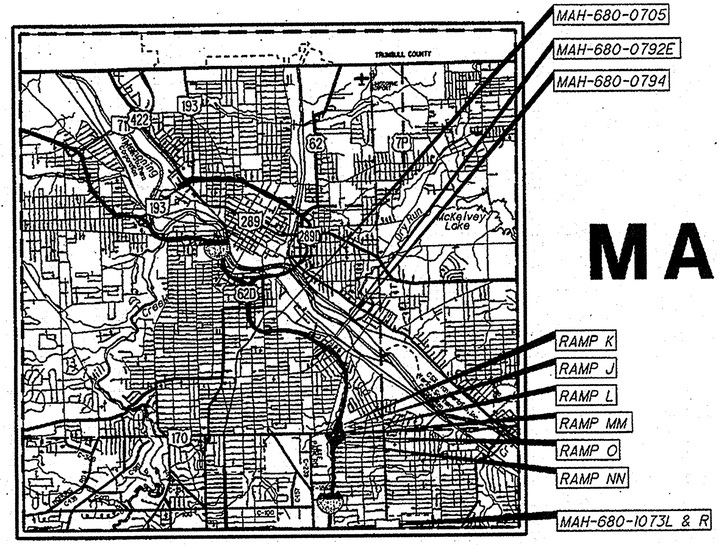

LOCATION MAP

LATITUDE: 41°03'39" N LONGITUDE: 80°37'42" W

SCALE IN MILES

0 1 2 3 4

N

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

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

MAH-680-7.05 PART 1

CITY OF YOUNGSTOWN
BOARDMAN TOWNSHIP
MAHONING COUNTY

FOR PART 2, SEE MAH-680-9.21

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PROJECT DESCRIPTION

IMPROVEMENT OF SR 680 RAMPS AT MIDLOTHIAN BLVD. INTERCHANGE IN MAHONING COUNTY BY PLANING THE SURFACE AND PLACING AN ASPHALT LAYER. AS WELL AS MAINTENANCE OF VARIOUS STRUCTURES.

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

LIMITED ACCESS

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

2010 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 SHEET 11-15, AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

DESIGN FUNCTIONAL CLASSIFICATION:
URBAN INTERSTATE
NHS PROJECT ..... YES

DESIGN EXCEPTIONS

NONE

UNDERGROUND UTILITIES
CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG
CALL
1-800-362-2764
(TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY
OIL & GAS PRODUCERS PROTECTIVE SERVICE CALL: **1-800-925-0988**

PLAN PREPARED BY:
ODOT --- DISTRICT 4
2088 S. ARLINGTON RD
AKRON, OH 44306

ENGINEERS SEAL:

STATE OF OHIO
THOMAS POWELL
E-61151
REGISTERED
PROFESSIONAL ENGINEER

SIGNED:
DATE: 10-11-11

STANDARD CONSTRUCTION DRAWINGS										SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS
BP-1.1	7/28/00	GR-1.1	7/16/04	A-1-69	7/19/02	TC-41.10	10/19/07	MT-35.10	4/20/01	800	10-21-11	
BP-2.1	7/18/08	GR-2.1	1/16/04	AS-1-81	7/19/02	TC-41.20	1/19/01	MT-95.40	7/17/09			
BP-2.2	7/18/08	GR-3.1	10/16/09					MT-98.10	7/17/09	832	05-05-09	
BP-2.3	7/16/04	GR-3.2	10/16/09	BR-1	7/19/02	TC-42.10	1/19/07	MT-98.20	7/17/09			
BP-2.5	7/18/08			BR-2-98	7/19/02	TC-42.20	1/21/11	MT-98.28	7/17/09	843	04-18-03	
		HW-2.2	7/30/07							848	04-16-10	
BP-3.1	10/19/07			GSD-1-96	7/19/02	TC-52.10	1/19/07	MT-98.29	7/17/09			
BP-5.1	7/28/00	I-2.1	7/15/05	PCB-91	7/19/02	TC-52.20	1/19/07	MT-99.20	1/16/09			
BP-6.1	1/21/11			RB-1-55	2/2/59			MT-99.30	4/15/11			
BP-9.1	4/15/05	RM-1.1	7/15/11			TC-65.10	1/21/05	MT-101.60	4/17/09			
		RM-4.2	10/15/10	SBR-1-99	7/19/02	TC-65.11	1/21/05	MT-101.70	4/15/11			
DM-1.1	1/21/11							MT-101.90	1/16/09			
DM-1.2	10/21/05					TC-71.10	1/21/11	MT-102.10	7/17/09			
DM-1.4	7/15/11					TC-72.20	10/16/09	MT-102.20	4/17/09			
DM-4.1	1/21/11					TC-73.10	1/19/01	MT-105.10	1/16/09			
								MT-110.10	1/16/09			

APPROVED
DATE 10/11/11 DISTRICT DEPUTY DIRECTOR

APPROVED
DATE 10-24-11 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E034(683)
PID NO. 22466
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
MAH-680-7.05
1/27

MAH - IR-680-7.05, PART 1;MAH-680-
120008 PID - 22466
Dist 4 1/12/2012
Contract Proposal Available
@www.contracts.dot.state.oh.us
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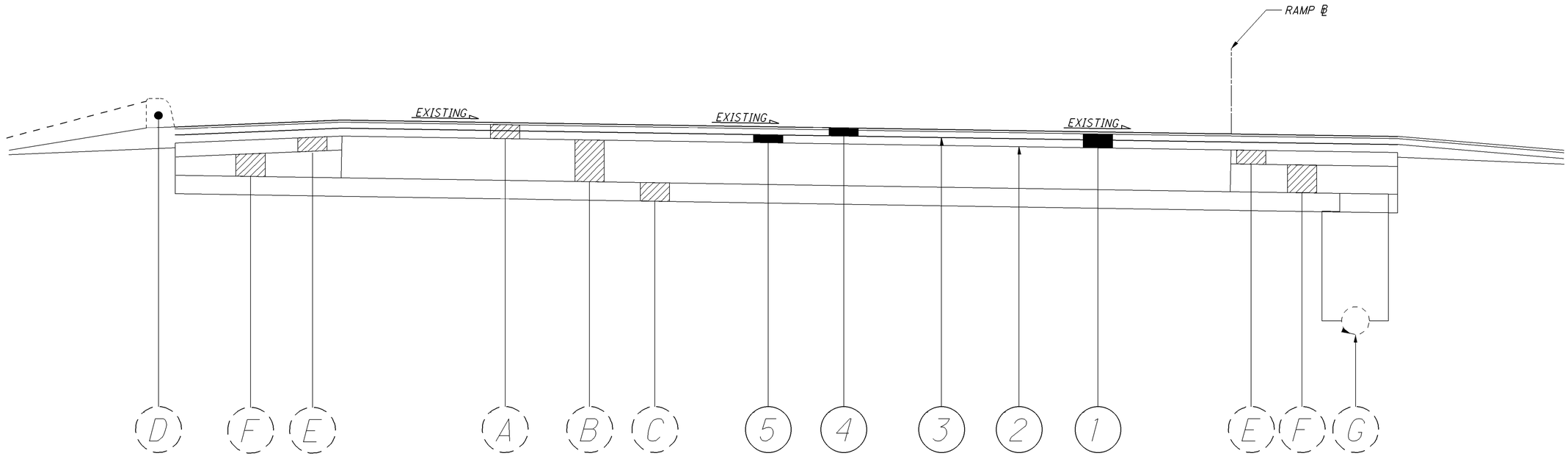
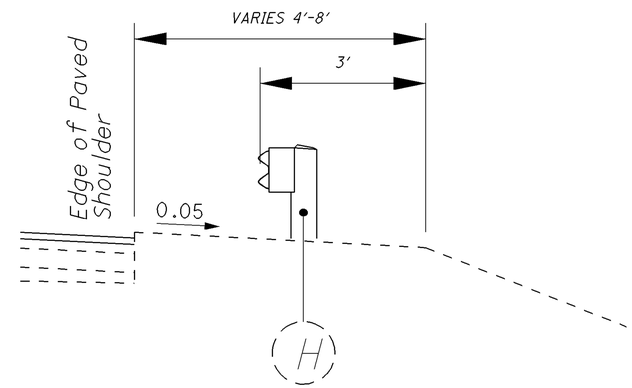


TYPICAL SECTION - RAMPS



TYPICAL GUARDRAIL SECTION

EXISTING POSSIBLE CURB PRESENCE VARIES DEPENDING ON LOCATION
AT RAMPS J, L, N-N, K, O, M-M LEFT AND RIGHT

LEGEND

1	ITEM 254, PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (T = 3")	A	EXISTING ASPHALT CONCRETE PAVEMENT		
2	ITEM 407, TACK COAT, 702.13 @ 0.15 GAL/SY	B	EXISTING 9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT	F	AGGREGATE BASE
3	ITEM 407, TACK COAT FOR INTERMEDIATE COURSE @ 0.04 GAL/SY	C	EXISTING 4" CEMENT STABILIZED BASE OR SUBBASE	G	EXISTING PIPE UNDERDRAIN
4	ITEM 442, ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (446) (T=1 ½")	D	EXISTING CURB	H	EXISTING GUARDRAIL
5	ITEM 442, ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE B (446) (T=1 ¾")	E	EXISTING BITUMINOUS AGGREGATE BASE		

TYPICAL SECTIONS

MAH-680-7.05

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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.

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.

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-QUARTERS 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.

PAVEMENT MARKING LANE WIDTHS

THE NORMAL LANE WIDTH FOR THE PAVEMENT MARKINGS ON THIS PROJECT SHALL BE AS FOLLOWS [AT LEAST 3 DAYS PRIOR TO PERFORMING THE WORK CONTACT THE TRAFFIC OFFICE AT 330-786-3147 TO CONFIRM THE WIDTHS]:

ROUTE	S.L.M. TO S.L.M.	LANE WIDTH
RAMPS AT	IR-680	16'

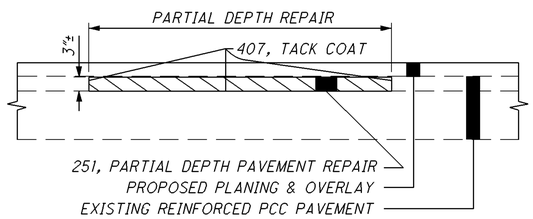
PAVEMENT MARKING DETAILS

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

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR

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 448 ASPHALT CONCRETE, TYPE 2. THE ASPHALT CONCRETE SHALL BE COMPACTED WITH A TYPE I PNEUMATIC TIRE ROLLER AND A STEEL WHEEL ROLLER AS PER 401.13. IT IS NOT THE INTENT TO REPAIR EVERY DETERIORATED AREA WITHIN THE PROJECT. THE ENGINEER SHALL DETERMINE WHICH AREAS ARE TO BE REPAIRED. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, THIS ITEM SHALL BE PERFORMED AFTER THE COMPLETION OF MAINLINE PAVEMENT PLANING. ALSO, THIS ITEM SHALL COMMENCE WITHIN 7 DAYS OF THE COMPLETION OF MAINLINE PAVEMENT PLANING. 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:

251, PARTIAL DEPTH PAVEMENT REPAIR, 100 SQ. YD.



ITEM SPEC, MISC.: CONCRETE PAVEMENT SAWING

THIS ITEM OF WORK SHALL BE PERFORMED IN CONFORMANCE WITH ITEM 251 IN THE CMS. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, THIS ITEM SHALL BE PERFORMED AFTER THE COMPLETION OF MAINLINE PAVEMENT PLANING. ALSO, THIS ITEM SHALL COMMENCE WITHIN 7 DAYS OF THE COMPLETION OF MAINLINE PAVEMENT PLANING. SAW CUT AREAS MARKED BY THE PROJECT ENGINEER TO BE REPAIRED WITH PARTIAL DEPTH PAVEMENT REPAIR WITHIN THE PROJECT LIMITS.

ALL EQUIPMENT, LABOR, TOOLS, AND OTHER INCIDENTALS REQUIRED TO PERFORM THIS WORK SHALL BE INCLUDED IN THE UNIT BID PRICE IN FEET FOR ITEM SPEC, MISC.: CONCRETE PAVEMENT SAWING. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

SPEC, MISC.: CONCRETE PAVEMENT SAWING, 60 FT.

ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN

THIS ITEM OF WORK SHALL BE PERFORMED IN CONFORMANCE WITH ITEM 254 IN THE CMS EXCEPT THE DEPTH SHALL VARY FROM 3" TO THE TOP OF THE CONCRETE WHICHEVER IS FIRST. THIS WORK SHALL BE PERFORMED SO THAT THE CONCRETE BASE IS NOT DISTURBED. ALL EQUIPMENT, LABOR, TOOLS, AND OTHER INCIDENTALS REQUIRED TO PERFORM THIS WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN.

ITEM 617 - COMPACTED AGGREGATE, AS PER PLAN

IN LOW SHOULDER AREAS EXCEEDING 1", 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 GRAD-ATION, 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
1-½"	100
¾"	50-100
NO. 4	35-70
NO. 30	9-33
NO. 200	0-13

LINEAR GRADING

SHOULDER WIDTH BEYOND THE LIMITS OF THE COMPACTED AGGREGATE WILL BE GRADED TO PROVIDE POSITIVE DRAINAGE AND WILL BE PERFORMED ONLY IN THE AREAS NECESSARY. GRADING WILL BE ACCOMPLISHED BY THE REMOVAL OF, OR ADDITION OF MATERIAL TO PROVIDE A 0.08 POSITIVE SLOPE. EXCESS MATERIAL WILL BE WINDROWED ON THE SHOULDER. THE GRADED AREAS WILL BE COMPACTED TO A SUFFICIENT DENSITY TO PREVENT EROSION UNTIL SEEDING AND MULCHING IS PERFORMED. ALL EXCESS MATERIAL WILL BE REMOVED FROM THE BERMS AND WILL BE DISPOSED OF OFF THE PROJECT BY THE CONTRACTOR.

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

THE QUANTITY OF ITEM 209 IS NOT 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, 2 STA.
659, SEEDING AND MULCHING, 112 SQ YD
659, COMMERCIAL FERTILIZER, 0.02 TON
659, LIME, 0.02 ACRES
659, WATER, 1 M. GAL.

CALCULATED AAM CHECKED LMB

GENERAL NOTES

MAH-680-7.05

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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 ELEVEN FOOT LANE IN EACH DIRECTION SHALL BE MAINTAINED ON THE EXISTING PAVEMENT ON IR-680 DURING CONSTRUCTION OF THE WORK. A MINIMUM OF ONE TEN FOOT LANE SHALL BE MAINTAINED ON ALL RAMPS EXCEPT WHEN TRAFFIC IS DETOURED DURING CONSTRUCTION OF THE WORK.

2. THE CONTRACTOR SHALL INFORM THE DISTRICT OFFICE (330) 786-2211, EIGHTEEN (18) DAYS PRIOR TO THE BEGINNING OF WORK.

3. CONES SHALL NOT BE ACCEPTABLE TRAFFIC CONTROL DEVICES FOR LANE RESTRICTIONS OR LANE REDUCTIONS THAT ARE IN OPERATION ONE-HALF HOUR AFTER SUNSET OR ONE HALF-HOUR BEFORE SUNRISE. ALL NIGHTTIME LANE RESTRICTIONS SHALL REQUIRE DRUMS OR BARRICADES AT A MAXIMUM SPACING OF FIFTY (50) FEET. WEIGHTED CHANNELIZERS MAY BE USED IN ACCORDANCE WITH THE STANDARD CONSTRUCTION DRAWINGS.

4. THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN AND SUBSEQUENTLY REMOVE ALL FLAGS, BARRICADES, SIGNS, SIGN SUPPORTS AND FURNISH AND MAINTAIN ALL FLAGGERS, WATCHERS AND INCIDENTALS RELATED THERETO.

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

9. 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.

