

GENERAL

ROUNDING
(G101)

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLIES TO ALL CROSS SECTIONS, EVEN THOUGH OTHERWISE SHOWN.

UTILITIES
(G102A)

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

RIC-96-16.73:		
COMMUNICATION		
BRIGHTSPEED		
175 ASHLAND ROAD		
PO BOX 3555		
MANSFIELD, OH 44907		
419.755.7251		
RIC-603-7.94		
ELECTRIC	COMMUNICATION	
	CHARTER COMMUNICATIONS	
	1575 LEXINGTON AVENUE	
	MANSFIELD. OHIO 44907	
	419.632.6724	
OHIO EDISON		
1717 ASHLAND ROAD		
MANSFIELD, OH 44905		
419.755.7251		
COMMUNICATION		
BRIGHTSPEED		
175 ASHLAND ROAD		
PO BOX 3555		
MANSFIELD, OH 44907		
419.755.7251		

THE AFOREMENTIONED UTILITY COMPANIES AND AGENCIES HAVE VARIOUS FACILITIES IN THE AREA THAT WILL REMAIN IN PLACE DURING CONSTRUCTION.

EXTREME CAUTION SHOULD BE EXERCISED IN AREAS WITH UTILITIES. SECTIONS 105.07 AND 107.16 OF THE DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS REQUIRE, AMONG OTHER THINGS, THAT THE CONTRACTOR COOPERATE WITH ALL UTILITIES LOCATED WITHIN THE LIMITS OF THIS CONSTRUCTION PROJECT AND TAKE RESPONSIBILITY FOR THE PROTECTION OF THE UTILITY PROPERTY AND SERVICES.

SURVEYING PARAMETERS
(G105)

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE SHEET RW.10 FOR SR 603 AND RW.3 FOR SR 96 OF THE OF THE RIGHT OF WAY PLANS FOR A TABLE CONTAINING PROJECT CONTROL INFORMATION.

USE THE FOLLOWING PROJECT CONTROL, VERTICAL POSITIONING, AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

PROJECT CONTROL
POSITIONING METHOD: GPS
MONUMENT TYPE: PINS

VERTICAL POSITIONING
ORTHOMETRIC HEIGHT DATUM: NAVD88
GEOID: GEOID18*

HORIZONTAL POSITIONING
REFERENCE FRAME: NAD83 (2011 ADJ, 2010.0)
ELLIPSOID: GRS 80

COORDINATE SYSTEM: O.D.O.T. RICHLAND OCCS*
RICHLAND OCCS PROJECTION PARAMETERS:
PROJECTION: TRANSVERSE MERCATOR
CENTRAL LATITUDE: N 39°30'00"
CENTRAL LONGITUDE: W 277°24'00"
FALSE NORTHING: 0 METERS
FALSE EASTING: 50,000 METERS
PROJECTION SCALE FACTOR: 1.000050
PROJECT COORDINATES SHOWN IN U.S. SURVEY FEET

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH CMS 623.

ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS ITEM 623 WILL GOVERN CONSTRUCTION SURVEYING ACTIVITY.

THE FOLLOWING MONUMENT VERIFICATION REPORT(S) WILL BE REQUIRED:

623.04a – PRECONSTRUCTION MONUMENT VERIFICATION AND REPORT - [LUMP SUM CARRIED TO GEN SUM]

623.04b – POST CONSTRUCTION MONUMENT VERIFICATION AND REPORT - [LUMP SUM CARRIED TO GEN SUM]

WORK LIMITS
(G106)

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.

PROGRESSION OF WORK

GUARDRAIL SHALL BE REMOVED PRIOR TO ANY EMBANKMENT WORK AT THE GUARDRAIL RUN. GUARDRAIL WORK SHALL BE DONE AFTER WIDENING, RESURFACING, AND BERM WORK SO AS TO ESTABLISH PROPER GRADES FROM WHICH TO CONSTRUCT THE RAIL.

