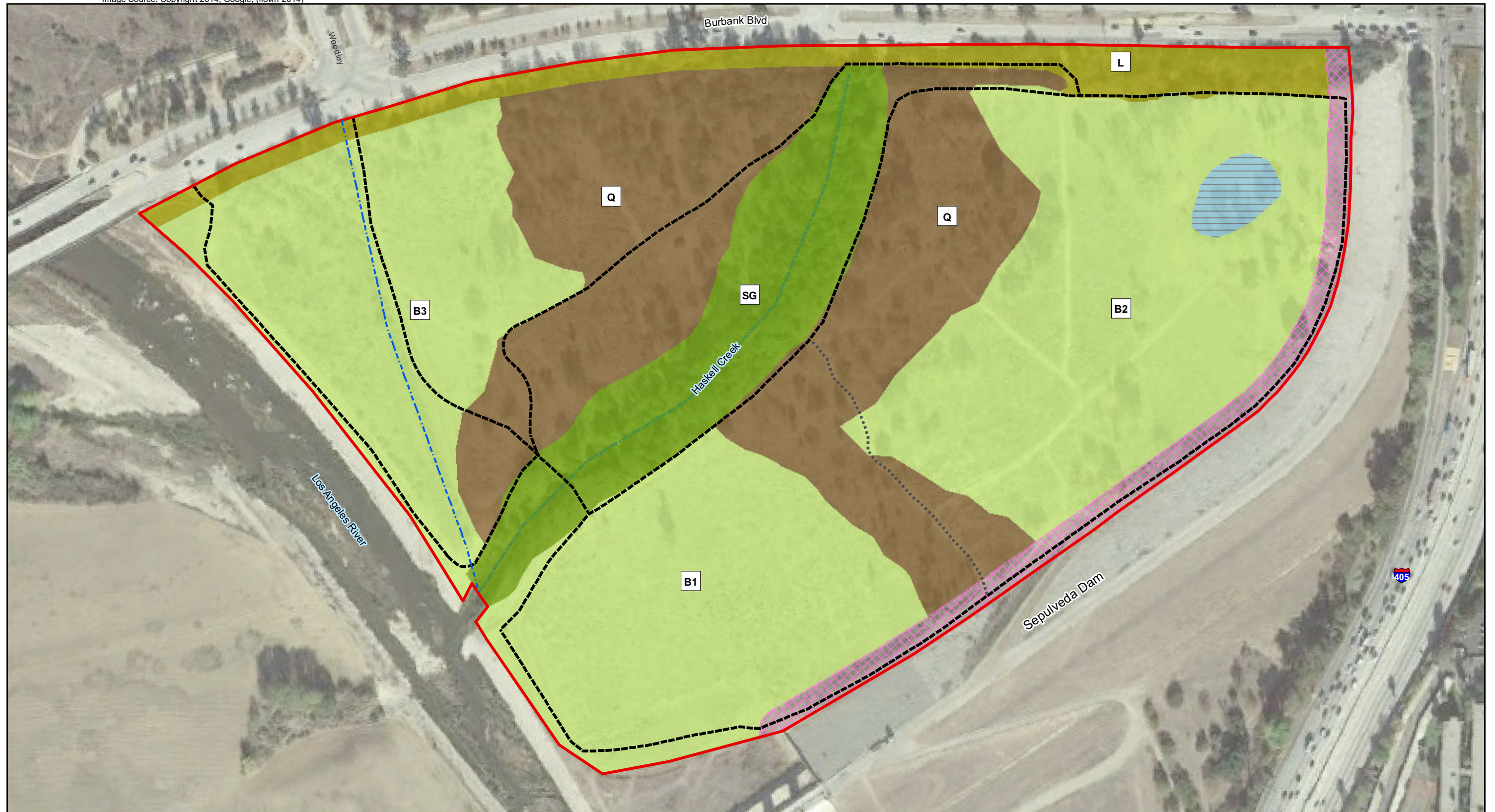


FIGURE 2-3
Phased Mowing Alternative

2.4 Alternative 4 – South Marsh Alternative

Alternative 4 is outside the scope of existing operations and maintenance authority and funding capabilities. A separate authority and appropriation would be required to implement Alternative 4. The Corps could partner with a non-Federal governmental entity or a non-profit organization to conduct a study to evaluate alternatives of this nature under the Continuing Authorities Program, but would require an interested non-federal partner to share the costs of under the terms of a study agreement, and if an alternative is selected, a non-Federal entity would have to share the implementation costs under a design and implementation agreement. Alternatively, if a third party wishes to implement Alternative 4 on its own, that party would need to seek a lease or easement from the United States, which would also require a review pursuant to 33 U.S.C. Section 408.

Under Alternative 4, the South Marsh Alternative (Figure 2-3), vegetation Zone B and Zone Q would be managed in the same phased approach described under Alternative 3. In addition, the Corps would create an approximate 4.6-acre marsh habitat (*Juncus acutus*; Zone J) in the Proposed Action Area. An area within Zone J, which is a sub-area of Zone B1, would be excavated to create a marsh to support a *Juncus acutus* vegetation type (i.e., marsh habitat) adjacent to Haskell Creek.

In the spiny rush (*Juncus acutus*) vegetation type, (*Juncus acutus*) is dominant or co-dominant in the herbaceous layer with yarrow (*Achillea millefolium*), sedge (*Carex* spp.), saltgrass (*Distichlis spicata*), and bulrush (*Schoenoplectus* spp). Emergent trees or shrubs may be present at a low cover. Zone J would be revegetated by installing container plants, installing cuttings, seeding, and allowing native volunteer recruitment to create the basic structure of the *Juncus acutus* vegetation type. Excavated soil resulting from marsh creation would be removed from the site. In addition, culverts would be installed to allow water to flow from Haskell Creek to Zone J.

Vegetation Management Activities

Herbicide Application: Herbicide would be similar to that described under Alternative 1 – Active Management Alternative for areas not subject to active revegetation due to marsh construction. Areas within the construction footprint where active revegetation would occur would be subject to more frequent herbicide application until sufficient establishment of the vegetation. Upon sufficient establishment of the vegetation, herbicide application regime would revert back to that described under Alternative 1 – Active Management Alternative.

Mowing: Mowing would be similar to that described under Alternative 3. – Phased Mowing Alternative for areas not subject to active revegetation due to marsh construction. Areas within the construction footprint where active revegetation would occur would be excluded from mowing footprint.

Brush Cutting: Brush cutting would be similar to that described under Alternative 3.

One Year Pilot Program to Hand Remove Invasive and Non-native Plants:

The pilot program would be similar to that described under Alternative 2 – Passive Management Alternative.

Tree Maintenance (Native Trees): Maintenance of native trees would be similar to that described under Alternative 1 – Active Management Alternative.

Tree Removal (Non-native and Dead Trees): Removal of non-native and dead trees would be similar to that described under Alternative 1 – Active Management Alternative.

Access Maintenance Activities

Maintenance of Vehicular Access Roads: Maintenance of vehicular access roads would be similar to that described under Alternative 1 – Active Management Alternative.

Maintenance of Dam Operations Zone: Maintenance of the Dam Operation Zone would be similar to that described under Alternative 1 – Active Management Alternative.

Marsh

Grading: An area within Zone J would be excavated over a 2-month period, preferably before the onset of the rainy season or as determined by a qualified biologist, to create a marsh to support a *Juncus acutus* vegetation type (i.e., marsh habitat) adjacent to Haskell Creek. The target hydrologic regime would be supported by diverting water from Haskell Creek via culverts and maintaining a constant water level via installed water-control structures. Installation of the culverts and water-control structures is discussed below. Excavated soil associated with grading would be removed from the site. An estimated 22,264 cubic yards of soil would be removed. The final amount would be determined upon approval of project design.

Installation of Infrastructure: Culverts would be installed in Zone J to allow the flow of water from Haskell Creek to the newly created marsh Zone. Water control structures would be installed to return flows back into the creek. The number, size, and location of culverts and water-control structures would be determined upon approval of project design.

Revegetation: Revegetation activities in Zone J would include installing native container plants and/or cuttings, hand seeding with native seed, and allowing native volunteer recruitment to create the basic structure of the desired habitat (plants typically occurring within these vegetation types). Plants would be installed between the months of October and March and/or when soil moisture is optimal and as determined by a qualified biologist, and at a density of approximately 1,800 plants per acre. Native cover should equate to approximately 85 percent by Year 5 of plan implementation. In Zone J, seed to be used for hand-seeding and/or for the propagation of container stock would be collected locally in the amount of 40 pounds of seed per acre. If the preferred seed is not available, commercial sources may be used.

Monitoring: Qualitative and quantitative monitoring of revegetated areas in Zone J would be conducted to assess native and nonnative vegetative cover, species diversity, and density.

Remedial Planting/Seeding: Should performance standards (i.e., native percent cover described under Revegetation section, above) not be achieved for Zone J, remedial planting and/or seeding would occur between the months of October and March and/or when soil moisture is optimal and as determined by a qualified biologist.

Schedule

Table 2-4 shows the schedule for proposed activities under Alternative 4.

**TABLE 2-4
SCHEDULE
ALTERNATIVE 4, SOUTH MARSH**

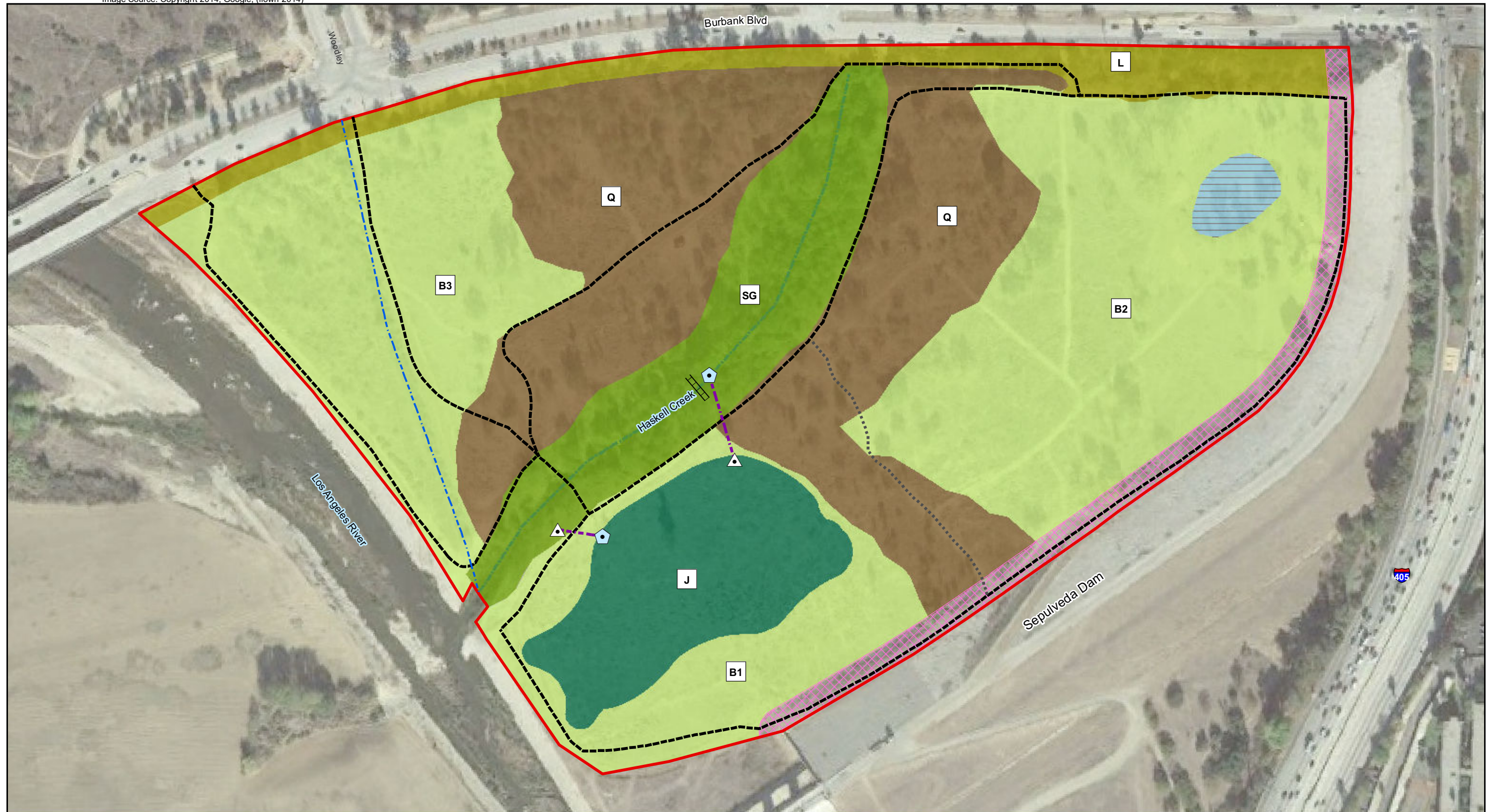
Management Activity	Schedule	Management Zone	Acreage*
Tree removal (Non-native and Dead Trees)	Periodically, between the months of September and March as needed and as resources permit.	Zone B	31.5 acres
		Zone Q	15.1 acres
		Zone SG	5.8 acres
		Zone L	3.3 acres
Herbicide application	For areas outside the construction zone, herbicides would be applied as needed between the months of September and March. Timing would be dependent on current weather conditions and type of plant being controlled.	Zone B Zone Q Zone L Zone SG	31.5 acres 15.1 acres 3.3 acres 5.8 acres
	For areas inside the construction zone where active planting would occur, herbicides would be applied four times per year (between the months of September and March) for the first two years following revegetation, then twice per year (between the months of September and March) until sufficient establishment of planted vegetation. Upon sufficient establishment, Zone J would be treated on an as needed basis between the months of September and March.	Zone J	4.6 acres
Tree maintenance	Annually between the months of September and March as needed.	Zone B Zone L Zone Q Zone SG	26.9 acres 3.3 acres 15.1 acres 5.8 acres

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Mowing	Zone B would be subdivided into three Zones: Zone B1 (9.3 acres), Zone B2 (13.1 acres; including the seasonal pond), and Zone B3 (10.1 acres). Each Zone would be mowed once every five years between the months of September and March. Mowing would be rotated across Zones B1, B2, and B3, with brush cutting in Zone Q occurring the fourth year. No mowing would occur in the fifth year.	Zone B1 Zone B2 Zone B3	9.3 acres 13.1 acres 10.1 acres
Brush cutting	Once every five years between the months of September and March, in the rotation cycle associated with the Zone B mowing schedule. However, brush cutting in Zone Q would not occur during a Zone B mowing year. Native vegetation occurring in low densities (less than 5 percent cover), such as currant (<i>Ribes sp.</i>) and gooseberry (<i>Ribes sp.</i>), would be avoided.	Zone Q	15.1 acres
Revegetation	Between the months of October and March and/or when soil moisture is optimal and as determined by a qualified biologist. Zone J, the marsh area within Zone B1, would be excluded from the mowing footprint.	Zone J	4.6 acres
Grading	Over a 2-month period, preferably before the onset of the rainy season, or as determined by a qualified biologist.	Zone J	An estimated 22,264 cubic yards of soil would be removed. The final amount would be determined upon approval of project design.
Installation of infrastructure	Water control structures would be set to a predetermined height as determined by Corps project management personnel.	Zone J	The number and size of culverts and water control structure would be determined upon approved project design.
Remedial planting/seeding	Between the months of October and March and/or when soil moisture is optimal and as determined by a qualified biologist.	Zone J	4.6 acres
Monitoring	Qualitative to occur quarterly; quantitative to occur annually in the spring.	Zone J	4.6 acres
Maintenance of Vehicular access roads	Annual maintenance between the months of September and March.	Throughout the Proposed Action Area (see Figure 2-3)	8,429 linear feet, 14-foot width

Maintenance of dam operations zone	Annual maintenance between the months of September and March.	Dam operations zone	2.3 acres
One Year Pilot Program to Hand Remove Invasive and Non-native Plants	To be determined.	To be determined.	To be determined.

* Acreages may not total equal to the Proposed Action Area due to rounding.



- | | | | |
|--|---|---|-------------------|
| Project Boundary - USACE Sepulveda Dam Basin | Dam Operation Zone (Width: 50ft) | <i>Quercus</i> spp. Woodland Alliance (Q) | Vehicular Access |
| Un-named Drain | Vegetation Management Zones | <i>Bacharis pilularis</i> Shrubland Alliance (B1, B2, B3) | Pedestrian Access |
| Engineered Culvert (Depth: TBD) | <i>Juncus acutus</i> Herbaceous Alliance (J) | Seasonal Pond | |
| Culvert (Inlet / Outlet) | <i>Salix goodingii</i> Woodland Alliance (SG) | Native Plant Landscape Buffer (L) | |
| Water Control Structure | | | |
| Grade Control Devices | | | |

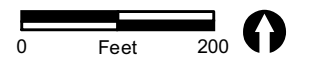


FIGURE 2-4
South Marsh Alternative

2.5 Alternative 5 – Sinuous Channel Alternative

Alternative 5 is outside the scope of existing operations and maintenance authority and funding capabilities. A separate authority and appropriation would be required to implement Alternative 5. The Corps could partner with a non-Federal governmental entity or a non-profit organization to conduct a study to evaluate alternatives of this nature under the Continuing Authorities Program, but would require an interested non-federal partner to share the costs of under the terms of a study agreement, and if an alternative is selected, a non-Federal entity would have to share the implementation costs under a design and implementation agreement. Alternatively, if a third party wishes to implement Alternative 5 on its own, that party would need to seek a lease or easement from the United States, which would also require a review pursuant to 33 U.S.C. Section 408.

Under Alternative 5, the Sinuous Channel Alternative (Figure 2-4), the Corps would conduct mowing and other vegetation management activities within the Proposed Action Area to enhance the existing vegetation Zones. Using a phased approach, the Corps would mow Zone B and Zone Q once every five years, allowing native species to regenerate. In addition, Haskell Creek would be graded to create a channel consisting of gentle bends (Zone OW), thereby decreasing the flow velocities through Haskell Creek. *Schoenoplectus californicus* (Zone SC, 2.6 acres) and *Juncus acutus* (Zone J, 2.8 acres) vegetation Zones would be created within the graded portions on each side of Haskell Creek. Creation of these Zones would include revegetation through a combination of container plants, cuttings, seed, and native volunteer recruitment. Materials generated from grading activities would be used to create access Zones along the perimeter of the channel and placed in a fill site.

In the *Schoenoplectus californicus* vegetation type, California bulrush (*Schoenoplectus californicus*) is dominant or co-dominant in the herbaceous layer with sea clubrush (*Bolboschoenus maritimus*), western goldenrod (*Euthamia occidentalis*), common tule (*S. acutus*), southern cattail (*Typha domingensis*), and broadleaf cattail (*Typha latifolia*) Emergent California rose (*Rosa californica*) or willow (*Salix* spp.) shrubs may be present at low cover.

