

CRESCENT MOON SUBDIVISION

SECTION 16, TOWN 3, RANGE 3
LIBERTY TOWNSHIP, BUTLER COUNTY, OHIO

SCALE: 1"=100'

SEPTEMBER 20, 2015



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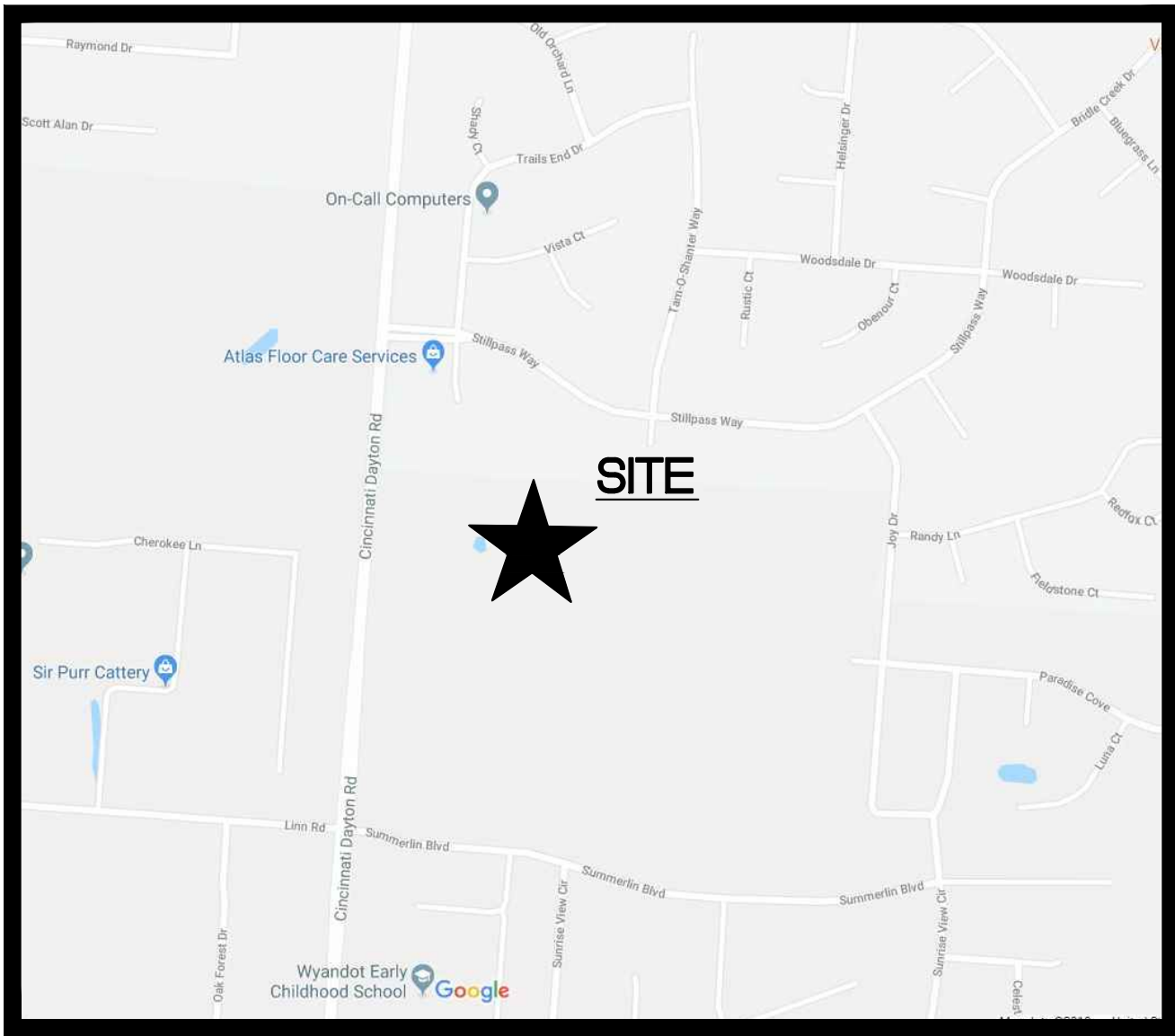
GENERAL NOTES

1. THE CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO THE BEGINNING OF CONSTRUCTION OR EARTH MOVING OPERATIONS.
2. FORTY-EIGHT HOURS BEFORE DIGGING IS TO COMMENCE, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING AGENCIES: THE OHIO UTILITY PROTECTION SERVICES (OUPS), AND ALL OTHER AGENCIES WHICH MAY HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NON-MEMBERS OF OHIO UNDERGROUND PROTECTION, INC. PRE-CONSTRUCTION NOTICE TO BCED IS REQUIRED PRIOR TO ANY SITE WORK, INCLUDING CLEARING & GRUBBING.
3. ALL PLANS & CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT "RULES AND REGULATIONS" OF BUTLER COUNTY AND APPLICABLE OHIO DEPARTMENT OF TRANSPORTATION STANDARDS ODOT CMS 2019.
4. CONTRACTOR SHALL OBTAIN A PERMIT FOR ALL CONSTRUCTION ACTIVITIES IN ACCORDANCE WITH LOCAL, STATE, & FEDERAL REGULATIONS.
5. THE CONTRACTOR IS TO PERFORM ALL INSPECTIONS AS REQUIRED BY THE OHIO EPA FOR THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT AND FURNISH OWNERS REPRESENTATIVE WITH WRITTEN REPORTS. OWNER WILL OBTAIN PERMITS.
6. ITEM NUMBERS REFER TO THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS, AND ALL CONSTRUCTION WORK SHALL BE DONE ACCORDING TO SAID SPECIFICATIONS AND IN ACCORDANCE WITH APPLICABLE STANDARDS OF BUTLER COUNTY. WHEN IN CONFLICT, THE COUNTY REQUIREMENTS SHALL PREVAIL.
7. CONTRACTOR TO REMOVE TREES AND CLEAR AREAS AS NECESSARY TO PERFORM ALL SITE WORK.
8. SITE BUILDING PAD EXCAVATION AND CONSTRUCTION TO BE PER GEOTECHNICAL ENGINEER'S RECOMMENDATIONS BUILDING PAD PREPARATION SHALL BEGIN BY CLEARING & STRIPPING UNSUITABLE MATERIAL FROM PAD SITE. THEN PLACE & COMPACT BACKFILL MATERIAL AT GEOTECHNICAL ENGINEER'S DISCRETION. ALL BACKFILL MATERIAL MUST BE ACCEPTABLE TO THE GEOTECHNICAL ENGINEER.
9. COMPACTED FILLS ARE TO BE MADE TO A MINIMUM OF THREE FEET ABOVE THE CROWN OF ANY PROPOSED SEWER PRIOR TO CUTTING OF TRENCHES FOR PLACEMENT OF SAID SEWERS. ALL FILLS SHALL BE CONTROLLED, COMPACTED, AND INSPECTED BY AN APPROVED TESTING LABORATORY OR AN INSPECTOR FROM THE APPROPRIATE GOVERNMENTAL AGENCY.
10. CONTRACTOR SHALL IMPLEMENT ALL SOIL AND EROSION CONTROL PRACTICES REQUIRED BY BUTLER COUNTY AND THE OHIO EPA.
11. ALL GROUND SURFACE AREAS THAT HAVE BEEN EXPOSED OR LEFT BARE AS A RESULT OF CONSTRUCTION AND ARE TO FINAL GRADE AND ARE TO REMAIN SO, SHALL BE SEEDED AND MULCHED AS SOON AS PRACTICAL IN ACCORDANCE WITH STATE OF OHIO SPECIFICATIONS ITEM 659.
12. THE CONTRACTOR IS TO CONSTRUCT CURBS, CATCH BASINS, DOWNSPOUTS, PIPING AND OTHER STORM WATER CONNECTIONS AS REQUIRED TO CONVEY THE ROOF AND PAVED SURFACE DRAINAGE TO THE DETENTION BASINS.
13. ALL STORM STRUCTURES ARE ODOT TYPES UNLESS OTHERWISE INDICATED.
14. STORM SEWER PIPE LABELED "STM" SHALL BE ONE OF THE FOLLOWING: PVC SDR-35, PVC PROFILE PIPE PER ODOT ITEM 707.33, HIGH DENSITY POLYETHYLENE PER ODOT ITEM 707.33 OR CONTECH ULTRA FLO ALUMINIZED CORRUGATED METAL, ODOT ITEM 707.01, 707.02. STORM SEWER PIPE LABELED "RCP" SHALL BE REINFORCED CONCRETE PIPE, ODOT ITEM 708.02 CLASS IV. ALL STORM IS TO BE INSTALLED PER ODOT ITEM 603.
15. PERFORATED UNDERDRAIN TO BE INSTALLED ALONG ALL PROPOSED CURB AS PER TYPICAL SECTION
16. ANY FIELD TILE CUT IN EXCAVATION MUST BE TIED INTO THE STORM DRAINAGE SYSTEM.
17. FOR EXACT LOCATION OF DOWN SPOUTS & ROOF DRAINS, COORDINATE WITH CONSTRUCTION MANAGER. ALL ROOF DRAINS ARE TO BE 6" UNLESS OTHERWISE NOTED. ROOF DRAINS AND DOWN SPOUT CONNECTIONS TO SUMP LINES ARE PROHIBITED.
18. ALL CATCH BASINS WITH DEPTH GREATER THAN 4" SHALL BE PROVIDED WITH STEPS. STEPS SHALL MEET THE REQUIREMENTS OF ITEM 711 PER 2019 CMS.
19. SANITARY SEWER LATERALS, WHICH SHALL INCLUDE ALL PIPE AND APPURTENANCES FROM THE BUILDING TO THE PUBLIC SEWER MAIN, AND THE CONNECTION TO THE PUBLIC SEWER MAIN SHALL BE CONSIDERED PRIVATE AND THE RESPONSIBILITY OF THE PROPERTY OWNER TO MAINTAIN. THE CONNECTION TO THE SEWER WOULD BE ANY PIPING THAT EXTENDS OUT FROM THE MAIN BARREL OF THE PIPE
20. ALL MANHOLES WITH A DEPTH GREATER THAN 4" SHALL BE PROVIDED WITH EXTRUDED ALUMINUM STEPS, CONFORMING TO ASTM B2221, 6061.
21. DISTANCES SHOWN FOR BOTH SANITARY AND STORM SEWER PIPES ARE MEASURED FROM CENTER OF STRUCTURE. CONTRACTOR RESPONSIBLE FOR ACTUAL FIELD CUT LENGTH. COORDINATES FOR STORM & SANITARY STRUCTURES ARE SHOWN TO THE CENTER OF THE STRUCTURE.
22. ROOF DRAINS, FOUNDATION DRAINS AND ALL OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER SYSTEMS ARE PROHIBITED.
23. SANITARY LATERALS SHALL BE EXTENDED TO AT LEAST TEN (10) FEET BEYOND THE PROPERTY ROW LINE OR TO THE EDGE OF THE EASEMENT WHICH EVER IS GREATER.
24. SANITARY SEWER MATERIALS AND INSTALLATION AS PER BCWSD SPECS. USING SECTION 3110 FOR PVC, SDR-35 & SDR-26 PIPE; SECTION 3410 FOR ABS OR PVC COMPOSITE PIPE. SECTION 3410 FOR MANHOLES.
25. ALL BUILDINGS TO BE SERVED BY THE PUBLIC SEWER SYSTEM SHALL BE CONSTRUCTED SO AS TO PROVIDE A MINIMUM OF FOUR FEET OF VERTICAL SEPARATION BETWEEN THE PUBLIC SANITARY SEWER, AT THE POINT OF CONNECTION AND THE LOWEST BUILDING LEVEL SERVED BY A GRAVITY SEWER CONNECTION. IN ADDITION, SAID BUILDING LEVEL SHALL BE AT LEAST ONE FOOT ABOVE THE LOWEST POINT OF FREE-OVERFLOW (NON-SEALED MANHOLE COVER) UPSTREAM OF ANY TREATMENT FACILITY OR WASTEWATER PUMPING FACILITY THAT RECEIVES THE DISCHARGE FROM SAID BUILDING. SAID MINIMUM SERVICE LEVELS SHALL BE RECORDED ON THE "AS-BUILT" PLANS FOR THE DEVELOPMENT, WHICH WILL BE KEPT ON FILE IN THE OFFICE OF THE BUTLER COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES.
26. ALL DIMENSIONS ARE TO THE BACK OF CURB, UNLESS OTHERWISE NOTED. IN THE ABSENCE OF CURB, ALL DIMENSIONS ARE TO THE EDGE OF PAVEMENT, UNLESS OTHERWISE NOTED. INTERSECTION DETAIL SPOT ELEVATIONS ARE TO TOP OF CURB WITH THE EXCEPTION OF THE ABSENCE OF CURB.
27. ALL GRADING SPOT ELEVATIONS ARE TO FINISHED PAVEMENT, UNLESS OTHERWISE NOTED.
28. WATER MAIN MATERIALS, VALVES, FIRE HYDRANTS, FITTINGS & APPURTENANCES AND INSTALLATION TO BE AS PER BUTLER COUNTY SPECIFICATIONS, USING CLASS 53 DUCTILE IRON AS PER AWWA C-151 WITH MINIMUM 4 FEET OF COVER.
29. ALL WATER MAIN VALVES TO HAVE A MINIMUM DEPTH OF 2.5' AND A MAXIMUM OF 4.0' FROM PROPOSED GRADE TO THE TOP OF THE VALVE OPERATING NUT.
30. BUTLER COUNTY WATER & SEWER DOES NOT ACCEPT ANY RESPONSIBILITY FOR THE RELOCATION, REPAIR, OR REPLACEMENT OF ANY OTHER UTILITY INSTALLED WITHIN FIVE FEET OF THE CENTER LINE OF ANY SANITARY SEWER MAIN OR WATER MAIN.

UTILITIES NOTIFICATION

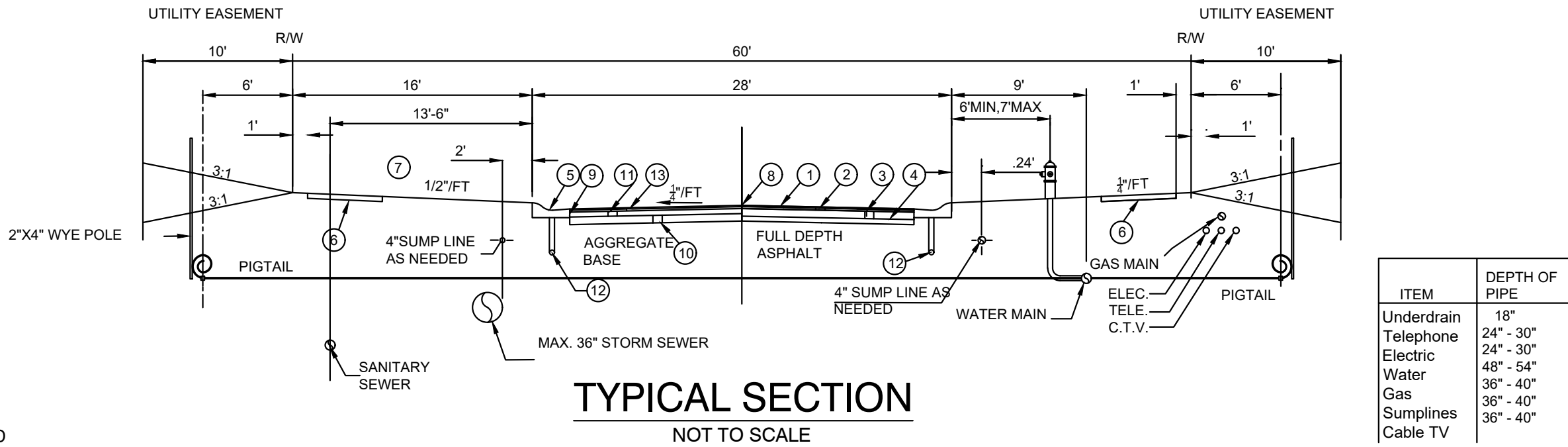
AT LEAST TWO WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION OPERATIONS IN AN AREA WHICH MAY INVOLVE UNDERGROUND UTILITY FACILITIES, THE CONTRACTOR SHALL NOTIFY THE ENGINEER, THE REGISTERED UTILITY PROTECTION SERVICE AND THE OWNERS OF EACH UNDERGROUND UTILITY FACILITY SHOWN ON THE PLAN.

THE OWNER OF THE UNDERGROUND FACILITY SHALL, WITHIN 48 HOURS (EXCLUDING SATURDAYS, SUNDAYS AND LEGAL HOLIDAYS), MARK THE LOCATION OF THE UNDERGROUND UTILITY FACILITIES IN THE CONSTRUCTION AREA IN SUCH A MANNER AS TO INDICATE THEIR COURSE AND THE APPROXIMATE DEPTH AT WHICH THEY WERE INSTALLED. THE MARKING OR LOCATING SHALL BE COORDINATED TO STAY APPROXIMATELY TWO DAYS AHEAD OF THE PLANNED CONSTRUCTION.



VICINITY MAP

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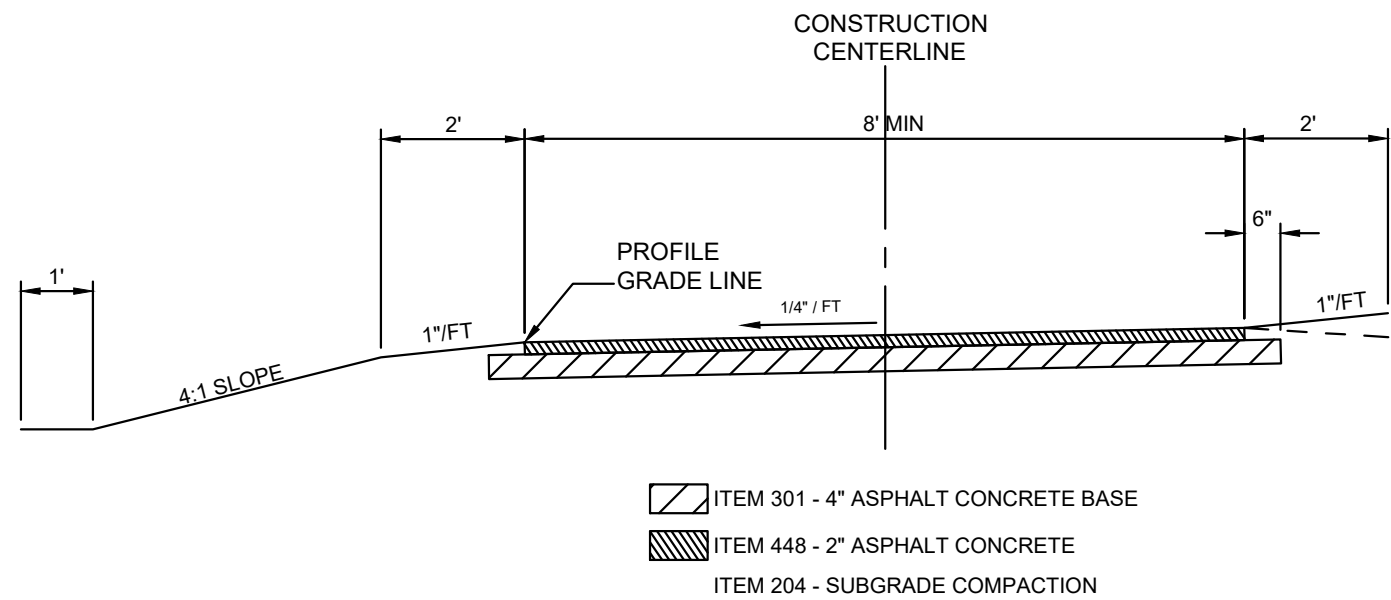
TYPICAL SECTION

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LEGEND

1. ONE INCH SURFACE COURSE OF ITEM 448 ASPHALTIC CONCRETE, SEE NOTE #4.
2. TWO AND ONE HALF INCH LEVELING COURSE OF ITEM 448 ASPHALTIC CONCRETE.
3. SIX INCH BASE COURSE OF ITEM 301 BITUMINOUS AGGREGATE BASE.
4. COMPACTED SUBGRADE, ITEM 203.13.
5. ROLL TYPE CURB AND GUTTER, ITEM 609 (BUTLER COUNTY STANDARD C-1).
6. FOUR INCH THICK CLASS "C" CONCRETE SIDEWALK, FIVE FEET WIDE, ITEM 608. WALK TO BE 1/2" HIGHER THAN SOD.
7. SEEDING AND MULCHING ITEM 659.
8. TACK COAT, ITEM 407 - TO BE APPLIED AT A RATE OF 0.05 GAL. PER SQ. YARD, SEE NOTE #4.
9. TACK COAT SHALL BE APPLIED TO FRONT FACE OF CURB PRIOR TO THE INSTALLATION OF 301 BITUMINOUS AGGREGATE BASE. ALSO TO BE APPLIED TO CURB JOINT AFTER THE INSTALLATION OF 448 LEVELING COURSE.
10. SIX INCH BASE COURSE OF ITEM 301 BITUMINOUS AGGREGATE BASE.
11. FIVE INCH BASE COURSE OF ITEM 301 BITUMINOUS AGGREGATE BASE.
12. ITEM 605, 4" UNDERDRAIN. CONNECT UNDERDRAIN TO FRONT FACE OF NEAREST CATCH BASIN.
13. ONE AND ONE HALF INCH LEVELING COURSE OF ITEM 448 ASPHALTIC CONCRETE.
14. FOUR INCH THICK CLASS "C" CONCRETE SIDEWALK, FIVE FEET WIDE, ITEM 608. WALK TO BE 1/2" HIGHER THAN SOD.

1. ITEM NUMBERS REFER TO THE OHIO DEPARTMENT OF HIGHWAYS CONSTRUCTION AND MATERIAL SPECIFICATIONS, AND ALL CONSTRUCTION WORK SHALL BE DONE ACCORDING TO SAID SPECIFICATIONS OR BUTLER COUNTY REQUIREMENTS AND STANDARDS FOR SUBDIVISIONS. WHEN IN CONFLICT, THE COUNTY REQUIREMENTS SHALL PREVAIL.
2. ITEMS THAT PERTAIN TO UNDERGROUND UTILITIES SUCH AS WATERMAIN PIPE, SANITARY SEWER PIPE, WATER VALVES AND MANHOLE FRAMES AND COVERS, ETC., WILL REMAIN UNDER SPECIFICATIONS OF THE UTILITY SERVING THE AREA. STORM SEWERS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE BUTLER COUNTY ENGINEER.
3. ALL TRENCHES WITHIN THE RIGHT OF WAY AND 10' UTILITY EASEMENTS SHALL BE COMPACTED AND BACKFILLED IN ACCORDANCE WITH ITEMS 203 AND 603 IN THE STATE SPECIFICATIONS.
4. SURFACE COURSE (ITEM 448) AND TACK COAT (ITEM 407) ARE TO BE APPLIED AFTER 50% OF THE HOME SITES ARE CONSTRUCTED.
5. A MINIMUM 10' UTILITY EASEMENT SHALL BE SHOWN ON THE RECORD PLAT PARALLEL AND IMMEDIATELY ADJACENT TO THE RIGHT OF WAY LINE ALLOWING FOR INSTALLATION, OPERATION AND MAINTENANCE OF SEWERS, WATER, ELECTRIC AND TELEPHONE CONDUIT AND ANY OTHER PUBLIC OR QUASI PUBLIC UTILITY.
6. DEVELOPER SHALL BE RESPONSIBLE FOR THE INSTALLATION OF CONDUITS FOR THE FULL WIDTH OF THE PUBLIC RIGHT OF WAY AT A DEPTH OF 38" FOR USE BY THE ELECTRIC, TELEPHONE AND CABLE TV SERVICES. THE LOCATION OF THESE LINES SHALL BE COORDINATED WITH UTILITY COMPANIES BY THE DEVELOPER.
7. SANITARY LATERALS SHALL BE EXTENDED BEYOND THE LIMITS OF THE UTILITY EASEMENTS, BUT NOT TO EXCEED 12' FROM THE RIGHT OF WAY LINE.
8. ALL ELECTRICAL TRANSFORMERS SHALL BE LOCATED SO THAT THEY DO NOT INTERFERE WITH THE EXISTING MANHOLES.
9. SUMP LINE CONDUITS ARE TO BE SDR 35.
10. THE SANITARY SEWER SHALL BE PLACED IN SUCH A MANNER THAT THE SANITARY MANHOLE COVER DOES NOT CONFLICT WITH THE SIDEWALK.

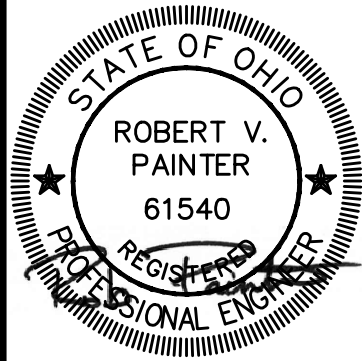


TYPICAL HIKER - BIKER PATH SECTION

NOT TO SCALE



NOTE:
UNDERGROUND UTILITIES ARE PLOTTED FROM A COMPILATION OF AVAILABLE RECORD INFORMATION AND SURFACE INDICATIONS OF UNDERGROUND STRUCTURES AND MAY NOT BE INCLUSIVE, PRECISE LOCATIONS AND THE EXISTENCE OR NON EXISTENCE OF UNDERGROUND UTILITIES CANNOT BE VERIFIED. PLEASE NOTIFY THE OHIO UTILITY PROTECTION SERVICE AT 1-800-362-2764 BEFORE ANY PERIOD OF EXCAVATION OR CONSTRUCTION ACTIVITY.



