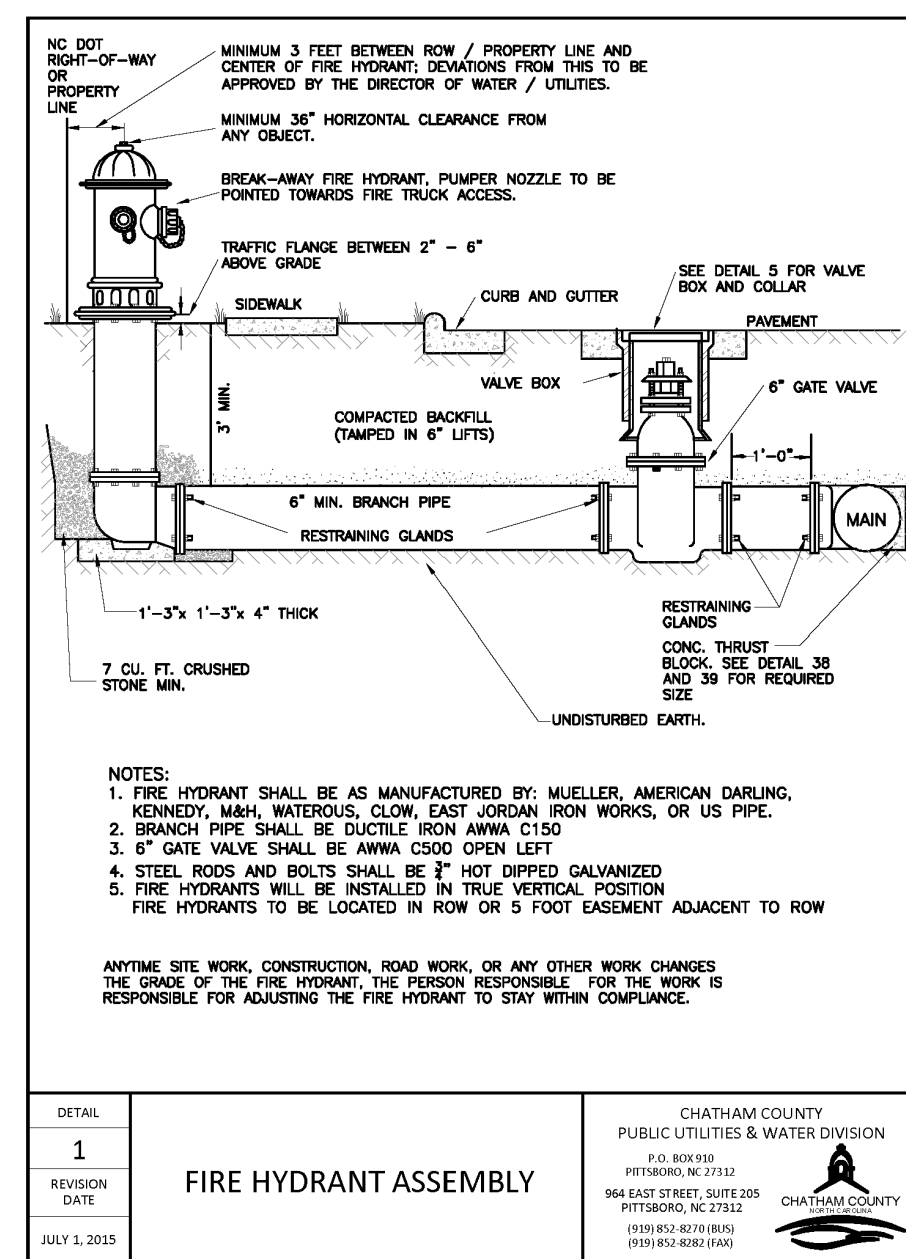
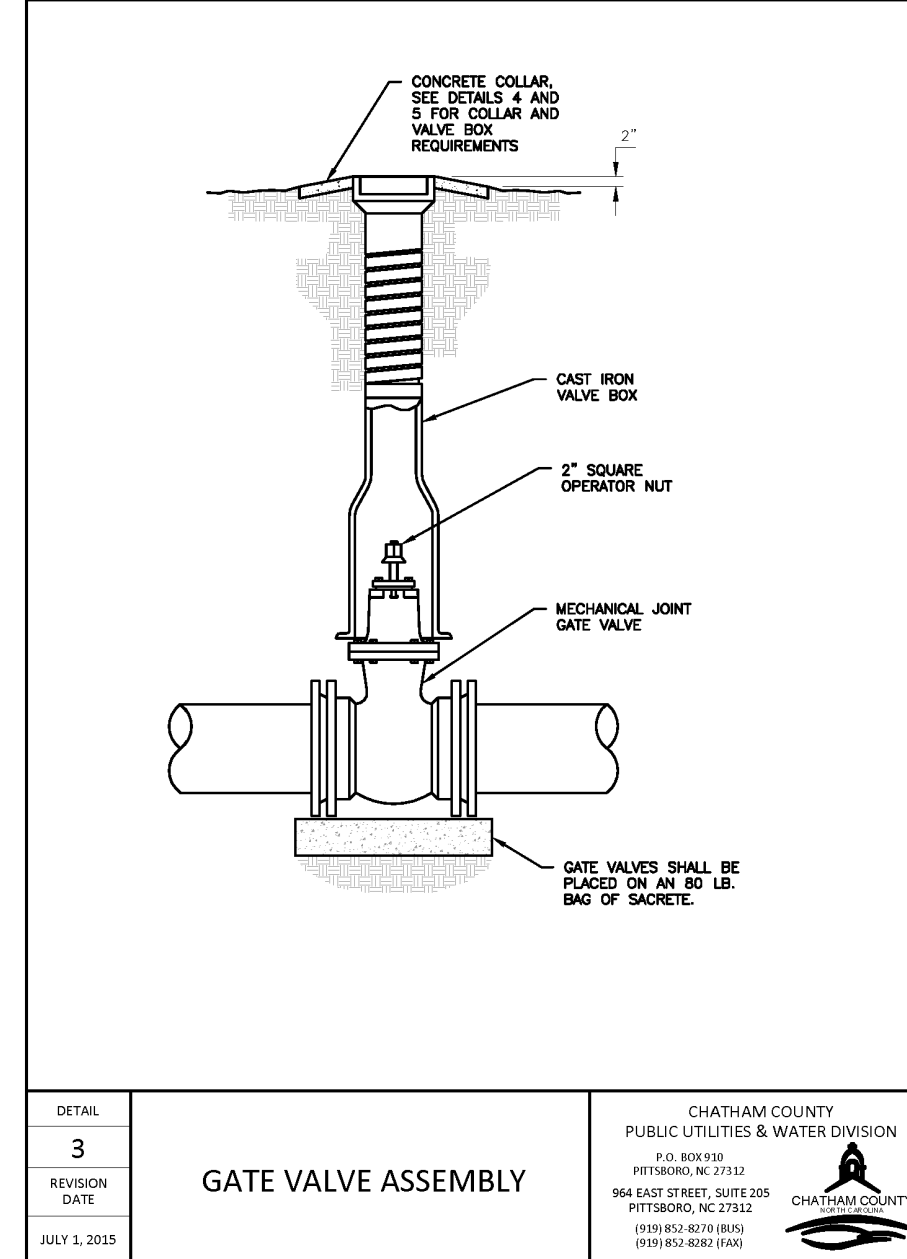


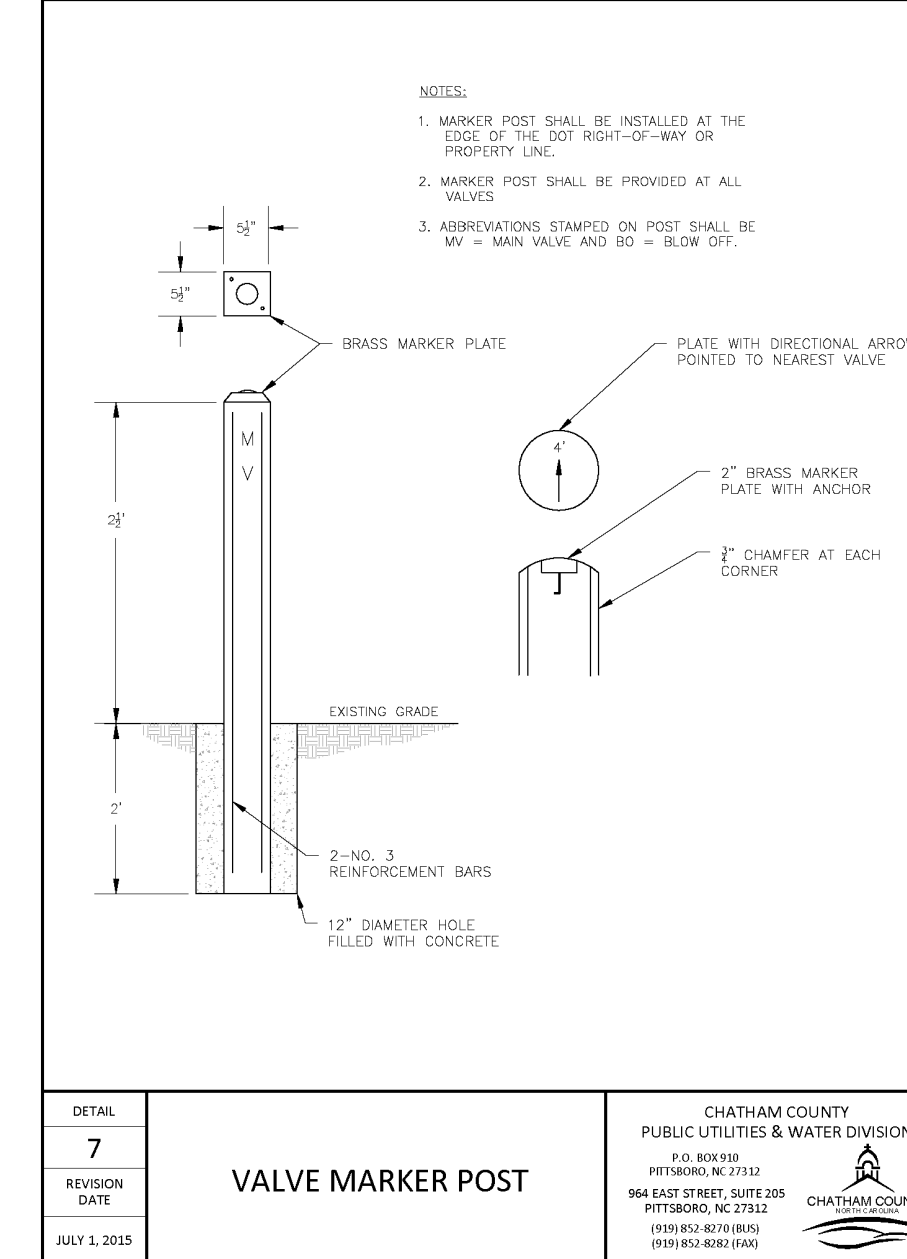
DETAIL	35	DUCTILE IRON PIPE TRENCH BOTTOM DIMENSIONS AND BACKFILLING REQUIREMENTS	CHATHAM COUNTY PUBLIC UTILITIES & WATER DIVISION P.O. BOX 900 PITTSBORO, NC 27513 964 EAST STREET, SUITE 205 PITTSBORO, NC 27513 (919) 852-8070 FAX (919) 852-8000
REVISION	1		
DATE	JULY 1, 2015		



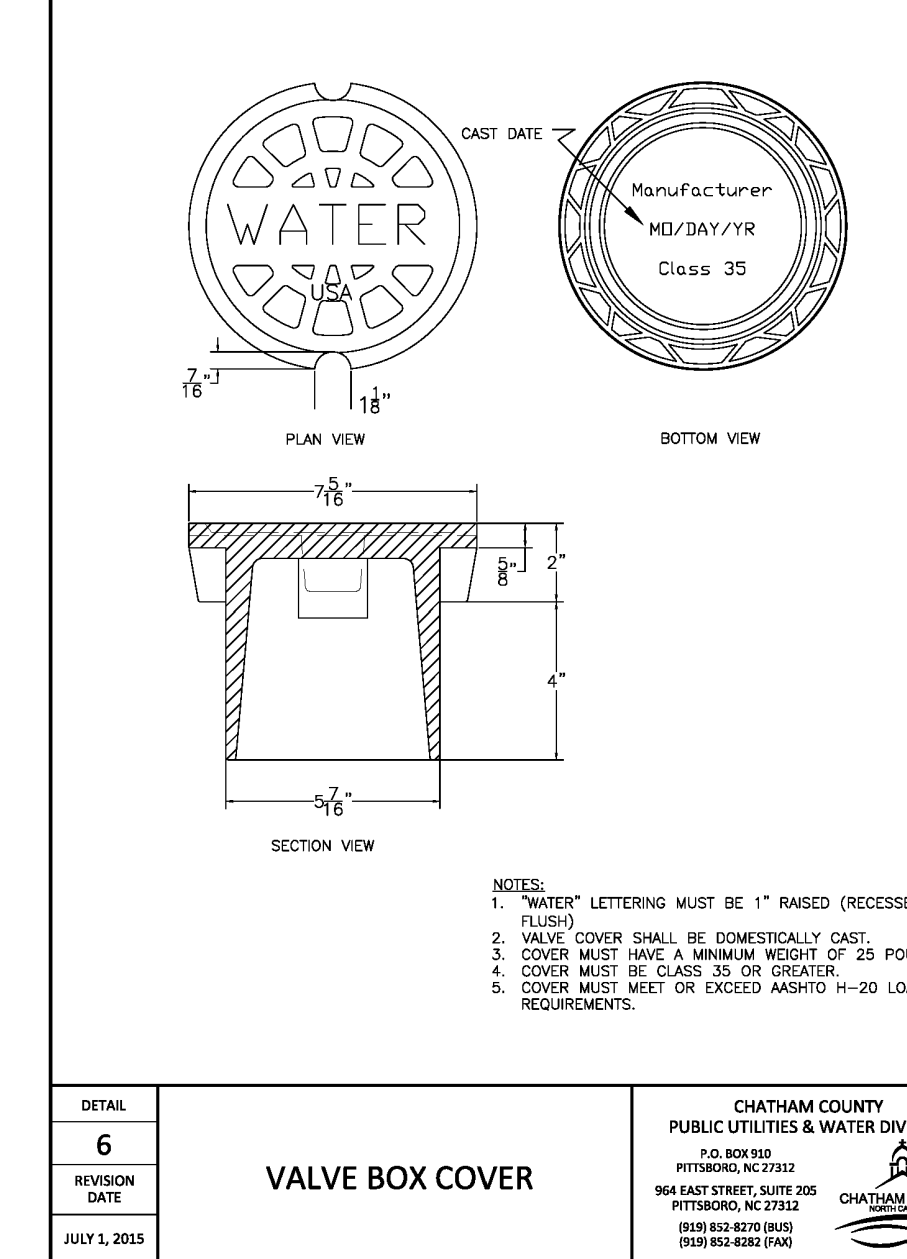
DETAIL	1	FIRE HYDRANT ASSEMBLY	CHATHAM COUNTY PUBLIC UTILITIES & WATER DIVISION P.O. BOX 900 PITTSBORO, NC 27513 964 EAST STREET, SUITE 205 PITTSBORO, NC 27513 (919) 852-8070 FAX (919) 852-8000
REVISION	1		
DATE	JULY 1, 2015		



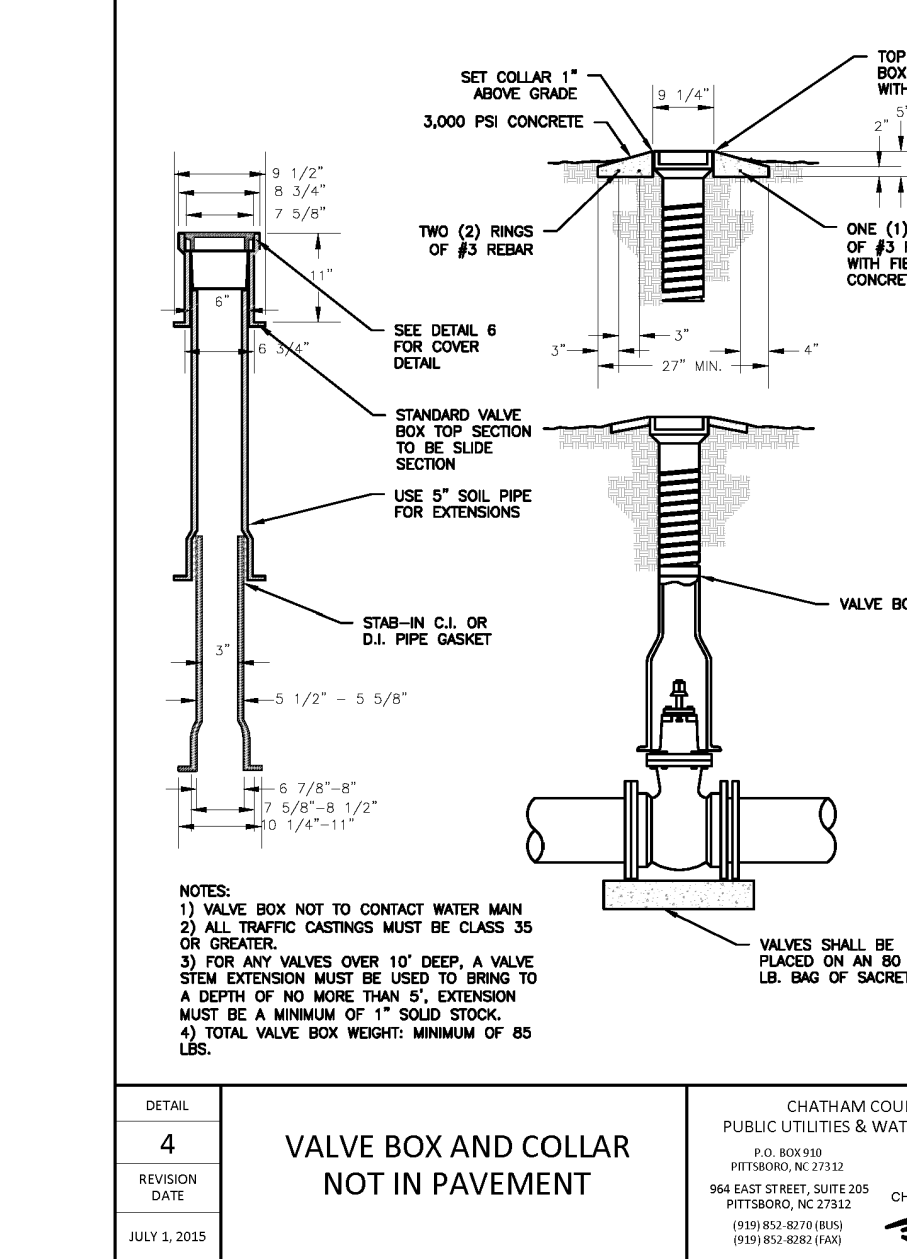
DETAIL	3	GATE VALVE ASSEMBLY	CHATHAM COUNTY PUBLIC UTILITIES & WATER DIVISION P.O. BOX 900 PITTSBORO, NC 27513 964 EAST STREET, SUITE 205 PITTSBORO, NC 27513 (919) 852-8070 FAX (919) 852-8000
REVISION	1		
DATE	JULY 1, 2015		



