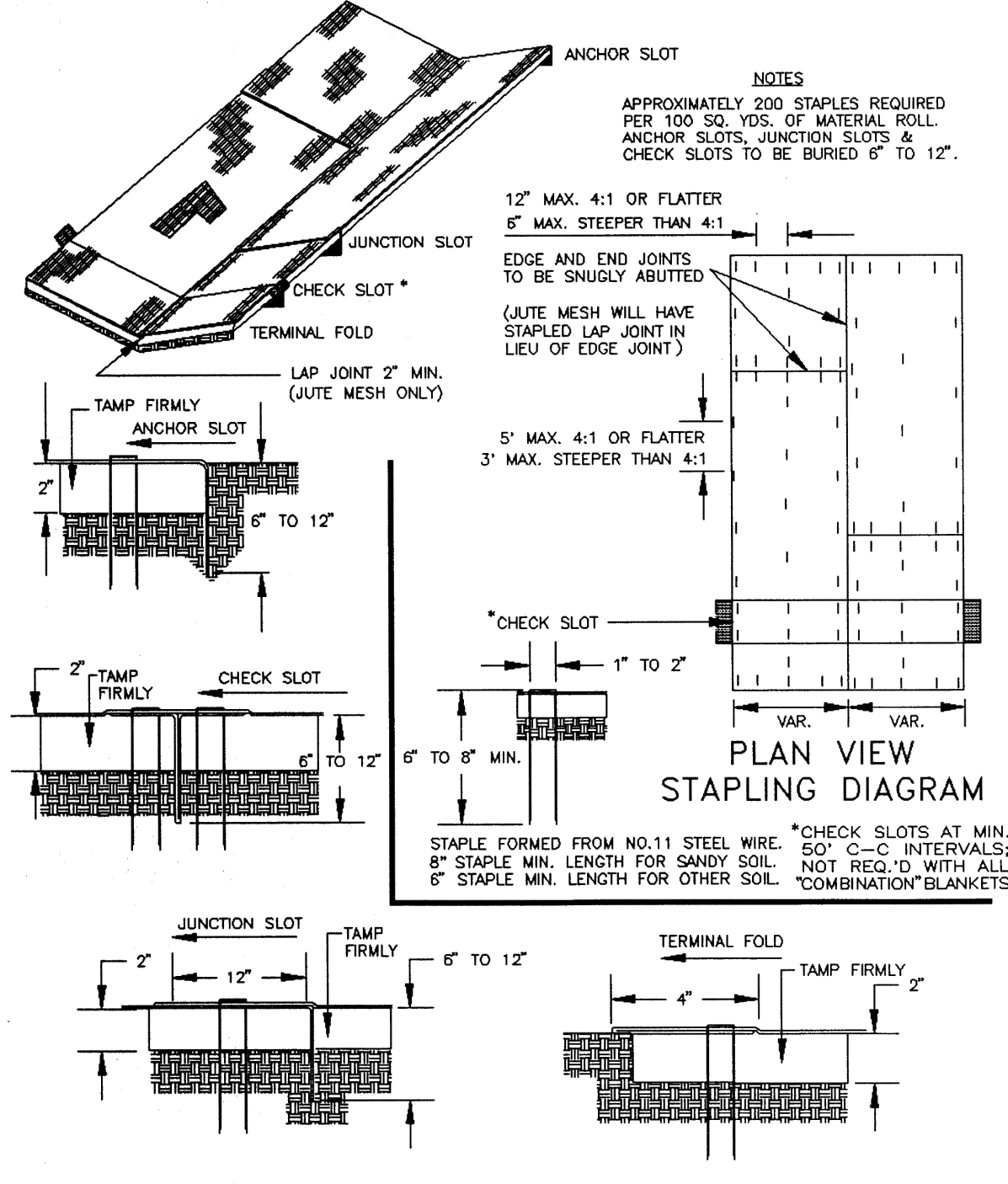


TYPICAL TREATMENT - 1 (SOIL STABILIZATION BLANKET) INSTALLATION CRITERIA

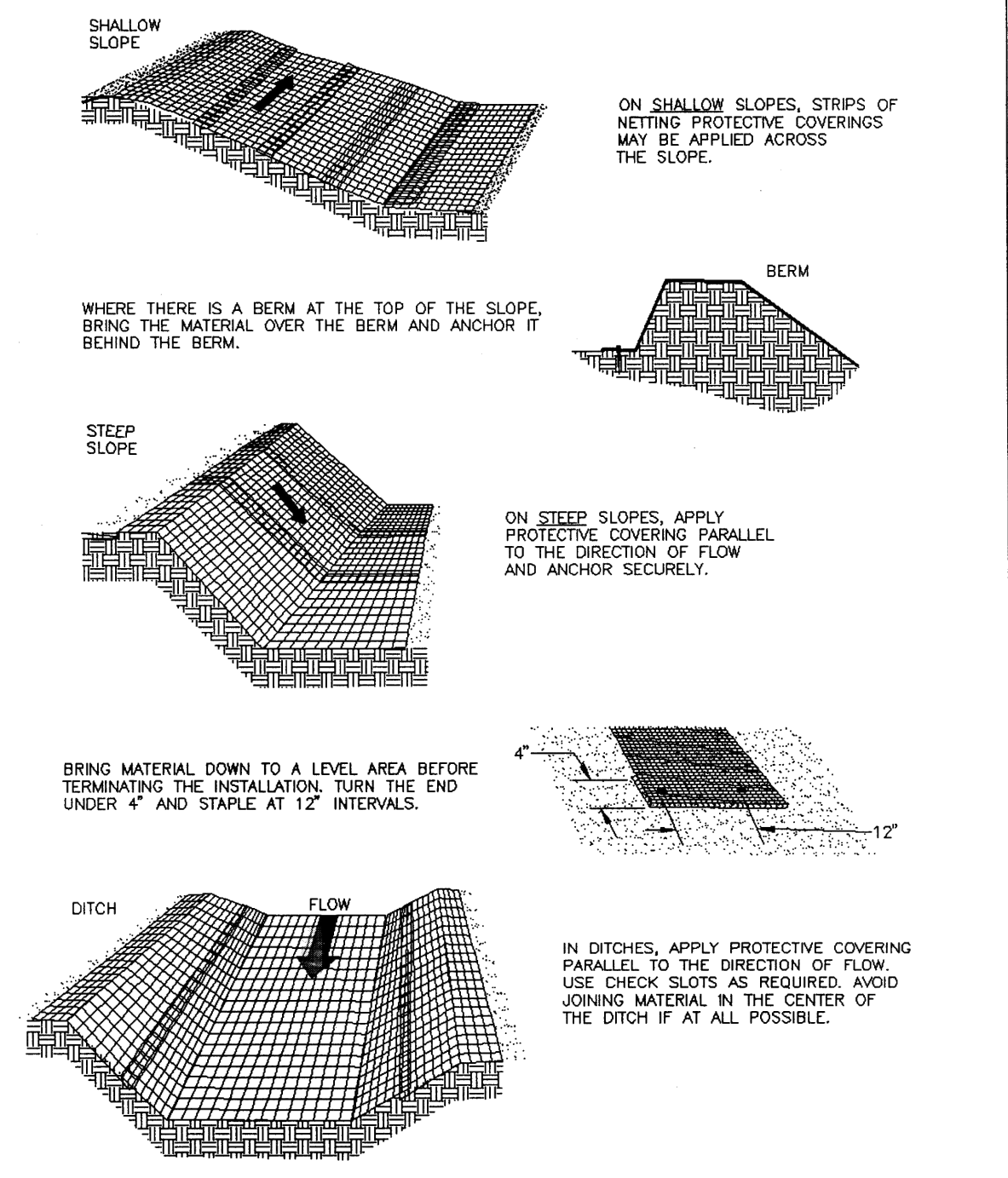


Source: VDOT Road and Bridge Standards

Plate 3.36-2

III - 362

TYPICAL ORIENTATION OF TREATMENT - 1 (SOIL STABILIZATION BLANKET)



Source: Adapted from Ludlow Products Brochure

Plate 3.36-1

III - 361

Baffles need to be installed correctly in order to fully provide their benefits. Refer to Figure 6.65b and the following key points:

- The baffle material needs to be secured at the bottom and sides using staples.
- Most of the sediment will accumulate in the first bay, so this should be readily accessible for maintenance.

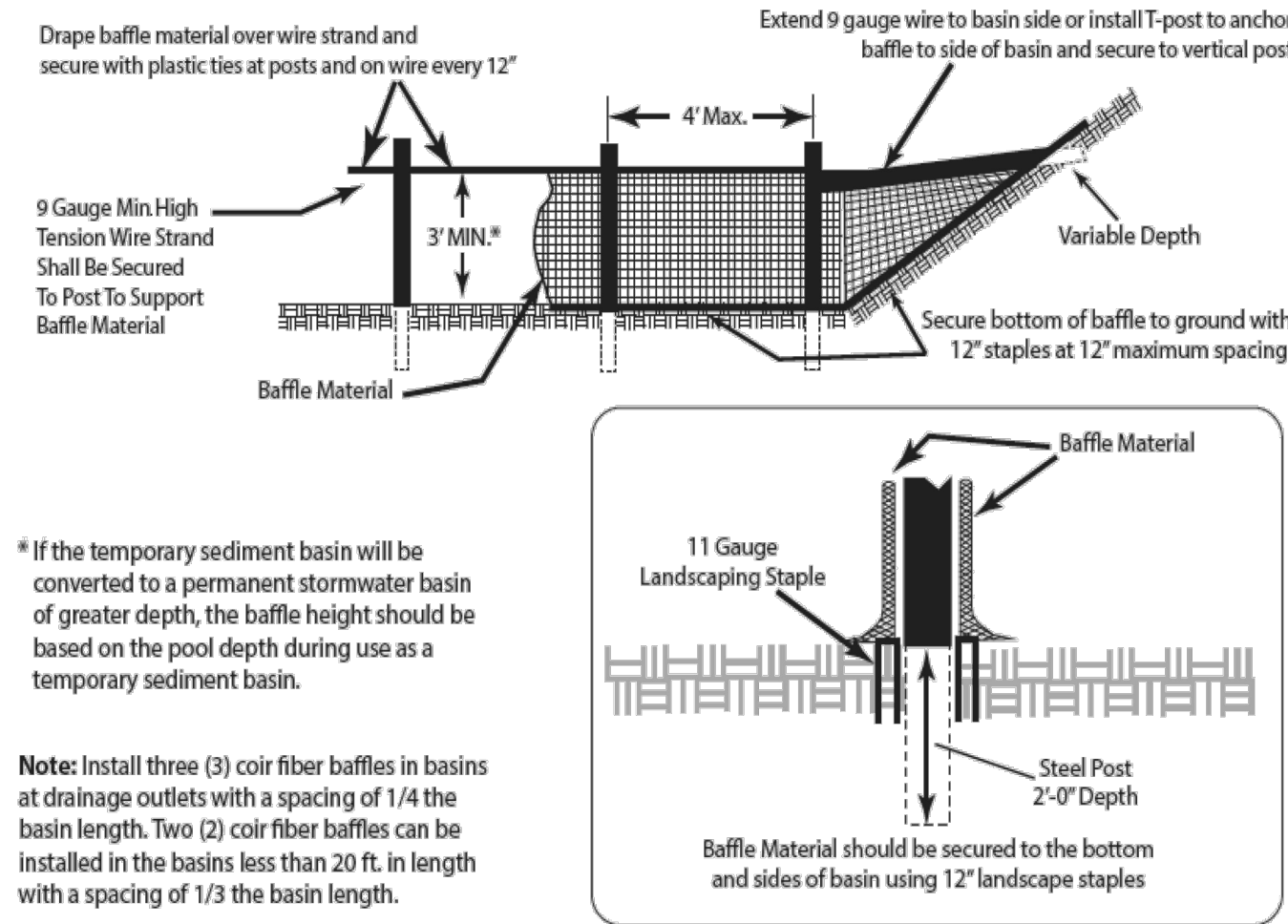


Figure 6.65b Coir Fiber Baffle Detail
Cross section of a porous baffle in a sediment basin.

POROUS BAFFLE DETAIL NOT TO SCALE

Rev. 5/13

6.65.3

POROUS BAFFLE SPECIFICATIONS

NOT TO SCALE

SEDIMENT TRAP POROUS BAFFLE TO BE INSTALLED PER STANDARDS AND SPECIFICATIONS WITHIN NCDOT EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL SECTION 6.65.

Practice Standards and Specifications

Construction Specifications

MATERIALS

1. Use matting made of 100% coconut fiber (coir) twine woven into high strength matrix with the properties shown in Table 6.65a.
2. Staples should be made of 0.125 inch diameter new steel wire formed into a 'U' shape not less than 12 inches in length with a throat of 1 inch in width. The staples anchor the porous baffles into the sides and bottom of the basin.
3. Ensure that steel posts for porous baffles are of a sufficient height to support baffles at desired height. Posts should be approximately 1-3/8" wide measured parallel to the fence, and have a minimum weight of 1.25 lb/linear ft. The posts must be equipped with an anchor plate having a minimum area of 14.0 square inches and be of the self-fastener angle steel type to have a means of retaining wire and coir fiber mat in the desired position without displacement.
4. Use 9-gauge high tension wire for support wire.

Table 6.65a Specifications for Porous Baffle Material

Coir Fiber Baffle Material Property Requirements	
Thickness	0.30 in. minimum
Tensile Strength (Wet)	900 x 680 lb/ft minimum
Elongation (Wet)	69% x 34% maximum
Flow Velocity	10-12 ft/sec
Weight	20 oz/SY (680 g/m ²) minimum
Minimum Width	6.5 feet
Open Area	50% maximum

CONSTRUCTION

1. Grade the basin so that the bottom is level front to back and side to side.
2. Install the coir fiber baffles immediately upon excavation of the basins.
3. Install posts across the width of the sediment trap (Practice 6.62, Sediment Fence).
4. Steel posts should be driven to a depth of 24 inches and spaced a maximum of 4 feet apart. The top of the fabric should be a minimum of 6 inches higher than the invert of the spillway. Tops of baffles should be a minimum of 2 inches lower than the top of the earthen embankment.
5. Install at least three rows of baffles between the inlet and outlet discharge point. Basins less than 20 feet in length may use 2 baffles.
6. Attach a 9 gauge high tension wire strand to the steel posts at a height of 6 inches above the spillway elevation with plastic ties or wire fasteners to prevent sagging. If the temporary sediment basin will be converted to a permanent stormwater basin of a greater depth, the baffle height should be based on the pool depth during use as a temporary sediment basin.

