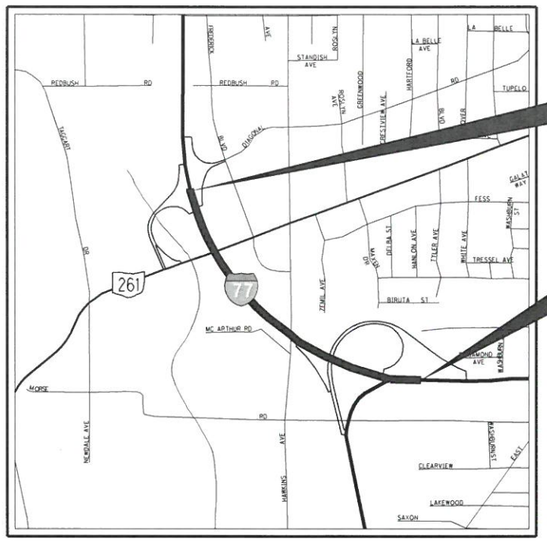

LOCATION MAP

LATITUDE: 41°03'42" LONGITUDE: 81°34'12"

SCALE IN MILES
0 1 2 3 4

N

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

DESIGN DESIGNATION

DESIGN SPEED	60 MPH
LEGAL SPEED	55 MPH
DESIGN FUNCTIONAL CLASSIFICATION: URBAN INTERSTATE	
NHS PROJECT	YES

DESIGN EXCEPTIONS

NONE

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES TWO WORKING DAYS
BEFORE YOU DIG.

OHIO Utilities Protection SERVICE
Call Before You Dig
1-800-362-2764
(Non-members must be called directly)

OIL & GAS PRODUCERS
UNDERGROUND PROTECTION SERVICE
1-800-925-0988

PLAN PREPARED BY:
ODOT DISTRICT 4, PLANNING & ENGINEERING
2088 S. ARLINGTON ROAD
AKRON, OH 44306

ENGINEERS SEAL:

STATE OF OHIO
REBECCA M BISESI
E-68469
REGISTERED PROFESSIONAL ENGINEER

SIGNED: Rebecca M Bisesi
DATE: 9-13-16

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

SUM-77-15.18

CITY OF AKRON

SUMMIT COUNTY

INDEX OF SHEETS:

PROJECT DESCRIPTION

MINOR REHABILITATION OF EXISTING CONCRETE PAVEMENT FROM SLM 15.18 TO SLM 15.86 ON IR 77 ALONG WITH JOINT REPLACEMENT ON STRUCTURE SUM-76-0832L

PROJECT EARTH DISTURBED AREA:	0 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	N/A (MAINTENANCE PORJECT)
NOTICE OF INTENT EARTH DISTURBED AREA:	N/A (MAINTENANCE PORJECT)

LIMITED ACCESS

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

2016 SPECIFICATIONS

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

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT AS NOTED ON SHEETS 8-12, AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED
DATE 9/14/16 DISTRICT DEPUTY DIRECTOR

APPROVED
DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

STANDARD CONSTRUCTION DRAWINGS							SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
BP-2.1	7/17/15	MT-101.90	7/17/15				800-2016 10/21/16	
BP-2.3	7/18/14	MT-102.20	7/18/14					
BP-2.5	7/19/13						821 4/20/12	
		MT-105.10	7/19/13				832 1/17/14	
DM-1.1	1/15/16							
		TC-41.20	10/18/13					
MT-95.30	7/15/16	TC-42.20	10/18/13					
MT-98.10	7/18/14	TC-52.10	10/18/13					
MT-98.11	7/18/14	TC-52.20	7/15/16					
MT-98.20	7/18/14	TC-71.10	7/15/16					
MT-98.22	7/18/14	TC-72.20	7/15/16					
MT-98.28	7/18/14							
MT-98.29	7/19/13							
MT-99.20	7/19/13							
MT-99.50	7/19/13							
MT-101.60	7/19/13							

FEDERAL PROJECT NO. NON-FEDERAL
PID NO. 103632
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
SUM-77-15.18
1/21

I:\ProjectData\SUM\103632_77-15.18-FY2017\Design\Roadway\Sheets\103632_GT001.dgn Sheet 12/9/2016 3:26:45 PM brossl

CALCULATED CMR
CHECKED RMB

PAVEMENT LAYOUT SHEET

SUM-77-15.18

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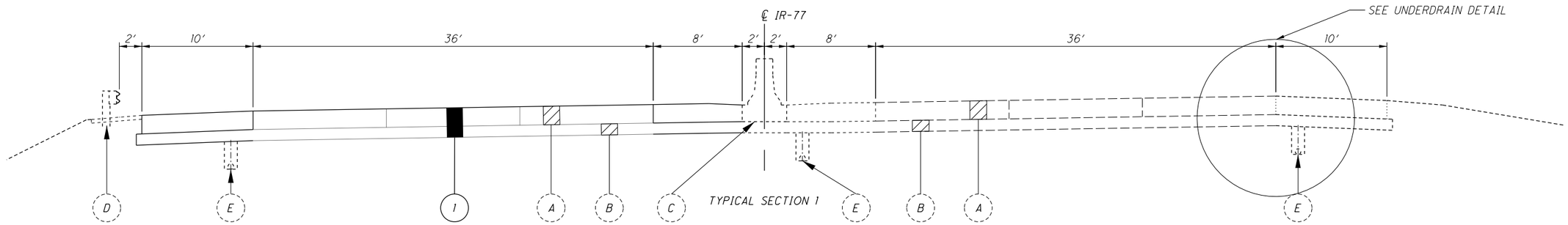
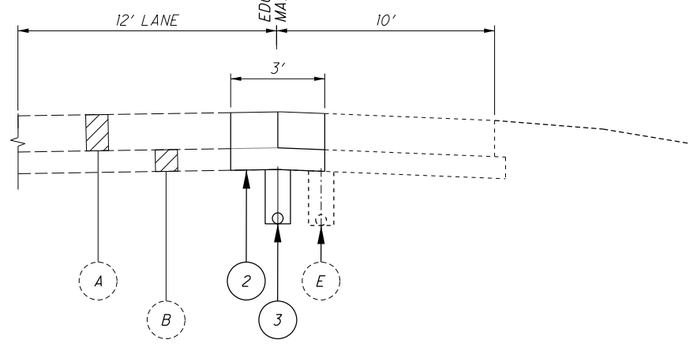


SECTION 1 APPLIES IR 77 VARIOUS LOCATIONS:				
ROUTE	SLM		DIRECTION	LENGTH (MILES)
	FROM	TO		
SUM 77	15.18	15.86	SB	0.68



UNDERDRAIN DETAIL NB:				
ROUTE	SLM		DIRECTION	LENGTH (MILES)
	FROM	TO		
SUM 77	15.38	15.86	NB	0.48

LEGEND

(1) ITEM 255, FULL DEPTH PAVEMENT REPAIR (VARIOUS LOCATIONS)
(2) ITEM 255, FULL DEPTH PAVEMENT REPAIR
(3) ITEM 605 6" SHALLOW PIPE UNDERDRAINS

(A) EXISTING 10" REINFORCED CONCRETE PAVEMENT
(B) EXISTING 6" AGGREGATE BASE
(C) EXISTING CONCRETE BARRIER
(D) EXISTING GUARDRAIL
(E) EXISTING UNDERDRAIN

TYPICAL SECTIONS

SUM-77-15.18

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, THE OHIO UTILITIES PROTECTION SERVICE (OUPS), THE OHIO & GAS PROCEDURES UNDERGROUND PROTECTION SERVICE (OGPUPS), THE OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 4 HEAD-OUARTERS AND ALL NON REGISTERED UTILITY OWNERS AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION IN ALL AREAS.

OUPS 1-800-362-2764 (CONTACT LIMITED BASIS PARTICIPANTS DIRECTLY)
OGPUPS 1-800-925-0988
ODOT 330-786-3145 KEN GREENE

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

PLAN INTENT

THIS PROJECT SHALL CONSIST OF FULL DEPTH PAVEMENT REPAIR OF DETERIORATED SECTIONS OF EXISTING PORTLAND CEMENT CONCRETE PAVEMENT ON THROUGH LANES AND CONCRETE SHOULDERS WITHIN THE PROJECT LIMITS.

THE EXISTING PAVEMENT ON THIS PROJECT WAS CONSTRUCTED UNDER PROJECT NO. SUM-76/77-11.44/15.18 (CONSTRUCTION NO. 93749) AND SUM-77-15.18 (CONSTRUCTION NO. IR-77-4(80)109).

WORK LIMITS

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

PROFILE AND ALIGNMENT

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

PAVEMENT MARKING DETAILS

THE PAVEMENT MARKING DETAIL SHEETS WILL BE SUPPLIED TO THE CONTRACTOR AT THE PRE-CONSTRUCTION MEETING.

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
SR 77	15.38 TO 15.87	12'

PAVEMENT MARKING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PLACE PAVEMENT MARKINGS ON THE NEW PAVEMENT SURFACE FOLLOWING FULL DEPTH PAVEMENT REPLACEMENT:

646, EDGE LINE, 6"	2.72 MILE
646, LANE LINE, 6"	2.86 MILE
646, DOTTED LINE, 6"	1,400 FEET
646, CHANNELIZING LINE, 12"	3,000 FEET

COMMUNITY NOTIFICATION

THE CONTRACTOR WILL ADVISE THE ODOT PROJECT ENGINEER A MINIMUM OF TWENTY-ONE (21) DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. THE CONTRACTOR MUST ALSO PROVIDE NOTIFICATION TO THE ODOT PROJECT ENGINEER A MINIMUM OF TWENTY-ONE (21) DAYS PRIOR TO ANY LANE RESTRICTIONS OR CLOSURES. THE ODOT PROJECT ENGINEER WILL FORWARD THIS INFORMATION TO THE ODOT, DISTRICT 4 OFFICE OF PUBLIC INFORMATION FOR USE TO NOTIFY EMERGENCY SERVICES AND COMMUNITIES A MINIMUM OF FIFTEEN (15) DAYS PRIOR TO THE START OF PROJECT CONSTRUCTION. INCLUDED IN THIS NOTIFICATION WILL BE THE PROJECTED DATES OF ANY LANE RESTRICTIONS OR CLOSURES REQUIRED BY THE PROJECT.

