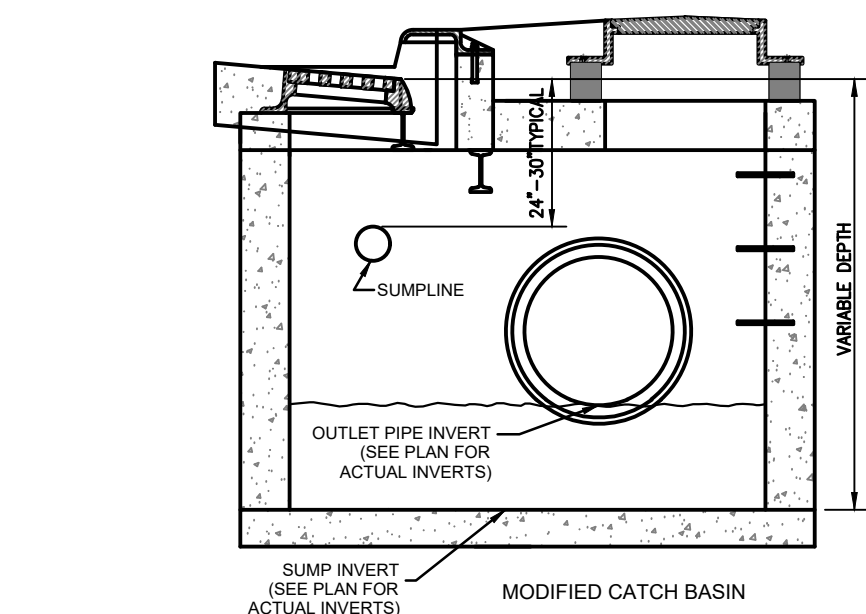


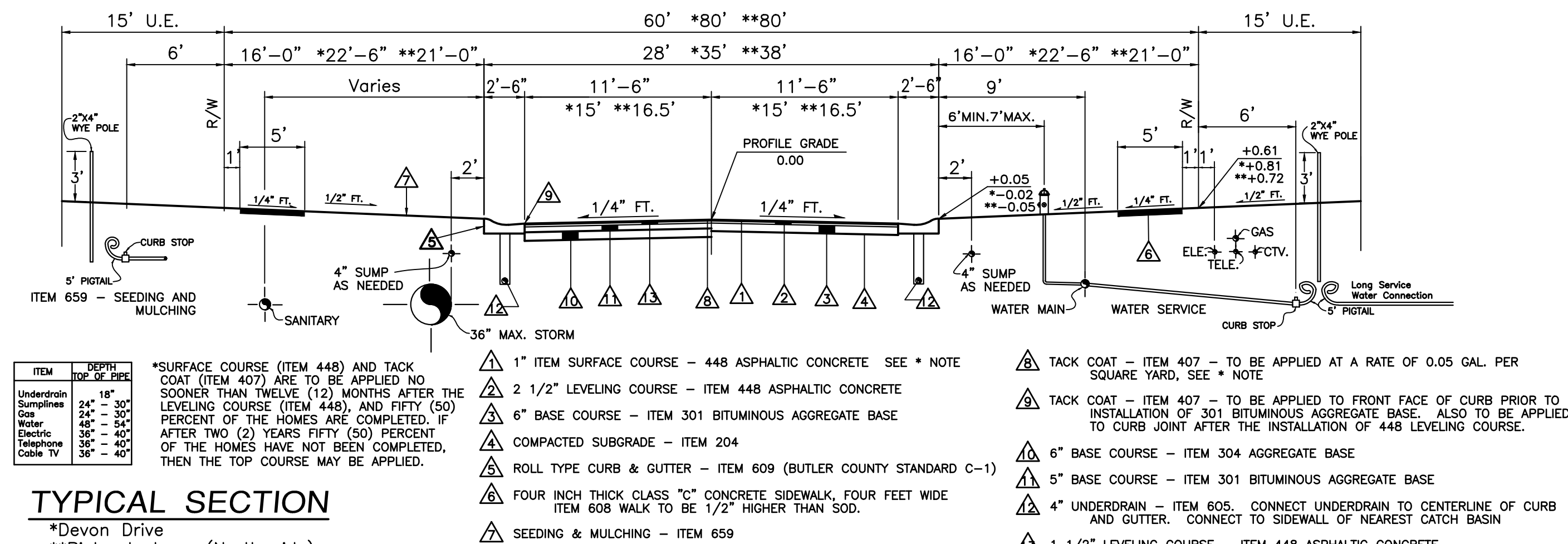
Title Sheet	1
Plan & Profile Sheets	2-4
Intersection & Drainage Details	5
Grading Plan	6
Detail Sheets	7-9
Soil Erosion & Sedimentation Control Detail Sheet	10



EXISTING CONTOURS	
PROPOSED CONTOURS	
CENTERLINE	
PROPERTY LINE	
EXISTING SANITARY SEWER & MANHOLE	
PROPOSED SANITARY SEWER & MANHOLE	
EXISTING WATER MAIN	
FIRE HYDRANT	
WATER VALVE	
PROPOSED WATER MAIN	
EXISTING GAS MAIN	
SUMP DRAIN LINE	
EXISTING STORM PIPE & CATCH BASIN	
STORM CATCH BASIN	
STORM MANHOLE	
PROPOSED STORM PIPE	
EXISTING TELEPHONE	
EXISTING CABLE	
DIRECTION OF DRAINAGE	
PROPOSED SWALE	
LOT SWALE	



(Not to Scale)

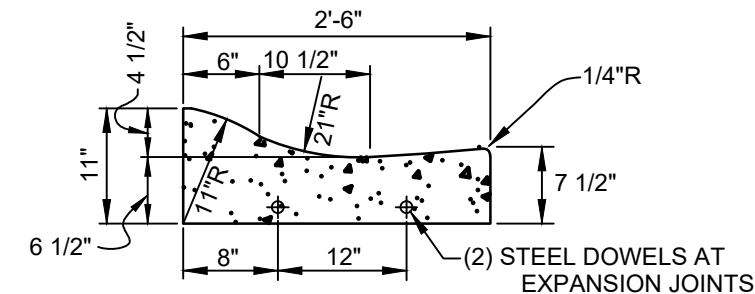


\*Devon Drive  
\*\*Richards Lane (North side)

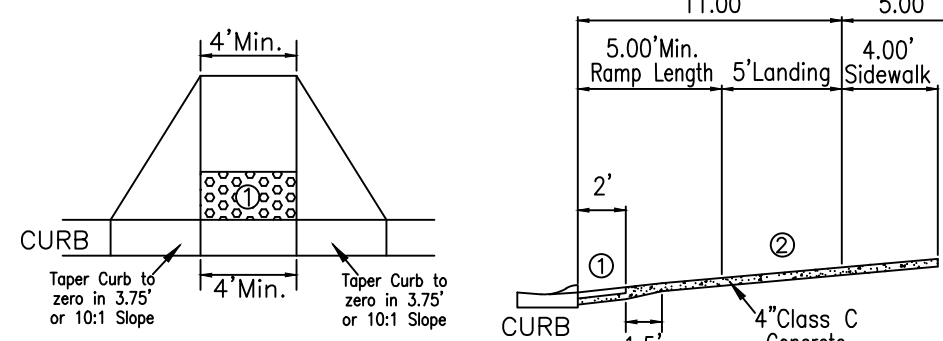
✓ APPROVED  
EJP 10/22/2021

Hickory Woods Development Company, LLC.  
11025 Reed Hartman Highway  
Cincinnati, OH 45242  
(513) 745-9019

Top Nut of Fire Hydrant  
@ Castle Hill & Bexhill Drive  
Elevation = 806.18



### STANDARD ROLL TYPE CURB & GUTTER C-1

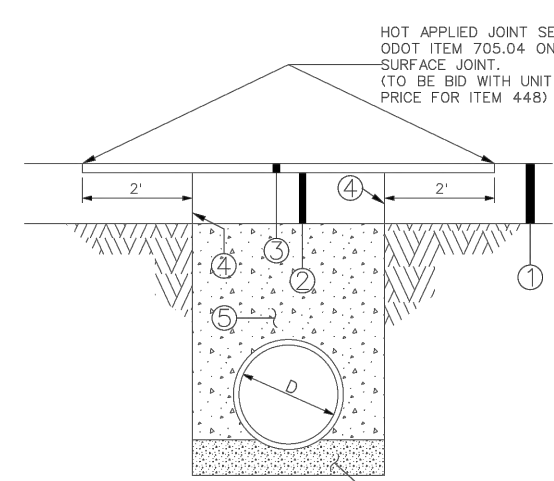


CURB RAMP DETAIL

DATE	COMMENT
7-27-21	Submitted to Butler County Planning
8-24-21	Resubmitted to BCWS & BCSWCD
10-19-21	Resubmitted to BCEO

C-1	
Std.MH-1A	
Std.HW-D	
CB-3A	
CB-3A(Mod.)	
Std.R-1	

	Date
Butler Co. Water & Sewer Dept.	8-16-21
Butler Co. Engineer's Office	
Army Corps of Engineers	
OEPA NPDES NOI #16C08305*AG	8-25-21
These plans are not for construction until ALL approval dates have been filled in.	

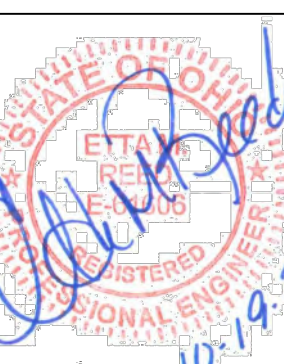
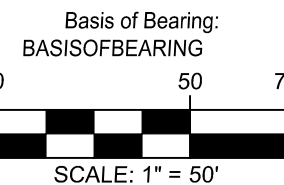


- ① Detectable Warning (Truncated Domes) are to be installed in the location shown. Dimensions of the domes are 24" from the back of the curb by the width of the ramp.
- ② Minimum Landing is to be 4' but 5' is preferred. The slope of the ramp is preferred to be 12:1 or flatter related to the horizontal, but the minimum slope shall be 12:1 relative to the existing or proposed walk slope.
- ③ Curb ramps shall be design A or design B per ODOT Drawing 7-12-02, sheets 1 through 3. Truncated domes are to meet the specifications of ODOT drawing 7-12-02 sheet 3.

THE FOLLOWING SEQUENCE OF CONSTRUCTION WILL BE SIMULTANEOUSLY FOLLOWED FOR ALL AREAS ELIMINATING ONLY THOSE STEPS THAT DO NOT PERTAIN TO THAT PARTICULAR AREA:

- STEP 1: INSTALL EROSION AND SEDIMENT CONTROL MEASURES
- STEP 2: PERFORM CLEARING OPERATION, STRIP AND STOCKPILE TOPSOIL.
- STEP 3: ROUGH GRADE SITE, STABILIZE EROSION PRONE AREAS. ALL SLOPES 3 TO 1 AND GREATER SHALL BE IMMEDIATELY STABILIZED WITH SEED AND MULCH OR AN EQUAL.
- STEP 4: INSTALL UTILITIES, CONSTRUCT TEMPORARY SILT TRAPS WHERE SHOWN.
- STEP 5: INSTALL BASE COURSE IN ROADWAYS FOLLOWING THE INSTALLATION OF IMPROVEMENTS.
- STEP 6: FINE GRADE AND SEED; REMOVE EROSION CONTROL METHODS UPON COMPLETION OF ALL IMPROVEMENTS.

1. Item numbers refer to the Ohio Department of Transportation construction and material specifications, and all construction work shall be done according to said specifications of 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 easement shall be compacted and backfilled in accordance with item 203 and 611 in the state specifications.
4. Surface course (item 448) and lock coat (item 407) are to be applied no sooner than nine (9) months after the leveling course (item 448), and fifty (50) percent of the homes are completed. If after two (2) years fifty (50) percent of the homes have not been completed, then the top course may be applied.



1	Revised as per BCWS & BC3WCD	8-24-21	TAC
2	Revised as per BC2EO	10-19-21	TAC
3			
4			
5			
6			
7			
8			

# HUGHES RETREAT

SECTION 26, TOWN 3, RANGE 3  
LIBERTY TOWNSHIP, BUTLER COUNTY, OHIO

## TITLE SHEET



www.bayerbecker.com  
6900 Tylersville Road, Suite A  
Mason, OH 45040 - 513.336.6600

wing: 10.2217

18-0217 C  
own by:

Checked By: \_\_\_\_\_

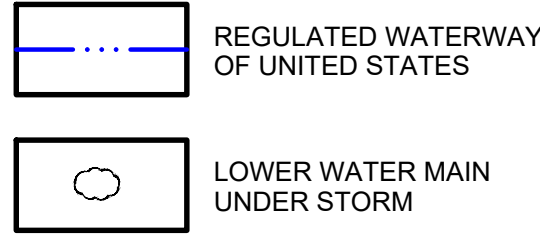
XX

7-27-2

et:

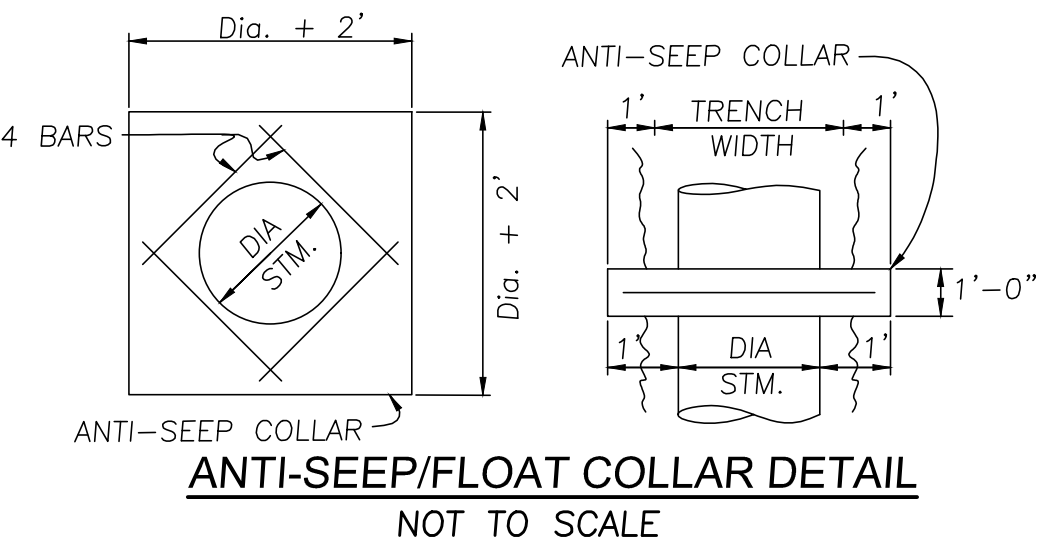
**1/10**



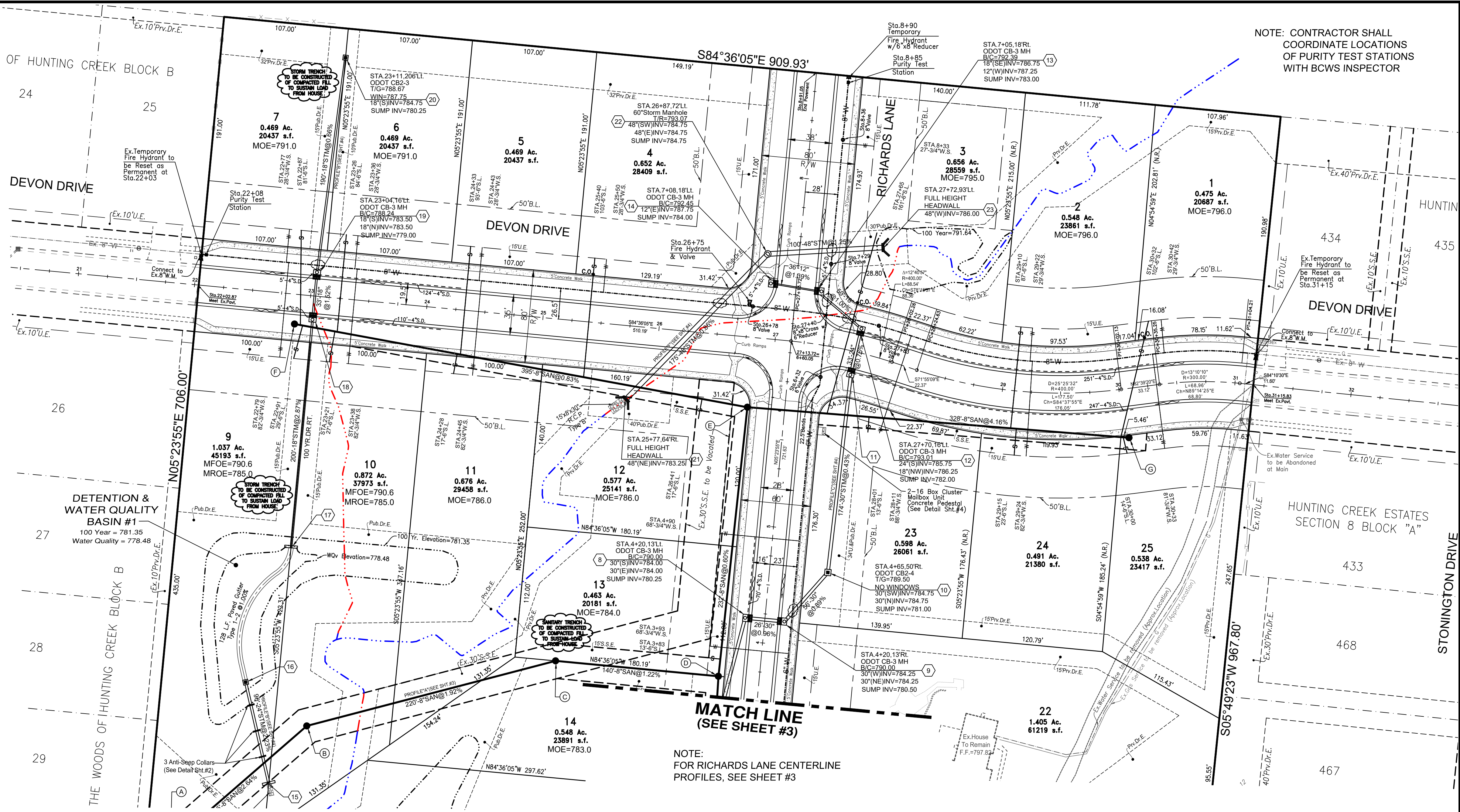


- NOTES:
- 48 hours notice to be given to affected residents before construction begins.
  - Lower 3/4" Water Services as needed to avoid conflicts with Storm with Min. 4' Cover.
  - Location of existing utilities to be determined in the field prior to work beginning.
  - All lots Sump to Sump Drain unless otherwise noted in plan.
  - Sump Lines to be installed as per Standard Service Detail. Wyes or Tees are to be placed ten feet past lot line, on the low side of specified lots, and marked with Wye poles.
  - Contractors to accept all quantities as correct prior to beginning construction.

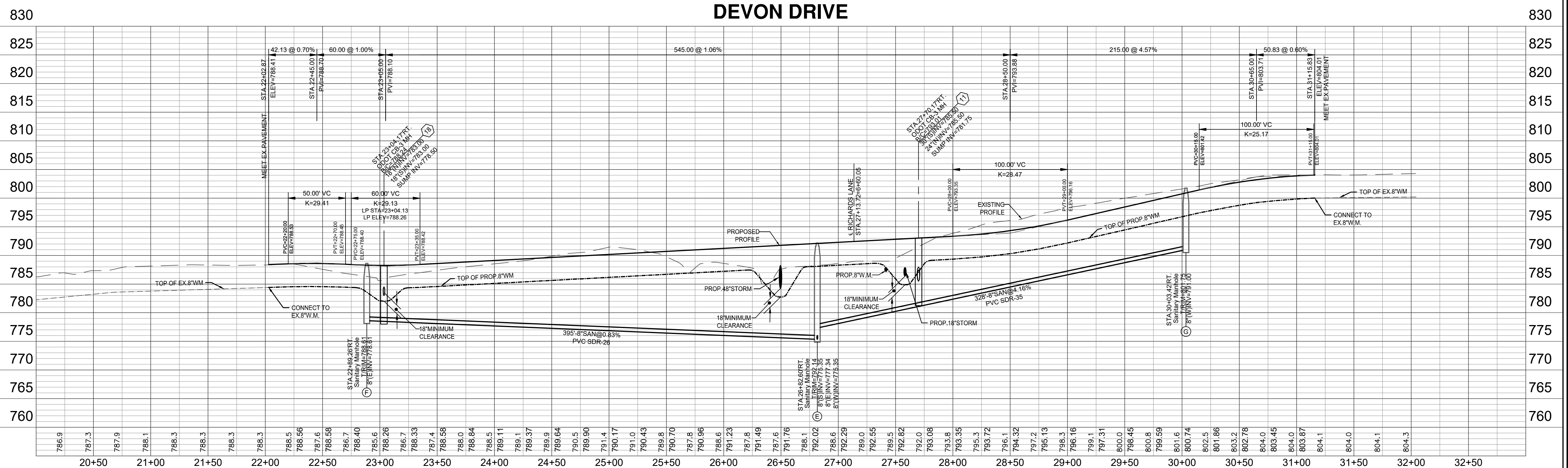
NOTE:  
At Crossings, the water main shall have a minimum vertical distance of eighteen (18") inches from storm and sanitary sewers. Also, one full length of water main shall be located so the joints are as far from the storm and sanitary sewers as possible. Fittings, not joint deflection, must be used when water main is lowered at crossings.



WATER MAIN RESTRAINT JOINT LOCATION CHART									
Water Main Dia.	Horizontal 45° Bends		Vertical 45° Bends Up (Lower Water Under...)		Vertical 45° Bends Down (Lower Water Under...)		Dead Ends (Permanent & Temporary)	Tees (for Tee Branch) 6" 8" 10"	
6"	18'	both sides	18'	both sides	36'	both sides	72' Back	54'	
8"	18'	both sides	36'	both sides	36'	both sides	90' Back	54'	72' 90'
10"	36'	both sides	36'	both sides	54'	both sides	117' Back	54'	72' 90'
12"	36'	both sides	54'	both sides	72'	both sides	180' Back	36'	72' 90'
14"	54'	both sides	54'	both sides	90'	both sides	198' Back	36'	72' 90'
16"	54'	both sides	54'	both sides	90'	both sides	216' Back	36'	54' 90'



NOTE:  
FOR RICHARDS LANE CENTERLINE PROFILES, SEE SHEET #3



NOTE: CONTRACTOR SHALL COORDINATE LOCATIONS OF PURITY TEST STATIONS WITH BCWS INSPECTOR

Scale: 1" = 50'

DATE: 10-19-21

Item	Revision Description	Date	Drawn	Chk
1	Revised as per BCWS	8-24-21	TAC	
2	Revised as per BCWS	10-19-21	TAC	
3				
4				
5				
6				
7				
8				
9				

**HUGHES RETREAT**

SECTION 26, TOWN 3, RANGE 3  
LIBERTY TOWNSHIP, BUTLER COUNTY, OHIO

**bayer becker**

www.bayerbecker.com  
6900 Tylersville Road, Suite A  
Mason, OH 45040 - 513.336.6600

PLAN & PROFILE

Drawing: 18-0217 CD

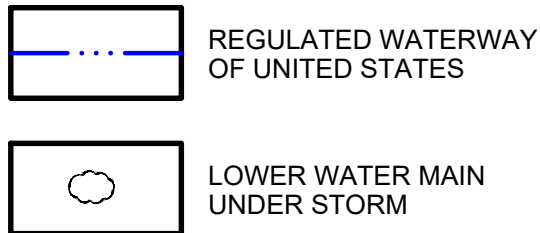
Drawn by: TAC

Checked By: XXX

Issue Date: 7-27-21

Sheet: 2/10



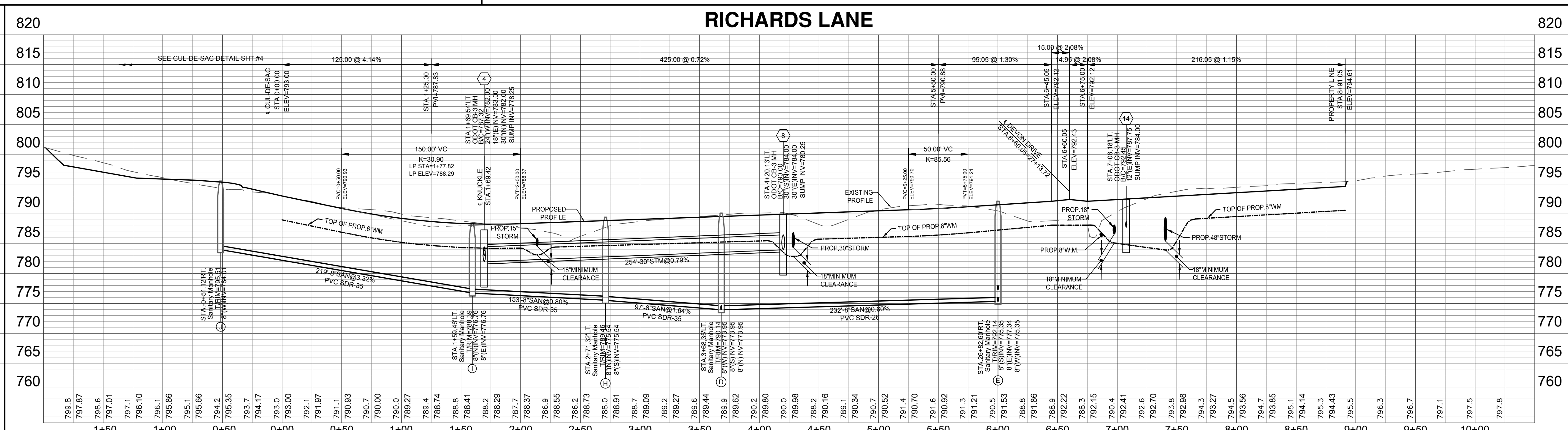
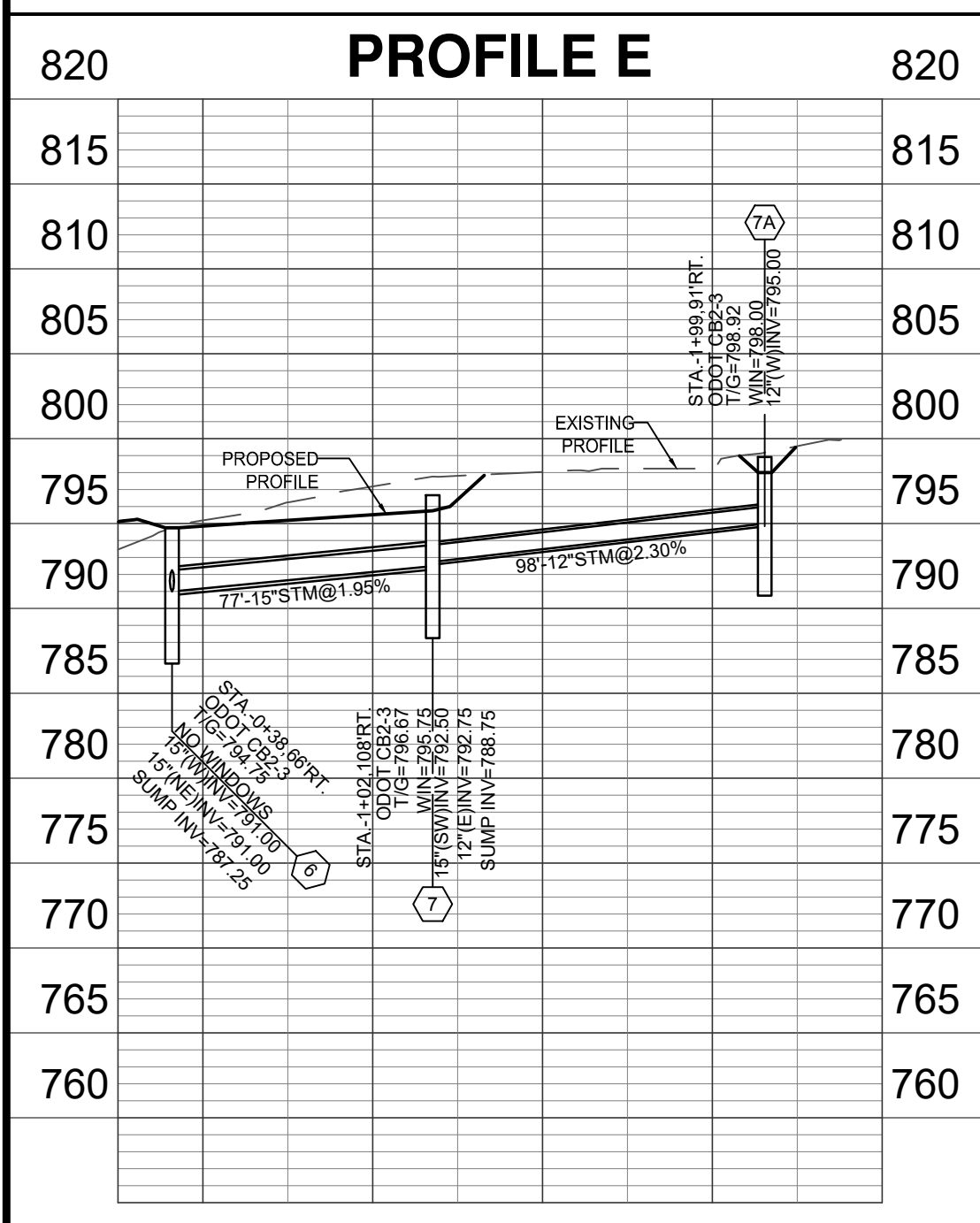
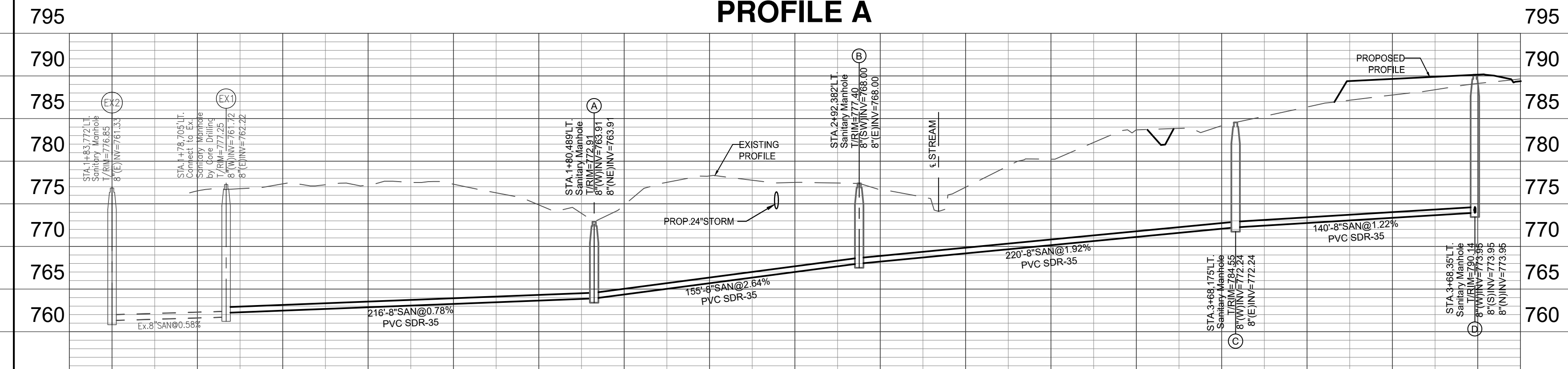
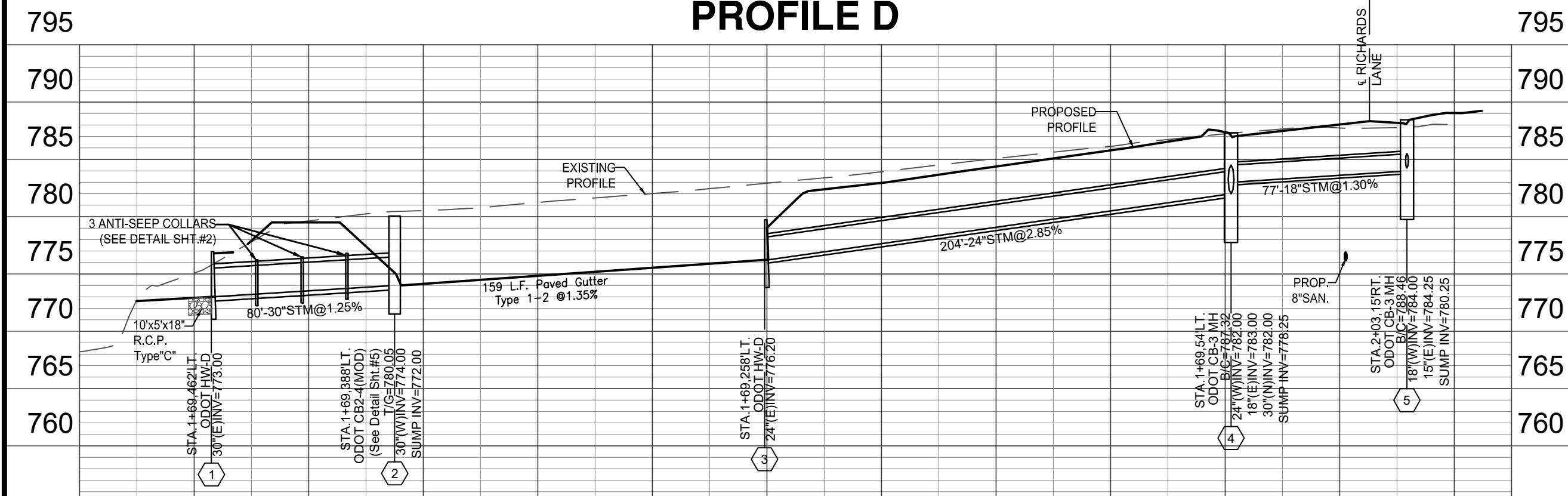
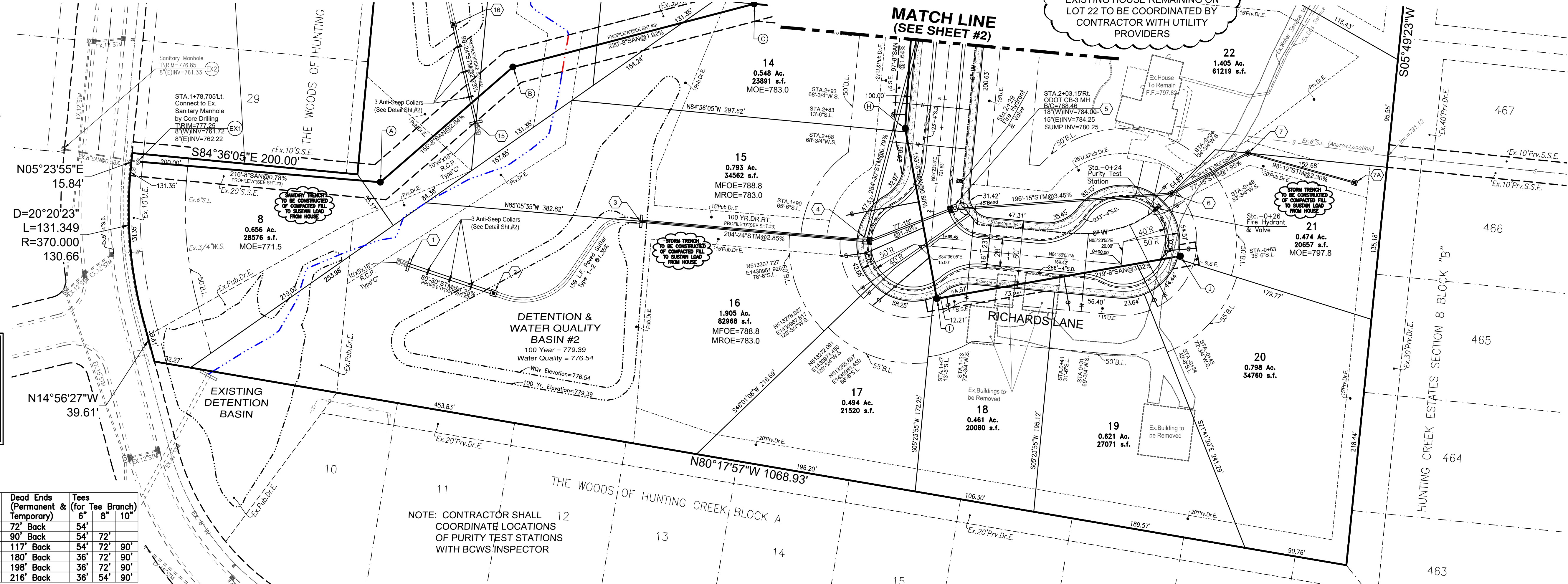


