**Attachment 12505.3-SPD – Uniform Performance Standards Examples**

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# Uniform Performance Standards 1: Establishment of southern willow scrub riparian habitat.

The proposed mitigation site is located within southern California foothills. Drainage 4 is associated with an incised canyon/ravine with widths that vary from 8 to 12 feet within the area to be affected by the project and supports southern mixed riparian scrub. The hydrologic regime is borderline intermittent to ephemeral. Grading for the project would expand the canyon/ravine to provide additional flood-control capacity during large storm events. Expansion of the canyon/ravine would result in the conversion of areas of upland scrub habitat to areas that would support southern mixed riparian forest in the post-project condition. The plant palette would include the following species:

Canopy

*Salix exigua* (Sandbar willow)

*Salix lasiolepis* (Arroyo willow)

*Sambucus Mexicana* (Blue elderberry)

Understory

*Eleocharis macrostachya* (Spikerush)

*Juncus xiphiodes* (Iris-leaved rush)

*Baccharis salicifolia* (Mulefat)

*Juncus mexicanus* (Mexican rush)

*Juncus rugulosus* (Wrinkled rush)

*Juncus textilis* (Basket rush)

*Artemesia douglasiana* (Mugwort)

*Leymus triticoides* (Creeping wild rye)

*Rosa californica* (California wild rose)

**Attachment 12505.2 SPD uniform performance standards worksheet**

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | Date: May 14, 2012DA no.: SPX-2012-115Project manager: Joe Regulator | Mitigation site name: CH04Cowardin/HGM type: palustrineHabitat type: southern willow scrub riparianSite coordinates: Center/1st endpoint: Lat: -118.29391 Lon: 34.228412nd endpoint (if linear) Lat: -118.29370 Lon: 34.22846 | Reference site name: RF01Site coordinates: Center/1st endpoint: Lat: -118.28585 Lon: 34.231112nd endpoint (if linear) Lat: -118.28583 Lon: 34.23115 |
| 2 | Mitigation objective(s) to improve: [ X ] habitat conservation/biodiversity; [ ] water storage/flow attenuation; [ ] water quality; [ ] target population of special status biota; [ ] specific aquatic resource function(s); [ ] other: |
| 3 | Mitigation type (select one): [ ] re-establishment; [ X ] establishment; [ ] rehabilitation; [ ] enhancement |
| If enhancement, indicate function(s) to be increased: function 1: function 2 (if applicable): function 3 (if applicable): |
| 4 | Primary type(s) of site treatment: [X] introduction of plant materials; [X] invasive species control; [ ] hydrological manipulation; [X] topographic/substrate manipulation |
| 5 | Aquatic resource type (select one): [ X ] riverine; [ ] depressional wetland; [ ] tidal wetland; [ ] slope wetland; [ ] other:  |
| 6 | Performance standard categories (select all that apply): [ X ] physical; [ X ] hydrologic; [ X ] fauna; [ X ] flora; [ ] water quality (ecological) |
| 7 | Using selections from 2-6 above, insert applicable performance standards and targets from 12505.1-SPD Table of Uniform Performance Standards for Compensatory Mitigation Requirements into worksheet rows below. Add or remove rows for any category, as needed. |

Number/Categories: Performance Standards: Targets (“R” indicates reference):

