LONG-TERM MANAGEMENT PLAN

BEACH LAKE WOODLAND MITIGATION

MAY 2020
DRAFT
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1.0 INTRODUCTION

1.1 Project Summary and Purpose of Mitigation

The Beach Lake Woodland Mitigation Site (BLWMS) was established by the Sacramento Area Flood Control Agency (SAFCA) to provide advance mitigation for high-hazard levee encroachment and vegetation removal component of SAFCA’s Levee Accreditation Program (LAP) specifically for the trees that would be removed along the North Beach Lake Levee, that would be covered under a future Streambed Alteration Agreement with the California Department of Fish and Wildlife (CDFW). In addition, the site also provides advanced mitigation for the potential removal of elderberry shrubs as part of routine operations covered under a United States Fish and Wildlife (USFWS) Biological Opinion (No. 08ESMF00-2018F-3132-2). The BLWMS consists of a total of 7.6 acres of created woodlands and 2.1 acres of enhanced existing woodlands. Both CDFW and USFWS reviewed the proposed BLWMS and the planting plans (Appendix A).

1.2 Purpose of this Long-Term Management Plan

This management plan has been prepared to guide maintenance, monitoring, and reporting at the BLWMS during the establishment period and in perpetuity. Additionally, it establishes objectives, priorities and tasks to monitor, manage, maintain, and report on covered species and covered habitat at the BLWMS. This management plan, which may periodically be updated as described in Section 5.3 “Amendments,” is a binding and enforceable instrument, implemented by the conservation easement covering the BLWMS.

1.3 Land Manager and Easement Holder Responsibilities

1.3.1 Landowner

The property is owned by the Sacramento Regional County Sanitation District (SRCSD) (Landowner). With the execution of the Conservation Easement, the SRCSD and the Sacramento Area Flood Control Agency (SAFCA) are entering into an agreement that identifies the responsibilities of SAFCA as the Land Manager of the BLWMS.

1.3.2 Land Manager

The Land Manager is SAFCA. The Land Manager, its contractors and assigns, and subsequent land managers upon transfer, shall implement this LTMP, managing and monitoring the BLWMS in perpetuity to preserve its habitat and conservation values in accordance with the conservation easement and as described in this LTMP. Long-term management tasks shall always be funded through either SAFCA’s assessment districts or an endowment fund. Costs will be calculated using a detailed Property Analysis Record (PAR), or similar approach. The Land Manager shall be responsible for providing reports as described in Section 4.5 Reporting and Administration.
1.3.3  Conservation Easement Holder

The Conservation Easement Holder, COMPANY NAME, is a nonprofit 501(c)(3) corporation qualified to do business in the State of California and is authorized to hold conservation easements for the conservation purposes identified in California Civil Code section 815 et. seq. COMPANY NAME shall enforce the provisions of the Conservation Easement, review reports prepared by the Land Manager regarding the condition of the BLWMS, prepare annual reports on compliance with the conservation easement and the LTMP, as described in the Conservation Easement under Grantee’s Duties, and shall promptly notify Land Manager, CDFW, USFWS, and the Landowner, of any and all actual and potential threats to the conserved habitat at BLWMS. Annual monitoring reports shall be submitted to the Land Manager, USFWS, USACE, and the Landowner.
2.0 PROPERTY DESCRIPTION

2.1 Setting and Location

The BLWMS is located in the County of Sacramento to the east of Interstate 5, to the south of Delta Shores, and to the northwest of Morrison Creek, in the State of California, within portions of designated Assessor’s Parcel No. 119-0190-048-0015. The Property is shown on the general vicinity map (Figure 1) and the BLWMS map (Figure 2). The general vicinity map shows the location in relation to cities, towns, or major roads, and other distinguishable landmarks. The BLWMS map shows the boundaries of the woodland area.

Figure 1. Beach Lake Woodland Mitigation Site Vicinity.
2.2 Mitigation Site Description

The 9.69-acre Beach Lake Mitigation Site (Figure 2) is part of the Upper Beach Lake Wildlife Area and currently consists of native grasslands with a small amount of planted native trees and shrubs (approximately 1.6 acres). This site includes one agricultural irrigation ditch that was identified along the northern edge of the agricultural field on Beach Lake Mitigation Site, outside of the disturbance footprint. The areas to the south and east of Beach Lake Mitigation Site are conserved habitat including native grasslands, wetlands and riparian habitat which provide potential nesting habitat for several bird species. To the north, a new subdivision and shopping center has recently been constructed. The lower Morrison Creek is to the south which is not constrained by urban development, and adjacent natural and agricultural habitats likely support a variety of wildlife species.

2.3 History and Land Use

The land, prior to the BLWMS restoration activities may have been used for agriculture, for crops like wheat and alfalfa, but since the 1970’s the area has functioned as a floodplain for Morrison Creek. The land in the general area of the BLWMS primarily consists of agriculture to the south
and west, urban development to the north, and the Sacramento County Wastewater Treatment Plant (WWTP) to the east. The BLWMS is within the area generally referred to as the “Bufferlands” that consist of natural communities directly adjacent to and surrounding the WWTP.

2.4 Cultural Resources

The records search identifies the Morrison Creek Levee as a historic resource. The records search identified two previously reported resources in the BSLMS portion of the APE. Resource P-34-1363, the Morrison Creek Levee, is located in Beach Lake Mitigation Site.

2.5 Hydrology and Topography

The average precipitation for the site is 17.4 inches, most of which falls between October and April (Western Regional Climate Center). Morrison Creek periodically floods with significant creek stage elevations during extreme events. The one-year flood stage peaks at about 3 feet, two year at 8-feet, ten year at 13-feet and one-hundred year at 14-feet. The average ground elevation at this site is 10.5 feet (NAVD88) so during a ten-year event there would be 2.5 feet of water inundating the woodland and during a one-hundred-year event there would be 7.5 feet of water inundating the woodland. The total duration of inundation for both events would be about 3-weeks or less.

2.6 Soils

The Galt Clay soils located in Beach Lake Mitigation Site contain heavy clay and hardpan, and likely supported grasslands with vernal pool and seasonal wetland complexes. Galt soils will require more soil preparation and will pose more difficulty in establishing large tree species.

The Galt Series consists of moderately deep, moderately well drained soils that formed in fine textured alluvium from mixed but dominantly granitic rock sources. Galt soils are on low terraces, basins and basin rims and have slopes of 0 to 5 percent. The mean annual precipitation is about 16 inches and the mean annual temperature is about 60 degrees F. Galt clay - on a 1 percent slope under filaree, soft chess and tarweed. Used for rangeland. (Colors are for dry soil unless otherwise stated. When described April 20, 1976, the soil was slightly moist throughout). The elevation is 25 feet. Depth to the duripan is 20 to 40 inches. The soils have cracks 1 to 4 cm wide at a depth of 20 inches. The cracks are open from about mid-June to mid-October and remain closed the rest of the year. The mean annual soil temperature at a depth of 20 inches is 64 degrees to 66 degrees F. Some pedons have Bk horizons with similar colors as Bss horizons.

