



**TRANSPORTATION CABINET**

Frankfort, Kentucky 40622  
www.transportation.ky.gov/

**Steven L. Beshear**  
Governor

**Michael W. Hancock, P.E.**  
Secretary

April 21, 2011

CALL NO. 332  
CONTRACT ID NO. 111015  
ADDENDUM # 1

Subject: Harrison County, JL04 049 0027 BYPASS  
Letting April 29, 2011

- (1) Revised - Plan Sheets - R2E, R2F, & R2G
- (2) Revised - Table of Contents - Page 2 of 150
- (3) Added - CSX Transportation Note - Pages 30(a)-30(1) of 150
- (4) Added - Special Provisions - Pages 117(a)-117(i) of 150
- (5) Revised - Bid Items - Page 143-150 of 150

Proposal revisions are available at <http://transportation.ky.gov/contract/>.  
Plan revisions are available at <http://www.lynnimaging.com/kytransportation/>.

If you have any questions, please contact us at 502-564-3500.

Sincerely,

A handwritten signature in blue ink that reads "Ryan Griffith".

Ryan Griffith  
Director  
Division of Construction Procurement

RG:ks  
Enclosures



An Equal Opportunity Employer M/F/D



**PAVING AREAS**

**US 27 CYNTHIANA BYPASS  
ASPHALT ALTERNATE**

ITEM	US 27					ENTRANCES	US 27 NORTH	R E A R D					TOTAL PROJECT
	BYPASS	KY 36 RAMP	EXISTING KY 36	US 27	US 27			Y	A	R	D	S	
1 1/4" CL2 ASPHALT SURFACE 0.38B PG64-22	27669												27669
1 1/4" CL2 ASPHALT SURFACE 0.38D PG64-22	18524	3127	2458	355	752								25216
3" CL2 ASPHALT BASE 1.00D PG64-22	46408	6862		367	752								54389
4" CL2 ASPHALT BASE 1.00D PG64-22	28425												28425
4" CRUSHED STONE BASE	28615			377									28992
6" CRUSHED STONE BASE	1884												1884
8" CRUSHED STONE BASE (PAVED SHOULDERS)	18524												18524
FULL DEPTH CRUSHED STONE BASE (CUBIC YARDS)	1473	331											1804
ASPHALT MILLING & TEXTURING			2458		618								3076
JPC PAVEMENT - 8 IN	222												222

**PAVING SUMMARY**

ITEM CODE	ITEM	UNIT	TOTAL PROJECT
3	CRUSHED STONE BASE ① ③ ⑦	TON	21344
100	ASPHALT SEAL AGGREGATE	TON	73
212	CL2 ASPHALT BASE 1.00D PG64-22	TON	15227
291	EMULSIFIED ASPHALT	TON	17
301	CL2 ASPHALT SURFACE 0.38B PG64-22	TON	1734
307	CL2 ASPHALT SURFACE 0.38B PG64-22 ④	TON	1903
2084	JPC PAVEMENT - 8 IN ⑤	SY	222
2230	EMBANKMENT IN PLACE	CY	514999
2676	MOBILIZATION FOR MILLING & TEXTURING	LS	1
2677	ASPH PAVE MILLING & TEXTURING	TON	279

**NOTES**

ALL ASPHALT MIXTURES SHALL BE ESTIMATED AT 110 LBS. PER SQ. YD. PER INCH OF DEPTH, UNLESS NOTED OTHERWISE.

- ① ESTIMATED AT 115 LBS. PER SQ. YD. PER INCH OF DEPTH.
- ② ESTIMATED AT 100 LBS. PER SQ. YD. PER INCH OF DEPTH.
- ③ INCLUDES 10% INCREASE FOR ROCK ROADBED VOIDS

- ④ USE MTV TO PLACE FINAL ASPHALT SURFACE COURSE (1595 TONS) FOR US 27 DRIVING LANES
- ⑤ PER STD DRAWING NO RBB-001-07

- ⑥ INCLUDES 9 CY DITCH EXCAVATION CARRIED OVER FROM PIPE DRAINAGE SUMMARY

- ⑦ ESTIMATED AT 2.07 TONS PER C.Y. (SHLDRS)

E A R T H W O R K  
TOTAL PROJECT  
456,346 CY EMB  
92,100 CY COM ⑥  
134,430 CY ROCK  
20,645 CY ROCK EMB  
38,008 CY ROCK ROADBED  
4,391 CY SURF DITCH

Earthwork calculations are for design purposes and shown for information only. Assumptions for shrinkage and swell factors are the contractor's responsibility.









## TABLE OF CONTENTS

PART I	SCOPE OF WORK
	<ul style="list-style-type: none"><li>• PROJECT(S), COMPLETION DATE(S), &amp; LIQUIDATED DAMAGES</li><li>• CONTRACT NOTES</li><li>• STATE CONTRACT NOTES</li><li>• ASPHALT MIXTURE</li><li>• INCIDENTAL SURFACING</li><li>• JPC RIDE QUALITY</li><li>• ASPHALT PAVEMENT RIDE QUALITY</li><li>• OPTION A</li><li>• SPECIAL NOTE(S) APPLICABLE TO PROJECT</li><li>• RAILROAD NOTES</li><li>• RIGHT OF WAY NOTES</li><li>• UTILITY CLEARANCE</li><li>• WATERLINE SPECIFICATIONS</li><li>• DEPT OF ARMY - NATIONWIDE PERMIT</li><li>• WATER QUALITY CERTIFICATION</li><li>• KPDES STORM WATER PERMIT, BMP AND NOI</li><li>• COMMUNICATING ALL PROMISES</li></ul>
PART II	SPECIFICATIONS AND STANDARD DRAWINGS
	<ul style="list-style-type: none"><li>• SPECIFICATIONS REFERENCE</li><li>• SUPPLEMENTAL SPECIFICATIONS</li><li>• [SN-1I] PORTABLE CHANGEABLE SIGNS</li><li>• [SN-9Y] MATERIAL TRANSFER VEHICLE</li><li>• [SN-10L] CHANNEL CHANGE EROSION CONTROL BLANKET</li><li>• [SN-10T] ACCEPTANCE OF JPC PAVEMENT THICKNESS</li><li>• [SP-4] WELDING STEEL BRIDGES</li><li>• [SP-69] EMBANKMENT AT BRIDGE END BENT STRUCTURES</li></ul>
PART III	EMPLOYMENT, WAGE AND RECORD REQUIREMENTS
	<ul style="list-style-type: none"><li>• LABOR AND WAGE REQUIREMENTS</li><li>• EXECUTIVE BRANCH CODE OF ETHICS</li><li>• KENTUCKY EQUAL EMPLOYMENT OPPORTUNITY ACT OF 1978</li><li>• PROJECT WAGE RATES</li></ul>
PART IV	INSURANCE
PART V	BID ITEMS

# **CSX TRANSPORTATION**

## **CONSTRUCTION SUBMISSION CRITERIA**

### ***TABLE OF CONTENTS***

	<b>Page Number</b>
<b>INTRODUCTION</b>	<b>1</b>
<b>SECTION I: Definitions</b>	<b>1</b>
<b>SECTION II: Demolition Procedure</b>	<b>2</b>
<b>SECTION III: Erection Procedure</b>	<b>5</b>
<b>SECTION IV: Excavation and Shoring</b>	<b>7</b>
<b>SECTION V: Track Monitoring</b>	<b>10</b>

## CONSTRUCTION SUBMISSION CRITERIA

### INTRODUCTION

The information in this document is intended to improve communication and clarify the CSXT criteria related to construction submissions that may involve CSXT property. All work must be performed in a manner as to not adversely impact existing CSXT operations. Please note that there are other standards associated with construction that must be adhered to including but not limited to the CSXT Special Provisions, CSXT Insurance Requirements as well as governing local, county, state and federal requirements. This document and other CSXT standards are subject to change without notice, and future revisions will be available at the CSXT website [www.csx.com](http://www.csx.com).

