CONSTRUCTION DOCUMENTS

Proposed

Tractor Supply

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

WAKE COUNTY NOTES

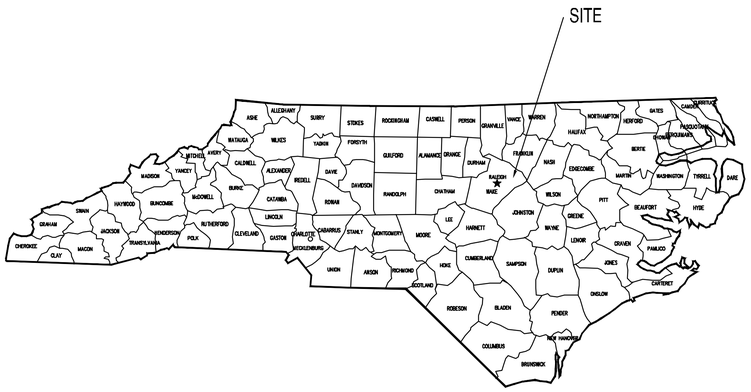
FINAL ZONING AND SITE IMPROVEMENT INSPECTION SHALL BE REQUIRED TO VERIFY SITE PLAN COMPLIANCE BE DONE BEFORE A CERTIFICATE OF COMPLIANCE IS ISSUED BY WAKE COUNTY BUILDING INSPECTIONS

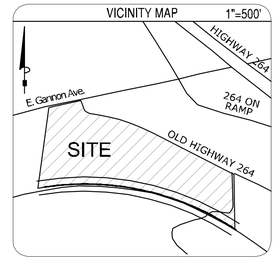
DETERIORATED OR DEAD SCREENING SHALL BE REPAIRED OR REPLACED WITHIN SIX MONTHS

NO PERMANENT CONSTRUCTION CAN OCCUR WITHIN BUFFER YARDS

SEPTIC TANKS, SEPTIC DRAIN LINES ARE PROHIBITED IN REQUIRED BUFFERYARDS

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.





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

DEVELOPMENT DATA	
DEVELOPMENT NAME:	TRACTOR SUPPLY
STREET ADDRESS:	OLD US HIGHWAY 264
	ZEBULON, NC
OWNER:	BUNN FARMS, INC
	219 ROYAL FERN RD
	WILMINGTON, NC 28412
PROPERTY IDENTIFICATION #(PIN):	2705-97-3068 (ORDINANCE 2022-36)
PROPERTY #:	0352494
DEED BOOK/PAGE:	006057 / 00594
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; 5FT IF PROVIDED
REAR SETBACK:	0 IF ABUTTED BY AN ALLEY; OTHERWISE 25FT
MAX BUILDING HEIGHT	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	20 FT ONE-WAY, 24 FT TWO-WAY
ACCESIBLE SPACES PROVIDED:	4
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

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
mlowder@bowman.com
FIRM# F-1445

CURRENT PROPERTY OWNERS

Bunn Farms, Inc.
219 Royal Fern Road
Wilmington, NC 28412
(919) 269-9868

BEFORE YOU DIG STOP CALL 1 800 632-4949 N.C. ONE-CALL CENTER IT'S THE LAW

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

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 4th day of April 2022

TOWN OF ZEBULON INCORPORATED SEAL 1907 NORTH CAROLINA

Glenn L. York – Mayor

Lisa M. Markland, CMC – Town Clerk

EROSION CONTROL, STORMWATER AND FLOODPLAIN MANAGEMENT

APPROVED

EROSION CONTROL ☒ SEC-091104-2022
STORMWATER MGMT. ☒ SWF-091106-2022
FLOOD STUDY ☐ S-_____
DATE: MARCH 7, 2023

WAKE COUNTY NORTH CAROLINA

ENVIRONMENTAL CONSULTANT SIGNATURE

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

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-5172

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 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

Bowman

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

TSC TRACTOR SUPPLY COMPANY

COVER SHEET
Tractor Supply
Old US Highway 264
Zebulon, NC Wake County

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 34494 MATTHEW E. LOWDER 3/21/23

PLAN STATUS	
1/10/23	1ST CD SUBMISSION
2/20/23	2ND CD SUBMISSION
3/21/23	REVISED PER CITY OF RALEIGH REVIEW
DATE	DESCRIPTION

MEL	MEL	XXX
DESIGN	DRAWN	CHKD

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

JOB No. 220127-01-001

DATE January 10, 2023

FILE No. 220127-D-CP-001

SHEET C1.0

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

LEGEND

EXISTING	DESCRIPTION	PROPOSED
	PROPERTY LINE	
	ADJACENT PROPERTY LINE	
	LOT LINE	
	RIGHT OF WAY	
	CENTERLINE	
	FLOOD PLAIN	
	LIMITS OF CONSTRUCTION	LOC
	LIMITS OF DISTURBANCE	LOD
	SWALE / STREAM FLOWLINE	
	OVERFLOW RELIEF PATH	
	FENCE LINE	
	EASEMENT	
	EDGE OF PAVEMENT	
	VERTICAL CURB AND GUTTER	
	MOUNTABLE CURB AND GUTTER	
	CONCRETE SIDEWALK	
	ASPHALT SIDEWALK	
	HANDICAP PARKING	HC
	SIGHT TRIANGLE	
	SIGN(S)	
25	PARKING COUNT INDICATOR	25
255 VPD	VEHICLES PER DAY INDICATOR	255 VPD
TP	TEST PIT	TP
MW	MONITORING WELL	MW
350	MAJOR CONTOUR	350
350	MINOR CONTOUR	350
	GRADE BREAK	
	RIDGELINE	
52 22/FG 5236 22/FG	SPOT ELEVATION	52 22/FG 5236 22/FG
	RIP RAP	
W	WATER LINE	W
M	WATER METER	M
	WATER VALVE	
	WATER REDUCER	
	WATER FITTINGS	
	FIRE HYDRANT	
SS	SANITARY LINE	SS
	SANITARY MANHOLE	
	SANITARY CLEANOUT	
	STORM SEWER PIPE	
MH	STORM SEWER MANHOLE	
	STORM SEWER INLET	
	STORM SEWER FLARED END SECTION	
	STORM SEWER HEADWALL	
OU	OVERHEAD UTILITY	OU
E	UNDERGROUND ELECTRIC	E
OHE	OVERHEAD ELECTRIC	OHE
	UTILITY POLE	
	STREET LIGHT	
CATV	CABLE TV SERVICE	CATV
T	TELECOM SERVICE	T
FO	FIBER OPTIC SERVICE	FO
G	NATURAL GAS SERVICE	G
	TREE	
	TREE LINE	
	WETLANDS	

LEGEND NOTES

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

GENERAL NOTES

1. 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.
2. 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.
3. CONTRACTOR SHALL OBTAIN, AT HIS OWN EXPENSE, ALL APPLICABLE CODES, LICENSES, STANDARDS, SPECIFICATIONS, PERMITS, BONDS, ETC., WHICH ARE NECESSARY TO PERFORM THE PROPOSED WORK.
4. 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.
5. 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.
6. THE CONTRACTOR SHALL REPAIR ANY EXCAVATIONS OR PAVEMENT FAILURES CAUSED BY HIS/HER CONSTRUCTION.
7. 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.
8. 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.
9. 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.
10. 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.
11. 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.
12. 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.
13. 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.
14. 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.
15. REFER TO FINAL RECORDED PLAT FOR ACTUAL LOT, TRACT, PARCEL, AND EASEMENT LOCATIONS AND DESIGNATIONS.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND REPLACEMENT OF ALL MATERIALS WITHIN DEDICATED RIGHT-OF-WAYS AND ALL MATERIALS AND WORKMANSHIP SHALL MEET THE ROADWAY DESIGN AND CONSTRUCTION STANDARDS OF THE APPROPRIATE GOVERNING AGENCY.
17. THE CONTRACTOR SHALL PROTECT ALL ADJACENT PROPERTY TO THE PROJECT WORK SITE (SEE THE EROSION CONTROL PLAN). THE CONTRACTOR SHALL OBTAIN ALL PERMITS NECESSARY (IF APPLICABLE) TO COMPLETE THE CONSTRUCTION AND SHALL COMPLY WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
18. WATER WILL BE PROVIDED BY THE CONTRACTOR TO KEEP WIND EROSION IN CHECK. USE OF WATER AS A DUST PREVENTATIVE SHALL NOT BE PAID FOR SEPARATELY, BUT INCLUDED IN THE COST OF THE WORK.
19. ANY SETTLEMENT OR SOIL ACCUMULATIONS BEYOND THE PROPERTY LIMITS DUE TO GRADING OR EROSION SHALL BE REPAIRED IMMEDIATELY BY THE CONTRACTOR.
20. ANY CONSTRUCTION DEBRIS OR MUD TRACKING IN THE PUBLIC RIGHT-OF-WAY RESULTING FROM THIS DEVELOPMENT SHALL BE REMOVED IMMEDIATELY BY THE CONTRACTOR. THE CONTRACTOR SHALL IMMEDIATELY FIX ANY EXCAVATIONS OR PAVEMENT FAILURES CAUSED BY THE DEVELOPMENT AND SHALL PROPERLY BARRICADE THE SITE UNTIL CLEAN UP OR REPAIR IS COMPLETE.
21. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO GRADE STREET CORES, RIGHT-OF-WAY TEMPLATES, AND LOTS ACCORDING TO GRADING INSTRUCTIONS SHOWN ON PLANS.
22. STREET CONTOURS SHOWN AT PROPOSED STREET LOCATIONS REPRESENT FINISHED GRADE ELEVATION TO TOP OF ASPHALT.
23. COMPACTION FILL MATERIAL SHALL BE COMPACTED ACCORDING TO THE APPROPRIATE GOVERNING AGENCY REGULATIONS AND THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.
24. TOLERANCE ROUGH GRADING: TOLERANCE SHALL BE +/- 0.1 FEET.
25. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE SURE ALL APPROPRIATE PERMITS FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY HAVE BEEN OBTAINED PRIOR TO GRADING. CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL TEMPORARY WATER DIVERSION/CONTROL DEVICES AND EROSION CONTROL DEVICES NECESSARY TO PROTECT ADJACENT PROPERTIES, WATERWAYS AND PUBLIC RIGHT-OF-WAY. CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE OF SAID DEVICES THROUGHOUT CONSTRUCTION AND UNTIL THE PERMANENT PROTECTION NECESSARY HAS BEEN COMPLETED.
26. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THE MOST CURRENT APPROVED ARCHITECTURAL/ MECHANICAL/ELECTRICAL/PLUMBING/STRUCTURAL PLANS AND COORDINATE SAME WITH THE SITE PLAN, PRIOR TO BEGINNING CONSTRUCTION OPERATIONS.
27. WHEN DURING THE COURSE OF CONSTRUCTION, ANY OBJECT OF AN UNUSUAL NATURE IS ENCOUNTERED, THE CONTRACTOR SHALL CEASE WORK IN THAT AREA AND IMMEDIATELY NOTIFY THE OWNER, APPROPRIATE GOVERNING AGENCY, AND/OR THE ARCHITECT/ENGINEER.
28. THE EXISTING UNDERGROUND UTILITIES SHOW HEREON ARE BASED UPON AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK AND FOR ANY DAMAGES WHICH OCCUR BY HIS FAILURE TO LOCATE OR PRESERVE THESE UNDERGROUND UTILITIES. IF DURING CONSTRUCTION OPERATIONS THE CONTRACTOR SHOULD ENCOUNTER UTILITIES OTHER THAN IN THOSE SHOWN ON THE PLANS, HE SHALL IMMEDIATELY NOTIFY THE ENGINEER AND TAKE NECESSARY AND PROPER STEPS TO PROTECT THE FACILITY AND ASSURE THE CONTINUANCE OF SERVICE.
29. ALL STEPS WITH THREE OR MORE RISERS SHALL HAVE HAND RAILS, PER LOCAL CODE.
30. A SMOOTH GRADE SHALL BE MAINTAINED FROM THE CENTERLINE OF EXISTING ROAD TO PROPOSED CURB AND GUTTER AND/OR PROPOSED EDGE OF PAVEMENT TO PRECLUDE THE FORMING OF FALSE GUTTERS AND/OR THE PONDING OF ANY WATER IN THE ROADWAY. REMOVE AND RECONSTRUCT EXISTING PAVEMENT AND/OR CURB AS DICTATED BY FIELD CONDITIONS TO PROVIDE POSITIVE DRAINAGE AT TIE-IN-POINTS.
31. OVERLAY OF EXISTING PAVEMENT SHALL BE MINIMUM OF 1 1/2 INCH DEPTH; ANY COST ASSOCIATED WITH PAVEMENT OVERLAY, OR THE MILLING OF EXISTING PAVEMENT TO OBTAIN REQUIRED DEPTH, SHALL BE ASSUMED BY THE CONTRACTOR.
32. ALL RIGHT-OF-WAY DEDICATED FOR PUBLIC USE SHALL BE CLEAR AND UNENCUMBERED.
33. AN AIR QUALITY PERMIT SHALL BE OBTAINED IF REQUIRED.
34. ANY LIGHTING SHOWN HEREON IS AS SPECIFIED BY THE CLIENT AND IS INCLUDED FOR INFORMATION PURPOSES ONLY, AS DIRECTED BY THE OWNER AND/OR PUBLIC AGENCY REQUIREMENTS. BOWMAN CONSULTING GROUP, LTD. HAS NOT PERFORMED THE LIGHTING DESIGN, AND THEREFORE DOES NOT WARRANT AND IS NOT RESPONSIBLE FOR THE DEGREE AND/OR ADEQUACY OF ILLUMINATION ON THIS PROJECT.
35. THE CONTRACTOR WILL BE REQUIRED TO NOTIFY ALL RESIDENCES WITHIN VICINITY OF THE PROPERTY BOUNDARY TEN (10) DAYS PRIOR TO ANY BLASTING IN ACCORDANCE WITH THE APPROPRIATE GOVERNING AGENCY REQUIREMENTS.
36. NO BLASTING SHALL BE PERMITTED WITHIN 25' OF EXISTING UTILITY LINES OR STRUCTURES. BLASTING TO BE EXTENDED 25' BEYOND PROPOSED STRUCTURES IF CONDITIONS WARRANT FUTURE EXTENSIONS.
37. ALL RETAINING WALLS 4' IN HEIGHT AND OVER (MEASURED FROM BOTTOM OF FOOTER TO TOP OF WALL) REQUIRE A SEPARATE BUILDING PERMIT.
38. THE APPROVAL OF THIS PLAN DOES NOT CONSTITUTE THE APPROVAL OF FUTURE WORK.
39. ALL HANDICAPPED SPACES SHALL HAVE AN ABOVE GRADE IDENTIFICATION SIGN MEETING APPROPRIATE GOVERNING AGENCY STANDARDS.
40. WHERE A PROPOSED PIPE CROSSES OR PARALLELS A STREET OR DRIVE AISLE, THE ASPHALT SHALL BE NEATLY SAWCUT TO FULL DEPTH. AFTER INSTALLATION OF THE PIPE, THE ROADWAY SHALL BE PATCHED IN ACCORDANCE WITH THE APPROPRIATE GOVERNING AGENCY STANDARDS.
41. REFER TO THE TOWN OF ZEBULON STREET STANDARDS AND SPECIFICATIONS MANUAL FOR APPLICABLE CONSTRUCTION REQUIREMENTS WITHIN THE TOWN OF ZEBULON.

GENERAL NOTES (CONT.)

41. THE CONTRACTOR SHALL CAREFULLY EXAMINE THE SITE AND MAKE ALL INSPECTIONS NECESSARY IN ORDER TO DETERMINE THE FULL EXTENT OF THE WORK REQUIRED TO MAKE THE PROPOSED WORK CONFORM TO THE DRAWINGS AND SPECIFICATIONS. THE CONTRACTOR SHALL SATISFY HIMSELF AS TO THE NATURE AND LOCATION OF THE WORK, CONDITIONS, AND CONFIRMATION AND CONDITION OF EXISTING GROUND SURFACE AND THE CHARACTER OF THE EQUIPMENT AND FACILITIES NEEDED PRIOR TO AND DURING EXECUTION OF THE WORK. THE CONTRACTOR SHALL SATISFY HIMSELF AS TO THE CHARACTER, QUANTITY AND QUALITY OF SURFACE AND SUBSURFACE MATERIALS OR OBSTACLES TO BE ENCOUNTERED. ANY INACCURACIES OR DISCREPANCIES BETWEEN THE DRAWINGS AND SPECIFICATIONS MUST BE BOUGHT TO THE OWNER'S ATTENTION IN ORDER TO CLARIFY THE EXACT NATURE OF THE WORK TO BE PERFORMED PRIOR TO THE COMMENCEMENT OF ANY WORK.
42. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE TO THE EXISTING ROADS AND UTILITIES WHICH OCCURS AS A RESULT OF THE PROJECT CONSTRUCTION WITHIN OR CONTIGUOUS TO THE EXISTING RIGHT-OF-WAY.
43. ALL STREET CUT AND PATCH WORK IN PUBLIC RIGHT-OF-WAY REQUIRED FOR UTILITIES INSTALLATION SHALL BE PERFORMED IN STRICT ACCORDANCE WITH CITY, COUNTY, AND/OR APPROPRIATE GOVERNING AGENCY STANDARDS AND SPECIFICATIONS. REFER TO THE TOWN OF ZEBULON STANDARDS AND SPECIFICATIONS MANUAL.
44. THE APPROVAL OF THIS PLAN SHALL IN NO WAY GRANT PERMISSION FOR THE CONTRACTOR TO TRESPASS ON OFF-SITE PROPERTIES.
45. THE APPROVAL OF THESE PLANS SHALL IN NO WAY RELIEVE THE CONTRACTOR OF COMPLYING WITH OTHER APPLICABLE LOCAL, STATE, AND FEDERAL REQUIREMENTS.
46. THESE PLANS MAKE NO REPRESENTATION AS TO THE SUBSURFACE CONDITIONS AND THE PRESENCE OF SUBSURFACE WATER OR THE NEED FOR SUBSURFACE DRAINAGE FACILITIES.
47. THE CONTRACTOR IS RESPONSIBLE FOR ARRANGING ALL NECESSARY INSPECTIONS.
48. EMERGENCY VEHICLE ACCESS SHALL BE MAINTAINED DURING ALL PHASES OF CONSTRUCTION.
49. ALL FINISHED GRADING, SEEDING, SODDING OR PAVING SHALL BE DONE IN SUCH A MANNER TO PRECLUDE THE PONDING OF WATER.
50. THE ENGINEER SHALL NOT HAVE CONTROL OVER OR CHARGE OF AND SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK SHOWN ON THESE PLANS. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S SCHEDULES OR FAILURE TO CARRY OUT THE WORK. THE ENGINEER IS NOT RESPONSIBLE FOR ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS, OR THEIR AGENTS OR EMPLOYEES, OR OF ANY OTHER PERSONS PERFORMING PORTIONS OF THE WORK.
51. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DIGGING OF TEST HOLES PRIOR TO BEGINNING OF ANY CONSTRUCTION ON THE PROJECT. IF CONFLICTS ARE DISCOVERED AS A RESULT OF TEST HOLE FINDINGS, NOTIFY OWNER'S REPRESENTATIVE IMMEDIATELY.
52. EXCAVATION SUPPORT SYSTEMS SHALL CONFORM TO THE PROVISIONS OF OSHA CONSTRUCTION STANDARD 29 CFR PART 1926 SUBPART P, OR CURRENT EDITION.
53. AT LOCATIONS WHERE THE FINAL SURFACE COURSE OF ASPHALT PAVEMENT IS TO BE FEATHERED INTO THE EXISTING SURFACE COURSE, THE EXISTING SURFACE COURSE IS TO BE SCABBLED TO A MINIMUM DEPTH OF 1" AND A TACK COAT APPLIED PRIOR TO FINAL PAVING TO INSURE A SMOOTH, WELL BONDED JOINT.
54. ANY NEW PAVEMENT OPENED TO TRAFFIC SHALL RECEIVE A TACK COAT PRIOR TO PLACEMENT OF ANY OVERLYING ASPHALT COURSE.
55. ALL SIDEWALKS TO BE 4" THICK CONCRETE UNLESS OTHERWISE SHOWN ON THE PLAN.
56. ALL DEMOLITION SHALL BE PERFORMED IN STRICT COMPLIANCE WITH THE APPROPRIATE GOVERNING AGENCY.
57. ALL APPLICABLE EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO COMMENCING DEMOLITION.
58. ITEMS SHOWN TO BE RELOCATED SHALL BE CAREFULLY REMOVED AND STORED BY THE CONTRACTOR UNTIL SUCH TIME AS THEY CAN BE PLACED IN THEIR NEW LOCATION. CONTRACTOR SHALL VERIFY THESE ITEMS WITH THE OWNER, PRIOR TO CONSTRUCTION.
59. CONTRACTOR SHALL COORDINATE REMOVAL OR RELOCATION OF ALL EXISTING UNDERGROUND AND OVERHEAD ELECTRICAL, TELEPHONE AND CABLE TV LINES AND REMOVAL OF UTILITY POLES, PEDESTALS AND TRANSFORMERS WITH UTILITY COMPANIES AND WITH DEVELOPER PRIOR TO DEMOLITION.
60. CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTMENTS AND/OR RECONSTRUCTION OF ALL UTILITY COVER (MANHOLE FRAMES AND COVERS, VALVE BOX COVERS, ETC.) TO MATCH THE FINISHED GRADES OF THE AREAS EFFECTED BY THE CONSTRUCTION.
61. THE CONTRACTOR MUST HAVE THE APPROVED CONSTRUCTION DRAWINGS IN POSSESSION PRIOR TO THE START OF CONSTRUCTION. AT LEAST ONE (1) COPY OF THE APPROVED PLANS, WITH REVISIONS, MUST BE KEPT ON-SITE AT ALL TIMES.
62. ALL HANDICAP RAMPS SHALL BE BUILT IN ACCORDANCE WITH THE MOST CURRENT EDITION OF THE APPROPRIATE GOVERNING AGENCY STANDARDS, NCDOT STANDARDS, AND CURRENT ADA REQUIREMENTS.
63. THE STORM DRAIN, STORMWATER MANAGEMENT AND WATER QUALITY FACILITIES MUST BE MAINTAINED BY THE CONTRACTOR UNTIL SUCH TIME AS THEY ARE NOT ONLY 100% COMPLETE, BUT ALSO THAT 100% OF THE DRAINAGE AREA TO EACH FACILITY IS PERMANENTLY STABILIZED. SEED AND MULCH DOES NOT CONSTITUTE STABILIZATION IN TERMS OF THE CONTRACTOR MAINTENANCE OF THE STORM DRAIN, STORMWATER MANAGEMENT, AND WATER QUALITY FACILITIES. ALL STORM DRAIN, STORMWATER MANAGEMENT AND WATER QUALITY FACILITIES SHALL BE TURNED OVER TO THE OWNER COMPLETELY CLEAN AND FREE FROM ANY CONSTRUCTION RELATED SEDIMENT OR DEBRIS.
64. THE CONTRACTOR IS RESPONSIBLE FOR INSURING THAT ALL ADA ACCESSIBLE SIDEWALKS MAINTAIN SLOPES NOT TO EXCEED 5% LONGITUDINALLY AND 2% CROSS SLOPES. SLOPES AT ACCESSIBLE PARKING SPACES AND ACCESS AISLE SHALL BE A MAXIMUM OF 2%, AND THE MANEUVERING CLEARANCE AT EXTERIOR ENTRANCES SHALL HAVE A MAXIMUM SLOPE OF 2%.
65. DURING CONSTRUCTION, NO TEMPORARY CONNECTIONS TO FIRE HYDRANTS MAY BE MADE WITHOUT THE EXPRESS AUTHORIZATION OF THE UTILITY OWNER.

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GENERAL NOTES, ABBREVIATIONS, AND LEGEND

Tractor Supply
Old US Highway 264
Zebulon, NC Wake County

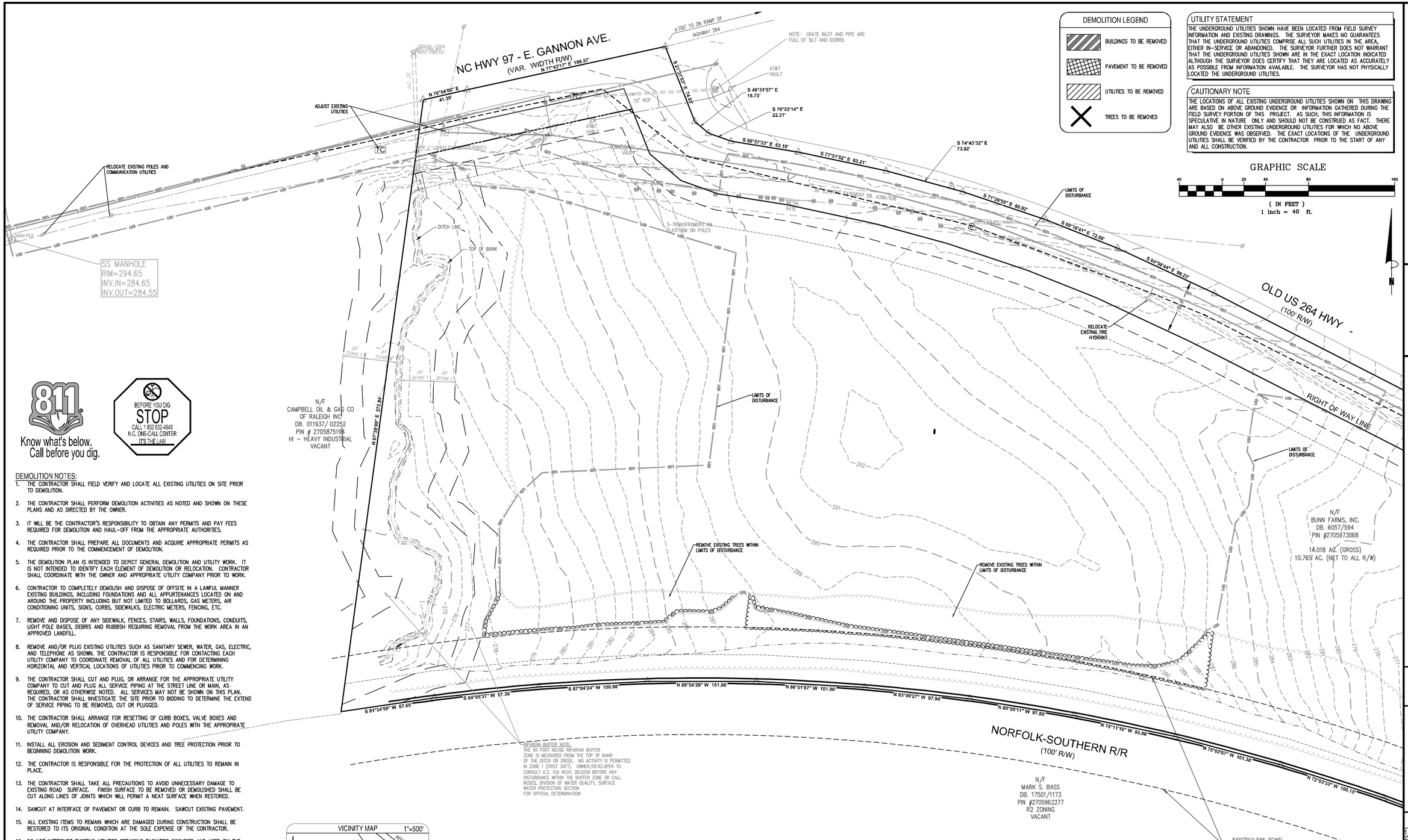
TSC TRACTOR SUPPLY COMPANY

NORTH CAROLINA PROFESSIONAL SEAL 24434 3/21/23 ENGINEER MATTHEW E. LOWDER

PLAN STATUS	
1/10/23	1ST CD SUBMISSION
2/20/23	2ND CD SUBMISSION
3/21/23	REVISED PER CITY OF RALEIGH REVIEW
DATE	DESCRIPTION

MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	H: 1" = XXX' V: 1" = XXX'	
JOB No.	220127-01-001	
DATE	January 10, 2023	
FILE No.	220127-D-CP-001	
SHEET	C1.1	

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



DEMOLITION LEGEND

- BUILDINGS TO BE REMOVED
- PAVEMENT TO BE REMOVED
- UTILITIES TO BE REMOVED
- TREES TO BE REMOVED

UTILITY STATEMENT

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN-SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

CAUTIONARY NOTE

THE LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES SHOWN ON THIS DRAWING ARE BASED ON ABOVE GROUND EVIDENCE OR INFORMATION GATHERED DURING THE FIELD SURVEY PORTION OF THIS PROJECT. AS SUCH, THIS INFORMATION IS SPECULATIVE IN NATURE ONLY AND SHOULD NOT BE CONSTRUED AS FACT. THERE MAY ALSO BE OTHER EXISTING UNDERGROUND UTILITIES FOR WHICH NO ABOVE GROUND EVIDENCE WAS OBSERVED. THE EXACT LOCATIONS OF THE UNDERGROUND UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF ANY AND ALL CONSTRUCTION.

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

N

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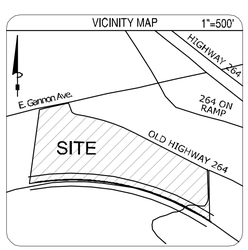
DEMOLITION NOTES:

1. THE CONTRACTOR SHALL FIELD VERIFY AND LOCATE ALL EXISTING UTILITIES ON SITE PRIOR TO DEMOLITION.
2. THE CONTRACTOR SHALL PERFORM DEMOLITION ACTIVITIES AS NOTED AND SHOWN ON THESE PLANS AND AS DIRECTED BY THE OWNER.
3. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ANY PERMITS AND PAY FEES REQUIRED FOR DEMOLITION AND HAUL-OFF FROM THE APPROPRIATE AUTHORITIES.
4. THE CONTRACTOR SHALL PREPARE ALL DOCUMENTS AND ACQUIRE APPROPRIATE PERMITS AS REQUIRED PRIOR TO THE COMMENCEMENT OF DEMOLITION.
5. THE DEMOLITION PLAN IS INTENDED TO DEPICT GENERAL DEMOLITION AND UTILITY WORK. IT IS NOT INTENDED TO IDENTIFY EACH ELEMENT OF DEMOLITION OR RELOCATION. CONTRACTOR SHALL COORDINATE WITH THE OWNER AND APPROPRIATE UTILITY COMPANY PRIOR TO WORK.
6. CONTRACTOR TO COMPLETELY DEMOLISH AND DISPOSE OF OFFSITE IN A LAWFUL MANNER EXISTING BUILDINGS, INCLUDING FOUNDATIONS AND ALL APPURTENANCES LOCATED ON AND AROUND THE PROPERTY INCLUDING BUT NOT LIMITED TO BOLLARDS, GAS METERS, AIR CONDITIONING UNITS, SIGNS, CURBS, SIDEWALKS, ELECTRIC METERS, FENCING, ETC.
7. REMOVE AND DISPOSE OF ANY SIDEWALK, FENCES, STAIRS, WALLS, FOUNDATIONS, CONDUITS, LIGHT POLE BASES, DEBRIS AND RUBBISH REQUIRING REMOVAL FROM THE WORK AREA IN AN APPROVED LANDFILL.
8. REMOVE AND/OR PLUG EXISTING UTILITIES SUCH AS SANITARY SEWER, WATER, GAS, ELECTRIC, AND TELEPHONE AS SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING EACH UTILITY COMPANY TO COORDINATE REMOVAL OF ALL UTILITIES AND FOR DETERMINING HORIZONTAL AND VERTICAL LOCATIONS OF UTILITIES PRIOR TO COMMENCING WORK.
9. THE CONTRACTOR SHALL CUT AND PLUG, OR ARRANGE FOR THE APPROPRIATE UTILITY COMPANY TO CUT AND PLUG ALL SERVICE PIPING AT THE STREET LINE OR MAIN, AS REQUIRED, OR AS OTHERWISE NOTED. ALL SERVICES MAY NOT BE SHOWN ON THIS PLAN. THE CONTRACTOR SHALL INVESTIGATE THE SITE PRIOR TO BIDDING TO DETERMINE THE EXTEND OF SERVICE PIPING TO BE REMOVED, CUT OR PLUGGED.
10. THE CONTRACTOR SHALL ARRANGE FOR RESETTING OF CURB BOXES, VALVE BOXES AND REMOVAL AND/OR RELOCATION OF OVERHEAD UTILITIES AND POLES WITH THE APPROPRIATE UTILITY COMPANY.
11. INSTALL ALL EROSION AND SEDIMENT CONTROL DEVICES AND TREE PROTECTION PRIOR TO BEGINNING DEMOLITION WORK.
12. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES TO REMAIN IN PLACE.
13. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO AVOID UNNECESSARY DAMAGE TO EXISTING ROAD SURFACE. FINISH SURFACE TO BE REMOVED OR DEMOLISHED SHALL BE CUT ALONG LINES OF JOINTS WHICH WILL PERMIT A NEAT SURFACE WHEN RESTORED.
14. SAWCUT AT INTERFACE OF PAVEMENT OR CURB TO REMAIN. SAWCUT EXISTING PAVEMENT.
15. ALL EXISTING ITEMS TO REMAIN WHICH ARE DAMAGED DURING CONSTRUCTION SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT THE SOLE EXPENSE OF THE CONTRACTOR.
16. DO NOT INTERRUPT EXISTING UTILITIES SERVICING FACILITIES OCCUPIED AND USED BY THE OWNER OR OTHERS DURING OCCUPIED HOURS EXCEPT WHEN SUCH INTERRUPTIONS HAVE BEEN AUTHORIZED IN WRITING BY THE OWNER AND THE LOCAL MUNICIPALITIES. INTERRUPTIONS SHALL ONLY OCCUR AFTER ACCEPTABLE TEMPORARY SERVICE HAS BEEN PROVIDED.
17. SHOULD ANY UNCHARTED OR INCORRECTLY CHARTED EXISTING PIPING OR OTHER UTILITY BE UNCOVERED DURING EXCAVATION, CONSULT THE ENGINEER IMMEDIATELY FOR DIRECTIONS BEFORE PROCEEDING FURTHER WITH WORK IN THIS AREA.
18. ASBESTOS OR HAZARDOUS MATERIAL, IF FOUND ON SITE, SHALL BE REMOVED BY A LICENSED HAZARDOUS MATERIAL CONTRACTOR.
19. THE PROPERTY SELLER SHALL PUMP OUT BUILDING FUEL, GREASE TRAPS, AND WASTE OIL TANKS (IF ANY ARE ENCOUNTERED) AND REMOVE FUEL TO AN APPROVED DISPOSAL AREA BY AN APPROPRIATELY LICENSED WASTE OIL HANDLING CONTRACTOR IN STRICT ACCORDANCE WITH FEDERAL AND STATE REQUIREMENTS BEFORE CONSTRUCTION BEGINS.
20. THE CONTRACTOR SHALL PROPERLY AND LEGALLY DISPOSE OF ALL DEMOLITION DEBRIS OFF OF THE SITE.

VICINITY MAP 1"=500'



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TRACTOR SUPPLY COMPANY

DEMOLITION PLAN

Tractor Supply

Old US Highway 264
Zebulon, NC Wake County

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 24434 3/21/23 MATTHEW E. LOWDER

PLAN STATUS	
1/10/23	1ST CD SUBMISSION
2/20/23	2ND CD SUBMISSION
3/21/23	REVISED PER CITY OF RALEIGH REVIEW
DATE	DESCRIPTION

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

JOB No. 220127-01-001

DATE January 10, 2023

FILE No. 220127-D-CP-001

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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 NCDEQ 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 NCDEQ PERMITS.

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 (HQW) 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 HQW 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 919-796-8769.** 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 919-796-8769** 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 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 919-796-8769** 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.

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.
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

CE
HORSESHOE INLET PROTECTION
TEMPORARY INLET PROTECTION
TEMPORARY SILT FENCE OUTLET
CHECK DAM
FILTER BAG
PUMP
RIP RAP APPRON
SKIMMER DEVICE
TEMPORARY SILT FENCE
TREE PROTECTION 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.

BEFORE YOU DIG STOP CALL 1-800-632-4949 N.C. ONE-CALL CENTER IT'S THE LAW!

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

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

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

Bowman

Bowman North Carolina Ltd.
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 - INITIAL
Tractor Supply
Old US Highway 264
Zebulon, NC Wake County

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 24434 5/2/2023 MATTHEW E. LOWDER

PLAN STATUS

1/10/23	1ST CD SUBMISSION	
2/20/23	2ND CD SUBMISSION	
3/21/23	REVISED PER CITY OF RALEIGH REVIEW	
DATE	DESCRIPTION	

MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	H: 1" = 40' V: 1" = 40'	
JOB No.	220127-01-001	
DATE	January 10, 2023	
FILE No.	220127-D-CP-001	
SHEET	C2.1	

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

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 NCDEQ 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 NCDEQ PERMITS.

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 (HQW) 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 HQW 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 919-796-8769.** 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 919-796-8769** 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 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 919-796-8769** 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.

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.
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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.
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EROSION CONTROL LEGEND
REFER TO DETAIL SHEET FOR CONSTRUCTION REQUIREMENTS

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TEMPORARY INLET PROTECTION
TEMPORARY SILT FENCE OUTLET
CHECK DAM
FILTER BAG
PUMP
RIP RAP APPRON
SKIMMER DEVICE
TEMPORARY SILT FENCE
TREE PROTECTION FENCE
TEMPORARY DIVERSION DITCH
LIMITS OF DISTURBANCE

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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.

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BEFORE YOU DIG STOP CALL 1-800-632-4949 N.C. ONE-CALL CENTER IT'S THE LAW!

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1 inch = 40 ft.

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

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Phone: (919)553-6570
bowman.com
Bowman North Carolina Ltd.

TSC
TRACTOR SUPPLY COMPANY

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

NORTH CAROLINA PROFESSIONAL SEAL 24434 ENGINEER MATTHEW E. LORDEN 5/24/2023

PLAN STATUS	
1/10/23	1ST CD SUBMISSION
2/20/23	2ND CD SUBMISSION
5/21/23	REVISED PER CITY OF RALEIGH REVIEW
DATE	DESCRIPTION

MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	H: 1" = 40' V: 1" = 40'	
JOB No.	220127-01-001	
DATE	January 10, 2023	
FILE No.	220127-D-CP-001	
SHEET	C2.2	

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

EROSION CONTROL NOTES:

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.

BASIN NOTES:

SKIMMER BASIN DESIGN BASED ON 3 DAYS TO DRAIN.

BASIN AND DIVERSIONS SHALL BE SEEDED, MULCHED AND ANCHORED/LINED AND PINNED UPON INSTALLATION OF MEASURES.

NOTE TO CONTRACTOR:

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

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 NCDEQ 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 NCDEQ PERMITS.

EROSION CONTROL NOTES:

1. TOTAL AREA DISTURBED = 5.69 ACRES
   TOTAL SITE AREA = 3.766 ACRES
2. SOIL TYPE = VANCE SANDY LOAM & HELENA SANDY LOAM
3. UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE NCDEQ EROSION AND SEDIMENT CONTROL HANDBOOK
4. THE CONTRACTOR SHALL INSTALL AND MAINTAIN THROUGHOUT THE PROJECT CONSTRUCTION ALL EROSION CONTROL MEASURES SHOWN WITHIN THESE PLANS IN ACCORDANCE WITH APPLICABLE NORTH CAROLINA EROSION AND SEDIMENT CONTROL REGULATIONS.
5. CONSTRUCTION WORK SHALL BE IN COMPLIANCE WITH REGULATIONS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORM WATER GENERAL PERMIT.
6. EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO CLEARING AND/OR LAND DISTURBANCE.
7. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN AND PERMIT SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
8. THE CONTRACTOR SHALL DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL DEVICES AND STRUCTURES TO MINIMIZE EROSION. THE CONTRACTOR SHALL MAINTAIN CLOSE CONTACT WITH THE NCDEQ EROSION CONTROL INSPECTOR SO THAT PERIODIC INSPECTIONS CAN BE PERFORMED AT APPROPRIATE STAGES OF CONSTRUCTION.
9. APPROVAL OF THIS PLAN IS NOT AN AUTHORIZATION TO GRADE ADJACENT PROPERTIES. WHEN FIELD CONDITIONS WARRANT OFF-SITE GRADING, PERMISSION MUST BE OBTAINED FROM THE AFFECTED PROPERTY OWNERS. A REVISED PLAN SHOWING OFF-SITE IMPACTS SHOULD BE SUBMITTED AND APPROVED PRIOR TO ANY OFF-SITE GRADING. CONTACT PROJECT ENGINEER AND PROJECT EROSION CONTROL INSPECTOR TO ENSURE ADDITIONAL EROSION CONTROL MEASURES ARE INSTALLED PRIOR TO OFF-SITE GRADING.
10. PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO OFF-SITE BORROW OR WASTE AREAS, STAGING OR STORAGE AREAS), THE CONTRACTOR SHALL PREPARE AND SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND TO NCDEQ FOR APPROVAL. CONTRACTOR SHALL PAY ALL FEES REQUIRED AND SHALL INSTALL NECESSARY MEASURES AT NO SEPARATE PAYMENT. THE CONTRACTOR SHALL PROVIDE THE OWNER AND THE ENGINEER A COPY OF THE AMENDED PERMIT.
11. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED CONTINUOUSLY, RELOCATED WHEN AND AS NECESSARY, AND SHALL BE CHECKED AFTER EVERY RAINFALL. SEEDED AREAS SHALL BE CHECKED REGULARLY AND SHALL BE WATERED, FERTILIZED, RE-EEDED AND MULCHED AS NECESSARY TO OBTAIN A DENSE STAND OF GRASS.
12. STABILIZATION IS THE BEST FORM OF EROSION CONTROL. ALL DISTURBED AREAS WHICH ARE NOT OTHERWISE STABILIZED SHALL BE TOP SOILED AND SEEDED, TEMPORARILY OR PERMANENTLY IN ACCORDANCE WITH THE NCDEQ SEDIMENT CONTROL REGULATIONS. PERMANENT SEEDING AND GRASS ESTABLISHMENT IS REQUIRED PRIOR TO PROJECT COMPLETION AND ACCEPTANCE.
13. WHEN A CRUSHED STONE CONSTRUCTION ENTRANCE HAS BEEN COVERED WITH SOIL OR HAS BEEN PUSHED INTO THE SOIL BY CONSTRUCTION TRAFFIC, IT SHALL BE REPLACED WITH A DEPTH OF STONE EQUAL TO THAT OF THE ORIGINAL APPLICATION.
14. TEMPORARY GRAVEL CONSTRUCTION ENTRANCE SHALL BE REQUIRED AT ALL CONSTRUCTION STAGING AREA ENTRANCES AND ALL CONSTRUCTION ACCESS LOCATIONS INTO NON-PAVED AREA. SIX INCHES OF STONE SHALL BE USED FOR THE TEMPORARY GRAVEL CONSTRUCTION ENTRANCE.
15. ALL DRAINAGE INLETS SHALL BE PROTECTED FROM SILTATION. INEFFECTIVE PROTECTION DEVICES SHALL BE IMMEDIATELY REPLACED AND THE INLET CLEANED. FLUSHING IS NOT AN ACCEPTABLE METHOD OF CLEANING.
16. SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UP-SLOPE LAND DISTURBANCE TAKES PLACE.
17. ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS COMPLETED.
18. DURING DE-WATERING OPERATIONS, WATER SHALL BE PUMPED INTO AN APPROVED FILTERING DEVICE PRIOR TO DISCHARGE TO RECEIVING OUTLET.
19. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF-PRODUCING EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.

