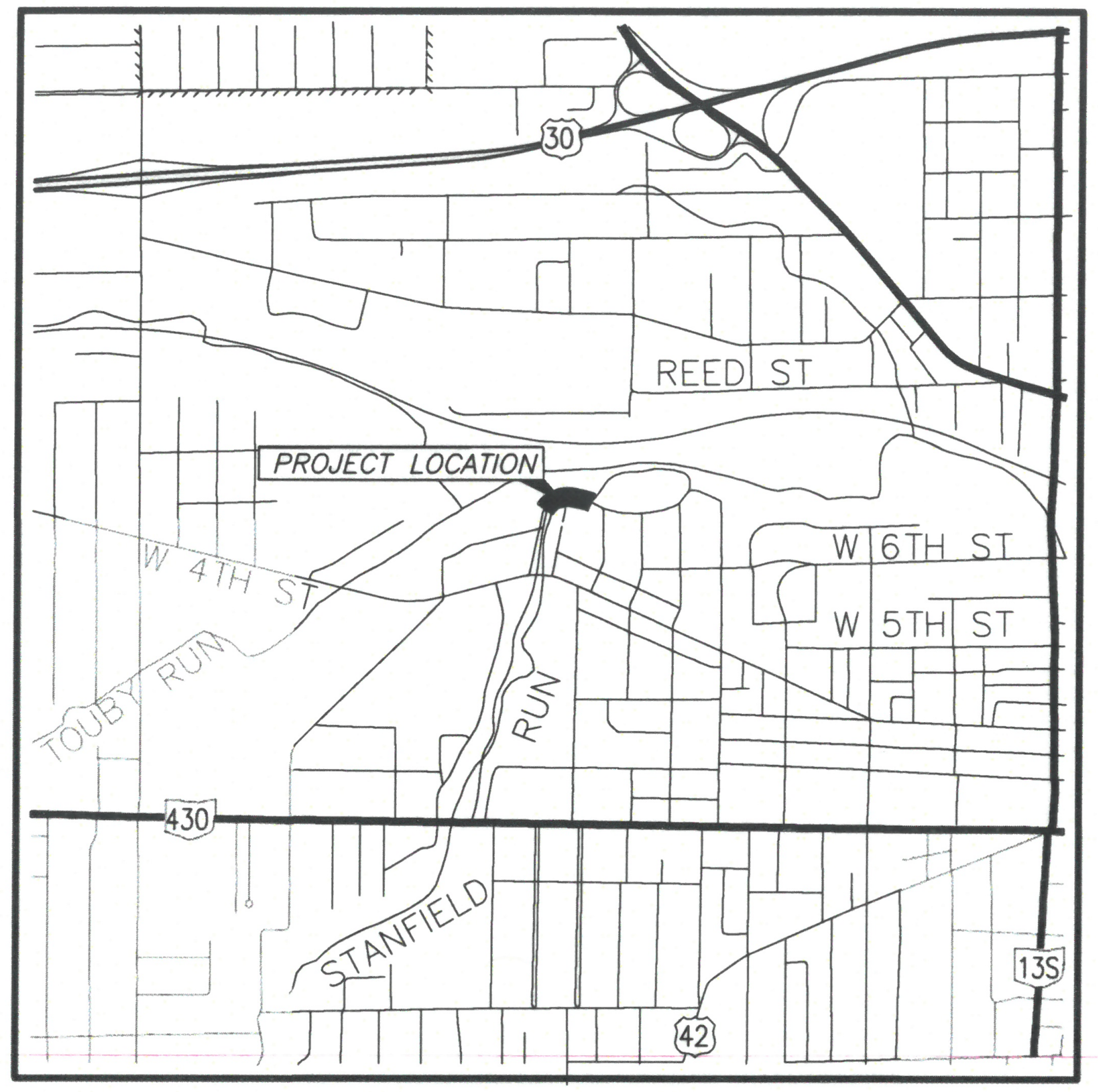


LOCATION MAP

LATITUDE: 40°46'00"N *LONGITUDE: 82°32'19"W*

SCALE: 1" = .25 MILE

0 .5 1 1.5 2

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

DESIGN DESIGNATION

CURRENT ADT (2023)....................................176
DESIGN YEAR ADT (2039)..............................193
DIRECTIONAL DISTRIBUTION.............................60%
DESIGN SPEED...25 MPH
LEGAL SPEED...15 MPH
DESIGN FUNCTIONAL CLASSIFICATION: LOCAL

DESIGN EXCEPTIONS

NONE

CITY OF MANSFIELD
NORTH LAKE PARK BRIDGE REPLACEMENT
RICHLAND COUNTY, OHIO

PROJECT DESCRIPTION

THE REMOVAL AND REPLACEMENT OF AN EXISTING TWIN CELL STRUCTURE UNDER PARK DRIVE, INCLUDING REMOVAL AND REPLACEMENT OF PORTIONS OF THE EXISTING FEEDER PIPE TO NORTH LAKE. THE IMPROVEMENTS INCLUDE CONCRETE CURB, FULL DEPTH PAVEMENT AND STORM SEWER.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	0.37 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.00 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	0.37 ACRES

2023 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, UNLESS OTHERWISE NOTED.

INDEX OF SHEETS:

CITY OF MANSFIELD APPROVAL

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING OF THE ROADWAY TO TRAFFIC, AS NOTED WITHIN. PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

[signature] 2/14/24

ROBERT P. BIANCHI, PE, CITY ENGINEER, CITY OF MANSFIELD, OHIO — *DATE*

STANDARD CONSTRUCTION DRAWINGS

ODOT			
BP–2.1	01/21/22		
BP–2.2	01/15/21		
BP–3.1	01/21/22		
BP–5.1	07/15/22		
DM–1.1	07/17/20		
MH–3	07/16/21		
MT–97.10	04/19/19		
MT–101.60	04/21/23		
MT–101.90	07/17/20		
MT–105.10	01/17/20		

SUPPLEMENTAL SPECIFICATIONS

ODOT	
800	10/20/23
940	04/17/15

NATIONWIDE PERMIT 3

PENDING COMPLETION

ENGINEERS SEAL:

STATE OF OHIO
ROBERT M. WEGER
PE.82935
REGISTERED
PROFESSIONAL ENGINEER

SIGNED: [signature]
DATE: 02-12-2024

PREPARED BY:

EMHT
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com

OHIO Utilities Protection SERVICE
Call Before You Dig
800-362-2764 or 8-1-1
www.oups.org

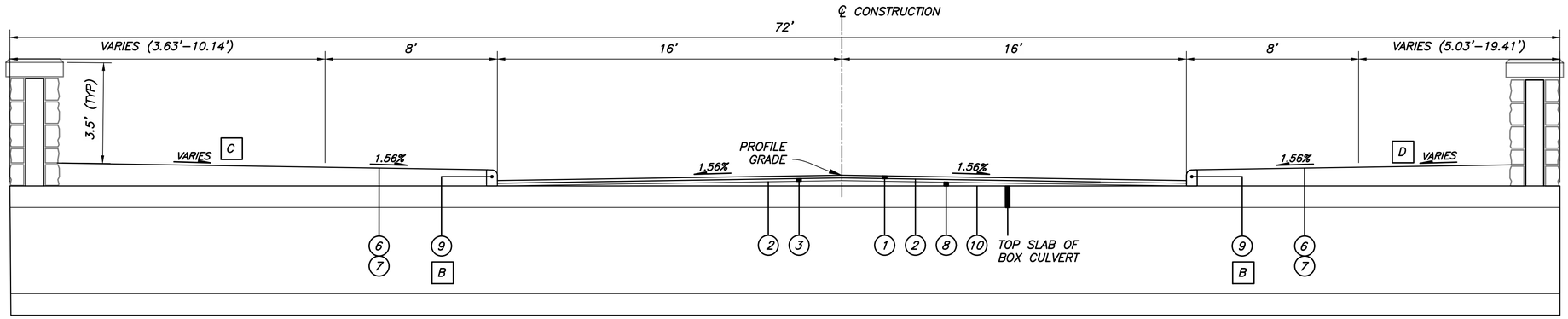
FEDERAL PROJECT NO. **N/A**

PID NO. **N/A**

CONSTRUCTION PROJECT NO. **N/A**

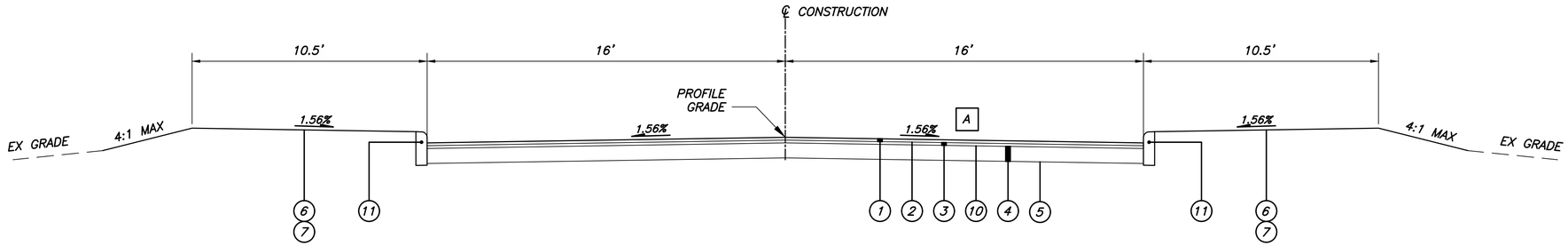
RAILROAD INVOLVEMENT **NONE**

NORTH LAKE PARK BRIDGE REPLACEMENT



TYPICAL 2 – PARK DRIVE

STA. 99+89.90 TO STA. 100+09.81



TYPICAL 1 – PARK DRIVE

STA. 99+43.93 TO STA. 99+89.90
STA. 100+09.81 TO STA. 100+36.49

LEGEND

(1) ITEM 441 – ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70–22M (T=1.5")

(2) ITEM 407 – NON–TRACKING TACK COAT (0.055 GAL/SY)

(3) ITEM 441 – ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448), (T=1.5")

(4) ITEM 305 – CONCRETE BASE (T=8")

(5) ITEM 204 – SUBGRADE COMPACTION AND PROOF ROLLING

(6) ITEM 659 – SEEDING AND MULCHING, CLASS 1

(7) ITEM 659 – TOPSOIL (T=4")

(8) ITEM 441 – VARIABLE THICKNESS ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, (448), PG64–22

(9) ITEM 609 – CURB, TYPE 2–B, AS PER PLAN (SEE SHEET 15 FOR ADDITIONAL DETAILS & NOTES)

(10) ITEM 407 – NON–TRACKING TACK COAT (0.070 GAL/SY)

(11) ITEM 609 – CURB, TYPE 6

[A] CROSS SLOPE VARIES FROM 1.56% AT STA. 100+09.81 TO 3.12% AT STA. 100+36.49

[B] CURB, TYPE 2–2B IS ONLY APPLICABLE OVER CULVERT STRUCTURE

[C] SEE SHEET 18 FOR GRADES AT WALL

[D] SEE SHEET 20 FOR GRADES AT WALL

CALCULATED WAC
CHECKED JAG

TYPICAL SECTIONS

NORTH LAKE PARK BRIDGE REPLACEMENT

GENERAL PLAN NOTES

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

UTILITIES
THE IDENTITY AND LOCATION OF EXISTING UNDERGROUND UTILITIES LOCATED IN AND AROUND THE CONSTRUCTION AREA HAVE BEEN SHOWN AND LABELED ON THE PLANS BY USING INFORMATION PROVIDED BY THE RESPECTIVE UTILITY OWNERS.

PRIOR TO EXCAVATION THE CONTRACTOR SHALL GIVE A 48-HOUR NOTICE TO THE OHIO UTILITIES PROTECTION SERVICE (OUPS) BY CALLING (800) 362-2764. A 48-HOUR NOTICE SHALL ALSO BE GIVEN TO THE OWNERS OF UNDERGROUND UTILITIES SHOWN ON THE PLANS WHO ARE NOT MEMBERS OF A REGISTERED UNDERGROUND PROTECTION SERVICE.

LISTED BELOW ARE UTILITY COMPANIES THAT HAVE FACILITIES LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT AND SUBSCRIBE TO THE OHIO UTILITIES PROTECTION SERVICE.

UTILITY	OWNER	TELEPHONE
WATER & SEWER FACILITIES	CITY OF MANSFIELD ROBERT BIANCHI 30 N DIAMOND ST MANSFIELD, OHIO 44902	(419) 755-9702
ELECTRIC FACILITIES	OHIO EDISON(FIRST ENERGY) ATTN: TRAVIS BALLOG 1717 ASHLAND RD. MANSFIELD, OHIO 44905	(800) 633-4766
GAS FACILITIES	COLUMBIA GAS ATTN: NATE KLAIBER 1021 N. MAIN ST. MANSFIELD, OHIO 44903	(800) 344-4077

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

THE INFORMATION SHOWN CONCERNING EXISTING UTILITIES IS NOT REPRESENTED, WARRANTED OR GUARANTEED TO BE COMPLETE OR ACCURATE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PHYSICALLY LOCATE AND VERIFY IN THE FIELD, ALL UTILITY LOCATIONS AND ELEVATIONS, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO THE BEGINNING OF CONSTRUCTION OPERATIONS.

COORDINATION WITH UTILITIES
THE CONTRACTOR IS ADVISED THAT SOME UTILITY FACILITIES MAY NOT BE CLEAR OF THE CONSTRUCTION AREA DURING THE TIME OF CONSTRUCTION. THESE UTILITY FACILITIES MAY REMAIN IN PLACE OR BE RELOCATED WITHIN THE CONSTRUCTION LIMITS. THE CONTRACTOR SHALL NOT WAIT ON THE RELOCATION'S TO BE COMPLETED, BUT INSTEAD SHALL COOPERATE WITH THE UTILITIES INCLUDING THEIR CONTRACTORS, AND WORK AROUND THE EXISTING FACILITIES. SECTIONS 105.07 AND 107.16 OF THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS REQUIRE THAT THE CONTRACTOR COOPERATE WITH ALL UTILITIES LOCATED WITHIN THE LIMITS OF THIS CONSTRUCTION PROJECT AND TAKE RESPONSIBILITY FOR THE PROTECTION OF THE UTILITY PROPERTY AND SERVICES. NO SEPARATE PAYMENT SHALL BE MADE FOR THE CONTRACTOR TO COORDINATE WITH UTILITY COMPANIES.

THE CONTRACTOR SHALL EXERCISE CAUTION WHEN WORKING IN THE PROXIMITY OF EXISTING AND/OR RELOCATED UTILITY FACILITIES. COSTS TO EXPOSE CONDUIT SHALL BE INCLUDED IN THE ITEMS OF WORK AFFECTED. THE CONTRACTOR IS REMINDED TO KEEP THEIR OUPS TICKET UPDATED ACCORDING TO INDUSTRY PRACTICES.

CONSTRUCTION NOISE
ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, DO NOT OPERATE POWER-OPERATED CONSTRUCTION-TYPE DEVICES BETWEEN THE HOURS OF 7:00 PM AND 7:00 AM. IN ADDITION, DO NOT OPERATE AT ANY TIME ANY DEVICE IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.

CONSTRUCTION LIMITS
THE CONSTRUCTION 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 CONSTRUCTION LIMITS.

CLEARING AND GRUBBING
ALTHOUGH IT MAY NOT BE LIMITED TO THE SPECIFIED TREES OR STUMPS MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

ITEM 616 – DUST CONTROL, AS PER PLAN
THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING DUST CONTROL MEASURES IN ACCORDANCE WITH ODOT C&MS 616. DUST CONTROL OPERATIONS SHALL BE PERFORMED ON A PERIODIC BASIS AND/OR AS DIRECTED BY THE CITY TO ALLEVIATE AND/OR PREVENT THE DUST NUISANCE ORIGINATING WITHIN THE PROJECT WORK LIMITS. CALCIUM CHLORIDE WILL NOT BE PERMITTED. THE COST FOR ALL DUST CONTROL INCLUDING BUT NOT LIMITED TO WATER, AND STREET SWEEPING SHALL BE INCLUDED IN ITEM 616 DUST CONTROL, AS PER PLAN AS A LUMP SUM FOR THE DURATION OF THE PROJECT.

ITEM 204 – SUBGRADE COMPACTION AND PROOF ROLLING
ITEM 204 – EXCAVATION OF SUBGRADE
CONSTRUCT THE SUBGRADE AS FOLLOWS AND IN THE FOLLOWING SEQUENCE:

1. SHAPE THE SUBGRADE TO WITHIN 0.2 FEET OF THE PLAN SUBGRADE ELEVATION.

2. EXCAVATE AND REPLACE UNSUITABLE SUBGRADE BEFORE PROOF ROLLING. UNSUITABLE SUBGRADE INCLUDES UNSUITABLE SOIL (A-4B, A-2-5, A-5, A-7-5, AND SOIL WITH A LIQUID LIMIT GREATER THAN 65) AND ANY COAL, SHALE, OR ROCK WHICH NEEDS TO BE REMOVED ACCORDING TO SECTION 204.05 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (C&MS).

IF THERE IS UNSUITABLE SUBGRADE IN A SHALLOW FILL LOCATION, EXCAVATE AND REPLACE THE UNSUITABLE SUBGRADE BEFORE CONSTRUCTING THE SHALLOW FILL AND SHAPING THE SUBGRADE.

3. COMPACT THE SUBGRADE ACCORDING TO C&MS 204.03.

4. THE ENGINEER WILL IDENTIFY THE ACTUAL LIMITS OF EXCAVATION FOR UNSTABLE SUBGRADE BASED ON THE PROOF ROLLING RESULTS AND VISUAL OBSERVATIONS.

PROOF ROLL THE COMPACTED SUBGRADE ACCORDING TO C&MS 204.06.

5. EXCAVATE UNSTABLE SUBGRADE AS DIRECTED BY THE ENGINEER AND STABILIZE BY REPLACING WITH THE SPECIFIED MATERIALS ACCORDING TO C&MS 204.07. EXCAVATIONS WILL EXTEND 18 INCHES BEYOND THE EDGE OF THE SURFACE OF THE PAVEMENT, PAVED SHOULDERS, OR PAVED MEDIANS.

6. PROOF ROLL THE STABILIZED AREAS ACCORDING TO C&MS 204.06 TO VERIFY STABILITY.

7. FINE GRADE THE SUBGRADE TO THE SPECIFIED GRADE.

THE FOLLOWING QUANTITIES FOR EXCAVATING THE UNSUITABLE SUBGRADE AND UNSTABLE SUBGRADE HAVE BEEN INCLUDED FOR USE AS DIRECTED BY THE ENGINEER FOR THE WORK ABOVE:

ITEM 204 – EXCAVATION OF SUBGRADE	30 CU. YD.
ITEM 204 – GRANULAR MATERIAL, TYPE B	30 CU. YD.

DRAINAGE & EROSION CONTROL NOTES

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

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

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

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEM.

REVIEW OF DRAINAGE FACILITIES
PRIOR TO THE START OF WORK AND AGAIN BEFORE FINAL ACCEPTANCE, PERFORM AN INSPECTION WITH REPRESENTATIVES OF THE CITY, CONTRACTOR, AND LOCALCS OF ALL EXISTING DRAINAGE FACILITIES THAT ARE TO REMAIN IN SERVICE WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCES SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE CITY.

CONFIRM ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES ARE MAINTAINED AND LEFT IN A CONDITION COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. THE CONTRACTOR IS RESPONSIBLE TO CORRECT ANY CHANGE IN THE CONDITION RESULTING FROM THEIR OPERATIONS AS DIRECTED AND APPROVED BY THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEMS.

MANHOLES, CATCH BASINS AND INLETS REMOVED OR ABANDONED
CAREFULLY REMOVE AND STORE ALL CASTINGS WITHIN THE RIGHT OF WAY FOR SALVAGE BY CITY OF MANSFIELD FORCES.

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

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

659 – TOPSOIL (T=4")	110 CU. YD.
659 – SEEDING AND MULCHING, CLASS 1	930 SQ. YD.
659 – REPAIR SEEDING AND MULCHING	100 SQ. YD.
659 – COMMERCIAL FERTILIZER	0.13 TON
659 – WATER	6 M. GAL.

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

PROJECT-SPECIFIC NOTES

LAKE FEEDER PIPE – WATER MAIN SPECIFICATIONS
THE FOLLOWING DETAILS ARE ASSOCIATED WITH THE FEEDER PIPE IMPROVEMENT FROM STANFIELD RUN TO THE NORTH LAKE INLET. DUCTILE IRON WATERMAIN PIPE AND APPURTENANCES ARE BEING UTILIZED TO CONTROL FLOW TO THE POND BETWEEN MANHOLES 1 AND 10. INSTALLATION OF ALL WATERMAIN PIPE, FITTINGS, AND APPURTENANCES SHALL CONFORM TO ODOT CONSTRUCTION & MATERIAL SPECIFICATIONS ITEM 638 FOR THE USE OF STORM SEWER CONTROL.

DUCTILE IRON PIPE AND FITTINGS
ATTN. PIPE FURNISHED SHALL CONFORM WITH THE FOLLOWING SPECIFICATIONS OF THE AMERICAN NATIONAL STANDARDS INSTITUTE AND THE AMERICAN WATER WORKS ASSOCIATION:

ANSI A21.51 AMERICAN NATIONAL STANDARD FOR DUCTILE-IRON PIPE, (AWWA C151) CENTRIFUGALLY CAST, FOR WATER
ANSI A21.50 AMERICAN NATIONAL STANDARD FOR THICKNESS (AWWA C150) DESIGN OF DUCTILE-IRON PIPE.

OUTSIDE COATING SHALL BE AN ASPHALTIC COATING APPROXIMATELY ONE MIL THICK. THE PIPE SHALL BE CEMENT-MORTAR LINED AND SHALL CONFORM WITH THE FOLLOWING SPECIFICATION OF THE AMERICAN NATIONAL STANDARDS INSTITUTE AND THE AMERICAN WATER WORKS ASSOCIATION:

ANSI A21.4 AMERICAN NATIONAL STANDARD FOR CEMENT-MORTAR (AWWA C104) LINING FOR DUCTILE-IRON PIPE AND FITTINGS FOR WATER.

JOINTS.
MECHANICAL JOINTS SHALL CONFORM WITH THE FOLLOWING SPECIFICATION OF THE AMERICAN NATIONAL STANDARDS INSTITUTE AND THE AMERICAN WATER WORKS ASSOCIATION:

ANSI A21.11 AMERICAN NATIONAL STANDARD FOR RUBBER-GASKET (AWWA C111) JOINTS FOR DUCTILE-IRON PRESSURE PIPE AND FITTINGS.

MECHANICAL JOINTS SHALL HAVE THE SAME PRESSURE RATING AS THE PIPE OR FITTINGS OF WHICH THEY ARE A PART. MECHANICAL JOINTS SHALL BE USED ON ALL FITTINGS AND VALVES.

FITTINGS.
FITTINGS SHALL BE DUCTILE IRON AND SHALL CONFORM WITH THE FOLLOWING SPECIFICATIONS OF THE AMERICAN NATIONAL STANDARDS INSTITUTE AND THE AMERICAN WATER WORKS ASSOCIATION:
ANSI A21.53 AMERICAN NATIONAL STANDARD FOR DUCTILE-IRON (AWWA C153) COMPACT FITTINGS FOR WATER SERVICE.

OUTSIDE COATING SHALL BE AN ASPHALTIC COATING APPROXIMATELY ONE MIL THICK. THE FITTING SHALL BE CEMENT-MORTAR LINED AND SHALL CONFORM WITH THE FOLLOWING SPECIFICATION OF THE AMERICAN NATIONAL STANDARDS INSTITUTE AND THE AMERICAN WATER WORKS ASSOCIATION:

ANSI A21.4 AMERICAN NATIONAL STANDARD FOR CEMENT-MORTAR (AWWA C104) LINING FOR DUCTILE-IRON PIPE AND FITTINGS FOR WATER.

THE JOINT SHALL CONFORM WITH THE FOLLOWING SPECIFICATION OF THE AMERICAN NATIONAL STANDARDS INSTITUTE AND THE AMERICAN WATER WORKS ASSOCIATION:

ANSI A21.11AMERICAN NATIONAL STANDARD FOR RUBBER-GASKET (AWWA C111)JOINTS FOR DUCTILE-IRON PRESSURE PIPE AND FITTINGS.

THICKNESS CLASS. PIPE AND FITTINGS FURNISHED UNDER THIS ITEM SHALL BE OF THE THICKNESS CLASS 53.

GATE VALVE AND VALVE BOX

VALVES.

VALVES FURNISHED SHALL CONFORM WITH THE FOLLOWING SPECIFICATIONS OF THE AMERICAN WATER WORKS ASSOCIATION:

AWWA C509 RESILIENT-SEATED GATE VALVES FOR WATER SUPPLY SERVICE

UPON DELIVERY AT THE WORK SITE, OPEN VALVES TO PREVENT THE COLLECTION OF WATER IN THE VALVE. CLEAN THE INTERIORS OF VALVES OF ALL FOREIGN MATTER AND INSPECT THEM IN BOTH THE OPEN AND CLOSED POSITION BEFORE INSTALLATION.

GATE VALVES SHALL BE FURNISHED WITH NON-RISING STEMS (NRS). ALL VALVES SHALL OPEN BY TURNING THE STEM IN A COUNTER-CLOCKWISE DIRECTION. VALVES SHALL HAVE MECHANICAL JOINT ENDS. VALVES SHALL BE FURNISHED WITH A 2 INCH SQUARE OPERATING NUT. THE OPERATING NUT SHALL BE MARKED INDICATING THE DIRECTION TO OPEN WITH THE WORD "OPEN" AND AN ARROW.

WITH THE VALVE OPENED, AN UNOBSTRUCTED WATERWAY SHALL BE AFFORDED, THE DIAMETER OF WHICH IS NOT LESS THAN THE FULL NOMINAL DIAMETER OF THE VALVE. THE SEAT AREA SHALL BE FREE OF ALL POCKETS, CAVITIES AND DEPRESSIONS.

ONLY 316 STAINLESS STEEL NUTS AND BOLTS SHALL BE USED.

VALVES SHALL BE SUPPLIED WITH O-RING SEALS AT ALL PRESSURE RETAINING JOINTS. NO FLAT GASKETS SHALL BE ALLOWED.

THE NON-RISING STEM SHALL BE CAST COPPER ALLOY WITH INTEGRAL COLLARS. ALL STEMS SHALL OPERATE WITH COPPER ALLOY STEM NUTS INDEPENDENT OF THE WEDGE.

THE VALVES SHALL HAVE AN IRON BODY, BONNET, AND O-RING PLATE. THE WEDGE SHALL BE FULLY ENCAPSULATED WITH RUBBER.

THE SEALING RUBBER SHALL BE PERMANENTLY BONDED TO THE WEDGE PER ASTM D429.

ALL NRS SHALL HAVE TWO O-RINGS LOCATED ABOVE THRUST COLLAR AND ONE BELOW. THE UPPER O-RINGS SHALL BE REPLACEABLE WITH VALVE FULLY OPENED AND SUBJECTED TO FULL PRESSURE. THE STEMS ON 2 INCH TO 12 INCH NRS VALVES SHALL HAVE A LOW TORQUE THRUST BEARING LOCATED BOTH ABOVE AND BELOW THE STEM COLLAR TO REDUCE FRICTION DURING OPERATION.

THE BODY, BONNET AND O-RING PLATE SHALL BE COATED BOTH ON THE INTERIOR AND EXTERIOR WITH FUSION BONDED EPOXY. EPOXY SHALL BE CERTIFIED PER NSF 61 AND SHALL CONFORM WITH THE FOLLOWING SPECIFICATIONS OF THE AMERICAN WATER WORKS ASSOCIATION:

AWWA C550 PROTECTIVE INTERIOR COATINGS FOR VALVES AND HYDRANTS

EACH VALVE SHALL HAVE THE MANUFACTURER'S NAME, THE PRESSURE RATING, AND THE YEAR IN WHICH IT WAS MANUFACTURED CAST ON THE BODY. PRIOR TO SHIPMENT FROM THE FACTORY, EACH VALVE SHALL BE HYDROSTATICALLY PRESSURE TESTED

VALVE BOXES SHALL BE CAST IRON, BUFFALO STYLE, TWO-PIECE, FIVE AND ONE QUARTER INCH SLIDING TYPE SHAFT. EACH BOX SHALL BE FURNISHED WITH A LID HAVING THE WORD "WATER" CAST THEREON.

OUTSIDE COATING SHALL BE AN ASPHALTIC COATING APPROXIMATELY ONE MIL THICK.

CENTER THE VALVE BOX AND SET IT IN A VERTICAL POSITION DIRECTLY OVER THE VALVE NUT IN SUCH A MATTER THAT THE BOX DOES NOT TRANSMIT SHOCK OR STRESS TO THE VALVE. SET THE BASE OF THE VALVE BOX FIRST, AND SUPPORT IT WITH MINIMUM BACKFILL AT LEAST TWO INCHES IN THICKNESS. DO NOT ALLOW THE BASE TO REST DIRECTLY ON THE VALVE OR MAIN.

SPECIAL CARE SHALL BE EXERCISED TO PREVENT DISPLACEMENT OF THE BOX. CAREFULLY TAMP BACKFILL AROUND THE VALVE BOX TO A DISTANCE OF THREE FEET ON ALL SIDES OR TO THE UNDISTURBED FACE OF THE TRENCH IF CLOSER. SET THE VALVE BOX COVER FLUSH WITH THE GROUND LINE OR FINISHED PAVED SURFACE.

THE BOX SHALL BE CLEANED OF ALL STONES AND DEBRIS WHICH MAY INTER-FERE WITH THE OPERATION OF THE VALVE.

NOTES CONTINUED ON SHEET 4

CALCULATED WAC
CHECKED JAG

GENERAL NOTES

NORTH LAKE PARK BRIDGE REPLACEMENT

PROJECT–SPECIFIC NOTES (CONTINUED)

ITEM 638 – WATER WORK, MISC.: 6 INCH WATERLINE CAPPED AND ABANDONED

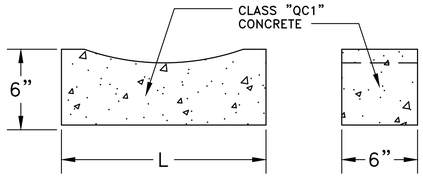
THIS ITEM OF WORK SHALL CONSIST OF ABANDONING A 6 INCH WATER LINE WHICH SERVES A FIRE HYDRANT NORTH OF PARK DRIVE, AND REMOVAL OR ABANDONMENT OF WATER VALVES AND FIRE HYDRANT PER THE FOLLOWING DETAILS.

THE CONTRACTOR SHALL CLOSE THE VALVE ON THE 6 INCH WATER LINE AT THE 8 INCH WATER MAIN ALONG THE SOUTH SIDE OF PARK DRIVE. CUT THE EXISTING PIPE AT THE POINT DESIGNATED ON THE PLANS OR BY THE ENGINEER. USE A CUTTING METHOD APPROVED BY THE ENGINEER. USE EITHER MECHANICAL JOINT OR SLIP JOINT PLUGS AND/OR CAPS, AS REQUIRED IN CONNECTION WITH THE WORK UNDER THIS ITEM, MANUFACTURED IN ACCORDANCE WITH AWWA SPECIFICATION C–110.

AFTER INSTALLING THE PLUG OR CAP, INSTALL A BACKING OR RESTRAINT SYSTEM TO ADEQUATELY BRACE THE PLUG OR CAP. THE CITY WILL ALLOW TEMPORARY BACKING AGAINST THE ABANDONED PIPE. INSTALL THE PERMANENT BACKING IN ACCORDANCE WITH THRUST BLOCK DETAIL ON THIS SHEET. AFTER PLUGGING OR CAPPING THE WATER MAIN AND INSTALLING PERMANENT BACKING, BACKFILL THE HOLE AS SPECIFIED IN THE TRENCH DETAIL BELOW FOR WATERLINE UNDER PAVEMENT.

REMOVE THE FIRE HYDRANT FOR STORAGE. THE CONTRACTOR SHALL CONTACT THE CITY ENGINEER FOR DELIVERY OF THE REMOVED FIRE HYDRANT. REMOVE ALL VISIBLE VALVE BOXES AND CURB BOXES ON THE ABANDONED WATER MAIN NO LONGER IN SERVICE. THE CITY WILL PAY FOR THE REQUIRED SURFACE RESTORATION UNDER THE APPROPRIATE BID ITEM(S). THE 6 INCH VALVE AT THE FIRE HYDRANT SHALL BE REMOVED FOR DISPOSAL. THE 6 INCH VALVE AT THE 8 INCH MAIN SHALL BE REMAIN SHUT IN PLACE AND ABANDONED AND ASSOCIATED VALVE BOX IN THE PAVEMENT SHALL BE REMOVED.

ALL LABOR, MATERIALS, AND INCIDENTALS REQUIRED TO COMPLETE THE WORK DESCRIBED ABOVE SHALL BE INCLUDED IN THE FOLLOWING UNIT COST FOR WATER WORK, MISC.: ITEM 638, 6 INCH WATERLINE CAPPED AND ABANDONED AS A LUMP SUM.

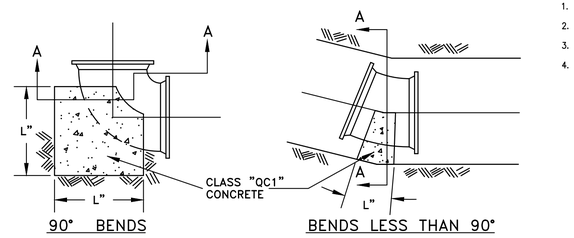


GATE VALVES

SIZE OF VALVE	L	VOLUME CU–FT
3"	15"	0.31
4"	16"	0.33
6"	17"	0.36
8"	20"	0.42
12"	24"	0.50
16"	30"	0.63

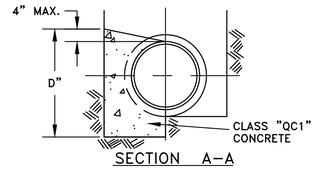
CONCRETE VALVE SUPPORTS

SIZE OF PIPE	DEGREE OF BEND											
	11.25°			22.50°			45°			90° (HORZ. ONLY)		
	L"	D"	Vc.f.	L"	D"	Vc.f.	L"	D"	Vc.f.	L"	D"	Vc.f.
3"	4	3	0.1	6	4	0.2	10	4	0.3	10	4	0.3
4"	5	4	0.2	9	5	0.4	14	5	0.6	14	5	0.6
6"	8	6	0.5	12	7	0.7	20	8	1.4	18	9	1.7
8"	9	8	0.7	16	9	1.4	24	12	2.7	25	11	4.0
12"	14	12	1.8	24	14	3.6	36	18	6.8	32	18	10.7
16"	18	16	3.4	32	18	6.7	36	32	13.4	41	26	25.6
STEEL WILL BE USED AS REQUIRED BY ENGINEER												



NOTES:

1. BACKER DESIGNED FOR 3000 PSF SOIL BEARING.
2. CONCRETE TO BE PLACED AGAINST UNDISTURBED EARTH.
3. PROVIDE CLEARANCE FOR REMOVAL OF BOLTS.

