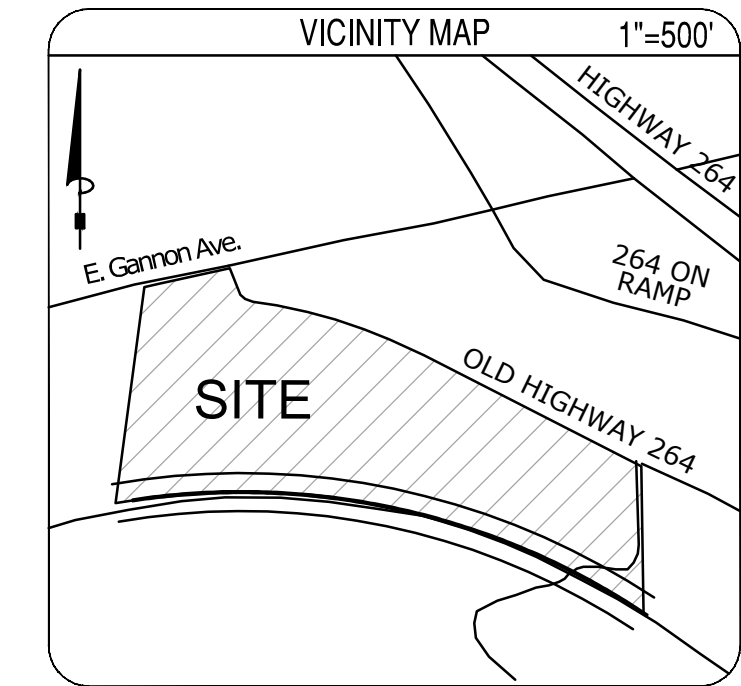


# CONSTRUCTION DOCUMENTS

STORMWATER RETENTION AND DETENTION FACILITIES, STORAGE TANKS FOR ANY PURPOSE, UTILITY SUBSTATIONS, AND 3 BUILDINGS HOUSING UTILITY SUBSTATIONS AND BUILDINGS HOUSING UTILITY COMMODITIES OR EQUIPMENT ARE ALSO PROHIBITED IN REQUIRED BUFFERYARDS.



Proposed  
Tractor Supply  
Old US Highway 264  
Zebulon, North Carolina  
Wake County  
IDT# 782339

DEVELOPER

Primax Properties, LLC  
Attn. Adam Sellner  
1100 E. Morehead Street  
Charlotte, NC 28204  
704-954-7224  
asellner@primaxproperties.com

CIVIL ENGINEER

**Bowman North Carolina, Ltd.**  
**4006 Barrett Drive, Suite 104**  
**Raleigh, NC 27609**  
**(919) 553-6570**  
**mlowerd@bowman.com**  
**FIRM# F-1445**


DEVELOPMENT NAME:		TRACTOR SUPPLY
STREET ADDRESS:		OLD US HIGHWAY 264 ZEBULON, NC
OWNER:		SEA MOUNTAIN VENTURES II, LLC 1100 E. MOREHEAD STREET CHARLOTTE, NC 28204
PROPERTY IDENTIFICATION # (PIN):		2705-97-3150 (ORDINANCE 2022-36)
PROPERTY #:		0504606
DEED BOOK/PAGE:		019275 / 01679
EXISTING ZONING:		HC- HEAVY COMMERCIAL (ORDINANCE 2022-36)
FUTURE LAND USE MAP:		GC-GENERAL COMMERCIAL
LATITUDE & LONGITUDE:		N35.828782, W-78.293752
TOTAL SITE ACRES:		164,059 SF (3.77 AC) PROPOSED TRACTOR SUPPLY
WATER SERVICE:		PUBLIC - CITY OF RALEIGH
SANITARY SEWER SERVICE:		PUBLIC - CITY OF RALEIGH
INSIDE TOWN LIMITS:		NO - ANNEXATION REQUIRED
EXISTING USE:		VACANT
PROPOSED BUILDING USE:		21,147 SF TRACTOR SUPPLY RETAIL STORE
FLOOD ZONE:		NONE (FEMA FIRM 3720270500K, 7/19/22)
HEAVY COMMERCIAL (HC) ZONING REQUIREMENTS		
MIN LOT AREA:	6,000 SF	
MIN LOT WIDTH:	50 FT	
MAX LOT COVERAGE	80%	
MIN OPEN SPACE:	3% OF SITE (4,922SF) 5,000 SF OPEN SPACE PROVIDED ALONG US 264	
SIDE SETBACK (STREET):	30 FT	
SIDE SETBACK (INTERIOR):	0, 5 FT IF PROVIDED	
REAR SETBACK:	0 IF ABUTTED BY AN ALLEY; OTHERWISE 25FT 50FT; MAY INCREASE BY 2FT FOR EACH ADDITIONAL FOOT OF SETBACK UP TO 100FT IN HEIGHT	
MIN SPACING BETWEEN PRINCIPLE BUILDINGS:	25FT	
PARKING REQUIREMENTS:		
RETAIL- 1 SPACE PER 200 SF		
21,147 SF / 200=106 SPACES		
79 SPACES REQUESTED (PARKING STUDY)		
BIKE PARKING - 1 SPACE PER 20 PARKING SPACES		
4 BIKE PARKING SPACES PROVIDED		
TOTAL PROVIDED:	79	
PARKING SPACE DIMENSIONS		
10' X 19' MIN 8.5' X 18' COMPACT (30% MAX)		
MIN DRIVE AISLE	2 FT ONE-WAY, 24 FT TWO-WAY	
ACCESSIBLE SPACES PROVIDED:		
79		
TREE RETENTION	5% OF SITE REQUIRED (8,203SF) 19,000SF OF TREE RETENTION PROPOSED	
LANDSCAPE BUFFERS		
10FT TYPE A BUFFER (ADJACENT HC) 15FT STREETSCAPE BUFFER ALONG OLD US 264		

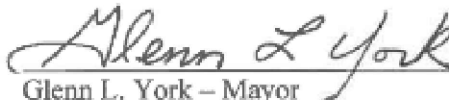
**REZONING - ORDINANCE 2022-36**


**ORDINANCE 2022-36  
AMENDMENT TO ZONING MAP FOR  
0 Old US 264 (Pin # 2705973068)**

The proposed Zoning Map Amendment for approximately 9.8 acres located at 0 Old US 264 with associated Wake County Pin # 2705973068 would be rezoned from R-2 Residential to Heavy Commercial (HC) in accordance with Section 2.2.24 of the Town of Zebulon Unified Development Ordinance and the attached map.

Adopted this the 4<sup>th</sup> day of April 2022



  
Glenn L. York – Mayor

  
Lisa M. Markland, CMC – Town Clerk

## CURRENT PROPERTY OWNERS

Sea Mountain Ventures II, LLC  
1100 E. Morehead Street  
Charlotte, NC 28204

A PRE-CONSTRUCTION MEETING IS REQUIRED WITH THE TOWN OF ZEBULON CONSTRUCTION INSPECTOR. CONTACT JASON AT 919-790-5640.

**Approved**  
**Town of Zebulon**  
**Adam Culpepper**  
07/24/2024

The City of Raleigh consents to the connection and extension of the City's public sewer system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.

City of Raleigh  
Public Utilities Department Permit # S-5172

Authorization to Construct \_\_\_\_\_ See digital signature \_\_\_\_\_

The **Construction Contractor** responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for **contacting** the **Public Utilities Department** at (919)996-4540 at least **twenty four hours** prior to beginning any of their construction.

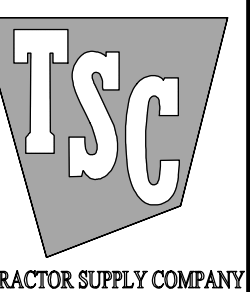
**Failure** to notify both **City Departments** in advance of beginning construction, will result in the issuance of **monetary fines**, and require reinstallation of any water or sewer facilities not inspected as a result of this notification failure.

**Failure** to call for **Inspection, Install a Downstream Plug**, have **Permitted Plans** on the **Jobsite**, or any other **Violation of City of Raleigh Standards** will result in a **Fine and Possible Exclusion** from future work in the **City of Raleigh**.

Index of Drawings	
Sheet Number	Sheet Title
C1.0	COVER SHEET
C2.0	GENERAL NOTES, ABBREVIATIONS, AND LEGEND
C2.1	DEMOLITION PLAN
C2.2	EROSION CONTROL PLAN
C2.3	EROSION CONTROL PLAN
C2.4	EROSION CONTROL PLAN – FINAL
C2.5	EROSION CONTROL NOTES
C2.6	NC CONSTRUCTION GENERAL PERMIT (NCGOI) NOTES
C3.0	SITE PLAN
C4.0	GRADING & DRAINAGE PLAN
C4.1	ROADWAY PLAN
C4.2	ROADWAY CROSS SECTIONS
C4.3	ROADWAY CROSS SECTIONS
C4.4	ROADWAY CROSS SECTIONS
C4.5	ROADWAY CROSS SECTIONS
C4.6	ROADWAY CROSS SECTIONS
C5.1	UTILITY PLAN
C5.1	OVERALL SANITARY SEWER EXTENSION
C5.2	SANITARY SEWER PLAN & PROFILE
C5.3	SANITARY SEWER PLAN & PROFILE
C5.4	SANITARY SEWER PLAN & PROFILE
C5.5	SANITARY SEWER PLAN & PROFILE
C6.0	EROSION CONTROL DETAILS
C6.1	EROSION CONTROL DETAILS
C6.2	CONSTRUCTION DETAILS
C6.3	CONSTRUCTION DETAILS
C6.4	CONSTRUCTION DETAILS
C6.5	CONSTRUCTION DETAILS
C6.6A	UTILITY DETAILS
C6.6B	UTILITY DETAILS
C6.7	STORMWATER MANAGEMENT DETAILS
C6.8	STORMWATER MANAGEMENT DETAILS
C6.9	STORMWATER MANAGEMENT DETAILS
C7.0	LANDSCAPE PLAN
1 OF 14	CONCEPTUAL ELEVATION
2 OF 14	FRONT ELEVATION
3 OF 14	FRONT ELEVATION
4 OF 14	FRONT–RIGHT ELEVATION
5 OF 14	GREENHOUSE CONNECTION
6 OF 14	GREENHOUSE CONNECTION
7 OF 14	REAR ELEVATION – RIGHT SIDE
8 OF 14	LOADING AREA
9 OF 14	REAR ELEVATION – LEFT SIDE
10 OF 14	REAR ELEVATION – LEFT SIDE
11 OF 14	LEFT ELEVATION
12 OF 14	LEFT ELEVATION
13 OF 14	FRONT–LEFT ELEVATION
14 OF 14	FRONT–LEFT ELEVATION
1 OF 1	PARKING LOT LIGHTING LAYOUT

# Bowman

Bowman North Carolina Ltd.  
4006 BARRETT DR  
Suite 104  
RALEIGH, NC 27609  
Phone: (919)553-6570  
bowman.com  
Bowman North Carolina Ltd.



COVER SHEET

Tractor Supply  
Old US Highway 264



PLAN STATUS		
3/30/23	SEWER CROSSING AT RAILROAD	
10/2/24	PER WAKE CO REVIEW	
2/26/24	PER NCDOT REVIEW	
2/28/24	PER CITY OF RALEIGH REVIEW	
MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	H: 1" = 40' V: 1" = XXX'	
B No.	220127-01-001	
DATE	May 28, 2024	
E No.	220127-D-CP-001	
C1.0		
SHEET		



EXISTING	LEGEND DESCRIPTION	PROPOSED
	PROPERTY LINE	
	ADJACENT PROPERTY LINE	
	LOT LINE	
	RIGHT OF WAY	
	CENTERLINE	
	FLOOD PLAIN	
	LIMITS OF CONSTRUCTION	
	LIMITS OF DISTURBANCE	
	SWALE / STREAM FLOWLINE	
	OVERFLOW RELIEF PATH	
	FENCE LINE	
	EASEMENT	
	EDGE OF PAVEMENT	
	VERTICAL CURB AND GUTTER	
	MOUNTAIN CURB AND GUTTER	
	CONCRETE SIDEWALK	
	ASPHALT SIDEWALK	
	HANDICAP PARKING	
	SIGHT TRIANGLE	
	SIGN(S)	
	PARKING COUNT INDICATOR	
	VEHICLES PER DAY INDICATOR	
	TEST PIT	
	MONITORING WELL	
	MAJOR CONTOUR	
	MINOR CONTOUR	
	GRADE BREAK	
	RIDGELINE	
	SPOT ELEVATION	
	RIP RAP	
	WATER LINE	
	WATER METER	
	WATER VALVE	
	WATER REDUCER	
	WATER FITTINGS	
	FIRE HYDRANT	
	SANITARY LINE	
	SANITARY MANHOLE	
	SANITARY CLEANOUT	
	STORM SEWER PIPE	
	STORM SEWER MANHOLE	
	STORM SEWER INLET	
	STORM SEWER FLARED END SECTION	
	STORM SEWER HEADWALL	
	OVERHEAD UTILITY	
	UNDERGROUND ELECTRIC	
	OVERHEAD ELECTRIC	
	UTILITY POLE	
	STREET LIGHT	
	CABLE TV SERVICE	
	TELECOM SERVICE	
	FIBER OPTIC SERVICE	
	NATURAL GAS SERVICE	
	TREE	
	TREE LINE	
	WETLANDS	

#### LEGEND NOTES

- THIS IS A STANDARD SHEET. THEREFORE SOME ABBREVIATIONS MAY APPEAR ON THIS SHEET AND NOT BE USED ON THE PROJECT.
- ADDITIONAL LEGENDS AND NOTES MAY BE FOUND ON OTHER SHEETS ASSOCIATED WITH THIS PLAN. THESE LEGENDS AND NOTES ARE TO BE REFERENCED IN ADDITION TO THIS STANDARD SHEET.

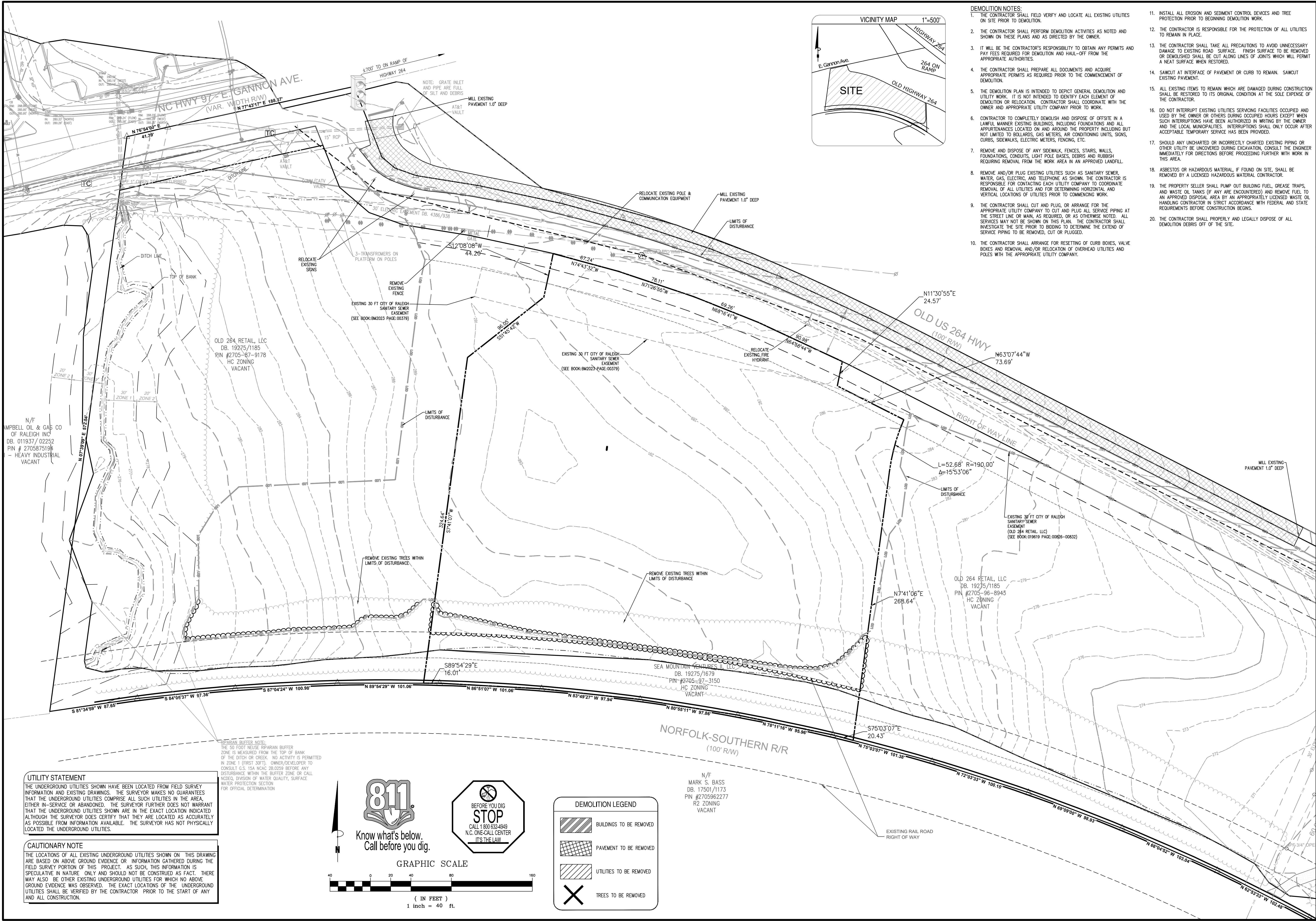
#### ABBREVIATIONS

A	AASHTO	AREA OF ARC
AB	TRANS. OFFICIALS	AMERICAN ASSOCIATION OF STATE HWY & TRANS. OFFICIALS
AC	AS-BUILT	AS-BUILT
AD	ACRE	ACRE
AE	ALGEBRAIC DIFFERENCE IN GRADE	ALGEBRAIC DIFFERENCE IN GRADE
ADJ	ACCESS EASEMENT	ACCESS EASEMENT
AGGR	ADJACENT	ADJACENT
AHD	AGGREGATE	AGGREGATE
ANSI	AHEAD	AHEAD
APT	AMERICAN NATIONAL STANDARDS INSTITUTE	AMERICAN NATIONAL STANDARDS INSTITUTE
APPROX	ANGLE POINT	ANGLE POINT
ARCH	APPROXIMATE	APPROXIMATE
ASPH	ARCHITECTURAL	ARCHITECTURAL
ASTM	ASPHALT	ASPHALT
AWWA	AMERICAN SOCIETY FOR TESTING AND MATERIALS	AMERICAN SOCIETY FOR TESTING AND MATERIALS
B	AMERICAN WATER WORKS ASSOCIATION	AMERICAN WATER WORKS ASSOCIATION
BOC	BREADTH	BREADTH
BF	BACK OF CURB	BACK OF CURB
BLDG	BASEMENT FLOOR	BASEMENT FLOOR
BM	BUILDING	BUILDING
BMP	BENCHMARK	BENCHMARK
BOV	BEST MANAGEMENT PRACTICES	BEST MANAGEMENT PRACTICES
BRC	(WATER QUALITY)	(WATER QUALITY)
BRL	BLOW OFF VALVE	BLOW OFF VALVE
BVCE	BEARING	BEARING
BVCs	BUILDING RESTRICTION LINE	BUILDING RESTRICTION LINE
BW	BEGINNING VERTICAL CURVE ELEVATION	BEGINNING VERTICAL CURVE ELEVATION
c.e	BEGINNING VERTICAL CURVE STATION	BEGINNING VERTICAL CURVE STATION
C	BOTTOM OF WALL	BOTTOM OF WALL
CATV	CENTER CORRECTION ON VERTICAL CURVE	CENTER CORRECTION ON VERTICAL CURVE
C&G	RUNOFF COEFFICIENT	RUNOFF COEFFICIENT
CB	CABLE TELEVISION	CABLE TELEVISION
CBR	CURB AND GUTTER	CURB AND GUTTER
CC	CATCH BASIN	CATCH BASIN
CF	CALIFORNIA BEARING RATIO	CALIFORNIA BEARING RATIO
CFS	CENTER TO CENTER	CENTER TO CENTER
CQ(R)	CUBIC FEET	CUBIC FEET
CHORD	CUBIC FEET PER SECOND	CUBIC FEET PER SECOND
CHRG	CURB AND GUTTER (REVERSE SLOPE)	CURB AND GUTTER (REVERSE SLOPE)
OP	CHORD BEARING	CHORD BEARING
Q	CAST IRON PIPE	CAST IRON PIPE
Q	CENTERLINE	CENTERLINE
Q	CLEAR	CLEAR
Q	CUBIC METERS	CUBIC METERS
Q	CORRUGATED METAL PIPE	CORRUGATED METAL PIPE
Q	CUBIC METERS PER SECOND	CUBIC METERS PER SECOND
Q	RUNOFF CURVE NUMBER	RUNOFF CURVE NUMBER
Q	CONTINUOUS	CONTINUOUS
Q	CLEAN OUT	CLEAN OUT
Q	CONCRETE	CONCRETE
Q	CORRUGATED PLASTIC PIPE	CORRUGATED PLASTIC PIPE
Q	CURB STOP	CURB STOP
Q	CURT	CURT
Q	CENTER	CENTER
Q	CONTROL LINE	CONTROL LINE
Q	CUBIC YARD	CUBIC YARD
D	DEPTH	DEPTH
DA	DRAINAGE AREA	DRAINAGE AREA
DB	DEED BOOK	DEED BOOK
DE	DIVERSION DIKE	DIVERSION DIKE
DET	DETAIL	DETAIL
DIA	DIAMETER	DIAMETER
DIP	DUCTILE IRON PIPE	DUCTILE IRON PIPE
DIST	DROP INLET	DROP INLET
DL	DISTANCE	DISTANCE
DM	DOMESTIC LINE	DOMESTIC LINE
DM	DROP MANHOLE	DROP MANHOLE
DR	DOMESTIC	DOMESTIC
DRN	DRIVE DRAIN	DRIVE DRAIN
DRNG	DRAINAGE	DRAINAGE
DS	DRAINAGE AREA	DRAINAGE AREA
DU	DOWN SPOUT	DOWN SPOUT
DWG	DWELLING UNITS	DWELLING UNITS
D/W	DRAWING	DRAWING
D/W	DRIVEWAY	DRIVEWAY
EA	DELTA	DELTA
EA	EASTING/EAST	EASTING/EAST
EA	EACH	EACH
EBL	EAST BOUND LANE	EAST BOUND LANE
ECB	EROSION CONTROL	EROSION CONTROL
EG	EROSION CONTROL BLANKET	EROSION CONTROL BLANKET
EGL	EDGE OF GUTTER	EDGE OF GUTTER
ELEV	ENERGY GRADIENT LINE	ENERGY GRADIENT LINE
ELEC	ELEVATION	ELEVATION
ELEV	ELECTRIC	ELECTRIC
ENGR	ELEVATION	ELEVATION
ENT	ENGINEER	ENGINEER
EOA	ENTRANCE	ENTRANCE
ECC	EDGE OF ASPHALT	EDGE OF ASPHALT
ECC	EDGE OF CONCRETE	EDGE OF CONCRETE
ECC	EDGE OF PAVEMENT	EDGE OF PAVEMENT
EQUIP	EQUIPMENT	EQUIPMENT
ESMT	EASEMENT	EASEMENT
ETD	EXISTING TO BE DEMOLISHED	EXISTING TO BE DEMOLISHED
ETR	EXISTING TO REMAIN	EXISTING TO REMAIN
ETRL	EXISTING TO BE RELOCATED	EXISTING TO BE RELOCATED
ETRP	EXISTING TO BE REPLACED	EXISTING TO BE REPLACED
EVCE	ENDING VERTICAL CURVE ELEVATION	ENDING VERTICAL CURVE ELEVATION
EVCS	ENDING VERTICAL CURVE STATION	ENDING VERTICAL CURVE STATION
EW	END WALL	END WALL
EX	EXISTING	EXISTING
ECC	ENVIRONMENTAL QUALITY CORRIDOR	ENVIRONMENTAL QUALITY CORRIDOR
F	FIRE LINE	FIRE LINE
FAR	FLOOR AREA RATIO	FLOOR AREA RATIO
FOC	FACE OF CURB	FACE OF CURB
FD	FLOOR DRAIN	FLOOR DRAIN
FES	FLARED END SECTION	FLARED END SECTION
FF	FIRST FLOOR OR FINISH FLOOR	FIRST FLOOR OR FINISH FLOOR
FG	FINISH GRADE	FINISH GRADE
FH	FIRE HYDRANT	FIRE HYDRANT
FL	FLOW LINE	FLOW LINE
FND	FOUNDATION	FOUNDATION
FOY	FOYER	FOYER
FP	FLOOD PLAIN	FLOOD PLAIN
FPS	FEET PER SECOND	FEET PER SECOND
FS	FIRE SERVICE OR FACTOR OF SAFETY	FIRE SERVICE OR FACTOR OF SAFETY
FT	FOOT OR FEET	FOOT OR FEET
G	GAS	GAS
GAR	GARAGE	GARAGE
GB	GRADE BREAK	GRADE BREAK
GFA	GROSS FLOOR AREA	GROSS FLOOR AREA
GR	GUARD RAIL OR GRATE INLET	GUARD RAIL OR GRATE INLET
GV	GATE VALVE	GATE VALVE
H	HEAD	HEAD
HC	HANDICAP	HANDICAP
HB	HORIZONTAL BEND	HORIZONTAL BEND
HBP	HOT BITUMINOUS PAVEMENT	HOT BITUMINOUS PAVEMENT
HQL	HYDRAULIC GRADE LINE	HYDRAULIC GRADE LINE
HORZ	HORIZONTAL	HORIZONTAL
HP	HIGH POINT	HIGH POINT
HR	HAND RAIL	HAND RAIL
HT	HEIGHT	HEIGHT
HW	HEADWATER	HEADWATER
I	RAINFALL INTENSITY	RAINFALL INTENSITY
ID	INSIDE DIAMETER OR IDENTIFICATION	INSIDE DIAMETER OR IDENTIFICATION
IN	INVERT ELEVATION	INVERT ELEVATION
IN	INCH	INCH
INV	INVERT	INVERT
IP	IRON PIPE	IRON PIPE
IPF	IRON PIPE FOUND	IRON PIPE FOUND
IRR	IRON PIPE SET	IRON PIPE SET
IRR	IRRIGATION	IRRIGATION
JB	JUNCTION BOX	JUNCTION BOX
JNT	JOINT	JOINT
K	SIGHT DISTANCE COEFFICIENT OR RATE OF VERTICAL CURVATURE	SIGHT DISTANCE COEFFICIENT OR RATE OF VERTICAL CURVATURE
Ke	CULVERT ENTRANCE LOSS COEFFICIENT	CULVERT ENTRANCE LOSS COEFFICIENT
L	LENGTH	LENGTH
LAT	LATERAL	LATERAL
LCG	LINE OF CLEARING & GRADING	LINE OF CLEARING & GRADING
LF	LINEAR FEET	LINEAR FEET
LIP	LIP OF PAN	LIP OF PAN
LL	LOWER LEVEL	LOWER LEVEL
ANSI	LINE OF SIGHT	LINE OF SIGHT
AP	LOW POINT	LOW POINT
LS	LOADING SPACE	LOADING SPACE
LT	LEFT	LEFT
M	MONUMENT FOUND	MONUMENT FOUND
MAX	MAXIMUM	MAXIMUM
ME	MATCH EXISTING	MATCH EXISTING
MECH	MEDICAL	MEDICAL
MH	MANHOLE	MANHOLE
MI	MILE	MILE
MIN	MINIMUM	MINIMUM
MISC	MISCELLANEOUS	MISCELLANEOUS
MPH	MILES PER HOUR	MILES PER HOUR
MS	MEDIAN STRIP	MEDIAN STRIP
MSL	MEAN SEA LEVEL	MEAN SEA LEVEL
N	NORTHING/NORTH	NORTHING/NORTH
N/A	NOT APPLICABLE	NOT APPLICABLE
NBL	NORTH BOUND LANE	NORTH BOUND LANE
N/F	NOW OR FORMERLY	NOW OR FORMERLY
NFA	NET FLOOR AREA	NET FLOOR AREA
NO	NUMBER	NUMBER
NTS	NOT TO SCALE	NOT TO SCALE
OC	ON CENTER	ON CENTER
OBJ	OBJECT	OBJECT
OD	OUTSIDE DIAMETER	OUTSIDE DIAMETER
OH	OVERHANG	OVERHANG
O/H	OVERHEAD CABLE	OVERHEAD CABLE
OHE	OVERHEAD ELECTRIC	OVERHEAD ELECTRIC
OHT	OVERHEAD TELEPHONE	OVERHEAD TELEPHONE
P	PERIMETER	PERIMETER
P	PROPERTY LINE	PROPERTY LINE
P&P	PLAN AND PROFILE	PLAN AND PROFILE
PC	POINT OF CURVATURE	POINT OF CURVATURE
CCC	POINT OF COMPOUND CURVATURE	POINT OF COMPOUND CURVATURE
PCR	POINT OF CURB RETURN	POINT OF CURB RETURN
PCEP	POINT OF CURVE EDGE OF PAVEMENT	POINT OF CURVE EDGE OF PAVEMENT
PCTC	POINT OF CURVATURE TOP OF CURB	POINT OF CURVATURE TOP OF CURB
PI	POINT OF INTERSECTION	POINT OF INTERSECTION
PG	PAGE	PAGE
PGL	POINT OF GRADE LINE	POINT OF GRADE LINE
PRC	POINT OF REVERSE CURVATURE	POINT OF REVERSE CURVATURE
PRELIM	PRELIMINARY	PRELIMINARY
PROP	PROPOSED	PROPOSED
PT	POINT OF TANGENCY	POINT OF TANGENCY
PUE	PUBLIC UTILITY EASEMENT	PUBLIC UTILITY EASEMENT
PVC	POLYVINYL CHLORIDE PIPE OR POINT OF VERTICAL CURVATURE	POLYVINYL CHLORIDE PIPE OR POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY	POINT OF VERTICAL TANGENCY
PWMT	PAVEMENT	PAVEMENT
PVRC	POINT OF VERTICAL REVERSE CURVE	POINT OF VERTICAL REVERSE CURVE
Q (cfs)	AMOUNT OF RUNOFF (FLOW RATE)	AMOUNT OF RUNOFF (FLOW RATE)
R	RADIUS	RADIUS
RCP	REINFORCED CONCRETE PIPE	REINFORCED CONCRETE PIPE
ROCR	REDUCER	REDUCER
RD	ROAD OR ROOF DRAIN	ROAD OR ROOF DRAIN
REINT	REINFORCED	REINFORCED
REQD	REQUIRED	REQUIRED
RET	RETAINING	RETAINING
REV	REVISION	REVISION
RGP	ROAD GRADING PLAN	ROAD GRADING PLAN
RMA	RESOURCE MANAGEMENT AREA	RESOURCE MANAGEMENT AREA
ROM	REMOTE OUTSIDE MONITOR	REMOTE OUTSIDE MONITOR
RPA	RESOURCE PROTECTION AREA	RESOURCE PROTECTION AREA
RR	RAILROAD	RAILROAD
RTE	ROUTE	ROUTE
R/W & ROW	RIGHT OF WAY	RIGHT OF WAY
S	SPEED OR SLOPE	SPEED OR SLOPE
SAN	SANITARY SEWER	SANITARY SEWER
SANMH	SANITARY SEWER MANHOLE	SANITARY SEWER MANHOLE
SBL	SOUTH BOUND LANE	SOUTH BOUND LANE
SCH	SCHEDULE	SCHEDULE
SD	SIGHT DISTANCE	SIGHT DISTANCE
SEC	SECTION	SECTION
SEW	SEWER	SEWER
SF	SQUARE FEET	SQUARE FEET
SH	SHOULDER	SHOULDER
SP	SPACE OR SITE PLAN	SPACE OR SITE PLAN
SPEC	SPECIFICATIONS	SPECIFICATIONS
STA	STATION	STATION
STD	STANDARD	STANDARD
STK	STACK	STACK
STM	STORM SEWER	STORM SEWER
STMH	STORM SEWER MANHOLE	STORM SEWER MANHOLE
STR	STRUCTURE	STRUCTURE
SVC	SERVICE	SERVICE
S/W	SIDEWALK	SIDEWALK
SWM	STORM WATER MANAGEMENT	STORM WATER MANAGEMENT
SV	CROSS SLOPE	CROSS SLOPE
SY	SQUARE YARD	SQUARE YARD
T	TANGENT	TANGENT
TB	TOP OF BANK OR TEST BORING	TOP OF BANK OR TEST BORING
TBR	TO BE REMOVED	TO BE REMOVED
TCC	TOP OF CURB	TOP OF CURB
TC	TIME OF CONCENTRATION	TIME OF CONCENTRATION
TEL	TELEPHONE	TELEPHONE
TEMP	TEMPORARY	TEMPORARY
TH	TEST HOLE	TEST HOLE
TOP	TOP OF FOUNDATION	TOP OF FOUNDATION
TOP	TOP OF PIPE	TOP OF PIPE
TP	TEST PIT OR TREE PROTECTION	TEST PIT OR TREE PROTECTION
TW	TOP OF WALL OR TAILWATER	TOP OF WALL OR TAILWATER
TYP	TYPICAL	TYPICAL
UE	UTILITY EASEMENT	UTILITY EASEMENT
UG	UNDERGROUND	UNDERGROUND
UGE	UNDERGROUND ELECTRIC	UNDERGROUND ELECTRIC
UGT	UNDERGROUND TELEPHONE	UNDERGROUND TELEPHONE
UGC	UNDERGROUND CABLE	UNDERGROUND CABLE
UD	UNDERDRAIN	UNDERDRAIN
UL	UPPER LEVEL	UPPER LEVEL
UP	UTILITY POLE	UTILITY POLE
USGS	US GEOLOGICAL SURVEY	US GEOLOGICAL SURVEY
UTIL	UTILITY	UTILITY
V OR VOL	VOLUME	VOLUME
V OR VEL	VELOCITY	VELOCITY
VAN	HANDICAPPED VAN PARKING SPACE	HANDICAPPED VAN PARKING SPACE
V8	VERTICAL BEND	VERTICAL BEND
VC	VERTICAL CURVE	VERTICAL CURVE
VF	VERTICAL FOOT	VERTICAL FOOT
W	WEIGHT OR WIDTH	WEIGHT OR WIDTH
WBL	WEST BOUND LANE	WEST BOUND LANE
WL	WATER LINE	WATER LINE
WM	WATER METER	WATER METER
W/M OR WM	WATER MAIN	WATER MAIN
W/TB	WITH THRUST BLOCK	WITH THRUST BLOCK
WSEL	WATER SURFACE ELEVATION	WATER SURFACE ELEVATION
WV	WATER VALVE	WATER VALVE
XING	CROSSING	CROSSING
XF	TRANSFORMER	TRANSFORMER
YI	YARD INLET	YARD INLET
YR	YEAR	YEAR

#### GENERAL NOTES

- UTILITY CONFLICTS: ALL EXISTING UTILITIES SHOWN WERE COMPILED USING THE BEST AVAILABLE INFORMATION AND FIELD OBSERVATION. BOWMAN NORTH CAROLINA LTD DOES NOT GUARANTEE THE LOCATION OF UNDERGROUND UTILITIES SHOWN HEREON. CONTRACTOR TO BE RESPONSIBLE FOR FIELD VERIFYING THE LOCATION OF AND PROTECTING ALL EXISTING UTILITIES, INCLUDING THOSE NOT SHOWN OR SHOWN INCORRECTLY ON THE PLANS. ANY DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED IN A TIMELY FASHION TO THE SATISFACTION OF THE APPROPRIATE GOVERNING AGENCY AND THE OWNER OF THE IMPACTED UTILITY AT THE CONTRACTOR'S EXPENSE.
- ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS FOR THE APPROPRIATE GOVERNING AGENCY. THE CONTRACTOR SHALL HAVE IN HIS POSSESSION AT THE JOB SITE AT ALL TIMES THE APPROPRIATE GOVERNING AGENCY'S PUBLIC WORKS MANUAL, ALL APPROVED EASEMENT AGREEMENTS, AND ONE (1) SIGNED COPY OF THE PLANS AS APPROVED BY THE APPROPRIATE GOVERNING AGENCY. THE CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FROM THE APPROPRIATE GOVERNING AGENCY FOR ANY VARIANCE TO THE ABOVE DOCUMENTS.
- CONTRACTOR SHALL OBTAIN, AT HIS OWN EXPENSE, ALL APPLICABLE CODES, LICENSES, STANDARDS, SPECIFICATIONS, PERMITS, BONDS, ETC., WHICH ARE NECESSARY TO PERFORM THE PROPOSED WORK.
- THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS AT AND ADJACENT TO THE JOB SITE INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS AND MUST COMPLY WITH OSHA REGULATIONS.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNER/DEVELOPER AND ENGINEER OF ANY PROBLEM CONFORMING TO THE APPROVED PLANS FOR ANY ELEMENT OF THE PROPOSED IMPROVEMENTS PRIOR TO ITS CONSTRUCTION.
- THE CONTRACTOR SHALL REPAIR ANY EXCAVATIONS OR PAVEMENT FAILURES CAUSED BY HIS/HER CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND REPLACEMENT OF ALL MATERIALS WITHIN DEDICATED RIGHT-OF-WAY AND ALL MATERIALS AND WORKMANSHIP SHALL MEET THE ROADWAY DESIGN AND CONSTRUCTION STANDARDS OF THE APPROPRIATE GOVERNING AGENCY.
- THE CONTRACTOR SHALL NOTIFY THE LOCAL JURISDICTION AT LEAST 24 HOURS PRIOR TO THE START OF CONSTRUCTION. THE APPROPRIATE FIRE DEPARTMENT SHALL BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE OF ANY STREET CLOSURES AND IN THE EVENT THAT ANY FIRE HYDRANTS ARE TO BE TEMPORARILY REMOVED FROM SERVICE, THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR PROVIDING AT LEAST 48 HOURS ADVANCED NOTICE OF ANY NEED TO SHUT DOWN ANY PORTION OF THE EXISTING WATER SYSTEM AND FOR OBSERVATIONS AND/OR INSPECTIONS REQUIRED.
- THE CONTRACTOR SHALL PROVIDE ALL SIGNS, BARRICADES, FLAGMEN, LIGHTS OR OTHER DEVICES NECESSARY FOR SAFE TRAFFIC CONTROL IN ACCORDANCE WITH THE CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND AS MODIFIED BY THE NORTH CAROLINA SUPPLEMENT TO THE MUTCD. A TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO AND APPROVED BY THE APPROPRIATE GOVERNING AGENCY PRIOR TO THE ISSUANCE OF ANY CONSTRUCTION PERMIT FOR WORK WITHIN THE RIGHT-OF-WAY.
- THE CONTRACTOR SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF NORTH CAROLINA AT 1-800-632-4949 AT LEAST 2 BUSINESS DAYS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH ANY AFFECTED UTILITY COMPANY.
- THE CONTRACTOR SHALL OBTAIN COPIES OF THE "SOILS AND INVESTIGATION" REPORT FROM GEOTECHNICAL ENGINEER ALONG WITH THE "PAVEMENT THICKNESS DESIGN REPORT". THE CONTRACTOR MUST HAVE COPIES OF SAME ON THE SITE AT ALL TIMES.
- THE CONTRACTOR IS REQUIRED TO PROVIDE AS-CONSTRUCTED HORIZONTAL AND VERTICAL CONSTRUCTION INFORMATION, INCLUDING THE LOCATIONS OF ALL SANITARY LINES AND SERVICES, WATER LINES AND SERVICES, AND OTHER UTILITY LINES AND SERVICES TO THE ENGINEER FOR PREPARATION OF AS-BUILT DOCUMENTS.
- LIMITS OF CONSTRUCTION EASEMENTS AND RIGHTS-OF-WAY SHALL BE DELINEATED WITH TEMPORARY STAKING BY THE CONTRACTOR. SAFETY FENCING SHALL BE PER APPROPRIATE GOVERNING AGENCY.
- WHERE EXCAVATION IS REQUIRED UNDER EXISTING ASPHALT OR CONCRETE PAVEMENT, THE EXISTING PAVEMENT SHALL BE SAW CUT IN A MANNER TO EFFECT A SMOOTH, STRAIGHT-CUT EDGE. ASPHALT PATCH SHALL BE PER APPROPRIATE GOVERNING AGENCY STANDARDS.
- REFER TO FINAL RECORDED PLAT FOR ACTUAL LOT







NOTE TO CONTRACTOR:  
THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND THE EROSION CONTROL INSPECTOR OF THE LOCATION OF ANY OFF-SITE BORROW SOURCE OR OFF-SITE WASTE MATERIAL DISPOSAL SITE. OFF-SITE DISTURBANCES COUNT TOWARDS THE OVERALL PROJECT DISTURBED AREA AND MUST BE COVERED BY THE PERMIT FOR THIS PROJECT AND/OR THE PERMIT FROM ANOTHER ACTIVE WAKE COUNTY OR NCDC PERMITTED SITE THAT IS APPROPRIATE FOR THE INTENDED USE (I.E. APPLICABLE MINING REQUIREMENTS). NO OFF-SITE ACTIVITIES SHALL OCCUR UNTIL THE PERMIT FOR THIS PROJECT HAS BEEN MODIFIED TO INCLUDE THE AFFECTED AREAS OR IT HAS BEEN VERIFIED WITH THE EROSION CONTROL INSPECTOR THAT THE OFF-SITE AREAS ARE COVERED UNDER ACTIVE APPLICABLE WAKE COUNTY OR NCDC PERMITS.

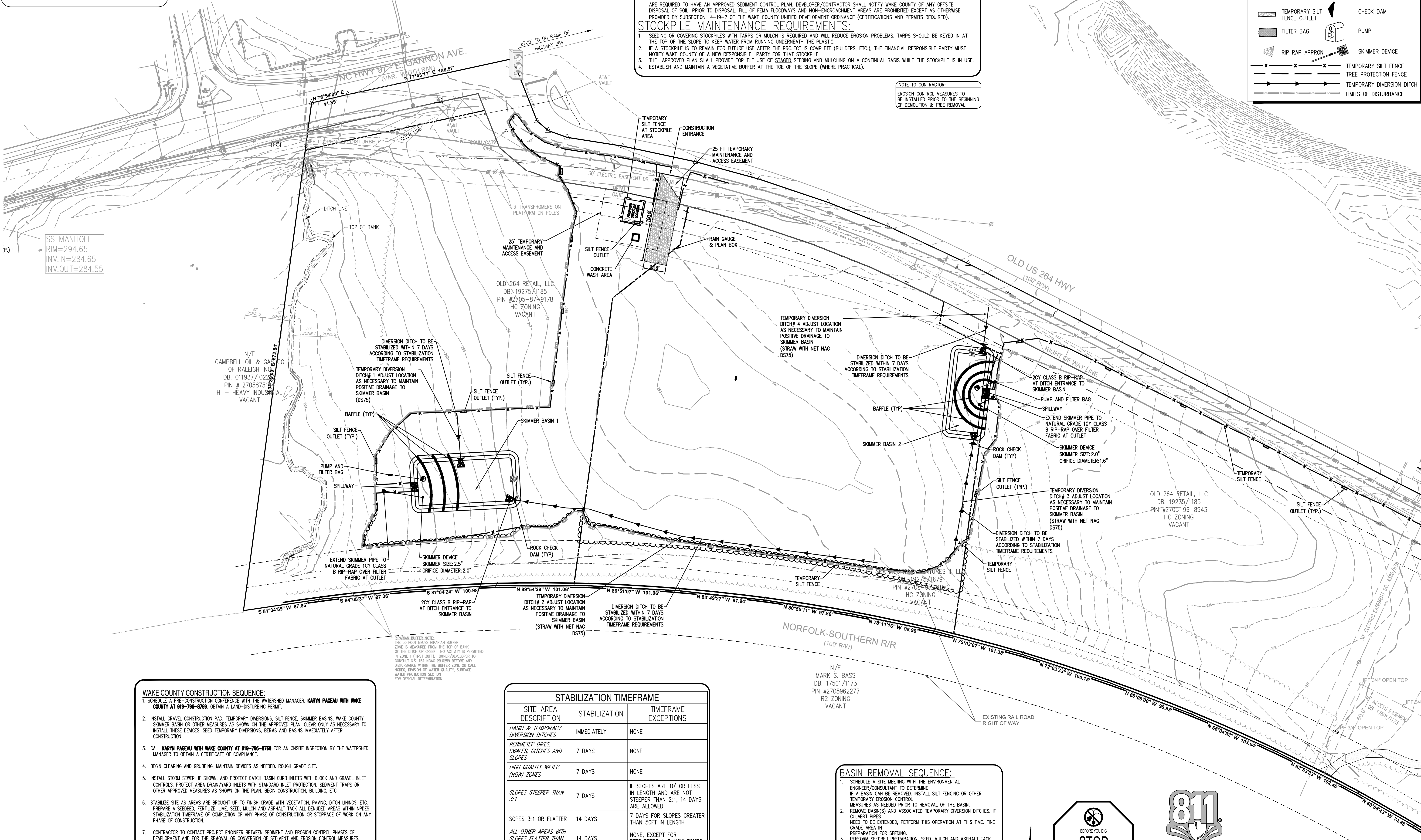
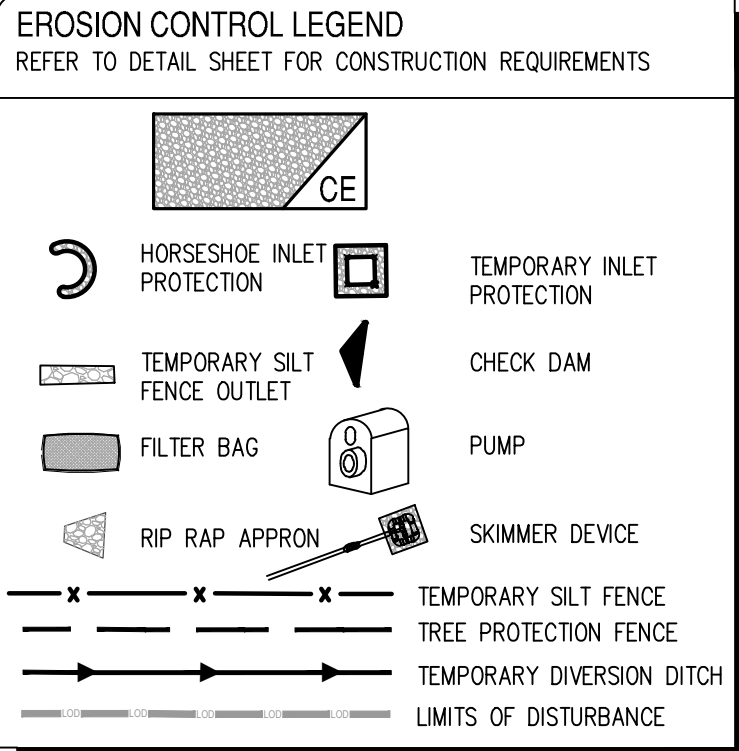
CONSTRUCTION NOTE  
ALL MATERIALS AND CONSTRUCTION METHODS PER THE LATEST EDITION OF WAKE COUNTY SPECIFICATIONS AND STANDARD DETAILS

STOCKPILE DESIGN CRITERIA:  
1. A 25-FOOT TEMPORARY MAINTENANCE AND ACCESS EASEMENT SHALL BE SHOWN AROUND ALL PROPOSED STOCKPILES (EROSION CONTROL MEASURES SURROUNDING THE STOCKPILE SHALL BE SHOWN AT THE OUTER LIMIT OF THIS EASEMENT).  
2. STOCKPILE FOOTPRINTS SHALL BE SETBACK A MINIMUM OF 25' FROM ADJACENT PROPERTY LINES.  
3. STOCKPILE HEIGHT SHALL NOT EXCEED 35-FEET.  
4. STOCKPILE SLOPES SHALL BE 2:1 OR FLATTER.  
5. APPROVED BMP'S SHALL BE SHOWN ON A PLAN TO CONTROL ANY POTENTIAL SEDIMENT LOSS FROM A STOCKPILE.  
6. STOCKPILING MATERIALS ADJACENT TO A DITCH, DRAINAGEWAY, WATERCOURSE, WETLAND, STREAM BUFFER, OR OTHER BODY OF WATER SHALL BE AVOIDED UNLESS AN ALTERNATIVE LOCATION IS DEMONSTRATED TO BE UNAVAILABLE.  
7. ANY CONCENTRATED FLOW LIKELY TO AFFECT THE STOCKPILE SHALL BE DIVERTED TO AN APPROVED BMP.  
8. OFF-SITE SPOIL OR BORROW AREAS MUST BE IN COMPLIANCE WITH WAKE COUNTY UDO AND STATE REGULATIONS. ALL SPOIL AREAS OVER AN ACRE ARE REQUIRED TO HAVE AN APPROVED SEDIMENT CONTROL PLAN. DEVELOPER/CONTRACTOR SHALL NOTIFY WAKE COUNTY OF ANY OFFSITE DISPOSAL OF SOIL PRIOR TO DISPOSAL. FILL OF FEMA FLOODWAYS AND NON-ENCROACHMENT AREAS ARE PROHIBITED EXCEPT AS OTHERWISE PROVIDED BY SUBSECTION 14-19-2 OF THE WAKE COUNTY UNIFIED DEVELOPMENT ORDINANCE (CERTIFICATIONS AND PERMITS REQUIRED).

STOCKPILE MAINTENANCE REQUIREMENTS:  
1. SEEDING OR COVERING STOCKPILES WITH TARPS OR MULCH IS REQUIRED AND WILL REDUCE EROSION PROBLEMS. TARPS SHOULD BE KEYED IN AT THE TOP OF THE SLOPE TO KEEP WATER FROM RUNNING UNDERNEATH THE PLASTIC.  
2. IF A STOCKPILE IS TO REMAIN FOR FUTURE USE AFTER THE PROJECT IS COMPLETE (BUILDERS, ETC.), THE FINANCIAL RESPONSIBLE PARTY MUST NOTIFY WAKE COUNTY OF A NEW RESPONSIBLE PARTY FOR THAT STOCKPILE.  
3. THE APPROVED PLAN SHALL PROVIDE FOR THE USE OF STAGED SEEDING AND MULCHING ON A CONTINUAL BASIS WHILE THE STOCKPILE IS IN USE. ESTABLISH AND MAINTAIN A VEGETATIVE BUFFER AT THE TOE OF THE SLOPE (WHERE PRACTICAL).

NOTE TO CONTRACTOR:  
EROSION CONTROL MEASURES TO BE INSTALLED PRIOR TO THE BEGINNING OF DEMOLITION & TREE REMOVAL

EROSION CONTROL NOTES  
- REFER TO GENERAL NOTES SHEET FOR ADDITIONAL EROSION CONTROL REQUIREMENTS.  
- REFER TO DETAIL SHEETS FOR CONSTRUCTION DETAILS OF THE PROPOSED EROSION CONTROL MEASURES TO BE USED IN THE DEVELOPMENT OF THIS SITE.  
- REFER TO DETAIL SHEETS FOR TEMPORARY AND PERMANENT SEEDING SCHEDULES FOR PROVIDING GROUND COVER FOR THE DEVELOPMENT.



WAKE COUNTY CONSTRUCTION SEQUENCE:  
1. SCHEDULE A PRE-CONSTRUCTION CONFERENCE WITH THE WATERSHED MANAGER, KARYN PAGEAU WITH WAKE COUNTY AT 919-796-8768. OBTAIN A LAND-DISTURBING PERMIT.  
2. INSTALL GRAVEL CONSTRUCTION PAD, TEMPORARY DIVERSIONS, SILT FENCE, SKIMMER BASINS, WAKE COUNTY SKIMMER BASIN OR OTHER MEASURES AS SHOWN ON THE APPROVED PLAN. CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES. SEED TEMPORARY DIVERSIONS, BENS AND BASINS IMMEDIATELY AFTER CONSTRUCTION.  
3. CALL KARYN PAGEAU WITH WAKE COUNTY AT 919-796-8768 FOR AN ONSITE INSPECTION BY THE WATERSHED MANAGER TO OBTAIN A CERTIFICATE OF COMPLIANCE.  
4. BEGIN CLEARING AND GRUBBING. MAINTAIN DEVICES AS NEEDED. ROUGH GRADE SITE.  
5. INSTALL STORM SEWER, IF SHOWN, AND PROTECT CATCH BASIN CURB INLETS WITH BLOCK AND GRAVEL INLET CONTROLS. PROTECT AREA DRAIN/YARD INLETS WITH STANDARD INLET PROTECTION, SEDIMENT TRAPS OR OTHER APPROVED MEASURES AS SHOWN ON THE PLAN. BEGIN CONSTRUCTION, BUILDING, ETC.  
6. STABILIZE SITE AS AREAS ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION, PAVING, DITCH LININGS, ETC. PREPARE A SEEDBED, FERTILIZE, LIME, SEED, MULCH AND ASPHALT TACK ALL DENuded AREAS WITHIN NPDES STABILIZATION TIMEFRAME OF COMPLETION OF ANY PHASE OF CONSTRUCTION OR STOPPAGE OF WORK ON ANY PHASE OF CONSTRUCTION.  
7. CONTRACTOR TO CONTACT PROJECT ENGINEER BETWEEN SEDIMENT AND EROSION CONTROL PHASES OF DEVELOPMENT AND FOR THE REMOVAL OR CONVERSION OF SEDIMENT AND EROSION CONTROL MEASURES.  
8. WAKE COUNTY OR JURISDICTIONAL MUNICIPALITY MUST GRANT PERMISSION TO CONVERT THE SEDIMENT BASIN OVER TO STORMWATER USE PRIOR TO COMPLETING ANY RELATED WORK.  
9. WHEN CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED COMPLETELY, CALL KARYN PAGEAU WITH WAKE COUNTY AT 919-796-8768 FOR AN INSPECTION BY THE WATERSHED MANAGER.  
10. IF SITE IS APPROVED, REMOVE TEMPORARY DIVERSIONS, SILT FENCE, SEDIMENT BASINS, ETC., AND SEED OUT OR STABILIZE ANY RESULTING BARE AREAS. ALL REMAINING PERMANENT EROSION CONTROL DEVICES, SUCH AS VELOCITY DISIPATORS, SHOULD NOW BE INSTALLED.  
11. WHEN VEGETATION HAS BECOME ESTABLISHED, CALL FOR A FINAL SITE INSPECTION BY THE WATERSHED MANAGER, KARYN PAGEAU WITH WAKE COUNTY AT 919-796-8768. OBTAIN A CERTIFICATE OF COMPLETION.

STABILIZATION TIMEFRAME		
SITE AREA DESCRIPTION	STABILIZATION	TIMEFRAME EXCEPTIONS
BASIN & TEMPORARY DIVERSION DITCHES	IMMEDIATELY	NONE
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HOW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED
SOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50FT IN LENGTH
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HOW ZONES
GROUND COVER REQUIREMENTS:		
THE ANGLE FOR GRADED SLOPES AND FILLS SHALL BE NO GREATER THAN THE ANGLE THAT CAN BE RETAINED BY VEGETATIVE COVER OR OTHER ADEQUATE EROSION-CONTROL DEVICES OR STRUCTURES. IN ANY EVENT, SLOPES LEFT EXPOSED WILL, ACCORDING TO THE FOLLOWING CHART, BE PLANTED OR OTHERWISE PROVIDED WITH TEMPORARY OR PERMANENT GROUND COVER, DEVICES, OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION. PROVISIONS FOR PERMANENT GROUNDCOVER SUFFICIENT TO RETAIN EROSION MUST BE ACCOMPLISHED FOR ALL DISTURBED AREAS ACCORDING TO THE FOLLOWING CHART FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.		

BASIN REMOVAL SEQUENCE:  
1. SCHEDULE A SITE MEETING WITH THE ENVIRONMENTAL ENGINEER/CONSULTANT TO DETERMINE IF A BASIN CAN BE REMOVED. INSTALL SILT FENCING OR OTHER TEMPORARY EROSION CONTROL MEASURES AS NEEDED PRIOR TO REMOVAL OF THE BASIN.  
2. REMOVE BASIN(S) AND ASSOCIATED TEMPORARY DIVERSION DITCHES. IF CULVERT PIPES NEED TO BE EXTENDED, PERFORM THIS OPERATION AT THIS TIME. FINE GRADE AREA IN PREPARATION FOR SEEDING.  
3. PERFORM SEEDBED PREPARATION, SEED, MULCH AND ASPHALT TACK ANY RESULTING BARE AREAS IMMEDIATELY.  
4. INSTALL VELOCITY DISIPATORS AND/OR LEVEL SPREADERS AS REQUIRED ON THE EROSION CONTROL PLAN.  
5. WHEN SITE IS FULLY STABILIZED, CALL ENVIRONMENTAL ENGINEER/CONSULTANT FOR APPROVAL OF REMOVING REMAINING TEMPORARY EROSION CONTROL MEASURES AND ADVISE ON WHEN SITE CAN BE ISSUED A CERTIFICATE OF COMPLETION.  
NOTE: A MEETING SHOULD ALSO BE SCHEDULED WITH THE ENVIRONMENTAL ENGINEER/CONSULTANT TO DETERMINE WHEN A BASIN MAY BE CONVERTED FOR STORMWATER USE. SOME MUNICIPALITIES MAY ALSO REQUIRE THIS.



GRAPHIC SCALE  
( IN FEET )  
1 inch = 50 ft.

**Bowman**

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Suite 104  
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Phone: (919)553-6570  
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Bowman North Carolina Ltd.



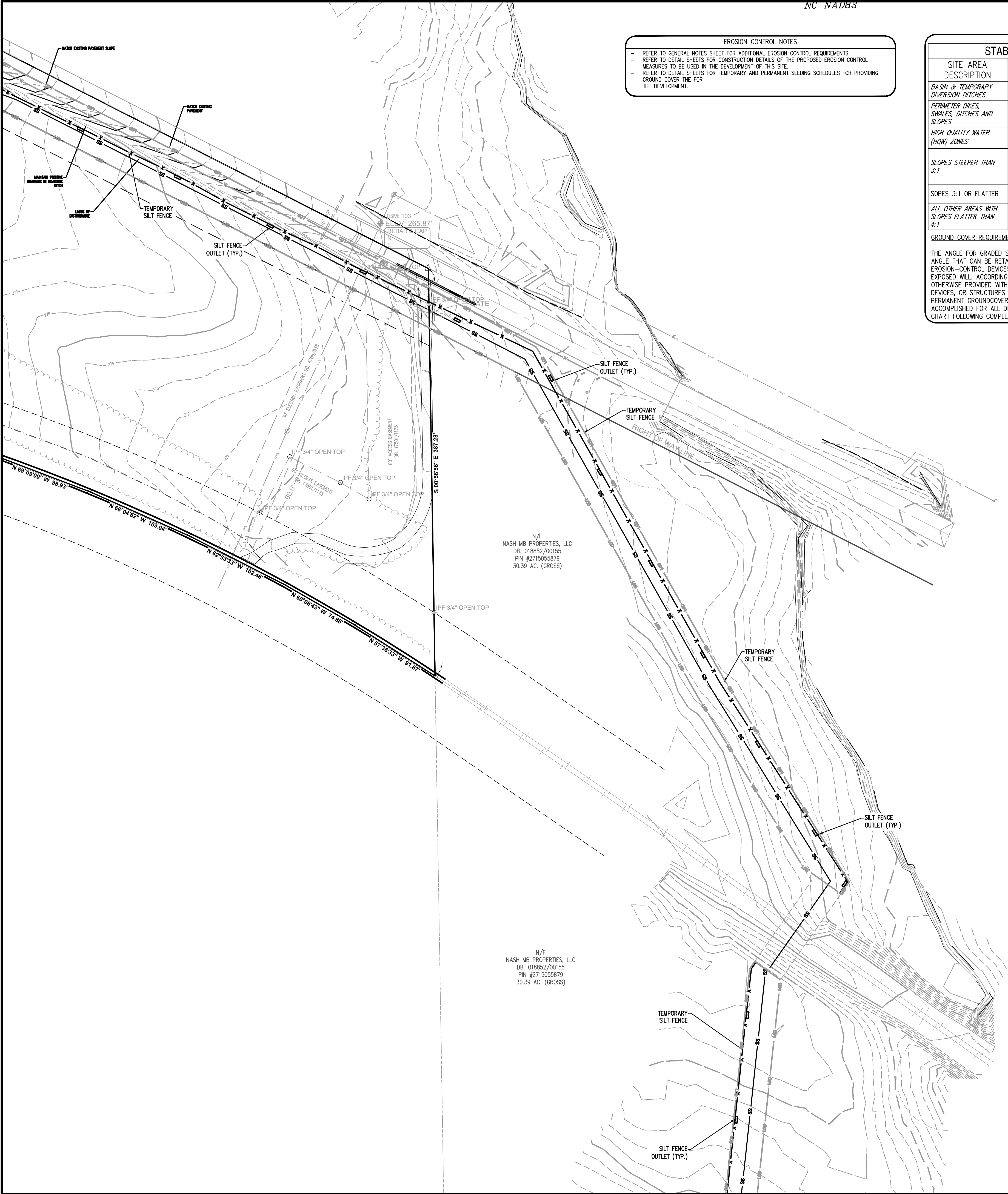
EROSION CONTROL PLAN  
Tractor Supply  
Old US Highway 264  
Zebulon, NC Wake County



PLAN STATUS		
11/30/23	SEWER CROSSING AT RAILROAD	
1/10/24	PER WAKE CO REVIEW	
3/26/24	PER NCDDOT REVIEW	
5/28/24	PER CITY OF RALEIGH REVIEW	
MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	H: 1" = 40'	V: 1" = 40'
JOB No.	220127-01-001	
DATE	May 28, 2024	
FILE No.	220127-D-CP-001	

SHEET C2.1





EROSION CONTROL NOTES

- REFER TO GENERAL NOTES SHEET FOR ADDITIONAL EROSION CONTROL REQUIREMENTS.
- REFER TO DETAIL SHEETS FOR CONSTRUCTION DETAILS OF THE PROPOSED EROSION CONTROL MEASURES TO BE USED IN THE DEVELOPMENT OF THIS SITE.
- REFER TO DETAIL SHEETS FOR TEMPORARY AND PERMANENT SEEDING SCHEDULES FOR PROVIDING GROUND COVER THE FOR THE DEVELOPMENT.

STABILIZATION TIMEFRAME		
SITE AREA DESCRIPTION	STABILIZATION	TIMEFRAME EXCEPTIONS
BASIN & TEMPORARY DIVERSION DITCHES	IMMEDIATELY	NONE
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SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED
SOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50FT IN LENGTH
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HOW ZONES

GROUND COVER REQUIREMENTS:

THE ANGLE FOR GRADED SLOPES AND FILLS SHALL BE NO GREATER THAN THE ANGLE THAT CAN BE RETAINED BY VEGETATIVE COVER OR OTHER ADEQUATE EROSION-CONTROL DEVICES OR STRUCTURES. IN ANY EVENT, SLOPES LEFT EXPOSED WILL, ACCORDING TO THE FOLLOWING CHART, BE PLANTED OR OTHERWISE PROVIDED WITH TEMPORARY OR PERMANENT GROUND COVER, DEVICES, OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION. PROVISIONS FOR PERMANENT GROUND COVER SUFFICIENT TO RETAIN EROSION MUST BE ACCOMPLISHED FOR ALL DISTURBED AREAS ACCORDING TO THE FOLLOWING CHART FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.

NOTE TO CONTRACTOR:

EROSION CONTROL MEASURES TO BE INSTALLED PRIOR TO THE BEGINNING OF DEMOLITION & TREE REMOVAL

NOTE TO CONTRACTOR:

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  3. STOCKPILE HEIGHT SHALL NOT EXCEED 35-FEET.
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  5. APPROVED BMP'S SHALL BE SHOWN ON A PLAN TO CONTROL ANY POTENTIAL SEDIMENT LOSS FROM A STOCKPILE.
  6. STOCKPILING MATERIALS ADJACENT TO A DITCH, DRAINAGEWAY, WATERCOURSE, WETLAND, STREAM BUFFER, OR OTHER BODY OF WATER SHALL BE AVOIDED UNLESS AN ALTERNATIVE LOCATION IS DEMONSTRATED TO BE UNAVAILABLE.
  7. ANY CONCENTRATED FLOW LIKELY TO AFFECT THE STOCKPILE SHALL BE DIVERTED TO AN APPROVED BMP.
  8. OFF-SITE SPILL OR BORROW AREAS MUST BE IN COMPLIANCE WITH WAKE COUNTY UDO AND STATE REGULATIONS. ALL SPILL AREAS OVER AN ACRE ARE REQUIRED TO HAVE AN APPROVED SEDIMENT CONTROL PLAN. DEVELOPER/CONTRACTOR SHALL NOTIFY WAKE COUNTY OF ANY OFFSITE DISPOSAL OF SOIL PRIOR TO DISPOSAL. FILL OF FEMA FLOODWAYS AND NON-ENCROACHMENT AREAS ARE PROHIBITED EXCEPT AS OTHERWISE PROVIDED BY SUBSECTION 14-19-2 OF THE WAKE COUNTY UNIFIED DEVELOPMENT ORDINANCE (CERTIFICATIONS AND PERMITS REQUIRED).
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  2. IF A STOCKPILE IS TO REMAIN FOR FUTURE USE AFTER THE PROJECT IS COMPLETE (BUILDERS, ETC.), THE FINANCIAL RESPONSIBLE PARTY MUST NOTIFY WAKE COUNTY OF A NEW RESPONSIBLE PARTY FOR THAT STOCKPILE.
  3. THE APPROVED PLAN SHALL PROVIDE FOR THE USE OF STAGED SEEDING AND MULCHING ON A CONTINUAL BASIS WHILE THE STOCKPILE IS IN USE.
  4. ESTABLISH AND MAINTAIN A VEGETATIVE BUFFER AT THE TOE OF THE SLOPE (WHERE PRACTICAL).

- WAKE COUNTY CONSTRUCTION SEQUENCE:**
1. SCHEDULE A PRE-CONSTRUCTION CONFERENCE WITH THE WATERSHED MANAGER, **KARYN PAGEAU WITH WAKE COUNTY AT 919-796-8769**. OBTAIN A LAND-DISTURBING PERMIT.
  2. INSTALL GRAVEL CONSTRUCTION PAD, TEMPORARY DIVERSIONS, SILT FENCE, SUMMER BASINS, WAKE COUNTY SUMMER BASIN OR OTHER MEASURES AS SHOWN ON THE APPROVED PLAN. CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES. SEED TEMPORARY DIVERSIONS, BERMS AND BASINS IMMEDIATELY AFTER CONSTRUCTION.
  3. CALL **KARYN PAGEAU WITH WAKE COUNTY AT 919-796-8769** FOR AN ONSITE INSPECTION BY THE WATERSHED MANAGER TO OBTAIN A CERTIFICATE OF COMPLIANCE.
  4. BEGIN CLEARING AND GRUBBING. MAINTAIN DEVICES AS NEEDED. ROUGH GRADE SITE.
  5. INSTALL STORM SEWER, IF SHOWN, AND PROTECT CATCH BASIN CURB INLETS WITH BLOCK AND GRAVEL INLET CONTROLS. PROTECT AREA DRAIN/YARD INLETS WITH STANDARD INLET PROTECTION, SEDIMENT TRAPS OR OTHER APPROVED MEASURES AS SHOWN ON THE PLAN. BEGIN CONSTRUCTION, BUILDING, ETC.
  6. STABILIZE SITE AS AREAS ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION, PAVING, DITCH LININGS, ETC. PREPARE A SEEDBED, FERTILIZE, LIME, SEED, MULCH AND ASPHALT TACK ALL DENUDED AREAS WITHIN NINE'S STABILIZATION TIMEFRAME OF COMPLETION OF ANY PHASE OF CONSTRUCTION OR STOPPAGE OF WORK ON ANY PHASE OF CONSTRUCTION.
  7. CONTRACTOR TO CONTACT PROJECT ENGINEER BETWEEN SEDIMENT AND EROSION CONTROL PHASES OF DEVELOPMENT AND FOR THE REMOVAL OR CONVERSION OF SEDIMENT AND EROSION CONTROL MEASURES.
  8. WAKE COUNTY OR JURISDICTIONAL MUNICIPALITY MUST GRANT PERMISSION TO CONVERT THE SEDIMENT BASIN OVER TO STORMWATER USE PRIOR TO COMPLETING ANY RELATED WORK.
  9. WHEN CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED COMPLETELY, CALL **KARYN PAGEAU WITH WAKE COUNTY AT 919-796-8769** FOR AN INSPECTION BY THE WATERSHED MANAGER.
  10. IF SITE IS APPROVED, REMOVE TEMPORARY DIVERSIONS, SILT FENCE, SEDIMENT BASINS, ETC., AND SEED OUT OR STABILIZE ANY RESULTING BARE AREAS. ALL REMAINING PERMANENT EROSION CONTROL DEVICES, SUCH AS VELOCITY DISSIPATORS, SHOULD NOW BE INSTALLED.
  11. WHEN VEGETATION HAS BECOME ESTABLISHED, CALL FOR A FINAL SITE INSPECTION BY THE WATERSHED MANAGER, **KARYN PAGEAU WITH WAKE COUNTY AT 919-796-8769**. OBTAIN A CERTIFICATE OF COMPLETION.

**EROSION CONTROL LEGEND**

REFER TO DETAIL SHEET FOR CONSTRUCTION REQUIREMENTS

		TEMPORARY INLET PROTECTION
		CHECK DAM
		PUMP
		SKIMMER DEVICE
		TEMPORARY SILT FENCE
		TEMPORARY DIVERSION DITCH
		LIMITS OF DISTURBANCE

- BASIN REMOVAL SEQUENCE:**
1. SCHEDULE A SITE MEETING WITH THE ENVIRONMENTAL ENGINEER/CONSULTANT TO DETERMINE IF A BASIN CAN BE REMOVED. INSTALL SILT FENCING OR OTHER TEMPORARY EROSION CONTROL MEASURES AS NEEDED PRIOR TO REMOVAL OF THE BASIN.
  2. REMOVE BASIN(S) AND ASSOCIATED TEMPORARY DIVERSION DITCHES. IF CULVERT PIPES NEED TO BE EXTENDED, PERFORM THIS OPERATION AT THIS TIME. FINE GRADE AREA IN PREPARATION FOR SEEDING.
  3. PERFORM SEEDBED PREPARATION, SEED, MULCH AND ASPHALT TACK ANY RESULTING BARE AREAS IMMEDIATELY.
  4. INSTALL VELOCITY DISSIPATORS AND/OR LEVEL SPREADERS AS REQUIRED ON THE EROSION CONTROL PLAN.
  5. WHEN SITE IS FULLY STABILIZED, CALL ENVIRONMENTAL ENGINEER/CONSULTANT FOR APPROVAL OF REMOVING REMAINING TEMPORARY EROSION CONTROL MEASURES AND ADVICE ON WHEN SITE CAN BE ISSUED A CERTIFICATE OF COMPLETION.
- NOTE: A MEETING SHOULD ALSO BE SCHEDULED WITH THE ENVIRONMENTAL ENGINEER/CONSULTANT TO DETERMINE WHEN A BASIN MAY BE CONVERTED FOR STORMWATER USE. SOME MUNICIPALITIES MAY ALSO REQUIRE THIS.

**811**

Know what's below.  
Call before you dig.

**GRAPHIC SCALE**

( IN FEET )

1 inch = 50 ft.

CONSTRUCTION NOTE

ALL MATERIALS AND CONSTRUCTION METHODS PER THE LATEST EDITION OF WAKE COUNTY SPECIFICATIONS AND STANDARD DETAILS

**Bowman**

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4006 BARRETT DR  
Suite 104  
RALEIGH, NC 27609  
Phone: (919)553-6570  
bowman.com  
Bowman North Carolina Ltd.

**TSC**

TRACTOR SUPPLY COMPANY

**EROSION CONTROL PLAN**

**Tractor Supply**  
Old US Highway 264  
Zebulon, NC Wake County

**PLAN STATUS**

11/30/23	SEWER CROSSING AT RAILROAD
1/10/24	PER WAKE CO REVIEW
3/26/24	PER NCDOOT REVIEW
5/28/24	PER CITY OF RALEIGH REVIEW

MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	H: 1" = 40'	V: 1" = 40'

JOB No. 220127-01-001

DATE May 28, 2024

FILE No. 220127-D-CP-001

SHEET **C2.2**



- EROSION CONTROL NOTES
- REFER TO GENERAL NOTES SHEET FOR ADDITIONAL EROSION CONTROL REQUIREMENTS.
  - REFER TO DETAIL SHEETS FOR CONSTRUCTION DETAILS OF THE PROPOSED EROSION CONTROL MEASURES TO BE USED IN THE DEVELOPMENT OF THIS SITE.
  - REFER TO DETAIL SHEETS FOR TEMPORARY AND PERMANENT SEEDING SCHEDULES FOR PROVIDING GROUND COVER THE FOR THE DEVELOPMENT.

STABILIZATION TIMEFRAME		
SITE AREA DESCRIPTION	STABILIZATION	TIMEFRAME EXCEPTIONS
BASIN & TEMPORARY DIVERSION DITCHES	IMMEDIATELY	NONE
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HOW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN SOFT IN LENGTH
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HOW ZONES

GROUND COVER REQUIREMENTS:

THE ANGLE FOR GRADED SLOPES AND FILLS SHALL BE NO GREATER THAN THE ANGLE THAT CAN BE RETAINED BY VEGETATIVE COVER OR OTHER ADEQUATE EROSION-CONTROL DEVICES OR STRUCTURES. IN ANY EVENT, SLOPES LEFT EXPOSED WILL, ACCORDING TO THE FOLLOWING CHART, BE PLANTED OR OTHERWISE PROVIDED WITH TEMPORARY OR PERMANENT GROUND COVER, DEVICES, OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION. PROVISIONS FOR PERMANENT GROUNDCOVER SUFFICIENT TO RETAIN EROSION MUST BE ACCOMPLISHED FOR ALL DISTURBED AREAS ACCORDING TO THE FOLLOWING CHART FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.

NOTE TO CONTRACTOR:

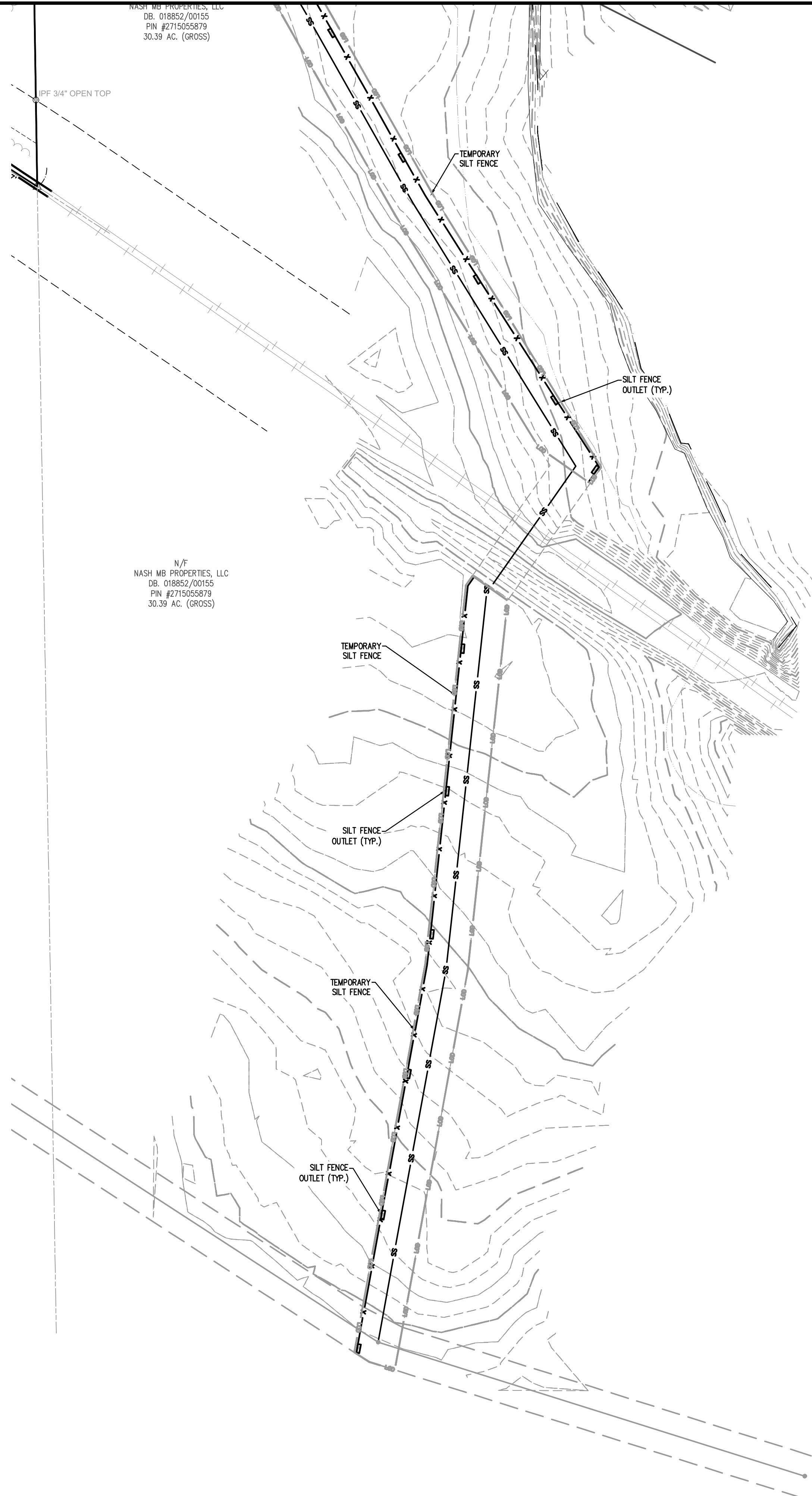
EROSION CONTROL MEASURES TO BE INSTALLED PRIOR TO THE BEGINNING OF DEMOLITION & TREE REMOVAL.

