Conformed Set

ATB - SR 531-13.20 Slide

190409 PID - 82819

Dist 4 7/11/2019

Contract Proposal Available @ www.contracts.dot.state.oh.us/home

N:\01\60\06824\97216\ProjAdmin\PlanReview

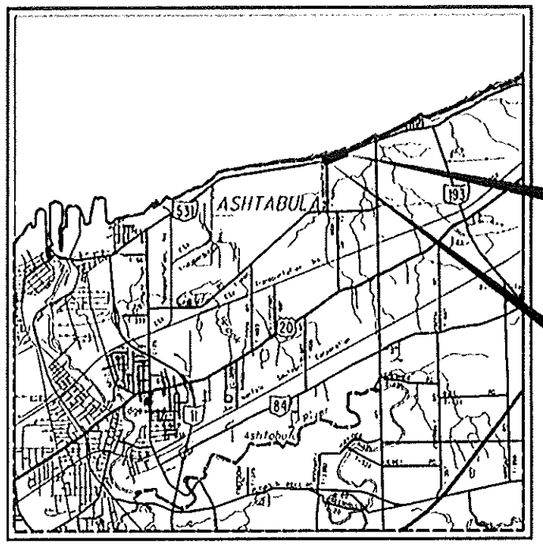
STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

ATB-531-13.20

ASHTABULA TOWNSHIP

ASHTABULA COUNTY



LOCATION MAP

LATITUDE: N41°55'12" LONGITUDE: W80°43'7"

SCALE IN MILES

0 1 2 3 4

N

PORTION TO BE IMPROVED

INTERSTATE HIGHWAY

FEDERAL ROUTES

STATE ROUTES

COUNTY & TOWNSHIP ROADS

OTHER ROADS

DESIGN DESIGNATION

CURRENT ADT (2019) 4500

DESIGN FUNCTIONAL CLASSIFICATION:
RURAL MINOR ARTERIAL

NHS PROJECT ..... NO

DESIGN EXCEPTIONS

NONE

INDEX OF SHEETS:

PROJECT DESCRIPTION

SLIDE REPAIR ON SR 531 IN ASHTABULA COUNTY AT SLM 13.20 (WHITMAN'S CREEK).

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	0.50 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	N/A
NOTICE OF INTENT EARTH DISTURBED AREA:	N/A

2019 SPECIFICATIONS

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

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEET 6.

FEDERAL PROJECT NO. NON-FEDERAL

PID NO. 82819

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT NONE

ATB-531-13.20

1 / 17

ENGINEERS SEAL:

STATE OF OHIO BRIAN KEITH SEARS 74061 REGISTERED PROFESSIONAL ENGINEER

SIGNED: BRIAN K SEARS
DATE: 4/8/19
SHEETS: GEOTECHNICAL DESIGN

STATE OF OHIO W. BRIAN HUGHES E-57279 REGISTERED PROFESSIONAL ENGINEER SEAL

SIGNED: W. BRIAN HUGHES
DATE: 4/8/19
SHEETS: 2, 3, 7-17

STATE OF OHIO THOMAS J. POWELL E-61151 REGISTERED PROFESSIONAL ENGINEER

SIGNED: Thomas J Powell
DATE: 04/09/2019
SHEETS: 1, 4, 5, 6

STANDARD CONSTRUCTION DRAWINGS							SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS
BP-3.1	7/18/14	MT-95.45	7/21/17				800-2019	4/19/19	
BP-5.1	1/18/19	MT-101.60	1/20/17				832	10/19/18	
BP-9.1	1/18/19	MT-101.70	7/20/18						
		MT-101.75	7/15/16						
DM-1.1	7/21/17	MT-101.90	7/21/17						
DM-2.1	1/18/13	MT-105.10	7/19/13						
DM-4.2	7/20/12								
DM-4.3	1/15/16	TC-41.50	10/18/13						
DM-4.4	1/15/16	TC-42.20	10/18/13						
		TC-61.30	1/20/17						
MGS-1.1	1/19/18								
MGS-2.1	1/19/18								
MGS-4.3	1/18/13								
MGS-5.3	7/15/16								
MT-95.40	1/20/17								

APPROVED
DATE 4/9/19 DISTRICT DEPUTY DIRECTOR

APPROVED
DATE 4/24/19 DIRECTOR, DEPARTMENT OF TRANSPORTATION

UNDERGROUND UTILITIES
Contact Two Working Days Before You Dig

OHIO811.org Before You Dig

OHIO811, 8-1-1, or 1-800-362-2764
(Non-members must be called directly)

PLAN PREPARED BY:

LEGEND

(A) EXISTING PAVEMENT

(B) EXISTING GUARDRAIL

(1) ITEM 504 - SHEET PILING LEFT IN PLACE, AS PER PLAN

(2) ITEM 518 - 6" PERFORATED CORRUGATED PLASTIC PIPE

(3) ITEM 606 - GUARDRAIL, TYPE MGS HALF POST SPACING

(4) ITEM 671 - EROSION CONTROL MAT, TYPE E

(5) ITEM 441 - ASPHALT CONCRETE, SURFACE COURSE, TYPE 1 (448), AS PER PLAN (T=1.25")

(6) ITEM 518 - POROUS BACKFILL W/ GEOTEXTILE FABRIC TYPE A, 712.09

(7) ITEM 209 - LINEAR GRADING, AS PER PLAN

(8) ITEM 609 - ASPHALT CONCRETE CURB, TYPE 1

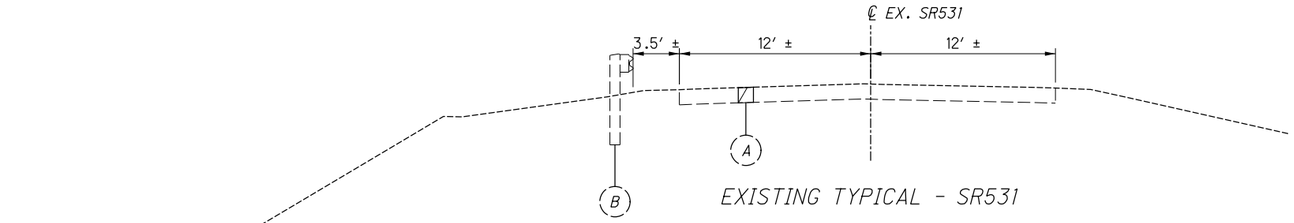
(9) ITEM 407 - TACK COAT

(10) ITEM 301 - ASPHALT CONCRETE BASE, PG64-22 (T=6")

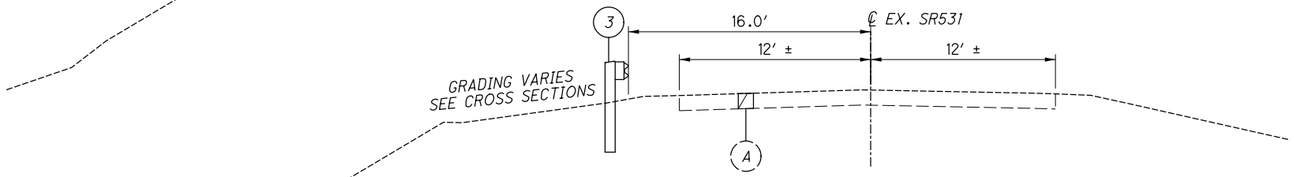
⊗ 6" WRAP FOR GEOTEXTILE FABRIC

ITEM 504 - SHEET PILING LEFT IN PLACE AS PER PLAN

STATION	OFFSET [1]	ELEVATION (SEE SECTION THIS SHEET)				
		[1]	[2]	[3]	[4]	[5]
163+85.00 (BEGIN WALL)	21.50' LT	631.40	630.76	---	630.90	586.40
164+00.00	21.50' LT	631.24	630.63	627.24	622.48	586.24
164+25.00	21.50' LT	630.97	630.38	621.00	607.98	585.97
164+50.00	21.50' LT	630.71	630.11	620.71	601.33	585.71
164+75.00	21.50' LT	630.27	629.66	620.27	601.63	585.27
165+00.00	21.50' LT	629.84	629.24	619.83	606.84	584.84
165+25.00	21.50' LT	629.40	628.83	619.42	612.87	584.40
165+50.00	21.50' LT	628.96	628.42	619.00	613.72	583.96
165+75.00	21.50' LT	628.52	627.96	624.56	621.70	583.52
165+85.00 (END WALL)	21.50' LT	628.35	627.77	---	626.90	583.35



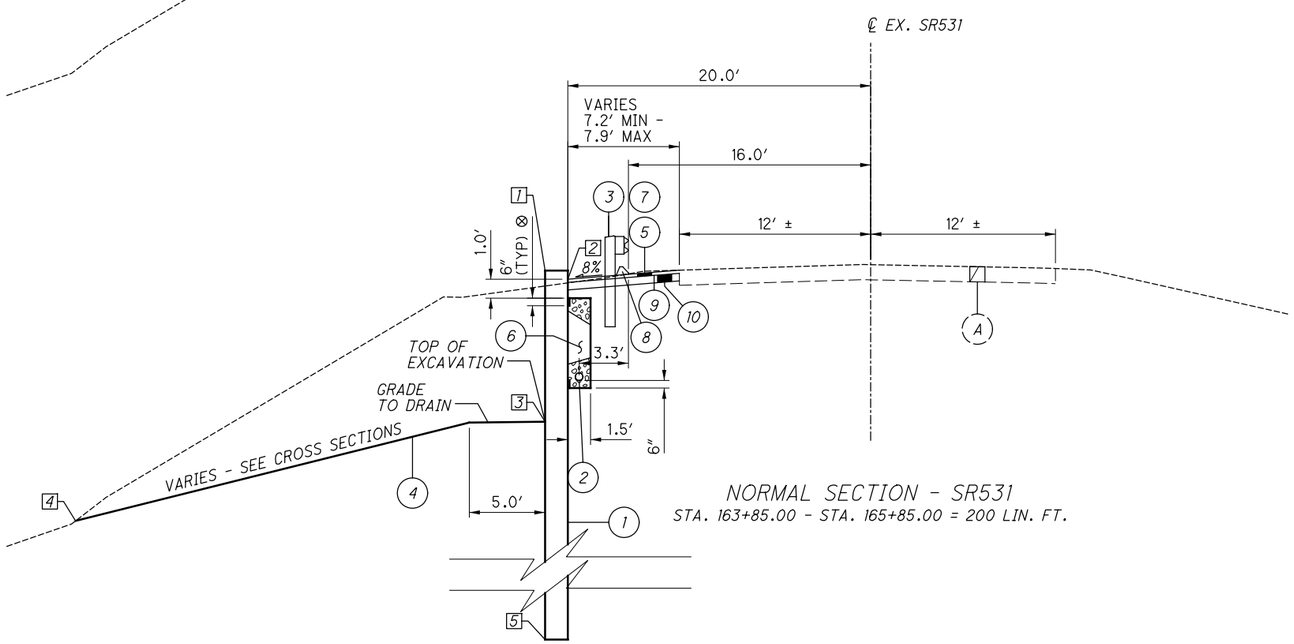
EXISTING TYPICAL - SR531



NORMAL SECTION - SR531

STA. 163+62.50 - STA. 163+85.00 = 22.50 LIN. FT.