2.7 Easements

In 2020, SAFCA shall acquire a Conservation Easement from the SCRSD to be granted to an accredited land trust company. The Conservation Easement area does not include any area within at least 50 feet of the waterside levee toe of the North Beach Lake Levee (NBLL) (Figure 3).
Figure 3. Beach Lake Woodland Mitigation Site Conservation and Flood Easements
3.0 HABITAT AND SPECIES DESCRIPTIONS

3.1 Habitat Development Plan

The Beach Lake Mitigation Site was designed to be planted with a mixture of native oak woodland and riparian species, including elderberry shrubs (*Sambucus mexicana*), but the dominant tree species to be planted are valley oak (*Quercus lobata*) and box elder (*Acer negundo*) and other species include willows (*Salix* spp.), California sycamore (*Platanus racemosa*), and Fremont cottonwood (*Populus fremontii*) with a dense understory that include California rose (*Rosa californica*) and coyote brush (*Baccharis pilularis*). Drill seeding of native perennial grasses within the woodlands and buffer areas is anticipated to occur during fall of 2020. Native forbs are anticipated to be seeded in strips within the grassland buffer areas during fall of 2022 to enhance habitat for pollinators and other beneficial insects. A complete plant list is provided in Table 1 and the planting plans are provided in Appendix A.

<table>
<thead>
<tr>
<th>Native Trees and Shrubs</th>
<th>Native Grasses and Forbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boxelder (<em>Acer negundo</em>)</td>
<td>Spike bentgrass (<em>Agrostis exarata</em>)</td>
</tr>
<tr>
<td>California buckeye (<em>Aesculus californica</em>)</td>
<td>Blue wild-rye (<em>Elymus glaucus</em>)</td>
</tr>
<tr>
<td>Coyote brush (<em>Baccharis pilularis</em>)</td>
<td>Slender wheatgrass (<em>Elymus trachycaulus</em>)</td>
</tr>
<tr>
<td>Mulefat (<em>Baccharis salicifolia</em>)</td>
<td>Creeping wild-rye (<em>Elymus triticeoides</em>)</td>
</tr>
<tr>
<td>Redbud (<em>Cercis occidentalis</em>)</td>
<td>Meadow barley (<em>Hordeum brachyantherum</em>)</td>
</tr>
<tr>
<td>Oregon ash (<em>Fraxinus latifolia</em>)</td>
<td>Purple needle grass (<em>Stipa pulchra</em>)</td>
</tr>
<tr>
<td>California sycamore (<em>Platanus racemosa</em>)</td>
<td>Common yarrow (<em>Achillea millefolium</em>)</td>
</tr>
<tr>
<td>Fremont cottonwood (<em>Populus fremontii</em>)</td>
<td>American bird’s foot trefoil (<em>Acmispon americanus</em>)</td>
</tr>
<tr>
<td>Valley oak (<em>Quercus lobata</em>)</td>
<td>Mugwort (<em>Artemesia douglasiana</em>)</td>
</tr>
<tr>
<td>California rose (<em>Rosa californica</em>)</td>
<td>Red maids (<em>Calandrinia ciliata</em>)</td>
</tr>
<tr>
<td>Red willow (<em>Salix laevigata</em>)</td>
<td>Purple clarkia (<em>Clarkia purpurea</em>)</td>
</tr>
<tr>
<td>Arrow willow (<em>Salix lasiopetis</em>)</td>
<td>California poppy (<em>Eschscholzia californica</em>)</td>
</tr>
<tr>
<td>Blue elderberry (<em>Sambucus nigra spp. caerulea</em>)</td>
<td>Common wooly sunflower (<em>Eriophyllum lanatum</em>)</td>
</tr>
<tr>
<td></td>
<td>Western goldenrod (<em>Euthamia occidentalis</em>)</td>
</tr>
<tr>
<td></td>
<td>Common gumplant (<em>Grindelia camporum</em>)</td>
</tr>
<tr>
<td></td>
<td>Miniature lupine (<em>Lupinus bicolor</em>)</td>
</tr>
<tr>
<td></td>
<td>Chick lupine (<em>Lupinus microcarpus var. densiflorus</em>)</td>
</tr>
<tr>
<td></td>
<td>Lacy phacelia (<em>Phacelia tanacetifolia</em>)</td>
</tr>
<tr>
<td></td>
<td>Pacific aster (<em>Symphyotrichum chilense</em>)</td>
</tr>
<tr>
<td></td>
<td>Tomcat clover (<em>Trifolium willdenovii</em>)</td>
</tr>
</tbody>
</table>

3.2 Desired Ecological Functions

Establishing and expanding mature woodland will provide quality refuge, habitat diversity, and cover for many wildlife species. Woodlands also promote successful nesting by a variety of native birds away from the edges, where nest parasitism by crows, cowbirds, and starlings is less likely to
affect breeding success. The establishment of larger woodlands also attracts oak woodland bird species, such as oak titmouse (*Baeolophus inornatus*), acorn woodpecker (*Melanerpes formicivorus*), Nutall’s woodpecker (*Dryobates nuttallii*), Western scrub-jay (*Aphelocoma californica*), and raptor species.

Large areas within this part of south Sacramento County have few or no mature trees or recruitment of saplings. The mixture of native riparian species planted in the woodlands included faster growing sycamore and cottonwood, which provide nesting habitat and perch sites for Swainson’s Hawk (*Buteo swainsoni*) and other raptors, which enhances the value of adjacent foraging habitat in upland grassland and agricultural areas on both sides of the Sacramento River. Establishing landside woodland corridors also compensates for narrow scattered bands in the riverside woodland community and improves the connection between landside woodlands and the riverside woodlands. This creates daily and seasonal movement corridors for wildlife populations between habitat types, and between foraging and breeding areas. Increasing landside woodlands in the southern portion of Sacramento County brings new nesting opportunities where those habitat values have been lost.

Establishing the Beach Lakes Woodland Mitigation Site increases the acreage and spatial distribution of woodlands adjacent to the Sacramento River and increases the landscape complexity and increases beneficial habitat edge transitions, or ecotones.

