CSX Transportation, Inc.

Request for Railroad Engineering Requirements for Inclusion into Design-build Project Bid Package for Proposed Port Access Roads in Charleston, Charleston County, SC at Eight (8) Locations,

Described as:

Site 1 - US 78/52 Bridge Replacement at CSX Railroad Milepost A‑388.57 (industry track)

Site 2 - US 78/52 Bridge Removal at CSX Railroad Milepost Milepost A‑388.57 (industry track)

Site 3 - New Flyover at CSX Railroad Milepost A‑388.57 (industry track)

Site 4 - US 78/52 Bridge Replacement at CSX Railroad Milepost ACN‑391.26, USDOT Crossing 631994L

Site 5 - US 78/52 Bridge Removal at CSX Railroad Milepost ACN‑391.47, USDOT Crossing 631995T

Site 6 - New Flyover at CSX Railroad Milepost ACN‑391.6,

Site 7 - New Bridge at CSX Railroad Milepost SH‑418.3 (Cooper Yard)

Site 8 - New Bridge at Stromboli Ave., CSX Railroad Milepost SH‑417.8, USDOT Crossing 632172D

CSX Transportations Project File: **OP No. SC0319**

Railroad requirements are provided to assist bidders and are based on CSX Transportation’s understanding of the project described above. Requirements for these locations are included; however, upon receiving plan submittals, CSX Transportation will provide a complete list of project specific requirements. CSX Transportation is hereinafter referred to as “CSXT”. South Carolina Department of Transportation is hereinafter referred to as “SCDOT”. Successful Design Build Team is hereinafter referred to as “Design Build Team” or “Contractor”.

A site investigation was performed on June 2, 2015, that included all locations stated above. The attached map depicts those locations; and herein referenced as: Site 1, Site 2, Site 3, Site 4, Site 5, Site 6, Site 7, Site 8. The Request for Railroad Engineering Requirements for Inclusion into Design-build Project Bid Package Agreement date May 26, 2015 included a Scope of Work which outlines “Engineering Requirements” to be provided by CSXT. Each scope item is copied below and is followed by a response and/or detailed CSXT requirements in bold type font.

1. Visit the project site to identify existing or potential issues or conflicts; including, but not limited to: utilities, wayside signals, etc. This is based on project information provided by SCDOT

**Based on the site visit, we do not foresee any challenges for the design-build team relating to railroad signals and communications (S&C), on any of the sites. S&C involvement may be necessary should an intermediate bridge bent be required within CSXT Cooper Yard, Site 7. At a minimum, overhead utility adjustments may be necessary at all sites. Utilities installed longitudinally along the tracks on CSXT Right-of-Way are not typically identified by SC811. It is the Design Build Team’s responsibility to locate utilities and coordinate utility relocations direct with CSXT.**

**CSXT utility design and construction requirements and specifications can be found at the following URL:** [**http://csx.com/index.cfm/customers/non-freight-services/propertyreal-estate/permitting-utility-installations-and-rights-of-entry/**](http://csx.com/index.cfm/customers/non-freight-services/propertyreal-estate/permitting-utility-installations-and-rights-of-entry/)

1. Provide a VAL map establishing CSXT ROW width.

**Valuation Maps “V00257” and “V05258” are included with this submittal. CSXT right-of-way is approximately 37-feet wide along the Charleston Subdivision at Site 1, 2, and 3, having railroad milepost A‑388.57. The right-of-way is approximately 295-feet wide beginning at RR STA 2808+17, narrowing to the south. The right-of-way limits starts at approximately 437-feet at RR STA 2808+17 and widens to the north, through the yard. Actual roadway alignment and railroad right-of-way widths will need to be verified during the Preliminary Engineering process. CSX Property Services was contacted to obtain exact right-of-way widths at each location. Additional roadway/bridge design information may be necessary to generate that information.**

1. Provide additional track and/or service road requirements, location of such, and spacing requirements

**Site 1, 2, and 3: No future track or additional accommodations for access are needed.**

**Site 4, 5, and 6: Assume one future track centered on the right-of-way and constructed at the same elevation as the adjacent, parallel Norfolk Southern track.**

**Site 7: Bridge design shall consider maximum future utilization of Cooper yard. That in includes truck access, drainage, and multiple future tracks. See Section 6 for additional information. 3**

**Site 8: Assume that the existing two tracks that are covered/partially covered at Shipyard Creek Rd. will be renewed and become operational within the lift of the new overhead bridge at that location.**

