

Work Plan No. A.09-01 HMC2_East Storage Yard Optimized Design IFB

Scope:

This scope of services provides the activities associated with the two (2) construction Contract documents to allow BART to configure and install the running rail, ties, and special track work necessary to establish the HMC-Phase-2 East Storage Yard and the subsequent egress and related track work that supports the overall project design.

Contract No. 01RQ-103, Optimized East Storage Yard

2.1. Project Description

- The Consultant will redesign the storage yard configuration, including southern trackwork leading into Hayward Test Track (HTT) and connect with the A2 revenue track, south of Whipple Road.
- Redesign efforts include the following removals from the scope of work relative to the previous 100% design:
 - Sound Wall 1
 - AZE Site Bioretention Area
 - AZE Gap Breaker Station
 - Retaining Wall 8
 - Retaining Wall 9
 - Industrial Parkway Bridge
 - Retaining Wall 7
 - All impacts to HARD Driving Range operations
 - Train Wash
 - Car Cleaning Platform
 - Cart charging Facilities
 - Train Operator/Car Cleaner (TOCC) Facility

- Golf Cart/Pedestrian Bridge
 - Extended Whistle Stop
 - Trash Enclosures & Paving
 - Inspection Pit
 - Retaining Wall 6
 - Northern TF10 track connection to mainline track A2
 - Remove all improvements north of TF10 track station 35+00
- Redesign efforts include the following modifications to the scope of work relative to the previous 100% design:
 - Storage Tracks – Redesign EST1 to EST8 storage tracks north of EST1 track station 15+00 and south of EST1 track station 29+50 to maximize vehicle storage capacity providing no less than 250 car storage. Storage track design from EST1 track station 15+00 to 29+50 is assumed to remain unchanged for tracks EST1 to EST8.
 - AZF Gap Breaker Station - Relocate from current location to north of proposed TPSS-AEY site. Consultant will evaluate Gap Breaker Station (AZF) for use in optimized design. Design of the station from a structural, exterior, interior, and equipment layout perspective is assumed to be unchanged, but relocated to a new location.
 - Traction Power Substation (TPSS) (AEY) – Evaluate TPSS AEY for use in optimized design. Design of the TPSS AEY will remain unchanged. If modifications are required, they will be performed by others.
 - Primary Bioretention Area – Update bioretention design per updated track layout and minimize impacts to existing wetlands on the project site
 - Pump Station – Update pump station design per updated drainage design
 - Train Control House (A74) – Relocate from current location to north of proposed TPSS – AEY site. Design of the house from a structural, exterior, interior, and equipment layout perspective is assumed to be unchanged, but relocated to a new location.
 - Retaining Wall 1B – Update wall design to account for updated track layout and site grading
 - Retaining Wall 4 – Update wall design to account for updated track layout and site grading
 - Update civil, grading, and access elements north of EST1 track station 15+00 and south of EST1 track station 29+50 to accommodate revised yard design. Civil and access elements will be reviewed and updated as needed for relocated AZF Gap Breaker Station and Train Control House (A74). Aside from that, civil, grading, and access elements from EST1 track station 15+00 to 29+50 are assumed to remain unchanged.
 - Consultant will attempt to optimize utilization of special trackwork already procured by BART in the redesigned yard layout. BART to provide detail of previously procured trackwork at NTP.

- Demolition and existing condition information will be updated to reflect the recently completed civil grading contract condition.
- Redesign efforts include the following additions to the scope of work relative to the previous 100% design:
 - Southern storage yard track connection – Design of new yard lead track at southern end of storage yard through use of HTT track and a new mainline connection to A2 track.
 - At mile post 19.4 add two (2) new #15 RH crossovers
 - Additional pocket track – consider adding pocket track near existing rail storage racks. Provide minimum 250 car vehicle storage capacity in the yard.