Vegetation Management Activities

Herbicide Application: Herbicide application would be similar to that described under Alternative 1 – Active Management Alternative for areas not subject to active revegetation due to sinuous channel construction. Areas within the construction footprint where active revegetation would occur would be subject to more frequent herbicide application until sufficient establishment of the vegetation. Upon sufficient establishment of the vegetation, herbicide application regime would revert back to that described under Alternative 1 – Active Management Alternative.

Mowing: Mowing would be similar to that described under Alternative 3.

Brush Cutting: Brush cutting would be similar to that described under Alternative 3.

One Year Pilot Program to Hand Remove Invasive and Non-native Plants:

The pilot program would be similar to that described under Alternative 2 – Passive Management Alternative.

Tree Maintenance (Native Trees): Maintenance of native trees would be similar to that described under Alternative 1 – Active Management Alternative but would be limited to Zones B, L, and Q.

Tree Removal (Non-native and Dead Trees): Removal of non-native and dead trees would be similar to that described under Alternative 1 – Active Management Alternative.

Access Maintenance Activities

Maintenance of Vehicular Access Roads: Maintenance of vehicular access roads would be similar to that described under Alternative 1 – Active Management Alternative.

Maintenance of Dam Operations Zone: Maintenance of the Dam Operation Zone would be similar to that described under Alternative 1 – Active Management Alternative.

Sinuuous Channel

Grading: Grading under Alternative 5 would occur after Zone SC has been cleared of all vegetation. Trees within the construction footprint would be cut. Root wads would be removed via excavators. Segmented tree trunks and root wads would be disposed off-site. Large branches that cannot be mulched would be disposed off-site. Mulched vegetation would be left on-site in other zones outside the construction area.

Heavy machinery would be used to achieve the proper hydrology to support wetland vegetation for Zone SC by lowering the existing elevation to create a gradient toward Haskell Creek. The target hydrologic regime would be supported by the reconfiguration of the existing creek by grading activities.

Grading activities for Zone J would be similar to those described above for Zone SC. Heavy machinery would be used to grade the area in order to achieve the proper hydrology to support wetland vegetation, such as spiny rush.

Portions of the cut soil from grading activities in Zones SC and J would be used to create earthen Zones, which would run parallel to the creek on both sides. These Zones would also protect the site during flood events and aid the Corps in protecting public safety. An estimated 12,584 cubic yards of soil would be removed in Zone SC and 13,552 cubic yard would be removed from Zone J. The final amount would be determined upon approval of project design.

Grading in both Zones would occur over a 2- month period, preferably before the onset of the rainy season, or as determined by a qualified biologist.

Installation of Infrastructure: Logs would be installed along Haskell Creek (Zone OW) over a 2-month period, preferably before the onset of the rainy season or as determined by a qualified biologist, to serve as natural check dams. Depending on the final design of the check

dams, between 5 and 10 may be required; the size of the dams would be determined based on the channel width. Since the Tillman Water Treatment Plant discharges treated water into Haskell Creek, modifications to the creek would need to be coordinated with the City of Los Angeles' Bureau of Sanitation.

The logs would be obtained from trees removed during grading activities. Installation of the check dams would occur over a two-month period before the onset of the rainy season or as directed by a qualified biologist. The check dams would be maintained and replaced over time.

Revegetation: The same as described under Alternative 4, revegetation would occur in Zones SC and J. Revegetation would include installing native container plants and/or cuttings, hand seeding with native seed, and allowing native volunteer recruitment to create the basic structure of the desired habitat (plants typically occurring within the vegetation type), the same as under Alternative 4. Revegetation would occur between the months of October and March and/or when soil moisture is optimal and as determined by a qualified biologist.

Monitoring: Qualitative and quantitative monitoring of revegetated Zones in Zones SC and J would be conducted to assess native and nonnative vegetative cover, species diversity, and density.

Remedial Planting/Seeding: Should performance standards (i.e., native percent cover described under Revegetation section, above) not be achieved for Zones SC and J, remedial planting and/or seeding would occur between the months of October and March and/or when soil moisture is optimal and as determined by a qualified biologist.

Schedule

Table 2-5 shows the schedule for proposed activities under Alternative 5.

**TABLE 2-5
 SCHEDULE
 ALTERNATIVE 5, SINUOUS CHANNEL**

Management Activity	Schedule	Management Zone	Acreage*
Tree removal (Non-native and Dead Trees)	Periodically, between the months of September and March as needed and as resources permit.	Zone B Zone Q Zone SG Zone L	31.5 acres 15.1 acres 5.8 acres 3.3 acres
Herbicide application	For areas outside the construction zone, herbicides would be applied as needed between the months of September and March. Timing would be dependent on current weather conditions and type of plant being controlled.	Zone B Zone Q Zone L	32.5 acres 10.9 acres 3.3 acres
	For areas inside the construction zone where active planting would occur, herbicides would be applied four times per year (between the months of September and March) for the first two years following revegetation, then twice per year (between the months of September and March) until sufficient establishment of planted vegetation. Upon sufficient establishment of vegetation, Zones J and SC would be treated on an as needed basis between the months of September and March.	Zone SC Zone J	2.6 acres 2.8 acres
Tree maintenance	Annually between the months of September and March as needed.	Zone B Zone Q Zone L	32.5 acres 10.9 acres 3.3 acres

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Mowing	Once every five years between the months of September and March, in the rotation cycle associated with the Zone B mowing schedule. However, brush cutting in Zone Q would not occur during a Zone B mowing year. Native vegetation occurring in low densities (less than 5 percent cover), such as currant (<i>Ribes sp.</i>) and gooseberry (<i>Ribes sp.</i>), would be avoided.	Zone B1 Zone B2 Zone B3	9.3 acres 13.1 acres 10.1 acres
Brush cutting	Once every five years between the months of September and March, in the rotation cycle associated with the Zone B mowing schedule. However, brush cutting in Zone Q would not occur during a Zone B mowing year. Native vegetation occurring in low densities (less than 5 percent cover), such as currant (<i>Ribes sp.</i>) and gooseberry (<i>Ribes sp.</i>), would be avoided.	Zone Q	10.9 acres
Revegetation	Between the months of October and March and/or when soil moisture is optimal and as determined by a qualified biologist.	Zone SC Zone J	2.6 acres 2.8 acres
Grading	Over a 2-month period, preferably before the onset of the rainy season, or as determined by a qualified biologist.	Zone SC	An estimated 12,584 cubic yards of soil would be removed. The final amount would be determined upon approval of project design.
		Zone J	An estimated 13,552 cubic yards of soil would be removed. The final amount would be determined upon approval of project design.
Installation of infrastructure	Over a 2-month period, preferably before the onset of the rainy season, or as determined by a qualified biologist.	Zone OW	Depending on the final design of the check dams, between 5 and 10 may be required; the size of the dams would be determined based on the width of the channel.

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Remedial planting/seeding	Between the months of October and March and/or when soil moisture is optimal and as determined by a qualified biologist.	Zone SC Zone J	2.6 acres 2.8 acres
Monitoring	Qualitative to occur quarterly; quantitative to occur annually in the spring.	Zone SC Zone J	2.6 acres 2.8 acres
Maintenance of Vehicular access roads	Annual maintenance between the months of September and March.	Throughout the Proposed Action Area(see Figure 2-4)	7,467 linear feet, 14-foot width
Maintenance of dam operations zone	Annual maintenance between the months of September and March.	Dam operations zone	2.3 acres
One Year Pilot Program to Hand Remove Invasive and Non-native Plants	To be determined.	To be determined.	To be determined.

* Acreages may not total equal to the Proposed Action Area due to rounding.

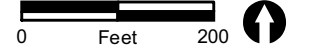
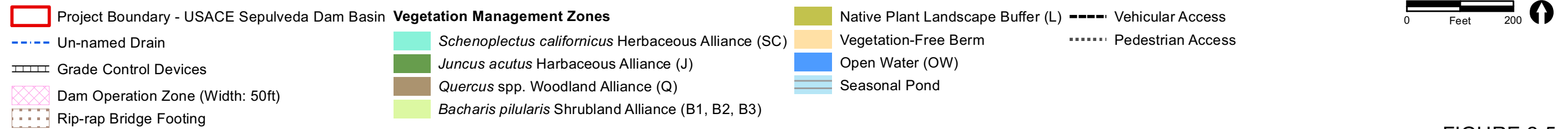
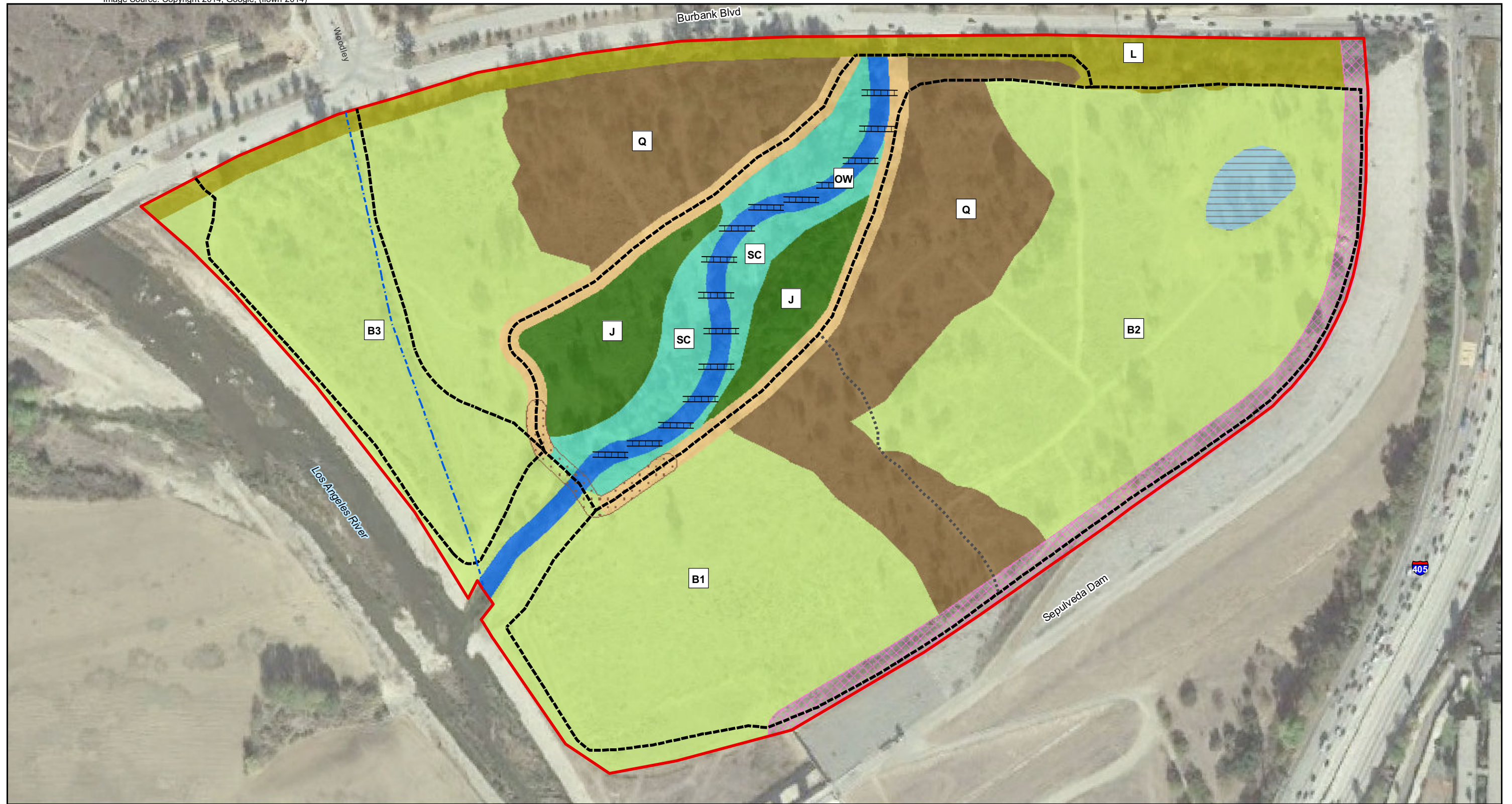


FIGURE 2-5
 Sinuous Channel Alternative

2.6 Alternative 6 – No Action Alternative

Under Alternative 6 the Corps would not conduct mowing and other vegetation management activities, maintain access roads or the dam operation zone within the Proposed Action Area.

3.0 Affected Environment and Environmental Consequences

3.1 Land Use

Affected Environment

The Proposed Action Area is within the Basin, which supports multiple uses, including recreation, water reclamation, wildlife preserves, and military facilities.

Land uses in the immediate vicinity of the Proposed Action Area include the Sepulveda Basin Wildlife Preserve north of Burbank Boulevard; an agricultural field to the west, across from the Los Angeles River; a municipal golf course to the northwest; commercial and residential Zones, across Interstate 405; and a spillway and Corps operations and maintenance Zone to the south, immediately downstream of Sepulveda Dam.

The Proposed Action Area and its vicinity were historically used for agriculture subsequent to the completion of the dam in 1941. Agricultural uses ceased circa 1980. Currently, the Proposed Action Area is classified in the 2011 Sepulveda Basin Master Plan as a “vegetation maintenance area.” South of Haskell Creek, the land contains native and nonnative trees, nonnative shrubs, weeds, and grasses. Similar vegetation is found north of Haskell Creek. Haskell Creek banks are covered with a dense canopy of native and nonnative trees with little understory. The area is not out-granted for other uses. There are no recreation amenities on site. However, passive recreational uses such as nature walks and bird watching do occur on-site.

Significance Threshold

Impacts would be considered significant if the alternative:

- Permanently conflicts with existing land uses or with adjacent, offsite land uses.
- Changes the existing land use.
- Does not comply with the land use classification identified in the 2011 Sepulveda Basin Master Plan.

Environmental Consequences

Alternative 1: Active Management Alternative

All activities would be located within the Proposed Action Area. There would be no change to the existing land use or land-use patterns. Neither would there be changes to the adjacent land uses. There would be no change in the designated land use classification of Sepulveda Dam

Basin Vegetation Maintenance Area per the 2011 Sepulveda Basin Master Plan. As a result, there would be no significant impact on land use under the Active Management Alternative.

Alternative 2: Passive Management Alternative

Impacts under Alternative 3 would be the same as those characterized under Alternative 1. As a result, there would be no significant impact on land use.

Alternative 3: Phased Mowing Alternative

Impacts under Alternative 3 would be the same as those characterized under Alternative 1. As a result, there would be no significant impact on land use.

Alternative 4: South Marsh Alternative

Impacts under Alternative 4 would be similar to those characterized under Alternative 1.

Construction of the marsh may result in additional passive recreational use of the area. However, passive recreation is an existing use of the land. Thus, the existing use would remain and would be further enhanced. As a result, there would be no significant adverse impact on land use.

Alternative 5: Sinuous Channel Alternative

Impacts under Alternative 5 would be similar to those characterized under Alternative 1.

Construction of the sinuous channel and adjoining marsh may result in additional passive recreational use of the area. However, passive recreation is an existing use of the land. Thus, the existing use would remain and would be further enhanced. As a result, there would be no significant adverse impact on land use.

Alternative 6: No Action Alternative

Under Alternative 6 the Corps would not conduct mowing and other vegetation management activities, maintain access roads or the dam operation zone within the Proposed Action Area.

There would be no change to the existing land use or land-use patterns. Neither would there be changes to the adjacent land uses. There would be no change in the designated land use classification of Sepulveda Dam Basin Vegetation Maintenance Area per the 2011 Sepulveda Basin Master Plan. As a result, there would be no significant impact on land use.

3.2 Soils

Affected Environment

The greater part of the San Fernando Valley is overlain by recent alluvium, consisting of unconsolidated and un-weathered, poorly graded clay, silt, gravel, and boulders. The Basin is entirely covered by recent alluvium composed of relatively fine material (Corps 2012a).

The Natural Resources Conservation Service (NRCS) reported four different soil groups within the Proposed Action Area—Capistrano, Conejo, Cropley, and Mocho. The Capistrano soil group covers approximately 5.5 percent of the Proposed Action Area. A fine, sandy loam comprising mixed alluvium derived from granite, Capistrano is commonly found along river valleys. The Conejo soil group is found along river valleys, and makes up approximately 47.3 percent of the Proposed Action Area. Conejo is a well-drained clay loam derived from young, mixed alluvium. The Cropley soil group covers approximately 29.4 percent of the Proposed Action Area. It is a well-drained, clay alluvium derived from calcareous shale. Lastly, the Mocho soil group makes up approximately 17.9 percent of the Proposed Action Area. It is a well-drained loam comprising young alluvium. The Capistrano, Conejo, and Cropley soil groups are all within 0 to 2 percent slope topography with fast-draining, nonsaline soils. The Mocho soil group has 2 to 9 percent slope topography (NRCS 2015).

Significance Threshold

Impacts would be considered significant if the alternative:

- Substantially increases wind or water erosion of soils or loss of topsoil.
- Substantially alters the physical or chemical quality of sediments or soils.

Environmental Consequences

Alternative 1: Active Management Alternative

Activities would entail application of herbicides to non-native vegetation; annual mowing and brush cutting of all shrubs in Zone B and Zone Q; trimming of branches below 8 feet from large native trees in Zones B, Q, L, and SG; periodic removal of non-native and dead trees as needed and as resources permit; and maintenance of access roads and the dam operations zone. The vegetation management activities would not substantially increase wind or water erosion. The area would remain vegetated. Vegetation would provide a continuous vegetative cover with a fibrous root system that would reduce wind erosion of top soil and minimize inundation erosion by flood waters. Furthermore, cut vegetation would be chipped and spread onsite as practicable. Thus, ground cover would be increased, preventing wind or water erosion. The potential for soil erosion would also be reduced by the compaction of soil and use of decomposed granite when improving and maintaining the vehicular access roads and dam operations zone.

Herbicides deemed suitable for use in or near the aquatic environment would be applied as needed between the months of September and March. The Basin receives storm runoff and

nuisance flows from fully developed urban areas. Storm runoff and nuisance flows typically convey pollutants associated with urban development such as organic solvents, metals, surfactants, fecal matter, organic waste, pesticides, herbicides, and fertilizers. As the Proposed Action Area lies in the lowest part of the Basin, it is often inundated by overflow from the Los Angeles River and Haskell Creek. With frequent inundation and absorption, presence of chemical listed above or their breakdown products in the soil is certain. Thus, periodic use of herbicides would not substantially alter the chemical quality of sediments or soils.

