**STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS**

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

AS-1-15 REVISED 1/20/2023
VPF-1-24 REVISED 1/17/2025

THE FOLLOWING STANDARD ROADWAY DRAWING(S):

BP-3.1 REVISED 1/19/2024
BP-5.1 REVISED 7/18/2025

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

843 DATED 1/19/2024
844 DATED 1/17/2025
848 DATED 7/19/2024

**DESIGN SPECIFICATIONS**

THIS STRUCTURE CONFORMS TO THE 10th EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2024 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

**EXISTING STRUCTURE VERIFICATION**

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO C&MS, SECTIONS 102.05, 105.02, AND 513.04*. BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

**PROPOSED WORK**

MAH-46-16.373 (SFN 5001803), OVER MAH IR 80
-REMOVE EXISTING CONCRETE SEALANT AND RESEAL THE RIGHT SIDEWALK WITH NON-EPOXY SEALER (MATCH EXISTING COLOR)
-REPAIR THE CHAIN LINK VANDAL FENCE MESH ON THE RIGHT RAILING OVER WESTBOUND TRAFFIC

MAH-680-8.221 (SFN 5007429), INDIANOLA AVE
-SEAL THE CONCRETE WEARING SURFACE WITH GRAVITY FED RESIN, INCLUDING THE APPROACH SLABS
-REMOVE EXISTING CONCRETE SEALANT AND RESEAL THE RIGHT AND LEFT SIDEWALKS WITH NON-EPOXY SEALER (MATCH EXISTING COLOR)

MAH-680-8.379 (SFN 5007534), SHIRLEY RD
-SEAL THE CONCRETE WEARING SURFACE WITH GRAVITY FED RESIN, INCLUDING THE APPROACH SLABS
-REMOVE EXISTING CONCRETE SEALANT AND RESEAL THE RIGHT AND LEFT SIDEWALKS WITH NON-EPOXY SEALER (MATCH EXISTING COLOR)

**PROPOSED WORK CONT...**

MAH-680-9.299 (SFN 5007577), OVER MAH SR 170
-SEAL THE CONCRETE WEARING SURFACE WITH GRAVITY FED RESIN, INCLUDING THE APPROACH SLABS
-SCUPPER CLEANOUT

MAH-680-10.000 (SFN 5007615), THALIA AVE
-SEAL THE CONCRETE WEARING SURFACE WITH GRAVITY FED RESIN, INCLUDING THE APPROACH SLABS
-REMOVE EXISTING CONCRETE SEALANT AND RESEAL THE RIGHT AND LEFT SIDEWALKS WITH NON-EPOXY SEALER (MATCH EXISTING COLOR)

MAH-422-0.141 (SFN 5005132), OVER MLK JR. BLVD
-SEAL THE CONCRETE WEARING SURFACE WITH GRAVITY FED RESIN, INCLUDING THE APPROACH SLABS

MAH-422-3.132 (SFN 5002109), WICK AVE
-SEAL THE CONCRETE WEARING SURFACE WITH SRS, INCLUDING THE APPROACH SLABS

MAH-11-11.990 (SFN 5000637), KIRK RD
-SEAL THE CONCRETE WEARING SURFACE WITH GRAVITY FED RESIN, INCLUDING THE APPROACH SLABS
-REMOVE EXISTING CONCRETE SEALANT AND RESEAL THE RIGHT AND LEFT SIDEWALKS WITH NON-EPOXY SEALER (MATCH EXISTING COLOR)

MAH-11-14.102 (SFN 5000718), MAHONING AVE
-SEAL THE CONCRETE WEARING SURFACE WITH GRAVITY FED RESIN, INCLUDING THE APPROACH SLABS
-REMOVE EXISTING CONCRETE SEALANT AND RESEAL THE RIGHT AND LEFT SIDEWALKS WITH NON-EPOXY SEALER (MATCH EXISTING COLOR)
-REMOVE AND REPLACE A PORTION OF THE APPROACH SIDEWALK AT THE REAR LEFT AND FWD LEFT CORNERS

TRU-80-3.572L (SFN 7803753), OVER TRU SR 11/SR 711 NB
-SEAL THE CONCRETE WEARING SURFACE WITH GRAVITY FED RESIN, INCLUDING THE APPROACH SLABS

