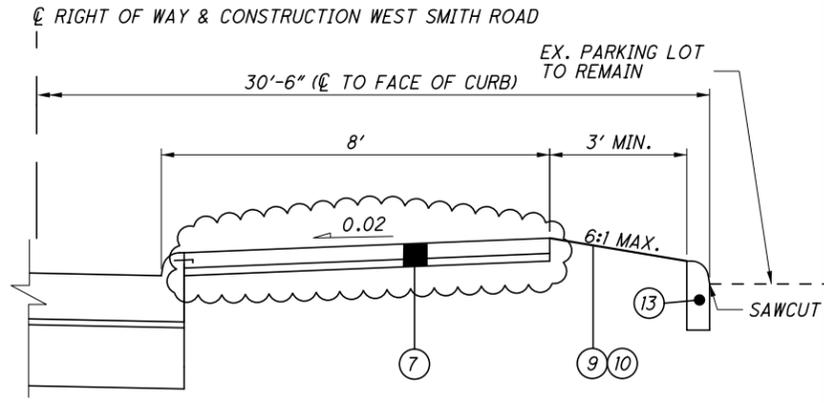


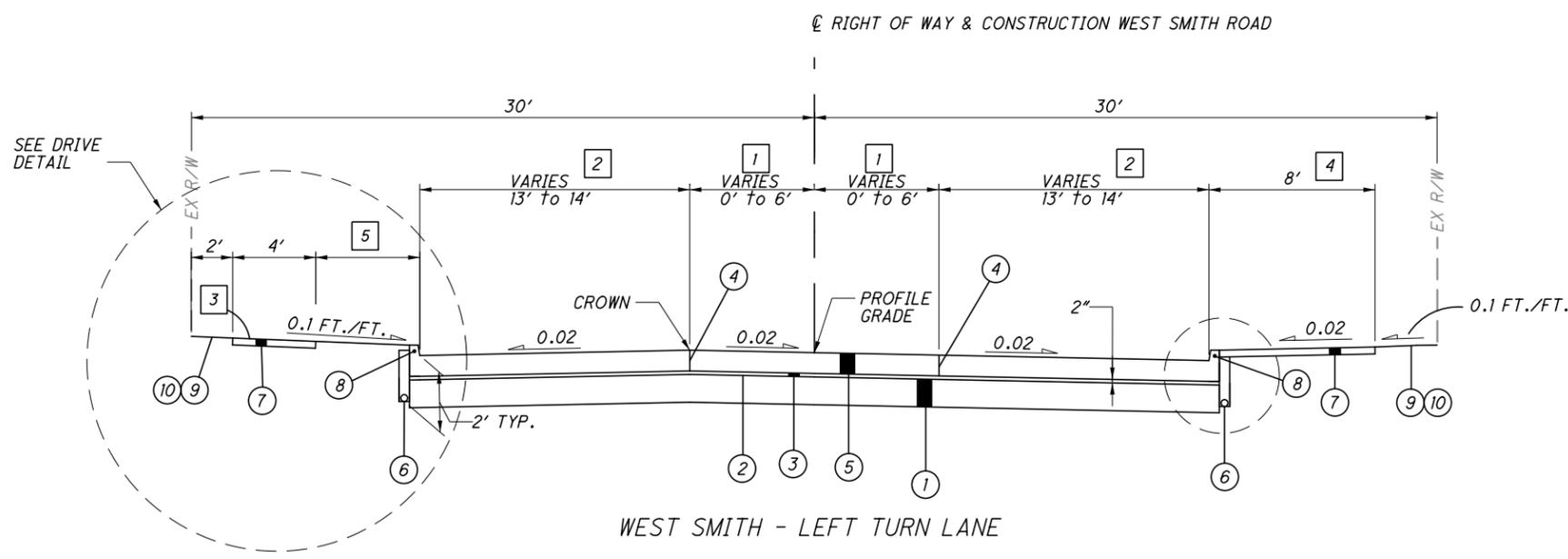
WEST SMITH - NORMAL SECTION

STA. 44+41.55 TO STA. 56+50.00 = 1208.45 FEET

\* CROSS SLOPE TRANSITIONS FROM EXISTING (LEVEL) AT STA 44+41.55 TO NORMAL CROWN (2%) AT STA 45+00.00

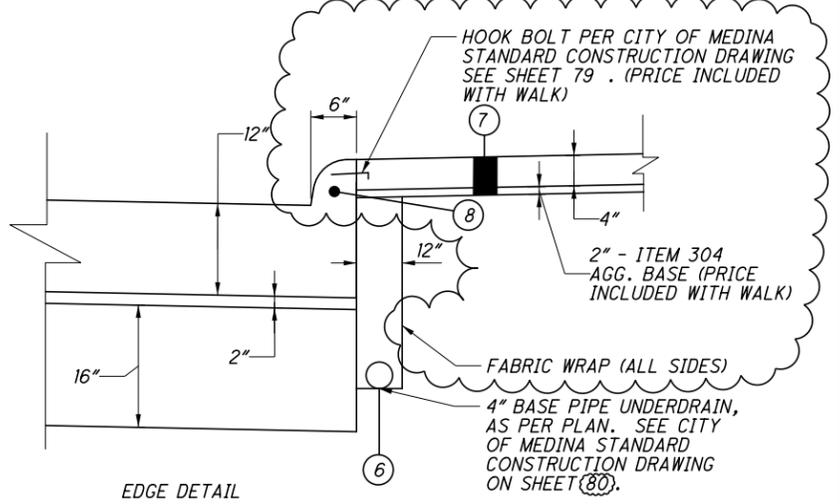


PARKING LOT CURB DETAIL  
FROM STA. 55+96.00 TO STA. 56+52.00  
FROM STA. 57+32.00 TO STA. 58+81.00  
FROM STA. 62+66.00 TO STA. 64+46.00

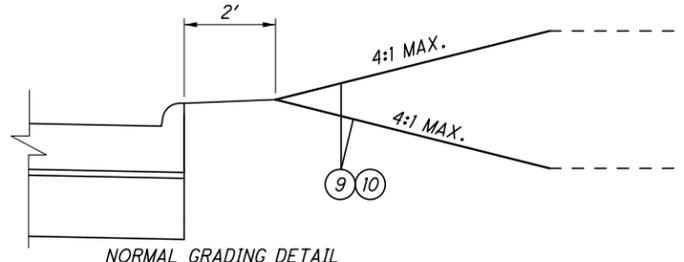


WEST SMITH - LEFT TURN LANE

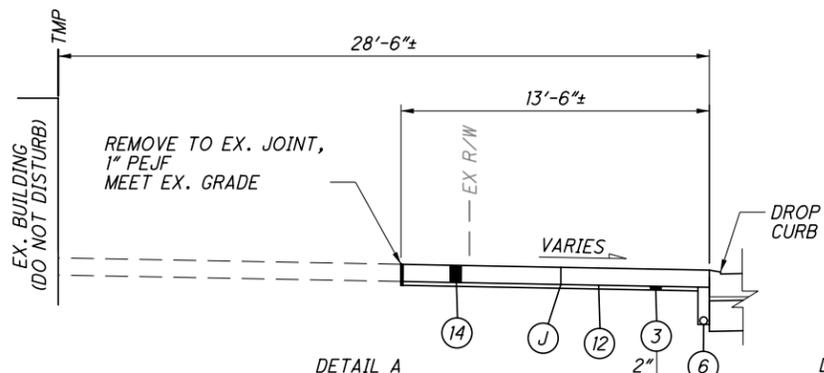
STA. 56+50.00 TO STA. 68+00.00 = 1150.00 FT  
STA. 64+02.00 TO STA. 65+68.43 INTERSECTION AREA - SEE DETAIL SHEET



EDGE DETAIL

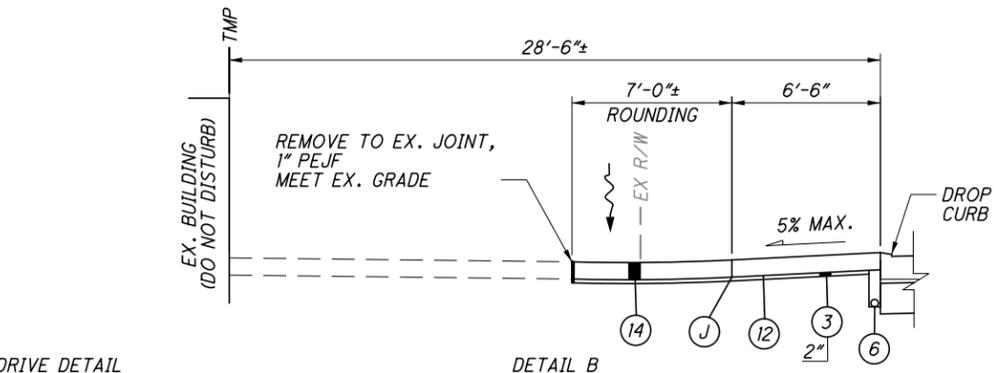


NORMAL GRADING DETAIL



DETAIL A

(TYPICAL DETAIL AT WEST SIDE OF PARCEL 9 DRIVEWAY. THE ELEVATION OF THE BACK OF THE DROP CURB IS LOWER THAN THE EXISTING GROUND.)



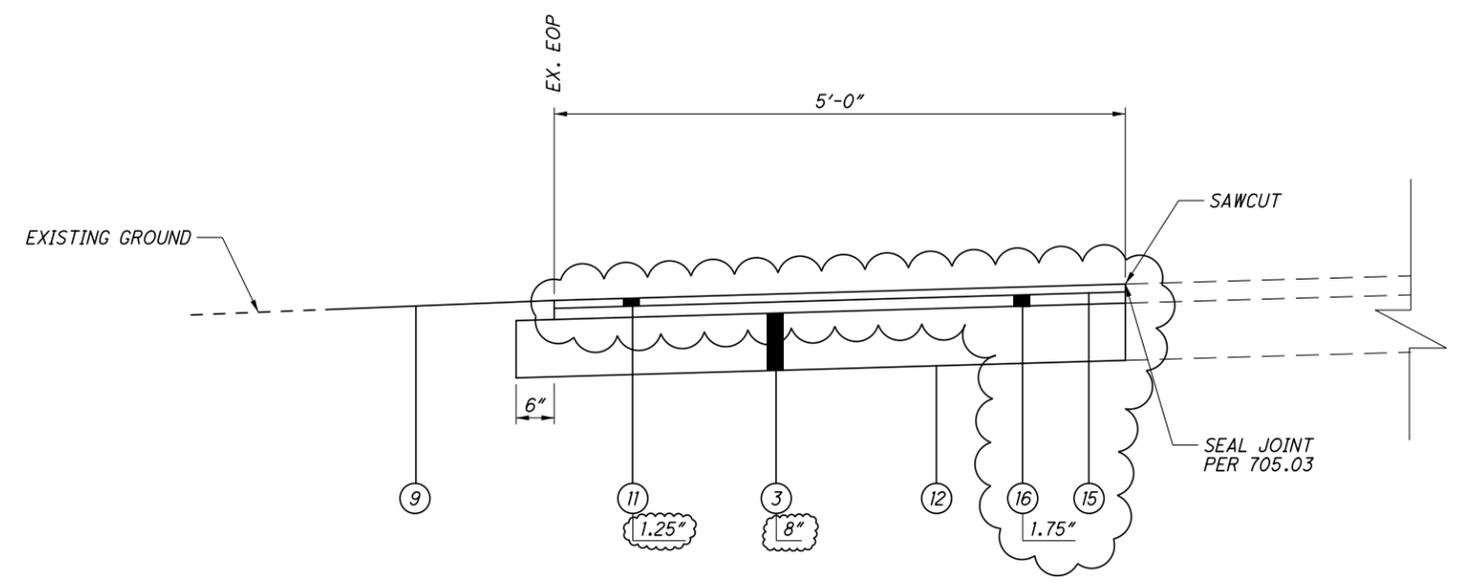
DETAIL B

(TYPICAL DETAIL AT EAST SIDE OF PARCEL 9 DRIVEWAY. THE ELEVATION OF THE BACK OF THE DROP CURB IS HIGHER THAN THE EXISTING GROUND. GRADE SO WATER FLOWS WEST AND THEN TO ROADWAY.)

DRIVE DETAIL  
STA. 62+71 TO STA. 64+34

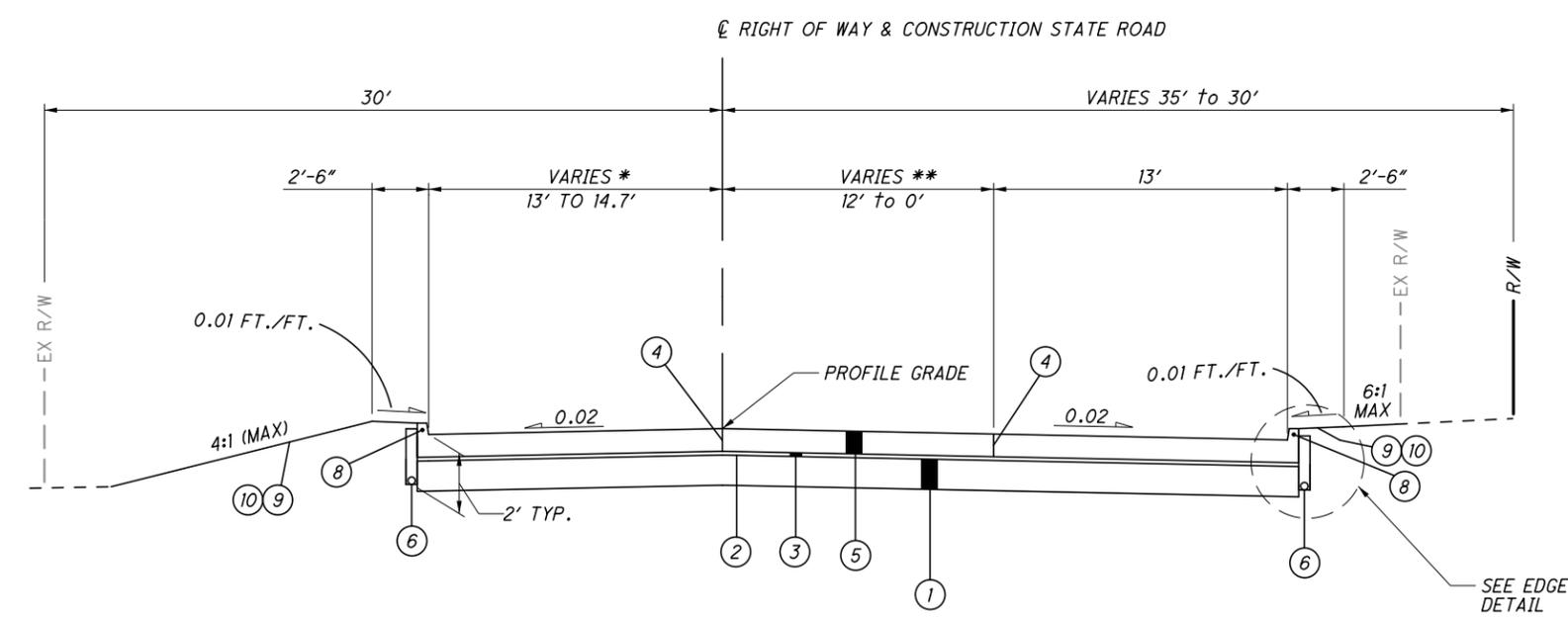
- 1 VARIES 0' TO 6' FROM STA. 56+50.00 TO STA. 59+00.00  
VARIES 6' TO 0' FROM STA. 66+50.00 TO STA. 68+00.00
- 2 VARIES 14' TO 13' FROM STA 56+50.00 TO 59+00.00  
VARIES 13' TO 14' FROM STA 66+50.00 TO STA 68+00.00
- 3 EXISTING 4'-0" SIDEWALK (TO REMAIN) FROM STA. 45+61 TO STA. 50+08;  
SEE CROSS SECTIONS FOR GRADING IN AREAS OF WALK TO REMAIN;  
PROPOSED 4'-0" SIDEWALK FROM STA. 50+08 TO STA. 54+05  
AND STA. 65+50.00 TO STA. 70+70; FOLLOW NORMAL GRADING  
ELSEWHERE
- 4 SIDEWALK BEGINS AT STA. 54+50.00  
SIDEWALK ENDS AT STA. 65+51.00  
EX. SIDEWALK (TO REMAIN) FROM STA. 65+51.00 TO END PROJECT.  
SEE CROSS SECTIONS FOR GRADING IN AREAS OF WALK TO REMAIN.  
FOLLOW NORMAL GRADING ELSEWHERE
- 5 13.5' FROM STA. 45+61 TO STA. 50+33  
VARIES 11' TO 9.5' FROM STA. 50+50 TO STA. 50+83  
9.5' FROM STA. 50+83 TO STA. 50+93  
VARIES 9.5' TO 11' FROM STA. 50+93 TO STA. 51+07  
11' FROM STA. 51+33 TO STA. 54+04 AND STA. 68+00 TO STA. 69+98  
5' FROM STA. 65+50 TO STA. 66+26  
VARIES 6' TO 11' FROM STA. 66+73 TO STA. 68+00

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EDGE REPAIR DETAIL - FAIR ROAD  
(APPLIES FOR LIMITS OF WATERWORK, WEST SIDE SHOWN, MIRROR FOR EAST SIDE)

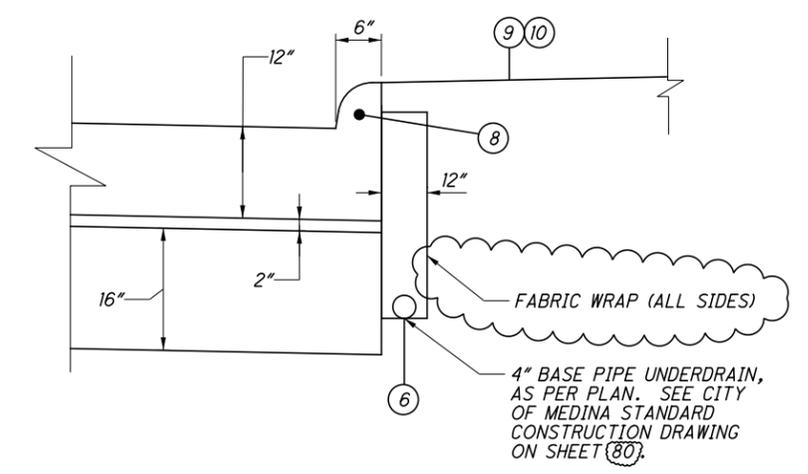
LEGEND	
<b>PROPOSED</b>	
①	ITEM 206 - 16" CEMENT STABILIZED SUBGRADE AND ITEM 206 CEMENT.
②	ITEM 206 - CURING COAT
③	ITEM 304 - 2" AGGREGATE BASE, AS PER PLAN
④	LONGITUDINAL JOINT WITH TIE BARS
⑤	ITEM 451 - 12" REINFORCED CONCRETE PAVEMENT CLASS QC1, AS PER PLAN
⑥	ITEM 605 - 4" BASE PIPE UNDERDRAIN, AS PER PLAN
⑦	ITEM 608 - 4" CONCRETE WALK, AS PER PLAN
⑧	ITEM 609 - CURB, TYPE 2-A
⑨	ITEM 659 - SEEDING AND MULCHING
⑩	ITEM 659 - 3" TOPSOIL
⑪	ITEM 441 - 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS)
⑫	ITEM 204 - SUBGRADE COMPACTION
⑬	ITEM 609 - CURB, TYPE 6
⑭	ITEM 451 - 9" REINFORCED CONCRETE PAVEMENT, CLASS QC MS, AS PER PLAN
⑮	ITEM 407 - TACK COAT, FOR INTERMEDIATE COURSE
⑯	ITEM 441 - 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448), (DRIVEWAYS)
⑰	SAWED JOINT TO BE FIELD LOCATED



STATE ROAD

SECTION APPLIES: STA. 0+00.00 TO STA. 6+30.00 = 630.00 FT  
DEDUCT FOR WEST SMITH INTERSECTION = 52.22 FT  
TOTAL = 577.78 FT

\* VARIES 13' to 14.7' FROM STA. 5+80.00 TO STA. 6+30.00  
\*\* VARIES 12' to 0' FROM STA. 3+45.00 TO STA. 6+30.00



EDGE DETAIL

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**GENERAL**

**UTILITIES**

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

<b>GAS:</b>	<b>CATV:</b>
COLUMBIA GAS OF OHIO ATTN: DAN SUREN 7080 FRY ROAD MIDDLEBURG HEIGHTS, OH 44130 440-891-2428	TIME WARNER CABLE ATTN: DAVID BAKER 1575 LEXINGTON AVENUE MANSFIELD, OH 44901 419-756-6091, EXT 419-555-5109

<b>ELECTRIC:</b>	<b>ARMSTRONG UTILITIES</b>
OHIO EDISON COMPANY ATTN: JEFF HALL 6326 LAKE AVENUE ELYRIA, OH 44035 440-326-3207	ATTN: BRIAN KEITH 1141 LAFAYETTE RD. MEDINA, OH 44256 330-722-3141, EXT 224

<b>OHIO EDISON TRANSMISSION</b>	<b>FRONTIER COMMUNICATIONS</b>
ATTN: CARLOS A. MUNOZ TRANSMISSION DESIGN 6326 LAKE AVENUE ELYRIA, OH 44035 330-384-4835 (825-4835) 330-603-7896 (MOBILE)	ATTN: TONY MCAFEE 6223 NORWALK ROAD MEDINA, OH 44256 330-722-9580

<b>SANITARY:</b>	<b>WATER:</b>
MEDINA SANITARY ENGINEER ATTN: AMY LYON-GALVIN 791 WEST SMITH RD. MEDINA, OH 44256 330-723-9579	CAROLYN ORBAN WATER SERVICE 132 NORTH ELMWOOD AVE. 330-722-9081

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C. AND FROM AVAILABLE RECORDS AND FIELD INVESTIGATION AND ARE NOT NECESSARILY COMPLETE OR EXACT.

THE CONTRACTOR IS RESPONSIBLE FOR THE INVESTIGATION, LOCATION, SUPPORT, PROTECTION, AND RESTORATION OF ALL EXISTING UTILITIES AND APPURTENANCES WHETHER SHOWN ON THESE PLANS OR NOT. THE CONTRACTOR SHALL CALL BOTH THE OHIO UTILITIES PROTECTION SERVICE (1-800-382-2764) AND THE OIL & GAS PRODUCERS PROTECTIVE SERVICE (1-800-925-0988) TWO (2) WORKING DAYS PRIOR TO COMMENCING WORK. NON-MEMBER UTILITY COMPANIES MUST BE CALLED DIRECTLY.

THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES LISTED ABOVE AT LEAST THREE WEEKS PRIOR TO THE BEGINNING OF CONSTRUCTION OPERATIONS ADJACENT TO THEIR FACILITIES. THIS WORK SHALL CONFORM TO ODOT CMS ITEM 107.16 AS THERE ARE EXISTING UNDERGROUND UTILITIES WHICH CROSS THE PROPOSED SEWER WORK AREAS, ALTHOUGH THEIR EXACT LOCATIONS HAVE NOT BEEN DETERMINED, IT IS KNOWN THAT UTILITIES ARE LOCATED WHERE DIGGING IS REQUIRED. THE CONTRACTOR SHALL CONDUCT THE REQUIRED EXCAVATION IN THESE AREAS WITH EXTREME CAUTION.

THE CONTRACTOR SHALL ENSURE THAT ACCESS AND ALL UTILITY SERVICES FOR ALL OCCUPIED BUILDING AND ADJACENT PROPERTIES ARE MAINTAINED.

WHERE PLANS PROVIDE FOR PROPOSED CONDUIT TO BE CONNECTED TO OR CROSS EITHER OVER OR UNDER AN EXISTING UTILITY, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE THE EXISTING UTILITY BOTH AS TO THE LINE AND GRADE, BEFORE HE STARTS TO LAY THE PROPOSED CONDUIT, THERE WILL BE NO EXTRA PAYMENT FOR THE ABOVE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY UTILITY DAMAGED BY HIS CONSTRUCTION, EVEN IF THE UTILITY IS INCORRECTLY LOCATED BY OUPS.

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS HAS BEEN OBTAINED BY DILIGENT FIELD CHECK AND SEARCHES OF AVAILABLE RECORDS. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT THE DESIGN ENGINEER DOES NOT GUARANTEE THEIR ACCURACY OR COMPLETENESS. THE CONTRACTOR IS THEREFORE URGED TO PROCEED WITH CAUTION AND FOLLOW THE PROCEDURE FOR CONTACTING THE OHIO UTILITIES PROTECTION SERVICE PRIOR TO COMMENCING CONSTRUCTION.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES TO THE EXISTING WATER, SEWERAGE, GAS, TELEPHONE, ELECTRIC AND CABLE SYSTEMS RESULTING FROM NON-CONFORMANCE WITH THESE NOTES AND APPLICABLE STANDARDS OR THROUGH GENERAL NEGLIGENCE.

THE COST OF LOCATING AND PROTECTING EXISTING OVERHEAD AND UNDERGROUND UTILITIES AND REPAIRING UTILITIES DAMAGED BY CONSTRUCTION IS INCLUDED IN THE BID PRICE PER LINEAR FOOT OF CONDUIT INSTALLED.

THE UTILITY COMPANY WILL HOLD UTILITY POLES WHILE UNDERGROUND UTILITIES ARE BEING INSTALLED IN CLOSE PROXIMITY (2 FEET OR LESS) TO THE POLES. THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING THIS ACTIVITY WITH THE UTILITY COMPANY. COST FOR THE UTILITY COMPANY TO HOLD ANY POLES WILL BE BORNE BY THE CONTRACTOR.

EXISTING STRUCTURES

THE CONTRACTOR SHALL TAKE SPECIAL CARE IN WORKING AROUND ANY EXISTING STRUCTURES NOT INDICATED TO BE REPLACED OR ADJUSTED. ANY DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE REPAIRED AND OR REPLACED WITH ALL COSTS BORNE BY THE CONTRACTOR.

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.

ITEM 201 CLEARING AND GRUBBING

REMOVE ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED.

SIZES	NO. TREES	NO. STUMPS	TOTAL
18"	9	0	9

ITEM 623 - MONUMENT ASSEMBLY, AS PER PLAN

CONSTRUCT MONUMENT ASSEMBLIES IN ACCORDANCE WITH THE DETAILS SHOWN ON THE CITY OF MEDINA CONSTRUCTION STANDARDS, CS-PVMT-02 SHEET 80 AND AT THE LOCATIONS SHOWN ON SHEET NO. 2.

ITEM 623 MONUMENT ASSEMBLIES, AS PER PLAN 2 EACH

ITEM 204 - PROOF ROLLING

THE FOLLOWING QUANTITY IS PROVIDED IN THE OFFICE CALCULATIONS TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING.

ITEM 204 - PROOF ROLLING 7 HOURS

ADDITIONAL SOIL INFORMATION

SOIL AND/OR STRUCTURE FOUNDATION INVESTIGATION INFORMATION IS AVAILABLE FROM THE CITY.

PROJECT ELEVATION DATUM

PLAN ELEVATIONS ARE BASED ON NAVD88.

(NOTE REMOVED)

DRAINAGE

ITEM 202 PIPE REMOVED, AS PER PLAN

THIS ITEM SHALL MEET ALL THE REQUIREMENTS OF ITEM 202 AND THE FOLLOWING. IN ALL PAVEMENT AREAS WHERE EXISTING CONDUIT IS BEING REMOVED, THE TRENCH SHALL BE BACKFILLED WITH TYPE 304 MATERIAL UP TO THE SUBGRADE ELEVATION.

SANITARY SEWER REPLACEMENT UNDER CULVERT

THE EXISTING 15" SANITARY SEWER SHALL BE REPLACED WITHIN THE LIMITS OF CULVERT UNDERCUT. THE NEW SEWER SHALL BE CONSTRUCTED WITHIN A 30" STEEL CASING PIPE PER THE CASING PIPE DETAILS WITHIN THE WATERWORK PLANS ON SHEET 83. THE NEW 15" SANITARY SEWER PIPE (CMS 707.45) SHALL BE CONNECTED TO THE EXISTING VCP SEWER PIPE USING "FERNCO" TYPE FLEXIBLE COUPLINGS AND ENCASED IN CONCRETE COLLARS PER ODOT STANDARD CONSTRUCTION DRAWING DM-1.1. THE COST FOR FURNISHING, AND CONSTRUCTING THE FLEXIBLE COUPLINGS AND CONCRETE COLLARS SHALL BE INCLUDED IN THE UNIT PRICE OF THE SEWER.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT CONDUIT ITEM.

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE CITY, REPRESENTATIVES OF THE CITY AND THE CONTRACTOR, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCE SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE CITY.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE CITY.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTORS OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT CONDUIT ITEMS.

CALCULATED  
CEL  
CHECKED  
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GENERAL NOTES

WEST SMITH ROAD

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UNRECORDED STORM WATER DRAINAGE

FURNISH A CONTINUANCE FOR ALL UNRECORDED STORM WATER DRAINAGE, SUCH AS ROOF DRAINS, FOOTER DRAINS, OR YARD DRAINS, DISTURBED BY THE WORK. FURNISH EITHER AN OPEN CONTINUANCE OR AN UNOBSTRUCTED CONTINUANCE BY CONNECTING A CONDUIT THROUGH THE CURB OR INTO A DRAINAGE STRUCTURE. THE LOCATION, TYPE, SIZE AND GRADE OF THE NEEDED CONDUIT TO REPLACE OR EXTEND AN EXISTING DRAIN WILL BE DETERMINED BY THE ENGINEER. ALL SUCH CONTINUANCE REQUIRES A RIGHT OF WAY USE PERMIT.

THE FOLLOWING CONDUIT TYPES SHALL BE PER CITY OF MEDINA STANDARD DRAWING CS-STORM-01 ON SHEET 81.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE WORK NOTED ABOVE:

ITEM 611, 6" CONDUIT, TYPE B, FOR DRAINAGE CONNECTION	100 FT.
ITEM 611, 8" CONDUIT, TYPE B, FOR DRAINAGE CONNECTION	100 FT.
ITEM 611, 12" CONDUIT, TYPE B, FOR DRAINAGE CONNECTION	100 FT.
ITEM 611, 6" CONDUIT, TYPE C, FOR DRAINAGE CONNECTION	100 FT.
ITEM 611, 8" CONDUIT, TYPE C, FOR DRAINAGE CONNECTION	100 FT.
ITEM 611, 12" CONDUIT, TYPE C, FOR DRAINAGE CONNECTION	100 FT.