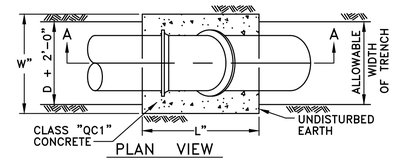


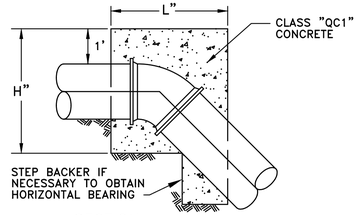
BACKING FOR BENDS

PIPE SIZE	11.25°				22.5°				45°			
	L"	W"	H"	Vol.	L"	W"	H"	Vol.	L"	W"	H"	Vol.
3"	12	18	12	1.5	13	25	16	3.0	18	30	19	5.9
4"	12	24	16	2.6	16	30	18	5.0	22	36	24	11.0
6"	12	48	18	6.0	15	43	36	13.4	30	55	24	22.9
8"	12	63	24	10.5	18	57	34	20.2	36	57	33	39.2
12"	20	54	36	22.6	37	62	37	49.0	48	62	51	87.9
16"	31	65	38	44.3	60	65	39	88.1	65	65	65	159.2

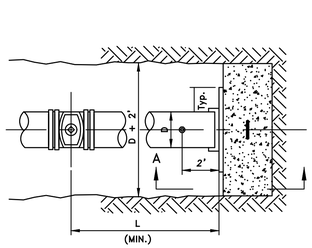
NOTES:

1. VOLUMES GIVEN IN CUBIC FEET.
2. BACKER TO BE CENTERED HORIZONTALLY ON BEND.
3. STEEL WILL BE USED AS REQUIRED BY THE ENGINEER.
4. WHERE POLYETHYLENE ENCASEMENT IS REQUIRED, ALL GLANDS & BOLTS SHALL BE WRAPPED PRIOR TO PLACEMENT OF CONCRETE BLOCKING.

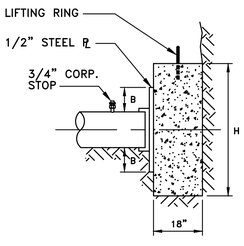




BACKING FOR VERTICAL BENDS

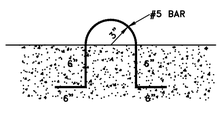


PLAN VIEW



SECTION A–A

PIPE DIAMETER (D)	H	B	L	VOLUME CU–FT
3"	5"	1"	10'	1.43
4"	6"	1"	10'	1.76
6"	8"	1"	10'	2.52
8"	12"	1"	10'	4.00
12"	23"	3"	18'	8.64
16"	37"	3"	18'	15.39

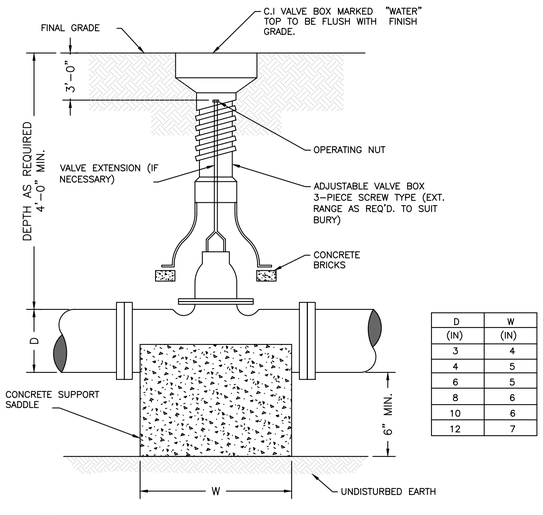


LIFT RING DETAIL

NOTES:

1. BACKER DESIGNED FOR 3000 PSF SOIL BEARING.
2. END OF PIPE CAPPED OR PLUGGED.
3. GREASE STEEL PLATE WHERE IN CONTACT WITH CONCRETE BACKER.
4. PLACE CONCRETE AGAINST UNDISTURBED SOIL.
5. THOROUGHLY COMPACT BACKFILL BETWEEN VALVE AND END OF PIPE.

THRUST BLOCK DETAIL END OF PIPE

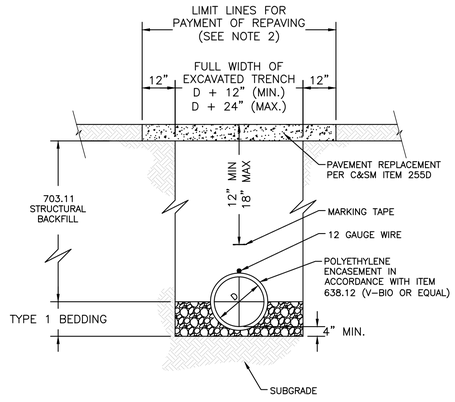


D (IN)	W (IN)
3	4
4	5
6	5
8	6
10	6
12	7

NOTES:

1. VISQUEEN SHALL BE PLACED IN A MANNER SUCH THAT CONCRETE BLOCKING DOES NOT HAVE DIRECT CONTACT WITH VALVE.

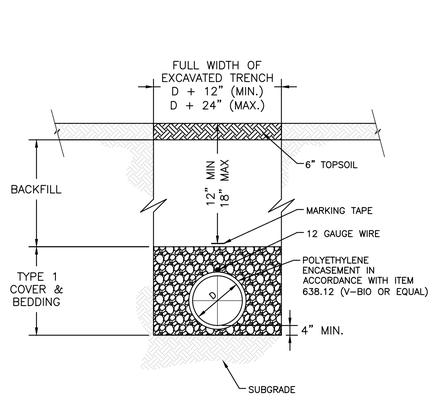
STANDARD VALVE BOX
NOT TO SCALE



TRENCH DETAIL FOR WATERLINE INSTALLED TYPE A BACKFILL
NOT TO SCALE

NOTES:

1. PAVED AREAS INCLUDE:
   - ANY ROAD (ASPHALT, CONCRETE, GRAVEL)
   - ANY DRIVEWAY
   - ANY PARKING LOT
   - ANY OTHER AREA SUBJECT TO TRAFFIC
2. IN AREAS WHERE DISTANCE BETWEEN CENTERLINE OF PIPE AND FACE OF CURB/GUTTER EXCEEDS "D"+2', PAVEMENT RESTORATION QUANTITIES SHALL BE COORDINATED WITH THE ENGINEER TO ALLOW SURFACE REPAIR TO EXTEND TO THE FACE OF CURB/GUTTER.



TRENCH DETAIL FOR WATERLINE INSTALLED TYPE B BACKFILL
NOT TO SCALE

BACKFILL:

1. TYPE A, SHALL BE COMPACTED GRANULAR MATERIAL AS SPECIFIED IN ODOT CMS ITEM 304.
2. TYPE B SHALL BE NATURAL SOIL FREE FROM STONES LARGER THAN 2 INCHES ACROSS THEIR GREATEST DIMENSION, TOPSOIL, VEGETATION, DEBRIS, RUBBISH OR FROZEN MATERIAL.
3. TYPE C SHALL BE LOW STRENGTH MORTAR BACKFILL, TYPE 1 AS SPECIFIED IN ODOT CMS ITEM 613.

BEDDING:

1. NO. 8 GRAVEL IN ACCORDANCE WITH ODOT CMS TABLE 703.01 SHALL BE UTILIZED.
2. TYPE 2–NATIVE SOIL FREE FROM STONES LARGER THAN 2 INCHES ACROSS THEIR GREATEST DIMENSIONS, TOP SOIL, VEGETATION, DEBRIS OR FROZEN MATERIAL.
3. TYPE 3–CONCRETE BEDDING, CLASS QC1 CONCRETE PER ODOT CMS 499.

CALCULATED WAC CHECKED JAG

GENERAL NOTES

NORTH LAKE PARK BRIDGE REPLACEMENT

ITEM 614, MAINTAINING TRAFFIC, AS PER PLAN

GENERAL

PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL SUBMIT A SCHEDULE OF OPERATIONS IN WRITING TO THE CITY OF MANSFIELD FOR APPROVAL. THIS SCHEDULE SHALL BE IN ACCORDANCE WITH THE MAINTENANCE OF TRAFFIC PLANS DETAILED WITHIN. UPON RECEIPT OF THE APPROVED SCHEDULE OF OPERATIONS, THE CONTRACTOR SHALL OBTAIN THE NECESSARY STREET CLOSURE PERMITS FROM THE CITY. A COPY OF THE PERMITS SHALL BE RETAINED ON THE JOB AT ALL TIMES.

ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED, MAINTAINED AND REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH THE "OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR CONSTRUCTION AND MAINTENANCE OPERATIONS" (CURRENT EDITION) AND "CMS 614" (AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS), COPIES OF WHICH ARE AVAILABLE FROM THE OHIO DEPARTMENT OF TRANSPORTATION, 1980 WEST BROAD STREET, COLUMBUS, OHIO 43223.

THE ROADWAY SHALL NOT BE OPENED TO TRAFFIC UNTIL PERMANENT TRAFFIC CONTROLS ARE IN PLACE, OR UNTIL TEMPORARY TRAFFIC CONTROLS, APPROVED BY THE ENGINEER, ARE INSTALLED. THE CONTRACTOR ASSUMES ALL LIABILITY FOR THE PREMATURE REMOVAL OF TEMPORARY TRAFFIC CONTROLS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REINSTALLATION AND/OR REPLACEMENT OF ALL PERMANENT TRAFFIC CONTROL DEVICES DAMAGED OR REMOVED DURING THE CONSTRUCTION. THE CONTRACTOR SHALL ASSUME ALL LIABILITY FOR MISSING, DAMAGED AND IMPROPERLY PLACED TRAFFIC CONTROL DEVICES.

ANY WORK DONE BY THE CITY OF MANSFIELD FOR THE INSTALLATION, RELOCATION, REMOVAL AND/OR REPLACEMENT OF PERMANENT TRAFFIC CONTROL DEVICES AND PAVEMENT MARKINGS, AS A RESULT OF NEGLIGENCE OF THE CONTRACTOR, SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

THE CONTRACTOR SHALL PROVIDE A 24 HOUR CONTACT, WHO WILL BE RESPONSIBLE FOR MAINTENANCE OF TRAFFIC FOR THE DURATION OF THE PROJECT.

CONSTRUCTION OPERATIONS SHALL NOT BEGIN UNTIL ALL TEMPORARY TRAFFIC CONTROL DEVICES ARE IN PLACE AND APPROVED BY THE ENGINEER AND THE CITY.

ACCESS TO ALL ADJOINING PROPERTIES SHALL BE MAINTAINED AT ALL TIMES. ACCESS FOR MAIL DELIVERY, EMERGENCY AND SERVICE VEHICLES SHALL NOT BE DISRUPTED. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH THE ENGINEER AND THE OWNERS OF THE ABUTTING PROPERTIES IN ADVANCE (10 DAYS) OF ANY OPERATIONS WHICH AFFECT ACCESS.

MAINTENANCE OF ALL TRAFFIC CONTROL DEVICES INCLUDING DRUMS, SIGNS, BARRICADES, SIGN BOARDS, DETOUR SIGNAGE, ETC., SHALL BE THE CONTRACTOR'S RESPONSIBILITY. ALL SIGNS AND BARRICADES, VERTICAL PANELS, AND DRUMS WILL BE LIKE NEW AND IN GOOD CONDITION IN CONFORMANCE WITH "QUALITY STANDARDS FOR WORK ZONE TRAFFIC CONTROL DEVICES" PUBLISHED BY ATSSA.

DRUMS SHALL BE PLACED AS FOLLOWS: 40' C/C ON TANGENTS, 20' C/C ON TAPERS, AND 8' C/C IN RADII AND CLOSURES.

STEADY-BURNING TYPE "B" LIGHTS SHALL BE REQUIRED ON ALL BARRICADES IN USE AT NIGHT. ALL ADVANCE SIGNING SHALL BE EQUIPPED WITH TYPE "A" FLASHING LIGHTS AND (2) ORANGE FLAGS (24"X24"). ONLY 42" CONES ARE APPROVED FOR USE AT NIGHT. LIGHTS ARE NOT REQUIRED ON SIGNS ONLY IN PLACE DURING DAYLIGHT HOURS. LIGHTS SHALL NOT BE PLACED ON ORANGE DRUMS.

THE TRACKING OR SPILLAGE OF MUD, DIRT OR DEBRIS UPON PUBLIC STREETS IS PROHIBITED AND ANY SUCH OCCURRENCE SHALL BE CLEANED UP IMMEDIATELY BY THE CONTRACTOR.

DROP OFFS WITHIN THE WORK ZONE SHALL CONFORM TO THE REQUIREMENTS SET FORTH ON ODOT STANDARD CONSTRUCTION DRAWING MT-101.90.

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. 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 SHOULD LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, DETOUR ROUTES IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER. ANY UNFORESEEN CONDITIONS NOT SPECIFIED IN THE PLANS REQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE NOTIFICATION TIME FRAME TABLE.

NOTIFICATION TIME FRAME TABLE

ITEM	DURATION OF CLOSURE	NOTIFICATION DUE TO PROJECT ENGINEER
ROAD CLOSURES	>= 2 WEEKS	14 BUSINESS DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	7 BUSINESS DAYS PRIOR TO CLOSURE
	< 12 HOURS	2 BUSINESS DAYS PRIOR TO CLOSURE
LANE CLOSURES/ RESTRICTIONS	>= 2 WEEKS	7 BUSINESS DAYS PRIOR TO CLOSURE
	< 2 WEEKS	2 BUSINESS DAYS PRIOR TO CLOSURE

DRIVEWAYS

SHORT-TERM CLOSURE OF DRIVEWAYS WILL BE PERMITTED, AS DIRECTED BY THE ENGINEER, FOR THE PROTECTIONS OF COMPLETED ASPHALT COURSES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE CONSTRUCTION ACTIVITIES WITH THE ENGINEER AND WITH THE OWNERS OF ABUTTING PROPERTIES IN ADVANCE OF ANY OPERATIONS WHICH AFFECT ACCESS. ACCESS TO ANY BUSINESS SHALL NOT BE PREVENTED DURING PEAK HOURS.

PRIOR TO ANY DRIVEWAY CLOSURES FOR EXCAVATION, THE CONTRACTOR SHALL COORDINATE WITH THE PRIVATE PROPERTY OWNERS. THE CONTRACTOR SHALL SUBMIT IN WRITING A SCHEDULE TO THE PROPERTY OWNERS AFFECTED BY THE WORK. A COPY OF THE LETTER SHALL BE PROVIDED TO THE CITY.

PEDESTRIAN TRAFFIC

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND SAFE MOVEMENT OF PEDESTRIANS THROUGH, AROUND, OR DETOURED AWAY FROM THE CONSTRUCTION SITE. TRAFFIC CONTROL FOR PEDESTRIAN MOVEMENTS SHALL BE AS PER FIGURES TA-28 AND TA-29 OF PART VI OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND AS DETAILED WITHIN.

THE SAFETY OF PEDESTRIAN TRAFFIC SHALL BE CONSIDERED AT ALL TIMES IN THE PROVISION OF TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS AND NOTES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE LIGHTS, SIGNS, BARRICADES, FENCE, AND OTHER WARNINGS TO PHYSICALLY SEPARATE THE PEDESTRIAN FROM HAZARDS INCIDENTAL TO THE CONSTRUCTION AND DEMOLITION OPERATIONS.

ANY COSTS ASSOCIATED WITH MAINTAINING PEDESTRIAN TRAFFIC SHALL BE INCIDENTAL TO ITEM 614, MAINTAINING TRAFFIC, AS PER PLAN.

LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF ODOT CMS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

- DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

IN ADDITION TO THE REQUIREMENTS OF ODOT CMS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

- FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP). IN GENERAL, LEOS SHOULD BE POSITIONED AT THE POINT OF LANE RESTRICTION OR ROAD CLOSURE AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH INTERSECTIONS IN WORK ZONES.

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

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. ONCE THE LEO HAS COMPLETED THE DUTIES DESCRIBED ABOVE AND STILL HAS TIME REMAINING ON HIS/HER SHIFT, THE LEO MAY BE ASKED TO PATROL THROUGH THE WORK ZONE (WITH FLASHING LIGHTS OFF) OR BE PLACED AT A LOCATION TO DETER MOTORISTS FROM SPEEDING. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS MAY BE REQUESTED THROUGH THE MANSFIELD POLICE DEPARTMENT. A TWO WORKING DAY NOTICE IS NEEDED FOR EACH REQUEST THROUGH THE SPECIAL DUTY OFFICE, UNLESS A SUBSTANTIAL EMERGENCY EXISTS.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR UNDER THE LUMP SUM FOR ITEM 614, MAINTAINING TRAFFIC, AS PER PLAN.

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF AN LEO ARE INCLUDED IN THE LUMP SUM.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE MAINTENANCE OF TRAFFIC PLANS FOR ANY PROPOSED IMPROVEMENTS NOT SPECIFICALLY COVERED BY THE MAINTENANCE OF TRAFFIC DETAILS PROVIDED WITHIN. COST FOR FURNISHING THESE PLANS AND THE SUBSEQUENT MAINTENANCE OF TRAFFIC SET UPS WILL BE CONSIDERED INCIDENTAL TO ITEM 614 MAINTAINING TRAFFIC, AS PER PLAN.

PAYMENT

PAYMENT FOR ALL MAINTENANCE OF TRAFFIC ITEMS, INCLUDING THE FURNISHING, INSTALLATION AND MAINTENANCE OF BUT NOT LIMITED TO: DETOUR SIGNS, ALTERNATE ROUTE SIGNAGE, FLASHING ARROW PANELS, SIGNS, SIGN SUPPORTS, FLAGS, FLAGGERS, BARRICADES, NOTICE OF CLOSURE SIGNS, DRUMS, CONES, LAW ENFORCEMENT OFFICER WITH PATROL CAR, PORTABLE CHANGEABLE MESSAGE SIGNS, CONSTRUCTION FENCING, TEMPORARY PAVEMENT MARKINGS, TRAFFIC COMPACTED SURFACE, TEMPORARY PAVEMENT, MATERIALS AND LABOR FOR MAINTAINING ACCESS TO DRIVEWAYS, PROPERTY OWNER NOTIFICATION/COORDINATION, AND DEVELOPMENT OF THE OPERATIONS SCHEDULE SHALL BE AT THE LUMP SUM PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC, AS PER PLAN, WHICH SHALL INCLUDE ALL LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS TO COMPLETE THE WORK AS DETAILED IN THE PLANS. UNLESS SEPARATELY ITEMIZED IN THE PLANS, NO SEPARATE PAYMENT SHALL BE MADE.

MAINTENANCE OF TRAFFIC ESTIMATE OF QUANTITIES

Item No.	Estimated Quantity	Unit	Item Description
614	1	Lump	Maintaining Traffic, As Per Plan

CALCULATED EMH
CHECKED KRB

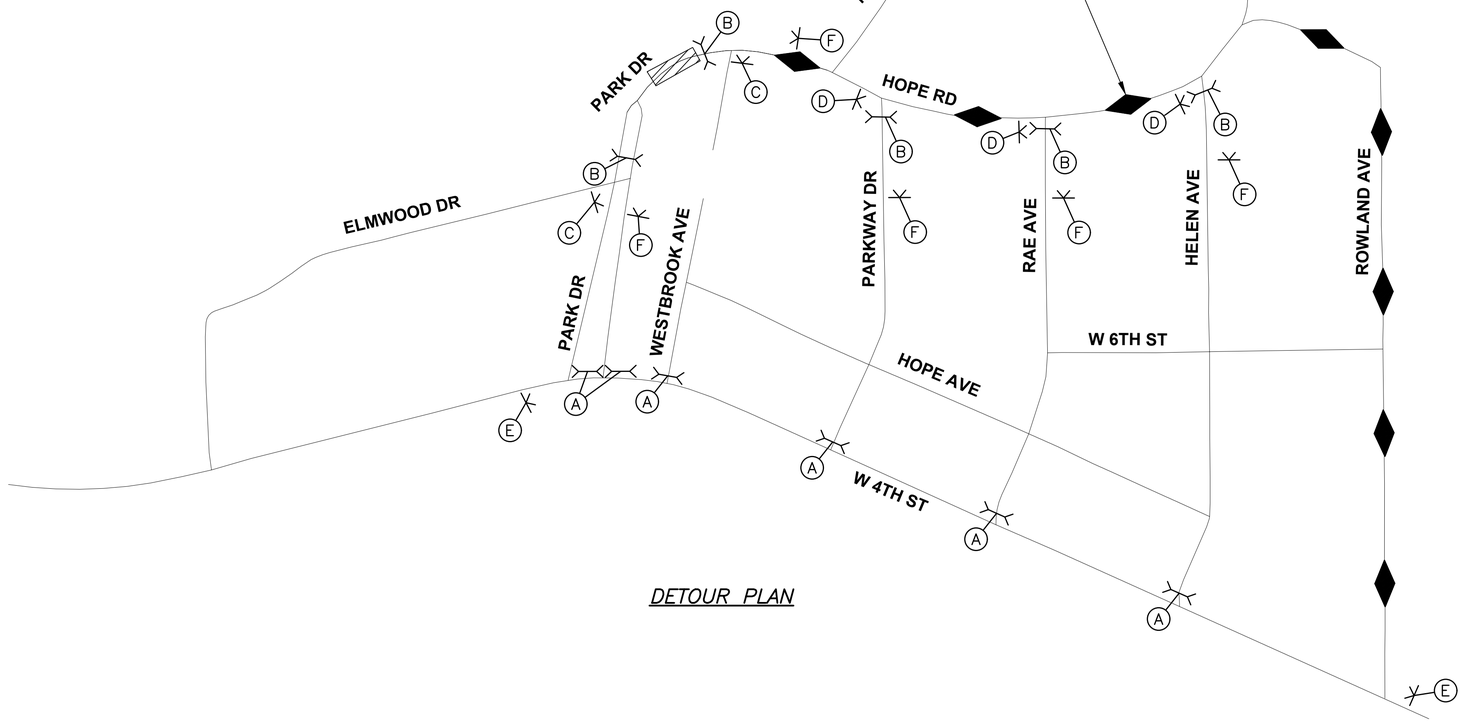
MAINTENANCE OF TRAFFIC NOTES

NORTH LAKE PARK BRIDGE REPLACEMENT

LEGEND

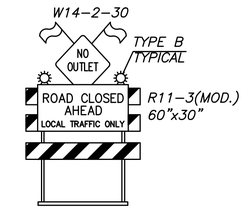
- TYPE 3 BARRICADES
- CONSTRUCTION MATERIAL ACCESS
- TEMPORARY SIGN SUPPORT
- WORK ZONE

Hope Road is one way. Contractor shall utilize flaggers to control side street traffic during Construction vehicle ingress/egress.



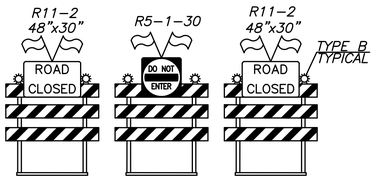
DETOUR PLAN

SIGN LEGEND



6' Type III (Portable)

Ⓐ



10' Type III Barricades (Solid Across Street)
SEE ODOT SCD MT-101.60

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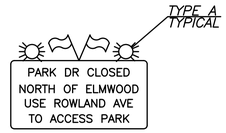

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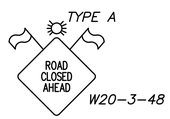

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NOT TO SCALE

CALCULATED EMH
CHECKED KRB

MAINTENANCE OF TRAFFIC PLAN

NORTH LAKE PARK BRIDGE REPLACEMENT

6
20

ITEM NO.	ODOT EXT	ESTIMATED QUANTITY	UNIT	DESCRIPTION	SEE SHEET
				ROADWAY	
201	11000	1	LS	CLEARING AND GRUBBING	
202	35100	400	FT	PIPE REMOVED, 24" AND UNDER	
202	38000	30	FT	GUARDRAIL REMOVED	
202	58000	3	EACH	MANHOLE REMOVED	
202	23000	320	SY	PAVEMENT REMOVED, CONCRETE	
202	30000	70	SF	WALK REMOVED	
202	23500	320	SY	WEARING COURSE REMOVED	
203	10000	400	CY	EXCAVATION	
203	10000	200	CY	EMBANKMENT	
204	10000	350	SY	SUBGRADE COMPACTION	3
204	45000	2	HR	PROOF ROLLING	3
204*	13000	30	CY	EXCAVATION OF SUBGRADE	3
204*	30010	30	CY	GRANULAR MATERIAL, TYPE B	3
608	10000	70	SF	4" CONCRETE WALK	
				EROSION CONTROL	
659	14000	100	CY	REPAIR SEEDING AND MULCHING	3
659	00300	110	CY	TOPSOIL (T=4")	3
659	00500	930	SY	SEEDING AND MULCHING, CLASS 1	3
659	20000	0.13	TON	COMMERCIAL FERTILIZER	3
659	35000	6	MGAL	WATER	3
832	00000	1	EACH	EROSION CONTROL, MISC.: CONCRETE WASHOUT AREA	10
832	00000	1	LS	EROSION CONTROL, MISC.: STREAM BY-PASS PUMP	10
832	00000	2	EACH	EROSION CONTROL, MISC.: ROCK CHECK DAMS	10
832	00000	400	FT	EROSION CONTROL, MISC.: FILTER SOCK	10
832	00000	5	EACH	EROSION CONTROL, MISC.: INLET PROTECTION	10
				DRAINAGE	
611	04400	308	FT	12" CONDUIT, TYPE B	
611	99574	3	EACH	MANHOLE, NO. 3	
638	02501	61	FT	12" WATERMAIN DUCTILE IRON PIPE ANSI CLASS 52, MECHANICAL JOINTS AND FITTINGS, AS PER PLAN	3, 4
638	08101	2	EACH	12" GATE VALVE AND VALVE BOX, AS PER PLAN	3, 4
				PAVEMENT	
252	01500	430	FT	FULL DEPTH PAVEMENT SAWING	
255	10010	100	SY	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS QC1	3
305	12010	270	SY	8" CONCRETE BASE, CLASS QC1	
407	20000	30	GAL	NON-TRACKING TACK COAT (0.055 GAL/SY) (ON ASPHALT)	
407	20000	30	GAL	NON-TRACKING TACK COAT (0.070 GAL/SY) (ON PCC)	
409	30000	176	FT	SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS	
423	00100	40	LB	CRACK SEALING	
441	50300	20	CY	ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, (448) (T=1.5")	
441	50300	10	CY	VARIABLE THICKNESS ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, (448), PG64-22	
441	50100	20	CY	ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, (448), PG70-22M (T=1.5")	
609	26000	155	FT	CURB, TYPE 6	
609	16001	40	FT	CURB, TYPE 2-B, AS PER PLAN	15
				MAINTENANCE OF TRAFFIC	
614	11001	1	LS	MAINTAINING TRAFFIC, AS PER PLAN	5
616	10001	1	LS	DUST CONTROL, AS PER PLAN	3
				WATER WORKS	
638	98000	1	LS	WATER WORK, MISC.: 6 INCH WATERLINE CAPPED AND ABANDONED	4
				STRUCTURES	
202	11000	1	LS	STRUCTURE REMOVED	15
503	11100	1	LS	COFFERDAMS AND EXCAVATION BRACING	
503	21100	290	CY	UNCLASSIFIED EXCAVATION	
509	10000	21,000	LB	EPOXY COATED STEEL REINFORCEMENT	
510	10000	23	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
511	46010	61	CY	CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING	
511	46510	61	CY	CLASS QC1 CONCRETE, FOOTING	
511	53010	36	CY	CLASS QC1 CONCRETE, MISC.: OUTLET SLAB	
512	33000	112	SY	TYPE 2 WATERPROOFING	
512	33010	288	SY	TYPE 3 WATERPROOFING	
516	13600	225	SF	1" PREFORMED EXPANSION JOINT FILLER	
518	21200	8	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
530	00400	1	EACH	SPECIAL - STRUCTURES DEBRIS SCREEN	15
530	00600	1,692	SF	SPECIAL - STRUCTURES NATURAL SANDSTONE VENNER AND CAP	16
601	11000	25	SY	RIPRAP, TYPE D	
611	96391	72	FT	16' X 4' CONDUIT, TYPE A, 706.05, AS PER PLAN	15
613	41200	180	CY	LOW STRENGTH MORTAR BACKFILL	
				MISCELLANEOUS	
623	10000	1	LS	CONSTRUCTION LAYOUT STAKES AND SURVEYING	
624	10000	1	LS	MOBILIZATION	

NOTE: ALL ITEM NUMBERS REFERENCE ODOT CONSTRUCTION AND MATERIALS SPECIFICATIONS, 2023 EDITION, UNLESS OTHERWISE NOTED.

* = TO BE USED AT THE DIRECTION OF THE ENGINEER.

CALCULATED JAG CHECKED CAS

GENERAL SUMMARY

NORTH LAKE PARK BRIDGE REPLACEMENT

SITE NARRATIVE

PLAN DESIGNER: EMHT INC.
5500 NEW ALBANY ROAD
COLUMBUS, OH 43054
TEL: (614) 775–4500
FAX: (614) 775–4800

OWNER/DEVELOPER: CITY OF MANSFIELD
ROBERT BIANCHI
30 N DIAMOND ST
MANSFIELD, OH 44902
TEL: (419) 755–9702
FAX: (419) 755–9627
E–MAIL: RBIANCHI@CI.MANSFIELD.OH.US

PROJECT DESCRIPTION: THE PROPOSED PROJECT CONSISTS OF THE REMOVAL AND REPLACEMENT OF AN EXISTING TWIN CELL STRUCTURE UNDER PARK DRIVE, INCLUDING REMOVAL AND REPLACEMENT OF PORTIONS OF THE EXISTING FEEDER PIPE TO NORTH LAKE. THE IMPROVEMENTS INCLUDE CONCRETE CURB, FULL DEPTH PAVEMENT AND STORM SEWER.

AREA OF PROJECT SITE: TOTAL DISTURBED AREA: 0.37± AC.

EXISTING SITE CONDITIONS: THE EXISTING SITE CONSISTS OF PUBLIC PARK LAND WITH PARKING LOTS, PARK ROADS, GRASS SPACE, ATHLETIC FACILITIES, AND STANFIELD RUN AND NORTH LAKE WATER FEATURES.

RECEIVING STREAM: STANFIELD RUN & TOUBY RUN

ADJACENT AREAS: THE SITE WHERE THE EARTHWORK WILL OCCUR WITHIN STANFIELD RUN AS WELL AS PUBLIC PARK LAND WITH PARKING LOTS, PARK ROADS, GRASS SPACE, ATHLETIC FACILITIES, AND NORTH LAKE.

EROSION AND SEDIMENT MEASURES: COMPOST FILTER SOCK SHALL BE INSTALLED ALONG THE PERIMETER OF THE SITE AND ALONG STORM SEWER TRENCHES AS NECESSARY. DISTURBED AREAS SHALL BE STABILIZED ACCORDING TO THE TEMPORARY AND PERMANENT SEEDING REQUIREMENTS.

POST CONSTRUCTION STORM WATER MANAGEMENT: N/A – THE PROJECT CONSISTS OF MASS GRADING ACTIVITIES, STORM SEWER IMPROVEMENTS AND NO IMPERVIOUS AREA SHALL BE CONSTRUCTED AS PART OF THE PROPOSED IMPROVEMENTS.

SOILS: UC – UDORTHENTS
UR – URBAN LAND

CONSTRUCTION SEQUENCE: SEQUENCE OF MAJOR ACTIVITIES
1. INSTALL INLET CONTROL ON EXISTING STRUCTURES, FILTER SOCKS AND DITCH CHECKS. SET UP BYPASS PUMP FOR STANFIELD RUN.
2. CLEAR AND GRUB SITE. REMOVE EXISTING PAVEMENT AND DESIGNATED STORM SEWER INFRASTRUCTURE.
3. INSTALL NEW STRUCTURES AND STORM SEWER.
4. COMMENCE WITH PAVING ACTIVITIES.
5. STABILIZE DISTURBED AREAS ACCORDING TO TEMPORARY AND PERMANENT SEEDING REQUIREMENTS.
6. REMOVE TEMPORARY EROSION CONTROLS UPON ESTABLISHMENT OF PERMANENT VEGETATION.

SCHEDULE: THE CONTRACTOR SHALL PROVIDE A SCHEDULE OF OPERATIONS TO THE OWNER. SEDIMENTATION AND EROSION CONTROL FEATURES SHALL BE PLACED IN ACCORDANCE WITH THIS SCHEDULE.

THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT OFF–SITE TRACKING OF SEDIMENTS BY VEHICLES AND EQUIPMENT IS MINIMIZED. ALL SUCH OFF–SITE SEDIMENT SHALL BE CLEANED UP DAILY.

OHIO EPA NPDES FACILITY PERMIT #: NOT APPLICABLE – EDA LESS THAN 1.00 ACRE

SITE CONTACT: CITY OF MANSFIELD
ROBERT BIANCHI
30 N DIAMOND ST
MANSFIELD, OH 44902
TEL: (419) 755–9702
FAX: (419) 755–9627
E–MAIL: RBIANCHI@CI.MANSFIELD.OH.US

SEDIMENT AND EROSION CONTROL NOTES

MAINTENANCE:
IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE SEDIMENTATION AND EROSION CONTROL FEATURES ON THIS PROJECT. ANY SEDIMENT OR DEBRIS WHICH HAS REDUCED THE EFFICIENCY OF A CONTROL SHALL BE REMOVED IMMEDIATELY. SHOULD A STRUCTURE OR FEATURE BECOME DAMAGED, THE CONTRACTOR SHALL REPAIR OR REPLACE AT NO ADDITIONAL COST TO THE OWNER.

INSPECTIONS:
THE NPDES PERMIT HOLDER ALONG WITH THE CONTRACTOR SHALL PROVIDE QUALIFIED PERSONNEL TO CONDUCT SITE INSPECTIONS ENSURING PROPER FUNCTIONALITY OF THE EROSION AND SEDIMENTATION CONTROLS. ALL EROSION AND SEDIMENTATION CONTROLS ARE TO BE INSPECTED ONCE PER EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF A 0.5" STORM EVENT OR GREATER THAT OCCURS OVER A 24 HOUR PERIOD. RECORDS OF THE SITE INSPECTIONS SHALL BE KEPT AND MADE AVAILABLE TO JURISDICTIONAL AGENCIES IF REQUESTED.

CONTRACTORS RESPONSIBILITIES:
DETAILS HAVE BEEN PROVIDED ON THE PLANS IN AN EFFORT TO HELP THE CONTRACTOR PROVIDE EROSION AND SEDIMENTATION CONTROL. THE DETAILS SHOWN ON THE PLAN SHALL BE CONSIDERED A MINIMUM. ADDITIONAL OR ALTERNATE DETAILS MAY BE FOUND IN THE OHIO EPA MANUAL "RAINWATER AND LAND DEVELOPMENT". THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PROVIDING NECESSARY AND ADEQUATE MEASURES FOR PROPER CONTROL OF EROSION AND SEDIMENT RUNOFF FROM THE SITE ALONG WITH PROPER MAINTENANCE AND INSPECTION IN COMPLIANCE WITH THE NPDES GENERAL PERMIT FOR STORM DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY.

THE CONTRACTOR SHALL PROVIDE A SCHEDULE OF OPERATIONS TO THE OWNER. THE SCHEDULE SHOULD INCLUDE A SEQUENCE OF THE PLACEMENT OF THE SEDIMENTATION AND EROSION CONTROL MEASURES THAT PROVIDES FOR CONTINUAL PROTECTION OF THE SITE THROUGHOUT THE EARTH MOVING ACTIVITIES.

