

Work Plan A.14-01 - WSX Wetland Mitigation Site Monitoring, Reporting and Maintenance, Years 6-10

Scope:

Task 1. Year 6 (2021-22) Support

Hydrology Monitoring. H. T. Harvey will carry out winter hydrology monitoring in Year 6 as required by the project's MMP. Hydrology monitoring consists of regular site visits during and immediately following the storm season. The MMP calls for bi-weekly site visits until the end of the storm season, or until four sequential visits detect no ponded water or saturated soils. During visits, monitoring will document the extent and depth of ponding. If surface ponding is absent, monitors will check for soil saturation. The water level on the 4 staff gages installed in the wetlands will be recorded. Based on this we assume 2 site visits per month in November, December, January, February, and March (8 visits total).

Monitoring Report Preparation and Project Management. H. T. Harvey will prepare one draft and one final Year-6 Monitoring Report containing all of the components described in Section 5.10.2 of the MMP (e.g., Cover Letter, Executive Summary, Methods, Results, Management Recommendations and References). This task includes up to 8 hours of time for the project manager to assist BART with regulatory agency communication and general project management.

Site Maintenance Support. An H. T. Harvey restoration ecologist will conduct maintenance inspections during hydrology monitoring events. Hanford will conduct up to 1 weed control maintenance event. H. T. Harvey will communicate with Hanford regarding timing of and areas to focus weed control and provide on-site guidance during the single maintenance event.

Task 2. Year 7 (2022-23) Support

Riparian habitat monitoring. H. T. Harvey will monitor understory and overstory woody vegetation cover in the riparian mitigation area as required by the MMP. Vegetation cover will be collected along 18 100-foot transects following methods in the Year 5 annual monitoring report and methods in Bonham (1989). We assume 2 restoration ecologists for 2 days to accomplish this task.

Winter hydrology monitoring. In the event that regulatory agencies require continued hydrology monitoring in Year 7, we will perform winter hydrology as described in Task 1. While the project met the hydrology final success criteria through Year 5, the RWQCB required (in Year 6) continued winter hydrology monitoring as part of the ongoing riparian habitat monitoring. Therefore, we judge continued hydrology monitoring may be required.

Monitoring Report Preparation and Project Management. H. T. Harvey will prepare one draft and one final Year-7 Monitoring Report and provide project management as described in Task 1.

Site Maintenance. H. T. Harvey restoration ecologists will conduct quarterly maintenance inspections in Year 7. Hanford will conduct up to 1 maintenance event. H. T. Harvey will communicate with Hanford to plan timing and focus of weed control and provide on-site guidance during the single maintenance event. Hanford ARC will provide the following maintenance in Year 7:

- **Planting Basin Maintenance.** Hanford will remove all non-native vegetation from planting basins containing any willow tree (*Salix exigua*, *S. laevigata*, and *S. lasiolepis*) that is less than 6 feet tall. Weed control will not be provided in planting basins around willows taller than 6 feet or in any planting basin that does not contain a willow. Hanford will replenish mulch in weeded planting basins to a depth of 3 inches. Hanford will be responsible for providing basin care to all willows less than 6 feet tall. Our level of effort assumes up to 250 basins. Hanford assumes 1 weeding event and 1 mulch replenishment event in March or April.
- **Cage removal.** Hanford will remove up to 80 cages from maturing trees and store the cages on site in the existing pile.
- **Non-native Vegetation Control.** Hanford will provide site wide mechanical removal (i.e., “hand remove or string trim”) of the problematic and invasive species: black mustard (*Brassica nigra*), pampas grass (*Cortaderia jubata*), stinkwort (*Dittrichia graveolens*), Himalayan blackberry (*Rubus armeniacus*), Smilo Grass (*Stipa mileacea*), Bristly ox tongue (*Helmenthotheca echinoides*), poison hemlock (*Conium maculatum*), bull thistle (*Cirsium vulgare*) and any invasive species categorized as having a “high” invasiveness rating by the California Invasive Species Council (Cal-IPC). Pulled and cut plant material will largely be left to decompose on-site. Hanford assumes 2 weed control events - one each in March and June 2021. If mature seed heads are present, plant material will be bagged and off hauled. Stinkwort (only) will be controlled in the PG&E easements- this is necessary to prevent seed spread into the mitigation site.
- **Wildlife Fence repair.** Hanford will inspect wildlife fencing and make repair/replacement of cut any cut lines identified once per year.