2.2. Project Management

2.2.1. Project Management

- Consultant will manage the design team, provide monthly status reports, conduct internal project reviews, and prepare project invoices.
- Maintenance and reporting of project expenditures to project manager and other BART stakeholders, such as BART Finance and Office of Infrastructure Delivery (OID) management.
- This scope of work excludes formal scheduling, project controls, and document control services. TYLin will perform a level of task tracking, coordination, and document management consistent with our standard project management and quality assurance protocols to support effective delivery of the work; however, dedicated staff or deliverables for these functions are not included within this scope.

2.2.2. Quality Control/Assurance

- See Section 9 below for quality control and quality assurance.

2.2.3. Meetings

- Consultant will facilitate and document project meeting minutes and distribute the key agreements to its engineering team. A list of typical meetings is provided below:
 - Facilitate bi-weekly meetings with the Design Team, Construction Management Team, Consultant and stakeholders to include Track, Civil, Systems, Environmental, and other design related updates.
 - Site walks with the Construction Management Team – Up to 3 total site walks during design development with up to 3 key personnel per walk.
 - Monthly Risk Management Review Meetings

- Bi-Weekly CBTC Coordination/Train Control Engineering Meetings
- Quarterly HMC2/TPSS Procurement Project Interface
- Consultant will attend up to 10 coordination meetings total for coordination purposes. Included will be BART stakeholders, including Maintenance and Engineering, Operations Planning, Operations, and other design and construction activities in the HMC Complex. Meetings are assumed to be held virtually. Consultant will prepare memorandums formalizing agreements on project decisions, interproject agreements, and with third party agencies and stakeholders.
- Attend up to four (4) additional meetings in support of design review activities.

2.3. Track

The Consultant will redesign the storage yard layout and the southern track connection to the main line to accommodate a minimum storage capacity of 250 vehicles. The northern yard connection is removed and excluded from this scope of work.

2.3.1. Southern Mainline Connection

- Design a new connection at the southern end using A77 interlocking.
 - Connection will pass underneath the existing Whipple Ave bridge. It is assumed that no design effort or modifications to the Whipple Ave bridge will be required.
- Include ~0.4 miles of new Yard Lead HTT track and two new No. 15 crossovers.
- Prepare or update the following drawing disciplines:
 - Track plan and profile
 - Geometry data sheets
 - Typical sections
 - Track cross sections
 - Trackwork installation drawings
 - Track charts
 - Track drainage

2.3.2. East Storage Yard (ESY) Reconfiguration

- Add two new No. 10 turnouts.
- Convert existing No. 8 LH turnout to a No. 8 LH crossover.
- Consider adding new pocket tracks to fit a 10-car train parallel to the southern track.
- Modify yard configuration and maintain minimum 250 car storage capacity
- Prepare or update the same set of drawings as listed above

- Storage Track Extension
- Extend storage yard to include 8 new tracks, accommodating up to 56 cars.
- Prepare or update the same set of drawings as listed above

2.4. Civil

Consultant will update Demolition, Existing Conditions, Site, Grading, Roadway, Striping and Signage, Retaining Walls, Wetland Mitigations Site, Construction Staging, UPRR Temporary Barrier drawings and related details north of EST1 track station 15+00 and south of EST1 track station 29+50 to accommodate revised yard design as noted in Section 2.0. Civil and access elements will be reviewed and updated as needed for relocated AZF Gap Breaker Station and Train Control House (A74). Aside from AZF Gap Breaker and TCH impacts, all elements from EST1 track station 15+00 to 29+50 are assumed to remain unchanged.

2.4.1. Demolition

- Demolition drawings will be updated to address the site redesign elements noted in Section 2.0. Up to two (2) additional demolition drawings will be added south of Whipple Road to capture demolition work related to the southern HTT and mainline connections.

2.4.2. Existing Conditions

- Existing condition drawings will be updated to reflect the revised project limits and latest survey information from the recently completed civil grading project Contract No. 01RQ-102A. Up to two (2) additional Existing Conditions drawings will be added south of Whipple Road to capture expanded work limits related to the Southern HTT and mainline connections.

