

# Department of Public Works Division of Highways

# Plans for Replacement of: 2022 Culvert Group 1

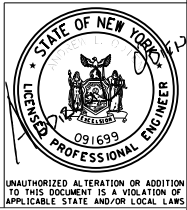
**Boston State Road (CIN 227-07A)**  
Over Trib. to Eighteen Mile Creek, Town of Boston

**East Eden Road (CIN 220-03)**  
Over Trib. to Eighteen Mile Creek, Town of Eden

Project No. CAP-CUL-2022

County of Erie  
State of New York

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Prepared and Recommended By <u>Andrew L. Odien</u> Andrew L. Odien P.E. CHA CONSULTING		<u>1/10/23</u> Date
Recommended for Approval <u>[Signature]</u> Jonathan DePlanche, P.E. Senior Civil Engineer County of Erie Department of Public Works	<u>1/12/2023</u> Date	Recommended for Approval <u>[Signature]</u> Darlene M. Svilokos, P.E. Director of Engineering County of Erie Department of Public Works
Approved By <u>[Signature]</u> William E. Geary Jr. Commissioner of Public Works County of Erie Department of Public Works		<u>17 JAN 2023</u> Date
Erie County Department of Public Works - Division of Highways 95 Franklin Street - 14th Floor Buffalo, New York 14202 2022 CULVERT GROUP 1		Sheet No. 1
		Date JAN. 2023
TITLE SHEET & INDEX OF DRAWINGS		Scale NONE
		Dwg. No. T-1

FILE NAME = V:\P\projects\BNV14000\Emery Road & Boston State Rd Culverts\CADD\MSTN\02.2022 Misc. Culvert Group LGN-1.dgn  
DATE/TIME = 12-JAN-2023  
USER = 3481

GENERAL NOTES:

1. CONSTRUCTION AND MATERIAL SPECIFICATIONS: STANDARD SPECIFICATIONS, CONSTRUCTION AND MATERIALS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, OFFICE OF ENGINEERING, DATED SEPTEMBER 1, 2022 WITH ALL CURRENT ADDENDA & ENGINEERING INSTRUCTIONS AT THE TIME OF BIDDING.
2. THE CONTRACTORS ATTENTION IS DIRECTED TO THE FACT THAT, DUE TO THE NATURE OF REHABILITATION PROJECTS, THE EXACT EXTENT OF RECONSTRUCTION WORK CANNOT ALWAYS BE ACCURATELY DETERMINED PRIOR TO THE COMMENCEMENT OF WORK. THESE DRAWINGS HAVE BEEN PREPARED BASED ON FIELD INSPECTION AND OTHER INFORMATION AVAILABLE AT THE TIME OF DESIGN. ACTUAL FIELD CONDITIONS MAY REQUIRE MODIFICATIONS TO CONSTRUCTION DETAILS AND WORK QUANTITIES. THE CONTRACTOR SHALL PERFORM THE WORK IN ACCORDANCE WITH FIELD CONDITIONS AS ORDERED BY THE ENGINEER.
3. THE CONTRACTOR SHALL NOTE THAT ADDITIONAL WORK MAY BE REQUIRED AS THE CONTRACT PROGRESSES WHICH IS NOT SHOWN OR NOTED ON THE PLANS. THIS WORK SHALL BE PERFORMED BY THE CONTRACTOR AS ORDERED BY THE ENGINEER AND PAYMENT WILL BE MADE AT THE UNIT PRICE BID FOR THE APPROPRIATE ITEMS (IF APPLICABLE), OR OTHERWISE, IN ACCORDANCE WITH THE TERMS OF THE CONTRACT.
4. THE CONSTRUCTION OF THIS PROJECT SHALL PROCEED IN A CONTINUOUS, SYSTEMATIC AND EXPEDIENT MANNER FROM BEGINNING TO COMPLETION. THE CONTRACTOR IS REQUIRED TO PLACE SUFFICIENT EQUIPMENT, LABOR & ETC. ON THE PROJECT SO THAT THE WORK MAY PROGRESS IN ACCORDANCE WITH THE PROPOSED CONSTRUCTION SCHEDULE.
5. THE CONTRACTOR IS TO VISIT ALL SITES BEFORE BIDDING, TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO JUDGE FOR HIMSELF THE EXTENT AND NATURE OF THE WORK TO BE DONE UNDER THIS CONTRACT. NO EXTRA COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR BECAUSE OF THE CONTRACTOR'S FAILURE TO INCLUDE IN HIS BID ALL ITEMS AND MATERIALS WHICH HE IS REQUIRED TO FURNISH IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR IS ADVISED THAT HE MUST HAVE IN HIS POSSESSION, A SET OF CONTRACT PLANS/PROPOSAL FOR IDENTIFICATION PURPOSES WHEN CONDUCTING THIS SITE VISIT.
6. DIMENSIONS OF THE EXISTING STRUCTURES SHOWN ON THESE PLANS WERE TAKEN FROM RECORD DRAWINGS AND FROM FIELD MEASUREMENTS DURING DESIGN AND ARE FOR GENERAL REFERENCE ONLY AND ARE NOT GUARANTEED. FORMAL SURVEY WAS PERFORMED AT BOSTON STATE ROAD. NO SURVEY WAS PERFORMED AT EAST EDEN ROAD. THE CONTRACTOR SHALL TAKE ALL SUCH FIELD MEASUREMENTS AS ARE NECESSARY TO ASSURE PROPER CONSTRUCTION OF THE FINISH WORK.
7. THERE SHALL BE NO CLAIM MADE BY THE CONTRACTOR AGAINST THE COUNTY FOR WORK PERTAINING TO MODIFICATIONS AS MAY BE REQUIRED DUE TO ANY DIFFERENCE BETWEEN ACTUAL FIELD CONDITIONS AND THOSE SHOWN BY THE DETAILS AND DIMENSIONS ON THE CONTRACT PLANS OR THE RECORD DRAWINGS.
8. THE CONTRACTOR IS ADVISED THAT ADDITIONAL "NOTES" WILL BE FOUND ON SUBSEQUENT SHEETS OF THE CONTRACT PLANS AND SUCH "NOTES", WHILE PERTAINING TO THE SPECIFIC SHEETS THEY ARE PLACED ON, ALSO SUPPLEMENT THE GENERAL NOTES LISTED HEREIN.
9. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ALL DAMAGES TO THE EXISTING STRUCTURES OR ADJACENT PROPERTIES OR FACILITIES, CAUSED BY HIS OPERATIONS, WHICH ARE NOT INCLUDED AS PART OF THE INTENDED WORK. ANY DAMAGE TO THE EXISTING STRUCTURE OR ADJACENT PROPERTIES, SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER, WITHOUT COST TO THE COUNTY.
10. WHENEVER ITEMS IN THE CONTRACT REQUIRE MATERIALS TO BE REMOVED AND DISPOSED OF, THE COST OF SUPPLYING A DISPOSAL AREA AND TRANSPORTATION TO THAT AREA SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THOSE ITEMS.
11. THE CONTRACTOR SHALL PROTECT HIS WORKERS AT ALL TIMES IN CONFORMANCE WITH APPLICABLE OSHA REGULATIONS.
12. IT WILL BE THE CONTRACTOR'S OBLIGATION AND RESPONSIBILITY TO USE METHODS AND EQUIPMENT WHICH WILL ENSURE THE SATISFACTORY & TIMELY COMPLETION OF THE WORK.
13. SEE DWG. ES-1 FOR EROSION & SEDIMENT CONTROL NOTES, COFFERDAM & STREAM CONSERVATION NOTES, AND SILT FENCE NOTES.
14. THERE ARE NO RECORD PLANS FOR ANY OF THE CULVERTS.

MATERIAL SPECIFICATIONS:

1. **REINFORCEMENT:** ALL REINFORCEMENT SHALL BE ASTM A615 (gr-60 ksi) MEETING THE REQUIREMENTS OF SECTION 556 OF THE STANDARD SPECIFICATIONS. REINFORCEMENT SHALL BE PLAIN, UN-COATED, OR EPOXY-COATED AS DESIGNATED ON THE DRAWINGS OR BAR LIST.
2. ALL GROUTED DOWELS SHALL USE AN APPROVED CHEMICALLY CURING RESIN OR EPOXY (HILTI, RAWL, WILLIAMS, SIMPSON, ETC.).
3. **CONCRETE:** ALL CAST-IN-PLACE CONCRETE SHALL BE CLASS A OR CLASS D. ALL CONCRETE SHALL MEET THE REQUIREMENTS OF SECTION 555 OF THE STANDARD SPECIFICATIONS AND SHALL HAVE A 28 DAY UNCONFINED COMPRESSIVE STRENGTH OF 3,500 PSI. AIR ENTRAINMENT SHALL BE 5%-9%.
4. ALL PLACEMENTS OF SELECT FILL & CRUSHED STONE SHALL BE FULLY COMPACTED TO 95% OF THEIR MAXIMUM DRY DENSITY.
5. CORRUGATED STEEL PIPES & PIPE ARCHES SHALL HAVE 3"x 1" OR 5"x 1" CORRUGATIONS AND SHALL BE GALVANIZED IN ACCORDANCE WITH SECTION 707-02 (AASHTO M 245) AND SHALL EITHER BE FULLY POLYMER COATED IN ACCORDANCE WITH AASHTO M 274 OR BE FULLY ALUMINUM COATED IN ACCORDANCE WITH 707-02.A

CULVERT FOUNDATION NOTES & CULVERT (PIPE) INSTALLATION NOTES:

1. EXCAVATION SHALL BE PERFORMED TO THE PAYMENT LINES SHOWN ON THE PLANS & SECTIONS. BACKFILL FOR ANY OVER-EXCAVATION FOR THE TEMPORARY WATERWAY DIVERSION CHANNEL OR ANY UNAUTHORIZED EXCAVATIONS BELOW OR BEYOND PAYMENT LINES WILL BE AT THE CONTRACTOR'S EXPENSE. BACKFILL FROM OVER-EXCAVATION BELOW PAYMENT LINES WILL BE CONCRETE BENEATH THE FOOTINGS & SELECT STRUCTURE FILL ELSEWHERE. OVER-EXCAVATION OF MATERIAL WITHIN THE LAYBACK AREA WILL BE SUITABLE EXCAVATED MATERIAL A.O.B.E.
2. GROUNDWATER IS ASSUMED TO CORRESPOND TO THE WATER LEVEL IN THE STREAMS. THE COST OF ALL DEWATERING, REGARDLESS OF THE SOURCE OF THE WATER SHALL BE INCLUDED IN THE UNIT BID PRICE OF THE RESPECTIVE TEMPORARY WATERWAY DIVERSION STRUCTURE ITEMS, INSOFAR AS NECESSARY TO CONSTRUCT THE NEW STRUCTURE OR REPAIR THE EXISTING STRUCTURE.
3. IF PUMPS ARE REQUIRED, THEY SHALL BE OF SUFFICIENT CAPACITY TO CONTROL GROUND WATER, AND SHALL BE OPERATED IN A MANNER WHICH WILL LIMIT THE WITHDRAWAL OF FINES FROM THE SOIL. SURFACE RUNOFF SHALL BE DIVERTED AWAY FROM ALL EXCAVATIONS.
4. ALL PLACEMENTS OF SELECT STRUCTURAL FILL (ITEM 203.21), CRUSHED STONE (ITEM 623.12), OR OTHER BACKFILL FOR CULVERT & WINGWALL LAYBACKS SHALL BE COMPACTED TO 95% OF STANDARD PROCTOR MAXIMUM DENSITY. BACKFILL BELOW AND AROUND THE PROPOSED CULVERT & WINGWALLS SHALL BE PLACED IN A MAXIMUM LOOSE LIFT THICKNESS OF 1 FT. AND SHALL BE COMPACTED TO A DRY DENSITY EQUAL TO AT LEAST 95% OF THE SOILS MAXIMUM DENSITY AS DEFINED BY THE STANDARD PROCTOR COMPACTION TEST, ASTM DESIGNATION D-698. THE CONTRACTOR SHALL ADD WATER AS REQUIRED TO OBTAIN THE SPECIFIED DENSITY, THE COST OF ADDING WATER TO BE INCLUDED IN ITEM 203.21.
5. DO NOT EXCEED 2.0 FT. DIFFERENCE IN FILL ELEVATION ON THE SIDES OF THE CULVERT DURING PLACEMENT OF BACKFILL. DO NOT COME CLOSER THAN 1.0 FT TO THE FACE OF THE STRUCTURE OR WITHIN 3.0 FT OF THE TOP OF PIPE WITH THE WHEELS OF THE VIBRATORY ROLLERS DURING COMPACTION OF BACKFILL.
6. AT THE PIPE REPLACEMENT, THE CONTRACTOR & INSPECTOR SHALL TAKE NOTE OF THE IMPORTANCE OF FULLY COMPACTING THE BACKFILL UNDER & ADJACENT TO THE PIPE CORNER RADII OR "HAUNCH" AREA, FOR PROPER DEVELOPMENT OF THE PIPE'S "SOIL-STRUCTURE" INTERACTION. CONTRACTOR SHALL TAKE SPECIAL CARE WHEN PLACING MATERIAL & COMPACTING THE FILL WITHIN THESE CORNER RADII AREAS.

PRECAST CULVERT DESIGN, FABRICATION, & INSTALLATION NOTES:

1. DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS (9TH EDITION) 2020 AS AMENDED BY NEW YORK STATE DEPARTMENT OF TRANSPORTATION LRFD BLUE PAGES AND THE NEW YORK STATE HIGHWAY DESIGN MANUAL, CHAPTER 19, REVISION 95.
2. DESIGN LIVE LOAD: AASHTO HL93 & AASHTO HS-25.
3. PRECAST CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI AT 28 DAYS. CAST-IN-PLACE CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,500 PSI AT 28 DAYS. AIR ENTRAINMENT SHALL BE 5%-8%.
4. CORROSION INHIBITOR "DCI", MANUFACTURED BY W.R. GRACE COMPANY OR APPROVED EQUAL SHALL BE INCLUDED IN THE MIX DESIGN, PROPORTIONING SHALL BE IN ACCORDANCE WITH 706-17 BUT NOT LESS THAN 4 GAL/CUBIC YARD.
5. PRECAST CONCRETE BOX CULVERT UNITS SHALL BE CONSTRUCTED TO THE UNIT WIDTH SHOWN ON THE PLANS. THE PRECASTER MAY USE AN ALTERNATE UNIT WIDTH, WITH PRIOR APPROVAL FROM THE ENGINEER, PROVIDED THE TOTAL LENGTH DOES NOT SIGNIFICANTLY CHANGE AND PROVIDED THE REINFORCEMENT MEETS OR EXCEEDS THAT REQUIRED BY DESIGN. THE WALL THICKNESS AND SLAB THICKNESS SHOWN ON THE DRAWINGS ARE THE MINIMUM THICKNESS DESIRED BY THE COUNTY.
6. REINFORCEMENT SHALL BE A.S.T.M. A615, GRADE 60ksi MEETING THE REQUIREMENTS OF SECTION 556 OF THE SPECIFICATIONS. MINIMUM CLEARANCE FOR REINFORCEMENT SHALL BE AS DETAILED ON THE PLANS. THE REINFORCEMENT SHOWN ON THE PLANS IS THE MINIMUM REINFORCEMENT DESIRED BY THE COUNTY. PRECAST FABRICATOR IS FREE TO REVISE BAR SIZE OR SPACING AS LONG AS AREA OF REINFORCEMENT IS EQUAL OR GREATER THAN THAT SHOWN ON A PER FOOT BASIS. PER COUNTY POLICY, MAIN REINFORCEMENT HAS BEEN DESIGNED WITH ADDITIONAL CAPACITY TO ACCOUNT FOR POTENTIAL FUTURE CORROSION OR BOX DETERIORATION.
7. ALL EXPOSED EDGES SHALL HAVE A MINIMUM CHAMFER OF 1". FOR C.I.P. CONCRETE, MINIMUM COVER SHALL BE 2" EXCEPT WHERE OTHERWISE NOTED ON THE PLANS. FOR PRECAST CONCRETE, COVER SHALL BE AS NOTED ON THE PLANS BUT NO LESS THAN 1".
8. JOINT OPENINGS BETWEEN ADJACENT PRECAST UNITS SHALL NOT EXCEED ¾". CONTINUOUS CLOSED CELL NEOPRENE GASKETS ARE TO BE PROVIDED AND ATTACHED BY THE PRECAST CULVERT MANUFACTURER. JOINTS SHALL BE DRAWN TOGETHER WITH COME-ALONGS, MECHANICAL CONNECTORS (OR EQUIVALENT METHOD), WITH SELECTED METHOD TO BE DETAILED ON SHOP DRAWINGS.
9. ALL EXTERNAL JOINTS SHALL BE GROUTED/MORTARED PRIOR TO PLACEMENT OF MEMBRANE. INTERIOR JOINTS WIDER THAN ½" OR MISALIGNED BY MORE THAN ½" SHALL BE GROUTED OR AS OTHERWISE DIRECTED BY THE ENGINEER. ALL PLACEMENTS OF GROUT SHALL COMPLY WITH ALL PROVISIONS SET FORTH IN SECTION 721-03 OF THE STANDARD SPECIFICATIONS. ALL PLACEMENT OF MORTAR SHALL COMPLY WITH PROVISIONS SET FORTH IN SECTION 705-21 OF THE STANDARD SPECIFICATIONS.
10. ELIMINATE SHEAR KEYS AT THE EXPOSED END OF THE FASCIA UNITS.
11. FILL ALL HOLES, JOINTS AND CRACKS WITHIN THE CULVERT'S EXPOSED SURFACES, GREATER THAN 1" x 1" & ¾" IN DEPTH WITH AN APPROVED EPOXY MORTAR PATCH. THE COLOR OF THE MORTAR SHALL MATCH THE PRECAST UNITS.
12. FILL IN ALL HOLES AND LIFTING INSERT RECESSES WITH AN APPROVED EPOXY GROUT.
13. WHEN DRILLING AND GROUTING DOWELS INTO CONCRETE, OR GROUTING REINFORCING BARS FOR HEADWALLS AND/OR CUT-OFF WALL CONNECTIONS, THE DRILLING & GROUTING PROCEDURE SHALL COMPLY WITH SECTION 586 OF THE SPECIFICATIONS. GROUT SHALL BE APPROVED BY THE ENGINEER.
14. IF THREADED INSERTS OR MECHANICAL COUPLERS ARE PRECAST INTO THE STRUCTURE THEY SHALL BE CAPABLE TO DEVELOP THE FULL YIELD CAPACITY OF THE BAR THEY ARE CONNECTING. ALL CONCRETE ANCHORS & MECHANICAL INSERTS MUST BE FIRST APPROVED BY THE ENGINEER. A MINIMUM EDGE DISTANCE OF 4" SHALL BE MAINTAINED FOR ALL ANCHORS OR INSERTS. WHERE THREADED INSERTS OR MECHANICAL COUPLERS ARE USED, THEY SHALL BE DETAILED ON SHOP DRAWINGS.
15. DO NOT EXCEED 2.0 FT DIFFERENCE IN FILL ELEVATION ON THE SIDES OF CULVERT DURING PLACEMENT OF BACKFILL. DO NOT COME CLOSER THAN 1.0 FT TO THE FACE OF THE STRUCTURE OR WITHIN 3.0 FT OF THE TOP SLAB WITH THE WHEELS OF VIBRATORY ROLLERS DURING COMPACTION OF BACKFILL.
16. SHOP DRAWINGS SHALL BE PREPARED FOR ALL CULVERT UNITS & WINGWALLS SHOWING REINFORCEMENT, INSERTS, LIFTING LUGS, BATCH MIX INFORMATION AND ALL OTHER PERTINENT DETAILS, AND SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. BAR LISTS SHALL BE FURNISHED AS APPLICABLE IN THE SHOP DRAWINGS.
17. CALCULATIONS FOR PRECAST CONCRETE CULVERT UNITS & WINGWALLS NEED NOT BE SUBMITTED UNLESS SIGNIFICANT CHANGES TO STRUCTURAL DETAILS ARE PROPOSED. THE REQUIREMENT THAT PRECAST CULVERT AND WINGWALL SHOP DRAWINGS BE STAMPED BY A PROFESSIONAL ENGINEER IS HEREBY WAIVED.

