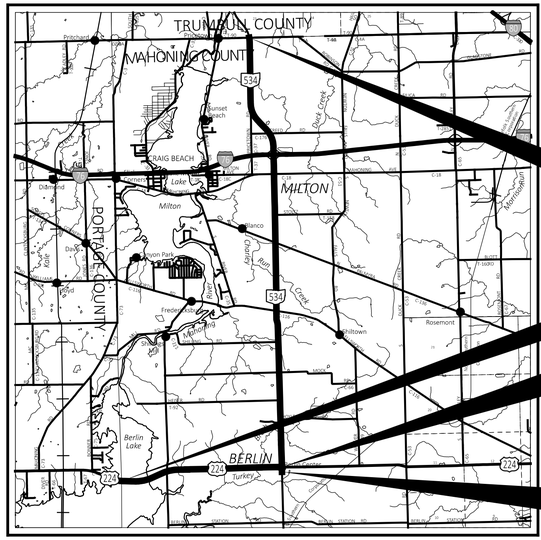
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION



LOCATION MAP

LATITUDE: 41°01'30" LONGITUDE: 80°56'50"

N

MAH-224/534-0.00/8.46

BERLIN AND MILTON TOWNSHIPS

MAHONING COUNTY

PORTION TO BE IMPROVED
INTERSTATE HIGHWAY
FEDERAL ROUTES
STATE ROUTES
COUNTY & TOWNSHIP ROADS
OTHER ROADS

INDEX OF SHEETS:

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DESIGN DESIGNATION (TIMS)

	US 224 (0.00-2.46)	US 224 (2.46-2.89)	SR 534 (8.46-9.05)	SR 534 (9.05-16.26)
CURRENT ADT (2024)	3,784	3,784	1,948	1,948
DESIGN YEAR ADT (2022)	3,623	3,623	1,925	1,925
DESIGN HOURLY VOLUME (2022)	340	340	205	205
DIRECTIONAL DISTRIBUTION	57%	57%	50%	50%
TRUCKS (24 HOUR B&C)	7%	7%	8%	8%
DESIGN SPEED	60	60	60	60
LEGAL SPEED	55	40	45	55

DESIGN FUNCTIONAL CLASSIFICATION:
RURAL MINOR ARTERIAL (US 224)
RURAL MAJOR COLLECTOR (SR 534)
NHS PROJECT NO

DESIGN EXCEPTIONS

NONE

ADA DESIGN WAIVERS

NONE

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, CAPITAL PROGRAMS
2088 S. ARLINGTON RD
AKRON, OHIO 44306

FEDERAL PROJECT NUMBER

E250730

RAILROAD INVOLVEMENT

NONE

PROJECT DESCRIPTION

RESURFACING MAH US 224 FROM 0.00 TO 2.89 AND MAH SR 534 FROM 8.46 TO 16.26. MINOR REHABILITATION TO 8 BRIDGES.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	1.16 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.25 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	N/A (NOI NOT REQUIRED)*

* ROUTINE MAINTENANCE PROJECT

2023 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS, CHANGES LISTED IN THE PROPOSAL, AND THE SUPPLEMENTAL SPECIFICATION 800 VERSION INDICATED ON 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 AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

Arthur G. Noirot Jr., P.E.
District 04 Deputy Director

Pamela Boratyn
Director, Department of Transportation

STANDARD CONSTRUCTION DRAWINGS / SUPPLEMENTAL SPECIFICATIONS / SPECIAL PROVISIONS

BP-2.2	1/15/21	MT-97.10	4/19/19	TC-65.11	1/17/25			800-2023	1/17/25	WPC	8/28/25
BP-3.1	1/19/24	MT-97.12	1/20/17					821	4/20/12		
BP-3.2	1/18/19	MT-98.29	1/17/20					832	7/19/24		
BP-4.1	7/19/13	MT-99.20	4/19/19					848	7/19/24		
BP-7.1	1/17/25	MT-101.90	7/17/20					872	1/17/25		
		MT-105.10	1/17/20					874	4/17/20		
DM-4.3	1/15/16	MT-110.10	7/19/13					875	1/17/25		
DM-4.4	1/15/16							921	7/19/24		
		TC-41.10	7/19/13								
MGS-2.1	1/17/25	TC-41.20	10/18/13								
		TC-42.10	10/18/13								
RM-1.1	1/20/23	TC-42.20	10/18/13								
		TC-52.10	10/18/13								
AS-1-15	1/20/23	TC-52.20	1/15/21								
		TC-64.10	7/21/23								
DS-1-92	7/15/22	TC-65.10	1/17/14								

ENGINEER'S SEAL
ROADWAY
STATE OF OHIO
MARK J. ANDRASIK
E-80194
REGISTERED
PROFESSIONAL ENGINEER

TITLE SHEET

DESIGN AGENCY

DESIGNER JF
REVIEWER MJA 08-26-25
PROJECT ID 112817
SHEET P.1 TOTAL 27

MAH-224/534-0.00/8.46

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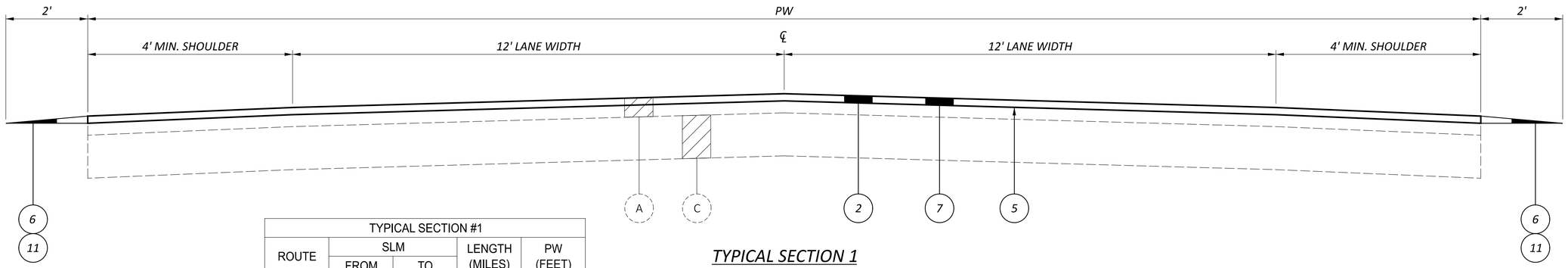
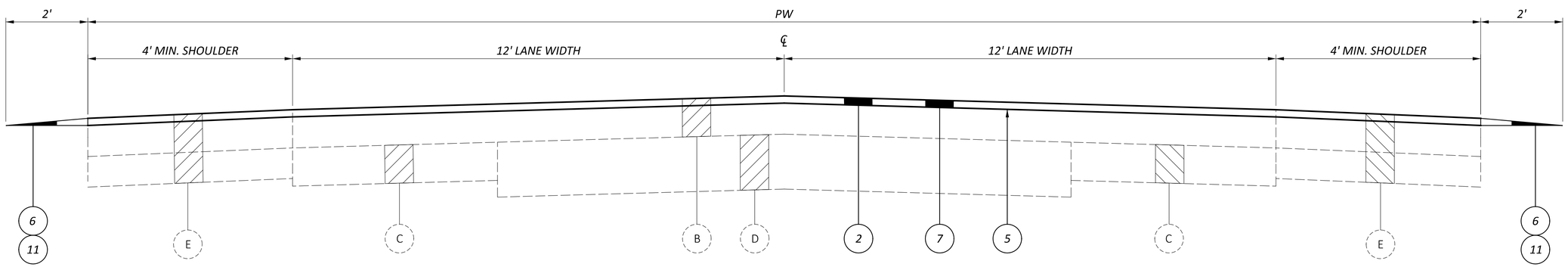


TYPICAL SECTION #1				
ROUTE	SLM		LENGTH (MILES)	PW (FEET)
	FROM	TO		
MAH-224	0.00	0.10	0.10	60
MAH-224	0.18	1.87	1.69	32

TYPICAL SECTION 1

US 224
(SLM 0.00 - 1.87)



TYPICAL SECTION 2

US 224
(SLM 1.87 - 2.89)

TYPICAL SECTION #2				
ROUTE	SLM		LENGTH (MILES)	PW (FEET)
	FROM	TO		
MAH-224	1.87	2.52	0.65	32
MAH-224	2.53	2.89	0.36	32

LEGEND

1. *ITEM 209, PREPARING SUBGRADE FOR SHOULDER PAVING*
2. *ITEM 254, PAVEMENT PLANING, ASPHALT CONCRETE (T = 1.50")*
3. *ITEM 254, PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (PROFILE MILLING) [T = VAR. 1"-4.25" MAX. (3" AVG.)]*
4. *ITEM 407, NON-TRACKING TACK COAT @ 0.06 GAL/SY*
5. *ITEM 407, NON-TRACKING TACK COAT @ 0.09 GAL/SY*
6. *ITEM 408, PRIME COAT, AS PER PLAN @ 0.40 GAL/SY*
7. *ITEM 441, ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M (T = 1.50")*
8. *ITEM 441, ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M (T = 1.25")*
9. *ITEM 441, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449) [T = VAR. 1"-3" MAX. (1.75" AVG.)]*
10. *SAFETY EDGE, AS PER BP-3.2*
11. *ITEM 617, COMPACTED AGGREGATE, AS PER PLAN (T = 1" AVG.)*

- (A) *EXISTING ASPHALT CONCRETE (T = 4"±)*
- (B) *EXISTING ASPHALT CONCRETE (T = 8"±)*
- (C) *EXISTING CONCRETE PAVEMENT (T = 9"±)*
- (D) *EXISTING MACADAM BASE (T = 11"±)*
- (E) *EXISTING SHOULDER (T = 15"±)*
- (F) *EXISTING AGGREGATE BASE (T = 11"±)*

TYPICAL SECTIONS

DESIGN AGENCY

DESIGNER
SBD

REVIEWER
MJA 08-26-25

PROJECT ID
112817

SHEET P.2 TOTAL 27

MAH-224/534-0.00/8.46

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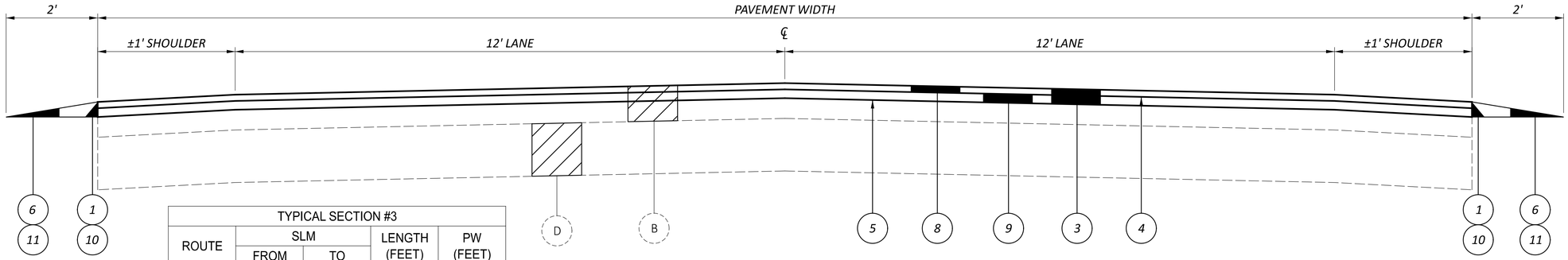
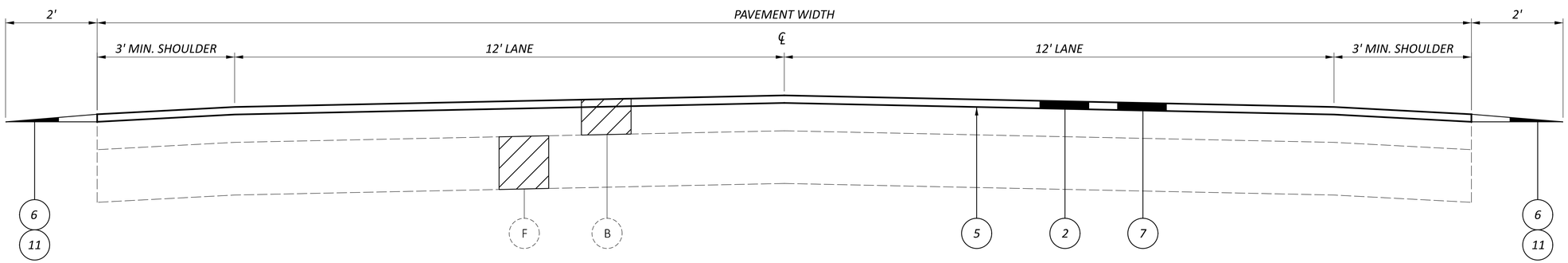


TYPICAL SECTION #3				
ROUTE	SLM		LENGTH (FEET)	PW (FEET)
	FROM	TO		
MAH-534	8.46	9.22	0.76	24
MAH-534	9.23	10.77	1.54	26
MAH-534	10.77	11.28	0.51	36
MAH-534	11.28	13.73	2.45	26

TYPICAL SECTION 3

SR 534
(SLM 8.46 - 13.73)



TYPICAL SECTION 4

SR 534
(SLM 13.73 - 16.26)

TYPICAL SECTION #4				
ROUTE	SLM		LENGTH (FEET)	PW (FEET)
	FROM	TO		
MAH-534	13.73	13.82	0.09	26
MAH-534	13.82	14.05	0.23	30
MAH-534	14.11	16.07	1.96	32
MAH-534	16.07	16.26	0.19	28

SEE SHEET P.2 FOR LEGEND

TYPICAL SECTIONS

DESIGN AGENCY

DESIGNER
SBD

REVIEWER
MJA 08-26-25

PROJECT ID
112817

SHEET P.3 TOTAL 27

MAH-224/534-0.00/8.46

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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.

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.

LISTED BELOW ARE IDENTIFIED UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

GAS LINE - LOCATED AT US-224, SLM 2.34 - 2.38, SEE SHEET P.6
ENERGY TRANSFER
DEAN M. SHANLEY, 330-704-3286
525 FRITZTOWN RD, SINKING SPRING, PA, 49608
DEAN.SHANLEY@energytransfer.com
CC: john.ruszkay@energytransfer.com

THE LOCATION OF OTHER 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.

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 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
US 224	0.00 TO 1.21	12'
US 224	1.21 TO 2.89	12'
SR 534	8.46 TO 16.26	12'

PAVEMENT MARKING DETAILS

THE PAVEMENT MARKING DETAIL SHEETS HAVE BEEN SUPPLIED AS REFERENCE DOCUMENTS FOR THIS PROJECT AND ARE AVAILABLE ON THE ODOT FTP SITE AT https://ftp.dot.state.oh.us/pub/contracts/Attach/ FOR THIS PROJECT. FOR ANY LOCATIONS THAT PAVEMENT MARKING DETAILS HAVE NOT BEEN MADE AVAILABLE TO THE CONTRACTOR, IT WILL BE THE CONTRACTORS RESPONSIBILITY TO PUT BACK NEW PAVEMENT MARKINGS IN THE ORIGINAL LOCATIONS.

INTERSECTIONS

INTERSECTIONS WILL BE RESURFACED 10 FT. BEYOND THE EDGE LINE, EXCEPT FOR MAH SR 534 (SLM 8.46 TO 13.73), WHERE WITHIN THESE LIMITS INTERSECTIONS WILL BE RESURFACED 25 FT. BEYOND THE EDGE LINE. INTERSECTIONS SHALL BE PAVED AFTER COMPLETION OF THE SURFACE COURSE. A BUTT JOINT, AS PER STANDARD CONSTRUCTION DRAWING BP-3.1, SHALL BE USED TO PROVIDE A SMOOTH TRANSITION TO THE EXISTING PAVEMENT. USE THE SAME ASPHALT CONCRETE AS THE MAINLINE PAVEMENT UNLESS SHOWN OTHERWISE ON THE ASPHALT CONCRETE CALCULATIONS SHEET. ANY GRADING OR PRIME NECESSARY TO ACCOMPLISH THIS WORK SHALL BE INCLUDED IN THE COST OF THE PERTINENT BID ITEM.

DRIVEWAYS

THE CONTRACTOR WILL NOT BE PERMITTED TO LEAVE A DIFFERENCE IN ELEVATION BETWEEN THE MAINLINE ASPHALT SURFACE COURSE AND THE EXISTING DRIVEWAYS. IF APPROVED BY THE ENGINEER, AN ASPHALT WEDGE WITH A MINIMUM WIDTH OF 2' (MAH-224 SLM 0.00 TO 2.89, MAH-534 SLM 13.73 TO 16.26) OR 5' (MAH-534 SLM 8.46 TO 13.73) MAY BE PLACED EITHER ON THE ROADWAY SHOULDER OR DRIVEWAY DEPENDENT UPON WHICH SIDE IS HIGH. A QUANTITY OF MAINLINE SURFACE COURSE ASPHALT HAS BEEN PROVIDED IN THE CALCULATIONS AND GENERAL SUMMARY TO PERFORM THIS ITEM OF WORK.

IN THE EVENT THAT THE ENGINEER DETERMINES ADDITIONAL WORK IS NECESSARY TO PROPERLY ADDRESS FIELD CONDITIONS, AN ITEM FOR WEARING COURSE REMOVED HAS BEEN PROVIDED. THE REMOVAL DEPTH IS DEPENDENT UPON THE ELEVATION DIFFERENCE AND ALLOW FOR 1 -2" OF COMPACTED ASPHALT MATERIAL TO BE PLACED.

PAVED MAILBOX APPROACHES

ALL EXISTING MAIL BOX APPROACHES WILL BE PAVED WITH ASPHALT CONCRETE. THE BUILDUP OF THE ASPHALT PAVEMENT SHALL MATCH THE MAINLINE PAVING. THE LIMITS OF THE PAVING SHALL MATCH THE EXISTING MAILBOX APPROACH LIMITS. PAYMENT FOR THE WORK SHALL BE INCLUDED IN THE MAINLINE PAVING QUANTITIES, SEPARATE QUANTITIES FOR THE MAILBOX APPROACHES ARE NOT PROVIDED.

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 PAVEMENT REPAIR). THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:
203, EXCAVATION (FOR PAVEMENT REPAIR), 50 CU YD

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.

THE CONTRACTOR IS REQUIRED TO PLACE ITEM 617 WITHIN A PERIOD NOT TO EXCEED 7 DAYS. REFER TO THE AS PER PLAN NOTE FOR REQUIREMENTS.

EXPOSED EARTH OUTSIDE OF THE LIMITS OF ITEM 617 ARE REQUIRED TO BE SEEDED AND MULCHED WITHIN 7 DAYS OF PLACEMENT OF ITEM 617. PAYMENT FOR THIS WORK SHALL BE MADE UNDER ITEM 832.

THE QUANTITY OF ITEM 209 IS NOT PERMITED 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, 203 STA.

