

## OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

#### **ADDENDUM NO. 1**

PROJECT NO. 59-18-02
REPAIRS AND RESURFACING
EASTBOUND AND WESTBOUND ROADWAYS
MILEPOST 191.39 TO MILEPOST 205.20
PORTAGE COUNTY, OHIO

#### **OPENING DATE:**

2:00 P.M. (EASTERN TIME), JANUARY 12, 2018

# **ATTENTION OF BIDDERS IS DIRECTED TO:**

ANSWERS TO QUESTIONS RECEIVED THROUGH 5:00 PM ON JANUARY 4, 2018 -AND-

## MODIFICATIONS TO THE CONTRACT DOCUMENTS:

Plan Sheets 12 and 13 of 13;

-and-

Bid Schedule of Items at Ref. Nos. 4, 27, AND 78;

-and-

Special Provisions SP202 and SP519

Issued by the Ohio Turnpike and Infrastructure Commission on January 5, 2018 by Anthony D. Yacobucci, Chief Engineer, and Mark R. Musson, Director of Contracts Administration.

Anthony D. Yacobucci

Date

Mark R. Musson

Date

#### ANSWERS TO QUESTIONS RECEIVED THROUGH 11:00 AM ON JANUARY 5, 2018:

- Q#1 General summary plan page 12 quantity does not match bid quantity or plans please advise what is correct.
- A#1 The quantity for Ref. No. 4: Item 202 APPROACH SLAB REMOVED on the Bid Schedule, the Estimated Quantities Worksheet and Revised Plan Sheets 12 of 13 and 13 of 13 is revised through this Addendum No. 1 to 213.33.

The contingency quantities for Ref. No. 23: Item SP 404 – ASPHALT CONCRETE SURFACE COURSE, USING CRUSHED SLAG, PG 76-22 (FR) is removed through this Addendum No. 1 from Plan Sheet 12 of 13.

The quantity for Ref. No. 26: Item SP 451 – FULL DEPTH PAVEMENT REPAIRS (ASPHALT) on Plan Sheet 12 of 13 is revised through this Addendum No. 1 to **373.34**.

The Item Description for Ref. No. 27: Item 526 – REINFORCED CONCRETE APPROACH SLABS (T=12") on the Bid Schedule, the Estimated Quantities Worksheet and Revised Plan Sheets 12 of 13 and 13 of 13 is revised through this Addendum No. 1 to specify **AS PER PLAN**.

The quantity of Ref. No. 27: Item 526 – REINFORCED CONCRETE APPROACH SLABS (T=12"), AS PER PLAN on the Bid Schedule, the Estimated Quantities Worksheet and Revised Plan Sheets 12 of 13 and 13 of 13 is further revised through this Addendum No. 1 to 213.33.

- Q#2 Concerning porous backfill shown in standard drawing and included in price off approach.
  - a) Will porous backfill be required?
  - b) If so how is the underdrain to be outlet under the portion of approach slab remaining on the shoulder.
  - c) This will be a lot of work to complete in one shift.
- A#2 a) Porous back fill is required as called for in the standard drawings.
  - b) The Bid Schedule, the Estimated Quantities Worksheet, and Plan Sheets 12 of 13 and 13 of 13 have been reviewed and revised through this Addendum No. 1 to include the removal of the shoulder approach slab at the specified plan locations.
  - c) The Contractor shall plan its operations to allow for the removal and replacement of the approach slab in accordance with the plan requirements, however, staging of the work will be permitted provided the number of construction joints are kept to a minimum.
- Q#3 Concerning abutment repair work on approach slab shelf shown on standard drawing.
  - a) Will this work be required?
  - b) If so a bid item needs to be added for sp 519 patching.
  - c) if approach slab work is to be performed in one shift, how do you propose to do this work? What type of cure is required before placing the approach slab.

A#3 Provided the Contractor takes reasonable care when removing the existing approach slab, it is not anticipated that portions of the abutment grade beam will need to be removed and replaced as shown in standard drawing AS-1. If directed by the Chief Engineer to make repairs to the abutment grade beam, a contingency quantity of 200 SQ. FT. of ITEM SP 519 – PATCHING CONCRETE STURCTURES, AS PER PLAN has been included in the Bid Schedule, the Estimated Quantities Worksheet, and Plan Sheet 12 of 13, and Plan Note 3 was added to APPROACH SLAB REPAIR NOTE(S) on Plan Sheet 13 of 13 for additional clarity through this Addendum No. 1. Special Provisions SP 202- Portions of Structures Removed and SP 519 – Patching of Concrete Structures are provided through this Addendum No. 1 as well.