REVISIONS

NO.	DESCRIPTION	DATE
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GENERAL NOTES & STANDARD DETAILS

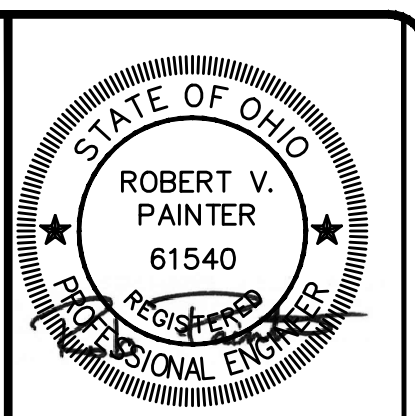
CRESCENT MOON

SECTION 16, TOWN 3, RANGE 3
LIBERTY TOWNSHIP, BUTLER COUNTY, OHIO

SCALE: NOT TO SCALE
DATE: APRIL 2, 2020
DRAWN: SAD
DESIGNED: SAD
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XREF:
JOB NO.: 19054

CRESCENT MOON

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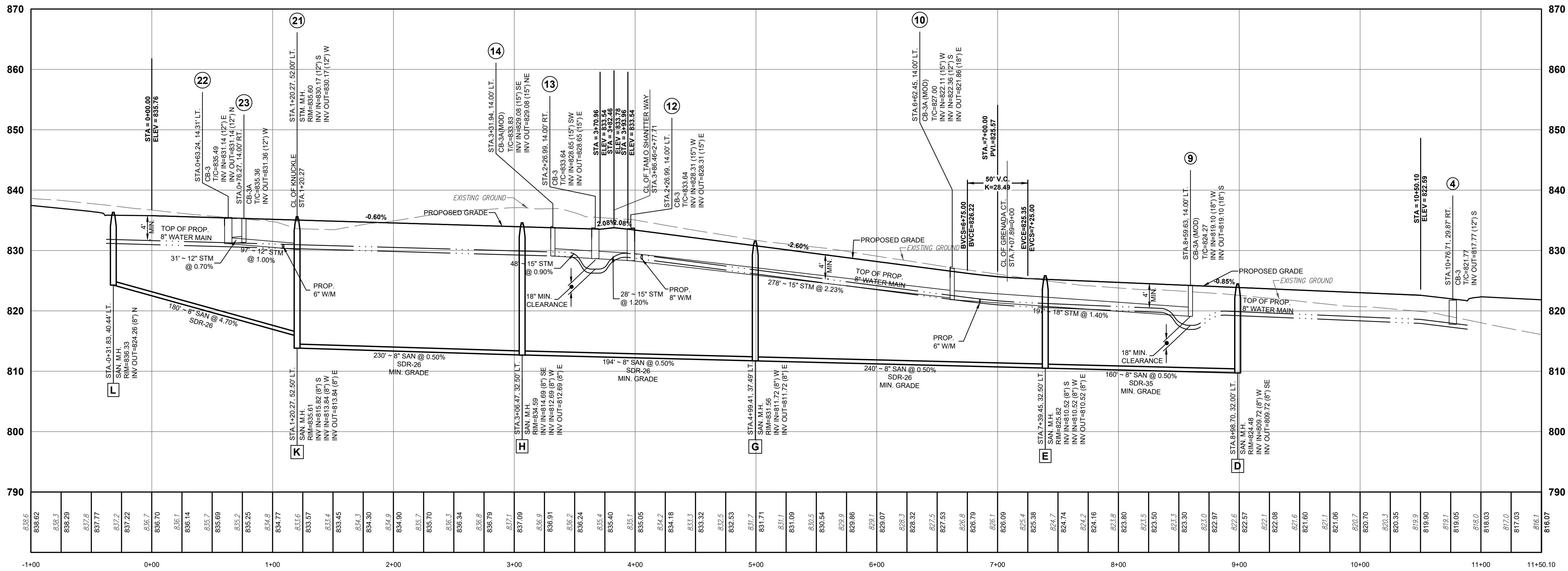
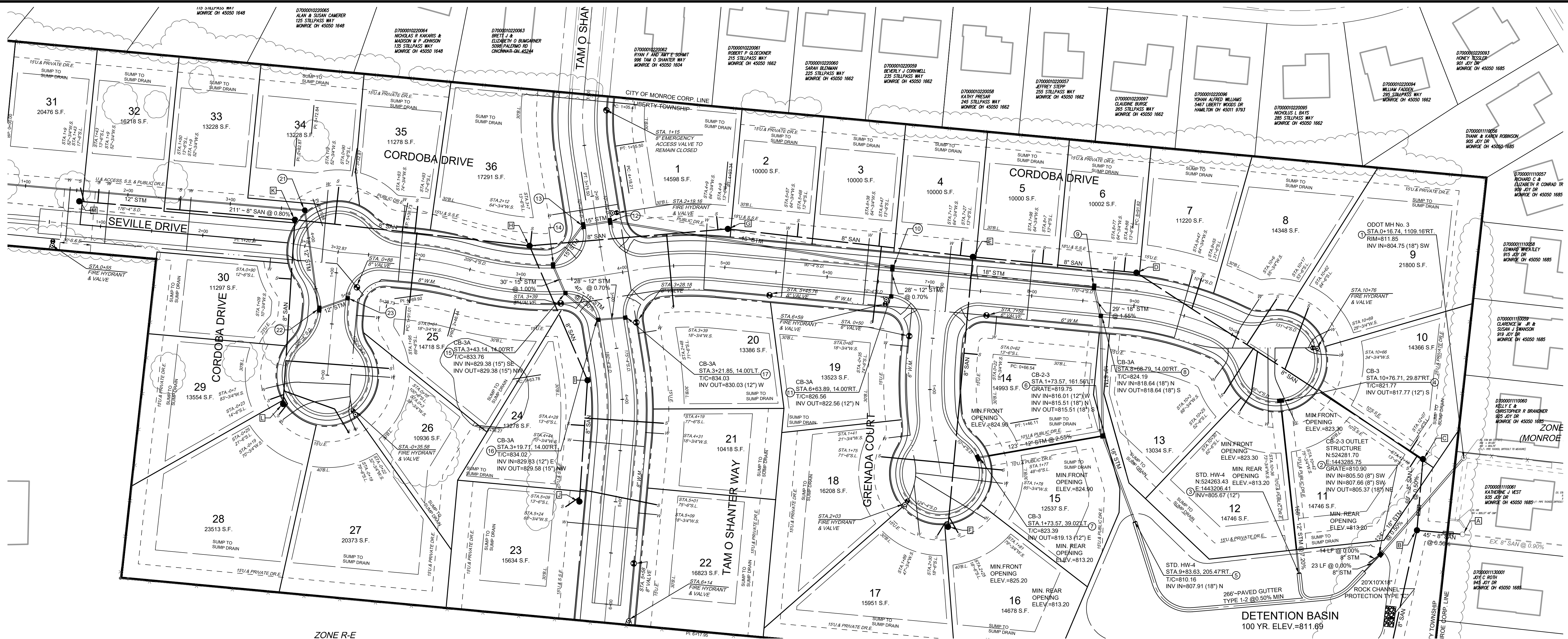
REVISIONS	
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DIMENSION PLAN
CRESCENT MOON
SECTION 16, TOWN 3, RANGE 3
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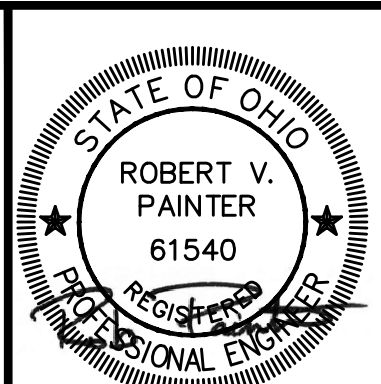
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CRESCENT MOON



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CORDOBA DRIVE



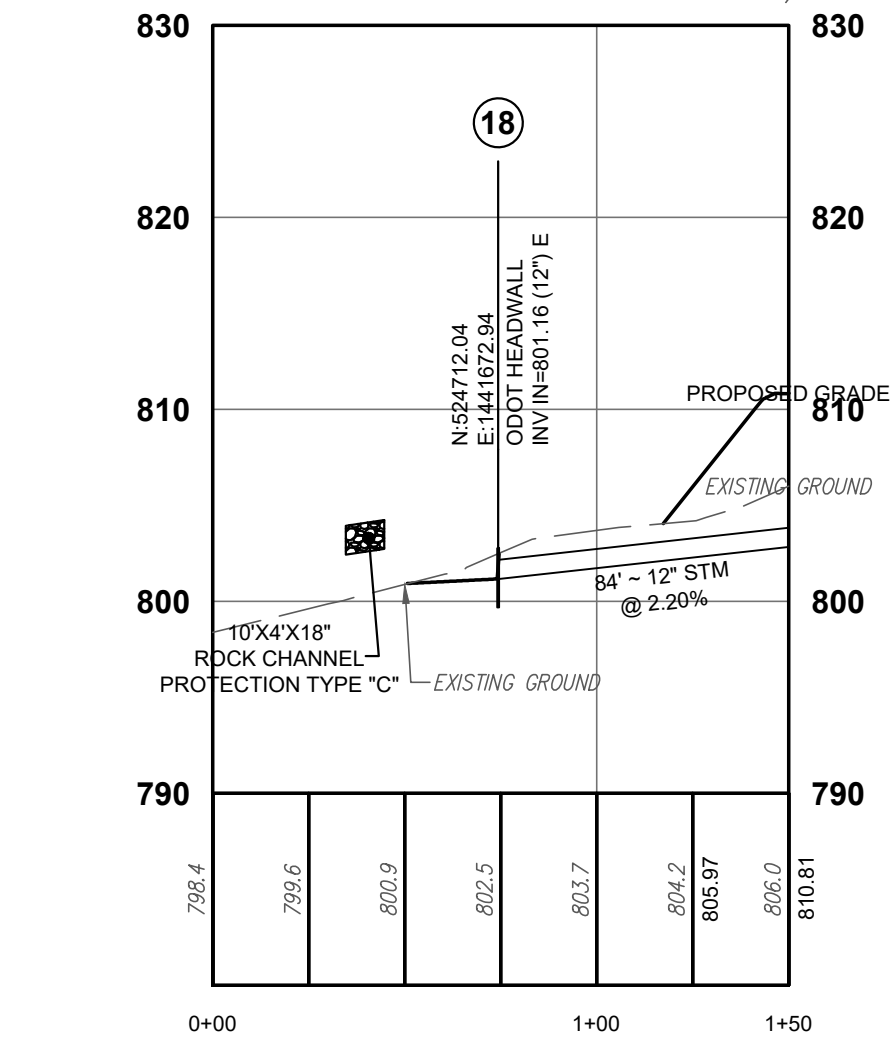
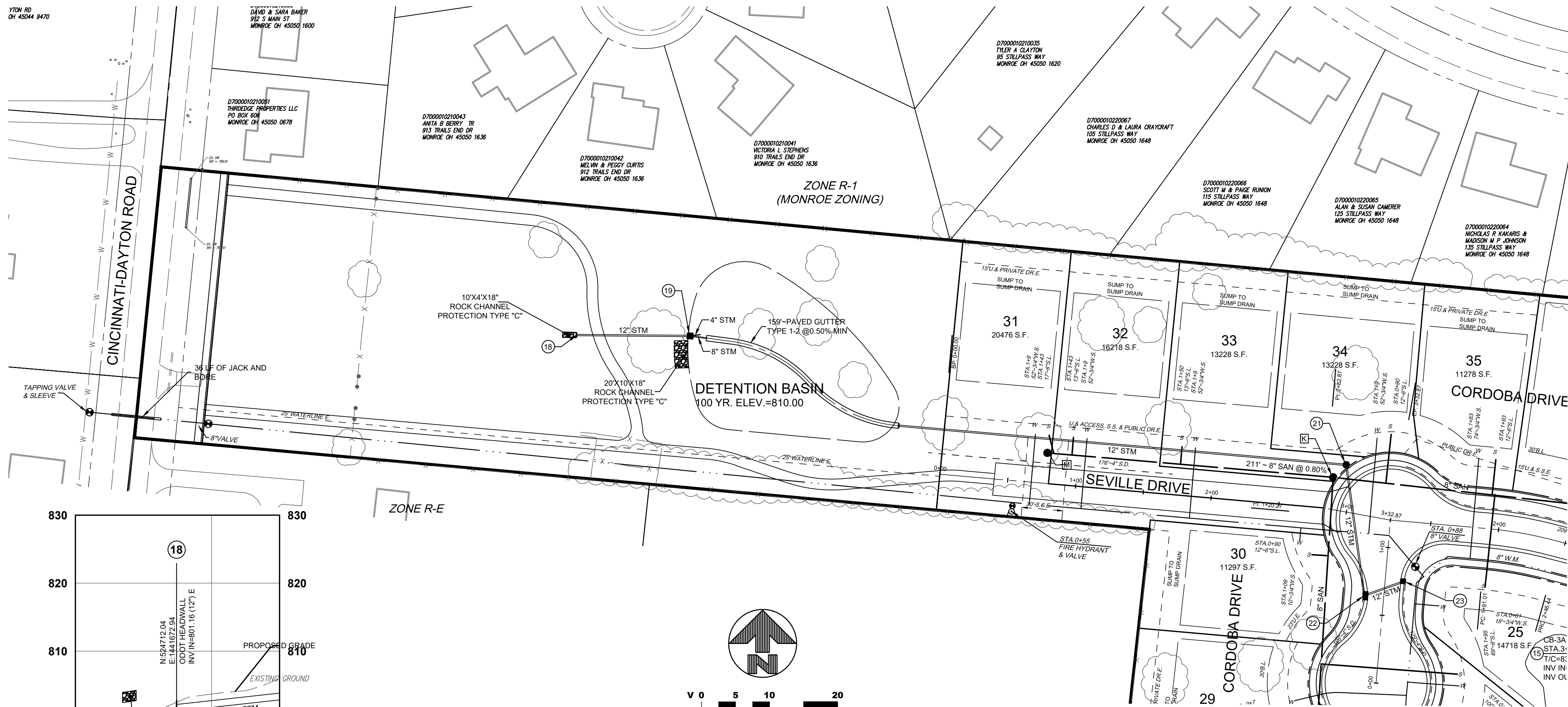
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PLAN & PROFILE
CRESCENT MOON
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LIBERTY TOWNSHIP, BUTLER COUNTY, OHIO

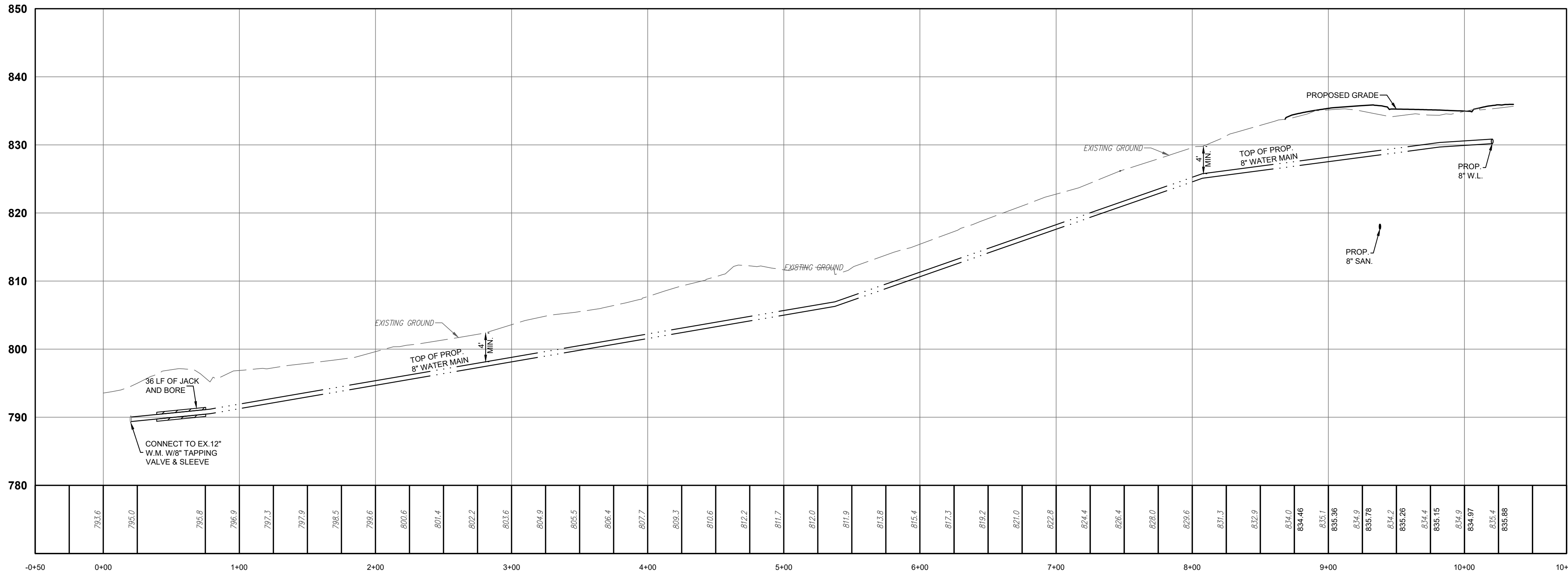
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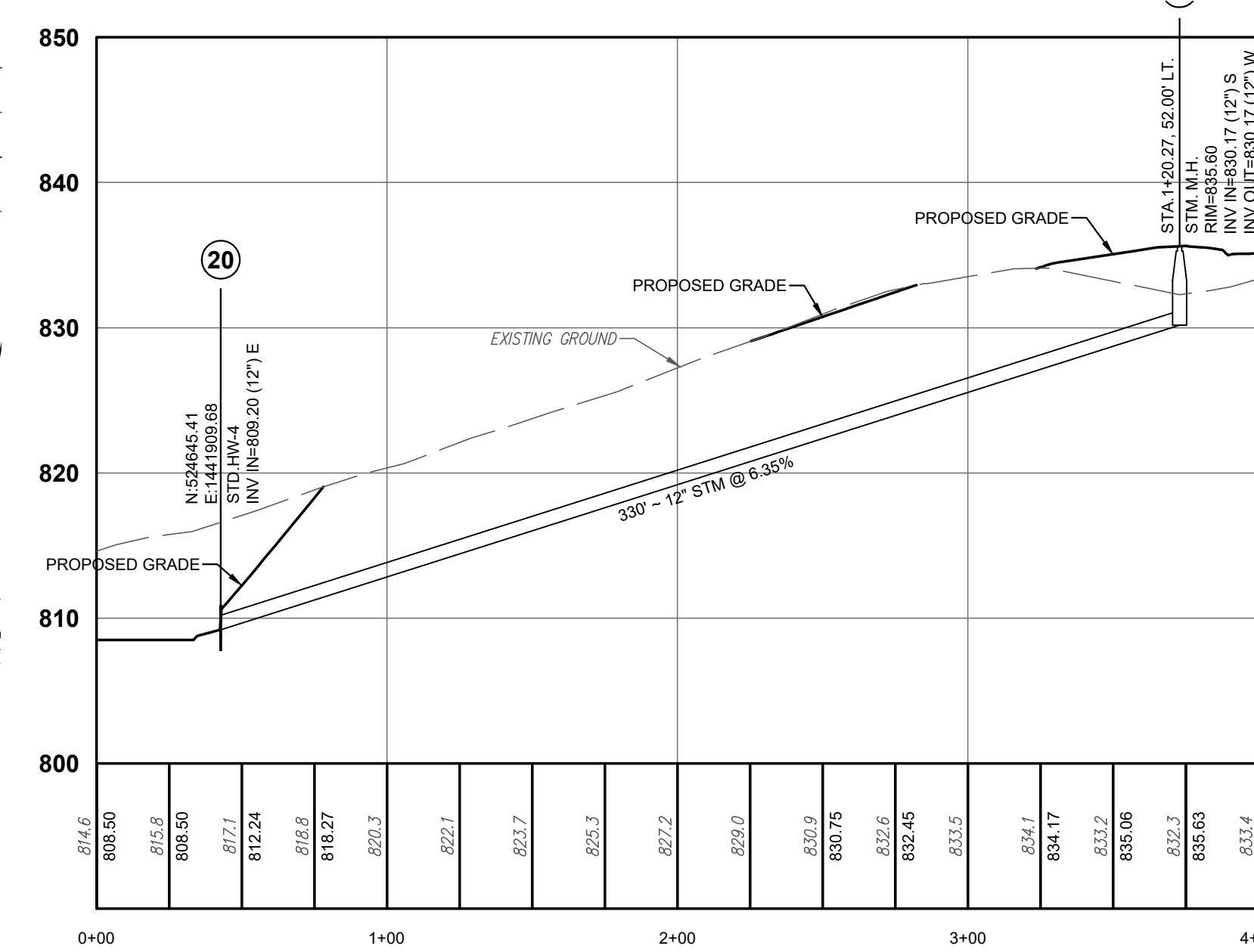
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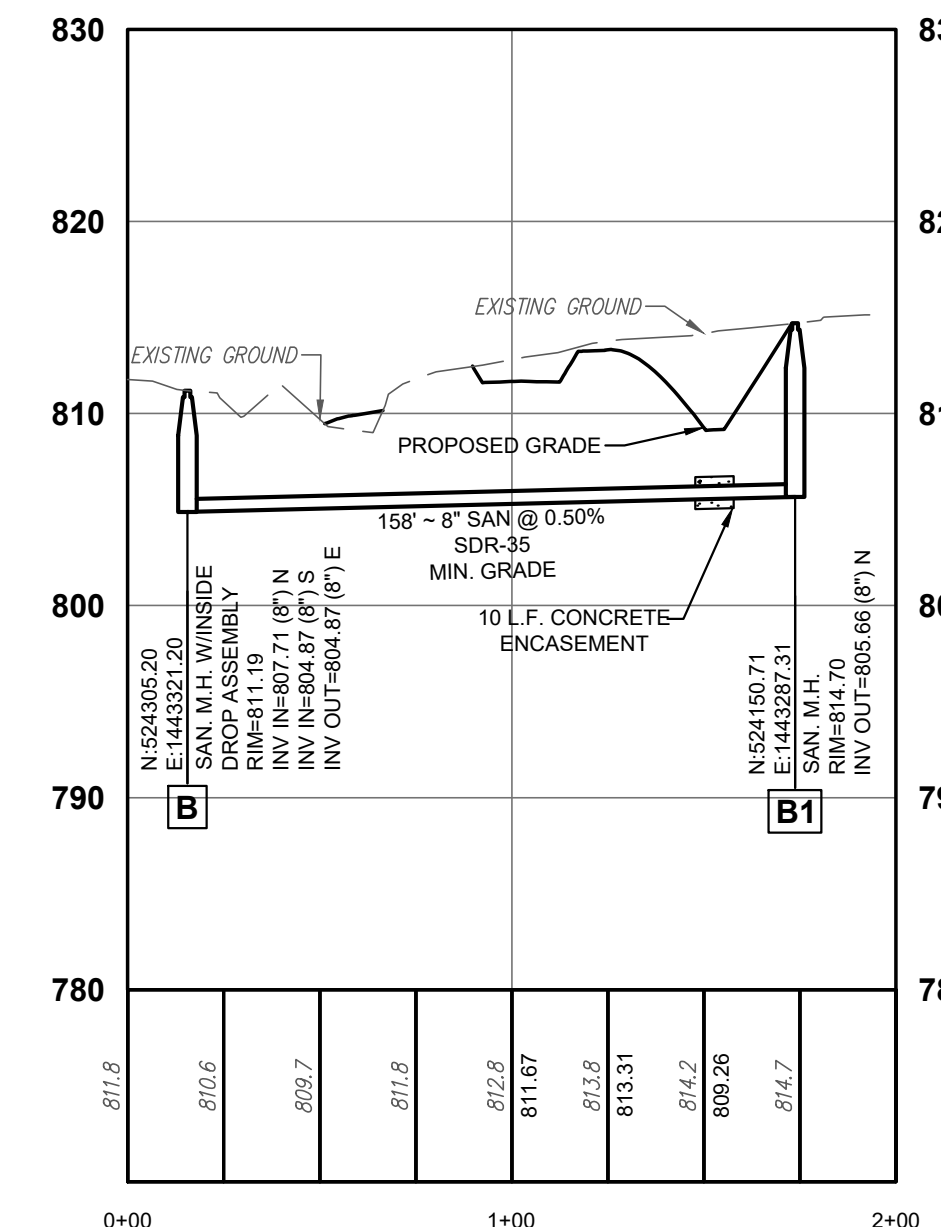
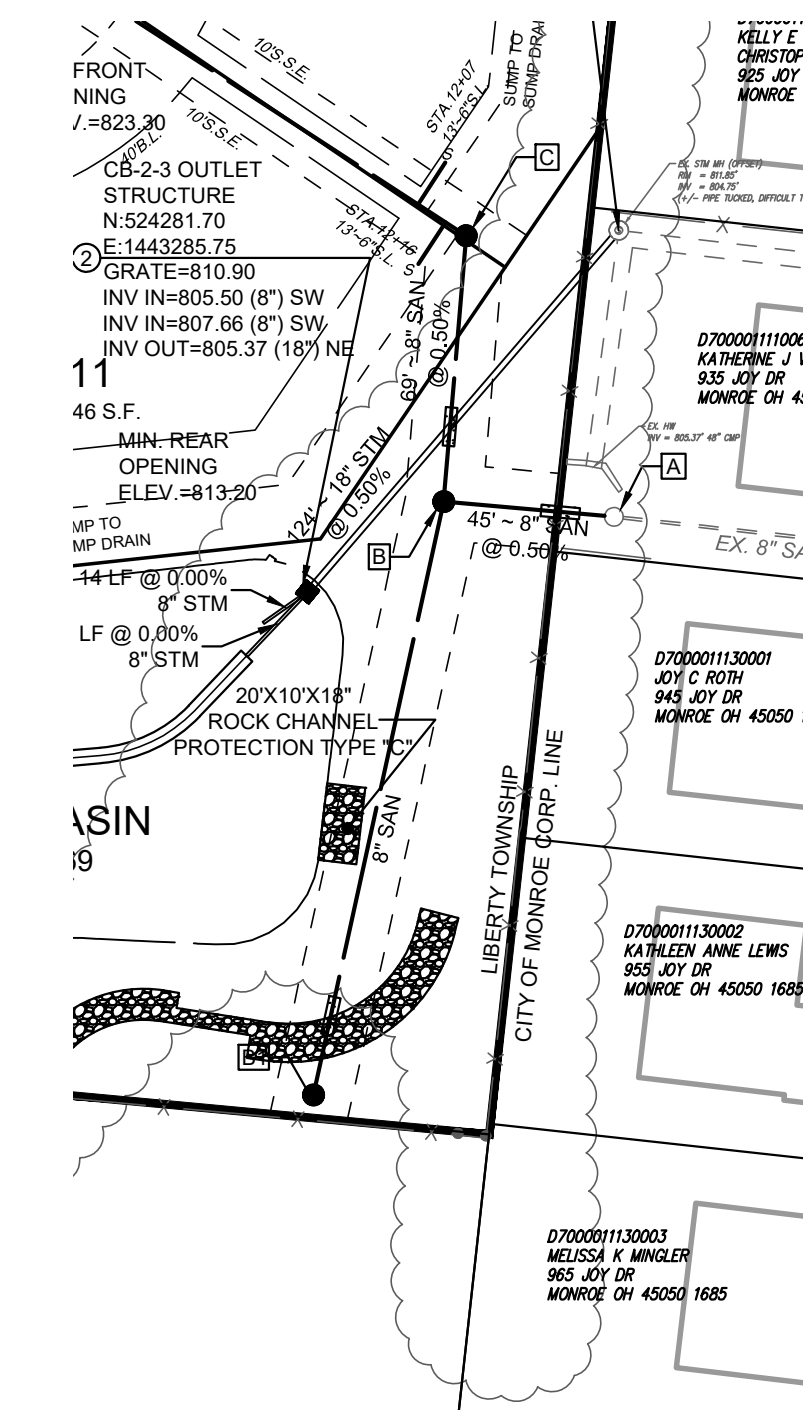
HW-21 TO CB-22