### I. DEFINITIONS

*Agency* – The project sponsor.

*AREMA* – American Railway Engineering and Maintenance Association – the North American railroad industry standards group.

*Construction Submission* – The Agency or its representative shall submit six (6) sets of plans, supporting calculations, and detailed means and methods procedures for the specific proposed activity. All plans and supporting calculations shall be signed/sealed by a Professional Engineer as defined below.

*Controlled Demolition* – Removal of the existing structure or subcomponents in a manner that prevents any portions from falling onto CSXT employees, equipment or property. The proposed procedures shall be detailed in the means and methods submission for CSXT review and acceptance.

*Contractor* – The Agency's or CSXT's representative retained to perform the project work.

*Engineer* – CSXT Engineering Representative or a GEC authorized to act on the behalf of CSXT.

*GEC* – General Engineering Consultant who has been authorized to act on the behalf of CSXT.

*Professional Engineer* – An engineer who is licensed in State or Commonwealth (if required by the Agency) in which the project is to occur. The drawings and calculations shall be prepared by the Professional Engineer and shall bear his seal and signature.

*Submission Review Period* - **a minimum of 30 days in advance of start of work.** Up to 30 days will be required for the initial review response. Up to an additional 30 days may be required to review any/all subsequent submissions or resubmission.

## CONSTRUCTION SUBMISSION CRITERIA

*Theoretical Railroad Live Load Influence Zone – A 1½ Horizontal to 1 Vertical theoretical slope line starting 1’-6” below top of rail elevation and 12’-0” from the centerline of the nearest track.*

### **II. DEMOLITION PROCEDURE:**

**The Agency or its contractor shall submit as defined above, a detailed procedure for demolition of the structure over Railroad Tracks.**

- A. The Agency or its Contractor shall submit the detailed procedure for demolition of existing structures over or adjacent to CSXT’s tracks or right-of-way. This procedure shall include a plan showing the locations of cranes, horizontally and vertically, operating radii, with loading or disposal locations shown, with all dimensions referenced from the center line of the near track, including beam placement on ground or truck loading staging plan. The plan shall also include the location, with relevant dimensions, of all tracks, other railroad facilities; wires, poles, adjacent structures, or buried utilities that could be affected, showing that the proposed lifts are clear of these obstructions should be shown. No crane or equipment may be set on the CSXT rails or track structure and no material may be dropped on CSXT property.
- B. Also included with this submittal the following information:
1. Computations showing weight of picks must be submitted. Computations shall be made from field verified plans of the existing structure beams being removed and those plans or sections thereof shall also be included in the submittal; the weight shall include the weight of concrete or other materials including lifting rigging.
  2. If the sponsor can prove to CSXT that plans do not exist and weights must be calculated from field measurements, the field measurements are to be made under the supervision of the Professional Engineer submitting the procedure and shall include sketches and estimated weight calculations with the procedure. If possible, field measurements shall be taken with a CSXT representative present.
  3. Crane rating sheets showing cranes to be adequate for 150% of the actual weight of the pick. A complete set of crane charts, including crane, counterweight, maximum boom angle, and boom nomenclature is to be submitted. Safety factors that may have

## CONSTRUCTION SUBMISSION CRITERIA

been “built in” to the crane charts are not to be considered when determining the 150% Factor of Safety.

4. A data sheet shall be prepared listing the type, size and arrangements of slings, shackles, or other connecting equipment. Include copies of a catalog or information sheets for specialized equipment. All specific components proposed for use shall be clearly identified and highlighted in the submitted documents. The safe working load capacity of the connecting equipment shall be 150% above the calculated weight of the pick.
5. A complete written procedure is to be included that describes the sequence of events, indicating the order of lifts and any repositioning or rehitching of the crane or cranes.
6. A time schedule for each of the various stages must be shown as well as a schedule for the entire lifting procedure. The proposed time frames for all critical subtasks (i.e., torch/saw cutting various portions of the superstructure or substructure, dismantling splices, installing temporary bracing, etc.) shall be furnished so that the potential impact(s) to CSXT operations may be assessed and eliminated or minimized.
7. The names and experience of the key Contractor personnel involved in the operation shall be included in the Contractor’s means and methods submission.
8. Design and supporting calculations prepared by the Professional Engineer for items including the temporary support of components or intermediate stages shall be submitted for review. A guardrail will be required to be installed in a track where a temporary bent is located within twelve (12) feet from the centerline of that track. The guardrail will be installed by CSXT forces at the expense of the Agency or its contractor.
9. Existing, obsolete, bridge piers shall be removed to a minimum of 3’-0” below the finished grade, final ditch line invert, or as directed by the Engineer.
10. A minimum quantity of 25 Tons of CSXT approved track ballast may be required to be furnished and stockpiled on site by the Contractor, or as directed by the Engineer.

## CONSTRUCTION SUBMISSION CRITERIA

11. CSXT's tracks, signals, structures, and other facilities shall be protected from damage during demolition of existing structure or replacement of deck slab.  
**NOTE: On-track or ground level debris shields such as crane mats are prohibited for use by CSXT.**
- C. Overhead Demolition Debris Shield - Shall be installed prior to the demolition of the bridge deck or other relevant portions of the superstructure.
1. The demolition debris shield shall be erected from the underside of the bridge over the track area to catch all falling debris.
  2. The Contractor shall include the demolition debris shield installation/removal means and methods as part of the proposed Controlled Demolition procedure submission.
  3. The demolition debris shield shall provide 23'-0" minimum vertical clearance or maintain the existing vertical clearance if the existing clearance is less than 23'-0" as approved by CSXT. Horizontal clearance to the centerline of the track should not be reduced unless approved by the Engineer.
  4. The vertical clearance ATR (above top of rail) is measured from the top of rail to the lowest point on the overhead shielding system measured within a distance of 6'-0" out from each side of the track centerline.
  5. The demolition debris shield design and supporting calculations all signed/sealed by a Professional Engineer, shall be submitted for review and acceptance.
  6. The demolition debris shield shall have a **minimum** design load of 50 pounds per square foot **plus** the weight of the equipment, debris, personnel, and other loads to be carried.
  7. The Contractor shall include the proposed bridge deck removal procedure in its demolition means and methods and shall verify that the size and quantity of the demolition debris generated by the procedure does not exceed the shield design loads.
  8. The contractor shall clean the demolition debris shield daily or more frequently as dictated either by the approved design parameters or as directed by the Engineer.
- D. Vertical Demolition Debris Shield – This type of shield may be required for substructure removals in close proximity to CSXT track and other facilities, as determined by the Engineer.