STA. 165+85.00 - STA. 167+00.00 = 115 LIN. FT.



NORMAL SECTION - SR531

STA. 163+85.00 - STA. 165+85.00 = 200 LIN. FT.

TYPICAL SECTIONS

ATB-531-13.66

UTILITIES

THERE ARE NO KNOWN UNDERGROUND UTILITIES ON THIS PROJECT.

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE SHEET 8 OF THE 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:	VRS/GNSS SURVEY
MONUMENT TYPE:	5/8" X 30" PINS

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM:	NAVD 88
GEOID:	2012a

HORIZONTAL POSITIONING

REFERENCE FRAME:	NAD 83 (2011) (EPOCH: 2010.0000)
ELLIPSOID:	GRS80
MAP PROJECTION:	LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM:	OHIO NORTH ZONE (3401)
COMBINED SCALE FACTOR:	1.00002506543 (GROUND)
ORIGIN OF COORDINATE SYSTEM:	EASTING (X): 0 NORTHING (Y): 0

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.

UNITS ARE IN U.S. SURVEY FEET.

CLEARING AND GRUBBING, AS PER PLAN

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

IT IS THE INTENT OF THE PLAN TO PRESERVE THE EXISTING SLOPE AND SAVE AS MANY OF THE LARGE TREES AND BRUSH AREA AS POSSIBLE. THEREFORE, DISTURBANCE TO THE SLOPE SHOULD BE KEPT TO A MINIMUM. CLEARING AND GRUBBING, AS PER PLAN SHALL ONLY BE PERFORMED INSIDE THE AREA DESIGNATED BY PROPOSED CONSTRUCTION LIMITS (SEE SHEET 8). ADDITIONAL AREAS MAY BE INCLUDED AT THE DISCRETION OF THE ENGINEER TO FACILITATE THE INSTALLATION OF THE ADDITIONAL EROSION CONTROL MATS. NO WORK IS TO OCCUR LOWER THEN ELEVATION 577 OR BEYOND THE LIMITS OF EXISTING DUMPED RUBBLE.

EROSION CONTROL

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

659, COMMERCIAL FERTILIZER
0.15 TON

659, LIME
0.23 ACRES

659, WATER
3 M. GAL.

671, EROSION CONTROL MAT, TYPE E
1,122 SQ. YD.

SEEDING AND MULCHING WITH CLASS 3C, CROWN VETCH MIXTURE SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL WITHIN THE CONSTRUCTION LIMITS SHOWN IN THE PLANS. QUANTITY CALCULATIONS FOR EROSION CONTROL MAT, TYPE E ARE BASED ON THESE LIMITS. SEEDING AND MULCHING PERFORMED UNDER OR OVER THE MATS IS INCLUDED IN ITEM 671.

ITEM 504 - SHEET PILING LEFT IN PLACE, AS PER PLAN

SHEET PILING IS DESIGNED PER AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, ALLOWABLE STRESS METHOD.

FURNISH AZ, NZ, PZ OR PZC STEEL SHEET PILING WITH A MINIMUM SECTION MODULUS OF 48.4 CUBIC INCHES PER FOOT OF WALL.

SHEET PILING SHALL BE DRIVEN IN SUCH A MANNER AS TO ENSURE INTERLOCKING THROUGHOUT THE ENTIRE LENGTH OF EACH SHEET PILE TO THE TIP ELEVATION SHOWN ON THE PLANS. THE SHEET PILES SHALL BE HELD IN PROPER ALIGNMENT DURING DRIVING BY MEANS OF ASSEMBLING FRAMES OR OTHER SUITABLE TEMPORARY GUIDE STRUCTURES. TEMPORARY GUIDE STRUCTURES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR PURPOSE.

DRIVE SHEET PILES WITH A VARIATION OF ¼ INCH OR LESS PER FOOT FROM VERTICAL. DO NOT DAMAGE SHEET PILING ATTEMPTING TO CORRECT FOR MISALIGNMENT.

CUT OFF THE TOP OF SHEET PILING IN A CLEAN, STRAIGHT LINE AT THE SPECIFIED ELEVATIONS SHOWN ON THE DRAWINGS, DO NOT STAIR STEP. THE LENGTH OF THE PILE CUT OFF SHALL BE SUFFICENT TO PERMIT THE REMOVAL OF ALL DAMAGED MATERIAL. ANY IRREGULARITIES SHALL BE STRAIGHTENED OR CUT OFF BY GRINDING. DISPOSE OF CUT-OFFS NOT INCORPORATED INTO THE WORK.

REMOVE AND REPLACE, OR OTHERWISE CORRECT, SHEET PILES THAT THE ENGINEER DEEMS UNACCEPTABLE. SUBMIT DETAILS OF PLANNED CORRECTIONS TO THE ENGINEER FOR REVIEW AND APPROVAL BEFORE INITIATING ANY CORRECTIVE ACTION. ANY SHEET PILE RUPTURED IN THE INTERLOCK OR OTHERWISE DAMAGED DURING DRIVING SHALL BE PULLED AND REPLACED.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A W-BEAM, BEAM SPLICE AS SHOWN IN AASHTO M 180-12, EXCEPT THE BEAM WASHERS ARE NOT TO BE USED. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

ITEM 606 - GUARDRAIL

THE FOLLOWING QUANTITIES HAVE BEEN PROVIDED TO BE USED AS DIRECTED BY THE ENGINEER TO REPLACE LEANING GUARDRAIL APPROXIMATELY 400 FEET WEST OF THE SHEET PILE WALL.

INSTALLATION:

1. ITEM 606 - GUARDRAIL, TYPE MGS, 200 FT
2. ITEM 202 - GUARDRAIL REMOVED, 200 FT
3. ITEM 626 - BARRIER REFLECTOR, TYPE 2, 1WAY, 3 EACH

ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE 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 A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

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, 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.

LAKE ERIE AVOIDANCE:

UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR DISTURB LAKE ERIE AND/OR STORE EQUIPMENT/MATERIALS IN LAKE ERIE. NO EXCAVATION, GRADING OR FILLING OPERATIONS SHALL BE PERFORMED AT OR BELOW THE LAKE ERIE NORMAL WATER ELEVATION OF 572.0 ± MSL.

PAVING UNDER GUARDRAIL

THIS OPERATION SHALL INCLUDE PREPARATION OF THE GRADED SHOULDER USING ITEM 209, LINEAR GRADING, AS PER PLAN AND PAVING UNDER THE GUARDRAIL USING 301 ASPHALT CONCRETE BASE, PG64-22 (T=6") AND 441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), AS PER PLAN, PG64-22 (T=1.25") WITH 407 TACK COAT APPLIED BETWEEN THE TWO ASPHALT LAYERS.

ITEM 209, LINEAR GRADING, AS PER PLAN SHALL CONSIST OF EXCAVATING TOPSOIL, AND PLACING GRANULAR MATERIAL.

ALL COLLECTED DEBRIS AND TOPSOIL, INCLUDING RHIZOMES, ROOTS AND OTHER VEGETATIVE PLANT MATERIAL SHALL BE REMOVED AND DISPOSED OF AS SPECIFIED IN 105.17.

THE REMOVED MATERIAL SHALL BE REPLACED WITH COMPACTABLE GRANULAR MATERIAL CONFORMING TO 703.16 PLACED TO GRADE AS DETAILED ON THE TYPICAL SECTION OR AS APPROVED BY THE ENGINEER.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 209, LINEAR GRADING, AS PER PLAN.

FOR ITEM 441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448), AS PER PLAN, 703.05 DO NOT USE COURSE AGGREGATE FROM A SOURCE DESIGNATED 'SR' OR 'SRH' ACCORDING TO THE OFFICE OF MATERIALS MANAGEMENT (OMM) IN ANY JOB MIX FORMULA (JMF) FOR THIS ITEM.

PAVING UNDER GUARDRAIL SHALL CONSIST OF PLACING ITEM 301, 407 AND 441 TO THE DEPTH SPECIFIED USING THE FOLLOWING METHOD:

1. PLACE ITEM 301, 407 AND 441, INCLUDING THE CURB, TYPE 1 TO THE LIMITS SHOWN IN THE PLAN
2. BORE ASPHALT AT POST LOCATIONS
3. SET GUARDRAIL POSTS
4. PATCH AROUND POSTS. THE MATERIALS USED FOR PATCHING SHALL BE AN ASPHALT CONCRETE APPROVED BY THE ENGINEER. PATCHED AREAS SHALL BE COMPACTED USING EITHER HAND OR MECHANICAL METHODS. FINISHED SURFACES SHALL BE SMOOTH AND SLOPED TO DRAIN AWAY FROM THE POSTS.

ALL ADDITIONAL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK TO ENABLE SETTING THE POSTS OUTLINED ABOVE, WITH THE EXCEPTION OF SETTING GUARDRAIL POSTS AND INSTALLING CURB, SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 441, ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), AS PER PLAN, PG64-22.

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.

CALCULATED MAH CHECKED WBH

GENERAL NOTES

ATB-531-13.66

MAINTENANCE OF TRAFFIC

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

1. THE CONTRACTOR SHALL INFORM THE DISTRICT OFFICE (330) 786-2208, EIGHTEEN (18) DAYS PRIOR TO THE BEGINNING OF WORK.

2. A QUANTITY OF 30 CU. YDS. OF ITEM 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC SHALL BE PROVIDED FOR USE IN MAINTAINING PAVEMENT, SHOULDERS AND OTHER LOCATIONS AS DIRECTED BY THE ENGINEER.

3. PRIOR TO OPENING TO TRAFFIC EACH LANE SHALL BE IN A SAFE, PASSABLE CONDITION.

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 3 M. GAL

DETOUR NOTIFICATION [ODOT/ASHTABULA COUNTY ENGINEERS]

THE CONTRACTOR SHALL ADVISE THE ODOT DISTRICT OFFICE (330-786-3148) AND ASHTABULA COUNTY ENGINEERS OFFICE (440-576-3707) EIGHTEEN (18) DAYS IN ADVANCE OF WHEN THE DETOUR ROUTE SHOULD BE IN EFFECT. ALL WORK ZONE DEVICES REQUIRED SHALL BE FURNISHED, ERECTED, MAINTAINED AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. PAYMENT FOR ALL WORK ASSOCIATED WITH THE DETOUR SHALL BE INCLUDED UNDER THE LUMP SUM BID FOR ITEM 614, DETOUR SIGNING.

TRAFFIC CONTROL INSPECTOR

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

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

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

CHRISTMAS FOURTH OF JULY
NEW YEARS LABOR DAY
MEMORIAL DAY THANKSGIVING
CONNEAUT D DAY (8/15-8/18/2019)

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

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

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

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

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 28 CONSECUTIVE CALENDAR DAYS, WHEN THROUGH TRAFFIC MAY BE DETOURED AS SHOWN ON SHEET 6. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF $2,000 PER DAY FOR EACH CALENDAR DAY THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

NOTIFICATION OF TRAFFIC RESTRICTIONS

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW TO INFORM SPECIAL HAULING PERMITS SECTION (HAULING.PERMITS@DOT.OHIO.GOV) AND THE DISTRICT PUBLIC INFORMATION OFFICE (PIO). THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS.