### 3.3 Listed Species Occurrence

The BLWMS was designed to provide habitat for VELB listed as “Threatened” under the Federal Endangered Species Act (ESA). The BLWMS will expand on potential nesting habitat for Swainson’s Hawk (*Buteo swainsoni*), a species that is “Threatened” under CESA. Additionally, there is a potential that these adjacent woodlands and the expanded woodlands at BLWMS could provide habitat for the Least Bell’s Vireo (*Vireo bellii pusillus*), which is listed as “Endangered” under both ESA and CESA, as well as for the Willow Flycatcher that is listed as “Endangered” under CESA, as well as the Yellow-billed Cuckoo (*Coccysus americanus*) which is listed under both the ESA and the California Endangered Species Act (CESA) as “Threatened” and “Endangered”, respectively. With the exception of Swainson’s hawks there are no known observations of these or other listed species on-site. **Table 2** summarizes the ESA and CESA listed species that have potential to occur in the BLWMS and the adjacent areas.
Table 2. Listed Species Occurrence at BLWMS

<table>
<thead>
<tr>
<th>Species</th>
<th>ESA Listing</th>
<th>Area of Potential Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valley Elderberry Longhorn Beetle (<em>Desmocerus californicus dimorphus</em>)</td>
<td>Threatened (ESA)</td>
<td>Woodland</td>
</tr>
<tr>
<td>Swainson’s Hawk (<em>Buteo swainsoni</em>)</td>
<td>Threatened (CESA)</td>
<td>Woodlands &amp; Grasslands</td>
</tr>
<tr>
<td>Yellow-Billed Cuckoo (<em>Coccyzus americanus occidentalis</em>)</td>
<td>Threatened (ESA) Endangered (CESA)</td>
<td>Woodland</td>
</tr>
<tr>
<td>Willow Flycatcher (<em>Empidonax traillii</em>)</td>
<td>Endangered (CESA)</td>
<td>Woodland</td>
</tr>
<tr>
<td>Least Bell’s Vireo (<em>Vireo bellii pusillus</em>)</td>
<td>Endangered (ESA) Endangered (CESA)</td>
<td>Woodland</td>
</tr>
</tbody>
</table>
4.0 MANAGEMENT AND MONITORING

The Beach Lake Woodland Mitigation Site woodland will be managed to support the long-term viability of the growth, survival, and natural regeneration of the planted trees and shrubs. This section provides the management and monitoring requirements for the post-plant establishment period, which is expected to begin 5-years after planting and to continue in perpetuity as outlined in the conservation easement.

The overall goal of management is to foster the long-term viability of the BLWMS, covered species, and covered habitat. Routine monitoring and minor maintenance tasks are intended to assure the viability of the BLWMS in perpetuity. Monitoring activities shall be conducted by individuals with knowledge, training, and experience to manage mitigation/restoration sites. Additionally, any individuals conducting maintenance activities on site shall receive environmental awareness training, specifically as it relates to protecting the endangered species and associated habitat provided at the BLWMS.

If any issues are identified during monitoring, then adaptive management shall be used to determine what actions might be appropriate. The adaptive management approach shall incorporate feedback loops that link maintenance activities and monitoring to a decision-making process to improve site management, including corrective actions and additional site inspections as determined to be appropriate by the Land Manager and within the parameters of this management plan. Adaptive management includes those activities necessary to address the effects of climate change, fire, flood, or other natural events, force majeure, etc. Before considering any adaptive management changes that are not within the parameters of this management plan, CDFW and USFWS will consider whether such actions will help ensure the continued viability of the BLWMS biological resources.

4.1 Biological Resources

The approach to the long-term management of the BLWMS is to conduct regular inspections and monitoring of selected characteristics to determine stability and ongoing trends of the mitigation habitat. It is anticipated that the management activities needed during the first 10 years, after the site is planted, will be more intensive, as such the regular inspections shall be more frequent but shall decline over time as the woodland matures and begins to function as an established self-sustaining woodland. The minimum number of inspections anticipated for the BLWMS are provided in Table 1. Monitoring shall include monitoring assessments on the overall site conditions, plant health, noxious weed conditions, infrastructure, trash accumulation and removal, unauthorized use, fire hazards and/or other aspects that may warrant management actions.
Table 3. Minimum Number of Site Inspections Required Each Year

<table>
<thead>
<tr>
<th>Year</th>
<th>Minimum Inspections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 6 – 10 (2026 – 2030)</td>
<td>1</td>
</tr>
<tr>
<td>Year 11-15 (2031-2035)</td>
<td>1</td>
</tr>
<tr>
<td>Year 16+ (2035+)</td>
<td>1</td>
</tr>
</tbody>
</table>

4.1.1 VELB Species and Habitat Monitoring

A survey for the presence of VELB and habitat quality will be conducted once every 5 years. Surveys will be conducted per the current VELB Guidelines issued by the USFWS and in effect at the time of the survey. During the survey year a minimum of two site visits between March 1 and June 30 will be made by a qualified biologist, timed to coincide with elderberry flowering (when adult beetles are usually active). Surveys will include a population census of the adult beetles, including the number of beetles observed, their condition, behavior and their precise locations. Visual counts will be used; mark-recapture or other methods involving handling or harassment will not be used. Surveys will also include an evaluation of the elderberry plants and associated native plants on the site.

Objective: Monitor for VELB presence at the Site.

Objective: Monitor, conserve, maintain and limit impacts to the VELB habitat.

Task A: Survey for VELB – Visually inspect every elderberry shrub for presence of beetles. Note methods, findings, and any pertinent management recommendations to include in the monitoring report. To be conducted twice between March 1 and June 30 once every 5 years.

Task B: Survey VELB Habitat – Walk the woodland areas to qualitatively assess the general condition. Note the total number of elderberry shrubs and an approximation of the number of associated natives (e.g. for every elderberry shrub there appears to be 2 associated native trees/shrubs). Also note the average health of elderberry shrubs and the associated natives, as well as observations of wildlife, nonnative invasive plant or animal species, overall habitat condition including any changes in topography and hydrology. Details provided in the monitoring report should include the above observations and provide enough detail to demonstrate that the VELB habitat is maintaining a survival rate of elderberry shrubs and associated natives that can support VELB. If there is a substantial decline in either elderberry shrubs or associated natives this should be noted and discussed with USFWS, CDFW, the Land Manager, and the holder of the Conservation Easement to try and determine the cause and whether any remedial actions should be taken. To be conduct once every 5 years.
4.1.2 **Avian Species and Habitat Monitoring**

A qualitative assessment of the habitat every five years should provide enough detail to demonstrate that the woodland habitats across the BLWMS is providing and maintaining a complex woodland habitat that can support an array of migratory and breeding woodland bird species. If there is a substantial decline in the survival of woody species and/or woodland structure (i.e. overstory or midstory) this should be noted and discussed with CDFW, the Land Manager, and the holder of the Conservation Easement to try and determine the cause and whether any remedial actions should be taken. The woodland area shall be surveyed every five years to assess the use of the woodland habitats by avian species.