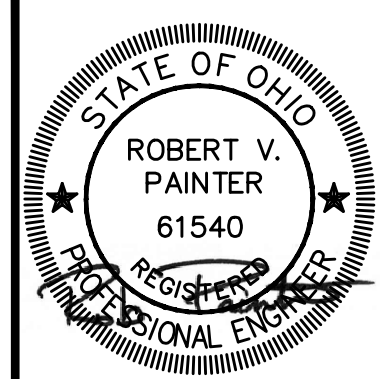
WATERLINE PROFILE



HW-20 TO CB-21



MH-B TO MH-B1



REVISIONS

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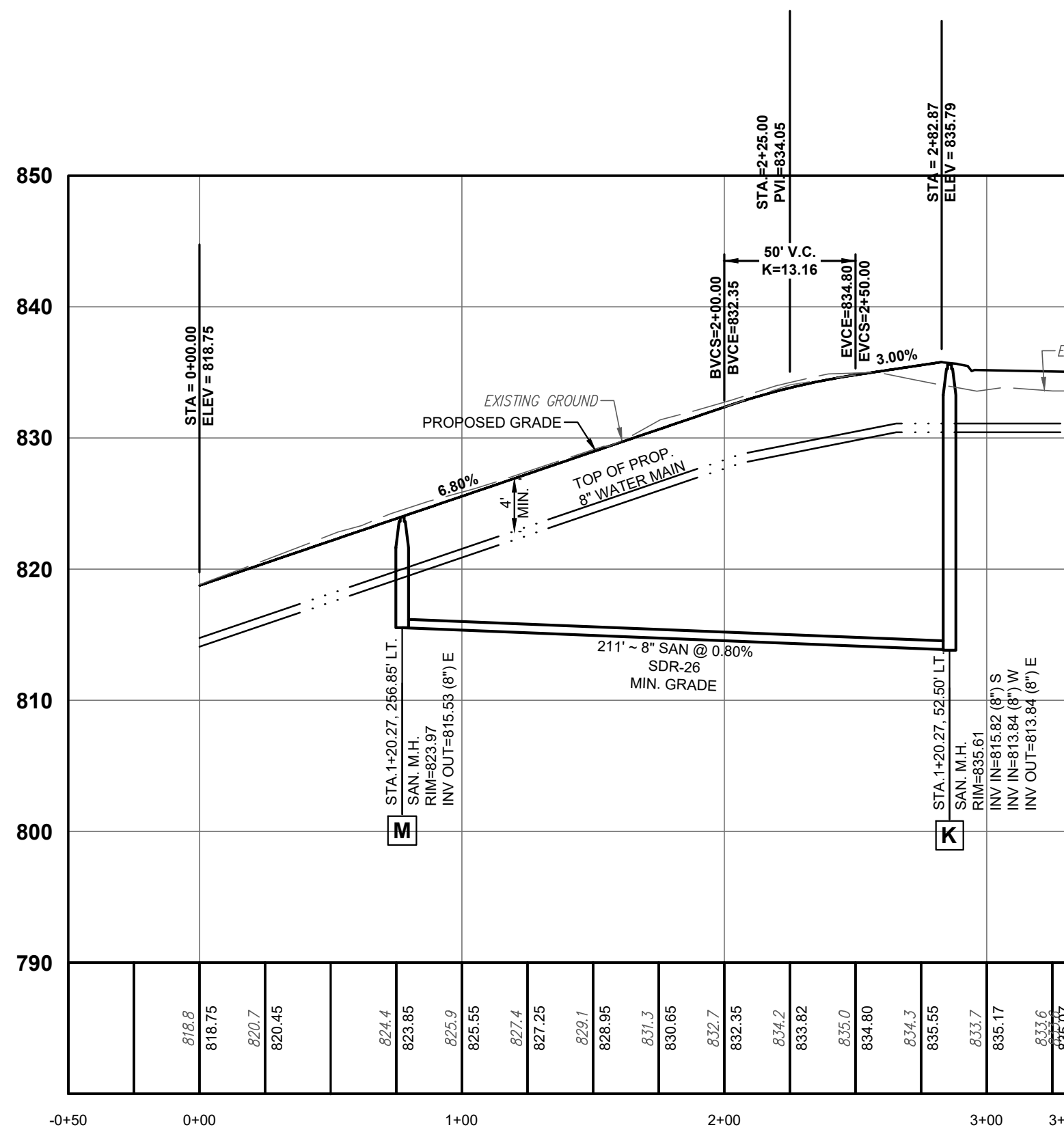
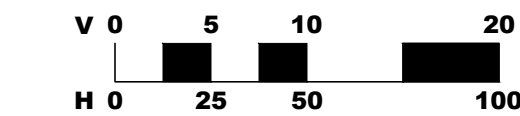
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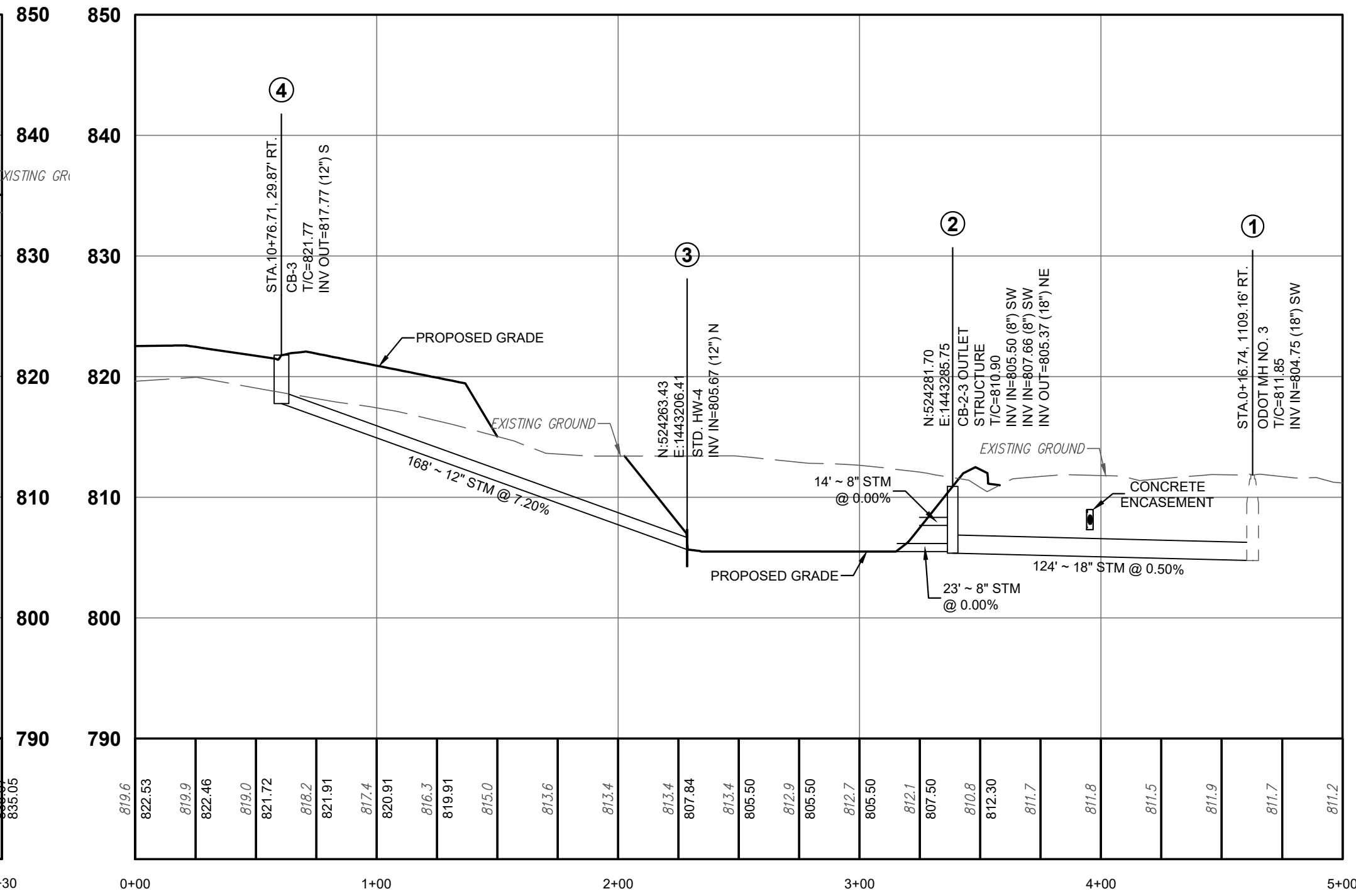
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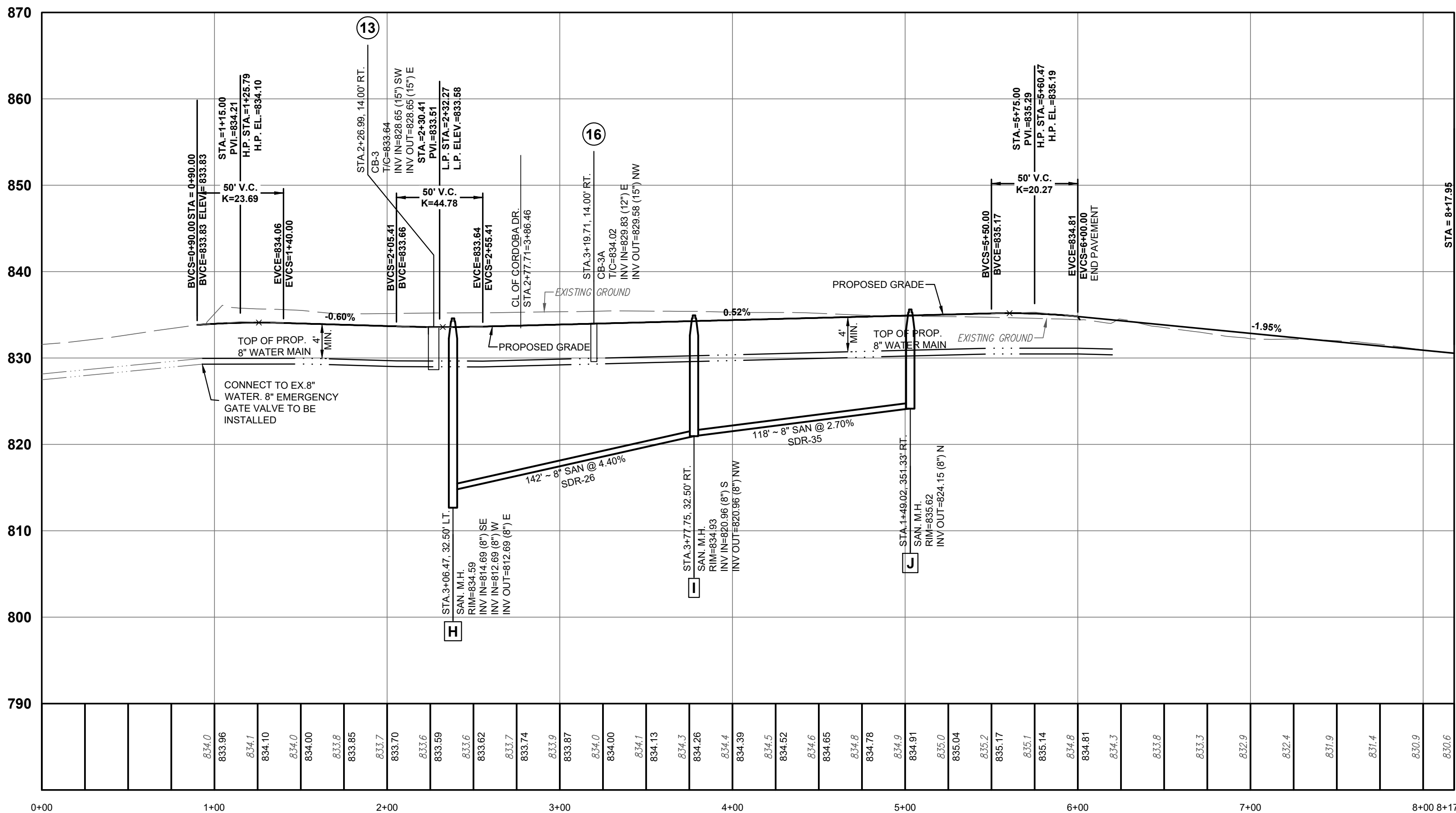
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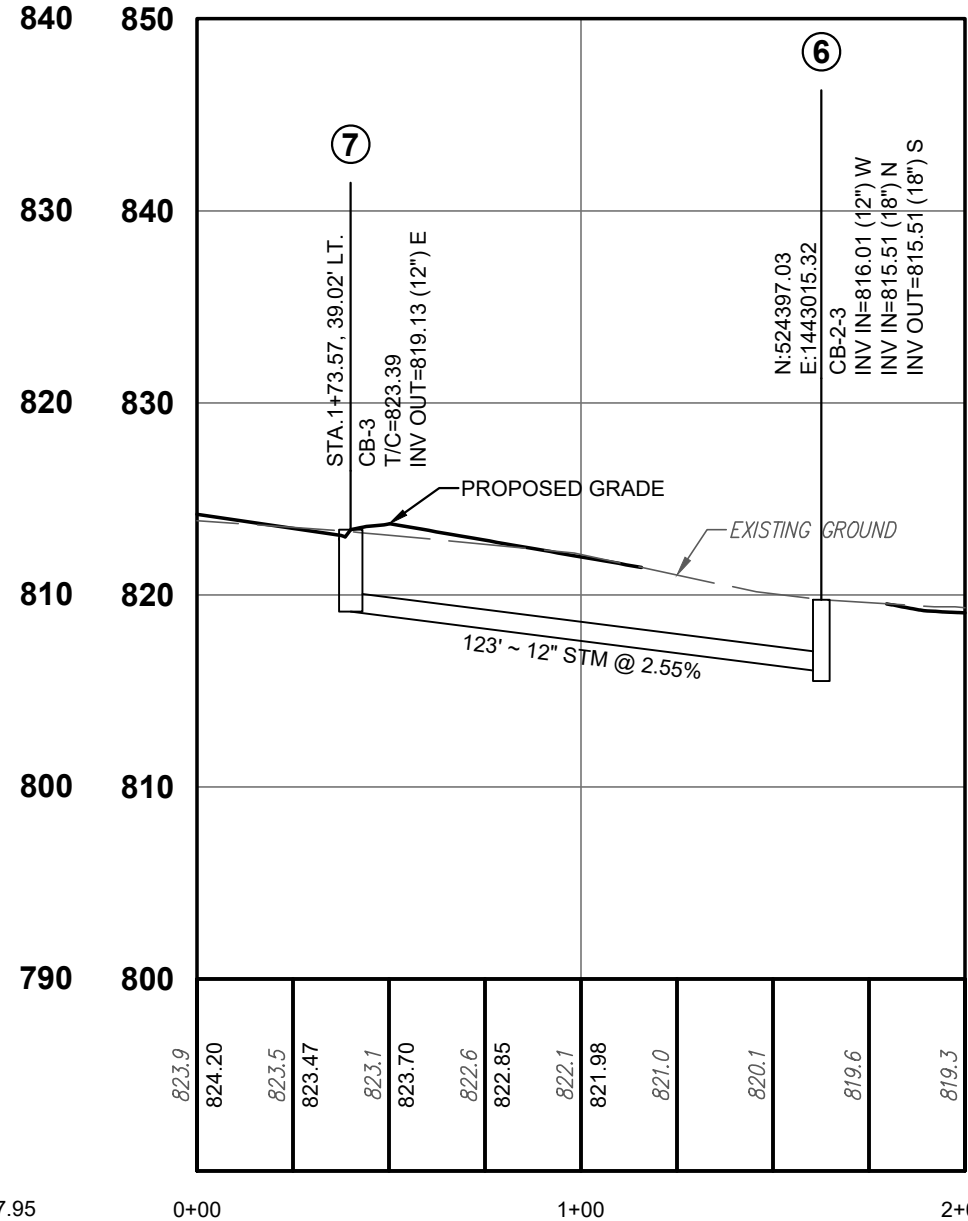
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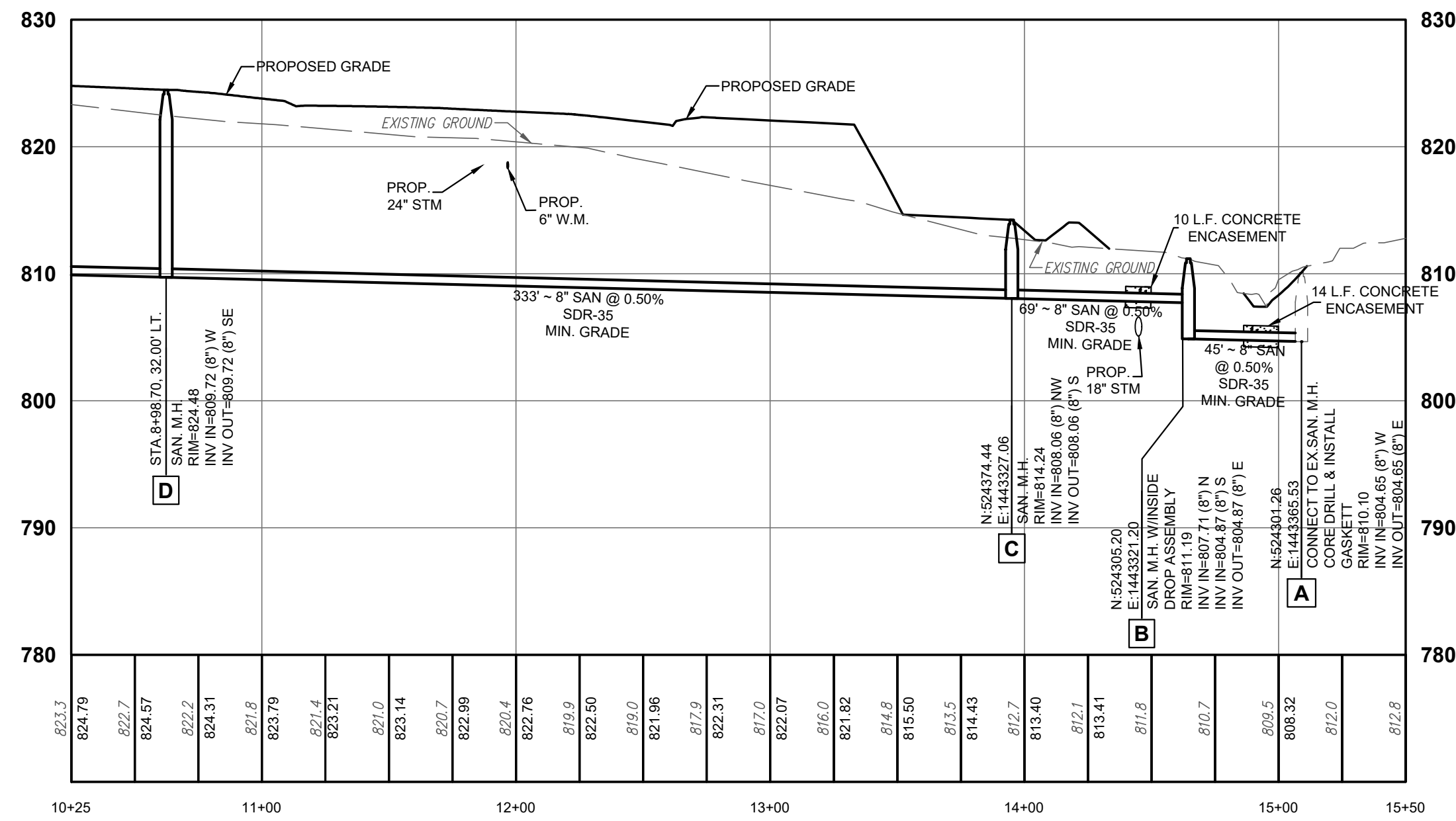
CB-4 TO MH-1



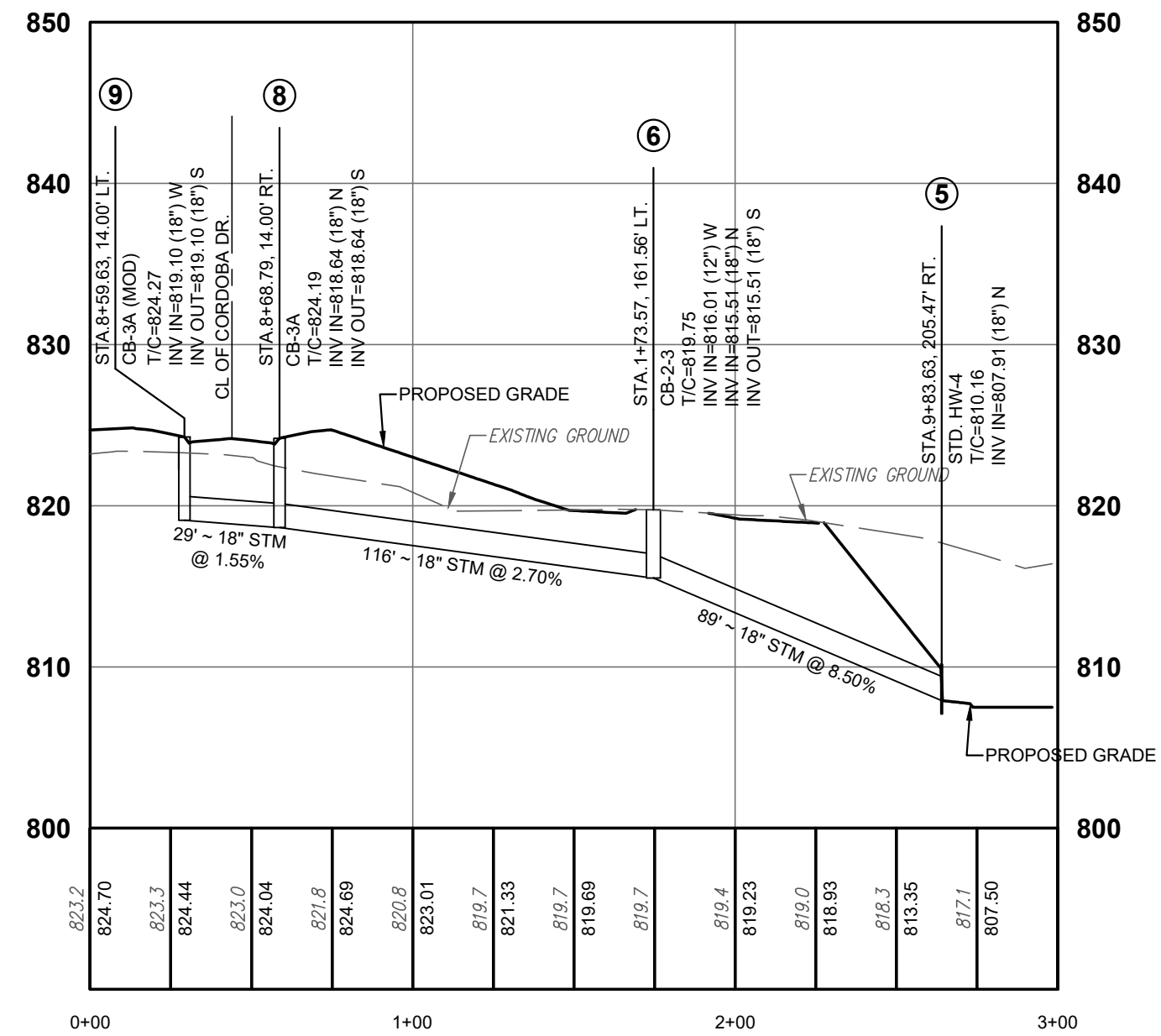
TAM O SHANTER WAY



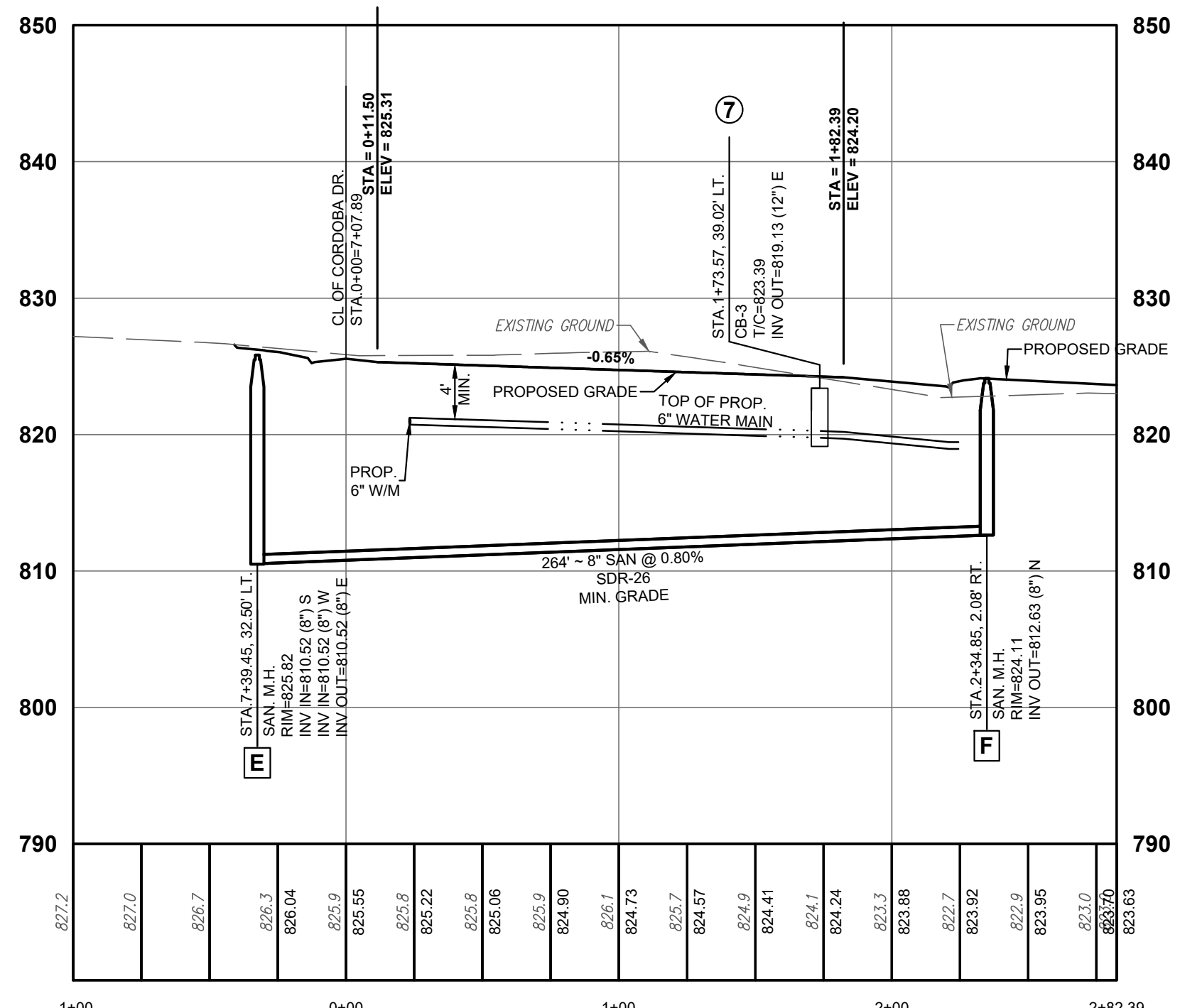
CB-6 TO CB-7



MH-A TO MH-D



CB-9 TO HW-5



GRENADE COURT



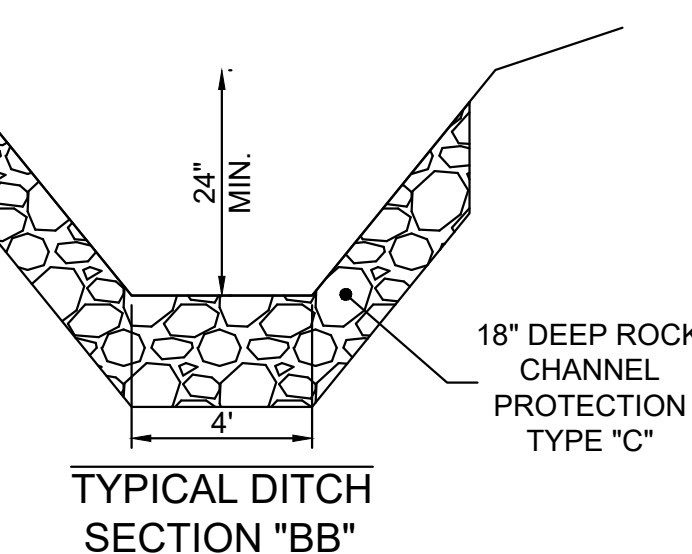
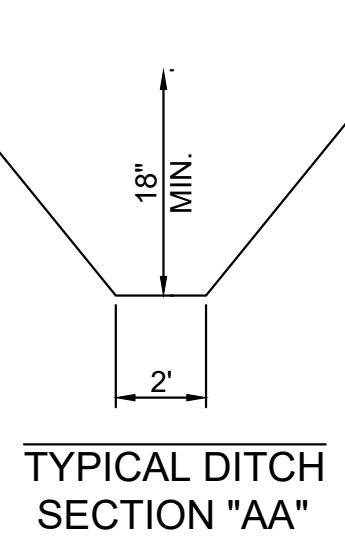
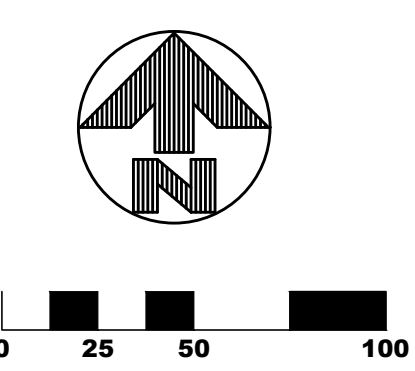
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PROFILE SHEET
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CRESCENT MOON



- EROSION CONTROL LEGEND**
- SF SILT FENCE
 - IF INLET FILTER
 - LOT SWALE ARROW
 - 100 YEAR DRAINAGE ROUTE



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STATE OF OHIO
ROBERT V. PAINTER
61540
REGISTERED PROFESSIONAL ENGINEER