2.4.3. Site Design/Grading

- Consultant will update civil, grading, and access elements north of EST1 track station 15+00 and south of EST1 track station 29+50 to accommodate revised yard design as noted in Section 2.0. Civil and access elements will be reviewed and updated for relocated AZF Gap Breaker Station and Train Control House (A74). Aside from that, civil, grading, and access elements from EST1 track station 15+00 to 29+50 are assumed to remain unchanged.

2.4.4. Pump Station Design

- Pump Station design will be reviewed in coordination with the updated drainage design. Pump station plans will be updated to reflect the final drainage concept.
- Equipment, Electrical, Structural and Hydraulic details will be updated to reflect final drainage concept

2.4.5. Roadway/Path Design

- Roadway design – Roadway plan and profiles, sections, and details will be updated to account for updated site design. Roadway elements from EST1 track station 15+00 to 29+50 are assumed to remain unchanged.
- Striping and Signage plan – Plans will be updated to account for updated site design. Roadway elements from EST1 track station 15+00 to 29+50 are assumed to remain unchanged.

2.4.6. Retaining Walls

- It is assumed modifications to retaining walls are limited to Walls 1B and 4. Walls 1B and 4 will be updated to reflect the revised track and grading design. All other walls will remain unchanged or removed from the project.

2.4.7. Wetland Mitigation Site

- Wetland Mitigation Site will be updated to reflect revised mitigation requirements resulting from updated environmental analysis.

2.4.8. Construction Staging Plan

- Construction Staging plans will be updated to account for updated site design.

2.4.9. UPRR Temporary Barrier Plan

- Plans will be updated to account for updated site design. Barrier Plan from EST1 track station 15+00 to 29+50 are assumed to remain unchanged.

2.5. Drainage

2.5.1. Drainage Report

- The revised site design will require updates to the site-specific area delineations. The 100% Drainage Report will be updated inclusive of hydrology and hydraulic calculations.

2.5.2. Stormwater Management Plan

- The 100% Stormwater Management Plan (March 2023) will be updated and include updates to the bioretention basin design, trash control design, and water quality treatment design will need to be updated.
 - The bioretention will be modified from its current design configuration in an attempt to avoid the wetlands in the area. At the time of this scope it is unknown if impacts can be avoided or reduced.
 - Consultant will attempt to find an alternative solution to the current storm drain pump station. If successful, the bioretention basin will be redesigned.
 - Trash screens will be designed to reduce the risk of trash from entering the underground pipe system.

- A CDS unit(s) will be designed to separate and collect offsite trash from entering the underground storage system, pump station, and bioretention basin.

2.5.3. Drainage Plans

Consultant will update drainage design per project scope changes listed above.

- Drainage Plans and Profiles – assume 38 combined plan and profile sheets
- Drainage Details – assume 5 detail sheets will be updated
- Underdrain Plans and Profiles – assume 38 combined plan and profile sheets

2.6. Right of Way

- Consultant will review the latest version of the Right of Way drawings for the project. Consultant will update the Right of Way drawings for the HARD wetlands area and prepare a legal description and plat to support acquisition of real property rights. Consultant will attend one ROW coordination meeting, assumed virtual. Consultant will prepare 100% Right of Way drawings for submittal with the engineering plans and prepare Legal Description and Plat of HARD wetlands area. It is assumed that there will be no other right of way acquisitions needed for the project.

2.7. Survey

2.7.1. Survey Control Drawings

- The Survey Control Drawing will be updated to the optimization project information in the title block.

2.7.2. Digital Planimetric/Topographic Mapping

- Imagery Acquisition – Consultant will obtain stereo aerial photography of the project alignment using calibrated cartographic camera equipped. The photography will be taken at an altitude of 1,800 feet, resulting in an average scale of photography of 1" = 300'.
- Ground Control Survey – A ground control survey using a combination of GPS and "conventional" land surveying equipment and techniques will be employed to establish horizontal and vertical control. The control will be based upon the California Coordinate System of 1983 (2004.0), Zone 3. Elevations will be referenced to the North American Vertical Datum of 1988. Eight (8) targets will be set to provide horizontal and vertical control. As the proposed targets are off of the HMC site, this work will be done during normal business hours.
- Digital Planimetric/Topographic Mapping – Upon completion of the ground control survey and acquisition of aerial photography, Consultant will compile a digital topographic map at a scale of 1" = 40' with a contour interval of one foot within the mapping limits. Breaklines and spot elevations will be digitized to

create a digital terrain model (DTM). Planimetric features digitized will be typical for a map scale of 1" = 40'.