Alternative 2: Passive Management Alternative

Impacts under Alternative 2 would be similar to those characterized under Alternative 1. However, mowing in Zone B and brush cutting in Zone Q would occur once every three years allowing for additional growth of shrubs when compared to the Active Management Alternative. Thus, the frequency of disturbance to soils associated with mowing and brush clearing activities would be reduced to once every three years. Use of hand tools by volunteers associated with the pilot one-year program to remove non-native and invasive plants would result in de minimis soil disturbance. Impacts would be less than significant.

Alternative 3: Phased Mowing Alternative

Impacts under Alternative 3 would be similar to those characterized under Alternative 2. However, the frequency of disturbance to soils associated with mowing and brush clearing activities would be reduced to once every five years and would be rotated across Zones B1, B2, B3 and Q. Impacts would be less than significant.

Alternative 4: South Marsh Alternative

Impacts associated with maintenance activities would be similar to those characterized under Alternative 3.

An approximately 4.6-acre marsh habitat would be established in Zone J, a sub-area of Zone B1 (see Figure 2-4). Construction would include earthmoving activities such as excavating and grading. Earth moving activities may have the potential to increase runoff and erosion in the short term due to mechanical disruption of the soil resulting in loose and unconsolidated topsoil. The area would be revegetated, which would have a beneficial impact on the soil stability. Revegetation activities in the Proposed Action Area would include broadcast seeding in fill areas and remedial planting in the marsh habitat. Soil would be stabilized upon revegetation. Impacts would be less than significant.

Alternative 5: Sinuous Channel Alternative

Impacts associated with maintenance activities would be similar to those characterized under Alternative 3.

A sinuous channel and adjoining marsh would be created within Zones SC and J, respectively. Construction would include earthmoving activities such as excavating and grading. As under Alternative 4, mechanical disruption of the soil due to the grading required for these activities would result in unconsolidated topsoil which could increase short-term runoff and erosion

potential. Also, the same as under Alternative 4, these areas would be revegetated, and upon revegetation the soils would be stabilized. Impacts would be less than significant.

Alternative 6: No Action Alternative

Under Alternative 6 the Corps would not conduct mowing and other vegetation management activities, maintain access roads or the dam operation zone within the Proposed Action Area. The area would remain vegetated and additional vegetation growth would occur. Vegetation would provide a continuous vegetative cover with a fibrous root system that would reduce wind erosion of top soil and minimize inundation erosion by flood waters. Impacts would be less than significant.

3.3 Surface Water Quality

Affected Environment

The major sources of water for the Los Angeles River in the project vicinity are storm flows and nuisance flows from upstream tributaries and storm drain outfalls, and tertiary-treated effluent from the Tillman Water Reclamation Plant (WRP). The active channel of Haskell Creek is perennial due to discharge of reclaimed water from the Tillman WRP. The Tillman WRP treats about 40 million gallons per day and discharges approximately 17 million gallons per day of reclaimed water to 3 lakes: the Wildlife Lake, the Japanese Garden Lake, and Lake Balboa. The Wildlife Lake discharges water into Haskell Creek. All three lakes eventually discharge water into the Los Angeles River.

The Proposed Action Area is adjacent to the Los Angeles River and encompasses a portion of Haskell Creek. Both waterways are considered to be waters of the United States. The Los Angeles Regional Water Quality Control Board has designated beneficial uses of the Los Angeles River in the Basin (Los Angeles River Reach 5), which include: Municipal and Domestic Supply, Industrial Service Supply, Ground Water Recharge, Warm Freshwater Habitat, Wildlife Habitat, Wetland Habitat, Water Contact Recreation, and Non-contact Water Recreation (Corps 2013a).

The Los Angeles River routine base flow (usually less than 10 cubic feet per second) is typically high in salinity, whereas storm runoff is generally low in salinity. As the Proposed Action Area lies in the lowest part of the Basin, it is often inundated by overflow from the Los Angeles River and Haskell Creek which can deposit sediment and trash from upstream. The urban storm runoff entering the Basin is generally of poor quality. Storm runoff and nuisance flows typically convey pollutants associated with urban development such as organic solvents, metals, surfactants, fecal matter, organic waste, pesticides, and fertilizers.

Significance Threshold

Impacts would be considered significant if the alternative:

- Causes a permanent violation of water quality standards or otherwise substantially degrades water quality.

- Substantially alters the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner that would result in substantial increase in erosion or siltation on or off site.
- Substantially alters the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner that would result in a substantial reduction in the quantity of surface water.
- Substantially alters the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, or substantially increases the rate or amount of surface runoff in a manner that would result in flooding on or off site or provide substantial additional sources of polluted runoff.
- Increases substantial erosion or sedimentation in relation to existing conditions.

Environmental Consequences

Alternative 1: Active Management Alternative

Activities would entail application of herbicides to non-native vegetation; annual mowing and brush cutting of all shrubs in Zone B and Zone Q; trimming of branches below 8 feet from large native trees in Zones B, Q, L, and SG; periodic removal of non-native and dead trees as needed and as resources permit; and maintenance of access roads and the dam operations zone. The use of herbicides would be limited to those deemed suitable for use in or near the aquatic environment.

The work would not violate water quality standards or otherwise substantially degrade water quality. All work would be located outside of waters of the United States. There would be no presence of earth-moving machinery within active flows. With the exception of regrading the existing access road, there would be no activities which would result in the movement of earthen material. The regrading would occur on access roads constructed from compacted decomposed granite which is resistant to erosion relative to compacted earth. Furthermore, the regrading activity would be located approximately 40 to 50 feet from the banks of Haskell Creek.

There would be no alterations to the landscape or drainage patterns that would result in substantial increase in erosion or siltation or reduce the quantity of surface water. Mowing and brush cutting of vegetation would not change the drainage pattern of the site. Maintenance grading of existing access road would retain the existing grades and alignments. Therefore, impacts would be less than significant.

Alternative 2: Passive Management Alternative

Impacts under Alternative 2 would be similar to those characterized for Alternative 1. However, mowing in Zone B and brush cutting in Zone Q would occur once every three years allowing for additional growth of shrubs when compared to Alternative 1.

Use of hand tools by volunteers associated with the pilot one-year program to remove non-native and invasive plants would not result in impacts to water quality or alter drainage patterns that would affect erosion and sedimentation process or reduce the amount of surface water.

For the duration of a pilot one-year program to hand remove invasive and non-native plants, no herbicides would be used. Any herbicides used before or after the pilot program would be limited to those deemed suitable for use in or near the aquatic environment. Impacts would be less than significant.

Alternative 3: Phased Mowing Alternative

Impacts under Alternative 3 would be similar to those characterized under Alternative 2.. However, the frequency of mowing and brush clearing activities would be reduced to once every five years and would be rotated across Zones B1, B2, B3 and Q, allowing further additional growth of shrubs when compared to Alternative 2 . Impacts would be less than significant.

Alternative 4: South Marsh Alternative

Impacts associated with maintenance activities would also be the same as those characterized under Alternative 3.

An approximately 4.6-acre marsh habitat would be established in Zone J, a sub-area of Zone B1 (see Figure 2-4). Though most construction activities would occur outside of waters of the United States, construction would require installation of grade control structures as well as water intake and outlet structures within Haskell Creek. Earthwork within Haskell Creek would result in turbidity increases during construction. Excavators, bulldozers, and other earthmoving equipment may be used in or near Haskell Creek. As such, waters may come into contact with petroleum-based products such as lubricants, fuel, and hydraulic fluids. Construction areas would be isolated from flows to minimize water quality impacts. Structures within waters of the United States would be chemically inert, and would consist of materials such as concrete or stone which would not leach contaminants into the water column. Backfill would consist of on-site substrate.

Establishment of marsh habitat would require excavation of a depressed area within the Proposed Action Area. Because sedimentation within the Proposed Action Area is dictated by flooding frequency from the larger drainage area and the Los Angeles River and Haskell Creek are lower in elevation relative to the Proposed Action Area, presence of a depression would not change the larger drainage patterns that would result in substantial change in erosion or siltation. All water routed to the marsh habitat would be discharged back into Haskell Creek. Thus, there would be no reduction in the quantity of surface water.

Installation of grade control structures and water intake and outlet structures would discharge dredge or fill material into Haskell Creek, a waters of the United States. Thus, compliance with Section 401 and Section 404 of the Clean Water Act would be required. With implementation of best management practices (e.g., such as diverting surface flows around the construction site or refueling in the uplands) and the terms and conditions of Section 401 Water Quality Certification, impacts to water quality would be avoided or minimized. Impacts would be less than significant.

Alternative 5: Sinuous Channel Alternative

Impacts associated with maintenance activities would also be the same as those characterized under Alternative 3.

A sinuous channel and adjoining marsh would be created within Zones SC and J, respectively. Construction would include earthmoving activities such as excavating and grading. The majority of construction would occur in waters of the United States. Construction would require installation of grade control structures throughout Haskell Creek. Excavators, bulldozers, and other earthmoving equipment may be used in or near Haskell Creek. As such, waters may come into contact with petroleum-based products such as lubricants, fuel, and hydraulic fluids. Construction areas would be isolated from flows to minimize water quality impacts. Structures within waters of the United States would be chemically inert, and would consist of materials such as concrete or stone which would not leach contaminants into the water column. Backfill would consist of on-site substrate.

Establishment of a sinuous channel may change erosion and sedimentation processes within Haskell Creek relative to the linear alignment. Any proposed design would be further subject to detailed engineering review and modification to ensure that the change in alignment does not result in further changes to erosion and sedimentation processes throughout the larger Proposed Action Area. The sinuous channel would not reduce the amount of surface water through the Proposed Action Area.

Installation of structures within waters of the United States would result in discharges of dredged or fill material under Section 404 of the Clean Water Act. Thus, compliance with Section 401 and Section 404 of the Clean Water Act would be required. With implementation of best management practices similar to those described for Alternative 4, as well as terms and conditions of Section 401 Water Quality Certification, impacts to water quality would be avoided or minimized. Impacts would be less than significant.

Alternative 6: No Action Alternative

Under Alternative 6 the Corps would not conduct mowing and other vegetation management activities, maintain access roads or the dam operation zone within the Proposed Action Area. The area would remain vegetated and additional vegetation growth would occur. Vegetation would provide a continuous vegetative cover with a fibrous root system that minimize inundation erosion by flood waters. There would be no maintenance activities which could alter the landscape or drainage patterns that would result in substantial increase in erosion or siltation or reduce the quantity of surface water. Impacts would be less than significant.

3.4 Air Quality and Greenhouse Gases

Affected Environment

National Ambient Air Quality Standards

To protect the public health and welfare, the Federal government identified a number of criteria air pollutants and established ambient air quality standards through the Federal Clean Air Act for each. The air pollutants for which Federal standards have been promulgated via the National Ambient Air Quality Standards (NAAQS) include ozone (O₃), carbon monoxide (CO), suspended particulate matter (PM), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), and lead (Pb). PM emissions are regulated in two size classes: Particulates up to 10 microns in diameter (PM₁₀) and particulates up to 2.5 microns in diameter (PM_{2.5}).

A region is given the status of “attainment” or “unclassified” if the NAAQS have not been exceeded. A status of “nonattainment” for particular criteria pollutants is assigned if the NAAQS have been exceeded. Once designated as nonattainment, attainment status may be achieved after three years of data showing non-exceedance of the standard. When an area is reclassified from nonattainment to attainment, it is designated as a “maintenance area,” indicating the requirement to establish and enforce a plan to maintain attainment of the standard. Federal attainment status designations for the South Coast Air Basin (SCAB) are summarized in Table 3-1.

General Conformity Rule

Section 176(c) of the federal Clean Air Act states that a federal agency cannot issue a permit for, or support an activity within, a nonattainment or maintenance area unless the agency determines it will conform to the most recent U.S. Environmental Protection Agency-approved State Implementation Plan (SIP). Thus, a federal action must not:

- Cause or contribute to any new violation of a NAAQS.
- Increase the frequency or severity of any existing violation.
- Delay the timely attainment of any standard, interim emission reduction, or other milestone.

A conformity determination is required for each criteria pollutant or precursor where the total of direct and indirect emissions of the criteria pollutant or precursor in a nonattainment or maintenance area caused by the federal action would equal or exceed rates specified in 40 C.F.R. 93.153.

**TABLE 3-1
NAAQS ATTAINMENT DESIGNATIONS FOR THE SCAB AND APPLICABLE GENERAL CONFORMITY
APPLICABILITY RATES**

Pollutant	Attainment Status	General Conformity Applicability Rates (tons/year)
Ozone	Nonattainment	10
Inhalable particulate matter (PM ₁₀)	Attainment/Maintenance	100
Fine particulate matter (PM _{2.5})	Nonattainment	100
Carbon monoxide	Attainment/Maintenance	100
Nitrogen oxide	Attainment/Maintenance	100
Sulfur dioxide	Attainment	100
Lead	Nonattainment	25

Source: US EPA Green Book

The SCAB is currently in extreme nonattainment for ozone (precursors: VOC or NOx); nonattainment for PM2.5; attainment/maintenance for PM10; attainment/maintenance for NO2; and attainment/maintenance for CO; and nonattainment for lead. Based on the present attainment designation for the SCAB, a Federal action would conform to the SIP if annual emissions are below 100 tons of CO, PM2.5, PM10, or NO2, 10 tons of VOC, or 25 tons of lead.

Regional Significance Thresholds

The South Coast Air Quality Management District (SCAQMD) has developed Regional Significance Thresholds (RSTs) for mass daily emission rates of criteria pollutants for both construction and operational sources. RSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable Federal or state ambient air quality standard in the SCAB.

**TABLE 3-2
SCAQMD REGIONAL AIR QUALITY SIGNIFICANCE THRESHOLDS¹**

Pollutant	Construction Emission Thresholds (lbs/day)
Reactive Organic Gas (ROG or VOC ²)	75
Inhalable particulate matter (PM ₁₀)	150
Fine particulate matter (PM _{2.5})	55
Carbon monoxide	550
Nitrogen oxide	100
Sulfur dioxide	150
Lead	3

1. Source: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2>; 2., ROG and VOC are used interchangeably for the purpose of comparing to significance thresholds.

Emission Estimates Methodology

Emissions were estimated using on-road and off-road emission factors published by the SCAQMD.

Each of the action alternatives as well as the Active Management Alternative would require the same suite of on-road and off-road vehicles for vegetation management activities: two loaders, two dump trucks; two chippers; one water truck, and five pickup trucks. Most vegetation activities would be completed within a four week period. Five pickup trucks would make 60 mile round trips each work day. Vegetation not mulched on site would be transported over the dam and placed within a sediment storage site downstream of the dam.

Construction of the marsh and sinuous channel in Alternatives 4 and 5 would require the same suite of on-road and off-road vehicles: two excavators, two loaders, two dump trucks; two chippers; one water truck, and five pickup trucks. Excavated earth would be transported over the dam and placed within a sediment storage site downstream of the dam. Period of construction would be six months.

Estimates of lead emissions were not calculated. Lead emissions from mobile sources in California have significantly decreased due to the near elimination of lead in fuels. Thus, emission factors for lead are not available. Little to no quantifiable and foreseeable lead emissions would be generated by any of the alternatives.

Ozone (O₃) formation is driven by two major classes of directly emitted precursors: nitrogen oxides (NO_x) and volatile organic compounds (VOC). The relation between O₃, NO_x and VOC is driven by complex nonlinear photochemistry. Due to the variability in rates of ozone formation, there are no emission factors for ozone. Instead, the emissions associated with ozone precursors (i.e., ROG) are calculated and used as a surrogate for reporting ozone emissions.

Greenhouse Gas Emissions

Gases that trap heat in the atmosphere are often called greenhouse gases (GHG). GHGs are emitted by natural processes and human activities. Examples of GHGs that are produced both by natural processes and industry include carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). Currently, there are no Federal standards for GHG emissions and no Federal regulations have been set at this time, though the CEQ has issued final guidance on the consideration of GHG emissions, entitled Final Guidance on the Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in NEPA Reviews, dated August 1, 2016. The annual GHG emissions under each alternative disclosed in Table 3-6.

Significance Threshold

Impacts would be considered significant if the alternative:

- Exceeds any General Conformity Rule applicability rate
- Exceeds any SCAQMD daily RSTs

Environmental Consequences

Alternative 1: Active Management Alternative

Activities would entail application of herbicides to non-native vegetation; annual mowing of all shrubs in Zone B and Zone Q; trimming of branches below 8 feet from large native trees in Zones B, Q, L, and SG; periodic removal of non-native and dead trees as needed and as resources permit; and maintenance of access roads and the dam operations zone. Off-road emissions would include those from loaders and chippers operating 8 hours per day over a 25-day period. On-road emissions would include daily commutes for 5 pickup trucks and dump trucks operating within the Proposed Action Area.

As shown in Table 3-5 estimated annual emissions would not exceed the Clean Air Act General Conformity applicability rates. As a result, a General Conformity Analysis would not be required. As shown in Table 3-3 estimated emissions would not exceed daily SCAQMD emissions thresholds. Therefore, Alternative 1 would entail less than significant impacts to air quality. Fugitive emissions of PM_{2.5} and PM₁₀ associated with the use of unpaved roads and material handling would be minimized through implementation best management practices such as watering unpaved roads within the Proposed Action Area.

**TABLE 3-3
COMPARISON OF ESTIMATED DAILY EMISSIONS TO SCAQMD THRESHOLDS
ALTERNATIVES 1, 2 AND 3**

Pollutant	Construction Emission Thresholds (lbs/day)	Estimated Emissions (lbs/day)
Reactive Organic Gas (ROG or VOC)	75	1.59
Inhalable particulate matter (PM ₁₀)	150	0.36
Fine particulate matter (PM _{2.5})	55	0.32
Carbon monoxide	550	13.21
Nitrogen oxide	100	8.78
Sulfur dioxide	150	0.03

Alternative 2: Passive Management Alternative

Activities under Alternative 2 are similar to Alternative 1, except mowing in Zone B and brush cutting in Zone Q would occur once every three years allowing for additional growth of shrubs when compared to Alternative 1.

Due to the decrease in mowing frequency, impacts associated with maintenance activities would be less than those characterized under Alternative 1. Commutes by volunteers associated with the pilot one-year program to remove non-native and invasive plants would

likely result in use of light-duty passenger vehicles. Contribution from the use of passenger vehicles to the emissions shown in Table 3-3 would be de minimis. As shown in Table 3-5 estimated annual emissions would not exceed the Clean Air Act General Conformity applicability rates. As a result, a General Conformity Analysis would not be required. Fugitive emissions of PM2.5 and PM10 associated with the use of unpaved roads and material handling would be minimized through implementation best management practices such as watering unpaved roads within the Proposed Action Area. Impacts would be less than significant.