- NOTES:
- 48 hours notice to be given to affected residents before construction begins.
  - Lower 3/4" Water Services as needed to avoid conflicts with Storm with Min. 4' Cover.
  - Location of existing utilities to be determined in the field prior to work beginning.
  - All lots Sump to Sump Drain unless otherwise noted in plan.
  - Sump Lines to be installed as per Standard Service Detail. Wyes or Tees are to be placed ten feet past lot line, on the low side of specified lots, and marked with Wye poles.
  - Contractors to accept all quantities as correct prior to beginning construction.

NOTE:  
At Crossings, the water main shall have a minimum vertical distance of eighteen (18") inches from storm and sanitary sewers. Also, one full length of water main shall be located so the joints are as far from the storm and sanitary sewers as possible. Fittings, not joint deflection, must be used when water main is lowered at crossings.

WATER MAIN RESTRAINT JOINT LOCATION CHART

Water Main Dia.	Horizontal 45° Bends	Vertical 45° Bends Up (Lower Water Under...)	Vertical 45° Bends Down (Lower Water Under...)	Dead Ends (Permanent Temporary)	Tees (for Tee Branch)
6"	18" both sides	18" both sides	36" both sides	72" Back	54" 72" 90"
8"	18" both sides	36" both sides	36" both sides	90" Back	54" 72" 90"
10"	36" both sides	36" both sides	36" both sides	117" Back	54" 72" 90"
12"	36" both sides	54" both sides	72" both sides	180" Back	36" 72" 90"
14"	54" both sides	54" both sides	90" both sides	198" Back	36" 72" 90"
16"	54" both sides	54" both sides	90" both sides	216" Back	36" 54" 90"



0 50 75  
SCALE: 1" = 50'

10-19-21

Item

1	2	3	4	5	6	7	8	9
---	---	---	---	---	---	---	---	---

Date

8-24-21	10-19-21							
---------	----------	--	--	--	--	--	--	--

Revision Description

1	2	3	4	5	6	7	8	9
---	---	---	---	---	---	---	---	---

HUGHES RETREAT

SECTION 26, TOWN 3, RANGE 3

LIBERTY TOWNSHIP, BUTLER COUNTY, OHIO

www.bayerbecker.com  
6800 Tversville Road, Suite A  
Mason, OH 45040 - 513.336.6600

Drawing: 18-0217 CD

Drawn by: TAC

Checked By: XXX

Issue Date: 7-27-21

Sheet:

3/10





**NOTE:**  
At Crossings, the water main shall have a minimum vertical distance of eighteen (18") inches from storm and sanitary sewers. Also, one full length of water main shall be located so the joints are as far from the storm and sanitary sewers as possible. Fittings, not joint deflection, must be used when water main is lowered at crossings.

WATER MAIN RESTRAINT JOINT LOCATION CHART										
Water Main Dia.	Vertical 45°Bends		Vertical 45°Bends Up (Lower Water Under...)		Vertical 45°Bends Down (Lower Water Under...)		Dead Ends (Permanent & Temporary)	Tees (for Tee Branch)		
	6"	8"	18"	24"	36"	48"	72"	6"	8"	10"
6"	18"	both sides	18"	both sides	36"	both sides	72" Back	54"		
8"	18"	both sides	36"	both sides	36"	both sides	90" Back	54"	72"	
10"	36"	both sides	36"	both sides	54"	both sides	117" Back	54"	72"	90"
12"	36"	both sides	54"	both sides	72"	both sides	180" Back	36"	72"	90"
14"	54"	both sides	54"	both sides	90"	both sides	198" Back	36"	72"	90"
16"	54"	both sides	54"	both sides	90"	both sides	216" Back	36"	54"	90"









PROJECT DATA		
Total Area	20.24 Ac.	
Sediment Basin Calculations:	Basin #1	Basin #2
Drainage Area	6.20 Ac.	16.70 Ac.
Disturbed Tributary Area	2.86 Ac.	6.39 Ac.
Required Sediment Storage	0.07 Ac./Ft.	0.15 Ac./Ft.
Required Dewatering Storage	0.26 Ac./Ft.	0.89 Ac./Ft.
Water Quality Volume Required	0.11 Ac./Ft.	0.35 Ac./Ft.
Pre-Developed Runoff Coefficient	0.32	
Post-Developed Runoff Coefficient	0.50	
Estimated Proposed Impervious Area	3.68 Ac.(18.2%)	
Immediate Receiving Waters	Unnamed Tributary to Gregory Creek	
Subsequent Receiving Waters	Gregory Creek	
SOIL TYPES		
Symbol	Name	Type
FcA	Fincastle silt loam, 0 to 2 percent slopes	C
FcB	Fincastle silt loam, 2 to 6 percent slopes	C
MsC2	Miamon-Russell silt loams 6 to 12 percent slopes, moderately eroded	C
RdA	Raub silt loam, 0 to 2 percent slopes	C
RwB	Russell-Miamon silt loams, bedrock substratum 2 to 6 percent slopes, moderately eroded	B
XeB	Xenia silt loam, 2 to 6 percent slopes	B
XeB2	Xenia silt loam, 2 to 6 percent slopes, moderately eroded	B

NOTE:  
The Temporary Sediment Basins are to be cleaned out in accordance with the Rainwater and Land Development Manual and Butler County standards.

\* NOTE: STREAM BANK MAY NEED ROCK CHANNEL PROTECTION TO ALLEVIATE EROSION. GEOTECHNICAL ENGINEER TO DETERMINE NEED IN FIELD DURING CONSTRUCTION.

D2010-022-000-017  
RMC ENTERPRISES LTD.  
95.30 ACRES

#### TYPICAL DRAINAGE ROUTE SECTION

Note: All ditches constructed by the Developer shall be sodded or hydra-seeded.

#### TYPICAL DITCH SECTION

	SOIL TYPES
	CLEARING LIMITS
	SILT FENCE OR MULCH BERM
	REGULATED WATERWAY OF STATE OF OHIO
	RIPIARIAN AREA: NO DISTURBANCE PERMITTED

#### EROSION CONTROL NOTES

- SEEDING AND MULCHING
- SODDING
- PRESERVE EXISTING VEGETATION
- STRAW BALE
- SILT FENCE OR MULCH BERM
- SOIL PILES
- TEMPORARY STREAM CROSSING
- GRAVEL CURB INLET SEDIMENT FILTER
- GEOTEXTILE INLET SEDIMENT FILTER
- GABIONS
- STRAW BALE DROP INLET SEDIMENT FILTER
- SOD DROP INLET SEDIMENT FILTER
- GRAVEL & WIRE MESH DROP INLET SEDIMENT FILTER
- BLOCK & GRAVEL CURB INLET SEDIMENT FILTER
- TEMPORARY SEDIMENT TRAPS & DAMS
- DIKES & SLOPE PROTECTION
- ROLLED GRAVEL CURB INLET SEDIMENT FILTER
- CHECK DAM
- TEMPORARY DETENTION SEDIMENT FILTER/BASIN
- DANDY BAG/BEAVER DAM® OR EQUAL
- CONSTRUCTION ENTRANCE
- CONCRETE WASHOUT AREA

SEE SOIL EROSION & SEDIMENTATION CONTROL DETAIL SHEET (Page #10)

- NOTES:
- 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 seven (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.
  - All erosion and sediment control practices must conform to the specifications of Rainwater and Land Development, Ohio's standards for storm water management, land development and urban stream protection.
  - Perimeter Sedimentation control and basins/traps shall be implemented as the first step of grading and shall continue to function until upland areas are stabilized.
  - Disturbed areas which will remain unworked for a period of fourteen (14) days or more, shall be stabilized with seeding and mulching or other approved means within seven (7) days. All disturbed areas within fifty (50) feet of an intermittent or solid blue line stream shall be stabilized within two (2) days. All areas of a site which are at final grade shall be stabilized with seeding and mulching or other approved means within seven (7) days.
  - Quantities for Erosion Control may vary between detailed plans and field conditions during construction. Plan quantities are a minimum; more erosion control may be necessary due to environmental conditions.
  - Sedimentation control and ditch swales are subject to change upon completion of entire set of construction drawings.
  - No solid or liquid waste shall be discharged into storm water runoff.
  - Home builders are responsible for erosion control on each individual lot.
  - High water tables are apparent in the area. If basements are constructed, it is the responsibility of the builder to take special precaution to ensure the basements stay dry.
  - Contractors to accept all quantities as correct prior to beginning construction.

#### GRADING NOTES

- LOCATION OF EXISTING UTILITIES TO BE DETERMINED IN THE FIELD PRIOR TO BEGINNING WORK.
- CONTRACTOR SHALL OBTAIN A COPY OF THE COMPLETE GEOTECHNICAL REPORT PRIOR TO BIDDING THE PROJECT.
- CONTRACTORS SHALL SET UP AN ONSITE PRE-CONSTRUCTION MEETING WITH THE BUTLER COUNTY STORM WATER DISTRICT/BCDO, DEVELOPER, PROJECT GEOTECHNICAL ENGINEER, EARTHWORK CONTRACTOR, AND SITE CIVIL ENGINEER PRIOR TO BEGINNING CONSTRUCTION.
- CONTRACTOR SHALL ASSUME THE TOP 8" OF EXISTING GROUND IS TOPSOIL. TOPSOIL REMOVED TO DEPTHS GREATER THAN 8" SHALL BE DONE ONLY AFTER CONSULTATION WITH THE PROJECT GEOTECHNICAL ENGINEER AND APPROVAL OF THE DEVELOPER.
- ALL EARTHWORK AND CONSTRUCTION ACTIVITY SHALL BE PERFORMED PER THE RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL ENGINEER AS DESCRIBED IN THE GEOTECHNICAL EXPLORATION REPORT AND ALL ADDENDUMS.
- CONTRACTOR SHALL VERIFY ALL EARTHWORK QUANTITIES PRIOR TO AWARD OF CONTRACT. PAY QUANTITIES ARE FINAL EXCEPT FOR DOCUMENTED UNDERCUT APPROVED BY DEVELOPER TO COMPLETION OF THE EXTRA WORK. UPON REQUEST, CONTRACTORS MAY HAVE ACCESS TO THE SITE TO FIELD CHECK TOPOGRAPHY.
- THE AREAS LABELED DENSE VEGETATION ARE WHERE THE EXISTING GROUND WAS OBSCURED FROM VIEW BY EXISTING VEGETATION. THE EXISTING CONTOURS SHOWN IN THIS AREA MAY VARY.

#### STREAM CROSSING DETAILS

The Ohio EPA has concerns about any sanitary sewer which crosses or runs 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 this activity. These factors would include the following:

- The construction of the stream crossing should be completed as soon as possible and should not exceed more than one day.
- The material removed from the trench excavation during the construction of the stream crossing should be stored outside of the riparian area. This area should be enclosed by a siltation fence.
- 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 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 regrow after the project. All other vegetation in the riparian area should be cut at the ground surface.
- Coffer dams should be used to bypass the trench excavation during the construction of the stream crossing.
- 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.
- The stockpile location for the pipe bedding material and the backfill material should be shown on the detailed plans. This area should be located outside of the riparian area. (See plans for stockpile location)
- Any locations where equipment will cross the stream should have a temporary stream crossing constructed. Construction equipment crossings should only be used when there is no other feasible method, such as constructing sewers 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 placed 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.
- All trench dewatering shall be passed through a sediment impoundment structure. Adequate outlet protection must be provided for each impoundment. If any groundwater dewatering should occur, the contractor shall contact the Ohio Department of Natural Resources, Division of Water, to assure proper well installation and abandonment of wells. The contractor shall not direct the groundwater to the impoundment intended for trench water.