PRIOR TO CONSTRUCTION OPERATIONS IN A PARTICULAR AREA, ALL SEDIMENTATION AND EROSION CONTROL FEATURES SHALL BE IN PLACE. FIELD ADJUSTMENTS WITH RESPECT TO LOCATIONS AND DIMENSIONS MAY BE MADE BY THE ENGINEER, CITY OF MANSFIELD AND THE OHIO EPA.

IT MAY BECOME NECESSARY TO REMOVE PORTIONS OF SEDIMENTATION CONTROLS DURING CONSTRUCTION TO FACILITATE THE GRADING OPERATIONS IN CERTAIN AREAS. HOWEVER, THE CONTROLS SHALL BE REPLACED UPON GRADING OR DURING ANY INCLEMENT WEATHER.

THE CONTRACTOR SHALL BE RESPONSIBLE TO HAVE THE CURRENT STORM WATER POLLUTION PREVENTION PLAN IMMEDIATELY AVAILABLE OR POSTED ON SITE.

THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT OFFSITE SOIL BORROW AND EXPORT AREAS HAVE OHIO EPA NPDES PERMIT COVERAGE AND THAT APPROPRIATE EROSION AND SEDIMENT CONTROLS ARE PROPERLY INSTALLED AND MAINTAINED.

THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT OFF–SITE TRACKING OF SEDIMENTS BY VEHICLES AND EQUIPMENT IS MINIMIZED. ALL SUCH OFF–SITE SEDIMENT SHALL BE CLEANED UP DAILY.

THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT NO SOLID OR LIQUID WASTE IS DISCHARGED INTO STORM WATER RUNOFF. UNTREATED SEDIMENT–LADEN RUNOFF SHALL NOT FLOW OFF OF SITE WITHOUT BEING DIRECTED THROUGH A CONTROL PRACTICE.

DIRECT DISCHARGE OF SEDIMENT LADEN WATER TO THE CITY'S SEWER SYSTEM OR A RECEIVING STREAM IS A VIOLATION OF OHIO EPA AND CITY REGULATION; THE CONTRACTOR WILL BE HELD LIABLE FOR THE VIOLATION AND SUBSEQUENT FINES.

THE COST FOR TEMPORARY CHANNELS, SEDIMENT DAMS, SEDIMENT BASINS, AND OTHER APPURTENANT EARTH MOVING OPERATIONS SHALL BE INCLUDED IN THE PRICE BID FOR EROSION AND SEDIMENTATION CONTROL QUANTITIES.

THIS PLAN MUST BE POSTED ON–SITE. A COPY OF THE SWPPP PLAN AND THE APPROVED EPA STORMWATER PERMIT (WITH THE SITE SPECIFIC NOI NUMBER) SHALL BE KEPT ON–SITE AT ALL TIMES.

PERMANENT AND TEMPORARY SEEDING

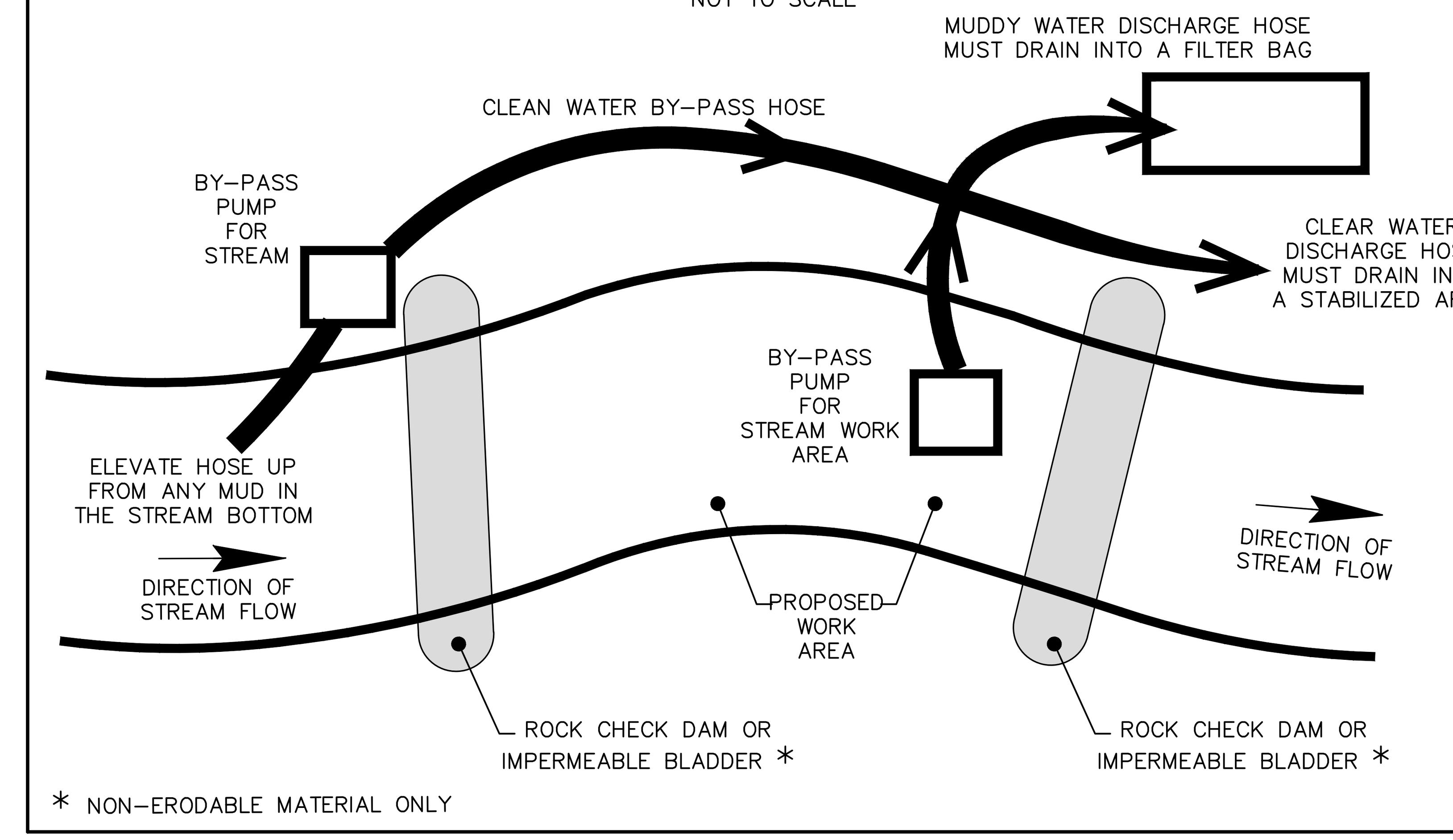
THE LIMITS OF SEEDING AND MULCHING ARE AS SHOWN WITHIN THE PLAN AS INDICATED BY THE LIMITS OF DISTURBANCE. ALL AREAS NOT DESIGNATED TO BE SEEDED SHALL REMAIN UNDER NATURAL GROUND COVER. THOSE AREAS DISTURBED OUTSIDE THE SEEDING LIMITS SHALL BE SEEDED AND MULCHED AT THE CONTRACTOR'S EXPENSE.

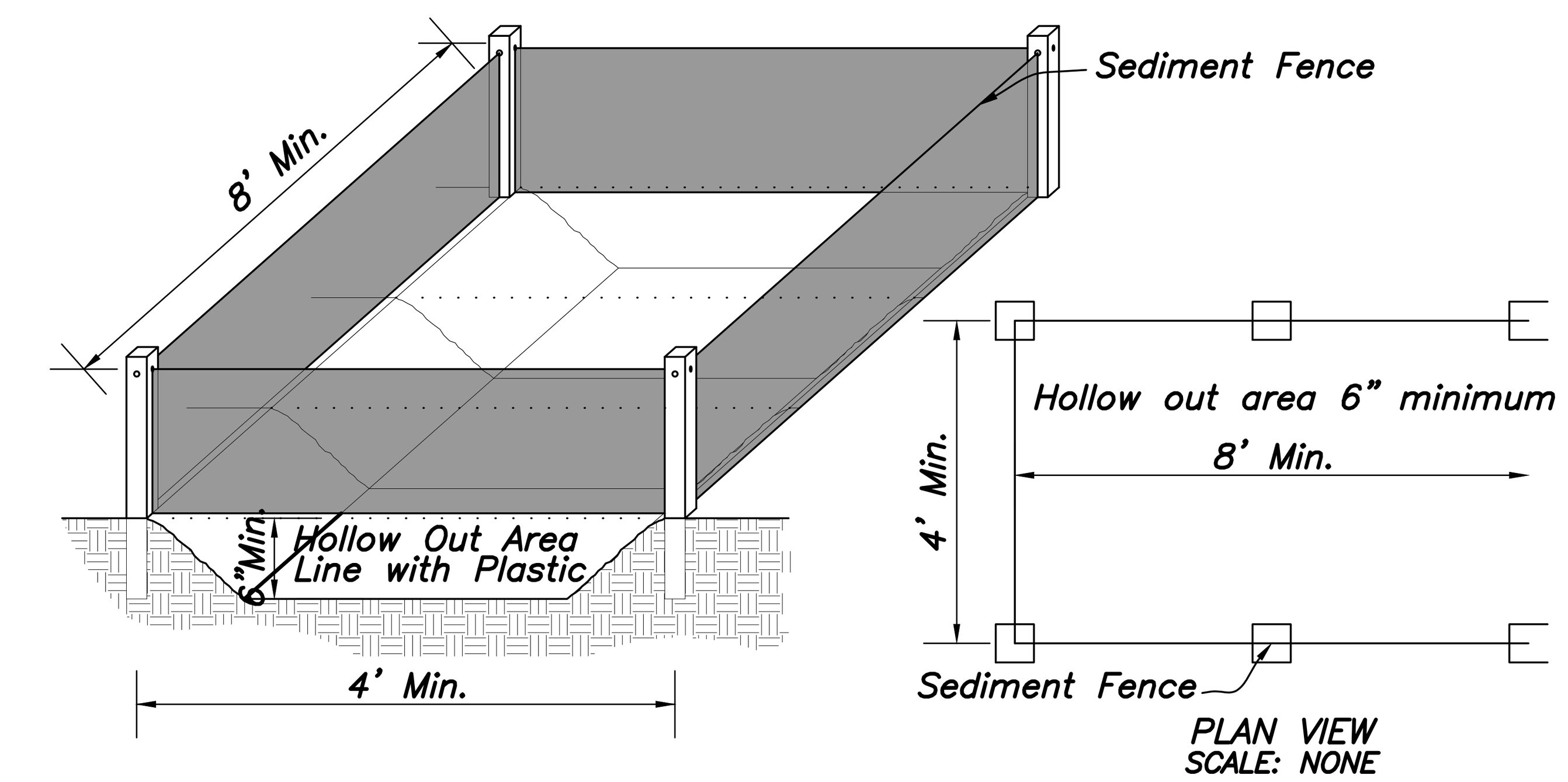
SEEDING AND MULCHING PROVIDED PER ITEM 659.

TABLE 1: PERMANENT STABILIZATION

AREA REQUIRING PERMANENT STABILIZATION	TIME FRAME TO APPLY EROSION CONTROL
ANY AREAS THAT WILL LIE DORMANT FOR ONE YEAR OR MORE	WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE
ANY AREAS WITHIN 50 FEET OF A SURFACE WATER OF THE STATE AND AT FINAL GRADE	WITHIN TWO DAYS OF REACHING FINAL GRADE
ANY AREAS AT FINAL GRADE	WITHIN SEVEN DAYS OF REACHING FINAL GRADE WITHIN THAT AREA

STREAM DAM AND BY–PASS PUMP DETAIL





NOTES: *Concrete trucks shall utilize areas to washout trucks. Accumulated concrete shall be removed from the site and disposed of properly.*

Contractor to determine location of Concrete Washout Area.

CONCRETE WASHOUT AREA
Scale: Not to Scale

NOTES:
ALL EROSION & SEDIMENT CONTROL PRACTICES ARE SUBJECT TO FIELD MODIFICATION AT THE DIRECTION OF THE CITY OF MANSFIELD AND/OR OHIO EPA.
STREET CLEANING (ON AN AS–NEEDED BASIS) IS REQUIRED THROUGH THE DURATION OF THIS CONSTRUCTION PROJECT. THIS INCLUDES SWEEPING, POWER CLEANING, AND (IF NECESSARY) MANUAL REMOVAL OF DIRT OR MUD IN THE STREET GUTTERS.

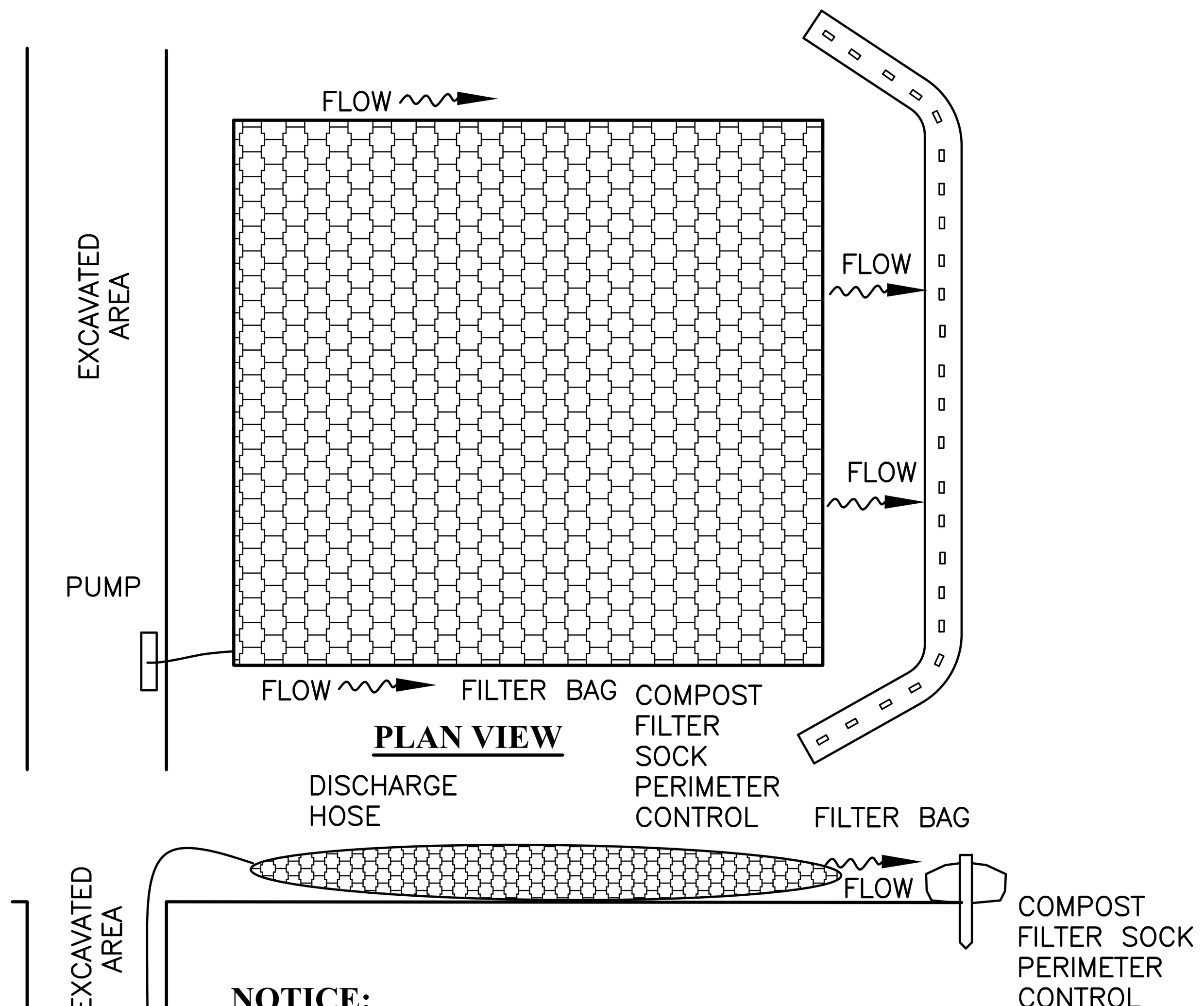
TABLE 2: TEMPORARY STABILIZATION

AREA REQUIRING TEMPORARY STABILIZATION	TIME FRAME TO APPLY EROSION CONTROL
ANY AREAS WITHIN 50 FEET OF A SURFACE WATER OF THE STATE AND AT FINAL GRADE	WITHIN TWO DAYS OF THE MOST RECENT DISTURBANCE IF THE AREA WILL REMAIN IDLE FOR MORE THAN FOURTEEN DAYS
FOR ALL CONSTRUCTION ACTIVITIES, ANY DISTURBED AREAS THAT WILL BE DORMANT FOR MORE THAN 14 DAYS BUT LESS THAN ONE YEAR, AND NOT WITHIN 50 FEET OF A SURFACE WATER OF THE STATE	WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE WITHIN THE AREA FOR RESIDENTIAL SUBDIVISIONS, DISTURBED AREAS MUST BE STABILIZED AT LEAST SEVEN DAYS PRIOR TO TRANSFER OF PERMIT COVERAGE FOR THE INDIVIDUAL LOT(S)
DISTURBED AREAS THAT WILL BE IDLE OVER WINTER	PRIOR TO THE ONSET OF WINTER WEATHER

CALCULATED WAC
CHECKED JAG

SEDIMENT AND EROSION CONTROL PLAN

NORTH LAKE PARK BRIDGE REPLACEMENT



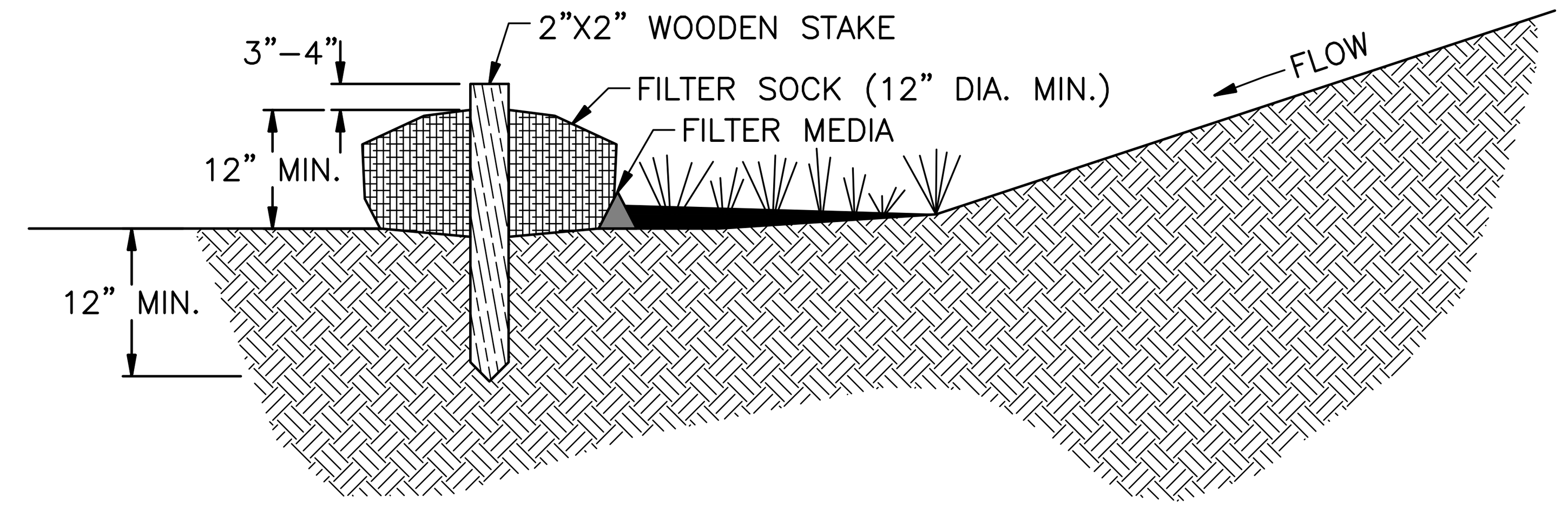
NOTICE:

THE PUMPING OR DIRECT DISCHARGE OF SEDIMENT–LADEN (MUDDY) WATER TO THE CITY'S SEWER SYSTEM OR A RECEIVING STREAM IS A VIOLATION OF OHIO EPA AND CITY REGULATIONS.

ALL INLETS RECEIVING FLOW FROM RUNOFF, PUMPING ACTIVITIES, OR OTHER DIRECT DISCHARGES SHALL BE FITTED WITH AN INLET PROTECTION DEVICE THAT IS PROPERLY SIZED AND SECURED TO REDUCE THE DISCHARGE OF SEDIMENT INTO THE STORM SEWER SYSTEM AND RECEIVING STREAM. INLET PROTECTION IS REQUIRED ON ALL INLETS RECEIVING DISCHARGE REGARDLESS OF WHETHER OR NOT THE INLET IS TRIBUTARY TO ANY DOWNSTREAM EROSION AND SEDIMENT CONTROLS.

DISCHARGE HOSES USED DURING PUMPING ACTIVITIES SHALL BE FITTED WITH SEDIMENT BAGS THAT ARE PROPERLY SIZED PER THE PROPOSED PUMPING RATES AND MANUFACTURER'S RECOMMENDATIONS REGARDLESS OF WHAT OTHER SEDIMENT CONTROLS ARE IN PLACE FURTHER DOWNSTREAM. SEDIMENT BAGS MUST BE PROPERLY SECURED TO THE DISCHARGE HOSE AND PLACED OVER VEGETATE AREAS, WHERE FEASIBLE, DURING DISCHARGE. SEE DETAIL ABOVE OF A TYPICAL SEDIMENT BAG INSTALLATION.

DISCHARGE SET-UP FOR PUMPING MUDDY WATER (TRENCH DEWATERING)



1. MATERIALS – COMPOST USED FOR FILTER SOCKS SHALL BE WEED, PATHOGEN AND INSECT FREE AND FREE OF ANY REFUSE, CONTAMINANTS OR OTHER MATERIALS TOXIC TO PLANT GROWTH. THEY SHALL BE DERIVED FROM A WELL–DECOMPOSED SOURCE OF ORGANIC MATTER AND CONSIST OF A PARTICLES RANGING FROM 3/8" TO 2".
2. FILTER SOCKS SHALL BE 3 OR 5 MIL CONTINUOUS, TUBULAR, HDPE 3/8" KNITTED MESH NETTING MATERIAL, FILLED WITH COMPOST PASSING THE ABOVE SPECIFICATIONS FOR COMPOST PRODUCTS.

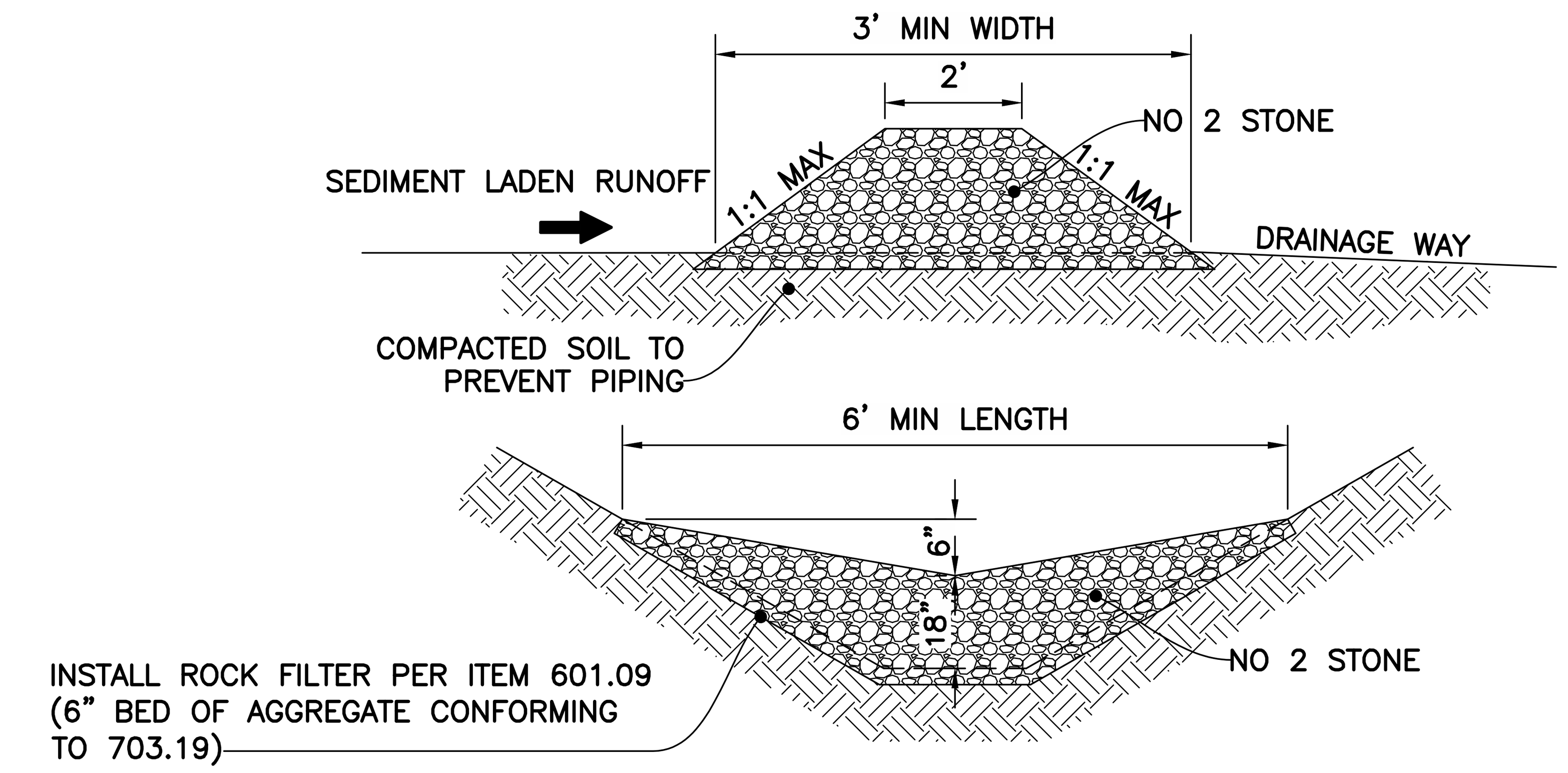
INSTALLATION:

3. FILTER SOCKS WILL BE PLACED ON A LEVEL LINE ACROSS SLOPES, GENERALLY PARALLEL TO THE BASE OF THE SLOPE OR OTHER AFFECTED AREA. ON SLOPES APPROACHING 2:1, ADDITIONAL SOCKS SHALL BE PROVIDED AT THE TOP AND AS NEEDED MIDSLOPE.
4. UPON INSTALLATION OF THE FILTER SOCK, ADDITIONAL FILTER MEDIA (MATCHING THE MEDIA INSIDE OF THE SOCK) SHALL BE PLACED ON THE UPLAND SIDE OF THE FILTER SOCK. FILTER MEDIA SHALL EXTEND HALFWAY UP THE SOCK AND SLOPE AT A MAXIMUM OF 45 DEGREES TO EXISTING GROUND ELEVATION.
5. FILTER SOCKS INTENDED TO BE LEFT AS A PERMANENT FILTER OR PART OF THE NATURAL LANDSCAPE, SHALL BE SEEDED AT THE TIME OF INSTALLATION FOR ESTABLISHMENT OF PERMANENT VEGETATION.
6. FILTER SOCKS ARE NOT TO BE USED IN CONCENTRATED FLOW SITUATIONS OR IN RUNOFF CHANNELS.

MAINTENANCE:

7. ROUTINELY INSPECT FILTER SOCKS AFTER EACH SIGNIFICANT RAIN, MAINTAINING FILTER SOCKS IN A FUNCTIONAL CONDITION AT ALL TIMES.
8. REMOVE SEDIMENTS COLLECTED AT THE BASE OF THE FILTER SOCKS WHEN THEY REACH 1/3 OF THE EXPOSED HEIGHT OF THE PRACTICE.
9. WHERE THE FILTER SOCK DETERIORATES OR FAILS, IT WILL BE REPAIRED OR REPLACED WITH A MORE EFFECTIVE ALTERNATIVE.
10. REMOVAL – FILTER SOCKS WILL BE DISPERSED ON SITE WHEN NO LONGER REQUIRED IN SUCH AS WAY AS TO FACILITATE AND NOT OBSTRUCT SEEDINGS.

COMPOST FILTER SOCK
NOT TO SCALE



MAINTENANCE:
1. AGGREGATE CHECK DAMS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.
2. CLOSE ATTENTION SHALL BE PAID TO THE REPAIR OF DAMAGED CHECK DAMS, END RUNS AND UNDERCUTTING BENEATH DAMS.
3. NECESSARY REPAIRS TO CHECK DAMS SHALL BE ACCOMPLISHED PROMPTLY.
4. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH RAINFALL. THEY MUST BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHES APPROXIMATELY ONE–HALF THE HEIGHT OF THE BARRIER.
5. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE AGGREGATE IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.

ITEM SPECIAL ROCK CHECK DAM
SCALE: NOT TO SCALE

INLET PROTECTION NOTES

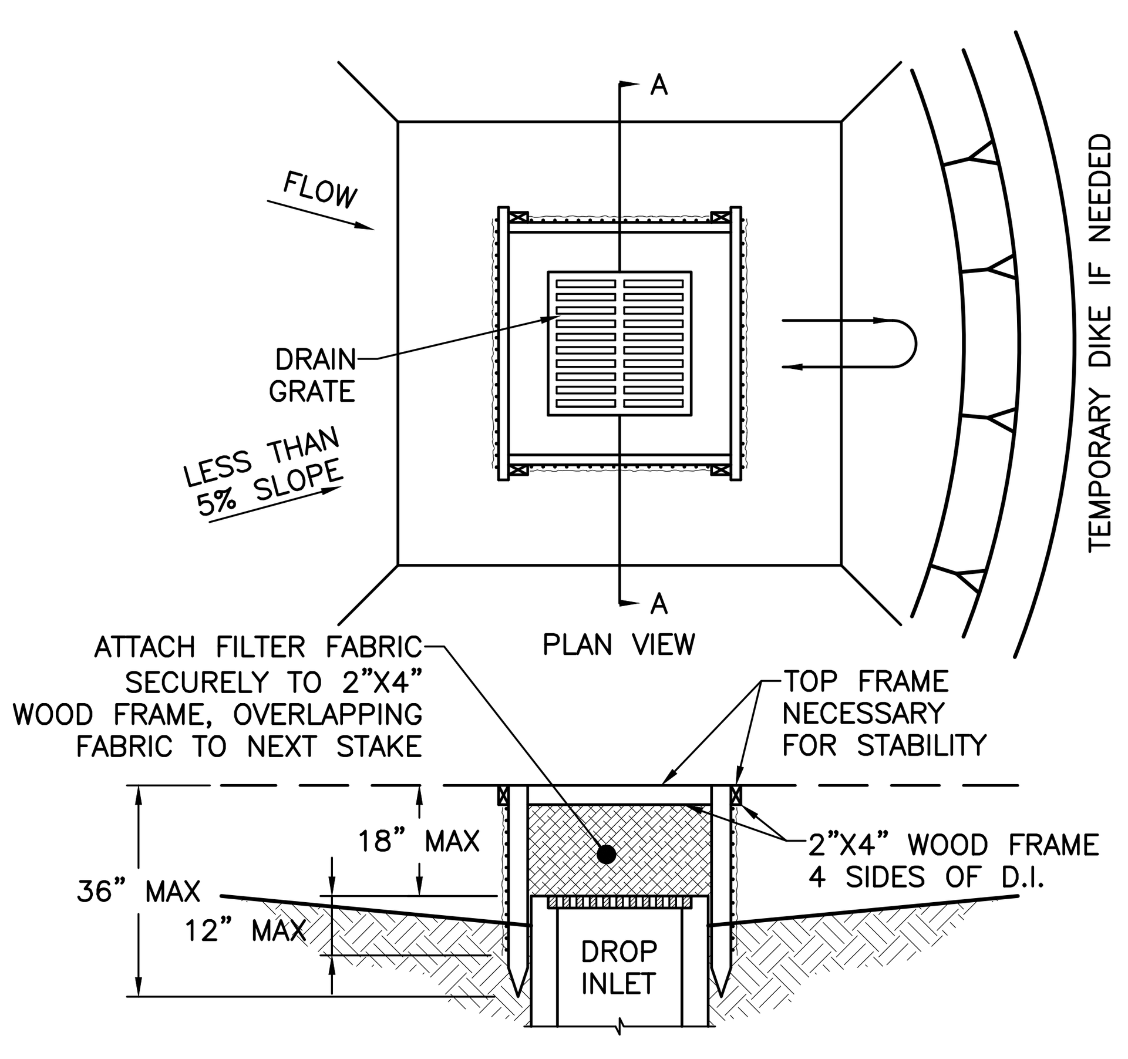
DESCRIPTION

STORM DRAIN INLET PROTECTION DEVICES REMOVE SEDIMENT FROM STORM WATER BEFORE IT ENTERS STORM SEWERS AND DOWNSTREAM AREAS. INLET PROTECTION DEVICES ARE SEDIMENT BARRIERS THAT MAY BE CONSTRUCTED OF WASHED GRAVEL OR CRUSHED STONE, GEOTEXTILE FABRICS AND OTHER MATERIALS THAT ARE SUPPORTED AROUND OR ACROSS STORM DRAIN INLETS.

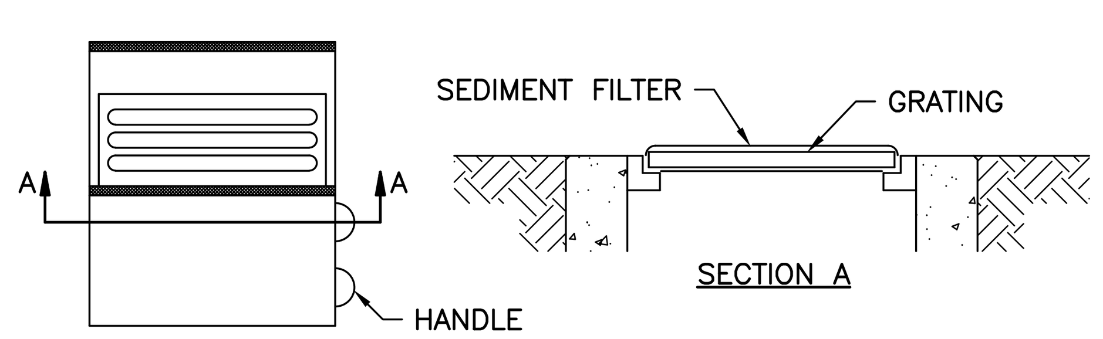
INLET PROTECTION IS INSTALLED TO CAPTURE SOME SEDIMENT AND REDUCE THE MAINTENANCE OF STORM SEWERS AND OTHER UNDERGROUND PIPING SYSTEMS PRIOR TO THE SITE BEING STABILIZED. DUE TO THEIR POORER EFFECTIVENESS, INLET PROTECTION IS CONSIDERED A SECONDARY SEDIMENT CONTROL TO BE USED IN CONJUNCTION WITH OTHER MORE EFFECTIVE CONTROLS.

