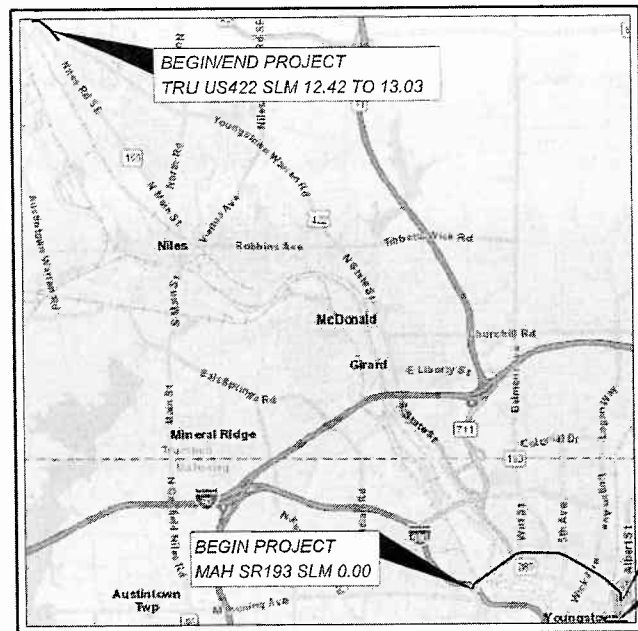


MAH - /TRU-US 422/VAR-01.90/VAR  
 210546 PID - 91900  
 Dist 4 10/14/2021

Contract Proposal available @ [www.ohio811.org](http://www.ohio811.org)  
 MAH/TRU-422/VAR-01.90/VAR



LATITUDE: N41°6'43" LONGITUDE: W80°39'28"

# STATE OF OHIO DEPARTMENT OF TRANSPORTATION

## MAH/TRU-422/VAR-1.90/VAR

### CITY OF YOUNGSTOWN, CITY OF WARREN MAHONING, TRUMBULL COUNTY

**FEDERAL PROJECT NUMBER**  
 E170645

**RAILROAD INVOLVEMENT**  
 NORFOLK SOUTHERN, CSX, YOUNGSTOWN BELT

**PROJECT DESCRIPTION**  
 CONCRETE PAVEMENT REPAIRS TO MAH US 422 FROM 2.33 TO 3.90, SR 289 FROM 2.29 TO 2.64 AND TRU US 422 FROM 12.42 TO 13.03, RESURFACING OF MAH US 422 FROM 1.90 TO 2.33 AND MAH US 422 FROM 0.00 TO 0.34 AND MAH SR 193 FROM 0.00 TO 0.99 INCLUDES MISCELLANEOUS BRIDGE WORK TO 17 STRUCTURES

**EARTH DISTURBED AREAS**

PROJECT EDA:	2 ACRES
ESTIMATED CONTRACTOR EDA:	0.3 ACRES
NOTICE OF INTENT EDA:	NOI NOT REQUIRED (ROUTINE MAINTENANCE PROJECT)

**LIMITED ACCESS**

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

**2019 SPECIFICATIONS**

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT AS NOTED ON SHEETS P.9-P.17, AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

**CONFORMED SET**

APPROVED *[Signature]*  
 DATE 6/16/21 DISTRICT DEPUTY DIRECTOR

APPROVED *[Signature]*  
 DATE 8/25/21 DIRECTOR, DEPARTMENT OF TRANSPORTATION

**PORTION TO BE IMPROVED**

INTERSTATE HIGHWAY	=====
FEDERAL ROUTES	=====
STATE ROUTES	=====
COUNTY & TOWNSHIP ROADS	=====
OTHER ROADS	=====

TOTAL ADT MAH US 62 (2019) --- 9180      TOTAL ADT MAH US 422 (2019) --- 14151  
 TOTAL ADT MAH SR 193 (2019) --- 19716      TOTAL ADT TRU US 422 (2019) --- 18478  
 TOTAL ADT MAH SR 289 (2019) --- 3052

**INDEX OF SHEETS:**

TITLE SHEET	P.1
TYPICAL SECTIONS	P.2-P.3
GENERAL NOTES	P.4-P.5
MAINTENANCE OF TRAFFIC	P.6-P.17
GENERAL SUMMARY	P.18-P.19
PAVEMENT CALCULATIONS	P.20-P.23
RPM SUBSUMMARY	P.24
PAVEMENT MARKING SUBSUMMARY	P.25-P.26
STRUCTURES	P.27-P.37

**DESIGN DESIGNATION**

DESIGN FUNCTIONAL CLASSIFICATION / NHS:

MAH US 62 - URBAN FREEWAY & EXPRESSWAY	NHS: YES
MAH SR 193 - URBAN FREEWAY & EXPRESSWAY	NHS: YES
MAH SR 289 - URBAN MINOR ARTERIAL	NHS: NO
MAH US 422 - URBAN FREEWAY & EXPRESSWAY	NHS: YES
MAH US 422 - URBAN FREEWAY & EXPRESSWAY	NHS: YES
TRU US 422 - URBAN PRINCIPAL ARTERIAL	NHS: NO

**DESIGN EXCEPTIONS**

NONE REQUIRED

**ADA DESIGN WAIVERS**

NONE REQUIRED

**UNDERGROUND UTILITIES**  
 Contact Two Working Days Before You Dig

**OHIO811.org**  
 Before You Dig

OHIO811, 8-1-1, or 1-800-362-2764  
 (Non members must be called directly)

PLAN PREPARED BY:  
 ODOT DISTRICT 4 PLANNING & ENGINEERING  
 2088 SOUTH ARLINGTON RD  
 AKRON, OH 44306

ENGINEER'S SEAL:

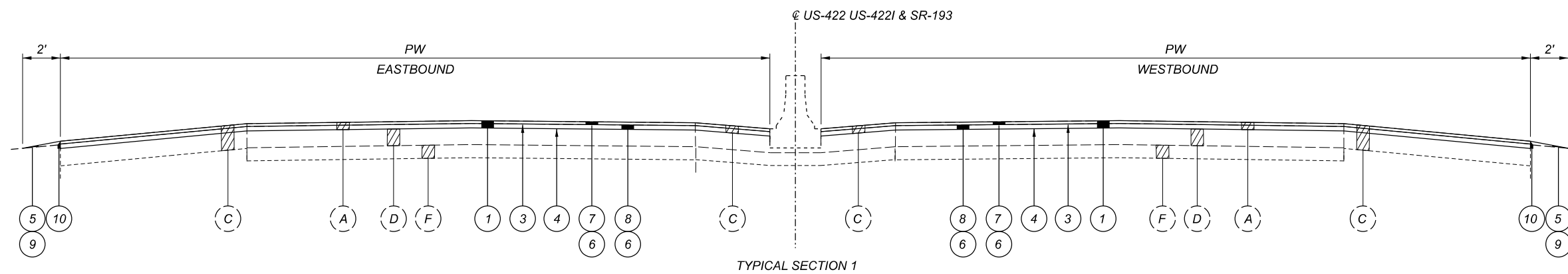
*[Professional Engineer Seal for Mark J. Andrasiak, E-80194]*

SIGNED: *[Signature]*  
 DATE: 6/16/21

STANDARD CONSTRUCTION DRAWINGS						SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
BP-2.3	7/18/14	MT-95.30	7/19/19	TC-52.10	10/18/13	800-2019	7/16/21
BP-2.5	7/19/13	MT-98.10	1/17/20	TC-52.20	1/15/21	821	4/20/12
BP-2.6	7/15/16	MT-98.11	1/17/20	TC-61.30	7/19/19	832	10/19/18
BP-3.1	1/17/20	MT-98.20	4/19/19	TC-65.10	1/17/14	856	10/20/17
BP-3.2	1/18/19			TC-65.11	7/21/17	876	1/18/19
		MT-98.22	1/17/20	TC-71.10	1/19/18	921	4/20/12
DM-4.3	1/15/16	MT-98.28	1/17/20	TC-72.20	7/20/18		
DM-4.4	1/15/16	MT-98.29	1/17/20	TC-73.20	1/17/20		
		MT-98.30	7/19/19				
BP-9.1	1/18/19	MT-99.20	4/19/19	MT-95.32	4/19/19		
		MT-101.90	7/17/20	MT-94.45	1/17/20		
MGS-1.1	1/19/18	MT-105.10	1/17/20	MT-101.60	1/17/20		
MGS-2.1	1/19/18	MT-110.10	7/19/13				
MGS-4.3	1/18/13						
		TC-41.20	10/18/13				
EXJ-4-87	1/19/18	TC-42.20	10/18/13				

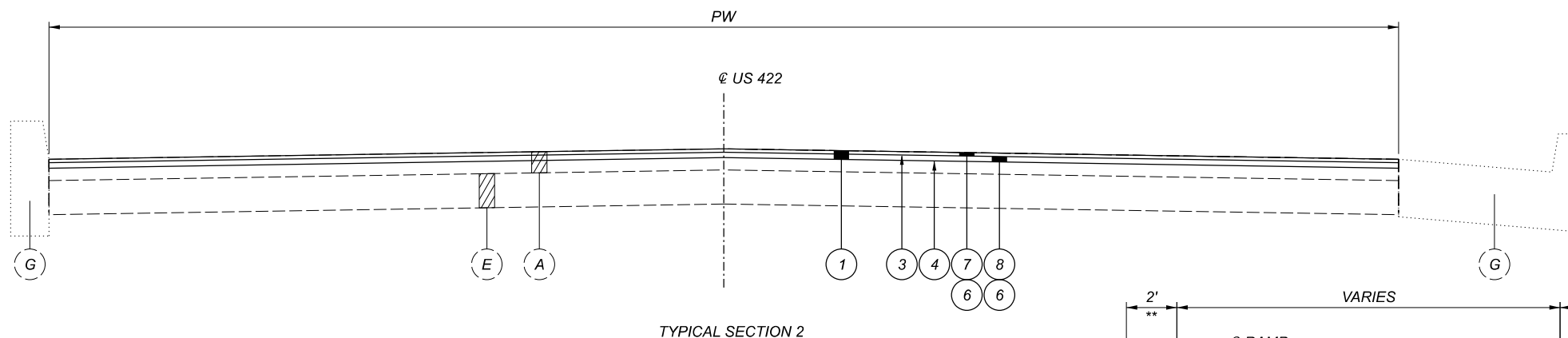
TITLE SHEET

DESIGN AGENCY	
DESIGNER	BFR
REVIEWER	XXX MM-DD-YY
PROJECT ID	91900
SHEET	P.1
TOTAL	36

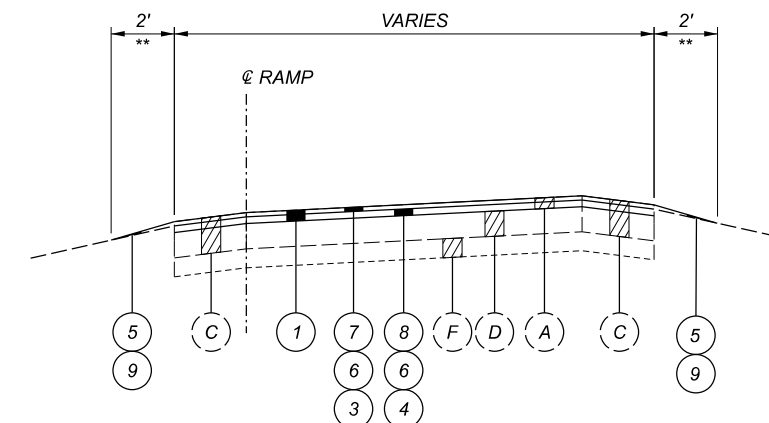


ROUTE	SLM		LENGTH (MILES)	PW (FEET)
	FROM	TO		
MAH SR 193 WB	0.25	0.31	0.06	33
MAH SR 193 WB	0.50	0.55	0.05	51
MAH SR 193 WB	0.58	0.72	0.14	41
MAH US 422I WB	0.03	0.11	0.08	41
MAH US 422I WB	0.16	0.19	0.03	41
MAH US 422I WB	0.22	0.34	0.12	41
MAH US 422 WB	2.09	2.32	0.23	41

ROUTE	SLM		LENGTH (MILES)	PW (FEET)
	FROM	TO		
MAH SR 193 EB	0.25	0.31	0.06	35
MAH SR 193 EB	0.50	0.55	0.05	51
MAH SR 193 EB	0.58	0.72	0.14	41
MAH US 422I EB	0.03	0.11	0.08	41
MAH US 422I EB	0.16	0.19	0.03	41
MAH US 422I EB	0.22	0.34	0.12	41
MAH US 422 EB	2.09	2.33	0.24	41



ROUTE	SLM		LENGTH (MILES)	PW (FEET)
	FROM	TO		
MAH US 422	1.90	1.94	0.04	24

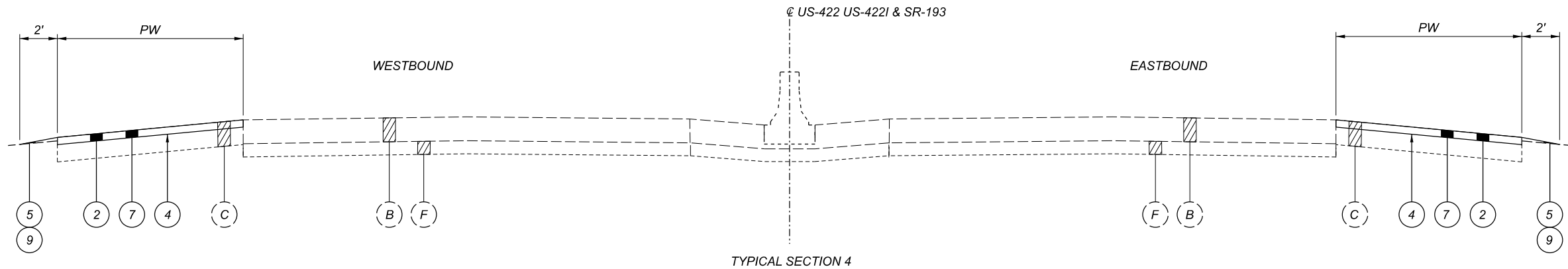


NOTE:  
 \*\* APPLIES TO NON-CURBED RAMP SECTIONS ONLY

**LEGEND**

- 1 ITEM 254, PAVEMENT PLANING, ASPHALT CONCRETE, (T=3.25")
  - 2 ITEM 254, PAVEMENT PLANING, ASPHALT CONCRETE, (T=1.5")
  - 3 ITEM 407, NON-TRACKING TACK @ 0.06 GAL/SY
  - 4 ITEM 407, NON-TRACKING TACK @ 0.09 GAL/SY
  - 5 ITEM 408, PRIME COAT, AS PER PLAN @ 0.4 GAL/SY
  - 6 ITEM 442, ANTI-SEGREGATION EQUIPMENT (TRAVEL LANES ONLY)
  - 7 ITEM 442, ASPHALT CONCRETE, SURFACE COURSE, 12.5MM, TYPE A (446), AS PER PLAN, PG70-22M (T=1.5")
  - 8 ITEM 442, ASPHALT CONCRETE, INTERMEDIATE COURSE, 19MM, TYPE A (446), (T=1.75")
  - 9 ITEM 617, COMPACTED AGGREGATE, AS PER PLAN (T=2")
  - 10 SAFETY EDGE AS PER SCD. BP-3.2
- (A) EXISTING ASPHALT SURFACE
  - (B) EXISTING 10" REINFORCED CONCRETE
  - (C) EXISTING ASPHALT SHOULDER
  - (D) EXISTING CONCRETE BASE
  - (E) EXISTING ASPHALT BASE
  - (F) EXISTING SUBBASE
  - (G) EXISTING CURB OR CURB & GUTTER

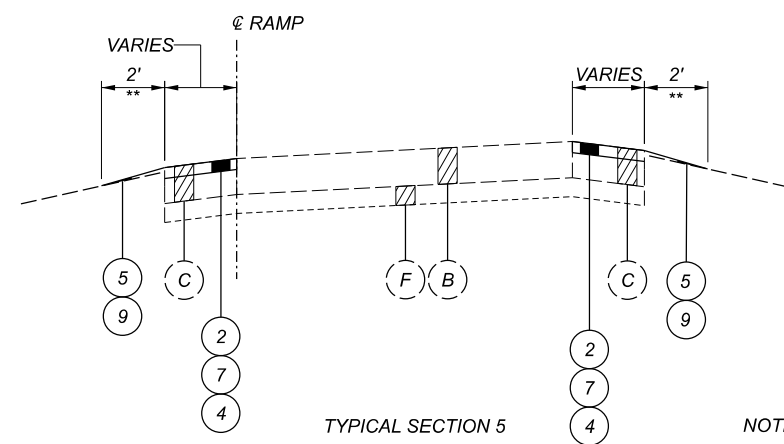
- US 680 / SR 193 INTERCHANGE**
  - RAMP A3 - SR 193 WB TO US 680 NB
  - RAMP B3 - US 680 NB TO SR 193 EB
  - RAMP C - SR 193 WB TO US 680 SB
  - RAMP C3 - US 680 SB TO SR 193 EB (SR 193 MAINLINE SLM 0.00 TO 0.21)
  - SR 193 / CRESCENT ST INTERCHANGE**
  - RAMP E - CRESCENT ST TO SR 193 WB
  - RAMP F - SR 193 EB TO CRESCENT ST
  - RAMP G - SR 193 WB TO CRESCENT ST
  - RAMP H - CRESCENT ST TO SR 193 EB
- US 422 & SR 193 / US 422 & SR 289 INTERCHANGE**
  - RAMP J - SR 193 EB TO US 422 (SR193 MAINLINE SLM 0.88 TO 0.99)
  - RAMP K - US 422 TO SR 193 WB
  - RAMP L - SR 193 TO US 422 EB (US422 MAINLINE SLM 1.94 TO 2.09)
  - RAMP M - US 422 WB TO SR 193
  - ACCESS RAMP - US 422 SR 193
  - US 422 / BELMONT AVE INTERCHANGE**
  - RAMP C - US 422 EB TO BELMONT AVE
  - RAMP D - BELMONT AVE TO US 422 WB



TYPICAL SECTION 4

ROUTE	SLM		LENGTH (MILES)	PW (FEET)
	FROM	TO		
MAH US 422 WB	2.32	3.38	1.06	11
MAH US 422 WB	3.69	3.90	0.21	8

ROUTE	SLM		LENGTH (MILES)	PW (FEET)
	FROM	TO		
MAH US 422 EB	2.33	3.38	1.05	11
MAH US 422 EB	3.69	3.90	0.21	8



TYPICAL SECTION 5

NOTE:  
 \*\* APPLIES TO NON-CURBED RAMP SECTIONS ONLY

- US 422 / 5TH AVE INTERCHANGE**  
 RAMP A - 5TH AVE TO US 422 EB  
 RAMP B - US 422 WB TO 5TH AVE
- US 422 / WICK AVE INTERCHANGE**  
 RAMP C - US 422 EB TO WICK AVE  
 RAMP D - WICK AVE TO US 422 WB  
 RAMP E - WICK AVE TO US 422 EB  
 RAMP F - US 422 WB TO WICK AVE
- US 422 / US 62 & SR 7 INTERCHANGE**  
 RAMP G - US 422 EB TO SR 7 SB  
 RAMP H - SR 7 SB TO US 422 WB  
 RAMP J - SR 7 NB TO US 422 WB  
 RAMP K - US 422 EB TO SR 7 NB

LEGEND

- |  |                                    |
|--|------------------------------------|
| ① ITEM 254, PAVEMENT PLANING, ASPHALT CONCRETE, (T=3.25")  | Ⓐ EXISTING ASPHALT SURFACE         |
| ② ITEM 254, PAVEMENT PLANING, ASPHALT CONCRETE, (T=1.5")   | Ⓑ EXISTING 10" REINFORCED CONCRETE |
| ③ ITEM 407, NON-TRACKING TACK @ 0.06 GAL/SY  | Ⓒ EXISTING ASPHALT SHOULDER        |
| ④ ITEM 407, NON-TRACKING TACK @ 0.09 GAL/SY  | Ⓓ EXISTING CONCRETE BASE           |
| ⑤ ITEM 408, PRIME COAT, AS PER PLAN @ 0.4 GAL/SY   | Ⓔ EXISTING ASPHALT BASE            |
| ⑥ ITEM 442, ANTI-SEGREGATION EQUIPMENT (TRAVEL LANES ONLY)   | Ⓕ EXISTING SUBBASE                 |
| ⑦ ITEM 442, ASPHALT CONCRETE, SURFACE COURSE, 12.5MM, TYPE A (446), AS PER PLAN, PG70-22M (T=1.5") | Ⓖ EXISTING CURB OR CURB & GUTTER   |
| ⑧ ITEM 442, ASPHALT CONCRETE, INTERMEDIATE COURSE, 19MM, TYPE A (446), (T=1.75")                   |                                    |
| ⑨ ITEM 617, COMPACTED AGGREGATE, AS PER PLAN (T=2")  |                                    |
| ⑩ SAFETY EDGE AS PER SCD. BP-3.2   |                                    |

**UTILITIES**

THE CONTRACTOR SHALL USE THE FOLLOWING PROCEDURE AT EACH LOCATION WHERE WORK IS PERFORMED, IN ACCORDANCE WITH SECTIONS 105.07 AND 107.16 IN THE CONSTRUCTION AND MATERIALS SPECIFICATIONS.

THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER, OHIO811, THE OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 4 HEADQUARTERS (MICHELLE CHANEY AT 330-786-2267) AND ALL NON REGISTERED UTILITY OWNERS AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION OPERATIONS IN ALL AREAS.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE NOT SHOWN ON THE PLANS, BUT CAN BE OBTAINED FROM THE OWNERS OF THE UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO UTILITIES.

ACCESS COUNCIL AT&T  
 ATTN: PATRICK RAGER ATTN: LUCIE HINSHAW  
 493 BEV ROAD, UNIT 1 50 W. BOWERY ST. 6TH FLOOR  
 BOARDMAN, OH 44512 AKRON, OH 44308  
 330-702-7876 330-384-3048  
 RAGER@ACCESS-K12.ORG 330-524-2091 CELL  
 LB2785@ATT.COM

CHARTER DOMINION ENERGY  
 ATTN: GREG REITER ATTN: MICAH RISACHER  
 4352 YOUNGSTOWN RD SE 320 SPRINGSIDE DRIVE SUITE 320  
 WARREN, OH 44484 AKRON, OH 44333  
 330-369-7115 330-664-2638  
 GREG.REITER@CHARTER.COM 440-371-1533 CELL  
 MICAH.J.RISACHER@ DOMINIONENERGY.COM  
 RELOCATION@ DOMINIONENERGY.COM

OHIO EDISON YOUNGSTOWN WATER DEPARTMENT  
 ATTN: BRIAN MULICHAK ATTN: DAN BLAKLEY  
 730 SOUTH AVENUE 26 S. PHELPS STREET  
 YOUNGSTOWN, OH 44502 YOUNGSTOWN, OH 44503  
 330-261-0073 CELL 330-743-5340  
 BMULICHAK@ DBLAKELY@  
 FIRSTENERGYCORP.COM YOUNGSTOWNOHIO.GOV

**WORK LIMITS**

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

**PROFILE AND ALIGNMENT**

PLACE THE PROPOSED PAVEMENT TO FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. PLACE THE PROPOSED ASPHALT CONCRETE OVERLAY AS SHOWN ON THE TYPICAL SECTIONS.

**PAVEMENT MARKING DETAILS**

THE PAVEMENT MARKING DETAIL SHEETS WILL BE SUPPLIED TO THE CONTRACTOR AT THE PRE-CONSTRUCTION MEETING. FOR ANY LOCATIONS THAT PAVEMENT MARKING DETAILS HAVE NOT BEEN MADE AVAILABLE TO THE CONTRACTOR, IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PUT BACK NEW PAVEMENT MARKINGS IN THE ORIGINAL LOCATIONS.

**PAVEMENT MARKING LANE WIDTHS**

THE NORMAL LANE WIDTH FOR THE PAVEMENT MARKINGS ON THIS PROJECT SHALL BE AS FOLLOWS:

ROUTE	S.L.M. TO S.L.M.	LANE WIDTH
MAH SR 193	0.31 TO 0.88	12FT
MAH SR 289	2.29 TO 2.64	11FT
MAH US 422	1.90 TO 1.94	12FT
MAH US 422	2.09 TO 3.90	12FT
TRU US 422	12.42 TO 13.03	12FT
RAMPS		16FT

**ITEM 203 - EXCAVATION (FOR PAVEMENT REPAIR)**

THIS ITEM OF WORK SHALL CONSIST OF REMOVING AND DISPOSING OF ALL UNSUITABLE MATERIAL BY EXCAVATING THE EXISTING SUBGRADE AND SUBBASE TO AN AVERAGE DEPTH OF 6 INCHES OR AS DIRECTED BY THE ENGINEER. EXACT LIMITS OF REMOVAL SHALL BE DETERMINED BY THE ENGINEER. ALL EQUIPMENT, LABOR, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 203 EXCAVATION (FOR RIGID REPLACEMENT). THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

- MAH SR 289 (SLM 2.29 TO 2.64) 203, EXCAVATION (FOR RIGID REPLACEMENT) 50 CU YD
- MAH US 422 (SLM 2.32 TO 3.90) 203, EXCAVATION (FOR RIGID REPLACEMENT) 292 CU YD
- TRU US 422 (SLM 12.42 TO 13.03) 203, EXCAVATION (FOR RIGID REPLACEMENT) 250 CU YD
- MAH SR 193/ US422 / US422I 203, EXCAVATION (FOR RIGID REPLACEMENT) 84 CU YD

**ITEM 304 - AGGREGATE BASE (FOR PAVEMENT REPAIR)**

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN PROVIDED AND SHALL BE USED AS DIRECTED BY THE ENGINEER TO BACKFILL AREAS WHICH WERE EXCAVATED UNDER ITEM 203 EXCAVATION (FOR RIGID REPLACEMENT). THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

- MAH SR 289 (SLM 2.29 TO 2.64) 304, AGGREGATE BASE (FOR RIGID REPLACEMENT) 50 CU YD
- MAH US 422 (SLM 2.32 TO 3.90) 304, AGGREGATE BASE (FOR RIGID REPLACEMENT) 292 CU YD
- TRU US 422 (SLM 12.42 TO 13.03) 304, AGGREGATE BASE (FOR RIGID REPLACEMENT) 250 CU YD
- MAH SR 193/ US422 / US422I 304, AGGREGATE BASE (FOR RIGID REPLACEMENT) 84 CU YD

**ITEM 258 - RETROFIT DOWEL BARS**

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE PROJECT ENGINEER.

ITEM 258 - RETROFIT DOWEL BARS, 1000 EACH

**ITEM 255 - FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS RRCM, AS PER PLAN**

THE MATERIAL REQUIREMENTS OF 255.02 MAY BE MODIFIED AS FOLLOWS:

- PROVIDE A RRCM MIXTURE MEETING THE REQUIREMENTS OF 255.02 OR, AN ALTERNATE RRCM MIXTURE CONFORMING THE FOLLOWING REQUIREMENTS:
- PORTLAND CEMENT CONCRETE: 499.03, CLASS QC 3, W/MACRO-FIBERS
- PROVIDE A MIXTURE MEETING THE REQUIREMENTS OF WELL GRADED IN ITEM 499.
- AIR CONTENT: 4 TO 8 PERCENT
- FLEXURAL STRENGTH: DEVELOP A RRCM CONCRETE MIX DESIGN THAT WILL ACHIEVE A FLEXURAL STRENGTH OF 300 PSI (2.8 MPA) IN NOT LESS THAN 4 HOURS AND NOT MORE THAN 6 HOURS USING 6 IN X 6 IN (150 MM X 150 MM) BEAM SAMPLES CONFORMING TO ASTM C293.
- PERMEABILITY: 2000 COULOMBS
- COARSE AGGREGATE (NO. 57 & NO.8) 703.02 & 703.13
- FINE AGGREGATE (NATURAL SAND) 703.02
- PORTLAND CEMENT, TYPE I [1] 701.04
- FLY ASH OR NATURAL POZZOLAN 701.13
- SLAG CEMENT 701.11
- WATER 499.02
- CHEMICAL ADMIXTURE [2] 705.12
- AIR-ENTRAINING ADMIXTURE 705.10
- MACRO-FIBERS FOR CONCRETE [3] 705.29
- LIQUID MEMBRANE-FORMING COMPOUNDS FOR CONCRETE CURING 705.07

[1] PROVIDE A MIXTURE WITH A PORTLAND CEMENT CONTENT OF 660LB OR LESS AND A TOTAL CEMENTITIOUS CONTENT OF 850LB OR LESS.