ROAD CLOSURE RESTRICTIONS:

1. THE CONTRACTOR SHALL PROVIDE 2 WEEKS WRITTEN NOTICE PRIOR TO WORKING AT ANY CULVERT SITE WHERE TRAFFIC IS AFFECTED SO THAT THE COUNTY CAN CONTACT SCHOOLS & EMERGENCY SERVICES.
2. **EAST EDEN ROAD:** EAST EDEN ROAD IS THE PRIORITY SITE AND THIS CULVERT SHALL BE RECONSTRUCTED FIRST. ALL WORK SHALL BE COMPLETE AND EAST EDEN ROAD REOPENED TO TRAFFIC BY JULY 28, 2023. EAST EDEN ROAD MAY BE CLOSED FOR NO MORE THAN 3 CONSECUTIVE CALENDAR WEEKS.
3. **BOSTON STATE ROAD:** NO ROAD CLOSURE IS PERMITTED. TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES. SEE DWG'S BOS-1 THRU BOS-5 FOR TEMPORARY TRAFFIC CONTROL DETAILS. ALL WORK MUST BE COMPLETED WITHIN 10 CONSECUTIVE CALENDAR WEEKS AND BY SEPTEMBER 8, 2023.
4. UNLESS FIRST APPROVED BY ECDPW, NO WORK THAT AFFECTS ROADWAY/SNOWPLOWING IS PERMITTED FROM THE DATE OF THE CONTRACT AWARD TO 3/31/23.

SPECIAL NOTE - TREE REMOVALS:

1. ALL TREES GREATER THAN 3" IN DIAMETER TO BE REMOVED SHALL BE FALLEN AFTER NOVEMBER 1 AND PRIOR TO MARCH 31, DUE TO NORTHERN LONG EARED BAT PROTECTION REQUIREMENTS. THE COST OF ALL TREE REMOVALS SHALL BE INCLUDED IN CLEARING & GRUBBING ITEM 201.07, REGARDLESS OF THE TREE SIZE/DIAMETER. PRIOR TO BIDDING, THE CONTRACTOR SHALL VISIT THE SITE AND JUDGE FOR HIMSELF THE NUMBER OF TREES TO BE REMOVED TO CONSTRUCT THE CULVERTS AND BID ACCORDINGLY UNDER ITEM 201.07.
2. CARE SHALL BE TAKEN TO RETAIN NATURAL GROWTH AND PREVENT DAMAGE TO TREES WITHIN AND OUTSIDE THE LIMITS OF CONSTRUCTION, WHICH ARE NOT SCHEDULED FOR REMOVAL. ANY DAMAGE CAUSED TO THIS NATURAL GROWTH SHALL BE RESTORED AT THE EXPENSE OF THE CONTRACTOR AS DIRECTED BY THE ENGINEER.

ENVIRONMENTAL PERMITTING NOTES:

1. FOR NYSDEC & USACE PERMITTING INFORMATION FOR EACH SITE, SEE NOTES ON DWG. ES-1.

-SEE DWG ES-1 FOR COFFERDAM, DEWATERING & STREAM DATE RESTRICTION NOTES  
-SEE DWG ES-1 FOR EROSION & SEDIMENT CONTROL NOTES

WORK ZONE TRAFFIC CONTROL NOTES:

1. THE LOCATIONS OF SIGNS SHOWN ON WORK ZONE TRAFFIC CONTROL DETAILS MAY NEED TO BE ADJUSTED BASED ON SIGHT DISTANCE AND OTHER SITE SPECIFIC CONSIDERATIONS. THE FINAL LOCATIONS OF SIGNS ARE SUBJECT TO APPROVAL OF THE ENGINEER. SIGNS AT OR NEAR INTERSECTIONS SHALL BE PLACED SO THAT THEY DO NOT OBSTRUCT A MOTORIST'S LINE OF SIGHT.
2. WHERE POSSIBLE, ALL CHANNELIZING AND GUIDING DEVICES ARE TO BE PLACED SO AS TO PROVIDE A MINIMUM 2' LATERAL CLEARANCE TO THE TRAVELED WAY.
3. THE BARE MINIMUM LANE WIDTHS FOR WORK ZONE TRAVEL LANES SHALL BE 10', 11' WHERE POSSIBLE.
4. CONTRACTOR SHALL COMPLETE ALL PROPOSED WORK, SUCH THAT ALL WORK IS LIMITED TO WITHIN THE EXISTING RIGHT-OF-WAY.
5. ALL WORK ZONE TRAFFIC CONTROL (DAILY OPERATIONS) SHALL BE PAID UNDER ITEM EC 619.010X. ITEM EC 619.010X SHALL INCLUDE ANY AND ALL FLAGGING, LANE CLOSURES, LANE SHIFTS, ROAD/BRIDGE CLOSURES, DETOURS, CONSTRUCTION SIGNS, VARIOUS LIGHTS, DRUMS, DELINEATORS, MAINTAINING DRIVEWAY ACCESS, INTERSECTION CONTROL, AND ANY OTHER INCIDENTAL WORK ZONE TRAFFIC CONTROL NECESSARY TO COMPLETE THE PROJECT.  
  
THE FOLLOWING ITEMS WILL BE PAID FOR SEPARATELY:  
- TYPE III BARRICADES - PVMS BOARDS  
- REMOVAL OF PAVEMENT MARKINGS - TEMPORARY CONCRETE BARRIERS  
- INTERIM PAVEMENT MARKINGS - WARNING LIGHTS FOR TCB'S
6. VARIABLE MESSAGE BOARDS (WHERE REQUIRED) WILL BE PAID FOR SEPARATELY UNDER THEIR OWN ITEM 619.111211. EACH PVMS BOARD WILL BE PAID FOR SEPARATELY ON A PER WEEK BASIS.
7. ALL SIGNS SHOWN ON THE WORK ZONE TRAFFIC CONTROL DRAWINGS SHALL BE INSTALLED, MAINTAINED, & REMOVED BY THE CONTRACTOR. COST TO BE INCLUDED IN ITEM EC 619.010X.
8. SEE DWG. BOS-1 & ED-1 FOR ADDITIONAL WORK ZONE TRAFFIC CONTROL NOTES.

SITE SPECIFIC UTILITY NOTES:

1. THE CONTRACTOR IS ADVISED THAT UNDEWRGROUND UTILITIES EXIST AT ALL SITES. LOCATION OF UTILITIES, PUBLIC AND/OR PRIVATE, INDICATED ON THE PLANS AS EXISTING AND/OR TO BE CONSTRUCTED ARE APPROXIMATE ONLY. THEIR EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD. EXISTING UNDERGROUND UTILITIES SHOWN ARE BASED ON INFORMATION OBTAINED FROM THE UTILITY COMPANIES AND AVAILABLE RECORDS. ADDITIONAL UTILITY LINES, WHETHER ABANDONED OR IN SERVICE, MAY EXIST AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONDUCT HIS OPERATIONS AND TAKE NECESSARY PRECAUTIONS SUCH THAT INTERFERENCE WITH OR DAMAGE TO THESE OR OTHER FACILITIES DURING THE COURSE OF CONSTRUCTION IS PREVENTED.
2. PRIOR TO ANY EXCAVATION, THE CONTRACTOR IS TO CALL DIG SAFELY NEW YORK TO HAVE UNDERGROUND UTILITIES LOCATED. CONTRACTOR SHALL BE RESPONSIBLE TO CONDUCT EXPLORATORY TEST PITS AS MAY BE REQUIRED TO DETERMINE UNDERGROUND CONDITIONS, THE COST OF WHICH SHALL BE INCLUDED IN THE VARIOUS ITEMS IN THIS CONTRACT, OR PAID FOR UNDER ITEM 206.05 - TEST PITS, ONLY AS APPROVED BY THE ENGINEER.
3. IN THE EVENT THE CONTRACTOR DAMAGES AN EXISTING UTILITY SERVICE, CAUSING THE INTERRUPTION IN SAID SERVICE, THE CONTRACTOR SHALL IMMEDIATELY COMMENCE WORK TO RESTORE SERVICE AND MAY NOT CEASE WORK UNTIL SERVICE IS RESTORED. ALL COSTS TO REPAIR OR REPLACE DAMAGED UTILITIES SHALL BE AT THE EXPENSE OF THE CONTRACTOR. IF THE CONTRACTOR DOES NOT MAKE IMMEDIATE NECESSARY REPAIRS, THE RESPECTIVE OWNING COMPANIES OR MUNICIPAL FORCES MAY DO THE WORK, AND THE COST THEREOF CHARGED AGAINST THE CONTRACTOR.
4. THE CONTRACTOR SHALL PROTECT ALL UNDERGROUND UTILITIES TO REMAIN IN PLACE FROM DAMAGE DURING CONSTRUCTION AND PARTICULARLY DURING EXCAVATION. METHODS OF PROTECTION MAY INCLUDE STEEL PLATES OVER AND / OR ADJACENT TO THE UTILITY SO THAT WHEEL LOADINGS FROM CONSTRUCTION VEHICLES DO NOT DAMAGE THE UTILITY. THE COST OF PROVIDING PROTECTION OF UNDERGROUND UTILITIES SHALL BE INCLUDED UNDER VARIOUS ITEMS IN THE CONTRACT.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS CONSTRUCTION OPERATIONS WITH THOSE OF THE AFFECTED UTILITY COMPANIES AND MUNICIPAL AGENCIES.
6. UTILITY CONTACTS:

BOSTON STATE ROAD

NATIONAL FUEL: WEST SIDE GAS LINE TO BE TEMPORARILY OR PERMANENTLY RELOCATED BY NATIONAL FUEL  
  
NATIONAL FUEL CONTACT:  
MARK LYDLE  
LYDLE@NATFUEL.COM

ECWA: TEST PITS TO BE DUG BEFORE CONSTRUCTION TO DETERMINE IF WATERLINE CAN BE PROTECTED  
  
ECWA CONTACT:  
MARK JARMUZ 716-685-8266  
MJARMUZ@ECWA.COM

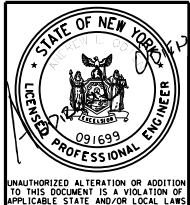
NYSEG: OVERHEAD SERVICE LINE FROM SW TO NE OVER CULVERT TO BE RELOCATED BY NYSEG. WORK AROUND AERIAL LINES ON WEST SIDE  
  
NYSEG CONTACT:  
MIKE PITIRRI  
MPITIRRI@NYSEG.COM - 716-425-7241  
(NOTIFICATION NUMBER FOR RELOCATION \*10300926806)

EAST EDEN ROAD

ECWA: 8" ASBESTOS CEMENT WATERMAIN ON EAST SIDE. ASSUME ABOVE CULVERT PROVIDE TEMP. SUPPORT TO WATER LINE DURING EXCAVATION  
  
ECWA CONTACT:  
MARK JARMUZ 716-685-8266  
MJARMUZ@ECWA.COM

SEWER: STOPS SHORT OF CULVERT.  
GAS LINE: STOPS SHORT OF CULVERT.

VERIZON: HAS INDICATED BURIED LINE IS ABANDONED. CONTRACTOR IS REQUIRED TO CONTACT VERIZON TO VERIFY/CONFIRM THAT UNDERGROUND PHONE LINE IN FACT IS ABANDONED.



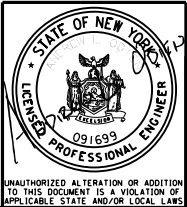
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2200 Main Place Tower  
Buffalo, NY 14202-3722  
Main: (716) 847-6310  
www.chacompanies.com

ERIE COUNTY DEPT. OF PUBLIC WORKS		
DIVISION OF HIGHWAYS		
95 FRANKLIN ST.	BUFFALO, NEW YORK	
2022 MISC. CULVERT REHABILITATION		
GENERAL NOTES		

SHEET NO.	2
DATE	JAN. 2023
SCALE	NONE
DWG. NO.	GN-1

FILE NAME = V:\Projects\BNY\14000\Emery Road & Boston State Rd Culverts\CADD\MSTN\03.2022 Misc. Culvert Group LEO-1.dgn  
DATE/TIME = 13-JAN-2023  
USER = 3481

SUMMARY OF QUANTITIES											
Item Number	General Description	Unit	Boston St. Road	East Eden Road	TOTAL QUANTITY	Item Number	General Description	Unit	Boston St. Road	East Eden Road	TOTAL QUANTITY
			Quantity	Quantity					Quantity	Quantity	
201.06	CLEARING AND GRUBBING	LS	0.5	0.5	1.00	606.61	REMOVING AND STORING CORRUGATED BEAM GUIDE RAILING	LF	-	100	100
203.02	UNCLASSIFIED EXCAVATION & DISPOSAL	CY	1,100	105	1,205	606.66	REMOVING AND STORING HPBO (MOD.) CORRUGATED BEAM GUIDE RAILING	LF	95	-	95
203.03	EMBANKMENT IN PLACE	CY	400	-	400	610.1402	TOPSOIL - ROADSIDE	CY	83	-	83
203.21	SELECT STRUCTURE FILL	CY	268	560	828	610.1601	TURF ESTABLISHMENT - ROADSIDE	SY	750	250	1,000
206.01	STRUCTURE EXCAVATION (Main Culvert Removals)	CY	368	483	851	EC 619.0101	BASIC WORK ZONE TRAFFIC CONTROL (Boston State Road)	LS	1	-	1
206.0201	TRENCH AND CULVERT EXCAVATION (Small Pipe Installations)	CY	67	46	113	EC 619.0102	BASIC WORK ZONE TRAFFIC CONTROL (East Eden Road)	LS	-	1	1
206.05	TEST PIT EXCAVATION	EACH	3	1	4	619.04	TYPE III CONSTRUCTION BARRICADE	EACH	14	20	34
207.20	GEOTEXTILE BEDDING	SY	132	60	192	619.080101	REMOVE PAVEMENT MARKING STRIPES, TRAFFIC PAINT	LF	5,500	-	5,500
209.13	SILT FENCE or STRAWBALE DYKE - TEMPORARY	LF	100	20	120	619.100101	INTERIM PAVEMENT MARKINGS, STRIPES (TRAFFIC PAINT)	LF	5,860	-	5,860
304.12	SUBBASE COURSE, TYPE 2	CY	700	115	815	619.111211	PORTABLE VARIABLE MESSAGE SIGN (PVMS) STD. SIZE – LINE OR CHAR. MATRIX (LED)	WEEKS	24	4	28
402.098204	9.5 F2 TOP COURSE HMA, 80 SERIES COMPACTION	TON	160	25	185	619.1711	TEMPORARY POSITIVE BARRIER - CATEGORY 1 (PINNING PROHIBITED)	LF	640	80	720
402.198904	19 F9 BINDER COURSE HMA, 80 SERIES COMPACTION	TON	250	25	275	619.1719	WARNING LIGHTS ON TEMPORARY POSITIVE BARRIERS	EACH	11	4	15
402.378904	37.5 F9 BASE COURSE HMA, 80 SERIES COMPACTION	TON	250	50	300	619.27	MAILBOXES	EACH	5	-	5
407.0102	DILUTED TACK COAT	GAL	250	16	266	620.04	STONE FILLING (MEDIUM)	CY	-	60	60
490.30	MISCELLANEOUS COLD MILLING OF BITUMINOUS CONCRETE	SY	55	120	175	623.12	CRUSHED STONE (IN-PLACE MEASURE)	CY	43	16	59
552.17	SHIELDS AND SHORING	SF	576	-	576	624.01	CONVENTIONALLY FORMED OR MACHINE FORMED CONCRETE GUTTERS	SF	480	-	480
553.030001	TEMPORARY WATERWAY DIVERSION STRUCTURE (Boston State Rd)	EACH	1	-	1	625.01	SURVEY OPERATIONS	LS	0.8	0.2	1
553.030002	TEMPORARY WATERWAY DIVERSION STRUCTURE (East Eden Rd)	EACH	-	1	1	627.50140008	CUTTING PAVEMENT	LF	1,450	46	1,496
EC 562.03	PRECAST CONCRETE BLOCKS (6' x 2' x 2')	EACH	12	29	41	655.1103	WELDED FRAME AND RETICULINE GRATE 3	EACH	1	-	1
595.50000018	SHEET APPLIED WATERPROOFING MEMBRANE	SF	1,120	-	1,120	660.21240008	FURNISH AND INSTALL STEEL CASING 24 NPS (OUTSIDE DIAMETER)	LF	15	-	15
603.171516	GALVANIZED STEEL END SECTION - PIPE 15" DIA., 16 GAUGE	EACH	-	1	1	663.0112	DUCTILE IRON CEMENT LINED WATER PIPE, 12"	LF	30	-	30
603.63060415	PRECAST CONCRETE BOX CULVERT, 6'-0" Span, 4'-0" Rise	LF	68.5	-	68.5	663.2002	IRON WATERMAIN FITTINGS (10" - 16")	LB	860	-	860
603.77	CONCRETE COLLARS	EACH	2	2	4	685.11	WHITE EPOXY REFLECTORIZED PAVEMENT STRIPES - 20 MILS	LF	1,450	200	1,650
603.9812	SMOOTH INTERIOR CORR POLYETHYLENE CULVERT 12" DIA. (or use Galv. CMP)	LF	-	20	20	685.12	YELLOW EPOXY REFLECTORIZED PAVEMENT STRIPES - 20 MILS	LF	1,450	200	1,650
603.9818	SMOOTH INTERIOR CORR POLYETHYLENE CULVERT 18" DIA. (or use Galv. CMP)	LF	60	20	80	697.03	FIELD CHANGE PAYMENT	D-C	31,000	9,000	40,000
603.9860	SMOOTH INTERIOR CORR POLYETHYLENE CULVERT 60" DIA.	LF	-	60	60	698.04	ASPHALT PRICE ADJUSTMENT	D-C	1,500	500	2,000
604.300103	RECTANGULAR DRAINAGE STRUCTURE (TYPE A) FOR #3 WELDED FRAME	LF	4.4	-	4.4	698.05	FUEL PRICE ADJUSTMENT	D-C	1,000	500	1,500
606.51	RESETTING CORRUGATED BEAM GUIDE RAILING	LF	-	100	100	698.06	STEEL / IRON PRICE ADJUSTMENT	D-C	-	100	100
606.5801	RESETTING HPBO (MOD.) CORRUGATED BEAM GUIDE RAILING (NEW POSTS)	LF	95	-	95	699.040001	MOBILIZATION (4% MAX.)	LS	0.8	0.2	1



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ERIE COUNTY DEPT. OF PUBLIC WORKS  
DIVISION OF HIGHWAYS  
95 FRANKLIN ST. BUFFALO, NEW YORK

2022 MISC. CULVERT REHABILITATION

ESTIMATE OF QUANTITIES

SHEET NO.	3
DATE	JAN. 2023
SCALE	AS SHOWN
DWG. NO.	EQ-1

EROSION AND SEDIMENT CONTROL NOTES

1. THE CONTRACTOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS AND REQUIREMENTS OF THE APPENDIX 64, EROSION CONTROL RULES AND REGULATIONS, TITLE 25, PART 1, DEPARTMENT OF ENVIRONMENTAL PROTECTION, SUBPART C, PROTECTION OF NATURAL RESOURCES, ARTICLE III, WATER RESOURCES, CHAPTER 102, EROSION CONTROL.
2. EROSION AND SEDIMENT BEST MANAGEMENT PRACTICES (BMP'S) MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THE TRIBUTARY AREAS OF THOSE BMPs. CLEARING & GRUBBING, SHALL BE LIMITED TO THOSE AREAS SHOWN ON THE PLANS. GENERAL SITE CLEARING, GRUBBING AND TOPSOIL STRIPPING MAY NOT COMMENCE UNTIL THE E&S BMPs SPECIFIED HAVE BEEN INSTALLED AND ARE FUNCTIONING.
3. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE CONTRACTOR SHALL IMPLEMENT APPROPRIATE BMPs TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT POLLUTION.
4. ALL PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED ON THE DRAWINGS, OVER UNDISTURBED VEGETATED AREAS.
5. STOCKPILE HEIGHTS OF MATERIALS MUST NOT EXCEED 35 FEET. STOCKPILE SLOPES MUST BE 2H: 1V OR FLATTER.
6. DURING CONSTRUCTION, NO WET OR FRESH CONCRETE OR LEACHATE SHALL BE ALLOWED TO ESCAPE INTO SURFACE WATERS OR GROUND SYSTEMS, NOR SHALL WASHINGS FROM CONCRETE TRUCKS, MIXERS OR OTHER DEVICES BE ALLOWED TO ENTER ANY WETLAND, WATERS OR STREET WATER SYSTEMS. PREFERABLY ALL TRUCKS SHALL BE WASHED OFF-SITE AT AN APPROVED WASH SITE OR CONTRACTORS PLANT LOCATION.
7. UNTIL THE SITE IS STABILIZED, ALL E&S BMPs MUST BE PROPERLY MAINTAINED. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL E&S BMPs AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. SEDIMENT MUST BE REMOVED FROM SILT FENCE BARRIERS AND SETTLEMENT BASINS AS NEEDED ON A REGULAR BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND RENETTING MUST BE PERFORMED IMMEDIATELY.
8. E&S BMPs MUST REMAIN FUNCTIONAL AS SUCH UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED.
9. ALL SEDIMENT REMOVED FROM BMPs SHALL BE DISPOSED OF IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOODPLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED, OR PLACED IN TOPSOIL STOCKPILES.
10. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE IN ANY AREA OF THE PROJECT, THE CONTRACTOR SHALL STABILIZE ALL DISTURBED AREAS. DURING NON-GERMINATING MONTHS, MULCH OR PROTECTIVE BLANKETING SHALL BE APPLIED AS DESCRIBED IN THE PLAN.
11. PERMANENT STABILIZATION IS DEFINED AS A MINIMUM 70% UNIFORM, PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION. CUT AND FILL SLOPES SHALL BE CAPABLE OF RESISTING FAILURE DUE TO SLUMPING, SLIDING OR OTHER MOVEMENTS.
12. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY E&S BMPs MUST BE REMOVED. AREAS DISTURBED DURING REMOVAL OF BMPs MUST BE STABILIZED IMMEDIATELY. IN ORDER TO ENSURE RAPID REVEGETATION OF DISTURBED AREAS, SUCH REMOVAL/CONVERSIONS SHOULD BE DONE ONLY DURING THE GERMINATING SEASON.
13. THE COST OF INSTALLING, CLEANING, REPLACEMENT AND REMOVING TEMPORARY SOIL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INCLUDED UNDER THE RESPECTIVE 209 SERIES ITEM.