Basis of Bearing:  
BASISOFBEARING

0 50 75

SCALE: 1" = 50'

10-19-21

Date	Chk:	1	2	3	4	5	6	7	8	9
Drawn:	TAC	10-19-21	TAC							
Revision Description										
Item	1	2	3	4	5	6	7	8	9	
Revised as per BCSD										
Revised as per BCSD										

bayer becker

www.bayerbecker.com

6900 Tiersville Road, Suite A  
Mason, OH 45040 - 513.336.6600

**HUGHES RETREAT**

SECTION 26, TOWN 3, RANGE 3  
LIBERTY TOWNSHIP, BUTLER COUNTY, OHIO

GRADING PLAN

Drawing: 18-0217 CD

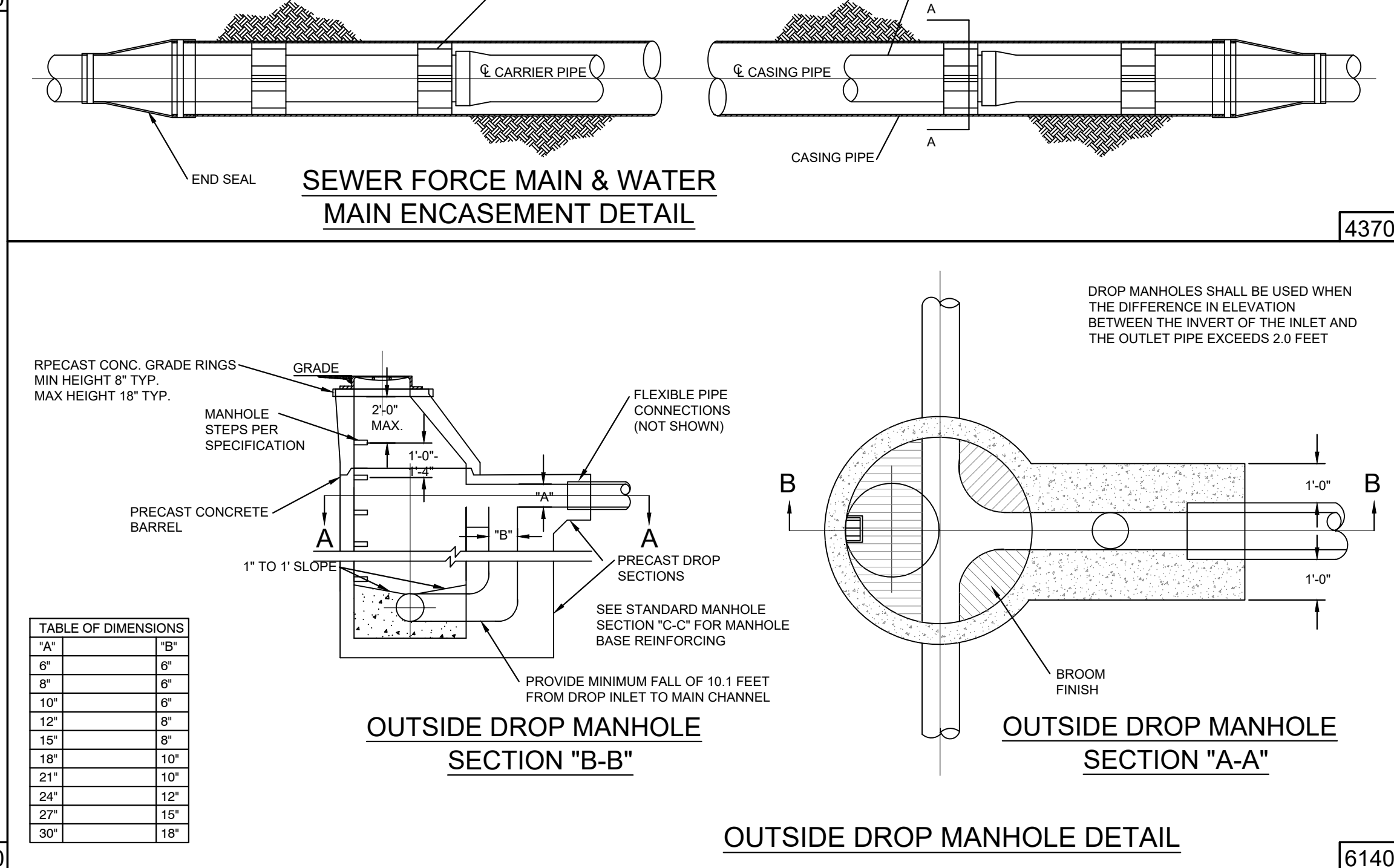
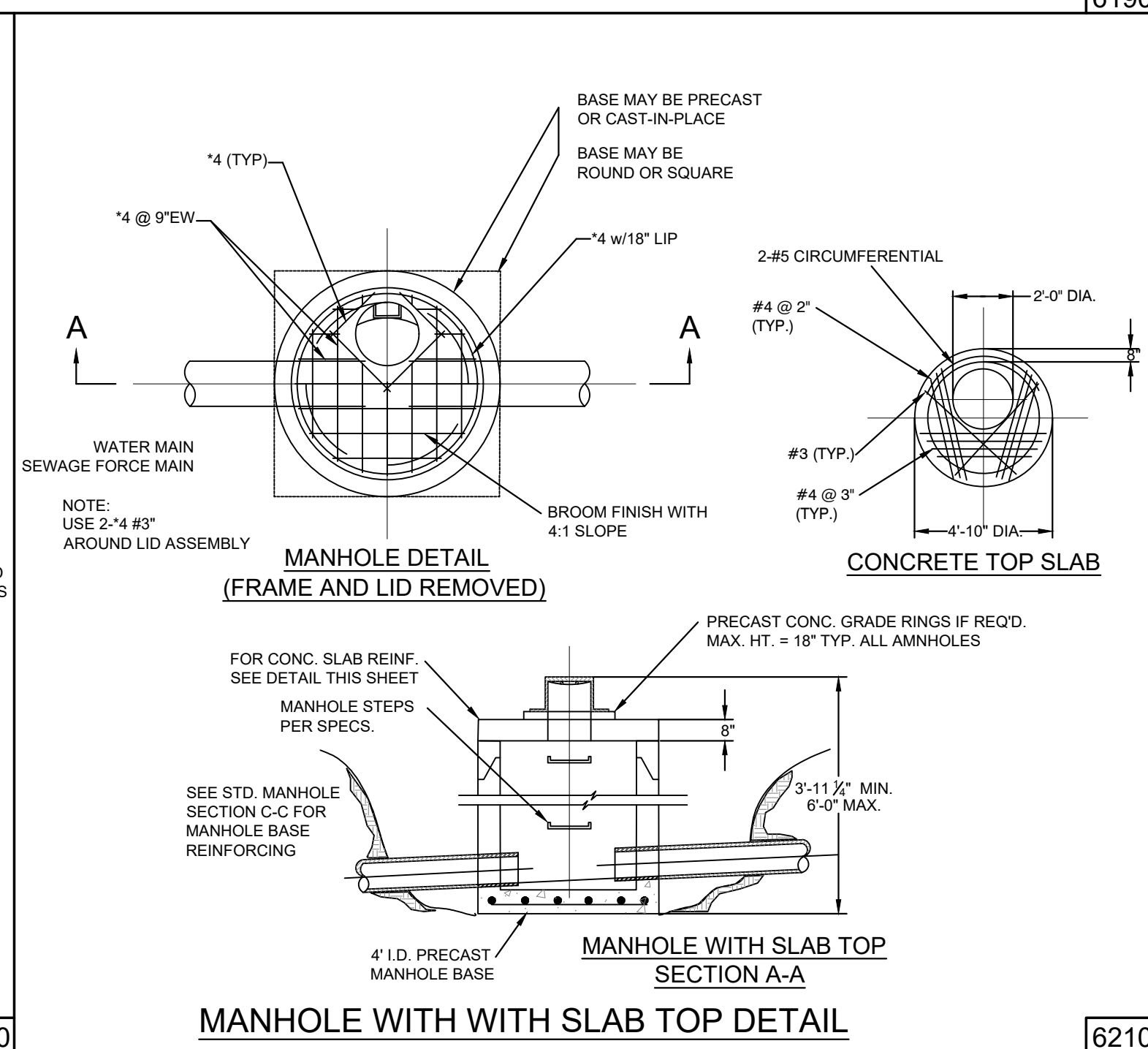
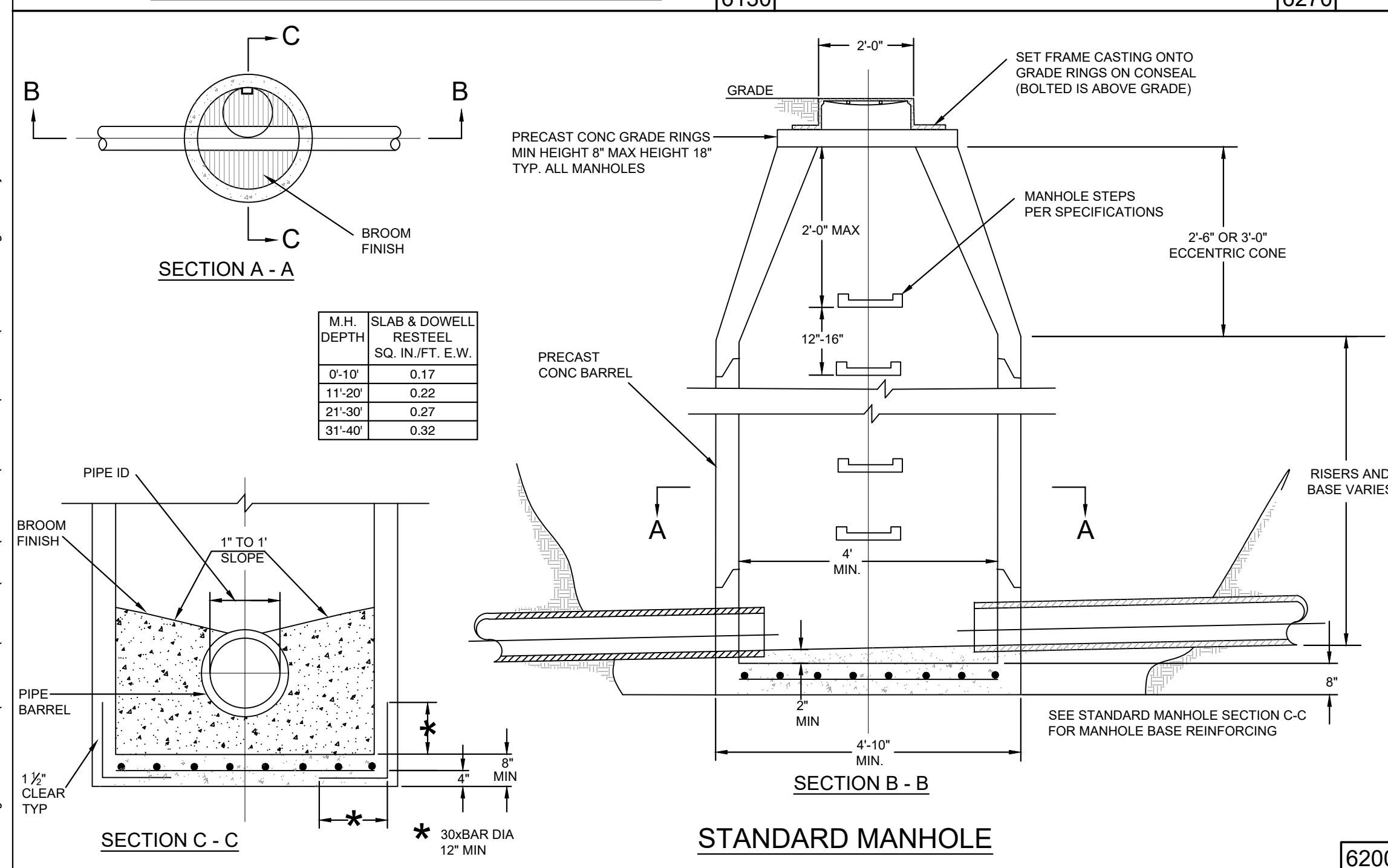
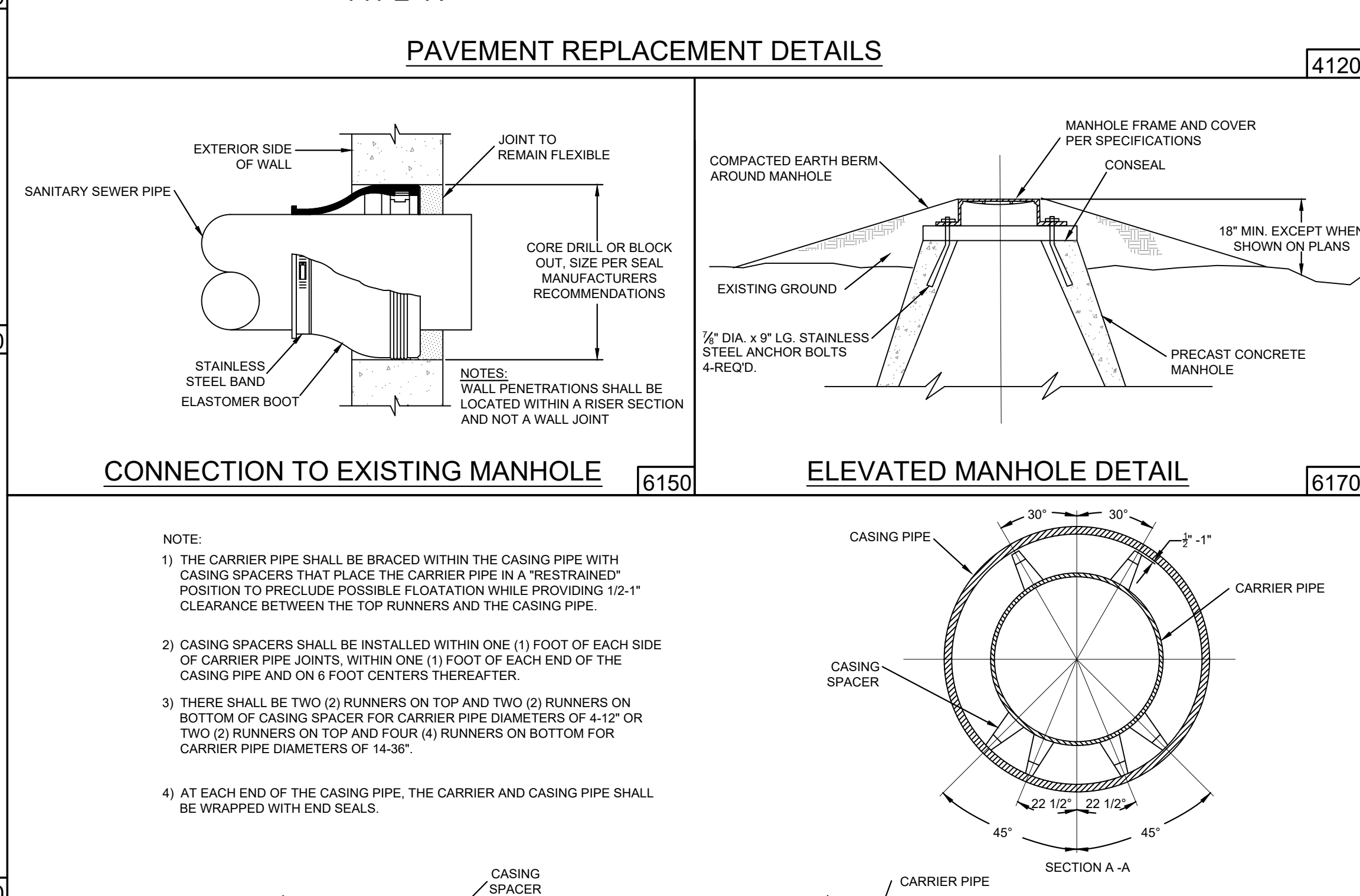
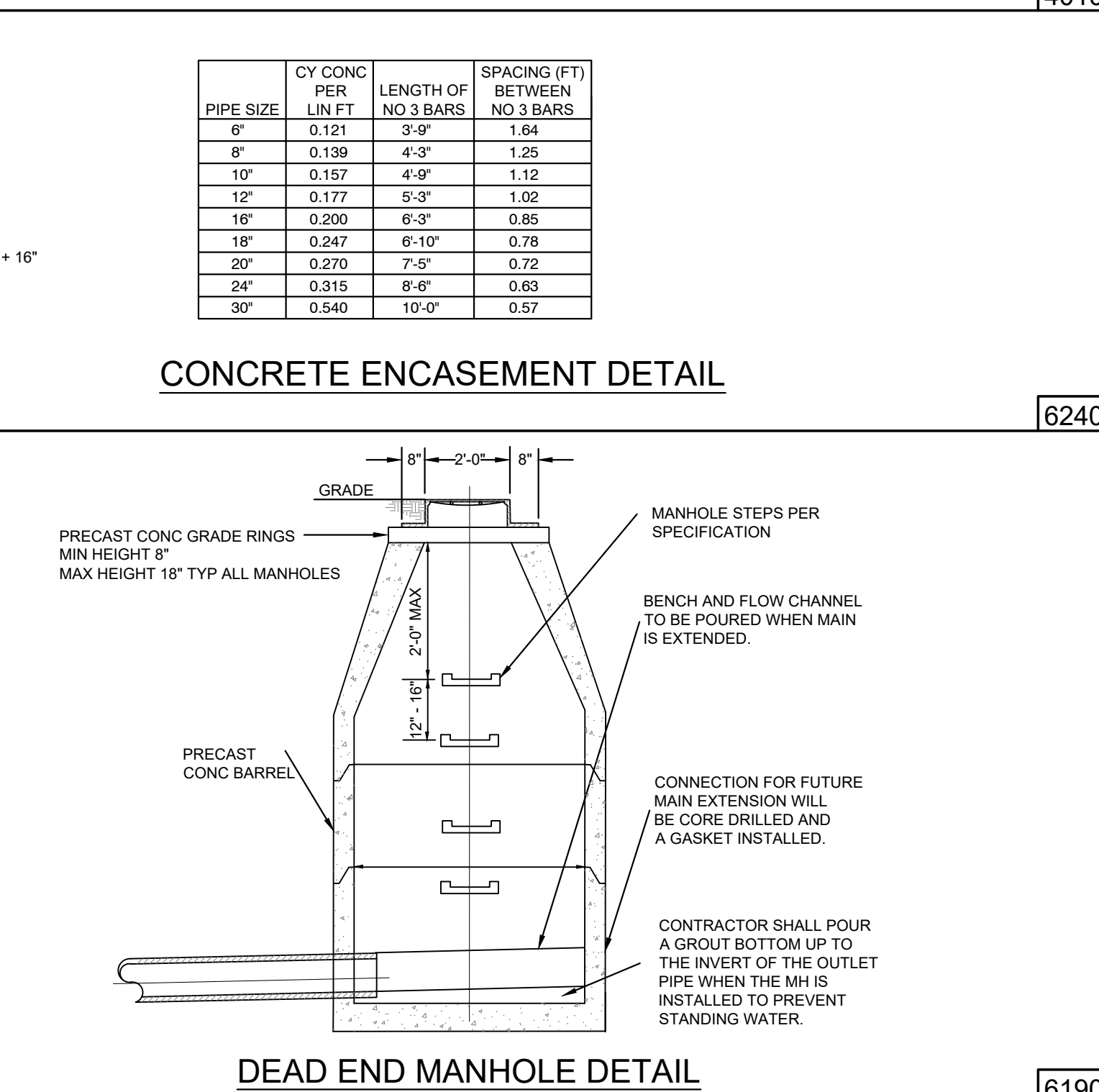
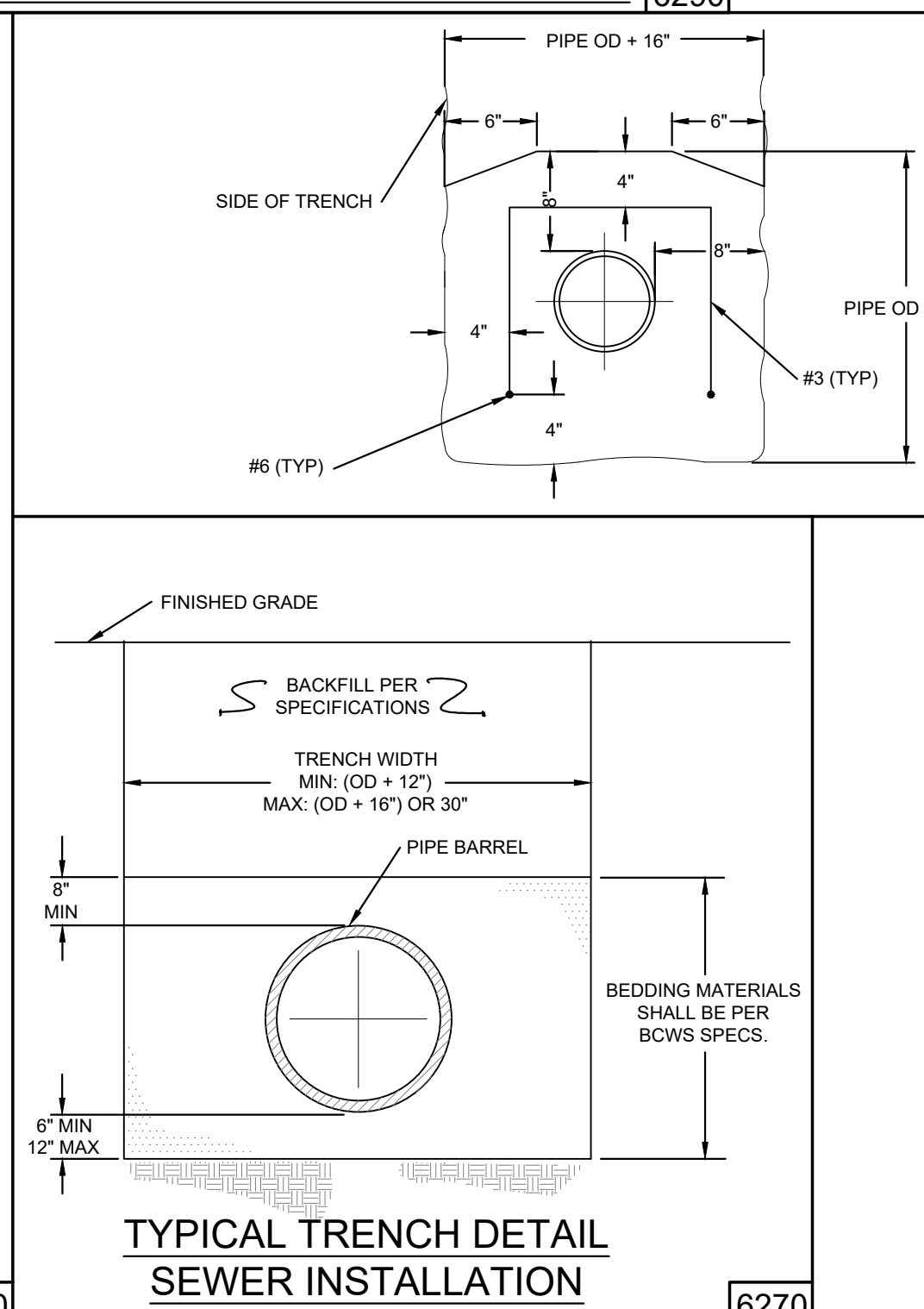
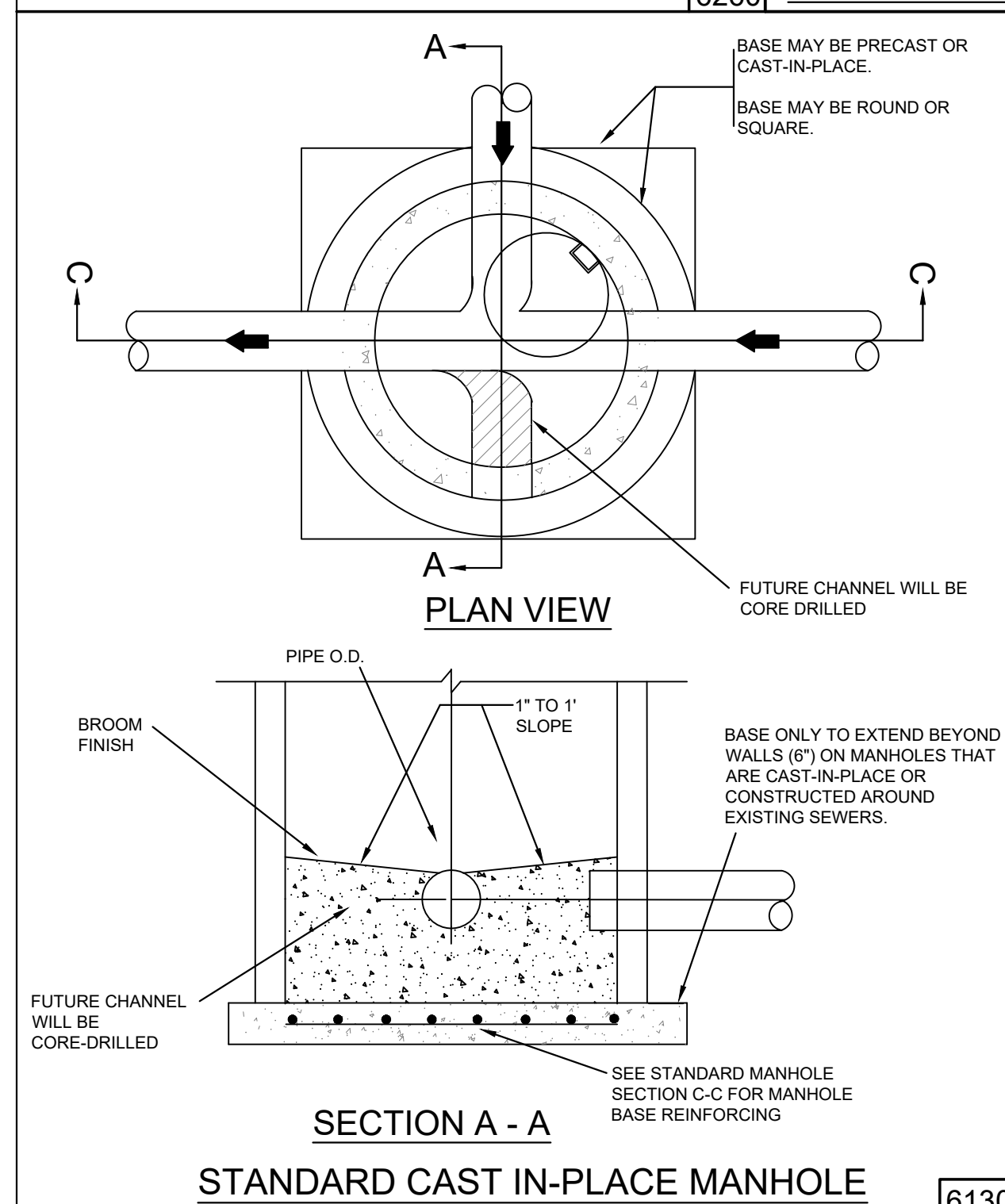
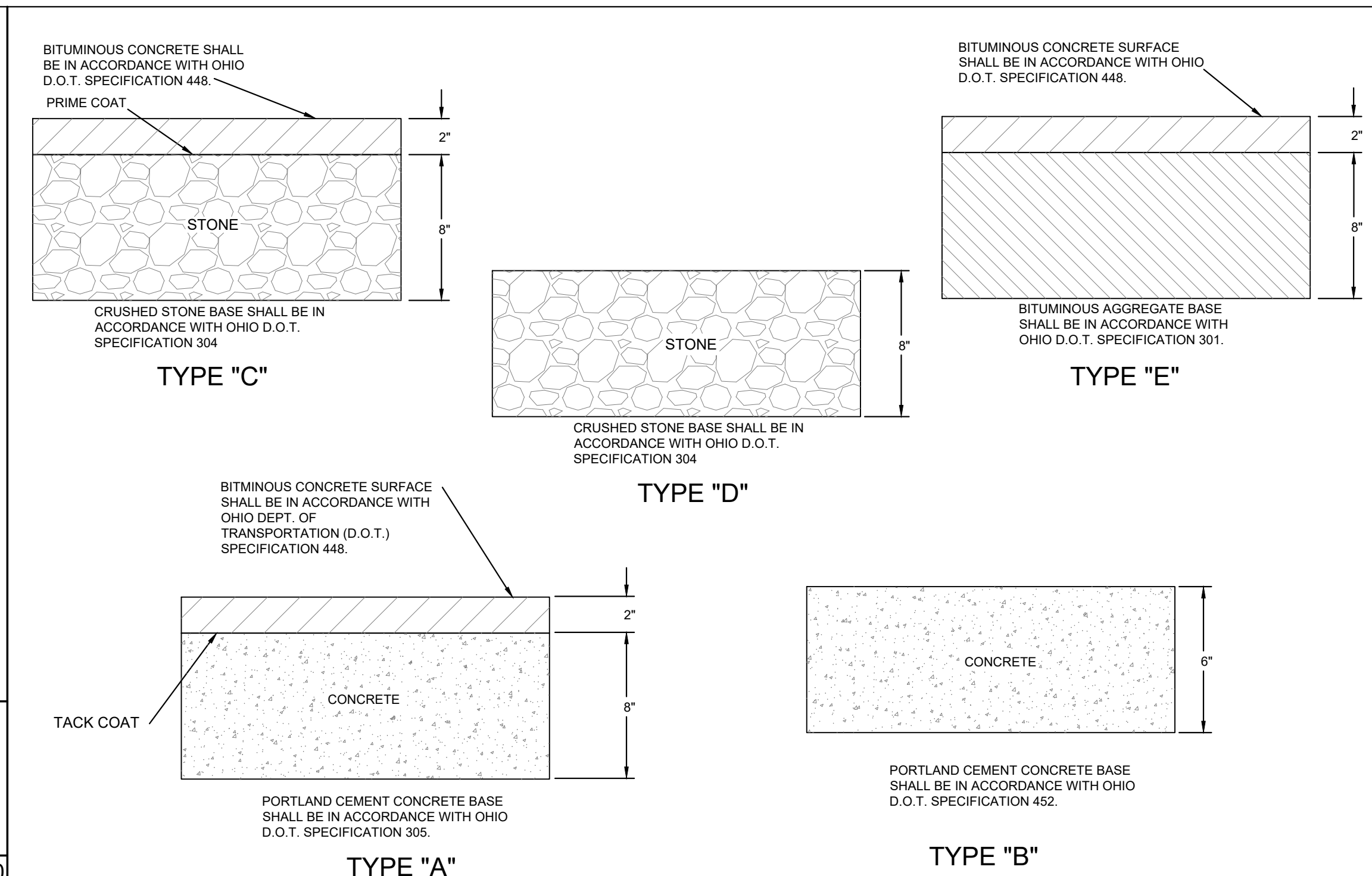
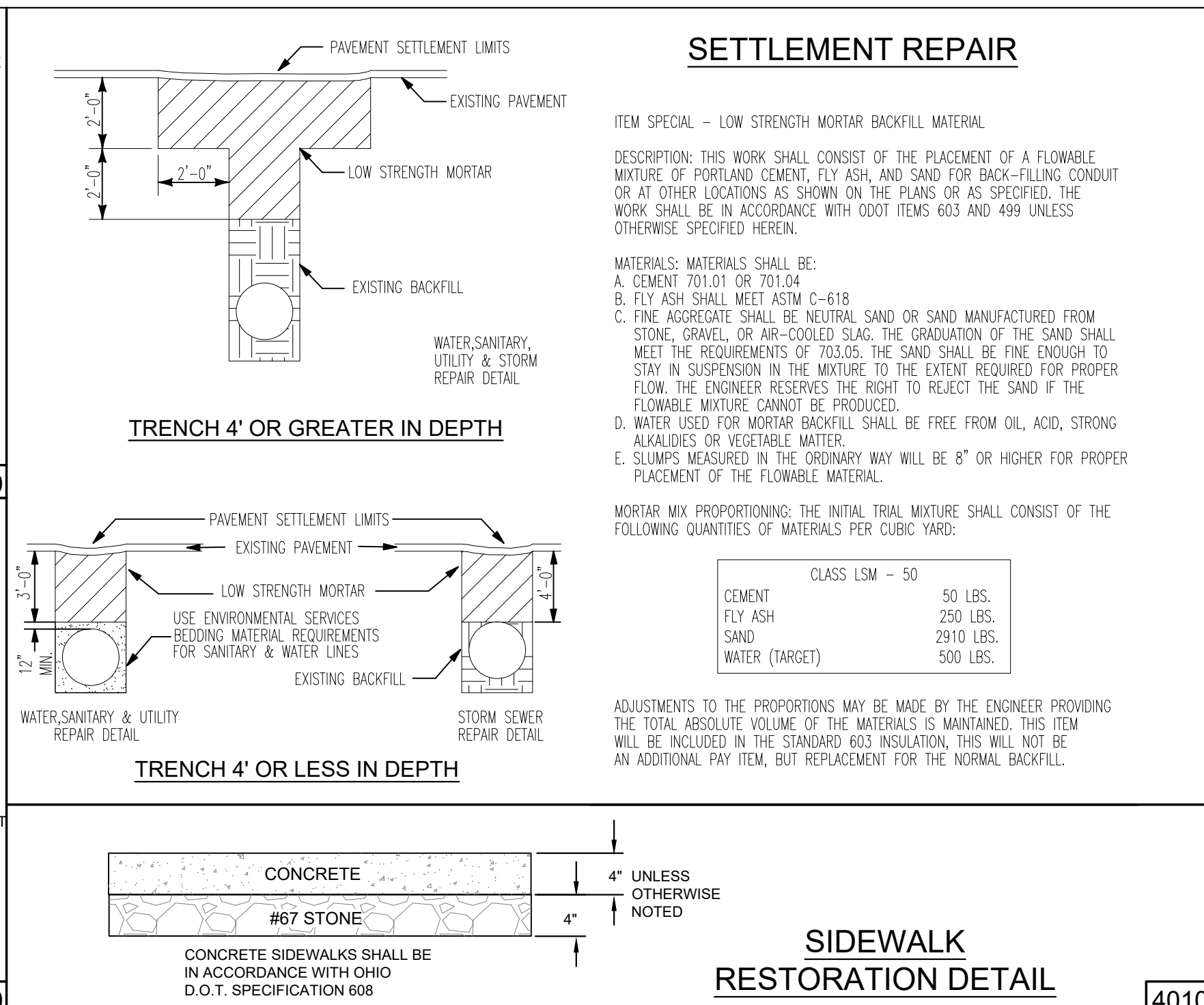
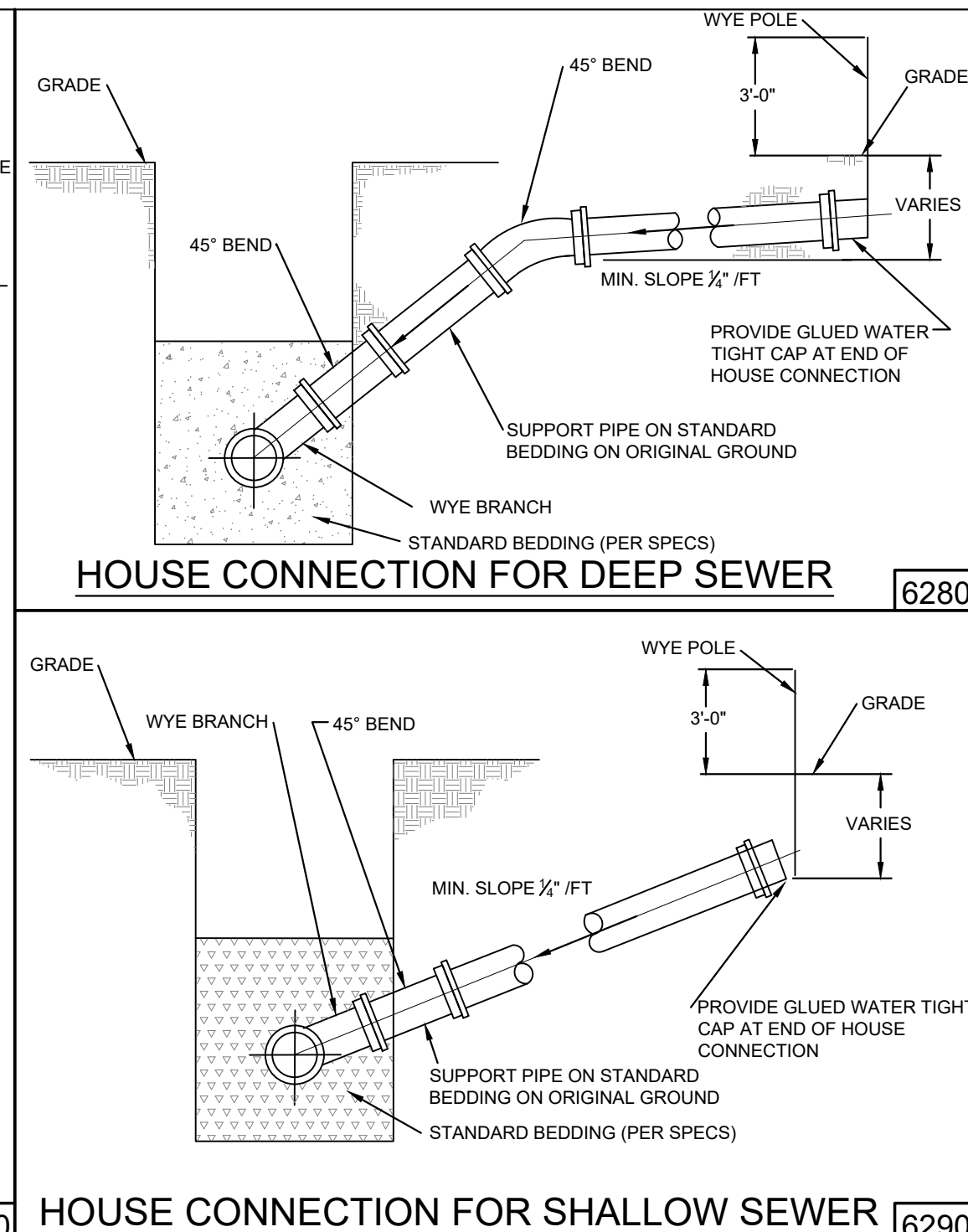
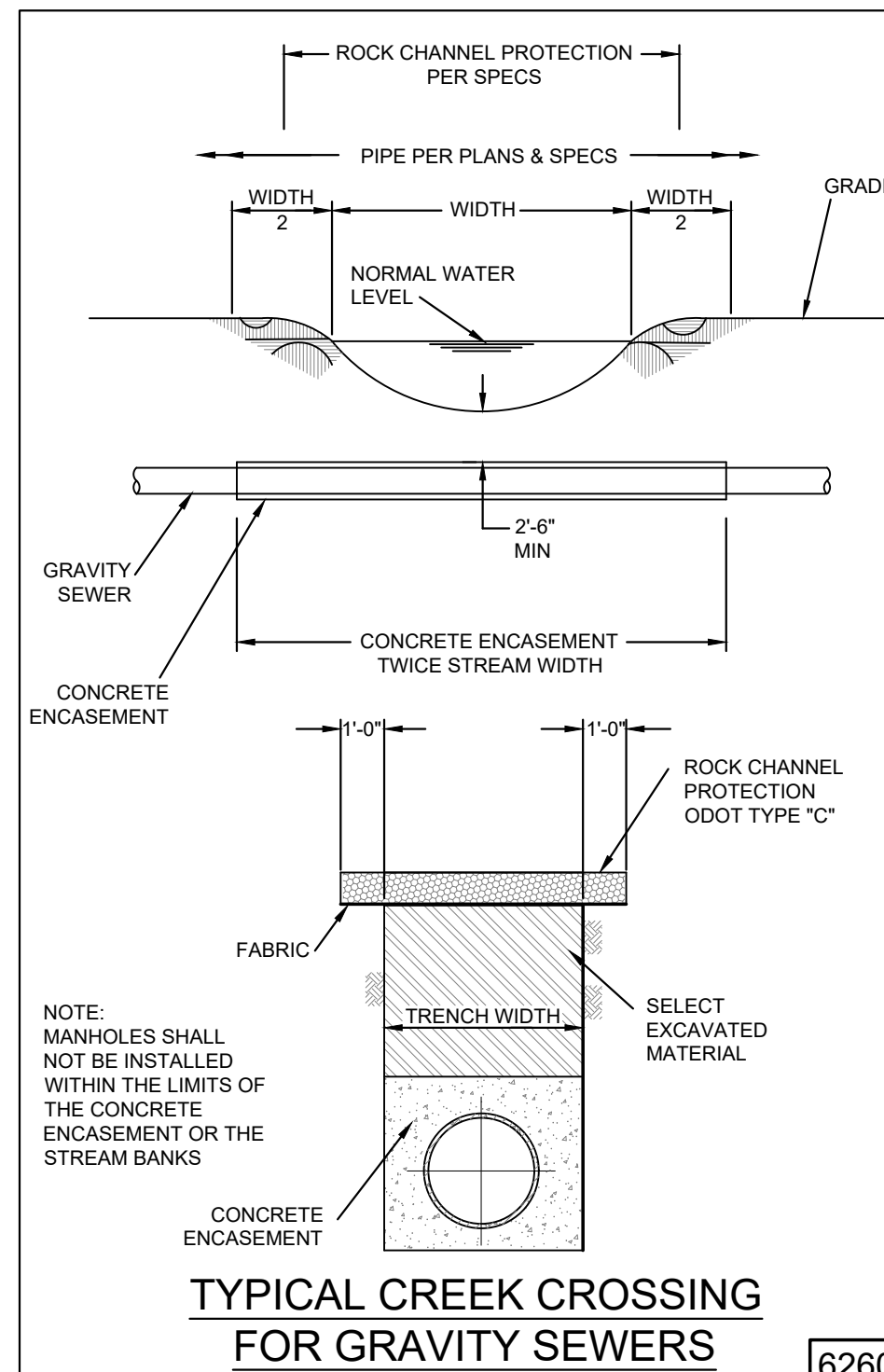
Drawn by: TAC