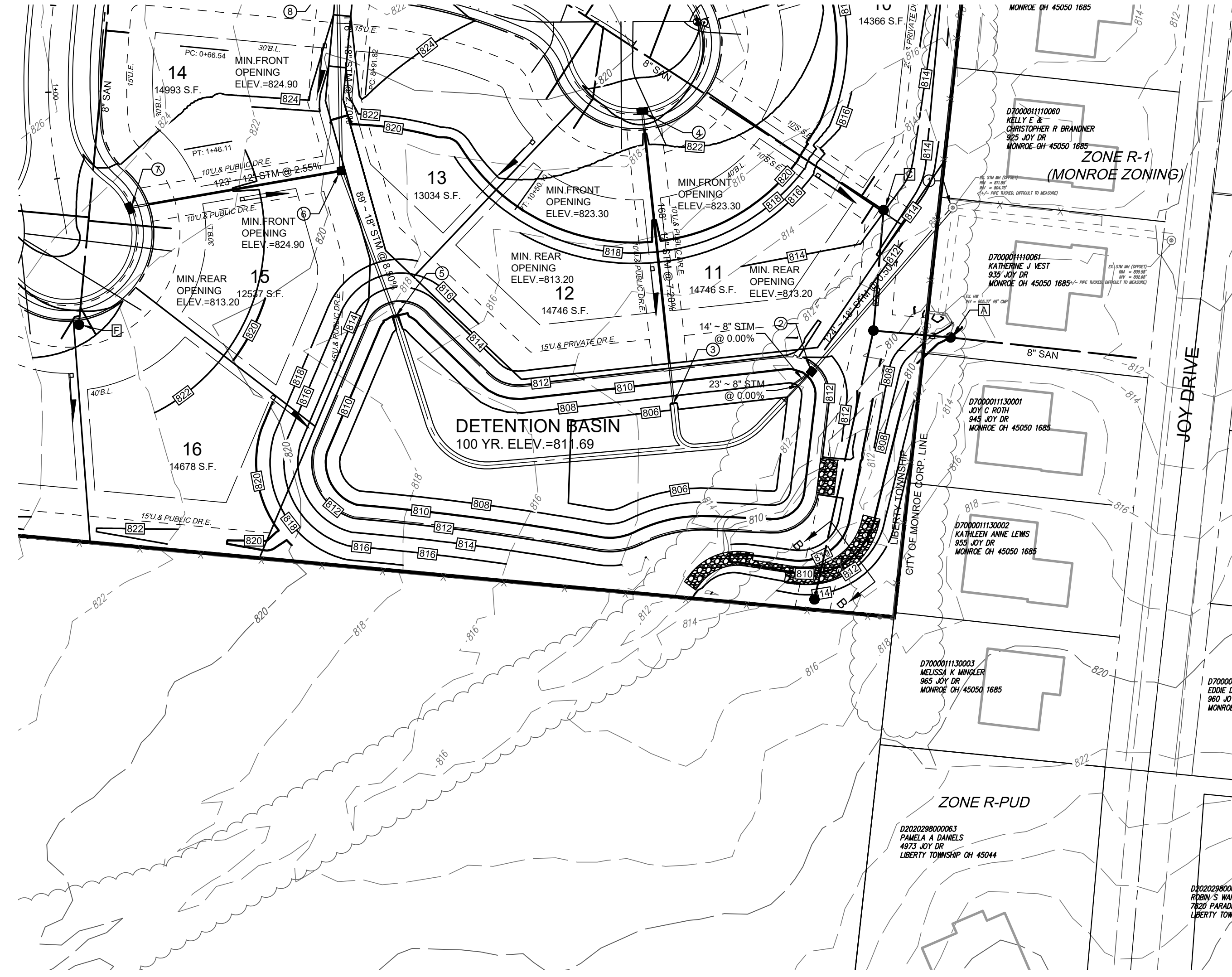
ENGINEERING

REVISIONS	
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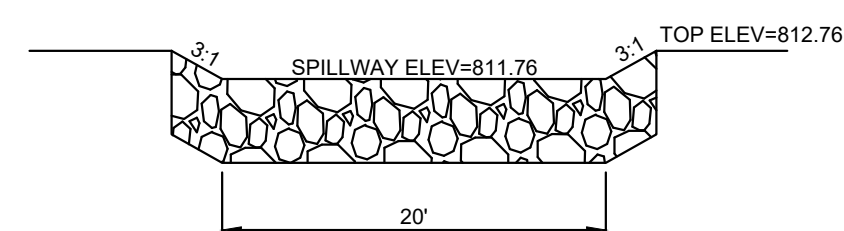
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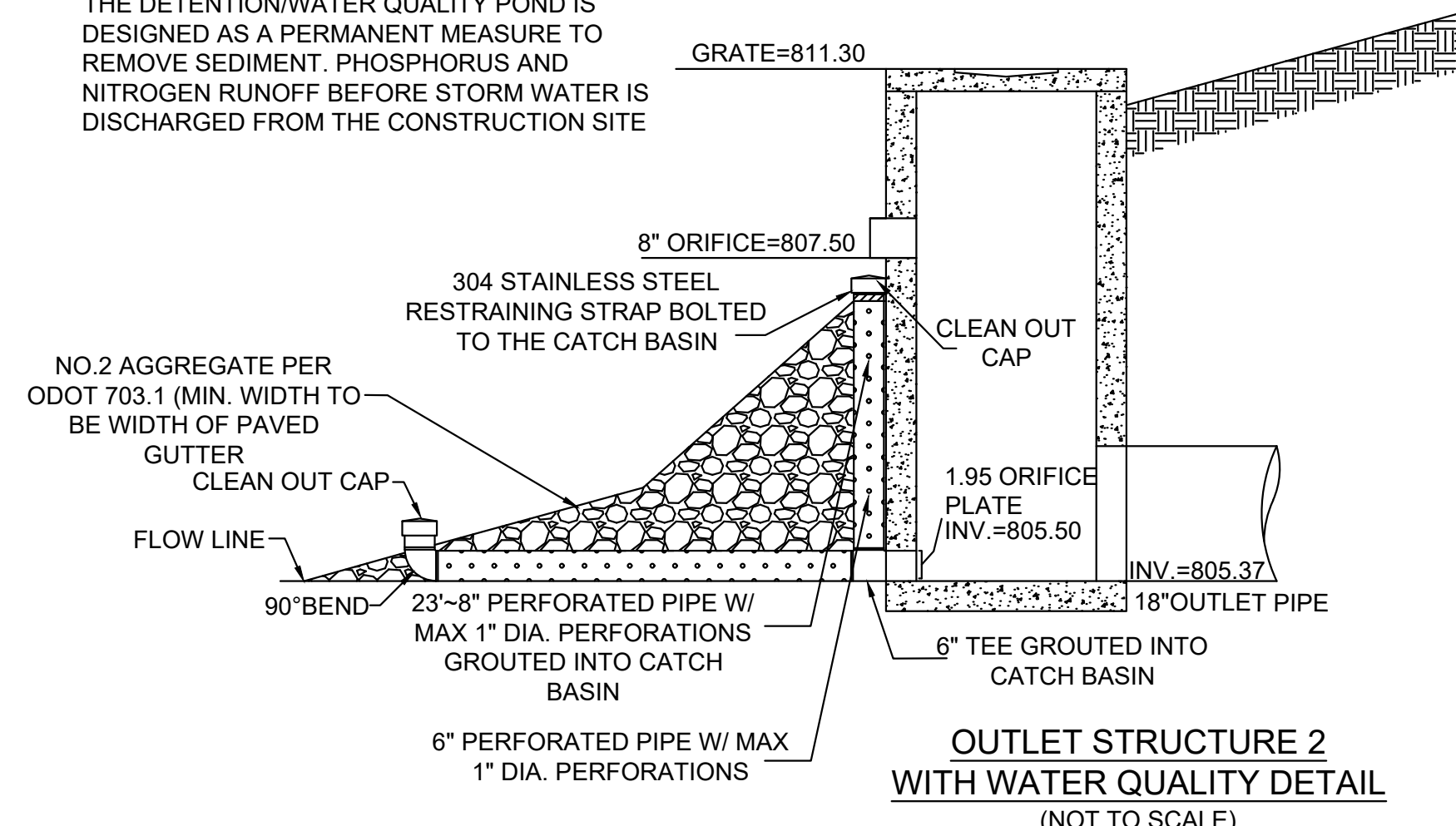
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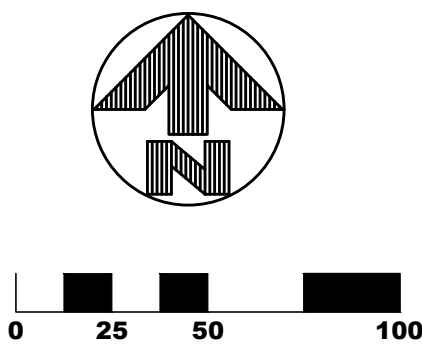
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EMERGENCY SPILLWAY DETAIL

NOTE:
THE DETENTION/WATER QUALITY POND IS
DESIGNED AS A PERMANENT MEASURE TO
REMOVE SEDIMENT, PHOSPHORUS AND
NITROGEN RUNOFF BEFORE STORM WATER IS
DISCHARGED FROM THE CONSTRUCTION SITE





REVISIONS					
(1)	05/14/20	REVISED PER BOWS			

INTERSECTION DETAILS

CRESCENT MOON

SECTION 16, TOWN 3, RANGE 3
LIBERTY TOWNSHIP, BUTLER COUNTY, OHIO

SCALE: 1"=30'
DATE: APRIL 2, 2020
DRAWN: SAD
DESIGNED: SAD
CHECKED: RVP
XREF:
JOB NO.: 19054

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Of
13

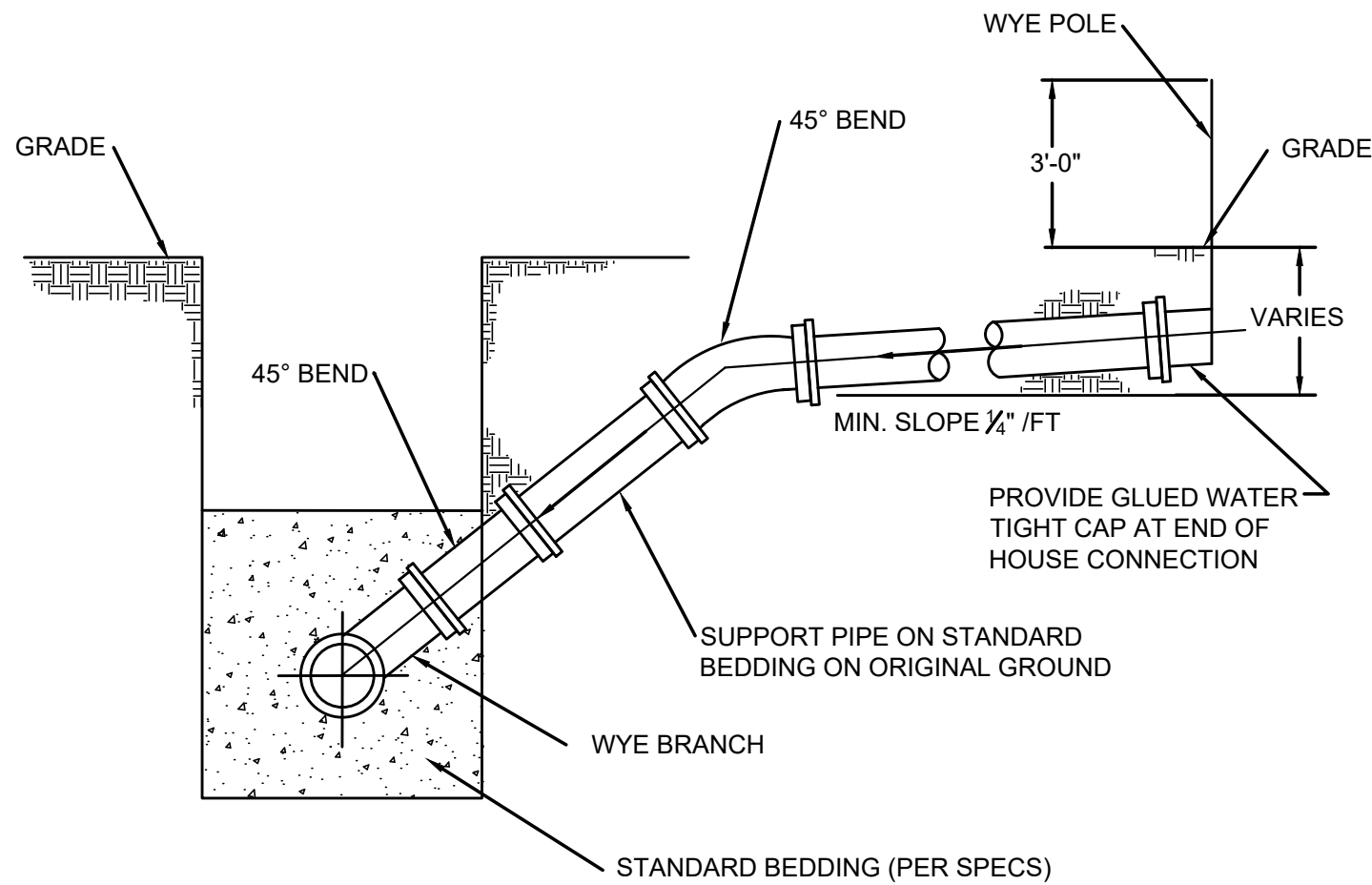
NOTE:
UNDERGROUND UTILITIES ARE PLOTTED FROM A
COMPILATION OF AVAILABLE RECORD
INFORMATION AND SURFACE INDICATIONS OF
UNDERGROUND STRUCTURES AND MAY NOT BE
INCLUSIVE. PRECISE LOCATIONS AND THE
EXISTENCE OR NON EXISTENCE OF
UNDERGROUND UTILITIES CANNOT BE VERIFIED.
PLEASE NOTIFY THE OHIO UTILITY PROTECTION
SERVICE AT 1-800-362-2764 BEFORE ANY
PERIOD OF EXCAVATION OR CONSTRUCTION
ACTIVITY.



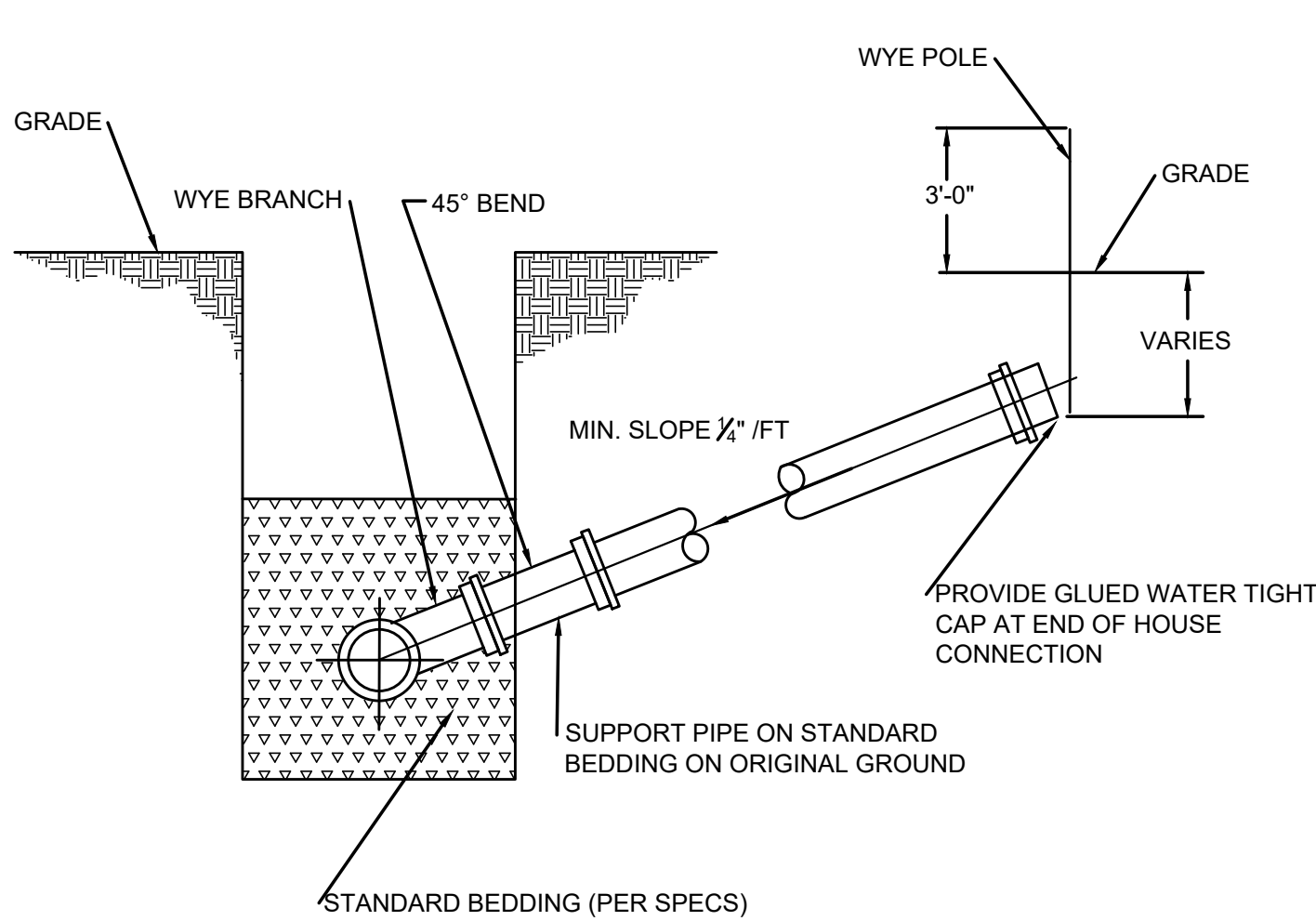
STREAM CROSSING DETAILS

THE OHIO EPA HAS CONCERNS ABOUT ANY SANITARY SEWER WHICH CROSS OR RUN PARALLEL TO ANY FLOWING STREAMS. FOR STREAMS WHICH DRAIN ONE SQUARE MILE OR GREATER, COMMUNITIES ARE REQUIRED TO IMPLEMENT CONTROL PRACTICES IN THESE AREAS AS MUCH AS POSSIBLE. FOR STREAMS WITH LESS THAN ONE SQUARE MILE OF DRAINAGE, COMMUNITIES MUST IMPLEMENT CONTROL PRACTICES AS MUCH AS PRACTICAL. THE AREA OF CONCERN INCLUDES 2.5 TIMES THE FULL BANK WIDTH OF THE STREAM ON BOTH SIDES OF THE STREAM (RIPARIAN AREA). FOR THESE STREAM CROSSINGS OR OTHER AREAS WHERE THE SEWERS ARE IN THIS RIPARIAN AREA, THE ENTITY SHOULD SPECIFY THE MEANS FOR MITIGATING ANY IMPACTS ON THESE STREAMS WHICH COULD RESULT FROM THE ACTIVITY. THESE FACTORS WOULD INCLUDE THE FOLLOWING:

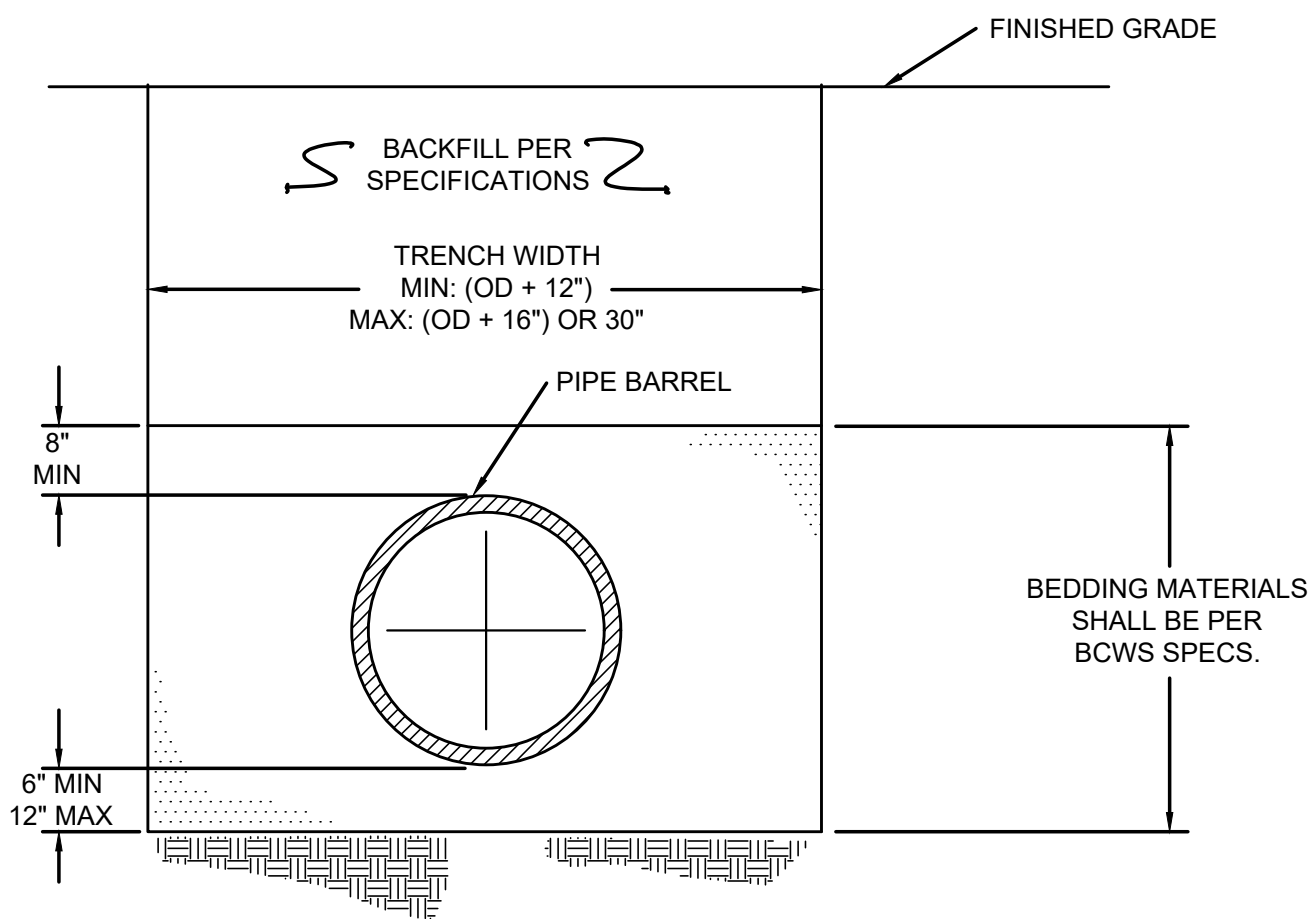
- A. THE CONSTRUCTION EASEMENTS FOR THE CLEARING ACTIVITIES SHOULD BE AS NARROW AS POSSIBLE OR PRACTICAL DEPENDING ON THE SIZE OF THE STREAM. A MAXIMUM OF A 20 FOOT CLEARING LIMIT IS ALL THAT WILL BE ALLOWED IN THE RIPARIAN AREA. FOR ALL SANITARY SEWERS RUNNING PROPOSED ALONG A STREAM, THE CLEARING LIMIT SHOULD BE SHIFTED AS FAR FROM THE STREAM AS POSSIBLE.
- B. THE CONSTRUCTION OF THE STREAM CROSSING SHOULD BE COMPLETED AS SOON AS POSSIBLE BUT SHOULD NOT EXCEED MORE THAN ONE DAY.
- C. THE MATERIAL REMOVED FROM THE TRENCH EXCAVATION SHOULD BE STORED OUTSIDE THE RIPARIAN AREA. THIS AREA SHOULD BE ENCLOSED BY A SILTATION FENCE.
- D. TREES WITHIN THE RIPARIAN AREA SHOULD BE AVOIDED AS MUCH AS POSSIBLE. OLDER TREES ALONG THE STREAM SHOULD BE GIVEN THE GREATEST LEVEL OF PROTECTION AS POSSIBLE. IN THE EVENT THAT A TREE MUST BE REMOVED SO THAT THE SEWERS CAN BE CONSTRUCTED, THE TREE SHOULD BE EITHER CUT AT THE GROUND OR 1 OR 2 FEET ABOVE THE GROUND SO THAT THE ROOT MASS IS MAINTAINED AND THAT THE TREE MAY RE-GROW AFTER THE PROJECT. ALL OTHER VEGETATION IN THE RIPARIAN AREA SHOULD BE CUT AT THE GROUND SURFACE.
- E. COFFER DAMS SHOULD BE USED TO BYPASS THE TRENCH EXCAVATION DURING CONSTRUCTION OF THE STREAM CROSSING.
- F. FINAL BANK STABILIZATION SHOULD BE COMPLETED IMMEDIATELY AFTER COMPLETION OF THE STREAM CROSSING. THE BANKS SHALL BE STABILIZED WITH SEEDING AND MULCHING AS SOON AS DISTURBANCE OF THE AREA IS COMPLETE. IN THE EVENT THAT A STREAM BANK IS SEVERELY STEEP, JUTE MATTING MAY BE UTILIZED TO PROVIDE BANK STABILIZATION. IN MOST CASES, THE STREAM BANK SHOULD BE STABILIZED WITHIN ONE DAY OF COMPLETION OF THE STREAM CROSSING.
- G. THE STOCKPILE LOCATION FOR THE MATERIALS USED FOR THE PIPE BEDDING MATERIAL AND BACKFILL MATERIAL SHOULD BE SHOWN ON THE DETAILED PLANS. THIS AREA SHOULD BE LOCATED OUTSIDE THE RIPARIAN AREA. (SEE PLANS FOR STOCKPILE LOCATION)
- H. ANY LOCATIONS WHERE EQUIPMENT WILL CROSS THE STREAM SHOULD HAVE A TEMPORARY STREAM CROSSING CONSTRUCTED. CONSTRUCTION EQUIPMENT CROSSING SHOULD ONLY BE USED WHEN THERE IS NO OTHER FEASIBLE METHOD SUCH AS CONSTRUCTING SEWER FROM BOTH SIDES OF THE STREAM. FOR SITUATIONS WHERE THIS MAY NOT BE PRACTICAL, TWO COMMON WAYS TO CONSTRUCT A STREAM CROSSING ARE USING TREE TRUNKS REMOVED FROM OTHER LOCATIONS OF THE PROJECT LAID LENGTHWISE IN THE STREAM OR CONSTRUCTING A CULVERT IN THE STREAM WITH BACK FILL PLACE ON TOP OF IT. THE TEMPORARY STREAM CULVERTS SHOULD BE DESIGNED IN ACCORDANCE TO THE OHIO DEPARTMENT OF NATURAL RESOURCES, DIVISION OF SOIL AND WATER CONSERVATION'S "RAINWATER AND LAND DEVELOPMENT" MANUAL.
- I. ALL TRENCH DEWATERING SHALL BE PASSED THROUGH A SEDIMENT IMPOUNDMENT STRUCTURE. ADEQUATE OUTLET PROTECTION MUST BE PROVIDED FOR EACH IMPOUNDMENT. IF ANY GROUNDWATER SHOULD OCCUR, THE CONTRACTOR SHALL CONTACT THE OHIO DEPARTMENT OF NATURAL RESOURCES, DIVISION OF WATER, TO ASSURE PROPER WILL INSTALLATION AND ABANDONMENT OF WELLS. THE CONTRACTOR SHALL NOT DIRECT THE GROUNDWATER TO THE IMPOUNDMENT INTENDED FOR TRENCH WATER.