[2] A MAXIMUM OF 0.5% CALCIUM CHLORIDE BY MASS OF CEMENTITIOUS CONTENT OR A LIQUID NON-CHLORIDE ACCELERATING ADMIXTURE MAY BE USED TO GENERATE EARLY STRENGTH DEVELOPMENT. SPECIALTY TYPE 'S' ADMIXTURE ALSO PERMITTED (SUBMITTAL OF MANUFACTURER'S DATA SHEET REQUIRED)

[3] USE A MINIMUM DOSAGE RATE OF FIBERS OF 4.0 LB/YD<sup>3</sup> OF CONCRETE. ENSURE THE FINAL PROPOSED MIX IS WORKABLE AND ABLE TO BE PRODUCED SUCH THAT BALLING OR CLUMPING OF THE FIBERS IS NOT A PROBLEM AS DETERMINED BY THE ENGINEER. A DEMONSTRATION OF THE MIX PRODUCTION, OR TRIAL MIX, MAY BE REQUIRED BY THE ENGINEER PRIOR TO PLACING ANY OF THE MIX ON THE PROJECT.

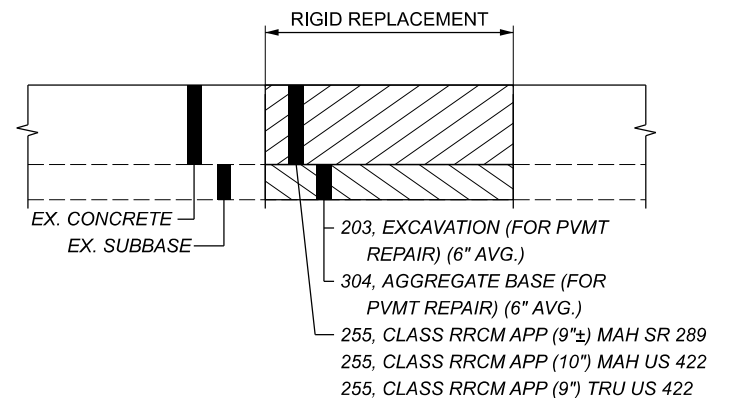
SUBMIT LAB TESTING RESULTS OF THE ALTERNATE RRCM MIXTURE USING THE ACTUAL MATERIALS THAT WILL BE USED ON THE PROJECT. MAKE AT LEAST FIVE BEAM SPECIMENS AND TEST THEM AT 3, 4, 5, 6, AND 8 HOURS AGE. ALTERNATELY, THE CONTRACTOR MAY DEVELOP THE MIX'S MATURITY CURVE ACCORDING TO SUPPLEMENT 1098.

DO NOT OPEN THE RIGID REPLACEMENT TO TRAFFIC UNTIL THE RRCM ATTAINS A MODULUS OF RUPTURE OF 300 POUNDS PER SQUARE INCH (2.8 MPA) BASED ON MATURITY TESTING OR BEAM TESTING ON THE PROJECT.

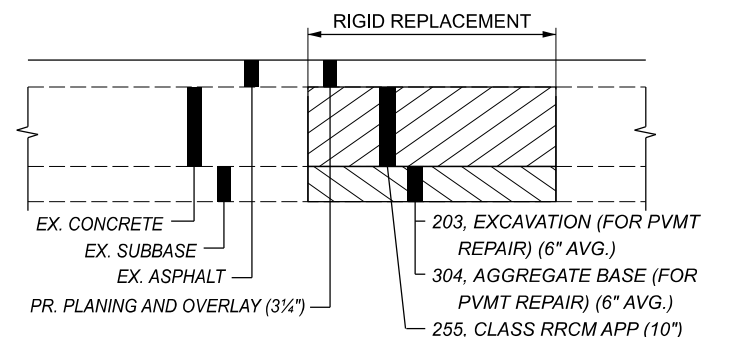
THE JMF WILL NOT BE APPROVED FOR USE ON THE ENTIRE PROJECT UNTIL A SUCCESSFUL FIELD PLACEMENT IS PERFORMED, ON THE PROJECT, WITH THE MIX DESIGN. THIS PLACEMENT MUST DEMONSTRATE THE MIXTURE IS CAPABLE OF MEETING THE PRESCRIBED FLEXURAL STRENGTH AND TIME REQUIREMENTS.

A QUANTITY OF THIS ITEM SHALL BE PROVIDED FOR USE AS DIRECTED BY THE ENGINEER. THIS ITEM SHALL CONSIST OF CUTTING AND REMOVING DETERIORATED PAVEMENT FULL DEPTH AND PLACING ITEM 255 - FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS RRCM, AS PER PLAN PER SCD BP-2.5. IT IS NOT THE INTENT TO REPAIR EVERY DETERIORATED AREA WITHIN THE PROJECT. THE ENGINEER SHALL DETERMINE WHICH AREAS ARE TO BE REPAIRED. PAYMENT SHALL BE BASED ON THE ACTUAL NUMBER OF SQUARE YARDS OF PAVEMENT REMOVED AND REPLACED TO THE LIMITS DESIGNATED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

- MAH SR 289 (SLM 2.29 TO 2.64) ITEM 255 - FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS RRCM, AS PER PLAN, 300 SQ YD
- 255, FULL DEPTH PAVEMENT SAWING, 1350 FT
- MAH US 422 (SLM 2.33 TO 3.90) ITEM 255 - FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS RRCM, AS PER PLAN, 1750 SQ YD
- 255, FULL DEPTH PAVEMENT SAWING, 7000 FT
- TRU US 422 (SLM 12.42 TO 13.03) ITEM 255 - FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS RRCM, AS PER PLAN, 1500 SQ YD
- 255, FULL DEPTH PAVEMENT SAWING, 6000 FT



- MAH SR 193/ US422 / US422I ITEM 255 - FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS RRCM, AS PER PLAN, 500 SQ YD
- ITEM 255 - FULL DEPTH PAVEMENT SAWING, 2000 FT



DESIGN AGENCY



DESIGNER	BFR
REVIEWER	MJA 06/15/21
PROJECT ID	91900
SHEET	TOTAL
P.4	37

**ITEM 408 - PRIME COAT, AS PER PLAN**

APPLY "MC-70" AT A RATE OF 0.4 GALLONS PER SQUARE YARD, OR AS DETERMINED BY THE ENGINEER, TO THE COMPLETED COMPACTED AGGREGATE SHOULDER.

**ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446), AS PER PLAN, PG 70-22M**

703.05 DO NOT USE COARSE AGGREGATE FROM A SOURCE DESIGNATED 'SR' OR 'SRH' ACCORDING TO THE OFFICE OF MATERIALS MANAGEMENT (OMM) IN ANY JOB MIX FORMULA (JMF) FOR THIS ITEM.

**ITEM 617 - COMPACTED AGGREGATE, AS PER PLAN**

IN LOW SHOULDER AREAS EXCEEDING 1", AND ADJACENT TO THE SAFETY EDGE, OR AS DIRECTED BY THE ENGINEER, RECYCLED ASPHALT PAVEMENT (RAP) SHALL BE USED IN AREAS ADJACENT TO THE PAVED BERM. THE RAP SHALL HAVE A MINIMUM PG CONTENT OF 4.5% AND MEET THE FOLLOWING GRADATION. ONCE THE STOCKPILE MEETS THE GRADATION, THE PG CONTENT OF THE RAP SHALL BE DETERMINED PER 441.03. THE RAP ANALYSIS MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL 2 WEEKS PRIOR TO USE. METHOD OF MEASUREMENT SHALL BE AS PER 617.06. PLACEMENT AND COMPACTION SHALL MEET THE REQUIREMENTS OF ITEM 617. ALL MATERIALS, LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 617 COMPACTED AGGREGATE, AS PER PLAN.

MODIFIED GRADATION SHALL APPLY:

SIEVE	TOTAL PERCENT PASSING
1- 1/2"	100
3/4"	50-100
NO. 4	35-70
NO. 30	9-33
NO. 200	0-13

**LINEAR GRADING**

AREAS WHERE THE SHOULDER IS HIGHER THAN THE EDGE OF PAVEMENT WILL BE GRADED TO PROVIDE POSITIVE DRAINAGE. THIS WORK WILL ONLY BE PERFORMED IN AREAS NECESSARY AND WILL NOT BE PERFORMED ON THE ENTIRE PROJECT. AREAS FOR THE WORK WILL BE MARKED BY THE PROJECT ENGINEER. UNDER NO CIRCUMSTANCES WILL THIS WORK BE PERFORMED CONCURRENTLY WITH ANY OTHER OPERATION.

GRADING WILL BE ACCOMPLISHED BY THE REMOVAL OF MATERIAL TO PROVIDE A 0.08 POSITIVE SLOPE. THE GRADED AREAS WILL BE COMPACTED TO A SUFFICIENT DENSITY TO PREVENT EROSION UNTIL SEEDING AND MULCHING IS PERFORMED. ALL EXCESS MATERIAL WILL BE REMOVED FROM THE BERMS AND WILL BE DISPOSED OF OFF THE PROJECT BY THE CONTRACTOR.

SEEDING AND MUCHING, FERTILIZER AND LIME WILL BE PERFORMED WITHIN A PERIOD NOT TO EXCEED 10 DAYS AFTER THE LINEAR GRADING.

THE QUANTITY OF ITEM 209 IS NOT PERMITTED TO BE INCREASED. REDUCTIONS IN QUANTITIES ARE PERMITTED AS DETERMINED BY THE PROJECT ENGINEER.

ALL MATERIALS, LABOR, EQUIPMENT, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK WILL BE INCLUDED IN THE UNIT PRICE FOR THE PERTINENT BID ITEM. THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:  
 209, LINEAR GRADING, 348 STA.  
 659, SEEDING AND MULCHING, 9667 SQ YD  
 659, COMMERCIAL FERTILIZER, 1.3 TON  
 659, LIME, 2 ACRES  
 659, WATER, 52.2 M. GAL.

**ITEM 611 – MANHOLE ADJUSTED TO GRADE, AS PER PLAN**

IN ADDITION TO THE REQUIREMENTS OF CMS 611.10.D FOR MANHOLES, 623.05 FOR MONUMENT BOXES, OR 638.18 FOR VALVE BOXES, THE CONTRACTOR WILL MAKE A CLEAN CIRCULAR CUT AROUND THE CASTING (A MINIMUM OF 1'-0" OUTSIDE THE CASTING) AND REMOVE AND DISCARD THE EXISTING CASTING. INSTALL A NEW CASTING TO GRADE (ACCORDING TO TOLERANCES AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-3.1) AFTER THE PAVEMENT SURFACE COURSE HAS BEEN REPLACED.

CMS 499 CLASS QCMS CONCRETE (DYE THE CONCRETE SUCH THAT ITS COLOR CLOSELY MATCHES THE COLOR OF THE SURROUNDING PAVEMENT) WILL BE USED FOR BACKFILLING THE FULL PAVEMENT SECTION AND THE JOINT BETWEEN THE ASPHALT AND CONCRETE WILL BE SEALED WITH CMS 702.01 PG BINDER. EPOXY COATED REBAR SHALL BE PLACED IN THE CONCRETE AT 6" MAXIMUM ON CENTER AND A MINIMUM OF 3.5" CLEARANCE FROM THE TOP, BOTTOM AND SIDES. THE CONCRETE WILL BE VIBRATED SUFFICIENTLY TO ELIMINATE AIR POCKETS UNDER THE FRAME.

PAYMENT WILL INCLUDE REMOVAL OF THE EXISTING MATERIAL, INSTALLATION AND FURNISHING OF A NEW CASTING, AND ALL LABOR AND MATERIALS REQUIRED TO COMPLETE THIS ITEM OF WORK AS DESCRIBED.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY AND IS TO BE USED AS DIRECTED BY THE ENGINEER

MAH US 422:  
 ITEM 611, MANHOLE ADJUSTED TO GRADE, AS PER PLAN, 2 EACH

**ITEM 611 – CATCH BASIN ADJUSTED TO GRADE**

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY AND IS TO BE USED AS DIRECTED BY THE ENGINEER

MAH SR 193 / US 422:  
 ITEM 611, CATCH BASIN ADJUSTED TO GRADE, 6 EACH

**ITEM 611 – CATCH BASIN RECONSTRUCTED TO GRADE**

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY AND IS TO BE USED AS DIRECTED BY THE ENGINEER

TRU US 422:  
 ITEM 611, CATCH BASIN RECONSTRUCTED TO GRADE, 2 EACH

**ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E**

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS FOR TYPE MGS GUARDRAIL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 31 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, MGS TYPE E, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

**GUARDRAIL & GUARDRAIL ANCHOR ASSEMBLY REPLACEMENT**

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY AND SHALL USED TO REPLACE DAMAGED OR MISSING GUARDRAIL PANELS AND ANCHOR ASSEMBLIES AS DIRECTED BY THE ENGINEER

TRU US 422: SLM 12.46 TO 12.51 RIGHT  
 ITEM 202 - GUARDRAIL REMOVED, 87.5 FT  
 ITEM 606 - GUARDRAIL, TYPE MGS 37.5 FT  
 ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016), 1 EACH  
 ITEM 626 - BARRIER REFLECTOR, TYPE 2 (BI-DIRECTIONAL), 5 EACH

**ITEM SPECIAL - VERTICAL CLEARANCE**

AFTER ALL CONSTRUCTION HAS BEEN COMPLETED, A REGISTERED SURVEYOR WILL TAKE VERTICAL CLEARANCE MEASUREMENTS AT LOCATIONS INDICATED ON THE APPROVED ODOT FORM (AVAILABLE IN THE DISTRICT 4 STRUCTURES AND PAVEMENT OFFICE). THE FINAL MEASUREMENTS SHALL BE RECORDED ON THE FORM AND SUBMITTED TO THE PROJECT ENGINEER AND THE DISTRICT 4 STRUCTURES AND PAVEMENT ENGINEER. THE RECORD SHALL BEAR THE SEAL OF THE LECENSED SURVEYOR WHO HAS TAKEN THE MEASUREMENTS. THIS WORK SHALL BE PERFORMED AT THE FOLLOWING STRUCTURES:  
 MAH-422-0217 (SFN:5005175)

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:  
 SPECIAL - VERTICAL CLEARANCE, 1 EACH

DESIGN AGENCY



DESIGNER

BFR

REVIEWER

MJA 06/15/21

PROJECT ID

91900

SHEET TOTAL

P.5 37

**MAINTENANCE OF TRAFFIC**

THIS ITEM SHALL CONSIST OF MAINTENANCE OF TRAFFIC ON EXISTING ROADWAYS AND RAMPS IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, LATEST REVISION, THE SPECIFICATIONS AND THE FOLLOWING:

1. A MINIMUM OF ONE ELEVEN FOOT LANE IN EACH DIRECTION SHALL BE MAINTAINED ON THE EXISTING PAVEMENT OR COMPLETED PAVEMENT DURING CONSTRUCTION OF THE WORK.

MAH US 422 SLM 1.90 TO 1.94 - A MINIMUM OF ONE TEN FOOT BIDIRECTIONAL LANE SHALL BE MAINTAINED ON THE EXISTING PAVEMENT OR COMPLETED PAVEMENT DURING CONSTRUCTION OF THE WORK.

2. THE CONTRACTOR SHALL INFORM THE DISTRICT OFFICE (330) 786-2208, EIGHTEEN (18) DAYS PRIOR TO THE BEGINNING OF WORK.

3. LANE RESTRICTIONS OR LANE REDUCTIONS SHALL NOT BE PERMITTED AFTER NORMAL WORKING HOURS. NORMAL WORKING HOURS SHALL BE THOSE HOURS DURING WHICH THE CONTRACTOR HAS A FULL COMPLEMENT OF EMPLOYEES AND EQUIPMENT ACTIVELY REMOVING AND/OR PLACING PAVEMENT MATERIALS.

4. ALL FULL DEPTH PAVEMENT REMOVAL AND REPLACEMENT OPERATIONS SHALL BE COMPLETED THE SAME DAY THE EXCAVATION IS MADE. IF THE CONTRACTOR CANNOT COMPLETE THE WORK, THE EXCAVATION SHALL BE BACKFILLED OR PROTECTED AS PER STANDARD CONSTRUCTION DRAWING MT-101.90.

5. TRUCK MOUNTED ATTENUATORS [TMA'S] SHALL BE USED AS SHOWN IN THE STANDARD CONSTRUCTION DRAWINGS.

6. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR BE PERMITTED TO HAVE SUCCESSIVE WORK ZONES UNLESS THE DISTANCE BETWEEN THE DRUMS, BARRICADES OR CONES EXCEEDS ONE MILE

7. FOR ROUTES NOT ON THE PERMITTED LANE CLOSURE CHART, ONLY DURING OFF-PEAK PERIODS (ie ANY PERIOD OTHER THAN 6-8AM AND 3-6PM) SHALL THE CONTRACTOR INSTALL AND SUBSEQUENTLY RESET ALL TRAFFIC CONTROL NECESSARY FOR THE WORK ZONE FOR EACH CONSTRUCTION PHASE.

8. IN ADDITION TO THE REQUIREMENTS OF 614.11 WORK ZONE PAVEMENT MARKINGS, AT THE END OF EACH DAY OF WORK, THE CONTRACTOR SHALL REPLACE (WITH WORK ZONE MARKINGS) ALL LANE, CENTER, STOP OR CHANNELIZING LINES THAT WERE REMOVED OR COVERED DURING THE PAVEMENT REMOVAL OR PLACEMENT OPERATIONS. QUANTITIES FOR SUCH PLACEMENT ARE CARRIED AS PART OF THE ITEMS LISTED UNDER 614 WORK ZONE PAVEMENT MARKINGS.

9. A QUANTITY OF 20 CU. YDS. OF ITEM 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC SHALL BE PROVIDED FOR USE IN MAINTAINING PAVEMENT, SHOULDERS AND OTHER LOCATIONS AS DIRECTED BY THE ENGINEER.

10. PRIOR TO OPENING TO TRAFFIC EACH LANE SHALL BE IN A SAFE, PASSABLE CONDITION. ALL TRANSVERSE JOINTS SHALL EXTEND ACROSS THE FULL LANE AND SHOULDER WIDTH AND EACH LANE SHALL BE FREE FROM UNEVEN LONGITUDINAL JOINTS. THE CONTRACTOR SHALL PROVIDE ASPHALT WEDGES FOR TRANSVERSE JOINTS WHEREVER THERE ARE PAVEMENT ELEVATION DIFFERENCES.

11. THE CONTRACTOR SHALL PLACE THE SIGNS: W8-1 [BUMP] PER OMUTCD 2C.28; W8-11 [UNEVEN LANES] PER OMUCTD 6F.45; AND W6-3 [TWO-WAY TRAFFIC] PER OMUTCD 6F.32. PAYMENT FOR THESE SIGNS SHALL BE INCIDENTAL TO THE LUMP SUM ITEM 614-MAINTAINING TRAFFIC. A QUANTITY OF ITEM 614 WORK ZONE MARKING SIGNS HAS BEEN INCLUDED IN THE PLANS PER CMS 614.04.

12. THE CONTRACTOR SHALL SET A WORK ZONE AT THE REQUEST OF THE ENGINEER TO ALLOW THE LAYOUT OF THE PARTIAL/FULL DEPTH PAVEMENT REPAIR AREAS. THIS WORK IS INCIDENTAL TO ITEM 614 MAINTAINING TRAFFIC.

THE FOLLOWING QUANTITIES SHALL BE USED FOR THE MAINTENANCE OF TRAFFIC ON THIS PROJECT:

PLAN SPLIT: 01/NHS/PV

**PHASE I - PLANED SURFACE**

- 614, WORK ZONE LANE LINE, CLASS I, 2.30 MILE
- 614, WORK ZONE STOP LINE, CLASS 1, 144 FT
- 614, WORK ZONE CHANNELIZING LINE, CLASS 1, 8", 605 FT
- 614, WORK ZONE CHANNELIZING LINE, CLASS 1, 12", 4150 FT
- 614, WORK ZONE MARKING SIGN, 75 EACH (ALL PHASES)

**PHASE II - INTERMEDIATE COURSE**

- 614, WORK ZONE LANE LINE, CLASS I, 642 PAINT 2.30 MILE
- 614, WORK ZONE STOP LINE, CLASS I, 642 PAINT 144 FT
- 614, WORK ZONE CHANNELIZING LINE, CLASS 1, 8", 642 PAINT 605 FT
- 614, WORK ZONE CHANNELIZING LINE, CLASS 1, 12", 642 PAINT 4150 FT

**PHASE III - SURFACE COURSE**

- 614, WORK ZONE LANE LINE, CLASS III, 642 PAINT 2.30 MILE
- 614, WORK ZONE STOP LINE, CLASS III, 642 PAINT 144 FT
- 614, WORK ZONE CHANNELIZING LINE, CLASS III, 8", 642 PAINT 605 FT
- 614, WORK ZONE CHANNELIZING LINE, CLASS III, 12" 642 PAINT 4150 FT

**PHASE CONCRETE REPAIRS**

- 614, WORK ZONE LANE LINE, CLASS III, 642 PAINT 1.00 MILE
- 614, WORK ZONE CHANNELIZING LINE, CLASS III, 12", 642 PAINT 1000 FT

TO BE USED AS DIRECTED BY THE ENGINEER

- 614, WORK ZONE EDGE LINE, CLASS III, 642 PAINT, 10.44 MILE

PLAN SPLIT: 02/NHS/PV/YOUN

**PHASE I - PLANED SURFACE**

- 614, WORK ZONE LANE LINE, CLASS I, 0.04 MILE

**PHASE II - INTERMEDIATE COURSE**

- 614, WORK ZONE LANE LINE, CLASS I, 642 PAINT 0.04 MILE

**PHASE III - SURFACE COURSE**

- 614, WORK ZONE LANE LINE, CLASS III, 642 PAINT 0.04 MILE

TO BE USED AS DIRECTED BY THE ENGINEER

- 614, WORK ZONE EDGE LINE, CLASS III, 642 PAINT, 0.08 MILE

PLAN SPLIT 03/S>2/PV/YOUN

**PHASE CONCRETE REPAIRS**

- 614, WORK ZONE CENTERLINE, CLASS III, 642 PAINT 0.15 MILE
- 614, WORK ZONE LANE LINE, CLASS III, 642 PAINT 0.25 MILE
- 614, WORK ZONE CHANNELIZING LINE, CLASS III, 8", 642 PAINT 100 FT

TO BE USED AS DIRECTED BY THE ENGINEER

- 614, WORK ZONE EDGE LINE, CLASS III, 642 PAINT, 0.3 MILE

PLAN SPLIT: 04/S>2/PV/WARR

**PHASE CONCRETE REPAIRS**

- 614, WORK ZONE LANE LINE, CLASS III, 642 PAINT 0.50 MILE
- 614, WORK ZONE STOP LINE, CLASS III, 642 PAINT 50 FT
- 614, WORK ZONE CHANNELIZING LINE, CLASS III, 8", 642 PAINT 300 FT

TO BE USED AS DIRECTED BY THE ENGINEER

- 614, WORK ZONE EDGE LINE, CLASS III, 642 PAINT, 0.50 MILE

PLAN SPLIT: 06/NHS/BR

**PHASE STRUCTURES**

- 614, WORK ZONE CENTERLINE, CLASS III, 642 PAINT 0.21 MILE
- 614, WORK ZONE LANE LINE, CLASS III, 642 PAINT 0.23 MILE
- 614, WORK ZONE STOP LINE, CLASS III, 642 PAINT 156 FT
- 614, WORK ZONE CHANNELIZING LINE, CLASS III, 8", 642 PAINT 172 FT

TO BE USED AS DIRECTED BY THE ENGINEER

- 614, WORK ZONE EDGE LINE, CLASS III, 642 PAINT, 0.22 MILE

**TRAFFIC CONTROL INSPECTOR**

THE CONTRACTOR SHALL DESIGNATE AN INDIVIDUAL OTHER THAN THE SUPERINTENDENT AND SUBJECT TO THE APPROVAL OF THE ENGINEER, TO CONTINUOUSLY INSPECT ALL TRAFFIC CONTROL DEVICES WHENEVER CONSTRUCTION WORK IS BEING PERFORMED WITHIN THE WORK LIMITS OF THE PROJECT. THE DESIGNATED INDIVIDUAL SHALL ALSO INSPECT ALL TRAFFIC DEVICES AT THE BEGINNING AND AT THE END OF EACH WORK DAY. THE DESIGNATED INDIVIDUAL OR A QUALIFIED REPRESENTATIVE SHALL ALSO BE AVAILABLE ON AN AROUND THE CLOCK BASIS TO REPAIR AND/OR REPLACE DAMAGED OR MISSING TRAFFIC CONTROL DEVICES. THESE INDIVIDUALS SHALL BE EQUIPPED WITH CELLULAR PHONES AND THEIR NAMES AND PHONE NUMBERS SHALL BE GIVEN TO THE PROJECT ENGINEER AT THE PRE-CONSTRUCTION MEETING. THE DESIGNATED INDIVIDUAL MAY HAVE OTHER CONSTRUCTION RELATED DUTIES AS LONG AS IMMEDIATE ATTENTION IS GIVEN TO TRAFFIC CONTROL. PAYMENT FOR THE SERVICES OF THE TRAFFIC CONTROL INSPECTOR SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

**TIME LIMITATION, TRAFFIC ON A MILLED SURFACE**

THE MAXIMUM ALLOWABLE TIME FOR TRAFFIC TO BE PLACED ON A MILLED SURFACE SHALL BE 7 CONSECUTIVE CALENDAR DAYS. SHOULD THE CONTRACTOR FAIL TO MEET THIS REQUIREMENT, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE IN THE AMOUNT OF \$ 2,000 PER DAY THAT THE TRAFFIC IS PLACED ON A MILLED SURFACE BEYOND THE SPECIFIED LIMIT.

**LANE CLOSURES**

DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AS PER THE PERMITTED LANE CLOSURE CHART. THE PERMITTED LANE CLOSURE CHART USED FOR THIS PROJECT SHALL BE THE MOST CURRENT CHART AVAILABLE ON THE DATE THIS PROJECT SELLS.

THE CHART CAN BE FOUND AT:  
<http://plcm.dot.state.oh.us>

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THE REQUIREMENTS IN THE CHART, THE CONTRACTOR SHALL BE ASSESSED DISINCENTIVES IN THE AMOUNT OF \$2,000 PER HOUR OR PORTION THEREOF THAT THE LANE REDUCTION REMAINS BEYOND THE SPECIFIED LIMIT.

**NOTIFICATION OF TRAFFIC RESTRICTIONS**

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW TO INFORM THE SPECIAL HAULING PERMITS SECTION (HAULING.PERMITS@DOT.OHIO.GOV) AND THE DISTRICT PUBLIC INFORMATION OFFICE (PIO). THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS.

INFORMATION SHOULD INCLUDE, BUT IS NOT LIMITED TO, ALL CONSTRUCTION ACTIVITIES THAT IMPACT OR INTERFERE WITH TRAFFIC AND SHALL LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, MINIMUM VERTICAL CLEARANCE, MINIMUM WIDTH OF DRIVABLE PAVEMENT, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

NOTIFICATION TIME TABLE		
ITEM	DURATION OF CLOSURE	NOTICE DUE TO PERMITS & PIO
ROAD & RAMP CLOSURES	>= 2WEEKS	21 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	<12 HOURS	4 BUSINESS DAYS PRIOR TO CLOSURE
LANE CLOSURES & RESTRICTIONS	>=2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 2 WEEKS	5 BUSINESS DAYS PRIOR TO CLOSURE
START OF CONSTRUCTION & TRAFFIC PATTERNS CHANGES	N/A	14 CALENDAR DAYS PRIOR TO IMPLEMENTATION

ANY UNFORESEEN CONDITIONS NOT SPECIFIED IN THE PLANS REQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE NOTIFICATION TIME TABLE.