TRU-62-4.480 (SFN 7803087), MUD RUN
-REMOVE THE EXISTING CONCRETE WEARING SURFACE AND REPLACE WITH A MICRO-SILICA FIBER REINFORCED CONCRETE OVERLAY
-PATCH UNSOUND AREAS OF THE ABUTMENTS WITH 519 PATCHING AND TROWELABLE MORTAR. SEAL PATCHES WITH EPOXY-URETHANE SEALER (MATCH EXISTING COLOR)
-INSTALL FABRIC WRAPPED AGGREGATE DRAINS AT ALL CORNERS OF THE BRIDGE
-SEAL THE CONCRETE WEARING SURFACE WITH SRS, INCLUDING THE APPROACH SLABS AFTER COMPLETION OF THE CONCRETE OVERLAY WORK

TRU-422-12.519 (SFN 7807066), OVER YOUNGSTOWN BELT RR
-SEAL THE CONCRETE WEARING SURFACE WITH GRAVITY FED RESIN, INCLUDING THE APPROACH SLABS
-REMOVE EXISTING CONCRETE SEALANT AND RESEAL THE CONCRETE RAILING AND MEDIAN CURBS WITH EPOXY-URETHANE SEALER (MATCH EXISTING COLOR)

TRU-422-19.878 (SFN 7807155), SQUAW CREEK
-SEAL THE CONCRETE WEARING SURFACE WITH GRAVITY FED RESIN, INCLUDING THE APPROACH SLABS

**ITEM 509 - REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN (TRU-62-4.480)**

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE. REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW REINFORCING STEEL OF THE SAME SIZE AND COATING AT NO COST TO THE DEPARTMENT.

**ITEM 518 - SCUPPER MISC.: CLEANOUT**

THIS WORK WILL CONSIST OF REMOVING ALL DEBRIS FROM ON TOP AND INSIDE OF THE SCUPPERS. SCUPPER CLEANOUT WILL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM 518, SCUPPER MISC.: CLEANOUT. THIS PRICE WILL INCLUDE THE COST FOR LABOR, EQUIPMENT, AND ALL INCIDENTALS REQUIRED TO COMPLETE THIS WORK.

**ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN**

PRIOR TO THE SURFACE CLEANING SPECIFIED IN C&MS 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE: HIGH-PRESSURE WATER BLASTING WITH, OR WITHOUT, ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT OR VACUUM ABRASIVE BLASTING.

REPAIR CONCRETE SHALL BE HYDRAULIC CEMENT-BASED MATERIAL WITH AN ELECTRICAL RESISTIVITY LESS THAN 50,000 OHM-CM ACCORDING TO ASTM C 1760. DO NOT USE NON- CONDUCTIVE REPAIR MATERIALS SUCH AS MAGNESIUM AMMONIUM PHOSPHATE CONCRETE AND EPOXY MORTARS OR BONDING AGENTS. CONCRETE MIXES CONTAINING HIGH LEVELS OF SUPPLEMENTARY CEMENTITIOUS MATERIALS SUCH AS SILICA FUME, GROUND-GRANULATED BLAST FURNACE SLAG, LATEX, FLY ASH OR METAKAOLIN MAY NOT MEET THE RESISTIVITY REQUIREMENT.

TRU-62-4.480 (ABUTMENTS)
ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN, 200 SF

**ITEM SPECIAL - VANDAL PROTECTION FENCE REPAIR (MAH-46-16.373)**

THIS ITEM OF WORK CONSISTS OF REPAIRING DAMAGED PORTIONS OF THE VANDAL PROTECTION FENCE MESH ON THE RIGHT RAILING OVER WESTBOUND TRAFFIC. THE CONTRACTOR SHALL REMOVE THE MESH BETWEEN THE NEAREST POSTS AND REPLACE WITH NEW MESH FABRIC AS PER SCD VPF-1-24. EXISTING POSTS ARE TO NOT BE DISTURBED. ALL WORK SHALL BE COMPLETED TO THE SATISFACTION OF THE PROJECT ENGINEER.