ROUTINE MAINTENANCE

BETWEEN THE TIME THAT BIDS ARE TAKEN AND THE START OF CONSTRUCTION, THE MAINTAINING AGENCY MAY ENTER UPON THE PROJECT AND PERFORM ROUTINE MAINTENANCE SUCH AS CRACK SEALING, PATCHING, AND BERM AND SHOULDER REPAIR. THE EFFECTS, IF ANY, OF THE PERFORMANCE OF ROUTINE MAINTENANCE SHALL BE CONSIDERED AS INHERENT IN WORK OF THE CHARACTER PROVIDED FOR IN THE PLAN AND THE RESULTING CONDITIONS SHALL NOT BE CONSIDERED AS DIFFERING MATERIALLY FROM THOSE EXISTING AT THE TIME BIDS WERE TAKEN.

ROADWAY

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 TO BE REMOVED UNDER A SEPARATE TREE PRUNING CONTRACT BY 4/1/2027.

<u>SIZES</u>	<u>NO. TREES</u>
3-12”	7
18”	7
30”	2
48”	1

A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201 – CLEARING AND GRUBBING FOR AREAS NOT INCLUDED IN THE ABOVE LIST AND FOR STUMPS TO BE REMOVED FROM TREES CLEARED UNDER THE SEPARATE PRUNING CONTRACT. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 201 – CLEARING AND GRUBBING.

MONUMENT ASSEMBLIES
(G110)

CONSTRUCT MONUMENT ASSEMBLIES IN ACCORDANCE WITH THE DETAILS SHOWN ON THE STANDARD CONSTRUCTION DRAWINGS AND AT THE LOCATIONS SHOWN ON SHEET NO. RW.10.

MAILBOX REMOVED, AS PER PLAN

REMOVE AND SALVAGE THE EXISTING MAILBOX TO BE INSTALLED AT THE APPROPRIATE TIME. IF THE BOX IS DAMAGED AT THE TIME OF REMOVAL THE CONTRACTOR IS REQUIRED TO FURNISH A REPLACEMENT

ITEM SPECIAL – MAILBOX SUPPORT
(R118)

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 SHAL BE NOMINAL PIPE SIZE 2 INCHES I.D. 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).

EROSION CONTROL

ITEM 659 – SEEDING AND MULCHING
E101A

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS AT SR 603:

659	COMMERCIAL FERTILIZER	0.10	TON
659	LIME	0.15	ACRE
659	WATER	4.02	M GAL
659	REPAIR SEEDING AND MULCHING	36	SQ YD
659	INTERSEEDING	36	SQ YD
659	TOPSOIL	80	CU YD
659	SOIL ANALYSIS TEST	1	EACH
659	SEEDING AND MULCHING	725	SQ YD

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS AT SR 603:

659	COMMERCIAL FERTILIZER	0.27	TON
659	LIME	0.40	ACRE
659	WATER	10.73	M GAL
659	REPAIR SEEDING AND MULCHING	97	SQ YD
659	INTERSEEDING	97	SQ YD
659	TOPSOIL	215	CU YD
659	SOIL ANALYSIS TEST	1	EACH
659	SEEDING AND MULCHING	1939	SQ YD

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS AT SR 603:

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS. QUANTITIES ARE CARRIED TO THE GENERAL SUMMARY.

ENVIRONMENTAL/REMEDIATION

ENVIRONMENTAL COMMITMENTS

- THE PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY ENDANGERED NORTHERN LONG-EARED BAT, INDIANA BAT, TRICOLORED BAT AND THE STATE ENDANGERED LITTLE BROWN. 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 AND ORC 1531.25. 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.
- THE OHIO DEPARTMENT OF TRANSPORTATION WILL OBTAIN AND ADHERE TO ALL APPROPRIATE WATERWAY PERMITS PRIOR TO ANY WORK BELOW THE ORDINARY HIGH-WATER MARK OF ANY WATERWAY AND ALL SPECIAL PROVISIONS FOR WATERWAY PERMITS WILL BE INCLUDED IN THE PROJECT PLANS.
- ODOT SHALL UTILIZE A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST TO CONDUCT AN ASBESTOS SURVEY OF THE RIC-SR96-16.73 AND RIC-SR603-7.94 STRUCTURES. THE RESULTS OF THE ASBESTOS SURVEY WILL BE SHARED WITH ODOT DISTRICT ENVIRONMENTAL STAFF SO THAT A PLAN NOTE DISCUSSING THE RENOVATION OF THE STRUCTURE AND ASBESTOS ABATEMENT (IF NECESSARY) CAN BE DEVELOPED. THE PROJECT DESIGNER WILL THEN INCORPORATE THE NOTE INTO THE PLANS.
- THE CONTRACTOR MUST SUBMIT THE OEPA DEMOLITION/RENOVATION FORM TO THE OEPA WITHIN 10 BUSINESS DAYS PRIOR TO DEMOLITION