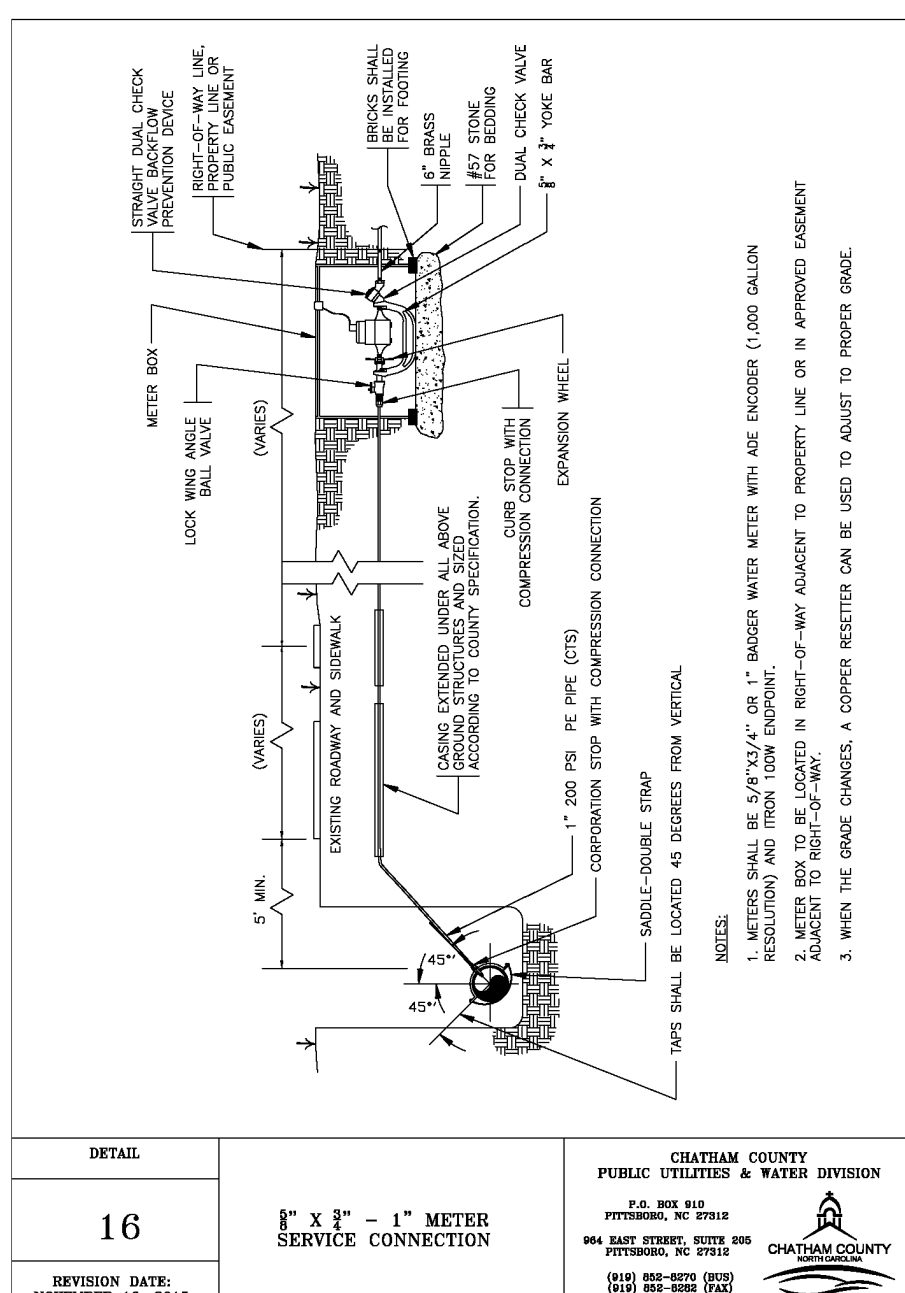
DETAIL	7	VALVE MARKER POST	CHATHAM COUNTY PUBLIC UTILITIES & WATER DIVISION P.O. BOX 900 PITTSBORO, NC 27513 964 EAST STREET, SUITE 205 PITTSBORO, NC 27513 (919) 852-8070 FAX (919) 852-8000
REVISION	1		
DATE	JULY 1, 2015		



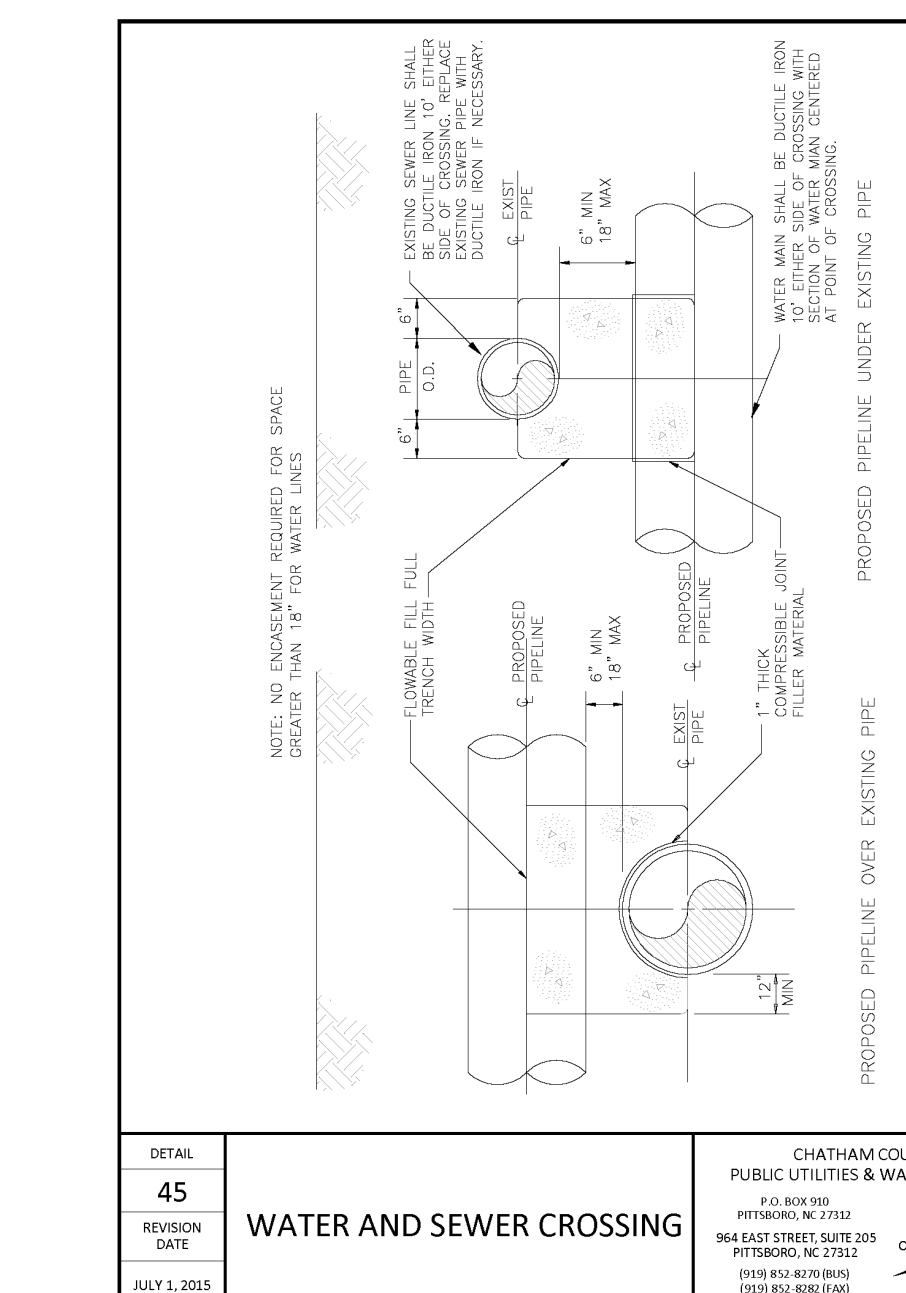
DETAIL	6	VALVE BOX COVER	CHATHAM COUNTY PUBLIC UTILITIES & WATER DIVISION P.O. BOX 900 PITTSBORO, NC 27513 964 EAST STREET, SUITE 205 PITTSBORO, NC 27513 (919) 852-8070 FAX (919) 852-8000
REVISION	1		
DATE	JULY 1, 2015		



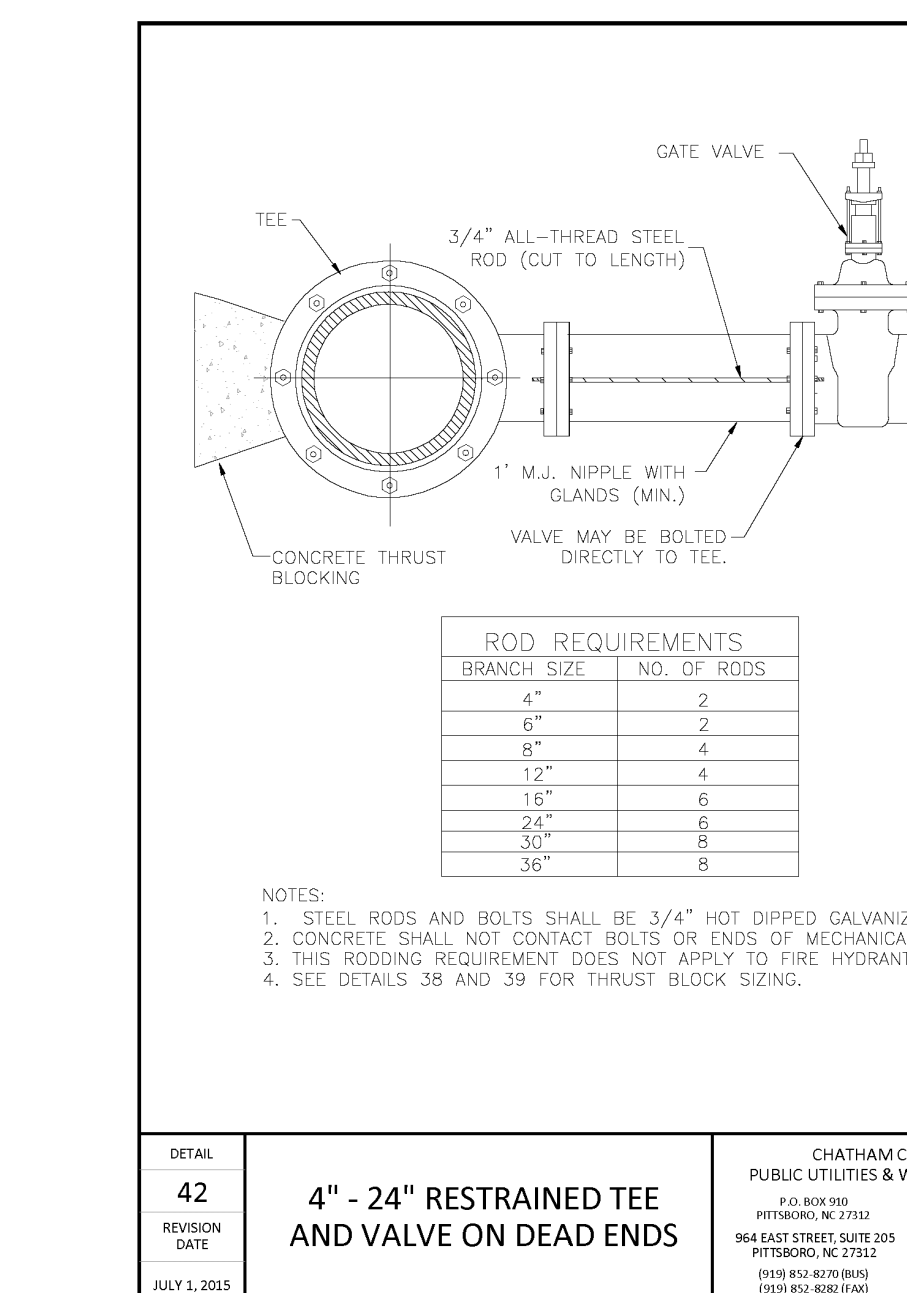
DETAIL	4	VALVE BOX AND COLLAR NOT IN PAVEMENT	CHATHAM COUNTY PUBLIC UTILITIES & WATER DIVISION P.O. BOX 900 PITTSBORO, NC 27513 964 EAST STREET, SUITE 205 PITTSBORO, NC 27513 (919) 852-8070 FAX (919) 852-8000
REVISION	1		
DATE	JULY 1, 2015		



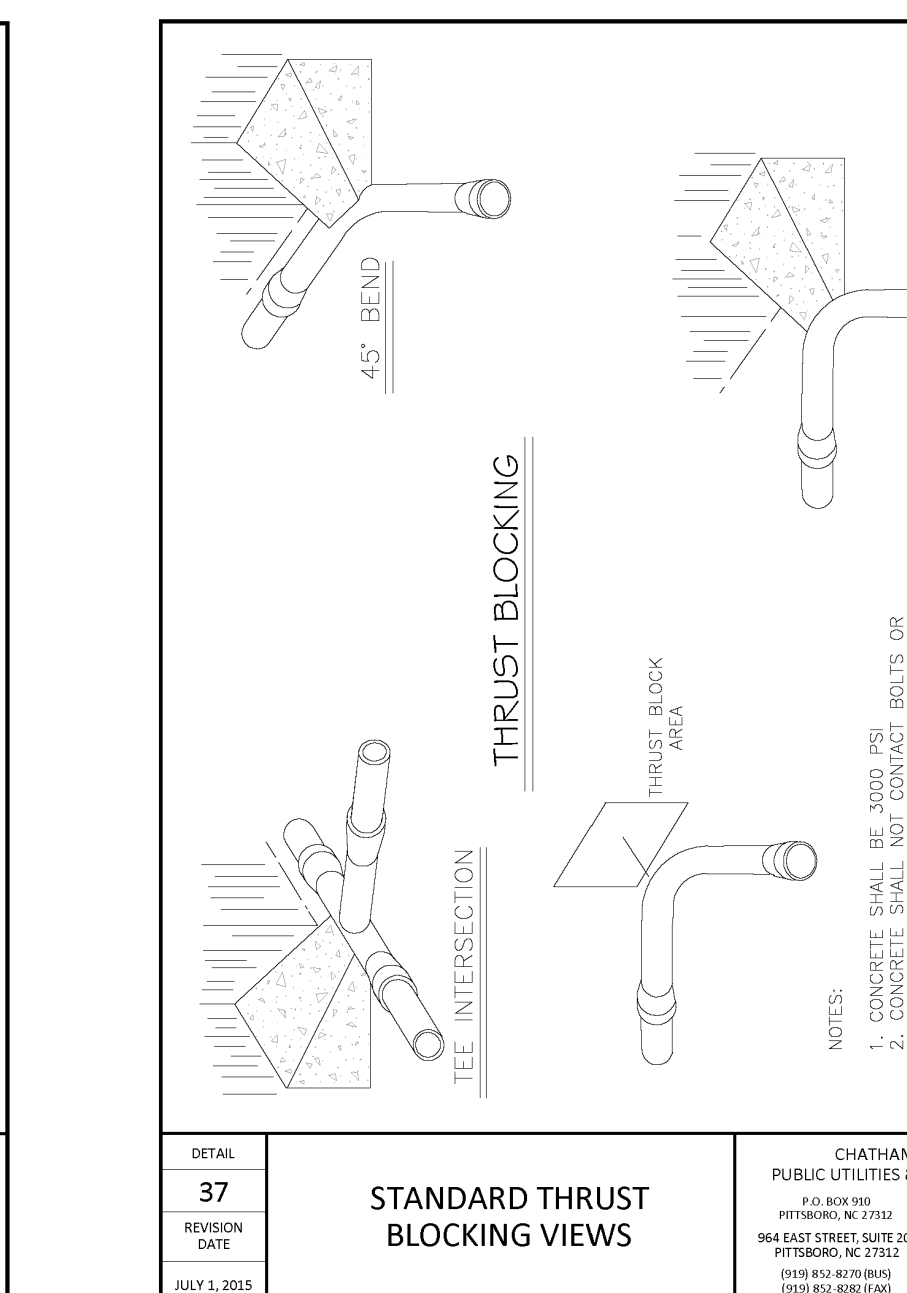
DETAIL	16	12\"/>
REVISION	1	
DATE	NOVEMBER 16, 2015	



DETAIL	45	WATER AND SEWER CROSSING	CHATHAM COUNTY PUBLIC UTILITIES & WATER DIVISION P.O. BOX 900 PITTSBORO, NC 27513 964 EAST STREET, SUITE 205 PITTSBORO, NC 27513 (919) 852-8070 FAX (919) 852-8000
REVISION	1		
DATE	JULY 1, 2015		



DETAIL	42	4\"/>
REVISION	1	
DATE	JULY 1, 2015	

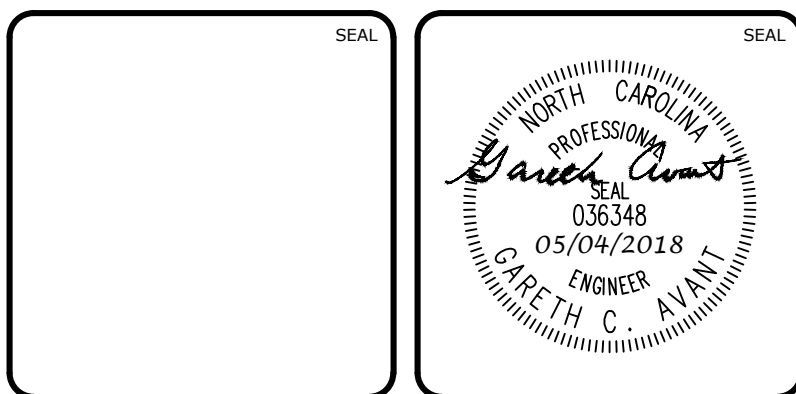


DETAIL	37	STANDARD THRUST BLOCKING	CHATHAM COUNTY PUBLIC UTILITIES & WATER DIVISION P.O. BOX 900 PITTSBORO, NC 27513 964 EAST STREET, SUITE 205 PITTSBORO, NC 27513 (919) 852-8070 FAX (919) 852-8000
REVISION	1		
DATE	JULY 1, 2015		

