# Addendum 2

## City of Canton, Ohio

Purchasing Department 218 Cleveland Ave. SW, 4<sup>th</sup> floor Canton, Ohio 44702

STA 15th St SW Bridge Replacement Project - GP 1299 Item/Project

Engineering Department Responsible Department

2:00:00 PM, 3/16/2023

**Bids Due** 

**Bid Proposal Submitted By:** 

**Company Name** 

**Street Address** 

City

State

Zip

**Contact Person** 

Phone No.

**Email Address** 

### Addendum #2

City of Canton – STA 15<sup>th</sup> St. SW Bridge Replacement – GP 1299

- A. Replace existing plan sheet 32/53 with attached plan sheet 32/53
- B. Replace existing plan sheet 33/53 with attached plan sheet 33/53
- C. Replace existing plan sheet 43/53 with attached plan sheet 43/53
- D. Replace existing plan sheet 47/53 with attached plan sheet 47/53
- E. Existing bridge plans are herewith provided
- F. Geotechnical information Attached are:
  - a. <u>Geotechnical Paper Study</u>, dated 1/7/2021.
  - b. <u>Structure Foundation Exploration Final</u>, dated 12/1/2022. Note that at the time of this report, there was dewatering efforts being performed in this area that may have drawn down the water table.



BENCHMARK DATA						
BM #1 STA. 8+99.21, ELEV. 1016.42, OFFSET 21.9', RT BM #2 STA. 12+42.55, ELEV. 1016.88, OFFSET 21.0', LT	ICY te 300					
FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET $(17) 53$	DESIGN AGEN DESIGN AGEN Disor Place Sui bus Ohio 43240					
NOTES						
I. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.						
	E 022 MBER					
	DAT 2/1/2 LE NU 70					
	D 12 JRE FI 76611					
	VIEWE AMT RUCTU					
	ST					
<u>LEGEND</u>	AWN MT VISED					
STAR BORING LOCATION	DF A RE					
TYPE C, WITH GEOTEXTILE FABRIC						
	DESIGI AM CHECK KDC					
HYDRALII IC DATA						
DRAINAGE AREA = 42.8 SQ. MILES						
Q (25) = 2600 CFS V (25) = 4.05 FT/S						
Q (100) = 3500 CFS V (100) = 3.94 FT/S STRUCTURE DOES NOT CLEAR THE 25 YEAR DESIGN HW BY 3 72 FEET						
	REK					
EXISTING STRUCTURE	N CF					
TYPE: TWO SPAN CONTINUOUS STEEL BEAM BRIDGE WITH REINFORCED CONCRETE DECK AND MODIFIED CONCRETE SUBSTRUCTURES WITH SPREAD FOOTING.	0 MISHILLE					
SPANS: 34'-0"±, 34'-0"± C/C BEARINGS	-135 F NI					
ROADWAY: 44'-0" TOE/TOE WITH 6'-0 SIDEWALKS 56'-0" TOE/TOE PARAPET						
LOADING: HS20-44 AND ALTERNATE MILITARY LOADING SKEW: NONE	E PL . STA- BRANC					
APPROACH SLABS: REAR - 20'-0" (AS-1-72) FORWARD - 16'-6" TO 27'-6" (AS-1-72)						
ALIGNMENT: TANGENT	RIDG					
CROWN: 0.010± FT/FT	ΞŌ.					
STRUCTURAL FILE NUMBER: 7661169	N.N.N.					
DATE BUILT: 1946	ST.					
WEARING COURSE: MONOLITHIC CONCRETE	5TH					
	-					
RRQPQSED STRUCTURE	$\mathbf{L}$					
PROPOSED WORK: REPLACE EXISTING TWO SPAN STRUCTURE WITH A SINGLE SPAN GALVANIZED OR METALIZED ROLLED STEEL BEAM BRIDGE WITH A COMPOSITE CONCRETE DECK ON NEW SEMI-INTEGRAL ABUTMENTS FOUNDED						
ON CAST-IN-PLACE CONCRETE PILES.	35(					
ROADWAY: 44'-0" TOE/TOE WITH 6'-0 SIDEWALKS						
58'-4" OUT/OUT	N S S					
LOADING: HL93 AND 60 PSF FWS	1 1					
SKEW: NONE APPROACH SLABS: 30'-0" LONG (AS-1-15, AS-2-15 TYPE A	STA					
INSTALLATION)						
ALIGIVINEINI: TAIVGENI CROWN: 0.016 FT/FT	1/22					
COORDINATES: LATITUDE 40° 46′ 59.99″ N	$\sqrt{20}$					
LONGITUDE 81° 23′ 06.00″ W	$\left(\begin{array}{c} 32\\ 53\end{array}\right)$					
UELK AKEA: 4142 SU.FI.						