## CONSTRUCTION SUBMISSION CRITERIA

1. Prior to commencing the demolition activity, the Contractor shall install a ballast protection system consisting of geotextile to keep the railroad ballast from becoming fouled with construction or demolition debris and fines. The geotextile ballast protection system shall be installed and maintained by the Contractor for the project duration in accordance with the attached plan, or with additional measures as directed by the Engineer.
  2. The Agency, or its Contractor, shall submit detailed plans, with detailed calculations, prepared and submitted by a Professional Engineer of the protection shield and ballast protection systems for approval prior to the start of demolition.
  3. Blasting will not be permitted to demolish a structure over or within CSXT's right-of-way.
- E. The Controlled Demolition procedure must be approved by the **Engineer** prior to undertaking work on the project.
- F. The Contractor shall provide timely communication to the Engineer when scheduling the demolition related work so that the Engineer may be present during the entire demolition procedure.
- G. At any time during demolition activities, the Engineer may require revisions to the previously approved procedures to address weather, site conditions or other circumstances which may create a potential hazard to rail operations or CSXT facilities. Such revisions may require immediate interruption or termination of ongoing activities until such time the issue is resolved to the Engineer's satisfaction. CSXT and its GEC shall not be responsible for any additional costs or time claims associated with such revisions.

### III. ERECTION PROCEDURE:

**The Agency or its Contractor shall submit a detailed procedure for performing erection on/about CSXT property, as defined above.**

- A. The Agency or its Contractor shall submit six (6) copies of the detailed procedure for erection of the proposed structures over or adjacent to CSXT's tracks or right-of-way. This procedure shall include a plan showing the locations of cranes, horizontally and vertically, operating radii, with staging locations shown, including beam placement on ground or truck unloading staging plan. Plan should also include the location of all tracks, other railroad facilities; wires, poles, adjacent structures, or

## CONSTRUCTION SUBMISSION CRITERIA

buried utilities that could be affected, showing that the proposed lifts are clear of these obstructions should be shown. No crane or equipment may be set on the CSXT rails or track structure.

- B. Also included with this submittal the following information:
1. As-Built Bridge Seat Elevations - All as-built bridge seats and top of rail elevations shall be furnished to the Engineer for review and verification at least 30 days in advance of construction or erection, to ensure that minimum vertical clearances as approved in the plans will be achieved.
  2. Computations showing weight of picks must be submitted. Computations shall be made from plans of the structure beams being erected and those plans or sections thereof shall also be included in the submittal; the weight shall include the weight of concrete or other materials including lifting rigging.
  3. Crane rating sheets showing cranes to be adequate for 150% of the actual weight of the pick. A complete set of crane charts, including crane, counterweight, maximum boom angle, and boom nomenclature is to be submitted. Safety factors that may have been "built in" to the crane charts are not to be considered when determining the 150% Factor of Safety.
  4. A data sheet shall be prepared listing the type, size and arrangements of slings, shackles, or other connecting equipment. Include copies of a catalog or information sheets for specialized equipment. All specific components proposed for use shall be clearly identified and highlighted in the submitted documents. The safe working load capacity of the connecting equipment shall be 150% above the calculated weight of the pick.
  5. A complete written procedure is to be included that describes the sequence of events, indicating the order of lifts and any repositioning or rehitcing of the crane or cranes.
  6. A time schedule for each of the various stages must be shown as well as a schedule for the entire lifting procedure. The proposed time frames for all critical sub tasks (i.e., performing aerial splices, installing temporary bracing, etc.) shall be furnished so that the potential impact(s) to CSXT operations may be assessed and eliminated or minimized.

## CONSTRUCTION SUBMISSION CRITERIA

7. The names and experience of the key Contractor personnel involved in the operation shall be included in the Contractor's means and methods submission.
  8. Design and supporting calculations prepared by the Professional Engineer for items including the temporary support of components or intermediate stages shall be submitted for review. A guardrail will be required to be installed in a track where a temporary bent is located within twelve (12) feet from the centerline of that track.
- C. The proposed Erection procedure must be approved by the Engineer prior to undertaking work on the project.
- D. The Contractor shall provide timely communication to the Engineer when scheduling the erection related work so that the Engineer may be present during the entire erection procedure.
- E. At any time during construction activities, the Engineer may require revisions to the previously approved procedures to address weather, site conditions or other circumstances which may create a potential hazard to rail operations or CSXT facilities. Such revisions may require immediate interruption or termination of ongoing activities until such time the issue is resolved to the Engineer's satisfaction. CSXT and its GEC shall not be responsible for any additional costs or time claims associated with such revisions.

### **IV. EXCAVATION AND SHORING:**

**The Agency or its contractor shall submit as defined above, a detailed procedure for the installing sheeting/shoring adjacent to Railroad Tracks.**

- A. Shoring protection shall be provided when excavating adjacent to an active track or railroad facility or as determined by CSXT. Shoring will be provided in accordance with AREMA *Manual for Railway Engineering* Chapter 8, part 28; except as noted below.
- B. Shoring may not be required if all of the following conditions are satisfied:
  1. Excavation does not encroach upon a 1½ horizontal: 1 vertical theoretical slope line starting 1'-6" below top of rail and at 12'-0" minimum from centerline of the track (live load influence zone).
  2. Track is on level ground or in a cut section and on stable soil.

## CONSTRUCTION SUBMISSION CRITERIA

3. Excavation does not adversely impact the stability of a CSXT facility (i.e. signal bungalow, drainage facility, undergrade bridge, building, etc.).
  4. Shoring is not required by any governing construction code.
- C. When the track is on an embankment, excavating the toe of the embankment without shoring may affect the stability of the embankment. Therefore, excavation of the embankment toe without shoring will not be permitted.
- D. Trench Boxes are prohibited for use on CSXT within the Theoretical Railroad Live Load Influence Zone.
- E. The required protection is the cofferdam type that completely encloses the excavation. Where dictated by conditions, partial cofferdams with open sides away from the track may be used. Cofferdams shall be constructed using steel sheet piling, or when approved by the Engineer, steel soldier piles with timber lagging. Wales and struts shall be provided and designed as needed. The following shall be considered when designing cofferdams:
1. Shoring shall be designed to resist a vertical live load surcharge of 1,880 lbs. per square foot, in addition to active earth pressure. The surcharge shall be assumed to act on a continuous strip, 8'-6" wide. Lateral pressures due to surcharge shall be computed using the strip load formula shown in *AREMA Manual for Railway Engineering*, Chapter 8, Part 20.
  2. Allowable stresses in materials shall be in accordance with *AREMA Manual for Railway Engineering*, Chapter 7, 8, and 15.
  3. A construction procedure for temporary shoring shall be shown on the drawing.
  4. All shoring systems on or adjacent to CSXT right-of-way shall be equipped with railings or other approved fall protection.
  5. A minimum horizontal clearance of 10'-0" from centerline of the track to face of nearest point of shoring shall be maintained provided a 12'-0" roadbed is maintained with a temporary walkway and handrail system.

## CONSTRUCTION SUBMISSION CRITERIA

- F. The contractor shall submit the following drawings and calculations (all shall be signed/sealed by a Professional Engineer) for CSXT's review and approval.
1. Six (6) sets of detailed drawings of the shoring systems showing sizes of all structural members, details of connections, and distances from centerline of track to face of shoring. Drawing shall show a section showing height of shoring and track elevation in relation to bottom of excavation.
  2. Six (6) sets of calculations of the shoring design.  
  