SPECIFICATIONS FOR GEOTEXTILE INLET PROTECTION

1. INLET PROTECTION SHALL BE CONSTRUCTED EITHER BEFORE UPSLOPE LAND DISTURBANCE BEGINS OR BEFORE THE INLET BECOMES FUNCTIONAL.
2. THE EARTH AROUND THE INLET SHALL BE EXCAVATED COMPLETELY TO A DEPTH AT LEAST 18 INCHES.
3. THE WOODEN FRAME SHALL BE CONSTRUCTED OF 2 INCHES BY 4 INCHES CONSTRUCTION GRADE LUMBER. THE 2 INCHES BY 4 INCHES POSTS SHALL BE DRIVEN ONE (1) FT. INTO THE GROUND AT FOUR CORNERS OF THE INLET AND THE TOP PORTION OF 2 INCHES BY 4 INCHES FRAME ASSEMBLED USING THE OVERLAP JOINT SHOWN. THE TOP OF THE FRAME SHALL BE AT LEAST 6 INCHES BELOW ADJACENT ROADS OF PONDED WATER WILL POSE A SAFETY HAZARD TO TRAFFIC.
4. WIRE MESH SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT FABRIC WITH WATER FULLY IMPOUNDED AGAINST IT. IT SHALL BE STRETCHED TIGHTLY AROUND THE FRAME AND FASTENED SECURELY TO THE FRAME.
5. GEOTEXTILE MATERIAL SHALL HAVE AN EQUIVALENT OPENING SIZE OF 20–40 SIEVE AND BE RESISTANT TO SUNLIGHT. IT SHALL BE STRETCHED TIGHTLY AROUND THE FRAME AND FASTENED SECURELY. IT SHALL EXTEND FROM THE TOP OF THE FRAME TO 18 INCHES BELOW THE INLET NOTCH ELEVATION. THE GEOTEXTILE SHALL OVERLAP ACROSS ONE SIDE OF THE INLET SO THE ENDS OF THE CLOTH ARE NOT FASTENED TO THE SAME POST.
6. BACKFILL SHALL BE PLACED AROUND THE INLET IN COMPACTED 6 INCHES LAYERS UNTIL THE EARTH IS EVEN WITH NOTCH ELEVATION ON ENDS AND TOP ELEVATION ON SIDES.
7. A COMPACTED EARTH DIKE OR CHECK DAM SHALL BE CONSTRUCTED IN THE DITCH LINE BELOW THE INLET IF THE INLET IS NOT IN A DEPRESSION. THE TOP OF THE DIKE SHALL BE AT LEAST 6 INCHES HIGHER THAN THE TOP OF THE FRAME.



FILTER FABRIC INLET PROTECTION
SCALE: NONE

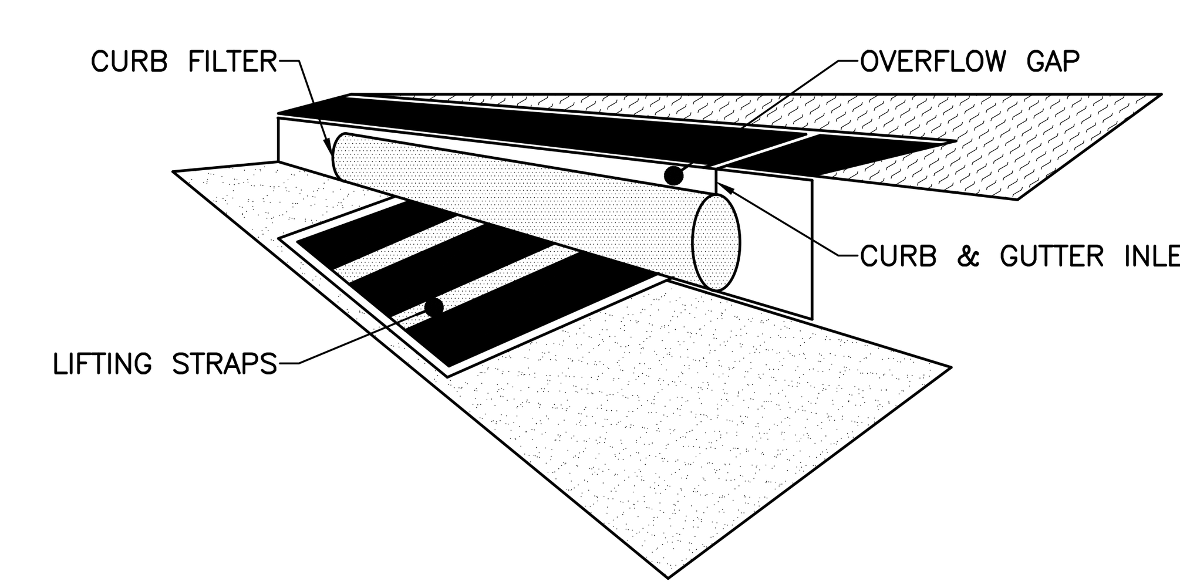


INSTALLATION:
1. STAND GRATE ON END. PLACE CATCH BASIN PROTECTION BAG OVER GRATE. ROLL GRATE OVER SO THAT OPEN END IS UP. PULL UP SLACK. TUCK FLAP IN. BE SURE END OF GRATE IS COMPLETELY COVERED BY FLAP OR CATCH BASIN PROTECTION BAG WILL NOT FIT PROPERLY. HOLDING HANDLES, CAREFULLY PLACE CATCH BASIN PROTECTION BAG WITH GRATE INSERTED INTO CATCH BASIN FRAME SO THAT RED DOT ON THE TOP OF THE CATCH BASIN PROTECTION BAG IS VISIBLE.

MAINTENANCE:
1. WITH A STIFF BRISTLE BROOM OR SQUARE POINT SHOVEL, REMOVE SILT & OTHER DEBRIS OFF SURFACE AFTER EACH EVENT.

NOTE:
1. DANDY BAG, FRYEFLOW SYSTEMS INLET PROTECTION, FLEXSTORM INLET FILTER OR APPROVED EQUAL ARE ACCEPTABLE

CATCH BASIN INLET PROTECTION
SCALE: NONE



INSTALLATION:
STAND GRATE ON END. SLIDE THE DANDY CURB BAG ON W/ CURB FILTER ON TOP OF THE GRATE. PULL EXCESS DOWN. LAY UNIT ON ITS SIDE. CAREFULLY TUCK FLAP IN. PRESS VELCRO STRIPS TOGETHER. INSTALL THE UNIT MAKING SURE FRONT EDGE OF GRATE IS INSERTED IN FRAME FIRST THEN LOWER BACK INTO PLACE. PRESS VELCRO DOTS TOGETHER THAT ARE LOCATED UNDER LIFTING STRAPS. THIS ENSURES STRAPS REMAIN FLUSH WITH GUTTER.

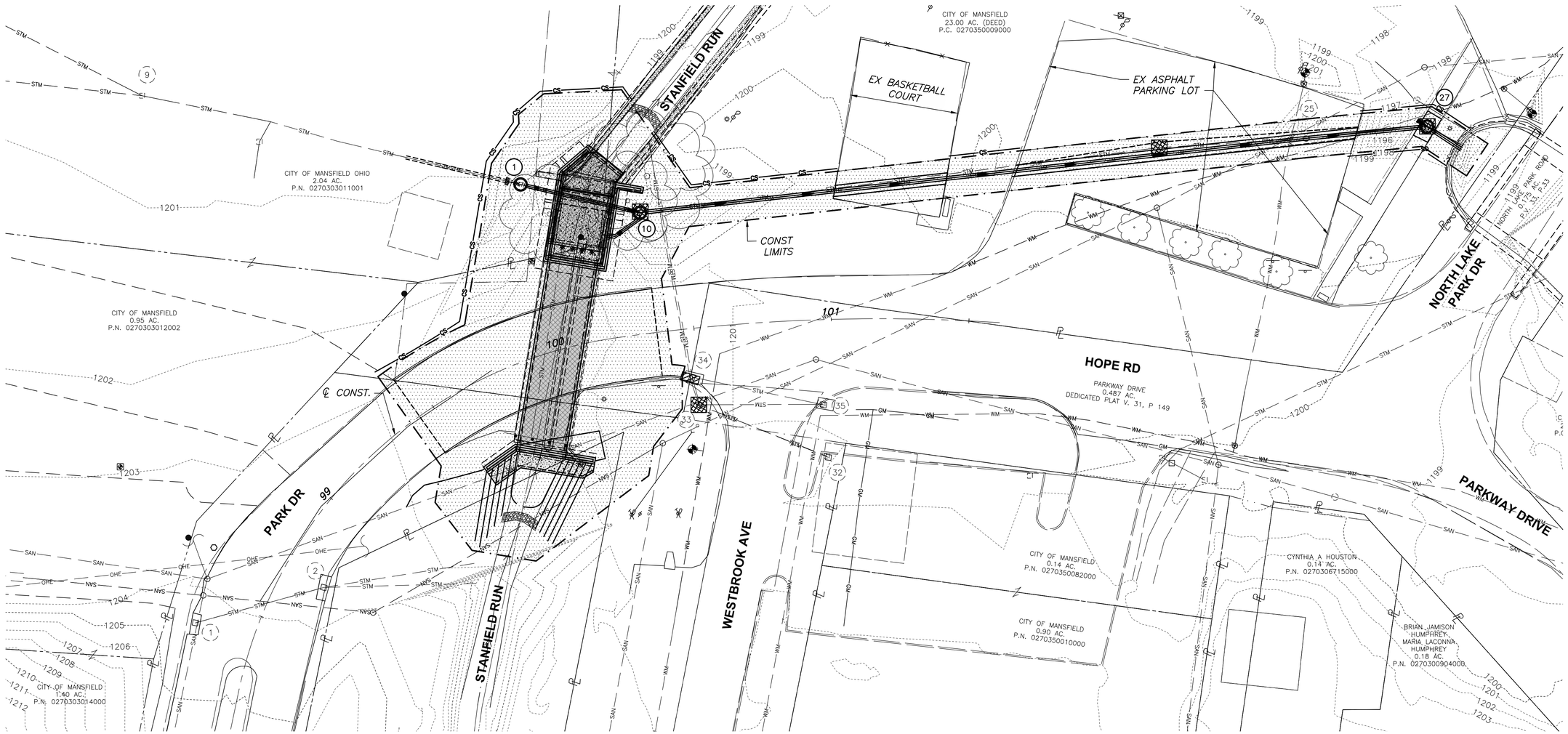
MAINTENANCE:
WITH A STIFF BRISTLE BROOM OR SQUARE POINT SHOVEL REMOVE SILT & OTHER DEBRIS OFF SURFACE AFTER EACH EVENT.

BEAVER DAM INLET PROTECTION
SCALE: NONE

CALCULATED WAC
CHECKED JAG

SEDIMENT AND EROSION CONTROL PLAN

NORTH LAKE PARK BRIDGE REPLACEMENT



PROJECT DATA			
TOTAL AREA (LIMITS OF CONSTRUCTION):	0.37 ACRES	RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE:	0.68
PROJECT EARTH DISTURBED AREA:	0.37 ACRES		
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.00 ACRES	RUNOFF COEFFICIENT FOR POST CONSTRUCTION SITE:	0.69
NOTICE OF INTENT EARTH DISTURBED AREA:	0.37 ACRES	IMMEDIATE RECEIVING WATERS: STANFIELD RUN	
IMPERVIOUS (PAVED) AREA FOR PRE-CONSTRUCTION SITE:	0.16 ACRES	SUBSEQUENT RECEIVING WATERS: TOUBY RUN	
IMPERVIOUS (PAVED) AREA FOR POST CONSTRUCTION SITE:	0.17 ACRES		

LEGEND

- EARTH DISTURBED AREA (EDA)
- CS — COMPOST FILTER SOCK (FOR DETAIL SEE SHEET 9)
- INLET PROTECTION (BEAVER DAM) (FOR DETAIL SEE SHEET 9)
- INLET PROTECTION (DANDY BAG) (FOR DETAIL SEE SHEET 9)
- ROCK CHECK DAM (FOR DETAIL SEE SHEET 9)

GRAPHIC SCALE
0 10 20 40
1 inch = 20 feet

CALCULATED WAC
CHECKED JAG

SEDIMENT AND EROSION CONTROL PLAN

NORTH LAKE PARK BRIDGE REPLACEMENT

10
20

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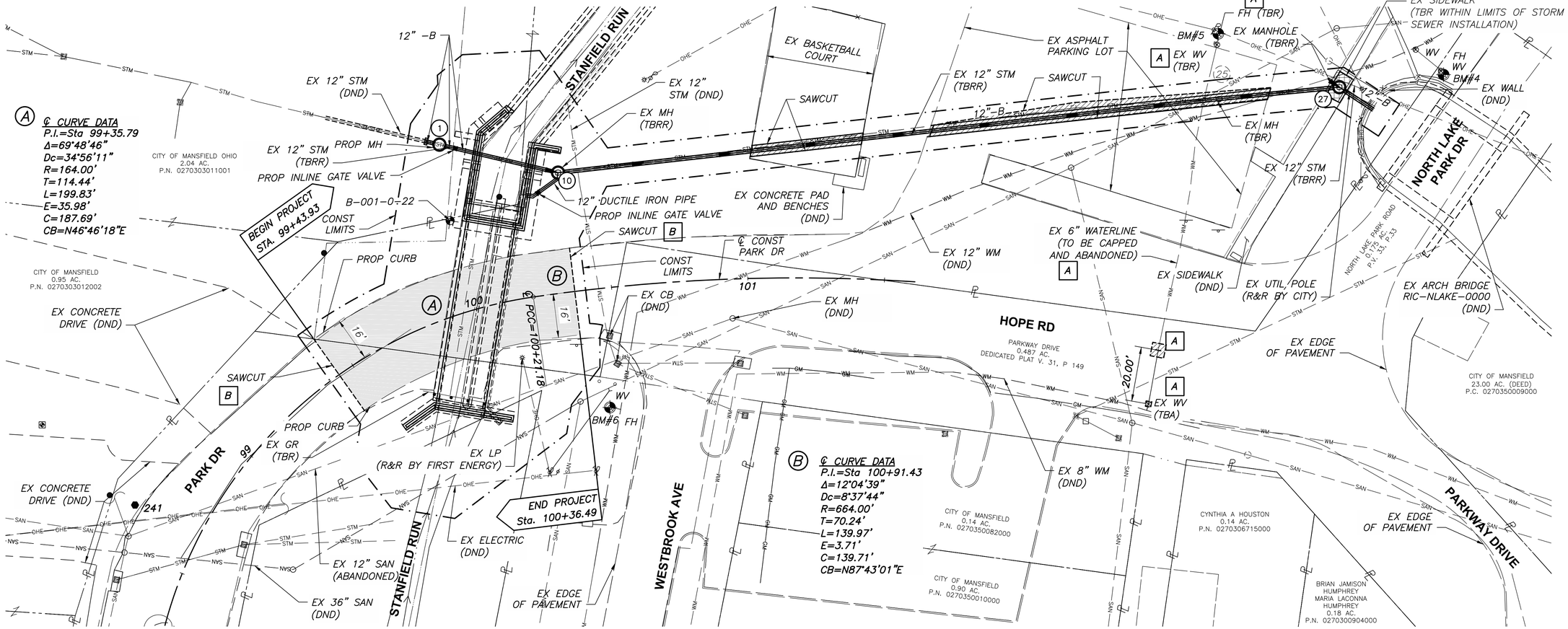
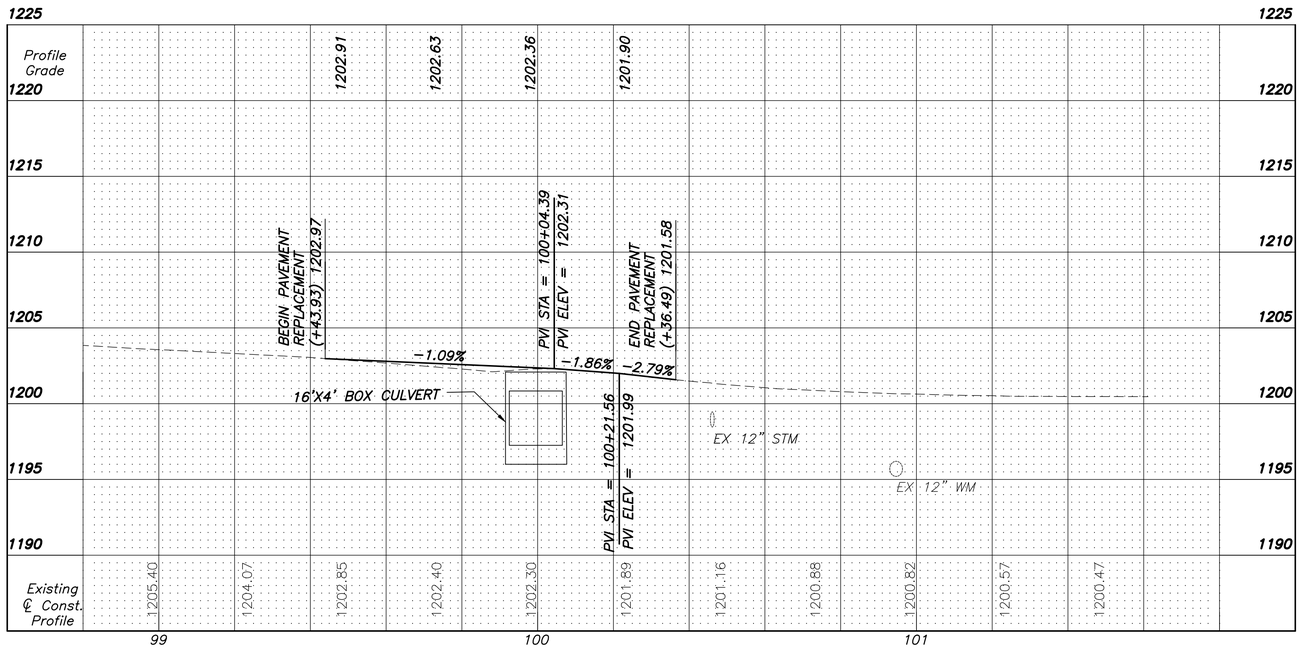




Horizontal Datum

The coordinates shown on this map are based on the Ohio State Plane Coordinate System, North Zone, NAD 83 (2011). Said coordinates originated from a field traverse which was tied (referenced) to said coordinate system by positional solutions derived by the National Geodetic Survey's Online Positioning Users Service software using GPS observations at traverse control points numbered 201-209, 220-226 and observations of selected CORS base stations in the National Spatial Reference System. The grid to ground scale factor (1.000097770151801) was applied at the location of point number 202.

Vertical Datum

The elevations shown are based on the North American Vertical Datum of 1988. Said elevations originated from positional solutions derived independently from GPS observations at traverse control points 201-209, 220-226 and observations of selected CORS base stations in the National Spatial Reference System and processed by the National Geodetic Survey's Online Positioning User Service Software and the GEOID12A model. Elevations from said traverse control points were then transferred by conventional leveling procedures to the permanent benchmarks listed hereon.

Horizontal Control (U.S. Survey Foot)

Points	Northing (Ground)	Easting (Ground)	Station/Offset	Description
207	400643.3250	1957587.7140	97+87.71/104.17' Lt	Iron Pin Set w/cap
240	400726.9110	1957446.4840	98+28.74 / 260.00' Lt.	MAG Nail Set
241	400707.2570	1957687.6300	98+64.52 / 26.08' Lt.	MAG Nail Set

Vertical Control

Benchmark	Elevation	Description
BM#4	1201.53	Chiseled "X" on the north flange bolt of a fire hydrant on the west side of North Lake Park Drive, 115 feet north of Parkway Drive.
BM#5	1201.11	Chiseled "X" on the south flange bolt of a fire hydrant on the north side of a parking lot, being 80 feet west of North Lake Park Drive and 80 feet north of Parkway Drive.
BM#6	1203.21	Chiseled "X" on the north flange boltof a fire hydrant on the south side of Parkway Drive, 220 feet west of Northlake Park Road.

ABBREVIATION LEGEND

DND : Do Not Disturb
R&R : Remove and Re-erect
TBR : To Be Removed
TBRR : To Be Removed and Replaced

LEGEND

FULL DEPTH PAVEMENT

PAVEMENT REPLACEMENT

CONCRETE WALK (T=4")

A 6" WATERLINE TO BE CAPPED AND ABANDONED. SEE SHEET 4 FOR NOTES AND DETAILS ASSOCIATED WITH THE WORK TO CUT AND PLUG THE LINE AND DISPOSITION OF VALVES AND HYDRANT.

B ALL EXISTING PAVEMENT BETWEEN SAWCUTS ALONG PARK DRIVE SHALL BE REMOVED

LEGEND

- Static/Rapid Static GPS Control Point*
- Primary Horizontal Control Point
- Secondary Horizontal Control Point
- Tertiary Horizontal Control Point
- Vertical Bench Mark
- Primary Horizontal Control Traverse
- Secondary Horizontal Control Traverse

* Elevations for Static/Rapid Static GPS points will always be measured and verified by a bench circuit or double occupations unless noted otherwise.

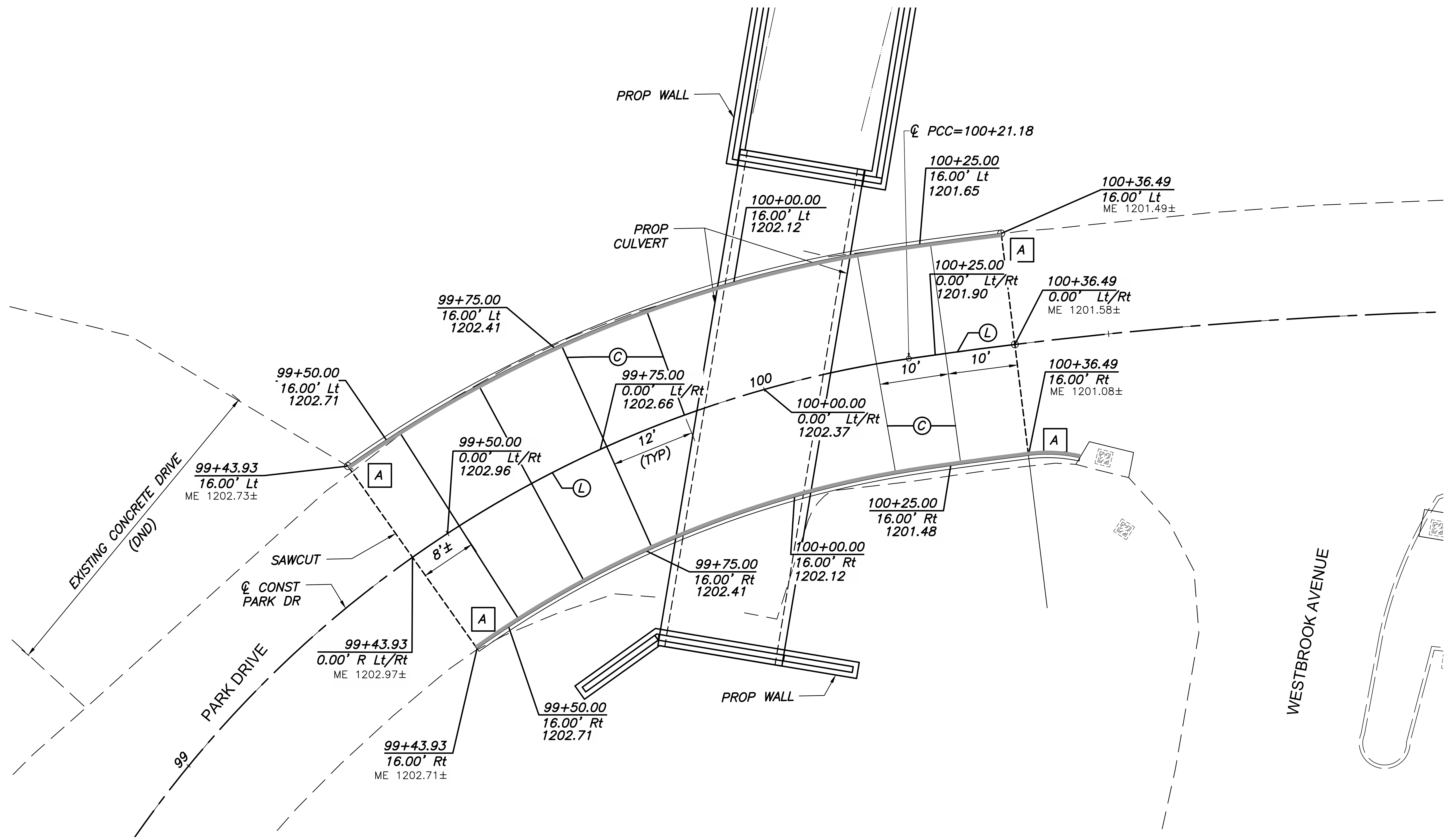
Note: Solid symbols indicate that elevations are based on bench circuit originating from project Benchmarks.

CALCULATED WAC
CHECKED JAG
HORIZ 1 Inch = 20 Feet
VERT 1 Inch = 5 Feet

PLAN AND PROFILE - PARK DRIVE

NORTH LAKE PARK BRIDGE REPLACEMENT

11
20



LEGEND

A — TAPER PROPOSED CURB HEIGHT FROM 6" TO 0" OVER FINAL 10'

(C) — CONTRACTION JOINT PER ODOT SCD BP–2.2

(L) — STANDARD LONGITUDINAL JOINT PER ODOT SCD BP–2.1 WITHOUT TIE BAR

½" EXPANSION JOINT

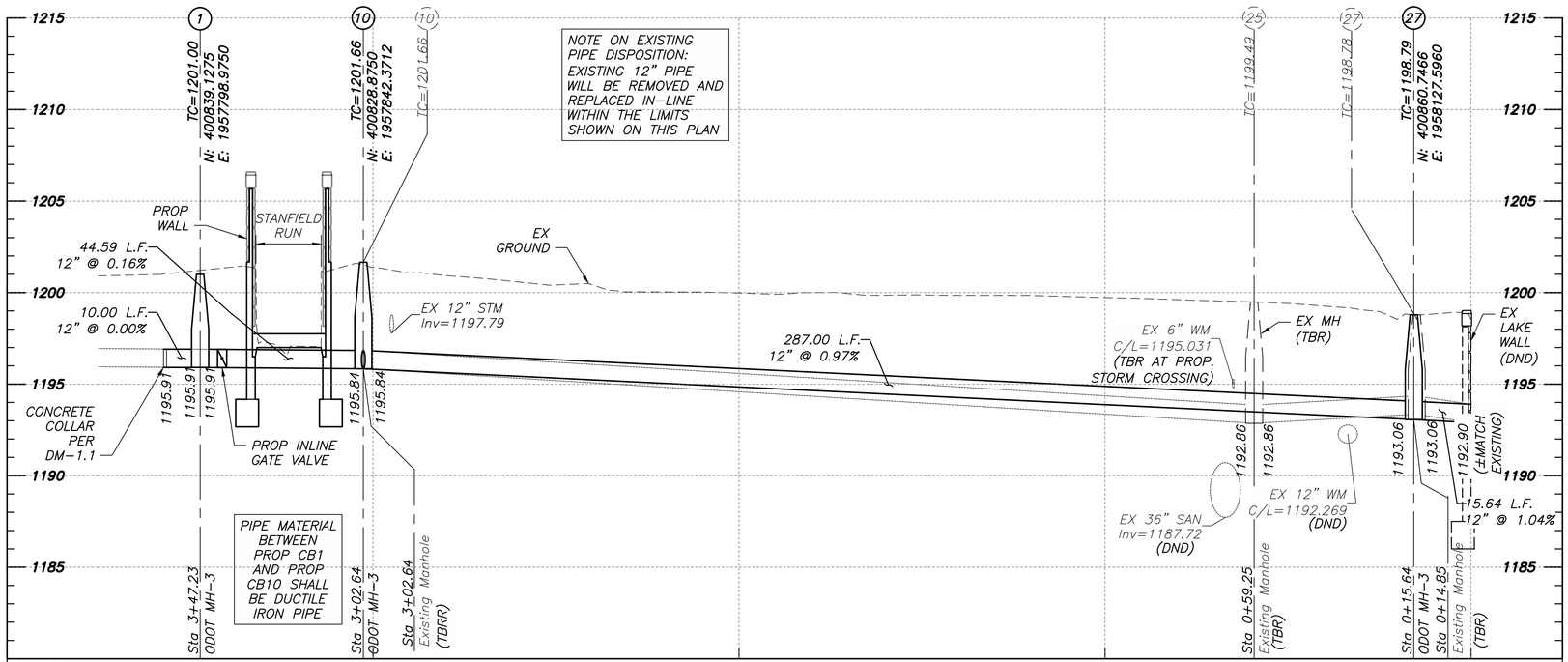
N

GRAPHIC SCALE
0 5 10 20
1 inch = 10 feet

CALCULATED WAC
CHECKED JAG

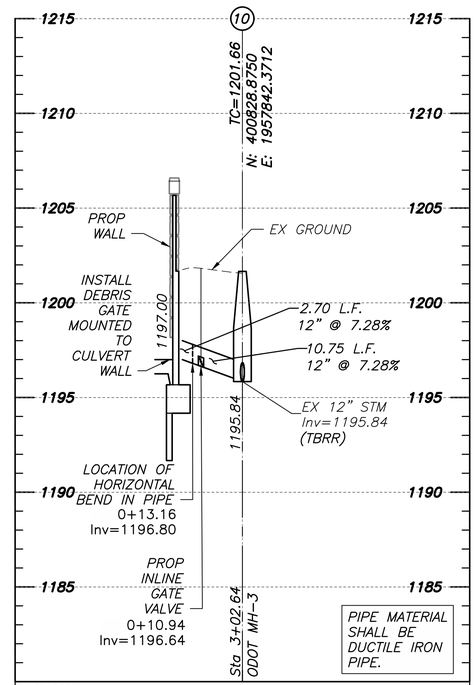
PAVEMENT AND JOINT DETAILS

NORTH LAKE PARK BRIDGE REPLACEMENT



STATION	3	2	1	0
EX GROUND	1201.37	1199.97	1199.73	1198.53
INVERT	1195.81	1194.85	1193.88	1192.92
CUT	5.55	5.13	5.85	5.61

PROFILE ALONG CENTERLINE STORM
(12" LAKE FEEDER PIPE)



STATION	0
EX GROUND	1201.53
INVERT	1195.84
CUT	0.00

PROFILE ALONG CENTERLINE STORM
(12" LAKE FEEDER PIPE)

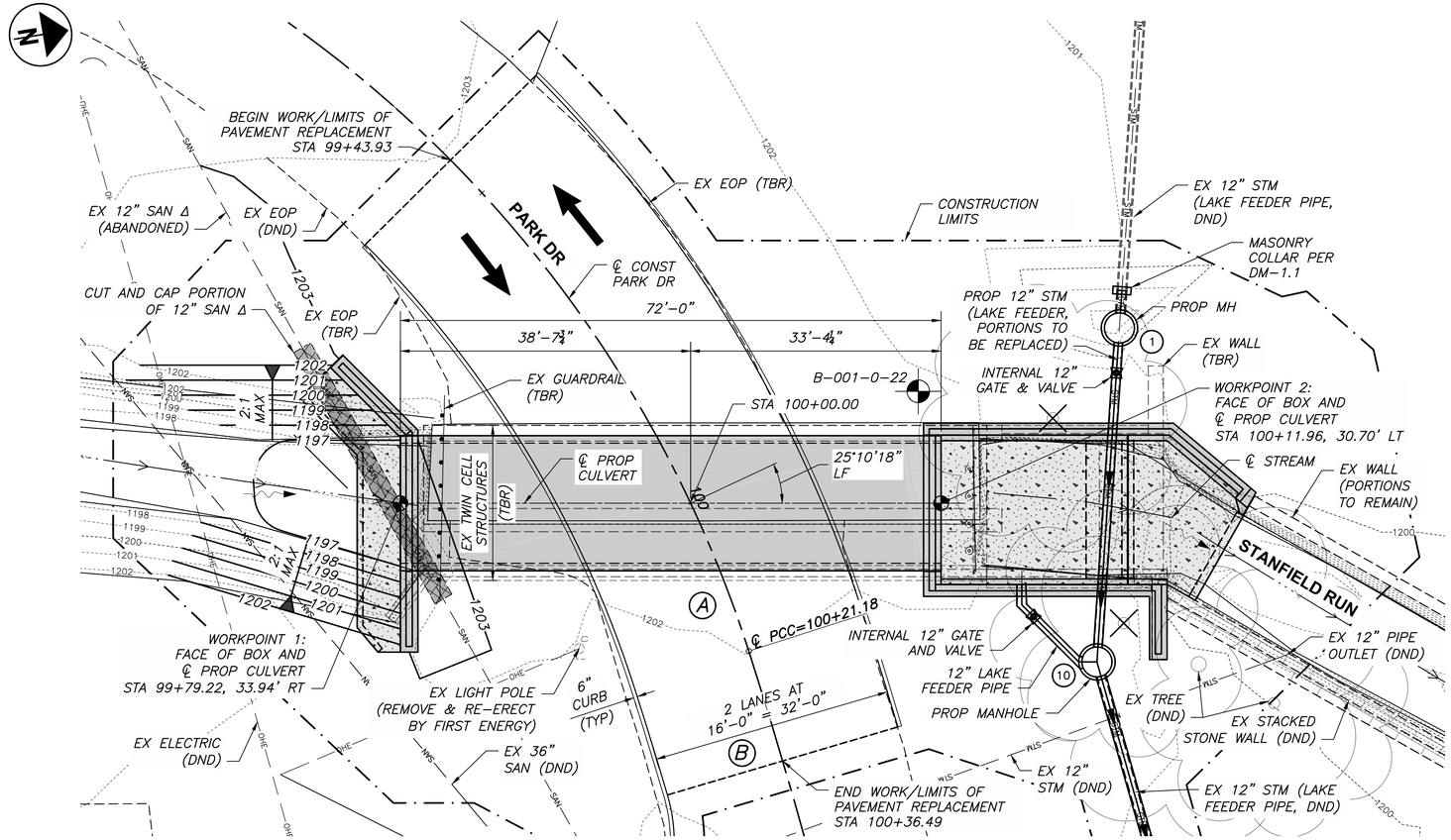
CALCULATED AKJ
CHECKED RMW

HORIZ 1 inch = 20 ft
VERT 1 inch = 4 ft

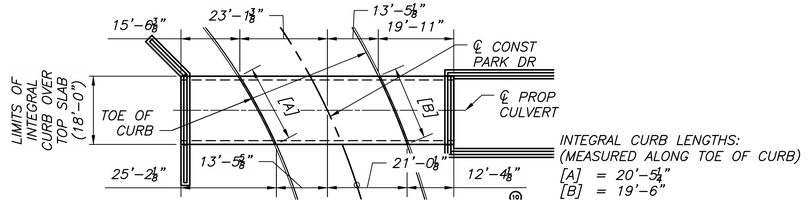
LAKE FEEDER STORM PROFILE

NORTH LAKE PARK BRIDGE REPLACEMENT

13
20



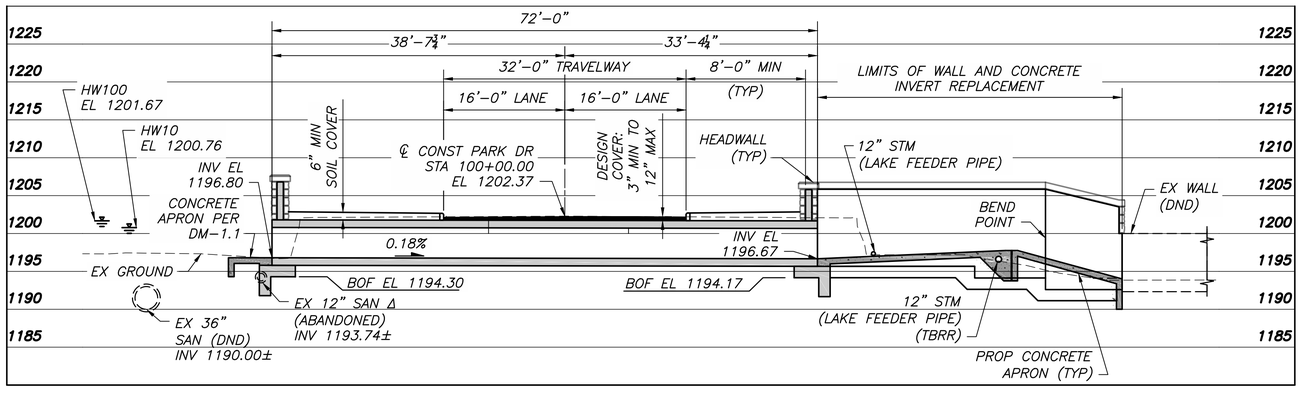
PLAN



INTEGRAL CURB LENGTHS:
(MEASURED ALONG TOE OF CURB)
[A] = 20'-5¾"
[B] = 19'-6"

INTEGRAL CURB PLAN SCHEMATIC

(FOR TYPICAL DETAILS SEE SHEET 15/20)



PROFILE ALONG CENTERLINE CULVERT

Ⓐ HORIZONTAL CURVE DATA

℄ CURVE DATA
P.I.=STA 99+35.79
Δ=69°48'46"
Dc=34°56'11"
R=164.00'
T=114.44'
L=199.83'
E=35.98'
C=187.69'
CB=N46°46'18"E

Ⓑ HORIZONTAL CURVE DATA

℄ CURVE DATA
P.I.=Sta 100+91.43
Δ=12°04'39"
Dc=8°37'44"
R=664.00'
T=70.24'
L=139.97'
E=3.71'
C=139.71'
CB=N87°43'01"E

BENCHMARK DATA

BM#4: N:400864.7240, E:1958166.3350, EL 1201.53
CHISELED "X" ON THE NORTH FLANGE BOLT OF A FIRE HYDRANT ON THE WEST SIDE OF NORTH LAKE PARK DRIVE, 115 FEET NORTH OF PARKWAY DRIVE.