COFFERDAM, PERMIT, CONSERVATION & DEWATERING NOTES

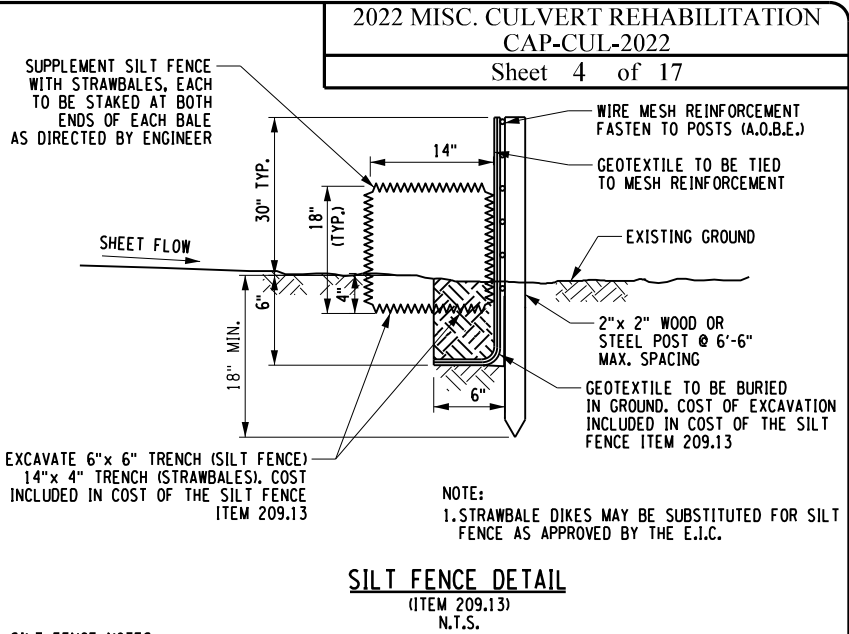
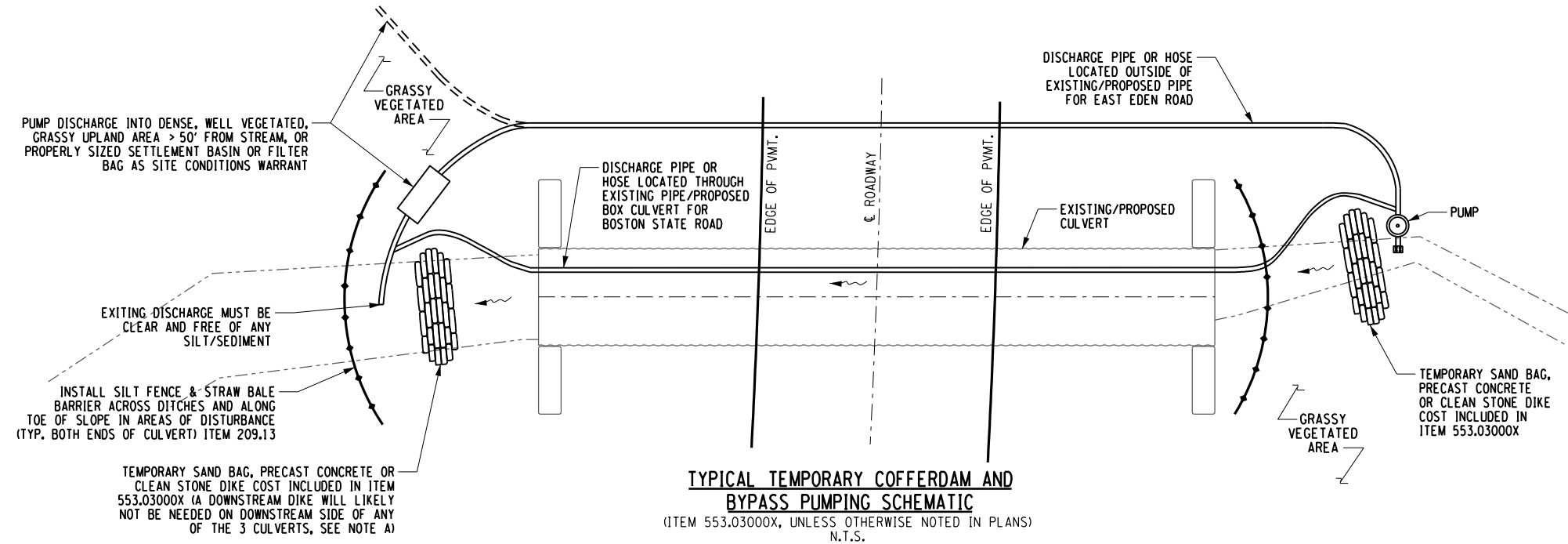
1. THE CONTRACTOR SHALL NOTE THAT THE COUNTY HAS APPLIED FOR NYSDEC AND U.S. ARMY CORPS OF ENGINEERS PERMITS FOR THE PROPOSED WORK AT BOSTON STATE ROAD AND EAST EDEN ROAD. THE PERMITS WILL BE PROVIDED TO THE CONTRACTOR ONCE RECEIVED. CONTRACTOR SHALL NOT COMMENCE WORK AT EITHER SITE PRIOR TO RECEIVING PERMITS FROM THE COUNTY. ALL WORK MUST BE DONE WITHIN THE PERMIT CONSTRAINTS & WITHIN THE TIME LIMITS SPECIFIED IN THESE PLANS.
2. THE CONTRACTOR SHALL ABIDE BY ALL CONDITIONS AND RESTRICTIONS CONTAINED IN THE PERMIT INCLUDING IN-STREAM DATE RESTRICTIONS, WHERE NO WORK IS PERMITTED IN THE STREAM. THERE ARE NO IN-STREAM DATE RESTRICTIONS FOR BOSTON STATE ROAD OVER TRIBUTARY TO EIGHTEEN MILE CREEK. IT IS ASSUMED THAT NO WORK WILL BE PERMITTED IN THE TRIBUTARY TO EIGHTEEN MILE CREEK AT EAST EDEN ROAD FROM APRIL 15 TO JUNE 30. THESE DATES WILL BE VERIFIED ONCE THE PERMITS HAVE BEEN OBTAINED.
3. A COPY OF EACH NYSDEC AND U.S. ARMY CORPS OF ENGINEERS PERMITS SHALL BE POSTED AT THE CULVERT SITE IN A CONSPICUOUS LOCATION. THE CONTRACTOR SHALL ABIDE WITH ALL CONDITIONS AND RESTRICTIONS CONTAINED IN THE PERMITS.
4. STREAM FLOW IS TO BE MAINTAINED DURING ALL PHASES OF CONSTRUCTION. THE COST OF DEWATERING THE ENTIRE EXCAVATION, REGARDLESS OF THE SOURCE OF THE WATER SHALL BE INCLUDED IN THE PRICE BID FOR THE WATERWAY DIVERSION STRUCTURES, ITEM 553.03000X, UNLESS OTHERWISE NOTED IN PLANS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN FLOW AROUND THE EXCAVATION AND FOR THE SUITABILITY OF ANY PROPOSED DIVERSION STRUCTURE. ANY PUMPED DISCHARGE SHALL BE DIRECTED INTO A SUITABLY SIZED SETTLEMENT BASIN. DISCHARGE FROM THE SETTLEMENT BASIN SHALL BE CLEAR AND FREE OF SILT TO THE SATISFACTION OF THE ENGINEER. THE COST OF ANY SETTLEMENT BASIN SHALL BE INCLUDED IN THE COST OF THE TEMPORARY WATERWAY DIVERSION STRUCTURE, ITEM 553.03000X.
5. "SPECIAL NOTE" - STREAM CONSERVATION. DURING THE STREAM-RELATED CONSTRUCTION WORK OR ACTIVITY, THE CONTRACTOR SHALL CONDUCT HIS/HER OPERATIONS IN SUCH A MANNER TO PREVENT, OR REDUCE TO A MINIMUM, ANY DAMAGE TO THE STREAM FROM POLLUTION BY DEBRIS, SEDIMENT OR OTHER FOREIGN MATERIAL, OR FROM THE MANIPULATION OF EQUIPMENT AND/OR MATERIALS IN OR NEAR THE STREAM. HE/SHE SHALL NOT RETURN DIRECTLY INTO A STREAM, OR A DITCH IMMEDIATELY FLOWING INTO A STREAM, ANY WATER WHICH HAS BEEN USED FOR WASH PURPOSES OR OTHER SIMILAR OPERATIONS WHICH CAUSE THE WATER TO BECOME POLLUTED WITH SILT, CEMENT, OIL OR OTHER IMPURITIES. IF HE/SHE USES WATER FROM A STREAM, HE/SHE SHALL CONSTRUCT AN INTAKE OR TEMPORARY COFFERDAM TO PROTECT AND MAINTAIN WATER QUALITY AND TO SUSTAIN FISH LIFE DOWNSTREAM. PAYMENT FOR ANY WORK REQUIRED BY THESE CONDITIONS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE WATERWAY DIVERSION ITEM IN THE CONTRACT. ALL TIMBER, PAVEMENT, CONCRETE, STONE, MORTAR OR SOIL TO BE EXCAVATED OR REMOVED SHALL BE DISPOSED OF OFF-SITE.
6. NO DISCHARGE SHALL BE PERMITTED TO FLOW FROM AN OPEN EXCAVATION DIRECTLY BACK INTO A CREEK. PROPERLY STAKED HAYBALES, SILT FENCE AND/OR SILT FENCE CHECK DAMS SHALL BE CONSTRUCTED AROUND ANY OPEN EXCAVATION OR ANY STOCKPILED MATERIAL IN WHICH SEDIMENT CAN BE TRANSPORTED BY RAINFALL/STREAM FLOW INTO THE CREEK. PAYMENT FOR ANY WORK REQUIRED BY THESE CONDITIONS SHALL BE INCLUDED IN ITEM 209.13.
7. ALL NECESSARY MATERIALS & LABOR REQUIRED TO CONSTRUCT THE TEMPORARY WATERWAY DIVERSION STRUCTURE, AND ANY ADJUSTMENTS REQUIRED (A.O.B.E.) TO THE DIVERSION SYSTEM DURING CONSTRUCTION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 553.03000X, UNLESS OTHERWISE NOTED IN PLANS.

NOTE A:

- BOSTON STATE CULVERT IS SLOPED 6%
- EAST EDEN CULVERT IS SLOPED 8.5%

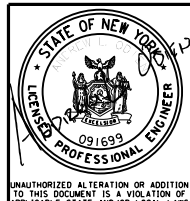
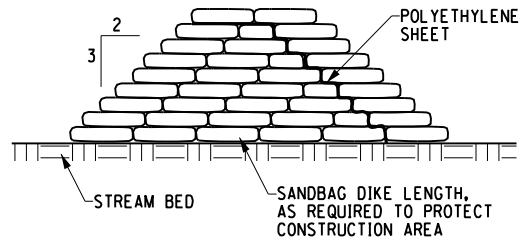
BOTH CULVERTS TEND TO DRAIN VERY FAST AND ARE TYPICALLY DRY. THUS, EXCEPT FOR DAYS THAT IT RAINS, IT IS ANTICIPATED THAT MINIMAL WATERWAY DIVERSIONS WILL BE REQUIRED, AND THE ONLY PUMPING REQUIRED WILL BE GROUNDWATER THAT MAY FILL THE UPSTREAM EXCAVATION.

8. SHOULD THE CONTRACTOR ELECT TO LAY BACK A PORTION OF THE EXISTING EARTH ADJACENT TO AN EXCAVATION PARTIALLY SURROUNDED BY A DIVERSION SYSTEM, ANY REQUIRED EXTENSIONS OF THE DIVERSION SYSTEM NECESSARY TO KEEP WATER FROM ENTERING THE EXCAVATION SHALL BE FURNISHED AND PLACED AT NO ADDITIONAL COST TO THE COUNTY.
9. UNLESS OTHERWISE DIRECTED BY ENGINEER, ALL PLACEMENTS OF C.I.P. CONCRETE WITHIN THE CHANNEL SHALL BE CONTAINED IN WOOD OR STEEL FORMS, AND CONCRETE LEACHATE SHALL NOT BE PERMITTED TO ENTER ANY WATERWAY. TEMPORARY SAND BAGS OR OTHER MEANS NECESSARY TO PREVENT CONCRETE LEACHATE FROM ENTERING THE WATERWAY SHALL BE USED.
10. FOR ADDITIONAL EROSION & SEDIMENT CONTROL REQUIREMENTS & DETAILS, REFER TO SECTION 209 REQUIREMENTS OUTLINED IN THE STANDARD SPECIFICATIONS. SEE ALSO NYSOT STANDARD SHEETS 209-1, 209-2 AND 209-7, WHICH ARE HEREBY INCORPORATED INTO THIS CONTRACT.



SILT FENCE NOTES:

1. SILT FENCE SHALL BE PLACED A MINIMUM OF 3' FROM TOE OF SLOPE, 10' PREFERRED, TO PROVIDE ADEQUATE AREA FOR SEDIMENT STORAGE & FACILITATE MAINTENANCE OF SEDIMENT CONTAINMENT AREA.
2. POSTS MAY BE 1/4"x 1/4" (MIN.) HARDWOOD, 1/2"x 3/2" (MIN.) SOFTWOOD, OR 1.3 LB/FT (MIN.) STEEL ROD. APPROVED SILT FENCE ASSEMBLIES ARE LISTED ON THE NYSOT APPROVED LIST. ASSEMBLIES SHALL HAVE 6.5" (MAX.) POST SPACING, AND MAY OR MAY NOT HAVE WIRE MESH REINFORCEMENT (14 GAUGE, MAX. OPENING 6"x 6") A.O.B.E..
3. THE BOTTOM EDGE OF SILT FENCE SHALL BE BURIED A MINIMUM OF 6" BELOW GROUND. THE FENCE SHALL BE INSTALLED WITH THE POSTS ON THE DOWNSTREAM SIDE OF THE FABRIC.
4. ALL SEDIMENT & EROSION CONTROL MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND AFTER EACH RAINFALL OF 1/2" OR MORE WITHIN A 24 HOUR PERIOD, OR DAILY DURING PROLONGED RAINFALL. MEASURES SHALL BE CLEANED AND REPAIRED AS REQUIRED.
5. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE-HALF OF THE MEASURE HEIGHT, WHEN BULGES HAVE OCCURED, OR AS DIRECTED BY ENGINEER. SEDIMENT SHALL BE DISPOSED OF AS UNSUITABLE MATERIAL.
6. ALONG ANY EMBANKMENT OR CHANNEL BANK, THE PERIOD FROM DISTURBANCE TO TEMPORARY OR FINAL STABILIZATION WITH MULCH OR OTHER MEANS SHALL NOT EXCEED 10 DAYS.
7. SPACE SILT FENCE POSTS EVENLY AROUND INLET WITH A MAXIMUM SPACING OF 3'. DRIVE POSTS A MINIMUM OF 18" INTO GROUND. WIRE MESH MAY BE REQUIRED BEHIND GEOTEXTILE TO PROVIDE SUPPORT.
8. APPROVED SILT FENCE GEOTEXTILES ARE LISTED ON THE NYSOT'S APPROVED LIST. SILT FENCE GEOTEXTILE SHALL BE A SINGLE CONTINUOUS PIECE TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT POST (TYP.).
9. ALL STREAM CHANNEL, WORK SHALL BE LIMITED TO WITHIN THE DESIGNATED RIGHT-OF-WAY, EASEMENT OR LIMITS OF ANY GRADING RELEASE.
10. ALL SILT FENCE BARRIERS SHALL BE SUPPLEMENTED WITH STRAWBALES AS SHOWN ON THE DETAIL. UNLESS OTHERWISE PERMITTED TO OMIT THE STRAWBALES, WHEN ON ROCK OR SHALE, OMIT THE SILT FENCE AND CONSTRUCT STRAWBALE BARRIER OR ROCK CHECKDAM AS DIRECTED BY THE ENGINEER.
11. SILT FENCE AND/OR STRAW BALES INSTALLED ALONG WORK LIMITS FOR THE PURPOSE OF SLOWING OVERLAND SHEET FLOW SHALL BE ARRANGED PERPENDICULAR TO THE DIRECTION OF THE SHEET FLOW. SUCH INSTALLATION MAY REQUIRE SHORT, STAGGERED SEGMENTS OF FENCE IN ORDER TO BE WHOLLY WITHIN THE DESIGNATED WORK LIMITS.