10. A QUANTITY OF ITEM 614 WORK ZONE MARKING SIGN HAS BEEN INCLUDED IN THE PLAN. THIS QUANTITY SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING SIGNS: W8-1 [BUMP], W8-H13 [NO EDGE LINES], R4-1 [DO NOT PASS], R4-2 [PASS WITH CARE], THESE QUANTITIES SHALL BE AS PER 614.04.

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

PHASE I - PLANED SURFACE
614, WORK ZONE STOP LINE, CLASS 1, 73 FT
614, WORK ZONE CHANNELIZING LINE, CLASS 1, 110 FT
614, WORK ZONE MARKING SIGN, 15 EACH

PHASE II - INTERMEDIATE COURSE
614, WORK ZONE STOP LINE, CLASS 1, 73 FT
614, WORK ZONE CHANNELIZING LINE, CLASS 1, 110 FT

PHASE III - INTERMEDIATE COURSE
614, WORK ZONE STOP LINE, CLASS III, 642 PAINT, 73 FT
614, WORK ZONE CHANNELIZING LINE, CLASS III, 642 PAINT, 110 FT

TO BE USED AS DIRECTED BY THE ENGINEER
614, WORK ZONE EDGE LINE, CLASS III, 642 PAINT, 2.47 MILE

TRAFFIC CONTROL INSPECTOR

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

CONTRACTOR'S EQUIPMENT - OPERATION AND STORAGE

A QUALIFIED FLAGGER SHALL BE EMPLOYED WHERE THE CONTRACTOR'S EQUIPMENT MUST MERGE WITH THE TRAFFIC STREAM. THE CONTRACTOR'S EQUIPMENT SHALL BE EQUIPPED WITH AT LEAST ONE AMBER FLASHING LIGHT. PAVERS, ROLLERS AND OTHER EQUIPMENT MAY BE PARKED IN AREAS ALONG THE HIGHWAY WHEN PAVING OPERATIONS ARE SCHEDULED TO CONTINUE WITHIN THE NEXT WORKDAY. OTHERWISE THE EQUIPMENT SHALL BE STORED AT A STORAGE AREA OUTSIDE THE R/W, THE LOCATION OF WHICH SHALL HAVE PRIOR APPROVAL OF THE ENGINEER. WHEN PARKING ALONG THE HIGHWAY THE EQUIPMENT SHALL BE PLACED AND DELINEATED AS PER 614.03. NO EQUIPMENT SHALL BE PARKED IN THE MEDIAN OF THE HIGHWAY. ADEQUATE BARRICADES AND LIGHTS SHALL BE PLACED ON THE PAVEMENT SIDE OF THE EQUIPMENT TO IDENTIFY THE LIMITS OF THE EQUIPMENT. ALL OTHER EQUIPMENT, INCLUDING PRIVATE VEHICLES, SHALL BE STORED AT THE APPROVED CONTRACTOR'S STORAGE AREA. NO EQUIPMENT SHALL BE PARKED ON PRIVATE PROPERTY UNLESS PRIOR APPROVAL OF THE OWNER AND THE PROJECT ENGINEER/ SUPERVISOR HAS BEEN GRANTED.

WINTER TRAFFIC LIMITATIONS

ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC BETWEEN NOVEMBER 15 AND APRIL 1. NOVEMBER 14 SHALL BE CONSIDERED TO CONSTITUTE AN INTERIM COMPLETION DATE AND DISINCENTIVES OF $2000 SHALL BE ASSESSED FOR EACH CALENDAR DAY THAT THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT. THE CONTRACTOR MAY CLOSE LANES PRIOR TO APRIL 1 WITH WRITTEN APPROVAL FROM THE DISTRICT CONSTRUCTION ENGINEER.

ADVANCED NOTICE TO PAVE (ALL RAMPS AT MIDLOTHIAN BLVD, SR 170)

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.

IN ADDITON, THE CONTRACTOR SHOULD PAVE THE LOOP RAMPS, RAMP O AND RAMP L, DURING MAH-680-9.21, PART 2, PHASE I CLOSURE OF THESE RAMPS.

A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF $2000 FOR EACH HOUR THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

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	FOURTH OF JULY
NEW YEARS	LABOR DAY
MEMORIAL DAY	THANKSGIVING

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)	12:00N WEDNESDAY THROUGH 6:00 AM MONDAY
FRIDAY	12:00N THURSDAY THROUGH 6:00 AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY

NO EXTENSIONS OF TIME SHALL BE GRANTED FOR DELAYS IN MATERIAL DELIVERIES, UNLESS SUCH DELAYS ARE INDUSTRY-WIDE, OR FOR LABOR STRIKES, UNLESS SUCH STRIKES ARE AREA-WIDE.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE IN THE AMOUNT OF $2000 FOR EACH MINUTE THE ABOVE DESCRIBED LANE CLOSURE RESTRICTIONS ARE VIOLATED.

CALCULATED LMB
CHECKED

MAINTENANCE OF TRAFFIC GENERAL NOTES

MAH-680-7.05

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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 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 CMS 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.

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 AT THE POINT OF LANE RESTRICTION OR ROAD CLOSURE AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH INTERSECTIONS IN WORK ZONES.

WHEN CONSTRUCTION VEHICLES ARE ENTERING/EXITING THE ZONE DIRECTLY FROM/INTO AN OPEN LANE OF TRAFFIC. IF A LANE HAS BEEN CLOSED TO PROVIDE AN ACCELERATION/DECELERATION LANE FOR THE VEHICLE, THE LEO WILL NOT BE REQUIRED.

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 ENGINEER. 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.

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 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 320 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 SIGN, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, 2 PORTABLE CHANGEABLE MESSAGE SIGNS [PCMS], ON SITE, FOR THE DURATION OF TIME SPECIFIED IN THIS NOTE, EACH SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS MAINTAINED BY THE DIRECTOR. THIS LIST IS AVAILABLE ON THE ODOT WEBSITE AT
http://www.dot.state.oh.us/divisions/constructionmgt/materials/pages/portable-changeable.aspx
THE CLASS A UNITS SHALL HAVE A MINIMUM LEGIBILITY DISTANCE OF 650 FEET.

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. PCMS TRAILERS SHOULD BE DELINEATED ON A PERMANENT BASIS BY AFFIXING RETROREFLECTIVE MATERIAL, IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER AS SEEN BY ONCOMING ROAD USERS.

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 PCMS SHOULD NOT BE LOCATED IN THE MEDIAN OF THE HIGHWAY UNLESS IT IS PROTECTED FROM BOTH DIRECTIONS OF TRAFFIC. THE PCMS SHOULD BE LOCATED BEHIND GUARDRAIL WHEREVER POSSIBLE. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE THE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS WILL BE OFF, FACING AWAY FROM ALL TRAFFIC AND SHALL DISPLAY ONE OR MORE HIGH INTENSITY YELLOW REFLECTIVE SHEETING SURFACES OF 9-INCH BY 15-INCH MINIMUM SIZE FACING TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE 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 CONTRACTOR. A LIST OF ALL PROPOSED PREPROGRAMMED MESSAGES WILL BE GIVEN TO THE ENGINEER PRIOR TO CONSTRUCTION. THE SIGN SHALL HAVE TWO DIFFERENT MEMORIES [PROM AND RAM] AND CAPABILITY TO STORE UP TO 99 MESSAGES IN EACH MEMORY. MESSAGE MEMORY OR PREPROGRAMMED 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. IN ORDER TO CONVEY A MAXIMUM OF INFORMATION AT A SINGLE GLANCE, ONLY THREE LINE PRESENTATION FORMATS WITH A MAXIMUM OF SIX MESSAGE PHASES WILL BE PERMITTED. NORMALLY, ONLY A MAXIMUM OF THREE MESSAGE PHASES SHOULD BE EMPLOYED. 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, DE-ACTIVATED 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 AREAS] ALLOW REMOTE SIGN ACTIVATION, DEACTIVATION, MESSAGE CHANGES, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES.

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF 614. 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 AND THE ENTIRE COST TO CONTROL TRAFFIC ACCRUED BY THE DEPARTMENT WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24 HOURS PER DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES. THE REQUIREMENT TO FURNISH, INSTALL, MAINTAIN AND REMOVE A PCMS UNIT ON THIS PROJECT SHALL NOT IN ANY WAY RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES AS OUTLINED IN 614.02.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE BID FOR EACH DAY OF ITEM 614 PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

614 PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN, 60 DAY

ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NON-GATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS. THE APPROVED LIST IS AVAILABLE AT THE "ROADWAY STANDARDS: PROPRIETARY ROADSIDE SAFETY DEVICES" WEB PAGE ON THE OFFICE OF ROADWAY ENGINEERING WEBSITE.

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE CONTRACTOR SHALL REPAIR OR REPLACE A DAMAGED UNIT WITHIN 24 HOURS OF A DAMAGING IMPACT.

WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

WHEN GATING IMPACT ATTENUATORS ARE DESIRED, THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER FOR ACCEPTANCE.

THE COST FOR THE ADDITIONAL BARRIER REQUIRED FOR A GATING IMPACT ATTENUATOR SHALL BE INCLUDED IN THE COST OF THE GATING IMPACT ATTENUATOR.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT AND MAINTAIN A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

CALCULATED LMB
CHECKED

MAINTENANCE OF TRAFFIC GENERAL NOTES

MAH-680-7.05

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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 ANY-WHERE 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

DETOUR NOTIFICATION [ODOT] (MAH-680-0705 (UNDER SOUTH AVE, CR-151))

THE CONTRACTOR SHALL ADVISE THE ODOT DISTRICT OFFICE (330-786-3148) AND THE CITY OF YOUNGSTOWN (330-742-8788) EIGHTEEN (18) DAYS IN ADVANCE OF WHEN THE DETOUR ROUTE SHOULD BE IN EFFECT. ALL WORK ZONE DEVICES REQUIRED SHALL BE FURNISHED, ERECTED, MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. PAYMENT FOR ALL WORK ASSOCIATED WITH THE DETOUR SHALL BE INCLUDED UNDER THE LUMP SUM BID FOR ITEM 614, DETOUR SIGNING.

ITEM 614, MAINTAINING TRAFFIC (TIME LIMITATION ON A DETOUR) [MAH-680-0705 (UNDER SOUTH AVE CR-151)]

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED A WEEKEND (8PM FRIDAY TO 6AM MONDAY), WHEN THROUGH TRAFFIC MAY BE DETOURED AS SHOWN ON SHEET 11. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF $2000 FOR HOUR THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

SIDEWALKS [MAH-680-0705 (UNDER SOUTH AVE CR-151)]

ONLY ONE SIDEWALK SHOULD BE CLOSED AT A TIME. PEDESTRIAN TRAFFIC SHOULD BE DETOUR ACCORDING TO SCD MT-110.10.

DETOUR NOTIFICATION [ODOT] (MAH-680-0792E RAMP E OVER DEWEY)

THE CONTRACTOR SHALL ADVISE THE ODOT DISTRICT OFFICE (330-786-3148) 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.

THE MAH-680-0792E (RAMP E OVER DEWEY) SHOULD NOT BE DONE CONCURRENTLY WITH MAH-680-0794 (OVER DEWEY AVE CR-533P).

ITEM 614, MAINTAINING TRAFFIC (TIME LIMITATION ON A DETOUR) (MAH-680-0792 RAMP E OVER DEWEY)

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED A WEEKEND (8PM FRIDAY TO 6AM MONDAY) WHEN THROUGH TRAFFIC MAY BE DETOURED AS SHOWN ON SHEET 12. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF $2000 FOR EACH HOUR THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

PORTABLE CONCRETE BARRIER (PCB) [MAH-680-0792 RAMP E OVER DEWEY)

PCB AND AN IMPACT ATTENUATOR SHOULD BE SET WHEN THE CONTRACTOR IS REPLACING THE PARAPET AT THE NORTH-WEST END OF THE STRUCTURE. THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED FOR THIS WORK:

ITEM 614, WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL), 1 EACH
ITEM 622, PORTABLE CONCRETE BARRIER, 32", 20 FEET

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 $2000 PER HOUR OR PORTION THEREOF THAT THE LANE REDUCTION REMAINS BEYOND THE SPECIFIED LIMIT.

LANE CLOSURES (MAH-680-0794 (OVER DEWEY AVE CR-533P)

THE CONCRETE BRIDGE DECK OVERLAY WORK ON MAINLINE STRUCTURE MAH-680-0794 IS EXCLUDED FROM THE ABOVE REQUIREMENTS. THE FOLLOWING REQUIREMENTS MUST BE FOLLOWED TO COMPLETE THE CONCRETE OVERLAY ON MAINLINE STRUCTURE MAH-680-0794. THE FOLLOWING TIMES ARE PERMITTED:

STRUCTURE MAH-680-0794 MAY BE REDUCED FROM 3 LANES TO 1 LANE FOR A PERIOD NOT TO EXCEED FOUR WEEKENDS (2 WEEKENDS IN EACH DIRECTION). ONE HALF OF EACH DIRECTION SHOULD BE COMPLETED IN ONE WEEKEND. A WEEKEND IS FROM 8PM FRIDAY TO 6AM MONDAY. SEE SHEETS 7-10 FOR FURTHER DETAILS AND NOTES.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS DISINCENTIVES IN THE AMOUNT OF $2000 SHALL BE ASSESSED FOR EACH HOUR THE ABOVE DESCRIBED LANE CLOSURE RETRICTIONS ARE VIOLATED.

THE MAH-680-00794 (OVER DEWEY AVE. CR-533P) SHOULD NOT BE DONE CONCURRENTLY WITH MAH-680-0792E (OVER DEWEY).

DETOUR NOTIFICATION [ODOT] (RAMP X FROM SHIRLEY RD TO 680 NB, CLOSED FOR CONCRETE OVERLAY MAH-680-0794 NB)

THE CONTRACTOR SHALL ADVISE THE ODOT DISTRICT OFFICE (330-786-3148) AND THE CITY OF YOUNGSTOWN (330-742-8788) EIGHTEEN (18) DAYS IN ADVANCE OF WHEN THE 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.

RAMP X SHOULD ONLY BE CLOSED DURING THE CLOSURE OF MAH-680-0794 (NORTHBOUND) DRIVING LANE.

ITEM 614, MAINTAINING TRAFFIC (TIME LIMITATION ON A DETOUR) (RAMP X, CLOSED FOR CONCRETE OVERLAY MAH-680-0794 NB)

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED A WEEKEND (8PM FRIDAY TO 6AM MONDAY) WHEN THROUGH TRAFFIC MAY BE DETOURED AS SHOWN ON SHEET 13. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF $2000 FOR EACH HOUR THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

DETOUR NOTIFICATION [ODOT] (RAMP J FROM MIDLOTHIAN BLVD TO 680 NB, CLOSED FOR CONCRETE OVERLAY MAH-680-0794 NB)

THE CONTRACTOR SHALL ADVISE THE ODOT DISTRICT OFFICE (330-786-3148) 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.

RAMP J SHOULD ONLY BE CLOSED DURING THE CLOSURE OF MAH-680-0794 (NORTHBOUND) DRIVING LANE.