Alternative 3: Phased Mowing Alternative

Impacts under Alternative 3 would be similar to those characterized under Alternative 2, except that mowing and brush cutting would occur once every five years and would be rotated across Zones B1, B2, B3 and Q.

Due to the decrease in mowing frequency, impacts associated with maintenance activities would be less than those characterized under Alternatives 1 and 2. Commutes by volunteers associated with the pilot one-year program to remove non-native and invasive plants would likely result in use of light-duty passenger vehicles. Contribution from the use of passenger vehicles to the emissions shown in Table 3-4 would be de minimis. As shown in Table 3-5 estimated annual emissions would not exceed the Clean Air Act General Conformity applicability rates. As a result, a General Conformity Analysis would not be required. Fugitive emissions of PM2.5 and PM10 associated with the use of unpaved roads and material handling would be minimized through implementation best management practices such as watering unpaved roads within the Proposed Action Area. Impacts would be less than significant.

Alternative 4: South Marsh Alternative

Impacts associated with maintenance activities under Alternative 4 would be similar to those characterized under Alternative 3.

An approximately 4.6-acre marsh habitat would be established in Zone J, a sub-area of Zone B1 (see Figure 2-4). Construction would include earthmoving activities such as excavating and grading. Off-road emissions would include those from excavators and loaders operating 8 hours per day over a 6 month period. On-road emissions would include daily commutes for 5 pickup trucks and dump trucks operating within the Proposed Action Area.

Commutes by volunteers associated with the pilot one-year program to remove non-native and invasive plants would likely result in use of light-duty passenger vehicles. Contribution from the use of passenger vehicles to the emissions shown in Table 3-4 would be de minimis.

As shown in Table 3-5 estimated annual emissions would not exceed the Clean Air Act General Conformity applicability rates. As a result, a General Conformity Analysis would not be required. As shown in Table 3-4 estimated emissions would not exceed daily SCAQMD emissions thresholds. Therefore, Alternative 4 would entail less than significant impacts to air quality. Fugitive emissions of PM2.5 and PM10 associated with the use of unpaved roads and material handling would be minimized through implementation best management practices such as watering unpaved roads within the Proposed Action Area.

**TABLE 3-4
COMPARISON OF ESTIMATED DAILY EMISSIONS TO SCAQMD THRESHOLDS
ALTERNATIVES 4 AND 5**

Pollutant	Construction Emission Thresholds (lbs/day)	Estimated Emissions (lbs/day)
Reactive Organic Gas (ROG or VOC ²)	75	3.62
Inhalable particulate matter (PM ₁₀)	150	0.74
Fine particulate matter (PM _{2.5})	55	0.64
Carbon monoxide	550	30.30
Nitrogen oxide	100	17.46
Sulfur dioxide	150	0.03

Alternative 5: Sinuous Channel Alternative

A sinuous channel and adjoining marsh would be created within Zones SC and J, respectively. Impacts under Alternative 5 would be similar to and potentially slightly greater than those under Alternative 4. Implementing Alternative 5 would not be expected to result in any violations of federal or state air quality standards or result in any significant adverse impacts on air quality.

**TABLE 3-5
COMPARISON OF ESTIMATED ANNUAL EMISSIONS TO GENERAL CONFORMITY APPLICABILITY RATES**

Pollutant	General Conformity Applicability Rates (tons/year)	Alternatives 1, 2 and 3 (tons/year)	Alternatives 4 and 5 (tons/year)
Ozone (ROG,VOC)	10	0.018	0.25
Inhalable particulate matter (PM ₁₀)	100	0.004	0.051
Fine particulate matter (PM _{2.5})	100	0.003	0.044
Carbon monoxide	100	0.15	2.09
Nitrogen oxide	100	0.10	1.2
Lead	25	-	-

**TABLE 3-6
ESTIMATED GHG EMISSIONS**

Pollutant	Alternatives 1, 2 and 3 (metric tons/year)	Alternatives 4 and 5 (metric tons/year)
CO2-e	757	9,177

Alternative 6: No Action Alternative

Under Alternative 6 the Corps would not conduct mowing and other vegetation management activities, maintain access roads or the dam operation zone within the Proposed Action Area. The area would remain vegetated and additional vegetation growth would occur. There would be no use of mechanized equipment that would result in emissions of criteria pollutants. Impacts would be less than significant.

3.5 Noise

Noise can be defined as unwanted sound or combination of sounds that may interfere with conversation, work, rest, recreation, and sleep, or in the extreme may produce physiological or psychological damage. Sound travels from a source in the form of wave, which exerts a pressure on a receptor such as a human ear. The amount of pressure a sound wave exerts is referred to as sound level, commonly measured in decibels (dB). As a reference, a sound level of zero dB corresponds roughly to the threshold of human hearing, and a sound level in the range of 120 to 140 dB can produce human pain.

Sound has two main components to a human ear: pitch and loudness. While the pitch of a sound is generally associated with an annoyance, sound loudness can interfere with activities such as conversation, sleep, and learning, and can even have lasting physiological effects, such as hearing loss. Those who are more sensitive to noise such as children and the elderly are at higher risk of being adversely affected by excessive noise levels. Table 3-7 lists some sources and effects associated with a typical range of noise levels.

**TABLE 3-7
SOURCE AND EFFECTS OF COMMON NOISE LEVELS**

Noise Level (dB)	Effects	Evidence	Source		
130	Hearing Loss	Pain Threshold	Hard Rock Band		
120		Deafening	Thunder		
110			Jet Takeoff		
100			Loud Auto Horn at 10 feet		
90		Very Loud		Noisy City Street	
85				School Cafeteria	
80					Vacuum Cleaner at 10 feet
75					
70	Physiological Effects	Loud			
65					
60	Interference with Conversation		Normal Speech at 3 feet		
55					
50	Sleep Interruption	Moderately Loud	Average Office		
45			Dishwasher in Next Room		
40	Sleep Disturbance		Soft Radio Music		
35			Quiet Residential Zone		
30		Faint	Interior of Average Residence		

**TABLE 3-7
SOURCE AND EFFECTS OF COMMON NOISE LEVELS**

20			Average Whisper at 6 feet
10			Rustle of Leaves in Wind
5		Very Faint	Human Breathing
0		Hearing Threshold	

Noise can be one of the most widespread environmental pollutants affecting communities. Community noise, or environmental noise, varies continuously in any given Zone over a period of time depending on the contributing sound sources within and surrounding the area. Such community noise typically includes a combination of relatively stable background noise—where individual contributors are not identifiable—and the periodic addition of short duration noise sources such as aircraft flyovers, motor vehicles, or sirens. Some land uses can be considered more sensitive to community noise levels than others and are often referred to as sensitive receptors. These include residences, schools, hotels, hospitals, nursing homes, churches, libraries, and cemeteries. Shopping centers, commercial parks, strip malls, industrial Zones, and active recreation Zones can be considered less noise-sensitive receptors.

In addition, wildlife may be sensitive receptors to noise and vibrations. Wildlife rely on meaningful sounds for communication, navigation, avoiding danger and finding food. Noise may be defined for wildlife as any human or other exterior sound that alters the behavior of animals or interferes with their functioning. The level of disturbance may be qualified as damage, which may harm health, reproduction, survivorship, habitat use, distribution, abundance or genetic distribution, or disturbance which causes a detectable change in behavior. Behavioral and physiological responses of wildlife to noise have the potential to cause injury, energy loss, decrease in food intake, habitat avoidance and abandonment, and reproductive losses.

Affected Environment

The Basin is in the Encino Zone of San Fernando Valley, and is surrounded by an urban environment. Traffic is the primary source of noise in and near the Proposed Action Area. Interstate 405 borders the Proposed Action Area to the east and Burbank Boulevard borders it to the south. Noise from Burbank Boulevard varies throughout the day, being typically greater during early morning rush hour and late afternoon/early evening rush hour periods. Noise from Interstate 405 is limited to a very low background hum, if at all, depending on wind direction. Operation of the Van Nuys Airport, approximately 2.6 miles north of the Basin, periodically contributes to the existing noise levels in the area. Sound measurements conducted in the area range from 50 A-weighted decibels (dB(A)) to 65 dB(A). Nesting birds may be present on site and in adjacent vegetation during bird nesting season. There are no human sensitive receptors such as schools, hospitals, or houses of worship near the Proposed Action Area.

Significance Threshold

Impacts would be considered significant if the alternative results in:

- A long term increase in noise levels above ambient noise levels by 5 dB(A).

- An increase in noise levels that may interfere with breeding behavior of migratory birds.

Environmental Consequences

Alternative 1: Active Management Alternative

Activities would entail application of herbicides to non-native vegetation; annual mowing and brush cutting of all shrubs in Zone B and Zone Q; trimming of branches below 8 feet from large native trees in Zones B, Q, L, and SG; periodic removal of non-native and dead trees as needed and as resources permit; and maintenance of access roads and the dam operations zone. The work would require limited use of construction equipment. Equipment may include haul trucks, loaders, and tractors with articulated mowing attachments. Typical construction equipment generates noise levels ranging from approximately 76 to 88 dB(A) at a distance of 50 feet from the source.

Atmospheric attenuation of sound level is approximately 6 dB(A) for every doubling of distance from a noise source. Table 3-8 shows estimated sound levels at each doubling of distance from the center of the noise source based solely on atmospheric attenuation.

**TABLE 3-8
ESTIMATED RANGES OF SOUND LEVELS AT VARIOUS DISTANCES**

Distance from noise source (feet)	50	100	200	400	800
Estimated sound levels (dBA)	76 – 88	70 – 82	64 – 76	58 – 70	52 – 64

The geographic center of the Proposed Action Area is approximately 600 to 1,200 feet from the boundary. At a distance of 800 feet, the sound levels would range from approximately 52 dB(A) to 64 dB(A) and would not be distinguishable from ambient noise levels. Recreational users in the area at distances closer than 800 feet would be temporarily exposed to elevated noise levels. Noise levels would return to ambient levels upon completion of work. As such, there would be no long term increase in noise levels above ambient noise levels by 5 dB(A).

The noise created during the implementation period would have no significant impact on migratory birds, as all work would be performed after 15 September and prior to 15 March (i.e., outside the migratory bird breeding season). No significant adverse impacts on noise conditions would occur under Alternative 1.

Alternative 2: Passive Management Alternative

Impacts under Alternative 2 would be slightly less relative to those characterized under Alternative 1 due to the reduced mowing and brush cutting frequency. Use of hand tools by volunteers associated with the pilot one-year program to remove non-native and invasive plants would result in de minimis noise disturbance. Therefore, impacts from noise would be less than significant.

Alternative 3: Phased Mowing Alternative

Impacts under Alternative 3 would be slightly less relative to those characterized under Alternative 1 due to the reduced mowing and brush cutting area per year. Use of hand tools by volunteers associated with the pilot one-year program to remove non-native and invasive plants would result in de minimis noise disturbance. Therefore, impacts from noise would be less than significant.

Alternative 4: South Marsh Alternative

Impacts under Alternative 4 would be similar to those characterized under Alternative 3; however, there would be a temporary increase in noise levels during construction of the marsh from the use of excavators, loaders, and bulldozers. Use of hand tools by volunteers associated with the pilot one-year program to remove non-native and invasive plants would result in de minimis noise disturbance. Therefore, impacts from noise would be less than significant.

Alternative 5: Sinuous Channel Alternative

Impacts under Alternative 5 would be similar to those characterized under Alternative 4; however, there would be a temporary increase in noise levels during construction of the sinuous channel and adjoining marsh from the use of excavators, loaders, and bulldozers. Use of hand tools by volunteers associated with the pilot one-year program to remove non-native and invasive plants would result in de minimis noise disturbance. Therefore, impacts from noise would be less than significant.

Alternative 6: No Action Alternative

Under Alternative 6 the Corps would not conduct mowing and other vegetation management activities, maintain access roads or the dam operation zone within the Proposed Action Area. The area would remain vegetated and additional vegetation growth would occur. There would be no use of mechanized equipment that would result in temporary noise disturbances. Impacts would be less than significant.

3.6 Biological Resources

Affected Environment

Vegetation

Vegetation in the Basin has been altered from its natural state by agriculture, urbanization, the construction of the dam and associated works, several periods of cyclic droughts, natural and human-caused erosion, establishment of invasive (nonnative) plant species, and ongoing planting and maintenance of ornamental landscaping. In late 2012, the Corps removed native and nonnative invasive species in the area between Haskell Creek and the dam to enhance public safety. In 2014, the Corps applied herbicides to manage invasive vegetation and removed a number of nonnative trees throughout the Proposed Action Area. Furthermore, the Corps annually removes emergent vegetation growing on top of grouted stone section of the Los

Angeles River between Burbank Boulevard and the dam; the mouth of Haskell Creek; and the mouth of Encino Creek. The naturally recruited vegetation located on in-channel sediment bars includes cattails (*Typha* spp.), willow tree saplings (*Salix* spp.), mulefat (*Baccharis salicifolia*), and California fan palms (*Washingtonia filifera*).

Prior to the 2012 vegetation management project, the Proposed Action Area supported, *Baccharis pilularis* vegetation type was dominant to co-dominant in the shrub canopy with California sagebrush (*Artemisia californica*), lilacs (*Ceanothus* spp.), beaked hazel (*Corylus cornuta*), California buckwheat (*Eriogonum fasciculatum*), seaside woolly sunflower (*Eriophyllum staechadifolium*), silk tassel (*Garrya elliptica*), deer weed (*Lotus scoparius*), yellow bush lupine (*Lupinus arboreus*), California blackberry (*Rubus ursinus*), white sage (*Salvia apiana*), and pitcher plant (*S. leucophylla*). Shrubs are less than 3 meters in height, and the canopy is variable. The herbaceous layer is also variable. Due to vegetation management and human use of the area, the vegetation community currently consists of a mix of these native plants and non-native plants.

The *Quercus* spp. vegetation type is a combination of the coast live oak (*Quercus agrifolia*) vegetation type and the valley oak vegetation type. Within the *Q. agrifolia* vegetation type, coast live oak is dominant or co-dominant in the tree canopy with maple (*Acer* spp.), California sycamore (*Platanus racemosa*), Fremont's cottonwood (*Populus fremontii*), valley oak, and arroyo willow (*Salix lasiolepis*). Trees are over 30 meters in height, and the canopy is open to continuous. The shrub layer is sparse to intermittent and the herbaceous layer is sparse or grassy. Within the *Q. lobata* vegetation type, the *Q. lobata* is dominant or co-dominant in the tree canopy with box elder (*Acer negundo*), Oregon ash (*Fraxinus latifolia*), California sycamore, Fremont's cottonwood, coast live oak, Gooding's willow (*Salix gooddingii*), and arroyo willow (*S. lasiolepis*). Trees are under 30 meters in height and the canopy is open to continuous. Shrubs are common to occasional and the herbaceous layer may be grassy.

The *Salix gooddingii* vegetation type is dominant or co-dominant in the tree canopy with Fremont's cottonwood, red willow (*Salix laevigata*), arroyo willow, and black elderberry (*Sambucus nigra*). The shrub layer is intermittent to open and the herbaceous layer is variable.

The Proposed Action Area also includes ruderal lands and riverine habitat. Ruderal lands are Zones that have been substantially altered by maintenance or construction, causing them to be devoid of vegetation. Ruderal land is found near the dam as well as various access roads and trails throughout the Proposed Action Area.

Nonnative, invasive species such as black mustard (*Brassica nigra*), wild fennel (*Foeniculum vulgare*), and poison hemlock (*Conium maculatum*), a variety of nonnative grasses, and several species of nonnative trees (e.g., tree of heaven/Chinese sumac [*Ailanthus altissima*] and eucalyptus [*Eucalyptus* spp.]) are found in the Proposed Action Area. The Corps typically treats these invasive plants as well as any others that may be found in the Basin (Corps 2014a).

Wildlife

Common wildlife near the project site include western fence and side-blotched lizards, squirrels, opossums, raccoons, and coyotes. Common birds include western scrub jay, Anna's

hummingbird, black phoebe, and California towhee. In addition, over 200 species of migratory and resident birds have been observed in the Sepulveda Basin Wildlife Reserve and using other patches of habitat such as riparian corridors supported by the Los Angeles River and Haskell Creek.

Previous agricultural use in the Basin has historically limited its ability to support a diverse population of non-avian wildlife. Over time, however, mammals, reptiles, amphibians, and fish have been found within the Sepulveda Basin Wildlife Reserve. Small mammals, mostly rodents such as squirrels, field mice, and rabbits, roam the area. Raccoons, coyotes, and feral cats and dogs also frequent the area.

Several species of frogs and a variety of fish are found along the Los Angeles River and surrounding creeks and ponds. Altered seasonal flows and existing barriers to fish passage severely limit fish presence in the Sepulveda Dam Basin. Common nonnative species that may inhabit the Basin include largemouth bass (*Micropterus salmoides*), bluegill (*Lepomis macrochirus*), western mosquito fish (*Gambusia affinis*), channel catfish (*Ictalurus punctatus*), fathead minnow (*Pimephales promelas*), common carp (*Cyprinus carpio*), and goldfish (*Carassius auratus auratus*; Corps 2012b).

Several species of bats have been observed near the Basin. The silver-haired bat (*Lasionycteris noctivagans*) is among the most common bat in forested Zones of the United States. They are a solitary, tree-roosting species, which feeds on insects. Hoary bats (*Lasiurus cinereus*) are the most widespread North American bat. They have been observed northeast of the Basin. They are a solitary species, which consumes mainly moths and other insects. The pallid bat (*Antrozous pallidus*) has been observed southwest of the Proposed Action Area. These bats are found in regions with rocky outcroppings or open, sparsely vegetated grasslands. Water must be available close by, and they can be found in different roosts for day, night, and hibernation.

Endangered Species

The Least Bell's vireo (*Vireo bellii pusillus*), a Federally-endangered bird is present within riparian vegetation in areas primarily north of Burbank Boulevard. Per past surveys, the vireo has been sighted in the Proposed Project Area in areas immediately south of Burbank Boulevard. Presence of the vireo within the interior of the Proposed Project Area is less likely since the area is composed of primarily upland vegetation. Furthermore, the reach of Haskell Creek that traverses through the Proposed Project Area is populated with mature non-native ash trees and lacks riparian shrubs. Surveys since 2011 have not indicated presence of the vireo within the vast majority of the interior of the Proposed Project Area. The Proposed Project Area is not within designated critical habitats for any Federally listed taxa.

Significance Threshold

Impacts would be considered significant if the alternative:

- Creates substantial loss of species diversity in natural vegetation and wildlife habitat.
- Result in the extirpation of a regional or local species.

- Jeopardizes the continued existence of species protected under the Endangered Species Act.