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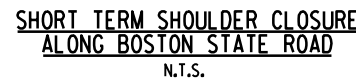
ERIE COUNTY DEPT. OF PUBLIC WORKS		
DIVISION OF HIGHWAYS		
95 FRANKLIN ST.	BUFFALO, NEW YORK	
2022 MISC. CULVERT REHABILITATION		
EROSION & SEDIMENT CONTROL NOTES & DETAILS		

SHEET NO.	4
DATE	JAN. 2023
SCALE	AS SHOWN
DWG. NO.	ES-1

FILE NAME = W:\Projects\BNV\14000\Emery Road & Boston State Rd Culverts\CADD\MSTN\04\_2022 Misc. Culvert Group 1.ESC-1.dgn  
DATE/TIME = 12-JAN-2023  
USER = 3481



1. PRIOR TO THE START OF ANY WORK OPERATIONS, ALL RELATED WORK ZONE TRAFFIC CONTROL SHALL BE COMPLETE, THIS INCLUDES BUT IS NOT LIMITED TO, ALL SIGNS, SIGNALS, PAVEMENT MARKINGS, BARRIERS, DELINEATION (CONES, DRUMS, ETC.), FLAGGERS, PAVEMENT MODIFICATIONS, AND ANY OTHER RELATED WORK.
2. WORK ZONE TRAFFIC CONTROL SHALL BE PROVIDED THROUGHOUT THE LENGTH OF THE CONTRACT IN ACCORDANCE WITH THE PROVISIONS OF SECTION 619 OF THE NYSOOT STANDARD SPECIFICATIONS AND STANDARD SHEETS FOR WORK ZONE TRAFFIC CONTROL, THE MUTCD AND ANY PROVISIONS CONTAINED IN THE CONTRACT DOCUMENTS, AND AS ORDERED BY THE ENGINEER (A.O.B.E.). THE "MUTCD" AS REFERENCED IN THESE CONTRACT DOCUMENTS, SHALL MEAN THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, USED IN CONJUNCTION WITH THE CURRENT NEW YORK STATE SUPPLEMENT TO THE MUTCD.
3. THE TRAFFIC CONTROL PLANS SHOWN ARE TO BE CONSIDERED MINIMUM REQUIREMENTS. ANY INCIDENTAL REVISIONS, INCLUDING ADDITIONAL SIGNS AND/OR TRAFFIC CONTROL DEVICES MAY BE REQUIRED AS DETERMINED BY THE ENGINEER, COST TO BE INCLUDED IN THE PRICE BID FOR ITEM EC 619.0101. IF AT ANY TIME THE ENGINEER DETERMINES THAT TRAFFIC IS NOT BEING PROPERLY MAINTAINED WITHIN OR AROUND A WORK ZONE, THE CONTRACTOR SHALL IMMEDIATELY CORRECT THE INDICATED DEFICIENCY.
4. WEEDS, SHRUBBERY, CONSTRUCTION MATERIALS, EQUIPMENT, VEHICLES, OR WORKERS SHALL NOT OBSCURE TRAFFIC CONTROL DEVICES OR OBSTRUCT TRAFFIC. THE CONTRACTOR IS REQUIRED TO TRIM ANY FOLIAGE OBSTRUCTING THE VISIBILITY OF ANY TRAFFIC CONTROL DEVICE WHETHER PERMANENT, TEMPORARY, OR CONSTRUCTION. THE COST OF THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR BASIC WORK ZONE TRAFFIC CONTROL, ITEM EC 619.0101.
5. THE CONTRACTOR SHALL COORDINATE ANY WORK WITH OTHER CONTRACTORS, UTILITY COMPANIES, MUNICIPALITIES, AND PERMITTEES IN ACCORDANCE WITH STANDARD SPECIFICATION 105-06, TO ENSURE ALL TRAFFIC IS PROPERLY AND SAFELY MAINTAINED.
6. SIGN LOCATIONS SHOWN FOR THE ROAD CLOSURE & DETOUR PLANS ARE APPROXIMATE ONLY. EXACT LOCATIONS MAY BE DETERMINED BY THE CONTRACTOR AND APPROVED VERBALLY BY THE ENGINEER. CARE SHALL BE TAKEN NOT TO OBSCURE OTHER SIGNS, PARTICULARLY STOP SIGNS. AVOID PLACING SIGNS IMMEDIATELY IN FRONT OF HOUSES. THE SIGNAGE AND BARRICADES SHALL BE MODIFIED AS NEEDED AS THE WORK PROGRESSES.
7. ACCESS TO PRIVATE AND COMMERCIAL DRIVEWAYS INCLUDING FARM FIELDS OR OTHER ACCESS DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES DURING THE LIFE OF THE CONTRACT.
8. THE CONTRACTOR SHALL NOT PARK HIS EQUIPMENT WHERE IT IS CONSIDERED BY THE ENGINEER TO BE A SAFETY HAZARD TO TRAFFIC. VEHICLES OR EQUIPMENT BELONGING TO THE CONTRACTOR OR HIS STAFF SHALL NOT BE PARKED ON ROADWAYS, SHOULDERS OR DITCHES ALONG ANY ROADWAY REMAINING OPEN TO TRAFFIC. EQUIPMENT PARKED OVERNIGHT ON THE R.O.W. SHALL BE PARKED BEHIND THE CONSTRUCTION BARRIERS.
9. AT THE PRECONSTRUCTION MEETING, THE CONTRACTOR SHALL SUBMIT AN EMERGENCY CONTACT LISTING TO THE COUNTY, PROVIDING THE NAME, ADDRESS AND TELEPHONE NUMBER OF PERSONS AUTHORIZED TO SECURE EQUIPMENT AND LABOR OUTSIDE OF NORMAL WORK HOURS.
10. IF THE ENGINEER NOTIFIES THE CONTRACTOR OF ANY HAZARDOUS CONSTRUCTION PRACTICES AND/OR CONDITIONS, ALL OPERATIONS IN THAT AREA SHALL BE DISCONTINUED AND IMMEDIATE REMEDIAL ACTION SHALL BE TAKEN TO CORRECT THE SITUATION, TO THE SATISFACTION OF THE ENGINEER, BEFORE WORK IS RESUMED.
11. SIGNS AT OR NEAR INTERSECTIONS SHALL BE PLACED SO THAT THEY DO NOT OBSTRUCT A MOTORIST'S LINE OF SIGHT.
12. THE TYPE III BARRICADES AND CONCRETE BARRIER SHALL BE SUPPLIED WITH TYPE B LIGHTING WHICH SHALL FUNCTION BOTH DAY AND NIGHT. ALL CLOSURE SIGNS THAT INDICATE THAT FLASHING LIGHTS ARE REQUIRED SHALL BE SUPPLIED WITH TYPE A LIGHTING THAT OPERATES ONLY AT NIGHT.
13. ALL CONSTRUCTION SIGNS SHALL BE PLACED WITHIN THE HIGHWAY RIGHT-OF-WAY ALONG ALL ROADWAYS.



SEE ADDITIONAL NOTES & DETAILS  
ON DWG. BOS-3




STAGE 1 SHOWN, STAGE 2 SIMILAR  
EXCEPT REVERSE CHICANE SIGNS

FILE NAME = V:\P-projects\BANY1400\Emerg Road & Boston State Rd Culvert\CAQD\MSTN\05\_2022\Boston State Road\_805-1dgn  
DATE/TIME = 12-JAN-2023  
USER = 3481



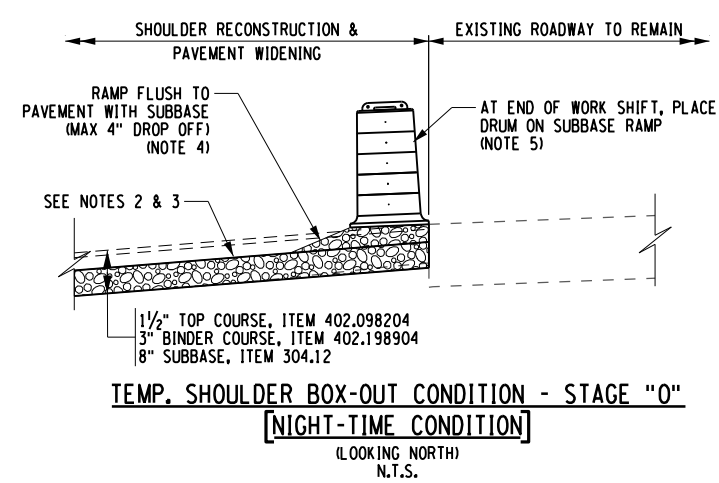
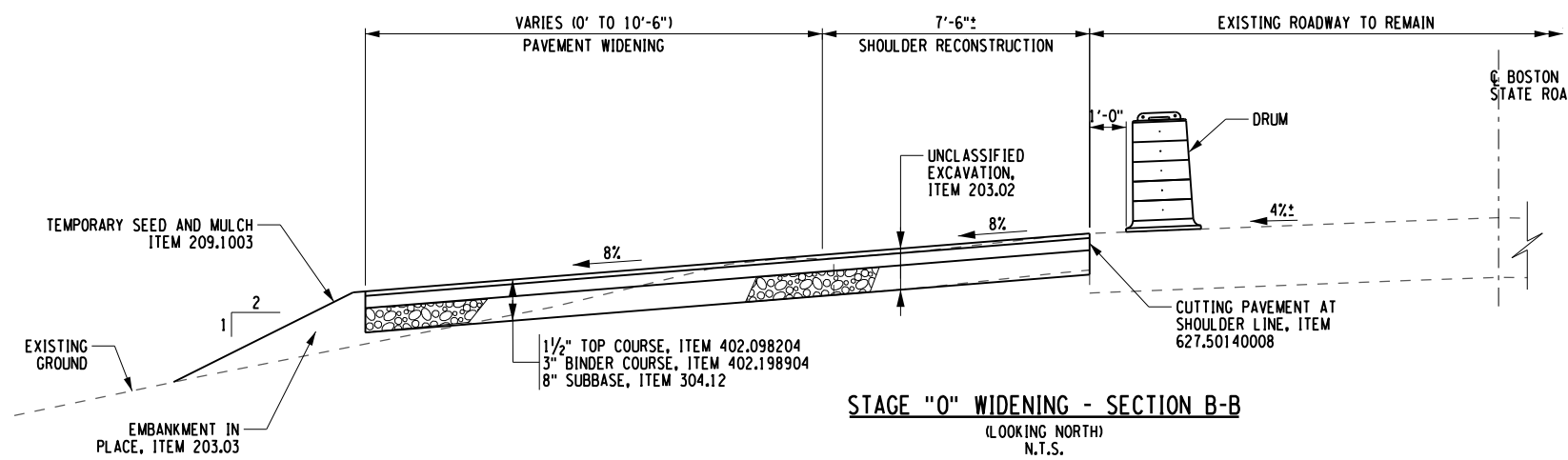
4. DUE TO MINIMAL COVER OVER THE PROPOSED BOX CULVERT ON THE NORTHBOUND SIDE OF THE ROADWAY, SUBBASE DEPTH WILL VARY.
5. CONTRACTOR TO PROVIDE 6" PROTECTIVE SAND LAYER OR 1" MINIMUM THICK COURSE OF HMA ON TOP OF THE WATERPROOFING MEMBRANE. COST INCLUDED IN ITEM 595.50000018.
6. SEE ADDITIONAL CULVERT DETAILS ON DWG. BOS-7.



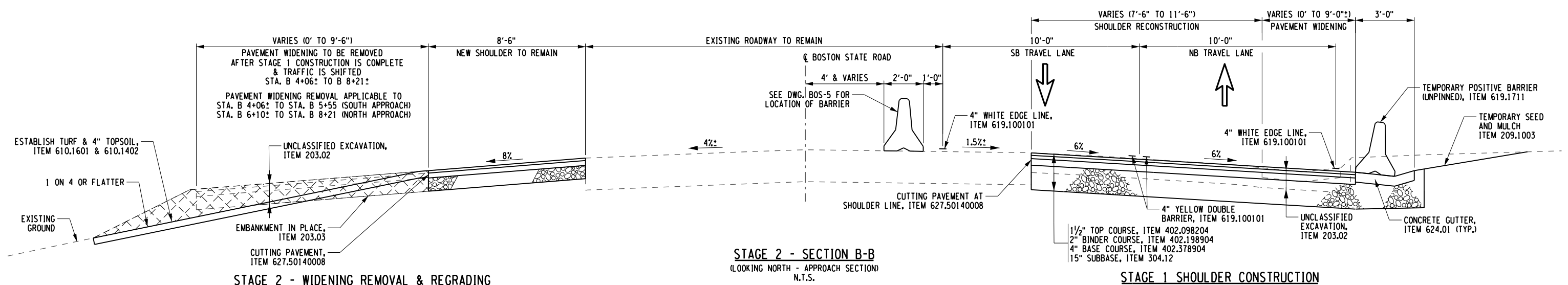
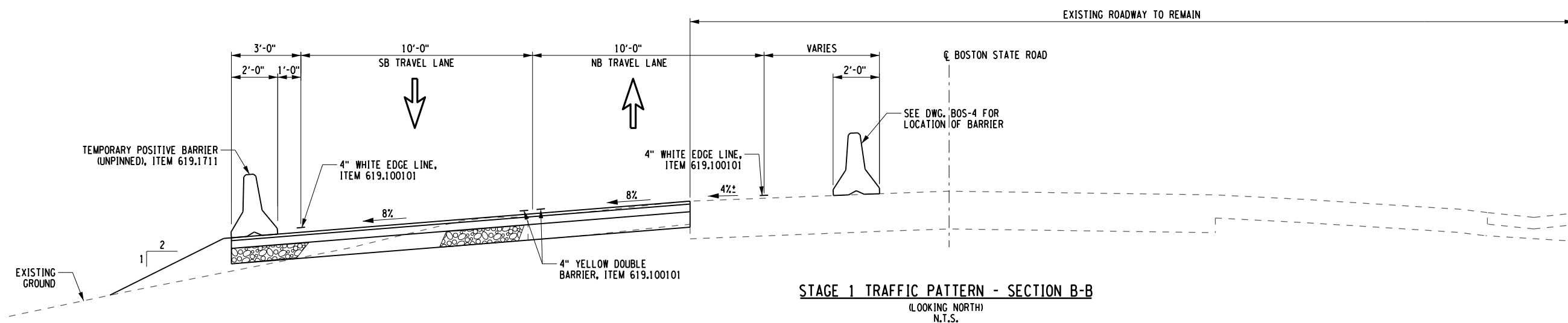
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<b>ERIE COUNTY DEPT. OF PUBLIC WORKS</b>	
95 FRANKLIN ST.	DIVISION OF HIGHWAYS BUFFALO, NEW YORK
2022 MISC. CULVERT REHABILITATION	
WORK ZONE TYPICAL SECTIONS (SHEET 1 OF 2)	

SHEET NO.	6
DATE	JAN. 2023
SCALE	AS SHOWN
DWG. NO.	BOS-2



- STAGE "0" CONSTRUCTION NOTES:**
1. THE STAGE "0" TEMPORARY WIDENING SHALL BE CONSTRUCTED UNDER A WEST SIDE SHOULDER CLOSURE, WITH A SHORT-TERM DAILY LANE SHIFT USING DRUMS TO SHIFT BOTH LANES OF TRAFFIC AS SHOWN IN THE DETAIL ON DWG. BOS-1.
  2. THE CONTRACTOR SHALL ONLY EXCAVATE & BOX OUT THAT LENGTH OF SHOULDER THAT HE CAN RESTORE WITH FULLY COMPACTED SUBBASE UP TO GRADE IN THAT DAY'S WORK SHIFT.
  3. AT THE END OF THE WORK SHIFT, THE MAXIMUM DROP OFF SHALL BE NO GREATER THAN 4".
  4. TO PROTECT THE DROP OFF AT NIGHT, PLACE A RAMP OF STONE / SUBBASE ALONG THE EDGE OF PAVEMENT, FLUSH TO THE PAVEMENT SURFACE.
  5. AT NIGHT REMOVE ALL DRUMS FROM THE ROADWAY AND PLACE THEM ALONG THE PAVEMENT CUT LINE AS SHOWN IN THE DETAIL ON THIS SHEET.
  6. IT IS ANTICIPATED THE SHOULDER WIDENING WILL TAKE ONLY 2 OR 3 DAYS.

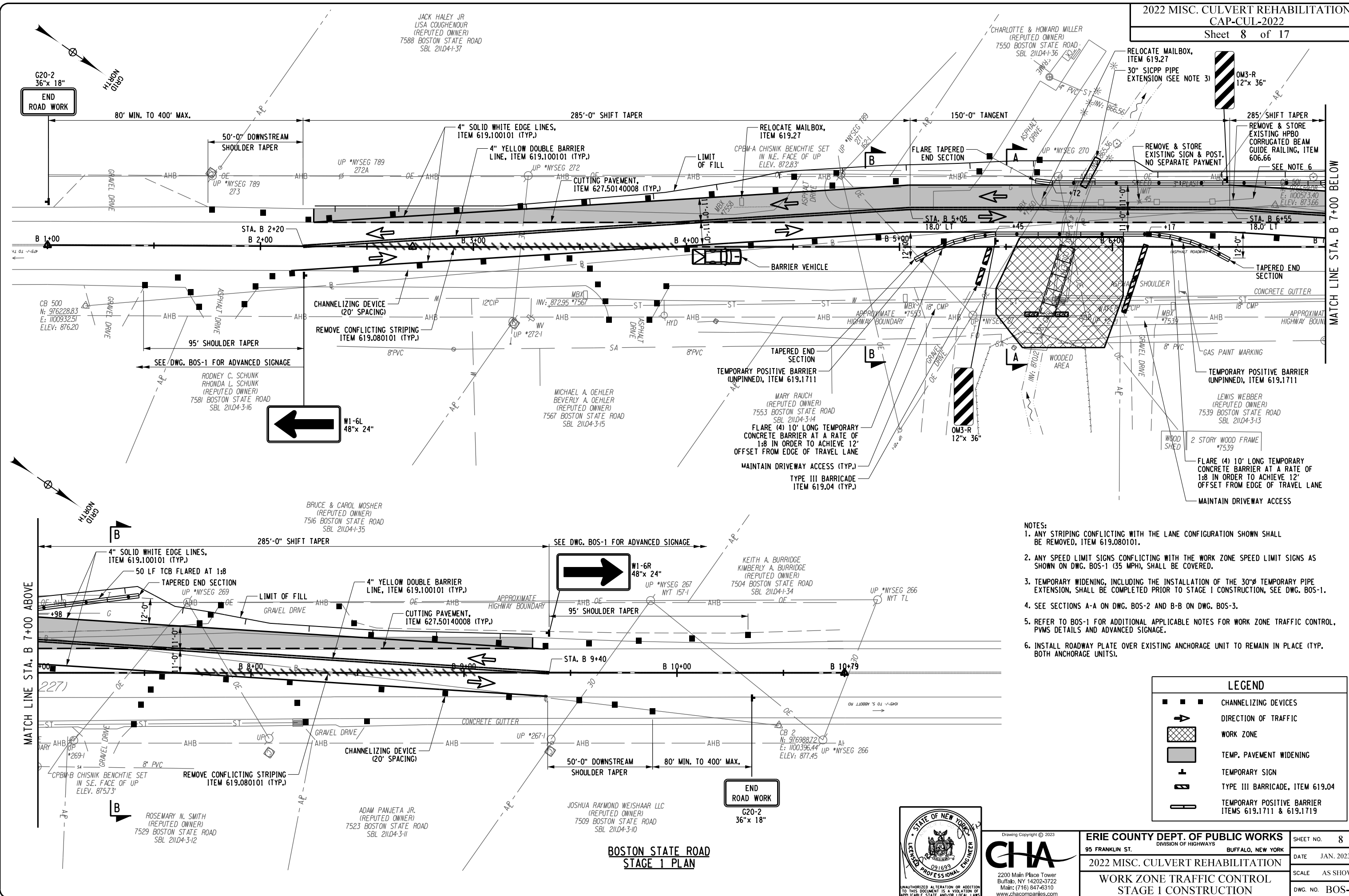


- NOTES:**
1. ITEM 407.0102 (DILUTED TACK COAT) SHALL BE PLACED BETWEEN ALL TEMPORARY AND PERMANENT PAVEMENT COURSES.
  2. SEE DWG. BOS-4 AND BOS-5 FOR STAGE 1 AND STAGE 2 CONSTRUCTION PLANS.



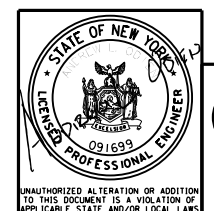
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ERIE COUNTY DEPT. OF PUBLIC WORKS		SHEET NO.	7
95 FRANKLIN ST.	DIVISION OF HIGHWAYS	DATE	JAN. 2023
2022 MISC. CULVERT REHABILITATION		SCALE	AS SHOWN
WORK ZONE TYPICAL SECTIONS		DWG. NO.	BOS-3
(SHEET 2 OF 2)			



- NOTES:
1. ANY STRIPING CONFLICTING WITH THE LANE CONFIGURATION SHOWN SHALL BE REMOVED, ITEM 619.080101.
  2. ANY SPEED LIMIT SIGNS CONFLICTING WITH THE WORK ZONE SPEED LIMIT SIGNS AS SHOWN ON DWG. BOS-1 (35 MPH), SHALL BE COVERED.
  3. TEMPORARY WIDENING, INCLUDING THE INSTALLATION OF THE 30"Ø TEMPORARY PIPE EXTENSION, SHALL BE COMPLETED PRIOR TO STAGE 1 CONSTRUCTION, SEE DWG. BOS-1.
  4. SEE SECTIONS A-A ON DWG. BOS-2 AND B-B ON DWG. BOS-3.
  5. REFER TO BOS-1 FOR ADDITIONAL APPLICABLE NOTES FOR WORK ZONE TRAFFIC CONTROL, PVMS DETAILS AND ADVANCED SIGNAGE.
  6. INSTALL ROADWAY PLATE OVER EXISTING ANCHORAGE UNIT TO REMAIN IN PLACE (TYP. BOTH ANCHORAGE UNITS).