The Contractor shall plan its operations to allow for the removal and replacement of the approach slab in accordance with the plan requirements, however, staging of the work will be permitted provided the number of construction joints are kept to a minimum. The curing of the approach slab shall be in accordance with CMS Item 526.

- Q#4 Plan sheet 7 refers to an available contractor staging area at Exit 187. Would OTC allow for a portable asphalt plant to be placed west of the toll plaza between I-80 and I-480 at Exit 187; provided that the contractor complied with the requirements of ODOT CMS 107.11.C.
- A#4 The Commission will not allow the installation of a portable asphalt plant within the staging area at Exit 187.
- Q#5 Please verify the surface course quantity for Ref. #23 SP404 Asphalt Concrete Surface. Based on the limits shown the quantity appears to be considerably understated.
- A#5 The quantity for Item SP 404 ASPHALT CONCRETE SURFACE COURSE, USING CRUSHED SLAG, PG 76-22(FR) on the Bid Schedule, the Estimated Quantities Worksheet and Revised Plan Sheets 12 of 13 is revised through this Addendum No. 1 to 20,342.
- Q#6 Can the pavement calculations be made available to bidders? There are few items that I am having trouble coming up with the plan quantities, specifically Ref. 23 SP404 Asphalt Surface, using crushed Slag, PG76-22.
- A#6 See the response to Q#5.

#### MODIFIED CONTRACT DOCUMENTS

With this Addendum No. 1, the Commission substitutes the enclosed materials for the following Contract Documents:

Plan Sheets 12 and 13 of 13; and

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PROJECT NO. 59-18-02
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Additions to the Plan Drawings are called out with a cloud and deletions are marked with a revision triangle as thus:

With this Addendum No. 1, the Commission modifies the Bid Schedule of Items for the following Reference Numbers: 4, 27 and 78; and

OTIC Special Provisions SP202 and SP519 are furnished as part of the Contract Documents.

# Receipt of Addendum No. 1 Project No. 59-18-02 is hereby acknowledged:

(Signature)(Printed Name)	(Firm Name)		
	(Signature)		
	, ,		
(Date)	`		

BIDDERS MUST RETURN THE ABOVE ACKNOWLEDGEMENT OF RECEIPT OF ADDENDUM NO. 1 WITH THEIR BID.

#### <u>SP 202</u> <u>PORTIONS OF STRUCTURE REMOVED</u>

(10/20/2016)

#### A. <u>Description</u>

This Item shall consist of furnishing the necessary labor, material and equipment to remove and dispose of the portions of structure as required for the specified reconstruction of the existing bridges excluding portions of the structure to be removed under other Items in the Contract and cleaning existing beams of all cement paste residue resulting from the Contractor's removal operation. All applicable provisions of Section 202 of the Specifications shall apply.

The Contractor shall remove the designated portions of the existing bridge to the limits shown on the Plans, specified in the Specifications or to the limits directed by the Chief Engineer. Portions of the structures to be removed shall include but not necessarily be limited to the following:

- 1. Bridge deck slab, abutment slabs, parapet, fence and all other miscellaneous items indicated in the Plans.
- Deck expansion joints including specified support members as indicated on the Plans.

#### B. Concrete Removal

During removal operations, the Contractor shall make full provisions for maintenance and protection of vehicular traffic under and adjacent to the bridge. Reference Special Provision SP 527 – "Falsework, Temporary Bracing and Protective Structures" for the requirements to prevent falling debris.

The Contractor shall saw cut the perimeter of the area of concrete to be removed. The minimum saw cut depth shall be one (1) inch. The Contractor shall make provisions to not saw cut through reinforcing steel that is to remain.

The concrete deck slab, parapets, and abutment slab shall be saw cut and removed in sections with the following restrictions:

- Before any sawing is commenced, the outlines of the top flanges and cover plates of all stringers shall be drawn on the bridge deck and one (1) inch ± diameter pilot holes made to the outside of these lines to confirm the width of the flanges. Pilot holes shall be drilled to the outside of the stringers at each saw cut location. In no case shall pilot holes be drilled over the beam flanges.
- 2. The saw cut longitudinal over the beam shall be limited to a maximum depth of one and one-half (1½) inches. Sawing outside the fascia beam (sawing of the parapet) shall be stopped two (2) inches ± outside the confirmed limits of the beam flanges or cover plates.
- The Contractor's removal procedure as well as its general sawing pattern shall be subject to the approval of the Chief Engineer. The Contractor's removal procedure shall be submitted in accordance with Article 14 of the General Conditions.
- 4. Pneumatic hammers may be used in the beam areas if the operation is observed and approved by the Chief Engineer, and then only to a depth not penetrating the lower reinforcing steel mat. The Chief Engineer has the right to terminate hand sawing or hammering over the flanges any time

the Chief Engineer feels the bridge integrity is in jeopardy or damage to the reinforcing steel or flange (cover plate) is imminent. Pneumatic hammers used for this operation shall not be heavier than thirty-five (35) pounds.