Alternative 1: Active Management Alternative

Vegetation

Activities under Alternative 1 would result in herbicide treatment of nonnative shrubs and herbs in Zone B, Zone Q, Zone L, and Zone SG. Native and non-native shrubs in Zone B and Zone Q would be annually mowed and brush cut to a height of approximately 3 feet. Branches below 8 feet from large native trees in Zones B, Q, L, and SG would be pruned. Non-native and dead trees would be removed. Access roads and dam operation zone would be maintained. There would be no permanent loss of native species from the Proposed Action Area. Mowed native shrubs are expected to resume growth. The loss of nonnative species would allow for growth of native species. With the exception of the understory of trees that would be pruned to a height of 8 feet, the existing habitat structure would be maintained. Thus, the diversity of native species and wildlife habitat would be maintained. Impacts would be less than significant.

Wildlife

Annual mowing, brush cutting, and mulching of invasive and other nonnative plant species in the Proposed Action Area would cause wildlife to temporarily abandon the immediate maintenance zone due to noise and vibration as well as the presence of humans and machinery. Wildlife in the Proposed Action Area are expected to temporarily occupy vegetated areas nearby such as the Sepulveda Basin Wildlife Preserve or the vegetated reach of the Los Angeles River both of which are north of Burbank Boulevard. Furthermore, wildlife may also use other developed parts of the Basin such as golf courses and parks. Since wildlife in the Proposed Action Area are habituated to the urban environment, use of developed areas would minimally impact wildlife. Furthermore, the Proposed Action Area would be reoccupied upon completion of work. The remaining vegetative cover in the Proposed Action Area would provide cover and foraging for small mammals, and foraging for birds. In order to minimize impacts to birds during the nesting season, mowing, mulching, and non-native/dead tree removal operations would be undertaken outside of the bird nesting and breeding season. Due to the availability of habitat nearby and the habituation of wildlife to the urban environment, the maintenance activities would not result in extirpation of a regional or local species. Impacts would be less than significant.

Endangered Species

Annual mowing, brush cutting, and mulching of invasive and other nonnative plant species would be conducted outside of the vireo nesting and breeding season. All work would be done in conjunction with a biological monitor. In the event that work is scheduled to occur before or soon after the vireo nesting season, it would be preceded by pre-construction vireo surveys conducted by a qualified biologist. If vireos are present, a 500 foot buffer area would be avoided. Based on the above, there would be no effect to the vireo. Therefore, impacts would be less than significant.

Alternative 2: Passive Management Alternative

Vegetation

Branches below 8 feet from large native trees in Zones B, Q, L, and SG would be pruned. Non-native and dead trees would be removed. However, mowing in Zone B and brush cutting in Zone Q would occur once every three years allowing for additional growth of shrubs when compared to the Alternative 1. There would be no permanent loss of native species from the Proposed Action Area. Mowed native shrubs are expected to resume growth. The loss of nonnative species would allow for growth of native species. With the exception of the understory of trees that would be pruned to a height of 8 feet, the existing habitat structure would be maintained. Thus, the diversity of native species and wildlife habitat would be maintained. Impacts would be less than significant.

A pilot one-year program to remove non-native and invasive plants would further benefit native species. The Corps would proceed with use of herbicides in areas not designated for the pilot program. If the pilot program is not renewed, herbicides would be applied to the vacated area. The Corps would also proceed with use of herbicides in the Proposed Action Area in the short term while the coordination for the one-year pilot program is ongoing. The suite of herbicides would be limited to those deemed suitable for use in or near the aquatic environment.

Wildlife

Impacts to wildlife during vegetation management activities would result in an impact similar to those characterized under Alternative 1. However, with brush cutting limited to once every three years, disturbances from noise and vibration as well as the presence of humans and machinery would be limited. Furthermore, functions and services provided by the brush to wildlife such as cover would be maintained for a longer period of time. Impacts would be less than significant.

Endangered Species

Annual mowing and mulching of invasive and other nonnative plant species would be conducted outside of the vireo nesting and breeding season. All work would be done in conjunction with a biological monitor. In the event that work is scheduled to occur before or soon after the vireo nesting season, it would be preceded by pre-construction vireo surveys conducted by a qualified biologist. If vireos are present, a 500 foot buffer area would be avoided. Based on the above, there would be no effect to the vireo. Therefore, impact would be less than significant.

Alternative 3: Phased Mowing Alternative

Vegetation

Impacts under Alternative 3, the Phased Mowing Alternative, would be similar to those under Alternative 2. Vegetation management activities would be similar, but mowing and brush cutting would occur once every five years and would be rotated across Zones B1, B2, B3 and Q. Thus, there would be shrubs at 1, 2, 3, and 4-year growth levels at any point in time. Shrubs at a

4-year growth level would be continuously present across Zones B1, B2, B3 and Q. There would be no permanent loss of native species from the Proposed Action Area. Mowed native shrubs are expected to resume growth. The loss of nonnative species would allow for growth of native species. With the exception of the understory of trees that would be pruned to a height of 8 feet, the existing habitat structure would be maintained. Thus, the diversity of native species and wildlife habitat would be maintained. Impacts would be less than significant.

Wildlife

Impacts to wildlife during vegetation management activities would result in an impact similar to those characterized under the Alternative 1. However, with brush cutting limited to once every five years, disturbances from noise and vibration as well as the presence of humans and machinery would be limited. Furthermore, functions and services provided by the brush to wildlife such as cover would be maintained for a longer period of time. Impacts would be less than significant.

Endangered Species

Annual mowing and mulching of invasive and other nonnative plant species would be conducted outside of the vireo nesting and breeding season. All work would be done in conjunction with a biological monitor. In the event that work is scheduled to occur before or soon after the vireo nesting season, it would be preceded by pre-construction vireo surveys conducted by a qualified biologist. If vireos are present, a 500 foot buffer area would be avoided. Based on the above, there would be no effect to the vireo. Therefore, impacts would be less than significant.

Alternative 4: South Marsh Alternative

Vegetation

Zone B2, B3 and Q would be managed in the same phased approach manner described under Alternative 3 as would areas of Zone B1 outside of the marsh. Impacts to vegetation associated with maintenance activities would also be the same as those characterized under Alternative 3.

An approximately 4.6-acre marsh habitat would be established in Zone J, a sub-area of Zone B1 (see Figure 2-3). The *Bacharis pilularis* vegetation and non-native vegetation would be removed from Zone J. Elevation of the area would be lowered and *Juncus acutus* vegetation would be planted to create a marsh habitat. Thus, *Bacharis pilularis* vegetation within Zone J would be replaced by *Juncus acutus*. *Bacharis pilularis* vegetation would continue to be maintained within Zones B2, B3, and the outer perimeter of Zone B1. However, Alternative 4 would increase diversity of native vegetation. Impacts would be less than significant.

Wildlife

Maintenance and marsh construction activities in the Proposed Action Area would cause wildlife to temporarily abandon the immediate maintenance Zone due to noise and vibration as well as the presence of humans and machinery. Wildlife in the Proposed Action Area are expected to temporarily occupy vegetated areas nearby such as the Sepulveda Basin Wildlife Preserve or the vegetated reach of the Los Angeles River both of which are north of Burbank Boulevard.

Furthermore, wildlife may also use other developed parts of the Basin such as golf courses and parks. Since wildlife in the Proposed Action Area are habituated to the urban environment, use of developed areas would minimally impact wildlife. Furthermore, the Proposed Action Area would be reoccupied upon completion of work. The remaining vegetative cover in the Proposed Action Area would provide cover and foraging for small mammals, and foraging for birds. In order to minimize impacts to birds during the nesting season, mowing, mulching, and non-native tree removal operations would be undertaken outside of the bird nesting and breeding season. Due to the availability of habitat nearby and the habituation of wildlife to the urban environment, the maintenance activities would not result in extirpation of a regional or local species. Impacts would be less than significant.

Endangered Species

Annual mowing and mulching of invasive and other nonnative plant species would be conducted outside of the vireo nesting and breeding season. All work would be done in conjunction with a biological monitor. In the event that work is scheduled to occur before or soon after the vireo nesting season, it would be preceded by pre-construction vireo surveys conducted by a qualified biologist. If vireos are present, a 500 foot buffer area would be avoided.

Construction of the marsh would be located in the portion of the Proposed Action Area south of Haskell Creek. Per past surveys, the vireo has been sighted in the Proposed Project Area in areas immediately south of Burbank Boulevard. Presence of the vireo within the interior of the Proposed Project Area, including areas south of Haskell Creek, is less likely since the area is composed of primarily upland vegetation. Surveys since 2011 have not indicated presence of the vireo within this area. Based on the above, there would be no effect to the vireo. Therefore, impacts would be less than significant.

Alternative 5: Sinuous Channel Alternative

Vegetation

Zone B1, B2, B3 and Q would be managed in the same phased approach manner described under Alternative 3. Impacts to vegetation associated with maintenance activities would also be the same as those characterized under Alternative 3.

A sinuous channel and adjoining marsh would be created within Zones SC and J, respectively. The existing, broad arch-like alignment of Haskell Creek would be modified to a sinuous channel with terraces constructed to support *Schenoplectus californicus* and *Juncus acutus*. Thus, mixed riparian forest which line the Haskell Creek corridor would be replaced with wetland and marsh vegetation. A mixture of native (Goodding's black willow and Fremont cottonwood) and non-native (tropical ash) would be removed. However, approximately 60% of the trees within the corridor are non-native tropical ash trees. Furthermore, native black willow and cottonwood trees are present throughout riparian corridors within the Basin. Thus, Alternative 5 would increase diversity of native species within the Proposed Action Area. Impacts would be less than significant.

Wildlife

Impacts to wildlife associated with maintenance activities would be similar to those characterized for Alternative 4. Construction of the sinuous channel would result in removal of the mixed riparian forest within the Haskell Creek corridor. A mixture of native (Goodding's black willow and Fremont cottonwood) and non-native (tropical ash) would be removed. Shade and perches associated with trees would no longer be available. However, mature trees are present throughout the Basin for wildlife use.

During construction, wildlife in the Proposed Action Area are expected to temporarily occupy vegetated areas nearby such as the Sepulveda Basin Wildlife Preserve or the vegetated reach of the Los Angeles River both of which are north of Burbank Boulevard. Furthermore, wildlife may also use other developed parts of the basin such as golf courses and parks. Since wildlife in the Proposed Action Area are habituated to the urban environment, use of developed areas would minimally impact wildlife. Furthermore, the Proposed Action Area would be reoccupied upon completion of work. The remaining vegetative cover in the Proposed Action Area would provide cover and foraging for small mammals, and foraging for birds. Upon completion of construction, the marsh and wetland habitats would continue to provide foraging habitat within the aquatic habitat. The change in habitat would afford additional benefits for all wildlife in the area.

In order to minimize impacts to birds during the nesting season, mowing, mulching, and non-native tree removal operations would be undertaken outside of the bird nesting and breeding season. Due to the availability of habitat nearby and the habituation of wildlife to the urban environment, the maintenance activities would not result in extirpation of a regional or local species. Impacts would be less than significant.

Endangered Species

Annual mowing and mulching of invasive and other nonnative plant species would be conducted outside of the vireo nesting and breeding season. All work would be done in conjunction with a biological monitor. In the event that work is scheduled to occur before or soon after the vireo nesting season, it would be preceded by pre-construction vireo surveys conducted by a qualified biologist. If vireos are present, a 500 foot buffer area would be avoided.

Construction of the sinuous channel and marsh would be located in the interior of the Proposed Project Area where the vireo has been absent since the area is composed of primarily upland vegetation. Surveys since 2011 have not indicated presence of the vireo within this area. Based on the above, there would be no effect to the vireo. Therefore, impacts would be less than significant.

Alternative 6: No Action Alternative

Under Alternative 6 the Corps would not conduct mowing and other vegetation management activities, maintain access roads or the dam operation zone within the Proposed Action Area. The area would remain vegetated and additional vegetation growth would occur. Additional vegetation growth may foster increased wildlife use of the area. There would be no impacts to endangered species. Impacts would be less than significant.

3.7 Cultural Resources

Affected Environment

The area of potential effects (APE) for the Proposed Action is land directly or indirectly impacted and includes the 48-acre Proposed Action Area shown in Figure 1-1. The Proposed Action Area was disturbed during construction of Sepulveda Dam. Subsequent to completion of the dam, the area was used for agriculture. Furthermore, with repeated impoundment of water behind the dam, sediment from the upper reaches of the drainage area is deposited within the area. Haskell Creek was excavated from the uplands to convey storm flows into the Los Angeles River. Thus, the Proposed Action Area has a history of high disturbance to such degree that no surficial cultural resources could remain. No historic resources listed on or eligible for the National Register of Historic Places are known to be present within the APE. The entire Basin, including the Proposed Action Area was surveyed by Pat Martz (1977), who surveyed all undeveloped areas. She noted at the time that the cultivated fields were difficult to examine thoroughly because of the vegetation but that they were situated in low floodplain areas and that the areas have a low potential for cultural resources based on prior studies and field data.

Significance Threshold

Impacts would be considered significant if the alternative results in:

- The removal or destruction cultural resources.

Environmental Consequences

Alternative 1: Active Management Alternative

Activities would entail application of herbicides to non-native vegetation; annual mowing and brush cutting of all shrubs in Zone B and Zone Q; trimming of branches below 8 feet from large native trees in Zones B, Q, L, and SG; periodic removal of non-native and dead trees as needed and as resources permit; and maintenance of access roads and the dam operations zone.

Vegetation management activities would use rubber-tired tractors and mowers resulting in minimal surficial ground disturbance. This activity would have no potential to affect cultural resources. National Historic Preservation Act Section 106 consultation with the State Historic Preservation Officer would not be required for this element of Alternative 1.

Maintenance of access roads would require surficial ground disturbing activities such as resurfacing with decomposed granite or regrading roads. However, those impacts would be limited to established roads. Furthermore, the Proposed Action Area has a history of high disturbance to such degree that no surficial cultural resources could remain. Thus, there would be no effects to cultural resources. The Corps will undergo National Historic Preservation Act Section 106 consultation with the State Historic Preservation Officer for maintenance of access roads. Upon completion of the Section 106 consultation process, Alternative 1 would be in compliance with the National Historic Preservation Act. Impacts would be less than significant.

Alternative 2: Passive Management Alternative

Impacts under Alternative 2 would be similar to those characterized under Alternative 1.

Branches below 8 feet from large native trees in Zones B, Q, L, and SG would be pruned. Non-native and dead trees would be removed. However, mowing in Zone B and brush cutting in Zone Q would occur once every three years allowing for additional growth of shrubs when compared to Alternative 1. Thus, the frequency of surficial surface disturbance associated with mowing and brush clearing activities would be reduced to once every three years. In addition, use of hand tools by volunteers associated with the pilot one-year program to remove non-native and invasive plants would result in de minimis surficial soil disturbance. This activity would have no potential to affect cultural resources. National Historic Preservation Act Section 106 consultation with the State Historic Preservation Officer would not be required for this element of Alternative 2.

Maintenance of access roads would require surficial ground disturbing activities such as resurfacing with decomposed granite or regrading roads. However, those impacts would be limited to established roads. Furthermore, the Proposed Action Area has a history of high disturbance to such degree that no surficial cultural resources could remain. Thus, there would be no effect on historic properties. The Corps will undergo National Historic Preservation Act Section 106 consultation with the State Historic Preservation Officer for maintenance of access roads. Upon completion of the Section 106 consultation process, Alternative 2 would be in compliance with the National Historic Preservation Act. Impacts would be less than significant.

Alternative 3: Phased Mowing Alternative

Impacts under Alternative 3 would be similar to those characterized under Alternative 1. Branches below 8 feet from large native trees in Zones B, Q, L, and SG would be pruned. Non-native and dead trees would be removed. Mowing and brush cutting would occur once every five years and would be rotated across Zones B1, B2, B3 and Q. Thus, the frequency of potential surface disturbance associated with mowing and brush clearing activities would be reduced to once every five years and potential disturbances would be rotated across Zones B1, B2, B3 and Q. In addition, use of hand tools by volunteers associated with the pilot one-year program to remove non-native and invasive plants would result in de minimis surficial soil disturbance. This activity would have no potential to affect cultural resources. National Historic Preservation Act Section 106 consultation with the State Historic Preservation Officer would not be required for this element of Alternative 2.

Maintenance of access roads would require surficial ground disturbing activities such as resurfacing with decomposed granite or regrading roads. However, those impacts would be limited to established roads. Furthermore, the Proposed Action Area has a history of high disturbance to such degree that no surficial cultural resources could remain. Thus, there would be no effect on historic properties. The Corps will undergo National Historic Preservation Act Section 106 consultation with the State Historic Preservation Officer for maintenance of access roads. Upon completion of the Section 106 consultation process, Alternative 3 would be in compliance with the National Historic Preservation Act. Impacts would be less than significant.

Alternative 4: South Marsh Alternative

Zone B1, B2, B3 and Q would be managed in the same phased approach manner described under Alternative 3. Impacts associated with vegetation maintenance activities and access roads maintenance activities would also be the same as those characterized under Alternative 3. Vegetation maintenance would not require National Historic Preservation Act Section 106 consultation with the State Historic Preservation Officer. Maintenance of access roads would require National Historic Preservation Act Section 106 consultation with the State Historic Preservation Officer.

An approximately 4.6-acre marsh habitat would be established in Zone J, a sub-area of Zone B1 (see Figure 2-3). The Proposed Action Area has a history of high disturbance to such degree that no surficial cultural resources could remain. However, construction would include earthmoving activities such as excavating and grading. These activities could potentially unearth buried cultural resources. In the event that cultural resources are unearthed during ground-disturbing activities, CUL-1 would be implemented. With implementation of CUL-1, there would be no significant impacts to cultural resources.

Earth moving activities under Alternative 4 would have no effect on historic properties. The Corps will undergo Section 106 consultation with the State Historic Preservation Officer regarding this determination. Upon completion of the Section 106 consultation process, Alternative 4 would be in compliance with the National Historic Preservation Act.

Alternative 5: Sinuous Channel Alternative

Zone B1, B2, B3 and Q would be managed in the same phased approach manner described under Alternative 3. Impacts associated with vegetation maintenance activities and access roads maintenance activities would also be the same as those characterized under Alternative 3. Vegetation maintenance would not require National Historic Preservation Act Section 106 consultation with the State Historic Preservation Officer. Maintenance of access roads would require National Historic Preservation Act Section 106 consultation with the State Historic Preservation Officer.