LEGEND	
	CHANNELIZING DEVICES
	DIRECTION OF TRAFFIC
	WORK ZONE
	TEMP. PAVEMENT WIDENING
	TEMPORARY SIGN
	TYPE III BARRICADE, ITEM 619.04
	TEMPORARY POSITIVE BARRIER ITEMS 619.1711 & 619.1719



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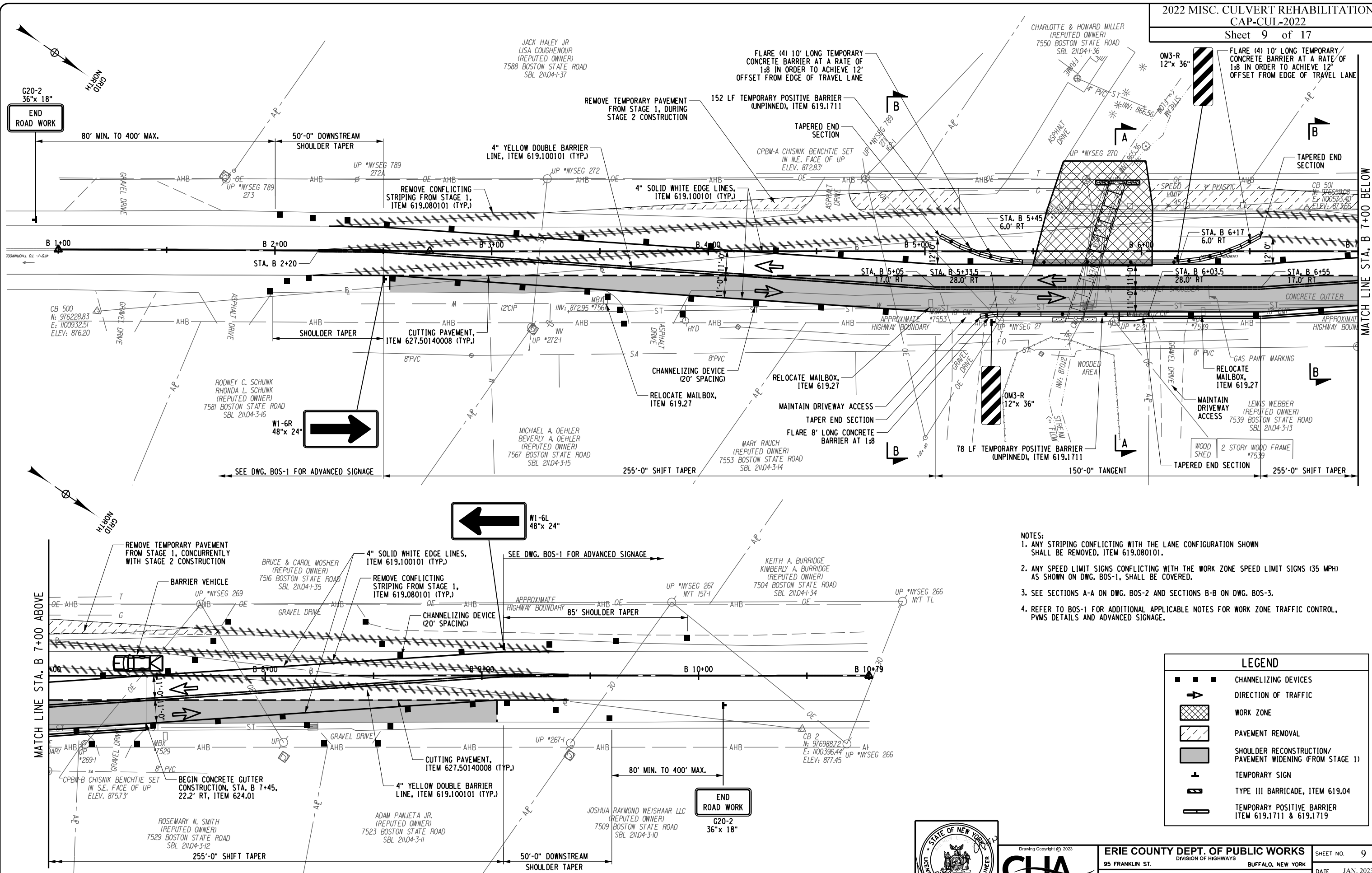
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DIVISION OF HIGHWAYS  
95 FRANKLIN ST. BUFFALO, NEW YORK  
2022 MISC. CULVERT REHABILITATION  
**WORK ZONE TRAFFIC CONTROL**  
STAGE 1 CONSTRUCTION

SHEET NO.	8
DATE	JAN. 2023
SCALE	AS SHOWN
DWG. NO.	BOS-4

FILE NAME = V:\Projects\BOS-4\BOS-4.dgn  
DATE/TIME = 12-JAN-2023 12:00:00  
USER = 3481

**BOSTON STATE ROAD**  
**STAGE 1 PLAN**

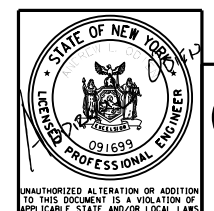




- NOTES:
1. ANY STRIPING CONFLICTING WITH THE LANE CONFIGURATION SHOWN SHALL BE REMOVED, ITEM 619.080101.
  2. ANY SPEED LIMIT SIGNS CONFLICTING WITH THE WORK ZONE SPEED LIMIT SIGNS (35 MPH) AS SHOWN ON DWG. BOS-1, SHALL BE COVERED.
  3. SEE SECTIONS A-A ON DWG. BOS-2 AND SECTIONS B-B ON DWG. BOS-3.
  4. REFER TO BOS-1 FOR ADDITIONAL APPLICABLE NOTES FOR WORK ZONE TRAFFIC CONTROL, PVMS DETAILS AND ADVANCED SIGNAGE.

**LEGEND**

- CHANNELIZING DEVICES
- DIRECTION OF TRAFFIC
- WORK ZONE
- PAVEMENT REMOVAL
- SHOULDER RECONSTRUCTION/PAVEMENT WIDENING (FROM STAGE 1)
- TEMPORARY SIGN
- TYPE III BARRICADE, ITEM 619.04
- TEMPORARY POSITIVE BARRIER ITEM 619.1711 & 619.1719

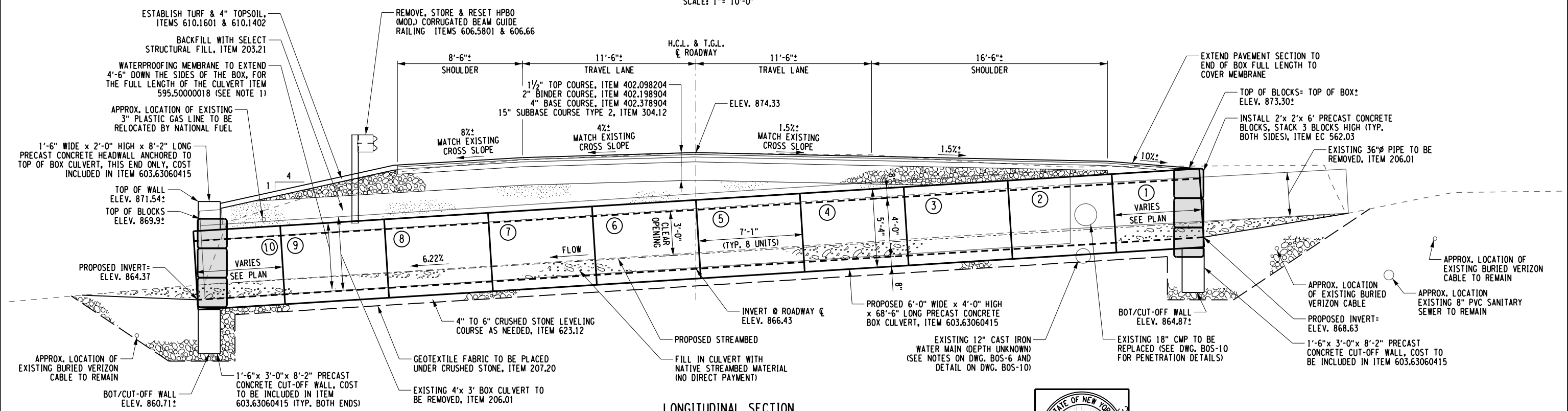
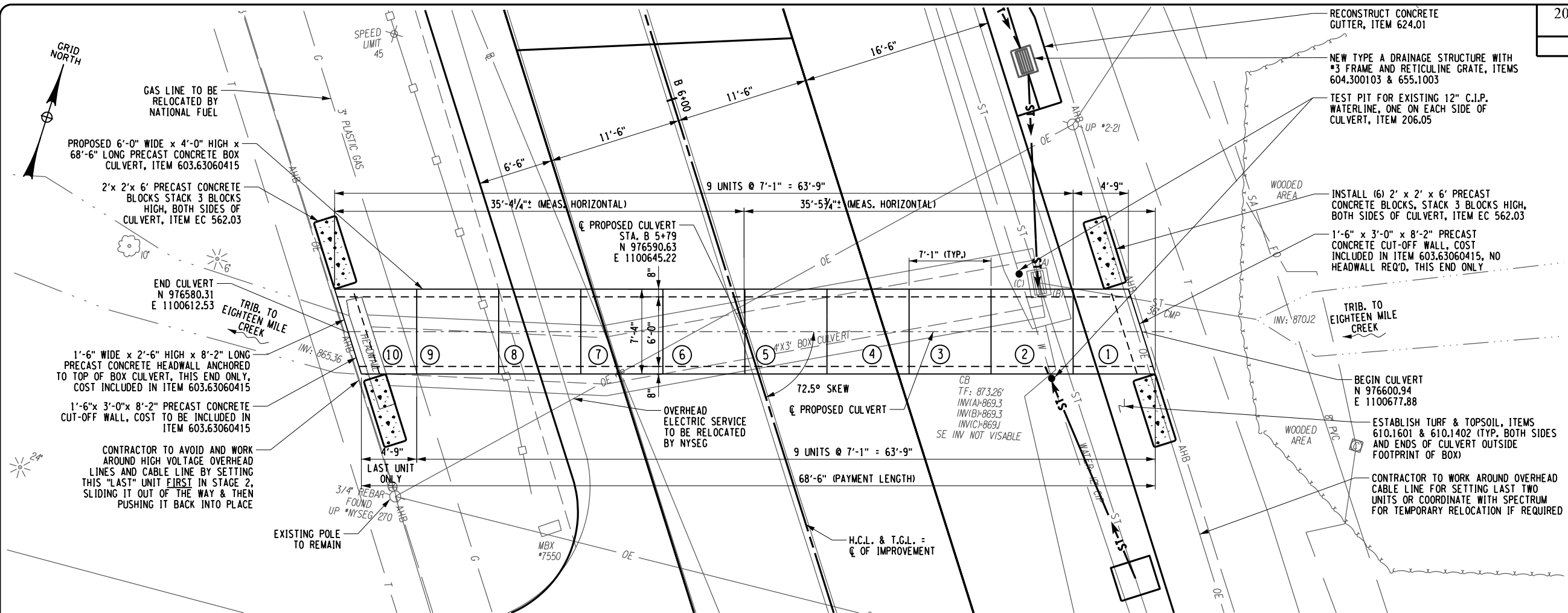


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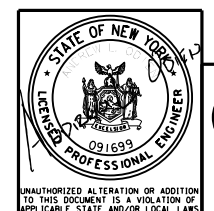
<b>ERIE COUNTY DEPT. OF PUBLIC WORKS</b> DIVISION OF HIGHWAYS 95 FRANKLIN ST. BUFFALO, NEW YORK		SHEET NO. 9
2022 MISC. CULVERT REHABILITATION		DATE JAN. 2023
WORK ZONE TRAFFIC CONTROL STAGE 2 CONSTRUCTION		SCALE AS SHOWN
		DWG. NO. BOS-5

FILE NAME = V:\Projects\BOS\14000\Energy Road & Boston State Rd Culverts\CADD\MSTN\09.2022.Boston State Road.BOS-5.dgn  
DATE/TIME = 12-JAN-2023  
USER = 3481





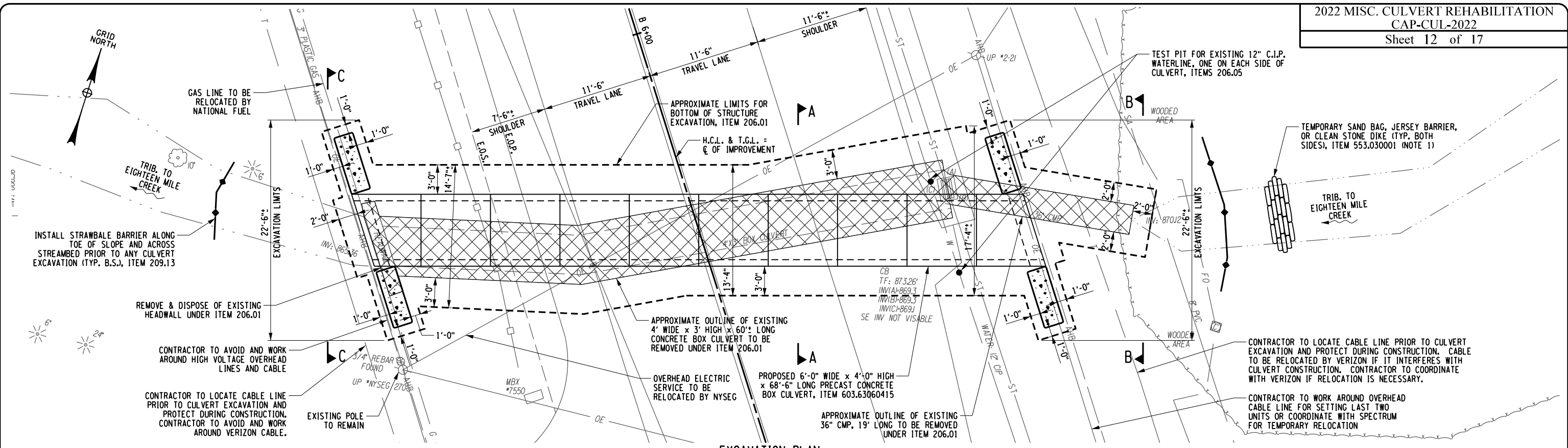
NOTES:  
1. CONTRACTOR TO PROVIDE 6" PROTECTIVE SAND LAYER OR 1" MINIMUM THICK COURSE OF HMA ON TOP OF THE WATERPROOFING MEMBRANE, COST INCLUDED IN ITEM 595.50000018.



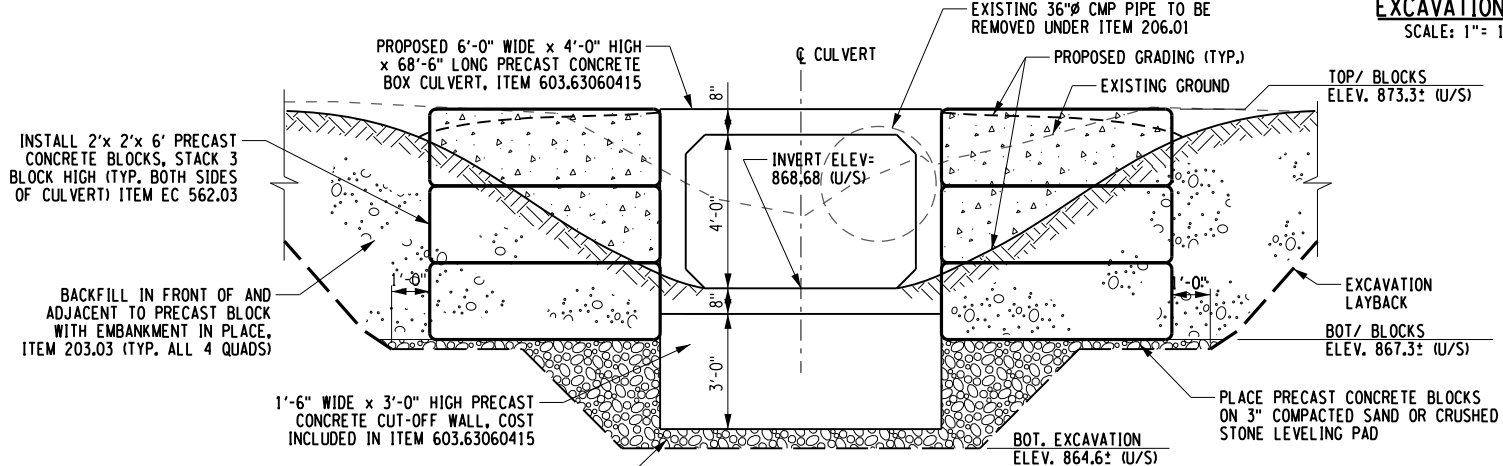
ERIE COUNTY DEPT. OF PUBLIC WORKS DIVISION OF HIGHWAYS 95 FRANKLIN ST. BUFFALO, NEW YORK		SHEET NO. 11
2022 MISC. CULVERT REHABILITATION		DATE JAN. 2023
BOSTON STATE ROAD (CIN 227-07A)		SCALE AS SHOWN
CULVERT PLAN & SECTION		DWG. NO. BOS-7

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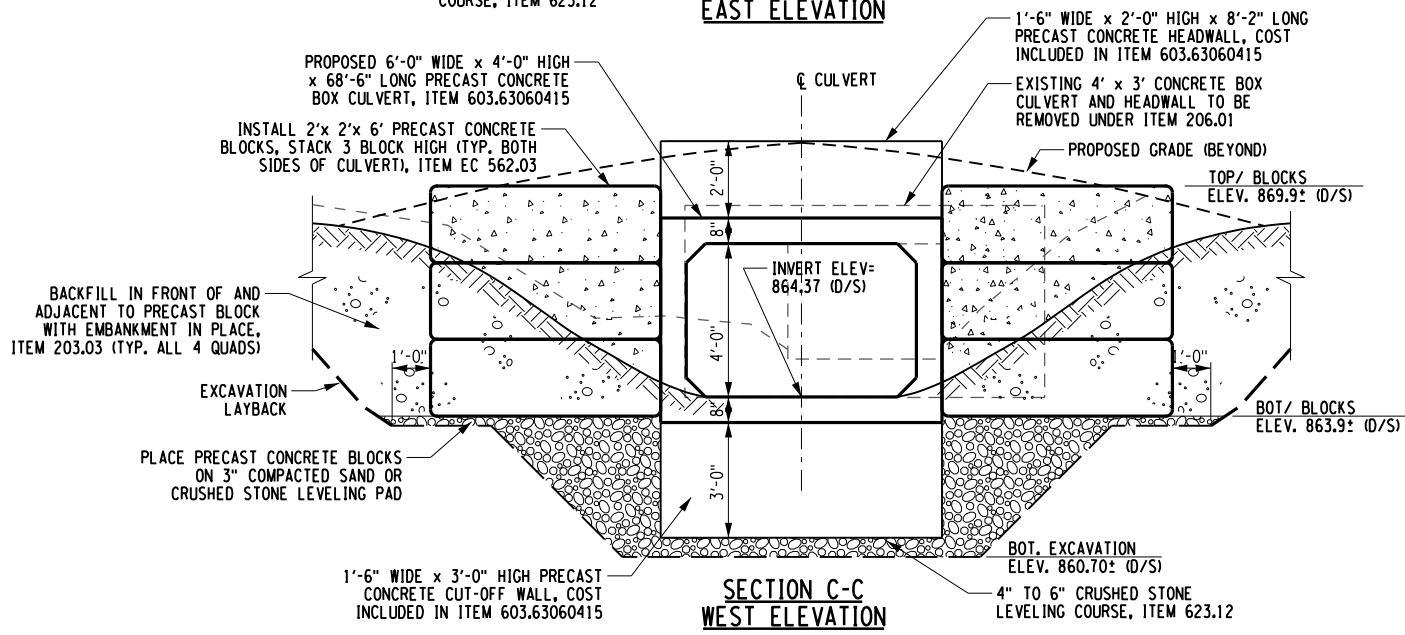