**ADVANCED NOTICE TO PAVE**

THE CONTRACTOR SHALL SUBMIT FOR APPROVAL TO THE DISTRICT CONSTRUCTION ENGINEER A DETAILED SCHEDULE 15 DAYS PRIOR TO THE PLACEMENT OF THE OVERLAY COURSES, ON HOW THEY PROPOSE TO PROSECUTE THE PAVING OPERATIONS. THE DETAILS SHALL SHOW THE ORDER OF PERFORMANCE OF EACH STAGE (START TO FINISH) OF THE WORK INCLUDING THE MAINTENANCE OF TRAFFIC THAT WILL BE USED.

DESIGN AGENCY



DESIGNER  
BFR

REVIEWER  
MJA 06/15/21

PROJECT ID  
91900

SHEET TOTAL  
P.6 | 37

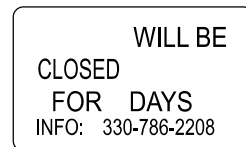
**ITEM 614, MAINTAINING TRAFFIC (NOTICE OF CLOSURE SIGN)**

NOTICE OF CLOSURE SIGNS (W20-H13) SHALL BE ERECTED BY THE CONTRACTOR PRIOR TO THE SCHEDULED ROAD OR RAMP CLOSURE IN ACCORDANCE WITH THE NOTICE OF CLOSURE TIME TABLE BELOW. [AT THE APPROVAL OF THE ENGINEER, PORTABLE CHANGEABLE MESSAGE SIGNS MAY BE USED IN LIEU OF THE STANDARD FLATSHEET SIGN FOR CLOSURE DURATIONS OF LESS THAN 1 WEEK.]

THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD/RAMP FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERECTED AT OR NEAR THE POINT OF CLOSURE. THE SIGNS MAY BE ERECTED ANYWHERE ON RAMPS AS LONG AS THEY ARE VISIBLE TO THE MOTORISTS USING THE RAMP. ON ENTRANCE RAMPS, THE SIGN SHALL BE ERECTED WELL IN ADVANCE OF THE MERGE AREA TO AVOID DISTRACTING MOTORISTS.

NOTICE OF CLOSURE SIGN TIME TABLE		
ITEM	DURATION OF CLOSURE	SIGN DISPLAYED TO PUBLIC
ROAD &	>= 2WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
RAMP	> 12 HOURS & < 2 WEEKS	7 CALENDAR DAYS PRIOR TO CLOSURE
CLOSURE	<12 HOURS	2 BUSINESS DAYS PRIOR TO CLOSURE

THE SIGN SHALL DISPLAY THE DATE OF THE CLOSURE IN MMM-DD FORMAT AND THE NUMBER OF DAYS OF THE CLOSURE. THE LAST LINE OF THE W20-H13 SIGN LISTS A PHONE NUMBER WHICH A MOTORIST MAY CALL FOR ADDITIONAL INFORMATION. THIS IS TO BE A SPECIFIC OFFICE WITHIN THE DISTRICT RATHER THAN THE GENERAL SWITCHBOARD NUMBER.



W20-H13-60

**DETOUR NOTIFICATION [CITY OF YOUNGSTOWN]**

THE CONTRACTOR SHALL ADVISE THE ODOT DISTRICT OFFICE (330-786-3148) AND THE CITY OF YOUNGSTOWN (330-742-8800) EIGHTEEN (18) DAYS IN ADVANCE OF WHEN THE DETOUR ROUTE SHOULD BE IN EFFECT. ALL WORK ZONE DEVICES REQUIRED SHALL BE FURNISHED, ERECTED, MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. PAYMENT FOR ALL WORK ASSOCIATED WITH THE DETOUR SHALL BE INCLUDED UNDER THE LUMP SUM BID FOR ITEM 614, DETOUR SIGNING.

**ITEM 614, MAINTAINING TRAFFIC (TIME LIMITATION ON A DETOUR)**

TRAFFIC ON ALL RAMPS SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD SPECIFIED AND DETOURED AS SHOWN ON THE CLOSURE TABLES SHOWN ON SHEETS P.9-P.17. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF \$2000 PER DAY FOR EACH DAY THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

**COOPERATION BETWEEN CONTRACTORS**

THE CONTRACTOR SHALL BE ADVISED THAT PROJECTS: MAH/POR-62/VAR-19.04/VAR (PID 102328) MAH-680-0.00 (PID 91898) MAY BE ONGOING IN AN AREA IMMEDIATELY ADJACENT TO AND WITHIN THE PROJECT LIMITS OF THIS PROJECT. THE CONTRACTOR SHALL SCHEDULE HIS WORK SO AS TO CAUSE A MINIMUM OF DELAY OR CONFLICT WITH THE OTHER PROJECTS. IN ACCORDANCE WITH 105.08, THE CONTRACTOR SHALL ARRANGE WITH THE OTHER CONTRACTORS APPROVAL OF THE ENGINEER. THE CONTRACTOR SHALL RECEIVE DAILY APPROVALS FROM THE ENGINEER PRIOR TO COMMENCING ANY OPERATIONS. ANY CONFLICT BETWEEN CONTRACTORS INVOLVING WORK SCHEDULES, WORK AREA, OR COOPERATION SHALL BE RESOLVED BY THE ENGINEER. COMPENSATION FOR THE ABOVE COOPERATION SHALL BE INCIDENTAL TO THE VARIOUS PAY ITEMS INCLUDED WITHIN THIS PROJECT.

**ITEM 632 - DETECTOR LOOP, AS PER PLAN**

THE CONTRACTOR SHALL CONTACT THE CITY OF YOUNGSTOWN TRAFFIC DEPARTMENT (330-742-8890) THREE WORKING DAYS PRIOR TO ANY PLANING OR TRENCHING AT THE INTERSECTIONS: SR 193 AND US 422 (MLK JR BLVD.), US 422 WB ACCESS RAMP AND US 422 (MLK JR BLVD.).

LOOP DETECTORS DISTURBED BY PAVEMENT PLANING OR TRENCHING SHALL BE ABANDONED IN PLACE. THE LOOP DETECTOR WIRE WILL BE CUT INTO THE PAVEMENT AFTER THE PROPOSED SURFACE COURSE HAS BEEN PLACED. ALL STOP LINE INDUCTANCE DETECTOR LOOPS SHALL BE THE POWERHEAD CONFIGURATION SHOWN ON TC-82.10. THE WIDTH SHALL BE AS SPECIFIED ON TC-82.10 AND THE LENGTH SHALL BE AS SPECIFIED BELOW. THE LOCATION OF THESE LOOPS SHALL BE SUCH THAT THE POWERHEAD IS LOCATED AT THE STOP LINE, NOT PAST IT. ALL DILEMMA ZONE INDUCTANCE DETECTOR LOOPS CALLED FOR IN THE PLANS SHALL BE THE ANGULAR DESIGN DETECTION (ADD) LOOP AS SHOWN ON TC-82.10. DIMENSIONS SHALL BE AS SPECIFIED ON TC-82.10 AND THE LOOP SHALL BE PLACED AT THE SAME LOCATION AS THE EXISTING LOOPS.

THE QUANTITIES LISTED BELOW HAVE BEEN CARRIED TO THE GENERAL SUMMARY. THE NEW LOOP DETECTOR WIRES SHALL BE RUN INTO THE EXISTING CONTROL BOX OR THE EXISTING PULLBOX. INCLUDED IN THIS ITEM IS THE POURED EPOXY TYPE CABLE SPLICE KIT (CONFORMING TO 725.15E) THAT MUST BE USED IN MAKING THESE CONNECTIONS. ALL NECESSARY MATERIAL, LABOR, SPLICE KITS AND EQUIPMENT SHALL BE INCIDENTAL TO PAYMENT OF THESE ITEMS.

632 DETECTOR LOOP, AS PER PLAN, 5 EACH  
(5 EACH, POWERHEAD, BY 35 FT)

DESIGN AGENCY



DESIGNER

BFR

REVIEWER

MJA 06/15/21

PROJECT ID

91900

SHEET TOTAL

P.7 37

**ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN**

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS AVAILABLE ON THE OFFICE OF MATERIALS MANAGEMENT WEB PAGE. THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 800 FEET AND 650 FEET, RESPECTIVELY.

EACH SIGN SHALL BE TRAILER-MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM, TO DIM THE SIGN DURING DARKNESS, AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. THE PCMS SHALL BE DELINEATED IN ACCORDANCE WITH C&MS 614.03.

THE PROBABLE PCMS LOCATIONS AND WORK LIMITS FOR THOSE LOCATIONS ARE SHOWN ON SHEET(S) P.9-P.17 OF THE PLAN. PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS SHALL BE TURNED OFF. ADDITIONALLY, WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED AWAY FROM ALL TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ODOT PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT, AND TO REVISE SIGN MESSAGES, IF NECESSARY.

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PRE-PROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHALL BE SUPPORTED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST TWICE.

THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF C&MS 614.07. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS, WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS, TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS, INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC. THE ENTIRE COST TO CONTROL TRAFFIC, ACCRUED BY THE DEPARTMENT DUE TO THE CONTRACTOR'S NONCOMPLIANCE, WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24-HOUR-PER-DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN 60 SIGN MONTH ASSUMING 60 PCMS SIGN(S) FOR 1 MONTH(S)

**ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS**

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF C&MS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

DURING A TRAFFIC SIGNAL INSTALLATION WHEN IMPACTING THE NORMAL FUNCTION OF THE SIGNAL OR THE FLOW OF TRAFFIC, OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G., DIRECTING MOTORISTS THROUGH A RED LIGHT).

IN ADDITION TO THE REQUIREMENT OF C&MS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS AS APPROVED BY THE ENGINEER:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP).

FOR OPERATIONS WITHOUT POSITIVE PROTECTION OCCURRING WITHIN 10 FEET OF AN OPEN TRAVELED LANE THAT MEET ALL OF THE FOLLOWING CRITERIA:

- ON A MULTI-LANE DIVIDED INTERSTATE, OTHER FREEWAY OR EXPRESSWAY; AND
- AN AUTHORIZED SPEED LIMIT OF 45 MPH OR GREATER THAT IS IN EFFECT AT THE TIME OF THE OPERATION; AND,
- AADT OF 50,000 (OR AADT OF 30,000 WITH 25% OR HIGHER PERCENT TRUCKS)

"WITHOUT POSITIVE PROTECTION" MEANS USE OF DRUMS, CONES, SHADOW VEHICLE, ETC, WITHOUT PROTECTION FROM PORTABLE BARRIER OR OTHER RIGID BARRIER ALONG THE WORK AREA. THIS PHRASE DOES NOT APPLY TO CASES WHERE POSITIVE PROTECTION IS REQUIRED. MOBILE OPERATIONS ARE REGARDED AS "WITHOUT POSITIVE PROTECTION". FOR WORK ZONES USING A COMBINATION OF BARRIER AND TEMPORARY TRAFFIC CONTROL DEVICES (CONES, DRUMS, ETC), THE DESIGNATION SHALL BE BASED UPON THE TYPE OF DEVICES USED IN THE AREA THAT WORKERS ARE LOCATED.

IF MULTIPLE ACTIVE LOCALIZED QUALIFYING WORK AREAS OCCUR WITHOUT POSITIVE PROTECTION, PER MAINLINE TRAFFIC DIRECTION, PROVIDE A UNIFORMED LEO AND OFFICIAL PATROL CAR IN ADVANCE OF:

- THE FIRST ACTIVE WORK AREA THAT DRIVERS WILL ENCOUNTER; OR
  - THE ACTIVE WORK AREA LATERALLY CLOSEST TO THE OPEN TRAVELED LANE; OR
  - OTHER LOCATION AS APPROVED BY THE ENGINEER.
- THE UNIFORMED LEO AND OFFICIAL PATROL CAR MAY RELOCATE AMONG THE LISTED LOCATIONS AS APPROPRIATE AS THE OPERATIONS PROCEED IN THE LOCALIZED QUALIFYING WORK AREAS.

IN GENERAL, LEOS SHOULD BE POSITIONED IN ADVANCE OF AND ON THE SAME SIDE AS THE LANE RESTRICTION (OR AT THE POINT OF ROAD CLOSURE), AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH SIGNALIZED INTERSECTIONS IN WORK ZONES.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

ENSURE PROVIDED LEOS HAVE BEEN TRAINED APPROPRIATE TO THE JOB DECISIONS THEY ARE REQUIRED TO MAKE WHILE ON THE PROJECT, IN ACCORDANCE WITH C&MS 614.03.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE THAT SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 150 HOURS

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF A LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

DESIGN AGENCY



DESIGNER  
BFR

REVIEWER  
MJA 06/15/21

PROJECT ID  
91900

SHEET TOTAL  
P.8 | 37



**IR 680 / SR 193 RAMP CLOSURES**

RAMP	PROPOSED WORK	PERMITTED CLOSURE TIMES	DURATION	DETOUR ROUTE	APPROX. NUMBER OF PCMS	ADDITIONAL RESTRICTIONS	SEE SHEET
RAMP C SR 193 WB TO IR 680 SB	MAH-193-0020 DECK SEALING & RAMP PAVING	7:00 PM TO 6:00AM WEEKLY	4 NIGHTS	IR 680 NB / WELLINGTON / BELLE VISTA / OAKWOOD	2	NONE	P.11
RAMP C3 IR 680 SB TO SR 193 EB	MAH-193-0020 DECK SEALING & RAMP PAVING	7:00 PM TO 6:00AM WEEKLY	4 NIGHTS	IR 680 SB / EDWARDS ST / MARSHALL ST / IR 680 NB	3	NONE	P.11

**SR 193 / CRESCENT ST RAMP CLOSURES**

RAMP	PROPOSED WORK	PERMITTED CLOSURE TIMES	DURATION	DETOUR ROUTE	APPROX. NUMBER OF PCMS	ADDITIONAL RESTRICTIONS	SEE SHEET
RAMP E CRESCENT ST TO SR 193 WB	MAH-193-0056 DECK PATCHING, DECK SEALING	7:00 PM TO 6:00AM WEEKLY	2 NIGHTS	RAYEN / MLK JR BLVD (US422/SR289)	4	NONE	P.12
RAMP F SR 193 EB TO CRESCENT ST	MAH-193-0056 DECK PATCHING, DECK SEALING	7:00 PM TO 6:00AM WEEKLY	2 NIGHTS	SR 193 EB / US 422 WB / WORTHINGTON / RAYEN	4	NONE	P.12
RAMP G SR 193 WB TO CRESCENT ST	MAH-193-0073 DECK SEALING BACKWALL REPAIR	7:00 PM FRIDAY TO 6:00AM MONDAY	3 DAYS	US 422 WB / WORTHINGTON / RAYEN	2	NONE	P.12
RAMP H CRESCENT ST TO SR 193 EB	MAH-193-0073 DECK SEALING	7:00 PM TO 6:00AM WEEKLY	1 NIGHT	RAYEN / MLK JR BLVD (US422/SR289)	4	NONE	P.12

**US 422 / SR 193 / SR 289 (MLK JR BLVD) RAMP CLOSURES**

RAMP	PROPOSED WORK	PERMITTED CLOSURE TIMES	DURATION	DETOUR ROUTE	APPROX. NUMBER OF PCMS	ADDITIONAL RESTRICTIONS	SEE SHEET
RAMP J SR 193 EB TO US 422 (MLK JR BLVD)	MAH-193-0073 DECK SEALING	7:00 PM TO 6:00AM WEEKLY	1 NIGHT	US 422 EB / BELMONT / US 422 WB	2	RAMP J SHALL NOT BE CLOSED SIMULTANEOUSLY BELMONT AVE RAMP D	P.13
RAMP K US422 (MLK JR BLVD) TO SR 193 WB	MAH-193-0073 DECK SEALING BACKWALL REPAIR	FRIDAY 7:00 PM TO MONDAY 6:00AM	3 DAYS	US 422 EB / WIRT / MADISON / BELMONT / US 422 WB	3	RAMP K SHALL NOT BE CLOSED SIMULTANEOUSLY BELMONT AVE RAMP D	P.13

**BELMONT AVE / US 422 RAMP CLOSURES**

RAMP	PROPOSED WORK	PERMITTED CLOSURE TIMES	DURATION	DETOUR ROUTE	APPROX. NUMBER OF PCMS	ADDITIONAL RESTRICTIONS	SEE SHEET
RAMP D BELMONT AVE TO US 422 WB	MAH-193-0107 DECK PATCH, SEAL, BACKWALL REPAIR	FRIDAY 7:00 PM TO MONDAY 6:00AM	3 DAYS	HAYMAN ST / PARK AVE / SR 193 WB	3	RAMP D SHALL NOT BE CLOSED SIMULTANEOUSLY WITH WICK AVE RAMP D, 422/193/289 RAMP K & RAMP J	P.17

**5TH AVE / US 422 RAMP CLOSURES**

RAMP	PROPOSED WORK	PERMITTED CLOSURE TIMES	DURATION	DETOUR ROUTE	APPROX. NUMBER OF PCMS	ADDITIONAL RESTRICTIONS	SEE SHEET
RAMP A 5TH AVE TO US 422 EB	CONCRETE PAVEMENT REPAIRS	7:00 PM TO 6:00AM WEEKLY	1 NIGHT	SERVICE RD / WICK AVE RAMP E	1	RAMP A SHALL NOT BE CLOSED SIMULTANEOUSLY WITH WICK AVE RAMP E	P.13
RAMP B US 422 WB TO 5TH AVE	CONCRETE PAVEMENT REPAIRS	7:00 PM TO 6:00AM WEEKLY	1 NIGHT	SERVICE RD / ELM ST / MADISON AVE	3	RAMP B SHALL NOT BE CLOSED SIMULTANEOUSLY WITH WICK AVE RAMP F	P.13

\* CPR - CONCRETE PAVEMENT REPAIRS

FOR ALL RAMPS PLACE PCMS AT 2  
LOCATIONS 3 DAYS PRIOR TO CLOSURE

PORTABLE CHANGABLE MESSAGE  
SIGN MESSAGES:

- 1) RAMP TO  
TO CLOSE  
(DATES/TIMES)
- 2)

PLACE ALONG WITH  
NOTICE OF CLOSURE  
SIGN SHOWN ON  
SHEET P.7

DESIGN AGENCY



DESIGNER

BFR

REVIEWER

MJA 06/15/21

PROJECT ID

91900

SHEET

P.9

TOTAL

37

**WICK AVE / US 422 RAMP CLOSURES**

RAMP	PROPOSED WORK	PERMITTED CLOSURE TIMES	DURATION	DETOUR ROUTE	APPROX. NUMBER OF PCMS	ADDITIONAL RESTRICTIONS	SEE SHEET
RAMP C US 422 EB TO WICK AVE	CONCRETE PAVEMENT REPAIRS	7:00 PM TO 6:00AM WEEKLY	1 NIGHT	US 422 EB / SR 289 WB	2	RAMP C SHALL NOT BE CLOSED SIMULTANEOUSLY WITH US 422 EB SLM 3.68 TO SLM 3.90	P. 14
RAMP D WICK AVE TO US 422 WB	CONCRETE PAVEMENT REPAIRS	7:00 PM TO 6:00AM WEEKLY	1 NIGHT	SERVICE RD / ELM ST / MADISON AVE	2	RAMP D SHALL NOT BE CLOSED SIMULTANEOUSLY BELMONT AVE RAMP D	P. 14
RAMP E WICK AVE TO US 422 EB	MAH-422-0341 DECK SEALING, CPR	7:00 PM TO 6:00AM WEEKLY	2 NIGHTS	SERVICE RD / ANDREW AVE / RAYEN AVE / SR 289 EB	3	NONE	P. 14
RAMP F US 422 WB TO WICK AVE	CONCRETE PAVEMENT REPAIRS	7:00 PM TO 6:00AM WEEKLY	1 NIGHT	US 422 WB / 5TH AVE / SERVICE RD	2	RAMP F SHALL NOT BE CLOSED SIMULTANEOUSLY WITH 5TH AVE RAMP B	P. 14

**US 62 - SR 7 / US 422 RAMP CLOSURES**

RAMP	PROPOSED WORK	PERMITTED CLOSURE TIMES	DURATION	DETOUR ROUTE	APPROX. NUMBER OF PCMS	ADDITIONAL RESTRICTIONS	SEE SHEET
RAMP G US 422 EB TO US 62 SB	MAH-422-0351 DECK SEALING, CPR	7:00 PM TO 6:00AM WEEKLY	2 NIGHTS	US 422 EB / SR 289 / ALBERT ST	2	RAMP G SHALL NOT BE CLOSED SIMULTANEOUSLY WITH US 422 EB SLM 3.68 TO SLM 3.90	P. 15
RAMP H US 62 SB TO US 422 WB	MAH-422-0351 DECK SEALING, CPR	7:00 PM TO 6:00AM WEEKLY	2 NIGHTS	ALBERT ST / SR 289	2	RAMP H SHALL NOT BE CLOSED SIMULTANEOUSLY WITH US 422 WB SLM 3.68 TO SLM 3.90	P. 15
RAMP J US 62 NB TO US 422 WB	MULTI STRUCTURE DECK SEAL, AC OVERLAY, CPR, SHLD PAVING	FRIDAY 7:00 PM TO MONDAY 6:00AM	3 DAYS	US 62 NB / ALBERT ST / SR 289	2	RAMP J SHALL NOT BE CLOSED SIMULTANEOUSLY WITH US 422 WB SLM 3.68 TO SLM 3.90	P. 15
RAMP K US 422 EB TO US 62 NB	MULTI STRUCTURE DECK SEALING, CPR, SHLD PAVING	7:00 PM TO 6:00AM WEEKLY	4 NIGHTS	US 422 EB / SR 289 / ALBERT ST	2	RAMP K SHALL NOT BE CLOSED SIMULTANEOUSLY WITH US 422 EB SLM 3.68 TO SLM 3.90	P. 15

**US 422 EB/WB CLOSURES**

LOCATION	PROPOSED WORK	PERMITTED CLOSURE TIMES	DURATION	DETOUR ROUTE	APPROX. NUMBER OF PCMS	ADDITIONAL RESTRICTIONS	SEE SHEET
US 422 EB SLM 3.68 TO SLM 3.90	MAH-422-0361 DECK SEALING, CPR	7:00 PM FRIDAY TO 6:00AM MONDAY	3 NIGHTS	US 62 NB / ALBERT ST	2	US 422 EB SLM 3.68 TO SLM 3.90 SHALL NOT BE CLOSED SIMULTANEOUSLY WITH RAMPS C, G, K	P. 16
US 422 WB SLM 3.68 TO SLM 3.90	MAH-422-0361 DECK SEALING, CPR	7:00 PM FRIDAY TO 6:00AM MONDAY	3 NIGHTS	SR 289 / ALBERT ST / US 62 SB	3	US 422 WB SLM 3.68 TO SLM 3.90 SHALL NOT BE CLOSED SIMULTANEOUSLY WITH RAMPS H, J	P. 16

**IR 680 / US 62D RAMP CLOSURES**

RAMP	PROPOSED WORK	PERMITTED CLOSURE TIMES	DURATION	DETOUR ROUTE	APPROX. NUMBER OF PCMS	ADDITIONAL RESTRICTIONS	SEE SHEET
RAMP BX IR 680 SB TO US 62 EB	MAH-62D-0008R DECK SEALING	7:00 PM TO 6:00AM WEEKLY	1 NIGHT	IR 680 SB / SOUTH AVE / IR 680 NB	2	NONE	P. 17
RAMP BY US 62 WB TO IR 680 NB	MAH-62D-0008L DECK SEALING	7:00 PM TO 6:00AM WEEKLY	1 NIGHT	IR 680 SB / SOUTH AVE	3	CLOSE SIMULTANEOUSLY WITH RAMP CA	P. 17
RAMP CA US 62 WB TO WOODLAND AVE	MAH-62D-0008L DECK SEALING	7:00 PM TO 6:00AM WEEKLY	1 NIGHT	IR 680 SB / SR 7 / HADNETT DR	2	CLOSE SIMULTANEOUSLY WITH RAMP BY	P. 17

\* CPR - CONCRETE PAVEMENT REPAIRS

FOR ALL RAMPS PLACE PCMS AT 2 LOCATIONS 3 DAYS PRIOR TO CLOSURE

PORTABLE CHANGABLE MESSAGE SIGN MESSAGES:

- 1) RAMP TO  
TO CLOSE
- 2) (DATES/TIMES)

PLACE ALONG WITH NOTICE OF CLOSURE SIGN SHOWN ON SHEET P.7

DESIGN AGENCY



DESIGNER

BFR

REVIEWER

MJA 06/15/21





PROJECT ID

91900

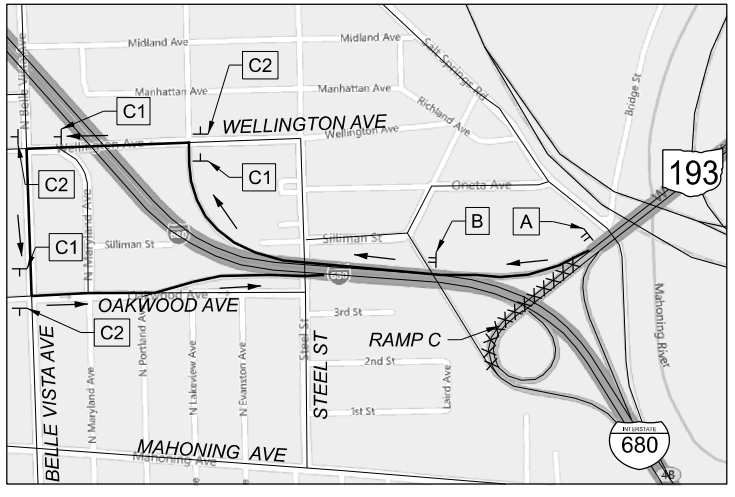
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P.10 37





DETOUR PLAN FOR RAMP C (SR 193 WB TO IR 680 SB)

- |  |  |   |   |
|--|--|---|---|
| <p><b>A</b> PORTABLE CHANGABLE MESSAGE SIGN MESSAGES:</p> <p>1) RAMP TO 680 S CLOSED</p> <p>2) DETOUR FOLLOW 680 N</p> | <p><b>B</b> PORTABLE CHANGABLE MESSAGE SIGN MESSAGES:</p> <p>1) 680 S DETOUR</p> <p>2) USE B VISTA AVE</p> | <p><b>C1</b> TO M4-5-24 SOUTH M3-3-24  M1-1-30-3  M5-1-21</p> | <p><b>C2</b> TO M4-5-24 SOUTH M3-3-24  M1-1-30-3  M6-1-21</p> |
|--|--|---|---|

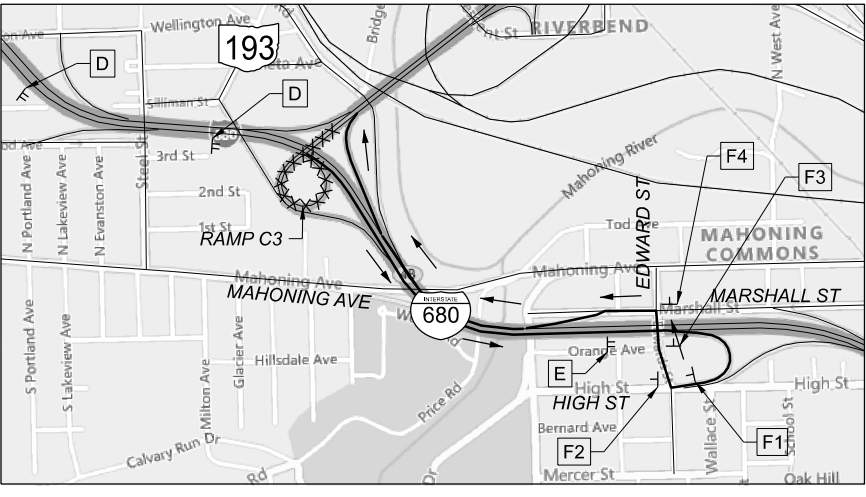
← RAMP C DETOUR ROUTE: IR 680 NB / WELLINGTON / BELLE VISTA / OAKWOOD  
 -X-X-X-X CLOSE RAMP C PER STD. DWG. MT-98.29