WAKE COUNTY CONSTRUCTION SEQUENCE:

1. SCHEDULE A PRE-CONSTRUCTION CONFERENCE WITH THE WATERSHED MANAGER, **KARYN PAGEAU WITH WAKE COUNTY AT 919-796-8788**. OBTAIN A LAND-DISTURBING PERMIT.
2. INSTALL GRAVEL CONSTRUCTION PAD, TEMPORARY DIVERSIONS, SILT FENCE, SKIMMER BASINS, WAKE COUNTY SKIMMER BASIN OR OTHER MEASURES AS SHOWN ON THE APPROVED PLAN. CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES. SEED TEMPORARY DIVERSIONS, BERMS AND BASINS IMMEDIATELY AFTER CONSTRUCTION.
3. CALL **KARYN PAGEAU WITH WAKE COUNTY AT 919-796-8788** FOR AN ONSITE INSPECTION BY THE WATERSHED MANAGER TO OBTAIN A CERTIFICATE OF COMPLIANCE.
4. BEGIN CLEARING AND GRUBBING. MAINTAIN DEVICES AS NEEDED. ROUGH GRADE SITE.
5. INSTALL STORM SEWER, IF SHOWN, AND PROTECT CATCH BASIN CURB INLETS WITH BLOCK AND GRAVEL INLET CONTROLS, PROTECT AREA DRAIN/YARD INLETS WITH STANDARD INLET PROTECTION, SEDIMENT TRAPS OR OTHER APPROVED MEASURES AS SHOWN ON THE PLAN. BEGIN CONSTRUCTION, BUILDING, ETC.
6. STABILIZE SITE AS AREAS ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION, PAVING, DITCH LININGS, ETC. PREPARE A SEEDBED, FERTILIZE, LEED, SEED, MULCH AND ASPHALT TACK ALL DENUDED AREAS WITHIN NIPES STABILIZATION TIMEFRAME OF COMPLETION OF ANY PHASE OF CONSTRUCTION OR STOPPAGE OF WORK ON ANY PHASE OF CONSTRUCTION.
7. CONTRACTOR TO CONTACT PROJECT ENGINEER BETWEEN SEDIMENT AND EROSION CONTROL PHASES OF DEVELOPMENT AND FOR THE REMOVAL OR CONVERSION OF SEDIMENT AND EROSION CONTROL MEASURES.
8. WAKE COUNTY OR JURISDICTIONAL MUNICIPALITY MUST GRANT PERMISSION TO CONVERT THE SEDIMENT BASIN OVER TO STORMWATER USE PRIOR TO COMPLETING ANY RELATED WORK.
9. WHEN CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED COMPLETELY, CALL **KARYN PAGEAU WITH WAKE COUNTY AT 919-796-8788** FOR AN INSPECTION BY THE WATERSHED MANAGER.
10. IF SITE IS APPROVED, REMOVE TEMPORARY DIVERSIONS, SILT FENCE, SEDIMENT BASINS, ETC., AND SEED OUT OR STABILIZE ANY RESULTING BARE AREAS. ALL REMAINING PERMANENT EROSION CONTROL DEVICES, SUCH AS VELOCITY DISSIPATORS, SHOULD NOW BE INSTALLED.
11. WHEN VEGETATION HAS BECOME ESTABLISHED, CALL FOR A FINAL SITE INSPECTION BY THE WATERSHED MANAGER, **KARYN PAGEAU WITH WAKE COUNTY AT 919-796-8788**. OBTAIN A CERTIFICATE OF COMPLETION.

NOTE TO CONTRACTOR:

THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND THE EROSION CONTROL INSPECTOR OF THE LOCATION OF ANY OFF-SITE BORROW SOURCE OR OFF-SITE WASTE MATERIAL DISPOSAL SITE. OFF-SITE DISTURBANCES COUNT TOWARDS THE OVERALL PROJECT DISTURBED AREA AND MUST BE COVERED BY THE PERMIT FOR THIS PROJECT AND/OR THE PERMIT FROM ANOTHER ACTIVE WAKE COUNTY OR NCDED PERMITTED SITE THAT IS APPROPRIATE FOR THE INTENDED USE (I.E. APPLICABLE MINING REQUIREMENTS). NO OFF-SITE ACTIVITIES SHALL OCCUR UNTIL THE PERMIT FOR THIS PROJECT HAS BEEN MODIFIED TO INCLUDE THE AFFECTED AREAS OR IT HAS BEEN VERIFIED WITH THE EROSION CONTROL INSPECTOR THAT THE OFF-SITE AREAS ARE COVERED UNDER ACTIVE APPLICABLE WAKE COUNTY OR NCDED PERMITS.



STOCKPILE DESIGN CRITERIA:

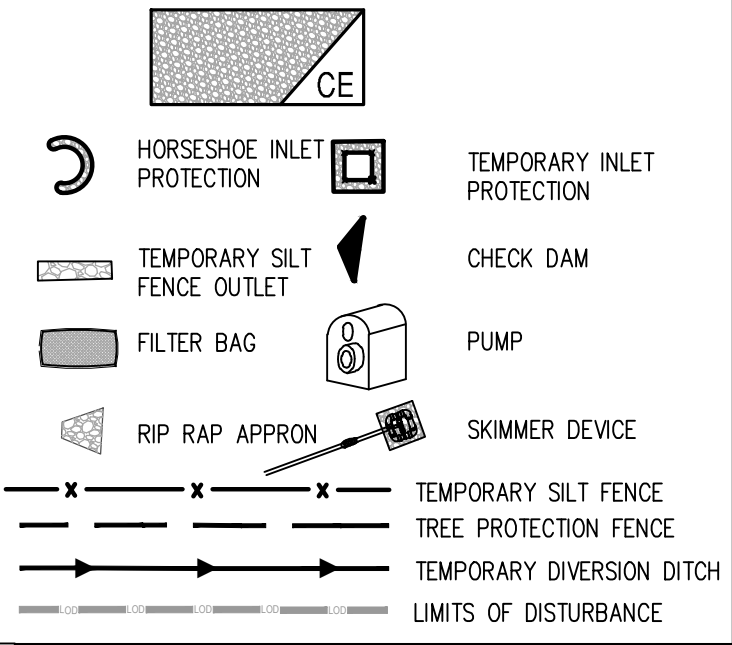
1. A 25-FOOT TEMPORARY MAINTENANCE AND ACCESS EASEMENT SHALL BE SHOWN AROUND ALL PROPOSED STOCKPILES (EROSION CONTROL MEASURES SURROUNDING THE STOCKPILE SHALL BE SHOWN AT THE OUTER LIMIT OF THIS EASEMENT).
2. STOCKPILE FOOTPRINTS SHALL BE SETBACK A MINIMUM OF 25' FROM ADJACENT PROPERTY LINES.
3. STOCKPILE HEIGHT SHALL NOT EXCEED 35-FEET.
4. STOCKPILE SLOPES SHALL BE 2:1 OR FLATTER.
5. APPROVED BMP'S SHALL BE SHOWN ON A PLAN TO CONTROL ANY POTENTIAL SEDIMENT LOSS FROM A STOCKPILE.
6. STOCKPILING MATERIALS ADJACENT TO A DITCH, DRAINAGEWAY, WATERCOURSE, WETLAND, STREAM BUFFER, OR OTHER BODY OF WATER SHALL BE AVOIDED UNLESS AN ALTERNATIVE LOCATION IS DEMONSTRATED TO BE UNAVAILABLE.
7. ANY CONCENTRATED FLOW LIKELY TO AFFECT THE STOCKPILE SHALL BE DIVERTED TO AN APPROVED BMP.
8. OFF-SITE SPOIL OR BORROW AREAS MUST BE IN COMPLIANCE WITH WAKE COUNTY UDO AND STATE REGULATIONS. ALL SPOIL AREAS OVER AN ACRE ARE REQUIRED TO HAVE AN APPROVED SEDIMENT CONTROL PLAN. DEVELOPER/CONTRACTOR SHALL NOTIFY WAKE COUNTY OF ANY OFFSITE DISPOSAL OF SOIL PRIOR TO DISPOSAL. FILL OF FEMA FLOODWAYS AND NON-ENCROACHMENT AREAS ARE PROHIBITED EXCEPT AS OTHERWISE PROVIDED BY SUBSECTION 14-19-2 OF THE WAKE COUNTY UNIFIED DEVELOPMENT ORDINANCE (CERTIFICATIONS AND PERMITS REQUIRED).

STOCKPILE MAINTENANCE REQUIREMENTS:

1. SEEDING OR COVERING STOCKPILES WITH TARPIS OR MULCH IS REQUIRED AND WILL REDUCE EROSION PROBLEMS. TARPS SHOULD BE KEYED IN AT THE TOP OF THE SLOPE TO KEEP WATER FROM RUNNING UNDERNEATH THE PLASTIC.
2. IF A STOCKPILE IS TO REMAIN FOR FUTURE USE AFTER THE PROJECT IS COMPLETE (BUILDERS, ETC.), THE FINANCIAL RESPONSIBLE PARTY MUST NOTIFY WAKE COUNTY OF A NEW RESPONSIBLE PARTY FOR THAT STOCKPILE.
3. THE APPROVED PLAN SHALL PROVIDE FOR THE USE OF SEASSED SEEDING AND MULCHING ON A CONTINUAL BASIS WHILE THE STOCKPILE IS IN USE.
4. ESTABLISH AND MAINTAIN A VEGETATIVE BUFFER AT THE TOE OF THE SLOPE (WHERE PRACTICAL).

EROSION CONTROL LEGEND

REFER TO DETAIL SHEET FOR CONSTRUCTION REQUIREMENTS



BASIN REMOVAL SEQUENCE:

1. SCHEDULE A SITE MEETING WITH THE ENVIRONMENTAL ENGINEER/CONSULTANT TO DETERMINE IF A BASIN CAN BE REMOVED. INSTALL SILT FENCING OR OTHER TEMPORARY EROSION CONTROL MEASURES AS NEEDED PRIOR TO REMOVAL OF THE BASIN.
  2. REMOVE BASIN(S) AND ASSOCIATED TEMPORARY DIVERSION DITCHES. IF CULVERT PIPES NEED TO BE EXTENDED, PERFORM THIS OPERATION AT THIS TIME. FINE GRADE AREA IN PREPARATION FOR SEEDING.
  3. PERFORM SEEDBED PREPARATION, SEED, MULCH AND ASPHALT TACK ANY RESULTING BARE AREAS IMMEDIATELY.
  4. INSTALL VELOCITY DISSIPATORS AND/OR LEVEL SPREADERS AS REQUIRED ON THE EROSION CONTROL PLAN.
  5. WHEN SITE IS FULLY STABILIZED, CALL ENVIRONMENTAL ENGINEER/CONSULTANT FOR APPROVAL OF REMOVING REMAINING TEMPORARY EROSION CONTROL MEASURES AND ADVISE ON WHEN SITE CAN BE ISSUED A CERTIFICATE OF COMPLETION.
- NOTE: A MEETING SHOULD ALSO BE SCHEDULED WITH THE ENVIRONMENTAL ENGINEER/CONSULTANT TO DETERMINE WHEN A BASIN MAY BE CONVERTED FOR STORMWATER USE. SOME MUNICIPALITIES MAY ALSO REQUIRE THIS.

CONSTRUCTION NOTE

ALL MATERIALS AND CONSTRUCTION METHODS PER THE LATEST EDITION OF WAKE COUNTY SPECIFICATIONS AND STANDARD DETAILS



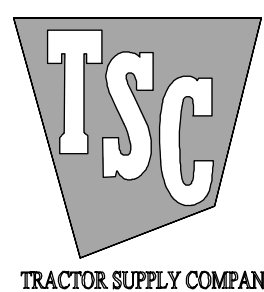
GRAPHIC SCALE



( IN FEET )  
1 inch = 50 ft.

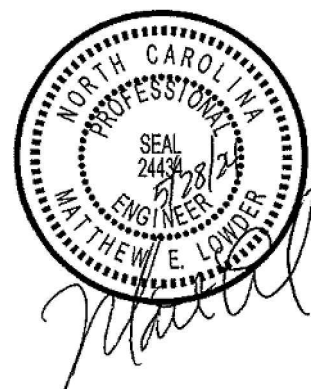
**Bowman**

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Bowman North Carolina Ltd.



EROSION CONTROL PLAN

Tractor Supply  
Old US Highway 264  
Zebulon, NC Wake County



PLAN STATUS

11/30/23	SEWER CROSSING AT RAILROAD		
1/10/24	PER WAKE CO REVIEW		
3/26/24	PER NCDOT REVIEW		
5/28/24	PER CITY OF RALEIGH REVIEW		
MEL DESIGN	MEL DRAWN	XXX CHKD	
SCALE	H: 1" = 40' V: 1" = 40'		
JOB No.	220127-01-001		
DATE	May 28, 2024		
FILE No.	220127-D-CP-001		

SHEET C2.3



THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND THE EROSION CONTROL INSPECTOR OF THE LOCATION OF ANY OFF-SITE BORROW SOURCE OR OFF-SITE WASTE MATERIAL DISPOSAL SITE. OFF-SITE DISTURBANCES COUNT TOWARDS THE OVERALL PROJECT DISTURBED AREA AND MUST BE COVERED BY THE PERMIT FOR THIS PROJECT AND/OR THE PERMIT FROM ANOTHER AGENCY. WAKE COUNTY OR NCEQ PERMITTED SITE THAT IS APPROPRIATE FOR THE INTERMEDIATE USE (I.E. AGRICULTURE, MINING, ETC.) ARE OFF-SITE ACTIVITIES. IF OCCURRING WITHIN THE PROJECT AREA, THE PROJECT HAS BEEN MODIFIED TO INCLUDE THE AFFECTED AREAS OR IT HAS BEEN COVERED BY THE EROSION CONTROL INSPECTOR THAT THE OFF-SITE AREAS ARE COVERED UNDER ACTIVE APPLICABLE WAKE COUNTY OR NCEQ PERMITS.

ALL MATERIALS AND CONSTRUCTION METHODS PER THE LATEST EDITION OF WAKE COUNTY SPECIFICATIONS AND STANDARD DETAILS

1. A 25-FOOT TEMPORARY MAINTENANCE AND ACCESS EASEMENT SHALL BE SHOWN AROUND ALL PROPOSED STOCKPILES (EROSION CONTROL MEASURES SURROUNDING THE STOCKPILE SHALL BE SHOWN AT THE OUTER LIMIT OF THIS EASEMENT).
2. STOCKPILE FOOTPRINTS SHALL BE SETBACK A MINIMUM OF 25' FROM ADJACENT PROPERTY LINES.
3. STOCKPILE HEIGHT SHALL NOT EXCEED 35-FEET.
4. STOCKPILE SLOPES SHALL BE 2:1 OR FLATTER.
5. APPROVED BMP'S SHALL BE SHOWN ON A PLAN TO CONTROL ANY POTENTIAL SEDIMENT LOSS FROM A STOCKPILE.
6. STOCKPILING MATERIALS ADJACENT TO A DITCH, DRAINAGEWAY, WATERCOURSE, WETLAND, STREAM BUFFER, OR OTHER BODY OF WATER SHALL BE AVOIDED UNLESS AN ALTERNATE LOCATION IS DEMONSTRATED TO BE FEASIBLE.
7. ANY CONCENTRATED FLOW LINE TO AFFECT THE STOCKPILE SHALL BE DIVERTED TO AN APPROVED BMP.
8. OFF-SITE ROAD OR BORROW AREAS MUST BE IN COMPLIANCE WITH WAKE COUNTY UDO AND STATE REGULATIONS. ALL SPOIL AREAS OVER AN ACRE ARE REQUIRED TO HAVE AN APPROVED SEDIMENT CONTROL PLAN. DEVELOPER/CONTRACTOR SHALL NOTIFY WAKE COUNTY OF ANY OFFSITE EROSION OR SEDIMENT PROBLEMS THAT MAY OCCUR. VIOLATIONS ARE PROHIBITED EXCEPT AS OTHERWISE REQUIRED BY SUBSECTION 19-19-2 OF THE WAKE COUNTY UNIFIED DEVELOPMENT ORDINANCE (CERTIFICATIONS AND EVENTS REQUIRED).

1. SEEDING OR COVERING STOCKPILES WITH TARPS OR MULCH IS REQUIRED AND WILL REDUCE EROSION PROBLEMS. TARPS SHOULD BE KEPT IN AT THE TOP OF THE SLOPE TO KEEP WATER FROM RUNNING UNDERNEATH THE PLASTIC.
2. IF A STOCKPILE IS TO REMAIN FOR FUTURE USE AFTER THE PROJECT IS COMPLETE (BUILDERS, ETC.), THE FINANCIAL RESPONSIBLE PARTY MUST NOTIFY WAKE COUNTY OF A NEW RESPONSIBLE PARTY FOR THAT STOCKPILE.
3. THE APPROVED PLAN SHALL PROVIDE FOR THE USE OF STAGED SEEDING AND MULCHING ON A CONTINUAL BASIS WHILE THE STOCKPILE IS IN USE.
4. ESTABLISH AND MAINTAIN A VEGETATIVE BUFFER AT THE TOE OF THE SLOPE (WHERE PRACTICAL).

NOTE TO CONTRACTOR:

EROSION CONTROL MEASURES TO  
BE INSTALLED PRIOR TO THE BEGINNING  
OF DEMOLITION & TREE REMOVAL

- REFER TO GENERAL NOTES SHEET FOR ADDITIONAL EROSION CONTROL REQUIREMENTS.
- REFER TO DETAIL SHEETS FOR CONSTRUCTION DETAILS OF THE PROPOSED EROSION CONTROL MEASURES TO BE USED IN THE DEVELOPMENT OF THIS SITE.
- REFER TO DETAIL SHEETS FOR TEMPORARY AND PERMANENT SEEDING SCHEDULES FOR PROVIDING GROUND COVER FOR THE DEVELOPMENT.

The diagram illustrates various erosion control measures and their symbols. It includes a legend for symbols and a list of measures with their corresponding symbols and descriptions.

**Legend:**

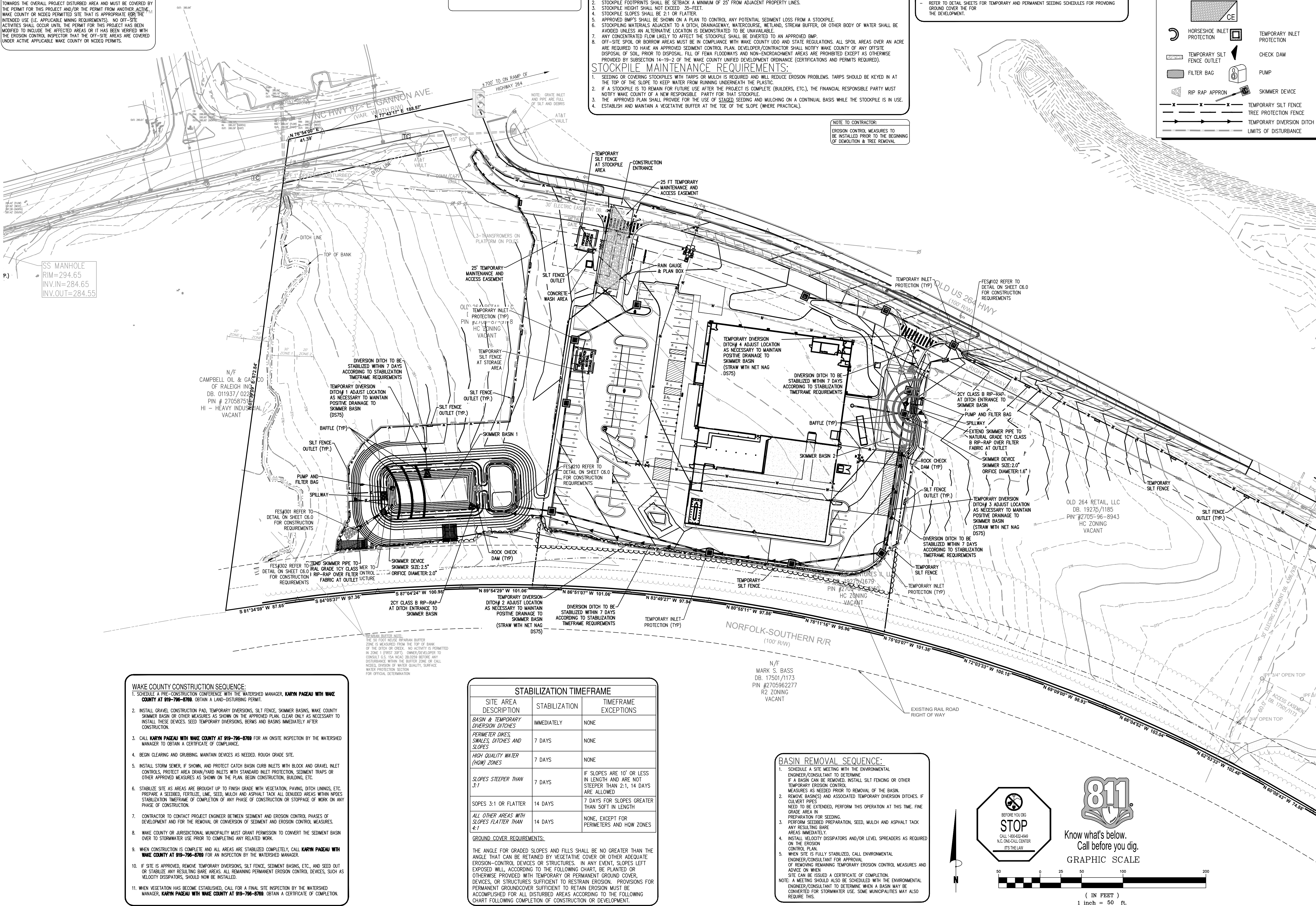
- CE

**Measures:**

- HORSESHOE INLET PROTECTION
- TEMPORARY INLET PROTECTION
- TEMPORARY SILT FENCE OUTLET
- CHECK DAM
- FILTER BAG
- PUMP
- RIP RAP APRRON
- SKIMMER DEVICE

**Disturbance Limits:**

- TEMPORARY SILT FENCE
- TREE PROTECTION FENCE
- TEMPORARY DIVERSION DITCH
- LIMITS OF DISTURBANCE



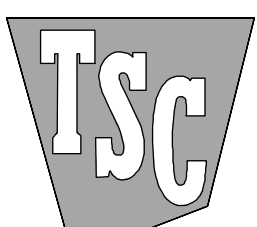
1. SCHEDULE A PRE-CONSTRUCTION CONFERENCE WITH THE WATERED MANAGER, **KARIN PAGEAU** WITH **WAKE COUNTY** AT 919-796-8769. OBTAIN A LAND-USE/PERMIT.
2. INSTALL GRAVEL CONSTRUCTION PAD, TEMPORARY DIVERSIONS, SILT FENCE, SKIMMER BASINS, WAKE COUNTY SKIMMER BASIN OR OTHER MEASURES AS SHOWN ON THE APPROVED PLAN. CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES. STOP TEMPORARY DIVERSIONS, BERMS AND BASINS IMMEDIATELY AFTER CONSTRUCTION.
3. CALL **KARIN PAGEAU** WITH **WAKE COUNTY** AT 919-796-8769 FOR AN ON SITE INSPECTION BY THE WATERSHED MANAGER TO OBTAIN A CERTIFICATE OF COMPLIANCE.
4. BEGIN CLEARING AND GRUBBING. SHOWING DEVICES AS NEEDED. ROUGH GRADE SITE.
5. INSTALL STORM SEWER, IF SHOWN, AND PROTECT CATCH BASIN CURBS WITH BLOCK AND GRAVEL. NILET CONTROLS. PROTECT AREA DRAIN/YARD NILETS WITH STANDARD NILET PROTECTION, SEDIMENT TRAPS OR OTHER APPROVED MEASURES AS SHOWN ON THE PLAN. BEGIN CONSTRUCTION, BUILDING, ETC.
6. STABILIZE SITE AS AREAS ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION, PAVING, DITCH LINES, ETC. PREPARE A SEEDBED, FERTILIZE, LIME, SEED, MULCH AND ASPHALT TACK ALL DENVED AREAS WITHIN NILET STABILIZATION PERIOD OF COMPLETION OF ANY PHASE OF CONSTRUCTION OR STOPPAGE OF WORK ON A PHASE OF CONSTRUCTION.
7. CONTRACTOR TO CONTACT PROJECT ENGINEER BETWEEN SEDIMENT AND EROSION CONTROL, PHASES OF DEVELOPMENT AND FOR THE REMOVAL OR CONVERSION OF SEDIMENT AND EROSION CONTROL MEASURES.
8. **WAKE COUNTY** OR JURISDICTION, MUNICIPALITY MUST GRANT PERMISSION TO CONVERT THE SEDIMENT BASIN OVER TO STORMWATER USE PRIOR TO COMPLETING ANY RELATED WORK.
9. WHEN CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED COMPLETELY, CALL **KARIN PAGEAU** WITH **WAKE COUNTY** AT 919-796-8769 FOR AN INSPECTION BY THE WATERSHED MANAGER.
10. IF SITE IS APPROVED, REMOVE TEMPORARY DIVERSIONS, SILT FENCE, SEDIMENT BASINS, ETC., AND SEED OR STABILIZE ANY RESULTING BARE AREAS. ALL REMAINING PERMANENT EROSION CONTROL DEVICES, SUCH AS VELOCITY DIVERSIONS, SHOULD NOW BE INSTALLED.
11. WHEN VEGETATION HAS BECOME ESTABLISHED, CALL FOR A FINAL SITE INSPECTION BY THE WATERSHED MANAGER, **KARIN PAGEAU** WITH **WAKE COUNTY** AT 919-796-8769. OBTAIN A CERTIFICATE OF COMPLETION.

SITE AREA DESCRIPTION	STABILIZATION	TIMEFRAME EXCEPTIONS
BASIN & TEMPORARY DIVERSION DITCHES	IMMEDIATELY	NONE
PERIMETER Dikes, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HOW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50FT IN LENGTH
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HOW ZONES
<u>GROUND COVER REQUIREMENTS:</u>		
THE ANGLE FOR GRADED SLOPES AND FILLS SHALL BE NO GREATER THAN THE ANGLE THAT CAN BE RETAINED BY VEGETATIVE COVER OR OTHER ADEQUATE EROSION CONTROL DEVICES OR STRUCTURES. IN ANY EVENT, SLOPES LEFT EXPOSED MUST, ACCORDING TO THE FOLLOWING CHART, BE PLANTED OR OTHERWISE PROVIDED WITH TEMPORARY OR PERMANENT GROUND COVER, DEVICES, OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION. PROVISIONS FOR PERMANENT GROUNDCOVER SUFFICIENT TO RETAIN EROSION MUST BE COMPLETED FOR ALL DISTURBED AREAS ACCORDING TO THE FOLLOWING CHART FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.		

1. SCHEDULE A SITE MEETING WITH THE ENVIRONMENTAL ENGINEER/CONSULTANT TO DETERMINE:
  - A. BASIN CAN BE REMOVED, INSTALL SILT FENCING OR OTHER TEMPORARY EROSION CONTROL MEASURES AS NEEDED PRIOR TO REMOVAL OF THE BASIN.
  - 2. REMOVE BASIN(S) AND ASSOCIATED TEMPORARY DIVERSION DITCHES. IF CULVERT IS TO BE EXTENDED, PERFORM THIS OPERATION AT THIS TIME. FINE GRADE AREA IN PREPARATION FOR SEEDING.
  - 3. PERFORM SEEDING PREPARATION, SEED, MULCH AND ASPHALT TACK ANY RESULTING BARE AREAS IMMEDIATELY.
  - 4. INSTALL VELOCITY DISIPATORS AND/OR LEVEL SPREADERS AS REQUIRED ON THE EROSION CONTROL PLAN.
  - 5. WHEN SITE IS FULLY STABILIZED, CALL ENVIRONMENTAL ENGINEER/CONSULTANT FOR APPROVAL OF REMOVING REMAINING TEMPORARY EROSION CONTROL MEASURES AND ADVISE ON WHEN SITE CAN BE ISSUED A CERTIFICATE OF COMPLETION.
- NOTE: A MEETING SHOULD ALSO BE SCHEDULED WITH THE ENVIRONMENTAL ENGINEER/CONSULTANT TO DETERMINE WHEN A BASIN MAY BE COMPLETED FOR STORMWATER USE. SOME MUNICIPALITIES MAY ALSO REQUIRE THIS.

Cad file name: V:\220127 - Primax Prop LLC\220127-01-001 (ENG) - Tractor Supply - Zebulon, NC\Engineering\Engineering Plans\Construction Documents\220127-01-001-ES.dwg

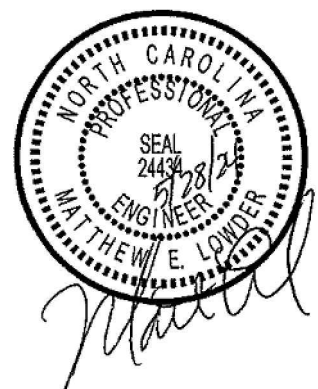
Bowman North Carolina Ltd.  
4006 BARRETT DR  
Suite 104  
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Phone: (919)553-6570  
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Bowman North Carolina Ltd.



7.

**EROSION CONTROL PLAN - FINAL**

**Tractor Supply**  
Old US Highway 264  
Zebulon, NC Wake County



PLAN STATUS		
11/30/23	SEWER CROSSING AT RAILROAD	
1/10/24	PER WAKE CO REVIEW	
3/26/24	PER NCDOT REVIEW	
5/28/24	PER CITY OF RALEIGH REVIEW	
MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	H: 1" = 40' V: 1" = 40'	
JOB No.	220127-01-001	
DATE	May 28, 2024	
FILE No.	220127-D-CP-001	

SHEET C2.4

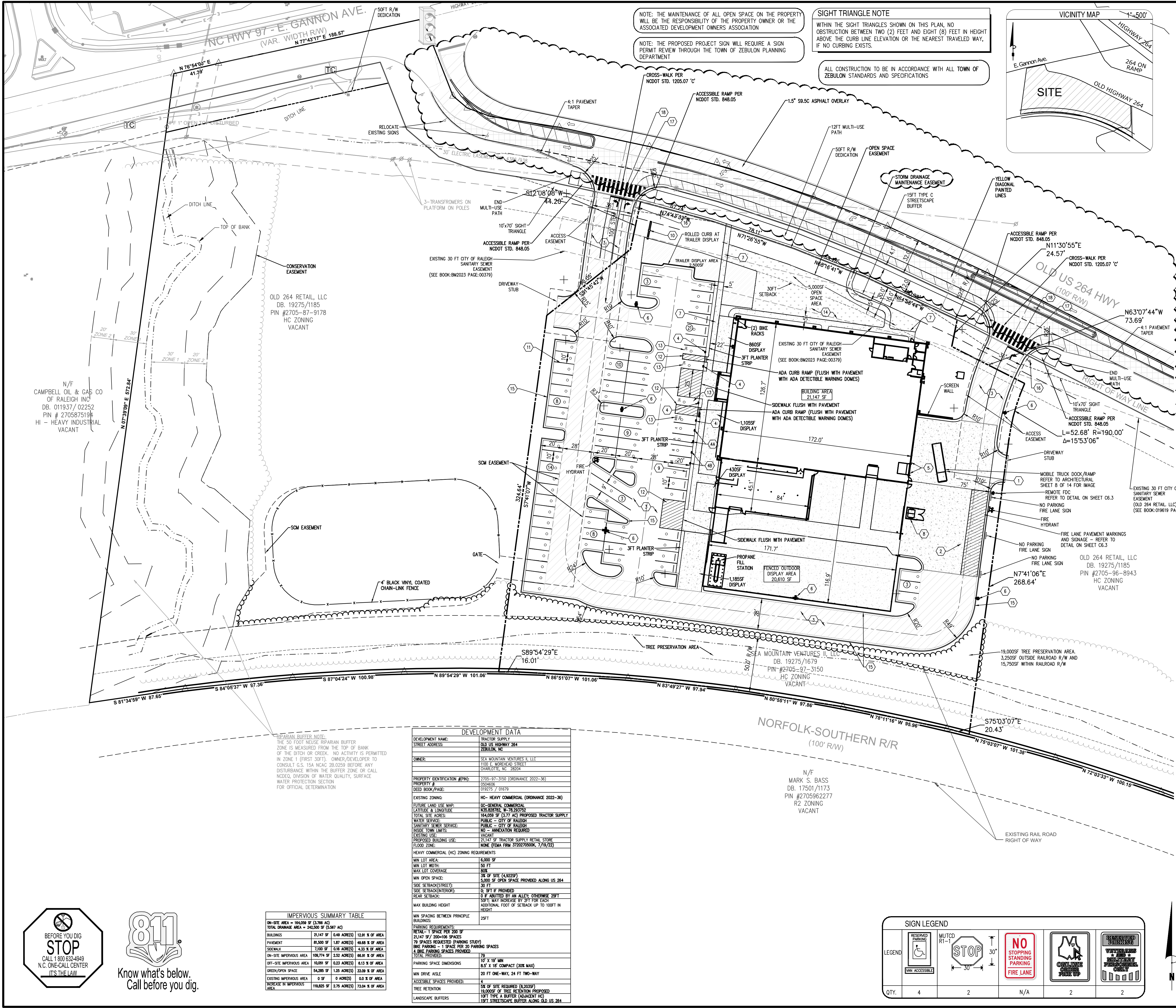












**Bowman**

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bowman.com  
Bowman North Carolina Ltd.

**TSC**

TRACTOR SUPPLY COMPANY

**SITE PLAN**

**Tractor Supply**  
Old US Highway 264  
Zebulon, NC Wake County

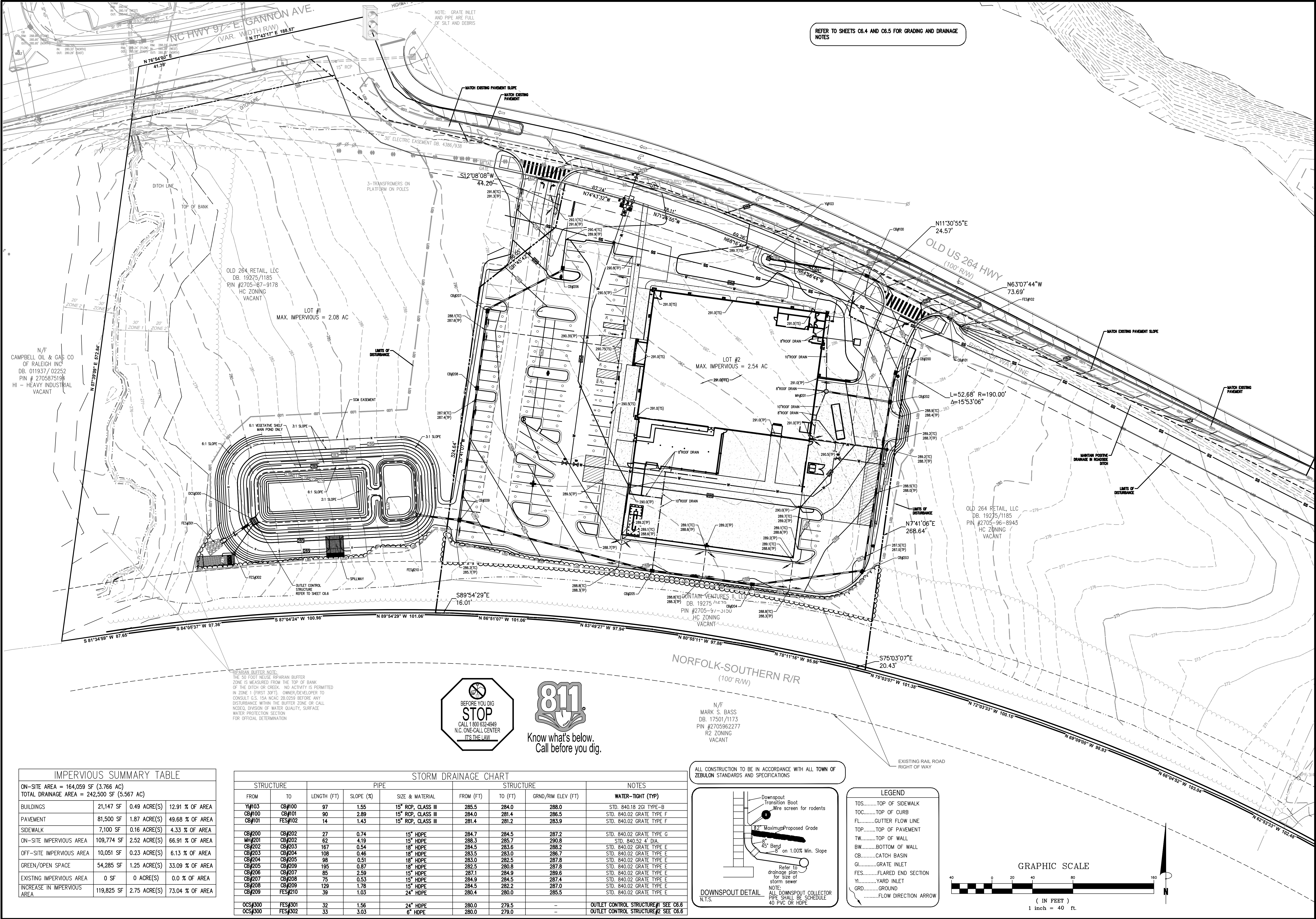
**PLAN STATUS**

	11/30/23	SEWER CROSSING AT RAILROAD
	1/10/24	PER WAKE CO REVIEW
	3/26/24	PER CITY OF RALEIGH REVIEW
	5/28/24	PER CITY OF RALEIGH REVIEW
MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	H: 1" = 40'	V: 1" = XXX'
JOB No.	220127-01	-001
DATE	May 28, 2024	
FILE No.	220127-D-CP	-001

FILE No. 220127-D-CP-001

SHEET **C3.0**

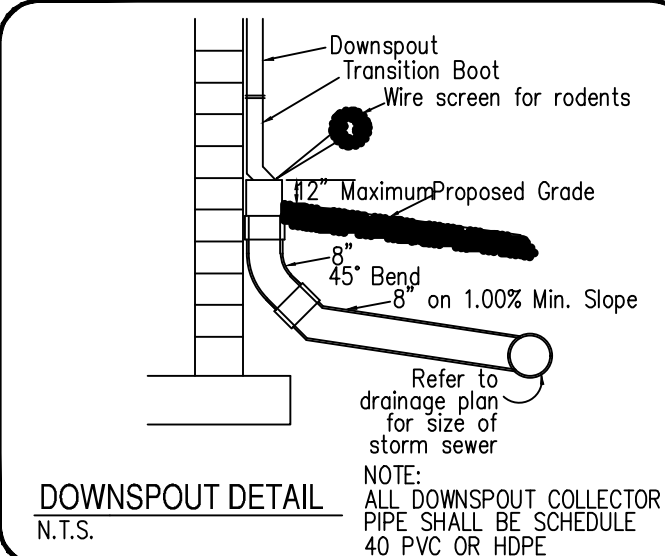




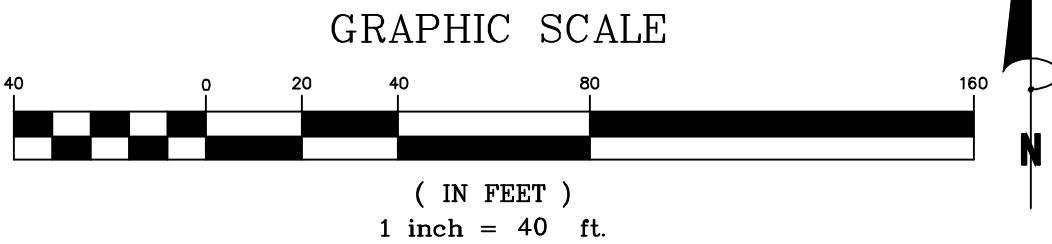
IMPERVIOUS SUMMARY TABLE			
ON-SITE AREA = 164,059 SF (3.766 AC)			
TOTAL DRAINAGE AREA = 242,500 SF (5.567 AC)			
BUILDINGS	21,147 SF	0.49 ACRE(S)	12.91 % OF AREA
PAVEMENT	81,500 SF	1.87 ACRE(S)	49.68 % OF AREA
SIDEWALK	7,100 SF	0.16 ACRE(S)	4.33 % OF AREA
ON-SITE IMPERVIOUS AREA	109,774 SF	2.52 ACRE(S)	66.91 % OF AREA
OFF-SITE IMPERVIOUS AREA	10,051 SF	0.23 ACRE(S)	6.13 % OF AREA
GREEN/OPEN SPACE	54,285 SF	1.25 ACRE(S)	33.09 % OF AREA
EXISTING IMPERVIOUS AREA	0 SF	0 ACRE(S)	0.0 % OF AREA
INCREASE IN IMPERVIOUS AREA	119,825 SF	2.75 ACRE(S)	73.04 % OF AREA

STORM DRAINAGE CHART									
STRUCTURE			PIPE			STRUCTURE			NOTES
FROM	TO	LENGTH (FT)	SLOPE (%)	SIZE & MATERIAL		FROM (FT)	TO (FT)	GRND/RIM ELEV (FT)	
YH#03	CB#100	97	1.55	15" RCP, CLASS III		285.5	288.0		STD. 840.18 20' TYPE-B
CB#100	CB#101	90	2.89	15" RCP, CLASS III		284.0	281.4	286.5	STD. 840.02 GRATE TYPE F
CB#101	FES#102	14	1.43	15" RCP, CLASS III		281.4	281.2	283.9	STD. 840.02 GRATE TYPE F
CB#200	CB#202	27	0.74	15" HDPE		284.7	284.5	287.2	STD. 840.02 GRATE TYPE G
MH#201	CB#202	62	4.19	15" HDPE		288.3	285.7	290.8	STD. 840.52 4' DIA.
CB#202	CB#203	167	0.54	18" HDPE		284.5	283.6	288.2	STD. 840.02 GRATE TYPE E
CB#203	CB#204	108	0.46	18" HDPE		283.5	283.0	286.7	STD. 840.02 GRATE TYPE E
CB#204	CB#205	98	0.51	18" HDPE		283.0	282.5	287.8	STD. 840.02 GRATE TYPE E
CB#205	CB#206	195	0.87	18" HDPE		282.5	280.8	287.8	STD. 840.02 GRATE TYPE E
CB#206	CB#207	85	2.59	15" HDPE		287.1	284.9	289.6	STD. 840.02 GRATE TYPE E
CB#207	CB#208	75	0.53	15" HDPE		284.9	284.5	287.4	STD. 840.02 GRATE TYPE E
CB#208	CB#209	129	1.78	15" HDPE		284.5	282.2	287.0	STD. 840.02 GRATE TYPE E
CB#209	FES#210	39	1.03	24" HDPE		280.4	280.0	285.5	STD. 840.02 GRATE TYPE E
OCS#300	FES#301	32	1.56	24" HDPE		280.0	279.5	—	OUTLET CONTROL STRUCTURE#1 SEE C6.6
OCS#300	FES#302	33	3.03	6" HDPE		280.0	279.0	—	OUTLET CONTROL STRUCTURE#2 SEE C6.6

ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL TOWN OF ZEBULON STANDARDS AND SPECIFICATIONS



LEGEND	
TOS.....	TOP OF SIDEWALK
TOC.....	TOP OF CURB
FL.....	GUTTER FLOW LINE
TOP.....	TOP OF PAVEMENT
TW.....	TOP OF WALL
BW.....	BOTTOM OF WALL
CB.....	CATCH BASIN
GI.....	GRATE INLET
FES.....	FLARED END SECTION
YI.....	YARD INLET
GRD.....	GROUND
.....	FLOW DIRECTION ARROW



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## TSC

TRACTOR SUPPLY COMPANY

### GRADING & DRAINAGE PLAN

Tractor Supply  
Old US Highway 264  
Zebulon, NC Wake County

PLAN STATUS

11/30/23	SEWER CROSSING AT RAILROAD
1/10/24	PER WAKE CO REVIEW
3/26/24	PER NCDOT REVIEW
5/28/24	PER CITY OF RALEIGH REVIEW

MEL DESIGN  
SCALE: H: 1" = 40'  
V: 1" = XXX'

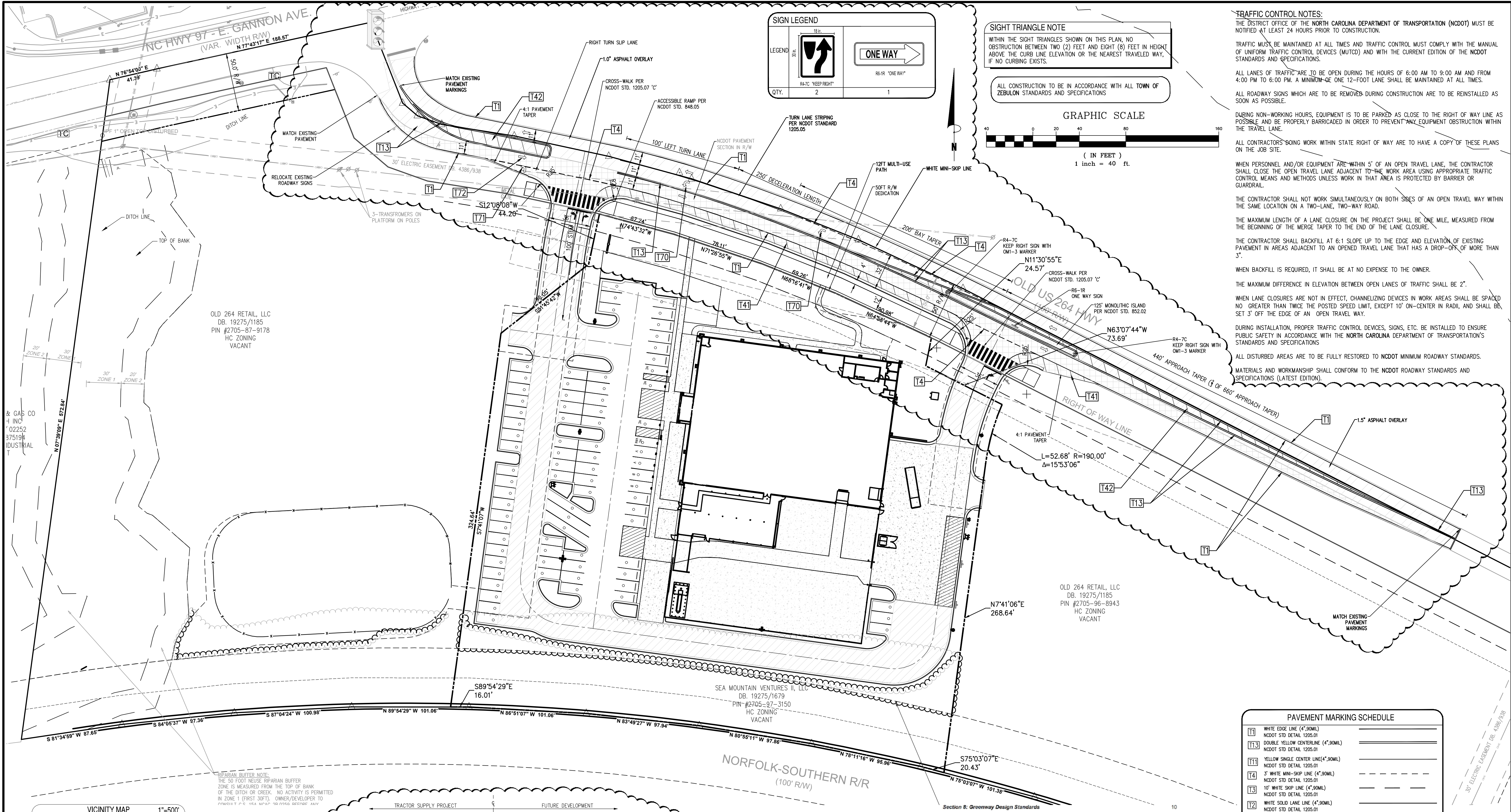
XXX  
DRAWN  
CHKD

JOB No. 220127-01-001  
DATE May 28, 2024  
FILE No. 220127-D-CP-001

SHEET

## C4.0



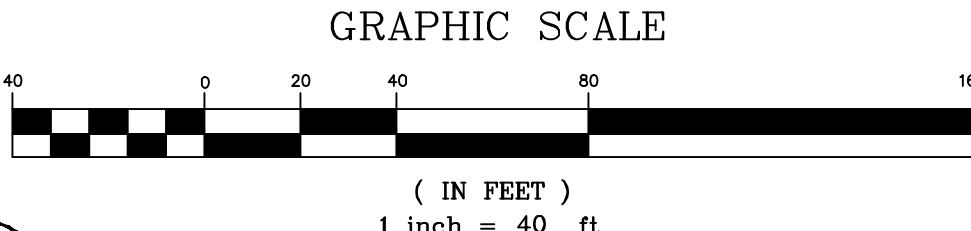


SIGN LEGEND	
LEGEND	18.0
R4-7C "KEEP RIGHT"	R6-1R "ONE WAY"
QTY.	2
	1

SIGHT TRIANGLE NOTE

WITHIN THE SIGHT TRIANGLES SHOWN ON THIS PLAN, NO OBSTRUCTION BETWEEN TWO (2) FEET AND EIGHT (8) FEET IN HEIGHT ABOVE THE CURB LINE ELEVATION OR THE NEAREST TRAVELED WAY, IF NO CURBING EXISTS.

ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL TOWN OF ZEBULON STANDARDS AND SPECIFICATIONS



TRAFFIC CONTROL NOTES:

THE DISTRICT OFFICE OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (NCDOT) MUST BE NOTIFIED AT LEAST 24 HOURS PRIOR TO CONSTRUCTION.

TRAFFIC MUST BE MAINTAINED AT ALL TIMES AND TRAFFIC CONTROL MUST COMPLY WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND WITH THE CURRENT EDITION OF THE NCDOT STANDARDS AND SPECIFICATIONS.

ALL LANES OF TRAFFIC ARE TO BE OPEN DURING THE HOURS OF 6:00 AM TO 9:00 AM AND FROM 4:00 PM TO 6:00 PM. A MINIMUM OF ONE 12-FOOT LANE SHALL BE MAINTAINED AT ALL TIMES.

ALL ROADWAY SIGNS WHICH ARE TO BE REMOVED DURING CONSTRUCTION ARE TO BE REINSTALLED AS SOON AS POSSIBLE.

DURING NON-WORKING HOURS, EQUIPMENT IS TO BE PARKED AS CLOSE TO THE RIGHT OF WAY LINE AS POSSIBLE AND BE PROPERLY BARRICADED IN ORDER TO PREVENT ANY EQUIPMENT OBSTRUCTION WITHIN THE TRAVEL LANE.

ALL CONTRACTORS DOING WORK WITHIN STATE RIGHT OF WAY ARE TO HAVE A COPY OF THESE PLANS ON THE JOB SITE.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WITHIN 5' OF AN OPEN TRAVEL LANE, THE CONTRACTOR SHALL CLOSE THE OPEN TRAVEL LANE ADJACENT TO THE WORK AREA USING APPROPRIATE TRAFFIC CONTROL MEANS AND METHODS UNLESS WORK IN THAT AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

THE CONTRACTOR SHALL NOT WORK SIMULTANEOUSLY ON BOTH SIDES OF AN OPEN TRAVEL WAY WITHIN THE SAME LOCATION ON A TWO-LANE, TWO-WAY ROAD.

THE MAXIMUM LENGTH OF A LANE CLOSURE ON THE PROJECT SHALL BE ONE MILE, MEASURED FROM THE BEGINNING OF THE MERGE TAPER TO THE END OF THE LANE CLOSURE.

THE CONTRACTOR SHALL BACKFILL AT 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS A DROP-OFF OF MORE THAN 3".

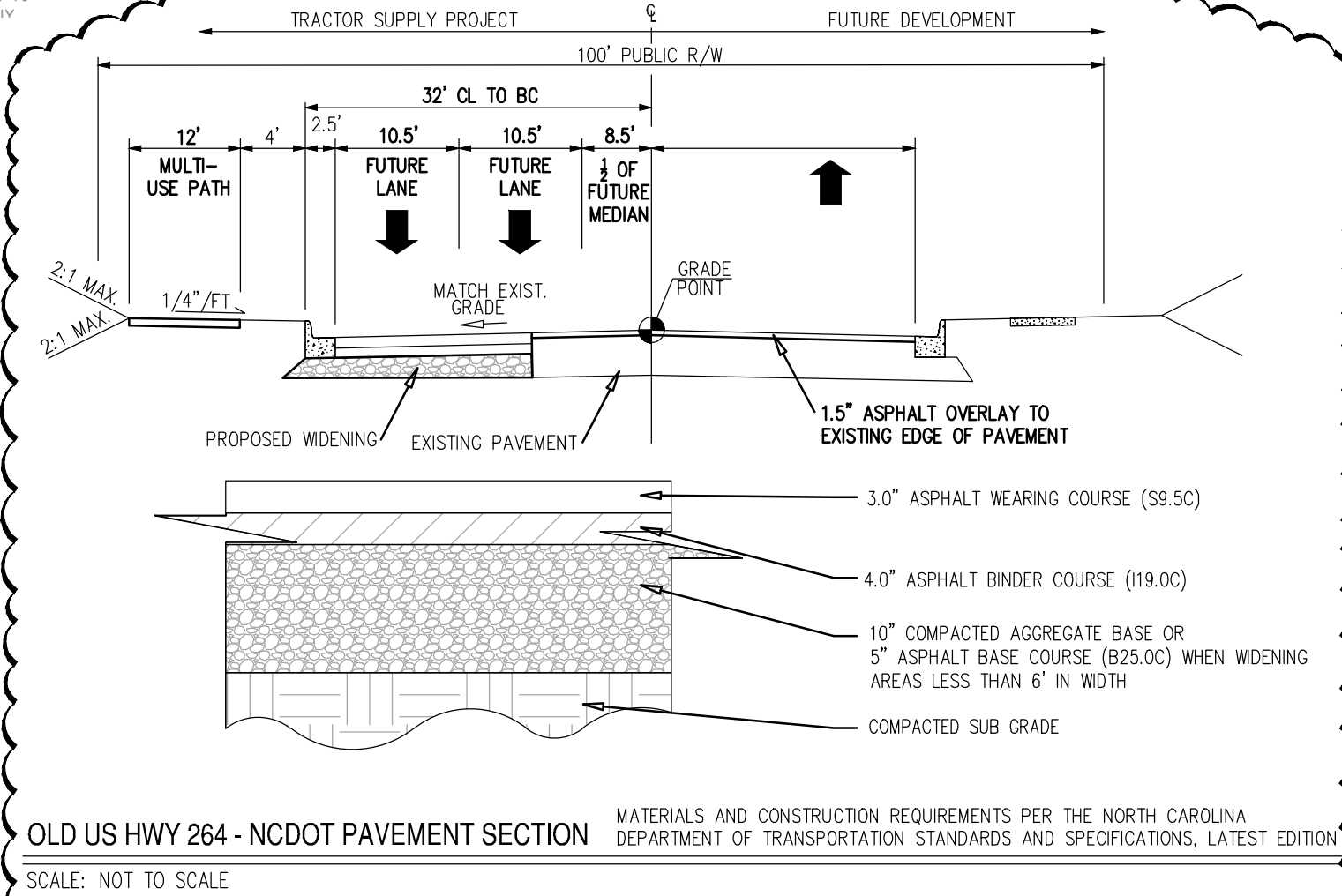
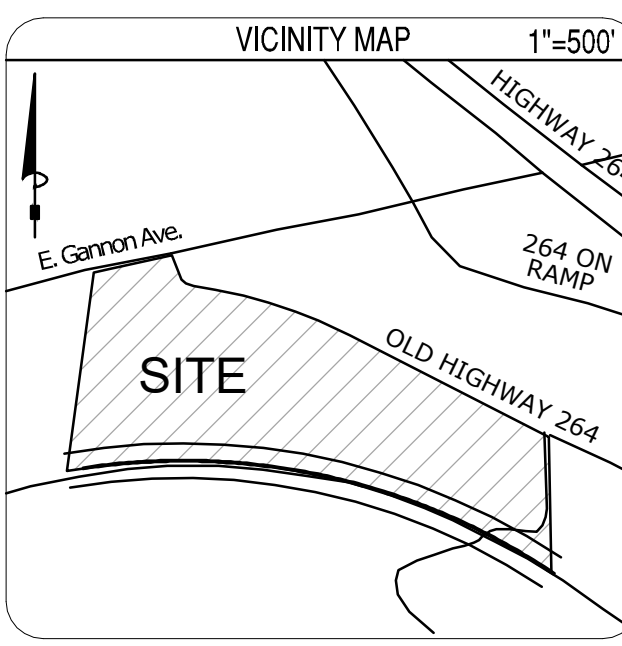
WHEN BACKFILL IS REQUIRED, IT SHALL BE AT NO EXPENSE TO THE OWNER.

THE MAXIMUM DIFFERENCE IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC SHALL BE 2".

WHEN LANE CLOSURES ARE NOT IN EFFECT, CHANNELIZING DEVICES IN WORK AREAS SHALL BE SPACED NO GREATER THAN TWICE THE POSTED SPEED LIMIT, EXCEPT 10' ON-CENTER IN RADIUS, AND SHALL BE SET 3' OFF THE EDGE OF AN OPEN TRAVEL WAY.

DURING INSTALLATION, PROPER TRAFFIC CONTROL DEVICES, SIGNS, ETC. BE INSTALLED TO ENSURE PUBLIC SAFETY IN ACCORDANCE WITH THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION'S STANDARDS AND SPECIFICATIONS

ALL DISTURBED AREAS ARE TO BE FULLY RESTORED TO NCDOT MINIMUM ROADWAY STANDARDS. MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE NCDOT ROADWAY STANDARDS AND SPECIFICATIONS (LATEST EDITION).



NCDOT ROADWAY STANDARD DRAWINGS TO REFERENCE

200.02 METHOD OF CLEARING - METHOD II

225.02 GUIDE FOR GRADING SUBGRADE - SECONDARY & LOCAL

300.01 METHOD OF PIPE INSTALLATION - METHOD "A"

840.71 CONCRETE AND BRICK PIPE PLUG

846.01 CONCRETE CURB, GUTTER AND CURB & GUTTER

848.01 CONCRETE SIDEWALK

848.05 WHEELCHAIR RAMP - CURB CUT

852.01 CONCRETE ISLANDS

876.02 GUIDE FOR RIP RAP AT PIPE OUTLETS

1101.01 WORK ZONE ADVANCE WARNING SIGNS

1101.02 TEMPORARY LANE CLOSURES

1101.04 TEMPORARY SHOULDER CLOSURES

1101.05 WORK ZONE VEHICLE ACCESS

1101.11 TRAFFIC CONTROL DESIGN TABLES

1110.02 PORTABLE WORK ZONE SIGNS - MOUNTING HEIGHT & LATERAL CLEARANCE

1115.01 FLASHING ARROW PANELS

1130.01 DRUMS

1135.01 CONES

1145.01 BARRICADES - TYPES I, II, III AND PERMANENT

1150.01 FLAGGERS

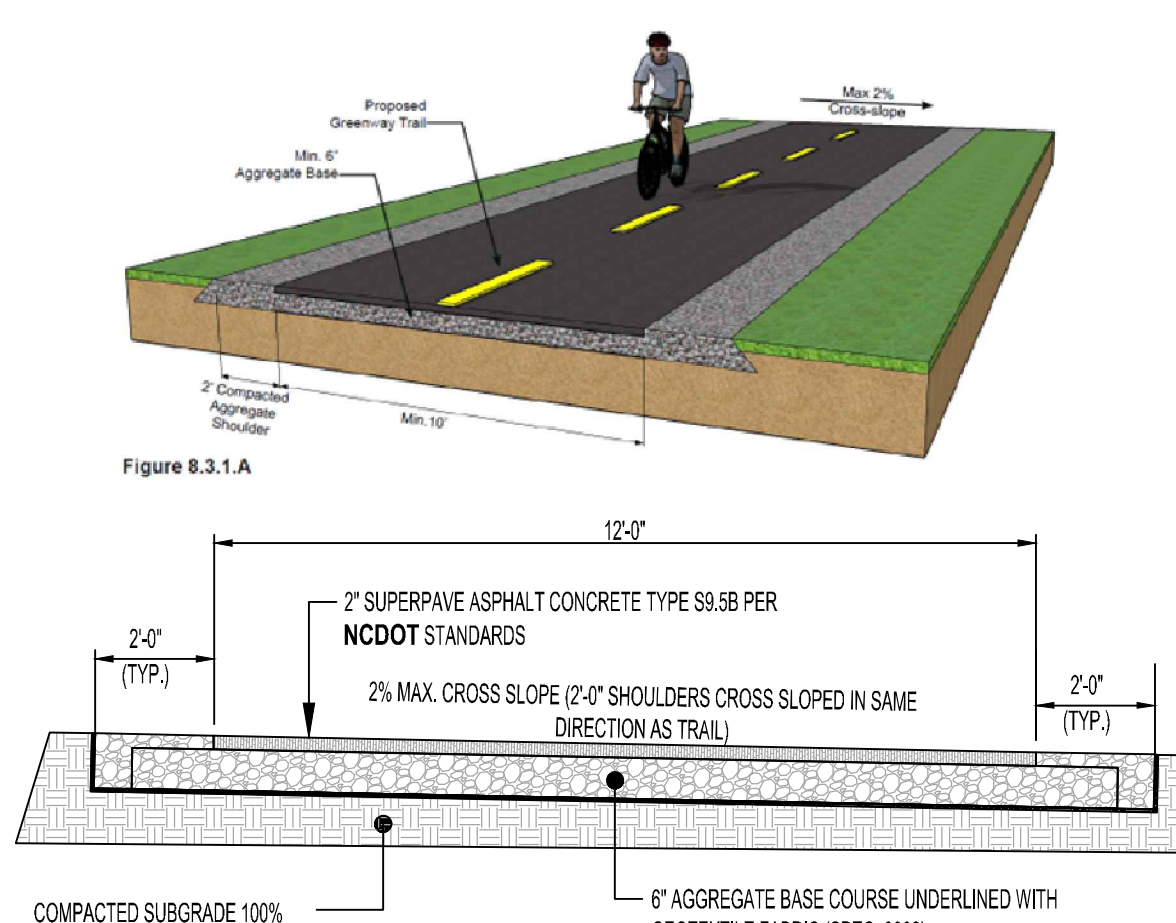
1205.01 PAVEMENT MARKINGS - LINE TYPES & OFFSETS

1205.02 PAVEMENT MARKINGS - DIVIDED & UNDIVIDED ROADWAYS

1205.04 PAVEMENT MARKINGS - INTERSECTIONS

1205.05 PAVEMENT MARKINGS TURN LANES

1205.07 PAVEMENT MARKINGS PEDESTRIAN CROSSWALKS



PAVEMENT MARKING SCHEDULE	
T1	WHITE EDGE LINE (4", 90ML) NCDOT STD DETAIL 1205.01
T13	DOUBLE YELLOW CENTERLINE (4", 90ML) NCDOT STD DETAIL 1205.01
T11	YELLOW SINGLE CENTER LINE (4", 90ML) NCDOT STD DETAIL 1205.01
T4	3' WHITE MINI-SKIP LINE (4", 90ML) NCDOT STD DETAIL 1205.01
T14	10' WHITE SKIP LINE (4", 90ML) NCDOT STD DETAIL 1205.01
T2	WHITE SOLID LANE LINE (4", 90ML) NCDOT STD DETAIL 1205.01
T70	LEFT TURN LANE ARROW (90ML) NCDOT STD DETAIL 1205.08
T71	RIGHT TURN LANE ARROW (90ML) NCDOT STD DETAIL 1205.08
T72	STRAIGHT ARROW (90ML) NCDOT STD DETAIL 1205.08
T73	COMBO LEFT/STRAIGHT TURN LANE ARROW (90ML) NCDOT STD DETAIL 1205.08
T74	COMBO RIGHT/STRAIGHT TURN LANE ARROW (90ML) NCDOT STD DETAIL 1205.08
T12	YELLOW DIAGONAL LINES (8", 90ML) NCDOT STD DETAIL 1205.09
T41	WHITE DIAGONAL LINES (8", 90ML) NCDOT STD DETAIL 1205.09
T14	3' YELLOW MINI-SKIP LINES (4", 90ML) NCDOT STD DETAIL 1205.01
T12	YELLOW SKIP CENTER LINES (4", 90ML) NCDOT STD DETAIL 1205.01
T6	STOP BAR (24", 90ML) NCDOT STD DETAIL 1205.01
T102	12" YIELD LINE SYMBOL (90ML) NCDOT STD DETAIL 1205.08 (THIS SHEET)

ALL PERMANENT PAVEMENT MARKINGS SHALL BE THERMOPLASTIC PER NCDOT REQUIREMENTS

CONTRACTOR TO INSTALL MARKINGS PER NCDOT STANDARD MANUALS AND LOCATIONS TO BE COORDINATED WITH THESE DEPARTMENTS PRIOR TO FINAL INSTALLATION.

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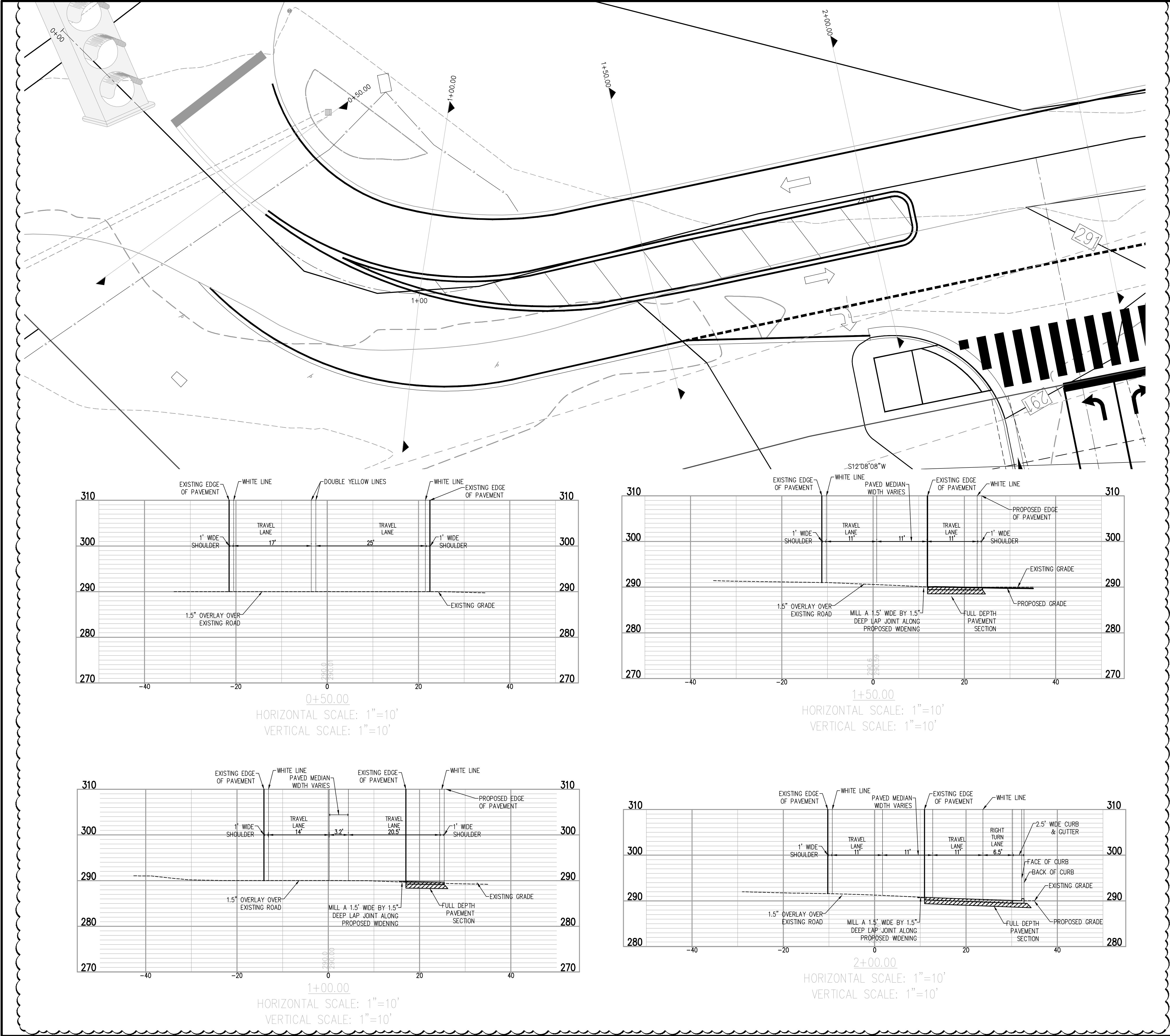


ROADWAY PLAN  
Tractor Supply  
Old US Highway 264  
Zebulon, NC Wake County



PLAN STATUS	
11/30/23	SEWER CROSSING AT RAILROAD
1/10/24	PER WAKE CO REVIEW
3/26/24	PER NCDOT REVIEW
5/28/24	PER CITY OF RALEIGH REVIEW
MEL DESIGN	MEL DRAWN XXX CHKD
SCALE	H: 1" = 40' V: 1" = XXX'
JOB No.	220127-01-001
DATE	May 28, 2024
FILE No.	220127-D-CP-001
SHEET	C4.1





Cad file name: V:\220127 - Primax Prop LLC\220127-01-001 (ENG) - Tractor Supply - Zebulon, NC\Engineering\Engineering Plans\Construction Documents\220127-01-001-RWAY.dwg

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## TSC

TRACTOR SUPPLY COMPANY

ROADWAY CROSS SECTIONS

Tractor Supply  
Old US Highway 264  
Zebulon, NC Wake County

PLAN STATUS

11/30/23	SEWER CROSSING AT RAILROAD
1/10/24	PER WAKE CO REVIEW
3/26/24	PER NCDOT REVIEW
5/28/24	PER CITY OF RALEIGH REVIEW

MEL	MEL	XXX
DESIGN	DRAWN	CHKD
SCALE	H: 1" = XXX'	V: 1" = XXX'

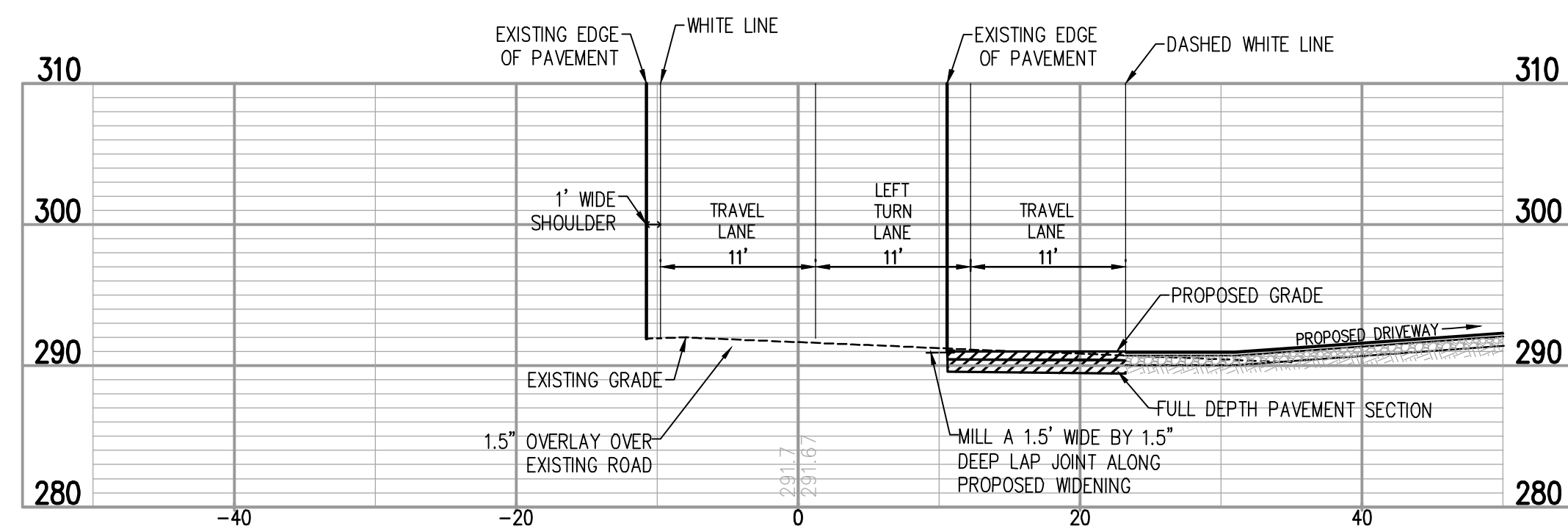
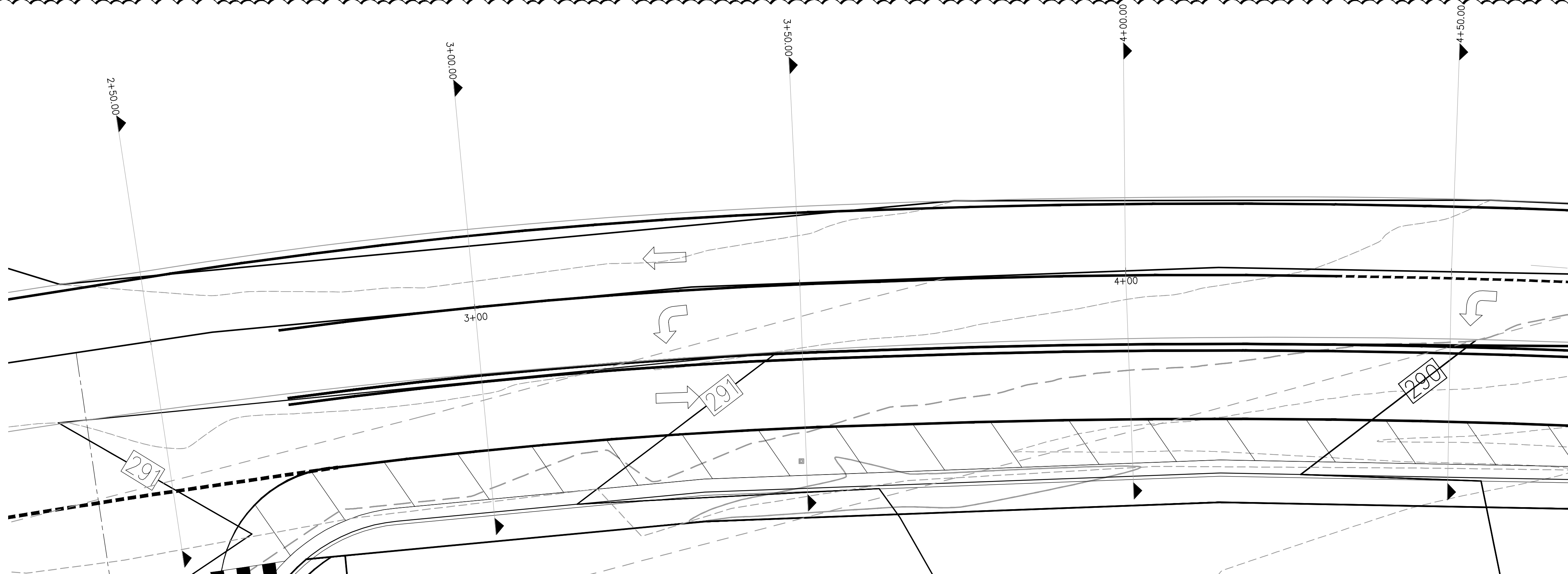
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DATE May 28, 2024  
FILE No. 220127-D-CP-001

SHEET C4.2

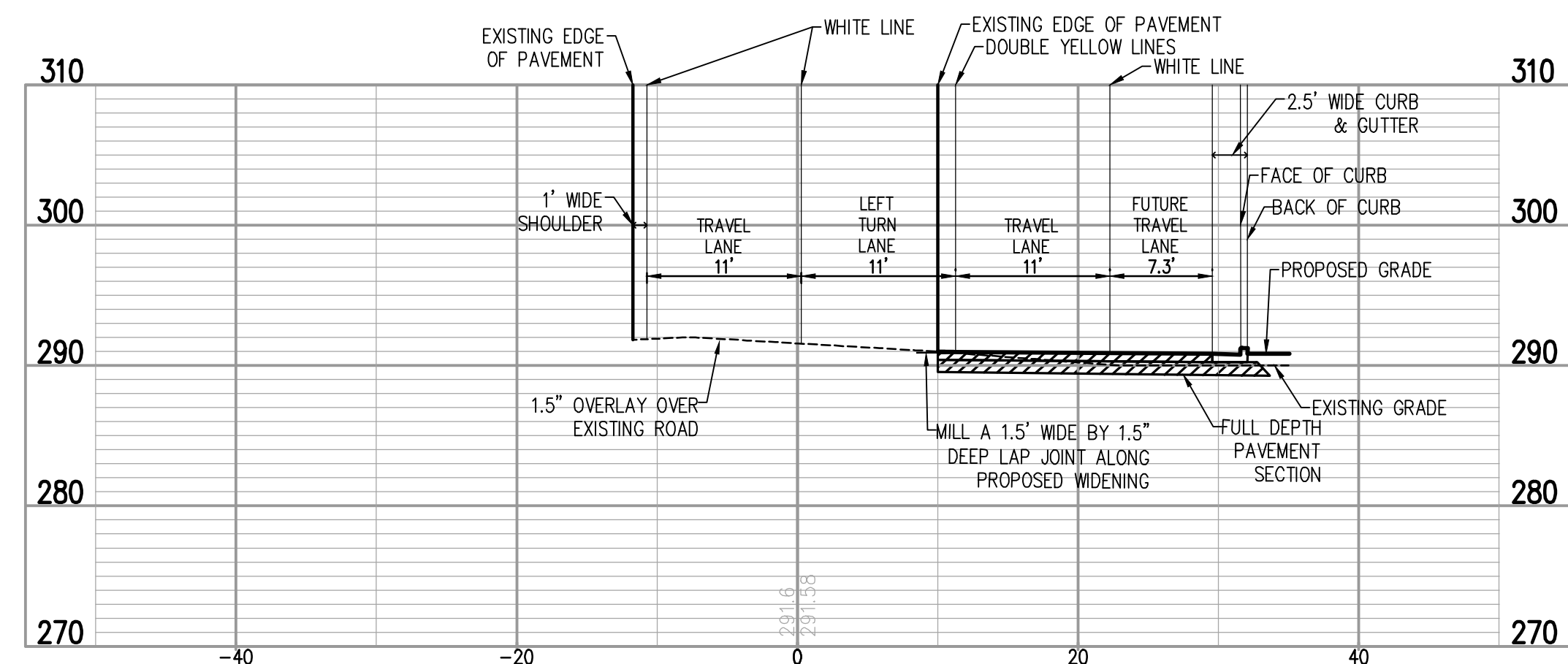
GRAPHIC SCALE

( IN FEET )  
1 inch = 0 ft.