Rev. 5/13

6.65.5

Practice Standards and Specifications

Construction Specifications

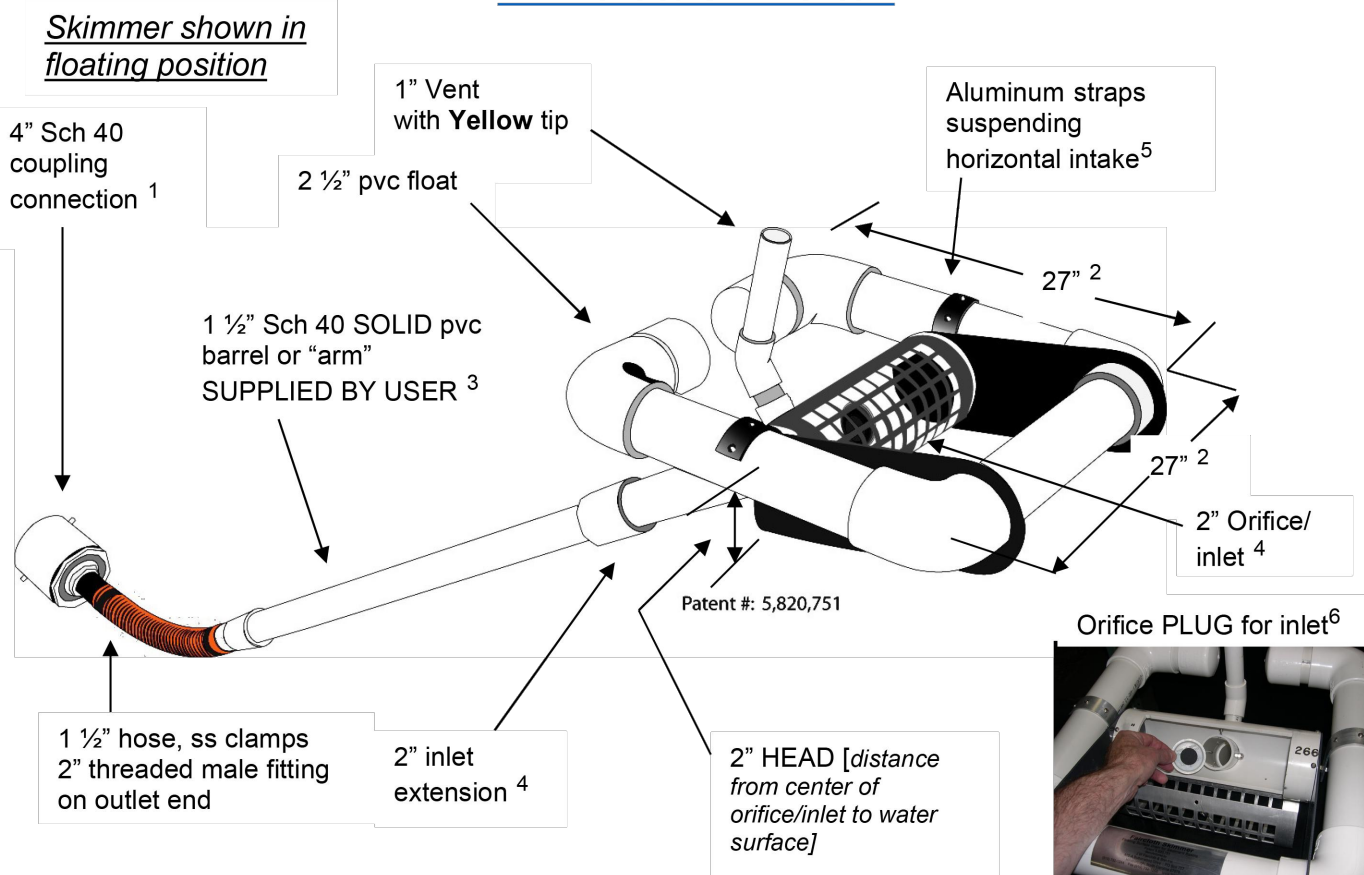
- Baffles- Provides a minimum of three porous baffles to evenly distribute flow across the basin and reduces turbulence. Basins less than 20 feet in length may use 2 baffles.
 - Inlets- Locate the sediment inlets to the basin the greatest distance from the principal spillway.
 - Dewatering- Allow the maximum reasonable detention period before the basin is completely dewatered-at least 48 hours.
 - Inflow rate- Reduce the inflow velocity and divert all sediment-free runoff.
1. Site preparations- Clear, grub, and strip topsoil from areas under the embankment to remove trees, vegetation, roots, and other objectionable material. Delay clearing the pool area until the dam is complete and then remove brush, trees, and other objectionable materials to facilitate sediment cleanout. Stockpile all topsoil or soil containing organic matter for use on the outer shell of the embankment to facilitate vegetative establishment. Place temporary sediment control measures below the basin as needed.
 2. Cut-off trench- Excavate a cut-off trench along the center line of the earth fill embankment. Cut the trench to stable soil material, but in no case make it less than 2 feet deep. The cut-off trench must extend into both abutments to at least the elevation of the riser crest. Make the minimum bottom width wide enough to permit operation of excavation and compaction equipment, but in no case less than 2 feet. Make side slopes of the trench no steeper than 1:1. Compaction requirements are the same as those for the embankment. Keep the trench dry during backfilling and compaction operations.
 3. Embankment- Take fill material from the approved areas shown on the plans. It should be clean mineral soil, free of roots, woody vegetation, rocks, and other objectionable material. Scarify areas on which fill is to be placed before placing fill. The fill material must contain sufficient moisture so it can be formed by hand into a ball without crumbling. If water can be squeezed out of the ball, it is too wet for proper compaction. Place fill material in 6 to 8 inch continuous layers over the entire length of the fill area and compact it. Compaction may be obtained by routing the construction hauling equipment over the fill so that the entire surface of each layer is traversed by at least one wheel or track of heavy equipment, or a compactor may be used. Construct the embankment at an elevation 10 percent higher than the design height to allow for settling.
 4. Conduit spillways- Securely attach the riser to the barrel or barrel stub to make a watertight structural connection. Secure all connections between barrel sections by approved watertight assemblies. Place the barrel and riser on a firm, smooth foundation of impervious soil. Do not use pervious material such as sand, gravel, or crushed stone as backfill around the pipe or anti-seep collars. Place the fill material around the pipe spillway in 4-inch layers, and compact it under and around the pipe to at least the same density as the adjacent embankment. Care must be taken not to raise the pipe from firm contact with its foundation when compacting under the pipe haunches.

Rev. 5/13

6.61.7

2" Faircloth Skimmer® Cut Sheet

J. W. Faircloth & Son, Inc.
www.FairclothSkimmer.com

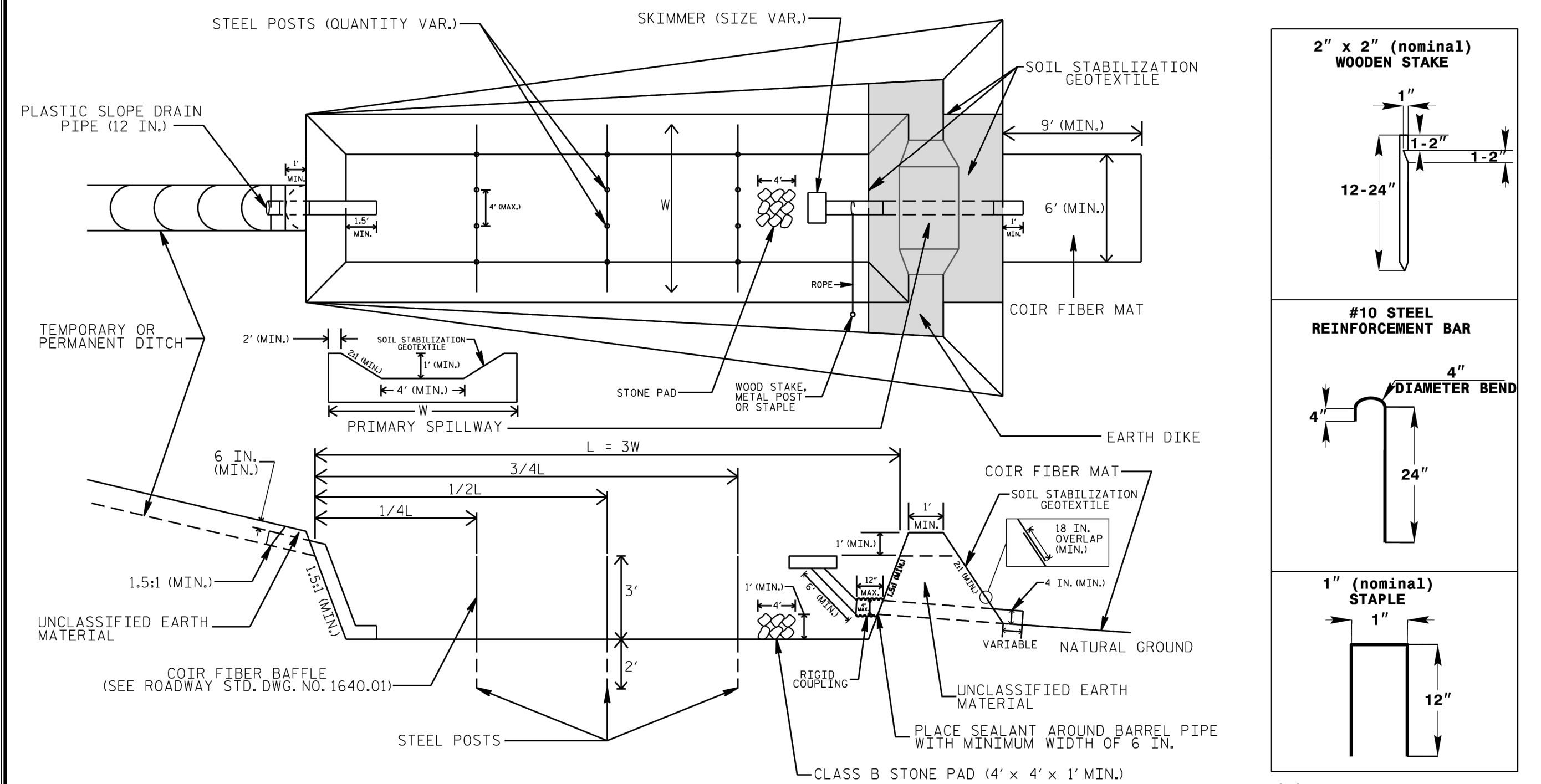


1. Skimmer can be attached to a straight 4" sch 40 pipe through the dam but the pipe may need to be anchored to the bottom at the connection so it is secure. Coupling can be removed and hose attached to outlet using the threaded 2" fitting. Typical methods used: a) on a metal structure a steel stub out welded on the side at the bottom with a 2" threaded coupling or reducer(s); b) a concrete structure with a hole or orifice at the bottom - use a steel plate with a hole cut in it and coupling welded to it that will fit over the hole in the concrete and bolted to the structure with sealant; or c) grout a 4" pvc pipe in a hole in the concrete to connect the skimmer.
2. Dimensions are approximate, not intended as plans for construction.
3. Barrel (solid, not foam core pipe) should be 1.4 times the depth of water with a minimum length of 6' so the inlet can be pulled to the side for maintenance. If more than 8' long, weight may have to be added to inlet to counter the increased buoyancy.
4. Orifice/inlet tapers down from 2" maximum inlet to a 1 1/2" barrel and hose. Barrel is smaller to reduce buoyancy and tendency to lift inlet but is sufficient for flow through inlet because of slope. The orifice/inlet can be reduced using the plug and cutter provided to control the outflow rate - see #6.
5. Horizontal intake is 4" pipe between the straps with aluminum screen door for access to the inlet and orifice inside.
6. Capacity: 3,283 cubic feet per day maximum with 2" inlet and 2" head. Inlet can be reduced by installing a smaller orifice using the plug and cutter provided to adjust flow rate for the particular drawdown time required. Please use the sizing template available at www.fairclothskimmer.com.
7. Ships assembled. User glues inlet extension and barrel, installs vent, cuts orifice in plug and attaches to outlet pipe or structure. Includes float, flexible hose with fittings, rope, orifice plug & cutter. Does NOT include 1 1/2" Sch 40 SOLID pvc barrel or "arm" SUPPLIED BY USER.