EROSION CONTROL NARRATIVE:

TRACTOR SUPPLY CO., TOWN OF ZEBULON, WAKE COUNTY, NC

CONTRACTOR WILL FIRST INSTALL THE CONSTRUCTION ENTRANCE. THE CONTRACTOR SHALL THEN MOBILIZE ON SITE AND INSTALL THE TEMPORARY EROSION CONTROL DEVICES INCLUDING SILT FENCE, INLET PROTECTION, SKIMMER BASINS, AND OTHER DEVICES IN ACCORDANCE WITH THE PLANS (CLEARING ONLY AS NECESSARY TO INSTALL THESE ITEMS). BEGIN DEMOLITION, CLEARING AND SITE GRADING OPERATIONS. STABILIZATION OF EARTHEN STRUCTURES IS REQUIRED IMMEDIATELY AFTER INSTALLATION. THE ON-SITE STORM SEWER SYSTEM AND THE LEVEL-SPREADER FILTER STRIP CAN NOW BE INSTALLED. IMMEDIATELY AFTER AN INLET IS INSTALLED, INLET PROTECTION SHALL BE PROPERLY INSTALLED ON THE STRUCTURE. ONCE THE SITE IS READY TO BRING UP TO GRADE, REMOVE SKIMMER BASIN #2. THE ON-SITE SANITARY SEWER AND WATER SYSTEMS MAY ALSO BE INSTALLED ONCE THE SITE IS BROUGHT UP TO GRADE. THE SITE PAD WILL BE PREPARED FOR THE PROPOSED BUILDING. THE ROUGH GRADE WILL THEN BE ESTABLISHED FOR THE SITE. INSTALLATION OF CURB AND GUTTER WILL THEN BE PERFORMED. BASE STONE WILL THEN BE PLACED AND FINE GRADED. ALL DISTURBED AREAS WILL BE DRESSED AND SEEDED. REMOVE ALL INLET PROTECTION FROM STORM STRUCTURES WHEN PAVING IS TO BEGIN. PAVING AND STRIPING WILL THEN BE COMPLETED. FINALIZE STORMWATER POND STRUCTURE AND DISCHARGE PIPES ONCE UPSTREAM AREAS HAVE BEEN STABILIZED (REMOVE ACCUMULATED SEDIMENT). ALL LANDSCAPING WILL BE COMPLETED. THE ON-SITE STORM SEWER SYSTEM SHALL BE CLEANED OF ANY ACCUMULATED SEDIMENT WHICH SHALL BE DISPOSED OF IN A LAWFUL MANNER. ALL ACCUMULATED SEDIMENT BEHIND SILT FENCE AND OTHER SEDIMENT DEVICES SHALL BE REMOVED AND DISPOSED OF IN A LAWFUL MANNER. ACCORDING TO THE GROUND STABILIZATION REQUIREMENTS ON THIS SHEET, REMOVE ALL REMAINING SEDIMENT CONTROL MEASURES FROM THE SITE. CONTRACTOR SHALL MINIMIZE THE LENGTH OF TIME BETWEEN INITIAL LAND DISTURBANCE AND FINAL VEGETATION STABILIZATION OF THE SITE.

THE PROPOSED EROSION AND SEDIMENT CONTROL MEASURES ARE INTENDED TO TRAP ANY STORMWATER RUNOFF FROM THE CONSTRUCTION SITE AND DETAIN IT LONG ENOUGH FOR SEDIMENT AND POLLUTANTS TO SETTLE OUT OF THE STORMWATER BEFORE DISCHARGE. VARIOUS EROSION CONTROL MEASURES ARE USED TO PREVENT POLLUTANT-LADEN STORMWATER RUNOFF FROM FLOWING ONTO ADJACENT PROPERTIES.

GENERAL NOTES:

1. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL INSPECTIONS, CERTIFICATIONS, EQUIPMENT, ETC. THAT MAY BE REQUIRED.
2. THE CONTRACTOR SHALL NOTE THAT THE DRAWINGS ARE SCHEMATIC IN NATURE AND DO NOT SHOW EVERY OFFSET, TRANSITION, FITTING, ETC. THAT MAY BE REQUIRED FOR A COMPLETE AND WORKING SYSTEM.
3. THE ENGINEER AND/OR OWNER DISCLAIM ANY ROLE IN THE CONSTRUCTION MEANS AND METHODS ASSOCIATED WITH THE PROJECT AS SET FORTH IN THESE PLANS.
4. CONTRACTOR SHALL MAINTAIN AN "AS BUILT" SET OF DRAWINGS TO RECORD THE EXACT LOCATION OF ALL PIPING PRIOR TO CONCEALMENT. DRAWINGS SHALL BE GIVEN TO THE ENGINEER UPON COMPLETION OF THE PROJECT WITH A COPY OF THE TRANSMITTAL LETTER TO THE OWNER.
5. IF DEPARTURES FROM THE SPECIFICATIONS OR DRAWINGS ARE DEEMED NECESSARY BY THE CONTRACTOR, DETAILS OF SUCH DEPARTURES AND REASONS THEREOF SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. NO DEPARTURES FROM THE CONTRACT DOCUMENTS SHALL BE MADE WITHOUT THE WRITTEN PERMISSION OF THE OWNER.
6. THE CONTRACTOR MUST, AT ALL TIMES, KEEP THE PREMISES FREE FROM ACCUMULATIONS OF WASTE MATERIALS OR RUBBISH CAUSED BY HIM, HIS EMPLOYEES OR HIS WORK. ALL DEBRIS SHALL BE REMOVED FROM THE PROJECT SITE ON A DAILY BASIS.

SEDIMENT & EROSION CONTROL NOTES:

1. THE EROSION AND SEDIMENTATION CONTROL MEASURES (BMPS) WERE DESIGNED USING THE NORTH CAROLINA NCDEQ REQUIREMENTS AND SHALL BE INSTALLED ACCORDINGLY. CONTRACTOR SHALL PERFORM ALL ACTIVITIES IN STRICT COMPLIANCE WITH THE NORTH CAROLINA NPDES GENERAL PERMIT FOR STORM WATER DISCHARGES FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES (GENERAL PERMIT).
2. REFER TO THE EROSION AND SEDIMENT CONTROL DETAIL SHEETS FOR EROSION CONTROL DETAILS AND DESIGN TABLES FOR SEDIMENT BASINS, DIVERSION DITCHES, AND CULVERTS, SLOPE DRAINS, RIP-RAP APRONS AND OTHER EROSION CONTROL MEASURES.
3. EXISTING BOUNDARIES, TOPOGRAPHY, 100-YR FLOODPLAIN, UTILITY AND ROAD INFORMATION TAKEN FROM AN EXISTING CONDITIONS SURVEY. ALL EXISTING INFORMATION IS TO BE FIELD VERIFIED BY THE CONTRACTOR.
4. SEE THE LANDSCAPE PLAN FOR LOCATIONS OF PROPOSED PLANTINGS AND FINAL STABILIZATION.
5. TEMPORARY DIVERSION DITCHES AND BERMS SHALL BE MAINTAINED AS THE SITE IS BROUGHT TO GRADE.
6. DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL DEVICES AND STRUCTURES TO MINIMIZE EROSION. THE CONTRACTOR SHALL MAINTAIN CLOSE CONTACT WITH THE EROSION CONTROL INSPECTORS SO THAT PERIODIC INSPECTIONS CAN BE PERFORMED AT APPROPRIATE STAGES OF CONSTRUCTION.
7. SEE THE GENERAL NOTES SHEET AND THE GRADING AND DRAINAGE PLAN FOR OTHER NOTES REGARDING GRADING ACTIVITIES.
8. SEE SITE PLAN, GRADING AND DRAINAGE PLAN, UTILITY PLAN, PLANTING PLAN AND OTHER PLAN SHEETS FOR DETAILED DESIGN INFORMATION OF PERMANENT SITE APPURTENANCES SHOWN ON THIS SHEET.
9. WHERE THE LIMITS OF DISTURBANCE AND TEMPORARY FENCE (SF, SF-PF, OR PF) LIMITS ARE ADJACENT, THE TEMPORARY FENCE LINE IS THE LIMITS OF DISTURBANCE. THE LINE TYPES ARE SHOWN SEPARATED FOR ILLUSTRATIVE PURPOSES ONLY.
10. CONTRACTOR SHALL NOT DISTURB ANY EXISTING VEGETATIVE GROUND COVER OR TREES OUTSIDE OF THE LIMITS OF DISTURBANCE OR WITHIN ANY REQUIRED BUFFER LIMITS UNLESS OTHERWISE NOTED OR ILLUSTRATED.
11. PROVIDE CONTROLS OF POLLUTANTS, INCLUDING, BUT NOT LIMITED TO DUST CONTROL, DE-WATERING, SOLID WASTE DISPOSAL, AND HAZARDOUS MATERIALS.
12. CLEAR ONLY AS REQUIRED TO INSTALL EROSION AND SEDIMENTATION CONTROL MEASURES. MASS CLEARING AND GRUBBING CAN BEGIN ONLY AFTER ALL DOWNSTREAM MEASURES HAVE BEEN INSTALLED.
13. USE ROCK OR WASHED STONE TO BRING CONSTRUCTION EXIT TO GRADE. IMPLEMENT WHEEL WASHES AS NECESSARY THROUGHOUT ALL PHASES OF CONSTRUCTION.
14. DIVERT STORM WATER RUNOFF OFF THE FACE OF THE SEDIMENT BASIN SLOPES USING DIVERSION DITCHES AND SLOPE DRAINS. CONTRACTOR SHALL MAINTAIN AND RELOCATE DIVERSION DITCHES AND SLOPES DRAINS TO ENSURE STORM WATER RUNOFF DOES NOT ERODE THE FACE OF FINAL SLOPES.
15. MAINTAIN POSITIVE FLOW TO THE SEDIMENT BASINS THROUGHOUT ALL PHASES OF CONSTRUCTION. PLACE EXCAVATED SOILS ALONG DOWNSTREAM EDGE OF THE DIVERSION DITCHES TO PROVIDE ADDITIONAL CAPACITY.
16. REFER TO THE GRADING AND DRAINAGE PLAN FOR FINAL SITE AND PAVEMENT GRADES AND ELEVATIONS OF THE PROPOSED STORM SEWER SYSTEMS.
17. LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED BY GOVERNING AUTHORITIES. THE GENERAL CONTRACTOR SHALL STRICTLY ADHERE TO THE APPROVED EROSION AND SEDIMENT CONTROL DRAWINGS DURING CONSTRUCTION OPERATIONS.
18. GENERAL CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL ORDINANCES THAT APPLY.
19. ALL WORK SHALL BE CONFINED TO PERMIT LIMITS SHOWN ON PLANS. UNLESS OTHERWISE NOTED, THE SITE PLAN PROPERTY LIMITS SHALL BE CONSIDERED THE PERMIT LIMITS.
20. SUFFICIENT EROSION CONTROL PRACTICES MUST BE INSTALLED AND MAINTAINED TO RETAIN SEDIMENT WITHIN THE BOUNDARIES OF THE SITE.
21. ADDITIONAL EROSION CONTROL MEASURES OR SILT BARRIERS TO BE PLACED AS SHOWN AND/OR DIRECTED BY THE PROJECT ENGINEER AND/OR LOCAL JURISDICTIONAL INSPECTOR.
22. FOR ALL CONSTRUCTION ALONG AND/OR ACROSS WATERWAYS, BANK PROTECTION AND STABILIZATION SHALL BE REQUIRED AS PER LOCAL JURISDICTIONAL EROSION CONTROL LAWS.
23. ALL TREE PROTECTION AND EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO COMMENCING CONSTRUCTION AND SHALL BE MAINTAINED IN PROPER WORKING ORDER UNTIL ALL DISTURBED AREAS ARE STABILIZED AND GROUND COVER IS ESTABLISHED. CONSTRUCTION ENTRANCE PADS SHALL BE INSTALLED BY THE CONTRACTOR AT CONSTRUCTION ACCESS POINTS PRIOR TO LAND DISTURBANCE.
24. ALL EASEMENTS DISTURBED MUST BE DRESSED AND GRASSED TO CONTROL EROSION IN ACCORDANCE WITH EASEMENT PLATS PRIOR TO ACCEPTANCE.
25. CONSTRUCTION LIMITS SHALL NOT BE EXCEEDED WITHOUT THE APPROVAL OF NCDEQ INSPECTOR.

NORTH CAROLINA CONSTRUCTION GENERAL PERMIT NOTE:

As of April 1, 2019, all new construction activities are required to complete and submit an electronic Notice of Intent (NOI) form requesting a Certificate of Coverage (COC) under the NCG010000 Construction Stormwater General Permit. This form MUST be submitted prior to the commencement of any land disturbing activity on the above named project. The NOI form may be accessed at deq.nc.gov/NCG01. Please direct questions about the NOI form to Paul Clark at Paul.clark@ncdenr.gov.

After you submit a complete and correct NOI Form, a COC will be emailed to you within three business days. Initially, DEMLR will not charge a fee for coverage under the NCG01 permit. However, on or after May 1, 2019, a $100 fee will be charged annually. This fee is to be sent to the DEMLR Stormwater Central Office staff in Raleigh.

Title 15A NCAC 4B .0118(a) and the NCG01 permit require that the following documentation be kept on file at the job site:
1. The approved E&SC plan as well as any approved deviation.
2. The NCG01 permit and the COC, once it is received.
3. Records of inspections made during the previous 30 days.
4. The Certificate of Approval

NOTIFICATION OF COMBINED SELF-MONITORING AND SELF-INSPECTION FORM:

THE SEDIMENTATION POLLUTION CONTROL ACT WAS AMENDED IN 2006 TO REQUIRE THAT PERSONS RESPONSIBLE FOR LAND-DISTURBING ACTIVITIES INSPECT A PROJECT AFTER EACH PHASE OF THE PROJECT TO MAKE SURE THAT THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN IS BEING FOLLOWED. RULES DETAILING THE DOCUMENTATION OF THESE INSPECTIONS TOOK EFFECT OCTOBER 1, 2010.

TO SIMPLIFY DOCUMENTATION OF SELF-INSPECTION REPORTS AND NPDES SELF-MONITORING REPORTS, DWQ AND DEMLR DEVELOPED A COMBINED FORM. THE SELF-INSPECTION PROGRAM IS SEPARATE FROM THE WEEKLY SELF-MONITORING PROGRAM OF THE NPDES STORMWATER PERMIT FOR CONSTRUCTION ACTIVITIES. THE FOCUS OF THE SELF-INSPECTION REPORT IS THE INSTALLATION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROL MEASURES ACCORDING TO THE APPROVED PLAN. THE INSPECTIONS SHOULD BE CONDUCTED AFTER EACH PHASE OF THE PROJECT, AND CONTINUED UNTIL PERMANENT GROUND COVER IS ESTABLISHED. THE FORM CAN BE ACCESSED AT: HTTP://PORTAL.NCDENR.ORG/WEB/LR/EROSION

IF YOU HAVE QUESTIONS OR CANNOT ACCESS THE FORM, PLEASE CALL THE APPLICABLE NCDENR REGIONAL OFFICE: (RALEIGH: 919-791-4200) (FAYETTEVILLE: 910-433-3300) (WILMINGTON: 910-796-7215) (WASHINGTON: 252-946-6481) (WINSTON-SALEM: 336-771-5000) (MOORESVILLE: 704-663-1699) (ASHEVILLE: 828-296-4500).

TREE PROTECTION NOTES:

1. THE CONTRACTOR SHALL PROTECT ALL TREES AND SHRUBS OUTSIDE OF CUT/FILL LINES, IN ADDITION TO THOSE THAT RECEIVE TREE/SHRUB PROTECTION BARRIERS. THE CONTRACTOR IS ALSO REQUESTED TO SAVE ALL OTHER EXISTING TREES AND SHRUBS WHERE POSSIBLE.
2. WHEN ROOT PRUNING IS NECESSARY, CUT ROOTS CLEANLY USING A DISC TRENCHER AND IMMEDIATELY COVER ALL ROOT CUT SURFACES LARGER THAN TWO INCHES IN DIAMETER WITH TREE WOUND DRESSING. USE PLYWOOD FORMS WHEN TREE ROOTS ARE ADJACENT TO PROPOSED CURB & GUTTER OR SIDEWALK.
3. NO SOIL DISTURBANCE OR COMPACTION, CONSTRUCTION MATERIALS, TRAFFIC, BURIAL PITS, TRENCHING OR OTHER LAND DISTURBING ACTIVITY ALLOWED IN THE TREE PROTECTION ZONE. TREE BARRICADES MUST BE INSTALLED BEFORE ANY DEMOLITION, GRADING OR CONSTRUCTION BEGINS, AND NOT REMOVED UNTIL FINAL INSPECTION.
4. NO GRUBBING WITHIN TREE PROTECTION ZONE. LEAVE SOIL AND LEAF LITTER UNDISTURBED. SUPPLEMENT WITH 1-2 INCHES OF MULCH. RE-SEED WITH GRASS ONLY IN DISTURBED/GRADED AREAS.
5. TREE BARRICADES MUST BE INSTALLED BEFORE ANY DEMOLITION, CLEARING, GRADING OR CONSTRUCTION BEGINS AND IS NOT TO BE REMOVED UNTIL AFTER CONSTRUCTION.
6. TREE PROTECTION FENCE IS TO BE LOCATED 1 FOOT PER TREE DIAMETER INCH AWAY FROM THE TREE.

Bowman

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

TRACTOR SUPPLY COMPANY

EROSION CONTROL NOTES

Tractor Supply
Old US Highway 264
Zebulon, NC Wake County

PLAN STATUS	
1/10/23	1ST CD SUBMISSION
2/20/23	2ND CD SUBMISSION
3/21/23	REVISED PER CITY OF RALEIGH REVIEW
DATE	DESCRIPTION

MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	H: N/A V: N/A	
JOB No.	220127-01-001	
DATE	January 10, 2023	
FILE No.	220127-D-CP-001	
SHEET	C2.3	

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction Genera Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

Required Ground Stabilization Timeframes		
Site Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
• Temporary grass seed covered with straw or other mulches and tackifiers • Hydroseeding • Rolled erosion control products with or without temporary grass seed • Appropriately applied straw or other mulch • Plastic sheeting	• Permanent grass seed covered with straw or other mulches and tackifiers • Geotextile fabrics such as permanent soil reinforcement matting • Hydroseeding • Shrubs or other permanent plantings covered with mulch • Uniform and evenly distributed ground cover sufficient to restrain erosion • Structural methods such as concrete, asphalt or retaining walls • Rolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

1. Select flocculants that are appropriate for the soils being exposed during construction, selecting from the NC DWR List of Approved PAMS/Flocculants.
2. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
3. Apply flocculants at the concentrations specified in the NC DWR List of Approved PAMS/Flocculants and in accordance with the manufacturer's instructions.
4. Provide ponding area for containment of treated Stormwater before discharging offsite.
5. Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

1. Maintain vehicles and equipment to prevent discharge of fluids.
2. Provide drip pans under any stored equipment.
3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
4. Collect all spent fluids; store in separate containers and properly dispose as hazardous waste (recycle when possible).
5. Remove leaking vehicles and construction equipment from service until the problem has been corrected.
6. Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
4. Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
6. Anchor all lightweight items in waste containers during times of high winds.
7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
8. Dispose waste off-site at an approved disposal facility.
9. On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

1. Do not dump paint and other fluid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. Contain liquid wastes in a controlled area.
4. Containment must be labeled, sized and placed appropriately for the needs of site.
5. Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

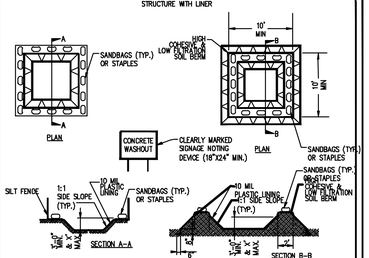
PORTABLE TOILETS

1. Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
3. Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
3. Provide stable stone access point when feasible.
4. Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD
2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY.
3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

BELOW GRADE WASHOUT STRUCTURE NOT TO SCALE

NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD
2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

ABOVE GRADE WASHOUT STRUCTURE NOT TO SCALE

CONCRETE WASHOUTS

1. Do not discharge concrete or cement slurry from the site.
2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
3. Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within ist perimeter silt fence.
4. Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
5. Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
6. Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
7. Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
8. Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
9. Remove liquidsys from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
10. At the completion of the concrete work, remove remaining liquidsys and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

HERBICIDES, PESTICIDES AND RODENTICIDES

1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
3. Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
4. Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

1. Create designated hazardous waste collection areas on-site.
2. Place hazardous waste containers under cover or in secondary containment.
3. Do not store hazardous chemicals, drums or bagged materials directly on the ground.

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING | EFFECTIVE: 04/01/19

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gage maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individualsday rainfall information is available, record the cumulative rain measurement for those un-attended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inches in 24 hours	1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description of maintenance needs for the measure, 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDOs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inches in 24 hours	1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids, or discoloration, 5. Indication of visible sediment leaving the site, 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inches in 24 hours	If visible sediment is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits, 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inches in 24 hours	If the stream or wetland has increased visible sediment deposition or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required notification of the Division Regional Office per Part III, Section C, Item (2)(a) of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover), 2. Documentation that the required ground stabilization measures have been provided within the required timeframes or that assistance that they will be provided as soon as possible

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be kept on site and available for inspection at all times during normal business hours.

Item to Document	Documentation Requirements
(a) Each E&SC Measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC Plan.	Initial and date each E&SC Measure on a copy of the approved E&SC Plan or complete, date and sign an inspection report that lists each E&SC Measure shown on the approved E&SC Plan. This documentation is required upon the initial installation of the E&SC Measures or if the E&SC Measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&SC Plan.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&SC Measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC Measures.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation to be Kept on Site

In addition to the E&SC plan documents above, the following items shall be kept on the site and available for inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

(a) This General Permit as well as the Certificate of Coverage, after it is received.

(b) Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

3. Documentation to be Retained for Three Years

All data used to complete the e-NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that Must be Reported

Permittees shall report the following occurrences:

(a) Visible sediment deposition in a stream or wetland.

(b) Oil spills if:
- They are 25 gallons or more,
- They are less than 25 gallons but cannot be cleaned up within 24 hours,
- They cause sheen on surface waters (regardless of volume), or
- They are within 100 feet of surface waters (regardless of volume).

(c) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.

(d) Anticipated bypasses and unanticipated bypasses.

(e) Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800) 858-0368.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	• *Within 24 hours*, an oral or electronic notification. • *Within 7 calendar days*, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. • If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determines that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.
(b) Oil spills and release of hazardous substances per item 2(b)-(c) above	• *Within 24 hours*, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	• *A report at least ten days before the date of the bypass, if possible.* The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	• *Within 24 hours*, an oral or electronic notification. • *Within 7 calendar days*, a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment [40 CFR 122.41(l)(7)]	• *Within 24 hours*, an oral or electronic notification. • *Within 7 calendar days*, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6)] • Division staff may waive the requirement for a written report on a case-by-case basis.

PART II, SECTION G, ITEM (4)
DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

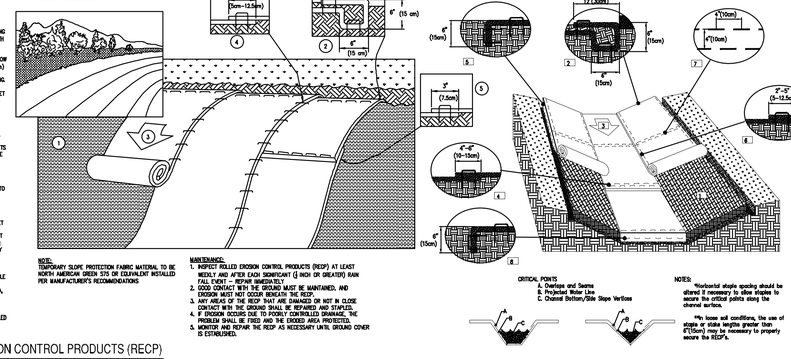
(a) The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&SC plan authority has approved these items,
(b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, item (2)(c) and (d) of this permit,
(c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems,
(d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above,
(e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
(f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING | EFFECTIVE: 04/01/19

SLOPE PROTECTION - RECP INSTALLATION NOTES:

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" (15cm) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAPLES APPROXIMATELY 12" (30cm) APART IN THE BOTTOM OF THE TRENCH. BACK FILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO PREPARED SOIL AND FOLD REMAINING 12" (30cm) PORTION OF THE BLANKET BACK OVER SEED AND SOIL. SECURE BLANKET OVER SOIL WITH A ROW OF STAPLES/STAPES SPACED APPROXIMATELY 12" (30cm) APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS DOWN ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH THE APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING OPTIONAL DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"-3" (5cm-12.5cm) OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE EDGE OF THE UNDERNEATH BLANKET DIRECTLY ON TOP OF THE OVERLAPPED BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5cm) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30cm) APART ACROSS ENTIRE BLANKET WIDTH.
6. EROSION CONTROL BLANKETS SHALL BE INSTALLED FOLLOWING MANUFACTURERS SPECIFICATIONS.

NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15cm) MAY BE NECESSARY TO PROPERLY ANCHOR THE BLANKETS.



NOTE:
TEMPORARY SLOPE PROTECTION FABRIC MATERIAL TO BE NORTH AMERICAN GREEN S75 OR EQUIVALENT INSTALLED PER MANUFACTURER'S RECOMMENDATIONS

MAINTENANCE:
1. INSPECT ROLLED EROSION CONTROL PRODUCTS (RECP) AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (½ INCH OR GREATER) RAIN FALL EVENT - REPAIR IMMEDIATELY
2. GOOD CONTACT WITH THE GROUND MUST BE MAINTAINED, AND EROSION MUST NOT occur BENEATH THE RECP.
3. ANY AREAS OF THE RECP THAT ARE DAMAGED OR NOT IN CLOSE CONTACT WITH THE GROUND SHALL BE REPAIRED AND STAPLED.
4. IF EROSION OCCURS DUE TO POORLY CONTROLLED DRAINAGE, THE PROBLEM SHALL BE FIXED AND THE ERODED AREA PROTECTED.
5. MONITOR AND REPAIR THE RECP AS NECESSARY UNTIL GROUND COVER IS ESTABLISHED.

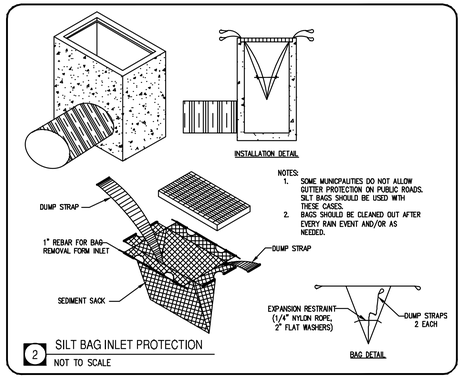
CRITICAL POINTS
A. Overlaps and Seams
B. Projected Water Line
C. Channel Bottom/Side Slope Vertices

NOTES:
*Horizontal staple spacing should be altered if necessary to allow staples to secure the critical points along the channel surface.
**In loose soil conditions, the use of staple or stake lengths greater than 6"(15cm) may be necessary to properly secure the RECP's.

CHANNEL - RECP INSTALLATION NOTES:

1. Prepare soil before installing rolled erosion control products (RECPs), including any necessary application of lime, fertilizer, and seed.
2. Begin at the top of the channel by anchoring the RECPs in a 6"(15cm) deep X 6"(15cm) wide trench with approximately 12"(30cm) of RECPs extended beyond the up-slope portion of the trench. Use Shoreline mat at the channel/culvert outlet as supplemental scour protection as needed. Anchor the RECPs with a row of staples/stakes approximately 12"(30cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to the compacted soil and fold the remaining 12"(30cm) portion of RECPs back over seed and compacted soil. Secure RECPs over compacted soil with a row of staples/stakes spaced approximately 12" apart across the width of the RECPs.
3. Roll center RECPs in direction of water flow in bottom of channel. RECPs will unroll with appropriate side against the soil surface. All RECPs must be securely fastened to soil surface by placing staples/stakes in appropriate locations as shown in the staple pattern guide.
4. Place consecutive RECPs end-over-end (Shingle style) with a 4"-6" overlap. Use a double row of staples staggered 4" apart and 4" on center to secure RECPs.
5. For length edge of RECPs at top of side slopes must be anchored with a row of staples/stakes approximately 12"(30cm) apart in a 6"(15cm) deep X 6"(15cm) side trench. Backfill and compact the trench after stapling.
6. Adjacent RECPs must be overlapped approximately 2"-3" (5-12.5cm) (Depending on RECPs type) and stapled.
7. In high flow channel applications a staple check slot is recommended at 30 to 40 foot (9 -12m) intervals. Use a double row of staples staggered 4"(10cm) apart and 4"(10cm) on center over entire width of the channel.
8. The terminal end of the RECPs must be anchored with a row of staples/stakes approximately 12" (30cm) apart in a 6"(15cm) deep X 6"(15cm) side trench. Backfill and compact the trench after stapling.

1 ROLLED EROSION CONTROL PRODUCTS (RECP)
NOT TO SCALE



NOTES:
1. SOME MUNICIPALITIES DO NOT ALLOW GUTTER PROTECTION ON PUBLIC ROADS. SILT BAGS SHOULD BE USED WITH THESE CASES.
2. BAGS SHOULD BE CLEANED OUT AFTER EVERY RAIN EVENT AND/OR AS NEEDED.

2 SILT BAG INLET PROTECTION
NOT TO SCALE

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

NC CONSTRUCTION GENERAL PERMIT (NCG01) NOTES

Tractor Supply
Old US Highway 264
Zebulon, NC Wake County

TRACTOR SUPPLY COMPANY

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 24434 3/10/23 MATTHEW LOWDER

PLAN STATUS	
1/10/23	1ST CD SUBMISSION
2/20/23	2ND CD SUBMISSION
3/21/23	REVISED PER CITY OF RALEIGH REVIEW
DATE	DESCRIPTION

MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	H: N/A V: N/A	
JOB No.	220127-01-001	
DATE	January 10, 2023	
FILE No.	220127-D-CP-001	
SHEET	C2.4	

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

NOTE: THE MAINTENANCE OF ALL OPEN SPACE ON THE PROPERTY WILL BE THE RESPONSIBILITY OF THE PROPERTY OWNER OR THE ASSOCIATED DEVELOPMENT OWNERS ASSOCIATION

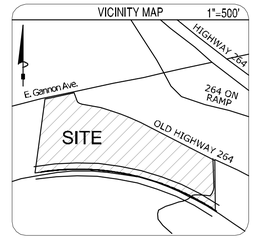
NOTE: THE PROPOSED PROJECT SIGN WILL REQUIRE A SIGN PERMIT REVIEW THROUGH THE TOWN OF ZEBULON PLANNING DEPARTMENT

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

VICINITY MAP 1"=500'



NC HWY 97 - E. GANNON AVE.
(VAR. WIDTH R/W)
N 77°43'17" E 188.57'

50FT R/W DEDICATION

N 76°54'00" E 41.39'

50.0' R/W

TC

S 87°21'02" E 74.83'

S 49°31'57" E 16.73'

S 70°23'14" E 22.31'

S 80°57'33" E 63.18'

4:1 PAVEMENT TAPER

CROSS-WALK PER NCDOT STD. 1205.07 'C'

ACCESSIBLE RAMP PER NCDOT STD. 848.05

S 74°43'32" E 73.82'

NCDOT PAVEMENT SECTION IN R/W

12FT MULTI-USE PATH

50FT R/W DEDICATION

30FT SETBACK

OPEN SPACE EASEMENT

15FT TYPE C STREETSCAPE BUFFER

YELLOW DIAGONAL PAINTED LINES

S 77°51'52" E 83.21'

S 71°26'55" E 80.92'

S 68°16'41" E 72.88'

S 64°38'44" E 99.23'

ACCESSIBLE RAMP PER NCDOT STD. 848.05

N11°30'55"E 24.57'

CROSS-WALK PER NCDOT STD. 1205.07 'C'

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

N63°07'44"W 73.69'

4:1 PAVEMENT TAPER

END MULTI-USE PATH

RIGHT OF WAY LINE

10'x70' SIGHT TRIANGLE

ACCESSIBLE RAMP PER NCDOT STD. 848.05

ACCESS EASEMENT

L=52.68' R=190.00' Δ=15°53'06"

DRIVEWAY STUB

MOBILE TRUCK DOCK/RAMP REFER TO ARCHITECTURAL SHEET 8 OF 14 FOR IMAGE

N/F
BUNN FARMS, INC.
DB. 6057/594
PIN #2705973068

14.018 AC. (GROSS)
10.765 AC. (NET TO ALL R/W)

N7°41'06"E 268.64'

END MULTI-USE PATH

PROPOSED 30FT CITY OF RALEIGH WATER EASEMENT

DITCH LINE

TOP OF BANK

CONSERVATION EASEMENT

30FT SETBACK

3-TRANSFORMERS ON PLATFORM ON POLES

PROPOSED 30FT CITY OF RALEIGH SANITARY SEWER EASEMENT

S12°08'08"W 44.26'

10'x70' SIGHT TRIANGLE

ACCESS EASEMENT

ACCESSIBLE RAMP PER NCDOT STD. 848.05

DRIVEWAY STUB

S 36°45'42"W 30.55'

67.24'

N74°43'32"W

78.11'

N71°26'55"W

69.26'

N68°16'41"W

5,000SF OPEN SPACE AREA

(2) BIKE RACKS

860SF DISPLAY

3FT PLANTER STRIP

PROPOSED 30FT CITY OF RALEIGH SANITARY SEWER EASEMENT

ADA CURB RAMP (FLUSH WITH PAVEMENT WITH ADA DETECTIBLE WARNING DOMES)

BUILDING AREA 21,147 SF

SIDEWALK FLUSH WITH PAVEMENT

ADA CURB RAMP (FLUSH WITH PAVEMENT WITH ADA DETECTIBLE WARNING DOMES)

1,105SF DISPLAY

126.7'

172.0'

SCREEN WALL

3FT PLANTER STRIP

430SF DISPLAY

45.1'

84'

SIDEWALK FLUSH WITH PAVEMENT

171.7'

PROPANE FILL STATION

1,185SF DISPLAY

FENCED OUTDOOR DISPLAY AREA 20,610 SF

116.9'

36'

R30'

R40'

R10'

R25'

TRAILER DISPLAY AREA 2,000SF

ROLLED CURB AT TRAILER DISPLAY

105 STALLS

SCM EASEMENT

GATE

4' BLACK VINYL COATED CHAIN-LINK FENCE

SCM EASEMENT

324.64' S74°10'7"W

S89°54'29"E 16.01'

TREE PRESERVATION AREA

50.0' R/W

19,000SF TREE PRESERVATION AREA. 3,250SF OUTSIDE RAILROAD R/W AND 15,750SF WITHIN RAILROAD R/W

S75°03'07"E 20.43'

N/F
CAMPBELL OIL & GAS CO
OF RALEIGH INC
DB. 011937/02252
PIN # 2705875196
HI – HEAVY INDUSTRIAL
VACANT

N07°32'06" E 572.84'

20' ZONE 2

30' ZONE 1

30' ZONE 2

S 81°34'59" W 87.65'

S 84°05'37" W 97.36'

S 87°04'24" W 100.98'

N 89°54'29" W 101.06'

N 86°51'07" W 101.06'

N 83°49'27" W 97.94'

N 80°55'11" W 97.86'

N 78°11'16" W 95.96'

N 75°03'07" W 101.38'

N 72°03'33" W 100.15'

NORFOLK-SOUTHERN R/R
(100' R/W)

N/F
MARK S. BASS
DB. 17501/1173
PIN #2705962277
R2 ZONING
VACANT

EXISTING RAIL ROAD RIGHT OF WAY

RIPARIAN BUFFER NOTE:
THE 50 FOOT NEUSE RIPARIAN BUFFER ZONE IS MEASURED FROM THE TOP OF BANK OF THE DITCH OR CREEK. NO ACTIVITY IS PERMITTED IN ZONE 1 (FIRST 30FT). OWNER/DEVELOPER TO CONSULT G.S. 15A NCAC 2B.0259 BEFORE ANY DISTURBANCE WITHIN THE BUFFER ZONE OR CALL NCDEQ, DIVISION OF WATER QUALITY, SURFACE WATER PROTECTION SECTION FOR OFFICIAL DETERMINATION

DEVELOPMENT DATA

DEVELOPMENT NAME:	TRACTOR SUPPLY
STREET ADDRESS:	OLD US HIGHWAY 264
	ZEBULON, NC
OWNER:	BUNN FARMS, INC
	219 ROYAL FERN RD
	WILMINGTON, NC 28412
PROPERTY IDENTIFICATION (PIN#):	2705-97-3068 (ORDINANCE 2022-36)
PROPERTY #:	0352494
DEED BOOK/PAGE:	006257 / 00594
EXISTING ZONING:	HC- HEAVY COMMERCIAL (ORDINANCE 2022-36)
FUTURE LAND USE MAP:	CC-GENERAL COMMERCIAL
LATITUDE & LONGITUDE	N35.828702, W-78.293732
TOTAL SITE ACRES:	184,059 SF (5.17 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:	15,000 SF
MIN LOT WIDTH:	50 FT
MAX LOT COVERAGE	80%
MIN OPEN SPACE:	12% OF SITE (4,922SF) 5,000 SF OPEN SPACE PROVIDED ALONG US 264
SIDE SETBACK(STREET):	30 FT
SIDE SETBACK(INTERIOR):	0, 5FT IF PROVIDED
REAR SETBACK:	0 IF ABUTTED BY AN ALLEY, OTHERWISE 25FT
MAX BUILDING HEIGHT	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	20 FT ONE-WAY, 24 FT TWO-WAY
ACCESSIBLE SPACES PROVIDED:	4
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

IMPERVIOUS SUMMARY TABLE

ON-SITE AREA = 184,056 SF (3.766 AC)
TOTAL DRAINAGE AREA = 243,300 SF (5.067 AC)

BUILDINGS	21,147 SF	0.49 ACRE(S)	12.01 % OF AREA
PAVEMENT	81,500 SF	1.87 ACRE(S)	48.68 % OF AREA
SIDEWALK	7,700 SF	0.18 ACRE(S)	4.33 % OF AREA
ON-SITE IMPERVIOUS AREA	108,774 SF	2.52 ACRE(S)	98.91 % OF AREA
OFF-SITE IMPERVIOUS AREA	10,050 SF	0.23 ACRE(S)	8.13 % 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	118,825 SF	2.75 ACRE(S)	73.04 % OF AREA

KEYNOTES

1. STEEL DOCK/RAMP – REFER TO ARCHITECTURAL DRAWINGS FOR DETAIL
2. CONCRETE PAVEMENT DESIGN AS PER GEOTECHNICAL REPORT SPECIFICATIONS –SEE DETAIL SHEET C1.4 EXPANSION AND CONTROL JOINTS – SEE DETAILS SHEET
3. ASPHALT PAVEMENT DESIGN AS PER GEOTECHNICAL REPORT SPECIFICATIONS – SEE DETAIL SHEET
   - STANDARD DUTY PAVEMENT
   - HEAVY DUTY PAVEMENT
   - NCDOT PAVEMENT SECTION
4. HANDICAP PARKING SIGN – SEE DETAIL SHEET
4A. VETERANS PARKING SIGN – SEE DETAIL SHEET
4B. ON-LINE PARKING SIGN – SEE DETAIL SHEET
5. BOLLARD – SEE DETAIL SHEET
6. CONCRETE LIGHT POLE BASE
7. CONCRETE SIDEWALK – SEE DETAIL SHEET FOR SIDEWALKS AROUND BUILDING.
8. DUMPSTER ENCLOSURE – REFER TO SHEET
9. 6'-0" LONG CONCRETE WHEEL STOP, PINNED TO PAVEMENT – SEE DETAIL SHEET. LOCATE 2'-6" FROM FACE OF CURB OR SIDEWALK.
10. SIGN (UNDER SEPARATE PERMIT)
11. 4" WIDE PARKING STRIPE PAINTED WHITE (TYP)
12. 4" WIDE PARKING DIAGONAL STRIPES
13. ACCESSIBLE PARKING AREA – (PER A.D.A. REQUIREMENTS)
14. NEW GRASS/LANDSCAPE AREA
15. CONCRETE CURB AND GUTTER – SEE DETAIL SHEET
16. STOP SIGN – SEE DETAIL SHEET
17. PAVEMENT MARKINGS
18. NEW CURB CUT, MATCH EXISTING EOP & APPROACH PER LOCAL CODES & SPECS.
19. CONCRETE FLUME – REFER TO DETAIL ON SHEET (NOT USED)
5. PROPOSED PARKING COUNT

SIGN LEGEND

LEGEND					
	RESERVED PARKING / VAN ACCESSIBLE	MUTCD R1-1 STOP 30" x 30"	NO STOPPING STANDING PARKING FIRE LANE	VAN ACCESSIBLE	RESERVED PARKING VETERANS AND MILITARY SERVICE MEMBERS ONLY
QTY.	4	2	N/A	2	2

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

GENERAL NOTES:

1. THE CONTRACTOR SHALL EMPLOY ALL NECESSARY BARRICADES, SIGNS, FENCES, FLASHING LIGHTS, FLAGMEN, ETC. FOR MAINTENANCE AND PROTECTION OF TRAFFIC AS REQUIRED BY TOWN OF ZEBULON AND THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION. REFER TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION, FOR DETAILS OF TRAFFIC CONTROL STANDARDS AND DEVICES.
2. THE CONTRACTOR SHALL PROTECT ALL MONUMENTS, IRON PINS, AND PROPERTY CORNERS DURING CONSTRUCTION.
3. APPROVAL OF THESE PLANS IS NOT AN AUTHORIZATION TO GRADE ADJACENT PROPERTIES. WHEN FIELD CONDITIONS WARRANT OFF-SITE GRADING, PERMISSION MUST BE OBTAINED FROM THE AFFECTED PROPERTY OWNERS.
4. COORDINATE ALL CURB AND STREET GRADES IN INTERSECTIONS WITH INSPECTOR.
5. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION "STANDARD DETAILS AND SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AND APPLICABLE TOWN OF ZEBULON CODES AND ORDINANCES. THE CONTRACTOR SHALL MAINTAIN A CURRENT EDITION OF THE STATE AND LOCAL CODES, ORDINANCES, STANDARD SPECIFICATION AND STANDARD DETAILS ON THE PROJECT SITE FOR REFERENCE DURING CONSTRUCTION OF THE PROJECT.
6. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIELD DIMENSIONS AND SHALL REPORT ANY DISCREPANCIES BETWEEN THE PLANS AND ACTUAL FIELD CONDITIONS THE OWNER OR OWNER'S REPRESENTATIVE IMMEDIATELY. CONTRACTOR SHALL WAIT FOR INSTRUCTION PRIOR TO PROCEEDING WITH WORK.
7. THE CONTRACTOR SHALL PROVIDE SMOOTH TRANSITIONS FROM PROPOSED FEATURES TO EXISTING FEATURES AS NECESSARY.
8. THE CONTRACTOR SHALL SEAL THE EDGE OF EXISTING ASPHALT PAVEMENT WITH TACK COAT IN ACCORDANCE WITH THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS WHERE NEW PAVEMENT JOINS EXISTING PAVEMENT.
9. THE CONTRACTOR SHALL REPAIR, RESURFACE, RECONSTRUCT OR REFURBISH ANY AREAS DAMAGED DURING CONSTRUCTION BY THE CONTRACTOR, HIS SUBCONTRACTORS OR SUPPLIERS AT NO ADDITIONAL COST TO THE OWNER.
10. ALL PAVEMENT JOINTS SHALL BE SAW-CUT PRIOR TO PAVING TO PROVIDE A DURABLE AND UNIFORM JOINT.
11. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF TRUCK DOCKS, EXIT DOORS, SIDEWALKS, PRECISE BUILDING DIMENSIONS, AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.
12. ALL PAINT STRIPING, PAVEMENT MARKINGS, AND SIGNAGE SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" OR AS OTHERWISE SPECIFIED. ALL REFERENCED SIGN STANDARDS ARE TAKEN FROM THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". ALL NEW SIGNS SHALL BE MOUNTED ON GALVANIZED POSTS AND IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.
13. CONTRACTOR SHALL INSTALL ACCESSIBLE RAMPS PER LOCAL MUNICIPALITY AND ADA STANDARDS AT ALL DRIVE AND BUILDING LOCATIONS AS REQUIRED.
14. THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES DURING CONSTRUCTION. AT LEAST 48 HOURS PRIOR TO ANY DEMOLITION, GRADING, OR CONSTRUCTION ACTIVITY THE CONTRACTOR SHALL NOTIFY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENTS FOR PROPER IDENTIFICATION OF EXISTING UTILITIES WITHIN THE PROJECT SITE.
15. ACCESSIBLE RAMPS TO BE PROVIDED IN ACCORDANCE WITH NCDOT AND TOWN OF ZEBULON STANDARDS.
16. ALL PLANTING ISLANDS WITH A SHADE TREE SHALL BE A MINIMUM OF 350 SQUARE FEET.
17. ALL SIDEWALKS MUST BE ACCESSIBLE TO PERSONS WHO ARE BLIND, HAVE LOW VISION AND PEOPLE WITH MOBILITY DISABILITIES. PEDESTRIAN EXISTING ROUTES AND ALTERNATE PEDESTRIAN ROUTES DURING CONSTRUCTION WILL E REQUIRED TO BE COMPLIANT WITH THE PUBLIC RIGHTS OF WAY ACCESSIBILITY GUIDELINES (PROWAG), 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)