GUARDRAIL

ITEM 606 – ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016) (R113A)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE MASH 2016 GUARDRAIL END TERMINALS FOR TYPE MGS GUARDRAIL AS LISTED ON ROADWAY ENGINEERING’S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER’S SPECIFICATIONS.

THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH REBOUNDABLE RETROREFLECTIVE SHEETING, PER CMS 730.191.

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

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

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016), EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

DRAINAGE

CHANNEL EMBANKMENTS (G115)

FILL AND SLOPE PORTIONS OF THE EXISTING CHANNEL TO DRAIN AS SHOWN IN THESE PLANS. IN CHANNEL EMBANKMENT AREAS WHICH WILL NOT SUPPORT ANY PORTION OF THE NEW ROAD BED OR STRUCTURAL EMBANKMENTS, THE CONTRACTOR MAY UTILIZE EMBANKMENT METHODS MEETING THE FOLLOWING REQUIREMENTS:

CLEAR ALL WEEDS AND BRUSH IN AREAS WHERE CHANNEL EMBANKMENTS ARE TO BE PLACED. THE REQUIREMENTS FOR MOISTURE, DENSITY CONTROL, BENCHING AND SUITABLE MATERIALS IS WAIVED. PLACE THE MATERIAL IN 8-INCH LOOSE LIFTS. THE ENGINEER MAY INCREASE THE LIFT THICKNESS IN ORDER TO BRIDGE THE SOFT OR WET FOUNDATIONS DEPENDING ON THE STABILITY OF THE FOUNDATION. THE ENGINEER MAY INCREASE THE LIFT THICKNESS UP TO 24 INCHES TO OBTAIN STABILITY AT THE TOP OF THE LIFT.

PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 203, EMBANKMENT.

EXISTING CULVERT VERIFICATION

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

ITEM 611 – RESIDENTIAL AND COMMERCIAL DRAINAGE CONNECTIONS

EXISTING ROOF DRAINS, FOOTER DRAINS, OR YARD DRAINS, DISTURBED BY THE WORK, SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS BY CONNECTING A CONDUIT THROUGH THE CURB OR INTO A DRAINAGE STRUCTURE. THE LOCATION, TYPE, SIZE AND GRADE OF THE NEW CONDUIT REQUIRED TO REPLACE OR EXTEND THE EXISTING DRAIN WILL BE DETERMINED BY THE ENGINEER.

THE FOLLOWING CONDUIT TYPES MAY BE USED: 707.33, 707.41 NON-PERFORATED, 707.42, 707.43, 707.45, 707.46, 707.47, 707.51, 707.52 SDR35.

PAYMENT FOR ALL LABOR AND MATERIALS WILL BE PERFORMED BY CHANGE ORDER.

AGGREGATE DRAINS

AGGERGATE DRAINS SHALL BE PLACED AT THE FOLLOWING LOCATIONS:

SR 603:			
202+50 LT	=	10 FT	
202+75 RT	=	13 FT	
203+00 LT	=	10 FT	
203+30 RT	=	7 FT	
SR 96:			
102+50 RT	=	11 FT	
102+75 LT	=	9 FT	
103+00 RT	=	10 FT	
103+25 LT	=	9 FT	
TOTAL:	ITEM 605 – AGGREGATE DRAINS	=	79 FT

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES (D104)

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 611 CONDUIT ITEM.