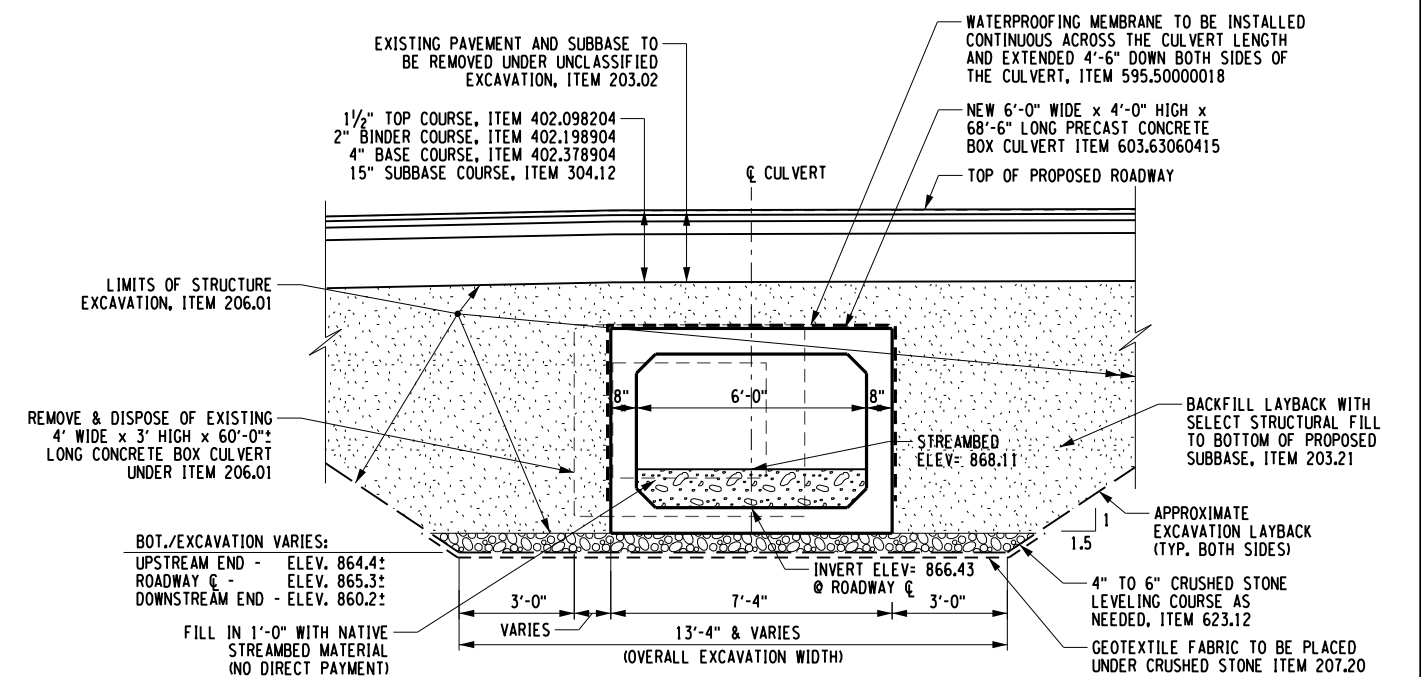
EXCAVATION PLAN  
SCALE: 1" = 10'-0"



SECTION B-B  
EAST ELEVATION

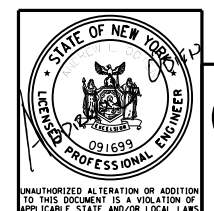


SECTION C-C  
WEST ELEVATION



SECTION A-A  
PROPOSED CULVERT BACKFILL

NOTES:  
1. TYPE, DESIGN, LOCATION & METHODS OF TEMPORARY WATERWAY DIVERSION AND ANY ASSOCIATED PUMPING & DEWATERING (IF REQUIRED) ARE THE RESPONSIBILITY OF THE CONTRACTOR, AND ALL COSTS SHALL BE INCLUDED IN ITEM 553.030001.



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95 FRANKLIN ST. BUFFALO, NEW YORK  
2022 MISC. CULVERT REHABILITATION  
BOSTON STATE ROAD (CIN 227-7A)  
CULVERT EXCAVATION DETAILS

SHEET NO. 12  
DATE JAN. 2023  
SCALE AS SHOWN  
DWG. NO. BOS-8

FILE NAME = V:\Projects\BOS\14000\Energy Road & Boston State Rd Culverts\CADD\MSTN12\_2022.Boston State Road.BOS-8.dgn  
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USER = 3481

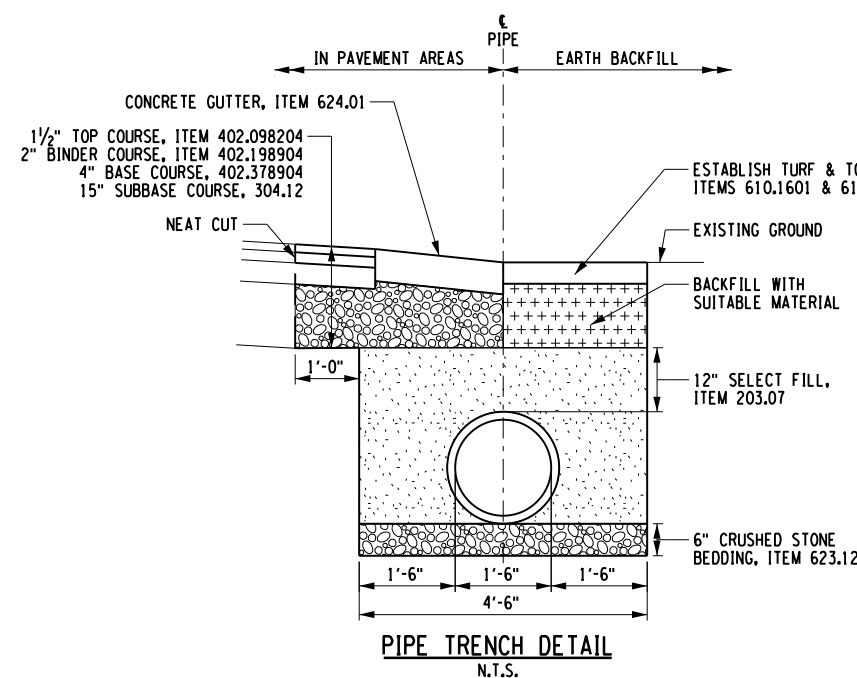
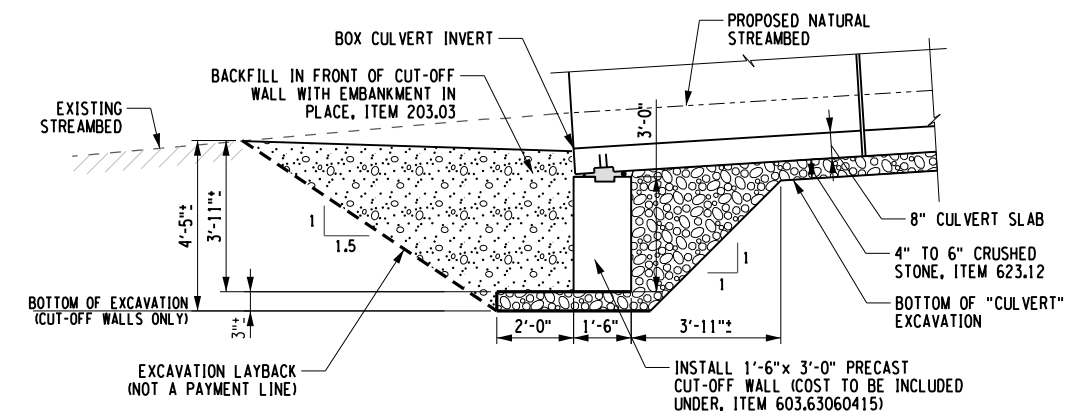
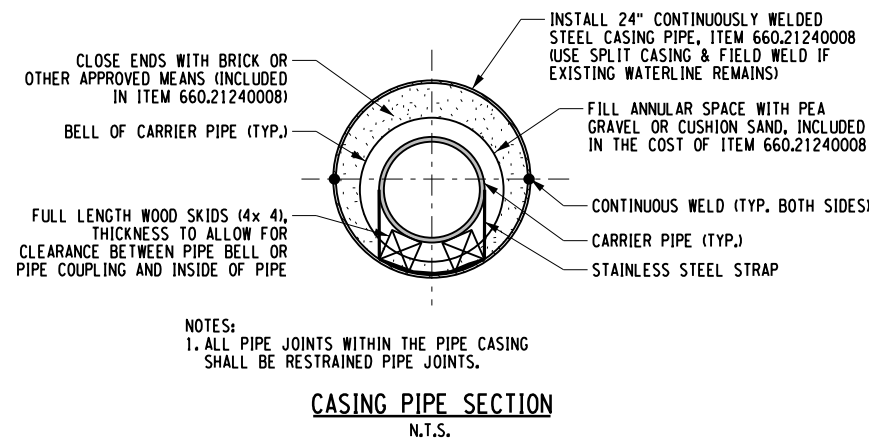
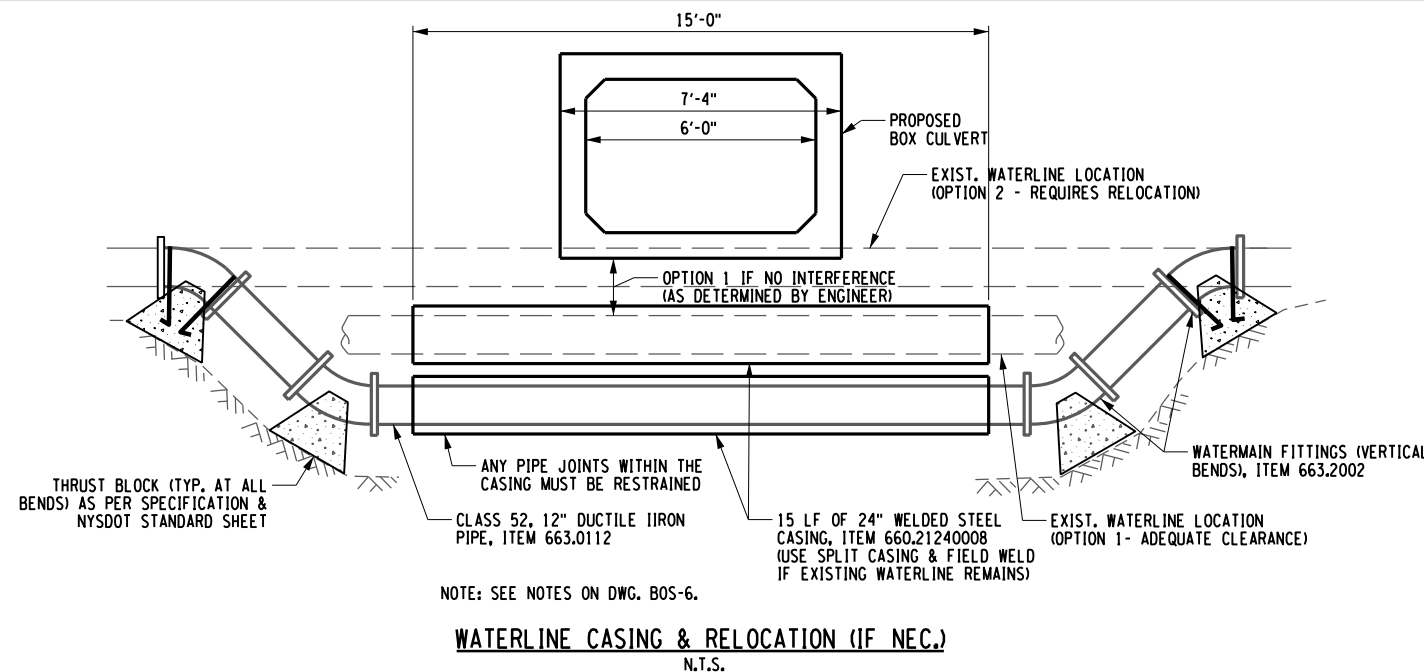




- WATERLINE NOTES:**
- PRIOR TO ANY CONSTRUCTION AT THIS SITE, THE CONTRACTOR SHALL DIG A TEST PIT ON EACH SIDE OF THE CULVERT, EXPOSING THE WATER MAIN TO DETERMINE CLEARANCE BETWEEN TOP OF PIPE AND BOTTOM OF PROPOSED BOX CULVERT.
  - BASED ON TEST PIT RESULTS, THE E.I.C. WILL DIRECT THE CONTRACTOR WHETHER RELOCATION WILL BE REQUIRED OR IF ALTERNATIVE PROTECTION IS REQUIRED.

**OPTION 1 - ADEQUATE CLEARANCE TO WATER MAIN**  
THE CONTRACTOR SHALL INSTALL 18 LF OF 24" TO BE CONTINUOUSLY WELDED IN FIELD SPLIT STEEL CASING PIPE AROUND THE EXISTING WATERMAIN AS PER ITEM 660.21240008. THE CASING PIPE SHALL BE CENTERED ABOUT THE CENTERLINE OF THE CULVERT SUCH THAT THE CASING IS APPROX. 5 FT. BEYOND THE PROPOSED CULVERT WALLS ON EACH SIDE.

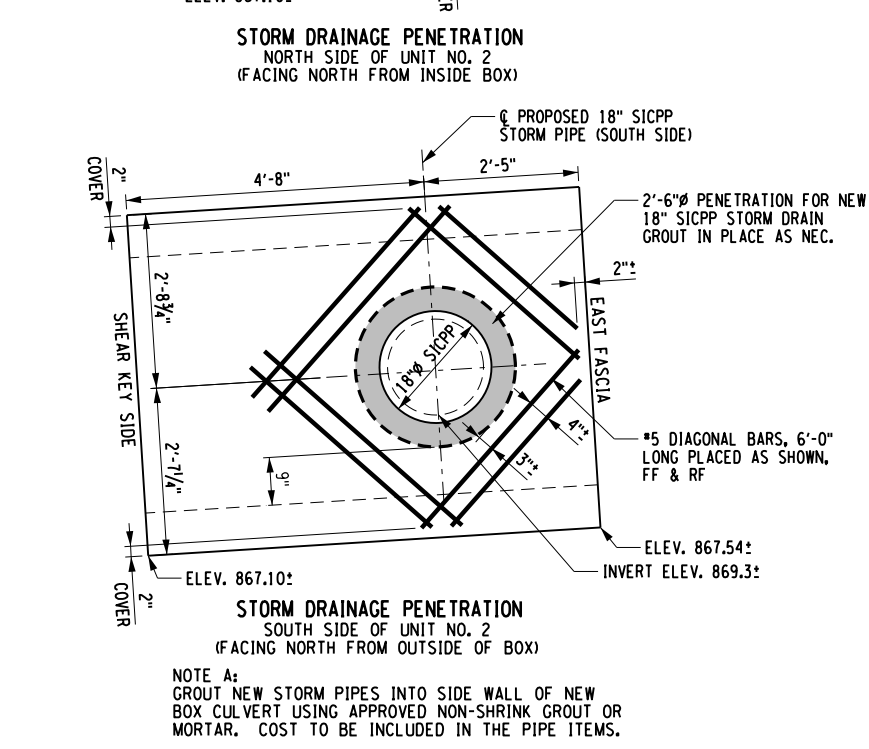
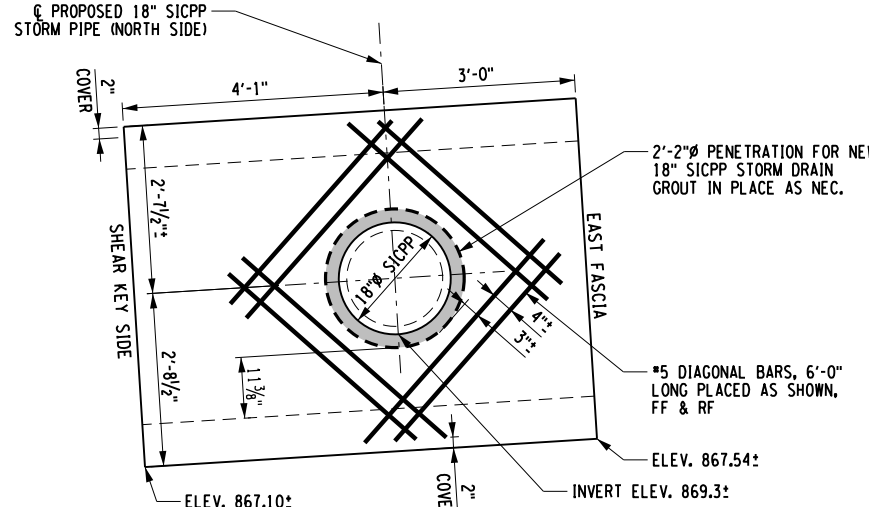
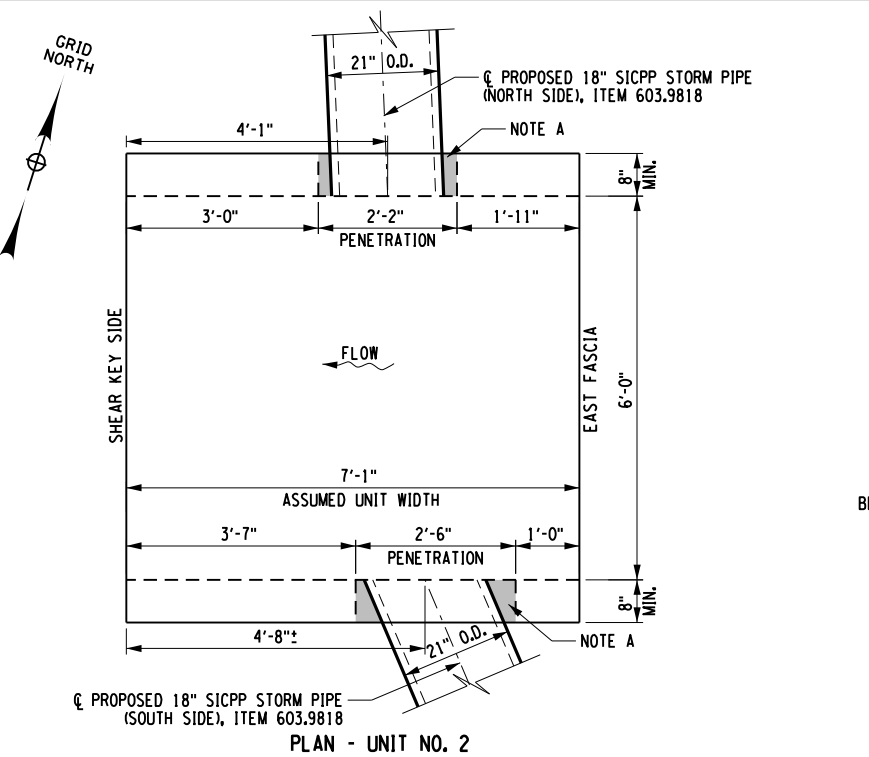
**OPTION 2 - INADEQUATE CLEARANCE TO WATER MAIN**  
PROVISIONS ARE INCLUDED IN THIS CONTRACT FOR THE CONTRACTOR TO VERTICALLY RELOCATE THE WATERMAIN SIMILAR TO THE DETAILS GIVEN ON NYSOT STANDARD SHEET 663-04 AND INSTALL THE STEEL CASING PIPE AROUND THE NEW, RELOCATED WATERMAIN. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY IF THE WATERLINE IS IN CONFLICT WITH THE PROPOSED BOX CULVERT TO OBTAIN WATERMAIN RELOCATION APPROVALS FROM ERIE COUNTY WATER AUTHORITY AND THE ERIE COUNTY DEPARTMENT OF HEALTH.