2inchCut 5-1-19

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SKIMMER BASIN WITH BAFFLES DETAIL



NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES.
2. LIMIT EARTH DIKE HEIGHT TO 5 FT.
3. FOR BASIN DEPTH OF 3 FT., THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
4. DETERMINE PRIMARY SPILLWAY WEIR LENGTH (FT.) USING Q/O.B. WHERE Q IS FLOW RATE (CFS) INTO BASIN.
5. PLASTIC SLOPE DRAIN PIPE AT INLET OF BASIN MAY BE REPLACED BY FILTRATION GEOTEXTILE OR TARP AS DIRECTED.
6. SOIL STABILIZATION GEOTEXTILE FOR PRIMARY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

SEDIMENT SKIMMER BASIN	
TOP OF EMBANKMENT	263.00
EMERGENCY SPILLWAY	261.50
BOTTOM OF SEDIMENT SKIMMER	260.00
INVERT SKIMMER OUTLET PIPE	259.70

SKIMMER BASIN DETAIL NOT TO SCALE



Chick-fil-A
5200 Buffington Road
Atlanta, Georgia 30349-2998

GBC DESIGN, INC.
Akron, OH 44320-1123
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CHAPEL HILL, NC 27514

FSU# 04954

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SWPPP DETAILS
Zoning Approved
by Katherine Shor
09/14/2023

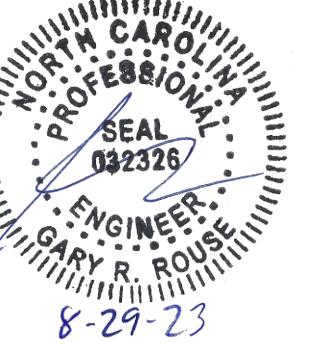
C-322



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Phone 330-836-0225 www.GBCdesign.com



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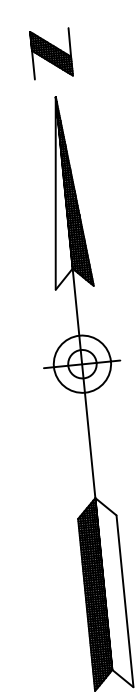
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SHEET DRAINAGE PLAN

Zoning Approved
by Katherine Shor
09/14/2023

SHEET NUMBER

C-330

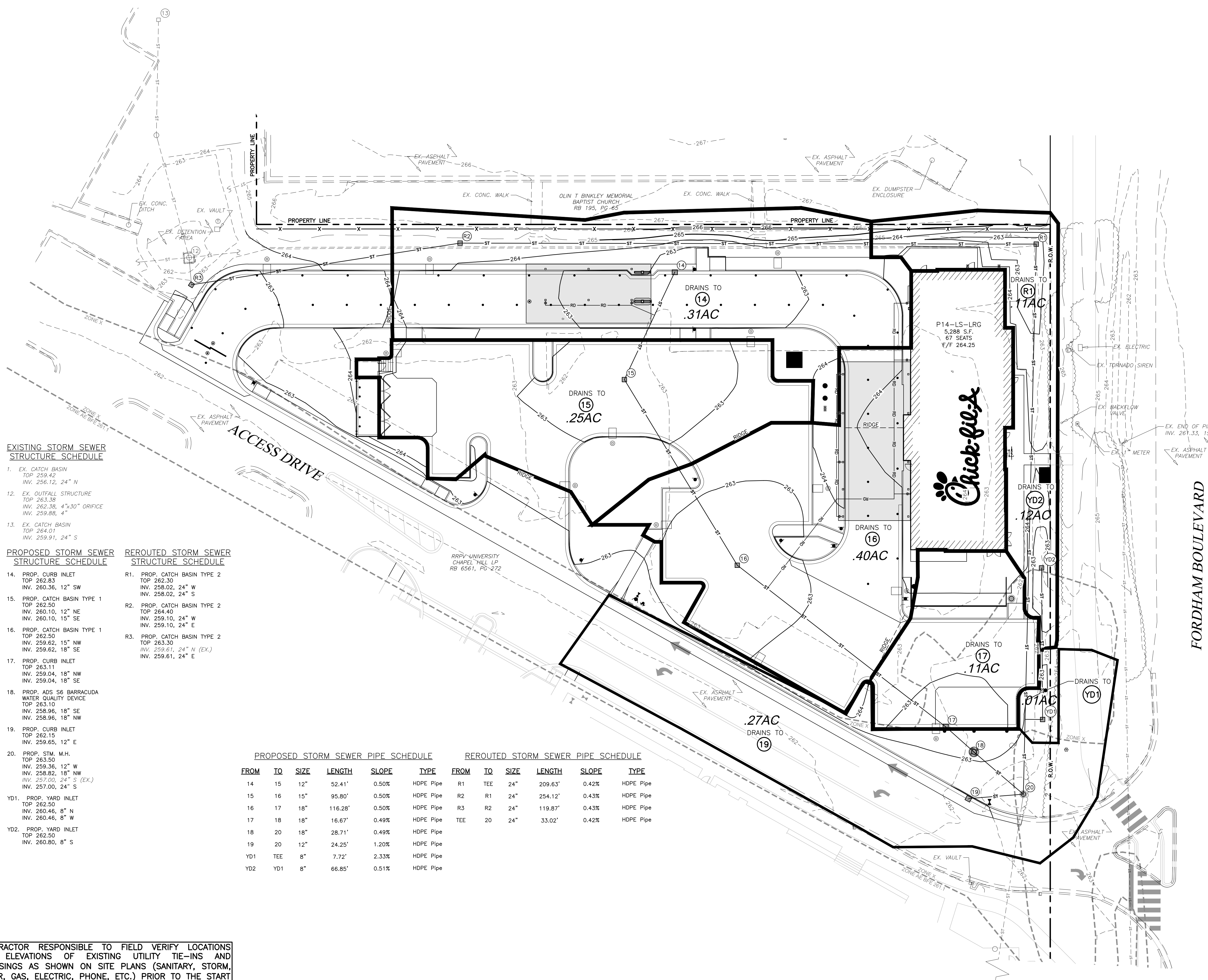


SCALE: 1" = 20'

LEGEND

▲	PROP. FDC
△	EX. FIRE HYDRANT
▽	PROP. VALVE
×	EX. VALVE
⊗	PROP. MANHOLE
⊙	EX. MANHOLE
□	PROP. INLET
⊠	EX. INLET
→	POSITIVE DRAINAGE
---	EX. STORM SEWER
ST	PROP. STORM SEWER
---	EX. CURB
---	PROP. CURB & GUTTER
---	EX. CONTOURS
---	PROP. CONTOURS
---	EX. CONTOURS
---	DRAINAGE AREA DELINEATION LIMITS

WATER QUALITY CALCULATION
PROJECT IS A REDEVELOPMENT SITE DISTURBANCE: 1.43 AC
 $WQ = P \cdot A / 12 (RV1 \cdot 0.2) + (RV2 - RV1)$
 EXISTING IMPERVIOUS PROPOSED IMPERVIOUS
 $RV1 = 0.05 + 0.9I$ $RV2 = 0.05 + 0.9I$
 $I = 1.10ac / 1.43ac$ $I = 1.0ac / 1.43ac$
 $I = 0.74$ $I = 0.70$
 $WQ = (0.9 \cdot (1.43) / 12) ((0.7 \cdot 20) + (0.70 - 0.74))$
 $WQ = 0.010 ac \cdot ft = 467 c.f.$
 USE ADS S6 BARRACUDA TO TREAT FLOW
WATER QUALITY FLOW
 $WQF = RV \cdot I \cdot A$
 $RV = \text{RUNOFF COEFFICIENT FOR PROPOSED CONDITIONS}$
 $I = 1.85 \text{ INCHES/HOUR}$
 $A = \text{AREA TRIBUTARY TO UNIT}$
 $= 0.70 \cdot 1.85 \text{ INCHES/HOUR} \cdot 1.07$
 $= 1.38 \text{ CFS}$
 USE ADS S6 BARRACUDA



EXISTING STORM SEWER STRUCTURE SCHEDULE

- EX. CATCH BASIN
TOP 259.42
INV. 256.12, 24" N
- EX. OUTFALL STRUCTURE
TOP 263.38
INV. 262.38, 4"x30" ORIFICE
INV. 259.88, 4"
- EX. CATCH BASIN
TOP 264.01
INV. 259.91, 24" S

PROPOSED STORM SEWER STRUCTURE SCHEDULE

- PROP. CURB INLET
TOP 262.83
INV. 260.36, 12" SW
- PROP. CATCH BASIN TYPE 1
TOP 262.50
INV. 260.10, 12" NE
INV. 260.10, 15" SE
- PROP. CATCH BASIN TYPE 1
TOP 262.50
INV. 259.62, 15" NW
INV. 259.62, 18" SE
- PROP. CURB INLET
TOP 263.11
INV. 259.04, 18" NW
INV. 259.04, 18" SE
- PROP. ADS S6 BARRACUDA WATER QUALITY DEVICE
TOP 263.10
INV. 258.96, 18" SE
INV. 258.96, 18" NW
- PROP. CURB INLET
TOP 262.15
INV. 259.65, 12" E
- PROP. STM. M.H.
TOP 263.50
INV. 259.36, 12" W
INV. 258.82, 18" NW
INV. 257.00, 24" S (EX.)
INV. 257.00, 24" S
- PROP. YARD INLET
TOP 262.50
INV. 260.46, 8" N
INV. 260.46, 8" W
- PROP. YARD INLET
TOP 262.50
INV. 260.80, 8" S

REROUTED STORM SEWER STRUCTURE SCHEDULE

- PROP. CATCH BASIN TYPE 2
TOP 262.30
INV. 258.02, 24" W
INV. 258.02, 24" S
- PROP. CATCH BASIN TYPE 2
TOP 264.40
INV. 259.10, 24" W
INV. 259.10, 24" E
- PROP. CATCH BASIN TYPE 2
TOP 263.30
INV. 259.61, 24" N (EX.)
INV. 259.61, 24" E

PROPOSED STORM SEWER PIPE SCHEDULE

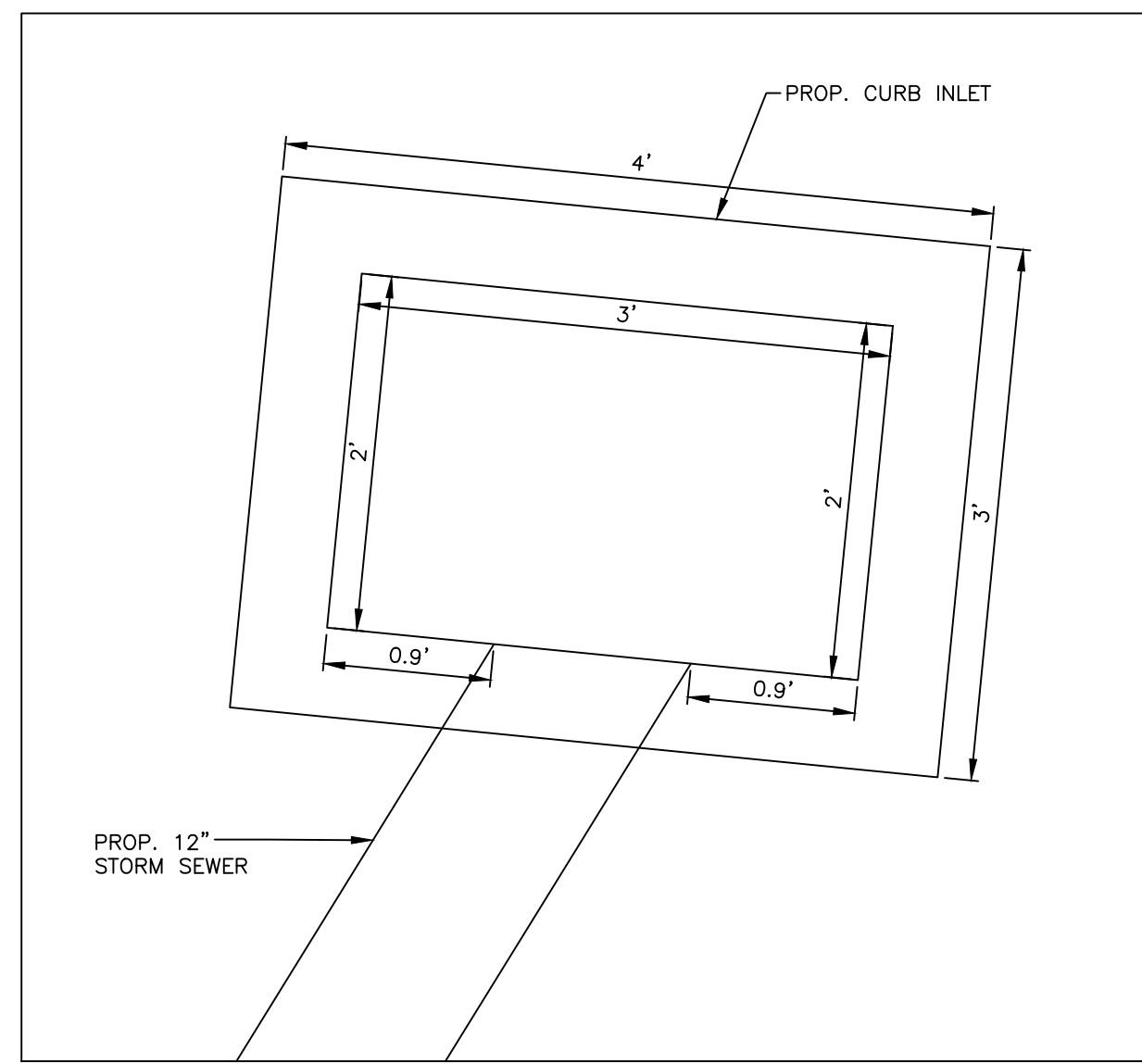
FROM	TO	SIZE	LENGTH	SLOPE	TYPE
14	15	12"	52.41'	0.50%	HDPE Pipe
15	16	15"	95.80'	0.50%	HDPE Pipe
16	17	18"	116.28'	0.50%	HDPE Pipe
17	18	18"	16.67'	0.49%	HDPE Pipe
18	20	18"	28.71'	0.49%	HDPE Pipe
19	20	12"	24.25'	1.20%	HDPE Pipe
YD1	TEE	8"	7.72'	2.33%	HDPE Pipe
YD2	YD1	8"	66.85'	0.51%	HDPE Pipe

