

September 19, 2014

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# **REQUEST FOR PROPOSALS for the Merchants Bridge West Approach Replacement**

**St. Louis City  
Missouri**

## **PART 2—TECHNICAL REQUIREMENTS**

Project Number: FR-HSR-0077-11-01-00  
RFP Issued: September 19, 2014  
Proposals Due: November 14, 2014

Terminal Railroad Association of St. Louis  
415 South 18th Street, Suite 200  
St. Louis, Missouri 63103



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Merchants Bridge West Approach Replacement  
Request for Proposals**

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## 1 PROJECT DESCRIPTION

### 1.1 General

The project description is given in Section 1.1 of Part 1 of the RFP.

### 1.2 Governing Standards

The project shall comply with the recommended practices given in the American Railway Engineering and Maintenance-of-Way Association (AREMA) *Manual for Railway Engineering* (MRE). The Design-Builder shall provide proposed specifications for aspects of the work not addressed in the MRE.

The railroad live load shall be the Cooper E80 loading as shown in the MRE.

### 1.3 Scope of Work

The proposed scope of work includes, but is not limited to:

1. Construction of a cellular concrete fill contained within MSE-type walls as described in Part 1 of this RFP.
2. Ground improvement as necessary to prevent excessive or damaging short-term and long-term settlement at the site.
3. Relocation of identified utilities and construction of utility bridges to protect utilities in the fill area.
4. Removal of portions of the existing structure and provision of any necessary temporary supports.
5. Placement of ballast and trackwork on the newly constructed fill.
6. Realignment and reconstruction of Ferry St., including construction of an underpass through the fill area and obtaining final permitting from the City of St. Louis Board of Public Service.
7. Design work and construction layout related to the above items (note that design of some items has already been performed by TRRA).
8. Construction of signal platforms on the existing spans east of Pier W6
9. Coordination with TRRA throughout the design and construction process.

### 1.4 Maintenance of Rail Traffic

Railroad traffic must be maintained throughout construction. Minimal interruptions of rail traffic may be allowed for specific construction activities, but cannot be assumed. Any such interruption must be arranged in advance with TRRA and is subject to change without notice.

For the final installation of trackwork, closure of the structure will be allowed. The specific details of this closure (staging, duration, advance preparation, etc.) shall be reviewed and approved by TRRA. This closure

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must be scheduled well in advance of the projected closure date.

## 1.5 Maintenance of Ferry Street Traffic

Any proposed interruption of Ferry St. must be coordinated with and approved by the appropriate departments of the City of St. Louis. In addition, any such interruptions must be coordinated with adjacent property owners.

## 2 PROJECT MANAGEMENT

### 2.1 General

The Design-Builder shall conduct all Work necessary to meet the requirements of project management, including preparing, documenting, revising, submitting and tracking information that details the Work and Schedule.

### 2.2 Schedules

Contract Schedules include the Baseline Schedule, Revised Baseline Schedule, Monthly Progress Schedule, and Recovery Schedule, each defined as follows:

- Baseline Schedule – the Design-Builder’s plan for the Project from Notice to Proceed (NTP) through final acceptance. Progress of the Project shall be tracked against this schedule for the duration of the Project.
- Revised Baseline Schedule – the Baseline Schedule with cost and schedule changes from approved change orders incorporated. The Baseline Schedule shall be denoted alongside the Approved revisions.
- Monthly Progress Schedule – shows the actual progress against the Baseline and Revised Baseline Schedule, as appropriate, and the planned execution for the remainder of the Project. This schedule is submitted with each invoice.
- Recovery Schedule – the Design-Builder’s program and proposed plan for the recapture of lost schedule to achieve the Project deadlines. TRRA may request a Recovery Schedule if work lags more than 30 days behind the current Baseline Schedule.

### 2.3 Cost Management

The Design-Builder shall conduct all Work necessary to meet the requirements of cost management, including the preparing, processing, revising, submitting and tracking of invoices and progress reports.