ITEM 203 - EXCAVATION (FOR PAVEMENT REPAIR)

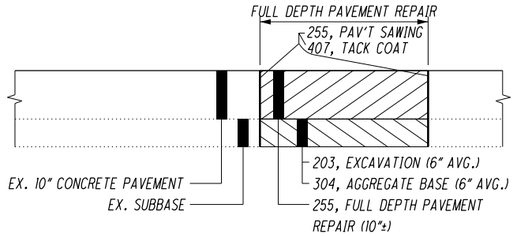
THIS ITEM OF WORK SHALL CONSIST OF REMOVING AND DISPOSING OF ALL UNSUITABLE MATERIAL BY EXCAVATING THE EXISTING SUBGRADE AND SUBBASE TO AN AVERAGE DEPTH OF 6 INCHES OR AS DIRECTED BY THE ENGINEER. EXACT LIMITS OF REMOVAL SHALL BE DETERMINED BY THE ENGINEER. ALL EQUIPMENT, LABOR, TOOLS, AND INCIDENTALS 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), 1,311 CU YD

ITEM 255 - FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS RRCM

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 10"± CONCRETE, CLASS RRCM.
UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
IT IS NOT THE INTENT TO REPAIR EVERY DETERIORATED AREA WITHIN THE PROJECT. THE ENGINEER SHALL DETERMINE WHICH AREAS ARE TO BE REPAIRED. REFER TO BP-2.5 FOR TRANSVERSE REPAIRS. 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:

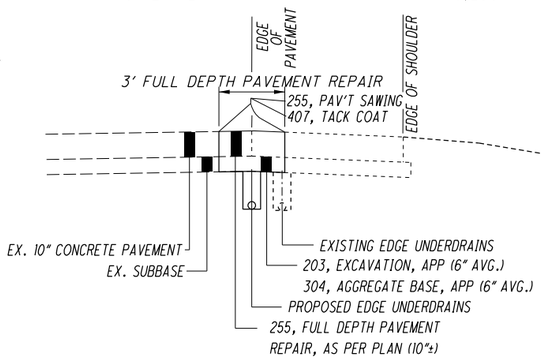
255, FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS RRCM 7,000 SQ YD
(3,000 TRANSVERSE, 4,000 LONGITUDINAL)
255, FULL DEPTH PAVEMENT SAWING 38,000 FT



ITEM 255 - FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS RRCM, AS PER PLAN (SLM 15.38-15.86 NORTHBOUND)

A QUANTITY OF THIS ITEM SHALL BE PROVIDED FOR USE OF INSTALLING ITEM - 605, 6" SHALLOW PIPE UNDERDRAINS OR AS DIRECTED BY THE ENGINEER. THIS ITEM SHALL CONSIST OF CUTTING AND REMOVING DETERIORATED PAVEMENT FULL DEPTH AND PLACING 10"± CONCRETE, CLASS RRCM, AS PER PLAN.
UNLESS OTHERWISE DIRECTED BY THE ENGINEER. REFER TO BP-2.1 FOR LONGITUDINAL PAVEMENT JOINTS. 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:

255, FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS RRCM, AS PER PLAN 900 SQ YD
255, FULL DEPTH PAVEMENT SAWING, AS PER PLAN 5,200 FT



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:

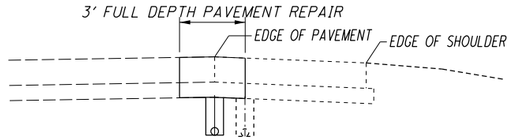
304, AGGREGATE BASE (FOR PAVEMENT REPAIR), 1,311 CU YD

ITEM 605 - 6" SHALLOW PIPE UNDERDRAINS
ITEM 611 - 4" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS
ITEM 611 - PRECAST REINFORCED CONCRETE OUTLET

UNDERDRAINS AND OUTLETS (ALONG WITH PRECAST REINFORCED OUTLETS) SHALL BE INSTALLED IN THE NORTHBOUND DIRECTION ALONG THE RIGHT EDGE OF PAVEMENT IN THE FULL DEPTH REPAIR SECTION AS SHOWN BELOW.

THE 4" CONDUIT, TYPE F, WILL BE USED TO OUTLET THE UNDERDRAINS FROM THE OUTSIDE PAVEMENT EDGE TO THE GRASS SHOULDER AND SHALL BE PLACED EVERY 500 FEET.

ALL MATERIALS, LABOR, EQUIPMENT, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE ALL OF THE ABOVE WORK SHALL BE INCLUDED IN THE BID PRICES FOR THE BELOW ITEMS & QUANTITITES WHICH HAVE BEEN CARRIED TO THE GENERAL SUMMARY:



605, 6" SHALLOW PIPE UNDERDRAINS	2,587 FT.
611, 4" CONDUIT, TYPE F	150 FT
611, PRECAST REINFORCED CONCRETE OUTLET	9 EACH

CALCULATED CMR
CHECKED RMB

GENERAL NOTES

SUM-77-15.18

MAINTENANCE OF TRAFFIC

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

1. A MINIMUM OF ONE ELEVEN FOOT LANE IN EACH DIRECTION SHALL BE MAINTAINED ON THE EXISTING PAVEMENT AND 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 EXCA- VATION IS MADE. IF THE CONTRACTOR CANNOT COMPLETE THE WORK, THE EXCAVATION SHALL BE BACKFILLED AS PER STANDARD CONSTRUCTION DRAWING MT-101.90.

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

6. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR BE PERMITTED TO HAVE SUCCESSIVE WORK ZONES UNLESS THE DISTANCE BETWEEN THE DRUMS, BARRICADES OR CONES EXCEEDS ONE [1] MILE URBAN.

7. 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.

8. A QUANTITY OF ITEM 614 WORK ZONE MARKING SIGH HAS BEEN INCLUDED IN THE PLAN. THIS QUANTITY SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING SIGNS:
W8-H13 [NO EDGE LINES]. THESE QUANTITIES SHALL BE AS PER 614.04.

THE FOLLOWING QUANTITIES SHALL BE USED FOR THE MAIN- TENANCE OF TRAFFIC ON THIS PROJECT:
614, WORK ZONE MARKING SIGNS, 4 EACH

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 REP- RESENTATIVE SHALL ALSO BE AVAILABLE ON AN AROUND THE CLOCK BASIS TO REPAIR AND/OR REPLACE DAMAGED OR MISS- ING 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.

ITS MESSAGE BOARDS

THE EXISTING ITS MESSAGE BOARDS IN THE VICINITY OF THE PROJECT WILL BE UTILIZED TO PROVIDE SUPPLEMENTAL INFORMATION TO THE TRAVELING PUBLIC. THE PROJECT ENGINEER WILL COORDINATE WITH BRENT KOVACS AT 330-786-2208 TO GET THE ITS MESSAGE BOARDS ADJUSTED.

CLOSING MULTIPLE LANES FOR 6 OR MORE LANE SECTIONS

REFER TO OMUTCD FIGURE 6H-37, DOUBLE LANE CLOSURE ON A FREEEWAY (TA-37). OMUTCD FIGURE 6H-38, INTERIOR LANE CLOSURE ON A FREEWAY (TA-38) SHALL NOT BE USED.

DETOUR NOTIFICATION [ODOT/ CITY OF AKRON]

THE CONTRACTOR SHALL ADVISE THE ODOT DISTRICT OFFICE (330-786-3148) AND CITY OF AKRON (330- 375-2355) EIGHTEEN (18) DAYS IN ADVANCE OF WHEN THE DETOUR ROUTE SHOULD BE IN EFFECT. ALL WORK ZONE DEVICES REQUIRED SHALL BE FURNISHED, ERECTED, MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. PAYMENT FOR ALL WORK ASSOCIATED WITH THE DETOUR SHALL BE INCLUDED UNDER THE LUMP SUM BID FOR ITEM 614, DETOUR SIGNING.

LANE CLOSURES

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

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

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THE REQUIRE- MENTS IN THE CHART, THE CONTRACTOR SHALL BE ASSESSED DISINCENTIVES IN THE AMOUNT OF $7500 PER HOUR OR PORTION THEREOF THAT THE LANE REDUCTION REMAINS BEYOND THE SPECIFIED LIMIT.

ITEM 614, MAINTAINING TRAFFIC (NOTICE OF CLOSURE SIGN)

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

W20-H14-60

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

ALL RAMPS SHALL BE MAINTAINED AT ALL TIMES, EXCEPT AS DETAILED BELOW IN ORDER TO COMPLETE ALL CONCRETE REPAIRS ON I-77 FROM SLM 15.18 TO SLM 15.86.

RAMP W (I-76 EAST TO I-77 NORTH) AND RAMP D (I-277 WEST TO I-76 EAST) MAY BE CLOSED FOR A PERIOD NOT TO EXCEED 3 CONSECUTIVE WEEKENDS (7PM FRIDAY TO 6AM MONDAY) AS SHOWN ON SHEET 12 TO COMPLETE CONCRETE REPAIRS ON I-77 NORTHBOUND. RAMPS W AND D SHALL BE CLOSED CONSECUTIVELY.A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF $6000 FOR EACH HOUR THE RAMP REMAINS CLOSED BEYOND THE SPECIFIED LIMIT.

RAMP T (I-77 SOUTH TO I-76 EAST) MAY BE CLOSED FOR A PERIOD NOT TO EXCEED 3 CONSECUTIVE WEEKENDS (7PM FRIDAY TO 6AM MONDAY) AS SHOWN ON SHEET 12 TO COMPLETE CONCRETE REPAIRS IN THE SOUTHBOUND DIRECTION. RAMP T SHALL NOT BE CLOSED CONCURRENTLY WITH RAMP V. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF $6000 FOR EACH HOUR THE RAMP REMAINS CLOSED BEYOND THE SPECIFIED LIMIT.

RAMP V (I-76 EAST TO I-76) MAY BE CLOSED FOR A PERIOD NOT TO EXCEED 1 WEEKEND (7PM FRIDAY TO 6AM MONDAY) AS SHOWN ON SHEET 13 TO COMPLETE THE JOINT REPAIR ON STRUCTURE SUM-76-0831L. RAMP V SHALL NOT BE CLOSED CONCURRENTLY WITH RAMP T. RAMP V SHALL NOT BE CLOSED DURING ANY WEEKEND WHEN I-77 NORTH IS REDUCED TO 1 LANE. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF $6000 FOR EACH HOUR THE RAMP REMAINS CLOSED BEYOND THE SPECIFIED LIMIT.

RAMP P (SR 261 TO I-77 SOUTH) MAY BE CLOSED FOR A PERIOD NOT TO EXCEED 3 CONSECUTIVE WEEKENDS (7PM FRIDAY TO 6AM MONDAY) AS SHOWN ON SHEETS 8-9 TO COMPLETE CONCRETE REPAIRS IN THE SOUTHBOUND DIRECTION. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF $2000 FOR EACH HOUR THE RAMP REMAINS CLOSED BEYOND THE SPECIFIED LIMIT.

EXCEPTIONS TO THE PERMITTED LANE CLOSURE CHART

I-77 NORTHBOUND CONCRETE SECTION FROM SLM 15.18 TO SLM 15.86:

ALL LANES SHALL BE MAINTAINED PER THE PERMITTED LANE CLOSURE CHART AND ALL RAMPS SHALL REMAIN OPEN TO TRAFFIC, EXCEPT FOR A PERIOD NOT TO EXCEED 3 CONSECUTIVE WEEKENDS (7PM FRIDAY TO 6AM MONDAY) WHEN I-77 NORTHBOUND MAY BE REDUCED TO ONE LANE TO PERFORM CONCRETE REPAIRS. DURING THE ONE LANE RESTRICTION OF I-77 FOR ALL THREE CONSECUTIVE WEEKENDS, NORTHBOUND KENMORE LEG RAMP W (I-76 EAST TO I-77 NORTH) AND RAMP D (I277 WEST TO I-76 EAST) SHALL BE CLOSED.

NORTHBOUND I-77 SHALL NOT BE REDUCED TO ONE LANE CONCCURENTLY WITH THE RAMP V CLOSURE.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THE ABOVE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED DISINCENTIVES IN THE AMOUNT OF $6000 PER HOUR OR PORTION THEREOF THAT THE CLOSURE REMAINS BEYOND THE SPECIFIED LIMIT.

I-77 SOUTHBOUND CONCRETE SECTION FROM SLM 15.18 TO SLM 15.86:

ALL LANES SHALL BE MAINTAINED PER THE PERMITTED LANE CLOSURE CHART AND ALL RAMPS SHALL REMAIN OPEN TO TRAFFIC EXCEPT FOR A PERIOD NOT TO EXCEED 3 CONSECUTIVE WEEKENDS (7PM FRIDAY TO 6AM MONDAY) WHEN I-77 SOUTHBOUND MAY BE REDUCED TO ONE LANE TO PERFORM CONCRETE REPAIRS.