INFORMATION SHOULD INCLUDE, BUT IS NOT LIMITED TO, ALL CONSTRUCTION ACTIVITIES THAT IMPACT OR INTERFERE WITH TRAFFIC AND SHALL LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, MINIMUM VERTICAL CLEARANCE, MINIMUM WIDTH OF DRIVABLE PAVEMENT, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

NOTIFICATION TIME TABLE

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

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

ITEM 614, MAINTAINING TRAFFIC (NOTICE OF CLOSURE SIGN)

NOTICE OF CLOSURE SIGNS (W20-H13),SHALL BE ERECTED BY THE CONTRACTOR PRIOR TO THE SCHEDULED ROAD OR RAMP CLOSURE IN ACCORDANCE WITH THE NOTICE OF CLOSURE TIME TABLE BELOW.

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

NOTICE OF CLOSURE SIGN TIME TABLE

ITEM	DURATION OF CLOSURE	SIGN DISPLAYED TO PUBLIC
RAMP & ROAD	>=2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	7 CALENDAR DAYS PRIOR TO CLOSURE
CLOSURES	< 12 HOURS	2 BUSINESS DAYS PRIOR TO CLOSURE

THE SIGN SHALL DISPLAY THE DATE OF THE CLOSURE IN MMM-DD FORMAT AND THE NUMBER OF DAYS OF THE CLOSURE. THE LAST LINE OF THE W20-H13 SIGN LISTS A PHONE NUMBER WHICH A MOTORIST MAY CALL FOR ADDITIONAL INFORMATION. THIS IS TO BE A SPECIFIC OFFICE WITHIN THE DISTRIC RATHER THAN THE GENERAL SWITCHBOARD NUMBER.

W20-H13-60

CALCULATED TFS CHECKED MS

MAINTENANCE OF TRAFFIC GENERAL NOTES

ATB-531-13.20

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS AVAILABLE ON THE OFFICE OF MATERIALS MANAGEMENT WEB PAGE. THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 800 FEET AND 650 FEET, RESPECTIVELY.

EACH SIGN SHALL BE TRAILER-MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM, TO DIM THE SIGN DURING DARKNESS, AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. THE PCMS SHALL BE DELINEATED IN ACCORDANCE WITH C&MS 614.03.

PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS SHALL BE TURNED OFF. ADDITIONALLY, WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED AWAY FROM ALL TRAFFIC.

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

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PRE-PROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHALL BE SUPPORTED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST TWICE.

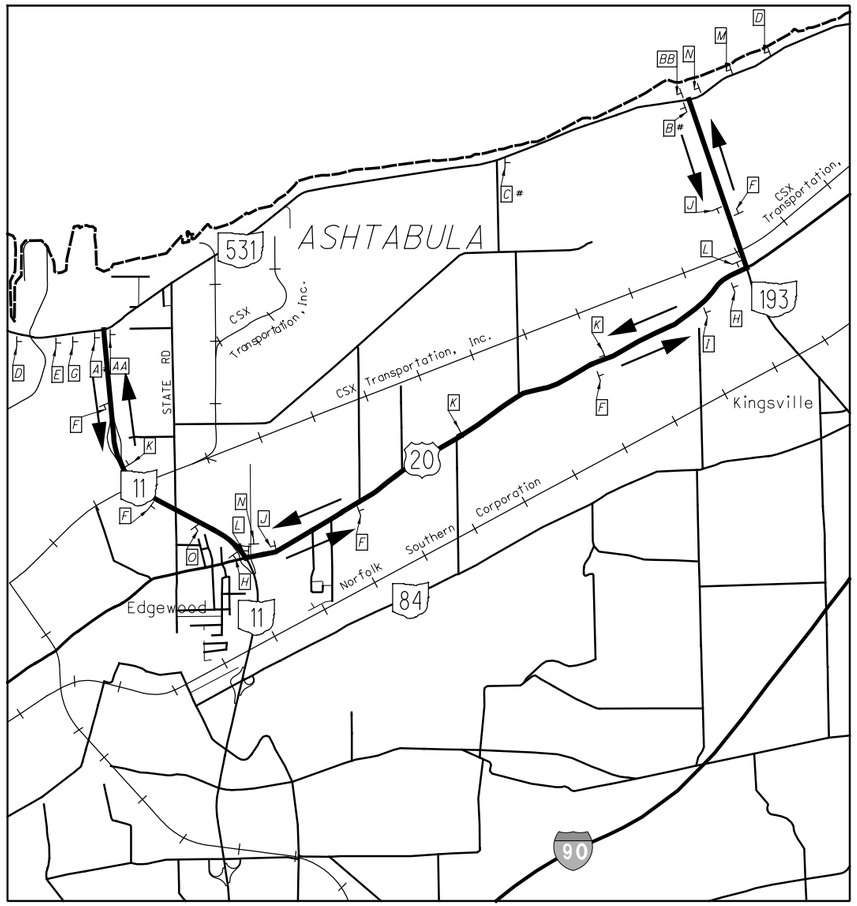
THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

(THE PCMS SHALL CONTAIN A CELLULAR TELEPHONE DATA LINK WHICH WILL (IN ACTIVE CELLULAR PHONE AREAS) ALLOW REMOTE SIGN ACTIVATION, MESSAGE CHANGES, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES. ONE REMOTE DATA INPUT DEVICE (LAPTOP COMPUTER PLUS MODEM OR EQUIVALENT) SHALL BE FURNISHED FOR USE BY THE DISTRICT TRAFFIC ENGINEER, OR EQUIVALENT, AND SHALL BE INSURED AGAINST THEFT.) THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF C&MS 614.07. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS, WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS, TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS, INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC. THE ENTIRE COST TO CONTROL TRAFFIC, ACCRUED BY THE DEPARTMENT DUE TO THE CONTRACTOR'S NONCOMPLIANCE, WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24-HOUR-PER-DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE, AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN 2 SIGN MONTH ASSUMING 2 PCMS SIGNS FOR 1 MONTHS



NOT TO SCALE

DETOUR PLAN FOR ATB-531-13.20

DETOUR ROUTE: SR 11 / US 20 / SR 193

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

ON TYPE III BARRICADE WITH TYPE B FLASHERS MOUNTED PER SCD MT-101.60

AA PORTABLE CHANGEABLE MESSAGE SIGN -PLACE 7 DAYS PRIOR TO CLOSURE

MESSAGE: 1) SR 531 EAST TO CLOSE
2) <DATE> FOR 28 DAYS

BB PORTABLE CHANGEABLE MESSAGE SIGN -PLACE 7 DAYS PRIOR TO CLOSURE

MESSAGE: 1) SR 531 WEST TO CLOSE
2) <DATE> FOR 28 DAYS

A #
ROAD CLOSED
MILES AHEAD
LOCAL TRAFFIC ONLY
R11-3a-60

DETOUR
M4-10R-48

B #
ROAD CLOSED
MILES AHEAD
LOCAL TRAFFIC ONLY
R11-3a-60

DETOUR
M4-10L-48

C #
ROAD CLOSED
MILES AHEAD
LOCAL TRAFFIC ONLY
R11-3a-60

D
DETOUR
1500 FT
W20-2-36

E
DETOUR M4-8-24
EAST M3-2-24
531 M1-5-24-3
M5-1-21

F
DETOUR M4-8-24
EAST M3-2-24
531 M1-5-24-3
M6-3-21

G
DETOUR M4-8-24
EAST M3-2-24
531 M1-5-24-3
M6-1-21

H
DETOUR M4-8-24
EAST M3-2-24
531 M1-5-24-3
M6-1-21

I
DETOUR M4-8-24
EAST M3-2-24
531 M1-5-24-3
M5-1-21

J
DETOUR M4-8-24
WEST M3-4-24
531 M1-5-24-3
M5-1-21

K
DETOUR M4-8-24
WEST M3-4-24
531 M1-5-24-3
M6-3-21

L
DETOUR M4-8-24
WEST M3-4-24
531 M1-5-24-3
M6-1-21

M
DETOUR M4-8-24
WEST M3-4-24
531 M1-5-24-3
M5-1-21

N
DETOUR M4-8-24
WEST M3-4-24
531 M1-5-24-3
M6-1-21

O
DETOUR M4-8-24
EAST M3-2-24
531 M1-5-24-3
M6-2-21

EXIT 97
20
ASHTABULA

CALCULATED TFS
CHECKED MS

DETOUR PLAN

ATB-531-13.20

SHEET NUM.											PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
3	4	5	8	9	17					OFFICE CALC	01/NFP /PV								
																		ROADWAY	
LS											LS			201	11001	LS		CLEARING AND GRUBBING, AS PER PLAN	3
										3	3			202	32700	3	SY	GUTTER REMOVED	
200										222	422			202	38000	422	FT	GUARDRAIL REMOVED	
			1								1			202	42040	1	EACH	ANCHOR ASSEMBLY REMOVED, TYPE T	
					896						896			203	10000	896	CY	EXCAVATION	
					22						22			203	20000	22	CY	EMBANKMENT	
										2	2			209	60201	2	STA	LINEAR GRADING, AS PER PLAN	3
200										62.5	262.5			606	15050	262.5	FT	GUARDRAIL, TYPE MGS	
										225	225			606	15150	225	FT	GUARDRAIL, TYPE MGS HALF POST SPACING	
			1								1			606	26150	1	EACH	ANCHOR ASSEMBLY, MGS TYPE E, NCHRP 350/MASH 2016	
																		EROSION CONTROL	
				23							23			601	38401	23	FT	PAVED GUTTER, TYPE 2, AS PER PLAN	9
0.15											0.15			659	20000	0.15	TON	COMMERCIAL FERTILIZER	
0.23											0.23			659	31000	0.23	ACRE	LIME	
3											3			659	35000	3	MGAL	WATER	
1,122			866								1,988			671	15040	1,988	SY	EROSION CONTROL MAT, TYPE E	
																		PAVEMENT	
										28	28			301	46000	28	CY	ASPHALT CONCRETE BASE, PG64-22	
										10	10			407	10000	10	GAL	TACK COAT	
										6	6			441	50101	6	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), AS PER PLAN PG64-22	3
										200	200			609	10000	200	FT	ASPHALT CONCRETE CURB, TYPE 1	
																		TRAFFIC CONTROL	
3			8								11			626	00110	11	EACH	BARRIER REFLECTOR, TYPE 2, 1WAY	
			13.5								13.5			630	03100	13.5	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
			7.5								7.5			630	80100	7.5	SF	SIGN, FLAT SHEET	
			1								1			630	84900	1	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
			2								2			630	86002	2	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
										0.04	0.04			642	00090	0.04	MILE	EDGE LINE, 4"	
																		RETAINING WALLS	
										9,000	9,000			504	11101	9,000	SF	STEEL SHEET PILING LEFT IN PLACE, AS PER PLAN	3
					69						69			518	21200	69	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
										200	200			518	40000	200	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
										18	18			518	40012	18	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE , 707.33	
																		MAINTENANCE OF TRAFFIC	
														614	12420	LS		DETOUR SIGNING	
		2									2			614	18601	2	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	5
	3										3			616	10000	3	MGAL	WATER	
																		INCIDENTALS	
											LS			614	11000	LS		MAINTAINING TRAFFIC	
											3			619	16000	3	MNTH	FIELD OFFICE, TYPE A	
											LS			623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
											LS			624	10000	LS		MOBILIZATION	

CALCULATED MAH
CHECKED WBH

GENERAL SUMMARY

ATB-531-13.66

NAME	STATION	OFFSET	NORTHING	EASTING	ELEV	FOUND IN FIELD
POT	STA. 162+50.00	℄	825994.75	2453608.24	---	---
A	STA. 164+47.32	18.70' LT	826088.40	2453782.92	629.71	5/8" REBAR W/ ODOT CAP
B	STA. 165+39.71	19.53' LT	826124.95	2453867.78	628.22	5/8" REBAR W/ ODOT CAP
C	STA. 165+87.99	49.85' LT	826171.60	2453900.55	630.51	5/8" REBAR W/ ODOT CAP
PC	STA. 166+52.10	℄	826150.46	2453978.97	---	---

ESTIMATED QUANTITIES

ITEM	DESCRIPTION	QTY.	QTY.
202	ANCHOR ASSEMBLY REMOVED, TYPE T	EACH	1
606	ANCHOR ASSEMBLY, MGS TYPE E NCHRP 350/MASH 2016	EACH	1
626	BARRIER REFLECTOR, TYPE 2, IWAY	EACH	8
630	GROUND MOUNTED SUPPORT, NO. 3 POST	FT	13.5
630	SIGN, FLAT SHEET	SF	7.5
630	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	EACH	1
630	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	EACH	2
671	EROSION CONTROL MAT, TYPE E	SY	866

ITEM 671 - EROSION CONTROL MAT, TYPE E

866 SY ADDITIONAL EROSION CONTROL MAT TO BE USED WITHIN THE FAILED SLOPE AREA BETWEEN TREE LINES AND DUMPED RUBBLE AT THE DISCRETION OF THE ENGINEER.