CONNECTION OF REPLACEMENT CONDUIT INTO CATCH BASINS OR MANHOLES

THE CONNECTION OF REPLACEMENT CONDUIT SECTIONS INTO CATCH BASINS AS DETAILED ON THE PLAN AND PROFILE SHALL BE DONE AS FOLLOWS: CREATE HOLE FOR CONDUIT IN CATCH BASIN WALL BY METHOD APPROPRIATE FOR DETAILS SHOWN ON THE PLAN AND PROFILE. (IF CATCH BASIN IS FORMED, CONDUIT OPENING SHALL BE INCLUDED IN FORMING PROCESS: IF CATCH BASIN IS PRE-CAST, OPENING FOR CONDUIT SHALL BE ACCOMMODATED IN THE MANUFACTURE OF PRE-CAST CATCH BASINS. SUBSEQUENTLY, CONCRETE MASONRY SHALL BE USED TO GROUT AROUND THE PIPE WHERE IT INSERTS THROUGH THE HOLE IN THE CATCH BASIN WALL).

ITEM 611 – FARM DRAINS (D107)

ALL FARM DRAINS, WHICH ARE ENCOUNTERED DURING CONSTRUCTION, SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS. EXISTING COLLECTORS WHICH ARE LOCATED BELOW THE ROADWAY DITCH ELEVATIONS, AND WHICH CROSS THE ROADWAY, SHALL BE REPLACED WITHIN THE (RIGHT OF WAY) (CONSTRUCTION) LIMITS BY ITEM 611 CONDUIT, TYPE B, ONE COMMERCIAL SIZE LARGER THAN THE EXISTING CONDUIT.

EXISTING COLLECTORS AND ISOLATED FARM DRAINS, WHICH ARE ENCOUNTERED ABOVE THE ELEVATION OF ROADWAY DITCHES, SHALL BE OUTLET INTO THE ROADWAY DITCH BY 611 TYPE F CONDUIT. THE OPTIMUM OUTLET ELEVATION SHALL BE ONE FOOT ABOVE THE FLOWLINE ELEVATION OF THE DITCH. LATERAL FIELD TILES WHICH CROSS THE ROADWAY SHALL BE INTERCEPTED BY 611, TYPE E CONDUIT, AND CARRIED IN A LONGITUDINAL DIRECTION TO AN ADEQUATE OUTLET OR ROADWAY CROSSING.

THE LOCATION, TYPE, SIZE AND GRADE OF REPLACEMENTS SHALL BE DETERMINED BY THE ENGINEER AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS.

EROSION CONTROL PADS AND ANIMAL GUARDS SHALL BE PROVIDED AT THE OUTLET END OF ALL FARM DRAINS AS PER STANDARD CONSTRUCTION DRAWING DM-1.1. EXCEPT WHEN THEY OUTLET INTO A DRAINAGE STRUCTURE. PAYMENT FOR THE EROSION CONTROL PADS AND ANIMAL GUARDS AND ANY NECESSARY BENDS OR BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEMS.

PAYMENT FOR ALL LABOR AND MATERIALS WILL BE PERFORMED BY CHANGE ORDER.

REVIEW OF DRAINAGE FACILITIES (D114)

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, 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 STATE.

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 STATE.

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 CONTRACTOR’S 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 611 CONDUIT ITEMS.

ITEM 202 – STRUCTURE REMOVED, AS PER PLAN

WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC, THE EXISTING STRUCTURE SHALL BE REMOVED UPON RECEIVING PERMISSION FROM THE ENGINEER, INCLUDING BUT NOT LIMITED TO, EXISTING HEADWALLS AND CONDUIT.

PAVEMENT

ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE

PLANING IS TO BE PERFORMED AS DIRECTED AND IN AREAS DESIGNATED BY THE ENGINEER. REMOVAL OF EXISTING PAVEMENT SURFACE MAY BE REQUIRED TO ELIMINATE ADVERSE SURFACE DISTORTION, WHICH IN THE JUDGEMENT OF THE ENGINEER, CANNOT BE SATISFACTORILY CORRECTED IN THE PAVING COURSES. THESE AREAS MAY VARY IN DEPTH, AS DIRECTED BY THE ENGINEER. THESE AREAS MAY INCLUDE MATERIAL DISPLACED BY RUTTING OR SHOVING ASPHALT SURFACE PATCHES, CONCRETE PATCHES, TRANSVERSE BUMPS, JOINTS AT STRUCTURES, ADJOINING PAVEMENTS, RAILROADS, ETC.