UNRECORDED ACTIVE SANITARY SEWER CONNECTIONS

FURNISH A CONTINUANCE FOR ALL UNRECORDED ACTIVE SANITARY SEWER CONNECTIONS SUCH AS SANITARY, WASTEWATER, CURTAIN/ GRADIENT DRAINS, AND FOUNDATION FLOOR DRAINS DISTURBED BY THE WORK. FURNISH AN UNOBSTRUCTED CONTINUANCE OF THE UNRECORDED ACTIVE SANITARY SEWER CONNECTIONS TO THE SATISFACTION OF THE ENGINEER. ALL SUCH CONTINUANCE REQUIRES A RIGHT OF WAY USE PERMIT. ALL SANITARY AND SANITARY WASTEWATER CONTINUANCE MAY ALSO REQUIRE A NPDES PERMIT FROM THE OHIO ENVIRONMENTAL PROTECTION AGENCY. REPORT ALL CONTINUANCE TO THE LOCAL HEALTH DEPARTMENT.

THE FOLLOWING CONDUIT TYPES MAY BE USED:

SANITARY SEWER PIPE:	SOLID WALL POLYVINYL CHLORIDE
MATERIAL SPECS & SIZES:	4" - 15" ASTM D3034
JOINT SPECS:	ASTM D3212 COMPRESSION TYPE
LATERAL SPECS:	ASTM 3034
MINIMUM PIPE STIFFNESS OR SDR:	SDR 35

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE WORK NOTED ABOVE:

ITEM 611, 4" CONDUIT, TYPE B, FOR SANITARY	100 FT.
ITEM 611, 6" CONDUIT, TYPE B, FOR SANITARY	100 FT.
ITEM 611, 4" CONDUIT, TYPE C, FOR SANITARY	100 FT.
ITEM 611, 6" CONDUIT, TYPE C, FOR SANITARY	100 FT.

EXISTING SANITARY SEWER CONNECTIONS

ACTIVE SANITARY SEWER LATERALS ARE PRESENT WITHIN THE CONSTRUCTION LIMITS OF THIS PROJECT EVERY EFFORT SHALL BE MADE TO AVOID IMPACTS ON THESE SERVICE CONNECTIONS. FOR MORE INFORMATION ON LOCATION OF LATERALS CONTACT THE MEDINA COUNTY SANITARY ENGINEER'S OFFICE.

MANHOLES, CATCH BASINS AND INLETS REMOVED OR ABANDONED

MANHOLES OR BICYCLE FRIENDLY CASTINGS IN GOOD CONDITION AS DETERMINED BY THE ENGINEER SHALL BE CAREFULLY REMOVED AND STORED WITHIN THE RIGHT OF WAY FOR SALVAGE BY CITY FORCES.

PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 202 ITEM.

ITEM SPECIAL - MISCELLANEOUS METAL

EXISTING CASTINGS MAY PROVE TO BE UNSUITABLE FOR REUSE, AS DETERMINED BY THE ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CASTINGS OF THE REQUIRED TYPE, SIZE AND STRENGTH (HEAVY OR LIGHT DUTY) FOR THE PARTICULAR STRUCTURE IN QUESTION. ALL MATERIAL SHALL MEET ITEM 604 OF THE SPECIFICATIONS AND SHALL HAVE THE PRIOR APPROVAL OF THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

ITEM SPECIAL, MISCELLANEOUS METAL	2000 POUNDS
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THE CONTRACTOR IS CAUTIONED TO USE EXTREME CARE IN THE REMOVAL, STORAGE AND REPLACEMENT OF ALL EXISTING CASTINGS. CASTINGS DAMAGED BY THE NEGLIGENCE OF THE CONTRACTOR, AS DETERMINED BY THE ENGINEER, SHALL BE REPLACED WITH THE PROPER NEW CASTINGS AT THE EXPENSE OF THE CONTRACTOR.

ITEM SPECIAL - PIPE CLEANOUT

THIS WORK SHALL CONSIST OF REMOVING SEDIMENT AND DEBRIS FROM THE EXISTING DRAINAGE CONDUITS SPECIFIED IN THE PLANS. ALL MATERIAL REMOVED SHALL BE DISPOSED OF AS PER 105.16 AND 105.17. ALL SEWERS SHALL BE CLEANED OUT TO THE SATISFACTION OF THE ENGINEER.

CLEANOUT OF THE PIPE SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM SPECIAL - PIPE CLEANOUT. THIS PRICE SHALL INCLUDE THE COST FOR MATERIAL, EQUIPMENT, LABOR, AND ALL INCIDENTALS REQUIRED TO COMPLETE THE CLEANOUT.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE ABOVE NOTED WORK:

ITEM SPECIAL, PIPE CLEANOUT	500 FT
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EXISTING UNDERDRAINS

UNDERDRAINS THAT CAN BE CONNECTED TO THE NEW OR EXISTING UNDERDRAINS AT THE END OF THE PROJECT LIMITS AS WELL AS ALL NECESSARY BENDS OR BRANCHES REQUIRED FOR CONNECTION ARE INCLUDED IN THE BASIS OF PAYMENT FOR UNCLASSIFIED PIPE UNDERDRAINS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM 605, 4" UNCLASSIFIED PIPE UNDERDRAINS	100 FT
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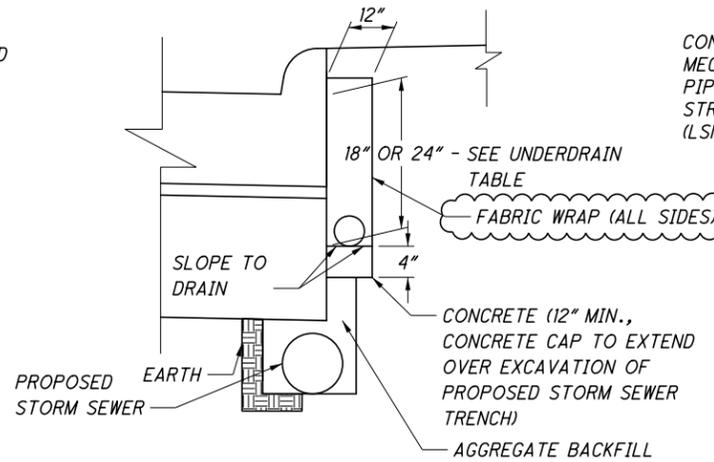
ITEM 605 4" BASE PIPE UNDERDRAINS, AS PER PLAN A

UNDERDRAINS SHALL BE INSTALLED PER THE CITY OF MEDINA STANDARD DRAWING, CS-PVMT-02, ON SHEET 80.

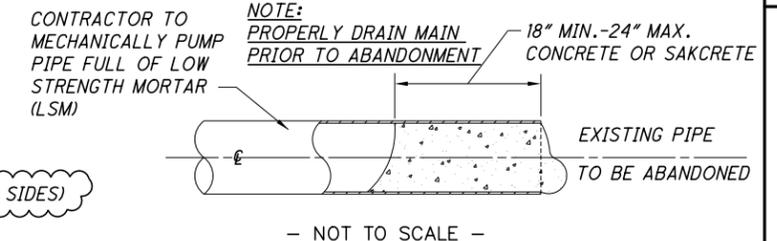
ITEM 605 4" BASE PIPE UNDERDRAINS, AS PER PLAN B

UNDERDRAINS SHALL BE INSTALLED PER THE CITY OF MEDINA STANDARD DRAWING, CS-PVMT-02, ON SHEET 80 WITH THE EXCEPTIONS NOTED IN THE DETAIL BELOW:

SEE UNDERDRAIN TABLE ON SHEET 23.



ITEM 202 ABANDON MISC.: PIPE ABANDON IN PLACE, AS PER PLAN (FILL WITH LOW STRENGTH MORTAR)



ITEM 611 DRAINAGE STRUCTURE, MISC.: STANDARD REINFORCED PRECAST MANHOLE

CITY MANHOLE SHALL BE PER THE CITY OF MEDINA STANDARD DRAWING, CS-STORM-01 ON SHEET 81.

EROSION CONTROL

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDING AREAS:

ITEM 659, TOPSOIL	700 CU. YD.
ITEM 659, SEEDING AND MULCHING	6000 SQ. YD.
ITEM 659, INTER-SEEDING	300 SQ. YD.
ITEM 659, COMMERCIAL FERTILIZER	1 TON
ITEM 659, WATER	33 M. GAL.

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

ITEM 601 DETENTION BASIN AGGREGATE, AS PER PLAN

THIS ITEM SHALL MEET ALL THE REQUIREMENTS OF ITEM 601 AND THE FOLLOWING. THE WORK FOR THIS ITEM IS FOR FURNISHING AND INSTALLING A GRAVEL RIFFLE WITHIN THE PROPOSED CHANNEL OF THE NEW CULVERT AS SHOWN ON SHEET 65. THE EXACT SIZE AND SHAPE AND CONSTRUCTION OF THE RIFFLE SHALL BE MEET THE REQUIREMENTS OF ODNR OHIO STREAM MANAGEMENT GUIDE NO. 22 AND THE APPROVAL OF THE ENGINEER. PAYMENT AT THE UNIT PRICE OF CUBIC YARD SHALL BE FULL COMPENSATION FOR ALL PREPARATORY WORK AND SUBSEQUENT FURNISHING AND PLACING OF ALL MATERIAL.

ITEM 661 DECIDUOUS SHRUB, 4' HEIGHT, AS PER PLAN

ALL SHRUB PLANTINGS (SALIX ERIOCEPHALA AND CORNUS STOLONIFERA) SHOWN ON SHEET 65 SHALL BE SPACED AND INSTALLED PER ODNR OHIO STREAM MANAGEMENT GUIDE NO. 7. ALL REQUIREMENTS OF ITEM 661 APPLY TO THIS ITEM UNLESS SUPERCEDED BY THE REFERENCED ODNR GUIDELINE. PRIOR TO INSTALLATION OF THE PLANTINGS THE CONTRACTOR SHALL STAKE THE LOCATIONS OF THE PROPOSED PLANTING AND RECEIVE APPROVAL OF THE ENGINEER BEFORE PROCEEDING WITH INSTALLATION. THE COST FOR ALL PREPARATORY WORK AND LAYOUT SHALL BE INCLUDED WITH THE RESPECTIVE UNIT PRICE OF EACH FOR THE PLANTING.

ITEM 661 DECIDUOUS TREE, 2" CALIPER, AS PER PLAN

ALL REQUIREMENTS OF ITEM 661 APPLY TO THIS ITEM AS WELL AS THE FOLLOWING. ALL TREE PLANTINGS (ACER RUBRUM) SHOWN ON SHEET 65 PRIOR TO INSTALLATION SHALL HAVE THE INTENDED INSTALLATION LOCATION STAKED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. THE COST OF THIS SHALL BE INCLUDED IN THE UNIT PRICE FOR EACH.

ITEM 611 CONDUIT, MISC.: STORM SEWER CONDUITS, AS PER PLAN

STORM SEWER CONDUITS ARE DENOTED IN THE PLANS AS TYPE B OR TYPE C. TYPE B CONDUITS ARE CONDUITS UNDER PAVEMENT AND TYPE C CONDUITS ARE CONDUITS OUTSIDE THE PAVEMENT.

STORM SEWER MATERIALS AND CONNECTIONS SHALL BE PLACED PER THE CITY OF MEDINA STANDARD DRAWING, CS-STORM-01 ON SHEET 81.

ITEM 611 CATCH BASIN, MISC.: STANDARD NO. 2-2-B INLET BASIN

CB 2-2B SHALL BE PER THE CITY OF MEDINA STANDARD DRAWING, CS-STORM-01 ON SHEET 81.

ITEM 611 INLET, MISC.: STANDARD CURB INLET BASIN

CURB INLET BASIN SHALL BE PER THE CITY OF MEDINA STANDARD DRAWING, CS-STORM-01 ON SHEET 81.

ITEM 611 14'x6' CONDUIT TYPE A, 706.05, AS PER PLAN

THIS ITEM SHALL MEET ALL THE REQUIREMENTS IF ITEM 611 AND SUPPLEMENTAL SPECIFICATION 940. CULVERT BEDDING MATERIAL SHALL EXTEND, UPWARD TO THE SUBGRADE OF THE ROADWAY.

AT THE OPTION OF THE CONTRACTOR AND AT NO ADDITIONAL COST TO THE OWNER, PORTION OR ALL OF THE 14'x6' CAST-IN-PLACE CULVERT MAY BE SUBSTITUTED FOR THE PRECAST, TO ELIMINATE POTENTIAL CONSTRUCTION CONSTRAINTS IMPOSED BY THE EXISTING OVERHEAD UTILITIES. THE CAST-IN-PLACE CULVERT SHALL BE DESIGNED ACCORDING TO THE FOLLOWING MINIMUM REQUIREMENTS:

1. THE CULVERT SHALL HAVE AS A MINIMUM A SPAN OF 14' AND RISE OF 6'.
2. THE CULVERT SHALL BE DESIGNED AND STAMPED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF OHIO WITH THE REQUIREMENT OF INDEPENDENT CHECK BY ALSO A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF OHIO. BOTH SHALL HAVE PREVIOUS EXPERIENCE WITH SIMILAR DESIGNS.
3. THE DESIGN SHALL CONFORM TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OFFICIALS, 2014, INCLUDING THE 2015 INTERM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL, 2007.
4. DESIGN LOADING SHALL BE HL-93.
5. CONCRETE SHALL BE CLASS QC1 WITH QC/QA.
6. ALL REINFORCING STEEL SHALL BE EPOXY COATED PER C&MS 709.00.
7. THE DESIGN CALCULATIONS AND DETAIL DRAWINGS SHALL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE FOR APPROVAL.
8. NO WORK SHALL BE COMMENCED PRIOR TO THE OWNERS REPRESENTATIVE APPROVAL.

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GENERAL NOTES

WEST SMITH ROAD

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**ROADWAY**

**ITEM 202 PAVEMENT REMOVED, AS PER PLAN**

THIS ITEM SHALL INCLUDE THE REMOVAL OF EXISTING INTEGRAL CURB ON PAVEMENT.

**ITEM 203 - EXCAVATION AS PER PLAN**

PAYMENT FOR THE REMOVAL OF EXISTING UNDERDRAINS SHALL BE INCLUDED IN THE UNIT PRICE BID ITEM 203 EXCAVATION.

ADDITIONAL EXCAVATION REQUIRED TO PLACE TOPSOIL AT LOCATIONS SPECIFIED IN THE PLANS IS INCLUDED IN THE UNIT BID PRICE FOR ITEM 659 TOPSOIL.

**EARTHWORK**

THE CONTRACTOR SHALL DEWATER THE TRENCH AS NECESSARY AND MAINTAIN GOOD SURFACE DRAINAGE OF THE CONSTRUCTION AREA. THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AT ALL TIMES AND SHALL BACKFILL AND GRADE EXCAVATED AREAS SO AS TO ELIMINATE PONDING ON THE SITE.

ALL EXCESS EXCAVATION AND/OR EXCESS TOPSOIL SHALL BE REMOVED FROM THE PROJECT SITE AND DISPOSED OF OFFSITE.

ALL EXISTING STREET SHALL BE KEPT CLEAN OF SOIL AND/OR DEBRIS.

THE CONTRACTOR SHALL REMOVE FROM THE SITE ALL MATERIAL DEEMED UNSUITABLE FOR BACKFILL BY THE ENGINEER AND DISPOSE OF OFFSITE.

NO OFFSITE GRADING SHALL BE PERMITTED WITHOUT PRIOR WRITTEN CONSENT FROM THE PROPERTY OWNER OF THE LAND TO BE GRADED.

MATERIALS REMOVED FROM THE EXCAVATION SHALL NOT BE STOCKPILED IMMEDIATELY ADJACENT TO THE EXCAVATION.

**ITEM SPECIAL - MAILBOX SUPPORT**

THIS WORK SHALL CONSIST OF FURNISHING AND ERECTING MAILBOX SUPPORTS AND ANY ASSOCIATED MOUNTING HARDWARE IN ACCORDANCE WITH PLAN DETAILS, AND ATTACHING AN OWNER-SUPPLIED MAILBOX AT LOCATIONS SPECIFIED IN THE PLAN, OR OTHERWISE ESTABLISHED BY THE ENGINEER.

WOOD POSTS SHALL BE NOMINAL 4 INCHES BY 4 INCHES SQUARE OR 4.5 INCHES DIAMETER ROUND, AND CONFORM TO 710.14.

STEEL POSTS SHALL BE NOMINAL PIPE SIZE 2 INCHES IN DIAMETER AND CONFORM TO AASHTO M 181

ALL HARDWARE INCLUDING BUT NOT LIMITED TO PLATES, SCREWS, BOLTS, AND ETC. SHALL BE COMMERCIAL-GRADE GALVANIZED STEEL.

POSTS SHALL BE SET PER THE FIRST PARAGRAPH OF 606.03, AND SHALL IN NO INSTANCE BE ENCASED IN CONCRETE.

SUPPORT HARDWARE SHALL ACCOMMODATE EITHER A SINGLE OR A DOUBLE MAILBOX INSTALLATION, AND NO MORE THAN TWO BOXES MAY BE MOUNTED ON A SINGLE POST.

THE MAILBOX SHALL BE SECURELY AND NEATLY ATTACHED BY THE CONTRACTOR TO THE NEW SUPPORT. THE CONTRACTOR SHALL FURNISH ALL NECESSARY ATTACHMENT HARDWARE (NUTS, BOLTS, PLATES, SPACERS, AND WASHERS) AS NECESSARY TO ACCOMMODATE THE COMPLETE INSTALLATION.

IN THE ABSENCE OF A NEW BOX SUPPLIED BY THE OWNER, THE CONTRACTOR SHALL SALVAGE THE EXISTING BOX AND PLACE IT ON THE NEW SUPPORT. DUE CARE SHALL BE EXERCISED IN SUCH AN OPERATION, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY BOX DAMAGED BY IMPROPER HANDLING ON HIS PART, AS JUDGED AND DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE LOCAL POST MASTER REGARDING THE TIMING OF THE MOVEMENT OF ANY MAILBOX TO A NEW LOCATION.

PAYMENT UNDER THIS ITEM SHALL BE LIMITED TO FINAL PERMANENT INSTALLATIONS. TEMPORARY INSTALLATIONS SHALL BE IN ACCORDANCE WITH 107.10. HOWEVER, THE SAME MATERIAL AND SIZE LIMITATIONS AS FOR PERMANENT INSTALLATIONS SHALL APPLY.

MAILBOX SUPPORTS, COMPLETE IN PLACE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH, FOR ITEM SPECIAL MAILBOX SUPPORT SYSTEM, (SINGLE) (DOUBLE).

**PAVEMENT**

**CONTRACTION AND/OR EXPANSION JOINTS**

ALTHOUGH SPECIFIC LOCATIONS OF CERTAIN CONTRACTION AND EXPANSION JOINTS HAVE BEEN DETAILED ON THIS PLAN, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. IN ALL CASES, THE PROVISION OF EXPANSION JOINTS AT ALL MAJOR STRUCTURES INCLUDING THE MAXIMUM SPACING BETWEEN CONTRACTION JOINTS IS IN ACCORDANCE WITH MEDINA STANDARD DRAWING CS-PVMT-01\_79 AND THE SPECIFICATIONS.

(NOTE REMOVED)

**SUBGRADE CEMENT STABILIZATION**

THE ENTIRE PAVEMENT SUBGRADE SHALL BE STABILIZED UNLESS OTHERWISE NOTED IN THE PLANS. THE CONTRACTOR SHALL USE ANY MEANS NECESSARY TO ENSURE ALL AREAS OF THE SUBGRADE ARE STABILIZED INCLUDING AREAS WHERE EXISTING UTILITIES ARE PRESENT. THIS MAY REQUIRE THE BACKFILL OVER THE EXISTING UTILITY BE EXCAVATED OUT, STABILIZED, AND PLACED BACK OVER THE EXISTING UTILITY. ALL COSTS TO COMPLETE THE ABOVE MENTIONED WORK SHALL BE INCLUDED WITHIN THE UNIT PRICE FOR THE PAVEMENT.

**ITEM 304 - AGGREGATE BASE, AS PER PLAN**

AGGREGATE BASE SHALL CONSIST OF NUMBER 8 OR 57 LIMESTONE ONLY.

**ITEM 451- REINFORCED CONCRETE PAVEMENT, CLASS QC1 AND CLASS QC MS, AS PER PLAN**

CONCRETE PAVEMENTS SHALL BE IN ACCORDANCE WITH ODOT SPECIFICATIONS AND SUPPLEMENT 1126, EXCEPT AS MODIFIED PER THE PORTIONS OF THE CITY OF MEDINA STANDARD DRAWING, CS-PVMT-01 AND CS-PVMT-02, ON SHEETS 79 & 80.

**ITEM 608 - 4" CONCRETE WALK, AS PER PLAN**

4" CONCRETE WALK SHALL BE PER THE CITY OF MEDINA STANDARD DRAWING, CS-PVMT-01 AND CS-PVMT-02, ON SHEETS 79 & 80. COST OF FURNISHING AND INSTALLING HOOK BOLT AND 2" - ITEM 304 AGGREGATE BASE SHALL BE INCLUDED WITH ITEM 608 - 4" CONCRETE WALK, AS PER PLAN.

**SUBGRADE STABILIZATION**

THE FOLLOWING QUANTITY IS PROVIDED TO BE USED AS DIRECTED BY THE ENGINEER FOR LOCATIONS WHERE THE CEMENT STABILIZATION CURE TIME PRECLUDES THE ABILITY TO MAINTAIN ACCESS TO ABUTTING PROPERTIES AT DRIVEWAYS. THE CONTRACTOR SHOULD ASSUME NUMEROUS LOCATIONS WITH UNDERCUT DEPTHS RANGING FROM 18" TO 36". IN LIEU OF UNDERCUTTING THE ENGINEER MAY ALSO DIRECT THE CONTRACTOR TO BRIDGE CEMENT STABILIZATION AREAS WITH GRANULAR MATERIAL AND/OR STEEL PLATES DURING CURING TIMES. FURNISHING, INSTALLING, AND SUBSEQUENT REMOVAL OF STEEL PLATES SHALL BE CONSIDERED INCIDENTAL TO ITEM 614 - MAINTAINING TRAFFIC.

- ITEM 204 - EXCAVATION OF SUBGRADE ..... 2600 CU YD
- ITEM 204 - GEOTEXTILE FABRIC ..... 2600 SY YD
- ITEM 204 - GRANULAR EMBANKMENT ..... 2600 CU YD

**ENVIRONMENTAL**

**ENVIRONMENTAL COMMITMENTS**

THIS PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT AND NORTHERN LONG-EARED BAT. NO TREES SHALL BE REMOVED UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT. FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS: A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK THREE INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET. ANY TREE REMOVAL REQUIRED BETWEEN JUNE 1 AND SEPTEMBER 30 WILL REQUIRE APPROVED NET SURVEYS TO BE CONDUCTED PRIOR TO REMOVAL.

**TRAFFIC CONTROL**

**SIGN REMOVAL**

ALL EXISTING SIGNS TO BE REMOVED SHALL BE DELIVERED TO THE MEDINA CITY SERVICE GARAGE LOCATED AT 781 WEST SMITH ROAD.

**ITEM 642 & 646 - PAVEMENT MARKING, AS PER PLAN**

THE PAVEMENT MARKINGS SHALL MEET ALL THE REQUIREMENTS OF THEIR RESPECTIVE ITEM 642 OR ITEM 646 AS WELL AS THE FOLLOWING.

FINAL PAVEMENT MARKINGS MAY NOT BE ABLE TO BE APPLIED IMMEDIATELY UPON THE OPENING OF NEW PAVEMENTS. THE PAYMENT FOR THE ABOVE ITEMS AT THE RESPECTIVE UNIT PRICE SHALL INCLUDE INSTALLATION AND SUBSEQUENT REMOVAL OF CLASS I WORK ZONE PAVEMENT MARKINGS PER 614.11 AS AN INTERIM CONDITION UNTIL SUCH TIME FINAL MARKINGS CAN BE INSTALLED.

THE WORK ZONE PAVEMENT MARKINGS INCLUDED WITH THE ABOVE ITEMS ARE IN ADDITION TO OTHER WORK ZONE MARKINGS INCLUDED IN THE GENERAL SUMMARY. NO SEPARATE PAYMENT SHALL BE MADE FOR THE WORK ZONE MARKINGS INCLUDED WITH THE ABOVE ITEMS.

**CLASS QC1 CONCRETE**

PLAN REFERENCES TO CLASS "C" CONCRETE SHALL BE CONSIDERED TO CONSTITUTE CLASS "QC1" PER THE 2013 ODOT CMS.

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GENERAL NOTES

WEST SMITH ROAD

ITEM 614 MAINTAINING TRAFFIC

WEST SMITH ROAD  
 THE MAKING OF THIS IMPROVEMENT REQUIRES MAINTAINING ONE LANE OF WESTBOUND TRAFFIC ONLY, AT ALL TIMES, EXCEPT AS NOTED BELOW. EASTBOUND TRAFFIC WILL BE DETOURED. DETOURS SHALL BE AS SHOWN ON SHEETS 13 AND 14. IN ORDER TO CONSTRUCT THE NEW CULVERT ACROSS WEST SMITH THE ROADWAY MAY BE CLOSED FOR A PERIOD NOT TO EXCEED 17 CONSECUTIVE CALENDAR DAYS. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF \$5,000 PER DAY FOR EACH CALENDAR DAY THE ROADWAY REMAINS CLOSED BEYOND THE SPECIFIED LIMIT.

STATE ROAD  
 THE MAKING OF THIS IMPROVEMENT REQUIRES MAINTAINING ONE LANE OF TRAFFIC IN EACH DIRECTION AT ALL TIMES, EXCEPT AS NOTED BELOW. IN ORDER TO PERFORM ROAD CONSTRUCTION, STATE ROAD MAY BE CLOSED AND DETOURED AS SHOWN ON SHEET 14 FOR A PERIOD NOT TO EXCEED 60 CALENDAR DAYS. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF \$2,500 PER DAY FOR EACH CALENDAR DAY THE ROADWAY REMAINS CLOSED BEYOND THE SPECIFIED LIMIT.

A DETAILED SEQUENCE OF CONSTRUCTION CAN BE FOUND ON SHEET 12.

THE CONTRACTOR SHALL MAINTAIN SAFE, SATISFACTORY ACCESS TO ABUTTING PROPERTIES.

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

EXISTING TRAFFIC CONTROL DEVICES (SIGNS) LOCATED WITHIN THE WORK AREA, WHICH ARE REQUIRED FOR INTERIM OR PERMANENT TRAFFIC CONTROL, SHALL BE RELOCATED TO POINTS APPROVED BY THE ENGINEER. APPROPRIATE TRAFFIC CONTROL DEVICES SHALL BE MAINTAINED, IN COMPLIANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (OMUTCD), AT ALL TIMES TRAFFIC IS MAINTAINED. THE COST OF RELOCATION, IF REQUIRED, SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

**NO WORK SHALL BE PERFORMED AND THE CONTRACTOR SHALL MAINTAIN ONE LANE OF TRAFFIC IN EACH DIRECTION AT ALL TIMES DURING THE MEDINA COUNTY FAIR (FIRST WEEK OF AUGUST 2016/2017).**

THE LENGTH AND DURATION OF LANE CLOSURES AND/OR TRAFFIC RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. THE INTENT IS TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION ON MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

ITEM 614 - DETOUR SIGNING

ALL DETOUR SIGNING FOR THE DETOURS SHOWN ON SHEET 13 AND 14 SHALL BE FURNISHED, ERECTED, MAINTAINED, AND REMOVED BY THE CONTRACTOR.

IF THE CONTRACTOR ELECTS TO UTILIZE A FULL CLOSURE OF WEST SMITH ROAD FOR CULVERT CONSTRUCTION, THEN THE CONTRACTOR SHALL DEVELOP AND IMPLEMENT DETOUR SIGNAGE FOR WESTBOUND TRAFFIC USING THE SAME ROUTES AND SIMILAR DESIGN AS THE EASTBOUND DETOUR.

PAYMENT FOR ALL LABOR, EQUIPMENT, AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT BID FOR ITEM 614 - DETOUR SIGNING. THIS INCLUDES ALL REMOVING AND RESETTING OF SIGNS TO ACCOMMODATE PHASE CHANGES.

NOTIFICATION

THE CONTRACTOR SHALL NOTIFY IN WRITING THE FOLLOWING AGENCIES AT LEAST TWO WEEKS PRIOR TO THE START OF CONSTRUCTION, AND AT LEAST 72 HOURS BEFORE IMPLEMENTING ANY SUBSTANTIAL CHANGE IN TRAFFIC PATTERN OR CLOSING ANY STREET TO TRAFFIC:

THE MEDINA CITY ENGINEER  
 THE UNITED STATES POSTAL SERVICE, MEDINA BRANCH  
 MEDINA CITY SCHOOLS  
 MEDINA POLICE, FIRE AND SERVICE DEPARTMENTS

TEMPORARY RAMPING OF VERTICAL SURFACES

IN ORDER TO PROVIDE FOR LOCAL ACCESS, LONGITUDINAL VERTICAL FACES ABUTTING DRIVES SHALL BE TEMPORARILY RAMPED A MINIMUM OF 10 FEET IN LENGTH AND TRAFFIC SHALL BE WARNED WITH W8-1 "BUMP" SIGNS IN ADVANCE OF THE RAMPED AREAS. ALL CASTING ENCOUNTERED SHALL BE SET TO GRADE AND PAID FOR UNDER VARIOUS ITEMS DESCRIBED ELSEWHERE IN THE GENERAL NOTES OR SPECIFICATIONS. THE CASTING ELEVATION DIFFERENTIAL SHALL NOT BE GREATER THAN ONE INCH WHEN EXPOSED TO TRAFFIC.

MAINTENANCE OF TRAFFIC FOR CULVERT WORK SHALL BE TEMPORARILY RAMPED AT A MAXIMUM OF 20:1 AND PLACED AT APPROXIMATELY PROPOSED ELEVATION OVER THE CULVERT. TRAFFIC SHALL BE WARNED WITH W8-1 "BUMP" SIGNS IN ADVANCE OF THE RAMPED AREAS.