LAKE ERIE NORMAL
LAKE ELEV. 572.0 ±

APPROX. LIMITS OF EX. DUMPED RUBBLE

CONTOUR ELEV. = 577

LIMITS OF EROSION CONTROL MATS TO BE USED AT THE DISCRETION OF THE ENGINEER

PROP. CONST LIMITS

$500 FINE FOR LITTERING ORC SEC 3161.32

R21-H2-30 STA. 165+25

C-1

P.I. Sta. 169+75.38
Δ = 4° 18' 30" (RT)
Dc = 0° 40' 00"
R = 8,594.37'
T = 323.28'
L = 646.25'
E = 6.08'
C = 646.10'
C.B. = N 69° 22' 14" E

END WORK STA. 167+00.00

END GUARDRAIL STA. 167+00.00, 16.00' LT

BEGIN WORK STA. 163+62.50

CONNECT TO EX GUARDRAIL
BEGIN GUARDRAIL HALF POST SPACING
BEGIN GUARDRAIL TAPER STA. 163+62.50, 15.48' LT

END GUARDRAIL TAPER STA. 163+75.00, 16.00' LT

BEGIN CURB STA. 163+85.00, 16.00' LT

BEGIN 6" PLASTIC PIPE STA. 163+85.00, 19.25' LT

BEGIN SHEET PILING STA. 163+85.00, 20.00' LT

EX. SIGN (TBR)

END GUARDRAIL HALF POST SPACING
BEGIN GUARDRAIL STA. 165+87.50, 16.00' LT

PROP. PAVED GUTTER TYPE 2 (L=23')

EX. GUTTER TBR (CONC. APRON = 3 SY)

END 6" PLASTIC PIPE
CONNECT TO EXISTING STRUCTURE
REMOVE PAVED APRON

Ex SH

6:1 3.5:1 2.5:1 5.0' 2.5:1 3:1 4:1 5:1 10:1

4:1 PROP. BENCH * 4.5:1

EX. DITCH INLET

DO NOT DISTURB (B-107-0-06)

EX. 12" RCP

1.0 ±

TYPE E ANCHOR ASSEMBLY

3.5' ±
1' ±
11' ± 11' ± 11' ±
1' ±

163 164 +25 +75 165 +25 +75 166 167

℄ EX. SR531

EX. GUARDRAIL (TBR)

BEGIN PAVING UNDER GUARDRAIL STA. 163+85.00, 12.00' LT N 67° 12' 59" E

PROP. 6" PERFORATED CORRUGATED PLASTIC PIPE

PROP. SHEET PILING

PROP. CURB, TYPE 1
EX. ANCHOR ASS. TYPE E (TBR)

END SHEET PILING STA. 165+85.00, 20.00' LT

END CURB STA. 165+92.00, 16.00' LT

END PAVING UNDER GUARDRAIL STA. 165+92.00, 12.82' LT

PC Sta. 166+52.10

EX. 12" RCP (DND)

* GRADE BENCH TO DRAIN

SEE SHEET 2
FOR TABLE OF ELEVATIONS
EVERY 25' ALONG THE WALL

STA. 165+87.75, 28.86' RT
GRATE ELEV = 624.64
12" RCP (N) INV ELEV = 622.49

STA. 165+97.14, 29.24' LT
GRATE ELEV = 624.47
12" RCP (S) INV ELEV = 621.78
12" RCP (N) INV ELEV = 621.78
6" PLASTIC PIPE (W) INV ELEV = 621.78

EX. GROUND AT EDGE OF SHOULDER

+85.00 ELEV. 631.40

+50.00 ELEV. 630.71

PROPOSED TOP OF WALL ELEVATION

1.06%

1.75%

+85.00 ELEV. 630.90

PROPOSED GROUND ELEVATION AT BACK OF WALL

+85.00 ELEV. 628.35

+85.00 ELEV. 626.90

6" PLASTIC PIPE STA. 163+85.00 INV. ELEV = 622.84

4:1

6" PLASTIC PIPE

4.5:1

EX. 12" RCP

0.50% →

62.5:1

+25.00 ELEV. 621.00

PROPOSED GROUND ELEVATION AT FACE OF WALL

+50.00 ELEV. 619.00

EX. GROUND AT EDGE OF SHOULDER

EX. GROUND AT CENTERLINE

632.19 632.25 631.99 632.28 631.70 632.03 631.26 631.43 630.71 630.88 629.83 630.18 629.00 629.39 628.06 628.38 626.87 627.19 625.54 625.88

645 640 635 630 625 620 615 610

162+00 163+00 164+00 165+00 166+00 167+00

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MAH CHECKED WBH

PLAN AND PROFILE

ATB-531-13.66

8
17

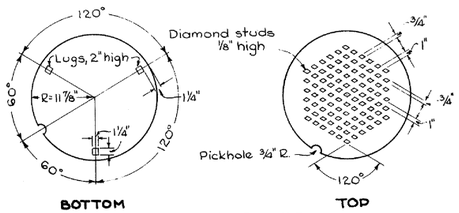
N:\01\60\06824\97216\Design\Roadway\Sheets\97216_GP001.dgn Sheet 4/1/2019 10:11:14 AM mhunsche

SPECIAL DITCH INLET

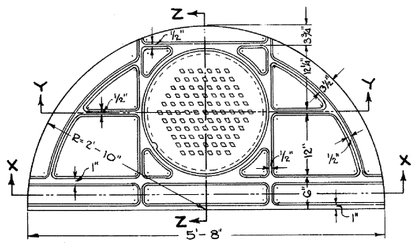
FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	H.I.F.	1952

5 / 28

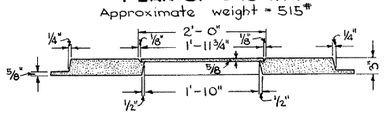
ASHTABULA COUNTY
ATB-531 (13.73 - 14.07)



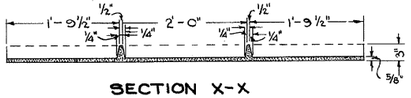
DETAIL OF COVER



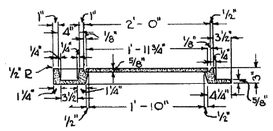
PLAN OF CASTING
Approximate weight = 515#



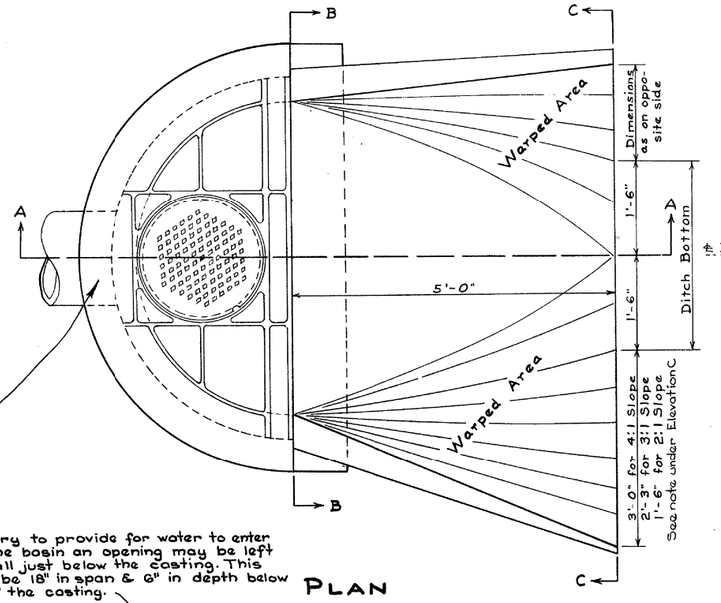
SECTION Y-Y



SECTION X-X

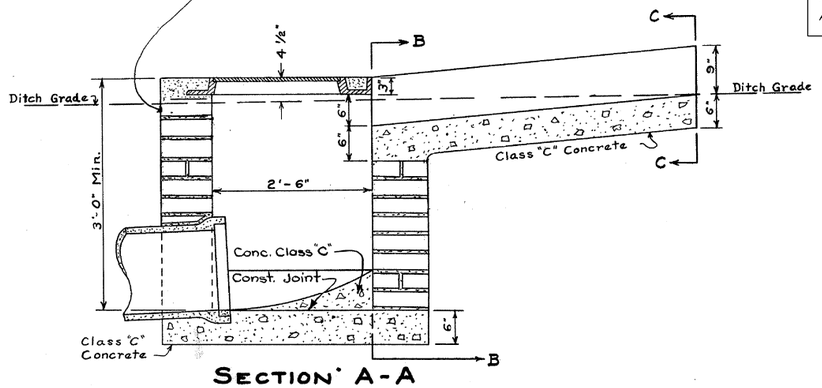


SECTION Z-Z



PLAN

NOTE:
If necessary to provide for water to enter the back of the basin an opening may be left in the sidewall just below the casting. This opening shall be 18" in span & 6" in depth below the bottom of the casting.



SECTION A-A

NOTES

Castings shall be of cast iron in accordance with Material Details. The design shall be essentially the same and equally as strong as those shown hereon and shall be given one coat of asphaltum paint as per specifications. Casting weight shall be approximately 515 lbs.

After casting has been set the space between the webs shall be filled with 1:2 cement mortar.

Construction: Inlets shall be constructed of a 6" Class "C" concrete base and 8" brick sidewalls, laid in portland cement concrete mortar with every sixth course a stretcher course.

8" Class "C" concrete may be substituted for brick sidewall construction.

In case of through pipe or side pipe connections, the bottom of the inlet shall be shaped accordingly.

± Ditch ____ Cost of concrete apron in front of inlet shall be included in unit price bid for Item I-8.