ITEM 408 - PRIME COAT, AS PER PLAN

THE CONTRACTOR SHALL APPLY ONE COAT OF MC-70 (AS PER SECTION 702) AT A RATE OF 0.40 GAL/SY TO THE COMPLETED AGGREGATE SHOULDER (ITEM 617) AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE A SHIELD TO PREVENT THE SPRAYING OR DRIFTING OF LIQUID BITUMINOUS MATERIAL ONTO THE EDGE OF PAVEMENT OR EDGE LINE. THE CONTRACTOR SHALL APPLY THE PRIME COAT TO THE AGGREGATE SHOULDER WITHIN 7 (SEVEN) CALENDAR DAYS OF THE BERM MATERIAL BEING LAYED ON THE SHOULDER. PRIOR TO APPLYING THE PRIME COAT LAYER, IT IS ALSO THE CONTRACTOR’S RESPONSIBILITY TO CORRECT ANY DAMAGES TO AGGREGATE SHOULDER THAT HAS OCCURRED DURING THE PERIOD OF TIME BETWEEN THE LAYING OF THE BERM MATERIAL AND THE SPRAYING OF PRIME COAT. THE ATTENTION OF THE CONTRACTOR IS DIRECTED TO 107.10 OF THE SPECIFICATIONS.

ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 9.5 MM, TYPE A (449), AS PER PLAN

ALL OPEN TRANSVERSE JOINTS SHALL BE TAPERED TO MEET EXISTING PAVEMENT BEFORE INTRODUCING TRAFFIC. A "BUMP" SIGN (W8-1-36) SHALL BE ERECTED ON EACH SIDE OF TRANSVERSE JOINTS LEFT OPEN OVER NIGHT, INCLUDING A SPEED ADVISORY SIGN. THESE SIGNS SHALL BE REMOVED IMMEDIATELY AFTER JOINT HAS BEEN CLOSED. PLACEMENT OF SIGNS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

CARE SHALL BE TAKEN TO MATCH EXISTING PAVEMENT ELEVATIONS AT EXISTING PAVED BERMS, DRIVES, INTERSECTIONS, ETC.

REQUIREMENTS OF 442 APPLY EXCEPT AS FOLLOWS: MIX DESIGN: FOR Ndes USE 50 GYRATIONS, FOR Nmax USE 75 GYRATIONS. CHOOSE OPTIMUM BINDER CONTENT AT DESIGN AIR VOIDS OF 3.5%. MINIMUM TOTAL PG BINDER CONTENT IS 6.3 PERCENT. MINIMUM VIRGIN PG BINDER CONTENT IS 5.2 PERCENT. USE A PG 64-22 BINDER. WHEN AN AGGREGATE SOURCE IS SPECIALLY DESIGNATED WITH AN SR ON THE AGGREGATE GRAVITY LIST DO NOT USE THE AGGREGATE EXCEPT AS ALLOWED FOR MEDIUM TRAFFIC IN THE GUIDELINES FOR MAINTAINING ADEQUATE PAVEMENT FRICTION IN SURFACE PAVEMENT.

STRUCTURE 20 FOOT SPAN AND UNDER

DESIGN SPECIFICATIONS (BDM 601.3-1)

THIS STRUCTURE CONFORMS TO THE 10TH EDITION OF THE “LRFD BRIDGE DESIGN SPECIFICATIONS” ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2024, AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

FULL-HEIGHT HEADWALLS

DESIGN SPECIFICATIONS

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

DESIGN DATA

THE FOLLOWING DESIGN DATA IS ASSUMED:
INTERNAL ANGLE OF FRICTION, $\Phi_{BF} = 30^\circ$
TOTAL UNIT WEIGHT OF BACKFILL SOIL = 120 PCF
INTERNAL ANGLE OF FRICTION (DRAINED), FOUNDATION SOIL, $\Phi_F = 28^\circ$
UNDRAINED SHEAR STRENGTH (COHESIVE), FOUNDATION SOIL, $S = 1500$ PSF
UNIT WEIGHT OF CONCRETE = 150 PCF

CLASS QC1 CONCRETE (FOOTING, HEADWALL, AND FORESLOPE) = 4.0 KSI COMPRESSIVE STRENGTH

REINFORCING STEEL: A615, A616, OR A617
GRADE 60 MINIMUM YIELD STRENGTH
60 KSI (ALL REINFORCING STEEL SHALL BE EPOXY COATED)

FORESLOPE ANCHOR WALL DOWELS

ANCHOR PER CMS 510 WITH NONSHRINK, NONMETALLIC GROUT CONFORMING TO CMS 705.20 AND TO A DEPTH OF 5". PAYMENT FOR DOWEL HOLES, GROUT AND INSTALLATION SHALL BE INCLUDED WITH ITEM 511.