BEFORE YOU DIG
STOP
CALL 1 800 632-4949
N.C. ONE-CALL CENTER
IT'S THE LAW

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

Bowman

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

TSC
TRACTOR SUPPLY COMPANY

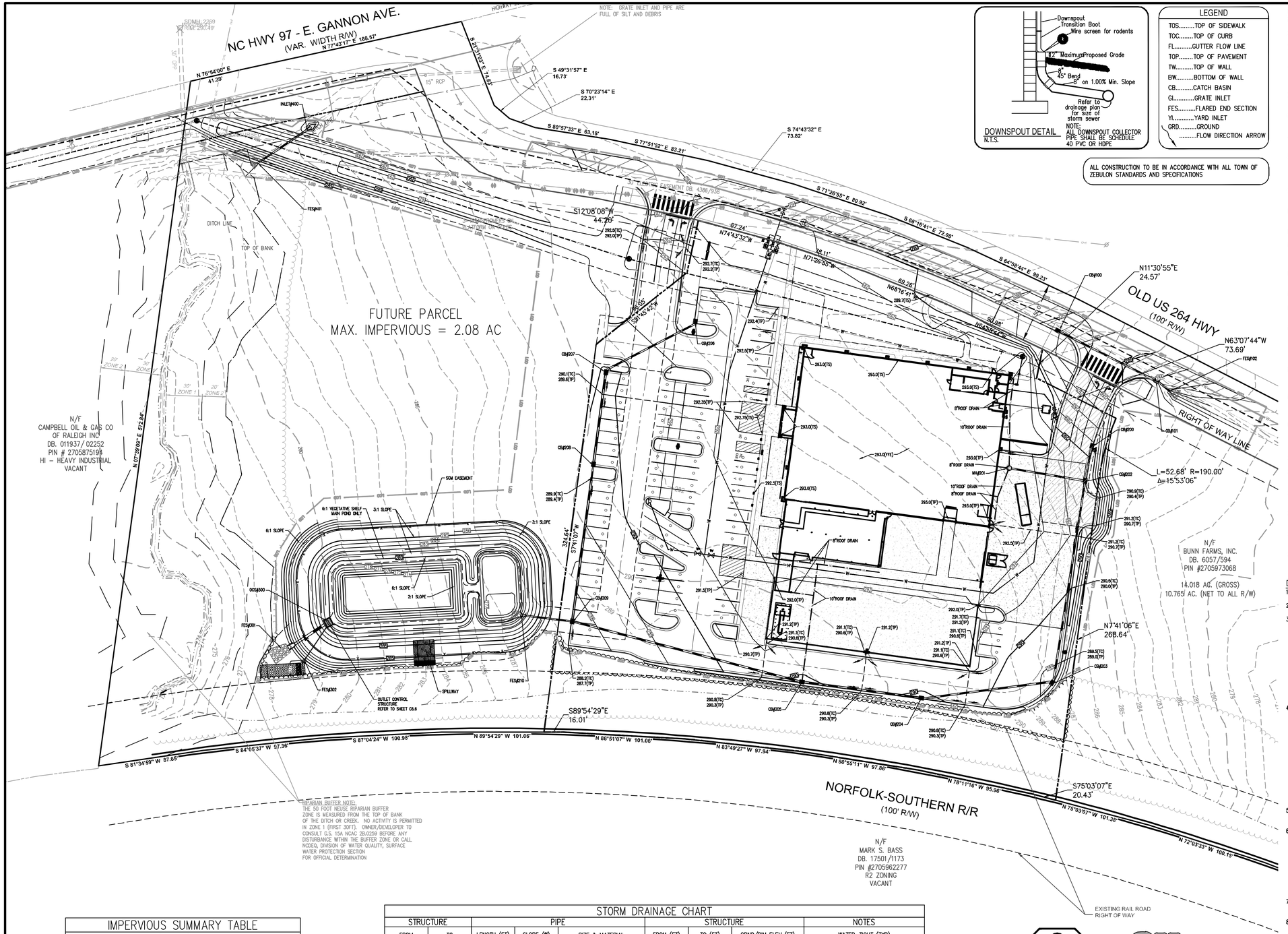
SITE PLAN
Tractor Supply
Old US Highway 264
Zebulon, NC Wake County

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 24434 5/31/24 ENGINEER MATTHEW E. LONGO

PLAN STATUS	
1/10/23	1ST CD SUBMISSION
2/20/23	2ND CD SUBMISSION
3/21/23	REVISED PER CITY OF RALEIGH REVIEW
DATE	DESCRIPTION

MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	H: 1" = 40' V: 1" = XXX'	
JOB No.	220127–01–001	
DATE	January 10, 2023	
FILE No.	220127-D-CP-001	
SHEET	C3.0	

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



Downspout
Transition Boot
Wire screen for rodents
12" Maximum Proposed Grade
8"
45° Bend
8" on 1.00% Min. Slope
Refer to drainage plan for size of storm sewer
NOTE:
ALL DOWNSPOUT COLLECTOR PIPE SHALL BE SCHEDULE 40 PVC OR HDPE

DOWNSPOUT DETAIL
N.T.S.

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

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

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 PAVEMENT 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 (SEEDED 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 SAID 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 UNDESIREABLE 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 DISTRURBED 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.

DRAINAGE NOTES:

1. A MINIMUM GRADE OF 0.50 % SHALL BE MAINTAINED ON ALL PIPES, UNLESS OTHERWISE NOTED.
2. PIPE LENGTHS AND SLOPES INDICATED ON THE PLANS ARE APPROXIMATE ONLY.
3. UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:
   A. NO MORE THAN 500 LF OF TRENCH MAY BE OPENED AT ONE TIME.
   B. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
   C. EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.
   D. MATERIAL USED FOR BACK-FILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.
   E. RESTABALIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL REGULATIONS.
   F. APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.
4. CATCH BASINS, MANHOLES, FRAMES, GRATES, ETC. SHALL MEET THE REQUIREMENTS OF THE LATEST EDITION OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD DRAWINGS. REFERENCE THE FOLLOWING STANDARD DETAILS:
   840.02 – CONCRETE CATCH BASIN
   840.03 – FRAME, GRATES, AND HOOD FOR CATCH BASINS
   840.14 – CONCRETE DROP INLET
   840.04 – CONCRETE OPEN THROAT CATCH BASIN
   840.14 – CONCRETE DROP INLET
   840.16 – DROP INLET FRAME AND GRATES
   840.31 – CONCRETE JUNCTION BOX
   840.36 – TRAFFIC BEARING GRATED DROP INLET
   840.52 – PRECAST MANHOLE
   840.45 – PRECAST DRAINAGE STRUCTURE
   838.80 – PRECAST CONCRETE ENDWALL
5. ALL PIPES SHALL BE LAID ON STRAIGHT ALIGNMENTS AND EVEN GRADES USING A PIPE LASER OR OTHER ACCURATE METHOD.
6. STORM PIPE SHALL BE AS FOLLOW UNLESS OTHERWISE NOTED:

   TYPE 1: RCP, CLASS III PER ASTM C-76, WITH FLEXIBLE PLASTIC BITUMEN GASKETS AT JOINTS.

   TYPE 2: HIGH DENSITY POLYETHYLENE PIPE (HDPE) – AASHTO DESIGNATION M252 TYPE S, M294 TYPE S AND MP7-97 TYPE S, SMOOTH INTERIOR/ANNULAR EXTERIOR. ONLY PERMITTED WHEN SPECIFICALLY INDICATED ON THE CONSTRUCTION DRAWINGS. PIPE SHALL BE INSTALLED IN ACCORDANCE WITH PIPE MANUFACTURER'S INSTALLATION GUIDELINES. PIPE JOINTS AND FITTINGS SHALL BE WATERTIGHT.
7. ALL STORM DRAINAGE WITHIN THE PUBLIC ROADS SHALL BE CLASS III REINFORCED CONCRETE PIPE UNLESS OTHERWISE NOTED.
8. EXISTING DRAINAGE STRUCTURES TO BE INSPECTED AND REPAIRED AS NEEDED, AND EXISTING PIPES TO BE CLEANED OUT TO REMOVE SILT AND DEBRIS.
9. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
10. ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AT STRUCTURE IS WATERTIGHT.
11. PRECAST STRUCTURES MAYBE USED AT CONTRACTORS OPTION.
12. ALL STORM SEWER MANHOLES IN PAVED AREAS SHALL BE FLUSH WITH PAVEMENT, AND SHALL HAVE TRAFFIC BEARING RING & COVERS. MANHOLES IN UNPAVED AREAS SHALL BE 6" ABOVE FINISH GRADE. LIDS SHALL BE LABELED "STORM SEWER".
13. STRUCTURE TOP ELEVATIONS SHOWN HERE ARE APPROXIMATE. CONTRACTOR SHALL ADJUST AS NECESSARY.
14. RIM ELEVATIONS AS NOTED ARE TO THE GUTTER FLOW LINE.

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)	WATER-TIGHT (TYP)
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	286.7	286.5	289.2	STD. 840.02 GRATE TYPE G
MH#201	CB#202	62	5.65	15" HDPE	290.0	286.5	292.8	STD. 840.52 4' DIA.
CB#202	CB#203	167	0.72	15" HDPE	286.5	285.3	290.2	STD. 840.02 GRATE TYPE E
CB#203	CB#204	108	0.93	15" HDPE	285.3	284.3	288.7	STD. 840.02 GRATE TYPE E
CB#204	CB#205	98	0.82	18" HDPE	284.3	283.5	289.8	STD. 840.02 GRATE TYPE E
CB#205	CB#209	195	0.92	18" HDPE	283.5	281.7	289.8	STD. 840.02 GRATE TYPE E
CB#206	CB#207	85	2.59	15" HDPE	289.1	286.9	291.6	STD. 840.02 GRATE TYPE E
CB#207	CB#208	75	0.67	15" HDPE	286.9	286.4	289.4	STD. 840.02 GRATE TYPE E
CB#208	CB#209	129	1.09	15" HDPE	286.4	285.0	289.0	STD. 840.02 GRATE TYPE E
CB#209	FES#210	39	4.36	18" HDPE	281.7	280.0	287.5	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
INLET#400	FES#401	52	0.57	15" HDPE	283.1	282.8	–	

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811
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Call before you dig.

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

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Bowman North Carolina Ltd.

TSC
TRACTOR SUPPLY COMPANY

GRADING & DRAINAGE PLAN

Tractor Supply
Old US Highway 264
Zebulon, NC Wake County

NORTH CAROLINA
PROFESSIONAL ENGINEER
SEAL
24434
5/10/23
LEIGH ANN WHITE
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED UNDER MY DIRECT SUPERVISION

PLAN STATUS	
1/10/23	1ST CD SUBMISSION
2/20/23	2ND CD SUBMISSION
3/21/23	REVISED PER CITY OF RALEIGH REVIEW
DATE	DESCRIPTION

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

JOB No. 220127-01-001
DATE January 10, 2023
FILE No. 220127-D-CP-001
SHEET C4.0

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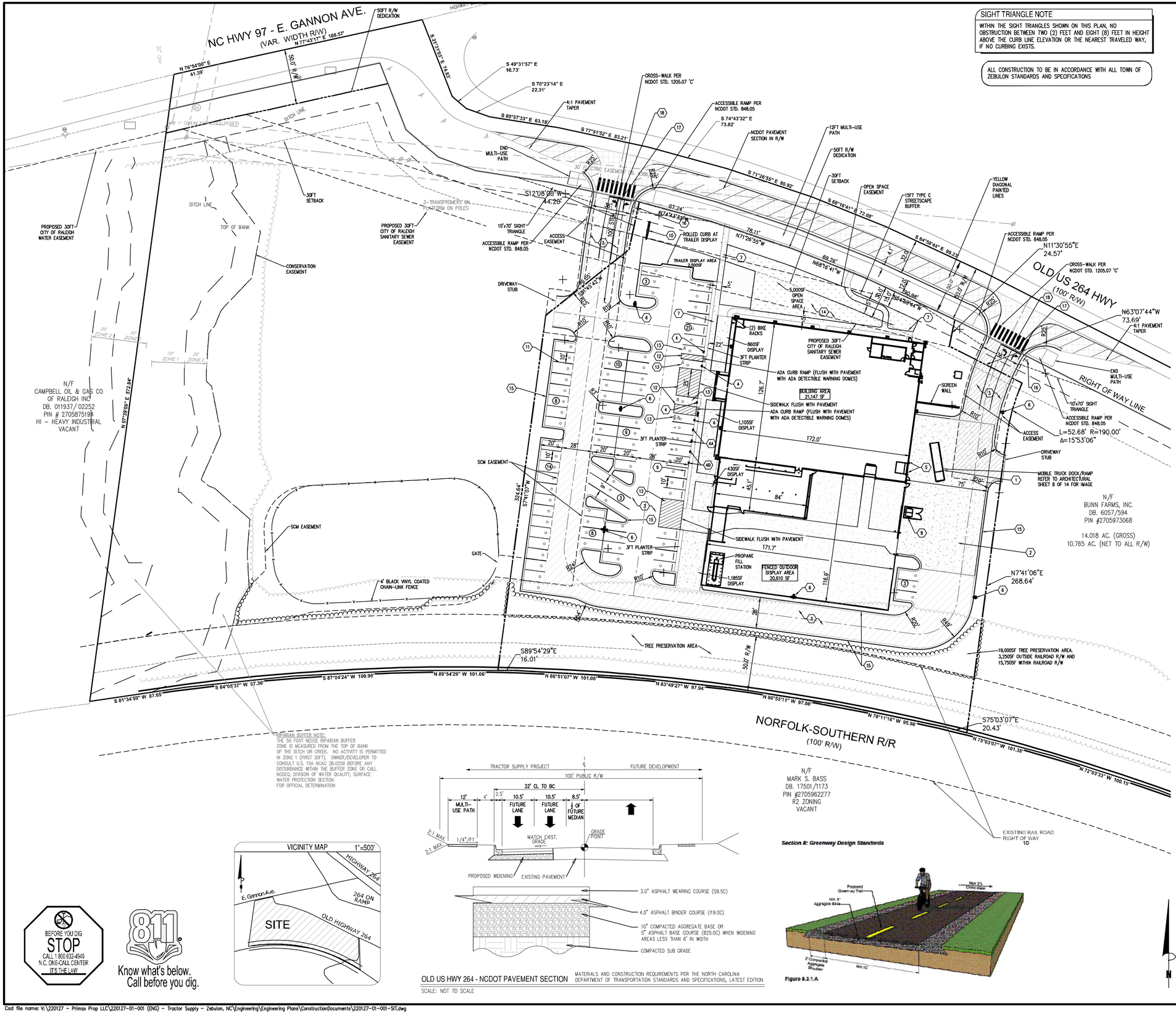

SIGHT TRIANGLE NOTE

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 RADII, 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 ACCESSES
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

TA	WHITE EDGE LINE (4",90MIL) NCDOT STD DETAIL 1205.01	
TI	DOUBLE YELLOW CENTERLINE (4",90MIL) NCDOT STD DETAIL 1205.01	
TH	YELLOW LANE LINE(4",90MIL) NCDOT STD DETAIL 1205.01	
TD	3' WHITE MINI-SKIP LINE (4",90MIL) NCDOT STD DETAIL 1205.01	
TC	10' WHITE SKIP LINE (4",90MIL) NCDOT STD DETAIL 1205.01	
TE	WHITE SOLID LANE LINE (4",90MIL) NCDOT STD DETAIL 1205.01	
UA	LEFT TURN LANE ARROW (90MIL) NCDOT STD DETAIL 1205.08	
UB	RIGHT TURN LANE ARROW (90MIL) NCDOT STD DETAIL 1205.08	
UC	STRAIGHT ARROW (90MIL) NCDOT STD DETAIL 1205.08	
UD	COMBO LEFT/STRAIGHT TURN LANE ARROW (90MIL) NCDOT STD DETAIL 1205.08	
UE	COMBO RIGHT/STRAIGHT TURN LANE ARROW (90MIL) NCDOT STD DETAIL 1205.08	
TV	YELLOW DIAGONAL LINES (4",90MIL) NCDOT STD DETAIL 1205.09	
T9	3' YELLOW MINI-SKIP LINES (4",90MIL) NCDOT STD DETAIL 1205.01	
TF	YELLOW SKIP CENTER LINES (4",90MIL) NCDOT STD DETAIL 1205.01	
T2	STOP BAR (24",90MIL) NCDOT STD DETAIL 1205.01	
I	12" YIELD LINE SYMBOL (90MIL) 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.

OLD US HWY 264 - NCDOT PAVEMENT SECTION

MATERIALS AND CONSTRUCTION REQUIREMENTS PER THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS, LATEST EDITION

SCALE: NOT TO SCALE

Section 8: Greenway Design Standards

Figure 8.3.1.A

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

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

N

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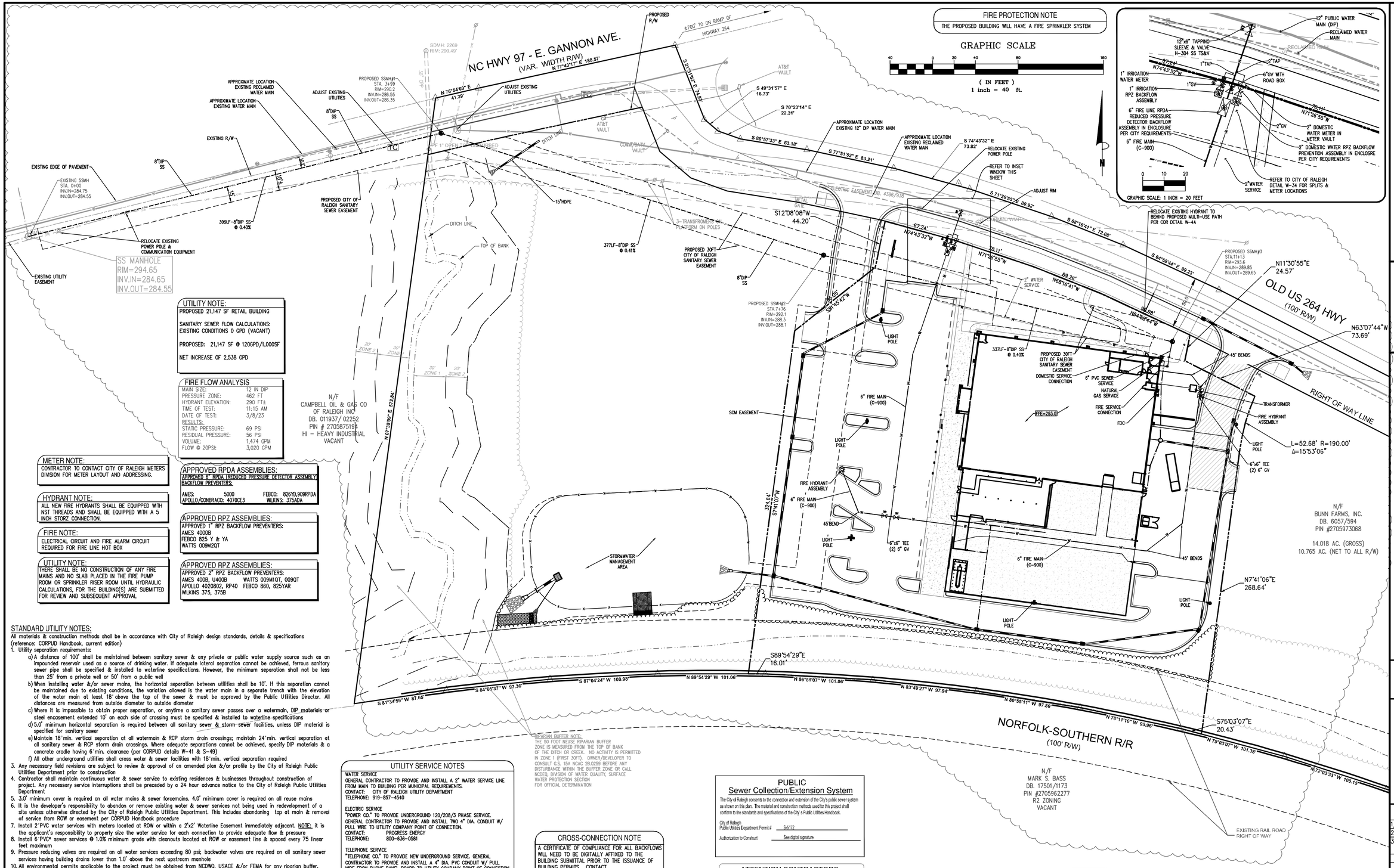
ROADWAY PLAN
Tractor Supply
Old US Highway 264
Zebulon, NC Wake County

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 24236 3/21/23 ENGINEER NOT THE WHITE GROUSE

PLAN STATUS	
1/10/23	1ST CD SUBMISSION
2/20/23	2ND CD SUBMISSION
3/21/23	REVISED PER CITY OF RALEIGH REVIEW
DATE	DESCRIPTION

MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	H: 1" = 40' V: 1" = XXX'	
JOB No.	220127-01-001	
DATE	January 10, 2023	
FILE No.	220127-D-CP-001	
SHEET	C4.1	



FIRE PROTECTION NOTE

THE PROPOSED BUILDING WILL HAVE A FIRE SPRINKLER SYSTEM

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

UTILITY NOTE:

PROPOSED 21,147 SF RETAIL BUILDING

SANITARY SEWER FLOW CALCULATIONS:
EXISTING CONDITIONS 0 GPD (VACANT)

PROPOSED: 21,147 SF @ 120GPD/1,000SF

NET INCREASE OF 2,538 GPD

FIRE FLOW ANALYSIS

MAIN SIZE:	12 IN DIP
PRESSURE ZONE:	462 FT
HYDRANT ELEVATION:	290 FT±
TIME OF TEST:	11:15 AM
DATE OF TEST:	3/8/23
RESULTS:	
STATIC PRESSURE:	69 PSI
RESIDUAL PRESSURE:	56 PSI
VOLUME:	1,474 GPM
FLOW @ 20PSI:	3,020 GPM

METER NOTE:

CONTRACTOR TO CONTACT CITY OF RALEIGH METERS DIVISION FOR METER LAYOUT AND ADDRESSING.

HYDRANT NOTE:

ALL NEW FIRE HYDRANTS SHALL BE EQUIPPED WITH NST THREADS AND SHALL BE EQUIPPED WITH A 5 INCH STORZ CONNECTION.

FIRE NOTE:

ELECTRICAL CIRCUIT AND FIRE ALARM CIRCUIT REQUIRED FOR FIRE LINE HOT BOX

UTILITY NOTE:

THERE SHALL BE NO CONSTRUCTION OF ANY FIRE MAINS AND NO SLAB PLACED IN THE FIRE PUMP ROOM OR SPRINKLER RISER ROOM UNTIL HYDRAULIC CALCULATIONS, FOR THE BUILDING(S) ARE SUBMITTED FOR REVIEW AND SUBSEQUENT APPROVAL

APPROVED RPDA ASSEMBLIES:

APPROVED 6" RPDA (REDUCED PRESSURE DETECTOR ASSEMBLY BACKFLOW PREVENTERS:

AMES: 5000 FEBCO: 826YD,909RPDA
APOLLO/CONBRACO: 4070CE3 WILKINS: 375ADA

APPROVED RPZ ASSEMBLIES:

APPROVED 1" RPZ BACKFLOW PREVENTERS:
AMES 4000B
FEBCO 825 Y & YA
WATTS 009M2QT

APPROVED RPZ ASSEMBLIES:

APPROVED 2" RPZ BACKFLOW PREVENTERS:
AMES 400B, U400B WATTS 009M1QT, 009QT
APOLLO 4020802, RP40 FEBCO 860, 825YAR
WILKINS 375, 375B

STANDARD UTILITY NOTES:

All materials & construction methods shall be in accordance with City of Raleigh design standards, details & specifications (reference: CORPUD Handbook, current edition)

1. Utility separation requirements:
   a) 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, DIP 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 DIP material is specified for sanitary sewer
   e) Maintain 18' min. vertical separation at all watermain & RCP storm drain crossings; maintain 24' min. 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)
   f) All other underground utilities shall cross water & sewer facilities with 18' min. vertical separation required
3. 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
4. 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
5. 3.0' minimum cover is required on all water mains & sewer forcemains. 4.0' minimum cover is required on all reuse mains
6. 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
7. Install 2"PVC 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
8. Install 6"PVC* sewer services @ 1.0% minimum grade with cleanouts located at ROW or easement line & spaced every 75 linear feet maximum
9. 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
10. All environmental permits applicable to the project must be obtained from NCDWQ, USACE &/or FEMA for any riparian buffer, wetland &/or floodplain impacts (respectively) prior to construction.
11. NCDOT / Railroad Encroachment Agreements are required for any utility work (including main extensions & service taps) within state or railroad ROW prior to construction
12. Grease interceptor / Oil Water Separator sizing calculations & installation specifications shall be approved by the CORPUD FOG Program Coordinator prior to issuance of a Building Permit. Contact Stephen.Calverley at (919) 996-2334 or Stephen.Calverley@raleighnc.gov for more information
13. Cross-connection control protection devices are required based on degree of health hazard involved as listed in Appendix-B of the Rules Governing Public Water Systems in North Carolina. These guidelines are the minimum requirements. The devices shall meet American Society of Sanitary Engineering (ASSE) standards or be on the University of Southern California approval list. 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 Joanie Helvey at (919) 212-5923 or joanie.hartley@raleighnc.gov for more information.

UTILITY SERVICE NOTES

WATER SERVICE
GENERAL CONTRACTOR TO PROVIDE AND INSTALL A 2" WATER SERVICE LINE FROM MAIN TO BUILDING PER MUNICIPAL REQUIREMENTS.
CONTACT: CITY OF RALEIGH UTILITY DEPARTMENT
TELEPHONE: 919-857-4540

ELECTRIC SERVICE
"POWER CO." TO PROVIDE UNDERGROUND 120/208/3 PHASE SERVICE.
GENERAL CONTRACTOR TO PROVIDE AND INSTALL TWO 4" DIA. CONDUIT W/ PULL WIRE TO UTILITY COMPANY POINT OF CONNECTION.
CONTACT: PROGRESS ENERGY
TELEPHONE: 800-636-0581

TELEPHONE SERVICE
"TELEPHONE CO." TO PROVIDE NEW UNDERGROUND SERVICE. GENERAL CONTRACTOR TO PROVIDE AND INSTALL A 4" DIA. PVC CONDUIT W/ PULL WIRE FROM PHONE PANEL BOARD TO UTILITY COMPANY POINT OF CONNECTION.
CONTACT:
TELEPHONE:

SANITARY SEWER
GENERAL CONTRACTOR TO PROVIDE AND INSTALL A 6" SCHEDULE 40 PVC FROM EXISTING SANITARY SEWER SYSTEM TO LAST CLEAN OUT OUTSIDE OF BUILDING. (MIN. 1% SLOPE). PROVIDE CLEAN OUTS EVERY 75' (TYPICAL).
CONTACT: CITY OF RALEIGH UTILITY DEPARTMENT
TELEPHONE: 919-857-4540

NATURAL GAS
GENERAL CONTRACTOR TO COORDINATE WITH NATURAL GAS UTILITY FOR SERVICE LINE TO PROPOSED BUILDING.
CONTACT:
TELEPHONE:

CROSS-CONNECTION NOTE

A CERTIFICATE OF COMPLIANCE FOR ALL BACKFLOWS WILL NEED TO BE DIGITALLY AFFIXED TO THE BUILDING SUBMITTAL PRIOR TO THE ISSUANCE OF BUILDING PERMITS. CONTACT CROSS.CONNECTION@RALEIGHNC.GOV FOR MORE INFORMATION.

Project Water System Data:

1. Are the total # domestic water services ≥ 15, OR the total # people served ≥ 25 (Y or N)? Y
2. Type of ownership (select one)
   - Commercial property
   - Residential (Condos or Townhomes)
   - Residential Apartment
3. NOTE: pursuant to City of Raleigh ordinance having ≥ 15 domestic water services, OR serving ≥ 25 people, must be Developer WQS to install water for most home is WQ designation. Some NCDEQ for Apartment projects only)

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-5172

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 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.

BEFORE YOU DIG STOP CALL 1 800 632-4949 N.C. ONE-CALL CENTER IT'S THE LAW

Bowman

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

TSC
TRACTOR SUPPLY COMPANY

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

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 34494 5/10/2023 MATTHEW E. LOWDER

PLAN STATUS	
1/10/23	1ST CD SUBMISSION
2/20/23	2ND CD SUBMISSION
3/21/23	REVISED PER CITY OF RALEIGH REVIEW
DATE	DESCRIPTION

MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	H: 1" = XXX' V: 1" = XXX'	
JOB No.	220127-01-001	
DATE	January 10, 2023	
FILE No.	220127-D-CP-001	
SHEET	C5.0	

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

GRAPHIC SCALE

0 20 40 80 160

(IN FEET)
1 inch = 40 ft.
1"=4 FT V

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

BEFORE YOU DIG STOP CALL 1 800 632-4949 N.C. ONE-CALL CENTER IT'S THE LAW

N

NC HWY 97 - E. GANNON AVE.
(VAR. WIDTH R/W)
N 77°43'17" E 188.57'

PROPOSED R/W

±700' TO ON RAMP OF HIGHWAY 264

SDMH: 2269
RIM: 290.49'

PROPOSED SSMH#1
STA. 3+99
RIM=290.2
INV.IN=286.55
INV.OUT=286.35

APPROXIMATE LOCATION EXISTING RECLAIMED WATER MAIN

APPROXIMATE LOCATION EXISTING WATER MAIN

ADJUST EXISTING UTILITIES

8"DIP SS

EXISTING R/W

EXISTING EDGE OF PAVEMENT

EXISTING SSMH
STA. 0+00
INV.IN=284.75
INV.OUT=284.55

RELOCATE EXISTING POWER POLE & COMMUNICATION EQUIPMENT

EXISTING UTILITY EASEMENT

SS MANHOLE
RIM=294.65
INV.IN=284.65
INV.OUT=284.55

399LF-8"DIP SS @ 0.40%

PROPOSED CITY OF RALEIGH SANITARY SEWER EASEMENT

DITCH LINE

TOP OF BANK

15"HDPE

377LF-8"DIP SS @ 0.41%

3-TRANSFORMERS ON PLATFORM ON POLES

PROPOSED 30FT CITY OF RALEIGH SANITARY SEWER EASEMENT

PROPOSED SSMH#2
STA.7+76
RIM=292.1
INV.IN=288.3
INV.OUT=288.1

ADJUST EXISTING UTILITIES

N 76°54'00" E 41.39'

S 25°31'07" E 24.69'

S 49°31'57" E 16.73'

S 70°23'14" E 22.31'

S 80°57'33" E 63.18'

S 77°51'52" E 83.21'

S 71°26'55" E 80.92'

S 68°16'41" E 72.08'

S 64°39'44" E 99.23'

N11°30'55"E 24.57'

OLD US 264 HWY (100' R/W)

N63°07'44"W 73.69'

RIGHT OF WAY LINE

AT&T VAULT

COMMSCOPE VAULT

APPROXIMATE LOCATION EXISTING 12" DIP WATER MAIN

APPROXIMATE LOCATION EXISTING RECLAIMED WATER MAIN

S 74°43'32" E 73.82'

RELOCATE EXISTING POWER POLE

ADJUST RIM

ELECTRIC EASEMENT DB. 4386/938

VALVE

S12°08'08"W 44.20'

67.24'
N74°43'32"W

78.11'
N71°26'55"W

69.26'
N68°16'41"W

64.65'
S68°16'41"E

64.98'
N64°39'44"W

RELOCATE EXISTING HYDRANT TO BEHIND PROPOSED MULTI-USE PATH PER COR DETAIL W-4A

PROPOSED SSMH#3
STA.11+13
RIM=293.6
INV.IN=289.85
INV.OUT=289.65

2" WATER SERVICE

337LF-8"DIP SS @ 0.40%

PROPOSED 30FT CITY OF RALEIGH SANITARY SEWER EASEMENT

DOMESTIC SERVICE CONNECTION

6" PVC SEWER SERVICE

NATURAL GAS SERVICE

FIRE SERVICE CONNECTION

FDC

45° BENDS

TRANSFORMER

FIRE HYDRANT ASSEMBLY

LIGHT POLE

L=52.68' R=190.00'
Δ=15°53'06"

6"x6" TEE
(2) 6" GV

FFE=293.0

SCM EASEMENT

6" FIRE MAIN (C-900)

45°BEND

6"x6" TEE
(2) 6" GV

45° BENDS

N7°41'06"E 268.64'

N/F
CAMPBELL OIL & GAS CO OF RALEIGH INC
DB. 011937/ 02252
PIN # 2705875196
HI - HEAVY INDUSTRIAL
VACANT

N 07°39'08" E 572.84'

20' ZONE 3

30' ZONE 2

30' ZONE 1

30' ZONE 2

STORMWATER MANAGEMENT AREA

324.64'
S7°41'07"W

N/F
BUNN FARMS, INC.
DB. 6057/594
PIN #2705973068

14.018 AC. (GROSS)
10.765 AC. (NET TO ALL R/W)

S89°54'29"E 16.01'

S 84°05'37" W 97.36'

S 87°04'24" W 100.98'

N 89°54'29" W 101.06'

N 86°51'07" W 101.06'

N 83°49'27" W 97.94'

STANDARD UTILITY NOTES:

All materials & construction methods shall be in accordance with City of Raleigh design standards, details & specifications (reference: CORPUD Handbook, current edition)

1. Utility separation requirements:
   a) 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, DIP materials or steel encasement extended 10' on each side of crossing must be specified & installed to waterline specifications
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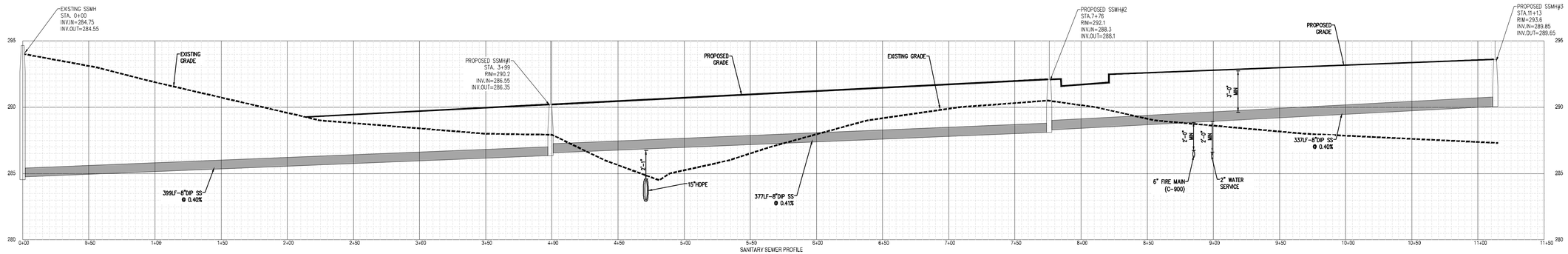

SANITARY SEWER PROFILE

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 materials 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

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Bowman

Bowman North Carolina Ltd.
4006 BARRETT DR
Suite 104
RALEIGH, NC 27609
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

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 24434 3/21/23 MATTHEW E. LOWDER

PLAN STATUS	
1/10/23	1ST CD SUBMISSION
2/20/23	2ND CD SUBMISSION
3/21/23	REVISED PER CITY OF RALEIGH REVIEW
DATE	DESCRIPTION

MEL	MEL	XXX
DESIGN	DRAWN	CHKD

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

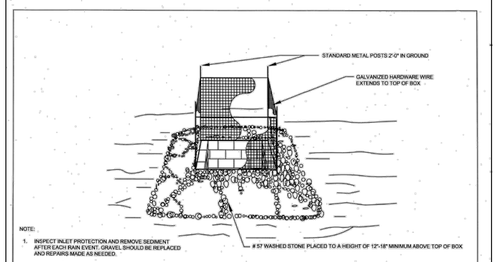
JOB No. 220127-01-001

DATE January 10, 2023

FILE No. 220127-D-CP-001

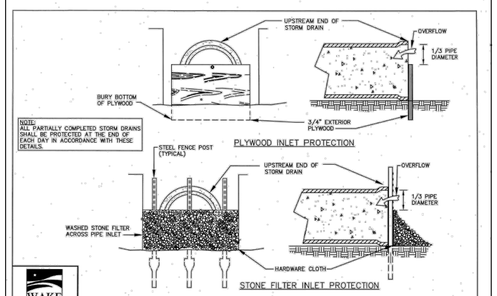
SHEET C5.1

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



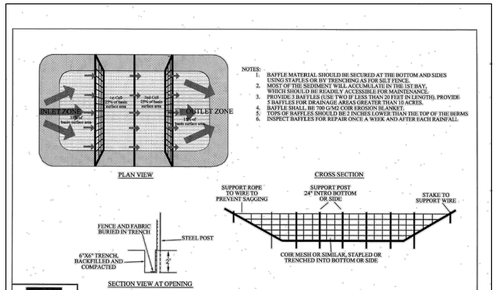
WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD GRAVEL YARD INLET PROTECTION



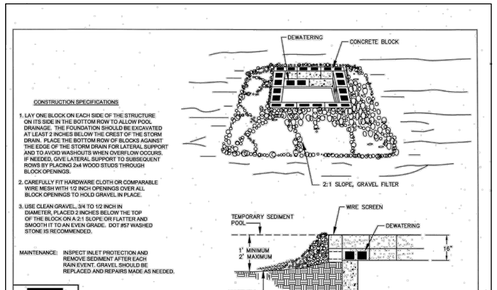
WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD PIPE INLET PROTECTION (PLYWOOD & STONE)



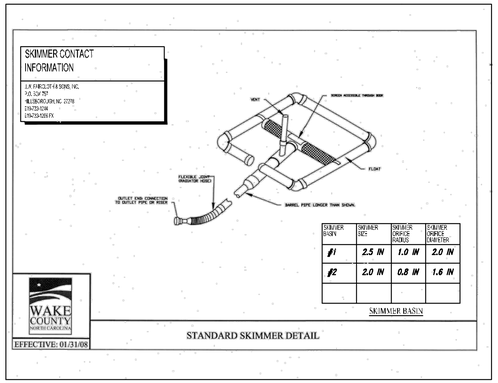
WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD BAFFLES DETAIL



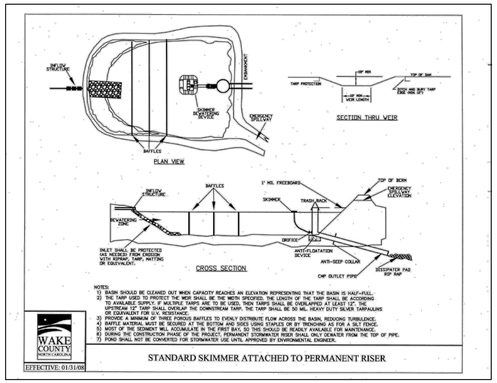
WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD BLOCK & GRAVEL DROP INLET PROTECTION



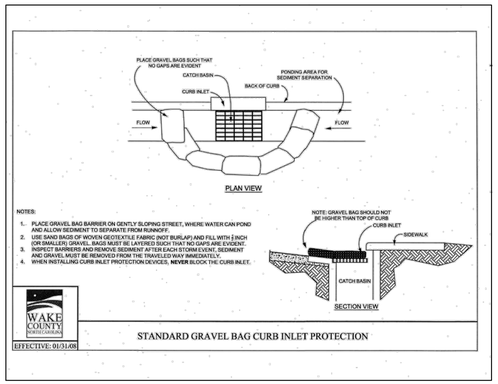
WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD SKIMMER DETAIL



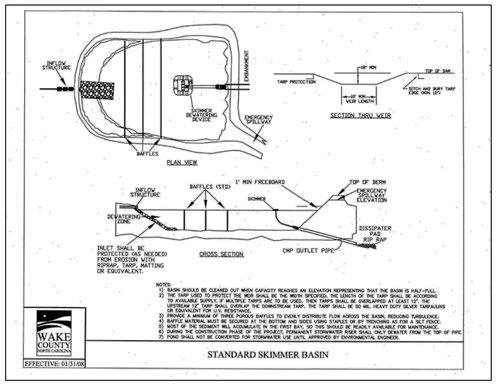
WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD SKIMMER ATTACHED TO PERMANENT RISER



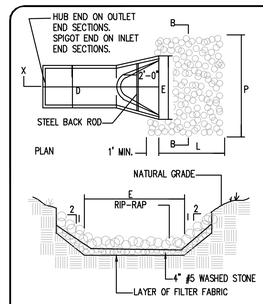
WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD GRAVEL BAG CURB INLET PROTECTION



WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD SKIMMER BASIN



NOTES:

RIPRAP SHOULD EXTEND UP BOTH SIDES OF THE APRON AND AROUND THE END OF THE PIPE OR CULVERT AT THE DISCHARGE OUTLET AT A MAXIMUM SLOPE OF 2:1 AND A HEIGHT NOT LESS THAN TWO THIRDS THE PIPE DIAMETER OR CULVERT HEIGHT.

THERE SHALL BE NO OVERFLOW FROM THE END OF THE APRON TO THE SURFACE OF THE RECEIVING CHANNEL. THE AREA TO BE PAVED OR RIP-RAPPED SHALL BE UNDERCUT SO THAT THE INVERT OF THE APRON SHALL BE AT THE SAME GRADE (FLUSH) WITH THE SURFACE OF THE RECEIVING CHANNEL. THE APRON SHALL HAVE A CUTOFF OR TOE WALL AT THE DOWNSTREAM END.

MAXIMUM TAPER TO RECEIVING CHANNEL 5:1.

THE WIDTH OF THE END OF THE APRON SHALL BE EQUAL TO THE BOTTOM WIDTH OF THE RECEIVING CHANNEL.

ALL SUBGRADE STRUCTURE TO BE COMPACTED TO 95% OR GREATER.

THE PLACING OF FILL, EITHER LOOSE OR COMPACTED IN THE RECEIVING CHANNEL SHALL NOT BE ALLOWED.