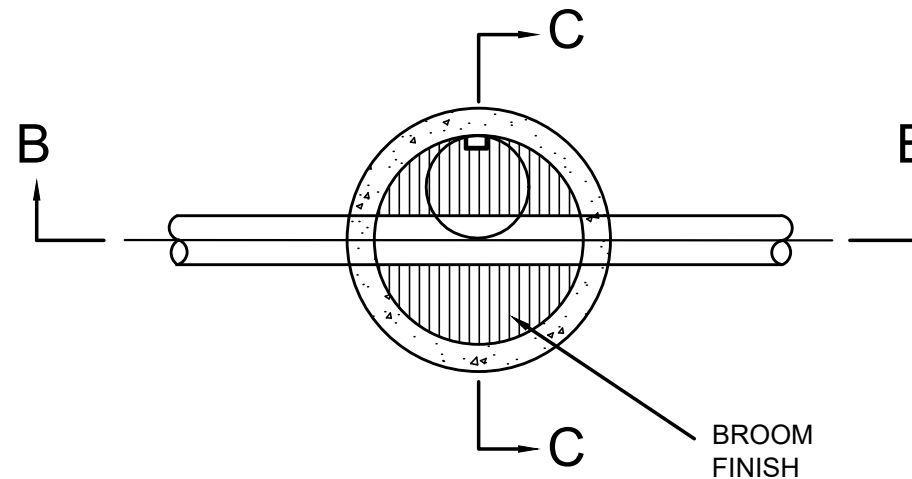
HOUSE CONNECTION FOR DEEP SEWER
6280



HOUSE CONNECTION FOR SHALLOW SEWER
6290

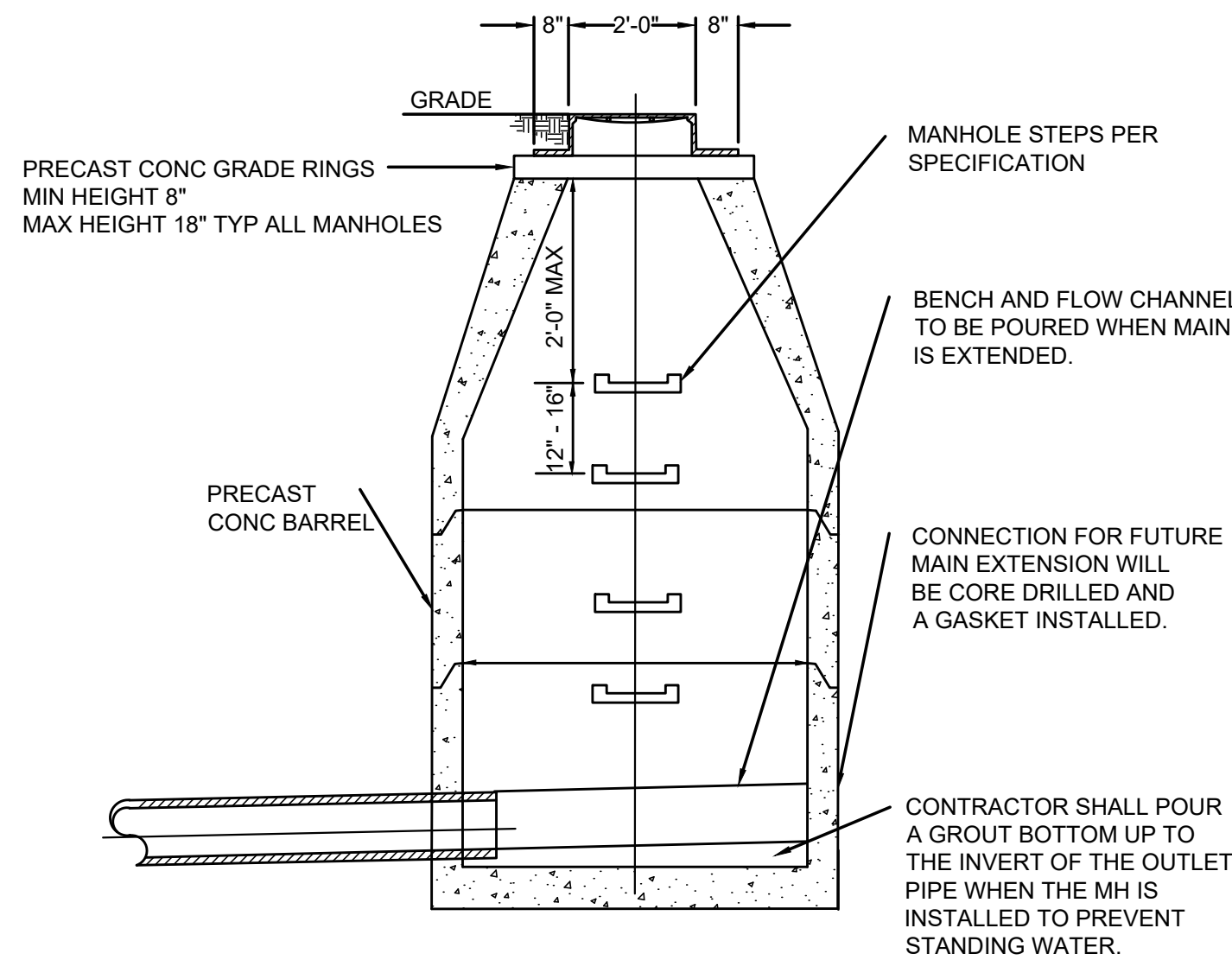


TYPICAL TRENCH DETAIL
SEWER INSTALLATION
6270

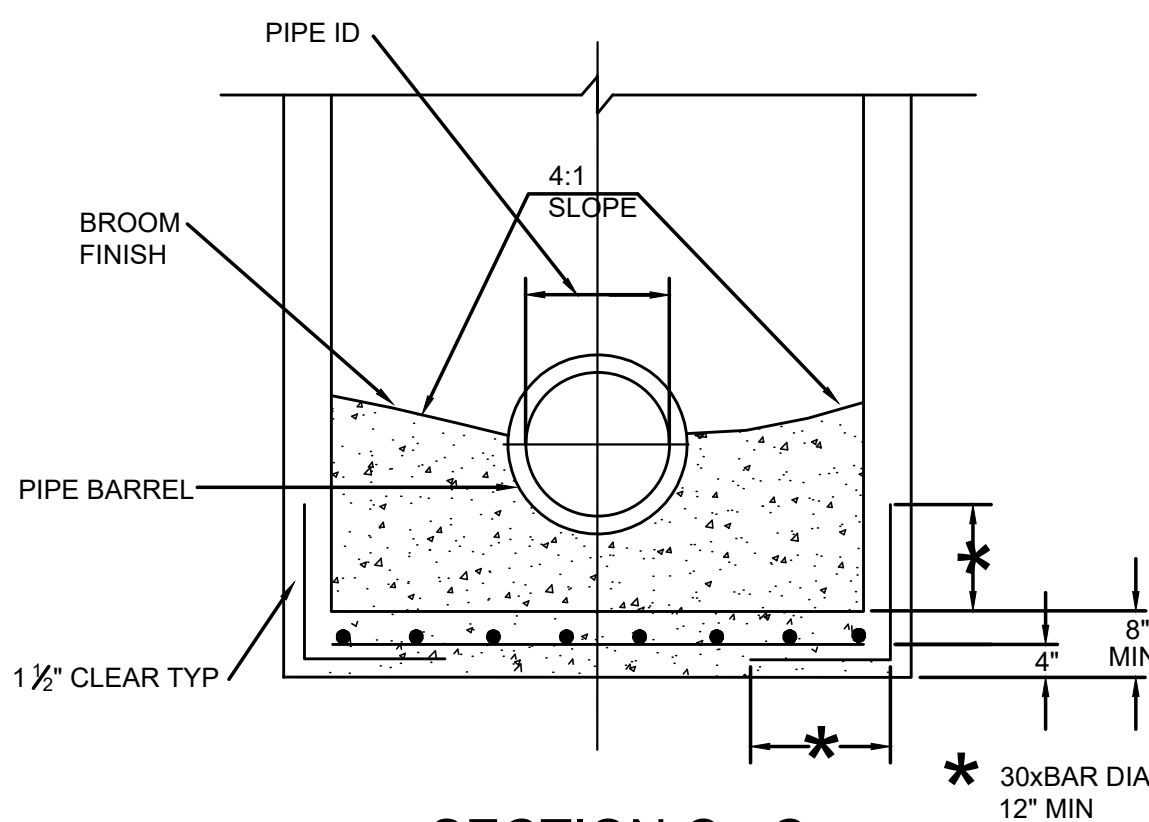


SECTION A - A

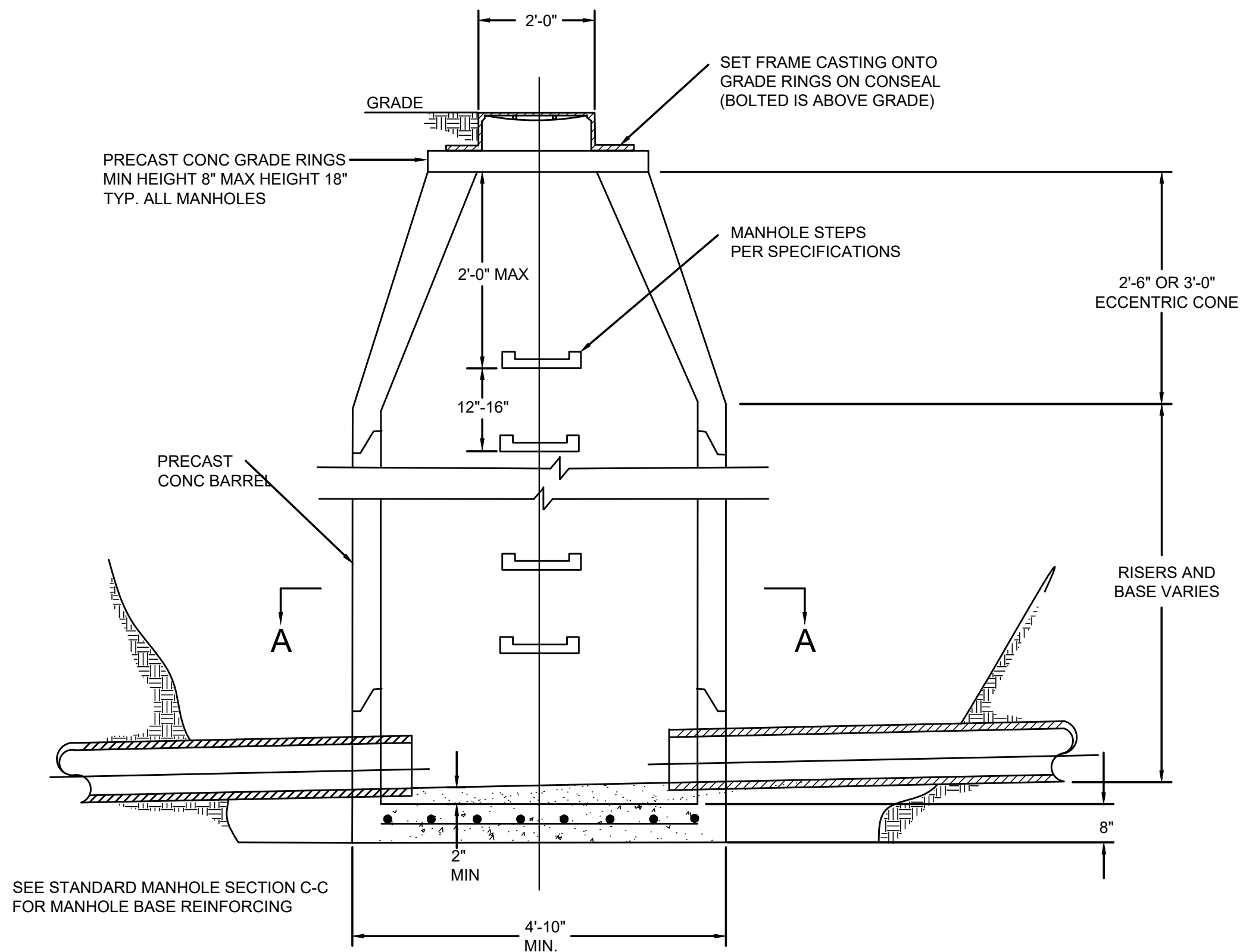
M.H. DEPTH	SLAB & DOWELL RESTEEL SQ. IN./FT. E.W.
0'-10'	0.17
11'-20'	0.22
21'-30'	0.27
31'-40'	0.32



DEAD END MANHOLE DETAIL
6190

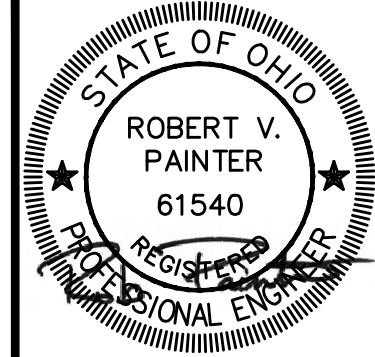


SECTION C - C



SECTION B - B

STANDARD MANHOLE DETAIL
6200



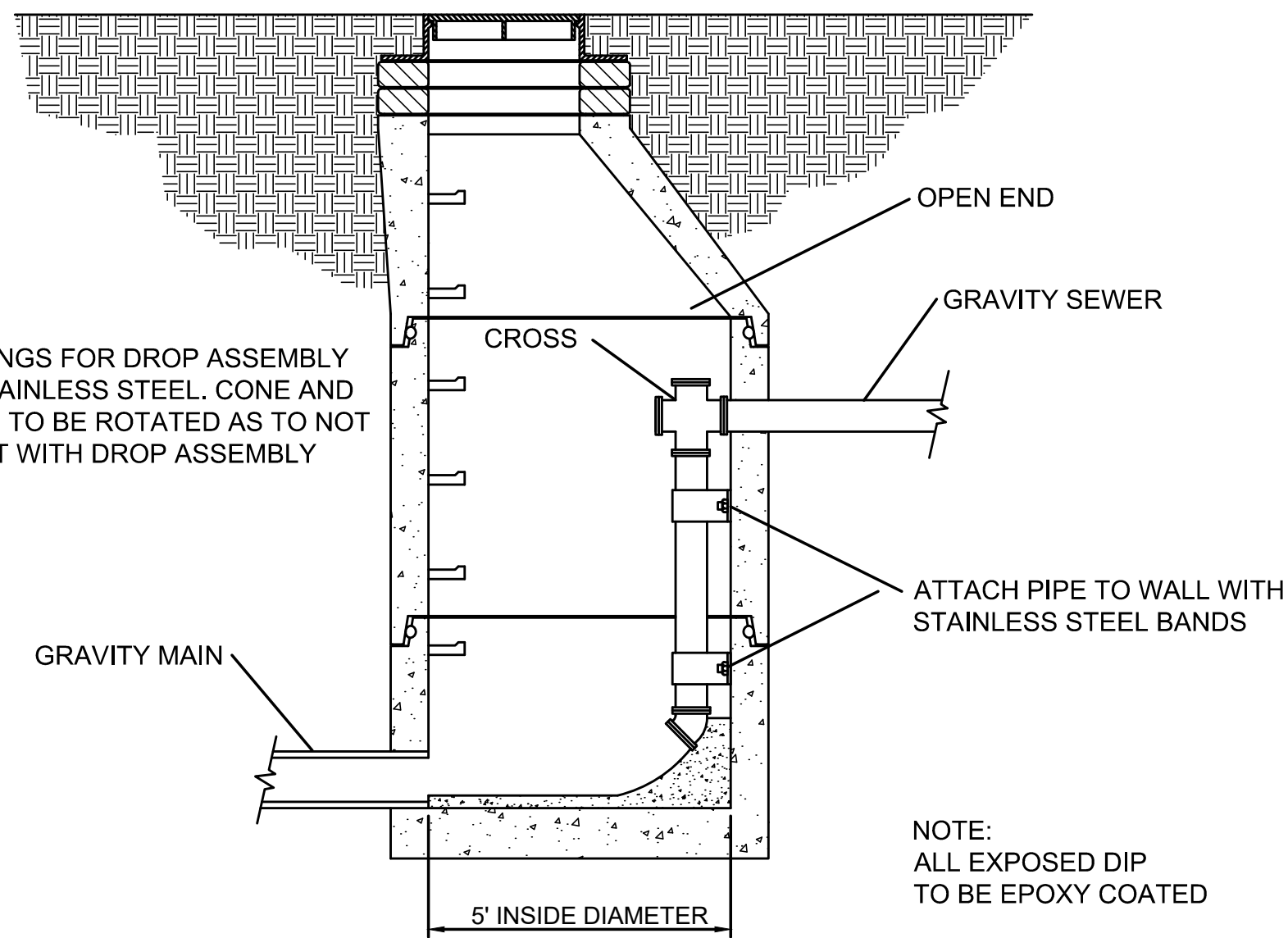
REVISIONS

NO.	DESCRIPTION	DATE
1	05/14/20 REVISED PER BCWS	

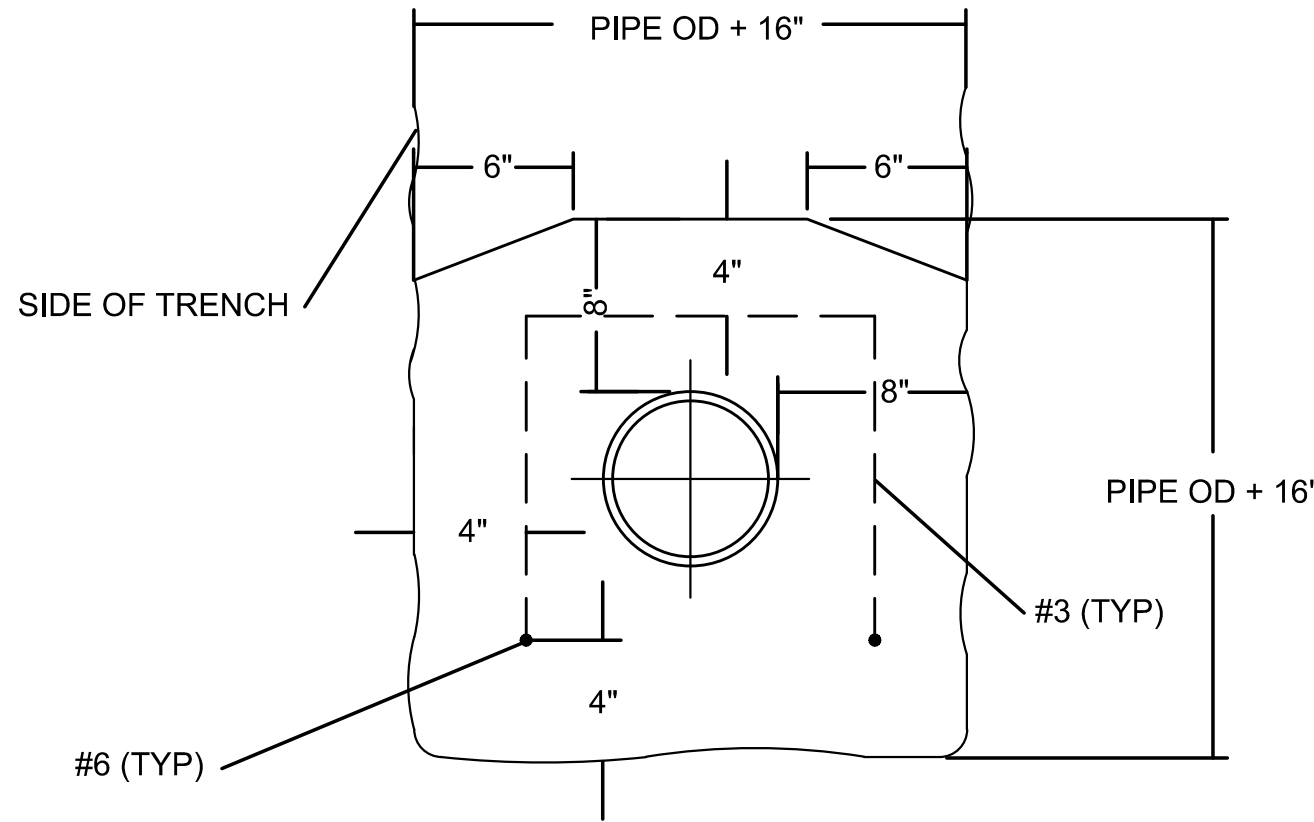
STANDARD SANITARY DETAILS
CRESCENT MOON
SECTION 16, TOWN 3, RANGE 3
LIBERTY TOWNSHIP, BUTLER COUNTY, OHIO

SCALE: NOT TO SCALE
DATE: APRIL 2, 2020
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CHECKED: RVP
XREF:
JOB NO.: 19054

CRESCENT MOON

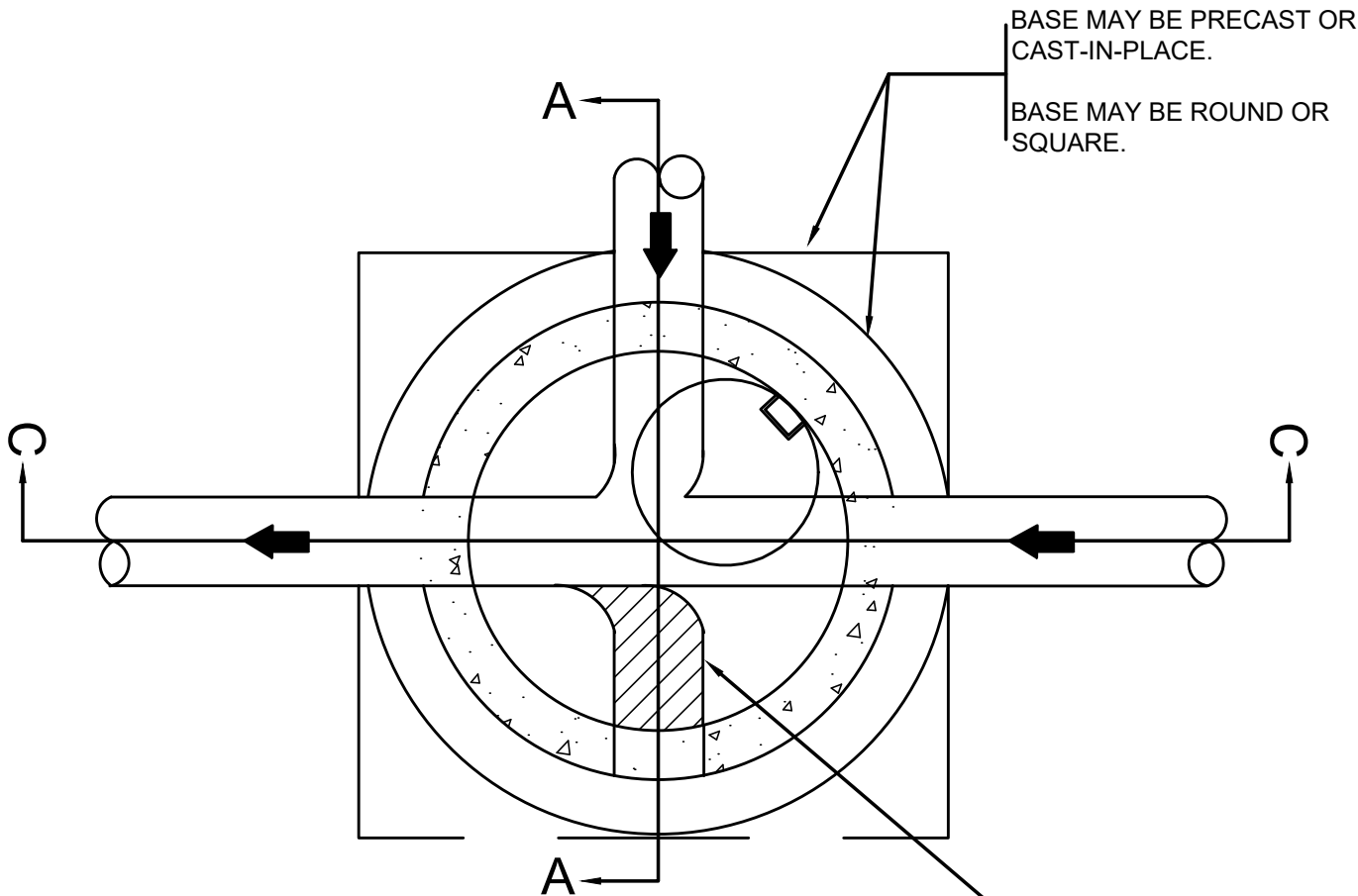


**INSIDE DROP MANHOLE DETAIL
FOR GRAVITY SEWERS**
6165

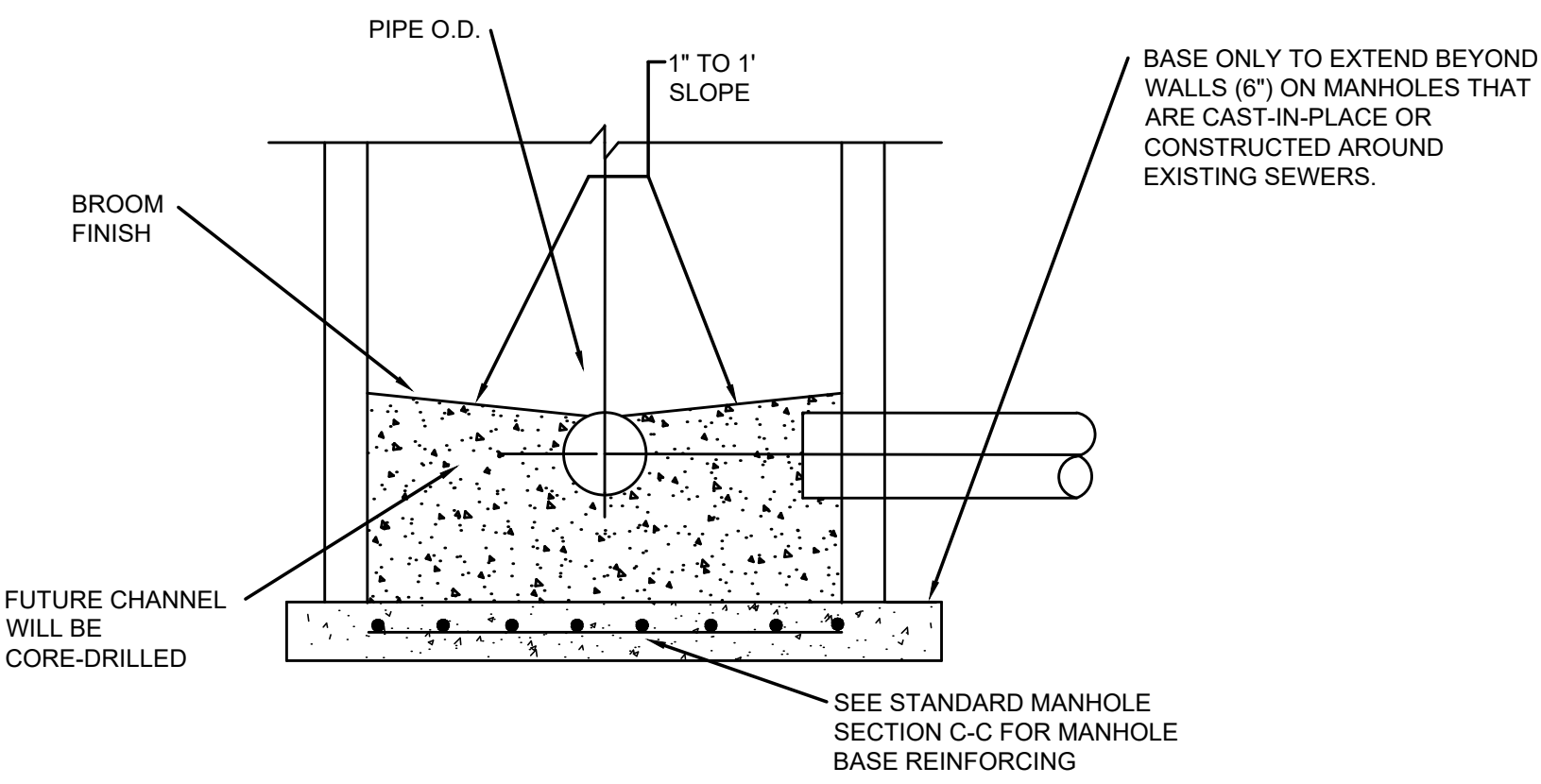


PIPE SIZE	CY CONC PER LIN FT	LENGTH OF NO 3 BARS	SPACING (FT) BETWEEN NO 3 BARS
6"	0.121	3'-9"	1.64
8"	0.139	4'-3"	1.25
10"	0.157	4'-9"	1.12
12"	0.177	5'-3"	1.02
16"	0.200	6'-3"	0.85
18"	0.247	6'-10"	0.78
20"	0.270	7'-5"	0.72
24"	0.315	8'-6"	0.63
30"	0.540	10'-0"	0.57