#### GENERAL NOTES:

### REFERENCE SHALL BE MADE TO THE FOLLOWING ODOT STANDARD BRIDGE DRAWINGS:

AS-1-15	REVISED	7/17/15
AS-2-15	REVISED	1/18/19
BR-2-15	REVISED	1/21/22
GSD-1-19	DATED	1/15/21
SICD-1-21	REVISED	1/21/22
SICD-2-14	REVISED	1/15/21

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

SS 845 DATED 04/20/2018

#### DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE 9th EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

#### **OPERATIONAL IMPORTANCE:**

A LOAD MODIFIER OF 1.00 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESGN MANUAL, 1001.3.

#### DESIGN LOADING:

#### HL-93

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FUTURE WEARING SURFACE (FWS) OF 60 POUNDS PER SQUARE FOOT. PEDESTRIAN LIVE LOAD OF 75 POUNDS PER SQUARE FOOT.

#### DESIGN DATA:

CONCRETE, CLASS QC2 - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE) CONCRETE, CLASS QC1 - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE) REINFORCING STEEL - MINIMUM YIELD STRENGTH 60000 PSI STRUCTURAL STEEL - ASTM A709 GRADE 50 - YIELD STRENGTH 50000 PSI

#### DECK PROTECTION METHOD:

EPOXY COATED REINFORCING STEEL 21/2" CONCRETE COVER

#### MONOLITHIC WEARING SURFACE:

IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

#### DECK PLACEMENT DESIGN ASSUMPTIONS:

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.87 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103 INCHES.

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 INCHES.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65 INCHES.

#### ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER <u>PLAN</u>:

IN ORDER TO MAINTAIN THE EXISTING STREAM HYDRAULIC BEHAVIOR, REMOVE THE EXISTING BRIDGE PIER TO THE ELEVATION OF THE AVERAGE STREAM BOTTOM AT THE PIER. IF THE PIER IS REMOVED BELOW THIS ELEVATION, BACKFILL THE VOID WITH ROCK CHANNEL PROTECTION PER ITEM 601 TYPE C TO EQUAL THE BOTTOM OF STREAM.

#### PILE DESIGN LOADS (ULTIMATE BEARING VALUE:

#### THE ULTIMATE BEARING VALUE IS 256 KIPS PER PILE FOR THE REAR ABUTMENT PILES. THE ULTIMATE BEARING VALUE IS 214 KIPS PER PILE FOR THE FORWARD ABUTMENT PILES. THE UBV FOR THE REAR ABUTMENT PILES INCLUDES AN ADDITIONAL 54 KIPS PER PILE DUE TO THE POSSIBILITY OF LOSING 35.3 FT. OF FRICTIONAL RESISTANCE DUE TO SCOUR. THE UBV FOR THE FORWARD ABUTMENT INCLUDES 49 KIPS DUE TO THE POSSIBILITY OF LOSING 33.6 FEET OF FRICTIONAL RESISTANCE DUE TO SCOUR. DRIVE PILES TO THE UBV OR TO A TIP ELEVATION OF 936 (REAR ABUTMENT) OR 940 (FORWARD ABUTMENT) WHICHEVER IS DEEPER.