DURING ONE WEEKEND OF THE THREE PERMISSABLE WEEKENDS TO REDUCE I-77 SOUTBOUND TO ONE LANE, THE CONTRACTOR MAY CLOSE I-77 SOUTHBOUND / I-76 EASTBOUND AND DETOUR TRAFFIC AS SHOWN ON SHEET 10. DURING ANOTHER PERMISSABLE WEEKEND OF I-77 SOUTHBOUND REDUCED TO ONE LANE, THE CONTRACTOR MAY CLOSE THE KENMORE LEG EXIT RAMP T (I-77 SOUTH TO I-76 WEST) AND DETOUR TRAFFIC AS SHOWN ON SHEET 11. DURING THE THIRD PERMISSABLE WEEKEND TO REDUCE I-77 SOUTHBOUND TO ONE LANE, I-77 SOUTHBOUND MAINLINE TRAFFIC AND EXIT RAMP T SHALL REMAIN OPEN TO TRAFFIC.

DURING ALL THREE WEEKENDS OF I-77 SOUTHBOUND REDUCED TO ONE LANE, ENTRANCE RAMP P (SR 261 TO I-77 SOUTH) SHALL BE CLOSED.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THE ABOVE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED DISINCENTIVES IN THE AMOUNT OF $6000 PER HOUR OR PORTION THEREOF THAT THE CLOSURE REMAINS BEYOND THE SPECIFIED LIMIT.

CALCULATED CNC
CHECKED XXX

GENERAL NOTES OF TRAFFIC MAINTENANCE

SUM-77-15.18

5
21

COOPERATION BETWEEN CONTRACTORS

THE CONTRACTOR SHALL BE ADVISED THAT PROJECTS SUM-76-0.00 (PID 93501, PJT 16-30003) SUM-21-0.00 (PID 84659), AND SUM-76-10.00 (PID 77269, PJT 16-0219) MAY BE ONGOING IN AN AREA IMMEDIATELY ADJACENT TO AND WITHIN THE PROJECT LIMITS OF THIS PROJECT. THE CONTRACTOR SHALL SCHEDULE HIS WORK SO AS TO CAUSE A MINIMUM OF DELAY OR CONFLICT WITH THE OTHER PROJECTS AND THEIR RESPECTIVE DETOURS.

PROJECT SUM-76-0.00 (PID 93501, PJT 16-3003) SHALL TAKE PRECEDENCE OVER THIS PROJECT. THIS PROJECT SHALL COORDINATE RAMP D AND W CLOSURES WITH SUM-76-0.00'S RAMP B (I-76 WEST TO SR 21 NORTH) RAMP CLOSURE.

IN ACCORDANCE WITH 105.08, THE CONTRACTOR SHALL ARRANGE WITH THE OTHER CONTRACTORS APPROVAL OF THE ENGINEER. THE CONTRACTOR SHALL RECIEVE DAILY APPROVALS FROM THE ENGINEER PRIOR TO COMMENCING ANY OPERATIONS. ANY CONFLICT BETWEEN CONTRACTORS INVOLVING WORK SCHEDULES, WORK AREA, OR COOPERATION SHALL BE RESOLVED BY THE ENGINEER. CONPENSATION FOR THE ABOVE COOPERATION SHALL BE INCIDENTAL TO THE VARIOUS PAY ITEMS INCLUDED WITHIN THIS PROJECT.

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 EVENTS:

CHRISTMAS LABOR DAY
MEMORIAL DAY THANKSGIVING
WORLD OF GOLF CHAMPIONSHIPS- BRIDGESTONE INVITATIONAL (JULY 28, 2017 - AUGUST 7, 2017)

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

DAY OF HOLIDAY OR 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

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE IN THE AMOUNT OF $6000 FOR EACH HOUR THE ABOVE DESCRIBED LANE CLOSURE RESTRICTIONS ARE VIOLATED.

CALCULATED CNC
CHECKED XXX

NOTICE OF TRAFFIC GENERAL NOTES

MAINTENANCE

SUM-77-15.18

6
21

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

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

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

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

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

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

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

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

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

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

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. ONCE THE LEO HAS COMPLETED THE DUTIES DESCRIBED ABOVE AND STILL HAS TIME REMAINING ON HIS/HER SHIFT, THE LEO MAY BE ASKED TO PATROL THROUGH THE WORK ZONE (WITH FLASHING LIGHTS OFF) OR BE PLACED AT A LOCATION TO DETER MOTORISTS FROM SPEEDING. 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 WHICH SHALL BE RE- TURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINT- ENANCE 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 600 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 AN 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.

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

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

(THE CONTRACTOR SHALL IMPLEMENT A SYSTEM WHEREBY CHANGEABLE MESSAGES WILL BE IMPLEMENTED WITHIN _ HOURS FOLLOWING TELEPHONE NOTIFICATION FROM THE PROJECT ENGINEER TO A DESIGNATED PHONE.)

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 CON- TRACTOR 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 SHALL CONTAIN A CELLULAR TELEPHONE DATA LINK WHICH WILL (IN ACTIVE CELLULAR PHONE AREAS) ALLOW REMOTE SIGN ACTIVATION, MESSAGE CHANGES, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES. ONE REMOTE DATA INPUT DEVICE (LAPTOP COMPUTER PLUS MODEM OR EQUIVALENT) SHALL BE FURNISHED FOR USE BY THE DISTRICT TRAFFIC ENGINEER, OR EQUIVALENT, AND SHALL BE INSURED AGAINST THEFT.)

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, SOFT- WARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

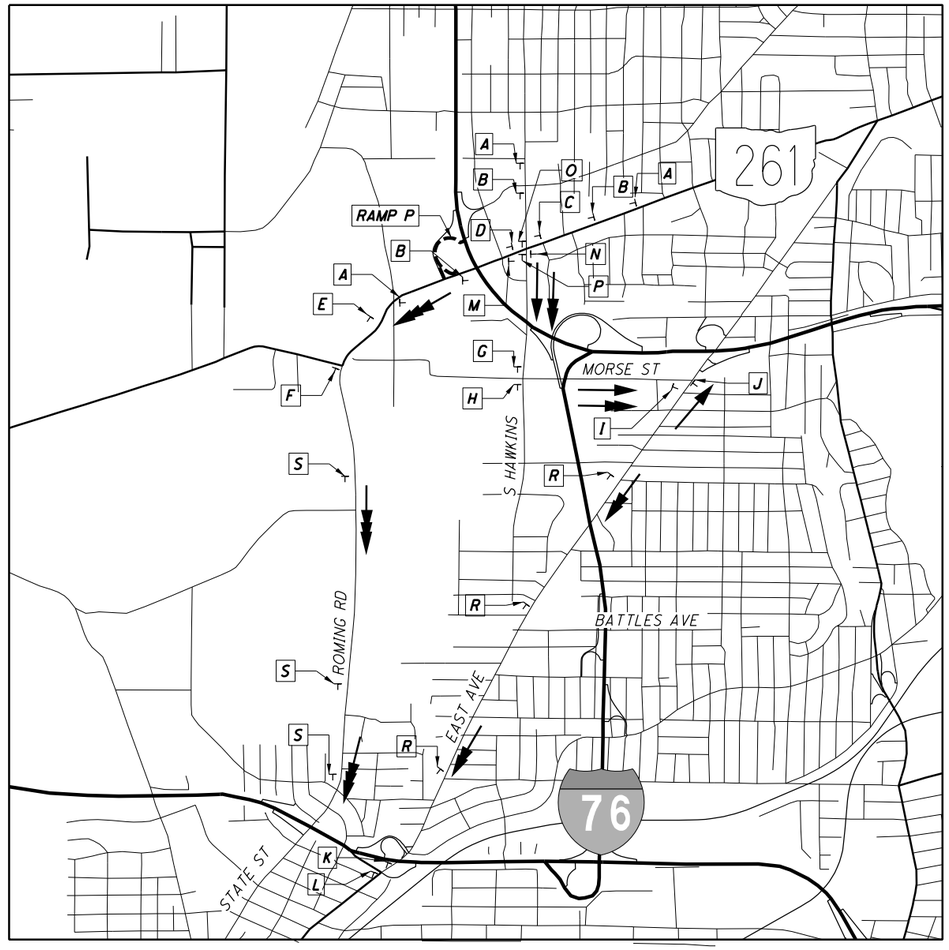
ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN 32 SIGN MONTH

ASSUMING 18 PCMS SIGNS FOR 1 MONTHS FOR SOUTHBOUND
ASSUMING 7 PCMS SIGNS FOR 1 MONTHS FOR NORTHBOUND
ASSUMING 7 PCMS SIGNS FOR 1 MONTHS FOR RAMP V CLOSURE

CALCULATED CNC
CHECKED XXX

MAINTENACE OF TRAFFIC GENERAL NOTES

SUM-77-15.18



DETOUR PLAN FOM RAMP P (SR 261 TO I-77 SOUTH)

N

NOT TO SCALE

CLOSE RAMP P AS PER STD. DWG. MT-101.60

OFFICAL DETOUR ROUTE (I-76 EAST TRAFFIC): S HAWKINS / MORSE ST / NORTH EAST AVE

OFFICAL DETOUR ROUTE (I-277 WEST): S HAWKINS / MORSE ST / SOUTH EAST AVE

OFFICAL DETOUR ROUTE (I-76 WEST TRAFFIC): ROMIG RD / STATE ST

REFER TO THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 6H-8 (TYPICAL APPLICATION 8), FOR SIGN SPACING.

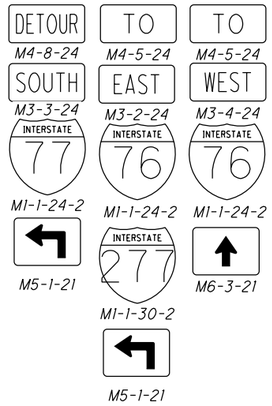
A

W20-3-36

B

W20-2-36

C



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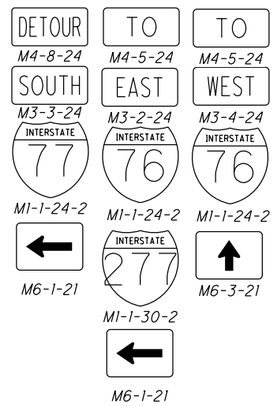

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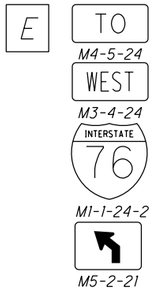

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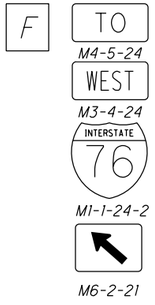
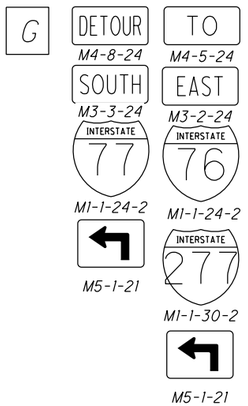
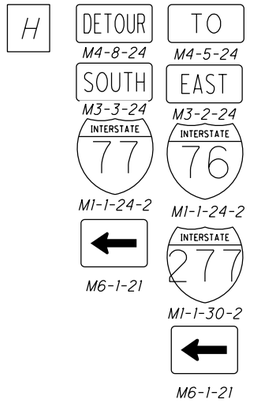


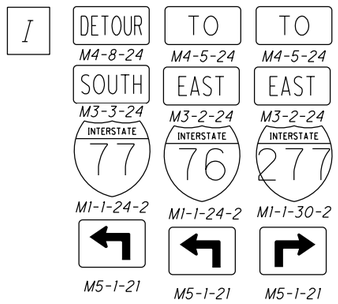
G



H



I



CALCULATED CNC
CHECKED XXX

MAINTENANCE OF TRAFFIC DETOUR PLAN (RAMP P)

