

**BART Agreement Number: 6M8149**

**Approval Date: 8/27/19**

## **Work Plan No. A.02-01 TBT Pump System Upgrades DSDC**

### **Scope:**

The Scope of Services is to provide design services during construction (DSDC) for the portions of Contract 09AU-120 for which WSP is the Engineer of Record. Specific activities include the following:

#### **2.1 REVIEW OF SHOP DRAWINGS, PRODUCT DATA, AND OTHER SUBMITTALS**

WSP will review Shop Drawings and Product Data for conformance to the requirements of the Contract Documents. Initial reviews of shop drawings, product data, and submittals shall be completed and returned to the District within fourteen (14) calendar days of receipt by WSP; subsequent reviews shall be completed and returned to the District within seven (7) calendar days of receipt by WSP. The District may request shorter review durations, depending upon the impact of the review time on the construction schedule. Submittals include, but are not limited to, the following:

- Pumps
- Ductile Iron, Hot Dip Galvanized Steel, and Stainless Steel Discharge Pipes
- Supports for new pipes
- Valves
- Flange Insulating Kits
- PVC Pipes, Fittings, and Joints
- Electrical Cable Trays, Hangers and Supports for Electrical Systems
- Splice Boxes, Medium Voltage Load Interrupter Switch, Motor Starters and Contactors
- Plumbing Control Systems
- Product Data for ductile iron, hot-dipped galvanized steel, and stainless steel discharge pipes
- Product Data for supports for new pipes, valves, flange insulating kits, PVC pipes, fittings, and joints
- Product Data for anchors and anchorage devices for electrical and mechanical systems
- Product Data for wall cabinets, receptacles, conduits, wires, power cables, temporary transformers, temporary power equipment, hangers and supports for electrical systems, splice boxes, medium voltage load interrupter switch, motor starters and contactors
- Pump Materials List, Construction Details, Performance Curves, Hydraulic Data, Motor Data, Paint Specification, Quality Manual, Spare Parts and Special Tools List, Factory Test Results
- Hydrostatic Leak Tests for Pumps and Pipes
- Field Test Reports for DC Disconnect Switches

#### **2.2 REVIEW OF CONTRACTOR TECHNICAL WORK PLANS**

- WSP will review the following Technical Work Plans from the Contractor for conformance to the requirements of the contract documents and fulfillment of the design intent. Such work plans include, but are not limited to, the following:
- Staging for Temporary Power
- Cart Charging Stations
- Third Party Testing of new Electrical Equipment and Facilities
- Commissioning of Pump System

#### **2.3 REVIEW AND RESPONSE TO REQUESTS FOR INFORMATION (RFIs)**

WSP will review and respond to Contractor's Request for Information (RFIs). Review and response of RFIs includes effort needed to develop design calculations, perform quality control calculation review, and generate sketches as needed to provide a complete response. As part of its review, WSP shall notify the District if the response to the RFI results in a change to Contract Documents. Responses to RFIs shall be completed and returned to the District within seven (7) calendar days of receipt of RFI by WSP. The District may request an expedited review of RFI(s), depending upon the impact of RFI response on the construction schedule.

#### 2.4 PREPARATION OF CHANGE NOTICE DOCUMENTS

WSP will prepare Change Noticed documents in the form of new or revised contract drawings and/or specifications as needed, to address Differing Site Conditions (DSCs) encountered in the field, and/or changes in revenue operations and safety policies and practices that alter how the work can be executed in the field. WSP will also prepare, compile, and furnish to supporting calculations to the District. Calculations shall be prepared and compiled per the BART Earthquake Safety Program standard format.

#### 2.5 FIELD INVESTIGATIONS AND MEETINGS

WSP will periodically participate in meetings or conference calls related to progress of DSDC efforts as requested by the District. These meeting shall be primarily with the District's PE and PM. WSP shall be available to meet at BART offices or at the project site when needed to address design issues, coordinate work with the Contractor, or to perform site investigations to either confirm that the Contractor is performing work in accordance with the Contract Documents or to gather data to address RFIs or develop Change Notices.

#### 2.6 INTERFACE DESIGN SUPPORT

WSP will provide design support for the TBT Internal Retrofit Project with respect to interfaces with external system stakeholders. Interface tasks include, but are not limited to, the following:

- Safety egress analysis during construction for BART System Safety
- Coordination of electrical facility cut-overs with BART Oakland Emergency Generator Project (OEG)
- Commissioning of new TBT Pump System with BART Maintenance and Engineering

#### 2.7 MANAGEMENT AND COORDINATION

WSP will manage the resources to perform tasks on schedule and within the approved budget. WSP will also maintain SSI clearance for those individuals assigned to the work plan. Work shall be tracked based on the tasks listed in this Work Plan. WSP will include in their monthly invoice a DSDC Activity Log showing open and closed DSDC tasks and the level of effort, and the cost spent on each. The Activity Log shall indicate deliverable type (Submittal, RFI, Change Notice, etc.), date when deliverable was requested, desired deliverable due date, and actual date that deliverable was completed and returned.

#### ASSUMPTIONS/EXCEPTIONS

The level of technical support assumed for this Work Plan is based on the rough breakdown below:

- DSDC will be provided by WSP for drawings and technical specifications for which Parsons Brinckerhoff, Inc. (now WSP USA Inc.) is the Engineer of Record.
- CN / CO drawings and technical specifications prepared by WSP will be coordinated and combined with Moffat & Nichol's civil and structural drawings and technical specifications in a collaborative effort by the District, Moffat & Nichol, and WSP.
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- In no event shall WSP or its subconsultants make any directive or communication to the construction Contractor that will affect the means or methods, time, cost or quality of construction.
- Cost estimating, scheduling and construction inspections are specifically excluded from this Scope of Services.

**Prime:** WSP USA Inc.

<b>Subconsultant</b>	<b>Amount</b>	<b>DBE (Y/N)</b>	<b>SBE (Y/N)</b>

**Total Work Plan Value:** \$895,545.00