ITEM 614, MAINTAINING TRAFFIC (TIME LIMITATION ON A DETOUR) (RAMP J, CLOSED FOR CONCRETE OVERLAY MAH-680-0794 NB)

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED A WEEKEND (8PM FRIDAY TO 6AM MONDAY) WHEN THROUGH TRAFFIC MAY BE DETOURED AS SHOWN ON SHEET 14-15. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF $2000 FOR EACH HOUR THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

CALCULATED LMB
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MAINTENANCE OF TRAFFIC GENERAL NOTES

MAH-680-7.05

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LEGEND

RAMP LANE CLOSURE

WORK AREA

HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED LMB
CHECKED

CLOSING 2 LANES OF A MULTI-LANE DIVIDED HIGHWAY WITH DRUMS [MAH-680-0794 (SB)]

MAH-680-7.05

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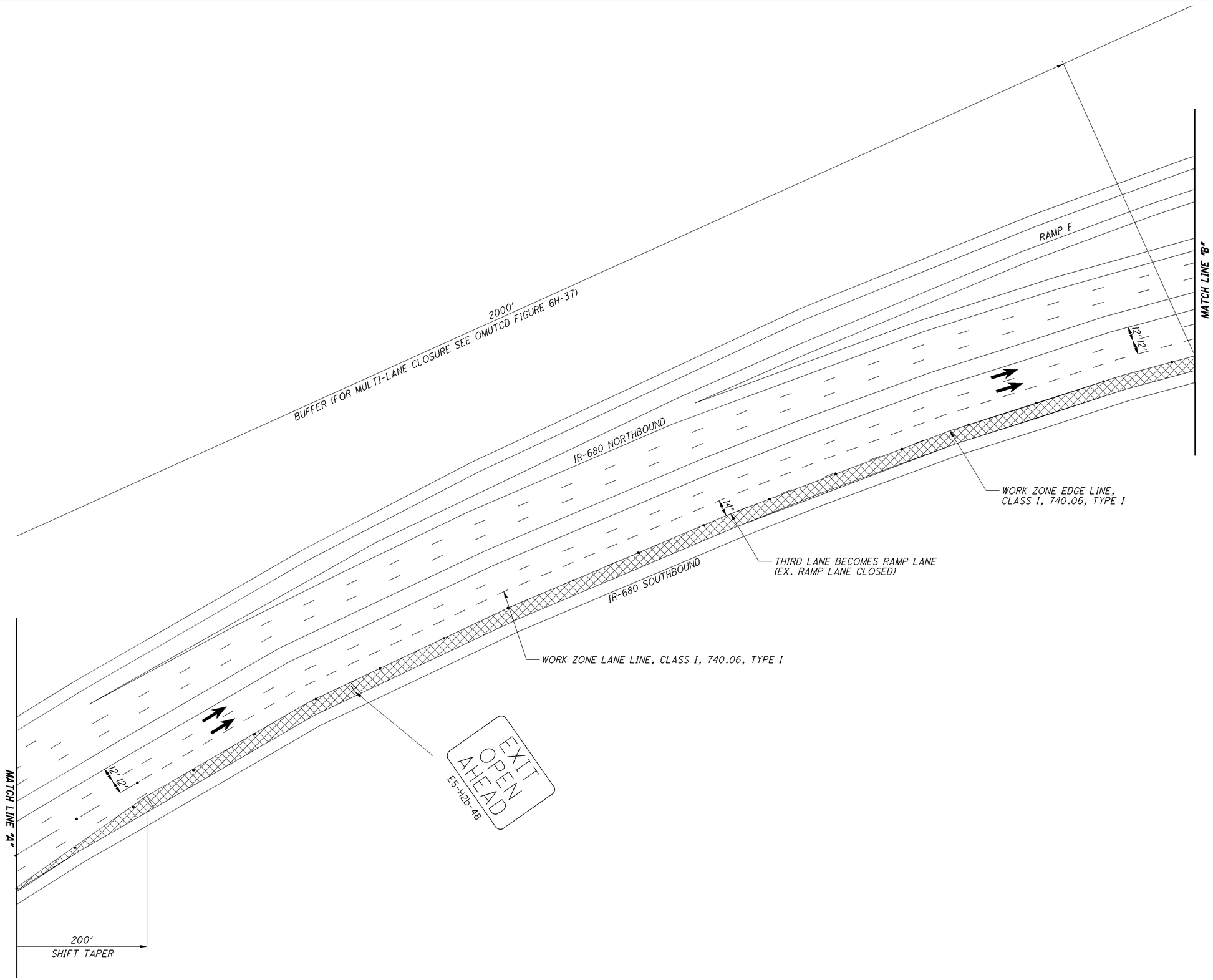

HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED LMB
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CLOSING 2 LANES OF A MULTI-LANE DIVIDED HIGHWAY WITH DRUMS [MAH-680-0794 (SB)]

MAH-680-7.05

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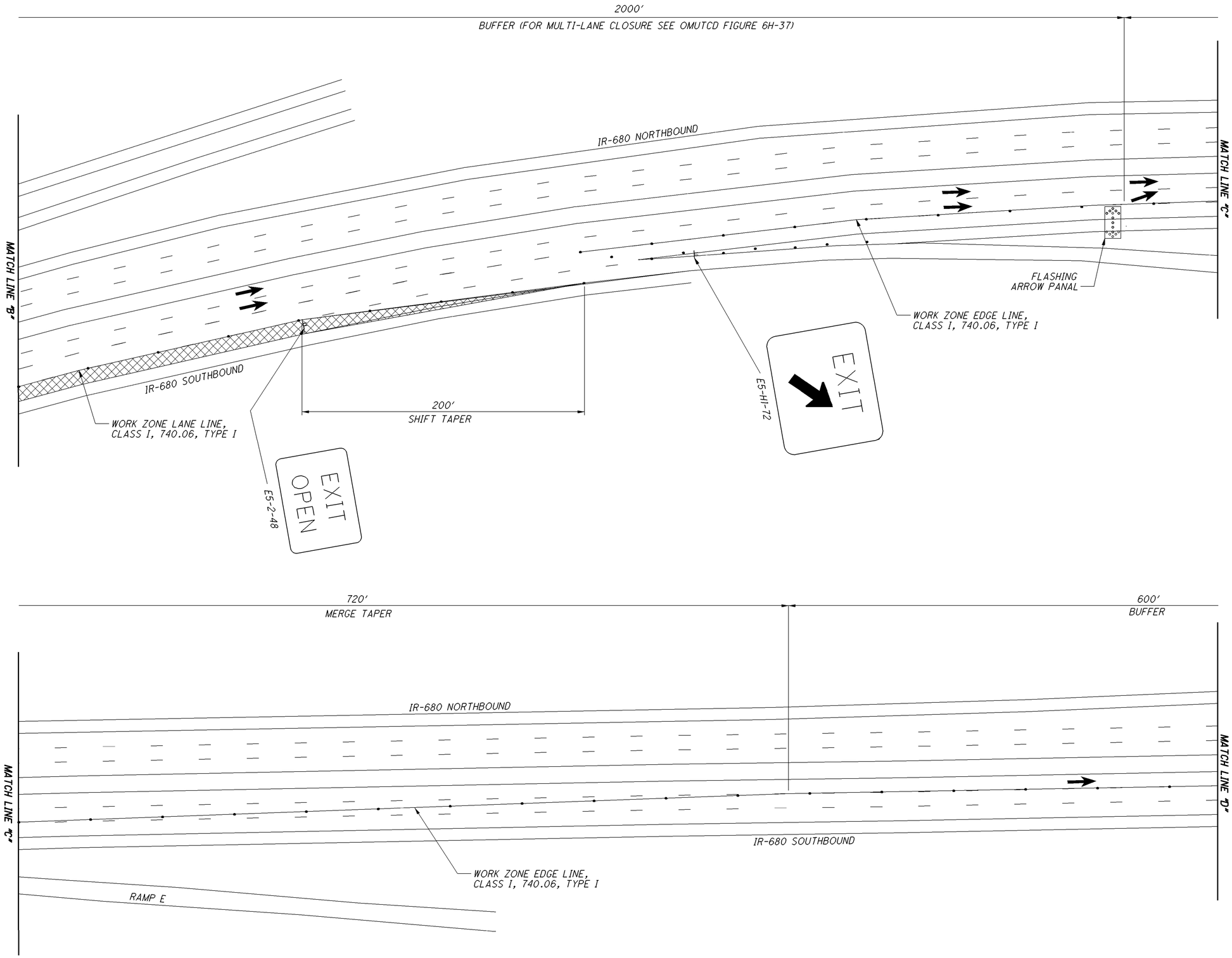

HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED LMB
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CLOSING 2 LANES OF A MULTI-LANE DIVIDED HIGHWAY WITH DRUMS [MAH-680-0794 (SB)]

MAH-680-7.05

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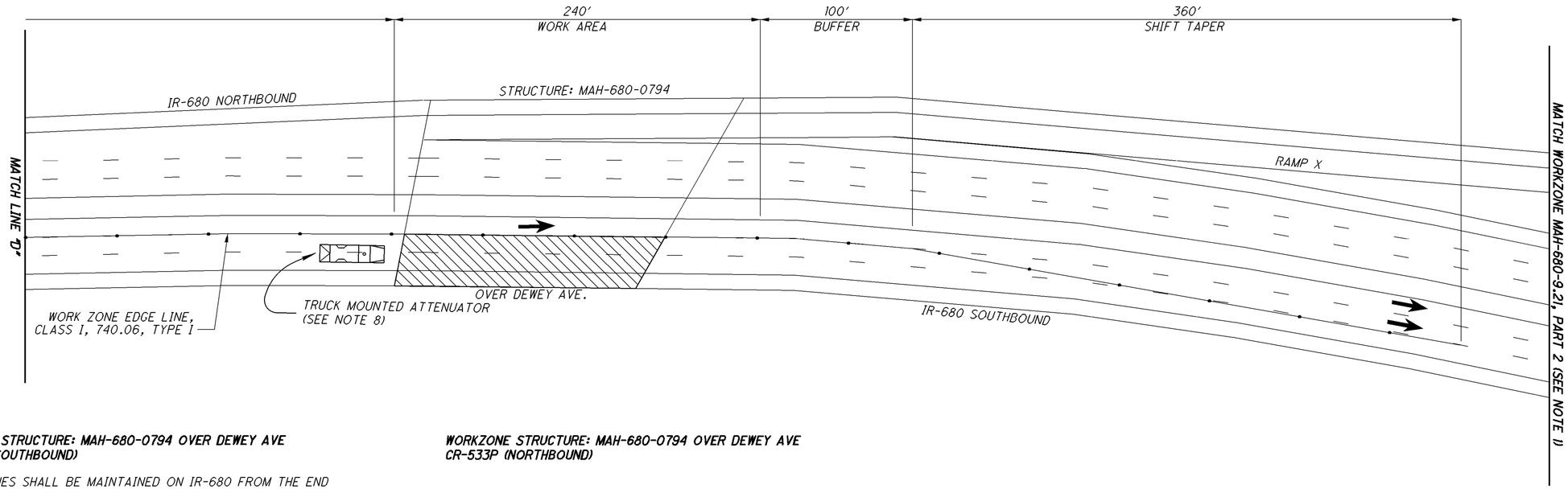

WORKZONE STRUCTURE: MAH-680-0794 OVER DEWEY AVE
CR-533P (SOUTHBOUND)

1. TWO LANES SHALL BE MAINTAINED ON IR-680 FROM THE END OF THE MAH-680-0794 WORK ZONE TO THE BEGINNING OF THE MAH-680-9.21 PART 2 WORKZONE. THE SHIFT TAPER ON MAH-680-0794 SHOULD MEET DRUMS FROM MAH-680-9.21 PART 2. THE DRUMS SHOULD BE EXTENDED FROM MAH-680-9.21, PART 2 FOR THE DURATION OF THE WORK ON STRUCTURE MAH-680-0794 (SOUTHBOUND) AS DETAILED ON SHEETS 7-10. ALL CONFLICTING SIGNS SHALL BE COVERED WHEN THE PART 2 ZONE IS EXTENDED TO STRUCTURE MAH-680-9.21, PART 2.

2. THE DESIGN SPEED FOR THE TAPERS SHOULD BE THE PERMANENT LEGAL SPEED.

3. SIGN SPACING SHOULD BE ADJUSTED TO AVOID CONFLICT WITH EXISTING SIGNS.

4. THE LOCATION OF THE MERGING TAPER AND THE ADVANCE WARNING SIGNS SHOULD BE ADJUSTED TO PROVIDE FOR ADEQUATE SIGHT DISTANCE FOR THE EXISTING VERTICAL AND HORIZONTAL ROADWAY ALIGNMENT.

5. IF THE CONSTRUCTION OPERATION REQUIRES A LANE CLOSURE FOR MORE THAN 1 DAY, THEN THE EXISTING CONFLICTING RELECTORS SHALL BE REMOVED FROM THE RAISED PAVEMENT MARKERS.

6. WORK ZONE PAVEMENT MARKINGS WHICH WOULD CONFLICT WITH THE FINAL TRAFFIC LANES SHALL BE REMOVABLE TAPE (CMS 740.06 TYPE I).

7. AFTER COMPLETION OF THE WORK, WORKZONE PAVEMENT MARKINGS OTHER THAN CMS 740.06, TYPE I SHALL BE REMOVED IN ACCORDANCE WITH CMS 614.111. THE ORIGINAL MARKINGS AND RAISED PAVEMENT MARKER RELECTORS SHALL BE RESTORED AT NO ADDITIONAL COST.

8. THE SHADOW VEHICLE SHALL BE IN PLACE AND UNOCCUPIED WHENEVER WORKERS ARE IN THE WORK AREA. THIS VEHICLE SHALL BE EQUIPPED WITH A HIGH-INTENSITY YELLOW ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHT(S). THE VEHICLE SHALL BE EQUIPPED WITH A TRUCK-MOUNTED ATTENUATOR (TMA).

9. THE WORKZONE FOR THE SECOND HALF OF STRUCTURE MAH-680-0794 SOUTHBOUND SHOULD FOLLOW TYPICAL APPLICATION FIGURE 6H-37 OF THE OMUTCD. AND MAINTENANCE OF TRAFFIC GENERAL NOTES FOR MAH-680-0794 CONCRETE OVERLAY LANE CLOSURES.

WORKZONE STRUCTURE: MAH-680-0794 OVER DEWEY AVE
CR-533P (NORTHBOUND)

1. THE DRUMS FROM MAH-680-9.21, PART 2 SHOULD BE EXTENDED TO THE BEGINNING OF THE MERGE TAPER FOR MAH-680-0794 (NORTHBOUND).

2. THE MERGE TAPER AND WORK ZONE FOR MAH-680-0794 (NORTHBOUND) SHOULD FOLLOW SCD MT-95.30, REDUCING IR-680 FROM 2 LANES TO 1.

3. MAH-680-0794, NORTHBOUND MAY BE REDUCED FROM 2 LANES TO 1 FROM 8PM FRIDAY TO 6AM ONLY, AND SHOULD ONLY BE DONE FOR TWO CONSECUTIVE WEEKENDS.

4. WHEN THE NORTHBOUND DRIVING LANE IS BEING OVERLAYED RAMP J AND RAMP X SHOULD BE CLOSED ACCORDING TO THE DURATION AND DETAILS IN THIS PLAN.