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95 FRANKLIN ST. BUFFALO, NEW YORK  
2022 MISC. CULVERT REHABILITATION  
BOSTON STATE ROAD (CIN 227-7A)  
MISCELLANEOUS DETAILS

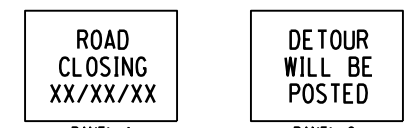
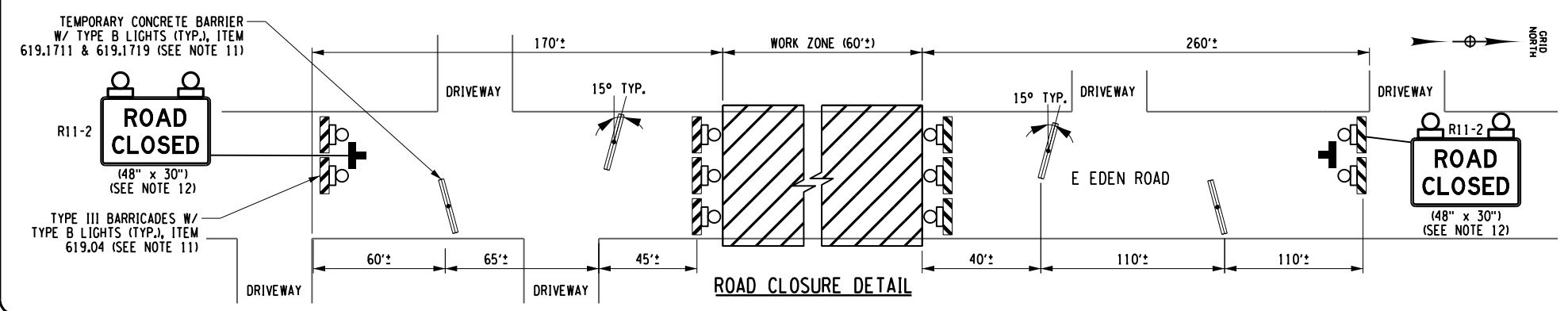
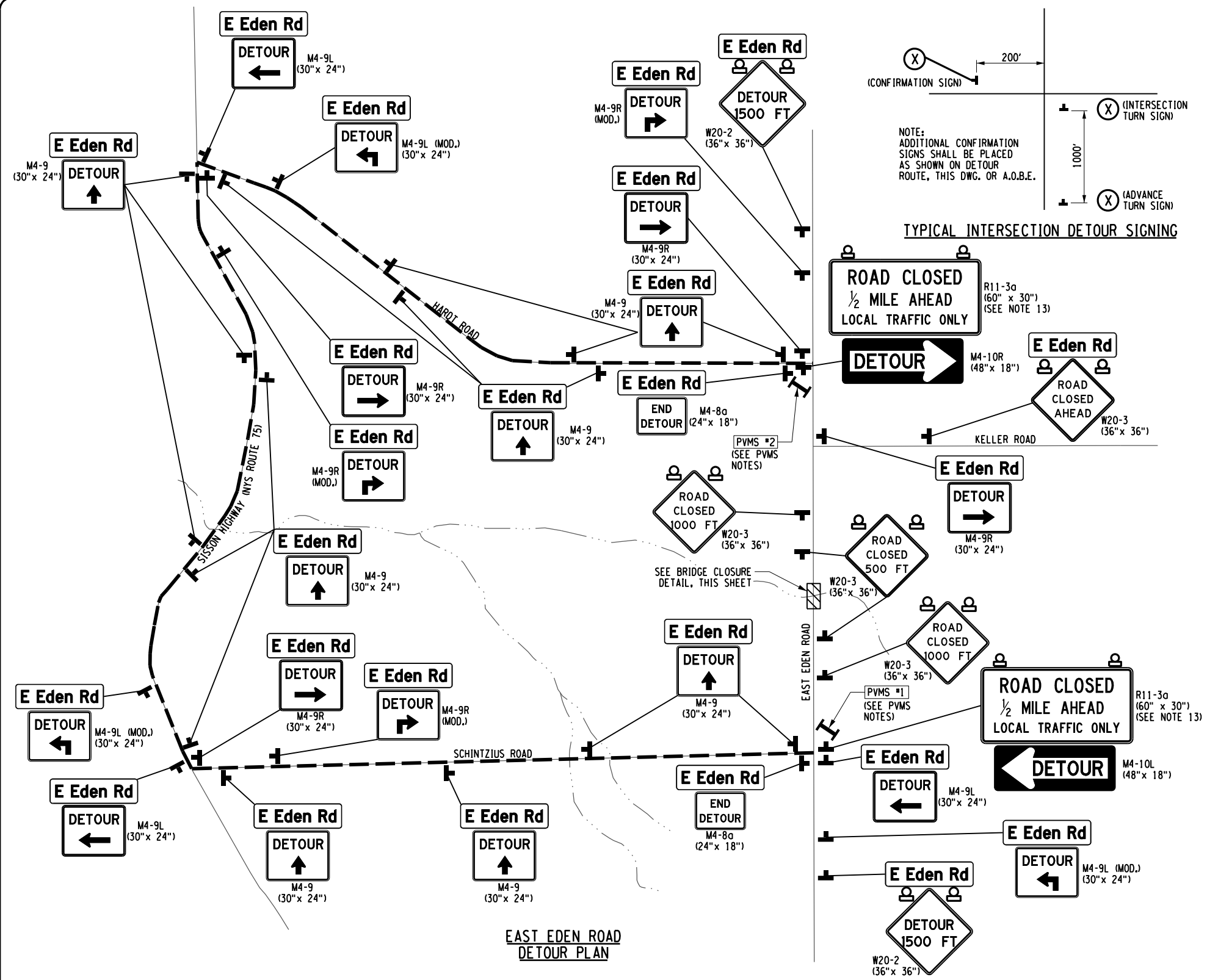
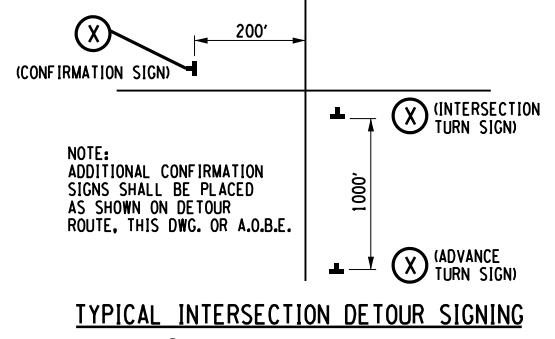
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DATE JAN. 2023  
SCALE AS SHOWN  
DWG. NO. BOS-10



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DATE/TIME = 12-JAN-2023  
USER = 3481

WORK ZONE TRAFFIC CONTROL NOTES:

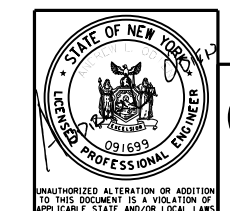
- PRIOR TO THE START OF ANY WORK OPERATIONS, ALL RELATED WORK FOR PROPOSED WORK ZONE TRAFFIC CONTROL SHALL BE COMPLETED. THIS INCLUDES BUT IS NOT LIMITED TO, ALL SIGNS, SIGNALS, PAVEMENT MARKINGS, BARRIERS, DELINEATION (CONES, DRUMS, ETC.) FLAGGERS, PAVEMENT MODIFICATIONS, AND ANY OTHER RELATED WORK.
- WORK ZONE TRAFFIC CONTROL SHALL BE PROVIDED THROUGHOUT THE LENGTH OF THE CONTRACT IN ACCORDANCE WITH THE PROVISIONS OF SECTION 619 OF THE NYS DOT STANDARD SPECIFICATIONS AND STANDARD SHEETS FOR WORK ZONE TRAFFIC CONTROL. THE MUTCD AND ANY PROVISIONS CONTAINED IN THE CONTRACT DOCUMENTS, AND AS ORDERED BY THE ENGINEER (A.O.B.E.), THE 'MUTCD' AS REFERENCED IN THESE CONTRACT DOCUMENTS, SHALL MEAN THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, USED IN CONJUNCTION WITH THE CURRENT NEW YORK STATE SUPPLEMENT TO THE MUTCD.
- THE TRAFFIC CONTROL PLANS SHOWN ARE TO BE CONSIDERED MINIMUM REQUIREMENTS. ANY INCIDENTAL REVISIONS, INCLUDING ADDITIONAL SIGNS AND/OR TRAFFIC CONTROL DEVICES MAY BE REQUIRED AS DETERMINED BY THE ENGINEER. IF AT ANY TIME THE ENGINEER DETERMINES THAT TRAFFIC IS NOT BEING PROPERLY MAINTAINED WITHIN OR AROUND A WORK ZONE, THE CONTRACTOR SHALL IMMEDIATELY CORRECT THE INDICATED DEFICIENCY.
- WEEDS, SHRUBBERY, CONSTRUCTION MATERIALS, EQUIPMENT, VEHICLES, OR WORKERS SHALL NOT OBSCURE TRAFFIC CONTROL DEVICES OR OBSTRUCT TRAFFIC. THE CONTRACTOR SHALL BE REQUIRED TO TRIM ANY FOLIAGE OBSTRUCTING THE VISIBILITY OF ANY TRAFFIC CONTROL DEVICE WHETHER PERMANENT, TEMPORARY, OR CONSTRUCTION.
- THE CONTRACTOR SHALL COORDINATE ANY WORK WITH OTHER CONTRACTORS, UTILITY COMPANIES, MUNICIPALITIES, AND PERMITTEES IN ACCORDANCE WITH STANDARD SPECIFICATION 105-06, TO ENSURE ALL TRAFFIC IS PROPERLY AND SAFELY MAINTAINED.
- SIGN LOCATIONS SHOWN FOR THE ROAD CLOSURE & DETOUR PLANS ARE APPROXIMATE ONLY. EXACT LOCATIONS MAY BE DETERMINED BY THE CONTRACTOR AND APPROVED VERBALLY BY THE ENGINEER. CARE SHALL BE TAKEN NOT TO OBSCURE OTHER SIGNS. PARTICULARLY STOP SIGNS, AVOID PLACING SIGNS IMMEDIATELY IN FRONT OF HOUSES. THE SIGNAGE AND BARRICADES SHALL BE MODIFIED AS NEEDED AS THE WORK PROGRESSES.
- ACCESS TO PRIVATE AND COMMERCIAL DRIVEWAYS INCLUDING FARM FIELDS, OR OTHER ACCESS DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES DURING THE LIFE OF THE CONTRACT.
- THE CONTRACTOR SHALL NOT PARK HIS EQUIPMENT WHERE IT IS CONSIDERED BY THE ENGINEER TO BE A SAFETY HAZARD TO TRAFFIC. VEHICLES OR EQUIPMENT BELONGING TO THE CONTRACTOR OR HIS STAFF SHALL NOT BE PARKED ON ROADWAYS, SHOULDERS OR DITCHES ALONG ANY ROADWAY REMAINING OPEN TO TRAFFIC. EQUIPMENT PARKED OVERNIGHT ON THE R.O.W. SHALL BE PARKED BEHIND THE CONSTRUCTION BARRIERS.
- AT THE PRECONSTRUCTION MEETING, THE CONTRACTOR SHALL SUBMIT AN EMERGENCY CONTACT LISTING TO THE ENGINEER, PROVIDING THE NAME, ADDRESS AND TELEPHONE NUMBERS OF PERSONS AUTHORIZED TO SECURE EQUIPMENT AND LABOR OUTSIDE OF NORMAL WORK HOURS.
- IF THE ENGINEER NOTIFIES THE CONTRACTOR OF ANY HAZARDOUS CONSTRUCTION PRACTICES AND/OR CONDITIONS, ALL OPERATIONS IN THAT AREA SHALL BE DISCONTINUED AND IMMEDIATE REMEDIAL ACTION SHALL BE TAKEN TO CORRECT THE SITUATION TO THE SATISFACTION OF THE ENGINEER, BEFORE WORK IS RESUMED.
- THE TYPE III BARRICADES AND CONCRETE BARRIER SHALL BE SUPPLIED WITH TYPE B LIGHTING WHICH SHALL FUNCTION BOTH DAY AND NIGHT. ALL CLOSURE SIGNS THAT INDICATE THAT FLASHING LIGHTS ARE REQUIRED SHALL BE SUPPLIED WITH TYPE A LIGHTING THAT OPERATES ONLY AT NIGHT.
- ROAD CLOSED (R11-2) SIGNS SHALL BE MOUNTED ON A SEPARATE SUPPORT BEHIND TYPE III BARRICADES WITH WARNING LIGHTS. FOR TEMPORARY SUPPORT DETAILS, SEE NYS DOT STANDARD SHEET 619-004. COST OF SEPARATE SUPPORT SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM EC 619.0102.
- ROAD CLOSED AHEAD (R11-3a) SIGNS SHALL BE MOUNTED ON TYPE III BARRICADES WITH WARNING LIGHTS. PLACE SIGN SUPPORTING BARRICADES IN THE CENTER OF THE ROAD OR ALONG THE RIGHT SHOULDER (IF TRAFFIC VOLUME DICTATES) AS DIRECTED BY THE ENGINEER.
- SIGNS AT OR NEAR INTERSECTIONS SHALL BE PLACED SO THAT THEY DO NOT OBSTRUCT A MOTORIST'S LINE OF SIGHT.
- NOTIFICATION OF FIRE AND POLICE AUTHORITIES: THE CONTRACTOR SHALL NOTIFY THE FIRE, POLICE, SHERIFF, EMERGENCY SERVICES, SCHOOLS, POST OFFICE, GARBAGE COLLECTION AND ALL OTHER LOCAL OR COUNTY AUTHORITIES. THE CONTRACTOR MUST PROVIDE 2 WEEKS NOTICE TO ALL AFFECTED AGENCIES PRIOR TO BEGINNING WORK AT THE BRIDGE SITE TO ALLOW SUFFICIENT TIME FOR THESE AGENCIES TO PLAN ALTERNATE ROUTES. PROVIDE WRITTEN COMMUNICATION TO THE ENGINEER CONFIRMING THAT ALL AGENCIES HAVE ACKNOWLEDGED THIS NOTIFICATION.
- FOR ADDITIONAL DETAILS, SEE NYS DOT STD. SHEETS 619-001, 619-002, 619-004, 619-010, 619-011, 619-012, 619-310, 619-410, 619-314, 619-407 & 619-503.
- ALL WORK ZONE TRAFFIC CONTROL TO BE PAID UNDER ITEM EC 619.0102, UNLESS OTHERWISE NOTED IN THE PLANS.
- ALL DETOUR SIGNS, TRAFFIC CONTROL DEVICES & APPURTENANCES ASSOCIATED WITH THE DETOUR SHALL BE PLACED ON THE HIGHWAY RIGHT-OF-WAY.
- SEE ROAD CLOSURE RESTRICTIONS ON DWG. GN-1.



- PVMS NOTES:
- PVMS #1 SHALL BE LOCATED AT E EDEN ROAD AND SCHINTZIUS ROAD. PVMS #2 SHALL BE LOCATED AT E EDEN ROAD AND HARDT ROAD.
  - PVMS BOARDS SHALL BE IN PLACE 2 FULL WEEKS PRIOR TO CLOSING E EDEN ROAD. PAYMENT WILL BE MADE BASED ON 2 PVMS X 1 WEEK = 4 CALENDAR WEEKS.

PORTABLE VARIABLE MESSAGE SIGNS #1 & #2  
ITEM 619.11211

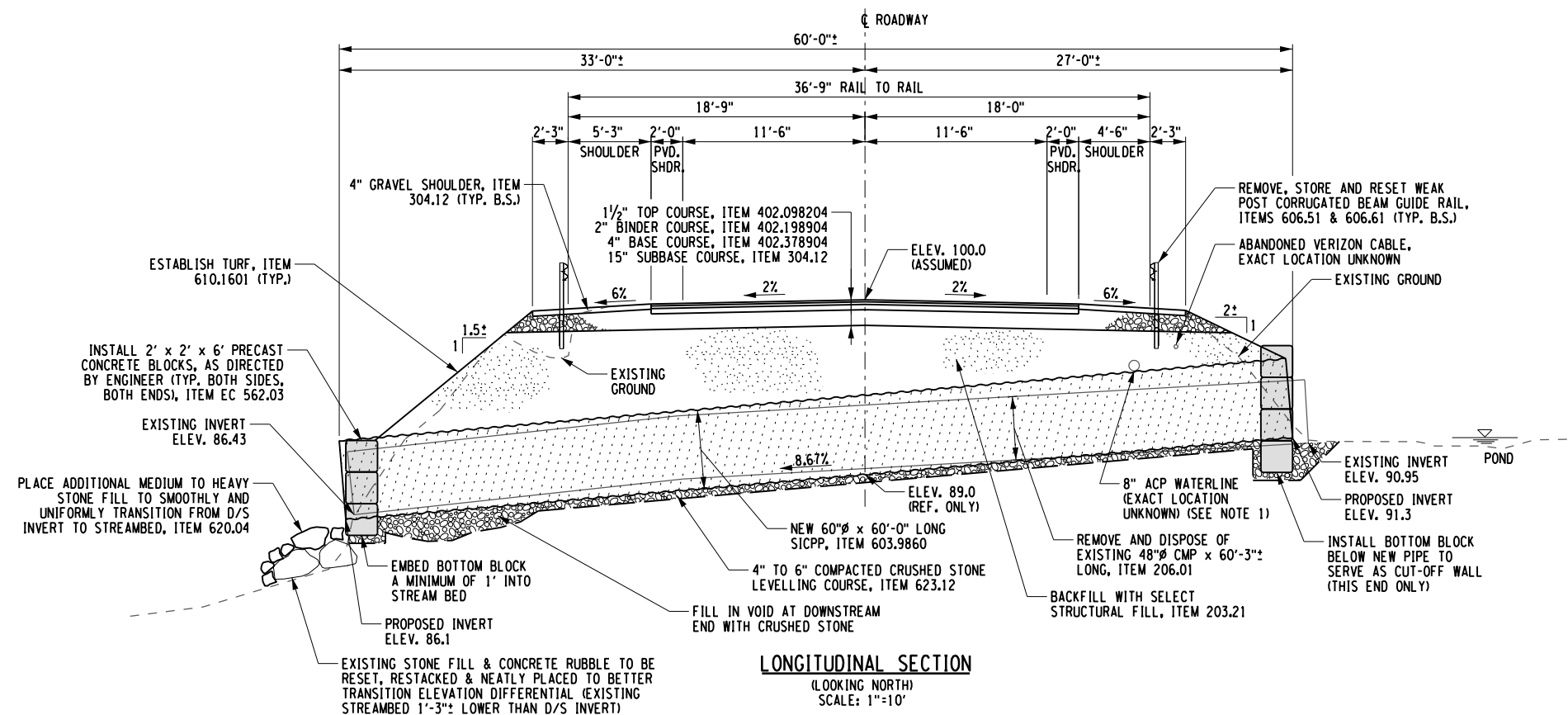
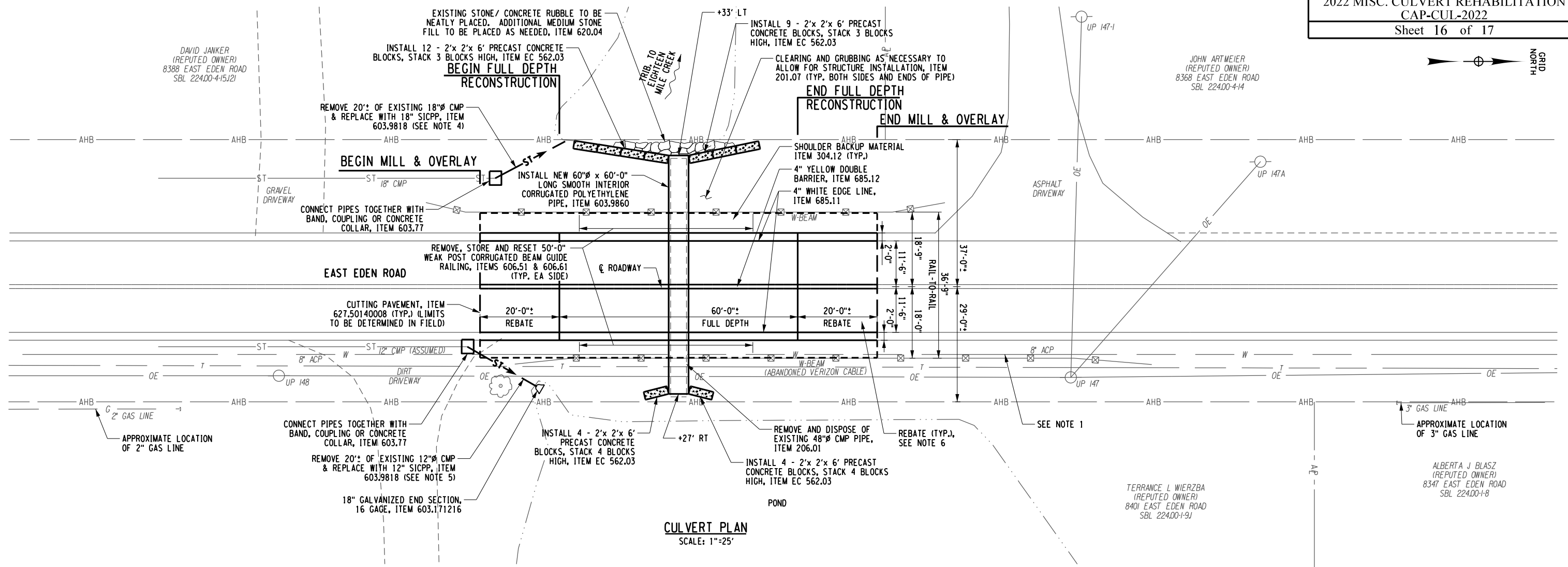
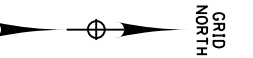
LEGEND	
	CONSTRUCTION SIGN
	WORK ZONE
	WARNING LIGHTS (SEE NOTE 11)
	TYPE III BARRIER, ITEM 619.04 (SEE NOTE 11)
	TEMPORARY BARRIER WITH WARNING LIGHTS, ITEM 619.1711 & 619.1719 (SEE NOTE 11)
	PORTABLE VARIABLE MESSAGE SIGN (PVMS), ITEM 619.11211
	DETOUR ROUTE