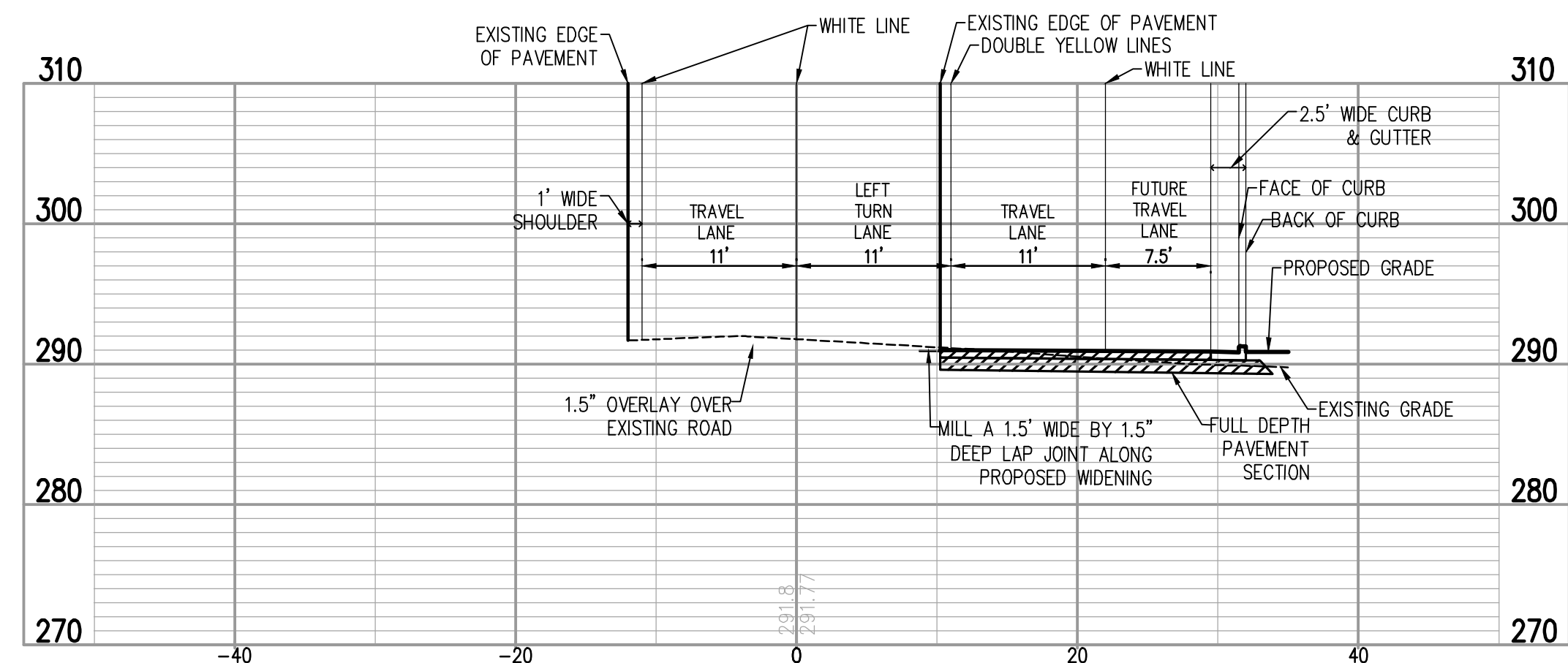




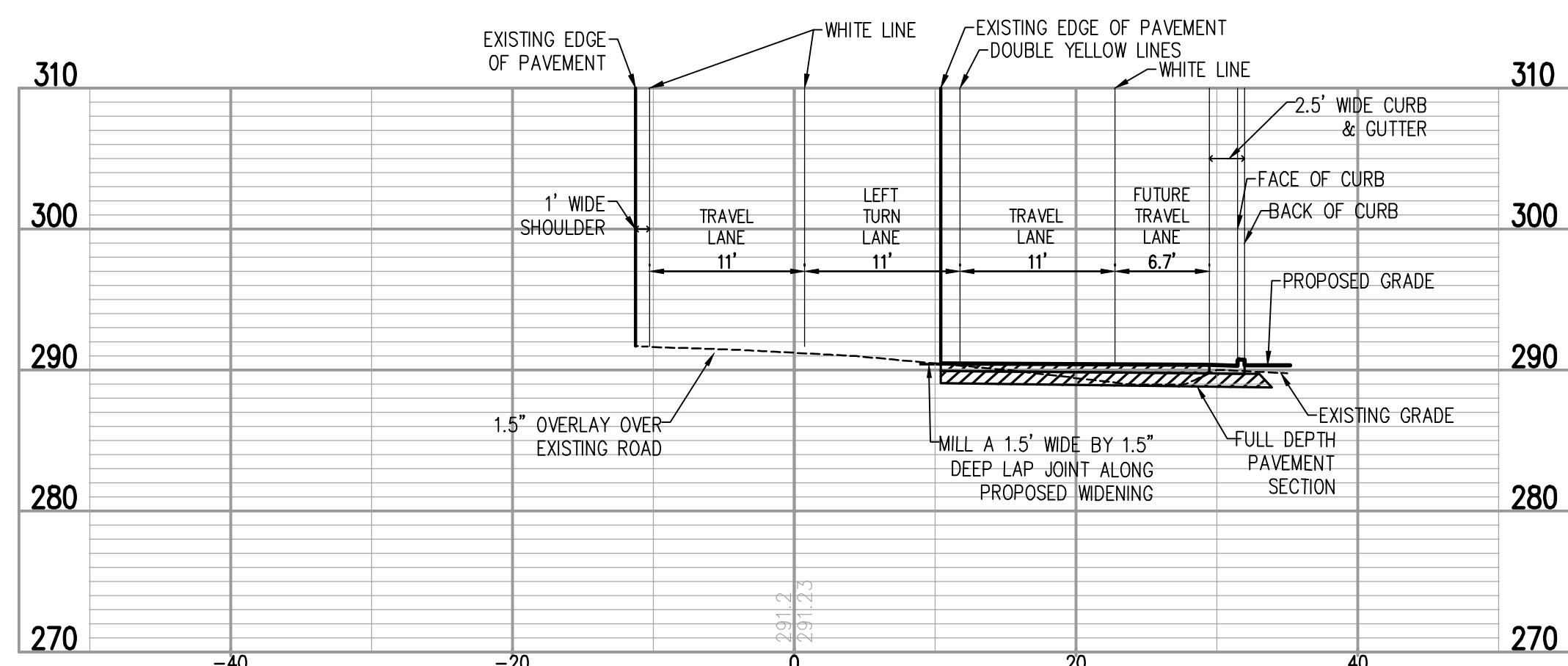
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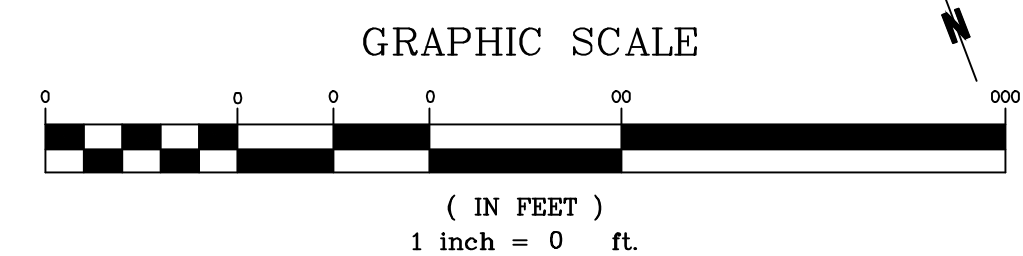
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VERTICAL SCALE: 1"=10'



3+00.00  
HORIZONTAL SCALE: 1"=10'  
VERTICAL SCALE: 1"=10'



4+00.00  
HORIZONTAL SCALE: 1"=10'  
VERTICAL SCALE: 1"=10'



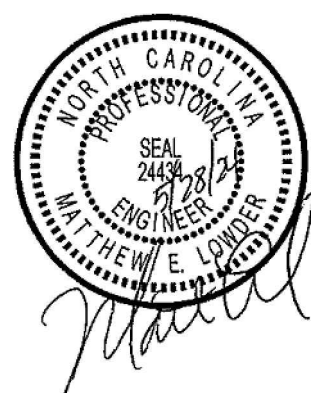
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ROADWAY CROSS SECTIONS

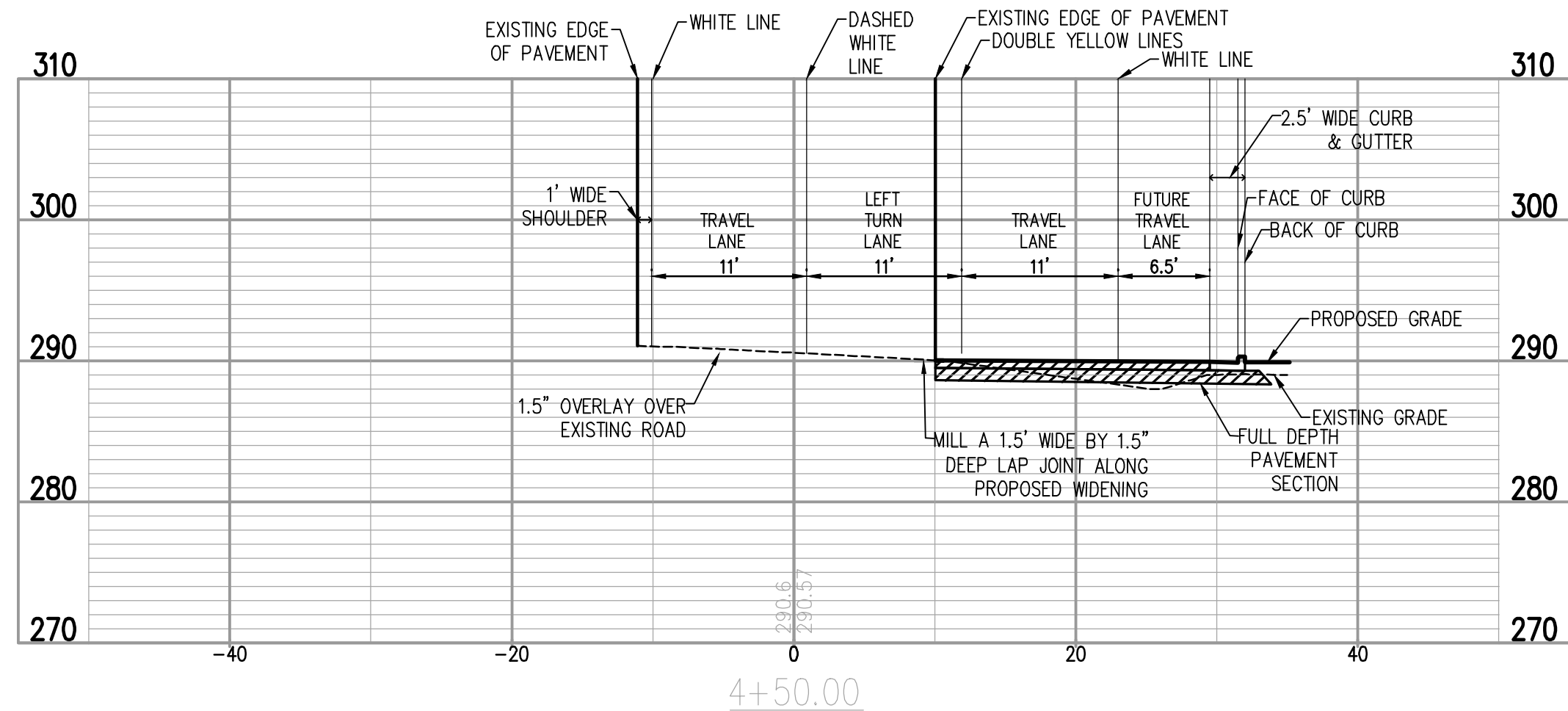
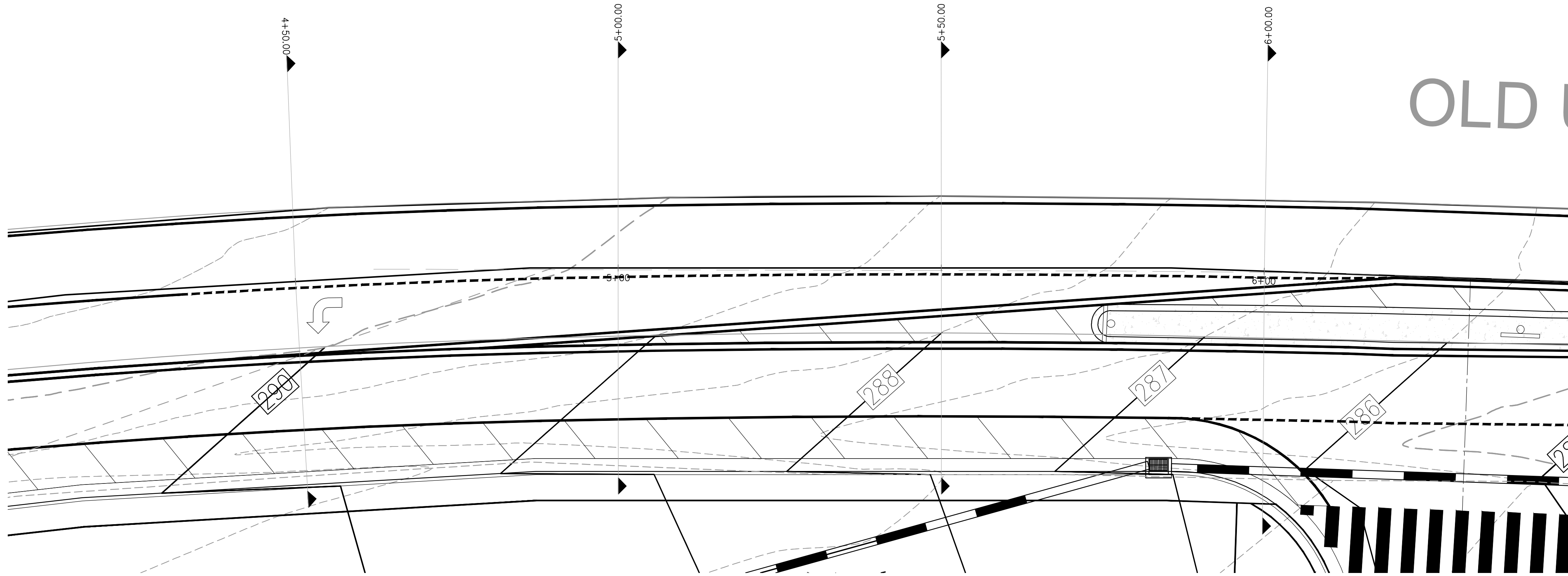
Tractor Supply  
Old US Highway 264  
Zebulon, NC Wake County



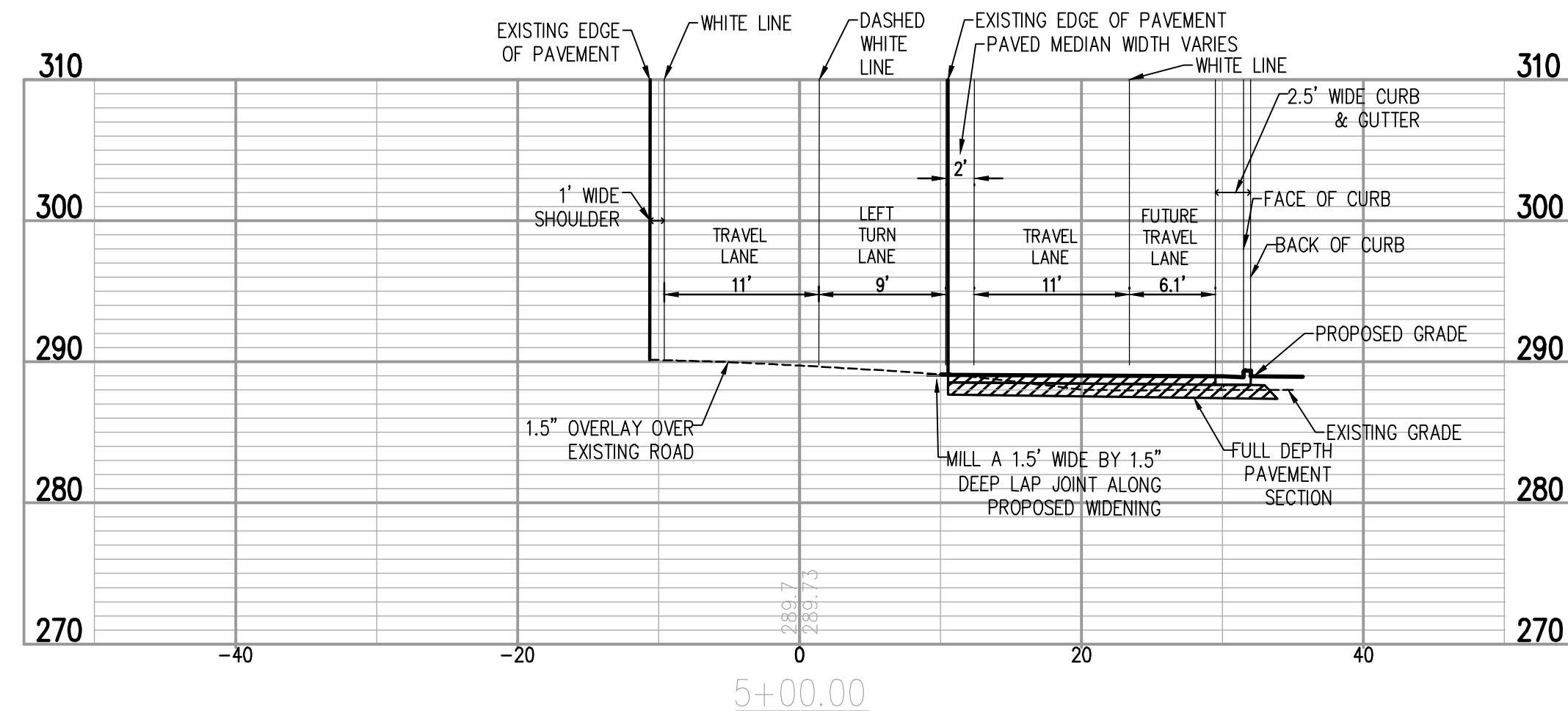
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1/10/24	PER WAKE CO REVIEW	
3/26/24	PER NCDOT REVIEW	
5/28/24	PER CITY OF RALEIGH REVIEW	
MEL	MEL	XXX
DESIGN	DRAWN	CHKD
SCALE	H: 1" = XXX'	V: 1" = XXX'
JOB No.	220127-01-001	
DATE	May 28, 2024	
FILE No.	220127-D-CP-001	

SHEET C4.3

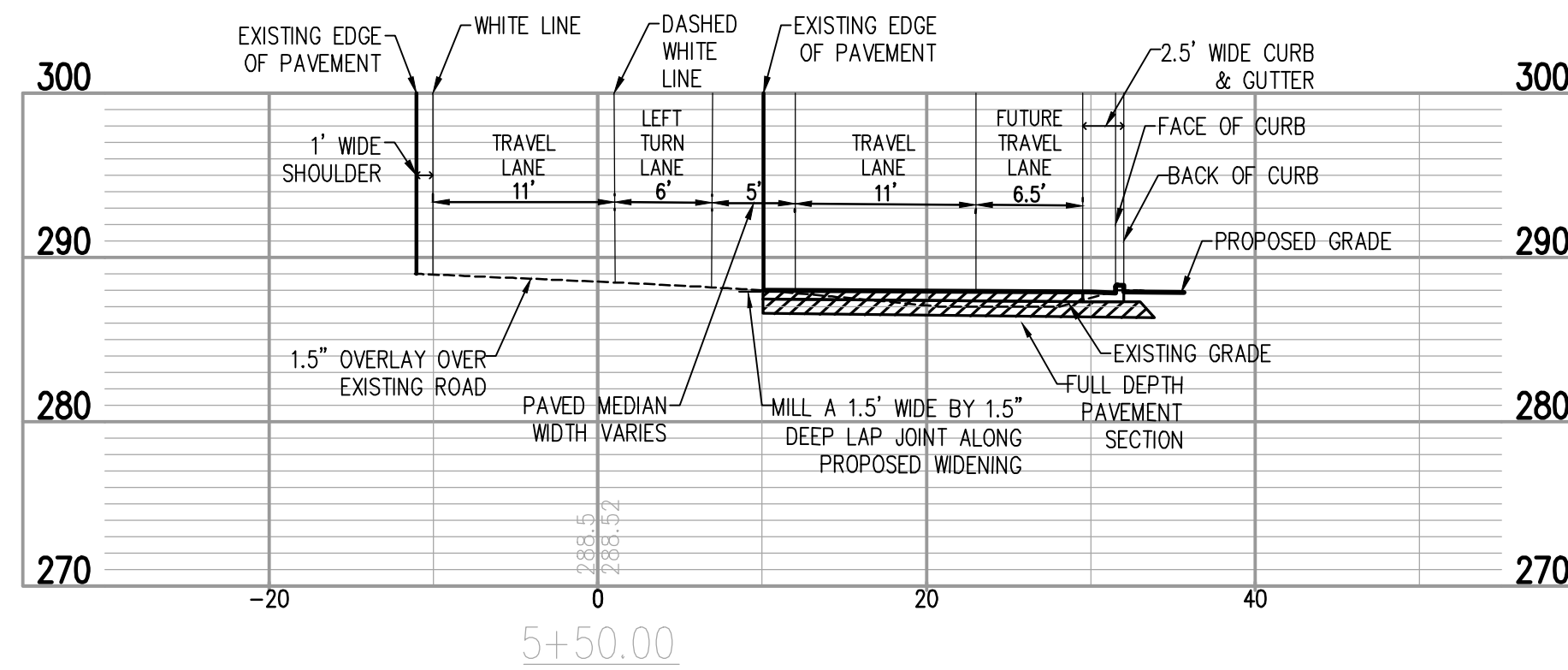




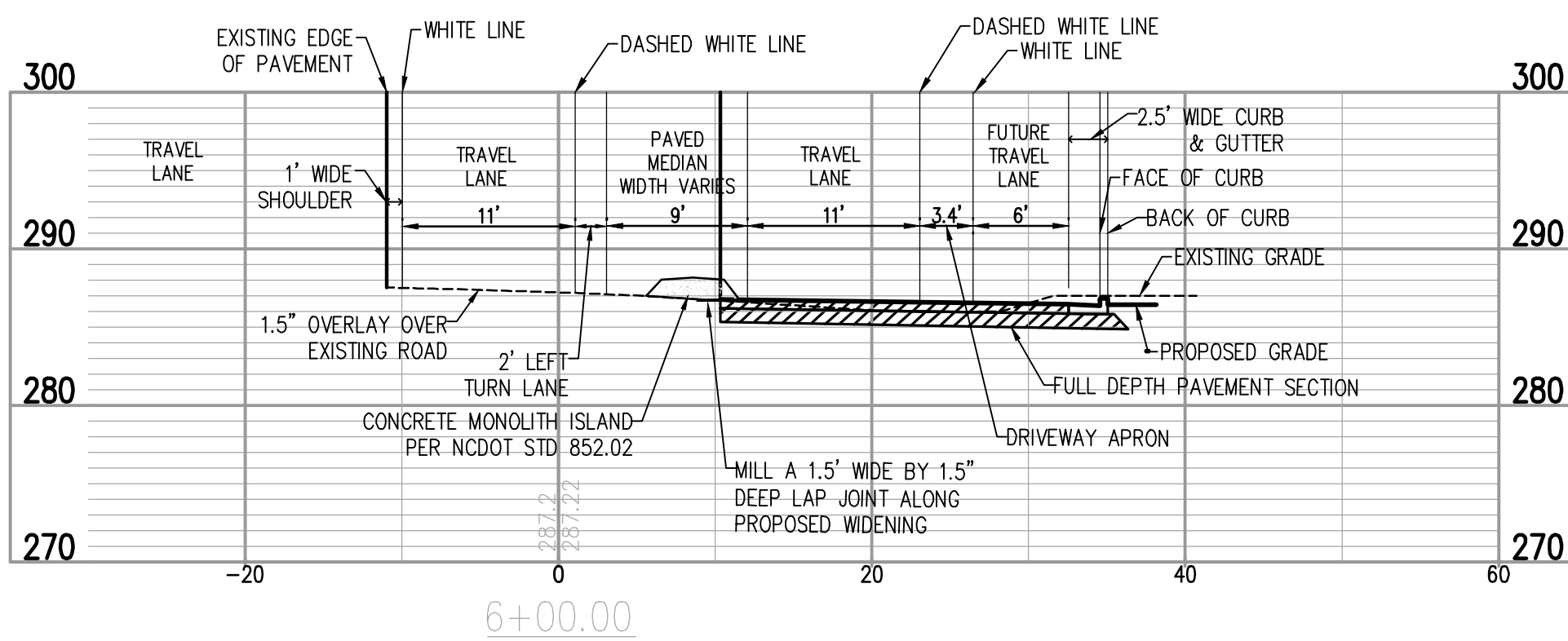
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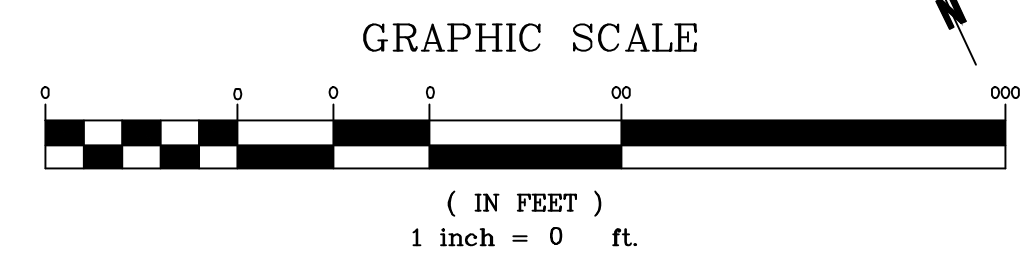
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VERTICAL SCALE: 1"=10'



HORIZONTAL SCALE: 1"=10'  
VERTICAL SCALE: 1"=10'

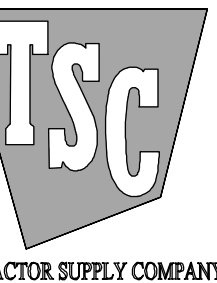


HORIZONTAL SCALE: 1"=10'  
VERTICAL SCALE: 1"=10'



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ROADWAY CROSS SECTIONS  
Tractor Supply  
Old US Highway 264  
Zebulon, NC Wake County

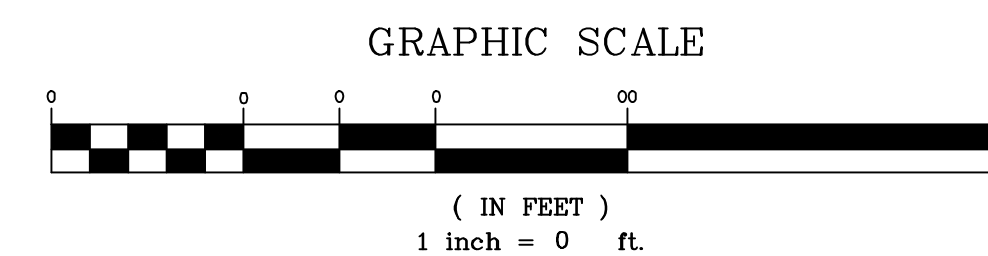
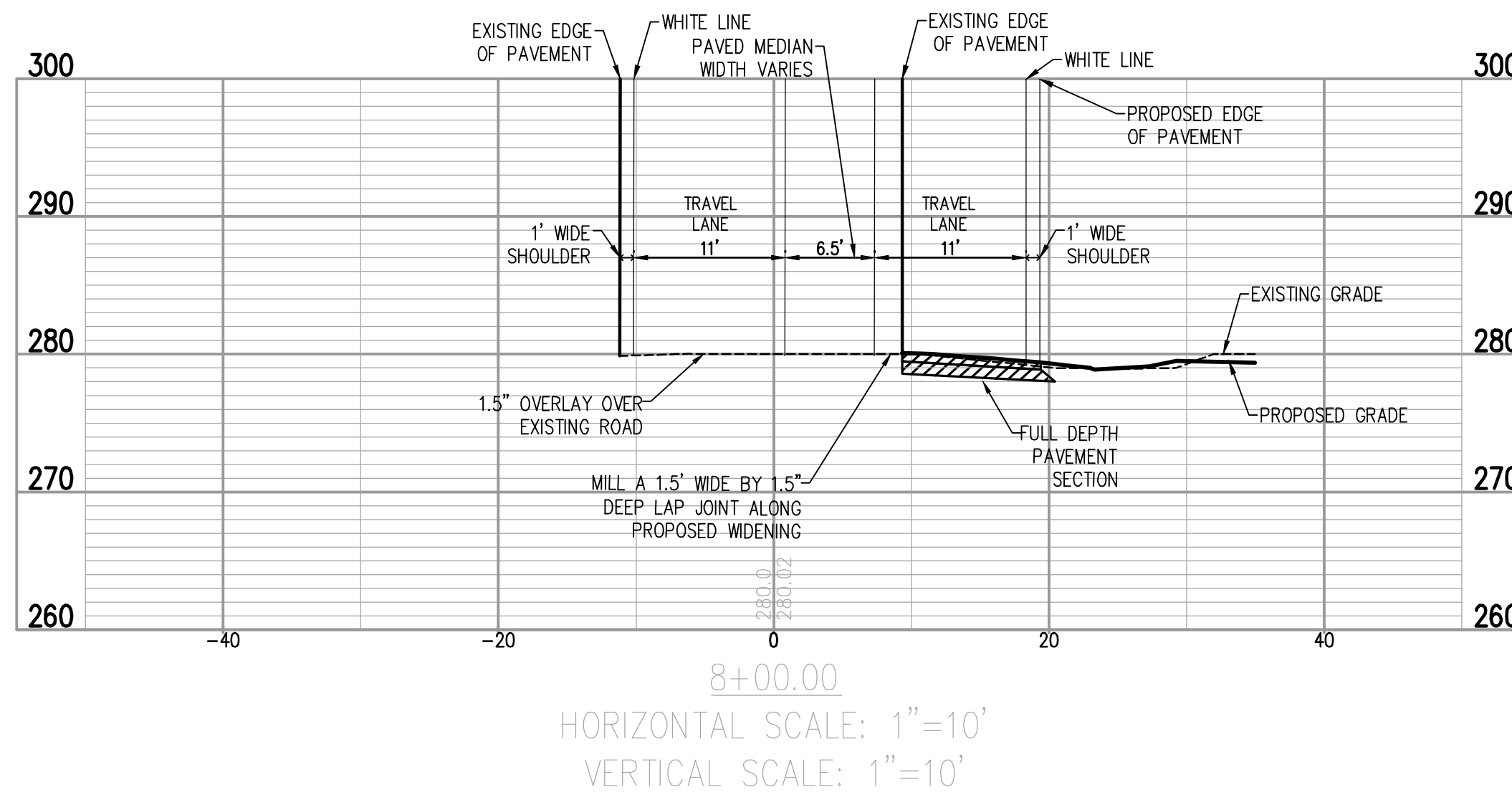
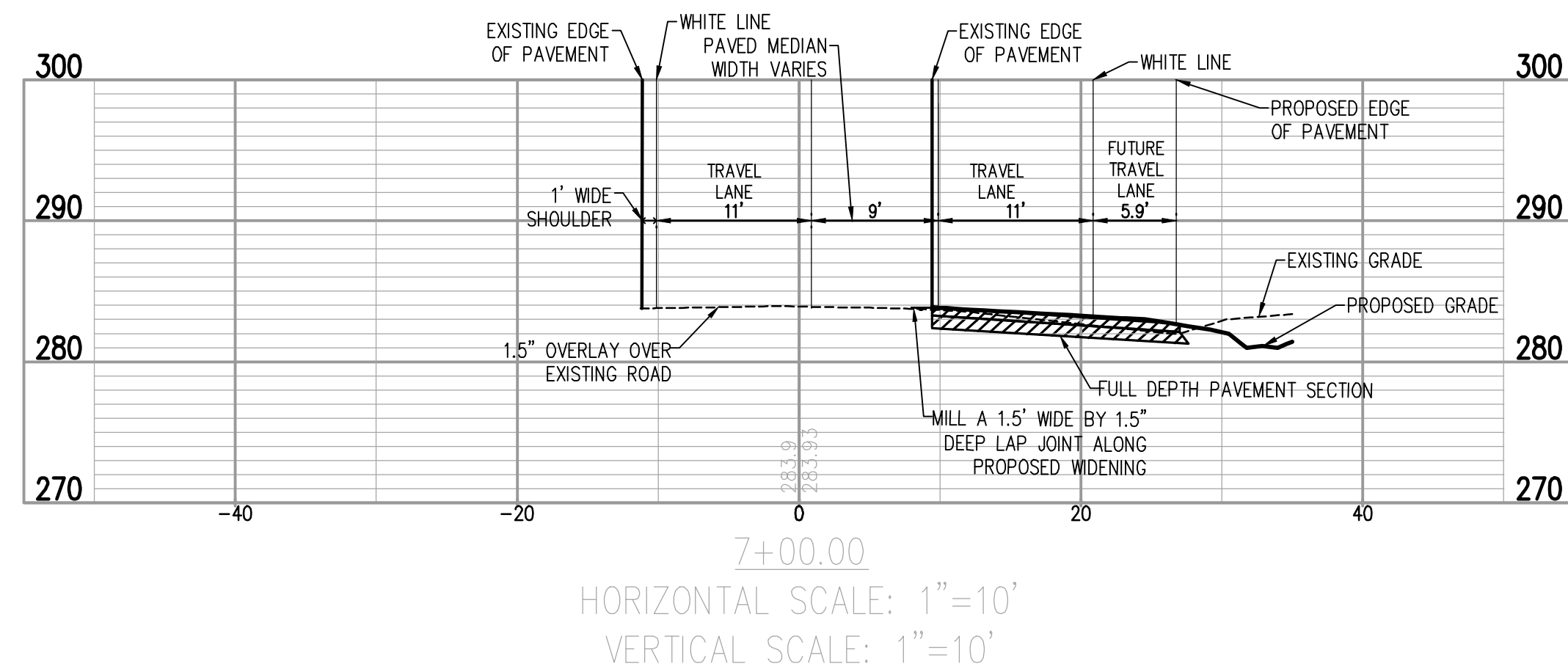
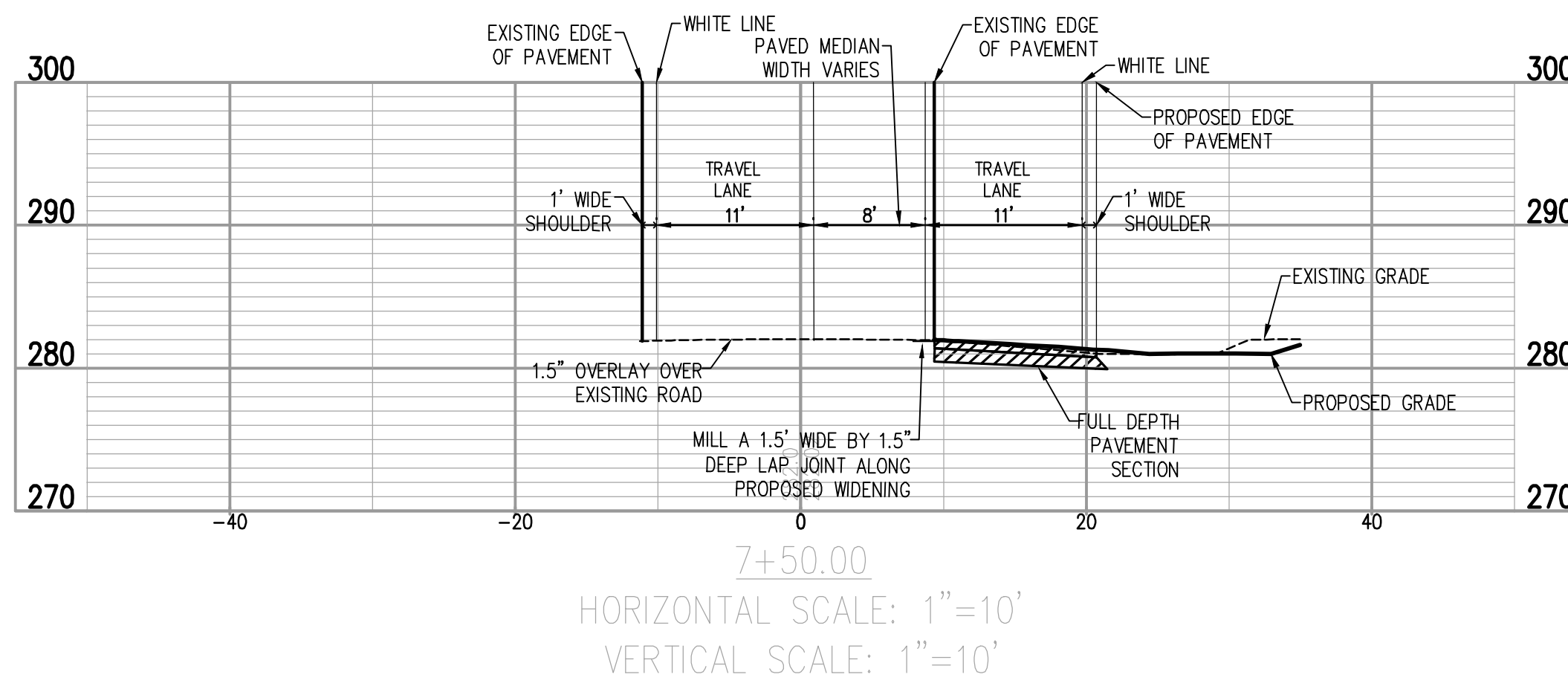
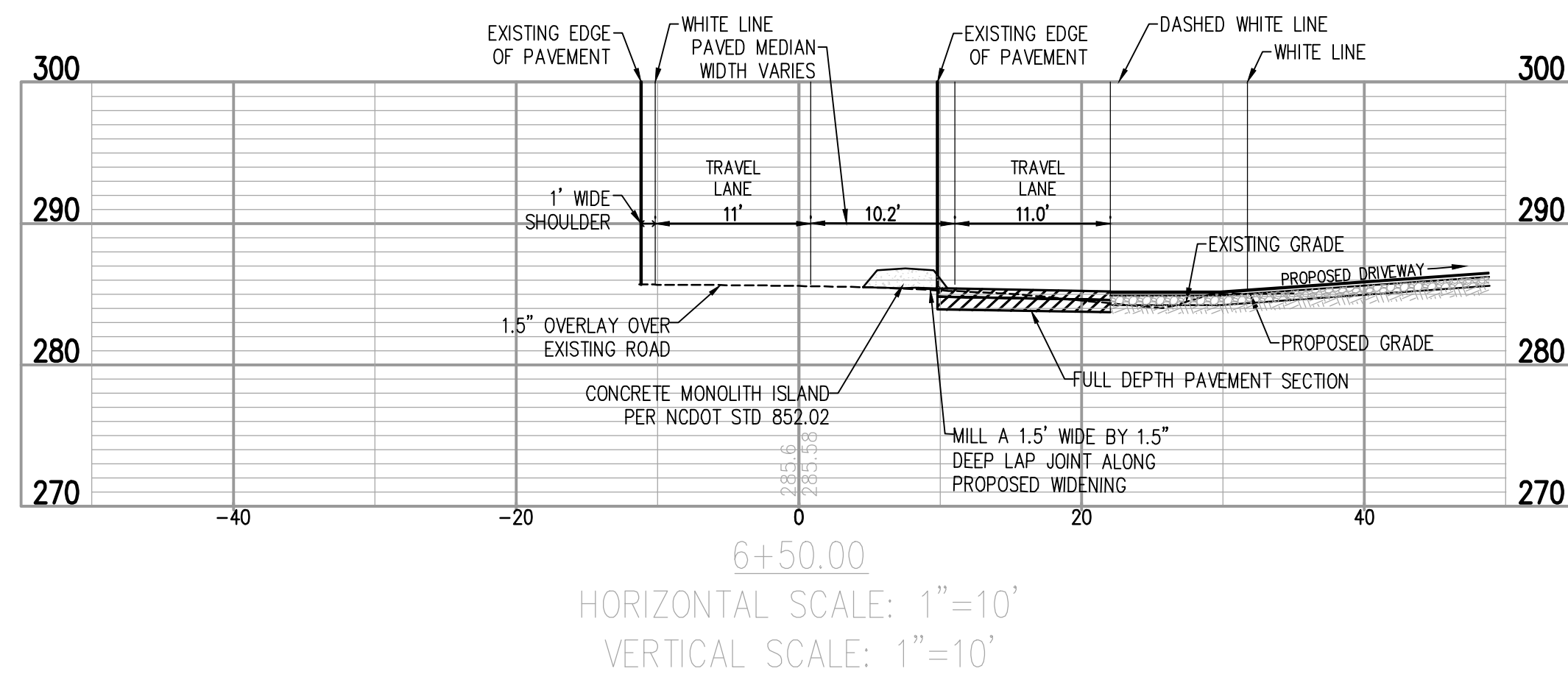
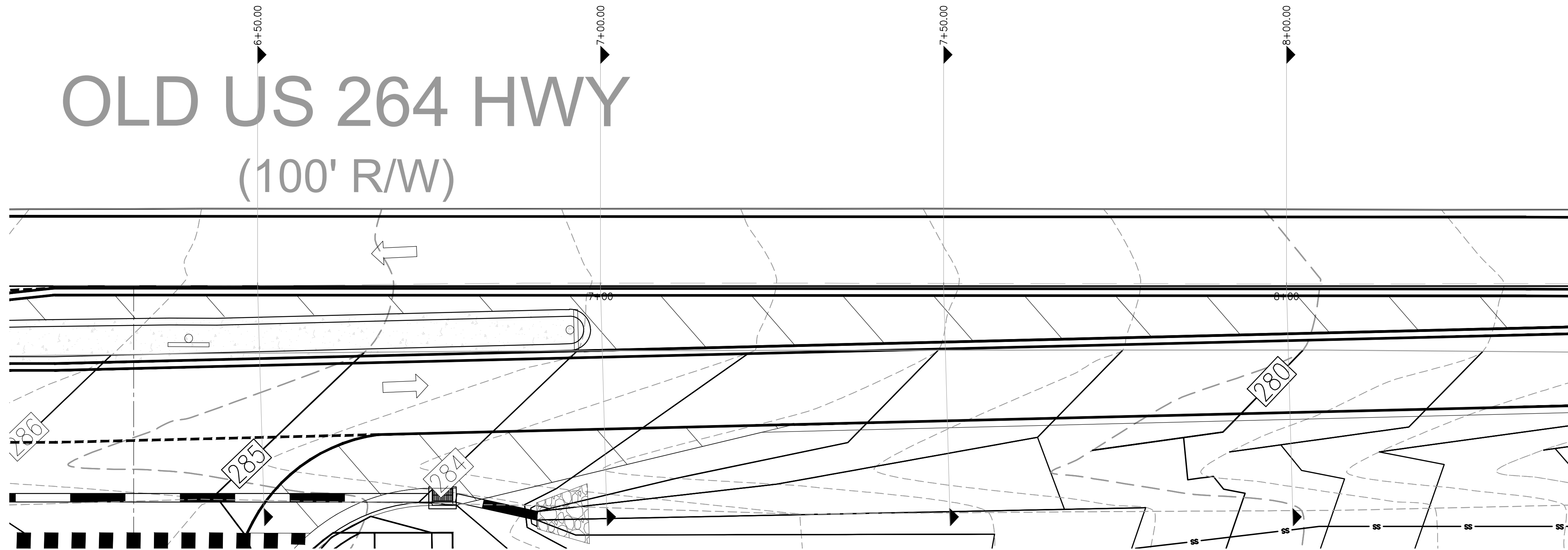


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MEL	MEL	XXX
DESIGN	DRAWN	CHKD
SCALE	H: 1" = XXX'	V: 1" = XXX'
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DATE May 28, 2024		
FILE No. 220127-D-CP-001		

SHEET C4.4



# OLD US 264 HWY (100' R/W)



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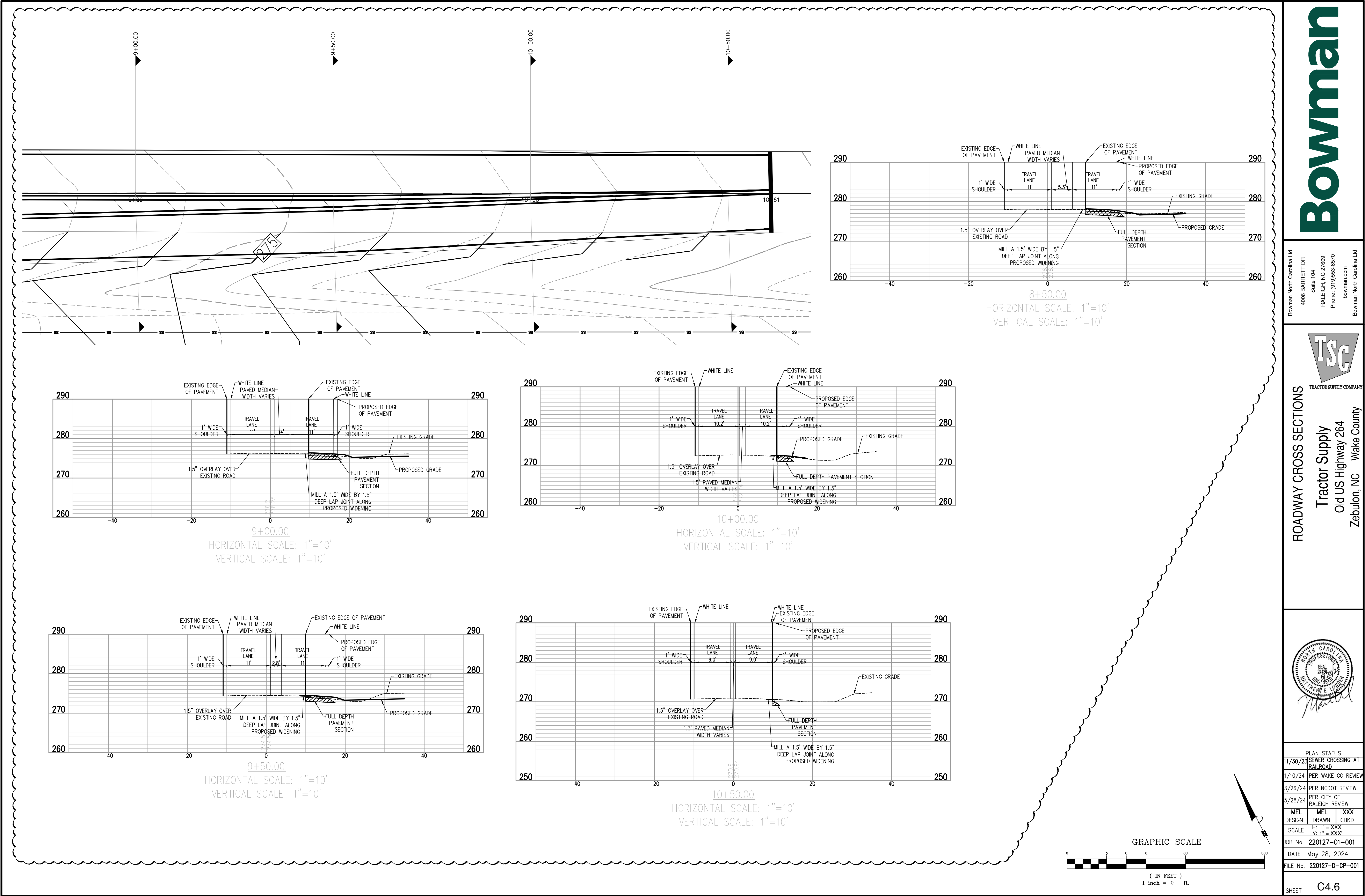
ROADWAY CROSS SECTIONS  
Tractor Supply  
Old US Highway 264  
Zebulon, NC Wake County



PLAN STATUS		
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5/28/24	PER CITY OF RALEIGH REVIEW	
MEL	MEL	XXX
DESIGN	DRAWN	CHKD
SCALE	H: 1" = XXX'	V: 1" = XXX'
JOB No. 220127-01-001		
DATE May 28, 2024		
FILE No. 220127-D-CP-001		

SHEET C4.5





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## TSC

TRACTOR SUPPLY COMPANY

ROADWAY CROSS SECTIONS

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Zebulon, NC Wake County

PLAN STATUS

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MEL	MEL	XXX
DESIGN	DRAWN	CHKD
SCALE	H: 1" = XXX'	V: 1" = XXX'

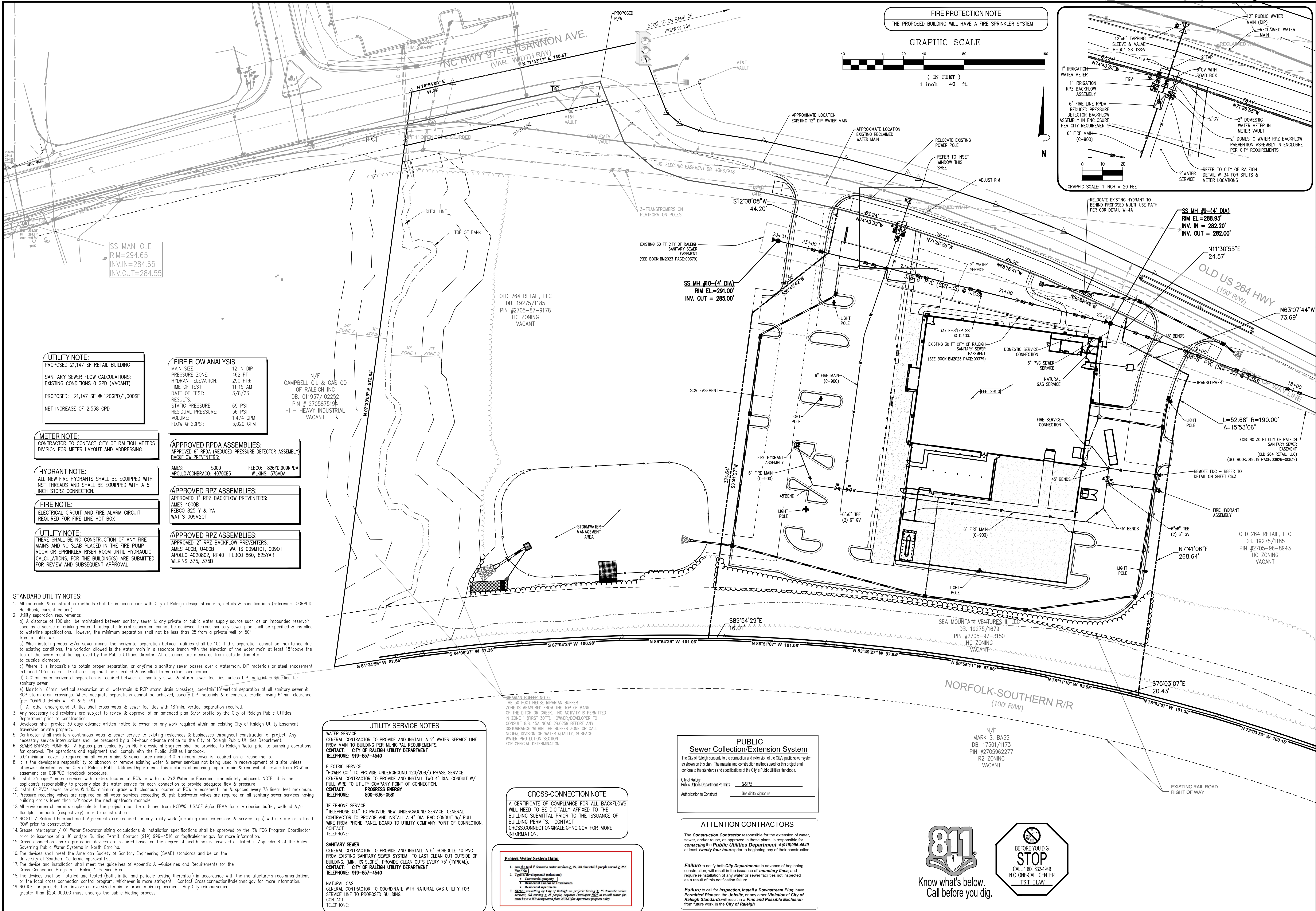
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DATE May 28, 2024

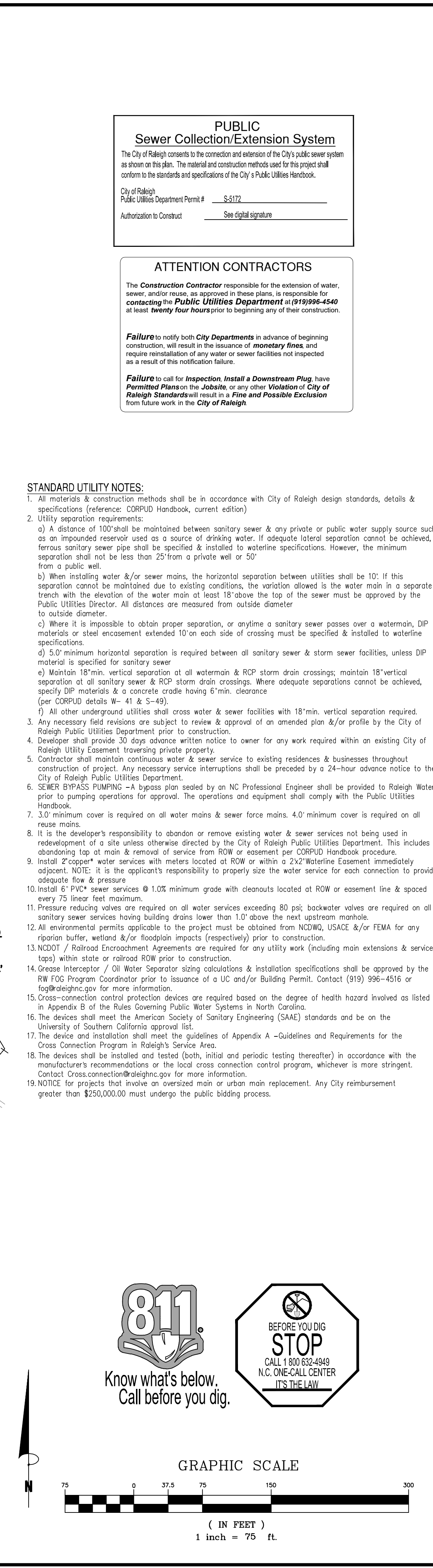
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## ATTENTION CONTRACTORS

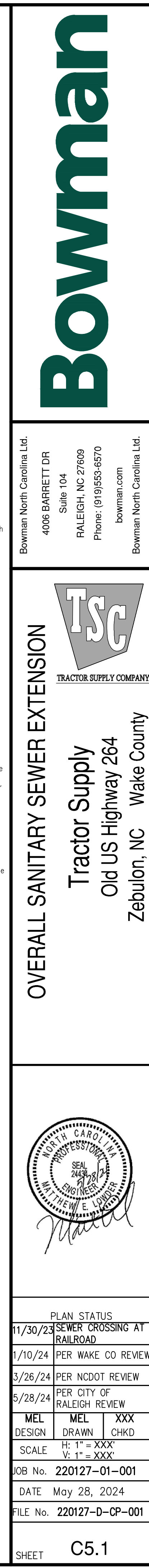
The **Construction Contract** responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for **contacting the Public Utilities Department at (919)996-4540** at least **twenty four hours** prior to beginning any work.

***Failure*** to notify both **City Departments** in advance of beginning construction will result in the issuance of **monetary fines**, and require reinstallation of any water or sewer facilities not inspected as a result of this notification failure.

***Failure*** to call for **inspection, install a Downstream Plug, have Permitted Plans on the Jobsite, or any other Violation of City of Raleigh Standards** will result in a **Fine and Possible Exclusion** from future work in the **City of Raleigh**.

**811**  
Know what's below.  
Call before you dig.

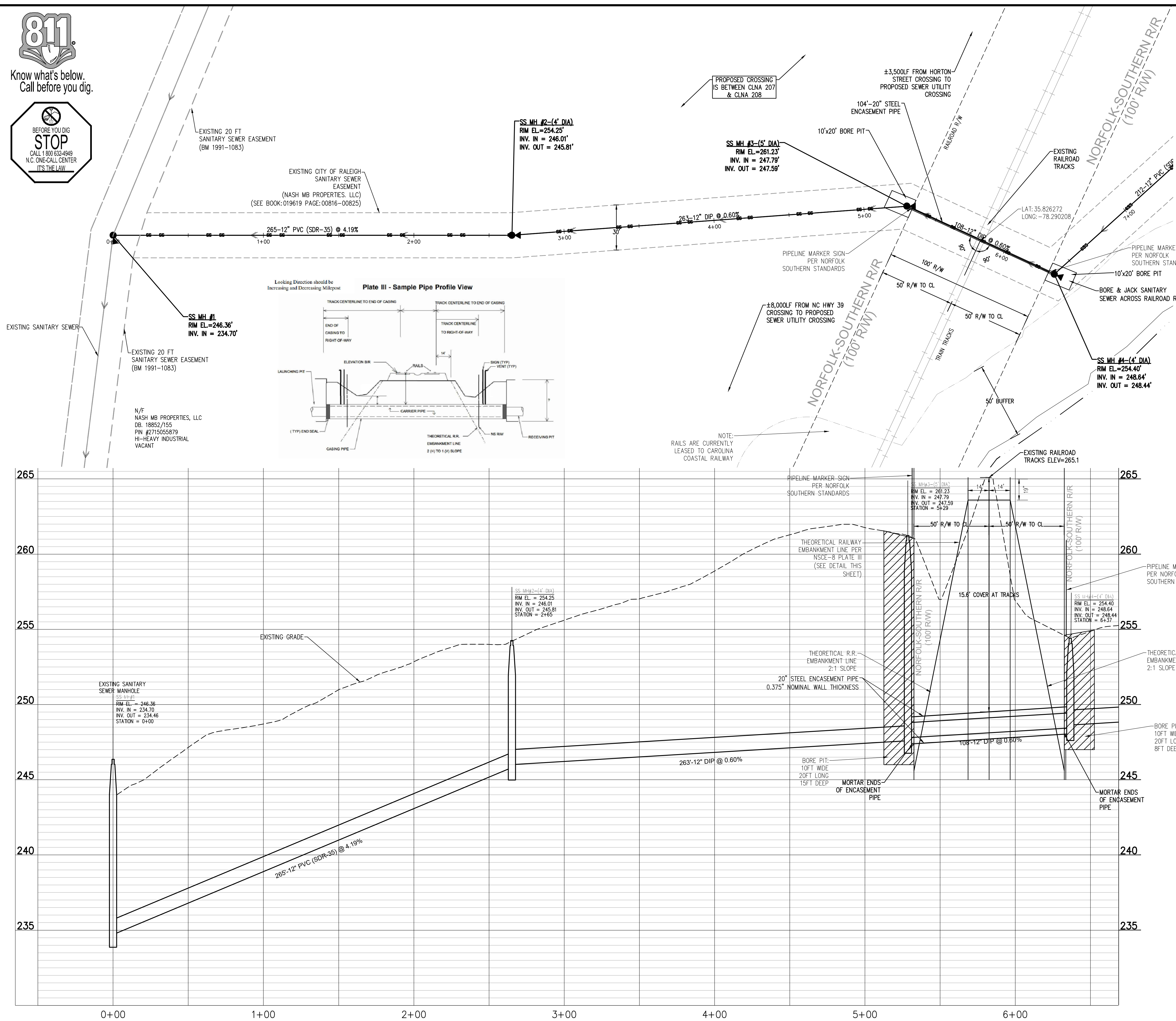
An octagonal sign with a black border. At the top is a circle with a diagonal slash over a shovel icon. Below the icon, the text reads: "BEFORE YOU DIG", "STOP", "CALL 1 800 632-4949", "N.C. ONE-CALL CENTER", and "IT'S THE LAW".







Know what's below.  
Call before you dig.



- STANDARD UTILITY NOTES:**
- All materials & construction methods shall be in accordance with City of Raleigh design standards, details & specifications (reference: CORPUD Handbook, current edition)
  - Utility separation requirements:
    - A distance of 100' shall be maintained between sanitary sewer & any private or public water supply source such as an impounded reservoir used as a source of drinking water. If adequate lateral separation cannot be achieved, ferrous sanitary sewer pipe shall be specified & installed to watertight specifications. However, the minimum separation shall not be less than 25' from a private well or 50' from a public well.
    - When installing water &/or sewer mains, the horizontal separation between utilities shall be 10'. If this separation cannot be maintained due to existing conditions, the variation allowed is the water main in a separate trench with the elevation of the water main at least 18" above the top of the sewer & must be approved by the Public Utilities Director. All distances are measured from outside diameter to outside diameter.
    - Where it is impossible to obtain proper separation, or anytime a sanitary sewer passes over a watermain, DIP materials or steel encasement extended 10' on each side of crossing must be specified & installed to watertight specifications.
    - 5.0' minimum horizontal separation is required between all sanitary sewer & storm sewer facilities, unless DIP material is specified for sanitary sewer
    - Maintain 18" min. vertical separation at all watermain & RCP storm drain crossings; maintain 18" min. vertical separation at all sanitary sewer & RCP storm drain crossings. Where adequate separations cannot be achieved, specify DIP materials & a concrete grade having 6" min. clearance (per CORPUD details W- 41 & S-49).
    - All other underground utilities shall cross water & sewer facilities with 18" min. vertical separation required.
  - Any necessary field revisions are subject to review & approval of an amended plan &/or profile by the City of Raleigh Public Utilities Department prior to construction.
  - Developer shall provide 30 days advance written notice to owner for any work required within an existing City of Raleigh Utility Easement traversing private property.
  - Contractor shall maintain continuous water & sewer service to existing residences & businesses throughout construction of project. Any necessary service interruptions shall be preceded by a 24-hour advance notice to the City of Raleigh Public Utilities Department.
  - SEWER BYPASS PUMPING - A bypass plan sealed by an NC Professional Engineer shall be provided to Raleigh Water prior to pumping operations for approval. The operations and equipment shall comply with the Public Utilities Handbook.
  - 3.0' minimum cover is required on all water mains & sewer force mains. 4.0' minimum cover is required on all reuse mains.
  - It is the developer's responsibility to abandon or remove existing water & sewer services not being used in redevelopment of a site unless otherwise directed by the City of Raleigh Public Utilities Department. This includes abandoning tap at main & removal of service from ROW or easement per CORPUD Handbook procedure.
  - Install 2" copper\* water services with meters located at ROW or within a 2'x2' Waterline Easement immediately adjacent. NOTE: It is the applicant's responsibility to properly size the water service for each connection to provide adequate flow & pressure.
  - Install 6" PVC\* sewer services @ 1.0% minimum grade with cleanouts located at ROW or easement line & spaced every 75 linear feet maximum.
  - Pressure reducing valves are required on all water services exceeding 80 psi; backwater valves are required on all sanitary sewer services having building drains lower than 1.0' above the next upstream manhole.
  - All environmental permits applicable to the project must be obtained from NDWQ, USACE &/or FEMA for any riparian buffer, wetland &/or floodplain impacts (respectively) prior to construction.
  - NCDOT / Railroad Encroachment Agreements are required for any utility work (including main extensions & service taps) within state or railroad ROW prior to construction.
  - Greece Interceptor / Oil Water Separator sizing calculations & installation specifications shall be approved by the RW FOG Program Coordinator prior to issuance of a UC and/or Building Permit. Contact (919) 996-4516 or fog@raleighnc.gov for more information.
  - Cross-connection control protection devices are required based on the degree of health hazard involved as listed in Appendix B of the Rules Governing Public Water Systems in North Carolina.
  - The devices shall meet the American Society of Sanitary Engineering (ASSE) standards and be on the University of Southern California approval list.
  - The device and installation shall meet the guidelines of Appendix A - Guidelines and Requirements for the Cross Connection Program in Raleigh's Service Area.
  - The devices shall be installed and tested (both, initial and periodic testing thereafter) in accordance with the manufacturer's recommendations or the local cross connection control program, whichever is more stringent. Contact Cross.connection@raleighnc.gov for more information.
  - NOTICE: for projects that involve an oversized main or urban main replacement. Any City reimbursement greater than \$250,000.00 must undergo the public bidding process.

**PUBLIC Sewer Collection/Extension System**

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City of Raleigh  
Public Utilities Department Permit # S-3172  
Authorization to Construct See digital signature

**ATTENTION CONTRACTORS**

The **Construction Contractor** responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for **contacting the Public Utilities Department at (919) 996-4540** at least **twenty four hours** prior to beginning any of their construction.

**Failure** to notify both City **Departments** in advance of beginning construction, will result in the issuance of **monetary fines** and require reinstatement of any water or sewer facilities not inspected as a result of this notification failure.

**Failure** to call for **Inspection, Install a Downstream Plug**, have **Permitted Plans** on the **Jobsite**, or any other **Violation of City of Raleigh Standards** will result in a **Fine and Possible Exclusion** from future work in the **City of Raleigh**.

**GRAPHIC SCALE**

30 0 15 30 60 90 120

( IN FEET )  
1 inch = 30 ft.

**Bowman**

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4006 BARRETT DR  
Suite 104  
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Phone: (919) 553-6570  
bowman.com  
Bowman North Carolina Ltd.

**TSC**  
TRACTOR SUPPLY COMPANY

**SANITARY SEWER PLAN & PROFILE**

**Tractor Supply**  
Old US Highway 264  
Zebulon, NC Wake County

**PLAN STATUS**

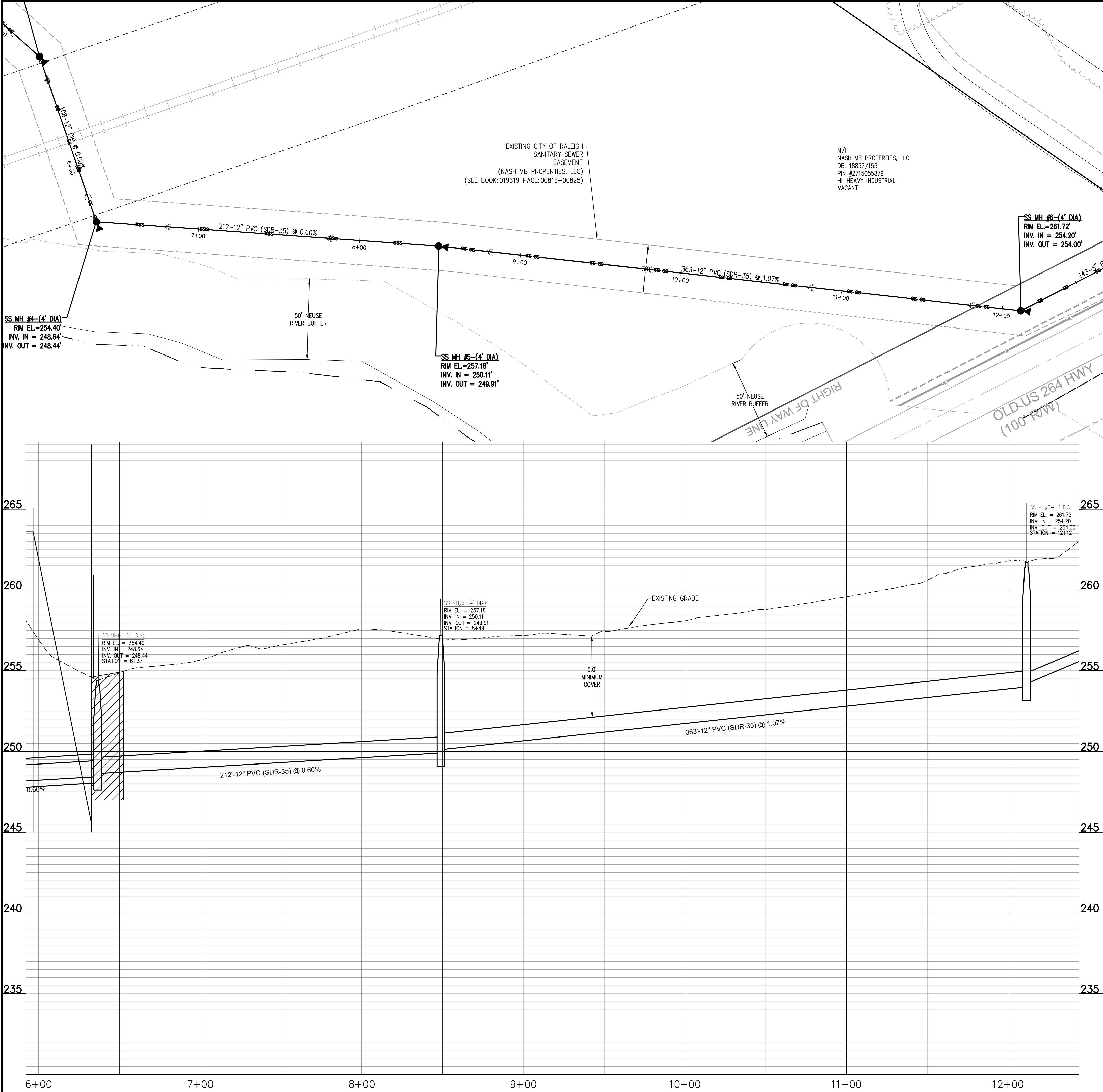
11/30/23	SEWER CROSSING AT RAILROAD
1/10/24	PER WAKE CO REVIEW
3/26/24	PER NCDOT REVIEW
5/28/24	PER CITY OF RALEIGH REVIEW

MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	H: 1" = XXX'	V: 1" = XXX'

JOB No. 220127-01-001  
DATE May 28, 2024  
FILE No. 220127-D-CP-001

SHEET **C5.2**





**PUBLIC  
Sewer Collection/Extension System**

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City of Raleigh  
Public Utilities Department Permit # S6172

Authorization to Construct See digital signature

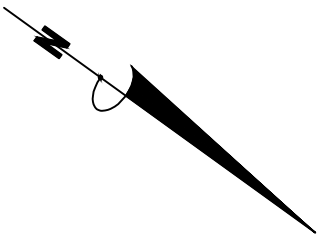
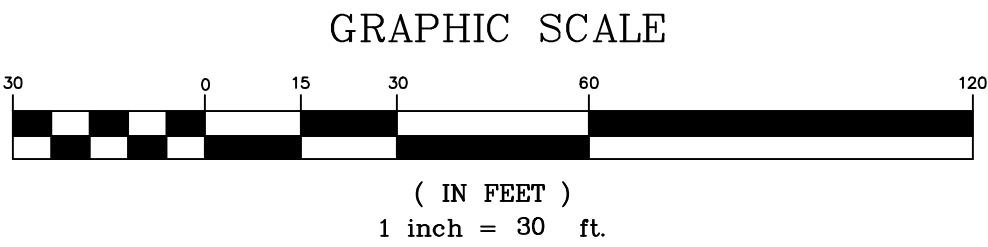
**ATTENTION CONTRACTORS**

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**Failure** to notify both **City Departments** in advance of beginning construction, will result in the issuance of **monetary fines**, and require reinstallation of any water or sewer facilities not inspected as a result of this notification failure.

**Failure** to call for **Inspection, Install a Downstream Plug, have Permitted Plans** on the **Jobsite**, or any other **Violation of City of Raleigh Standards** will result in a **Fine and Possible Exclusion** from future work in the **City of Raleigh**.

- STANDARD UTILITY NOTES:**
- All materials & construction methods shall be in accordance with City of Raleigh design standards, details & specifications (reference: CORPUD Handbook, current edition).
  - Utility separation requirements:
    - A distance of 100' shall be maintained between sanitary sewer & any private or public water supply source such as an impounded reservoir used as a source of drinking water. If adequate lateral separation cannot be achieved, ferrous sanitary sewer pipe shall be specified & installed to watertight specifications. However, the minimum separation shall not be less than 25' from a private well or 50' from a public well.
    - When installing water &/or sewer mains, the horizontal separation between utilities shall be 10'. If this separation cannot be maintained due to existing conditions, the variation allowed is the water main in a separate trench with the elevation of the water main at least 18" above the top of the sewer must be approved by the Public Utilities Director. All distances are measured from outside diameter to outside diameter.
    - Where it is impossible to obtain proper separation, or anytime a sanitary sewer passes over a watermain, DIP materials or steel encasement extended 10' on each side of crossing must be specified & installed to watertight specifications.
    - 5.0' minimum horizontal separation is required between all sanitary sewer & storm sewer facilities, unless DIP material is specified for sanitary sewer.
    - Maintain 18" min. vertical separation at all watermain & RCP storm drain crossings; maintain 18" vertical separation at all sanitary sewer & RCP storm drain crossings. Where adequate separations cannot be achieved, specify DIP materials & a concrete cradle having 6" min. clearance (per CORPUD details W- 41 & S-49).
    - All other underground utilities shall cross water & sewer facilities with 18" min. vertical separation required.
  - Any necessary field revisions are subject to review & approval of an amended plan &/or profile by the City of Raleigh Public Utilities Department prior to construction.
  - Developer shall provide 30 days advance written notice to owner for any work required within an existing City of Raleigh Utility Easement traversing private property.
  - Contractor shall maintain continuous water & sewer service to existing residences & businesses throughout construction of project. Any necessary service interruptions shall be preceded by a 24-hour advance notice to the City of Raleigh Public Utilities Department.
  - SEWER BYPASS PUMPING - A bypass plan sealed by an NC Professional Engineer shall be provided to Raleigh Water prior to pumping operations for approval. The operations and equipment shall comply with the Public Utilities Handbook.
  - 3.0' minimum cover is required on all water mains & sewer force mains. 4.0' minimum cover is required on all reuse mains.
  - It is the developer's responsibility to abandon or remove existing water & sewer services not being used in redevelopment of a site unless otherwise directed by the City of Raleigh Public Utilities Department. This includes abandoning tap at main & removal of service from ROW or easement per CORPUD Handbook procedure.
  - Install 2" copper\* water services with meters located at ROW or within a 2x2' Watertight Easement immediately adjacent. NOTE: It is the applicant's responsibility to properly size the water service for each connection to provide adequate flow & pressure.
  - Install 6" PVC\* sewer services @ 1.0% minimum grade with cleanouts located at ROW or easement line & spaced every 75 linear feet maximum.
  - Pressure reducing valves are required on all water services exceeding 80 psi; backwater valves are required on all sanitary sewer services having building drains lower than 1.0' above the next upstream manhole.
  - All environmental permits applicable to the project must be obtained from NCDOW, USACE &/or FEMA for any riparian buffer, wetland &/or floodplain impacts (respectively) prior to construction.
  - NCDOT / Railroad Encroachment Agreements are required for any utility work (including main extensions & service taps) within state or railroad ROW prior to construction.
  - Gross Interceptor / Oil Water Separator sizing calculations & installation specifications shall be approved by the RW FOG Program Coordinator prior to issuance of a UC and/or Building Permit. Contact (919) 996-4516 or fog@raleighnc.gov for more information.
  - Cross-connection control protection devices are required based on the degree of health hazard involved as listed in Appendix B of the Rules Governing Public Water Systems in North Carolina.
  - The devices shall meet the American Society of Sanitary Engineering (ASAE) standards and be on the University of Southern California approval list.
  - The device and installation shall meet the guidelines of Appendix A - Guidelines and Requirements for the Cross Connection Program in Raleigh's Service Area.
  - The devices shall be installed and tested (both, initial and periodic testing thereafter) in accordance with the manufacturer's recommendations or the local cross connection control program, whichever is more stringent. Contact Cross.connection@raleighnc.gov for more information.
  - NOTICE for projects that involve an oversized main or urban main replacement. Any City reimbursement greater than \$250,000.00 must undergo the public bidding process.