BM#5: N: 400879.7290, E: 1958083.9020, EL 1201.11
CHISELED "X" ON THE SOUTH FLANGE BOLT OF A FIRE HYDRANT ON TEH NORTH SIDE OF A PARKING LOT, BEING 80 FEET WEST OF NORTH LAKE PARK DRIVE AND 80 FEET NORTH OF PARKWAY DRIVE.

BM#6: 100+44.61, OFFSET 43.67' RT, EL 1203.21
CHISELED "X" ON THE NORTH BOLT OF A FIRE HYDRANT ON THE SOUTH SIDE OF PARKWAY DRIVE, 220 FEET WEST OF NORTH LAKE PARK ROAD

(FOR ADDITIONAL BENCHMARK INFORMATION SEE SHEET 11/20)

TRAFFIC DATA

CURRENT ADT (2023) = 176
DESIGN YEAR ADT (2039) = 193
DIRECTIONAL DISTRIBUTION = 0.60
CURRENT ADTT (2023) = 11
DESIGN YEAR ADTT (2039) = 12

HYDRAULIC DATA

DRAINAGE AREA = 1.09 SQ MILES
Q(10) = 306.2 CFS HW(10) = 1200.76 V(10) = 17.7 FPS
Q(100) = 694.5 CFS HW(100) = 1201.67 V(100) = 23.39 FPS

LEGEND

- PROPOSED STRUCTURE
- PROPOSED CONCRETE APRON (SLOPE PROTECTION)
- Δ – DENOTES AN EXISTING ABANDONED LINE THAT MAY BE PRESENT DURING FOUNDATION EXCAVATION. CAP AND REMOVE PORTIONS IN CONFLICT WITH THE PROPOSED FOOTING LIMITS. PARTIAL REMOVAL AND CAP TO BE INCLUDED IN THE LUMP SUM BID FOR ITEM 202, STRUCTURE REMOVED, FOR PAYMENT
- PROJECT SOIL BORING
- EX TREE (TBR)
- WORK POINT

EXISTING STRUCTURE

TYPE: 2-SPAN, TWIN CELL STRUCTURE WITH REINFORCED CONCRETE SLABS AND CONCRETE (OR STACKED STONE) ABUTMENTS ON SHALLOW SPREAD FOUNDATIONS
SPANS: 9'-0"± CLEAR SPAN (WEST) AND 5'-0" CLEAR SPAN (EAST) MEASURED PERPENDICULAR TO ABUTMENT
ROADWAY: 34'-0"± EDGE/EDGE OF PAVEMENT (30'-0" MIN)
LOADING: UNKNOWN
SKEW: 25°13'01"± LF
APPROACH SLABS: NONE
ALIGNMENT: CURVED, 34°56'11"± RT
CROWN: NORMAL
STRUCTURAL FILE NUMBER: DOES NOT EXIST
DATE BUILT: 1913
REHABILITATION: 1919, 1947, 1992
DISPOSITION: TO BE REPLACED

PROPOSED STRUCTURE

TYPE: 16'-0" x 4'-0", 72'-0" LONG PRECAST REINFORCED CONCRETE BOX CULVERT WITH CAST-IN-PLACE REINFORCED CONCRETE HEADWALLS AND WINGWALLS FOUNDED ON CAST-IN-PLACE SPREAD FOOTINGS
SPAN: 16'-0" CLEAR SPAN
ROADWAY: 32'-0"± T/T CURB
LOADING: HL-93
SKEW: 25°10'18", LF
APPROACH SLABS: NONE
ALIGNMENT: CURVE, 34°56'11" RT
CROWN: NORMAL
LATITUDE: 40°46'00.18" N
LONGITUDE: 82°32'19.03" W

EMHT
Date 2/2/24
Reviewed CAS
Structure File Number 7061635
Drawn RMW
Designed RMW
Checked RJE

RICHLAND COUNTY
STA 99+89.90
STA 100+08.81

BRIDGE SITE PLAN AND PROFILE
BRIDGE NO. RIC-M0619-00.14
PARK DRIVE OVER STANFIELD RUN

NORTH LAKE PARK BRIDGE REPLACEMENT

1/7

14
20

GENERAL NOTES

THE FOLLOWING SPECIFICATION SECTIONS AMONG OTHERS SHALL BE ADHERED TO WHILE CONSTRUCTING THIS STRUCTURE:

CMS 202	CMS 508	CMS 511	CMS 516	CMS 609
CMS 501	CMS 509	CMS 512	CMS 518	CMS 611
CMS 503	CMS 510	CMS 513	CMS 601	CMS 613

AND THE FOLLOWING ODOT STANDARD CONSTRUCTION DRAWINGS:

DM–1.1 REVISED 07/17/2020

AND THE FOLLOWING ODOT SUPPLEMENTAL SPECIFICATIONS:

940 DATED 04/17/2015

PROPOSED STRUCTURE
THE PROPOSED STRUCTURE SHALL BE A PRECAST REINFORCED CONCRETE BOX CULVERT WITH CAST–IN–PLACE REINFORCED CONCRETE FOOTINGS, WINGWALLS, AND HEADWALLS AS DETAILED IN THESE PLANS AND SHALL BE CONSTRUCTED AT THE LOCATIONS AND THE DIMENSIONS, LINES, AND GRADES SPECIFIED.

DESIGN SPECIFICATIONS
THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY BRIDGES AND TRANSPORTATION OFFICIALS, 9TH EDITION, 2020, AND THE ODOT BRIDGE DESIGN MANUAL, 2020. CONSTRUCTION & MATERIALS SHALL CONFORM TO THE 2023, EDITION OF THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION & MATERIALS SPECIFICATIONS (CMS).

DESIGN DATA
EARTH COVER – 3" MIN TO 12" MAX
INTERNAL ANGLE OF FRICTION OF BACKFILL SOIL, $\phi bf = 30°$
TOTAL UNIT WEIGHT OF BACKFILL SOIL = 120 PCF
INTERNAL ANGLE OF FRICTION (DRAINED), FOUNDATION SOIL, $\phi f = 28°$
UNDRAINED SHEAR STRENGTH (COHESIVE), FOUNDATION SOIL, Suf = 1,500 PSF
UNIT WEIGHT OF CONCRETE = 150 PCF
LIVE LOAD SURCHARGE = 75 PSF
BARRIER LIVE LOAD = 50 LBS PER FOOT AT 3.5' ABOVE GROUND

MATERIAL DATA
CONCRETE CLASS QC1 – COMPRESSIVE STRENGTH 4000 P.S.I.

STRUCTURAL STEEL LINTEL – ASTM A36 GRADE 36
– MINIMUM YIELD STRENGTH 36 KSI (GALVANIZED PER ASTM A123)

EPOXY COATED REINFORCING STEEL – ASTM A615, A616, OR A617.
GRADE 60 – MINIMUM YIELD STRENGTH 60,000 P.S.I.

SHOP DRAWINGS
THE CONTRACTOR SHALL SUBMIT REINFORCING STEEL SHOP DRAWINGS TO THE OWNER AND EMH&T, WHICH WILL DETERMINE WHETHER THE PROPOSED REINFORCING AND DIMENSIONS CONFORM TO THE PLANS AND SPECIFICATIONS.

THE CONTRACTOR SHALL ALSO SUBMIT A COMPLETE SET OF SHOP DRAWINGS FOR THE PRECAST CONCRETE BOX SECTIONS, PRECAST HEADWALLS AND PRECAST WINGWALLS (IF APPLICABLE), FOR REVIEW TO EMH&T AND THE OWNER. EMH&T WILL REVIEW THE SIZE, LOCATION, AND DIMENSIONS, SOLELY FOR GEOMETRIC CONFORMANCE TO THE PLANS.

REINFORCING STEEL
SPACING OF BARS IS FROM CENTER OF BARS. MINIMUM LAP LENGTHS:
NO. 5 BAR – 2'–5" (VERT), 3'–1" (HORIZ)
NO. 6 BAR – 3'–7" (VERT), 4'–0" (HORIZ)

THE CLEARANCE OF REINFORCING STEEL FROM THE FACE OF THE CONCRETE SHALL BE 2" MINIMUM UNLESS OTHERWISE SHOWN.

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

PORTIONS OF EXISTING STRUCTURE REMOVED
THIS STRUCTURE IS SUBJECT TO TESTING FOR ASBESTOS. THE CONTRACTOR SHALL USE A STATE CERTIFIED ASBESTOS INSPECTOR TO INSPECT AND SAMPLE PORTIONS OF THE ORIGINAL BRIDGE FOR THE PRESENCE OF ASBESTOS. THE COST TO INSPECT AND SAMPLE THE BRIDGE FOR THE PRESENCE OF ASBESTOS, TO DELIVER THE SAMPLES TO A TEST LAB, AND TO TEST THE SAMPLES FOR ASBESTOS WILL BE INCLUDED IN THIS PAY ITEM. THE CONTRACTOR SHALL COMPLETE THE "OHIO ENVIRONMENTAL PROTECTION AGENCY NOTIFICATION OF DEMOLITION AND RENOVATION" AFTER THE TESTING IS COMPLETE AND SEND THE FORM TO THE OHIO EPA 10 DAYS PRIOR TO DEMOLITION.

REMOVAL DESCRIPTION:
THIS WORK INCLUDES THE COMPLETE REMOVAL OF THE EXISTING TWIN CELL STRUCTURES INCLUDING ALL EXISTING STACKED STONES AND REINFORCED CONCRETE RETAINING WALL AND SPREAD FOUNDATIONS IN CONFLICT WITH THE NEW STRUCTURE.
THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT.

ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS, AND/OR HOE–RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE, OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90–POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO C&MS 501.05.

THE EXISTING STACKED STONE ABUTMENTS SHALL BE SALVAGED FOR REUSE AS NATURAL STONE VENEER AS DIRECTED BY THE CITY. THE CONTRACTOR SHALL STACK AND STORE ALL SALVAGED MATERIALS AS DIRECTED BY THE CITY. FOR PROPOSED WORK ADJACENT EXISTING STACKED STONE WALL FEATURES TO REMAIN, THE CONTRACTOR SHALL INCLUDE AS A COST OF THIS BID ITEM THE RESETTING AND REBUILDING OF APPROXIMATELY THREE FEET OF THE STACKED STONE WALL AT THE NORTHEAST PROJECT LIMITS.

PRIOR TO COMPLETE SITE EXCAVATION, THE CONTRACTOR SHALL VERIFY THE EXISTING BOTTOM OF FOOTING DIMENSIONS AND ELEVATIONS FOR PORTIONS OF THE EXISTING WALLS TO REMAIN. THE CONTRACTOR SHALL PROVIDE DIMENSIONS AND FIELD PHOTOS TO THE ENGINEER TO CONFIRM THE EXISTING FOUNDATION GEOMETRY IS ACCEPTABLE.

POROUS BACKFILL WITH FILTER FABRIC
1'–6" THICK SHALL BE PLACED BEHIND THE WINGWALLS ONLY AND SHALL EXTEND TO 12" BELOW THE EMBANKMENT SURFACE. POROUS BACKFILL SHALL EXTEND TO A MINIMUM DEPTH OF 6" BELOW THE WEEPHOLE INVERT ELEVATION. GEOTEXTILE FABRIC SHALL BE PLACED BETWEEN THE POROUS BACKFILL AND REPLACED EXCAVATION ADJACENT TO THE STRUCTURE. IT SHALL TURN UNDER THE BOTTOM OF THE POROUS BACKFILL AND RETURN 6" ABOVE THE TOP ELEVATION OF THE WEEPHOLE. WEEPHOLES SHALL BE PLACED 6" TO 12" ABOVE THE GROUND LINE AND SHALL HAVE A MAXIMUM SPACING OF 10'–0". A MINIMUM OF ONE WEEPHOLE SHALL BE PROVIDED PER WINGWALL UNLESS OTHERWISE INDICATED IN THESE PLANS.

FOUNDATION BEARING PRESSURE
SPREAD FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LOAD BEARING PRESSURE OF 1.96 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LOAD PRESSURE OF 2.50 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 2.70 KIPS PER SQUARE FOOT. IF UNSUITABLE BEARING MATERIAL OCCURS AT THE BOTTOM OF THE FOUNDATION ELEVATION, LOWER THE GIVEN ELEVATION BY OVER EXCAVATING, THEN REPLACING WITH SUITABLE BEARING MATERIAL. THE SUITABILITY OF THE BEARING MATERIAL SHALL BE VERIFIED BY A REGISTERED GEOTECHNICAL ENGINEER EMPLOYED BY THE STATE. ANY CHANGES IN THE FOOTING MUST BE APPROVED BY THE ENGINEER.

WATER STOPS
PVC WATER STOPS SHALL BE INSTALLED ALONG ALL CONSTRUCTION JOINTS AND AS SPECIFIED IN THESE PLANS. WATER STOPS AT CONSTRUCTION JOINT LOCATIONS SHALL BE SIKA GREENSTREAK NO. 783, $\frac{3}{8}$"x6" RIBBED OR STRUCTURAL EQUIVALENT. WATER STOP AT THE HORIZONTAL EXPANSION JOINT IN OUTLET SLAB SHALL BE GREENSTREAK NO. 705, $\frac{3}{8}$"x6" RIBBED WITH CENTERBULB OR STRUCTURAL EQUIVALENT. ALL WATERSTOPS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.

THE COST OF ALL WATER STOPS WITHIN THE RETAINING WALLS INCLUDING MATERIAL AND INSTALLATION SHALL BE INCLUDED IN THE CY UNIT BID FOR ITEM 511, CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING, AS PER PLAN

THE COST OF ALL WATER STOPS WITHIN THE OUTLET SLAB INCLUDING MATERIAL AND INSTALLATION SHALL BE INCLUDED IN THE CY UNIT BID FOR ITEM 511, CLASS QC1 CONCRETE, MISC.: OUTLET SLAB

ITEM 611 – 16X4 CONDUIT, TYPE A, 706.05, AS PER PLAN
CULVERT SECTIONS SHALL BE PRODUCED AND INSTALLED ACCORDING TO ITEM 611, C&MS 706.05, AND SUPPLEMENTAL SPECIFICATION 940. THE FABRICATOR SHALL SUBMIT SHOP DRAWINGS AND LOAD RATING IN ACCORDANCE WITH C&MS 611.04 FOR THE PRECAST REINFORCED CONCRETE FOUR–SIDED BOX CULVERT. THE LOAD RATING AND SHOP DRAWINGS SHALL BE PROVIDED TO THE CITY AND THE DESIGN ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.

CULVERT END SECTIONS SHALL BE MANUFACTURED WITHOUT A BELL OR SPIGOT, SUCH THAT THE EXPOSED FACE OF THE CULVERT ENDS ARE FLUSH IN ITS FINAL CONDITION.

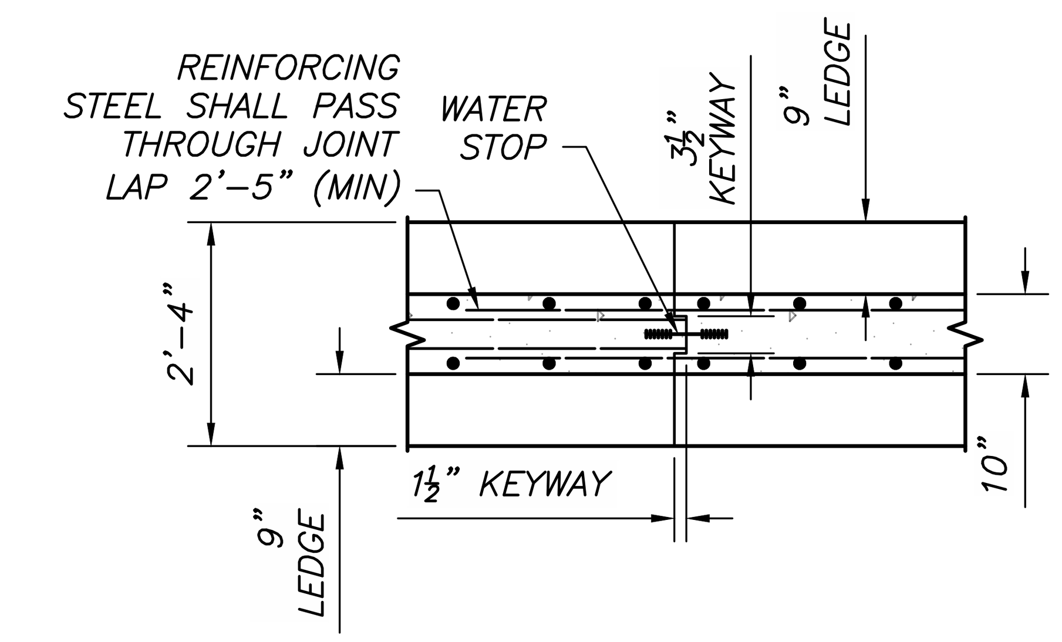
AT THE FABRICATOR'S OPTION, DOWEL BARS USED FOR THE INTEGRAL CURB CONNECTION MAY BE FORMED INTO THE TOP SLAB OF THE CULVERT SECTIONS. IF DOWEL BARS ARE TO BE FIELD INSTALLED, THE BOX CULVERT SUPPLIER SHALL INDICATE THE LOCATION OF THE REINFORCING BARS ALONG THE TOP SLAB SUCH THAT DAMAGE TO PRIMARY OR SECONDARY STEEL IS AVOIDED WHEN POST INSTALLING DOWEL BARS IN THE FIELD. THE CONTRACTOR SHALL COORDINATE WITH THE BOX SUPPLIER PRIOR TO ANY POST INSTALLED DOWEL INSTALLATION.

ALL COSTS ASSOCIATED WITH THE FABRICATION, SHIPMENT, AND INSTALLATION OF THE PRECAST CONCRETE FOUR–SIDED BOX CULVERT INCLUDING EXCAVATION AND BACKFILL WITH SUITABLE MATERIAL (AS APPROVED BY THE BOX SUPPLIER) SHALL BE INCLUDED IN THE LF PRICE BID FOR ITEM 611, 16X4 CONDUIT, TYPE A, 706.05, AS PER PLAN, FOR PAYMENT.

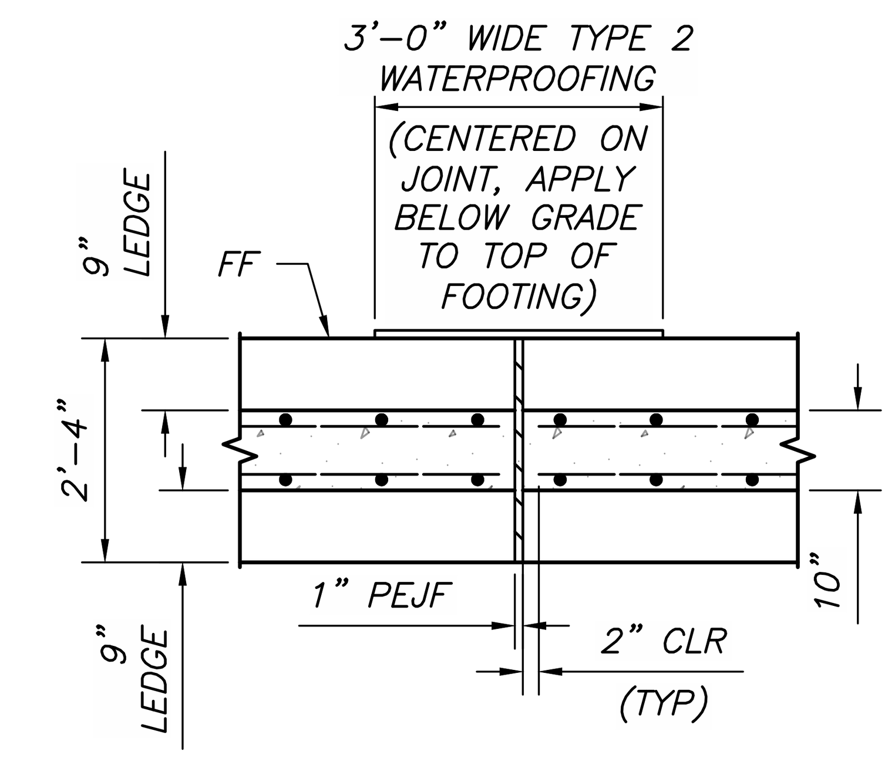
SPECIAL – STRUCTURES: DEBRIS SCREEN
DEBRIS SCREEN SHALL BE BLACK IN FINAL CONDITION. CONTRACTOR MAY USE POWDER COATED STEEL, PAINTED GALVANIZED STEEL, OR BLACK DPE TRASH SCREEN. PIPE SCREEN SHALL BE INSTALLED AT THE INLET OF THE 6" LAKE FEEDER PIPE. IF GALVANIZED STEEL IS USED THE CONTRACTOR SHALL SURFACE PREP AND PAINT PER INDUSTRY STANDARDS WITH AN APPROVED EXTERIOR AQUATIC PAINT. SCREEN SHALL BE INSTALLED BEHIND THE NATURAL STONE FINISH AND AGAINST THE REINFORCED CONCRETE WALL AND/OR SLAB AS DETAILED IN THESE PLANS. PIPE SCREENS MAY BE PROVIDED BY THE FOLLOWING MANUFACTURER'S OR APPROVED EQUIVALENTS:

J.R. HOE	PLASTIC SOLUTIONS
101 IRONWOOD ROAD	238 MCGHEE RD
MIDDLESBORO, KY 40965	WICHESTER, VA 22603
800–245–5521	877–877–5727
HTTPS://JRHOE.COM	HTTPS://PLASTIC–SOLUTION.COM

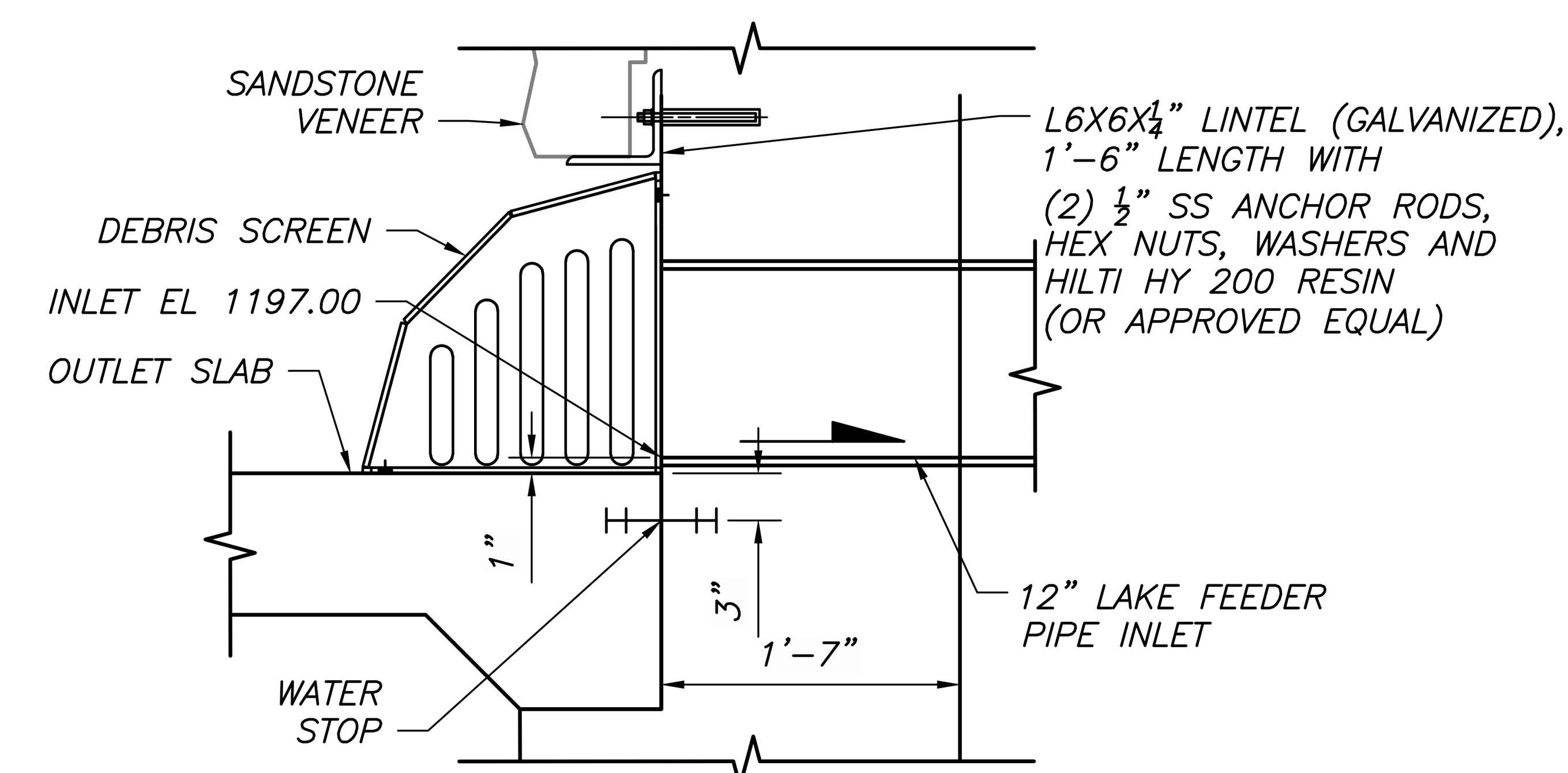
THE CONTRACTOR SHALL INSTALL THE DEBRIS SCREEN PER THE MANUFACTURERS SPECIFICATIONS. ALL COSTS FOR MATERIAL, LABOR, AND INSTALLATION SHALL BE INCLUDED IN THE PER EACH COST FOR ITEM 530, SPECIAL – STRUCTURES: DEBRIS SCREEN, FOR PAYMENT.



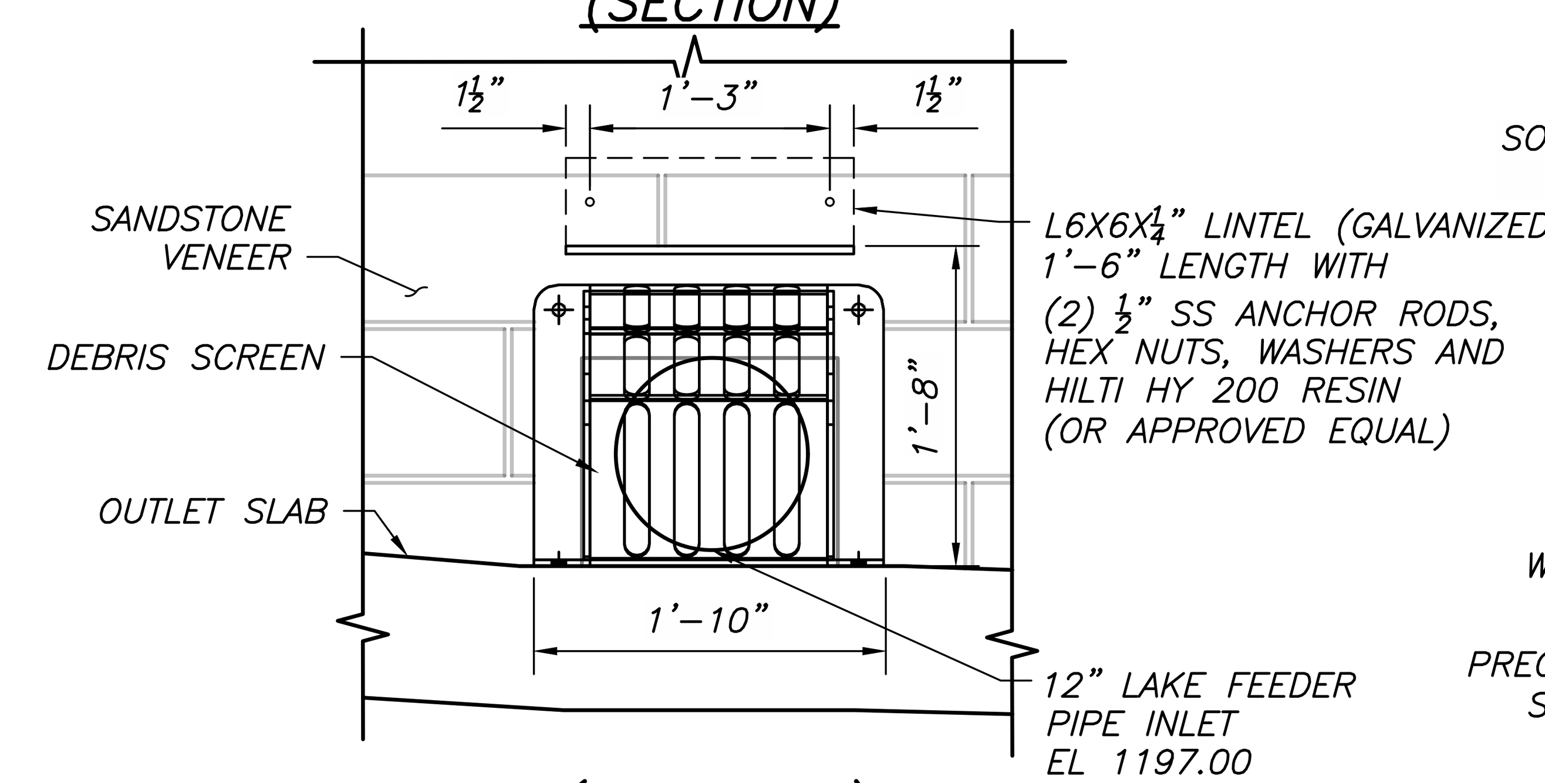
VERTICAL CONSTRUCTION JOINT



VERTICAL EXPANSION JOINT

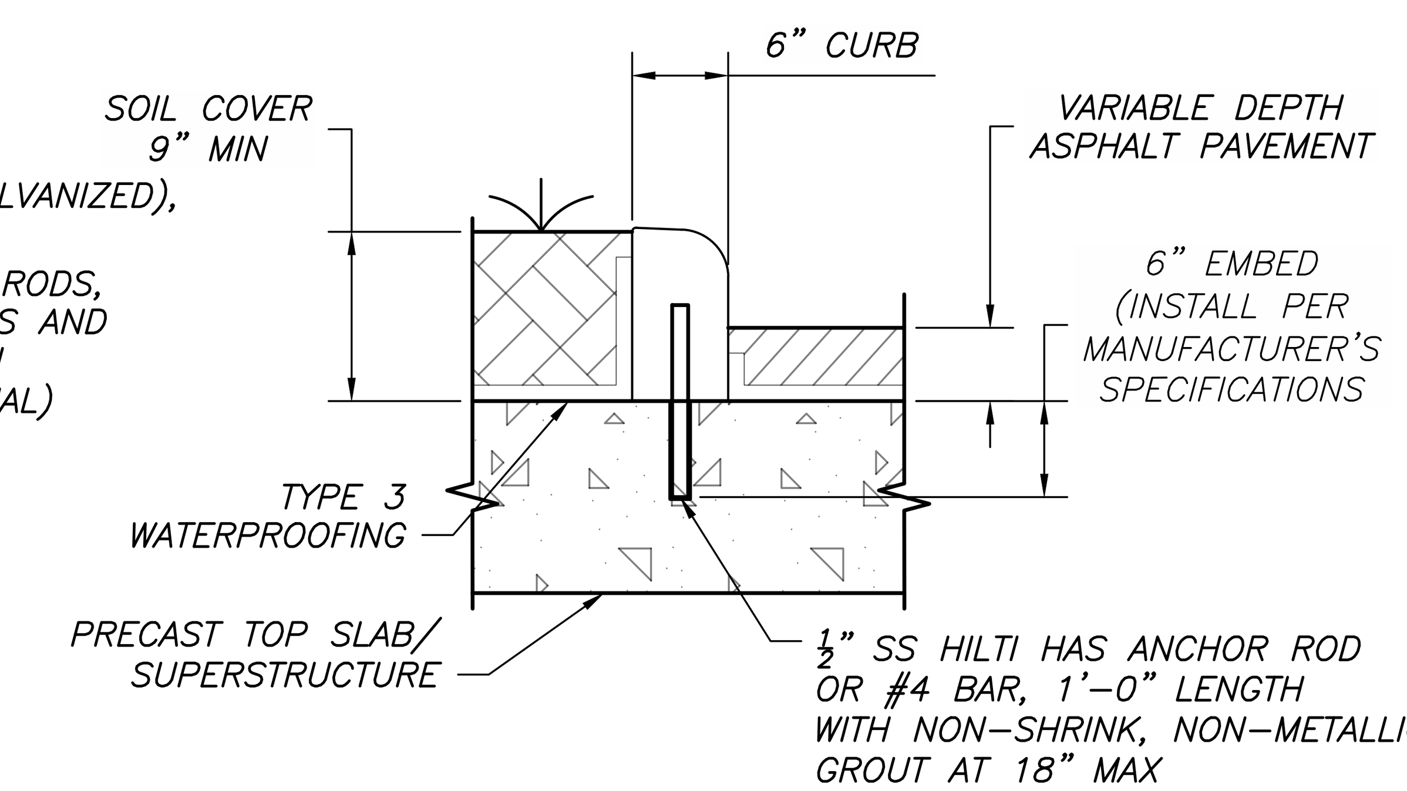


(SECTION)

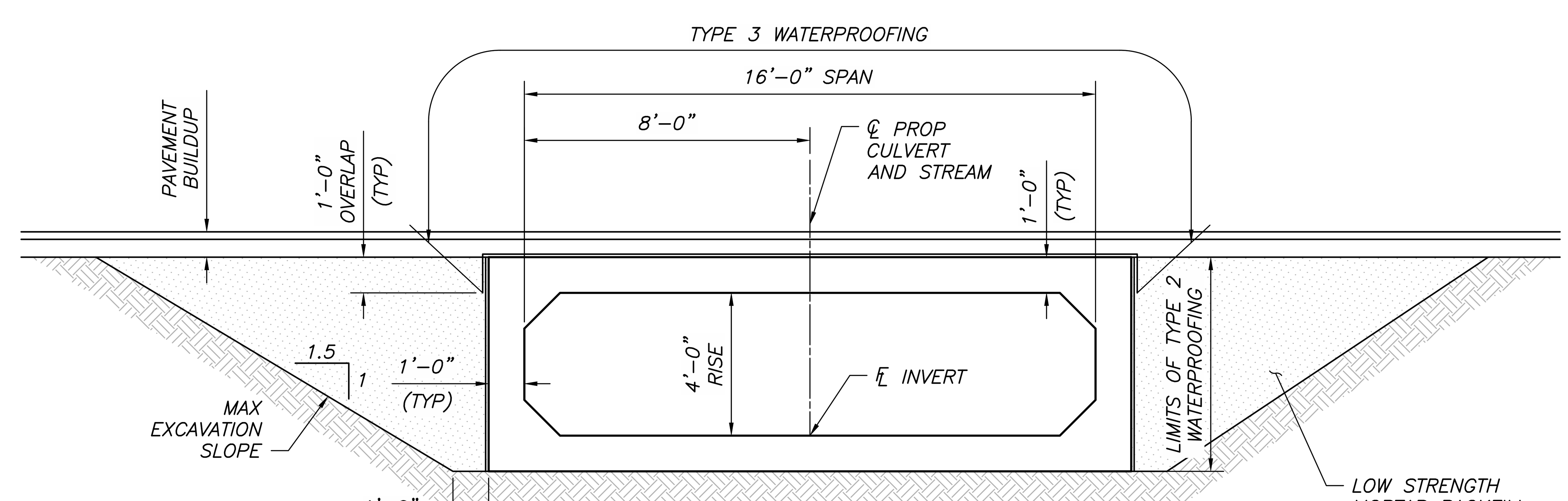


(ELEVATION)

LAKE FEEDER INLET DEBRIS SCREEN DETAIL



INTEGRAL CURB DETAIL



BOX TYPICAL SECTION

(CONTINUE WATERPROOFING PAST THE END OF THE PRECAST UNITS TO LAP 1'–0" MINIMUM ONTO THE BACKSIDE OF WINGWALL AND HEADWALL, COVERING THE VERTICAL WINGWALL AND HORIZONTAL HEADWALL JOINTS)

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
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Designed	Drawn	Reviewed	Date
RMW	RMW	CAS	2/2/24
Checked		Structure File Number	
RJE		7061635	

GENERAL NOTES AND DETAILS
BRIDGE NO. RIC-M0619-00.14
PARK DRIVE OVER STANFIELD RUN

NORTH LAKE PARK BRIDGE REPLACEMENT

2/7

GENERAL NOTES (CONT.)