DETAIL	38	CONCRETE THRUST BLOCKING QUANTITY TABLE, 6\"/>
REVISION	1	
DATE	JULY 1, 2015	

DETAIL	39	CONCRETE THRUST BLOCKING QUANTITY TABLE, 24\"/>
REVISION	1	
DATE	JULY 1, 2015	

REV. NO.	DESCRIPTION	DATE
2	REVISED PER NCDOT COMMENTS	2018.05.07
1	REVISED PER CHATHAM COUNTY EROSION CONTROL AND STORMWATER	2018.05.04
0	INITIAL SUBMITTAL	2018.04.11

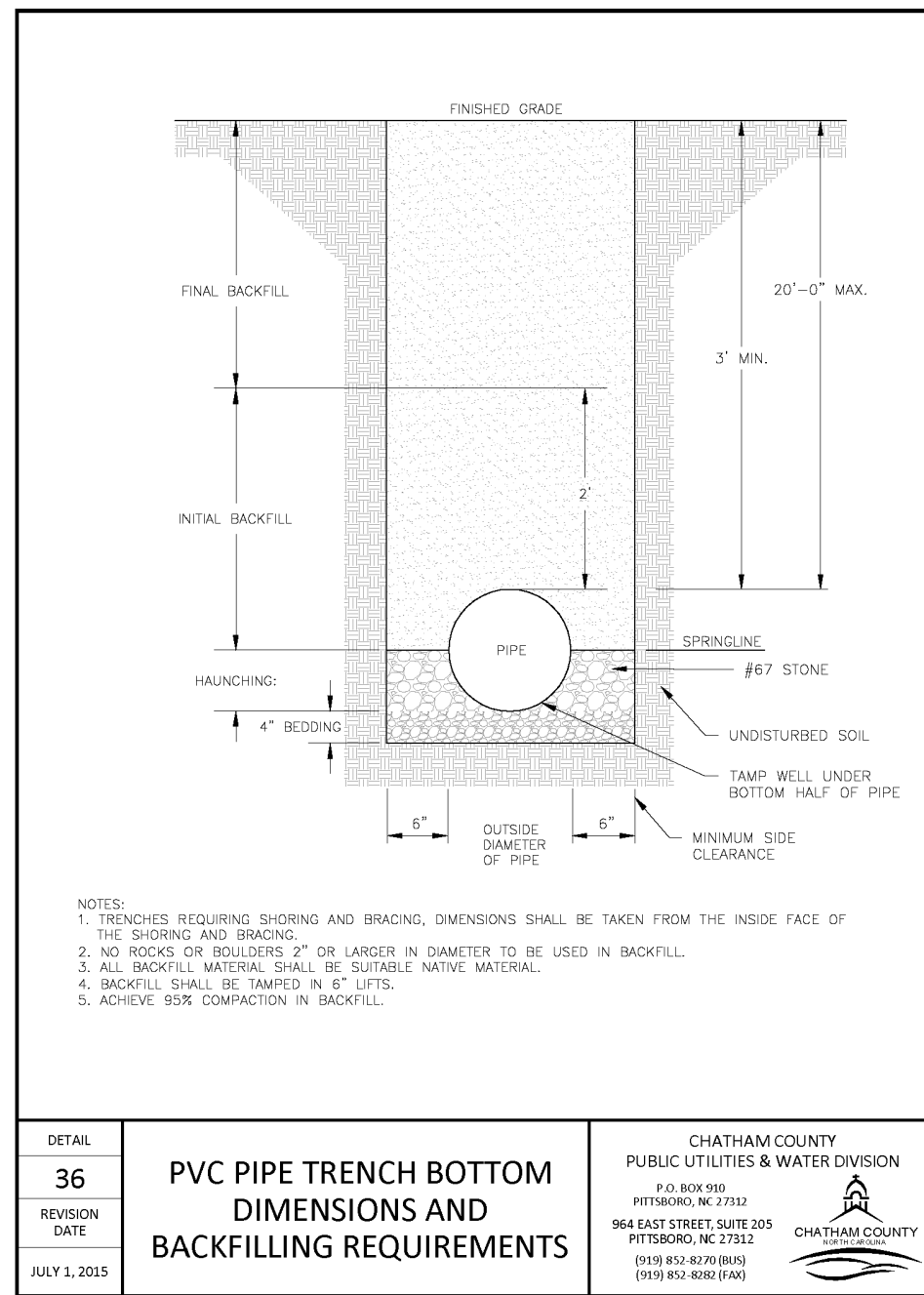


**MCKIM & CREED**  
1730 Varsity Drive, Suite 500  
Raleigh, North Carolina 27606  
Phone: (919)233-8091, Fax: (919)233-8031  
F-1222  
www.mckimcreed.com

**BRIAR CHAPEL**  
US STEEL - SECTION 2  
CHATHAM COUNTY, NORTH CAROLINA  
UTILITY DETAILS  
by Newland COMMUNITIES

**BRIAR CHAPEL**  
US STEEL - SECTION 2  
CHATHAM COUNTY, NORTH CAROLINA  
UTILITY DETAILS

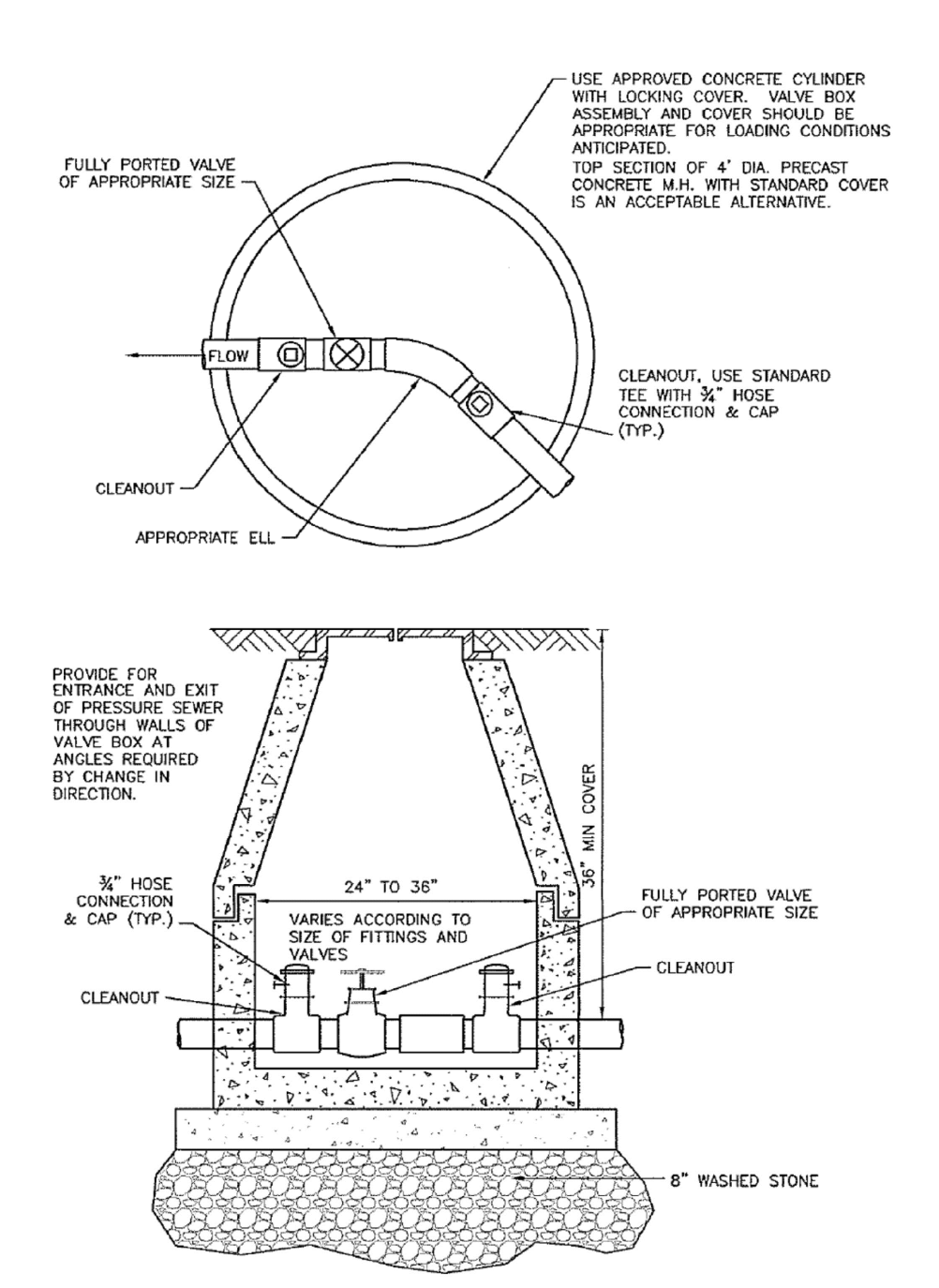
DATE:	APRIL 11, 2018	SCALE:	HORIZONTAL: N/A VERTICAL: N/A	MFC FILE NUMBER:	D3.X
MCE PROJ. #:	02735-0206	DRAWN:	LEG	DRAWING NUMBER:	D3.1
DESIGNED:	LEG	CHECKED:	GCA		
PROJ. MGR.:	CHS				
STATUS:	FINAL DRAWINGS FOR REVIEW PURPOSES ONLY	REVISION:	2		



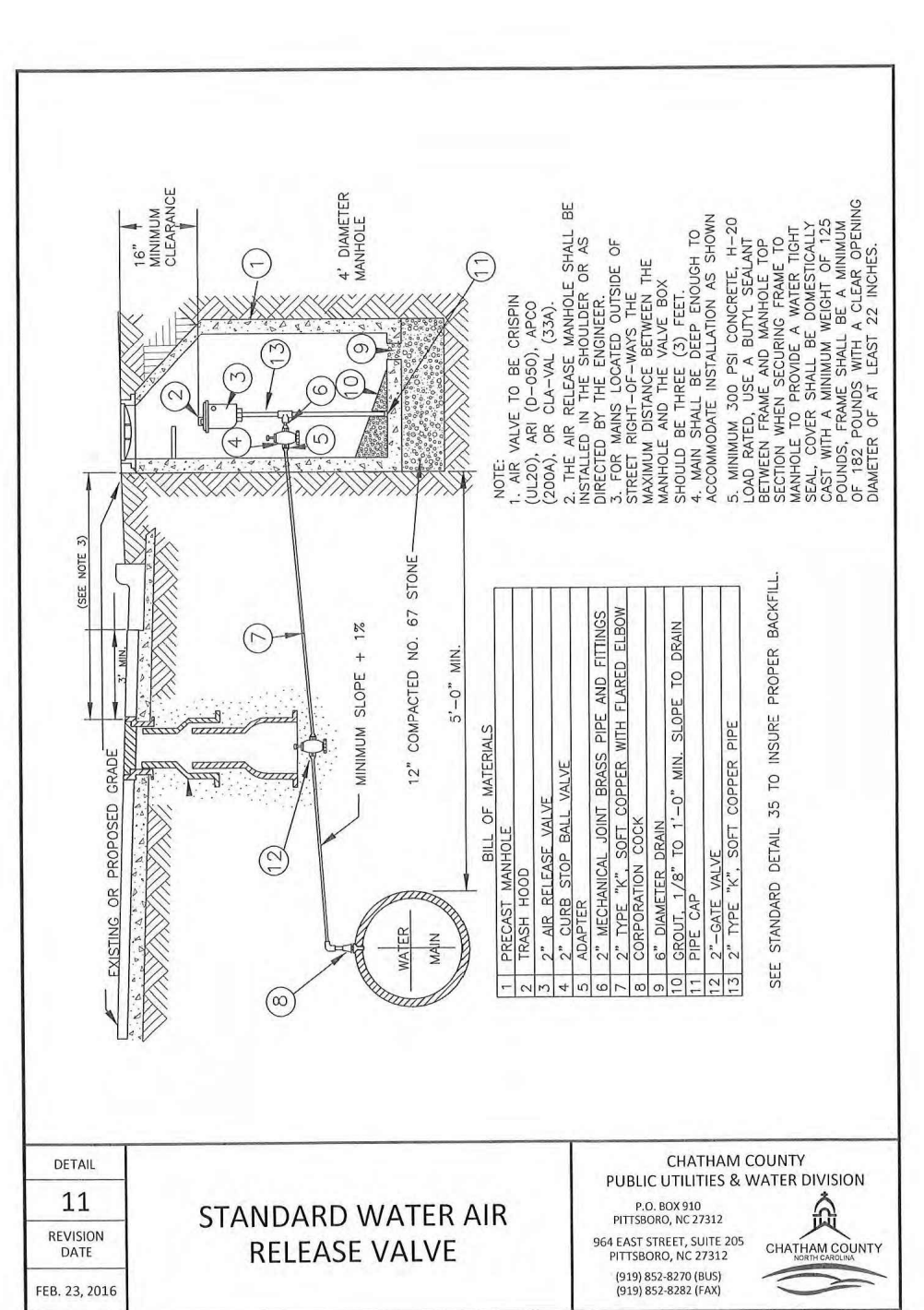
DETAIL	36	PVC PIPE TRENCH BOTTOM DIMENSIONS AND BACKFILLING REQUIREMENTS	CHATHAM COUNTY PUBLIC UTILITIES & WATER DIVISION P.O. BOX 999 PITTSBORO, NC 27702 964 EAST STREET, SUITE 209 PITTSBORO, NC 27712 PH: 919-437-1000 FAX: 919-437-1001
REVISION	DATE		
1	AUG 1, 2015		

- DETECTABLE WARNING TAPE NOTES:**
1. THE TAPE SHALL BE AN INERT, BONDED LAYER PLASTIC WITH A METALIZED FOIL CORE AND SHALL BE HIGHLY RESISTANT TO ALKALIS, ACID, OR OTHER DESTRUCTIVE CHEMICAL COMPONENTS LIKELY TO BE ENCOUNTERED IN SOILS.
  2. THE TAPE SHALL BE BRIGHTLY COLORED TO CONTRAST WITH SOIL AND SHALL BEAR AN IMPRINT IDENTIFYING THE TYPE OF LINE BURIED BELOW. THE TAPE SHALL BE A MINIMUM OF 2" WIDE.
  3. THE TAPE SHALL BE BURIED A MINIMUM OF 6" AND A MAXIMUM OF 12" BELOW THE GROUND SURFACE DIRECTLY ABOVE THE WATER LINE WITH PRINTED SIDE UP.

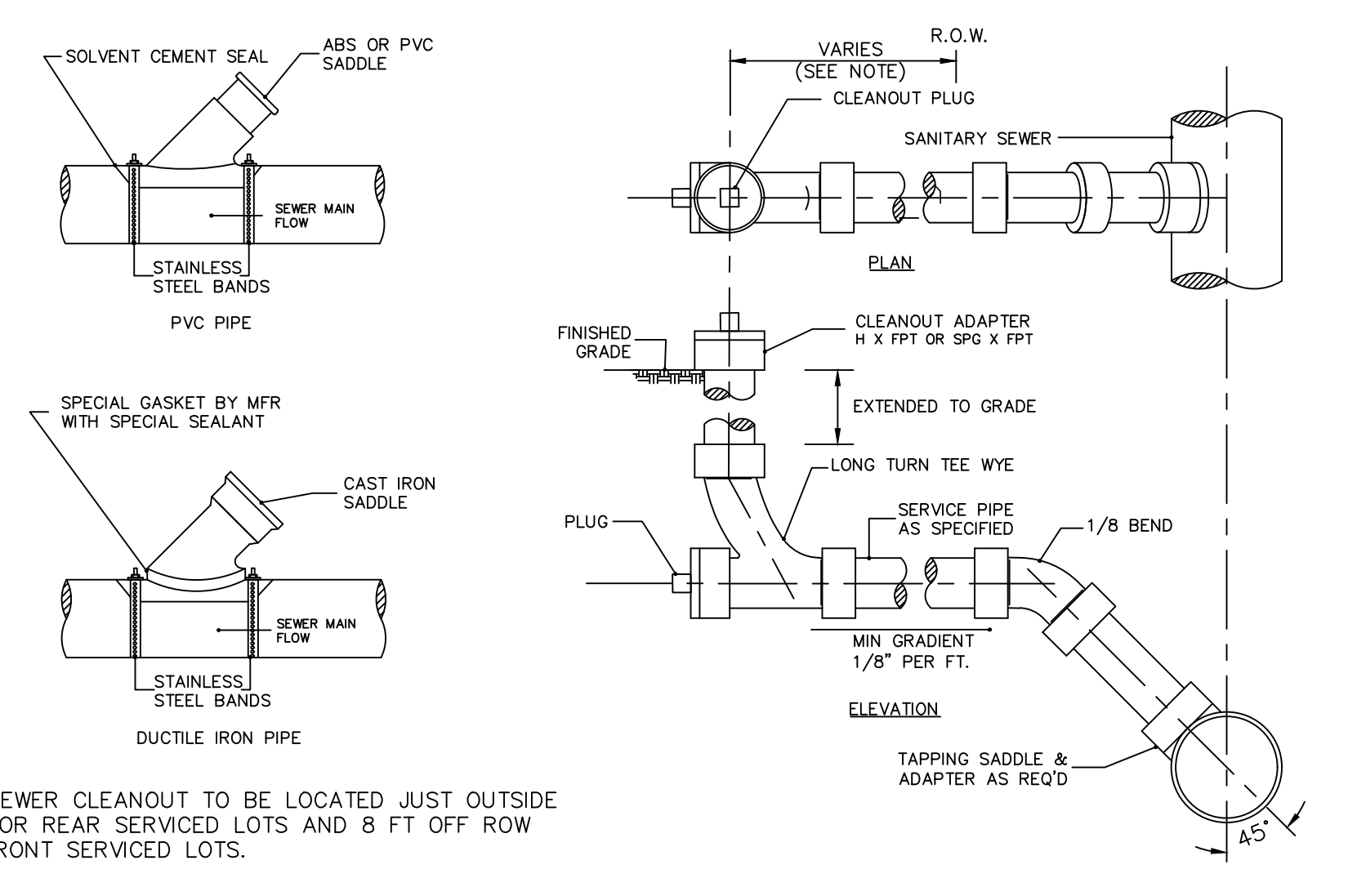
- TRACER WIRE NOTES:**
1. TRACER WIRE IS TO BE STANDARD NO. 12 GAUGE COATED COPPER WIRE.
  2. LOCATION WIRE CONNECTIONS ARE TO BE A WATER TIGHT CONNECTION USING TWISTER DB PLUS WATERPROOF WIRE CONNECTORS OR AN APPROVED EQUAL.