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**TSC**  
TRACTOR SUPPLY COMPANY

**SANITARY SEWER PLAN & PROFILE**

**Tractor Supply**  
Old US Highway 264  
Zebulon, NC Wake County

PLAN STATUS

11/30/23	SEWER CROSSING AT RAILROAD
1/10/24	PER WAKE CO REVIEW
3/26/24	PER NCDOT REVIEW
5/28/24	PER CITY OF RALEIGH REVIEW

MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	H: 1" = XXX'	V: 1" = XXX'

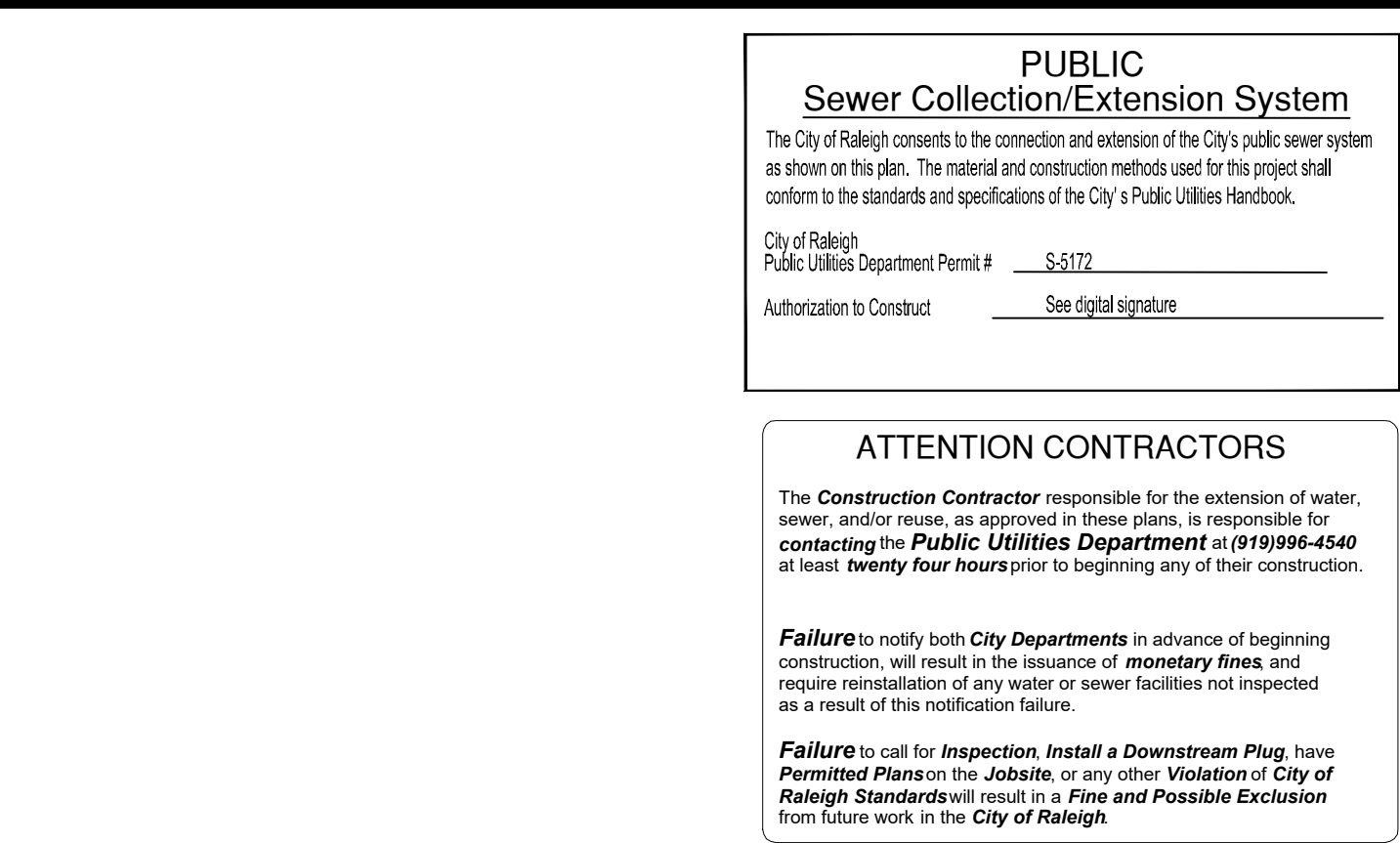
JOB No. 220127-01-001

DATE May 28, 2024

FILE No. 220127-D-CP-001

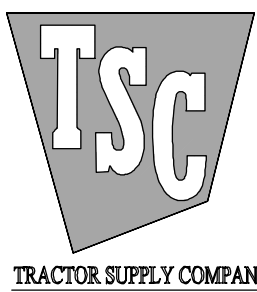
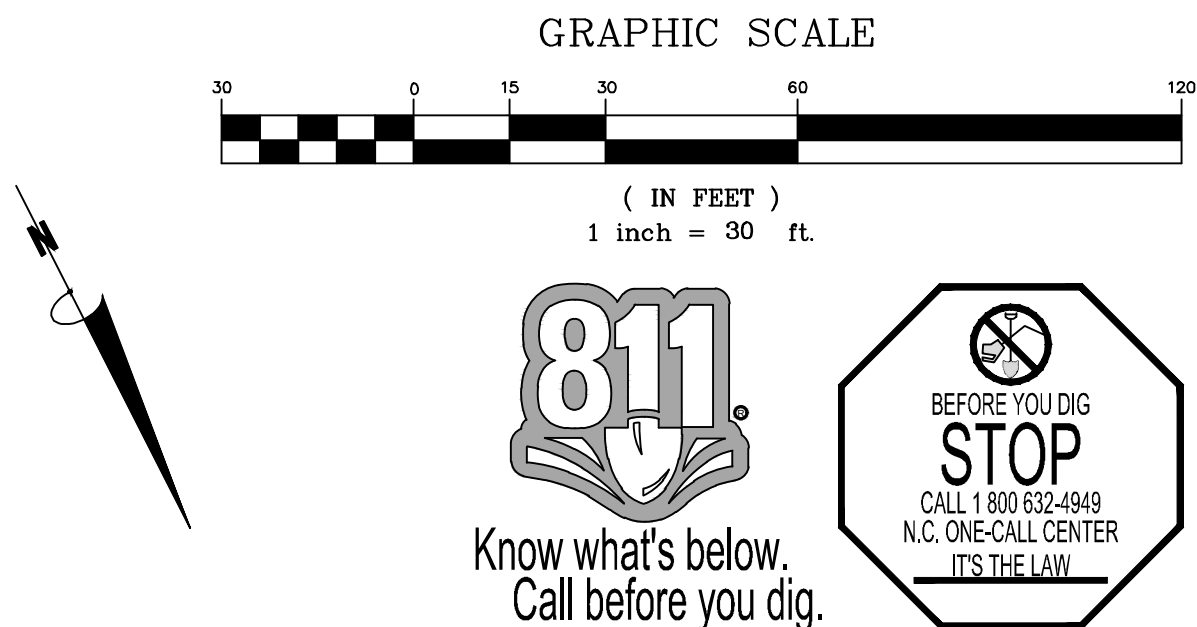
SHEET **C5.3**





### STANDARD UTILITY NOTES:

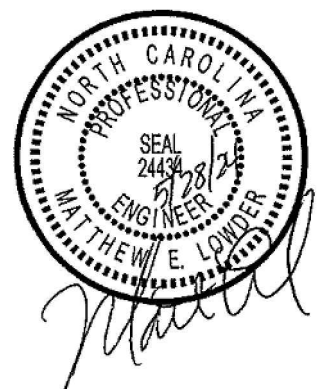
1. All materials & construction methods shall be in accordance with City of Raleigh design standards, details & specifications (reference: CORPUD Handbook, current edition).
2. Utility separation requirements:
  - a) distance of 100' shall be maintained between sanitary sewer & any private or public water supply source such as an impounded reservoir used as a source of drinking water. If adequate lateral separation cannot be achieved, ferrous sanitary sewer pipe shall be specified & installed to waterline specifications. However, the minimum separation shall not be less than 25' from a private well or 50' from a public well.
  - b) When installing water &/or sewer mains, the horizontal separation between utilities shall be 10: If this separation cannot be maintained due to existing conditions, the variation allowed is the water main in a separate trench with the elevation of the water main at least 18" above the top of the sewer must be approved by the Public Utilities Director. All distances are measured from outside diameter to outside diameter.
  - c) Where it is impossible to obtain proper separation, or anytime a sanitary sewer passes over a watermain, DP materials or steel encasement extended 10' on each side of crossing must be specified & installed to waterline specifications.
  - d) 5.0' minimum horizontal separation is required between all sanitary sewer & storm sewer facilities, unless DP material is specified for sanitary sewer.
  - e) Maintain 18" min. vertical separation at all watermain & RCP storm drain crossings; maintain 18" vertical separation at all sanitary sewer & RCP storm drain crossings. Where adequate separations cannot be achieved, specify DP materials & a concrete grade having 6% clearance (per CORPUD details W-41 & S-49).
3. All other underground utilities shall cross water & sewer facilities with 18" min. vertical separation required.
4. Any necessary field revisions are subject to review & approval of an amended plan &/or profile by the City of Raleigh Public Utilities Department prior to construction.
5. Developer shall provide 30 days advance written notice to owner for any work required within an existing City of Raleigh Utility Easement traversing private property.
6. Contractor shall maintain continuous water & sewer service to existing residences & businesses throughout construction of project. Any necessary service interruptions shall be preceded by a 24-hour advance notice to the City of Raleigh Public Utilities Department.
7. SEWER BYPASS PUMPING – A bypass plan sealed by an NC Professional Engineer shall be provided to Raleigh Water prior to pumping operations commencing.
8. 3.0' minimum cover is required on all water mains & sewer force mains. 4.0' minimum cover is required on all reuse mains.
9. It is the developer's responsibility to abandon or remove existing water & sewer services not being used in redevelopment of a site unless otherwise directed by the City of Raleigh Public Utilities Department. This includes abandoning tap at main & removal of service from ROW or ROW encroachment.
10. Install Z-copper™ water services with meters located at ROW or within a 2x2' Waterline Encasement immediately adjacent. NOTE: It is the applicant's responsibility to properly size the water service for each connection to provide adequate flow & pressure.
11. Cross-connection control program measures are required based on the degree of health hazard involved as follows:
  - a) Pressure reducing valves are required on all water services exceeding 80 psi; backflow valves are required on all sanitary sewer services having building drains more than 1.0' above the next upstream manhole.
12. All environmental permits applicable to the project must be obtained from NCDAQ, USACE &/or FEMA for any riparian buffer, wetland &/or floodplain impacts (respectively) prior to construction.
13. NCDDOT / Railroad Encroachment Agreements are required for any utility work (including main extensions & service taps) within state & railroad ROW prior to construction.
14. Grease Interceptor / Oil Water Separator sizing calculations & installation specifications shall be approved by the RW FOG Program Coordinator prior to issuance of a U.C. on/off Building Permit. Contact (919) 996-4516 or tog@raleigh.gov for more information.
15. Cross-connection control program measures are required based on the degree of health hazard involved as listed in Appendix B of the Rules Governing Public Water Systems in North Carolina.
16. The devices shall meet the American Society of Sanitary Engineering (ASSE) standards and be on the U.S. list of Southern California approved list.
17. The device and installation shall meet the guidelines of Appendix A – Guidelines and Requirements for the Cross Connection Program in Raleigh's Service Area.
18. The devices shall be installed and tested (both, initial and periodic testing thereafter) in accordance with the manufacturer's recommendations or the local cross connection control program, whichever is more stringent. Contact CrossConnection@raleigh.gov for more information.
19. NOTICE for projects that require a permit, a permit override or an urban storm replacement, Any City reimbursement greater than \$250,000.00 must undergo the public bidding process.



**SANITARY SEWER PLAN & PROFILE**

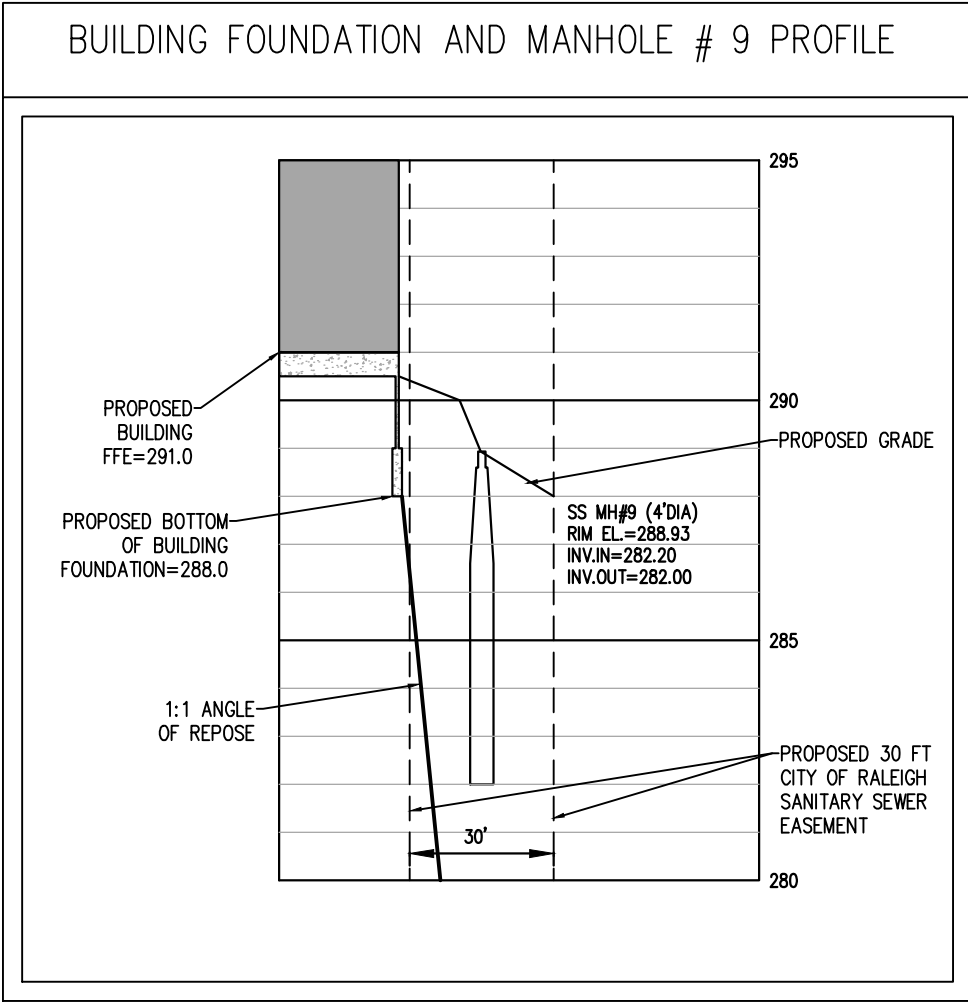
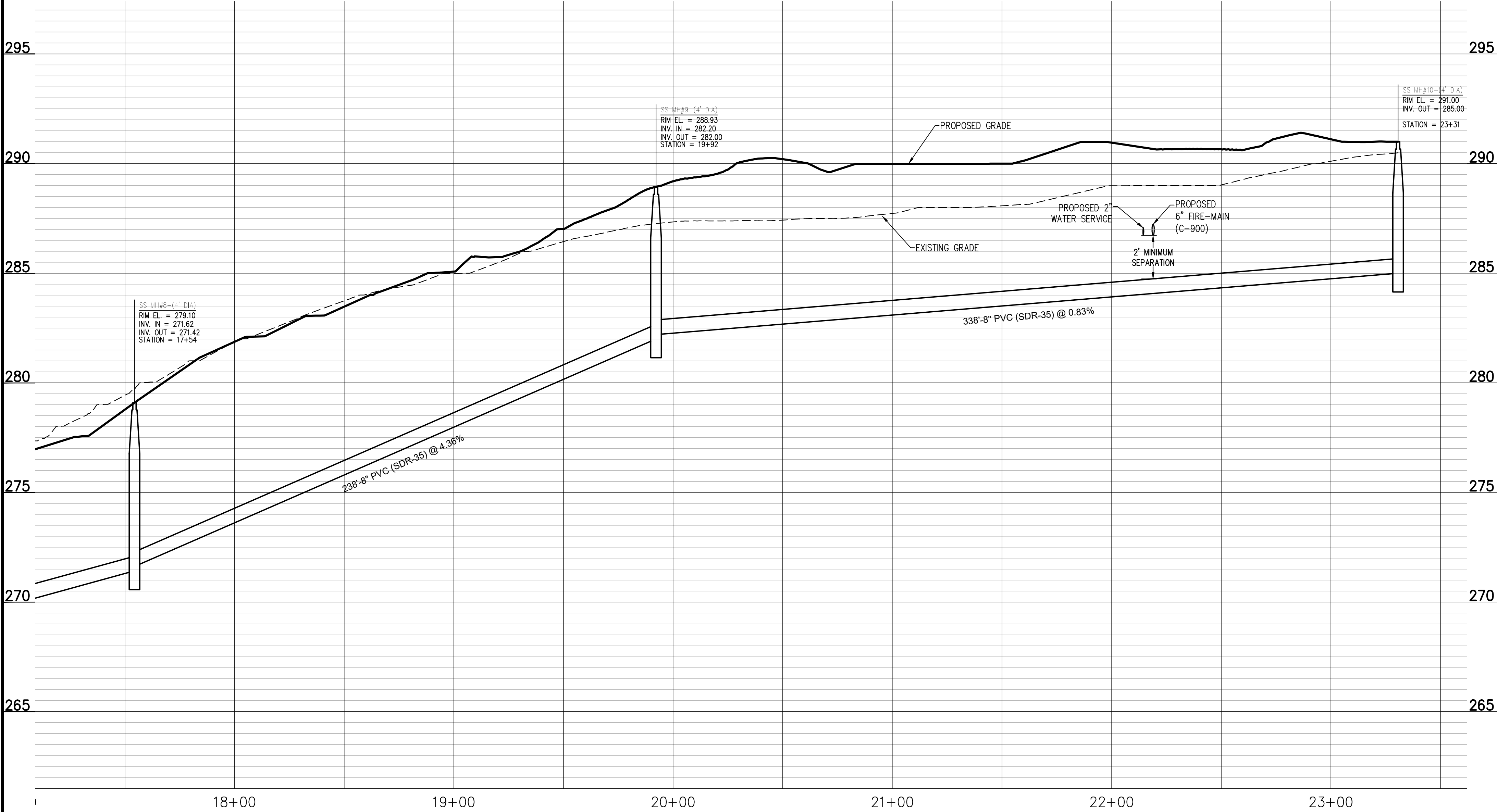
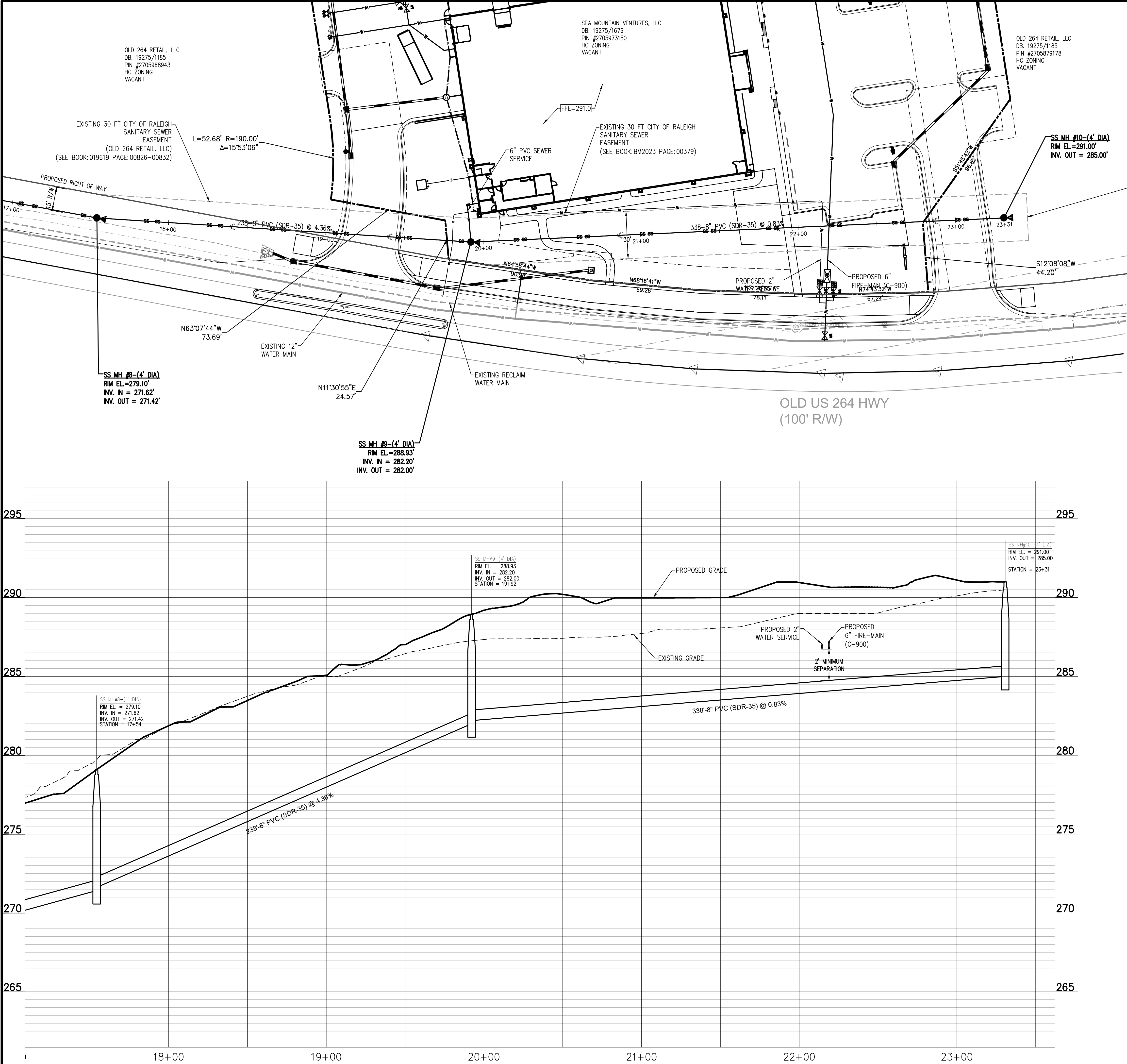
**Tractor Supply**  
 Old US Highway 264  
 Zebulon, NC Wake County

TRACTOR SUPPLY COMPANY

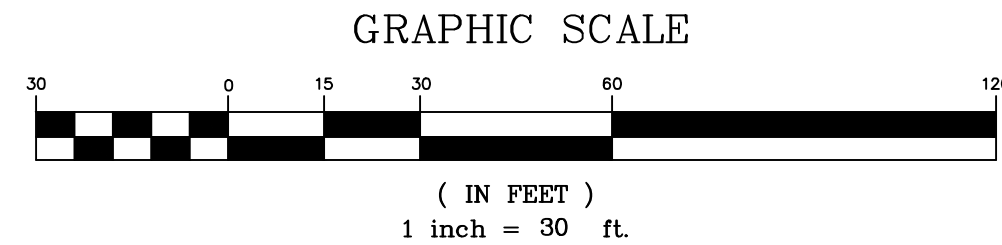


PLAN STATUS		
11/30/23	SEWER CROSSING AT RAILROAD	
1/10/24	PER WAKE CO REVIEW	
3/26/24	PER NCDOT REVIEW	
5/28/24	PER CITY OF RALEIGH REVIEW	
MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	H: 1" = XXX' V: 1" = XXX'	
JOB No.	220127-01-001	
DATE	May 28, 2024	
FILE No.	220127-D-CP-001	





Know what's below.  
Call before you dig.



**PUBLIC Sewer Collection/Extension System**

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City of Raleigh  
Public Utilities Department Permit # S6172

Authorization to Construct See digital signature

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**SANITARY SEWER PLAN & PROFILE**

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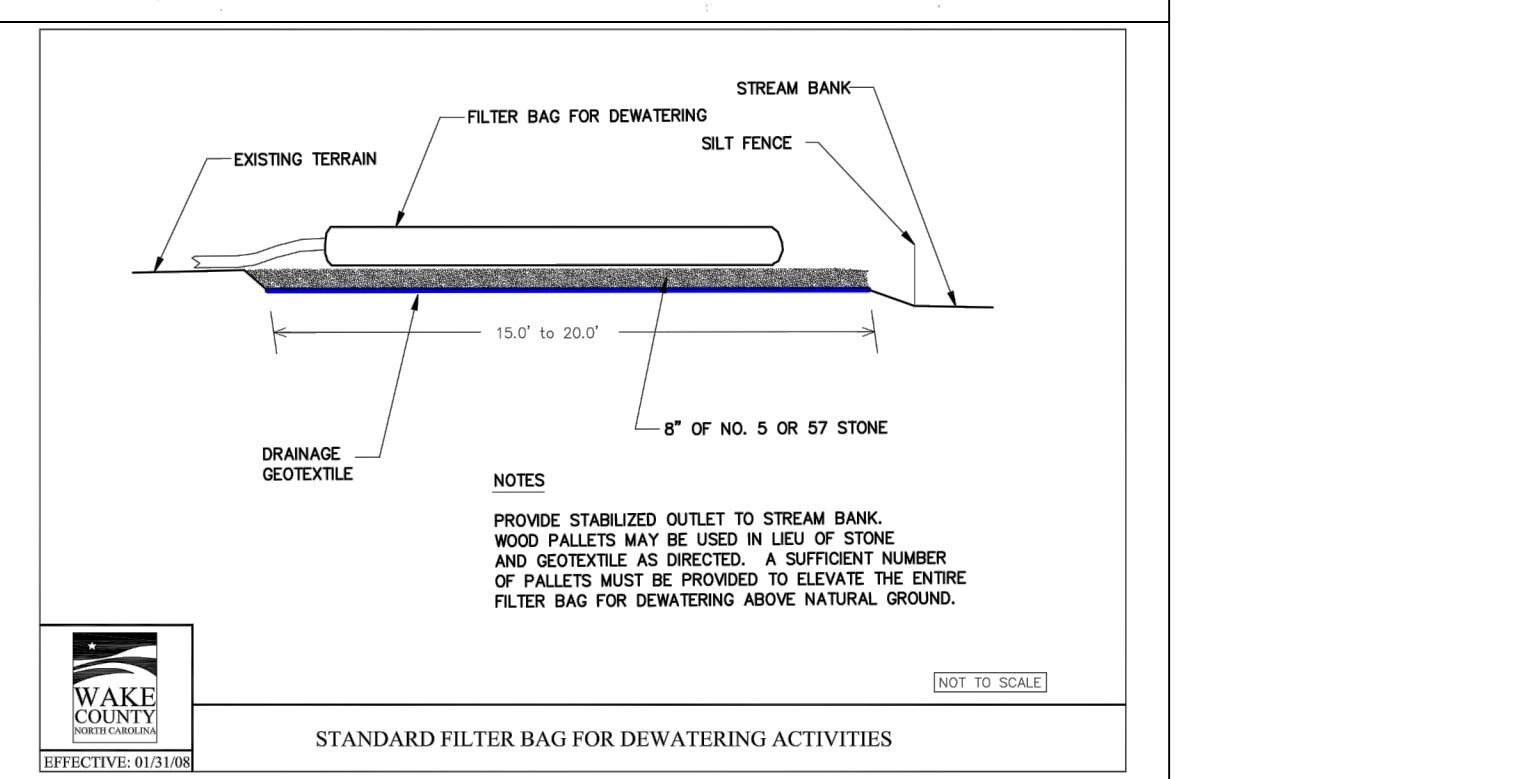
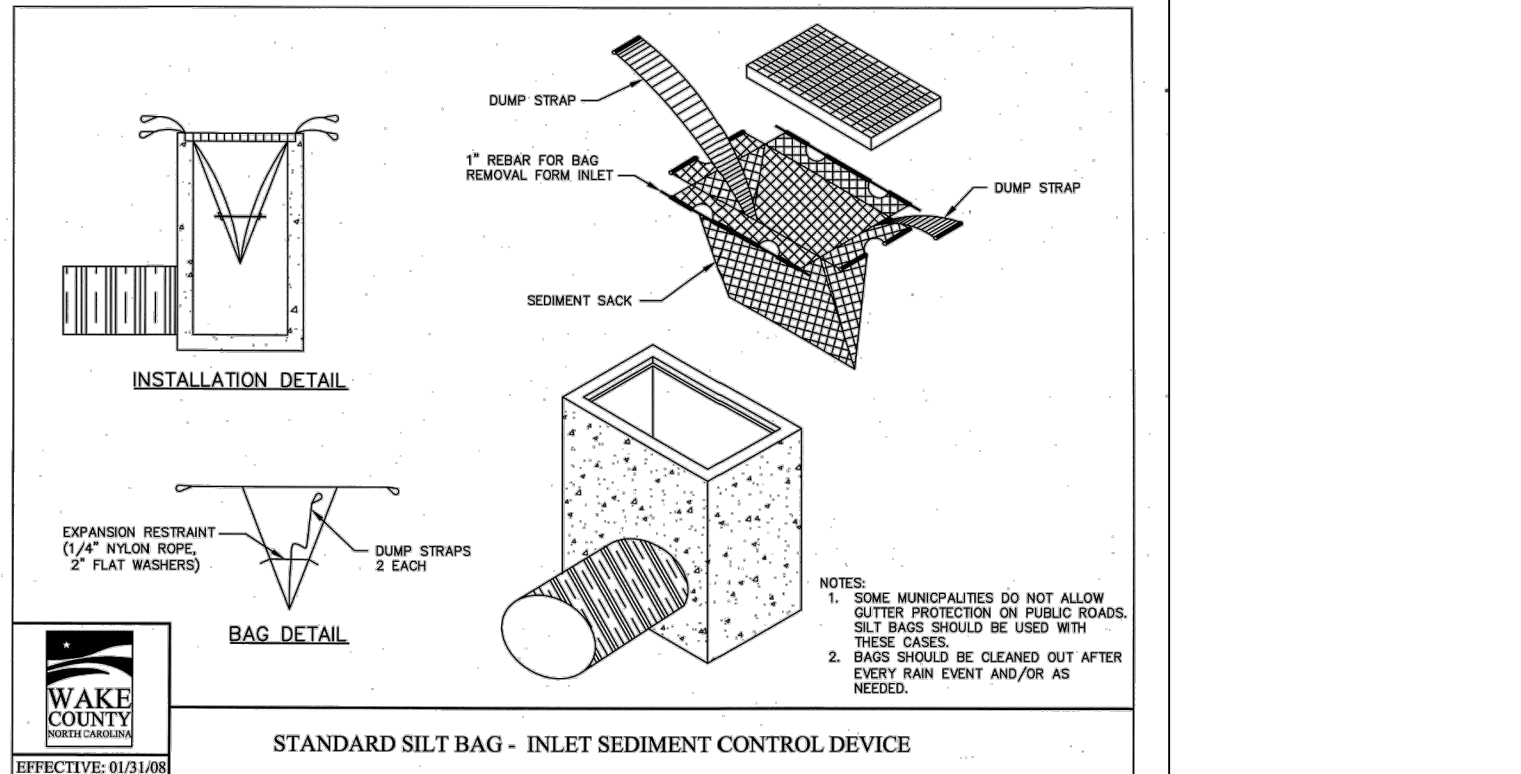
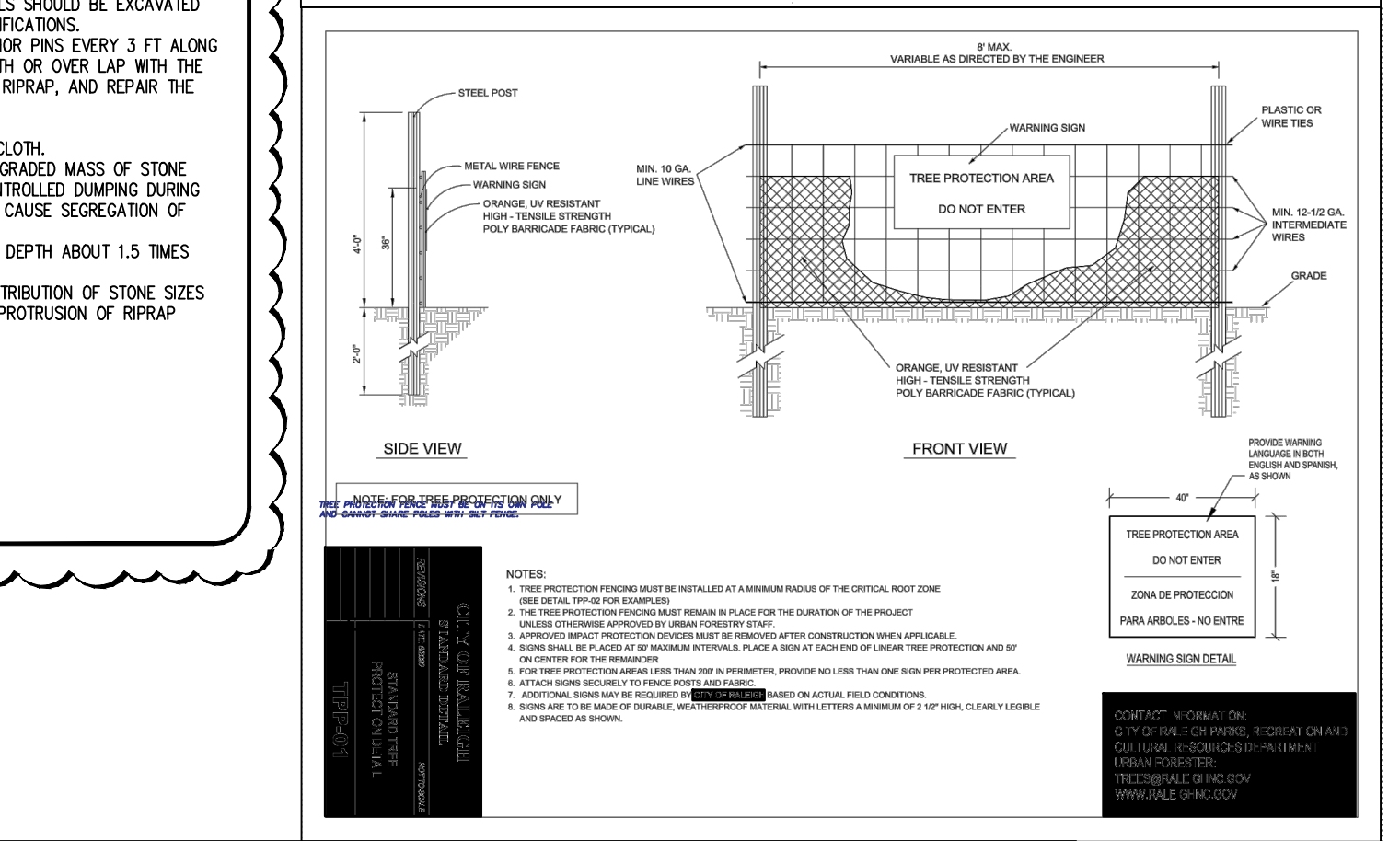
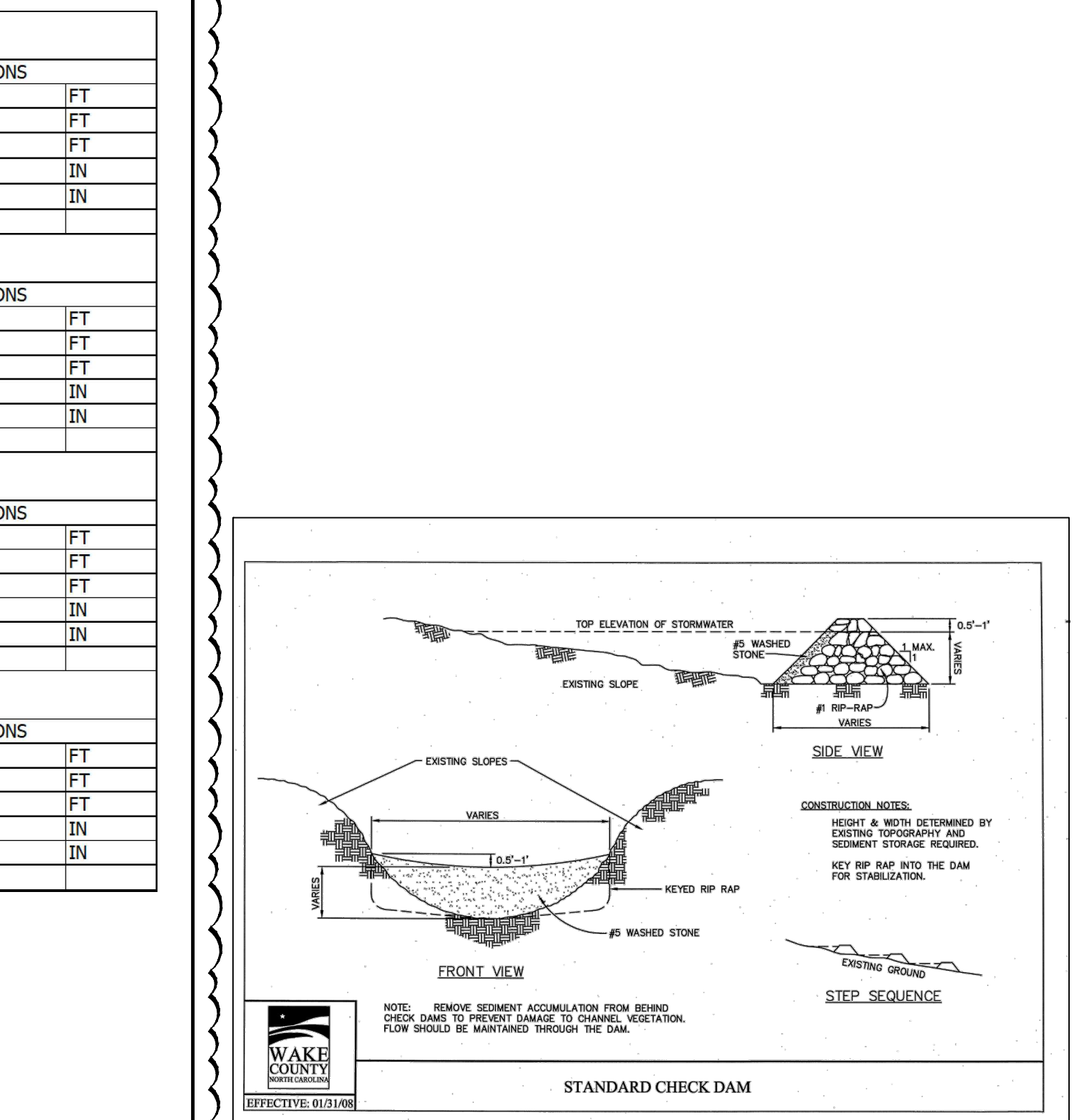
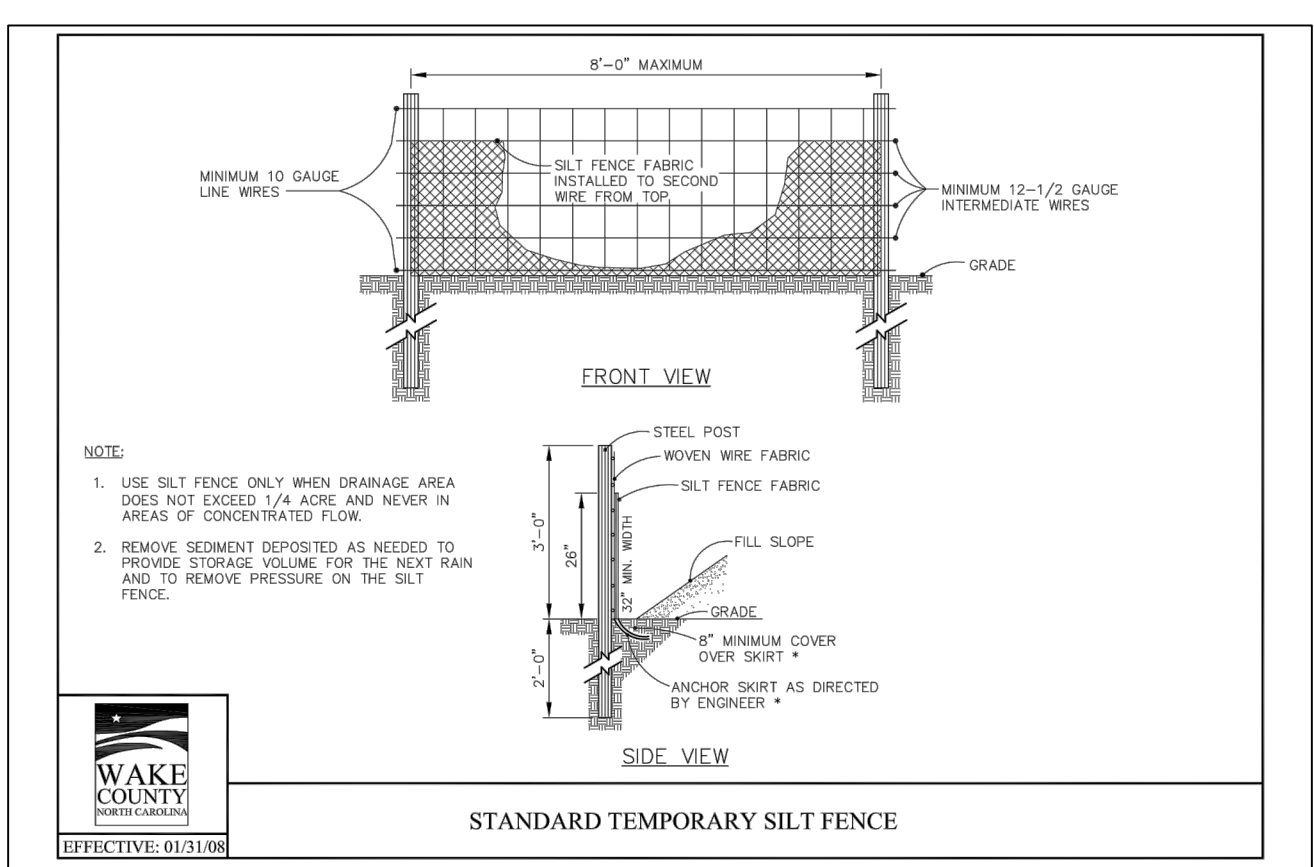
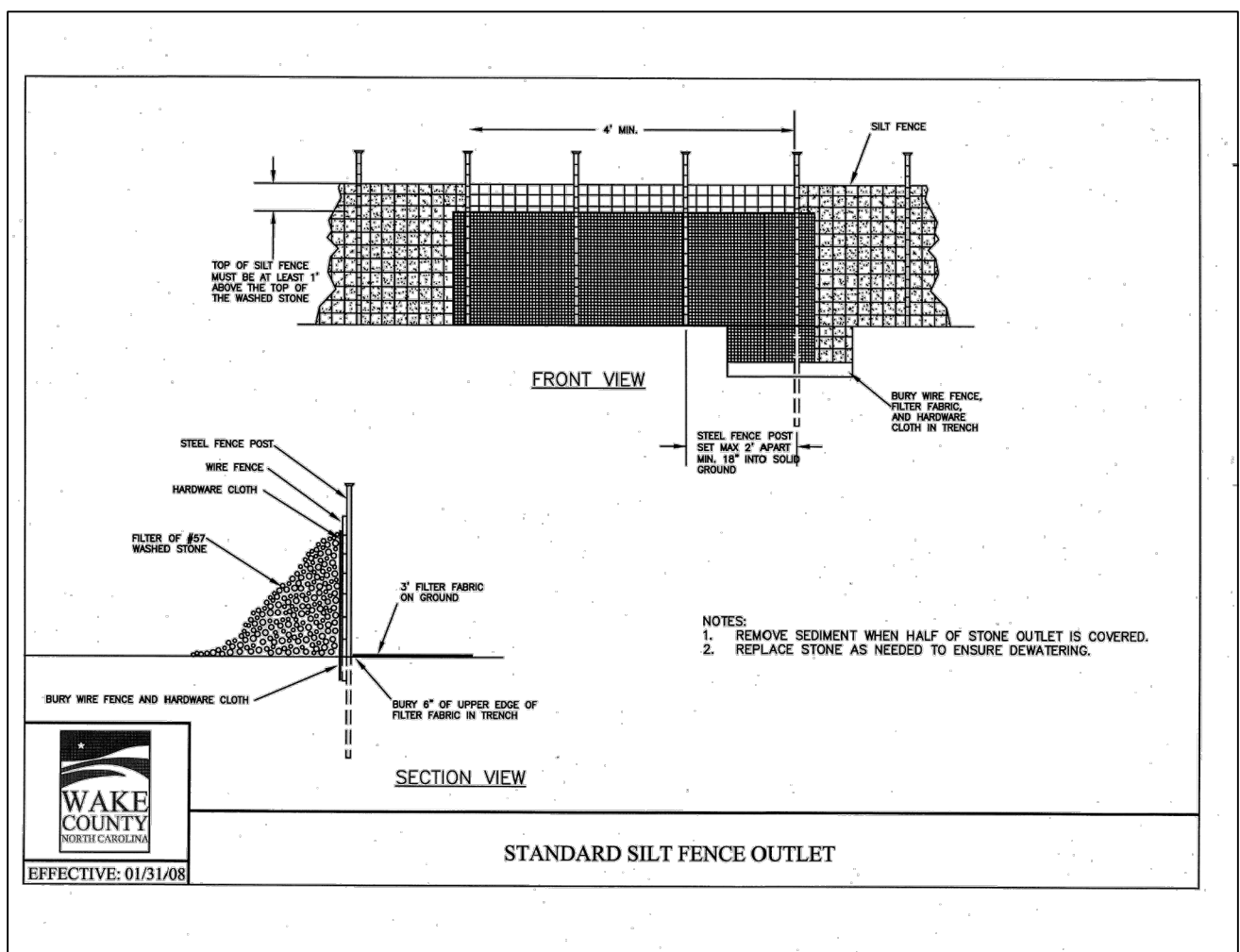
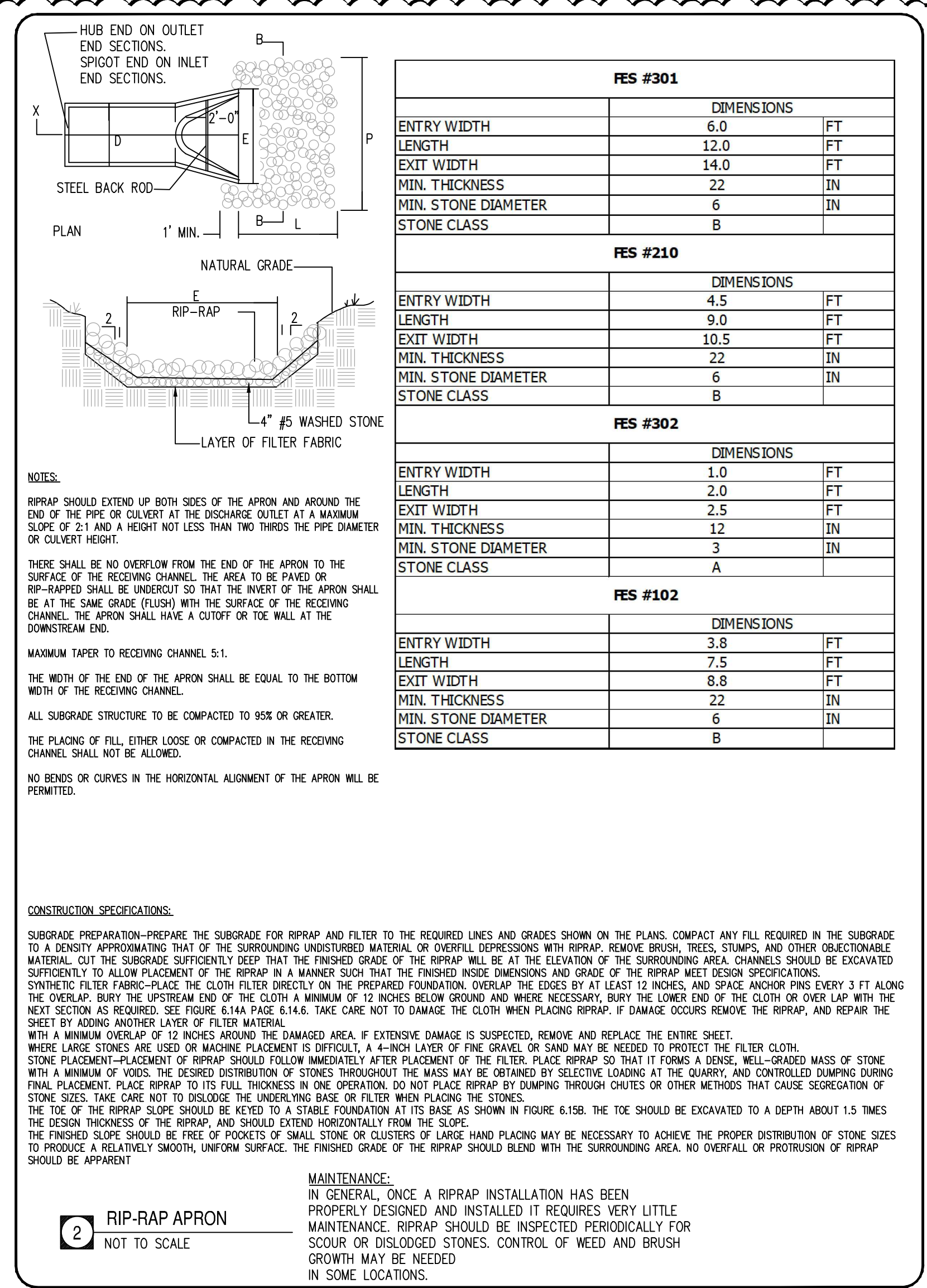
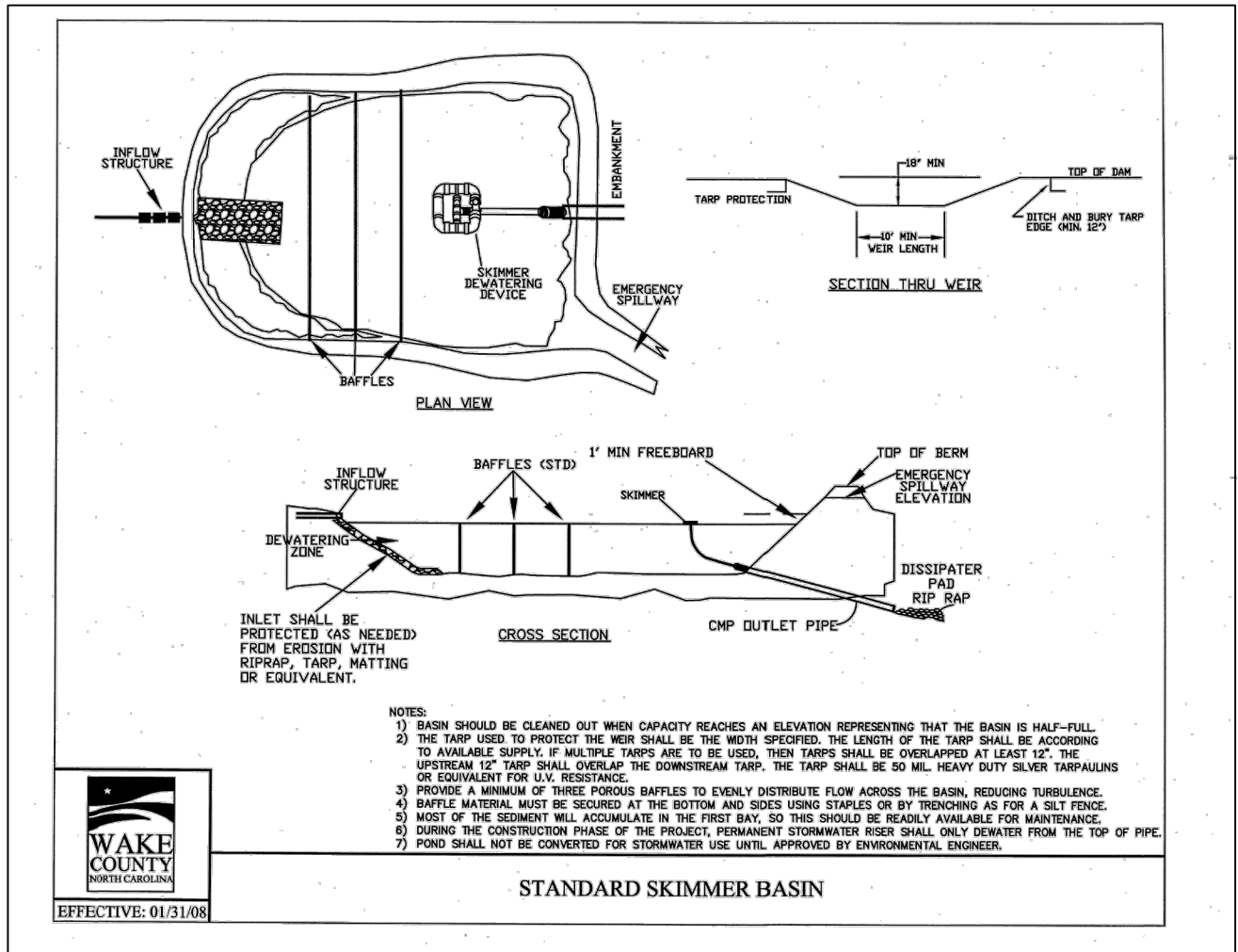
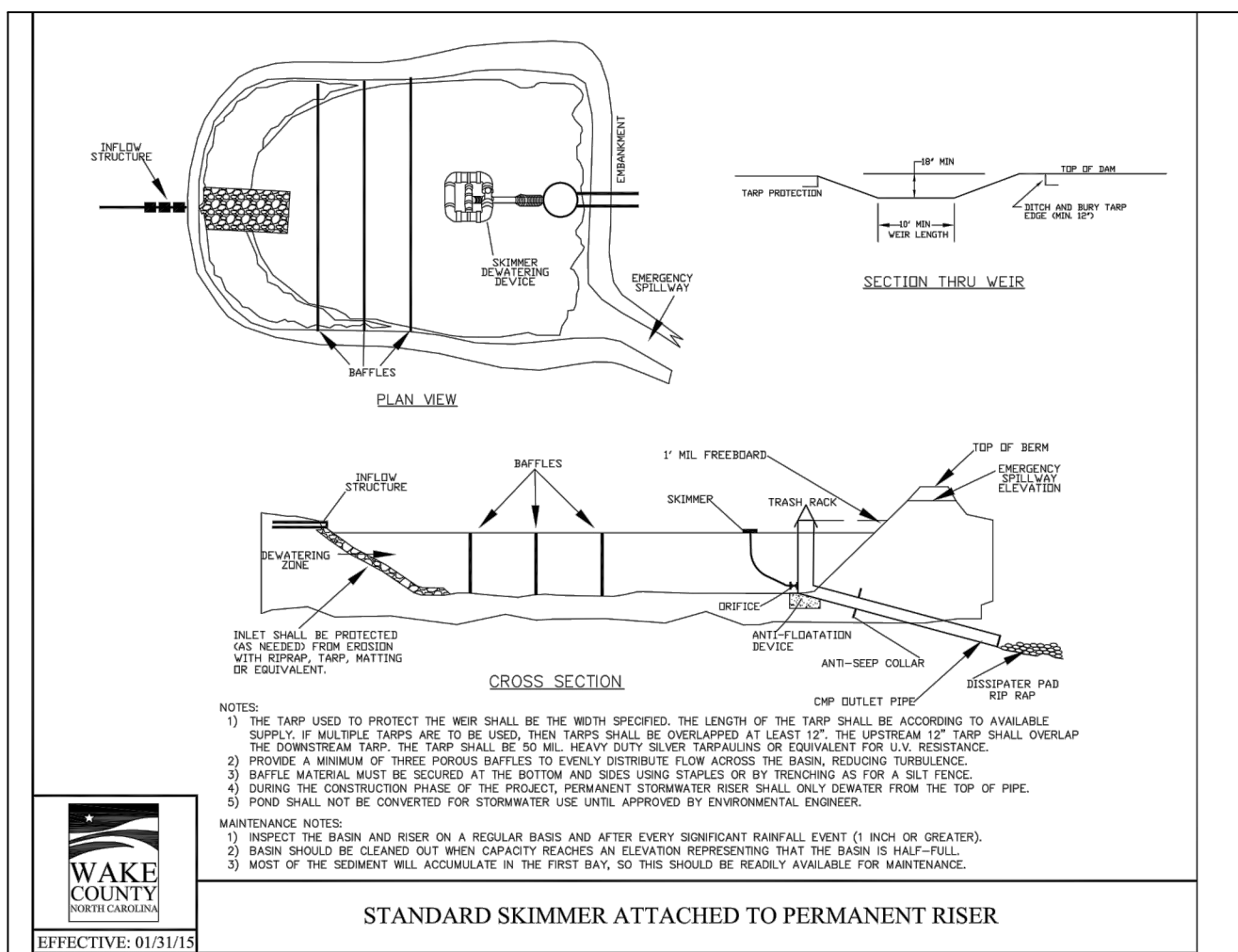
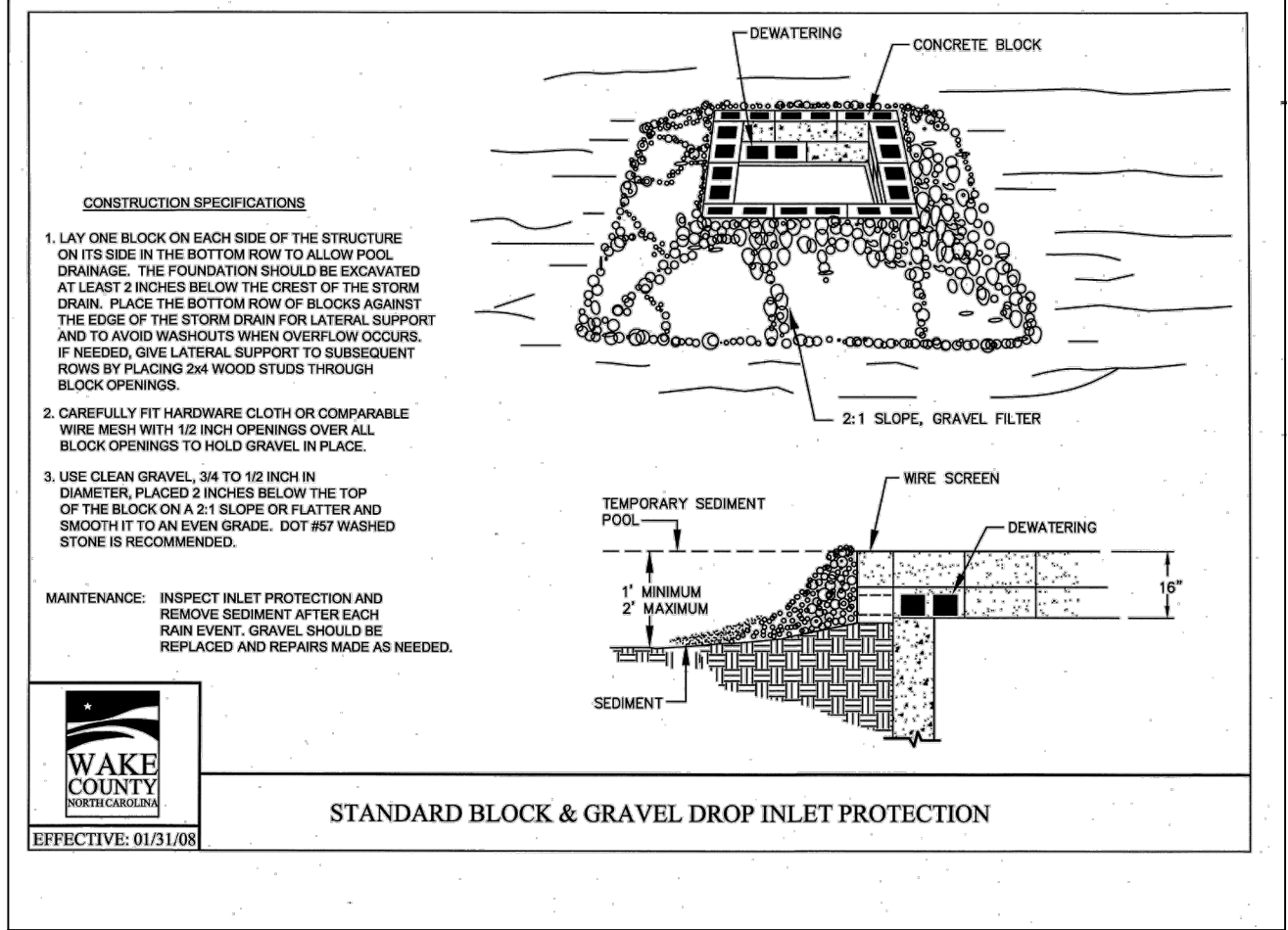
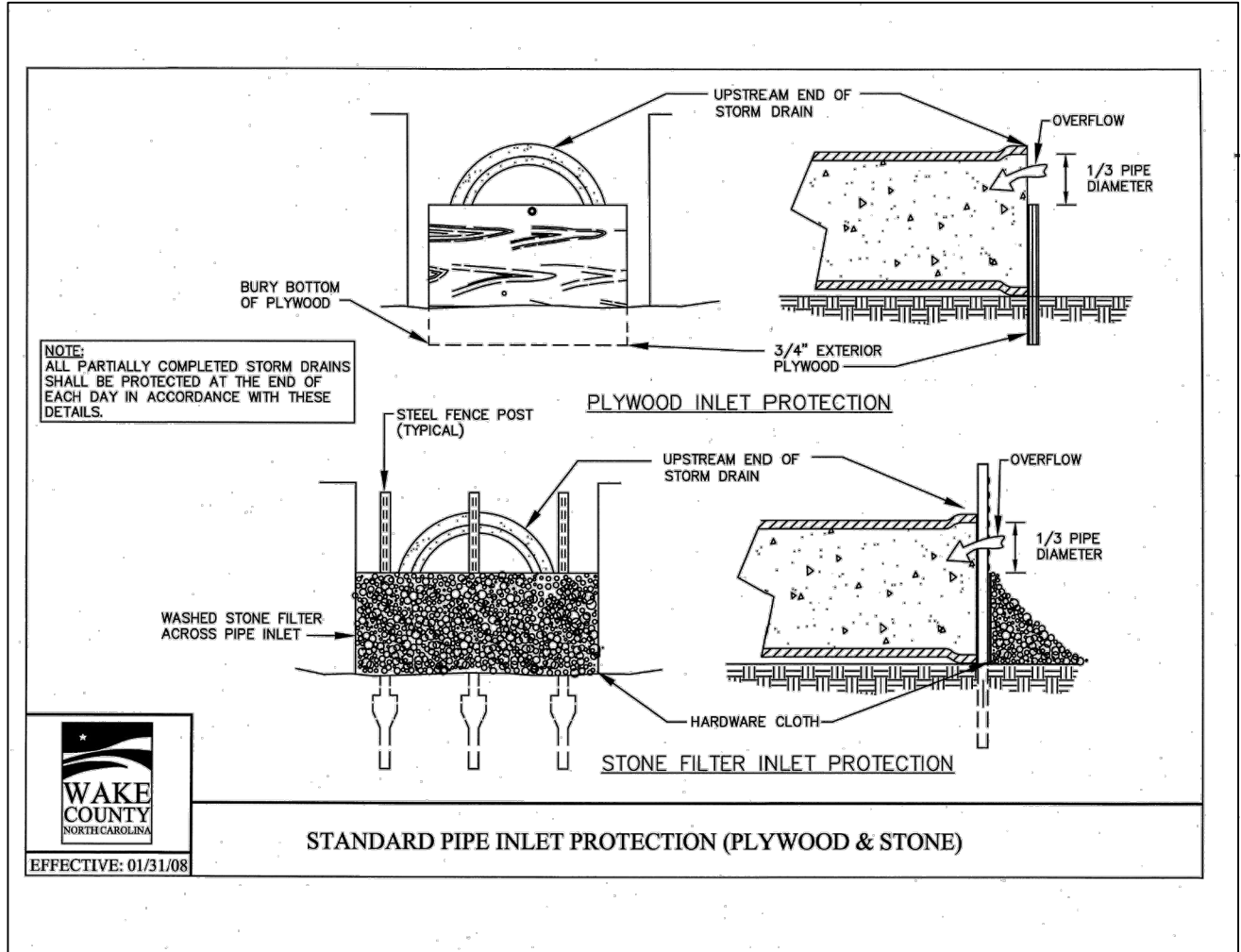
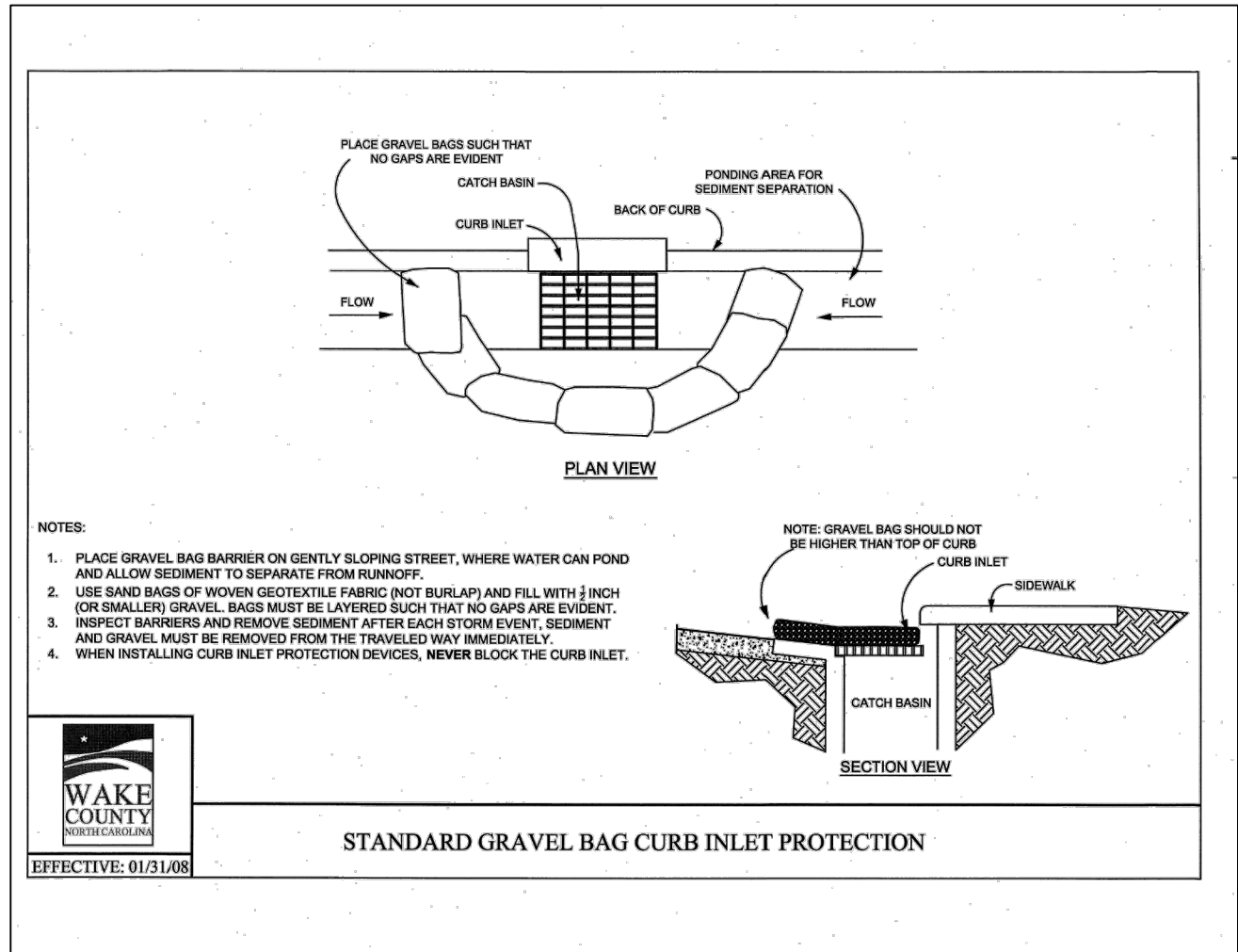
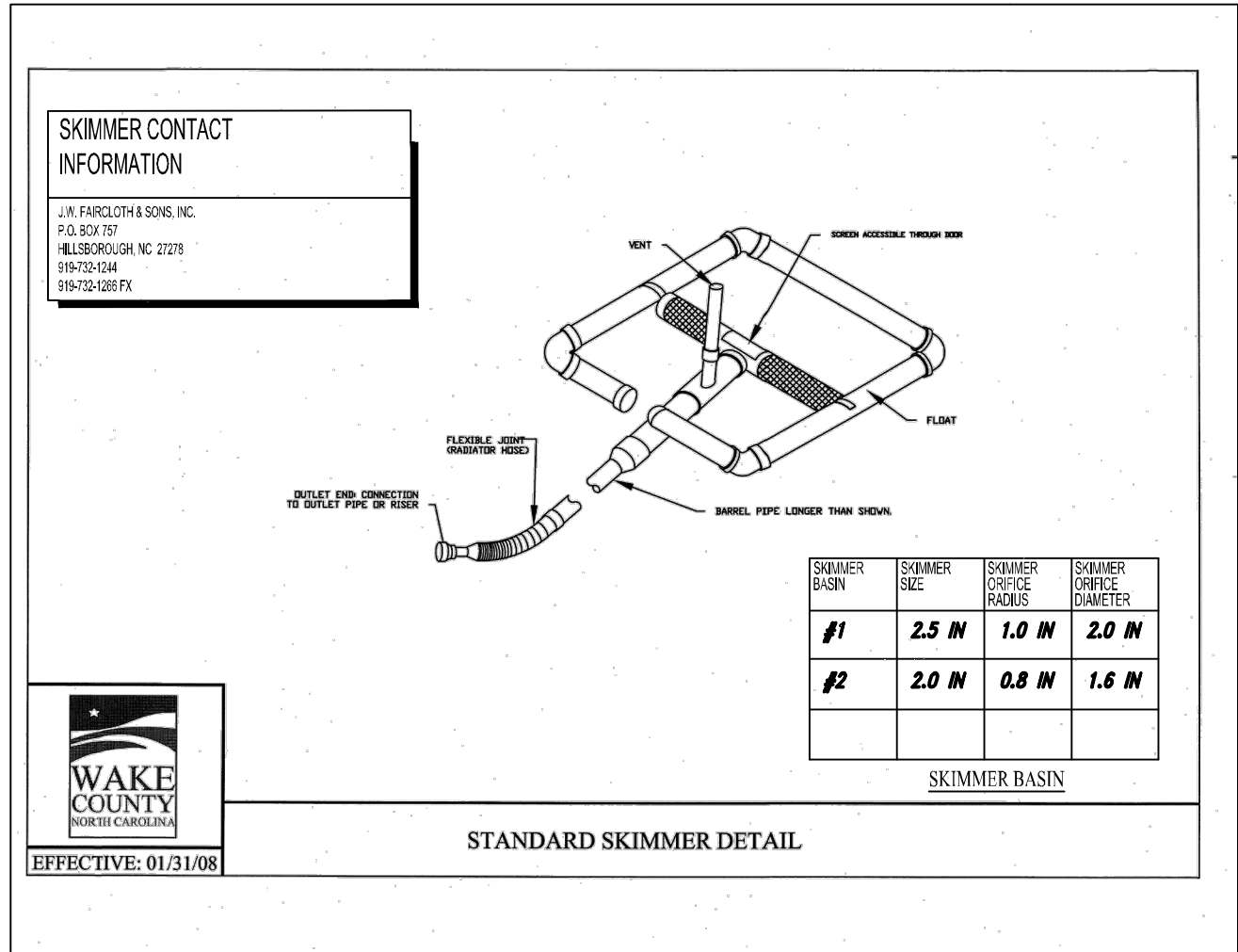
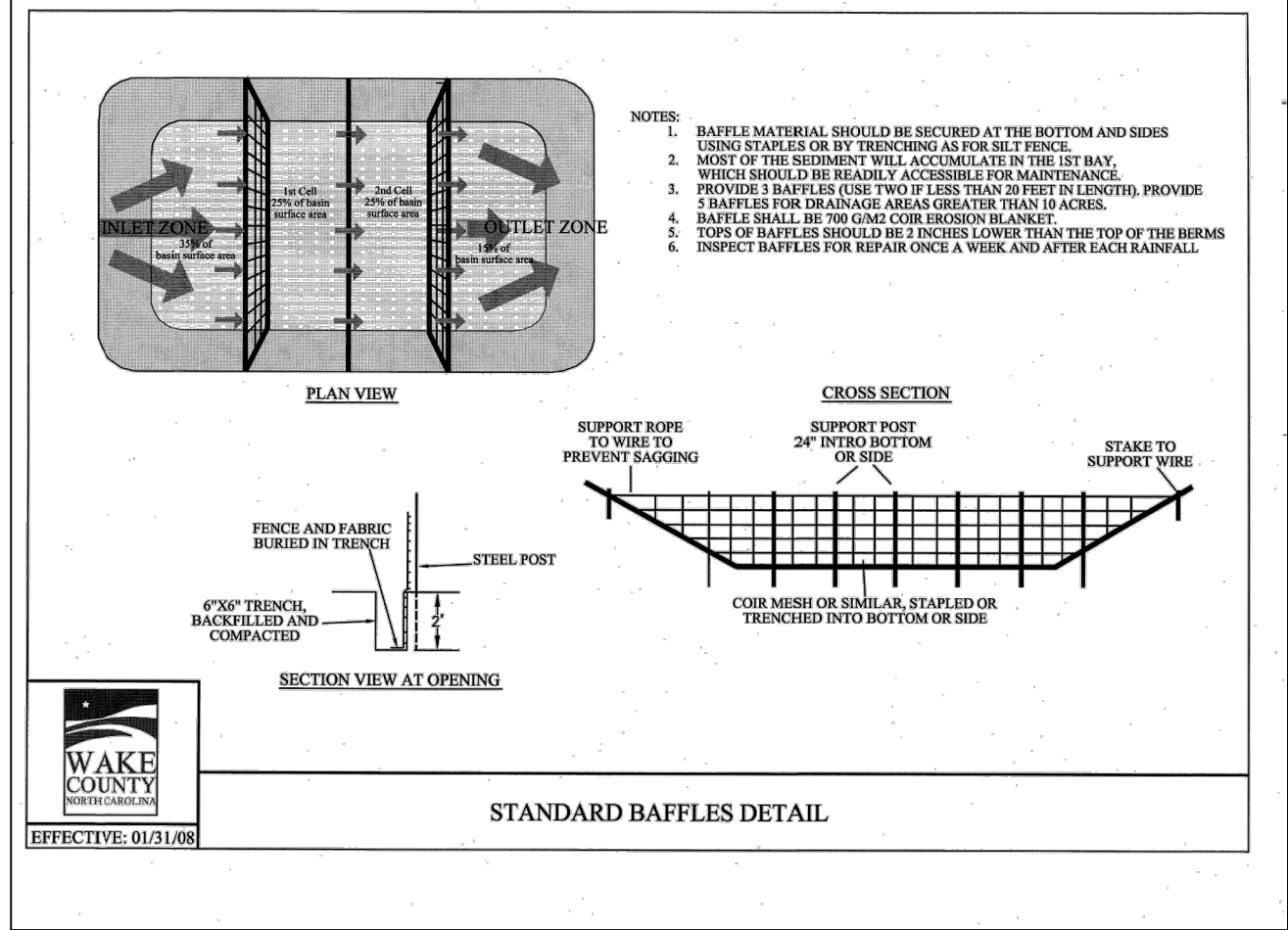
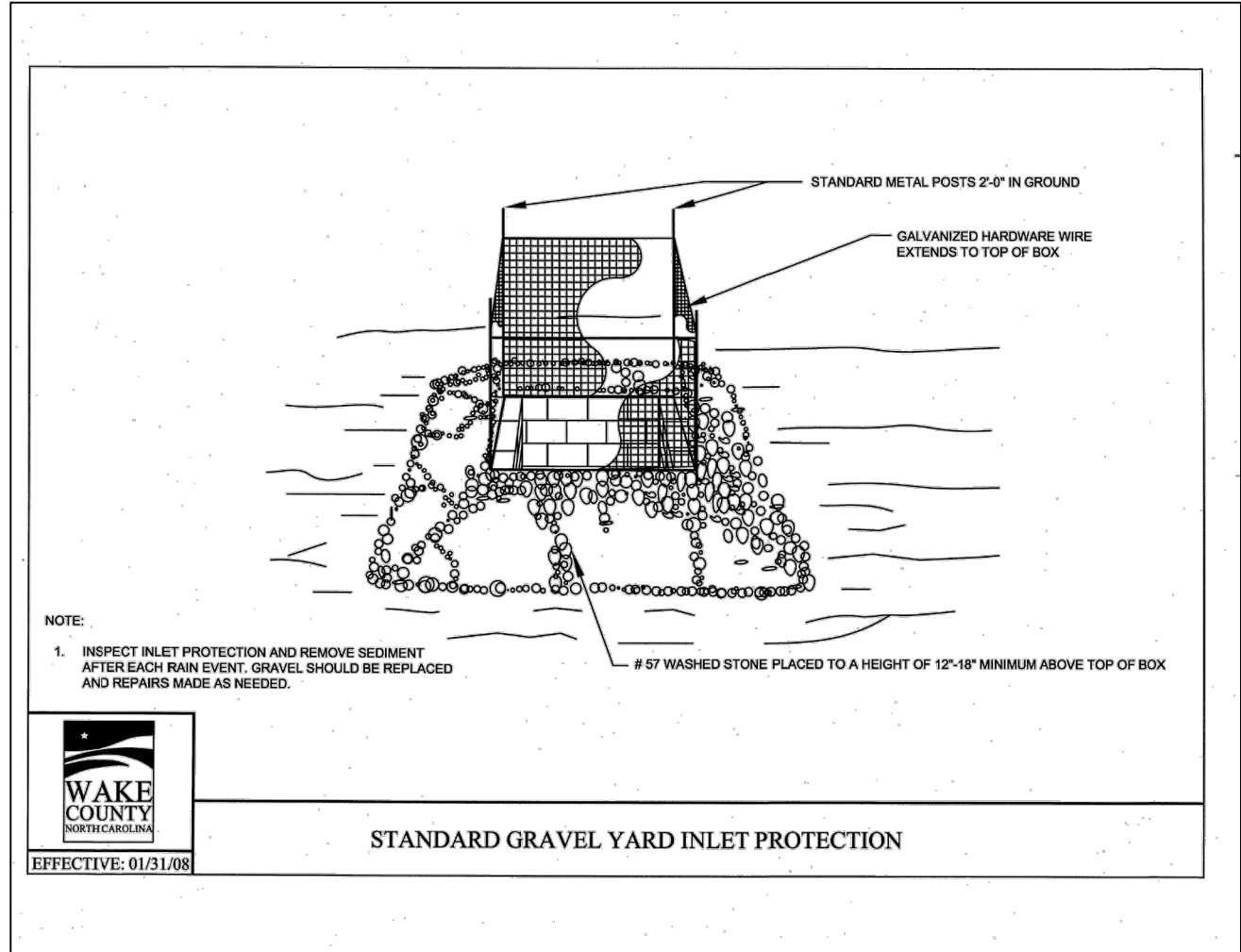
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MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	H: 1" = XXX'	V: 1" = XXX'

JOB No. 220127-01-001  
DATE May 28, 2024  
FILE No. 220127-D-CP-001

SHEET **C5.5**

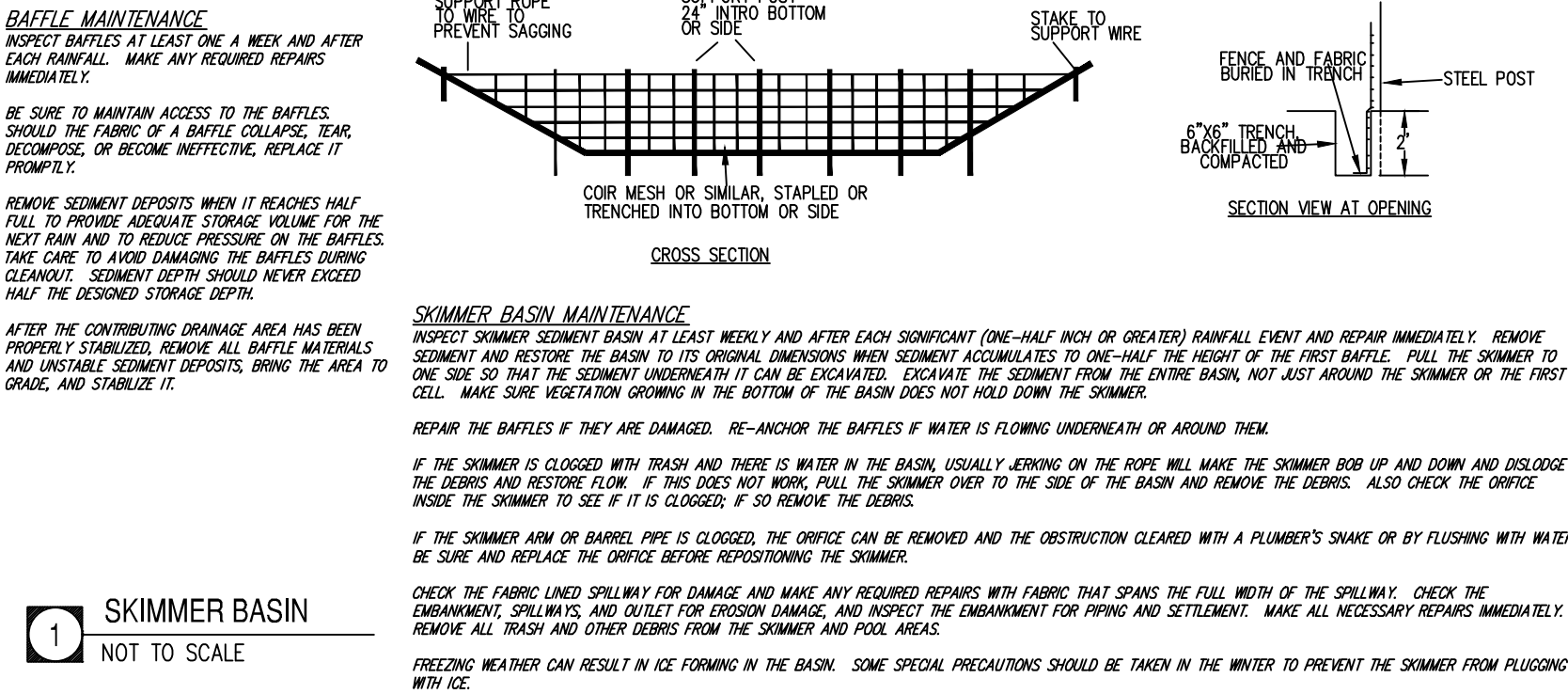
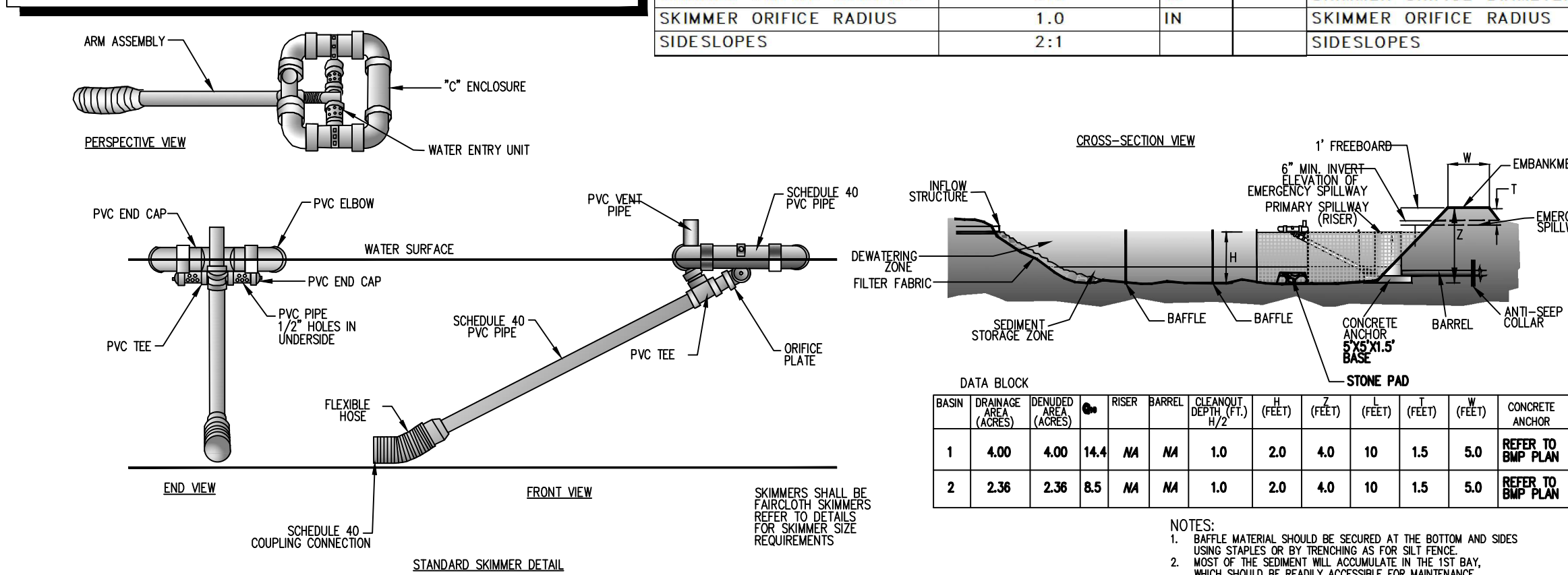