**Objective:** Determine if the site is serving as habitat for migratory birds.

**Task A:** Survey for Birds – Conduct bird surveys of the woodlands. Note the date and time of the survey, species identified by sight and/or sound, note if nesting is or may be occurring within the woodland and by what species, and note the approximate abundance of each species encountered. The survey method and observations shall be included in the annual monitoring report. Conduct two surveys, one during the non-breeding season and one during the breeding season every 5 years.

**Task B:** Assess Woodland Habitat - A qualitative assessment of the Woodland Area will be conducted to provide details regarding the general health and diversity of the woodland plant species, including the dominant species present within the woodland overstory, midstory, and understory. Conduct one survey during the growing season every 5 years.

**Task C:** Photographic documentation – Take pictures of the habitat from at least 3 permanent locations established during the plant establishment phase. These photos will provide visual information on the site conditions and changes overtime. The permanent locations for photographic monitoring will be established during initial plant establishment phase. Photos shall be included in the monitoring report. To be conducted during the late spring or early summer annually.

4.1.3 **Nonnative Invasive Plant Species**

Invasive species can threaten the diversity or abundance of native species through competition for resources, predation, parasitism, interbreeding with native populations, transmitting diseases, or causing physical or chemical changes to the invaded habitat. For the purposes of this Management Plan, species native to the site will be defined as those species believed by the scientific community to have been present in Sacramento County prior to the settlement of Europeans.
**Objective:** Monitor and maintain control over non-native invasive plant species, including but not limited to noxious weeds that diminish site quality for which the site was established. The Land Manager shall consult the following sources for guidance on what species may threaten the site and on management of those species: California Invasive Plant Council (Cal-IPC, cal-ipc.org), California Department of Food and Agriculture list of noxious weeds that are subject to regulation or quarantine by county agriculture departments, the California Department of Food and Agriculture's Integrated Pest Control Branch, and the University of California State Integrated Pest Management Program list of “Exotic and invasive pests and diseases that threaten California's agricultural, urban, or natural areas.

**Task A:** Assessment of Invasive Plant Species - The monitoring biologist will conduct a qualitative assessment (e.g. visual estimate of cover) of potential or observed noxious weeds, or other non-native species invasions. Actions to control invasive species will be evaluated in relation to habitat value and prioritized. To be conducted annually.

**Task B:** Invasive Plant Control – Control exotic pest plants by hand removal, mechanical equipment, biological controls, or herbicides, as approved by the CDFW and USFWS following the guidance provided in Section 4.1.4 Vegetation Management section below. CDFW and USFWS notification and approval is not required when the invasive control is carried out as described below under the Vegetation Management Section. To be conducted as necessary to ensure the woodland habitat continues to provide high quality habitat for VELB and avian species.

### 4.1.4 Vegetation Management

Vegetation will primarily be unmanaged. However, vegetation along the site’s perimeter, near access roads, or in areas that are required for fire prevention will be actively managed. The most likely management technique will be mowing, and if appropriate grazing. Additional vegetation management may be implemented if determined to be beneficial for overall habitat quality.

**Objective:** Analyze effects of mowing and grazing on habitat quality. If determined appropriate, develop and implement specific mowing and/or grazing actions to maintain habitat quality. Adaptively manage vegetation management based on site conditions and data acquired through monitoring to maintain biological values.

**Task A:** Identify Vegetation Management Needs – Conduct a walk-through survey to identify vegetation management needs, including but not limited to: dead plant material (thatch) accumulation, fire prevention, and overall habitat function. To be conducted at least annually.
**Task B:** Implement Vegetation Management – Manage vegetation by mowing, grazing, or other vegetation management techniques to maintain dried vegetative matter and herbaceous growth as described below. To be conducted as necessary to ensure the woodland habitat continues to provide high quality habitat for VELB and avian species.

**Mowing, String-trimming, & Hand Pulling**
Mowing, chopping, and string trimming can be used to control herbaceous vegetation height, reduce the risk of wildfire, as well as to discourage the spread of noxious weeds in native perennial grasslands and forb vegetation within and around the mitigation sites. Height gages on all mechanical mowing and chopping equipment will be set so residual vegetation is 6 to 12 inches tall, with an exception for access roads where height restrictions are not required.

String trimming is accomplished using a hand-held motor-operated string trimmer. Mowing, chopping, and string trimming for noxious weed control should be conducted typically in the spring before the dominant noxious weed species have set seed; however, certain late-season and warm-season weeds will require treatment later in the year. Timing will vary depending on weather conditions and weed types and should be based on visual observations and in consultation with an experienced plant biologist. If appropriate and conditions allow, mowing, chopping, and string trimming should be minimized between May 1 and July 1 to allow native perennial grasses and forbs to set seed.

Mowing, chopping, and string trimming will be conducted in a manner that avoids damaging elderberry shrubs, or causing girdling injury to tree saplings.

Hand pulling weeds and/or using hand tools to remove weeds shall be employed where the mowing and herbicide methods are not suitable. This could also include the use of a string trimmer.

To avoid or minimize impacts to VELB and nesting birds during mowing the following measures shall be implemented:

- Mowing and string-trimming activities within the dripline of elderberry shrubs shall be limited to the season when adults are not active (August – February) and these activities shall always be conducted in a manner to avoid damaging any part of the elderberry shrub.
- A nesting bird survey shall be conducted within 3-days of the mowing and string-trimming activities. If active nests are detected an appropriate buffer around the nest sites shall be determined by a qualified biologist to avoid nest failure resulting from maintenance activities.

**Herbicide Applications**
The purpose, methods, and timing of herbicide treatments shall be to prevent shading of native grasses, weed competition for nutrients and soil moisture, and to prevent weed seed production.
and dispersal by killing weeds before flowering or before viable seed has developed. The timing, method and type of herbicide application shall be determined by field observations (e.g. dominant weed species and characteristics, incipient infestations, weed growth state and size), weather conditions and a licensed Pesticide Control Advisor (PCA), and as approved by Land Manager.

Caution is warranted in the use of pesticides (e.g., herbicides) near Swainson’s Hawk foraging habitats. Insecticides and Rodenticides of any kind shall not be applied or used on-site at any time to ensure there is no harm to VELB and any other wildlife utilizing the habitat.

To avoid or minimize impacts to VELB all herbicide chemicals shall be applied using a backpack spray or similar direct application method and shall not be used within the dripline of the shrub.