BARRIER REFLECTORS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AT LOCATIONS DIRECTED BY THE ENGINEER FOR INSTALLING/REPLACING BARRIER REFLECTORS ON ALL EXISTING BARRIER RUNS WITHIN THE PROJECT LIMITS.
202, REMOVAL MISC.: BARRIER REFLECTOR, 121 EACH
626, BARRIER REFLECTOR, TYPE 1, 20 EACH
626, BARRIER REFLECTOR, TYPE 2, 131 EACH

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 PAVEMENT REPAIR). THE FOLLOWING ESTIMATEDQUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:
304, AGGREGATE BASE (FOR PAVEMENT REPAIR), 50 CU YD

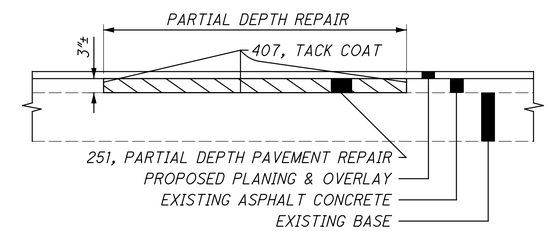
ITEM 408 - PRIME COAT, AS PER PLAN

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 251 - PARTIAL DEPTH PAVEMENT REPAIR (441)

A QUANTITY OF THIS ITEM SHALL BE PROVIDED FOR USE AS DIRECTED BY THE ENGINEER. THE ITEM SHALL CONSIST OF REPAIRING EXISTING LOCATIONS EXHIBITING SURFACE DETERIORATION AND PLACING ITEM 441 ASPHALT CONCRETE, TYPE 2. IT IS NOT THE INTENT TO REPAIR EVERY DETERIORATED AREA WITHIN THE PROJECT. PAVEMENT REPAIRS WILL BE MARKED IN THE FIELD BY THE PROJECT ENGINEER ACCORDING TO CMS 251.02. MINIMUM WIDTH IS 2'. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, THIS ITEM SHALL BE PERFORMED AFTER THE COMPLETION OF MAINLINE PAVEMENT PLANING AND PRIOR TO THE PLACEMENT OF ASPHALT ON THE MILLED SURFACE. PAYMENT SHALL BE BASED ON THE ACTUAL NUMBER OF SQUARE YARDS OF PAVEMENT REPAIR.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:
MAH-224 (SLM 0.00-1.21)
251, PARTIAL DEPTH PAVEMENT REPAIR (441), (LONGITUDINAL), 200 SQ. YD.
MAH-224 (SLM 1.21-2.89)
251, PARTIAL DEPTH PAVEMENT REPAIR (441), (LONGITUDINAL), 800 SQ. YD.
251, PARTIAL DEPTH PAVEMENT REPAIR (441), (TRANSVERSE), 200 SQ. YD.
MAH-534 (SLM 8.46-13.73)
251, PARTIAL DEPTH PAVEMENT REPAIR (441), (LONGITUDINAL), 1500 SQ. YD.
251, PARTIAL DEPTH PAVEMENT REPAIR (441), (TRANSVERSE), 200 SQ. YD.
MAH-534 (SLM 13.73-16.26)
251, PARTIAL DEPTH PAVEMENT REPAIR (441), (LONGITUDINAL), 750 SQ. YD.
251, PARTIAL DEPTH PAVEMENT REPAIR (441), (TRANSVERSE), 100 SQ. YD.



RESURFACING PAVEMENT ADJACENT TO APPROACH SLABS

AT ALL LOCATIONS WHERE THE RESURFACING ABUTS TO THE END OF AN APPROACH SLAB THE CONTRACTOR SHALL APPLY A JOINT SEALER AS SHOWN IN STANDARD CONSTRUCTION DRAWING AS-15-15, SHEET 2, DETAIL C. THE COST FOR THIS WORK SHALL BE INCIDENTAL TO THE ASPHALT PAY ITEMS.

ITEM 608 - CURB RAMP, AS PER PLAN

UNLESS OTHERWISE DIRECTED BY THE ENGINEER, INSTALLATION OF THE CURB RAMPS / DETECTABLE WARNINGS WILL BE PERFORMED PRIOR TO MAINLINE RESURFACING.

IN ADDITION TO THE CMS REQUIREMENTS OF ITEM 608 CURB RAMP, THIS ITEM SHALL INCLUDE THE RESTORATION OF THE ADJACENT AREAS DISTURBED FOR THE INSTALLATION OF CURB RAMPS AND IMMEDIATELY ADJACENT CONCRETE WALK. RESTORATION SHALL INCLUDE PLACEMENT OF ITEM 659 TOPSOIL, ITEM 659 COMMERCIAL FERTILIZER, ITEM 659 SEEDING AND MULCHING, AND ITEM 659 WATER, ALL PER CMS.

PAYMENT FOR ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO PERFORM THE WORK DESCRIBED ABOVE SHALL BE INCLUDED IN THE UNIT PID PRICE FOR ITEM 608, CURB RAMP, AS PER PLAN.

GENERAL NOTES

DESIGN AGENCY

DESIGNER SBD
REVIEWER MJA 08-26-25
PROJECT ID 112817
SHEET P.4 TOTAL 27

MODEL: Sheet 1 PAPERSIZE: 34x22 (in.) DATE: 11/25/2025 TIME: 2:51:38 PM PLTDRV: OHDOT_PDF.pltcfg PENTBL: OHDOT_Pen.tbl USER: JoelFitzsimmons@dot.ohio.gov WORKSPACE: OHDOTCEv02 WORKSET: 112817 PRODUCT: OpenRoadsDesigner 24.00.00.205
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ITEM SPECIAL - AS-BUILT CONSTRUCTION PLANS

PRIOR TO FINAL ACCEPTANCE OF THE WORK, THE CONTRACTOR SHALL FURNISH THE DEPARTMENT FORMAL AS-BUILT CONSTRUCTION PLANS. THE FORMAL AS-BUILT CONSTRUCTION PLANS SHALL INCLUDE ALL RED-LINED CHANGES. RED-LINE CHANGE SHALL BE DENOTED UTILIZING CLOUDING IN MICROSTATION (OR OTHER CAD SOFTWARE) OR CLOUDING IN PDF EDITING SOFTWARE. THE AS-BUILT CONSTRUCTION PLANS SHALL HAVE A SIGNED VERIFICATION ON THE TITLE SHEET FROM THE CONTRACTOR INDICATING THAT ALL RED-LINED AND FIELD CHANGES HAVE BEEN INCORPORATED INTO AS-BUILT CONSTRUCTION PLANS.

THE CONTRACTORS VERIFICATION STATEMENT INDICATES ALL KNOWN FIELD MODIFICATIONS MADE HAVE BEEN INCLUDED IN THE FORMAL AS-BUILT CONSTRUCTION PLANS. THE CONTRACTORS VERIFICATION STATEMENT SHALL BE SIGNED BY THE CONTRACTORS PROJECT MANAGER (OR ACCEPTABLE REPRESENTATIVE).

IN ADDITION TO THE INFORMATION SHOWN ON THE CONSTRUCTION PLANS, THE AS-BUILT CONSTRUCTION PLANS SHALL SHOW THE FOLLOWING:

1. ALL DEVIATIONS FROM THE ORIGINAL APPROVED CONSTRUCTION PLANS WHICH RESULT IN A CHANGE OF LOCATION, MATERIAL, TYPE OR SIZE OF WORK.
2. ANY UTILITIES, PIPES, WELLHEADS, ABANDONED PAVEMENTS, FOUNDATIONS OR OTHER MAJOR OBSTRUCTIONS DISCOVERED AND REMAINING IN PLACE WHICH ARE NOT SHOWN, OR DO NOT CONFORM TO LOCATIONS OR DEPTHS SHOWN IN THE PLANS. UNDERGROUND FEATURES SHALL BE SHOWN AND LABELED ON THE AS-BUILT CONSTRUCTION PLANS IN TERMS OF STATION, OFFSET AND ELEVATION.
3. THE FINAL OPTION AND SPECIFICATION NUMBER SELECTED FOR THOSE ITEMS WHICH ALLOW SEVERAL MATERIAL OPTIONS UNDER THE SPECIFICATION (E.G., CONDUIT).
4. CHANGES TO THE PAY ITEMS AND FINAL QUANTITIES AS PAID SHALL BE SHOWN ON THE GENERAL SUMMARY AND SUBSUMMARIES.
5. ADDITIONAL PLAN SHEETS MAY BE NEEDED IF NECESSARY TO SHOW WORK NOT INCLUDED IN THE CONSTRUCTION PLANS. IF ADDITIONAL PLAN SHEETS ARE NEEDED, THEY ARE REQUIRED TO BE PREPARED IN CONFORMANCE WITH THE LOCATION AND DESIGN MANUAL, VOLUME 3, SECTION 1200 - PLAN PREPARATION.

NOTATION SHALL ALSO BE MADE OF LOCATIONS AND THE EXTENT OF USE OF MATERIALS, OTHER THAN SOIL, FOR EMBANKMENT CONSTRUCTION (ROCK, BROKEN CONCRETE WITHOUT REINFORCING STEEL, ETC.).

THE PLAN INDEX SHALL SHOW THE PLAN SHEETS WHICH HAVE CHANGES APPEARING ON THEM.

TWO COPIES OF THE AS-BUILT CONSTRUCTION PLANS SHALL BE DELIVERED TO THE PROJECT ENGINEER FOR APPROVAL UPON COMPLETION OF THE PHYSICAL WORK BUT PRIOR TO THE REQUEST FOR FINAL PAYMENT. AFTER THE DEPARTMENT HAS APPROVED THE AS-BUILT CONSTRUCTION PLANS, THE ASSOCIATED ELECTRONIC FILES SHALL BE DELIVERED TO THE DISTRICT CAPITAL PROGRAMS ADMINISTRATOR. ACCEPTANCE OF THESE PLANS AND DELIVERY OF THE ASSOCIATED ELECTRONIC FILES IS REQUIRED PRIOR TO THE WORK BEING ACCEPTED AND THE FINAL ESTIMATE APPROVED.

PAYMENT FOR ALL THE ABOVE SHALL BE LUMP SUM UPON PROPER EXECUTION OF ALL WORK OF THIS ITEM AS DETERMINED BY THE PROJECT ENGINEER.

ITEM 623 – MONUMENT ASSEMBLY ADJUSTED TO GRADE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF CMS 611.10.D FOR MANHOLES, 623.05 FOR MONUMENT ASSEMBLY, OR 638.18 FOR VALVE BOXES, THE CONTRACTOR WILL MAKE A CLEAN CIRCULAR CUT AROUND THE CASTING (48" DIAMETER FOR STORM AND SANITARY MANHOLE CASTINGS, 24"-28" FOR VALVE BOXES AND MONUMENT ASSEMBLIES, AND 2' IN DIAMETER LARGER THAN THE CASTING DIAMETER FOR ANY CASTINGS THAT ARE LARGER THAN STANDARD MANHOLES) 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 QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

623, MONUMENT ASSEMBLY ADJUSTED TO GRADE, AS PER PLAN, MAH-SR-534 - 11 EACH

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

QUANTITIES FOR THIS WORK ARE INCLUDED IN THE PAVEMENT CALCULATIONS ON SHEETS P.12 & P.13.

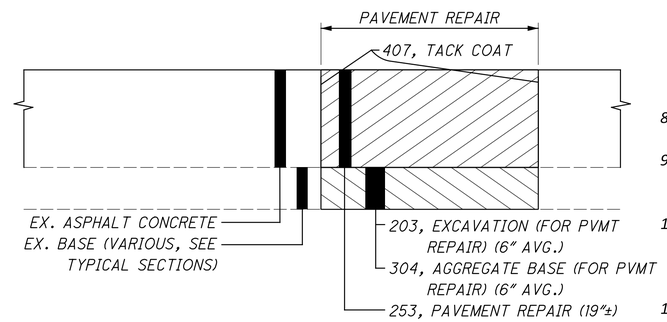
ITEM 253 - PAVEMENT REPAIR

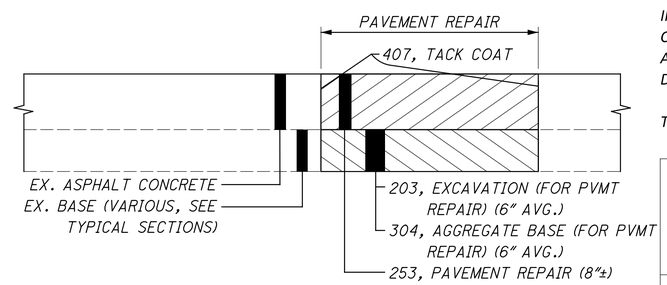
A QUANTITY OF THIS ITEM SHALL BE PROVIDED FOR USE AS DIRECTED BY THE ENGINEER. THIS ITEM SHALL CONSIST OF CUTTING AND REMOVING DETERIORATED PAVEMENT FULL DEPTH AND PLACING 19" (US-224, SLM 1.21-2.89; SR-534, SLM 8.46-13.73) OR 8" (SR-534, SLM 13.73-16.26) 301 ASPHALT CONCRETE BASE, PG64-22. THE MAXIMUM COMPACTED DEPTH OF ANY ONE LAYER SHALL BE 6 INCHES. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, THIS ITEM SHALL BE PERFORMED PRIOR TO THE MAINLINE PAVEMENT PLANING OPERATION.

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-224 (SLM 1.21-2.89) - SHOULDER AND WHEEL TRACK
253, PAVEMENT REPAIR (T = 19"), 250 SQ. YD.
252, SAW CUTTING, 1125 FT.
MAH-534 (SLM 8.46-13.73)
253, PAVEMENT REPAIR (T = 19"), 500 SQ. YD.
MAH-534 (SLM 13.73-16.26)
253, PAVEMENT REPAIR (T = 8"), 150 SQ. YD.





ITEM 809 – STOP-LINE RADAR DETECTION, AS PER PLAN
ITEM 809 – ADVANCE RADAR DETECTION, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING STOP-LINE RADAR DETECTION - WAVETRONIX SMARTSENSOR MATRIX DETECTION UNIT OR ADVANCE RADAR DETECTION - WAVETRONIX SMARTSENSOR ADVANCE DETECTION UNIT (MODEL SS-200E). THE DETECTION UNIT SHALL INCLUDE THE FOLLOWING:

1) POWER SHALL BE PROVIDED FROM THE TRAFFIC CABINET.
2) ALL REQUIRED INPUTS CARDS SHALL BE INCLUDED IN THE TRAFFIC CABINET AND SHALL BE COMPATIBLE WITH CALTRANS, NEMA TS1 AND NEMA TS2 DETECTOR RACKS. THE CARDS SHALL PROVIDE TRUE PRESENCE DETECTOR CALLS OR CONTACT CLOSURE TO THE TRAFFIC CONTROLLER.
3) THE UNIT SHALL BE MOUNTED DIRECTLY TO A POLE OR MAST ARM, AS RECOMMENDED BY THE MANUFACTURER. CABLE(S) SHALL BE PROVIDED AS REQUIRED AND RECOMMENDED BY THE MANUFACTURER.
4) SURGE PROTECTION DEVICES, AS RECOMMENDED BY THE MANUFACTURER SHALL BE INCLUDED BOTH AT THE POLE WHERE THE UNIT IS LOCATED TO PROTECT THE UNIT AND IN THE TRAFFIC CABINET TO PROTECT THE CABINET ELECTRONICS.
5) THE MANUFACTURER'S REPRESENTATIVE SHALL BE ON SITE DURING INSTALLATION AND TESTING AND SHALL PROVIDE ONSITE TRAINING ON THE SETUP, OPERATION AND MAINTENANCE OF THE UNIT.
6) A SERIAL TO ETHERNET COMMUNICATIONS MODULE AND ETHERNET CABLE (MIN. 7 FEET)
7) THE POWER SUPPLY AND COMMUNICATION MODULES SHALL BE SECURED TO A SINGLE PANEL THAT CAN BE MOUNTED INTERIOR TO THE TRAFFIC CABINET. THE PANEL SHALL INCLUDE MODULAR-PLUG STYLE CONNECTIONS FOR UP TO FOUR (4) SENSOR CABLES. ADDITIONAL SENSORS MAY BE HARD-WIRED TO THE COMMUNICATION MODULES, AS NECESSARY.
8) THE CONTRACTOR SHALL INSTALL THE RADAR DETECTION PRIOR TO MILLING/DISABLING THE EXISTING LOOPS.
9) THE INSTALLATION SHALL INCLUDE ALL CONTROLLER PROGRAMMING FOR COMPLETE INSTALLATION, WHICH INCLUDES MODIFICATIONS FOR REMOVAL OF EXISTING DETECTION.
10) THE CONTRACTOR SHALL CONTACT THE DISTRICT OFFICE (330-786-2267) THREE WORKING DAYS PRIOR TO INSTALLING THE DETECTION TO REMOVE THE CABINET LOCKS. ANY LOOP DETECTORS DISTURBED BY THE PLANING SHOULD BE ABANDONED IN PLACE.
11) THE CONTRACTOR SHALL DISCONNECT AND LEAVE THE LOOP DETECTOR AMPLIFIERS IN THE CONTROLLER.

PAYMENT FOR EACH DETECTION UNIT SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH UNIT, COMPLETE AND IN PLACE INCLUDING ALL REQUIRED CABINET HARDWARE, MOUNTING BRACKETS, CABLES, CONDUIT AND CONNECTIONS TESTED AND ACCEPTED, AND ANY OTHER NECESSARY HARDWARE TO ESTABLISH A FULLY FUNCTIONAL DETECTION SYSTEM.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

INTERSECTION	809- ADVANCE RADAR DETECTION	ADVANCE RADAR APPROACH	809- STOP LINE RADAR DETECTION	STOP LINE RADAR APPROACH
MAH SR 534 & MAHONING AVE.	2	NB, SB SR 534	2	NB, SB SR 534
MAH SR 534 & MAHONING AVE.	N/A	N/A	2	EB, WB MAHONING AVE.

GENERAL NOTES

DESIGN AGENCY

DESIGNER SBD
REVIEWER MJA 08-26-25
PROJECT ID 112817
SHEET P.5 TOTAL 27

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REVIEW OF CURB RAMPS

PRIOR TO THE START OF WORK, PERFORM AN INSPECTION WITH REPRESENTATIVES OF THE DEPARTMENT AND CONTRACTOR OF ALL CURB RAMPS INCLUDED IN THE PROJECT LIMITS. PRIOR TO THE INSPECTION, THE CONTRACTOR SHALL MARK THE WORK LIMITS OF ALL CURB RAMPS AND ASSOCIATED WORK TO IDENTIFY ANY CONDITIONS THE CONTRACTOR CANNOT BRING INTO ADA COMPLIANCE PER BP-7.1. THE DEPARTMENT SHALL HAVE TEN (10) BUSINESS DAYS TO RESOLVE ANY SUCH ANTICIPATED NON-COMPLIANCE WITH AN ADA WAIVER, QUANTITY CHANGE OR DESIGN REVISION PRIOR TO THE START OF WORK.

IMMEDIATELY FOLLOWING INSTALLATION OF FORMWORK FOR CURB RAMP CONCRETE PLACEMENT AND PRIOR TO PLACEMENT OF CONCRETE, THE CONTRACTOR SHALL VERIFY ADA COMPLIANCE BASED UPON MEASUREMENT OF THE FORMS. THE ENGINEER SHALL BE IMMEDIATELY NOTIFIED OF ANY NON-COMPLIANT ADA CONDITIONS MEASURED BY THE CONTRACTOR WITHIN THE WORK LIMITS. THE ENGINEER SHALL HAVE THREE (3) BUSINESS DAYS TO RESOLVE ANY SUCH NON-COMPLIANCE WITH A CORRECTIVE FORM LAYOUT, ADA WAIVER, QUANTITY CHANGE OR DESIGN CHANGE PRIOR TO THE PLACEMENT OF CONCRETE.