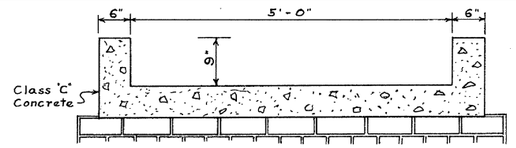
CONNECTION TO EXISTING STRUCTURE - D2

THE CONTRACTOR IS TO REMOVE THE EXISTING UPSTREAM PAVED GUTTER (APRON) TO FACILITATE THE INSTALLATION OF THE 6" DRAIN PIPE INTO THE SIDE OF THE EXISTING DITCH BASIN, D2. THE CONTRACTOR WILL THEN INSTALL NEW TYPE 2 PAVED GUTTER, AS PER PLAN. VERIFY ELEVATION TO ENSURE PROPER DRAINAGE FLOW.

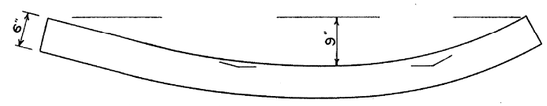
THE TYPE 2 PAVED GUTTER, AS PER PLAN WILL CONVEY DRAINAGE FLOW FROM THE ROADSIDE GUTTER TO D2. THE INSTALLATION OF THE PAVED GUTTER, INCLUDING CUTOFF WALL, SHALL BE MODIFIED AS NECESSARY TO FIT SITE CONDITIONS AND COORDINATED AND CONSTRUCTED TO THE SATISFACTION OF THE ENGINEER.

ATTACH THE PROPOSED PAVED GUTTER TO THE EXISTING DITCH INLET AS DETAILED IN SECTION B-B. CONTRACTOR TO MODIFY THE CUT OFF WALL SHOWN IN SCD DM-2.1 FOR THE TYPE 2 GUTTER SO THAT THE GUTTER SITS SQUARELY ON THE INLET WALL.

ANY EXISTING BRICKS DAMAGED BY REMOVAL OF THE EXISTING GUTTER SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER. THE COST FOR ANY REPAIRS NECESSARY IS CONSIDERED INCIDENTAL TO PLACED GUTTER, TYPE 2, AS PER PLAN ITEM.



SECTION B-B



ELEVATION C-C
Approach at C-C shall be warped to fit the typical ditch or paved gutter section.

PAYMENT FOR ALL MATERIALS AND LABOR ARE PAID UNDER THE RESPECTIVE BID ITEMS, ITEM 202 - GUTTER REMOVED, ITEM 518 - 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, 707.33 AND ITEM 601 - PAVED GUTTER, TYPE 2, AS PER PLAN.

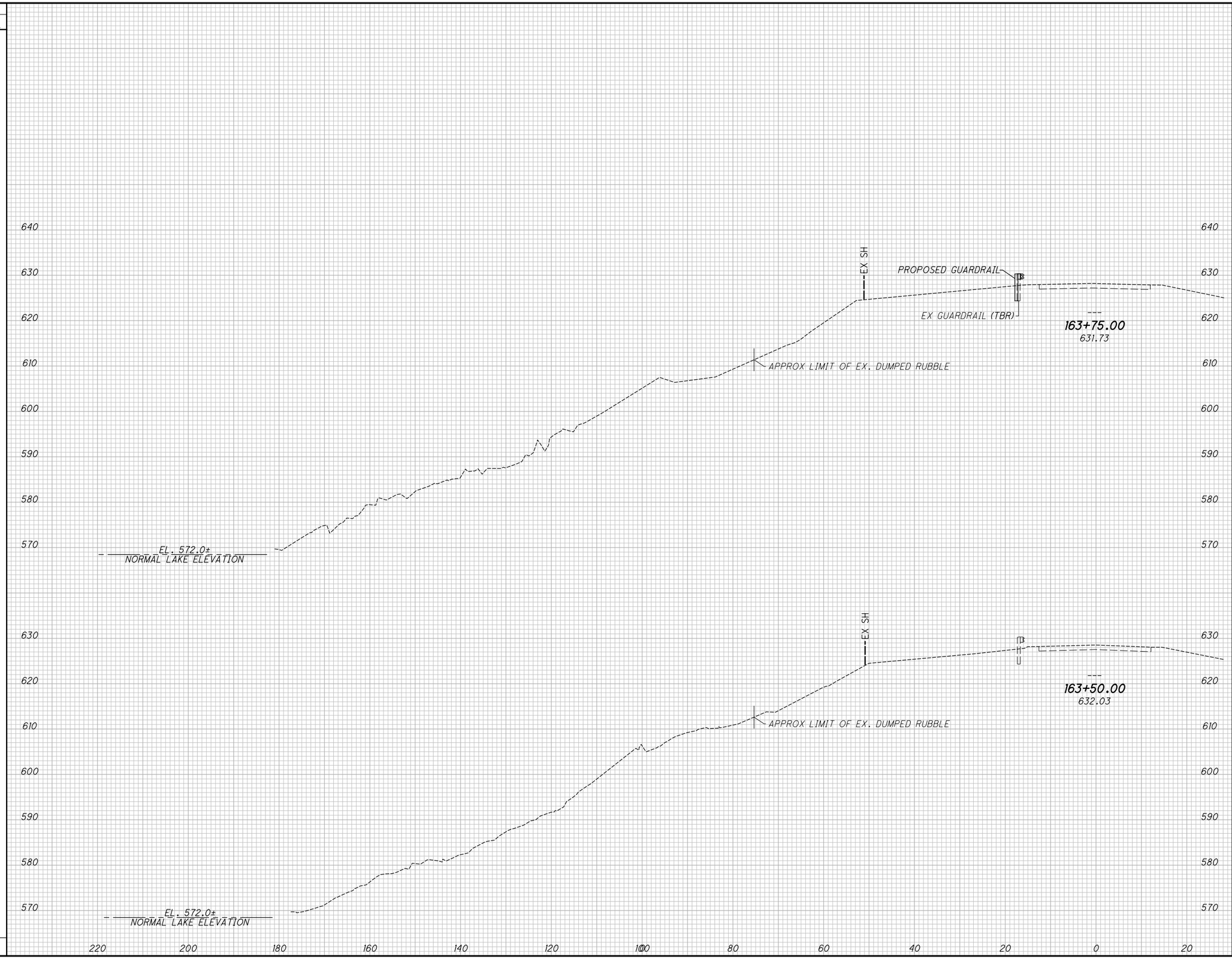
CALCULATED MAH CHECKED WBH

EX. GUTTER AND DITCH INLET - STA 165+97.14, 29.24' LT

ATB-531-13.66

9 / 17

SEEDING	
END WIDTH	SQ. YDS.
0	0
0	0



END AREA	
CUT	FILL
0	0
0	0

VOLUME	
CUT	FILL
0	0
0	0

CALCULATED MAH
CHECKED WBH

CROSS SECTIONS SR531
STA. 163+50.00 TO STA. 163+75.00

ATB-531-13.66

10
17

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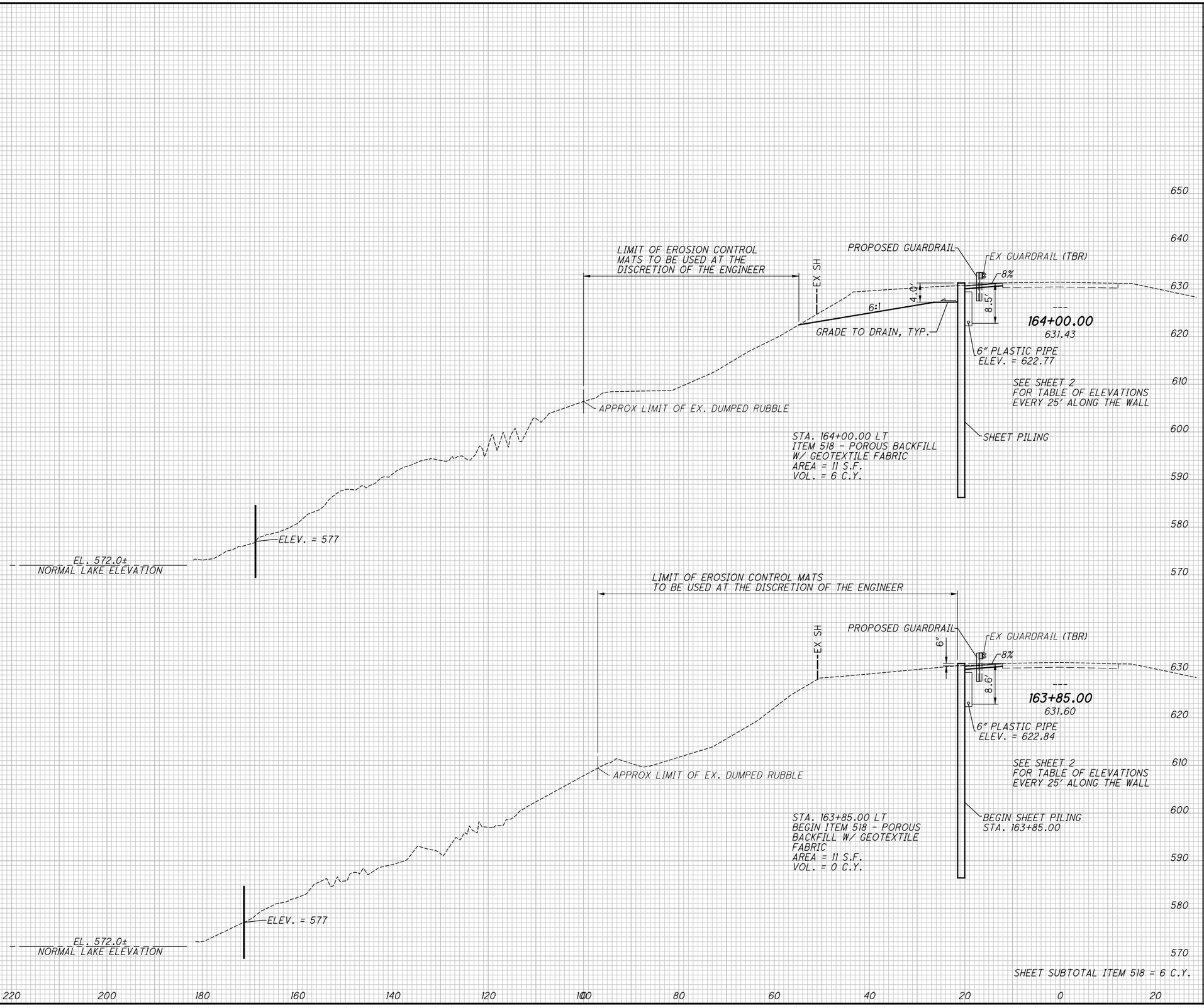
SEEDING	
END WIDTH	SQ. YDS.
34	
	28
0	
0	
	28