SUM-77-15.18

J

K

L

M

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O

P

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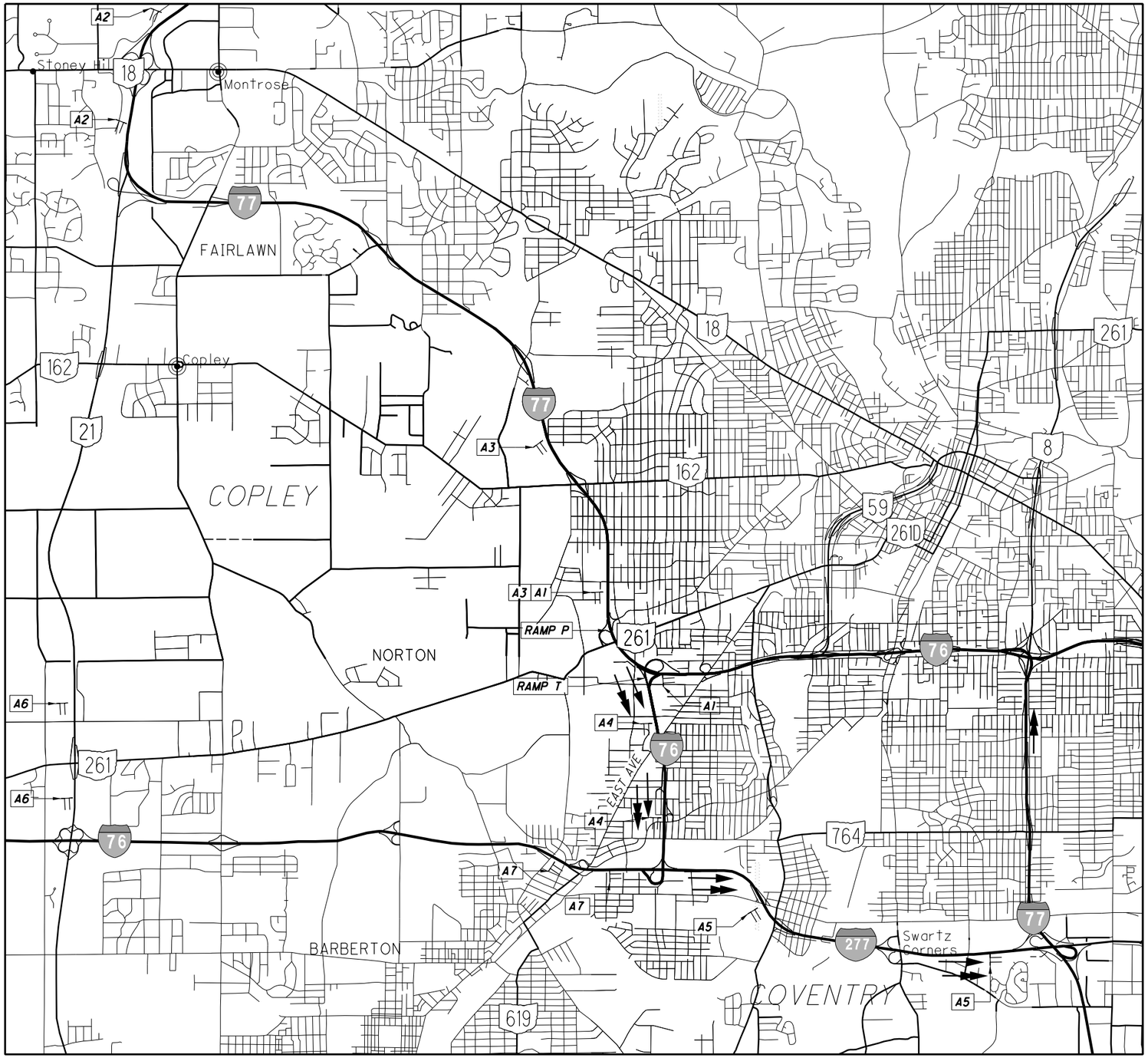
S

CALCULATED CNC
CHECKED XXX

MAINTENANCE OF TRAFFIC DETOUR PLAN (RAMP P)

SUM-77-15.81



DETOUR PLAN FOR I-77 SOUTHBOUND / I-76 EASTBOUND CLOSED

CLOSE I-77 SOUTHBOUND / I-76 EASTBOUND AFTER THE KENMORE LEG EXIT RAMP T PER SCD-99.50, AND RAMP P (SR 261) PER SCD MT-101.60

OFFICIAL DETOUR ROUTE I-77 SOUTHBOUND: I-76 WEST / I-277 EAST

OFFICAL DETOUR ROUTE I-76 EASTBOUND: I-76 WEST / I-277 EAST / I-77 NORTH

NOT TO SCALE

REFER TO THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 6H-8 (TYPICAL APPLICATION 8), FOR SIGN SPACING.

A1 PORTABLE CHANGEABLE MESSAGE SIGN
-PLACE SATURDAY PRIOR TO CLOSURE AT 2 LOCATIONS:
PLACE ONE BEFORE SR 261 INTERCHANGE
PLACE ONE BETWEEN 76WEST EXIT RAMP TO KENMORE LEG AND THE KENMORE LEG OVERPASS

MESSAGE: 1) 76 EAST
77 SOUTH
TO CLOSE

2) FRIDAY
<DATES>

A2 PORTABLE CHANGEABLE MESSAGE SIGN

MESSAGE: 1) 76 EAST
77 SOUTH
CLOSED

2) FOLLOW
21 SOUTH

A3 PORTABLE CHANGEABLE MESSAGE SIGN

MESSAGE: 1) 76 EAST
77 SOUTH
CLOSED

2) FOLLOW
76 WEST
TO 277

A4 PORTABLE CHANGEABLE MESSAGE SIGN

MESSAGE: 1) 76 EAST
77 SOUTH
CLOSED

2) FOLLOW
277 EAST

A5 PORTABLE CHANGEABLE MESSAGE SIGN

MESSAGE: 1) 76 EAST
FOLLOW
77 NORTH

A6 PORTABLE CHANGEABLE MESSAGE SIGN

MESSAGE: 1) 77 SOUTH
USE
76 EAST

A7 PORTABLE CHANGEABLE MESSAGE SIGN

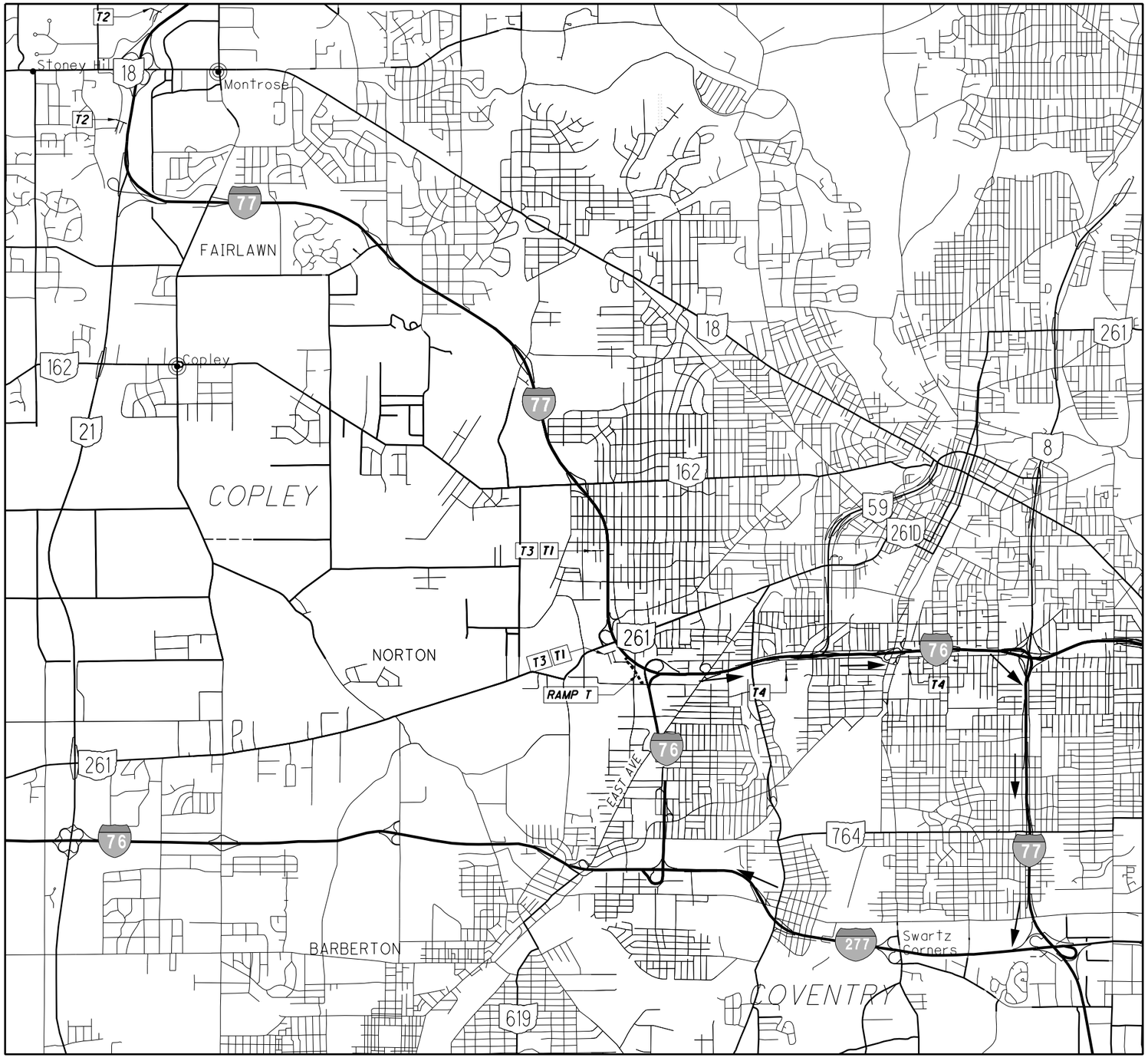
MESSAGE: 1) 77 SOUTH
FOLLOW
277 EAST

CALCULATED CNC
CHECKED XXX

MAINTENANCE OF TRAFFIC DETOUR PLAN (77SB & 76EB)

SUM-77-15.18

10
21



DETOUR PLAN FOR RAMP T

CLOSE RAMP T PER SCD MT-98.29

OFFICIAL DETOUR ROUTE RAMP T: I-76 EAST / I-77 SOUTH / I-277 WEST

NOT TO SCALE

REFER TO THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 6H-8 (TYPICAL APPLICATION 8), FOR SIGN SPACING.