NO BENDS OR CURVES IN THE HORIZONTAL ALIGNMENT OF THE APRON WILL BE PERMITTED.

FES #301		
	DIMENSIONS	
ENTRY WIDTH	6.0	FT
LENGTH	12.0	FT
EXIT WIDTH	14.0	FT
MIN. THICKNESS	22	IN
MIN. STONE DIAMETER	6	IN
STONE CLASS	B	

FES #210		
	DIMENSIONS	
ENTRY WIDTH	4.5	FT
LENGTH	9.0	FT
EXIT WIDTH	10.5	FT
MIN. THICKNESS	22	IN
MIN. STONE DIAMETER	6	IN
STONE CLASS	B	

FES #302		
	DIMENSIONS	
ENTRY WIDTH	1.0	FT
LENGTH	2.0	FT
EXIT WIDTH	2.5	FT
MIN. THICKNESS	12	IN
MIN. STONE DIAMETER	3	IN
STONE CLASS	A	

FES #102		
	DIMENSIONS	
ENTRY WIDTH	3.8	FT
LENGTH	7.5	FT
EXIT WIDTH	8.8	FT
MIN. THICKNESS	22	IN
MIN. STONE DIAMETER	6	IN
STONE CLASS	B	

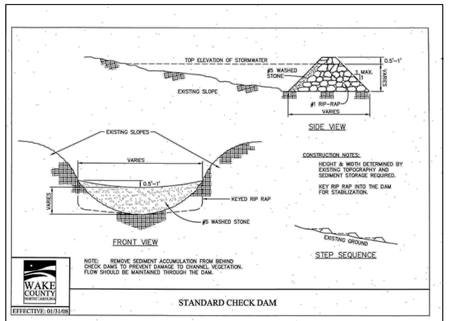
FES #401		
	DIMENSIONS	
ENTRY WIDTH	3.8	FT
LENGTH	7.5	FT
EXIT WIDTH	8.8	FT
MIN. THICKNESS	22	IN
MIN. STONE DIAMETER	6	IN
STONE CLASS	B	

CONSTRUCTION SPECIFICATIONS:

SUBGRADE PREPARATION--PREPARE THE SUBGRADE FOR RIPRAP AND FILTER TO THE REQUIRED LINES AND GRADES SHOWN ON THE PLANS. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY APPROXIMATING THAT OF THE SURROUNDING UNDISTURBED MATERIAL OR OVERFILL DEPRESSIONS WITH RIPRAP. REMOVE BRUSH, TREES, STUMPS, AND OTHER OBJECTIONABLE MATERIAL. CUT THE SUBGRADE SUFFICIENTLY DEEP THAT THE FINISHED GRADE OF THE RIPRAP WILL BE AT THE ELEVATION OF THE SURROUNDING AREA. CHANNELS SHOULD BE EXCAVATED SUFFICIENTLY TO ALLOW PLACEMENT OF THE RIPRAP IN A MANNER SUCH THAT THE FINISHED INSIDE DIMENSIONS AND GRADE OF THE RIPRAP MEET DESIGN SPECIFICATIONS.
SYNTHETIC FILTER FABRIC--PLACE THE CLOTH FILTER DIRECTLY ON THE PREPARED FOUNDATION. OVERLAP THE EDGES BY AT LEAST 12 INCHES, AND SPACE ANCHOR PINS EVERY 3 FT ALONG THE OVERLAP. BURY THE UPSTREAM END OF THE CLOTH A MINIMUM OF 12 INCHES BELOW GROUND AND WHERE NECESSARY, BURY THE LOWER END OF THE CLOTH OR OVER LAP WITH THE NEXT SECTION AS REQUIRED. SEE FIGURE 6.14A PAGE 6.14.6. TAKE CARE NOT TO DAMAGE THE CLOTH WHEN PLACING RIPRAP. IF DAMAGE OCCURS REMOVE THE RIPRAP, AND REPAIR THE SHEET BY ADDING ANOTHER LAYER OF FILTER MATERIAL
WITH A MINIMUM OVERLAP OF 12 INCHES AROUND THE DAMAGED AREA. IF EXTENSIVE DAMAGE IS SUSPECTED, REMOVE AND REPLACE THE ENTIRE SHEET.
WHERE LARGE STONES ARE USED OR MACHINE PLACEMENT IS DIFFICULT, A 4-INCH LAYER OF FINE GRAVEL OR SAND MAY BE NEEDED TO PROTECT THE FILTER CLOTH.
STONE PLACEMENT--PLACEMENT OF RIPRAP SHOULD FOLLOW IMMEDIATELY AFTER PLACEMENT OF THE FILTER. PLACE RIPRAP SO THAT IT FORMS A DENSE, WELL-GRADED MASS OF STONE WITH A MINIMUM OF VOIDS. THE DESIRED DISTRIBUTION OF STONES THROUGHOUT THE MASS MAY BE OBTAINED BY SELECTIVE LOADING AT THE QUARRY, AND CONTROLLED DUMPING DURING FINAL PLACEMENT. PLACE RIPRAP TO ITS FULL THICKNESS IN ONE OPERATION. DO NOT PLACE RIPRAP BY DUMPING THROUGH CHUTES OR OTHER METHODS THAT CAUSE SEGREGATION OF STONE SIZES. TAKE CARE NOT TO DISLODGE THE UNDERLYING BASE OR FILTER WHEN PLACING THE STONES.
THE TOE OF THE RIPRAP SLOPE SHOULD BE KEYED TO A STABLE FOUNDATION AT ITS BASE AS SHOWN IN FIGURE 6.15B. THE TOE SHOULD BE EXCAVATED TO A DEPTH ABOUT 1.5 TIMES THE DESIGN THICKNESS OF THE RIPRAP, AND SHOULD EXTEND HORIZONTALLY FROM THE SLOPE.
THE FINISHED SLOPE SHOULD BE FREE OF POCKETS OF SMALL STONE OR CLUSTERS OF LARGE HAND PLACING MAY BE NECESSARY TO ACHIEVE THE PROPER DISTRIBUTION OF STONE SIZES TO PRODUCE A RELATIVELY SMOOTH, UNIFORM SURFACE. THE FINISHED GRADE OF THE RIPRAP SHOULD BLEND WITH THE SURROUNDING AREA. NO OVERFALL OR PROTRUSION OF RIPRAP SHOULD BE APPARENT

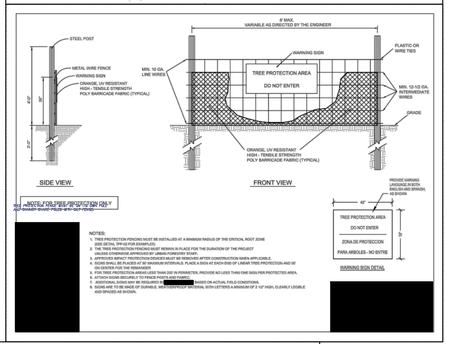
2 RIP-RAP APRON
NOT TO SCALE

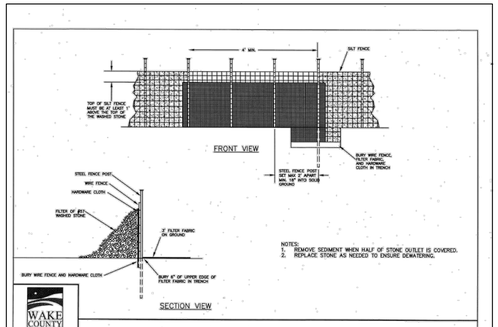
MAINTENANCE:
IN GENERAL, ONCE A RIPRAP INSTALLATION HAS BEEN PROPERLY DESIGNED AND INSTALLED IT REQUIRES VERY LITTLE MAINTENANCE. RIPRAP SHOULD BE INSPECTED PERIODICALLY FOR SCOUR OR DISLODGED STONES. CONTROL OF WEED AND BRUSH GROWTH MAY BE NEEDED IN SOME LOCATIONS.



WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

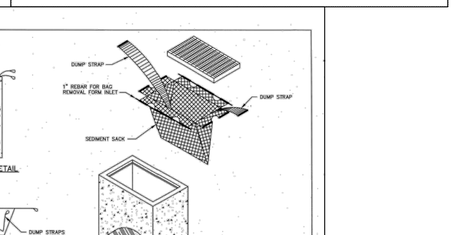
STANDARD CHECK DAM





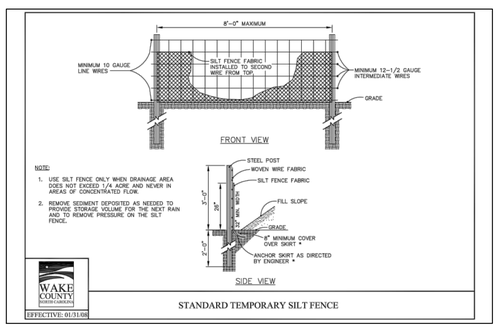
WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD SILT FENCE OUTLET



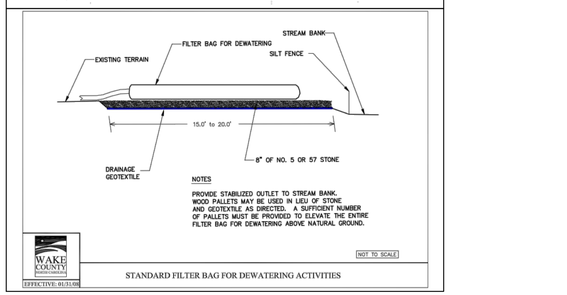
WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD SILT BAG - INLET SEDIMENT CONTROL DEVICE



WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD TEMPORARY SILT FENCE



WAKE COUNTY NORTH CAROLINA
EFFECTIVE: 01/31/08

STANDARD FILTER BAG FOR DEWATERING ACTIVITIES

Bowman

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

TSC
TRACTOR SUPPLY COMPANY

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

SEAL 24434 3/21/23 REGISTERED ENGINEER MATTHEW E. LONGO

PLAN STATUS	
1/10/23	1ST CD SUBMISSION
2/20/23	2ND CD SUBMISSION
3/21/23	REVISED PER CITY OF RALEIGH REVIEW
DATE	DESCRIPTION

MEL	MEL	XXX
DESIGN	DRAWN	CHKD
SCALE	H: N/A V: N/A	
JOB No.	220127-01-001	
DATE	January 10, 2023	
FILE No.	220127-D-CP-001	
SHEET	C6.0	

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

SEDIMENT BASIN REQUIREMENTS:

SEDIMENT BASINS AND TRAPS SHALL MEET THE FOLLOWING REQUIREMENTS:

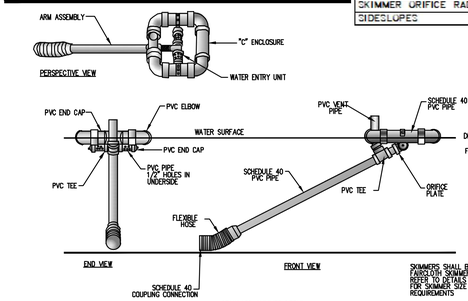
A) OUTLET STRUCTURES SHALL BE UTILIZED THAT WITHDRAW WATER FROM THE SURFACE.

B) FOR BASINS OR TRAPS THAT HAVE A DRAINAGE AREA OF LESS THAN 1.0 ACRE, DRAW-DOWN DESIGNS SPECIFIED IN THE DIVISION OF LAND RESOURCES OR DELEGATED LOCAL PROGRAM REQUIREMENTS ARE ACCEPTABLE.

C) CHEMICAL TREATMENT:
- 1) 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.
- 2) ALL TREATMENT CHEMICALS MUST BE USED IN ACCORDANCE WITH DOSING SPECIFICATIONS AND APPLICATION RATES PROVIDED BY THE MANUFACTURERS, SUPPLIER AND AS SPECIFIED BY THE DIVISION OF WATER QUALITY.
- 3) THE POTENTITIZE 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 PAMS/FLOCCULANTS LIST" FOUND ON THEIR WEB SITE AT: http://portal.ncdenr.org/web/wq/ws/su.
- 4) THE POTENTITIZE MUST PROVIDE ROUTE SOMEWHERE TREATED WITH POLYMERS, FLOCCULANTS, OR OTHER TREATMENT CHEMICALS THROUGH SEDIMENT TRAPPING, FILTERING, AND/OR SETTLING DEVICE(S) TO ENSURE ADEQUATE REMOVAL OF SEDIMENT FLOCCULENT PRIOR TO DISCHARGE TO SURFACE WATERS.

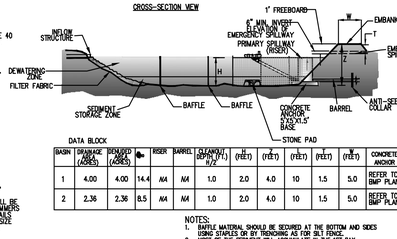
D) DISCHARGE REQUIREMENT – DISCHARGES MUST MEET THE STATUTORY REQUIREMENTS OF THE SEDIMENT POLLUTION CONTROL ACT AND UTILIZE THE PROVISIONS OF SECTION 6.74 OF THE EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL TO ASSURE THAT BUFFERS AND VEGETATED AREAS WILL BE USED TO REDUCE THE POTENTIAL FOR VISIBLE SILTATION OUTSIDE OF THE 25ft BUFFER ZONE NEAREST THE LAND-DISTURBING ACTIVITY.

	Skimmer Basin #1					Skimmer Basin #2				
SURFACE AREA REQUIRED	6,231			SF		SURFACE AREA REQUIRED	3,706			SF	
SURFACE AREA PROVIDED	6,384			SF		SURFACE AREA PROVIDED	3,300			SF	
VOLUME REQUIRED	7,200			CF		VOLUME REQUIRED	4,243			CF	
VOLUME PROVIDED	11,472			CF		VOLUME PROVIDED	6,504			CF	
STURAGE DEPTH	2.0			FT		STURAGE DEPTH	2.0			FT	
STURAGE ELEVATION	114	x	56	FT	232.00	STURAGE ELEVATION	95	x	40	FT	237.00
TOP OF DAM	122	x	64	FT	234.00	TOP OF DAM	103	x	48	FT	239.00
EMGY. SPILLWAY LENGTH	14			FT	232.50	EMGY. SPILLWAY LENGTH	10			FT	237.50
BOTTUM OF BASIN	106	x	48	FT	230.00	BOTTUM OF BASIN	87	x	32	FT	235.00
SKIMMER SIZE	2.5			IN		SKIMMER SIZE	2.0			IN	
SKIMMER ORIFICE DIAMETER	2.0			IN		SKIMMER ORIFICE DIAMETER	0.8			IN	
SKIMMER ORIFICE RADIUS	1.0			IN		SKIMMER ORIFICE RADIUS	1.6			IN	
SIDESLOPES	2:1					SIDESLOPES	2:1				



SKIMMERS SHALL BE FABRICATED SKIMMERS MEETING THE ATTACHED SIZE REQUIREMENTS

STANDARD SKIMMER DETAIL



NOTES:
1. REFER TO INCSSOPM SECTION 6.74 FOR ADDITIONAL DESIGN SPECIFICATIONS REGARDING SEDIMENT BASINS.

DATA BLOCK

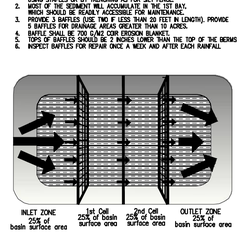
BASIN	DRAINAGE AREA (ACRES)	REQUIRED AREA (ACRES)	Ss	RISER	BARREL	CLEANOUT DEPTH (FT.) H/2	H (FEET)	(FEET)	(FEET)	(FEET)	W (FEET)	CONCRETE ANCHOR
1	4.00	4.00	14.4	NA	NA	1.0	2.0	4.0	10	1.5	5.0	REFER TO BMP PLAN
2	2.36	2.36	8.5	NA	NA	1.0	2.0	4.0	10	1.5	5.0	REFER TO BMP PLAN

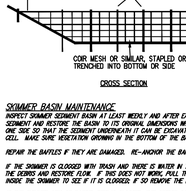
NOTES:
1. BAFFLE MATERIAL SHOULD BE SECURED AT THE BOTTOM AND SIDES USING STAPLES OR BY TRENCHING AS FOR SILT FENCE.
2. MOST OF THE SEDIMENT WILL ACCUMULATE IN THE 1ST BAY, WHICH SHOULD BE READILY ACCESSIBLE FOR MAINTENANCE.
3. PROVIDE 3 BAFFLES (USE TWO IF LESS THAN 20 FEET IN LENGTH). PROVIDE 2 BAFFLES FOR DRAINAGE AREAS GREATER THAN 10 ACRES.
4. BAFFLE SHALL BE 700 G/M2 COIR EROSION BLANKET.
5. TOPS OF BAFFLES SHOULD BE 2 INCHES LOWER THAN THE TOP OF THE BERMS
6. INSPECT BAFFLES FOR REPAIR ONCE A WEEK AND AFTER EACH RAINFALL.

SKIMMER CONTACT INFORMATION

J.W. FARCLOTH & SONS, INC.
P.O. BOX 757
HILLSBOROUGH, NC 27278
919-732-1244
919-732-1266 FX

CONSTRUCTION SPECIFICATIONS:
1. CLEAR, GRUB, AND STRIP THE AREA UNDER THE EMBANKMENT OF ALL VEGETATION AND ROOT MAT. REMOVE ALL SURFACE SOIL CONTAINING HIGH AMOUNTS OF ORGANIC MATTER, AND STOCKPILE OR DISPOSE OF IT PROPERLY. HAUL ALL OBJECTIONABLE MATERIAL TO THE DESIGNATED DISPOSAL AREA. PLACE TEMPORARY SEDIMENT CONTROL MEASURES BELOW BASIN AS NEEDED.
2. ENSURE THAT FILL MATERIAL FOR THE EMBANKMENT IS FREE OF ROOTS, WOODY VEGETATION, ORGANIC MATTER, AND OTHER OBJECTIONABLE MATERIAL. PLACE THE FILL IN LIFTS NOT TO EXCEED 8 INCHES, AND MACHINE COMPACT IT. OVER FILL THE EMBANKMENT 8 INCHES TO ALLOW FOR SETTLEMENT.
3. SHAPE THE BASIN TO THE SPECIFIED DIMENSIONS. PREVENT THE SKIMMER DEVICE FROM SETTLING INTO THE MUD BY EXCAVATING A SHALLOW PIT UNDER THE SKIMMER OR PROVIDING A LOW SUPPORT UNDER THE SKIMMER OF STONE OR TIMBER.
4. PLACE THE BARREL (TYPICALLY 4-INCH SCHEDULE 40 PVC PIPE) ON A FIRM, SMOOTH FOUNDATION OF IMPERVIOUS SOIL. DO NOT USE PERVIOUS MATERIAL SUCH AS SAND, GRAVEL, OR CRUSHED STONE AS BACKFILL AROUND THE PIPE. PLACE THE FILL MATERIAL AROUND THE PIPE SPILLWAY IN 4-INCH LAYERS AND COMPACT IT UNDER AND AROUND THE PIPE TO AT LEAST THE SAME DENSITY AS THE ADJACENT EMBANKMENT. CARE MUST BE TAKEN NOT TO RAISE THE PIPE FROM THE FIRM CONTACT WITH ITS FOUNDATION WHEN COMPACTING UNDER THE PIPE HAUNCHES. PLACE A MIN. DEPTH OF 2 FEET OF COMPACTED BACKFILL OVER THE PIPE SPILLWAY BEFORE CROSSING IT WITH CONSTRUCTION EQUIPMENT. IN NO CASE SHOULD THE PIPE CONDUIT BE INSTALLED BY CUTTING A TRENCH THROUGH THE DAM AFTER THE EMBANKMENT IS COMPLETE.
5. ASSEMBLE THE SKIMMER FOLLOWING THE MANUFACTURERS INSTRUCTIONS, OR AS DESIGNED.
6. LAY THE ASSEMBLED SKIMMER ON THE BOTTOM OF THE BASIN WITH THE FLEXIBLE JOINT AT THE INLET OF THE BARREL PIPE. ATTACH THE FLEXIBLE JOIN TO THE BARREL PIPE AND POSITION THE SKIMMER OVER THE EXCAVATED PIT OR SUPPORT. BE SURE TO ATTACH A ROPE TO THE SKIMMER AND ANCHOR IT TO THE SIDE OF THE BASIN. THIS WILL BE USED TO PULL THE SKIMMER TO THE SIDE FOR MAINTENANCE.
7. EARTHEN SPILLWAYS MUST BE SHAPED IN UNDISTURBED SOIL TO THE GREATEST EXTENT POSSIBLE. THE ACHIEVEMENT OF PLANNED ELEVATIONS, GRADE, DESIGN WIDTH, AND ENTRANCE AND EXIT CHANNEL SLOPES ARE CRITICAL TO THE SUCCESSFUL OPERATION OF THE SPILLWAY. THE SPILLWAY SHOULD BE LINED WITH A LAMINATED PLASTIC OR IMPERMEABLE GEOTEXTILE FABRIC. THE FABRIC MUST BE WIDE AND LONG ENOUGH TO COVER THE BOTTOM AND SIDES AND EXTEND ONTO THE TOP OF THE DAM FOR ANCHORING IN A TRENCH. THE EDGES MAY BE SECURED WITH 8-INCH STAPLES OR PINS. THE FABRIC MUST BE LONG ENOUGH TO EXTEND DOWN THE SLOPE AND EXIT ONTO STABLE GROUND. THE WIDTH OF THE FABRIC MUST BE ONE PIECE, NOT JOINED OR SPLICED; OTHERWISE WATER CAN GET UNDER THE FABRIC. IF THE LENGTH OF THE FABRIC IS INSUFFICIENT FOR THE ENTIRE LENGTH OF THE SPILLWAY, MULTIPLE SECTIONS, SPANNING THE COMPLETE WIDTH, MAY BE USED. THE UPPER SECTION(S) SHOULD OVERLAP THE LOWER SECTION(S) SO THAT WATER CANNOT FLOW UNDER THE FABRIC. SECURE THE UPPER EDGE AND SIDES OF THE FABRIC WITH A TRENCH WITH STAPLES OR PINS.
8. INLETS– DISCHARGE WATER INTO THE BASIN IN A MANNER TO PREVENT EROSION. USE TEMPORARY SLOPE DRAINS OR DIVERSIONS WITH OUTLET PROTECTION TO DIVER SEDIMENT–LADEN WATER TO THE UPPER END OF THE POOL AREA TO IMPROVE BASIN TRAP EFFICIENCY.
9. EROSION CONTROL–CONSTRUCT THE STRUCTURE SO THAT THE DISTURBED AREA IS MINIMIZED. DIVERT SURFACE WATER AWAY FROM BARE AREAS. COMPLETE THE EMBANKMENT BEFORE THE AREA IS CLEARED. STABILIZE THE EMERGENCY SPILLWAY EMBANKMENT AND ALL OTHER DISTURBED AREAS ABOVE THE CREST OF THE PRINCIPAL SPILLWAY IMMEDIATELY AFTER CONSTRUCTION.
10. INSTALL POROUS BAFFLES AS SPECIFIED IN PRACTICE 6.65, POROUS BAFFLES.
11. AFTER ALL THE SEDIMENT-PRODUCING AREAS HAVE BEEN PERMANENTLY STABILIZED, REMOVE THE STRUCTURE AND ALL THE UNSTABLE SEDIMENT. SMOOTH THE AREA TO BLEND WITH THE ADJOINING AREAS AND STABILIZE PROPERLY.





BAFFLE MAINTENANCE:
INSPECT BAFFLES AT LEAST ONE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY.

BE SURE TO MAINTAIN ACCESS TO THE BAFFLES. SHOULD THE FABRIC OF A BAFFLE COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY.

REMOVE SEDIMENT DEPOSITS WHEN IT REACHES HALF FULL TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE BAFFLES. TAKE CARE TO AVOID DAMAGING THE BAFFLES DURING CLEANOUT. SEDIMENT DEPTH SHOULD NEVER EXCEED HALF THE DESIGNED STORAGE DEPTH.

AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED, REMOVE ALL BAFFLE MATERIALS AND UNSTABLE SEDIMENT DEPOSITS, GRADE THE AREA TO GRADE, AND STABILIZE IT.

SKIMMER BASIN MAINTENANCE:
INSPECT SKIMMER SEDIMENT BASIN AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (ONE-HALF INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT AND RESTORE THE BASIN TO ITS ORIGINAL DIMENSIONS WHEN SEDIMENT ACCUMULATES TO ONE-HALF THE HEIGHT OF THE FIRST BAFFLE. PULL THE SKIMMER TO ONE SIDE SO THAT THE SEDIMENT UNDERNEATH IT CAN BE EXCAVATED. EXCAVATE THE SEDIMENT FROM THE ENTIRE BASIN, NOT JUST AROUND THE SKIMMER OR THE FIRST CELL. MAKE SURE VEGETATION GROWING IN THE BOTTOM OF THE BASIN DOES NOT HOLD DOWN THE SKIMMER.

REPAIR THE BAFFLES IF THEY ARE DAMAGED. RE-ANCHOR THE BAFFLES IF WATER IS FLOWING UNDERNEATH OR AROUND THEM.

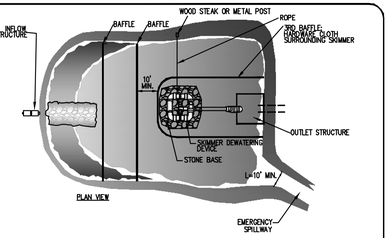
IF THE SKIMMER IS CLOGGED WITH DEBRIS AND THERE IS WATER IN THE BASIN, USUALLY JERKING ON THE ROPE WILL MAKE THE SKIMMER BOB UP AND DOWN AND DISLODGE THE DEBRIS AND RESTORE FLOW. IF THIS DOES NOT WORK, PULL THE SKIMMER OVER TO THE SIDE OF THE BASIN AND REMOVE THE DEBRIS. ALSO CHECK THE ORIFICE INSIDE THE SKIMMER TO SEE IF IT IS CLOGGED. IF SO REMOVE THE DEBRIS.

IF THE SKIMMER ARM OR BARREL PIPE IS CLOGGED, THE ORIFICE CAN BE REMOVED AND THE OBSTRUCTION CLEARED WITH A PLUMBER'S SNAKE OR BY FLUSHING WITH WATER. BE SURE AND REPLACE THE ORIFICE BEFORE REPOSITIONING THE SKIMMER.

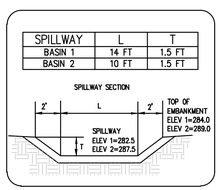
CHECK THE FABRIC LINED SPILLWAY FOR DAMAGE AND MAKE ANY REQUIRED REPAIRS WITH FABRIC THAT SPANS THE FULL WIDTH OF THE SPILLWAY. CHECK THE EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. MAKE ALL NECESSARY REPAIRS IMMEDIATELY. REMOVE ALL TRASH AND OTHER DEBRIS FROM THE SKIMMER AND POOL AREAS.

FREEZING WEATHER CAN RESULT IN ICE FORMING IN THE BASIN. SOME SPECIAL PRECAUTIONS SHOULD BE TAKEN IN THE WINTER TO PREVENT THE SKIMMER FROM PLUGGING WITH ICE.

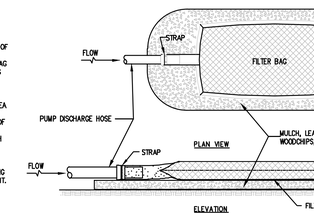
1 SKIMMER BASIN
NOT TO SCALE



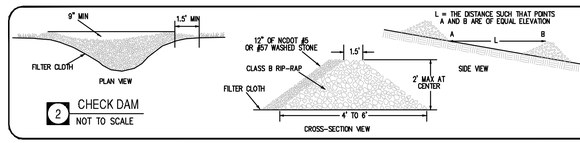
SPILLWAY	L	T
BASIN 1	14 FT	1.5 FT
BASIN 2	10 FT	1.5 FT



CONSTRUCTION SPECIFICATIONS
1. TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.
2. PLACE FILTER BAG ON SUITABLE BASE (E.G., MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, OR STRAW BALES) LOCATED ON A LEVEL OR 5% MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED AREA. EXTEND BASE A MINIMUM OF 12 INCHES FROM EDGES OF BAG.
3. CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.
4. REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED IT'S MAXIMUM CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE.
5. USE NONWOVEN GEOTEXTILE WITH DOUBLE STITCHED SEAMS USING HIGH STRENGTH THREAD. SIZE SLEEVE TO ACCOMMODATE A MAXIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE BAG MUST BE MANUFACTURED FROM A NONWOVEN GEOTEXTILE
6. REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.



1 FILTER BAG
NOT TO SCALE



2 CHECK DAM
NOT TO SCALE

MAINTENANCE:
INSPECT CHECK DAM ONCE A WEEK AND AFTER EVERY RAINFALL. IMMEDIATELY REMOVE SEDIMENT FROM THE FLOW AREA AND REPAIR THE DIVERSION. REPAIR THE CHANNEL LINING AS NECESSARY PER THE MANUFACTURER'S INSTALLATION REQUIREMENTS. CHECK OUTLETS AND MAKE TIMELY REPAIRS AS NEEDED TO AVOID GULLY FORMATION. WHEN THE AREA ABOVE THE CHECK DAM IS PERMANENTLY STABILIZED, REMOVE THE PROTECTION AND FILL AND STABILIZE THE CHANNEL TO BLEND WITH THE NATURAL SURFACE.

TEMPORARY SEEDING SPECIFICATIONS/SCHEDULE

Date	Type	Planting Rate
March – Oct.	Browntop Millet	40 lbs/acre
Nov. – Feb.	Winter Rye	120 lbs/acre

PERMANENT SEEDING SPECIFICATIONS/SCHEDULE

FOR SHOULDERS, SIDE DITCHES, SLOPES (MAX 3:1)

Date	Type	Planting Rate
Aug 15 – Nov 1	Deer Tongue	300 lbs/acre
Nov 1 – Mar 1	Deer Tongue & Abruzzi Rye	300 lbs/acre
Mar 1 – Apr 15	Deer Tongue	300 lbs/acre
Apr 14 – Jun 30	Hulled Common Bermuda Grass	25 lbs/acre
Jul 1 – Aug 15	Deer Tongue & Browntop Millet or Sorghum–Sudan Hybrids	240 lbs/acre–Deer Tongue; 35 lbs/acre Browntop Millet 30 lbs/acre Sorghum–Sudan Hybrids

FOR SHOULDERS, SIDE DITCHES, SLOPES (3:1 – 2:1)

Date	Type	Planting Rate
Mar 1 – Jun 1	Switchgrass & Deer Tongue	50 lbs/acre (Switchgrass) use the following combinations:
Mar 1 – Apr 15	Add Deer Tongue	240 lbs/acre
Mar 1 – Jun 30	Or add Julled Common Bermuda Grass	25 lbs/acre
Jun 1 – Sep 1	Deer Tongue & Browntop Millet or Sorghum–Sudan Hybrids	240 lbs/acre Deer Tongue 35 lbs/acre Browntop Millet 30 lbs/acre Sorghum–Sudan Hybrids
Sep 1 – Mar 1	Switchgrass & Deer Tongue	70 lbs/acre Switchgrass 240 lbs/acre Deer Tongue
Nov 1 – Mar 1	Add Abruzzi Rye	25 lbs/acre

CONSULT S&EC ENGINEER FOR ADDITIONAL INFORMATION CONCERNING OTHER ALTERNATIVES FOR VEGETATION OF DENUDED AREAS. THE ABOVE VEGETATION RATES ARE THOSE THAT DO WELL UNDER LOCAL CONDITIONS; OTHER SEEDING RATE COMBINATIONS ARE POSSIBLE.

*** TEMPORARY: RESEED ACCORDING TO OPTIMUM SEASON FOR DESIRED PERMANENT VEGETATION. DO NOT ALLOW TEMPORARY COVER TO GROW MORE THAN 12" IN HEIGHT BEFORE MOWING; OTHERWISE, FESCUE MAY BE SHADED OUT.

3 TEMPORARY SEEDING
NOT TO SCALE

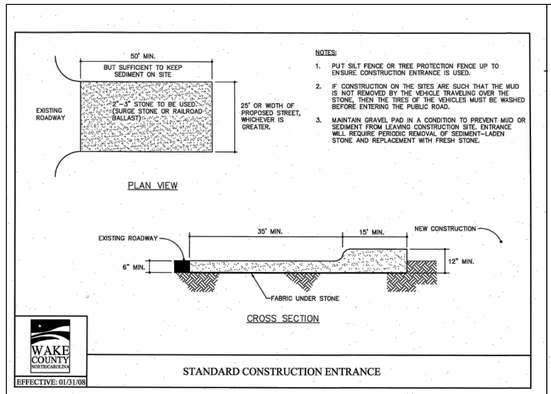
SEEDBED PREPARATION:
1. CHISEL COMPACTED AREAS AND SPREAD TOPSOIL THREE INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.
2. RIP THE ENTIRE AREA TO SIX INCHES DEEP.
3. REMOVE ALL LOOSE ROCK, ROOTS AND OTHER OBSTRUCTIONS, LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
4. APPLY AGRICULTURAL LIME, FERTILIZER, AND SUPERPHOSPHATE UNIFORMLY AND MIX WITH SOIL (SEE SEEDING MIXTURE).
5. CONTINUE TILLAGE UNTIL A WELL–PULVERIZED, FIRM, REASONABLY UNIFORM SEEDBED IS PREPARED FOUR TO SIX INCHES DEEP.
6. SEED ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK AFTER SEEDING.
7. MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
8. INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. IF STAND SHOULD BE MORE THAN 60% DAMAGED, RE–ESTABLISH FOLLOWING THE ORIGINAL LIME, FERTILIZER AND SEEDING RATES.
9. CONSULT S&EC ENVIRONMENTAL ENGINEERS ON MAINTENANCE TREATMENT AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.

SEEDING MIXTURE:

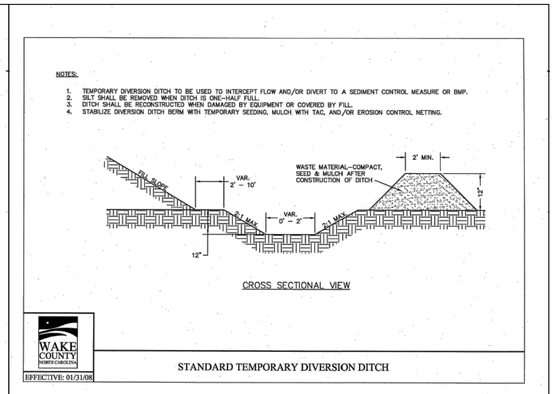
AGRICULTURE LIMESTONE:	2 TONS/ACRE (3 TONS/ACRE IN CLAY SOILS)
FERTILIZER:	1,000 LBS/ACRE – 10–10–10
SUPERPHOSPHATE:	500 LBS/ACRE – 20% ANALYSIS
MULCH:	2 TONS/ACRE – SMALL GRAIN STRAW
ANCHOR:	ASPHALT EMULSION AT 400 GALS/ACRE

CONSULT S&EC ENGINEER FOR ADDITIONAL INFORMATION CONCERNING OTHER ALTERNATIVES FOR VEGETATION OF DENUDED AREAS. THE ABOVE VEGETATION RATES ARE THOSE THAT DO WELL UNDER LOCAL CONDITIONS; OTHER SEEDING RATE COMBINATIONS ARE POSSIBLE.

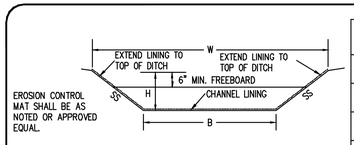
*** TEMPORARY: RESEED ACCORDING TO OPTIMUM SEASON FOR DESIRED PERMANENT VEGETATION. DO NOT ALLOW TEMPORARY COVER TO GROW MORE THAN 12" IN HEIGHT BEFORE MOWING; OTHERWISE, FESCUE MAY BE SHADED OUT.



STANDARD CONSTRUCTION ENTRANCE



STANDARD TEMPORARY DIVERSION DITCH



3 TEMPORARY DIVERSION DITCH DATA BLOCK
REFER TO DETAIL SHEET FOR TEMPORARY DITCH DETAIL

DITCH	FLOW Q(25)	LONG. SLOPE(%)	H	B	W	SS	CHANNEL LINING
TEMPORARY DITCH #1	0.8 CFS	1.54%	1.0'	1.0'	5.0'	2:1	STRAW WITH NET NAG DS75
TEMPORARY DITCH #2	3.5 CFS	1.61%	1.25'	1.0'	6.0'	2:1	STRAW WITH NET NAG DS75
TEMPORARY DITCH #3	1.0 CFS	0.38%	1.25'	1.0'	6.0'	2:1	STRAW WITH NET NAG DS75
TEMPORARY DITCH #4	0.1 CFS	2.13%	0.75'	1.0'	4.0'	2:1	STRAW WITH NET NAG DS75

8. Inspect all seeded areas and make necessary repairs or reseedings within the planting season, if possible. If stand should be more than 60% damaged, re-establish following the original lime, fertilizer and seeding rates.
9. Consult Wake County Soil & Water or NC State Cooperative Extension on maintenance treatment and fertilization after permanent cover is established.

Mixture

Agricultural Limestone	2 tons/acre (3 tons/acre in clay soils)
Fertilizer	1,000 lbs/acre – 10-10-10
Superphosphate	500 lbs/acre – 20% analysis
Mulch	2 tons/acre – small grain straw
Anchor	Asphalt emulsion at 400 gals/acre

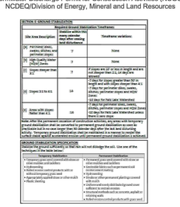
Seeding Schedule

For Shoulders, Side Ditches, Slopes (Max 3:1):

Date	Type	Planting Rate
Aug 15– Nov 1	Tall Fescue	300 lbs/acre
Nov 1– Mar 1	Tall Fescue & Abruzzi Rye	300 lbs/acre
Mar 1– Apr 15	Tall Fescue	300 lbs/acre
Apr 15– Jun 30	Hulled Common Bermudagrass	25 lbs/acre
Jul 1– Aug 15	Tall Fescue AND Browntop Millet or Sorghum-Sudan Hybrids***	125 lbs/acre (Tall Fescue); 35 lbs/acre (Browntop Millet); 30 lbs/acre (Sorghum-Sudan Hybrids)

Seeding Specifications

NPDES Stormwater Discharge Permit for Construction Activities (NCGO1 - 4/1/19)
NCDEQ/Division of Energy, Mineral and Land Resources



Seedbed Preparation:

1. Chisel compacted areas and spread topsoil three inches deep over adverse soil conditions, if available.
2. Rip the entire area to six inches deep.
3. Remove all loose rock, roots and other obstructions, leaving surface reasonably smooth and uniform.
4. Apply agricultural lime, fertilizer and superphosphate uniformly and mix with soil (see mixture below).
5. Continue tillage until a well-pulverized, firm, reasonably uniform seedbed is prepared four to six inches deep.
6. Seed on a freshly prepared seedbed and cover seed lightly with seeding equipment or cultipack after seeding.
7. Mulch immediately after seeding and anchor mulch.

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TRACTOR SUPPLY COMPANY

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

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 24434 MATTHEW E. LOWDER 3/21/23

PLAN STATUS	
1/10/23	1ST CD SUBMISSION
2/20/23	2ND CD SUBMISSION
3/21/23	REVISED PER CITY OF RALEIGH REVIEW
DATE	DESCRIPTION

MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	H: N/A V: N/A	
JOB No.	220127-01-001	
DATE	January 10, 2023	
FILE No.	220127-D-CP-001	
SHEET	C6.1	

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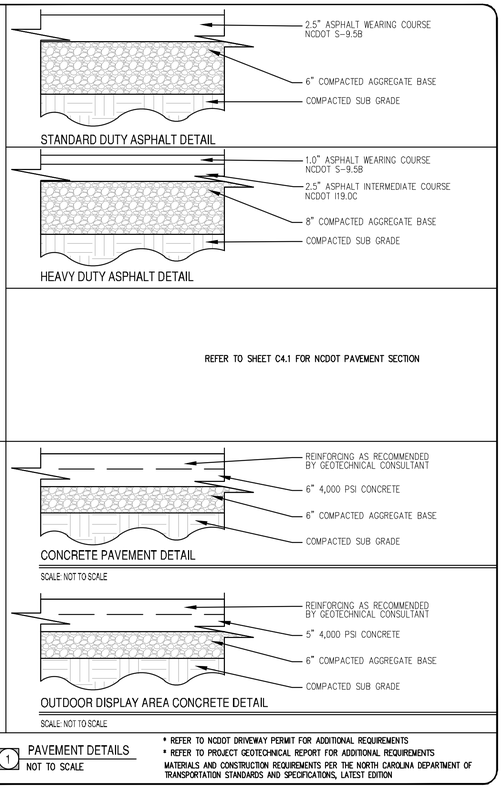
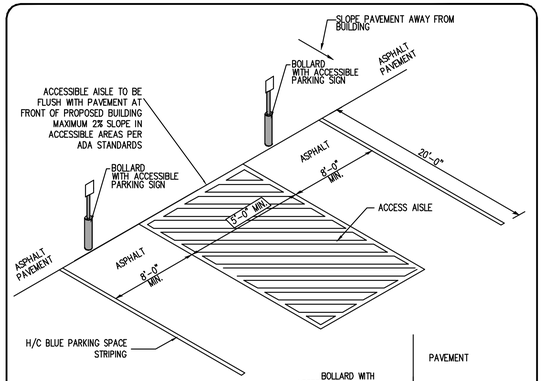


1 PAVEMENT DETAILS
NOT TO SCALE

* REFER TO NCDOT DRIVEWAY PERMIT FOR ADDITIONAL REQUIREMENTS
* REFER TO PROJECT GEOTECHNICAL REPORT FOR ADDITIONAL REQUIREMENTS

MATERIALS AND CONSTRUCTION REQUIREMENTS PER THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS, LATEST EDITION

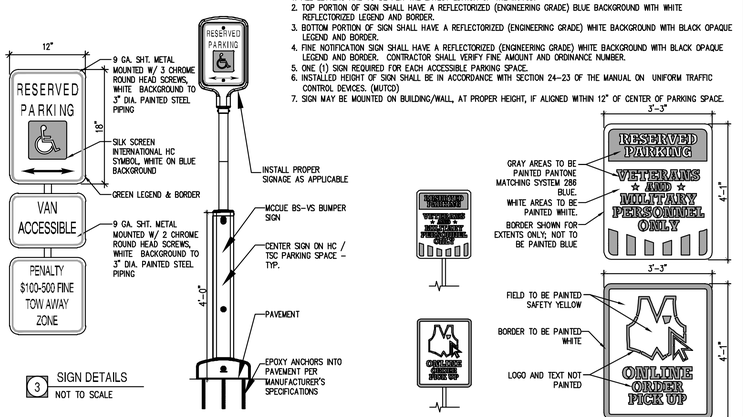


SITE ACCESSIBILITY DETAIL NOTES:
1. REFER TO SITE PLAN FOR EXACT LOCATION OF HANDICAP PARKING, WALKWAYS AND RAMPS.
2. ALL WALKWAYS, RAMPS, AND HANDICAP PARKING SIGNAGE, ETC. SHALL MEET APPROVED AMERICANS WITH DISABILITIES ACT (ADA) STANDARDS AND LOCAL ACCESSIBILITY CODE.
3. ONE OUT OF EVERY SIX (6) ACCESSIBLE PARKING SPACES, BUT NOT LESS THAN ONE, IS REQUIRED TO BE VAN ACCESSIBLE.
4. ALL CONCRETE ACCESSIBLE RAMPS (3000 PSI) SURFACES SHALL HAVE COLORED TOOLED/SERRATED SLIP RESISTAND SURFACING AND/OR TACTILE WARNING DEVICE PER ADA STANDARDS AND/OR LOCAL ACCESSIBILITY CODE.
5. ALL CONCRETE ACCESSIBLE RAMPS SHALL BE COLOR IMPREGNATED TO PROVIDE VISUAL CONTRAST (DARK TO LIGHT) WITH ADJOINING CONCRETE SURFACES (MINIMUM 70% COLOR CONTRAST).
6. THE MATERIAL USED TO PROVIDE COLOR CONTRAST IN CONCRETE ACCESSIBLE RAMPS SHALL BE AN INTEGRAL (PERMANENT) PART OF THE CONCRETE AND SHALL NOT BE PAINTED ON OR CAPABLE OF FADING OR WEARING OFF.
7. FINISHED GRADES OF PAVEMENT IN HC PARKING AND ACCESSIBILITY AISLE SHALL NOT EXCEED 1:50 SLOPE IN ANY DIRECTION.