A sinuous channel and adjoining marsh would be created within Zones SC and J, respectively. The existing, broad arch-like alignment of Haskell Creek would be modified to a sinuous channel with terraces constructed to support *Schenoplectus californicus* and *Juncus acutus*. The Proposed Action Area has a history of high disturbance to such degree that no surficial cultural resources could remain. However, construction would include earthmoving activities such as excavating and grading. These activities could potentially unearth buried cultural resources. In the event that cultural resources are unearthed during ground-disturbing activities, CUL-1 would be implemented. With implementation of CUL-1, there would be no significant impacts to cultural resources.

Alternative 6: No Action Alternative

Under Alternative 6 the Corps would not conduct mowing and other vegetation management activities, maintain access roads or the dam operation zone within the Proposed Action Area.

The area would remain vegetated and additional vegetation growth would occur. There would be no maintenance activities which could result in ground disturbance. Impacts would be less than significant.

Environmental Commitments

- CUL-1: Pursuant to 36 C.F.R. section 800.13, in the event of any discoveries during construction of human remains, archeological deposits, or any other type of cultural resource, all ground disturbing activities shall immediately be suspended in any area(s) where potential cultural resources are discovered. Ground disturbing activities shall not resume in the area surrounding the potential cultural resources until documentation of compliance with 36 C.F.R. section 800.13(b).

3.8 Hazardous Waste and Materials

Affected Environment

According to the California Department of Toxic Substances Control's EnviroStor database, there are no hazardous, toxic, or radioactive material sites within the Proposed Action Area.

Significance Threshold

A significant impact would occur if the alternative results in:

- Long-term exposure of humans, wildlife, wildlife habitat, and the general environment to hazardous materials through the transport, use, storage, or disposal of hazardous materials.
- Substantial release of hazardous materials into the environment.

Environmental Consequences

Alternative 1: Active Management Alternative

Activities would entail application of herbicides to non-native vegetation; annual mowing and brush cutting of all shrubs in Zone B and Zone Q; trimming of branches below 8 feet from large native trees in Zones B, Q, L, and SG; periodic removal of non-native and dead trees as needed and as resources permit; and maintenance of access roads and the dam operations zone. Vegetation management activities would require use of diesel and gasoline powered equipment. As standard best management practice, vehicles are refueled at a designated refueling area protected by earthen berms and lining. Thus, any leaks and spills during refueling operations would be contained within the refueling area. Onsite spill kits would be deployed to remove spilled fuel. The suite of herbicides would be limited to those deemed suitable for use in or near the aquatic environment. There would be no use or storage of materials classified as hazardous, toxic, or radioactive material sites under Comprehensive Environmental Response, Compensation, and Liability Act or the Resource Conservation and Recovery Act within the Proposed Action Area. Based on the above, there would be no long-term exposure of humans

or wildlife to hazardous waste and materials. The potential for release of petroleum products into the environment would be minimal. Impacts would be less than significant.

Alternative 2: Passive Management Alternative

Impacts under Alternative 2 would be similar to those characterized under Alternative 1.

Alternative 3: Phased Mowing Alternative

Impacts under Alternative 3 would be similar to those characterized under Alternative 1.

Alternative 4: South Marsh Alternative

Impacts under Alternative 4 would be similar to those characterized under Alternative 1.

Alternative 5: Sinuous Channel Alternative

Impacts under Alternative 5 would be similar to those characterized under Alternative 1.

Alternative 6: No Action Alternative

Under Alternative 6 the Corps would not conduct mowing and other vegetation management activities, maintain access roads or the dam operation zone within the Proposed Action Area. There would be no use of mechanized equipment on site which could result in leaks and spills of fuels, oils, and hydraulic fluid. Impacts would be less than significant.

3.9 Aesthetic Quality

Affected Environment

Primary visual elements in the vista within the Proposed Action Area include:

- An open and expansive landscape with beige, brown, green, and olive hues as well as heterogeneous textures associated with a vegetated landscape.
- Linear lines, sharp angles and other geometric forms as well as industrial colors and textures associated with the Sepulveda Dam, Burbank Blvd., Interstate 405 Freeway, and the concrete-lined embankments of the Los Angeles River.

Significance Threshold

Impacts would be considered significant if the alternative:

- Substantially alters the existing vista.
- Impairs or obstructs views of major visual elements

Environmental Consequences

Alternative 1: Active Management Alternative

Activities would entail application of herbicides to non-native vegetation; annual mowing and brush cutting of all shrubs in Zone B and Zone Q; trimming of branches below 8 feet from large native trees in Zones B, Q, L, and SG; periodic removal of non-native and dead trees as needed and as resources permit; and maintenance of access roads and the dam operations zone. Annual mowing and brush cutting in Zones B and Q would produce a uniform 3-foot high shrub layer. However, impacts would be temporary since regrowth would restore visual heterogeneity associated with shrub vegetation. Primary visual elements in the vista within the Proposed Action Area would remain unchanged. Large structures that could obstruct views of the major visual elements would not be constructed. Impacts would be less than significant.

Alternative 2: Passive Management Alternative

Impacts under Alternative 2 would be similar to those characterized under Alternative 1. Branches below 8 feet from large native trees in Zones B, Q, L, and SG would be pruned. Non-native and dead trees would be removed. However, mowing in Zone B and brush cutting in Zone Q would occur once every three years allowing for additional growth of shrubs when compared to Alternative 1. Thus, the frequency of disturbance to the vista associated with mowing and brush clearing activities would be reduced to once every three years. Use of hand tools by volunteers associated with the pilot one-year program to remove non-native and invasive plants would not result in noticeable impacts to the vista. Large structures that could obstruct views of the major visual elements would not be constructed. Impacts would be less than significant.

Alternative 3: Phased Mowing Alternative

Impacts under Alternative 3 would be similar to those characterized under Alternative 2. Branches below 8 feet from large native trees in Zones B, Q, L, and SG would be pruned. Non-native and dead trees would be removed. However, mowing and brush cutting would occur once in each sub-zone or Zone Q every five years and would be rotated across Zones B1, B2, B3 and Q. Thus, the frequency of disturbance to the vista associated with mowing and brush clearing activities would be reduced compared to Alternative 2. Use of hand tools by volunteers associated with the pilot one-year program to remove non-native and invasive plants would not result in noticeable impacts to the vista. Large structures that could obstruct views of the major visual elements would not be constructed. Impacts would be less than significant.

Alternative 4: South Marsh Alternative

Zones B1, B2, B3 and Q would be managed in the same phased approach manner described under Alternative 3. Impacts associated with maintenance activities would also be the same as those characterized under Alternative 3.

An approximately 4.6-acre marsh habitat would be established in Zone J, a sub-area of Zone B1 (see Figure 2-3). A limited number of earthmoving equipment with highly visible paint schemes

and colors would be temporarily present in the in the construction footprint for the duration of construction. Furthermore, vegetation would temporarily be removed from the footprint of the marsh during construction. Upon completion of work, the area would be subsequently vegetated with *Juncus acutus*. Upon establishment and growth, the overlapping circular outlines associated with *Bacharis pilularis* would be replaced by radiating striations associated with *Juncus acutus*. The plant palate, would add diversity to the hues and textures within the existing vista. Large structures that could obstruct views of the major visual elements would not be constructed. Impacts would be less than significant.

Alternative 5: Sinuous Channel Alternative

Zone B1, B2, B3 and Q would be managed in the same phased approach manner described under Alternative 3. Impacts associated with maintenance activities would also be the same as those characterized under Alternative 3.

A sinuous channel and adjoining marsh would be created within Zones SC and J, respectively. A limited number of earthmoving equipment with highly visible paint schemes and colors would be temporarily present in the in the construction footprint for the duration of construction. Furthermore, vegetation would temporarily be removed from the footprint of the marsh during construction. The mixed riparian forest along the Haskell Creek corridor would be replaced with *Schenoplectus californicus* and *Juncus acutus*. Construction would include earthmoving activities such as excavating and grading. Presence of earthmoving equipment within an open, disturbed area would result in temporary impacts during construction. The existing line of non-native trees which forms a visual boundary between the Proposed Action Area and the vegetated area to the north of Haskell Creek would be replaced by low growing marsh and wetland plants. The vista would merge with the vegetated area north of Haskell Creek. The removal of the tree line would be a notable change. However, the diversity of hues and textures associated with a vegetated environment would be retained. Large structures that could obstruct views of the major visual elements would not be constructed. Impacts would be less than significant.

Alternative 6: No Action Alternative

Under Alternative 6 the Corps would not conduct mowing and other vegetation management activities, maintain access roads or the dam operation zone within the Proposed Action Area. The area would remain vegetated and additional vegetation growth would occur. Primary visual elements in the vista within the Proposed Action Area would remain unchanged. Impacts would be less than significant.

3.10 Recreation Resources

Affected Environment

The approximately 48-acre area between Burbank Boulevard and Sepulveda Dam is designated as a Vegetation Maintenance Area pursuant to the 2011 master plan. Furthermore, this area is not out-granted for other uses including recreation use. However, the presence of native and non-native vegetation within the area over time has resulted in use of the area for recreation

such as nature walks and bird watching. An existing tunnel beneath Burbank Blvd. as well as vehicle entrances facilitate access to the Proposed Action Area.

Significance Threshold

Impacts would be considered significant if the alternative:

- Permanently disrupts or limits access or use of existing recreational uses.
- Results in construction or operational activities that substantially conflict with recreational uses.

Environmental Consequences

Alternative 1: Active Management Alternative

Activities would entail application of herbicides to non-native vegetation; annual mowing of all shrubs in Zone B and Zone Q; trimming of branches below 8 feet from large native trees in Zones B, Q, L, and SG; periodic removal of non-native and dead trees as needed and as resources permit; and maintenance of access roads and the dam operations zone. Sections of the maintenance road and/or portions of various zones may be temporarily closed for a few days during annual maintenance activities. Areas outside of the immediate work zone would remain accessible during maintenance activities. Upon completion of work, the entire Proposed Action Area would be accessible for recreational users. The vegetated character of the land that attracts recreational users would be retained. Impacts would be less than significant.

Alternative 2: Passive Management Alternative

Impacts under Alternative 2 would be similar to those characterized under Alternative 1. However, mowing in Zone B and brush cutting in Zone Q would occur once every three years allowing for additional growth of shrubs when compared to Alternative 1. Thus, the frequency of disturbance to recreation associated with mowing and brush clearing activities would be reduced to once every three years. Implementation of the pilot one-year program to remove non-native and invasive plants would result not result in impacts to recreation. The vegetated character of the land that attracts recreational users would be retained. Impacts would be less than significant.

Alternative 3: Phased Mowing Alternative

Impacts under Alternative 3 would be similar to those characterized under Alternative 1. Branches below 8 feet from large native trees in Zones B, Q, L, and SG would be pruned. Non-native and dead trees would be removed. Mowing in each sub zone of Zone B and brush cutting in Zone Q would be rotated across Zones B1, B2, B3 and Q each year over a four year period such that each subzone is subject to mowing once every five years. Thus, the frequency of disturbance to recreation associated with mowing and brush clearing activities would be reduced compared to Alternative 1. Implementation of the pilot one-year program to remove non-native and invasive plants would result not result in impacts to recreation. The vegetated

character of the land that attracts recreational users would be retained. Impacts would be less than significant.

Alternative 4: South Marsh Alternative

Impacts associated with maintenance activities would also be the same as those characterized under Alternative 3.

An approximately 4.6-acre marsh habitat would be established in Zone J, a sub-area of Zone B1 (see Figure 2-3). Construction would include earthmoving activities such as excavating and grading. Public access in the vicinity of Zone B1 would be limited for the duration of construction. Public access would be restored upon completion of construction. Though there would be a change in the vegetation palette within Zone J, the vegetated character of the land that attracts recreational users would be retained. Impacts would be less than significant.

Alternative 5: Sinuous Channel Alternative

Impacts associated with maintenance activities would also be the same as those characterized under Alternative 3.

A sinuous channel and adjoining marsh would be created within Zones SC and J, respectively. Construction would include earthmoving activities such as excavating and grading. Public access in the vicinity of Zone SC would be limited for the duration of construction. Public access would be restored upon completion of construction. Though there would be a change in the vegetation palette within Zone SC, the vegetated character of the land that attracts recreational users would be retained. Impacts would be less than significant.

Alternative 6: No Action Alternative

Under Alternative 6 the Corps would not conduct mowing and other vegetation management activities, maintain access roads or the dam operation zone within the Proposed Action Area. The area would remain vegetated and additional vegetation growth would occur. The presence of vegetation would foster continued use of the area for recreation such as nature walks and bird watching. Impacts would be less than significant.

3.11 Public Health and Safety

Affected Environment

As the Proposed Action Area lies in the lowest part of the Basin, it is often inundated by overflow from the Los Angeles River and Haskell Creek. Sections of Balboa Boulevard, Burbank Boulevard, and Woodley Avenue adjacent to the Proposed Action Area are often closed to vehicles during storms when there is a danger of flooding. On occasion vehicles have been stranded due to flooding before roads have been closed.

There is no formal evacuation plan for the Basin because flood inflows can be forecast with sufficient lead-time to clear the Basin of recreation users. To that end, the Corps issues notifications to the City of Los Angeles which curtails use of the Basin by erecting roadway

barriers, posting signage, and redirecting traffic. People occupying unauthorized encampments within the Proposed Project Area typically relocate to higher ground or other areas within and outside of the Basin.

Prior to December 2012, the Proposed Action Area had been generally heavily vegetated. Unchecked growth of nonnative invasive plants in the interior of the Proposed Action Area provided dense cover for a variety of unauthorized activities including encampments. The range of unauthorized activities include lewd activities and drug dealing. Walkers and joggers who use the maintenance roads through the area reported mugging incidents. Corps personnel have also been threatened. In addition, the presence of unauthorized encampments has resulted in accidental fires. The density and robust growth of vegetation resulted in at least one death because emergency responses to the area were impeded.

In December 2012, to address flood risk management and public safety concerns, the Corps began implementing the approved plan in the area south of Haskell Creek, initially trampling vegetation and removing trees. However, the Corps ended up temporarily suspending vegetation management activities in the area due to stakeholder concerns and agreed to re-evaluate vegetation management and access maintenance activities within the Proposed Action Area. While this re-evaluation was underway, in January 2014, the Corps, in coordination with local stakeholders, applied herbicides to manage invasive vegetation and removed non-native and dead trees from the Proposed Action Area as an interim means of addressing flood risk management and public safety.

Significance Threshold

Impacts would be considered significant if the alternative:

- Substantially increases safety risks for the general public.
- Increases exposure of people or structures to flooding hazards.

Environmental Consequences

Alternative 1: Active Management Alternative

Annual mowing and brush cutting of all shrubs in Zone B and Zone Q to a height of 3 feet; trimming of branches below 8 feet from large native trees in Zones B, Q, L, and SG; periodic removal of non-native and dead trees as needed and as resources permit would discourage unauthorized encampments and establish a line of sight across the Proposed Action Area. With reduction in unauthorized encampments, there would be a decrease in people exposed to flooding hazards. The potential for human-caused fires would be reduced. Maintenance of access roads and the dam operations zone would improve safety vehicles and pedestrians who use the roads. Safety risks would be reduced. Impacts would be beneficial and less than significant.

Alternative 2: Passive Management Alternative

Impacts under Alternative 2 would be similar to those characterized under Alternative 1. The pilot one-year program to remove non-native and invasive plants would not increase safety risks for the general public or increase exposure of people or structures to flooding hazards

Alternative 3: Phased Mowing Alternative

Impacts under Alternative 3 would be similar to those characterized under Alternative 2.

Alternative 4: South Marsh Alternative

Impacts associated with maintenance activities would also be the same as those characterized under Alternative 3.

An approximately 4.6-acre marsh habitat would be established in Zone J, a sub-area of Zone B1 (see Figure 2-3). Construction would include earthmoving activities such as excavating and grading. Hazards would be present within the vicinity of the work area during construction. However, public access in the vicinity of Zone B1 would be limited for the duration of construction through signage, barriers, and fencing. Thus, any temporary increases in safety risks would be attenuated. The design of the marsh would be subject to engineering review and approval to ensure that the creation of the marsh would not affect the structural integrity of the dam or hamper its flood risk management functions. Impacts would be less than significant.

Alternative 5: Sinuous Channel Alternative

Impacts associated with maintenance activities would also be the same as those characterized under Alternative 4.

A sinuous channel and adjoining marsh would be created within Zones SC and J, respectively. Construction would include earthmoving activities such as excavating and grading. Hazards would be present within the vicinity of the work area during construction. However, public access in the vicinity of Zone B1 would be limited for the duration of construction through signage, barriers, and fencing. Thus, any temporary increases in safety risks would be attenuated. The design of the sinuous channel would be subject to engineering review and approval to ensure that the creation of the channel would not affect the structural integrity of the dam or hamper its flood risk management functions. Impacts would be less than significant.

Alternative 6: No Action Alternative

Under Alternative 6 the Corps would not conduct mowing and other vegetation management activities, maintain access roads or the dam operation zone within the Proposed Action Area. The area would remain vegetated and additional vegetation growth would occur. The presence of vegetation would foster unauthorized encampments within the Proposed Action Area. Furthermore, views across the Proposed Action Area would become increasingly obstructed with additional vegetation growth. With limited access for law enforcement, safety of the general public and inhabitants of the unauthorized encampments could be compromised.

Furthermore, accumulated trash and waste associated with such encampments could lead to potentially unsanitary conditions that would affect public health.

With no maintenance activities, access to the dam would be impeded. Roots from vegetation within the dam operation zone could loosen the compacted soil of the earthen dam, compromising the integrity of the structure. Continued growth of vegetation overtime could hamper proper dam operations or lead to structural failure of the structure.

3.12 Socioeconomics and Environmental Justice

Each federal agency is required, by Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, to "make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations . . ."

The Council on Environmental Quality (CEQ) defines a minority population as any group of minorities that exceeds 50 percent of the existing population within the market Zone or where a minority group comprises a meaningfully greater percentage of the local population than in the general population. Additionally, the CEQ identifies low income using 2000 census data for "individuals living below the poverty level."

Ensuring environmental justice means protecting existing local and minority and low-income populations from disproportionate adverse human health or environmental effects related to federal government action.

Affected Environment

The communities surrounding the Basin are largely white (including Sherman Oaks and Encino) with the communities of Van Nuys and Lake Balboa having a large Hispanic population. Household income suggests more affluent communities south of the Los Angeles River compared to Van Nuys and Lake Balboa, north of the Basin (Corps 2012a). Table 3-5 displays the demographics of the county and city of Los Angeles.