THREADED INSERTS OR NON-PROTRUDING MECHANICAL CONNECTORS CAPABLE OF DEVELOPING AT LEAST 125 PERCENT OF THE SPECIFIED FIELD STRENGTH OF THE REINFORCEMENT SHOWN ARE AN ACCEPTABLE ALTERNATIVE TO RESIN BONDING. MAINTAIN A MINIMUM COVER OF 3 INCHES AT THE BOTTOM OF THE CULVERT SLAB. MECHANICAL CONNECTORS SHALL HAVE AN "L-SHAPED" BAR INSIDE THE CULVERT WITH A MINIMUM HORIZONTAL LENGTH OF 12 INCHES. THE DEPARTMENT WILL CONSIDER PAYMENT FOR INSERTS OR MECHANICAL CONNECTORS AS INCIDENTAL TO ITEM 611.

BACKFILL LIMITATION

WHEN THE DESIGN HEIGHT IS GREATER THAN 10 FT, THE BACKFILL BEHIND THE WINGWALLS SHALL NOT BE PLACED HIGHER THAN THE ELEVATION OF THE SOIL ABOVE THE TOE. WHEN THE SOIL ABOVE THE TOE IS AT ITS FINISHED ELEVATION, THE REMAINDER OF THE BACKFILL MAY BE PLACED.

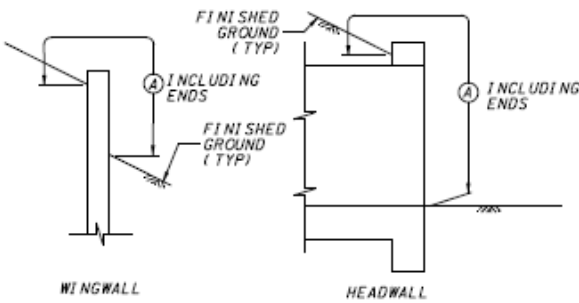
POROUS BACKFILL WITH FILTER FABRIC

POROUS BACKFILL WITH FILTER FABRIC 1'-6" THICK SHALL BE PLACED BEHIND THE WINGWALLS ONLY AND SHALL EXTEND TO 12" BELOW THE EMBANKMENT SURFACE. GEOTEXTILE FABRIC TYPE A SHALL BE PLACED BETWEEN THE POROUS BACKFILL AND REPLACED EXCAVATION ADJACENT TO THE STRUCTURE. IT SHALL TURN UNDER THE BOTTOM OF THE POROUS BACKFILL AND RETURN 6" ABOVE THE TOP ELEVATION OF THE WEEP HOLE.

WEEPHOLES SHALL BE PLACED 6" TO 12" ABOVE THE NORMAL WATER ELEVATION OR GROUND LINE AND SHALL HAVE A MAXIMUM SPACING OF 10'-0". A MINIMUM OF ONE WEEPHOLE SHALL BE PROVIDED PER WINGWALL. PLACE 2 CUBIC FEET OF BAGGED NO. 3 AGGREGATE AT EACH WEEP HOLE TO RETAIN THE POROUS BACKFILL.

SEALING OF HEADWALL AND WINGWALLS

ALL EXPOSED FORESLOPE WALL AND WINGWALL CONCRETE SHALL BE SEALED WITH EPOXY-URETHANE SEALER. THE LIMITS SHALL BE AS SHOWN IN THE DIAGRAMS BELOW. PAYMENT FOR THE EPOXY-URETHANE SEALER SHALL BE PER ITEM 512 – SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).