DETOUR PLAN FOR RAMP C3 (IR 680 SB TO SR 193 EB)

- |  |   |  |  |
|--|---|--|--|
| <p><b>D</b> PORTABLE CHANGABLE MESSAGE SIGN MESSAGES:</p> <p>1) RAMP TO 193 E CLOSED</p> <p>2) DETOUR FOLLOW 680 S</p> | <p><b>E</b> PORTABLE CHANGABLE MESSAGE SIGN MESSAGES:</p> <p>1) RAMP TO 193 E CLOSED</p> <p>2) USE GLENWOOD</p> | <p><b>F1</b> TO M4-5-24 EAST M3-2-24  M1-5-30-3  M5-1-21</p> | <p><b>F2</b> TO M4-5-24 EAST M3-2-24  M1-5-30-3  M6-1-21</p> |
|--|---|--|--|

← RAMP C3 DETOUR ROUTE: IR 680 SB / EDWARDS ST / MARSHALL ST / IR 680 NB  
 -X-X-X-X CLOSE RAMP C3 PER STD. DWG. MT-98.29



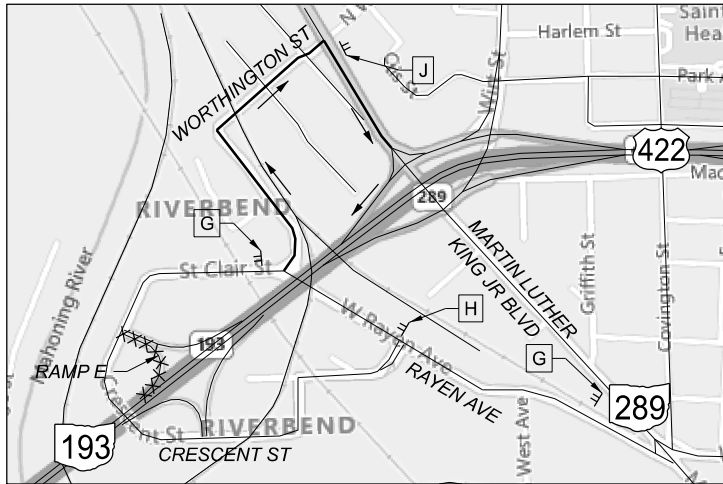
DETOUR PLAN

DESIGN AGENCY	
	
DESIGNER	BFR
REVIEWER	MJA 06/15/21
PROJECT ID	91900
SHEET	TOTAL
P.11	37

DETOUR PLAN FOR RAMP E (CRESCENT ST TO SR 193 WB)

- |   |   |  |
|---|---|--|
| <p><b>G</b> PORTABLE CHANGABLE MESSAGE SIGN MESSAGES:</p> <ol style="list-style-type: none"> <li>RAMP TO 193 W</li> <li>CLOSED AT CRESCENT</li> </ol> | <p><b>H</b> PORTABLE CHANGABLE MESSAGE SIGN MESSAGES:</p> <ol style="list-style-type: none"> <li>RAMP TO 193 W CLOSED</li> <li>DETOUR FOLLOW RAYEN N</li> </ol> | <p><b>J</b> PORTABLE CHANGABLE MESSAGE SIGN MESSAGES:</p> <ol style="list-style-type: none"> <li>193 W DETOUR</li> <li>FOLLOW MLK JR BLVD S</li> </ol> |
|---|---|--|

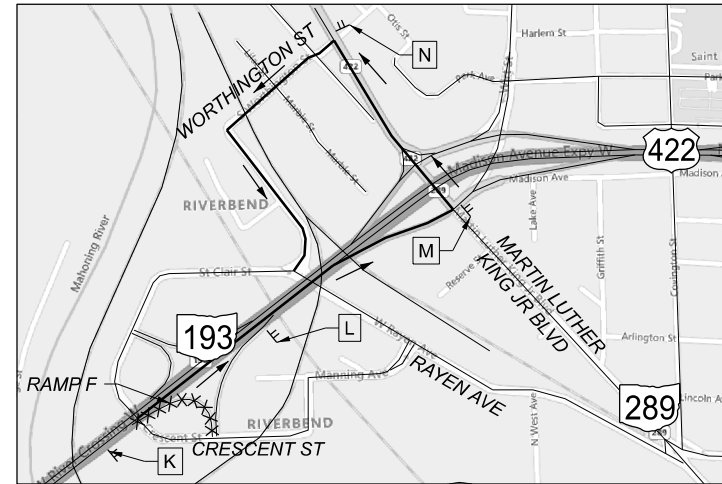
← RAMP E DETOUR ROUTE: RAYEN / MLK JR BLVD (US422/SR289)  
 -XXXX CLOSE RAMP E PER STD. DWG. MT-98.30



DETOUR PLAN FOR RAMP F (SR 193 EB TO CRESCENT)


- |  |   |  |
|--|---|--|
| <p><b>K</b> PORTABLE CHANGABLE MESSAGE SIGN MESSAGES:</p> <ol style="list-style-type: none"> <li>RAMP TO CRESCENT CLOSED</li> <li>DETOUR FOLLOW 422 E</li> </ol> | <p><b>L</b> PORTABLE CHANGABLE MESSAGE SIGN MESSAGES:</p> <ol style="list-style-type: none"> <li>CRESCENT ST DETOUR</li> <li>USE MLK JR BLVD</li> </ol> | <p><b>M</b> PORTABLE CHANGABLE MESSAGE SIGN MESSAGES:</p> <ol style="list-style-type: none"> <li>CRESCENT ST DETOUR</li> <li>FOLLOW MLK JR N TO WORTH</li> </ol> |
|--|---|--|

← RAMP F DETOUR ROUTE: SR 193 EB / US 422 WB / WORTHINGTON / RAYEN  
 -XXXX CLOSE RAMP F PER STD. DWG. MT-98.29

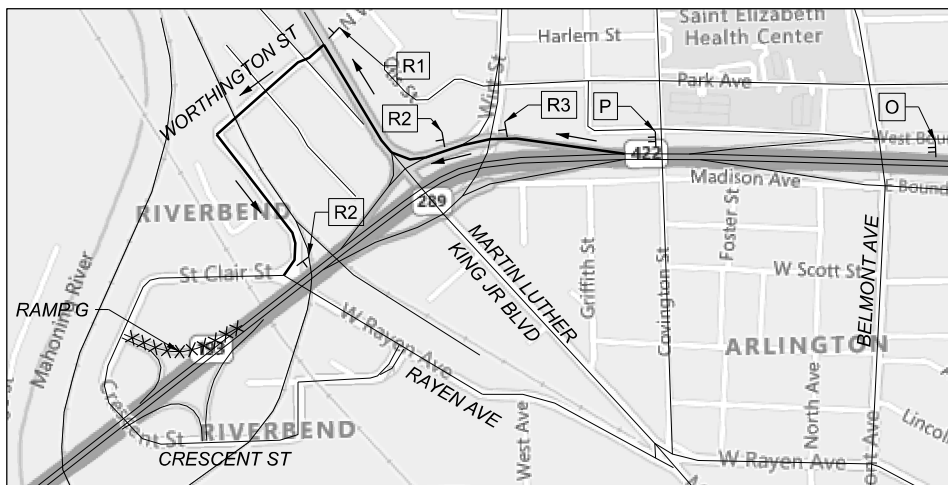



- N** PORTABLE CHANGABLE MESSAGE SIGN MESSAGES:
- CRESCENT ST DETOUR
  - FOLLOW WORTH S TO RAYEN


DETOUR PLAN FOR RAMP G (SR 193 WB TO CRESCENT ST)

- |   |   |  |
|---|---|--|
| <p><b>O</b> PORTABLE CHANGABLE MESSAGE SIGN MESSAGES:</p> <ol style="list-style-type: none"> <li>RAMP TO CRESCENT CLOSED</li> <li>DETOUR AHEAD</li> </ol> | <p><b>P</b> PORTABLE CHANGABLE MESSAGE SIGN MESSAGES:</p> <ol style="list-style-type: none"> <li>RAMP TO CRESCENT CLOSED</li> <li>DETOUR USE 422 W</li> </ol> | <p><b>R1</b> CRESCENT ST D3-1-VAR<br/> <br/>             M4-9L-30</p> |
|---|---|--|

← RAMP G DETOUR ROUTE: US 422 WB / WORTHINGTON / RAYEN  
 -XXXX CLOSE RAMP A PER STD. DWG. MT-98.29



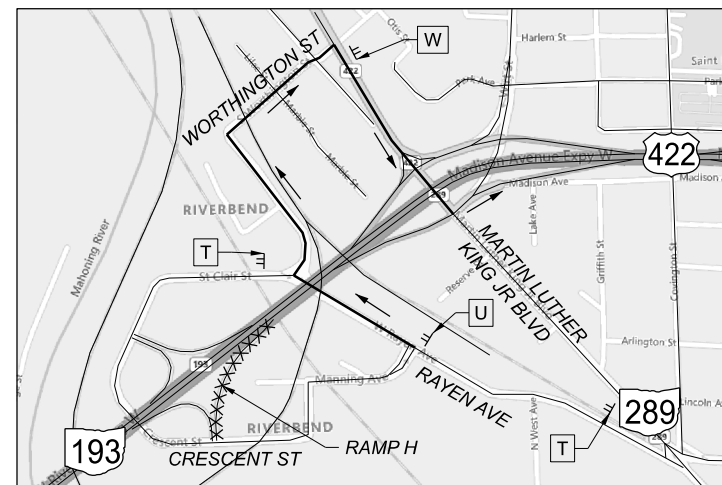
- R2** CRESCENT ST D3-1-VAR  
  
 M4-9R-30

- R3** CRESCENT ST D3-1-VAR  
  
 M4-9C-30

DETOUR PLAN FOR RAMP H (CRESCENT ST TO SR 193 EB)

- |   |   |  |
|---|---|--|
| <p><b>T</b> PORTABLE CHANGABLE MESSAGE SIGN MESSAGES:</p> <ol style="list-style-type: none"> <li>RAMP TO 193 E</li> <li>CLOSED AT CRESCENT</li> </ol> | <p><b>U</b> PORTABLE CHANGABLE MESSAGE SIGN MESSAGES:</p> <ol style="list-style-type: none"> <li>RAMP TO 193 E CLOSED</li> <li>DETOUR FOLLOW RAYEN N</li> </ol> | <p><b>W</b> PORTABLE CHANGABLE MESSAGE SIGN MESSAGES:</p> <ol style="list-style-type: none"> <li>RAMP TO 193 E DETOUR</li> <li>FOLLOW MLK JR BLVD S</li> </ol> |
|---|---|--|

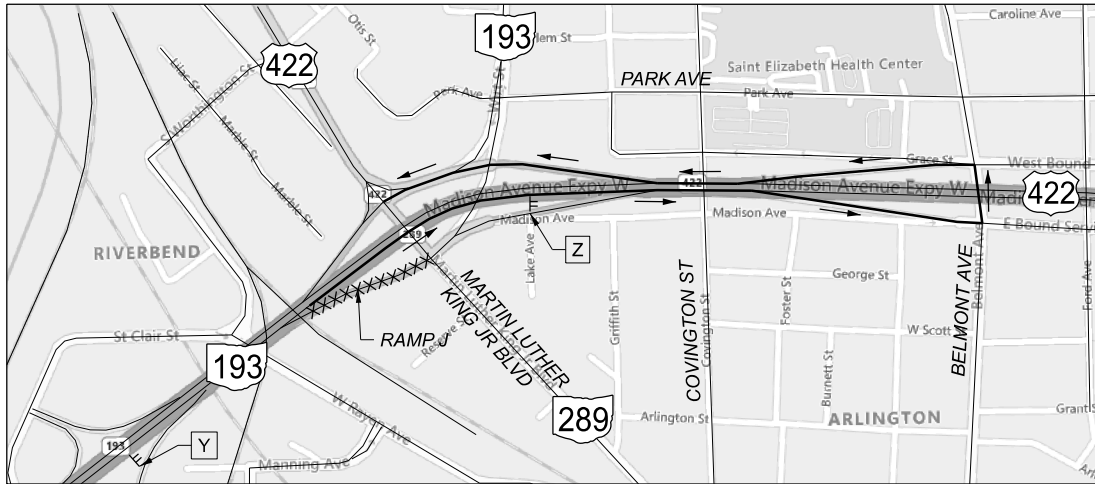
← RAMP H DETOUR ROUTE: RAYEN / MLK JR BLVD (US422/SR289)  
 -XXXX CLOSE RAMP H PER STD. DWG. MT-98.30









DETOUR PLAN FOR RAMP J (SR 193 EB TO 422/289/193)

- |  |  |
|--|--|
| <p><b>Y</b> PORTABLE CHANGABLE MESSAGE<br/>SIGN MESSAGES:</p> <ol style="list-style-type: none"> <li>RAMP TO<br/>MLK JR<br/>CLOSED</li> <li>DETOUR<br/>FOLLOW<br/>422 E</li> </ol> | <p><b>Z</b> PORTABLE CHANGABLE MESSAGE<br/>SIGN MESSAGES:</p> <ol style="list-style-type: none"> <li>MLK JR<br/>BLVD<br/>DETOUR</li> <li>FOLLOW<br/>BELMNT N<br/>TO 422 W</li> </ol> |
|--|--|

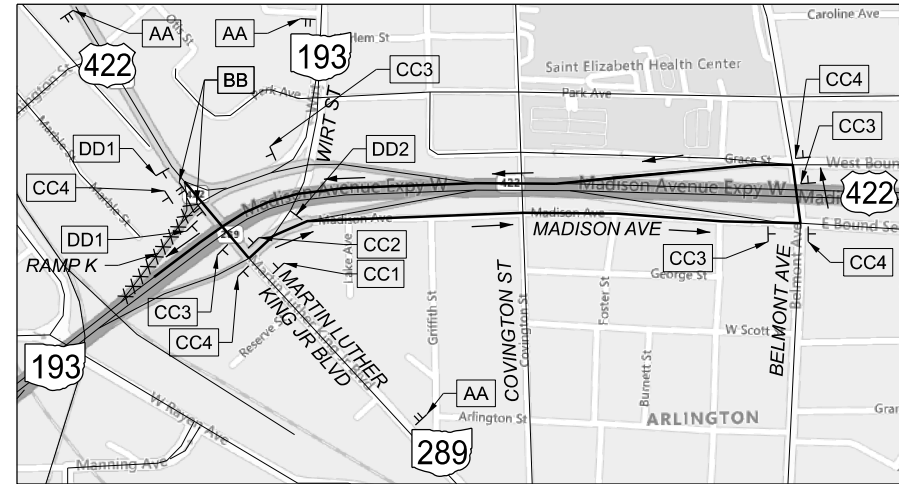
← RAMP J DETOUR ROUTE: US 422 EB / BELMONT / US 422 WB  
 -X-X-X-X CLOSE RAMP J PER STD. DWG. MT-98.29



DETOUR PLAN FOR RAMP K (422/289/193 TO SR 193 WB)

- |   |  |   |
|---|--|---|
| <p><b>AA</b> PORTABLE CHANGABLE MESSAGE<br/>SIGN MESSAGES:</p> <ol style="list-style-type: none"> <li>RAMP TO<br/>193 W<br/>CLOSED</li> <li>DETOUR<br/>AHEAD</li> </ol> | <p><b>BB</b> <br/>M4-10L-48<br/><br/>R11-2-48<br/>MOUNTED ON TYPE III BARRICADE<br/>WITH TYPE B FLASHING (YELLOW)<br/>WARNING LIGHTS</p> | <p><b>CC1</b> TO<br/>M4-5-24<br/>WEST<br/>M3-4-24<br/><br/>M1-5-30-3<br/><br/>M5-1-21</p> <p><b>CC2</b> TO<br/>M4-5-24<br/>WEST<br/>M3-4-24<br/><br/>M1-5-30-3<br/><br/>M6-1-21</p> |
|---|--|---|

← RAMP K DETOUR ROUTE: US 422 EB / WIRT / MADISON / BELMONT / US 422 WB  
 -X-X-X-X CLOSE RAMP K PER STD. DWG. MT-98.30



DETOUR PLAN

DETOUR PLAN FOR RAMP A (5TH AVE TO US 422 EB)

- EE** PORTABLE CHANGABLE MESSAGE  
SIGN MESSAGES:
- RAMP TO  
422 E  
CLOSED
  - DETOUR  
FOLLOW  
SRVC E

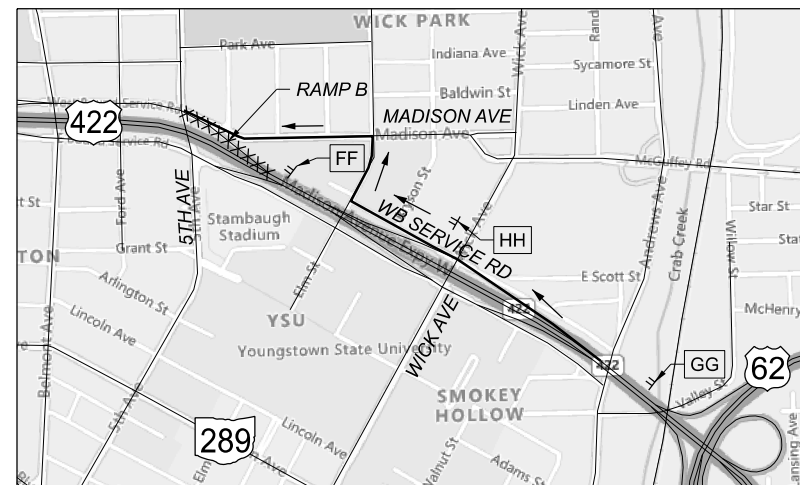
← RAMP A DETOUR ROUTE: SERVICE RD / WICK AVE RAMP E  
 -X-X-X-X CLOSE RAMP A PER STD. DWG. MT-98.30



DETOUR PLAN FOR RAMP B (US 422 WB TO 5TH AVE)

- |   |  |  |
|---|--|--|
| <p><b>FF</b> PORTABLE CHANGABLE MESSAGE<br/>SIGN MESSAGES:</p> <ol style="list-style-type: none"> <li>RAMP TO<br/>5TH AVE<br/>CLOSED</li> </ol> | <p><b>GG</b> PORTABLE CHANGABLE MESSAGE<br/>SIGN MESSAGES:</p> <ol style="list-style-type: none"> <li>RAMP TO<br/>5TH AVE<br/>CLOSED</li> <li>DETOUR<br/>USE<br/>WICK AVE</li> </ol> | <p><b>HH</b> PORTABLE CHANGABLE MESSAGE<br/>SIGN MESSAGES:</p> <ol style="list-style-type: none"> <li>5TH AVE<br/>DETOUR</li> <li>FOLLOW<br/>SRVC RD.<br/>W</li> </ol> |
|---|--|--|

← RAMP B DETOUR ROUTE: SERVICE RD / ELM ST / MADISON AVE  
 -X-X-X-X CLOSE RAMP B PER STD. DWG. MT-98.29

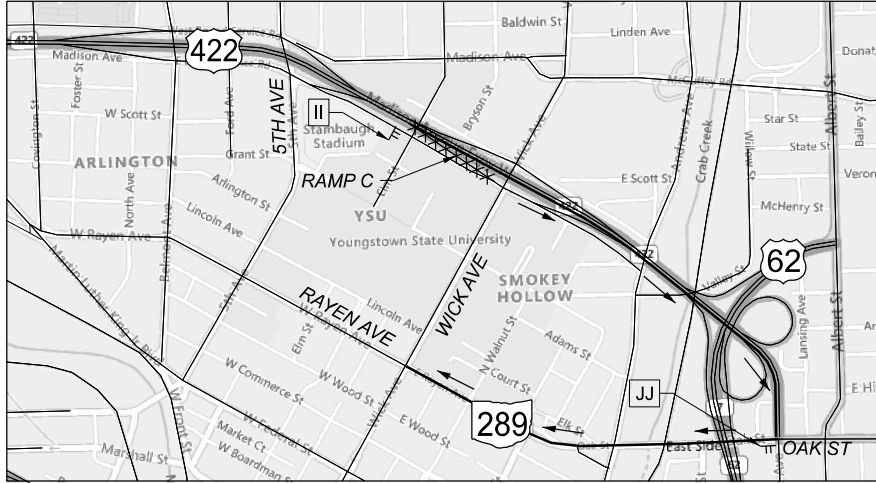


DESIGN AGENCY	
DESIGNER	BFR
REVIEWER	MJA 06/15/21
PROJECT ID	91900
SHEET TOTAL	P.13 37

DETOUR PLAN FOR RAMP C (US 422 EB TO WICK AVE)

- |   |  |
|---|--|
| <p><b>II</b> PORTABLE CHANGABLE MESSAGE<br/>SIGN MESSAGES:</p> <ol style="list-style-type: none"> <li>RAMP TO WICK AVE CLOSED</li> <li>DETOUR FOLLOW 422 W</li> </ol> | <p><b>JJ</b> PORTABLE CHANGABLE MESSAGE<br/>SIGN MESSAGES:</p> <ol style="list-style-type: none"> <li>WICK AVE DETOUR</li> <li>FOLLOW OAK W</li> </ol> |
|---|--|

← RAMP C DETOUR ROUTE: US 422 EB / SR 289 WB  
 -XXXX CLOSE RAMP C PER STD. DWG. MT-98.29



DETOUR PLAN FOR RAMP D (WICK AVE TO US 422 WB)

- |   |   |
|---|---|
| <p><b>KK</b> PORTABLE CHANGABLE MESSAGE<br/>SIGN MESSAGES:</p> <ol style="list-style-type: none"> <li>RAMP TO 422 W CLOSED</li> <li>DETOUR FOLLOW SRVC W</li> </ol> | <p><b>LL</b> PORTABLE CHANGABLE MESSAGE<br/>SIGN MESSAGES:</p> <ol style="list-style-type: none"> <li>422 W DETOUR</li> <li>FOLLOW ELM N TO MADISN W</li> </ol> |
|---|---|

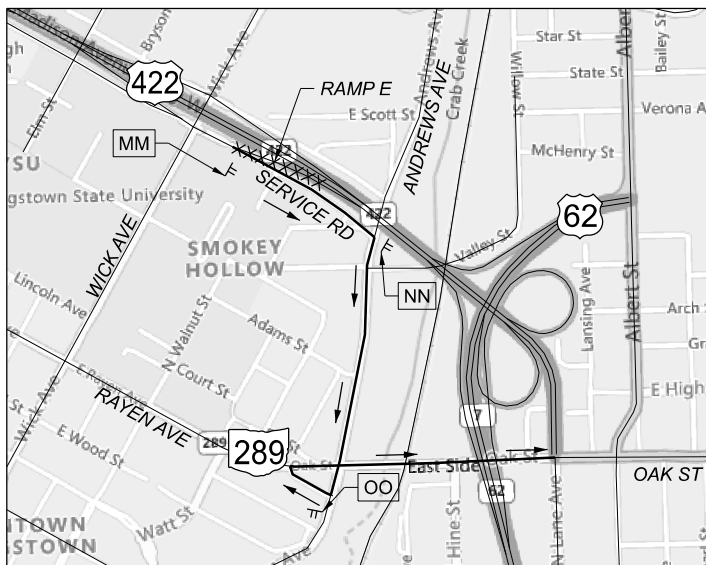
← RAMP D DETOUR ROUTE: SERVICE RD / ELM ST / MADISON AVE  
 -XXXX CLOSE RAMP D PER STD. DWG. MT-98.30



DETOUR PLAN FOR RAMP E (WICK AVE TO US 422 EB)

- |   |
|---|
| <p><b>MM</b> PORTABLE CHANGABLE MESSAGE<br/>SIGN MESSAGES:</p> <ol style="list-style-type: none"> <li>RAMP TO 422 E CLOSED</li> <li>DETOUR FOLLOW SRVC E</li> </ol> |
|---|

← RAMP E DETOUR ROUTE: SERVICE RD / ANDREW AVE / RAYEN AVE / SR 289 EB  
 -XXXX CLOSE RAMP E PER STD. DWG. MT-98.30



- |   |
|---|
| <p><b>NN</b> PORTABLE CHANGABLE MESSAGE<br/>SIGN MESSAGES:</p> <ol style="list-style-type: none"> <li>422 E DETOUR</li> <li>FOLLOW ANDRW S RAYEN</li> </ol> |
|---|

- |  |
|--|
| <p><b>OO</b> PORTABLE CHANGABLE MESSAGE<br/>SIGN MESSAGES:</p> <ol style="list-style-type: none"> <li>422 E DETOUR</li> <li>FOLLOW RAYEN TO OAK E</li> </ol> |
|--|

DETOUR PLAN FOR RAMP F (US 422 WB TO WICK AVE)

- |   |   |  |
|---|---|--|
| <p><b>PP</b> PORTABLE CHANGABLE MESSAGE<br/>SIGN MESSAGES:</p> <ol style="list-style-type: none"> <li>RAMP TO WICK AVE CLOSED</li> <li>DETOUR FOLLOW 422 W</li> </ol> | <p><b>RR</b> PORTABLE CHANGABLE MESSAGE<br/>SIGN MESSAGES:</p> <ol style="list-style-type: none"> <li>RAMP TO WICK AVE DETOUR</li> <li>USE 5TH AVE</li> </ol> | <p><b>SS</b> PORTABLE CHANGABLE MESSAGE<br/>SIGN MESSAGES:</p> <ol style="list-style-type: none"> <li>WICK AVE DETOUR</li> <li>FOLLOW 5TH S TO SRVC E</li> </ol> |
|---|---|--|

← RAMP F DETOUR ROUTE: US 422 WB / 5TH AVE / SERVICE RD  
 -XXXX CLOSE RAMP F PER STD. DWG. MT-98.29



MAH/TRU-422/VAR-1.90/VAR

MODEL: Sheet 3 PAPER SIZE: 17x11 (in.) DATE: 7/22/2021 TIME: 10:15:38 AM USER: bross1 pvc\ohio\dot-pw-bentley.com\shahdot-pw-02\Documents\01 Active Projects\Distict 04\Main\91900\400-Engineering\MOT\Sheets\91900\_MDD001.dgn

DETOUR PLAN

DESIGN AGENCY



DESIGNER  
BFR

REVIEWER  
MJA 06/15/21

PROJECT ID  
91900

SHEET TOTAL  
P.14 37

DETOUR PLAN FOR RAMP G (US 422 EB TO US 62 SB)

- |  |  |
|--|--|
| <b>TT</b> PORTABLE CHANGABLE MESSAGE<br>SIGN MESSAGES: | <b>UU</b> PORTABLE CHANGABLE MESSAGE<br>SIGN MESSAGES: |
| 1) RAMP TO<br>62 S<br>CLOSED                           | 1) 62 S<br>DETOUR                                      |
| 2) DETOUR<br>FOLLOW<br>422 E                           | 2) FOLLOW<br>OAK E TO<br>FRUIT N                       |

← RAMP G DETOUR ROUTE: US 422 EB / SR 289 / ALBERT ST  
 -XXXX CLOSE RAMP G PER STD. DWG. MT-98.29



DETOUR PLAN FOR RAMP H (US 62 SB TO US 422 WB)

- |  |  |
|--|--|
| <b>WW</b> PORTABLE CHANGABLE MESSAGE<br>SIGN MESSAGES: | <b>XX</b> PORTABLE CHANGABLE MESSAGE<br>SIGN MESSAGES: |
| 1) RAMP TO<br>422 W<br>CLOSED                          | 1) 422 W<br>DETOUR                                     |
| 2) DETOUR<br>FOLLOW<br>ALBERT S                        | 2) FOLLOW<br>OAK W                                     |