**TABLE 3-5
DEMOGRAPHICS OF THE AREA**

	County of Los Angeles	City of Los Angeles
Race (2013 ACS 5-year population estimate)		
African American	833,477	357,932
American Indian/Alaska Native	51,849	20,424
Asian	1,372,726	434,946
Hispanic or Latino	4,741,492	3,827,261
Mixed Race	368,478	129,081
Native Hawaiian/Other Pacific Islander	26,132	6,924
White	5,277,461	3,698,180
Household Income (past 12 months)		
Less than \$10,000	209,050	106,678
\$10,000 – \$14,999	190,300	94,255
\$15,000 – \$24,999	341,120	155,302
\$25,000 – \$34,999	310,181	136,813
\$35,000 – \$49,000	410,856	172,578
\$50,000 – \$74,999	545,369	212,788
\$75,000 – \$99,000	384,881	139,576
\$100,000 – \$149,999	437,818	153,261
\$150,000 – \$199,999	189,195	64,932
\$200,000 or more	211,613	84,777
Poverty	-	22.1%

Source: U.S Census Bureau 2013

Demographics for the City of Los Angeles are used as the reference demographics under environmental justice. The demographics of visitors to the Sepulveda Dam Basin are assumed to reflect the demographics of communities adjacent to the Basin (Corps 2011a).

Significance Threshold

Impacts would be considered significant if the alternative results in:

- Disproportionately high and adverse impacts on minorities, low-income residents, or children
- A substantial shift in population, housing, and employment.

Environmental Consequences

Alternative 1: Active Management Alternative

Activities would entail application of herbicides to non-native vegetation; annual mowing of all shrubs in Zone B and Zone Q; trimming of branches below 8 feet from large native trees in Zones B, Q, L, and SG; periodic removal of non-native and dead trees as needed and as resources

permit; and maintenance of access roads and the dam operations zone. The Corps' operations and maintenance staff would do the majority of work. While some vegetation management activities such as mowing would likely be contracted to an outside source by the Corps, the economic effects would be negligible. The maintenance work would not result in direct or indirect adverse environmental impacts. The work would not require additional housing for laborers since the project is readily within commuting distance from most parts of Los Angeles County. Furthermore, the work would not entail the construction of infrastructure or utilities that would result in growth of the surrounding area, nor would the work increase capacity of existing infrastructure that would induce growth. The work would not lead to a substantial shift in population, housing, and employment. Impacts would be less than significant.

Alternative 2: Passive Management Alternative

Impacts under Alternative 2 would be similar to those characterized under Alternative 1. Implementation of the pilot one-year program to remove non-native and invasive plants would result not result in impacts to socioeconomics and environmental justice.

Alternative 3: Phased Mowing Alternative

Impacts under Alternative 3 would be similar to those characterized under Alternative 2.

Alternative 4: South Marsh Alternative

Impacts under Alternative 4 would be similar to those characterized under Alternative 2.

Alternative 5: Sinuous Channel Alternative

Impacts under Alternative 5 would be similar to those characterized under Alternative 2.

Alternative 6: No Action Alternative

Under Alternative 6 the Corps would not conduct mowing and other vegetation management activities, maintain access roads or the dam operation zone within the Proposed Action Area. There would be no substantial shifts in population, housing, and employment. Impacts would be less than significant.

3.13 Traffic and Transportation

Affected Environment

The Basin is in the northwest quadrant of the intersection of Interstate 405 and U.S. Highway 101. Access into the Basin can be attained via main entrances along Woodley Avenue from the north, Burbank Boulevard (which runs along the southern portion of the Basin) from the east or west, Balboa Boulevard from the west, or from Victory Boulevard from the north. Average daily traffic volumes of these roadways are shown in Table 3-6.

**TABLE 3-6
ROADWAYS AND TRAFFIC VOLUMES**

Roadway Name	Average Daily Two-way Traffic (in thousands of cars)	Roadway Designation
Interstate 405	264,000	Freeway
U.S. Route 101	211,000	Freeway
Victory Boulevard	171,000	Arterial
Balboa Boulevard	300,000	Arterial
Burbank Boulevard	187,500	Arterial

Source: Caltrans 2013

A maintenance road is at the toe of the dam on the upstream side. The road turns west and runs parallel to Burbank Boulevard toward Haskell Creek, turning southwest and parallel to the creek toward the Los Angeles River, and circles back toward the dam. The road is often used by walkers and joggers coming from the sidewalk along Burbank Boulevard or through the tunnel under Burbank Boulevard from the Sepulveda Basin Wildlife Reserve on the north side of Burbank Boulevard. There is no through traffic in the Proposed Action Area.

Significance Threshold

Impacts would be considered significant if the alternative:

- Substantially increases traffic levels in the long term.
- Caused closure of a major roadway to through traffic with no suitable route available for traffic.
- Decreased safety for vehicular traffic or transit operations in the long term.

Environmental Consequences

Alternative 1: Active Management Alternative

Activities would entail application of herbicides to non-native vegetation; annual mowing of all shrubs in Zone B and Zone Q; trimming of branches below 8 feet from large native trees in Zones B, Q, L, and SG; periodic removal of non-native and dead trees as needed and as resources permit; and maintenance of access roads and the dam operations zone. The Corps' operations and maintenance staff would do the majority of work. During the mobilization phase, crews would transport approximately three to four earthmoving equipment such as backhoes, loaders, dozers, or excavators to the Proposed Action Area from the base yard in El Monte, California. In addition, approximately two to three on-road dump trucks would be driven from the base yard. Dump trucks and earthmoving equipment would remain on site until completion of work. A five to ten member crew would commute daily from the base yard to the worksite in pickup trucks. For the most part, vegetation would not be hauled off-site. Instead, vegetation would be chipped and spread on site. All earthmoving equipment and dump trucks would be returned to

base yard during the demobilization phase. During mobilization and demobilization periods when the number of work vehicles are expected to peak, approximately fifteen additional vehicles would be on regional and local roadways. The addition of fifteen vehicles for a temporary duration to roadways would not substantially increase traffic levels nor would it require closure of major roadways. There would be no changes to road alignment, elevation, lane striping, or signal operations that would decrease safety for vehicular traffic or transit operations. Impacts would be less than significant.

Alternative 2: Passive Management Alternative

Impacts under Alternative 2 would be similar to those characterized under Alternative 1. However, mowing in Zone B and brush cutting in Zone Q would occur once every three years allowing for additional growth of shrubs when compared to Alternative 1. Thus, the frequency traffic impacts associated with mowing and brush clearing activities would be reduced to once every three years.

Commutes by volunteers associated with the pilot one-year program to remove non-native and invasive plants would likely occur on weekends or holidays. It's likely that in most cases, the number of passenger vehicles that volunteers use would be less than 25. The periodic commute associated with this program would not substantially increase traffic levels. Impacts would be less than significant.

Alternative 3: Phased Mowing Alternative

Impacts under Alternative 3 would be similar to those characterized under Alternative 2. However, mowing in each sub-zone of Zone B and brush cutting in Zone Q would occur once every five years and would be rotated across Zones B1, B2, B3 and Q. Impacts would be less than significant.

Alternative 4: South Marsh Alternative

Impacts associated with maintenance activities would also be the same as those characterized under Alternative 3.

An approximately 4.6-acre marsh habitat would be established in Zone J, a sub-area of Zone B1 (see Figure 2-3). Construction would include earthmoving activities such as excavating and grading. Construction would require the same suite of equipment required for ongoing maintenance activities under the Active Management Alternative. The duration of on-site use would be approximately six months. Excavated material from Zone J would not be hauled off-site. Instead, excavated earth would be transported over the dam and placed within a sediment storage site downstream of the dam. During mobilization and demobilization periods when the number of work vehicles are expected to peak, approximately fifteen additional vehicles would be on regional and local roadways. The addition of fifteen vehicles for a temporary duration to roadways would not substantially increase traffic levels. Impacts would be less than significant.

Alternative 5: Sinuous Channel Alternative

Impacts associated with maintenance activities would be the same as those characterized under Alternative 3.

A sinuous channel and adjoining marsh would be created within Zones SC and J, respectively. Construction would include earthmoving activities such as excavating and grading. Construction would require the same suite of equipment required for ongoing maintenance activities under Alternative 1. The duration of on-site use would be approximately six months. Excavated material from Zone SC would not be hauled off-site. Instead, excavated earth would be transported over the dam and placed within a sediment storage site downstream of the dam. During mobilization and demobilization periods when the number of work vehicles are expected to peak, approximately fifteen additional vehicles would be on regional and local roadways. The addition of fifteen vehicles for a temporary duration to roadways would not substantially increase traffic levels. Impacts would be less than significant.

Alternative 6: No Action Alternative

Under Alternative 6 the Corps would not conduct mowing and other vegetation management activities, maintain access roads or the dam operation zone within the Proposed Action Area. There would be no use of vehicles or use of local roads and freeways.

3.14 Utilities

Affected Environment

A sewer line crosses under the Proposed Action Area from the northwestern corner between the Los Angeles River and Woodley Avenue, continuing southeastward under Haskell Creek and under the dam. Haskell Creek, which provides drainage for surface flows as well as drainage for discharges from the Tillman Water Reclamation Plant also traverses the Proposed Action Area.

Significance Threshold

Impacts would be considered significant if the alternative:

- Causes substantial modification or relocation of utilities resulting in long-term or widespread disruption of service.

Environmental Consequences

Alternative 1: Active Management Alternative

There would be no impacts on the existing sewer line in the Proposed Action Area since maintenance activities would not involve excavation or other earthmoving activities.

Alternative 2: Passive Management Alternative

There would be no impacts on the existing sewer line in the Proposed Action Area since maintenance activities as well as the pilot one-year program to remove non-native and invasive plants would not involve excavation or other earthmoving activities.

Alternative 3: Phased Mowing Alternative

There would be no impacts on the existing sewer line in the Proposed Action Area since maintenance activities as well as the pilot one-year program to remove non-native and invasive plants would not involve excavation or other earthmoving activities.

Alternative 4: South Marsh Alternative

Impacts associated with maintenance activities would also be the same as those characterized under Alternative 3.

An approximately 4.6-acre marsh habitat would be established in Zone J, a sub-area of Zone B1 (see Figure 2-4). Construction would include earthmoving activities such as excavating and grading. Standard procedures for locating and avoiding utilities would be implemented during the design and construction phases to avoid potential impacts to the sewer line. Small water intake and outflow structures would need to be constructed within Haskell Creek in order to bring water in and out of the marsh, respectively. Flows within the creek would need to be diverted around the structures during construction. Water diversion structures would be removed upon completion of construction. Drainage through Haskell Creek would not be disrupted during or after construction. Based on the above, there would be no need to relocate or modify existing utilities. Furthermore, long-term or widespread disruption of services are not expected. Impacts would be less than significant.

Alternative 5: Sinuous Channel Alternative

Impacts associated with maintenance activities would also be the same as those characterized under Alternative 3.

A sinuous channel and adjoining marsh would be created within Zones SC and J, respectively. Construction would include earthmoving activities such as excavating and grading. Standard procedures for locating and avoiding utilities would be implemented during the design and construction phases to avoid potential impacts to the sewer line.

The design of the sinuous channel would be subject to engineering review and approval to ensure that the sinuous channel would continue to adequately convey the volume of discharged treated water from the Tillman Plant. Flows within the creek would need to be diverted around the structures during construction of the sinuous channel and placement of grade control structures. Water diversion structures would be removed upon completion of construction. Drainage through Haskell Creek would not be disrupted during or after construction. Based on the above, there would be no need to relocate existing utilities. Conversion of Haskell Creek from a linear to sinuous channel would result in modification to a drainage utility. However, the

sinuous channel would remain in the same location and follow the same alignment as the linear channel. Furthermore, with a design that would not change the conveyance capacity of the channel, the modification would not be substantial. Furthermore, long-term or widespread disruption of services are not expected. Impacts would be less than significant.

Alternative 6: No Action Alternative

Under Alternative 6 the Corps would not conduct mowing and other vegetation management activities, maintain access roads or the dam operation zone within the Proposed Action Area. There would be no activities that could potentially affect utilities.

4.0 Cumulative Impacts

Pursuant to 40 CFR Parts 1500-1508, cumulative impacts of a proposed action must be assessed. A cumulative impact is an "impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions." The geographic scope of analysis encompasses the Basin.

4.1 Past Impacts

Historically the Basin, including the site that the Tillman plant occupies, was primarily used for agricultural purposes. Within the San Fernando Valley, the Los Angeles River made possible the early development of agricultural and ranching area operations. Mission San Fernando, founded in 1797, was located in the valley due to the need to access water. The early agricultural base was developed within the vicinity of the mission. Until the housing boom following World War II, land uses in the San Fernando Valley consisted primarily of agricultural and ranches. Accordingly, substantial portions of natural areas within San Fernando Valley were modified to accommodate ranching and agriculture operations prior to the construction of Sepulveda Dam in 1941. Construction of Sepulveda Dam itself required grading and clearing of land within the Basin and substantial modifications to the river.

The acceleration of urbanization within the San Fernando Valley after World War II created a need for outdoor recreational areas. In 1951, the Corps and the City entered into a 50-year recreational lease where a large portion of the Basin was leased for recreational purposes to the City. Recreational facilities were first constructed in the Basin in 1959. Multiple supplements to the original 50-year lease with the City for recreational purposes have been extended; thus recreational use of the Basin will continue at least until 2042. The construction of the recreational facilities would not have resulted in additional impacts on natural habitat, since lands within the Basin had been used for agriculture.

Increasing urbanization also created a need for a WRP to service the San Fernando Valley. In 1970, the City entered into a lease agreement for the approximately 90 acres where the Tillman WRP is located. Phase 1 was completed in 1984 and Phase II in 1991.

In 1979 and 1988 the City established the two wildlife areas south (48-acre riparian habitat) and north (60-acre upland habitat) of Burbank Boulevard, respectively, thereby converting open and

agricultural land into wildlife habitat for birds and small mammals. In 1998, the Corps also added an additional 60 acres of open lands west of Haskell Creek as part of the wildlife reserve. The Corps and the City restored approximately 28 acres of native riparian and upland habitat along Bull Creek starting in 2008.

In addition to issuances of leases, the Corps has also issued to lessees permits under Section 404 of the Clean Water Act. A review of available records in the Corps' database indicates issuance of the following Section 404 permits:

Agency	Year	Project
LA City Dept. of Public Works (LACDPW)	2007	Replace open concrete-lined storm drain channel with a closed box culvert to accommodate widening of Victory Boulevard
LACDPW	2007	Vegetation removal.
LACDPW	2006	Well decommissioning.
Caltrans	2006	Wetland creation as mitigation for the widening of the West Sylmar Overhead Structure for a High Occupancy Vehicle Connector.
Metropolitan Transportation Authority	2002	No file in admin record.
Unavailable	2002	No project proponent identified, no file in admin record. NWP-33 verified.
LACDPW	1998	No project description. NWP-31 verified
LACDPW	1998	No project description. NWP-31 verified
Unavailable	1996	No project proponent identified, no file in admin record. Standard individual permit authorized.

4.2 Present Impacts

The Basin continues to function as a flood risk management facility. In addition, the Basin supports a variety of recreational uses including three golf courses, parkland, a sports center, baseball and soccer fields, the garden center, model airplane field, cricket fields, tennis courts, hiking/jogging/bicycle trails, and a lake for fishing and boating. Recreational facilities occupy approximately 1,542 acres of land. The Corps also authorized implementation of a recreational, non-motorized boating program in select reaches of the Los Angeles River traversing Sepulveda Dam Basin in 2011.

Several leases have also been granted for non-recreational purposes including a fire station, a National Guard Armory, maintenance shops, and a Naval Reserve Training Center. In addition, several parcels in the Basin are leased for agricultural purposes. Easements have also been granted for water lines, power lines, sewer lines, storm drains, gas lines, and traffic arteries, such as freeways and city streets.

The City continues to operate the Tillman Water Treatment Plant in the upper Basin. As a part of ongoing operations and maintenance activities, the City has modified or augmented various elements of the water treatment plant. The most recent major improvement was the construction of two 7.6 million gallons storage ponds within the 90 acre footprint of the water treatment plant in 2011.

In the waterways adjacent to the Proposed Action Area, the Corps annually removes approximately 5,000 cubic yards of sediment and emergent vegetation from grouted stone portions of 1) the Los Angeles River from just below Burbank Boulevard to the outlet works and 2) Haskell and Encino Creeks. These activities are typically completed within a four-week duration. Furthermore, the Corps has authorized operation of a seasonal non-motor boating program within the reach of the Los Angeles River traversing the Basin.

As described under the Active Management Alternative, the Corps manages vegetation within the Proposed Action Area annually. Activities would entail application of herbicides to non-native vegetation; annual mowing of all shrubs in Zone B and Zone Q; trimming of branches below 8 feet from large native trees in Zones B, Q, L, and SG ; periodic removal of non-native and dead trees as needed and as resources permit; and maintenance of access roads and the dam operations zone.

The continued use and maintenance of existing recreational facilities would entail ongoing impacts on air quality, noise, and traffic especially during periods of peak usage.

4.3 Future Impacts

The Basin functions primarily as a flood risk management facility, and will continue to do so for the foreseeable future. Proper maintenance and function of the facility would require at a minimum ongoing routine maintenance activities in the Proposed Action Area as described above in addition to other maintenance activities in areas outside of the Proposed Action Area.

Surrounded by a built out urban environment, the open space within the Basin will continue to be regional resource for recreation and wildlife enthusiasts in the foreseeable future. As a result, multiple supplements to the original 50-year lease with the City has extended recreational uses in the Basin to 2042. Likewise, the city of Los Angeles would likely seek a lease renewal for the Tillman Water Treatment Plant. Activities within leased areas may require periodic issuance of Section 404 and Section 408 permits to city and county agencies as well as nongovernmental applicants. Last, the Corps has initiated two limited ecosystem restoration projects under the Continuing Authorities Program at Encino Creek and Woodley Creek. Both creeks are tributaries to the Los Angeles River. If implemented the two restoration projects would further enhance and contribute to the extent of native habitat within the Basin.

The Sepulveda Dam Basin Vegetation Management and Access Maintenance Plan under all alternatives would further increase impacts to environmental resources as described above. However, these impacts would be minor relative to existing impacts associated with on-going uses of the Basin for recreational and non-recreational purposes. Though the Proposed Action could result in additional diversity or additional growth of native vegetation within the lower basin under all action alternatives, the native vegetation within the lower basin would continue to be maintained at a minimum under the Active Management Alternative. Overall, the Proposed Action would not result in significant environmental consequences and would not result in incremental cumulative adverse impacts on the human environment.

6.0 Environmental Compliance

Clean Air Act

The Proposed Action would not violate any Federal air quality standards, exceed the U.S. EPA's general conformity applicability rates, or hinder the attainment of air quality objectives in the local air basin.

Clean Water Act

The Proposed Action, under Alternatives 4 and 5, would involve discharges of dredged or fill material into waters of the United States. Verification of compliance with Section 404 of the Clean Water Act will be completed upon identification of a preferred alternative, as applicable. A Section 401 Water Quality Certification would be secured for construction of Alternatives 4 or 5.