THE REMOVAL OF EXISTING FENCE MESH, LABOR, MATERIALS AND EQUIPMENT REQUIRED TO COMPLETE THIS WORK SHALL BE INCLUDED UNDER THE UNIT BID PRICE PER SQUARE FOOT FOR ITEM SPECIAL, VANDAL PROTECTION FENCE REPAIR.

**ITEM 605 - AGGREGATE DRAINS, AS PER PLAN (FABRIC WRAPPED)**

THIS ITEM OF WORK CONSISTS OF EXCAVATING AND INSTALLING FABRIC WRAPPED AGGREGATE DRAINS AT ALL FOUR CORNERS OF STRUCTURE TRU-62-4.480. FABRIC WRAPPED AGGREGATE DRAINS SHALL BE INSTALLED BEHIND THE WINGWALLS AND ONE FOOT UNDER THE ROADWAY AND SHALL OUTLET A MINIMUM OF 2 FEET AWAY FROM THE WINGWALL OR TO THE SATISFACTION OF THE PROJECT ENGINEER.

THE EXCAVATION, FABRIC WRAPPED AGGREGATE DRAINS, LABOR, MATERIALS AND EQUIPMENT REQUIRED TO COMPLETE THIS WORK SHALL BE INCLUDED UNDER THE UNIT BID PRICE PER LINEAR FOOT FOR ITEM 605, AGGREGATE DRAINS, AS PER PLAN.

**SIDEWALK AND CURB REPAIR**

THIS ITEM OF WORK WILL CONSIST OF REPLACING THE SIDEWALK AND CURB OF THE APPROACH ROADWAY AT THE REAR LEFT AND FORWARD LEFT CORNERS OF STRUCTURE MAH-11-14.102. THE SIDEWALK AND CURB SHALL TIE INTO THE THE EXISTING SIDEWALK ON THE BRIDGE SO THAT THERE IS A SMOOTH TRANSITION. CURB SHALL BE TYPE 2 AS PER SCD BP-5.1. THIS WORK WILL BE PAID FOR BY THE FOLLOWING ITEMS:

ITEM 202, WALK REMOVED, 160 SF
ITEM 202, CURB REMOVED, 20 FT
ITEM 608, 5" CONCRETE WALK, 160 SF
ITEM 609, COMBINATION CURB AND GUTTER, TYPE 2, 20 FT

**ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION**

THE GALVANIC ANODE SIZE AND SPACING IS BASED ON ACHIEVING A CURRENT DENSITY FOR THE EXTREMELY HIGH CORROSION RISK CATEGORY WITH A 20 YEAR INSTALLATION. SUPPLY ANODES WITH A MINIMUM CORE OF 200 GRAMS OF ZINC. SEE THIS SHEET FOR DISTRIBUTION.

THE FOLLOWING QUANTITIES AND ANODE SPACINGS HAVE BEEN PROVIDED FOR EACH STRUCTURE.

TRU-62-4.480:
ABUTMENTS: ANODE SPACING @ 12 IN C/C
ITEM 844, GALVANIC ANODE PROTECTION, 225 EACH

# STRUCTURE NOTES
## VARIOUS STRUCTURES LOCATED ON VARIOUS ROUTES IN MAHONING AND TRUMBULL COUNTIES

SFN VARIOUS
DESIGN AGENCY
DESIGNER JF | CHECKER MJA
REVIEWER TJP 11-19-25
PROJECT ID 124805
SUBSET 1 | TOTAL 7
SHEET P.13 | TOTAL 19

D04-BH-FY2027 (EAST)