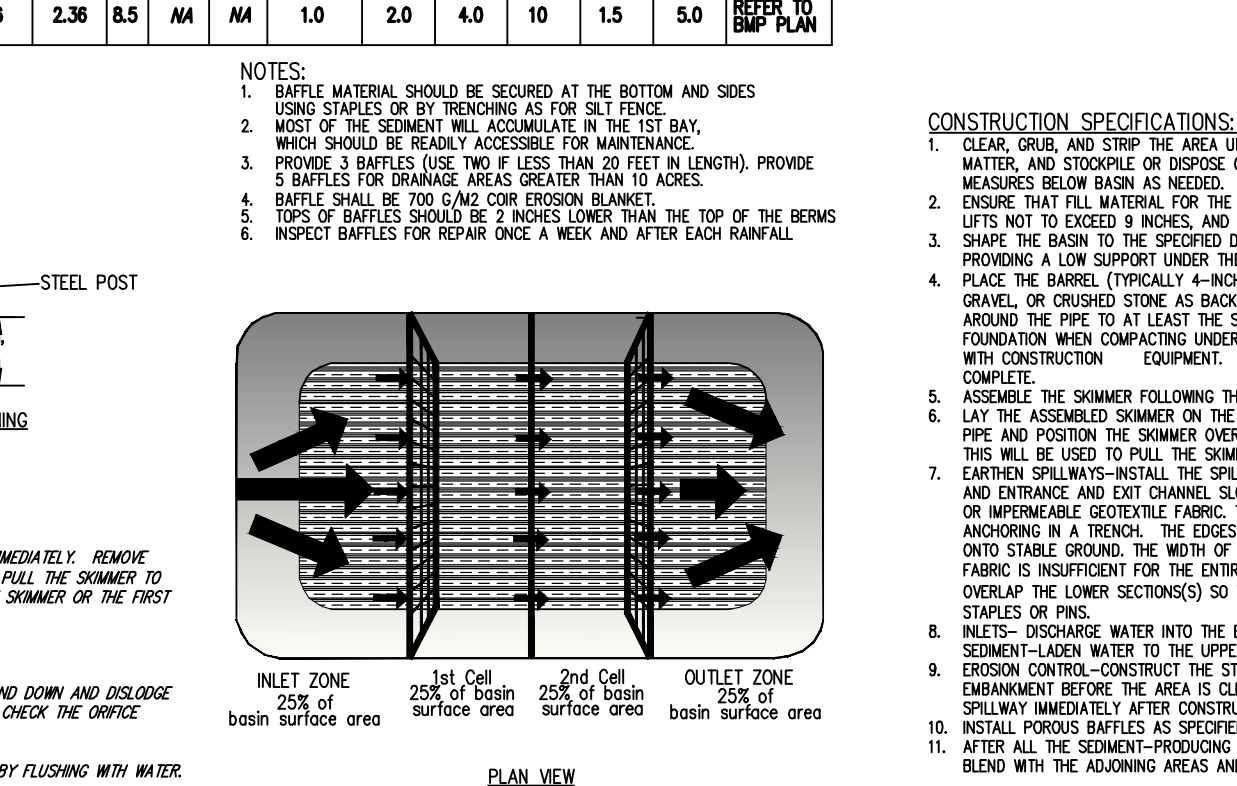
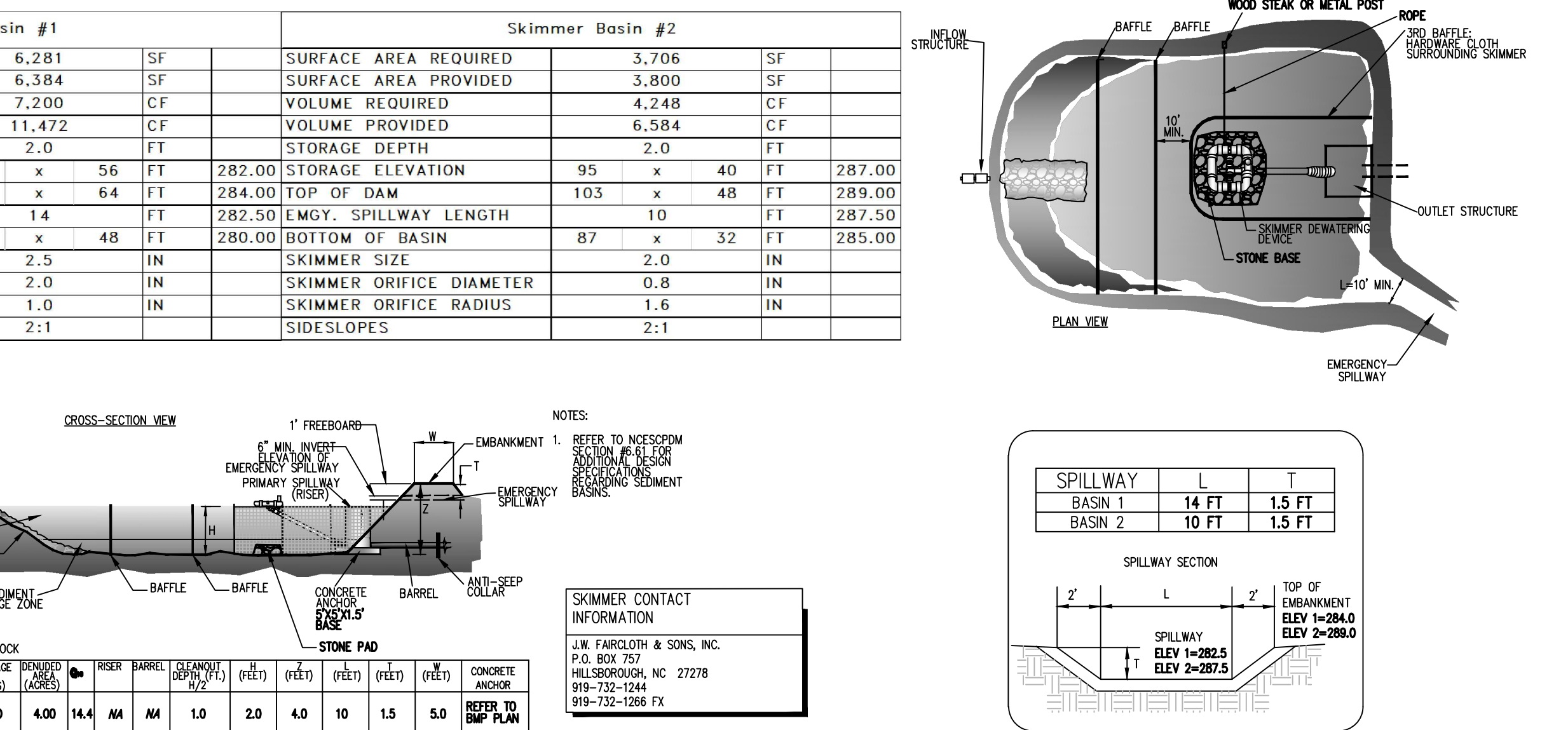
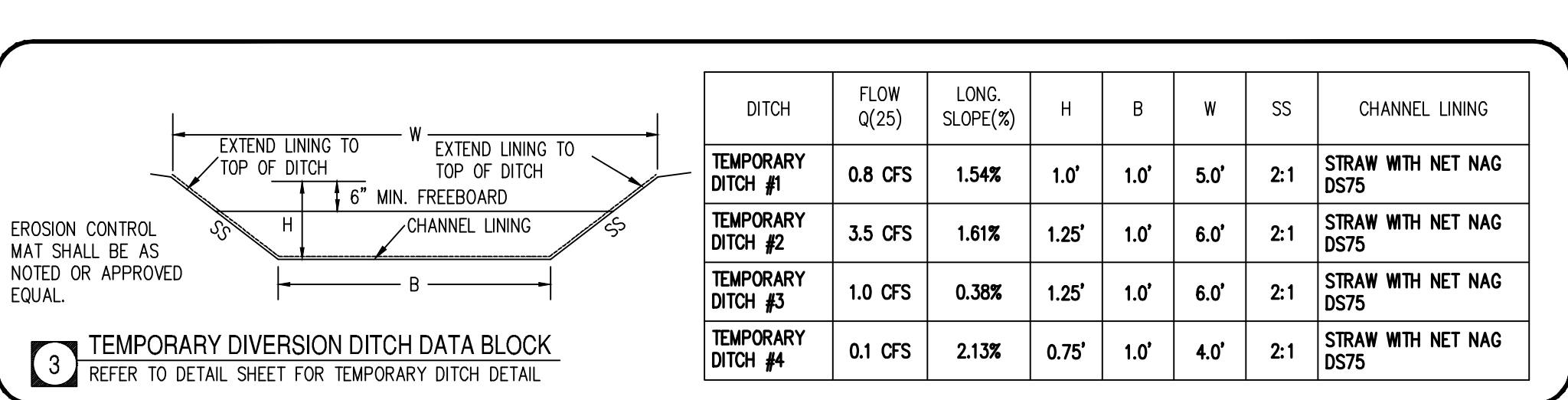
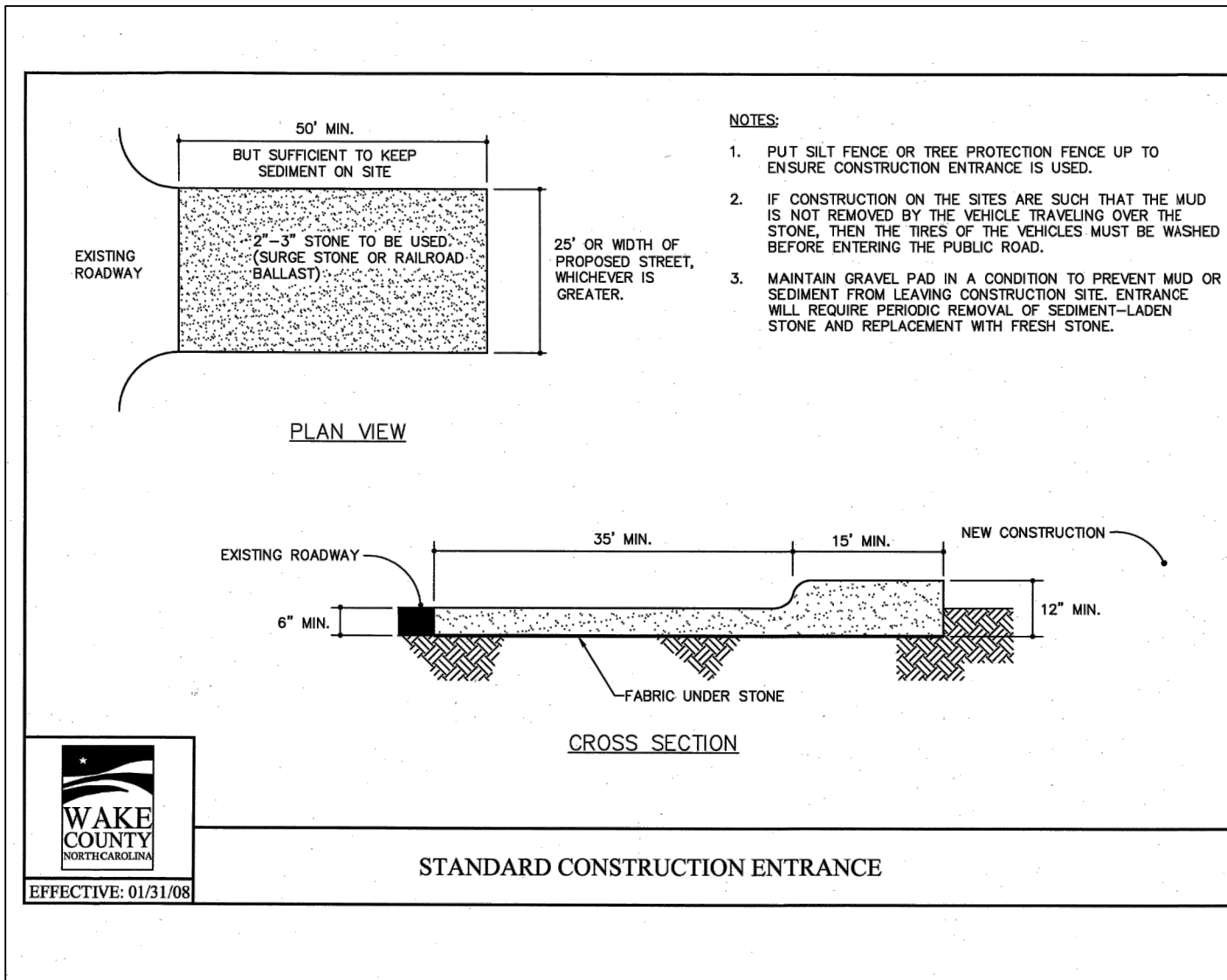


# SEDIMENT BASIN REQUIREMENTS:

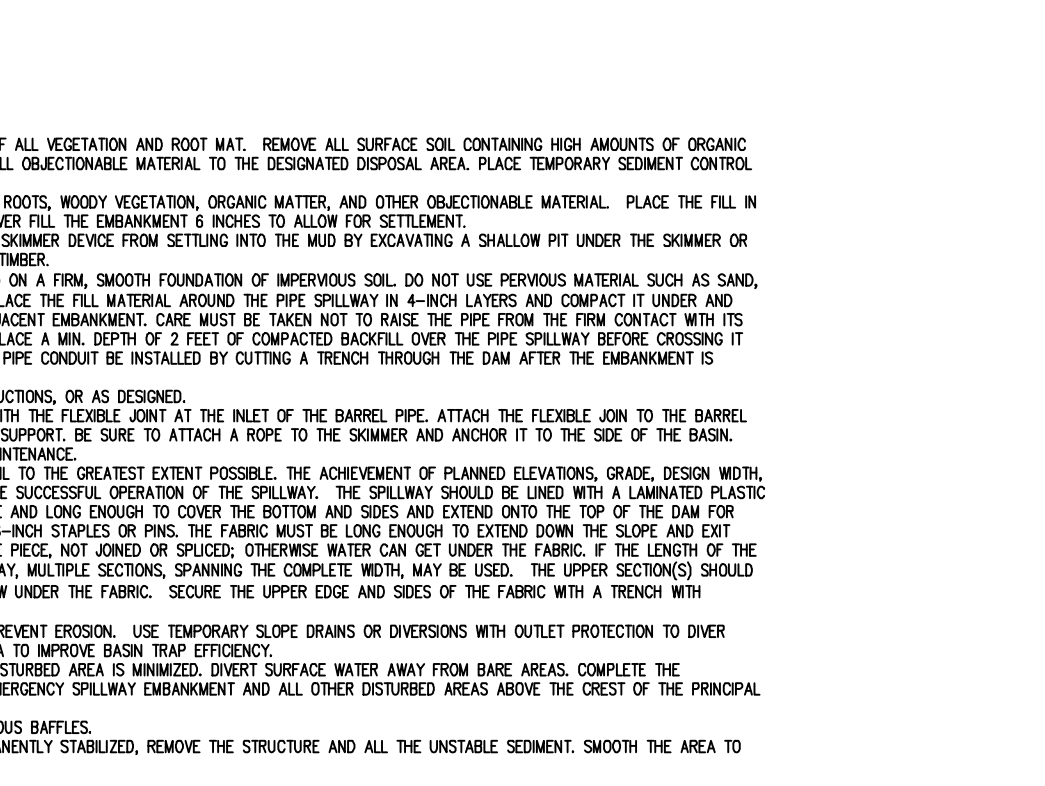
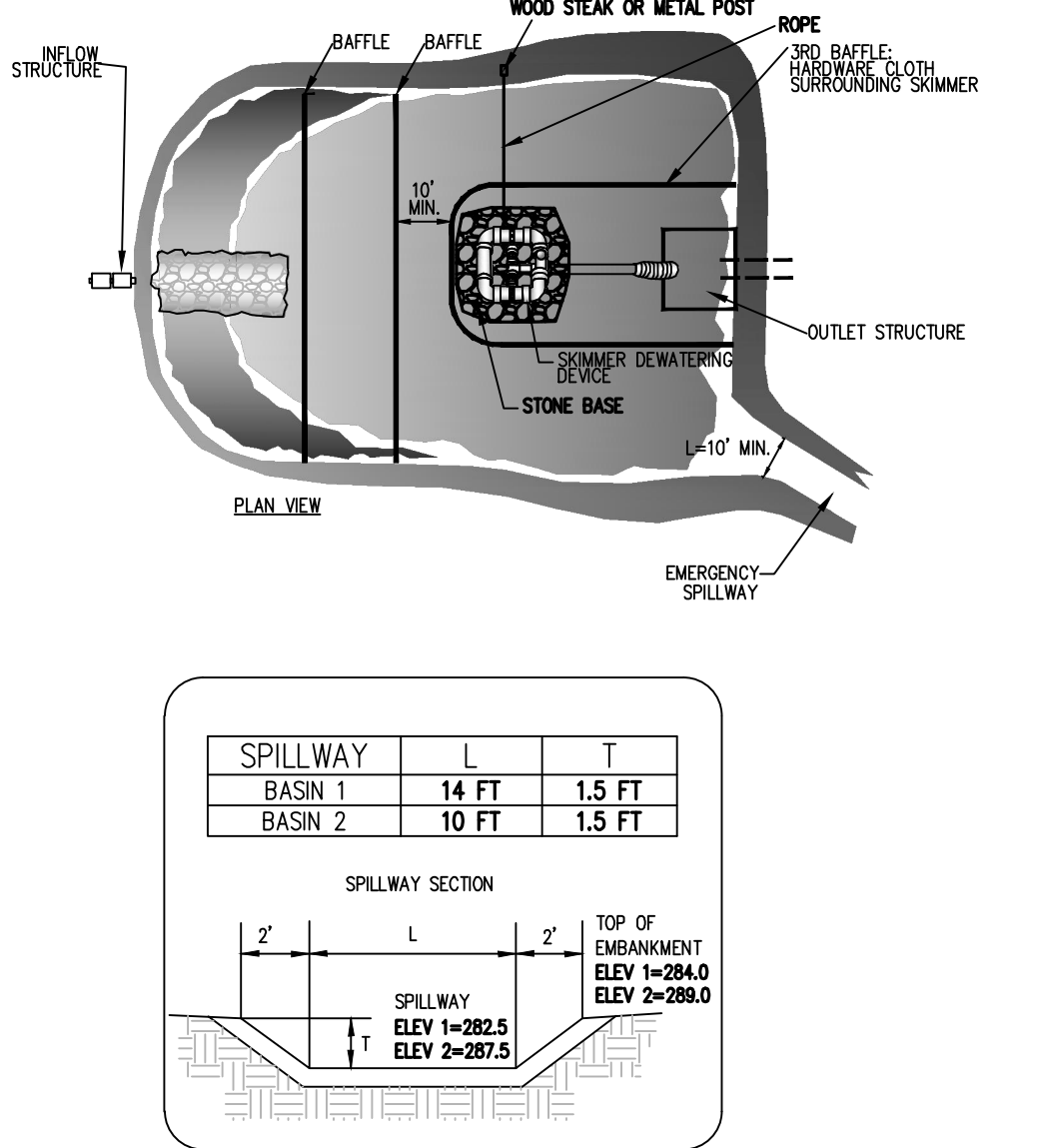
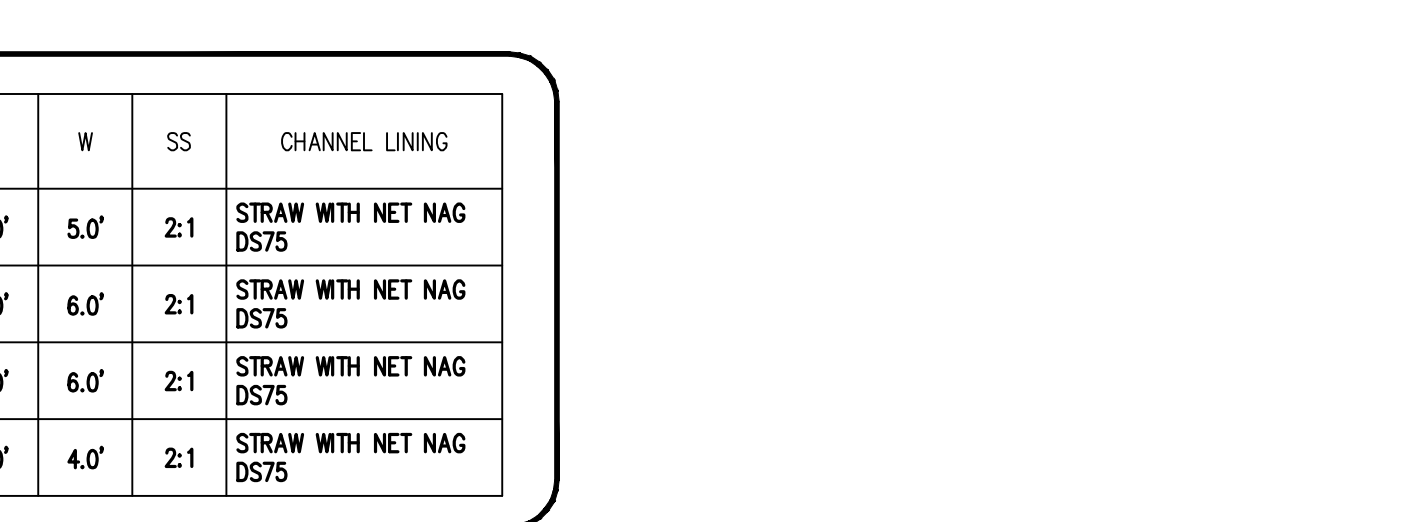
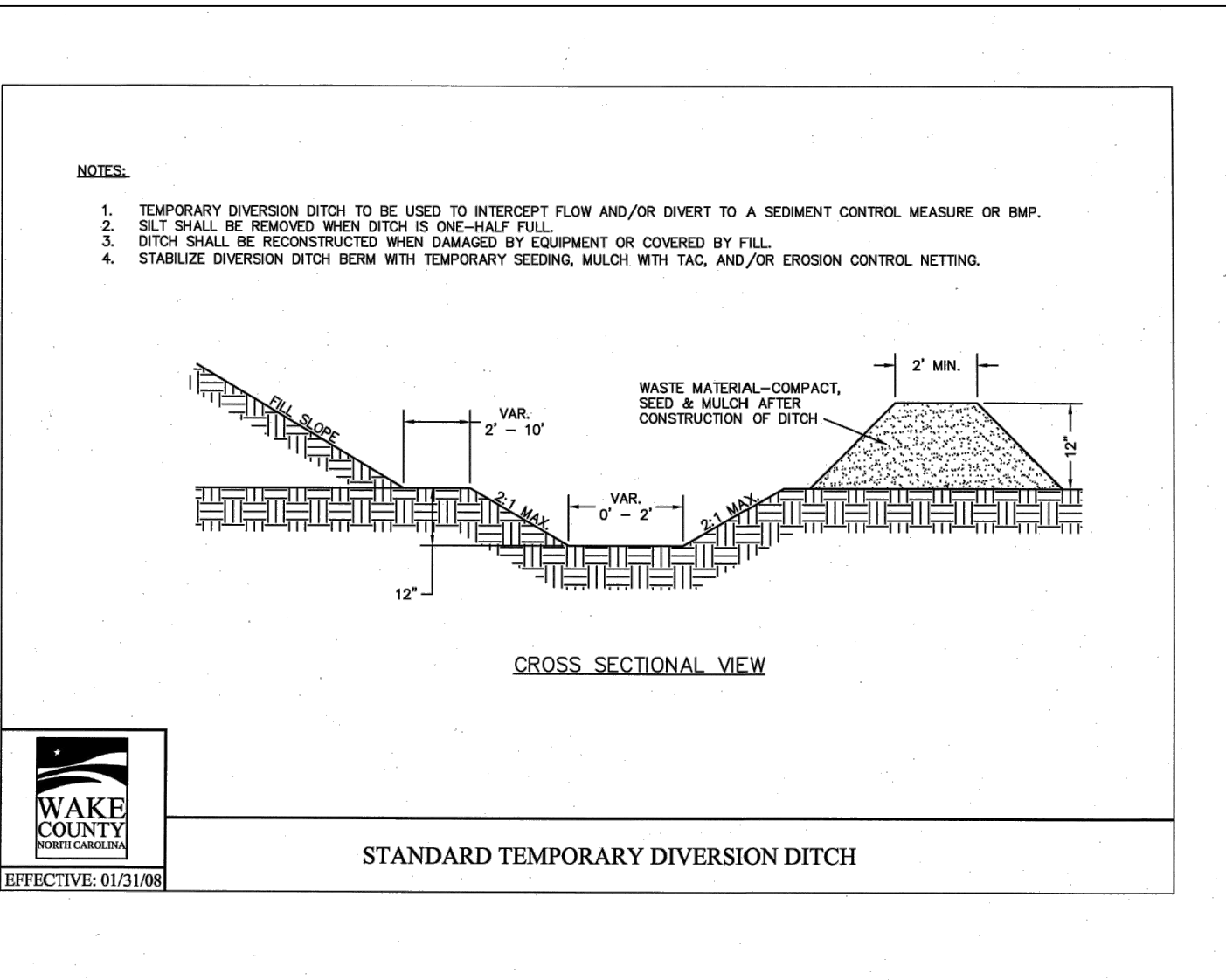
- OUTLET STRUCTURES SHALL BE UTILIZED THAT WITHDRAW WATER FROM THE SURFACE.
- FOR BASINS OR TRAPS THAT HAVE A DRAINAGE AREA OF LESS THAN 10 ACRES, DRAIN-DOWN DESIGNS SPECIFIED IN THE DIVISION OF LAND RESOURCES OR DELEGATED LOCAL PROGRAM REQUIREMENTS ARE ACCEPTABLE.
- CHEMICAL TREATMENT:
  - ALL TREATMENT CHEMICALS MUST BE STORED IN LEAK-PROOF CONTAINERS THAT ARE KEPT UNDER STORM-RESISTANT COVER OR SURROUNDED BY SECONDARY CONTAINMENT STRUCTURES DESIGNED TO PROTECT ADJACENT SURFACE WATERS.
  - ALL TREATMENT CHEMICALS MUST BE USED IN ACCORDANCE WITH DOSING SPECIFICATIONS AND APPLICATION RATES PROVIDED BY THE MANUFACTURER, SUPPLIER AND AS SPECIFIED BY THE DIVISION OF WATER QUALITY.
  - THE PERMITTEE MUST ONLY USE CHEMICALS THAT HAVE BEEN APPROVED BY THE NC DIVISION OF WATER QUALITY AND POSTED ON THEIR NORTH CAROLINA DIVISION OF WATER QUALITY APPROVED PANS/FLOCCULANTS LIST FOUND ON THEIR WEB SITE AT: <http://portal.ncdwr.org/web/wq/wq/na/wq/>
  - THE PERMITTEE MUST ROUTE STORMWATER TREATED WITH POLYMERS, FLOCCULANTS, OR OTHER TREATMENT CHEMICALS THROUGH SEDIMENT TRAPPING, FILTERING, AND/OR SETTLING DEVICES(S) TO ENSURE ADEQUATE REMOVAL OF SEDIMENT FLOCCULANT PRIOR TO DISCHARGE TO SURFACE WATERS.
- DISCHARGE REQUIREMENT – DISCHARGES MUST MEET THE STATUTORY REQUIREMENTS OF THE SEDIMENT POLLUTION CONTROL ACT AND UTILIZE THE PROVISIONS OF SECTION 6.14 OF THE EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL TO ASSURE THAT BUFFERED AND VEGETATED AREAS WILL BE USED TO REDUCE THE POTENTIAL FOR VISIBLE SLAKING OUTSIDE OF THE 25% BUFFER ZONE NEAREST THE LAND-DISTURBING ACTIVITY.



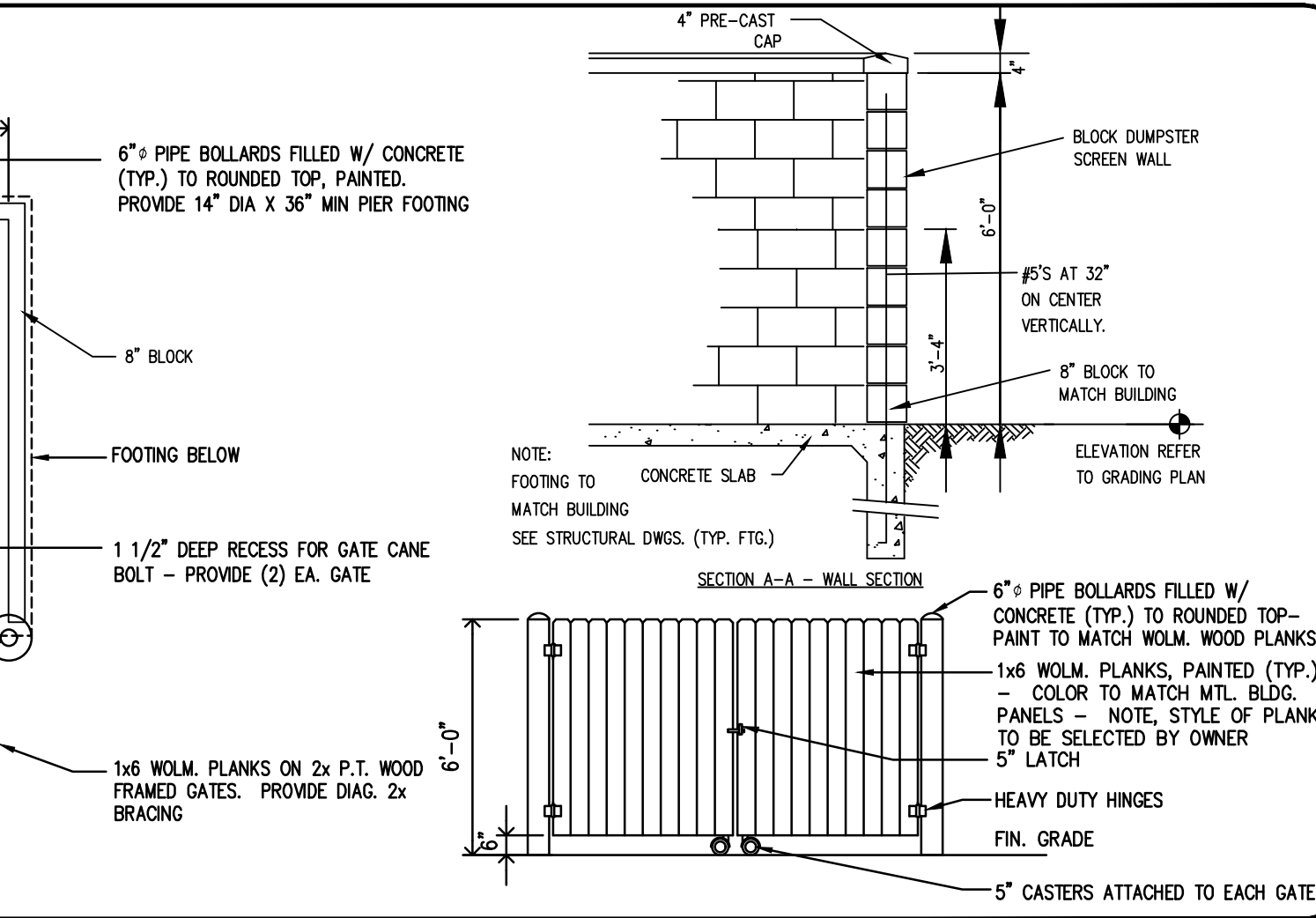
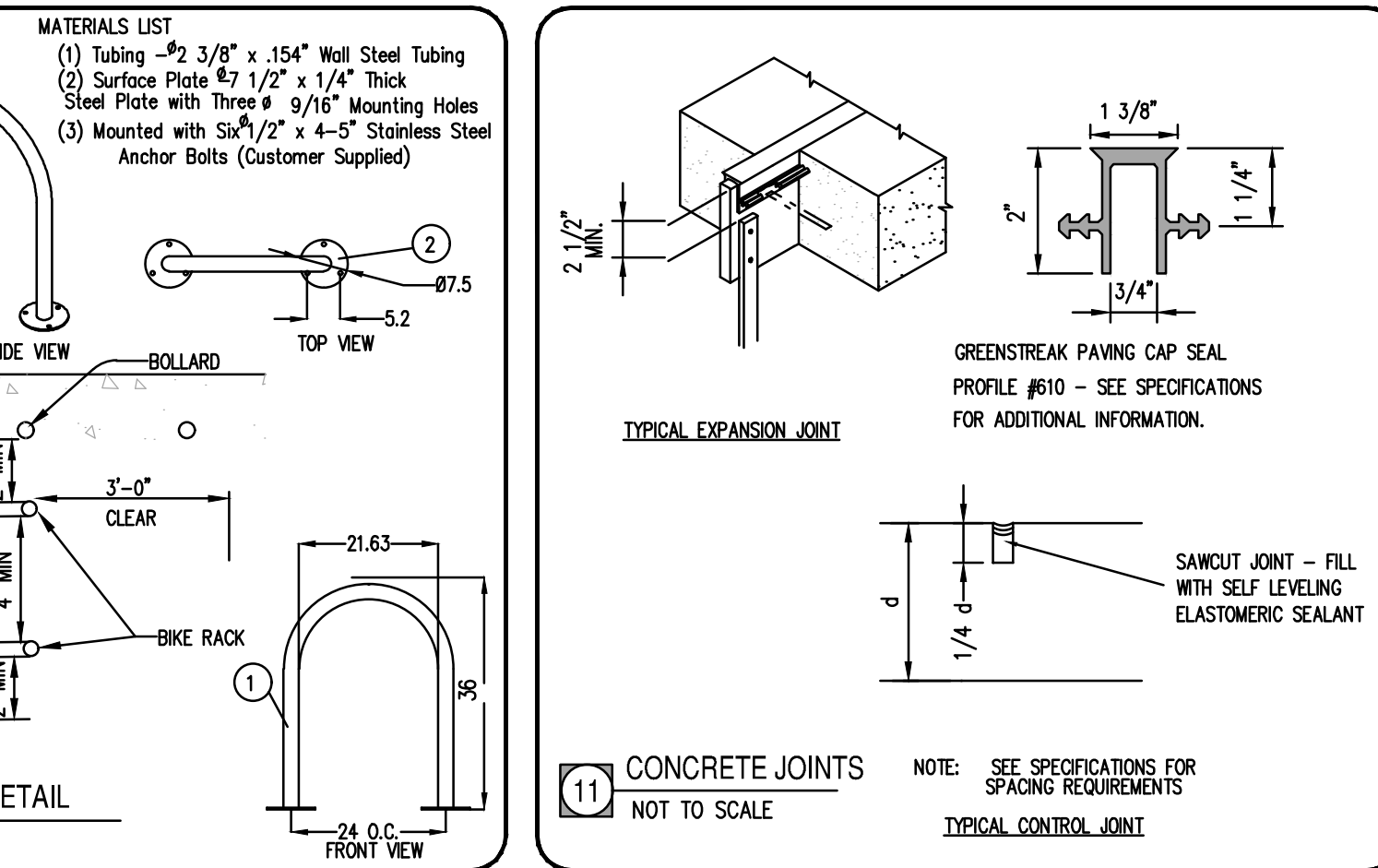
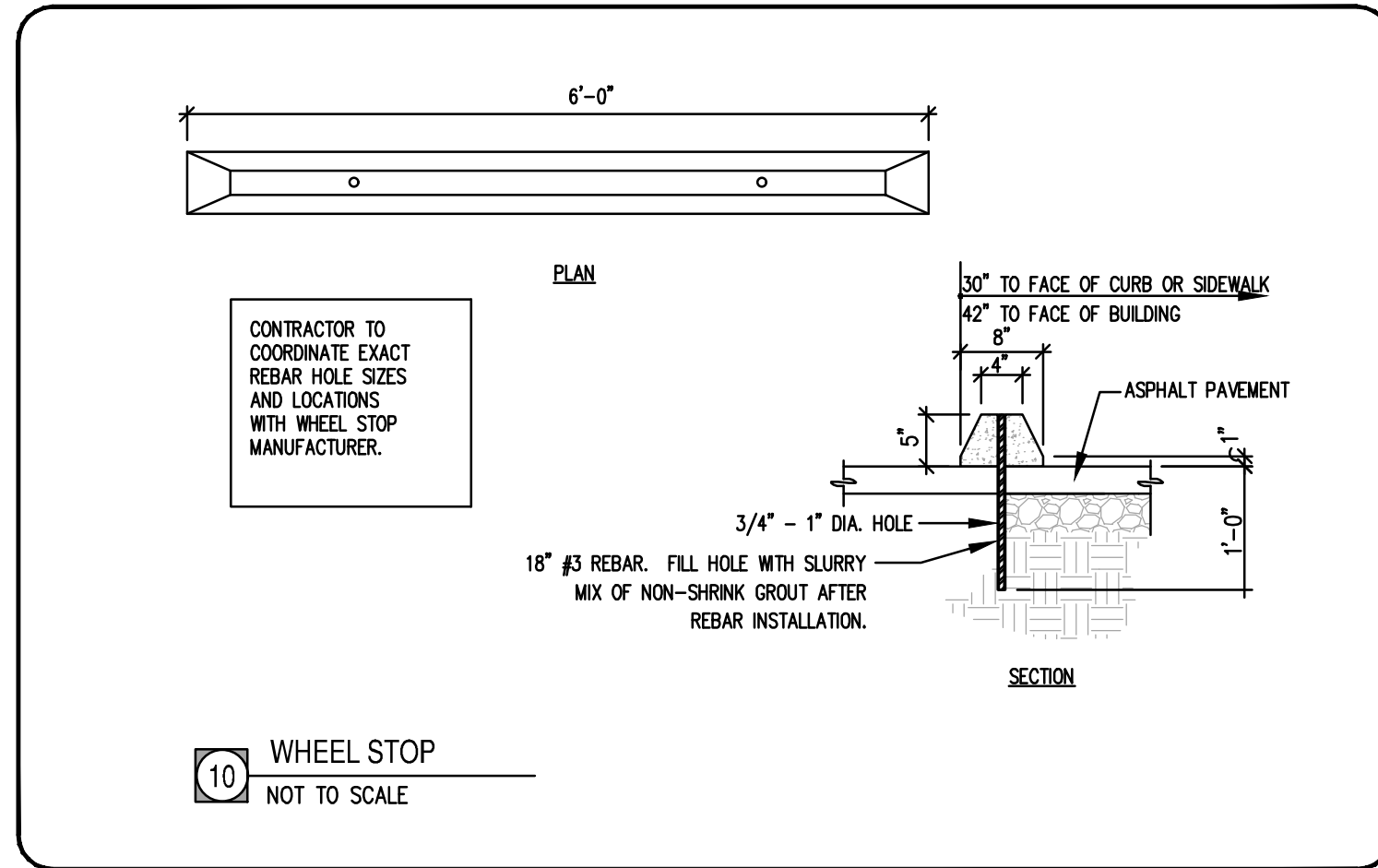
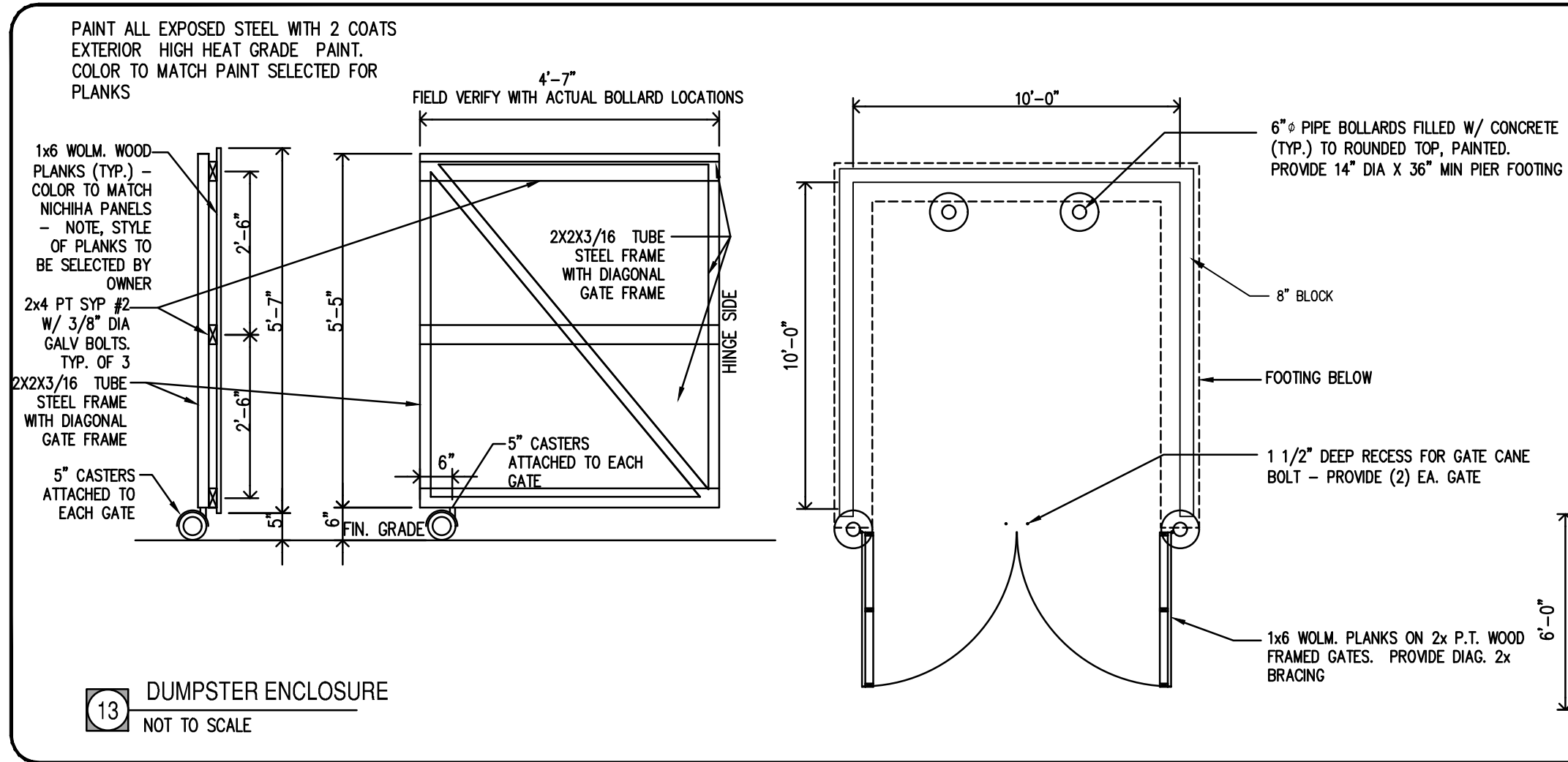
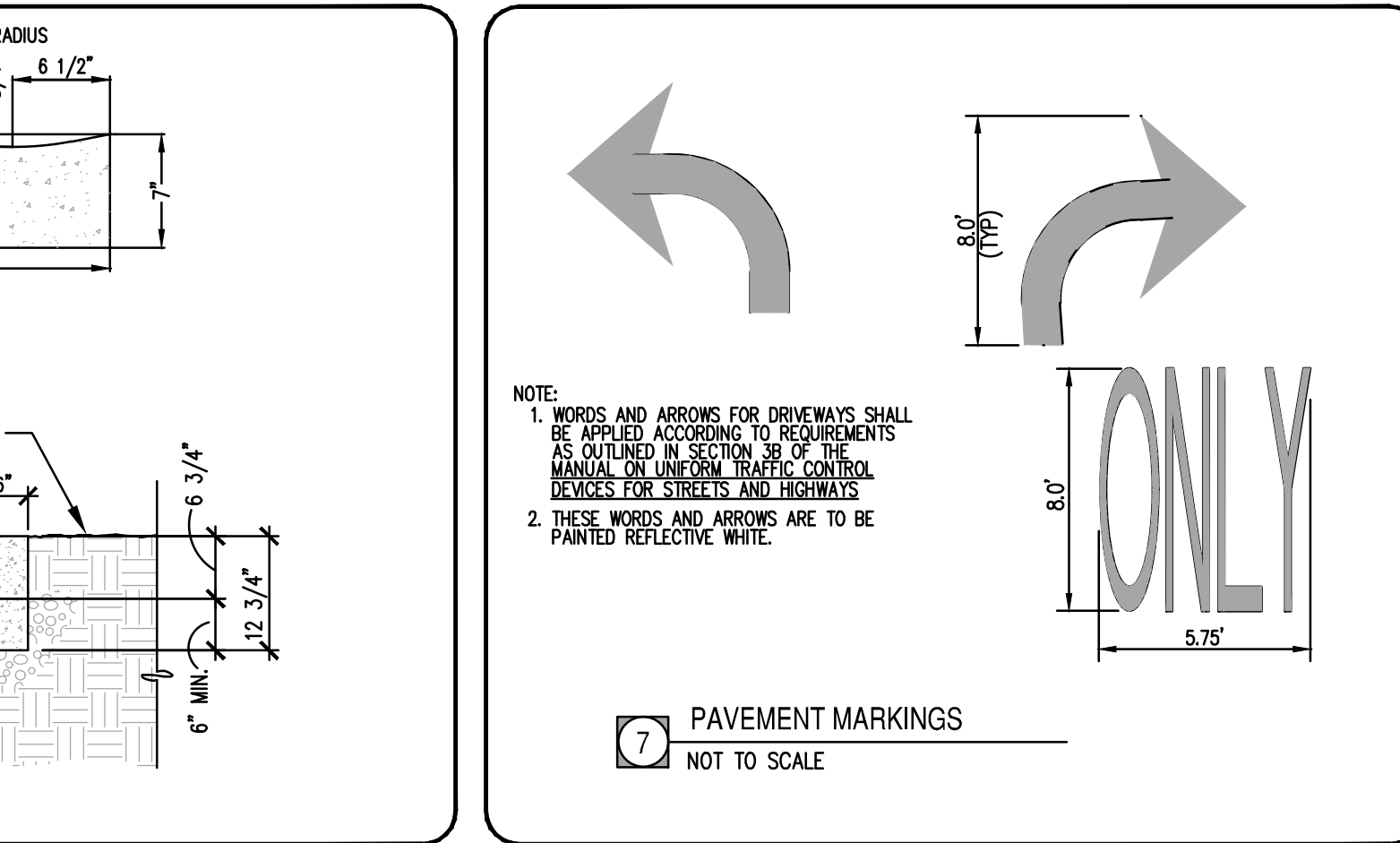
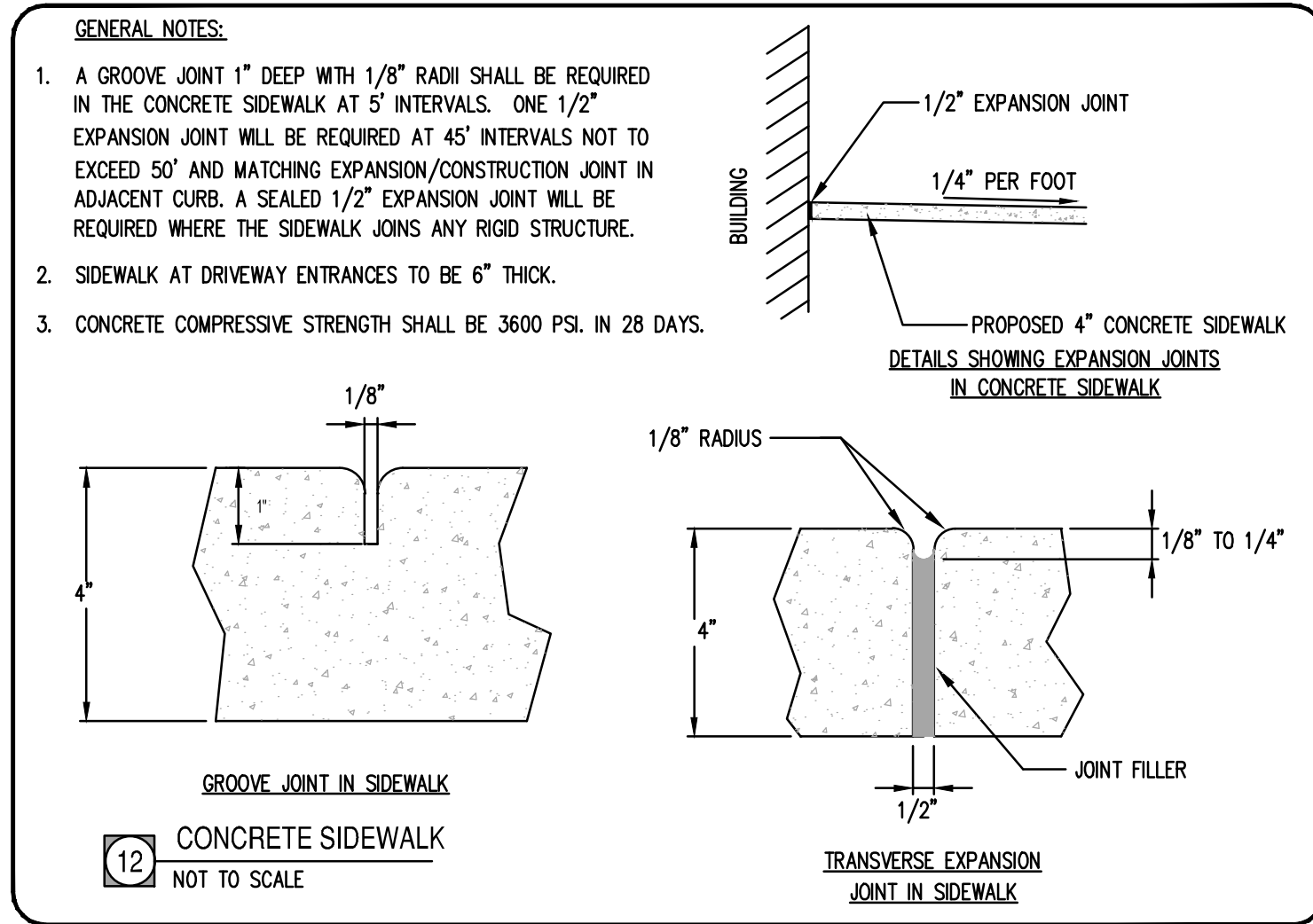
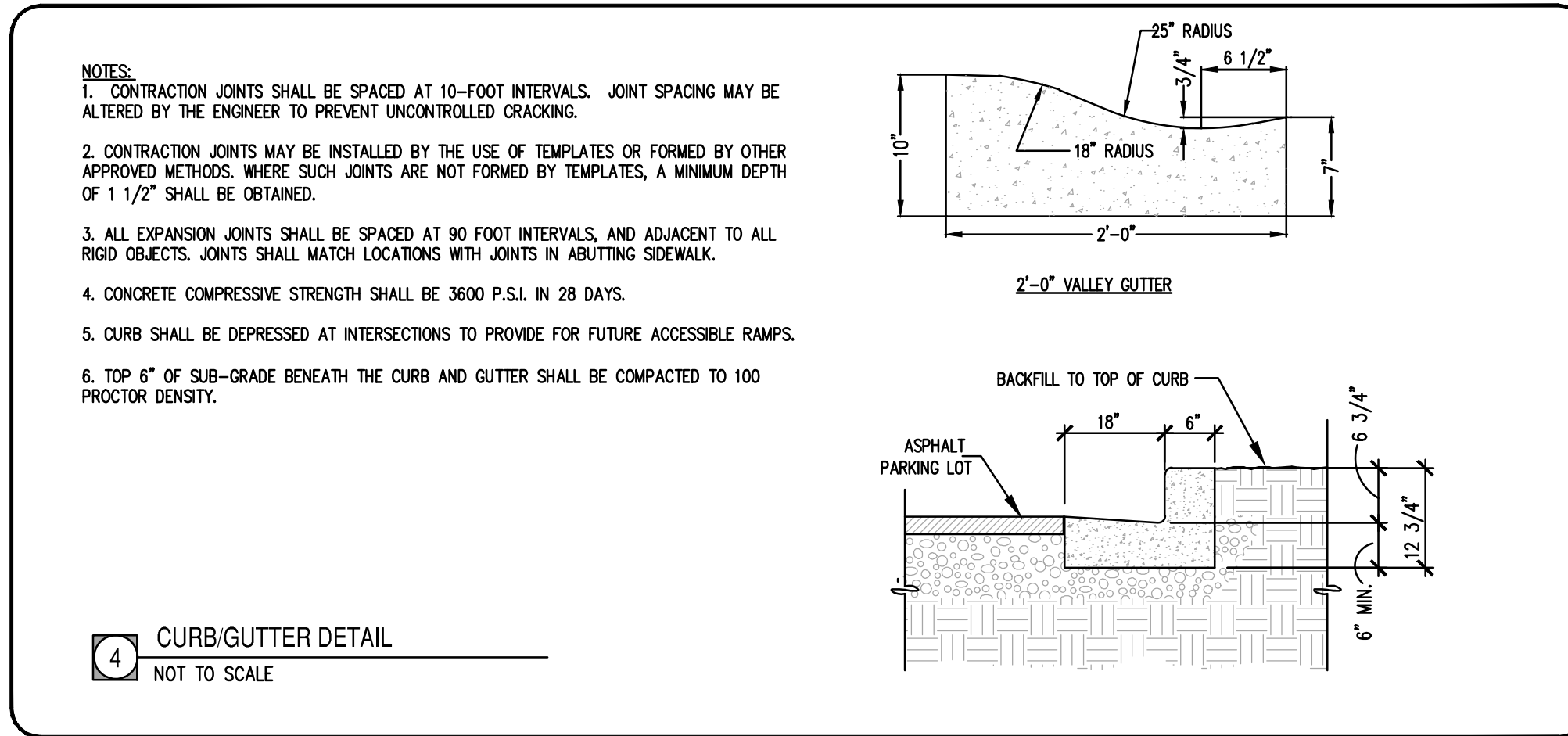
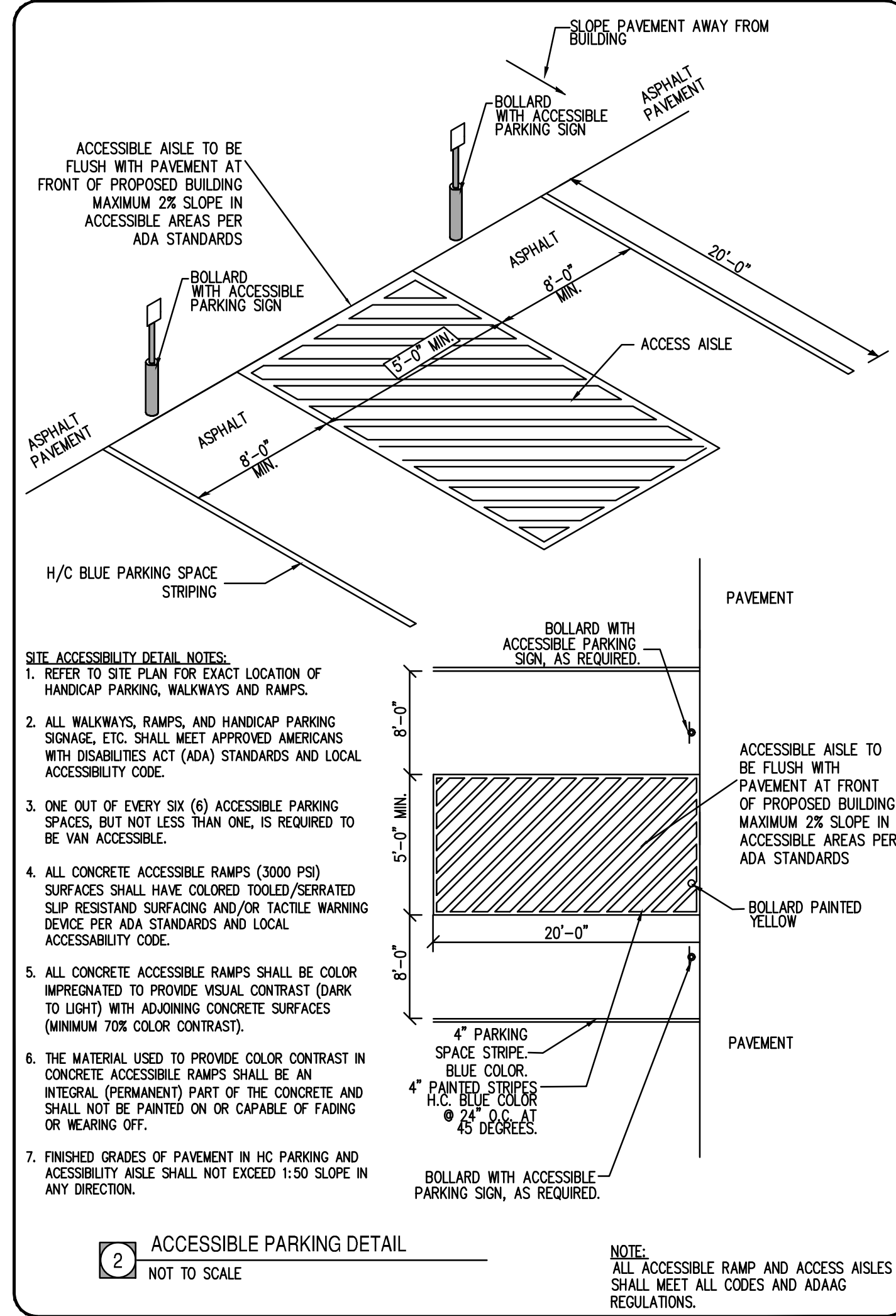
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NOT TO SCALE



1 SKIMMER BASIN  
NOT TO SCALE



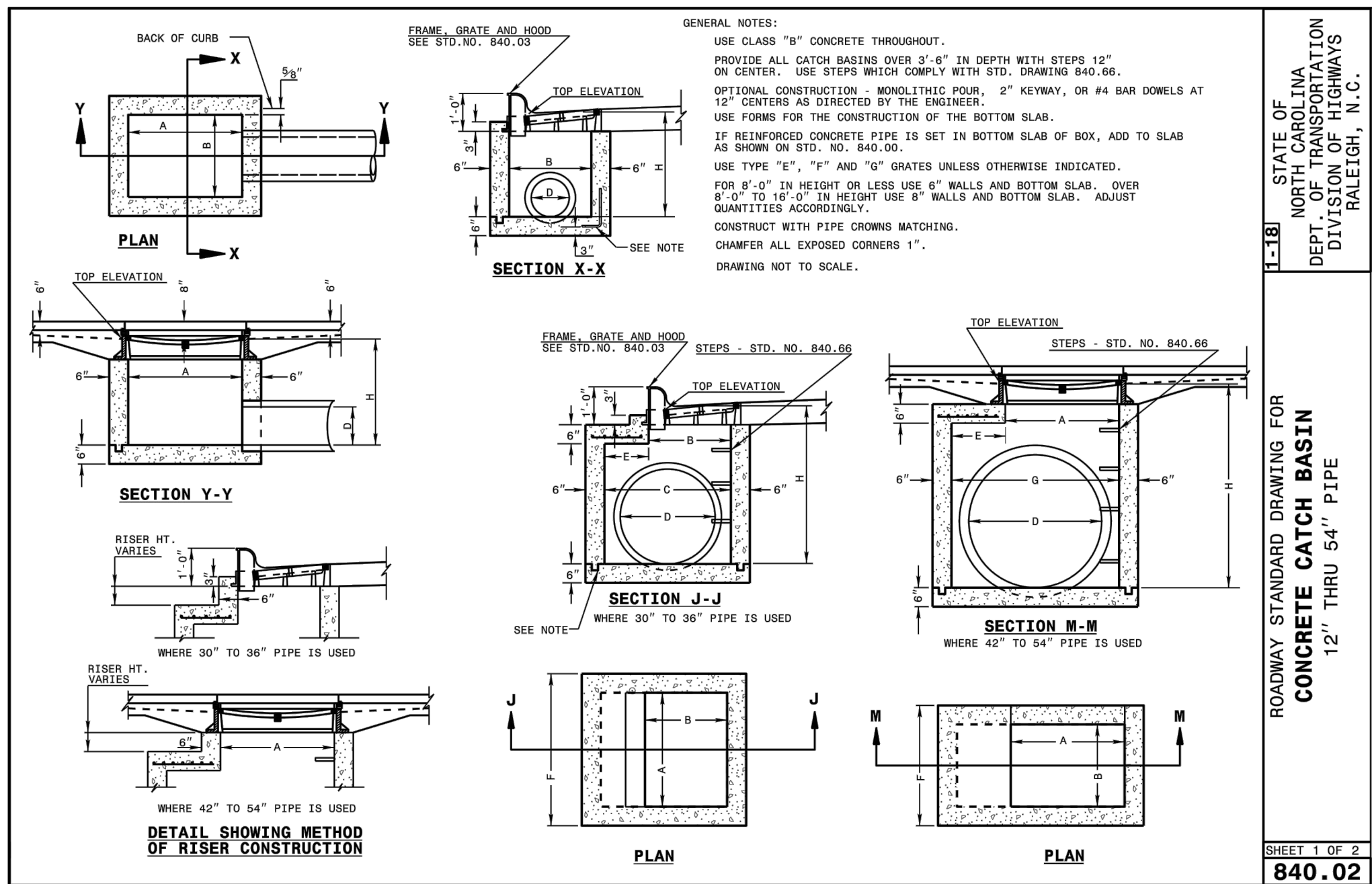








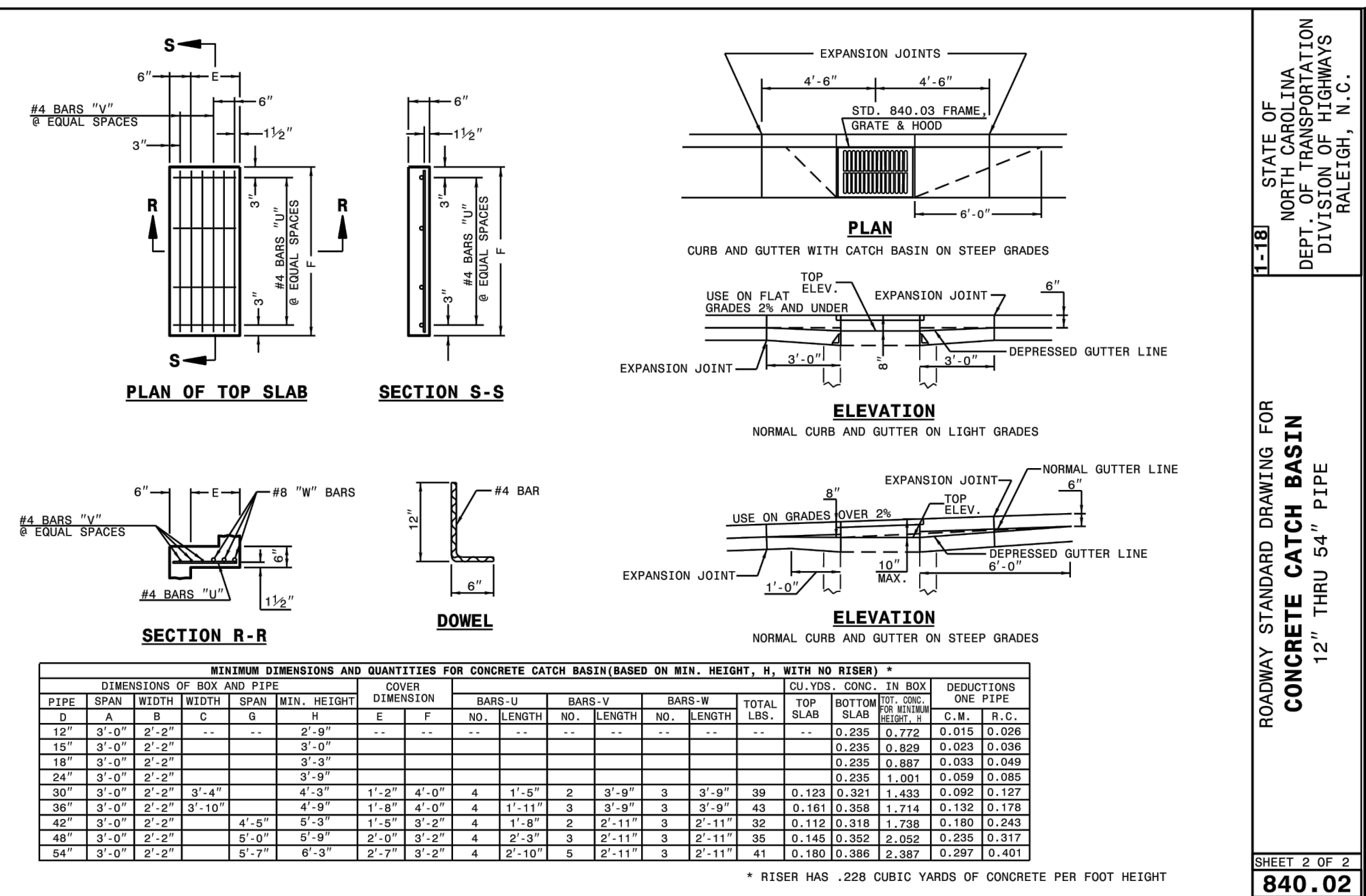




STATE OF NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR  
**CONCRETE CATCH BASIN**  
12" THRU 54" PIPE

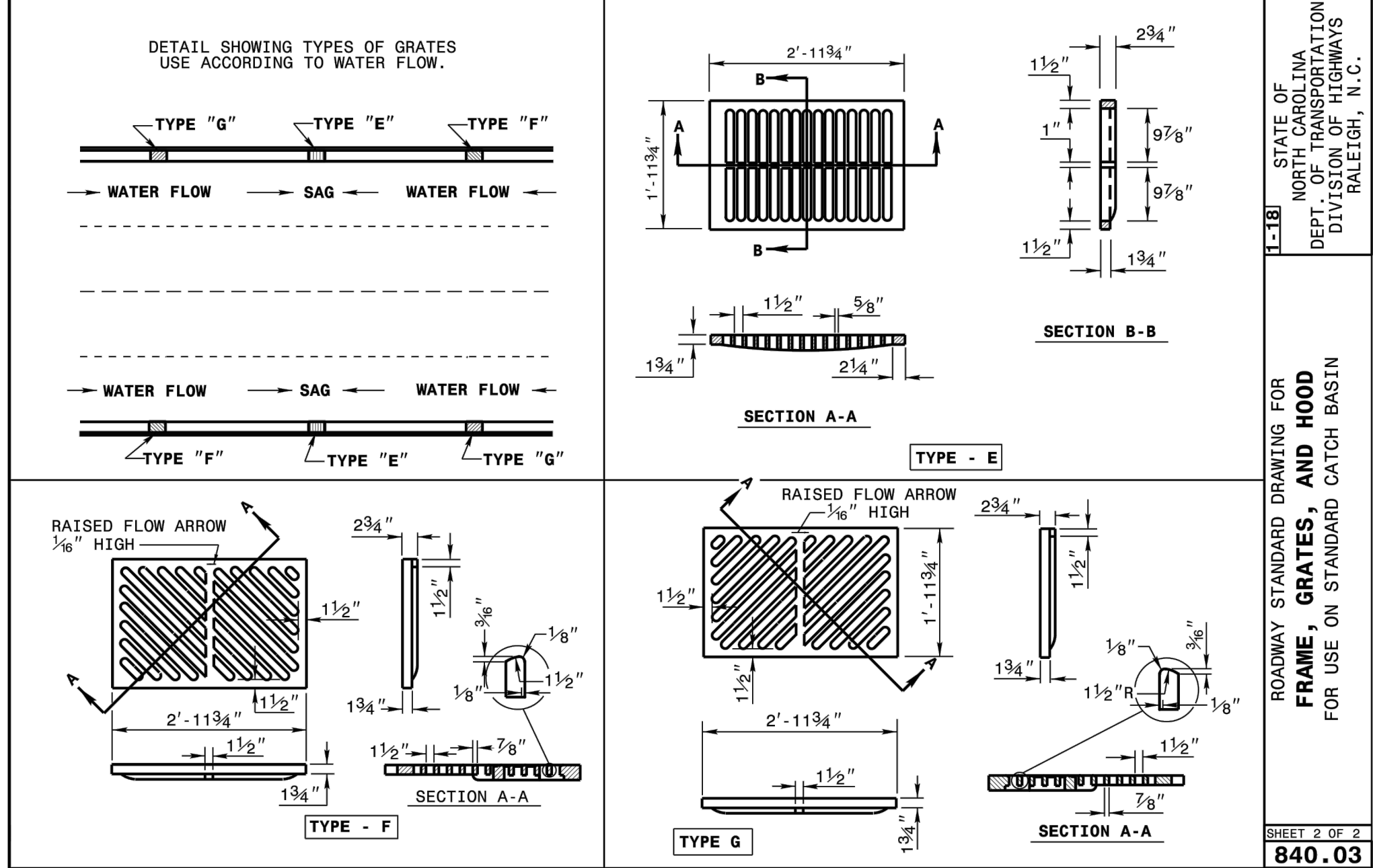
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**840.02**



