**BART Agreement Number: 6M8143** **Approval Date: 12/19/25**

## Work Plan No B.58-01 16th Street Mission and Bay Fair Station Elevator Renovation

## Scope:

**Project management**

- Project management support throughout project time span
- Coordinate HDR's project staff with Elevator Consultants (ATIS) project staff.
- Coordinate weekly design meetings with design team and BART project staff.
  a) Take meeting minutes.
- Arrange kick-off meeting.
- Maintain Document control system to keep incoming client information and outgoing deliverables organized.
- Design Quality management process for project deliverables.
- Develop project schedule and update accordingly.
- Internal design team document control process to be coordinated with BART's team process.
- Monthly progress report and status to BART

**Conceptual Engineering Report**

- Preliminary review of client-provided documents applicable to scope of work. Documents may include as-built drawings and other design documents, previous reports, and/or past repair records.
- Attend one site visit/survey with ATIS, HDR and BART staff.
  a) BART provide approval for technical staff to travel prior to site survey.
  b) Conduct a survey of the existing accessible equipment to determine its condition, remaining service life, and potential for reuse. The survey will include, but not limited to:
  (1) Machine Room: Hoist machine, power unit, power conversion unit, governor, and controller.
  (2) Hoistway: Guide rails/brackets, car sling and platform, counterweight, guide shoes, safety, buffers, car door operating equipment, sheaves, hoistway door operating equipment, cables, wiring, switches, sills and supports.
  (3) Corridor: Pushbuttons, signal fixtures, and hoistway entrances.
  (4) Car Enclosure: Pushbuttons, signal fixtures, emergency lighting, ventilation, normal lighting, car door protection, and interior finishes
  (5) Conduct one visual-only observation of the existing conditions of the elevator pits and determine the project scope.
  (6) Site visit will include visual isolated leak assessment.
  (7) OPTIONAL: If necessary/possible, Elevator sub-consultant team will perform leak replication testing per ASTM E2128-17, by spraying select enclosure components with water from a Monarch Nozzle. (*Will require additional follow-up site visit to perform*)
  (8) Other: Elevator integration with fire/life safety provisions, architectural finishes, security features, and monitoring panels.

- Coordinate and develop a conceptual engineering report that includes:
  a) Existing equipment disposition.
     (1) Recommendations on the type of equipment needed for modernization to comply with BART Facility Standards.
     (2) A summary of the present equipment which has potential for reuse.
  b) Replacement options.
  c) Current prevailing Elevator Code requirements, non-complying building conditions, and handicapped accessibility requirements relative to the equipment surveyed.
  d) Related work required by other trades.
  e) Conceptual Plan and Section drawings of the existing equipment and proposed solutions.
     (1) Arch Plan & Layout
     (2) Civil Plan
     (3) Structural Plan & Layout
  f) Water Intrusion Survey
  g) Provide sections in report to include the following:
     (1) Summary of observations and findings
     (2) Discussion of conclusions
     (3) Recommendations for BART to review and approve on the option to move forward with during the Phase 2 design procurement.
- Conceptual Engineering Report Meeting
  a) Meet with BART at BART headquarters (in-person with teleconference with staff) to discuss the findings and report recommendations.
  b) The purpose of this meeting will be to set goals for cost, performance, maintenance, and aesthetics. Elevator sub-consultant, ATIS, will also provide options for consideration (where they exist) regarding the areas of repair, the scope of repair, material selection, and project logistics.
  c) BART to approve the Conceptual Engineering Report and direct HDR with alternative to move forward with as part of Phase 2 design procurement.
     (1) If scope alternates or changes arise, such as the BART's request of seismic retrofit or machine room relocation, HDR to review and provide amendment for the necessary requested scope tasks from BART.
     (2) Additional hours estimate subject to revision based on finding of conceptual engineering report.

**35% Conceptual Layouts (Without machine room relocation):**

- General Design Support
  a) Review As-Builts and other important documentation provided by BART that would assist in determining the existing conditions of elevators and corresponding rooms/equipment.
  b) Perform detailed site survey/inspection of the 3 elevator units (#6, #33 and #34).
     (1) Site Survey includes review of elevator pits, pit drainage system, machine rooms, storage room, train control room, electrical rooms, and fire sprinkler system. Analyze existing equipment and identify what elevator components to be replaced and what components to be refurbished.

c) Prepare 35% conceptual design layouts that agree with the findings and recommendations of the Conceptual Engineering Report
d) Specifications Table of Contents that indicate future specifications that will be needed by discipline.
e) 35% conceptual design layouts will comply with BART Contract Drawing requirements.
f) Potential BFS/State variances that would be needed during phase 2 of this contract to be listed, as applicable.
g) Chair biweekly design meetings and produce meeting minutes within three business days.
h) Review/recommend the application of Remote Monitoring system into the future phase 2 part of this contract.
i) Analyze feasibility and design of machine room relocation for Bay Fair Elevator and 16th Street Platform Elevator.
j) Perform Quality Assurance and Quality Control on the Design package that adhere to Design Quality Checklist.