The drawings and calculations shall be prepared by a Licensed Professional Engineer in the State (if required by the Agency) where the shoring is to be constructed and shall bear his seal and signature. Shoring plans shall be approved by CSXT's construction engineering and inspection representative.
  3. For sheeting and shoring within 18'-0" of the centerline of the track, the live load influence zone, and in slopes, the contractor shall use interlocked steel sheeting (sheet pile).
  4. Sheet pile installed in slopes or within 18'-0" of the centerline of track shall not be removed.
  5. Sheet piles shall be cut off a minimum of 3'-0" below the finished grade, ditch line invert, or as directed by the **Engineer**. The ground shall be backfilled and compacted immediately after sheet pile is cut off.
  6. A procedure for cutting off the sheet pile and restoring the embankment shall be submitted to the Engineer for review and acceptance.
- G. Blasting is not permitted on or adjacent to CSXT right-of-way without prior written approval from the **Engineer**. Mechanical and Chemical means of rock removal must be explored before blasting is considered. If written permission for the use of explosives is granted, the Agency or Contractor must comply with all of the following:
1. Blasting shall be done with light charges under the direct supervision of a responsible officer or employee of the Agency or Contractor.

## CONSTRUCTION SUBMISSION CRITERIA

2. Electronic detonating fuses shall not be used because of the possibility of premature explosions resulting from operation of two-way train radios.
3. No blasting shall be done without the presence of an authorized representative of CSXT. Advance notice to the Engineer as required by the CSXT Special Provisions is required to arrange for the presence of an authorized CSXT representative and any flagging that CSXT may require.
4. Agency or Contractor must have at the project site adequate equipment, labor and materials, and allow sufficient time, to clean up debris resulting from the blasting and correct any misalignment of tracks or other damage to CSXT property resulting from the blasting. Any corrective measures required must be performed as directed by the Engineer at the Agency's or Contractor's expense without any delay to trains. If Agency's or Contractor's actions result in the delay of any trains including passenger trains, the Agency or Contractor shall bear the entire cost thereof.
5. The Agency or Contractor may not store explosives on CSXT property.
6. At any time during blasting activities, the Engineer may require revisions to the previously approved procedures to address weather, site conditions or other circumstances which may create a potential hazard to rail operations or CSXT facilities. Such revisions may require immediate interruption or termination of ongoing activities until such time the issue is resolved to the Engineer's satisfaction. CSXT and its GEC shall not be responsible for any additional costs or time claims associated with such revisions.

### V. TRACK MONITORING

**The Agency or its Contractor shall submit for CSXT review and approval, a detailed track monitoring program to detect both horizontal and vertical movement of the CSXT track and roadbed, a minimum of 30 days in advance of start of work.**

- A. For the installation of temporary or permanent shoring systems, including but not limited to soldier piles and lagging, and interlocked steel sheeting on or adjacent to CSXT's right-of-way, the contractor may be required to

## CONSTRUCTION SUBMISSION CRITERIA

submit a detailed track monitoring program for CSXT's approval prior to performing any work near CSXT's right-of-way.

- B. The program shall specify the survey locations, the distance between the location points, and frequency of monitoring before, during, and after construction. CSXT reserves to the right to modify the survey locations and monitoring frequency as necessary during the project.
- C. The survey data shall be collected in accordance with the approved frequency and immediately furnished to the Engineer for analysis.
- D. If any movement has occurred as determined by the Engineer, CSXT will be immediately notified. CSXT, at its sole discretion, shall have the right to immediately require all contractor operations to be ceased, have the excavated area immediately backfilled and/or determine what corrective action is required. Any corrective action required by CSXT or performed by CSXT including the monitoring of corrective action of the contractor will be at project expense.

### **SPECIAL PROVISION FOR WELDING STEEL BRIDGES**

This Special Note will apply when indicated on the plans or in the proposal. Section references herein are to the Department's 2008 Standard Specifications for Road and Bridge Construction.

For all the welding, welders, welding materials, and welding procedures, conform to the requirements of the Bridge Welding Code, ANSI/AASHTO/AWS D1.5-95, and the modifications and additions herein.

The numbering of the sections, articles, parts, paragraphs, etc. that are included hereinafter are based on the numbering of ANSI/AASHTO/AWS D1.5-95. The plans or proposal will include additional requirements for fracture-critical members, and may include additional requirements for special steels such as ASTM A 588.

#### **SECTION 1 GENERAL PROVISIONS**

Paragraph 1.0 is added as follows:

##### 1.0 Prequalification of Fabrication Shops

1.0.1 Any structural steel fabrication shop in which welded plate girders, or welded boxes or components for bridge trusses, rigid frames, or bridge arches are fabricated shall be qualified and certified as a Category III fabrication shop by AISC.

Proof of this qualification and certification shall be submitted to the Director, Division of Bridges, prior to or along with the first submission of shop drawings. Shop drawings will not be reviewed until this proof has been received.

##### 1.3 Welding Processes

Paragraph 1.3.1.1 is added as follows:

Gas Metal Arc (GMAW), Flux Cored Arc (FCAW), Electroslag (ESW), and Electrogas (EGW) weld processes shall not be used at any location.

#### **SECTION 2 DESIGN OF WELDED CONNECTIONS**

##### 2.1 Drawings

Paragraph 2.1.6 is added as follows:

Shop drawings and welding procedures shall be prepared and submitted for review as specified in Section 607.03.01 of the Department's Standard Specifications. Fabrication shall not begin until shop drawings and welding procedures are reviewed.

##### 2.6 Joint Qualification

The following is added to Paragraph 2.6.1:

Details of welded joints shown on the design drawings may indicate joint preparation for a manual shielded metal-arc process or for a submerged-arc process. Shop details shall

indicate the proper joint preparation for the welding procedure proposed by the shop in instances where the shop prefers a method not detailed on design drawings.

#### 2.8 Details of Plug and Slot Welds

Plug and Slot Welds will not be permitted at any location in any type of steel except where designated on the plans or approved by the Engineer.

#### 2.9 Complete Joint Penetration Groove Welds, and

#### 2.10 Partial Joint Penetration Groove Welds

The following paragraph is added to the 2 articles listed above and will be numbered as follows:

2.9.3 – 2.10.4 Groove welds, except corner and tee joints, shall be finished smooth by grinding each face in the direction of applied stress to a tolerance of plus 1/32 inch and minus zero inch in relation to the face of the base metal.

### **SECTION 3 WORKMANSHIP**

#### 3.1 General Requirements

Paragraph 3.1.6 is added as follows:

Any discontinuities found by the Engineer during the inspection of the fabrication, may lead to further testing by any non-destructive methods as may be directed by the Engineer. The cost of testing will be at the expense of the Department, except as specified in paragraphs 6.5.8 and 6.5.9 herein, and Section 607.03.13 of the Department's Standard Specifications. The cost of removal and repair of any rejectable discontinuities will be borne by the Contractor.

#### 3.2 Preparation of Base Metal

The following is added to Paragraph 3.2.1:

Mill scale and extraneous material shall be removed from the torch side of ASTM A 514 steel plates along the lines to be flame cut, when necessary to obviate excessive notches.

Paragraph 3.2.10 is added as follows:

Sheared plates to be used for webs of built-up members shall be ordered with sufficient additional width to allow for trimming of edges where built-up camber is required. Plates with rolled edges shall be trimmed. Universal mill plates to be used for webs of built-up members shall be ordered with sufficient additional width to allow for trimming of both edges. The faying surfaces of the web and flange plates and the adjacent surfaces that are to be fillet welded shall be cleaned by grinding prior to assembly and welding of web-to-flange. Care shall be exercised to avoid over-grinding.