**Grazing**

Ruminants, especially sheep or goats, can be used to manage understory within woodlands once trees and shrubs have reached a size and height at which browse by grazing animals is no longer likely to adversely affect woody plants. Grazing techniques can be used either to trim the tops of the herbaceous vegetation (similar to mowing) or to achieve a more thorough removal of both herbaceous growth and/or understory growth. Grazing for noxious weed control should typically be conducted in the spring before weeds have set seed. Timing will vary depending on weather conditions and weed types and should be based on observations made by an experienced plant biologist or grazing manager. The use of grazing animals shall be evaluated to determine whether animals are causing damage to the native woody or understory herbaceous woodland plants.

**Selective Thinning**

Excessive woody debris accumulation in the understory has the potential to create fuel load conditions that could result in catastrophic wildfire. Periodic wildfire is a component of valley oak woodland, and, in many cases, can have beneficial effects on these habitats. However, consideration of the potential for wildfire to pose a hazard to humans, livestock, and cropland must be considered. Furthermore, more mesic-associated riparian trees and shrubs planted in the woodlands (e.g., cottonwood and ash) have low fire tolerance and regeneration of these species may require additional measures. Dead woody debris may be periodically removed from woodlands by the Land Manager to reduce fuel load as deemed appropriate, however, this should be balanced with the need to create a dense woodland corridor for wind-wave protection. The woodland understory, or selected tree branches may also be periodically thinned if monitoring observations indicate that selective thinning would improve overall woodland vegetation health and diversity or reduce prevalence of pathogens or disease. Elderberry shrubs will not be disturbed during thinning activities.
Woody vegetation removed will be off hauled to a disposal site or may be chipped and used onsite as mulch if appropriate (i.e., if not diseased material nor invasive species propagules). Hand pulling/cutting will likely be employed when equipment access is restricted or when vegetation management goals are specific to local sites, noxious weed species, or individual trees requiring selective pruning or removal.

4.1.5 Security, Safety, and Public Access

The BLWMS shall be managed and monitored to maintain the created habitat in perpetuity. The Land Manager shall be responsible for addressing trespass and public access issues. The BLWMS shall have no general public access and public access to the woodlands shall be discouraged with gated access points and signage. See Section 4.2, “Access Roads, Gates, Fences, and Signs” for a description.

4.1.6 Trash Removal and Vandalism

Objective: Monitor sources of trash and trespass. Collect and remove trash, repair vandalized structures, and rectify trespass impacts.

Task A: Survey for Trash, Trespass, and Vandalism - During each site visit, record occurrences of trash, trespass, and/or vandalism. Record type, location and impacts, and develop management recommendations to avoid, minimize, or rectify any trash, trespass, and/or vandalism impacts. The Land Manager may need to execute additional protective measures such as installing fences or gates, to curb such activities.

Task B: Remove Trash and Debris - At least once yearly, or as needed, the Land Manager will collect and remove trash from the site. If any significant amount of trash or a single large piece of trash is found, the Land Manager will remove the trash as soon as possible. Natural debris will be evaluated and removed only if it is determined that it poses a significant fire hazard or is detrimental to the restoration objectives or maintenance of gates, access, or other infrastructure. If any equipment is needed to remove debris from the mitigation site, it will be restricted to existing access areas to the greatest extent feasible.

Task C: Repair Vandalism and Trespass Damage - Repair vandalism and trespass impacts as needed. Should significant damages occur on the property as a result of third parties, both the Land Manager and the Conservation Easement Holder shall have the right to pursue damages from the third party.

4.1.7 Maintenance Activities
Access to the mitigation site for maintenance activities is allowed but will be restricted to the immediate area where maintenance is occurring. Access in emergency or law enforcement situations by medical, fire, or law enforcement personnel or vehicles is allowed.

4.1.8 Recreational Activities

Recreational uses will not be permitted on the mitigation site. However, the public is expected to continue to use the surrounding areas for birding, walking, fishing, and loitering. Gates and signage will help to deter trespassing onto the mitigation site. The Land Manager will be responsible for inspecting the mitigation site for evidence of disallowed recreational activities and taking appropriate action to discourage future additional recreational activities.

4.1.9 Educational and Research Activities

Use of the mitigation site for educational activities and/or for research purposes will be allowed through special arrangement if considered desirable and appropriate by the Land Manager and Landowner. Individuals or groups using the mitigation site for research purposes will be coordinated with the Land Manager. If research activities will be observation-based and passive in nature (e.g., no collection of plant or animal specimens, no ground excavation), then the consent of the Land Manager is enough. If active use of the mitigation site is proposed, review and approval, and possible permitting, by the Regulatory Agencies will be required.

4.2 Access Roads and Gates

To conduct the operations and maintenance necessary to ensure the functionality of the mitigation site, maintenance access roads must be constructed and maintained. These access roads may be covered by natural vegetation, such as grasses or other groundcover, or aggregate base materials may be added to allow for all-weather access so that appropriate maintenance actions may be taken during emergencies or inclement weather. In addition, it is expected that gates currently at the points of ingress to and egress from the mitigation site are enough to prevent unauthorized vehicles from entering the sites and damaging habitat. Limited fencing may also be necessary at strategic locations to prevent unauthorized access. The ongoing maintenance of these facilities will be the responsibility of the Land Manager, as described below.

4.2.1 Roads

Objective: Maintain existing entrance road for continued site access.

Task A: Assess Road Conditions - During each site visit, note condition of existing access road. Record location, type and recommendations to implement repair or structure replacement, if needed.

Task B: Repair/Maintain Access Roads – Maintain as necessary, through mowing of grasses or other ground cover, regrading using a grader, dozer, or a blade attached to another
piece of construction equipment, and the addition of aggregate material to allow for all weather access.

4.2.2 Gates

Gates may be necessary at ingress and egress locations and/or other strategic locations to reduce unauthorized access to the mitigation site. Gates would likely be fabricated out of steel tubing and attached to posts that are anchored into the ground with concrete.

Objective: Maintain gates on the property.

Task A: Assess Gate Condition - During each site visit, note condition of existing gates. Record location, type and recommendations to implement installation, repair, or structure replacement, if needed.

Task B: Repair/Maintain Gates - Gates may need to be serviced and/or replaced if damaged or worn. Maintenance may be carried out throughout the year as necessary on gates. Replacement of gates will be accomplished using a small truck-mounted auger and concrete either delivered to the site in a trailer or hand-mixed on-site with a small concrete mixer.

4.3 Reporting

4.3.1 Land Manager

Brief reports shall be prepared annually by the Land Manager, or its contractors or assigns, to provide general information on the maintenance activities and general quality of the mitigation site. Every 5th year the report will be a comprehensive management and monitoring report that provides detailed information on the quality and status of the habitat and the management activities that have occurred during the previous 5 years. Reports shall be submitted to the Regulatory Agencies, Landowner, and Conservation Easement Holder by November 1st of each year.

Objective: Provide annual report on all management tasks conducted and general site conditions to CDFW and USFWS and any other appropriate parties.