- Architecture Support
  a) Provide code compliance review and design of ADA concerning the immediate area of the new elevators. (ATIS/HDR)
     (1) Architectural code review of exits, egress, illumination
     (2) Architectural code compliance/modification letter
     (3) Provide necessary plans, notes, details and schedules.
  b) Review selection of building materials and elevator cab finishes and define its extent of application according to BFS.
  c) Review and coordinate concerning ADA, elevator code, and gurney access. ATIS will evaluate gurney access and provide BART with options and recommendations. (ATIS/HDR)
  d) Review and coordinate with fire protection engineer, Fire, Life Safety compliance.
  e) Maintain fire protection rating of the existing elevator shaft after renovation of the elevators.
  f) Review and recommend improvements to protect against water intrusion at the 16th Street Plaza level elevator shaft facade.
- Electrical Support
  a) Power Distribution to support Elevator Replacement - The existing main electrical distribution system will be analyzed for power capacity to support the new elevator machines/controllers. Branch circuit panels will be evaluated for capacity to serve the life safety circuits for the elevator cab and code required lighting and receptacles circuits needed for the elevator machine room, pit, and shaft.
  b) The existing machine rooms will be surveyed to confirm if they are CEC compliant and meet working clearance requirements for the new machinery. If the existing machine room is inadequate, HDR will consult with BART for feasible alternative locations.
  c) Lighting - The lighting will be upgraded to new LED lighting and controls suited to the current elevator code required illumination levels for the machine rooms, elevator shaft and pits.
- Fire Life Safety & Fire Protection
  a) Conduct a site visit for data collection and assessing existing conditions, including the current fire alarm system, sprinkler protection, and fire extinguisher systems. This information will be used to inform the design and installation of the emergency systems.
  b) Recommend method to integrate the existing fire alarm system with the new elevator controls to comply with code requirements for emergency recall operation (Phase I and Phase II) and in-car operation.

c) Provide recommendation of future connection of the new elevators' and machine room's fire alarm system to existing fire alarm system. (If identified during site survey assessment.)
d) Fire sprinkler head and heat detector in the elevator pit will be evaluated for replacement during conceptual engineering phase. Replacement shall be made in-kind with the same capabilities as existing.
e) Sprinklers not permitted in machine rooms per BFS
f) In situations where there are no existing fire alarm or fire suppression systems, the project will establish the fire alarm and fire suppression requirements for the new elevators.
g) Where meeting current codes is impractical; enhancements will be made with AHJ approval such that the level of safety is equal to or greater than the building's current safety level.
    (1) BASED on discussion with BART, non-conforming designs will go through the proper variance request process with BART and other agencies (as needed). BART will confirm and formally approve these variances as part of Phase 2 design procurement.

- Communications Support
    a) Plan review and support of the design team related to renovating the elevators and machine rooms.
    b) Coordinate and support the design of communications with SCADA, and RMS system (if needed).
    c) Coordinate with BART to provide SCADA that is ready for future monitoring system by others.
    d) Check code compliance and BSF compliance.
    e) Site visit for data collection and assessing existing conditions.
- Mechanical Support
    a) Plan review and support of the design team related to renovating the elevators and machine rooms.
    b) Check code compliance and BFS compliance.
    c) Recommend location of new mechanical cooling/heating units for each elevator machine room.
    d) Recommend the installation of a sump pump and oil discharge management system for each elevator shaft where feasible.
    e) Recommend of discharge piping from each sump to local drywell, where feasible; this design will be coordinated with BART to comply with MS4 requirements.
- Structural Support
    a) Plan review and support of the design team related to renovating the elevators and machine rooms.
    b) Check code compliance and BSF compliance.
    c) The elevators under consideration may be classified as either Hydraulic or Traction types, and the assessment scope and assumptions for each type are detailed below:
        (1) Hydraulic Elevators: Assume elevators will be replaced in kind and that elevator capacity and speed will be the same as existing. Assume existing elevator guide rails, hydraulic pistons and piston support structures will remain and no modification of the station structure will be required. If the structure requires modifications if guide rails, hydraulic pistons and piston support structures will need to be replaced. or if the elevator type needs to be changed to traction type, then additional hours for structural assessment and seismic evaluation will be required as outlined below.

(2) Traction Elevators: Assume elevators will be replaced in kind and that elevator capacity and speed will be the same as existing. Assume elevator manufacturer will design elevator structural members and that existing elevator guide rails, sheave/overhead beams, and machinery will remain, and no modification of the station structure will be required. If the structure requires modifications, if guide rails and sheave/overhead beams will be replaced, or if the elevator type needs to be changed to hydraulic type, then additional hours for structural assessment and seismic evaluation will be required as outlined below.

- Civil Support
  a) Plan review and support of the design team related to renovating the elevators and machine rooms.
  b) Check code compliance and BFS compliance.

**Prime: HDR**

| Subconsultant | Amount |
|---|---|
| ATIS | $ 44,644 |

**Total Work Plan Value: $ 613,947**