HORIZONTAL SCALE IN FEET 0 20 40 80

CALCULATED LMB
CHECKED

CLOSING 2 LANES OF A MULTI-LANE DIVIDED HIGHWAY WITH DRUMS [MAH-680-0794 (SB)]

MAH-680-7.05

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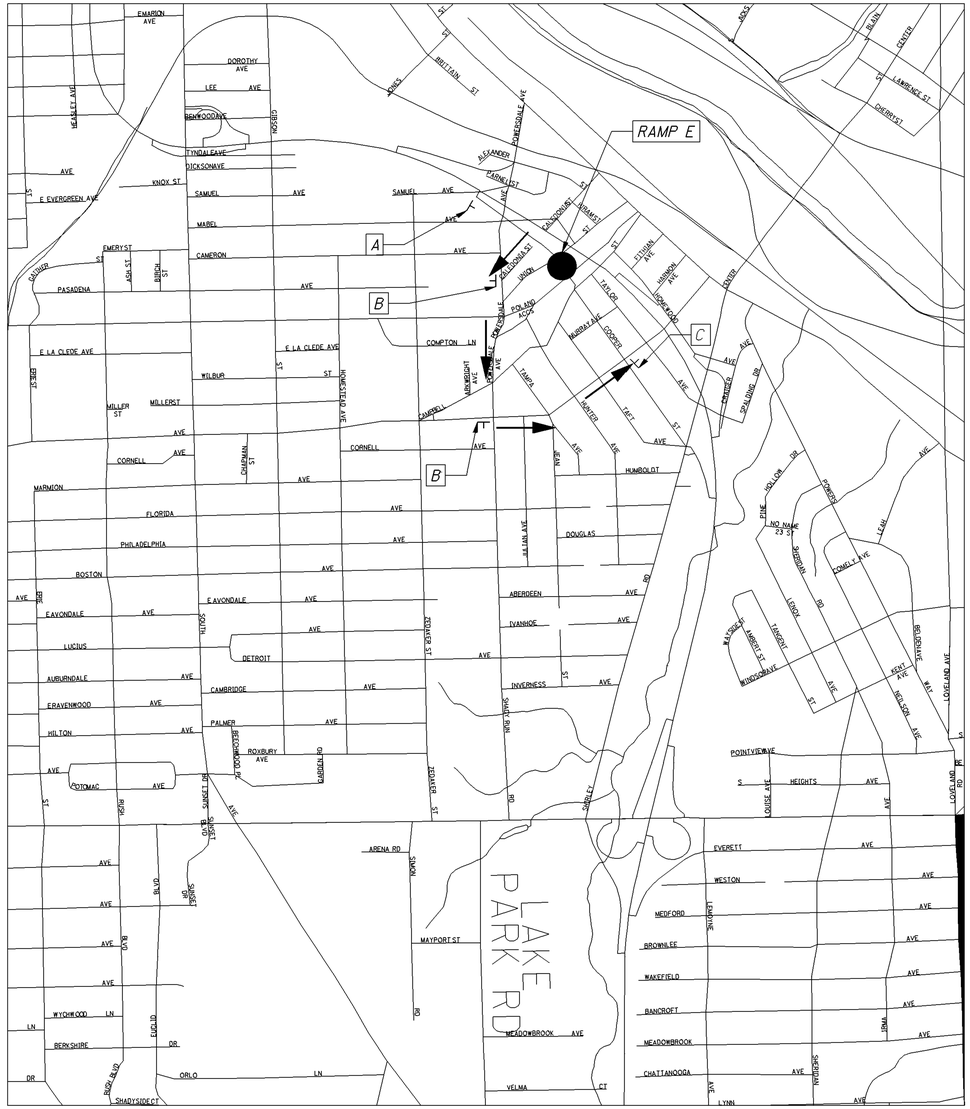
A
B
C
SOUTH AVE.
LEE AVE
GIBSON ST.
DICKSON AVE.
POLAND AVE
WILLIAMSON AVE
DOROTHY AVE
KNOX ST
SAMUEL AVE
MARET
CAMERON
PASADENA AVE
E LA CLEDE AVE
WILBUR
COMPTON LN
MILLER ST
MILLER ST
CORNELL AVE
MARMION
FLORIDA
PHILADELPHIA
BOSTON
HUMBOLDT
DOUGLAS
ROCK AVE
NORMAN AVE
KENNEDY AVE
CARTNEY RD
KIRKWOOD ST
RICHMOND AVE
GLADSTONE
LAWRENCE ST
CHERRY ST
BRITAIN ST
ALEXANDER
CARNEY ST
COLEDONIA ST
UNION
TAYLOR
COOPER
TAMPA
SPALDING DR
PINE
NO NAME ST
FORREST
LEAH
FOWLER AVE
ROSE CT
ROSE PL
S. BRUCE
S. TRUSDALE AVE
S. PEARL ST
S. CARLAND
S. FOREST
AYERS
JACKSON
PARK DR
GLADSTONE PARK DR
CENTER
BLAIN
ALPINE ST
ROLLAND ST
ARBOUR ST
POLAND AVE
FOUNTAIN ST
BIRD ST
PYATT ST
CANTON AVE
ENYRTLE AVE
WISEMAN ST
WYNER ALY
E MARION AVE
E CHALMERS AVE
ELLENWOOD AVE
E DELASON AVE
EWARREN AVE
E EVERGREEN AVE
E GLENHAVEN AVE
E EARLE AVE
EMERY ST
ASH ST
BIRCH ST
E PRINCETON AVE
INDIANOLA
E HYLDA AVE
HADNETT DR
W HENRY ST
E HENRY ST
WAYNE AVE
MYRTLE AVE
LOIS ST
FULTON ST
KING ST
FRANKLIN AVE
WEBSTER AVE
SELLERS AVE
SEALEY AVE
MARBEN CT
MARBEN PL
HARRIS CT
HILLCREST CT
LOCUST ST
LINCOLN AVE
CHAPMAN ST
HOMESTEAD AVE
WRIGHT AVE
TOWNSDALE AVE
JULIA AVE
ROSE ST
ROSE PL
DAKELA ST
EMERSON AVE
BIRCH ST
ALPINE ST
ROLLAND ST
ARBOUR ST
POLAND AVE
BRITAIN ST
AYERS
JACKSON
CENTER
BLAIN
LAWRENCE ST
CHERRY ST
ALEXANDER
CARNEY ST
COLEDONIA ST
UNION
TAYLOR
COOPER
TAMPA
SPALDING DR
PINE
NO NAME ST
FORREST
LEAH
FOWLER AVE
ROSE CT
ROSE PL
S. BRUCE
S. TRUSDALE AVE
S. PEARL ST
S. CARLAND
S. FOREST
AYERS
JACKSON
PARK DR
GLADSTONE PARK DR
CENTER
BLAIN
LAWRENCE ST
CHERRY ST
BRITAIN



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DETOUR PLAN FOR RAMP E (I-680 SOUTHBOUND TO SHIRLEY RD)

CLOSE RAMP E ONLY, PER MT-101.60

OFFICAL DETOUR ROUTE: CELEDONIA ST. / POWERSDALE AVE. / INDIANOLA AVE.

A

W20-2-36

B

D3-1-VAR.

M4-9L-30

C

D3-1-VAR.

M4-9R-30

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CHECKED

DETOUR PLAN - RAMP E

MAH-680-7.05

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B
C
A
A
LAKE PARK RD
ARENA RD
MAYPORT ST
POINTVIEW AVE
S HEIGHTS AVE
EVERETT AVE
WESTON AVE
MEDFORD
BROWNLEE
WAKEFIELD
BANCROFT
MEADOWBROOK AVE
CHATTANOOGA AVE
VELMA CT
LYNN AVE
WYCHWOOD LN
BERKSHIRE DR
ORLO LN
SHADYSIDE CT
POTOMAC AVE
ROXBURY AVE
PALMER AVE
CAMBRIDGE AVE
DETROIT
INVERNESS
ABERDEEN AVE
IVANHOE AVE
DOUGLAS
HUMBOLDT
CORNELL AVE
MARMION
FLORIDA AVE
PHILADELPHIA AVE
BOSTON AVE
EAVONDALE AVE
LUCIUS
AUBURNDALE AVE
ERAVENWOOD AVE
HILTON AVE
E LA CLEDE AVE
PASADENA
E EVERGREEN AVE
KNOX ST
DICKSON AVE
TYNDALE AVE
BENWOOD AVE
LEE AVE
DOROTHY AVE
EMARION AVE
SAMUEL AVE
MARCEL AVE
CAMERON AVE
EMERY ST
WILBUR ST
MILLER ST
MILLER ST
COMPTON LN
POLAND AVE
POWERSDALE AVE
SPALDING DR
NO NAME ST
HOWLE AVE
LEWIS
BELSTATE
LOVELAND AVE
LOVELAND RD
LOUISE AVE
LEWIS
SHIRLEY
SUNSET BLVD
SUNSET DR
SUNSET BLVD
SUNSET DR
SUNSET BLVD
LUDLOW
BLVD
BLVD
RUSH BLVD
SHADY RUN
ZEIGLER ST
SUNDAY
SUNDAY
SUNDAY

DETOUR PLAN FOR RAMP J (MIDLOTHIAN BLVD TO 680 NORTHBOUND)

CLOSE RAMP J ONLY, PER MT-98.29

OFFICAL DETOUR ROUTE: I-680 SB / RAMP L / RAMP O / I-680 NB

A

DETOUR
M4-8-24
NORTH
M3-1-24
INTERSTATE 680
M1-1-30-3
M6-3-21

B

DETOUR
M4-8-24
NORTH
M3-1-24
INTERSTATE 680
M5-1L-21

C

DETOUR
M4-8-24
NORTH
M3-1-24
INTERSTATE 680
M6-1L-21

D

DETOUR
M4-8-24
NORTH
M3-1-24
INTERSTATE 680

E

DETOUR
M4-8-24
NORTH
M3-1-24
INTERSTATE 680
M1-1-30-3

EXIT 11A-B

INTERSTATE 680
PITTSBURGH

224
CANFIELD
POLAND

EXIT 1½ MI

F

DETOUR
M4-8-24
NORTH
M3-1-24
INTERSTATE 680
M1-1-30-3

EXIT 11A-B

INTERSTATE 680
PITTSBURGH

224
CANFIELD
POLAND

EXIT ONLY

G

DETOUR
M4-8-24
NORTH
M3-1-24
INTERSTATE 680
M1-1-30-3

EXIT 11B

INTERSTATE 680
PITTSBURGH

224 EAST
POLAND

EXIT ONLY

EXIT 11A

224 WEST
CANFIELD

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DETOUR PLAN - RAMP J

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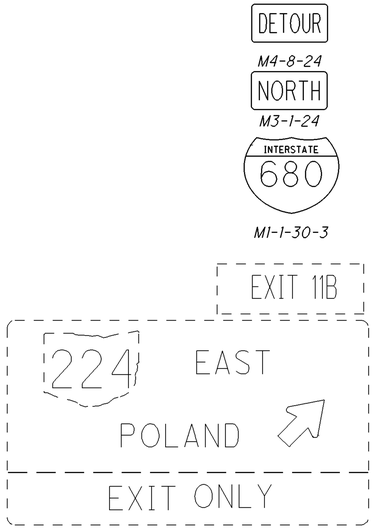

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CALCULATED LMB
CHECKED

DETOUR PLAN - RAMP J

MAH-680-7.05

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SHEET NUMBER														ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
										3	17	18	19						
																		ROADWAY	
											557			202	23500	557	SQ YD	WEARING COURSE REMOVED	
										2				209	60200	2	STATION	LINEAR GRADING	
																		EROSION CONTROL	
										112				659	10000	112	SQ YD	SEEDING AND MULCHING	
										0.02				659	20000	0.02	TON	COMMERCIAL FERTILIZER	
										0.02				659	31000	0.02	ACRE	LIME	
										1				659	35000	1	M GAL	WATER	
																		PAVEMENT	
										100				251	01000	100	SQ YD	PARTIAL DEPTH PAVEMENT REPAIR	
										60				SPEC	69098100	60	FT	MISC.: CONCRETE PAVEMENT SAWING	3 / 27
											39464			254	01001	39464	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (T=3")	3 / 27
											5920			407	13900	5920	GALLON	TACK COAT, 702.13 @ 0.15 GAL/SY	
											1579			407	14000	1579	GALLON	TACK COAT FOR INTERMEDIATE COURSE @ 0.04 GAL/SY	
											1645			442	10050	1645	CU YD	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (446) (T=1 ½")	
											1919			442	10150	1919	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE B (446) (T=1 ¾")	
											185			617	10101	185	CU YD	COMPACTED AGGREGATE, AS PER PLAN	3 / 27
																		TRAFFIC CONTROL	
													138	621	10020	138	EACH	RPM, LOW PROFILE WHITE/RED	
													90	621	10030	90	EACH	RPM, LOW PROFILE YELLOW/RED	
													180	621	54000	180	EACH	RAISED PAVEMENT MARKER REMOVED	
												2.47		646	10000	2.47	MILE	EDGE LINE	
												110		646	10300	110	FT	CHANNELIZING LINE	
												73		646	10400	73	FT	STOP LINE	
												4		646	20300	4	EACH	LANE ARROW	
																		STRUCTURES	
																		FOR STRUCTURE MAH-680-0705 ESTIMATED QUANTITIES	13
																		FOR STRUCTURE MAH-680-0792E ESTIMATED QUANTITIES	13
																		FOR STRUCTURE MAH-680-0794 ESTIMATED QUANTITIES	13
																		FOR STRUCTURE MAH-680-1073L ESTIMATED QUANTITIES	13
																		FOR STRUCTURE MAH-680-1073R ESTIMATED QUANTITIES	13
														614	11000	LUMP		MAINTAINING TRAFFIC	
														619	16010	8	MONTH	FIELD OFFICE, TYPE B	
														623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
														624	10000	LUMP		MOBILIZATION	

CALCULATED AAM
CHECKED LMB

GENERAL SUMMARY

MAH-680-7.05

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SHEET NUMBER														ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
											4	5	6						
																		MIANTENANCE OF TRAFFIC	
												320		614	11110	320	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
													1	614	12336	1	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	
													LUMP	614	12420	LUMP		DETOUR SIGNING	
											15			614	12460	15	EACH	WORK ZONE MARKING SIGN	
											20			614	13000	20	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
												60		614	18401	60	DAY	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	5
											2.47			614	22350	2.47	MILE	WORK ZONE EDGE LINE, CLASS III, 642 PAINT	
											220			614	23000	220	FT	WORK ZONE CHANNELIZING LINE, CLASS I	
											110			614	23680	110	FT	WORK ZONE CHANNELIZING LINE, CLASS III, 642 PAINT	
											146			614	26000	146	FT	WORK ZONE STOP LINE, CLASS I	
											73			614	26610	73	FT	WORK ZONE STOP LINE, CLASS III, 642 PAINT	
													20	622	40020	20	FT	PORTABLE CONCRETE BARRIER, 32"	

CALCULATED AAM CHECKED

GENERAL SUMMARY

MAH-680-7.05

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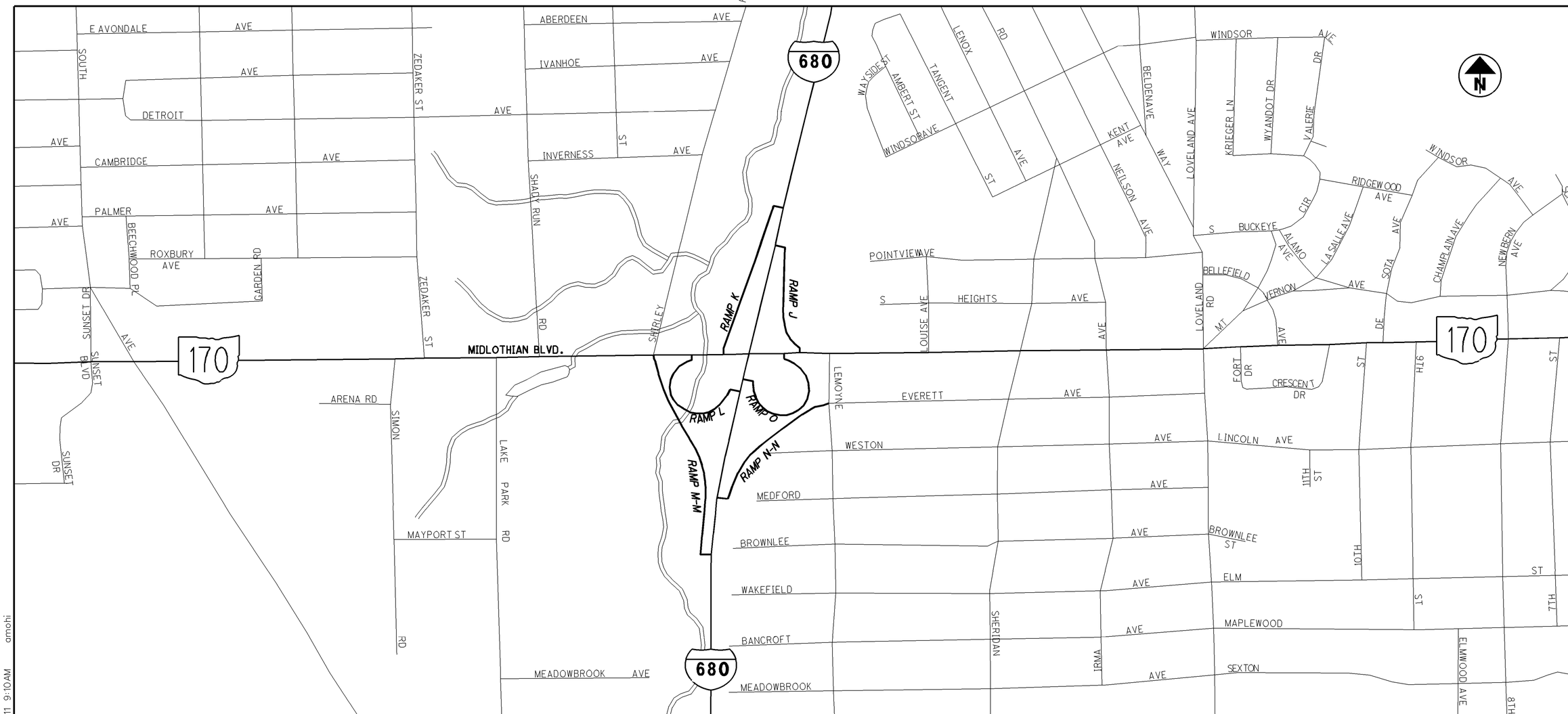