REROUTED STORM SEWER PIPE SCHEDULE

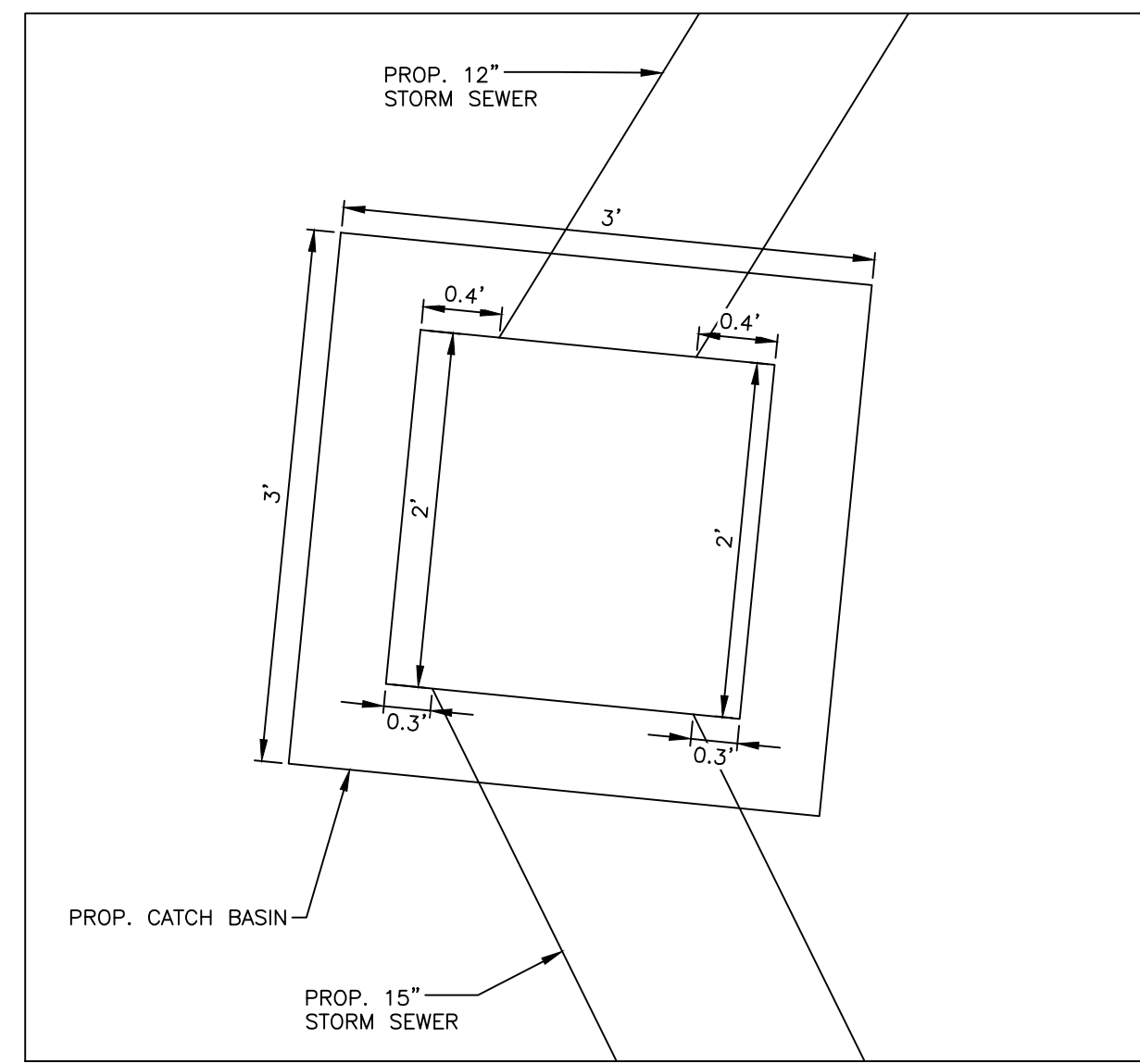
FROM	TO	SIZE	LENGTH	SLOPE	TYPE
R1	TEE	24"	209.63'	0.42%	HDPE Pipe
R2	R1	24"	254.12'	0.43%	HDPE Pipe
R3	R2	24"	119.87'	0.43%	HDPE Pipe
TEE	20	24"	33.02'	0.42%	HDPE Pipe

CONTRACTOR RESPONSIBLE TO FIELD VERIFY LOCATIONS AND ELEVATIONS OF EXISTING UTILITY TIE-INS AND CROSSINGS AS SHOWN ON SITE PLANS (SANITARY, STORM, WATER, GAS, ELECTRIC, PHONE, ETC.) PRIOR TO THE START OF CONSTRUCTION. CONTACT ALLAN WILEY AT GBC DESIGN, INC., 330-836-0228, WITH ANY CONCERNS OR CONFLICTS PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR TO VERIFY THE THICKNESS OF ANY OFF-SITE PAVEMENT (ASPHALT AND CONCRETE) AND SIDEWALK SO THE RESTORATION WORK IS INCLUDED IN THE BID.

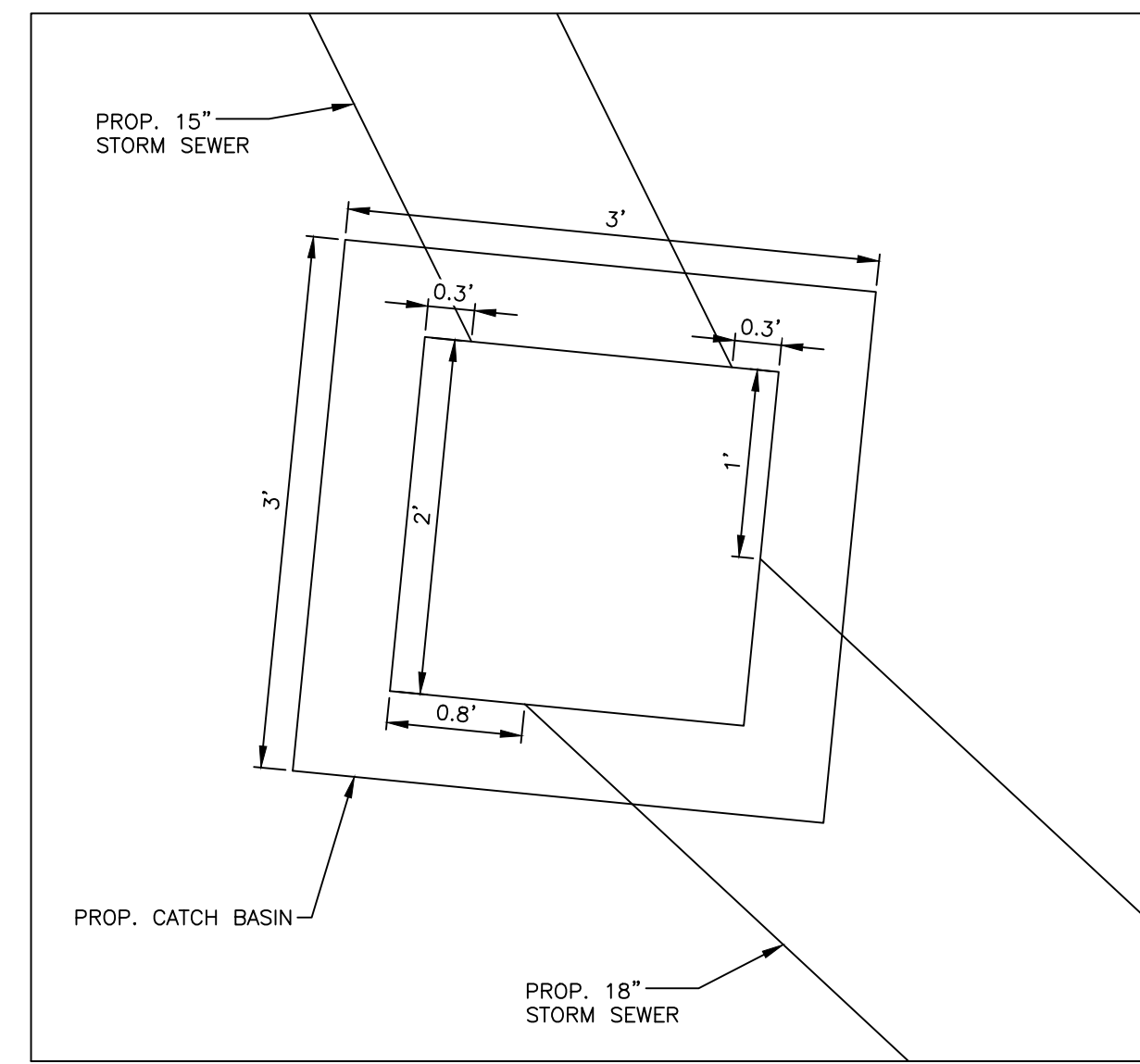
THIS PROPERTY IS LOCATED WITHIN AN AREA HAVING ZONE DESIGNATIONS OF "X & AE" BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, ON FLOOD INSURANCE RATE MAP NO. 3710979900L, WITH A MAP REVISED DATE OF OCTOBER 19, 2018, IN ORANGE COUNTY, STATE OF NORTH CAROLINA, WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR THE COMMUNITY IN WHICH SAID PROPERTY IS SITUATED.