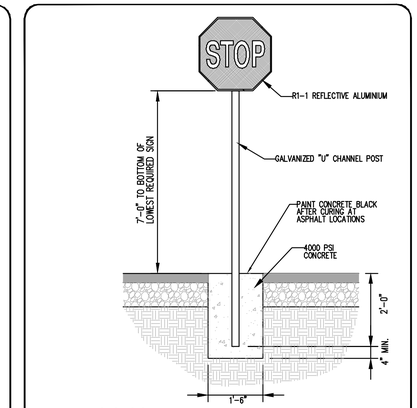
2 ACCESSIBLE PARKING DETAIL
NOT TO SCALE

NOTE:
ALL ACCESSIBLE RAMP AND ACCESS AISLES SHALL MEET ALL CODES AND ADAAG REGULATIONS.

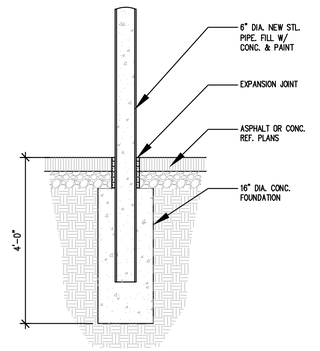
ACCESSIBLE PARKING SIGNAGE NOTES:
1. ALL LETTERS ARE TO BE PER THE LATEST EDITION OF THE MUTCD.
2. TOP PORTION OF SIGN SHALL HAVE A REFLECTORIZED (ENGINEERING GRADE) BLUE BACKGROUND WITH WHITE REFLECTORIZED LEGEND AND BORDER.
3. BOTTOM PORTION OF SIGN SHALL HAVE A REFLECTORIZED (ENGINEERING GRADE) WHITE BACKGROUND WITH BLACK OPAQUE LEGEND AND BORDER. CONTRACTOR SHALL VERIFY FINE AMOUNT AND ORDINANCE NUMBER.
4. FINE NOTIFICATION SIGN SHALL HAVE A REFLECTORIZED (ENGINEERING GRADE) WHITE BACKGROUND WITH BLACK OPAQUE LEGEND AND BORDER. CONTRACTOR SHALL VERIFY FINE AMOUNT AND ORDINANCE NUMBER.
5. ONE (1) SIGN REQUIRED FOR EACH ACCESSIBLE PARKING SPACE.
6. INSTALLED HEIGHT OF SIGN SHALL BE IN ACCORDANCE WITH SECTION 24-23 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. (MUTCD)
7. SIGN MAY BE MOUNTED ON BUILDING/WALL, AT PROPER HEIGHT, IF ALIGNED WITHIN 12" OF CENTER OF PARKING SPACE.



3 SIGN DETAILS
NOT TO SCALE

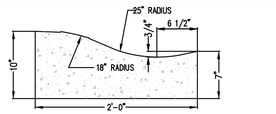


6 STOP SIGN DETAIL
NOT TO SCALE

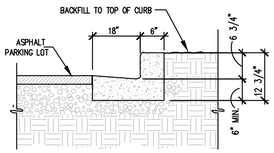


9 TYPICAL BOLLARD DETAIL
NOT TO SCALE

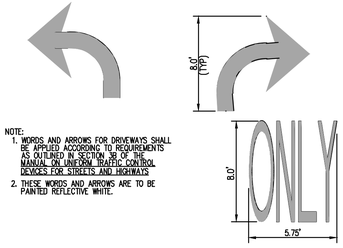
NOTES:
1. CONTRACTION JOINTS SHALL BE SPACED AT 10-FOOT INTERVALS. JOINT SPACING MAY BE ALTERED BY THE ENGINEER TO PREVENT UNCONTROLLED CRACKING.
2. CONTRACTION JOINTS MAY BE INSTALLED BY THE USE OF TEMPLATES OR FORMED BY OTHER APPROVED METHODS. WHERE SUCH JOINTS ARE NOT FORMED BY TEMPLATES, A MINIMUM DEPTH OF 1 1/2" SHALL BE OBTAINED.
3. ALL EXPANSION JOINTS SHALL BE SPACED AT 90 FOOT INTERVALS, AND ADJACENT TO ALL RIGID OBJECTS. JOINTS SHALL MATCH LOCATIONS WITH JOINTS IN ABUTTING SIDEWALK.
4. CONCRETE COMPRESSIVE STRENGTH SHALL BE 3600 P.S.I. IN 28 DAYS.
5. CURB SHALL BE DEPRESSED AT INTERSECTIONS TO PROVIDE FOR FUTURE ACCESSIBLE RAMPS.
6. TOP 6" OF SUB-GRADE BENEATH THE CURB AND GUTTER SHALL BE COMPACTED TO 100 PROCTOR DENSITY.



2'-0" VALLEY GUTTER

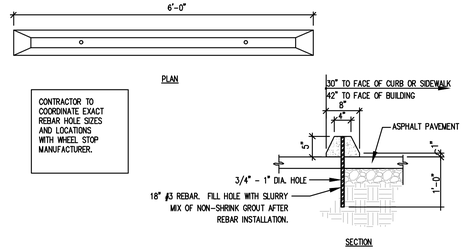


4 CURB/GUTTER DETAIL
NOT TO SCALE

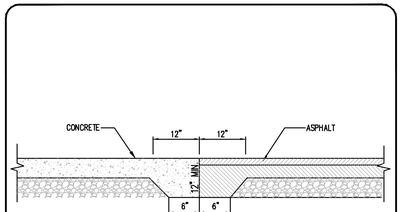


NOTE:
1. WORDS AND ARROWS FOR DRIVEWAYS SHALL BE APPLIED ACCORDING TO REQUIREMENTS AS OUTLINED IN SECTION 3B OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS
2. THESE WORDS AND ARROWS ARE TO BE PAINTED REFLECTIVE WHITE.

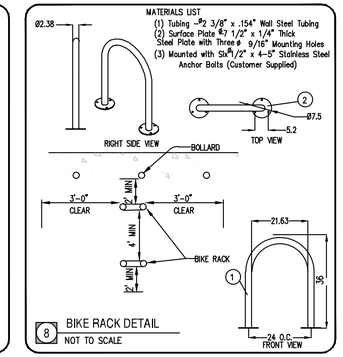
7 PAVEMENT MARKINGS
NOT TO SCALE



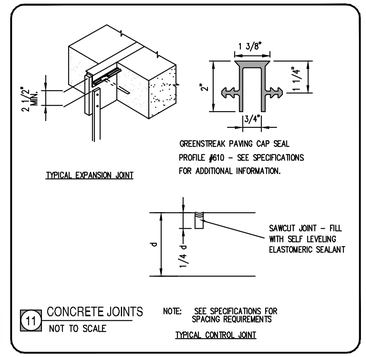
10 WHEEL STOP
NOT TO SCALE



5 ASPHALT/CONCRETE TRANSITION JOINT
NOT TO SCALE

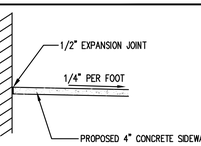


8 BIKE RACK DETAIL
NOT TO SCALE

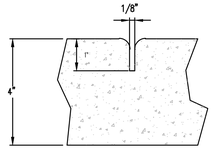


11 CONCRETE JOINTS
NOTE: SEE SPECIFICATIONS FOR SPACING REQUIREMENTS
NOT TO SCALE
TYPICAL CONTROL JOINT

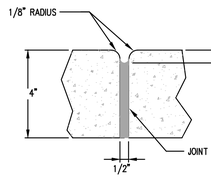
GENERAL NOTES:
1. A GROOVE JOINT 1" DEEP WITH 1/8" RADII SHALL BE REQUIRED IN THE CONCRETE SIDEWALK AT 5' INTERVALS. ONE 1/2" EXPANSION JOINT WILL BE REQUIRED AT 45' INTERVALS NOT TO EXCEED 50' AND MATCHING EXPANSION/CONSTRUCTION JOINT IN ADJACENT CURB. A SEALED 1/2" EXPANSION JOINT WILL BE REQUIRED WHERE THE SIDEWALK JOINS ANY RIGID STRUCTURE.
2. SIDEWALK AT DRIVEWAY ENTRANCES TO BE 6" THICK.
3. CONCRETE COMPRESSIVE STRENGTH SHALL BE 3600 PSI. IN 28 DAYS.



DETAILS SHOWING EXPANSION JOINTS IN CONCRETE SIDEWALK



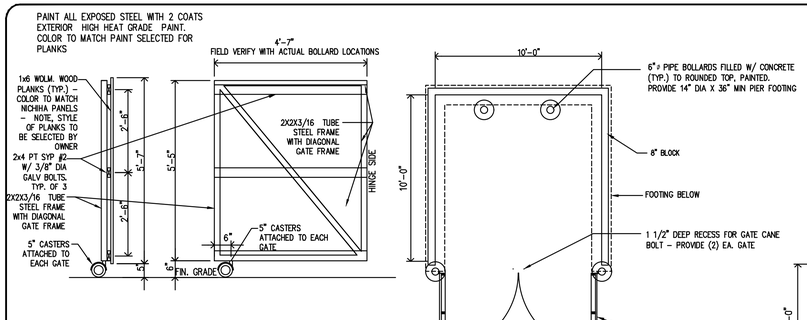
GROOVE JOINT IN SIDEWALK



TRANSVERSE EXPANSION JOINT IN SIDEWALK

12 CONCRETE SIDEWALK
NOT TO SCALE

PAINT ALL EXPOSED STEEL WITH 2 COATS EXTERIOR HIGH HEAT GRADE PAINT. COLOR TO MATCH PAINT SELECTED FOR PLANKS



13 DUMPSTER ENCLOSURE
NOT TO SCALE

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TSC
TRACTOR SUPPLY COMPANY

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

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 24436 3/21/23 MATTHEW L. EVERHART

PLAN STATUS	
1/10/23	1ST CD SUBMISSION
2/20/23	2ND CD SUBMISSION
3/21/23	REVISED PER CITY OF RALEIGH REVIEW
DATE	DESCRIPTION

MEL	MEL	XXX
DESIGN	DRAWN	CHKD
SCALE	H: NA V: NA	
JOB No.	220127-01-001	
DATE	January 10, 2023	
FILE No.	220127-D-CP-001	
SHEET	C6.2	

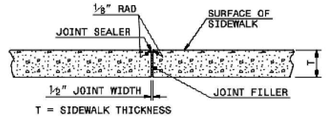
Cad file name: V:\220127 - Primax Prop LLC\220127-01-001 (ENG) - Tractor Supply - Zebulon, NC\Engineering\Engineering Plans\ConstructionDocuments\220127-01-001-SIT.dwg

NOTES:

CONSTRUCT STANDARD SIDEWALK 5' WIDE AND 4" THICK UNLESS OTHERWISE DENOTED ON PLANS.

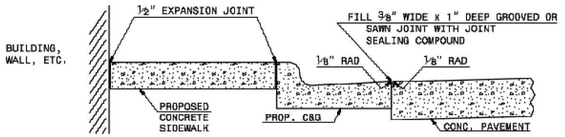
PLACE A GROOVE JOINT 1" DEEP WITH ⅛" RADII IN THE CONCRETE SIDEWALK AT 5' INTERVALS, ONE ½" EXPANSION JOINT WILL BE REQUIRED AT 50' INTERVALS. A ½" EXPANSION JOINT WILL BE REQUIRED WHERE THE SIDEWALK JOINS ANY RIGID STRUCTURE.

SEE STD. DWG. 848.05 FOR CURB RAMP LOCATION REQUIREMENTS AND CONSTRUCTION GUIDELINES.



T = SIDEWALK THICKNESS

TRANSVERSE EXPANSION JOINT IN SIDEWALK



DETAILS SHOWING JOINTS IN CONCRETE SIDEWALK

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

1-18

ROADWAY STANDARD DRAWING FOR **CONCRETE SIDEWALK**

SHEET 1 OF 1

848.01

NOTES:

1. CONSTRUCT THE RAMP SURFACE TO BE STABLE, FIRM, AND SLIP RESISTANT. CONSTRUCT THE CURB RAMP TYPE AS SHOWN IN THE PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER.
2. LOCATE CURB RAMPS AND PLACE PEDESTRIAN CROSSWALK MARKINGS AS SHOWN IN THE PAVEMENT MARKING PLANS. WHEN FIELD ADJUSTMENTS REQUIRE MOVING CURB RAMPS OR MARKINGS AS SHOWN, CONTACT THE SIGNING AND DELINEATION UNIT OR LOCATE AS DIRECTED BY THE ENGINEER.
3. COORDINATE THE CURB RAMP AND THE PEDESTRIAN CROSSWALK MARKINGS SO A 4'x4' CLEAR SPACE AT THE BASE OF THE CURB RAMP WILL FALL WITHIN THE PEDESTRIAN CROSSWALK LINES.
4. SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL LANE IS 4' MINIMUM.
5. REFER TO THE PAVEMENT MARKING PLANS FOR STOP BAR LOCATIONS AT SIGNALIZED INTERSECTIONS. IF A PAVEMENT MARKING PLAN IS NOT PROVIDED, CONTACT THE SIGNAL DESIGN SECTION FOR THE STOP BAR LOCATIONS OR LOCATE AS DIRECTED BY THE ENGINEER.
6. TERMINATE PARKING A MINIMUM OF 20' BACK OF A PEDESTRIAN CROSSWALK.
7. CONSTRUCT CURB RAMPS A MINIMUM OF 4' WIDE.
8. CONSTRUCT THE RUNNING SLOPE OF THE RAMP 8.33% MAXIMUM.
9. ALLOWABLE CROSS SLOPE ON SIDEWALKS AND CURB RAMPS WILL BE 2% MAXIMUM.
10. CONSTRUCT THE SIDE FLARE SLOPE A MAXIMUM OF 10% MEASURED ALONG THE CURB LINE.
11. CONSTRUCT THE COUNTER SLOPE OF THE GUTTER OR STREET AT THE BASE OF THE CURB RAMP A MAXIMUM OF 5% AND MAINTAIN A SMOOTH TRANSITION.
12. CONSTRUCT LANDINGS FOR SIDEWALK A MINIMUM OF 4'x4' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION. CONSTRUCT LANDINGS FOR MEDIAN ISLANDS A MINIMUM OF 5'x5' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
13. TO USE A MEDIAN ISLAND AS A PEDESTRIAN REFUGE AREA, MEDIAN ISLANDS WILL BE A MINIMUM OF 6' WIDE. CONSTRUCT MEDIAN ISLANDS TO PROVIDE PASSAGE OVER OR THROUGHT THE ISLAND.
14. SMALL CHANNELIZATION ISLANDS THAT CAN NOT PROVIDE A 5'X5' LANDING AT THE TOP OF A RAMPS, WILL BE CUT THROUGH LEVEL WITH THE SURFACE STREET.
15. CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP. THE ADJACENT SURFACE IS PLANTING OR OTHER NON-WALKING SURFACE OR THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED.
16. PLACE A ½" EXPANSION JOINT WHERE THE CONCRETE CURB RAMP JOING THE CURB AS SHOWN IN ROADWAY STANDARD DRAWING 848.01
17. PLACE ALL PEDESTRIAN PUSH BUTTON ACTUATORS AND CROSSING SIGNALS AS SHOWN IN THE PLANS OR AS SHOWN IN THE MUTCD.
18. CURB RAMPS THROUGH MEDIAN ISLANDS, SINGLE RAMPS AT DUAL CROSSWALKS OR LIMITED R/W SITUATIONS, WILL BE HANDLED BY SPECIAL DETAILS. CONTACT THE CONTRACT STANDARDS AND DEVELOPMENT UNIT FOR THE DETAILS OR FOR A SPECIAL DESIGN.

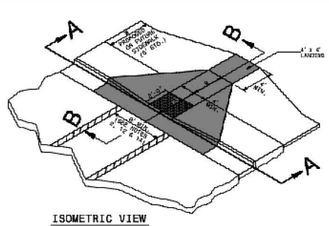
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR **CURB RAMPS** NOTES

SHEET 2 OF 3

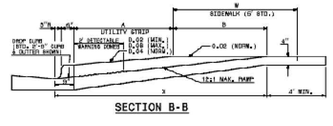
848.05



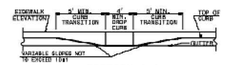
ISOMETRIC VIEW

NOTES:
1. DETECTABLE WARNING DOMES WILL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
2. DETECTABLE WARNING DOMES WILL CONTRAST VISIBILITY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.

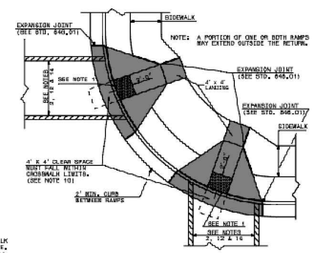
DETECTABLE WARNING DOMES



SECTION B-B



SECTION A-A



PLAN VIEW
DUAL RAMPS
ANY RADII
(4' MIN. FLOOR WIDTH)

W	A	W=A+2*	X	B
5'	0.0'	5.0'	5.0'	5.0'
6'	0.0'	6.0'	6.0'	6.0'**
7'	0.0'	7.0'	7.0'	6.5'**
8'	0.0'	8.0'	7.0'	6.5'**
5'	2.0'	7.0'	7.0'	5.0'
6'	2.0'	8.0'	8.1'	5.6'
5'	3.0'	8.0'	8.3'	4.6'
5'	3.5'	9.0'	8.4'	4.1'
5'	4.0'	9.0'	8.6'	3.6'
5'	4.6'	10.0'	8.7'	3.4'
5'	5.0'	10.0'	8.8'	3.1'

B = K-(A-8')
B = DISTANCE FROM FRONT EDGE OF SIDEWALK TO BACK POINT OF 12:1 (8.33%) SLOPE.
* BACK OF SIDEWALK DROP REQUIRED FOR ALL SIDEWALK SLOPES.
** RACE OF SIDEWALK DROP REQUIRED FOR SIDEWALK SLOPES 6.04.

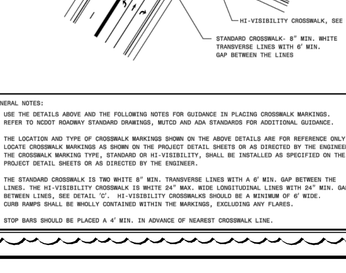
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR **CURB RAMP** PROPOSED CURB AND GUTTER

SHEET 1 OF 3

848.05



2'-6" CURB AND GUTTER

1'-6" CURB AND GUTTER

8" X 12" OR 18" CONCRETE CURB

9" X 12" OR 18" CONCRETE CURB

EXPRESSWAY GUTTER

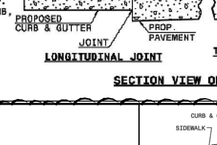
SHOULDER BERM GUTTER

8" X 6" MEDIAN CURB

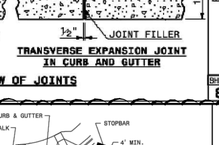
VALLEY GUTTER

SECTION VIEW OF CURBS OR CURBS AND GUTTERS

GENERAL NOTES:
- PLACE CONTRACTION JOINTS AT 10' INTERVALS, EXCEPT THAT A 15' SPACING MAY BE USED WHEN A MACHINE IS USED OR WHEN SATISFACTORY SUPPORT FOR THE FACE FORM CAN BE OBTAINED WITHOUT THE USE OF TEMPLATES AT 10' INTERVALS.
- JOINT SPACING MAY BE ALTERED IF REQUIRED BY THE ENGINEER.
- CONTRACTION JOINTS MAY BE INSTALLED WITH THE USE OF TEMPLATES OR FORMED BY OTHER APPROVED METHODS. CONSTRUCT NON-TEMPLATE FORMED JOINTS A MIN. OF 1½" DEEP.
- FILL ALL CONSTRUCTION JOINTS, EXCEPT IN 8"X6" MEDIAN CURB, WITH JOINT FILLER AND SEALER.
- SPACE EXPANSION JOINTS AT 90' INTERVALS AND ADJACENT TO ALL RIGID OBJECTS.



LONGITUDINAL JOINT



TRANSVERSE EXPANSION JOINT IN CURB AND GUTTER

SECTION VIEW OF JOINTS

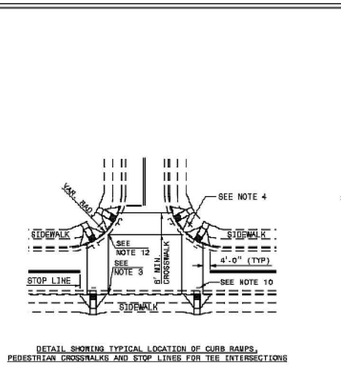
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

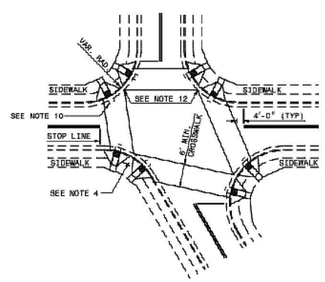
ROADWAY STANDARD DRAWING FOR **CONCRETE CURB, GUTTER AND CURB & GUTTER**

SHEET 1 OF 3

846.01



DETAIL SHOWING TYPICAL LOCATION OF CURB RAMPS, PEDESTRIAN CROSSWALKS AND STOP LINES FOR TEE INTERSECTIONS



DETAIL SHOWING TYPICAL LOCATION OF CURB RAMPS, PEDESTRIAN CROSSWALKS AND STOP LINES

ROADWAY PLAN SYMBOL (CR) FOR PROPOSED CURB RAMP

PROPOSED CURB RAMP W/ LANDING

PROPOSED OR FUTURE SIDEWALK

ALLOWABLE LOCATIONS
DUAL RAMP RADII.....ANY

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

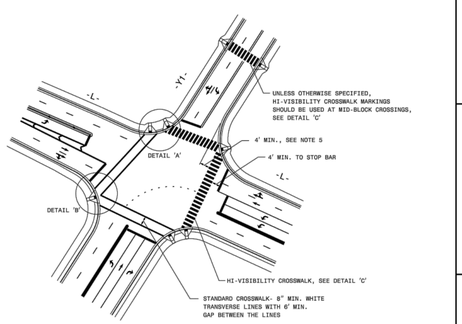
1-18

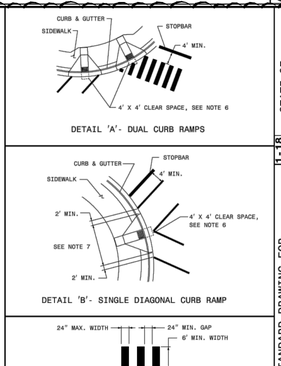
ROADWAY STANDARD DRAWING FOR **CURB RAMP** PROPOSED CURB AND GUTTER

SHEET 2 OF 3

848.05

CROSSWALK PLACEMENT GUIDANCE





GENERAL NOTES:

1- USE THE DETAILS ABOVE AND THE FOLLOWING NOTES FOR GUIDANCE IN PLACING CROSSWALK MARKINGS. REFER TO NCDOT ROADWAY STANDARD DRAWINGS, MUTCD AND ADA STANDARDS FOR ADDITIONAL GUIDANCE.

2- THE LOCATION AND TYPE OF CROSSWALK MARKINGS SHOWN ON THE ABOVE DETAILS ARE FOR REFERENCE ONLY. LOCATE CROSSWALK MARKINGS AS SHOWN ON THE PROJECT DETAIL SHEETS OR AS DIRECTED BY THE ENGINEER. THE CROSSWALK MARKING TYPE, STANDARD OR HI-VISIBILITY, SHALL BE INSTALLED AS SPECIFIED ON THE PROJECT DETAIL SHEETS OR AS DIRECTED BY THE ENGINEER.

3- THE STANDARD CROSSWALK IS TWO WHITE 8" MIN. TRANSVERSE LINES WITH A 6' MIN. GAP BETWEEN THE LINES. THE HI-VISIBILITY CROSSWALK IS WHITE 24" MAX. WIDE LONGITUDINAL LINES WITH 24" MIN. GAPS BETWEEN LINES, SEE DETAIL 'C'. HI-VISIBILITY CROSSWALKS SHOULD BE A MINIMUM OF 6' WIDE. CURB RAMPS SHALL BE WHOLLY CONTAINED WITHIN THE MARKINGS, EXCLUDING ANY FLARES.

4- STOP BARS SHOULD BE PLACED A 4' MIN. IN ADVANCE OF NEAREST CROSSWALK LINE.

5- SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL IS 4' MIN.

6- BEYOND THE BOTTOM GRADE BREAK, A CLEAR SPACE OF 4' X 4' MIN. SHALL BE PROVIDED WITHIN THE MARKINGS.

7- SINGLE DIAGONAL CURB RAMPS WITH FLARED SIDES SHALL HAVE A SEGMENT OF CURB 2' MIN. LONG LOCATED ON EACH SIDE OF THE CURB RAMP AND WITHIN THE MARKED CROSSING, SEE DETAIL 'B'.

8- CURB RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE TO THE LATEST NCDOT ROADWAY STANDARD DRAWINGS. CURB RAMPS THROUGH MEDIAN ISLANDS, SINGLE RAMPS AT DUAL CROSSWALKS OR LIMITED R/W SITUATIONS, WILL BE HANDLED BY SPECIAL DETAILS. CONTACT THE CONTRACT STANDARDS AND DEVELOPMENT UNIT FOR DETAILS OR A SPECIAL DESIGN.

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

1-18

ROADWAY STANDARD DRAWING FOR **PAVEMENT MARKINGS** PEDESTRIAN CROSSWALKS

SHEET 1 OF 1

1205.07

Bowman

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

TRACTOR SUPPLY COMPANY

CONSTRUCTION DETAILS

Tractor Supply
Old US Highway 264
Zebulon, NC Wake County

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 24424 MICHAEL E. LOWDER 3/21/23

PLAN STATUS	
1/10/23	1ST CD SUBMISSION
2/20/23	2ND CD SUBMISSION
3/21/23	REVISED PER CITY OF RALEIGH REVIEW
DATE	DESCRIPTION

MEL	MEL	XXX
DESIGN	DRAWN	CHKD

SCALE H: NA V: NA

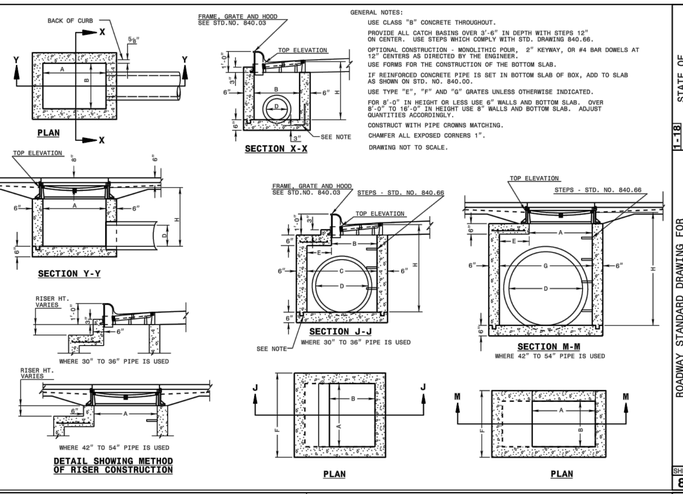
JOB No. 220127-01-001

DATE January 10, 2023

FILE No. 220127-D-CP-001

SHEET C6.3

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



GENERAL NOTES:

USE CLASS "B" CONCRETE THROUGHOUT.

PROVIDE ALL CATCH BASINS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.

USE TYPE "E", "F" AND "G" GRATES UNLESS OTHERWISE INDICATED.

FOR 8'-0" IN HEIGHT OR LESS USE 6" WALLS AND BOTTOM SLAB. OVER 8'-0" TO 16'-0" IN HEIGHT USE 8" WALLS AND BOTTOM SLAB. ADJUST QUANTITIES ACCORDINGLY.

CONSTRUCT WITH PIPE CROWNS MATCHING.

CHAMFER ALL EXPOSED CORNERS 1".

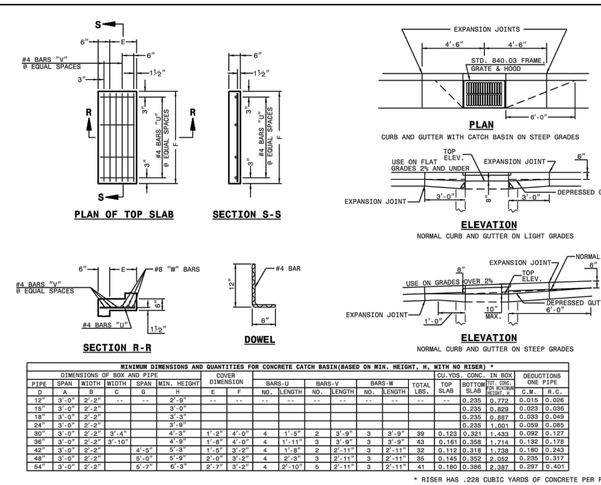
DRAWING NOT TO SCALE.

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

1-18

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

SHEET 1 OF 2
840.02



MINIMUM DIMENSIONS AND QUANTITIES FOR CONCRETE CATCH BASIN(BASED ON MIN. HEIGHT, H, WITH NO RISER) *

DIMENSIONS OF BOX AND PIPE						COVER DIMENSION		BARS-U		BARS-V		BARS-W		TOTAL	CU.YDS. CONC. IN BOX		DEDUCTIONS ONE PIPE	
PIPE	SPAN	WIDTH	WIDTH	SPAN	MIN. HEIGHT			NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	LBS.	TOP SLAB	BOTTOM SLAB	CONC. HEIGHT = H	C.M.	R.C.
D	A	B	C	G	H	E	F												
12"	3'-0"	2'-2"	--	--	2'-9"	--	--	--	--	--	--	--	--	--	--	0.235	0.272	0.015	0.026
15"	3'-0"	2'-2"			3'-0"											0.235	0.829	0.023	0.036
18"	3'-0"	2'-2"			3'-3"											0.235	0.887	0.033	0.049
24"	3'-0"	2'-2"			3'-9"											0.235	1.001	0.059	0.085
30"	3'-0"	2'-2"	3'-4"		4'-3"	1'-3"	4'-0"	4	1'-5"	2	3'-9"	3	3'-9"	39	0.123	0.321	1.433	0.092	0.127
36"	3'-0"	2'-2"	3'-10"		4'-9"	1'-8"	4'-0"	4	1'-11"	3	3'-9"	3	3'-9"	43	0.161	0.358	1.714	0.132	0.179
42"	3'-0"	2'-2"		4'-5"	5'-3"	1'-5"	3'-3"	4	1'-8"	2	2'-11"	3	2'-11"	32	0.112	0.318	1.738	0.180	0.243
48"	3'-0"	2'-2"		5'-0"	5'-9"	2'-0"	3'-2"	4	2'-3"	3	2'-11"	3	2'-11"	35	0.145	0.352	2.052	0.235	0.317
54"	3'-0"	2'-2"		5'-7"	6'-3"	2'-7"	3'-2"	4	2'-10"	5	2'-11"	3	2'-11"	41	0.180	0.386	2.387	0.297	0.401

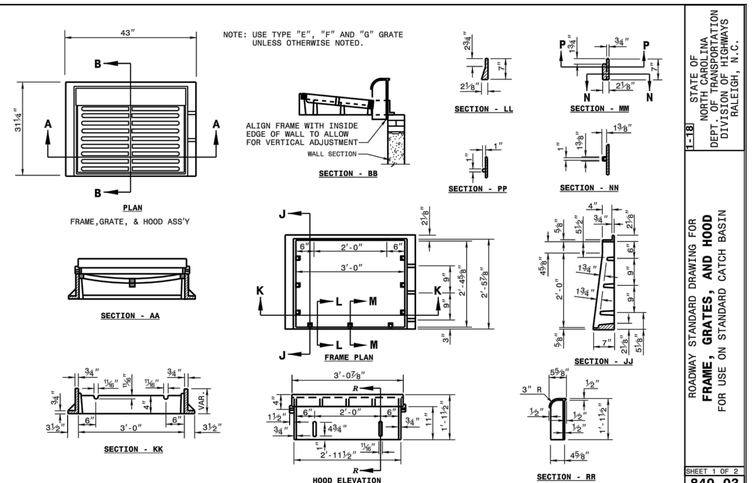
* RISER HAS .228 CUBIC YARDS OF CONCRETE PER FOOT HEIGHT

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

1-18

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

SHEET 2 OF 2
840.02

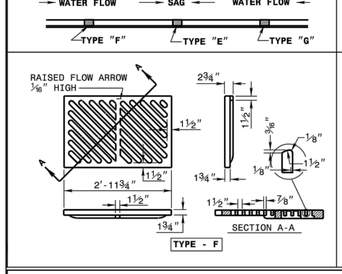


STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

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

SHEET 1 OF 2
840.03

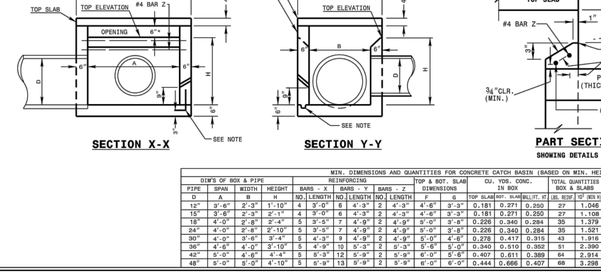


STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

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

SHEET 2 OF 2
840.03



NOTES: USE CLASS "B" CONCRETE THROUGHOUT.

PROVIDE ALL CATCH BASINS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.

FOR 8'-0" IN HEIGHT OR LESS USE 6" WALLS AND BOTTOM SLAB. OVER 8'-0" TO 16'-0" IN HEIGHT USE 8" WALLS AND BOTTOM SLAB. ADJUST QUANTITIES ACCORDINGLY.

CONSTRUCT WITH PIPE CROWNS MATCHING.

INSTALL 2" WEEPHOLES AS DIRECTED BY THE ENGINEER.

INSTALL STONE DRAINS, OF A MINIMUM OF 1 CUBIC FOOT OF NO. 78M STONE IN A POROUS FABRIC BAG OR WRAP, AT EACH WEEP HOLE OR AS DIRECTED BY THE ENGINEER.

CHAMFER ALL EXPOSED CORNERS 1".

DRAWING NOT TO SCALE.

* INCREASE THE SIZE OF THE 6" OPENING TO 8" MAX., AS DIRECTED BY THE ENGINEER BY ADDING 2" TO THE WALL HIEGHT ABOVE THE TOP ELEVATION. ADJUST QUANTITIES ACCORDINGLY.

MIN. DIMENSIONS AND QUANTITIES FOR CONCRETE CATCH BASIN (BASED ON MIN. HEIGHT, H)

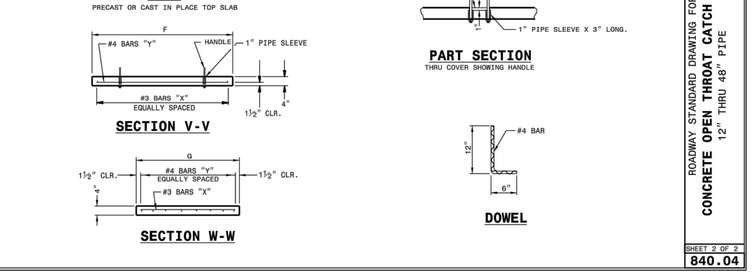
DIM'S OF BOX & PIPE				REINFORCING						TOP & BOT. SLAB	CU. YDS. CONC. IN BOX		TOTAL QUANTITIES IN BOX & SLABS		DEDUCTION ONE PIPE		DED. FOR 1 CIRCULAR OPENING
PIPE	SPAN	WIDTH	HEIGHT	BARS - X		BARS - Y		BARS - Z		DIMENSIONS	TOP SLAB REF. = H	BELLIT. FC	LBS. REINF.	10" ADJ. H	C.M.	R.C.	YD³
D	A	B	H	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	F	G							
12"	3'-6"	2'-3"	1'-10"	4	3'-0"	6	4'-3"	2	4'-3"	4'-6"	3'-3"	0.181	0.271	0.250	27	1.046	0.015	0.032	0.046
15"	3'-6"	2'-3"	2'-1"	4	3'-0"	6	4'-3"	2	4'-3"	4'-6"	3'-3"	0.181	0.271	0.250	27	1.108	0.023	0.036	0.046
18"	4'-0"	2'-8"	2'-4"	5	3'-5"	7	4'-9"	2	4'-9"	5'-0"	3'-8"	0.226	0.340	0.284	35	1.379	0.033	0.049	0.053
24"	4'-0"	2'-8"	2'-10"	5	3'-5"	7	4'-9"	2	4'-9"	5'-0"	3'-8"	0.226	0.340	0.284	35	1.521	0.059	0.085	0.053
30"	4'-0"	3'-6"	3'-4"	5	4'-3"	9	4'-9"	2	4'-9"	5'-0"	4'-6"	0.278	0.417	0.315	43	1.916	0.092	0.127	0.053
36"	4'-6"	4'-0"	3'-10"	5	4'-9"	10	5'-3"	2	5'-3"	5'-6"	5'-0"	0.340	0.510	0.352	51	2.390	0.132	0.178	0.059
42"	5'-0"	4'-6"	4'-4"	5	5'-3"	12	5'-9"	2	5'-9"	6'-0"	5'-6"	0.407	0.611	0.389	64	2.914	0.180	0.243	0.066
48"	5'-0"	5'-0"	4'-10"	5	5'-9"	13	5'-9"	2	5'-9"	6'-0"	6'-0"	0.444	0.666	0.407	68	3.298	0.295	0.317	0.066

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

1-18

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

SHEET 1 OF 2
840.04

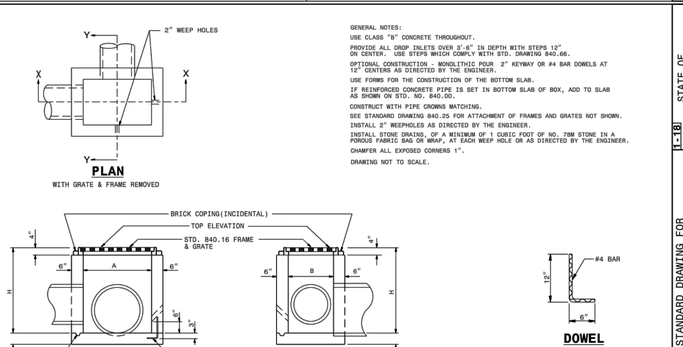


STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

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

SHEET 2 OF 2
840.04



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

1-18

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

SHEET 1 OF 1
840.14

GENERAL NOTES:

USE CLASS "B" CONCRETE THROUGHOUT.

PROVIDE ALL CATCH INLETS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR 2" KEYWAY OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.

CONSTRUCT WITH PIPE CROWNS MATCHING.

SEE STANDARD DRAWING 840.25 FOR ATTACHMENT OF FRAMES AND GRATES NOT SHOWN.

INSTALL 2" WEEPHOLES AS DIRECTED BY THE ENGINEER.

INSTALL STONE DRAINS, OF A MINIMUM OF 1 CUBIC FOOT OF NO. 78M STONE IN A POROUS FABRIC BAG OR WRAP, AT EACH WEEP HOLE OR AS DIRECTED BY THE ENGINEER.

CHAMFER ALL EXPOSED CORNERS 1".

DRAWING NOT TO SCALE.

DIMENSIONS AND QUANTITIES FOR DROP INLET(BASED ON MIN. HEIGHT, H)

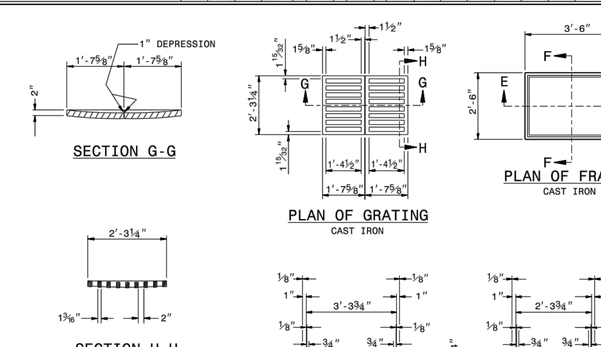
DIMENSIONS OF BOX & PIPE				CUBIC YARDS CONC. IN BOX			DEDUCTIONS FOR ONE PIPE	
PIPE	SPAN	WIDTH	MIN. HEIGHT	BOTTOM SLAB	WALL PERI	TOTAL QUANTITY FOR MINIMUM HEIGHT = H	C.M.	R.C.
D	A	B	H		FT. HT.			
12"	3'-0"	2'-0"	2'-0"	0.222	0.222	0.592	0.015	0.026
15"	/	/	2'-3"	/	/	0.648	0.023	0.036
18"	/	/	2'-6"	/	/	0.703	0.033	0.049
24"	/	/	3'-0"	/	/	0.814	0.059	0.085
30"	3'-0"	2'-0"	3'-6"	0.222	0.222	0.925	0.092	0.127

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

1-18

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



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

TRACTOR SUPPLY COMPANY

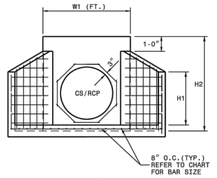
CONSTRUCTION DETAILS

Tractor Supply
Old US Highway 264
Zebulon, NC Wake County

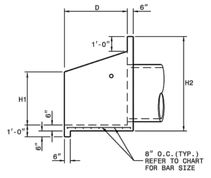
PLAN STATUS	
1/10/23	1ST CD SUBMISSION
2/20/23	2ND CD SUBMISSION
3/21/23	REVISED PER CITY OF RALEIGH REVIEW
DATE	DESCRIPTION

MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	H: 1" = 40' V: 1" = XXX'	
JOB No.	220127-01-001	
DATE	January 10, 2023	
FILE No.	220127-D-CP-001	
SHEET	C6.4	

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



ELEVATION

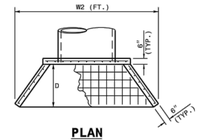


SIDE

NOTES:

* THIS PRECAST ENDWALL MAY BE USED FOR THE FOLLOWING STANDARDS: 838.01, 838.11, 838.21, 838.27, 838.33, 838.39, 838.51, 838.57, 838.63 AND 838.69.
* INSTALL PRECAST ENDWALLS WITH WINGS AND PAY FOR IN ACCORDANCE WITH SPECIFICATION SECTION 838.
* USE 4000 PSI CONCRETE.
* PROVIDE ALL REINFORCING STEEL WHICH MEETS ASTM A615 FOR GRADE 60 AND WELDED WIRE FABRIC CONFORMING TO ASTM A185 WITH 2" MIN. CLEARANCE.
* PLACE LIFT HOLES OR PINS IN ACCORDANCE WITH OSHA STANDARD 1926.704.
* PIPE TO BE GROUTED INTO HEADWALL AT JOB SITE BY CONTRACTOR
* ALL ELEMENTS PRECAST TO MEET ASTM C913.
* WELDED WIRE FABRIC MAY BE SUBSTITUTED FOR REBAR AS LONG AS THE SAME AREA OF STEEL IS PROVIDED.
* CHAMFER ALL CORNERS 1" OR HAVE A RADIUS OF 1".