Endangered Species Act

With incorporation of avoidance measures, the Proposed Action would not affect Federally endangered species and would be in compliance with the Endangered Species Act.

National Environmental Policy Act

This EA has evaluated a reasonable range of alternatives within the context of the purpose and need. Furthermore, this EA has evaluated and disclosed anticipated environmental impacts.

National Historic Preservation Act

Vegetation management activities under all alternatives would have no potential to affect historic properties. Access road management under all action alternatives as well as earthmoving activities under Alternative 4 and Alternative 5 would have no effect on historic properties. The Corps will initiate National Historic Preservation Act Section 106 consultation with the State Historic Preservation Officer for elements that would have no effect on historic properties.

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.

The Proposed Action would not result in long-term environmental impacts that would result in disproportionately high and adverse impacts to minority and low income communities.

7.0 List of Preparers

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Appendix A

Sepulveda Dam Basin Vegetation Management and Access Maintenance Plan

Response to Comments

Mr. Joe Phillips (Chair, Sepulveda Basin Wildlife Steering Areas Committee)

By email received on June 14, 2016, the Sepulveda Basin Wildlife Steering Areas Committee

1. expressed support for Alternative 4; and
2. expressed concern about the use of herbicides and recommended implementation of a one-year pilot program to manually remove invasive plants with participation from members of the Sierra Club and Friends of the Los Angeles River.

Response:

1. The Corps notes support for Alternative 4. As noted in the EA, Alternative 4 is outside the scope of existing operations and maintenance authority and funding capabilities. A separate authority and appropriation would be required to implement Alternative 4. The Corps could partner with a non-Federal governmental entity or a non-profit organization to conduct a study to evaluate alternatives of this nature under the Continuing Authorities Program, but would require an interested non-federal partner to share the costs of under the terms of a study agreement, and if an alternative is selected, a non-Federal entity would have to share the implementation costs under a design and implementation agreement. Alternatively, if a third party wishes to implement Alternative 4 on its own, that party would need to seek a lease or easement from the United States, which would also require a review pursuant to 33 U.S.C. Section 408.
2. The Corps is amenable to a one-year pilot program to manually remove invasive plants from the Proposed Action Area with participation from members of the Sierra Club and Friends of the Los Angeles River and have added such pilot program as part of Alternatives 2 through 5. As noted in the EA, implementation of the program would require and be dependent upon successful completion of additional coordination with the stakeholders on a number of matters encompassing technical (e.g., development of success criteria for invasive plant coverage); logistical (e.g., schedules, site access, etc.); and legal (e.g., memoranda of agreement, volunteer program, etc.). Continuation of the program beyond the pilot phase would be subject to additional review and authorization by the Corps as appropriate. The Corps would proceed with use of herbicides in areas not designated for the pilot program. If the pilot program is not renewed, herbicides would be applied to the vacated area. The Corps would also proceed with use of herbicides in the Proposed Action Area during the period in which the coordination for the one-year pilot program is ongoing or in the event the pilot program does not go forward.

Mr. Barry Katzen (Chair, San Fernando Valley Group, Sierra Club/Los Angeles Chapter)

By letter dated June 14, 2016, the San Fernando Valley Group of the Sierra Club/Los Angeles Chapter:

1. expressed support for Alternative 4 and recommended addition of a fifth year in the mowing cycle for Alternative 4 in which no mowing would occur;
2. expressed concern about the use of herbicides and recommended implementation of a one-year pilot program to manually remove invasive plants with participation from members of the Sierra Club and Friends of the Los Angeles River; and
3. objected to the Corps' characterization in Section 1.2 of the EA regarding the December 2012 vegetation management activities citing impacts to native plants.

Response:

1. The Corps notes support for Alternative 4. As noted in the EA, Alternative 4 is outside the scope of existing operations and maintenance authority and funding capabilities. A separate authority and appropriation would be required to implement Alternative 4. The Corps could partner with a non-Federal governmental entity or a non-profit organization to conduct a study to evaluate alternatives of this nature under the Continuing Authorities Program, but would require an interested non-federal partner to share the costs of under the terms of a study agreement, and if an alternative is selected, a non-Federal entity would have to share the implementation costs under a design and implementation agreement. Alternatively, if a third party wishes to implement Alternative 4 on its own, that party would need to seek a lease or easement from the United States, which would also require a review pursuant to 33 U.S.C. Section 408.

The recommendation to add a fifth year to the vegetation management cycle in which no mowing would occur has been incorporated as part of Alternatives 3 through 5.

2. The Corps is amenable to a one-year pilot program to manually remove invasive plants from the Proposed Action Area with participation from members of the Sierra Club and Friends of the Los Angeles River and have added such pilot program as part of Alternatives 2 through 5. As noted in the EA, implementation of the program would require and be dependent upon successful completion of additional coordination with the stakeholders on a number of matters encompassing technical (e.g., development of success criteria for invasive plant coverage); logistical (e.g., schedules, site access, etc.); and legal (e.g., memoranda of agreement, volunteer program, etc.). Continuation of the program beyond the pilot phase would be subject to additional review and authorization by the Corps as appropriate. The Corps would proceed with use of herbicides in areas not designated for the pilot program. If the pilot program is not renewed, herbicides would be applied to the vacated area. The Corps would also proceed with use of herbicides in the Proposed Action Area during the period in which the coordination for the one-year pilot program is ongoing or in the event the pilot program does not go forward.
3. The text in Section 1.2 of the EA has been revised.

Mr. Lewis MacAdams (President, Friends of the Los Angeles River)

By letter dated June 15, 2016, Friends of the Los Angeles River (FoLAR):

1. expressed support for Alternative 4; and
2. expressed concern about the use of herbicides and recommended implementation of a one-year pilot program to manually remove invasive plants with participation from members of the Sierra Club and Friends of the Los Angeles River.

Response:

1. The Corps notes support for Alternative 4. As noted in the EA, Alternative 4 is outside the scope of existing operations and maintenance authority and funding capabilities. A separate authority and appropriation would be required to implement Alternative 4. The Corps could partner with a non-Federal governmental entity or a non-profit organization to conduct a study to evaluate alternatives of this nature under the Continuing Authorities Program, but would require an interested non-federal partner to share the costs of under the terms of a study agreement, and if an alternative is selected, a non-Federal entity would have to share the implementation costs under a design and implementation agreement. Alternatively, if a third party wishes to implement Alternative 4 on its own, that party would need to seek a lease or easement from the United States, which would also require a review pursuant to 33 U.S.C. Section 408.
2. The Corps is amenable to a one-year pilot program to manually remove invasive plants from the Proposed Action Area with participation from members of the Sierra Club and Friends of the Los Angeles River and have added such pilot program as part of Alternatives 2 through 5. As noted in the EA, implementation of the program would require and be dependent upon successful completion of additional coordination with the stakeholders on a number of matters encompassing technical (e.g., development of success criteria for invasive plant coverage); logistical (e.g., schedules, site access, etc.); and legal (e.g., memoranda of agreement, volunteer program, etc.). Continuation of the program beyond the pilot phase would be subject to additional review and authorization by the Corps as appropriate. The Corps would proceed with use of herbicides in areas not designated for the pilot program. If the pilot program is not renewed, herbicides would be applied to the vacated area. The Corps would also proceed with use of herbicides in the Proposed Action Area during the period in which the coordination for the one-year pilot program is ongoing or in the event the pilot program does not go forward.

Mr. Kris Ohlenkamp (San Fernando Valley Audubon Society)

By letter dated June 13, 2016, Friends of the San Fernando Valley Audubon Society:

1. expressed support for Alternative 4 with supporting rationale and recommended the 4-year mowing cycle include a 5th year in which no mowing would take place; and
2. noted that Alternative 1 (No Action) is not a true no action alternative.

Response:

1. The Corps notes support for Alternative 4. As noted in the EA, Alternative 4 is outside the scope of existing operations and maintenance authority and funding capabilities. A separate authority

and appropriation would be required to implement Alternative 4. The Corps could partner with a non-Federal governmental entity or a non-profit organization to conduct a study to evaluate alternatives of this nature under the Continuing Authorities Program, but would require an interested non-federal partner to share the costs of under the terms of a study agreement, and if an alternative is selected, a non-Federal entity would have to share the implementation costs under a design and implementation agreement. Alternatively, if a third party wishes to implement Alternative 4 on its own, that party would need to seek a lease or easement from the United States, which would also require a review pursuant to 33 U.S.C. Section 408.

The recommendation to add a fifth year to the vegetation management cycle in which no mowing would occur have been incorporated as part of Alternatives 3 through 5.

2. Alternative 6 under which no activities would be undertaken has been incorporated into the EA. Alternative 1 has been revised to provide an active vegetation and access management alternative.

Ms. Muriel Kotin

By letter dated June 13, 2016, Ms. Kotin expressed support for Alternative 4 and concurred with the Audubon Society's recommendation to add a 5th year to the 4-year mowing cycle in Alternative 4 in which no mowing would take place.

Response:

The Corps notes support for Alternative 4. As noted in the EA, Alternative 4 is outside the scope of existing operations and maintenance authority and funding capabilities. A separate authority and appropriation would be required to implement Alternative 4. The Corps could partner with a non-Federal governmental entity or a non-profit organization to conduct a study to evaluate alternatives of this nature under the Continuing Authorities Program, but would require an interested non-federal partner to share the costs of under the terms of a study agreement, and if an alternative is selected, a non-Federal entity would have to share the implementation costs under a design and implementation agreement. Alternatively, if a third party wishes to implement Alternative 4 on its own, that party would need to seek a lease or easement from the United States, which would also require a review pursuant to 33 U.S.C. Section 408.

The recommendation to add a fifth year to the vegetation management cycle in which no mowing would occur have been incorporated as part of Alternatives 3 through 5.

Encino Neighborhood Council Parks Committee

By motion passed on May 9, 2016, the five-member Encino Neighborhood Council Parks Committee:

1. unanimously supported in concept Alternative 4; and
2. recommended reestablishment of reclaimed water to Pothole Pond.

Response:

1. The Corps notes support for Alternative 4. As noted in the EA, Alternative 4 is outside the scope of existing operations and maintenance authority and funding capabilities. A separate authority and appropriation would be required to implement Alternative 4. The Corps could partner with a non-Federal governmental entity or a non-profit organization to conduct a study to evaluate alternatives of this nature under the Continuing Authorities Program, but would require an interested non-federal partner to share the costs of under the terms of a study agreement, and if an alternative is selected, a non-Federal entity would have to share the implementation costs under a design and implementation agreement. Alternatively, if a third party wishes to implement Alternative 4 on its own, that party would need to seek a lease or easement from the United States, which would also require a review pursuant to 33 U.S.C. Section 408.
2. Restoration of Pot Hole Pond is outside the scope of existing operations and maintenance operations. The proposal would require additional coordination with the stakeholders, the Corps, and appropriate agencies from the City of Los Angeles.

Mr. Steve Hartman (President, Board of Directors, California Native Plant Society)

By letter dated May 25, 2016, the California Native Plant Society (CNPS):

1. recommended Alternative 4 and is against Alternative 1 and Alternative 5; also preferred Alternative 3 to Alternatives 2;
2. offered a number of revisions to Section 1.2 and Section 3.6 of the EA with respect to the presence of native trees in the project area in 2012 and cautioned against establishing a direct relationship between vegetation and unauthorized/illegal activities; and recommended changing the phrase "Large ... native trees ... would be pruned to a height of 8 feet ..." to "... branches below eight feet should be trimmed in order to ..." since the former could potentially suggest that trees should be limited to a height of 8 feet;
3. recommended incorporation of biological monitoring and implementation of adaptive management measures to mowing operations per potential impacts to coyote bush;
4. noted differing prescriptions for herbicide application in the EA and suggested application of herbicides on an as needed basis since nonnative infestation is multivariate; and
5. recommended removal of evergreen ashes along the Haskell Creek corridor.

Response:

1. The Corps notes support for Alternative 4. As noted in the EA, Alternative 4 is outside the scope of existing operations and maintenance authority and funding capabilities. A separate authority and appropriation would be required to implement Alternative 4. The Corps could partner with a non-Federal governmental entity or a non-profit organization to conduct a study to evaluate alternatives of this nature under the Continuing Authorities Program, but would require an interested non-federal partner to share the costs of under the terms of a study agreement, and if an alternative is selected, a non-Federal entity would have to share the implementation costs under a design and implementation agreement. Alternatively, if a third party wishes to implement Alternative 4 on its own, that party would need to seek a lease or easement from the United States, which would also require a review pursuant to 33 U.S.C. Section 408.

2. CNPS-recommended revisions to Section 1.2 and 3.6 have been incorporated as appropriate. The sentence, "Native vegetation Zones within the Basin are fragmented, degraded, and small in size (Corps 2012b)," has been deleted. The reference to madrone (*Arbutus menzeisii*) and poison oak (*Toxicodendron diversilobum*) have been removed. With regards to public outreach for the 2012 EA, the Corps made available the EA for public review as required by the National Environmental Policy Act. With regards to the relationship between vegetation growth and unauthorized activities, the Corps notes a decrease in unauthorized encampments in the Proposed Action Area since initiation of vegetation management activities. Text concerning pruning trees to a height of 8 feet has been changed per the CNPS recommendation throughout the EA.
3. Mowing operations would be conducted in concert with a biological monitor. All shrubs within Zone B would be subject to mowing. In Zone Q, native monotypic vegetation (i.e., *Baccharis pilularis*) within Zone Q would be delineated from other vegetation and cut with hand-held brush cutters to a height of 3 feet.
4. Herbicides for Alternatives 1 through 3, all of which do not involve construction, would be implemented on an as-needed basis. Herbicides application schedules for Alternatives 4 and 5 were prescribed for the purpose of ensuring successful establishment of vegetation in areas where vegetation would be actively planted. Upon sufficient establishment of the vegetation, herbicide application regime would revert back to that described under Alternative 1 – Active Management Alternative. The EA has been updated with this clarification.
5. As noted in all action alternatives and as was done in January 2014, the Corps would periodically remove non-native trees and dead trees including those in the Haskell Creek corridor between the months of September and March as needed and as resources permit. Trees would be cut at the base of the trunk.

Mr. Mark Osokow

By letter dated May 25, 2016, Mr. Osokow:

1. expressed support for Alternative 4;
2. requested additional information on use of the articulated arm mower due to concerns about the mower driving over vegetation;
3. recommended removal of non-native plants outside the bird breeding season;
4. requested additional details on the use of truck-mounted herbicide spraying due to concerns about impacts to non-target plants and animal species;
5. recommended soil and water sampling for herbicide breakdown products and minimization of herbicide application;
6. requested clarification of what determines "need" with respect to tree maintenance and brush cutting;
7. noted that the saltgrass in Section 2.5 is not native to the area and has minimal wildlife value in fresh water situations and that *Achillea millefolium* is not suitable for the marsh vegetation in the Southern California area;
8. requested additional certification on regulation of flows into and out of Haskell Creek for Alternative 4;
9. recommended additional measures to further minimize noise impact to birds; and

10. noted that the description of existing vegetation in Section 3.6 of the EA is textbook the stretches of natural vegetation types and should be further refined to reflect actual vegetation that are more likely to be in the Sepulveda Basin.

Response:

1. The Corps notes support for Alternative 4. As noted in the EA, Alternative 4 is outside the scope of existing operations and maintenance authority and funding capabilities. A separate authority and appropriation would be required to implement Alternative 4. The Corps could partner with a non-Federal governmental entity or a non-profit organization to conduct a study to evaluate alternatives of this nature under the Continuing Authorities Program, but would require an interested non-federal partner to share the costs of under the terms of a study agreement, and if an alternative is selected, a non-Federal entity would have to share the implementation costs under a design and implementation agreement. Alternatively, if a third party wishes to implement Alternative 4 on its own, that party would need to seek a lease or easement from the United States, which would also require a review pursuant to 33 U.S.C. Section 408.
2. The mowing operation would require a rubber-tired tractor to drive across the vegetation towing a rubber-tired, height-adjustable mowing deck. The mowing deck would be raised to approximately 3 feet. The tractor would make parallel passes through the mowing area.
3. As shown in the summary tables for each alternative, non-native trees and dead trees would be removed between the months of September and March (i.e., outside the bird nesting season).
4. In recognition of the potential for herbicides to affect non-targeted species, herbicide application would be undertaken in conjunction with a biological monitor and a qualified herbicide applicator.
5. Given the use of herbicides in the past and the planned use of herbicides as part of the vegetation management plan, the presence of herbicides or breakdown products in the soil is certain. Likewise, given the urban watershed that drains into the basin, presence of herbicides and pesticides or their associated breakdown products in the water is certain. Thus, sampling would not be undertaken.

The Corps is amenable to a one-year pilot program to manually remove invasive plants from the Proposed Action Area with participation from members of the Sierra Club and Friends of the Los Angeles River and have added such pilot program as part of Alternatives 2 through 5. As noted in the EA, implementation of the program would require and be dependent upon successful completion of additional coordination with the stakeholders on a number of matters encompassing technical (e.g., development of success criteria for invasive plant coverage); logistical (e.g., schedules, site access, etc.); and legal (e.g., memoranda of agreement, volunteer program, etc.). Continuation of the program beyond the pilot phase would be subject to additional review and authorization by the Corps as appropriate. The Corps would proceed with use of herbicides in areas not designated for the pilot program. If the pilot program is not

renewed, herbicides would be applied to the vacated area. The Corps would also proceed with use of herbicides in the Proposed Action Area during the period in which the coordination for the one-year pilot program is ongoing or in the event the pilot program does not go forward.

6. Section 1.3 of the EA discusses the general purpose and need for the vegetation management plan. Pruning trees to a height of 8 feet is required to discourage unauthorized encampments. Brush cutting is required to establish a line of sight across the Proposed Action Area.
7. Consistent with the conceptual nature of Alternatives 4 and 5, vegetation characterization in the EA is primarily a description of habitat type and commonly found species within the habitat type. As noted above, Alternative 4 would require further study and require separate authority and appropriation. Specific plant pallets would be developed at such time.
8. The use of water control structures in Alternative 4 would be for the sole purpose of diverting and returning flows into Haskell Creek. Due to the conceptual nature of Alternative 4, no further information on regulation of flows are available. As noted above, Alternative 4 would require further study and require separate authority and appropriation. Specific in-flow and out-flow rates would be developed at such time.
9. Vegetation management activities would be conducted from September to March, outside of the bird nesting season. Furthermore, vegetation management activities would be undertaken in conjunction with a biological monitor.
10. Description of vegetation communities has been revised per suggestions from the CNPS. The descriptions better reflect the existing vegetation communities in the Proposed Action area.