ALL TEMPORARY RAMPING SHALL BE INSTALLED, AT THE DIRECTION OF THE ENGINEER, USING ITEM 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC.

ITEM 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC 290 CU.YD.

CONSTRUCTION ADJACENT TO DRIVES

ACCESS TO COMMERCIAL PROPERTY SHALL BE MAINTAINED AT ALL TIMES. THE PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS REQUIRED TO MAINTAIN COMMERCIAL ACCESS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614 MAINTAINING TRAFFIC.

THE CONTRACTOR SHALL PLAN/STAGE ALL WORK TO MAINTAIN SAFE ACCESS TO COMMERCIAL PROPERTY AT ALL TIMES. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT A PLAN FOR THE APPROVAL OF THE ENGINEER WHICH OUTLINES HIS/HER STRATEGY FOR THE MAINTENANCE OF SAFE ACCESS TO COMMERCIAL PROPERTY. EXCEPT AS NOTED ABOVE, ALL ASSOCIATED COSTS SHALL BE INCLUDED UNDER ITEM 614 MAINTAINING TRAFFIC.

DRIVE CONSTRUCTION

ACCESS TO COMMERCIAL PROPERTIES SHALL BE MAINTAINED AT ALL TIMES. DRIVEWAYS MAY BE REQUIRED TO BE CONSTRUCTED USING PART WIDTH CONSTRUCTION. ALL DRIVEWAYS WILL REQUIRE MS CONCRETE TO EXPEDITE CONSTRUCTION. THE FOLLOWING ESTIMATED QUANTITY OF ITEM - 411 STABILIZED CRUSHED AGGREGATE, AS PER PLAN SHALL BE USED ON SIDES OF DRIVES AS NEEDED DURING PART-WIDTH DRIVE CONSTRUCTION TO MAINTAIN SEMI-TRUCK ACCESS. THIS WORK SHALL INCLUDE PLACEMENT, MAINTENANCE AND REMOVAL OF ITEM 411, RESTORATION TO THE PROPOSED OR EXISTING GRADING AROUND DRIVES INCLUDING SEEDING AND MULCHING.

FOR DETAILS SEE SHEET 11.

ITEM 411-STABILIZED CRUSHED AGGREGATE, AS PER PLAN...500 CY

PHASE CONSTRUCTION

ALL WORK IN A GIVEN PHASE, INCLUDING SUCH ITEMS AS ADJUSTMENT OF CASTINGS, SIDEWALKS, DRIVEWAY REPAIRS, TRAFFIC SIGNS AND SIGNALS, ETC SHALL BE COMPLETED PRIOR TO BEGINNING THE NEXT PHASE WITH THE EXCEPTION OF FINAL PAVEMENT MARKINGS AND ANY SIGNS WHICH CONFLICT WITH THE MAINTENANCE OF TRAFFIC PLANS.

INSTALLATION OF PAVEMENT MARKINGS

ALL WORK ZONE PAVEMENT MARKINGS AND SIGNS REQUIRED FOR A PARTICULAR LANE CLOSURE OR TRAFFIC PATTERN SHALL BE INSTALLED ON A SINGLE WORK DAY, AND THE CORRESPONDING TRAFFIC PATTERN, AS DETAILED ON THE PLANS, SHALL BE IMPLEMENTED IMMEDIATELY. IN ADDITION, THE REQUIREMENTS OF 614.11(G) SHALL APPLY.

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616, WATER 12 M. GAL

WORK ZONE PAVEMENT MARKINGS AND SIGNS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AT LOCATIONS IDENTIFIED BY THE ENGINEER FOR WORK ZONE PAVEMENT MARKINGS AND SIGNS PER THE REQUIREMENTS OF CMS 614.04 AND 614.11.

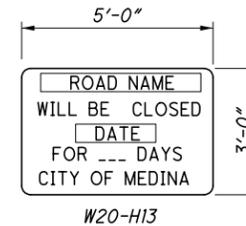
ITEM 614 WORK ZONE EDGE LINE, CLASS I, 642 PAINT 1.00 MI  
 ITEM 614 WORK ZONE CROSS WALK LINE, CLASS I, 642 PAINT 168 FT  
 ITEM 614 WORK ZONE STOP LINE, CLASS I, 642 PAINT 34 FT

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 TWO WEEKS IN ADVANCE OF THE SCHEDULED ROAD CLOSURES. THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD FACING TRAFFIC. THE SIGNS SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS ON PROJECT. THE SIGNS SHALL BE ERECTED AS CLOSE AS PRACTICAL TO THE POINT OF CLOSURE. THE SIGNS ARE TO BE MADE OF TYPE G REFLECTIVE SHEETING FOR BACKGROUND AND LEGEND.

TWO (2) "W20-H13" SIGNS SHALL BE USED ON WEST SMITH ROAD.  
 TWO (2) "W20-H13" SIGNS SHALL BE USED ON STATE ROAD.

PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE LUMP SUM BID ITEM-614 MAINTAINING TRAFFIC, AND SHALL INCLUDE FURNISHING ERECTION, MAINTAINING, AND REMOVING THE SIGN INCLUDING SUPPORTS.



NOTE: THE CONTRACTOR IS TO FILL IN THE ROAD NAME, DATE AND DURATION

ITEM 614, REPLACEMENT SIGN

FLATSHEET SIGNS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT SIGNS SHALL BE NEW. OTHER MATERIALS MAY BE IN USED, BUT GOOD, CONDITION SUBJECT TO APPROVAL BY THE ENGINEER. PAYMENT FOR THE NEW SIGNS SHALL BE MADE AT THE CONTRACT PRICE PER EACH FOR ITEM 614, REPLACEMENT SIGN, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF DAMAGED SIGNS, HARDWARE AND SUPPORTS, AND PROVIDING THE NECESSARY REPLACEMENT HARDWARE, SUPPORTS, ETC.

AN ESTIMATED QUANTITY OF 5 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

ITEM 614, REPLACEMENT DRUM

DRUMS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE RE-PLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT DRUMS SHALL BE NEW.

PAYMENT FOR THE NEW DRUMS SHALL BE MADE AT THE CONTRACT PRICE PER EACH FOR ITEM 614, REPLACEMENT DRUM, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF THE DAMAGED DRUM, AND PROVIDING AND MAINTAINING THE REPLACEMENT DRUM IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS FOR THE ORIGINAL DRUM.

AN ESTIMATED QUANTITY OF 10 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

TEMPORARY DRAINAGE CONNECTIONS

THE FOLLOWING CONTINGENCY QUANTITY HAS BEEN PROVIDED TO MAINTAIN EXISTING DRAINAGE DURING CONSTRUCTION

ITEM 611 - 12" CONDUIT , TYPE B 50 FT

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.

IN ADDITION TO THE REQUIREMENT 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) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

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.

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

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

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.

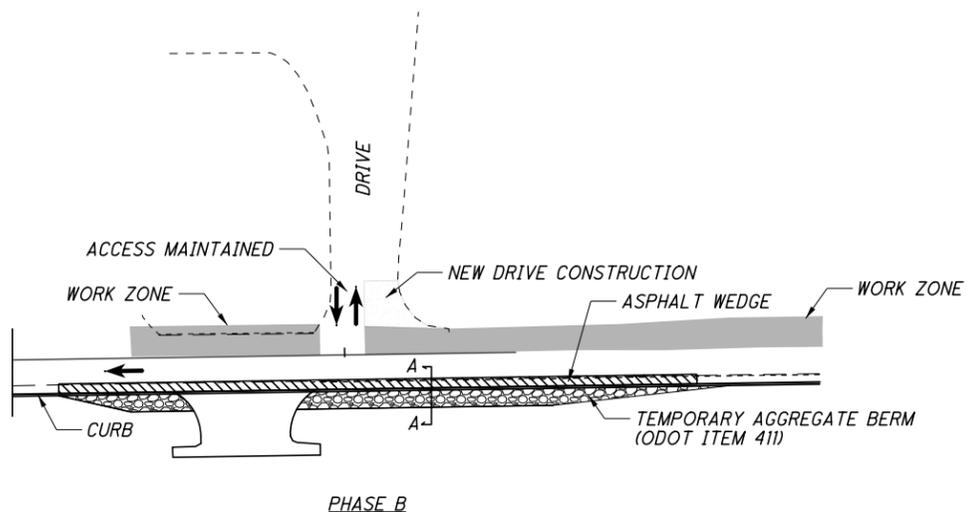
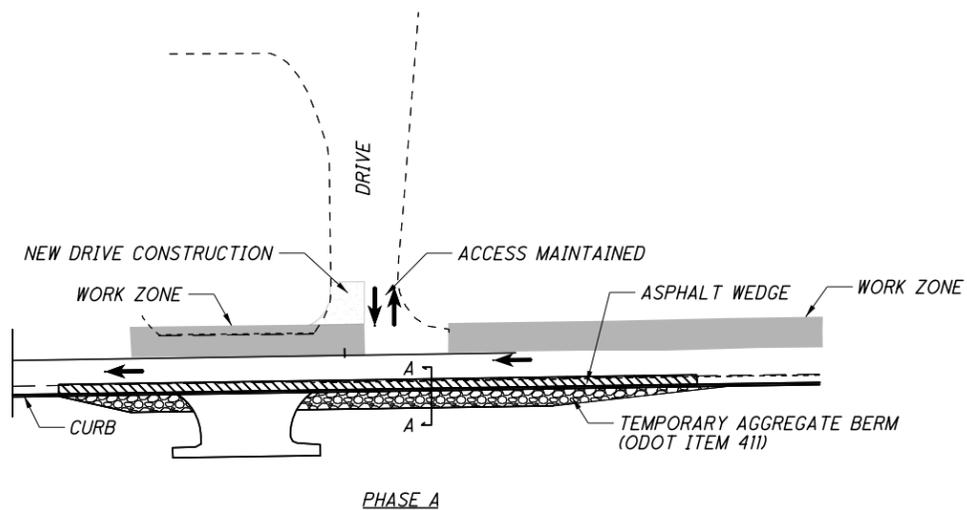
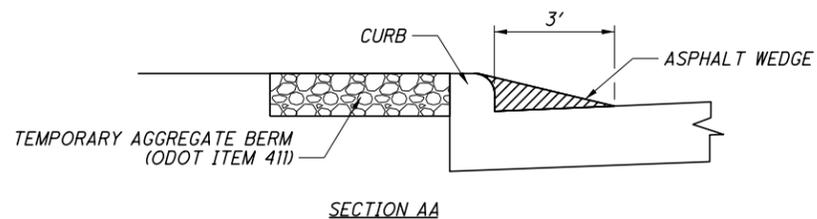
ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 40 HOURS

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.

DRIVE APRON CONSTRUCTION

- CASE 1 - TWO (2) EXISTING DRIVES PER PROPERTY RECONSTRUCT ONE DRIVE WHILE MAINTAINING ACCESS WITH OTHER DRIVE.
- CASE 2 - SPECIAL DRIVE CONSTRUCTION  
FULL DRIVE CLOSURE - RECONSTRUCT DRIVE DURING OFF BUSINESS HOURS. (i.e. NIGHT TIME OR WEEKEND)
- CASE 3 - ONE (1) EXISTING DRIVE PER PROPERTY RECONSTRUCT DRIVE USING PHASED CONSTRUCTION TO MAINTAIN FULL TIME ACCESS, SEE DETAILS BELOW.



TEMPORARY TRENCH RESTORATION

TO FACILITATE TRAFFIC MAINTENANCE, PREPHASED WATERLINE AND DRAINAGE TRENCHES SHALL BE RESTORED TO THE EXISTING PAVEMENT SURFACE ELEVATION PER THE CITY OF MEDINA STREET CROSSING DETAILS (SHEET 83). TRENCH CROSSINGS SUBJECT TO MAINTAINED TRAFFIC DURING WINTER MONTHS SHALL UTILIZE EITHER CONTROLLED DENSITY FILL (LSM) TO THE PAVEMENT SURFACE, OR PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B.

ALL COSTS FOR SUPPLYING, CONSTRUCTING, AND SUBSEQUENTLY REMOVING TEMPORARY TRENCH SURFACES SHALL BE CONSIDERED INCIDENTAL TO THE RESPECTIVE WATERLINE AND DRAINAGE BID ITEM.

ACCESS RESTRICTIONS DURING CULVERT CONSTRUCTION

IF A FULL CLOSURE OF WEST SMITH ROAD IS UTILIZED BY THE CONTRACTOR, THE CONTRACTOR MUST MAINTAIN LOCAL, TWO WAY ACCESS TO ALL ABUTTING PROPERTIES. TYPE III BARRICADES SHALL BE INSTALLED AT APPROXIMATELY STA. 49+75 AND STA. 51+00. THE DRIVEWAYS AT STA. 50+42 (LT) AND 51+20 (LT) MAY BE CLOSED DURING THE TWO WEEK CLOSURE. ACCESS TO AND FROM THE DRIVEWAY AT STA. 51+06 (RT) MUST BE MAINTAINED DURING CONSTRUCTION ACTIVITIES.

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MAINTENANCE OF TRAFFIC NOTES

WEST SMITH ROAD

SEQUENCE OF CONSTRUCTION

GENERAL

CONTRACTOR SHALL COORDINATE WITH PROPERTY OWNERS TO DETERMINE WEEKEND/NIGHT TIME WATER SERVICE TRANSFERS. NO EXTRA PAYMENT FOR WEEKEND/NIGHT TIME WORK.

IN ADDITION TO THE GENERAL SEQUENCE OF CONSTRUCTION AS SHOWN ON THIS SHEET, CONTRACTOR SHALL DEVELOP AND SUBMIT A DETAILED WATERLINE CONSTRUCTION SEQUENCE PLAN TO BE APPROVED BY THE CITY.

PRE-PHASE 1:

WORK TO BE PERFORMED:

- 1. CONSTRUCT ALL WATERWORK INCLUDING ALL MAINS AND SERVICE CONNECTIONS ALONG WEST SMITH ROAD AND STATE ROAD. SEE BELOW GENERAL WATERLINE SEQUENCING. CONTRACTOR TO DEVELOP DETAILED SEQUENCE AND SUBMIT TO THE CITY FOR APPROVAL.

WATERLINE:

A) INSTALL NEW 12" WATER MAIN FROM WEST PROJECT LIMIT EAST ALONG WEST SMITH ROAD AND FAIR ROAD TO THE TIE-IN POINT AT THE PUMP STATION. TIE-IN TO THE PUMP STATION TO BE COMPLETED LATER. COMPLETE TESTING AND TRANSFER OF SERVICES FOR BUSINESSES WEST OF FAIR ROAD.

B) INSTALL 16" WATER MAIN ALONG STATE ROAD WHILE MAINTAINING SERVICE THROUGH BOTH THE EXISTING 12" AND 10" WATER MAINS ON WEST SMITH ROAD. COMPLETE ALL TESTING. INSTALL 90° BEND AND FIRE HYDRANT ON 6" LINE TO REMAIN AT STATE ROAD INTERSECTION.

C) INSTALL 16" WATER MAIN UNDER EXISTING WATER SERVICES ON WEST SMITH ROAD. EXTEND 16" FROM WEST SMITH TOWARD THE PUMP STATION, STOPPING AT THE NEW 16" VALVE. TIE-IN TO PUMP STATION TO BE COMPLETED LATER. COMPLETE TESTING OF NEW 16" SECTION.

D) COMPLETE TIE-IN OF BOTH 12" AND 16" WATER MAIN TO THE PUMP STATION. PUMP STATION TO BE OUT OF SERVICE DURING THIS TIME PUMP STATION MAY BE SHUT DOWN FOR A MAXIMUM OF 6 HOURS ON SUNDAY ONLY. SHUT DOWN SHALL BE SCHEDULED 2 WEEKS IN ADVANCE WITH CITY.

E) INSTALL NEW WATER SERVICES EAST OF FAIR ROAD TO THE EXISTING 12" WATER MAIN ALONG WEST SMITH ROAD.

F) INSTALL CAPS ON THE EXISTING WATER MAINS IN THE STATE ROAD INTERSECTION TO COMPLETE WATER MAIN ABANDONMENT ON THE EXISTING 10" AND 6" WATER MAINS.

G) COMPLETE NEW CONNECTION BETWEEN EXISTING 12" TO REMAIN ON WEST SMITH ROAD AND STATE ROAD AND NEW 16" BUILT IN PREVIOUS PHASES.

H) INSTALL INTERCONNECT BETWEEN PROPOSED 12" WATER MAIN AND EXISTING 12" WATER MAIN JUST EAST OF FAIR ROAD. ALSO INSTALL 90 DEGREE BEND AND INTERFACE BETWEEN PROPOSED 12" MAIN AND EXISTING 12" WATER MAIN TO REMAIN JUST WEST OF FAIR ROAD.

- 2. SEWER AND CULVERT - THE CONTRACTOR MAY ELECT TO CONSTRUCT THE CULVERT AND/OR PORTIONS OF DRAINAGE SYSTEM, INCLUDING LATERALS, PRIOR TO IMPLEMENTING PHASE 1.

TRAFFIC MAINTENANCE:

1. PRIOR TO THE COUNTY FAIR TWO WAY TRAFFIC SHALL BE MAINTAINED ON EXISTING ROADWAYS. SINGLE LANE CLOSURES, WITH FLAGGERS PER MT-97.11 SHALL BE UTILIZED ON WEST SMITH ROAD FOR PREPHASE DRAINAGE OR WATERWORK.

2. DURING THE COUNTY FAIR NO WORK SHALL BE PERFORMED AND ALL EXISTING TRAFFIC LANES OPEN TO TRAFFIC.

3. AFTER THE CONTRY FAIR THE CONTRACTOR MAY INSTALL DETOUR SIGNAGE PER SHEETS 13 & 14 CLOSE EASTBOUND WEST SMITH THROUGH TRAFFIC AND DETOUR EASTBOUND TRAFFIC. GATES AND BARRICADES SHALL BE PLACED ALONG WEST SMITH FOR THE EASTBOUND DIRECTION AT THE POINTS OF CLOSURE, AS DETERMINED BY THE ENGINEER. ONE LANE IN THE WEST BOUND DIRECTION SHALL BE MAINTAINED AT ALL TIMES ON THE EXISTING PAVEMENT. TRAFFIC MAY BE SHIFTED PER OMTCD STANDARDS TO ACCOMMODATE THE WORK.

4. MAINTAIN DRIVE ACCESS TO ALL COMMERCIAL PROPERTIES AT ALL TIMES.

5. CONTRACTOR SHALL INSTALL WATERLINE CONNECTIONS/ DRAINAGE EXPEDIENTLY TO MINIMIZE THE LENGTH OF TIME OF OPEN TRENCHES. CONTRACTOR SHALL USE STEEL PLATES TO MAINTAIN TRAFFIC OVER LATERALS WHEN TRENCHES CANNOT BE BACKFILLED.

6. LANE CLOSURES WITH FLAGGERS PER MT-97.11 SHALL BE UTILIZED ON STATE ROAD TO COMPLETE WATER WORK/ DRAINAGE WITHIN THE EXISTING PAVEMENT. STEEL PLATES SHALL BE PLACED WHEN TRENCHES CANNOT BE BACKFILLED.

SPECIAL CONSIDERATIONS:

- 1. MAINTAIN ACCESS TO COMMERCIAL PROPERTIES AT ALL TIMES.
2. WATER SERVICE CONNECTIONS/ DRAINAGE WILL NEED TO BE REPLACED DURING OFF PEAK HOURS (WEEKDAYS 5:00 PM TO 7:00 AM AND WEEKENDS FRIDAY 5:00 PM THROUGH MONDAY 7:00 AM).

3. DUE TO WINTERTIME CONSIDERATIONS, THE CONTRACTOR IS NOT PERMITTED TO COMPLETELY REMOVE THE EXISTING EASTBOUND DRIVING LANE PAVEMENT OF WEST SMITH ROAD. PAVEMENT REMOVAL SHALL BE LIMITED TO THAT REQUIRED FOR TRENCHING OF WATERLINES, SEWERS AND THE CULVERT. PAVEMENT TRENCH CROSSINGS OF ACTIVE LANES AND IN FRONT OF DRIVEWAYS SHALL BE RESTORED TO THE SURFACE USING CONTROLLED DENSITY FILL OR PAVEMENT. FULL LANE WIDTH PAVEMENT REMOVAL MAY COMMENCE AFTER MARCH 1ST.

PHASE 1:

WORK TO BE PERFORMED:

1. CONSTRUCT REMAINING DRAINAGE SYSTEM AND PAVEMENT ON THE SOUTH SIDE OF WEST SMITH ROAD, INCLUDING LATERAL SEWER CONNECTIONS REQUIRED TO MAINTAIN POSITIVE DRAINAGE.

MAINTAIN ONE 10 FT LANE OF WESTBOUND TRAFFIC ON THE EXISTING PAVEMENT.

2. CONSTRUCT CULVERT CROSSING (IF NOT CONSTRUCTED IN PRE-PHASE) AT STA. 50+59 AS LAST STEP BEFORE SHIFTING TRAFFIC TO THE NORTH SIDE OF WEST SMITH ROAD.

TRAFFIC MAINTENANCE:

1. MAINTAIN DETOUR FOR EASTBOUND WEST SMITH. GATES AND BARRICADES SHALL BE PLACED ALONG WEST SMITH FOR THE EASTBOUND DIRECTION AT THE POINTS OF CLOSURE, AS DETERMINED BY THE ENGINEER. ONE LANE IN THE WEST BOUND DIRECTION SHALL BE MAINTAINED AT ALL TIMES ON THE EXISTING PAVEMENT.

2. MAINTAIN DRIVE ACCESS TO ALL COMMERCIAL PROPERTIES AT ALL TIMES.

3. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES WHEN CONSTRUCTING CULVERT TO AVOID CONFLICTS WITH UNDERGROUND AND OVERHEAD UTILITIES. SPECIAL ATTENTION SHOULD BE USED WITH OVERHEAD POWER AND CABLE LINES IN THE AREA OF THE CULVERT. A COMPLETE CLOSURE OF WEST SMITH ROAD IS PERMITTED AT THE CULVERT FOR 17 CONSECUTIVE CALENDAR DAYS TO FACILITATE INSTALLATION OF THE BOX CULVERT. CONTRACTOR SHALL COORDINATE WITH THE CITY TO OBTAIN APPROVAL FOR SPECIFIC TIME OF CLOSURE.

SPECIAL CONSIDERATIONS:

1. MAINTAIN ACCESS TO COMMERCIAL PROPERTIES AT ALL TIMES. REFER TO NOTES "CONSTRUCTION ADJACENT TO DRIVES" AND "DRIVE CONSTRUCTION" ON SHEET 10.

2. DRIVES WILL NEED TO BE REPLACED DURING OFF PEAK HOURS (WEEKDAYS 5:00 PM TO 7:00 AM AND WEEKENDS FRIDAY 5:00 PM THROUGH MONDAY 7:00 AM).

3. ALL WORK ALONG THE SOUTH SIDE OF WEST SMITH, EXCLUDING FINAL GRADING AND SEEDING OPERATIONS, SHALL BE COMPLETED IN 60 CALENDAR DAYS FROM THE TIME THE CONTRACTOR INSTITUTES THE TRAFFIC RESTRICTIONS.

4. ALL ROADWAY CONCRETE POURS SHALL BE COMPLETED DURING OFF PEAK HOURS (WEEKDAYS 5:00 PM TO 7:00 AM AND WEEKENDS FRIDAY 5:00 PM THROUGH MONDAY 7:00 AM).

5. MAINTAIN POSITIVE DRAINAGE OF EXISTING NORTH SIDE DRAINAGE SYSTEMS TO EITHER THE EXISTING OR PROPOSED STORM SEWER. PAYMENT FOR TEMPORARY DRAINAGE SHALL BE INCLUDED WITH THE LUMP SUM PAYMENT FOR ITEM 614 - MAINTAINING TRAFFIC.

6. IF THE CULVERT IS CONSTRUCTED "IN-PHASE" THE CONTRACTOR SHALL SUBMIT A SHEETING/SHORING PLAN AND PORTABLE CONCRETE BARRIER LAYOUT PLAN (WITH END PROTECTION) WITH THE CULVERT "INSTALLATION PLAN". COSTS FOR PORTABLE BARRIER SHALL BE CONSIDERED INCIDENTAL TO THE LUMP SUM BID FOR ITEM 614 - MAINTAINING TRAFFIC.

PHASE 2A:

WORK TO BE PERFORMED:

1. CONTRACTOR SHALL CONSTRUCT NORTH AND CENTER LANE OF WEST SMITH ROAD FROM STATE ROAD INTERSECTION TO THE EAST, INCLUDING ALL NECESSARY CONNECTIONS TO DRAINAGE SYSTEMS.

2. CONSTRUCT STATE RD. PAVEMENT, REMAINING DRAINAGE SYSTEMS, DRIVES AND INCIDENTALS.

TRAFFIC MAINTENANCE:

1. MAINTAIN DETOUR FOR EASTBOUND WEST SMITH. INSTALL DETOUR SIGNAGE PER SHEETS 13 AND CLOSE STATE ROAD TO THROUGH TRAFFIC. DETOUR STATE ROAD TO THROUGH TRAFFIC. WESTBOUND TRAFFIC ON WEST SMITH WILL BE MAINTAINED USING PAVEMENT CONSTRUCTED IN PHASE 1. GATES AND BARRICADES SHALL BE PLACED ALONG WEST SMITH FOR THE EASTBOUND DIRECTION AND ON STATE ROAD AT THE POINTS OF CLOSURE, AS DETERMINED BY THE ENGINEER.

SPECIAL CONSIDERATIONS:

1. MAINTAIN ACCESS TO COMMERCIAL PROPERTIES AT ALL TIMES.

2. ALL WORK ALONG THE NORTH SIDE OF WEST SMITH, EXCLUDING FINAL GRADING AND SEEDING OPERATIONS, SHALL BE COMPLETED IN 30 CALENDAR DAYS FROM THE TIME THE CONTRACTOR INSTITUTES THE TRAFFIC RESTRICTIONS.

3. ALL ROADWAY CONCRETE POURS ON WEST SMITH SHALL BE COMPLETED DURING OFF PEAK HOURS (WEEKDAYS 5:00 PM TO 7:00 AM AND WEEKENDS FRIDAY 5:00 PM THROUGH MONDAY 7:00 AM).

4. DRIVES WILL NEED TO BE REPLACED DURING OFF PEAK HOURS (WEEKDAYS 5:00 PM TO 7:00 AM AND WEEKENDS FRIDAY 5:00 PM THROUGH MONDAY 7:00 AM).

PHASE 2B:

WORK TO BE PERFORMED:

1. CONSTRUCT NORTH AND CENTER LANE OF WEST SMITH ROAD WEST OF STATE ROAD INTERSECTION INCLUDING COMPLETION OF REMAINING NORTH SIDE DRAINAGE SYSTEM.

TRAFFIC MAINTENANCE:

1. MAINTAIN DETOUR FOR EASTBOUND WEST SMITH. WESTBOUND TRAFFIC ON WEST SMITH WILL BE MAINTAINED USING PAVEMENT CONSTRUCTED IN PHASE 1. GATES AND BARRICADES SHALL BE PLACED ALONG WEST SMITH FOR THE EASTBOUND DIRECTION AT THE POINTS OF CLOSURE, AS DETERMINED BY THE ENGINEER.

2. STATE ROAD OPEN TO TWO WAY TRAFFIC. TEMPORARY STOP SIGNS (R1-1-36) SHALL BE PLACED ON TEMPORARY SUPPORTS FOR STATE ROAD SOUTHBOUND. DETOUR SIGNAGE SHOWN AT WEST SMITH ROAD ON SHEET 13 SHALL ALSO BE REIMPLEMENTED.

SPECIAL CONSIDERATIONS:

1. MAINTAIN ACCESS TO COMMERCIAL PROPERTIES AT ALL TIMES.

2. ALL WORK ALONG THE NORTH SIDE OF WEST SMITH, EXCLUDING FINAL GRADING AND SEEDING OPERATIONS, SHALL BE COMPLETED IN 45 CALENDAR DAYS FROM THE TIME THE CONTRACTOR INSTITUTES THE TRAFFIC RESTRICTIONS.

3. ALL ROADWAY CONCRETE POURS SHALL BE COMPLETED DURING OFF PEAK HOURS (WEEKDAYS 5:00 PM TO 7:00 AM AND WEEKENDS FRIDAY 5:00 PM THROUGH MONDAY 7:00 AM).

4. DRIVES WILL NEED TO BE REPLACED DURING OFF PEAK HOURS (WEEKDAYS 5:00 PM TO 7:00 AM AND WEEKENDS FRIDAY 5:00 PM THROUGH MONDAY 7:00 AM).

PHASE 3:

WORK TO BE PERFORMED:

1. THE FINAL PAVEMENT MARKINGS AND BALANCE OF THE SIGNS AND SIGNALS SHALL BE INSTALLED.

TRAFFIC MAINTENANCE:

1. TRAFFIC SHALL BE MAINTAINED WITH STANDARD CONSTRUCTION DRAWING MT-95.31, MT-95.32, MT-97.10, OR MT-97.11, AS APPROPRIATE.

2. WHEN WEST SMITH ROAD IS REOPENED TO TWO-WAY TRAFFIC TEMPORARY STOP SIGNS (R1-1-36) ON TEMPORARY SUPPORTS SHALL BE INSTALLED AT THE STATE ROAD INTERSECTION UNTIL TRAFFIC SIGNALS ARE BUILT AND OPERATIONAL.