← RAMP H DETOUR ROUTE: ALBERT ST / SR 289  
 -XXXX CLOSE RAMP H PER STD. DWG. MT-98.29



DETOUR PLAN FOR RAMP J (US 62 NB TO US 422 WB)

- |   |   |
|---|---|
| <b>YY1</b> PORTABLE CHANGABLE MESSAGE<br>SIGN MESSAGES: | <b>YY2</b> PORTABLE CHANGABLE MESSAGE<br>SIGN MESSAGES: |
| 1) RAMP TO<br>422 W<br>CLOSED                           | 1) RAMP TO<br>422 W<br>CLOSED                           |
| 2) DETOUR<br>AHEAD                                      | 2) DETOUR<br>FOLLOW<br>62 N                             |

← RAMP J DETOUR ROUTE: US 62 NB / ALBERT ST / SR 289  
 -XXXX CLOSE RAMP J PER STD. DWG. MT-98.29



- |   |   |
|---|---|
| <b>ZZ1</b> TO<br>M4-5-24<br>WEST<br>M3-4-24 | <b>ZZ2</b> TO<br>M4-5-24<br>WEST<br>M3-4-24 |
| <b>422</b><br>M1-4-30-3                     | <b>422</b><br>M1-4-30-3                     |
| <b>→</b><br>M5-1-21                         | <b>→</b><br>M6-1-21                         |

DETOUR PLAN FOR RAMP K (US 422 EB TO US 62 NB)

- |   |   |
|---|---|
| <b>AAA</b> PORTABLE CHANGABLE MESSAGE<br>SIGN MESSAGES: | <b>BBB</b> PORTABLE CHANGABLE MESSAGE<br>SIGN MESSAGES: |
| 1) RAMP TO<br>62 N<br>CLOSED                            | 1) 62 N<br>DETOUR                                       |
| 2) DETOUR<br>FOLLOW<br>422 E                            | 2) FOLLOW<br>OAK E TO<br>FRUIT N                        |

← RAMP K DETOUR ROUTE: US 422 EB / SR 289 / ALBERT ST  
 -XXXX CLOSE RAMP K PER STD. DWG. MT-98.29



DETOUR PLAN FOR US 422 EB (SLM 3.68 TO SLM 3.90)

- |            |  |             |   |             |   |
|------------|--|-------------|---|-------------|---|
| <b>CCC</b> | PORTABLE CHANGABLE MESSAGE<br>SIGN MESSAGES:<br>1) 422 E<br>CLOSED<br>AHEAD<br>2) DETOUR<br>FOLLOW<br>62 N | <b>DDD1</b> | TO<br>M4-5-24<br>EAST<br>M3-2-24<br>422<br>M1-4-30-3<br>M5-1-21 | <b>DDD2</b> | TO<br>M4-5-24<br>EAST<br>M3-2-24<br>422<br>M1-4-30-3<br>M6-1-21 |
|------------|--|-------------|---|-------------|---|

← US 422 EB DETOUR ROUTE: US 62 NB / ALBERT ST  
 -XXXX CLOSE US 422 EB PER STD. DWG. MT-98.29



DETOUR PLAN FOR US 422 WB (SLM 3.68 TO SLM 3.90)

- |            |  |            |   |           |   |           |   |
|------------|--|------------|---|-----------|---|-----------|---|
| <b>EEE</b> | PORTABLE CHANGABLE MESSAGE<br>SIGN MESSAGES:<br>1) 422 W<br>CLOSED<br>2) DETOUR<br>AHEAD | <b>FFF</b> | DETOUR<br>ROAD CLOSED<br>R11-2-48<br>MOUNTED ON TYPE III BARRICADE<br>WITH TYPE B FLASHING (YELLOW)<br>WARNING LIGHTS | <b>G1</b> | TO<br>M4-5-24<br>WEST<br>M3-4-24<br>422<br>M1-4-30-3<br>M5-1-21 | <b>G2</b> | TO<br>M4-5-24<br>WEST<br>M3-4-24<br>422<br>M1-4-30-3<br>M6-1-21 |
|------------|--|------------|---|-----------|---|-----------|---|

← US 422 WB DETOUR ROUTE: SR 289 / ALBERT ST / US 62 SB  
 -XXXX CLOSE US 422 WB PER STD. DWG. MT-98.30



- |           |   |           |   |           |   |
|-----------|---|-----------|---|-----------|---|
| <b>G3</b> | TO<br>M4-5-24<br>WEST<br>M3-4-24<br>422<br>M1-4-30-3<br>M5-1-21 | <b>G4</b> | TO<br>M4-5-24<br>WEST<br>M3-4-24<br>422<br>M1-4-30-3<br>M6-1-21 | <b>G5</b> | TO<br>M4-5-24<br>WEST<br>M3-4-24<br>422<br>M1-4-30-3<br>M6-3-21 |
|-----------|---|-----------|---|-----------|---|

DETOUR PLAN

DESIGN AGENCY	
DESIGNER	BFR
REVIEWER	MJA 06/15/21
PROJECT ID	91900
SHEET	TOTAL
P.16	37



DETOUR PLAN FOR RAMP BX (IR 680 SB TO US 62 EB)

- |   |   |
|---|---|
| <b>HHH</b> PORTABLE CHANGABLE MESSAGE<br>SIGN MESSAGES: | <b>III</b> PORTABLE CHANGABLE MESSAGE<br>SIGN MESSAGES: |
| 1) RAMP TO<br>62 E<br>CLOSED                            | 1) 62 E<br>DETOUR                                       |
| 2) DETOUR<br>FOLLOW<br>680 S                            | 2) FOLLOW<br>SOUTH AV<br>TO 680 N                       |



← RAMP BX DETOUR ROUTE: IR 680 SB / SOUTH AVE / IR 680 NB  
 -XXXX- CLOSE RAMP BX PER STD. DWG. MT-98.29



NOT TO SCALE

DETOUR PLAN FOR RAMP BY (US 62 WB TO IR 680 NB)

- |   |   |   |
|---|---|---|
| <b>JJJ</b> PORTABLE CHANGABLE MESSAGE<br>SIGN MESSAGES: | <b>LLL</b> PORTABLE CHANGABLE MESSAGE<br>SIGN MESSAGES: | <b>MMM</b> PORTABLE CHANGABLE MESSAGE<br>SIGN MESSAGES: |
| 1) RAMP TO<br>680 N AND<br>WOODLAND                     | 1) 680 N<br>DETOUR<br>USE 680S                          | 1) 680 N<br>DETOUR                                      |
| 2) CLOSED<br>AHEAD                                      | 2) WOODLAND<br>DETOUR<br>USE SR 7                       | 2) FOLLOW<br>SOUTH AV<br>TO 680 N                       |



← RAMP BY DETOUR ROUTE: IR 680 SB / SOUTH AVE  
 -XXXX- CLOSE RAMP BY PER STD. DWG. MT-98.29



NOT TO SCALE

DETOUR PLAN FOR RAMP CA (US 62 WB TO WOODLAND AVE)

- |   |   |
|---|---|
| <b>NNN</b> PORTABLE CHANGABLE MESSAGE<br>SIGN MESSAGES: | <b>OOO</b> PORTABLE CHANGABLE MESSAGE<br>SIGN MESSAGES: |
| 1) WOODLAND<br>AVE<br>DETOUR                            | 1) WOODLAND<br>AVE<br>DETOUR                            |
| 2) FOLLOW<br>WILLIAMS<br>AVE E                          | 2) FOLLOW<br>SR7 N TO<br>HADNET W                       |



← RAMP CA DETOUR ROUTE: IR 680 SB / SR 7 / HADNETT DR  
 -XXXX- CLOSE RAMP CA PER STD. DWG. MT-98.29



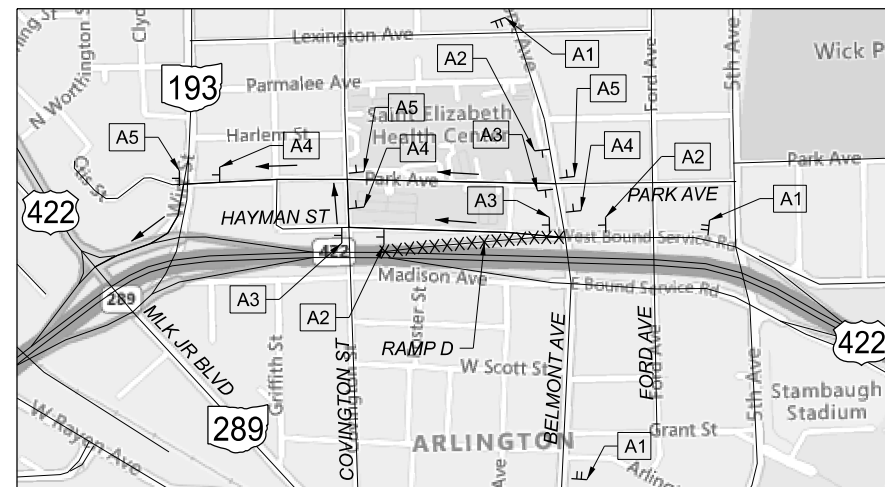
NOT TO SCALE

DETOUR PLAN FOR RAMP D (BELMONT AVE TO US 422 WB)

- |  |   |   |   |   |
|--|---|---|---|---|
| <b>A1</b> PORTABLE CHANGABLE MESSAGE<br>SIGN MESSAGES: | <b>A2</b> TO<br>M4-5-24<br>WEST<br>M3-4-24<br>422<br>M1-4-30-3<br>M5-1-21 | <b>A3</b> TO<br>M4-5-24<br>WEST<br>M3-4-24<br>422<br>M1-4-30-3<br>M6-1-21 | <b>A4</b> TO<br>M4-5-24<br>WEST<br>M3-4-24<br>422<br>M1-4-30-3<br>M5-1-21 | <b>A5</b> TO<br>M4-5-24<br>WEST<br>M3-4-24<br>422<br>M1-4-30-3<br>M6-1-21 |
| 1) RAMP TO<br>422 W<br>CLOSED                          |   |   |   |   |
| 2) DETOUR<br>AHEAD                                     |   |   |   |   |

← RAMP D DETOUR ROUTE: HAYMAN ST / PARK AVE / SR 193 WB

-XXXX- CLOSE RAMP D PER STD. DWG. MT-98.30



NOT TO SCALE

DETOUR PLAN

MAH/TRU-422/VAR-1.90/VAR

MODEL: Sheet SA PAPER SIZE: 17x11 (in.) DATE: 7/22/2021 TIME: 10:14:06 AM USER: bross1 pvc\ohiohd-pw.bentley.com\shahod-pw-02\Documents\01 Active Projects\Distct c4\Maining\91900\400-Engineering\MOT\Sheets\91900\_MDD001.dgn

DESIGN AGENCY




DESIGNER  
BFR  
 REVIEWER  
MJA 06/15/21  
 PROJECT ID  
91900  
 SHEET TOTAL  
P.17 37

SHEET NUM.								PART.						ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
4	5	20	21	22	23	24	25	01/NHS/P V	02/NHS/P V/YOUN	03/S>2/P V/YOUN	04/S>2/P V/WARR	06/NHS/B R	08/S>2/O T/WARR						
<b>ROADWAY</b>																			
	87.5													87.5	202	38000	87.5	FT	GUARDRAIL REMOVED
676								376		50	250				203	10000	676	CY	EXCAVATION
	348							348							209	60200	348	STA	LINEAR GRADING
		51	25	127				203							209	72000	203	STA	PREPARING SUBGRADE FOR SHOULDER PAVING
	37.5													37.5	606	15050	37.5	FT	GUARDRAIL, TYPE MGS
	1													1	606	26150	1	EACH	ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)
	1							1							SPECIAL	69098000	1	EACH	VERTICAL CLEARANCE
<b>EROSION CONTROL</b>																			
	9,667							9,667							659	10000	9,667	SY	SEEDING AND MULCHING
	1.3							1.3							659	20000	1.3	TON	COMMERCIAL FERTILIZER
	2							2							659	31000	2	ACRE	LIME
	52.2							52.2							659	35000	52.2	MGAL	WATER
								3,000							832	30000	3,000	EACH	EROSION CONTROL
<b>DRAINAGE</b>																			
	6							6							611	98630	6	EACH	CATCH BASIN ADJUSTED TO GRADE
	2												2		611	98634	2	EACH	CATCH BASIN RECONSTRUCTED TO GRADE
	2								2						611	99655	2	EACH	MANHOLE ADJUSTED TO GRADE, AS PER PLAN
<b>PAVEMENT</b>																			
			15,588		5,462			21,050							254	01000	21,050	SY	PAVEMENT PLANING, ASPHALT CONCRETE (T=1.5")
		23,186	11,869	30,713				65,204	564						254	01000	65,768	SY	PAVEMENT PLANING, ASPHALT CONCRETE (T=3.25")
4,050								2,250		300	1,500				255	10501	4,050	SY	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS RRCM, AS PER PLAN
16,350								9,000		1,350	6,000				255	20000	16,350	FT	FULL DEPTH PAVEMENT SAWING
1,000								450		100	450				258	10000	1,000	EACH	RETROFIT DOWEL BAR
676								376		50	250				304	20000	676	CY	AGGREGATE BASE
		3,479	3,185	4,608	492			11,679	85						407	20000	11,764	GAL	NON-TRACKING TACK COAT
		451	1,427	971	920			3,750	19						408	10001	3,769	GAL	PRIME COAT, AS PER PLAN
		1,221	649	2,020				3,839	51						442	00100	3,890	CY	ANTI-SEGREGATION EQUIPMENT
		967	1,144	1,280	228			3,595	24						442	10001	3,619	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN, PG70-22M
		1,128	577	1,493				3,170	28						442	10100	3,198	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)
		63	199	135	128			522	3						617	10101	525	CY	COMPACTED AGGREGATE, AS PER PLAN
		1,268	674	523				2,412	53						875	10000	2,465	LB	LONGITUDINAL JOINT ADHESIVE
<b>TRAFFIC CONTROL</b>																			
								357							621	00100	357	EACH	RPM
								270							621	54000	270	EACH	RAISED PAVEMENT MARKER REMOVED
	5													5	626	00110	5	EACH	BARRIER REFLECTOR, TYPE 2 (BI-DIRECTIONAL)
							7.9	2.54	9.34	0.08	0.3	0.5	0.22		646	10010	10.44	MILE	EDGE LINE, 6"
							4.03	0.29	3.3	0.04	0.25	0.5	0.23		646	10110	4.32	MILE	LANE LINE, 6"
															646	10200	0.36	MILE	CENTER LINE
								1,005	172		605		100	300	646	10300	1,177	FT	CHANNELIZING LINE, 8"
								5,150							646	10310	5,150	FT	CHANNELIZING LINE, 12"
								194	156			50	156		646	10400	350	FT	STOP LINE
								597				100			646	10500	597	FT	CROSSWALK LINE
								490							646	10600	490	FT	TRANSVERSE/DIAGONAL LINE
								80							646	10620	80	FT	CHEVRON MARKING
								16	3			4	3		646	20300	19	EACH	LANE ARROW
								10							646	20320	10	EACH	WRONG WAY ARROW
							3,540								646	20504	3,540	FT	DOTTED LINE, 6"

GENERAL SUMMARY

DESIGN AGENCY



DESIGNER  
BFR

REVIEWER  
MJA 06/15/21

PROJECT ID  
91900

SHEET TOTAL  
P.18 37

SHEET NUM.					PART.					ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
6	7	8	01/NHS/P V	02/NHS/P V/YOUN	03/S>2/P V/YOUN	04/S>2/P V/WARR	06/NHS/B R								
														<b>TRAFFIC SIGNALS</b>	
														DETECTOR LOOP, AS PER PLAN	7
														<b>STRUCTURE REPAIRS</b>	
														FOR MAH-193-0020 ESTIMATED QUANTITIES	30
														FOR MAH-193-0031 ESTIMATED QUANTITIES	32
														FOR MAH-193-0056 ESTIMATED QUANTITIES	32
														FOR MAH-193-0073 ESTIMATED QUANTITIES	32
														FOR MAH-193-0107 ESTIMATED QUANTITIES	30
														FOR MAH-422-0217 ESTIMATED QUANTITIES	31
														FOR MAH-422-0244 ESTIMATED QUANTITIES	31
														FOR MAH-422-0254 ESTIMATED QUANTITIES	31
														FOR MAH-422-0264 ESTIMATED QUANTITIES	31
														FOR MAH-422-0292 ESTIMATED QUANTITIES	31
														FOR MAH-422-0341 ESTIMATED QUANTITIES	31
														FOR MAH-422-0351 ESTIMATED QUANTITIES	32
														FOR MAH-422-0361 ESTIMATED QUANTITIES	32
														FOR MAH-62-1929R ESTIMATED QUANTITIES	30
														FOR MAH-62D-0008L ESTIMATED QUANTITIES	30
														FOR MAH-62D-0008R ESTIMATED QUANTITIES	30
														FOR TRU-422-1282 ESTIMATED QUANTITIES	32
														<b>MAINTENANCE OF TRAFFIC</b>	
														LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
														DETOUR SIGNING	
														WORK ZONE MARKING SIGN	
														ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
														PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	8
														WORK ZONE LANE LINE, CLASS I, 6"	
														WORK ZONE LANE LINE, CLASS I, 6", 642 PAINT	
														WORK ZONE LANE LINE, CLASS III, 6", 642 PAINT	
														WORK ZONE CENTER LINE, CLASS III, 642 PAINT	
														WORK ZONE EDGE LINE, CLASS III, 6", 642 PAINT	
														WORK ZONE CHANNELIZING LINE, CLASS I, 8"	
														WORK ZONE CHANNELIZING LINE, CLASS I, 12"	
														WORK ZONE CHANNELIZING LINE, CLASS I, 8", 642 PAINT	
														WORK ZONE CHANNELIZING LINE, CLASS I, 12", 642 PAINT	
														WORK ZONE CHANNELIZING LINE, CLASS III, 8", 642 PAINT	
														WORK ZONE CHANNELIZING LINE, CLASS III, 12", 642 PAINT	
														WORK ZONE STOP LINE, CLASS I	
														WORK ZONE STOP LINE, CLASS I, 642 PAINT	
														WORK ZONE STOP LINE, CLASS III, 642 PAINT	
														<b>INCIDENTALS</b>	
														MAINTAINING TRAFFIC	
														FIELD OFFICE, TYPE B	
														CONSTRUCTION LAYOUT STAKES AND SURVEYING	
														MOBILIZATION	

GENERAL SUMMARY

DESIGN AGENCY



DESIGNER

BFR

REVIEWER

MJA 06/15/21

PROJECT ID

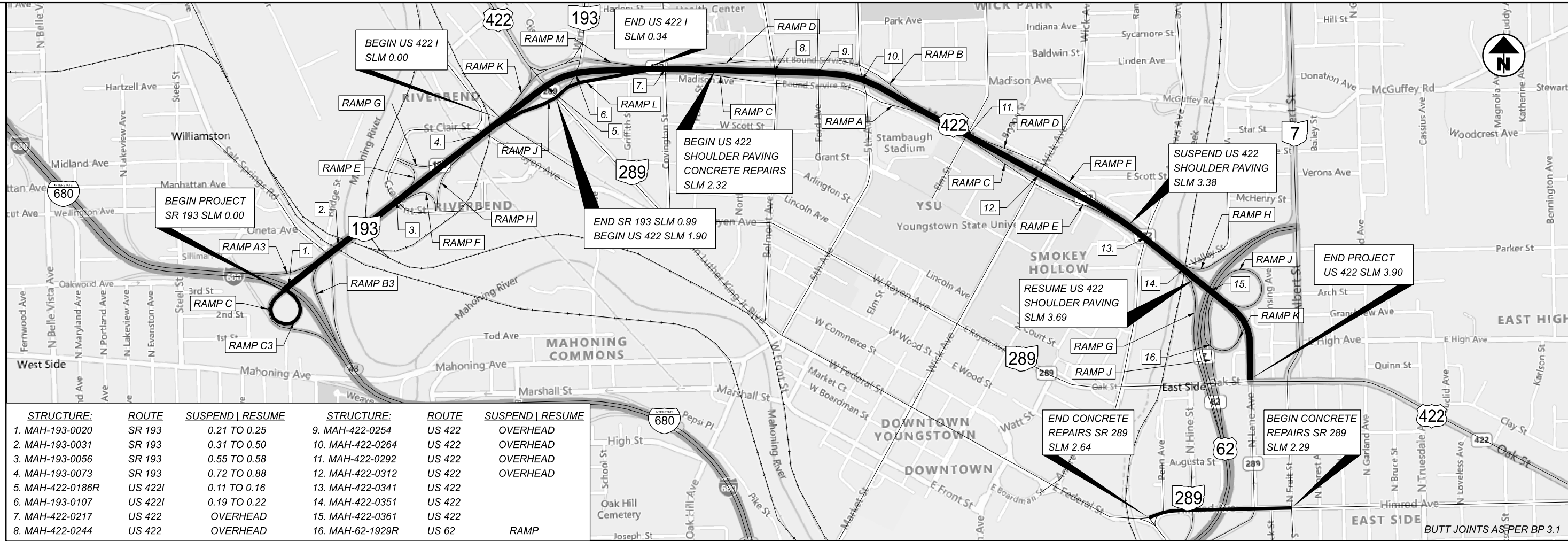
91900

SHEET

P.19

TOTAL

37



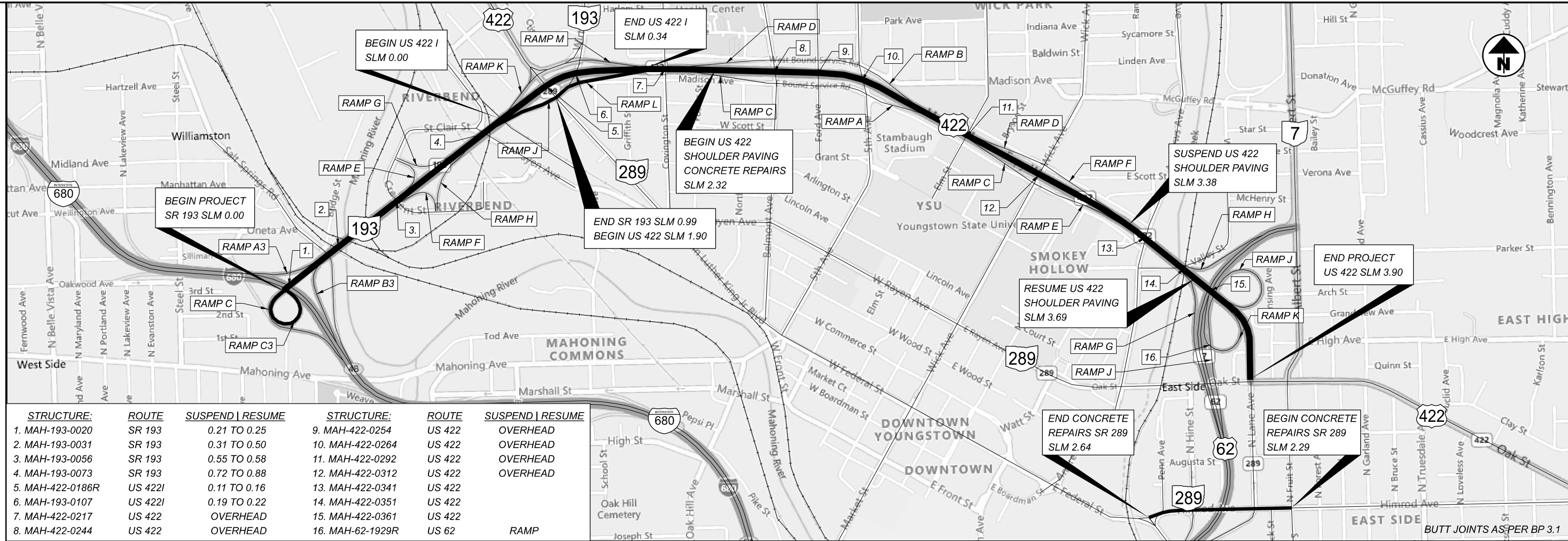
STRUCTURE:	ROUTE	SUSPEND   RESUME	STRUCTURE:	ROUTE	SUSPEND   RESUME
1. MAH-193-0020	SR 193	0.21 TO 0.25	9. MAH-422-0254	US 422	OVERHEAD
2. MAH-193-0031	SR 193	0.31 TO 0.50	10. MAH-422-0264	US 422	OVERHEAD
3. MAH-193-0056	SR 193	0.55 TO 0.58	11. MAH-422-0292	US 422	OVERHEAD
4. MAH-193-0073	SR 193	0.72 TO 0.88	12. MAH-422-0312	US 422	OVERHEAD
5. MAH-422-0186R	US 422	0.11 TO 0.16	13. MAH-422-0341	US 422	
6. MAH-193-0107	US 422	0.19 TO 0.22	14. MAH-422-0351	US 422	
7. MAH-422-0217	US 422	OVERHEAD	15. MAH-422-0361	US 422	
8. MAH-422-0244	US 422	OVERHEAD	16. MAH-62-1929R	US 62	RAMP

SLM RANGE	TYPICAL SECTION	SIDE	DISTANCE (D)	AVERAGE WIDTH (W)	SURFACE AREA (A) A=DxW/9	CADD GENERATED AREA	209	254	407	407	408	442	442	442	617	875						
							STA	SY	GAL	GAL	GAL	CY	CY	CY	CY	LB						
<b>SR 193 MAINLINE</b>																						
0.00 TO 0.21	3	RAMP C3			SEE RAMP C3 CALCS																	
0.25 TO 0.31	1	EB	316.80	35.00	1232.00		3.17	1232.00	110.88	73.92	28.16	76.27	51.33	59.89	3.91	79.20						
0.50 TO 0.55	1	EB	264.00	51.00	1496.00		2.64	1496.00	134.64	89.76	23.47	63.56	62.33	72.72	3.26	66.00						
0.58 TO 0.72	1	EB	739.20	41.00	3367.47		7.39	3367.47	303.07	202.05	65.71	177.96	140.31	163.70	9.13	184.80						
0.88 TO 0.99	3	RAMP J			SEE RAMP J CALCS																	
0.25 TO 0.31	1	WB	316.80	33.00	1161.60		3.17	1161.60	104.54	69.70	28.16	76.27	48.40	56.47	3.91	79.20						
0.50 TO 0.55	1	WB	264.00	51.00	1496.00		2.64	1496.00	134.64	89.76	23.47	63.56	62.33	72.72	3.26	66.00						
0.58 TO 0.72	1	WB	739.20	41.00	3367.47		7.39	3367.47	303.07	202.05	65.71	177.96	140.31	163.70	9.13	184.80						
<b>US 422 MAINLINE</b>																						
0.03 TO 0.11	1	EB	422.40	41.00	1924.27		4.22	1924.27	173.18	115.46	37.55	101.69	80.18	93.54	5.21	105.60						
0.16 TO 0.19	1	EB	158.40	41.00	721.60		1.58	721.60	64.94	43.30	14.08	38.13	30.07	35.08	1.96	39.60						
0.22 TO 0.34	1	EB	633.60	41.00	2886.40		6.34	2886.40	259.78	173.18	56.32	152.53	120.27	140.31	7.82	158.40						
0.03 TO 0.11	1	WB	422.40	41.00	1924.27		4.22	1924.27	173.18	115.46	37.55	101.69	80.18	93.54	5.21	105.60						
0.16 TO 0.19	1	WB	158.40	41.00	721.60		1.58	721.60	64.94	43.30	14.08	38.13	30.07	35.08	1.96	39.60						
0.22 TO 0.34	1	WB	633.60	41.00	2886.40		6.34	2886.40	259.78	173.18	56.32	152.53	120.27	140.31	7.82	158.40						
SUBTOTALS							0.00	50.69	23185.07	2086.66	1391.10	450.56	1220.27	966.04	1127.05	62.58	1267.20	0.00	0.00	0.00	0.00	
TOTALS CARRIED TO GENERAL SUMMARY							0	51	23186	2087	1392	451	1221	967	1128	63	1268	0	0	0	0	0