- **Junction Box JB-B photodoc.** Hanford will photograph the damaged pipe interior in Junction Box JB-B once per year (in the dry season) and provide those photos to H. T. Harvey.

Task Assumptions:

- Agencies will not require wetland vegetation cover monitoring in Year 7 because we assume they will agree that the wetland mitigation component of the project is complete as of the results of the Year 6 monitoring.
- The irrigation system will remain off in Year 7.

Task 3. Year 8 (2023-24) Support

Riparian habitat monitoring. H. T. Harvey will monitor understory and overstory woody vegetation cover in the riparian mitigation area as described in Task 1.

Winter hydrology monitoring. In the event that regulatory agencies require continued hydrology monitoring in Year 8, we will perform winter hydrology as described in Task 1.

Monitoring Report Preparation and Project Management. H. T. Harvey will prepare one draft and one final Year-8 Monitoring Report and provide project management as described in Task 1.

Site Maintenance. H. T. Harvey restoration ecologists conduct quarterly maintenance inspections in Year 8. Hanford will conduct up to 3 maintenance events. H. T. Harvey will communicate with Hanford to plan weed control and provide on-site guidance during up the 3 maintenance events. Hanford will provide the same maintenance as Year 7 except we assume 150 basins for Planting Basin Maintenance.

Task Assumptions:

- Agencies will not require wetland vegetation cover monitoring.
- The irrigation system will remain off in Year 8.

Task 4. Year 9 (2024-25) Support (Contingency)

Riparian habitat monitoring. H. T. Harvey will monitor understory and overstory woody vegetation cover in the riparian mitigation area as described in Task 1.

Monitoring Report Preparation and Project Management. H. T. Harvey will prepare one draft and one final Year-9 Monitoring Report and provide project management as described in Task 1.

Site Maintenance. HTH restoration ecologists conduct quarterly maintenance inspections in Year 9. HTH will communicate with Hanford to plan weed control and provide on-site guidance during 1 maintenance event in Year 9. Hanford ARC will provide the same maintenance as Year 7 except we assume 75 basins for Planting Basin Maintenance.

Task Assumptions:

- Agencies will not require wetland vegetation cover monitoring.
- Agencies will not require wetland winter hydrology monitoring. At the start of Year 9, the site will have had 2 years of riparian habitat and hydrology monitoring without irrigation and 8 years of hydrology monitoring total. We assume that the agencies will agree that this time period is sufficient to demonstrate that the riparian mitigation site have adequate hydrology to support the riparian mitigation plantings and concur with our opinion that hydrology monitoring should cease.
- The irrigation system will remain off in Year 9.

Task 5. Year 10 (2025-26) Support (Contingency)

Riparian habitat monitoring. H. T. Harvey will monitor understory and overstory woody vegetation cover in the riparian mitigation as described in Task 1.

Monitoring Report Preparation and Project Management. H. T. Harvey will prepare one draft and one final Year-10 Monitoring Report and provide project management as described in Task 1.

Site Maintenance. HTH restoration ecologists conduct quarterly maintenance inspections in Year 10. HTH will communicate with Hanford to plan weed control and provide on-site guidance during 1 maintenance events in Year 8. Hanford ARC will provide the same maintenance as Year 7 except we assume no Planting Basin Maintenance.

Task Assumptions:

- Agencies will not require wetland vegetation cover monitoring or winter hydrology monitoring.
- The irrigation system will remain off in Year 10.

Task 6. Site Decommissioning after Agency Sign-off

Site Maintenance. Approximately 1,200, 6 ft tall riparian cages have been installed since Year 1 to replaced undersized browse protection cages. Approximately 3,000 chicken wire mesh cages are currently in a stockpile of discarded cages on site and also will need to be disposed offsite. Hanford will remove remaining riparian cages from trees and shrubs. Some of this effort is covered with budget from Tasks 2-5. Hanford will dispose of all cages stored on site at a staging area (“cage pile”). All contents (metal, wood, etc.) will then be hauled off-site and disposed of at a landfill.

Additionally, Hanford will cap sprinkler heads in wetland areas, remove sprinkler infrastructure, and lock the backflow preventer for the entire site as part of irrigation decommissioning.

H. T. Harvey and Hanford will conduct a final site-walk with BART to verify disposal and irrigation decommissioning.

Prime: AECOM

Subconsultant	Amount
Harvey & Hanford	\$ 285,862

Total Work Plan Value: \$ 324,501