T1 PORTABLE CHANGEABLE MESSAGE SIGN
-PLACE SATURDAY PRIOR TO CLOSURE AT 2 LOCATIONS:
PLACE ONE BEFORE SR 261 INTERCHANGE
PLACE ONE BETWEEN 76WEST EXIT RAMP TO KENMORE LEG AND THE KENMORE LEG OVERPASS

MESSAGE: 1) 76 WEST
TO 277
TO CLOSE

2) FRIDAY
<DATES>

T2 PORTABLE CHANGEABLE MESSAGE SIGN

MESSAGE: 1) 76 WEST
TO 277
CLOSED

2) FOLLOW
21 SOUTH

T3 PORTABLE CHANGEABLE MESSAGE SIGN

MESSAGE: 1) 76 WEST
TO 277
CLOSED

2) FOLLOW
76 EAST

T4 PORTABLE CHANGEABLE MESSAGE SIGN

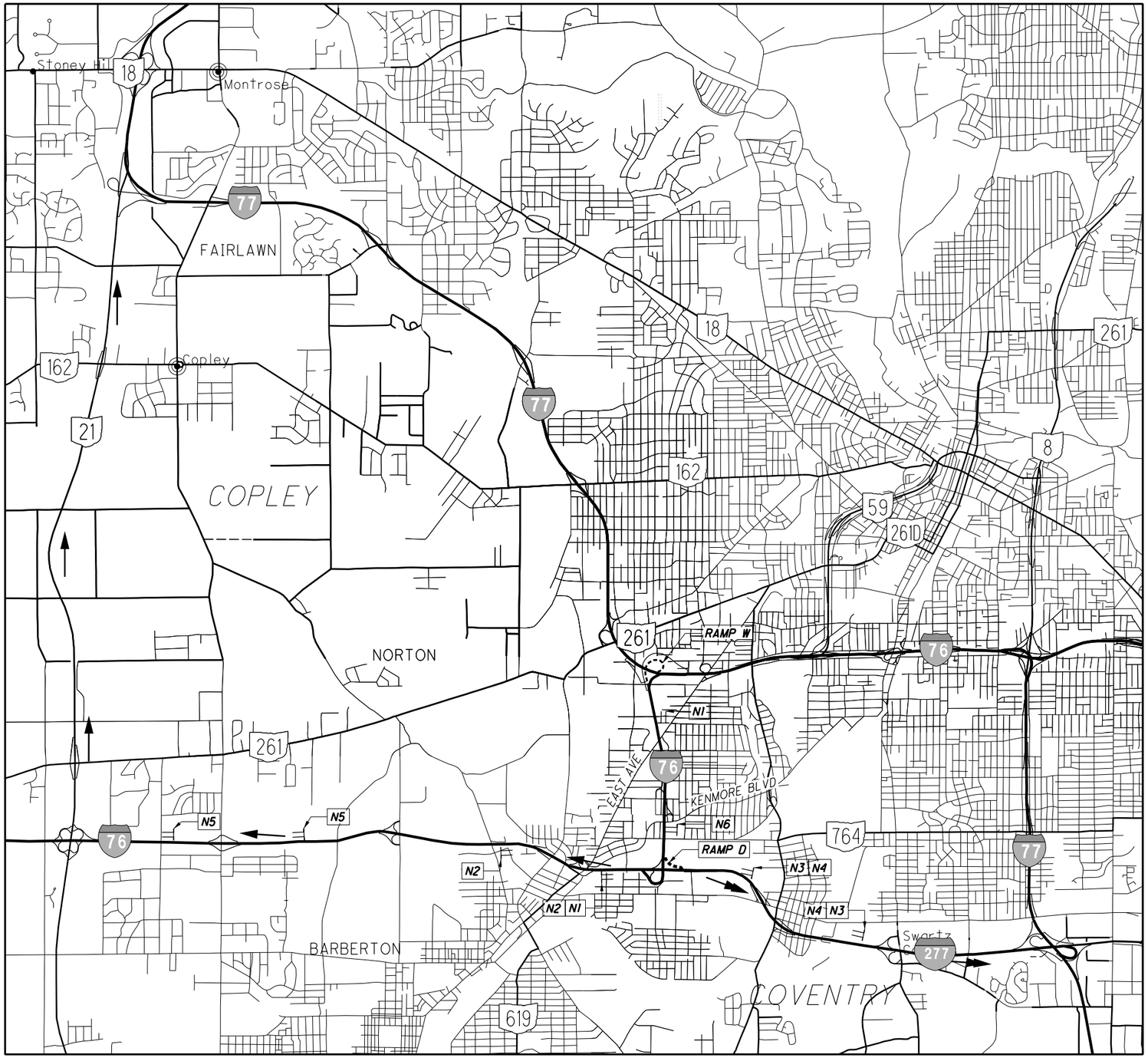
MESSAGE: 1) TO 277
FOLLOW
77 SOUTH

CALCULATED CNC
CHECKED XXX

MAINTENANCE OF TRAFFIC DETOUR PLAN (RAMP T)

SUM-77-15.18

11
21



DETOUR PLAN FOR RAMP D (I-277 WEST TO I-76 EAST) AND RAMP W (I-76 EAST TO I-77 NORTH)

CLOSE RAMP D AND RAMP W PER SCD MT-98.29

OFFICIAL DETOUR ROUTE RAMP T: I-76 EAST / I-77 SOUTH / I-277 WEST

N

NOT TO SCALE

REFER TO THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 6H-8 (TYPICAL APPLICATION 8), FOR SIGN SPACING.

N1 PORTABLE CHANGEABLE MESSAGE SIGN
-PLACE SATURDAY PRIOR TO CLOSURE AT 2 LOCATIONS:

MESSAGE: 1) 77N RAMP
TO CLOSE
FRI <DATES>

N2 PORTABLE CHANGEABLE MESSAGE SIGN

MESSAGE: 1) RAMP TO
77N
CLOSED

2) FOLLOW
277 EAST

N3 PORTABLE CHANGEABLE MESSAGE SIGN
-PLACE SATURDAY PRIOR TO CLOSURE AT 2 LOCATIONS:

MESSAGE: 1) 76E RAMP
TO CLOSE
FRI (DATE)

N4 PORTABLE CHANGEABLE MESSAGE SIGN

MESSAGE: 1) RAMP TO
76E
CLOSED

2) FOLLOW
76W
TO SR21

N5 PORTABLE CHANGEABLE MESSAGE SIGN

MESSAGE: 1) TO 77N
USE 21N

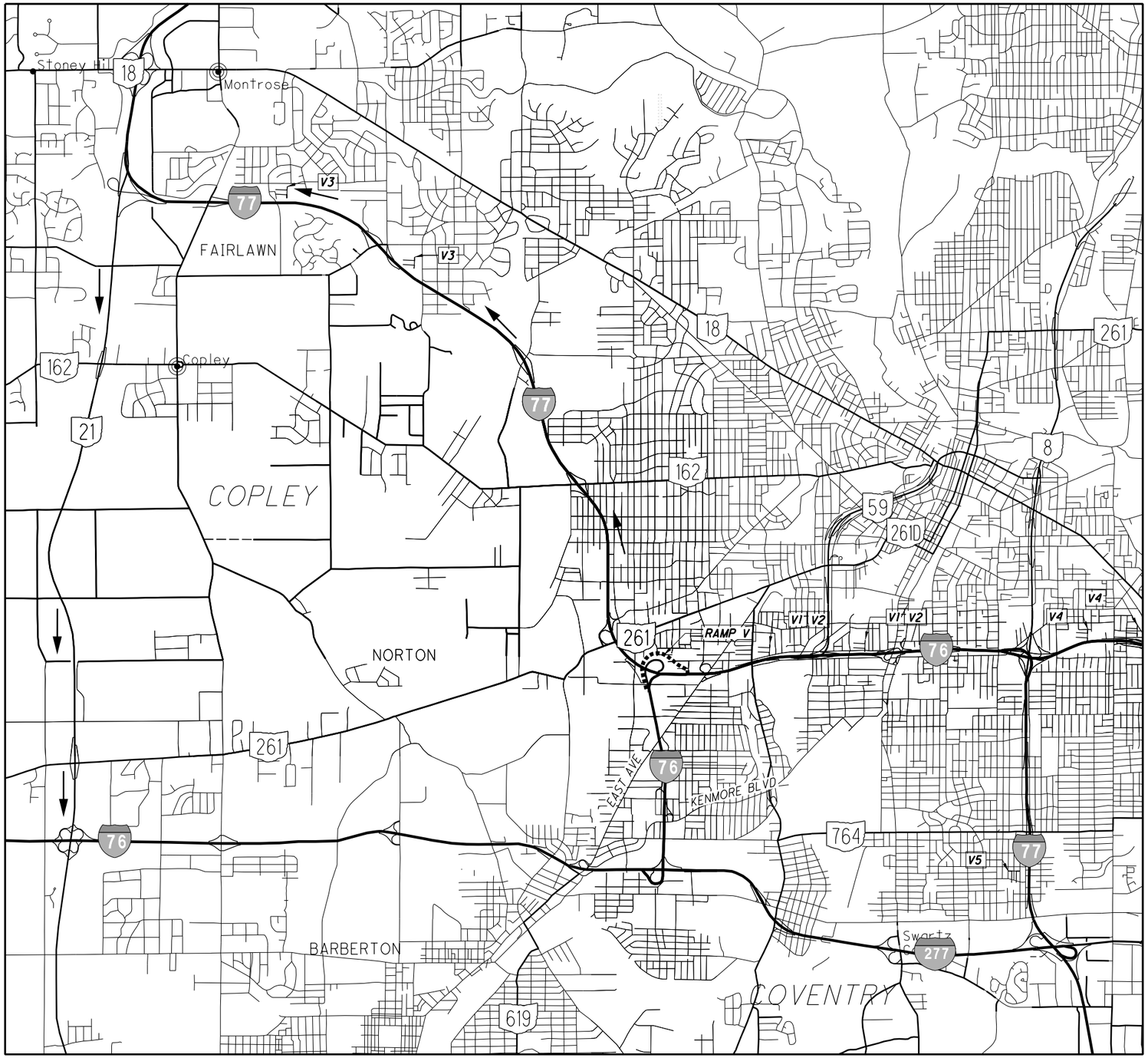
N6 PORTABLE CHANGEABLE MESSAGE SIGN
-PLACE ON KENMORE BLVD
MESSAGE: 1) RAMP TO
77N
CLOSED

2) FOLLOW
76W

CALCULATED CNC CHECKED XXX

MAINTENANCE OF TRAFFIC DETOUR PLAN (RAMP D AND W)

SUM-77-15.18



DETOUR PLAN FOR RAMP V (I-76 WEST TO I-76 WEST)

------- CLOSE RAMP V PER SCD MT-98.29

→ OFFICIAL DETOUR ROUTE RAMP V: I-77 NORTH / SR-21 SOUTH

N

NOT TO SCALE

REFER TO THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 6H-8 (TYPICAL APPLICATION 8), FOR SIGN SPACING.