#### REAR ABUTMENT PILES:

12" DIAMETER PILES 75 FEET LONG, ORDER LENGTH. PLUS 1 DYNAMIC LOAD TESTING ITEM FORWARD ABUTMENT PILES:

#### 12" DIAMETER PILES 65 FEET LONG, ORDER LENOTH PLUS I DYNAMIG LOAD TESTING LIEM,

ITEM 513 - STRUCTURAL STEEL, LEVEL 3, AS PER PLAN:

#### PRE-FABRICATION MEETING:

IN ADDITION TO THE PRE-FABRICATION MEETING REQUIREMENTS UNDER 513.07, BOTH THE FABRICATOR'S QUALITY CONTROL SPECIALIST. (QCS) AND GALVANIZER'S OR METALIZERS'S QCS COATING APPLICATOR SHALL BE PRESENT AND DISCUSS METHODS OF OPERATION, QUALITY CONTROL, INCLUDING REPAIRS, TRANSPORTATION, ERECTION METHODS TO ACCOMPLISH ALL PHASES OF THE PREPARATION AND COATING WORK REQUIRED BY THIS SPECIFICATION.

#### COATINGS:

ALL STEEL SURFACES SHALL BE CLEANED AND GALVANIZED IF POSSIBLE IN ACCORDANCE WITH ITEMS 513 AND 711 OF THE ODOT C&MS. IF GALVANIZING IS NOT A FEASIBLE OPTION, ALL STEEL NOT GALVANIZED SHALL BE CLEANED AND METALIZED. THE THICKNESS OF THE METALIZED COATING SHALL BE 254 MICROMETERS MINIMUM SPECIFIED THICKNESS. THE WIRE USED FOR THE METALIZING SHALL CONFORM TO ASTM B833 HAVING A 99.99% ZINC - UNS ZI3005 COMPOSITION. SURFACE PREPARATION AND APPLICATION SHALL CONFORM TO SSPC-CS23.00-AWS C2.3M/NACE NO 12 EXCEPT AS MODIFIED BY SS845. A SEALER MUST BE APPLIED TO METALIZED SURFACES THAT WILL BE IN CONTACT WITH CONCRETE.

SHEAR STUDS SHALL BE INSTALLED AS PER CMS SECTION 513.22.

GALVANIZING FOR TST-1-99 TUBES AND MOUNTING HARDWARE IS INCLUDED WITH ITEM 517.

IF ANY STEEL IS METALIZED, ALL METALIZED SURFACES DAMAGED DUE TO SHIPPING, FIELD WELDING, INSTALLATION, OR REMOVAL OF TEMPORARY SUPPORTS SHALL BE REPAIRED. THE REPAIRS SHALL BE MADE USING METHODS ACCORDING TO SS845. SEALER TO BE APPLIED TO THE METALIZING, SHALL BE A TWO COAT PAINT SYSTEM CONSISTING OF EPOXY INTERMEDIATE COAT AND A URETHANE FINISH COAT MEETING THE REQUIREMENTS OF CMS 708.02. PAINT ACCORDING TO 514.17 AS MODIFIED IN SS845.

THE CONTRACTOR SHALL EXERCISE EXTREME CARE IN THE HANDLING OF ALL STEEL SO AS NOT TO DAMAGE THE COATED SURFACE. ANY DAMAGE TO THE COATING DUE TO HANDLING OR CONSTRUCTION OPERATIONS SHALL BE REPAIRED BY THE CONTRACTOR PER 513 AND 711 FOR GALVANIZED STEEL AND SS845 FOR METALIZED STEEL AT NO ADDITIONAL EXPENSE.

QUALITY CONTROL:

QUALITY CONTROL FOR GALVANIZED STEEL SHALL FOLLOW 513 AND 711. IF APPLICABLE, QUALITY CONTROL FOR THE METALIZING AND SEALING PROCESS SHALL FOLLOW SS845.