THE CONTRACTOR IS RESPONSIBLE TO CORRECT ANY ADA NON-COMPLIANCE FOR ALL ISSUES NOT REPORTED TO THE ENGINEER IN THE INITIAL INSPECTION AND/OR THE FORM INSTALLATION MEASUREMENT. MODIFICATION OF FORMS INTO A COMPLIANT CONFIGURATION AND/OR REMOVAL AND RECONSTRUCTION OF FINISHED WORK SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE IS INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 608 CURB RAMP ITEMS.

RUMBLE STRIPES

THE FOLLOWING ITEMS AND QUANTITIES HAVE BEEN PROVIDED TO INSTALL RUMBLE STRIPES ALONG THE FOLLOWING ROUTES:

EDGE LINE:
SR 224: SLM 0.00 TO SLM 2.46
SR 534: SLM 10.77 TO SLM 11.28
SR 534: SLM 13.82 TO SLM 16.07

CENTERLINE:
SR 224: SLM 0.00 TO SLM 2.46
SR 534: SLM 9.23 TO SLM 16.26

THE LONGITUDINAL JOINT PREPARATION PAY ITEM IS ONLY PROVIDED FOR THE LOCATIONS OF THE INSTALLATION OF THE CENTERLINE RUMBLE STRIPES. IN ALL OTHER AREAS WHERE JOINTS ARE REQUIRED THE CONTRACTOR SHALL FOLLOW CMS 401.

QUANTITIES FOR THIS WORK ARE INCLUDED IN THE PAVEMENT CALCULATIONS ON SHEETS P.12 & P.13.

ROADWAY CROWN

A QUANTITY OF ITEM 441 - ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449) SHALL BY USED AS DIRECTED BY THE PROJECT ENGINEER TO RE-ESTABLISH THE 0.016 CROWN ON MAH-534 FROM SLM 8.46 TO SLM 13.73.

QUANTITIES FOR THIS WORK ARE INCLUDED IN THE PAVEMENT CALCULATIONS ON SHEET P.13.

THE THICKNESS OF THE ABOVE QUANTITY SHALL VARY FROM 1" TO 3", OR AS DIRECTED BY THE PROJECT ENGINEER. PAVEMENT PLANING AT THIS LOCATION SHALL VARY FROM 1" TO 4.25", OR AS DIRECTED BY THE PROJECT ENGINEER. PAYMENT FOR ADDITIONAL PAVEMENT PLANING SHALL BE INCIDENTAL TO ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN.

GAS LINE LOCATED AT US-224, SLM 2.34 - 2.38

THE CONTRACTOR SHALL NOT USE VIBRATORY ROLLERS TO COMPACT ASPHALT CONCRETE WITHIN THE LIMITS OF US-224, SLM 2.34 TO 2.38. THE CONTRACTOR SHALL USE OTHER MEANS OF COMPACTION TO AVOID DISTURBING THE EXISTING GAS LINE, SUCH AS STATIC WHEEL OR PNEUMATIC TIRE ROLLERS. THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGES TO THE GAS LINE.

ENDANGERED SPECIES HABITAT - INDIANA BAT/NORTHERN LONG-EARED BAT/TRI-COLORED BAT: MAH-534-10.82 AND MAH-534-11.94

THE AFORMENTIONED PROJECT SITES ARE LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT, NORTHERN LONG-EARED BAT AND TRI-COLORED BAT. NO TREES SHALL BE REMOVED AT THESE LOCATIONS FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THIS REQUIREMENT IS NECESSARY TO ABOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT. FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS A LIVE, DYING OR DEAD WOODY PLANT, WITH A TRUNK THREE INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

RECREATIONAL BOATING ACCESS - BERLIN RESEVOIR (MAH-224-0.10)

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO MAINTAIN SAFE ACCESS UNDER THE BRIDGE FOR PADDLERS/BOATERS AT ALL TIMES DURING THE PROJECT CONSTRUCTION DURATION. IF FOR ANY REASON THE CONTRACTOR CAN NOT MAINTAIN AN OPEN CHANNEL, OR IF THE WORK WILL HAVE AN IMPACT ON RECREATIONAL BOATING, THE CONTRACTOR SHALL TEMPORARY CEASE ALL CONSTRUCTION OPERATIONS THAT WOULD IMPACT OR RESTRICT RECREATIONAL BOATING AND NOTIFY THE PROJECT ENFINEER AND ODOT DISTRICT 4 ENVIRONMENTAL SECTION (SEAN CARPENTER, 330-786-2274) SO COORDINATION WITH IDNR CAN BE INITIATED.

DRINKING WATER RESOURCES

THE PROJECT IS LOCATED IN OR NEAR THE SOURCE OF A PUBLIC DRINKING WATER SUPPLY. IN ORDER TO MINIMIZE THE POTENTIAL TO CONTAMINATE THIS WATER SUPPLY, PROJECT RELATED REFUELING AND EQUIPMENT MAINTENANCE ACTIVITIES SHALL NOT BE PERFORMED WITHIN THE PROJECT LIMITS. THE CONTRACTOR SHALL IMMEDIATELY TAKE STEPS TO MITIGATE ANY EVENT, SUCH AS A SPILL OF FUELS, OILS, OR OTHER CHEMICALS THAT COULD THREATEN TO CONTAMINATE THE DRINKING WATER SUPPLY. IN CASE OF AN INCIDENT AND/OR SPILL, THE CONTRACTOR SHALL, AS SOON AS POSSIBLE, NOTIFY THE ENGINEER/SUPERVISOR AND CONTACT THE NEWTON FALLS WATER TREATMENT SUPERVISOR, JEFF HAWKINS: 330-872-1808, MAHONING COUNTY EMERGENCY MANAGEMENT AGENCY: 330-740-2200 OR 24-HOUR EMERGENCY/SPILL REPORTING: 330-799-9721 AND OHIO EPA SPILL REPORTING 24 HOUR EMERGENCY SERVICE: 1-800-282-9378 OR NEDO (330) 963-1200 AND PROVIDE AS MUCH OF THE FOLLOWING INFORMATION AS POSSIBLE: 1. TIME OBSERVED 2. LOCATION 3. MATERIAL RELEASED 4. PROBABLE SOURCE 5. VOLUME & DURATION 6. PRESENT & ANTICIPATED MOVEMENT OF CONTAMINANT 7. PERSONNEL ON SCENE 8. ACTIONS ALREADY INITIATED 9. PERSON(S) ON THE SCENE TO CONTACT.

CATCH BASIN REPLACEMENT

THE CONTRACTOR SHALL REPLACE THE CATCH BASIN AT THE FOLLOWING LOCATION:

MAH-534-9.173 (CFN 1992582), LOCATED OFF THE RIGHT SHOULDER

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE PROJECT ENGINEER:

ITEM 203 - BORROW, 5 CY
ITEM 611 - CATCH BASIN, NO. 2-2B, AS PER PLAN, 1 EACH
ITEM 659 - SEEDING AND MULCHING, 50 SY

THE CONTRACTOR SHALL FIELD VERIFY THE CATCH BASIN DIMENSIONS PRIOR TO ORDERING AND ISNTALLING THE NEW CATCH BASINS. THIS SHALL BE INCIDENTAL TO ITEM 611, CATCH BASIN, NO. 2-2B WITH APRON, AS PER PLAN.

GENERAL NOTES

DESIGN AGENCY

DESIGNER
SBD

REVIEWER
MJA 08-26-25

PROJECT ID
112817

SHEET P.6 TOTAL 27

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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 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 TWO (2) MILES RURAL OR ONE [1] MILE URBAN.

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 10 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 INSTALL, MAINTAIN AND SUBSEQUENTLY REMOVE WORK ZONE MARKING SIGNS AND THEIR SUPPORTS WITHIN THE WORK LIMITS. THESE SIGNS INCLUDE NO EDGE LINES , DO NOT PASS AND PASS WITH CARE". ALL OTHER SIGNS WILL BE INCIDENTAL TO THE LUMP SUM PAY ITEM 614 MAINTAINING TRAFFIC UNLESS SEPARATELY ITEMIZED IN THE PLANS. A QUANTITY OF ITEM 614 WORK ZONE MARKING SIGNS HAS BEEN INCLUDED IN THE PLANS AS 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:

PHASE I - MILLED SURFACE, US 224/SR 534
614, WORK ZONE CENTER LINE, CLASS I, 10.69 MILE
614, WORK ZONE STOP LINE, CLASS I, 103 FT
614, WORK ZONE MARKING SIGN (ALL PHASES), 8 EACH

PHASE II - INTERMEDIATE COURSE, SR 534
614, WORK ZONE CENTER LINE, CLASS III, 642 PAINT, 7.80 MILE
614, WORK ZONE STOP LINE, CLASS III, 642 PAINT, 103 FT

PHASE III - SURFACE COURSE, US 224/SR 534
614, WORK ZONE CENTER LINE, CLASS III, 642 PAINT, 10.69 MILE
614, WORK ZONE STOP LINE, CLASS III, 642 PAINT, 103 FT

TO BE USED AS DIRECTED BY THE ENGINEER
614, WORK ZONE EDGE LINE, CLASS III, 58.36 MILE

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH C&MS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

PLACEMENT OF ASPHALT CONCRETE

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT THAT ONE-WAY TRAFFIC WILL BE PERMITTED FOR MINIMUM PERIODS OF TIME CONSISTENT WITH THE REQUIREMENTS OF THE SPECIFICATIONS FOR PROTECTION OF COMPLETED ASPHALT CONCRETE COURSES.

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.

ASPHALT PAVING LIMITATION

THE CONTRACTOR SHALL NOT ANTICIPATE OR SCHEDULE PLACING ASPHALT (ASPHALT SURFACE COURSE, ASPHALT INTERMEDIATE COURSE, ASPHALT CONCRETE BASE, ETC.) BETWEEN NOVEMBER 1 AND APRIL 1 WHEN SUBMITTING THEIR INITIAL BAR CHART PROGRESS SCHEDULE TO THE DISTRICT CONSTRUCTION ENGINEER (DCE) AS SPECIFIED IN CMS SECTION 108.02A. THIS LIMITATION SHALL ALSO INCLUDE INITIAL BASE LINE SCHEDULES AND ALL UPDATES IF A CPM SCHEDULE IS REQUIRED.

ITEM 614, MAINTAINING TRAFFIC (LANES OPEN DURING HOLIDAYS OR SPECIAL EVENTS)

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR SPECIAL EVENTS:

NEW YEAR'S (OBSERVED)	THANKSGIVING
MEMORIAL DAY	CHRISTMAS (OBSERVED)
FOURTH OF JULY (OBSERVED)	LABOR DAY

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR SPECIAL EVENT FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY OF HOLIDAY OR SPECIAL EVENT	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY
MONDAY	12:00N FRIDAY THROUGH 6:00 AM TUESDAY
TUESDAY	12:00N MONDAY THROUGH 6:00 AM WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 6:00 AM THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 6:00 AM FRIDAY
THURSDAY (THANKSGIVING ONLY)	6:00 AM WEDNESDAY THROUGH 6:00 AM MONDAY
FRIDAY	12:00N THURSDAY THROUGH 6:00 AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY

DURING THE SAME PERIODS, MAINTAIN PEDESTRAIN ACCESS IF PEDESTRIAN ACCESS WAS PRESENT PRIOR TO CONSTRUCTION.

[NEWLY CONSTRUCTED LANE ADDITIONS, ONCE COMPLETED AND INITIALLY OPENED TO TRAFFIC, SHALL BE OPEN TO TRAFFIC DURING ALL SUBSEQUENT DESIGNATED HOLIDAYS AND SPECIAL EVENTS, AND RELATED PERIODS OF TIME, SPECIFIED ABOVE.]

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE PER THE LANE VALUE CONTRACT (PN 127).

LANE VALUE CONTRACT			
DESCRIPTION OF CRITICAL LANE TO BE MAINTAINED	RESTRICTED TIME PERIOD	TIME UNIT	DISINCENTIVE $ PER TIME UNIT
US 224	AS PER THE "MAINTAINING TRAFFIC (LANES OPEN DURING HOLIDAYS OR SPECIAL EVENTS)" NOTE ABOVE.	PER MINUTE/ PER LANE	$40
SR 534	AS PER THE "MAINTAINING TRAFFIC (LANES OPEN DURING HOLIDAYS OR SPECIAL EVENTS)" NOTE ABOVE.	PER MINUTE/ PER LANE	$20

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.

TIME LIMITATION, CURB RAMP

THE MAXIMUM ALLOWABLE TIME FOR THE CONTRACTOR TO HAVE AN INDIVIDUAL CURB RAMP AND ASSOCIATED SIDEWALK LEADING INTO THE CURB RAMP OUT OF SERVICE FOR THE REMOVAL AND REPLACEMENT SHALL BE 14 CONSECUTIVE CALENDAR DAYS (THE TIME PERIOD INCLUDES ALL WORK LISTED IN THE BASIS OF PAYMENT PER CMS 608.09, INCLUDING ALL REMOVAL, REPLACEMENT, AND BACKFILL ASSOCIATED WITH THE CURB RAMPS, AND CURING TIME PERIOD).

AT THE CONCLUSION OF CONSTRUCTING OF THE CURB RAMP AND PRIOR TO OPENING TO PEDESTRIAN TRAFFIC THE CONTRACTOR SHALL ENSURE THAT THE REQUIREMENTS OF STANDARD CONSTRUCTION DRAWING BP-7.1 ARE MET. THE CONTRACTOR SHALL USE ASPHALT AS A WEDGE, OR SUBMIT ANOTHER METHOD APPROVED BY THE ENGINEER, TO ENSURE THE TRANSITION FROM THE CURB RAMP TO THE ROADWAY ARE PER STANDARD CONSTRUCTION DRAWING BP-7.1. ALL COSTS TO PERFORM THIS WORK SHALL BE INCIDENTAL TO THE ASSOCIATED PAY ITEMS FOR THE INSTALLATION OF THE CURB RAMP.

SHOULD THE CONTRACTOR FAIL TO MEET THIS REQUIREMENT, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE IN THE AMOUNT OF $1000 PER DAY PER AFFECTED RAMP THAT THE AFFECTED CURB RAMP REMAINS OUT OF SERVICE BEYOND 14 CONSECUTIVE CALENDAR DAYS.

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.

ASPHALT PAVING LIMITATION: SLM 13.74 - 16.26

THE CONTRACTOR SHALL ONLY PERFORM RESURFACING WORK FROM MAHONING AVE TO THE COUNTY LINE AFTER COMPLETION OF THE OVERLAY WORK ON MAH-534-14.047, IN ORDER TO PROVIDE SMOOTH TRANSITIONS ON AND OFF OF THE STRUCTURE.

MAINTENANCE OF TRAFFIC NOTES

DESIGN AGENCY

DESIGNER NS
REVIEWER MJA 08-26-25
PROJECT ID 112817
SHEET P.7 TOTAL 27

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 11/25/2025 TIME: 2:51:46 PM PLTDRV: OHDOT_PDF.pltcfg PENTBL: OHDOT_Pen.tbl USER: Joel.Fitzsimmons@dot.ohio.gov WORKSPACE: OHDOTCEv02 WORKSET: 112817 PRODUCT: OpenRoadsDesigner 24.00.00.205
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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 SHALL NOT BE PERMITTED AT PROJECT COST NOR TIME COMPENSATION. 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).

DURING PERIODS WHERE TRAFFIC NEEDS TO BE DIRECTED CONTRARY TO A TRAFFIC CONTROL DEVICE (FLAGGER, SIGN [E.G. STOP SIGN, STREET OR HIGHWAY SIGNS, ETC], SIGNAL OR OTHER DEVICE USED TO REGULATE, WARN OR GUIDE TRAFFIC). TRAFFIC IN THIS INSTANCE INCLUDES VEHICULAR, PEDESTRIAN AND/OR SHARED USE PATH USERS.

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 THAT MEET ALL OF THE CRITERIA LISTED BELOW: 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).

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)

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 AND/OR IN CONTRARY TO OTHER TRAFFIC CONTROL DEVICE 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 SHIFT DURATION SHALL NOT BE LESS THAN THE LEOâ??S MINIMUM SHOW-UP TIME REQUIRED BY THEIR LAW ENFORCEMENT AGENCY.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 100 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.

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.

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 16 SIGN MONTH ASSUMING 2 PCMS
SIGN(S) FOR 8 MONTH(S)

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 OF TRAFFIC RESTRICTIONS TIME TABLE

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

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

MAINTENANCE OF TRAFFIC NOTES

DESIGN AGENCY

DESIGNER NS

REVIEWER MJA 08-26-25

PROJECT ID 112817

SHEET P.8 TOTAL 27

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DROPOFFS AT SIDE STREETS AND DRIVEWAYS

THE CONTRACTOR WILL NOT BE PERMITTED TO LEAVE A DIFFERENCE IN ELEVATION BETWEEN THE MAINLINE MILLED SURFACES AND THE SURFACE COURSE OF SIDE STREET APPROACHES/DRIVEWAYS GREATER THAN 1.25 INCH. THE CONTRACTOR SHALL PLACE A 12:1 ASPHALT WEDGE FOR ALL RESULTING ELEVATION DIFFERENCES GREATER THAN 1.25 INCH PRIOR TO OPENING TO TRAFFIC. THE PAVING OF INTERSECTION APPROACHES AND DRIVEWAYS, PER THE NOTES ON SHEET XX, SHALL BE PERFORMED WITHIN 7 DAYS OF MAINLINE SURFACE COURSE BEING APPLIED AND A DROPOFF BEING CREATED BETWEEN THE NEW SURFACE COURSE AND THE MILLED/EXISTING SIDE ROAD OR DRIVEWAY SURFACE. THE CONTRACTOR MAY ELECT TO PLACE A 12:1 ASPHALT WEDGE IN LIEU OF COMPLETING THE PAVING, HOWEVER THE ASPHALT CONCRETE USED FOR THE WEDGE SHALL BE CONSIDERED INCIDENTAL TO ITEM 614 MAINTAINING TRAFFIC AND SHALL INCLUDE THE REMOVAL OF THE WEDGE BEFORE THE INTERSECTION/DRIVEWAY IS PAVED.

SIGNALIZED CLOSURE (MAH-534-14.047)

A SIGNALIZED LANE CLOSURE IN ACCORDANCE WITH SCD MT-96.11 SHALL BE USED WHEN REDUCING MAH-534 FROM A TWO-LANE CONDITION TO A SINGLE-LANE, SIGNALIZED WORK ZONE TO COMPLETE CONCRETE OVERLAY WORK AT THE MAH-534 STRUCTURE OVER I-76. PORTABLE TRAFFIC SIGNAL MAY BE USED AT THIS LOCATION FOR A DURATION NOT TO EXCEED 13 CONSECUTIVE CALENDAR DAYS. ALL RAMPS AND DRIVEWAYS IMPACTED BY THIS WORK SHALL BE ADEQUATELY SIGNALIZED AND MAINTAINED IN COMPLIANCE WITH MT-96.11. THE CONCRETE OVERLAY WORK AT THIS LOCATION SHALL BE COMPLETED NO LATER THAN 7/01/2026. SHOULD THE CONTRACTOR FAIL TO MEET THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE OF $1,000/HOUR THAT THE ROADWAY REMAINS CLOSED BEYOND THE PERMITTED TIMEFRAME.