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Physical-1 | The permittee shall ensure the buffer adjacent to aquatic resource habitat in the mitigation site is dominated by native vegetation and has undisturbed soils. Specifically: a) By end of year 5, at least 90% cover by native vegetation; b) Permittee shall document undisturbed soils throughout buffer. | Year 1:50% | Year 2:60% | Year 3:70% | Year 4:80% | Year 5:90% |
| Physical -2 | The permittee shall ensure the mitigation retains or increases stream stability and does not cause site, upstream, or downstream excessive erosion or aggradation. Specifically:a. Annual measures of slope and longitudinal profiles must not deviate from as-built profiles by more than 10%b. Annual cross-section surveys shall not deviate from design parameters by more than 25% as measured in terms of channel width to depth ratio (bankfull surface width /bankfull mean depth), entrenchment ratio (floodprone width/bankfull width) and cross-sectional area, as measured at a riffle and at a pool. | 10%25% | 10%25% | 10%25% | 10%25% | 10%25% |
| Physical -3 | N/A |  |  |  |  |  |
| Hydrologic -1 | N/A-not used as drainage would be lower order stream (towards headwaters) lacking a well-developed floodplain receiving frequent overbank flooding. |  |  |  |  |  |
| Hydrologic -2 | N/A |  |  |  |  |  |
| Hydrologic -3 | N/A |  |  |  |  |  |
| Fauna-1 | The permittee shall ensure a Shannon-Wiener Diversity index of target riparian/aquatic species present within the boundary of mitigation site, including approved buffer, equal to at least 80% of reference site by year 5. | 10% R | 20% R | 40% R | 60% R | 80% R |
| Flora-1 | Dominance of natives: the permittee shall ensure target percent absolute cover (for combined strata), density, and height of native species are met for tree, shrub, and herb strata by year 5. | 25% R | 37% R | 50% R | 62% R | 75% R |
| Flora -2 | Dominance of exotics: the permittee shall ensure target percent absolute cover (for combined strata) are met for exotic species (tree, shrub, and herb strata) by year 5. | ≤200% R | ≤175% R | ≤150% R | ≤125% R | ≤100% R |
| Flora -3 | Recruitment: the permittee shall ensure target levels of new, native individuals are naturally recruited by year 5. | N/A | ≥30% R | ≥50% R | ≥60% R | ≥75% R |
| Flora -4 | Species richness: The permittee shall ensure target native species richness values of tree, shrub, and herb strata are met by year 5. | N/A | ≥30% R | ≥50% R | ≥60% R | ≥75% R |
| Flora -5 | Spatial Habitat Heterogeneity: the permittee shall ensure vertical and/or horizontal target spatial habitat heterogeneity is met by year 5. | ≥20% R | ≥40% R | ≥60% R | ≥80% R | ≥100% R |
| Flora -6 | N/A |  |  |  |  |  |
| Flora -7 | N/A |  |  |  |  |  |
| WQ-1 | N/A-no specific water quality concerns present. |  |  |  |  |  |
| WQ -2 | N/A |  |  |  |  |  |
| WQ -3 | N/A |  |  |  |  |  |

# Uniform Performance Standards Example 2: Re-establishment of depressional wetlands and associated swales.

The proposed mitigation site is located in northern California within a valley floor and low terraces. The restoration areas are comprised of land that was historically cultivated, and areas that were likely historically depressional wetlands. These have been converted to uplands through tillage and leveling of the soil surface. The mitigation design entails the construction of a network of depressional wetlands interconnected with shallow drainage swales (totaling approximately 25 acres). The constructed wetlands are designed to mimic the natural seasonal wetland types found on valley floors and low terraces in this portion of the county. The following is a list of typical wetland plant species found in these sites:

*Psilocarphus brevissimus* (wooly marbles)

*Plagiobothrys stipitatus* (popcornflower)

*Ranunculus bonariensis* (vernal pool buttercup)

*Pogogyne* spp. (mesa mint)

*Deschampsia danthonioides* (hairgrass)

*Lasthenia* spp. (goldfields)

*Downingia* spp. (downingia)

*Eleocharis acicularis* (little spike-rush)

**Attachment 12505.2 SPD uniform performance standards worksheet**

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | Date: 5/31/12DA no.: 2012-00xxxProject manager: Oski Bear | Mitigation site name: Northern CA BankCowardin type/HGM: palustrine, emergent, seasonally flooded/ depressionalHabitat type: depressional wetlandSite coordinates: Center/1st endpoint: Lat: 38°08’01” N Lon: 121°53’07” W2nd endpoint (if linear) Lat: Lon: | Reference site name: Reference BSite coordinates: Center/1st endpoint: Lat: 38°16’26” N Lon: 121°46’15” W2nd endpoint (if linear) Lat: Lon: |
| 2 | Mitigation objective(s) to improve: [ X ] habitat conservation/biodiversity; [ ] water storage/flow attenuation; [ ] water quality; [ ] target population of special status biota; [ ] specific aquatic resource function(s); [ ] other: |
| 3 | Mitigation type (select one): [ X ] re-establishment; [ ] establishment; [ ] rehabilitation; [ ] enhancement |
| If enhancement, indicate function(s) to be increased: function 1: function 2 (if applicable): function 3 (if applicable): |
| 4 | Primary type(s) of site treatment: [X ] introduction of plant materials; [ ] invasive species control; [ X ] hydrological manipulation; [X ] topographic/substrate manipulation |
| 5 | Aquatic resource type (select one): [ ] riverine; [ X ] depressional wetland; [ ] tidal wetland; [ ] slope wetland; [ ] other:  |
| 6 | Performance standard categories (select all that apply): [X ] physical; [ X ] hydrologic; [ ] fauna; [ X ] flora; [ ] water quality (ecological) |
| 7 | Using selections from 2-6 above, insert applicable performance standards and targets from 12505.1-SPD Table of Uniform Performance Standards for Compensatory Mitigation Requirements into worksheet rows below. Add or remove rows for any category, as needed. |