#### BASIS OF PAYMENT:

PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR THE ITEM 513 STRUCTURAL STEEL MEMBERS, LEVEL 3, AS PER PLAN.

#### HEMBIZYRAILING YCONCRETE PARAPRET MITH THINYSTELY TUBEPRATLING? AS PER PLAN:

THE END PANEL OF THE RAILING AT THE SOUTH WEST CORNER OF THE BRIDGE IS LONGER THAN THE STANDARD BR-2-15. SEE SHEET 17/22

#### UTILITY COORDINATION:

THE UTILITIES SHALL BEAR ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITIES ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE EITHER WILL BE HELD TO A MINIMUM. THE LOCATION OF PROPOSED UTILITY LINES IN THESE PLANS ARE PRELIMINARY FOR THIS SUBMISSION.

#### DOMINION ENERGY OHIO

CONTRACTOR SHALL COORDINATE WITH DOMINION ENERGY OHIO FOR DETAILS TO CONNECT THE GAS LINE TO THE BRIDGE IN THE LOCATION SHOWN IN THESE PLANS AS WELL AS THE SEQUENCE OF CONSTRUCTION. ALL MATERIAL, LABOR, AND INCIDENTALS TO ADD ATTACHMENTS TO THE BRIDGE SHALL BE PAID BY FOR BY DOMINION ENERGY OHIO.

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## ITEM 638 - CONDUIT, MISC.: 8" WATERMAIN DUCTILE IRON PIPE ANSI CLASS 52, TR FLEX, AS PER PLAN

PAYMENT FOR THIS WORK SHALL INCLUDE ALL MATERIALS AND LABOR NECESSARY TO INSTALL THE 8" WATERMAIN WITHIN THE LIMITS OF THE BRIDGE AS SHOWN IN THESE PLANS. THE COST OF THE PVC CASING PIPE, THE INSULATION GROUT, INCIDENTAL MATERIALS AND LABOR SHALL BE INCLUDED WITH THIS PAY ITEM. ROLLERS AND BRACKETS NECESSARY TO ATTACH THE LINE TO THE CROSS-FRAMES WILL BE INCLUDED WITH THIS PAY ITEM. PAYMENT FOR CROSS-FRAME MATERIALS AND INSTALLATION IS INCLUDED WITH ITEM 513 STRUCTURAL STEEL MEMBERS, LEVEL 3, AS PER PLAN. ITEM 638 -CONDUIT MISC. SHALL BE BID BY THE CONTRACTOR.

THE INSALLATION SHALL BE A FOAMED IN PLACE CLOSED CELL POLYURETHANE WHICH COMPLETEY FILLS THE ANNULAR SPACE BETWEEN THE CARRIER PIPE AND THE EXTERIOR CASING. THE INSALATION SHALL HAVE THE FOLLOWING PHYSICAL PROPERTIES: MINIMUM DENSITY (LB/CU. FT.) 2.1 ASTM D-1622 "K" FACTOR BTU/HR. SQ. FT. °F/IN 0.147 ASTM C-518 90-95% CLOSED CELL ASTM D-2856

THE EXTERIOR CASING SHALL BE SEAMLESS, EXTRUDED WHITE PVC (JACKET OUTSIDE DIAMETER = 14.32") TYPE 1, GRADE 1, CLASS 12454-B PER ASTM D-1784

NO TAPE CASINGS WILL BE ALLOWED.