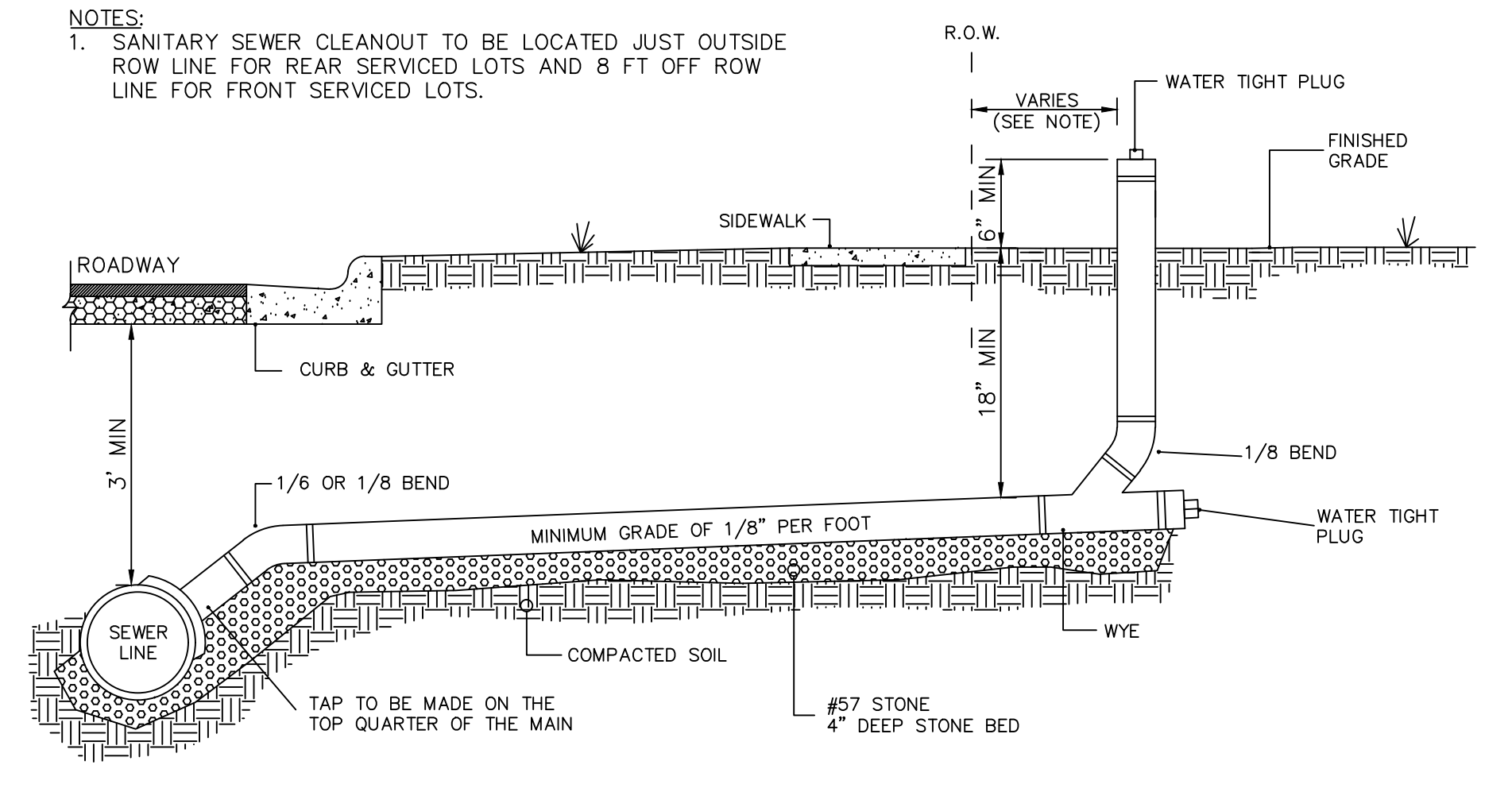
**MANHOLE AND CLEANOUT ARRANGEMENTS AT TYPICAL CHANGES OF DIRECTION IN PRESSURE SEWER LINES**  
NTS



DETAIL	11	STANDARD WATER AIR RELEASE VALVE	CHATHAM COUNTY PUBLIC UTILITIES & WATER DIVISION P.O. BOX 999 PITTSBORO, NC 27702 964 EAST STREET, SUITE 209 PITTSBORO, NC 27712 PH: 919-437-1000 FAX: 919-437-1001
REVISION	DATE		
1	FEB. 23, 2016		

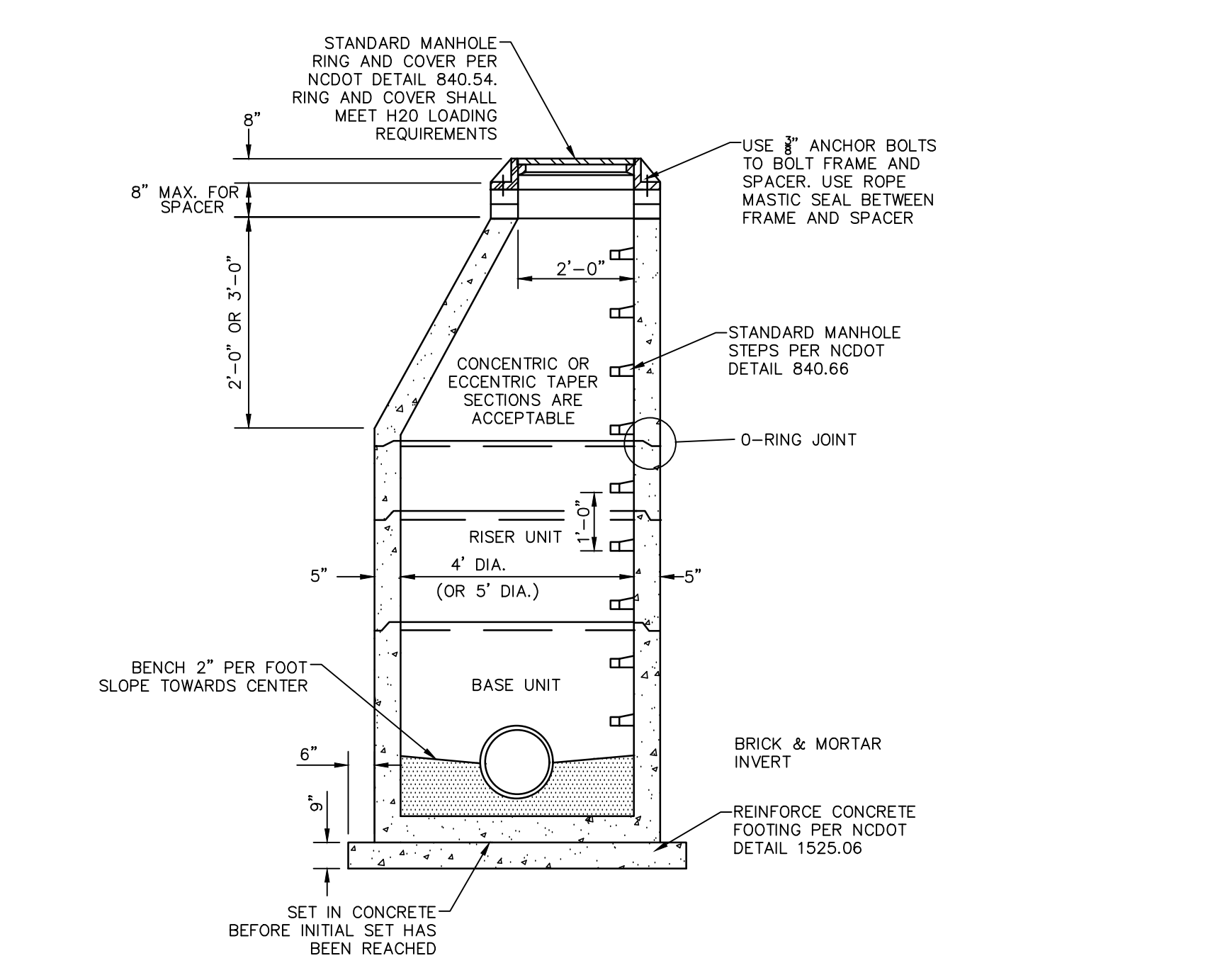


**SANITARY SEWER SERVICE CONNECTIONS**  
NTS

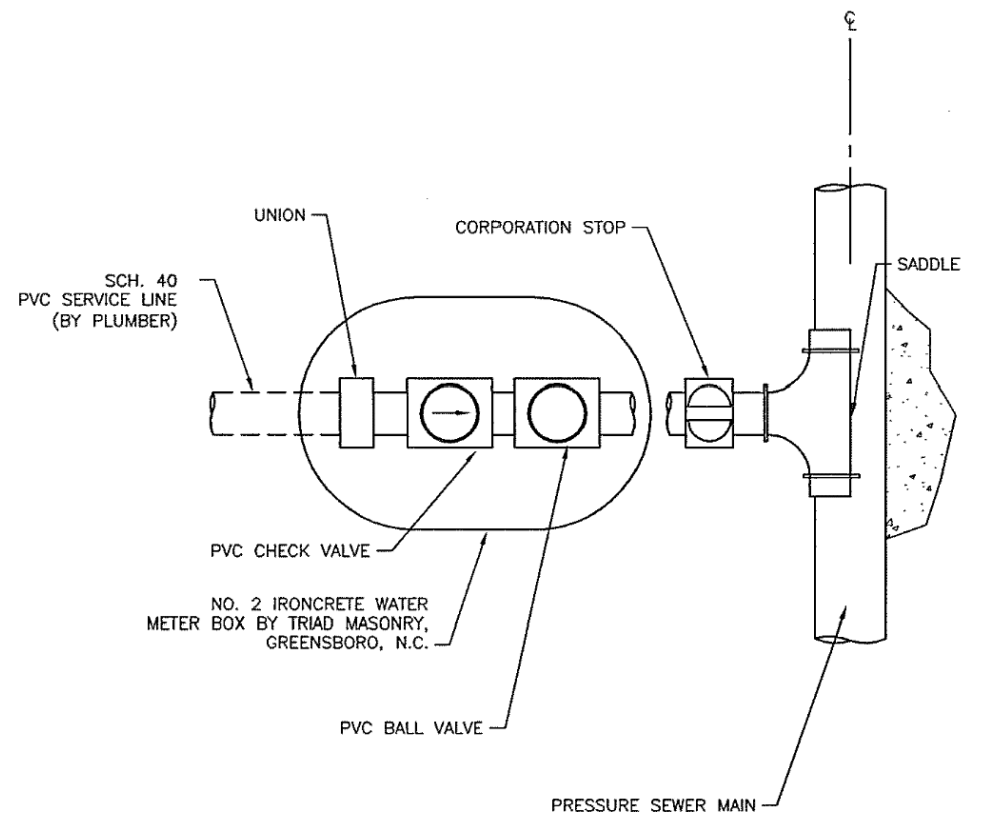


**STANDARD SANITARY SEWER TAP AND SERVICE**  
NTS

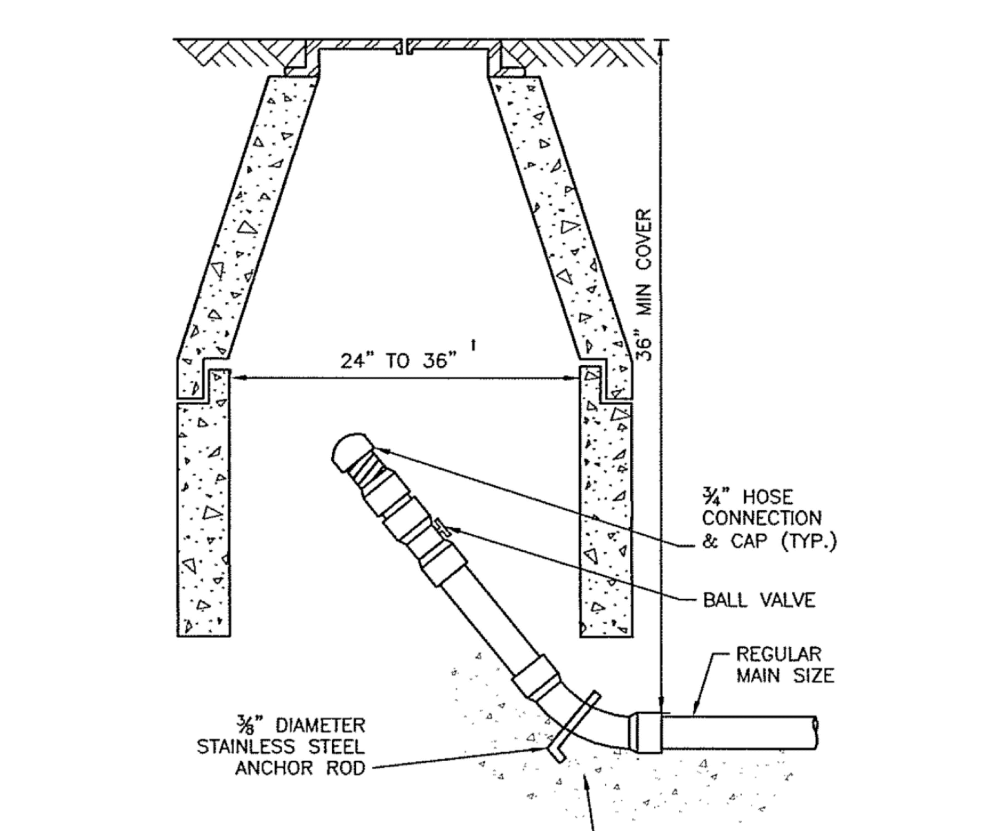
- NOTES:**
1. PROVIDE PRECAST MANHOLE COMPONENTS WHICH COMPLY WITH AASHTO M199.
  2. ASSEMBLE RISERS AND GRADE RINGS SO STPS HAVE A SPACING OF 12" FROM THE TOP TO THE BOTTOM OF THE MANHOLE.
  3. WHERE THE MANHOLE IS EXPOSED TO ROADWAY TRAFFIC, PLACE THE TOP OF THE MANHOLE FLUSH WITH THE GROUND.
  4. REINFORCED CONCRETE FOOTING IS REQUIRED WHEN THE MANHOLE IS OVER 12" IN DEPTH OR ON A POOR SOIL BASE. THE FOOTING AND BASE SECTION MAY BE PRECAST.



**STANDARD SANITARY SEWER PRECAST CONCRETE MANHOLE**  
NTS



**TYPICAL SEWER SERVICE CONNECTION (PRESSURE SEWER)**  
NTS



**TYPICAL END OF LINE CLEANOUT**  
NTS

REV. NO.	DESCRIPTION	DATE
2	REVISED PER NCDOT COMMENTS	2018.05.07
1	REVISED PER CHATHAM COUNTY EROSION CONTROL AND STORMWATER	2018.05.04
0	INITIAL SUBMITTAL	2018.04.11

STATE OF NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR  
PRECAST CONCRETE  
SANITARY SEWER MANHOLE  
WITH CAST-IN-PLACE BOTTOM

REINFORCED CONCRETE FOOTING FOR 5' PRECAST MANHOLE OR 4' PRECAST MANHOLE

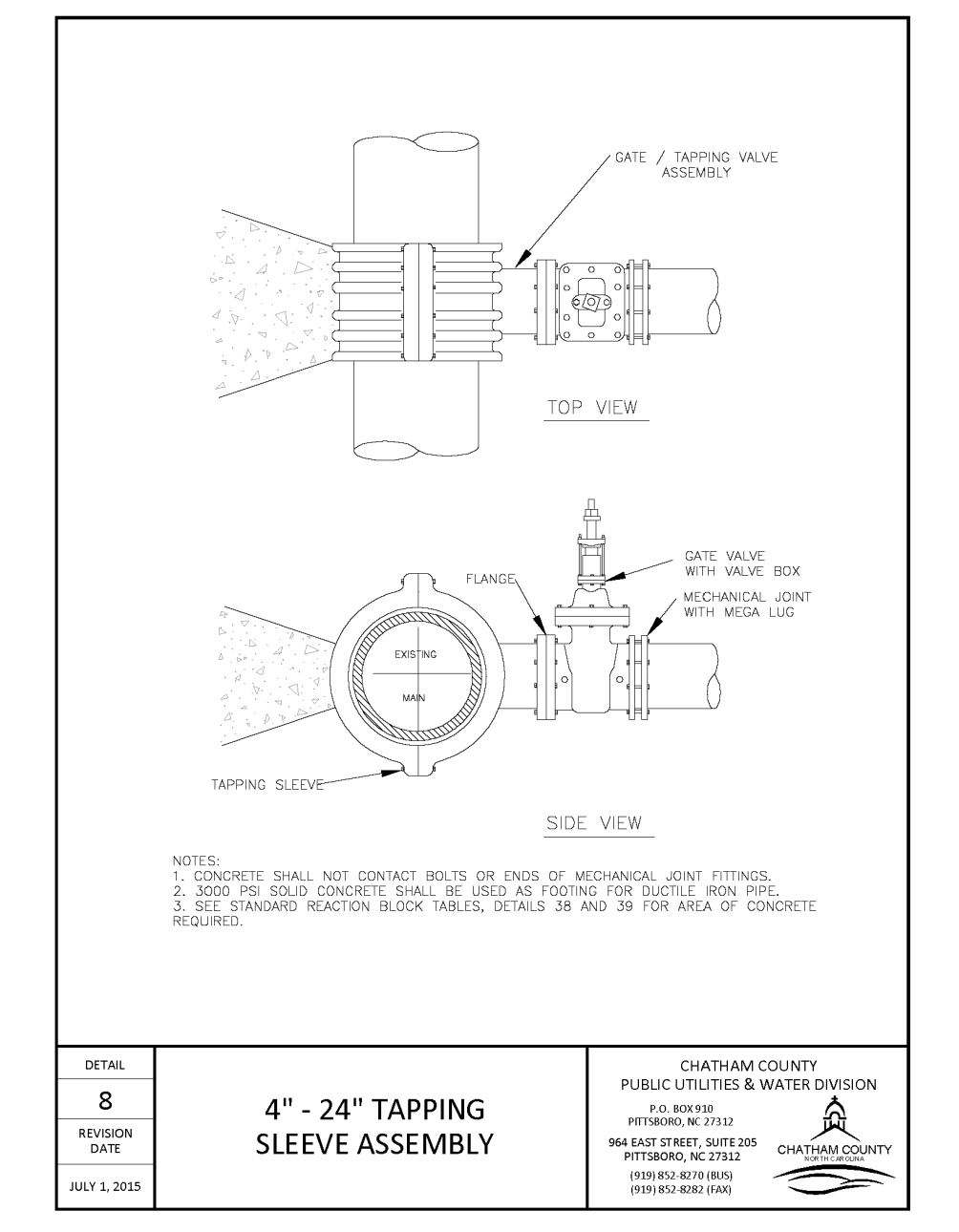
BAR SIZE	LENGTH	NO.	WT. lbs.
T1	#5 5'-6"	18	103
CLASS "A" CONC. YD <sup>3</sup> 9" THICK 1.00			
T2	#5 6'-6"	20	136
CLASS "A" CONC. YD <sup>3</sup> 9" THICK 1.36			
T3	#5 7'-6"	24	188
CLASS "A" CONC. YD <sup>3</sup> 12" THICK 2.37			

PLACE REINFORCING STEEL SO THAT STEEL IS PLACED A MIN. OF 2" AND A MAX. OF 4" FROM THE TOP OF THE SLAB.