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MAINTENANCE OF TRAFFIC NOTES

WEST SMITH ROAD

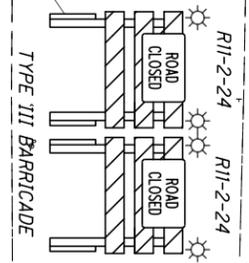
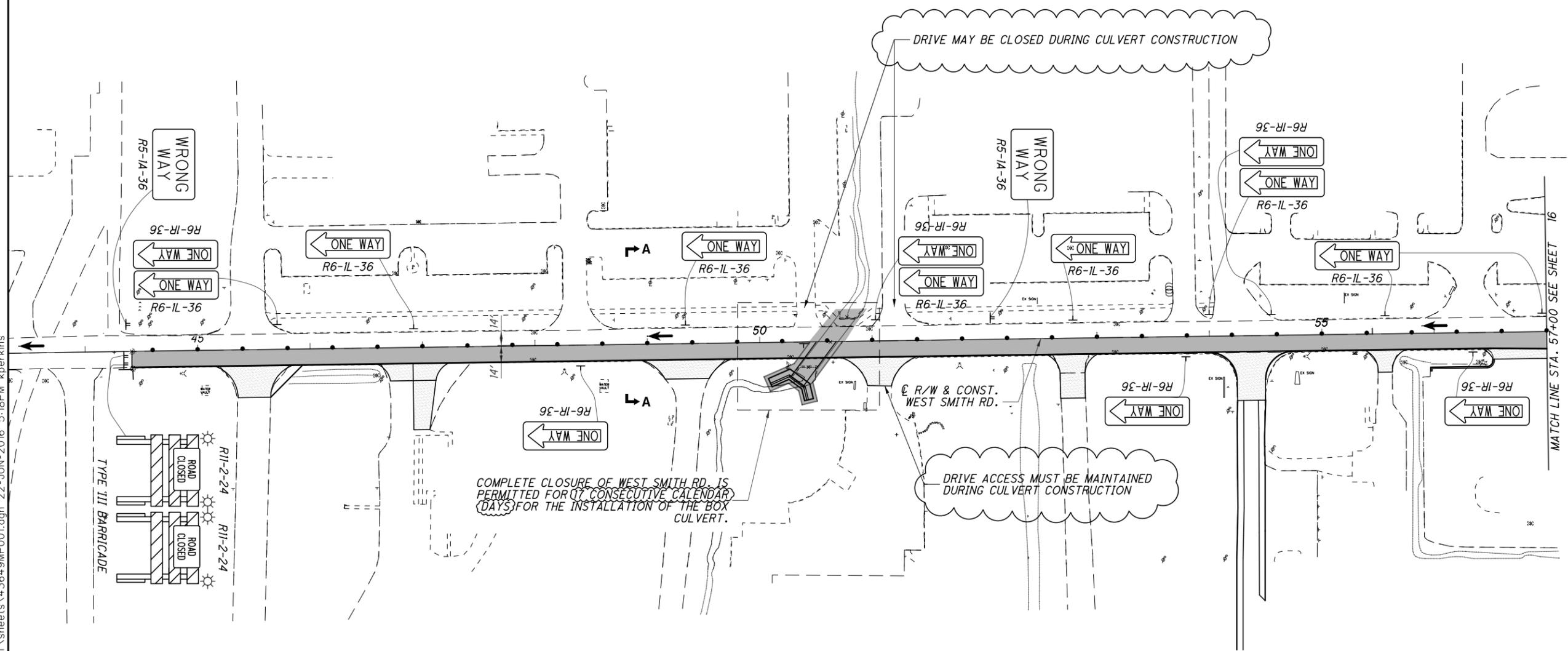
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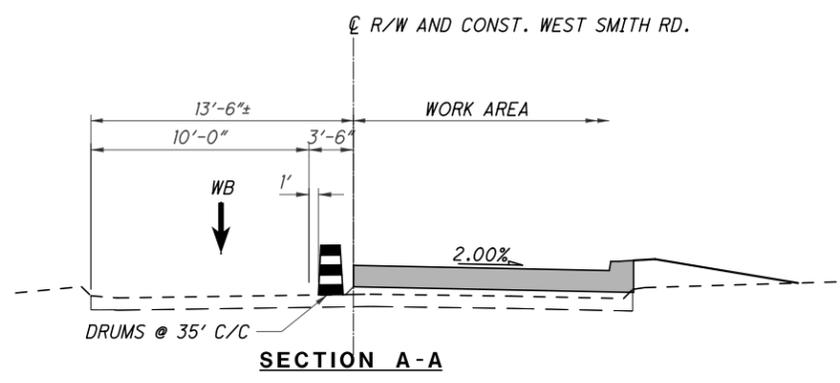
**MAINTENANCE OF TRAFFIC  
PHASE 1**

**WEST SMITH ROAD**



**LEGEND**

- • - DRUMS @ 35' C/C
- ASPHALT CONCRETE FOR MAINTAINING TRAFFIC (CONSTRUCT THIS PHASE)
- AREA TO BE CONSTRUCTED
- DRIVEWAY TO BE CONSTRUCTED PART WIDTH (ACCESS TO BE MAINTAINED)



MATCH LINE STA. 57+00 SEE SHEET 16

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SHEET NUMBER											PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	CALCULATED CEL	CHECKED EJK
7	8	9	10	23	65	76	OFFICE CALCS	01/NHS/PV	02/S<2/PV											
																	<b>ROADWAY</b>			
	LUMP											LUMP	201	11000	LUMP		CLEARING AND GRUBBING			
					LUMP							LUMP	202	11000	LUMP		STRUCTURE REMOVED			
					2							2	20010	2	EACH	HEADWALL REMOVED				
								12943	11555	1388		202	23001	12943	SQ YD	PAVEMENT REMOVED, AS PER PLAN	9			
								611	611			202	23010	611	SQ YD	PAVEMENT REMOVED, ASPHALT				
								2538	2538			202	30000	2538	SQ FT	WALK REMOVED				
								1430	1345	85		202	35100	1430	FT	PIPE REMOVED, 24" AND UNDER				
						1393		227	1620			202	35101	1620	FT	PIPE REMOVED, 24" AND UNDER, AS PER PLAN	7			
								57	57			202	38500	57	FT	BRIDGE RAILING REMOVED (MOUNTED TO CULVERT)				
								5	5			202	53100	5	EACH	MAILBOX REMOVED				
								26	25	1		202	58100	26	EACH	CATCH BASIN REMOVED				
	500								500			SPECIAL	20270100	500	FT	SPECIAL - PIPE CLEANOUT				
								12	12			202	75000	12	FT	FENCE REMOVED				
						1223		132	1355			202	98700	1355	FT	ABANDON MISC.: PIPE ABANDON IN PLACE, AS PER PLAN (FILL WITH LOW STRENGTH MORTAR)	8			
				2184	1234				3172	246		203	10001	3418	CU YD	EXCAVATION, AS PER PLAN	9			
				1407	42				1315	134		203	20000	1449	CU YD	EMBANKMENT				
					900				900			203	35110	900	CU YD	GRANULAR EMBANKMENT, TYPE B				
								2728	2638	90		204	10000	2728	SQ YD	SUBGRADE COMPACTION				
		2600							2340	260		204	13000	2600	CU YD	EXCAVATION OF SUBGRADE				
		2600							2340	260		204	21000	2600	CU YD	GRANULAR EMBANKMENT				
7									6	1		204	45000	7	HOUR	PROOF ROLLING				
		2600							2340	260		204	50000	2600	SQ YD	GEOTEXTILE FABRIC				
								446	401	45		206	10500	446	TON	CEMENT				
								11272	10114	1158		206	11000	11272	SQ YD	CURING COAT				
								11272	10114	1158		206	15030	11272	SQ YD	CEMENT STABILIZED SUBGRADE, 16 INCHES DEEP				
								LUMP	LUMP			206	30000	LUMP		MIXTURE DESIGN FOR CHEMICALLY STABILIZED SOILS				
								30	30			607	98000	30	FEET	FENCE MISC.: WOOD FENCE PER RM-5.2	1			
								9791	7950	1841		608	10001	9791	SQ FT	4" CONCRETE WALK, AS PER PLAN	9			
								183	183			608	52010	183	SQ FT	CURB RAMP, TYPE A1				
2									2			623	38501	2	EACH	MONUMENT ASSEMBLY, AS PER PLAN	7			
								35	34	1		623	40520	35	EACH	RIGHT-OF-WAY MONUMENT				
								5	5			SPECIAL	69050100	5	EACH	SPECIAL - MAILBOX SUPPORT SYSTEM, SINGLE				
					28				28			601	32100	28	CU YD	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER				
					27				27			601	32200	27	CU YD	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER				
	700								605	95		659	00300	700	CU YD	TOPSOIL				
	6000								5200	800		659	10000	6000	SQ YD	SEEDING AND MULCHING				
	300								260	40		659	15000	300	SQ YD	INTER-SEEDING				
	1								1			659	20000	1	TON	COMMERCIAL FERTILIZER				
	33								28	5		659	35000	33	M GAL	WATER				
									LUMP			832	15000	LUMP		STORMWATER POLLUTION PREVENTION PLAN				
									34620	5380		832	30000	40000	EACH	EROSION CONTROL				
																<b>DRAINAGE</b>				
	100								100			611	00101	100	FT	4" CONDUIT, TYPE B, AS PER PLAN	8			
	100								100			611	00201	100	FT	4" CONDUIT, TYPE C, AS PER PLAN	8			
	200								200			611	00901	200	FT	6" CONDUIT, TYPE B, AS PER PLAN	8			
	200								200			611	01101	200	FT	6" CONDUIT, TYPE C, AS PER PLAN	8			
	100								100			611	01801	100	FT	8" CONDUIT, TYPE B, AS PER PLAN	8			
	100								100			611	02001	100	FT	8" CONDUIT, TYPE C, AS PER PLAN	8			
	100		50					1762	1871	41		611	04401	1912	FT	12" CONDUIT, TYPE B, AS PER PLAN	8			
	100							130	230			611	04601	230	FT	12" CONDUIT, TYPE C, AS PER PLAN	8			
								216	216			611	05901	216	FT	15" CONDUIT, TYPE B, AS PER PLAN	8			
								107	107			611	06101	107	FT	15" CONDUIT, TYPE C, AS PER PLAN	8			
								1942	1797	145		611	10401	1942	FT	24" CONDUIT, TYPE B, AS PER PLAN	8			
								31	31			611	10601	31	FT	24" CONDUIT, TYPE C, AS PER PLAN	8			
					90				90			611	96315	90	FT	14' X 6' CONDUIT, TYPE A, 706.05, AS PER PLAN	8			
																NOTE:				
																FOR ADDITIONAL OFFICE CALCULATIONS SEE BID DOCUMENTS				

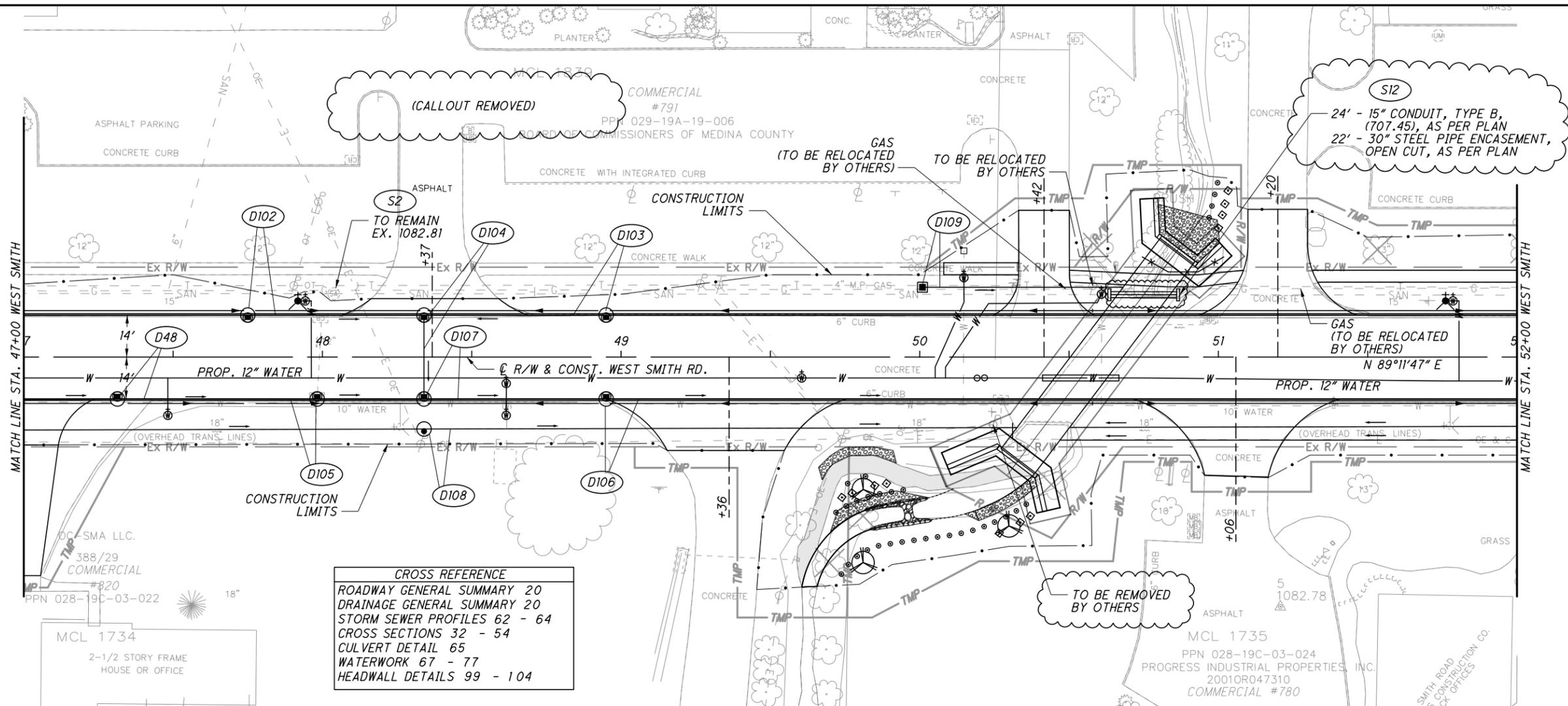
GENERAL SUMMARY

WEST SMITH ROAD

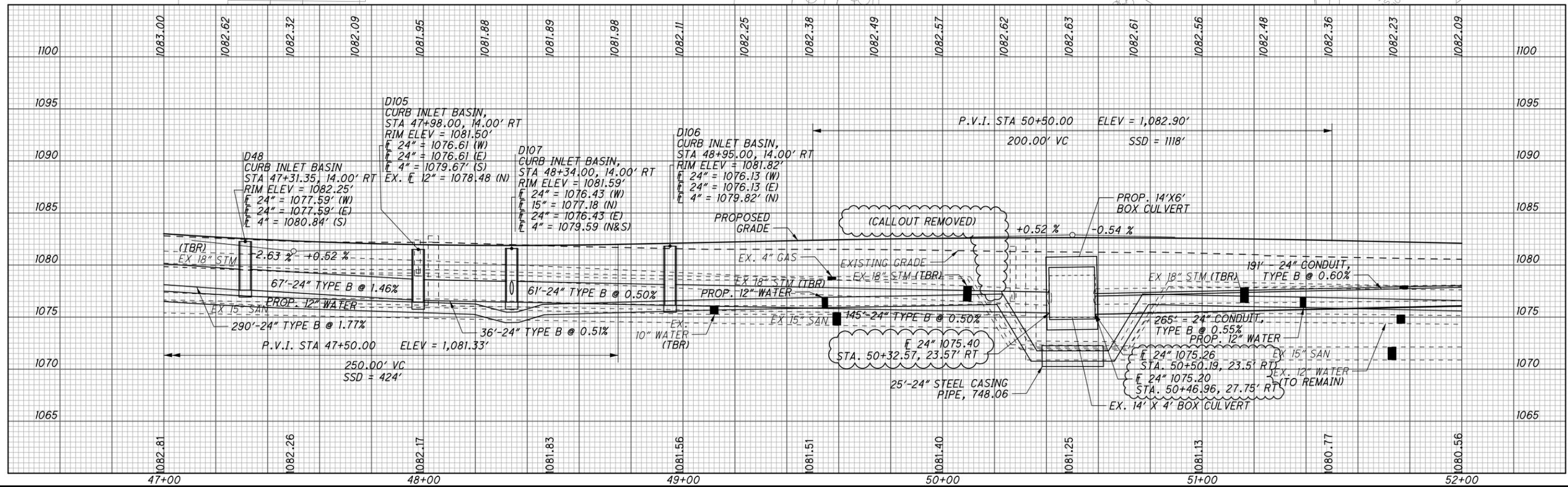




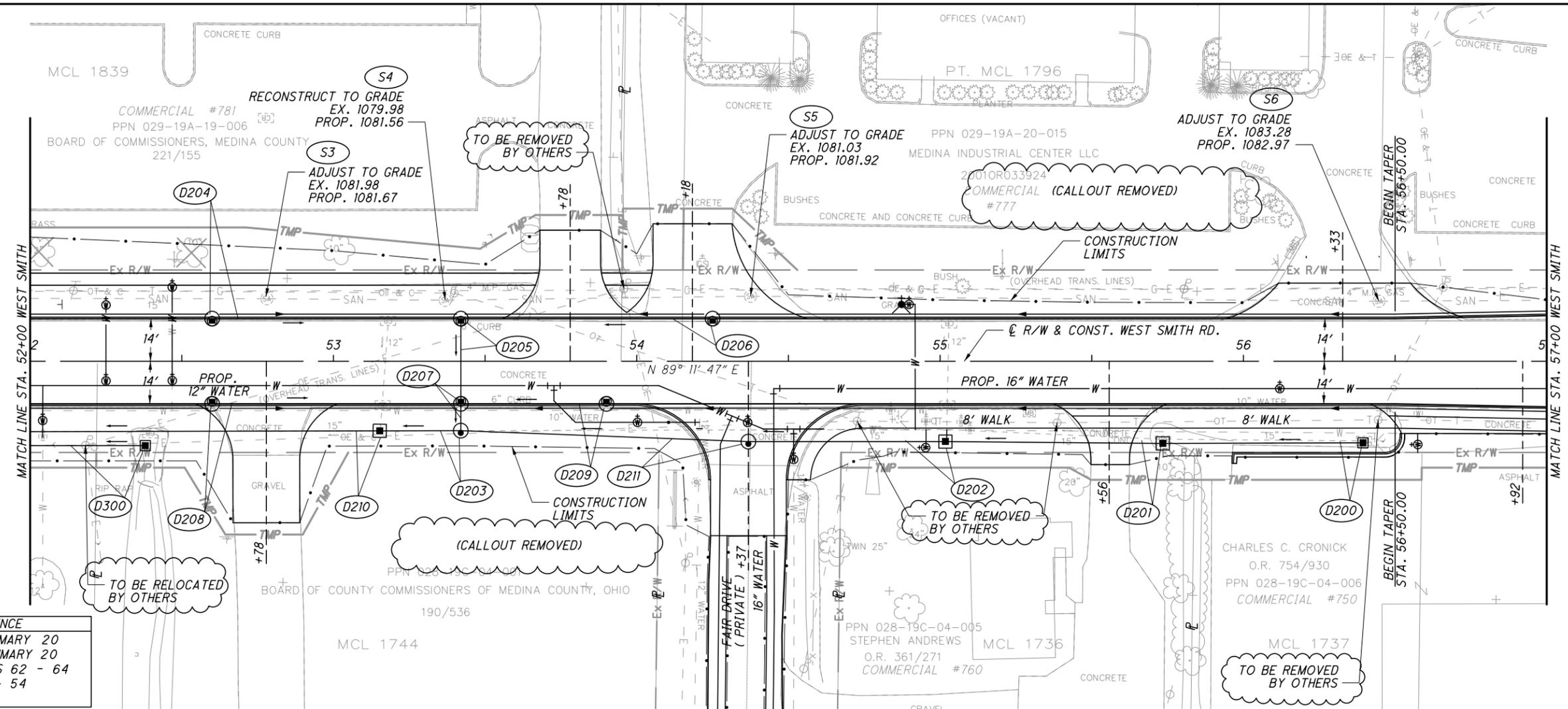
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**CROSS REFERENCE**  
 ROADWAY GENERAL SUMMARY 20  
 DRAINAGE GENERAL SUMMARY 20  
 STORM SEWER PROFILES 62 - 64  
 CROSS SECTIONS 32 - 54  
 CULVERT DETAIL 65  
 WATERWORK 67 - 77  
 HEADWALL DETAILS 99 - 104

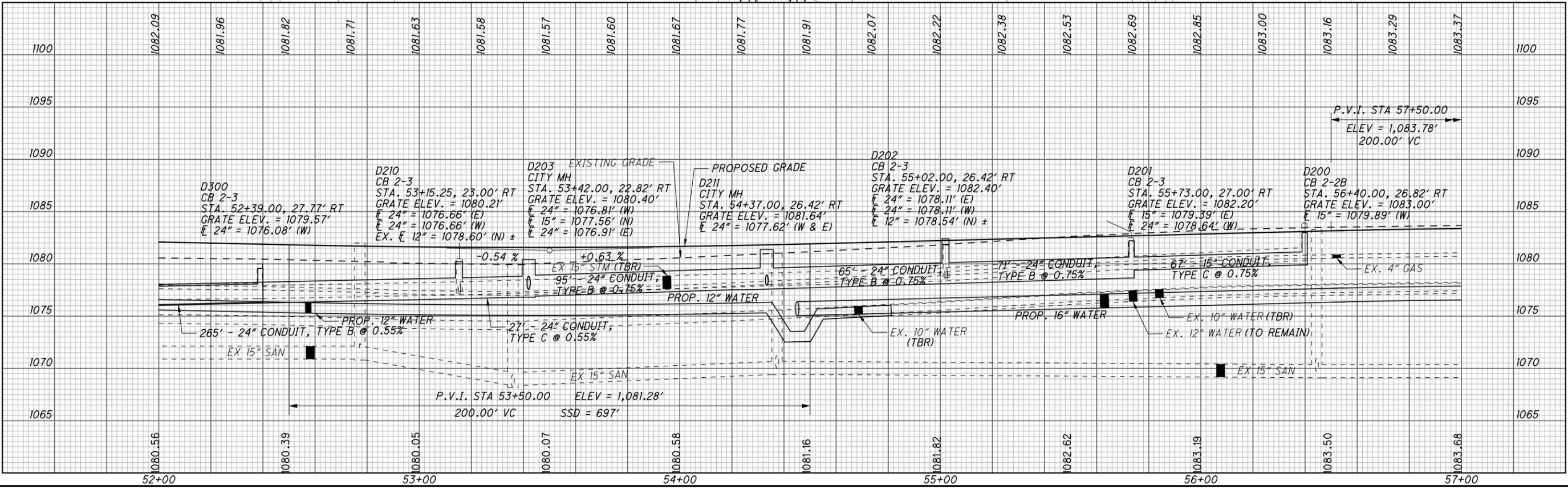


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**CROSS REFERENCE**

ROADWAY GENERAL SUMMARY	20
DRAINAGE GENERAL SUMMARY	20
STORM SEWER PROFILES	62 - 64
CROSS SECTIONS	32 - 54
WATERWORK	67 - 77





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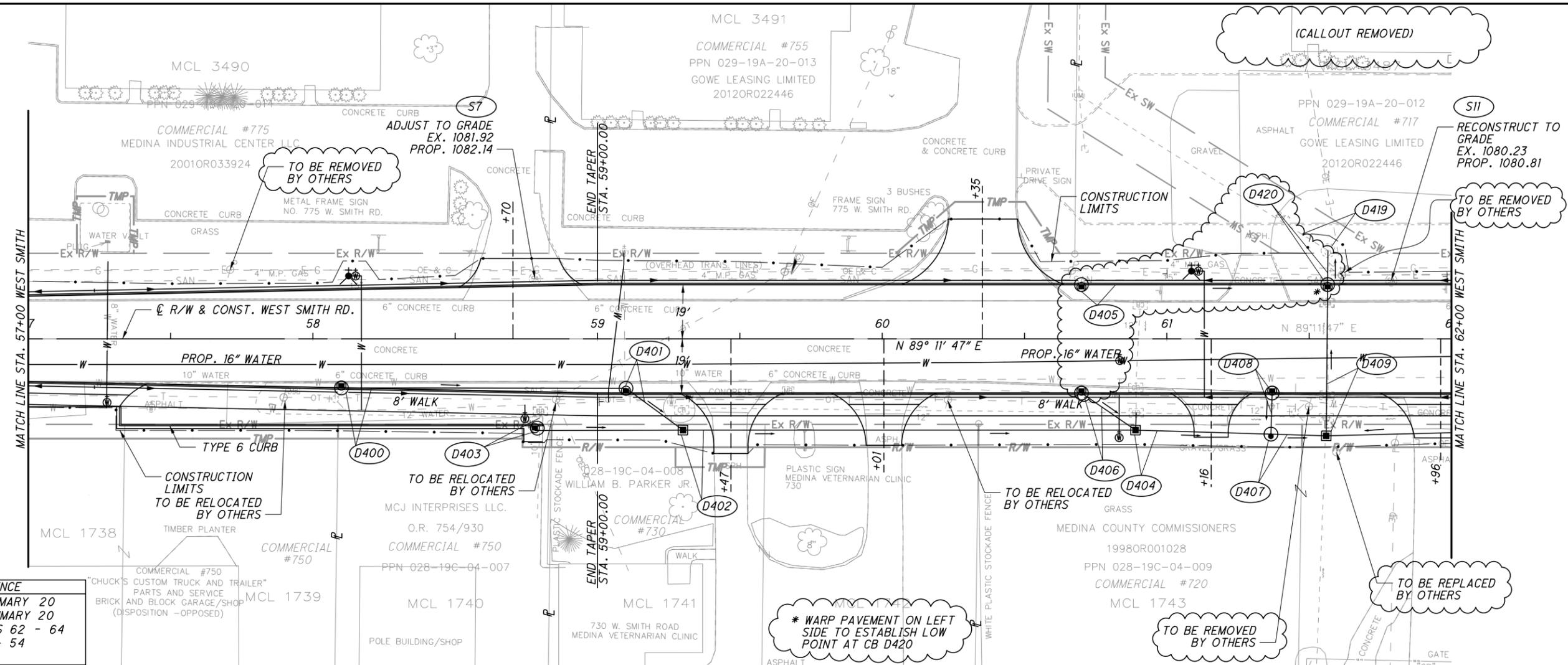
**WEST SMITH ROAD PLAN AND PROFILE**

**WEST SMITH ROAD**

**STA. 52+00 THRU STA. 57+00**

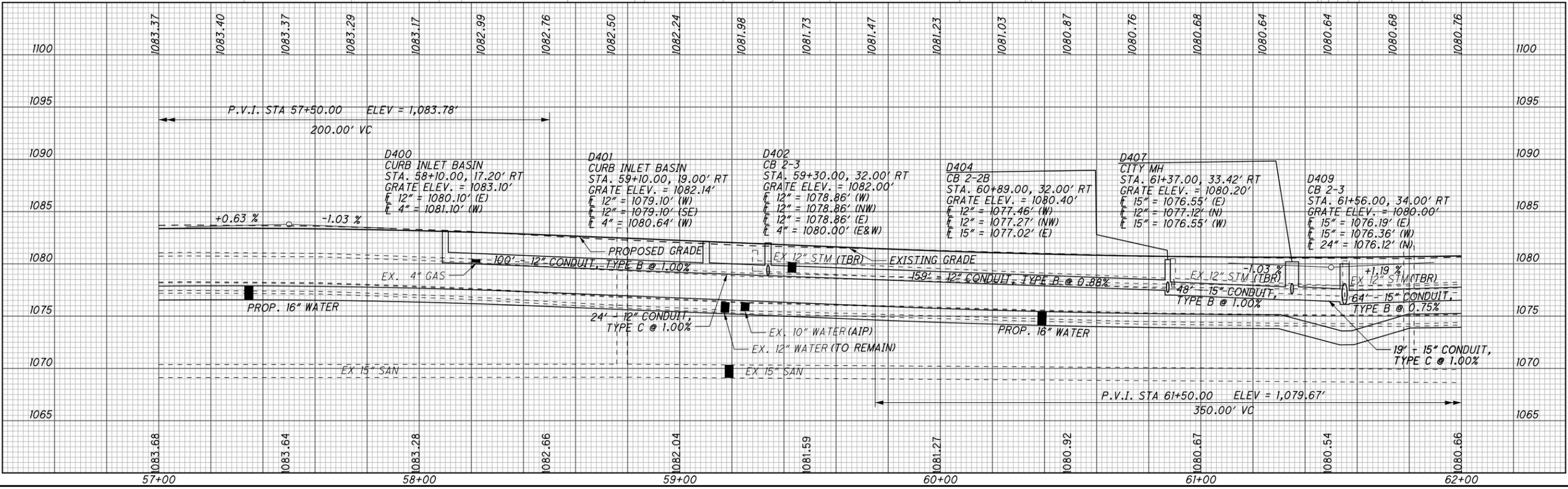
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**CROSS REFERENCE**

ROADWAY GENERAL SUMMARY 20
DRAINAGE GENERAL SUMMARY 20
STORM SEWER PROFILES 62 - 64
CROSS SECTIONS 32 - 54
WATERWORK 67 - 77