1. Provide train counts and define whether or not this an Amtrak line

**The Charleston Subdivision (RRMP A-388.57, 3 locations) industry track supports four (4) switching movements along the US-78 corridor projects, carrying mixed freight. The Andrews Subdivision (RRMP SH‑418.3 & SH‑417.8) supports numerous switching moves per day to support Cooper Yard operations and movement of mixed freight to the industries situated to the south of the yard. Passenger service is not provided on either railroad corridor within the project limits. Maximum authorized speed is 10 miles per hour at all active rail crossings. No passenger service operates at any Site. Train count, passenger service, and train speeds at each crossing location is provided below.**

**Site 1, four (4) switching train moves per day at 10 MPH with no passenger service.**

**Site 2, four (4) switching train moves per day at 10 MPH with no passenger service.**

**Site 3, four (4) switching train moves per day at 10 MPH with no passenger service.**

**Site 4, there is no track at this location.**

**Site 5, there is no track at this location.**

**Site 6, there is no track at this location.**

**Site 7, numerous switching train moves per day at 10 MPH with no passenger service. An approximate count can be provided during Preliminary Engineering.**

**Site 8, there are no train operations at this location. During Preliminary Engineering, we will confirm if maintenance or operations will occur during project construction.**

1. Provide the Right-of-Entry requirements for surveying, soil borings, etc. (CSXT web-site and path is acceptable)

**Right-of-Entry application(s) for boring, surveying, and other access to property prior to obtaining an executed Construction Agreement can be found at the CSXT website at the following URL:** [**http://csx.com/index.cfm/customers/non-freight-services/propertyreal-estate/permitting-utility-installations-and-rights-of-entry/**](http://csx.com/index.cfm/customers/non-freight-services/propertyreal-estate/permitting-utility-installations-and-rights-of-entry/)

**The Design Build Team shall be responsible for negotiating and securing all necessary right-of-entry agreements. All costs associated with the railroad right-of-entry process shall be borne by the Design Build Team.**

**Separate applications and payment for temporary at-grade or ‘mat’ crossings are required. Additional information can be found at the following URL:** [**http://csx.com/index.cfm/customers/non-freight-services/propertyreal-estate/grade-crossing-policy/**](http://csx.com/index.cfm/customers/non-freight-services/propertyreal-estate/grade-crossing-policy/)

**The Design Build Team shall be responsible for negotiating and securing necessary agreement(s) to construct temporary construction rail crossings. All designs and costs associated with this process shall be borne by the Design Build Team.**

1. Provide CSXT current standards, clearances, construction criteria, insurance requirements etc. (CSXT web-site and path is acceptable)

**Standards/Criteria – CSXT current design and construction standards, clearance requirements, insurance requirements, and sample Preliminary Engineering and Construction Agreements are located in the attached CSXT Public Project Information for *Construction and improvement Projects That May Involve the Railroad.* The document can be downloaded at the following URL:** [**http://csx.com/index.cfm/community/property-and-projects/**](http://csx.com/index.cfm/community/property-and-projects/)

**Clearances – Bridge bents will not be permitted on CSXT right-of-way within the Charleston Subdivision industrial track, having RRMP A-388.57 at three locations. Those sites are situated west of US‑78. The new bridges shall span the entire CSXT right-of-way along the CSXT industry track, situated along the geographic west side of US-78 roadway right-of-way. Make accommodations for future track situated 15-feet from existing track, center-to-center each side of each existing track. Twenty-three (23) feet of vertical clearance is required at a location six (6) feet from centerline of each future track. Assume future track top of rail is at the same elevation as the existing top of rail elevations.**

**Site 1, considering the narrow CSXT corridor, bridge bents shall be situated outside of CSXT right-of-way at this location.**

**Site 2, existing bridge bents shall be removed three (3)-feet below finished grade.**

**Site 3, considering the narrow CSXT corridor, bridge bents shall be situated outside of CSXT right-of-way at this location.**

**Site 4, considering the narrow CSXT corridor, bridge bents shall be situated outside of CSXT right-of-way at this location. Assume one future track centered on the right-of-way, build to match top of rail elevations of the adjacent, parallel Norfolk Southern track. Provide 23-feet of vertical clearance over that future track.**

**Site 5, existing bridge bents shall be removed three (3) feet below finished grade.**

**Site 6, considering the narrow CSXT corridor, bridge bents shall be situated outside of CSXT right-of-way at this location. Assume one future track centered on the right-of-way, build to match top of rail elevations of the adjacent, parallel Norfolk Southern track. Provide 23-feet of vertical clearance over that future track.**

