Menlo Park SAFER Bay Project
Construction Activities

Mobilization

This task will consist of preparatory work and operations, including, but not limited to, those necessary for the movement of personnel, equipment, supplies, and incidentals to the project site; and for all other work and operations which must be performed before beginning work at the project site. The contractor will establish temporary facilities, areas, and install temporary fencing. The construction work area will be inspected to identify possible environmental constraints, terrain limitations and other interferences. The contractor will meet with local agencies and organizations, as required, to ensure site operations are conducted in a manner consistent with local requirements and contract documents.

Traffic Control

Temporary traffic control planning will be completed and implemented for all construction and utility work associated with this project to facilitate road users safely through work zones during all construction phases.

Access and Maintenance

Temporary facilities to prevent tracking of mud and debris from construction site to public roads will be installed, which may include placement of aggregate base rock on haul roads near to site exit points, and/or use of manual or automated wheel washes at site exit points. Where necessary, this activity will also provide for improvement of on-site haul roads in marshy or wet conditions by placement of aggregate base rock or other measures to maintain usability of site access roads and minimize environmental damage from heavy construction equipment.

Erosion Control

Sediment control for storm water run-off and run-on perimeter controls will be implemented and designated. Sediment barriers such as silt fences and straw waddles will be used to prevent sediment from entering waters of the State. Temporary Construction Entrances will be stabilized to reduce tracking of mud and dirt onto public roads by construction vehicles.

Tree Removal

Tree removal is limited to areas necessary for flood control features. Trees within the levee footprint and within 15-feet of the levee toes shall have roots that are 1.5-inches in diameter or greater removed to a distance of 3-feet from the tree trunk. Single roots are not to be removed closer than the 3-feet distance from the tree trunk but clumps of roots or "root balls" encountered at the 3-foot perimeter of the tree trunk should be removed.

Foundation Dewatering

Dewatering wells will be installed at intervals along the reaches of the site to be excavated. The wells will be cased, connected to header pipes and pumped by well point pumps to remove groundwater and lower the water table to facilitate excavation. Depending on the observed rate of drawdown, the number of wells and pumps may be varied to protect the construction schedule. Foundation water will be collected, treated and discharged in accordance with permit requirements.

Clearing and Grubbing

This task will consist of clearing vegetation and debris from the immediate work areas. Unwanted materials will be removed from the work area including, but not limited to, trees, stumps, roots, brush, downed timber and rubbish. Cleared materials will be consolidated and stockpiled at a designated disposal area.

Stripping

Topsoil is to be stripped from the proposed levee footprint to prevent organics form being mixed with embankment materials. Generally, the stripping operations will include the levee footprint and the areas extending 15 feet from the proposed levee waterside toe and 30 feet from the proposed levee landside toe. This topsoil will be stockpiled and placed on all exposed levee slopes following levee construction to provide nutrient-rich material for vegetative growth.

Excavation

Existing levees will be excavated, and the resulting material transported and stockpiled as necessary to make way for new flood protection features capable of providing flood protection from projected floods and future sea level rise. Excavated levee material may be re-used for ecotone transition zone (T-zone) fill, if the materials meets the ecological specifications for such use. Excavated fill material that does not meet T-zone specification or is surplus to requirements shall be off-hauled and disposed at an approved facility.

Levee/Transition Zone Embankment Placement

Levee and transition zone embankments shall be constructed of suitable earth materials obtained either from materials excavated on-site or from suitable borrow sites. Levee embankment material will be placed in uniform layers and compacted to form a uniform, impermeable flood barrier. Transition zone embankments will be placed at a gentle slope and vegetated to provide habitat for endangered species and native vegetation, and to mitigate wave run-up and erosion.

Geogrid Reinforcement

Geogrid will be installed in the foundation of engineered levees to minimize differential settlement. Levee foundation will be cleared and grubbed and stripped as described above. Once the levee foundation is deemed suitable and inspection trenches have been backfilled, geogrid will be unrolled, placed and secured immediately prior to placement of engineered levee fill.

Water Control Structures and Flood Gates

Water control structures such as tidal gates and flood gates will be constructed across property entrances and roadways where necessary to maintain access during normal operation, and to hold back flood waters during floods. Water control structures such as pump stations and culverts with uni-directional gates (flap gates) will be constructed where necessary to maintain interior drainage into the Bay. Excavation in the immediate vicinity of gates and pump stations will be performed to establish a structural concrete foundation. Excavated materials will be handled similarly as for excavated levee materials. Reinforced concrete foundation and footing will be placed and cured. Tidal gate and pump station infrastructure will be installed.

Demolition

The contractor shall remove existing fences, debris, boulders, concrete blocks, abandoned utilities, and all objectionable material from the work site. All trenches left after demolition activities will be backfilled. Existing paved paths will be demolished and removed to accommodate new levee setbacks and recreational trail improvements. Existing utilities will be safely relocated when they conflict with proposed features.

Asphalt Concrete Pavement

The paved pathways of this project will become a portion of the California Bay Trail, a planned 500-mile walking and cycling path bordering the entire San Francisco Bay, running through all nine Bay Area counties, 47 cities, and across seven toll bridges. The Bay Trail provides cyclists and pedestrians an up-front view of California's wildlife community and a fantastic view of the bay. The trail will be constructed of a smooth asphalt concrete surface with clean painted lines

and directional signs. Interpretive signs will also be placed to inform users of the natural, cultural and historic features.

Aggregate Surface

Levee reaches that require permanent vehicle access along the top of the levee will have aggregate base rock placed and compacted on the top of the levee. Aggregate will be delivered and stockpiled on-site, then placed, spread and compacted on the levee top using suitable equipment that will not deform or damage the newly constructed levee fill.

Floodwalls

In areas where space is too constrained for a flood control levee, permanent floodwalls will be constructed to provide flood protection. Construction will entail clearing and grubbing, stripping and dewatering activities as described above. Sheet piles will be driven to a specified depth, and encased above ground with concrete.

Hydroseeding

After soil disturbance is complete, earthen surfaces will be stabilized with a hydroseed slurry, transported in a tanker truck or trailer and sprayed over prepared surfaces. Hydroseed mixes used will be approved by relevant permitting agencies. Hydroseed will not be applied to ecotone transition zone slopes.

Ecotone Transition-zone Re-vegetation

Ecotone transition zones will be re-vegetated to create high-quality transitional salt marsh habitat. Seeds, plantings, methods and materials will be approved by the appropriate regulatory agency and are expected to include hand planting and seed broadcasting. Transition zone morphology will be carefully designed to provide upland refugia for specific native species.

Oyster Shell and/or Pea Gravel Placement

Oyster shells and/or pea gravel will be placed in specified areas of tidal ponds to enhance bird nesting habitat. Shells and/or gravel will be placed in localized areas and spread to a specified fraction of surface coverage using methods that minimize ground disturbance and habitat degradation. Permissible methods will be defined upon consultation with the regulatory agencies.

Demobilization

Demobilization will include all activities for transportation of personnel, equipment, and supplies not required or included in the contract from the site, including disassembly, site cleanup, removal of offices, buildings and other facilities assembled on the site specifically for the project.