5. The use of hydraulic or pneumatic hoe-rams or shears to line punch a section of the deck in lieu of, or in combination with a saw cutting operation or for the removal of the concrete deck slab, abutment slabs, parapets, and adjacent support areas is prohibited with the exception of the following and only with specific approval by the Chief Engineer.

These conditions are as follows:

- Punching through the deck to provide lifting holes for total slab removal.
- b. Limited localized areas on the concrete deck where sawing, including the vermeer saw, cannot practically make the complete cut.

Any damage that results from the Contractor's operations to the cover plates and/or flanges, or to the reinforcing steel to remain shall be repaired or corrected by the Contractor to the satisfaction of the Chief Engineer, all at the sole cost and expense of the Contractor.

Other concrete shall also be removed by means of approved pneumatic hammers employing pointed and blunt chisel edged tools. The weight of the hammers shall be not more than thirty-five (35) pounds for removal within eighteen (18) inches of portions to be preserved. Outside the eighteen (18) inch limit, a hammer heavier than thirty-five (35) pounds, but not to exceed ninety-five (95) pounds, may be used subject to approval of the Chief Engineer.

Pneumatic hammers shall not be placed in direct contact with reinforcing steel that is to be retained in the rebuilt structure. Where bond between existing concrete and reinforcing steel that is to be retained has been destroyed, the unbonded concrete adjacent to the bar shall be removed to a depth which will permit new concrete to bond to the entire periphery of the bar so debonded. A minimum of one and one-half (1½) inch clearance around the perimeter of the steel shall be provided.

Existing reinforcing steel, which is cut flush to a concrete removal surface and is not to be covered with new concrete, shall be recessed a minimum of one (1) inch (1") below the surface of the concrete. The resulting hole shall be filled with a non-shrinking, non-metallic epoxy mortar meeting the requirements of CMS 705.20. Other existing reinforcing steel shall be cut and/or retained as indicated in the Plans or as directed by the Chief Engineer, to serve as dowels in the rebuilt structure. These bars shall be cleaned of all concrete fragments and foreign matter. Necessary labor, equipment and material required to cut and clean existing reinforcing steel and to recess existing reinforcing steel below the surface of concrete and to grout fill the resulting hole shall be provided by the Contractor and shall be included with Item SP 202 - Portions of Structures Removed, for payment.

Care shall be used in working around reinforcing steel. Any reinforcing steel damaged during concrete removal shall be replaced by the Contractor at no additional cost to the Commission. Special care shall also be used in working adjacent to superstructure steelwork. Any structural steel or paint damage shall be repaired by the Contractor at no additional cost to the Commission.

When so directed by the Chief Engineer, the Contractor shall wet down concrete thoroughly during removal operations to prevent spread of dust. All necessary labor, equipment and material shall be provided by the Contractor and included with Item SP 202 - Portions of Structures Removed, for payment.

If any section loss of the existing structural steel as determined by the Chief Engineer is uncovered during removal of the existing deck, the Contractor shall repair the affected area as directed by the Chief Engineer. Payment for this repair work when directed by the Chief Engineer shall be as provided under Article 7 of the General Conditions.

The use of explosives and headache balls are not permitted.

#### C. Construction Stresses

No part of the structure shall be subjected to unit stresses that exceed by more than one-third ( $^{1}/_{3}$ ) the allowable unit stresses, as given in AASHTO "Standard Specifications for Highway Bridges" due to erection, removal and construction methods, or to the use or movement of construction equipment onto or across the structure.

When equipment having a gross weight in excess of 40,000 pounds is to be placed on the structure and used for removal and construction purposes, structural analysis calculations by a Professional Engineer registered in the State of Ohio showing the stresses produced by the equipment and associated loads shall be submitted to the Chief Engineer at least forty-eight (48) hours prior to the Work for review and approval.

#### D. <u>Disposal of Removed Material</u>

All concrete, steel, reinforcing steel, etc., removed from the structure, unless otherwise specified, shall become the property of the Contractor and shall be promptly removed by him from the site according to the provisions of SP 105.