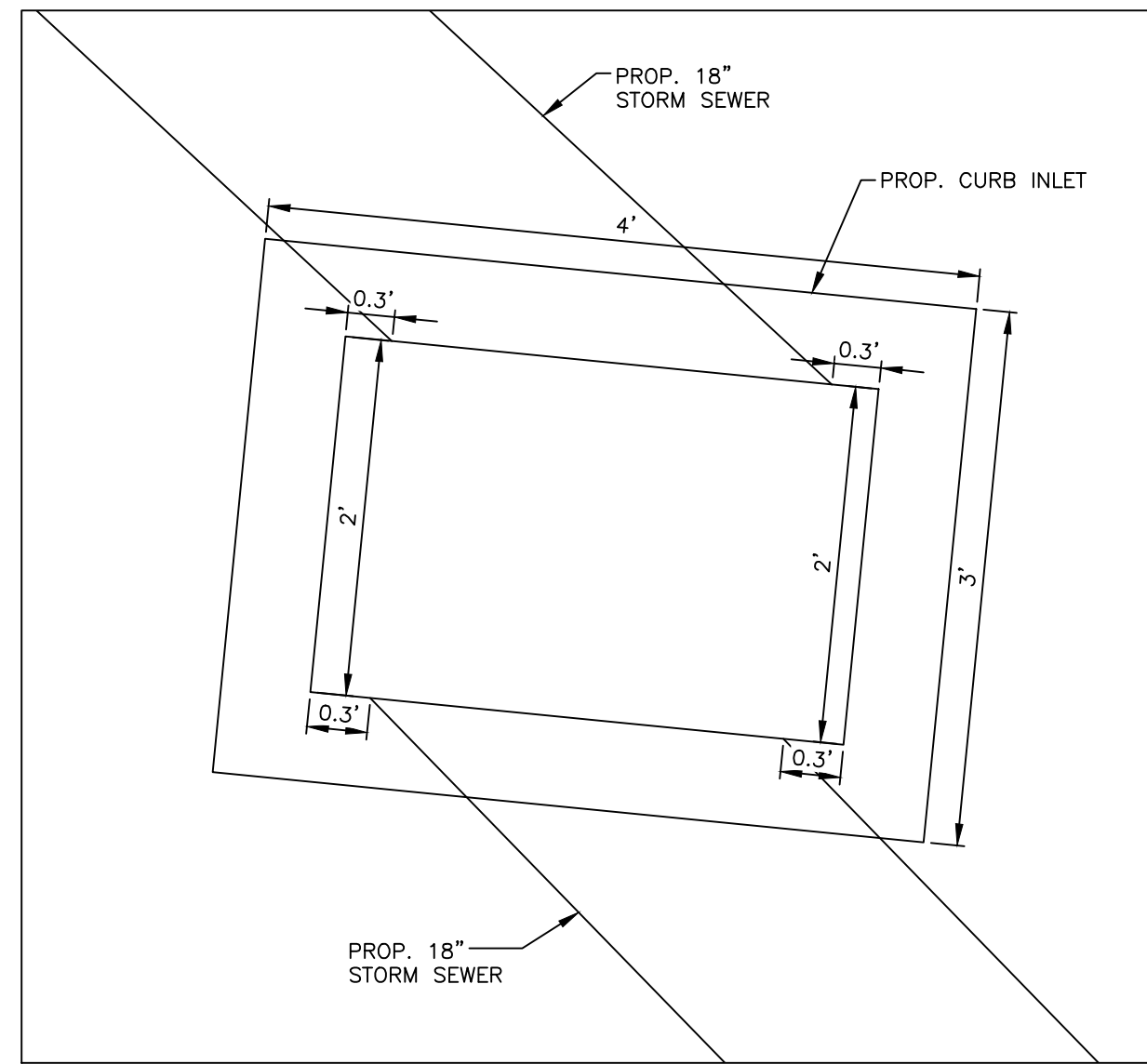
STRUCTURE #14 PIPE DIAGRAM



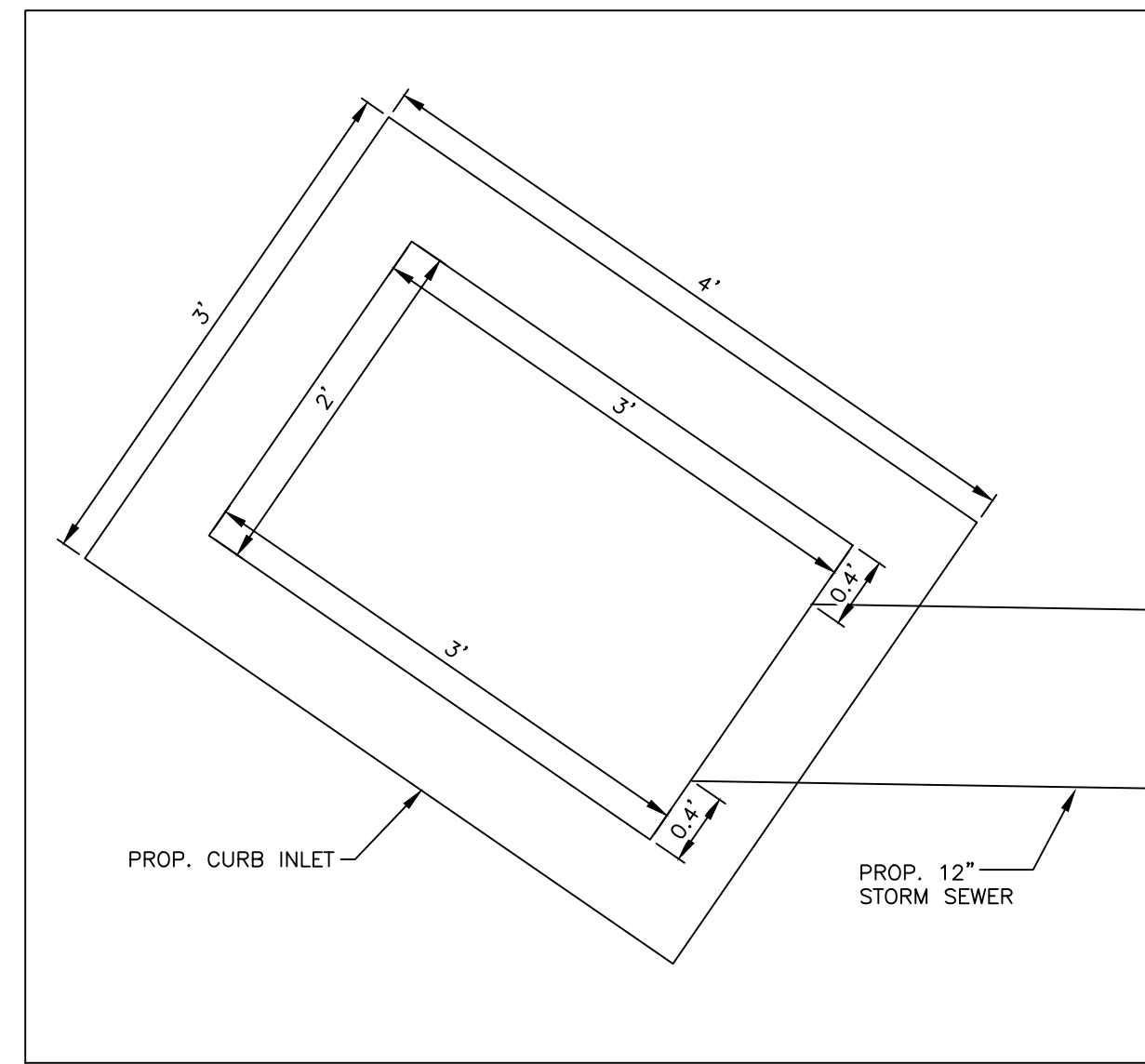
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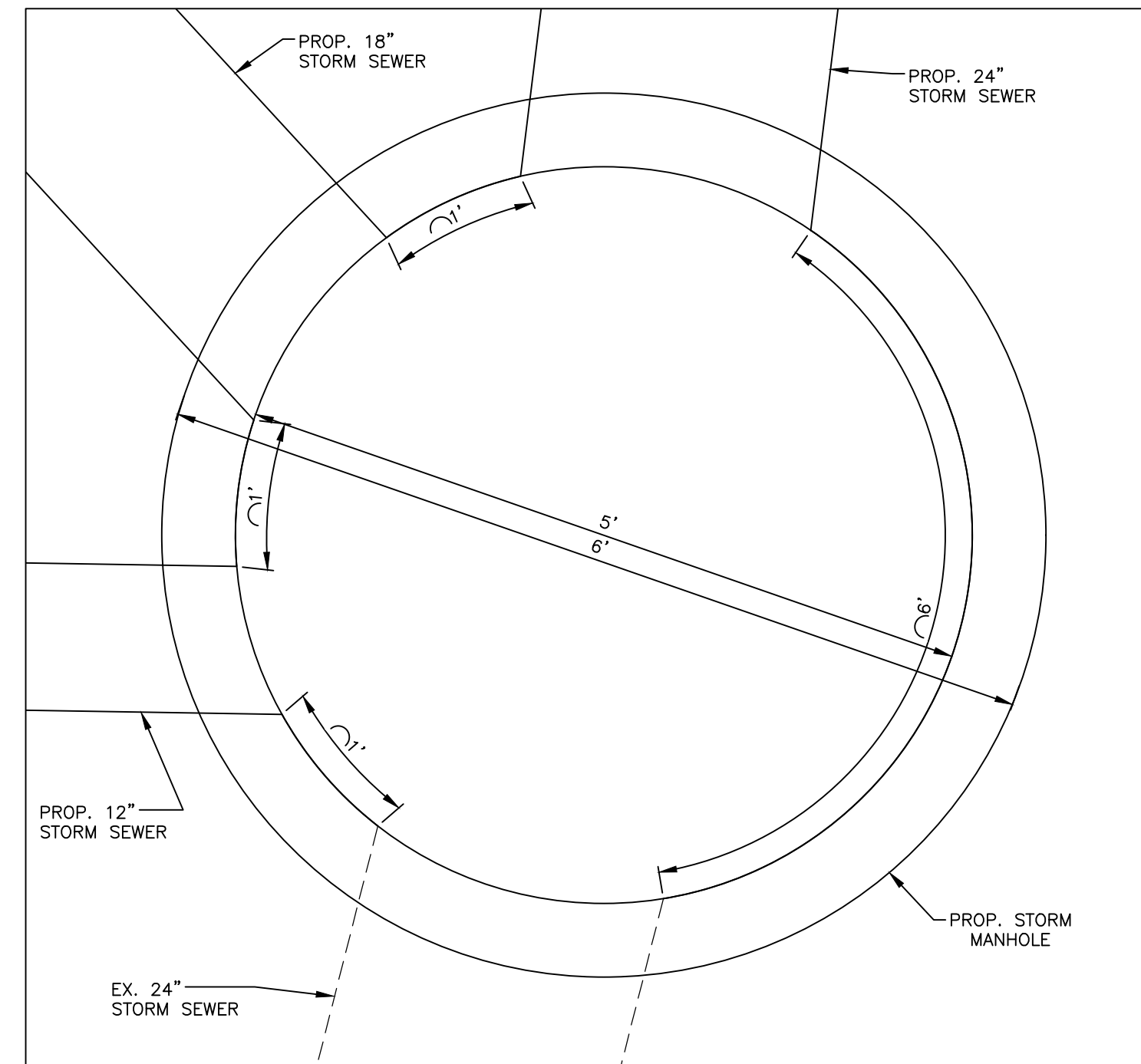
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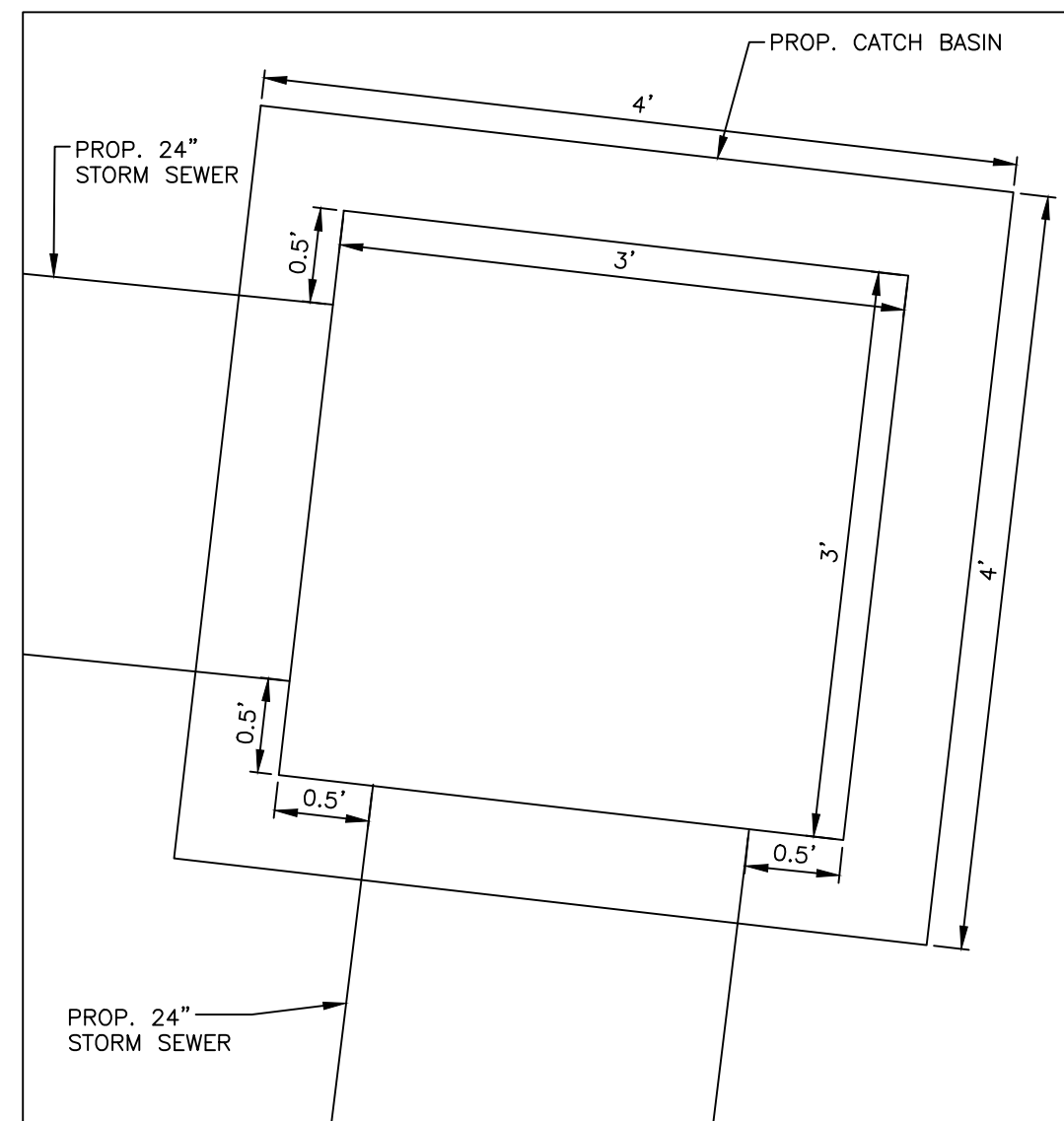
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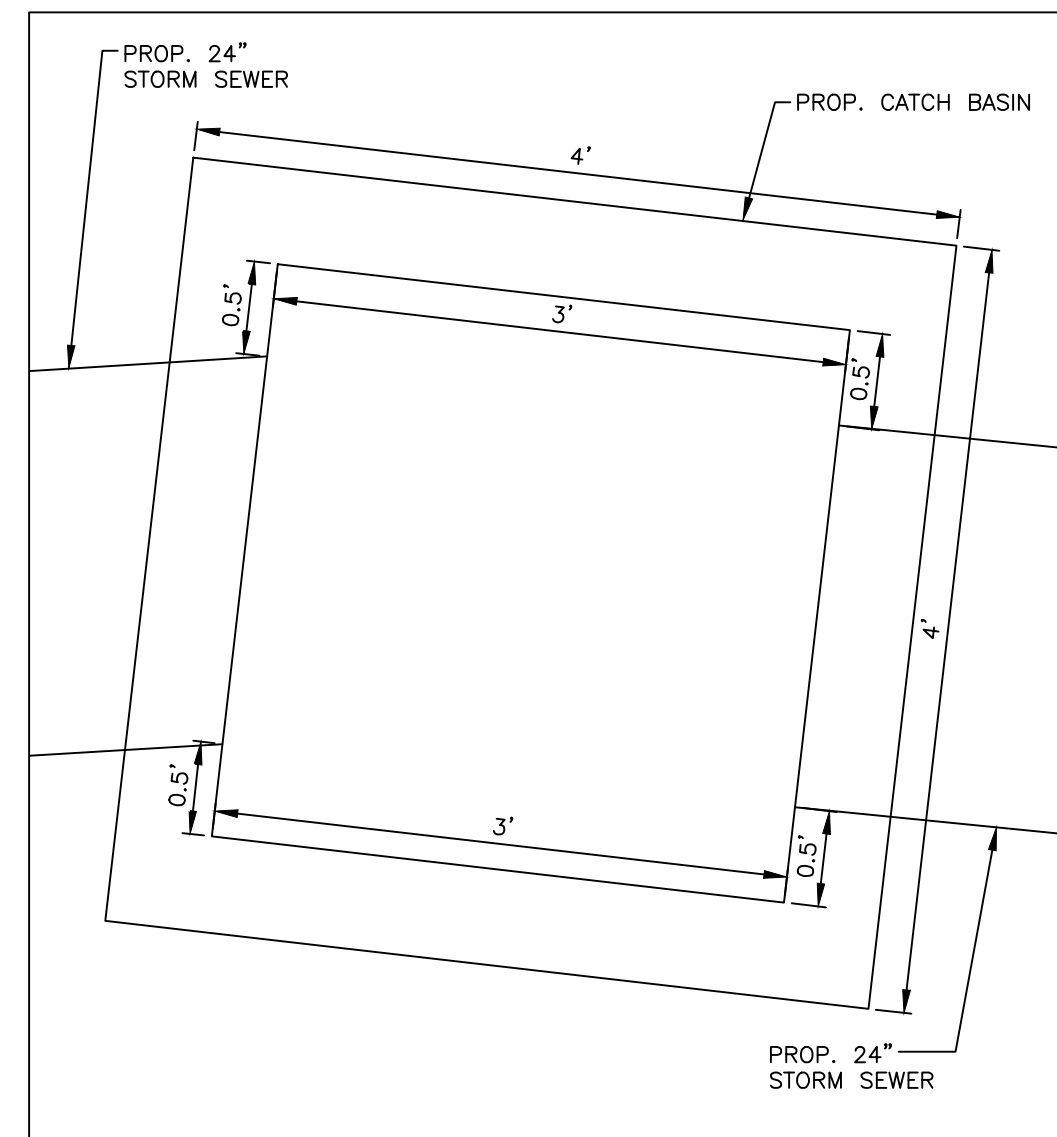
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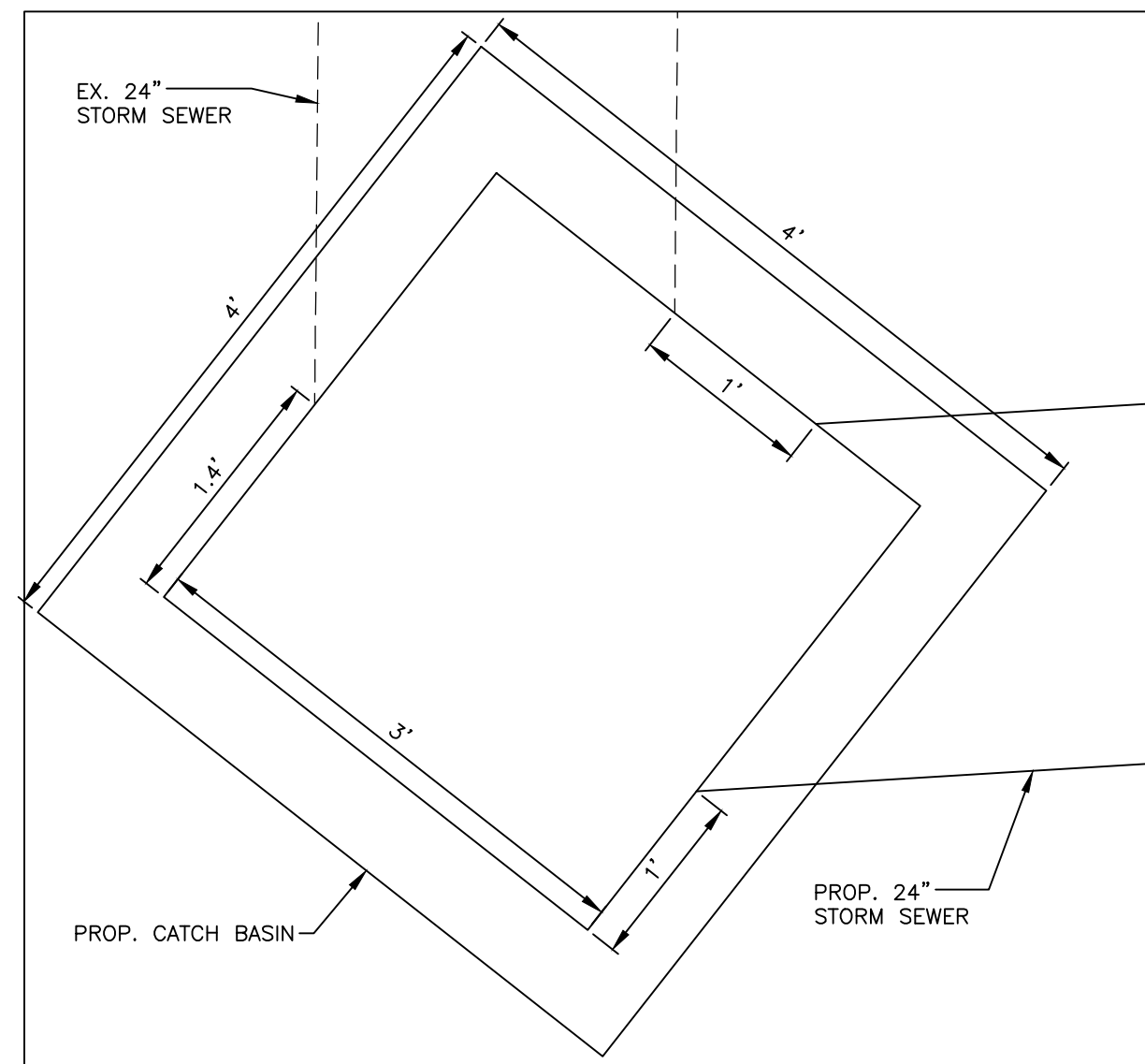
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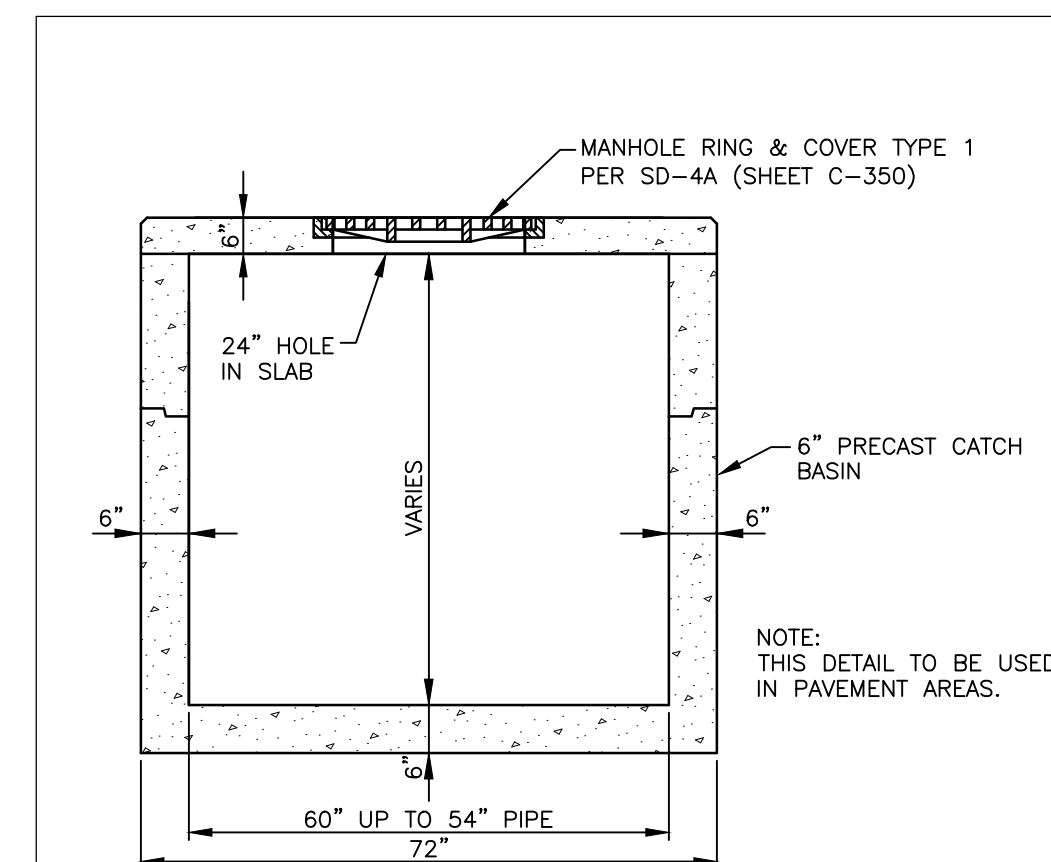
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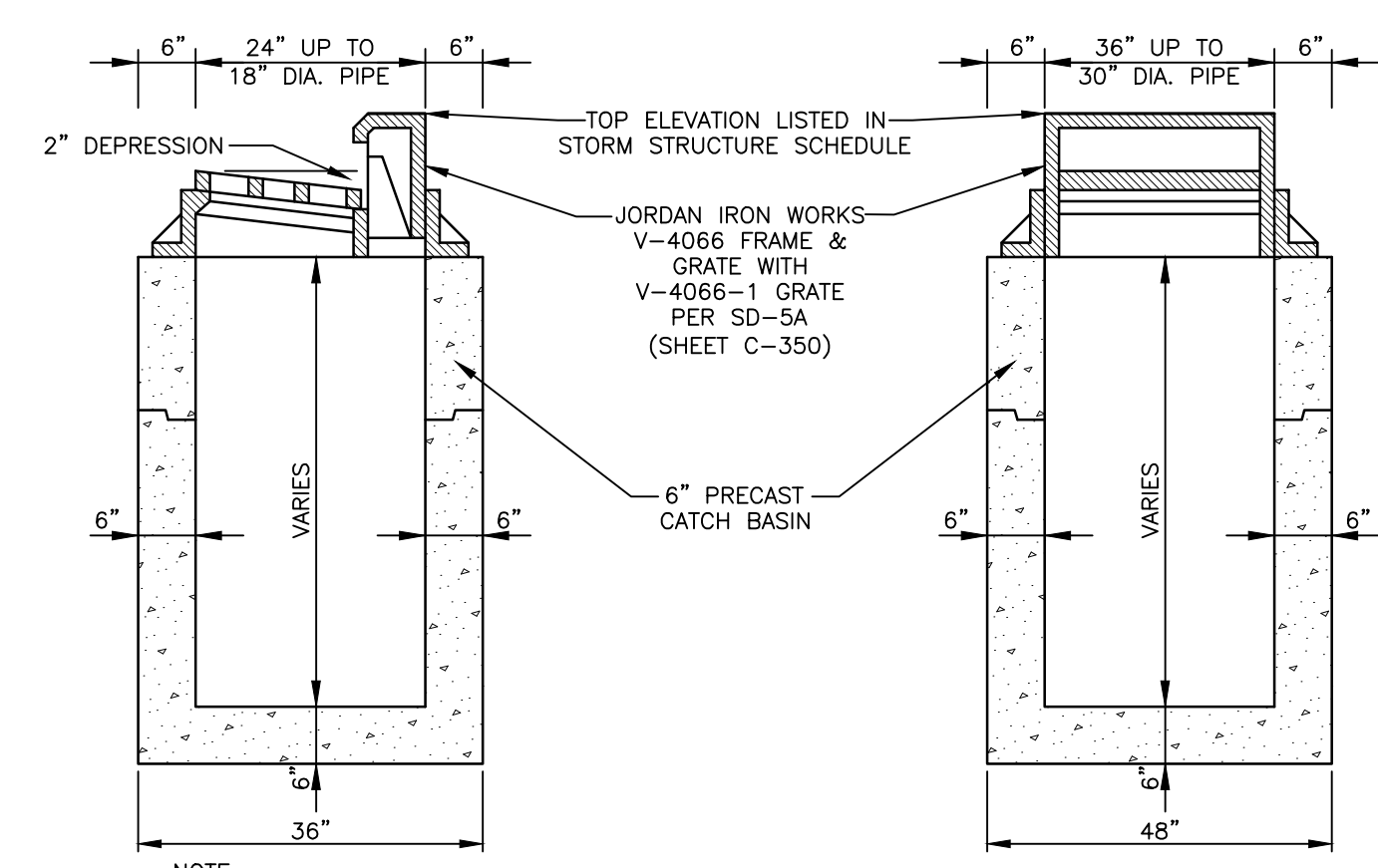
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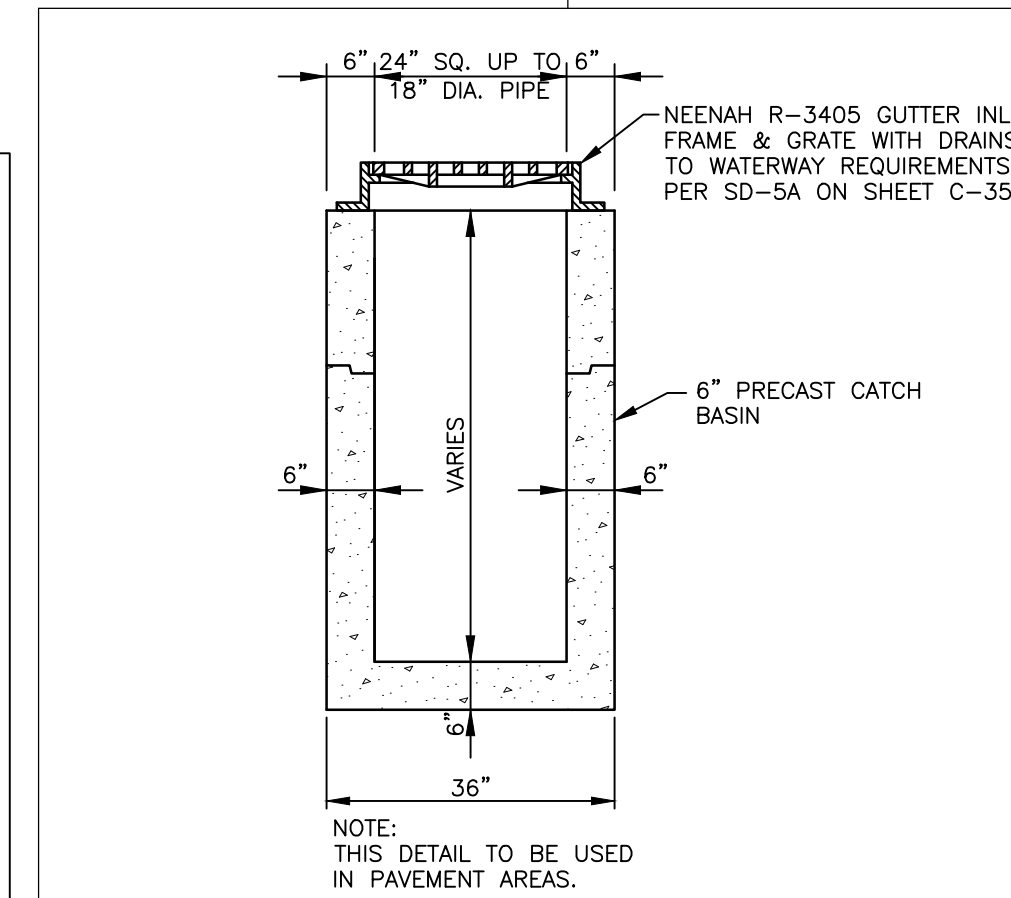
STRUCTURE #R3 PIPE DIAGRAM