Task A: LTMP Report - Prepare annual report and any other additional documentation. The Land Manager, its contractors or assigns, shall provide a brief annual report that summarizes the management tasks conducted and general site conditions. Every 5th year, coinciding with the VELB species and habitat monitoring (see Section 4.1.1) and the avian species and habitat monitoring (see Section 4.1.2), a comprehensive report shall be prepared. The comprehensive report shall include details on the management activities that have occurred at the site and details related to the covered species and habitat conditions. Reports shall be submitted to the CDFW,
USFWS, the USACE, the Landowner, and the Conservation Easement Holder and any other appropriate parties by November 1 of each year.

Reports shall include recommendations with regard to (1) any habitat enhancement measures deemed to be warranted, (2) any problems that need short and long-term attention (e.g., weed removal, fence repair, erosion control), and (3) any changes in the monitoring or management program that appear to be warranted based on monitoring results to date. The report will also include, at a minimum, the following information:

- A list of the individuals who prepared the report or participated in the monitoring activities for the reporting period, including titles and affiliations;
- A description of maintenance activities conducted in the previous reporting period (e.g., vegetation removal or thinning, herbicide and pesticide applications, noxious weed control activities) for which Regulatory Agency notification or approval was not needed;
- A summary of vegetation surveys, noxious weed surveys, and habitat types monitoring;
- A discussion of any modifications made to monitoring methods;
- A summary of additional activities (e.g., research, remediation) conducted during the reporting period; and
- Details on any incidental observations of any federally or State-listed species utilizing the sites
- Deviations from the measures described in this LTMP, if any, and the reasons for such deviations (including emergency actions taken);
- Recommendations for adaptive management in order to maintain identified site objectives; and
- A written description of proposed additions or modifications to ongoing management practices for the next reporting period, including timing, methodology, and a map showing what areas will be targeted (the Regulatory Agencies will have 60 calendar days to contact the Land Manager to discuss any areas of disagreement or concern).

4.3.2 Conservation Easement Holder

Annual Reports shall be prepared by the Conservation Easement Holder, to provide general information on compliance with the conservation easement and the LTMP, as described in the Conservation Easement under Grantee’s Duties. Reports shall be submitted to the Regulatory Agencies, Landowner, and Land Manager by December 31st of each year (see Section 5.4 “Notices”).
**Objective:** Ensure that the SLWMS is retained forever in its natural, restored, or enhanced condition and prevent any use or activity that would impair or interfere with the conservation values as outlined in this LTMP and the Conservation Easement.

**Task B:** Conservation Easement Monitoring - Perform, at least annually, compliance monitoring and reporting of the SLWMS to ensure compliance with the Conservation Easement and the LTMP.

**Task C:** Conservation Easement Reporting - Prepare written reports on the results of monitoring inspections. The report shall briefly describe the general condition of the SLWMS, details about any prohibited uses, as described in the Conservation Easement, and the Land Managers compliance with the LTMP, as well as any recommendations that could enhance the conservation values at the site. In addition, the report should document the date(s) the site was monitored and the individual(s) that performed the monitoring. Reports shall be submitted to the USFWS, the USACE, the Landowner, and the Land Manager and any other appropriate parties by December 31st of each year.
5.0 TRANSFER, REPLACEMENT, AMENDMENTS, AND NOTICES

5.1 Transfer of Management Responsibilities
Any subsequent transfer of responsibilities under this LTMP to a different land manager shall be requested in writing by the Land Manager to the CDFW and USFWS; the transfer shall require written approval by CDFW and USFWS and shall be incorporated into this LTMP by amendment. Any subsequent Land Manager shall assume land manager responsibilities described in this LTMP and as required in the Conservation Easement, unless otherwise amended in writing by the CDFW and USFWS.

5.2 Replacement
The Land Manager shall be responsible for the performance of the BLWMS. If the Land Manager fails to implement the tasks described in this LTMP, and is notified of such failure in writing by any of the Regulatory Agencies, the Land Manager shall have 90 days to resolve such failure. If failure is not remedied within 90 days, the Land Manager may request a meeting with the Regulatory Agencies to resolve the matter. Such meeting shall occur within 30 days or a longer period if approved by the Regulatory Agencies. Based on the outcome of the meeting, or if no meeting is requested, the Regulatory Agencies may require the Land Manager to designate a replacement land manager acceptable to the Regulatory Agencies in writing by amendment of this LTMP. If the Land Manager fails to designate an acceptable replacement land manager, then a public or private land or regulatory management organization acceptable to and as directed by the CDFW and USFWS may enter onto the mitigation site to fulfill the purposes of this LTMP at the Land Manager’s expense.

5.3 Amendments
SAFCA as the Land Manager, the Conservation Easement Holder, the Land Owner, CDFW, and the USFWS may meet and confer from time to time, upon the request of either one of them, to revise this LTMP to better meet management objectives and preserve the habitat and conservation values of the mitigation sites. Any proposed changes and updates to this LTMP shall be discussed by and be acceptable to all the parties. Amendments to this LTMP shall be approved by the CDFW and USFWS in writing, shall be required management components, and shall be implemented by the Land Manager.

If the USFWS determines, in writing, that continued implementation of the LTMP would jeopardize the continued existence of a state or federally listed species, any written amendment to this LTMP, determined by USFWS as necessary to avoid jeopardy, shall be a required management component and shall be implemented by the Land Manager.

5.4 Notices
Any notices regarding this LTMP or compliance with the Conservation Easement shall be directed as follows:

**Landowner**
Sacramento Regional County Sanitation District 10060 Goethe Rd.,
Sacramento, CA 95827
Contact: xxxx, Contact: xxxxx
(916) 876-6000

**Land Manager**
Sacramento Area Flood Control Agency 1007 7th Street, 7th Floor
Sacramento, CA 95814
Attn:

**Conservation Easement Holder**
Accredited Land TRUST COMPANY
PO Box xxxx,
xxxxx, CA 95816
xxxxxxx@xxxxxxx
Contact: xxxxxx,
Phone: xxx-xxx-xxxx

**Third-Party Beneficiary**
U.S. Fish and Wildlife Service
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, CA 95825
Contact: Field Supervisor
(916) 414-6600

**Third-Party Beneficiary**
CA Department of Fish and Wildlife
Sacramento Office
Street
City State Zip
Contact:
(916) xxx-xxxx
6.0 Funding Assurances

6.1 Funding

Management, maintenance, and monitoring during the establishment period and over the long-term shall be funded by one of SAFCA’s assessment districts or an endowment. At a point prior to the expiration of the assessment district an endowment shall be established to fund the on-going management, maintenance, and monitoring of the mitigation site.