**Site 7, one intermediate bridge bent may be placed within Cooper Yard at this location. Actual bridge bent locations will be negotiated during Preliminary Engineering. This is intended to maximize future use and expansion of the Yard.**

**Site 8, bridge bents shall be located outside of the CSXT operating corridor depicted in yellow on the VAL map. One intermediate bridge bent may be situated within the non-operating right-of-way that is depicted in orange on the VAL map. Actual bridge bent locations will be negotiated during Preliminary Engineering. Assume future top of rail elevations are one (1) foot above existing top of rail elevations of the existing two covered/partially covered tracks crossing Shipyard Creek Rd.**

**Construction clearance shall provide for the minimum existing vertical clearance for demolition of existing bridge structures, with 13-feet of horizontal clearance from centerline of existing track, each side, at each location. Maintain 23-feet of vertical clearance at all new bridge construction locations.**

**Insurance Requirements (other) – Find the attached Letters of Justification for $5M & $10M RPL Insurance and CSXT Special Provisions, which includes current standard insurance requirements. Railroad Protective Liability (RPL) coverage will not be enforced for work at Site 4, Site 5, Site 6, and Site 8, where there will be no train operations. Should operational status change before or during construction, RPL coverage will then be required. RPL coverage is not required for work within and over CSXT mainline right-of-way where there is no railroad track present. CSXT non-operating corridor is situated between Norfolk Southern track (that runs parallel to US-78) and Meeting St. (US-52).**

**Fencing – Overhead bridge protective fencing will not be required for any of the planned bridges over CSXT, where pedestrian facilities are omitted.**

**Demolition – All demolished structures located within CSXT right-of-way shall be removed to three (3) feet below finished grade.**

1. Provide any additional information/requirements specific to the project site, such as MSE and/or crash wall requirements, etc.

**MSE walls – MSE type walls will not be permitted within CSXT right-of-way. Crash walls will need to be included at bridge bents situated within 25-feet of any existing or future track, including those bents situated outside of CSXT right-of-way. Final determination of what will be allowed on CSXT right-of-way will be provided during Preliminary Engineering (PE) review.**

1. Provide an estimated cost for the preliminary engineering review of the project’s plans

**The estimate of actual CSXT expenses relating to PE review of the design materials will depend on the complexities of the project, duration of review, number of design submittals, and other variables. The below budget estimate includes reviews of the preliminary design package, revised preliminary design package, and final design packages. Should additional reviews become necessary, cost is approximated to be $3,000.00 for each crossing location requiring additional review. Actual cost will vary depending on complexity of railroad involvement and prior unresolved comments. Additional cost will be incurred whenever design plans are revised and resubmitted to CSXT for review.**

**The following PE estimate captures work performed by CSXT for attendance in a pre-design meeting, design development coordination correspondence, documentation, reports, review of design concepts, and other work performed in support of the design-build team prior to delivery of the preliminary design plans and calculations for initial PE review. All scope will be performed on a time and material basis. Should advance payment be required by CSXT Public Projects, unused monies will be refunded to the payee following completion and acceptance of the project.**

**Based on limited information, below is an anticipated PE estimate for CSX’s in-office and contracted services. This estimate is based on three plan reviews as described in paragraph eight (8).**

**Anticipated PE scope and budget estimate is listed below:**

|  |  |
| --- | --- |
| **Task** | **Est. Cost** |
| CSXT In-Office Administrative Support | $6,000.00 |
| CSXT In-Office Signal Assistant | $4,000.00 |
| PE Project file setup, project initiation, RailDOCS and financial setup | $489.00 |
| Generate PE estimate, review PE agreement, and routing of PE Agreement | $450.00 |
| Site assessment/onsite predesign meeting with D-B team | $1,410.00 |
| Coordinate with CSXT Network Planning for future operational needs | $720.00 |
| Verify right-of-way limits with Property Services | $450.00 |
| Coordination with Signal Assistant and conflict determination | $690.00 |
| Initial review of utility maps and agreements; conflict analysis | $1,320.00 |
| Initial coordination with Property services for easement requirements | $450.00 |
| Coordination of bent location with Norfolk Southern | $930.00 |
| Capacity and expansion discussions with Transflow and Terminals | $1,380.00 |
| Review of preliminary design plans and calculations (8 locations) | $10,300.00 |
| Review of revised preliminary plans and calculations (8 locations) | $7,525.00 |
| Review of final plans and calculations (8 locations) | $4,750.00 |
| Final coordination with Property Services for easement requirements | $450.00 |
| Generate approval letter and delivery | $330.00 |
| Generate construction cost estimate | $660.00 |
| Review draft construction Agreement, with routing of Agreement | $450.00 |
| Ongoing management, administration, billing, and oversight (8 months) | $3,072.00 |
| Expenses | $474.00 |
| SUBTOTAL | $46,300.00 |
| 10% Contingency | $4,630.00 |
| **TOTAL BUDGET APPROXIMATION** | **$50,930.00** |