V1 PORTABLE CHANGEABLE MESSAGE SIGN
-PLACE SATURDAY PRIOR TO CLOSURE AT 2 LOCATIONS:

MESSAGE: 1) 76W TO
BARBRTON

2)TO CLOSE
FRI <DATES>

V2 PORTABLE CHANGEABLE MESSAGE SIGN

MESSAGE: 1) 76W TO
BARBRTON
CLOSED

2) FOLLOW
77 NORTH

V3 PORTABLE CHANGEABLE MESSAGE SIGN

MESSAGE: 1) 76W TO
BARBRTON
DETOUR

2) FOLLOW
21 SOUTH

V4 PORTABLE CHANGEABLE MESSAGE SIGN

MESSAGE: 1) 76W TO
BARBRTON
CLOSED

2) FOLLOW
77 SOUTH
TO 277

V5 PORTABLE CHANGEABLE MESSAGE SIGN

MESSAGE: 1) 76 WEST
DETOUR
USE 277

CALCULATED CNC
CHECKED XXX

MAINTENANCE OF TRAFFIC DETOUR PLAN (RAMP V)

SUM-77-15.18

13
21

SHEET NUM.													PART.	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
								4	5	7			01/IMS/PV						
																		ROADWAY	
								1,311					1,311	203	10000	1,311	CY	EXCAVATION	
																		EROSION CONTROL	
													1,000	832	30000	1,000	EACH	EROSION CONTROL	
																		DRAINAGE	
								2,587					2,587	605	11100	2,587	FT	6" SHALLOW PIPE UNDERDRAINS	
								150					150	611	00410	150	FT	4" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET	
								9					9	611	99710	9	EACH	PRECAST REINFORCED CONCRETE OUTLET	
																		PAVEMENT	
								7,000					7,000	255	10500	7,000	SY	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS RRCM	
								900					900	255	10501	900	SY	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS RRCM, AS PER PLAN	4
								38,000					38,000	255	20000	38,000	FT	FULL DEPTH PAVEMENT SAWING	
								5,200					5,200	255	20001	5,200	FT	FULL DEPTH PAVEMENT SAWING, AS PER PLAN	4
								1,311					1,311	304	20000	1,311	CY	AGGREGATE BASE	
																		TRAFFIC CONTROL	
								2.72					2.72	646	10010	2.72	MILE	EDGE LINE, 6"	
								2.86					2.86	646	10110	2.86	MILE	LANE LINE, 6"	
								3,000					3,000	646	10310	3,000	FT	CHANNELIZING LINE, 12"	
								1,400					1,400	646	20504	1,400	FT	DOTTED LINE, 6"	
																		STRUCTURE REPAIRS	
																		FOR SUM-76-0832L ESTIMATED QUANTITIES	18
																		MAINTENANCE OF TRAFFIC	
										600			600	614	11110	600	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
									LS				LS	614	12420	LS		DETOUR SIGNING	
									4				4	614	12460	4	EACH	WORK ZONE MARKING SIGN	
										32			32	614	18601	32	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	8
																		INCIDENTALS	
													LS	614	11000	LS		MAINTAINING TRAFFIC	
													LS	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
													LS	624	10000	LS		MOBILIZATION	

CALCULATED CMR
CHECKED RMB

GENERAL SUMMARY

SUM-77-15.18

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17TH EDITION , INCLUDING THE 2002 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL, EXCEPT AS NOTED ELSEWHERE IN THE PLANS.

EXISTING STRUCTURE VERIFICATION

EXISTING STRUCTURE VERIFICATION: DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.

PROPOSED WORK

SUM-76-0832L (I-76 WB (KENMORELEG) OVER I 77)
-REMOVE EXISTING FORWARD LEFT JOINT ALONG WITH CONCRETE DECK AND BACKWALL
-REPLACE WITH NEW JOINT

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

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVAL. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

ITEM 509 REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE.

REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN

ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN: IN ADDITION TO THE PROVISIONS OF ITEM 509, FIELD BEND AND/OR FIELD CUT THE REINFORCING STEEL DESIGNATED IN THE PLANS, AS NECESSARY, IN ORDER TO MAINTAIN THE REQUIRED CLEARANCES AND BAR SPACINGS. REPAIR ALL DAMAGE TO THE EPOXY COATING, AS A RESULT OF THIS WORK, ACCORDING TO 709.00.

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
BFR	BFR	NRC	12/9/2016
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NRC	XXX	7703570	

STRUCTURE GENERAL NOTES
SUM-76-0832L

SUM-77-15.18
PID No. 103632

ITEM SPECIAL - PATCHING CONCRETE STRUCTURES, MISC.: VES-LMC (VERY EARLY STRENGHT LATEX MODIFIED CONCRETE)

DESCRIPTION:
THIS ITEM WILL CONSIST OF FURNISHING THE NECESSARY LABOR, MATERIALS, AND EQUIPMENT TO REPAIR CONCRETE BRIDGE DECKS, APPROACH SLABS AND TOPS OF THE BACKWALLS, INCLUDING THE REMOVAL OF LOOSE AND UNSOUND CONCRETE, BITUMINOUS PATCHES, SURFACE PREPARATION, BONDING COAT, AND THE MIXING, PLACING, FINISHING, CURING, COMPRESSIVE STRENGHT TESTING, AND SEALING OF ALL THE PATCHES AS DIRECTED BU THE ENGINEER.

RESTRICTIONS:
THE VES-LMC WILL NOT BE PLACED WHEN RAIN IS FORECAST WITHIN THE PERIOD OF TIME WHEN THE REPAIR WILL BE PERFORMED, INCLUDING PREPARATION, INSTALLATION OF THE PATCH AND CURING. IF RAIN OCCURS DURING THE PLACING OF THE MATERIAL, ALL OPERATIONS WILL CEASE. DURING DELAYS IN THE PATCH PLACEMENT OPERATIONS OF MORE THAN 10 MINUTES, THE WORK FACE OF THE PLACED PATCH MATERIAL AND ANY BONDING GROUTED AREAS WILL BE TEMPORARILY COVERED WITH WET BURLAP. IF AN EXCESSIVE DELAY IS ANTICIPATED, A BULKHEAD WILL BE INSTALLED AT THE WORK FACE AND THE PATCHING PLACEMENT OPERATION TERMINATED

THE VES-LMC PATCHING MATERIAL WILL BE PLACED ONLY WHEN THE LOCAL AMBIENT TEMPERATURE IS ABOVE 45◆F AND IS FORECAST TO REMAIN ABOVE 45◆F FOR THE CURING PERIOD. THE TEMPERATURE AT THE PATCH SURFACE WILL BE MAINTAINED ABOVE 35◆F UNTIL THE CURING PERIOD IS COMPLETE.

DO NOT BEGIN OPERATIONS IF EVAPORATION RATES ARE PREDICTED TO BE MORE THAN 0.1 POUND PER SQUARE FOOT PER HOUR AS DETERMINED ACCORDING TO CMS 511.10, FIGURE 1, ACI 308, WITHIN 12 HOURS OF COMMENCEMENT.

UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER, PATCHES WILL NOT BE PLACED ADJACENT TO A PREVIOUS PATCH WHICH HAS CURED FOR LESS THAN 4 HOURS.

IF PLACEMENT OF PATCHES IS TO BE MADE AT NIGHT, THE CONTRACTOR WILL SUBMIT A PLAN WHICH PROVIDES ADEQUATE LIGHTING FOR WORK AREA. THE PLAN WILL BE SUBMITTED AT LEAST 15 CALENDAR DAYS IN ADVANCE AND BE APPROVED BY THE ENGINEER BEFORE CONCRETE IS PLACED. THE LIGHTS WILL BE DIRECTED SO THAT THEY DO NOT AFFECT OR DISTRACT APPROACHING TRAFFIC.

REMOVAL OF UNSOUND CONCRETE:
THE ENGINEER WILL SOUND THE WEARING SURFACE AND BACKWALL TOPS AND OUTLINE THE AREAS TO BE REMOVED. SOUNDING MAY HAVE TO BE DELAYED UNTIL THE DECK IS SUFFICENTLY DRY TO PERMIT DETECTION OF ALL AREAS OF DELAMINATION. BACKWALL REMOVAL AND DEPTH WILL BE AS DIRECTED THE ENGINEER AND WILL NOT GO BELOW THE EXISTING APPROACH SLAB SEAT. THE PERIMETER OF ALL REMOVAL AREAS WILL BE SAWED TO A DEPTH OF 2 INCHES TO PRODUCE A VERTICAL OR SLIGHTLY UNDERCUT FACE. ADDITIONAL SAW CUTS MAY BE REQUIRED TO FACILITATE REMOVAL. SAW CUTS WILL NOT EXTEND BEYOND THE LIMITS OF THE PATCH. COOLING WATER FROM WET SAWING AND DUST FROM DRY SAWING WILL NOT BE ALLOWED TO CONTAMINATE THE EXPOSED PATCH HOLES. ALL PATCHES OTHER THAN SOUND CONCRETE AND ALL OBIVOUSLY LOOSE AND DISINTEGRATED CONCRETE WILL BE REMOVED. THE UNSOUND CONCRETE MAY BE REMOVED BY CHIPPING, AND DRES- SING, OR HYDRODEMOLITION (AS PER SS848). THE REMOVAL OF AN UNSOUND EXISTING CONCRETE OVERLAY MAY BE PERFORMED AS PER SS847.17. CHIPPING HAMMERS WILL NOT BE HEAVIER THAN THE NORMAL 35-POUND CLASS AND WILL BE OPERATED AT AN ANGLE LESS THAN 45 DEGREES MEASURED FROM THE SURFACE OF THE DECK.

CONCRETE WILL BE REMOVED IN A MANNER THAT PREVENTS CUTTING, ELONGATING, OR DAMAGING REINFORCING STEEL, WHERE THE BOND BETWEEN THE CONCRETE AND PRIMARY REINFORCING BAR HAS BEEN DESTROYED, OR WHERE MORE THAN HALF OF THE PERIPHERY OF SUCH A BAR HAS BEEN EXPOSED, THE ADJACENT CONCRETE WILL BE REMOVED TO A DEPTH THAT WILL PROVIDE A MINIMUM 3#4 INCH CLEARANCE AROUND THE BAR EXCEPT WHERE OTHER REINFORCING BARS MAKE THIS IMPRACTICABLE, REINFORCEMENT WHICH HAS BECOME LOOSE WILL BE ADEQUATELY SUPPORTED AND TIED BACK INTO PLACE.

SURFACE PREPARATION:
CLEANING WILL CLOSELY PRECEDE APPLICATION OF THE BONDING GROUT OR THE PATCHING MATERIAL. THE SURFACE TO BE PATCHED AND THE EXPOSED REINFORCING STEEL WILL BE THOROUGHLY CLEANED WITHIN 24 HOURS PRIOR TO PATCHING BY ABRASIVE BLASTING FOLLOWED BY AN AIR BLAST. BLASTING ABRASIVES CONTAINING MORE THAN 1% FREE SILICA WILL NOT BE ALLOWED. IT MAY BE NECESSARY TO USE HAND TOOLS TO REMOVE SCALE FROM THE REINFORCING STEEL.

CONTAMINATION OF THE AREA TO BE PATCHED BY CONSTRUCTION EQUIPMENT OR FROM ANY OTHER SOURCE WILL BE PREVENTED BY PLACEMENT OF A CLEAN 4-MIL POLYETHYLENE SHEET (OR ANY OTHER COVERINGS AS APPROVED BY THE ENGINEER) ON THE SURFACE OF THE DECK FOLLOWING THE AIR BLAST CLEAINIG. WHERE REINFORCING STEEL IS EXPOSED, THE CONTRACTOR WILL PROVIDE ADEQUATE SUPPORT FOR THE CONCRETE MIXER SO THAT REINFORCING STEEL AND ITS BOND WITH THE CONCRETE WILL NOT BE DAMAGED BY THE WEIGHT AND MOVEMENT OF THE CONCRETE MIXER, OR WILL PROVIDE MEANS TO CONVEY CONCRETE FROM THE MIXER THE PATCH LOCATIONS.

MATERIALS:
MATERIALS WILL CONFORM TO THE FOLLOWING REQUIREMENTS:

FINE AGGREGATE (NATURAL SAND)	703.02 (NOTE 1)
COARSE AGGREGATE (NO. 8)	703.02 (NOTE 1)
RAPID HARDENING HYDRAULIC CEMENT	(NOTE 2)
WATER	499.02
LATEX EMULSION	SS953
CURING MATERIAL	705.05,OR 705.06, WHITE OPAQUE
REPLACEMENT REINFORCING STEEL	709.00

POSSOLONIC MATERIAL OR PORTLAND POZZOLAN CEMENTS WILL NOT BE USED.

ANTI-FOAM ADDITIVES AS RECOMMENDED BY THE LATEX EMULSION MANUFACTURER MAY BE REQUIRED IF THE CONCRETE MIXTURE ENTRAINED AIR IS ABOVE THE SPECIFIED AMOUNT.