Checked By: XXX

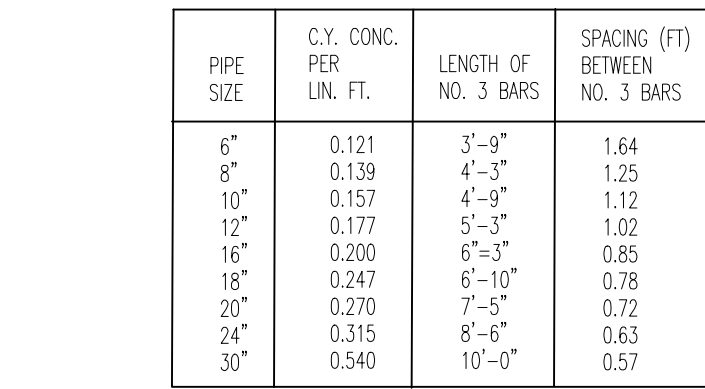
Issue Date: 7-27-21

Sheet: 6/10

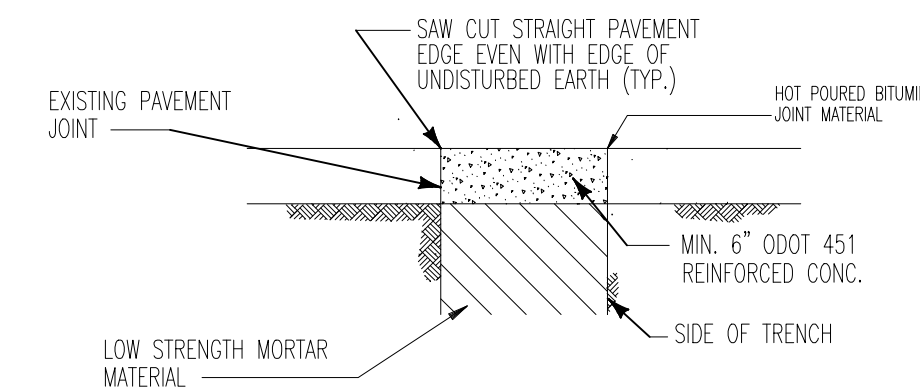








## CONCRETE ENCASEMENT



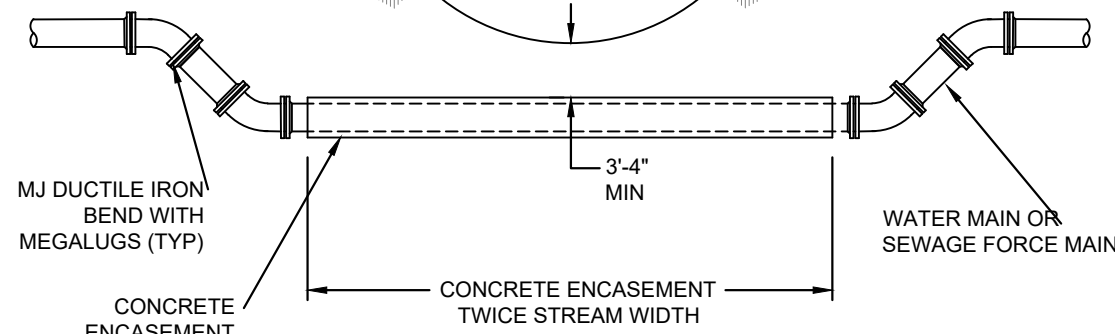
CONCRETE ROADWAY

## PAVEMENT REPLACEMENT DETAILS

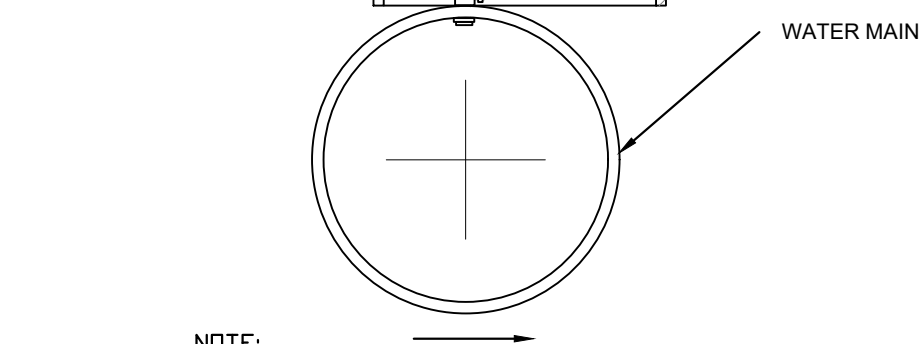


DEAD END DETAIL  
WITH TEMPORARY FIRE HYDRANT

NOTE:  
FOR WATER MAINS ONLY:  
MODIFICATIONS FROM THIS DETAIL  
MAY BE NECESSARY IF WATER WIDTH  
IS GREATER THAN 15'-0" (SEE SPECS)



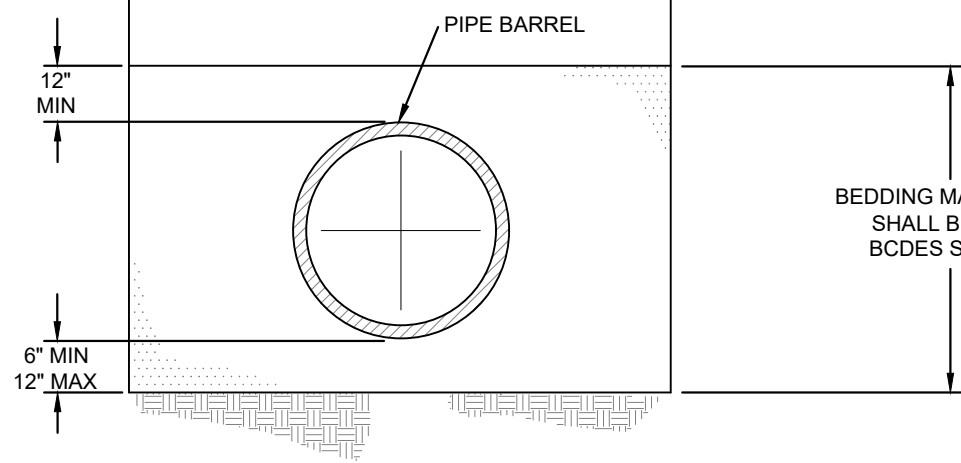
TYPICAL CREEK CROSSING &  
TRENCH DETAIL FOR WATER &  
SEWER FORCE MAINS



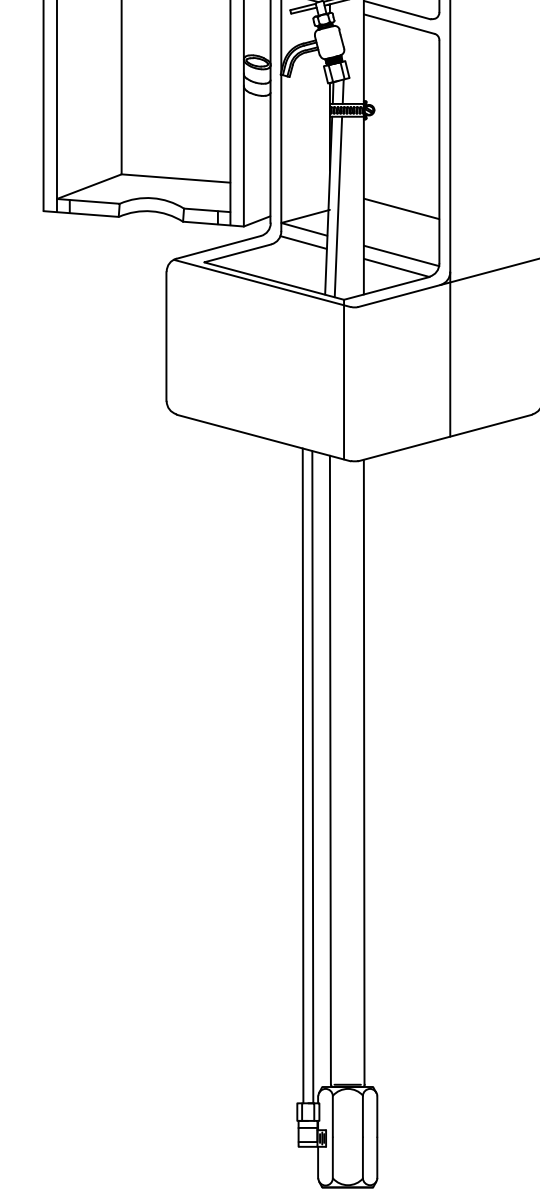
**NOTE:**

- 1) PIPE LESS THAN OR EQUAL TO 12"Ø  
MUST USE 3/4" CORP. STOP, ANGLE BALL VALVE  
AND SERVICE PIPE.
- 2) PIPE GREATER THAN 12"Ø TO USE  
1" CORP. STOP, ANGLE BALL VALVE  
AND SERVICE PIPE.