#### 2.3.1 Payment Breakdowns

A Price Allocation form, which will be completed during negotiations, will be the basis

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of Payment Breakdowns. Activities used for the Payment Breakdown shall be easily confirmed with regard to Activity completion. The Design-Builder shall match Activities to the Baseline Schedule to the extent possible.

Payment Breakdowns shall include, at a minimum, each Activity, total price assigned to each Activity, total billed this period for each Activity and total billed to date for each Activity. The Payment Breakdown shall total to the Contract Price.

## 2.3.2 Invoices

TRRA reserves the right to withhold processing of an invoice if the requirements of this section are not met.

A. The Design-Builder shall include the following on the invoice cover sheet:

1. Project number and title;
2. Invoice number (numbered consecutively starting with "01");
3. Period covered by the invoice (specific days);
4. Total earned to date for the Project as a whole and for each Work Segment, if any;
5. Authorized signature and title of signatory; and
6. Date that invoice was signed.

B. The Design-Builder shall include the Progress Report, for the period being billed, with the invoice; and

C. On a monthly basis, at a minimum, the Design-Builder shall meet with TRRA to review the following:

1. Activity percent complete, which are based on physical completion of the Activity, either 100% or no progress, except for a pro-rated Activity or milestone;
2. Incorporation of approved Change Orders as individual Activities with proper title, coding by Change Order number, associated logic, duration, as well as cost loading;
3. Verification of any unit price items;
4. Status of outstanding Nonconforming Work; and
5. Backup documentation for cost reimbursable procurement & Change Order schedule activities.

### 2.3.2.1 Invoice Calculations

The Design-Builder shall include with the monthly invoice an electronic copy of the payment breakdown in accordance with the Price Allocation.

TRRA will base payments on TRRA's concurrence with completion of Activities of the Work, including confirmation of quality-related documentation, not on measured quantities (except where specifically stated in the Contract or detailed as units in the Schedule).

The payment to the Design-Builder will be the amount shown on the Design-Builder's approved invoice less deductions made by TRRA.

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**2.3.2.2 Monthly Progress Report**

The Design-Builder shall provide one hardcopy of the Monthly Progress Report and an electronic copy in PDF format.

The Design-Builder shall include the following in the Monthly Progress Report:

- A. A certificate signed by its Design Quality Manager certifying that all design Work has been checked in accordance with design quality requirements and that all design Work, except as specifically noted in the certification, conforms to the requirements of the Contract;
- B. A certificate signed by its Quality Manager or Construction Quality Manager certifying that all construction work conforms to the requirements of the Contract;
- C. An updated Monthly Progress Schedule, a progress report outlining the Activities of Work (design and construction) completed the previous month and anticipated Work for the next month, an analysis of the critical path, and comparison to the current approved Baseline Schedule;
- D. An updated submittal log that tracks, at a minimum, when an item was submitted by the Design-Builder and when it was returned to the Design-Builder. The submittal log shall also show the status of the submittal (No exceptions taken, Make corrections noted, Resubmit, or Rejected);
- E. A schedule report for submittals that will be submitted in the coming month;
- F. A Monthly Employment Report, Form FHWA 1589 (Rev 3-25) to be completed by the 3<sup>rd</sup> of each month.
- G. A Disadvantaged Business Enterprise (DBE) report;
- H. ARRA reporting requirements;
- I. A report of any non-conforming work during the period and activities undertaken to mitigate it; and
- J. A summary of items the Design-Builder or TRRA needs or any outstanding issues that need to be resolved and who the responsible party is. Outstanding items shall be carried over to the next monthly Progress Report until resolution is achieved.
- K. Monthly progress photographs.

**2.3.2.3 Certified Payroll**

The Design-Builder shall provide two hardcopies and one electronic copy of the Weekly Certified Payroll. The electronic copy format type shall be agreed to by TRRA.

The Design-Builder shall supply a certified payroll report that includes total weekly labor hours for construction/maintenance and non-construction/design personnel by classification of management, engineering, and other technical personnel used on the Project.