ALL COSTS ASSOCIATED WITH THE SIGNALIZED LANE CLOSURE FOR THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 614, MAINTAINING TRAFFIC.

MAINTENANCE OF TRAFFIC NOTES

DESIGN AGENCY

DESIGNER
SBD

REVIEWER
MJA 08-26-25

PROJECT ID
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SHEET P.9 TOTAL 27

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SHEET NUM.										PART.				ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
P.4	P.5	P.6	P.12	P.13	P.14	P.15	P.16	P.17		01/STR	02/IMS	03/STR	04/STR						
																		ROADWAY	
			105	738						843				202	23500	843	SY	WEARING COURSE REMOVED	
						196				196				202	30000	196	SF	WALK REMOVED	
121										121				202	98100	121	EACH	REMOVAL MISC.: BARRIER REFLECTOR	P.4
50										50				203	10000	50	CY	EXCAVATION (FOR PAVEMENT REPAIR)	
		5								5				203	40000	5	CY	BORROW	
203										203				209	60200	203	STA	LINEAR GRADING	
				556						556				209	72000	556	STA	PREPARING SUBGRADE FOR SHOULDER PAVING	
						160				160				608	10000	160	SF	4" CONCRETE WALK	
						36				36				608	52001	36	SF	CURB RAMP, AS PER PLAN	P.4
	11									11				623	39501	11	EACH	MONUMENT ASSEMBLY ADJUSTED TO GRADE, AS PER PLAN	P.5
	LS									LS				SPECIAL	69091000	LS		AS-BUILT CONSTRUCTION PLANS	P.5
																		EROSION CONTROL	
		50								50				659	10000	50	SY	SEEDING AND MULCHING	
										3,000				832	30000	3,000	EACH	EROSION CONTROL	
																		DRAINAGE	
		1								1				611	98471	1	EACH	CATCH BASIN, NO. 2-2B, AS PER PLAN	P.6
																		PAVEMENT	
3,250										3,250				251	01000	3,250	SY	PARTIAL DEPTH PAVEMENT REPAIR (441) (LONGITUDINAL)	
500										500				251	01000	500	SY	PARTIAL DEPTH PAVEMENT REPAIR (441) (TRANSVERSE)	
	750									750				253	01000	750	SY	PAVEMENT REPAIR (T = 19")	
	150									150				253	01000	150	SY	PAVEMENT REPAIR (T = 8")	
			54,711	46,116						100,827				254	01000	100,827	SY	PAVEMENT PLANING, ASPHALT CONCRETE (T = 1.5")	
				84,583						84,583				254	01001	84,583	SY	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (T = 1" - 4.25")	
50										50				304	20000	50	CY	AGGREGATE BASE (FOR PAVEMENT REPAIR)	
			4,934	16,905						21,893				407	20000	21,839	GAL	NON-TRACKING TACK COAT	
			2,629	7,256						9,885				408	10001	9,885	GAL	PRIME COAT, AS PER PLAN @ 0.40 GAL/SY	P.4
			2,284	4,988						7,272				441	50100	7,272	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M	
				4,112						4,112				441	70300	4,112	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449)	
			3	21						24				441	70500	24	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), (DRIVEWAYS)	
			183	504						687				617	10101	687	CY	COMPACTED AGGREGATE, AS PER PLAN	P.5
			5	6						11				618	41000	11	MILE	RUMBLE STRIPES, EDGE LINE (ASPHALT CONCRETE)	
			3	7						10				618	43000	10	MILE	RUMBLE STRIPES, CENTER LINE (ASPHALT CONCRETE)	
			12,567	36,802						49,369				874	20000	49,369	FT	LONGITUDINAL JOINT PREPARATION	
																		TRAFFIC CONTROL	
					769					769				621	00100	769	EACH	RPM	
					591					591				621	54000	591	EACH	RAISED PAVEMENT MARKER REMOVED	
20										20				626	00102	20	EACH	BARRIER REFLECTOR, TYPE 1 (BIDIRECTIONAL)	
131										131				626	00110	131	EACH	BARRIER REFLECTOR, TYPE 2 (BIDIRECTIONAL)	
								193			59	74	60	630	02100	193	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
								24			12	12		630	80100	24	SF	SIGN, FLAT SHEET	
								18			4	6	8	630	80100	18	SF	SIGN, FLAT SHEET, 730.20	
								22			8	6	8	630	84900	22	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
								20			6	6	8	630	86002	20	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
							21.38			21.38				646	10010	21.38	MILE	EDGE LINE, 6"	
							10.69			10.69				646	10200	10.69	MILE	CENTER LINE	
							103			103				646	10400	103	FT	STOP LINE	
	2									2				809	69001	2	EACH	ADVANCE RADAR DETECTION, AS PER PLAN	P.5
	4									4				809	69101	4	EACH	STOP LINE RADAR DETECTION, AS PER PLAN	P.5

GENERAL SUMMARY

DESIGN AGENCY

DESIGNER
SBD

REVIEWER
MJA 08-26-25

PROJECT ID
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MAH-224/534-0.00/8.46

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SHEET NUM.										PART.				ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
P.7	P.8									01/STR	02/IMS	03/STR	04/STR						
																		STRUCTURE REPAIRS	
																		FOR MAH-224-0.102 ESTIMATED QUANTITIES	P.20
																		FOR MAH-224-1.869 ESTIMATED QUANTITIES	P.20
																		FOR MAH-224-2.525 ESTIMATED QUANTITIES	P.20
																		FOR MAH-534-10.827 ESTIMATED QUANTITIES	P.20
																		FOR MAH-534-11.943 ESTIMATED QUANTITIES	P.20
																		FOR MAH-534-12.518 ESTIMATED QUANTITIES	P.20
																		FOR MAH-534-14.047 ESTIMATED QUANTITIES	P.20
																		FOR MAH-534-9.217 ESTIMATED QUANTITIES	P.20
																		MAINTENANCE OF TRAFFIC	
	100									100				614	11110	100	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
8										8				614	12460	8	EACH	WORK ZONE MARKING SIGN	
10										10				614	13000	10	CY	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
	16									16				614	18601	16	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	P.8
10.69										10.69				614	21000	10.69	MILE	WORK ZONE CENTER LINE, CLASS I	
18.49										18.49				614	21550	18.49	MILE	WORK ZONE CENTER LINE, CLASS III, 642 PAINT	
58.36										58.36				614	22360	58.36	MILE	WORK ZONE EDGE LINE, CLASS III, 6", 642 PAINT	
103										103				614	26000	103	FT	WORK ZONE STOP LINE, CLASS I	
206										206				614	26610	206	FT	WORK ZONE STOP LINE, CLASS III, 642 PAINT	
																		INCIDENTALS	
										LS				614	11000	LS		MAINTAINING TRAFFIC	
										6				619	16010	6	MNTH	FIELD OFFICE, TYPE B	
										LS				623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
										LS				624	10000	LS		MOBILIZATION	

GENERAL SUMMARY

DESIGN AGENCY

DESIGNER
SBD

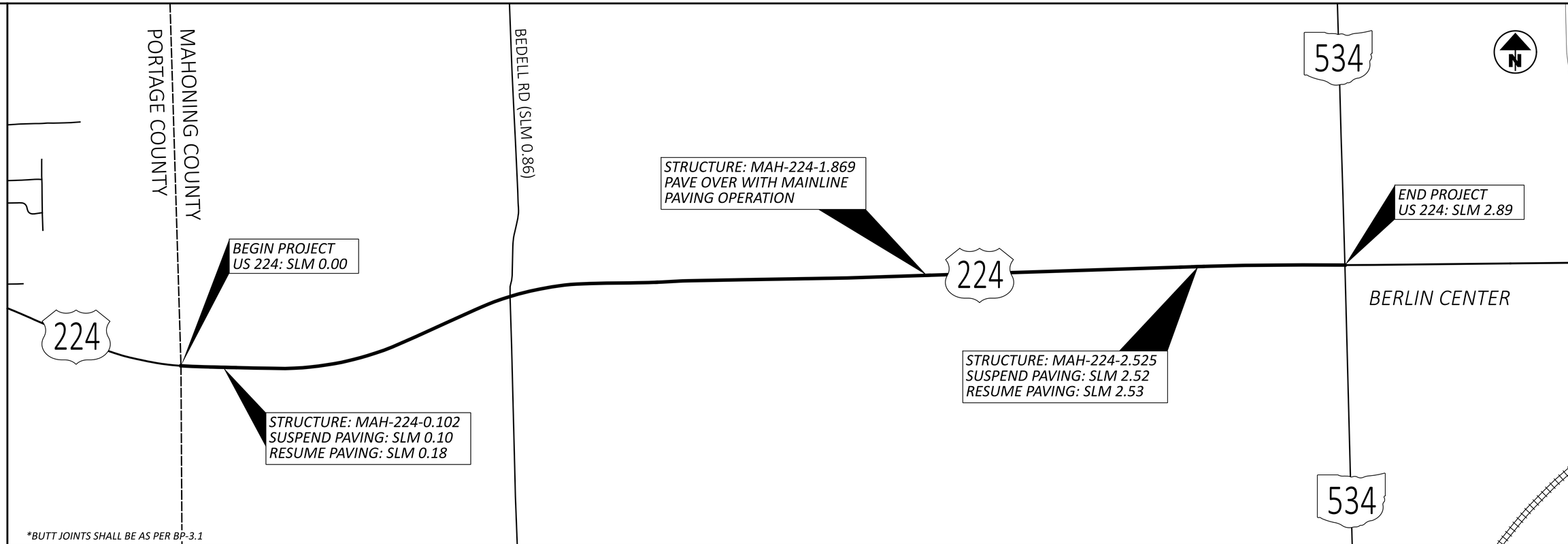
REVIEWER
MJA 08-26-25

PROJECT ID
112817

SHEET P.11 TOTAL 27

MAH-224/534-0.00/8.46

MODEL: Sheet 2 PAPERSIZE: 34x22 (in.) DATE: 11/25/2025 TIME: 2:51:53 PM PLTDRV: OHDOT_PDF.pltcfg PENTBL: OHDOT_Pen.tbl USER: JoelFitzsimmons@dot.ohio.gov WORKSPACE: OHDOTCEv02 WORKSET: 112817 PRODUCT: OpenRoadsDesigner 24.00.00.205
pw:\\ohiodot-pw.bentley.com:ohiodot-pw-02\Documents\01 Active Projects\District 04\Mahoning\112817\400-Engineering\Roadway\Sheets\112817_GG001.dgn



*BUTT JOINTS SHALL BE AS PER BP-3.1

SLM RANGE			TYPICAL SECTION	SIDE	DISTANCE (D)	AVERAGE WIDTH (W)	SURFACE AREA (A) A=DxW/9	CADD GENERATED AREA	WEARING COURSE REMOVED	PAVEMENT PLANING, ASPHALT CONCRETE (T = 1.5")	NON-TRACKING TACK COAT @ 0.09 GAL/SY	PRIME COAT, AS PER PLAN @ 0.40 GAL/SY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), (DRIVEWAYS) (T=1")	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M (T = 1.5")	COMPACTED AGGREGATE, AS PER PLAN (T = 1" AVG)	RUMBLE STRIPES, EDGE LINE (ASPHALT CONCRETE)	RUMBLE STRIPES, CENTER LINE (ASPHALT CONCRETE)	LONGITUDINAL JOINT PREPARATION
									202	254	407	408	441	441	617	618	618	874
					FT	FT	SQ YD	SQ YD	SY	SY	GAL	GAL	CY	CY	CY	MILE	MILE	FT
US 224																		
0.00	TO	0.05	1	EB/WB	264.00	60.00	1760.00			1760.00	158.40	46.93		73.33	3.26	0.10	0.05	264.00
0.05	TO	0.10	1	EB/WB	264.00	60.00	1760.00			1760.00	158.40	46.93		73.33	3.26	0.10	0.05	264.00
0.18	TO	0.39	1	EB/WB	1108.80	32.00	3942.40			3942.40	354.82	197.12		164.27	13.69	0.42	0.21	1108.80
0.39	TO	0.75	1	EB/WB	1900.80	32.00	6758.40			6758.40	608.26	337.92		281.60	23.47	0.72	0.36	1900.80
0.75	TO	1.87	1	EB/WB	5913.60	32.00	21026.13			21026.13	1892.35	1051.31		876.09	73.01	2.24	1.12	5913.60
1.87	TO	2.46	2	EB/WB	3115.20	32.00	11076.27			11076.27	996.86	553.81		461.51	38.46	1.18	0.59	3115.20
2.46	TO	2.52	2	EB/WB	316.80	32.00	1126.40			1126.40	101.38	56.32		46.93	3.91			
2.53	TO	2.89	2	EB/WB	1900.80	32.00	6758.40			6758.40	608.26	337.92		281.60	23.47			
INTERSECTIONS																		
0.00	TO	2.89		EB/WB		10.00		502.78		502.78	45.25			20.95				
DRIVEWAYS																		
0.00	TO	2.89		EB/WB		2.00		104.44	104.44		9.40		2.90	4.35				
								SUBTOTALS	104.44	54710.78	4933.37	2628.27	2.90	2283.97	182.52	4.76	2.38	12566.40
								TOTALS CARRIED TO GENERAL SUMMARY	105	54711	4934	2629	3	2284	183	5	3	12567

PAVEMENT CALCULATIONS - US 224

MAH-224/534-0.00/8.46

DESIGN AGENCY

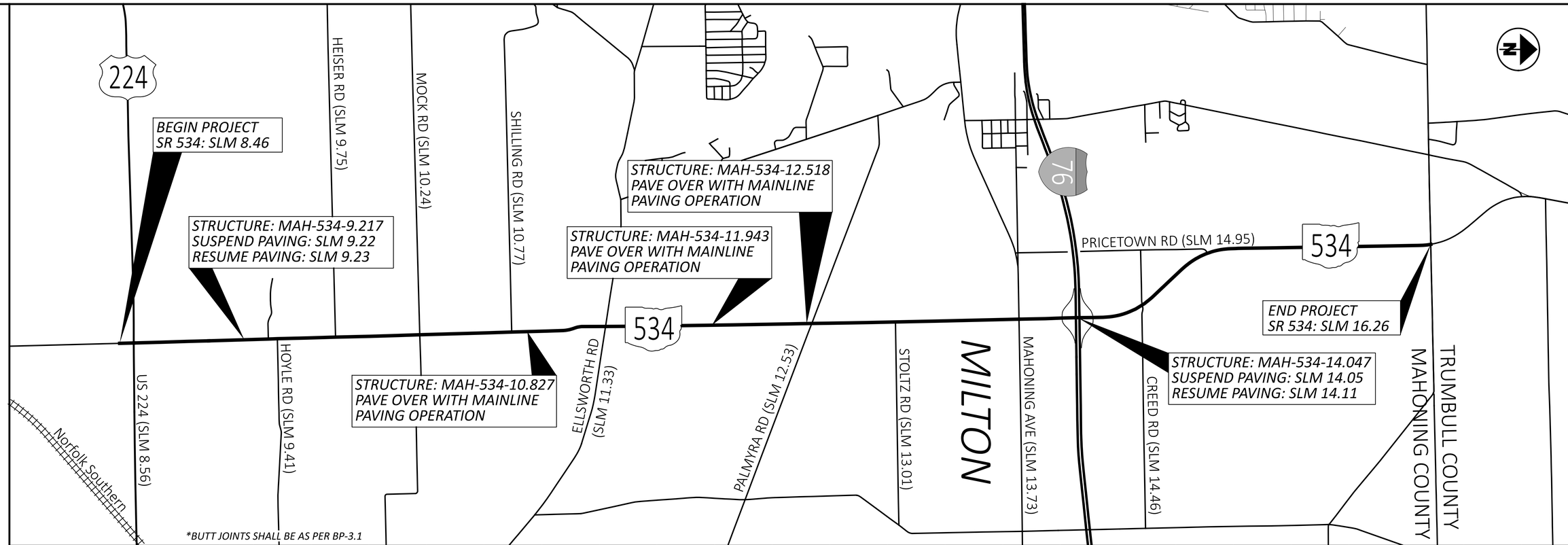
DESIGNER
SBD

REVIEWER
MJA 08-26-25

PROJECT ID
112817

SHEET P.12 TOTAL 27

MODEL: Sheet 1 PAPERSIZE: 34x22 (in.) DATE: 11/25/2025 TIME: 2:51:59 PM PLTDRV: OHDOT_PDF.pltcfg PENTBL: OHDOT_Pen.tbl USER: JoelLFitzsimmons@dot.ohio.gov WORKSPACE: OHDOTCEv02 WORKSET: 112817 PRODUCT: OpenRoadsDesigner 24.00.00.205
pw:\\ohiodot-pw.bentley.com:ohiodot-pw-02\Documents\01 Active Projects\District 04\Mahoning\112817\400-Engineering\Roadway\Sheets\112817_GC001.dgn