### AIR RELEASE VALVE DETAIL

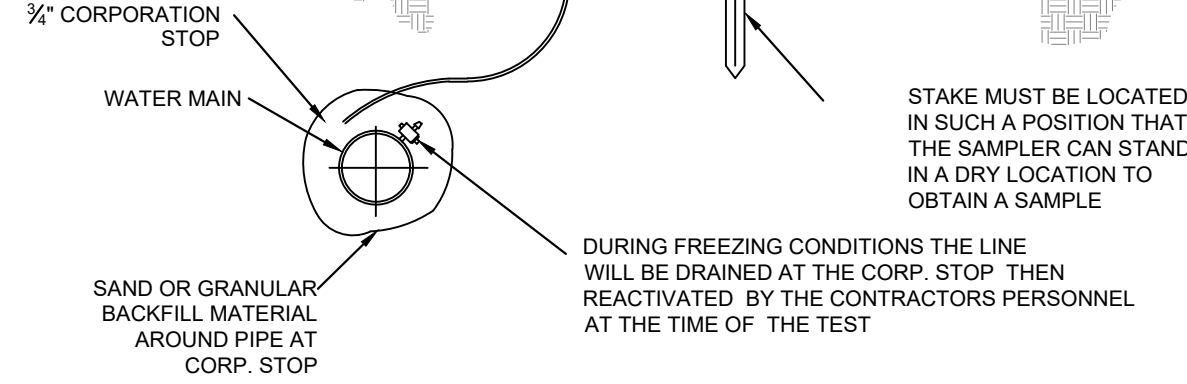


TYPICAL TRENCH DETAIL  
WATER MAIN INSTALLATION



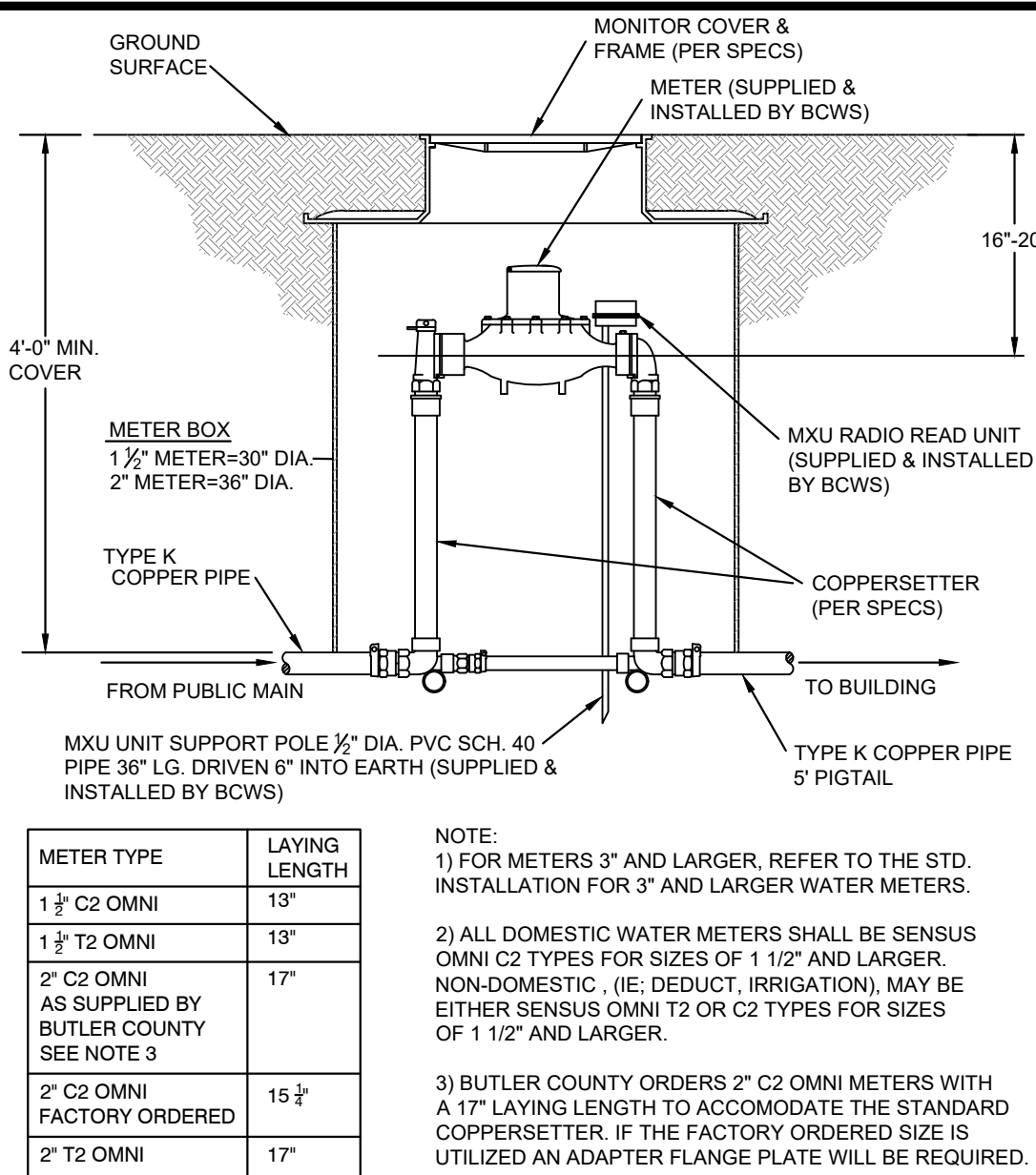
NOTE:  
SAMPLING STATIONS SHALL BE  
INSTALLED PER BCWS SPECS.

## PERMANENT LAB SAMPLING STATION



DURING FREEZING CONDITIONS THE LINE  
WILL BE DRAINED AT THE CORP. STOP THEN  
REACTIVATED BY THE CONTRACTORS PERSONNEL

### TEMPORARY PURITY TEST STATION



METER TYPE	LAYING LENGTH
1 ½" C2 OMNI	13"
1 ½" T2 OMNI	13"
2" C2 OMNI AS SUPPLIED BY BUTLER COUNTY SEE NOTE 3	17"
2" C2 OMNI FACTORY ORDERED	15 ½"
2" T2 OMNI	17"

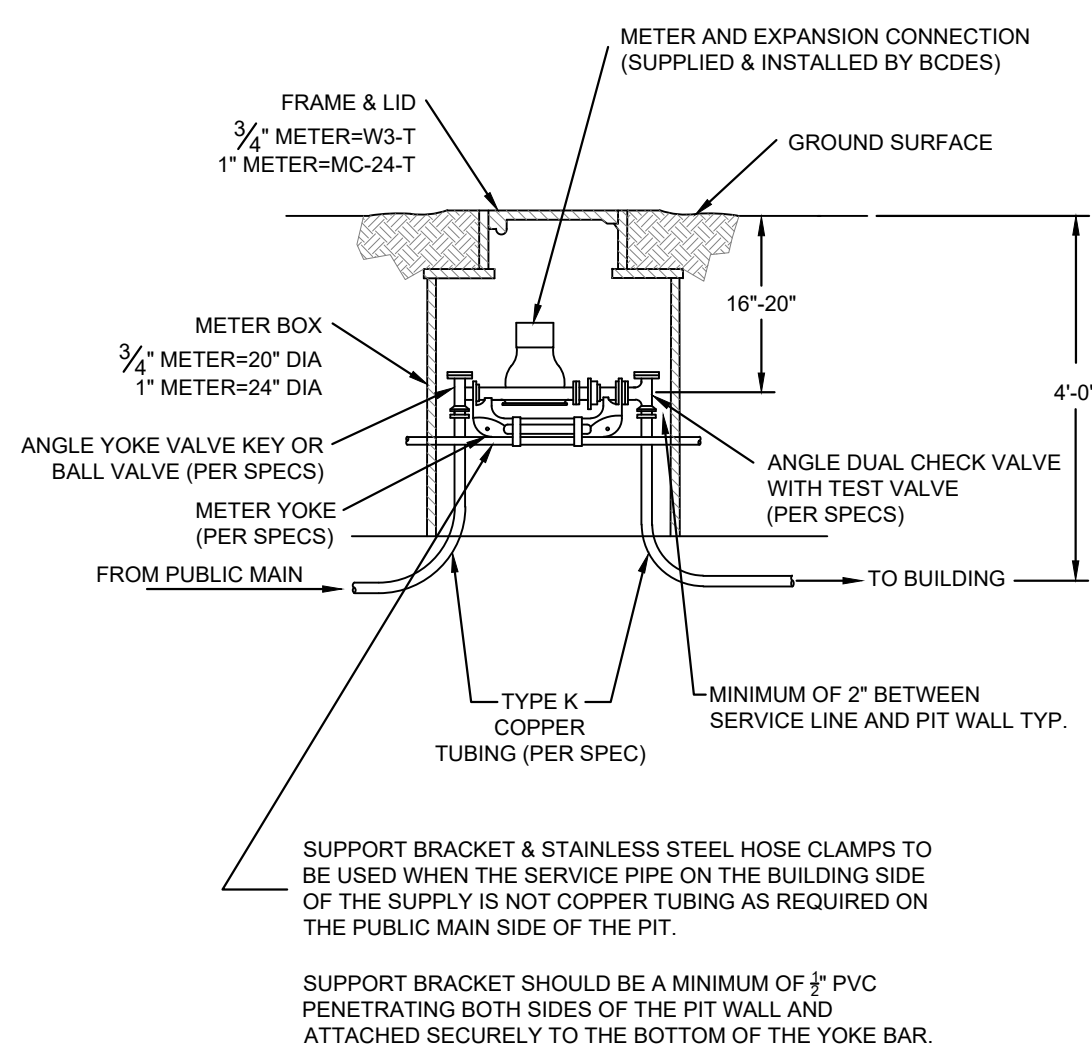
NOTE:

1) FOR METERS 3" AND LARGER, REFER TO THE STD. INSTALLATION FOR 3" AND LARGER WATER METERS.

2) ALL DOMESTIC WATER METERS SHALL BE SENSUS OMNI C2 TYPES FOR SIZES OF 1 1/2" AND LARGER. NON-DOMESTIC, (IE. DEDUCT, IRRIGATION), MAY BE EITHER SENSUS OMNI T2 OR C2 TYPES FOR SIZES OF 1 1/2" AND LARGER.

3) BUTLER COUNTY ORDERS 2" C2 OMNI METERS WITH A 17" LAYING LENGTH TO ACCOMMODATE THE STANDARD COPPERSSETTER. IF THE FACTORY ORDERED SIZE IS UTILIZED AN ADAPTER FLANGE PLATE WILL BE REQUIRED

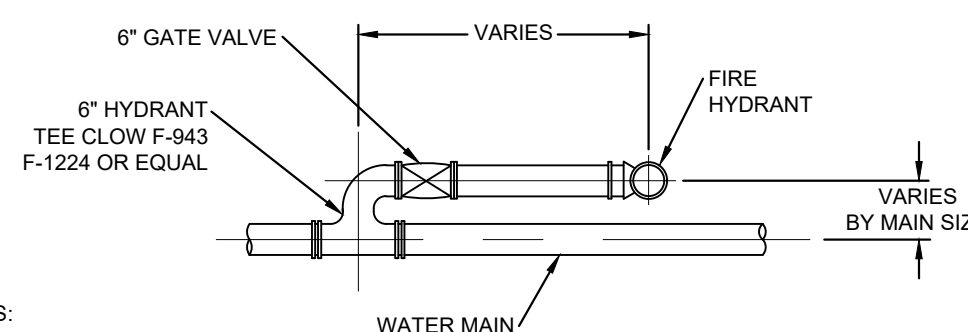
## STANDARD INSTALLATION FOR 1-1/2" & 2" WATER METER SETTINGS



SUPPORT BRACKET & STAINLESS STEEL HOSE CLAMPS TO BE USED WHEN THE SERVICE PIPE ON THE BUILDING SIDE OF THE SUPPLY IS NOT COPPER TUBING AS REQUIRED ON THE PUBLIC MAIN SIDE OF THE PIT.

SUPPORT BRACKET SHOULD BE A MINIMUM OF  $\frac{1}{2}$ " PVC PENETRATING BOTH SIDES OF THE PIT WALL AND ATTACHED SECURELY TO THE BOTTOM OF THE YOKE BAR.

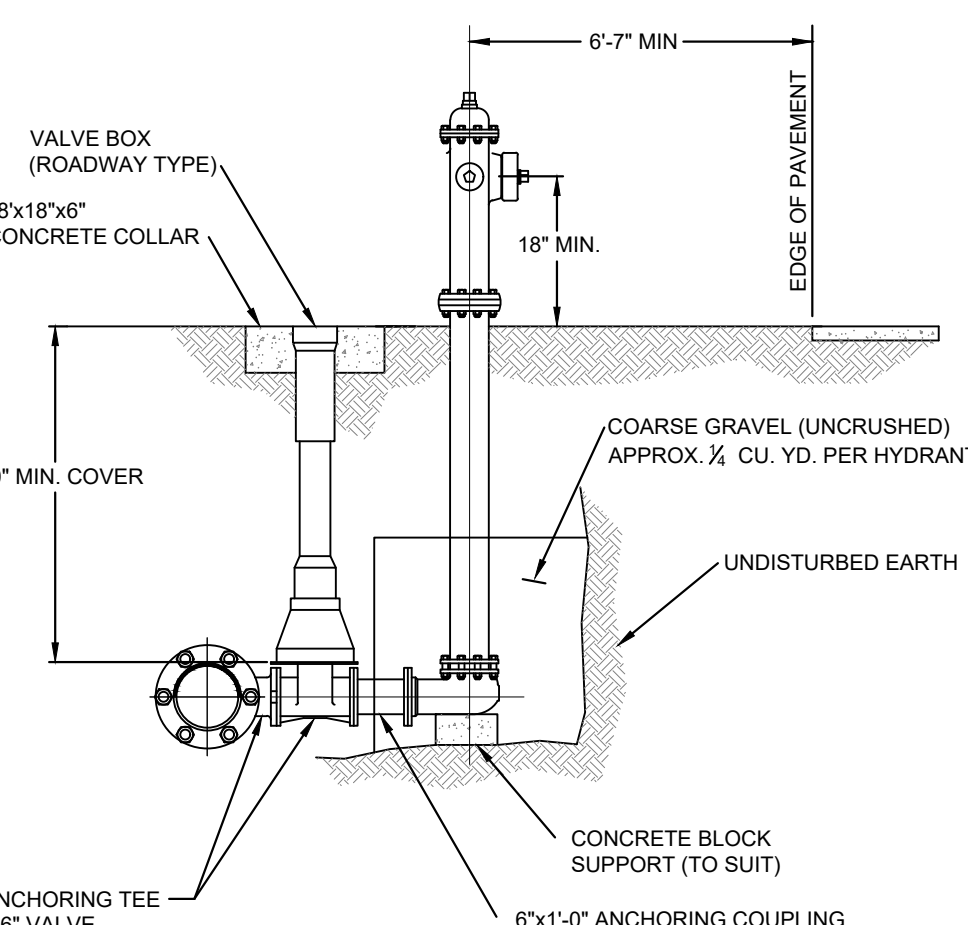
## STANDARD INSTALLATION FOR 3/4" AND 1" WATER METER SETTINGS



## NOTES

- 1.) FITTINGS TO BE MECHANICAL  
JOINT HYDRANT ANCHOR FITTINGS
- 2.) SEE TYPICAL FIRE HYDRANT  
INSTALLATION DETAIL FOR  
ADDITIONAL DETAILS (#5110)

### SETTING FOR HYDRANT ADJACENT TO MAIN



## NOTES

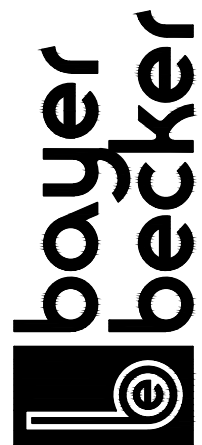
- 1.) VERIFY LOCATION OF F.H. RELATIVE TO WATER MAIN ON PLANS.
- 2.) CHECK STREET DETAILS FOR RELATIONSHIP BETWEEN MAIN, STREET AND F.H.