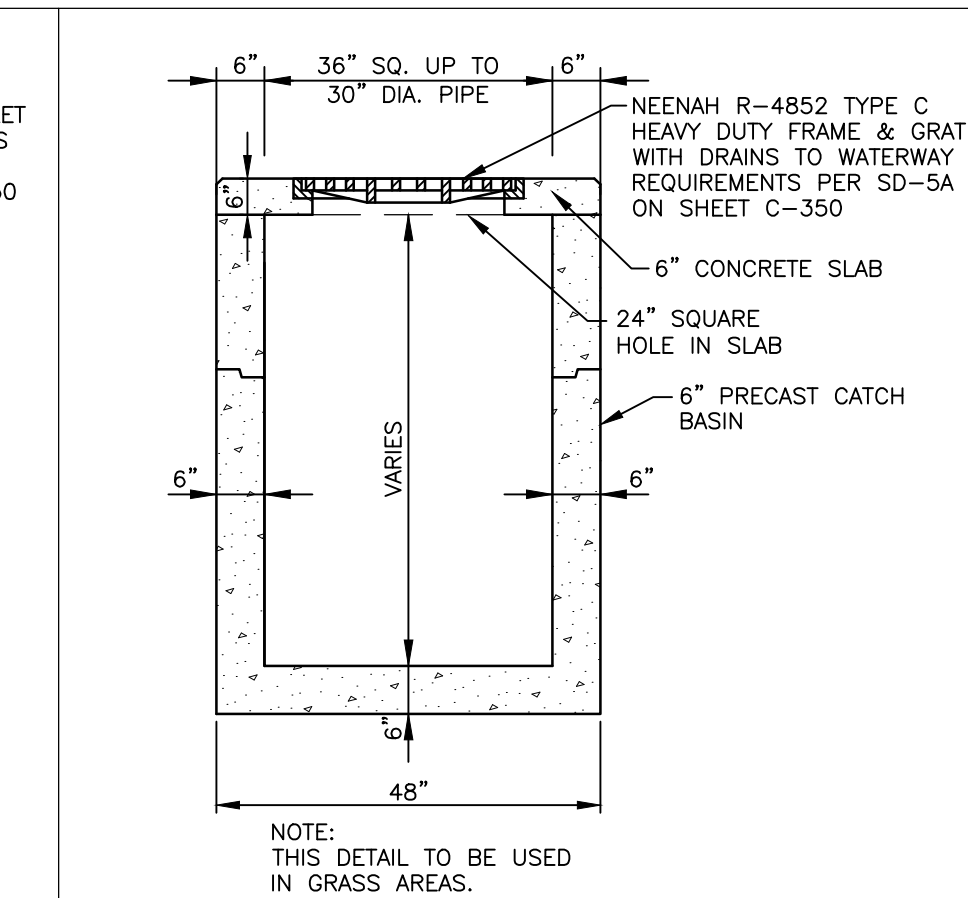
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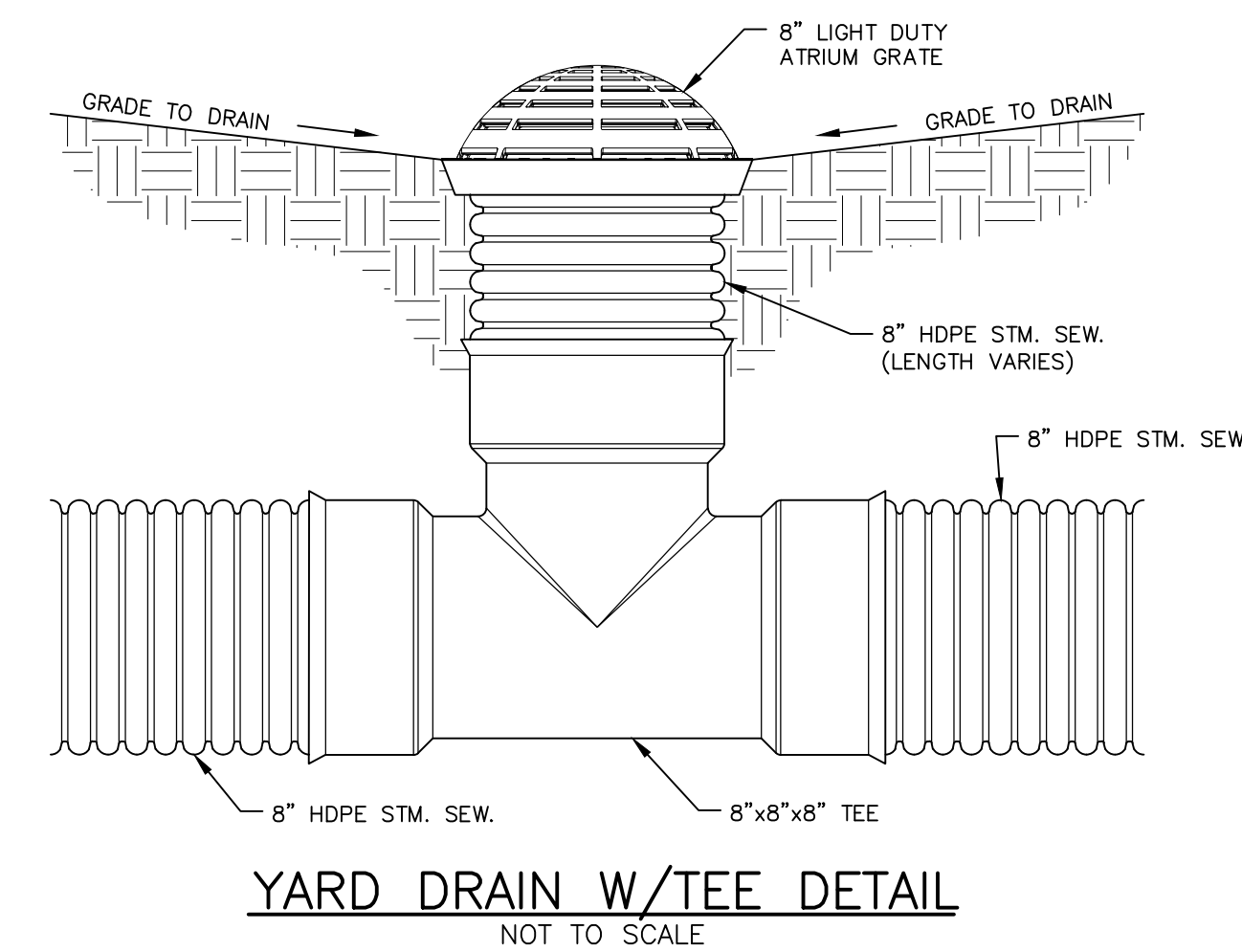
CURB INLET DETAIL
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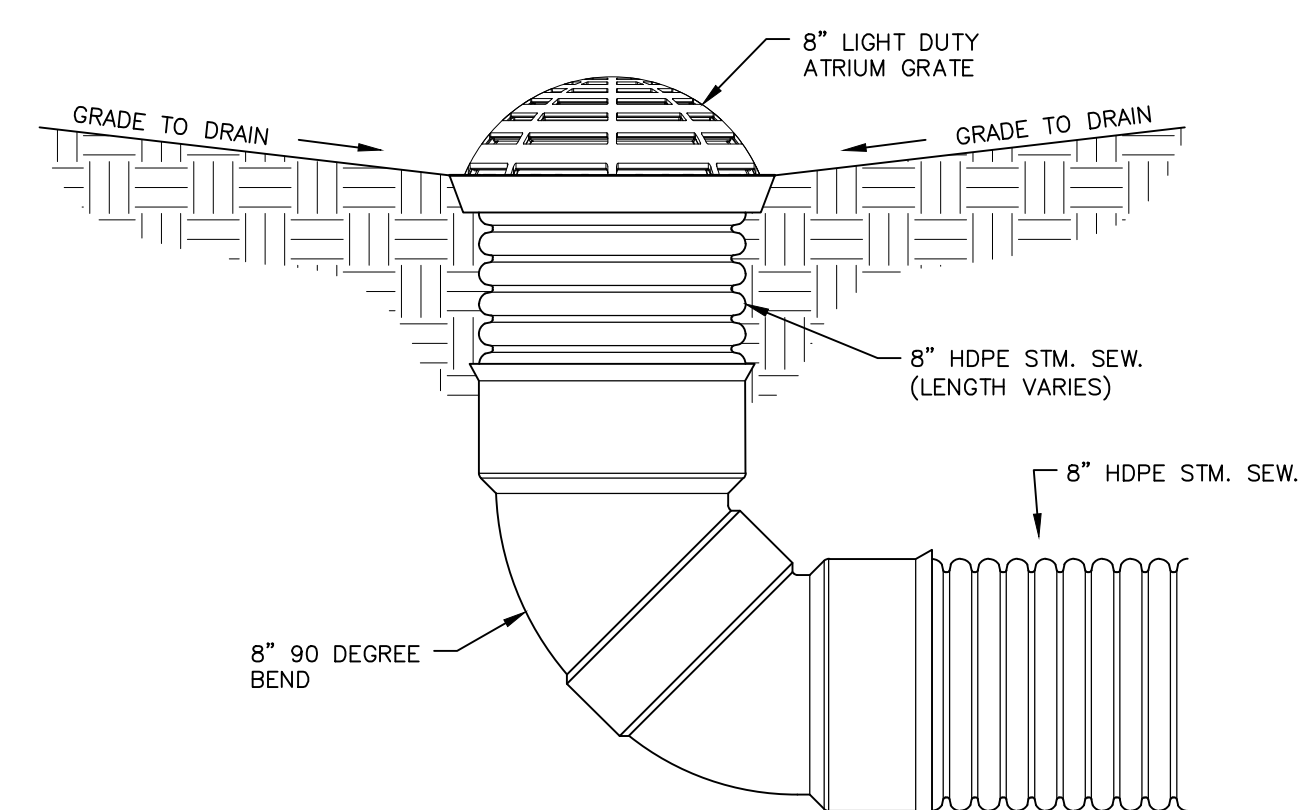
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CATCH BASIN TYPE 2 DETAIL
NOT TO SCALE