1. Provide a brief description of the typical required CSXT services, with a schedule of typical project expenditures, which are required during project design and construction. This schedule is for informational purposes only to identify typical project expenditures and understood not to be all inclusive or to infer actual Preliminary and/or Construction costs

**Design Review – PE scope and cost estimate are described in item number 8 above. A 30-day PE review timeline is generally allotted for each design review. Typically, three reviews of the design plans and calculations are required. Additional reviews may be necessary depending on the complexity of the project.**

**Construction Submission Review – All construction activities within and over CSXT right-of-way will require CSXT review of contractor methodologies and plans. Applicable construction design and plan submissions, as described in the CSXT Construction Submission Criteria, must be reviewed and approved by the CSXT Representative (General Engineering Consultant for CSXT) before work related to those submissions are allowed to commence on CSXT right-of-way. The reviews can take up to 30 days; however, every effort will be made to complete reviews within two (2) weeks. A CSXT Construction Monitoring Representative will be on site during critical construction activities occurring within and over CSXT right-of-way. That includes demolition activities, intermediate bridge bent foundation and pier erection, girder lifts, and superstructure pours, near and over CSXT track or signal facilities.**

**CSXT Flagging Protection –** **Flagging protection is required for each day that the contractor is working within CSXT operating right-of-way. Cost for flagging protection depends on the length of the work day, number of days worked per week, and duration of the project requiring flagging protection. The average flagging cost per day is $1,106.00, based on a 10-hour work day for the contractor, and 12-hour day by the railroad flagman. This cost includes the base pay for the flagman, overhead, and generally includes travel expenses, meals, lodging, equipment, etc. The charge to the Contractor by the Railroad will be the actual cost based on the rate of pay for the Railroad’s employees who are available for flagging service at the time the service is required. Work by a flagman in excess of 8 hours per day and 40 hours per week may result in overtime pay at 1 ½ time the appropriate rate. Also, certain unusual conditions may arise which may result in overtime pay at 2 times the appropriate rate.**

**Flagging Notices – It may take up to thirty (30) days to secure flagging protection. Six (6) days advance notification is required to terminate flagging protection. See the attached documents for additional reference. Flagging may not be available to meet the contractors schedule needs, depending on availability of qualified railroad employees. Construction schedule coordination at the onset of design is advised.**

**Once the flagman is assigned, he will typically remain on the project, at project cost, until the project no longer requires flagging protection. We anticipate that one flagger may be able to provide all necessary protection should construction of multiple bridges occur concurrently.**

**CE&I Expenses – The following order of magnitude estimate, is provided based on the anticipated scope, for expenses that CSXT expects to incur as a result of providing construction engineering and inspection services in support of this project. These expenses are listed by task in the table below. Flagging expenses will be added at a later date. Track or signal work expenses are not included, but may become necessary.**