Funding amounts required for long-term maintenance and management, and the third-party entity monitoring costs will be calculated using a detailed Property Analysis Record (PAR), or similar approach. A PAR is generated using a computer program written by the Center for Natural Lands Management to allow land trust and preserve management foundations and organizations to better define and understand the financial obligations that come with managing natural areas. The programs list several activities, structures, and overhead costs associated with mitigation site management and allows the user to choose the tasks that apply. These costs are then tabulated and used for budgeting purposes. Table 4 summarizes the management and maintenance activities to be carried out and the level of effort that is required. SAFCA shall determine the necessary funding amounts.

6.2 Task Prioritization

Due to unforeseen circumstances, prioritization of tasks, including tasks resulting from new requirements, may be necessary if insufficient funding is available to accomplish all tasks. The Land Manager, CDFW, and the USFWS shall discuss task priorities and funding availability to determine which tasks will be implemented. In general, tasks are prioritized in this order: 1) tasks necessary to maintain compliance with the Conservation Easement as approved by CDFW and USFWS; 2) required by a local, state, or federal agency; 3) tasks necessary to maintain or remediate habitat quality; and 4) tasks that monitor resources, particularly if past monitoring has not shown downward trends. Equipment and materials necessary to implement priority tasks will also be considered priorities. Final determination of task priorities in any given year of insufficient funding will be determined in consultation with CDFW and USFWS and as authorized by CDFW and USFWS in writing.
### Table 4. Management & Monitoring Activities; Level of Effort, Frequency and Cost, continued at Stone Lakes Woodland Mitigation Site

<table>
<thead>
<tr>
<th>Activity</th>
<th>Frequency Schedule</th>
<th>Effort (#/hour)</th>
<th>Unit Cost ($/hour)</th>
<th>Cost ($)</th>
<th>Annual Cost</th>
</tr>
</thead>
</table>
| **4.1.1 - VELB Species and Habitat Monitoring**  
Task A - Survey for VELB  
*Inspect every shrub for VELB* | 2x/5 Years (Mar. 1 – Jun. 3) |                |                    |          |             |
| Task B – Survey VELB Habitat  
*Assess survival of elderberry shrubs and associated native plants.* | 1x/5 Years (Mar. 1 – Jun. 3) |                |                    |          |             |
| **4.1.2 – Avian Species and Habitat Monitoring**  
Task A – Survey for Birds  
*Identify Species and approximate abundance.* | 2x/5 Years (Winter and Non-Winter) |                |                    |          |             |
| Task B – Assess Woodland Habitat  
*Note the general health and diversity of the woodland plant species.* | 1x/5 Years (Late Spring to Summer) |                |                    |          |             |
| Task C – Photographic Documentation  
*Take photographs from 6 permanent locations* | 1x/ Year (Late Spring to Summer) |                |                    |          |             |
| **4.1.3 – Nonnative Invasive Plant Species**  
Task A – Assess Invasive Plant Species  
*Assess cover by non-native invasive plant species.* | 1-4x/ Year |                |                    |          |             |
| Task B – Invasive Plant Control  
*Methods may include hand pulling, chemical, mechanical, etc.* | As needed |                |                    |          |             |
| **4.1.4 – Vegetation Management**  
Task A – Identify Vegetation management Needs  
*Actions to ensure longevity and viability of the habitat.* | 1-4x/ Year |                |                    |          |             |
| Task B – Implement Vegetation Management  
*Methods may include mowing, grazing, debris removal, etc.* | As needed |                |                    |          |             |
| **4.1.6 – Trash Removal and Vandalism**  
Task A – Survey for Trash, Trespass, and Vandalism | 1-4x/ Year |                |                    |          |             |
<p>| Task B – Remove Trash/Debris | As needed |                |                    |          |             |
| Task C – Repair Vandalism and Trespass Damage | As needed |                |                    |          |             |</p>
<table>
<thead>
<tr>
<th><strong>Frequency (Schedule)</strong></th>
<th><strong>Effort (#/hour)</strong></th>
<th><strong>Unit Cost ($/hour)</strong></th>
<th><strong>Cost ($)</strong></th>
<th><strong>Annual Cost</strong></th>
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<tbody>
<tr>
<td>4.2.2 - Roads</td>
<td></td>
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<tr>
<td>Task A – Assess Road Conditions</td>
<td>1-4x/ Year</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Task B – Repair/Maintain Access Roads</td>
<td>As needed</td>
<td></td>
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<tr>
<td>4.2.3 – Gates</td>
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<tr>
<td>Task A – Assess Gate Condition</td>
<td>1-4x/ Year</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Task B – Repair/Maintain Gates/Fence</td>
<td>As needed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.3 – Reporting</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task A – LTMP Reporting - Prepare Annual Report</td>
<td>1x/Year</td>
<td>(Submitted Nov. 1)</td>
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<tr>
<td>A comprehensive report is prepared every 5th year to included details regarding the status of VELB and avian species and habitat.</td>
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<td>Task B – Conservation Easement - Monitoring</td>
<td>1x/Year</td>
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<td>Task C – Conservation Easement - Reporting</td>
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U.S. Fish and Wildlife Service

Sacramento Area Flood Control Agency

By: _________________________

Date: _________________________

California Dept. of Fish and Wildlife

By: _________________________

Date: _________________________
APPENDIX A

Planting Plans
SAVACRAMENTO AREA FLOOD CONTROL AGENCY
PROJECT PLANS FOR CONSTRUCTION OF
Sacramento River East Levee Improvements

Beach-Stone Lakes Woodland Mitigation and Enhancement Project, Sacramento County, California

PROJECT OVERVIEW
The Sacramento River East Levee Improvements Beach-Stone Lakes Woodland Mitigation and Enhancement Project, Sacramento County, California (Project) will establish woodland corridors at two sites. The Beach Lake Mitigation Site (Site B-1), located east of Interstate 5, will establish 7.9 acres of new woodland habitat and enhance 1.6 acres of existing woodland. The Beach Lake Mitigation Site is currently owned by the Sacramento Regional County Sanitation District (SRCSD). The Stone Lakes Mitigation Site (Site B-2), located west of Interstate 5, will establish 24.2 acres of new woodland habitat. The Stone Lakes Mitigation Site is currently owned by Sacramento Area Sewer District (SASD). The Project will begin in late summer/fall of 2019 and includes site and soil preparation, seeding, planting, and establishment of native woody vegetation at both sites.

Sacramento Area Flood Control Agency (Agency) has identified approved locations for site access from public roads, and equipment and storage staging areas at each site. The contractor shall coordinate with the Agency, SRCSD, and SASD during woodland establishment, which includes the installation and use of temporary irrigation systems as shown on these Drawings. Establishment maintenance at these sites will be conducted until plantings meet established performance standards.