SLM RANGE			TYPICAL SECTION	SIDE	DISTANCE (D)	AVERAGE WIDTH (W)	SURFACE AREA (A) A=DxW/9	CADD GENERATED AREA	202 WEARING COURSE REMOVED	209 PREPARING SUBGRADE FOR SHOULDER PAVING	254 PAVEMENT PLANING, ASPHALT CONCRETE (T = 1.5")	254 PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (T = 1" - 4.25")	407 NON-TRACKING TACK COAT @ 0.06 GAL/SY	407 NON-TRACKING TACK COAT @ 0.09 GAL/SY	408 PRIME COAT, AS PER PLAN @ 0.40 GAL/SY	441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), (DRIVEWAYS) (T=1")	441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449) (T = 1" - 3")	441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M (T = 1.25")	441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M (SAFETY EDGE)	441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M (T = 1.5" AVG)	617 COMPACTED AGGREGATE, AS PER PLAN (T = 1" AVG)	618 RUMBLE STRIPES, EDGE LINE (ASPHALT CONCRETE)	618 RUMBLE STRIPES, CENTER LINE (ASPHALT CONCRETE)	874 LONGITUDINAL JOINT PREPARATION
					FT	FT	SQ YD	SQ YD	SY	STA	SY	SY	GAL	GAL	GAL	CY	CY	CY	CY	CY	CY	MILE	MILE	FT
SR 534																								
8.46	TO	8.47	3	EB/WB	52.80	24.00	140.80			1.06		140.80	8.45	12.67	9.39		6.84	4.89	0.24		0.65			
8.47	TO	9.22	3	EB/WB	3960.00	24.00	10560.00			79.20		10560.00	633.60	950.40	704.00		513.33	366.67	18.33		48.89			
9.23	TO	9.56	3	EB/WB	1742.40	26.00	5033.60			34.85		5033.60	302.02	453.02	309.76		244.69	174.78	8.07		21.51		0.33	1742.40
9.56	TO	10.77	3	EB/WB	6388.80	26.00	18456.53			127.78		18456.53	1107.39	1661.09	1135.79		897.19	640.85	29.58		78.87		1.21	6388.80
10.77	TO	11.28	3	EB/WB	2692.80	36.00	10771.20			53.86		10771.20	646.27	969.41	478.72		523.60	374.00	12.47		33.24	1.02	0.51	2692.80
11.28	TO	12.51	3	EB/WB	6494.40	26.00	18761.60			129.89		18761.60	1125.70	1688.54	1154.56		912.02	651.44	30.07		80.18		1.23	6494.40
12.51	TO	13.73	3	EB/WB	6441.60	26.00	18609.07			128.83		18609.07	1116.54	1674.82	1145.17		904.61	646.15	29.82		79.53		1.22	6441.60
13.73	TO	13.82	4	EB/WB	475.20	26.00	1372.80				1372.80			123.55	84.48					57.20	5.87		0.09	475.20
13.82	TO	14.05	4	EB/WB	1214.40	30.00	4048.00				4048.00			364.32	215.89					168.67	14.99	0.46	0.23	1214.40
14.11	TO	14.68	4	EB/WB	3009.60	32.00	10700.80				10700.80			963.07	535.04					445.87	37.16	1.14	0.57	3009.60
14.68	TO	16.07	4	EB/WB	7339.20	32.00	26094.93				26094.93			2348.54	1304.75					1087.29	90.61	2.78	1.39	7339.20
16.07	TO	16.26	4	EB/WB	1003.20	28.00	3121.07				3121.07			280.90	178.35					130.04	12.39		0.19	1003.20
INTERSECTIONS																								
8.46	TO	13.73				25.00		2250.00				2250.00	135.00	202.50			109.38	78.13						
13.73	TO	16.26				10.00		778.33			778.33			70.05						32.43				
DRIVEWAYS																								
8.46	TO	13.73				5.00		666.67	666.67					60.00		18.52								
13.73	TO	16.26				2.00		71.11	71.11					6.40		1.98								
								SUBTOTALS	737.78	555.46	46115.93	84582.80	5074.97	11829.29	7255.89	20.49	4111.66	2936.90	128.58	1921.50	503.88	5.40	6.97	36801.60
								TOTALS CARRIED TO GENERAL SUMMARY	738	556	46116	84583	5075	11830	7256	21	4112	2937	129	1922	504	6	7	36802

PAVEMENT CALCULATIONS - SR 534

MAH-US 224/SR 534-0.00/8.46

DESIGN AGENCY

DESIGNER
SBD

REVIEWER
MJA 08-21-25

PROJECT ID
112817

SHEET P.13 TOTAL 27

MODEL: Sheet 2 PAPERSIZE: 34x22 (in.) DATE: 11/25/2025 TIME: 2:51:59 PM PLTDRV: OHDOT_PDF.pltcfg PENTBL: OHDOT_Pen.tbl USER: JoelFitzsimmons@dot.ohio.gov WORKSPACE: OHDOTCEv02 WORKSET: 112817 PRODUCT: OpenRoadsDesigner 24.00.00.205
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LOCATION										621	621		621	
COUNTY	ROUTE	SECTION (S.L.M.)								RPM (YELLOW/YELLOW)	RPM (WHITE)		RAISED PAVEMENT MARKER REMOVED	REMARKS
		FROM	TO							EACH	EACH		EACH	
MAH	224	0.00	2.89							191			153	CENTER LINE SPACING AS PER SCD TC-65.11
MAH	534	8.46	8.56							7	13		16	SOUTH SIDE CENTER LINE SPACING AND STOP APPROACHES AT US 224 AS PER SCD TC-65.11
MAH	534	8.56	8.72							11	16		9	NORTH SIDE CENTER LINE SPACING AND STOP APPROACHES AT US 224 AS PER SCD TC-65.11
MAH	534	8.72	13.57							321			257	CENTER LINE SPACING AS PER SCD TC-65.11
MAH	534	13.57	13.73							11	16		22	SOUTH SIDE CENTER LINE SPACING AND STOP APPROACHES AT MAHONING AVE AS PER SCD TC-65.11
MAH	534	13.74	13.90							11	16		9	SOUTH SIDE CENTER LINE SPACING AND STOP APPROACHES AT MAHONING AVE AS PER SCD TC-65.11
MAH	534	13.90	16.26							156			125	CENTER LINE SPACING AS PER SCD TC-65.11
TOTALS CARRIED TO GENERAL SUMMARY										708	61		591	

RPM SUBSUMMARY

DESIGN AGENCY

DESIGNER
NS

REVIEWER
MJA 08-26-25

PROJECT ID
112817

SHEET P.14 TOTAL 27

MAH-224/534-0.00/8.46

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 11/25/2025 TIME: 2:52:05 PM PLTDRV: OHDOT_PDF.pltcfg PENTBL: OHDOT_Pen.tbl USER: Joel.Fitzsimmons@dot.ohio.gov WORKSPACE: OHDOTCEv02 WORKSET: 112817 PRODUCT: OpenRoadsDesigner 24.00.00.205
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CURB RAMP SUBSUMMARY

MAIN ROUTE	INTERSECTING ROUTE	DESIGN SHEET	QUADRANT RL=REAR LT, RR=REAR RT FL=FWD LT, FR=FWD RT (LOOKING UPSTATION)	SUGGESTED CURB RAMP TYPE (SCD BP-7.1, SHEET 2/3)	202 WALK REMOVED SF	608 4" CONCRETE WALK SF	608 CURB RAMP, AS PER PLAN SF	COMMENTS
SR 534	US 224		RL	A2	76.00	60.00	16.00	
SR 534	US 224		RR	A2	120.00	100.00	20.00	10' PERPENDICULAR WALK INCLUDED
				SUBTOTALS	196.00	160.00	36.00	
				TOTALS CARRIED TO GENERAL SUMMARY	196	160	36	

CURB RAMP DIMENSIONS

MAIN ROUTE	INTERSECTION ROUTE	DESIGN SHEET	QUADRANT	CURB RAMP TYPE	DIMENSIONS (FEET) Ramp Length	Ramp Width	Landing Length	Landing Width	10:1 Max Flare?	Sidewalk Length	Sidewalk Width
SR 534	US 224		RL	A2	4	4			N	15	4
SR 534	US 224		RR	A2	5	4			N	25	4

FOR RAMP TYPE A2 DETAILS, SEE SCD BP-7.1

CURB RAMP SUBSUMMARY & DETAILS

DESIGN AGENCY

DESIGNER SBD

REVIEWER MJA 08-26-25

PROJECT ID 112817

SHEET P.15 TOTAL 27

MAH-224/534-0.00/8.46

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 11/25/2025 TIME: 2:52:10 PM PLTDRV: OHDOT_PDF.pltcfg PENTBL: OHDOT_Pen.tbl USER: Joel.Fitzsimmons@dot.ohio.gov WORKSPACE: OHDOTCEv02 WORKSET: 112817 PRODUCT: OpenRoadsDesigner 24.00.00.205
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GENERAL SPEC:	640
MATERIAL TYPE:	646

EDGE LINE

CTY	ROUTE	TRUE LOG	FROM	TRUE LOG	TO	WHITE EDGE LINE, 6" TOTAL	WHITE EDGE LINE, 6" HIGHWAY	WHITE EDGE LINE, 6" RAMP	YELLOW EDGE LINE, 6" TOTAL	YELLOW EDGE LINE, 6" HIGHWAY	YELLOW EDGE LINE, 6" RAMP	COMMENTS
MAH	224	0.00	MAHONING COUNTY LINE	2.89	SR 534	5.78	5.78					
MAH	534	8.46	0.10 MILES SOUTH OF US 224	16.26	TRUMBULL COUNTY LIINE	15.60	15.60					
TOTAL						21.38	21.38					

LANE LINE

CTY	ROUTE	TRUE LOG	FROM	TRUE LOG	TO	TOTAL MILES	6" LANE LINE DASHED	6" LANE LINE SOLID	COMMENTS
TOTAL									

CENTER LINE

CTY	ROUTE	TRUE LOG	FROM	TRUE LOG	TO	TOTAL MILES	EQUIVALENT SOLID LINE	COMMENTS
MAH	224	0.00	MAHONING COUNTY LINE	2.89	SR 534	2.89	1.33	
MAH	534	8.46	0.10 MILES SOUTH OF US 224	16.26	TRUMBULL COUNTY LIINE	7.80	9.10	
TOTAL						10.69	10.43	

AUXILIARY

CTY	ROUTE LOCATION	TRUE LOG	CHANNEL LINE, 8"	CHANNEL LINE, 12"	STOP LINE	CROSS WALK LINES	TRANSVERSE DIAGONAL LINES WHITE	TRANSVERSE DIAGONAL LINES YELLOW	ISLAND MARKING	SYMBOL MARKINGS RxR	SYMBOL MARKINGS SCHOOL 72"	SYMBOL MARKINGS SCHOOL 96"	LANE ARROWS TURN LEFT	LANE ARROWS TURN RIGHT	LANE ARROWS THRU	LANE ARROWS COMB.	REDUCT. ARROW	WORD ON PVMT ONLY 72"	WORD ON PVMT ONLY 96"	DOTTED LINES, 6"	COMMENTS
			FT	FT	FT	FT	FT	FT	SF	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	FT	
MAH	SR 534 @ US 224	8.57			71																
MAH	SR 534 @ MAHONING AVE	13.73			32																
TOTAL					103																

PAVEMENT MARKINGS

DESIGN AGENCY

DESIGNER SBD

REVIEWER MJA 08-26-25

PROJECT ID 112817

SHEET P.16 TOTAL 27

MAH-224/534-0.00/8.46

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 11/25/2025 TIME: 2:52:16 PM PLTDRV: OHDOT_PDF.pltcfg PENTBL: OHDOT_Pen.tbl USER: Joel.Fitzsimmons@dot.ohio.gov WORKSPACE: OHDOTCEv02 WORKSET: 112817 PRODUCT: OpenRoadsDesigner 24.00.00.205
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STRUCTURE FILE NO. (SFN)	EXPRESSWAY / FREEWAY STRUCTURE ID INFO	INTERSECTING ROADWAY STRUCTURE ID INFO	APPROACH DIRECTION (NB, SB, EB, WB)	SIDE OF ROADWAY (LT, RT)	GENERAL		MAINLINE FREEWAY/EXPRESSWAY				ROADWAY OVER EXPRESSWAY/FREEWAY					ROADWAY UNDER EXPRESSWAY/FREEWAY			
					630	630	630	630	630	630	630	630	630	630	630	630	630	630	630
					REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	SIGN, FLAT SHEET, 730.20	SIGN, FLAT SHEET	SIGN, FLAT SHEET	GROUND MOUNTED SUPPORT, NO. 2 POST	SIGN, FLAT SHEET, 730.20	SIGN, FLAT SHEET, 730.20	SIGN, FLAT SHEET	SIGN, FLAT SHEET	GROUND MOUNTED SUPPORT, NO. 2 POST	SIGN, FLAT SHEET, 730.20	SIGN, FLAT SHEET	SIGN, FLAT SHEET	GROUND MOUNTED SUPPORT, NO. 2 POST
					EACH	EACH	SF	SF	SF	FT	SF	SF	SF	SF	FT	SF	SF	SF	FT
5004535	MAH-224-0.102	BERLIN RESEVOIR	EB	LT				3		11									
5004535	MAH-224-0.102	BERLIN RESEVOIR	EB	RT	1	1	1		3	11									
5004535	MAH-224-0.102	BERLIN RESEVOIR	WB	LT				3		11									
5004535	MAH-224-0.102	BERLIN RESEVOIR	WB	RT	1	1	1		3	11									
5004608	MAH-224-1.869	TURKEY BROTH CREEK	EB	RT	1	1	1			7.5									
5004608	MAH-224-1.869	TURKEY BROTH CREEK	WB	RT	1	1	1			7.5									
5004616	MAH-224-2.525	TURKEY BROTH CREEK	EB	RT	1	1	1			7.5									
5004616	MAH-224-2.525	TURKEY BROTH CREEK	WB	RT	1	1	1			7.5									
5005809	MAH-534-9.217	TURKEY BROTH CREEK	NB	RT	1	1	1			7.5									
5005809	MAH-534-9.217	TURKEY BROTH CREEK	SB	RT	1	1	1			7.5									
5005833	MAH-534-10.827	BR TURKEY BROTH CREEK	NB	RT	1	1	1			7.5									
5005833	MAH-534-10.827	BR TURKEY BROTH CREEK	SB	RT	1	1	1			7.5									
5005892	MAH-534-11.943	CHARLEY RUN CREEK	NB	RT	1	1	1			7.5									
5005892	MAH-534-11.943	CHARLEY RUN CREEK	SB	RT	1	1	1			7.5									
5005906	MAH-534-12.518	TRIB CHARLEY RUN CREEK	NB	RT	1	1	1			7.5									
5005906	MAH-534-12.518	TRIB CHARLEY RUN CREEK	SB	RT	1	1	1			7.5									
5005914	MAH-534-14.047	MAH-76-2.832	NB	LT	1	1		3		11									
5005914	MAH-534-14.047	MAH-76-2.832	NB	RT	2	1	1		3	11									
5005914	MAH-534-14.047	MAH-76-2.832	SB	LT	1	1		3		11									
5005914	MAH-534-14.047	MAH-76-2.832	SB	RT	2	1	1		3	11									
5005914	MAH-534-14.047	MAH-76-2.832	EB	RT	1	1										1			7.5
5005914	MAH-534-14.047	MAH-76-2.832	WB	RT	1	1										1			7.5
TOTALS CARRIED TO GENERAL SUMMARY					22	20	16	12	12	178						2			15
							NOTE 1	**NOTE 2**	**NOTE 3**		**NOTE 1**	**NOTE 4**	**NOTE 2**	**NOTE 3**		**NOTE 1**	**NOTE 2**	**NOTE 3**	

NOTE 1	I-h25b, MOUNTED UNDER OM-3R IF SPECIFIED, USE EXPRESSWAY / FREEWAY STRUCTURE INFO
NOTE 2	OM-3L
NOTE 3	OM-3R
NOTE 4	I-h25b, MOUNTED UNDER MAINLINE STRUCTURE ID SIGN, USE INTERSECTING ROADWAY STRUCTURE INFO

STRUCTURE ID SUBSUMMARY

DESIGN AGENCY

DESIGNER
SBD

REVIEWER
MJA 08-26-25

PROJECT ID
112817

SHEET P.17 TOTAL 27

MAH-224/534-0.00/8.46

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 11/25/2025 TIME: 2:52:22 PM PLTDRV: OHDOT_PDF.pltcfg PENTBL: OHDOT_Pen.tbl USER: Joel.Fitzsimmons@dot.ohio.gov WORKSPACE: OHDOTCEv02 WORKSET: 112817 PRODUCT: OpenRoadsDesigner 24.00.00.205
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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

AS-1-15 DATED (REVISED) 1/20/23
DS-1-92 DATED (REVISED) 7/15/22

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

848 DATED 7/19/2024

EXISTING STRUCTURE VERIFICATION

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

PROPOSED WORK

MAH-224-0.102 (SFN 5004535), OVER BERLIN RESERVOIR
- SEAL EXISTING CONCRETE WEARING SURFACE WITH GRAVITY FED RESIN, INCLUDING THE APPROACH SLABS
- PATCH ALL UNSOUND AREAS OF THE CONCRETE WEARING SURFACE, INCLUDING THE APPROACH SLABS
- PATCH ALL UNSOUND AREAS OF THE CONCRETE PARAPETS, SEAL PATCHES WITH EPOXY-URETHANE SEALER (MATCH EXISTING COLOR)

MAH-224-1.869 (SFN 5004608), OVER UNT TO TURKEY BROTH CREEK
- PAVE OVER WITH MAINLINE PAVING OPERATION
- SCOUR REPAIR AT INLET
- CHANNEL CLEANOUT
- CLEARING AND GRUBBING 15' AROUND STRUCTURE

MAH-224-2.525 (SFN 5004616), OVER TURKEY BROTH CREEK
- REMOVE AND REPLACE EXISTING ASPHALT OVERLAY, INCLUDING TYPE 3 WATERPOOFING MEMBRANE
- REMOVE AND REPLACE ALL W-SHAPE STEEL RAILING PANELS ON BRIDGE
- CLEARING AND GRUBBING 15' AROUND STRUCTURE

MAH-534-9.217 (SFN 5005809), OVER TURKEY BROTH CREEK
- REMOVE AND REPLACE EXISTING ASPHALT OVERLAY, INCLUDING TYPE 3 WATERPOOFING MEMBRANE
- REMOVE AND REPLACE ALL W-SHAPE STEEL RAILING PANELS ON BRIDGE
- PATCH ALL UNSOUND AREAS OF THE ABUTMENTS, SEAL PATCHES WITH EPOXY-URETHANE SEALER (MATCH EXISTING COLOR)
- CLEARING AND GRUBBING 15' AROUND STRUCTURE

MAH-534-10.827 (SFN 5005833), OVER UNT TO MAHONING RIVER
-PAVE OVER WITH MAINLINE PAVING OPERATION
- SCOUR REPAIR AT INLET
- CHANNEL CLEANOUT
- CLEARING AND GRUBBING 15' AROUND STRUCTURE

MAH-534-11.943 (SFN 5005892), OVER CHARLEY RUN CREEK
- PAVE OVER WITH MAINLINE PAVING OPERATION
- SCOUR REPAIR AT INLET
- CHANNEL CLEANOUT
- CLEARING AND GRUBBING 15' AROUND STRUCTURE

PROPOSED WORK CONT...

MAH-534-12.518 (SFN 5005906), OVER UNT TO CHARLEY RUN CREEK
- PAVE OVER WITH MAINLINE PAVING OPERATION
- SCOUR REPAIR AT INLET
- CHANNEL CLEANOUT
- REPAIR EMBANKEMENT ALONG FORWARD-RIGHT WINGWALL USING TYPE B DUMPED ROCK FILL
- CLEARING AND GRUBBING 15' AROUND STRUCTURE

MAH-534-14.047 (SFN 5005914), OVER IR 76
- REMOVE THE EXISTING CONCRETE WEARING SURFACE AND REPLACE WITH A MICRO-SILICA FIBER REINFORCED CONCRETE OVERLAY
- CLEARING AND GRUBBING 15' AROUND STRUCTURE

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 202 - WEARING COURSE REMOVED, AS PER PLAN

REMOVE ALL OF THE ASPHALT CONCRETE ON STRUCTURES MAH-224-2.525 & MAH-534-9.217. THICKNESS VARIES WITH A MINIMUM THICKNESS OF 5 1/2". MILLING OR OTHER MECHANICAL METHOD OF ASPHALT DECK REMOVAL MAY BE PERFORMED TO WITHIN 1/2" OF THE TOP OF THE EXISTING PRESTRESSED CONCRETE BOX BEAMS. THE LAST 1/2" OF ASPHALT CONCRETE TO BE REMOVED AND THE WATERPROOFING WILL BE REMOVED USING A NONDESTRUCTIVE METHOD SUCH AS HAND SCRAPING. THE CONTRACTOR WILL USE CAUTION IN REMOVING THE REMAINING ASPHALT AND WATERPROOFING TO ENSURE NO DAMAGE OCCURS TO THE PRESTRESSED CONCRETE BOX BEAMS. ANY DAMAGE TO THE BOX BEAMS WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

PAYMENT FOR THIS ITEM WILL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND ANY INCIDENTALS REQUIRED TO PERFORM THIS WORK. PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER SQUARE YARD FOR ITEM 202, WEARING COURSE REMOVED, AS PER PLAN.