END AREA	
CUT	FILL
114	0
0	0

VOLUME	
CUT	FILL
32	0
0	0
32	0

CALCULATED MAH
CHECKED WBH

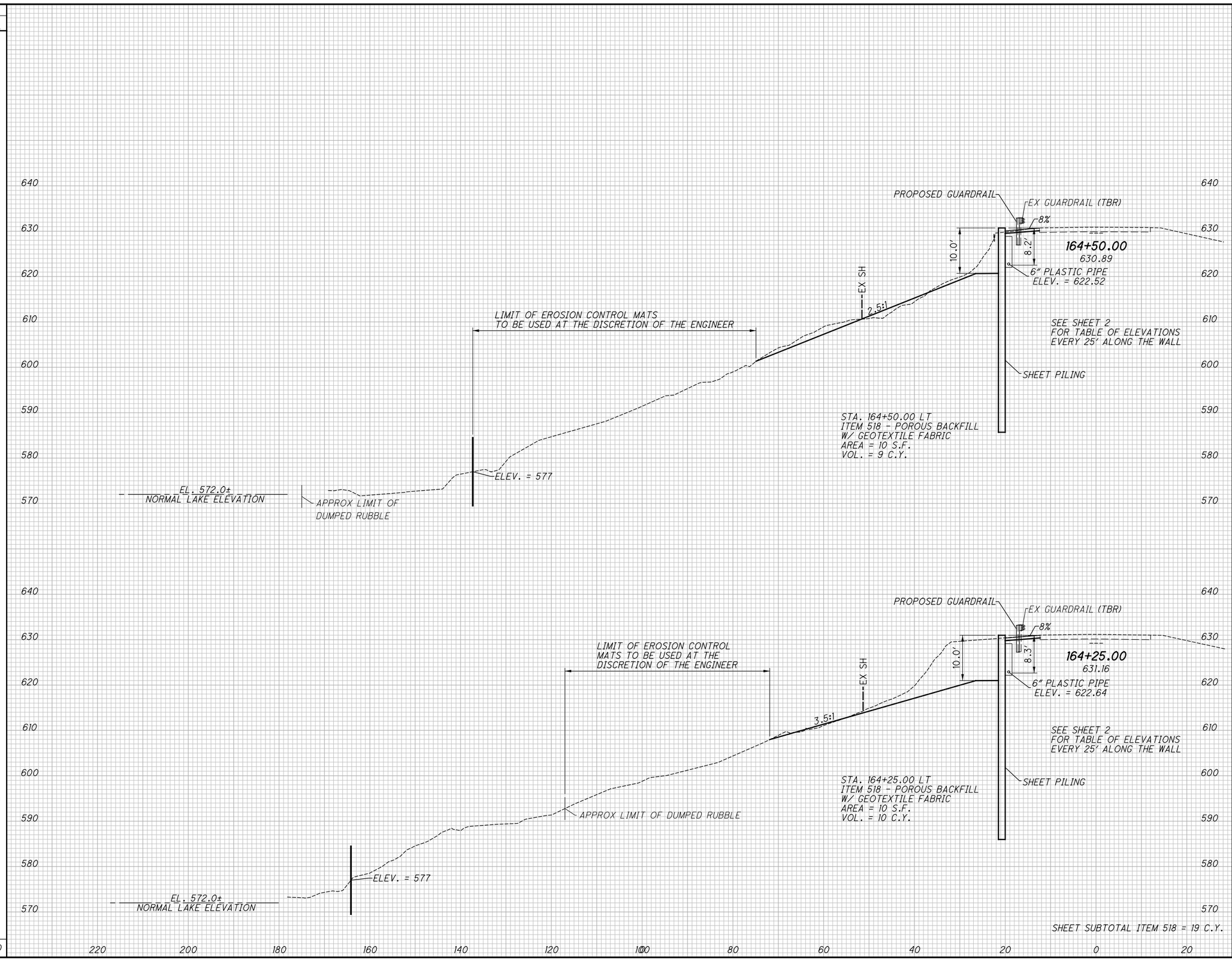
CROSS SECTIONS SR531
STA. 163+85.00 TO STA. 164+00.00

ATB-531-13.66

11
17

N:\01\60\06824\97216\Design\Roadway\Sheets\97216_XS001.dgn XS_SHEET_temporary_model_name_4 3/18/2019 11:3:24 AM mhunsche

SEEDING	
END WIDTH	SQ. YDS.
57	151
52	119
	270



END AREA	
CUT	FILL
55	12
168	2

VOLUME	
CUT	FILL
103	6
131	1
234	7

CALCULATED MAH
CHECKED WBH

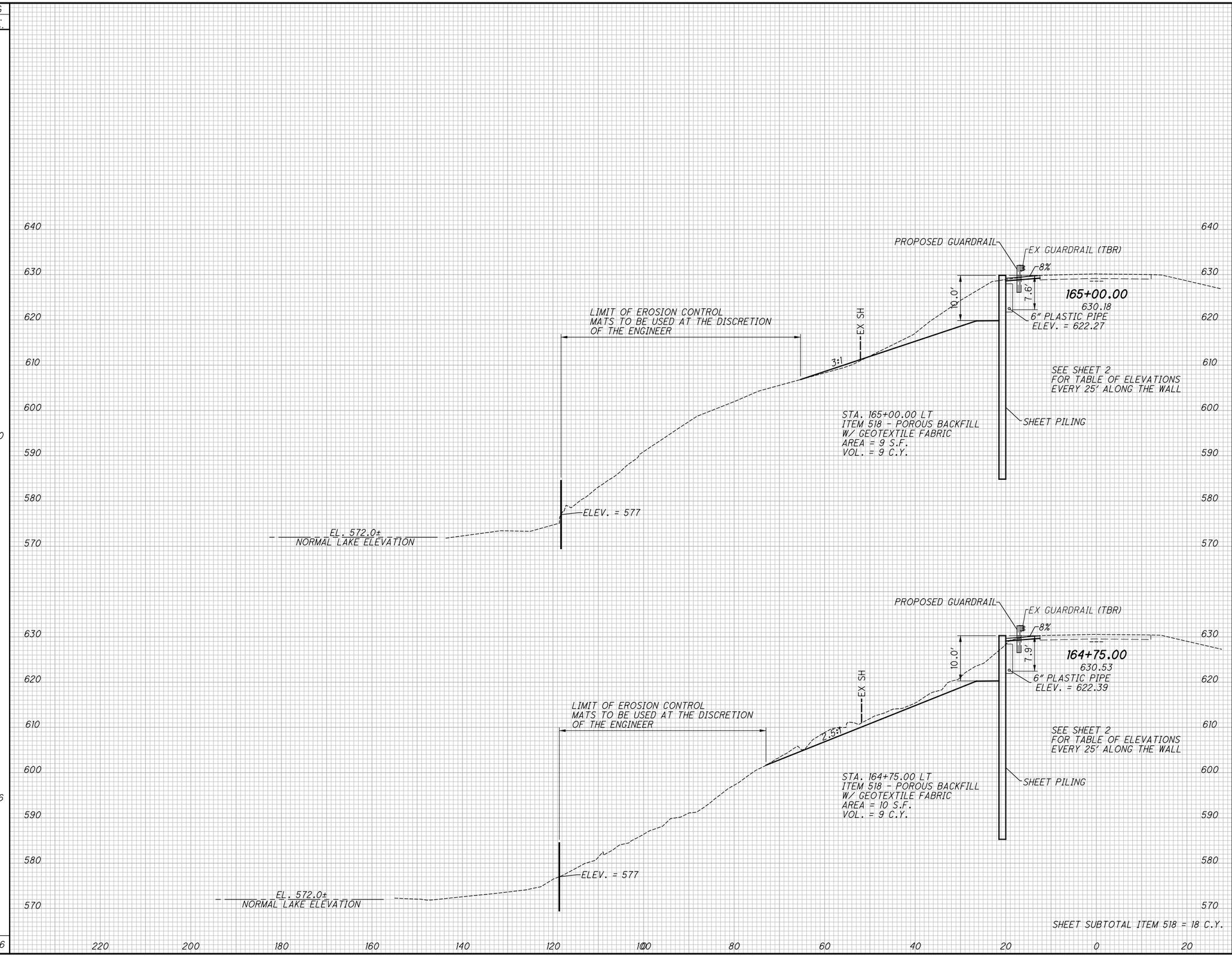
CROSS SECTIONS SR531
STA. 164+25.00 TO STA. 164+50.00

ATB-531-13.66

12
17

N:\DN\60\06824\97216\Design\Roadway\Sheets\97216_XS001.dgn XS_SHEET_temporary_model_name_5 3/14/2019 3:08:55 PM mhunsche

SEEDING	
END WIDTH	SQ. YDS.
46	140
55	156
	296



END AREA	
CUT	FILL
109	5
86	0

VOLUME	
CUT	FILL
90	2
65	6
155	8

CALCULATED MAH
CHECKED WBH

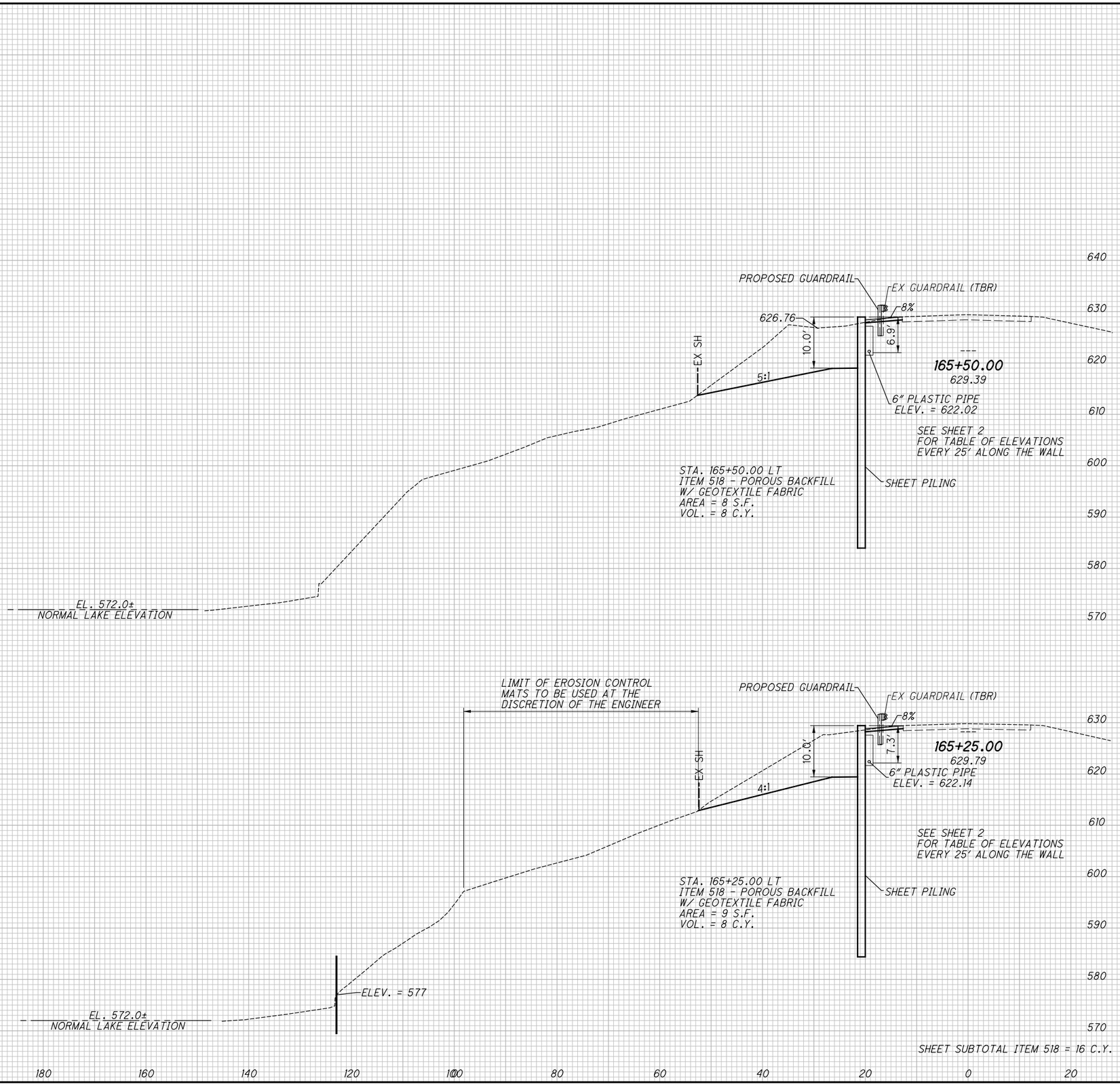
CROSS SECTIONS SR531
STA. 164+75.00 TO STA. 165+00.00