VOLUME 1
Conformed Set
August 2019

PREPARED FOR
Sacramento Area Flood Control Agency
1007 7th Street, 7th Floor
Sacramento, CA 95814
(916) 774-7806
Contact: Pete Gheff, Director of Engineering
KC Sorgen, Senior Natural Resource Specialist

PROJECT LANDSCAPE ARCHITECT:
GEI Consultants
2855 Prospect Park Drive, Suite 400
Rancho Cordova, CA 95670
(916) 631-4500
Contacts: Lynn Hermansen, Senior Restoration Ecologist

CONTRACT NO. C4462

Approved On: August 15, 2019

CONTRACTOR:

Pete Gheff, Director of Engineering

Appendix A
Long Term Management Plan – Beach Lake Woodland Mitigation Site
GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED BY A LICENSED CONTRACTOR AND SUPERINTENDENT. THE CONTRACTOR SHALL MAKE SURE ALL SEQUENCES ARE COMPLETED IN ACCORDANCE WITH THE TIMELINE AND CONTRACT PROVISIONS.

2. THE CONTRACTOR SHALL ASSUME SOLE RESPONSIBILITY FOR CONSTRUCTION, CONTRACT COMPLIANCE, QUALITY ASSURANCE, QUALITY CONTROL, AND ALL WORK CONDUCTED UNDER THIS CONTRACT.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF THE DRAWINGS AND SPECIFICATIONS AND FOR ANY ERRORS OR OMISSIONS.

4. THE CONTRACTOR SHALL COMPLETE THE PROJECT IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS.

CONSTRUCTION ACCESS

1. ALL MAIL AND ACCESS ROUTES SHALL BE CLEAR OF DRASTIC change AS DIRECTED BY THE AGENCY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ACCESS ROUTES, INCLUDING MAINTENANCE OF DRASTIC AREAS, AND THE AGENCY WILL NOT BE LIABLE FOR ANY DAMAGES OR INJURIES INCURRED DURING CONSTRUCTION.

IRRIGATION NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF A COMPLETE IRRIGATION SYSTEM. THE AGENCY MAY REQUIRE AN IRRIGATION SYSTEM AS PART OF THE FINAL REPORT.

2. THE CONTRACTOR SHALL RESPONSIBLY COMPLY WITH ALL LOCAL AND STATE LAW REQUIREMENTS, AND ANY OTHER Applicable LAWS.

3. THE CONTRACTOR SHALL COMPLETE THE INSTALLATION OF IRRIGATION SYSTEMS IN ACCORDANCE WITH THE SPECIFICATIONS.

4. THE CONTRACTOR SHALL PROVIDE AN IRRIGATION SYSTEM INSTALLATION REPORT TO THE AGENCY CAPTURING ALL ASPECTS OF THE INSTALLATION WORK.

MAINTENANCE NOTES

1. THE CONTRACTOR SHALL MAINTAIN ALL LAWN ELECTRIC EQUIPMENT, AND ALL MATERIALS DURING THE MAINTENANCE PERIOD. THIS INCLUDES MAINTENANCE OF ALL Equipment AND MACHINERY.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF ALL EQUIPMENT, INCLUDING MAINTENANCE OF ALL MAINTENANCE PERIODS.

3. THE CONTRACTOR SHALL MAINTAIN ALL PROPER SPECIFICATIONS AT THE PROJECT SITE.

4. THE CONTRACTOR SHALL PROVIDE AN IRRIGATION SYSTEM INSTALLATION REPORT TO THE AGENCY.

5. THE CONTRACTOR SHALL MAINTAIN ALL PROPER SPECIFICATIONS AT THE PROJECT SITE.

ABBREVIATIONS

A AND
GP 40 DEPOT 4
P F.R.
GPM GALLONAGE PER MINUTE
J.A. JOINT AGREEMENT
L.F. LINEAR FEET
L.O.R. L/G OF WORK
M.N. MILE
N NORTH
N.T.S. NOT TO SCALE
O.C. ON CENTER
P.L.G. P.I.G. L. G.
S.Q. SQUARE
T.B. TREDSPAN 4
T.P. TOLERANCE 4
T.R. TOLERANCE 4
T.R. TRESPLAN 4

PLANTING NOTES

1. THE CONTRACTOR SHALL INSTALL ALL PLANT MATERIALS, INCLUDING NAVIGATION SYSTEMS AND ALL MAINTENANCE PERIODS. THE CONTRACTOR SHALL MAINTAIN ALL LAWN ELECTRIC EQUIPMENT.

2. THE CONTRACTOR SHALL MAINTAIN ALL LAWN ELECTRIC EQUIPMENT, AND ALL MATERIALS DURING THE MAINTENANCE PERIOD. THIS INCLUDES MAINTENANCE OF ALL Equipment AND MACHINERY.
### Beach Lake Mitigation Site - New Woodland

<table>
<thead>
<tr>
<th>Treatment Area</th>
<th>Botanical Name</th>
<th>Common Name</th>
<th>Abbreviation</th>
<th>Size (FT²)</th>
<th>O.C. Spacing (FT²)</th>
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<td>NEW WOODLAND</td>
<td>AEGE AGED</td>
<td>HOPLER DRESDEN</td>
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<td>CA</td>
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<td>BACCHARIS BUDESMAN</td>
<td>COYOTE BRUSH</td>
<td>BA-B</td>
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<td>HOPLER DRESDEN</td>
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<td>CORYLUS CINERARIA</td>
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<td>PLATYCOCCUS LACINATUS</td>
<td>CALENDULA SPINOSA</td>
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<td>CHAPARRAL CUELLAR</td>
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<td>QUEZOLUS SPINOSA</td>
<td>VIOLISTIC</td>
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<td>TOTAL</td>
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### Beach Lake Mitigation Site - Barrier Plantings

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<thead>
<tr>
<th>Treatment Area</th>
<th>Botanical Name</th>
<th>Common Name</th>
<th>Abbreviation</th>
<th>Size (FT²)</th>
<th>O.C. Spacing (FT²)</th>
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<tbody>
<tr>
<td>NEW WOODLAND</td>
<td>ROSA CALIFORNIA</td>
<td>CALIFORNIA ROSE</td>
<td>RO-C</td>
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<tr>
<td></td>
<td>EUROS LACTOSA</td>
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### Beach Lake Mitigation Site - Existing Woodland

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<th>Abbreviation</th>
<th>Size (FT²)</th>
<th>O.C. Spacing (FT²)</th>
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### Stone Lakes Mitigation Site South - New Woodland B-2d

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### Native Perennial Grassland Mix

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### Natural Forb Mix

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Appendix A  Long Term Management Plan – Beach Lake Woodland Mitigation Site  Page 9 of 15