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

ROADWAY STANDARD DRAWING FOR  
**CONCRETE CATCH BASIN**  
12" THRU 54" PIPE

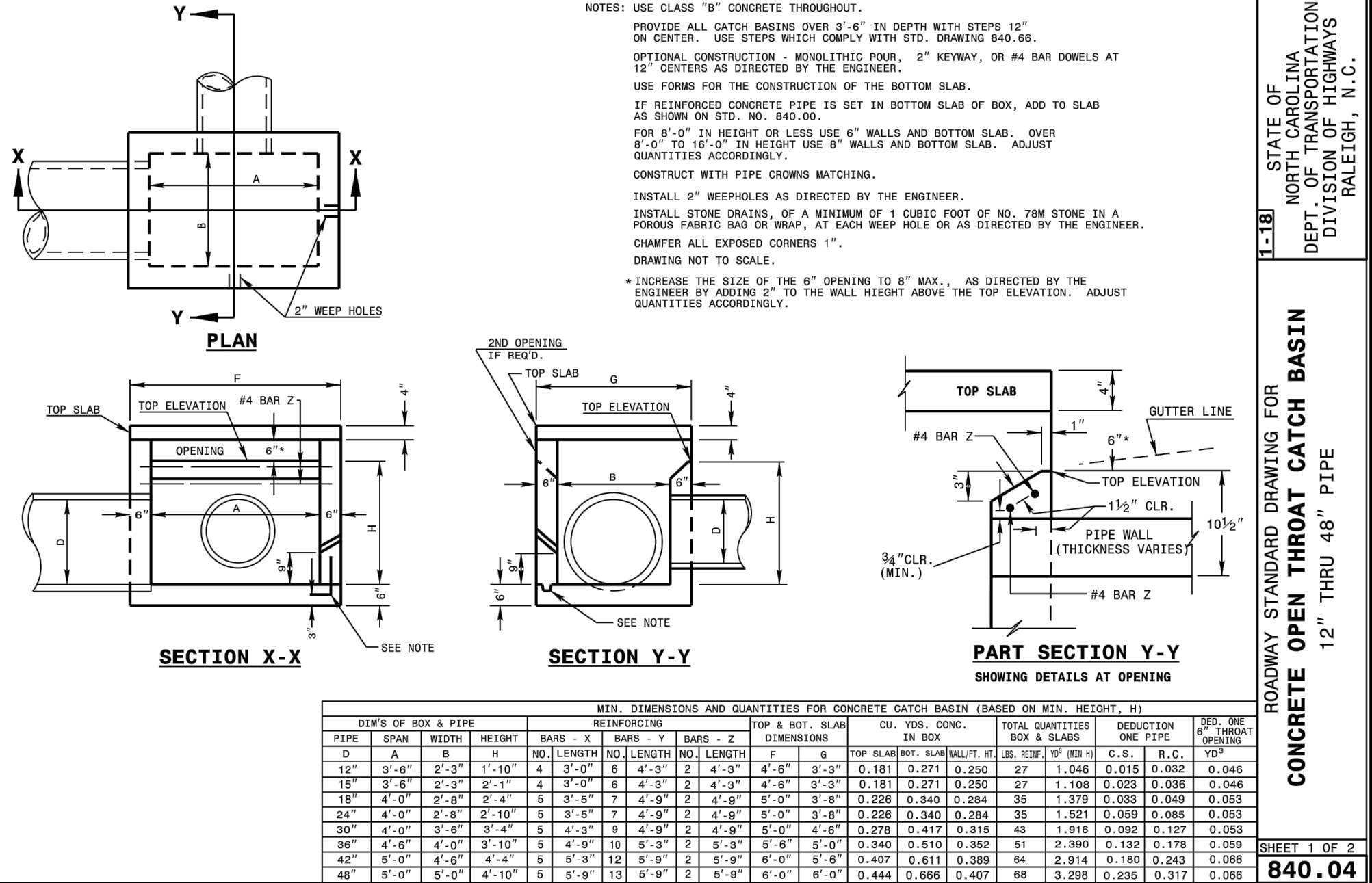
SHEET 2 OF 2  
**840.02**



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

ROADWAY STANDARD DRAWING FOR  
**FRAME, GRATES, AND HOOD**  
FOR USE ON STANDARD CATCH BASIN

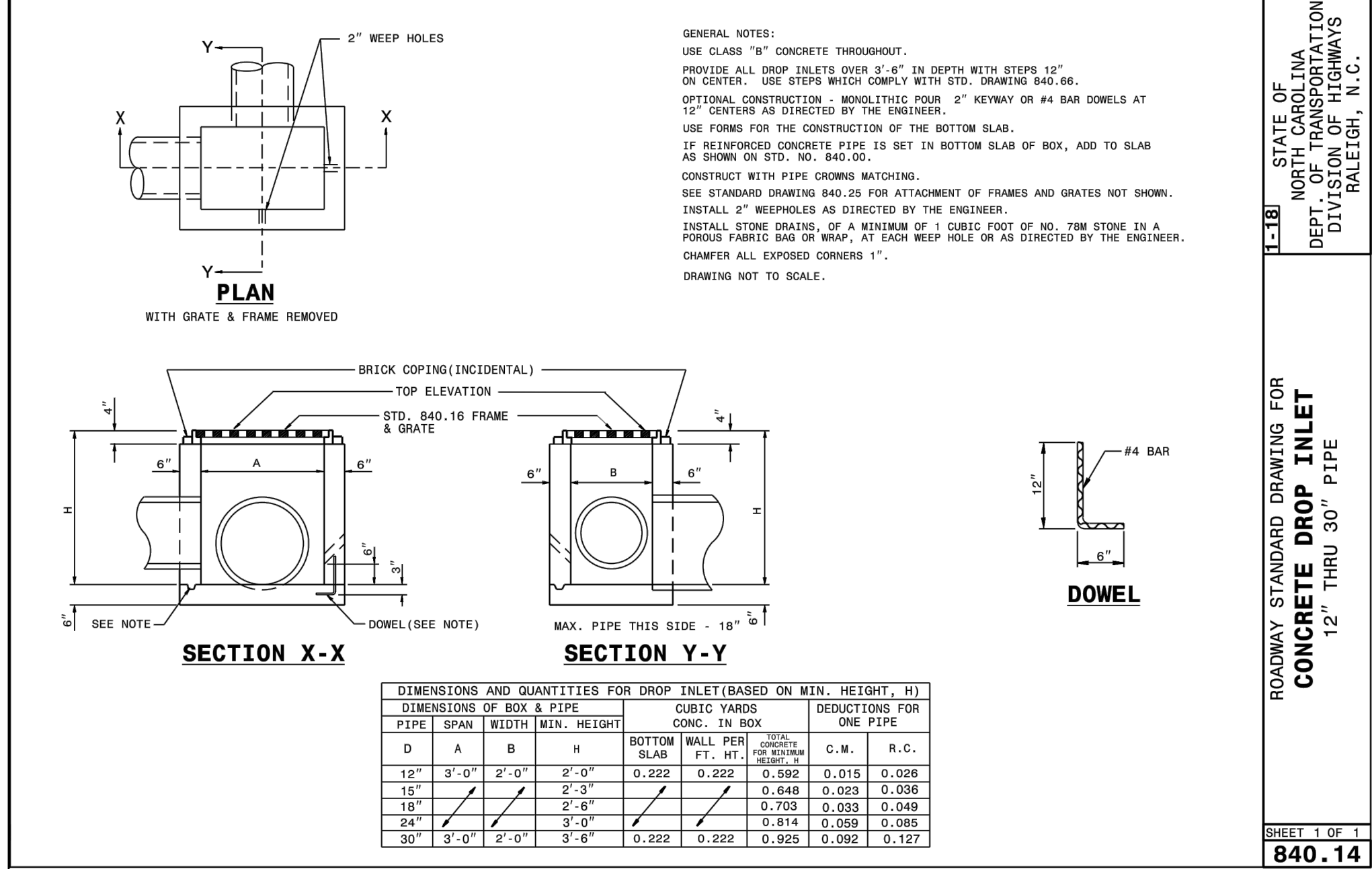
SHEET 2 OF 2  
**840.03**



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

ROADWAY STANDARD DRAWING FOR  
**CONCRETE OPEN THROAT CATCH BASIN**  
12" THRU 48" PIPE

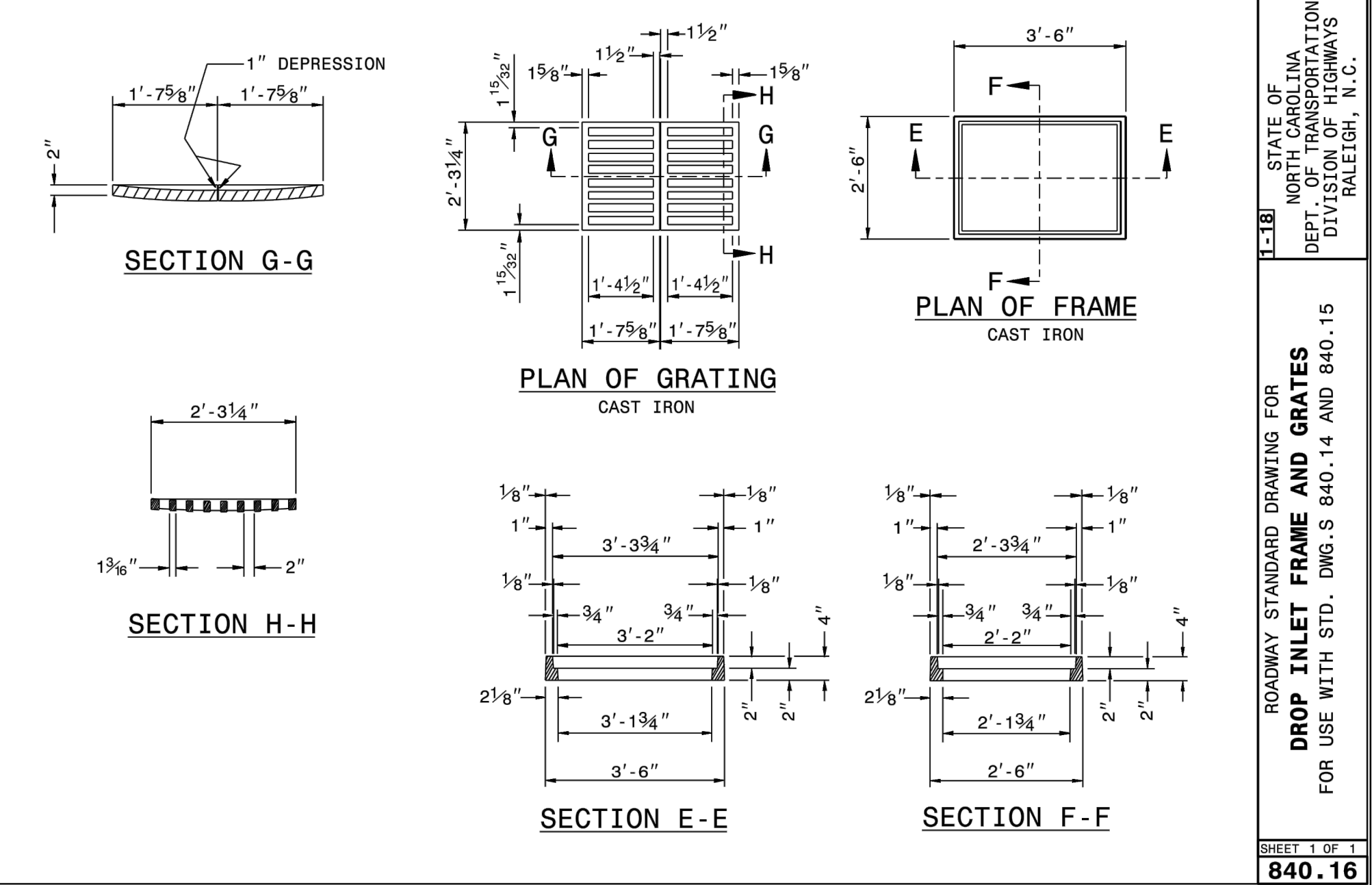
SHEET 1 OF 2  
**840.04**



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

ROADWAY STANDARD DRAWING FOR  
**CONCRETE DROP INLET**  
12" THRU 30" PIPE

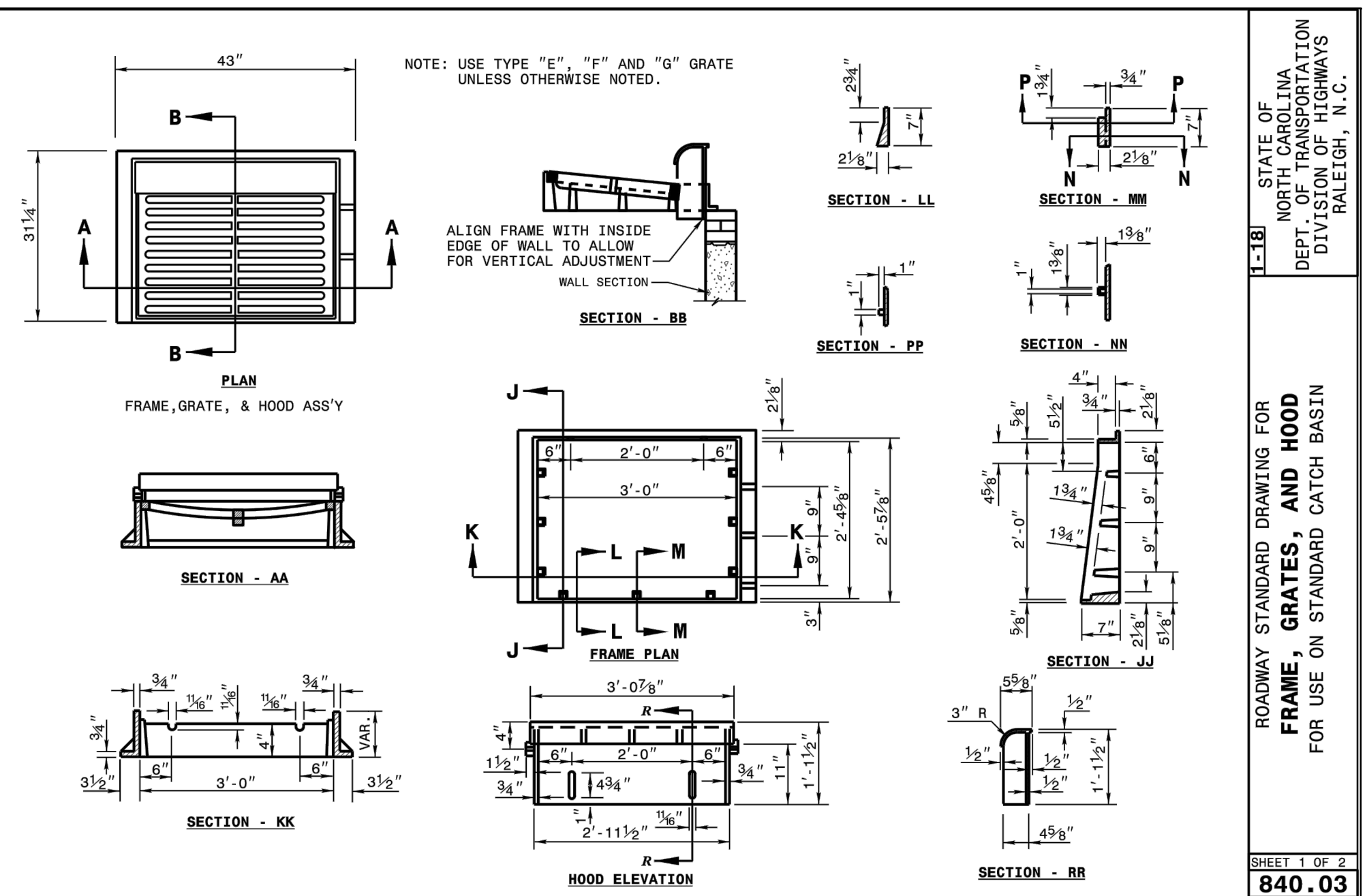
SHEET 1 OF 1  
**840.14**



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

ROADWAY STANDARD DRAWING FOR  
**DROP INLET FRAME AND GRATES**  
FOR USE WITH STD. DWG. S. 840.14 AND 840.15

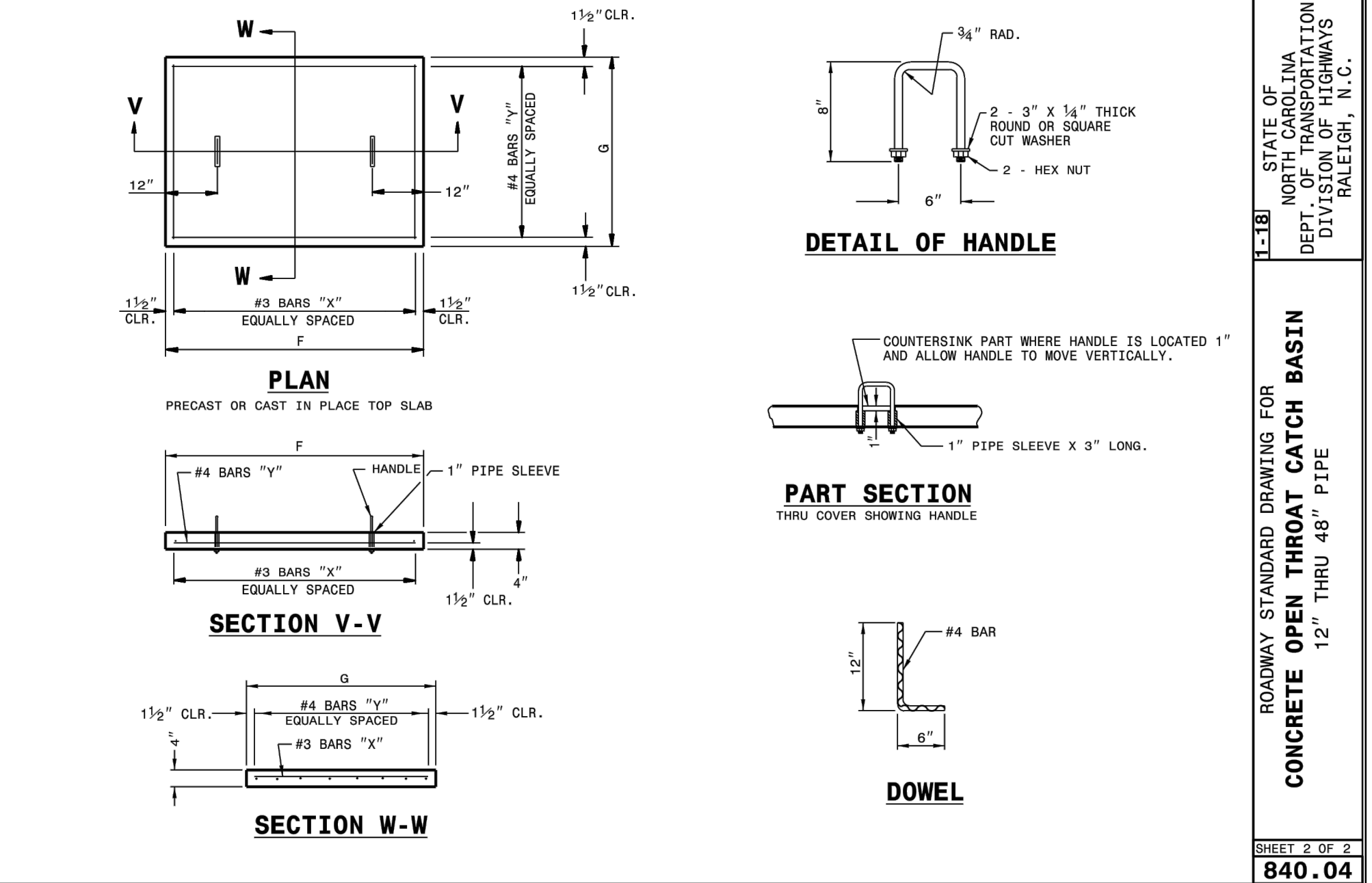
SHEET 1 OF 1  
**840.16**



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

ROADWAY STANDARD DRAWING FOR  
**FRAME, GRATES, AND HOOD**  
FOR USE ON STANDARD CATCH BASIN

SHEET 1 OF 2  
**840.03**



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

ROADWAY STANDARD DRAWING FOR  
**CONCRETE OPEN THROAT CATCH BASIN**  
12" THRU 48" PIPE

SHEET 2 OF 2  
**840.04**

- GRADING NOTES:
1. REFER TO THE SITE PLAN FOR RELATED NOTES.
  2. ALL CONTOURS AND SPOT ELEVATIONS REFLECT FINISHED GRADES.
  3. ALL ELEVATIONS ARE IN REFERENCE TO THE BENCHMARK, AND THIS MUST BE VERIFIED BY THE GENERAL CONTRACTOR PRIOR TO GROUND BREAKING.
  4. THE CONTRACTOR SHALL IMMEDIATELY REPORT TO OWNER ANY DISCREPANCIES FOUND BETWEEN ACTUAL FIELD CONDITIONS AND CONSTRUCTION DOCUMENTS AND SHALL WAIT FOR INSTRUCTION PRIOR TO PROCEEDING.
  5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING EXISTING UTILITIES, AND SHALL REPAIR ALL DAMAGE TO EXISTING UTILITIES THAT OCCUR DURING CONSTRUCTION.
  6. THE CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY TO TRANSITION BACK TO EXISTING GRADE.
  7. LIMITS OF CLEARING SHOWN ON GRADING PLAN ARE BASED UPON THE APPROXIMATE CUT AND FILL SLOPE LIMITS, OR OTHER GRADING REQUIREMENTS.
  8. THE PROPOSED CONTOURS SHOWN IN DRIVES AND PARKING LOTS AND SIDEWALKS ARE FINISHED ELEVATIONS INCLUDING ASPHALT. REFER TO PAYMENT CROSS SECTION DATA TO ESTABLISH CORRECT SUBBASE OR AGGREGATE BASE COURSE ELEVATIONS TO BE COMPLETED UNDER THIS CONTRACT.
  9. THE CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE SO THAT RUNOFF WILL DRAIN BY GRAVITY FLOW ACROSS NEW PAVEMENT AREAS TO NEW OR EXISTING DRAINAGE INLETS OR SHEET OVERLAND.
  10. ANY GRADING, BEYOND THE LIMITS OF CONSTRUCTION AS SHOWN ON THE GRADING PLAN, IS PROHIBITED.
  11. LAND DISTURBANCE WITHOUT AN APPROVED ESC PLAN IS PROHIBITED.
  12. STABILIZATION IS THE BEST FORM OF EROSION CONTROL. TEMPORARY SEEDING IS NECESSARY TO ACHIEVE EROSION CONTROL ON DENUDED AREAS AND ESPECIALLY WHEN THE CONSTRUCTION SEQUENCE REQUIRES IT.
  13. ALL GRADED AREAS ARE TO BE STABILIZED (SEEDING OR LANDSCAPED) WITHIN 14 DAYS OF HAVING REACHED FINAL GRADE.
  14. EXISTING GRADES, CONTOURS, UTILITIES AND OTHER EXISTING FEATURES FROM FIELD RUN SURVEY.
  15. THE CONTRACTOR SHALL INCLUDE IN THE CONTRACT PRICE ANY Dewatering NECESSARY TO CONSTRUCT THE PROJECT AS SHOWN ON THE PLANS.
  16. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND IMPLEMENTATION OF ALL SHEETING, SHORING, BRACING AND SPECIAL EXCAVATION MEASURES REQUIRED TO MEET OSHA, FEDERAL, STATE, AND LOCAL REGULATIONS PURSUANT TO THE INSTALLATION OF THE WORK INDICATED ON THESE DRAWINGS. THE DESIGN ENGINEER ACCEPTS NO RESPONSIBILITY FOR THE DESIGN(S) TO INSTALL S&D ITEMS.
  17. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR EXACT LOCATION, ELEVATION, AND DIMENSIONS OF EXIT DOORS, RAMPS, BUILDING DIMENSIONS, AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.
  18. ALL FILL MATERIALS, EXISTING BUILDING FOUNDATIONS, PAVEMENT AND UTILITY STRUCTURES, TOPSOIL, AND ANY OTHER DELETERIOUS MATERIALS SHALL BE COMPLETELY REMOVED FROM WITHIN THE BEARING ZONE BELOW THE STRUCTURE.
  19. ALL FOUNDATION EXCAVATION SHALL BE INSPECTED BY A QUALIFIED GEOTECHNICAL REPRESENTATIVE TO DETERMINE WHETHER UNSUITABLE MATERIAL MUST BE REMOVED. ALL UNDESIRABLE MATERIAL SHALL BE REMOVED, BACKFILLED AND COMPACTED AS REQUIRED BY THE GEOTECHNICAL REPRESENTATIVE.
  20. ALL CUT OR FILL SLOPES SHALL BE 3:1 OR FLATTER UNLESS OTHERWISE NOTED OR DEPICTED.
  21. THE CONTRACTOR SHALL ADHERE TO ALL TERMS & CONDITIONS AS OUTLINED IN THE GENERAL N.P.D.E.S PERMIT FOR STORMWATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES.
  22. CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.
  23. CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.
  24. ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATION SHALL RECEIVE 4 INCHES OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3H:1V OR STEEPER.
  25. CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.

**Bowman**

Bowman North Carolina Ltd.  
4006 BARRETT DR  
Suite 104  
RALEIGH, NC 27609  
Phone: (919)553-6570  
bowman.com

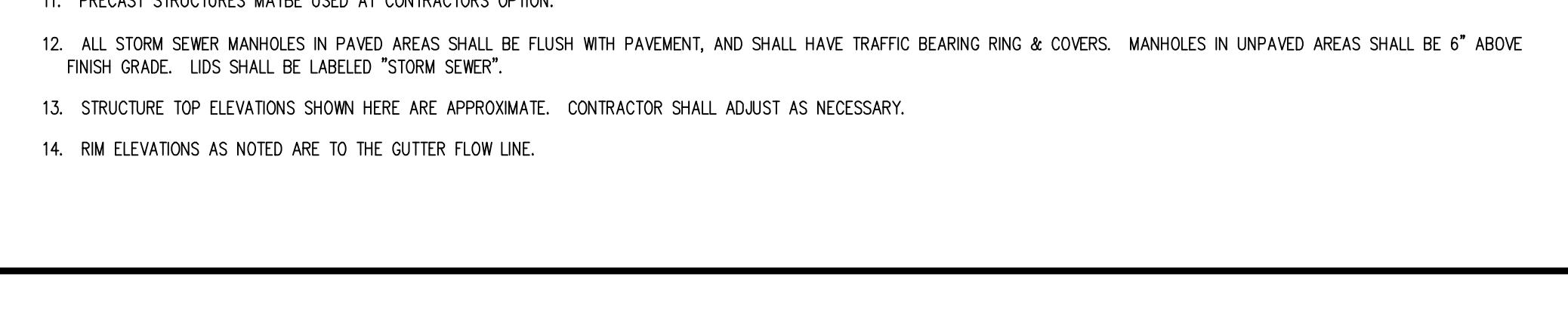
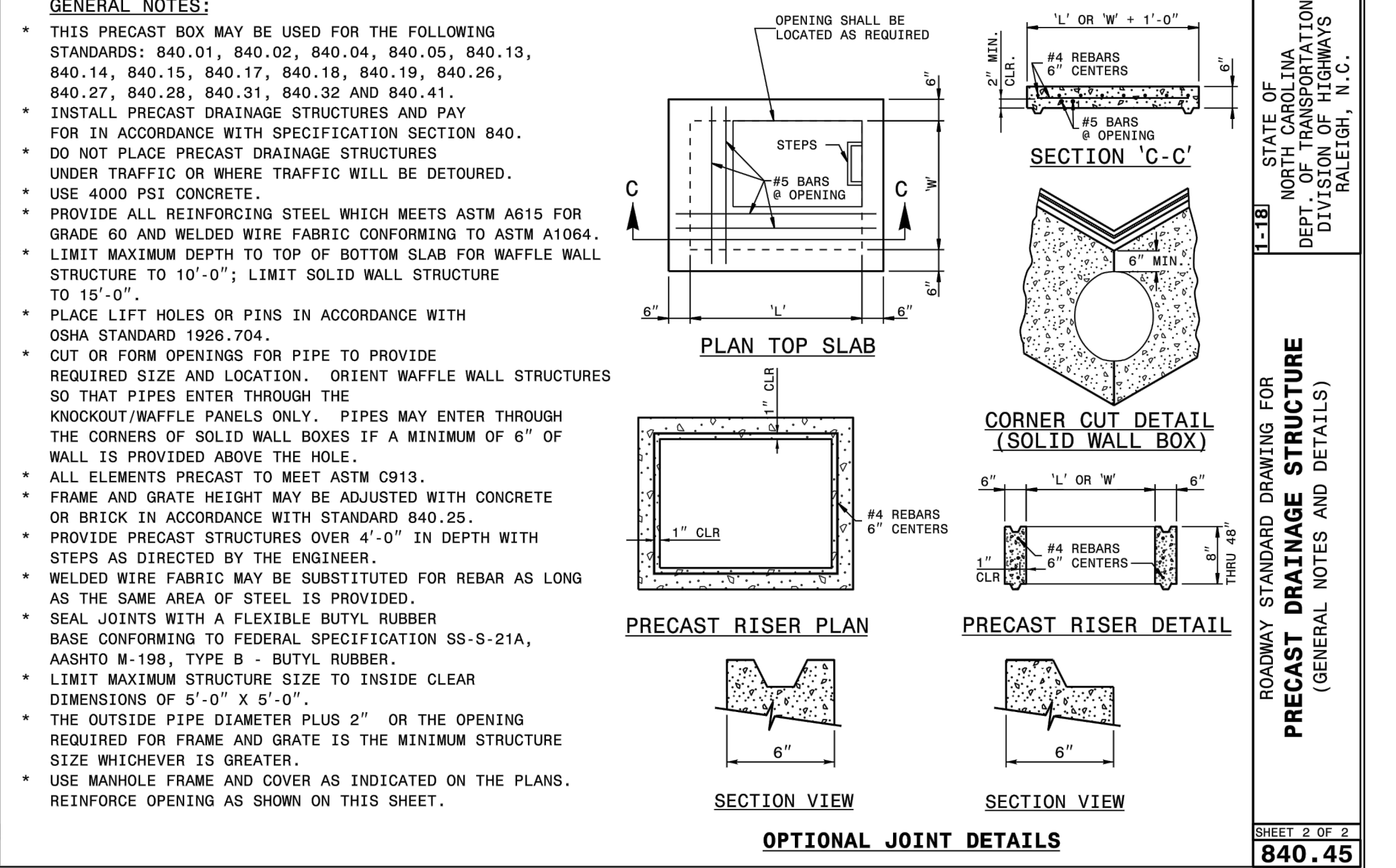
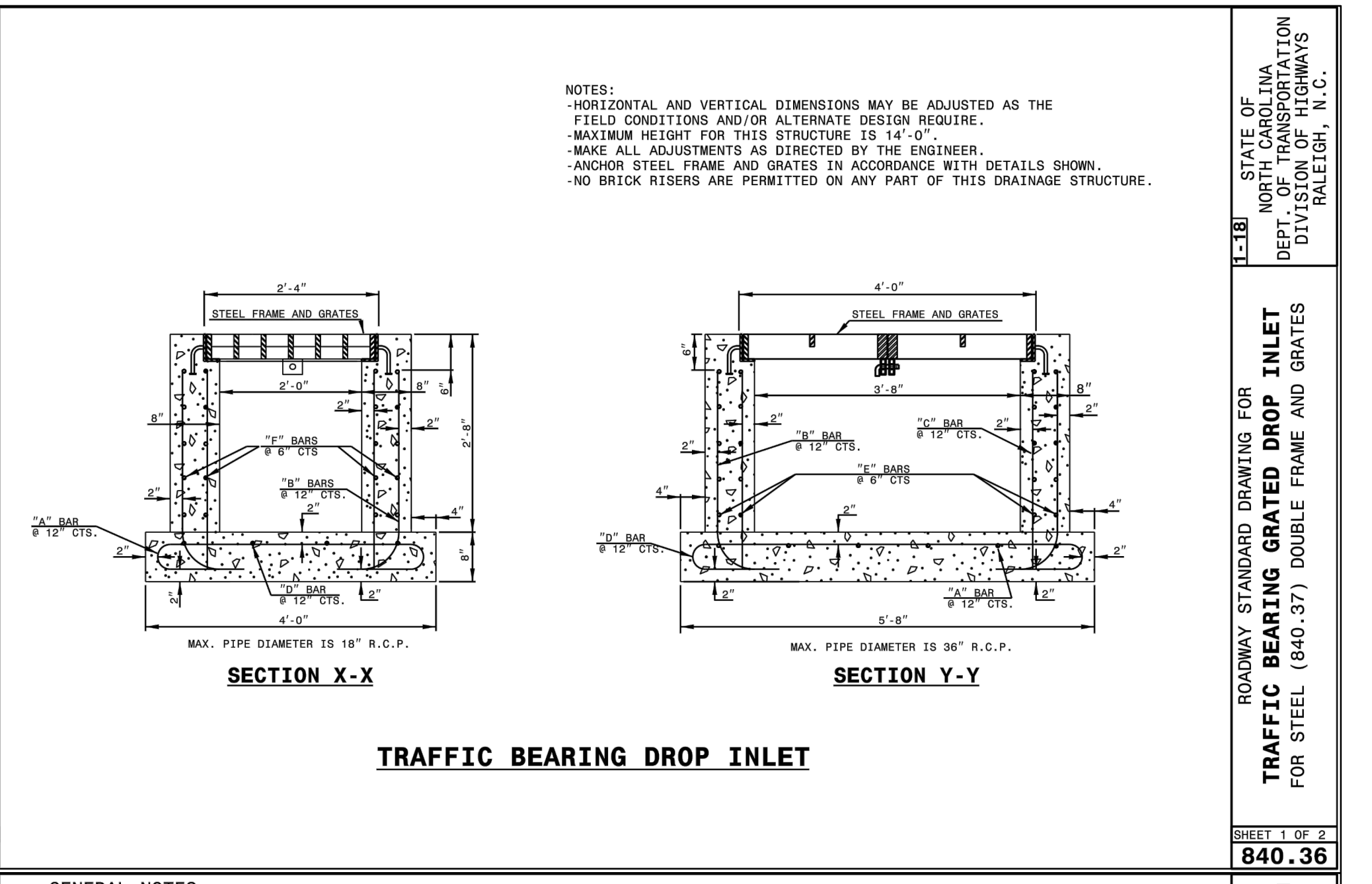
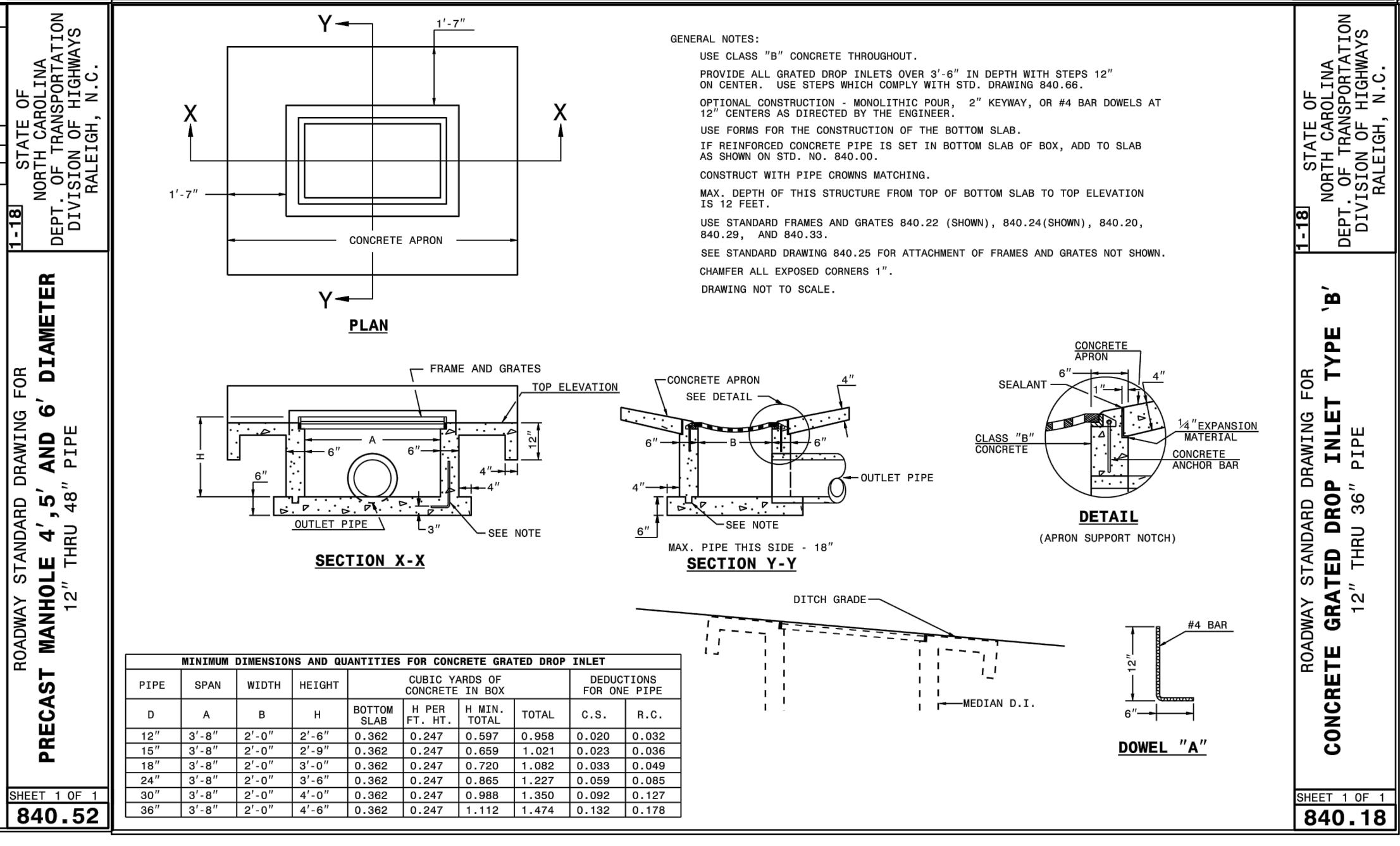
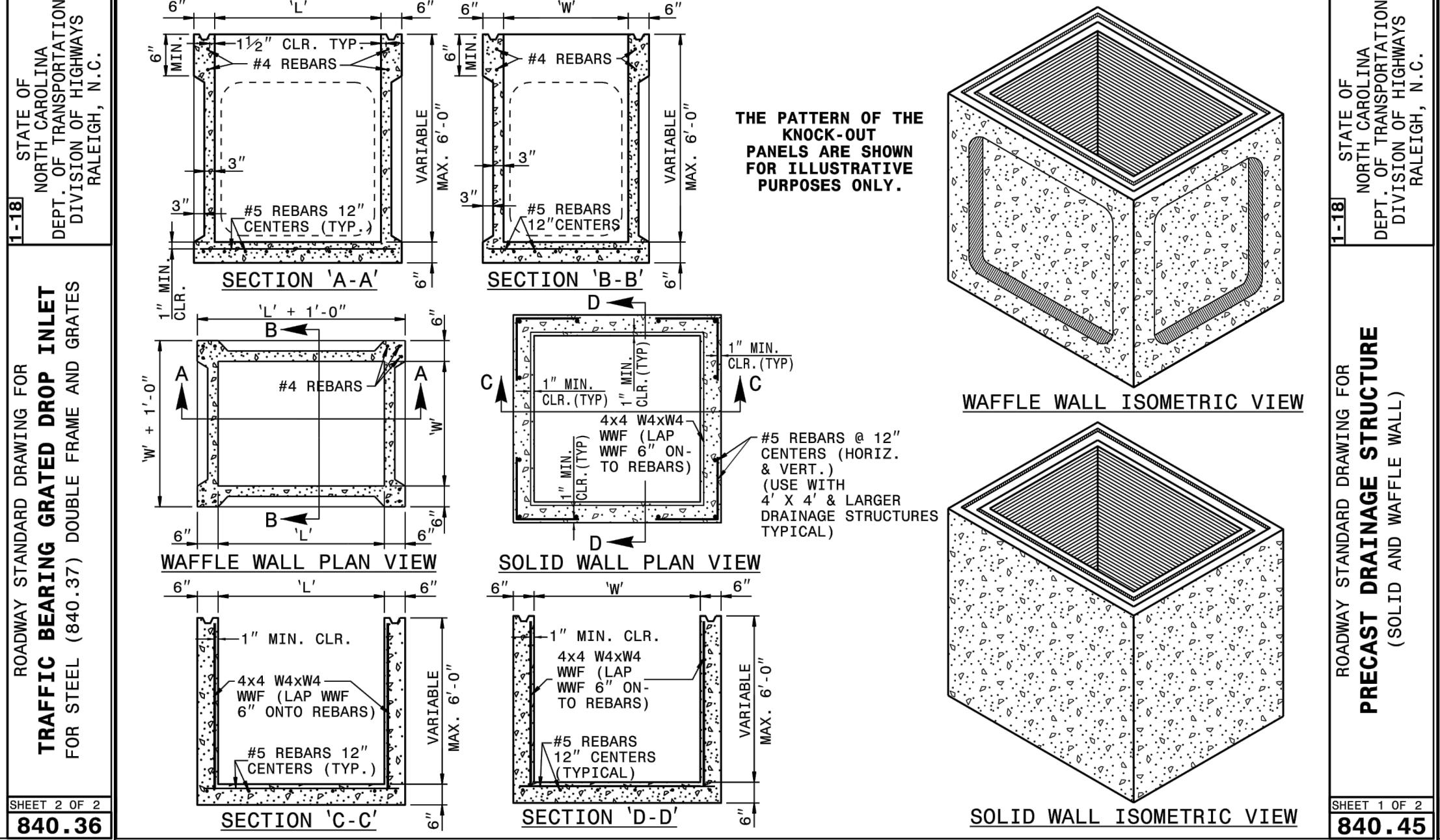
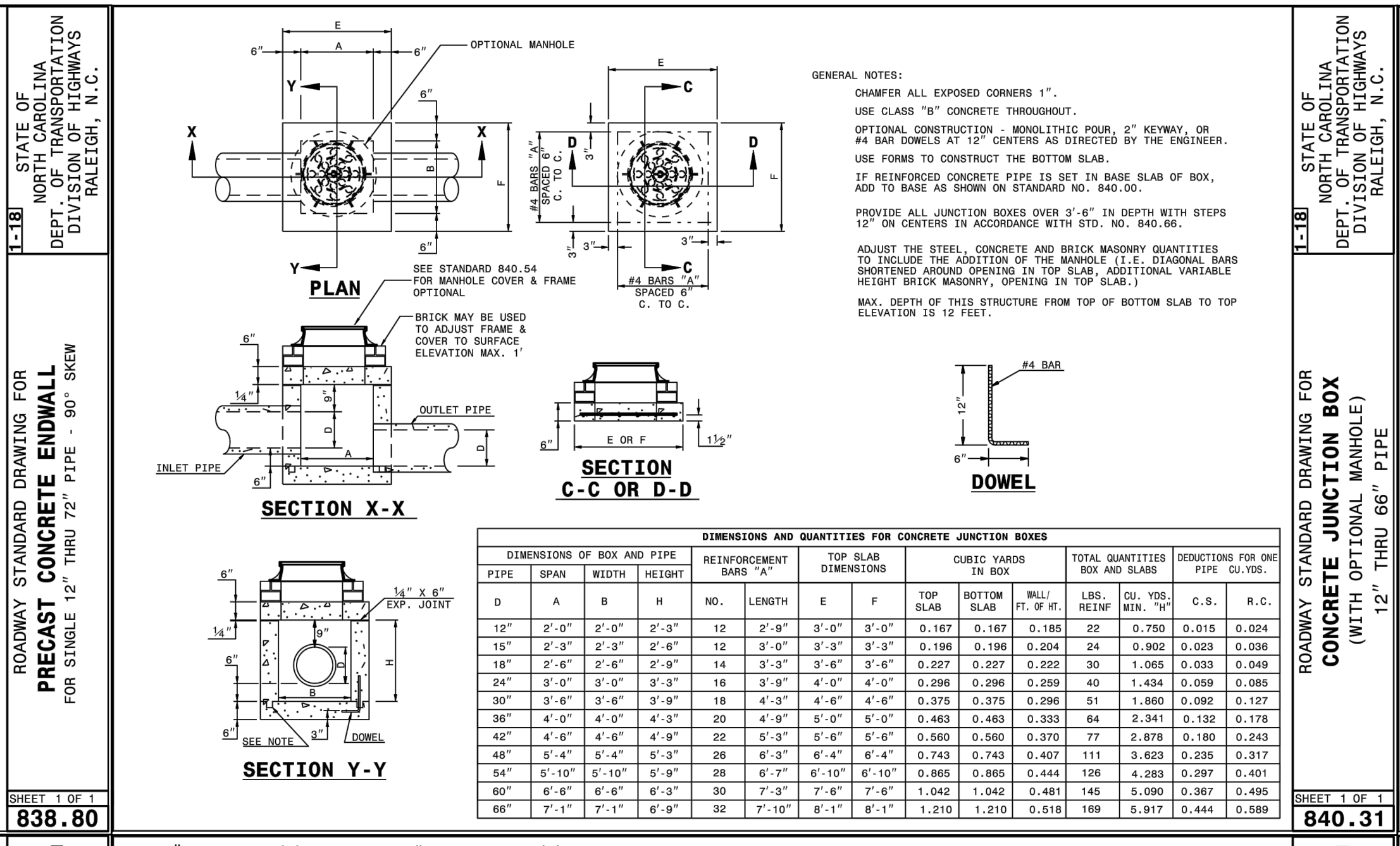
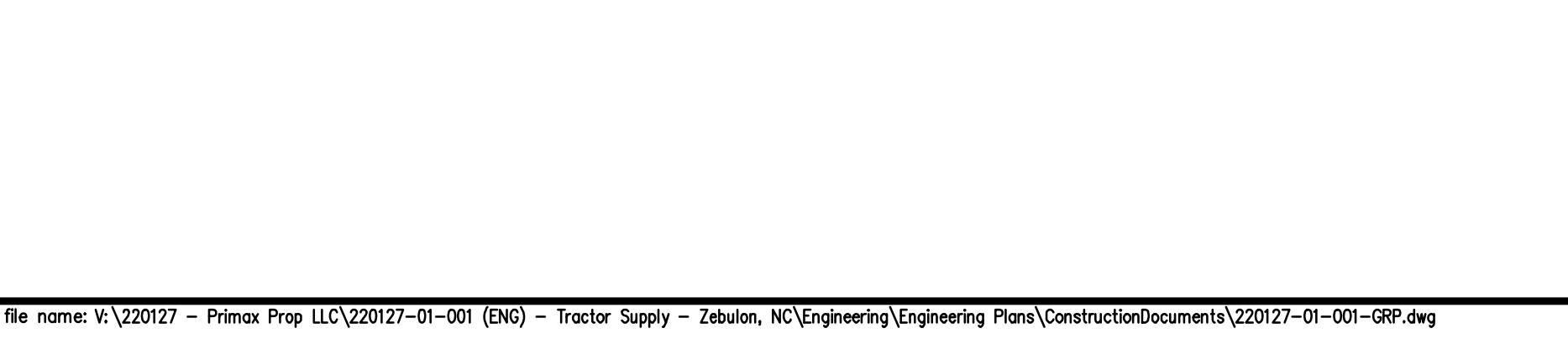
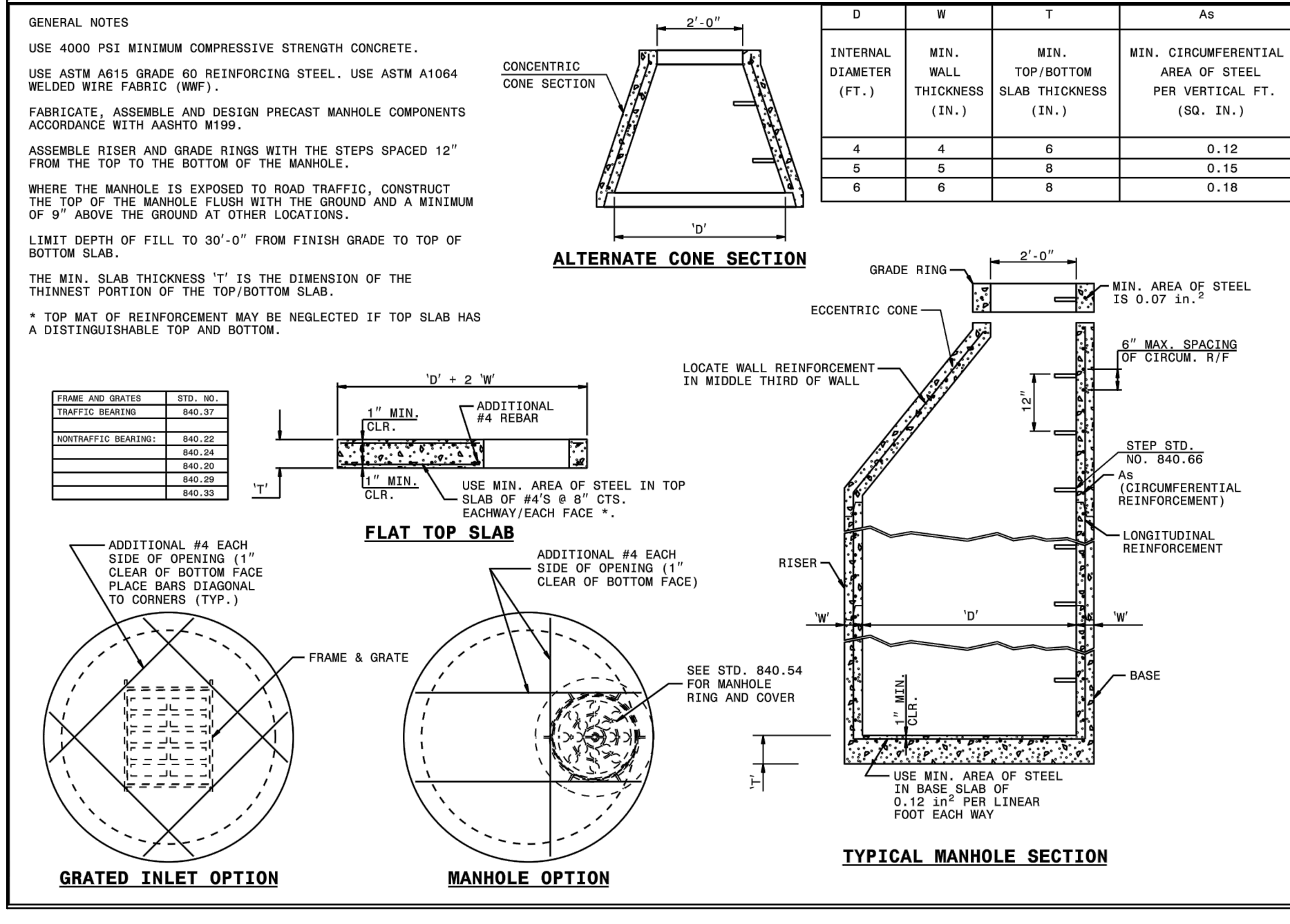
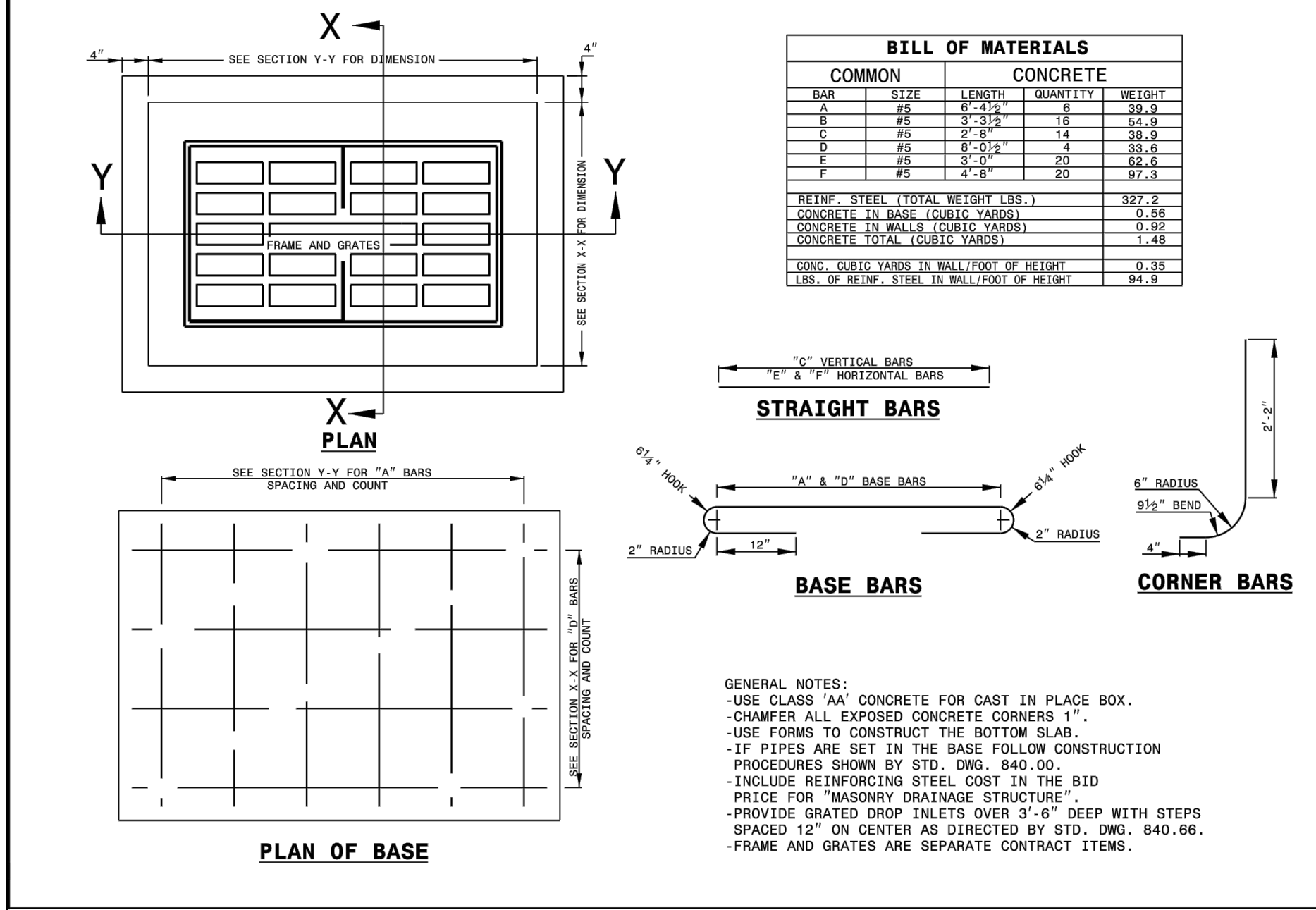
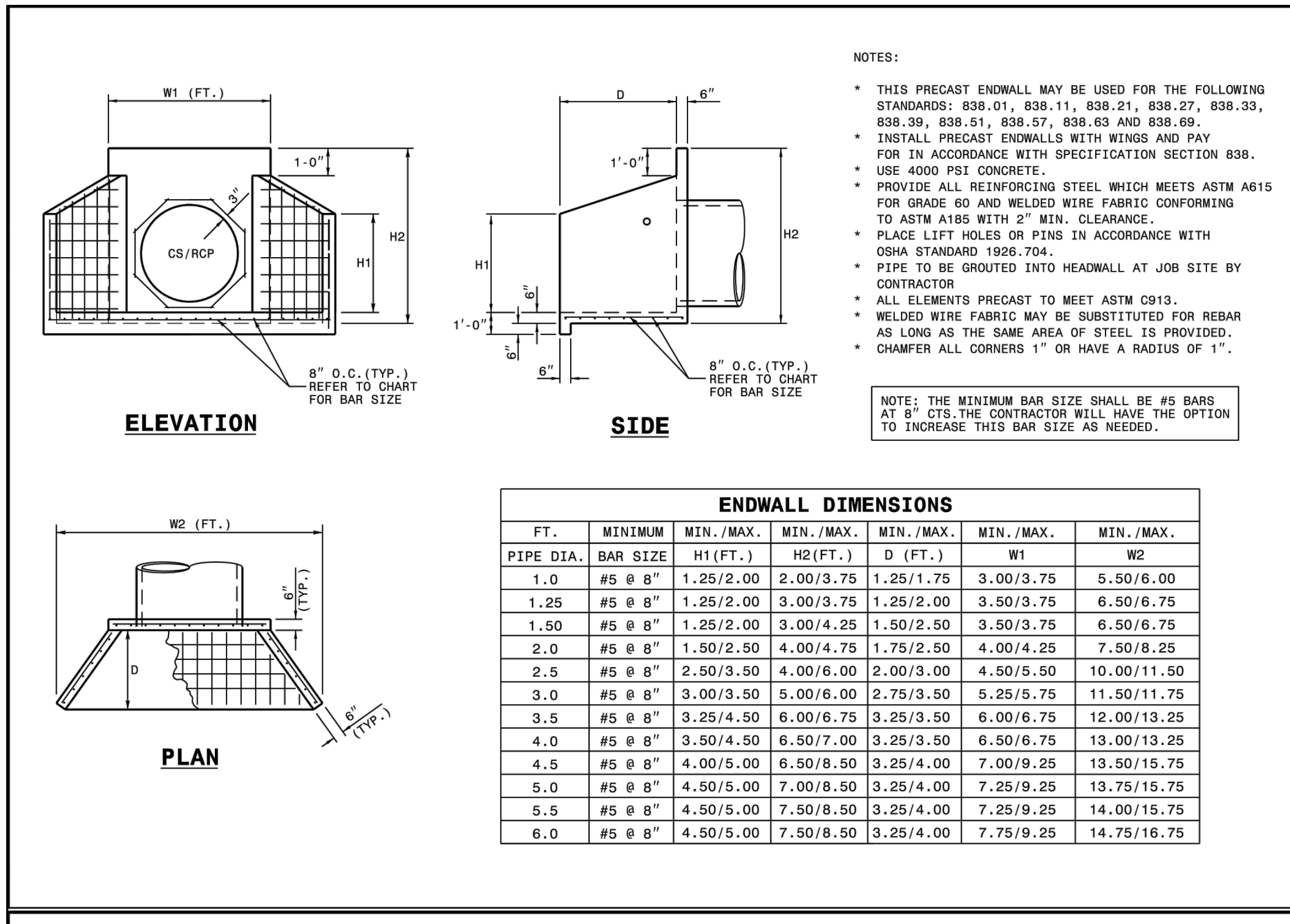
**TSC**  
TRACTOR SUPPLY COMPANY

**CONSTRUCTION DETAILS**  
Tractor Supply  
Old US Highway 264  
Zebulon, NC Wake County

PLAN STATUS  
11/30/23 SEWER CROSSING AT RAILROAD  
1/10/24 PER WAKE CO REVIEW  
3/26/24 PER NCDOT REVIEW  
5/28/24 PER CITY OF RALEIGH REVIEW  
MEL DESIGN MEL DRAWN XXX CHKD  
SCALE H: 1" = 40' V: 1" = XXX'  
JOB No. 220127-01-001  
DATE May 28, 2024  
FILE No. 220127-D-CP-001

SHEET C6.4





CONSTRUCTION DETAILS

Tractor Supply

Old US Highway 264

Zebulon, NC

Wake County

PLAN STATUS

11/30/23 SEWER CROSSING AT RAILROAD

1/10/24 PER WAKE CO REVIEW

3/26/24 PER CITY OF RALEIGH REVIEW

5/28/24 PER NCDOT REVIEW

MEL DESIGN MEL DRAWN XXX CHKD

SCALE H: 1" = 40' V: 1" = XXX'

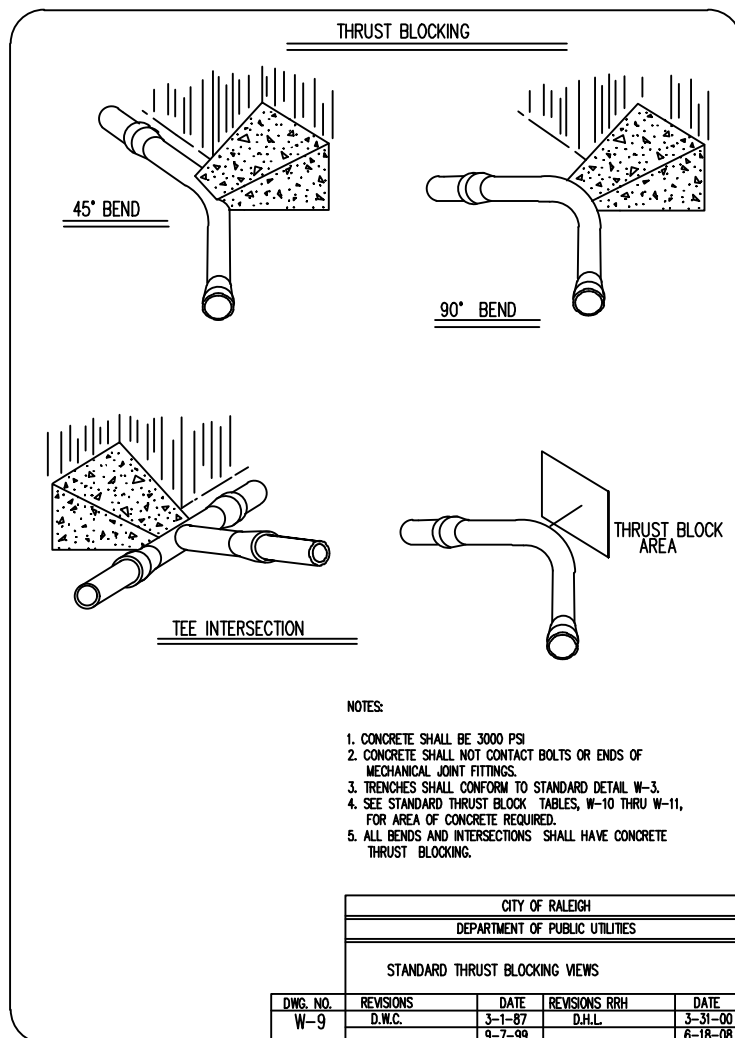
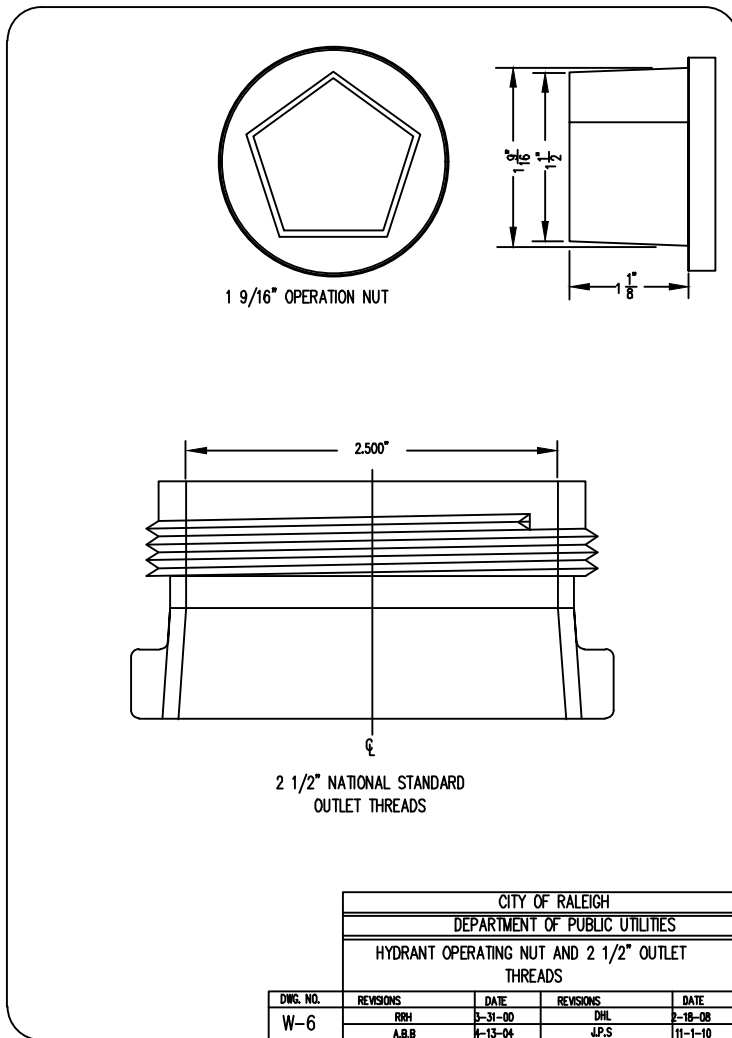
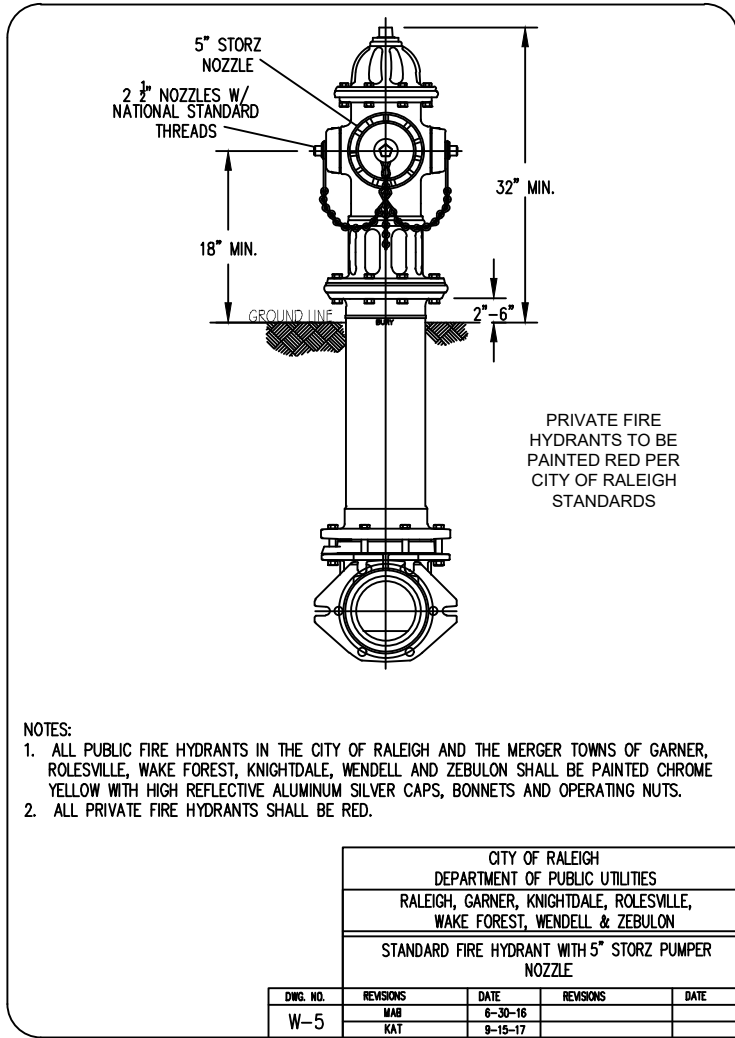
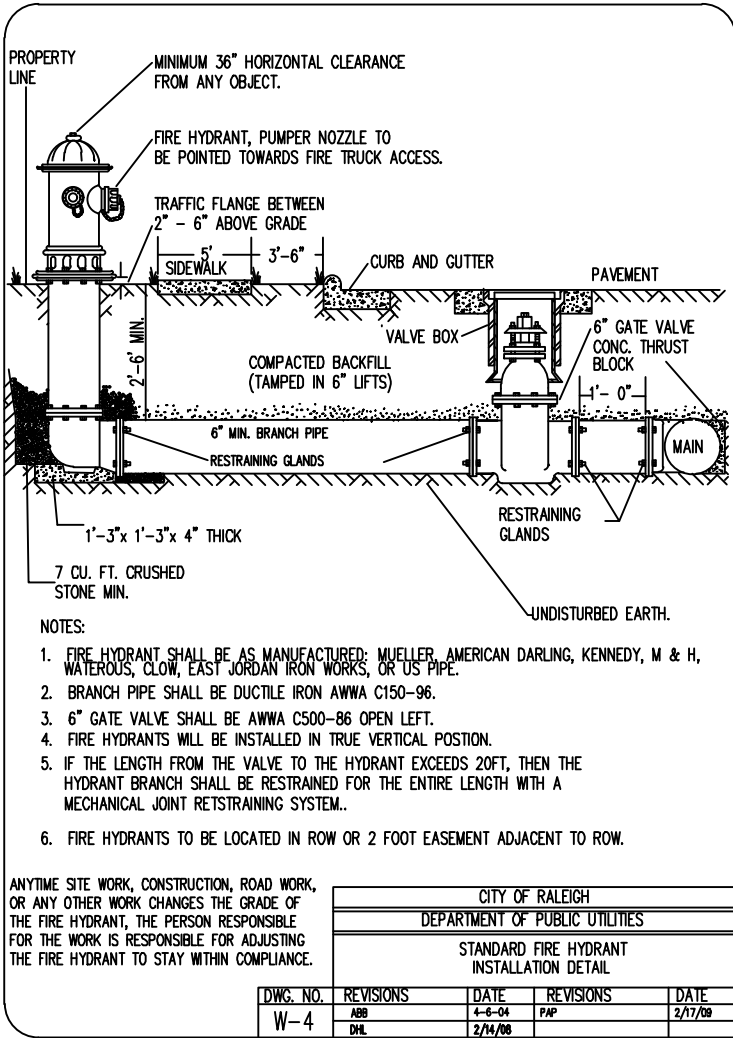
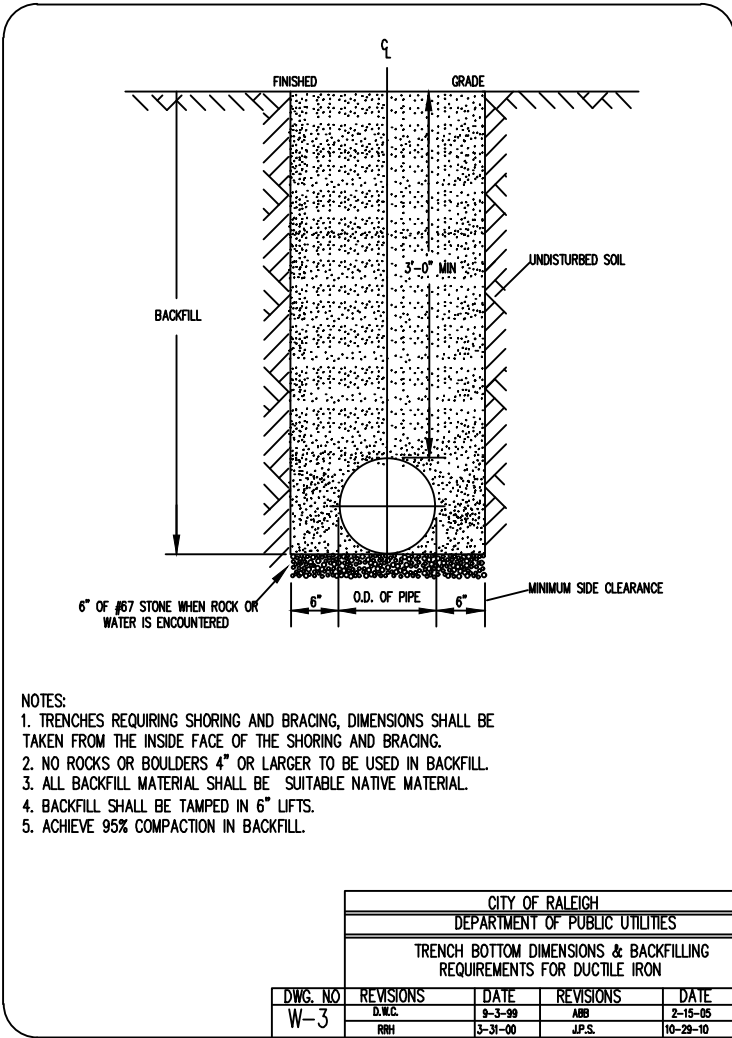
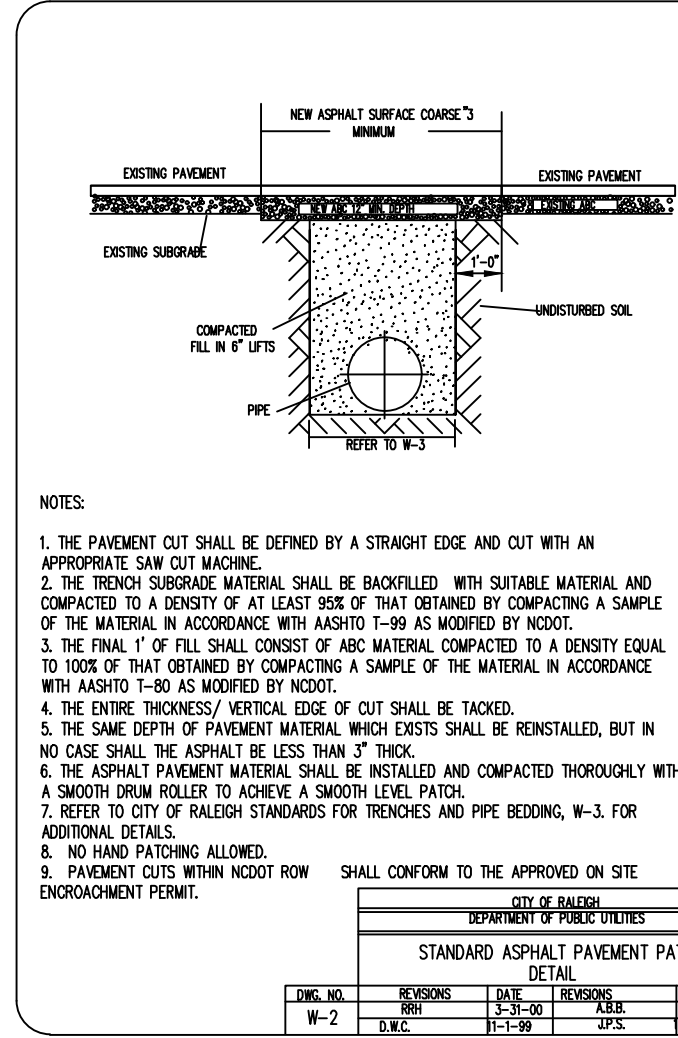
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DATE May 28, 2024