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**2.4 Schedule Management**

**2.4.1 General**

The Work under this Contract shall be planned, reported and accomplished using the Critical Path Method (hereinafter referred to as CPM). The Design-Builder shall complete and update a computerized CPM Schedule as described herein. Whenever the term "Schedule" is used in the Contract Documents, it shall mean the CPM Schedule.

**2.4.2 Definitions**

The terms used in this Section shall have the following meanings:

- A. CPM Schedule: The as-planned Schedule that represents the Design-Builder's best judgment and intended plan for completion of the Work in compliance with Contract Documents. The CPM Schedule shall show all planned Activities, including Activities by any separate contractors, interface dates with Utility owners/municipalities/agencies, all submittal requirements, and submittal review periods.
- B. Critical Activity: An Activity with zero or negative Float.
- C. Critical Path(s): The chain of continuous Activities controlling the last Activity of the Schedule and/or Milestone(s).
- D. Days: Calendar days including weekdays, weekends, and holidays.
- E. Milestone: A contractually obligated Project Start or deadline that shall be designated with an Activity Type of Milestone. Milestones are the only Activities allowed a Start and Finish date constraint. The Design-Builder may use Activity Coding to designate other Activities of interest.
- F. Float: Number of days by which a part of the Work in the Schedule may be delayed without extending the Contract Time or Milestone.

**2.4.3 General Requirements**

The Design-Builder shall manage and work with each Subcontractor and Supplier to obtain information on activities for implementing and sequencing the Work. The Schedules shall reflect Contract requirements and known limitations.

Errors or omissions within Schedules shall not relieve the Design-Builder from finishing all Work within the time limit specified for completion of the Contract. If, after a Schedule has been accepted by TRRA, and either the Design-Builder or TRRA discovers that any aspect of the Schedule has an error or omission, the Schedule shall be corrected. The Design-Builder shall not be entitled to a Change Order.

**2.4.4 Schedule Updates**

At a minimum, the Design-Builder shall update the CPM Schedule monthly to



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accurately reflect the status of Work completed and Work remaining as compared to the current Approved Baseline Schedule. The Design-Builder shall meet with TRRA to review each update. Schedule updates shall be named to denote the date of submittal and shall be submitted on or before the fifth day of each month, unless otherwise approved by TRRA.

## 2.4.5 Acceptance of Schedule

TRRA's review and Acceptance of Schedules will not waive any Contract requirements and shall not relieve the Design-Builder of any obligation or responsibility for submitting complete and accurate information. By review and Acceptance of the Schedule, TRRA does not endorse or otherwise certify the validity or accuracy of any part of the Schedules. The responsibility for validity and accuracy of all Schedules is the sole responsibility of the Design-Builder.

## 2.4.6 Level of Detail

Each Activity shall:

- A. Be expressed in calendar days;
- B. Be a duration of not more than 20 days, unless otherwise authorized by TRRA;
- C. Have a unique Activity description; and
- D. Have at least one predecessor and one successor Activity, except for Project start and finish respectively.

## 2.4.7 General Activities

The Activities of the Schedule shall have, at a minimum, the level of detail described below, as applicable to the type of Work being performed:

- A. Schedule Milestones (such as Design Quality Manual, Design Package review, bridge number, etc.);
- B. Mobilization;
- C. Design and drawing preparation, submittal, and processing for all elements requiring shop or working drawings;
- D. Each Released for Construction submittal;
- E. Final Design submittal;
- F. Any necessary TRRA review periods;
- G. Utility notification and relocation, if necessary;
- H. Project Completion;
- I. Punch List; and
- J. Final Acceptance.

## 2.4.8 Construction Activities

Construction Activities include (but are not limited to):

- A. Clearing and Grubbing;

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- B. Grading;
- C. Ground Improvement;
- D. MSE Wall Installation;
- E. Cellular Concrete Fill Placement;
- F. Utility Work;
- G. Signal Platform Work;
- H. Trackwork;
- I. Ferry Street Construction; and
- J. Site Clean-up

## 2.5 Facilities

The Design-Builder shall provide office space and equipment, as specified in this Section. This shall include providing a common location for Design-Builder staff, TRRA personnel and other personnel working under the direction of TRRA.