CONCRETE ENCASEMENT DETAIL
6240



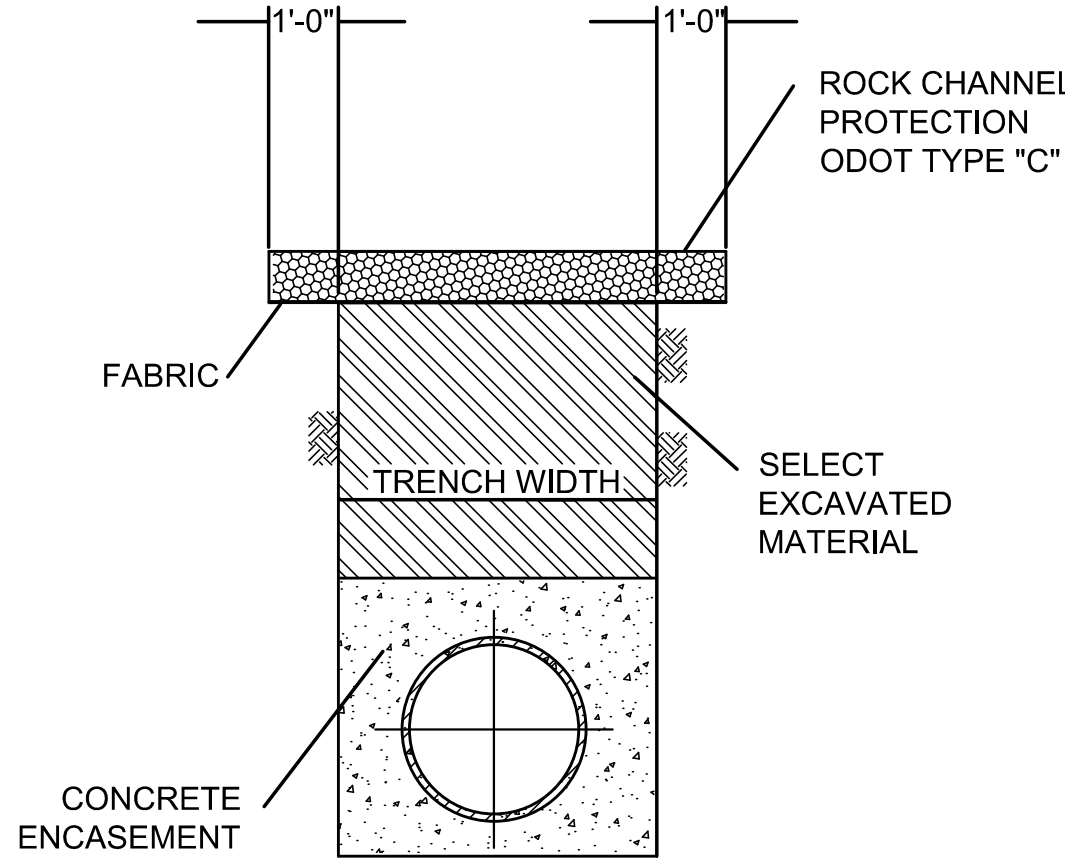
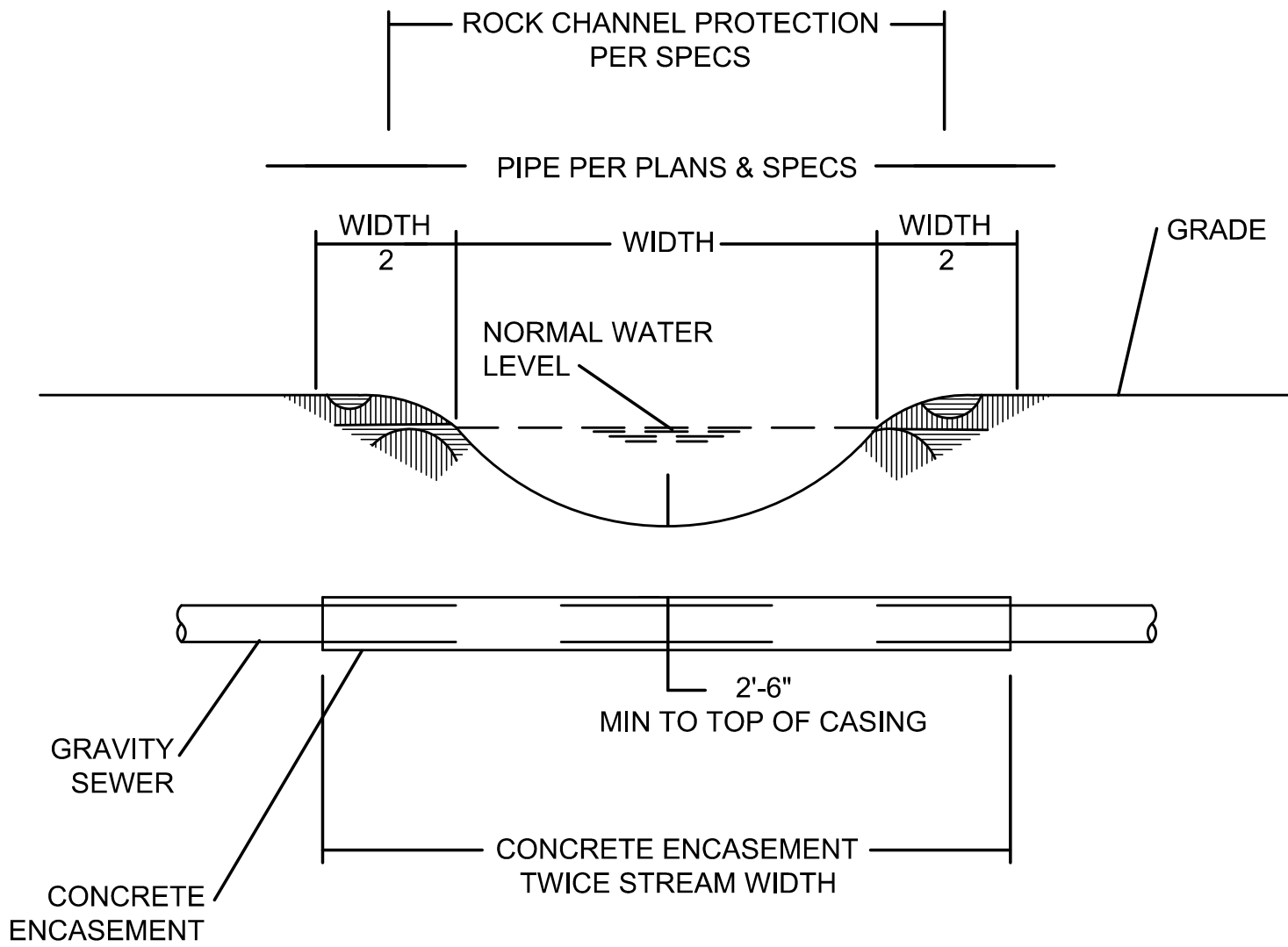
PLAN VIEW



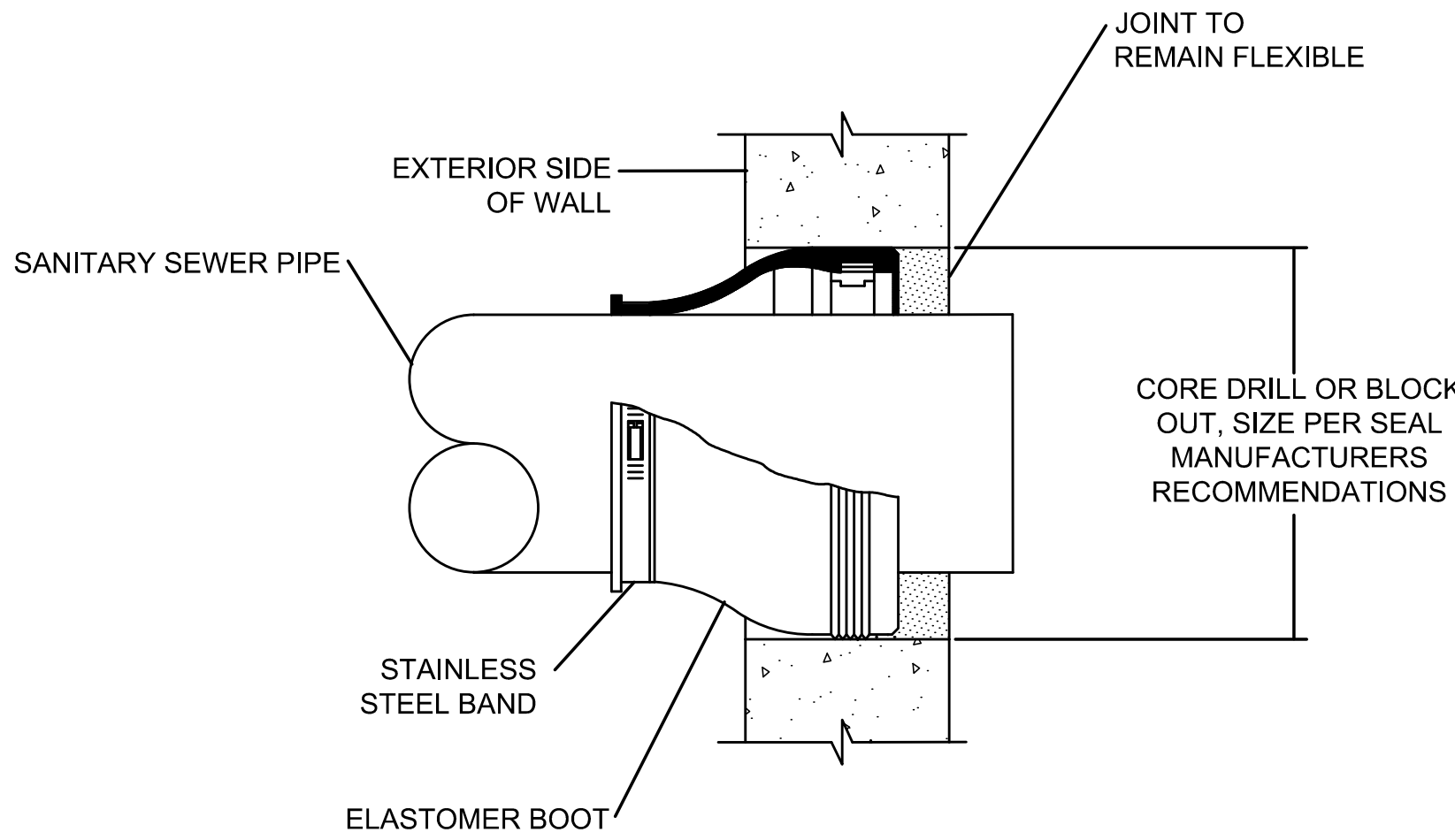
SECTION A - A

STANDARD CAST IN PLACE MANHOLE
6130

NOTE:
MANHOLES SHALL NOT BE INSTALLED
WITHIN THE LIMITS OF THE CONCRETE
ENCASEMENT OR THE STREAM BANKS

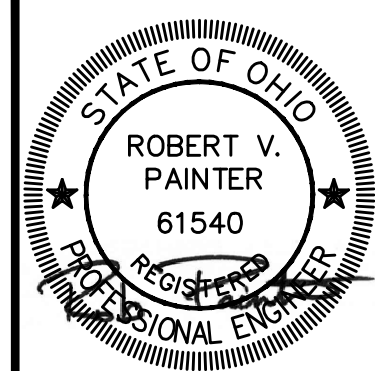


**TYPICAL STREAM CROSSING FOR
GRAVITY SEWER**
6130



NOTES:
WALL PENETRATIONS SHALL BE LOCATED WITHIN
A RISER SECTION AND NOT A WALL JOINT

STANDARD CAST IN PLACE MANHOLE
6130



REVISIONS

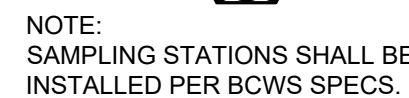
NO.	DATE	DESCRIPTION
1	05/14/20	REVISED PER BOWS

STANDARD SANITARY DETAILS
CRESCENT MOON
SECTION 16, TOWN 3, RANGE 3
LIBERTY TOWNSHIP, BUTLER COUNTY, OHIO

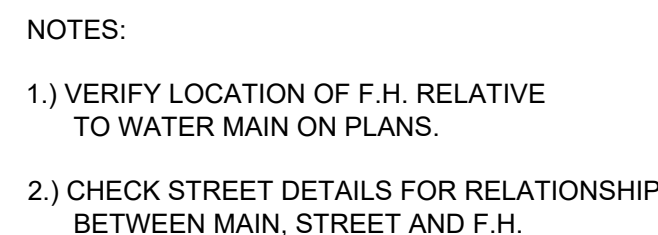
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CRESCENT MOON

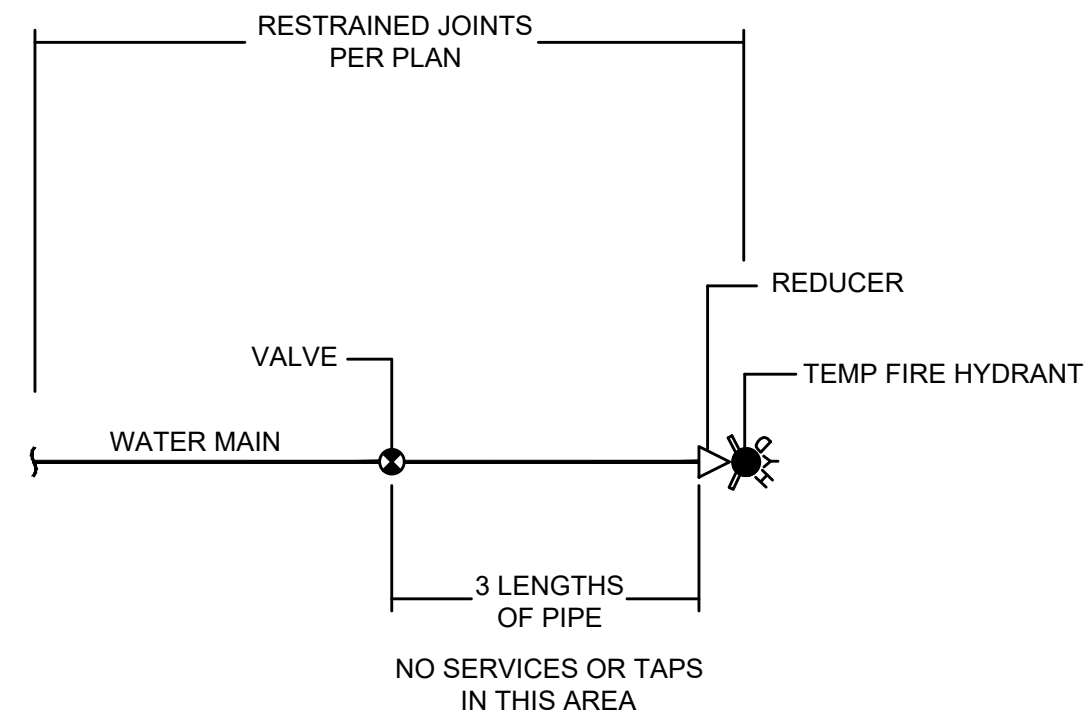
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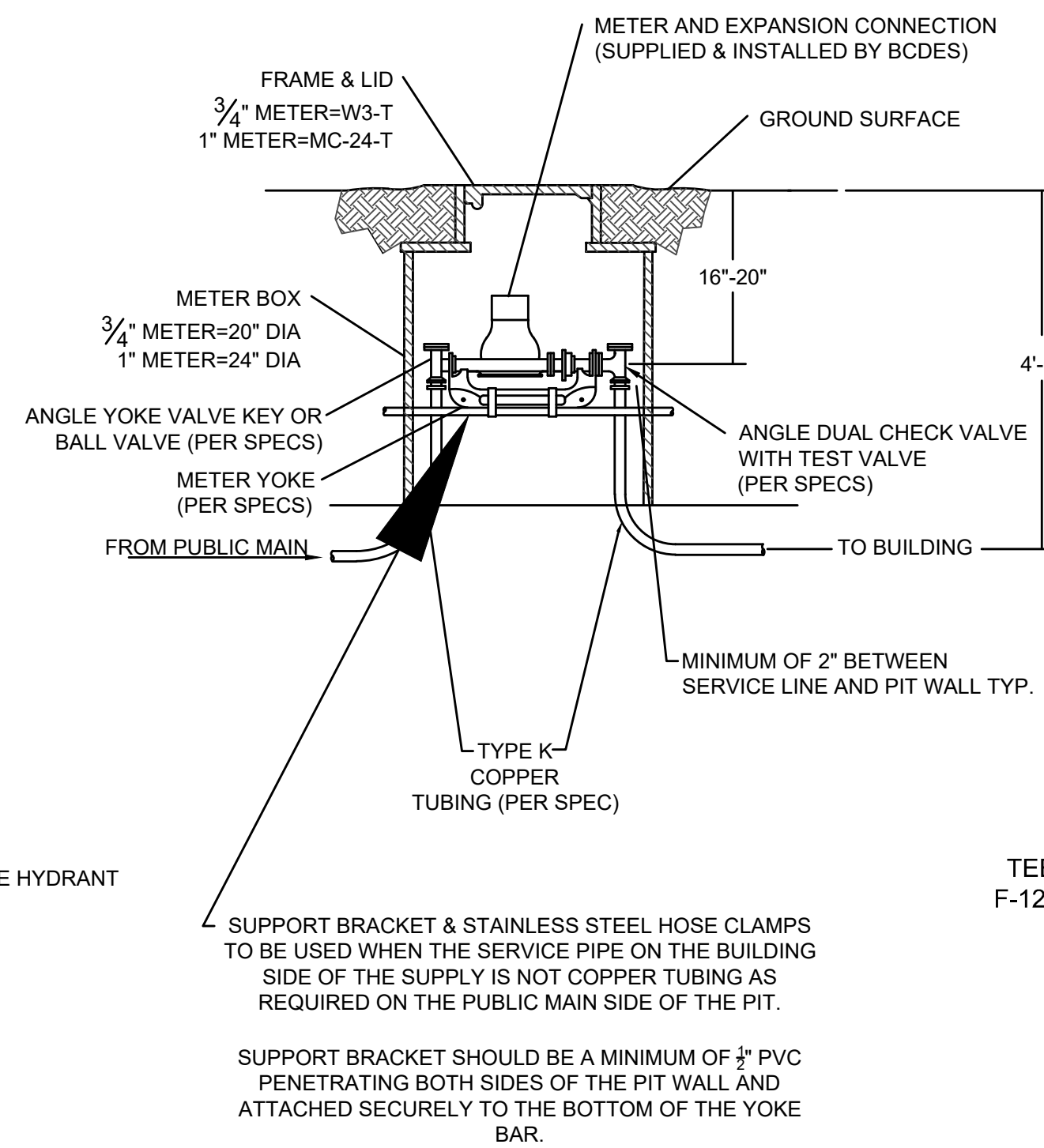
NOT TO SCALE



NOT TO SCALE



NOT TO SCALE

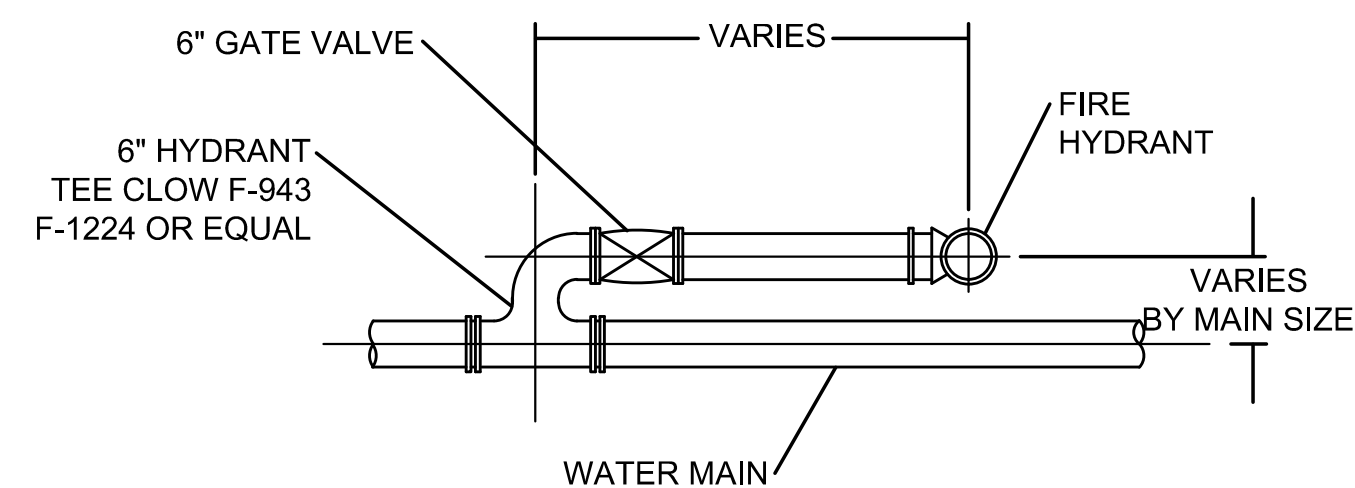


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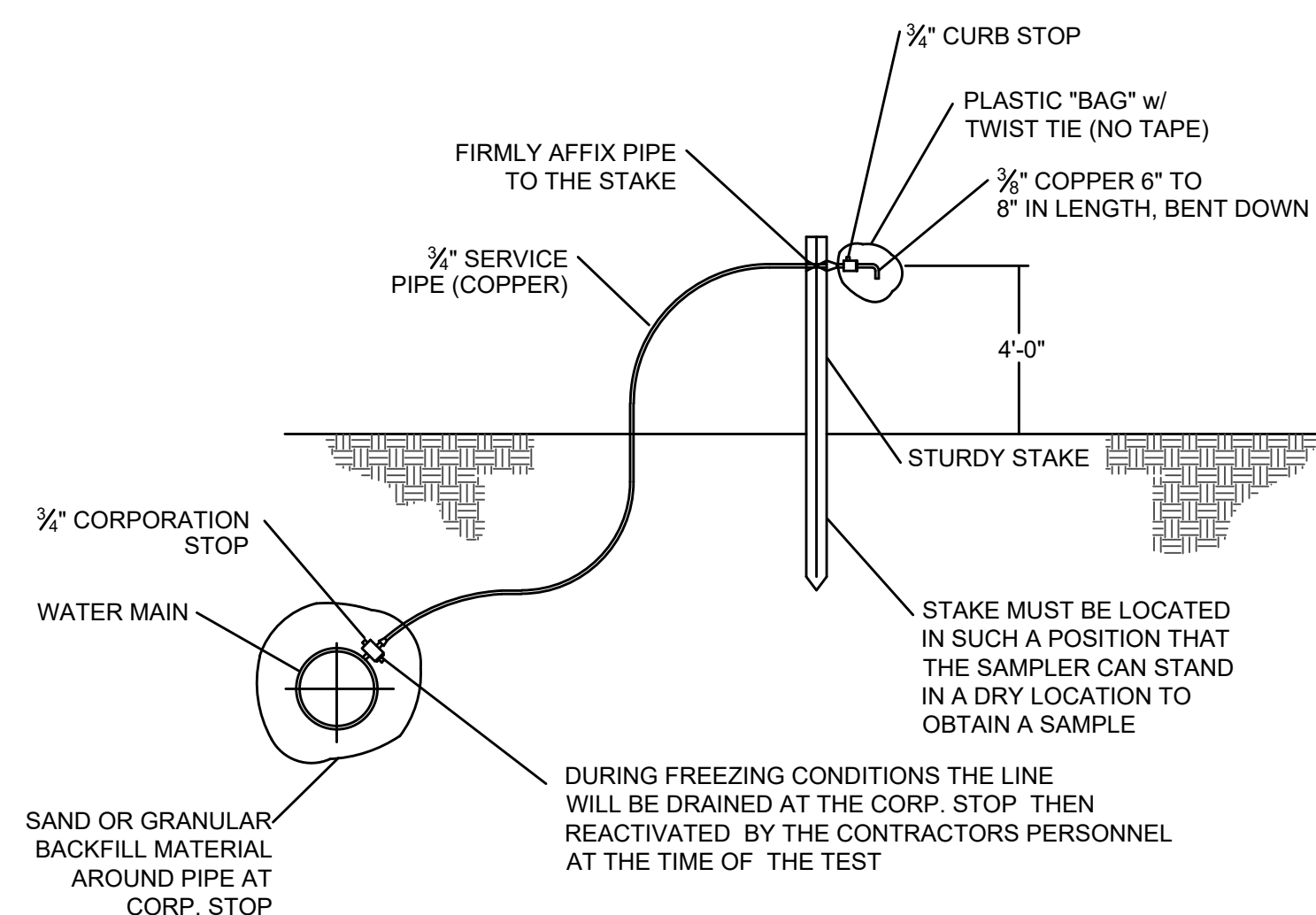
NOTES APPLY TO BOTH DETAILS:

- 1.) FITTINGS TO BE MECHANICAL JOINT HYDRANT ANCHOR FITTINGS.
- 2.) SEE TYPICAL FIRE HYDRANT INSTALLATION DETAIL FOR ADDITIONAL DETAILS.

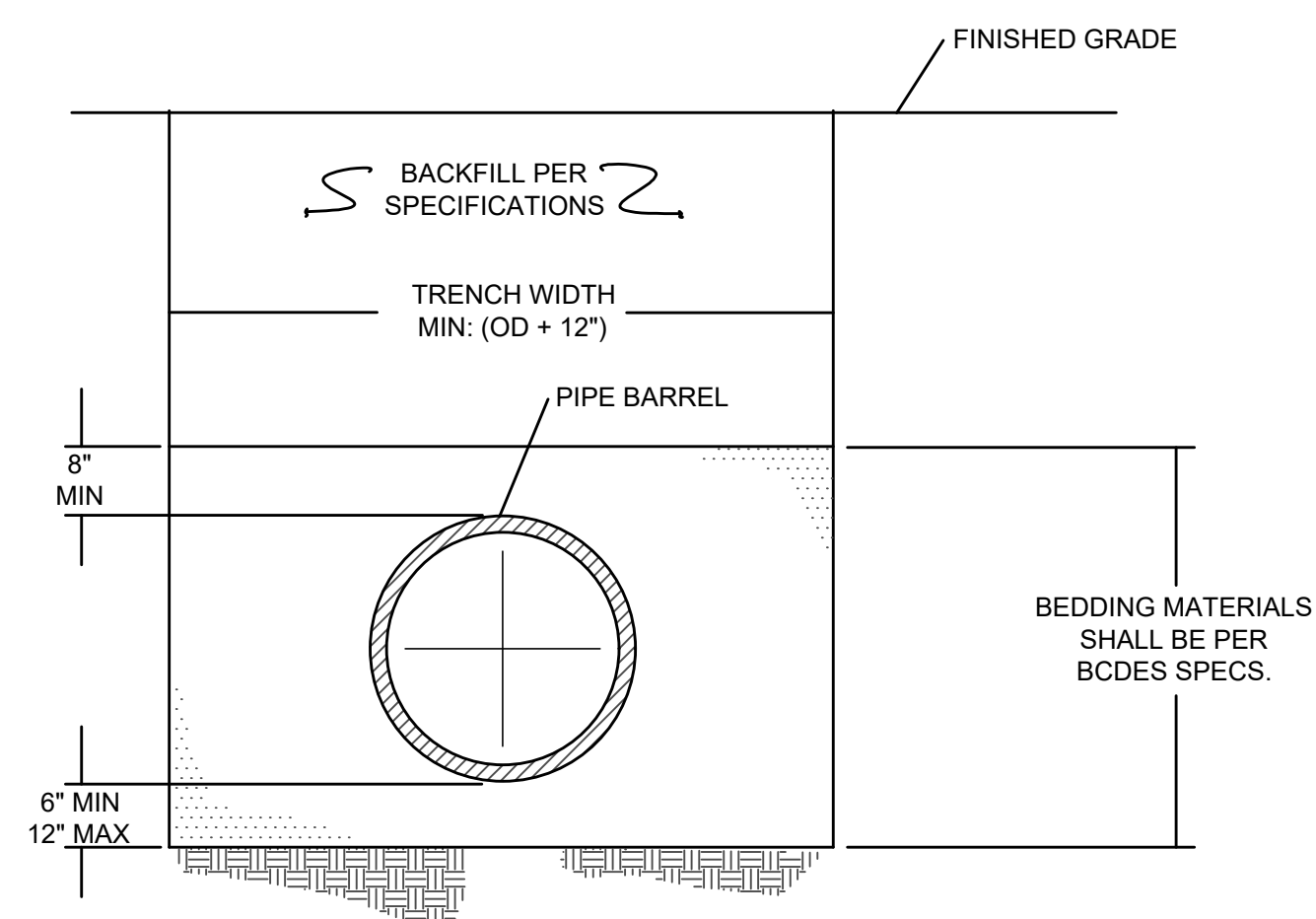


ALTERNATE HYDRANT SETTING
(MUST BE APPROVED BY THE ENGINEER)

5120
NOT TO SCALE

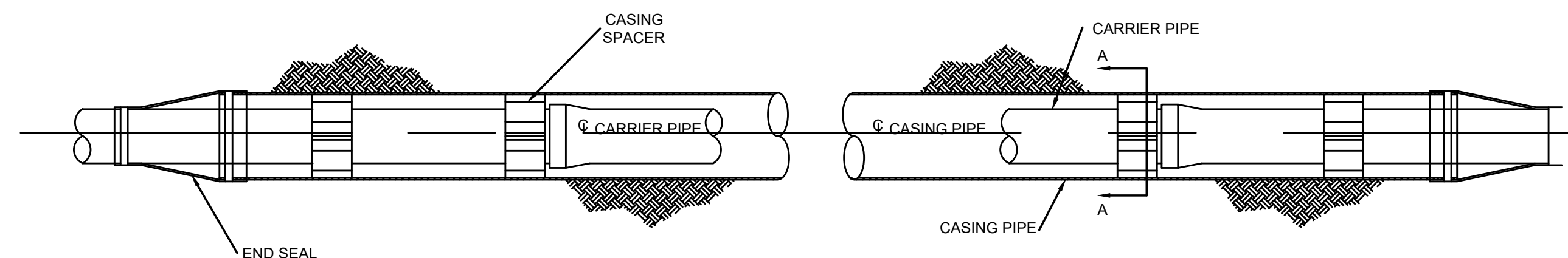
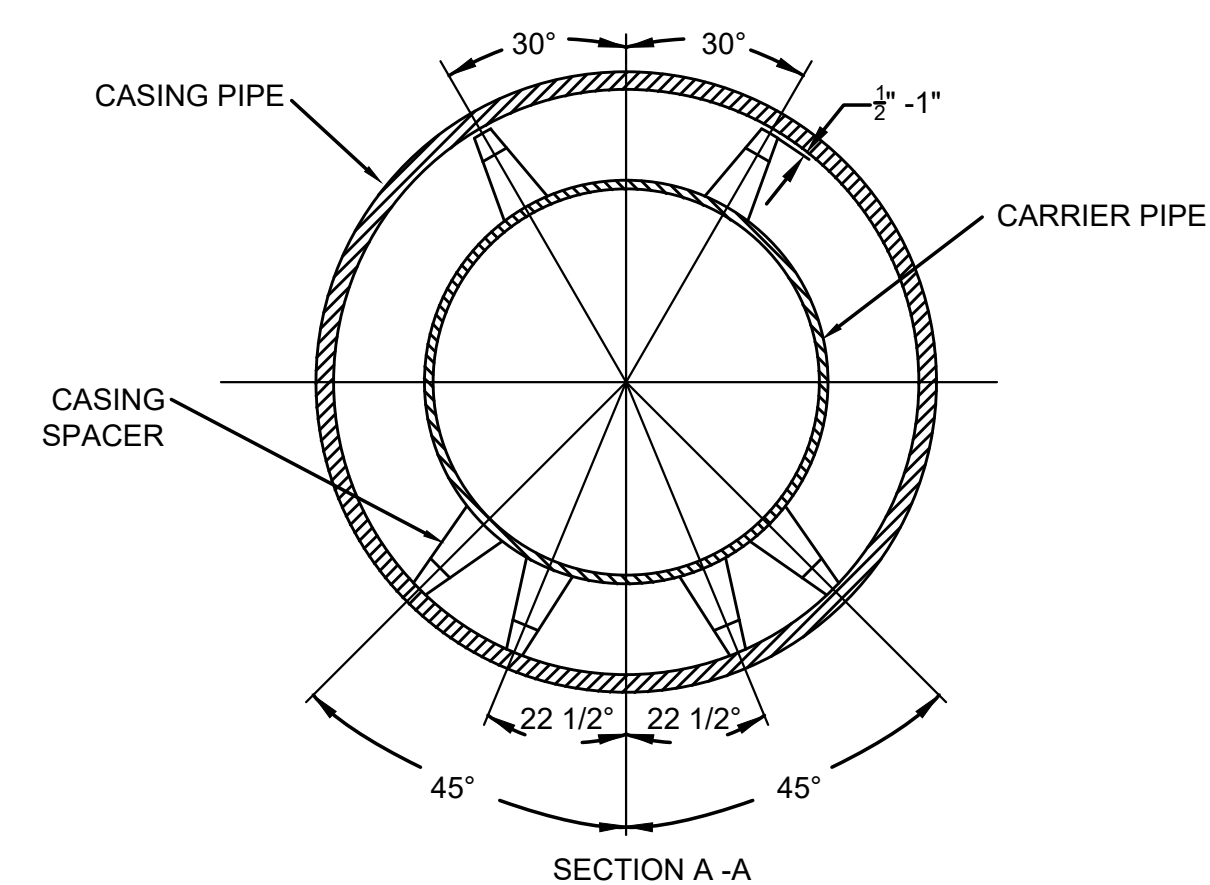


NOT TO SCALE



NOT TO SCALE

- 1) THE CARRIER PIPE SHALL BE BRACED WITHIN THE CASING PIPE WITH CASING SPACERS THAT PLACE THE CARRIER PIPE IN A "RESTRAINED" POSITION TO PRECLUDE POSSIBLE FLOATION WHILE PROVIDING 1/2-1" CLEARANCE BETWEEN THE TOP RUNNERS AND THE CASING PIPE.
- 2) CASING SPACERS SHALL BE INSTALLED WITHIN ONE (1) FOOT OF EACH SIDE OF CARRIER PIPE JOINTS, WITHIN ONE (1) FOOT OF EACH END OF THE CASING PIPE AND ON 6 FOOT CENTERS THEREAFTER.
- 3) THERE SHALL BE TWO (2) RUNNERS ON TOP AND TWO (2) RUNNERS ON BOTTOM OF CASING SPACER FOR CARRIER PIPE DIAMETERS OF 4-12" OR TWO (2) RUNNERS ON TOP AND FOUR (4) RUNNERS ON BOTTOM FOR CARRIER PIPE DIAMETERS OF 14-36".
- 4) AT EACH END OF THE CASING PIPE, THE CARRIER AND CASING PIPE SHALL BE WRAPPED WITH END SEALS.