SLM RANGE	TYPICAL SECTION	SIDE	DISTANCE (D)	AVERAGE WIDTH (W)	SURFACE AREA (A) A=DxW/9	CADD GENERATED AREA (GORE AREA)	202 WEARING COURSE REMOVED	254 PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (T=3")	407 TACK COAT, 702.13 @ 0.15 GAL/SY	407 TACK COAT FOR INTERMEDIATE COURSE @ 0.04 GAL/SY	442 ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (446) (T=1 ½")	442 ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE B (446) (T=1 ¾")	617 COMPACTED AGGREGATE, AS PER PLAN
			FT	FT	SQ YD	SQ YD	SQ YD	SQ YD	GALLON	GALLON	CU YD	CU YD	CU YD
RAMP "J"		LT/RT	1300	22	3177.78	66.05	89.74	3243.83	486.57	129.75	135.16	157.69	
RAMP "K"		LT/RT	1663	23	4249.89	226.11	97.44	4476.00	671.40	179.04	186.50	217.58	103.83
RAMP "L"		LT/RT	1300	24	3466.67	42.96	66.67	3509.63	526.44	140.39	146.23	170.61	81.17
RAMP "M-M"		LT/RT	1334	23	3409.11	1819.22	117.95	5228.33	784.25	209.13	217.85	254.16	
RAMP "N-N"		LT/RT	1014	22	2478.67	89.36	117.95	2568.02	385.20	102.72	107.00	124.83	
RAMP "O"		LT/RT	1018	22	2488.44		66.67	2488.44	373.27	99.54	103.69	120.97	
						SUBTOTALS	556.41	21514.26	3227.14	860.57	896.43	1045.83	185.00
						TOTALS CARRIED TO GENERAL SUMMARY	557	21515	3228	861	897	1046	185

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PAVEMENT DETAILS

MAH-680-7.05

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GENERAL SPEC: 640
MATERIAL TYPE:

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PAVEMENT MARKING SUBSUMMARY

CENTER LINE

CTY	ROUTE	TRUE LOG	FROM	TRUE LOG	TO	TOTAL MILES	EQUIVALENT SOLID LINE	COMMENTS
TOTAL								

LANE LINE

CTY	ROUTE	TRUE LOG	FROM	TRUE LOG	TO	TOTAL MILES	4" LANE LINE DASHED	4" LANE LINE SOLID	COMMENTS
TOTAL									

EDGE LINE

CTY	ROUTE	TRUE LOG	FROM	TRUE LOG	TO	WHITE EDGE LINE TOTAL	WHITE EDGE LINE HIGHWAY	WHITE EDGE LINE RAMP	YELLOW EDGE LINE TOTAL	YELLOW EDGE LINE HIGHWAY	YELLOW EDGE LINE RAMP	COMMENTS
MAH	680		MIDLOTHIAN "RAMP J"		MIDLOTHIAN "RAMP J"			0.18			0.17	
MAH	680		MIDLOTHIAN "RAMP K"		MIDLOTHIAN "RAMP K"			0.21			0.21	
MAH	680		MIDLOTHIAN "RAMP O"		MIDLOTHIAN "RAMP O"			0.18			0.19	
MAH	680		MIDLOTHIAN "RAMP L"		MIDLOTHIAN "RAMP L"			0.19			0.19	
MAH	680		LEMOYNE "RAMP N-N"		LEMOYNE "RAMP N-N"			0.20			0.21	
MAH	680		MIDLOTHIAN "RAMP MM"		MIDLOTHIAN "RAMP M-M"			0.27			0.27	
TOTAL								1.23			1.24	

AUXILIARY

CTY	ROUTE LOCATION	TRUE LOG	CHANNEL LINE	STOP LINE	TRANSVERSE DIAGONAL LINES WHITE	TRANSVERSE DIAGONAL LINES YELLOW	CROSS WALK LINES	WORD ON PVMT ONLY 72"	WORD ON PVMT ONLY 96"	LANE ARROWS TURN LEFT	LANE ARROWS TURN RIGHT	LANE ARROWS THRU	LANE ARROWS COMB.	SYMBOL MARKINGS RxR	SYMBOL MARKINGS SCHOOL 72"	SYMBOL MARKINGS SCHOOL 96"	ISLAND MARKING	DOTTED LINES	COMMENTS
			FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	SQ FT	FT	
MAH	I-680@ LEMOYNE RAMP N-N	9.443	110	38						2			2						
MAH	I680@ MIDLOTHIAN RAMP K	9.021		35															
TOTAL			110	73						2			2						

MAH-680-7.05

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LOCATION								621	621	621	621		621	
COUNTY	ROUTE	SECTION (S.L.M.)						RPM, LOW PROFILE, YELLOW/YELLOW	RPM, LOW PROFILE WHITE/RED	RPM, LOW PROFILE, WHITE	RPM, LOW PROFILE YELLOW/RED		RAISED PAVEMENT MARKER REMOVED	REMARKS
		FROM	TO					EACH	EACH	EACH	EACH		EACH	
MAH	680	RAMP J							21		13		27	
MAH	680	RAMP K							22		15		29	
MAH	680	RAMP O							21		14		28	
MAH	680	RAMP L							21		14		28	
MAH	680	RAMP N-N							26		15		32	
MAH	680	RAMP M-M							27		19		36	
TOTALS CARRIED TO GENERAL SUMMARY				0	0	0	0	0	138	0	90	0	180	

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RAISED PAVEMENT MARKER SUBSUMMARY

MAH-680-7.05

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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

BR-2-98 DATED 07-19-02

GR-1.1 DATED 07-16-04

GR-2.1 DATED 01-16-04

GR-3.1 DATED 10-16-09

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

843 DATED 04-18-03

848 DATED 04-16-10

DESIGN SPECIFICATIONS

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

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 - MAH-680-0705 (UNDER SOUTH AVE CR-151)

- REMOVE EXISTING CONCRETE WEARING SURFACE AND REPLACE WITH MICRO-SILICA CONCRETE OVERLAY ON THE DECK AND THE APPROACH SLABS
- REPAIR TOP OF BACKWALLS AT EACH END OF THE STRUCTURE
- INSTALL NEW SEAL IN STRUCTURAL STEEL JOINT ALONG THE CENTERLINE OF THE STRUCTURE
- PATCH ALL UNSOUND AREAS OF THE CONCRETE SUBSTRUCTURE, SIDEWALKS, AND PARAPETS
- REMOVE SPALLED AREAS OF THE BOTTOM DECK FLOOR AND SEAL WITH EPOXY-URETHANE
- REMOVE THE LAST 5 FEET SECTION AT THE NORTHWEST, SOUTHEAST, AND SOUTHWEST END OF THE PARAPET AND CONSTRUCT A NEW PARAPET AND INSTALL NEW BRIDGE TERMINAL ASSEMBLY
- CLEAN EXISTING SUPERSTRUCTURE STEEL
- SEAL ALL EXPOSED CONCRETE SURFACES OF: PARAPETS, ABUTMENTS, BACKWALLS, WING WALLS, PIER CAPS, AND PIERS WITH EPOXY-URETHANE
- CLEARING AND GRUBBING WITHIN 15 FEET OF THE STRUCTURE
- PROVIDE NEW STRUCTURE IDENTIFICATION SIGNS

PROPOSED WORK - MAH-680-0792E (RAMP E OVER DEWEY AVE)

- REMOVE EXISTING CONCRETE OVERLAY AND REPLACE WITH MICRO-SILICA CONCRETE OVERLAY ON THE DECK
- REMOVE EXISTING ASPHALT OVERLAY AND REPLACE WITH MICRO-SILICA CONCRETE OVERLAY ON APPROACH SLABS
- PATCH ALL UNSOUND AREAS OF THE CONCRETE SUBSTRUCTURE, SIDEWALKS, AND PARAPETS
- REMOVE SPALLED AREAS OF THE BOTTOM DECK FLOOR AND SEAL WITH EPOXY-URETHANE
- REMOVE GRAFFITI FROM SUPERSTRUCTURAL STEEL
- REPAIR CONCRETE SLOPE PROTECTION AT REAR ABUTMENT
- REPAIR EROSION AT FORWARD ABUTMENT
- REFURBISH AND RESET EXISTING ABUTMENT BEARINGS
- REMOVE THE LAST 5 FEET SECTION AT THE NORTHWEST END OF THE PARAPET AND CONSTRUCT A NEW PARAPET AND INSTALL A NEW BRIDGE TERMINAL ASSEMBLY
- SEAL ALL EXPOSED CONCRETE SURFACES OF: PARAPETS, ABUTMENTS, BACKWALLS, WING WALLS, PIER CAPS, AND PIERS WITH EPOXY-URETHANE
- CLEARING AND GRUBBING WITHIN 15 FEET OF THE STRUCTURE
- PROVIDE NEW STRUCTURE IDENTIFICATION SIGNS

PROPOSED WORK - MAH-680-0794 (OVER DEWEY AVE CR-533P)

- REMOVE EXISTING CONCRETE OVERLAY AND REPLACE WITH MICRO-SILICA CONCRETE OVERLAY ON THE DECK
- REMOVE EXISTING ASPHALT OVERLAY AND REPLACE WITH MICRO-SILICA CONCRETE OVERLAY ON APPROACH SLABS
- PATCH ALL UNSOUND AREAS OF THE CONCRETE SUBSTRUCTURE, MEDIAN, AND PARAPETS
- REMOVE SPALLED AREAS OF THE BOTTOM DECK FLOOR AND SEAL WITH EPOXY-URETHANE
- REMOVE GRAFFITI FROM SUPERSTRUCTURAL STEEL
- SEAL ALL EXPOSED CONCRETE SURFACES OF: PARAPETS, ABUTMENTS, BACKWALLS, WING WALLS, PIER CAPS, AND PIERS WITH EPOXY-URETHANE
- CLEARING AND GRUBBING WITHIN 15 FEET OF THE STRUCTURE
- PROVIDE NEW STRUCTURE IDENTIFICATION SIGNS

PROPOSED WORK - MAH-680-1073L (OVER MATHEWS RD CR-102)

- REMOVE EXISTING CONCRETE OVERLAY AND REPLACE WITH MICRO-SILICA CONCRETE OVERLAY ON THE DECK
- REMOVE EXISTING ASPHALT OVERLAY AND REPLACE WITH MICRO-SILICA CONCRETE OVERLAY ON APPROACH SLABS
- REPAIR TOP OF BACKWALLS AT EACH END OF THE STRUCTURE
- PATCH ALL UNSOUND AREAS OF THE CONCRETE SUBSTRUCTURE, AND PARAPETS
- REMOVE SPALLED AREAS OF THE BOTTOM DECK FLOOR AND SEAL WITH EPOXY-URETHANE
- REPAIR CONCRETE SLOPE PROTECTION
- SEAL ALL EXPOSED CONCRETE SURFACES OF: PARAPETS, ABUTMENTS, BACKWALLS, WING WALLS, PIER CAPS, AND PIERS WITH EPOXY-URETHANE
- CLEARING AND GRUBBING WITHIN 15 FEET OF THE STRUCTURE
- PROVIDE NEW STRUCTURE IDENTIFICATION SIGNS

PROPOSED WORK - MAH-680-1073R (OVER MATHEWS RD CR-102)

- REMOVE EXISTING CONCRETE OVERLAY AND REPLACE WITH MICRO-SILICA CONCRETE OVERLAY ON THE DECK
- REMOVE EXISTING ASPHALT OVERLAY AND REPLACE WITH MICRO-SILICA CONCRETE OVERLAY ON APPROACH SLABS
- REPAIR TOP OF BACKWALLS AT EACH END OF THE STRUCTURE
- PATCH ALL UNSOUND AREAS OF THE CONCRETE SUBSTRUCTURE, AND PARAPETS
- REMOVE SPALLED AREAS OF THE BOTTOM DECK FLOOR AND SEAL WITH EPOXY-URETHANE
- RE-WELD ALL BROKEN WELDS OF THE END CROSSFRAMES
- REFURBISH AND RESET EXISTING ABUTMENT BEARINGS
- REPAIR CONCRETE SLOPE PROTECTION
- SEAL ALL EXPOSED CONCRETE SURFACES OF: PARAPETS, ABUTMENTS, BACKWALLS, WING WALLS, PIER CAPS, AND PIERS WITH EPOXY-URETHANE
- CLEARING AND GRUBBING WITHIN 15 FEET OF THE STRUCTURE
- PROVIDE NEW STRUCTURE IDENTIFICATION SIGNS

ITEM 201, CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

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

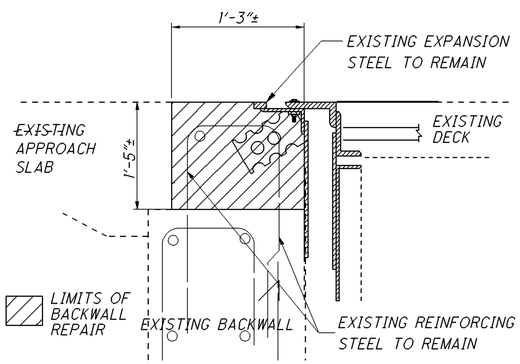
IN ADDITION TO THE PROVISIONS OF ITEM 509, FIELD BEND AND/OR FIELD CUT THE REINFORCING STEEL DESIGNATED IN THE PLANS, AS NECESSARY, IN ORDER TO MAINTAIN THE REQUIRED CLEARANCES AND BAR SPACINGS. REPAIR ALL DAMAGE TO THE EPOXY COATING, AS A RESULT OF THIS WORK, ACCORDING TO 709.00.

ITEM 511- CONCRETE MISC.: BACKWALL REPAIR

THIS ITEM CONSISTS OF THE REMOVAL OF ALL UNSOUND CONCRETE OF STRUCTURES MAH-680-0705, MAH-680-1073L & R TOP OF BACKWALLS AT BOTH ENDS TO THE LIMITS SHOWN BELOW OR AS DIRECTED BY THE ENGINEER. THE PREPARATION OF THE SURFACE, FORMS, TEMPORARY SUPPORTS OF THE EXPANSION JOINT AND PROVIDING AND PLACING OF MICRO SILICA MODIFIED CONCRETE, AS PER SS848.