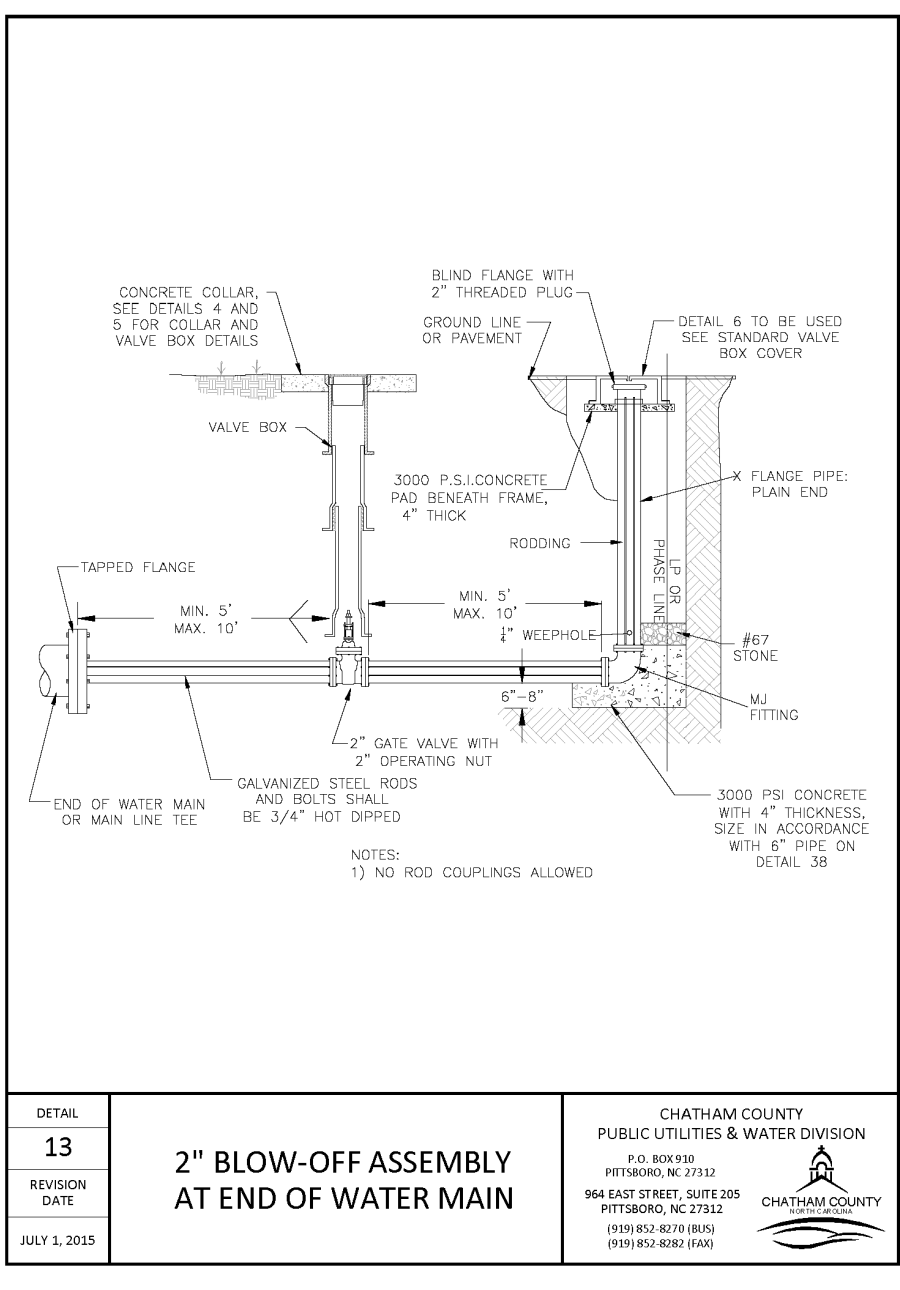
T1, T2 OR T3 BAR  
7" HOOK (PER CRS1)      7" HOOK (PER CRS1)

ENGLISH STANDARD DRAWING FOR  
PRECAST CONCRETE  
SANITARY SEWER MANHOLE  
WITH CAST-IN-PLACE BOTTOM

SHEET 2 OF 2  
1525.06



**4" - 24" TAPPING SLEEVE ASSEMBLY**  
NTS



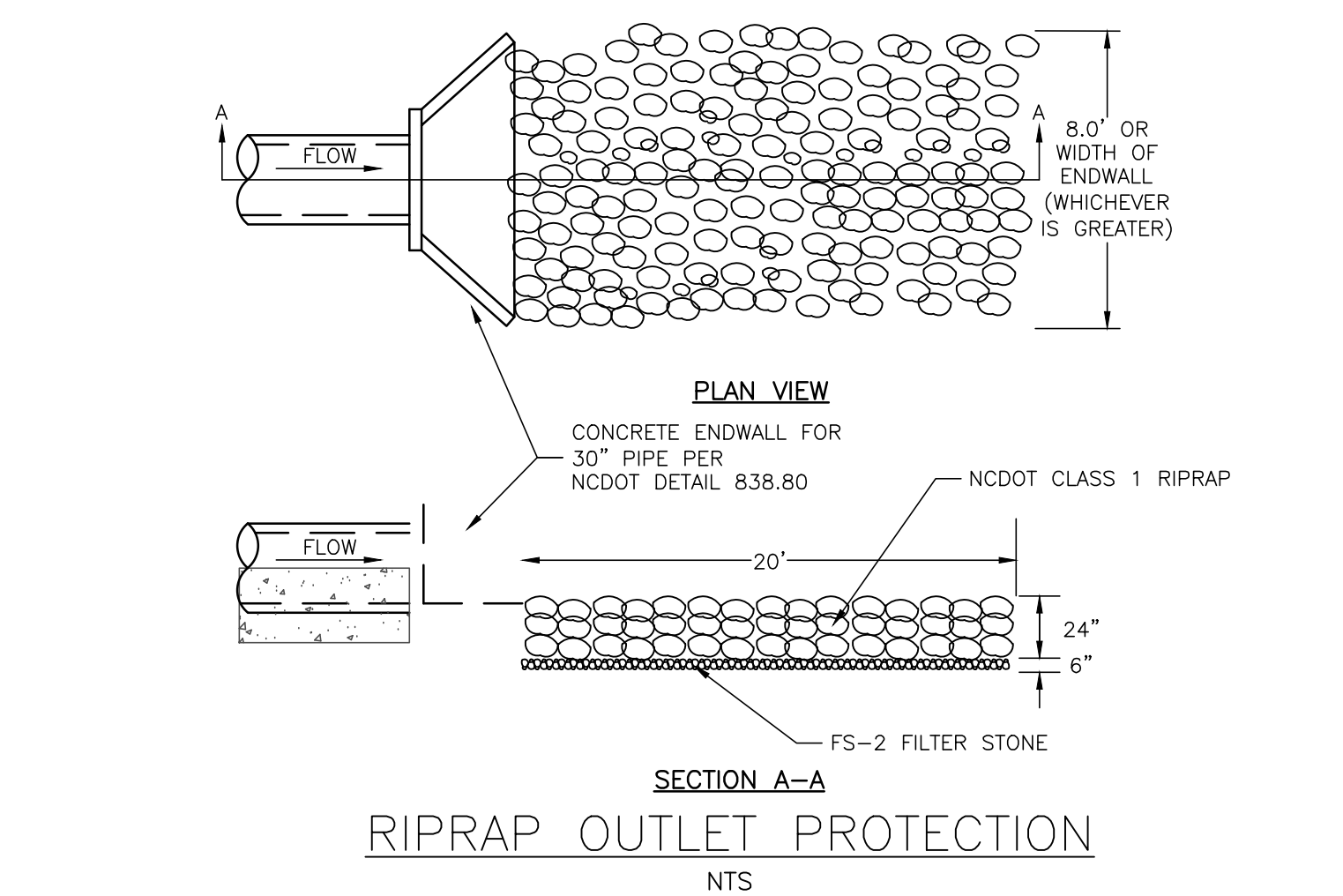
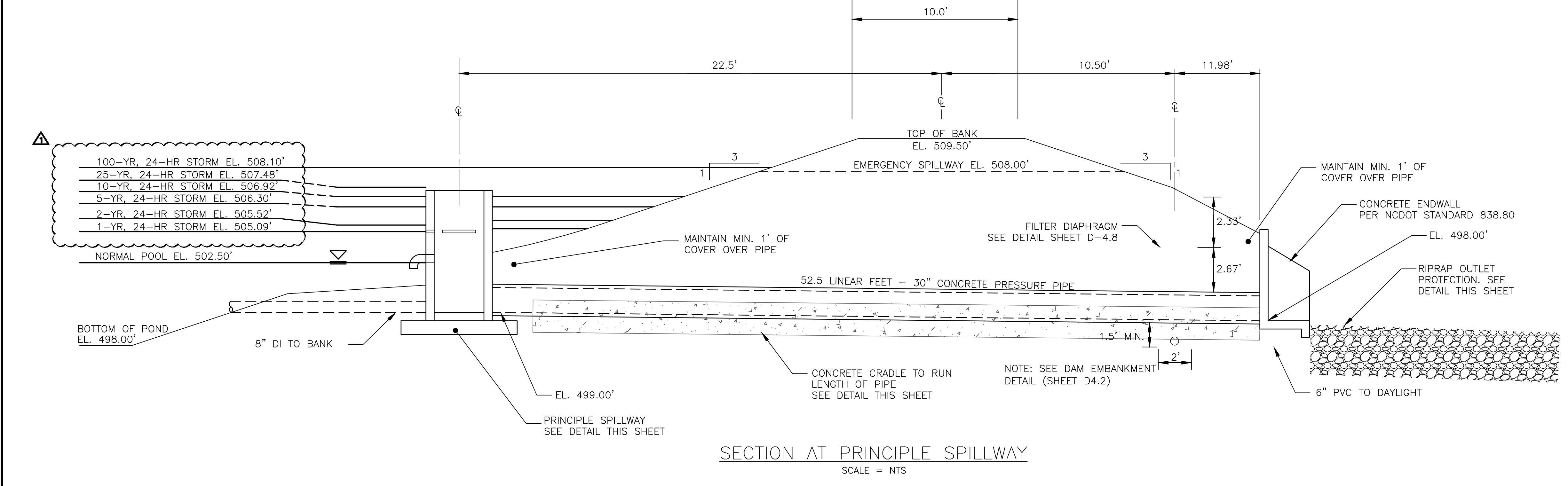
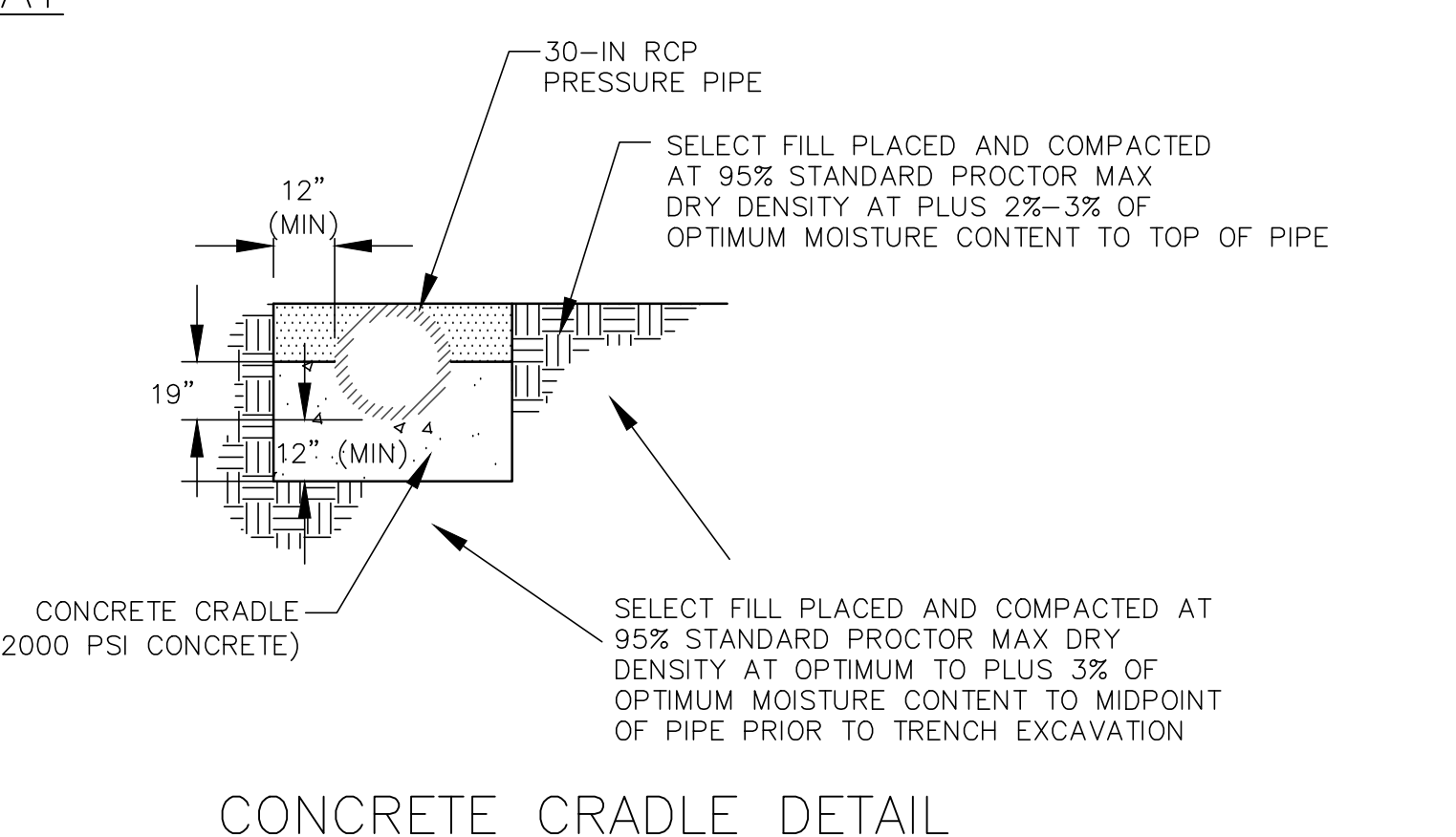
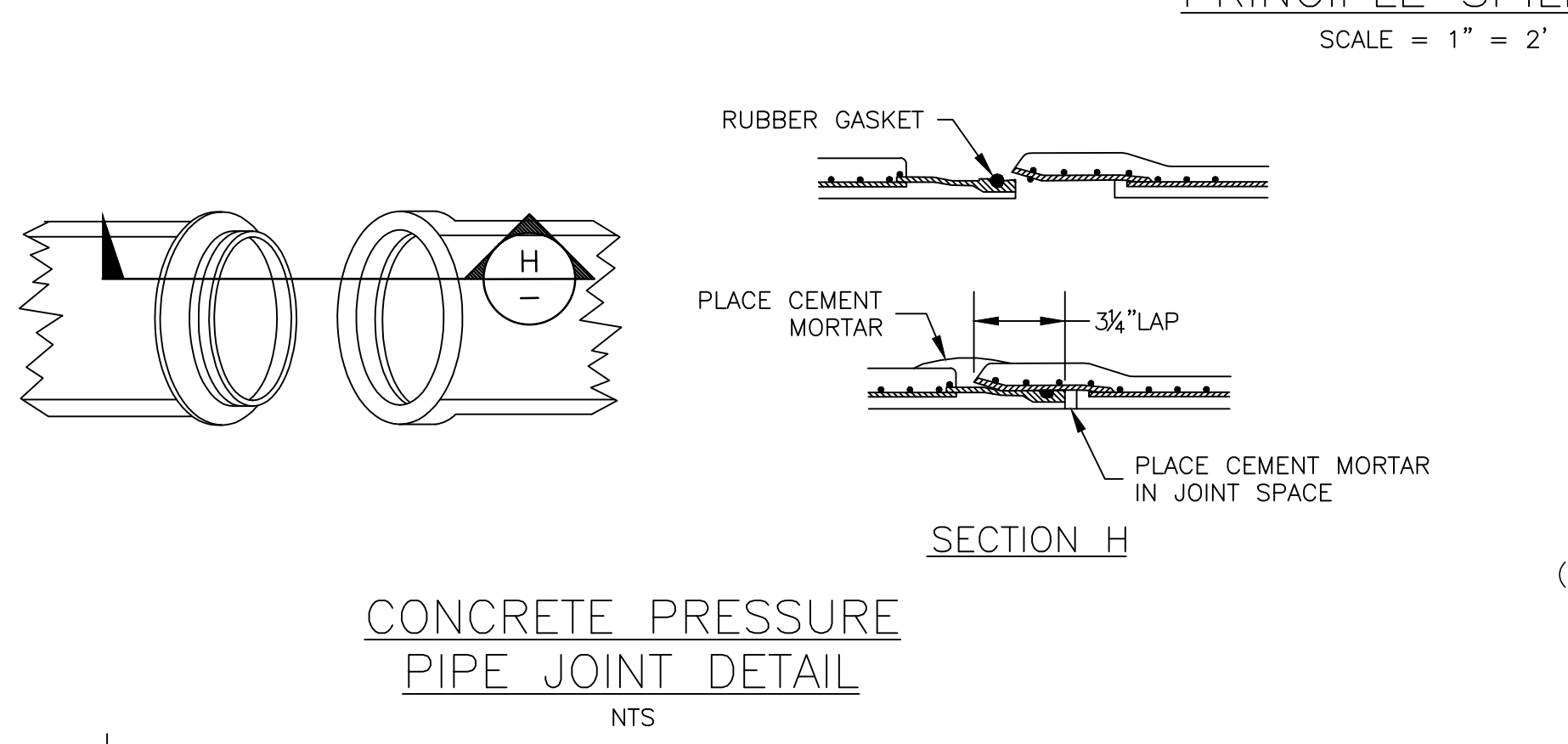
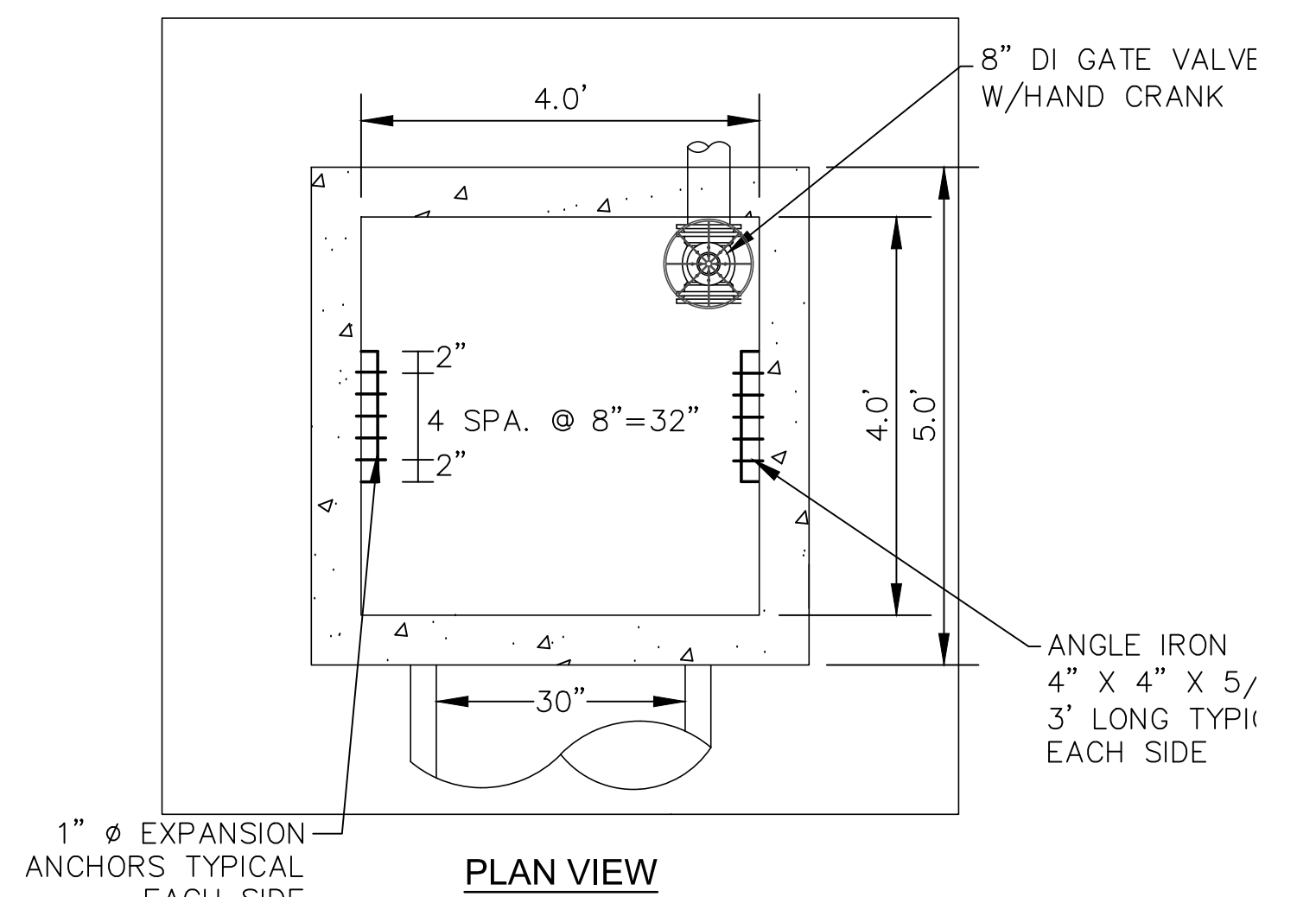
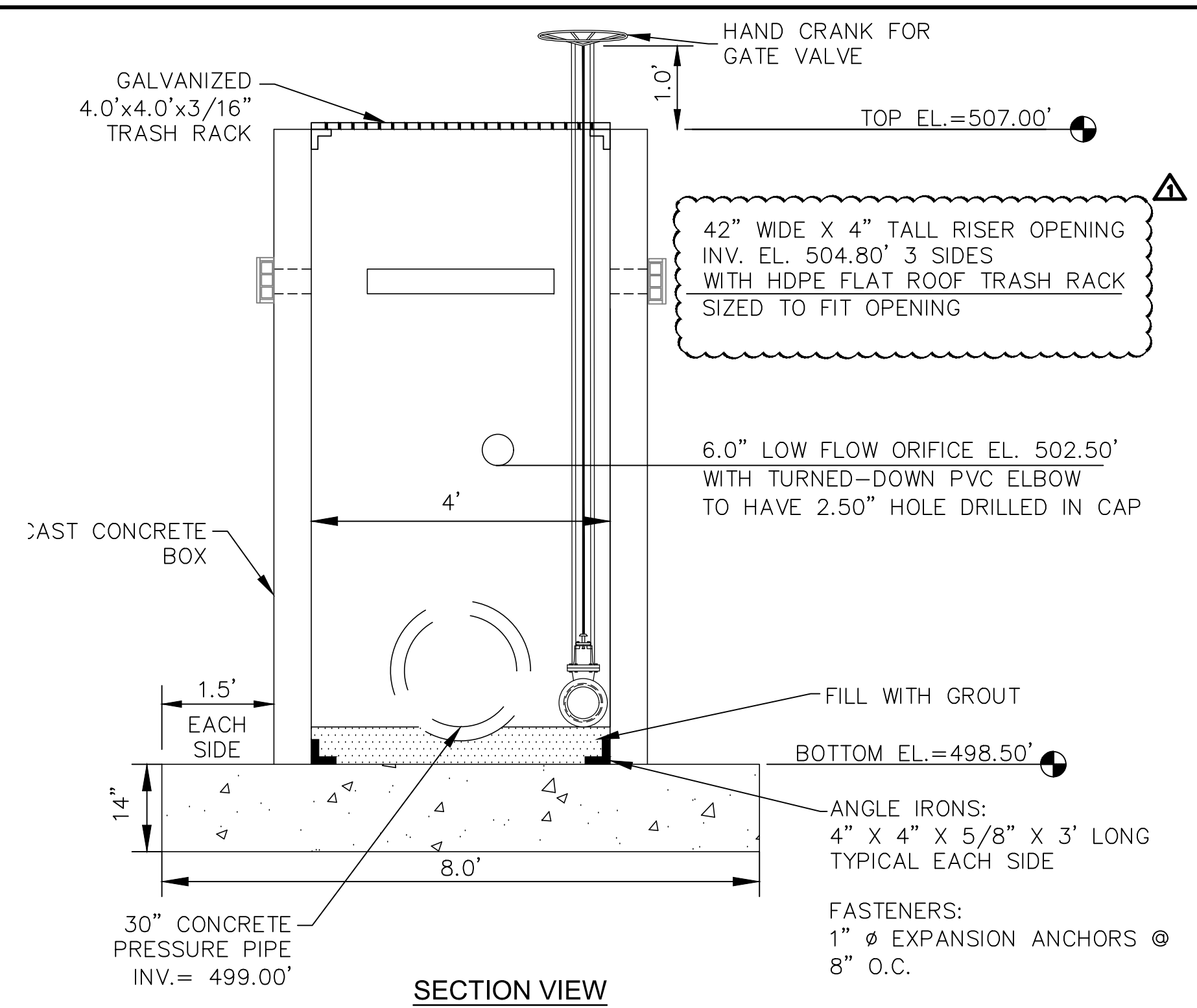
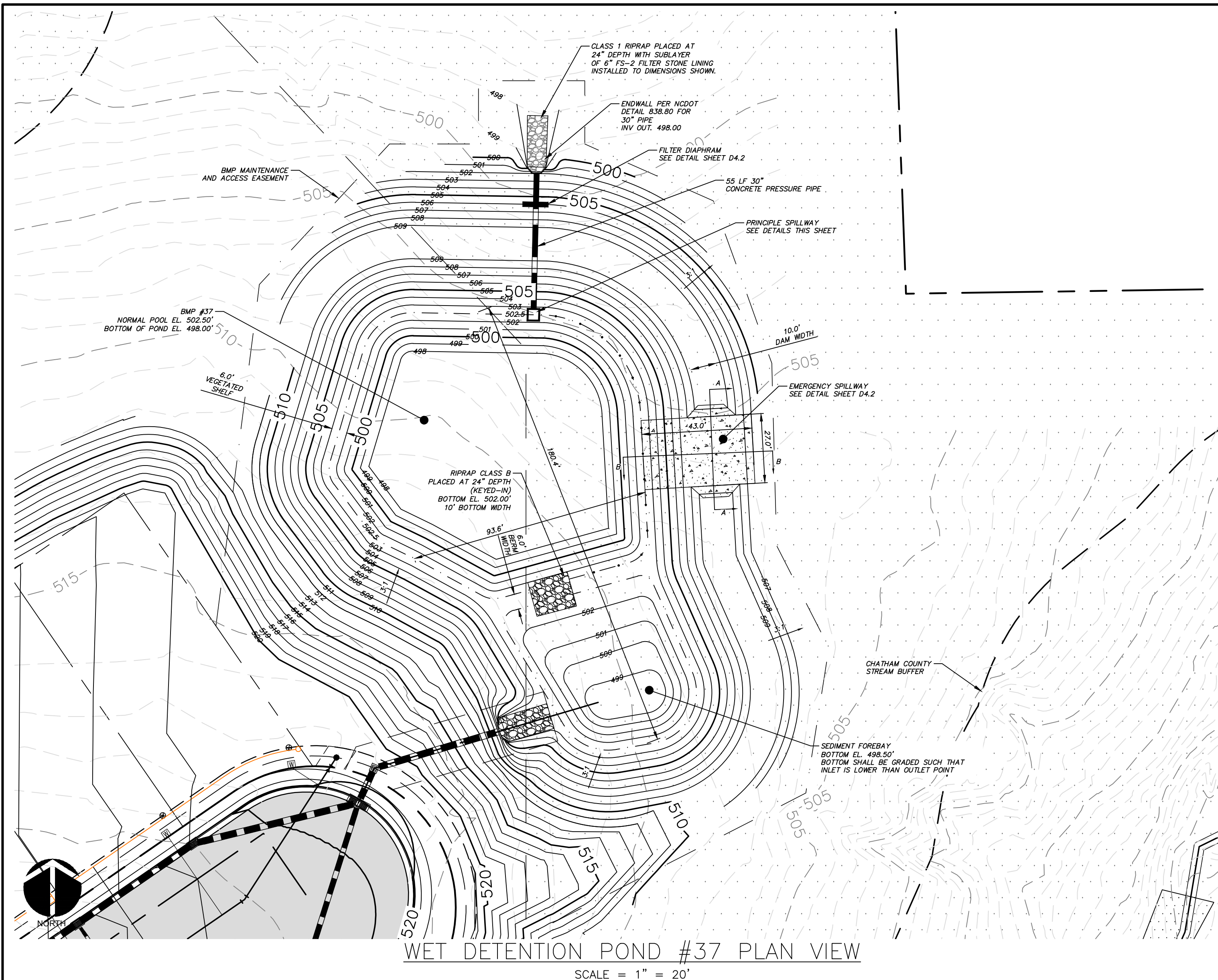
**2" BLOW-OFF ASSEMBLY AT END OF WATER MAIN**  
NTS