- Digital Orthophotography – Consultant will prepare digital orthophotography of the project alignment at a scale of 1" = 40'. In accordance with standard mapping practice, images will be rectified at ground level.

2.7.3. Supplemental Filed Surveys

Consultant will use up to 80 hours of a two-person survey crew (night work) for the project to support field survey needs. Consultant will validate the existing survey control at the site and to be shown in the Survey Control Drawing described above.

2.8. Utilities

- Consultant will update the Utility Composite drawings for the sewer line and storm drain changes. Consultant will assess the service line and tie-in points for the Sanitary Sewer and update per the latest site design. It is assumed that BART will notify the consultant of any utilities constructed since the previous design effort and provide as-builts shortly after NTP.
- MEP Utility Design Scope
 - Resize/design main service for new yard layout including deletion of major facilities including TOCC Building, Train Wash Facility, Inspection Pit, AZE Gap Breaker and associated Mechanical, Electrical and Plumbing facilities.
 - Relocate AYE and Train Control House A74 to new location and revise all facilities as needed.
 - Finalize Train Control House HVAC and plumbing
 - Adjust all Site Electrical and Site Lighting for new yard layout
 - Adjust Fire Water and Domestic Water designs for new yard layout
 - Assumes no changes required for the AEY TPSS
 - Assumes AYE Gap Breaker and Train Control house are being relocated with no other modifications to interior electrical/plumbing designs

2.9. Building Structures

2.9.1. Removals

- The TOCC, Cart Charging Canopy, AZE Restroom, Gap Breaker Station AZE, Car Cleaning Platform, Train wash, Inspection Pit, Trash Dumpster Enclosure, and the Trash Holding Area structures have been removed from the project – Consultant will remove these from the drawings and calculations packages.

2.9.2. Relocations

- Gap Breaker Station AZF will remain in the project and be relocated to a new location near the former TOCC location. Consultant is designing only the foundations for this prefabricated building. We note the new location of the building will be on poorer soil and the foundation will need to be re-designed.

- The Train Control House A74 Building will remain in the project and be relocated to the former location of the TOCC building. The shape and footprint of this CMU building may change due to site constraints. This scope assumes no change to the building structural system. We note the new location of the building will be on poorer soil and the foundation will need to be re-designed.
- Consultant will perform and provide structural calculations.

2.10. Architectural

- Proposed Gap Breaker Station (AZF) and Train Control House (TCH) will be relocated to the triangular area adjacent to proposed TPSS (AEY). Relocation will likely require modifications to overall footprints including exterior stairs and building access points. Minor interior adjustments to fit at the new site location will also be required. It is anticipated the Architectural drawing set will be reduced from 157 drawings to 37 drawings, deleting 120 drawings from the set. It is assumed that significant redesign of the interior equipment arrangements and/or layouts resulting in a need to alter the building footprint and overall building design will not be required.

2.11. Traction Power

- Delete AZE and associated raceways and cables
- Relocate AYE to new location and revise all raceway/Cable Schedules as required for new track layouts.
- Maintain current location of AEY TPSS and adjust raceway as needed for new Track Layout
- Revise 3rd rail designs, including feed points, negative returns and bonding as required for new track configurations
- Revise MOS Locations as required for new track configuration
- Update 34.5kV Design for feeding the AEY TPSS based on the As-built condition from the 15EJ-180 project.
- Assumes 34.5kV Design for Northward connection towards ASH is limited to raceway design to the north work limit of the HMC ESY Project at Approximately MP17.95(A2)
- Assumes the south end third rail for new crossover will be fed from HTT 3rd Rail section AHT01