The Design-Builder shall secure sites, obtain all site permits, install, set up, provide utility services, and maintain the facilities as part of the Work.

In the event that office spaces or appurtenant facilities are stolen, destroyed, or damaged during the Work, the Design-Builder shall at its expense repair or replace those items provided to their original condition within ten days.

The Design-Builder shall provide the Construction office as the first order of work prior to or immediately following NTP. The office shall be located on land made available for the Project unless another suitable location is approved by TRRA.

Facilities shall meet OSHA and code requirements for office space. Provision shall be made for TRRA staff to use designated portions of the office.

## 2.6 Project Directory

The Design-Builder shall maintain and furnish to TRRA a Project Directory listing the names, addresses and telephone (office, home, mobile, facsimile and pager) numbers of the Key Personnel and critical support staff of the Design-Builder and each Subcontractor. The Project Directory shall be submitted to TRRA within 10 days following NTP. The Design-Builder shall update the Project Directory quarterly for the duration of the Work.

## 2.7 Project Management Software

The Design-Builder shall provide and use project management software for the project. TRRA and MoDOT personnel shall be given access to this software for document sharing, project communications, and other applications related to the Work.

## 2.8 Deliverables

All deliverables shall include a minimum of two hard copies and one electronic copy.

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TRRA will respond to deliverables submitted for Approval within 30 days.

At a minimum, the Design-Builder shall submit the following to TRRA:

<b>Deliverable</b>	<b>Schedule</b>
Monthly Invoices	Monthly
Progress Reports, Monthly Progress Schedule and Certified Payroll	Monthly
Baseline Schedule	Within fifteen days of NTP
Revised Baseline Schedule, Recovery Schedule	As necessary
Construction Office	NTP
Project Directory	Within 10 days of NTP, then quarterly

## **3 QUALITY MANAGEMENT**

### **3.1 Quality Management System**

The terms and definitions used in this Section, not otherwise defined shall have the meanings prescribed by the ISO 9000:2000 standard. The Design-Builder shall develop, implement and maintain a Quality Management System that follows the requirements of the ISO 9001:2000 standard and the requirements of this Section.

The scope of the Quality Management System shall cover all requirements of the Work included in the Contract Documents. The Design-Builder's Quality Management System shall include a Quality Manual, which shall be submitted to TRRA for Approval. The Quality Manual shall at a minimum include the Design-Builder's approach to quality with respect to:

- Subcontracts
- Procurement
- Document Control
- Design/investigations/survey
- Construction/survey/monitoring
- Environmental
- Utilities/Third Parties

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The Quality Manual shall indicate the frequency at which the Design-Builder's top management will review the Quality Management System. The Quality Manager and Quality Assurance (QA) staff shall have no responsibilities in the production of the Work and shall report to the Design-Builder's top management only. Quality Control (QC) staff shall only have responsibilities in the production of the Work and shall remain independent of the Quality Assurance staff.

The Design-Builder shall confirm all Quality Assurance and Quality Control personnel meet the qualifications defined in the approved Quality Manual and as outlined in this Section.

The following quality planning aspects shall be included in the Quality Manual:

- All Quality Control, Quality Assurance and Independent Assurance activities and their standards, methods or procedures, and frequencies for product control and acceptance.
- All release points at which Work shall be formally accepted by Quality Assurance personnel prior to proceeding with additional Work Activities. Identify the advance notification timeframe.
- The requirements to be verified by Quality Assurance staff at each release point.
- The Quality Assurance staff position responsible to perform the verification responsibilities including inspection, checking and testing.
- The method of performing Quality Assurance verification responsibilities including inspection, checking, testing and Independent Assurance.
- The system for recording all Quality Control, Quality Assurance and Independent Assurance activities including inspection, checking and testing activities.

The Design-Builder shall include in the Quality Manual its proposed process to resolve Design-Builder and TRRA identified Nonconforming Work. The Design-Builder shall ensure that this process is applied to all Contract Documents requirements, including design, construction/operational and management systems. The Engineer responsible for the design shall approve all resolutions of Nonconforming Work that require design changes, repairs, or rework. The Design-Builder shall submit for Approval all proposed remedies for Nonconforming Work.