NOTE: THE MINIMUM BAR SIZE SHALL BE #5 BARS AT 8" CTS.THE CONTRACTOR WILL HAVE THE OPTION TO INCREASE THIS BAR SIZE AS NEEDED.



PLAN

ENDWALL DIMENSIONS

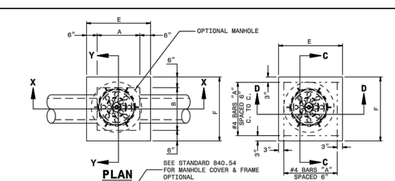
FT.	MINIMUM	MIN./MAX.	MIN./MAX.	MIN./MAX.	MIN./MAX.	MIN./MAX.
PIPE DIA.	BAR SIZE	H1(FT.)	H2(FT.)	D (FT.)	W1	W2
1.0	#5 @ 8"	1.25/2.00	2.00/3.75	1.25/1.75	3.00/3.75	5.50/6.00
1.25	#5 @ 8"	1.25/2.00	3.00/3.75	1.25/2.00	3.50/3.75	6.50/6.75
1.50	#5 @ 8"	1.25/2.00	3.00/4.25	1.50/2.50	3.50/3.75	6.50/6.75
2.0	#5 @ 8"	1.50/2.50	4.00/4.75	1.75/2.50	4.00/4.25	7.50/8.25
2.5	#5 @ 8"	2.50/3.50	4.00/6.00	2.00/3.00	4.50/5.50	10.00/11.50
3.0	#5 @ 8"	3.00/3.50	5.00/6.00	2.75/3.50	5.25/5.75	11.50/11.75
3.5	#5 @ 8"	3.25/4.50	6.00/6.75	3.25/3.50	6.00/6.75	12.00/13.25
4.0	#5 @ 8"	3.50/4.50	6.50/7.00	3.25/3.50	6.50/6.75	13.00/13.25
4.5	#5 @ 8"	4.00/5.00	6.50/8.50	3.25/4.00	7.00/9.25	13.50/15.75
5.0	#5 @ 8"	4.50/5.00	7.00/8.50	3.25/4.00	7.25/9.25	13.75/15.75
5.5	#5 @ 8"	4.50/5.00	7.50/8.50	3.25/4.00	7.25/9.25	14.00/15.75
6.0	#5 @ 8"	4.50/5.00	7.50/8.50	3.25/4.00	7.75/9.25	14.75/16.75

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

1-18

ROADWAY STANDARD DRAWING FOR
PRECAST CONCRETE ENDWALL
FOR SINGLE 12" THRU 72" PIPE - 90° SKEW

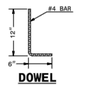
SHEET 1 OF 1
838.80



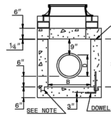
PLAN

SECTION X-X

SECTION C-C OR D-D



DOWEL



SECTION Y-Y

GENERAL NOTES:

CHAMFER ALL EXPOSED CORNERS 1".

USE CLASS "B" CONCRETE THROUGHOUT.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS TO CONSTRUCT THE BOTTOM SLAB.

IF REINFORCED CONCRETE PIPE IS SET IN BASE SLAB OF BOX, ADD TO BASE AS SHOWN ON STANDARD NO. 840.00.

PROVIDE ALL JUNCTION BOXES OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTERS IN ACCORDANCE WITH STD. NO. 840.66.

ADJUST THE STEEL, CONCRETE AND BRICK MASONRY QUANTITIES TO INCLUDE THE ADDITION OF THE MANHOLE (I.E. DIAGONAL BARS SHORTENED AROUND OPENING IN TOP SLAB, ADDITIONAL VARIABLE HEIGHT BRICK MASONRY, OPENING IN TOP SLAB.)

MAX. DEPTH OF THIS STRUCTURE FROM TOP OF BOTTOM SLAB TO TOP ELEVATION IS 12 FEET.

DIMENSIONS AND QUANTITIES FOR CONCRETE JUNCTION BOXES

DIMENSIONS OF BOX AND PIPE				REINFORCEMENT BARS "A"		TOP SLAB DIMENSIONS		CUBIC YARDS IN BOX			TOTAL QUANTITIES BOX AND SLABS		DEDUCTIONS FOR ONE PIPE CU.YDS.	
PIPE	SPAN	WIDTH	HEIGHT	NO.	LENGTH	E	F	TOP SLAB	BOTTOM SLAB	WALL/ FT. OF HT.	LBS. REINF	CU. YDS. MIN. "A"	C.S.	R.C.
D	A	B	H	NO.	LENGTH	E	F	TOP SLAB	BOTTOM SLAB	WALL/ FT. OF HT.	LBS. REINF	CU. YDS. MIN. "A"	C.S.	R.C.
12"	2'-0"	2'-0"	2'-3"	12	2'-9"	3'-0"	3'-0"	0.167	0.167	0.185	22	0.750	0.015	0.024
15"	2'-3"	2'-3"	2'-6"	12	3'-0"	3'-3"	3'-3"	0.196	0.196	0.204	24	0.902	0.023	0.036
18"	2'-6"	2'-6"	2'-9"	14	3'-3"	3'-6"	3'-6"	0.227	0.227	0.222	30	1.065	0.033	0.049
24"	3'-0"	3'-0"	3'-3"	16	3'-9"	4'-0"	4'-0"	0.296	0.296	0.259	40	1.434	0.059	0.085
30"	3'-6"	3'-6"	3'-9"	18	4'-3"	4'-6"	4'-6"	0.375	0.375	0.296	51	1.860	0.092	0.127
36"	4'-0"	4'-0"	4'-3"	20	4'-9"	5'-0"	5'-0"	0.463	0.463	0.333	64	2.341	0.132	0.178
42"	4'-6"	4'-6"	4'-9"	22	5'-3"	5'-6"	5'-6"	0.560	0.560	0.370	77	2.878	0.180	0.243
48"	5'-4"	5'-4"	5'-3"	26	6'-3"	6'-4"	6'-4"	0.743	0.743	0.407	111	3.623	0.235	0.317
54"	5'-10"	5'-10"	5'-9"	28	6'-7"	6'-10"	6'-10"	0.865	0.865	0.444	126	4.283	0.297	0.401
60"	6'-6"	6'-6"	6'-3"	30	7'-3"	7'-6"	7'-6"	1.042	1.042	0.481	145	5.090	0.367	0.495
66"	7'-1"	7'-1"	6'-9"	32	7'-10"	8'-1"	8'-1"	1.210	1.210	0.518	169	5.917	0.444	0.589

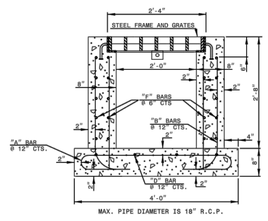
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-18

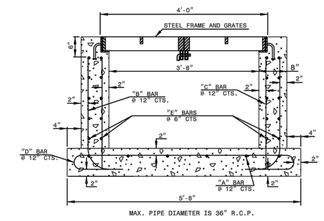
ROADWAY STANDARD DRAWING FOR
CONCRETE JUNCTION BOX
(WITH OPTIONAL MANHOLE)
12" THRU 66" PIPE

SHEET 1 OF 1
840.31

NOTES:
-HORIZONTAL AND VERTICAL DIMENSIONS MAY BE ADJUSTED AS THE FIELD CONDITIONS AND/OR ALTERNATE DESIGN REQUIRE.
-MAXIMUM HEIGHT FOR THIS STRUCTURE IS 14'-0".
-MAKE ALL ADJUSTMENTS AS DIRECTED BY THE ENGINEER.
-ANCHOR STEEL FRAME AND GRATES IN ACCORDANCE WITH DETAILS SHOWN.
-NO BRICK RISERS ARE PERMITTED ON ANY PART OF THIS DRAINAGE STRUCTURE.



SECTION X-X



SECTION Y-Y

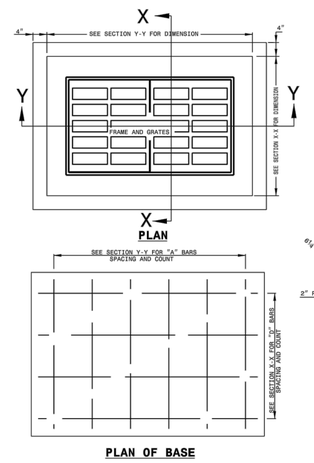
TRAFFIC BEARING DROP INLET

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

1-18

ROADWAY STANDARD DRAWING FOR
TRAFFIC BEARING GRATED DROP INLET
FOR STEEL (840.37) DOUBLE FRAME AND GRATES

SHEET 1 OF 2
840.36

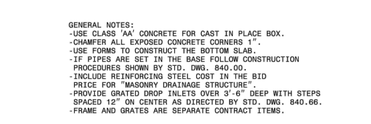


PLAN

BILL OF MATERIALS

COMMON		CONCRETE		
BAR	SIZE	LENGTH	QUANTITY	WEIGHT
A	#5	6'-4½"	6	39.9
B	#5	3'-3½"	16	54.9
C	#5	2'-8"	14	38.5
D	#5	8'-0½"	4	33.6
E	#5	3'-0"	20	62.6
F	#5	4'-8"	20	97.3
REINF. STEEL (TOTAL WEIGHT LBS.)				327.2
CONCRETE IN BASE (CUBIC YARDS)				0.56
CONCRETE IN WALLS (CUBIC YARDS)				0.92
CONCRETE TOTAL (CUBIC YARDS)				1.48
CONC. CUBIC YARDS IN WALL/FOOT OF HEIGHT				0.35
LBS. OF REINF. STEEL IN WALL/FOOT OF HEIGHT				94.9

PLAN OF BASE



STRAIGHT BARS

BASE BARS

CORNER BARS

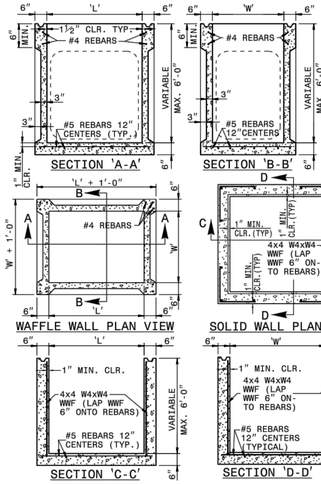
GENERAL NOTES:
-USE CLASS 'AA' CONCRETE FOR CAST IN PLACE BOX.
-CHAMFER ALL EXPOSED CONCRETE CORNERS 1".
-USE FORMS TO CONSTRUCT THE BOTTOM SLAB.
-IF PIPES ARE SET IN THE BASE FOLLOW CONSTRUCTION PROCEDURES SHOWN BY STD. DWG. 840.00.
-INCLUDE REINFORCING STEEL COST IN THE BID PRICE FOR "MASONRY DRAINAGE STRUCTURE".
-PROVIDE GRATED DROP INLETS OVER 3'-6" DEEP WITH STEPS SPACED 12" ON CENTER AS DIRECTED BY STD. DWG. 840.66.
-FRAME AND GRATES ARE SEPARATE CONTRACT ITEMS.

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

1-18

ROADWAY STANDARD DRAWING FOR
TRAFFIC BEARING GRATED DROP INLET
FOR STEEL (840.37) DOUBLE FRAME AND GRATES

SHEET 2 OF 2
840.36



SECTION 'A-A'

SECTION 'B-B'

THE PATTERN OF THE KNOCK-OUT PANELS ARE SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.

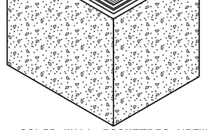
WAFFLE WALL ISOMETRIC VIEW

WAFFLE WALL PLAN VIEW

SOLID WALL PLAN VIEW

SECTION 'C-C'

SECTION 'D-D'



SOLID WALL ISOMETRIC VIEW

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

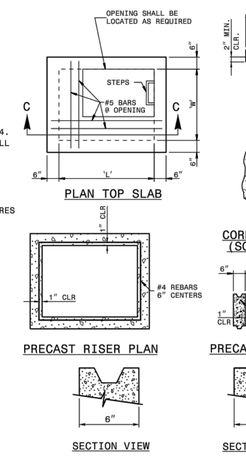
1-18

ROADWAY STANDARD DRAWING FOR
PRECAST DRAINAGE STRUCTURE
(SOLID AND WAFFLE WALL)

SHEET 1 OF 2
840.45

GENERAL NOTES:

* THIS PRECAST BOX MAY BE USED FOR THE FOLLOWING STANDARDS: 840.01, 840.02, 840.04, 840.05, 840.13, 840.14, 840.15, 840.17, 840.18, 840.19, 840.26, 840.27, 840.28, 840.31, 840.32 AND 840.41.
* INSTALL PRECAST DRAINAGE STRUCTURES AND PAY FOR IN ACCORDANCE WITH SPECIFICATION SECTION 840.
* DO NOT PLACE PRECAST DRAINAGE STRUCTURES UNDER TRAFFIC OR WHERE TRAFFIC WILL BE DETOURED.
* USE 4000 PSI CONCRETE.
* PROVIDE ALL REINFORCING STEEL WHICH MEETS ASTM A615 FOR GRADE 60 AND WELDED WIRE FABRIC CONFORMING TO ASTM A1064.
* LIMIT MAXIMUM DEPTH TO TOP OF BOTTOM SLAB FOR WAFFLE WALL STRUCTURE TO 10'-0"; LIMIT SOLID WALL STRUCTURE TO 15'-0".
* PLACE LIFT HOLES OR PINS IN ACCORDANCE WITH OSHA STANDARD 1926.704.
* CUT OR FORM OPENINGS FOR PIPE TO PROVIDE REQUIRED SIZE AND LOCATION. ORIENT WAFFLE WALL STRUCTURES SO THAT PIPES ENTER THROUGH THE KNOCKOUT/WAFFLE PANELS ONLY. PIPES MAY ENTER THROUGH THE CORNERS OF SOLID WALL BOXES IF A MINIMUM OF 6" OF WALL IS PROVIDED ABOVE THE HOLE.
* ALL ELEMENTS PRECAST TO MEET ASTM C913.
* FRAME AND GRATE HEIGHT MAY BE ADJUSTED WITH CONCRETE OR BRICK IN ACCORDANCE WITH STANDARD 840.25.
* PROVIDE PRECAST STRUCTURES OVER 4'-0" IN DEPTH WITH STEPS AS DIRECTED BY THE ENGINEER.
* WELDED WIRE FABRIC MAY BE SUBSTITUTED FOR REBAR AS LONG AS THE SAME AREA OF STEEL IS PROVIDED.
* SEAL JOINTS WITH A FLEXIBLE BUTYL RUBBER BASE CONFORMING TO FEDERAL SPECIFICATION SS-S-21A, AASHTO M-198, TYPE B - BUTYL RUBBER.
* LIMIT MAXIMUM STRUCTURE SIZE TO INSIDE CLEAR DIMENSIONS OF 5'-0" X 5'-0".
* THE OUTSIDE PIPE DIAMETER PLUS 2" OR THE OPENING REQUIRED FOR FRAME AND GRATE IS THE MINIMUM STRUCTURE SIZE WHICHEVER IS GREATER.
* USE MANHOLE FRAME AND COVER AS INDICATED ON THE PLANS. REINFORCE OPENING AS SHOWN ON THIS SHEET.



OPTIONAL JOINT DETAILS

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

1-18

ROADWAY STANDARD DRAWING FOR
PRECAST DRAINAGE STRUCTURE
(GENERAL NOTES AND DETAILS)

SHEET 2 OF 2
840.45

GENERAL NOTES

USE 4000 PSI MINIMUM COMPRESSIVE STRENGTH CONCRETE.

USE ASTM A615 GRADE 60 REINFORCING STEEL. USE ASTM A1064 WELDED WIRE FABRIC (WWF).

FABRICATE, ASSEMBLE AND DESIGN PRECAST MANHOLE COMPONENTS ACCORDANCE WITH AASHTO M199.

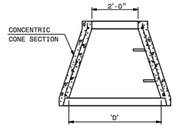
ASSEMBLE RISER AND GRADE RINGS WITH THE STEPS SPACED 12" FROM THE TOP TO THE BOTTOM OF THE MANHOLE.

WHERE THE MANHOLE IS EXPOSED TO ROAD TRAFFIC, CONSTRUCT THE TOP OF THE MANHOLE FLUSH WITH THE GROUND AND A MINIMUM OF 9" ABOVE THE GROUND AT OTHER LOCATIONS.

LIMIT DEPTH OF FILL TO 30'-0" FROM FINISH GRADE TO TOP OF BOTTOM SLAB.

THE MIN. SLAB THICKNESS 'T' IS THE DIMENSION OF THE THINNEST PORTION OF THE TOP/BOTTOM SLAB.

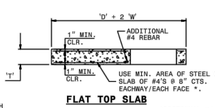
* TOP MAT OF REINFORCEMENT MAY BE NEGLECTED IF TOP SLAB HAS A DISTINGUISHABLE TOP AND BOTTOM.



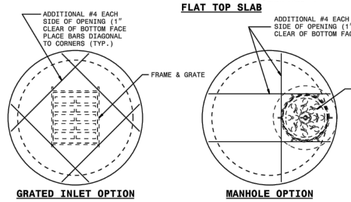
ALTERNATE CONE SECTION

D	W	T	As
INTERNAL DIAMETER (FT.)	MIN. WALL THICKNESS (IN.)	MIN. TOP/BOTTOM SLAB THICKNESS (IN.)	MIN. CIRCUMFERENTIAL AREA OF STEEL PER VERTICAL FT. (SQ. IN.)
4	4	6	0.12
5	5	8	0.15
6	6	8	0.18

FRAME AND GRATES	STD. NO.
TRAFFIC BEARING	840.37
	840.38
NONTRAFFIC BEARING	840.39
	840.24
	840.30
	840.29
	840.33

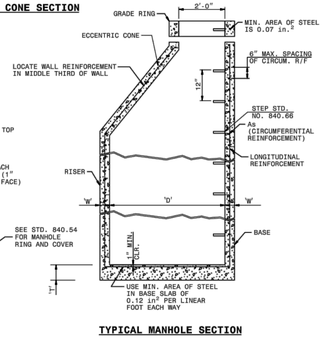


FLAT TOP SLAB



GRATED INLET OPTION

MANHOLE OPTION



TYPICAL MANHOLE SECTION

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

1-18

ROADWAY STANDARD DRAWING FOR
PRECAST MANHOLE 4', 5' AND 6' DIAMETER
12" THRU 48" PIPE

SHEET 1 OF 1
840.52

Bowman North Carolina Ltd.
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Bowman North Carolina Ltd.

Bowman

TRACTOR SUPPLY COMPANY

CONSTRUCTION DETAILS

Tractor Supply
Old US Highway 264
Zebulon, NC Wake County

PLAN STATUS	
1/10/23	1ST CD SUBMISSION
2/20/23	2ND CD SUBMISSION
3/21/23	REVISED PER CITY OF RALEIGH REVIEW
DATE	DESCRIPTION

MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	H: 1" = 40' V: 1" = XXX'	
JOB No.	220127-01-001	
DATE	January 10, 2023	
FILE No.	220127-D-CP-001	
SHEET	C6.5	

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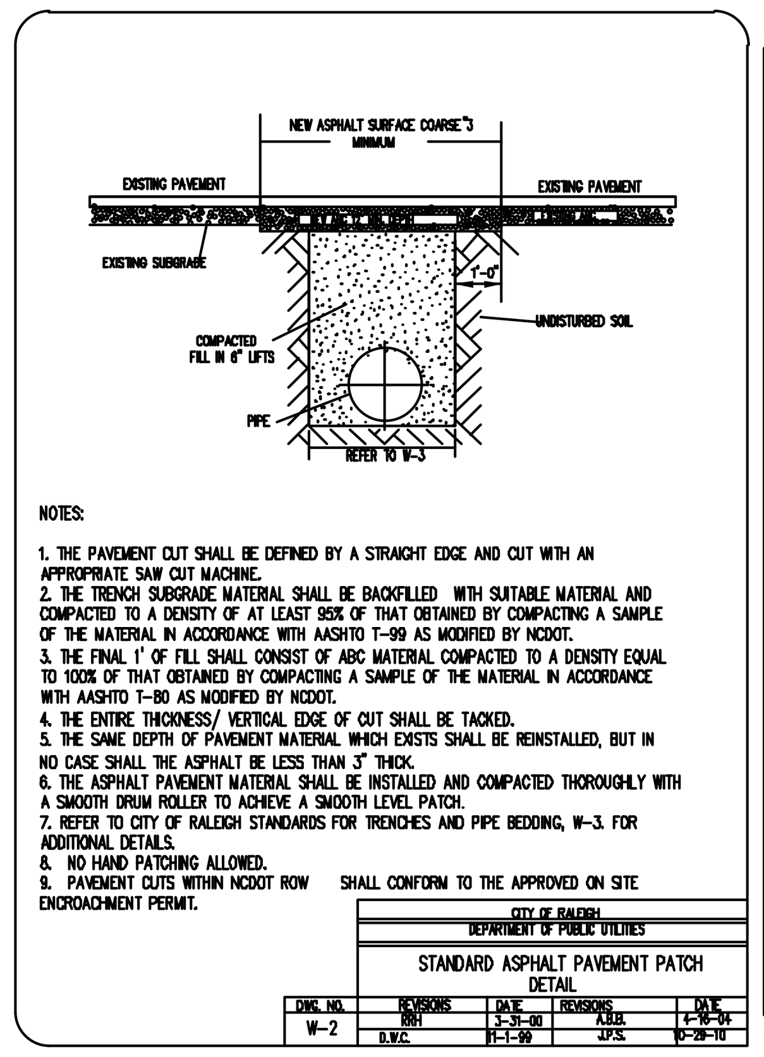
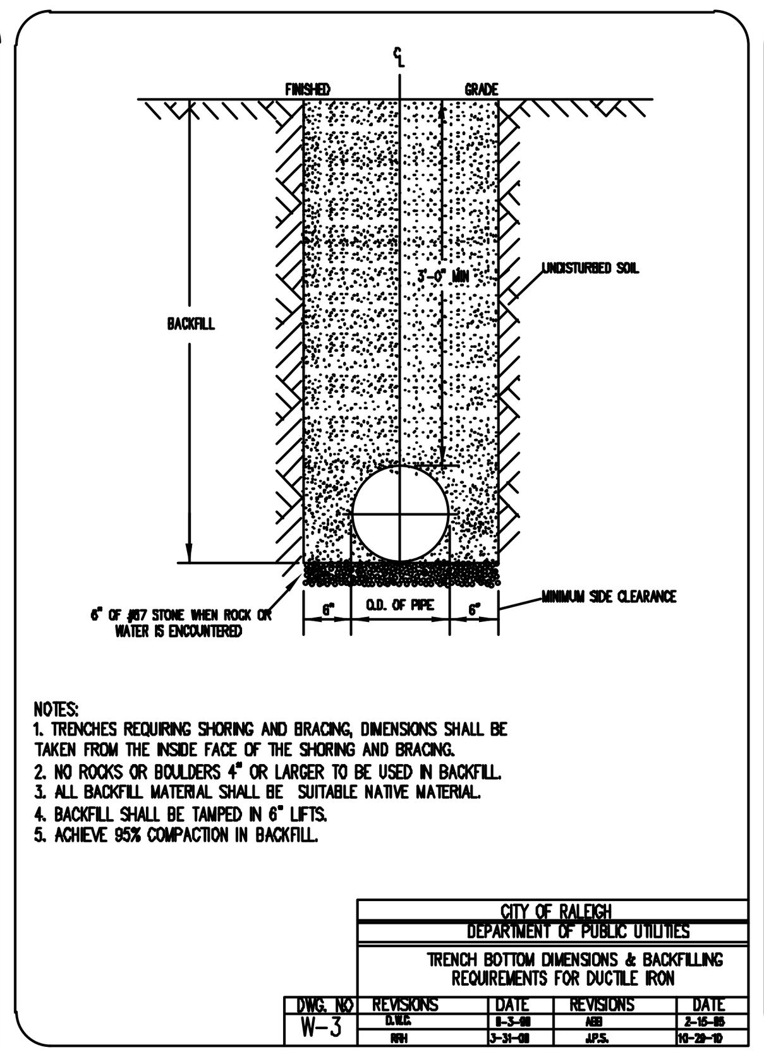
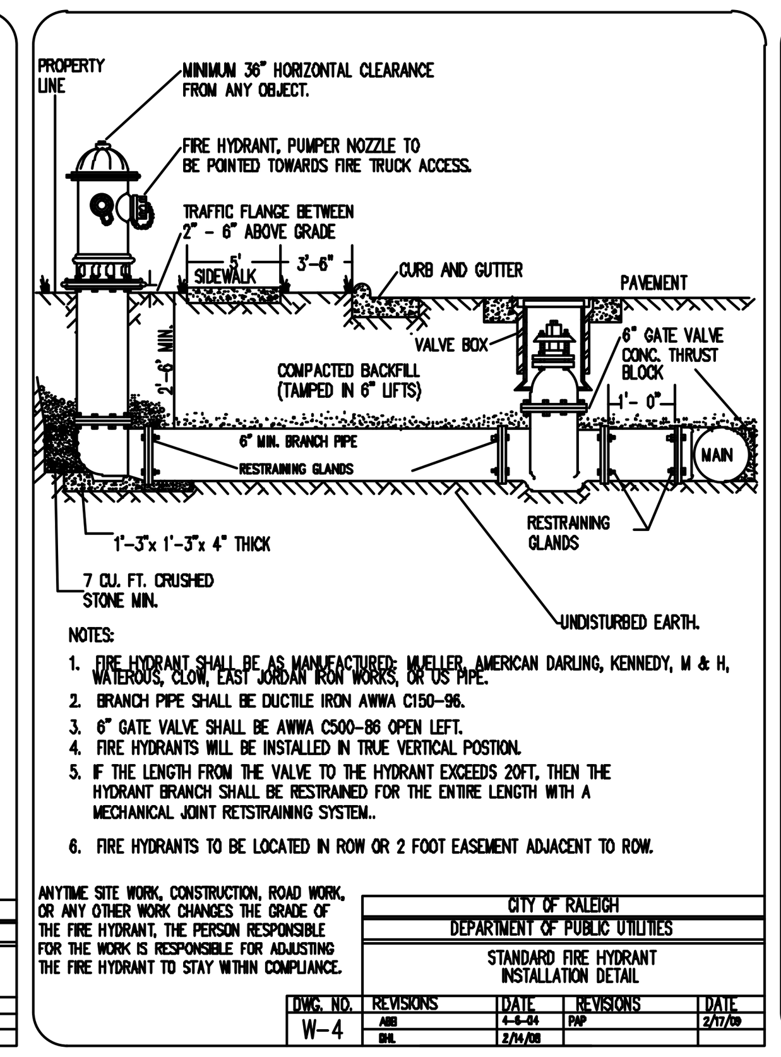
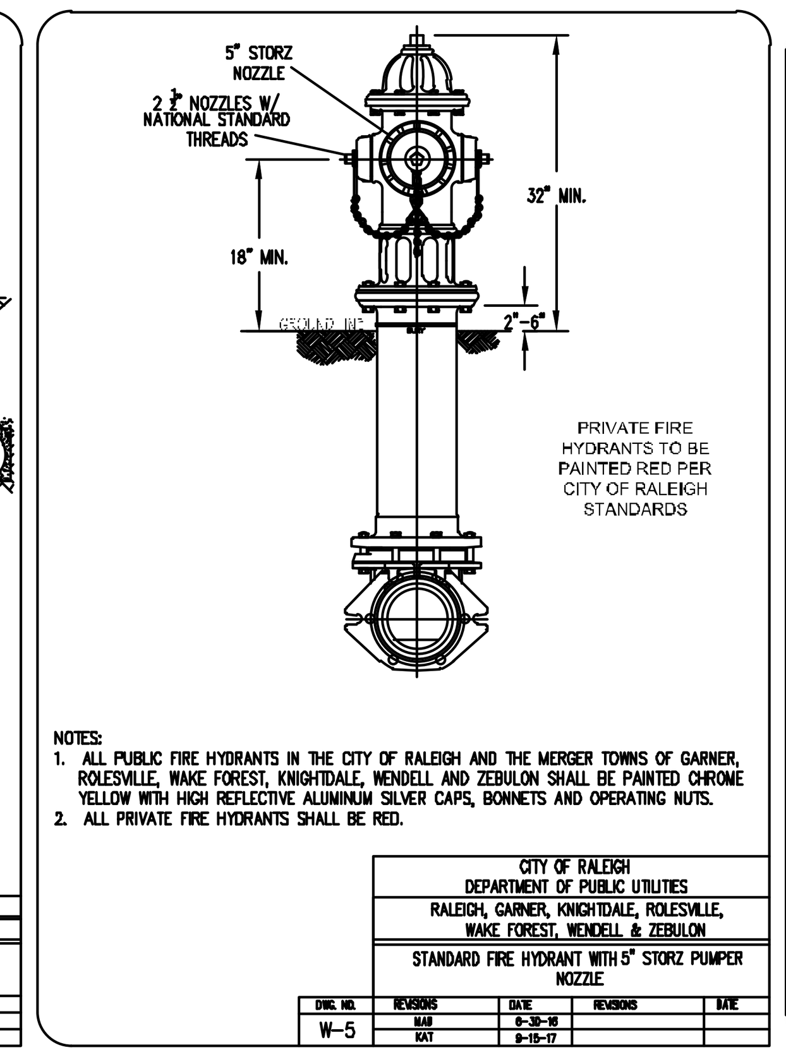
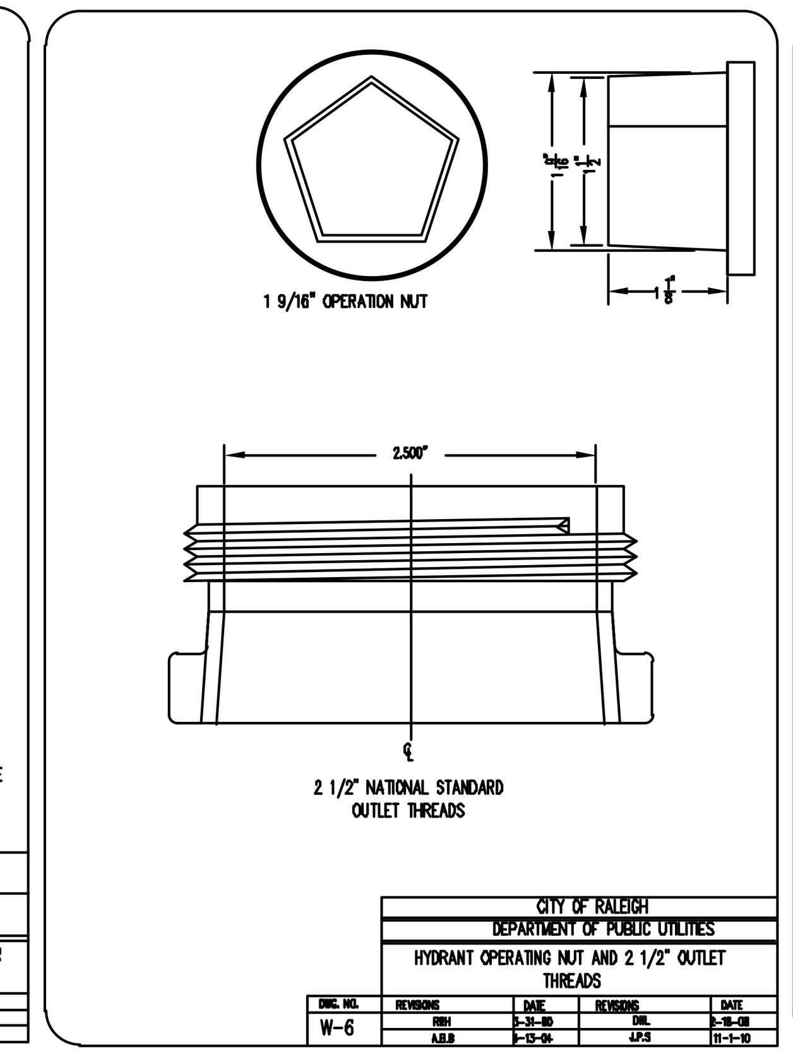
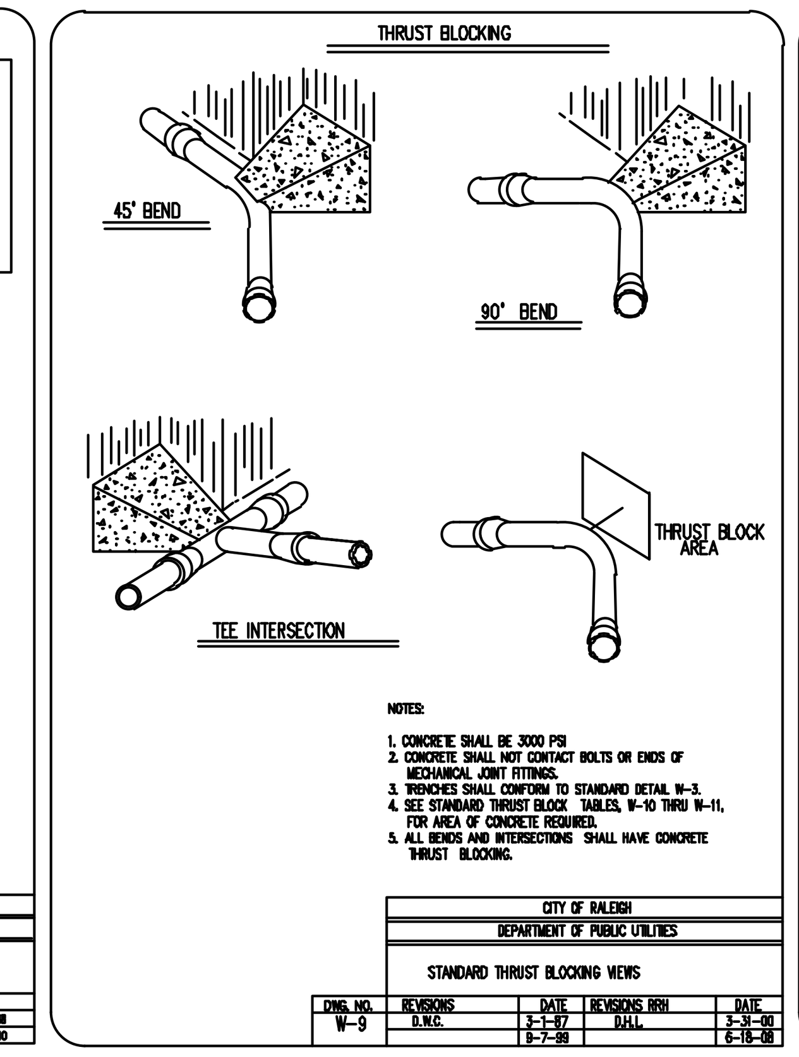


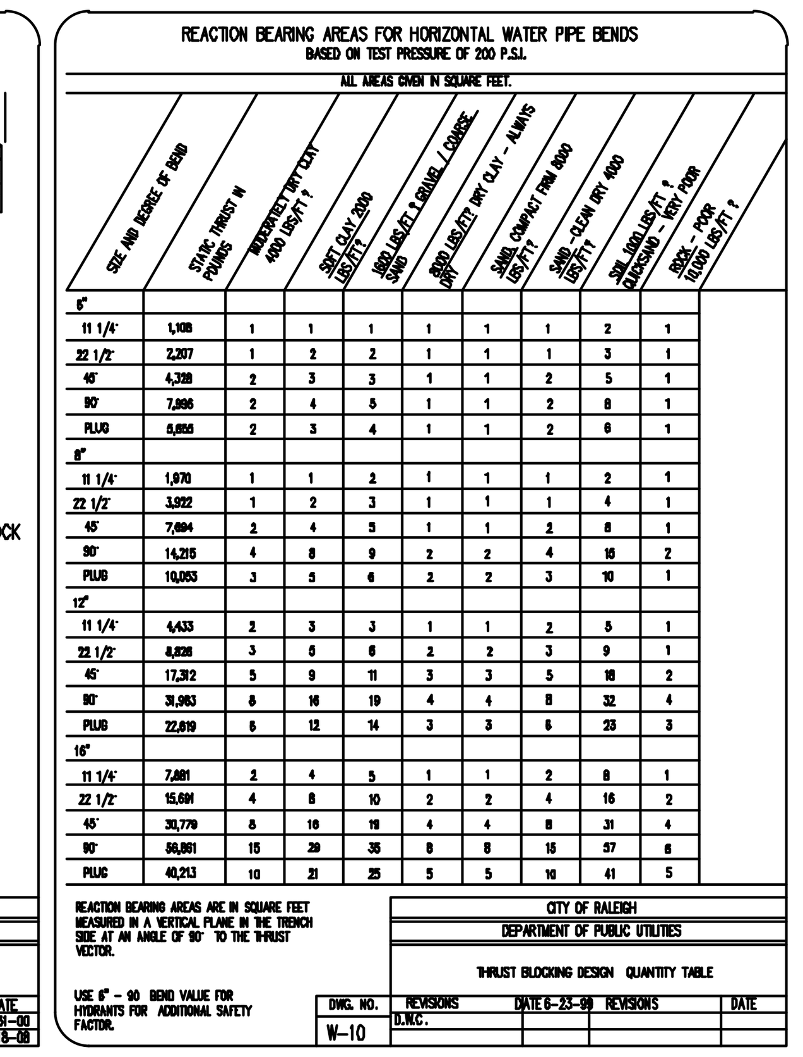




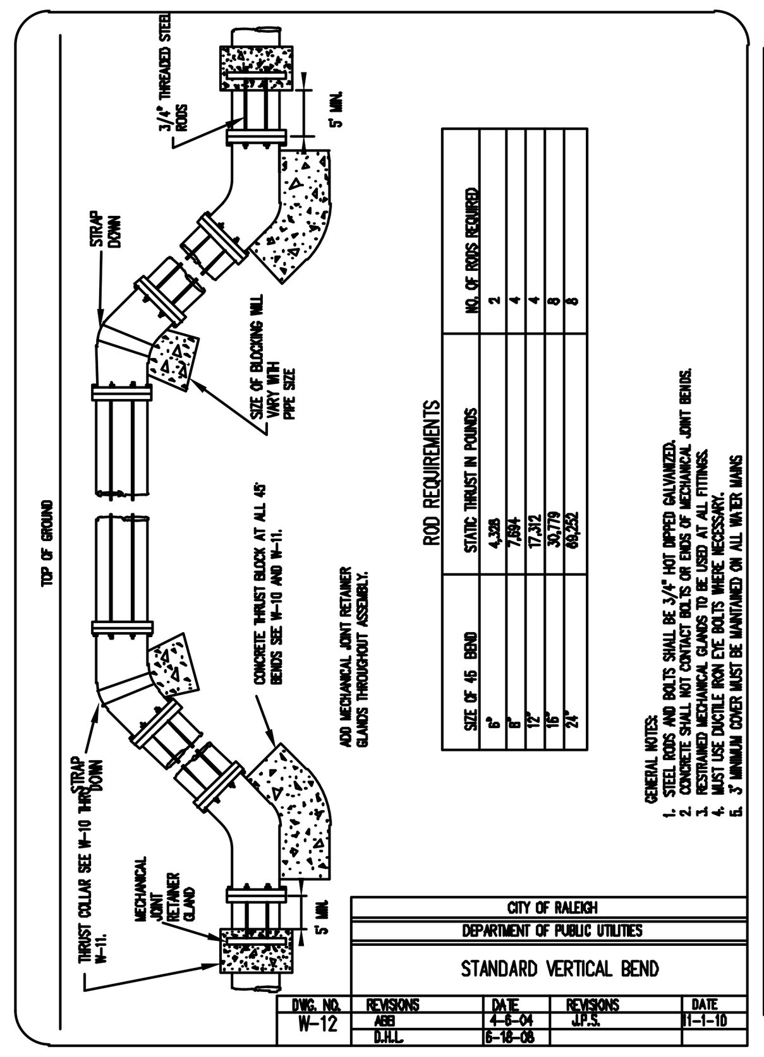




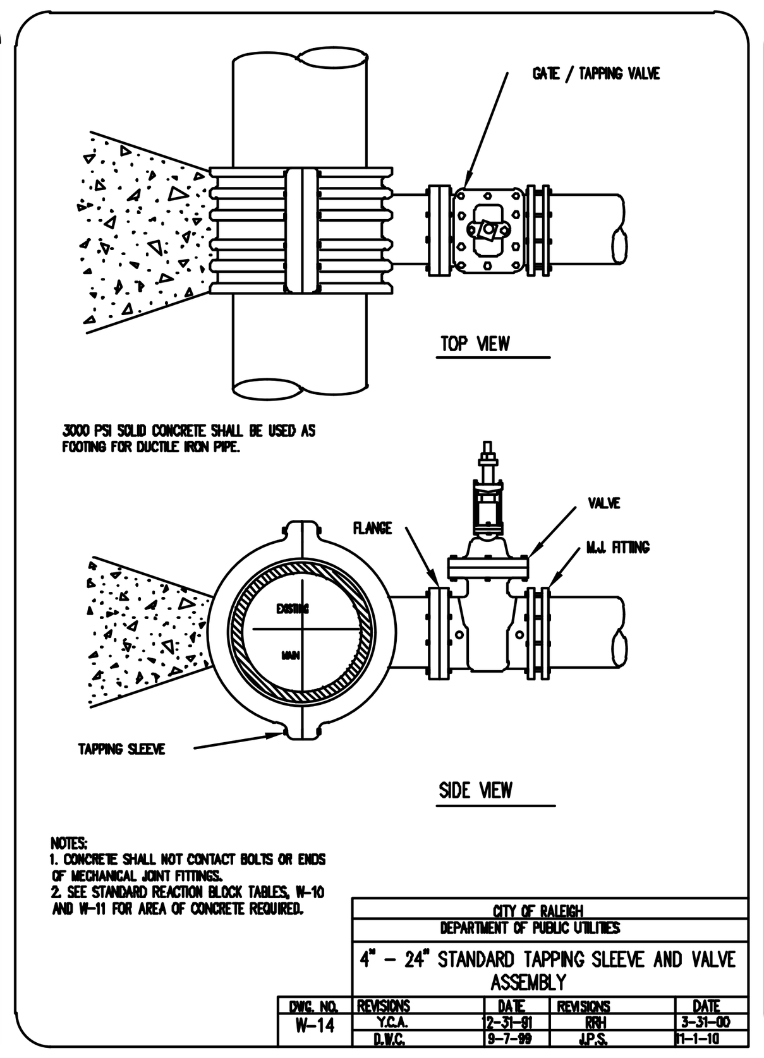


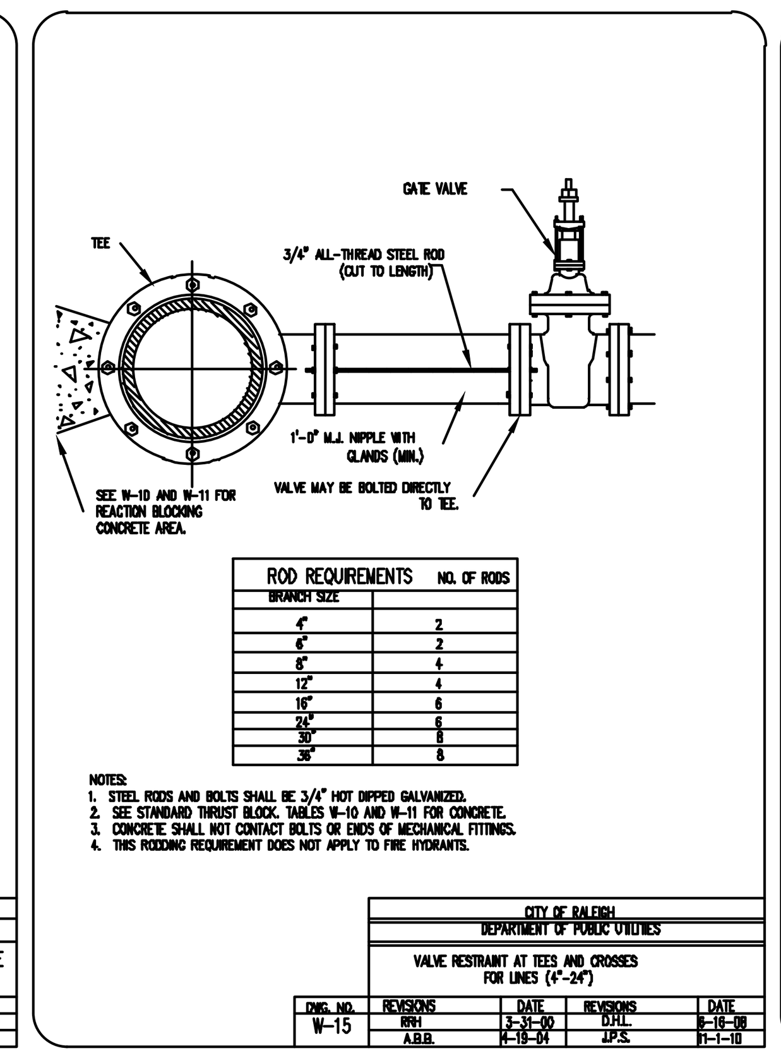


SIZE AND DEGREE OF BEND	STATIC THRUST IN POUNDS	UNDISTURBED DRY CLAY 4000 LBS/FT²	SOFT CLAY 2000 LBS/FT²	1500 LBS/FT² GRAVEL/COARSE SAND	8000 LBS/FT² DRY CLAY - ALWAYS	SAND, COMPACT FIRM 6000	SAND - CLEAN DRY 4000 LBS/FT²	SOIL 1000 LBS/FT² QUICKSAND - VERY POOR	ROCK - POOR 10,000 LBS/FT²
6"									
11 1/4°	1,108	1	1	1	1	1	1	2	1
22 1/2°	2,207	1	2	2	1	1	1	3	1
45°	4,328	2	3	3	1	1	2	5	1
90°	7,996	2	4	5	1	1	2	8	1
PLUG	5,655	2	3	4	1	1	2	6	1
8"									
11 1/4°	1,970	1	1	2	1	1	1	2	1
22 1/2°	3,922	1	2	3	1	1	1	4	1
45°	7,694	2	4	5	1	1	2	8	1
90°	14,215	4	8	9	2	2	4	16	2
PLUG	10,053	3	5	6	2	2	3	10	1
12"									
11 1/4°	4,433	2	3	3	1	1	2	5	1
22 1/2°	8,826	3	5	6	2	2	3	9	1
45°	17,312	5	9	11	3	3	5	18	2
90°	31,993	8	16	19	4	4	8	32	4
PLUG	22,619	6	12	14	3	3	6	23	3
16"									
11 1/4°	7,881	2	4	5	1	1	2	8	1
22 1/2°	15,691	4	8	10	2	2	4	16	2
45°	30,779	8	16	19	4	4	8	31	4
90°	56,861	15	29	35	8	8	15	57	6
PLUG	40,213	10	21	25	5	5	10	41	5