|  |  |  |
| --- | --- | --- |
| **Task** | | **Est. Cost** |
| 1. | CSXT contract labor with additives and expenses | $2,000 |
| 2. | Construction & Administrative Engineering Services (ARCADIS) | $240,000.00 |
|  | Project file setup, project initiation, RailDOCS and financial setup | $564.00 |
|  | Process State construction authorization letter and return an Acknowledgement letter | $660.00 |
|  | Generate health and safety plan | $440.00 |
|  | Attend preconstruction or onsite mtg. with contractor, with prep., reporting, and travel | $2,700.00 |
|  | Ongoing construction staging coordination with Norfolk Southern | $2,880.00 |
|  | Utility permitting and adjustment coordination and communications | $900.00 |
|  | Review of schedule and coordination of insurance approval and flagging protection | $865.00 |
|  | Review of contractor demo/erection/access submissions (2 reviews at 8 bridge location) | $13,160.00 |
|  | US-78/52 replacement, bridge demolition, inspection of superstructure removal (5 days) | $8,225.00 |
|  | US-78/52 replacement, bridge demolition, inspection of girder removal (2 days) | $3,920.00 |
|  | US-78/52 replacement, bridge demolition, inspection of adjacent pier removal (2 days) | $3,920.00 |
|  | US-78/52 replacement, bridge erection, inspection of adjacent foundation work (2 days) | $3,920.00 |
|  | US-78/52 replacement, bridge erection, inspection of adjacent pier erection (4 days, 2 trips) | $7,840.00 |
|  | US-78/52 replacement, bridge erection, inspection of girder lifts overhead (2 days) | $3,920.00 |
|  | US-78/52 replacement, bridge erection, inspection of deck pour (2 days) | $3,920.00 |
|  | US-78/52 removal, bridge demolition, inspection of superstructure removal (5 days) | $8,225.00 |
|  | US-78/52 removal, bridge demolition, inspection of girder removal (2 days) | $3,920.00 |
|  | US-78/52 removal, bridge demolition, inspection of adjacent pier removal (2 days) | $3,920.00 |
|  | New flyovers, bridge erection, inspection of adjacent foundation work (4 days, 2 trips) | $6,580.00 |
|  | New flyovers, bridge erection, inspection of adjacent pier erection (8 days, 2 trips) | $11,720.00 |
|  | New flyovers, bridge erection, inspection of girder lifts overhead (4 days) | $5,860.00 |
|  | New flyovers, bridge erection, inspection of deck pour (4 days) | $5,860.00 |
|  | Inspections of demo. & erection over CSXT mainline corridor, 3 locations (6 days, 6 trips) | $14,910.00 |
|  | New bridge at SH-418.3, inspection of foundation work within the yard (4 days, 2 trips) | $7,840.00 |
|  | New bridge at SH-418.3, inspection of pier erection in/near the yard (4 days, 2 trips) | $7,840.00 |
|  | New bridge at SH-418.3, inspection of girder lift over the yard (4 days) | $7,840.00 |
|  | New bridge at SH-418.3, inspection of deck pours over the yard (3 days) | $5,355.00 |
|  | Stromboli Ave., bridge erection, inspection of foundation work (2 days, 2 trips) | $3,920.00 |
|  | Stromboli Ave., bridge erection, inspection of adjacent pier erection (2 days, 2 trips) | $4,970.00 |
|  | Stromboli Ave., bridge erection, inspection of girder lifts (2 days) | $3,920.00 |
|  | Monthly progress inspections (18 months), with preparation, reporting, and travel | $24,210.00 |
|  | Ongoing management, administration, billing, and oversight (36 months) | $9,252.00 |
|  | Project close-out activities | $489.00 |
|  | SUBTOTAL | $242,000.00 |
| 4. | 10% Contingency | $24,200.00 |
| **TOTAL BUDGET APPROXIMATION** | | **$266,200.00** |

1. Engineering may also include office reviews, field reviews, attendance at meetings, and preparation of correspondence, reports, and other documentation in connection with the Project.  Nothing contained in this Agreement shall oblige CSXT to perform work which, in CSXT’s opinion, is not relevant to CSXT’s participation in the Project

**If it is found that additional work by CSXT is necessary following execution of a Preliminary Engineering Agreement, the Contractor shall submit written or email request(s)’, with copy to SCDOT, to CSXT requesting or authorizing additional services. CSXT will provide additional field reviews, attend design and coordination meetings, prepare correspondence and reports, or generate other documentation needed to assist in facilitation of project design and schedule. If those additional services will cause the approved budget to overrun, a revised cost estimate will be provided to SCDOT for approval of an amended PE budget and scope.**

**The SCDOT will negotiate and enter into the required Preliminary Engineering and Construction Agreements with CSXT; however, all costs associated with these agreements shall be borne by the Design Build Team. The agreements will include estimated costs for CSXT’s services. The Design Build Team shall be provided a copy of the fully executed agreements. The SCDOT’s Railroad Office shall manage and process all progressive invoices received from CSXT. A copy of each invoice will be provided to the Design Build Team from the SCDOT’s Construction Manager.**

One item not discussed above relates to property rights and easements. Depending on the alignment of the new bridge and other construction elements, temporary or permanent easement may be required. Any new or adjusted permanent easement must be obtained separately from CSX Property Services. CSX will request an appraisal and offer of compensation for purchase of permanent easements, for areas where sufficient easement does not already exist. CSX ownership and title status will be confirmed during Preliminary Engineering, prior to making the above request.

**If temporary and permanent easements are required, it will be negotiated by the SCDOT’s Rights-of-Way Department. It shall be the responsibility of the Design Build Team to confirm that the SCDOT’s Rights-of-Way Department is aware of this requirement.**

**Additional charges not specified herein shall be borne by the Design Build Team.**

Enclosures:

Letters of Justification for $5M & $10M RPL Insurance (4 letters)

Railroad Valuation (“VAL”) Maps

Site Map Exhibit