**BRIAR CHAPEL  
US STEEL - SECTION 2  
CHATHAM COUNTY, NORTH CAROLINA**

**UTILITY DETAILS**

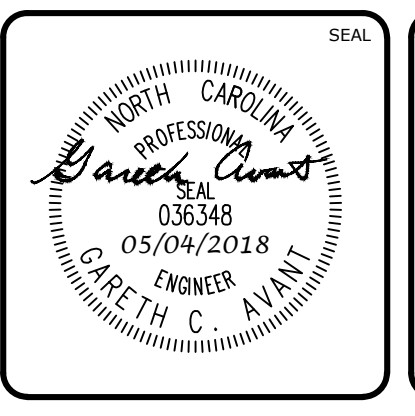
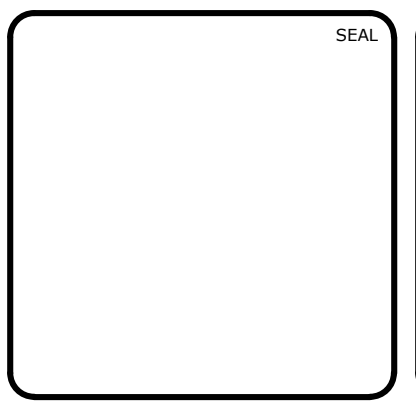
DATE:	APRIL 11, 2018	SCALE:	D3.X
MCE PROJ. #	02735-0206	HORIZONTAL:	N/A
DRAWN	LEG	VERTICAL:	D3.2
DESIGNED	LEG		
CHECKED	GCA		
PROJ. MGR.	CHS		
STATUS:	FINAL DRAWINGS FOR REVIEW PURPOSES ONLY	REVISION:	2



**DESIGNER'S CERTIFICATION:**  
THE DESIGN OF STORMWATER MANAGEMENT FACILITIES AND PRACTICES WILL CONTROL AND TREAT THE RUNOFF FROM THE 1-YEAR/1-HOUR STORM OF THE ASSOCIATED DRAINAGE AREA. THESE DESIGNS AND PLANS ARE SUFFICIENT TO COMPLY WITH THE APPLICABLE STANDARDS AND POLICIES FOUND IN THE NCDENR STORMWATER BMP DESIGN MANUAL AND CHATHAM COUNTY'S STORMWATER ORDINANCE.

*David A. Avants*  
036348  
05/04/2018  
ENGINEER  
GARETH C. AVANTS

REV. NO.	DESCRIPTIONS	REVISIONS	DATE
2	REVISED PER NCDOT COMMENTS		2018.05.07
1	REVISED PER CHATHAM COUNTY EROSION CONTROL AND STORMWATER		2018.05.04
0	INITIAL SUBMITTAL		2018.04.11

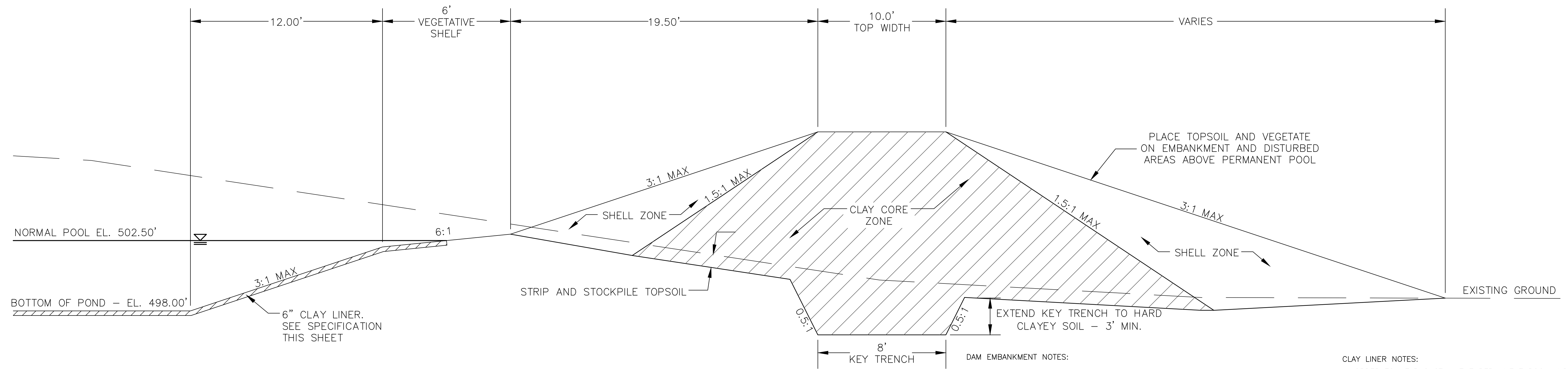


**MCKIM & CREED**  
1730 Varsity Drive, Suite 500  
Raleigh, North Carolina 27606  
Phone: (919)233-8091, Fax: (919)233-8031  
F-1222  
www.mckimcreed.com

**BRIAR CHAPEL™**  
by **Newland COMMUNITIES**

**BRIAR CHAPEL  
US STEEL - SECTION 2  
CHATHAM COUNTY, NORTH CAROLINA**  
BMP #37 PLAN & DETAILS

DATE: APRIL 11, 2018	SCALE: D4.X
MCE PROJ. # 02735-0206	HORIZONTAL: AS NOTED
DRAWN: LEG	VERTICAL: N/A
DESIGNED: LEG	DRAWING NUMBER: D4.1
CHECKED: GCA	
PROJ. MGR.: CHS	
STATUS: FINAL DRAWINGS FOR REVIEW PURPOSES ONLY	REVISION: 2



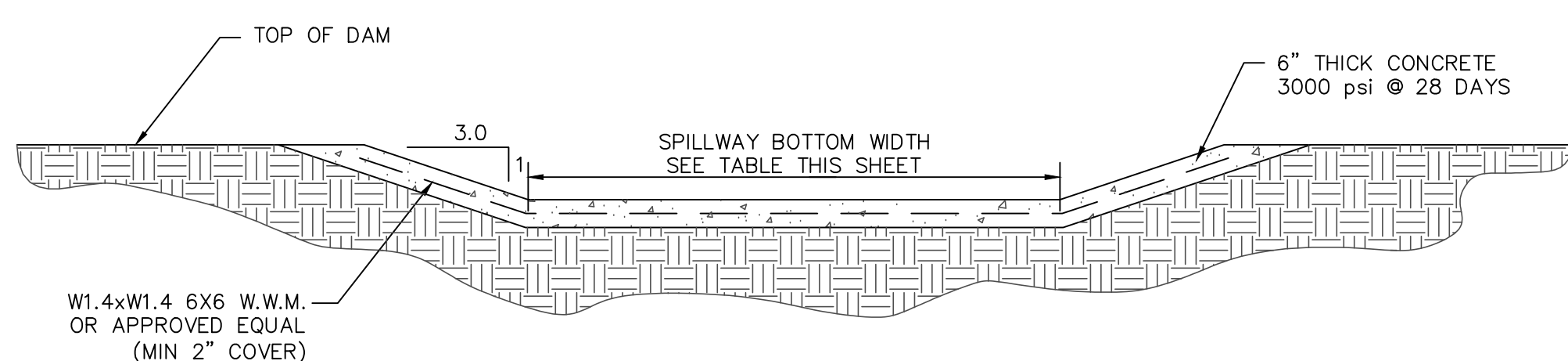
DAM EMBANKMENT DETAIL  
NTS

DAM EMBANKMENT NOTES:

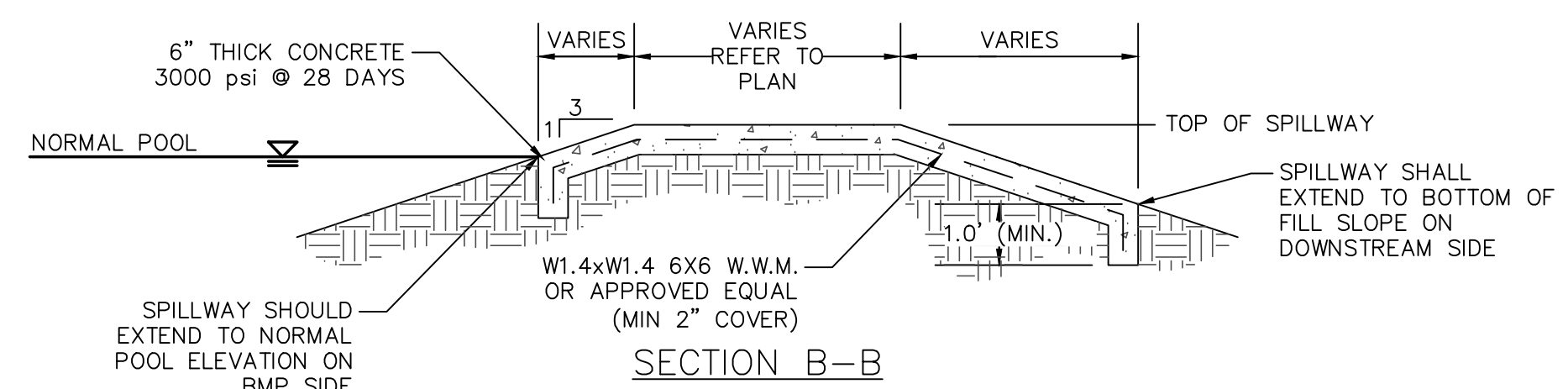
- 1) TOPSOIL BENEATH THE EMBANKMENT SHALL BE REMOVED AND STOCKPILED. THE FOUNDATION WILL BE PROOF ROLLED AND ANY SOFT OR ORGANIC MATERIALS WILL BE REMOVED.
- 2) ALL MATERIAL SHALL BE COMPACTED IN 6-8 INCH LIFTS TO 95% OF MAXIMUM STANDARD PROCTOR DRY DENSITY OR HIGHER (ASTM D-698). THE CLAY CORE ZONE WILL HAVE A MOISTURE CONTENT OF OPTIMUM TO 4 PERCENT ABOVE OPTIMUM MOISTURE CONTENT. THE SHELL ZONE FILL WILL HAVE A MOISTURE CONTENT FROM 2 PERCENT BELOW OPTIMUM MOISTURE CONTENT TO 4 PERCENT ABOVE OPTIMUM.
- 3) EMBANKMENT FILL:  
SHELL ZONE: SOILS WITH LESS THAN 30% PASSING THE NO. 200 SIEVE OR A PI OF LESS THAN 10 WHEN THE PERCENTAGE OF MATERIAL PASSING THE NO. 200 SIEVE IS GREATER THAN 30 PERCENT. SOILS WHICH ARE CLASSIFIED AS CLAYS (CH OR CL) SHOULD NOT BE USED AT THE FACE OF THE SHELL ZONES.  
CLAY CORE ZONE: CH, CL OR SC MATERIAL WITH A PI RANGING BETWEEN 15 AND 60
- 4) NO FILL SHALL CONTAIN ROCKS OR GRAVEL LARGER THAN 4 INCHES IN DIAMETER.
- 5) A PROFESSIONAL GEOTECHNICAL ENGINEER SHALL APPROVE ALL MATERIALS USED FOR THE EMBANKMENT AND SUPERVISE CONSTRUCTION.
- 6) ALL DISTURBED AREAS ABOVE PERMANENT POOL SHALL BE SEEDED USING THE FOLLOWING GRASS SEED MIX MANUFACTURED BY ERNST SEED COMPANY: Carolina FACW Meadow Mix ERNMX-182

CLAY LINER NOTES:

IN ORDER TO HELP SUSTAIN THE PERMANENT POOL AND TO PREVENT WATER FROM INFILTRATING TOO QUICKLY INTO THE UNDERLYING SOIL, THE CONTRACTOR SHALL INSTALL A 6" THICK CLAY LINER ON THE BOTTOM OF THE BMP AREA UP TO THE NORMAL POOL ELEVATION. THE LINER CAN BE ACCOMPLISHED BY BLENDING EXISTING SITE SOILS WITH CLAY TO ACHIEVE A LOW PERMEABILITY MIXTURE OR BY INSTALLING A GEOSYNTHETIC LINER MADE OF A BENTONAT CL. IF THE CONTRACTOR CHOOSES TO BLEND THE EXISTING SITE SOILS WITH CLAY, THE ONSITE GEOTECHNICAL ENGINEER SHALL DETERMINE THE AMOUNT OF CLAY TO ADD, THE DEGREE OF COMPACTION, AND WILL OVERSEE THE INSTALLATION OF THE CLAY LINER. THE MAXIMUM PERMEABILITY RATE FOR THE LINER SHALL BE 0.01 IN/HR IN ACCORDANCE WITH THE NCDENR BMP MANUAL. THE PROPOSED MATERIAL FOR THIS LINER SHALL BE TESTED BY THE ONSITE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT. THE RESULTS OF THIS TESTING SHALL BE SUBMITTED TO THE DESIGN ENGINEER FOR REVIEW PRIOR TO PLACEMENT. UPON COMPLETION OF LINER INSTALLATION, A 4" MINIMUM LAYER OF TOPSOIL SHALL BE ADDED OVER THE LINER TO PROVIDE A HEALTHY MEDIA FOR VEGETATION GROWTH.



SECTION A-A

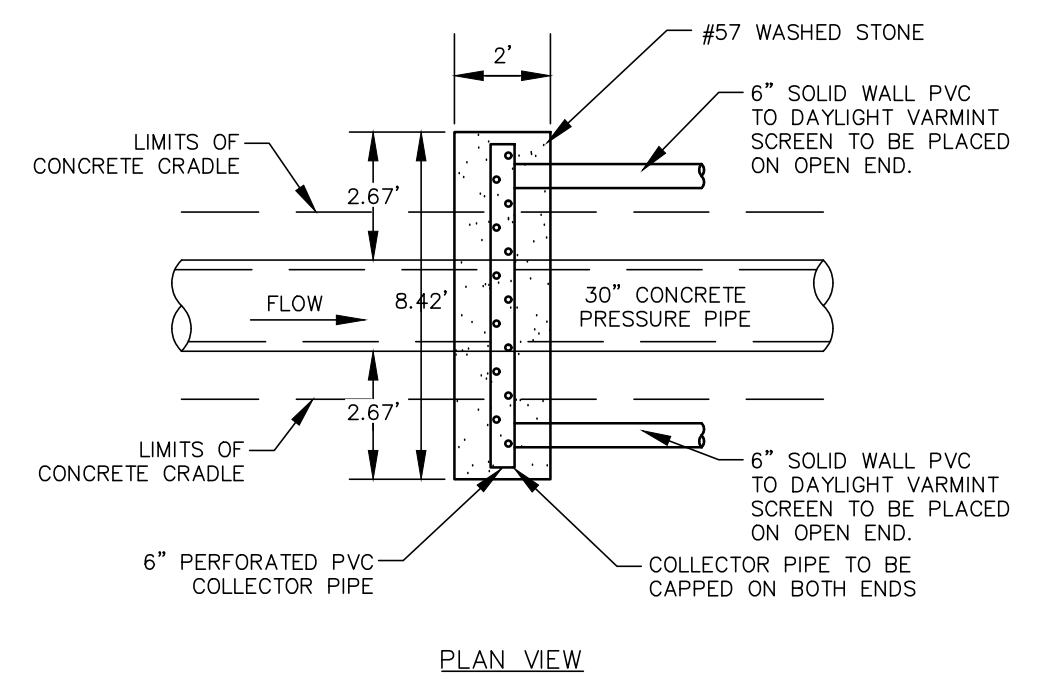


SECTION B-B

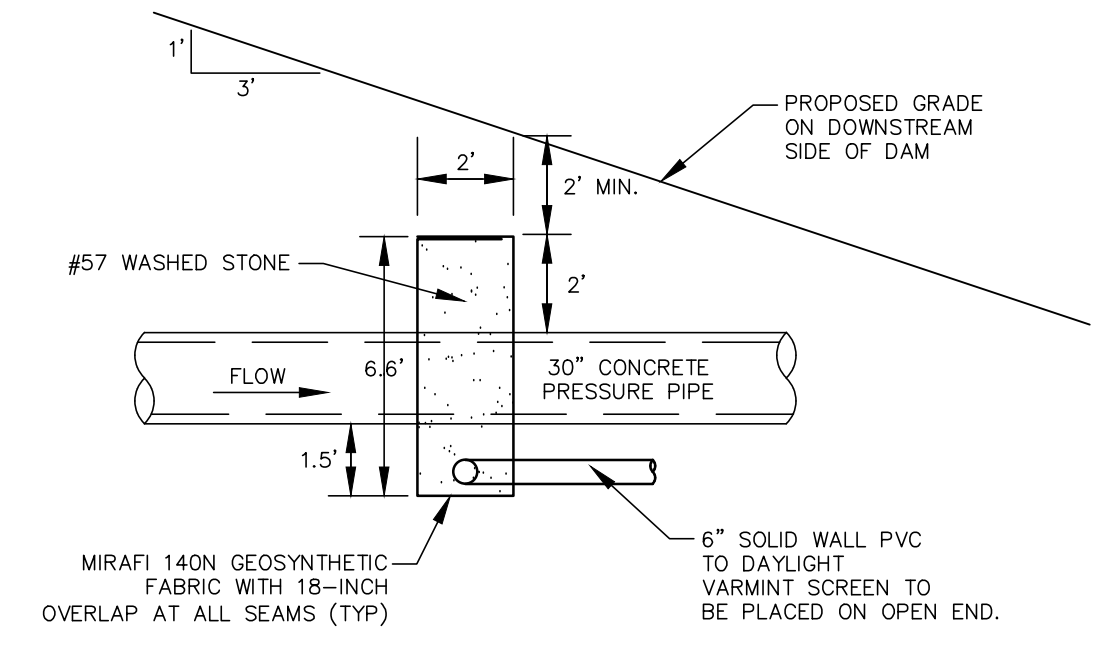
	NORMAL POOL EL.	TOP DAM EL.	SPILLWAY BOTTOM EL.	SPILLWAY BOTTOM WIDTH
BMP #37	502.50	509.50	508.00	27'

NOTE:  
EXPANSION/CONTRACTION JOINTS PER AMERICAN CONCRETE INSTITUTE (ACI) STANDARDS FOR SLABS ON GRADE.

EMERGENCY SPILLWAY DETAIL  
NTS



PLAN VIEW

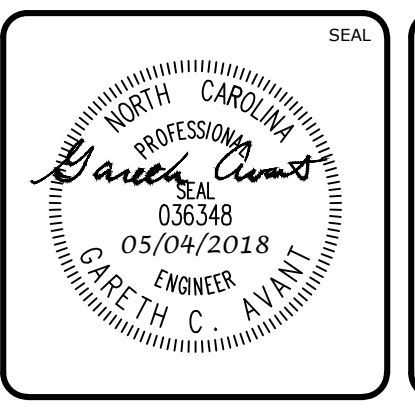
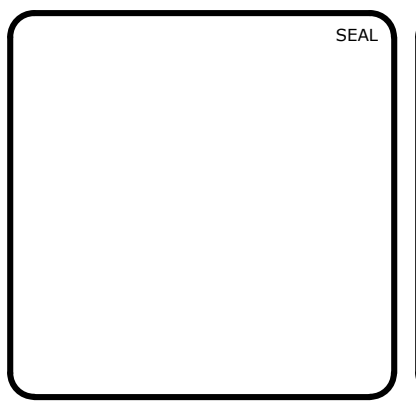


FILTER DIAPHRAGM DETAIL  
NTS

**DESIGNER'S CERTIFICATION:**  
THE DESIGN OF STORMWATER MANAGEMENT FACILITIES AND PRACTICES WILL CONTROL AND TREAT THE RUNOFF FROM THE 1-YEAR/1-HOUR STORM OF THE ASSOCIATED DRAINAGE AREA. THESE DESIGNS AND PLANS ARE SUFFICIENT TO COMPLY WITH THE APPLICABLE STANDARDS AND POLICIES FOUND IN THE NCDENR STORMWATER BMP DESIGN MANUAL AND CHATHAM COUNTY'S STORMWATER ORDINANCE.

*Darrell Umst*  
PROFESSIONAL ENGINEER  
036348  
05/04/2018  
GARETH C. AVANT

REV. NO.	DESCRIPTION/REVISIONS	DATE
2	REVISED PER NCDOT COMMENTS	2018.05.07
1	REVISED PER CHATHAM COUNTY EROSION CONTROL AND STORMWATER	2018.05.04
0	INITIAL SUBMITTAL	2018.04.11



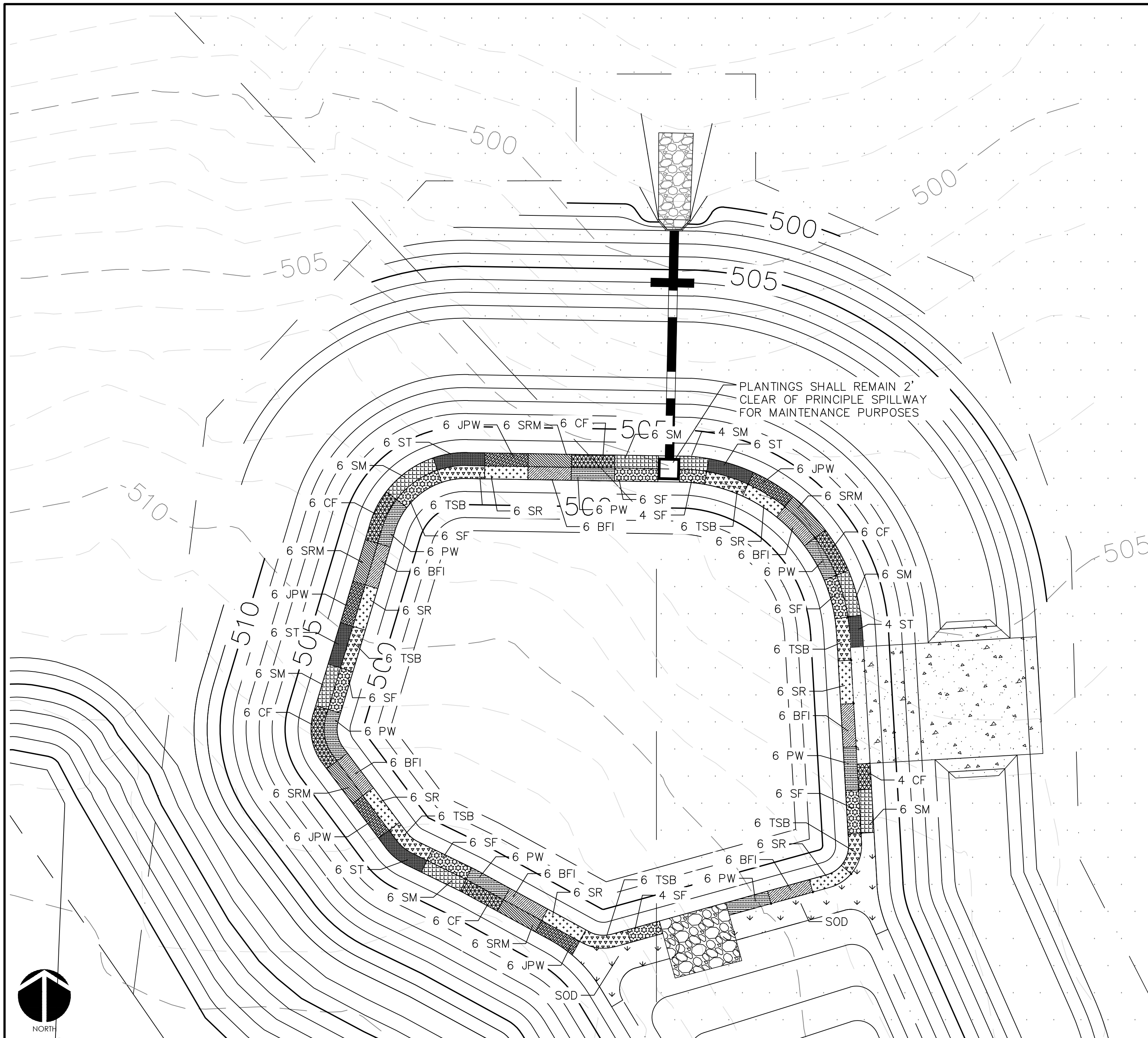
**MCKIM & CREED**  
1730 Varsity Drive, Suite 500  
Raleigh, North Carolina 27606  
Phone: (919)233-8091, Fax: (919)233-8031  
F-1222  
www.mckimcreed.com

**BRIAR CHAPEL™**  
by **Newland COMMUNITIES**

**BRIAR CHAPEL  
US STEEL - SECTION 2  
CHATHAM COUNTY, NORTH CAROLINA**

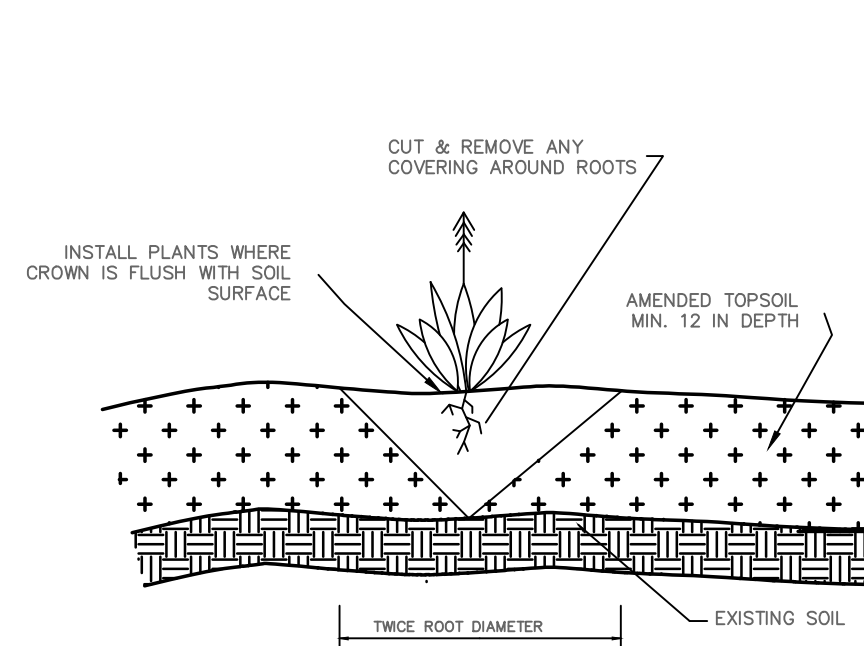
**BMP #37 PLAN & DETAILS**

DATE: APRIL 11, 2018	SCALE: HORIZONTAL: AS NOTED	M&C FILE NUMBER: D4.X
M&C PROJ. #: 02735-0206	DESIGNED: LEG	DRAWING NUMBER: D4.2
CHECKED: GCA	PROJ. MGR.: CHS	VERTICAL: N/A
STATUS: FINAL DRAWINGS FOR REVIEW PURPOSES ONLY		REVISION: 2