AIR-ENTRAINING ADMIXTURES WILL NOT BE USED

A SET CONTROL IN ACCORDANCE WITH THE CEMENT MANUFACTURER'S RECOMMENDATION MAY BE CONSIDERED.

ADMIXTURES CONTAINIG CALCIUM CHLORIDE WILL NOT BE USED.

(NOTE 1): DELETRIOUS MATERIAL WILL NOT EXCEED ONE HALF THE REQUIREMENTS FOR THE SUPERSTRUCTURE AGGREGATE, AND THE SODIUM SULFATE SOUNDNESS LOSS WILL NOT EXCEED THAT SPECIFIED FOR SUPERSTRUCTURE CONCRETE IN 703.02.

(NOTE 2): CEMENT WILL BE APPROXIMATELY 1#3 CALCIUM SULFOALUMINATE (C4A3S) AND 2#3 DICALCIUM SILICATE (CS2) OR OTHER HYDRAULIC CEMENT THAT WILL PROVIDE A LATEX MODIFIED CONCRETE THAT MEETS THE PHYSICAL REQUIREMENTS FOR VERY EARLY STRENGTH LATEX MODIFIED CONCRETE LISTED BELOW:

1.COMPRESSIVE STRENGHT, MINIMUM, CONCRETE ASTM C39:
- 3 HOURS: 2500 PSI
- 1 DAY: 3500 PSI
- 7 DASY: 5000 PSI

2. PRIOR TO PLACING PATCHES THE CONCRETE WILL DEMSTRATE THAT THE CONCRETE MIXTURE WILL OBTAIN A COMPRESSIVE STRENGHT OF AT LEAST 2500 PSI WITHIN THE CURING PERIOD AND AT THE CURING TEMPERATURES IN WHICH THE PATCHES WILL BE PLACED.

3.PERMEABILITY, MAXIMUM AT 28 DAYS, AASHTO T277: 1000 COULOMBS. PERMEABILITY SAMPLES WILL BE MOIST CURED 2 DAYS IN THE MOLDS (1 DAY AT THE JOB SITE AND 1 DAY IN THE LAB). AIR CURED 5 DAYS IN THE MOLDS IN THE LABORATORY, AND 21 DAYS OUT OF THE MOLDS AT 100◆F AIR TEMP.

4.BOND STRENGHT, MINIMUM AT 7 DAYS, ASTM C1583 USING TYPE 1, SELF-ALIGNMENT ADHESION TESTER PER ASTM D4541 = 150 PSI.

(NOTE 3): THE LATEX EMULSION WILL BE PROTECTED FROM FREEZING AND PROLONGED EXPOSURE TO TEMPERATURES IN EXCESS OF 85◆F. EMULSIONS IN STORAGE FACILITIES WILL BE RE-CIRCULATED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

PROPORTIONING AND MIXING:
ALL MIXING OF MATERIALS WILL BE DONE ON SITE IN A CONTINUOUS MOBILE MIXER. PRIOR TO EACH DAY'S PLACEMENT, EACH MIXER WILL BE CHECKED TO ASSURE THAT SPECIFIED AIR CONTENT, SLUMP, AND YEILD HAE BEEN ATTAINED. TRIAL CONCRETE WILL NOT BE INCORPORATED INTO THE WORK. PROPORTIONING AND ALL OTHER REQUIRED CHARACTERISTICS OF THE MIX WILL BE ADJUSTED OFF THE DECK BEFORE PLACE- MENT OF THE PATCHES BEGIN.

THE MIXTURE WILL CONSIST OF A WORKABLE MIXTURE OF UNIFORM COMPOSITION AND CONSISTENCY WITH THE FOLLOWING QUANTITIES OF MATERIALS PER CUBIC YARD (DRY WEIGHT):

QUANTITIES OF MATERIALS PER CUBIC YARD (DRY WEIGHT):

TYPE OF COARSE AGGREGATE	FINE AGGREGATE (LB)	COARSE AGGREGATE (LB)	CEMENT (LB)	LATEX EMULSION (GAL)	MAX. NET WATER (GAL)
GRAVEL	1645	1300	658	24.5	17.5
LIMESTONE	1645	1315	658	24.5	17.5
SLAG	1645	1140	658	24.5	17.5

SLUMP: 4 TO 6 INCHES

AIR CONTENT OF PLASTIC MIX WILL NOT EXCEED 7 PERCENT

NOTE: THE SPECIFIC GRAVITY USED FOR DETERMINING THE ABOVE WEIGHTS ARE: NATURAL SAND 2.62, GRAVEL 2.62, LIMESTONE 2.65, AND SLAG 2.30.

NOTE: THE DRY WEIGHTS ARE APPROXIMATE. THIS PROPORTION SHOULD PRODUCE GOOD WORKABILITY, BUT DUE TO GRADATION VARIABILITY, THE FINE AGGREGATE CONTENT MAY BE INCREASED WITH APPROVAL BY THE ENGINEER, AS MUCH AS 8 PERCENT BY WEIGHT IF THE COARSE AGGREGATE IS REDUCED AN EQUAL VOLUME.

NOTE: THE SLUMP WILL NOT BE MEASURED UNTIL AFTER THE CONCRETE HAS BEEN DISCHARGED FROM THE MIXER AND LEFT UNDISTURBED FOR 4 TO 5 MINUTES. THE WATER CONTENT MAY BE ADJUSTED TO CONTROL THE SLUMP WITHIN THE PRESCRIBED LIMITS.

CONTINUOUS MOBILE MIXER:
REQUIREMENTS FOR CONTINUOUS MOBILE MIXERS FOR LATEX MODIFIED CONCRETE ARE AS FOLLOWS: THE PROPORTIONING AND MIXING EQUIPEMENT WILL BE AN INTEGRAL MOBILE UNIT HAVING CAPACITY AND CONTINUOUS MIXING CAPABILITY TO PERMIT THE FINISHING OPERATIONS TO PROCEED AT A CONSTANT RATE SO THAT THE FINAL FINISHING CAN BE COMPLETED PRIOR TO THE FORMATION OF A PLASTIC FILM ON THE VES-LMC SURFACE. IT WILL CONSISTENTLY PRODUCE UNIFORMLY BLENDED MIXTURE WITH THE SPECIFIED AIR CONTENT AND SLUMP LIMITS.

THE MIXER WILL ALSO:
- -BE CAPABLE OF PRODUCING NOT LESS THAN 6 CUBIC YARDS OF VES-LMC WITHOUT RECHARGING
- -BE EQUIPED WITH A RECORDING METR WITH A TICKET PRINTOUT DEVICE TO RECORD AN INDICATION OF THE CEMENT QUANTITY BEING INTRODUCED INTO THE MIX. THE METERING DEVICE WILL BE ACCURATE WITHIN A TOLERANCE OF -1 TO +3 PERCENT.
- -BE EQUIPED WITH A LATEX METERING DEVICE TO INDICATE VOLUME DISPENSED. THE METERING DEVICE WILL BE ACCURATE TO WITHIN A TOLERANCE OF -1 TO +2 PERCENT. IN ADDITION THE LATEX TANK WILL HAVE A STAND PIPE MARKED GALLONS.
- -BE EQUIPPED WITH A WATER FLOW INDICATOR AND HAVE A WATER FLOW CONTROL THAT IS READILY ADJUSTABLE TO PROVIDE FOR MINOR VARIATIONS IN AGGREGATE MOIS- TURE CONTENT. THE FLOW INDICATOR WILL BE ACCURATE WITHIN A TOLERANCE OF +1 PERCENT IN THE RANGE OF EXPECTED USE.
- -BE EQUIPPED WITH A CONTROL TO REGULATE THE QUANTITY OF EACH OF THE VES-LMC COMPONENTS TO PERMIT THE PRODUCTION OF THE MIX HAVING THE SPECIFIED COMPOSITION. TO ENSURE THAT THE MIXER CAN ACCURATELY PROPORTION AND BLEND ALL COMPONENTS OF THE VES-LMC ON A CONTINUOS OR INTERMITTENT BASIS. THE MIXER WILL BE CALIBRATED PRIOR TO THE PRODUCTION OF THE MATERIAL.
- -THE ENGINEER MAY REQUIRE RE-CALIBRATION OF THE CEMENT, LATEX AND WATER METERING DEVICES AS HE DEEMS NECESSARY.
- -BE CAPABLE OF DISCHARGING MIXED VES-LMC THROUGH A CONVENTIONAL CHUTE DIRECTLY IN FRONT OF THE FINISHING MACHINE.
- -BE KEPT CLEAN, FREE OF PARTIALLY DRIED OR HARDENED MATERIALS, AND PROPERLY OPERATED AT ALL TIMES.

PLACING, CONSOLIDATING AND FINISHING:
IMMEDIATELY PRIOR TO PLACING THE PATCHES, CLEAN AND WET ALL EXPOSED CONCRETE SURFACES.

CONTINUOUSLY FOG THE VES-LMC MATERIAL FROM THE TIME OF PLACING UNTIL COVERED WITH WET BURLAP. APPLY THE FOG UNIFORMLY OVER THE ENTIRE SURFACE OF THE PATCH AREA WITHOUT PRODUCING STANDING WATER.

SCREEDING:
THE PATCHING MATERIAL WILL BE PLACED, CONSOLIDATED, AND FINISHED TO THE ADJACENT GRADE. PATCHES EXCEEDING 50 SQ FT (4.6 SQ M) WILL BE LEVELED AND CONSOLIDATED WITH A MECHANICAL VIBRATING SCREED. SMALLER PATCHES WILL BE HAND VIBRATED AND LEVELED WITH A STRAIGHTEDGE. THE SCREED WILL BE PLACED PARALLEL TO THE BRIDGE CENTERLINE SO THAT THE DECK PROFILE REMAINS CONSISTENT WITH THE WORN SURFACE.

DO NOT ADD WATER TO AID THE FINISHING AND AN EVAPORATION RETARDANT MAY NOT BE USED.

AFTER THE PATCHES HAVE BEEN CONSOLIDATED AND FINISHED THEY WILL BE TEXTURED IN ACCORDANCE WITH 451.09.

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING AND ENGINEERING

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STRUCTURE GENERAL NOTES
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THE CONCTRACTOR WILL TEST THE SURFACE OF THE PLASTIC CONCRETE FOR TRUENESS AND FOR BEING FLUSH WITH THE EDGES OF THE ADJACENT SURFACES BY USE OF A STRAIHTEDGE. THE STRAIGHTEDGE WILL BE DONE BY PLACING THE STRAIGHTEDGE PARALLEL TO THE BRIDGE CENTERLINE WITH THE ENDS RESTING ON THE EXISTING WEARING SURFACE ADJACENT TO THE PATCH AND DRAWING THE STRAIGHTEDGE ACROSS THE PATCH. ANY HIGH OR LOW AREAS EXCEEDING 1#8 INCH IN 10 FEET (3 MM IN 3 M) WILL BE CORRECTED. IF ANY CORRECTIONS ARE MADE, THE SURFACE WILL BE RECHECKED.

CURING:
COVER THE FINISHED PATCHED SURFACES WITH A SINGLE LAYER OF CLEAN WET BURLAP AND COVER THE BURLAP WITH A 4-MIL WHITE OPAQUE POLYETHYLENE FILM FOR A MINIMUM OF 4 HOURS FOLLOWED BY A MEMBRANE CURE PER 511.17 METHOD (B).

ADEQUATE PRECAUTIONS WILL BE TAKEN TO PROTECT THE FRESHLY PLACED VES-LMC FROM RAIN.