**WEST SMITH ROAD PLAN AND PROFILE**

**WEST SMITH ROAD STA. 57+00 THRU STA. 62+00**

SCALE IN FEET

0 10 20 40

HORIZONTAL

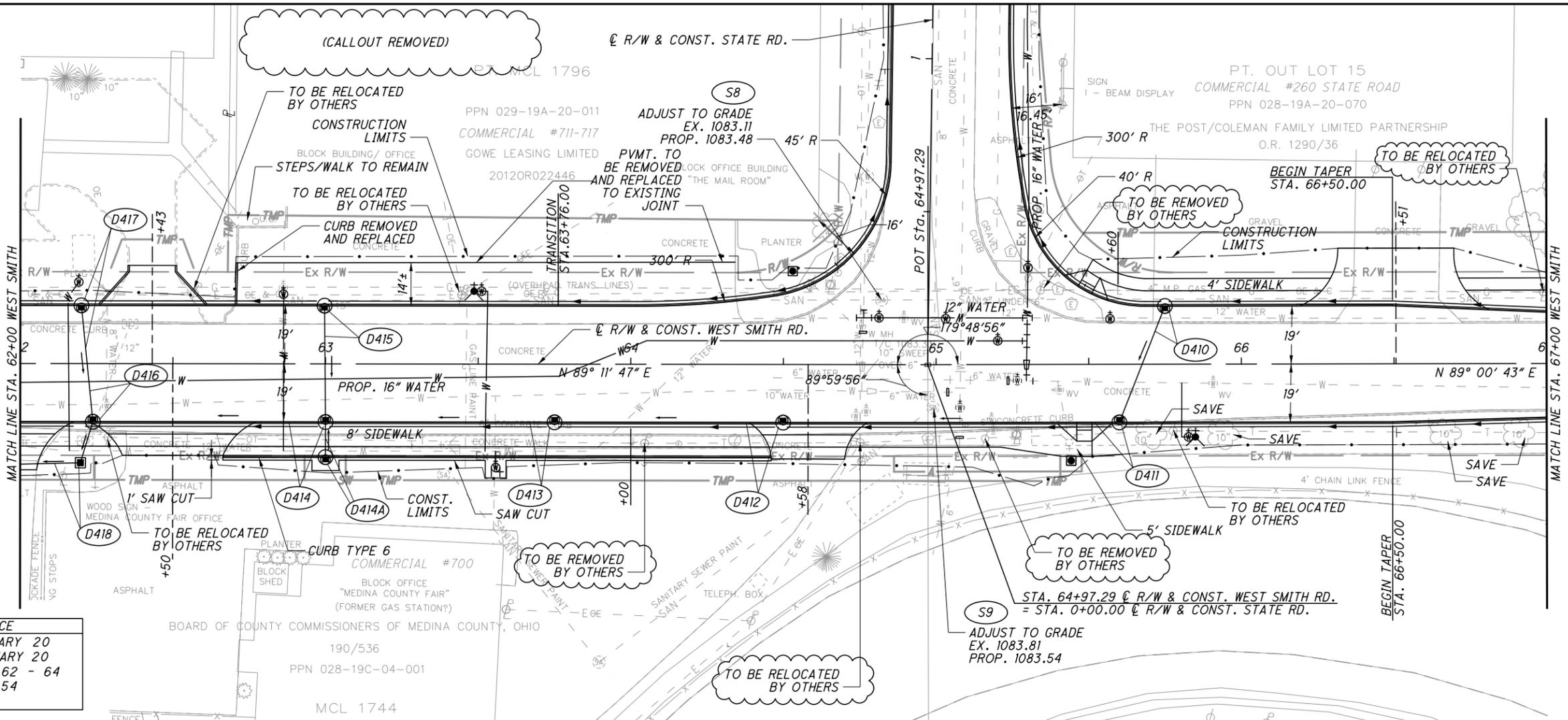
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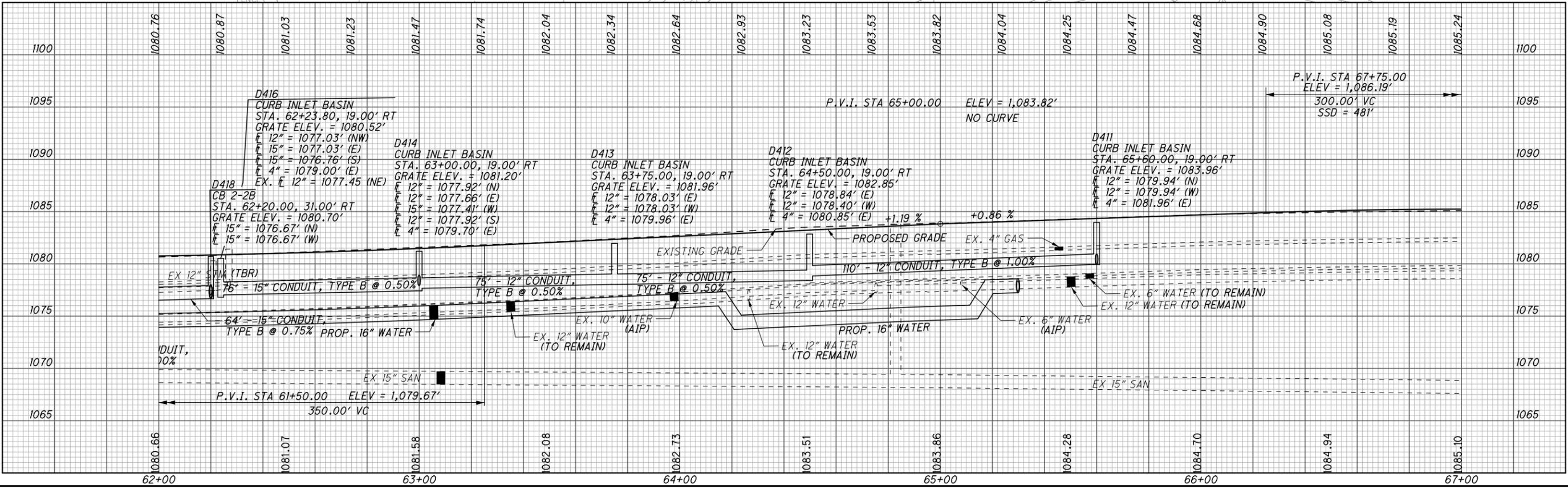


WEST SMITH ROAD PLAN AND PROFILE  
WEST SMITH ROAD  
STA. 62+00 THRU STA. 67+00

WEST SMITH ROAD

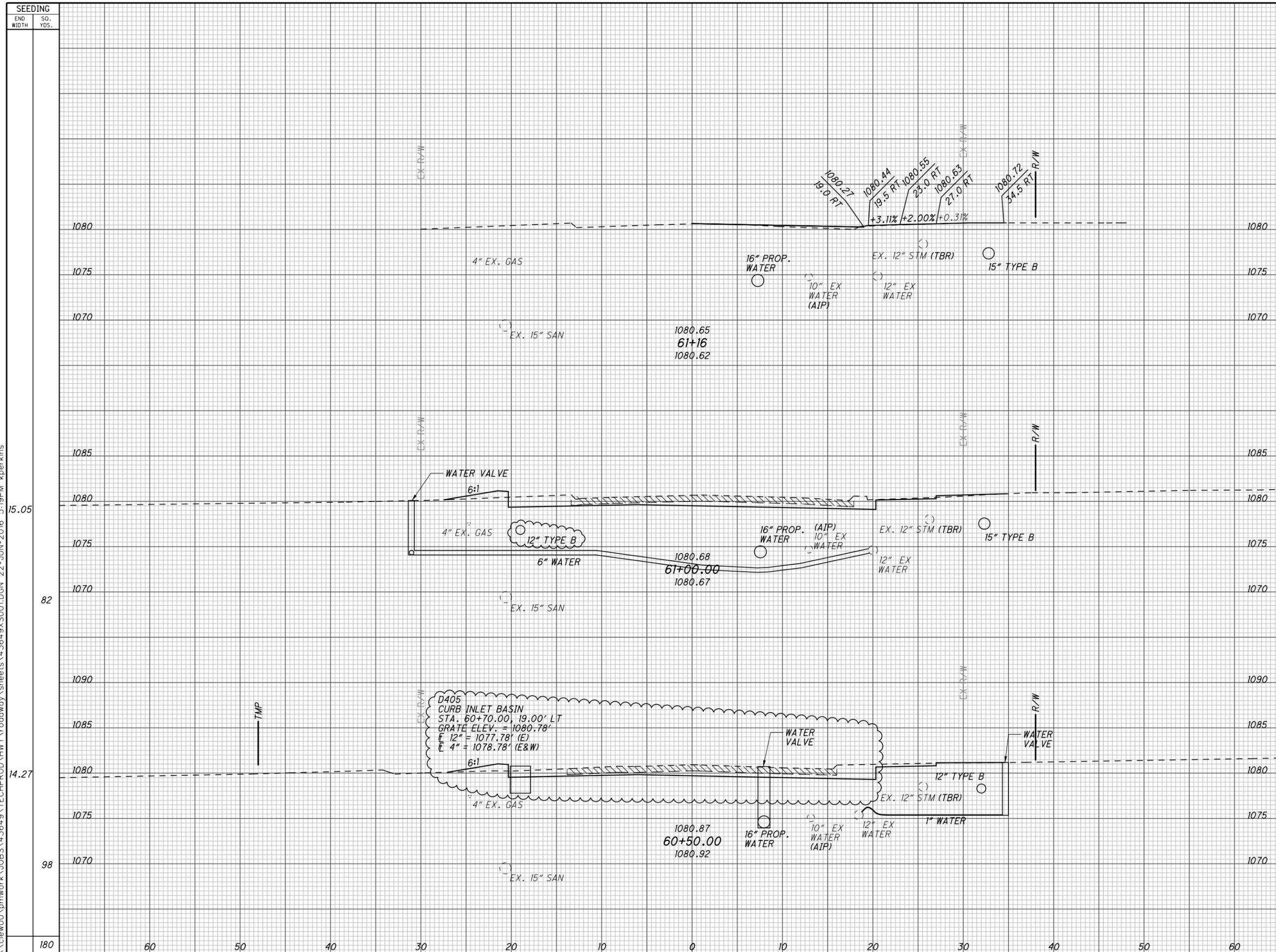


CROSS REFERENCE	
ROADWAY GENERAL SUMMARY	20
DRAINAGE GENERAL SUMMARY	20
STORM SEWER PROFILES	62 - 64
CROSS SECTIONS	32 - 54
WATERWORK	67 - 77



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END STA.	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
60+50.00	23	4		
60+70.00	25	3	45	6
61+15.57	25	3	46	4
TOTAL	73	10	91	10

**WEST SMITH ROAD CROSS SECTIONS**  
**STA. 60+50.00 TO STA. 61+15.57**

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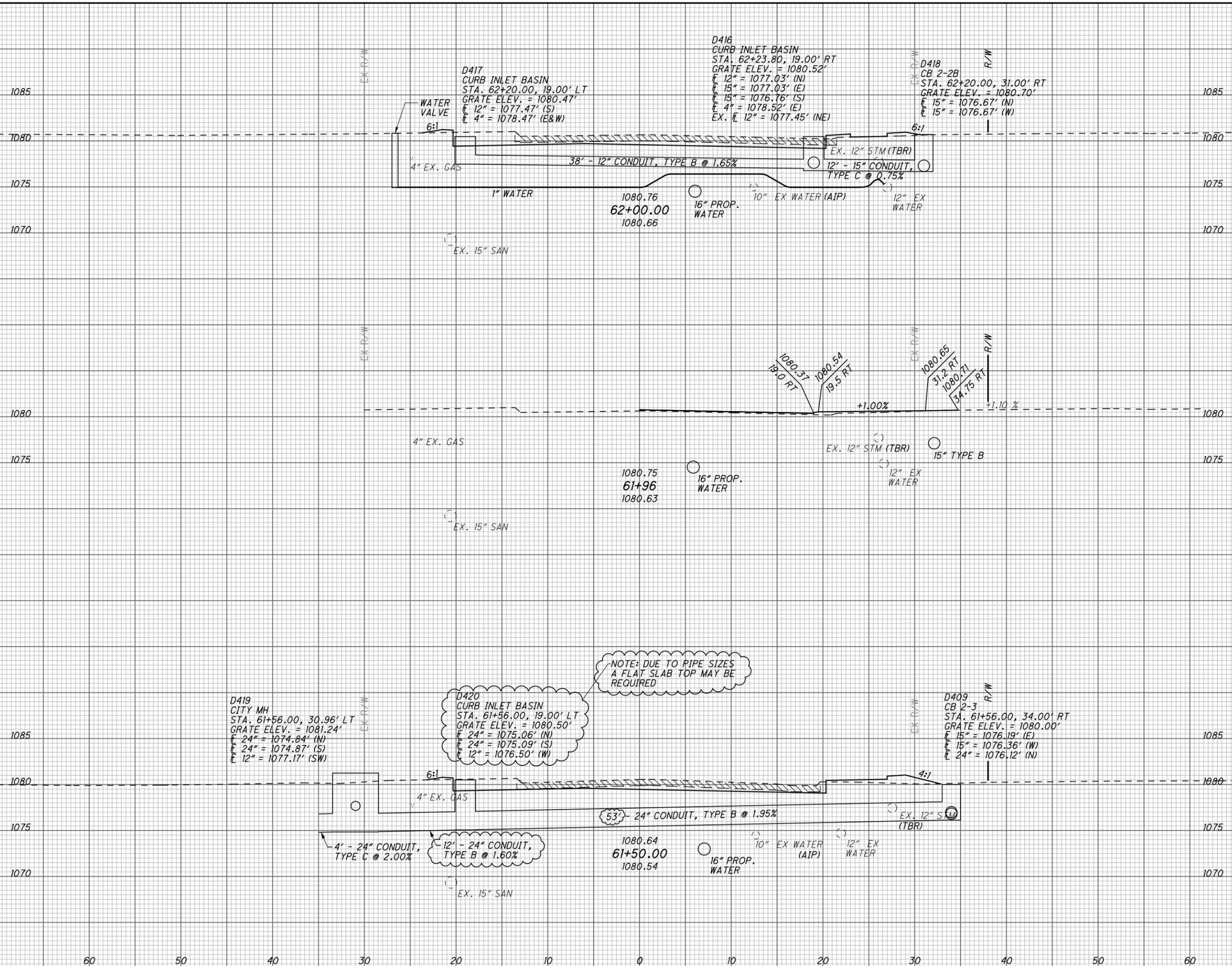
**WEST SMITH ROAD**

CALCULATED	AKL
CHECKED	MJW

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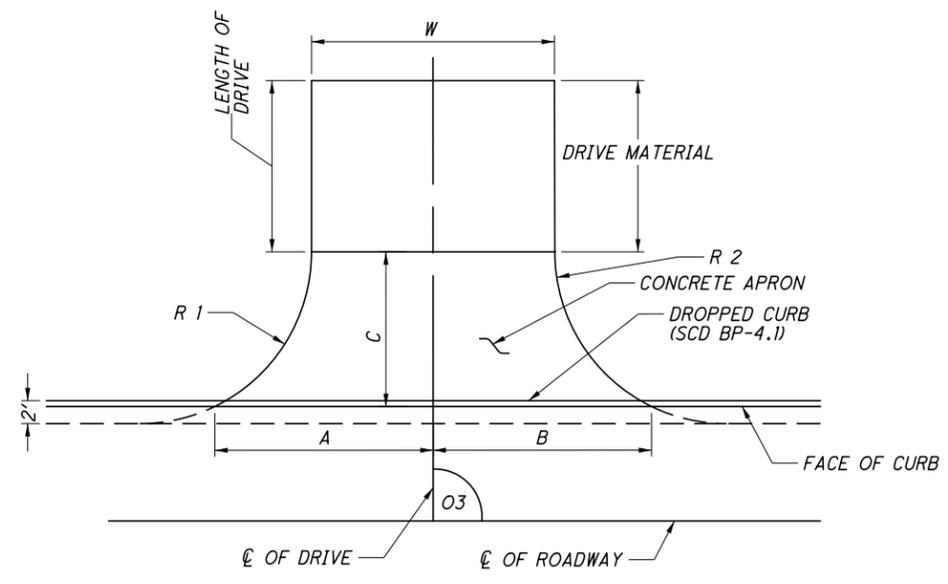
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SEEDING	
END WIDTH	SO. YDS.
9.98	52
8.76	66
	118

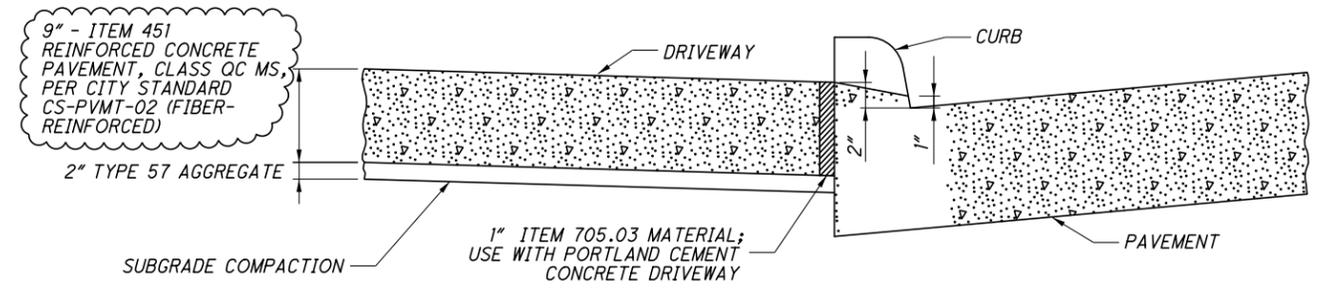


END AREA		VOLUME	
CUT	FILL	CUT	FILL
22	4	36	9
17	6	37	9
		73	18

WEST SMITH ROAD CROSS SECTIONS  
 STA. 61+30.75 TO STA. 62+00.00  
 WEST SMITH ROAD  
 CALCULATED AKL  
 CHECKED MJW  
 49  
 104



TYPE 1 DRIVEWAY



DRIVE DETAILS  
FOR DRIVE APRONS AND CONCRETE DRIVES

PROPOSED DRIVE MATERIALS BUILD UP

- ASPHALT DRIVES  
 ITEM 441 - 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS)  
 ITEM 407 - TACK COAT, FOR INTERMEDIATE COURSE  
 ITEM (441) - 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448), (DRIVEWAYS)  
 ITEM 304 - 8" AGGREGATE BASE
- GRAVEL DRIVES  
 ITEM 304 - 10" AGGREGATE BASE (OR 411 STABILIZED CRUSHED AGGREGATE)

WEST SMITH ROAD

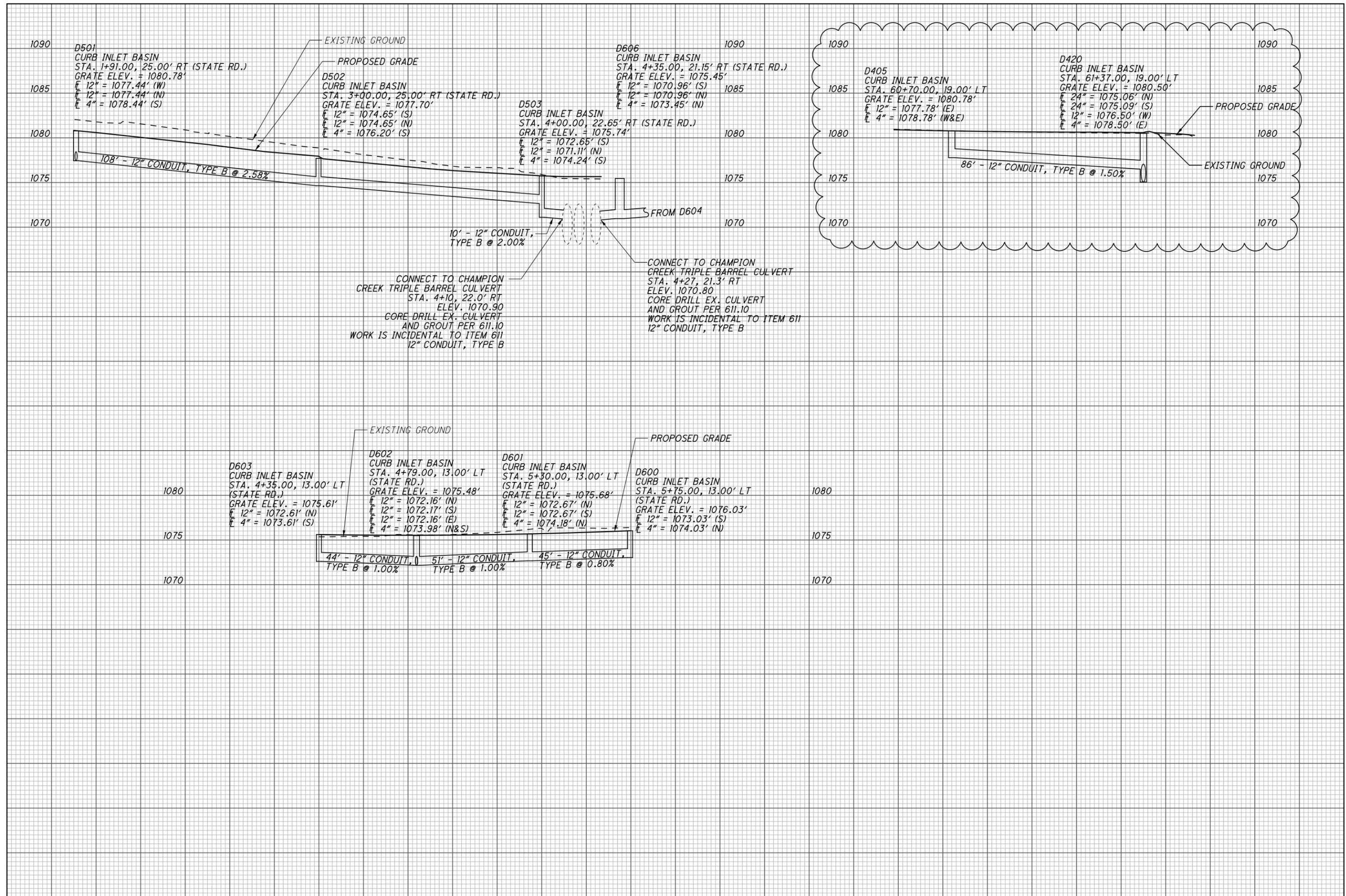
STATION	SIDE	TYPE	O3	A (LT)	B (RT)	C	R1	R2	W	LENGTH OF DRIVE	DRIVE MATERIAL	PARCEL # OR STREET ADDRESS
45+46	LT	1	90	31.5	31.5	16.8	25	25	32.0	0.0	ASPHALT	029-19A-19-006
45+50	RT	1	90	35.1	35.1	28.3	30	30	29.0	0.0	CONCRETE	028-19C-03-005
46+91	RT	1	90	32.4	32.4	15.4	20	20	40.5	0.0	CONCRETE	028-19C-03-005
48+37	LT	1	90	30.4	32.2	5.5	30	30	43.0	0.0	ASPHALT	029-19A-19-006
49+36	RT	1	90	39.3	41.6	17.2	35	35	39.0	0.0	CONCRETE	028-19C-03-005
50+42	LT	1	90	17.0	17.0	13.5	15	15	17.0	21.5	CONCRETE	029-19A-19-006
51+06	RT	1	90	34.9	34.4	24.7	35	35	22.0	0.0	ASPHALT	028-19C-03-006
51+20	LT	1	90	26.5	26.5	23.5	25	25	20.0	11.8	CONCRETE	029-19A-19-006
52+78	RT	1	90	23.4	23.4	18.5	20	20	22.0	20.6	GRAVEL	028-19C-04-001
53+78	LT	1	90	22.4	18.7	18.5	20	20	20.0	10.6	CONCRETE	029-19A-19-006
54+18	LT	1	90	21.7	27.9	18.5	20	35	26.0	12.7	CONCRETE	029-19A-20-015
54+37	RT	1	90	37.5	37.5	25.0	25	25	25.0	18.4	ASPHALT	028-19C-04-005
55+56	RT	1	90	19.1	18.4	18.5	20	20	13.0	1.5	CONCRETE	028-19C-04-005
56+33	LT	1	90	38.4	39.6	11.7	35	35	43.5	0.0	CONCRETE	029-19A-20-015
56+92	RT	1	90	49.6	50.4	9.8	20	20	80.0	0.0	ASPHALT	028-19C-04-006
58+70	LT	1	90	19.1	24.4	10.0	15	15	27.5	0.0	CONCRETE	029-19A-20-014
59+47	RT	1	90	18.4	18.4	18.5	20	20	12.0	2.7	CONCRETE	028-19C-04-008
60+01	RT	1	90	18.7	18.7	18.3	20	20	12.5	0.0	ASPHALT	028-19C-04-008
60+35	LT	1	90	28.4	28.8	23.0	25	25	24.5	0.0	CONCRETE	029-19A-20-013
61+16	RT	1	90	14.5	14.5	8.0	15	15	14.0	0.0	GRAVEL	028-19C-04-009
61+96	RT	1	90	21.4	21.4	12.2	20	20	20.0	0.0	ASPHALT	028-19C-04-001
62+43	LT	1	90	17.3	17.7	11.0	N/A	N/A	16.0	2.1	CONCRETE	029-19A-20-012
62+50	RT	1	90	27.4	27.4	11.0	20	20	33.0	0.0	ASPHALT	028-19C-04-001
64+58	RT	1	90	19.5	19.5	11.9	15	15	24	0.0	ASPHALT	028-19C-04-001
66+51	LT	1	90	31.4	30.6	18.5	20	20	38.0	2.0	CONCRETE	028-19A-20-070

STATE ROAD

STATION	SIDE	TYPE	O3	A (LT)	B (RT)	C	R1	R2	W	LENGTH OF DRIVE	DRIVE MATERIAL	PARCEL # OR STREET ADDRESS
2+32	RT	1	90	40.0	40.0	18.5	20	20	55.2	17.2	GRAVEL	028-19A-20-070
2+66	LT	1	90	27.8	27.0	14.9	20	20	31.0	0.0	GRAVEL	029-19A-20-011
3+60	RT	1	90	31.6	32.4	18.5	20	20	40.0	3.0	CONCRETE	028-19A-20-070
3+84	LT	1	90	22.2	18.0	13.5	15	15	23.0	1.5	CONCRETE	029-19A-20-010
4+71	LT	1	90	24.9	24.9	12.0	20	20	27.0	0.0	CONCRETE	029-19A-20-009
5+27	RT	1	90	24.5	33.5	11.7	25	25	27.0	0.0	ASPHALT	028-19A-20-069

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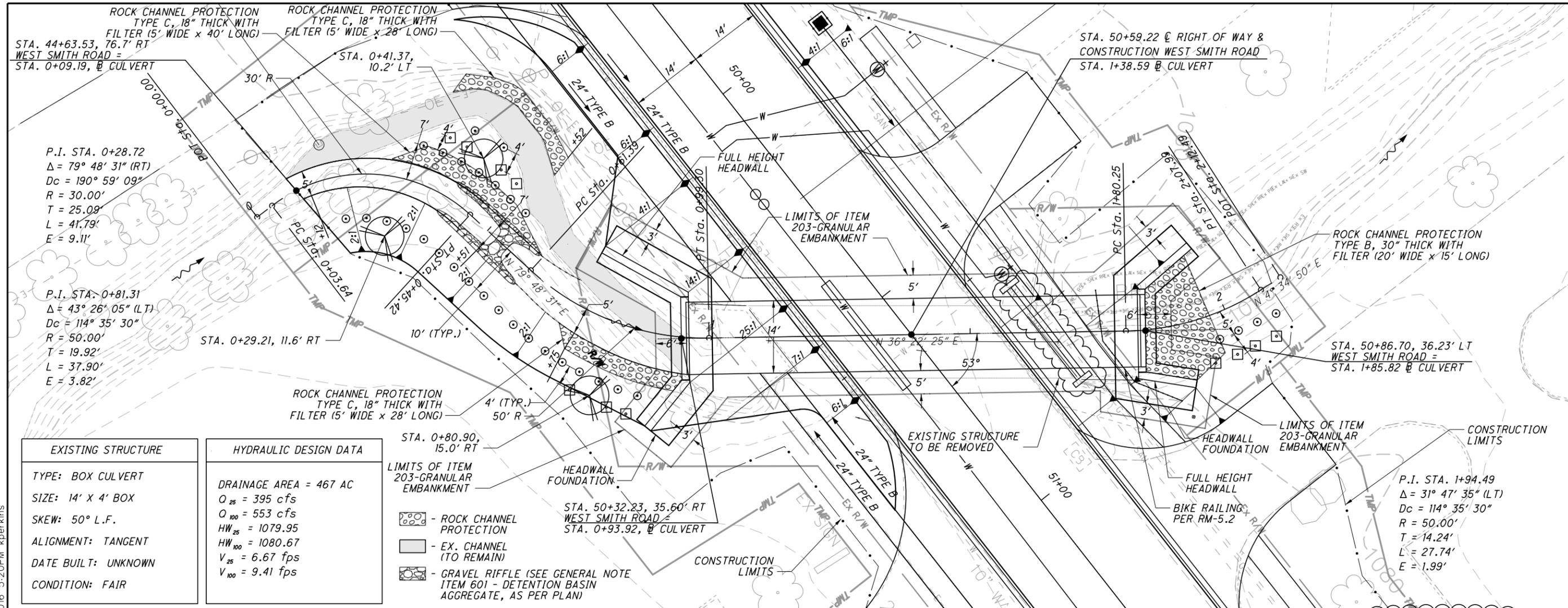
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CALCULATED  
BLM  
CHECKED  
AKL

STORM SEWER PROFILE

WEST SMITH ROAD



EXISTING STRUCTURE	
TYPE:	BOX CULVERT
SIZE:	14' X 4' BOX
SKEW:	50° L.F.
ALIGNMENT:	TANGENT
DATE BUILT:	UNKNOWN
CONDITION:	FAIR

HYDRAULIC DESIGN DATA	
DRAINAGE AREA =	467 AC
$Q_{25}$ =	395 cfs
$Q_{100}$ =	553 cfs
$HW_{25}$ =	1079.95
$HW_{100}$ =	1080.67
$V_{25}$ =	6.67 fps
$V_{100}$ =	9.41 fps

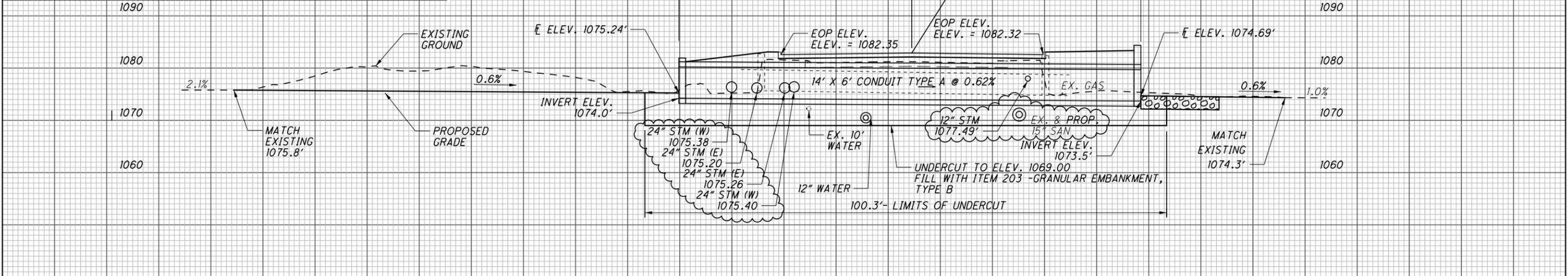
- STA. 0+80.90, 15.0' RT  
 LIMITS OF ITEM 203-GRANULAR EMBANKMENT
-  - ROCK CHANNEL PROTECTION
  -  - EX. CHANNEL (TO REMAIN)
  -  - GRAVEL RIFFLE (SEE GENERAL NOTE ITEM 601 - DETENTION BASIN AGGREGATE, AS PER PLAN)

ITEM	QTY	UNIT	DESCRIPTION
202		LUMP	STRUCTURE REMOVED
202	2	EACH	HEADWALL REMOVED
203	1234	CUYD	EXCAVATION
203	42	CUYD	EMBANKMENT
203	900	CUYD	GRANULAR EMBANKMENT, TYPE B
601	28	CUYD	ROCK CHANNEL PROTECTION TYPE B WITH FILTER
601	27	CUYD	ROCK CHANNEL PROTECTION TYPE C WITH FILTER
611	90	FT	14' X 6' CONDUIT TYPE A, 706.05

SEE SHEETS 99 - 104 FOR HEADWALL DETAILS AND QUANTITIES.