The Design-Builder shall include in the Quality Manual its proposed process to address corrective action requests. TRRA will issue to the Design-Builder corrective action requests in areas where Nonconforming Work is found to occur. The Design-Builder shall be responsible to submit to TRRA for Approval remedies to eliminate the recurring Nonconforming Work (corrective action). Following TRRA Approval of the proposed corrective action, the Design-Builder shall advise TRRA when the corrective action has been implemented so TRRA may confirm the implementation, should TRRA so choose.

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The Quality Manual shall describe how the Quality Assurance verification records/forms will clearly document conforming and Nonconforming Work. The Quality Manual shall describe how material quantities will be calculated and documented in order to enable the Design-Builder and TRRA to sample at their required frequencies.

The Design-Builder shall provide a monthly report documenting the work in progress against the Quality Manual requirements.

## 3.2 Design

Design Documents include Review Documents, Released for Construction (RFC) Documents, Final Design Documents, and As-Built Documents. The Design-Builder shall ensure that all Design Documents are 8½" x 11" or 11" x 17" and in English units. Released for Construction plans shall be 11" x 17".

The Design-Builder may use any Computer Aided Drafting and Design (CADD) software, Design Software, and CADD Standard provided that the Design-Builder can supply a written description of the Standard as well as configuration files for TRRA to properly visualize and plot drawings from the current version of Microstation XM.

Each deliverable shall include an index detailing the contents and an Adobe Acrobat file of the Design Documents, created directly from the native software and organized in a manner that allows easy retrieval of any part of the Design Documents, including individual drawings.

Final design documents shall be signed and sealed by a Missouri licensed Professional Engineer.

The Quality Manager shall certify that all aspects of the Design meet the applicable standards by written endorsement with each deliverable.

### 3.2.1 Review Documents

Review Documents shall be incomplete or partial RFC Documents that are being used by the Design-Builder during its design review process. The Design-Builder's Quality Manual shall define the review stages where TRRA will be invited to participate in its review process. For those review stages, five hard copies and one electronic copy of Review Documents shall be submitted to TRRA.

The Quality Manual shall define the number of review cycles the Design-Builder will involve TRRA in design reviews. As a minimum, TRRA will be requested to participate in two review cycles. One review will be near the 30% design completion and the second cycle will be near the RFC completion of a design package. The Quality Manual shall define review times allowed for TRRA for each review cycle. As a minimum, TRRA will be provided at least 10 days for each design review.

### 3.2.2 Released for Construction Documents

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RFC Documents shall be all TRRA-accepted drawings, specifications, reports, calculations, revisions thereto, and any other items necessary to construct the Work. The Design-Builder shall ensure that no construction Work is undertaken without Quality Assurance approved RFC Documents. Five hard copies and one electronic copy of all RFC Documents shall be submitted to TRRA.

### 3.2.3 Final Design Documents

Final Design Documents shall be fully completed and TRRA-accepted Design Documents, except for necessary field design changes, organized by discipline. Final Design Documents shall include design information from the most current version of RFC Documents and all design back-up information, including design plans, shop drawings, calculations, reports, specifications, and electronic MicroStation data.

### 3.2.4 As-Built Documents

As-Built Documents shall be the final record set of documents that incorporate: any changes occurring after the Final Design Documents; all manufacturers' warranties, guarantees, instruction sheets, parts lists, and other product data; and all required evidence of conformance with Contract Documents requirements. The As-Built Documents shall be organized and indexed to facilitate easy retrieval of information and be certified by the Design-Builder's Project Manager and Design-Builder's Design Manager to reflect the actual condition of the constructed Work.

### 3.3 Construction

The Quality Manual will detail the approach the Design-Builder will implement to ensure quality of processes and acceptance of the Project. The Design-Builder shall be responsible for establishing work processes on-site and at supplier's facilities to ensure products incorporated into the Work meet contract requirements. The Design-Builder can utilize existing Quality Control programs for suppliers and vendors with systems in place. The Design-Builder shall provide intervals at which it will confirm these processes.