FILE No. 220127-D-CP-001

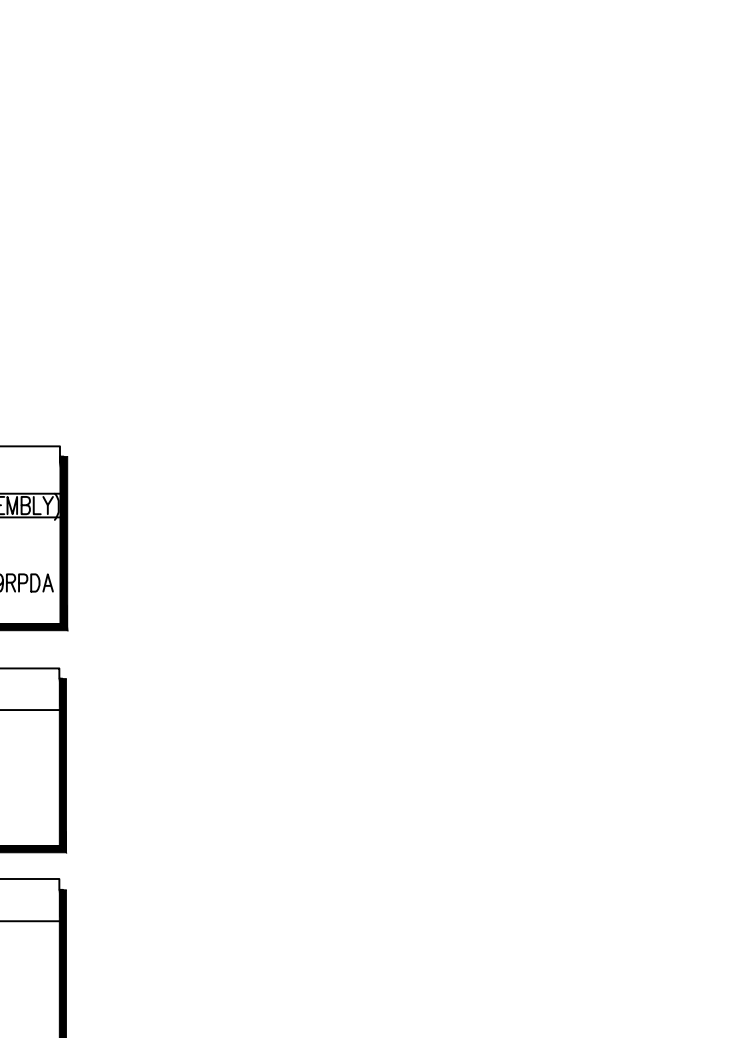
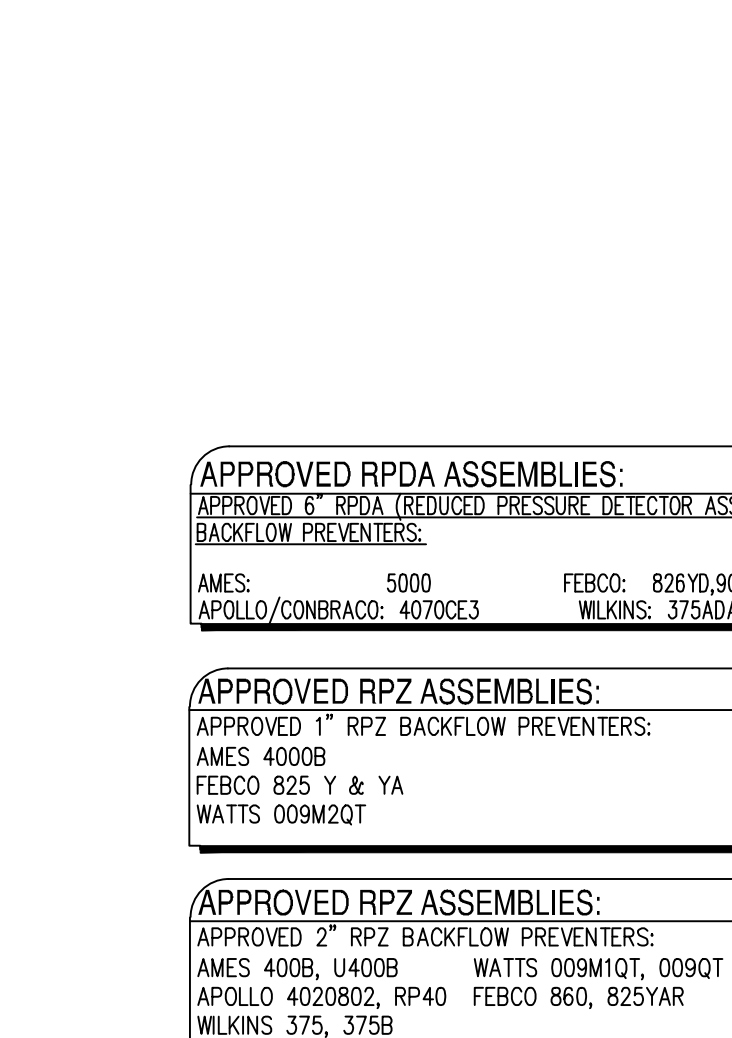
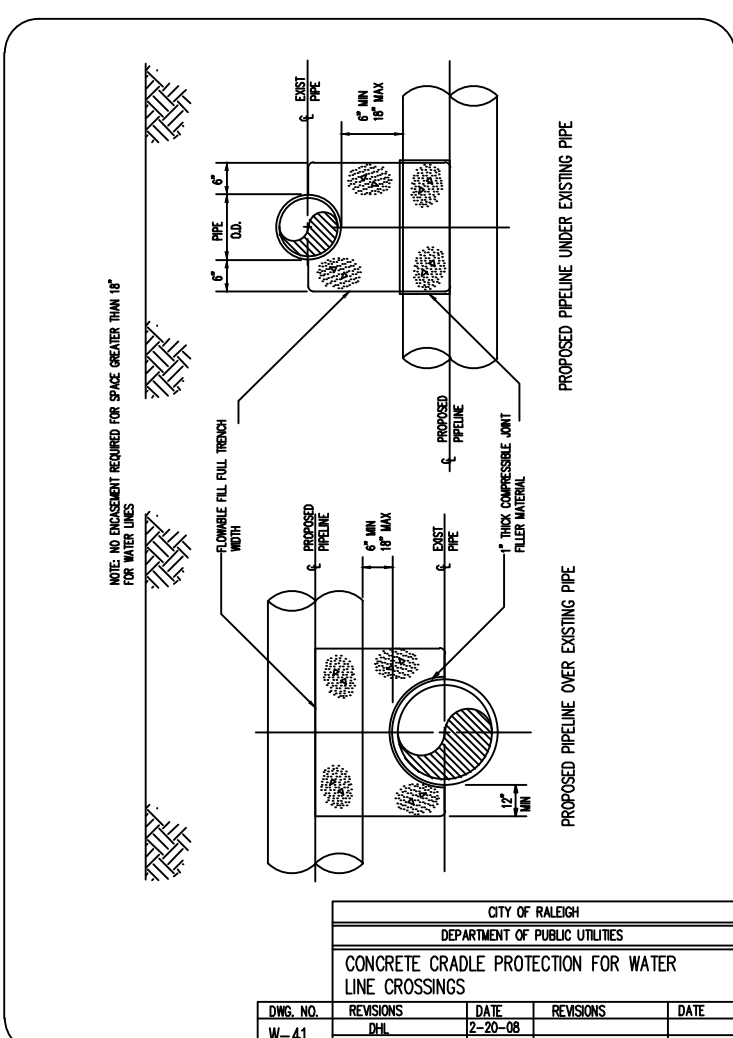
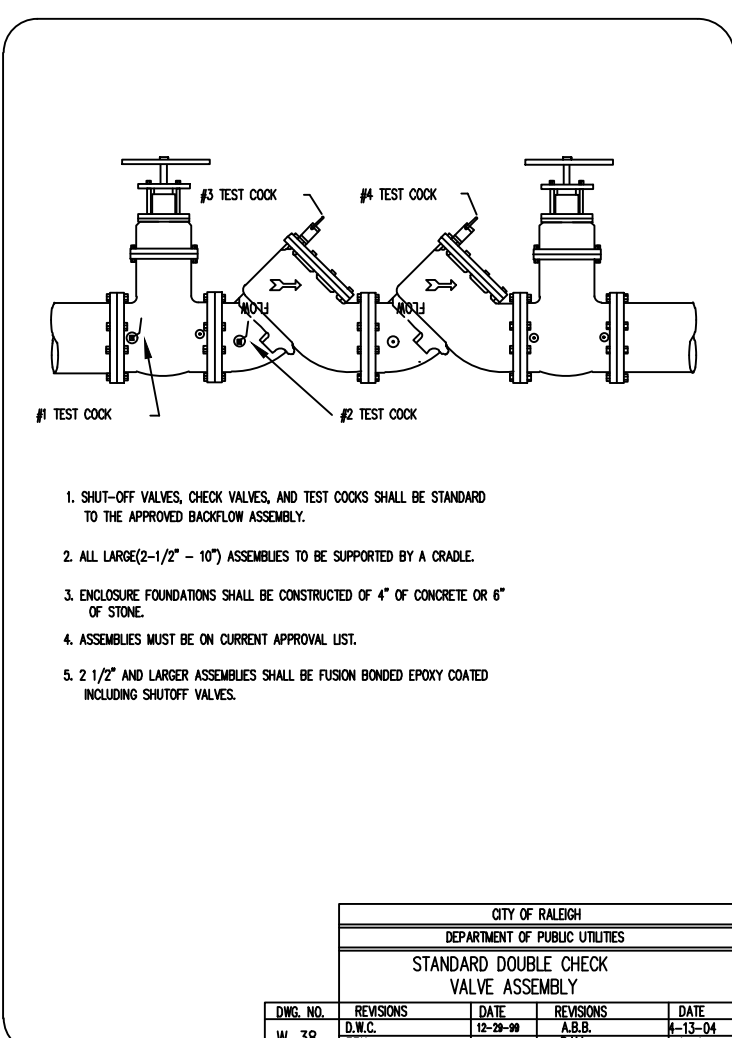
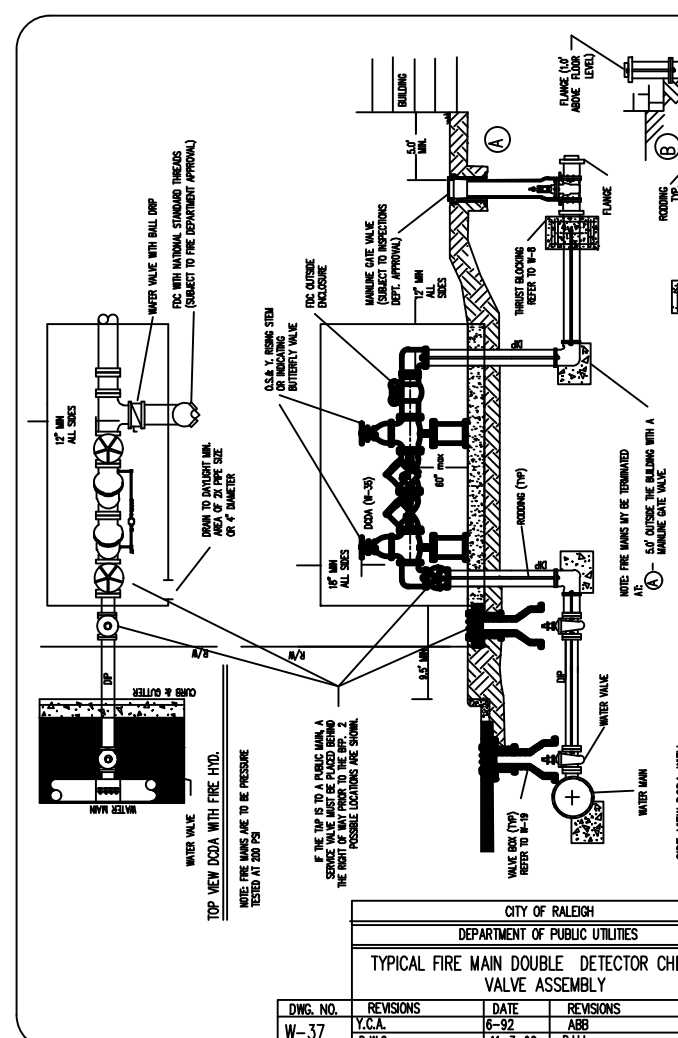
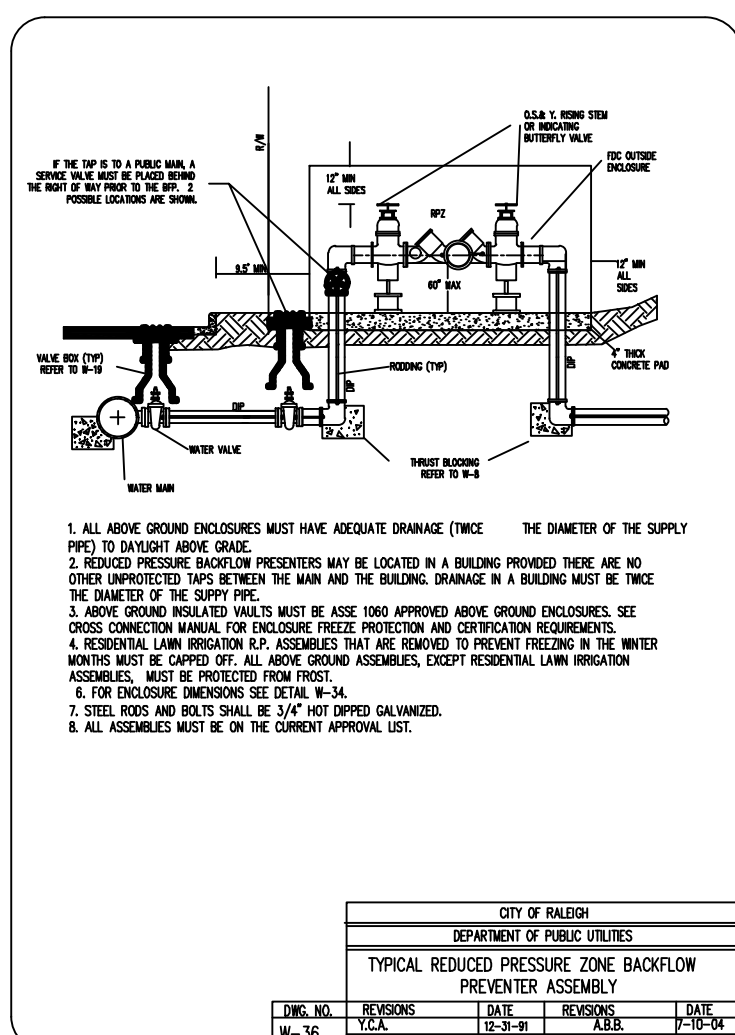
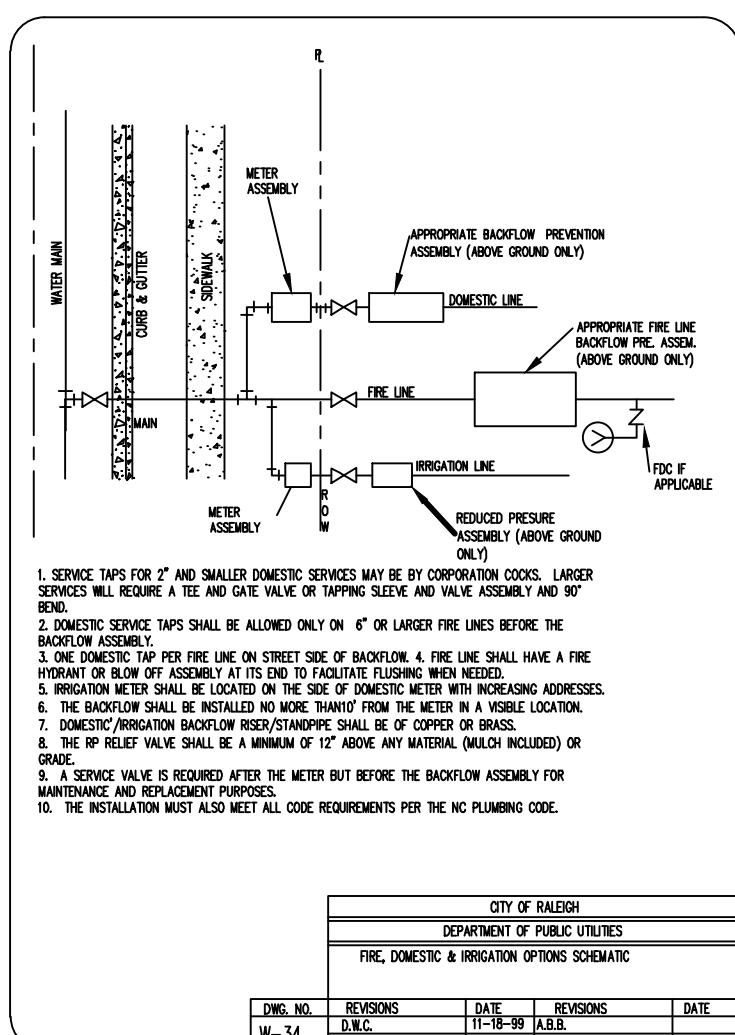
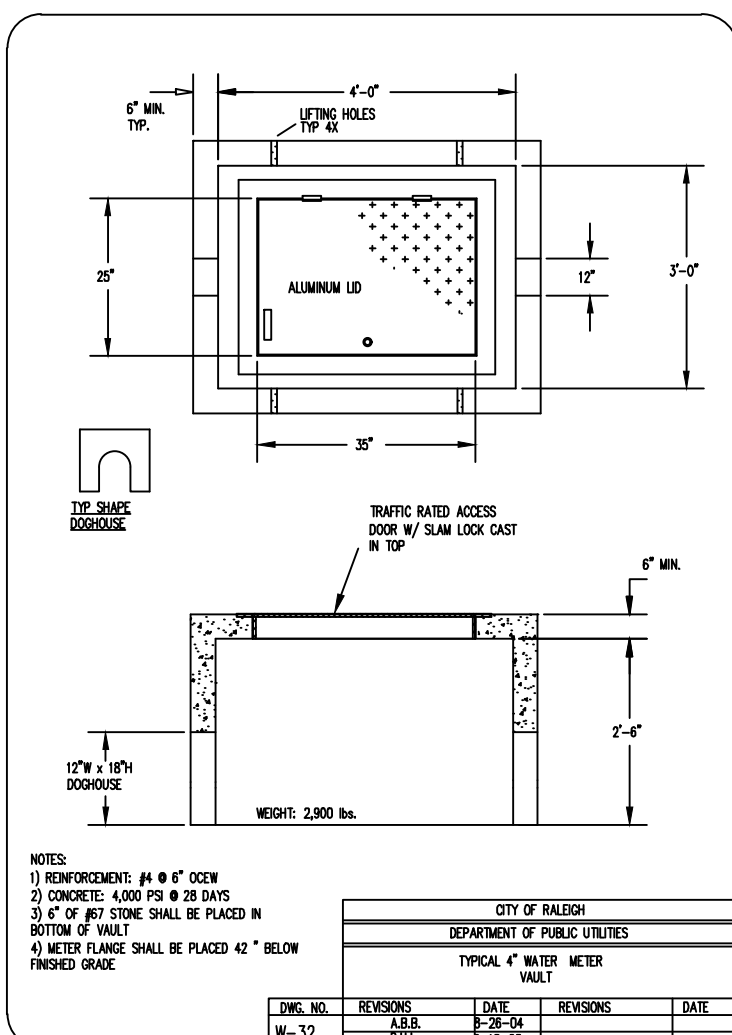
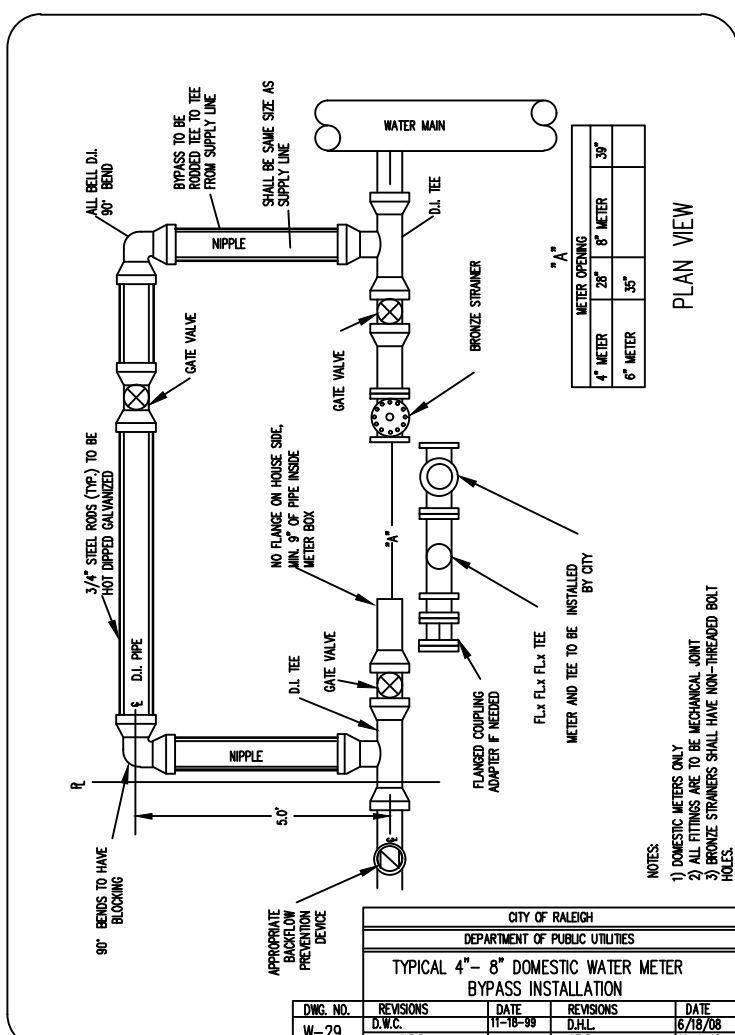
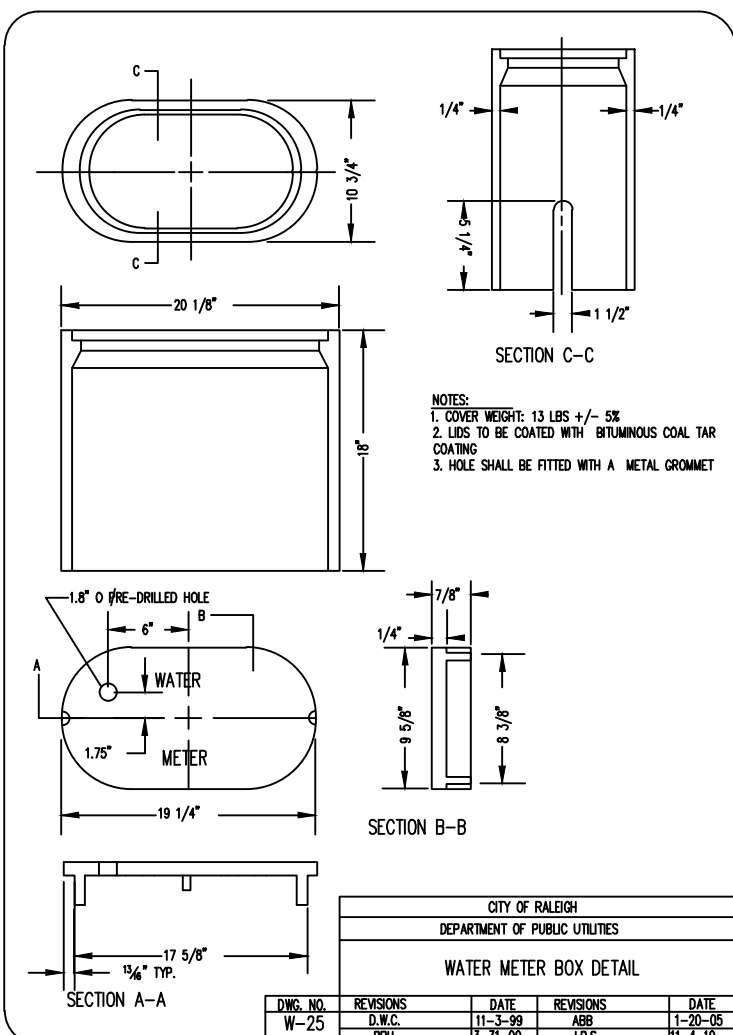
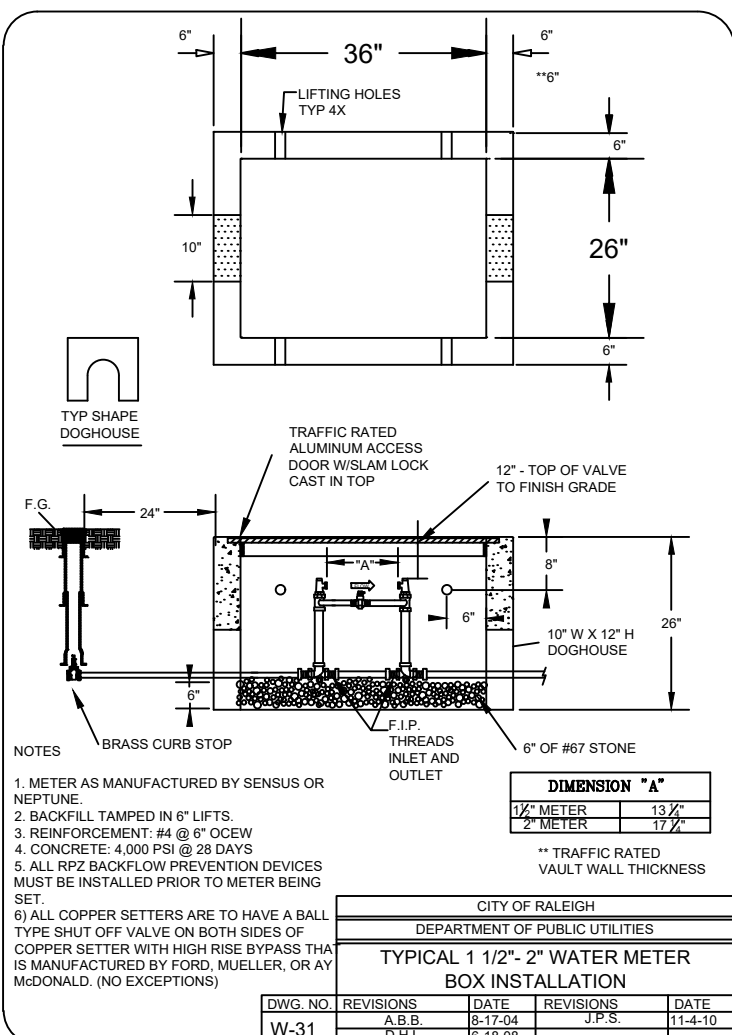
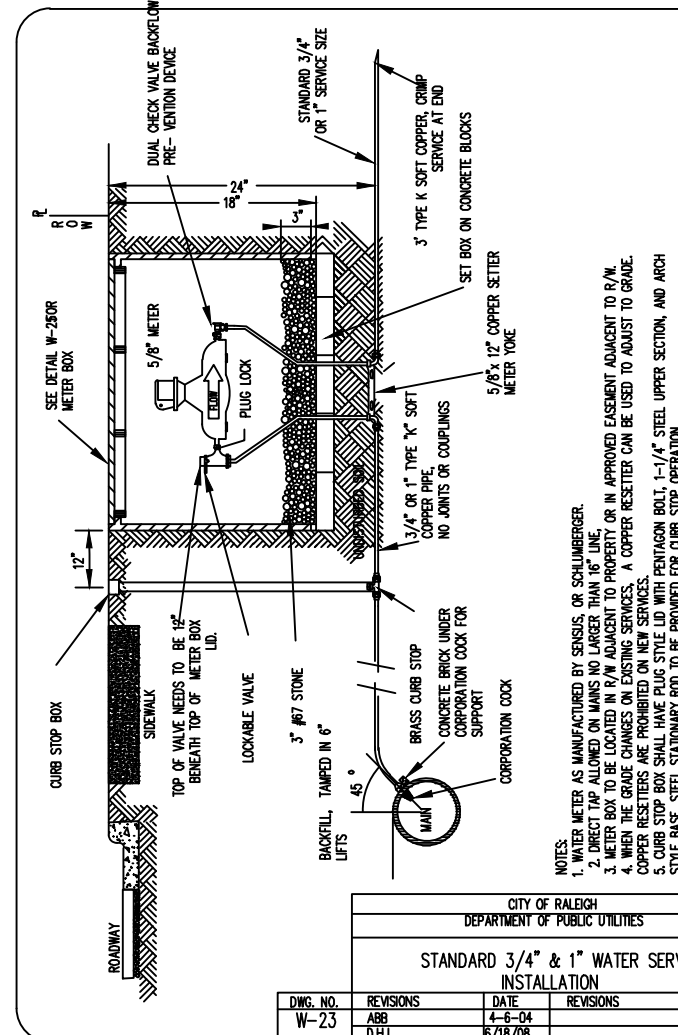
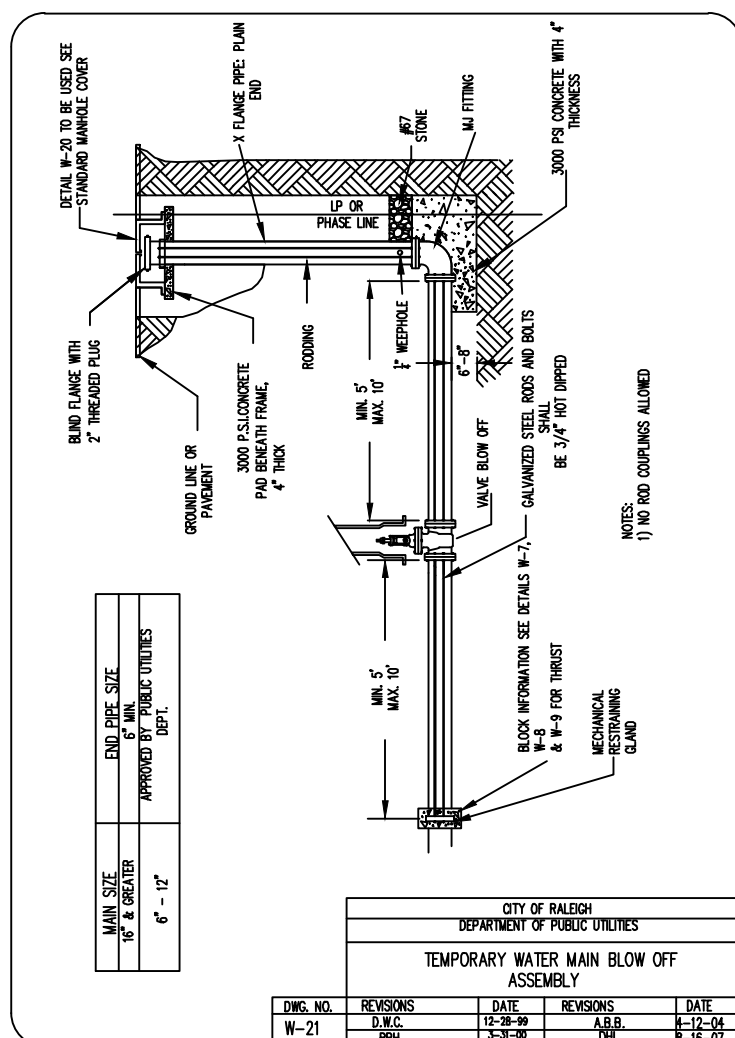
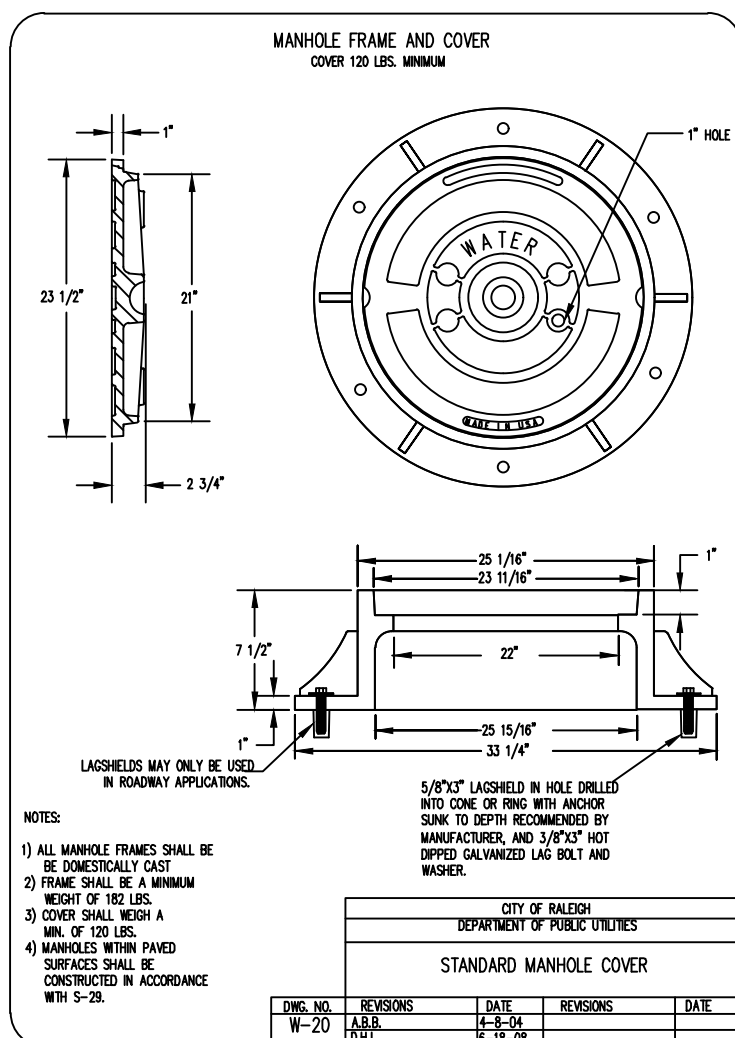
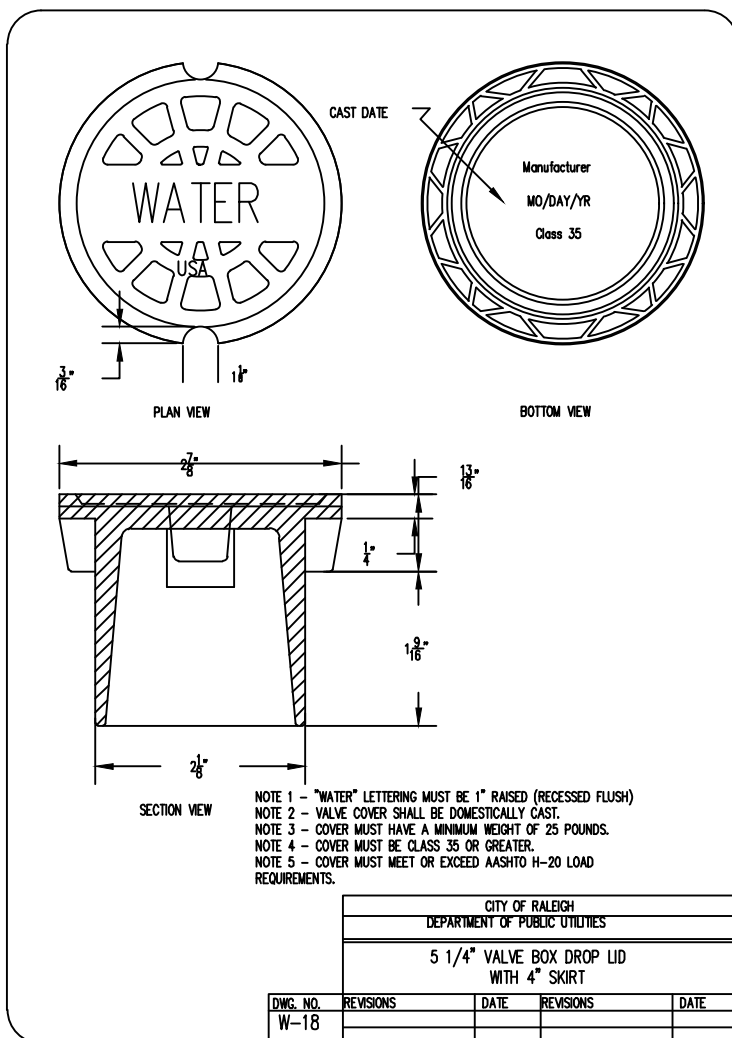
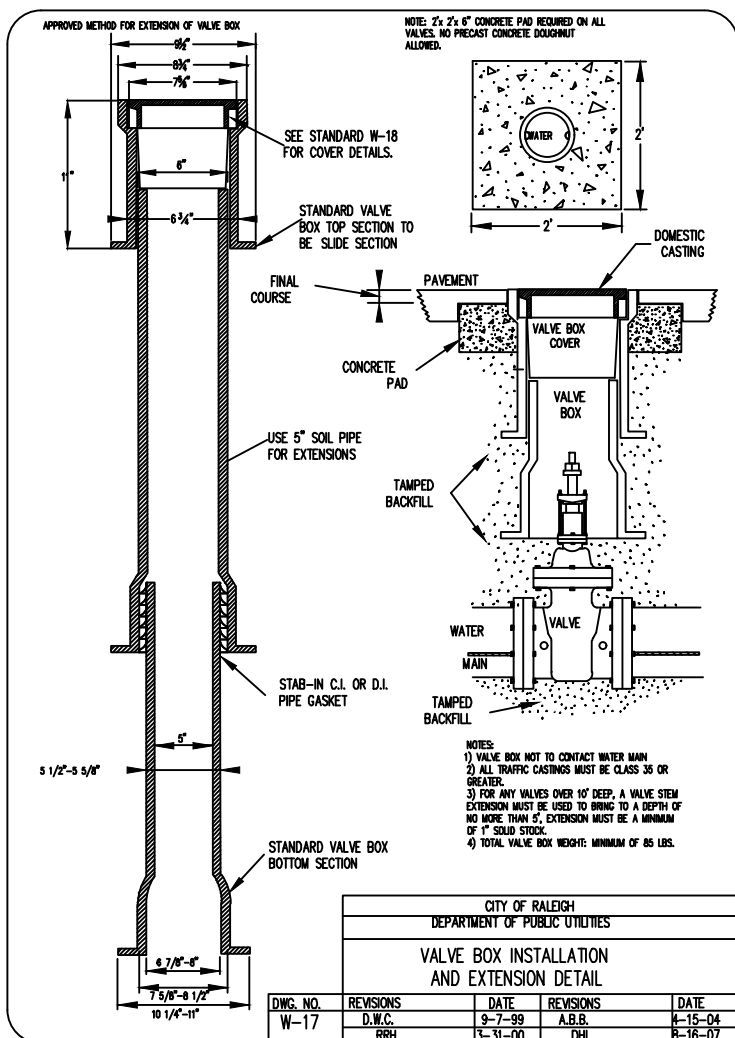
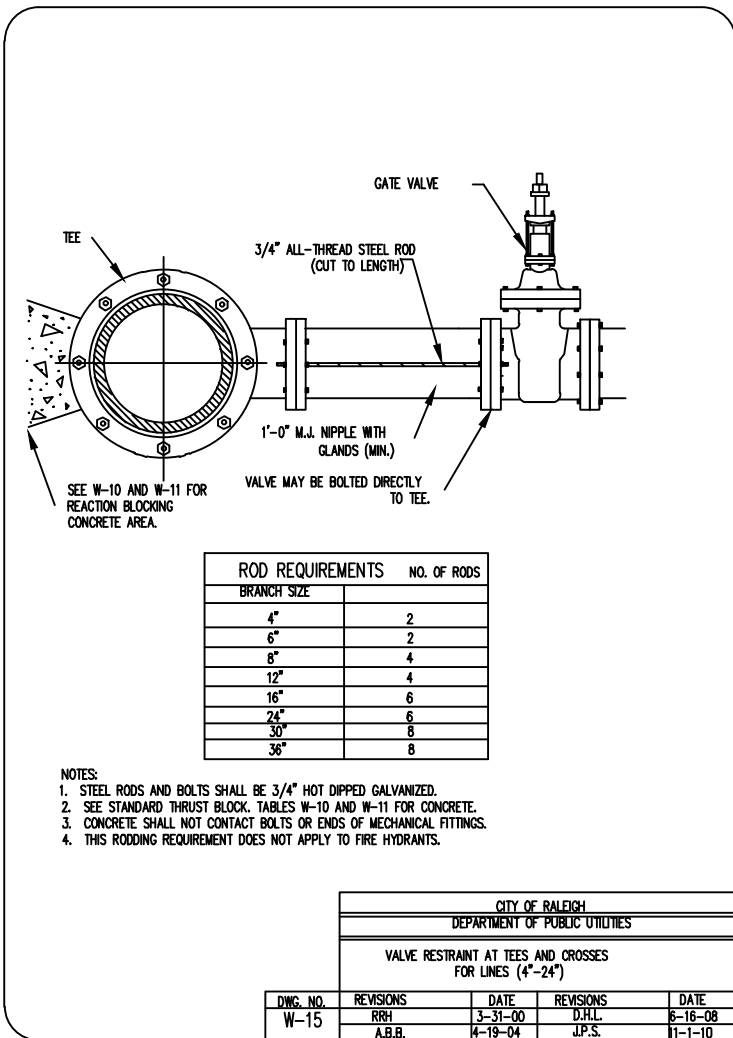
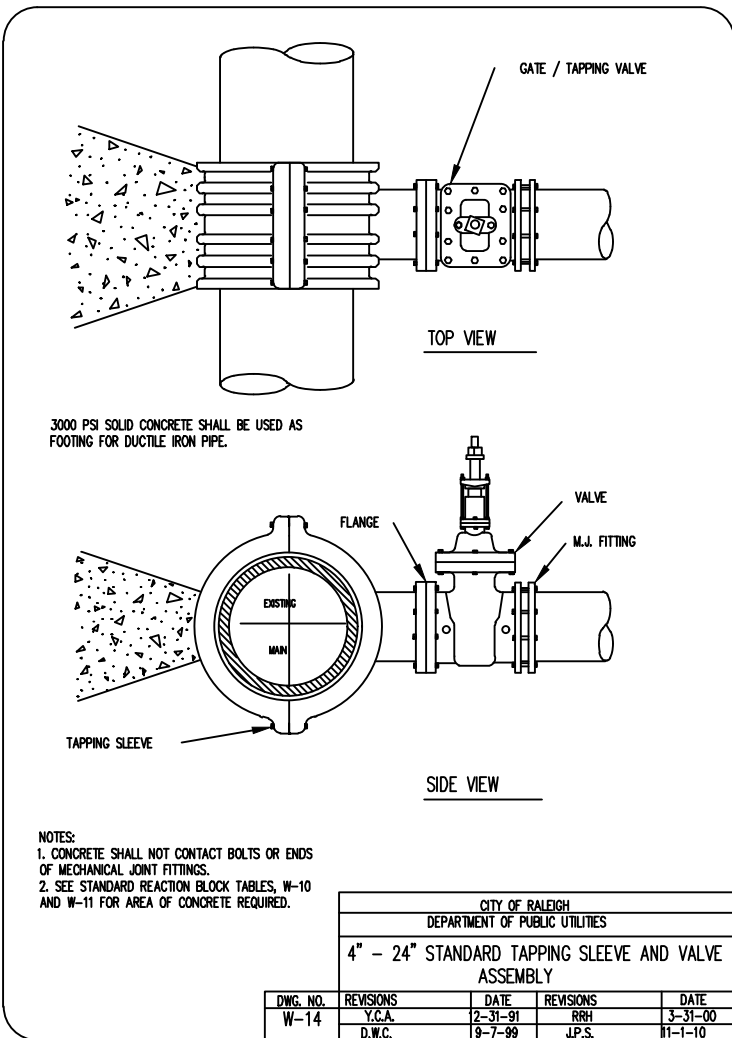
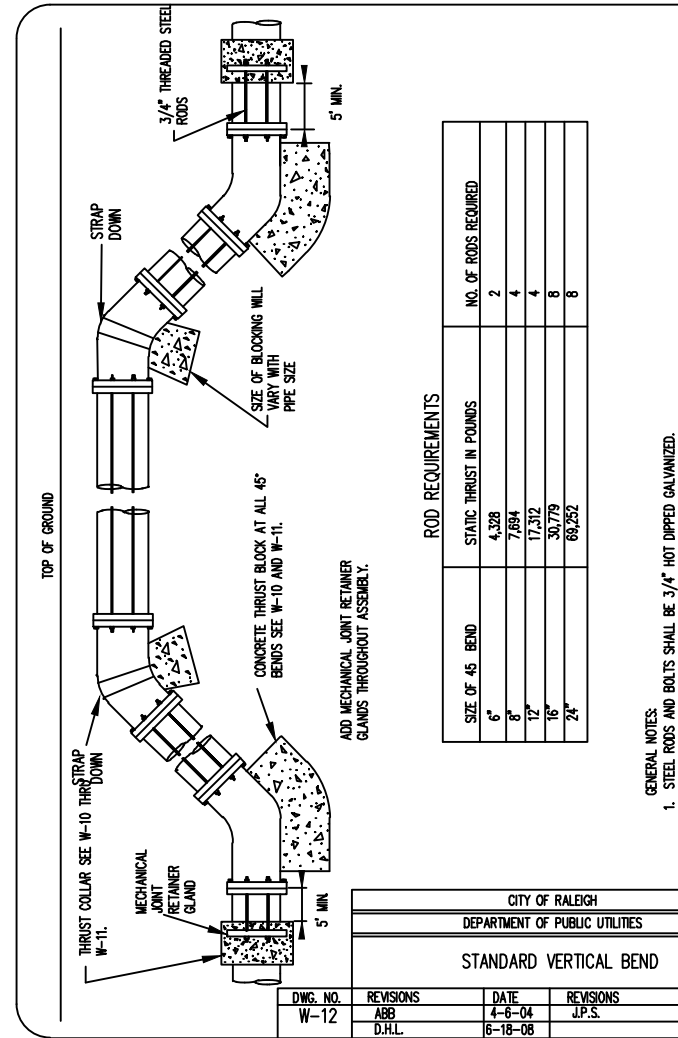
SHEET C6.5





REACTION BEARING AREAS FOR HORIZONTAL WATER PIPE BENDS BASED ON TEST PRESSURE OF 200 P.S.I.									
ALL AREAS ARE IN SQUARE INCHES									
PIPE SIZE AND WEIGHT PER FOOT	200 P.S.I.	250 P.S.I.	300 P.S.I.	350 P.S.I.	400 P.S.I.	450 P.S.I.	500 P.S.I.	550 P.S.I.	600 P.S.I.
12" 40 LB PER FOOT	1.08	1	1	1	1	1	1	2	5
12" 57 LB PER FOOT	2.07	2	2	2	2	2	2	3	13
16" 4.538 LB PER FOOT	2	2	2	2	2	2	2	2	5
16" 5.96 LB PER FOOT	3	3	3	3	3	3	3	3	8
16" 8.56 LB PER FOOT	5.0	2	3	4	1	2	6	4	1
20" 11.7 LB PER FOOT	1.875	1	1	2	1	1	1	2	5
20" 15.7 LB PER FOOT	3.591	1	2	3	1	1	1	4	1
24" 7.266 LB PER FOOT	2	4	5	1	1	2	6	8	1
24" 14.275 LB PER FOOT	4	5	6	2	1	2	10	12	1
24" 16.5 LB PER FOOT	10.0	5	6	2	2	3	10	1	1
30" 11.7 LB PER FOOT	4.63	2	3	3	1	1	2	5	1
30" 15.7 LB PER FOOT	8.0	5	6	2	2	3	9	1	1
36" 17.505 LB PER FOOT	9	9	10	3	3	5	18	2	1
36" 23.485 LB PER FOOT	16	10	12	4	4	6	24	3	1
36" 25.69 LB PER FOOT	16.9	12	14	3	3	6	23	3	1
42" 11.7 LB PER FOOT	7.881	2	4	5	1	1	2	8	1
42" 15.7 LB PER FOOT	15.89	4	8	10	2	4	16	2	1
48" 20.779 LB PER FOOT	18	16	18	4	4	8	21	4	1
48" 28.885 LB PER FOOT	28	19	20	4	4	10	27	8	1
48" 31.6 LB PER FOOT	42.0	10	20	25	5	10	41	5	1
REACTION BEARING AREAS IN SQUARE INCHES ARE BASED ON TEST PRESSURE OF 200 P.S.I. IN THE BENDS SEEN IN AREA OF UP TO THE FIRST ELBOW									
CITY OF BALTIMORE						DEPARTMENT OF PUBLIC UTILITIES			
THIRD STREET BROWDER AVENUE						SOUTHWEST TOWER			
USE FOR 4" - 30" BEND TYPES FOR						DATE			
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- UTILITY NOTES:**
- ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH CITY OF RALEIGH STANDARD DRAWINGS AND SPECIFICATIONS.
  - IN THE EVENT THAT A UTILITY ITEM IS NOT COVERED BY THESE PLANS, THEN THE STANDARDS AND SPECIFICATIONS CONTAINED IN THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT HANDBOOK COVERING SUCH ITEMS SHALL APPLY.
  - WATER SERVICES 3/4-INCH TO 2-INCH SHALL BE TYPE "M" SOFT COPPER, ALL OTHER WATER MAINS, SERVICES, AND FITTINGS SHALL BE CEMENT-UNION DUCTILE IRON PIPE PER CITY OF RALEIGH STANDARDS AND SPECIFICATIONS.
  - GRAVITY SANITARY SEWER MAINS SHALL BE DUCTILE IRON PIPE OR PVC PIPE, AS SPECIFIED IN THESE PLANS AND CITY OF RALEIGH STANDARDS AND SPECIFICATIONS. SANITARY SEWER SERVICES SHALL BE SCHEDULE 40 PVC.
  - CLEAN-OUT SYMBOLS SHOWN ON THESE PLANS REPRESENT LOCATION OF SURFACE ACCESS POINT. CONTRACTOR SHALL LOCATE WYE APPROPRIATELY BASED ON PIPE DEPTH.
  - ALL MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF RALEIGH STANDARDS. MANHOLE DIAMETER SHALL VARY DEPENDING ON PIPE DIAMETER AND DEPTH, PER CITY OF RALEIGH STANDARDS.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING RECORD DRAWINGS TO THE ENGINEER SHOWING THE LOCATION OF WATER AND SEWER SERVICES AND ANY DEVIATIONS FROM PLANS MADE DURING CONSTRUCTION. THE ENGINEER WILL PROVIDE THESE RECORD DRAWINGS TO THE OWNER.
  - WATER MAINS SHALL HAVE A MINIMUM COVER OF 36" BELOW PROPOSED GRADE.
  - ALL UNDERGROUND UTILITIES AND FIRE HYDRANTS MUST BE FUNCTIONALLY APPROVED PRIOR TO STRUCTURAL CONSTRUCTION.
  - THRUST BLOCKS SHALL BE PROVIDED AT ALL BENDS, TEES, AND FIRE HYDRANTS.
  - DIMENSIONS SHOWN ARE TO CENTERLINE OF PIPE OR FITTING.
  - ALL WATER AND SANITARY LEADS TO BUILDING SHALL END 5' OUTSIDE THE BUILDING LIMITS AS SHOWN ON PLAN AND SHALL BE PROVIDED WITH A TEMPORARY PLUG AT END.
  - ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS. MINIMUM TRENCH WIDTH SHALL BE 2 FEET.
  - GENERAL CONTRACTOR SHALL HAVE APPROVAL OF ALL GOVERNING AGENCIES HAVING JURISDICTION OVER THIS SYSTEM PRIOR TO INSTALLATION.
  - CONTRACTOR SHALL NOTIFY THE WATER AUTHORITY INSPECTORS 72 HOURS BEFORE CONNECTING TO ANY EXISTING LINE.
  - ALL UTILITIES SHOULD BE KEPT TEN (10') APART (PARALLEL) OR WHEN CROSSING 24" VERTICAL CLEARANCE (OUTSIDE EDGE OF PIPE TO OUTSIDE EDGE OF PIPE).
  - PRESSURE REDUCING VALVES WILL BE REQUIRED ON THE DOMESTIC WATER MAINS IF THE STATIC PRESSURE AT THE BUILDING EXCEEDS 80PSI.
  - IN THE EVENT OF A VERTICAL CONFLICT BETWEEN WATERLINES, SANITARY LINES, STORM LINES AND GAS LINES (EXISTING AND PROPOSED), THE SANITARY LINE SHALL BE DUCTILE IRON PIPE WITH MECHANICAL JOINTS AT LEAST 10 FEET ON BOTH SIDES OF CROSSING. THE WATERLINE SHALL HAVE MECHANICAL JOINTS WITH APPROPRIATE THRUST BLOCKING AS REQUIRED TO PROVIDE A MINIMUM OF 24" CLEARANCE. MEETING REQUIREMENTS OF ANSI A21.10 OR ANSI 21.11 (AWWA C-151) (CLASS 50).
  - DRAWINGS DO NOT PURPORT TO SHOW ALL EXISTING UTILITIES. EXISTING UTILITIES SHALL BE VERIFIED IN FIELD PRIOR TO INSTALLATION OF ANY NEW LINES.
  - CONTRACTOR IS RESPONSIBLE FOR COMPLYING TO THE STANDARDS AND SPECIFICATIONS OF THE CITY OF RALEIGH WITH REGARDS TO MATERIALS AND INSTALLATION OF THE WATER AND SEWER LINES.
  - THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES OR UTILITIES BY OTHERS AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
  - ALL CONSTRUCTION METHODS & MATERIALS SHALL CONFORM WITH THE CURRENT SPECIFICATIONS AND STANDARDS OF THE AMERICAN WATER WORKS ASSOCIATION (AWWA). THE AWWA CONSTRUCTION STANDARDS ARE SET FORTH IN THEIR CONSTRUCTION SPECIFICATIONS AND STANDARD FOR WATER AND SANITARY SEWERAGE FACILITIES. A COPY OF WHICH MUST BE PURCHASED FROM THE AWWA BY THE CONTRACTOR AND KEPT AT THE JOB SITE AT ALL TIMES. REFERENCE TO NC DOT SHALL MEAN THE CURRENT STANDARDS AND/OR SPECIFICATIONS OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION.
  - THE CONTRACTOR SHALL BE REQUIRED TO EXCAVATE BELOW PLAN GRADE ANY MATERIALS WHICH ARE UNSUITABLE FOR FOUNDATIONS, SOIL GRADES, PIPE TRENCH BOTTOMS OR OTHER PURPOSES AND BACKFILL THESE AREAS WITH AN APPROVED MATERIAL. THE EXTENT OF UNDERCUTTING AND BACKFILLING SHALL BE DETERMINED BY THE CITY OF RALEIGH AS TO AREAS WITHIN STREET RIGHT-OF-WAY AND THE ENGINEER IN OTHER AREAS. COMPENSATION SHALL BE AS SET FORTH IN THE CONTRACT DOCUMENTS.
  - A MINIMUM VERTICAL SEPARATION OF 24" SHALL BE MAINTAINED BETWEEN SANITARY SEWER & WATER LINES AND A FULL JOINT OF WATER LINE PIPE SHALL BE CENTERED WHERE WATER LINE CROSSES OVER SANITARY SEWER. WHERE CLEARANCE IS LESS THAN 18" BUT GREATER THAN 12", SANITARY SEWER SHALL BE PRESSURE TESTED DUCTILE IRON PIPE 10' FROM WATER-MAIN. WHEN WATER LINE CROSSES UNDER SANITARY SEWER, 18" MINIMUM CLEARANCE MUST BE MAINTAINED, AND SANITARY SEWER SHALL BE PRESSURE TESTED DUCTILE IRON PIPE 10' FROM WATER-MAIN.
  - ALL WATERLINES SHALL HAVE BURIED WITH THE PIPE # 12 COATED ELECTRIC WIRE AND BROUGHT UP INTO THE METER BOXES.
  - THE CONTRACTOR SHALL PROVIDE A SURVEY AS-BUILT RECORD DRAWING OF THE SANITARY SEWER SYSTEM AND THE WATER DISTRIBUTION SYSTEM IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF RALEIGH UTILITY DEPARTMENT.



### PUBLIC Sewer Collection/Extension System

The City of Raleigh consents to the connection and extension of the City's public sewer system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.

City of Raleigh  
Public Utilities Department Permit # S-3172

Authorization to Construct: \_\_\_\_\_ See Digital signature

### ATTENTION CONTRACTORS

The **Construction Contractor** responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for **contacting the Public Utilities Department at (919)996-4540** at least **twenty four hours** prior to beginning any of their construction.

**Failure** to notify both **City Departments** in advance of beginning construction, will result in the issuance of **monetary fines**, and require reinstatement of any water or sewer facilities not inspected as a result of this notification failure.

**Failure** to call for **Inspection, Install a Downstream Plug**, have **Permitted Plans** on the **Jobsite**, or any other **Violation of City of Raleigh Standards** will result in a **Fine and Possible Exclusion** from future work in the **City of Raleigh**.

# Bowman

Bowman North Carolina Ltd.  
4006 BARRETT DR  
Suite 104  
RALEIGH, NC 27609  
Phone: (919)553-6570  
bowman.com  
Bowman North Carolina Ltd.

## UTILITY DETAILS

Tractor Supply  
Old US Highway 264  
Zebulon, NC Wake County

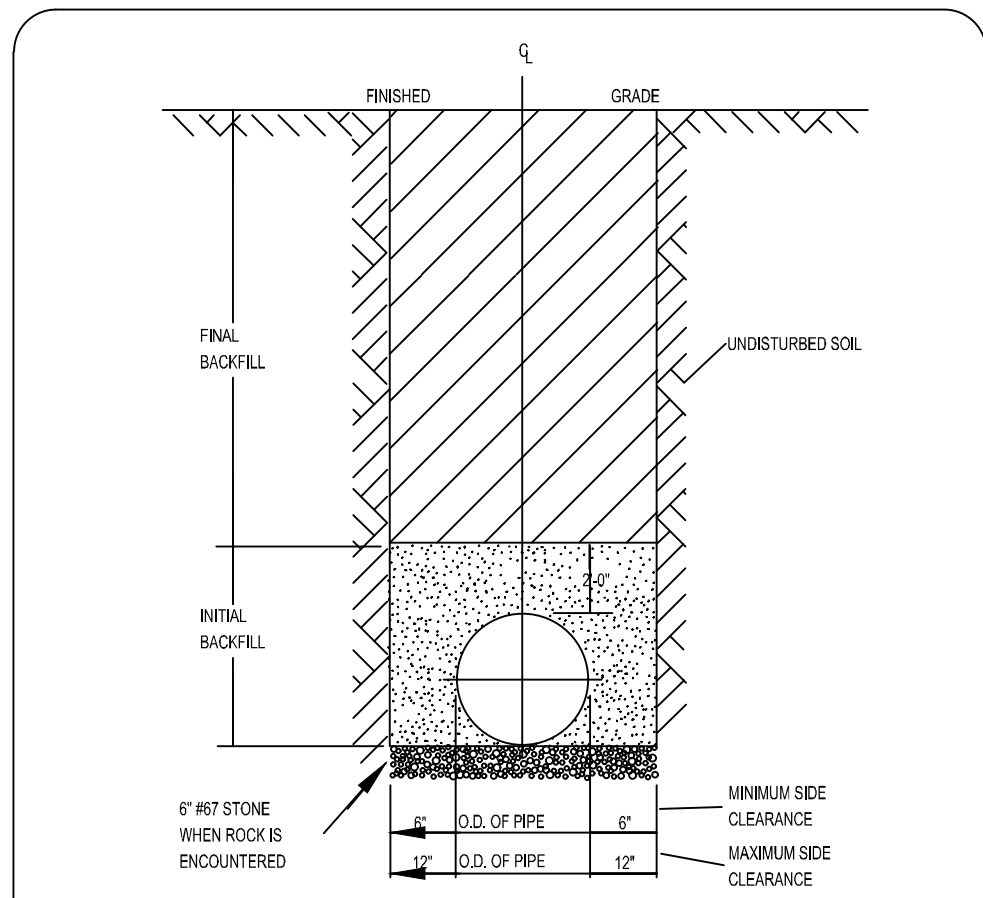
PLAN STATUS  
11/30/23 SEWER CROSSING AT RAILROAD  
1/10/24 PER WAKE CO REVIEW  
3/26/24 PER NC DOT REVIEW  
5/28/24 PER CITY OF RALEIGH REVIEW

MEL DESIGN  
SCALE H: 1" = XXX'  
V: 1" = XXX'

JOB No. 220127-01-001  
DATE May 28, 2024  
FILE No. 220127-D-CP-001

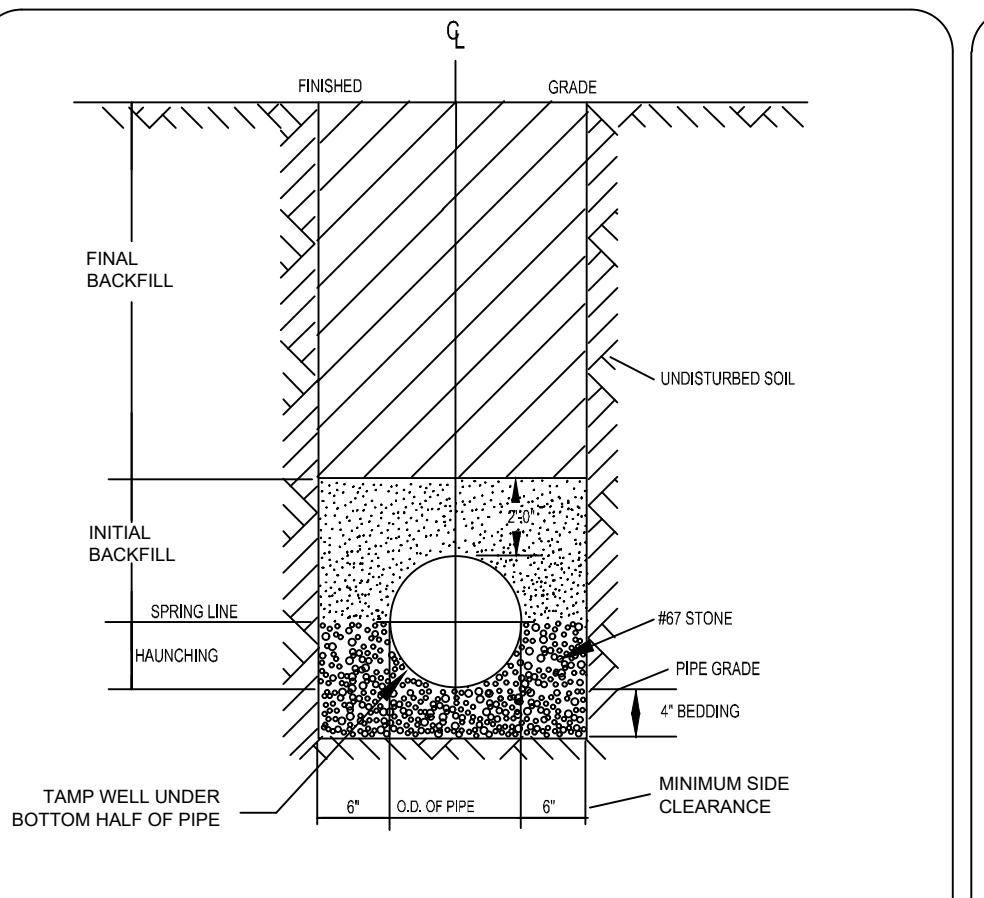
SHEET C6.6A





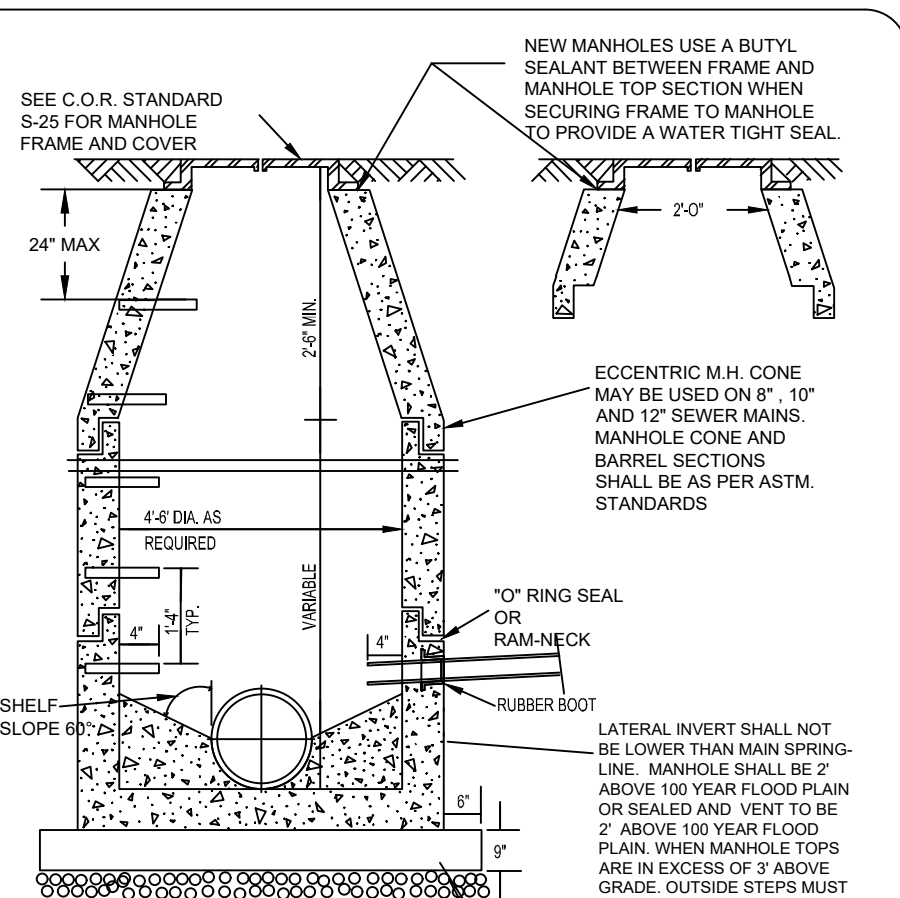
NOTES:  
1. TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.  
2. NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN INITIAL BACKFILL.  
3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.  
4. BACKFILL SHALL BE TAMPED IN 6" LIFTS IN TRAFFIC AREAS, 12" IN NON-TRAFFIC AREAS.  
5. ACHIEVE 80% COMPACTION IN NON-TRAFFIC AREAS, AND 90% COMPACTION IN TRAFFIC AREAS.  
6. IF IN EASEMENT 4" TOPSOIL AND 12" CLEAN SELECT FILL MAY BE REQUIRED.  
7. NO BOULDERS 6" IN DIAMETER OR GREATER ALLOWED IN FINAL BACKFILL.

CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES					
TRENCH BOTTOM DIMENSIONS & BACKFILLING REQUIREMENTS FOR DUCTILE IRON					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
S-4	REV. 1	3-30-00			



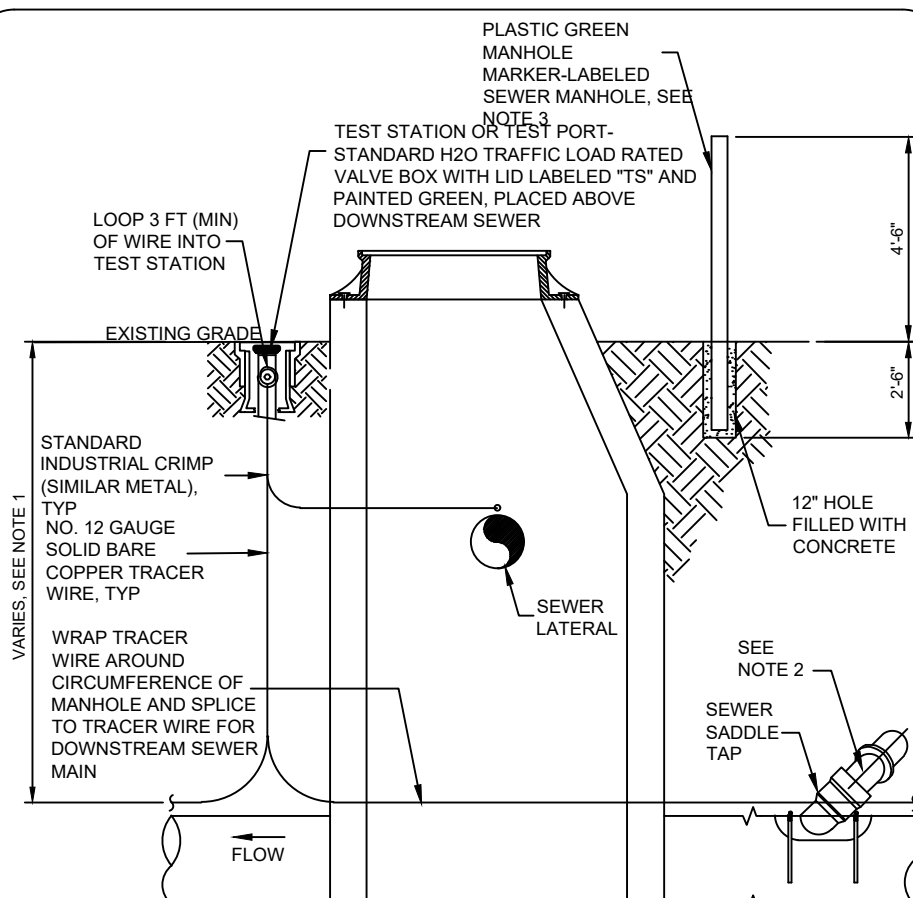
NOTES:  
1. FOR TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.  
2. NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN INITIAL BACKFILL.  
3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.  
4. BACKFILL SHALL BE TAMPED IN 6" LIFTS IN TRAFFIC AREAS, 12" IN NON-TRAFFIC AREAS.

CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES					
TRENCH BOTTOM DIMENSIONS & BACKFILLING REQUIREMENTS FOR PVC GRAVITY SEWER MAIN					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
S-5	REV. 1	3-30-00			



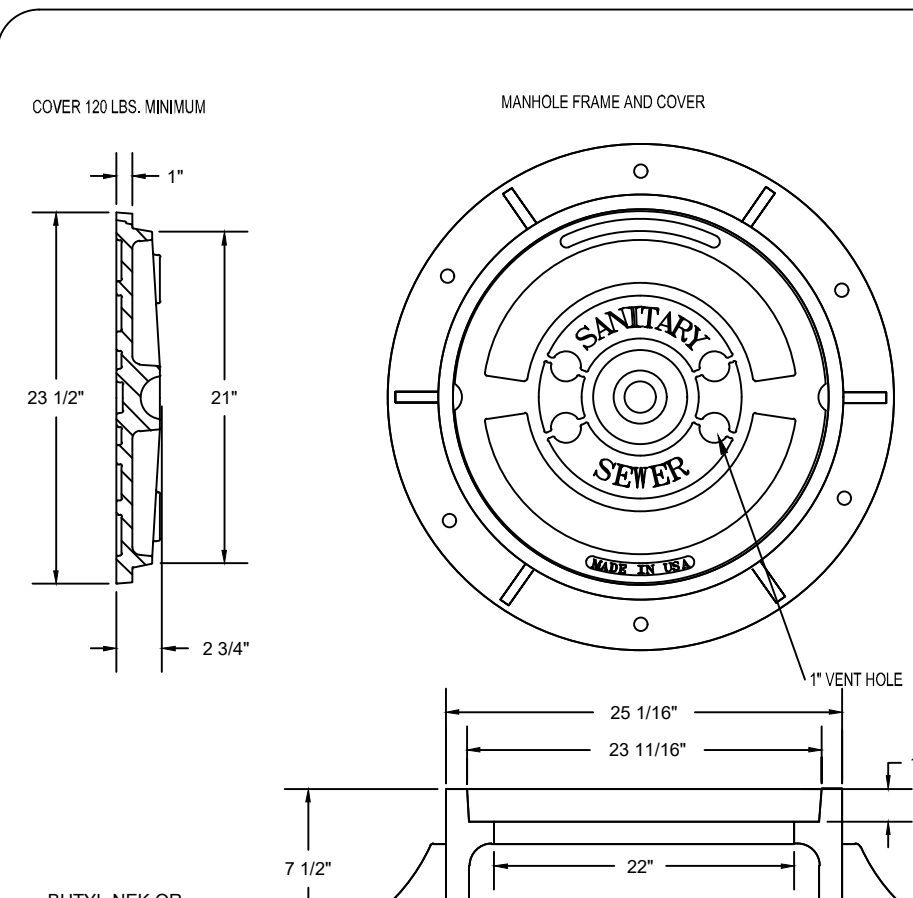
NOTES:  
1. FOR TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.  
2. NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN INITIAL BACKFILL.  
3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.  
4. BACKFILL SHALL BE TAMPED IN 6" LIFTS IN TRAFFIC AREAS, 12" IN NON-TRAFFIC AREAS.

CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES					
STANDARD PRECAST SANITARY SEWER MANHOLE					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
S-20	REV. 1	3-30-00			



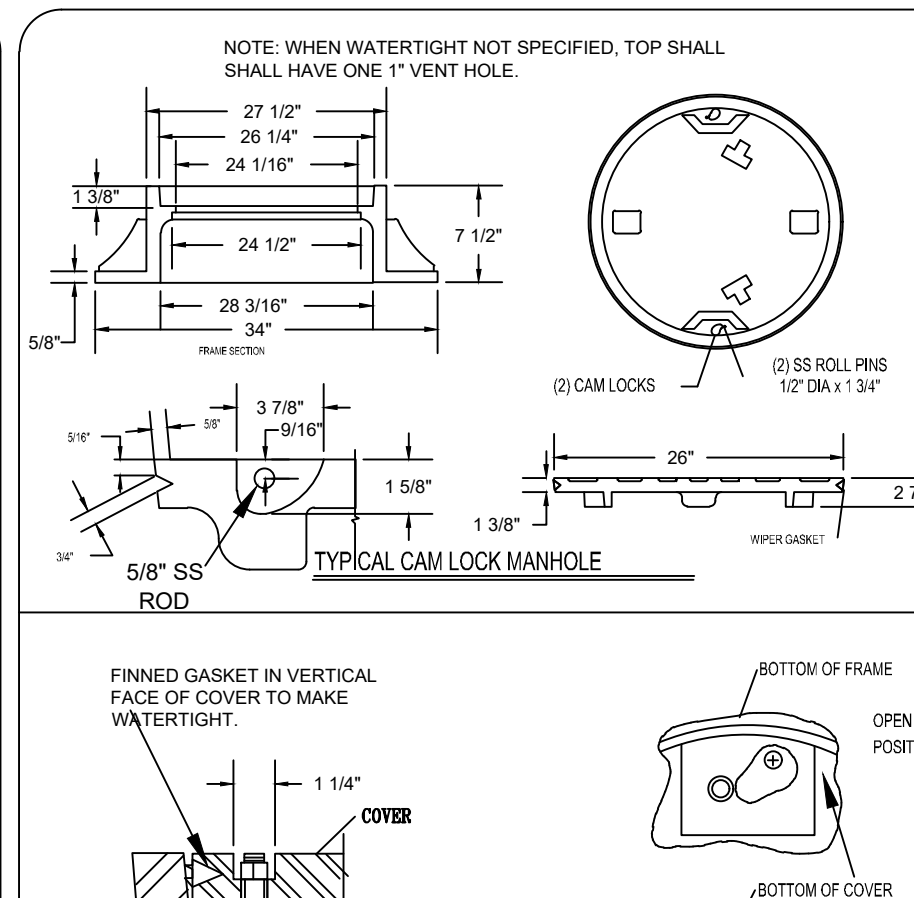
NOTES:  
1. THE TRACER WIRE SHALL BE CONTINUOUS TO THE GREATEST EXTENT POSSIBLE FOR GRAVITY MAIN AND OR LATERAL INSTALLATIONS LESS THAN 8 FT. THE TRACING WIRE SHALL BE ATTACHED TO THE PIPE. TRACER WIRE SHALL BE LAD FLAT AND SECURELY AFFIXED TO THE PIPE AT 10 FOOT INTERVALS. FOR GRAVITY MAIN AND OR LATERAL INSTALLATION DEEPER THAN 8 FT. THE TRACING WIRE SHALL BE INSTALLED AT A DEPTH OF 7.8 FT. THE WIRE SHALL BE PROTECTED FROM DAMAGE DURING THE EXECUTION OF THE WORK. NO BREAKS OF CUTS IN THE TRACER WIRE SHALL BE PERMITTED.  
2. WHERE LATERAL TAPS ARE MADE BY SERVICE SADDLES, THE TRACER WIRE SHALL NOT BE ALLOWED TO BE PLACED BETWEEN THE SADDLE AND MAIN.  
3. MANHOLE MARKERS SHALL BE PLACED ADJACENT TO MANHOLES AT THE DISCRETION OF OWNER OR OWNER'S REPRESENTATIVE.

CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES					
GRAVITY SEWER MAIN TRACER WIRE AND MANHOLE MARKER					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
S-20A	REV. 1	3-30-00			



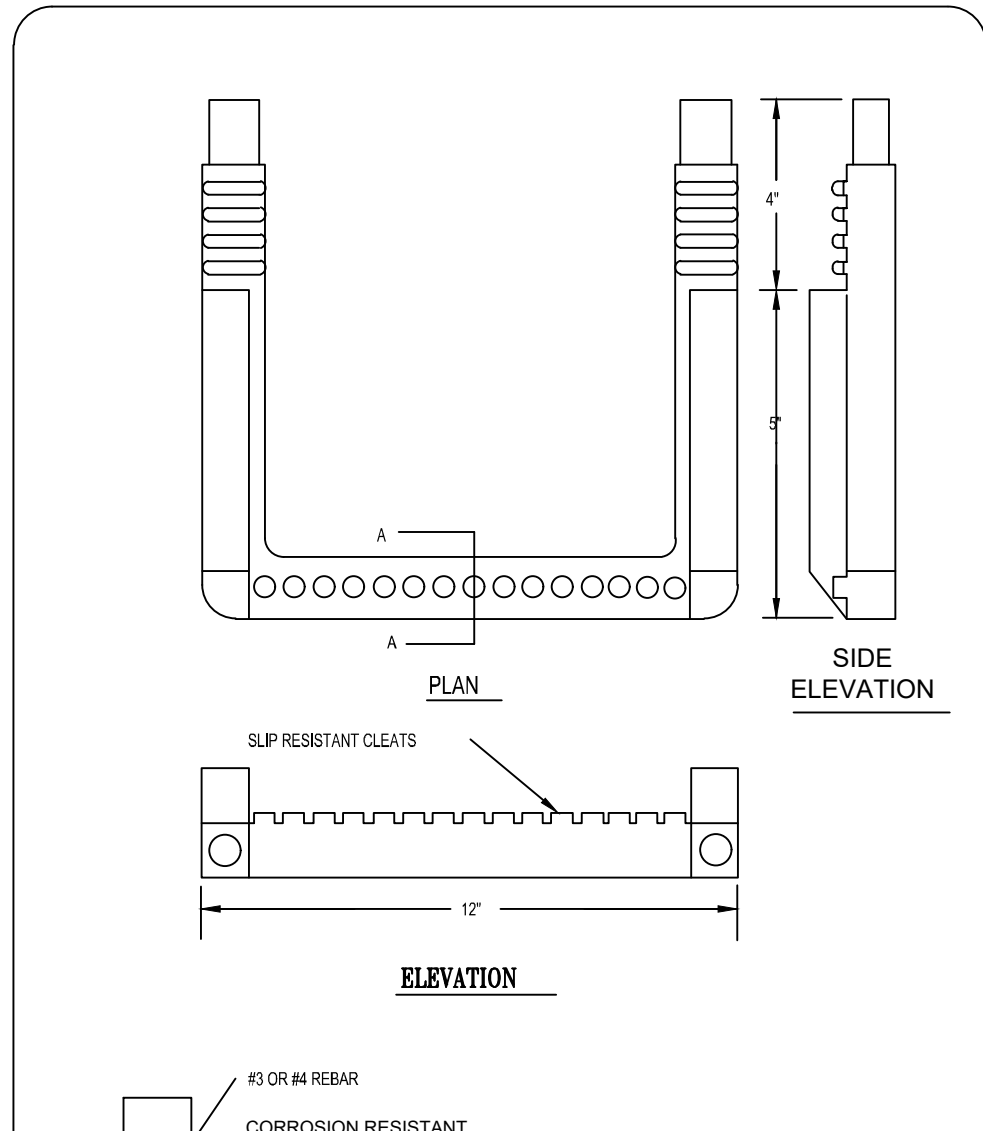
NOTES:  
1. ALL MANHOLE FRAMES SHALL BE DOMESTICALLY CAST.  
2. FRAME SHALL BE A MINIMUM WEIGHT OF 182 LBS. WITHIN PUBLIC ROW AND 160 LBS. WITHIN EASEMENTS.  
3. COVER SHALL WEIGH A MIN. OF 120 LBS.  
4. ALL MANHOLE FRAMES OUTSIDE OF PAVED SURFACES SHALL BE BOLTED TO THE CONE SECTION OR RING WITH A MINIMUM OF 4 BOLTS PER FRAME.

CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES					
STANDARD MANHOLE COVER					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
S-25	REV. 1	3-30-00			

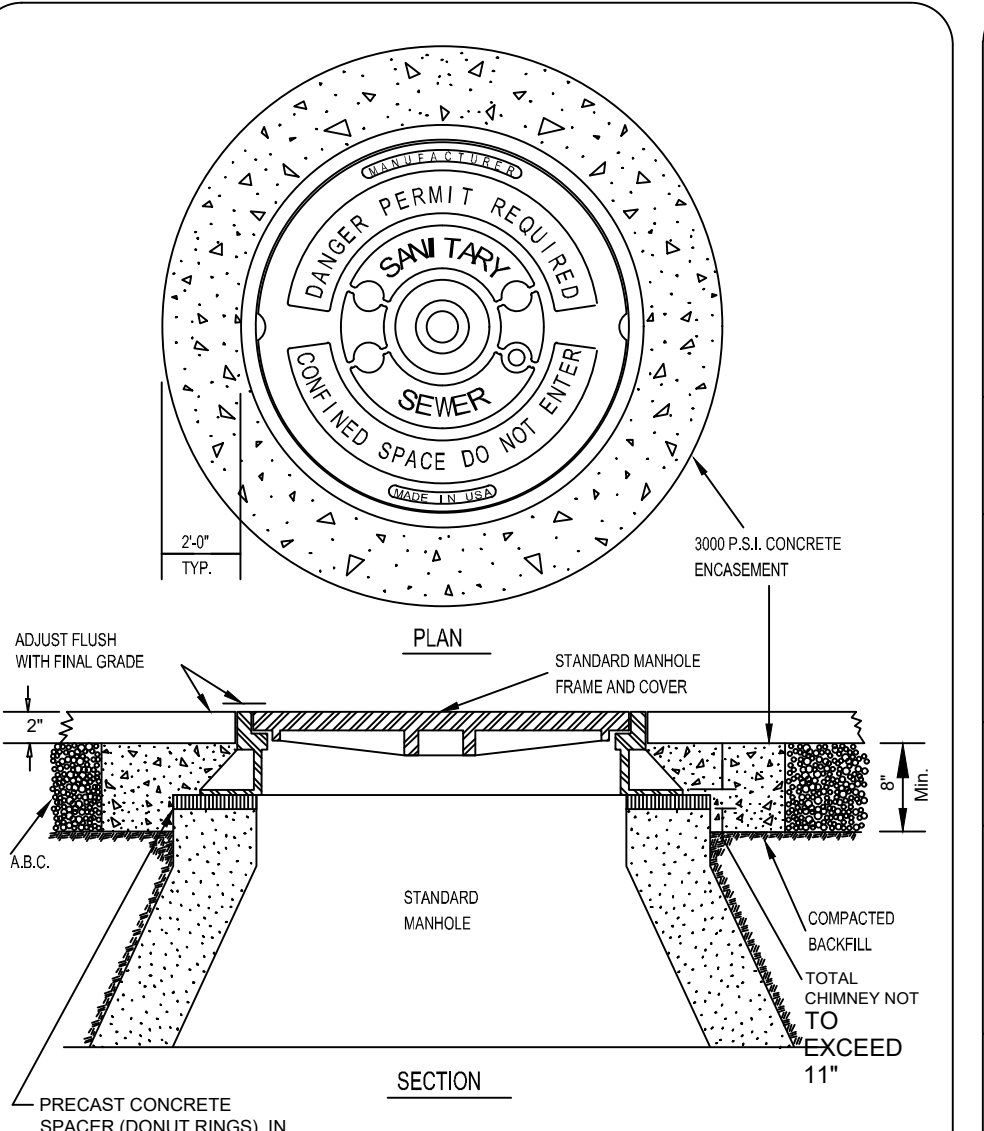


NOTES:  
1. WHEN WATERTIGHT NOT SPECIFIED, TOP SHALL HAVE ONE 1" VENT HOLE.  
2. CAM LOCKS SHALL BE 12" DIA. X 1 3/4".  
3. FINNED GASKET IN VERTICAL FACE OF COVER TO MAKE WATERTIGHT.  
4. LOCKING DEVICE SHALL BE 1 1/4" DIA. X 1 3/4".  
5. STANDARD - PENTAGON HEAD S.S. OPTIONAL - S.S. HEX HEAD BOLT.