Number/Categories: Performance Standards: Targets (“R” indicates reference):

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Physical-1 | The permittee shall ensure the mitigation site provides diverse physical features or surfaces contributing to depressional wetland habitat function. Specifically:1. By year 2, the site must contain 25% or more of the number of structural patch types found at the selected reference site.
2. By year 3, the site must contain 50% or more of the number of structural patch types found at the selected reference site.
3. By year 4, the site must contain 75% or more of the number of structural patch types found at the selected reference site.
4. By year 5, the site must contain 90% or more of the number of structural patch types found at the selected reference site.
 | Year 1:N/A | Year 2:25% | Year 3:50% | Year 4:75% | Year 5:90% |
| Physical -2 | N/A |  |  |  |  |  |
| Physical -3 | N/A |  |  |  |  |  |
| Hydrologic-1 | Inundation - The permittee shall ensure at least 15 acres within the approved mitigation site boundaries are inundated to a depth within 10% of reference site range for at least 60 days per calendar year. | +/-10% of reference | +/-10% of reference | +/-10% of reference | +/-10% of reference | +/-10% of reference |
| Hydrologic -2 | N/A |  |  |  |  |  |
| Hydrologic -3 | N/A |  |  |  |  |  |
| Fauna-1 | The permittee shall ensure a Shannon-Wiener Diversity index of target riparian/aquatic species present within the boundary of mitigation site, including approved buffer, equal to at least 80% of reference site by year 5. | 10% R | 20% R | 40% R | 60% R | 80% R |
| Flora-1 | The permittee shall ensure target of ≥75% of reference absolute cover of wetland species (OBL or FACW) is met by year 5. | ≥50% of reference | ≥75% of reference | ≥75% of reference | ≥75% of reference | ≥75% of reference |
| Flora -2 | The permittee shall ensure ≥75% relative cover of native species by year 5. | ≥50% relative cover | ≥75% relative cover | ≥75% relative cover | ≥75% relative cover | ≥75% relative cover |
| Flora -3 | The permittee shall ensure target native species richness values are met by year 5. | ≥50% of reference | ≥75% of reference | ≥75% of reference | ≥75% of reference | ≥75% of reference |
| Flora -4 | N/A |  |  |  |  |  |
| Flora -5 | N/A |  |  |  |  |  |
| Flora -6 | N/A |  |  |  |  |  |
| Flora -7 | N/A |  |  |  |  |  |
| WQ-1 | N/A-no specific water quality concerns present. |  |  |  |  |  |
| WQ -2 | N/A |  |  |  |  |  |
| WQ -3 | N/A |  |  |  |  |  |

#

# Uniform Performance Standards Example 3: Restoration of historic salt marsh habitat.

The proposed mitigation site is located along the coast of southern California. The area was historically salt marsh supported by an intermittently open tidal inlet, but the inlet is usually open currently due to physical changes/modifications in the region and at the site. The mitigation site was cut off from tidal action decades ago by the addition of fill material. The site will be restored by removing the deposited material and reestablishing contour elevations accessible to the tides. Soil amendments will not be required because historic salt marsh soils exist under the placed fill material. Planting the site will not be required either because the tides will reintroduce plant propagules in the area; the area will be maintained free of non-native, invasive plant species during the monitoring period to allow native plants to recruit and reestablish in the area, with increasing species richness occurring over time.