SPECIAL – STRUCTURE: NATURAL SANDSTONE VENEER AND CAP

1.0 DESCRIPTION:

THIS WORK CONSISTS OF REUSING AND SAW CUTTING DOWN THE THICKNESS OF THE EXISTING STACKED STONE ABUTMENTS AND/OR SANDSTONE MATERIAL SUPPLIED FROM THE CITY OF MANSFIELD'S MATERIAL STOCKPILE, FOR USE AS THE NATURAL STONE VENEER TO BE APPLIED TO ALL EXPOSED CONCRETE SURFACES IN ACCORDANCE WITH THESE SPECIFICATIONS AND PLAN DETAILS. THE NEW MASONRY STONES SHALL BE ROUGHLY SQUARED AND DRESSED STONE SIMILAR TO THAT WHICH IS FROM THE EXISTING STACKED STONE AND AS INSTALLED AT THE NEARBY NORTH LAKE PARK ARCH BRIDGE. THE STONE MASONRY SHALL BE LAID IN CEMENT BASED MORTAR THAT IS MIXED SO THAT IS NOT HARDER THAN THE STONE USED. STAINLESS STEEL DOVETAIL SLOTS AND ANCHORS SHALL BE USED TO ANCHOR THE MASONRY TO THE CONCRETE RETAINING WALLS PER THE PLAN DETAILS.

2.0 MATERIALS:

2.1 STONE

THE STONE VENEER FOR ALL WALL FACINGS SHALL BE TAKEN FROM THE EXISTING STACKED STONE ABUTMENTS TO BE REMOVED OR THE STONE SUPPLIED BY THE CITY. ENOUGH STONE WILL BE SUPPLIED THAT THE CONTRACTOR WILL BE ABLE TO SORT AND EVALUATE THE PIECES TO FIND A SUFFICIENT QUANTITY TO FABRICATE (IF NEEDED) ADDITIONAL STONES FOR THE PROPOSED STONE FACING. THE STONE USED SHALL BE FREE FROM OLD MORTAR, DIRT, OIL, OR ANY OTHER INJURIOUS MATERIAL WHICH MAY PREVENT THE PROPER ADHESION OF THE MORTAR OR DETRACT FROM THE APPEARANCE OF THE EXPOSED SURFACES. THE STONES SHALL BE CUT TO 8" NOMINAL THICKNESS FOR THE WALLS. CONTRACTOR OPERATIONS SHALL ASSUME THAT STONES ARE CUT ON-SITE AND APPROPRIATE EQUIPMENT SHALL BE MOBILIZED AND UTILIZED TO PERFORM THE WORK.

2.2 MORTAR

MASONRY SHALL BE BEDDED IN A TYPE N MORTAR. THE INGREDIENTS USED IN MAKING THE MORTAR SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

MASONRY CEMENT: ASTM C91

HYDRATED LIME: ASTM C 207

QUICK LIME USED TO MAKE LIME PUTTY: ASTM C 5

SAND AGGREGATE: AASHTO M 45 (ASTM C 144)

IN GENERAL, THE PROPORTIONS OF THE MATERIAL SHALL BE SUCH THAT THE VOLUME OF SAND IN A DAMP, LOOSE, CONDITION IS BETWEEN 2¼" AND 3 TIMES THE VOLUME OF THE CEMENTITUOUS MATERIALS. THE CEMENTITIOUS SHALL CONSIST OF EITHER ONE PART OF PORTLAND CEMENT TO BETWEEN ¼ AND ½ PARTS OF HYDRATED LIME OR LIME PUTTY, OR ONE PART OF PORTLAND CEMENT TO BETWEEN ONE AND TWO PARTS OF MASONRY CEMENT. PREMIXED MATERIAL CONFORMING TO THESE REQUIREMENTS MAY BE USED. THE CEMENT BASED MORTAR SHALL BE MIXED SO THAT IT IS NOT HARDER THAN THE STONE USED, SO AS TO MINIMIZE FUTURE CRACKING AND SPALLING OF THE STONES. ADMIXTURES SHALL BE USED ONLY WHEN SPECIFIED OR APPROVED BY THE ENGINEER.

2.3 DOVETAIL SLOTS

MINIMUM 20 GA. TYPE 304 STAINLESS STEEL

2.4 DOVETAIL ANCHORS

MINIMUM 12 GA. TYPE 304 STAINLESS STEEL DOVETAIL HEAD THICKNESS, MINIMUM TYPE 304 STAINLESS STEEL ¼" DIAMETER X 4½" TIE LENGTH.

3.0 MANUFACTURE OF ADDITIONAL STONES

3.1 GENERAL

EACH STONE SHALL BE FREE FROM DEPRESSIONS AND PROJECTIONS THAT MIGHT WEAKEN IT OR PREVENT IT FROM BEING PROPERLY BEDDED, AND SHALL BE OF A SHAPE TO MEET THE REQUIREMENTS FOR THE CLASS OF MASONRY SPECIFIED.

INDIVIDUAL STONE SIZES SHALL ATTEMPT TO MATCH THE EXISTING STONES SO THAT THE COMPLETED STONE FACING IS SIMILAR AND CONSISTENT WITH THE EXISTING STONE FACING USED ON THE ADJACENT NORTH LAKE PARK ARCH BRIDGE. THE STONES SHALL BE CUT TO 8" NOMINAL THICKNESS FOR THE WALLS. MORTAR JOINTS OF THE STONE SHALL BE AS CONSISTENT IN SIZE AS POSSIBLE OVER THE LENGTH OF THE RETAINING WALLS.

3.2 SURFACE FINISHES OF STONE

THE SURFACE FINISH OF THE ADDITIONAL STONE MANUFACTURED SHALL REASONABLY MATCH THAT OF THE EXISTING STONE THAT IS REUSED.

3.3 SIZE AND SHAPE

STONE SIZES SHALL BE MANUFACTURED SUCH THAT THEY MIMIC THE SIZES AND PATTERN OF THE EXISTING STONE FACING USED ON THE NORTH LAKE PARK ARCH BRIDGE SO THAT THERE IS NO DISCERNABLE DIFFERENCE IN THE LOOK OF THE STONE MATERIALS BETWEEN THE EXISTING AND FABRICATED MATERIALS. ALL SHAPING OR DRESSING OF STONE SHALL BE DONE BEFORE THE STONE IS LAID IN THE WALL PANELS, AND NO DRESSING OR HAMMERING, WHICH WILL LOOSEN THE STONE, WILL BE PERMITTED AFTER IT IS PLACED. THE FINISHED STONE FACING SHOULD ACCOMMODATE THE FINAL BUILD-OUT SHOWN AND AT NO POINT HAVE A BEDDING WIDTH OF LESS THAN 6".

3.4 RAILING CAPS

ALL RAILING CAPSTONE SHALL BE CUT SANDSTONE AND SUPPLIED BY THE BRIAR HILL STONE COMPANY:

THE BRIAR HILL STONE COMPANY
12470 SR 520
GLENMONT, OH 44628
330-377-5100
briarhill@valkyrie.net

CAP STONES SHALL BE 32" WIDE AND 10" HIGH. LENGTH AND CUT SHALL CLOSELY RESEMBLE THE CAP STONE FINISH APPLIED TO THE ADJACENT NORTH LAKE PARK ARCH BRIDGE. CAP STONES SHALL BE OF VARIABLE LENGTHS BETWEEN 3 FT TO 5 FT AND SHALL BE PLACED IN A RANDOM, ALTERNATING PATTERN. RAKE OUT CAP JOINTS WITH A SOLAR SEAL CAULKING, OR APPROVED EQUIVALENT. JOINT COMPOUND SHALL BE EXTERIOR RATED AND COMPATIBLE WITH THE STONE MASONRY MATERIAL. THE COLOR OF CAULKING SHALL CLOSELY RESEMBLE THE COLOR OF THE MORTAR.

4.0 CONSTRUCTION

4.1 WEATHER CONDITIONS

STONE MASONRY SHALL NOT BE CONSTRUCTED IN FREEZING WEATHER OR WHEN STONE CONTAINS FROST.

4.2 MIXING MORTAR

THE MORTAR SHALL BE HAND OR MACHINE MIXED. IN THE PREPARATION OF HAND-MIXED MORTAR, THE SAND AND CEMENT SHALL BE THOROUGHLY MIXED TOGETHER IN A CLEAN, TIGHT MORTAR BOX UNTIL THE MIXTURE IS OF UNIFORM COLOR, AFTER WHICH CLEAN WATER SHALL BE ADDED IN SUCH QUANTITIES AS TO FORM A STIFF PLASTIC MASS. MACHINE-MIXED MORTAR SHALL BE PREPARED IN AN APPROVED MIXER AND SHALL BE MIXED NOT LESS THAN 3 MINUTES NOR MORE THAN 10 MINUTES. MORTAR SHALL BE USED WITHIN 1½ HOURS AFTER MIXING AND BEFORE FINAL SET BEGINS. RETEMPERING OF MORTAR SHALL BE AS NECESSARY TO MAINTAIN CONSISTENCY DURING PLACEMENT.

4.3 SELECTION AND PLACING OF STONE

4.3.1 GENERAL

WHEN MASONRY IS PLACED ON A PREPARED FOUNDATION BED, THE BED SHALL BE FIRM AND NORMAL TO THE FACE OF THE WALL, AND APPROVED BY THE ENGINEER BEFORE ANY STONE IS PLACED.

ALL MASONRY SHALL BE CONSTRUCTED BY AN EXPERIENCED STONE MASON. THE CONTRACTOR SHALL FURNISH THE PROPOSED MASONRY FOREMAN'S EXPERIENCE WITH STONE MASONRY RECONSTRUCTION WITH THEIR BID.

EACH STONE SHALL BE CLEANED AND THOROUGHLY SATURATED WITH WATER BEFORE BEING SET, AND THE BED WHICH IS TO RECEIVE IT SHALL BE CLEAN AND WELL MOISTENED. ALL STONES SHALL BE WELL BEDDED IN FRESHLY MADE MORTAR. THE MORTAR JOINTS SHALL BE FULL AND THE STONES CAREFULLY SETTLED IN PLACE BEFORE THE MORTAR BEGINS TO SET.

ALL OF THE STONE MASONRY SURFACES ARE TO BE CLEANED BY THE MILDEST AND LEAST ABRASIVE MEANS POSSIBLE. LOW-PRESSURE WATER WASHING WITH BRISTLE BRUSHES IS THE PREFERRED TREATMENT. CARE MUST BE EXERCISED TO AVOID WATER ABSORPTION BY THE MASONRY, WHICH CAN RESULT IN THE CREATION OF SOLUBLE SALT DEPOSITS ON THE MASONRY SURFACES SOMETIME AFTER COMPLETION OF THE CLEANING OPERATION. WATER CANNOT BE USED TO CLEAN THE SURFACES IN PERIODS WHEN THE TEMPERATURE, OVER A PERIOD OF SEVERAL DAYS, MIGHT BE EXPECTED TO DROP BELOW FREEZING. PERIODIC INSPECTION SHALL BE MADE NOT ONLY OF THE MASONRY ITSELF BUT ESPECIALLY OF THE MORTAR JOINTS TO ENSURE THAT THE TREATMENT IS NOT CAUSING DAMAGE OR UNDUE MOISTURE PENETRATION OF THESE JOINTS.

WATER FOR SURFACE CLEANING SHALL BE CLEAN AND FREE OF CHEMICAL AGENTS THAT MIGHT INTERACT WITH THE MASONRY SURFACES. BRISTLE BRUSHES SHALL BE FLEXIBLE ENOUGH TO AVOID DAMAGE TO MASONRY SURFACES.

IN CASE ANY STONE IS MOVED OR THE JOINT IS BROKEN, THE STONE SHALL BE TAKEN UP, THE MORTAR THOROUGHLY CLEANED FROM THE BED AND HEAD JOINTS, AND STONE RESET IN FRESH MORTAR.

4.3.2 STONE MASONRY JOINT WIDTH AND SPACING

NEWLY MANUFACTURED AND EXISTING STONE MASONRY SHALL BE LAID UP TO ROUGHLY MATCH THE CONFIGURATION OF THE ADJACENT NORTH LAKE PARK ARCH BRIDGE SANDSTONE FACING. VERTICAL JOINTS SHALL NOT EXCEED A 20" MAXIMUM SPACING. BEDS AND JOINTS IN THE STONE MASONRY SHALL HAVE AN AVERAGE THICKNESS OF NO MORE THAN ½" AND NO JOINT SHALL HAVE A THICKNESS LARGER THAN 2".

ALL JOINTS AND ALL VOIDS BETWEEN STONE AND CONCRETE SHALL BE SLUGGED FULL WITH MORTAR.

4.4 POINTING

POINTING SHALL NOT BE DONE IN FREEZING WEATHER OR WHEN THE STONE CONTAINS FROST.

WHENEVER POSSIBLE THE FACE JOINT SHALL BE PROPERLY POINTED BEFORE THE MORTAR BECOMES SET. JOINTS WHICH CANNOT BE SO POINTED SHALL BE PREPARED FOR POINTING BY RAKING THEM OUT TO A DEPTH OF 2 INCHES BEFORE THE MORTAR HAS SET. THE FACE SURFACES OF STONES SHALL NOT BE SMEARED WITH THE MORTAR FORCED OUT OF THE JOINTS OR THAT USED IN POINTING.

JOINTS NOT POINTED AT THE TIME THE STONE IS LAID SHALL BE THOROUGHLY WET WITH CLEAN WATER AND FILLED WITH MORTAR. THE MORTAR SHALL CONFORM TO ARTICLE 2.2 EXCEPT THAT THE PROPORTION OF HYDRATED LIME PUTTY SHALL BE INCREASED TO ½ TO 2 TIMES THE VOLUME OF THE CEMENT OR THE CEMENT SHALL BE ALL MASONRY TYPE CEMENT.

THE MORTAR SHALL BE WELL DRIVEN INTO THE JOINTS AND FINISHED WITH AN APPROVED POINTING TOOL. THE STONE SHALL BE KEPT WET WHILE POINTING IS BEING DONE AND IN HOT OR DRY WEATHER. THE POINTED MASONRY SHALL BE PROTECTED FROM THE SUN AND KEPT WET FOR A PERIOD OF AT LEAST 3 DAYS AFTER COMPLETION.

AFTER THE POINTING IS COMPLETED THE MORTAR SET, THE WALL SHALL BE THOROUGHLY CLEANED AND LEFT IN A NEAT CONDITION.

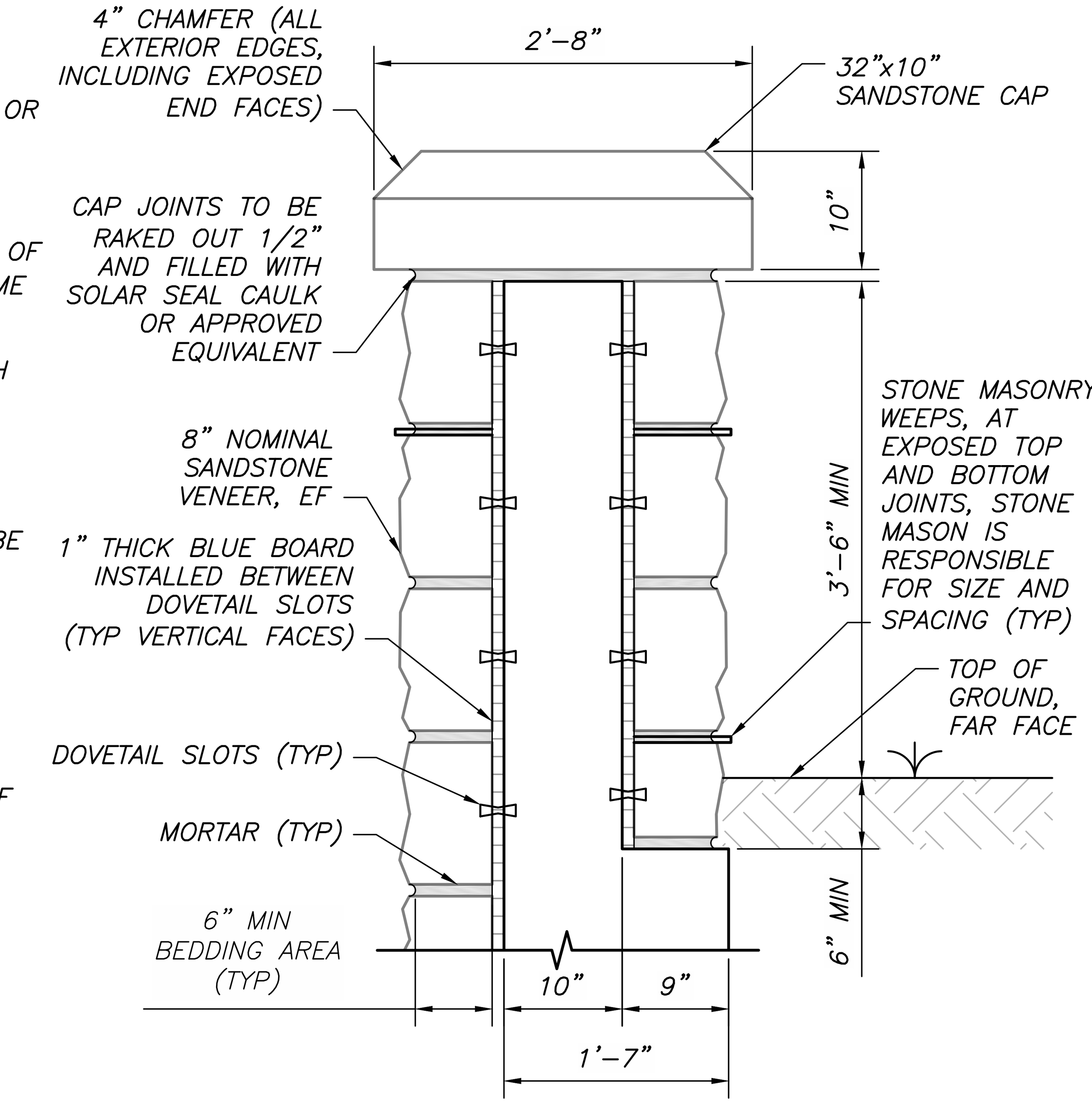
5.0 STONE CLEANING

AFTER CLEANING OF ANY MORTAR OFF THE STONE SURFACES WHEN THE MASONRY WORK IS COMPLETED, THE STONES SHALL BE CLEANED WITH A RESTORATION CLEANER. THE CLEANER SHALL BE PROSOCO SURE KLEAN RESTORATION CLEANER OR APPROVED EQUAL ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS. THE PURPOSE OF THIS CLEANING IS TO REMOVE SOME OF THE DIRT AND GRIME ON THE STONES AND PROVIDE A MORE EVEN AND UNIFORM APPEARANCE TO THE STONE MASONRY.

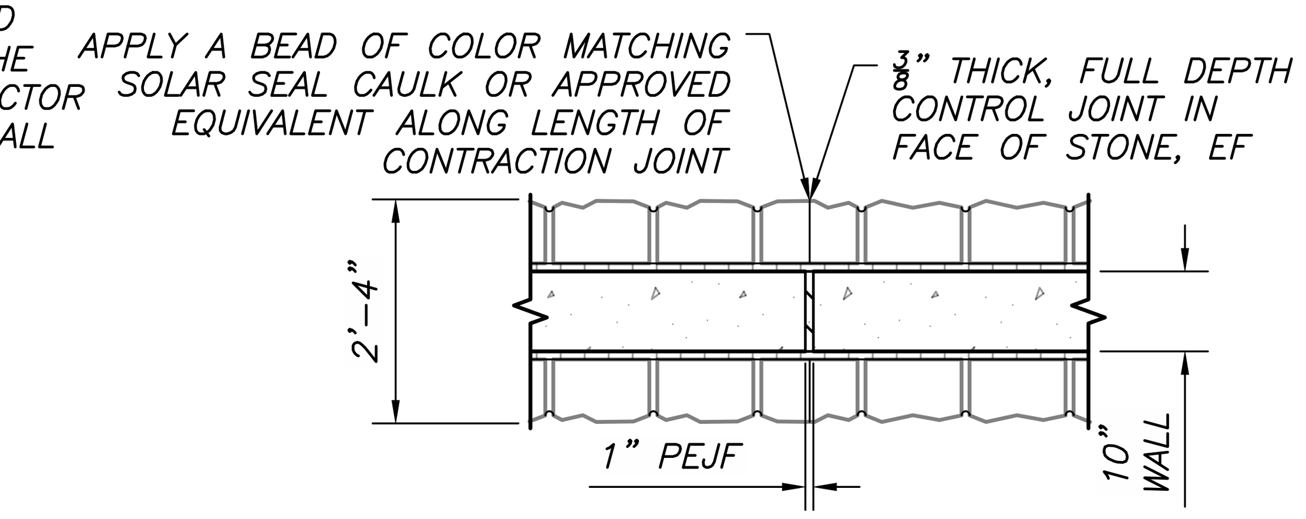
6.0 MEASURMENT AND PAYMENT

THE NATURAL SANDSTONE FINISH SHALL BE PAID FOR BY THE CONTRACT SQUARE FOOT PRICE. PAYMENT SHALL INCLUDE ALL COSTS FOR LABOR, TOOLS, MATERIALS (OTHER THAN STONE THAT IS PROVIDED), INCLUDING MORTAR FOR BEDDING AND POINTING, STAINLESS STEEL STAY-IN-PLACE DOVETAIL SLOTS, GALVANIZED STEEL LINTEL, AND ANCHORS, AND OTHER ITEMS INCIDENTAL TO THE SATISFACTORY COMPLETION OF THE WORK.

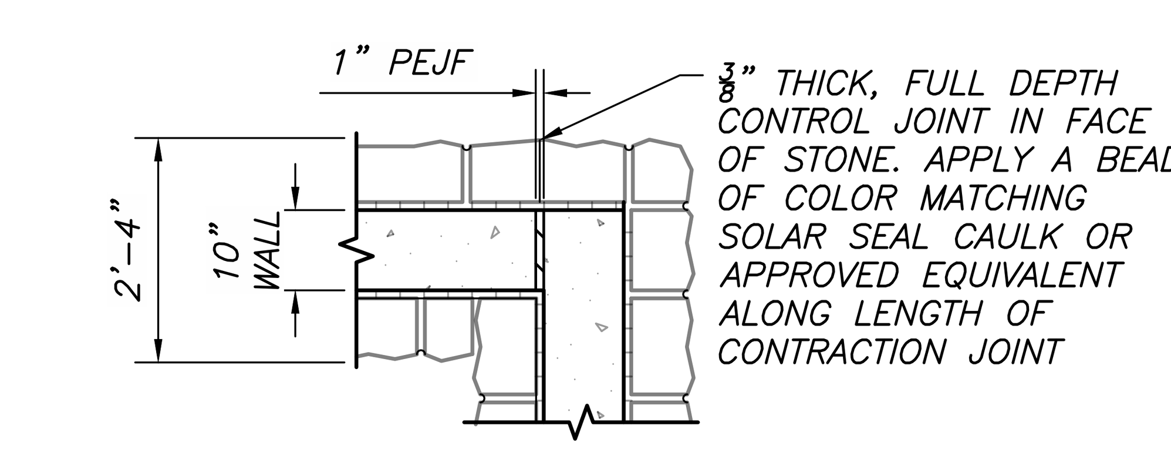
PRIOR TO BIDDING, THE CONTRACTOR SHOULD VISIT THE CITY'S SALVAGED STONE STOCKPILE YARD TO ENSURE A COMPLETE UNDERSTANDING OF THE MASONRY MATERIALS TO BE USED FOR THE STONE FACING. THE CONTRACTOR SHALL BE CAPABLE OF SPLITTING AND SIZING STONE PROPERLY AND SHALL MAKE BIDS ACCORDINGLY.



NATURAL STONE FACING DETAIL



LINEAR CONTROL JOINT DETAIL



CORNER CONTROL JOINT DETAIL

ABBREVIATION LEGEND

℄ : CENTERLINE
ø : DIAMETER
BOF : BOTTOM OF FOOTING
C/C : CENTER TO CENTER
CIP : CAST-IN-PLACE
CLR : CLEAR
CMS : CONSTRUCTION & MATERIAL SPECIFICATION
CJ : CONSTRUCTION JOINT
EF : EACH FACE
EJ : EXPANSION JOINT
ELEV : ELEVATION
EX : EXISTING
FF : FAR FACE
HORIZ : HORIZONTAL
LT : LEFT
MIN : MINIMUM
NF : NEAR FACE
OHWM : ORDINARY HIGH WATER MARK
RT : RIGHT
RTG : RECONSTRUCT TO GRADE
R/W : RIGHT OF WAY
SB# : SOIL BORING NUMBER
SER : SERIES
SPA : SPACED
SS : STAINLESS STEEL
STA : STATION
TBR : TO BE REMOVED
TBRL : TO BE RELOCATED
TOW : TOP OF WALL
TYP : TYPICAL
VERT : VERTICAL
WS : WEARING SURFACE
W/ : WITH

ESTIMATED QUANTITIES

CALCULATED: CAD DATE: 01/08/2024 — CHECKED: RMW DATE: 01/09/2024

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	SHEET
202	11000	1	LS	STRUCTURE REMOVED	15/20
503	11100	1	LS	COFFERDAMS AND EXCAVATION BRACING	
503	21100	290	CY	UNCLASSIFIED EXCAVATION	
509	10000	21,000	LB	EPOXY COATED STEEL REINFORCEMENT	
510	10000	23	EA	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
511	46010	61	CY	CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING	
511	46510	61	CY	CLASS QC1 CONCRETE, FOOTING	
511	53010	36	CY	CLASS QC1 CONCRETE, MISC.: OUTLET SLAB	
512	33000	112	SY	TYPE 2 WATERPROOFING	
512	33010	288	SY	TYPE 3 WATERPROOFING	
516	13600	225	SF	1" PREFORMED EXPANSION JOINT FILLER	
518	21200	8	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
530	00400	1	EA	SPECIAL – STRUCTURES: DEBRIS SCREEN	15/20
530	00600	1,692	SF	SPECIAL – STRUCTURES: NATURAL SANDSTONE VENEER AND CAP	16/20
601	11000	25	SY	RIPRAP, TYPE D	
611	96391	72	FT	16'X4' CONDUIT, TYPE A, 706.05, AS PER PLAN	15/20
613	41200	180	CY	LOW STRENGTH MORTAR BACKFILL	

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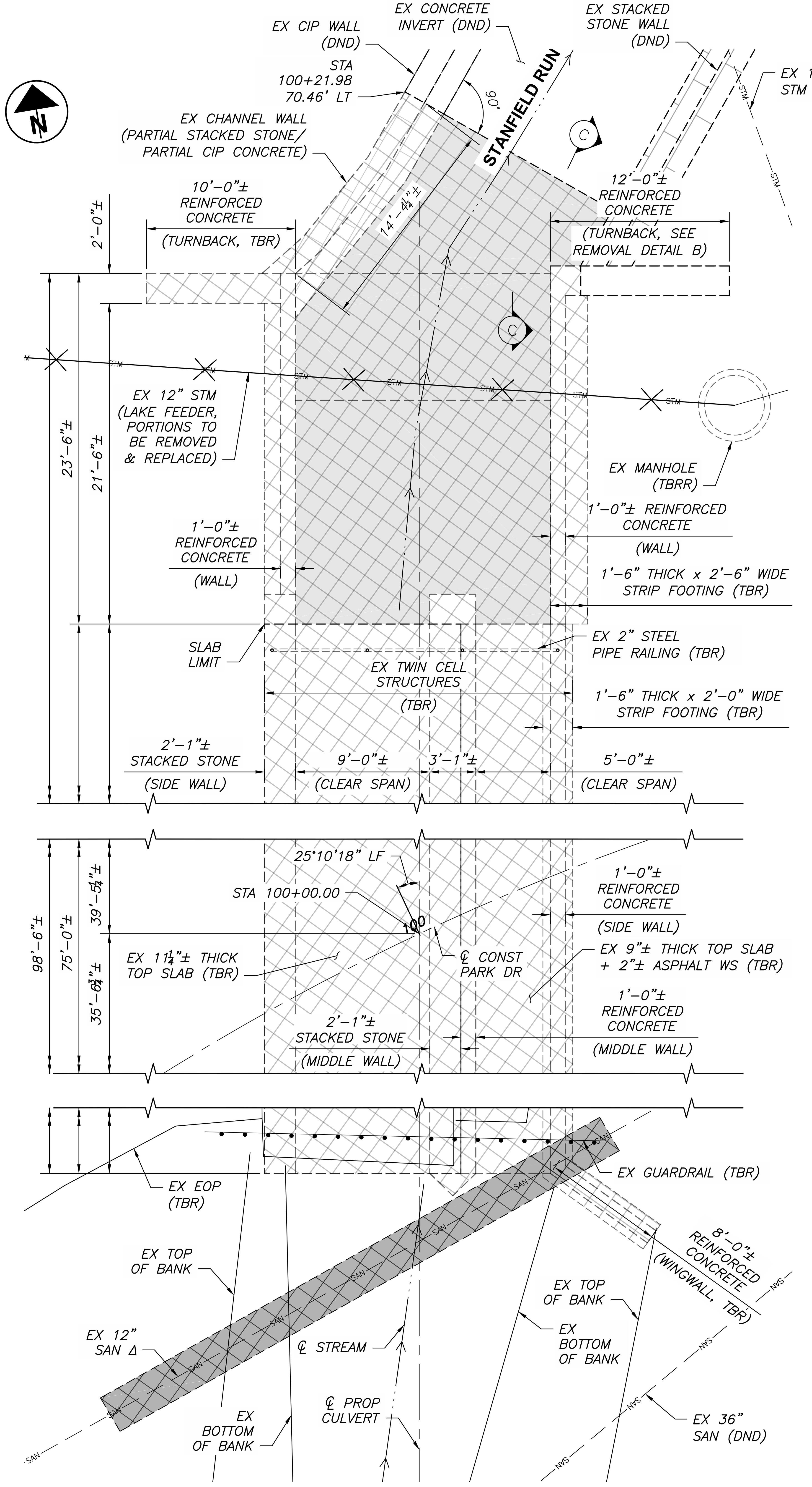
Checked RJE | Structure File Number 7061635

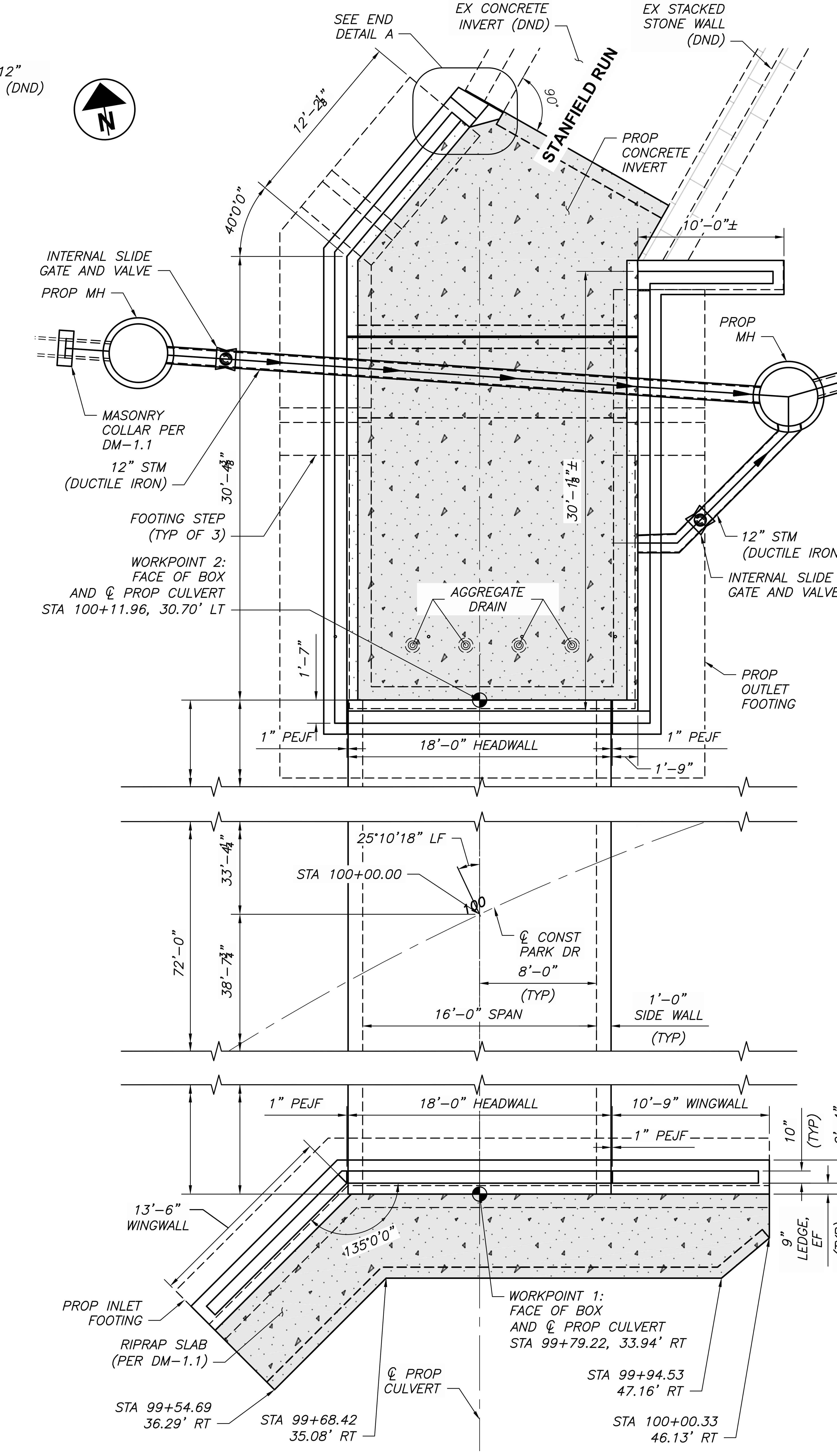
GENERAL NOTES, DETAILS, & ESTIMATED QUANTITIES
BRIDGE NO. RIC-M0619-00.14
PARK DRIVE OVER STANFIELD RUN