ATB-531-13.66

13
17

N:\01\60\06824\97216\Design\Roadway\Sheets\97216_XS001.dgn XS_SHEET_temporary_model_name_6 3/14/2019 3:09:15 PM mhunsche

SEEDING	
END WIDTH	SQ. YDS.
32	89
32	108
	197



END AREA	
CUT	FILL
203	0
168	0

VOLUME	
CUT	FILL
172	0
128	2
300	2

CALCULATED MAH
CHECKED WBH

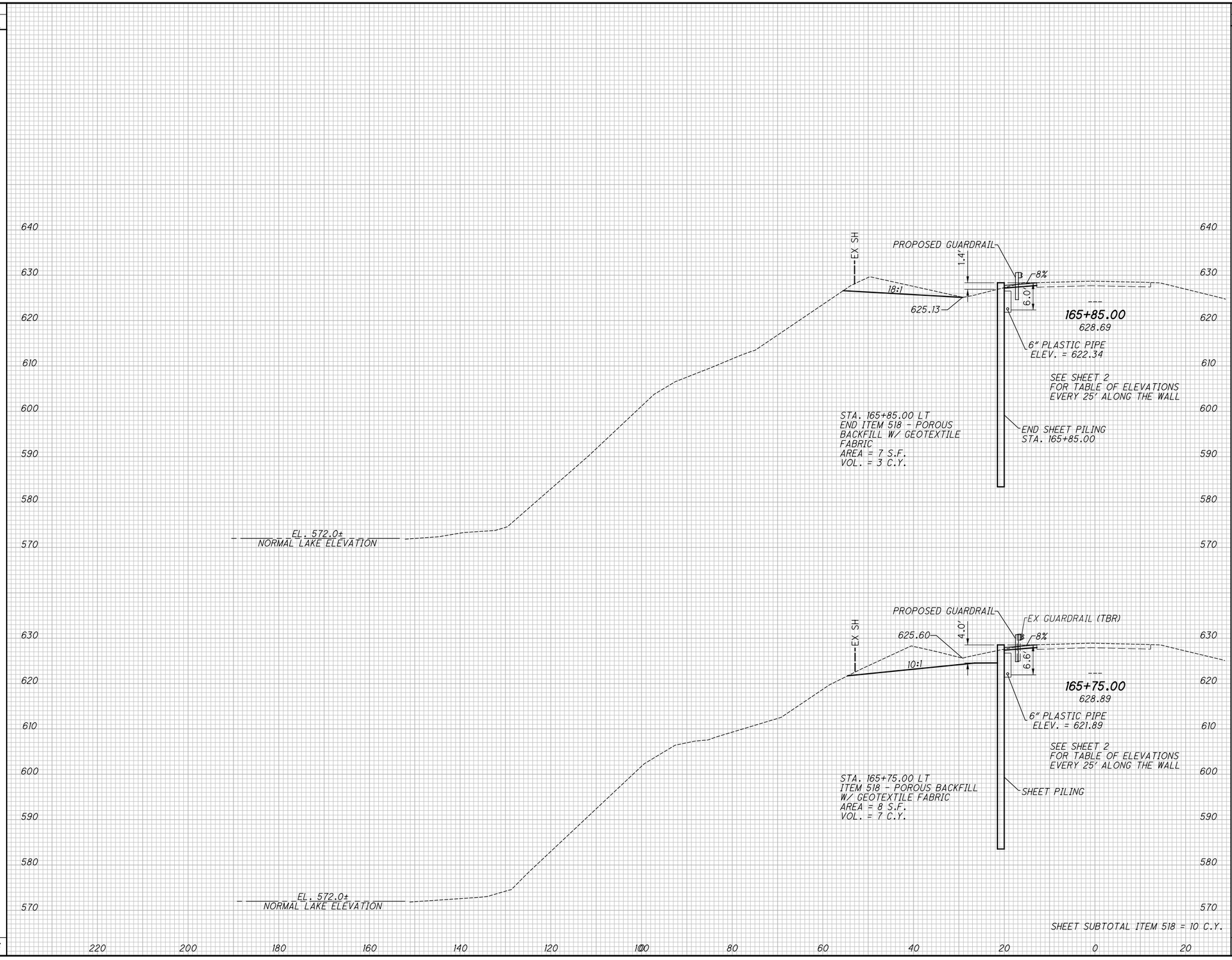
CROSS SECTIONS SR531
STA. 165+25.00 TO STA. 165+50.00

ATB-531-13.66

14
17

N:\01\60\06824\9726\Design\Roadway\Sheets\9726_XS001.dgn XS_SHEET_temporary_model_name_7 3/14/2019 3:09:40 PM mhunsche

SEEDING	
END WIDTH	SQ. YDS.
26	33
33	90
	123



END AREA	
CUT	FILL
46	0
90	0
136	0

VOLUME	
CUT	FILL
25	0
161	0

CALCULATED MAH
CHECKED WBH

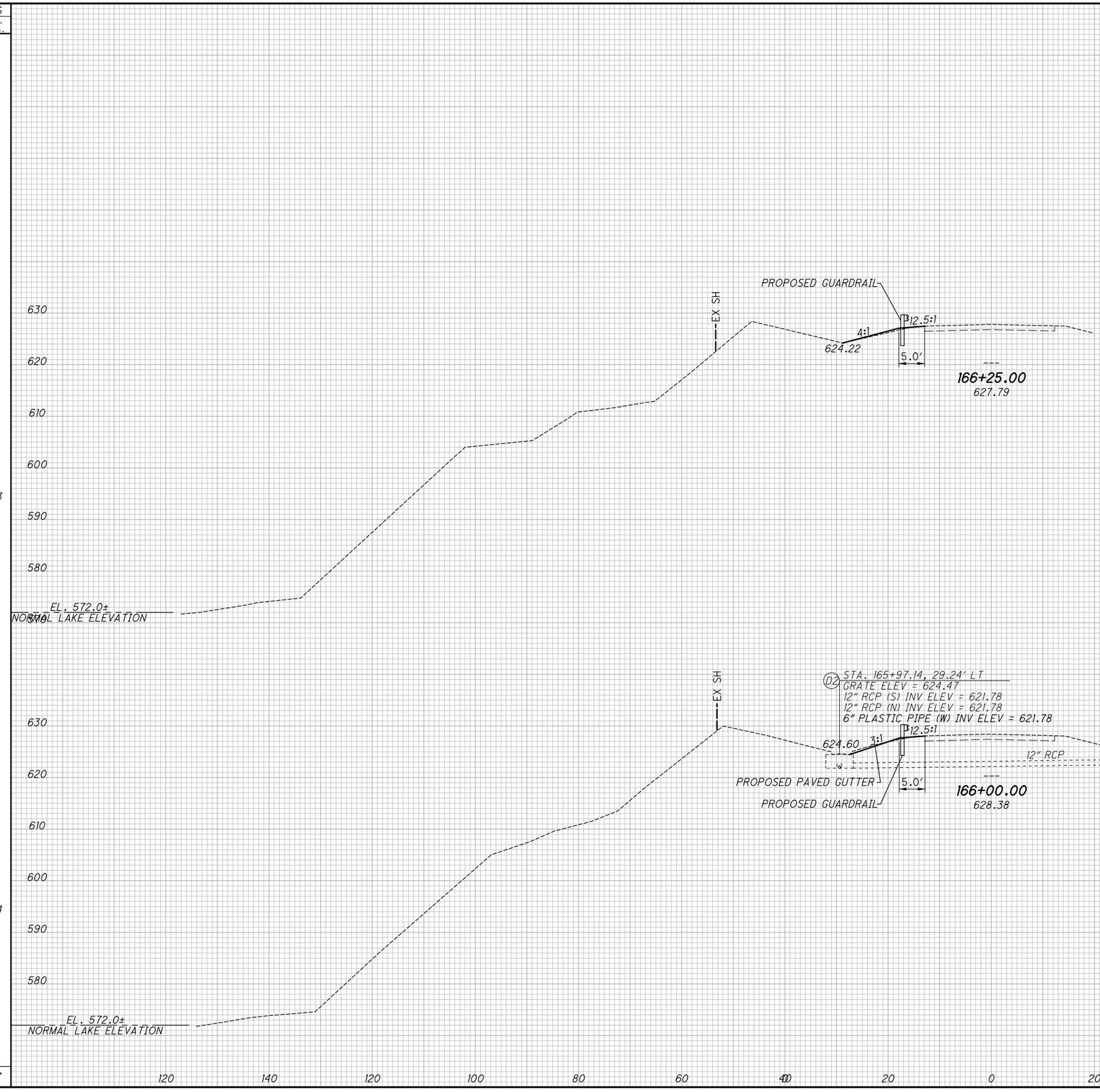
CROSS SECTIONS SR531
STA. 165+75.00 TO STA. 165+85.00

ATB-531-13.66

15
17

N:\01\60\06824\9726\Design\Roadway\Sheets\9726_XS001.dgn XS_SHEET_temporary_model_name_8 3/14/2019 3:04:19 PM mhunsche