#### VIATIONS:

- BRG. BEARINGS
  - -CENTER TO CENTER
  - CONSTRUCTION JOINT
  - CLEAR
  - DIAMETER
  - EACH FACE
  - EQUAL
  - EXISTING
  - EXPANSION
  - FORWARD ABUTMENT
  - MINIMUM -
  - PREFORMED EXPANSION JOINT FILLER
  - REAR ABUTMENT
  - RIGHT OF WAY
  - SPACING/SPACES
- ST. STREET
- S.W. SOUTH WEST
- TYP. TYPICAL

GENERAL NOTES OF 2) DESIGNED DRAWN REVIEWED DATE   BRIDGE NO. STA-15SW-1350 HM HM REVIEWED 1/27/2021   15TH ST. S.W. OVER WEST BRANCH OF NIMISHILLEN CREEK BTJ REVIEWED 7661170	DESIGN AGENCY		8415 Pulsar Place Suite 300 Columbus Ohio 43240
GENERAL NOTES (1 OF 2) DESIGNED DRAWN   BRIDGE NO. STA-15SW-1350 HM HM   15TH ST. S.W. OVER WEST BRANCH OF NIMISHILLEN CREEK BTJ	REVIEWED DATE STN 1/27/2021	STRUCTURE FILE NUMBER	7661170
GENERAL NOTES OF 2) Designed   BRIDGE NO. STA-15SW-1350 HM   15TH ST. S.W. OVER WEST BRANCH OF NIMISHILLEN CREEK BTJ	DRAWN HM	REVISED	
GENERAL NOTES (1 OF 2) BRIDGE NO. STA-155W-1350 15TH ST. S.W. OVER WEST BRANCH OF NIMISHILLEN CREEK	DESIGNED HM	CHECKED	ВТJ
	GENERAL NOTES (1 OF 2)	BRIDGE NO. STA-155W-1350	15TH ST. S.W. OVER WEST BRANCH OF NIMISHILLEN CREEK
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(REAR ARIITME	NT	SHC	WN.	FORWARD	ARIITMENT	OPPOSITE	HAND)

TABLE 1 - BEARING SCHEDULE														
	BEARING	NO. OF	ELASTOMERIC	NO. OF STEEL	INTERI	NAL	EXTER	NAL	STEEL LOAD	LOAD I	PLATE	UNFACT	ORED DESIG	N LOADS
	TYPE	BEARINGS	BEARING PAD SIZE	LAMINATES 0.0747" THICK	LAYEI	RS	LAYEI	<i><b>PS</b></i>	PLATE SIZE	THICK	NESS	DEAD LOAD	LIVE LOAD	TOTAL LOAL
			LxWxH	(14 GAGE)	ti	NO.	te	NO.	L×W	Τ1	T2	IN KIPS	IN KIPS ∇	IN KIPS
REAR ABUTMENT	EXP.	7	11″×18″×2.55″	4	0.50″	4	0.25″	1	12″×19″×11⁄2″	1.5″	1.5″	77.1	67.9	145.0
FORWARD ABUTMENT	EXP.	7	11″x18″x2.55″	4	0.50″	4	0.25″	1	12″×19″×11⁄2″	1.5″	1.5″	77.1	67.9	145.0



<u>NOTES</u>



BEVELED HP10x42

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	SPECIFICATIONS. THE LOI SPECIFICATIONS FOR HIGH
2.	LOAD PLATES:
	THE STEEL LOAD PLATES
	AND SHALL BE BONDED TO
	PROCESS.

1. ELASTOMERIC BEARINGS:

3. BASIS OF PAYMENT:

4. MARKINGS:

5. <u>COATING</u>:

REPAIR THE METALIZING PER SS845.

TABLE 2 - DIM "A"									
BEARING	REAR AB	BUTMENT	FORWARD	ABUTMENT					
	A1 (IN.)	A2 (IN.)	A1 (IN.)	A2 (IN.)					
1	4.88	4.88	4.75	4.75					
2	6.88	6.88	6.75	6.75					
3	8.50	8.50	8.50	8.50					
4	10.25	10.25	10.13	10.13					
5	8.50	8.50	8.50	8.50					
6	6.88	6.88	6.75	6.75					
7	4.88	4.88	4.75	4.75					

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.50	]	Ľ
0.13		
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LOAD PLATE \* SEE TABLE 1 FOR LOAD PLATE THICKNESS

UPSTATION

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