YARD DRAIN W/TEE DETAIL
NOT TO SCALE



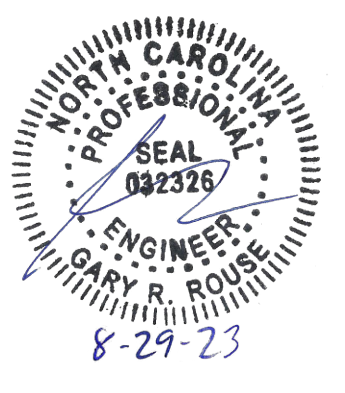
YARD DRAIN W/ 90° BEND DETAIL
NOT TO SCALE



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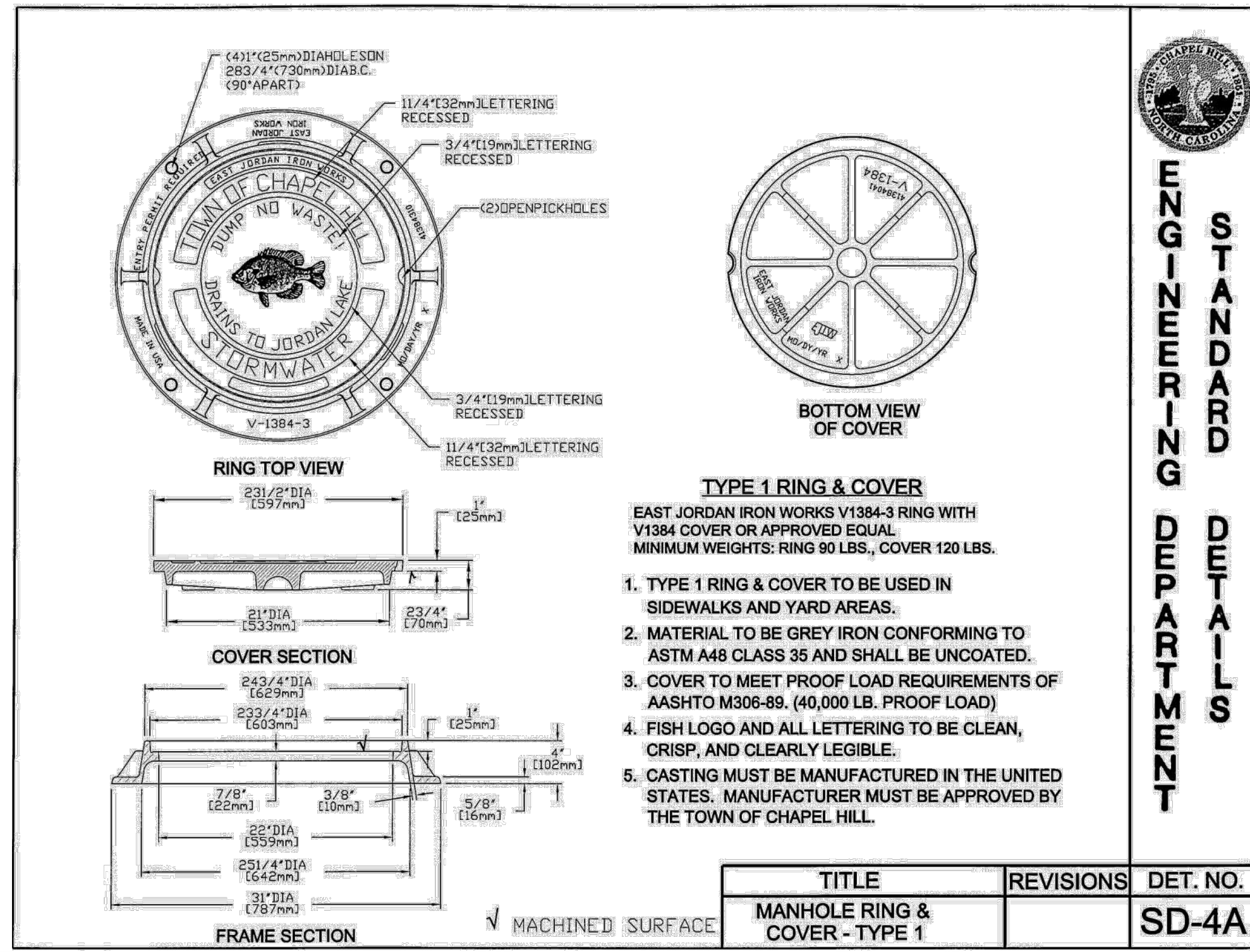
REVISION SCHEDULE		DESCRIPTION
NO.	DATE	

GBC PROJECT #	54053A
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SHEET
DRAINAGE DETAILS
Permit
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by Katherine Shor
09/14/2023
SHEET NUMBER