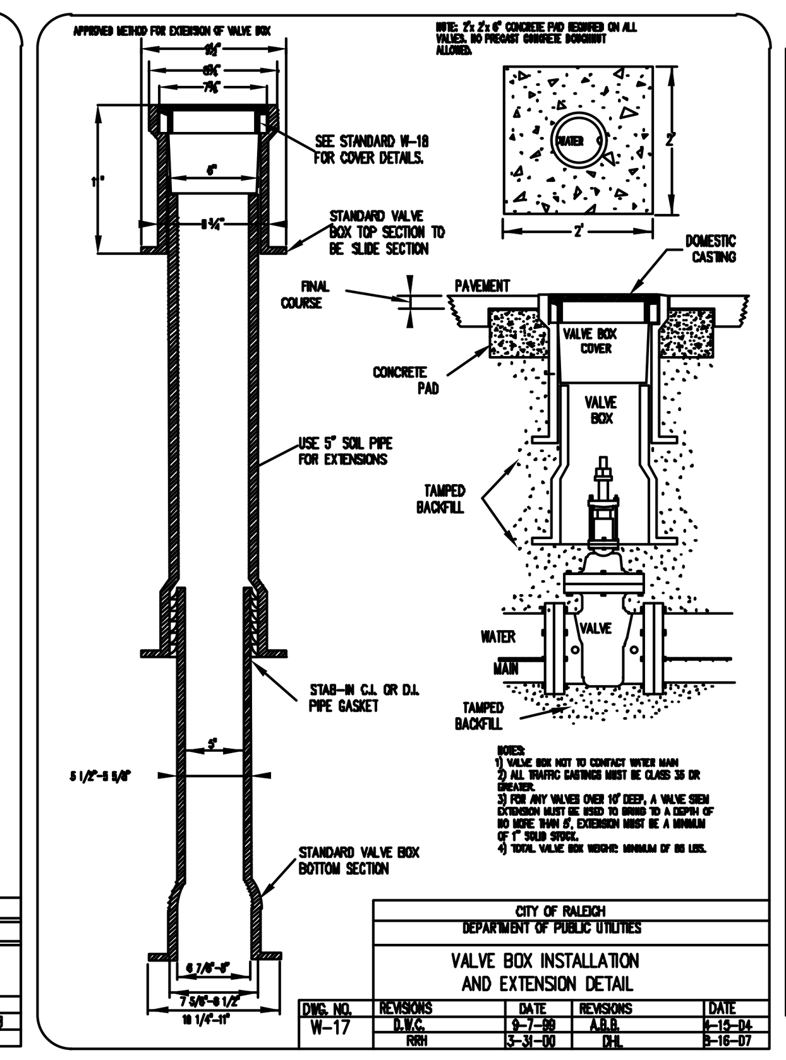


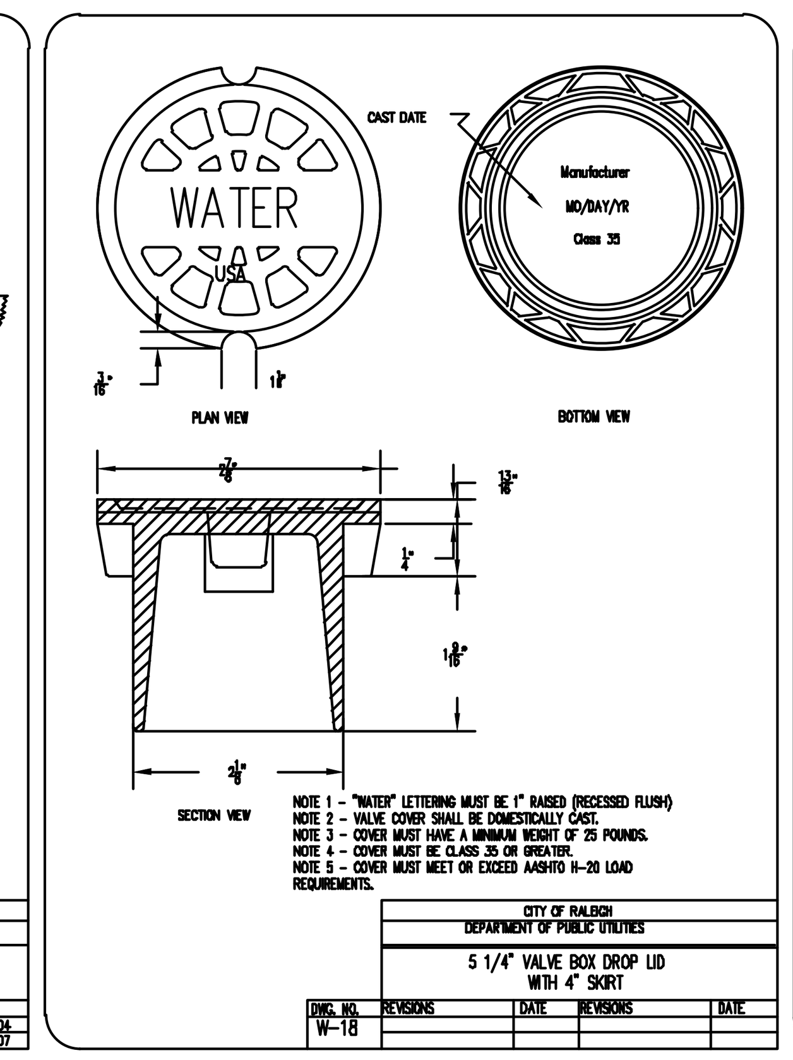
SIZE OF 45 BEND	STATIC THRUST IN POUNDS	NO. OF RODS REQUIRED
6"	4,328	2
8"	7,694	4
12"	17,312	4
16"	30,779	8
24"	69,252	8

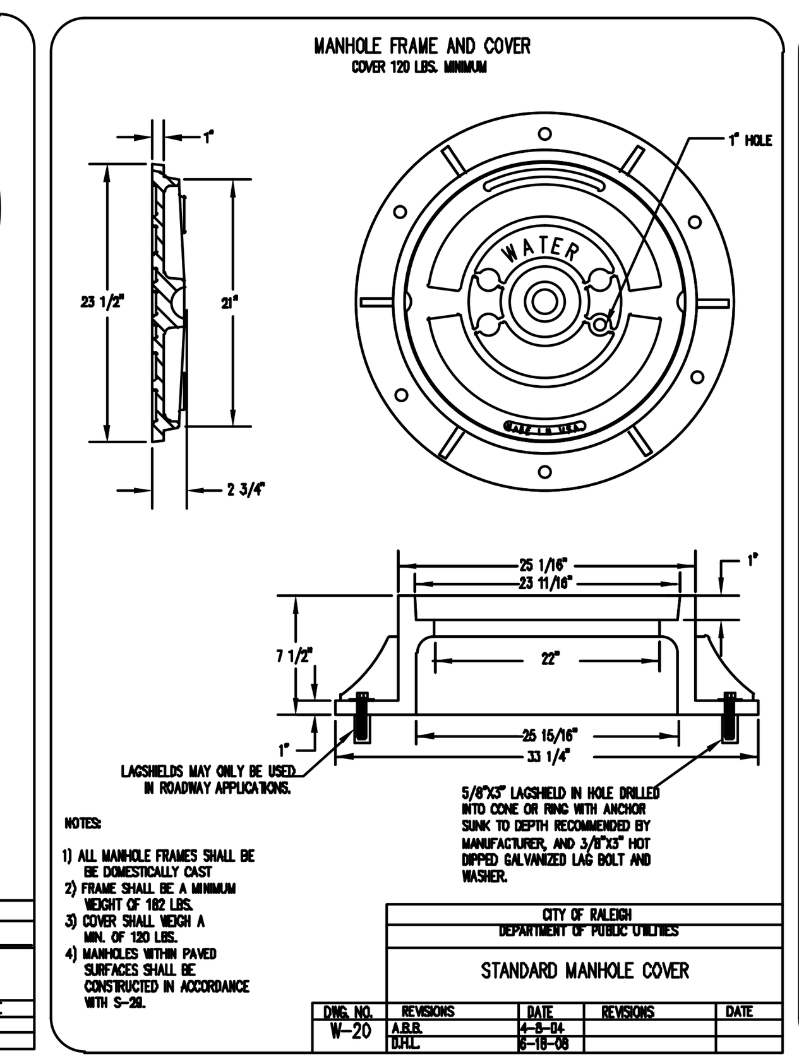


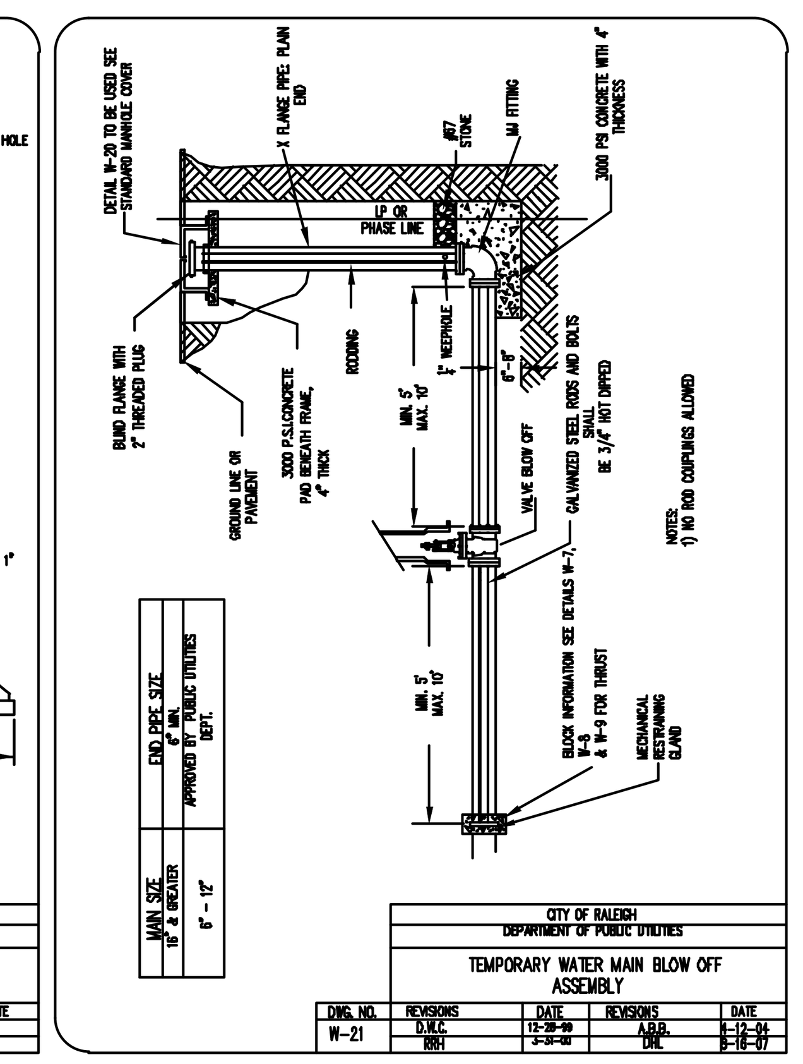


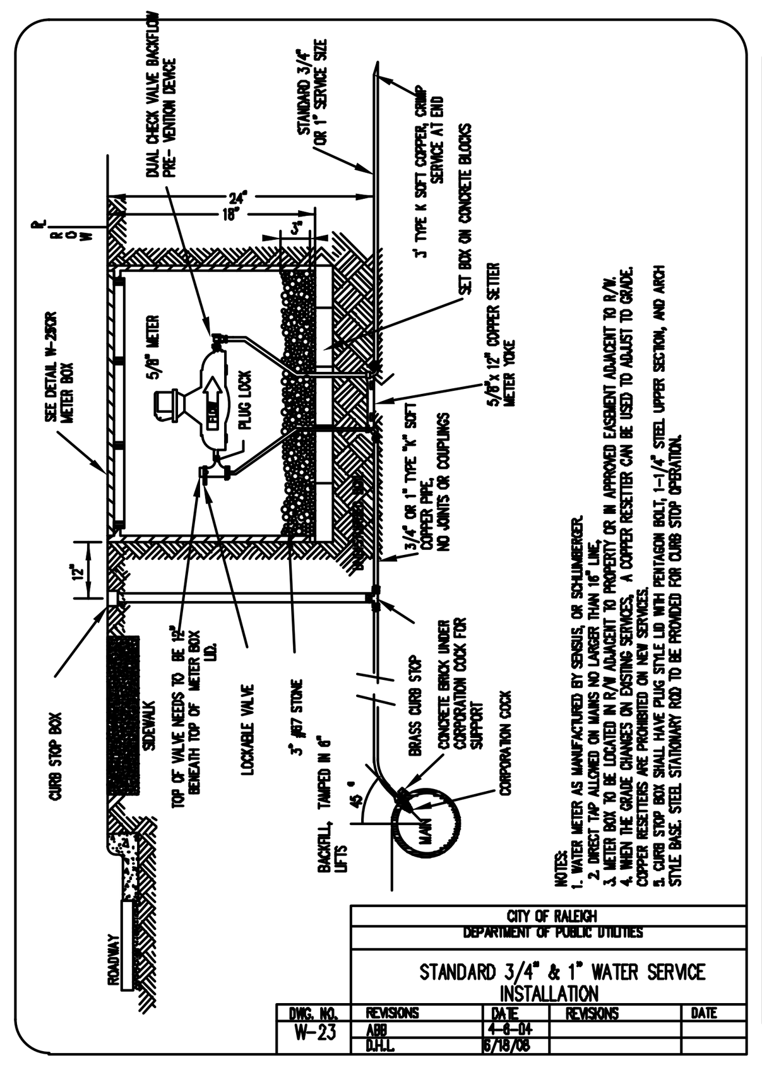
ROD REQUIREMENTS BRANCH SIZE	NO. OF RODS
4"	2
6"	2
8"	4
12"	4
16"	6
24"	6
30"	8
36"	8

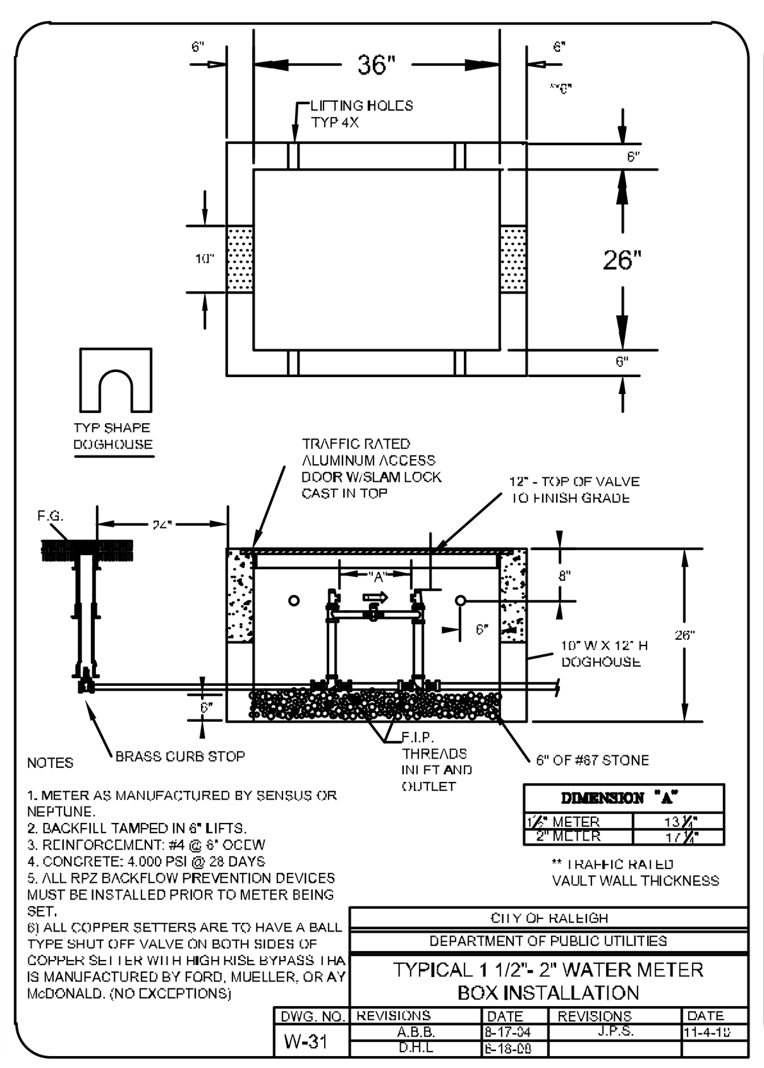


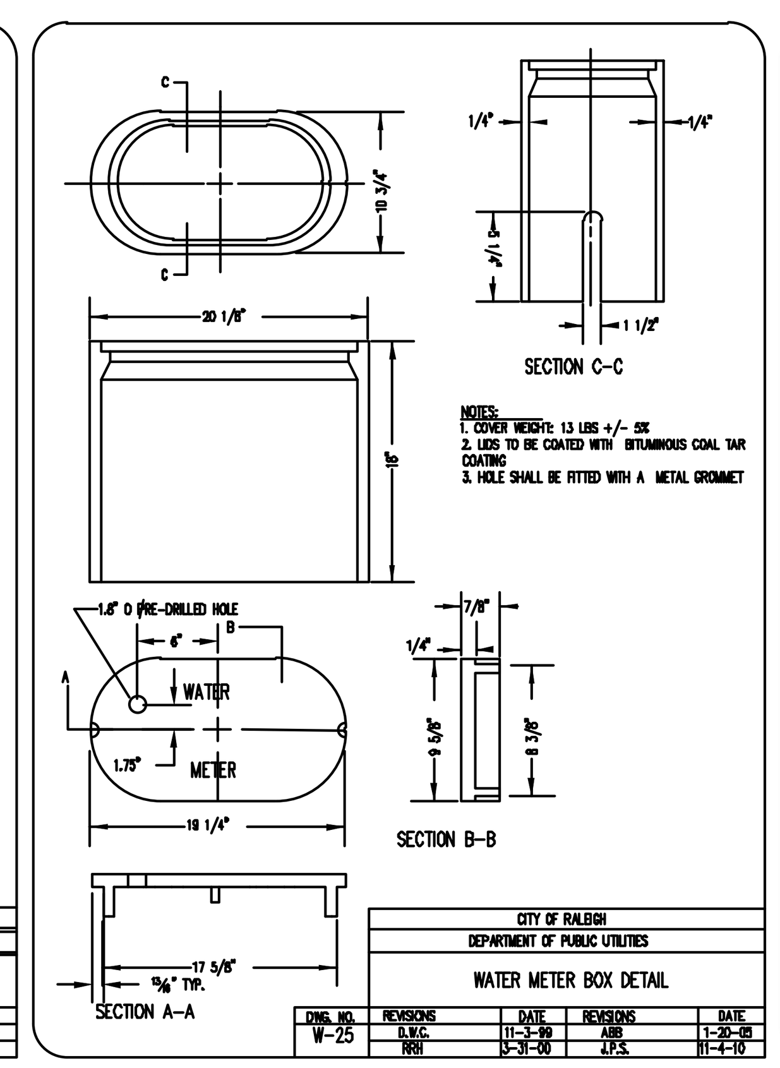


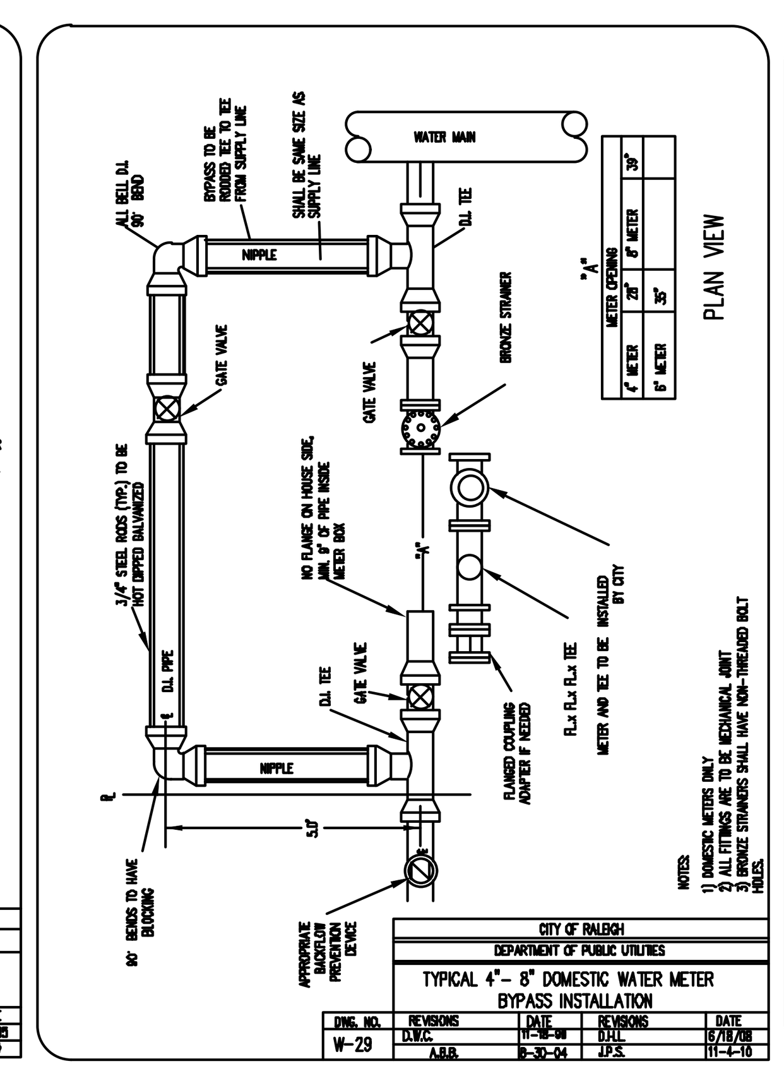


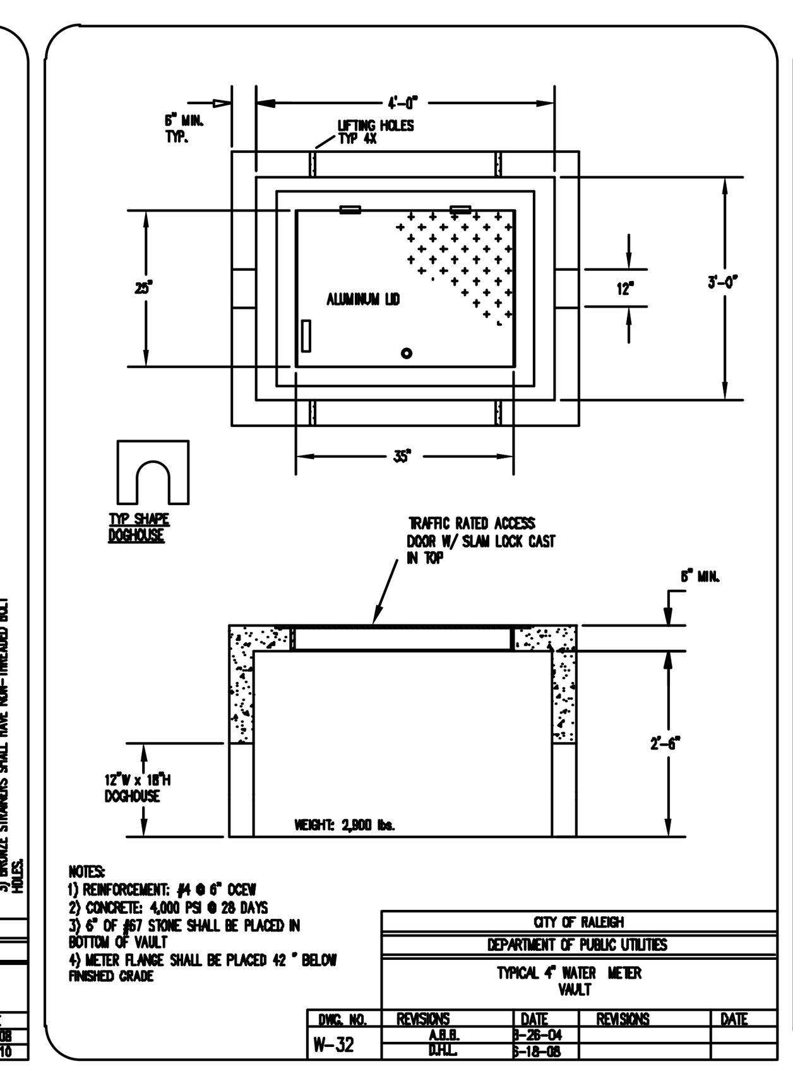


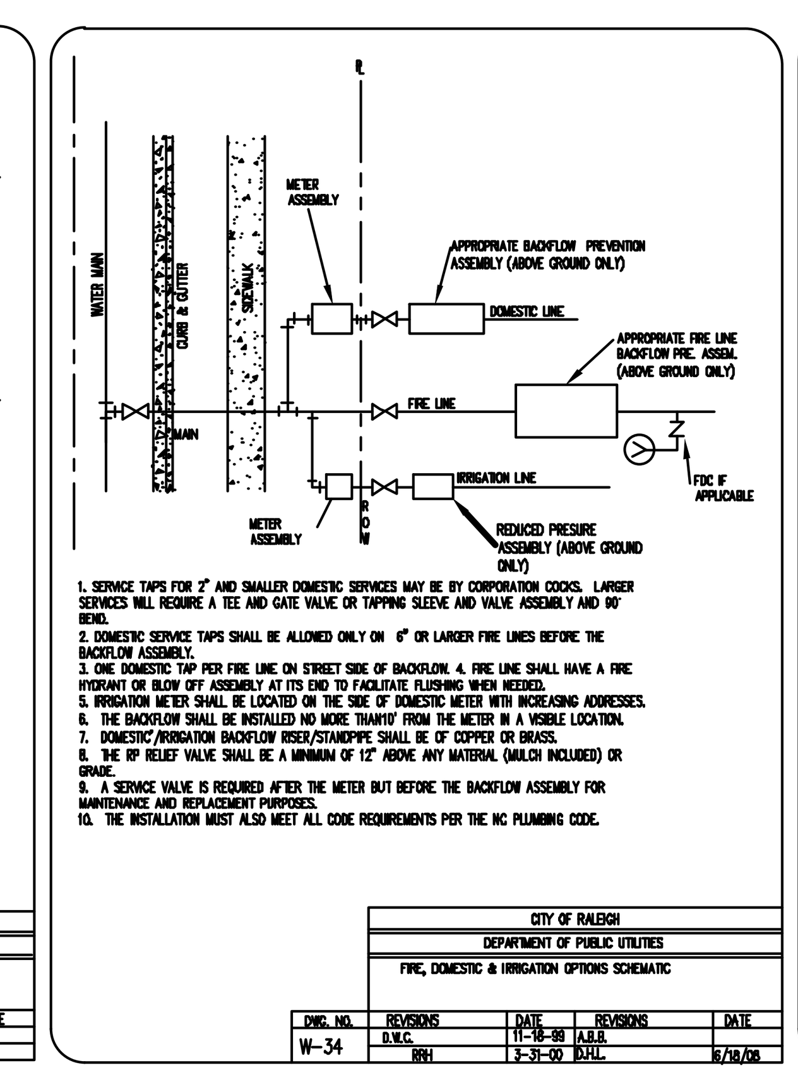


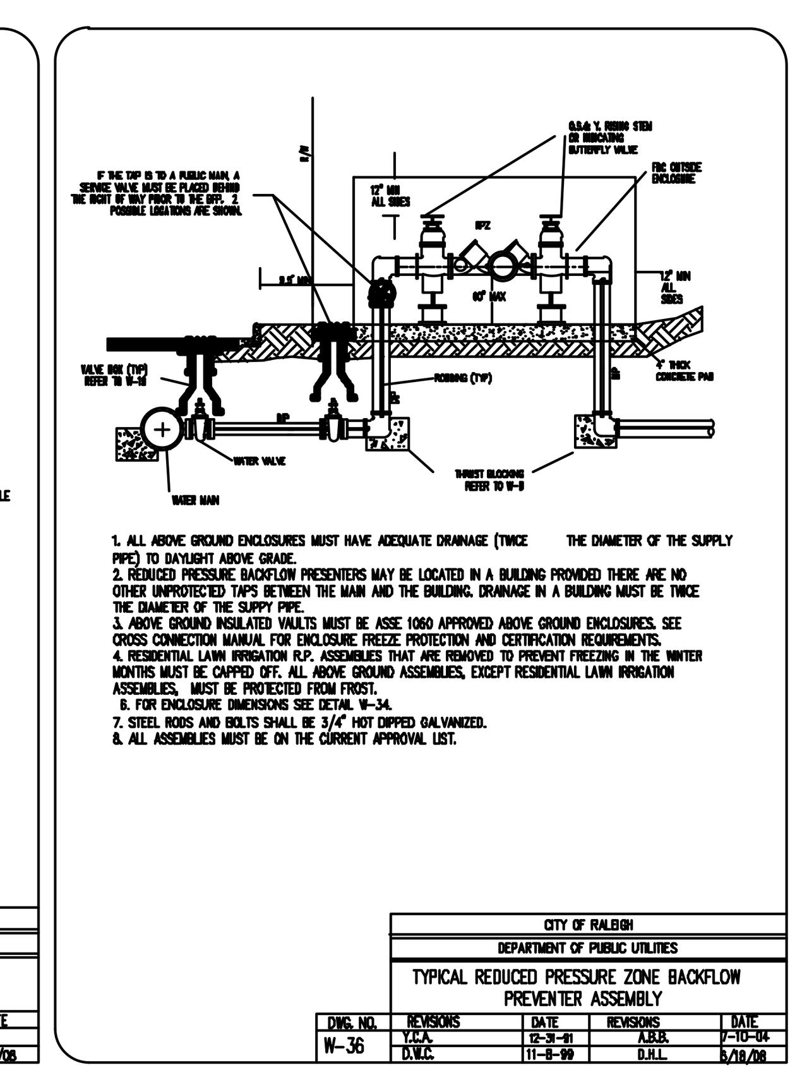


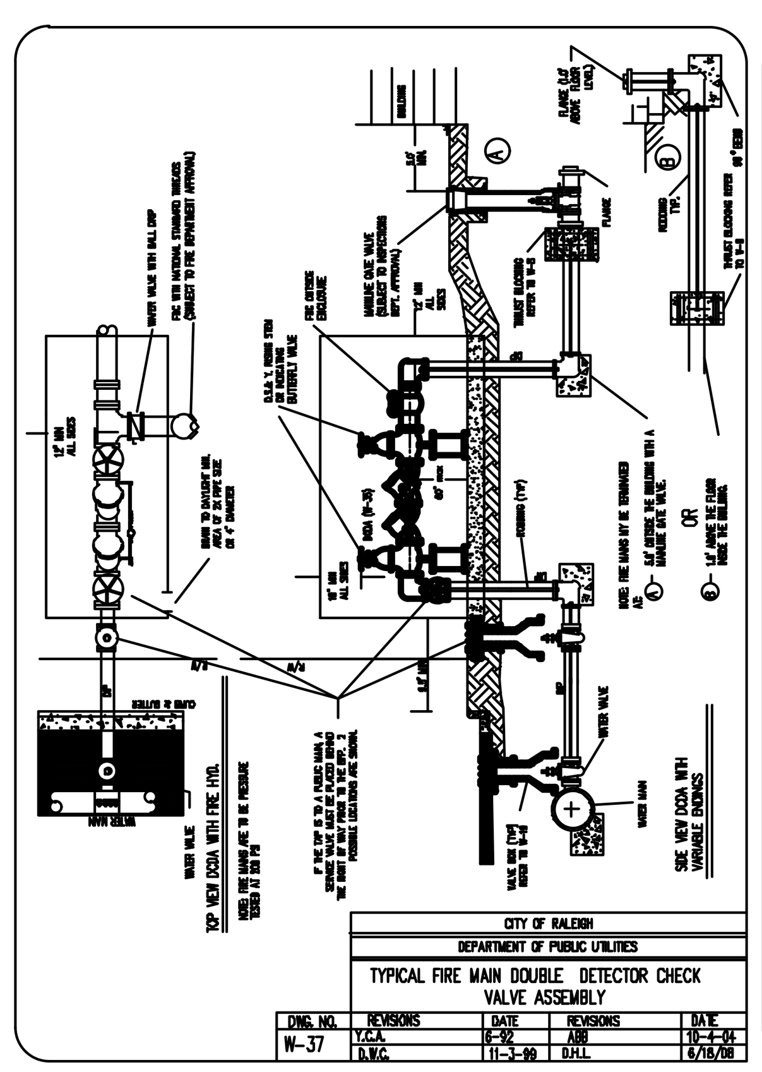


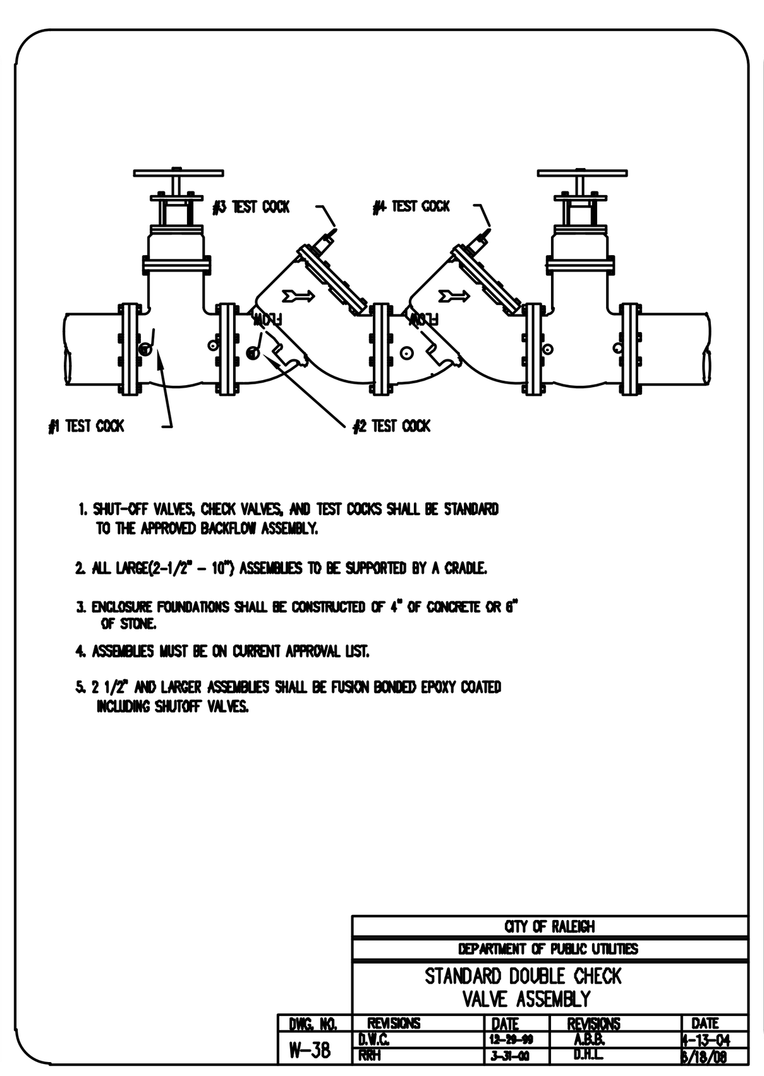


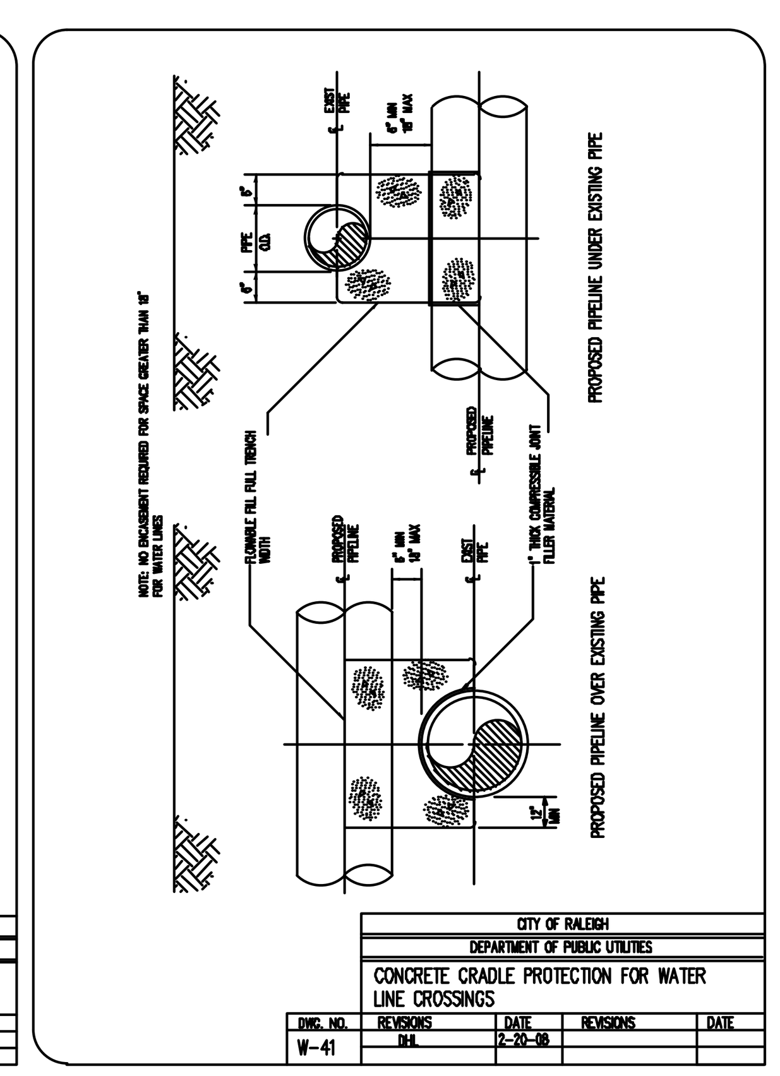












UTILITY NOTES:

1. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH CITY OF RALEIGH STANDARD DRAWINGS AND SPECIFICATIONS.
2. 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.
3. WATER SERVICES 3/4-INCH TO 2-INCH SHALL BE TYPE "K" SOFT COPPER. ALL OTHER WATER MAINS, SERVICES, AND FITTINGS SHALL BE CEMENT-LINED DUCTILE IRON PIPE PER CITY OF RALEIGH STANDARDS AND SPECIFICATIONS.
4. 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.
5. CLEAN-OUT SYMBOLS SHOWN ON THESE PLANS REPRESENT LOCATION OF SURFACE ACCESS POINT. CONTRACTOR SHALL LOCATE WYE APPROPRIATELY BASED ON PIPE DEPTH.
6. 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.
7. LOCATIONS AND SIZES OF EXISTING UTILITIES SHOWN ON THESE PLANS WERE TAKEN FROM MAPS PREPARED BY OTHERS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR FIELD LOCATING ALL UTILITIES AND FOR DAMAGES RESULTING FROM FAILURE TO DO SO.
8. 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.
9. WATER MAINS SHALL HAVE A MINIMUM COVER OF 36" BELOW PROPOSED GRADE.
10. ALL UNDERGROUND UTILITIES AND FIRE HYDRANTS MUST BE FUNCTIONALLY APPROVED PRIOR TO STRUCTURAL CONSTRUCTION.
11. THRUST BLOCKS SHALL BE PROVIDED AT ALL BENDS, TEES, AND FIRE HYDRANTS.
12. DIMENSIONS SHOWN ARE TO CENTERLINE OF PIPE OR FITTING.
13. 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.
14. ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS. MINIMUM TRENCH WIDTH SHALL BE 2 FEET.
15. GENERAL CONTRACTOR SHALL HAVE APPROVAL OF ALL GOVERNING AGENCIES HAVING JURISDICTION OVER THIS SYSTEM PRIOR TO INSTALLATION.
16. ALL FILL MATERIAL IS TO BE IN PLACE, AND COMPACTED BEFORE INSTALLATION OF PROPOSED UTILITIES.
17. CONTRACTOR SHALL NOTIFY THE WATER AUTHORITY INSPECTORS 72 HOURS BEFORE CONNECTING TO ANY EXISTING LINE.
18. ALL UTILITIES SHOULD BE KEPT TEN (10') APART (PARALLEL) OR WHEN CROSSING 24" VERTICAL CLEARANCE (OUTSIDE EDGE OF PIPE TO OUTSIDE EDGE OF PIPE).
19. PRESSURE REDUCING VALVES WILL BE REQUIRED ON THE DOMESTIC WATER MAINS IF THE STATIC PRESSURE AT THE BUILDING EXCEEDS 80PSI.
20. 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).
21. DRAWINGS DO NOT PURPORT TO SHOW ALL EXISTING UTILITIES. EXISTING UTILITIES SHALL BE VERIFIED IN FIELD PRIOR TO INSTALLATION OF ANY NEW LINES.
22. 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.
23. 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.
24. 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 NCDOT SHALL MEAN THE CURRENT STANDARDS AND/OR SPECIFICATIONS OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION.
25. THE CONTRACTOR SHALL BE REQUIRED TO EXCAVATE BELOW PLAN GRADE ANY MATERIALS WHICH ARE UNSUITABLE FOR FOUNDATIONS, SUB 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.
26. 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.
27. ALL WATERLINES SHALL HAVE BURIED WITH THE PIPE # 12 COATED ELECTRIC WIRE AND BROUGHT UP INTO THE METER BOXES.
28. 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.