SEEDING	
END WIDTH	SQ. YDS.
16	43
15	34
	77



END AREA	
CUT	FILL
0	2
2	1

VOLUME	
CUT	FILL
1	1
13	0
14	1

CALCULATED MAH
CHECKED WBH

CROSS SECTIONS SR531
STA. 166+00.00 TO STA. 166+25.00

ATB-531-13.66

16
17

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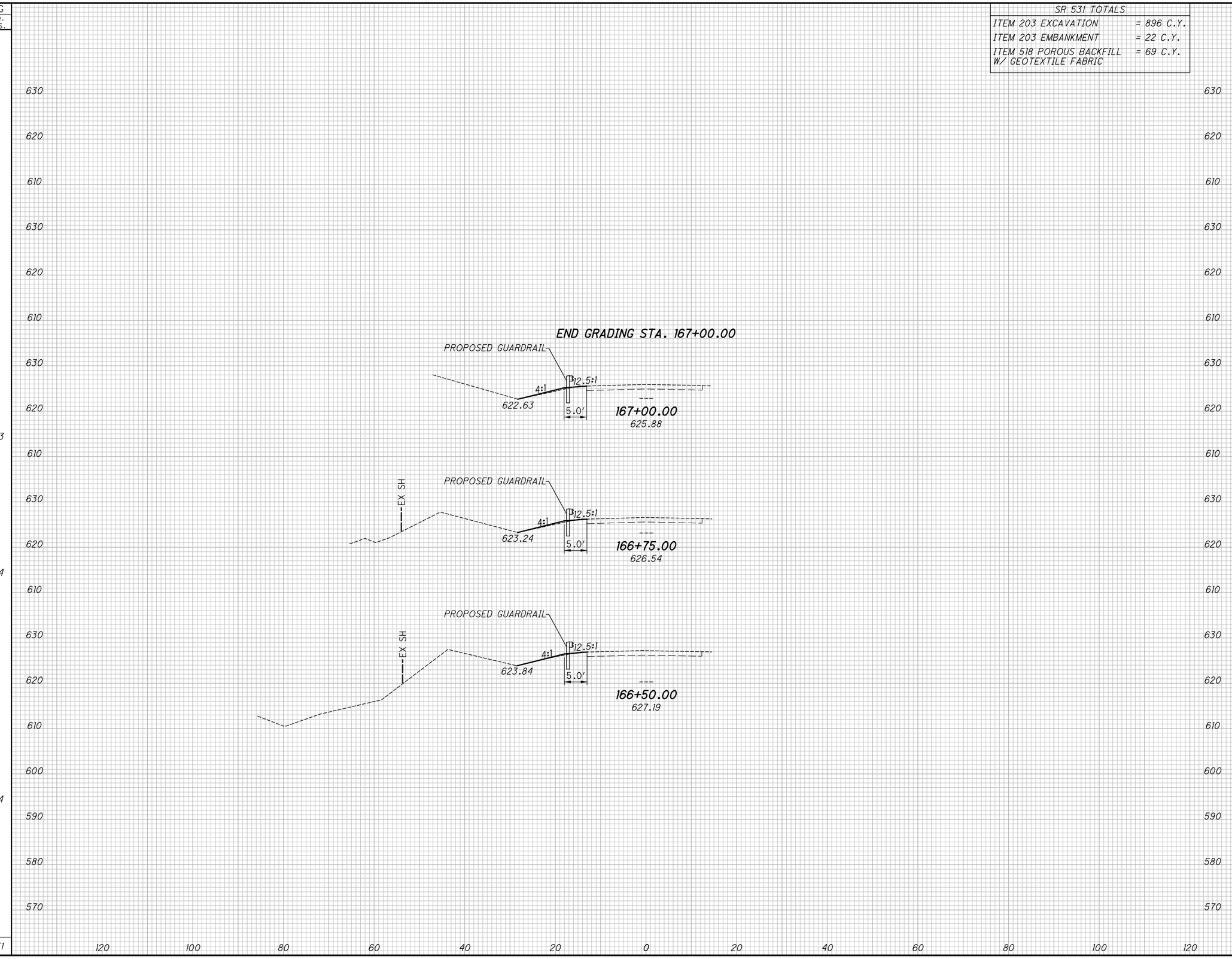
SEEDING	
END WIDTH	SQ. YDS.
15	43
16	44
16	44
	131

SR 531 TOTALS	
ITEM 203 EXCAVATION	= 896 C.Y.
ITEM 203 EMBANKMENT	= 22 C.Y.
ITEM 518 POROUS BACKFILL W/ GEOTEXTILE FABRIC	= 69 C.Y.



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	2	0	2
0	2	0	1
0	1	0	1
		0	4

CALCULATED MAH
CHECKED WBH

CROSS SECTIONS SR531
STA. 166+50.00 TO STA. 167+50.00

ATB-531-13.66

17
17

N:\01\60\06824\97216\Design\Roadway\Sheets\97216_XS001.dgn XS_SHEET_temporary_model_name_10 4/1/2019 10:13:59 AM mhunsche

BBCM

LOG OF BORING NO. B-107
ATB-531-3.35 SHORELINE EROSION STUDY
ASHTABULA, OHIO

BBC&M JOB: 012-00908-300

TYPE: 4-1/4" I.D. Hollow-stem Auger
2" O.D. Split-barrel Sampler
NQ Rock Core Barrel, 3-7/8" Tri-cone Roller Bit

LOCATION: STA 266+07, 20' Lt. of S.R. 531 Centerline

COMPLETION DEPTH: 69.0'
ELEVATION: 627.0
DATE: 5/24/06

Elev. (feet)	Depth (feet)	Samp.	Std. Pen. / RQD	Hand Pen. (tsf)	Rec./Loss (feet)	CLASSIFICATION: Description	Samp. No.	Physical Characteristics % AGG.	% C.S.	% F.S.	% SILT	% CLAY	LL	PI	WC	ODOT Class
626.0	0					ROOTMAT - 12 INCHES (1.0)										
624.5			3/5/5	2.5-4.0		SANDY SILT (FILL): Very-stiff brown silt, some clay, little fine to coarse sand, trace fine gravel. (2.5)	1									Est. A-4a
622.0	5		1/1/2			COARSE AND FINE SAND (POSSIBLE FILL): Very-loose brown fine to coarse sand, trace fine gravel, trace silt. (5.0)	2									Est. A-3a
619.0			6/12/16	4.5+		SILT: Hard gray silt, little clay, little fine to coarse sand, trace fine gravel. (8.0)	3	2	4	8	68	18	21	5	12	A-4b(8)
	10		7/12/16			SILT: Medium-dense to dense gray silt, trace to some clay, trace fine to coarse sand, trace fine gravel, contains few silty clay seams at 24.5'.	4									Est. A-4b
			8/12/15				5									Est. A-4b
	15		10/15/16				6	2	1	8	83	6	NP	NP	17	A-4b(8)
			7/10/12				7									Est. A-4b
	20		9/12/14				8								20	Est. A-4b
			7/8/9				9									Est. A-4b
	25		5/8/7				10	1	1	2	72	24	23	3	25	A-4b(8)

WATER LEVEL: ▽ "Dry"
WATER NOTE: Prior to Rock Core
DATE: 5/24/06

PLATE 28

-CONTINUED-

BBCM

LOG OF BORING NO. B-107
ATB-531-3.35 SHORELINE EROSION STUDY
ASHTABULA, OHIO

BBC&M JOB: 012-00908-300

TYPE: 4-1/4" I.D. Hollow-stem Auger
2" O.D. Split-barrel Sampler
NQ Rock Core Barrel, 3-7/8" Tri-cone Roller Bit

LOCATION: STA 266+07, 20' Lt. of S.R. 531 Centerline

COMPLETION DEPTH: 69.0'
ELEVATION: 627.0
DATE: 5/24/06

Elev. (feet)	Depth (feet)	Samp.	Std. Pen. / RQD	Hand Pen. (tsf)	Rec./Loss (feet)	CLASSIFICATION: Description	Samp. No.	Physical Characteristics % AGG.	% C.S.	% F.S.	% SILT	% CLAY	LL	PI	WC	ODOT Class
601.0	25		3/4/6	2.0-2.5		SANDY SILT: Very-stiff gray silt, some clay, little fine to coarse sand, trace fine to coarse gravel. (26.0)	11									Est. A-4a
	30		2/4/5	2.0-2.5			12	7	7	7	47	32	26	8	16	A-4a(8)
			3/5/6	2.75-3.0			13									Est. A-4a
	35		4/5/8	3.75-4.0			14								16	Est. A-4a
591.0			3/5/7	4.5+		SILT: Hard gray silt, some clay, little fine to coarse sand, trace fine to coarse gravel, contains few shale fragments. (36.0)	15									Est. A-4b
	40		3/5/6	4.5+			16	3	5	8	53	31	24	7	16	A-4b(8)
	45		5/7/9	4.0-4.5+			17									Est. A-4b
	50		5/8/11	4.5+			18								14	Est. A-4b

WATER LEVEL: ▽ "Dry"
WATER NOTE: Prior to Rock Core
DATE: 5/24/06

PLATE 29

-CONTINUED-

BBCM

LOG OF BORING NO. B-107
ATB-531-3.35 SHORELINE EROSION STUDY
ASHTABULA, OHIO

BBC&M JOB: 012-00908-300

TYPE: 4-1/4" I.D. Hollow-stem Auger
2" O.D. Split-barrel Sampler
NQ Rock Core Barrel, 3-7/8" Tri-cone Roller Bit

LOCATION: STA 266+07, 20' Lt. of S.R. 531 Centerline

COMPLETION DEPTH: 69.0'
ELEVATION: 627.0
DATE: 5/24/06

Elev. (feet)	Depth (feet)	Samp.	Std. Pen. / RQD	Hand Pen. (tsf)	Rec./Loss (feet)	CLASSIFICATION: Description	Samp. No.	Physical Characteristics % AGG.	% C.S.	% F.S.	% SILT	% CLAY	LL	PI	WC	ODOT Class
574.0	50					SILT: Hard gray silt, some clay, little fine to coarse sand, trace fine to coarse gravel, contains few shale fragments.										
			9/11/17	4.5+		53.0 SANDY SILT: Hard gray silt, some clay, little fine to coarse sand, little fine to coarse gravel, partly similar to very-soft gray shale.	19									Est. A-4a
568.3	55		50-3"R			58.7 SHALE: Soft to medium-hard gray shale, interbedded with siltstone, nearly horizontally bedded, many horizontal fractures, fissile.	20									Est. A-4a
	60		45%		4.7/0.3		21									Visual
	65		13%		5.0/0.0		22									Visual
558.0	70					69.0										
	75					- Encountered slight seepage from 21.0' to 22.0'. - Encountered heavy seepage from 23.5' to 24.3'. - Used 4-1/4" I.D. HSA from 0.0' to 59.0'. - Used NQ Core Barrel with water from 59.0' to 69.0'. - Used 3-7/8" O.D. Roller Core with water from 59.0' to 69.0'.										

PLATE 30

WATER LEVEL: ▽ "Dry" ▼ ▽ ▼
WATER NOTE: Prior to Rock Core
DATE: 5/24/06

-CONTINUED-

BBCM

LOG OF BORING NO. B-107
ATB-531-3.35 SHORELINE EROSION STUDY
ASHTABULA, OHIO

BBC&M JOB: 012-00908-300

TYPE: 4-1/4" I.D. Hollow-stem Auger
2" O.D. Split-barrel Sampler
NQ Rock Core Barrel, 3-7/8" Tri-cone Roller Bit

LOCATION: STA 266+07, 20' Lt. of S.R. 531 Centerline

COMPLETION DEPTH: 69.0'
ELEVATION: 627.0
DATE: 5/24/06

Elev. (feet)	Depth (feet)	Samp.	Std. Pen. / RQD	Hand Pen. (tsf)	Rec./Loss (feet)	CLASSIFICATION: Description	Samp. No.	Physical Characteristics % AGG.	% C.S.	% F.S.	% SILT	% CLAY	LL	PI	WC	ODOT Class
	75					- Installed 69.2' of 2.75" O.D. Inclinometer casing using bentonite/cement grout. - Flush-mount protective cover installed at ground surface.										
	80															
	85															
	90															
	95															
	100															

PLATE 31

WATER LEVEL: ▽ "Dry" ▼ ▽ ▼
WATER NOTE: Prior to Rock Core
DATE: 5/24/06