PAVEMENT CALCULATIONS

DESIGN AGENCY

DESIGNER: BFR  
 REVIEWER: MJA 06/15/21  
 PROJECT ID: 91900  
 SHEET TOTAL: P.20 / 37



STRUCTURE:	ROUTE	SUSPEND   RESUME	STRUCTURE:	ROUTE	SUSPEND   RESUME
1. MAH-193-0020	SR 193	0.21 TO 0.25	9. MAH-422-0254	US 422	OVERHEAD
2. MAH-193-0031	SR 193	0.31 TO 0.50	10. MAH-422-0264	US 422	OVERHEAD
3. MAH-193-0056	SR 193	0.55 TO 0.58	11. MAH-422-0292	US 422	OVERHEAD
4. MAH-193-0073	SR 193	0.72 TO 0.88	12. MAH-422-0312	US 422	OVERHEAD
5. MAH-422-0186R	US 422I	0.11 TO 0.16	13. MAH-422-0341	US 422	
6. MAH-193-0107	US 422I	0.19 TO 0.22	14. MAH-422-0351	US 422	
7. MAH-422-0217	US 422	OVERHEAD	15. MAH-422-0361	US 422	
8. MAH-422-0244	US 422	OVERHEAD	16. MAH-62-1929R	US 62	RAMP

SLM RANGE	TYPICAL SECTION	SIDE	DISTANCE (D)	AVERAGE WIDTH (W)	SURFACE AREA (A) A=DxW/9	CADD GENERATED AREA	MATERIALS																								
							209	254	254	407	407	408	442	442	442	617	875														
			FT	FT	SY	SY	PREPARING SUBGRADE FOR SHOULDER PAVING	PAVEMENT PLANING, ASPHALT CONCRETE (T=1.5')	PAVEMENT PLANING, ASPHALT CONCRETE (T=3.25')	NON-TRACKING TACK COAT @ 0.09 GAL/SY	NON-TRACKING TACK COAT @ 0.06 GAL/SY	PRIME COAT, AS PER PLAN @ 0.4 GAL/SY	ANTI-SEGREGATION EQUIPMENT	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN, PG70-22M (T=1.5')	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM TYPE A (446) (T=1.75')	COMPACTED AGGREGATE, AS PER PLAN (T=2')	LONGITUDINAL JOINT ADHESIVE @ 1lb / 4ft														
<b>US 422 MAINLINE</b>																															
1.90 TO 1.94	2	UNDIV	211.20	24.00	563.20				563.20	50.69	33.79	18.77	50.84	23.47	27.38	2.61	52.80														
1.94 TO 2.09	3	RAMP L	SEE RAMP L CALCS																												
2.09 TO 2.33	1	EB	1267.20	41.00	5772.80		12.67	5772.80	519.55	346.37	112.64	305.07	240.53	280.62	15.64	316.80															
2.09 TO 2.32	1	WB	1214.40	41.00	5532.27		12.14	5532.27	497.90	331.94	107.95	292.36	230.51	268.93	14.99	303.60															
<b>US 422 SHOULDERS</b>																															
2.33 TO 3.38	4	EB	5544.00	11.00	6776.00			6776.00	609.84		492.80		282.33		68.44																
3.69 TO 3.90	4	EB	1108.80	8.00	985.60			985.60	88.70		98.56		41.07		13.69																
2.32 TO 3.38	4	WB	5596.80	11.00	6840.53			6840.53	615.65		497.49		285.02		69.10																
3.69 TO 3.90	4	WB	1108.80	8.00	985.60			985.60	88.70		98.56		41.07		13.69																
SUBTOTALS							24.82	15587.73	11868.27	2471.04	712.10	1426.77	648.27	1144.00	576.93	198.16	673.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
TOTALS CARRIED TO GENERAL SUMMARY							25	15588	11869	2472	713	1427	649	1144	577	199	674	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PAVEMENT CALCULATIONS

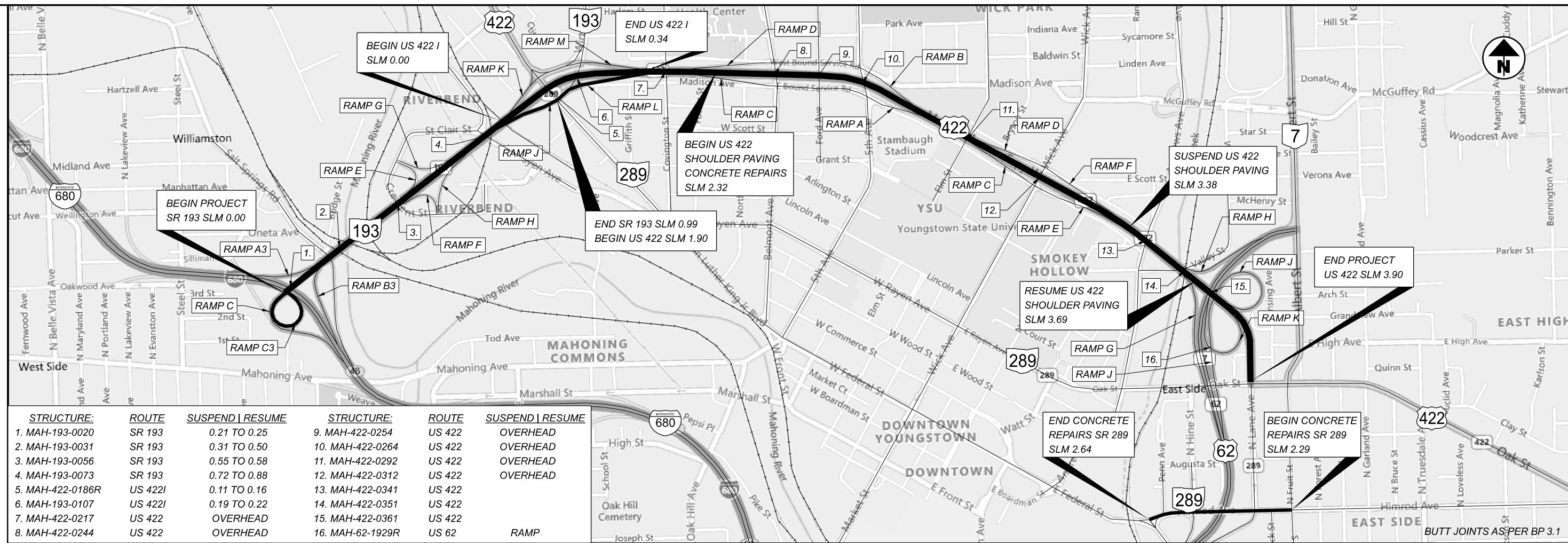
DESIGN AGENCY

DESIGNER  
BFR

REVIEWER  
MJA 06/15/21

PROJECT ID  
91900

SHEET TOTAL  
P.21 37



STRUCTURE:	ROUTE	SUSPEND   RESUME	STRUCTURE:	ROUTE	SUSPEND   RESUME
1. MAH-193-0020	SR 193	0.21 TO 0.25	9. MAH-422-0254	US 422	OVERHEAD
2. MAH-193-0031	SR 193	0.31 TO 0.50	10. MAH-422-0264	US 422	OVERHEAD
3. MAH-193-0056	SR 193	0.55 TO 0.58	11. MAH-422-0292	US 422	OVERHEAD
4. MAH-193-0073	SR 193	0.72 TO 0.88	12. MAH-422-0312	US 422	OVERHEAD
5. MAH-422-0186R	US 422I	0.11 TO 0.16	13. MAH-422-0341	US 422	
6. MAH-193-0107	US 422I	0.19 TO 0.22	14. MAH-422-0351	US 422	
7. MAH-422-0217	US 422	OVERHEAD	15. MAH-422-0361	US 422	
8. MAH-422-0244	US 422	OVERHEAD	16. MAH-62-1929R	US 62	RAMP

SLM RANGE	TYPICAL SECTION	SIDE	RAMP DISTANCE (D)	AVERAGE WIDTH (W)	SURFACE AREA (A) A=DxW/9	CADD GENERATED AREA	PREPARING SUBGRADE FOR SHOULDER PAVING	209	254	407	407	408	442	442	442	617	875					
								SY	SY	GAL	GAL	GAL	CY	CY	CY	CY	LB					
<b>US 680 / SR 193</b>																						
RAMP A3	3	WB 193				1641.61	9.20	1641.61	147.74	98.50	81.78	88.27	68.40	79.80	11.36							
RAMP B3	3	EB 193				1646.77	11.20	1646.77	148.21	98.81	99.56	89.88	68.62	80.05	13.83							
RAMP C	3	WB 193				912.89	3.10	912.89	82.16	54.77	27.56	49.75	38.04	44.38	3.83							
RAMP C3 (SR193 SLM 0.03 TO 0.21)	3	EB 193				3286.09	14.60	3286.09	295.75	197.17	129.78	154.07	136.92	159.74	18.02							
<b>SR 193 / CRESCENT ST</b>																						
RAMP E	3	WB 193				1464.05	5.10	1464.05	131.76	87.84	45.33	91.48	61.00	71.17	6.30							
RAMP F	3	EB 193				1516.69	6.60	1516.69	136.50	91.00	58.67	89.88	63.20	73.73	8.15							
RAMP G	3	WB 193				2042.27	8.40	2042.27	183.80	122.54	74.67	123.58	85.09	99.28	10.37							
RAMP H	3	EB 193				1814.19	8.90	1814.19	163.28	108.85	79.11	120.37	75.59	88.19	10.99							
<b>US 422 / SR 193 / SR 289</b>																						
US 422 ACCESS RAMP	3	WB 422				2069.58		2069.58	186.26	124.17		134.81	86.23	100.60								
RAMP J (SR193 0.88 TO 0.99)	3	EB 193				2230.02	10.00	2230.02	200.70	133.80	88.89	134.81	92.92	108.40	12.35							
RAMP K	3	WB 193				1910.75	8.40	1910.75	171.97	114.65	74.67	176.54	79.61	92.88	10.37							
RAMP L (US422 1.94 TO 2.09)	3	EB 422				2624.56	11.40	2624.56	236.21	157.47	50.67	199.01	109.36	127.58	7.04				150.00			
RAMP M	3	WB 422				2756.00	6.00	2756.00	248.04	165.36	53.33	204.63	114.83	133.97	7.41				117.50			
<b>US 422 / BELMONT AVE</b>																						
RAMP C	3	EB 422				2582.97	13.80	2582.97	232.47	154.98	61.33	202.22	107.62	125.56	8.52				130.00			
RAMP D	3	WB 422				2213.86	10.20	2213.86	199.25	132.83	45.33	160.49	92.24	107.62	6.30				125.00			
SUBTOTALS							126.90	0.00	30712.30	2764.11	1842.74	970.67	2019.81	1279.68	1492.96	134.81	522.50	0.00	0.00	0.00	0.00	
TOTALS CARRIED TO GENERAL SUMMARY							127	0	30713	2765	1843	971	2020	1280	1493	135	523	0	0	0	0	0

BUTT JOINTS AS PER BP 3.1

INCLUDES RAMP ACCEL/DECEL LANE  
INCLUDES RAMP ACCEL/DECEL LANE  
INCLUDES RAMP ACCEL/DECEL LANE  
INCLUDES RAMP ACCEL/DECEL LANE

DESIGN AGENCY

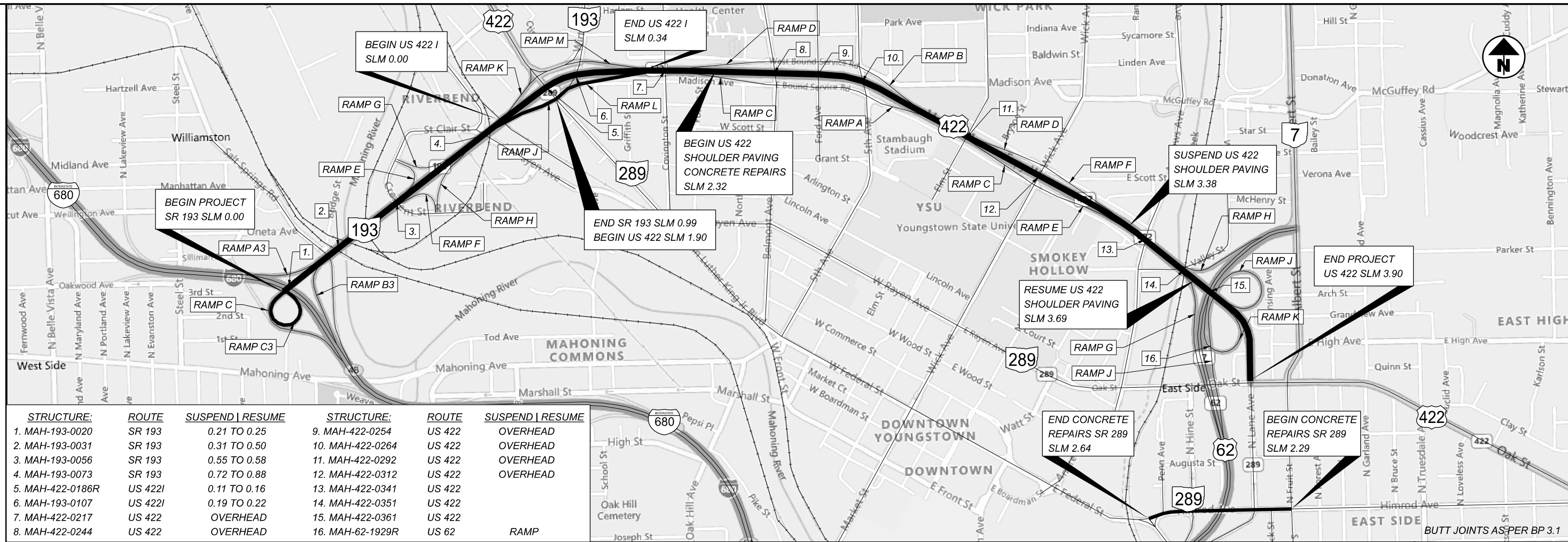
DESIGNER: BFR  
REVIEWER: MJA 06/15/21  
PROJECT ID: 91900  
SHEET TOTAL: P.22 37

PAVEMENT CALCULATIONS



**MAH/TRU-422/VR-1.90/VR**

MODEL: Sheet 4 PAPER: 17x11 (in.) DATE: 7/22/2021 TIME: 10:15:13 AM USER: brass1  
 p:\ohio\road-pw-bentley.com\shah\road-pw-02\Documents\01 Active Projects\Dist\dist 04\Mahoning\91900\400-Engineering\Roadway\Sheets\91900\_GC001.dgn



<u>STRUCTURE:</u>	<u>ROUTE</u>	<u>SUSPEND   RESUME</u>	<u>STRUCTURE:</u>	<u>ROUTE</u>	<u>SUSPEND   RESUME</u>
1. MAH-193-0020	SR 193	0.21 TO 0.25	9. MAH-422-0254	US 422	OVERHEAD
2. MAH-193-0031	SR 193	0.31 TO 0.50	10. MAH-422-0264	US 422	OVERHEAD
3. MAH-193-0056	SR 193	0.55 TO 0.58	11. MAH-422-0292	US 422	OVERHEAD
4. MAH-193-0073	SR 193	0.72 TO 0.88	12. MAH-422-0312	US 422	OVERHEAD
5. MAH-422-0186R	US 422I	0.11 TO 0.16	13. MAH-422-0341	US 422	
6. MAH-193-0107	US 422I	0.19 TO 0.22	14. MAH-422-0351	US 422	
7. MAH-422-0217	US 422	OVERHEAD	15. MAH-422-0361	US 422	
8. MAH-422-0244	US 422	OVERHEAD	16. MAH-62-1929R	US 62	RAMP

SLM RANGE	TYPICAL SECTION	SIDE	DISTANCE (D)		SURFACE AREA (A) A=DxW/9	CADD GENERATED AREA	PAVEMENT PLANING, ASPHALT CONCRETE (T=1.5')	NON-TRACKING TACK COAT @ 0.09 GAL/SY	PRIME COAT, AS PER PLAN @ 0.4 GAL/SY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN, PG70-22M (T=1.5')	COMPACTED AGGREGATE, AS PER PLAN (T=2')	BUTT JOINTS AS PER BP 3.1											
			FT	FT								SY	SY	SY	GAL	GAL	CY	CY					
<b>US 422 / 5TH AVE (AC SHOULDER)</b>																							
RAMP A	5	EB 422	350.00	7.00	272.22		272.22	24.50	45.33	11.34	6.30												
RAMP B	5	WB 422	490.00	7.00	381.11		381.11	34.30	34.67	15.88	4.81												
<b>US 422 / WICK AVE (AC SHOULDER)</b>																							
RAMP C	5	EB 422	570.00	7.00	443.33		443.33	39.90	62.22	18.47	8.64												
RAMP D	5	WB 422	420.00	7.00	326.67		326.67	29.40	37.33	13.61	5.19												
RAMP E	5	EB 422	530.00	7.00	412.22		412.22	37.10	62.22	17.18	8.64												
RAMP F	5	WB 422	550.00	7.00	427.78		427.78	38.50	68.44	17.82	9.51												
<b>US 422 / US 62 &amp; SR 7 (AC SHOULDER)</b>																							
RAMP G	5	EB 422	230.00	11.00	281.11		281.11	25.30	40.89	11.71	5.68												
RAMP H	5	WB 422	280.00	8.00	248.89		248.89	22.40	49.78	10.37	6.91												
RAMP J	5	WB 422	2450.00	7.00	1905.56		1905.56	171.50	344.00	79.40	47.78												
RAMP K	5	EB 422	980.00	7.00	762.22		762.22	68.60	174.22	31.76	24.20												
SUBTOTALS							0.00	5461.11	0.00	491.50	0.00	919.11	0.00	227.55	0.00	127.65	0.00	0.00	0.00	0.00	0.00	0.00	
TOTALS CARRIED TO GENERAL SUMMARY							0	5462	0	492	0	920	0	228	0	128	0	0	0	0	0	0	0

**PAVEMENT CALCULATIONS**

DESIGN AGENCY

DESIGNER: BFR  
 REVIEWER: MJA 06/15/21  
 PROJECT ID: 91900  
 SHEET TOTAL: P.23 37

COUNTY	ROUTE	LOCATION		621 RPM (YELLOW/YELLOW)	621 RPM (WHITE/RED)	621 RPM (WHITE)	621 RPM (YELLOW/RED)	621 RAISED PAVEMENT MARKER REMOVED	REMARKS
		FROM	TO						
	<b>SR 193</b>								
MAH	SR 193 EB	0.03	0.21				12	9	RAMP C3
MAH	SR 193 EB	0.25	0.31			3		2	
MAH	SR 193 EB	0.50	0.55			3		2	
MAH	SR 193 EB	0.58	0.72			7		5	
MAH	SR 193 EB	0.88	0.99		37		15	39	RAMP J - ENHANCED WRONG-WAY TRAFFIC CONTROL PER SCD TC-73.20
MAH	SR 193 WB	0.25	0.31			3		2	
MAH	SR 193 WB	0.50	0.55			3		2	
MAH	SR 193 WB	0.58	0.72			7		5	
	<b>US 422I</b>								
MAH	US 422 I EB	0.03	0.11			4		3	
MAH	US 422 I EB	0.16	0.19			2		2	
MAH	US 422 I EB	0.22	0.34			6		5	
MAH	US 422 I WB	0.03	0.11			4		3	
MAH	US 422 I WB	0.16	0.19			2		2	
MAH	US 422 I WB	0.22	0.34			6		5	
	<b>US 422</b>								
MAH	US 422 EB	1.94	2.09				10	8	RAMP L
MAH	US 422 EB	2.09	2.33			11		8	
MAH	US 422 WB	2.09	2.32			11		8	
	<b>US 680 / SR 193</b>								
MAH	RAMP A3				4		6	8	
MAH	RAMP B3						7	5	
MAH	RAMP C						4	3	
MAH	RAMP C3								SEE MAINLINE SR 193 SLM 0.00 TO 0.21
	<b>SR 193 / CRESCENT ST</b>								
MAH	RAMP E				3		6	7	
MAH	RAMP F				16		11	20	ENHANCED WRONG-WAY TRAFFIC CONTROL PER SCD TC-73.20
MAH	RAMP G				20		15	26	ENHANCED WRONG-WAY TRAFFIC CONTROL PER SCD TC-73.20
MAH	RAMP H				4		8	9	
	<b>US 422 &amp; SR 193 / US 422 &amp; SR 289</b>								
MAH	RAMP J								SEE MAINLINE SR 193 SLM 0.88 TO 0.99
MAH	RAMP K				3		7	8	
MAH	RAMP L								SEE MAINLINE US 422 SLM 1.94 TO 2.09
MAH	RAMP M				27		15	32	ENHANCED WRONG-WAY TRAFFIC CONTROL PER SCD TC-73.20
	<b>US 422 / BELMONT AVE</b>								
MAH	RAMP C				22		19	31	ENHANCED WRONG-WAY TRAFFIC CONTROL PER SCD TC-73.20
MAH	RAMP D				7		7	11	
TOTALS CARRIED TO GENERAL SUMMARY									
					143	72	142	270	

DESIGN AGENCY



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MAH/TRU-422/VAR-1.90/VAR

MODEL: Sheet 2 PAPER: 17x11 (in.) DATE: 7/22/2021 TIME: 10:15:30 AM USER: brass1  
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**EDGE LINE**

GENERAL SPEC. 640  
 MATERIAL TYPE: 646

CTY	ROUTE	TRUE LOG	FROM	TRUE LOG	TO	WHITE EDGE LINE, 6"			YELLOW EDGE LINE, 6"			COMMENTS
						TOTAL	HIGHWAY	RAMP	TOTAL	HIGHWAY	RAMP	
MAH	SR193 W	0.00	US 680	0.31	STRUCTURE MAH-193-0031	0.31	0.31		0.31	0.31		RAMP C3 INCLUDED
MAH	SR193 E	0.14	RAMP C	0.31	STRUCTURE MAH-193-0031	0.17	0.17		0.17	0.17		RAMP C INCLUDED
MAH	SR193 E/W	0.31	STRUCTURE MAH-193-0031	0.85	US 422I	1.08	1.08		1.08	1.08		
MAH	SR193 E	0.85	US 422I	0.99	US 422	0.14	0.14		0.14	0.14		RAMP J INCLUDED
MAH	US422I E/W	0.00	SR 193	0.34	US 422	0.68	0.68		0.68	0.68		
MAH	US 422 E	1.90	MARTIN LUTHER KING JR BLVD	1.94	MADISON AVE.	0.04	0.04		0.04	0.04		
MAH	US 422 E	1.94	MADISON AVE	2.09	US 442I	0.15	0.15		0.15	0.15		RAMP L INCLUDED
MAH	US 422 E/W	2.09	US 422I	2.33	CONCRETE PAVEMENT	0.48	0.48		0.48	0.48		
MAH	US 422 E/W	2.33	CONCRETE PAVEMENT	3.90	SR 289 INTERSECTION	0.50	0.50		0.50	0.50		QTY FOR CONCRETE REPAIRS
MAH	SR 289	2.29	FRUIT ST	2.64	WILSON AVE	0.15	0.15		0.15	0.15		QTY FOR CONCRETE REPAIRS
TRU	US 422	12.43	SR 169	13.00	LAIRD AVE	0.25	0.25		0.25	0.25		QTY FOR CONCRETE REPAIRS
TOTAL						3.95	3.95		3.95	3.95		

**LANE LINE**

CTY	ROUTE	TRUE LOG	FROM	TRUE LOG	TO	TOTAL MILES	6" LANE LINE		COMMENTS
							DASHED	SOLID	
MAH	SR 193 E/W	0.31	STRUCTURE MAH-193-0031	0.85	US 422I	1.08	1.08		
MAH	US 422I E/W	0.00	SR 193	0.34	US 422	0.68	0.68		
MAH	US 422	1.90	MARTIN LUTHER KING JR BLVD	1.94	MADISON AVE.	0.04	0.04		
MAH	US 422 E/W	2.09	US 422I	2.33	CONCRETE PAVEMENT	0.48	0.48		
MAH	US 422 E/W	2.33	CONCRETE PAVEMENT	3.90	SR 289 INTERSECTION	1.00	1.00		QTY FOR CONCRETE REPAIRS
MAH	SR 289	2.29	FRUIT ST	2.64	WILSON AVE	0.25	0.25		QTY FOR CONCRETE REPAIRS
TRU	US 422	12.43	SR 169	13.00	LAIRD AVE	0.50	0.50		QTY FOR CONCRETE REPAIRS
TOTAL						4.03	4.03		

**CENTER LINE**

CTY	ROUTE	TRUE LOG	FROM	TRUE LOG	TO	TOTAL MILES	EQUIVALENT SOLID LINE		COMMENTS
MAH	SR 289	2.29	FRUIT ST	2.64	WILSON AVE	0.15	0.30		QTY FOR CONCRETE REPAIRS
TOTAL						0.15	0.30		

**AUXILIARY**

CTY	ROUTE LOCATION	TRUE LOG	CHANNEL LINE, 8"	CHANNEL LINE, 12"	STOP LINE	CROSS WALK LINES	RAMP GORE MARKINGS		ISLAND MARKING	SYMBOL MARKINGS			LANE ARROWS				REDUCT. ARROW	WORD ON PVMT ONLY		DOTTED LINES, 6"	COMMENTS
							CHEVRON	DIAGONAL		R x R	SCHOOL		TURN LEFT	TURN RIGHT	THRU	WRONG WAY		72"	96"		
											FT	FT									
MAH 193	I680 / S193 RAMP A3	0.310		330			80														
MAH 193	I680 / S193 RAMP B3	0.310		200																	
MAH 193	S183/CRESCENT RAMP F	0.590		310	16			60												390	
MAH 193	S183/CRESCENT RAMP E	0.610		210																480	
MAH 193	S183/CRESCENT RAMP G	0.690		350	16			60												770	
MAH 193	S183/CRESCENT RAMP H	0.700		330																670	
MAH 422I	422I/US422/S193 RAMP J	0.040	255	370	45	120		70					2	2	2	2				DOTTED LINE INCL. W/ RAMP H	
MAH 422I	422I/US422/S193 RAMP K	0.050		350		100														DOTTED LINE INCL. W/ RAMP G	
MAH 422I	422I/US422/S193 RAMP L	0.310		410																690	
MAH 422I	422I/US422/S193 RAMP M	0.330	250	350	40	125		70						4		2				540	
MAH 422	US 422 WB ACCESS RAMP	1.830	100		27	82							2								
MAH 422	US422/289/193 INTERSECTION	1.900				70															
MAH 422	US422/BELMONT RAMP C	2.280		440				80													
MAH 422	US422/BELMONT RAMP D	2.280		500																	
MAH 289	QTY FOR CONCRETE REPAIR		100																		
MAH 422	QTY FOR CONCRETE REPAIR			1000				150													
TRU 422	QTY FOR CONCRETE REPAIR		300		50	100							4								
TOTAL			1005	5150	194	597	80	490					8	6	2	10				3540	

PAVEMENT MARKING SUBSUMMARY

DESIGN AGENCY



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MJA 06/15/21

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MAH/TRU-422/VAR-1.90/VAR

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**EDGE LINE**

GENERAL SPEC. 640  
 MATERIAL TYPE: 646

CTY	ROUTE	TRUE LOG	FROM	TRUE LOG	TO	WHITE EDGE LINE, 6"			YELLOW EDGE LINE, 6"			COMMENTS
						TOTAL	HIGHWAY	RAMP	TOTAL	HIGHWAY	RAMP	
MAH	SR 193		US 680 / SR 193		RAMPS A3, B3	0.19		0.19	0.19		0.19	SEE MAINLINE SR 193 FOR RAMPS C & C3
MAH	SR 193		SR 193 / CRESCENT ST		RAMPS E, F, G, H	0.39		0.39	0.39		0.39	
MAH	US 422		US 422 & SR 193 / US 422 & SR 289		RAMPS K, M; ACCESS RAMP	0.34		0.34	0.34		0.34	SEE MAINLINE SR 193 / US 422 FOR RAMPS J & L
MAH	US 422		US 422 / BELMONT AVE		RAMPS C, D	0.24		0.24	0.24		0.24	
MAH	US 62		US 62 STRUCTURES		MAH-62-1929R, MAH-62D-0008L & R	0.11	0.11		0.11	0.11		
<b>TOTAL</b>						1.27	0.11	1.16	1.27	0.11	1.16	