2.12. Train Control

- Delete Train Control equipment for descoped track and ladder tracks at north end of facilities
- Revise wayside signal design (switches, signals, track circuits, bonding and raceway/cabling) for new yard layout

- A74 Train Control House to new location and revise all raceway/Cable Schedules as required. Fire protection design for the house is assumed to be done by future contractor or manufacturer.
- Add train control infrastructure for CBTC equipment for South end Interlocking (to be added to A78 Interlocking), including raceway, cabling, signal foundations, switch machines and modifications to the existing SPSC-1.
- Assumptions for Train Control Design
- Assumes Room Equipment and logic design for new A2 Mainline to HTT crossover will be performed by the CBTC Contract.
- Assumes Room Equipment and logic design for upgraded A2 Mainline to HTT at switches SW61 and SW 63 and Derail DR65 will be performed by the CBTC Contract.
- Assumes the CBTC Project will provide infrastructure requirements for the A2 Mainline to HTT connection including cabling requirements and equipment locations
- Assumes Yard Train Control will be based on DMP Hitachi MicroLok II ViPro interlocking equipment.
- Assumes Track Circuit design will maintain double rail 100Hz power frequency equipment. Use of Axle counter may be considered as design progresses.

2.13. Communications

- Delete Communication Systems for descope facilities including TOCC Building, Train Wash, Inspection Pit, AZE Gap breaker
- Revise Site Communication equipment design (CCTV, Blue Lights, MOS Status, Aux Comm Cabinets and raceway/cabling) for new yard layout
- Relocate AYE and A74 Train Control House to new location and revise all raceway/Cable Schedules as required
- Maintain current location of AYE TPSS and adjust raceway as needed for new yard layout
- Design alternate route for communication fiber optic cable connection to the existing yard control with deletion on golf cart bridge
- Assumes AYE Gap Breaker and Train Control house are being relocated with no other modifications to Communication and Fire Alarm designs

2.14. Geotechnical

- The following reports will be updated to incorporate updated recommendations and resubmitted as final documents:
 - Foundation Report, Hayward Maintenance Complex (Phase 2), East Storage Yard, dated March 3, 2023
 - The Logs of Testing Borings (LOTB) sheets will be updated. Additional LOTB sheets will be prepared for data along the new track that were not presented in the previous studies.

- It is assumed that no additional field exploration will be required for this scope of work. Design recommendations will be developed based on the available boring/CPT data from previous studies. The seismic design criteria are assumed to remain the same. No updates are required to the Seismic Analysis Report.

2.15. Specifications

- Consultant shall update the project specifications and special provisions for the updated design. Specifications will be reviewed and updated to conform with BART Contract Specifications Preparation Manual Section 3.03. Previous comments will be addressed and specifications will be submitted with 100% submittal. Consultant will respond to and address 100% BART comments and stamp final IFB documents.

2.16. Cost Estimate

- Consultant will prepare a detailed cost estimate. Consultant will provide two construction cost estimates (opinion of probable construction cost) one at 100% and one at IFB. Assume that soft costs will be provided by BART for our incorporation into the overall cost estimate.
- The construction cost estimate includes the following:
 - Scoping the project
 - Updating quantity takeoffs for areas that have been optimized
 - Pricing the estimate both the optimized portions as well as the unchanged portions of scope. Note that all line items will be updated from 2023 prices to current pricing
 - Estimate for 01RQ-103 will use the estimate previously prepared by TY Lin, as the starting point, filename: BART HMC2 100_ Cost Estimate (Draft) 04 26 2023
- Exclusion to the scope:
 - Reconciliation with 3rd party estimates
 - Preparing of unit price bid schedule. Estimate deliverable will include an estimate summary by CSI and by FTA SCC.
 - Value Engineering or Options Estimating
 - Coding of Estimate to facilitate calculation of DBE/SBE sub opportunities
 - Bid Support
 - Construction Phase Support
 - Estimating soft costs

2.17. Bid Support

- Consultant will provide Issue for Bid (IFB) support to address up to 40 requests for information/clarification during the bidding process.