-  - 2" CALIPER, RED MAPLE (ACER RUBRUM)
-  - DIAMOND WILLOW (SALIX ERTIOCEPHALA)
-  - RED-OISER DOGWOOD (CORNUS STOLONIFERA)

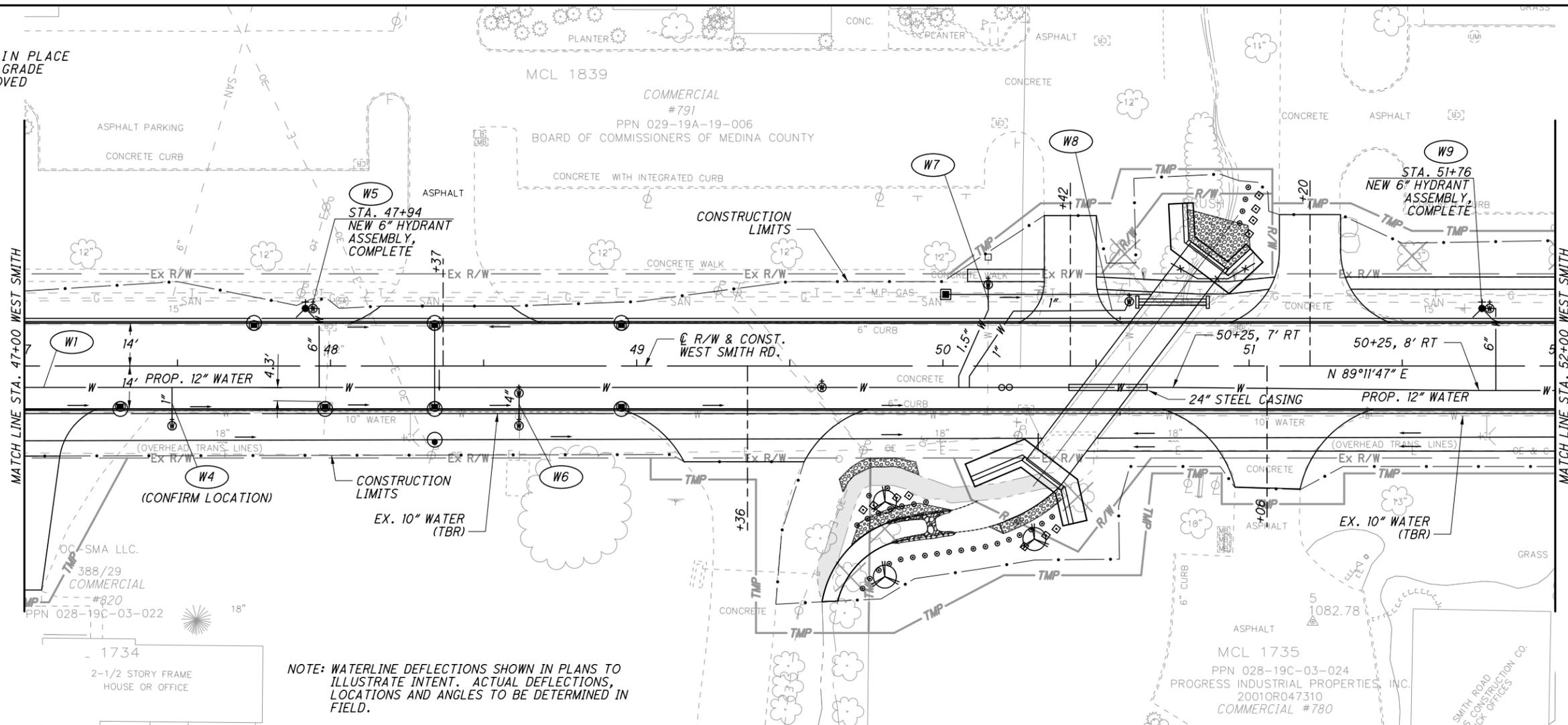
ALL QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY ON SHEET 20 .  
 EARTHWORK QUANTITIES ARE FOR UNDERCUT AND CHANNEL WORK.



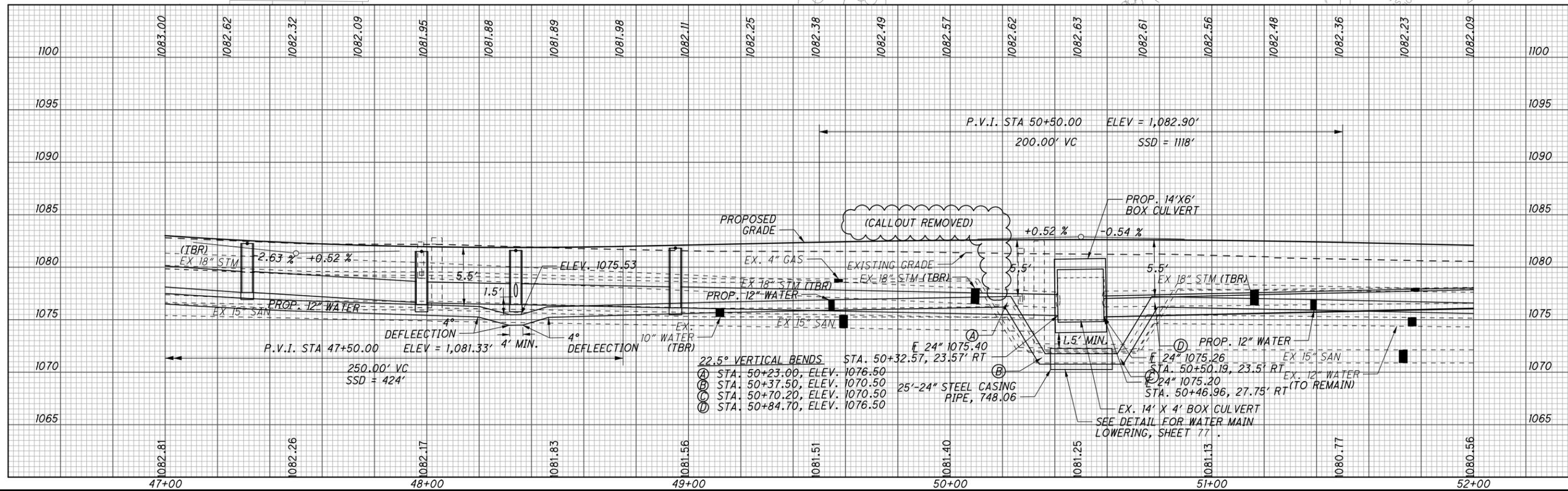
(SEE GENERAL NOTES AND PROJECT UTILITY NOTE REGARDING OVERHEAD UTILITY RESTRICTIONS)

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AIP - ABANDONED IN PLACE  
 ATG - ADJUST TO GRADE  
 TBR - TO BE REMOVED



NOTE: WATERLINE DEFLECTIONS SHOWN IN PLANS TO ILLUSTRATE INTENT. ACTUAL DEFLECTIONS, LOCATIONS AND ANGLES TO BE DETERMINED IN FIELD.



CALCULATED  
 EJK  
 CHECKED  
 MJW

**WATER WORK PLAN AND PROFILE  
 STA. 47+00 TO STA. 52+00**

**WEST SMITH ROAD**

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WATERWORK NOTES

SCOPE OF WORK

THE WORK CONTEMPLATED UNDER THIS CONTRACT COMPRISES THE FURNISHING AND INSTALLING COMPLETE WITH VALVES AND OTHER APPURTENANCES, WATER MAINS, WATER SERVICE CONNECTIONS AND FIRE HYDRANTS, APPURTENANCE ADJUSTMENTS AND PERFORMING OTHER INCIDENTAL WORK NECESSARY AS SHOWN IN THE PLANS.

GENERAL LIMITS OF WATERWORK

WEST SMITH ROAD

- REPLACE HYDRANTS (STA. 44+87 TO STA. 65+85)
- REPLACE WATER SERVICE CONNECTIONS (STA. 45+97 TO STA. 65+00)
- EXISTING 10" WATER-TO BE REMOVED (STA. 44+42 TO STA. 59+15)
- EXISTING 10" WATER-ABANDON IN PLACE, FILL WITH LSM (STA. 59+15 TO STA. 65+08)
- EXISTING 12" WATER-TO REMAIN (STA. 54+62 TO STA. 65+30)
- PROPOSED 12" WATER (STA. 45+11 TO STA. 54+62)
- PROPOSED 12" WATER (STA. 53+73 TO STA. 54+21)
- PROPOSED 16" WATER (FROM PUMP HOUSE TO STA. 65+30)

FAIR DRIVE

- EXISTING 12" WATER (WEST SIDE OF ROAD)-TO REMAIN (FROM PUMP HOUSE TO STA. 54+21)
- EXISTING 12" WATER (EAST SIDE OF ROAD)-TO REMAIN (FROM PUMP HOUSE TO STA. 54+52)
- PROPOSED 12" WATER (FROM TAPPING SLEEVE TO STA. 54+31)
- PROPOSED 16" WATER (FROM PUMP HOUSE TO STA. 54+45)

STATE ROAD

- EXISTING 6" WATER-ABANDON IN PLACE, FILL WITH LSM (STA. 0+00 TO 6+30)
- EXISTING 12" WATER-TO REMAIN (STA. 0+00 TO STA. 6+30)
- PROPOSED 16" WATER (STA. 0+00 TO STA. 6+30)

GENERAL NOTES

CONTRACTOR TO FOLLOW CITY OF MEDINA NOTES AND DETAILS FOUND ON SHEETS 82 & 83.

THE EXACT LOCATION OF EXISTING WATER LINES AND UNDERGROUND STRUCTURES IS NOT KNOWN. INFORMATION SHOWN ON THE PLANS WAS OBTAINED FROM CITY OF MEDINA WATER DEPARTMENT DRAWINGS.

THE EXISTING WATERMAIN AND EXISTING SHORT AND LONG SIDE LATERAL CONNECTIONS ARE TO REMAIN IN SERVICE WHILE THE PROPOSED WATERMAIN IS CONSTRUCTED ON WEST SMITH ROAD AND STATE ROAD. THE PROPOSED WATERMAIN WILL BE INSTALLED AT A TYPICAL COVER OF 5'-6". THE PLANS AND CONNECTION SCHEDULE SHOW EXISTING WATERMAIN DEPTHS AT THE EXISTING VALVES.

WHERE PLANS PROVIDE THE PROPOSED WATERMAIN TO BE CONNECTED TO OR CROSS EITHER OVER AND UNDER AN EXISTING WATERMAIN OR SERVICE CONNECTION, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE THE EXISTING WATERMAIN OR SERVICE CONNECTION BOTH AS TO LINE AND GRADE, BEFORE CONTRACTOR STARTS TO LAY THE PROPOSED WATERMAIN. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY WATERMAIN OR SERVICE CONNECTION DAMAGE BY HIS CONSTRUCTION, EVEN IF THE UTILITY IS INCORRECTLY LOCATED BY OUPS.

DIMENSIONS, DETAILED DRAWINGS AND ELEVATIONS

FIGURED DIMENSIONS ON DRAWINGS SHALL TAKE PRECEDENT OVER MEASUREMENTS BY SCALE, AND DETAILED DRAWINGS ARE TO TAKE PRECEDENCE OVER GENERAL DRAWINGS AND SHALL BE CONSIDERED AS EXPLANATORY OF THEM AND NOT AS INDICATING EXTRA WORK. IF, HOWEVER, ANY OF THE DETAILED DRAWINGS SHOW MORE ELABORATE OR EXPENSIVE WORK THAN IS NORMALLY SPECIFIED AND INDICATED BY THE CONTRACT DRAWINGS, NOTICE THEREOF MUST BE GIVEN TO THE ENGINEER BY THE CONTRACTOR WITHIN TEN (10) DAYS.

AFTER RECEIPT OF SUCH DETAILED DRAWINGS IN ORDER THAT THE DRAWINGS MAY BE AMENDED OR THE ADDITIONAL EXPENSE ON ACCOUNT OF SUCH WORK MAY BE ADJUSTED AND AUTHORIZED. IF THE ENGINEER DOES NOT RECEIVE SUCH NOTICE FROM THE CONTRACTOR WITHIN TEN (10) DAYS AFTER THE DETAILED DRAWINGS HAVE BEEN RECEIVED BY HIM, IT IS HEREBY AGREED THAT THE CONTRACTOR ACCEPTS THE DRAWINGS AND WILL EXECUTE THEM WITHOUT CLAIM FOR EXTRA COMPENSATION.

ERRORS AND DISCREPANCIES

IF THE CONTRACTOR, IN THE COURSE OF HIS WORK, FINDS ANY DISCREPANCY BETWEEN THE PLANS, DESCRIPTION AND LOCATION OF WORK, ESTIMATE OF QUANTITIES, THE PHYSICAL CONDITION OF THE LOCALITY, OR ANY ERRORS IN PLANS OR IN THE LAYOUT AS GIVEN BY THE DRAWINGS AND INSTRUCTIONS WHICH MAKE IT IMPOSSIBLE FOR HIM TO COMPLETE THE WORK REQUIRED UNDER THE PLANS AND SPECIFICATIONS, IT SHALL BE HIS DUTY TO IMMEDIATELY INFORM THE ENGINEER IN WRITING AND THE ENGINEER SHALL VERIFY THE SAME. ANY WORK DONE AFTER SUCH DISCOVERY, UNTIL AUTHORIZED, SHALL BE DONE AT THE CONTRACTOR'S RISK.

FLOODS AND FREEZING WEATHER

PROPER FACILITIES SHALL BE PROVIDED FOR PROTECTING THE WORK FROM DAMAGE BY FLOOD RAIN OR FROST, AND WORK DONE IN FREEZING WEATHER SHALL BE DONE IN SUCH MANNER AS THE ENGINEER MAY APPROVE. VALVES SHALL BE PROTECTED FROM FREEZING UNTIL BACKFILLED IN THE COMPLETED WORK.

ADDITIONAL WORK

(A) ATTENTION IS CALLED TO THE FACT THAT THE WORK OF THIS CONTRACT INCLUDES CERTAIN PERFORMANCE AS INCIDENTAL TO THE ITEMIZED REQUIREMENTS HEREOF. THOUGH NOT EXCLUSIVE AS FOLLOWS: TO PERFORM ALL EXCAVATION, BACKFILLING, SHEETING, SHORING, AND TO TEST AND CHLORINATE THE INSTALLATION. TO INSTALL AND SUPPLY INCLUDING WITHOUT LIMITATION THRUST BLOCKING, PIPE BENDS, REDUCERS AND FITTINGS. THE CITY WILL MAKE NO SPECIFIC OR SEPARATE PAYMENT OR ALLOWANCE, BUT THE COST THERE SHALL BE INCLUDED IN THE PRICES STIPULATED TO BE PAID FOR UNDER THE VARIOUS WATERWORK ITEMS TO BE DONE UNDER THIS CONTRACT.

(B) PRELIMINARY FLUSHING: BEFORE BEING PLACED IN SERVICE, ALL DIRT AND FOREIGN MATTER SHALL BE REMOVED FROM THE NEW WATER MAIN OR EXTENSIONS TO EXISTING MAINS BY A THOROUGH FLUSHING THROUGH THE HYDRANTS OR BY OTHER APPROVED MEANS. EACH VALVED SECTION OF NEWLY LAID PIPE SHALL BE FLUSHED INDEPENDENTLY. THIS SHALL BE DONE AFTER THE PRESSURE TEST AND MAY BE DONE BEFORE OR AFTER THE TRENCH SHALL HAVE BEEN BACKFILLED.

HANDLING PIPE AND ACCESSORIES

(A) UNLOADING PIPE, FITTINGS, VALVES, HYDRANTS, AND OTHER ACCESSORIES SHALL, UNLESS OTHERWISE DIRECTED, BE UNLOADED AT THE POINT OF DELIVERY, HAULED TO AND DISTRIBUTED AT THE SITE OF THE PROJECT BY THE CONTRACTOR. THEY SHALL AT ALL TIMES BE HANDLED WITH CARE TO AVOID DAMAGE. IN LOADING AND UNLOADING, THEY SHALL BE LIFTED BY HOISTS OR SLID, OR ROLLED ON SKIDWAYS IN SUCH MANNER AS TO AVOID SHOCK. UNDER NO CIRCUMSTANCES SHALL THEY BE DROPPED. PIPE HANDLED ON SKIDWAYS MUST NOT BE SKIDDED OR ROLLED AGAINST PIPE ALREADY ON THE GROUND.

(B) AT SITE OF WORK: IN DISTRIBUTING THE MATERIAL AT THE SITE OF THE WORK, EACH PIECE SHALL BE UNLOADED OPPOSITE OR NEAR THE PLACE WHERE IT IS TO BE LAID IN THE TRENCH.

(C) PROTECTION OF PIPE COATING: PIPE SHALL BE HANDLED IN SUCH A MANNER THAT A MINIMUM AMOUNT OF DAMAGE TO THE COATING WILL RESULT. ANY PIPE OR FITTING, THE COATING OF WHICH HAS BEEN DAMAGED IN SHIPPING OR HANDLING, SHALL HAVE THE DAMAGED PORTION WELL CLEANED AND COVERED WITH AN ASPHALT PAINT, APPROVED BY THE CITY BEFORE BEING PLACED IN THE WORK. THE CONTRACTOR SHALL THOROUGHLY COAT ALL EXPOSED PARTS OF BOLTS AND NUTS WITH AN APPROVED ASPHALT PAINT, AFTER ALL PIPE HAS BEEN LAID AND BEFORE BACKFILLING HAS BEEN PLACED. ALL FIELD COATINGS SHALL BE FURNISHED BY THE CONTRACTOR.

(D.) PROTECTION OF CONCRETE PIPE: IF, IN THE PROCESS OF MANUFACTURE, TRANSPORTATION, OR HANDLING, ANY CONCRETE PIPE OR SPECIAL RECEIVES ANY INDENTATION OR DEFORMATION TO THE CONCRETE, STEEL ENDS OR CONNECTIONS, THE REMOVAL OF WHICH WILL IN ANY DEGREE INJURE IT, SUCH PIPE OR SPECIAL SHALL BE REJECTED AND REPLACED AT THE CONTRACTOR'S EXPENSE.

(E) PIPE KEPT CLEAN: THE INTERIOR OF THE PIPE, FITTINGS, AND OTHER ACCESSORIES SHALL BE KEPT FREE FROM DIRT AND FOREIGN MATTER AT ALL TIMES.

(F) FROST PROTECTION: VALVES AND HYDRANTS BEFORE INSTALLATION SHALL BE DRAINED AND STORED IN A MANNER THAT WILL PROTECT THEM FROM DAMAGE BY FREEZING.

WATER WORK, MISC.: WATER SERVICE CONNECTION, 4", 6" & 8" TAPPING SLEEVE, VALVE AND BOX, CURB VALVE AND BOX. COMPLETE IN PLACE

DESCRIPTION - THIS WORK CONSISTS OF CONSTRUCTING WATER SERVICE CONNECTIONS INCLUDING VALVES, FITTINGS, VALVE BOXES, TRENCHING, BACKFILLING, ALL WORK AND MATERIALS NEEDED TO TRANSFER SERVICES.

MATERIALS: TO FOLLOW ODOT CMS ITEM 638.

PIPE, JOINTS, AND FITTINGS - SECTION 748.01 VALVES AND EQUIPMENT - VALVE AND VALVE BOXES SHALL BE IN ACCORDANCE WITH CITY OF MEDINA STANDARD DETAIL FOUND ON SHEET 82.

TRENCHING AND BACKFILLING - SHALL BE IN ACCORDANCE WITH CITY OF MEDINA STANDARD NOTES AND DETAILS, SHEET 82 & 83.

ANY DISCREPANCIES BETWEEN PLAN DETAILS OR NOTES, CITY OF MEDINA DETAILS AND NOTES SHALL SUPERCEED OTHERS.

TESTING:

WATER SERVICE TEE CONNECTIONS LARGER THAN 3 INCHES SHALL BE TAKEN 2 FEET PAST THE EDGE OF PAVEMENT FOR PRESSURE TESTING WITH THE WATER MAIN. (SEE SHEET 77 FOR DETAIL.)

ITEM 202 - ABANDON, MISC.: PIPE ABANDON IN PLACE (FILL WITH LOW STRENGTH MORTAR)

DESCRIPTION - THIS WORK CONSISTS OF ABANDONING THE EXISTING 6" AND 10" WATER LINES IN PLACE AND FILLING THE LINES WITH LOW STRENGTH MORTAR (SEE DETAIL IN GENERAL NOTES FOR PLUGGING ENDS OF ABANDONED LINES). THIS ITEM ALSO INCLUDES ABANDONING EXISTING WATER SERVICE CONNECTIONS AND WATER VALVES.

SERVICE CONNECTIONS:

CONNECTIONS 2" AND SMALLER- LEAD/GALVANIZED PIPE OR COPPER TUBING SHALL BE CUT AS CLOSE AS POSSIBLE TO THE CORPORATION FITTING WITH THE ENDS EITHER CRIMPED OR FILLED WITH LSM. THE ABANDONED CONNECTION MATERIAL SHALL BE REMOVED FROM THE EXCAVATION.

- A. CORPORATION WITH A SHUTOFF VALVE: THE CONTRACTOR SHALL TURN THE SHUTOFF VALVE TO THE OFF POSITION. ANY CORPORATION SHUTOFF VALVE THAT IS LEAKING, SWEATING OR WILL NOT CLOSE TIGHT SHALL BE PLUGGED AS A FERRULE TYPE CONNECTION.
B. FERRULE TYPE (NON-THREADED TAPER PRESSED FITTING): THE CONTRACTOR SHALL REMOVE THE FERRULE AND INSTALL AN 18-8 STAINLESS STEEL TWO SECTION, DOUBLE RANGE, REPAIR CLAMP CENTERED OVER THE OPENING DRILLED FOR THE CONNECTION.

CONNECTIONS 3" AND LARGER- THE CURB/SERVICE SHUTOFF VALVE SHALL BE REMOVED AND EXPOSED END OF THE SERVICE CONNECTION LINE PLUGGED PER THE DETAIL IN THE GENERAL NOTES. THE REMAIN LINE SHALL BE FILLED WITH LSM.

VALVE BOXES:

ALL EXISTING VALVE BOXES NO LONGER IN SERVICE ALONG THE ABANDONED LINES SHALL HAVE THE TOP HALF REMOVED BELOW GRADE AND THE BOTTOM HALF FILLED WITH EITHER ODOT ITEM 304 (CRUSHED LIMESTONE) OR LSM.

6" FIRE HYDRANT ASSEMBLY, AS PER PLAN

FIRE HYDRANT ASSEMBLY SHALL FOLLOW CITY DETAIL ON SHEET 83 AND INCLUDE ALL COSTS OF FURNISHING AND INSTALLING COMPLETE WITH VALVES AND OTHER APPURTENCES FROM WATER MAIN TO FIRE HYDRANT ASSEMBLY INCLUDING ALL NECESSARY EXTENTIONS BENDS, ETC. NEEDED TO EXTEND BELOW OR ABOVE EXISTING SEWERS, UTILITIES, AND/OR OBSTRUCTIONS.

HYDRANTS OR HYDRANT LINES PLACED ABOVE OR BELOW SANITARY SEWER, SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 2 FEET.

ITEM 638 WATERWORK MISC.: PREMIUM BACKFILL EXISTING WATERLINE TO REMAIN

IN THE AREAS INDICATED ON THE PLANS EXCAVATE AND DISPOSE OF EXISTING MATERIAL ABOVE AND AROUND EXISTING WATER LINES TO REMAIN AND BACKFILL THE TRENCH WITH SUITABLE MATERIAL AS SHOWN ON SHEET 77. PAYMENT AT THE UNIT PRICE OF CUBIC YARD SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS TO EXCAVATE, BACKFILL AND FURNISHING, INSTALLING AND REMOVAL OF ANY REQUIRED PROTECTION OF THE EXISTING LINE AND TRENCH BRACING/SHORING TO COMPLETE THE WORK.

ITEM 638 WATERWORK MISC.: FURNISHING AND SETTING 6" HYDRANT, COMPLETE WITH 6" X (X') CUT IN TEE

IN ADDITION TO THE REQUIREMENTS OF NOTE '6" FIRE HYDRANT ASSEMBLY, AS PER PLAN', THIS ITEM SHALL INCLUDE CUTTING A NEW HYDRANT BRANCH TEE AND SPOOL PIECES INTO EXISTING WATERMANS, PER "CUT-IN TEE DETAIL METHOD NO. 1" WITH THE WATERLINE DETAILS (SEE SHEET 78).

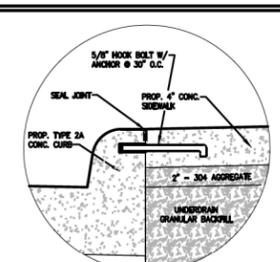
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CHECKED
MJW

WATERWORK NOTES

WEST SMITH ROAD

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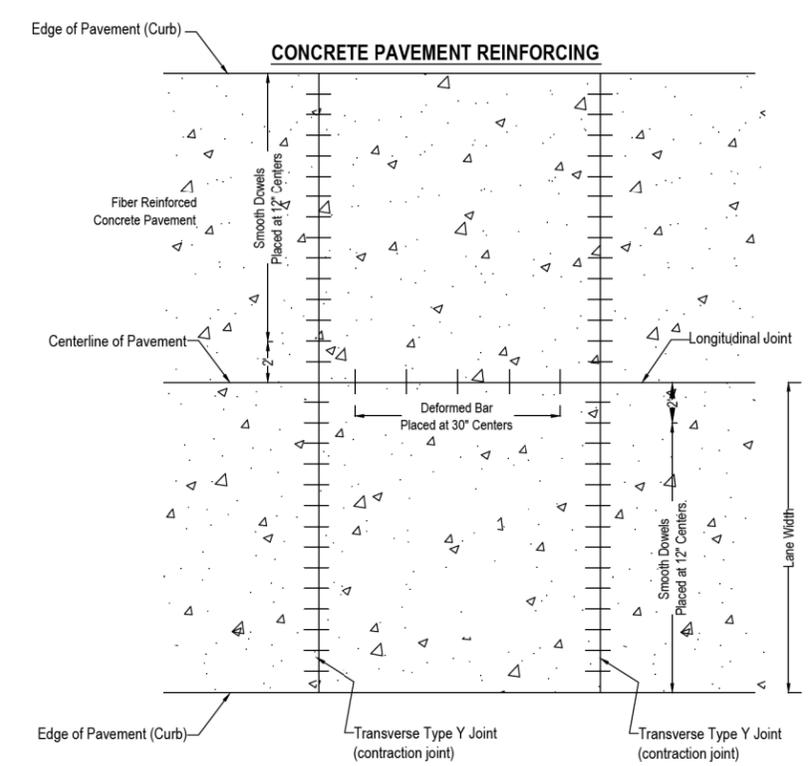




This detail applies to all locations where the proposed curb abuts the proposed pavement curbing. Hook bolts shall be placed 30" O.C.

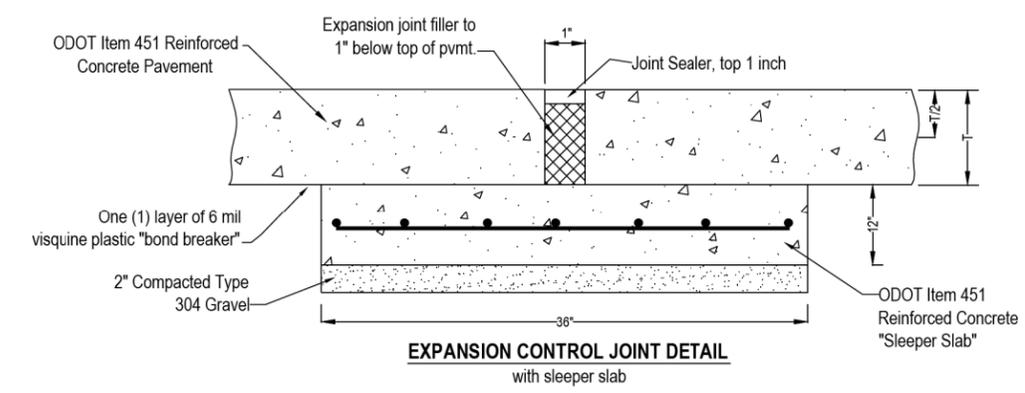
**SIDEWALK TIE IN  
DETAIL 'D'**

N.T.S.