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

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



ITEM 513 - STRUCTURAL STEEL MISC., REPAIR OF BROKEN SECONDARY MEMBER WELDS, FILLET WELDING:

INSPECT ALL END CROSSFRAMES FOR BROKEN WELDS AND REPAIR AREAS AS DIRECTED BY THE ENGINEER. PREPARE THE DAMAGED MATERIAL FOR WELDING AND PERFORM 5/16 INCH FILLET WELDS ACCORDING TO ITEM 513 USING APPROVED ELECTRODES, PROCEDURES, AND WELDERS. MAGNETIC PARTICLE INSPECT ALL FILLET WELDS ACCORDING TO C&MS 513.25B. THE ENGINEER MAY OBTAIN TECHNICAL ASSISTANCE FROM THE OFFICE OF MATERIALS MANAGEMENT. THE DEPARTMENT WILL INCLUDE ALL MATERIALS, TOOLS, LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK FOR PAYMENT WITH ITEM 513 - STRUCTURAL STEEL MISC., REPAIR OF BROKEN SECONDARY MEMBER WELDS: FILLET WELDING. FOOT.

ITEM SPEC - CONTINUOUS SEAL IN STRUCTURAL STEEL JOINT, 3/4".

THIS WORK WILL CONSIST OF THE REMOVAL OF THE EXISTING CONTINUOUS SEAL AND INSTALLING A NEW LONGITUDINAL JOINT SEAL ALONG THE ENTIRE LENGTH OF STRUCTURE MAH-680-0705 FROM EXPANSION JOINT TO EXPANSION JOINT AT THE CENTERLINE. THE CONTINUOUS SEAL WILL BE A Wabo® Evazote UV AS PER Watson Bowman Acme, 95 PINEVIEW DRIVE, AMHERST, NY 14228, (716) 691-7566 OR APPROVED EQUAL.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR THE MEASURED LENGTH IN FEET FOR ITEM SPEC - CONTINUOUS SEAL IN STRUCTURAL STEEL JOINT, 3/4". THIS PRICE WILL INCLUDE THE COST OF LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS REQUIRED TO COMPLETE THE JOINT SEAL WORK.

AN ESTIMATED QUANTITY OF 130 FT HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THIS WORK.

ITEM 516 - REFURBISHING BEARING DEVICES, AS PER PLAN

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

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

THIS WORK CONSISTS OF RAISING OR RE-POSITIONING EXISTING STRUCTURES TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS. SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 501.05.

IF, DURING THE JACKING OPERATIONS, CRACKING OF THE CONCRETE SUPERSTRUCTURE, SEPARATION OF THE CONCRETE DECK FROM THE STEEL STRINGERS, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER.
ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. EPOXY INJECT ALL BEAMS THAT SEPARATE FROM THE DECK FOR THE DISTANCE OF THE SEPARATION IN ACCORDANCE WITH CMS 512.07. THE DEPARTMENT WILL NOT PAY FOR THE COST OF THIS EPOXY INJECTION OR OTHER REQUIRED REPAIRS. THE BRIDGE BEARINGS SHALL BE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON BEARINGS.

THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A "W-BEAM RAIL SPLICE" AS SHOWN IN AASHTO M 180. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

CONCRETE PARAPET RETROFIT

REMOVE AND REPLACE 5 FEET SECTIONS OF PARAPET ON STRUCTURES MAH-680-0705 AT THE NORTHWEST, SOUTHEAST, AND SOUTHWEST AND MAH-680-0792E AT THE NORTHWEST TO BRING UP TO STANDARD AS PER STANDARD DRAWING BR-2-98.

REMOVAL OF THE 5 FEET SECTIONS OF THE EXISTING END OF PARAPET WILL BE PAID UNDER ITEM 202, PORTION OF STRUCTURE REMOVED, AS PER PLAN. REPLACE PARAPET PER DETAILS ON SHEET 7 / 8.

THE CONCRETE USED TO CONSTRUCT PARAPET SHALL BE CLASS S CONCRETE AND WILL BE PAID UNDER ITEM 511 CLASS S CONCRETE, BRIDGE DECK (PARAPET).

AFTER COMPLETION OF THE PARAPET CONSTRUCTION, INSTALL A BRIDGE TERMINAL ASSEMBLY AS PER STANDARD DRAWING GR-3.1.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

STRUCTURE MAH-680-0705
- ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, LUMP SUM.
- ITEM 202, GUARDRAIL REMOVED, 93.75 FT.
- ITEM 509, EPOXY COATED REINFORCING STEEL, AS PER PLAN, 594 POUND.
- ITEM 510, DOWEL HOLES WITH NONSHRINK, NONMETALLIC NONMETALLIC GROUT, 78 EACH.
- ITEM 511, CLASS S CONCRETE, BRIDGE DECK (PARAPET), 26 CU YD.
- ITEM 606, GUARDRAIL, TYPE 5, 93.75 FT.
- ITEM 606, BRIDGE TERMINAL ASSEMBLY, TYPE 1, 3 EACH.

STRUCTURE MAH-680-0792E
- ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, LUMP SUM.
- ITEM 202, GUARDRAIL REMOVED, 31.25 FT.
- ITEM 509, EPOXY COATED REINFORCING STEEL, AS PER PLAN, 198 POUND.
- ITEM 510, DOWEL HOLES WITH NONSHRINK, NONMETALLIC NONMETALLIC GROUT, 26 EACH.
- ITEM 511, CLASS S CONCRETE, BRIDGE DECK (PARAPET), 9 CU YD.
- ITEM 606, GUARDRAIL, TYPE 5, 31.25 FT.
- ITEM 606, BRIDGE TERMINAL ASSEMBLY, TYPE 1, 1 EACH.

SPECIAL - STRUCTURE MISC.: CONCRETE SPALL REMOVAL

THIS WORK WILL CONSIST OF REMOVING ALL VISIBLY SPALLED AREAS OF THE DECK FLOOR OF STRUCTURES MAH-680-0705, MAH-680-0792E, MAH-680-0794, MAH-680-1073L, AND MAH-680-1073R WITHOUT SOUNDING.
AFTER SPALLED CONCRETE AREAS HAVE BEEN REMOVED SEAL WITH ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).

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

ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN

PRIOR TO THE SURFACE CLEANING SPECIFIED IN 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.

SPECIAL - STRUCTURE MISC.: STRUCTURE CLEANING

THIS WORK WILL CONSIST OF CLEANING THE BEAMS/GIRDERS AND BEARINGS OF STRUCTURES MAH-680-0705 AS PER CMS 514.14. ALSO, ALL DIRT AND DEBRIS FROM THE ABUTMENTS, BEAM SEATS, AND PIER CAPS WILL BE REMOVED AND WASHED WITH POTABLE WATER.

STRUCTURE CLEANING WILL BE PAID FOR AT THE LUMP SUM BID FOR SPECIAL, STRUCTURE MISC.: STRUCTURE CLEANING. THIS PRICE WILL INCLUDE THE COST FOR LABOR, EQUIPMENT, AND ALL INCIDENTALS REQUIRED TO COMPLETE THIS WORK.

SPECIAL - STRUCTURE MISC.: REMOVE GRAFFITI FROM SUPERSTRUCTURAL STEEL

THIS WORK WILL CONSIST OF POWER WASHING WITH SOAP TO REMOVE ALL GRAFFITI FROM SUPERSTRUCTURAL STEEL OF STRUCTURES MAH-680-0794 AND MAH-680-0792E.

GRAFFITI REMOVAL WILL BE PAID FOR AT THE LUMP SUM BID FOR SPECIAL - STRUCTURE MISC.: REMOVE GRAFFITI FROM SUPERSTRUCTURAL STEEL. THIS PRICE WILL INCLUDE THE COST FOR LABOR, EQUIPMENT, AND ALL INCIDENTALS REQUIRED TO COMPLETE THIS WORK.

ITEM 601 - CONCRETE SLOPE PROTECTION REPAIR

THIS WORK WILL CONSIST OF REPAIRING THE CONCRETE SLOPE PROTECTION UNDER STRUCTURE(S) MAH-680-0792E, MAH-680-1073L, AND MAH-680-1073R WITH ITEM 613, LOW STRENGTH MORTAR BACKFILL AND ITEM 601, CONCRETE SLOPE PROTECTION.

PLACE THE LOW STRENGTH MORTAR BACKFILL TO FILL ALL EROSION UNDER THE OLD CONCRETE SLOPE PROTECTION AND THEN PLACE NEW CONCRETE SLOPE PROTECTION SLABS AS DIRECTED BY THE PROJECT ENGINEER.

CONCRETE SLOPE PROTECTION REPAIR WILL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM 601 - CONCRETE SLOPE PROTECTION AND ITEM 613, LOW STRENGTH MORTAR BACKFILL. THE PRICE FOR EACH ITEM WILL INCLUDE THE COST OF LABOR, EQUIPMENT, AND ALL INCIDENTALS REQUIRED TO COMPLETE THIS WORK.

ITEM 601, DUMPED ROCK FILL, TYPE B

THIS ITEM WILL BE USED AS DIRECTED BY THE ENGINEER TO REPAIR EROSION AT THE FORWARD SLOPE UNDER STRUCTURE MAH-680-0792E.

EROSION REPAIR WILL BE PAID FOR IN CUBIC YARDS AT THE UNIT BID PRICE UNDER ITEM 601, DUMPED ROCK FILL, TYPE B. THE PRICE WILL INCLUDE THE COST OF LABOR, EQUIPMENT, AND ALL INCIDENTALS REQUIRED TO COMPLETE THIS WORK.

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
ITEM 848 - EXISTING CONCRETE OVERLAY REMOVED, AS PER PLAN
ITEM 848 - WEARING COURSE REMOVED, ASPHALT, 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.

CONCRETE TABLE
QUANTITIES PER CUBIC YARD
AGGREGATES (SSD)

AGG TYPE	FINE AGG (LB)	#8 COARSE AGG (LB) *	AGG TOTAL (LB) *	CEMENT CONTENT (LB)	MICRO SILICA (LB)	WATER TO CEMENT-ITIOUS RATIO	AIR CONTENT +/-2%	FIBER (1 1/4" POLYPROPY-LENE) (LB) **
GRAVEL	1410	1430	2840	600	50	0.4	8	1
LIME-STONE	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 ¼" 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 511.17 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.

CORRECTING BRIDGE IDENTIFICATION SIGN NUMBERS:

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

STRUCTURE MAH-680-0792E (SFN:5007348) THE EXISTING SIGN SHOWS 0792. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 0792 E.

STRUCTURE MAH-680-1073L (SFN:5007712) THE EXISTING SIGN SHOWS 1075. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 1073 L.

STRUCTURE MAH-680-1073R (SFN:5007720) THE EXISTING SIGN SHOWS 1075. THE CORRECT BRIDGE IDENTIFICATION NUMBER IS 1073 R.

OBJECT MARKERS AND STRUCTURE IDENTIFICATION SIGNS

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

STRUCTURE IDENTIFICATION SIGNS (I-H25a) WILL BE INSTALLED ON THE SAME POST AND DIRECTLY BELOW THE OBJECT MARKER OFF THE RIGHT SHOULDER ON EACH APPROACH. A QUANTITY OF ONE SIGN WILL BE INSTALLED AT EACH APPROACH. THE SIGNS WILL HAVE A NON-REFLECTIVE WHITE SHEETING BACKGROUND.

INSTALL SIGNS FOR THE FOLLOWING STRUCTURES:
MAH-680-0794 (2 APPROACHES)
MAH-680-1073L (1 APPROACHES)
MAH-680-1073R (1 APPROACHES)

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED FOR EACH APPROACH:
- ITEM 630 - SIGN, FLAT SHEET, 730.20, 1 SQ FT
- ITEM 630 - SIGN, FLAT SHEET, 6 SQ FT
- ITEM 630 - GROUND MOUNTED SUPPORT, NO. 2 POST, 21 FT
- ITEM 630 - REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL, 3 EACH
- ITEM 630 - REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL, 2 EACH

STRUCTURE IDENTIFICATION SIGNS

STRUCTURE IDENTIFICATION SIGNS (I-H25a) WILL BE PLACED ON EACH APPROACH OFF THE RIGHT SHOULDER, FACING TRAFFIC, AND BEHIND THE GUARDRAIL IF APPLICABLE. A QUANTITY OF ONE SIGN PER APPROACH WILL BE INSTALLED. THE SIGNS WILL HAVE A NON-REFLECTIVE WHITE SHEETING BACKGROUND.

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

INSTALL SIGNS FOR THE FOLLOWING STRUCTURES:
MAH-680-0705 (2 APPROACHES BELOW ON SR680)
MAH-680-0792E (1 APPROACH ABOVE ON SR680 RAMP E)

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED FOR EACH APPROACH:
- ITEM 630 - SIGN, FLAT SHEET, 730.20, 1 SQ FT
- ITEM 630 - GROUND MOUNTED SUPPORT, NO. 2 POST, 7.5 FT
- ITEM 630 - REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL, 1 EACH
- ITEM 630 - REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL, 1 EACH

CALC:	AAM	DATE:	7/26/2011
CHECKED:	LMP	DATE:	7/26/2011

ESTIMATED QUANTITIES

BRIDGE NO. / STRUCTURE FILE NO.						ITEM	EXTENSION	UNIT	DESCRIPTION	SEE SHEET
MAH-680-0705 SFN 5003350	MAH-680-0792E SFN 5007348	MAH-680-0794 SFN 5007380	MAH-680-1073L SFN 5007712	MAH-680-1073R SFN 5007720						
LUMP	LUMP	LUMP	LUMP	LUMP		201	11000		CLEARING AND GRUBBING	
LUMP	LUMP					202	11201		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	1 / 8
	78		150	20		202	32800	SQ YD	CONCRETE SLOPE PROTECTION REMOVED	
93.75	31.25					202	38000	FT	GUARDRAIL REMOVED	
50			50	50		509	20001	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	1 / 8
594	198					509	10001	POUND	EPOXY COATED REINFORCING STEEL, AS PER PLAN	1 / 8
78	26					510	10000	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
26	9					511	34436	CU YD	CLASS S CONCRETE, BRIDGE DECK (PARAPET)	
8			5	5		511	71100	CU YD	CONCRETE, MISC.:BACKWALL REPAIR	2 / 8
1750	1233	1313	570	569		512	10100	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
						512	10400	SQ YD	TREATING OF CONCRETE BRIDGE DECK WITH SRS	
						512	33010	SQ YD	TYPE 3 WATERPROOFING	
1650	962	1238	520	519		512	74000	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	
				33		513	95000	FT	STRUCTURAL STEEL, MISC.: REPAIR OF BROKEN SECONDARY MEMBER WELDS: FILLET WELDING	2 / 8
130						SPEC	51614110	FT	CONTINUOUS SEAL IN STRUCTURAL STEEL JOINT , ¾"	2 / 8
	10			14		516	45305	EACH	REFURBISH BEARING DEVICE, AS PER PLAN	2 / 8
	LUMP			LUMP		516	47001		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	2 / 8
15	5					517	75121	FT	RAILING (CONCRETE PARAPET WITH TWIN STEEL TUBE RAILING), AS PER PLAN	2 / 8
500	500	500	500	500		519	11101	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN	3 / 8
LUMP	LUMP	LUMP	LUMP	LUMP		SPEC	53000200		STRUCTURE, MISC.: CONCRETE SPALL REMOVAL	2 / 8
LUMP						SPEC	53000200		STRUCTURE, MISC.: STRUCTURE CLEANING	3 / 8
	LUMP	LUMP				SPEC	53000200		STRUCTURE, MISC.: REMOVE GRAFFITI FROM SUPERSTRUCTURAL STEEL	3 / 8
	78		150	20		601	21000	SQ YD	CONCRETE SLOPE PROTECTION	
	300					601	26000	CU YD	DUMPED ROCK FILL, TYPE B	
93.75	31.25					606	13000	FT	GUARDRAIL, TYPE 5	
3	1					606	35000	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
	10		19	3		613	41200	CU YD	LOW STRENGTH MORTAR BACKFILL	
15	7.5	42	21	21		630	02100	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
2	1	2	1	1		630	80100	SQ FT	SIGN, FLAT SHEET, 730.20	
		12	6	6		630	80100	SQ FT	SIGN, FLAT SHEET	
2	2	6	3	3		630	84900	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
2	2	6	3	3		630	86002	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
300	300	300	300	300		843	50000	SQ FT	PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR	
1404						848	10001	SQ YD	MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN (T = 1 ½")	3 / 8
	910	2942	877	877		848	10001	SQ YD	MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN (T = 2")	3 / 8
1404	910	2942	877	877		848	20001	SQ YD	SURFACE PREPARATION USING HYDRO DEMOLITION, AS PER PLAN	3 / 8
36	23	74	22	22		848	30001	CU YD	MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN	3 / 8
43	28	89	27	27		848	50000	SQ YD	HAND CHIPPING	
LUMP	LUMP	LUMP	LUMP	LUMP		848	50100		TEST SLAB	
1	1	1	1	1		848	50201	CU YD	FULL DEPTH REPAIR, AS PER PLAN	3 / 8
	125	526	284	284		848	50301	SQ YD	WEARING COURSE REMOVED, ASPHALT, AS PER PLAN	3 / 8
	786	2416	594	594		848	50321	SQ YD	EXISTING CONCRETE OVERLAY REMOVED, AS PER PLAN	3 / 8
	24	73	18	18		848	50340	SQ YD	REMOVAL OF DEBONDED OR DETERIORATED EXISTING VARIABLE THICKNESS CONCRETE OVERLAY	