**LANE LINE**

CTY	ROUTE	TRUE LOG	FROM	TRUE LOG	TO	TOTAL MILES	6" LANE LINE		COMMENTS
							DASHED	SOLID	
MAH	US 62		US 62 STRUCTURES		MAH-62D-0008L & R	0.11	0.11		
MAH	US 422		US 422 OVERHEAD STRUCTURES		MAH-422-0244, MAH-422-0264	0.12	0.12		
MAH	US 422		US 422 & SR 193 / US 422 & SR 289		ACCESS RAMP	0.06	0.06		
<b>TOTAL</b>						0.29	0.29		

**CENTER LINE**

CTY	ROUTE	TRUE LOG	FROM	TRUE LOG	TO	TOTAL MILES	EQUIVALENT SOLID LINE	COMMENTS
<b>TOTAL</b>						0.21	0.42	

**AUXILIARY**

CTY	ROUTE LOCATION	TRUE LOG	CHANNEL LINE, 8"	CHANNEL LINE, 12"	STOP LINE	CROSS WALK LINES	TRANSVERSE DIAGONAL LINES		ISLAND MARKING	SYMBOL MARKINGS			LANE ARROWS					WORD ON PVMT ONLY		DOTTED LINES, 6"	COMMENTS	
							WHITE	YELLOW		R x R	SCHOOL		TURN LEFT	TURN RIGHT	THRU	COMB.	REDUCT.	72"	96"			
											FT	FT										FT
MAH	STRUCTURE MAH-422-0217	2.170			15																	
MAH	STRUCTURE MAH-422-0244	2.440	172		48									3								
MAH	STRUCTURE MAH-422-0254	2.540			30																	
MAH	STRUCTURE MAH-422-0264	2.640			48																	
MAH	STRUCTURE MAH-422-0292	2.920			15																	
<b>TOTAL</b>			172		156									3								

PAVEMENT MARKING SUBSUMMARY

DESIGN AGENCY



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**STRUCTURE PROPOSED WORK TABLE**

BRIDGE NUMBER	SFN	FEATURE INTERSECTED	DECK SEALING	DECK PATCHING (CONCRETE)	CONCRETE PATCHING (NON-DECK)	EPOXY URETHANE SEALING OF CONCRETE SURFACES	BOTTOM DECK FLOOR SPALL REMOVAL	COMPOSITE FIBER WRAP PATCHING	APPROACH ASPHALT RESURFACING	PRESSURE RELIEF JOINT REPAIR	BACKWALL REPAIR	CLEARING & GRUBBING	NEW STRUCTURE ID SIGNS	OTHER WORK
MAH-193-0020	5004381	OVER MAH-IR 680-4.40	X		SUB,CURB		X					X	X	
MAH-62D-0008R	5008514	OVER SOUTH AVE	X		SUB							X	X	
MAH-62D-0008L	5008522	OVER SOUTH AVE	X		SUB							X	X	
MAH-62-1929R	5009553	RMP J BR OV 422 OFF RMP K		X	SUB, PARA					X		X	X	X
MAH-193-0107	5004500	SR 193 NB UNDER US-422	X	X	SUB, PARA		X	X			X	X	X	
MAH-422-0217	5005175	UNDER COVINGTON ST	X									X	X	
MAH-422-0244	5005191	UNDER BELMONT AVE	X		SUB	SIDEWALKS (CLEAR)			X			X	X	
MAH-422-0254	5005221	UNDER FORD AVE	X		SUB	SIDEWALKS (CLEAR)			X			X	X	
MAH-422-0264	5005256	UNDER FIFTH AVE	X		SUB	SIDEWALKS (CLEAR)			X			X	X	
MAH-422-0292	5005280	UNDER ELM ST	X		SUB	SIDEWALKS (CLEAR)			X			X	X	
MAH-422-0341	5005310	OVER ANDREWS AVE	X		SUB, MEDIAN					X		X	X	
MAH-422-0351	5005345	OVER CRAB CR & NS RR	X		SUB, MEDIAN					X		X	X	
MAH-422-0361	5005434	OVER MAH-US62-19.28 SR7	X		SUB					X		X	X	
MAH-193-0031	5004438	MAHONING R SALT SPGS, NS & CSX RR				PARAPET, MEDIAN						X	X	
MAH-193-0056	5004446	OVER CRESCENT ST	X	X	SUB,DECK EDGES		X	X				X	X	
MAH-193-0073	5004470	YOUNGSTOWN BELT RR & RAYEN AVE	X		SUB						X	X	X	X
TRU-422-1282	7807074	UNDER ABANDONED RAILROAD			SUB	ABUT,PIER,WW						X		

**PROPOSED WORK DESCRIPTIONS**

**DECK SEALING**

- SEAL EXISTING WEARING SURFACE AND APPROACH SLABS WITH GRAVITY FED RESIN CONCRETE TREATMENT.

**DECK PATCHING (CONCRETE)**

- REPAIR VISIBLY UNSOUND OR PREVIOUSLY PATCHED AREAS OF THE EXISTING DECK AND APPROACH SLAB.

**CONCRETE PATCHING (NON-DECK)**

- PATCH ALL UNSOUND AREAS AT THE LOCATIONS NOTED IN THE STRUCTURE PROPOSED WORK TABLE.  
 - SEAL ALL REPAIRED AREAS WITH EPOXY URETHANE.

**SUB - SUBSTRUCTURE**

PARA - PARAPETS

ABUT - ABUTMENTS

WW - WINGWALL

PIER - PIERS

**EPOXY SEALING OF CONCRETE**

- REMOVE EXISTING SEALER IF PRESENT AND SEAL THE EXPOSED CONCRETE SURFACES WITH WITH EPOXY URETHANE CONCRETE SEALER. SEE SHEETS 11/11 FOR DETAILS.

**DECK FLOOR SPALL REMOVAL**

- REMOVE CONCRETE SPALLS AT THE BOTTOM DECK FLOOR  
 - SEAL ALL REMOVED SPALLS WITH EPOXY URETHANE.

**COMPOSITE FIBER WRAP PATCHING**

- REMOVE AND REPAIR CONCRETE SPALLS AT THE DECK FLOOR AND EDGES USING COMPOSITE FIBER WRAP SYSTEM.

**APPROACH PAVEMENT RESURFACING**

- REMOVE AND RESURFACE 1.5" OF APPROACH ASPHALT PAVEMENT AT THE FORWARD AND REAR APPROACH SLAB

**PRESSURE RELIEF JOINT REPAIR**

- REMOVE AND REPLACE ASPHALT CONCRETE PORTION OF TYPE A PRESSURE RELIEF JOINTS AT THE FORWARD AND REAR

**CLEARING AND GRUBBING**

- CLEARING AND GRUBBING 15' AROUND THE STRUCTURE TO REMOVE VEGETATION.

**NEW STRUCTURE ID SIGNS**

- PROVIDE NEW AND CORRECT STRUCTURE IDENTIFICATION SIGNS

**OTHER WORK**

**MAH-62-1929R**

- REMOVE AND REPLACE EXISTING ASPHALT CONCRETE WEARING SURFACE  
 - PATCH VISIBLY UNSOUND AREAS OF THE EXISTING DECK AND APPROACH SLAB PRIOR TO REPLACING THE ASPHALT CONCRETE WEARING SURFACE.  
 - REFURBISH AND RESET ALL ABUTMENT BEARINGS

**MAH-193-0073**

-REPAIR EROSION BELOW SCUPPERS AT THE REAR  
 -REPLACE EXISTING EXPANSION JOINT STRIP SEAL

STRUCTURE NOTES  
 MAH-SR 193, MAH-US 62D, MAH-US 62,  
 MAH-US 422, TRU-US 422

SFN

DESIGN AGENCY



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**STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS**

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):  
 BP-2.3 DATED (REVISED) 7/18/14  
 EXJ-4-87 DATED (REVISED) 1/19/2018  
 AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):  
 SS 856 DATED 10/20/2017

**DESIGN SPECIFICATIONS**

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

**EXISTING STRUCTURE VERIFICATION**

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 CMS 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 WHICH HAVE BEEN VERIFIED IN THE FIELD.

**ITEM 201 - CLEARING AND GRUBBING, AS PER PLAN, AROUND BRIDGES/STRUCTURES/CULVERTS**

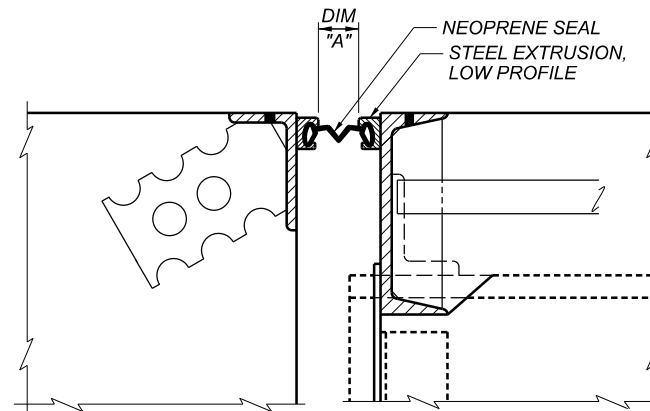
ALTHOUGH NO TREES OR STUMPS ARE SPECIFICALLY MARKED FOR REMOVAL WITHIN THE PLANS, A LUMP SUM QUANTITY IS INCLUDED IN THE STRUCTURE GENERAL SUMMARY FOR ITEM 201 - CLEARING AND GRUBBING, AS PER PLAN, AROUND BRIDGES/STRUCTURES/CULVERTS. SCALPING IS NOT REQUIRED FOR THIS ITEM OF WORK. ALL VEGETATION SHALL BE REMOVED WITHIN 15 FEET (OR TO THE R/W LIMITS, WHICHEVER IS CLOSER) OF THE HEADWALLS, ABUTMENTS AND/OR PIERS.

ALL OTHER PROVISIONS AS SET FORTH IN THE CMS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 201 - CLEARING AND GRUBBING, AS PER PLAN, AROUND BRIDGES/STRUCTURES/CULVERTS.

**ITEM 516 - ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS, AS PER PLAN**

THIS ITEM WILL INCLUDE THE REMOVAL AND REPLACEMENT OF THE EXISTING SEALS FROM EDGE TO EDGE OF STRUCTURE MAH-193-0073 DECK. UPON REMOVAL OF THE SEAL, THE CONTRACTOR WILL ATTEMPT TO MATCH THE REPLACEMENT SEAL AS CLOSELY AS POSSIBLE WITH THE EXISTING SEAL SO AS TO PROVIDE A SNUG, WATERTIGHT SEAL. THE EXISTING SEAL WILL BE FIELD MEASURE PRIOR TO ORDERING MATERIAL.

THIS WORK WILL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM 516, ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS, AS PER PLAN. THIS PRICE WILL INCLUDE THE REMOVAL OF THE EXISTING SEAL, LABOR, EQUIPMENT, MATERIAL, AND INCIDENTALS REQUIRED TO REPLACE THE SEAL.



MAH-193-0073  
DIMENSION A

TEMPERATURE, °F	REAR ABUT.	FWD ABUT.
30	3 1/4"	3 3/8"
40	2 15/16"	2 7/8"
50	2 9/15"	2 5/8"
60	2 1/4"	2 3/8"
70	1 7/8"	2 1/16"
80	1 9/15"	1 13/16"
90	1 3/15"	1 1/2"

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

PRIOR TO THE SURFACE CLEANING SPECIFIED IN 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.

**ITEM 511 - CONCRETE MISC.: BACKWALL REPAIR**

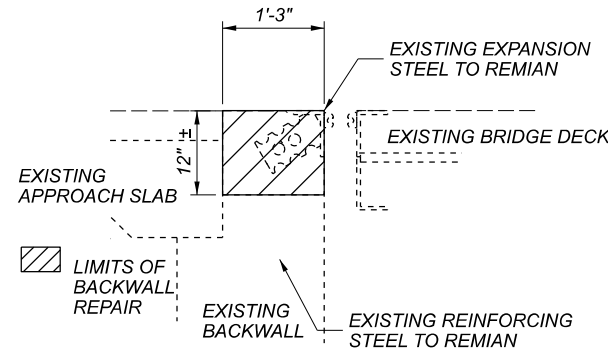
THIS ITEM OF WORK CONSISTS OF THE REMOVAL OF ALL UNSOUND CONCRETE AT THE BACKWALLS OF THE FOLLOWING STRUCTURES:

MAH-193-0073 - REAR LEFT MAH-193-0107 - FORWARD AND REAR

TO THE LIMITS SHOWN BELOW OR AS DIRECTED BY THE ENGINEER. THE PREPARATION OF THE SURFACE, FORMS, TEMPORARY SUPPORTS OF THE EXPANSION JOINT, AND PLACING CLASS MS CONCRETE, SUBSTRUCTURE.

TEMPORARY SUPPORTS OF THE EXPANSION JOINT WILL BE USED TO MAINTAIN THE PROPER ALIGNMENT AND GRADE OF THE JOINT DURING REMOVAL AND REPLACEMENT OF BACKWALL CONCRETE. THE COST OF THIS TEMPORARY SUPPORT WILL BE INCIDENTAL TO THIS ITEM.

PAYMENT WILL BE MADE AT THE CONTRACT PRICE PER CU. YD. FOR ITEM 511 - CONCRETE MISC.: BACKWALL REPAIR WHICH WILL INCLUDE ALL MATERIALS AND LABOR INCLUDING REMOVAL AND DISPOSAL OF THE EXISTING CONCRETE REQUIRED TO MAKE THIS WORK COMPLETE.



**ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN**

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVAL. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS

**CUT LINE CONSTRUCTION JOINT PREPARATION**

SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

**EROSION REPAIR**

THIS WORK WILL CONSIST OF REPAIRING THE EROSION AT THE APPROXIMATE LOCATIONS DETAILED BELOW AND AT THE DIRECTION OF THE ENGINEER. REPAIR WORK WILL BE PAID FOR BY THE FOLLOWING ITEMS.

MAH-193-0073: REPAIR EROSION AT THE SCUPPER OUTLETS  
 ITEM 601, DUMP ROCK FILL, TYPE C, 30 CY

**SPECIAL - STRUCTURES: CONCRETE SPALL REMOVAL**

THIS WORK WILL CONSIST OF REMOVING ALL VISIBLY SPALLED AREAS OF THE BOTTOM DECK FLOOR OF STRUCTURE(S) MAH-193-0020, MAH-193-0107, & MAH-193-0056 WITHOUT SOUNDING. AFTER SPALLED CONCRETE AREAS HAVE BEEN REMOVED, REMOVAL AREAS WILL BE SEALED WITH ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).

CONCRETE SPALL REMOVAL WILL BE PAID FOR AT THE UNIT BID PRICE FOR SPECIAL - STRUCTURE MISC.: CONCRETE SPALL REMOVAL. THIS PRICE WILL INCLUDE THE COST OF LABOR, EQUIPMENT, AND ALL INCIDENTALS REQUIRED TO COMPLETE THIS WORK.

**SPECIAL - COMPOSITE FIBER WRAP SYSTEM**

FIBER WRAP SYSTEM SHALL BE USED ON PATCHING OF SPALLED AREAS OF THE BOTTOM DECK FLOOR AND DECK EDGES LOCATED OVER VEHICULAR, RAIL OR PEDESTRIAN TRAFFIC. USE OF FIBER WRAP SHALL BE AS DIRECTED BY THE PROJECT ENGINEER. FOR DETAILS SEE PROPOSAL NOTE 519 - COMPOSITE FIBER WRAP SYSTEM.

**ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (448), AS PER PLAN, PG70-22M**

703.05 DO NOT USE COARSE AGGREGATE FROM A SOURCE DESIGNATED 'SR' OR 'SRH' ACCORDING TO THE OFFICE OF MATERIALS MANAGEMENT (OMM) IN ANY JOB MIX FORMULA (JMF) FOR THIS ITEM.

SFN

DESIGN AGENCY



DESIGNER CHECKER

BFR XXX

REVIEWER

MJA 06/15/21

PROJECT ID

91900

SUBSET TOTAL

2 11

SHEET TOTAL

P.28 37

**ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN**

THIS WORK CONSISTS OF RAISING OR RE-POSITIONING EXISTING STRUCTURES TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS. SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH C&MS 501.05. IF, DURING THE JACKING OPERATIONS, CRACKING OF THE CONCRETE SUPERSTRUCTURE, SEPARATION OF THE CONCRETE DECK FROM THE STEEL STRINGERS, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. EPOXY INJECT ALL BEAMS THAT SEPARATE FROM THE DECK FOR A DISTANCE OF THE SEPARATION IN ACCORDANCE WITH C&MS 512.07. THE DEPARTMENT WILL NOT PAY FOR THE COST OF THIS EPOXY INJECTION OR OTHER REQUIRED REPAIRS. THE BRIDGE BEARINGS SHALL BE FULLY SEATED ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON BEARINGS. THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

**ITEM 516 - REFURBISHING BEARING DEVICES, AS PER PLAN**

THIS ITEM SHALL INCLUDE ALL WORK NECESSARY TO PROPERLY ALIGN BRIDGE BEARINGS, AS WELL AS THEIR CLEARING AND PAINTING. INCLUDED SHALL BE THE DISASSEMBLY OF THE BEARINGS, HAND TOOL CLEANING (GRINDING IF NECESSARY), PAINTING ACCORDING TO ITEM 514, REPLACEMENT OF ANY DAMAGED SHEET LEAD WITH PREFORMED BEARING PADS (C&MS 711.21), INSTALLATION OF ANY NECESSARY STEEL SHIMS OF THE SAME SIZE AS THE BEARINGS TO PROVIDE A SNUG FIT, REALIGNMENT OF THE UPPER BEARING PLATE BY REMOVING EXISTING WELDS AND REWELDING SO THAT THE BEARINGS ARE VERTICALLY ALIGNED AT 60 DEGREES FARENHEIT, LUBRICATING SLIDING SURFACES, AND REASSEMBLY OF THE BEARINGS. ASSURE ALL BEARINGS ARE SHIMMED ADEQUATELY AND THAT NO BEAMS AND/OR BEARING DEVICES ARE "FLOATING". AT NO ADDITIONAL COST TO THE STATE, THE CONTRACTOR MAY INSTALL NEW BEARINGS OF THE SAME TYPE AS THE EXISTING IN PLACE OF REFURBISHING THE BEARINGS. ALL WORK SHALL BE TO THE SATISFACTION OF THE ENGINEER. PAYMENT FOR ALL OF THE ABOVE DESCRIBED LABOR AND MATERIALS WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 516 - REFURBISH BEARING DEVICES, AS PER PLAN.

**ITEM SPECIAL - PRESSURE RELIEF JOINT, TYPE A**

THIS ITEM WILL INCLUDE THE REMOVAL AND REPLACEMENT OF THE EXISTING ASPHALT CONCRETE IN THE TYPE A PRESSURE RELIEF JOINTS AT THE FORWARD AND REAR OF THE STRUCTURE. REPLACE THE ASPHALT CONCRETE TO THE SPECIFICATIONS SHOWN IN SCD BP-2.3.

THIS WORK WILL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM SPECIAL - PRESSURE RELIEF JOINT, TYPE A. THIS PRICE WILL INCLUDE THE REMOVAL OF THE EXISTING ASPHALT CONCRETE, LABOR, EQUIPMENT, MATERIAL, AND INCIDENTALS REQUIRED TO REPLACE THE ASPHALT CONCRETE PRESSURE RELIEF JOINT.

**CORRECTING BRIDGE IDENTIFICATION SIGN NUMBERS:**

SOME OF THE EXISTING BRIDGE NUMBER SIGNS HAVE INCORRECT BRIDGE NUMBERS ON THEM. THE FOLLOWING BRIDGE NUMBERS ARE THE CORRECT ONES AND WILL BE USED ON THE NEW BRIDGE IDENTIFICATION SIGNS.

- MAH-193-0020 (SFN: 5004381)
- MAH-62D-0008R (SFN: 5008514)
- MAH-62D-0008L (SFN: 5008522)
- MAH-62-1929R (SFN: 5009553)
- MAH-193-0107 (SFN: 5004500)
- MAH-422-0217 (SFN: 5005175)
- MAH-422-0244 (SFN: 5005191)
- MAH-422-0254 (SFN: 5005221)
- MAH-422-0264 (SFN: 5005256)
- MAH-422-0292 (SFN: 5005280)
- MAH-422-0341 (SFN: 5005310)
- MAH-422-0351 (SFN: 5005345)
- MAH-422-0361 (SFN: 5005434)
- MAH-193-0031 (SFN: 5004438)
- MAH-193-0056 (SFN: 5004446)
- MAH-193-0073 (SFN: 5004470)

**OBJECT MARKERS AND STRUCTURE/CULVERT IDENTIFICATION SIGNS**

OBJECT MARKERS WILL BE PLACED ON EACH APPROACH OFF THE LEFT AND RIGHT SHOULDER, FACING TRAFFIC, AND BEHIND THE GUARDRAIL IF APPLICABLE. ONE OM-3L AND ONE OM-3R WILL BE INSTALLED AT EACH APPROACH. THE SIGNS WILL BE MOUNTED ON NEW NO. 2 POSTS AND SHALL BE INSTALLED AS PER STANDARD CONSTRUCTION DRAWING TC-41.20, MOST CURRENT REVISION. EACH POST WILL BE 10.5 FT IN LENGTH.

STRUCTURE IDENTIFICATION SIGNS (I-H25b) WILL BE INSTALLED ON THE SAME POST AND DIRECTLY BELOW THE OBJECT MARKER OFF THE RIGHT SHOULDER ON EACH APPROACH. A QUANTITY OF ONE SIGN WILL BE INSTALLED AT EACH APPROACH. THE SIGNS WILL HAVE A NON-REFLECTIVE WHITE SHEETING BACKGROUND.

INSTALL SIGNS FOR THE FOLLOWING STRUCTURES:

- MAH-193-0020 (2 APPROACHES)
- MAH-62D-0008R (1 APPROACH)
- MAH-62D-0008L (1 APPROACH)
- MAH-62-1929R (1 APPROACH)
- MAH-193-0107 (2 APPROACHES)
- MAH-422-0341 (2 APPROACHES)
- MAH-422-0351 (2 APPROACHES)
- MAH-193-0031 (2 APPROACHES)
- MAH-193-0073 (2 APPROACHES)

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED FOR EACH APPROACH:

- ITEM 630 - SIGN, FLAT SHEET, 730.20, 1 SQ FT
- ITEM 630 - SIGN, FLAT SHEET, 6 SQ FT
- ITEM 630 - GROUND MOUNTED SUPPORT, NO. 2 POST, 21 FT
- ITEM 630 - REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL, 3 EACH
- ITEM 630 - REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL, 2 EACH

**STRUCTURE/CULVERT IDENTIFICATION SIGNS**

STRUCTURE IDENTIFICATION SIGNS (I-H25b) WILL BE PLACED ON EACH APPROACH OFF THE RIGHT SHOULDER, FACING TRAFFIC, AND BEHIND THE GUARDRAIL IF APPLICABLE. A QUANTITY OF ONE SIGN PER APPROACH WILL BE INSTALLED. THE SIGNS WILL HAVE A NON-REFLECTIVE WHITE SHEETING BACKGROUND.

THE SIGNS WILL BE MOUNTED ON NEW NO. 2 POSTS AND WILL BE INSTALLED AS PER STANDARD CONSTRUCTION DRAWING TC-41.20, MOST CURRENT REVISION. EACH POST WILL BE 7.5' IN LENGTH.

INSTALL SIGNS FOR THE FOLLOWING STRUCTURES:

- MAH-422-0217 (2 APPROACHES)
- MAH-422-0244 (2 APPROACHES)
- MAH-422-0254 (2 APPROACHES)
- MAH-422-0264 (2 APPROACHES)
- MAH-422-0292 (2 APPROACHES)
- MAH-422-0361 (2 APPROACHES)
- MAH-193-0056 (2 APPROACHES)

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED FOR EACH APPROACH:

- ITEM 630 - SIGN, FLAT SHEET, 730.20, 1 SQ FT
- ITEM 630 - GROUND MOUNTED SUPPORT, NO. 2 POST, 7.5 FT
- ITEM 630 - REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL, 1 EACH
- ITEM 630 - REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL, 1 EACH

**WARREN GREENWAY BIKE TRAIL - TRU-422-12.82**

THE TRU-422-12.82 BRIDGE CARRIES THE WARREN GREENWAY BIKE TRAIL OVER U. S. ROUTE 422. THE CONTRACTOR SHALL NOT STAGE OR STORE ANY CONSTRUCTION EQUIPMENT AND/OR MATERIALS WITHIN THE TRAIL EASEMENT. THE CONTRACTOR SHALL MAINTAIN A SAFE OPEN TRAIL AT ALL TIMES DURING PROJECT CONSTRUCTION AND SHALL TAKE ALL PRECAUTIONS NECESSARY TO ENSURE PUBLIC SAFETY WITHIN THE PROJECT CONSTRUCTION LIMITS.