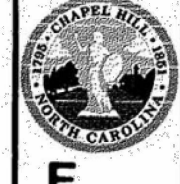
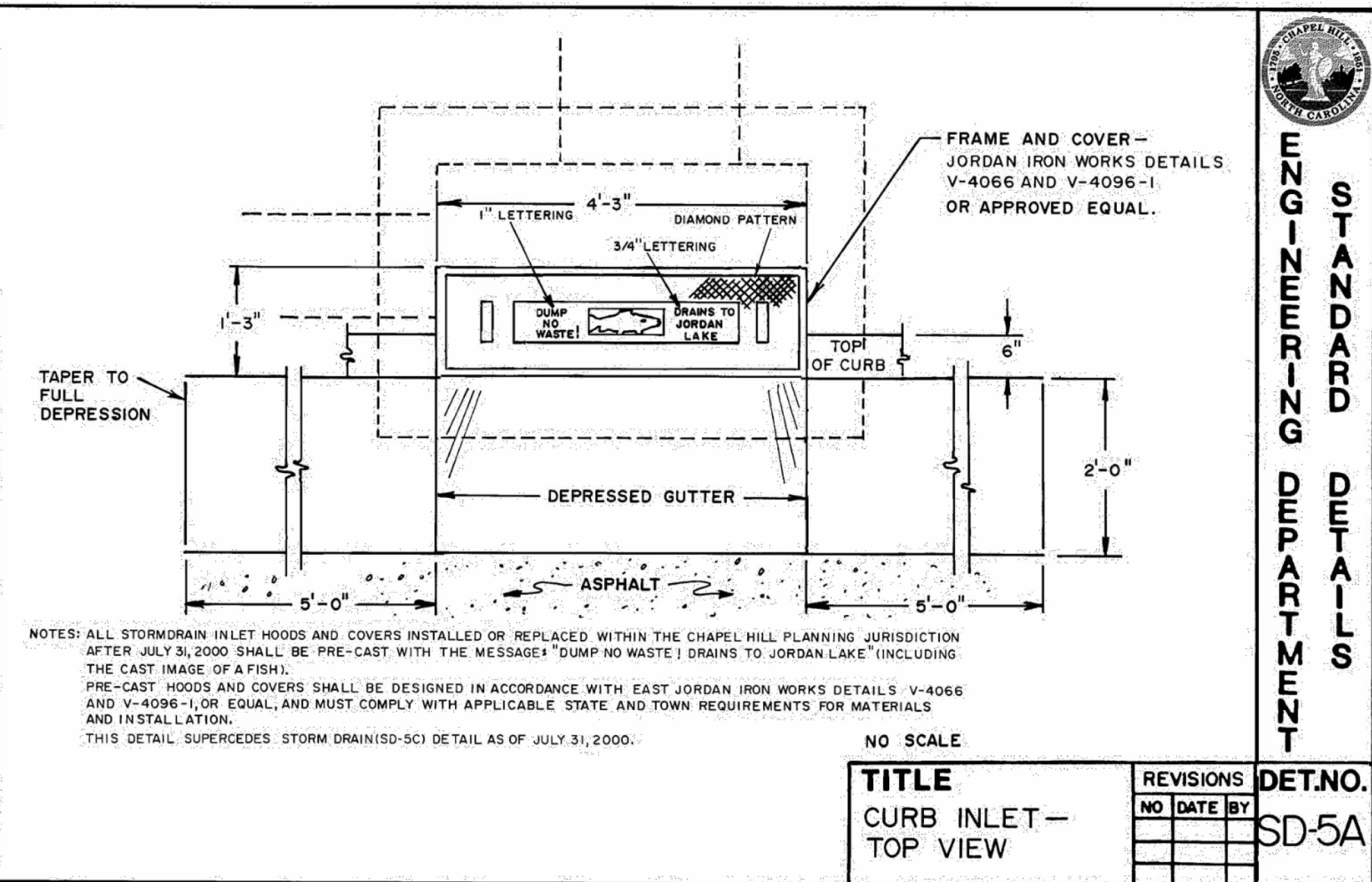
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STANDARD DETAILS
ENGINEERING DEPARTMENT

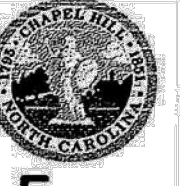
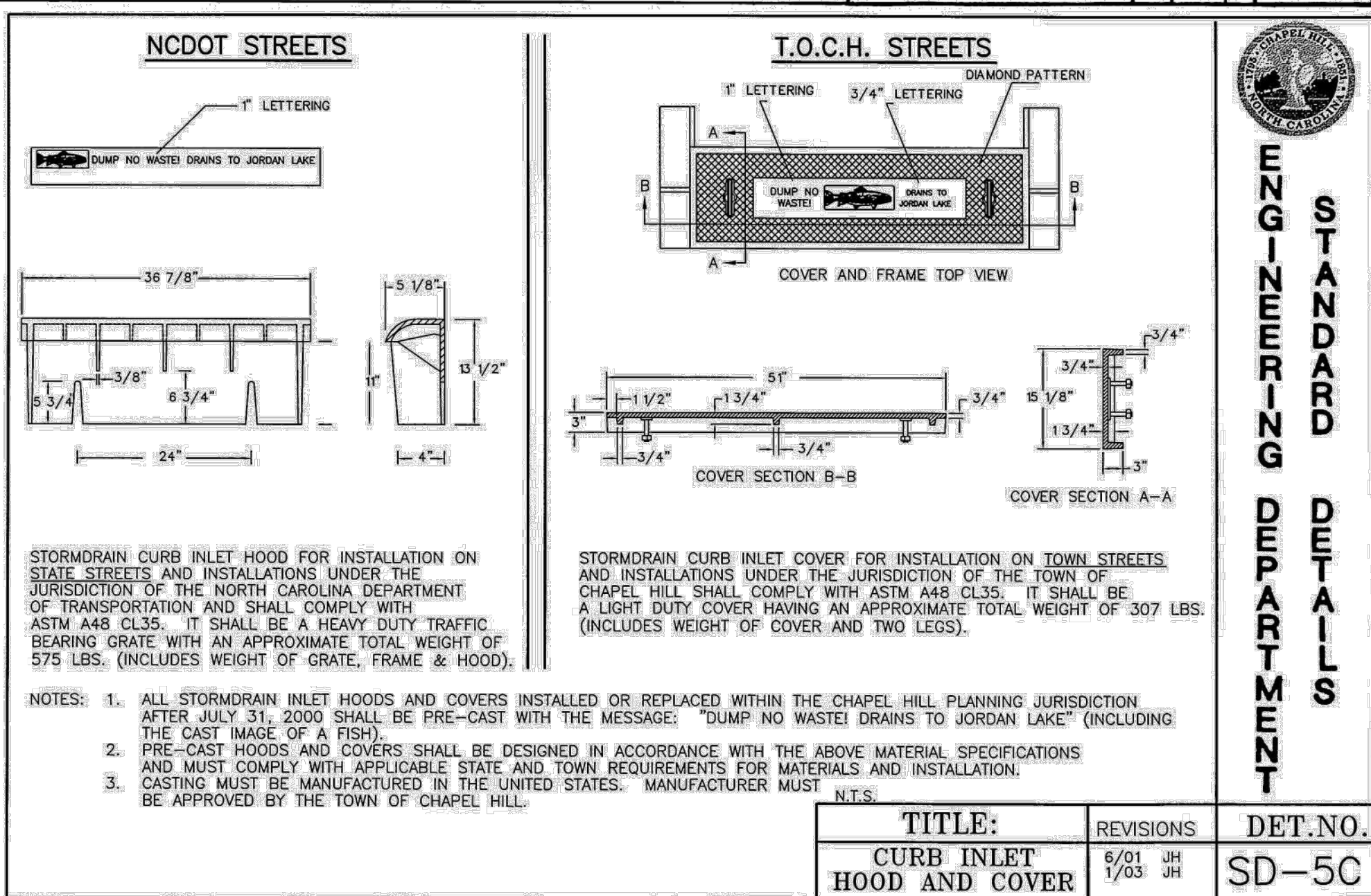
- TYPE 1 RING & COVER**
EAST JORDAN IRON WORKS V1384-3 RING WITH V1384 COVER OR APPROVED EQUAL.
MINIMUM WEIGHTS: RING 90 LBS., COVER 120 LBS.
- TYPE 1 RING & COVER TO BE USED IN SIDEWALKS AND YARD AREAS.
 - MATERIAL TO BE GREY IRON CONFORMING TO ASTM A48 CLASS 35 AND SHALL BE UNCOATED.
 - COVER TO MEET PROOF LOAD REQUIREMENTS OF AASHTO M306-89, (40,000 LB. PROOF LOAD)
 - FISH LOGO AND ALL LETTERING TO BE CLEAN, CRISP, AND CLEARLY LEGIBLE.
 - CASTING MUST BE MANUFACTURED IN THE UNITED STATES. MANUFACTURER MUST BE APPROVED BY THE TOWN OF CHAPEL HILL.

TITLE	REVISIONS	DET. NO.
MANHOLE RING & COVER - TYPE 1		SD-4A



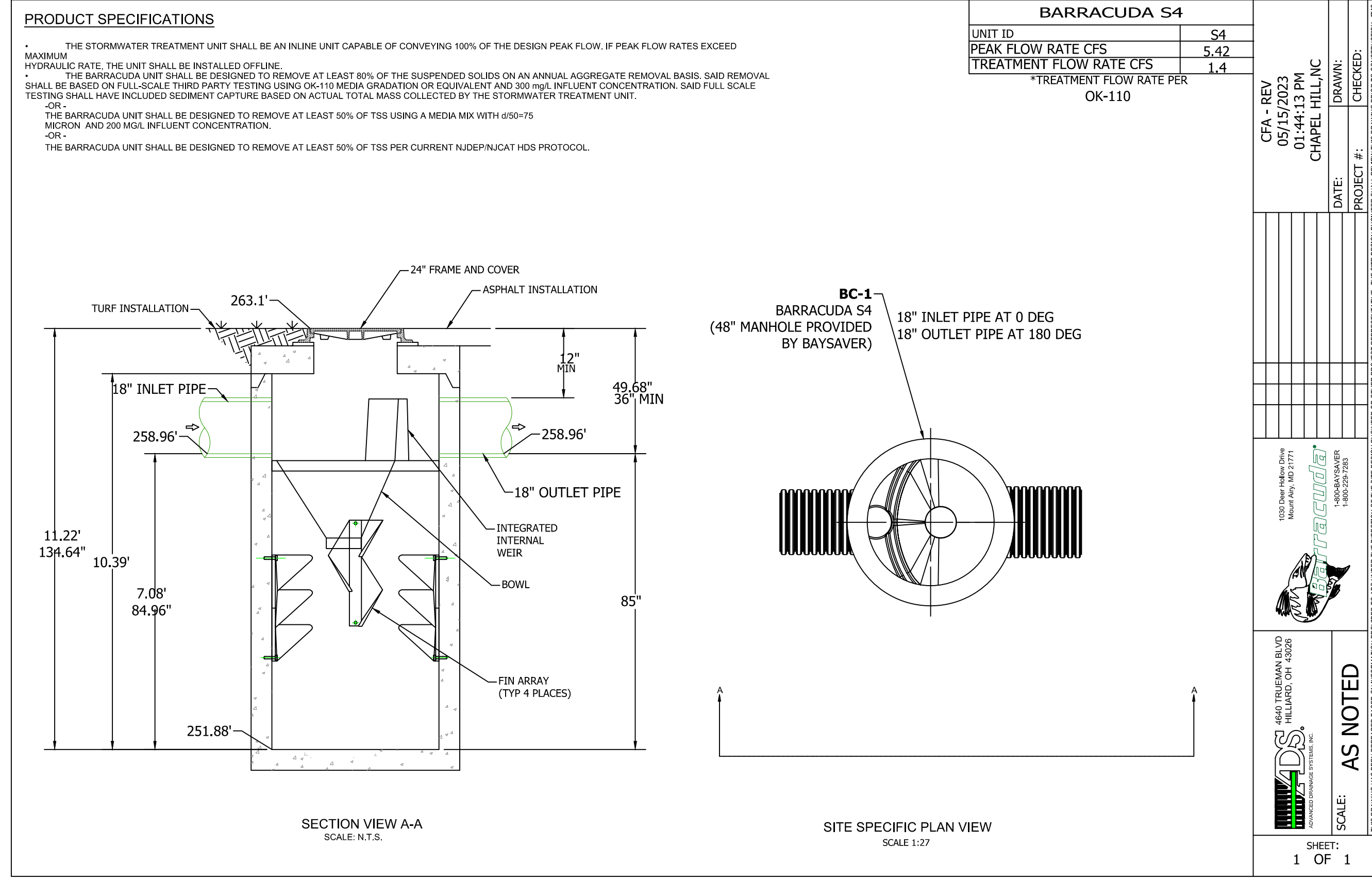
STANDARD DETAILS
ENGINEERING DEPARTMENT

TITLE	REVISIONS	DET. NO.
CURB INLET - TOP VIEW		SD-5A



STANDARD DETAILS
ENGINEERING DEPARTMENT

TITLE	REVISIONS	DET. NO.
CURB INLET HOOD AND COVER	6/01 JH 1/03 JH	SD-5C



BARRACUDA S4	
UNIT ID	S4
PEAK FLOW RATE CFS	5.42
TREATMENT FLOW RATE CFS	1.4
*TREATMENT FLOW RATE PER OK-110	

CFE - REV 05/15/2023 01:44:13 PM CHAPEL HILL, NC

DATE: _____ CHECKED: _____

PROJECT #:

1000 River Millers Drive, Morrisville, NC 27560

1000 BAYSAYER, 1000-000-0000

6460 FREEMAN BLVD, HILLSBORO, NC 27540

SCALE: AS NOTED

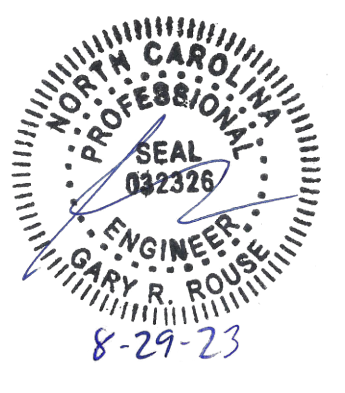
SHEET: 1 OF 1

THE DRAWING SHALL BE PREPARED BASED UPON THE INFORMATION PROVIDED TO THE ENGINEER BY THE CLIENT. THE ENGINEER SHALL BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION PROVIDED TO HIM. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION PROVIDED TO HIM BY THE CLIENT. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION PROVIDED TO HIM BY THE CLIENT.



Chick-fil-A
5200 Buffington Road
Atlanta, Georgia 30349-2998

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565 White Pond Dr.
Akron, OH 44320-1123
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CHICK-FIL-A
CHAPEL HILL UNIVERSITY PLACE FSU
241 SOUTH ESTES DRIVE
CHAPEL HILL, NC 27514

FSU# 04954

REVISION SCHEDULE	DESCRIPTION
NO.	DATE

GBC PROJECT # 54053A
 DATED FOR Permit
 DATE 9/28/22
 DRAWN BY BAW

Zoning Approved
by Katherine Shor
09/14/2023

Permit
DRAINAGE DETAILS
SHEET
C-350