#### 3.4 Control of Distortion and Shrinkage

Paragraphs 3.4.8 is added as follows:

The welding sequence outlined in the procedure specification shall be such as to avoid needless distortion and shrinkage stresses in accordance with this Article 3.4. For welded plate girders the broad outline of sequence shall be as follows:

1. Flange groove weld
2. Web groove weld
3. Web to flange weld
4. Stiffeners to web welds
5. Stiffeners to flange welds

Paragraph 3.4.9 is added as follows:

All welded shop splices in flanges and webs of girders or frames shall be shown on the shop drawings.

### 3.7 Repairs

Paragraph 3.7.2.5 is added as follows:

Weld repairs of all material except fracture critical members will be limited to a maximum of 3 attempts to obtain an approved weld. No further attempts shall be made on the member joint involved until the Contractor has proven to the Inspector, by mock-up procedures or otherwise, his ability to properly perform the required weld. Weld repairs on fracture critical members shall comply with the AASHTO Guide Specifications for Fracture Critical Non-Redundant Steel Bridge Members.

## **SECTION 4 TECHNIQUE**

### **PART B SHIELDED METAL ARC WELDING**

#### 4.5 Electrodes for Shielded Metal Arc Welding

Paragraph 4.5.1 is voided and replaced as follows:

All electrodes for shielded metal arc welding shall conform to the requirements of the latest edition of Specification for Covered Carbon Steel Arc Welding Electrodes, ANSI/AWS A5.1 or Specification for Low Alloy Steel Covered Arc Welding Electrodes, ANSI/AWS A5.5, and when used for welding on main members shall be capable of producing weld metal having an impact strength of at least 20 ft.-lbs.. Charpy V-notch, at a temperature of -20 °F or below.

The following is added to Paragraph 4.5.5:

The fabricator shall furnish a test report summary for all lots of electrodes used on main members. All Charpy impact strengths shall be listed in addition to other requirements of ANSI/AWS A5.1 and ANSI/AWS A5.5.

### **PART C SUBMERGED ARC WELDING**

#### 4.8 Electrodes and Fluxes for Submerged Arc Welding

Paragraph 4.8.5 is added as follows:

Flux which shows evidence of moisture pickup shall be dried by heating to above 300 °F for a minimum of 2 hours. Flux which has been left in an unheated dispensing system overnight shall be dried before use by heating to above 300 °F for one hour.

#### 4.9 Procedures for Submerged Arc Welding with a Single Electrode

Paragraph 4.9.2 is voided and replaced as follows:

Web to flange fillet welds shall be made in the flat position. Other fillet welds may be made in either the flat or horizontal position except that single-pass fillet welds made in the horizontal position shall not exceed 5/16 inch. Fillet welds used to connect flange plates to web plates shall be made with a single pass, fully automatic process in the flat position, unless the fabricator has special welding fixtures capable of supporting the flange in a horizontal plane while centering the web on the flange and simultaneously welding both sides of the web to flange connection. The use of this automatic welding fixture must have prior approval before beginning fabrication. This special welding fixture must be capable of maintaining any pre-cut camber specified in the plans. If the centering of the web to the flange or the completed weld does not conform to the applicable specifications, use of the special welding fixture shall be discontinued. Girder welding machines shall never be allowed when the weld size exceeds 3/8 inch. Attempts to weld girders with a girder machine that result in unacceptable weld profiles will result in the process being disapproved, and the unacceptable welds being completely removed and rewelded with submerged arc process in the flat position. Corrective work will not be allowed.

#### 4.11 Procedures for Submerged Arc Welding with Multiple Electrodes

Paragraph 4.11.2 is voided and replaced as follows:

Web to flange fillet welds shall be made in the flat position. Other fillet welds may be made in either the flat or horizontal position, except that single-pass fillet welds made in the horizontal position shall not exceed 1/2 inch. A fully automatic single-pass submerged arc shall be used to connect the flange plates to the web plates, unless the fabricator has special welding fixtures capable of supporting the flange in a horizontal plane while centering the web on the flange and simultaneously welding both sides of the web to flange connection. The use of this automatic welding fixture must have prior approval before beginning fabrication. This special welding fixture must be capable of maintaining any pre-cut camber specified in the plans. If the centering of the web to the flange, or the completed weld, does not conform to the applicable specifications, use of the special welding fixture shall be discontinued. Girder welding machines shall never be allowed when the weld size exceeds 3/8 inch. Attempts to weld girders with a girder machine that result in unacceptable weld profiles will result in the process being disapproved, and the unacceptable welds being completely removed and rewelded with submerged arc process in the flat position. Corrective work will not be allowed.

## **SECTION 5 QUALIFICATION**

### **5.7 General Requirements for WPS Qualifications**

Paragraph 5.7.1.3 is added as follows:

The procedure specifications shall be recorded as a part of the shop detail drawings and shall be submitted to the Director of Bridges for approval. The procedure specifications shall outline the welding sequence for each welded shop assembly, including shoes and rockers. The procedure specifications shall specify for each type of weld, prequalified or other, the following: joint preparation, fit-up, electrode specification, electrode diameter, welding position, polarity, amperage, and number of passes, indicating any procedure change from one pass to the next in the same weld and indicating the maximum thickness in a weldment layer. Where preheating of the base metal is required it shall be indicated in the procedure specifications. Extension bars used in making butt welds shall be detailed on the shop detail drawings or on the welding procedures. Procedure specifications submitted which are not tailored to suit the particular work to be fabricated shall not be considered as fulfilling the requirements of the contract. Qualification of a welding procedure established with ASTM A 441, ASTM A 572, or ASTM A 588 steel shall be considered as procedure qualification for welding the other two steels, combinations of them or with steels included in Article 9.2 having a lower minimum specified yield point.

Welding of ASTM A 242 steel is considered a special application and a welding procedure qualified for any of the other three steels listed may not be acceptable for A 242 steel.

Procedure qualification records, and procedure specifications shall be submitted on forms E-1 and E-2 of Appendix IV.

### **5.21 Welders, Welding Operators, and Tack Welders Qualification**

Paragraph 5.21 is voided and replaced as follows:

All welders, welding operators, and tackers to be employed under these Specifications shall have been qualified by tests as prescribed in Section 5, Part B of these Specifications. If a fabricating shop prequalifies its welders, welding operators, and tackers in accordance with these Specifications and certifies to the Engineer that the welder, welding operator, or tacker has been prequalified within 24 months previous to the beginning of work on the subject structure and has been doing satisfactory welding of the required type within the 3-month period previous to the subject work, the Engineer may consider him qualified. A certification shall be submitted for each welder, welding operator, or tacker and for each project, stating the name of the welder, welding operator, or tacker, the name and title of the person who conducted the examination, kind of specimens, the position of welds, the results of the tests, and the date of the examination. Such a certification of prequalification may also be accepted as proof that a welder, welding operator, or tacker is qualified, if the Contractor who submits it is properly staffed and equipped to conduct such an examination or if the examining and testing is done by a recognized agency which is staffed and equipped for such purpose. In all cases, welders, welding operators, and tackers shall have been qualified by testing according to KM 64-110 within the previous 24 months of the time of actual weld performance.

## **PART B WELDER'S, WELDING OPERATOR'S, OR TACK WELDER'S QUALIFICATION**

Article 5.21.4 is voided and replaced with the following:

5.21.4 Period of Effectiveness

The welder's, welding operator's, or tack welder's qualification will remain in effect as specified in Paragraph 5.8.1, unless there is some specific reason to question a welder's ability.