| CALC: | JF | DATE: | 10/23/2025 |
|---|---|---|---|
| CHECKED: | RC | DATE: | 2/2/2026 |

## ESTIMATED QUANTITIES

| BRIDGE NO. / STRUCTURE FILE NO. | | | | | | | | | | | | | | ITEM | EXTENSION | UNIT | DESCRIPTION | SEE SHEET |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MAH-46-16.373 5001803 01/IMS | MAH-680-8.221 5007429 01/IMS | MAH-680-8.379 5007534 01/IMS | MAH-680-9.299 5007577 01/IMS | MAH-680-10.000 5007615 01/IMS | MAH-422-0.141 5005132 02/NHS | MAH-422-3.132 5002109 02/NHS | MAH-11-11.990 5000637 02/NHS | MAH-11-14.102 5000718 02/NHS | TRU-80-3.572L 7803753 01/IMS | TRU-62-4.480 7803087 02/NHS | TRU-422-12.519 7807066 03/S>2 | TRU-422-19.878 7807155 03/S>2 | | | | | | |
| | | | | | | | | 160 | | | | | 202 | 30000 | SF | WALK REMOVED | | |
| | | | | | | | | 20 | | | | | 202 | 32000 | FT | CURB REMOVED | | |
| | | | | | | | | | | 100 | | | 509 | 20001 | LB | REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN | 1 / 7 | |
| 275 | 395 | 676 | | 446 | | | 479 | 706 | | | | | 512 | 10050 | SY | SEALING OF CONCRETE SURFACES (NON-EPOXY) | | |
| | | | | | | | | | | 25 | 394 | | 512 | 10100 | SY | SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) | | |
| | | | | | | 1174 | | | | 678 | | | 512 | 10400 | SY | TREATING OF CONCRETE BRIDGE DECK WITH SRS | | |
| | 798 | 2004 | 3622 | 973 | 2339 | | 1119 | 2502 | 2546 | | 1499 | 918 | 512 | 73500 | SY | TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN | | |
| 275 | 395 | 676 | | 446 | | | 479 | 706 | | | 394 | | 512 | 74000 | SY | REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES | | |
| | 682 | 5311 | 14608 | 2727 | 5755 | 6060 | 1002 | 6796 | 10991 | | 3695 | 2035 | 512 | 74500 | FT | REMOVAL OF EXISTING PAVEMENT MARKING | | |
| | | | | | | 6 | | 4 | | | | | 512 | 74520 | EACH | REMOVAL OF EXISTING PAVEMENT MARKING | | |
| | | | 21 | | | | | | | | | | 518 | 12500 | EACH | SCUPPER, MISC.: CLEANOUT | 1 / 7 | |
| | | | | | | | | | | 200 | | | 519 | 11101 | SF | PATCHING CONCRETE STRUCTURE, AS PER PLAN | 1 / 7 | |
| 48 | | | | | | | | | | | | | SPECIAL | 53000600 | SF | STRUCTURES: VANDAL PROTECTION FENCE REPAIR | 1 / 7 | |
| | | | | | | | | | | 50 | | | 605 | 31101 | FT | AGGREGATE DRAINS, AS PER PLAN (FABRIC WRAPPED) | 1 / 7 | |
| | | | | | | | | 160 | | | | | 608 | 12000 | SF | 5" CONCRETE WALK | | |
| | | | | | | | | 20 | | | | | 609 | 12000 | FT | COMBINATION CURB AND GUTTER, TYPE 2 | | |
| | | | | | | | | | | 25 | | | 843 | 50000 | SF | PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR | | |
| | | | | | | | | | | 225 | | | 844 | 20000 | EACH | GALVANIC ANODE PROTECTION | 1 / 7 | |
| | | | | | | | | | | 678 | | | 848 | 10001 | SY | MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN (T = 1.25") | 2 / 7 | |
| | | | | | | | | | | 678 | | | 848 | 20001 | SY | SURFACE PREPARATION USING HYDRODEMOLITION, AS PER PLAN (T = 1.25") | 2 / 7 | |
| | | | | | | | | | | 16 | | | 848 | 30001 | CY | MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN | 2 / 7 | |
| | | | | | | | | | | 28 | | | 848 | 50000 | SY | HAND CHIPPING | | |
| | | | | | | | | | | LS | | | 848 | 50100 | | TEST SLAB | | |
| | | | | | | | | | | 1 | | | 848 | 50201 | CY | FULL DEPTH REPAIR, AS PER PLAN | 2 / 7 | |

# STRUCTURE ESTIMATED QUANTITIES
## VARIOUS STRUCTURES LOCATED ON VARIOUS ROUTES IN MAHONING AND TRUMBULL COUNTIES

SFN
VARIOUS

DESIGN AGENCY

| DESIGNER | CHECKER |
|---|---|
| JF | MJA |

REVIEWER
RC 11-19-25

PROJECT ID
124805

| SUBSET | TOTAL |
|---|---|
| 3 | 7 |

| SHEET | TOTAL |
|---|---|
| P.15 | 19 |

D04-BH-FY2027 (EAST)