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING & ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
AAM	AAM	TJP	09-12-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	

STRUCTURE ESTIMATED QUANTITIES
BRIDGE NO: MAH-680-0705, MAH-680-0792E, MAH-680-0794, MAH-680-1073L, & MAH-680-1073R

MAH-680-7.05
PID No. 22466

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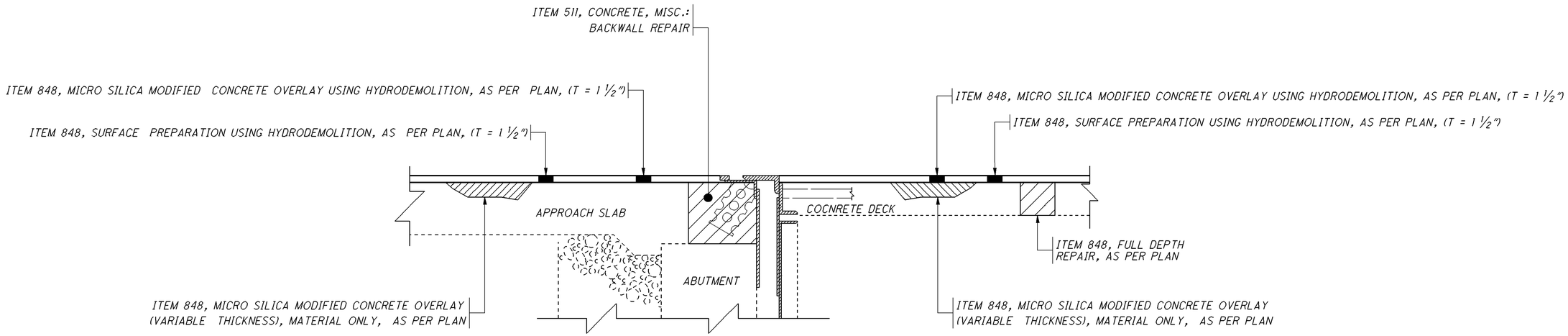

MAH-680-0705

APPROACH PAVEMENT SHOWN, TRAILING PAVEMENT SIMILAR

BRIDGE NUMBER	BRIDGE DECK																APPROACH SLABS									
				511	848	848	848	848	848	848											848	848	848	848		
	LENGTH (BRIDGE LIMITS)	BRIDGE WIDTH	DECK AREA	CONCRETE, MISC.:BACKWALL REPAIR	MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN (T = 1 ½")	SURFACE PREPARATION USING HYDRO DEMOLITION, AS PER PLAN (T = 1 ½")	MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN	HAND CHIPPING	TEST SLAB	FULL DEPTH REPAIR, AS PER PLAN							LENGTH (APPROACH SLABS)	APPROACH SLAB WIDTH	APPROACH SLAB AREA	APPROACH (FORWARD / REAR)	MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN (T = 1 ½")	SURFACE PREPARATION USING HYDRO DEMOLITION, AS PER PLAN (T = 1 ½")	MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN	HAND CHIPPING		
	FT	FT	SQ YD	CU YD	SQ YD	SQ YD	CU YD	SQ YD	LUMP	CU YD							FT	FT	SQ YD		SQ YD	SQ YD	CU YD	SQ YD		
MAH-680-0705	132.58	66.00	972.28	7.76	963.99	963.99	24.10	28.92	LUMP	1.00							30.00	66.00	220.00	FWD	220.00	220.00	5.50	6.60		
																	30.00	66.00	220.00	REAR	220.00	220.00	5.50	6.60		

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING & ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
AAM	AAM	TJP	09-12-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LMP		5003350	

SUPERSTRUCTURE DETAILS
BRIDGE NO.: MAH-68-0705
UNDER SOUTH AVENUE

MAH-680-7.05
PID No. 22466

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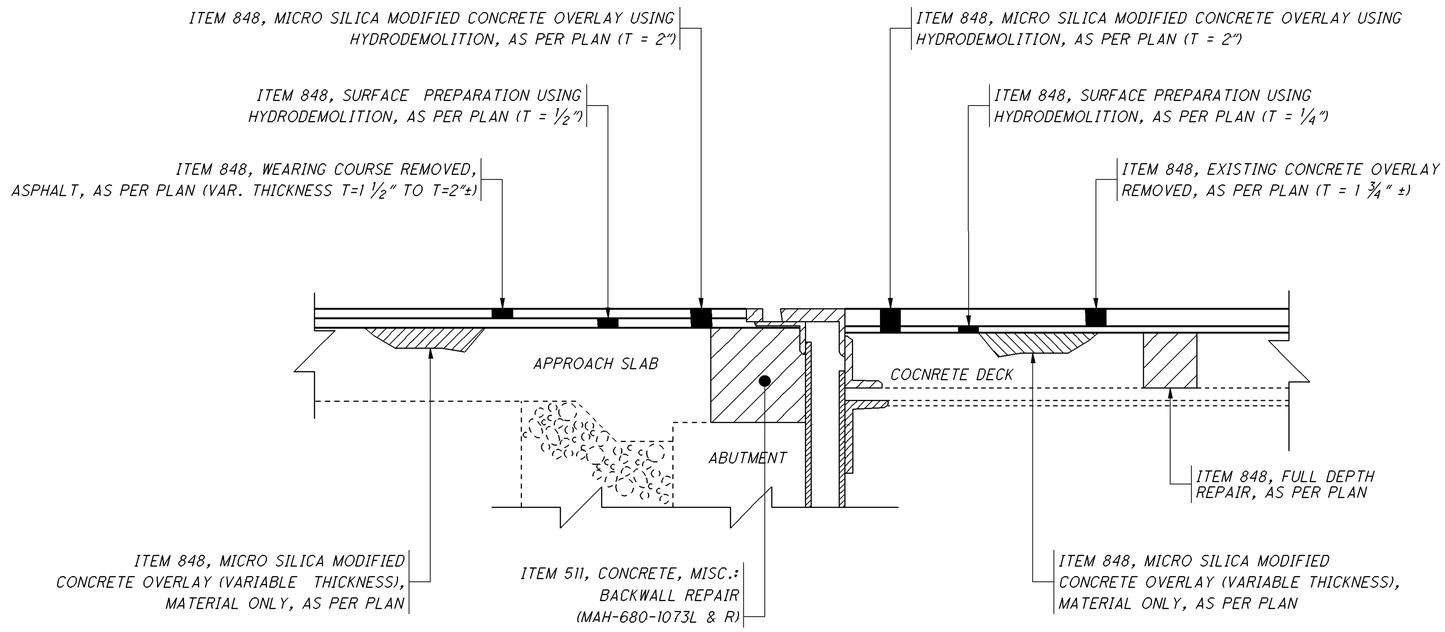

MAH-680-0792E, MAH-680-0794, MAH-680-1073L & R

APPROACH PAVEMENT SHOWN
TRAILING PAVEMENT SIMILAR

BRIDGE NUMBER	BRIDGE DECK																APPROACH SLABS									
	LENGTH (BRIDGE LIMITS)	BRIDGE WIDTH	DECK AREA	511 CONCRETE, MISC.:BACKWALL REPAIR	848 MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN (T = 2")	848 SURFACE PREPARATION USING HYDRO DEMOLITION, AS PER PLAN (T = ¼")	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	848 EXISTING CONCRETE OVERLAY REMOVED, AS PER PLAN (T = 1¾"±)	848 REMOVAL OF DEBONDED OR DETERIORATED EXISTING VARIABLE THICKNESS CONCRETE OVERLAY					LENGTH (APPROACH SLABS)	APPROACH SLAB WIDTH	APPROACH SLAB AREA	APPROACH (FORWARD / REAR)	848 MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN (T = 2")	848 SURFACE PREPARATION USING HYDRO DEMOLITION, AS PER PLAN (T = ½")	848 MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN	848 HAND CHIPPING	848 WEARING COURSE REMOVED, ASPHALT, AS PER PLAN (VAR. T = 1½" TO T=2"±)	
	FT	FT	SQ YD	CU YD	SQ YD	SQ YD	CU YD	SQ YD	LUMP	CU YD	SQ YD	SQ YD					FT	FT	SQ YD		SQ YD	SQ YD	CU YD	SQ YD	SQ YD	
MAH-680-0792E	252.50	28.00	785.56		785.56	785.56	19.64	23.57	LUMP	1.00	785.56	23.57					20.00	28.00	62.22	FWD	62.22	62.22	1.56	1.87	62.22	
																	20.00	28.00	62.22	REAR	62.22	62.22	1.56	1.87	62.22	
MAH-680-0794	183.87	118.25	2415.85		2415.85	2415.85	60.40	72.48	LUMP	1.00	2415.85	72.48					20.00	118.25	262.78	FWD	262.78	262.78	6.57	7.88	262.78	
																	20.00	118.25	262.78	REAR	262.78	262.78	6.57	7.88	262.78	
MAH-680-1073L	104.67	51.00	593.11	4.74	593.11	593.11	14.83	17.79	LUMP	1.00	593.11	17.79					25.00	51.00	141.67	FWD	141.67	141.67	3.54	4.25	141.67	
																	25.00	51.00	141.67	REAR	141.67	141.67	3.54	4.25	141.67	
MAH-680-1073R	104.67	51.00	593.11	4.74	593.11	593.11	14.83	17.79	LUMP	1.00	593.11	17.79					25.00	51.00	141.67	FWD	141.67	141.67	3.54	4.25	141.67	
																	25.00	51.00	141.67	REAR	141.67	141.67	3.54	4.25	141.67	

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING $ ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
AAM	AAM	TJP	09-12-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LMP			

SUPERSTRUCTURE DETAILS

BRIDGE NO.: MAH-680-0792E, MAH-680-0794, MAH-680-1073L & R
SFN NO.: 5007348, 5007380, 5007712, & 5007720

MAH-680-7.05
PID No. 22466

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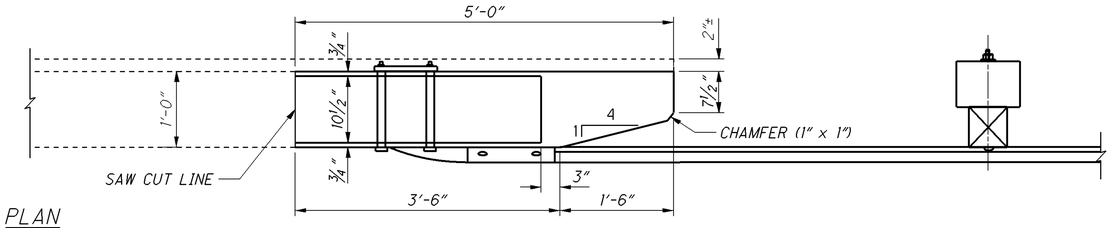
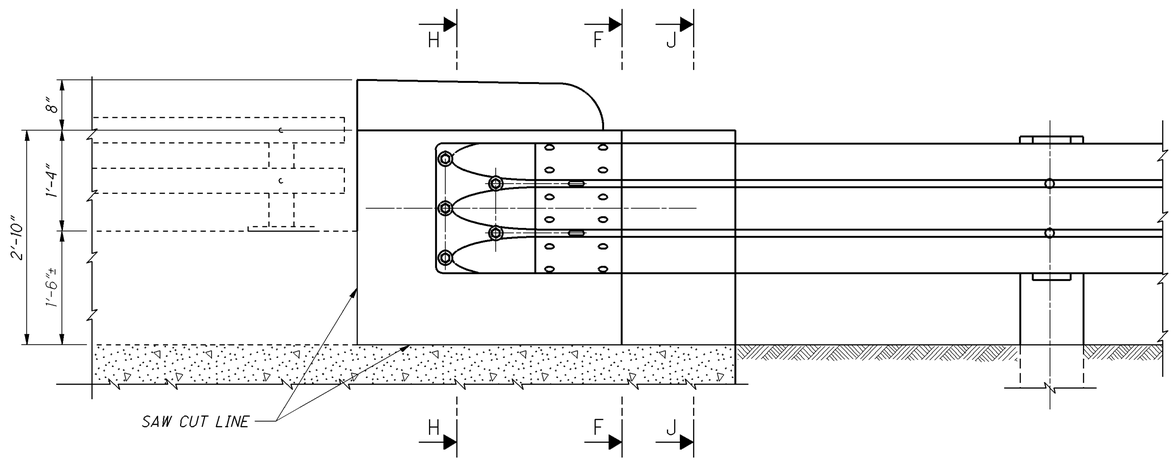
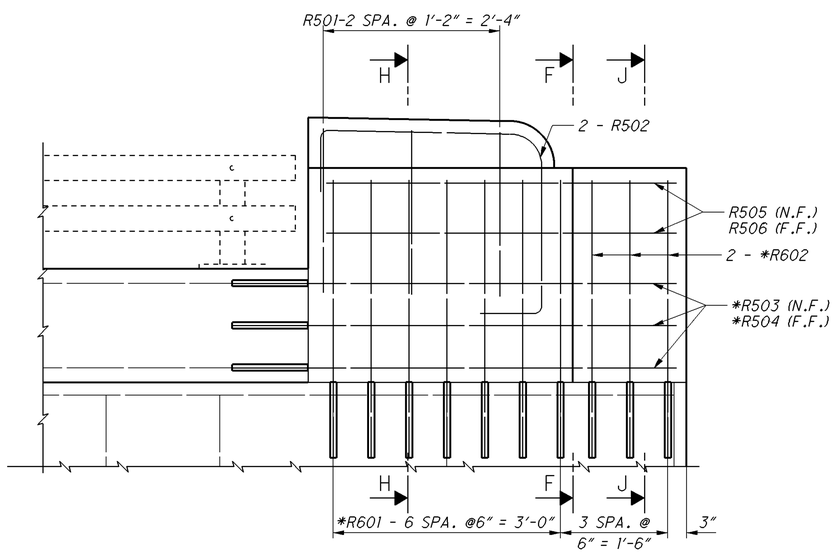


PLAN



ELEVATION (DIMENSIONS)



ELEVATION (REINFORCEMENT) - (RAILING NOT SHOWN)

NOTES:

1. REBAR TABLE IS TYPICAL FOR ONE PARAPET END SECTION
2. ALL REINFORCING CLEARANCES ARE A MINIMUM OF 2"
3. * - DOWEL HOLE WITH NONSHRINK, NONMETALLIC GROUT (12" DEEP, TYPICAL)