2.18. Environmental

- TYLIN will provide environmental services to BART for the HMC2 Optimization Plan, focusing on currently proposed project changes. These services include:

2.19. Noise and Vibration Study Addendum

- To support the environmental analysis of project-related noise and vibration impacts, the 2011 Noise and Vibration Study will be reviewed and supplemented with new field measurements south of Whipple Road. An Addendum will be prepared to evaluate potential noise and vibration impacts associated with the proposed project changes, with a focus on the proposed connection and crossover south of Whipple Road. Updated train operations at the HMC and along the nearby tracks will be incorporated in the Addendum. The analysis will assess the degree of noise and vibration impact resulting from project changes and will identify mitigation measures, if warranted. . One round of review by BART and one revision of the Addendum to the Noise and Vibration Study is included under this task.
- Long-term (two- to three-day) noise measurements will be conducted at multiple locations to characterize existing ambient noise levels in the communities south of Whipple Road. Short-term measurements will also be performed to document noise and vibration from train passbys and to support the acoustical modeling analysis.

2.20. Biological Resources Study Addendum

- An Addendum to the 2022 Biological Resources Study will be prepared to identify the presence of any newly listed sensitive and special status plant and animal species within the areas to be disturbed by the proposed project changes. As part of the Addendum, verification of impacts to wetlands (e.g., at the new site of the proposed bioretention basin and ditches that would be replaced with underground pipe) will be made. A tree survey of the bioretention site and for track access south of Whipple Road will also be provided to identify trees to be removed and replaced. Applicable and new mitigation measures for sensitive biological resources and wetlands will be identified in the Addendum. One round of review by BART and one revision of the Addendum to the Biological Resources Study is included under this task.

2.21. Addendum to BART's CEQA IS/MND

- An Addendum to the 2011 IS/MND and 2022 Supplemental IS/MND will identify proposed changes to the HMC2 project, including the construction of the proposed crossover south of Whipple Road and the bioretention basin north of the storage yard. An environmental site condition assessment will be performed to identify the current field conditions of the project site. The impacts of these and

other proposed changes on each environmental issue area will be evaluated in the Addendum. Assuming that no new impacts to mitigation measures are identified in the Addenda to the Biological Resources Study, and Noise and Vibration Study, an Addendum to the 2011 IS/MND and 2022 Supplemental IS/MND will be prepared that identifies the potential impacts of the project changes and the applicability of mitigation measures in the IS/MND and Supplemental IS/MND.

Two rounds of review by BART and two revisions of the Addendum are included under this task.

- It is assumed that no new or more severe impacts would occur and no new mitigation measures are needed (as may be identified under other environmental tasks). Else, a 2nd Supplemental IS/MND may be necessary and would be prepared as a separate and additional task.
- Since the proposed connection and crossover south of Whipple Road was evaluated in the 2011 IS/MND and the new bioretention site was evaluated in the 2022 Supplemental IS/MND, it is assumed that the existing Cultural Resources Assessments previously prepared are still valid and additional Section 106/Cultural Resources Assessment will not be required for the CEQA Addendum.

2.22. Re-evaluation of FTA'S NEPA CE

- A completed FTA Categorical Exclusion checklist, description of the proposed project changes, preliminary plans, Addenda to the Biological Resources Study and Noise and Vibration Study, will be submitted to the FTA to obtain concurrence that a CE under 23 CFR 771.118 remains applicable to the proposed project.
- One round of review by BART and one revision of the Categorical Exclusion checklist is included under this task. Two rounds of review by FTA and two rounds of revision of the CE.
- Should FTA require other technical studies or documentation from BART regarding the proposed project, the additional work effort will require a budget augment. Also, should FTA determine that a CE is not applicable, an Environmental Assessment may be needed and can be prepared as a separate task.
- Since the proposed connection and crossover south of Whipple Road was evaluated in the 2011 IS/MND and the new bioretention site was evaluated in the 2022 Supplemental IS/MND, it is assumed that the existing Cultural Resources Assessments previously prepared are still valid and additional Section 106/Cultural Resources Assessment will not be required for the FTA Re-evaluation.