STRUCTURE NOTES  
MAH-SR 193, MAH-US 62D, MAH-US 62,  
MAH-US 422, TRU-US 422

SFN

DESIGN AGENCY



DESIGNER CHECKER

BFR XXX

REVIEWER

MJA 06/15/21

PROJECT ID

91900

SUBSET TOTAL

3 11

SHEET TOTAL

P.29 37

CALC: BFR DATE: 4/6/2021  
 CHECKED: DATE:

ESTIMATED QUANTITIES

BRIDGE NO. / STRUCTURE FILE NO.							ITEM	EXTENSION	UNIT	DESCRIPTION	SEE SHEET
	MAH-193-0020 5004381 05/IMS/BR	MAH-62D-0008R 5008514 06/NHS/BR	MAH-62D-0008L 5008522 06/NHS/BR	MAH-62-1929R 5009553 06/NHS/BR	MAH-193-0107 5004500 06/NHS/BR						
	LS	LS	LS	LS	LS	201	11001		CLEARING AND GRUBBING, AS PER PLAN	2/11	
					LS	202	11201		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	2/11	
					588	202	23500	SY	WEARING COURSE REMOVED		
					53	407	13900	GAL	TACK COAT, 702.13		
					36	407	20000	GAL	NON-TRACKING TACK COAT		
					17	442	20001	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (448), AS PER PLAN, PG70-22M	2/11	
					33	SPECIAL	45130000	FT	PRESSURE RELIEF JOINT, TYPE A	3/11	
					6	511	71100	CY	CONCRETE, MISC.: BACKWALL REPAIR	2/11	
	45	12	12	17	42	512	10100	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)		
	1338	986	1025		1635	512	73500	SY	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN		
	860	561	748		1200	512	74500	FT	REMOVAL OF EXISTING PAVEMENT MARKING		
					10	516	45305	EACH	REFURBISH BEARING DEVICE, AS PER PLAN	3/11	
					LS	516	47001		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	3/11	
					25	SPECIAL	51900100	SF	COMPOSITE FIBER WRAP SYSTEM	2/11	
	350	100	100	150	300	519	11101	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	2/11	
					18	519	12304	SY	PATCHING CONCRETE BRIDGE DECK - TYPE C		
	50				50	SPECIAL	53000600	SF	STRUCTURES CONCRETE SPALL REMOVAL	2/11	
	42	21	21	21	42	630	02100	FT	GROUND MOUNTED SUPPORT, NO. 2 POST		
	12	6	6	6	12	630	80100	SF	SIGN, FLAT SHEET		
	2	1	1	1	2	630	80100	SF	SIGN, FLAT SHEET, 730.20		
	6	3	3	3	6	630	84900	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL		
	4	2	2	2	4	630	86002	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL		
					26	856	10000	CY	BRIDGE DECK WATERPROOFING ASPHALT CONCRETE		

STRUCTURE ESTIMATED QUANTITIES  
 MAH-193-0020, MAH-62D-0008L&R, MAH-62D-0008R  
 MAH-62-1929R, MAH-193-0107

SFN

DESIGN AGENCY



DESIGNER CHECKER

BFR XXX

REVIEWER

MJA 06/15/21

PROJECT ID

91900

SUBSET TOTAL

4 11

SHEET TOTAL

P.30 37


CALC: BFR DATE: 4/6/2021  
 CHECKED: DATE:

ESTIMATED QUANTITIES

BRIDGE NO. / STRUCTURE FILE NO.							ITEM	EXTENSION	UNIT	DESCRIPTION	SEE SHEET
MAH-422-0217 5005175 06/NHS/BR	MAH-422-0244 5005191 06/NHS/BR	MAH-422-0254 5005221 06/NHS/BR	MAH-422-0264 5005256 06/NHS/BR	MAH-422-0292 5005280 06/NHS/BR	MAH-422-0341 5005310 06/NHS/BR						
LS	LS	LS	LS	LS	LS	LS	201	11001		CLEARING AND GRUBBING, AS PER PLAN	2/11
	278	170	289	170			254	01000	SY	PAVEMENT PLANING, ASPHALT CONCRETE (T=1.5")	
	25	16	26	16			407	20000	GAL	NON-TRACKING TACK COAT	
	12	8	13	8			442	20001	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (448), AS PER PLAN, PG70-22M	2/11
						204	SPECIAL	45130000	FT	PRESSURE RELIEF JOINT, TYPE A	3/11
	279	202	341	155	23		512	10100	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
828	1110	683	1296	528	2654		512	73500	SY	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN	
	256	196	324	143			512	74000	SY	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	
263	672	191	687	158	1872		512	74500	FT	REMOVAL OF EXISTING PAVEMENT MARKING	
	3						512	74520	EACH	REMOVAL OF EXISTING PAVEMENT MARKING	
	200	50	150	100	200		519	11101	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	2/11
15	15	15	15	15	42		630	02100	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
					12		630	80100	SF	SIGN, FLAT SHEET	
2	2	2	2	2	2		630	80100	SF	SIGN, FLAT SHEET, 730.20	
2	2	2	2	2	6		630	84900	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
2	2	2	2	2	4		630	86002	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	

STRUCTURE ESTIMATED QUANTITIES  
 MAH-422-0217, MAH-422-0244, MAH-422-0254  
 MAH-422-0264, MAH-422-0292, MAH-422-0341

DESIGN AGENCY



DESIGNER: BFR CHECKER: XXX  
 REVIEWER: MJA 06/15/21  
 PROJECT ID: 91900  
 SUBSET: 5 TOTAL: 11  
 SHEET: P.31 TOTAL: 37

CALC: BFR DATE: 4/6/2021  
 CHECKED: DATE:

ESTIMATED QUANTITIES

BRIDGE NO. / STRUCTURE FILE NO.							ITEM	EXTENSION	UNIT	DESCRIPTION	SEE SHEET
MAH-422-0351 5005345 06/NHS/BR	MAH-422-0361 5005434 06/NHS/BR	MAH-193-0031 5004438 06/NHS/BR	MAH-193-0056 5004446 06/NHS/BR	MAH-193-0073 5004470 06/NHS/BR	TRU-422-1282 7807074 07/S>2/BR						
LS	LS	LS	LS	LS	LS	201	11001		CLEARING AND GRUBBING, AS PER PLAN	2/11	
				LS		202	11201		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	2/11	
285	165					SPECIAL	45130000	FT	PRESSURE RELIEF JOINT, TYPE A	3/11	
				3		511	71100	CY	CONCRETE, MISC.: BACKWALL REPAIR	2/11	
34	17	4577	35	28	1031	512	10100	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)		
5433	2306		1967	8943		512	73500	SY	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN		
		4577				512	74000	SY	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES		
5423	1518		1377	7020		512	74500	FT	REMOVAL OF EXISTING PAVEMENT MARKING		
				223		516	01301	FT	ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS, AS PER PLAN	2/11	
			60			SPECIAL	51900100	SF	COMPOSITE FIBER WRAP SYSTEM	2/11	
300	150		150	250	100	519	11101	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	2/11	
			20			519	12304	SY	PATCHING CONCRETE BRIDGE DECK - TYPE C		
			100			SPECIAL	53000600	SF	STRUCTURES CONCRETE SPALL REMOVAL	2/11	
				30		601	27000	CY	DUMPED ROCK FILL, TYPE C		
42	15	42	15	42		630	02100	FT	GROUND MOUNTED SUPPORT, NO. 2 POST		
12		12		12		630	80100	SF	SIGN, FLAT SHEET		
2	2	2	2	2		630	80100	SF	SIGN, FLAT SHEET, 730.20		
6	2	6	2	6		630	84900	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL		
4	2	4	2	4		630	86002	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL		

STRUCTURE ESTIMATED QUANTITIES  
 MAH-422-0351, MAH-422-0361, MAH-193-0031,  
 MAH-193-0056, MAH-193-0073, TRU-422-1282

SFN

DESIGN AGENCY



DESIGNER CHECKER

BFR XXX

REVIEWER

MJA 06/15/21

PROJECT ID

91900

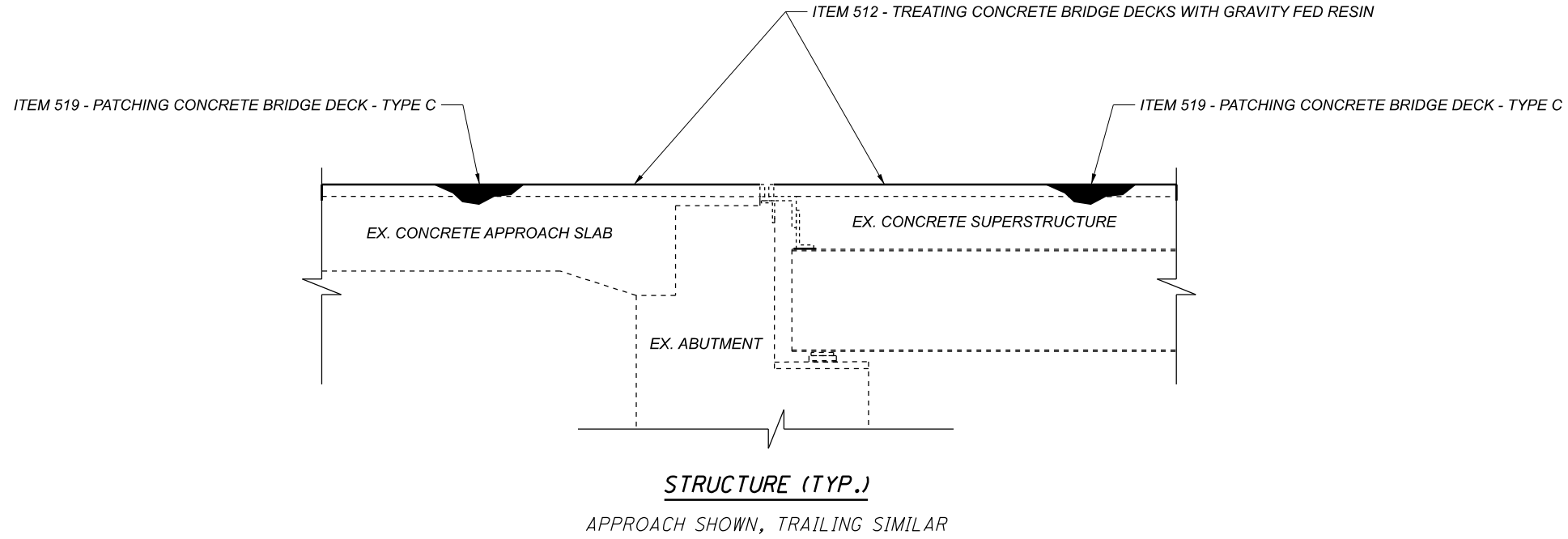
SUBSET TOTAL

6 11

SHEET TOTAL

P.32 37



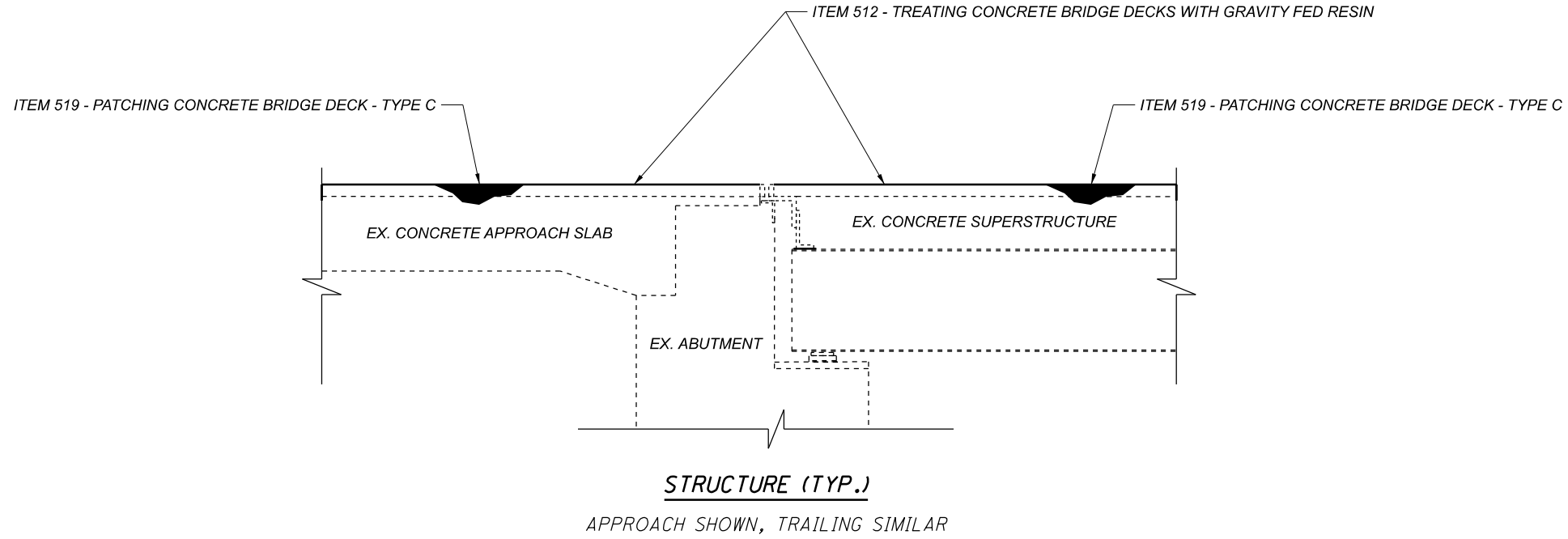


BRIDGE NUMBER	BRIDGE DECK										APPROACH SLABS									
	LENGTH (BRIDGE LIMITS)	BRIDGE WIDTH	DECK AREA	512	512	512	519				LENGTH (APPROACH SLABS)	APPROACH SLAB WIDTH	APPROACH SLAB AREA	APPROACH (FORWARD / REAR)	512	512	519			
				TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN	REMOVAL OF EXISTING PAVEMENT MARKING	REMOVAL OF EXISTING PAVEMENT MARKING	PATCHING CONCRETE BRIDGE DECK - TYPE C								TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN	REMOVAL OF EXISTING PAVEMENT MARKING	PATCHING CONCRETE BRIDGE DECK - TYPE C			
FT	FT	SQ YD	SY	FT	EACH	SY				FT	FT	SQ YD		SY	FT	SY				
MAH-193-0020	215.00	56.00	1337.78	1338.00	860.00															
MAH-62D-0008R	137.00	47.50	723.06	724.00	411.00					25.00	49.00	136.11	REAR	137.00	75.00					
										25.00	45.00	125.00	FWD	125.00	75.00					
MAH-62D-0008L	137.00	49.25	749.69	750.00	548.00					25.00	49.50	137.50	REAR	138.00	100.00					
										25.00	49.00	136.11	FWD	137.00	100.00					
MAH-193-0107	150.00	82.00	1366.67	1367.00	900.00		14.00			25.00	48.00	133.33	REAR	134.00	150.00	5.00				
										25.00	48.00	133.33	FWD	134.00	150.00	5.00				
MAH-422-0217	228.00	30.00	760.00	760.00	228.00					10.00	30.00	33.33	REAR	34.00	25.00					
										10.00	30.00	33.33	FWD	34.00	10.00					
MAH-422-0244	168.00	48.00	896.00	896.00	504.00	3.00				20.00	48.00	106.67	REAR	107.00	84.00					
										20.00	48.00	106.67	FWD	107.00	84.00					
MAH-422-0254	151.00	30.00	503.33	504.00	151.00					20.00	30.00	66.67	REAR	67.00	20.00					
										20.00	30.00	66.67	FWD	67.00	20.00					
			TOTALS	6339	3602	3	14						TOTALS	1221	893	10				

STRUCTURE DETAILS  
 MAH-193-0020, MAH-62D-0008L, MAH-62D-0008R, MAH-193-0107,  
 MAH-422-0217, MAH-422-0244, MAH-422-0254

DESIGN AGENCY

DESIGNER: BFR  
 CHECKER: XXX  
 REVIEWER: MJA 06/15/21  
 PROJECT ID: 91900  
 SUBSET: 7  
 TOTAL: 11  
 SHEET: P.33  
 TOTAL: 37



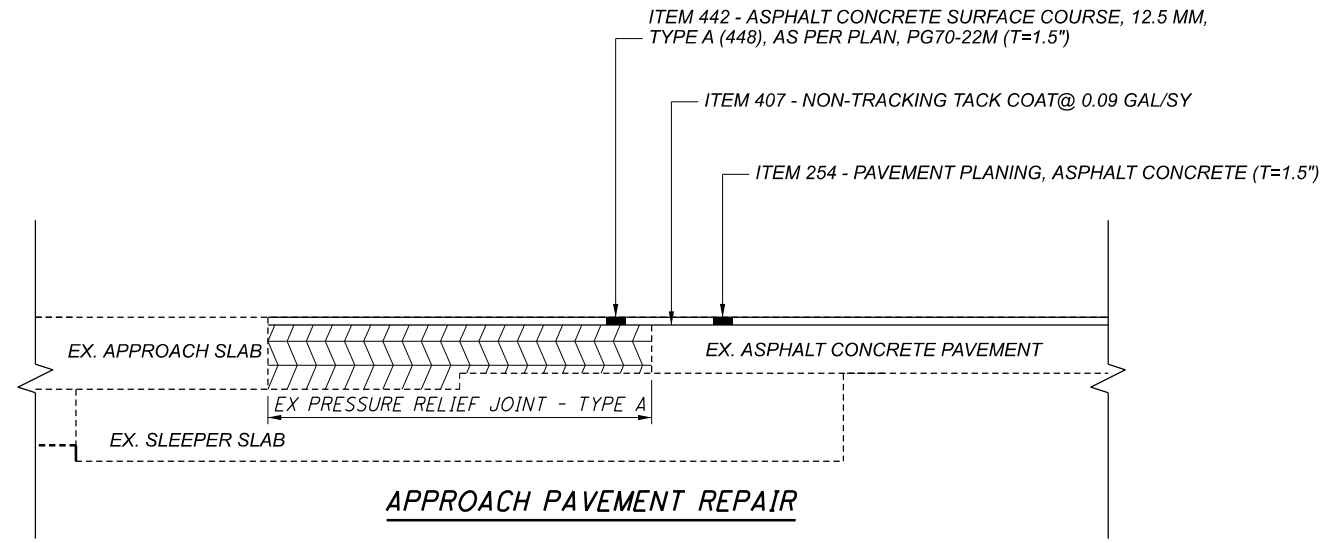
BRIDGE NUMBER	BRIDGE DECK										APPROACH SLABS									
	LENGTH (BRIDGE LIMITS)	BRIDGE WIDTH	DECK AREA	512			519			LENGTH (APPROACH SLABS)	APPROACH SLAB WIDTH	APPROACH SLAB AREA	APPROACH (FORWARD / REAR)	512			519			
				TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN	REMOVAL OF EXISTING PAVEMENT MARKING	PATCHING CONCRETE BRIDGE DECK - TYPE C	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN	REMOVAL OF EXISTING PAVEMENT MARKING	PATCHING CONCRETE BRIDGE DECK - TYPE C					TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN	REMOVAL OF EXISTING PAVEMENT MARKING	PATCHING CONCRETE BRIDGE DECK - TYPE C				
FT	FT	SQ YD	SY	FT	SY	FT	SY	FT	FT	SQ YD		SY	FT	SY						
MAH-422-0264	213.00	48.00	1136.00	1136.00	639.00						80.00	REAR	80.00	24.00						
																			15.00	48.00
MAH-422-0292	118.00	30.00	393.33	394.00	118.00						66.67	REAR	67.00	20.00						
																			20.00	30.00
MAH-422-0341	184.00	102.00	2085.33	2086.00	1472.00						283.33	REAR	284.00	200.00						
																			25.00	102.00
MAH-422-0351	364.00	117.00	4732.00	4732.00	3407.00						416.67	FWD	417.00	1200.00						
																			25.00	150.00
MAH-422-0361	203.00	82.00	1849.56	1850.00	1218.00						227.78	REAR	228.00	150.00						
																			25.00	82.00
MAH-193-0056	119.00	105.00	1388.33	1389.00	952.00	14.00					277.78	REAR	278.00	200.00	3.00					
																				25.00
MAH-193-0073	790.00	95.00	8338.89	8339.00	6545.00						258.33	REAR	259.00	225.00						
																				25.00
TOTALS				19926	14351	14					344.44	TOTALS	3201	3704	6					

STRUCTURE DETAILS  
 MAH-422-0264, MAH-422-0292, MAH-422-0341, MAH-422-0351,  
 MAH-422-0361, MAH-193-0056, MAH-193-0073

DESIGN AGENCY

DESIGNER: BFR  
 CHECKER: XXX  
 REVIEWER: MJA 06/15/21  
 PROJECT ID: 91900  
 SUBSET: 8  
 TOTAL: 11  
 SHEET: P.34  
 TOTAL: 37





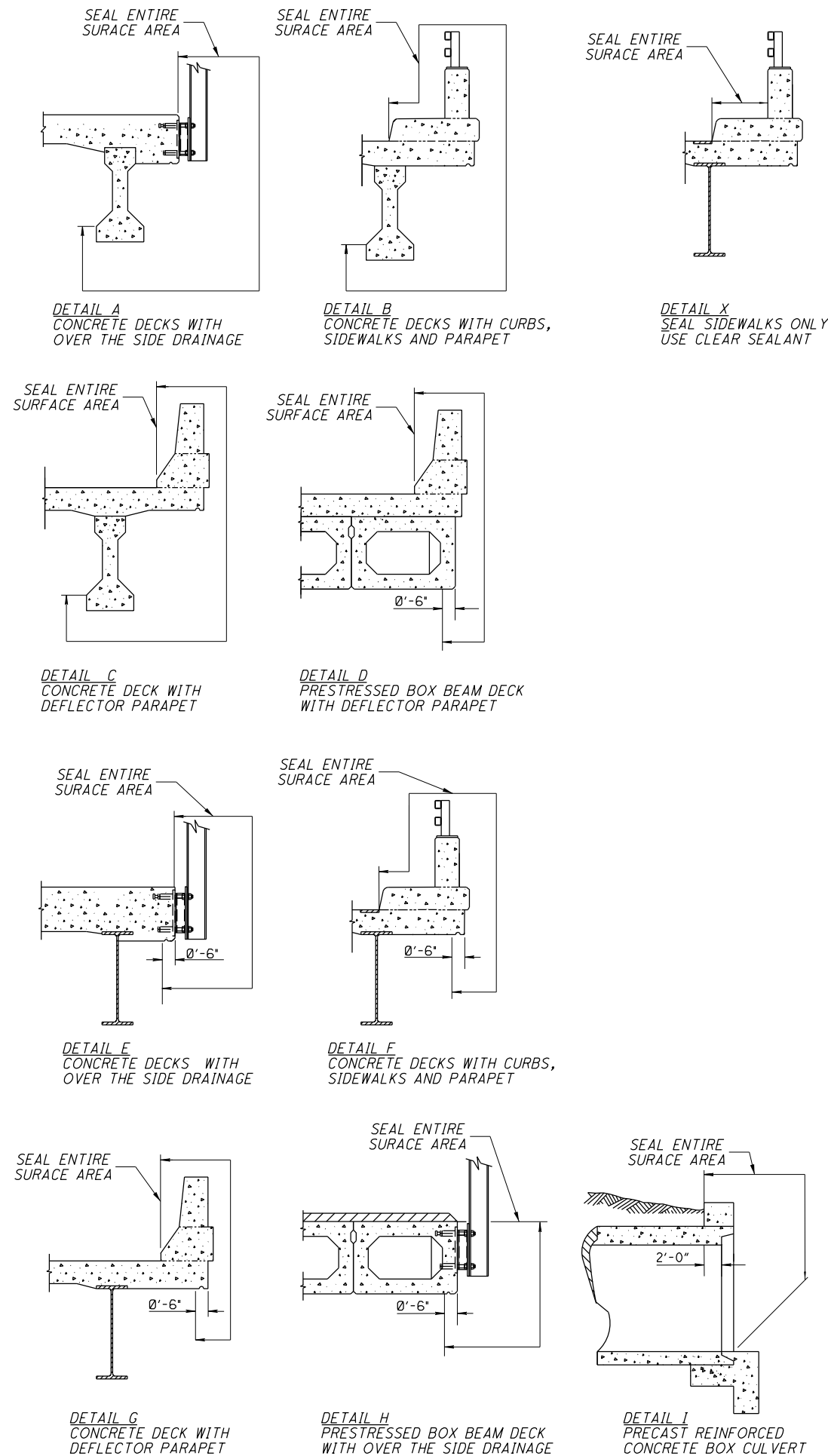
**APPROACH PAVEMENT REPAIR**  
 OVERHEAD STRUCTURES  
 MAH-422-0244, MAH-422-0254, MAH-422-0264, MAH-422-0292

**NOTE:**  
 FORM ASPHALT CONCRETE IN PLACE TO CONFORM WITH ADJACENT CURB AT PRESSURE RELIEF JOINTS.  
 THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ASPHALT CONCRETE SURFACE COURSE

BRIDGE NUMBER	LENGTH	WIDTH	AREA									APPROACH ASPHALT												
												LENGTH	AVG. WIDTH	AREA							APPROACH (FORWARD / REAR)	254	407	442
																						PAVEMENT PLANING, ASPHALT CONCRETE (T=1.5")	NON-TRACKING TACK COAT@ 0.09 GAL/SY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (448), AS PER PLAN, PG70-22M (T=1.5")
FT	FT	SQ YD																						
MAH-422-0244	25.00	50.00	138.89									REAR	138.89	12.50	6.00									
	25.00	50.00	138.89									FWD	138.89	12.50	6.00									
MAH-422-0254	25.00	30.00	83.33									REAR	83.33	7.50	4.00									
	25.00	31.00	86.11									FWD	86.11	7.75	4.00									
MAH-422-0264	25.00	53.00	147.22									REAR	147.22	13.25	7.00									
	25.00	51.00	141.67									FWD	141.67	12.75	6.00									
MAH-422-0292	25.00	30.00	83.33									REAR	83.33	7.50	4.00									
	25.00	31.00	86.11									FWD	86.11	7.75	4.00									
<b>TOTALS</b>												<b>TOTALS</b>	<b>906</b>	<b>82</b>	<b>41</b>									

**STRUCTURE DETAILS**  
 MAH-422-0244, MAH-422-0254  
 MAH-422-0264, MAH-422-0292

DESIGNER: BFR  
 CHECKER: XXX  
 REVIEWER: MJA 06/15/21  
 PROJECT ID: 91900  
 SUBSET: 10 TOTAL: 11  
 SHEET: P.36 TOTAL: 37



BRIDGE NUMBER	STRUCTURE TYPE	PROPOSED SEALING	FEDERAL COLOR NUMBER	ESTIMATED QUANTITIES				
				ABUT (SQ YD)	PIER (SQ YD)	SUPER (SQ YD)	GENERAL (SQ YD)	TOTAL (SQ YD)
MAH-193-0020	STEEL BEAM CONTINUOUS	SEAL ALL PATCHED CONCRETE SURFACES SEAL ALL REMOVED SPALLS AT THE BOTTOM DECK FLOOR	PER CMS				45.00	45
MAH-62D-0008R	STEEL BEAM CONTINUOUS	SEAL ALL PATCHED CONCRETE SURFACES	PER CMS				12.00	12
MAH-62D-0008L	STEEL BEAM CONTINUOUS	SEAL ALL PATCHED CONCRETE SURFACES	PER CMS				12.00	12
MAH-62-1929R	STEEL BEAM CONTINUOUS	SEAL ALL PATCHED CONCRETE SURFACES	PER CMS				17.00	17
MAH-193-0107	STEEL BEAM CONTINUOUS	SEAL ALL PATCHED CONCRETE SURFACES SEAL ALL REMOVED SPALLS AT THE BOTTOM DECK FLOOR	PER CMS				42.00	42
MAH-422-0244	STEEL BEAM CONTINUOUS	SEAL ALL PATCHED CONCRETE SURFACES SEAL SIDEWALKS PER DETAIL X	PER CMS SIDEWALKS: CLEAR			256.00	23.00	279
MAH-422-0254	STEEL BEAM CONTINUOUS	SEAL ALL PATCHED CONCRETE SURFACES SEAL SIDEWALKS PER DETAIL X	PER CMS SIDEWALKS: CLEAR			196.00	6.00	202
MAH-422-0264	STEEL BEAM CONTINUOUS	SEAL ALL PATCHED CONCRETE SURFACES SEAL SIDEWALKS PER DETAIL X	PER CMS SIDEWALKS: CLEAR			324.00	17.00	341
MAH-422-0292	STEEL BEAM CONTINUOUS	SEAL ALL PATCHED CONCRETE SURFACES SEAL SIDEWALKS PER DETAIL X	PER CMS SIDEWALKS: CLEAR			143.00	12.00	155
MAH-422-0341	STEEL BEAM CONTINUOUS	SEAL ALL PATCHED CONCRETE SURFACES	PER CMS				23.00	23
MAH-422-0351	STEEL BEAM CONTINUOUS	SEAL ALL PATCHED CONCRETE SURFACES	PER CMS				34.00	34
MAH-422-0361	STEEL BEAM CONTINUOUS	SEAL ALL PATCHED CONCRETE SURFACES	PER CMS				17.00	17
MAH-193-0031	STEEL BEAM CONTINUOUS	SEAL OUTSIDE AND MEDIAN PARAPETS PER DETAIL G	PER CMS			4577.00		4577
MAH-193-0056	CONCRETE SLAB CONTINUOUS	SEAL ALL PATCHED CONCRETE SURFACES SEAL ALL REMOVED SPALLS AT THE BOTTOM DECK FLOOR	PER CMS				35.00	35
MAH-193-0073	STEEL BEAM CONTINUOUS	SEAL ALL PATCHED CONCRETE SURFACES	PER CMS				28.00	28
TRU-422-1282	STEEL BEAM CONTINUOUS	SEAL ALL EXPOSED CONCRETE AT ABUTMENTS SEAL ALL EXPOSED CONCRETE AT PIERS SEAL ALL EXPOSED CONCRETE AT WINGWALLS	PER CMS	368.00	53.00		610.00	1031

NOTES:  
 - EPOXY-URETHANE SEALER SHALL BE USED UNLESS SHOWN OTHERWISE  
 - DETAILS E, F, G AND H ALSO APPLY TO CONCRETE SLAB BRIDGES

STRUCTURE DETAILS  
 MAH-SR 193, MAH-US 62D, MAH-US 62,  
 MAH-US 422, TRU-US 421

SFN

DESIGN AGENCY



DESIGNER CHECKER

BFR XXX

REVIEWER

MJA 06/15/21

PROJECT ID

91900

SUBSET TOTAL

11 11

SHEET TOTAL

P.37 37