ITEM 202 - REMOVAL MISC.: CHANNEL CLEANOUT

THIS WORK WILL CONSIST OF RE-ESTABLISHING THE ORIGINAL CHANNEL PROFILE BY REMOVING SEDIMENT BUILDUP, VEGETATION, AND DEBRIS FROM THE EXISTING CHANNEL WITHIN STATE RIGHT-OF-WAY LIMITS AS SPECIFIED IN THE PLANS FOR STRUCTURES MAH-224-1.869, MAH-534-10.827, MAH-534-11.943 AND MAH-534-12.518. ANY TREES LOCATED WITHIN CHANNEL OR BANK LIMITS WILL BE INCLUDED UNDER ITEM 201, CLEARING AND GRUBBING. ALL MATERIALS REMOVED SHALL BE DISPOSED OF IN ACCORDANCE WITH 105.16 AND 105.17 OF THE CMS WITH THE APPROVAL OF THE ENGINEER. NO AREAS OF EXISTING CHANNEL PROTECTION SHALL BE REMOVED IN ORDER TO RESTORE THE ORIGINAL CHANNEL PROFILE. AFFECTED CHANNEL AREAS SHALL BE CLEANED OUT TO THE SATISFACTION OF THE ENGINEER.

CHANNEL CLEANOUT WILL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM 202 REMOVAL MISC.: CHANNEL CLEANOUT. THIS PRICE WILL INCLUDE THE COST FOR LABOR, EQUIPMENT, AND ALL INCIDENTALS REQUIRED TO COMPLETE THE CHANNEL CLEANOUT.

ITEM 517 - RAILING, MISC.: DEEP BEAM RAIL PANEL REPLACEMENT

THIS ITEM OF WORK SHALL BE USED FOR THE REPLACEMENT OF W-BEAM GUARDRAIL PANELS ON STRUCTURES MAH-224-2.525 AND MAH-534-9.217. PANELING SHALL BE MOUNTED ONTO THE EXISTING POSTS AS DIRECTED BY THE ENGINEER.

EROSION AND SCOUR REPAIR

THE FOLLOWING QUANTITIES SHALL BE USED AS DIRECTED BY THE ENGINEER TO REPAIR EROSION/SCOUR AT THE FOLLOWING STRUCTURES AND LOCATIONS:

MAH-224-1.869 (SCOUR REPAIR AT INLET)
ITEM 601, ROCK CHANNEL PROTECTION, TYPE C WITH FILTER, 5 CY

MAH-534-10.827 (SCOUR REPAIR AT INLET)
ITEM 601, ROCK CHANNEL PROTECTION, TYPE B WITH FILTER, 20 CY

MAH-534-11.943 (SCOUR REPAIR AT INLET)
ITEM 601, ROCK CHANNEL PROTECTION, TYPE C WITH FILTER, 15 CY

MAH-534-12.518 (SCOUR AND EROSION REPAIR AT INLET)
ITEM 601, ROCK CHANNEL PROTECTION, TYPE C WITH FILTER, 5 CY
ITEM 601, DUMPED ROCK FILL, TYPE B, 5 CY

ITEM 515 - HIGH EARLY STRENGTH KEY-WAY GROUT

KEY-WAY GROUT WILL BE EXAMINED FOR VISIBLE DETERIORATION AFTER THE REMOVAL OF THE ASPHALT CONCRETE OVERLAY AND WATERPROOFING. ANY GROUT DETERMINED TO BE REPLACED BY THE PROJECT ENGINEER WILL BE REMOVED BY ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN AND THE GROUT WILL BE REPLACED USING ITEM 515, HIGH EARLY STRENGTH KEY-WAY GROUT.

PAYMENT FOR THIS ITEM WILL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND ANY INCIDENTALS REQUIRED TO PERFORM THIS WORK. PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER FOOT FOR ITEM 515, HIGH EARLY STRENGTH KEY-WAY GROUT.

ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN

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

STRUCTURE NOTES
MAH-534-14.047, MAH-224-0.102, MAH-224-1.869, MAH-224-2.525, MAH-534-10.827, MAH-534-11.943 & MAH-534-12.518
MAH-534-9.217

SFN VARIOUS
DESIGN AGENCY

DESIGNER	CHECKER
SBD	JF

REVIEWER MJA 08-26-25
PROJECT ID 112817
SUBSET 1 TOTAL 10
SHEET P.18 TOTAL 27

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ITEM 848 - MICRO-SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN
ITEM 848 - SURFACE PREPARATION USING HYDRODEMOLITION, AS PER PLAN
ITEM 848 - MICRO-SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN
ITEM 848 - FULL DEPTH REPAIR, AS PER PLAN

THESE ITEMS SHALL BE PERFORMED PER SUPPLEMENTAL SPECIFICATION "BRIDGE DECK REPAIR AND OVERLAY WITH CONCRETE USING HYDRO DEMOLITION" WITH THE FOLLOWING REVISIONS:

THE THICKNESS OF THE CONCRETE OVERLAY REMOVED, ASPHALT WEARING COURSE REMOVED, PROPOSED OVERLAY, AND THE DEPTH OF HYDRODEMOLITION SHALL BE AS SPECIFIED IN THE PLANS.

CONSTRUCTION JOINTS WILL NOT BE PERMITTED IN THE WHEEL LINE.

(SEE 848.12) THE COMPONENTS OF THE MICRO-SILICA MODIFIED CONCRETE SHALL BE PROPORTIONED AS FOLLOWS.

AGG TYPE	FINE AGG (LB)	#8 COARSE AGG (LB)*	AGG TOTAL (LB)*	CEMENT CONTENT (LB)	MICRO SILICA (LB)	WATER TO CEMENTITIOUS RATIO	AIR CONTENT +/- 2%	FIBER (1 ¼" POLYPROPYLENE) (LB)**
GRAVEL	1410	1430	2840	600	50	0.4	8	1
LIMESTONE	1410	1450	2860	600	50	0.4	8	1
SLAG	1300	1350	2650	600	50	0.4	8	1

** ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED PER ASTM C127*

*** FIBER MESH SHALL BE 100% VIRGIN POLYPROPYLENE IN A FIBRILLATED-NETWORK FORM AND SHALL BE 1 1/4 IN LENGTH.*

THE WEIGHTS SPECIFIED IN THE CONCRETE TABLE WERE CALCULATED FOR MATERIALS OF THE FOLLOWING BULK SPECIFIC GRAVITIES (SSD): NATURAL SAND AND GRAVEL 2.62, LIMESTONE SAND 2.68, LIMESTONE 2.65, SLAG 2.30, MICRO-SILICA SOLIDS 2.20, AND PORTLAND CEMENT 3.15. FOR AGGREGATES OF SPECIFIC GRAVITIES DIFFERING MORE THAN PLUS OR MINUS 0.02 FROM THESE, THE WEIGHTS IN THE TABLE WILL BE CORRECTED. FIBER MESH WEIGHTS NOT INCLUDED IN MIX DESIGN.

ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED BY ASTM C127

ALL OTHER REQUIREMENTS OF THE SUPPLEMENTAL SPECIFICATION SHALL REMAIN IN EFFECT.

(SEE 848.21) THE FINAL DECK SOUNDING MAY TAKE PLACE WITHIN 24 HOURS OF A RAIN, AND THE DECK DOES NOT HAVE TO BE COMPLETELY DRY.

(SEE 848.23) FULL DEPTH REPAIR IS NOT REQUIRED IF LESS THAN ONE HALF OF THE DECK ORIGINAL CONCRETE THICKNESS IS SOUND.

(SEE 848.29) THE WET CURE TIME IS REDUCED FROM 72 HOURS TO 24 HOURS OR UNTIL A BEAM BREAK OF 600 PSI IS ACHIEVED, WHICHEVER IS GREATER. AFTER THE 24 HOUR WET CURE, THE FINISHED OVERLAY SURFACE SHALL BE CURED BY SPRAYING A UNIFORM APPLICATION OF CURING MATERIAL OF 705.07, TYPE 1 OR 1D, AS PER CMS 511.14 METHOD (B) MEMBRANE CURING. IF THE CURING COMPOUND CAN NOT BE PLACED WITHIN THE SAME SHORT TERM CLOSURE PERIOD AS THE OVERLAY, THE CONTRACTOR MAY ALLOW TRAFFIC ONTO THE OVERLAY, AND SHALL, AT THE NEXT AVAILABLE SHORT TERM CLOSURE PERIOD, APPLY THE MEMBRANE CURING COMPOUND.

(SEE 848.29) TRAFFIC WILL NOT BE PERMITTED ON THE FINISHED OVERLAY SURFACE UNTIL AFTER THE COMPLETION OF THE 24 HOUR WET CURE, AND AFTER TWO TEST BEAMS HAVE ATTAINED AN AVERAGE MODULUS OF RUPTURE OF 600 PST (4.2 Mpa).

(SEE 848.30) THE OVERLAY SURFACE EVAPORATION RATE REQUIREMENTS ARE IN EFFECT FROM 9:30 AM TO 11:00 PM. THEY ARE NOT IN EFFECT FROM 11:00 PM TO 11:00 AM.

(SEE 848.31) FOR EACH PHASE, THE CONTRACTOR SHALL PROVIDE ENOUGH MATERIAL FOR TWO BEAM BREAKS EACH AT 12 HOURS, 24 HOURS, 36 HOURS, AND 48 HOURS. THE DEPARTMENT WILL PERFORM THE BEAM BREAK TESTS AND DOCUMENT THE TIME OF THE POUR, THE TIME OF THE BEAM BREAK TESTS, AND THE MODULUS OF RUPTURE FOR EACH BEAM UNTIL THE MODULUS OF RUPTURE OF THE TWO TESTS IS NOT LESS THAN 650 PSI (4.5 MPa). TRAFFIC IS ALLOWED ON THE OVERLAY AT 600 PSI (4.5 Mpa).

ALL OTHER REQUIREMENTS OF THE SUPPLEMENTAL SPECIFICATION SHALL REMAIN IN EFFECT.

STRUCTURE NOTES
MAH-534-14.047, MAH-224-0.102, MAH-224-1.869, MAH-224-2.525, MAH-534-9.217, MAH-534-10.827, MAH-534-11.943 & MAH-534-12.518

SFN
VARIOUS
DESIGN AGENCY

DESIGNER	CHECKER
SBD	JF

REVIEWER
MJA 08-26-25
PROJECT ID
112817

SUBSET	TOTAL
2	10

SHEET	TOTAL
P.19	27

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CALC:	JF	DATE:	4/1/2025
CHECKED:	MJA	DATE:	8/21/2025

ESTIMATED QUANTITIES

BRIDGE NO. / STRUCTURE FILE NO.								ITEM	EXTENSION	UNIT	DESCRIPTION	SEE SHEET
MAH-224-0.102 5004535 03/STR	MAH-224-1.869 5004608 04/STR	MAH-224-2.525 5004616 03/STR	MAH-534-9.217 5005809 03/STR	MAH-534-10.827 5005833 04/STR	MAH-534-11.943 5005892 04/STR	MAH-534-12.518 5005906 04/STR	MAH-534-14.047 5005914 02/IMS					
LS	LS	LS	LS	LS	LS	LS	LS	201	11001		CLEARING AND GRUBBING, AS PER PLAN, AROUND BRIDGES/STRUCTURES/CULVERTS	
		406	307					202	23501	SY	WEARING COURSE REMOVED, AS PER PLAN	1 / 10
		110	120					202	38000	FT	GUARDRAIL REMOVED	
	LS			LS	LS	LS		202	98000		REMOVAL MISC.: CHANNEL CLEANOUT	1 / 10
		34	25					407	13900	GAL	TACK COAT, 702.13	
		25	19					407	20000	GAL	NON-TRACKING TACK COAT	
		80	64					409	30000	FT	SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS	
		34	25					441	70300	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449)	
		18	14					441	50100	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M	
9			3					512	10100	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
		406	307					512	33010	SY	TYPE 3 WATERPROOFING	
2355								512	73500	SY	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN	
1325								512	74500	FT	REMOVAL OF EXISTING PAVEMENT MARKING	
		46	40					515	30000	FT	HIGH EARLY STRENGTH KEYWAY GROUT	
		120	120					517	76300	FT	RAILING, MISC.: DEEP BEAM RAIL PANEL REPLACEMENT	
		126	139					SPECIAL	51822300	FT	STEEL DRIP STRIP	
13								519	10000	SY	PATCHING CONCRETE BRIDGE DECK OVERLAY WITH MICRO-SILICA MODIFIED CONCRETE	
45			25					519	11101	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	1 / 10
						5		601	26000	CY	DUMPED ROCK FILL, TYPE B	
				20				601	32100	CY	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER	
	5				15	5		601	32200	CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	
							1529	848	10001	SY	MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN (T = 1 1/4")	2 / 10
							1529	848	20001	SY	SURFACE PREPARATION USING HYDRODEMOLITION, AS PER PLAN (T = 1 1/4")	2 / 10
							22	848	30001	CY	MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN	2 / 10
							37	848	50000	SY	HAND CHIPPING	
							LS	848	50100		TEST SLAB	
							1	848	50201	CY	FULL DEPTH REPAIR, AS PER PLAN	2 / 10

STRUCTURE ESTIMATED QUANTITIES
MAH-534-9.217, MAH-534-10.827, MAH-534-11.943, MAH-534-12.518, MAH-534-14.047
SHEET SUB-TITLE 2

SFN VARIOUS

DESIGN AGENCY

DESIGNER	CHECKER
SBD	JF

REVIEWER MJA 08-26-25

PROJECT ID 112817

SUBSET	TOTAL
3	10

SHEET	TOTAL
P.20	27

MAH-224/534-0.00/8.46

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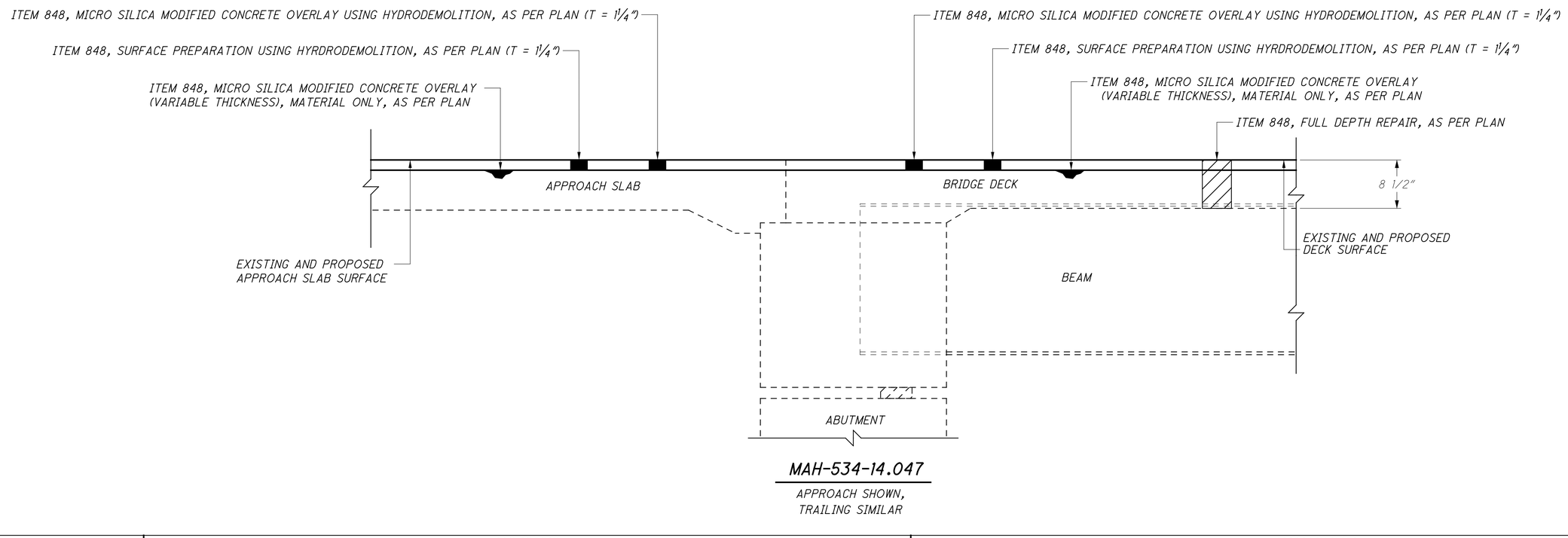

BRIDGE NUMBER	BRIDGE DECK												APPROACH SLABS												
	LENGTH (BRIDGE LIMITS)	BRIDGE WIDTH	DECK AREA	512 TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN	512 REMOVAL OF EXISTING PAVEMENT MARKING	519 PATCHING CONCRETE BRIDGE DECK OVERLAY WITH MICRO-SILICA MODIFIED CONCRETE	848 MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN (T = 1 1/4")	848 SURFACE PREPARATION USING HYDRODEMOLITION, AS PER PLAN (T = 1 1/4")	848 MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN	848 HAND CHIPPING	848 TEST SLAB	848 FULL DEPTH REPAIR, AS PER PLAN	LENGTH (APPROACH SLABS)	APPROACH SLAB WIDTH	APPROACH SLAB AREA	APPROACH (FORWARD / REAR)	512 TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN	512 REMOVAL OF EXISTING PAVEMENT MARKING	519 PATCHING CONCRETE BRIDGE DECK OVERLAY WITH MICRO-SILICA MODIFIED CONCRETE	848 MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN (T = 1 1/4")	848 SURFACE PREPARATION USING HYDRODEMOLITION, AS PER PLAN (T = 1 1/4")	848 MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN	848 HAND CHIPPING		
	FT	FT	SQ YD	SY	FT	SY	SY	SY	CY	SY		CY	FT	FT	SQ YD		SY	FT	SY	SY	SY	CY	SY		
MAH-224-0.102	381.50	48.00	2034.67	2034.67	1144.50	11.00							30.00	48.00	160.00	REAR	160.00	90.00							
													30.00	48.00	160.00	FWD	160.00	90.00	2.00						
MAH-534-14.047	282.50	44.00	1381.11				1381.11	1381.11	20.00	35.00	LS	1.00	15.00	44.00	73.33	REAR				73.33	73.33	1.00	1.00		
													15.00	44.00	73.33	FWD				73.33	73.33	1.00	1.00		
			TOTALS	2035	1145	11	1382	1382	20	35	LS	1				TOTALS	320	180	2	147	147	2	2	LS	