## TYPICAL FIRE HYDRANT INSTALLATION

[illegible]

**BUTLER COUNTY, OHIO**

## WATER DETAILS



**www.bayerbecker.com**  
**6900 Tylersville Road Suite A**  
**Mason, Ohio 45040 - 513.336.6600**

Drawing: BC WAT

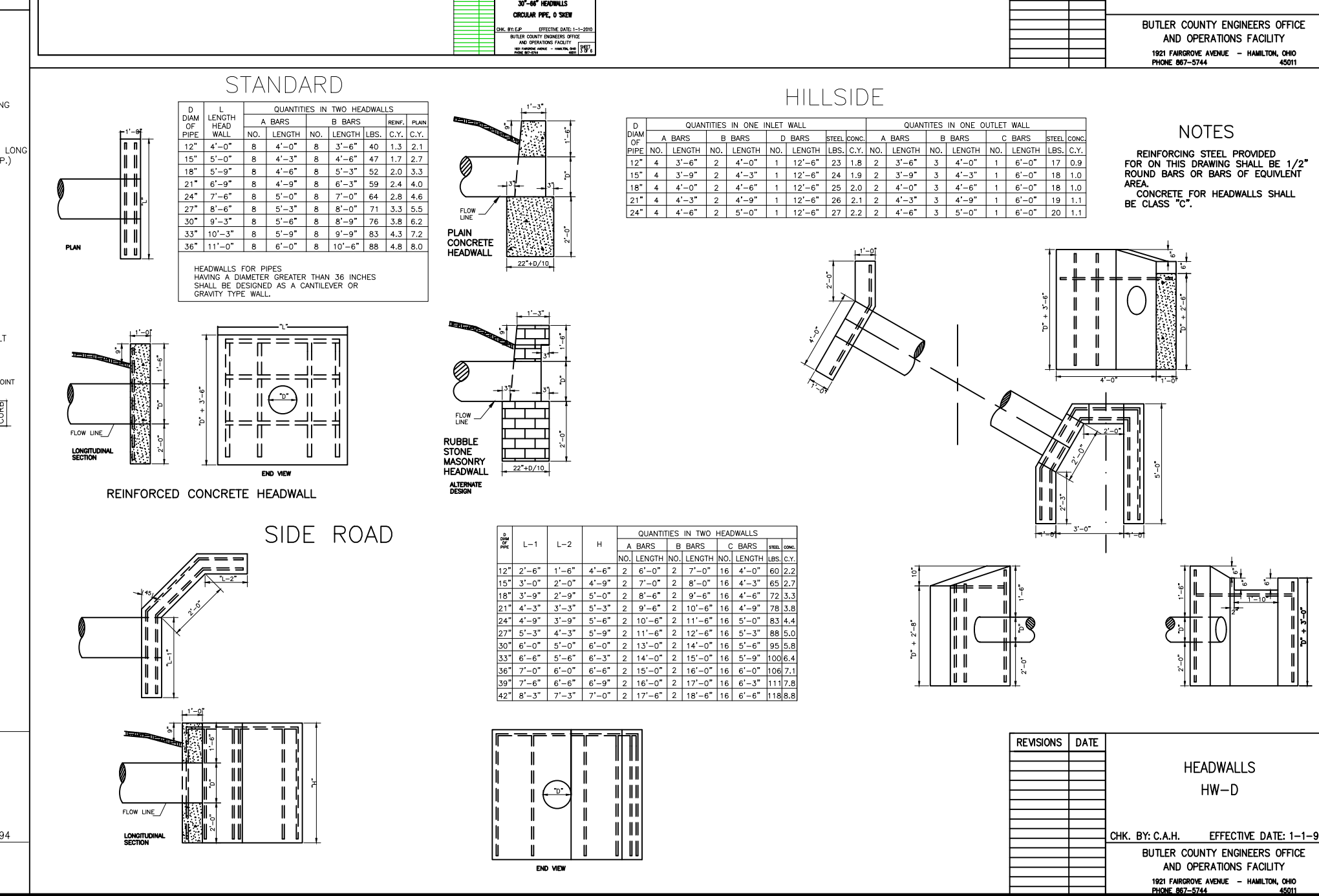
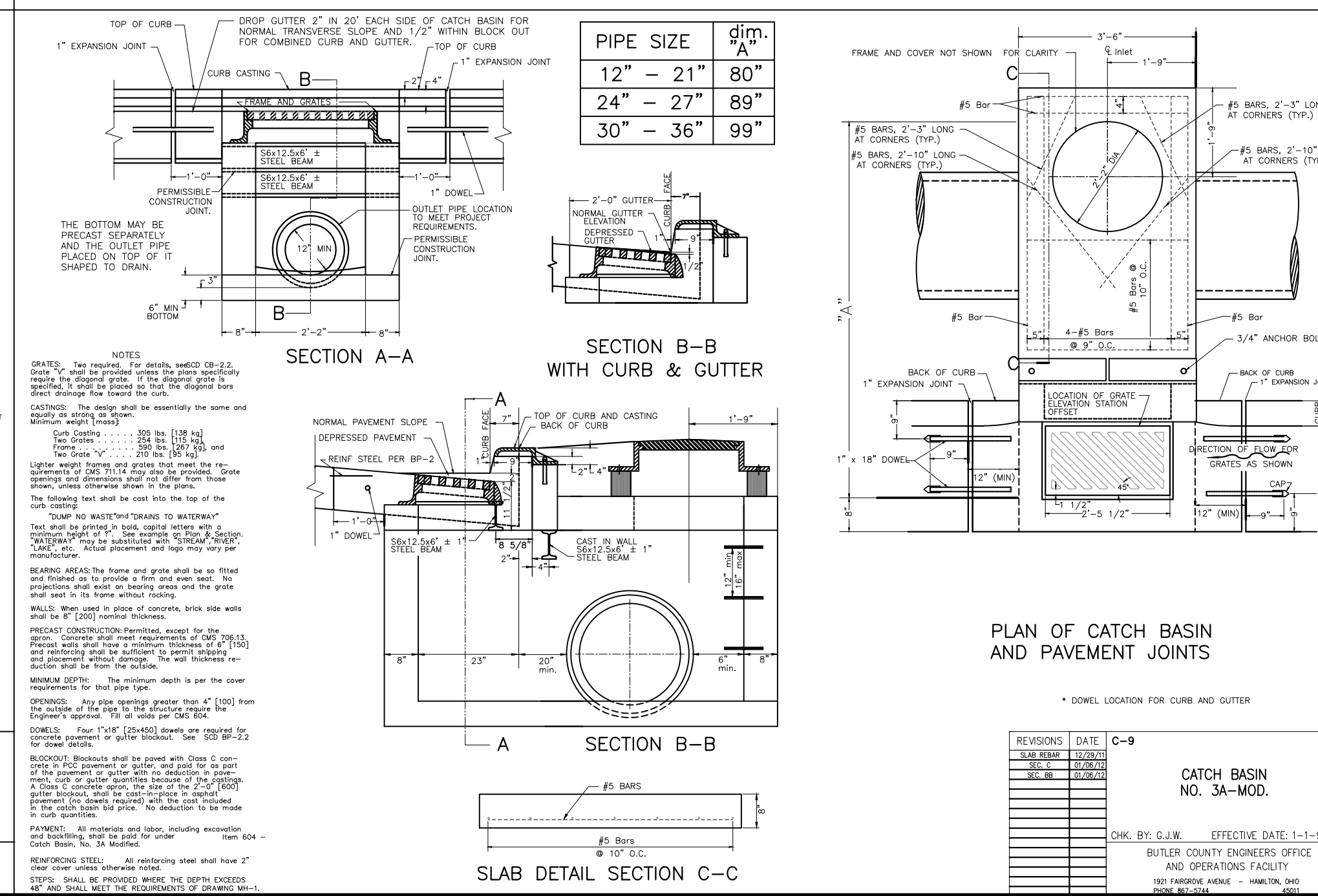
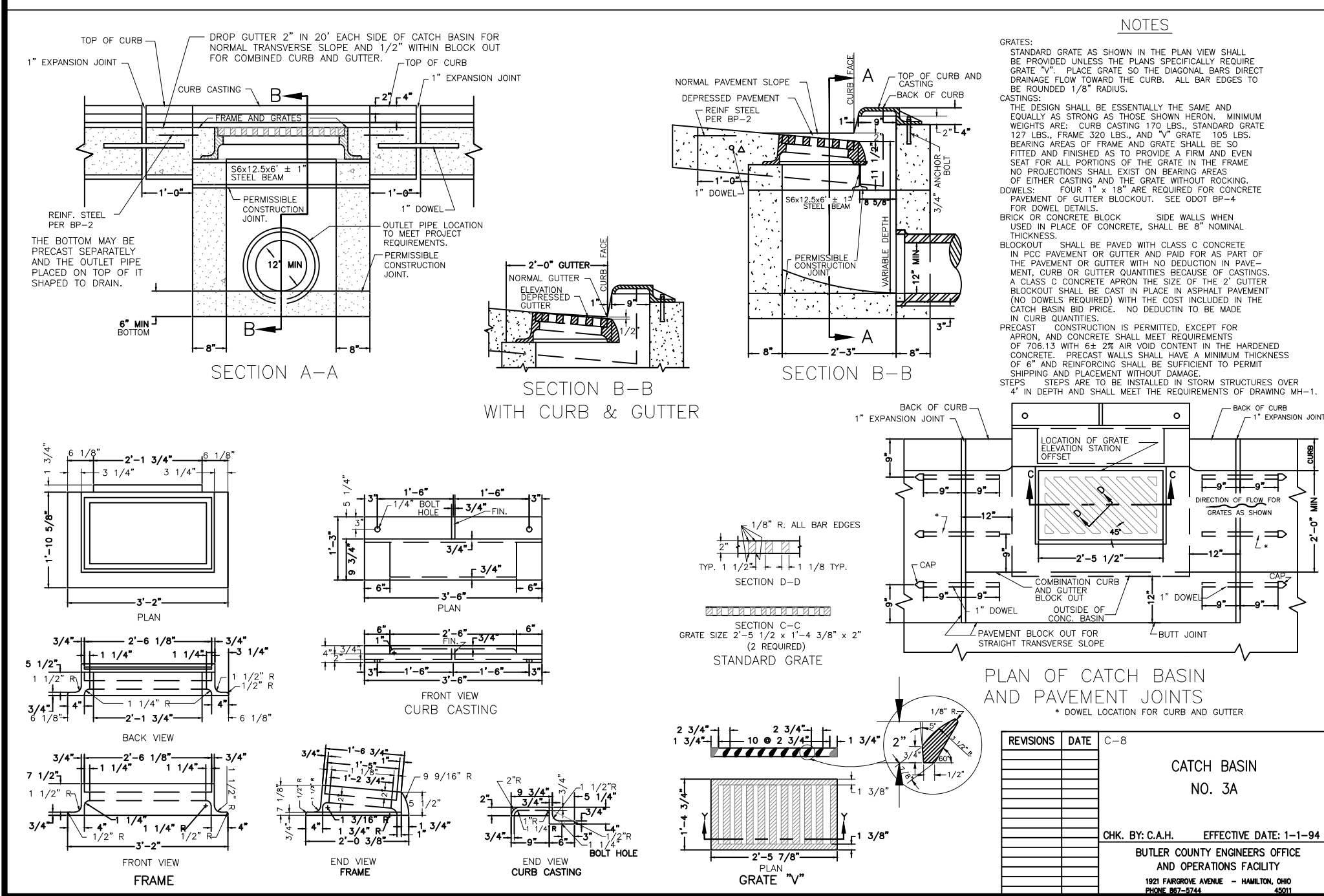
Checked By: \_\_\_\_\_

Issue Date: 2019

Sheet:

**8/10**





L2	5	2	1	3	4	6	7	8	10
L3	5	2	1	3	4	6	7	8	10
L4	5	2	1	3	4	6	7	8	10
L5	5	2	1	3	4	6	7	8	10
L6	5	2	1	3	4	6	7	8	10
L7	5	2	1	3	4	6	7	8	10
L8	5	2	1	3	4	6	7	8	10
L9	5	2	1	3	4	6	7	8	10
L10	5	2	1	3	4	6	7	8	10
L11	5	2	1	3	4	6	7	8	10
L12	5	2	1	3	4	6	7	8	10
L13	5	2	1	3	4	6	7	8	10
L14	5	2	1	3	4	6	7	8	10
L15	5	2	1	3	4	6	7	8	10
L16	5	2	1	3	4	6	7	8	10
L17	5	2	1	3	4	6	7	8	10
L18	5	2	1	3	4	6	7	8	10
L19	5	2	1	3	4	6	7	8	10
L20	5	2	1	3	4	6	7	8	10
L21	5	2	1	3	4	6	7	8	10
L22	5	2	1	3	4	6	7	8	10
L23	5	2	1	3	4	6	7	8	10
L24	5	2	1	3	4	6	7	8	10
L25	5	2	1	3	4	6	7	8	10
L26	5	2	1	3	4	6	7	8	10
L27	5	2	1	3	4	6	7	8	10
L28	5	2	1	3	4	6	7	8	10
L29	5	2	1	3	4	6	7	8	10
L30	5	2	1	3	4	6	7	8	10
L31	5	2	1	3	4	6	7	8	10
L32	5	2	1	3	4	6	7	8	10
L33	5	2	1	3	4	6	7	8	10
L34	5	2	1	3	4	6	7	8	10
L35	5	2	1	3	4	6	7	8	10
L36	5	2	1	3	4	6	7	8	10
L37	5	2	1	3	4	6	7	8	10
L38	5	2	1	3	4	6	7	8	10
L39	5	2	1	3	4	6	7	8	10
L40	5	2	1	3	4	6	7	8	10
L41	5	2	1	3	4	6	7	8	10
L42	5	2	1	3	4	6	7	8	10
L43	5	2	1	3	4	6	7	8	10
L44	5	2	1	3	4	6	7	8	10
L45	5	2	1	3	4	6	7	8	10
L46	5	2	1	3	4	6	7	8	10
L47	5	2	1	3	4	6	7	8	10
L48	5	2	1	3	4	6	7	8	10
L49	5	2	1	3	4	6	7	8	10
L50	5	2	1	3	4	6	7	8	10
L51	5	2	1	3	4	6	7	8	10
L52	5	2	1	3	4	6	7	8	10
L53	5	2	1	3	4	6	7	8	10
L54	5	2	1	3	4	6	7	8	10
L55	5	2	1	3	4	6	7	8	10
L56	5	2	1	3	4	6	7	8	10
L57	5	2	1	3	4	6	7	8	10
L58	5	2	1	3	4	6	7	8	10
L59	5	2	1	3	4	6	7	8	10
L60	5	2	1	3	4	6	7	8	10
L61	5	2	1	3	4	6	7	8	10
L62	5	2	1	3	4	6	7	8	10

**NOTES**

① NUMBER OF BARS IN ONE HEAVY RAIL

2 DIMENSIONS ARE 0.5 TO 0.6 OF BARS

3 ALL BARS ARE STRAIGHT EXCEPT THOSE SHOWN BELOW

**REIN BAR SHAPES**

BARS ①

BARS ②

BARS ③

BARS ④ AND ⑤

**NOTES**

REINFORCING STEEL PROVIDED  
ON ALL COUNTERSHIPS SHALL BE 3/8"  $\phi$   
AND BARS OR BAYS OF EQUIVALENT  
CONCRETE FOR HEADWALLS SHALL  
CLASS "C".

HEADWALLS  
HW-D

BY: C.A.H. EFFECTIVE DATE: 1-1-8  
BUTLER COUNTY ENGINEERS OFFICE  
AND OPERATIONS FACILITY  
1001 FARMHOUSE AVENUE - HAMILTON, OHIO  
PHONE 442-2211