NOT TO SCALE

[illegible]

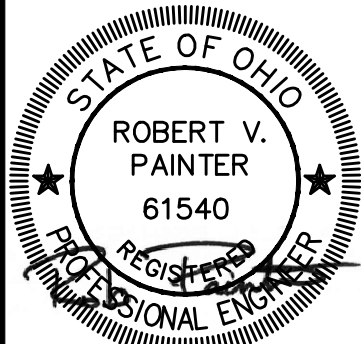
05/14/20 REVISED PER BCWS

STANDARD WATER DETAILS
CRESCENT MOON
SECTION 16, TOWN 3, RANGE 3
LIBERTY TOWNSHIP, BUTLER COUNTY, OHIO

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CRESCENT MOON

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REVISIONS

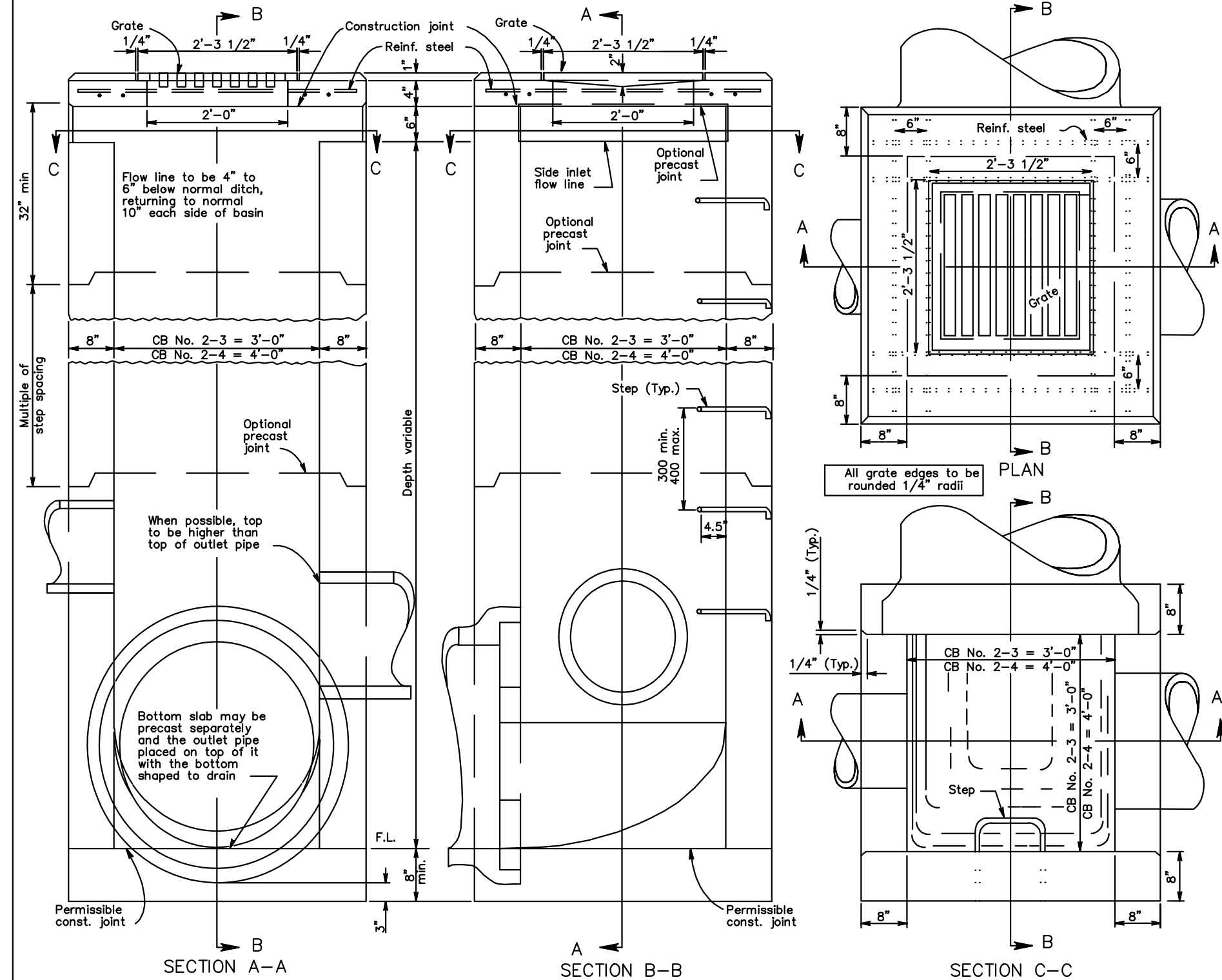
NO.	DESCRIPTION	DATE
1	05/14/20 REVISED PER BOWS	

STANDARD STORM DETAILS
CRESCENT MOON
SECTION 16, TOWN 3, RANGE 3
LIBERTY TOWNSHIP, BUTLER COUNTY, OHIO

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CRESCENT MOON

CATCH BASINS No. 2-3 & No. 2-4



NOTES

GRATE: See Detail on Std. Constr. Dwg. CB-1.1M.
Minimum mass of grate: 120 POUNDS.

WALLS: Brick or cast-in-place walls shall have a nominal thickness of 8". Precast walls shall have a minimum thickness of 6" and be reinforced sufficiently to permit shipping and handling without damage.

STEPS: Steps shall be provided where the depth exceeds 72" and shall meet the requirements of MEI-1.

CONCRETE: Cast-in-place concrete is to be Class C. All precast concrete shall meet the requirements of CMS 706.13 with a minimum of 4% entrained air in the hardened concrete and be marked with the catch basin number.

REINFORCEMENT: Reinforcing in the top is to be No. 4 bars spaced at 6" center to center. For Catch Basin No. 2-3 use eight bars and for Catch Basin No. 2-4 use twelve bars.

INLETS: OVER 12 FEET IN DEPTH: Shall be precast or cast-in-place concrete, reinforced with No. 4 bars on 12" centers both vertically and horizontally with 2" clearance from inside wall face.

PRECAST BASE: If a precast base is used, it shall be set deep enough so that the top can be placed on the base to provide the grate elevation specified in the plans. Layers of brick shall not be used to adjust the top elevation.

LOCATION AND ELEVATION: When given on the plans, the location and the elevation are at the top center of the grate. When side openings are provided, the elevation shall be at the flow line of the side inlet.

MINIMUM DEPTH: The minimum depth of CB No. 2-3 and CB No. 2-4 shall be the outside diameter (O.D.) of the outlet pipe plus 14 1/2".

OPENINGS: Pipe openings shall be the O.D. of the pipe being supplied plus 50 mm when prefabricated or field cut. The interstitial space shall be filled with grout per CMS 601.

SIDE INLETS: Shall be provided only when specified on the plans.

CATCH BASIN SIZE	OUTLET PIPE SIZE
2-3	12"-33"
2-4	36"-42"

All dimensions are in millimeters unless otherwise noted.

7-12-95

CATCH BASINS No's 2-3 & 2-4

CB-1.2M

NOTES

GRATES: Two required. For details, see Std. Constr. Dwg. CB-2.2M. Grate "V" shall be provided unless the plans specifically require the diagonal grate. If the diagonal grate is specified, it shall be placed so that the diagonal bars direct drainage flow toward the curb.

CASTINGS: The design shall be essentially the same and equally as strong as those shown. Minimum mass: Curb Casting 350lbs, two Grates 254lbs, Frame 590lbs, and two Grates "V" 210lbs.

BEARING AREAS: The frame and grate shall be so fitted and finished as to provide a firm and even seat. No projections shall exist on bearing areas and the grate shall seat in its frame without rocking.

WALLS: When used in place of concrete, brick side walls shall be 8" nominal thickness.

PRECAST CONSTRUCTION: Permitted, except for the apron. Concrete shall meet requirements of CMS 706.13 with a minimum of 4% entrained air in the hardened concrete. Precast walls shall have a minimum thickness of 6" and reinforcing shall be sufficient to permit shipping and placement without damage.

MINIMUM DEPTH: The minimum depth shall be the outside diameter (O.D.) of the outlet pipe plus 14 1/2".

OPENINGS: Pipe openings shall be the O.D. of the pipe being supplied plus 2" when fabricated or field cut. The interstitial space shall be filled with grout per CMS 601.

DOWELS: Four 1"x18" dowels are required for concrete pavement or gutter blackout. See BP-4 for detail details.

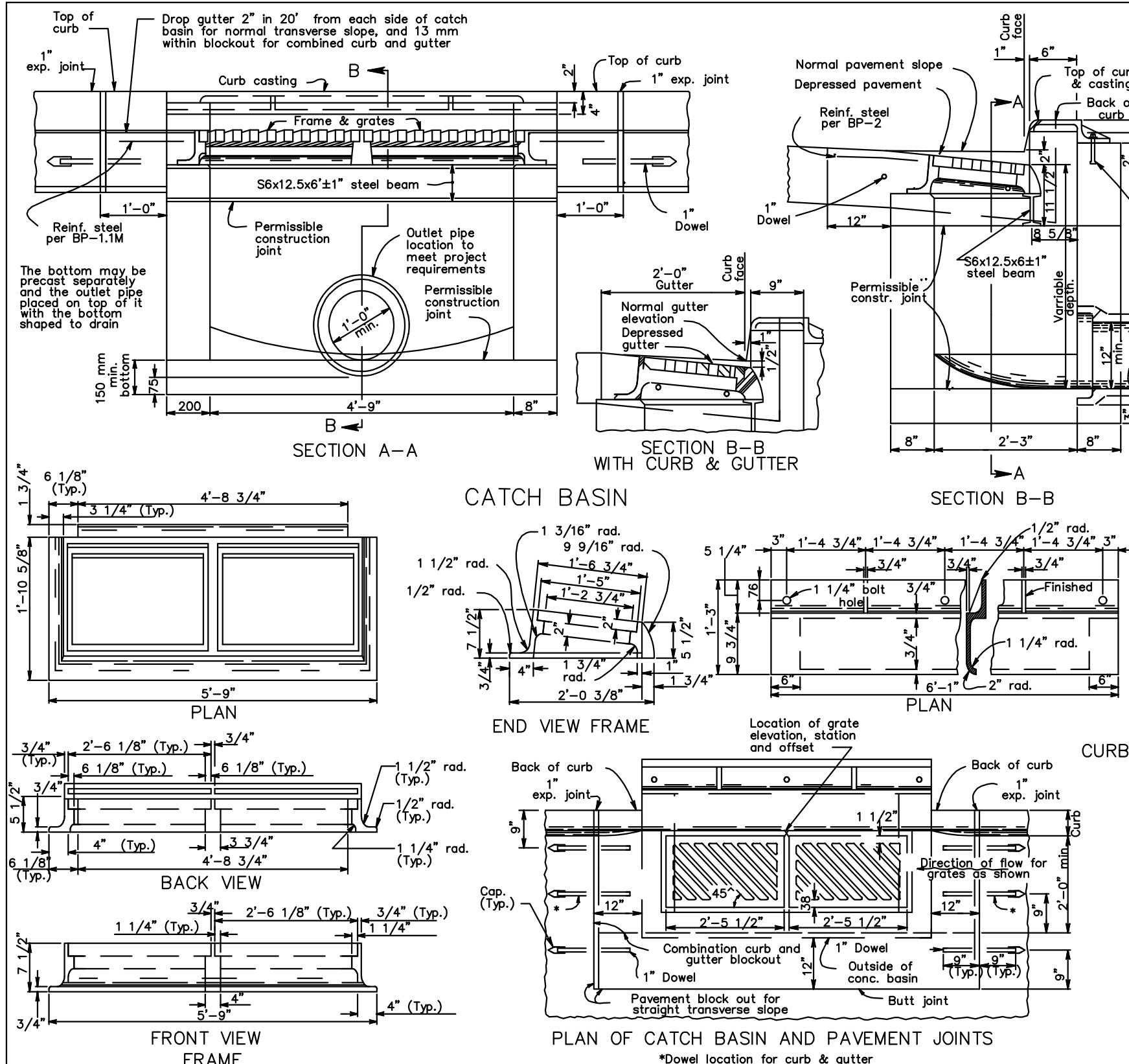
BLOCKOUT: Blockouts shall be paved with Class C concrete in the pavement or gutter and paid for as part of the pavement or gutter with no deduction in pavement, curb or gutter quantities because of castings. A Class C concrete apron the size of the 2" gutter blackout shall be cast-in-place in asphalt pavement (no dowels required) with the cost included in the catch basin bid price. No deduction to be made in curb quantities.

7-12-95

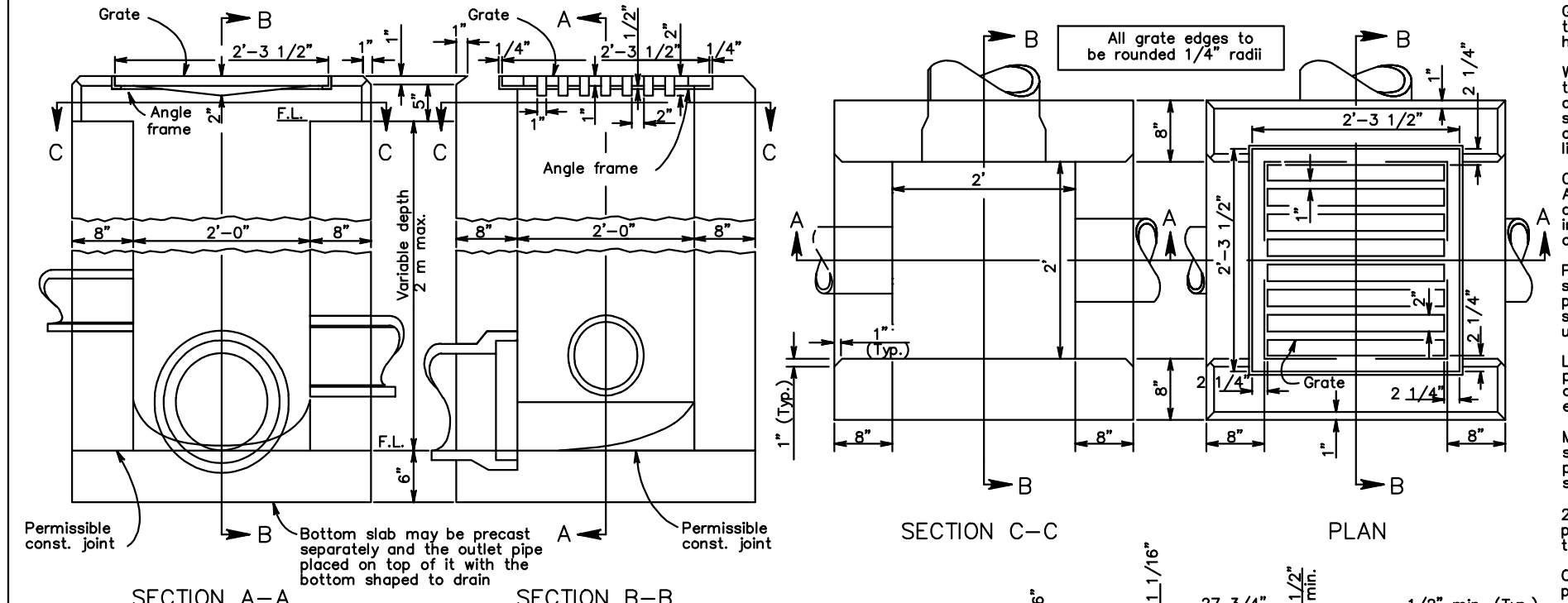
CATCH BASIN No. 3

CB-2.1M

All dimensions are standard unless otherwise noted.



CATCH BASIN No. 2-2A



NOTES

GRATE AND FRAME: The design shall be essentially the same and equally as strong as the one shown herein.

WALLS: Brick or cast-in-place walls shall have a nominal thickness of 8". Precast walls shall have a minimum thickness of 6" and be reinforced sufficiently to permit shipping and handling without damage. Brick shall not be used above the flow line of the side opening for Type 2-2A.

CONCRETE: Cast-in-place concrete is to be Class C. All precast concrete shall meet the requirements of CMS 706.13 with a minimum of 4% entrained air in the hardened concrete and be marked with the catch basin number.

PRECAST BASE: If a precast base is used, it shall be set deep enough so that the top can be placed on the base to provide the grate elevation specified in the plans. Layers of brick shall not be used to adjust the top elevation.

LOCATION AND ELEVATION: When given on the plans, the location and elevation are at the top center of the grate. When side openings are provided, the elevation shall be at the flow line of the side inlet.

MINIMUM DEPTH: The minimum depth of CB No. 2-2A shall be the outside diameter (O.D.) of the outlet pipe plus 14 1/2". The minimum depth for CB No. 2-2B shall be the O.D. of the outlet pipe plus 4 1/4".

2-2B GRATE ELEVATION: Grate elevation is to be placed 4" to 5" below normal ditch, returning to normal 1/4" each side of inlet.

OPENINGS: Pipe openings shall be the O.D. of the pipe being supplied plus 2" when fabricated or field cut. The interstitial space shall be filled with grout per CMS 601.

2-2A SIDE INLETS: Inlets shall be provided on both sides of the No. 2-2A catch basin in sags and on upstream side only where the ditch has a continuous down grade past the catch basin. Side inlets shall not be used within the Clear Zone. The flow line should be 6" to 8" below the normal elevation of the flow line, returning to normal within 1/4" of the basin.

CONSTRUCTION INFORMATION:
Minimum mass of grate, 120 LBS
Minimum mass of frame, 40 LBS

All dimensions are standard unless otherwise noted.

7-12-95

CATCH BASINS No's 2-2A & B

CB-1.1M

NOTES

GRATE: The Grate "V" shall be provided unless the plans specifically require the diagonal grate. If the diagonal grate is specified, it shall be placed so that the diagonal bars direct drainage flow toward the curb.

CASTINGS: The design shall be essentially the same and equally as strong as those shown. Minimum mass: Curb Casting 170lbs, Standard Grate 127lbs, Frame 120lbs, and Grate "V" 105lbs.

BEARING AREAS: The frame and grate shall be so fitted and finished as to provide a firm and even seat. No projections shall exist on bearing areas of either casting and the grate shall seat in its frame without rocking.

WALLS: When used in place of concrete, brick side walls shall be 8" nominal thickness.

PRECAST CONSTRUCTION: Permitted, except for the apron. Concrete shall meet the requirements of CMS 706.13 with a minimum of 4% entrained air in the hardened concrete. Precast walls shall have a minimum thickness of 6" and reinforcing shall be sufficient to permit shipping and placement without damage.

MINIMUM DEPTH: The minimum depth shall be the outside diameter (O.D.) of the outlet pipe plus 14 1/2".

OPENINGS: Pipe openings shall be the O.D. of the pipe being supplied plus 2" when fabricated or field cut. The interstitial space shall be filled with grout per CMS 601.

DOWELS: Four 1"x18" dowels are required for concrete pavement or gutter blackout. See Std. Constr. Dwg. BP-4 for detail details.

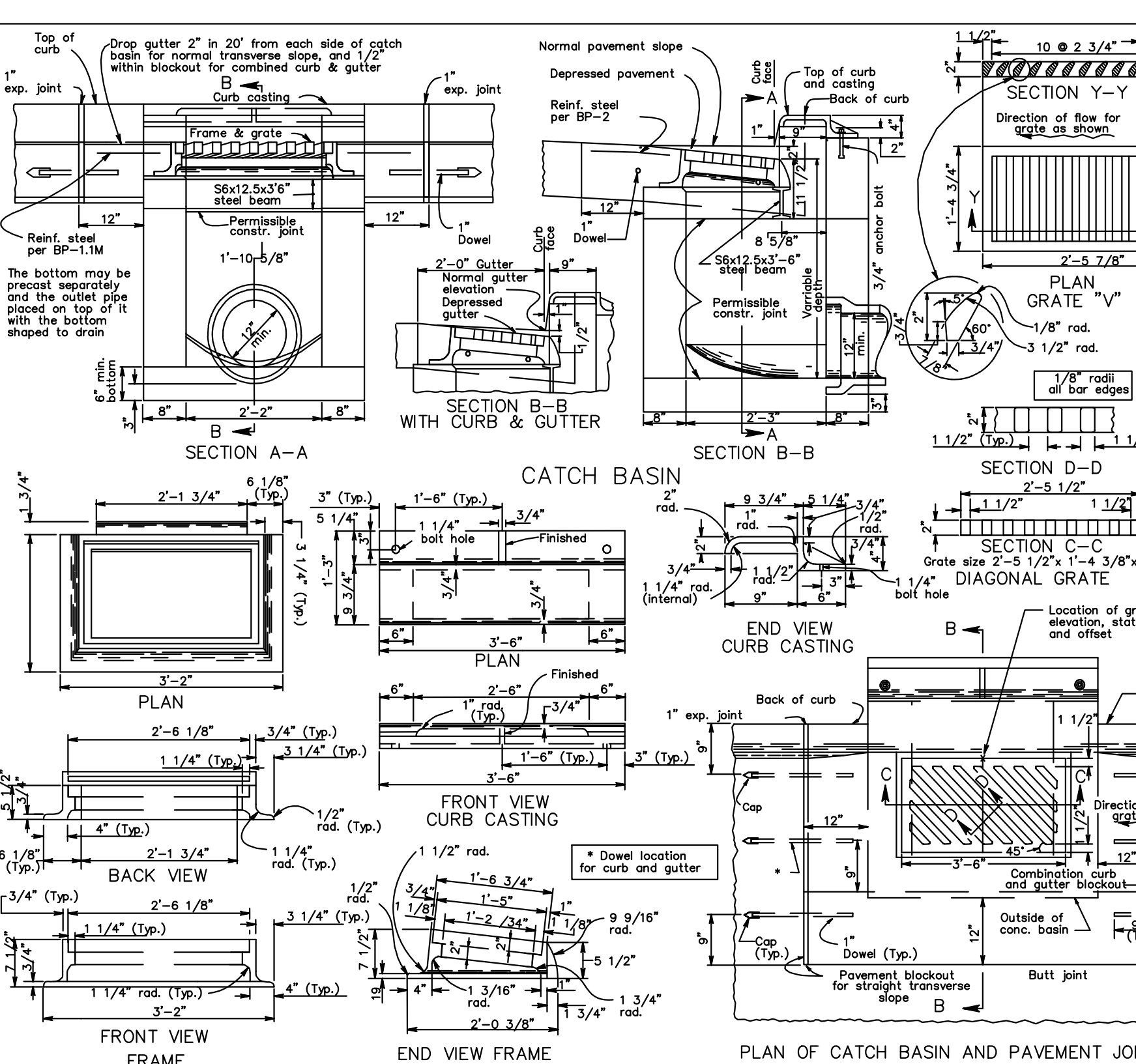
BLOCKOUT: Blockouts shall be paved with Class C concrete in the pavement or gutter and paid for as a part of the pavement or gutter with no deduction in pavement, curb or gutter quantities because of the castings. A Class C concrete apron the size of the 2" gutter shall be cast-in-place in asphalt pavement (no dowels required) with the cost included in the catch basin bid price. No deduction to be made in curb quantities.

7-12-95

CATCH BASIN No. 3A

CB-2.2M

All dimensions are standard unless otherwise noted.



NOTE:
ALL ESC MUST COMPLY WITH
OEPA PERMIT NO. OHCO00005

EROSION CONTROL NOTES:

1. DESCRIPTION OF CONSTRUCTION:

CONSTRUCTION OF A NEW SUBDIVISION AND ASSOCIATED
EARTH MOVEMENT, STREETS AND UTILITY INSTALLATION.

2. AREA AFFECTED BY CONSTRUCTION (GRADED AREA):

APPROX. 8.98 ACRES

3. EXISTING SOIL DATA:

FcA	FINCASTLE SILT LOAM, SOUTHERN OHIO TILL PLAIN, 0 TO 2 PERCENT SLOPES	0.5%
Wyc2	WYNN SILT LOAM, 6 TO 12 PERCENT SLOPES, ERODED	10.1%
XIB	XENIA SILT LOAM, BEDROCK SUBSTRATUM, 2 TO 6 PERCENT SLOPES	89.3%
TOTAL FOR AREA OF INTEREST		89.3%

4. RECEIVING WATERS:

GREGORY CREEK
MILLER'S CREEK

5. POTENTIAL POLLUTION SOURCES:

- REMOVAL OF NATURAL PLANT COVER.
- CUT AND FILL AREAS EXPOSED TO EROSION AND RUNOFF PRIOR
TO STABILIZATION.
- CHANGES IN VOLUME AND DURATION OF WATER CONCENTRATIONS
CAUSED BY ALTERING STEEPNESS, DISTANCE AND SURFACE ROUGHNESS.
- PARKING SUBGRADE PRIOR TO PAVING.
- REDUCTION OF PERMEABILITY OF SOILS CAUSING ADDITIONAL RUNOFF
DUE TO COMPACTION BY HEAVY EQUIPMENT.