#### E. <u>Protective Structures</u>

Protective structures for catching falling debris and water from the demolition operation shall be in accordance with Special Provision SP 527 - "Falsework, Temporary Bracing and Protective Structures."

#### F. Basis of Payment

Portions of structures removed as specified and/or required by the reconstruction and cleaning of cement paste residue from existing beams shall be measured as a unit and shall be paid for at the Contract lump sum price bid. This price shall be payment in full for all material, equipment, labor and incidentals necessary to complete this Work.

Payment shall be made under:

<u>Item</u> <u>Unit</u> <u>Description</u>

SP 202 Lump Sum Portions of Structure Removed

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#### SP 519 PATCHING CONCRETE STRUCTURES

(11-21-12)

#### A. <u>Description</u>

This item shall consist of furnishing the necessary labor, materials and equipment to repair all spalled, deteriorated and delaminated concrete areas of the structures that will remain as part of the reconstructed bridges or pipe headwalls. All applicable provisions of Section 519 of the Specifications shall apply, except as modified herein and the following shall be considered as supplemental to provisions set forth therein.

#### B. Inspection

The Contractor shall provide all necessary material, equipment, labor and incidentals to permit inspection of the concrete units. The Contractor's Superintendent shall accompany the Chief Engineer in making an examination to mark the areas of repairs to be made. It is the intent that the structural integrity of any structure unit (single pier, single abutment, single headwall, etc.) not be compromised during the performance of the repairs. The Contractor shall perform the removal and replacement of deteriorated concrete in a manner that will ensure the structural integrity is maintained during the progression of the Work to the satisfaction of the Chief Engineer. Payment for all material, equipment, labor and incidentals necessary to complete this inspection shall be included in the lump sum price bid for Item SP 527. If the Contract does not have an Item SP 527, payment for the above shall be considered incidental to this item.

#### C. Removal of Deteriorated Concrete

The perimeter of damaged areas to be patched shall be sawcut a minimum of one (1) inch deep.

Where there is no bond between the existing concrete and a reinforcing bar, or where more than one-half the diameter of a reinforcing bar is exposed, the adjacent concrete shall be removed to a depth that will provide a minimum of one and one-half inches of clearance around the bar. The Contractor shall use care with existing reinforcing bars, which are to remain in place and extend into new work, so that the bars are not damaged. Existing reinforcing steel shall not be cut. Deteriorated reinforcing steel with greater than twenty percent (20%) loss of section and an exposed length of thirty (30) diameters or more shall have a new reinforcing bar of comparable size added for the full exposed length.

All requirements of Section 519.03 of the Specifications shall apply.

#### D. Preparation of Surface

All surface areas to be patched and the exposed reinforcing steel within shall be thoroughly cleaned by abrasive blasting (steel cleaned to SA-1 quality) prior to the cleaning specified in Section 519.04 of the Specifications. Cleaning shall precede application of the patching material or erection of the forms by not more than twenty-four (24) hours. All damaged and new reinforcing steel shall be treated per section 509.09 of the specifications.

# E. Placing Concrete

Placement of the concrete shall be performed within five (5) calendar days of concrete removal at any one (1) structure unit (single pier, single abutment, single headwall, etc.) All requirements of Section 519.06 of the Specifications shall apply.

#### F. Method of Measurement

The quantity shall be the actual area in square feet of the exposed surfaces of all completed patches, irrespective of the depth or thickness of the patch. If a patch includes corners or edges of such members as beams, columns, etc., all of the exposed surfaces shall be included, or if a patch extends completely through a member or a slab, both exposed surfaces shall be measured.

#### G. Basis of Payment

Payment shall be made at the Contract price for:

<u>Item</u> <u>Unit</u> <u>Description</u>

SP 519 Sq. Ft. Patching Concrete Structures

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\* CONTINGENCY QUANTITY TO BE USED AS DIRECTED BY CHIEF ENGINEER (SEE GENERAL NOTES).