SUPERSTRUCTURE DETAILS
MAH-224-0.102 OVER BERLIN RESEVOIR AND MAH-534-14.047 OVER IR-76

SFN VARIOUS

DESIGN AGENCY

DESIGNER	CHECKER
SBD	JF

REVIEWER MJA 08-26-25

PROJECT ID 112817

SUBSET	TOTAL
4	10

SHEET	TOTAL
P.21	27

MAH-224/534-0.00/8.46

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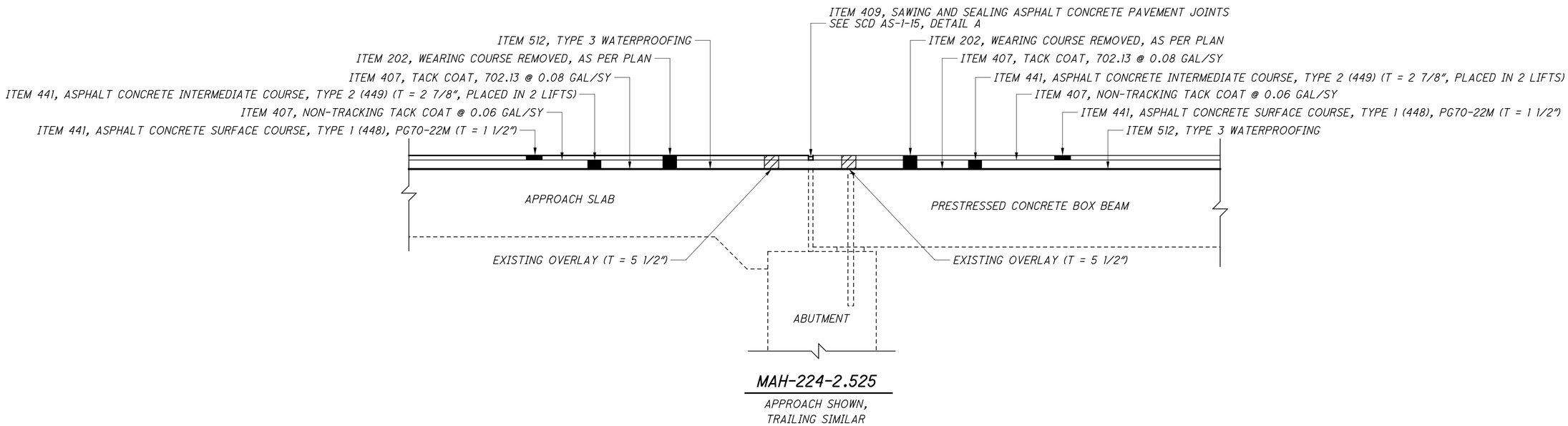

BRIDGE NUMBER	BRIDGE DECK												APPROACH SLABS												
				202	407	407	441	441	512	SPECIAL	515						202	407	407	409	441	441	512		
	LENGTH (BRIDGE LIMITS)	BRIDGE WIDTH	DECK AREA	WEARING COURSE REMOVED, AS PER PLAN (T = 5 1/2")	TACK COAT, 702.13 @ 0.08 GAL/SY	NON-TRACKING TACK COAT @ 0.06 GAL/SY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449) (T = 2 7/8")	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M (T = 1 1/2")	TYPE 3 WATERPROOFING	STEEL DRIP STRIP	HIGH EARLY STRENGTH KEYWAY GROUT		LENGTH (APPROACH SLABS)	APPROACH SLAB WIDTH	APPROACH SLAB AREA	APPROACH (FORWARD / REAR)	WEARING COURSE REMOVED, AS PER PLAN (T = 5 1/2")	TACK COAT, 702.13 @ 0.08 GAL/SY	NON-TRACKING TACK COAT @ 0.06 GAL/SY	SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449) (T = 2 7/8")	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M (T = 1 1/2")	TYPE 3 WATERPROOFING		
	FT	FT	SQ YD	SY	GAL	GAL	CY	CY	SY	FT	FT		FT	FT	SQ YD		SY	GAL	GAL	FT	CY	CY	SY		
MAH-224-2.525	51.17	40.00	227.42	227.42	18.19	13.65	18.16	9.48	227.42	126	45.48		20.00	40.00	88.89	FWD	88.89	7.11	5.33	40.00	7.10	3.70	88.89		
													20.00	40.00	88.89	REAR	88.89	7.11	5.33	40.00	7.10	3.70	88.89		
			TOTALS	228	19	14	19	10	228	127	46	0				TOTALS	178	15	11	80	15	8	178	0	0

SUPERSTRUCTURE DETAILS
MAH-224-2.525
OVER TURKEY BROTH CREEK

SFN 5004616

DESIGN AGENCY

DESIGNER	CHECKER
SBD	JF

REVIEWER
MJA 08-26-25

PROJECT ID
112817

SUBSET	TOTAL
5	10

SHEET	TOTAL
P.22	27

MAH-224/534-0.00/8.46

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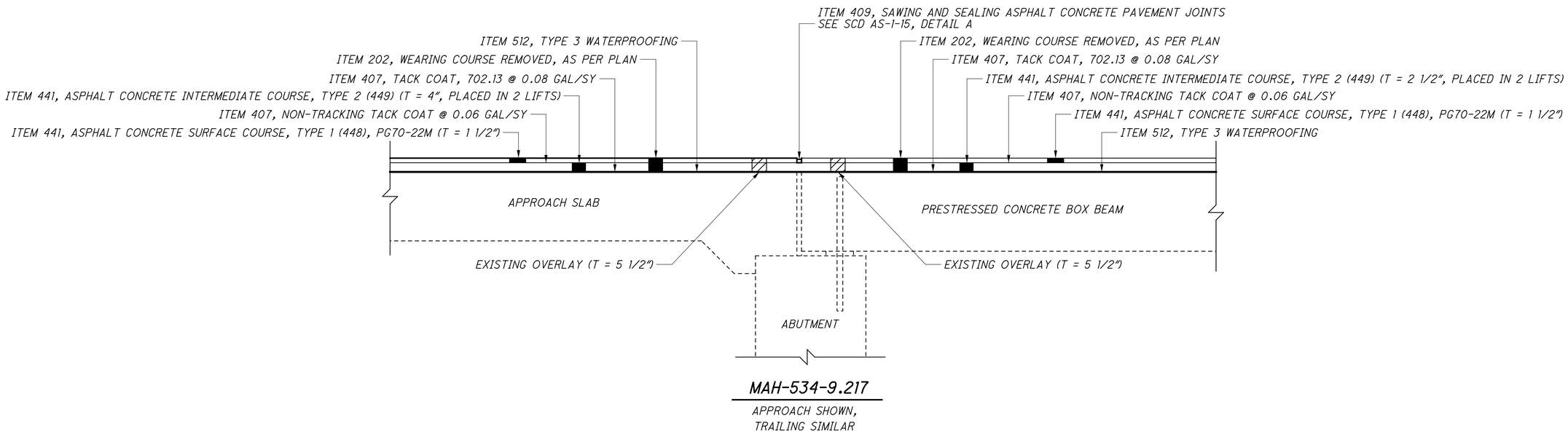

BRIDGE NUMBER	BRIDGE DECK											APPROACH SLABS											
				202	407	407	441	441	512	SPECIAL	515					202	407	407	409	441	441	512	
	LENGTH (BRIDGE LIMITS)	BRIDGE WIDTH	DECK AREA	WEARING COURSE REMOVED, AS PER PLAN (T = 5 1/2")	TACK COAT, 702.13 @ 0.08 GAL/SY	NON-TRACKING TACK COAT @ 0.06 GAL/SY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449) (T = 2 1/2")	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M (T = 1 1/2")	TYPE 3 WATERPROOFING	STEEL DRIP STRIP	HIGH EARLY STRENGTH KEYWAY GROUT	LENGTH (APPROACH SLABS)	APPROACH SLAB WIDTH	APPROACH SLAB AREA	APPROACH (FORWARD / REAR)	WEARING COURSE REMOVED, AS PER PLAN (T = 5 1/2")	TACK COAT, 702.13 @ 0.08 GAL/SY	NON-TRACKING TACK COAT @ 0.06 GAL/SY	SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449) (T = 2 1/2")	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M (T = 1 1/2")	TYPE 3 WATERPROOFING	
	FT	FT	SQ YD	SY	GAL	GAL	CY	CY	SY	FT	FT	FT	FT	SQ YD		SY	GAL	GAL	FT	CY	CY	SY	
MAH-534-9.217	56.17	32.00	199.72	199.72	15.98	11.98	15.95	8.32	199.72	139	39.94	15.00	32.00	53.33	FWD	53.33	4.27	3.20	32.00	4.26	2.22	53.33	
												15.00	32.00	53.33	REAR	53.33	4.27	3.20	32.00	4.26	2.22	53.33	
			TOTALS	200	16	12	16	9	200	140	40				TOTALS	107	9	7	64	9	5	107	

SUPERSTRUCTURE DETAILS
MAH-534-9.217
OVER TURKEY BROTH CREEK

SFN 5005809

DESIGN AGENCY

DESIGNER	CHECKER
SBD	JF

REVIEWER MJA 08-26-25

PROJECT ID 112817

SUBSET	TOTAL
6	10

SHEET	TOTAL
P.23	27

MAH-224/534-0.00/8.46

MODEL: Sheet 3 PAPERSIZE: 34x22 (in.) DATE: 11/25/2025 TIME: 2:53:04 PM PLTDRV: OHDOT_PDF.pltcfg PENTBL: OHDOT_Pen.tbl USER: Joel.Fitzsimmons@dot.ohio.gov WORKSPACE: OHDOTCEv02 WORKSET: 112817 PRODUCT: OpenRoadsDesigner 24.00.00.205
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PROPOSED WORK LAYOUT

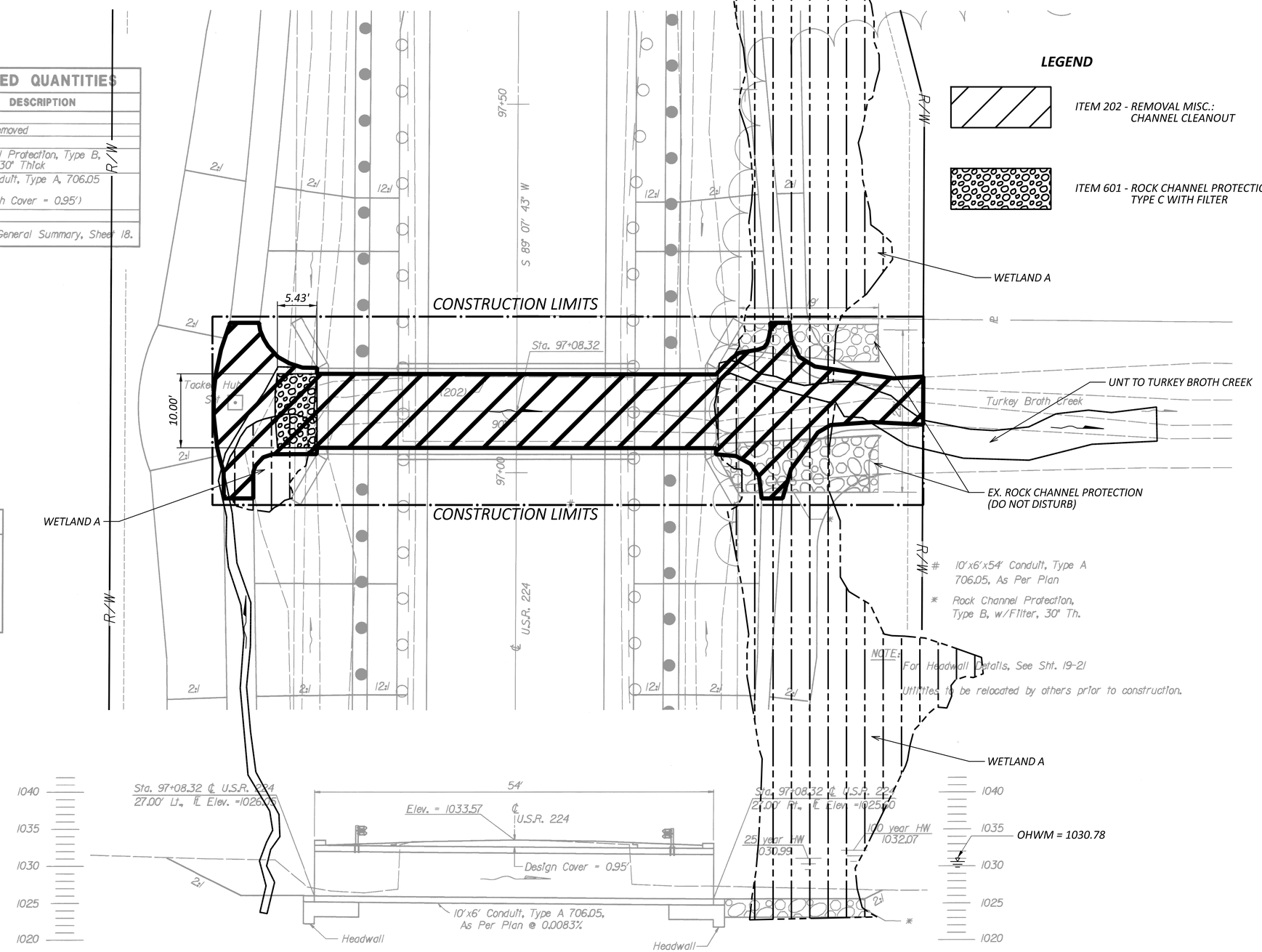
ESTIMATED QUANTITIES

ITEM	QUANTITY	UNIT	DESCRIPTION
202	Lump		Structure Removed
601	43	Cu Yd	Rock Channel Protection, Type B, with Filter, 30" Thick
603	54	Lin Ft	10' x 6' Conduit, Type A, 706.05 As Per Plan (Design Earth Cover = 0.95')

Quantities Carried to Structure General Summary, Sheet 18.

HYDRAULIC DATA

Drainage Area	=	525 Ac.
Q_{25}	=	217 cfs
HW_{25}	=	1030.99
V_{25}	=	13.07 fps
Q_{100}	=	297 cfs
HW_{100}	=	1032.07



SITE PLAN
STRUCTURE NO. MAH-224-0184

MAH-224-1.84

1/5

16/24

SCOUR REPAIR AND CHANNEL CLEANOUT
BRIDGE: MAH-224-1.869
OVER UNT TO TURKEY BROTH CREEK

SFN 5004608
DESIGN AGENCY

DESIGNER	CHECKER
SBD	JF

REVIEWER MJA 08-26-25
PROJECT ID 112817
SUBSET 7 TOTAL 10
SHEET P.24 TOTAL 27

MAH-224/534-0.00/8.46

MODEL: Sheet 1 PAPERSIZE: 34x22 (in.) DATE: 11/25/2025 TIME: 2:53:10 PM PLTDRV: OHDOT_PDF.pltcfg PENTBL: OHDOT_Pen.tbl USER: Joel.Fitzsimmons@dot.ohio.gov WORKSPACE: OHDOTCEv02 WORKSET: 112817 PRODUCT: OpenRoadsDesigner 24.00.00.205
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DATE : 17-OCT-2001 TIME : 13:54
DESIGN FILE : b:\pd\9994\224sp.dgn
USERNAME : bdennis

PROPOSED WORK LAYOUT

ESTIMATED QUANTITIES

ITEM	QUANTITY	UNIT	DESCRIPTION
202	Lump		Structure Removed
601	96	Cu Yd	Rock Channel Protection, Type A, with Filter, 36" Thick
601	112	Cu Yd	Rock Channel Protection, Type A, without Filter, 36" Thick
603	69	Lin Ft	18' x 6' Conduit, Type A, 706.05 As Per Plan (Design Earth Cover = 3.96')

Quantities Carried to Structure General Summary, Sheet 20.

HYDRAULIC DATA

Drainage Area = 730 Ac.

Q_{25} = 984 cfs

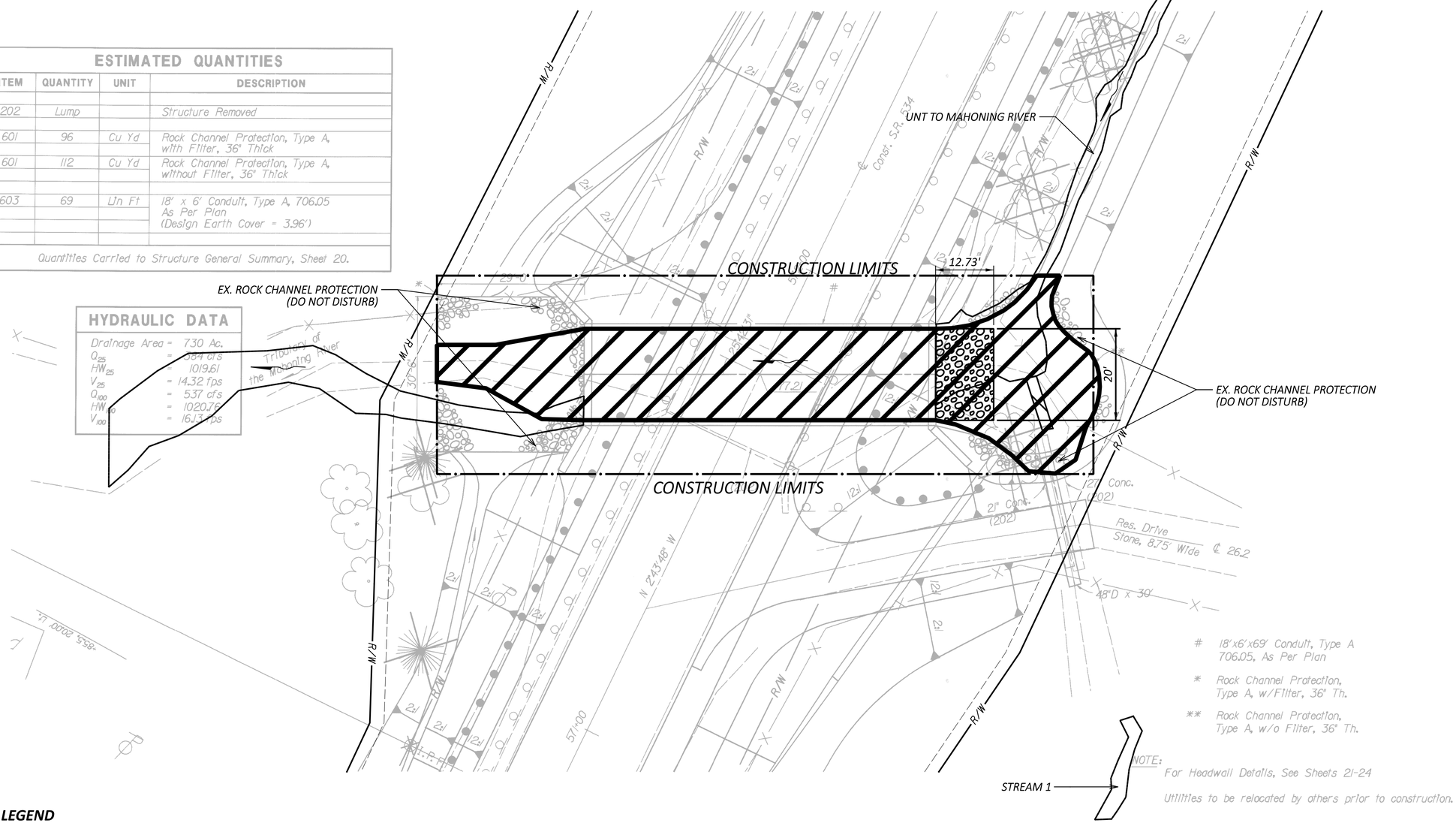
HW_{25} = 1019.61

V_{25} = 14.32 fps

Q_{100} = 537 cfs

HW_{100} = 1020.76

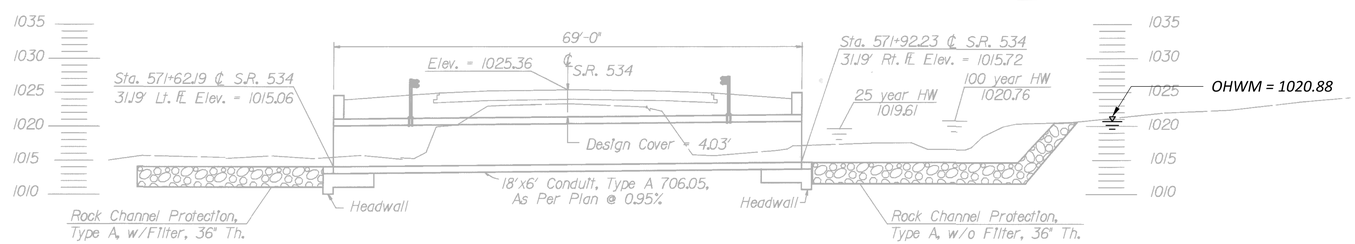
V_{100} = 16.13 fps



LEGEND

ITEM 202 - REMOVAL MISC.: CHANNEL CLEANOUT

ITEM 601 - ROCK CHANNEL PROTECTION, TYPE B WITH FILTER



HORIZONTAL SCALE IN FEET 0 5 10 20

CALCULATED

CHECKED

SITE PLAN
STRUCTURE NO. MAH-534-1087

MAH-534-10.87

1/6

19/29

SCOUR REPAIR AND CHANNEL CLEANOUT
BRIDGE: MAH-534-10.827
OVER UNT TO MAHONING RIVER

SFN 5005833

DESIGN AGENCY

DESIGNER	CHECKER
SBD	JF

REVIEWER MJA 08-26-25

PROJECT ID 112817

SUBSET	TOTAL
8	10

SHEET	TOTAL
P.25	27

MAH-224/534-0.00/8.46

MODEL: Sheet 2 PAPERSIZE: 34x22 (in.) DATE: 11/25/2025 TIME: 2:53:31 PM PLTDRV: OHDOT_PDF.pltcfg PENTBL: OHDOT_Pen.tbl USER: Joel.Fitzsimmons@dot.ohio.gov WORKSPACE: OHDOTCEv02 WORKSET: 112817 PRODUCT: OpenRoadsDesigner 24.00.00.205
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DATE : 18-OCT-2001
TIME : 11:13

