

BART Agreement Number: 6M8150

Approval Date: 06/22/2022

Work Plan No.: A.08-01 - HMC2_ESY_Constructability Review

Scope:

2.0 SCOPE OF SERVICES

Construction Management Services (Constructability Review only) from April 2022 through March 2023 as required to perform constructability review of the Storage Yard contract documents. Administration of construction (CM service) of 01RQ-103 Storage Yard Contract will be under separate Construction Management Service contract and the District reserves all rights to select the same or different consultant to perform contract administration.

Constructability Review services includes the following items:

- Verify Technical & Economical feasibility of project at 90%, 100% and IFB design
- Identify Competing projects and their impacts on Storage Yard project
- Verify Statutory/regulatory (local, State, federal) constraints/assumptions
- Review/verify permit requirements and Environmental regulation change
- Identify funding risks such as un-established source of funding, changes in bond market and rates, volatility in inflation rate and cash flow uncertainties. This will be part of Estimator's scope of work
- Verify adequacy of marketplace supply
- Research effect of interaction with constituents on the scope
- Identify limited source of equipment and service providers

- Omissions in design and spec. identify all design exceptions and approval process if any
- At 90% and 100% design, check for Designer's inaccurate understanding of cost/schedule management, incomplete design, inaccurate assumptions on technical issue in planning stage, errors and omissions, insufficient design QA/QC, incomplete system integration, and changes to material/geotechnical/foundation
- Check design for any inconsistent assumptions and method of construction assumptions
- Review and verify Surveys
- Review and verify risk registry and mitigation factors including hazard waste site analysis incomplete, unforeseen design exceptions, new/revised design standard, late stakeholders request for change, and reviewing agency requires longer than expected review time
- Check for omitted quantities, incorrect escalation assumptions, underestimation of costs, incomplete or unreasonable schedule, insufficient level of schedule detail/integration, and inadequate contingency
- Check for ADA requirements and Labor/union regulations
- Verify Buy America and other procurement requirements
- Determine if limited number of bidders is a risk and identify mitigation factor, research workload of regional contractors, evaluate availability of supplies and subs and general economic climate that can affect bidding behavior
- Evaluate owner involvement risk including supplying material, testing, inspection, safety, MOUs and coordination with local agencies and community groups
- Verify required guarantees including contractor's bonds or letter of credit, Designer's liability insurance, consequential damages, liquidated damages, performance/quality insurance, cost/schedule guarantee
- Verify possible Differing Site Conditions including soil and rock conditions, water table and flow (underground work), and hazardous waste
- Evaluate limits on site access and identify means and methods to reduce the impact on cost and schedule
- Identify Archeological finds/sites if any, endangered species and other environmental concerns
- Check noise mitigation: supplemental structure, schedule restrictions
- Verify abutting structures and their conditions, existing utilities and their conditions
- Review and identify work schedule issues including inaccurate contract time estimate, insufficient permit work time window time, contingency due to differing site condition, unidentified utilities and environmental concerns, long lead time for special components, limited work hours and restriction on some construction activities such as demolition and/or trucking/shipment, and weather effects on schedule
- Identify unconventional required means and methods, restrictions to access to site, disruption to public and businesses, critical coordination with local agencies and

important stakeholders, critical coordination with supplier (long lead orders), cash flow and contractor payments, identify major equipment needed if any (possible back up equipment requirement), evaluate possible delay in mobilization due to equipment/labor shortage

- Consider Acts of God/force majeure events including inclement weather, earthquake, flood, fire, etc. and identify strategies to avoid/accept/mitigate risk factors
- Identify critical post-construction activities and responsible parties including full integrated testing, owner training, full commissioning, occupancy permit, and warranty issues

Prime: PreScience

Subconsultant	Amount	DBE (Y/N)	SBE (Y/N)
M Lee	\$269,853	Y	Y
RSE	\$115,554	Y	Y

Work Plan Value: \$621,544