**SECTION 6 INSPECTION**

**PART A GENERAL REQUIREMENTS**

6.1 General

Paragraph 6.1.1.3 is added as follows:

The Contractor shall submit details of his Quality Control Organization to the Director, Division of Construction, for approval prior to any fabrication. Any material fabricated prior to the approval of the Quality Control Organization or prior to the approval of shop drawings will not be accepted.

The Department will normally perform Quality Assurance (Q.A.) inspection and nondestructive testing in addition to that required to be performed by the Contractor. The frequency of the Quality Assurance nondestructive testing may exceed that required of the Contractor, and the areas tested by the Department may differ from the areas tested by the Contractor. Thus, the percentage of N.D.T. Inspection of a joint may exceed the percentages indicated in paragraphs 6.7.1.2 and 6.7.2.1.

All test results of the Contractor's nondestructive testing shall be provided to the Department's representative or Quality Assurance inspector as directed.

Paragraph 6.1.1.4 is added as follows:

Prior to the start of actual welding operations, the Department's inspector, the fabricator's shop inspector, and welding foreman shall hold a conference to ensure that agreement has been reached regarding details of the procedure and sequence of welding to be followed, the current status of qualification tests or evidence of previous tests, the review status of shop drawings and welding procedures, and approval of electrodes and other materials to be used.

Paragraph 6.1.6 is added as follows:

The Department's Q.A. Inspector will, at his option, use Radiographic Inspection or Ultrasonic Inspection in accordance with Article 6.7 for the inspection of groove welds. Web-to-flange fillet welds will be inspected in accordance with Paragraph 6.7.6 by Magnetic Particle Inspections. The intent of the inspection is to assure the highest quality of welding and workmanship. Any discontinuities found by the Department's Q.A. Inspector during the inspection of the fabrication, may lead to further testing by any non-destructive methods as may be directed by the Engineer. All non-destructive testing performed by the Department's Q.A. Inspector is at no direct cost to the Contractor except as specified in Paragraph 6.5.9 and Section 607.03.13 of the Department's Standard Specifications. All rejectable defects found by Q.C. and Q.A. shall be acceptably repaired by the Contractor at no cost to the Department.

#### 6.5 Inspection of Work and Records

Paragraph 6.5.8.1 is added as follows:

The Contractor shall be responsible for establishing an adequate procedure for identifying the structural member being fabricated and the welding operator performing the weld. The procedure for the member identification shall assure positive identification until after erection in the field and the procedure for welding operators shall assure positive identification until after all nondestructive testing of the joint is complete. Neither procedure shall consist of stressriser imprints and both shall be approved by the Engineer. Stenciled imprints may be made along side edges of flanges, and at neutral axes of webs. Subsequent to the assembly of the steel into final members or pieces, the Inspector will be required to furnish the Engineer a complete index properly identifying the type of nondestructive test, report number, test results, and the final mark of the piece, member, or its location in the structure. The Contractor shall furnish to the Inspector assembly marks for each member which will give the final location of each weld. The Inspector shall record the locations of inspected areas and the findings of all nondestructive tests, together with descriptions of any repairs made.

All main member heat numbers will be required to be identified in accordance with Section 607.03.04 (E) of the Department's Standard Specifications.

The Inspectors shall provide copies of the written nondestructive test reports of unacceptable welds to the Contractor with the Inspector's interpretation. The Contractor shall sign and date each report to acknowledge the required welding repairs. In the event the Contractor questions the Inspector's interpretation of test results, they shall review the test together and the Department's Q.A. Inspector's interpretation will be final.

Paragraph 6.5.9 is added as follows:

The total cost to the Department of all additional testing and visual inspection performed due to the finding of rejectable defects or discontinuities as required by paragraphs 6.7.1.2(2) and 6.7.2.1 shall be charged to the Contractor. Such charge will be deducted from any payment or payments due for the contract.

#### 6.6 Obligations of Contractor

Paragraph 6.6.7 is added as follows:

While every reasonable effort will be made to fit the inspection work to the shop fabricating schedule, the Contractor shall cooperate with the Inspector to assure that all the work may be inspected properly. The Contractor shall not be entitled to claims against the Department for extra payment or extensions of contract time due to fabricating delays or expenses resulting from the inspection work.

Paragraph 6.6.8 is added as follows:

The Contractor shall furnish power and utilities for operating inspection equipment, shall provide office and shop space for the inspection work, shall handle the material as necessary and shall enforce the required safety precautions for radioactive exposure. No extra payment will be made for such incidentals and the cost thereof shall be included in the lump sum bid

for structural steel.

## **PART B RADIOGRAPHIC TESTING OF GROOVE WELDS IN BUTT JOINTS**

### 6.10 Radiographic Procedure

Paragraph 6.10.3 is voided and replaced with the following:

Welds shall be prepared for radiography by grinding and shall be radiographed after grinding and after backing is removed. If any reinforcement, within the specified tolerances remains after grinding, carbon steel shims shall be placed under the penetrometer so that the total thickness of steel between the penetrometer and the film is at least equal to the average thickness of the weld measured through its reinforcement.

### 6.11 Acceptability of Welds

Article 6.11 is voided and replaced with the following:

6.11 Refer to Paragraph 9.21.6.

## **PART C ULTRASONIC TESTING OF GROOVE WELDS**

### 6.13 General

Paragraph 6.13.1 is voided and replaced as follows:

The procedures and standards set forth in this Part C are to govern the ultrasonic testing of groove welds and heat affected zones between the thickness of 5/16 inch and 8 inches inclusive, when such testing is required by Article 6.7. These procedures and standards are not to be used for testing tube to tube T, Y, or K connections (see 10.17.4, AWS D1.1), but may be used as a basis for rejection of defective base metal.

## **SECTION 7 STUD WELDING**

### 7.4 Workmanship

Paragraph 7.4.5 is voided and replaced as follows:

Longitudinal and lateral spacing of stud shear connectors with respect to each other and to edges of beam or girder flanges may vary a maximum of one inch) from the location shown in the drawings. If a row of shear connectors is located in the vicinity of a welded flange splice that row of shear connectors shall have its spacing adjusted so as to clear the heat affected zone of the flange. The minimum distance from the edge of a stud base to the edge of a flange shall be the diameter of the stud plus 1/8 inch but preferably not less than 1 1/2 inches. Other types of studs shall be so located as to permit a workmanlike assembly of attachments without alterations or reaming.

## **SECTION 9 DESIGN OF NEW BRIDGES**

## **PART D WORKMANSHIP**

### 9.21 Quality of Welds

The following is added to Paragraph 9.21.5.1:

Restrained joints shall have testing delayed until after all welding is completed or shall be retested after all welding contributing to restraint is completed and cooled. The fabricator is responsible for specifying such joints on shop drawings or welding procedures.

Paragraph 9.21.6 is added as follows:

9.21.6 Weld Quality Acceptance

Welds shown by visual inspection, or by nondestructive testing in accordance with Article 6.7, to have defects prohibited by Paragraph 9.21.1, 9.21.2, or 9.21.3, shall be repaired or removed and replaced, by the methods permitted by Article 3.7, or the entire piece shall be rejected as determined by the Engineer. Repaired or replaced welds shall be reinspected by the applicable nondestructive testing method. All required repairs or replacements shall be at the Contractor's expense.