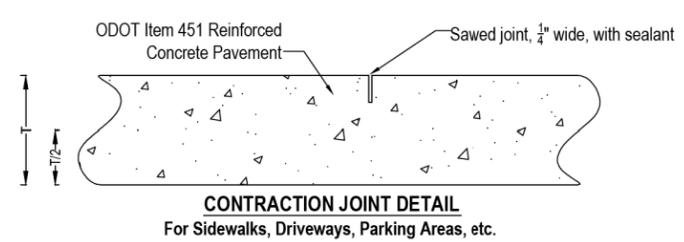


**CONCRETE PAVEMENT SPECIFICATION TABLE**

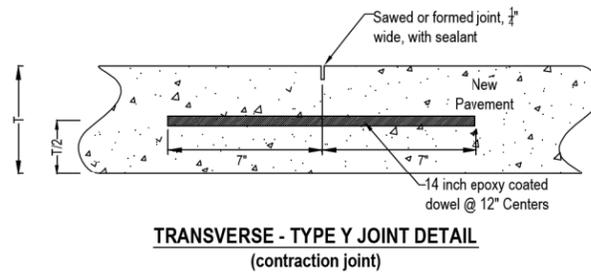
PAVEMENT TYPE:	INDUSTRIAL - THOROUGHFARE
Application:	Major Arterial, Industrial and Thoroughfare Streets
Reinforcing:	
Bar Size, Transverse Type T Joints (contraction):	1 1/4 inch x 14" (min.) long epoxy coated smooth dowel
Dowel Size, Transverse Type Y Joints (contraction):	1 1/4 inch x 14" (min.) long epoxy coated smooth dowel
Bar Size, Longitudinal Joint:	#5 x 24" long epoxy coated deformed bar
Longitudinal and Contraction Joint Depth:	2 1/4 inches
Transverse Joint Spacing:	15 ft. maximum



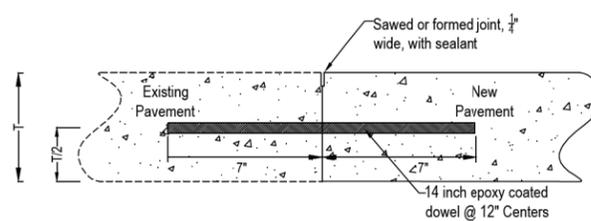
**EXPANSION CONTROL JOINT DETAIL  
with sleeper slab**



**CONTRACTION JOINT DETAIL  
For Sidewalks, Driveways, Parking Areas, etc.**



**TRANSVERSE - TYPE Y JOINT DETAIL  
(contraction joint)**

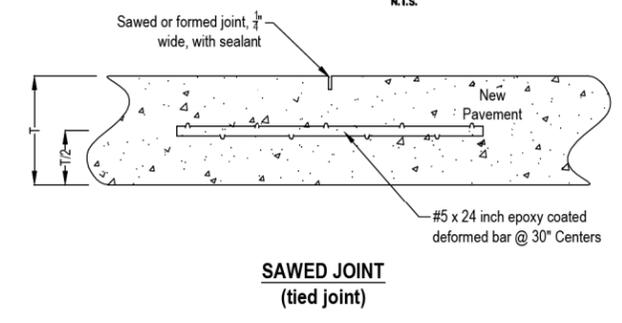


**TRANSVERSE - TYPE T JOINT DETAIL  
(contraction joint)  
(CONSTRUCTION JOINT DETAIL)**

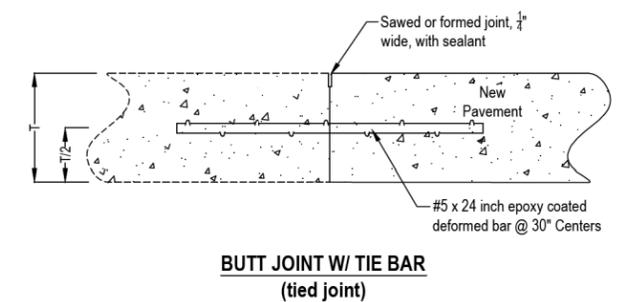
Construction joints required at end of each pour in a multi-pour project and wherever concrete placement will be suspended for 30 minutes or more.

**TRANSVERSE PAVEMENT JOINT DETAILS**

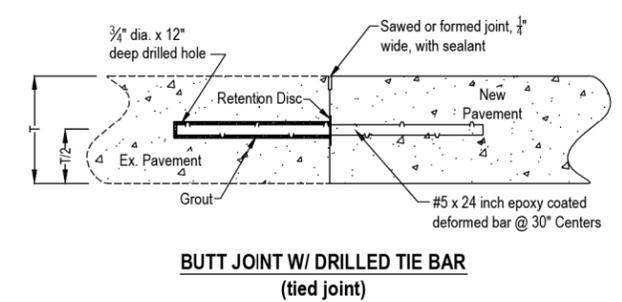
NOTE:  
Refer to sheet 80 for additional pavement details and general notes.



**SAWED JOINT  
(tied joint)**



**BUTT JOINT W/ TIE BAR  
(tied joint)**



**BUTT JOINT W/ DRILLED TIE BAR  
(tied joint)**

**LONGITUDINAL PAVEMENT JOINT DETAILS**

CITY OF MEDINA	
Project:	CONSTRUCTION STANDARDS
Title:	REINFORCED CONCRETE PAVEMENT AND APPURTENANCES
Scales:	
Date:	February 18, 2003
Revisions:	1. May 15, 2006 2. June 11, 2007 3. March 17, 2009 4. May 28, 2009
Sheet Number:	. of .

CS-PVMT-01  
Dwg. File #: AutoCad Files\Standard Drawings\Pavementics-Pvmt-01.dwg

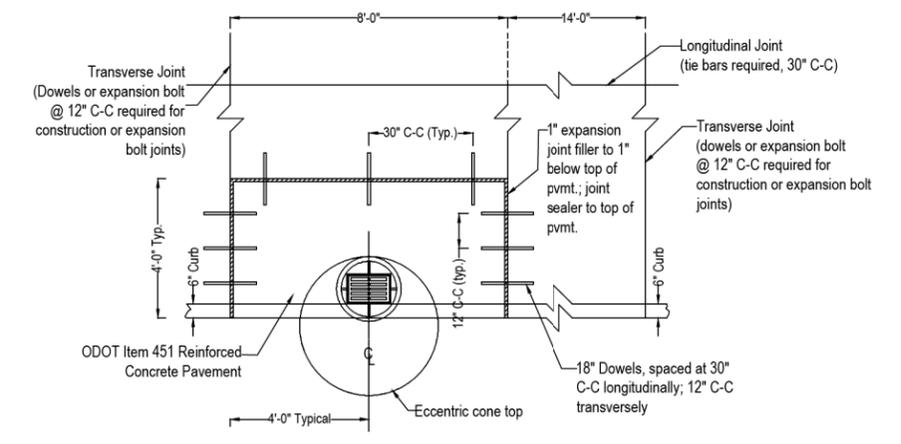
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GENERAL NOTES:

**FIBER MESH REINFORCEMENT**  
Fiber reinforcement shall consist of fibrillated polypropylene fibermesh. Fibers shall be 100% virgin polypropylene. Form of the fibers supplied shall be collated fibrillated fiber. Fiber length shall be 1/2", 3/4" and 1 1/2". All fibers supplied must be in accordance with ASTM-C-1116-89 "Specifications for Fiber Reinforced Concrete and Shotcrete" classifications 4.1.3 TYPE III. Fiber reinforcement shall be supplied at a minimum of 1.5 pounds per cubic yard of concrete.

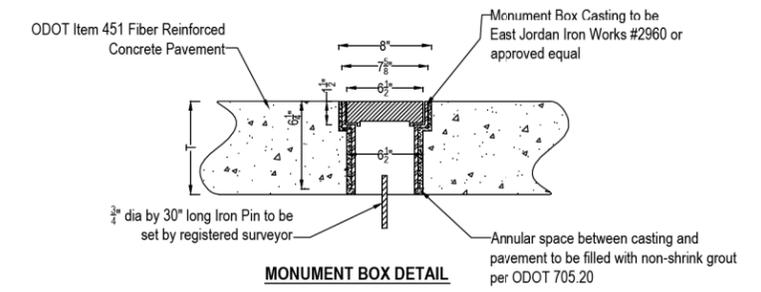
**UNDER DRAINS**  
Four (4) inch diameter perforated, corrugated polyethylene smooth lined pipe (under drain) shall be furnished in accordance with ODOT Item No. 707.33. Drains shall outlet to culverts, catch basins, or manholes via an six (6) inch diameter core. Core hole shall be sealed neat with a non-shrink grout. The underdrain trench shall be wrapped with filter fabric in accordance with ODOT Item 605 and 712.09. Filter fabric shall completely surround the granular backfill material. Underdrain shall be backfilled with Type 57 or Type 67 crushed gravel to 3 inches below finished grade.

**MONUMENTS**  
Where indicated on the plans, the Contractor shall install a monument assembly, which shall consist of a monument box (see monument box detail) and a monument pin. Assembly requires two cored openings in the pavement, one 6 1/2", the other 8". Remove debris and prepare concrete for grout per manufacturer's recommendations. Coat pavement opening and exterior of casting with grout. Install casting and finish flush with existing pavement. Pin shall be a 3/4" by 30" long iron pin set by a surveyor registered in the State of Ohio as a professional surveyor.



**TYPICAL INLET BASIN BOXOUT DETAIL**  
Contact Engineering Dept. for details on double basin boxout requirements

NOTE: Frame and grate to be installed in accordance with the details noted on the City of Medina Standard Construction Dwg. for Storm Sewers

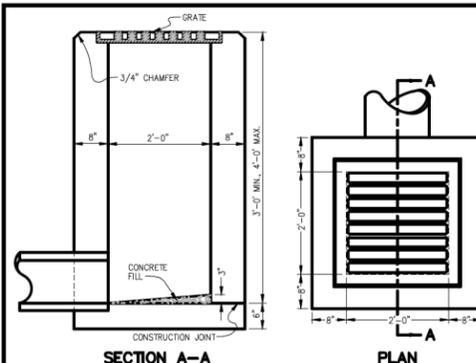


**MONUMENT BOX DETAIL**

<b>CITY OF MEDINA</b>	
Project: <b>CONSTRUCTION STANDARDS</b>	
Title: <b>REINFORCED CONCRETE PAVEMENT AND APPURTENANCES</b>	
Scales:	
Date: <b>February 18, 2003</b>	Sheet Number: . of .
Revisions: <ol style="list-style-type: none"> <li>1. May 15, 2006</li> <li>2. June 11, 2007</li> <li>3. March 17, 2009</li> <li>4. May 28, 2009</li> </ol>	

CS-PVMT-02  
Drwg. File #: AutoCad Files\Standard Drawings\Pavement\cs-Pvmt-01.dwg

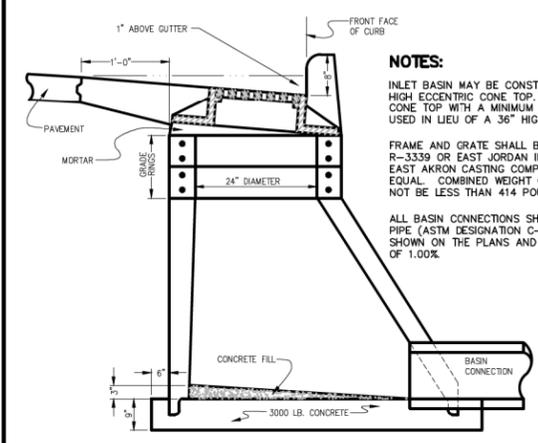
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**NOTES:**  
INLET BASIN TO BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF O.D.O.T. ITEM No. 611. CONSTRUCTION SHOWN HERE IS FOR CAST IN PLACE CLASS "C" CONCRETE. PRECAST BASINS ARE ACCEPTABLE.  
GRATE SHALL BE NEENAH FOUNDRY No. R-4859 OR EAST JORDAN IRON WORKS No. 6730 OR EAST AKRON CASTING Co. No. 343 OR APPROVED EQUAL. WEIGHT OF GRATE SHALL NOT BE LESS THAN 120 POUNDS.  
GRATE TO BE PLACED AT AN ELEVATION 6 TO 12 INCHES BELOW NORMAL DITCH ELEVATION.  
WHEN THE INLET BASIN IS PLACED IN A PAVED AREA OR A PROPOSED PAVED AREA, THE GRATE SHALL BE SET IN AN ANGLE FRAME. ANGLE FRAME SHALL BE NEENAH FOUNDRY No. R-4899 OR EAST JORDAN IRON WORKS No. 6730-Z OR EAST AKRON CASTING Co. No. 376, OR APPROVED EQUAL.

**STANDARD No. 2-2-B INLET BASIN**

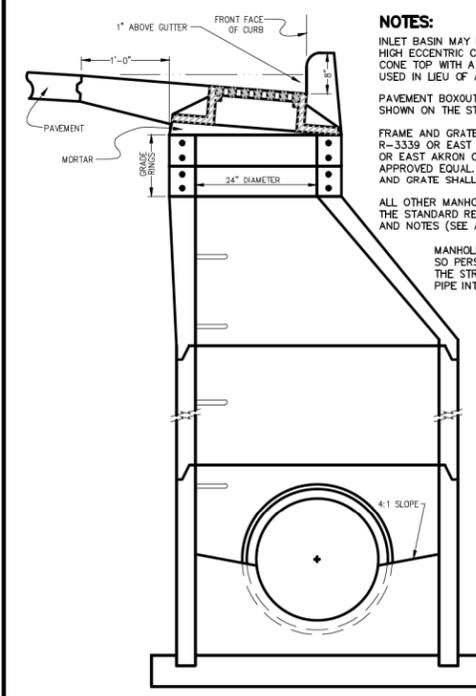
SCALE: N.T.S.



**NOTES:**  
INLET BASIN MAY BE CONSTRUCTED OF 36" OR 48" HIGH ECCENTRIC CONE TOP. A 32" HIGH ECCENTRIC CONE TOP WITH A MINIMUM 4" GRADE RING MAY BE USED IN LIEU OF A 36" HIGH ECCENTRIC CONE TOP.  
FRAME AND GRATE SHALL BE NEENAH FOUNDRY No. R-3339 OR EAST JORDAN IRON WORKS No. 5130 OR EAST AKRON CASTING COMPANY No. 480, OR APPROVED EQUAL. COMBINED WEIGHT OF FRAME AND GRATE SHALL NOT BE LESS THAN 414 POUNDS.  
ALL BASIN CONNECTIONS SHALL BE REINFORCED CONCRETE PIPE (ASTM DESIGNATION C-76, CLASS IV) OF THE SIZE SHOWN ON THE PLANS AND LAID AT A MINIMUM GRADE OF 1.00%.

**STANDARD CURB INLET BASIN**

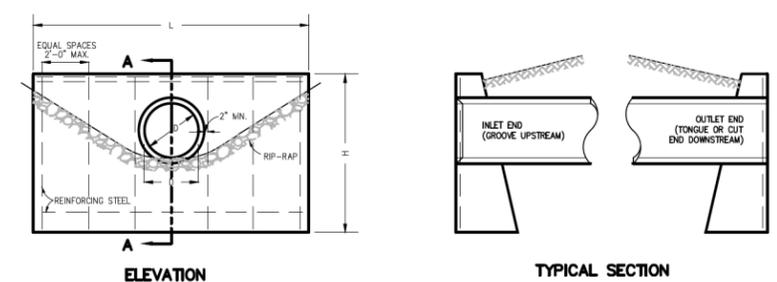
SCALE: N.T.S.



**NOTES:**  
INLET BASIN MAY BE CONSTRUCTED OF 36" OR 48" HIGH ECCENTRIC CONE TOP. A 32" HIGH ECCENTRIC CONE TOP WITH A MINIMUM 4" GRADE RING MAY BE USED IN LIEU OF A 36" HIGH ECCENTRIC CONE TOP.  
PAVEMENT BOXOUT SHALL BE CONSTRUCTED AS SHOWN ON THE STANDARD PAVING DETAILS.  
FRAME AND GRATE SHALL BE NEENAH FOUNDRY No. R-3339 OR EAST JORDAN IRON WORKS No. 5130 OR EAST AKRON CASTING COMPANY No. 480, OR APPROVED EQUAL. COMBINED WEIGHT OF FRAME AND GRATE SHALL NOT BE LESS THAN 414 POUNDS.  
ALL OTHER MANHOLE ITEMS SHALL BE COVERED BY THE STANDARD REINFORCED PRECAST MANHOLE DETAIL AND NOTES (SEE ABOVE-RIGHT).  
MANHOLE STEPS SHOULD BE CONSTRUCTED SO PERSONNEL EXITING THE MANHOLE FACE THE STREET UNLESS AN INLET OR OUTLET PIPE INTERFERES.

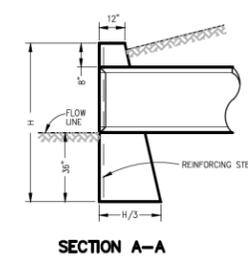
**STANDARD CURB INLET MANHOLE**

SCALE: N.T.S.



DIMENSIONS		
DIAMETER	H	L
12"	4'-10"	5'-8"
15"	5'-2"	6'-3"
18"	5'-5"	6'-6"
21"	5'-8"	7'-0"
24"	5'-11"	8'-0"
27"	6'-2"	8'-6"
30"	6'-5"	9'-6"
36"	7'-0"	11'-0"
42"	7'-7"	12'-6"
48"	8'-2"	14'-6"

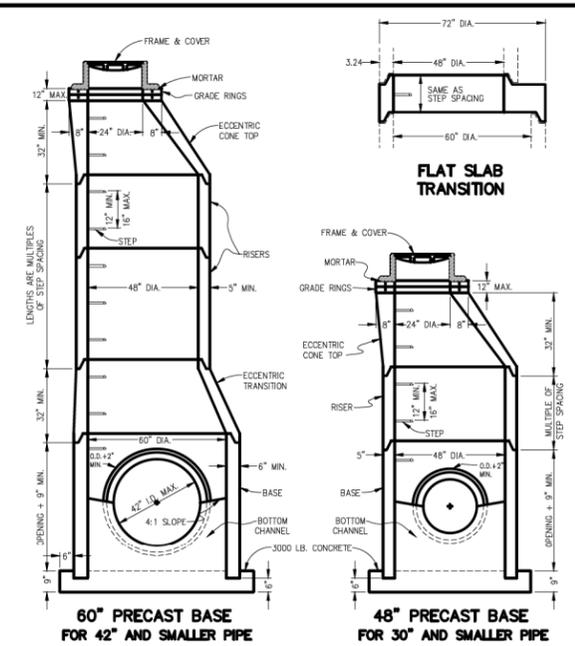
CIRCULAR SECTIONS =  $D + T + 44"$   
ELLIPTICAL SECTIONS =  $R + T + 44"$   
D = DIAMETER OF PIPE  
R = RISE OF PIPE  
S = SPAN OF BARREL  
T = THICKNESS OF BARREL  
L = LENGTH OF HEADWALL  
H = HEIGHT OF HEADWALL



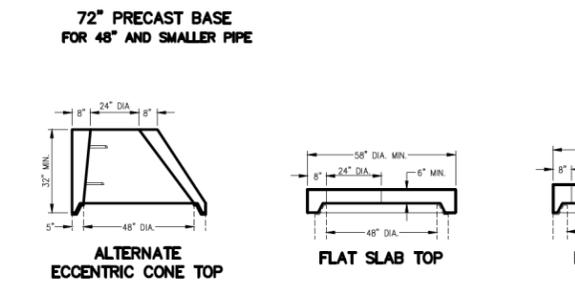
**NOTES:**  
HEADWALL, WHERE REQUIRED, WILL BE PROVIDED FOR CULVERTS.  
CONCRETE SHALL BE CLASS "C". REINFORCING STEEL BARS SHALL BE 5/8 INCH DIAMETER.  
DIMENSIONS ARE SHOWN FOR CIRCULAR SECTIONS ONLY. IT WILL BE NECESSARY TO DETERMINE DIMENSIONS FOR THE HEADWALL REQUIRED FOR REINFORCED ELLIPTICAL CONCRETE PIPE IN ACCORDANCE WITH THE EQUATIONS LISTED ON THIS DRAWING.  
CHAMFER ALL EXPOSED CORNERS 3/4 OF AN INCH.  
WHERE THE SOIL BORINGS INDICATE A BEARING CAPACITY OF LESS THAN 2600 POUNDS PER SQUARE FOOT, IT WILL BE NECESSARY TO INCREASE THE WIDTH OF THE BASE.

**FULL HEADWALL DETAIL**

SCALE: N.T.S.



**NOTES:**  
PRECAST MANHOLES SHALL BE USED WITH APPROPRIATE SIZE PIPE. WHEN PIPE SIZE EXCEEDS 48" I.D. THEN "TEE" OR RECTANGULAR PRECAST MANHOLES SHALL BE USED. WITH NORMAL SOIL AND SITE CONDITIONS ANY STANDARD PRECAST MANHOLE MAY BE USED FOR ANY REQUIRED MANHOLE DEPTH.  
SECTIONS OF THE PRECAST MANHOLE SHALL BE CAST AND ASSEMBLED WITH EITHER ALL TONGUE OR ALL GROOVE ENDS UP. LIFT HOLES MAY BE PROVIDED IN EACH SECTION FOR HANDLING AND SHALL BE FILLED WITH CONCRETE AFTER ERECTION.  
TOP AND TRANSITION SECTIONS MAY BE EITHER ECCENTRIC CONE OR FLAT SLAB.  
MANHOLE BASES MAY BE CONSTRUCTED WITH MONOLITHIC FLOOR AND RISER. BOTTOM CHANNELS MAY BE FORMED OF CONCRETE PRECAST IN THE BASE OR BY FIELD CONSTRUCTION. OPENINGS FOR INLET AND OUTLET PIPES SHALL BE PROVIDED, EITHER WHEN THE UNIT IS CAST OR LATER, TO MEET PROJECT REQUIREMENTS.  
OPENINGS IN RISER SECTIONS FOR INLET PIPES MAY BE PREFABRICATED OR CUT IN THE FIELD PROVIDED THE PIPE PROJECTING INTO THE MANHOLE IS CUT OR PREFABRICATED TO BE FLUSH WITH THE INSIDE MANHOLE WALL SURFACE.  
JOINT SEAL BETWEEN PRECAST MANHOLE SECTIONS SHALL BE PLASTIC BITUMINOUS JOINTING MATERIAL OR COMPRESSION TYPE RUBBER GASKET.  
MATERIALS FOR BASES AND OTHER PRECAST SECTIONS, INCLUDING REINFORCEMENT, SHALL COMPLY WITH THE REQUIREMENTS OF O.D.O.T. ITEM No. 706.13.  
DROP PIPES SHALL BE CONSTRUCTED FOR ALL CONDUITS WHICH CANNOT BE CONNECTED TO THE MANHOLE WITHIN FOUR FEET, FLOWLINE TO FLOWLINE.  
STEPS AS SHOWN HEREON AND MEETING THE REQUIREMENTS OF O.D.O.T. ITEM No. 611 SHALL BE INSTALLED WITH A UNIFORM VERTICAL SPACING OF 12" TO 16", MINIMUM 4" WALL EMBEDMENT, AND 4 1/2" CLEARANCE FROM STEP TREAD TO WALL. THE BOTTOM STEP SHALL BE A MAXIMUM OF 24" ABOVE THE STRUCTURE BOTTOM OR BOTTOM CHANNEL EDGE.  
STEPS SHALL HAVE A DEPRESSED TREAD OR A MINIMUM 1/2" HIGH CLEAT AT TREAD ENDS AND SHALL BE 12" WIDE. STEPS SHALL HAVE A MINIMUM CROSS-SECTIONAL DIMENSION OF ONE INCH FOR FERROUS METAL AND 3/4" FOR ALUMINUM.  
FRAME AND COVER SHALL BE NEENAH FOUNDRY No. R-1782 WITH TYPE "C" UNVENTED COVER OR EAST JORDAN IRON WORKS No. 1710 WITH TYPE "A" SOLID COVER OR EAST AKRON CASTING COMPANY No. 163-D WITHOUT IMPRINTED NAME, OR APPROVED EQUAL. COMBINED WEIGHT OF FRAME AND COVER SHALL NOT BE LESS THAN 350 POUNDS.  
FRAME AND COVER FOR INLET MANHOLES IN GRASSED AREAS SHALL BE EAST JORDAN IRON WORKS No. 1048 WITH TYPE M2 GRATE OR TYPE O2 BEEHIVE GRATE AS SPECIFIED ON PLANS, OR APPROVED EQUAL.  
FRAME AND COVER FOR INLET MANHOLES IN PAVEMENT AREAS SHALL BE EAST JORDAN IRON WORKS No. 5130, OR APPROVED EQUAL.



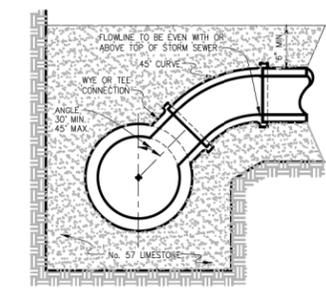
**STANDARD REINFORCED PRECAST MANHOLE**

SCALE: N.T.S.

**STORM SEWER NOTES**

- ALL STORM SEWERS AND APPURTENANCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF MEDINA ENGINEERING DEPARTMENT'S SPECIFICATIONS AND STANDARDS AND WITH ODOT ITEM 611 SPECIFICATIONS.
- ALL STORM SEWER PIPE IS TO BE SAW CUT, NOT BROKEN
- ALL STORM SEWER PIPE UNDER THE PAVEMENT SHALL BE EITHER REINFORCED CONCRETE PIPE (RCP), (RCP) CLASS IV, POLYVINYL CHLORIDE PIPE (PVC) OR HIGH DENSITY POLYETHYLENE PIPE (HDPE) OF THE SIZE SHOWN ON THE PLANS.
- ALL JOINTS BETWEEN SECTIONS OF REINFORCED CONCRETE PIPE (RCP) SHALL BE SEALED WITH BITUMINOUS JOINT MATERIAL.
- ALL MANHOLES SHALL BE SET TO GRADE BY THE SEWER CONTRACTOR AT THE TIME OF INSTALLATION. THE FINAL ADJUSTMENT OF THE CASTINGS WITHIN THE ROAD RIGHT-OF-WAY SHALL BE THE RESPONSIBILITY OF THE SEWER CONTRACTOR AND THE FINAL INSPECTION, APPROVAL, AND ACCEPTANCE OF THE SEWER SYSTEM BY THE MEDINA CITY ENGINEER SHALL BE CONTINGENT UPON THE FINAL ADJUSTMENT OF THE CASTINGS.
- STORM SEWER PIPE MATERIAL SHALL BE AS SPECIFIED ON THE CONSTRUCTION DRAWINGS AND SHALL CONFORM TO THE SPECIFICATIONS LISTED IN TABLE 1.

MATERIAL	TYPE	TABLE 1		
		SPECIFICATIONS	ACCEPTABLE AREAS OF USE	ALLOWABLE SIZES
STEEL REINFORCED CONCRETE PIPE (RCP)	CLASS IV	ASTM - C-76 ODOT 706.02	ANY LOCATION	ANY SIZE
STEEL REINFORCED CONCRETE PIPE (RCP)	CLASS III	ASTM - C-76 ODOT 706.02	OUTSIDE OF PAVED AREAS	ANY SIZE
FIBER REINFORCED CONCRETE PIPE (FRCP)	CLASS IV	ASTM - C-76 ASTM - C-1450	ANY LOCATION	SIZES FROM 6" TO & INCLUDING 15" DIAMETER
HIGH DENSITY POLYETHYLENE PIPE (HDPE)	SMOOTH LINED CORRUGATED	AASHTO M294 (TYPE S), ODOT 707.33	ANY LOCATION	ANY SIZE
HIGH DENSITY POLYETHYLENE PIPE (HDPE)	SMOOTH LINED CORRUGATED (PERFORATED)	AASHTO M294 ODOT 707.33	4" DIAMETER UNDERDRAINS	4" DIAMETER
POLYVINYL CHLORIDE PIPE (PVC)	SOLID WALL	ASTM D 3034 SDR 35 ODOT 707.45	ANY LOCATION	ANY SIZE



**TYPICAL STORM SEWER CONNECTION**

SCALE: N.T.S.

**NOTES:**  
STORM SEWER WYE OR TEE CONNECTIONS INTO MAINLINE PIPE SHALL BE FACTORY MADE. IN THE EVENT WYE OR TEE CONNECTIONS HAVE TO BE INSTALLED IN THE FIELD, THE MAINLINE STORM SEWER SHALL BE CORED AND A RUBBER BOOT INSTALLED.  
STORM SEWER HOUSE CONNECTIONS SHALL BE 6" ACRYLONITRILE BUTADIENE STYRENE (ASTM-2751, 200 PSI PIPE STIFFNESS) WITH CHEMICALLY WELDED JOINTS USING STANDARD ABS COUPLINGS (ASTM D-2680), OR THE PIPE MAY BE POLYVINYL CHLORIDE (ASTM D-3034, SDR 35) WITH COMPRESSION TYPE JOINTS (ASTM-3212).  
THE CONNECTIONS SHALL BE LAID AT A MINIMUM SLOPE OF 1.00% AND CARRIED TO A POINT 12 FEET BEYOND THE RIGHT-OF-WAY. A 4"x4" POST SHALL BE SET TO MARK THE END OF THE CONNECTION.  
ALL STORM SEWER CONNECTIONS AND LATERALS SHALL HAVE A 6" MIN. GRANULAR BEDDING AND BACKFILL, TYPE 57 LIMESTONE.

REVISIONS		CITY OF MEDINA	
No. 1:	04/30/04 (Original)	CONSTRUCTION STANDARDS	
No. 2:	1/23/12 - Bedding	STORM SEWERS	
No. 3:		STANDARD DRAWING: CS-Storm-01	
No. 4:		Sheet Number: 7 of 8	
No. 5:			
No. 6:			
No. 7:			
No. 8:			
No. 9:			

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GROUNDING AND BONDING - CONTINUED

B. THE SERVICE NEUTRAL (AC-) SHALL ONLY BE CONNECTED TO GROUND AT THE PRIMARY POWER SERVICE DISCONNECT SWITCH.

i. NEMA CONTROLLER CABINETS: IF A POWER SERVICE DISCONNECT SWITCH IS LOCATED BEFORE THE CONTROLLER CABINET, THE NEUTRAL (AC-) AND THE GROUNDING BARS IN THE CONTROLLER CABINET SHALL NOT BE CONNECTED TOGETHER AS SHOWN IN NEMA TS-2, FIGURE 5-4

ii. IF SECONDARY DISCONNECT SWITCHES ARE CONNECTED AFTER THE PRIMARY DISCONNECT SWITCH, THE NEUTRAL (AC-) SHALL ONLY BE GROUNDED AT THE PRIMARY SWITCH. EQUIPMENT GROUNDING CONNECTORS SHALL BE BROUGHT TO THE PRIMARY SWITCH, BUT SHALL BE GROUNDED AT BOTH SECONDARY AND PRIMARY SWITCHES.

7. PAYMENT

ALL MATERIALS AND WORK REQUIRED TO COMPLETE THE EFFECTIVE GROUND FAULT CURRENT PATH SYSTEM ARE INCIDENTAL TO THE CONDUCTORS INSTALLED BY CONTRACT.