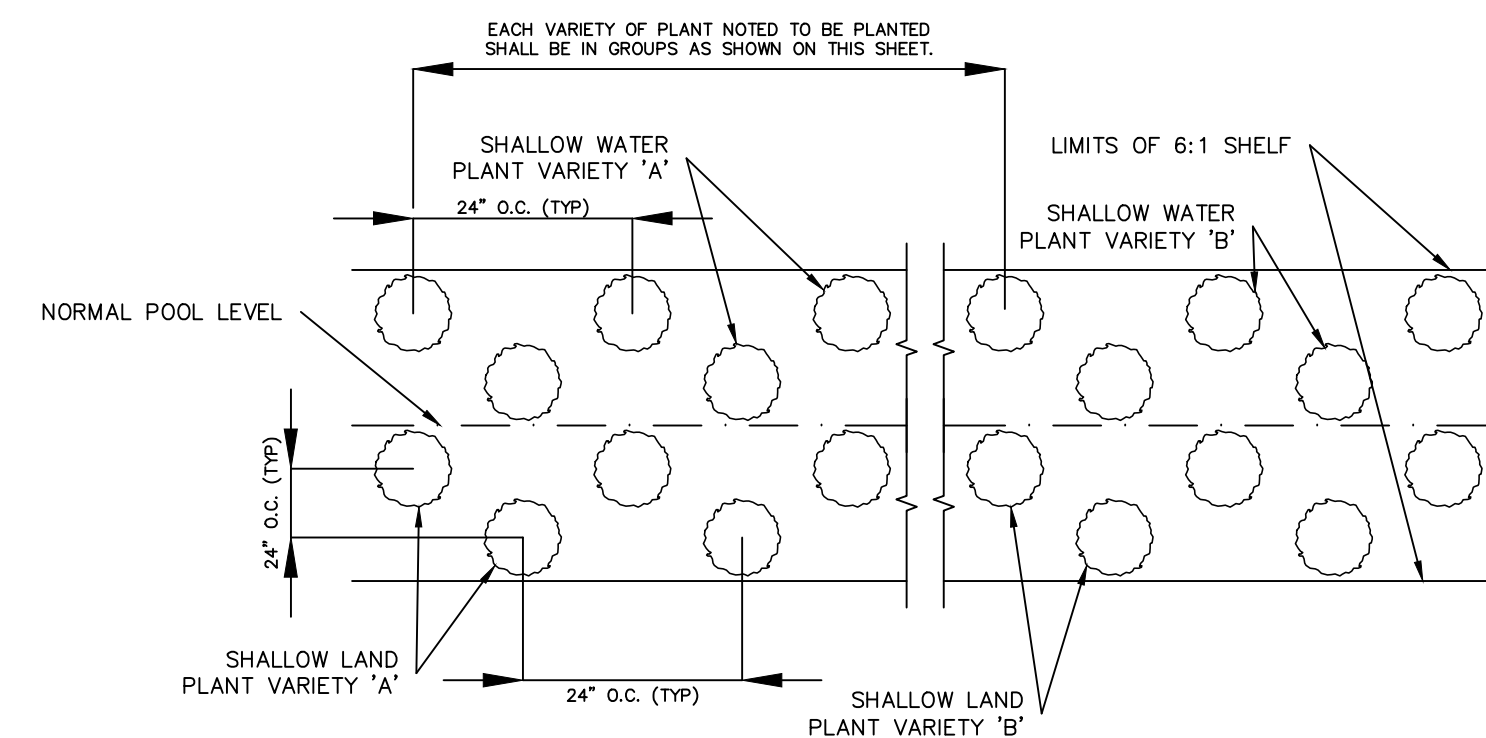


WET DETENTION POND #37 PLANTING PLAN  
SCALE = 1" = 10'

PLANTING SCHEDULE						
SYM.	ABB.	COMMON NAME	BOTANICAL NAME	QUANTITY	SPACING	CONTAINER SIZE AT PLANTING
SHALLOW WATER PLANTINGS						
[Symbol]	SF	SWEETFLAG	<i>Acorus subcordatum</i>	44	24"-30" O.C.	1 QT.
[Symbol]	PW	PICKERELWEED	<i>Pontederia cordata</i>	42	24"-30" O.C.	1 QT.
[Symbol]	BFI	BLUE FLAG IRIS	<i>Iris virginica</i>	42	24"-30" O.C.	1 QT.
[Symbol]	SR	SOFT RUSH	<i>Juncus effusus var. pygmaei or solutus</i>	42	24"-30" O.C.	1 QT.
[Symbol]	TSB	THREE SQUARE BULRUSH	<i>Schoenoplectus americanus</i>	42	24"-30" O.C.	1 QT.
SHALLOW LAND PLANTINGS						
[Symbol]	SM	SWAMP MILKWEED	<i>Asclepias incarnata</i>	40	24"-30" O.C.	1 QT.
[Symbol]	CF	CARDINAL FLOWER	<i>Lobelia cardinalis</i>	34	24"-30" O.C.	1 QT.
[Symbol]	SRM	SCARLET ROSE MALLOW	<i>Hibiscus coccineus</i>	30	24"-30" O.C.	1 QT.
[Symbol]	JPW	DWARF JOE PYE WEED	<i>Eupatoriadelphus dubius</i>	30	24"-30" O.C.	1 QT.
[Symbol]	ST	SPOTTED TRUMPETWEED	<i>Eupatoriadelphus maculatus</i>	30	24"-30" O.C.	1 QT.



GENERAL PLANTING DETAIL  
NTS



VEGETATED PLANTING SHELF DETAIL  
NTS

NOTES:  
1. CONTINUE PLANTING SCHEME SHOWN FOR EACH OF THE 5 PLANT VARIETIES NOTED BELOW AROUND ENTIRE LENGTH OF THE SHALLOW WATER PLANTING ZONE.  
2. CONTINUE PLANTING SCHEME SHOWN FOR EACH OF THE 5 PLANT VARIETIES NOTED BELOW AROUND ENTIRE LENGTH OF THE SHALLOW LAND PLANTING ZONE.  
3. OTHER SPECIES WITH SIMILAR GROWTH HABITS AND MAY BE APPROVED AS LISTED IN THE "STORMWATER BEST MANAGEMENT PRACTICES MANUAL" TABLE 9-1.

GENERAL PLANTING NOTES:

1. AVOID COMPACTING TOPSOIL TO PROMOTE HEALTHY ENVIRONMENTAL CONDITIONS FOR THE PLANTS.
2. ALL PLANTS SHOULD BE PLANTED IN THE INDICATED RANGE TO ENSURE SURVIVAL.
3. SHALLOW WATER AND SHALLOW LAND AREAS TO BE PLANTED WITH BARE ROOT, PLUGS, OR CONTAINER LIVE PLANTINGS AS SPECIFIED.
4. EXCAVATE A HOLE TWICE THE DIAMETER OF ROOT BALL AND EQUAL TO THE ROOT DEPTH OF THE INDIVIDUAL PLANT. PLACE PLANT IN HOLE WITH CROWN FLUSH WITH SOIL SURFACE. BACKFILL WITH TOPSOIL AND LIGHTLY PLANT.
5. BEGIN PLANTING DURING LOCAL GROWING SEASON IN ORDER TO ENSURE THAT PLANTS HAVE ADEQUATE TIME TO ESTABLISH BEFORE WINTER MONTHS.
6. OBTAIN PLANTS FROM: COASTAL PLAIN CONSERVATION NURSERY (252-482-5707), MELLOW MARSH FARMS (919-742-1200), CURE NURSERY (919-542-6186) OR ENGINEER APPROVED SUBSTITUTE.
7. REFER TO EROSION CONTROL DETAIL SHEET D1.2 FOR SEEDBED PREPARATION AND SEEDING SCHEDULES FOR AREAS NOT SPECIFIED IN THIS PLAN.

SHALLOW WATER PLANTING NOTES:

1. 70% OF PICKERELWEED SHOULD BE PLANTED WITHIN 5-6 INCHES BELOW NORMAL POOL.
2. 70% OF SWEETFLAG AND 70% OF SOUTHERN BLUE FLAG IRIS SHOULD BE PLANTED IN THE 2-3 INCHES BELOW NORMAL POOL.
3. 70% OF SOFT RUSH SHOULD BE PLANTED AT THE NORMAL POOL ELEVATION.

SHALLOW LAND PLANTING NOTES:

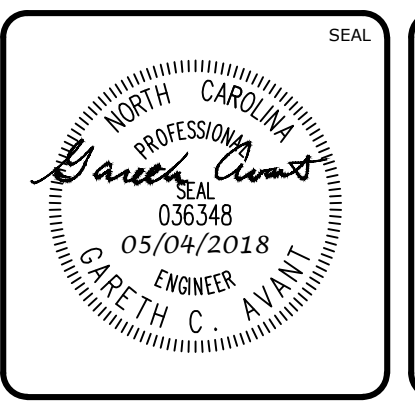
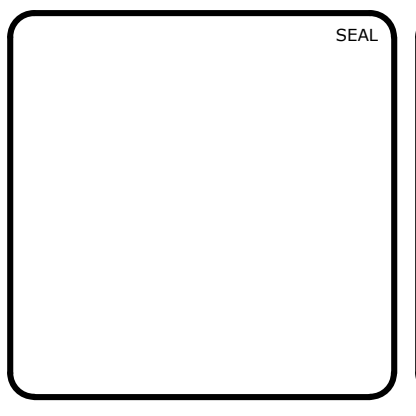
1. PLANTS IN THIS GROUP SHOULD NOT BE PLANTED IN AREAS THAT ARE INUNDATED FOR EXTENDED PERIODS.

DESIGNER'S CERTIFICATION:

THE DESIGN OF STORMWATER MANAGEMENT FACILITIES AND PRACTICES WILL CONTROL AND TREAT THE RUNOFF FROM THE 1-YEAR/1-HOUR STORM OF THE ASSOCIATED DRAINAGE AREA. THESE DESIGNS AND PLANS ARE SUFFICIENT TO COMPLY WITH THE APPLICABLE STANDARDS AND POLICIES FOUND IN THE NCDENR STORMWATER BMP DESIGN MANUAL AND CHATHAM COUNTY'S STORMWATER ORDINANCE.



REV. NO.	DESCRIPTION	DATE
2	REVISED PER NCDOT COMMENTS	2018.05.07
1	REVISED PER CHATHAM COUNTY EROSION CONTROL AND STORMWATER	2018.05.04
0	INITIAL SUBMITTAL	2018.04.11



**MCKIM & CREED**  
1730 Varsity Drive, Suite 500  
Raleigh, North Carolina 27606  
Phone: (919)233-8091, Fax: (919)233-8031  
F-1222  
www.mckimcreed.com

**BRIAR CHAPEL™**  
by  
**Newland COMMUNITIES**

**BRIAR CHAPEL  
US STEEL - SECTION 2  
CHATHAM COUNTY, NORTH CAROLINA**  
  
**BMP #37 PLAN & DETAILS**

DATE: APRIL 11, 2018	SCALE: D4.X	M&C FILE NUMBER: D4.X
M&C PROJ. #: 02735-0206	HORIZONTAL: AS NOTED	DRAWING NUMBER: D4.3
DRAWN: LEG	VERTICAL: N/A	
DESIGNED: LEG		
CHECKED: GCA		
PROJ. MGR.: CHS		
STATUS: FINAL DRAWINGS FOR REVIEW PURPOSES ONLY	REVISION: 2	

STRUCTURE	RIM ELEVATION
CI-80	545.25
CI-81	545.22
CI-82	549.43
CI-83	549.59
CI-103	520.52
CI-104	522.16
CI-105	522.16
CI-106	525.79
CI-107	525.79
CI-108	530.74
CI-109	530.74
CI-110	535.53
CI-111	535.49
CI-112	540.36
CI-113	540.37
CI-114	545.31
CI-115	545.31
CI-116	549.95
CI-117	550.93
CI-118	549.78

STRUCTURE	RIM ELEVATION
CI-119	549.08
CI-120	549.10
CI-121	547.94
CI-122	547.98
CI-126	548.00
DBL-CI-102	519.44
DBL-CI-123	547.23
DBL-CI-124	547.94
DBL-CI-125	547.23
DI-64	521.47
DI-101	520.16
EX DBL-CI-72	542.14
EX SDMH-71	541.43
HW-100	506.79
SDMH-65	523.22
SDMH-66	528.97
SDMH-67	535.57
SDMH-68	538.87
SDMH-69	542.41
SDMH-70	544.60

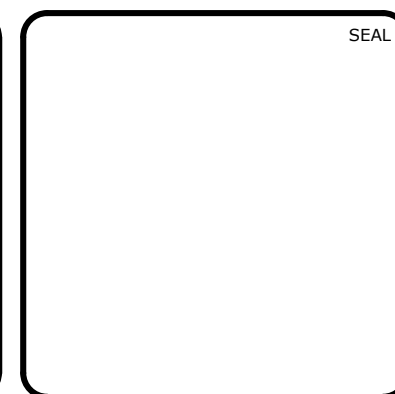
UPSTREAM STRUCTURE	DOWNSTREAM STRUCTURE	UPSTREAM INVERT	DOWNSTREAM INVERT	PIPE DIAMETER	PIPE MATERIAL	LENGTH (ft)	SLOPE
CI-80	EX DBL-CI-72	540.550	538.000	15"	RCP	130.0	1.96%
CI-81	CI-80	541.200	540.950	15"	RCP	24.5	1.02%
CI-82	CI-80	544.950	540.750	15"	RCP	121.2	3.47%
CI-83	CI-82	545.400	545.150	15"	RCP	25.0	1.00%
CI-103	DBL-CI-102	512.000	511.000	30"	RCP	66.1	1.51%
CI-104	CI-103	516.400	514.800	30"	RCP	54.9	2.91%
CI-105	CI-104	517.900	517.770	15"	RCP	24.5	0.53%
CI-106	CI-104	520.000	516.500	30"	RCP	121.2	2.89%
CI-107	CI-106	521.530	521.400	15"	RCP	24.5	0.53%
CI-108	CI-106	524.100	520.100	30"	RCP	165.2	2.42%
CI-109	CI-108	526.490	526.360	15"	RCP	24.5	0.53%
CI-110	CI-108	529.400	524.200	30"	RCP	154.4	3.37%
CI-111	CI-110	531.240	531.110	15"	RCP	24.0	0.54%
CI-112	CI-110	534.500	529.500	30"	RCP	161.0	3.11%
CI-113	CI-112	536.110	535.980	15"	RCP	24.5	0.53%
CI-114	CI-112	537.100	534.600	24"	RCP	165.0	1.52%
CI-115	CI-114	541.050	540.920	15"	RCP	24.5	0.53%
CI-116	CI-114	538.600	537.200	24"	RCP	155.0	0.90%
CI-117	CI-116	539.000	538.700	24"	RCP	37.8	0.79%
CI-118	CI-117	539.900	539.100	24"	RCP	98.9	0.81%

UPSTREAM STRUCTURE	DOWNSTREAM STRUCTURE	UPSTREAM INVERT	DOWNSTREAM INVERT	PIPE DIAMETER	PIPE MATERIAL	LENGTH (ft)	SLOPE
CI-119	CI-118	540.400	540.000	24"	RCP	56.4	0.71%
CI-120	CI-119	545.000	544.870	15"	RCP	24.6	0.53%
CI-121	CI-119	541.200	540.500	24"	RCP	94.0	0.74%
CI-122	CI-121	544.000	543.870	15"	RCP	24.5	0.53%
CI-126	DBL-CI-125	543.700	543.340	15"	RCP	71.2	0.51%
DBL-CI-102	DI-101	509.500	509.300	30"	RCP	14.9	1.35%
DBL-CI-123	CI-121	542.650	541.700	18"	RCP	99.4	0.96%
DBL-CI-124	DBL-CI-123	543.600	542.750	15"	RCP	88.4	0.96%
DBL-CI-125	DBL-CI-123	543.240	543.110	15"	RCP	24.5	0.53%
DI-64	DBL-CI-102	513.410	512.360	24"	RCP	105.0	1.00%
DI-101	HW-100	505.000	503.000	30"	RCP	50.8	3.93%
EX SDMH-71	SDMH-70	536.450	536.130	24"	RCP	63.6	0.50%
SDMH-65	DI-64	514.350	513.610	24"	RCP	74.3	1.00%
SDMH-66	SDMH-65	519.540	514.550	24"	RCP	182.2	2.74%
SDMH-67	SDMH-66	527.210	519.740	24"	RCP	250.3	2.98%
SDMH-68	SDMH-67	531.420	527.410	24"	RCP	138.6	2.89%
SDMH-69	SDMH-68	534.500	531.620	24"	RCP	306.0	0.94%
SDMH-70	SDMH-69	535.930	534.700	24"	RCP	208.9	0.59%

STRUCTURE	RIM ELEVATION
EX SSMH-22	542.45
SSMH-2-1	549.94
SSMH-2-2	551.34
SSMH-2-3	549.86
SSMH-2-4	548.61
SSMH-2-5	547.53
SSMH-2-6	548.27

UPSTREAM STRUCTURE	DOWNSTREAM STRUCTURE	UPSTREAM INVERT	DOWNSTREAM INVERT	PIPE DIAMETER	PIPE MATERIAL	LENGTH (ft)	SLOPE
SSMH-2-1	EX SSMH-22	537.52	536.25	8"	PVC	256.4	0.50%
SSMH-2-2	SSMH-2-1	538.17	537.62	8"	Ductile Iron	110.2	0.50%
SSMH-2-3	SSMH-2-2	539.03	538.27	8"	Ductile Iron	152.3	0.50%
SSMH-2-4	SSMH-2-3	539.62	539.13	8"	PVC	98.5	0.50%
SSMH-2-5	SSMH-2-4	540.40	539.72	8"	PVC	135.5	0.50%
SSMH-2-6	SSMH-2-5	543.47	540.60	8"	PVC	83.4	3.44%

REV. NO.	DESCRIPTIONS	DATE
2	REVISED PER NCDOT COMMENTS	2018.05.07
1	REVISED PER CHATHAM COUNTY EROSION CONTROL AND STORMWATER	2018.05.04
0	INITIAL SUBMITTAL	2018.04.11



**MCKIM & CREED**  
 1730 Varsity Drive, Suite 500  
 Raleigh, North Carolina 27606  
 Phone: (919)233-8091, Fax: (919)233-8031  
 F-1222  
 www.mckimcreed.com

**BRIAR CHAPEL™**  
 by **Newland COMMUNITIES**

**BRIAR CHAPEL  
 US STEEL - SECTION 2  
 CHATHAM COUNTY, NORTH CAROLINA**

**STORM DRAINAGE &  
 SANITARY SEWER TABLES**

DATE:	APRIL 11, 2018
MCE PROJ. #	02735-0206
DRAWN	LEG
DESIGNED	LEG
CHECKED	GCA
PROJ. MGR.	CHS

SCALE	D4.4
HORIZONTAL:	N/A
VERTICAL:	N/A

MAC FILE NUMBER	D4.4
DRAWING NUMBER	D4.4

STATUS:	FINAL DRAWINGS FOR REVIEW PURPOSES ONLY	REVISION	2
---------	---	----------	---