The Design-Builder shall be responsible for acceptance of materials incorporated in the Project. The Quality Manual will detail the means of acceptance. The minimum requirements of the Guide Schedule for Federal-Aid Acceptance Sampling & Testing as depicted in the Local Public Agency Manual (LPAM) shall be met.

Other acceptances can be one or several of the following depending on the item being accepted:

- Material certification
- MoDOT Pre-acceptance list (PAL)
- Supplier test results
- Supplier source testing of materials
- Point of placement testing
- Point of placement inspection

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**3.3.1 Certifications and Scheduling**

The Design-Builder shall ensure that all personnel who perform inspection, sampling or testing are certified according to a recognized technician certification program and any other required certifications, for the tasks for which they are responsible.

The Design-Builder shall be fully responsible for all communication, coordination, and scheduling related to compliance inspection and materials testing and shall take into account the required lead & turnaround time to avoid delays and nonconforming work.

The Design-Builder shall include in the Quality Manual the means for which equipment (work and testing) calibrations will be confirmed and tracked.

**3.4 TRRA Quality Oversight**

TRRA's quality oversight will use an audit approach for assessing the Design-Builder's performance. This will entail checking on a sampling basis whether the Work is complying with the Contract Documents requirements.

Auditing will entail the collection and documentation of objective evidence to confirm whether specified requirements have been met. The results of auditing will be documented on standardized audit report forms with copies provided to the Design-Builder. Nonconforming Work will be tracked and communicated to the Design-Builder. The audit results may also be recorded in a database, and regular summary and status reports will be provided to the Design-Builder. The timing, frequency, and depth of auditing will be at TRRA's discretion.

The Design-Builder shall provide safe access to the Work, its organization, and all Subcontractor and Supplier organizations to allow TRRA to carry out quality oversight activities. This will include the allowing of samples for the purposes of testing, the provision of information and records, and interviews with personnel from the Design-Builder's organization and all Subcontractor and Supplier organizations.

The Design-Builder shall not use the results of TRRA's quality oversight activities as a substitute for its own quality activities. The Design-Builder shall provide to TRRA copies of specific records within three days of receipt of request. When requested, the Design-Builder shall advise TRRA of the time that a specific Activity scheduled within the next five days is to occur.

TRRA reserves the right to inspect and/or test any aspect of the work for compliance at any time. TRRA will report any failing inspection/test results to the Design-Builder to address as nonconforming work.

Representatives of agencies of the federal, state and local government shall have the right to inspect the Work to the same extent provided above for TRRA.

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### **3.5 Deliverables**

At a minimum, the Design-Builder shall submit the following to TRRA:

<b>Deliverable</b>	<b>Schedule</b>
Quality Manual	Within 30 days of NTP
Monthly Quality Report	Monthly
Nonconformance and noncompliance reports (including corrective actions)	As necessary
Review Documents	As defined in the Quality Manual
Released for Construction Documents	When released for construction
Final Design Documents	After completion of design
As-Built Documents	Condition of Final Acceptance
Compliance Inspection/Materials Test Reports	Weekly and as necessary for nonconforming work

## **4 GROUND IMPROVEMENT, WALLS AND FILL**

### **4.1 General**

The Design-Builder shall perform all work needed for any necessary ground improvement, wall construction and cellular concrete fill placement in accordance with its Technical Proposal.

### **4.2 Drainage**

The Design-Builder shall design drainage at track level and surface level as needed to ensure proper drainage of the fill and project site.



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**4.3 Handrails**

Protective pipe handrails shall be provided at the fill limits (along walls). Handrail design and installation shall comply with the provisions of the MRE and shall be approved by TRRA prior to construction. Transitions shall be provided at the north and south abutments and at Pier W6.

**4.4 Cellular Concrete Abrasion Resistance**

Consideration shall be given to increasing the density of the cellular concrete fill at the ballast interface to improve abrasion resistance.