THE CONTRACTOR WILL SUPPLY A PROPERLY CALIBRATED IMPACT REBOUND HAMMER TO VERIFY THAT THE PATCHES HAVE REACHED 3000 PSI COMPRESSIVE STRENGTH PRIOR TO OPENING TO TRAFFIC.

INSPECTION AND SOUNDING OF CONCRETE PATCHES:
AFTER CURING AND BEFORE FINAL ACCEPTANCE, ALL PATCHED AREAS WILL BE SOUNDED. ALL DELAMINATED AREAS WILL BE REMOVED AND REPATCHED ACCORDING TO THIS NOTE. ALL PATCHES WHICH ARE SOUND BUT SHOW SIGNS OF CRACKING WILL BE SEALED AND THE PERIMETER OF ALL PATCHES WILL ALSON BE SEALED WITH GRAVITY FED RESIN.

ALL SOUNDING AND REPLACEMENT OF REJECTED AREAS WILL BE THE RESPONSIBILITY OF THE CONCTRACTOR AND INCLUDED IN THE UNIT BID PRICE FOR THIS ITEM.

METHOD OF MEASUREMENT:
PAYMENT WILL BE MADE AT THE CONTRACTOR PRICE PER CUBIC YARD FOR ITEM SPECIAL - PATCHING CONCRETE STRUCTURES, MISC.: VES-LMC (VERY EARLY STRENGHT LATEX MODIFIED CONCRETE) WHICH WILL INCLUDE ALL MATERIALS AND LABOR REQUIRED TO PERFORM THIS WORK INCLUDING REMOVAL AND DISPOSAL OF THE EXISTING MATERIAL.

ITEM SPECIAL - PATCHING CONCRETE STRUCTURES, MISC.: TRIAL BATCH FOR VES-LMC (VERY EARLY STRENGTH LATEX MODIFIED CONCRETE)

MAKE ONE OR MORE, ON CUBIC YARD, TRIAL BATCHES OF THE VES-LMC MATERIAL AT LEAST 14 DAYS PRIOR TO THE MATERIAL BEING PLACED. DEMONSTRATE THE ABILITY TO ACHIEVE THE REQUIREMENTS OF THE MATERIAL AS PER THE PLAN NOTE.

PAYMENT WILL BE MADE AT THE LUMP SUM CONTRACT PRICE FOR ITEM SPECIAL - PATCHING CONCRETE STRUCTURES, MISC.: TRIAL BATCH FOR VES-LMC (VERY EARLY STRENGTH LATEX MODIFIED CONCRETE) WHICH WILL INCLUDE ALL MATERIALS AND LABOR REQUIRED TO PERFORM THIS WORK.

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING AND ENGINEERING

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STRUCTURE GENERAL NOTES
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CALC:	BFR	DATE:	12/5/2016
CHECKED:	NRC	DATE:	12/9/2016

ESTIMATED QUANTITIES (02/IMS/BR)

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SEE SHEET
202	11201	LS		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	LS		LS		1/7
509	10001	1305	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	569		736		1/7
509	20001	200	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	100		100		1/7
510	10000	80	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	80				
SPECIAL	51911900	7	CY	PATCHING CONCRETE STRUCTURE: VES-LMC (VERY EARLY STRENGTH LATEX MODIFIED CONCRETE)	4		3		2/7
SPECIAL	51960000	LS		PATCHING CONCRETE STRUCTURE: TRIAL BATCH FOR VES-LMC (VERY EARLY STRENGTH LATEX MODIFIED CONCRETE)				LS	3/7

DESIGN AGENCY
ODOT --- DISTRICT 4
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STRUCTURE ESTIMATED QUANTITIES
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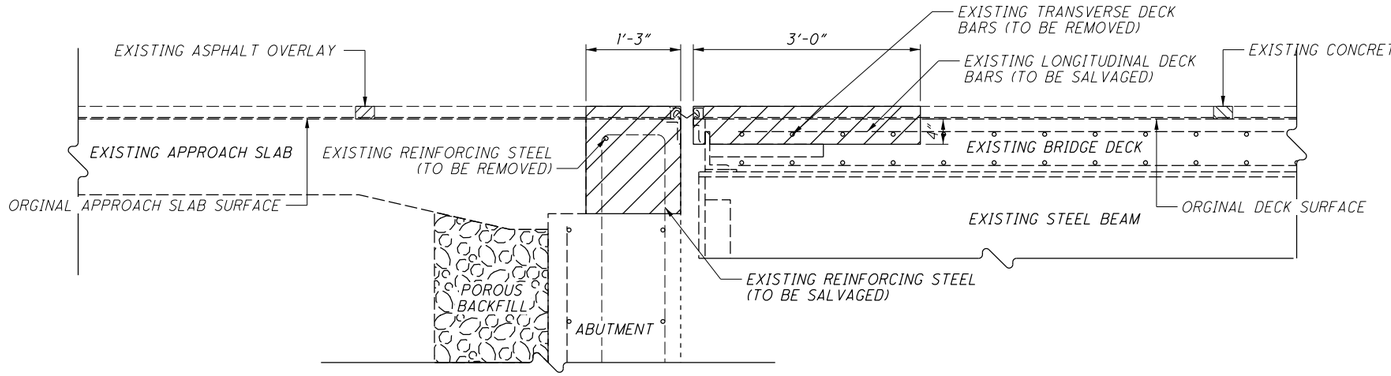
NOTES:

1. ITEM 202 - PORTIONS OF STRUCTURE TO BE REMOVED

2. REMOVAL OF EXISTING JOINTS, DECK CONCRETE AND BACK-WALL CONCRETE WILL BE PAID FOR UNDER ITEM 202 PORTIONS OF STRUCTURE REMOVED, AS PER PLAN. REMOVAL LIMITS WILL BE 1 FT. AWAY FROM BARRIER WALL TO 1 FT. AWAY FROM MEDIAN WALL OF BRIDGE DECK AND BACKWALL FOR THE LENGTH SHOWN IN THE DETAIL BELOW AT EACH ABUTMENT. CARE WILL BE TAKEN TO SALVAGE ALL EXISTING LONGITUDINAL DECK AND BACKWALL U-SHAPED REINFORCING STEEL DURING CONCRETE REMOVAL.



SUM-76-0823L

APPROACH PAVEMENT SHOWN

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
BFR	BFR	NRC	12/9/2016
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REMOVAL DETAILS
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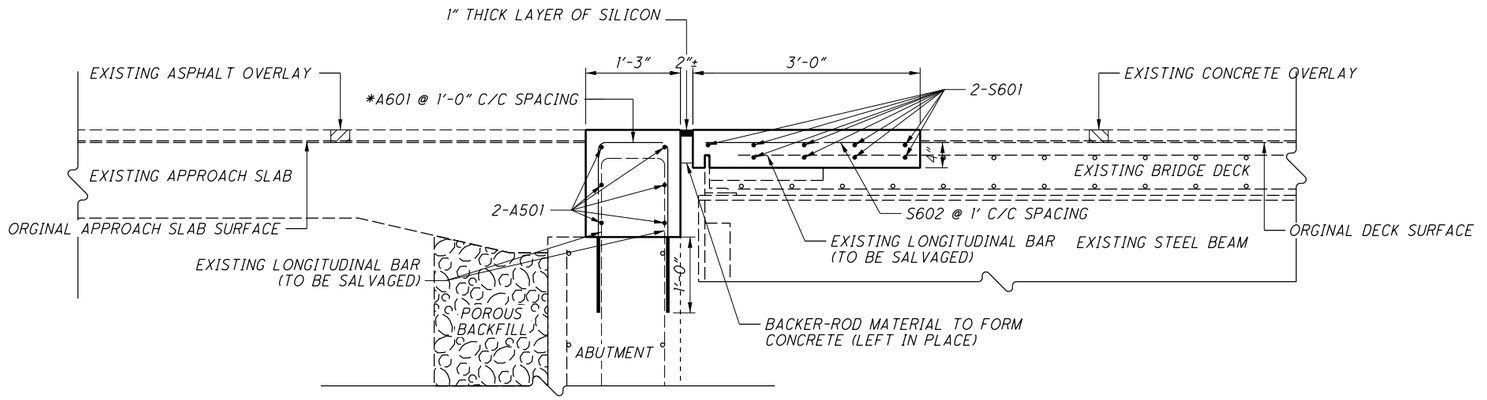
NOTES:

1. REBUILD PORTION OF DECK AND ABUTMENT BACKWALL PER THE DETAIL SHOWN BELOW. ALL MATERIAL, LABOR, EQUIPMENT, AND INCIDENTALS SUCH AS BACKER-ROD MATERIAL AND 1" THICK LAYER OF SILICON REQUIRED TO PERFORM THIS WORK WILL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM SPEC, PATCHING CONCRETE STRUCTURE, MISC.: VES-LMC (VERY EARLY STRENGTH - LATEX MODIFIED CONCRETE).

2. ALL REINFORCING STEEL REQUIRED TO COMPLETE THE CONSTRUCTION OF THE NEW JOINT WILL BE PAID FOR UNDER ITEM 509, EPOXY COATED REINFORCING STEEL, AS PER PLAN.

3. PROVIDE A 2" MINIMUM REINFORCING STEEL CLEARANCE.

* DOWEL



SUM-76-0823L

APPROACH PAVEMENT SHOWN
TRAILING PAVEMENT SIMILAR

BRIDGE NUMBER	BRIDGE DECK											APPROACH SLABS										
	LENGTH (BRIDGE LIMITS)	BRIDGE WIDTH	DECK AREA	SPECIAL PATCHING CONCRETE STRUCTURE, MISC.: VES-LMC (VERY EARLY STRENGTH LATEX MODIFIED CONCRETE)	SPECIAL PATCHING CONCRETE STRUCTURE, MISC.: TRIAL BATCH FOR VES-LMC (VERY EARLY STRENGTH LATEX							LENGTH (APPROACH SLABS)	APPROACH SLAB WIDTH	APPROACH SLAB AREA	APPROACH (FORWARD / REAR)	SPECIAL PATCHING CONCRETE STRUCTURE, MISC.: VES-LMC (VERY EARLY STRENGTH LATEX MODIFIED CONCRETE)								
	FT	FT	SQ YD	CY								FT	FT	SQ YD		CY							
SUM-76-0832L	3.00	41.00	13.67	2.46	LS							1.25	41.00	5.69		3.32							
TOTALS				3	LS							TOTALS				4							

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
BFR	BFR	NRC	12/9/2016
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NRC	XXX	7703570	

SUPERSTRUCTURE DETAILS
SUM-76-0832L

SUM-77-15.18
PID No. 103632

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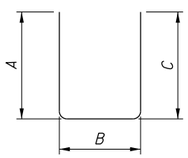
MARK	NUMBER				LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS				
	REAR ABUT	FWD ABUT	SUPER	TOTAL				A	B	C	D	E
S601			18	18	23'-0"	622	STR					
S602			40	40	2'-8"	161	STR					
	SUPERSTRUCTURE SUB-TOTAL					783						
A501		12		12	21'-0"	263	STR					
*A601		40		40	5'-1"	306	2	2'-3"	11"	2'-3"		
	ABUTMENT SUB-TOTAL					569						
	GRAND TOTAL					1352						

THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, P601 IS A NO. 6 BAR. BAR DIMENSIONS SHOWN ARE OUT TOOUT UNLESS OTHERWISE INDICATED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED. "STD." WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.

ALL REINFORNCING STEEL TO BE EPOXY COATED

* DOWEL



TYPE-2

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING AND ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
BFR	BFR	NRC	12/9/2016
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NRC	XXX	7703570	

REINFORCING STEEL
SUM-76-0832L

SUM-77-15.18
PID No. 103632

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