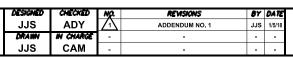
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EXISTING CROSSOVER TO BE CLOSED, RE-OPENED, AS PER PLAN PATCHING CONCRETE BRIDGE DECKS, TYPE B EXISTING AGGREGATE DRAIN CLEAN OUT LINTEL SPILLWAY REPAIR ASPHALT REJUVENATOR, POLYMER EMULSION		12" WHITE CHANNELIZING LINE, TYPE 1 WHITE DOTTED LINE, 6" WHITE, TYPE 1 SNAP MILL AND FILL	6" WHITE EDGE LINE, TYPE 1 6" YELLOW EDGE LINE, TYPE 1	Γ	RRIER REFLECTOR, TYPE	BARRIER REFLECTOR, TYPE A (WHITE)	CONSTRUCTION LAYOUT SURVEY	FIELD OFFICE, AS PER PLAN  RAISED PAVEMENT MARKERS REMOVED		WORK ZONE CHANNELLING LINE, CLASS 1, 740.00 IT FE I SHOULDER PREPARATION	WORK ZONE CHANNELIZING LINE OLASS 1.740.05 TYPE 1	WORK ZONE EDGE LINE, CLASS 1, 740.02 TYPE 1	REMOVAL OF PAVEMENT MARKING ASPHALT CONCRETE FOR MAINTAINING TRAFFIC AS PER PLAN	TEMPORARY REMOVAL OF EXISTING PAVEMENT MARKINGS	MAINTAINING TRAFFIC, AS PER PLAN	CATCH BASIN, RECONSTRUCTED TO GRADE, RESPECTIVE AS PER PLAN  CATCH BASIN, CRATE AND CASTING AS DEB DI ANT  CATCH BASIN CRATE AND CASTING AS DEB DI ANT  CATC	CATCH BASIN, RECONSTRUCTED TO GRADE, LESS THAN 4", AS PER PLAN CATCH BASIN RECONSTRUCTED TO GRADE 4", 17" AS PER PLAN	ANCHOR ASSEMBLY, MGS TYPE E (ET-31), USING LONG STEEL POSTS ASPHALT CONCRETE CURB, TYPE I, PG 64-22	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1, USING LONG STEEL POSTS MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2, USING LONG STEEL POSTS	ANCHOR ASSEMBLY, MGS TYPE T, USING LONG STEEL POSTS	AGGREGATE DRAINS, TYPE II  GUARDRAIL, TYPE MGS, USING LONG STEEL POSTS  CLARDRAIL BEBLIET TYPE & LICING STEEL POSTS	CONCRETE WEATHERPROOFING, DECK, ABUTMENT SEASO AND APPROACH SLABS	PATCHING OF CONCRETE STRUCTURES, AS PER PLAN REINFORCED CONCRETE APPROACH STABOTTE 12" (AS PER PLAN)	FULL DEPTH PAYEMENT REPAIRS (ASPHALT)	JOINT SEALER	ASPHALT CONCRETE INTERMEDIATE COURSE, USING CRUSHED STONE, PG 76-22(FR) ASPHALT CONCRETE SUBSACE COURSE USING CRUSHED SLAG DG 76-22(FR)	ASPHALT CONCRETE INTERMEDIATE COURSE, USING CRUSHED STONE, PG 64-22 ASPHALT CONCRETE SURFACE COURSE, USING CRUSHED STONE, PG 64-22	AGGREGATE BASE  ASSHALT CONCRETE LEVELING COLIRSE LISING CRUSHED STONE DG 78-22/FR)	PAVEMENT PLANING, ASPHALT CONCRETE (T=3")  PAVEMENT PLANING, PORTLAND CEMENT CONCRETE. AS PER PLAN	SUBGRADE COMPACTION PAVEMENT PLANING, ASPHALT CONCRETE (T=2")	EXCAVATION OF SUBGRADE  EMBANKMENT	3 CORNER CRACK REPAIR, USING ITEM SP 402 (PG 64-22) REPAIR EXISTING EXPANSION JOINT, USING ITEM SP 404 (PG 64-22)	CRACK REPAIR, WIDER THAN 1" AND LESS THAN 1" IN DEPTH, USING ITEM SP 404 (PG 64-22)  CRACK REPAIR. WIDER THAN 1" AND GREATER THAN 1" IN DEPTH, USING SP 402 (PG 64-22)	ORACK REPAIR, 1" OR LESS, USING SAND ASPHALT ORACK REPAIR, 1" OR LESS, USING HOT JOINT SEALER	APPROACH SLAB REMOVED  PORTIONS OF STRUCTURE REMOVED AS DER DI AN	GUARDRAIL REMOVED FOR REUSE GUARDRAIL REMOVED	PREMIUM FOR CONTRACT PERFORMANCE BOND AND PAYMENT BOND	ITEM DESCRIPTION

(1)

PROJECT 59-18-02

**ESTIMATED QUANTITIES** 





DESIGN AGENCY

OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

OHIO