2.23. Environmental Permitting

2.24. Section 401 Water Quality Certification (WQC)

- Consultant will prepare a Section 401 and WDR permit application for submittal to the San Francisco Bay Regional Water Quality Control Board (RWQCB). This will include a pre-application meeting/call and a site visit with RWQCB and other resource agency staff and submission of technical studies (e.g., project plans, H&H Study, Biological Resources Study) and other permitting documents that have been completed. TYLin will regularly follow-up with RWQCB staff to obtain permit status. It is assumed that compensatory mitigation for the project would come from an offsite mitigation bank or in-lieu fee program accepted by RWQCB and that onsite mitigation will not be identified and a Habitat Mitigation and Monitoring Plan would not be required. In addition, it is assumed that BART will be responsible for any off-site mitigation requirements, and that this process is ongoing in coordination with the USACE, RWQCB and CDFW. Should other technical studies be requested by RWQCB other than what has been prepared for other documentation, TYLin will provide those as separate and additional tasks. Two rounds of review by BART and two revisions of the 401 Permit Package are included under this task.

2.25. Section 404 Nationwide Permit (NWP)

- Consultant will schedule a pre-application meeting with the U.S. Army Corps of Engineers to discuss permitting requirements. This scope assumes that a NWP would be applicable for the project. Consultant will prepare a Nationwide Section 404 permit application, including project plans, technical studies, and prior AJD and PJD for submittal to the USACE. Consultant will arrange for one site visit with USACE and other resource agency staff. However, preparation of an on-site or off-site Habitat Mitigation and Monitoring Plan is not included in this scope of work. TYLin will regularly follow-up with USACE staff to obtain permit status. It is assumed that compensatory mitigation for the project would come from an offsite mitigation bank or in-lieu fee program accepted by USACE. In addition, it is assumed that BART will be responsible for any off-site mitigation requirements, and that this process is ongoing in coordination with the USACE, RWQCB and CDFW. Two rounds of review by BART and two revisions of the 404 Permit Package are included under this task.

2.26. Section 1602 Streambed Alteration Agreement (SAA)

- Consultant will prepare a Section 1602 permit application for submittal to the California Department of Fish & Wildlife. This will include one site visit with CDFW and other resource agency staff and submission of project plans and technical studies (previously prepared by the project). Preparation of an on-site or off-site Habitat Mitigation and Monitoring Plan is not included in this scope of work. TYLin will regularly follow-up with CDFW staff to obtain permit status. It is assumed that compensatory mitigation for the project would come from an

offsite mitigation bank or in-lieu fee program accepted by CDFW. In addition, it is assumed that BART will be responsible for any off-site mitigation requirements, and that this process is ongoing in coordination with the USACE, RWQCB and CDFW. Two rounds of review by BART and two revisions of the 1602 Permit Package are included under this task.

Contract No. 01RQ-XXXX, Mainline Crossover Design

Consultant will design and repurpose switch 61 on HTT to a new No. 15 left hand turnout provided by BART. Main Line Crossover designs shall be submitted to BART for review and acceptance. Installation to be performed by BART Labor and this design task will not be part of the IFB set of drawings discussed above. It is assumed Room Equipment and logic design for new A2 Mainline to HTT crossover will be performed by the CBTC Contract.

2.27.Track

Consultant will replace the existing No.15 LH turnout at switch 61 with a new No.15 LH turnout supplied by BART. No other track or civil modifications are expected for this effort.

Prime: TYLin-TSE JV

Subconsultant	Amount
Elcon/DEA	\$ 262,898
Robin Chiang	\$ 138,469
SOHA	\$ 146,503
A&S	\$ -
YEI	\$ 493,784
OPAC	\$ 99,208
Charistech	\$32,387.04
Towill Inc.	\$ 138,885
M. Lee	\$ 163,001
Colmena	\$ 29,551
Parikh	\$ 28,348
Landrum & Brown Inc.	\$ 43,327

Total Work Plan Value: \$ 4,131,185