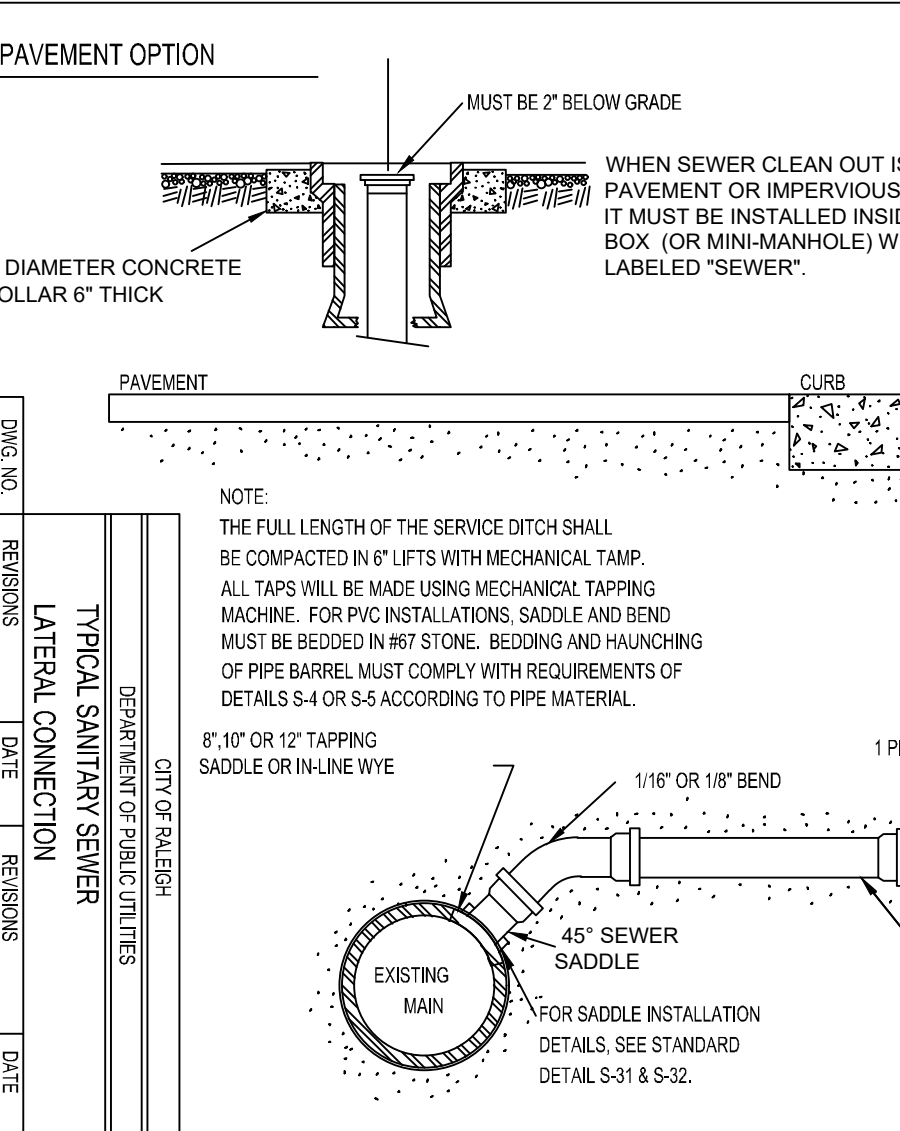
CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES					
WATER-TIGHT MANHOLE FRAME WITH CAM LOCK COVER					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
S-27	REV. 1	3-30-00			



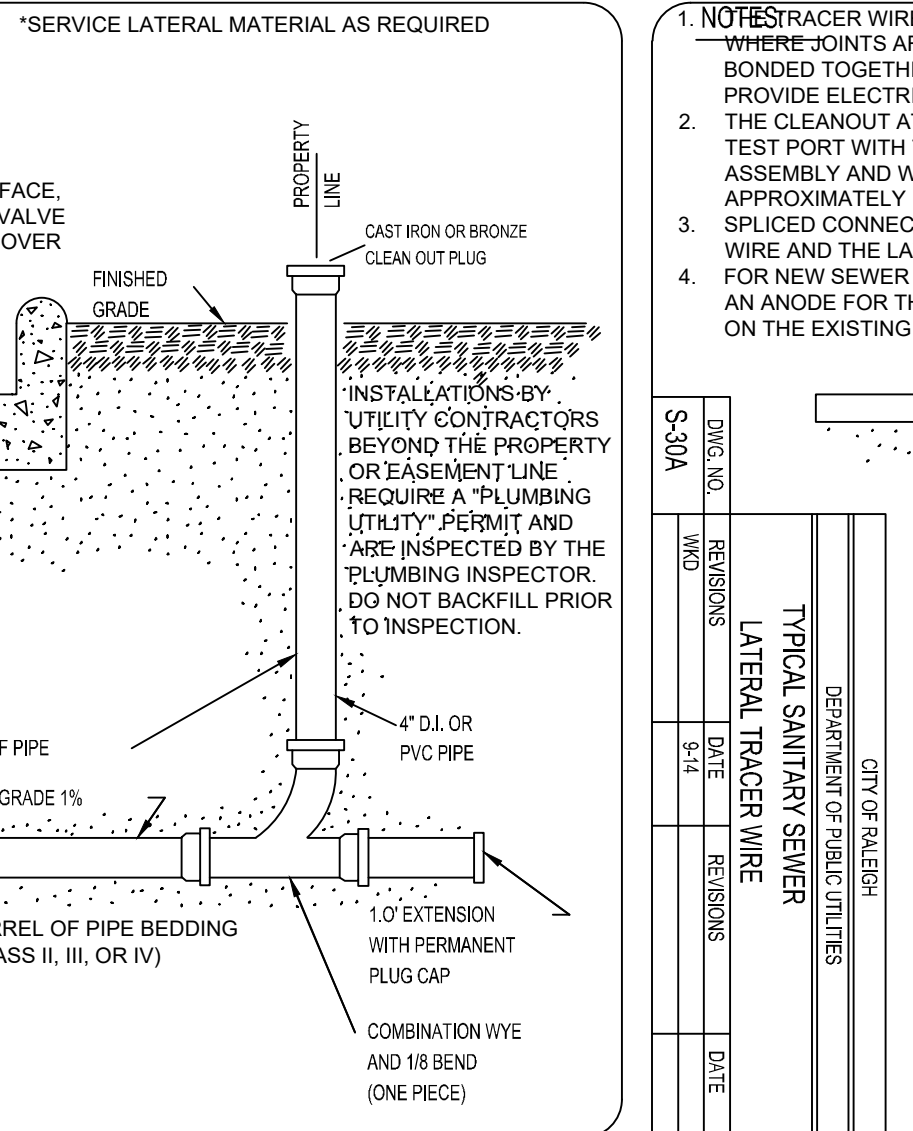
CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES					
STANDARD SLIP RESISTANT MANHOLE STEP DETAIL					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
S-28	REV. 1	3-30-00			



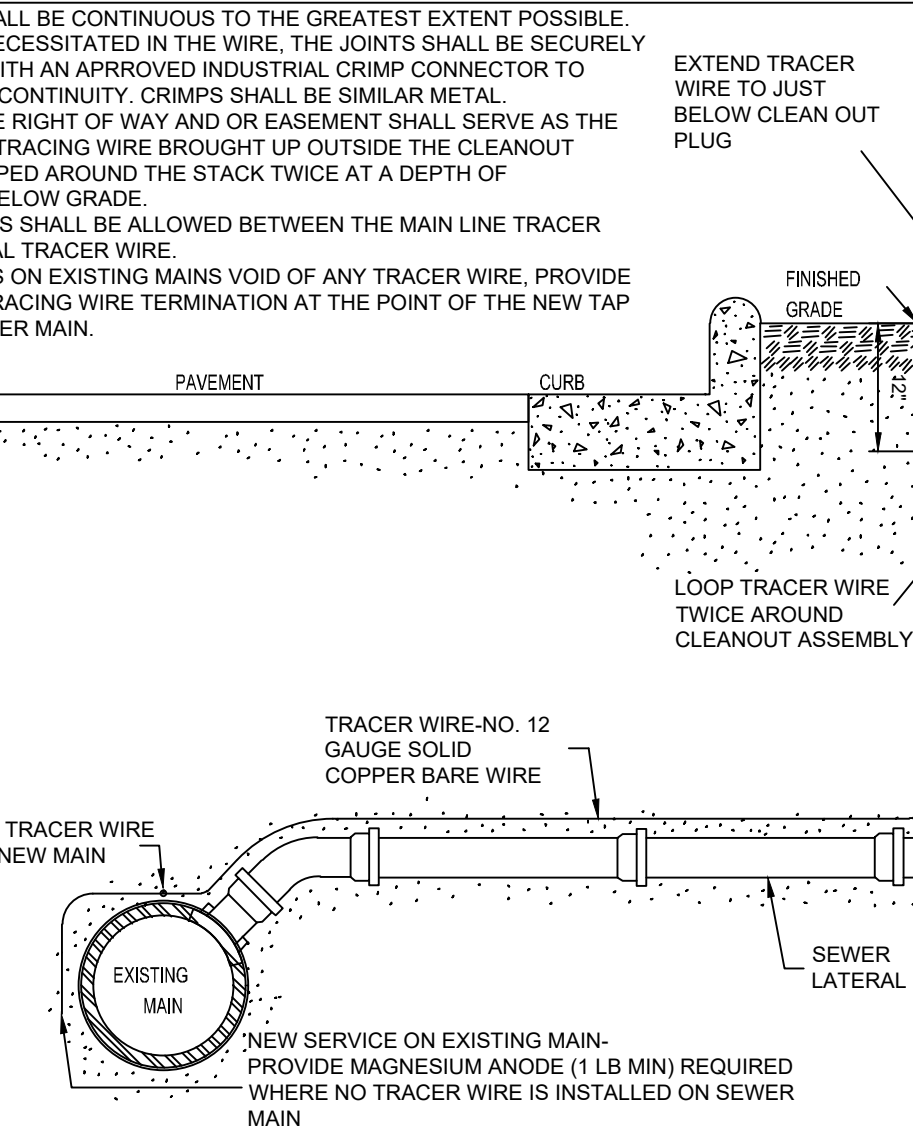
CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES					
STANDARD MANHOLE FRAME AND COVER DETAIL WITHIN PAVED SURFACES					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
S-29	REV. 1	3-30-00			



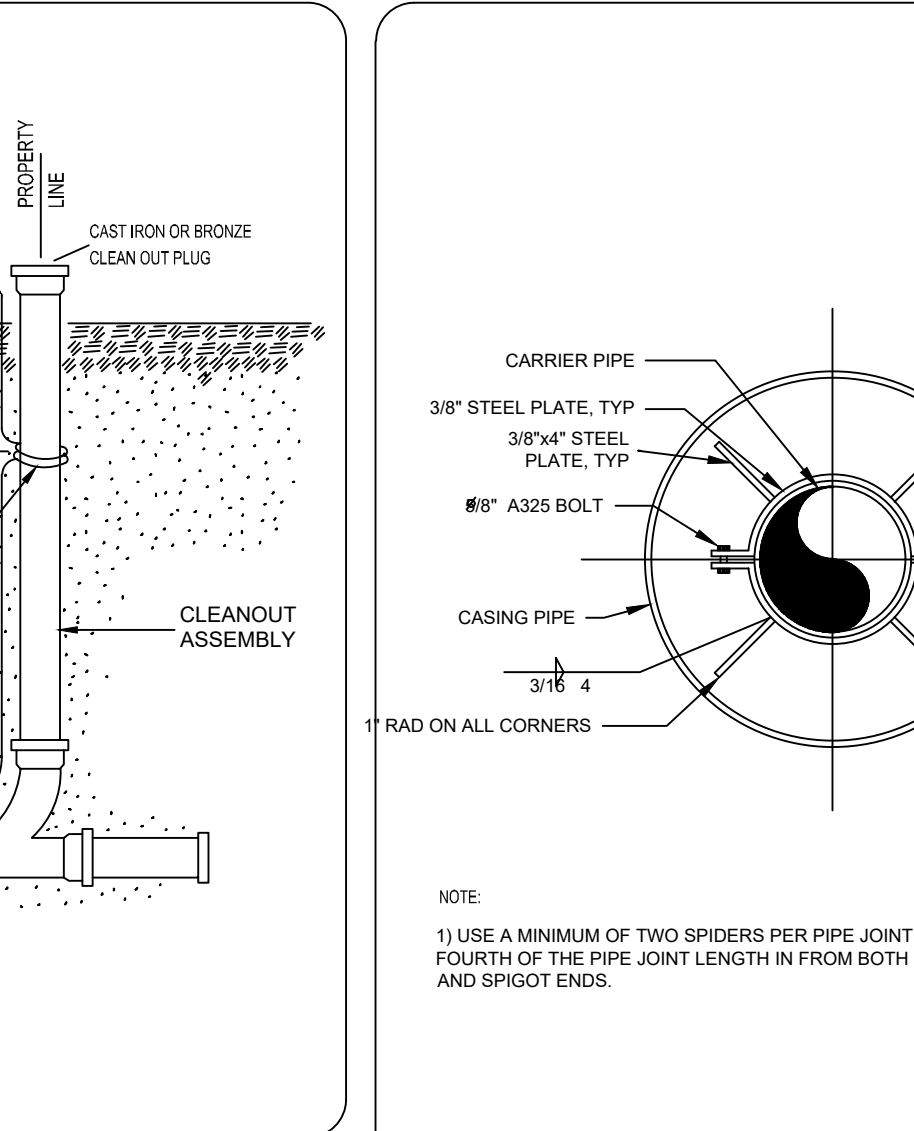
CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES					
TYPICAL SANITARY SEWER LATERAL CONNECTION					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
S-30	REV. 1	3-30-00			



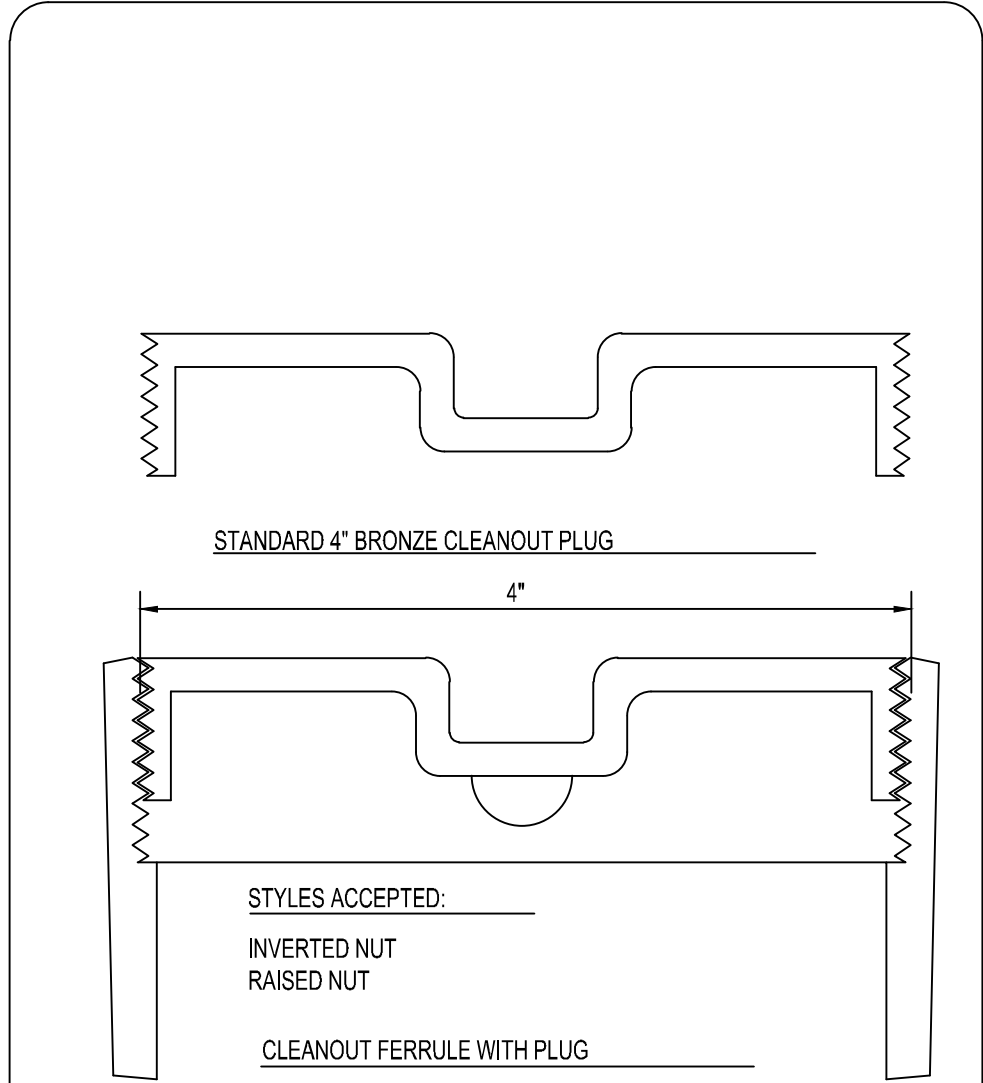
CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES					
TYPICAL SANITARY SEWER LATERAL TRACER WIRE					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
S-30A	REV. 1	3-30-00			



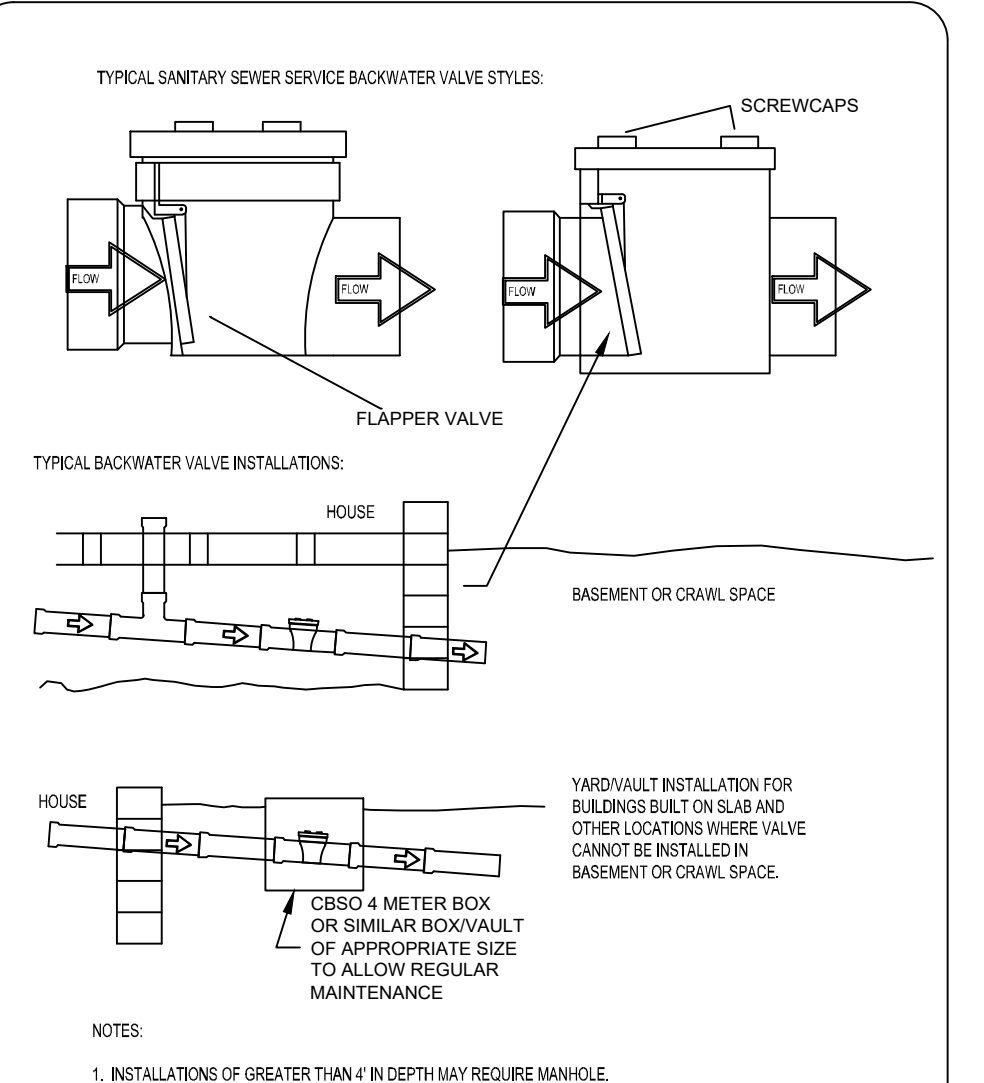
CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES					
PIPE ALIGNMENT GUIDE					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
S-39	REV. 1	3-30-00			



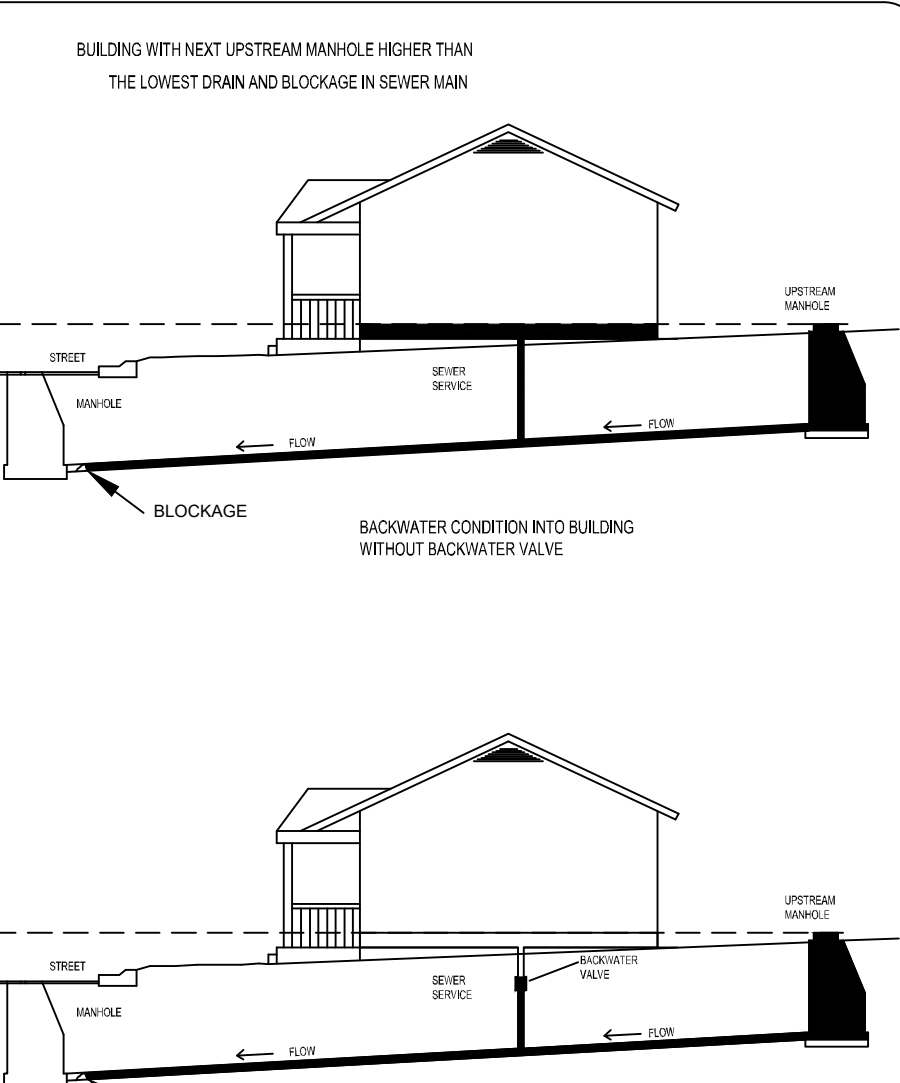
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PIPE ALIGNMENT GUIDE					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
S-39	REV. 1	3-30-00			



CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES					
4" CLEANOUT PLUG					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
S-34	REV. 1	3-30-00			



CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES					
TYPICAL SANITARY SEWER SERVICE BACK- WATER VALVE INSTALLATION					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
S-38	REV. 1	3-30-00			



CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES					
TYPICAL SERVICE SERVICE REQUIRING BACKWATER VALVE					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
S-42	REV. 1	3-30-00			

**PUBLIC Sewer Collection/Extension System**  
The City of Raleigh consents to the connection and extension of the City's public sewer system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.  
City of Raleigh  
Public Utilities Department Permit # S-1172  
Authorization to Construct See digital signature

**ATTENTION CONTRACTORS**  
The **Construction Contractor** responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for **contacting the Public Utilities Department** at (919)996-4540 at least **twenty four hours** prior to beginning any of their construction.  
**Failure** to notify both **City Departments** in advance of beginning construction, will result in the issuance of **monetary fines** and require reinstallation of any water or sewer facilities not inspected as a result of this notification failure.  
**Failure** to call for **Inspection, Install a Downstream Plug**, have **Permitted Plumber** on the **Jobsite**, or any other **Violation of City of Raleigh Standards** will result in a **Fine and Possible Exclusion** from future work in the **City of Raleigh**.

**Bowman**  
Bowman North Carolina Ltd.  
4006 BARRETT DR  
Suite 104  
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Phone: (919)553-6570  
bowman.com  
Bowman North Carolina Ltd.

**TSC**  
TRACTOR SUPPLY COMPANY

**UTILITY DETAILS**  
**Tractor Supply**  
Old US Highway 264  
Zebulon, NC Wake County

**Seal**  
NORTH CAROLINA  
PROFESSIONAL ENGINEER  
SEAL 2448  
EXPIRATION DATE 12/31/2024  
JAMES E. DUBER

PLAN STATUS		
11/30/23	SEWER CROSSING AT RAILROAD	
1/10/24	PER WAKE CO REVIEW	
3/26/24	PER NCDOT REVIEW	
5/28/24	PER CITY OF RALEIGH REVIEW	
MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	H: 1" = XXX'	V: 1" = XXX'
JOB No.	220127-01-001	
DATE	May 28, 2024	
FILE No.	220127-D-CP-001	

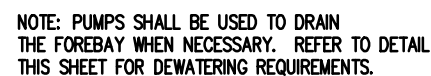
SHEET **C6.6B**



1. INSTALL EROSION CONTROLS.
2. CONSTRUCT DAM BASE AND AREAS BELOW THE NORMAL POOL. CONSTRUCTION TO BE PERFORMED UNDER THE INSPECTION OF THE GEOTECHNICAL ENGINEER. SEED UPON COMPLETION.
3. INSTALL OUTLET PIPE, RIP-RAP APRON AND STONE FILTER RING.
4. CONSTRUCT OUTLET STRUCTURE.
5. REMOVE ACCUMULATED SEDIMENT AND SEED UPON COMPLETION.



NOTE: 1.0" STORM ELEVATION IS 280.97 AND INTERMEDIATE WEIR IS ELEVATION 282.0. THERE IS ADDITIONAL STORAGE DESIGNED FROM THE 1.0" STORM ELEVATION TO THE INTERMEDIATE WEIR ELEVATION.



1. Immediately after the wet pond is established, the plants on the vegetated shell perimeter of the basin will be inspected weekly if needed, until plants become established (currently six weeks).
2. No portion of the wet pond will be fertilized after the first initial fertilization that is required to establish the plants on the vegetated shell.
3. The pond's groundwater is contained in the drainage area to reduce the sediment load to the wet pond.
4. If the pond must be drained for an emergency or to perform maintenance, the flushing of sediment through the emergency drain will be minimized as much as possible.
5. Once a year, a dam safety report through the dam bankment.
6. The measuring device used to determine the sediment elevation shall be such that it will give an accurate depth reading and not readily penetrate into accumulated sediments.

After the wet pond is established, it should be inspected quarterly and within 24 hours after every storm event between 10 inches (or 1.5 inches if in a Coastal County). Records of operation and maintenance will be kept in a known location.



1. PRIOR TO INSTALLATION, MANUFACTURER SPECIFICATIONS OF FILTER MEDIA SHALL BE REVIEWED TO ENSURE THAT DISCHARGE FROM FILTER MEDIA SHALL MEET OR EXCEED THE PROVISIONS OF THE CLEAN WATER ACT.
2. ENSURE THAT PUMP PRESSURE DOES NOT EXCEED FILTER MEDIA PRESSURE RATING.
3. FILTER MEDIA MAY BE, BUT NOT LIMITED TO, SAND MEDIA FILTRATION DEVICES, RATED FILTER FABRIC BAGS OR POLYMER BASED Dewatering PRACTICES.
4. PUMP STRAINER SHALL NOT BE IN CONTACT WITH BOTTOM OF POND.

BMP POND DEWATERING

1. CHisel COMPACTED AREAS AND SPREAD TOPSOIL THREE INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF ANY.
2. RAKE THE ENTIRE AREA TO SIX INCHES DEEP.
3. REMOVE ALL LOGS, ROCKS AND OTHER OBSTRUCTIONS, LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
4. APPLY AGRICULTURAL LIQUID FERTILIZER, AND SUPERPHOSPHATE UNIFORMLY AND MIX WITH SOIL (SEE SEEDING INSTRUCTIONS).
5. CONTINUE TILLAGE UNTIL A WELL-PAVLERIZED, FIRM, REASONABLY UNIFORM SEEDBED IS PREPARED FOUR TO SIX INCHES DEEP.
6. SPREAD FRESHLY PREPARED SEEDING MIXTURE EVENLY AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULPBACK AFTER SEEDING.
7. MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
8. INSPECT ALL SEEDBED AREAS AND MAKE NECESSARY REPAIRS OR RE-SEEDINGS WITHIN THE PLANTING SEASON, IF NECESSARY. REPAIRS AND RE-SEEDINGS SHOULD BE MORE THAN 60% DAMAGED, RE-ESTABLISH FOLLOWING THE ORIGINAL LINE, SEEDING AND SEEDING PAGES.
9. CONSULT SEED ENVIRONMENTAL ENGINEERS ON MAINTENANCE, TREATMENT AND FERTILIZATION AFTER PLANTING.

ALL LANDSCAPING SHALL BE IN COMPLIANCE WITH THE NCEQ BMP REQUIREMENTS.

LANDSCAPE CONTRACTOR SHALL PROVIDE A TWO-YEAR WARRANTY FOR BMP PLANTING SURVIVAL/REPLACEMENT. AT THE END OF THE FIRST YEAR AND AT THE END OF THE TWO-YEAR WARRANTY PERIOD, ALL PLANTS THAT DO NOT SURVIVE MUST BE REPLACED.

ESTABLISHMENT PROCEDURES, SUCH AS CONTROL OF INVASIVE WEEDS, ANIMAL AND VANDAL DAMAGE, MULCHING, RE-STAKING, WATERING, AND MESH OR TUBE PROTECTION REPLACEMENT, SHALL BE IMPLEMENTED TO THE EXTEND NEEDED TO ENSURE PLANT SURVIVAL. STAKING MUST BE REMOVED AFTER ESTABLISHMENT (APPROXIMATELY 12 MONTHS), TO PREVENT GIRDLING (STRANGLING) OF ALL WOODY PLANTS.

SOD WITHIN BMP AND SURROUNDING AREAS TO BE BERMUDA OR CENTIPEDE GRASS

GRASS OR WILDFLOWER SEED MUST BE APPLIED AT THE RATES SPECIFIED BY THE SUPPLIERS. IF PLANT ESTABLISHMENT CANNOT BE ACHIEVED WITH SEEDING BY THE TIME OF SUBSTANTIAL COMPLETION OF THE STORMWATER FACILITY PORTION OF THE PROJECT, THEN THE CONTRACTOR SHALL PLANT THE AREA WITH WILDFLOWER SOD, PLUGS, CONTAINER PLANTS, OR OTHER MEANS TO COMPLETE THE SPECIFIED PLANTING AND PROTECT AGAINST EROSION BEFORE WATER IS ALLOWED TO ENTER THE STORMWATER BMP FACILITY.

- ALL MATERIALS SHALL BE ACQUIRED FROM AN APPROVED NCEQ PLANT VENDOR. PLANT MATERIAL SHOULD PURCHASED FROM A LOCAL SOURCE TO ENSURE SURVIVABILITY. LOCAL VENDORS FOR THIS SITE INCLUDE:
- |                                |              |
|--------------------------------|--------------|
| - CILL DE NATIVE PLANT NURSERY | 910-662-5566 |
| - GROWING WILD NURSERY         | 910-259-6361 |
| - NC FOREST SERVICE            | 919-731-7988 |
| - PLANT DELIGHTS NURSERY       | 919-772-4794 |
| - TARMHEEL NATIVE TREES        | 919-553-5927 |

IMMEDIATELY AFTER THE WET DETENTION BASIN IS ESTABLISHED, THE PLANTS ON THE VEGETATED SHELF AND PERIMETER OF THE BASIN SHOULD BE WATERED TWICE WEEKLY IF NEEDED UNTIL THE PLANTS BECOME ESTABLISHED (COMMONLY SIX WEEKS)

NO PORTION OF THE WET DETENTION POND SHOULD BE FERTILIZED AFTER THE FIRST INITIAL FERTILIZATION THAT IS REQUIRED TO ESTABLISH THE PLANTS ON THE VEGETATED SHELF.

2. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES AND ORDINANCES REGARDING LANDSCAPING.
3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH A HEALTHY STAND OF GRASS ON ALL SEEDED AREAS.
4. CONTRACTOR SHALL PROVIDE NATURAL TPOPSH, THAT IS FERTILE, FERTILE, WITHOUT MIXTURE OF SUBSOIL, AND WITHOUT ANY OTHER SUBSTANCES THAT COULD BE HARMFUL TO PLANTS OR ANIMALS. SUBSTANCES WHICH MAY BE HARMFUL TO PLANT GROWTH, TPOPSH SHALL BE SCREENED AND FREE FROM CLAY, LUMPS, STONES, ROOTS, PLANTS, OR SIMILAR SUBSTANCES OF 1/4" OR MORE IN DIAMETER, DEBRIS, OR OTHER OBJECTS WHICH COULD BE HARMFUL TO PLANT GROWTH. TPOPSH SHALL CONTAIN AT LEAST 4-6% ORGANIC MATTER BY WEIGHT AND HAVE A PH RANGE OF 5.5 TO 7.0.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR THE WATERING AND THE MAINTENANCE OF ALL LANDSCAPED AREAS.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL LANDSCAPED AREAS FROM THE DATE THAT STORE OPENS FOR BUSINESS TO THE PUBLIC. CONTRACTOR SHALL ALSO BE RESPONSIBILITY FOR THE SURVIVAL OF THE BEM PLANTING MATERIALS DURING THE TWO YEAR WARRANTY PERIOD AND SHALL MAINTAIN THE BEM PLANTING MATERIALS AT THE END OF THE FIRST YEAR AND AT THE END OF THE SECOND YEAR OF THE WARRANTY PERIOD.
7. CONTRACTOR TO VERIFY QUANTITIES PRIOR TO COMMENCING WORK.
8. ANY EXISTING TREES, SHRUBS, OR MULCH SHALL BE SEEDING LOWN, REFER TO SITE PLAN FOR LOCATION OF AREAS TO BE SEEDING.
9. NO PLANT SUBSTITUTIONS ARE PERMITTED WITHOUT WRITTEN APPROVAL OF THE OWNERS REPRESENTATIVE.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL UNDERGROUND CONSTRUCTION DEBRIS, REMOVE COMPACTED SOIL AND ADD 18" NEW TPOPSH, OR TILL AND AMEND THE TOP 18" OF EXISTING SOIL, TO MEET TPOPSH/PLANTING MIX STANDARDS FOR TREES.
11. ADDITIONAL UNDERGROUND UTILITY DEBRIS SHALL BE REMOVED FROM UNDERGROUND UTILITIES (SEWER AND STORM DRAINAGE, GAS, WATER, PHONE, AND ELECTRICAL LINES).



### PLAN VIEW

STAGE/STORAGE TABLE				
STAGE (FT)	ELEVATION (FT)	CONTOUR AREA (SQ)	INCREMENTAL STORAGE (CF)	TOTAL STORAGE (CF)
0.0	280.0	8385	0	0
0.5	280.5	9635	4505	4505
1.0	281.0	10395	5008	9513
1.7	281.7	11535	7676	17188 (MDV)
2.0	282.0	11940	3521	20709
3.0	283.0	13325	12633	33342
4.0	284.0	14765	14045	47387
5.0	285.0	16265	15515	62902

RIVER BASIN: NEUSE  
RECEIVING STREAM: LITTLE CREEK (WEST SIDE)  
STREAM INDEX: 27-86-2-4  
STREAM CLASS: C;NSW  
HUC: 03020203  
PROJECT COORDINATES: 35.828782N, -78.293752W

POND DESIGN SUMMARY					
DRAINAGE AREA TO POND:		5.57ACRES			
SITE IMPERVIOUS AREA TO POND:		2.53 ACRES			
OFF-SITE DESIGN IMPERVIOUS AREA TO POND:		2.08 ACRES			
TOTAL DESIGN IMPERVIOUS AREA TO POND:		4.62 ACRES			
	PRE-DEVELOPED TO POND	POST-DEVELOPED TO POND	POST-DEVELOPED THROUGH POND	POST-DEVELOPED BYPASS	POST-DEVELOPED TOTAL
DRAINAGE AREA:	3.71 AC	5.57 AC	0.40 AC		
CURVE NUMBER:	83.0	94.9	83.0		
TIME OF CONCENTRATION:	14.0 MIN	5 MIN			
1.0" STORM EVENT:		2.599 CFS	0.098 CFS	0.000 CFS	
1-YEAR STORM EVENT:	6.225 CFS	19.97 CFS	15.88 CFS	2.361 CFS	
10-YEAR STORM EVENT:	15.39 CFS	37.08 CFS	12.91 CFS	1.936 CFS	14.53 CFS
100-YEAR STORM EVENT:	27.21 CFS	60.06 CFS	43.50 CFS	3.399 CFS	46.89 CFS



SCIENTIFIC NAME	COMMON NAME	PLANTING ZONE	QUANTITY	NURSERY CONTAINER TYPE	SPACING	PLANTING SEASON
<i>Juncus effusus</i>	Soft Rush	SHALLOW WATER	112	PEAT POT	6' O.C.	SPRING/SUMMER
<i>Iris virginica</i>	Blue Flag Iris	SHALLOW WATER	112	PEAT POT	6' O.C.	SPRING/SUMMER
<i>Scheuchzeria palustris</i>	Soft Stem Bulrush	SHALLOW WATER	112	PEAT POT	6' O.C.	SPRING/SUMMER
<i>Eupatorium maculatum</i>	Spotted Trumpetweed	SHALLOW WATER	112	PEAT POT	6' O.C.	SPRING/SUMMER
<i>Eupatorium purpureum</i>	Joe-Pye Weed	SHALLOW WATER	112	PEAT POT	6' O.C.	SPRING/SUMMER
<i>Rhynchospora colorata</i>	Starush	SHALLOW WATER	112	PEAT POT	6' O.C.	SPRING/SUMMER

### TYPICAL LITTORAL SHELF PLANTING SCHEDULE

**1** STORMWATER MANAGEMENT SYSTEM DETAILS  
NOT TO SCALE

1. THE DEVELOPER OR HIS AGENT SHALL CONTACT THE DESIGN ENGINEER WHEN THE BEST MANAGEMENT PRACTICES ARE CONSIDERED AND AGREE TO A MAINTENANCE PLAN. SUCH PLAN SHALL BE REVIEWED BY THE ENGINEER TO DETERMINE COMPLIANCE WITH THE APPROVED PLAN CAN BE PERFORMED.
2. ANNUAL MAINTENANCE INSPECTION AND REPORT REQUIRED – THE OWNER OF A PERMITTED STRUCTURAL STORMWATER BMP/CATCHMENT SHALL ANNUALLY MAINTAIN AND INSPECT THE BMP/CATCHMENT AND REPORT TO THE CITY OF ST. LOUIS STORMWATER ADMINISTRATOR. ANNUAL INSPECTIONS SHALL BEGIN WITHIN 30 DAYS OF THE RECEIPT OF ANY (DEPT'S) SHOWING STORMWATER BMP'S/CONTROL STRUCTURES.
3. UPON COMPLETION OF THE PROJECT, AND BEFORE A CERTIFICATE OF OCCUPANCY SHALL BE GRANTED, THE ENGINEER OF RECORD SHALL CERTIFY TO THE CITY OF ST. LOUIS STORMWATER ADMINISTRATOR THAT THE APPROVED STORMWATER MANAGEMENT PLANS AND DESIGNS.
4. A FINAL INSPECTION OF THE SITE AND STORMWATER MANAGEMENT BMP'S/CONTROLS TO BE SCHEDULED WITH AND COMPLETED BY THE PROJECT ENGINEER.
5. NOTER AND THEIR ASSIGNS HAVE TO RISE TO ACCESS THE STORMWATER CONTROL(S) FOR INSPECTIONS OR MAINTENANCE, AS NECESSARY.
6. THE ENGINEER'S CERTIFICATION OF COMPLETION WILL BE REQUIRED PRIOR TO THE FINAL, PLAT OR CERTIFICATE OF OCCUPANCY. THE STORMWATER CONTROL IS TO BE INSPECTED TO ENSURE IT IS FUNCTIONING AS DESIGNED AND AS REQUIRED PRIOR TO ISSUANCE OF THE FINAL CERTIFICATE OF OCCUPANCY.
7. THE PROPERTY OWNER IS RESPONSIBLE FOR MAINTAINING THE STORMWATER CONTROL(S) ACCORDING TO THE APPROVED MAINTENANCE PLAN AND REPORT.

SCM element:	Potential problems:	How to remediate the problem:
The entire SCM	Trash/debris is present.	Remove the trash/debris.
The perimeter of the wet pond	Areas of bare soil and/or erosive gullies have formed.	Regrade the soil if necessary to remove the gully, plant ground cover and water until it is established. Provide lime and a one-time fertilizer application.
	The inlet pipe is clogged (if applicable).	Unclog the pipe. Dispose of the sediment in a location where it will not cause impacts to streams or the SCM.
The inlet device	The inlet pipe is cracked or otherwise damaged (if applicable).	Repair or replace the pipe.
	Erosion is occurring in the swale (if applicable).	Regrade the swale if necessary and provide erosion control devices such as reinforced turf matting or riprap to avoid future erosion problems.
	Sediment has accumulated to a depth greater than the original design depth for sediment storage.	Search for the source of the sediment and remedy the problem if possible. Remove the sediment and dispose of it in a location where it will not cause impacts to streams or the SCM.
The forebay	Erosion has occurred.	Provide additional erosion protection such as reinforced turf matting or riprap if needed to prevent future erosion problems.
	Weeds are present.	Remove the weeds, preferably by hand. If pesticide is used, wipe it on the plants rather than spraying.
The vegetated shelf	Best professional practices show that pruning is needed to maintain optimal plant health.	Prune according to best professional practices.
	Plants are dead, diseased or dying.	Determine the source of the problem: soils, hydrology, disease, etc. Remedy the problem and replace plants. Provide a one-time fertilizer application to establish the ground cover of a soil test indicates it is necessary.
	Weeds are present.	Remove the weeds, preferably by hand. If pesticide is used, wipe it on the plants rather than spraying.
	Sediment has accumulated to a depth greater than the original design sediment storage depth.	Search for the source of the sediment and remedy the problem if possible. Remove the sediment and dispose of it in a location where it will not cause impacts to streams or the SCM.
The main treatment area	Algal growth covers over 50% of the area.	Consult a professional to remove and control the algal growth.
	Cattails, phragmites or other invasive plants cover 50% of the basin surface.	Remove the plants by wiping them with pesticide (do not spray).
	Shrubs have started to grow on the embankment.	Remove shrubs immediately.
	Evidence of muskrat or beaver activity is present.	Consult a professional to remove muskrats or beavers and repair any holes or erosion.
The embankment	A tree has started to grow on the embankment.	Consult a dam safety specialist to remove the tree.
	An annual inspection by an appropriate professional shows that the embankment needs repair.	Make all needed repairs immediately.
The outlet device	Clogging has occurred.	Clean out the outlet device and dispose of any sediment in a location where it will not cause impacts to streams or the SCM.
	The outlet device is damaged.	Repair or replace the outlet device.
Floating wetland island (if applicable)	Weeds or volunteer trees are growing on the island.	Remove the weeds or trees.
	The anchor cable is damaged, disconnected or missing.	Restore the anchor cable to its design state.
The receiving water	Erosion or other signs of damage have occurred at the outlet.	Repair the damage and improve the flow dissipation structure.
	Discharges from the wet pond are causing erosion or sedimentation in the receiving water.	Contact the local NCDNR Regional Office.

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bowman.com  
Bowman North Carolina Ltd.

## STORMWATER MANAGEMENT DETAILS

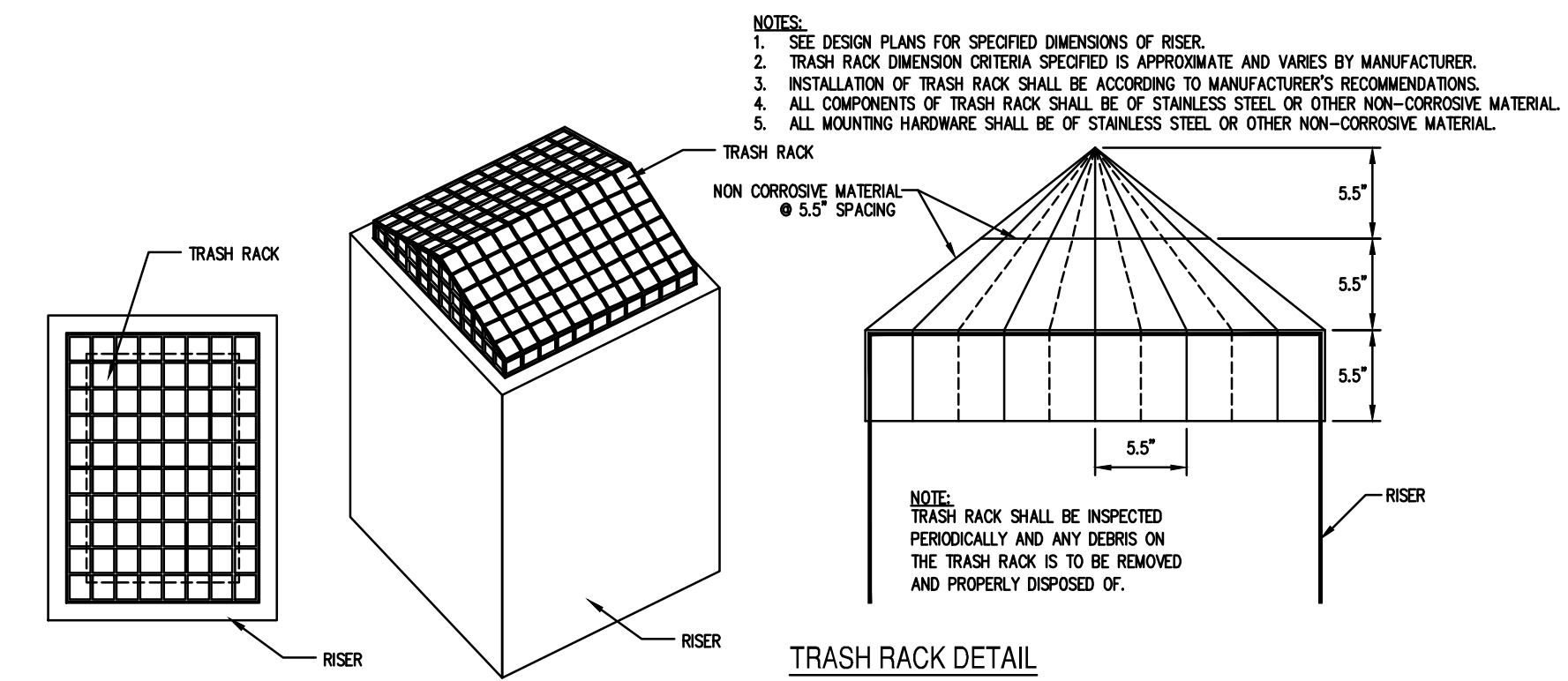
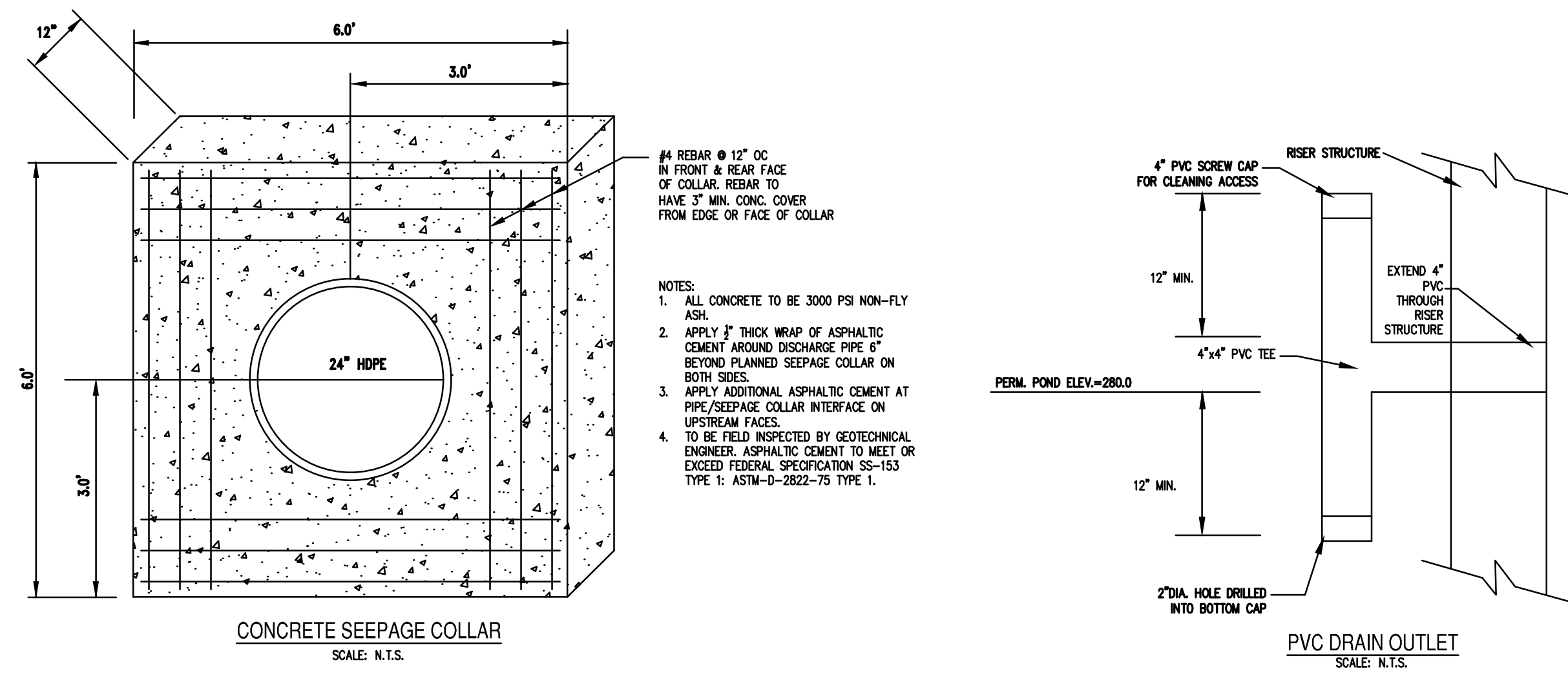
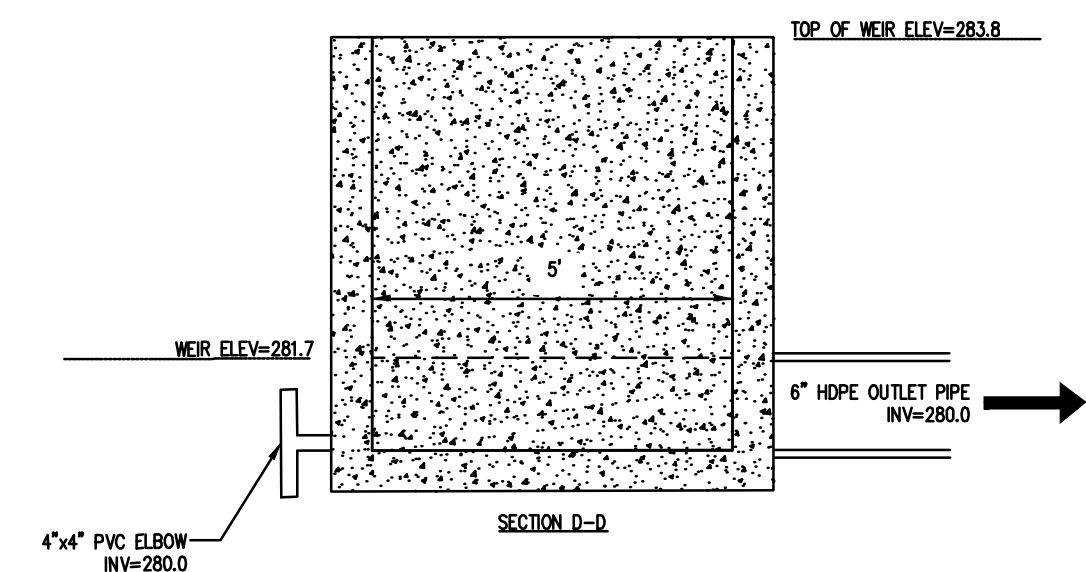
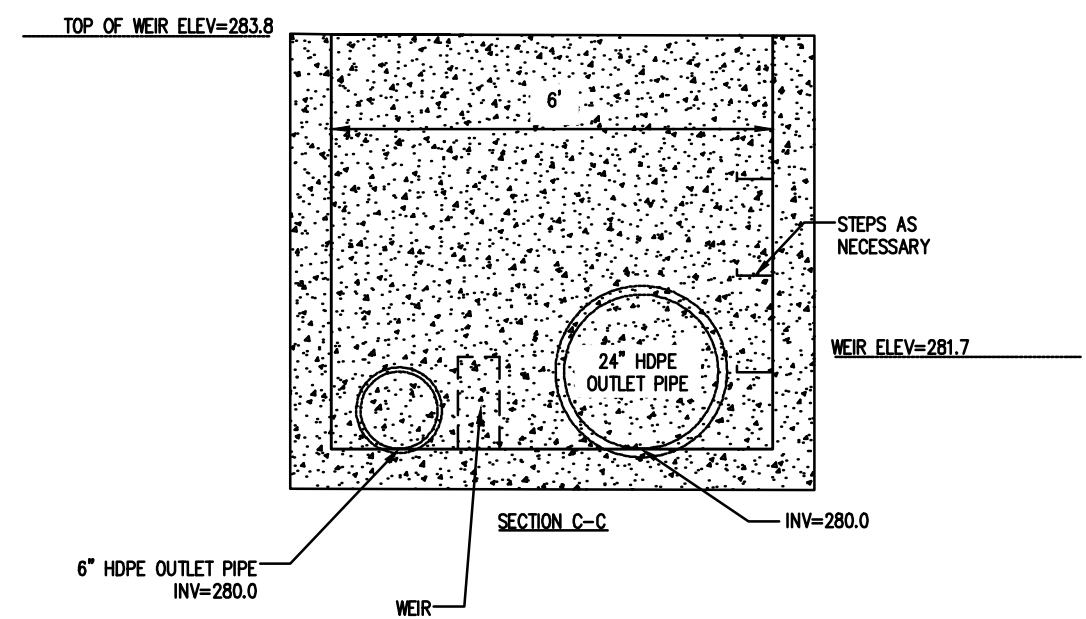
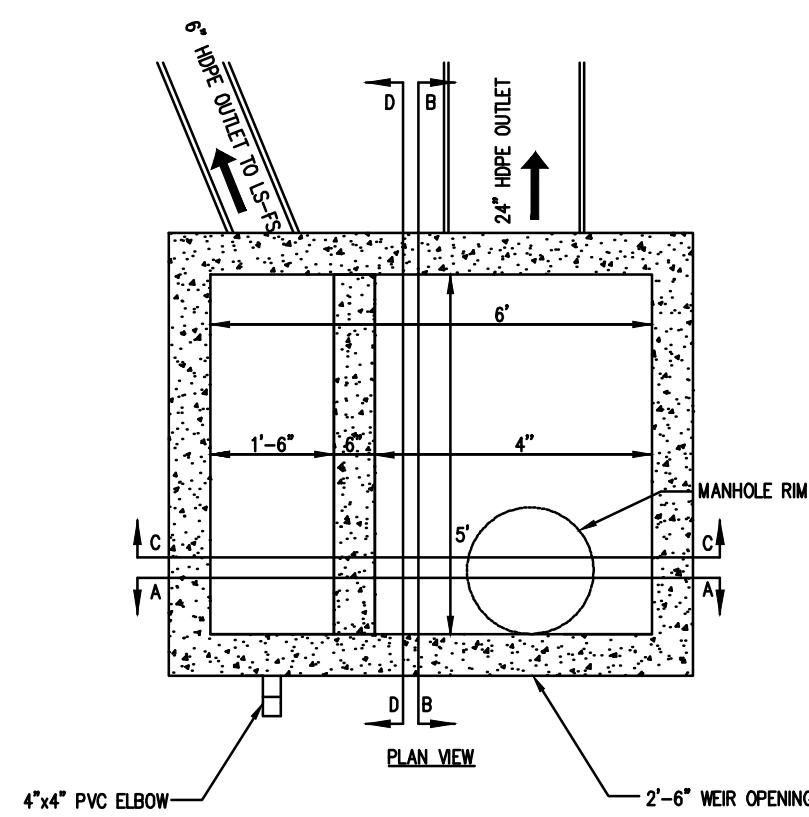
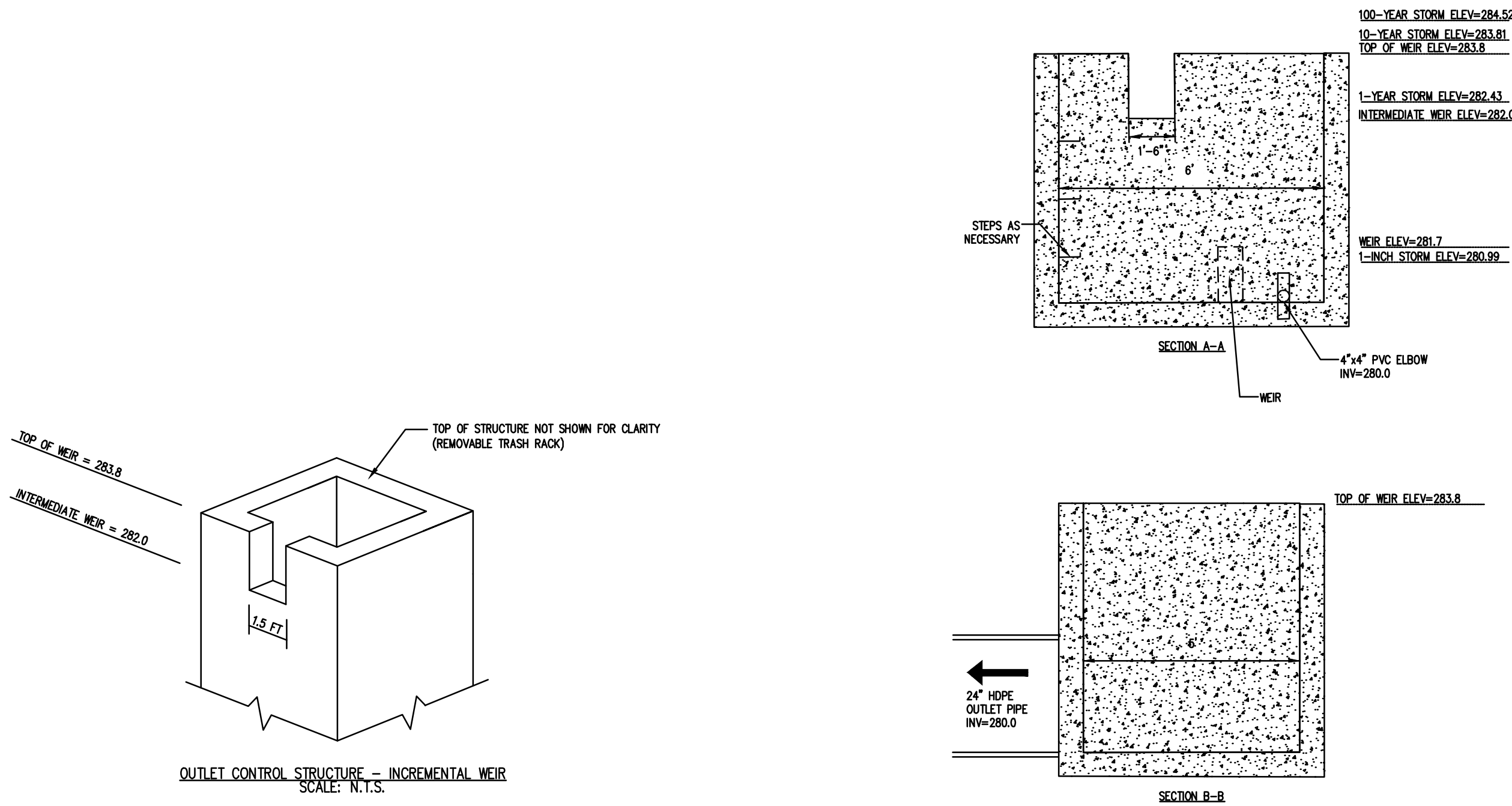
**Tractor Supply**  
Old US Highway 264  
Zebulon, NC Wake County



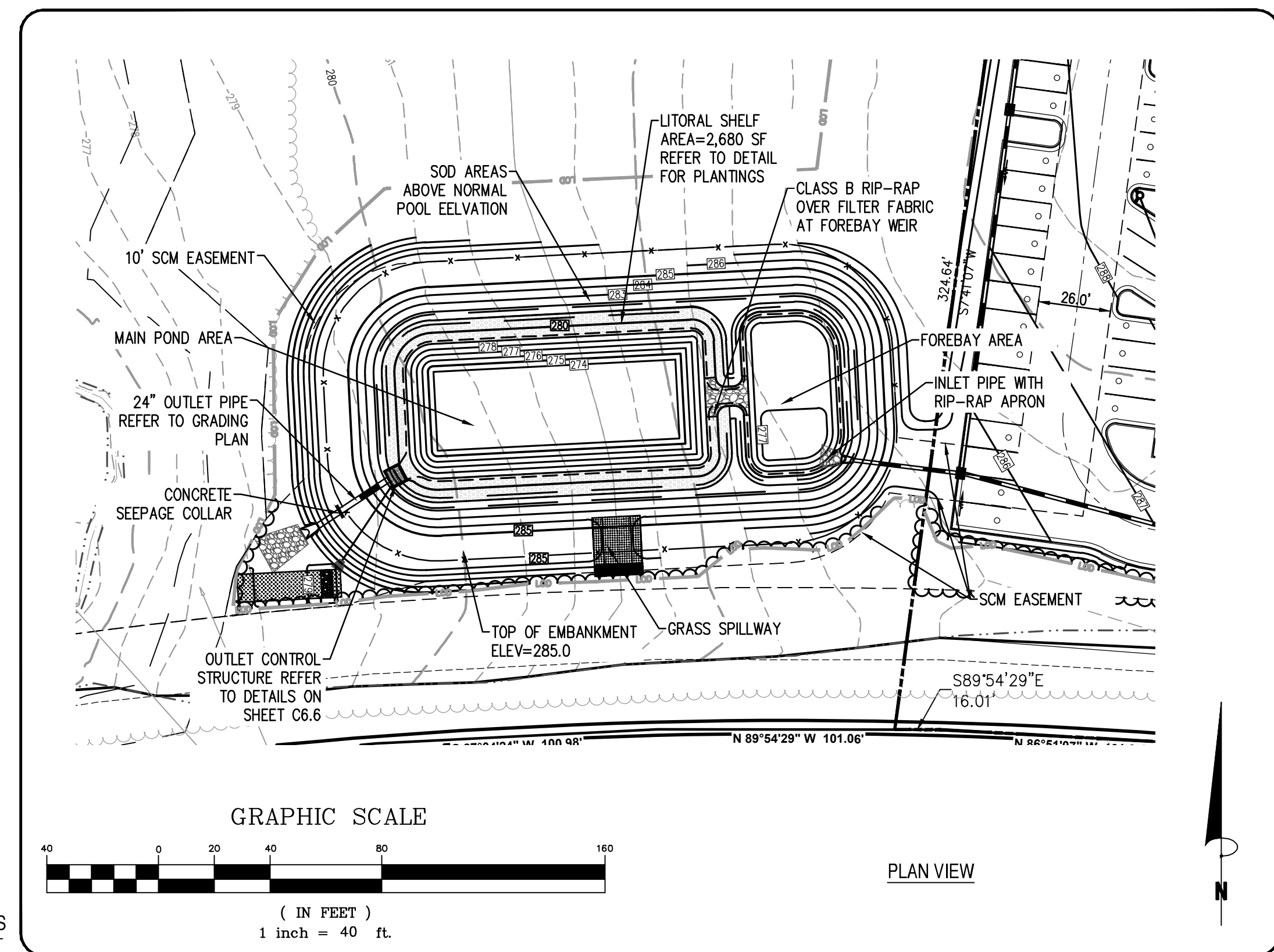
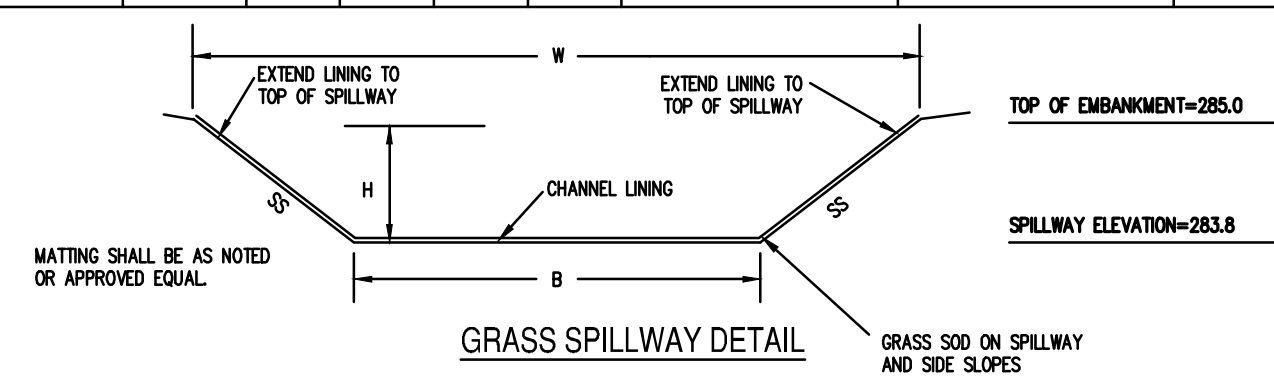
PLAN STATUS		
11/30/23	SEWER CROSSING AT RAILROAD	
1/10/24	PER WAKE CO REVIEW	
3/26/24	PER NCDOT REVIEW	
5/28/24	PER CITY OF RALEIGH REVIEW	
MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	H: 1" = XXX' V: 1" = XXX'	
JOB No.	220127-01-001	
DATE	May 28, 2024	
FILE No.	220127-D-CP-001	

SHEET C6.7





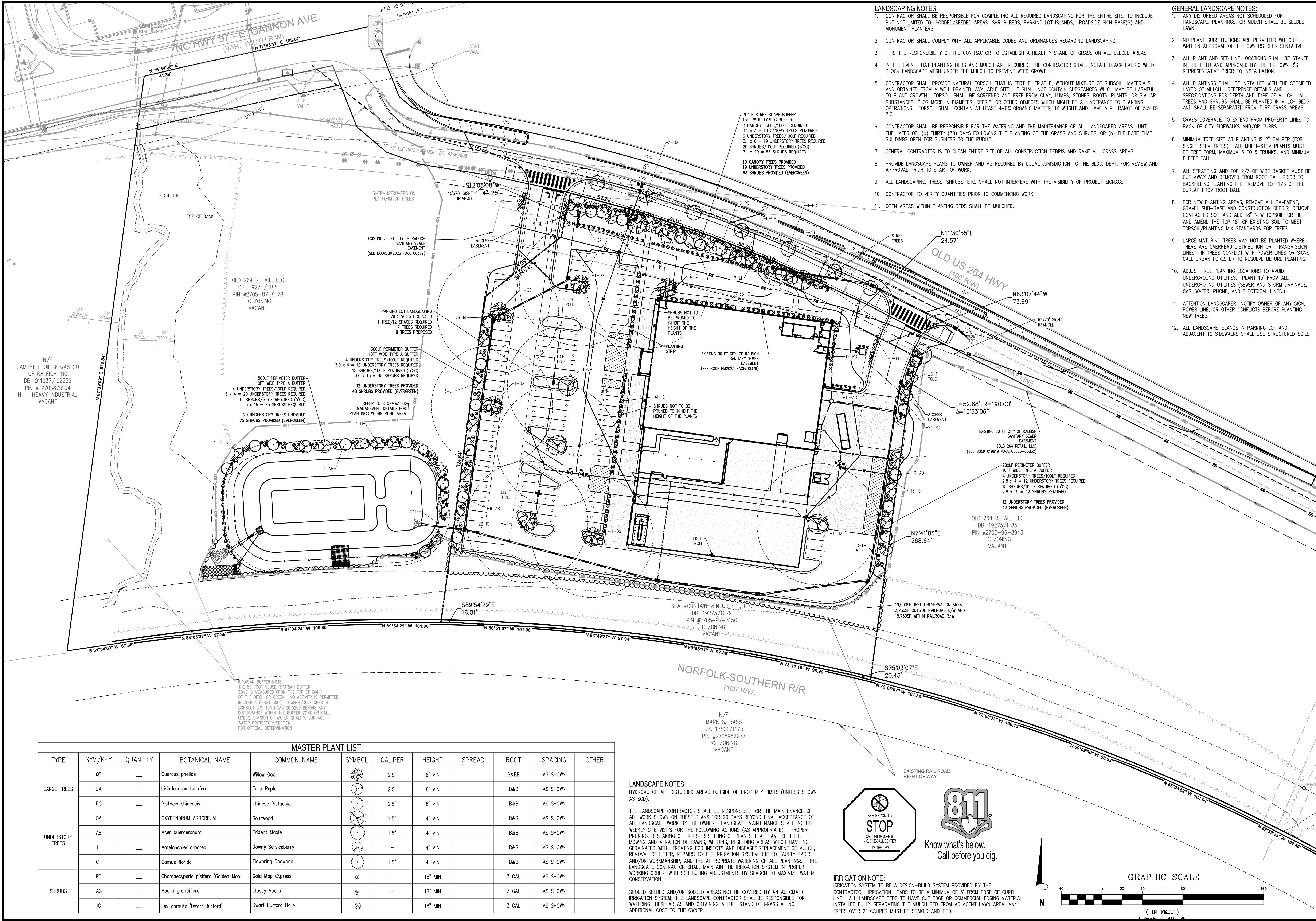
SPILLWAY	FLOW Q(100)	LONG SLOPE(%)	H	B	W	SS	CHANNEL LINING	TOP OF EMBANKMENT ELEVATION	SPILLWAY ELEVATION
GRASS SPILLWAY	43.50 CFS	50.0%	1.2'	10.0'	17.2'	3:1	STRAW WITH NET NAG SHOREMAX W/ P550	285.0	283.8













Conceptual Elevation  
Zebulon, NC  
October 14, 2022





Front Elevation





Front Elevation

UDO Analysis

Section 5.3.4.a.i - Primary Wall contains (2) types of building articulation.

- b.ii - Vertical Modulation
- b.vi - Primary Building Entrance

Primary Building Entrance  
b.i - Change in material & color  
b.iii - Feature that extends above roof height  
b.iv - projection greater than 5ft.

Vertical Modulation  
24" projected pilaster regularly spaced across the full facade.

Section 5.3.7.a.i - Primary Wall Fenestration

- a.i - 40% window/doors - Request 10% Reduction
- a.i - Visually transparent - Request Use of Partial Spandrel Glass

Section 5.3.6.b Parapet cornice.  
Top (2) courses corbel 1 1/2" each.

Facade is 2,530 SF. to roof line at 19'-8"  
40% area equals 1,012 SF. (-10%) = 910.80 SF

Windows above awnings:  
4'-8"x3'-4" x 12 windows = 186.60 SF

Windows below awnings:  
4'-8"x8'-4" x 12 windows = 466.56 SF.

Storefront entrance:  
27'-7" x 10'-0" = 275.16 SF

Fenestration as shown = 928.32 SF > 910.80 SF

Windows above the awnings and storefront entrance are clear vision glass

Windows below awnings are shown as opaque spandrel glass, due to racking and fixtures inside the building.



PRIMAX

TSC TRACTOR SUPPLY CO



Front-Right  
Elevation



PRIMAX

TSC TRACTOR  
SUPPLY CO.



## Greenhouse Connection





## Greenhouse Connection

### UDO Analysis

Section 5.3.4.a.i - Tertiary Wall contains no building articulation.

Material change turns the corner 3'-4" to satisfy Section 5.3.1.F.5.

Vertical modulation of material is flush with adjacent wall. As a tertiary wall it does not need to project.

Due to the greenhouse connection/fabrication to the side masonry wall, this wall is to be constructed with smooth face CMU, painted to match the front of the building.



PRIMAX

TSC TRACTOR  
SUPPLY CO.



Section 5.3.4.a.i - Tertiary Wall contains no building articulation.

## Rear Elevation Right Side

UDO Analysis

8' high black chain link fence  
and sliding gate

**PRIM<sup>25</sup>X**  
CONSTRUCTION, INC.

**TSC TRACTOR  
SUPPLY CO.**



# Zebulon, NC.





## Rear Elevation Left Side





Rear Elevation  
Left Side

UDO Analysis

Section 5.3.4.a.i - Tertiary Wall contains no building articulation.

Material change occurs behind screen wall, for reasons explained on other elevations

Screen wall, required to screen Loading Area per Section 5.10.5

Section 5.3.4.a.i - Secondary Wall contains (1) type of building articulation.

b.ii - Vertical Modulation

Vertical Modulation  
24" projected pilaster regularly spaced across 50% of the secondary facade.

Section 5.3.7.a.i - Secondary Wall Fenestration

b.i - 30% window/doors - **Request 10% Reduction**  
b.iii - Articulated wall forms to mimic openings that also include awnings

Facade is 1,029 SF. to roof line at 16'-0"  
30% area equals 308.7 SF. (-10%) = 278.1 SF

Accents above red band:  
4'-0"x2'-8" x 8 accents = 85.33 SF.

Shutters below awnings:  
4'-0"x6'-8" x 8 shutters = 213.33 SF

Mock Fenestration = **298.66 SF** > 278.1 SF

Painted split face CMU accents to mimic clerestory windows above awning

Decorative shutters below accent band to mimic spandrel glass windows with awnings

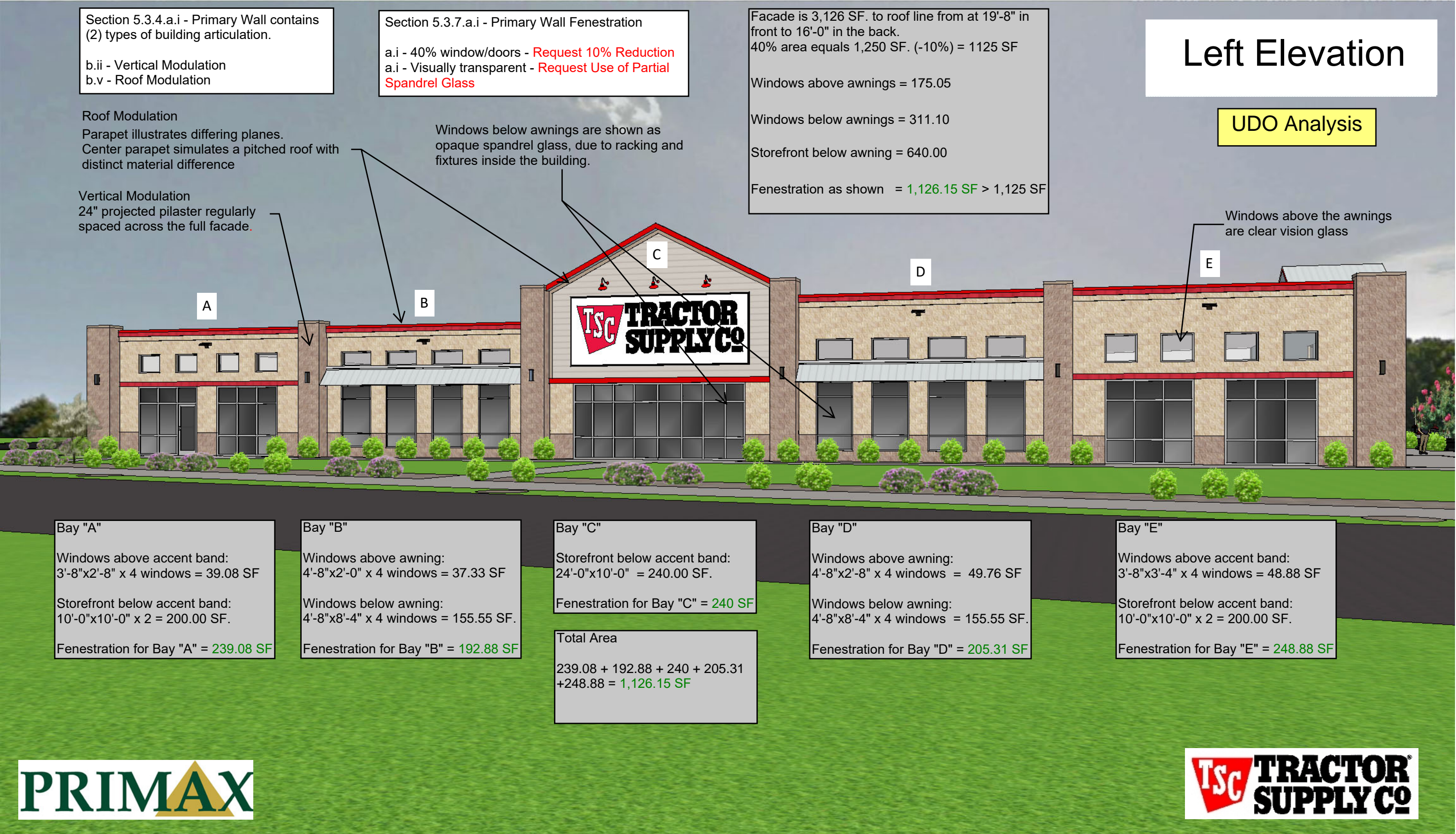




## Left Elevation









Front-Left  
Elevation



PRIMAX

**TSC TRACTOR  
SUPPLY CO.**



## Front-Left Elevation

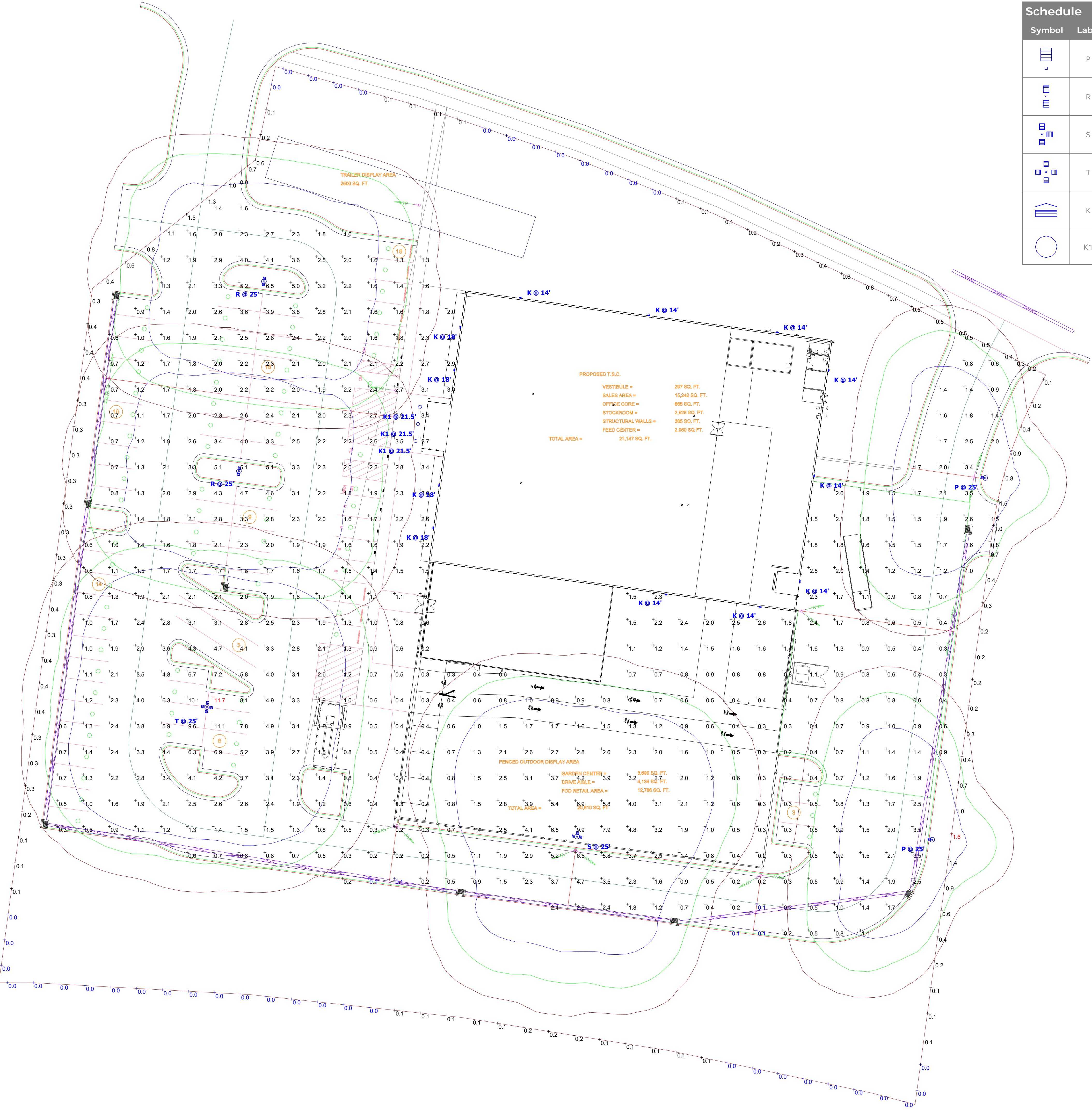
Trees removed for clarity



**PRIMAX**







Schedule									
Symbol	Label	Quantity	Catalog Number	Description	Lamp	Lumens Per Lamp	Light Loss Factor	Wattage	
	P	2	RSX1-LED-P3-50K-R3-MVOLT-SPA	Single Head Lithonia RSX1 Series LED Area Unit w/Type R3 Distribution (22ft. Pole Height w/3ft. Base) FULL CUTOFF DESIGN	LED/5000K (FULL CUTOFF DESIGN)	14022	0.95	109.44	
	R	2	RSX1-LED-P3-50K-R3-MVOLT-SPA	Double Head Lithonia RSX1 Series LED Area Unit w/Type R3 Distribution (22ft. Pole Height w/3ft. Base) FULL CUTOFF DESIGN	LED/5000K (FULL CUTOFF DESIGN)	14022	0.95	218.88	
	S	1	RSX1-LED-P3-50K-R3-MVOLT-SPA	Triple Head Lithonia RSX1 Series LED Area Unit w/Type R3 Distribution (22ft. Pole Height w/3ft. Base) FULL CUTOFF DESIGN	LED/5000K (FULL CUTOFF DESIGN)	14022	0.95	328.32	
	T	1	RSX1-LED-P3-50K-R3-MVOLT-SPA	Quad Head Lithonia RSX1 Series LED Area Unit w/Type R3 Distribution (22ft. Pole Height w/3ft. Base) FULL CUTOFF DESIGN	LED/5000K (FULL CUTOFF DESIGN)	14022	0.95	437.76	
	K	12	DSXW1-LED-10C-1000-50K-T3M-MVOLT-DDBXD	Lithonia DSXW1 Series Wall Mount LED Unit w/Type T3M Distribution (18ft. and 14ft. Fixture Mounting Heights) FULL CUTOFF DESIGN	LED/5000K (FULL CUTOFF DESIGN)	3898	0.95	38.8	
	K1	3	H-15118-97/HL-AHD-27*97/21/LED2/40/D/BCM-M	Hi-Lite H15118 Series LED Goosneck Unit (21.5ft. Mounting Height) Red Finish (FULL CUTOFF DESIGN)	LED/4000K (FULL CUTOFF DESIGN)	1170	0.95	21	

Statistics							
Description	Symbol	Avg	Max	Min	Max/Avg	Max/Min	Avg/Min
Parking Lot Light Levels	+	1.9 fc	11.7 fc	0.1 fc	6.16	117.0:1	19.0:1
Property Line Light Levels	+	0.3 fc	1.6 fc	0.0 fc	5.33	N/A	N/A



Tractor Supply Co - Walton, KY  
Parking Lot Lighting Layout

Designer  
Adam Carrier  
Date  
05/10/2022  
Scale  
Not to Scale  
Drawing No.  
Summary