DESIGN FILE : i:\pd\19915\534sp.dgn
USERNAME : bdennis

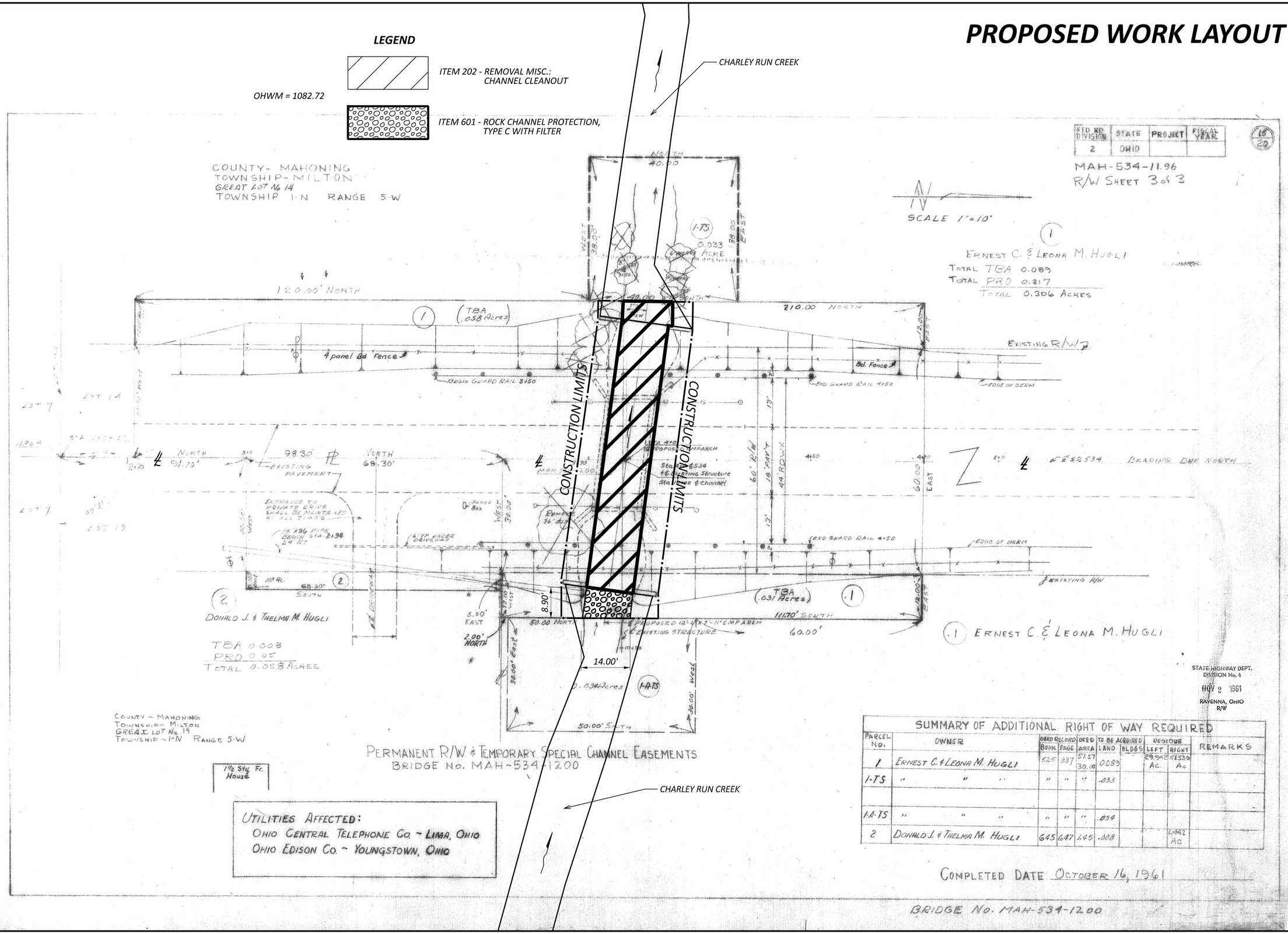
PROPOSED WORK LAYOUT

LEGEND

ITEM 202 - REMOVAL MISC.: CHANNEL CLEANOUT

OHWM = 1082.72

ITEM 601 - ROCK CHANNEL PROTECTION, TYPE C WITH FILTER



SUMMARY OF ADDITIONAL RIGHT OF WAY REQUIRED

PARCEL No.	OWNER	DEED RECORD BOOK	DEED RECORD PAGE	DEED AREA	TO BE ACQUIRED LAND	TO BE ACQUIRED BLDGS	REGIONS LEFT	REGIONS RIGHT	REMARKS
1	ERNEST C. & LEONA M. HUGLI	525	337	51.57 30.00	0.089		29.942 Ac.	51.539 Ac	
1-TS	" " "	"	"	"	.033				
1-A-TS	" " "	"	"	"	.034				
2	DONALD J. & THELMA M. HUGLI	645	647	1.45	.008			1.442 AC	

MAH-224/534-0.00/8.46

MODEL: Sheet 3 PAPERSIZE: 34x22 (in.) DATE: 11/25/2025 TIME: 2:53:52 PM PLTDRV: OHDOT_PDF.pltcfg PENTBL: OHDOT_Pen.tbl USER: Joel.Fitzsimmons@dot.ohio.gov WORKSPACE: OHDOTCEv02 WORKSET: 112817 PRODUCT: OpenRoadsDesigner 24.00.00.205
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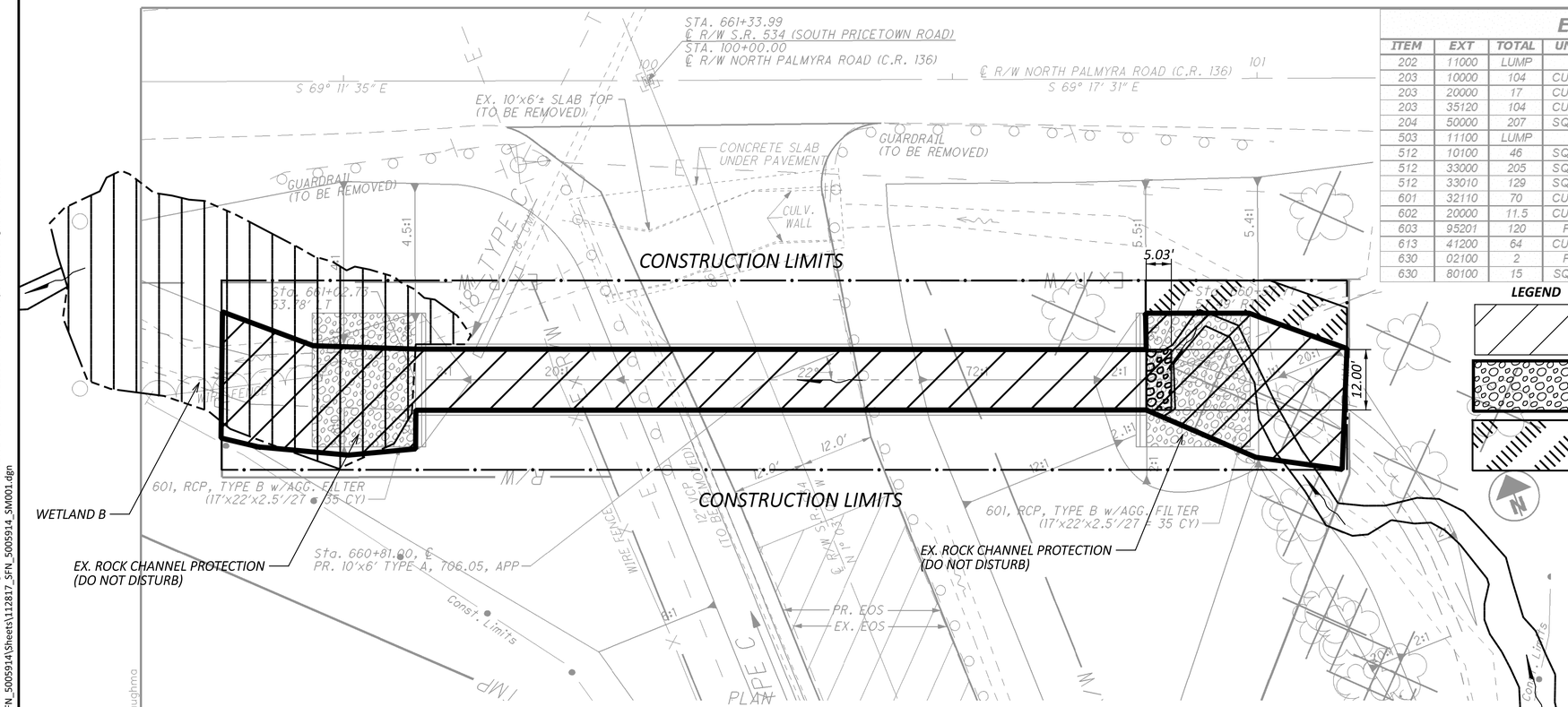
SCOUR REPAIR AND CHANNEL CLEANOUT
BRIDGE: MAH-534-11.943
OVER CHARLEY RUN CREEK

SFN	5005892
DESIGN AGENCY	
DESIGNER	SBD
CHECKER	JF
REVIEWER	MJA 08-26-25
PROJECT ID	112817
SUBSET	9
TOTAL	10
SHEET	P.26
TOTAL	27

PROPOSED WORK LAYOUT



ESTIMATED QUANTITIES

ITEM	EXT	TOTAL	UNIT	DESCRIPTION
202	11000	LUMP		STRUCTURE REMOVED
203	10000	104	CU YD	EXCAVATION
203	20000	17	CU YD	EMBANKMENT (FOR LONG SPAN CULVERT)
203	35120	104	CU YD	GRANULAR MATERIAL, TYPE C, 703.16
204	50000	207	SQ YD	GEOTEXTILE FABRIC, TYPE D
503	11100	LUMP		COFFERDAMS AND EXCAVATION BRACING
512	10100	46	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
512	33000	205	SQ YD	TYPE 2 WATERPROOFING
512	33010	129	SQ YD	TYPE 3 WATERPROOFING
601	32110	70	CU YD	ROCK CHANNEL PROTECTION, TYPE B WITH AGGREGATE FILTER
602	20000	11.5	CU YD	CONCRETE MASONRY
603	95201	120	FT	10' X 6' CONDUIT, TYPE A, 706.05, AS PER PLAN
613	41200	64	CU YD	LOW STRENGTH MORTAR BACKFILL
630	02100	2	FT	GROUND MOUNTED SUPPORT, NO. 2 POST
630	80100	15	SQ FT	SIGN, FLAT SHEET, 730.20

LEGEND

ITEM 202 - REMOVAL MISC.: CHANNEL CLEANOUT

ITEM 601 - ROCK CHANNEL PROTECTION, TYPE C WITH FILTER

ITEM 601 - DUMPED ROCK FILL, TYPE B

FOR BENCHMARK INFORMATION SEE ROADWAY PLAN SHEET 10/18

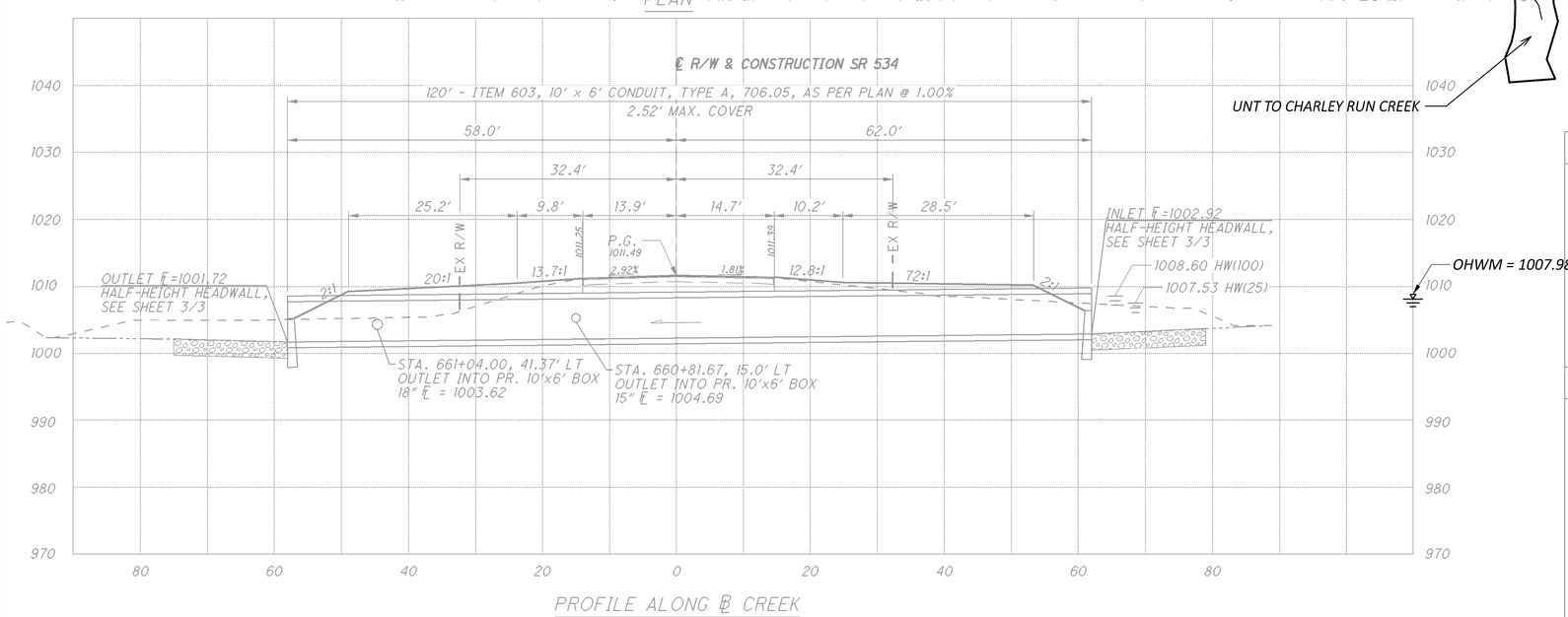
NOTES

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

DESIGN TRAFFIC:
2014 ADT = 3820 2014 ADTT = 267
2034 ADT = 4190 2034 ADTT = 293
DIRECTIONAL DISTRIBUTION = 0.56

HYDRAULIC DATA

DRAINAGE AREA = 0.63 SQ. MILES
Q (25) = 243 CFS V (25) = 8.05 FT/S
Q (100) = 333 CFS V (100) = 9.51 FT/S
HW (25) = 1007.53 FT
HW (100) = 1008.60 FT



PROFILE ALONG ℄ CREEK

EXISTING STRUCTURE

TYPE:	10'x6' SLAB TOP
ROADWAY:	24'± EOS/EOS
LOADING:	UNKNOWN
SKEW:	20° LEFT FRONT
WEARING SURFACE:	ASPHALT CONCRETE
APPROACH SLABS:	NONE
ALIGNMENT:	TANGENT
CROWN:	0.016±

PROPOSED STRUCTURE

TYPE:	10'-0" x 6'-0" 4-SIDED PRECAST CONCRETE BOX CULVERT
ROADWAY:	24'± EOS/EOS
LOADING:	AS PER CMS 706.05 AND ASTM C 1577
SKEW:	22° LEFT FRONT
WEARING SURFACE:	ASPHALT CONCRETE
APPROACH SLABS:	NONE
ALIGNMENT:	TANGENT
CROWN:	0.016±
LOCATION:	N 41° 04' 55" W 80° 56' 55"

DESIGN AGENCY: ODOT --- DISTRICT 4 PLANNING & ENGINEERING

REVIEWED LMP | DATE 05-17-12 | STRUCTURE FILE NUMBER 5005906

DRAWN RCB | REVISED | DESIGNED RCB | CHECKED

MAHONING COUNTY
STA. 660+74.71
STA. 660+87.29

SITE PLAN
MAH-534-1254
OVER TRIBUTARY OF CHARLEY RUN CREEK

MAH-534-12.54
PID No. 85894

1 / 3

13 / 18

SCOUR REPAIR, REARMORING AND CHANNEL CLEANOUT
BRIDGE: MAH-534-12.518
OVER UNT TO CHARLEY RUN CREEK

SFN 5005906

DESIGN AGENCY

DESIGNER	CHECKER
SBD	JF

REVIEWER MJA 08-26-25

PROJECT ID 112817

SUBSET	TOTAL
10	10

SHEET	TOTAL
P.27	27

MAH-224/534-0.00/8.46

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