**5 EXISTING STRUCTURE MODIFICATIONS AND MONITORING**

**5.1 General**

The Design-Builder shall design and construct the wall and fill transitions to the existing north and south abutment and Pier W6. The Design-Builder shall evaluate these existing structures to determine whether they may require modifications.

In addition, wall and fill construction may require the use of temporary supports (particularly at the straddle bents near W6) and/or modifications to the existing steel superstructure. The Design-Builder is responsible for design, construction, and satisfactory performance of these supports and/or modifications.

**5.2 Structure Monitoring**

The Design-Builder shall perform a survey of the existing track structure prior to construction and at intervals during the construction process. This monitoring is to verify that the track alignment and profile is compliant with FRA Track Safety Standards for Track Class II.

The survey intervals shall be determined in agreement with TRRA. TRRA reserves the right to conduct its own verification surveys.

**5.3 Maintenance of Rail Operation**

The Design-Builder shall be responsible for maintaining the track alignment to within the requirements for FRA Class II track. Any shimming or other adjustments to the structure needed to maintain the track alignment and profile shall be approved by TRRA.

**5.4 Removed Material**

Excavated materials may be incorporated elsewhere within the property limits.

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Existing trackwork materials shall be handled as specified in the plans and specifications governing that work.

All other removed material shall become the property of the Contractor and shall be properly disposed of offsite in accordance with all applicable federal and state laws and regulations.

## **6 FERRY STREET**

### **6.1 General**

The Design-Builder shall perform all work needed to construct the Ferry Street Underpass and realignment and reconstruction of Ferry Street and the relocated entrance to the MSD facility near Pier W6. TRRA has already participated in conceptual design discussions with the City of St. Louis Board of Public Service. The Design-Builder is responsible for obtaining final permitting needed for the Ferry St. work.

## **7 TRACKWORK**

### **7.1 General**

The Design-Builder shall perform all trackwork as described in Attachment B.

## **8 SIGNAL PLATFORMS**

### **8.1 General**

The Design-Builder shall perform all signal platform work as described in Attachment F.

## **9 UTILITIES**

### **9.1 General**

The Design-Builder shall perform all Utility Work as described in the Utility Plans provided in Attachments C through E. The Design-Builder is responsible for all necessary coordination with Utilities needed to complete this work.

If the Design-Builder wishes to modify the work from that shown in the Utility Plans, it is responsible for obtaining all necessary approvals from the impacted utility, with no additional compensation or schedule adjustment from TRRA.

### **9.2 Utility Tracking Report**

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Substantial coordination of Utility relocation and protection has been performed prior to the RFP. The Design-Builder shall complete any remaining coordination with Utilities and manage the protection and relocation process. The Design Builder shall maintain and update a Utility Tracking Report that lists all Utilities within the project limits. An updated Utility Tracking Report shall be submitted with the monthly report.

**10 RIGHT OF WAY**

**10.1 General**

TRRA is purchasing additional Right of Way (ROW) required for the Project. The Design-Builder shall limit all proposed construction to within the ROW purchased by TRRA. TRRA is also acquiring leasing rights to additional property for use by the Design-Builder. ROW information is included in Attachment G. Lease information is included in Attachment I.

**11 SIGNALS**

**11.1 General**

TRRA is designing and constructing an updated signal system for the West Approach. The Design-Builder is not responsible for signal design or construction. However, the Design-Builder shall identify (with TRRA) the locations of signal attachments to the existing structure. The Design-Builder shall take care to avoid damage to the signal system and shall coordinate any required relocation of the signal lines during construction with TRRA. Signal system design information is included in Attachment K.

**12 GEOTECHNICAL**

**12.1 General**

TRRA has performed extensive geotechnical investigation of the site. The geotechnical information developed is included in Attachment A. The Design-Builder may perform additional investigation if needed at its own cost. Such investigation must be coordinated with TRRA.

**13 ENVIRONMENTAL COMPLIANCE**

**13.1 General**

The Design-Builder shall perform all Work necessary to meet all federal, state, and local requirements for environmental compliance. Reports on site environmental testing are included in Attachment M.