ITEM 625 - PULL BOX, 725.08, BY SIZE, AS PER PLAN

FURNISH AND INSTALL CONCRETE PULL BOXES AND COVERS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, AND AS SHOWN ON STANDARD DRAWING HL-30.11, BUT INCREASE THE AGGREGATE DEPTH BELOW THE PULL BOX TO A MINIMUM OF 12".

INCLUDE THE DISPOSAL OF SURPLUS MATERIAL AND THE RESTORATION OF DISTURBED FACILITIES AND SURFACES IN THE ITEM.

ITEM 630 - SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN

RIGIDLY ATTACH FLAT SHEET SIGNS TO TRAFFIC SIGNAL MAST ARMS WITH THE SIGN CENTERED VERTICALLY ON THE MAST ARM, USING THE SIGN BRACKET DETAIL ON STANDARD CONSTRUCTION DRAWING (TC-16.21) OR ANOTHER METHOD OF RIGID ATTACHMENT AS APPROVED BY THE ENGINEER. MOUNT THE SIGNS WHERE SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER. MOUNT THE SIGNS LEVEL AND NOT SLOPED ALONG THE MAST ARM. INSURE THAT THE SIGN FACE IS MOUNTED PERPENDICULAR (90 DEGREES) TO THE DIRECTION OF TRAFFIC. DO NOT REMOVE EXISTING REGULATORY SIGNS UNTIL THE NEW SIGNS ARE ERECTED. TEMPORARILY RELOCATE SIGNS MOUNTED ON POLES WHICH ARE TO BE REMOVED UNTIL THE NEW SIGNS ARE INSTALLED.

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES OF "ITEM 630 - SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN" AT THE CONTRACT UNIT PRICE BID PER EACH. PAYMENT INCLUDES THE COST OF ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, AND ALL PARTS NECESSARY TO ATTACH ONE SIGN.

ITEM 632 - REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN

ITEM 632 - PULL BOX REMOVED

WHEN REMOVAL OF TRAFFIC SIGNAL INSTALLATION IS SPECIFIED, REMOVE THE ENTIRE EXISTING TRAFFIC SIGNAL INSTALLATION, INCLUDING SIGNAL HEADS, CABLE, MESSENGER WIRE, POLES, MAST ARMS, CABINETS, CONTROLLERS, DOWN GUYS, PULL BOXES, AND OTHER INCIDENTAL ITEMS REQUIRED BY THE ENGINEER, IN ACCORDANCE WITH 632.26 AND AS INDICATED ON THE PLANS.

REMOVE PRECAST PULL BOXES COMPLETELY. REMOVE FOUNDATIONS TO A POINT AT LEAST ONE FOOT BELOW THE FINISHED GRADE, BACKFILL THE EXCAVATIONS AND RESTORE THE SURFACE TO A CONDITION EQUIVALENT TO THE SURROUNDING AREA. THE COST OF BACKFILLING AND RESTORATION WILL BE CONSIDERED INCIDENTAL TO AND INCLUDED IN, THE COST OF REMOVAL OF THE POLE AND/OR PULLBOX.

ITEM 632 - REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN - CONT.

ITEM 632 - PULL BOX REMOVED - CONT.

STORE REMOVED ITEMS ON THE PROJECT FOR SALVAGE BY THE CITY OF MEDINA, IN ACCORDANCE WITH THE LISTING GIVEN HEREIN. REMOVE AND DISPOSE OF ANY ITEMS NOT DESIGNATED FOR SALVAGE, AND/OR ANY ITEMS NOT SALVAGED BY THE CITY OF MEDINA BY THE COMPLETION DATE, WHEN DIRECTED BY THE ENGINEER IN WRITING, AT NO ADDITIONAL COST TO THE PROJECT.

STORE THE FOLLOWING ITEMS FOR SALVAGE:

SIGNAL HEADS	PEDESTRIAN SIGNALS
POLES	MAST ARMS
PEDESTALS	CABINETS
CONTROLLERS	LOOP DETECTOR UNITS
CONFLICT MONITORS	

DISPOSE OF ALL OTHER ITEMS.

ITEM 632 - SIGNAL SUPPORTS AND PEDESTALS

DUE TO THE POSSIBILITY OF CONFLICT WITH EXISTING OR PROPOSED UNDERGROUND OBSTRUCTIONS (INCLUDING THE POSSIBILITY OF UNRECORDED OBSTRUCTIONS) WHICH COULD AFFECT THE LOCATION OF THE FOUNDATIONS FOR THESE ITEMS, AND CONSEQUENTLY, THE DESIGN OF THE VARIOUS SUPPORTS, AND/OR ARMS. DO NOT PLACE FINAL ORDERS FOR THESE ITEMS UNTIL THE FOUNDATIONS HAVE BEEN INSTALLED AND WRITTEN NOTICE TO PROCEED WITH THE ORDERS FOR THESE ITEMS HAS BEEN RECEIVED FROM THE ENGINEER.

IF ANY FOUNDATION LOCATIONS MUST BE ADJUSTED, NOTIFY THE ENGINEER, WHO WILL DETERMINE HE REVISED LOCATIONS AND IF ANY SUPPORT DESIGN CHANGES ARE NECESSARY, IN CONSULTATION WITH THE MAINTAINING AGENCY. THE CONTRACTOR WILL NOT BE RESPONSIBLE FOR DETERMINING THE REVISED DESIGN. THE ENGINEER WILL SUBSEQUENTLY INFORM THE CONTRACTOR OF ANY CHANGES NECESSARY, AND AUTHORIZE HIM TO ORDER THE SUPPORTS.

WHEN DEVELOPING THE PROGRESS SCHEDULE, AND THOSE OF THE SUBCONTRACTORS, ENSURE THAT THE FOUNDATIONS ARE INSTALLED AT THE EARLIEST TIME AS IS FEASIBLE AND PRACTICAL, AND INCLUDE SUFFICIENT TIME IN THE PROGRESS SCHEDULE FOR THE ORDERING, MANUFACTURE, DELIVERY, AND INSTALLATION OF THESE ITEMS AFTER THE FOUNDATIONS ARE IN PLACE.

ONCE THE FOUNDATIONS ARE INSTALLED, PROTECT THE PUBLIC FROM THE EXPOSED ANCHOR BOLTS BY COVERING THE FOUNDATIONS WITH CONES, DRUMS, OR OTHER COVERS, UNTIL THE SIGNAL SUPPORTS ARE INSTALLED.

NO PAYMENTS FOR DELIVERED MATERIALS WILL BE MADE FOR THESE ITEMS UNTIL THE FOUNDATIONS ARE IN PLACE, AND IF CHANGES IN THE DESIGN OF THESE ITEMS ARE REQUIRED, NO PAYMENTS WILL BE MADE FOR ITEMS MANUFACTURED TO THE ORIGINAL DESIGNS.

ITEM 632 - SIGNALIZATION, MISC.: FOUNDATION TEST HOLE

IF UNDERGROUND OBSTRUCTIONS ARE ENCOUNTERED THAT PRECLUDE THE USE OF THE STANDARD FOUNDATION DESIGNS FOR ANY SIGNAL SUPPORTS, PROVIDE THE ENGINEER WITH COMPLETE INFORMATION REGARDING THE OBSTRUCTION, INCLUDING THE TYPE (IE. UTILITY), SIZE, DEPTH, AND LATERAL CLEARANCES TO THE SIDES OF THE FOUNDATION EXCAVATION. COVER THE FOUNDATION HOLE WITH A STEEL PLATE UNTIL THE ENGINEER DETERMINES IF A NEW FOUNDATION LOCATION WILL BE REQUIRED. BACKFILL AND COMPACT THE HOLE AND RESTORE THE SURFACE AS DESCRIBED UNDER "RESTORATION OF DISTURBED AREAS" WHEN DIRECTED BY THE ENGINEER.

PAYMENT FOR FOUNDATION TEST HOLES INCLUDES THE COST OF ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, AND OTHER INCIDENTALS, INCLUDING BACKFILL, COMPACTING, AND SURFACE RESTORATION, AND EXCAVATION OF A NEW FOUNDATION HOLE.

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE PLANS, FOR USE AS DIRECTED BY THE ENGINEER. FINAL PROJECT QUANTITIES WILL BE DETERMINED BY THE ENGINEER AND WILL BE ADJUSTED AS A CHANGE ORDER TO THE PROJECT

ITEM 632 - SIGNALIZATION, MISC.: FOUNDATION TEST HOLE                      2 EACH

PAYMENT WILL BE MADE FOR EACH FOUNDATION HOLE THAT MUST BE ABANDONED AT THE CONTRACT UNIT PRICE BID FOR "ITEM 632 - SIGNALIZATION, MISC.: FOUNDATION TEST HOLE"

ITEM 632 - LOOP DETECTOR UNIT

IN ADDITION TO THE REQUIREMENTS OF ITEM 632 AND 732.07 AND 732.08, PROVIDE LOOP DETECTOR UNITS WITH THE FOLLOWING REQUIREMENTS OR FEATURES:

- A. THE LOOP DETECTOR UNIT SHALL HAVE 2 CHANNELS. THE LOOP DETECTOR UNIT SHALL UTILIZE A SCANNING FEATURE TO ALLOW THE SECOND CHANNEL TO BE USED FOR COUNTING PURPOSES OF THE SAME LOOP.
- B. EACH UNIT SHALL BE LABELED TO CORRESPOND WITH ITS LOOP NUMBER. THE LOOP NUMBERS ARE SHOWN ON THE PLANS.
- C. THE UNIT SHALL BE SELF TUNING

THE COST OF THESE ITEMS SHALL BE CONSIDERED INCIDENTAL TO "ITEM 633 - CONTROLLER UNIT, TYPE TS2/A2, WITH CABINET, TYPE TS1, AS PER PLAN"

ITEM 632 - SIGNAL SUPPORT, TYPE TC-81.21, AS PER PLAN

FURNISH SIGNAL SUPPORT POLES AND MAST ARMS WHICH COMPLY WITH 732.11, BUT DO NOT FURNISH POLES OR MAST ARMS THAT CONSIST OF STRAIGHT SECTIONS WITH A TAPER EFFECT ACCOMPLISHED BY THE USE OF REDUCERS. FURNISH POLES THAT ARE CONSTRUCTED OF SINGLE SECTION TRUE CONTINUOUS TAPERED TUBES AND MAST ARMS THAT ARE CONSTRUCTED OF ONE OR TWO SECTION TRUE CONTINUOUS TAPERED TUBES, AS SHOWN ON STANDARD DRAWING TC-81.21.

ATTACH PEDESTRIAN SIGNAL HEAD BRACKET ARMS TO THE POLES BY UTILIZING ONE AND ONE HALF INCH (1-1/2") BLIND HALF COUPLINGS WELDED INTO THE POLE PRIOR TO GALVANIZING. DO NOT FIELD INSTALL WIRING HOLES FOR PEDESTRIAN POLES.

PAYMENT FOR THESE ITEMS SHALL WILL BE AT THE CONTRACT UNIT PRICE BID FOR EACH SIGNAL SUPPORT.

ITEM 632 - VEHICULAR SIGNAL HEAD, LED, YELLOW, BY TYPE, WITH BACKPLATE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF SECTIONS 632 AND 732 OF THE SPECIFICATIONS, THE FOLLOWING REQUIREMENTS SHALL ALSO APPLY:

- LAMPS:
  - PROVIDE LED, LIGHT EMITTING DIODE, SIGNAL LAMP UNITS.
  - PROVIDE 12 INCH (300mm) SIZE LED SIGNAL LAMP UNITS FOR ALL SIGNAL LENS TYPES.

SIGNAL SECTIONS:
CONSTRUCT SIGNAL HEADS AND VISORS OF INJECTION MOLDED, UV STABILIZED, POLYCARBONATE PLASTIC WHICH MEETS I.T.E. SPECIFICATIONS.

SIGNAL HEADS SHALL BE YELLOW.

USE POLYCARBONATE PLASTIC IN LIEU OF GALVANIZED STEEL OR ALUMINUM FOR PIPE, SPACERS, AND FITTINGS.

FURNISH SIGNALS WITH COLORED PLASTIC MATERIAL RATHER THAN PAINTING TO OBTAIN THE PROPER EXTERIOR COLORS.

SIGNAL HEADS SHALL HAVE A 5 INCH BLACK BACKPLATE WITH A TWO INCH FLOURESCENT YELLOW REFLECTIVE BORDER.

MOUNTING HARDWARE:
ATTACH SIGNALS TO MAST ARMS USING RIGID MOUNTING FIXTURES AS SHOWN ON TC-85.20 OR ALTERNATE RIGID SIGNAL HEAD MOUNTING DEVICES AS SPECIFIED IN NOTE 5 ON TC-85.20.

ATTACH ALL SIGNAL HEADS WITH THE RED LENS LOCATED IN FRONT OF THE MAST ARM.

THE DEPARTMENT WILL MEASURE "VEHICULAR SIGNAL HEAD, (LED), BY TYPE, AS PER PLAN" BY THE NUMBER OF COMPLETE UNITS FURNISHED AND INSTALLED, AND WILL INCLUDE ALL SUPPORT AND MOUNTING HARDWARE, CLOSURE CAPS, DIMMERS, AND LAMPS, AS SPECIFIED.



TRAFFIC SIGNAL NOTES

WEST SMITH ROAD

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SHEET NUMBER													ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
										93	94	97						
										0	0	157	625	25400	157	FT	TRAFFIC SIGNALS	
										0	0	177	625	25500	177	FT	CONDUIT, 2", 725.04	
										0	0	334	625	29000	334	FT	CONDUIT, 3", 725.04	
										0	0	5	625	30701	5	FT	TRENCH	
										0	0	1	625	30701	1	EACH	PULL BOX, 725.08, 18", AS PER PLAN	93
										0	0	1	625	30707	1	EACH	PULL BOX, 725.08, 24", AS PER PLAN	93
										0	0	3	625	31510	3	EACH	PULL BOX REMOVED	
										0	0	5	625	32000	5	EACH	GROUND ROD	
										0	0	334	625	36000	334	FT	PLASTIC CAUTION TAPE	
										0	0	3	630	79101	3	EACH	SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN	93
										0	0	36	630	80100	36	SO FT	SIGN, FLAT SHEET	
										0	0	4	632	04913	4	EACH	VEHICULAR SIGNAL HEAD, LED, YELLOW, 3-SECTION, 12" LENS, 1-WAY, WITH BACKPLATE, AS PER PLAN	93
										0	0	2	632	04923	2	EACH	VEHICULAR SIGNAL HEAD, LED, YELLOW, 5-SECTION, 12" LENS, 1-WAY, WITH BACKPLATE, AS PER PLAN	93
										0	0	2	632	20721	2	EACH	PEDESTRIAN SIGNAL HEAD, LED, COUNTDOWN, TYPE D2, AS PER PLAN	94
										0	0	6	632	25000	6	EACH	COVERING OF VEHICULAR SIGNAL HEAD	
										0	0	2	632	25010	2	EACH	COVERING OF PEDESTRIAN SIGNAL HEAD	
										0	0	2	632	26000	2	EACH	PEDESTRIAN PUSHBUTTON	
										0	0	5	632	26500	5	EACH	DETECTOR LOOP	
										0	0	456	632	40300	456	FT	SIGNAL CABLE, 3 CONDUCTOR, NO. 14 AWG	
										0	0	170	632	40500	170	FT	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG	
										0	0	471	632	40700	471	FT	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	
										0	0	2	632	64010	2	EACH	SIGNAL SUPPORT FOUNDATION	
										0	0	1	632	64020	1	EACH	PEDESTAL FOUNDATION	
										0	0	1352	632	65200	1352	FT	LOOP DETECTOR LEAD-IN CABLE	
										0	0	41	632	68300	41	FT	POWER CABLE, 3 CONDUCTOR, NO. 6 AWG	
										0	0	1	632	70000	1	EACH	POWER SERVICE	
										0	0	1	632	75209	1	EACH	SIGNAL SUPPORT, TYPE TC-12.30 DESIGN 7 POLE, WITH MAST ARMS TC-81.21 DESIGN 13 AND DESIGN 3, AS PER PLAN	93
										0	0	1	632	80103	1	EACH	SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 1, AS PER PLAN	93
										0	0	1	632	89900	1	EACH	PEDESTAL, 8', TRANSFORMER BASE	
										0	0	1	632	90101	1	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN	93
										2	0	0	632	90400	2	EACH	SIGNALIZATION, MISC.: FOUNDATION TEST HOLE	93
										0	0	1	633	01581	1	EACH	CONTROLLER UNIT, TYPE TS2/A2, WITH CABINET, TYPE TSI, AS PER PLAN	94
										0	0	1	633	67000	1	EACH	CABINET RISER	
										0	0	1	633	67100	1	EACH	CABINET FOUNDATION	
										0	0	1	633	67200	1	EACH	CONTROLLER WORK PAD	
										0	1	0	633	67301	1	EACH	PREEMPTION, AS PER PLAN	94
										0	0	3	633	67311	3	EACH	PREEMPTION RECEIVING UNIT, AS PER PLAN	94
										0	0	456	633	67321	456	FEET	PREEMPTION DETECTION CABLE, AS PER PLAN	94
										0	0	3	633	67351	3	EACH	PREEMPTION PHASE SELECTOR, AS PER PLAN	94
										0	0	3	633	67401	3	EACH	PREEMPTION CONFIRMATION LIGHT, AS PER PLAN	94
										0	0	1	815	30001	1	EACH	SPREAD SPECTRUM RADIO, AS PER PLAN	94

TRAFFIC SIGNAL SUMMARY

WEST SMITH ROAD

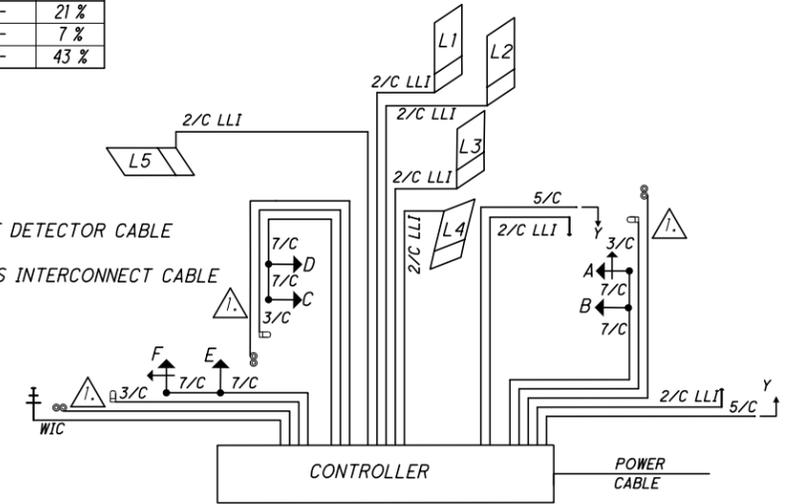
CALCULATED  
RAW  
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SIGNAL TIMING

START UP		DUAL ENTRY ○ REST IN RED: RING 1 ○ RING 2 ○							
START IN: ● Y/R FLASH OR ○ ALL RED									
TIME FOR FLASH OR ALL RED: 30									
FIRST PHASES: ϕ2 & ϕ6									
COLOR DISPLAYED: ● GREEN ○ YELLOW									
		CONTROLLER MOVEMENT NUMBER							
		ϕ1(WB L)	ϕ2(EB)	ϕ3(NB L)	ϕ4(SB)	ϕ5(EB L)	ϕ6(WB)	ϕ7(SB L)	ϕ8(NB)
MIN GREEN (INITIAL)	(SEC)	-	21	-	10	7	21	-	-
ADDED INTIAL	(SEC/ACTUATION)	-	-	-	-	-	-	-	-
MAX INTIAL	(SEC)	-	-	-	-	-	-	-	-
PASSAGE TIME (PRESET GAP)	(SEC)	-	3.0	-	4.5	3.5	3.0	-	-
TIME BEFORE REDUCTION	(SEC)	-	-	-	-	-	-	-	-
MINIMUM GAP	(SEC)	-	-	-	-	-	-	-	-
TIME TO REDUCE	(SEC)	-	-	-	-	-	-	-	-
MAX GREEN I	(SEC)	-	33	-	32	11	33	-	-
MAX GREEN II	(SEC)	-	33	-	32	11	33	-	-
YELLOW CHANGE	(SEC)	-	3.6	-	3.6	3.6	3.6	-	-
ALL RED CLEAR	(SEC)	-	2.0	-	2.0	2.0	2.0	-	-
WALK	(SEC)	-	-	-	7	-	-	-	-
PED CLEAR	(SEC)	-	-	-	13	-	-	-	-
MAX	(ON/OFF)	-	OFF	-	OFF	OFF	OFF	-	-
RECALL MIN	(ON/OFF)	-	ON	-	OFF	OFF	ON	-	-
PED	(ON/OFF)	-	OFF	-	OFF	OFF	OFF	-	-
MEMORY	(ON/OFF)	-	OFF	-	OFF	OFF	OFF	-	-
CALL TO NON ACTUATED	NO. 1	-	ON	-	ON	ON	ON	-	-
	NO. 2	-	-	-	-	-	-	-	-

COORDINATION TIMING

			SPLITS (G+Y+AR) IN PERCENT								
			PHASE								
PLAN	TIME OF DAY	CYCLE LENGTH	ϕ1	ϕ2	ϕ3	ϕ4	ϕ5	ϕ6	ϕ7	ϕ8	OFFSET
AM PEAK	6:30AM - 9:00AM	70 SEC	-	62 %	-	38 %	24 %	38 %	-	-	21 %
PM PEAK	3:30PM - 6:30PM	70 SEC	-	66 %	-	34 %	22 %	44 %	-	-	7 %
OFF PEAK	ALL OTHER TIMES	80 SEC	-	58 %	-	42 %	24 %	34 %	-	-	43 %



WIRING DIAGRAM

LOOP DETECTOR CHART

LOOP #	STATION	SIZE	MODE	DELAY	PHASE	AMP #
L1	0+92, STATE	6'X30' PH	PRESENCE	8	4	1
L2	0+92, STATE	6'X30' PH	PRESENCE	0	4	2
L3	0+57, STATE	6'X30' PH	PRESENCE	8	4	3
L4	0+29, STATE	6'X20' PH	PRESENCE	8	4	4
L5	64+04, SMITH	6'X30' PH	PRESENCE	0	5	5

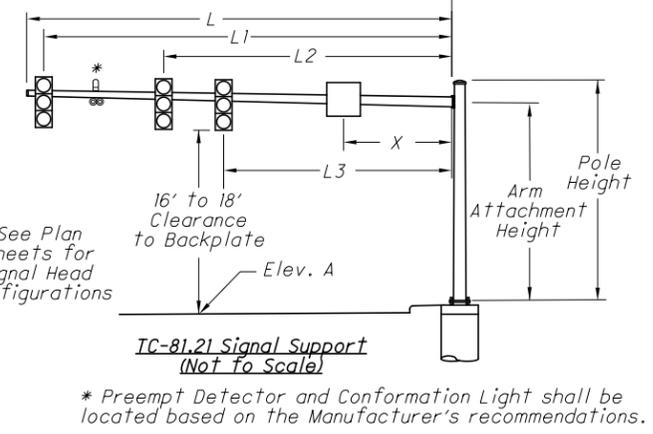
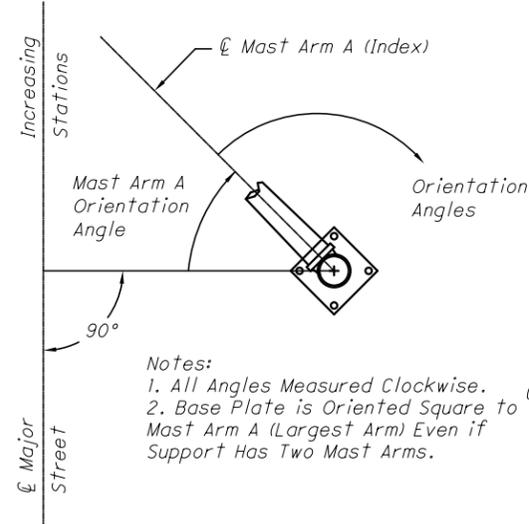
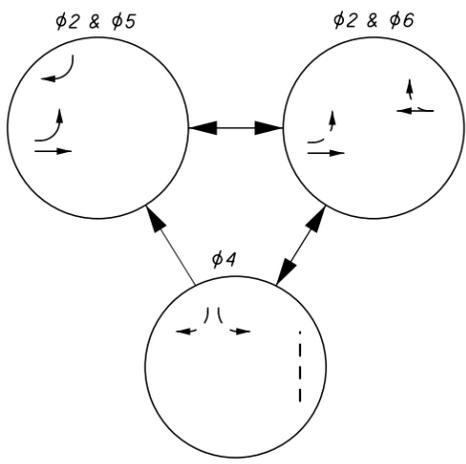
FIELD WIRING HOOK-UP CHART

SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH	SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH
A (EB L)	R	ϕ2 R	Y	B (EB)	R	ϕ2 R	Y
	Y	ϕ2 Y			Y	ϕ2 Y	
	G	ϕ2 G			G	ϕ2 G	
	←	ϕ5 R					
C,D (WB)	R	ϕ6 R	Y	E (SB)	R	ϕ4 R	R
	Y	ϕ6 Y			Y	ϕ4 Y	
	G	ϕ6 G			G	ϕ4 G	
	→	ϕ4 R					
F (SB R)	Y	ϕ4 Y	R				
	G	ϕ4 G					
	→	ϕ5 R					
	←	ϕ5 R					
Y-Y (EAST)	W	ϕ4 G	OUT				
DW	ϕ4 R						

PREEMPT CHANNELS

CHANNEL 1 = ϕ 2 & ϕ 5 (EASTBOUND ONLY) CHANNEL 3 = ϕ 4 (SOUTHBOUND ONLY)  
 CHANNEL 2 = ϕ 6 (WESTBOUND ONLY)

- PREEMPT NOTES
- ACTIVE WALK INDICATIONS SHALL IMMEDIATELY GO TO "DON'T WALK" UPON RECEIVING PREEMPTION SIGNAL.
  - IF PHASE CONFLICTS WITH PREEMPT PHASE CALLED, IT SHALL IMMEDIATELY TIME ITS YELLOW AND ALL RED CLEARANCES.
  - IF ACTIVE PHASE = THE PREEMPT PHASE, THEN THE PHASE SHALL HOLD FOR THE DURATION OF THE PREMPT SIGNAL.
  - AFTER RELEASE FROM PREEMPT, YELLOW AND ALL RED CLEARANCE SHALL BE DISPLAYED AND RETURN PHASE PHASE SHALL BE ϕ 2 & ϕ 6.
  - IF PREEMPT PHASE = RETURN PHASE ϕ 2 & ϕ 6 THEN YELLOW AND ALL RED CLEARANCE AFTER PREEMPT SHALL NOT BE DISPLAYED.



Station & Offset	Pole No.	Pole Design No.		Pole Height (FT.)	Mast Arm Attachment Height (FT.)	Mast Arm Reference	Arm Design No.	L (FT.)	L1 (FT.)	L2 (FT.)	L3 (FT.)	L4 (FT.)	L5 (FT.)	X1 (FT.)	X2 (FT.)	Mast Arm A Angle (DEG.)	Orientation Angles (DEG.) From Mast Arm A						
		TC-81.21	TC-12.30														Mast Arm B	Pedestrian Signals	Pedestrian Pushbuttons	2" Capped Conduit E/I (Future Use)	Supplemental Signal Head	Hand Hole	
65+44, 32' R	P1	-	7	21	19.5	A	13	55	54	40	-	-	-	47	-	270	90	180	90	-	-	180	
64+53, 31' L	P2	1	-	21	19.5	A	1	24	23	13	-	-	-	9	-	-	-	-	-	-	-	-	180
65+53, 35' L	P3	PED	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	270	30	-	-	-	180

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**STRUCTURE GENERAL NOTES**

STANDARD DRAWING AND SUPPLEMENTAL SPECIFICATION  
REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING:

A-1-69 REVISED 07-19-02

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION:

800 DATED 04-15-16

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 6TH EDITION - 2012, AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN DATA:

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4,000 PSI (CAST-IN-PLACE STRUCTURES)  
REINFORCING STEEL - GRADE 60 MINIMUM YIELD STRENGTH - 60 KSI

ITEM 512 - TYPE 2 WATERPROOFING

TYPE 2 MEMBRANE WATERPROOFING SHALL BE INSTALLED ON THE EXTERIOR VERTICAL AND EXTERIOR TOP HORIZONTAL SURFACES OF THE PROPOSED CULVERT. IT SHALL ALSO BE INSTALLED AT THE JUNCTION OF THE WINGWALLS ON THE BACK SIDE OF THE WALL FROM THE TOP OF THE FOOTING TO THE TOP OF GROUND.

BACKFILLING

EMBANKMENT SHALL BE PLACED SYMMETRICALLY ON BOTH SIDES OF THE CULVERT.

MADE BY: ZTW DATE: 11/29/12  
CHECKED BY: JTW DATE: 12/03/12

ESTIMATED QUANTITIES								
ITEM	EXT.	TOTAL	UNIT	DESCRIPTION	PRECAST CULVERT	INLET HEADWALL	OUTLET HEADWALL	AS PER PLAN REFERENCE SHEET NUMBER
509	10000	7713	POUND	EPOXY COATED REINFORCING STEEL		4058	3655	
511	46610	84	CU YD	CLASS <u>QC1</u> CONCRETE, HEADWALL		44	40	
512	33000	314	SQ YD	TYPE 2 WATERPROOFING	314			
516	13600	65	SQ FT	1" PREFORMED EXPANSION JOINT FILLER		29	36	
518	21200	33	CU YD	POROUS BACKFILL WITH FILTER FABRIC		17	16	
518	40000	61	FT	6" PERFORATED CORRUGATED PLASTIC PIPE		33	28	
518	40010	58	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS		32	26	

NOTE: THE QUANTITIES FOR THE PRECAST BOX CULVERT SECTIONS, EXCEPT FOR THE TYPE 2 WATERPROOFING, HAVE BEEN INCLUDED IN ROADWAY QUANTITIES. SEE SHEET 65/104.

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ZTW  
CHECKED  
JTW

GENERAL NOTES AND ESTIMATED QUANTITIES  
WEST SMITH ROAD

WEST SMITH ROAD