6. CURVE NUMBERS:

PRE-DEVELOPMENT C VALUE = 0.35
POST CONSTRUCTION C VALUE = 0.50

7. PROJECT SCHEDULE:

BEGIN CONSTRUCTION: SPRING 2020
END CONSTRUCTION: WINTER 2020

GENERAL CONSTRUCTION SEQUENCE *

- INSTALL SEDIMENT CONTROL MEASURES
- PRESERVE AND PROTECT EXISTING VEGETATION
- INSTALL STORM WATER MANAGEMENT MEASURES
- DEMOLITION ACTIVITIES
- CONSTRUCT SITE UTILITIES
- GRADE SITE / STOCKPILE TOPSOIL
- TEMPORARY VEGETATIVE STABILIZATION OF CONTROL MEASURES
- VEGETATIVE COVER ON ALL AREAS TO BE EXPOSED LONGER THAN
45 DAYS
- INSTALL ROAD AND PARKING SUBGRADE
- SURFACE ROADS AND PARKING
- PERMANENT VEGETATIVE STABILIZATION

* TO BE FOLLOWED IN GENERAL ORDER FOR BEST
MANAGEMENT PRACTICE, SOME INDIVIDUAL SITE
CONSTRUCTION MAY NOT ALLOW FOR EXACT SEQUENCE.

8. CONTROL MEASURES FOR STORM WATER RUNOFF, EROSION AND SEDIMENT:

STABILIZATION OF DENUDED AREAS AND SOIL STOCKPILES

PERMANENT OR TEMPORARY SOIL STABILIZATION WILL BE APPLIED TO
DENUDED AREAS WITHIN 7 DAYS AFTER FINAL GRADE IS REACHED ON
ANY PORTION OF THE SITE. SOIL STABILIZATION WILL ALSO BE
APPLIED TO DENUDED AREAS WHICH MAY NOT BE AT FINAL GRADE BUT
WILL REMAIN UNDISTURBED FOR MORE THAN 45 DAYS. APPLICABLE
PRACTICES INCLUDE VEGETATIVE ESTABLISHMENT, MULCHING, AND
THE EARLY APPLICATION OF GRAVEL BASE ON AREAS TO BE PAVED.
SOIL STABILIZATION MEASURES WILL BE SELECTED TO BE
APPROPRIATE FOR THE TIME OF YEAR, SITE CONDITIONS, AND
ESTIMATED DURATION OF USE. SOIL STOCKPILES WILL BE
STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES TO
PREVENT SOIL LOSS. REFER TO TABLE IN OHCO00005 PAGE 9 OF 60
FOR PERMANENT & TEMPORARY SEEDING REQUIREMENTS.

ESTABLISHMENT OF PERMANENT VEGETATION

A PERMANENT VEGETATIVE COVER WILL BE ESTABLISHED ON DENUDED
AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT
VEGETATION WILL NOT BE CONSIDERED ESTABLISHED UNTIL A ROUND
COVER IS ACHIEVED WHICH IS MATURE ENOUGH TO CONTROL SOIL
EROSION SATISFACTORILY AND TO SURVIVE SEVERE WEATHER
CONDITIONS. (SEE VEGETATIVE PRACTICES - ITEM 10).

PROTECTION OF ADJACENT PROPERTIES

PROPERTIES ADJACENT TO THE SITE OF LAND DISTURBANCE WILL BE
PROTECTED FROM SEDIMENT DEPOSITION. THIS WILL BE
ACCOMPLISHED BY PRESERVING A WELL VEGETATED BUFFER STRIP
AROUND THE LOWER PERIMETER OF LAND DISTURBANCE, BY
INSTALLING PERIMETER CONTROLS SUCH AS SEDIMENT TRAPS,
FILTERS OR DIKES, OR SEDIMENT BASINS, OR BY A COMBINATION OF
SUCH MEASURES. VEGETATED FILTER STRIPS MAY BE USED ALONE
ONLY WHERE RUNOFF IN SHEET FLOW IS EXPECTED. FILTER STRIPS
SHOULD BE AT LEAST 15 FEET IN WIDTH. IF AT ANY TIME IT IS
FOUND THAT A VEGETATED FILTER STRIP ALONE IS INEFFECTIVE IN
STOPPING SEDIMENT MOVEMENT INTO ADJACENT PROPERTY,
ADDITIONAL PERIMETER CONTROLS MUST BE PROVIDED.

TIMING AND STABILIZATION OF SEDIMENT TRAPPING MEASURES

SEDIMENT BASINS, DIVERSIONS, SEDIMENT TRAPS, AND OTHER
MEASURES INTENDED TO TRAP SEDIMENT ON-SITE WILL BE
CONSTRUCTED AS A FIRST STEP IN GRADING AND BE MADE
FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.
EARTHEN STRUCTURES SUCH AS DAMS, DIKES, AND DIVERSIONS WILL
BE SEEDED AND MULCHED AFTER INSTALLATION.

SEDIMENT BASINS

STORMWATER RUNOFF CONTAINING DAMAGING AMOUNTS OF SEDIMENT
SHALL PASS THROUGH A SEDIMENT BASIN OR OTHER SUITABLE
SEDIMENT TRAPPING FACILITY.

CUT AND FILL SLOPES

CUT AND FILL SLOPES WILL BE DESIGNED AND CONSTRUCTED IN A
MANNER WHICH WILL MINIMIZE EROSION. SLOPES WHICH ARE FOUND
TO BE ERODING EXCESSIVELY WITHIN ONE YEAR OF CONSTRUCTION
WILL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES
UNTIL THE PROBLEM IS CORRECTED.

STORMWATER MANAGEMENT

CONCENTRATED STORMWATER RUNOFF LEAVING THE SITE WILL BE
DISCHARGED DIRECTLY INTO A WELL-DEFINED, ADEQUATELY-PROTECTED
NATURAL OR MAN-MADE OFF SITE RECEIVING CHANNEL OR PIPE. IF
NO OFF SITE CHANNEL OR PIPE EXISTS, THE STORMWATER WILL BE
DETAINED ON SITE IN A SUITABLE RETENTION/DETENTION FACILITY.

STABILIZATION OF WATERWAYS AND OUTLETS

ALL ON SITE STORMWATER CONVEYANCE CHANNELS WILL BE DESIGNED
AND CONSTRUCTED TO WITHSTAND THE EXPECTED VELOCITY OF FLOW
FROM A 10 YEAR FREQUENCY STORM WITHOUT EROSION. DESIGN FOR
A LARGER EVENT MAY BE NECESSARY FOR PROTECTION FROM THE STORMWATER
FLOW. STABILIZATION ADEQUATE TO PREVENT EROSION WILL ALSO
BE PROVIDED AT THE OUTLETS OF ALL PIPES AND PAVED CHANNELS.

STORM SEWER INLET PROTECTION

ALL STORM SEWER INLETS WHICH ARE MADE OPERABLE DURING
CONSTRUCTION WILL BE PROTECTED SO THAT SEDIMENT-LADEN WATER
WILL NOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING
FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.

WORKING IN OR CROSSING WATERCOURSES

CONSTRUCTION VEHICLES WILL BE KEPT OUT OF WATERCOURSES
WHENEVER POSSIBLE. WHERE IN-CHANNEL WORK IS NECESSARY,
PRECAUTIONS WILL BE TAKEN TO STABILIZE THE WORK AREA DURING
CONSTRUCTION TO MINIMIZE EROSION. THE CHANNEL (INCLUDING
BED AND BANKS) WILL ALWAYS BE RESTABILIZED IMMEDIATELY AFTER
IN-CHANNEL WORK IS COMPLETED. WHERE A LIVE WATERCOURSE MUST
BE CROSSED BY CONSTRUCTION VEHICLES REGULARLY DURING
CONSTRUCTION, A TEMPORARY STREAM CROSSING WILL BE PROVIDED.

CONSTRUCTION ACCESS ROUTES AND PARKING AREAS

WHENEVER CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED
PUBLIC ROADS, PROVISIONS WILL BE MADE TO MINIMIZE THE
TRANSPORT OF SEDIMENT (MUD) BY RUNOFF OR VEHICLE TRACKING
ONTO THE PAVED SURFACE. TEMPORARY CONSTRUCTION ROADS WILL
FOLLOW THE CONTOUR OF THE NATURAL TERRAIN TO THE EXTENT
POSSIBLE. SLOPES SHOULD NOT EXCEED 10 PERCENT. ROADBEDS
SHALL BE AT LEAST 14 FEET WIDE FOR ONE-WAY TRAFFIC AND 20
FEET WIDE FOR TWO-WAY TRAFFIC. TEMPORARY PARKING AREAS WILL
BE LOCATED ON NATURALLY FLAT AREAS WHENEVER POSSIBLE TO
MINIMIZE GRADING. GRADES FOR SAID PARKING AREAS SHOULD BE
SUFFICIENT TO PROVIDE DRAINAGE BUT NOT EXCEED 4 PERCENT
SLOPE. BOTH TEMPORARY AND PERMANENT ROADS AND PARKING AREAS
MAY REQUIRE PERIODIC TOP DRESSING WITH NEW GRAVEL. SEEDED
AREAS ADJACENT TO ROADS AND PARKING AREAS WILL BE CHECKED
PERIODICALLY TO ENSURE THAT A VIGOROUS STAND OF VEGETATION
IS MAINTAINED.

DISPOSITION OF TEMPORARY MEASURES

ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES WILL BE
DISPOSED OF AFTER FINAL SITE STABILIZATION IS ACHIEVED OR
AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED. TRAPPED
SEDIMENT AND OTHER DISTURBED SOIL AREAS RESULTING FROM THE
DISPOSITION OF TEMPORARY MEASURES WILL BE PERMANENTLY
STABILIZED TO PREVENT EROSION AND SEDIMENTATION.

MAINTENANCE

ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL
MEASURES WILL BE MAINTAINED AND REPAIRED AS NEEDED TO ASSURE
CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION.

i.e. STORM INLET PROTECTION

INLET STRUCTURES SHALL BE INSPECTED AFTER EACH RAIN AND
REPAIRS MADE AS NEEDED. SEDIMENT SHALL BE REMOVED AND
THE INLET PROTECTION SHALL BE RESTORED TO ITS ORIGINAL
WORKING CONDITION. AT NO TIME SHALL MORE THAN A 2" BUILD
UP OF SEDIMENT REMAIN AROUND THE INLET PROTECTION.

i.e. FILTER STRIPS

A HEALTHY GROWTH OF VEGETATION CAN BEST BE MAINTAINED BY
FERTILIZING, REMOVING SEDIMENT WHEN FILTER BECOMES
CLOGGED, AND BY PREVENTING CONSTRUCTION TRAFFIC FROM
DRIVING ACROSS FILTER STRIPS.

i.e. SILT FENCES AND FILTER BARRIERS

SILT FENCES AND FILTER BARRIERS SHALL BE INSPECTED
IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY
DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE
MADE IMMEDIATELY.

9. CONSTRUCTION CONTROL PRACTICES:

SILT FENCES (SF) SEE SILT FENCE DETAIL

MATERIAL: SYNTHETIC FILTER FABRIC SHALL BE A SHEET OF
PROPYLENE, NYLON, POLYESTER OR ETHYLENE YARN AND SHALL BE
CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO
THE FOLLOWING REQUIREMENTS.

PHYSICAL PROPERTY	REQUIREMENTS
FILTERING EFFICIENCY	75 PERCENT (MIN.)
TENSILE STRENGTH AT 20% (MAX.) ELONGATION	EXTRA STRENGTH 50 lbs./lin. in. (MIN.) STANDARD STRENGTH 30 lbs./lin. in. (MIN.)
FLOW RATE	0.3 gal./sq. ft./min. (MIN.)
* REQUIREMENTS REDUCED BY 50% AFTER 6 MONTHS OF INSTALLATION.	

SYNTHETIC FILTER FABRIC SHALL CONTAIN ULTRAVIOLET RAY
INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF 6 MONTHS
OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERATURE OF
ZERO DEGREES F TO 120 DEGREES F.

BURLAP SHALL BE 10 OUNCES PER SQ. YD. OF FABRIC.

POSTS FOR SILT FENCES SHALL BE EITHER 4" x 4" WOOD OR STEEL
WITH A MIN. LENGTH OF 5 FEET. STEEL POSTS SHALL HAVE
PROJECTIONS FOR FASTENING WIRE TO THEM.

WIRE FENCE REINFORCEMENT FOR SILT FENCES USING STANDARD
STRENGTH FILTER CLOTH SHALL BE A MIN. OF 42 INCHES IN
HEIGHT, A MIN. OF 14 GA. AND SHALL HAVE A MAX. MESH SPACING
OF 6 INCHES.

THE STANDARD STRENGTH FILTER FABRIC SHALL BE STAPLED OR
WIRED TO THE FENCE, AND 8 INCHES OF THE FABRIC SHALL BE
EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXCEED 36
INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC
SHALL NOT BE STAPLED TO EXISTING TREES.

THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL
OUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS.
WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPICED
TOGETHER ONLY AT A SUPPORT POST, WITH A MIN. 6 INCH OVERLAP,
AND SECURELY SEALED.

POSTS SHALL BE SPACED AT A MAX. OF 10 FEET APART. WHEN
EXTRA STRENGTH FABRIC IS USED WITHOUT THE WIRE SUPPORT
FENCE, POST SPACING SHALL NOT EXCEED 6 FEET.

WHEN EXTRA STRENGTH FILTER FABRIC AND CLOSER POST SPACING
ARE USED, THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED. IN
SUCH A CASE, THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY
TO THE POSTS WITH ALL OTHER PROVISIONS APPLYING.

FILTER BARRIERS (FB) SEE FILTER BARRIER DETAIL

MATERIAL	FLOW RATE (gal./sq. ft./min.)	FILTER EFFICIENCY %
STRAW	5.6	67
BURLAP (10 OZ. FABRIC)	2.4	84
SYNTHETIC FABRIC	0.3 (AVG.)	97 (AVG.)

THE HEIGHT OF A FILTER BARRIER SHALL BE A MIN. OF 15 INCHES
AND SHALL NOT EXCEED 18 INCHES.

THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL
OUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS.

STAKES SHALL BE SPACED AT A MAX. OF 3 FEET APART AT THE
BARRIER LOCATION AND DRIVEN SECURELY INTO THE GROUND (MIN.
OF 8 INCHES).

A TRENCH SHALL BE EXCAVATED APPROX. 4 INCHES WIDE AND 4
INCHES DEEP ALONG THE LINE OF STAKES AND UPSLOPE FROM THE
BARRIER.

THE FILTER MATERIAL SHALL BE STAPLED ON THE WOODEN STAKES,
AND 8 INCHES OF FABRIC SHALL BE EXTENDED INTO THE TRENCH.
HEAVY DUTY WIRE STAPLES AT LEAST 1/2 INCH LONG SHALL BE
USED. FILTER MATERIAL SHALL NOT BE STAPLED INTO EXISTING
TREES.

THE TRENCH SHALL BE BACKFILLED AND SOIL COMPACTED OVER THE
FILTER MATERIAL.

IF A FILTER BARRIER IS TO BE CONSTRUCTED ACROSS A DITCH LINE
OR SWALE, THE BARRIER SHALL BE OF SUFFICIENT LENGTH TO
ELIMINATE END FLOW, AND THE PLAN CONFIGURATION SHALL
RESEMBLE AN ARC OR HORSESHOE WITH THE ENDS ORIENTED UPSLOPE.

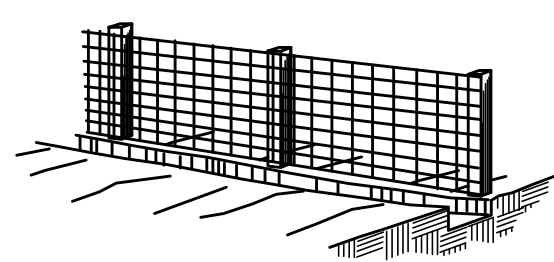
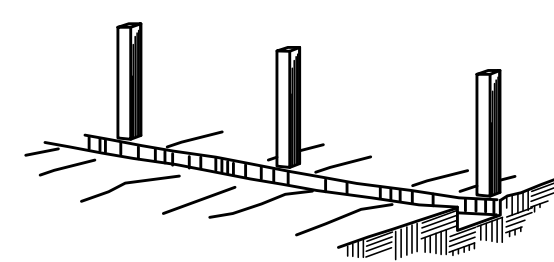
CHECK DAM (CD)

CHECK DAMS ARE USUALLY INEFFECTIVE FOR CATCHING SEDIMENT BUT
CAN SLOW FLOW VELOCITIES AND REDUCE CHANNEL EROSION. ROCK
TYPE AND SIZE OF THE DAM ARE TO BE DETERMINED BY THE
ENGINEER.

IF AT ANY TIME IT IS FOUND THAT A CHECK DAM ALONE IS
INEFFECTIVE IN ADEQUATELY PERFORMING ITS FUNCTION,
ADDITIONAL CONTROL MEASURES MUST BE PROVIDED.

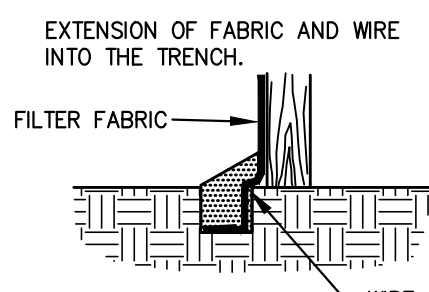
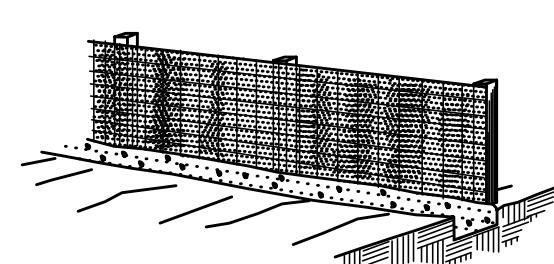
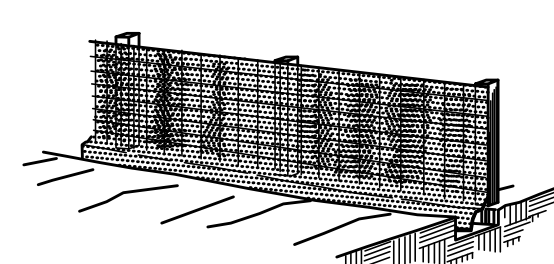
1. SET POSTS AND EXCAVATE A 4" x 4"
TRENCH UPSLOPE ALONG THE LINE OF POSTS.

2. STAPLE WIRE FENCING TO THE POSTS.



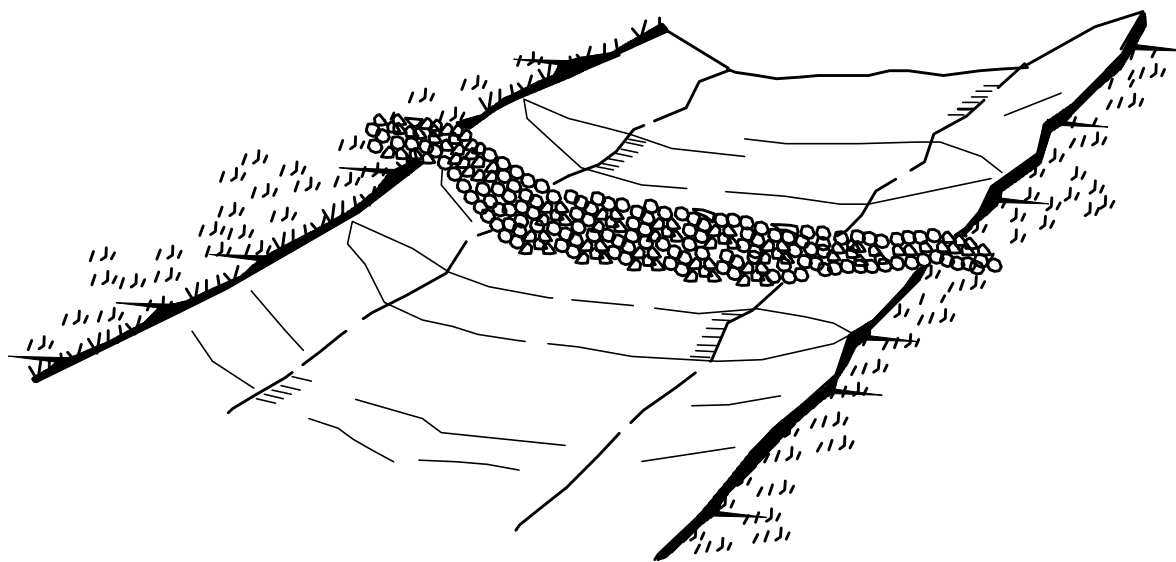
3. ATTACH THE FILTER FABRIC TO THE WIRE
FENCE AND EXTEND IT INTO THE TRENCH.

4. BACKFILL AND COMPACT THE EXCAVATED SOIL.

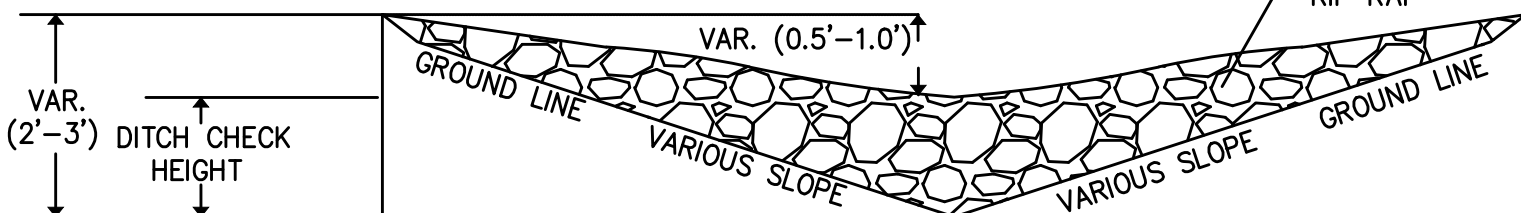


SILT FENCE (SF)

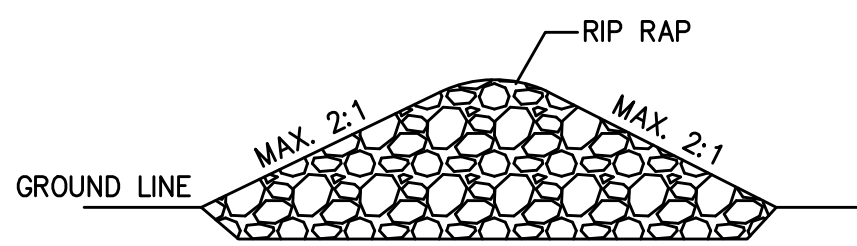
NOTE: STRAW BALE BARRIERS & SOD MAY BE
SUBSTITUTED FOR SILT FENCE.



3D VIEW



END VIEW

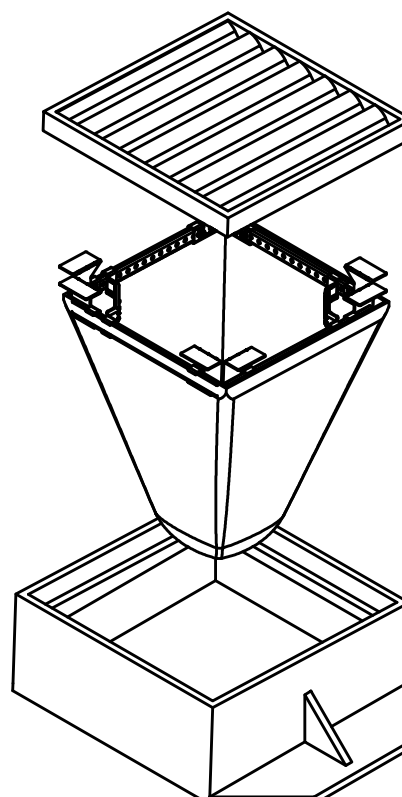


SIDE VIEW

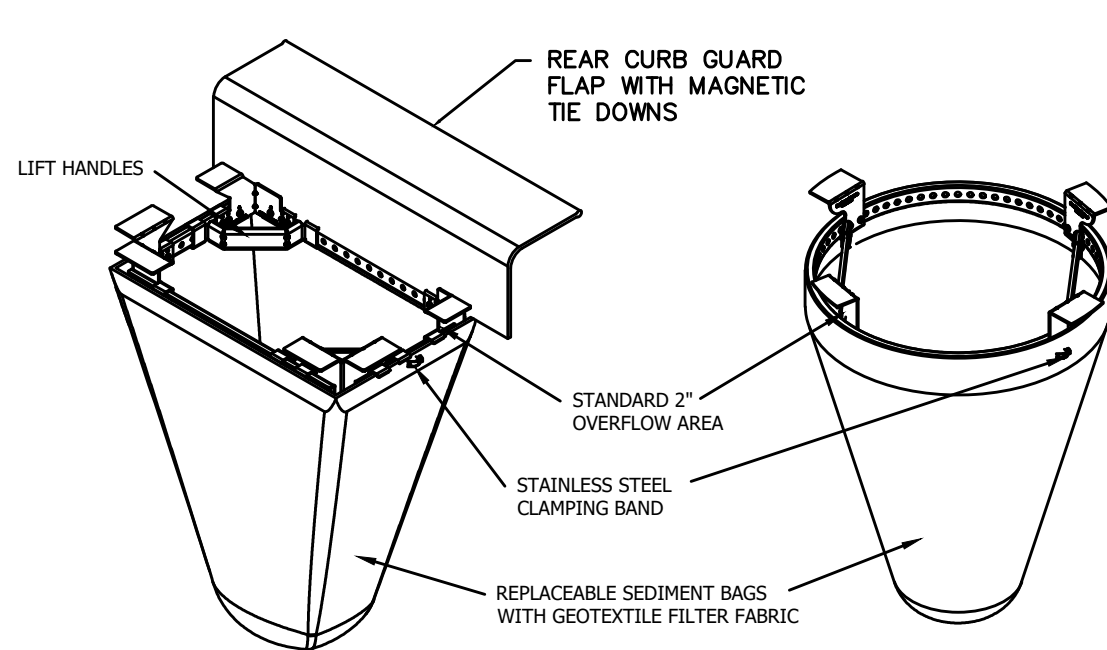
CHECK DAM (CD)

INSPECTION NOTE:

REGULAR INSPECTION AND MAINTENANCE WILL BE
PROVIDED FOR ALL EROSION AND SEDIMENT CONTROL
PRACTICES. PERMANENT RECORDS OF MAINTENANCE
AND INSPECTIONS MUST BE KEPT THROUGHOUT THE
CONSTRUCTION PERIOD. INSPECTIONS MUST BE MADE
A MINIMUM OF ONCE EVERY 7 DAYS AND
IMMEDIATELY AFTER STORM EVENTS GREATER THAN
0.5 INCHES OF RAIN IN A 24 HOUR PERIOD.
PROVIDED WILL BE NAME OF INSPECTOR, MAJOR
OBSERVATIONS, DATE OF INSPECTION AND CORRECTIVE
MEASURES TAKEN.



INLET FILTER FOR
STANDARD INLETS



FILTER FOR ROUND INLETS

COMBINATION INLET
FILTER FOR CURB HOODS
FILTERS FOR TEMPORARY INLET PROTECTION
CONSULT MANUFACTURER FOR
PRODUCT SELECTION

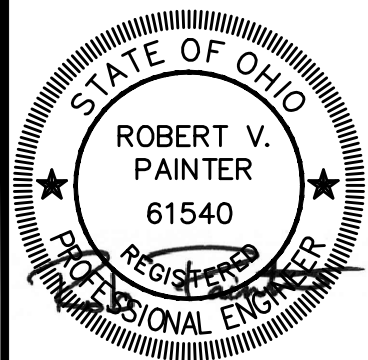
FLEX-STORM OR EQUIVALENT

INLET FILTER



NOTE:

UNDERGROUND UTILITIES ARE PLOTTED FROM A
COMPILATION OF AVAILABLE RECORD
INFORMATION AND SURFACE INDICATIONS OF
UNDERGROUND STRUCTURES AND MAY NOT BE
INCLUSIVE. PRECISE LOCATIONS AND THE
EXISTENCE OR NON EXISTENCE OF
UNDERGROUND UTILITIES CANNOT BE VERIFIED.
PLEASE NOTIFY THE OHIO UTILITY PROTECTION
SERVICE AT 1-800-362-2764 BEFORE ANY
PERIOD OF EXCAVATION OR CONSTRUCTION
ACTIVITY.



REVISIONS

NO.	REVISION	DATE
1	05/14/20 REVISED PER BOWS	

SOIL EROSION DETAILS

CRESCENT MOON

SECTION 16, TOWN 3, RANGE 3
LIBERTY TOWNSHIP, BUTLER COUNTY, OHIO

SCALE: NOT TO SCALE

DATE: APRIL 2, 2020

DRAWN: SAD

DESIGNED: SAD

CHECKED: RVP

XREF:

JOB NO.: 19054

CRESCENT MOON

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