**Attachment 12505.2 Worksheet for SPD Uniform Performance Standards for Compensatory Mitigation Requirements**

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | Date: June 1, 2012DA no.:2012-0XXXXProject manager:Joe Regulator | Mitigation site name: Wanna-Be Salt MarshCowardin/HGM type: Estuarine FringeHabitat type: Coastal Salt MarshSite coordinates: Center/1st endpoint: Lat: 34° 6’ 22.85” Lon: 119° 6’ 10.45”2nd endpoint (if linear) Lat: Lon: | Reference site name: Salt Marsh ASite coordinates: Center/1st endpoint: Lat: 34° 6’ 20.74” Lon:119° 5’ 46.42”2nd endpoint (if linear) Lat: Lon: |
| 2 | Mitigation objective(s) to improve: [X ] habitat conservation/biodiversity; [ ] water storage/flow attenuation; [ ] water quality; [ ] target population of special status biota; [ ] specific aquatic resource function(s); [ ] other: |
| 3 | Mitigation type (select one): [X ] re-establishment; [ ] establishment; [ ] rehabilitation; [ ] enhancement |
| If enhancement, indicate function(s) to be increased: function 1: function 2 (if applicable): function 3 (if applicable): |
| 4 | Primary type(s) of site treatment: [ ] introduction of plant materials; [ X] invasive species control; [ ] hydrological manipulation; [X ] topographic/substrate manipulation |
| 5 | Aquatic resource type (select one): [ ] riverine; [ ] depressional wetland; [X ] tidal wetland; [ ] slope wetland; [ ] other:  |
| 6 | Performance standard categories (select all that apply): [X ] physical; [ X] hydrologic; [ ] fauna; [ X] flora; [ ] water quality (ecological) |
| 7 | Using selections from 2-6 above, insert applicable performance standards and targets from .12505.1-SPD Table of Uniform Performance Standards for Compensatory Mitigation Requirements into worksheet rows below. Add or remove rows for any category, as needed. |

Number/Categories: Performance Standards: Targets (“R” indicates reference):

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Physical-1 | "The permittee shall ensure the buffer adjacent to aquatic resource habitat in the mitigation site is dominated by native vegetation and has undisturbed soils. Specifically: a) By end of year 5, at least 90% cover by native vegetation; b) Permittee shall document undisturbed soils throughout buffer." | Year 1:50% | Year 2:60% | Year 3:70% | Year 4:80% | Year 5:90% |
| Physical-2 | The permittee shall ensure mitigation site soil surface elevations vary less than 10 percent compared to as-built conditions, excluding areas affected by tidal channel or inlet migration and similar natural/non-anthropogenic hydrogeomorphic changes. | <10% | <10% | <10% | <10% | <10% |
| Physical-3 | The permittee shall ensure the mitigation site provides different physical features or surfaces capable of dissipating wave energy, storing water, organic matter, and sediment, and providing habitat for organisms. | R | R | R | R | R |
| Hydrologic -1 | The permittee shall ensure the site is open to free exchange of tidal waters, with no obvious hydrologic alteration or restrictions present. (Note: Standard varies based on intended inlet condition – in this case, it is always open.)  | 0 restrictions | 0 restrictions | 0 restrictions | 0 restrictions | 0 restrictions |
| Hydrologic -2 | The permittee shall ensure the mitigation site maintains total aquatic edge (tidally wetted linear edge measured at MHW) within 10 percent of as-built conditions, as well as comparable distribution of aquatic edge-providing features across the mitigation site sufficient to support the target habitats.  (Note the target for measuring linear aquatic edge can be modified to High Tide Line or another datum if less frequently flooded areas [i.e. less frequently than daily] are also of interest.) | 10% | 10% | 10% | 10% | 10% |
| Hydrologic -3 | NA – groundwater not a key hydrologic contributor in this case |  |  |  |  |  |
| Fauna-1 | The permittee shall ensure a Shannon-Wiener Diversity index of target benthic invertebrate species are present within the boundary of mitigation site, equal to at least 80% of reference site by year 5. | 10% R | 20% R | 40% R | 60% R | 80% R |
| Flora-1 | NA – no plantings |  |  |  |  |  |
| Flora -2 | NA – hydrophytes would dominate in a tidal salt marsh – Flora-3 and Flora-4 capture it. |  |  |  |  |  |
| Flora -3 | Dominance of natives: The permittee shall ensure target percent absolute cover of native species is met by year 5. | 20%R | 30%R | 45%R | 55%R | 65%R |
| Flora -4 | Dominance of exotics: The permittee shall ensure target percent absolute cover is met for exotic species by year 5. | 135% of R | 125% of R | 110% of R | 100% of R | ≤100% of R |
| Flora -5 | NA – recruitment will be needed (implied) to meet Flora – 3 and Flora -4. |  |  |  |  |  |
| Flora -6 | Species richness: The permittee shall ensure target native species richness values are met by year 5. | 20%R | 30%R | 45%R | 60%R | 75%R |
| Flora -7 | NA |  |  |  |  |  |
| WQ-1 | NA – no specific water quality focus. |  |  |  |  |  |
| WQ -2 | NA |  |  |  |  |  |
| WQ -3 | NA |  |  |  |  |  |