January 1, 2008

CONTRACT ID: 111015  
 COUNTY: HARRISON  
 PROPOSAL: JL04 049 0027 BYPASS

PAGE: 1  
 LETTING: 04/29/11  
 CALL NO: 332

LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
ALT GROUPIAA10001 PAVING- ASPH WITH ASPH SHOULDER						
0010	00003	CRUSHED STONE BASE	21,344.000	TON		
0020	00100	ASPHALT SEAL AGGREGATE	73.000	TON		
0030	00212	CL2 ASPH BASE 1.00D PG64-22	15,227.000	TON		
0040	00291	EMULSIFIED ASPHALT RS-2	17.000	TON		
0050	00301	CL2 ASPH SURF 0.38D PG64-22	1,734.000	TON		
0060	00307	CL2 ASPH SURF 0.38B PG64-22	1,903.000	TON		
0070	02084	JPC PAVEMENT-8 IN (REVISED: 4-21-11)	222.000	SQYD		
0080	02230	EMBANKMENT IN PLACE	514,999.000	CUYD		
0090	02676	MOBILIZATION FOR MILL & TEXT	( 1.00)	LS		
0100	02677	ASPHALT PAVE MILLING & TEXTURING	279.000	TON		
0110	10203ND	PAVEMENT ADJUSTMENT ASPHALT	( 1.00)	LS	190,982.00	190,982.00
ALT GROUPIAA20002 PAVING-CONC WITH CONC SHOULDER						
0120	00003	CRUSHED STONE BASE	19,551.000	TON		
0130	00100	ASPHALT SEAL AGGREGATE	73.000	TON		
0140	00212	CL2 ASPH BASE 1.00D PG64-22	1,317.000	TON		
0150	00291	EMULSIFIED ASPHALT RS-2	17.000	TON		
0160	00301	CL2 ASPH SURF 0.38D PG64-22	446.000	TON		
0170	02078	JPC PAVEMENT-6 IN SHLD (REVISED: 4-21-11)	18,302.000	SQYD		
0180	02084	JPC PAVEMENT-8 IN (REVISED: 4-21-11)	27,891.000	SQYD		
0190	02230	EMBANKMENT IN PLACE	514,999.000	CUYD		
0200	02676	MOBILIZATION FOR MILL & TEXT	( 1.00)	LS		

CONTRACT ID: 111015  
 COUNTY: HARRISON  
 PROPOSAL: JL04 049 0027 BYPASS

PAGE: 2  
 LETTING: 04/29/11  
 CALL NO: 332

LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
0210	02677	ASPHALT PAVE MILLING & TEXTURING	279.000	TON		
0220	10203ND	PAVEMENT ADJUSTMENT CONC	( 1.00)	LS	89,924.00	89,924.00
ALT GROUPIAA30003 PAVING-CONC WITH ASPH SHOULDER						
0230	00003	CRUSHED STONE BASE	21,264.000	TON		
0240	00100	ASPHALT SEAL AGGREGATE	73.000	TON		
0250	00212	CL2 ASPH BASE 1.00D PG64-22	4,623.000	TON		
0260	00291	EMULSIFIED ASPHALT RS-2	17.000	TON		
0270	00301	CL2 ASPH SURF 0.38D PG64-22	1,734.000	TON		
0290	02084	JPC PAVEMENT-8 IN (REVISED: 4-21-11)	27,891.000	SQYD		
0300	02230	EMBANKMENT IN PLACE	514,999.000	CUYD		
0310	02676	MOBILIZATION FOR MILL & TEXT	( 1.00)	LS		
0320	02677	ASPHALT PAVE MILLING & TEXTURING	279.000	TON		
0330	10203ND	PAVEMENT ADJUSTMENT CONC	( 1.00)	LS	89,924.00	89,924.00
SECTION 0004 ROADWAY						
0340	00078	CRUSHED AGGREGATE SIZE NO 2	7.000	TON		
0350	00440	ENTRANCE PIPE-15 IN	52.000	LF		
0360	00461	CULVERT PIPE-15 IN	81.000	LF		
0370	00462	CULVERT PIPE-18 IN	51.000	LF		
0380	00466	CULVERT PIPE-30 IN	559.000	LF		
0390	00469	CULVERT PIPE-42 IN	502.000	LF		
0400	00470	CULVERT PIPE-48 IN	1,173.000	LF		
0410	00521	STORM SEWER PIPE-15 IN	272.000	LF		

CONTRACT ID: 111015  
 COUNTY: HARRISON  
 PROPOSAL: JL04 049 0027 BYPASS

PAGE: 3  
 LETTING: 04/29/11  
 CALL NO: 332

LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
0420	01001	PERFORATED PIPE-6 IN	419.000	LF		
0430	01011	NON-PERFORATED PIPE-6 IN	209.000	LF		
0440	01021	PERF PIPE HEADWALL TY 1-6 IN	3.000	EACH		
0450	01029	PERF PIPE HEADWALL TY 3-6 IN	2.000	EACH		
0460	01033	PERF PIPE HEADWALL TY 4-6 IN	2.000	EACH		
0470	01396	METAL END SECTION TY 3-42 IN	2.000	EACH		
0480	01433	SLOPED BOX OUTLET TYPE 1-18 IN	1.000	EACH		
0490	01480	CURB BOX INLET TYPE B	5.000	EACH		
0500	01490	DROP BOX INLET TYPE 1	1.000	EACH		
0510	01845	ISLAND INTEGRAL CURB	200.000	LF		
0520	02014	BARRICADE-TYPE III	3.000	EACH		
0530	02159	TEMP DITCH	9,380.000	LF		
0540	02160	CLEAN TEMP DITCH	9,380.000	LF		
0550	02242	WATER	500.000	MGAL		
0560	02262	FENCE-WOVEN WIRE TYPE 1	16,229.000	LF		
0570	02360	GUARDRAIL TERMINAL SECTION NO 1	4.000	EACH		
0580	02363	GUARDRAIL CONNECTOR TO BRIDGE END TY A	8.000	EACH		
0590	02367	GUARDRAIL END TREATMENT TYPE 1	5.000	EACH		
0600	02369	GUARDRAIL END TREATMENT TYPE 2A	5.000	EACH		
0610	02429	RIGHT-OF-WAY MONUMENT TYPE 1	11.000	EACH		
0620	02432	WITNESS POST	3.000	EACH		

CONTRACT ID: 111015  
 COUNTY: HARRISON  
 PROPOSAL: JL04 049 0027 BYPASS

PAGE: 4  
 LETTING: 04/29/11  
 CALL NO: 332

LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
0630	02482	CHANNEL LINING CLASS IA	136.000	TON		
0640	02483	CHANNEL LINING CLASS II	1,120.000	TON		
0650	02484	CHANNEL LINING CLASS III	1,225.000	TON		
0660	02545	CLEARING AND GRUBBING 72 ACRES	( 1.00)	LS		
0670	02562	SIGNS	313.000	SQFT		
0680	02585	EDGE KEY	179.000	LF		
0690	02596	FABRIC-GEOTEXTILE TYPE I	363.000	SQYD		
0700	02600	FABRIC GEOTEXTILE TY IV FOR PIPE	6,648.000	SQYD	2.00	13,296.00
0710	02650	MAINTAIN & CONTROL TRAFFIC	( 1.00)	LS		
0720	02671	PORTABLE CHANGEABLE MESSAGE SIGN	4.000	EACH		
0730	02701	TEMP SILT FENCE	9,380.000	LF		
0740	02703	SILT TRAP TYPE A	124.000	EACH		
0750	02704	SILT TRAP TYPE B	124.000	EACH		
0760	02705	SILT TRAP TYPE C	62.000	EACH		
0770	02706	CLEAN SILT TRAP TYPE A	371.000	EACH		
0780	02707	CLEAN SILT TRAP TYPE B	371.000	EACH		
0790	02708	CLEAN SILT TRAP TYPE C	185.000	EACH		
0800	02709	CLEAN TEMP SILT FENCE	18,760.000	LF		
0810	02726	STAKING	( 1.00)	LS		
0820	05950	EROSION CONTROL BLANKET	4,088.000	SQYD		
0830	05952	TEMP MULCH	299,064.000	SQYD		