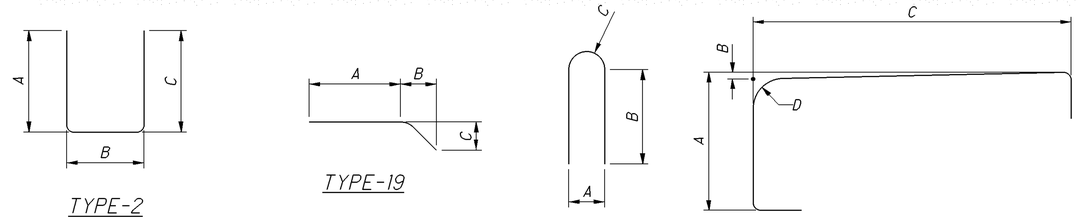
LEGEND:

N.F. - NEAR FACE
F.F. - FAR FACE
(TYP) - TYPICAL
SPA - SPACING

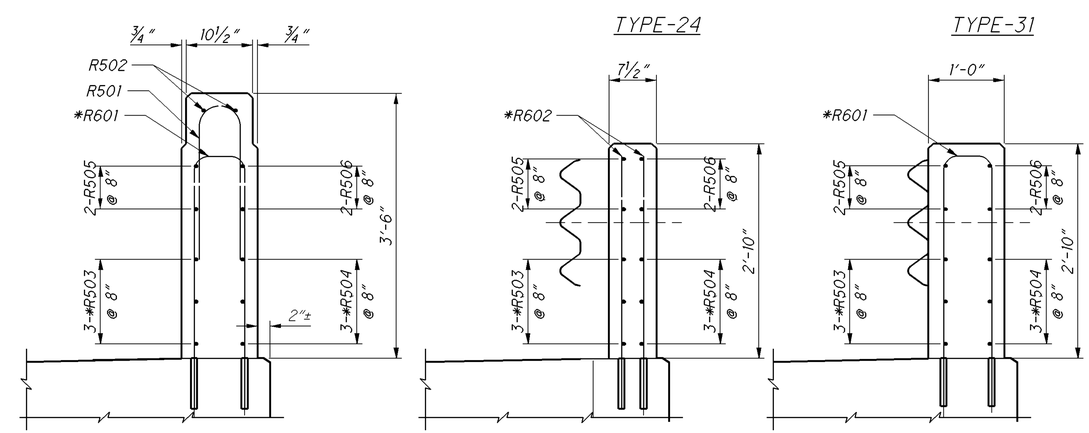
MARK	NUMBER				LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS				
	REAR ABUT	FWD ABUT	SUPER	TOTAL				A	B	C	D	E
R501			3	3	4'-7"	15	24	6 1/2"	1'-10 1/8"	3 1/4"		
R502			2	2	6'-6"	14	31	2'-5"	1"	2'-11"	4 3/8"	
*R503			3	3	5'-10"	19	19	4'-6"	1'-4"	4"		
*R504			3	3	5'-10"	19	STR					
R505			2	2	4'-8"	10	19	3'-2"	1'-4"	4"		
R506			2	2	4'-8"	10	STR					
*R601			7	7	7'-3"	77	2	3'-8"	8"	3'-8"		
*R602			6	6	3'-8"	34	STR					
	SUPERSTRUCTURE SUB-TOTAL				198							

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



TYPE-2 TYPE-19 TYPE-24 TYPE-31



SECTION H-H SECTION J-J SECTION F-F

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

DATE 09-12-11 | REVIEWED TJP | STRUCTURE FILE NUMBER | DRAWN AAM | REVISED | DESIGNED AAM | CHECKED LMP

PARAPET RETROFIT

BRIDGE NO: MAH-680-0705, & MAH-680-0792E
UNDER SOUTH AVE. & OVER DEWEY AVE. (RAMP E)

MAH-680-7.05
PID No. 22466

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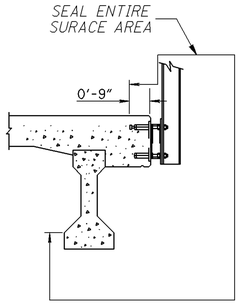
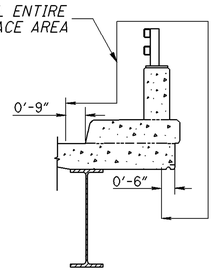
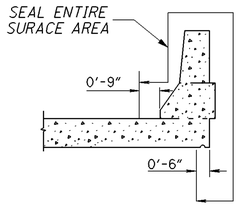


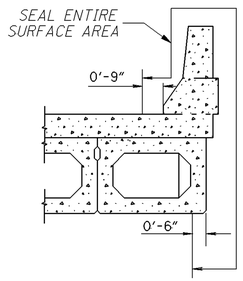
DETAIL A
CONCRETE DECKS WITH
OVER THE SIDE DRAINAGE



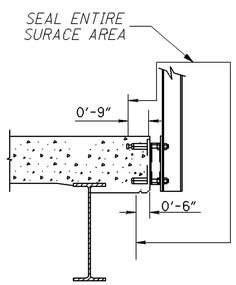
DETAIL B
CONCRETE DECKS WITH CURBS,
SIDEWALKS AND PARAPET



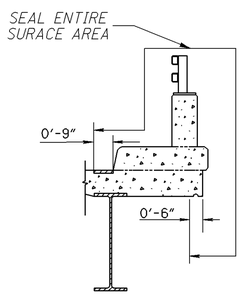
DETAIL C
CONCRETE DECK WITH
DEFLECTOR PARAPET



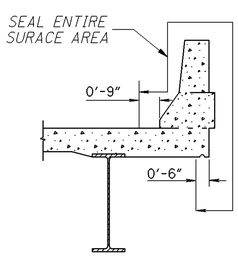
DETAIL D
PRESTRESSED BOX BEAM DECK
WITH DEFLECTOR PARAPET



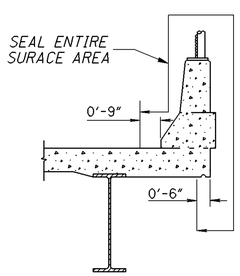
DETAIL E
CONCRETE DECKS WITH
OVER THE SIDE DRAINAGE



DETAIL F
CONCRETE DECKS WITH CURBS,
SIDEWALKS AND PARAPET



DETAIL G
CONCRETE DECK WITH
DEFLECTOR PARAPET



DETAIL K
CONCRETE DECK WITH
DEFLECTOR PARAPET

BRIDGE NUMBER	STRUCTURE TYPE	PROPOSED SEALING	FEDERAL COLOR NUMBER	ESTIMATED QUANTITIES				
				ABUT (SQ YD)	PIER (SQ YD)	SUPER (SQ YD)	GENERAL (SQ YD)	TOTAL (SQ YD)
MAH-680-0705	2 SPAN CONTINUOUS STEEL BEAM	SEAL PARAPETS PER DETAIL F SEAL ALL EXPOSED CONCRETE AT ABUTMENTS SEAL ALL EXPOSED CONCRETE AT PIERS	PER CMS	625	169	856	100	1750
MAH-680-0792E	3 SPAN CONTINUOUS STEEL GIRDER	SEAL PARAPETS PER DETAIL F SEAL ALL EXPOSED CONCRETE AT ABUTMENTS SEAL ALL EXPOSED CONCRETE AT PIERS	PER CMS	99	396	663	75	1233
MAH-680-0794	3 SPAN CONTINUOUS STEEL BEAM	SEAL PARAPETS PER DETAIL G SEAL ALL EXPOSED CONCRETE AT ABUTMENTS SEAL ALL EXPOSED CONCRETE AT PIERS	PER CMS	232	400	606	75	1313
MAH-680-1073L	3 SPAN CONTINUOUS STEEL BEAM	SEAL PARAPETS PER DETAIL G SEAL ALL EXPOSED CONCRETE AT ABUTMENTS SEAL ALL EXPOSED CONCRETE AT PIERS	PER CMS	46	218	256	50	570
MAH-680-1073R	3 SPAN CONTINUOUS STEEL BEAM	SEAL PARAPETS PER DETAIL G SEAL ALL EXPOSED CONCRETE AT ABUTMENTS SEAL ALL EXPOSED CONCRETE AT PIERS	PER CMS	45	218	256	50	569

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

SEALING OF BEAM SEATS

SEALING OF BEAM SEATS: IF THE BEAMS SEATS ARE SEALED WITH AN EPOXY OR NON-EPOXY SEALER PRIOR TO SETTING THE BEARINGS, DO NOT APPLY SEALER TO THE CONCRETE SURFACES UNDER THE PROPOSED BEARING LOCATIONS. IF THESE LOCATIONS ARE SEALED, REMOVE THE SEALER TO THE SATISFACTION OF THE ENGINEER PRIOR TO SETTING THE BEARINGS. THE DEPARTMENT WILL NOT PAY FOR THIS REMOVAL.

DESIGN AGENCY
ODOT --- DISTRCIT 4
PLANNING & ENGINEERING

DESIGNED	DRAWN	REVIEWED	DATE
AAM	AAM	TJP	09-12-11
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LMP			

STRUCTURE GENERAL NOTES
BRIDGE NO: MAH-680-0705, MAH-680-0792E, MAH-680-0794, MAH-680-1073L, & MAH-680-1073R

MAH-680-7.05
PID No. 22466

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SHEET NUMBER														ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
											4	5	6						
																		MIANTENANCE OF TRAFFIC	
												320		614	11110	320	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
													1	614	12336	1	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	
													LUMP	614	12420	LUMP		DETOUR SIGNING	
											15			614	12460	15	EACH	WORK ZONE MARKING SIGN	
											20			614	13000	20	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
												60		614	18401	60	DAY	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	5
											2.47			614	22350	2.47	MILE	WORK ZONE EDGE LINE, CLASS III, 642 PAINT	
											220			614	23000	220	FT	WORK ZONE CHANNELIZING LINE, CLASS I	
											110			614	23680	110	FT	WORK ZONE CHANNELIZING LINE, CLASS III, 642 PAINT	
											146			614	26000	146	FT	WORK ZONE STOP LINE, CLASS I	
											73			614	26610	73	FT	WORK ZONE STOP LINE, CLASS III, 642 PAINT	
													20	622	40020	20	FT	PORTABLE CONCRETE BARRIER, 32"	

SHEET ADDED

REVISED 12/13/2011

CALCULATED AAM CHECKED

GENERAL SUMMARY

MAH-680-7.05

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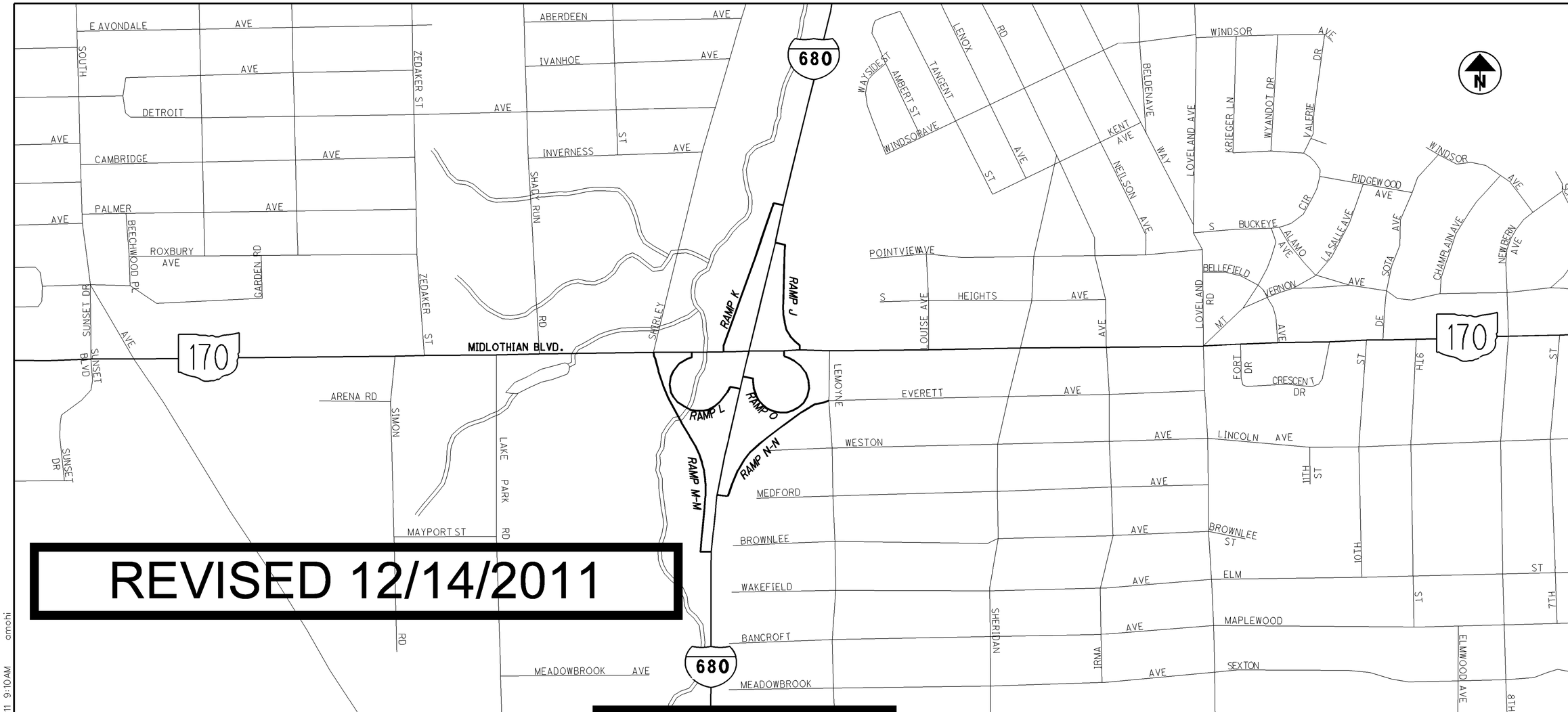

REVISED 12/14/2011

SLM RANGE	TYPICAL SECTION	SIDE	DISTANCE (D)	AVERAGE WIDTH (W)	SURFACE AREA (A) A=DxW/9	CADD GENERATED AREA (GORE AREA)	WEARING COURSE REMOVED	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (T=3")	TACK COAT, 702.13 @ 0.15 GAL/SY	TACK COAT FOR INTERMEDIATE COURSE @ 0.04 GAL/SY	ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (446) (T=1 ½")	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE B (446) (T=1 ¾")	COMPACTED AGGREGATE, AS PER PLAN
							202	254	407	407	442	442	617
			FT	FT	SQ YD	SQ YD	SQ YD	SQ YD	GALLON	GALLON	CU YD	CU YD	CU YD
RAMP "J"		LT/RT	1300	22	3177.78	66.05	89.74	3243.83	486.57	129.75	135.16	157.69	
RAMP "K"		LT/RT	1663	23	4249.89	226.11	97.44	4476.00	671.40	179.04	186.50	217.58	103.83
RAMP "L"		LT/RT	1300	24	3466.67	42.96	66.67	3509.63	526.44	140.39	146.23	170.61	81.17
RAMP "M-M"		LT/RT	1334	23	3409.11	1819.22	117.95	5228.33	784.25	209.13	217.85	254.16	
RAMP "N-N"		LT/RT	1014	22	2478.67	89.36	117.95	2568.02	385.20	102.72	107.00	124.83	
RAMP "O"		LT/RT	1018	22	2488.44		66.67	2488.44	373.27	99.54	103.69	120.97	
SUBTOTALS							556.41	21514.26	3227.14	860.57	896.43	1045.83	185.00
TOTALS CARRIED TO GENERAL SUMMARY							557	21515	3228	861	897	1046	185

CALCULATED AAM
CHECKED LMB

PAVEMENT DETAILS

MAH-680-7.05

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