LIMITS OF ITEM 512-SEALING CONCRETE SURFACES
A - SEAL ENTIRE CONCRETE SURFACE AREA

ITEM 503 – UNCLASSIFIED EXCAVATION (WINGWALL/FOOTING)

EXCAVATION LIMITS FOR THE PROPOSED STRUCTURE SHALL BE AS DEFINED IN 503. EXCAVATION OUTSIDE THESE LIMITS NECESSARY TO REMOVE THE EXISTING STRUCTURE OR INSTALL THE PROPOSED STRUCTURE SHALL BE INCLUDED IN ITEM 202 – PORTIONS OF STRUCTURE REMOVED, AS PER PLAN, AND ALL NECESSARY ITEM 511 OR 611 ITEMS.

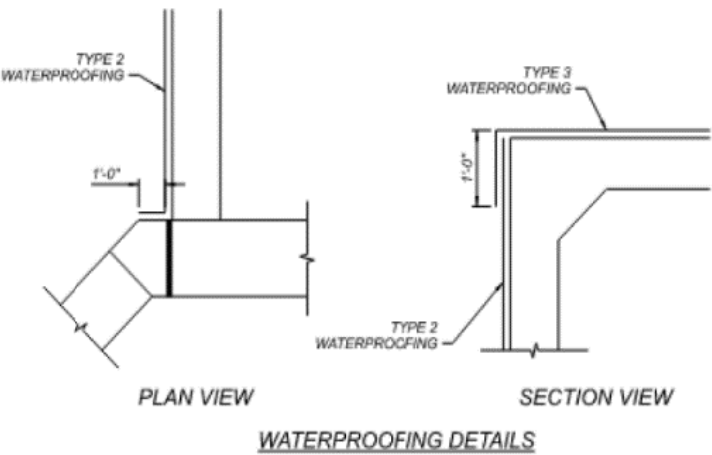
PREFORMED EXPANSION JOINT FILLER

PREFORMED EXPANSION JOINT FILLER (PEJF) CONFORMING TO CMS 705.03, 1 INCH THICK, SHALL BE PLACED ABOVE THE FOOTING BETWEEN THE SIDES OF THE BOX CULVERT AND THE ENDS OF THE WINGWALLS. PAYMENT FOR MATERIALS AND INSTALLATION SHALL BE INCLUDED WITH ITEM 516 – 1" PREFORMED EXPANSION JOINT FILLER.

WATERPROOFING

TYPE 2 WATERPROOFING, PER CMS 512 AND 711.25, SHALL EXTEND VERTICALLY DOWN THE ENTIRE SIDES OF THE PRECAST CULVERT SECTIONS FOR ALL PORTIONS OF THE CULVERT WHICH SHALL BE IN CONTACT WITH THE BACKFILL. PAYMENT FOR THE MEMBRANE WATERPROOFING SHALL BE AT THE CONTRACT BID PRICE PER SQUARE YARD FOR ITEM 512 – TYPE 2 WATERPROOFING.

TYPE 3 WATERPROOFING, PER CMS 512 AND 711.29 SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE PRECAST CULVERT SECTIONS AND SHALL EXTEND ONE FOOT VERTICALLY DOWN THE SIDES FOR ALL PORTIONS OF THE CULVERT WHICH SHALL BE IN CONTACT WITH THE BACKFILL AND PAVEMENT. PAYMENT FOR THE MEMBRANE WATERPROOFING SHALL BE AT THE CONTRACT BID PRICE PER SQUARE YARD FOR ITEM 512 – TYPE 3 WATERPROOFING.



BASIS OF PAYMENT

ALL LABOR, EQUIPMENT, AND INCIDENTALS REQUIRED TO CONSTRUCT THE FOOTINGS, CUTOFF WALLS, WINGWALLS, AND HEADWALLS SHALL BE INCLUDED WITH ITEM 511 – CLASS QC1 CONCRETE, RETAINING/WINGWALL INCLUDING FOOTING. PAYMENT FOR REINFORCING STEEL SHALL BE INCLUDED WITH ITEM 509 – EPOXY COATED STEEL REINFORCEMENT.

EXISTING STRUCTURE VERIFICATION

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

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

EXISTING PLANS

EXISTING PLANS MAY BE INSPECTED IN THE ODOT DISTRICT THREE OFFICE IN ASHLAND:

PLAN NAME	CONSTRUCTION NUMBER
RIC-SH-148 (SR 96)	280020
RIC-603-(7.36)(7.93)	640005