CONTRACT ID: 111015  
 COUNTY: HARRISON  
 PROPOSAL: JL04 049 0027 BYPASS

PAGE: 5  
 LETTING: 04/29/11  
 CALL NO: 332

LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
0840	05953	TEMP SEEDING AND PROTECTION	299,064.000	SQYD		
0850	05966	TOPDRESSING FERTILIZER	13.000	TON		
0860	05985	SEEDING AND PROTECTION	250,567.000	SQYD		
0870	05989	SPECIAL SEEDING CROWN VETCH	92,779.000	SQYD		
0880	06514	PAVE STRIPING-PERM PAINT-4 IN	41,808.000	LF		
0890	06567	PAVE MARKING-THERMO STOP BAR-12IN	125.000	LF		
0900	06569	PAVE MARKING-THERMO CROSS-HATCH	5,740.000	SQFT		
0910	06573	PAVE MARKING-THERMO STR ARROW	2.000	EACH		
0920	06574	PAVE MARKING-THERMO CURV ARROW	11.000	EACH		
0930	06576	PAVE MARKING-THERMO ONLY	2.000	EACH		
0940	06589	PAVEMENT MARKER TYPE V-MW	19.000	EACH		
0950	06591	PAVEMENT MARKER TYPE V-BY	310.000	EACH		
0960	08100	CONCRETE-CLASS A	62.210	CUYD		
0970	08150	STEEL REINFORCEMENT	4,700.000	LB		
0980	20209EP69	GRANULAR PILE CORE	2,107.000	CUYD		
0990	21289ED	LONGITUDINAL EDGE KEY	383.000	LF		
1000	21802EN	G/R STEEL W BEAM-S FACE (7 FT POST)	10,475.000	LF		
1010	23131ER701	PIPELINE VIDEO INSPECTION	1,345.000	LF		
1020	24097EC	THERMO RUMBLE STRIPS TY 2	600.000	LF		
SECTION 0005 BRIDGE						
1030	02231	STRUCTURE GRANULAR BACKFILL	948.000	CUYD		

CONTRACT ID: 111015  
 COUNTY: HARRISON  
 PROPOSAL: JL04 049 0027 BYPASS

PAGE: 6  
 LETTING: 04/29/11  
 CALL NO: 332

LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
1040	02483	CHANNEL LINING CLASS II	4.000	TON		
1050	02596	FABRIC-GEOTEXTILE TYPE I	1,676.000	SQYD		
1060	02599	FABRIC-GEOTEXTILE TYPE IV	408.000	SQYD		
1070	02998	MASONRY COATING	5,040.000	SQYD		
1080	03299	ARMORED EDGE FOR CONCRETE	209.000	LF		
1090	08001	STRUCTURE EXCAVATION-COMMON	2,199.300	CUYD		
1100	08002	STRUCTURE EXCAV-SOLID ROCK	337.000	CUYD		
1110	08016	REINF CONC SLOPE WALL-6 IN	341.000	SQYD		
1120	08019	CYCLOPEAN STONE RIP RAP	1,732.000	TON		
1130	08020	CRUSHED AGGREGATE SLOPE PROT	657.000	TON		
1140	08033	TEST PILES	211.000	LF		
1150	08037	COFFERDAM	( 1.00)	LS		
1160	08039	PRE-DRILLING FOR PILES	206.000	LF		
1170	08046	PILES-STEEL HP12X53	1,535.000	LF		
1180	08050	PILES-STEEL HP14X73	2,876.000	LF		
1190	08094	PILE POINTS-12 IN	49.000	EACH		
1200	08095	PILE POINTS-14 IN	84.000	EACH		
1210	08100	CONCRETE-CLASS A	1,933.800	CUYD		
1220	08104	CONCRETE-CLASS AA	1,765.500	CUYD		
1230	08150	STEEL REINFORCEMENT	227,685.000	LB		
1240	08151	STEEL REINFORCEMENT-EPOXY COATED	584,826.000	LB		

CONTRACT ID: 111015  
 COUNTY: HARRISON  
 PROPOSAL: JL04 049 0027 BYPASS

PAGE: 7  
 LETTING: 04/29/11  
 CALL NO: 332

LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
1250	08160	STRUCTURAL STEEL 1,765,610 LB.	( 1.00)	LS		
1260	08170	SHEAR CONNECTORS 7,505 LB.	( 1.00)	LS		
1270	08269	ELECTRICAL CONDUIT	( 1.00)	LS		
1280	08636	PRECAST PC I BEAM TYPE 5	1,100.500	LF		
1290	21532ED	RAIL SYSTEM TYPE III	2,323.000	LF		
SECTION 0006 SIGNING						
1300	06407	SBM ALUM SHEET SIGNS .125 IN	96.000	SQFT		
1310	06411	STEEL POST TYPE 2	210.000	LF		
SECTION 0007 SIGNALIZATION						
1320	04793	CONDUIT-1 1/4 IN	841.000	LF		
1330	04795	CONDUIT-2 IN	80.000	LF		
1340	04811	JUNCTION BOX TYPE B	5.000	EACH		
1350	04820	TRENCHING AND BACKFILLING	921.000	LF		
1360	04830	LOOP WIRE	1,348.000	LF		
1370	04844	CABLE-NO. 14/5C	395.000	LF		
1380	04850	CABLE-NO. 14/1 PAIR	2,350.000	LF		
1390	04885	MESSENGER-10800 LB	330.000	LF		
1400	04895	LOOP SAW SLOT AND FILL	493.000	LF		
1410	04931	INSTALL CONTROLLER TYPE 170	1.000	EACH		
1420	04932	INSTALL STEEL STRAIN POLE	4.000	EACH		
1430	04950	REMOVE SIGNAL EQUIPMENT	1.000	EACH		

CONTRACT ID: 111015  
 COUNTY: HARRISON  
 PROPOSAL: JL04 049 0027 BYPASS

PAGE: 8  
 LETTING: 04/29/11  
 CALL NO: 332

LINE NO	ITEM	DESCRIPTION	APPROXIMATE QUANTITY	UNIT	UNIT PRICE	AMOUNT
1440	20094ES835	TEMP RELOCATION OF SIGNAL HEAD	6.000	EACH		
1450	20188NS835	INSTALL LED SIGNAL-3 SECTION	6.000	EACH		
1460	23157EN	TRAFFIC SIGNAL POLE BASE	16.750	CUYD		
1470	23982EC	INSTALL ANTENNA	1.000	EACH		
SECTION 0008 WATERLINE						
1480	01069	STEEL ENCASEMENT PIPE-12 IN	254.000	LF		
1490	03383	PVC PIPE-4 IN	310.000	LF		
1500	03443	CUT CAP & BLOCK	2.000	EACH		
1510	03526	GATE VALVE-6 IN	2.000	EACH		
1520	23310EC	VALVE BOX	2.000	EACH		
SECTION 0009 DEMOB AND MOB						
1530	02568	MOBILIZATION (NO MORE THAN 5%)		LUMP		
1540	02569	DEMOBILIZATION (AT LEAST 1.5%)		LUMP		
		TOTAL BID				