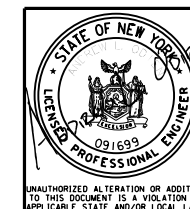
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ERIE COUNTY DEPT. OF PUBLIC WORKS DIVISION OF HIGHWAYS 95 FRANKLIN ST. BUFFALO, NEW YORK		SHEET NO. 15
2022 MISC. CULVERT REHABILITATION		DATE JAN. 2023
WORK ZONE TRAFFIC CONTROL EAST EDEN ROAD DETOUR PLAN		SCALE N.T.S.
		DWG. NO. ED-1

FILE NAME : V:\Projects\BHV\14000\Energy Road & Boston State Rd Culverts\CADD\MSTN15.2022.East Eden Road.ED-1.dgn  
DATE/TIME : 12-JAN-2023  
USER : 3481



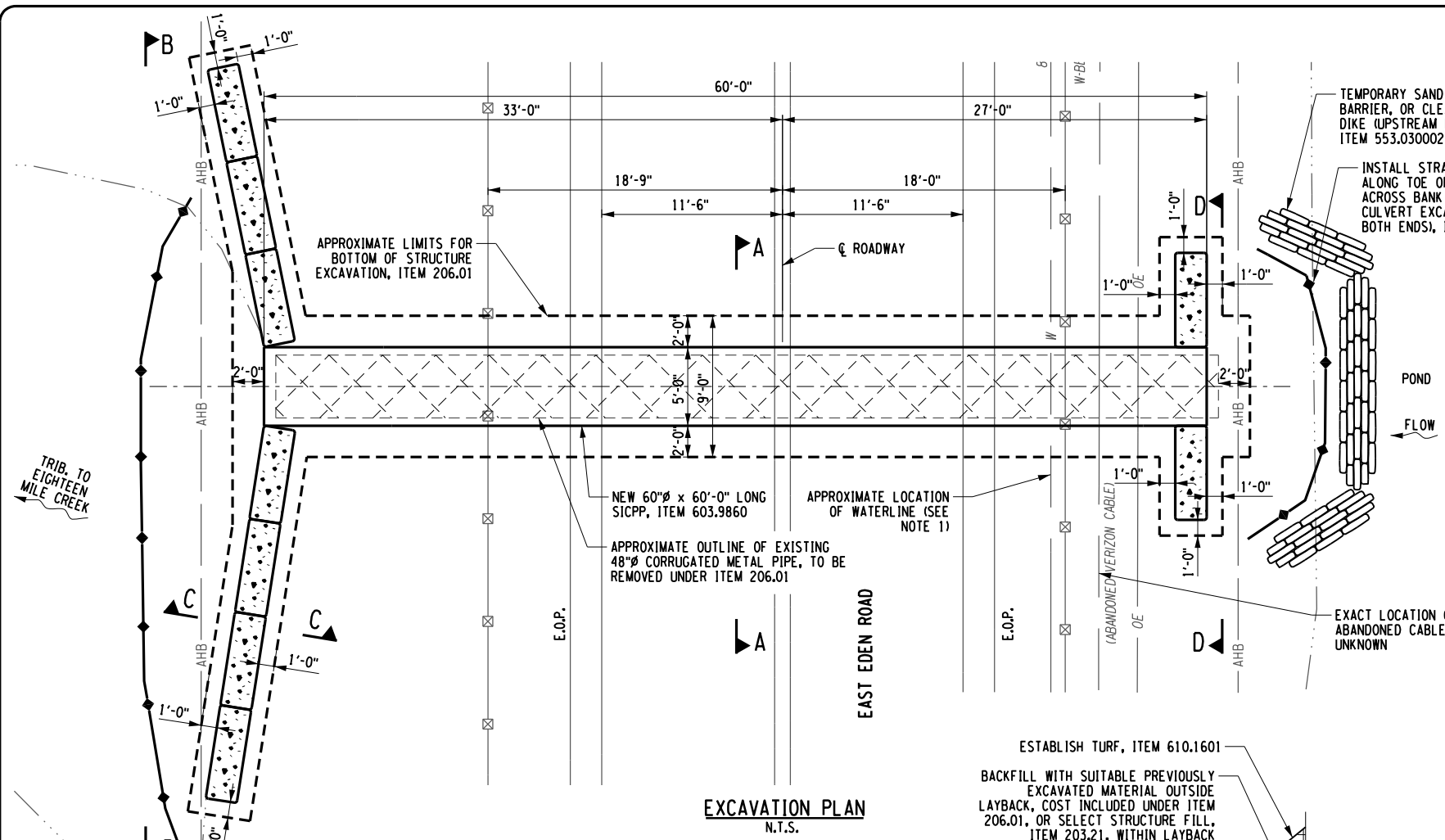
- NOTES:
1. THE CONTRACTOR SHALL BE AWARE OF THE PRESENCE OF A WATER LINE ON EAST EDEN ROAD. SUBSEQUENT TO OBTAINING UTILITY STAKE OUTS, THE CONTRACTOR SHALL DIG 1 OR MORE TEST PITS IF WARRANTED OR REQUIRED TO LOCATE THE WATERLINE PRIOR TO EXCAVATING FOR THE CULVERT. SHOULD THERE BE ANY INTERFERENCE ISSUE WITH THE PROPOSED CULVERT LOCATION AND ANY UNDERGROUND UTILITY, CONTACT THE DESIGN ENGINEER.
  2. TACK COAT BETWEEN ALL HMA COURSES AND LIFTS, ITEM 407.0102.
  3. SEE DWG. BOS-10 FOR PIPE TRENCH DETAIL.
  4. CONTRACTOR MAY ELECT TO USE 18" OR 24" CMP OR 24" SICPP AT NO ADDITIONAL COST TO THE COUNTY, IF THIS WOULD BETTER FACILITATE THE CONNECTION TO EXISTING PIPE.
  5. CONTRACTOR MAY ELECT TO USE 12" OR 18" CMP OR 18" SICPP AT NO ADDITIONAL COST TO THE COUNTY, IF THIS WOULD BETTER FACILITATE THE CONNECTION TO EXISTING PIPE.
  6. COLD MILLING OF REBATE AREA TO BE PAID UNDER ITEM 490.30.
  7. ELEVATIONS SHOWN ARE BASED ON A LOCAL DATUM OF A PRESUMED CENTERLINE OF ROAD-CENTERLINE OF CULVERT ELEVATION OF 100.0.



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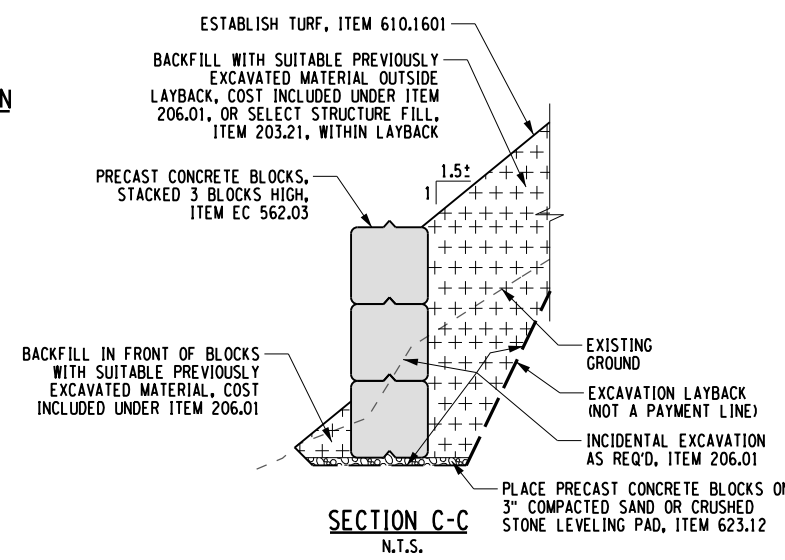
**ERIE COUNTY DEPT. OF PUBLIC WORKS**  
DIVISION OF HIGHWAYS  
95 FRANKLIN ST. BUFFALO, NEW YORK  
2022 MISC. CULVERT REHABILITATION  
EAST EDEN ROAD (CIN 220-03)  
CULVERT PLAN & SECTION

SHEET NO.	16
DATE	JAN. 2023
SCALE	AS SHOWN
DWG. NO.	ED-2

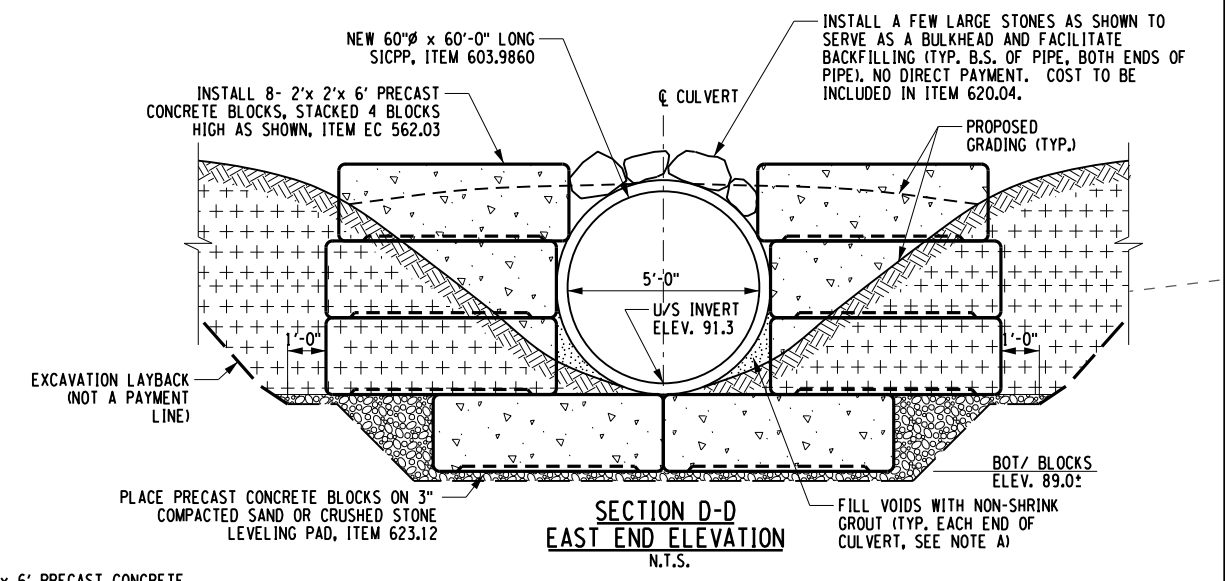
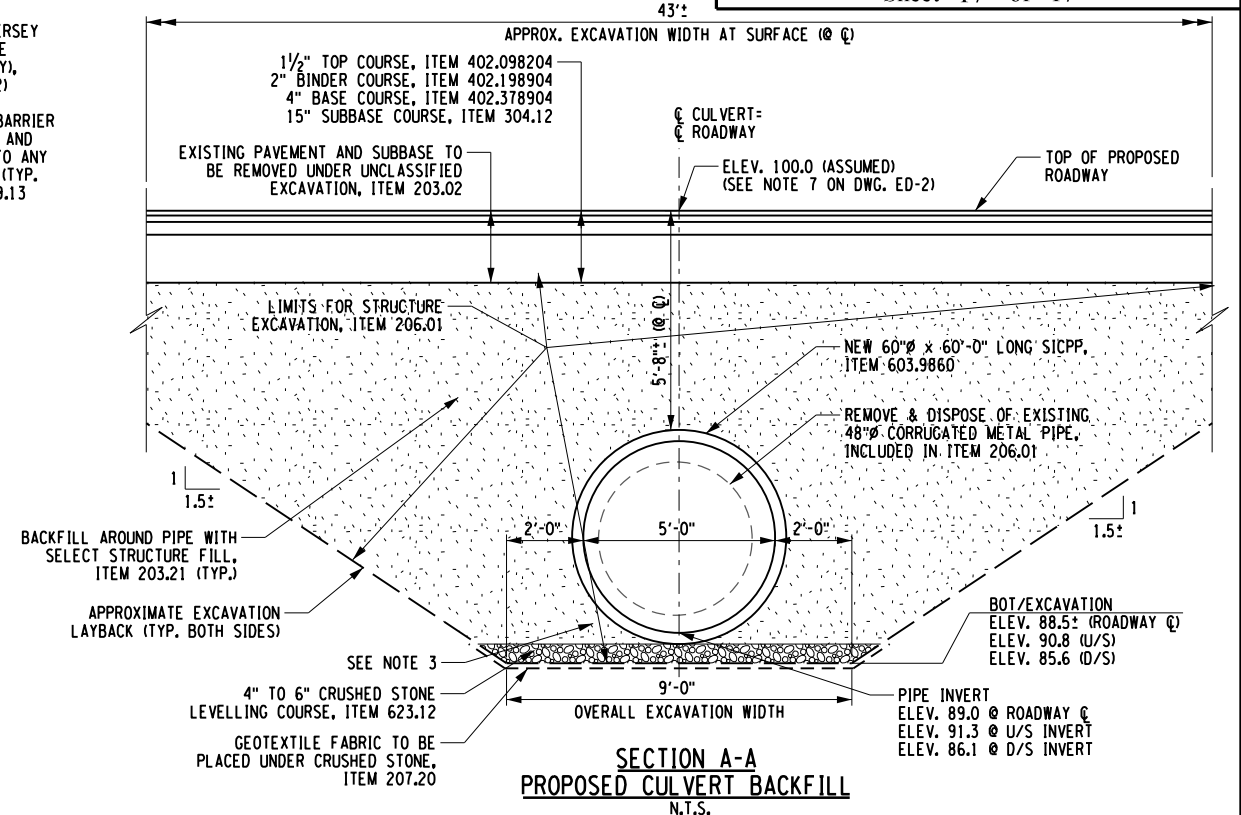


**NOTE A:**  
WHERE INDICATED, THE CONTRACTOR SHALL FILL THE VOIDS BETWEEN THE 60" PIPE & PRECAST BLOCKS WITH A FLOWABLE NON-SHRINK GROUT MEETING THE REQUIREMENTS OF ASTM C1107 OR APPROVED EQUAL. A SELF CONSOLIDATING CONCRETE IS ALSO AN ACCEPTABLE MATERIAL. CONTRACTOR SHALL SUBMIT PROPOSED MATERIAL TO BE USED TO THE ENGINEER FOR APPROVAL A MINIMUM OF 1 WEEK PRIOR TO USE. FOR BIDDING PURPOSES, CONTRACTOR SHALL ASSUME THAT AN 18" LENGTH ALONG THE LENGTH OF THE PIPE WILL REQUIRE GROUTING. THE METHOD OF GROUT PLACEMENT WILL BE AT THE CONTRACTORS DISCRETION. COST OF PROVIDING AND PLACING GROUT, AND ANY INCIDENTAL FORMING NECESSARY TO CONTAIN THE GROUT TO BE INCLUDED IN ITEM 663.9860. NO SEPARATE DIRECT OR MEASUREABLE PAYMENT WILL BE MADE FOR THIS WORK.

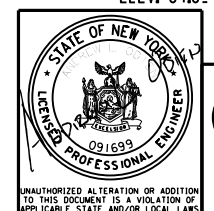
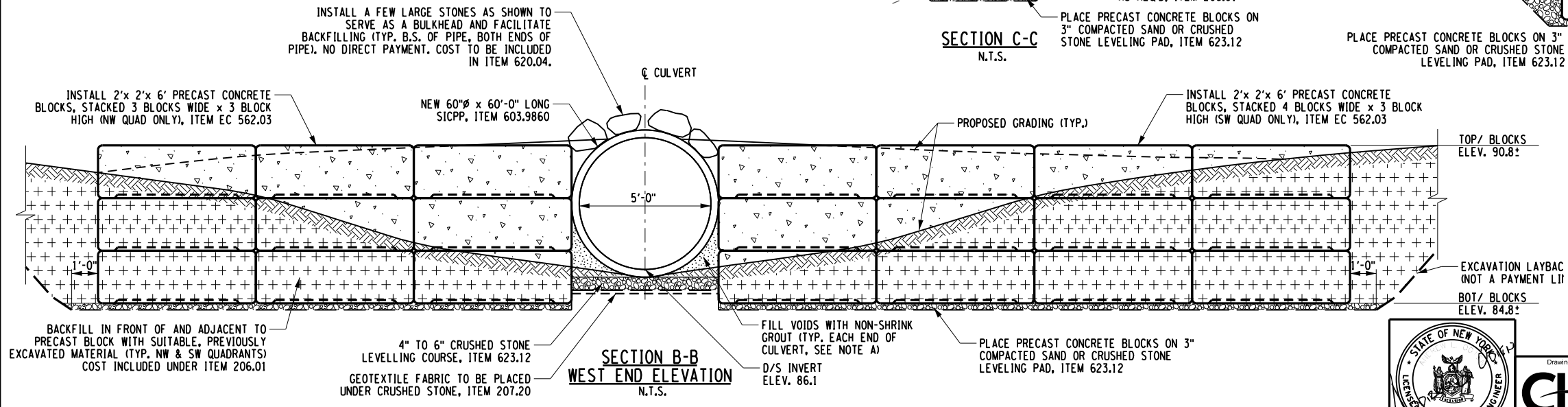
**EXCAVATION PLAN**  
N.T.S.



**SECTION C-C**  
N.T.S.



- NOTES:**
- EXCAVATE TEST PITS FOR LOCATING EXISTING 8" ACP WATERLINE, ITEM 206.05.
  - THE COST OF ANY SAND BAGS, JERSEY BARRIERS, STONE DIKES, BYPASS PUMPING, SETTLEMENT BASINS AND ANY ASSOCIATED SITE RESTORATION SHALL BE INCLUDED IN THE TEMPORARY WATERWAY DIVERSION, ITEM 553.030002. SEE STREAM CONSERVATION NOTES ON DWG. ES-1.
  - ALL PLACEMENTS OF SELECT STRUCTURAL FILL OR CRUSHED STONE SHALL BE PLACED IN LOOSE LIFTS NOT TO EXCEED 12" AND SHALL BE COMPACTED TO 95% OF MAXIMUM DRY DENSITY. CONTRACTOR SHALL TAKE SPECIAL CARE TO FULLY FILL & COMPACT THE HAUNCHES UNDER THE PIPE'S CORNER RADII.
  - PRECAST BLOCKS MAY BE "USED" WASTE BLOCKS FROM READY MIX PLANT AS LONG AS THEY ARE FREE FROM CRACKS OR LARGE SPALLS. ENGINEER TO INSPECT AND APPROVE CONDITION PRIOR TO INSTALLATION.



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ERIE COUNTY DEPT. OF PUBLIC WORKS		SHEET NO.	17
DIVISION OF HIGHWAYS		DATE	JAN. 2023
2022 MISC. CULVERT REHABILITATION		SCALE	AS SHOWN
EAST EDEN ROAD (CIN 220-2)		DWG. NO.	ED-3
CULVERT EXCAVATION DETAILS			

FILE NAME = V:\Projects\BHV\14000\Energy Road & Boston State Rd Culverts\CADD\MSTN17.2022.East Eden Road.ED-3.dgn  
DATE/TIME = 12-JAN-2023  
USER = 3481