NORTH LAKE PARK BRIDGE REPLACEMENT

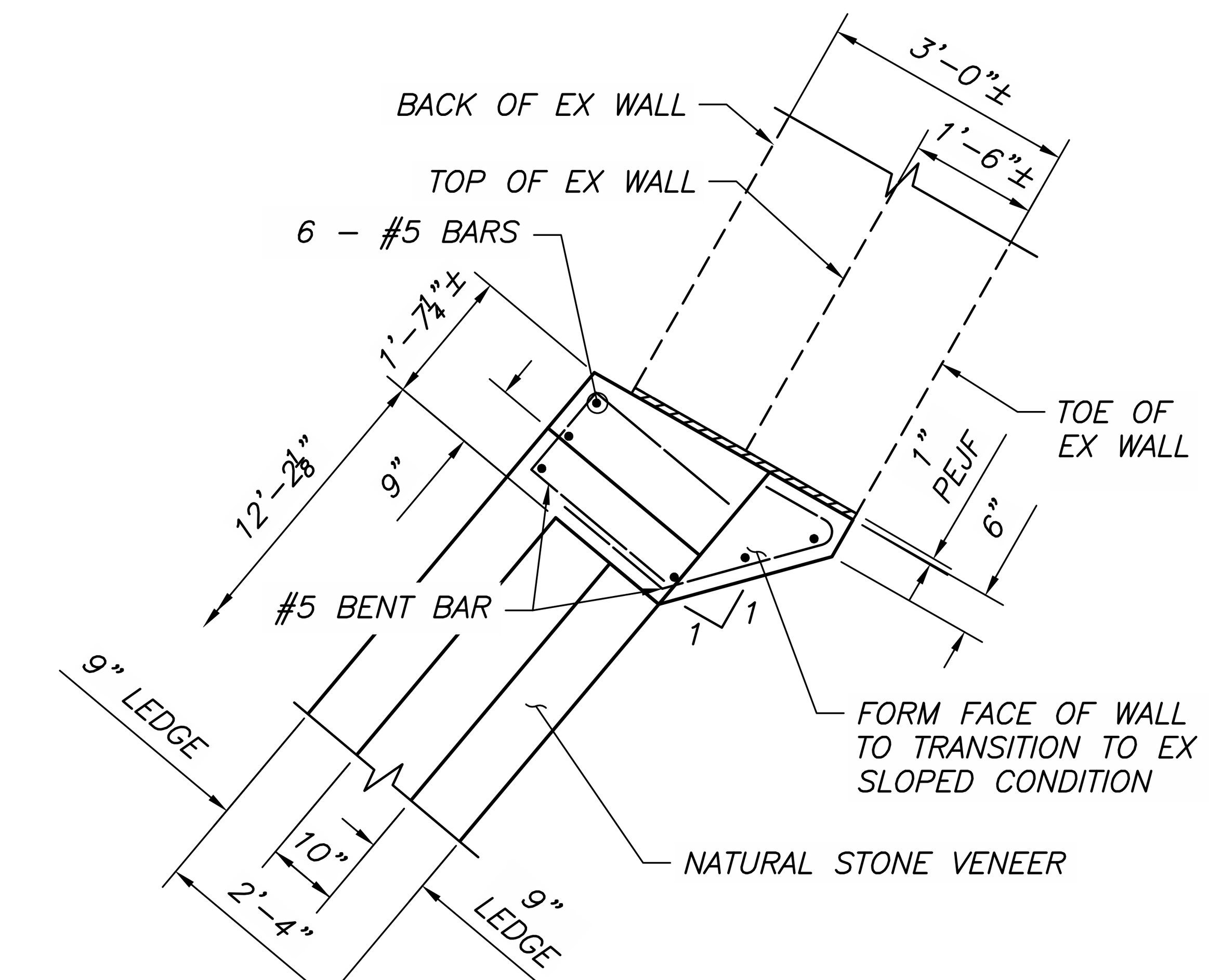
3/7



REMOVAL PLAN

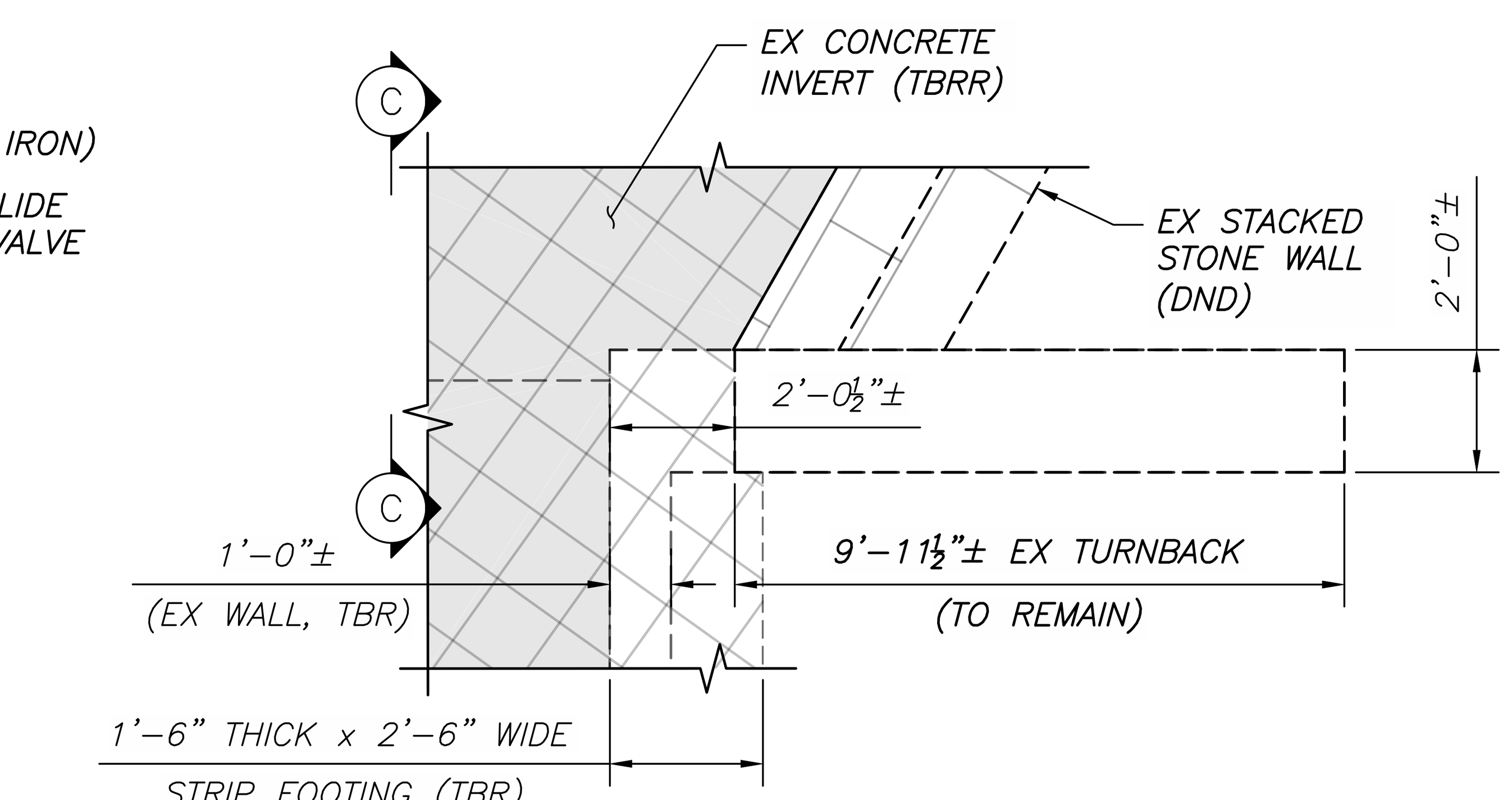


GENERAL PLAN

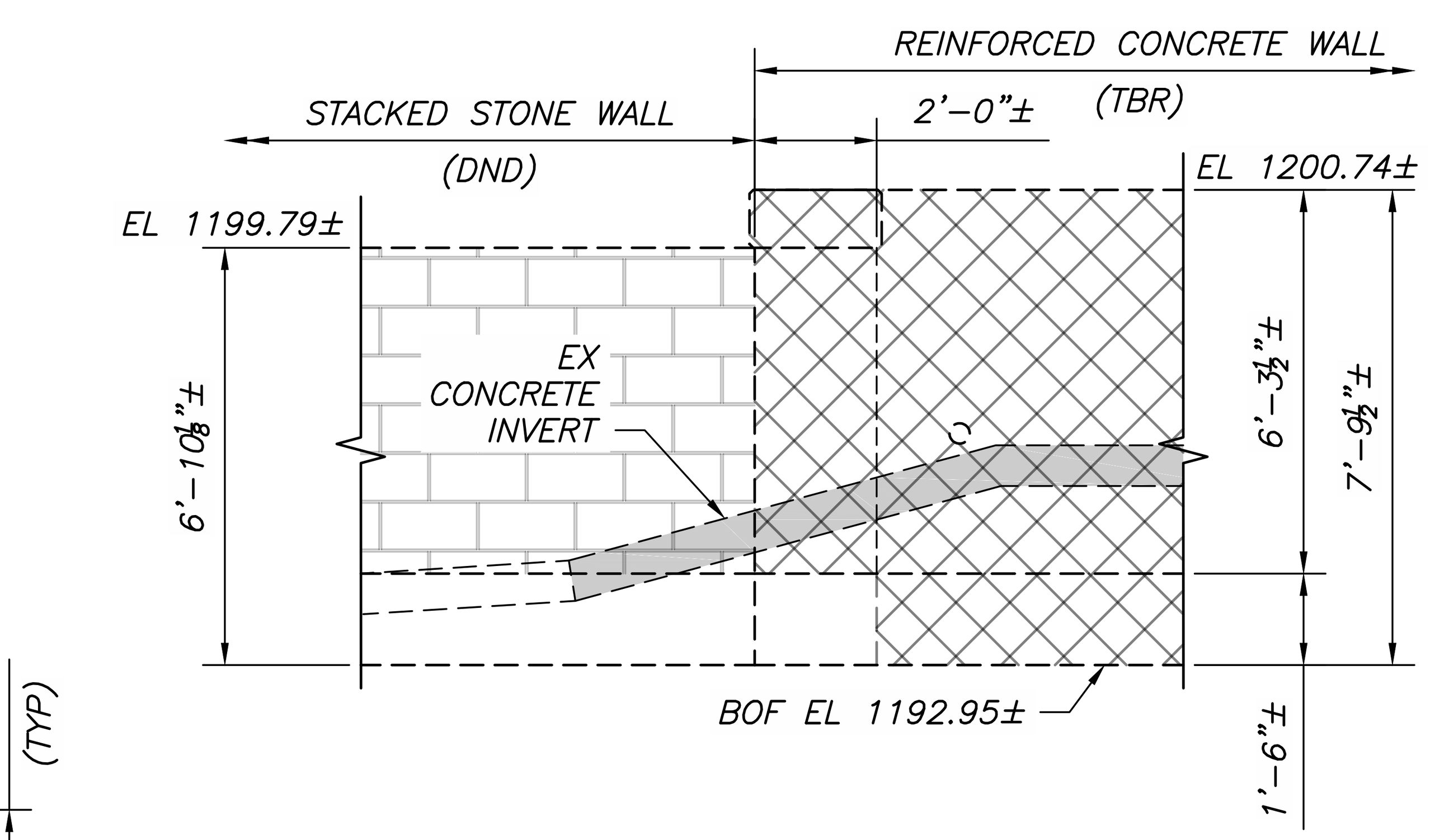


END DETAIL A

(SEE SHEET 20 FOR ADDITIONAL REINFORCING DETAILS)



REMOVAL DETAIL B



REMOVAL ELEVATION C

LEGEND

- PORTIONS OF EXISTING STRUCTURE TO BE REMOVED
- PORTIONS OF EXISTING CONCRETE SLAB TO BE REMOVED

Δ – DENOTES AN EXISTING ABANDONED LINE THAT MAY BE PRESENT DURING FOUNDATION EXCAVATION. CAP AND REMOVE PORTIONS IN CONFLICT WITH THE PROPOSED FOOTING LIMITS. PARTIAL REMOVAL AND CAP TO BE INCLUDED IN THE LUMP SUM BID FOR ITEM 202, STRUCTURE REMOVED, FOR PAYMENT

NOTES

1. FOR ADDITIONAL DETAILS SEE WALL ELEVATIONS AND FOUNDATION PLANS ON SHEETS 18 TO 20.
2. AT EXPANSION JOINT LOCATIONS INSTALL A FULL DEPTH CONTROL JOINT IN THE STONE VENEER AFTER ALL STONE HAS BEEN PLACED.

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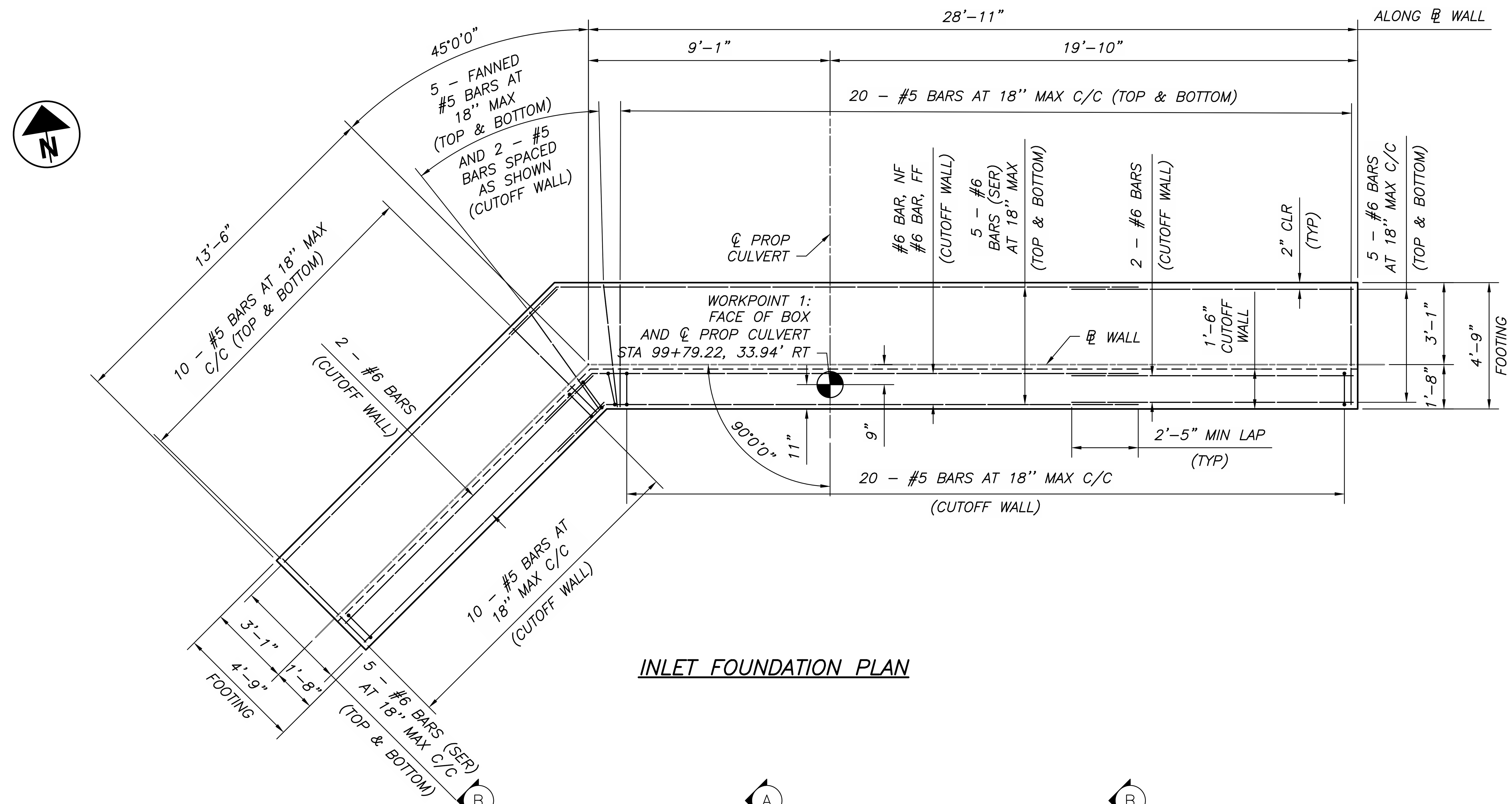
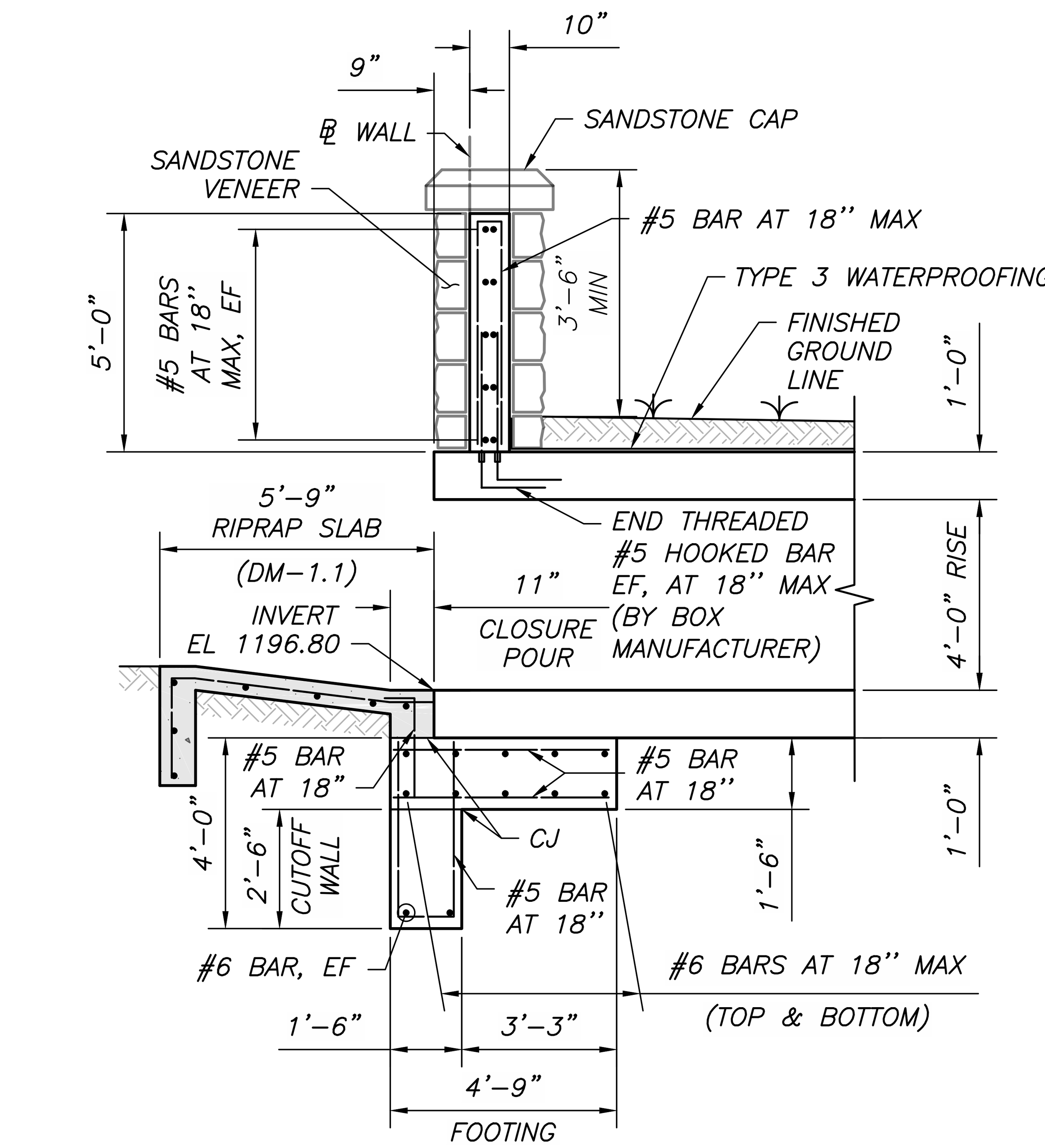
REMOVAL AND GENERAL PLANS
BRIDGE NO. RIC-M0619-00.14
PARK DRIVE OVER STANFIELD RUN

NORTH LAKE PARK BRIDGE REPLACEMENT

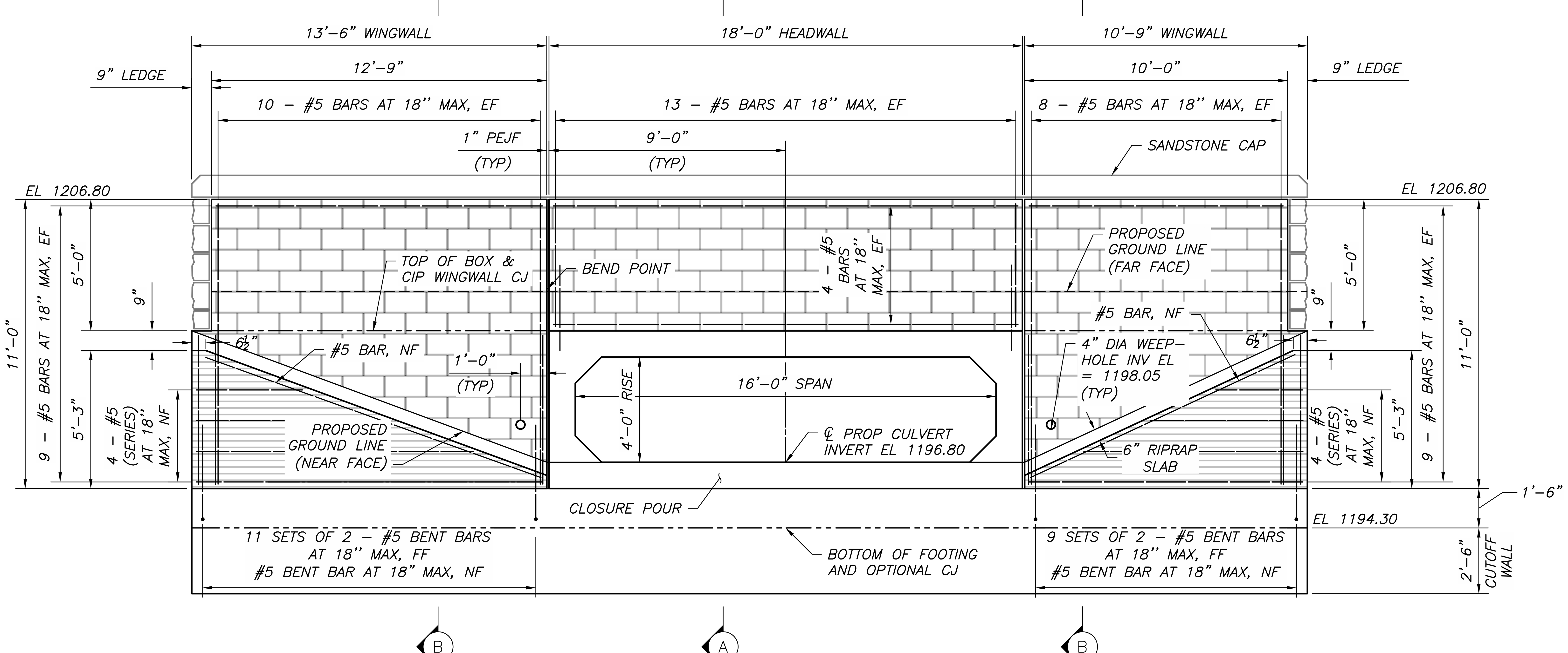
4/7



INLET FOUNDATION PLAN

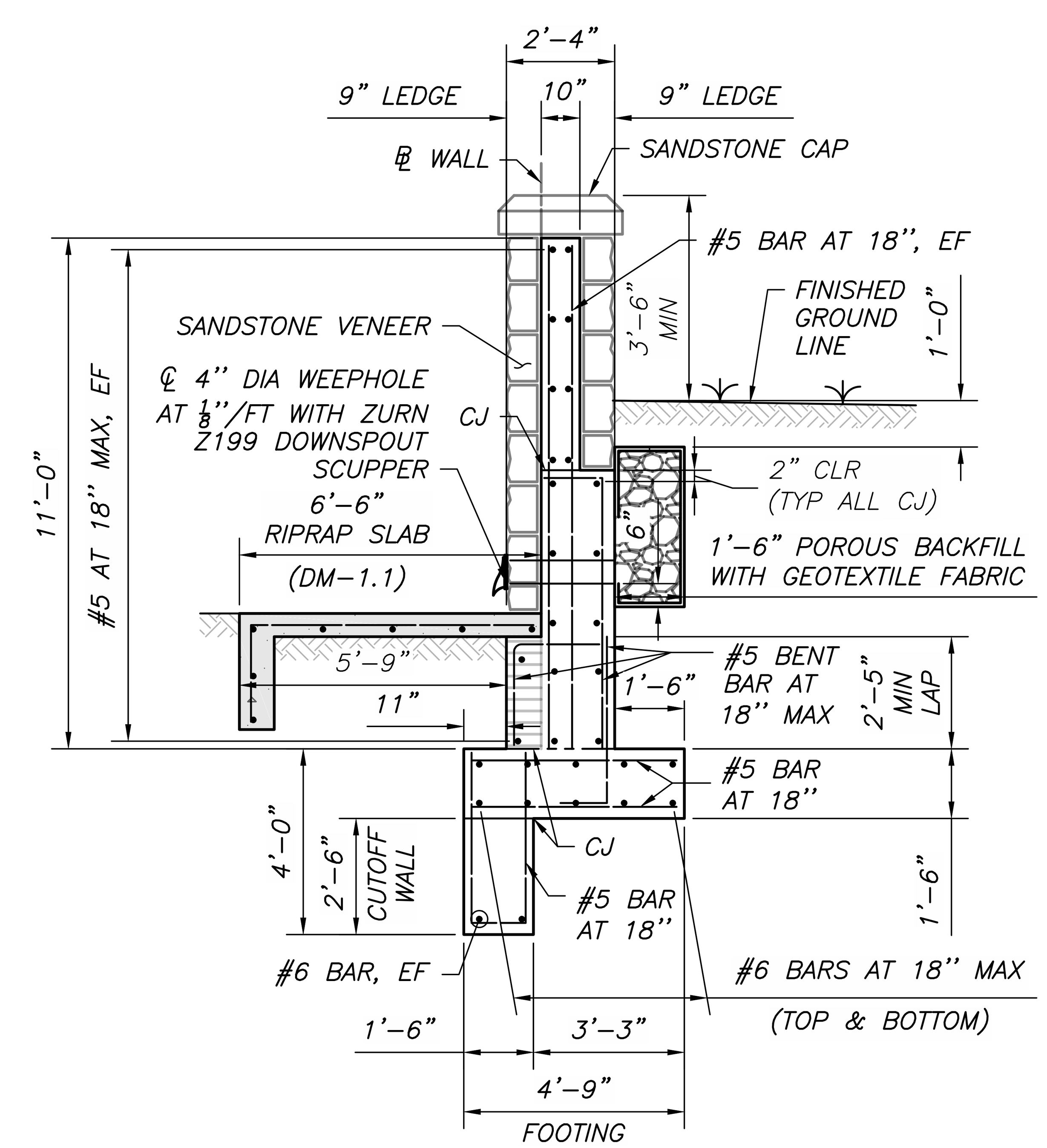


SECTION A



INLET ELEVATION

(MEASURED ALONG ℄ WALL, SEE FOUNDATION PLAN FOR ADDITIONAL REINFORCING, SEE GENERAL PLAN ON SHEET 17/20 FOR WALL PLAN GEOMETRY)



SECTION B

NOTES

1. ALL REINFORCING BARS IN THE BOTTOM MAT OF THE FOUNDATIONS SHALL BE PLACED WITH 3" CLEAR FROM BOTTOM OF FOOTING. OTHERWISE ALL REINFORCING BARS SHALL BE PLACED 2" CLEAR FROM HORIZONTAL AND VERTICAL CONCRETE SURFACES.
2. ALL REINFORCING BAR LAP LENGTHS SHALL BE 2'–5"

LEGEND

- – LIMITS OF NATURAL SANDSTONE VENEER
- – LIMITS OF FORMED NEAR FACE 9" LEDGE

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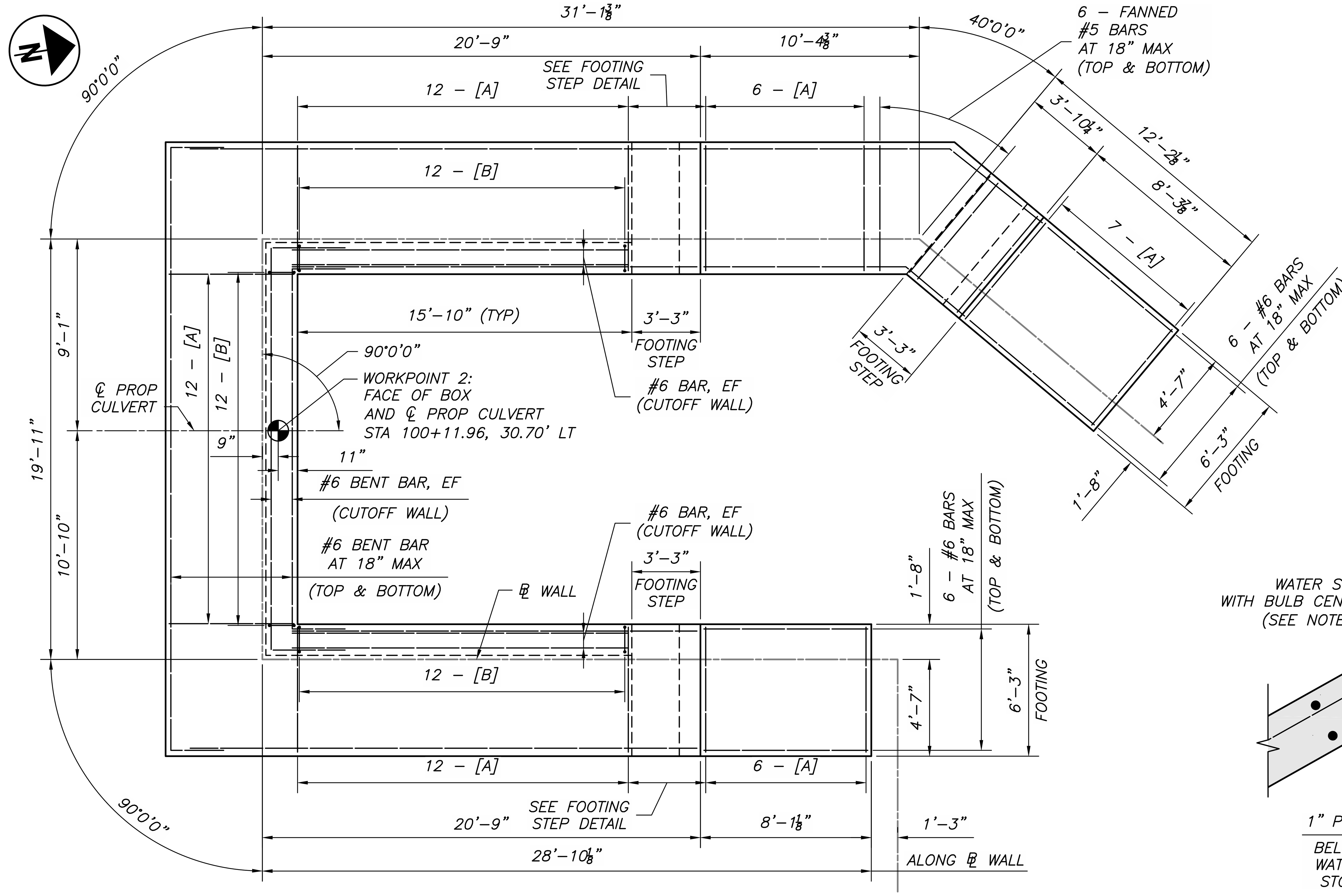
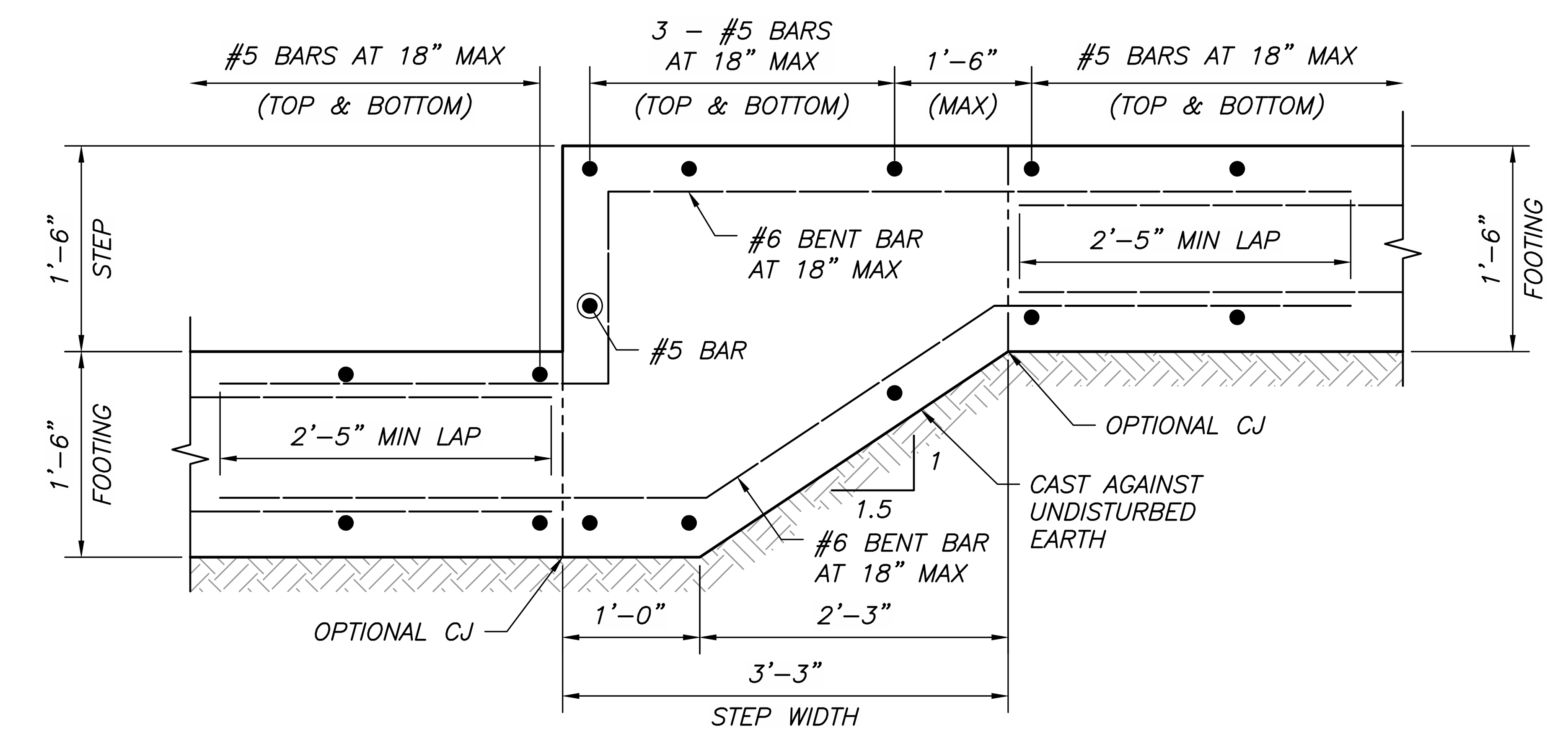


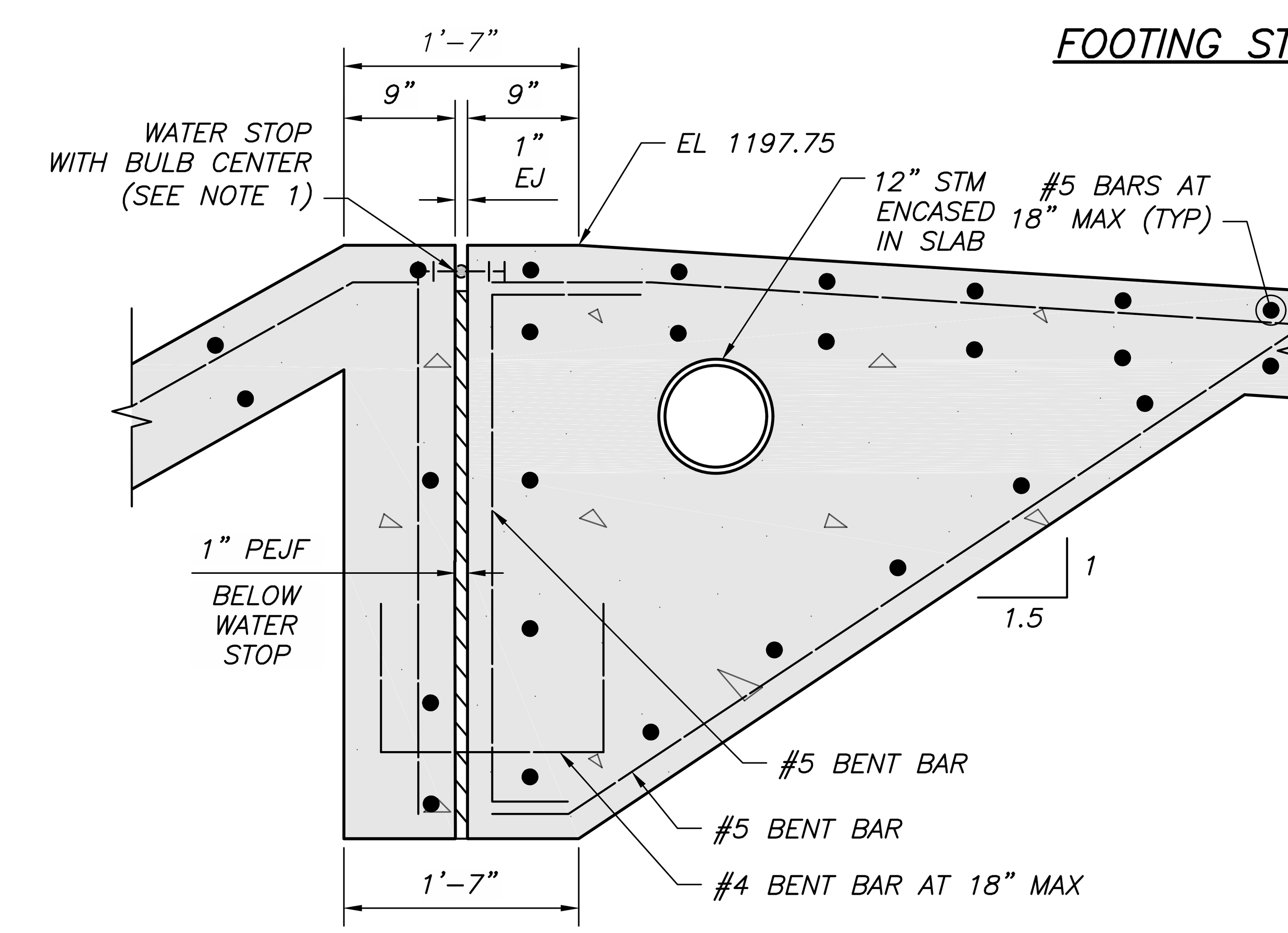
OUTLET FOUNDATION PLAN

(SEE SHEET 20/20 FOR WALL ELEVATION)

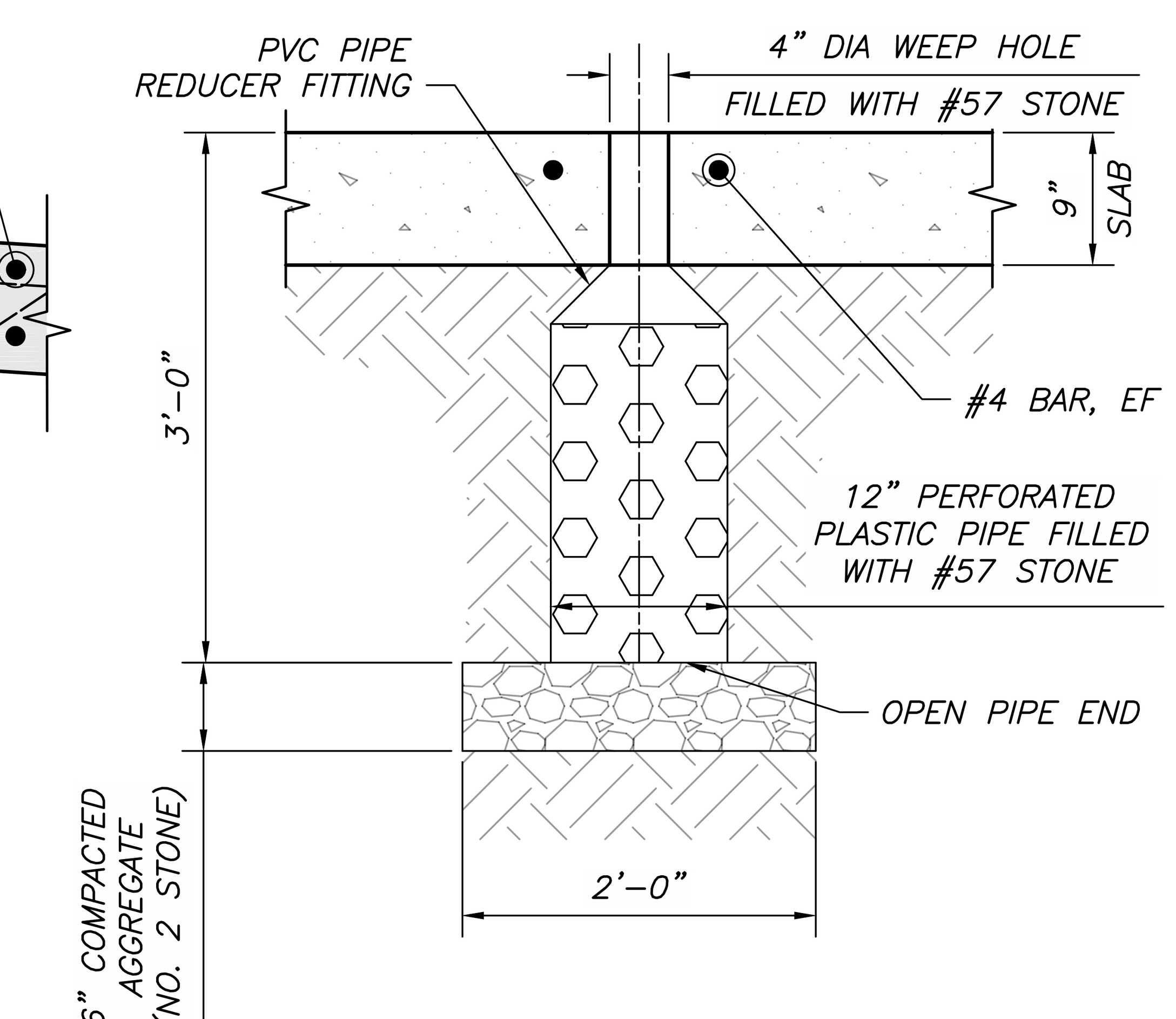
[A] - #5 BARS AT 18" MAX (TOP & BOTTOM)
[B] - #5 BARS AT 18" MAX (CUTOFF WALL)



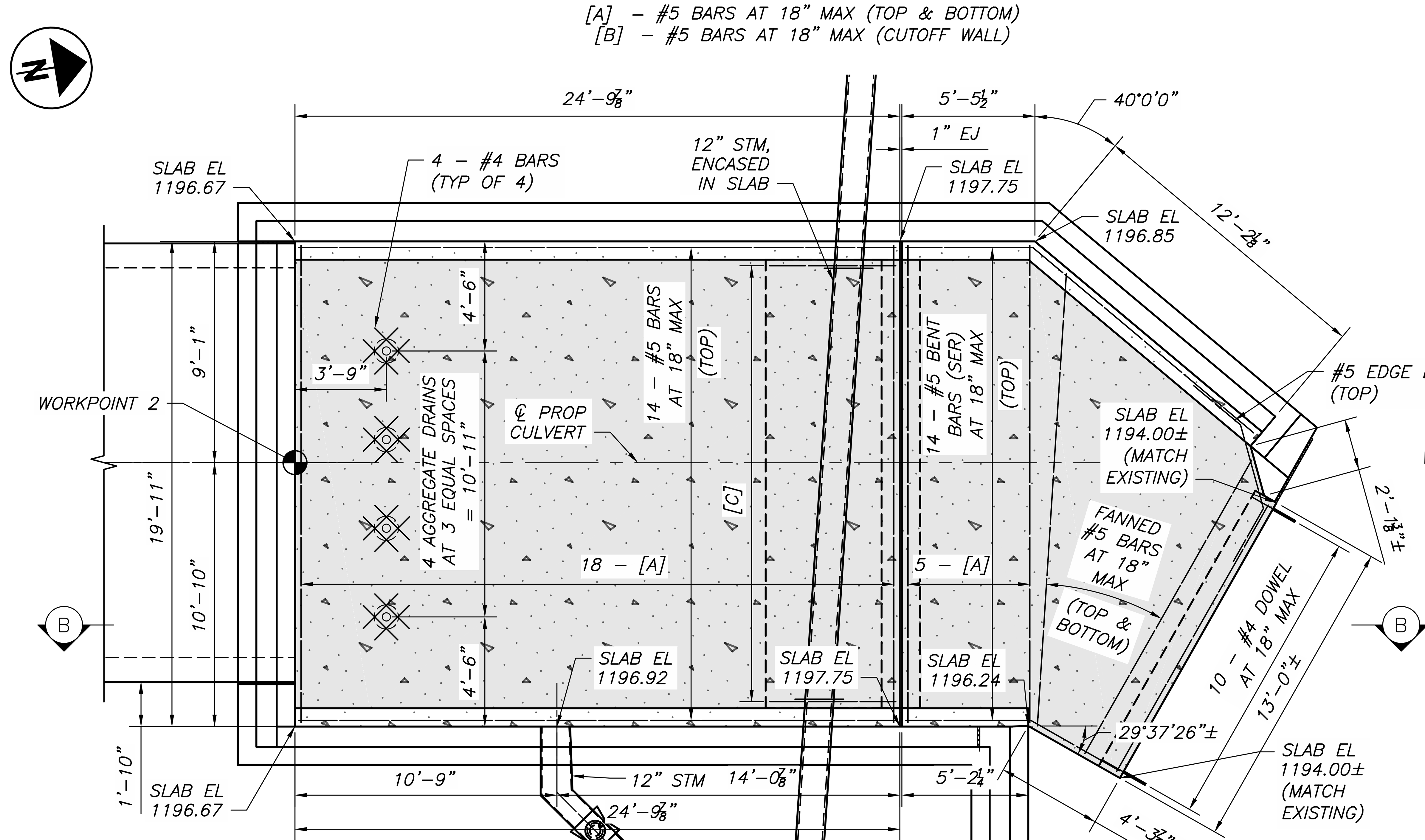
FOOTING STEP DETAIL



OUTLET SLAB DETAIL A

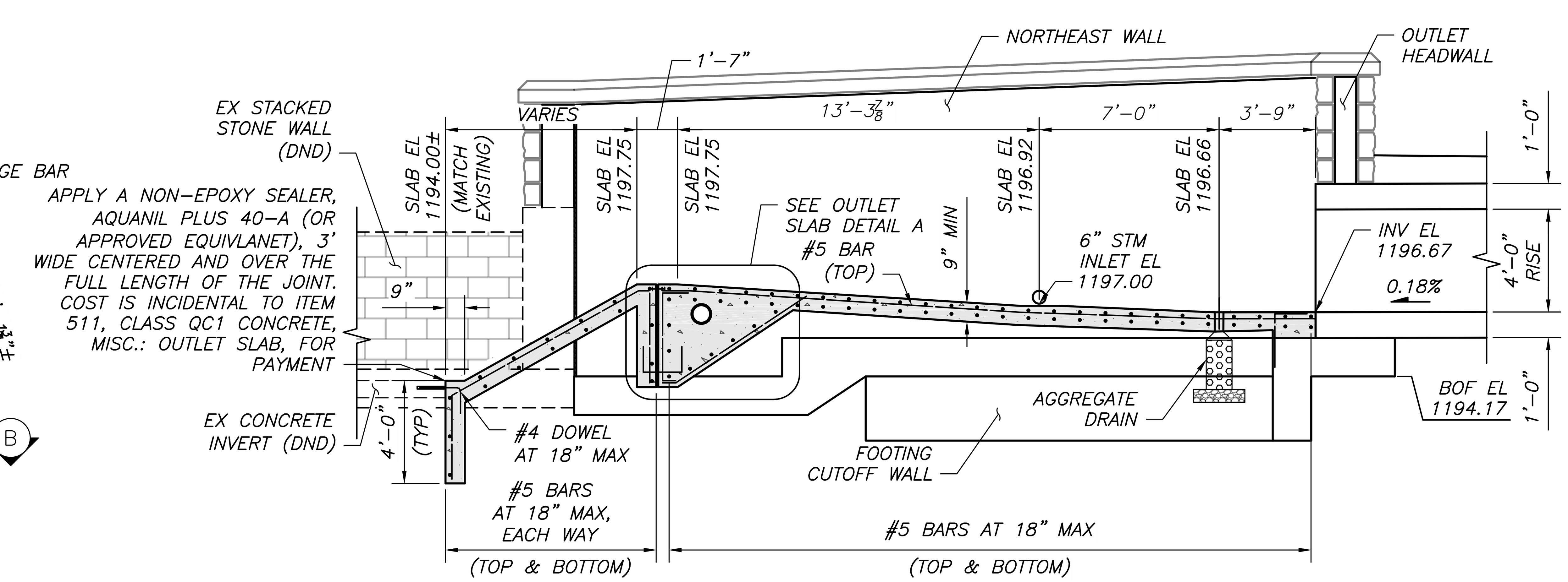


AGGREGATE DRAIN DETAIL



OUTLET SLAB PLAN

[A] - #5 BARS AT 18" MAX (TOP & BOTTOM)
[C] - SET OF 2 - #5 BENT BARS AND 1 - #4 STIRRUP AT 18" MAX



OUTLET SLAB SECTION B

NOTES

1. SEE GENERAL NOTES FOR ADDITIONAL WATER STOP INFORMATION, INCLUDING SIZE, TYPE, AND INSTALLATION. LOCATION SHOWN ON PLANS IS FOR ILLUSTRATION PURPOSES, ACTUAL PLACEMENT SHALL BE BASED ON PRODUCT REQUIREMENTS TO ACHIEVE ADEQUATE CORNER COVER.

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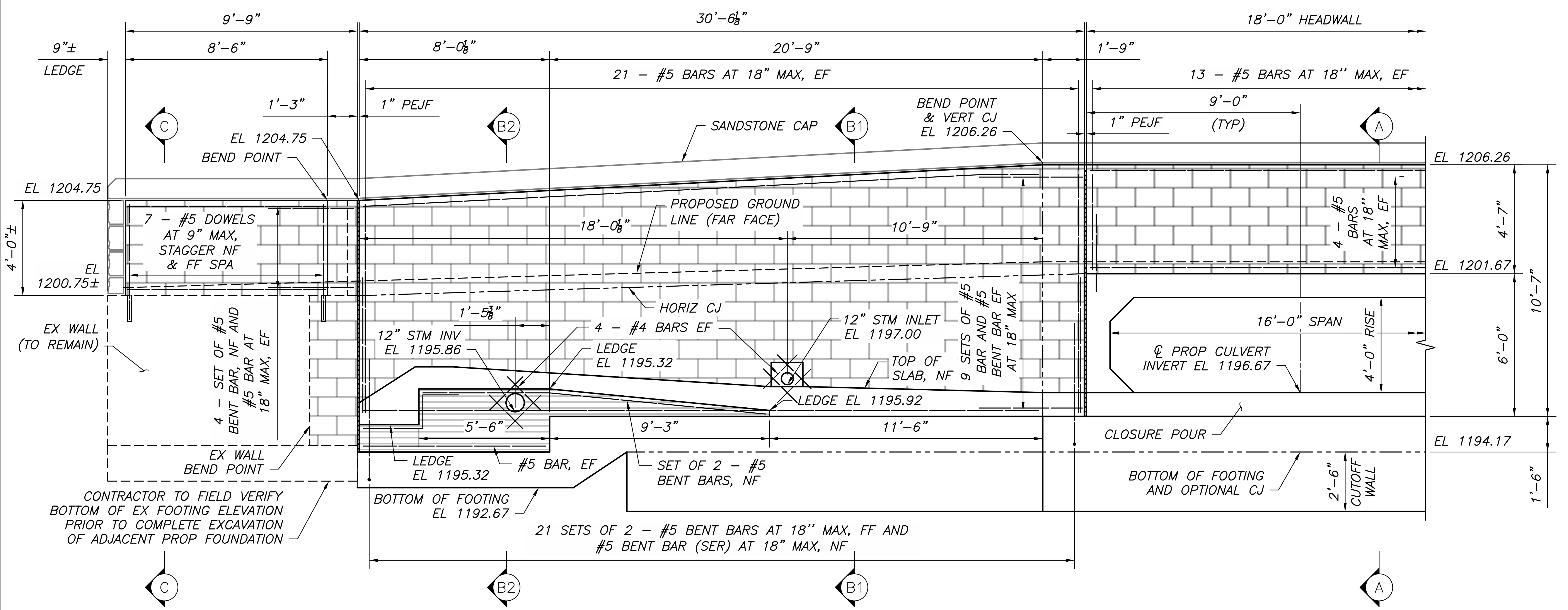
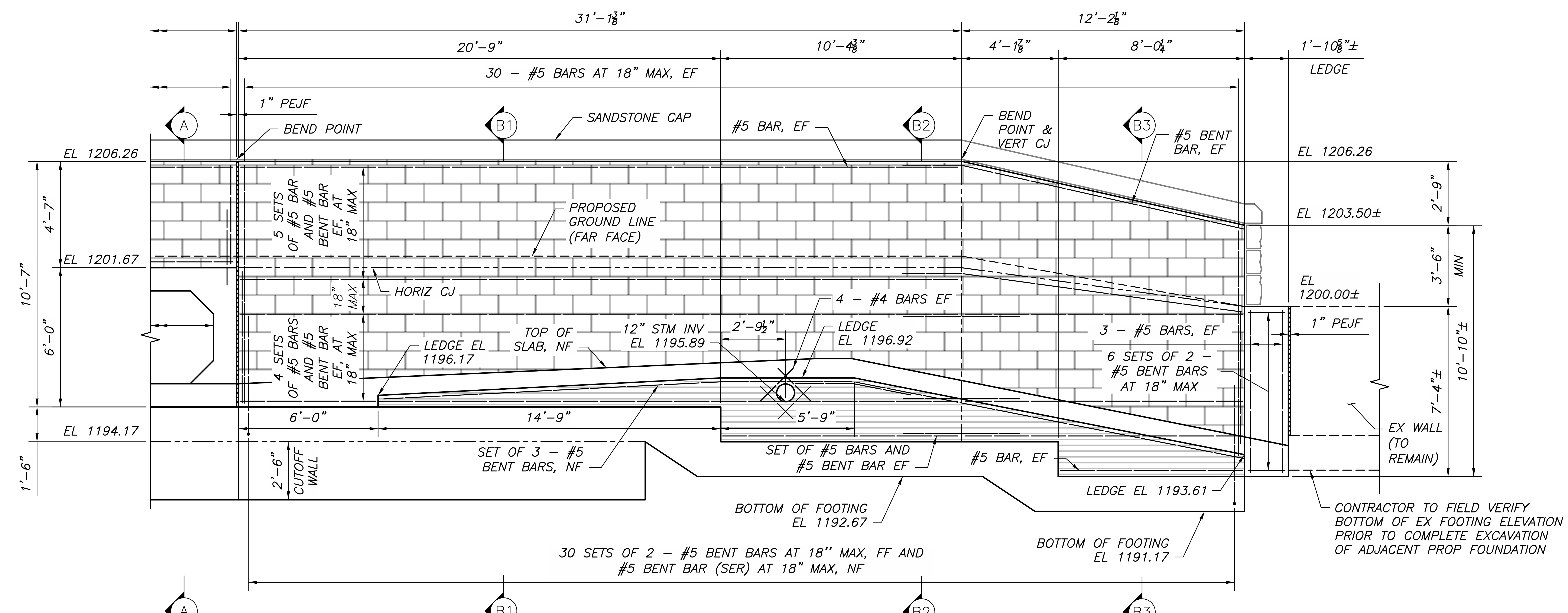


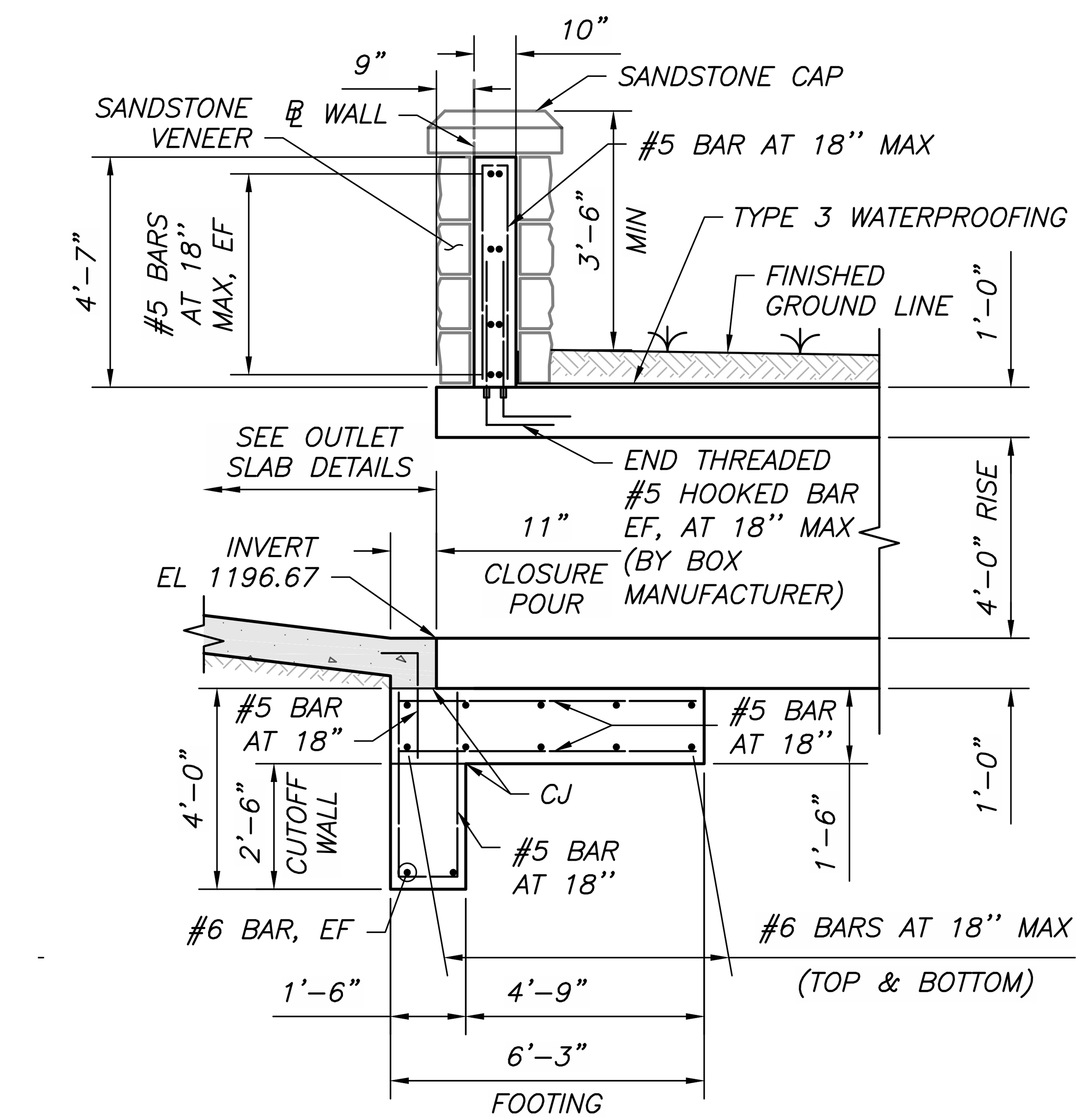
OUTLET ELEVATION

(MEASURED ALONG ℄ WALL, SEE GENERAL PLAN ON SHEET 17/20 FOR WALL PLAN GEOMETRY)

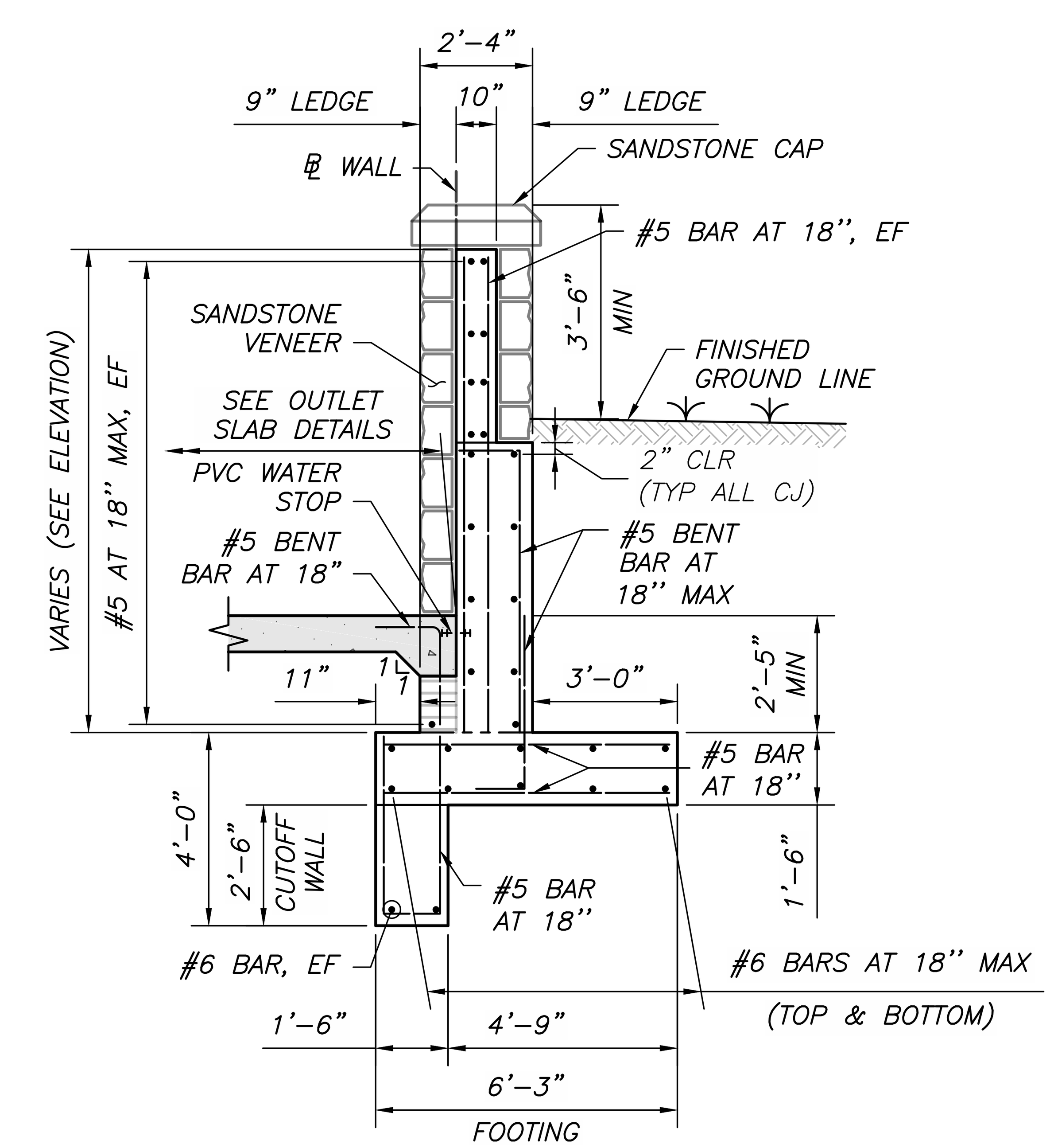


OUTLET ELEVATION (CONT)

(MEASURED ALONG ℄ WALL, SEE GENERAL PLAN ON SHEET 17/20 FOR WALL PLAN GEOMETRY)

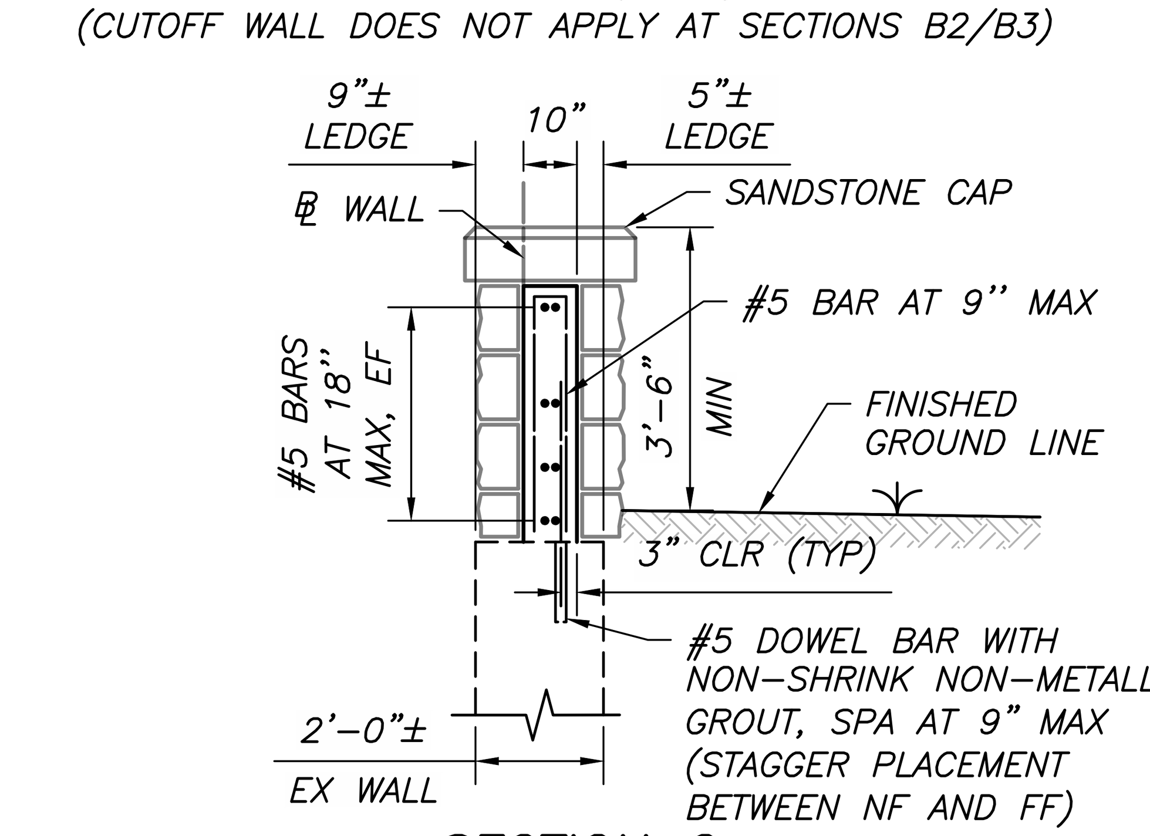


SECTION A



SECTION B1/B2/B3

(CUTOFF WALL DOES NOT APPLY AT SECTIONS B2/B3)



SECTION C

NOTES

1. ALL REINFORCING BARS IN THE BOTTOM MAT OF THE FOUNDATIONS SHALL BE PLACED WITH 3" CLEAR FROM BOTTOM OF FOOTING. OTHERWISE ALL REINFORCING BARS SHALL BE PLACED 2" CLEAR FROM HORIZONTAL AND VERTICAL CONCRETE SURFACES.

2. ALL REINFORCING BAR LAP LENGTHS SHALL BE 2'-5"

LEGEND

- LIMITS OF NATURAL SANDSTONE VENEER
- LIMITS OF FORMED NEAR FACE 9" LEDGE

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Designed	Checked	Drawn	Reviewed	Date	Structure File Number
RMW	RJE	RMW	CAS	2/2/24	7061635

OUTLET DETAILS

BRIDGE NO. RIC-M0619-00.14

PARK DRIVE OVER STANFIELD RUN

NORTH LAKE PARK BRIDGE REPLACEMENT

7/7