APPROVED RPDA ASSEMBLIES:
APPROVED 6" RPDA (REDUCED PRESSURE DETECTOR ASSEMBLY) BACKFLOW PREVENTERS:
AMES: 5000 FEBCO: 826YD,909RPDA
APOLLO/CONBRACO: 4070CE3 WILKINS: 375ADA

APPROVED RPZ ASSEMBLIES:
APPROVED 1" RPZ BACKFLOW PREVENTERS:
AMES 4000B
FEBCO 825 Y & YA
WATTS 009M2QT

APPROVED RPZ ASSEMBLIES:
APPROVED 2" RPZ BACKFLOW PREVENTERS:
AMES 400B, U400B WATTS 009M1QT, 009QT
APOLLO 4020802, RP40 FEBCO 860, 825YAR
WILKINS 375, 375B

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-5172
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 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

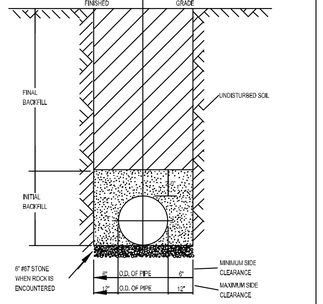
Bowman North Carolina Ltd.
4006 BARRETT DR
Suite 104
RALEIGH, NC 27609
Phone: (919)553-6570
bowman.com
Bowman North Carolina Ltd.

TRACTOR SUPPLY COMPANY

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

PLAN STATUS	
1/10/23	1ST CD SUBMISSION
2/20/23	2ND CD SUBMISSION
3/21/23	REVISED PER CITY OF RALEIGH REVIEW
DATE	DESCRIPTION

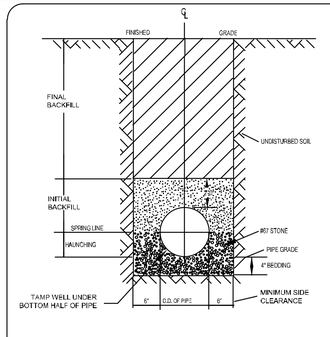
MEL DESIGN	MEL DRAWN	XXX CHKD
SCALE	H: 1" = XXX' V: 1" = XXX'	
JOB No.	220127-01-001	
DATE	January 10, 2023	
FILE No.	220127-D-CP-001	
SHEET	C6.6A	



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 8" LIFTS IN TRAFFIC AREAS, 12" IN NON-TRAFFIC AREAS.
5. ACHIEVE 95% COMPACTION IN NON-TRAFFIC AREAS, AND 95% COMPACTION IN TRAFFIC AREAS.
6. IF IN EASEMENT 4" TOPSOIL AND 12" CLEAN SELECT FILL MAY BE REQUIRED.
7. NO BOULDERS 4" 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	D.W.C.	9-3-99		
	RRH	3-30-00		

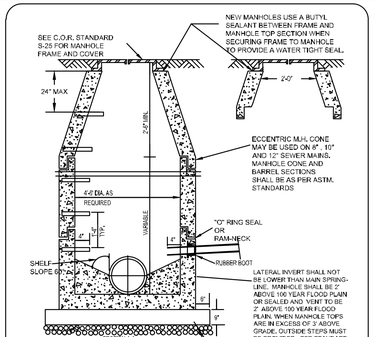


TYPICAL TRENCH BOTTOM DIMENSIONS
FOR SDR 35 PVC GRAVITY PIPE

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.

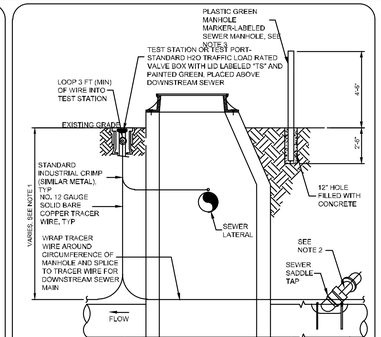
CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
TRENCH BOTTOM DIMENSIONS AND BACKFILLING REQUIREMENTS FOR PVC GRAVITY SEWER MAIN

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-5	TO NOTES	5-3-87	D.W.C.	9-3-99
		7-2-92	RRH	3-30-00



CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
STANDARD PRECAST SANITARY SEWER MANHOLE

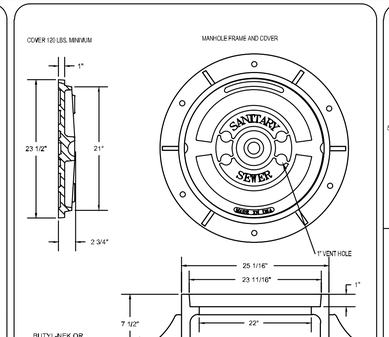
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-20	V.C.A.	10-1-92	ABB	3-2-94
	RRH	3-2-95	D.F....	3-1-96



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 LAID 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 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

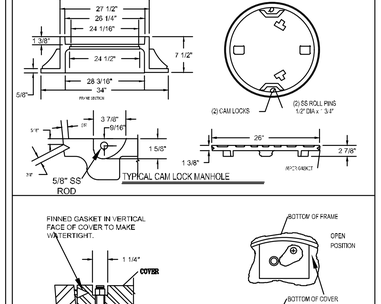
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-30A	NAD	09-01		



NOTES:
1) ALL MANHOLE FRAMES SHALL BE DOMESTICALLY CAST.
2) FRAME SHALL BE A MINIMUM WTIGHT OF 162 LBS. WITHIN PUBLIC ROW AND 850 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

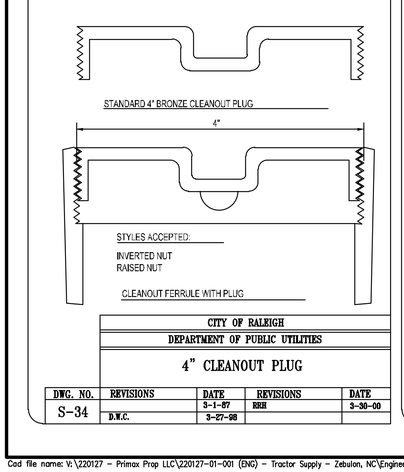
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-25	3-1-87	3-1-87	A.B.B.	2-9-05
	RRH	3-30-00	D.H.L.	6-18-08



RING MUST BE ANCHORED IN ACCORDANCE WITH S-23

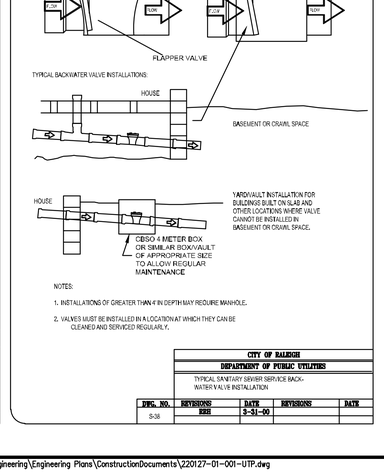
CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
WATER-TIGHT MANHOLE FRAME WITH CAM LOCK COVER

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-27	RRH	3-30-00		
	DHL	6-18-08		



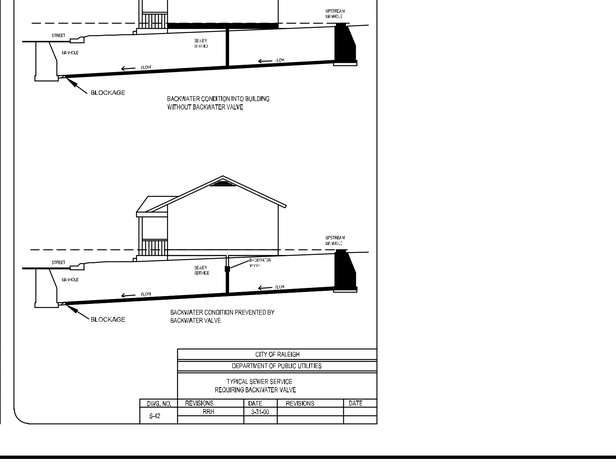
CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
STANDARD SLIP RESISTANT MANHOLE STEP DETAIL

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-28	RRH	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	V.C.A.	2-20-91	ABB	3-30-94
	RRH	3-30-00	DHL	11-29-07



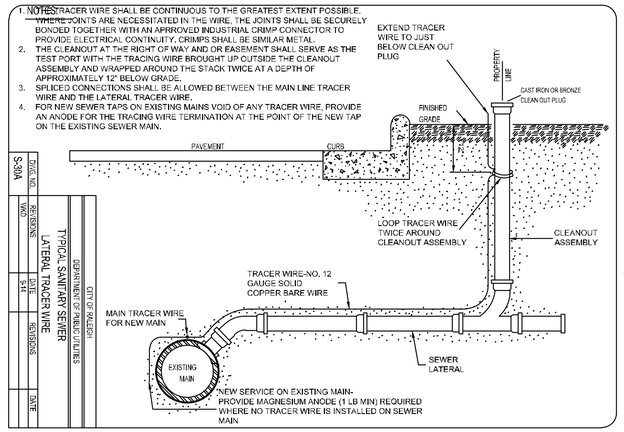
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-30	V.C.A.	10-1-92		
	RRH	3-30-00		

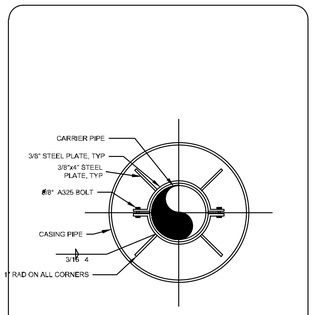
TYPICAL SANITARY SEWER LATERAL CONNECTION
RESPONSIBILITY AND LIABILITY

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
D-10	A.B.B.	2-9-05		
D-11	D.H.L.	6-18-08		

TYPICAL SANITARY SEWER LATERAL TRACER WIRE
CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-30A	NAD	09-01		





NOTE:
1) USE A MINIMUM OF TWO SPIDERS PER PIPE JOINT ONE FOURTH OF THE PIPE JOINT LENGTH IN FROM BOTH THE BELL AND SPIGOT ENDS.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
PIPE ALIGNMENT GUIDE

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-39	RRH	3-30-00		
	A.B.B.	4-16-04		

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
4" CLEANOUT PLUG

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-34		3-1-87	RRH	3-30-00
	D.W.C.	3-27-98		

NOTES:
1. INSTALLATIONS OF GREATER THAN 4' IN DEPTH MAY REQUIRE MANHOLE.
2. VALVES MUST BE INSTALLED IN A LOCATION AT WHICH THEY CAN BE CLEANED AND SERVICED REGULARLY.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
TYPICAL SANITARY SEWER SERVICE BACK-WATER VALVE INSTALLATION

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-38		RRH	3-31-00	

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
TYPICAL SEWER SERVICE REQUIRING BACKWATER VALVE

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-42	RRH	3-31-00		

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-5172

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 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.

TRACTOR SUPPLY COMPANY

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

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 34474 3/31/23 MATTHEW E. LOWDER

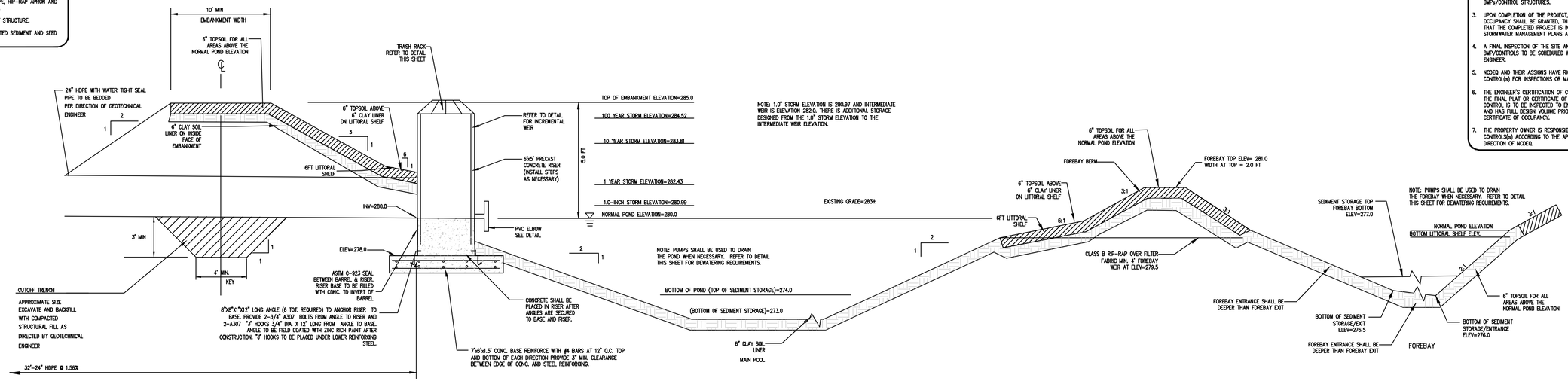
PLAN STATUS	
1/10/23	1ST CD SUBMISSION
2/20/23	2ND CD SUBMISSION
3/21/23	REVISED PER CITY OF RALEIGH REVIEW
DATE	DESCRIPTION

MEL	MEL	XXX
DESIGN	DRAWN	CHKD
SCALE	H: 1" = XXX' V: 1" = XXX'	
JOB No.	220127-01-001	
DATE	January 10, 2023	
FILE No.	220127-D-CP-001	
SHEET	C6.6B	

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

CONSTRUCTION SEQUENCE FOR WET DETENTION POND:

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.



PROFILE OF WET POND DETENTION SYSTEM

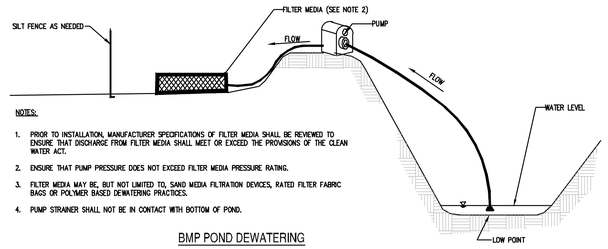
SCALE: N.T.S.

MAINTENANCE:

Important operation and maintenance procedures:

1. Immediately after the wet pond is established, the plants on the vegetated shelf and perimeter of the basin will be watered twice weekly if needed, until the plants become established (commonly 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 shelf.
3. Stable groundcover will be maintained 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 expert should inspect the embankment.
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 greater than 1.0 inches (or 1.5 inches if in a Coastal County). Records of operation and maintenance will be kept in a known set location and shall be available upon request



NOTES:

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

SEEDBED PREPARATION:

1. CHISEL COMPACTED AREAS AND SPREAD TOPSOIL THREE INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.
2. RIP THE ENTIRE AREA TO SIX INCHES DEEP.
3. REMOVE ALL LOOSE ROCK, ROOTS AND OTHER OBSTRUCTIONS, LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
4. APPLY AGRICULTURAL LIME, FERTILIZER, AND SUPERPHOSPHATE UNIFORMLY AND MIX WITH SOIL (SEE SEEDING MIXTURE).
5. CONTINUE TILLAGE UNTIL A WELL-PULVERIZED, FIRM, REASONABLY UNIFORM SEEDBED IS PREPARED FOUR TO SIX INCHES DEEP.
6. SEED ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK AFTER SEEDING.
7. MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
8. INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR RE-SEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. IF STAND SHOULD BE MORE THAN 60% DAMAGED, RE-ESTABLISH FOLLOWING THE ORIGINAL LIME, FERTILIZER AND SEEDING RATES.
9. CONSULT SAEC ENVIRONMENTAL ENGINEERS ON MAINTENANCE TREATMENT AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.

LANDSCAPING NOTES:

ALL LANDSCAPING SHALL BE IN COMPLIANCE WITH THE NCDEQ 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 NCDEQ PLANT VENDOR. PLANT MATERIAL SHOULD BE PURCHASED FROM A LOCAL SOURCE TO ENSURE SURVIVABILITY. LOCAL VENDORS FOR THIS SITE INCLUDE:

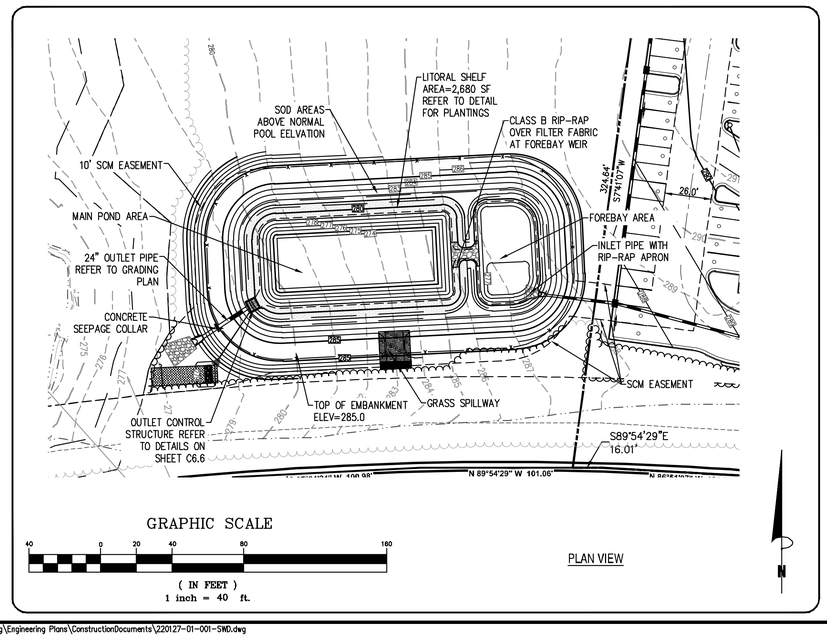
- CILL IDE NATIVE PLANT NURSERY 919-862-5566
- GROWING WILD NURSERY 910-259-6361
- NC FOREST SERVICE 919-731-7988
- PLANT DELIGHTS NURSERY 919-772-4794
- TARHEEL NATIVE TREES 919-553-5927

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.

LANDSCAPING NOTES:

1. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES AND ORDINANCES REGARDING LANDSCAPING.
2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH A HEALTHY STAND OF GRASS ON ALL SEEDED AREAS.
3. CONTRACTOR SHALL PROVIDE NATURAL TOPSOIL THAT IS FERTILE, FRIABLE, WITHOUT MIXTURE OF SUBSOIL MATERIALS, AND OBTAINED FROM A WELL DRAINED, AVAILABLE SITE. IT SHALL NOT CONTAIN SUBSTANCES WHICH MAY BE HARMFUL TO PLANT GROWTH. TOPSOIL SHALL BE SCREENED AND FREE FROM CLAY, LUMPS, STONES, ROOTS, PLANTS, OR SIMILAR SUBSTANCES 1" OR MORE IN DIAMETER, DEBRIS, OR OTHER OBJECTS WHICH MIGHT BE A HINDERANCE TO PLANTING OPERATIONS. TOPSOIL SHALL CONTAIN AT LEAST 4-6% ORGANIC MATTER BY WEIGHT AND HAVE A PH RANGE OF 5.5 TO 7.0.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR THE WATERING AND THE MAINTENANCE OF ALL LANDSCAPED AREAS UNTIL THE LATER OF; (a) THIRTY (30) DAYS FOLLOWING THE PLANTING OF THE GRASS AND SHRUBS, OR (b) THE DATE THAT STORE OPENS FOR BUSINESS TO THE PUBLIC. CONTRACTOR SHALL ALSO BE RESPONSIBILITY FOR THE SURVIVAL OF THE BMP PLANTING MATERIALS DURING THE TWO-YEAR WARRANTY PERIOD AND SHALL REPLACE ALL PLANTS THAT DO NOT SURVIVE AT THE END OF THE FIRST YEAR AND AT THE END OF THE SECOND YEAR OF THE WARRANTY PERIOD.
5. CONTRACTOR TO VERIFY QUANTITIES PRIOR TO COMMENCING WORK.
6. ANY DISTURBED AREAS NOT SCHEDULED FOR HARDSCAPE, PLANTINGS, OR MULCH SHALL BE SEEDED LAWN. REFER TO SITE PLAN FOR LOCATION OF AREAS TO BE SODDED.
7. NO PLANT SUBSTITUTIONS ARE PERMITTED WITHOUT WRITTEN APPROVAL OF THE OWNERS REPRESENTATIVE.
8. FOR NEW PLANTING AREAS, REMOVE ALL PAVEMENT, GRAVEL SUB-BASE AND CONSTRUCTION DEBRIS; REMOVE COMPACTED SOIL AND ADD 18" NEW TOPSOIL, OR TILL AND AMEND THE TOP 18" OF EXISTING SOIL TO MEET TOPSOIL/PLANTING MIX STANDARDS FOR TREES.
9. ADJUST TREE PLANTING LOCATIONS TO AVOID UNDERGROUND UTILITIES. PLANT 15' FROM ALL UNDERGROUND UTILITIES (SEWER AND STORM DRAINAGE, GAS, WATER, PHONE, AND ELECTRICAL LINES.)



STAGE/STORAGE TABLE

STAGE (FT)	ELEVATION (FT)	CONTOUR AREA (SF)	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 (WQV)
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

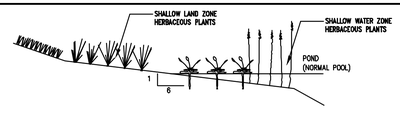
STORMWATER MANAGEMENT DESIGN WET DETENTION POND:

RIVER BASIN: NEUSE
RECEIVING STREAM: LITTLE CREEK (WEST SIDE)
STREAM INDEX: 27-86-2-4
STREAM CLASS: C;NSW
HUC: 03020203
PROJECT COORDINATES: 35.8287821N, -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		83.8	
TIME OF CONCENTRATION:	14.0 MIN	5 MIN		10 MIN	
1.0" STORM EVENT:		2.599 CFS	0.098 CFS		
1-YEAR STORM EVENT:	6.225 CFS	19.97 CFS	1.561 CFS	0.800 CFS	2.361 CFS
10-YEAR STORM EVENT:	15.39 CFS	37.96 CFS	12.59 CFS	1.936 CFS	14.53 CFS
100-YEAR STORM EVENT:	27.21 CFS	60.08 CFS	43.50 CFS	3.389 CFS	46.89 CFS



TYPICAL LITTORAL SHELF VEGETATION DETAIL

SCALE: N.T.S.

SCIENTIFIC NAME	COMMON NAME	PLANTING ZONE	QUANTITY	NURSERY CONTAINER TYPE	SPACING	PLANTING SEASON
Juncus effesus	Soft Rush	SHALLOW WATER	112	PEAT POT	6' O.C.	SPRING/SUMMER
Iris virginica	Blue Flag Iris	SHALLOW WATER	112	PEAT POT	6' O.C.	SPRING/SUMMER
Schoenoplectus tabernaemontani	Soft Stem Bulrush	SHALLOW WATER	112	PEAT POT	6' O.C.	SPRING/SUMMER
Eupatoriadelphus maculatus	Spotted Trumpetweed	SHALLOW WATER	112	PEAT POT	6' O.C.	SPRING/SUMMER
Eupatorium purpureum	Joe-Pye Weed	SHALLOW WATER	112	PEAT POT	6' O.C.	SPRING/SUMMER
Rhynchospora colorata	Starrush Whitetop	SHALLOW WATER	112	PEAT POT	6' O.C.	SPRING/SUMMER

TYPICAL LITTORAL SHELF PLANTING SCHEDULE

1 STORMWATER MANAGEMENT SYSTEM DETAILS
NOT TO SCALE

STORMWATER MANAGEMENT NOTES:

1. THE DEVELOPER OR HIS AGENT SHALL CONTACT THE DESIGN ENGINEER WHEN THE BEST MANAGEMENT PRACTICE(S) ARE CONSTRUCTED AND ABOUT TO BECOME OPERATIONAL SO A FINAL INSPECTION CAN BE PERFORMED 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/CONTROL SHALL ANNUALLY SUBMIT A MAINTENANCE AND INSPECTION REPORT FOR EACH BMP TO THE STORMWATER ADMINISTRATOR. ANNUAL INSPECTIONS SHALL BEGIN WITHIN ONE YEAR OF THE RECORDATION OF ANY DEED(S) SHOWING STORMWATER BMPs/CONTROL STRUCTURES.
3. UPON COMPLETION OF THE PROJECT, AND BEFORE A CERTIFICATE OF OCCUPANCY SHALL BE GRANTED, THE ENGINEER OF RECORD SHALL CERTIFY THAT THE COMPLETED PROJECT IS IN ACCORDANCE WITH THE APPROVED STORMWATER MANAGEMENT PLANS AND DESIGNS.
4. A FINAL INSPECTION OF THE SITE AND STORMWATER MANAGEMENT BMP/CONTROLS TO BE SCHEDULED WITH AND COMPLETED BY THE PROJECT ENGINEER.
5. NCDEQ AND THEIR ASSIGNS HAVE RIGHT 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 HAS FULL DESIGN VOLUME PRIOR TO ISSUANCE OF THE FINAL CERTIFICATE OF OCCUPANCY.
7. THE PROPERTY OWNER IS RESPONSIBLE FOR MAINTAINING THE STORMWATER CONTROLS(s) ACCORDING TO THE APPROVED MAINTENANCE PLAN AND DIRECTION OF NCDEQ.

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 device	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 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.
The forebay	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.
	Erosion has occurred.	Provide additional erosion protection such as reinforced turf matting or riprap if needed to prevent future erosion problems.
The vegetated shelf	Weeds are present.	Remove the weeds, preferably by hand. If pesticide is used, wipe it on the plants rather than spraying.
	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 if 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.
The main treatment area	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.
	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).
The embankment	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.
	A tree has started to grow on the embankment.	Consult a dam safety specialist to remove the tree.
The outlet device	An annual inspection by an appropriate professional shows that the embankment needs repair.	Make all needed repairs immediately.
	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 mat.	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 NCDEQ Regional Office.

Bowman

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

STORMWATER MANAGEMENT DETAILS

Tractor Supply
Old US Highway 264
Zebulon, NC Wake County

TSC
TRACTOR SUPPLY COMPANY

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 24434 5/31/2023 LEND NEESE MATTHEW E. LONGO

PLAN STATUS	
1/10/23	1ST CD SUBMISSION
2/20/23	2ND CD SUBMISSION
3/21/23	REVISED PER CITY OF RALEIGH REVIEW
DATE	DESCRIPTION

MEL	MEL	XXX
DESIGN	DRAWN	CHKD

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

JOB No. 220127-01-001

DATE January 10, 2023

FILE No. 220127-D-CP-001

SHEET C6.7

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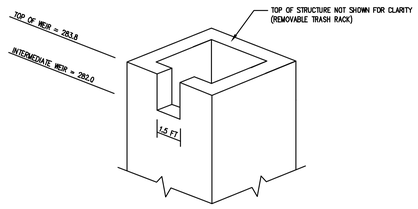
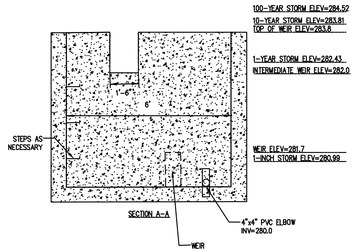
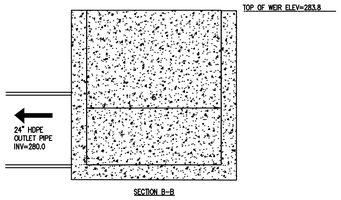
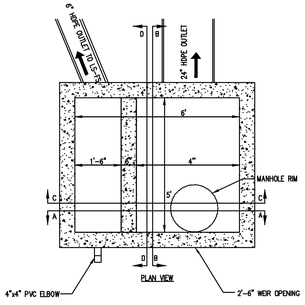
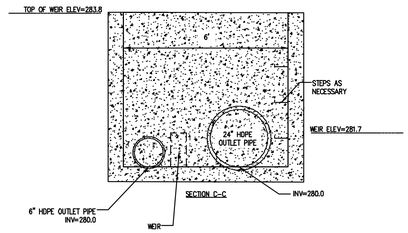


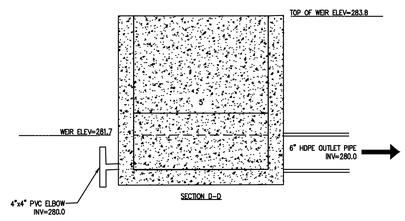
OUTLET CONTROL STRUCTURE – INCREMENTAL WEIR
SCALE: N.T.S.

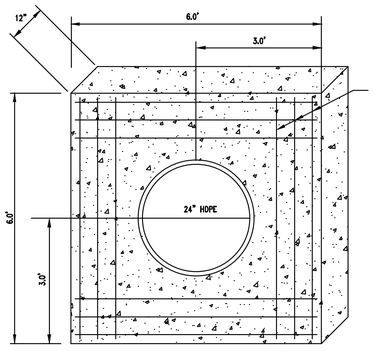












CONCRETE SEEPAGE COLLAR
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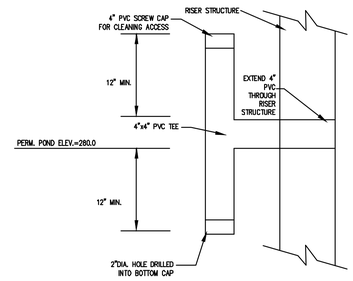
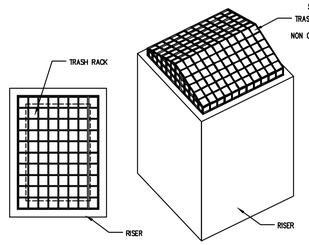
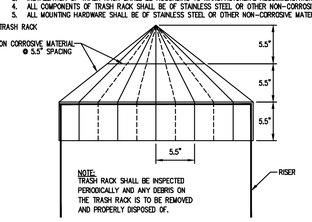


PVC DRAIN OUTLET
SCALE: N.T.S.

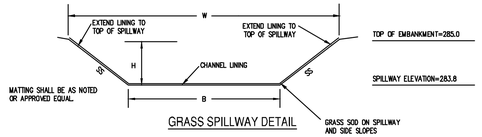


NOTES:
1. SEE DESIGN PLANS FOR SPECIFIED DIMENSIONS OF RISER.
2. TRASH RACK DIMENSION CRITERIA SPECIFIED IS APPROXIMATE AND VARIES BY MANUFACTURER.
3. INSTALLATION OF TRASH RACK SHALL BE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
4. ALL COMPONENTS OF TRASH RACK SHALL BE OF STAINLESS STEEL OR OTHER NON-CORROSIVE MATERIAL.
5. ALL MOUNTING HARDWARE SHALL BE OF STAINLESS STEEL OR OTHER NON-CORROSIVE MATERIAL.

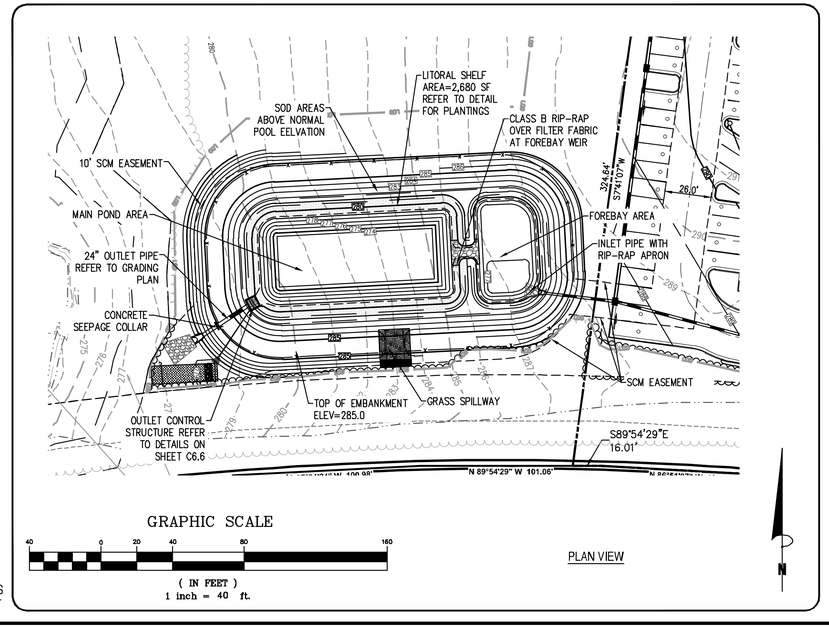


TRASH RACK DETAIL

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



GRASS SPILLWAY DETAIL



PLAN VIEW

1 STORMWATER MANAGEMENT SYSTEM DETAILS
NOT TO SCALE

Bowman

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

TSC
TRACTOR SUPPLY COMPANY

STORMWATER MANAGEMENT DETAILS
Tractor Supply
Old US Highway 264
Zebulon, NC Wake County

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 34434 3/10/23 MATTHEW E. LORUSSO

PLAN STATUS	
1/10/23	1ST CD SUBMISSION
2/20/23	2ND CD SUBMISSION
3/21/23	REVISED PER CITY OF RALEIGH REVIEW
DATE	DESCRIPTION

MEL	MEL	XXX
DESIGN	DRAWN	CHKD
SCALE	H: 1" = XXX' V: 1" = XXX'	
JOB No.	220127-01-001	
DATE	January 10, 2023	
FILE No.	220127-D-CP-001	
SHEET	C6.8	

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

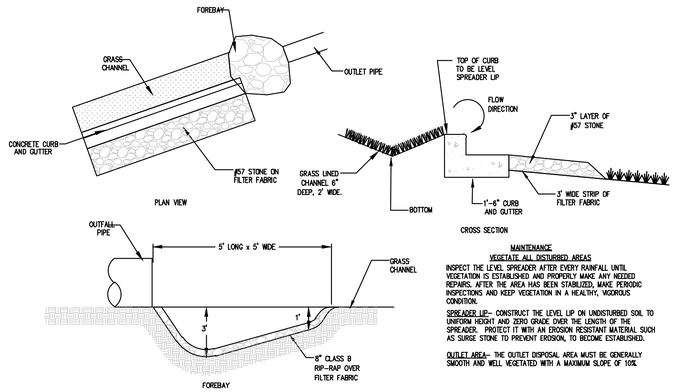
SCM element:	Potential problems:	How to remediate the problem:
The entire wetland	Trash/debris is present.	Remove the trash/debris.
The perimeter of wetland	Areas of bare soil and/or erosive gullies have formed.	Regrade the soil if necessary to remove the gully, and then plant a ground cover and water until it is established. Provide lime and a one-time fertilizer application.
Inlet device	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 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 problems with erosion.
Forebay	Sediment has accumulated in the forebay to a depth of less than 15" or that inhibits the forebay from functioning well.	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.
	Erosion has occurred.	Provide additional erosion protection such as reinforced turf matting or riprap if needed to prevent future erosion problems.
Deep pool, shallow water and shallow land areas	Weeds are present.	Remove the weeds, preferably by hand. If a pesticide is used, wipe it on the plants rather than spraying.
	Algal growth covers over 30% of the deep pool and shallow water areas.	Consult a professional to remove and control the algal growth.
	Cattails, phragmites or other invasive plants cover 30% of the deep pool and shallow water areas.	Remove the invasive plants by hand or by wiping them with pesticide (do not spray) – consult a professional.
	The temporary inundation zone remains flooded more than 5 days after a storm event.	Unclog the outlet device immediately.
	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 if necessary.
	Sediment has accumulated and reduced the depth to 75% of the original design depth of the deep pools.	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.
Embankment	A tree has started to grow on the embankment.	If tree is <6" in diameter, remove the tree. If the tree is >6" in diameter, 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.
	Evidence of muskrat or beaver activity is present.	Consult a professional to remove muskrats or beavers and repair any holes or erosion.
Micropool	Sediment has accumulated and reduced the depth to 75% of the original design 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.
Outlet Structure	Clogging has occurred.	Clean out the outlet device. Dispose of the sediment off-site.
	The outlet device is damaged	Repair or replace the outlet device.
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 wetland are causing erosion or sedimentation in the receiving water.	Contact the local NCDQ Regional Office.

MAINTENANCE:

Important operation and maintenance procedures:
1. Immediately after the FS is established, grass will be watered twice weekly if needed until the plants become established (commonly six weeks).
2. Stable groundcover will be maintained in the drainage area to reduce the sediment to the LS-FS.
3. Every two weeks during the growing season, the FS will be mowed. Turf grass should not be cut shorter than 4-6 inches and may be allowed to grow as tall as 12 inches depending on aesthetic requirements (NPC, 1993).
4. Once a year, the soil will be aerated if necessary and the FS will be reseeded to maintain a dense growth of vegetation.
5. Once a year, soil pH will be tested and lime will be added if necessary.

For the first two years after the LS-FS is established, it will be inspected quarterly and within 24 hours after every storm event greater than 1.0 inch (or 1.5 inches if in a Coastal County). After two years of successful performance, the LS-FS will be inspected quarterly. Records of operation and maintenance will be kept in a known set location and will be available upon request.

If the soil in the FS becomes compacted, consider coring to alleviate this condition. Use a device that removes soil cores. Coring should be accomplished when the lawn is actively growing so that it can recover from any injury. Core cool-season grasses in fall or early spring. Core warm-season grasses in late spring or early summer. Some lawn care and landscape companies offer coring service if rental equipment is not available. Inspection and maintenance shall be performed as follows. Any problems that are found shall be repaired immediately.



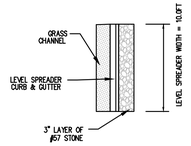
STANDARD LEVEL SPREADER
SCALE: N.T.S.

MAINTENANCE
VEGETATE ALL DISTURBED AREAS
INSPECT THE LEVEL SPREADER AFTER EVERY RAINFALL UNTIL VEGETATION IS ESTABLISHED AND PROPERLY MAKE ANY NEEDED REPAIRS. AFTER THE AREA HAS BEEN STABILIZED, MAKE PERIODIC INSPECTIONS AND KEEP VEGETATION IN A HEALTHY, VIGOROUS CONDITION.

SPREADER LIP- CONSTRUCT THE LEVEL LIP ON UNDISTURBED SOIL TO UNIFORM HEIGHT AND ZERO GRADE OVER THE LENGTH OF THE SPREADER. PROTECT IT WITH AN EROSION RESISTANT MATERIAL SUCH AS SURSE STONE TO PREVENT EROSION, TO BECOME ESTABLISHED.

OUTLET AREA- THE OUTLET DISPOSAL AREA MUST BE GENERALLY SMOOTH AND WELL VEGETATED WITH A MAXIMUM SLOPE OF 10%

CONSTRUCTION SPECIFICATIONS
1. THE MATTING SHOULD BE A MINIMUM OF 4 FEET WIDE EXTENDING 6 INCHES OVER THE LIP AND BURIED 6 INCHES DEEP IN A VERTICAL TRENCH ON THE LOWER EDGE. THE UPPER EDGE SHOULD BUTT AGAINST SMOOTHLY CUT SOD AND BE SECURELY HELD IN PLACE WITH CLOSELY SPACED HEAVY DUTY WIRE STAPLES AT LEAST 12 INCHES LONG.
2. ENSURE THAT THE SPREADER IS LEVEL, FOR UNIFORM SPREADING OF STORM RUNOFF.
3. CONSTRUCT THE LEVEL SPREADER ON UNDISTURBED SOIL. (NOT ON FILL)
4. CONSTRUCT A 20 FOOT TRANSITION SECTION FROM THE DIVERSION CHANNEL TO BLEND SMOOTHLY WITH THE WIDTH AND DEPTH OF THE LEVEL SPREADER.
5. DISPERSE RUNOFF FROM THE SPREADER ACROSS A PROPERLY STABILIZED SLOPE, NOT TO EXCEED 10%. MAKE SURE THAT THE SLOPE IS SUFFICIENTLY SMOOTH TO KEEP THE FLOW FROM CONCENTRATING.
6. IMMEDIATELY AFTER IT'S CONSTRUCTION, APPROPRIATELY SEED AND MULCH THE ENTIRE DISTURBED AREA OF THE LEVEL SPREADER.



LEVEL SPREADER
SCALE: N.T.S.

GRASS NOTE:
GRASS SHALL BE EITHER HYBRID BERMUDA GRASS OR CENTIPEDE

VEGETATIVE FILTER STRIP - SOIL MIXTURE

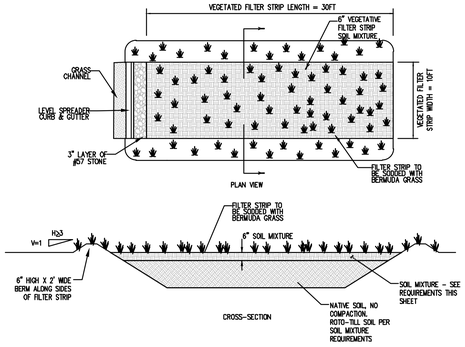
SOIL MIXTURE

ITEM	PERCENT BY WEIGHT	MATERIAL
SAND	85-88%	CONSTRUCTION SAND
FINES	8%-12%	SILT
ORGANIC MATTER	3%-5%	COMPOST/PEAT MOSS

SOIL MIXTURE: SHALL BE PLACED AND GRADED USING LOW GROUND-CONTACT PRESSURE EQUIPMENT OR BY EXCAVATORS AND/OR BACKHOES OPERATING ON THE GROUND ADJACENT TO THE VEGETATIVE FILTER STRIP FACILITY. NO HEAVY EQUIPMENT SHALL BE USED WITHIN THE PERIMETER OF THE VEGETATIVE FILTER STRIP FACILITY BEFORE, DURING, OR AFTER THE PLACEMENT OF THE SOIL MIXTURE. THE SOIL MIXTURE SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED 4 INCHES FOR THE ENTIRE AREA OF THE VEGETATIVE FILTER STRIP FACILITY. IF THE SOIL MIXTURE BECOMES CONTAMINATED DURING THE CONSTRUCTION OF THE VEGETATIVE FILTER STRIP FACILITY, THE CONTAMINATED MATERIAL SHALL BE REMOVED AND REPLACED WITH UNCONTAMINATED MATERIAL AT NO ADDITIONAL COST. FINAL GRADING OF THE VEGETATIVE FILTER STRIP SHALL BE PERFORMED AFTER A 24-HOUR SETTLING PERIOD. FINAL ELEVATIONS SHALL BE WITHIN 2 INCHES OF ELEVATIONS SHOWN ON THE CONTRACT PLANS.

THE SOIL MIXTURE SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES EXCLUDING MULCH. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE VEGETATIVE FILTER STRIP AREA THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS.

PRIOR TO PLACING THE SOIL MIXTURE, THE BOTTOM OF THE EXCAVATION SHALL BE ROTO-TILLED TO A MINIMUM DEPTH OF 6 INCHES TO ALLEVIATE ANY COMPACTION OF THE FACILITY BOTTOM. ANY SUBSTITUTE METHOD FOR ROTO-TILLING MUST BE APPROVED BY THE ENGINEER PRIOR TO USE. ANY PONDED WATER SHALL BE REMOVED FROM THE BOTTOM OF THE FACILITY AND THE SOIL SHALL BE FRIABLE BEFORE ROTO-TILLING.

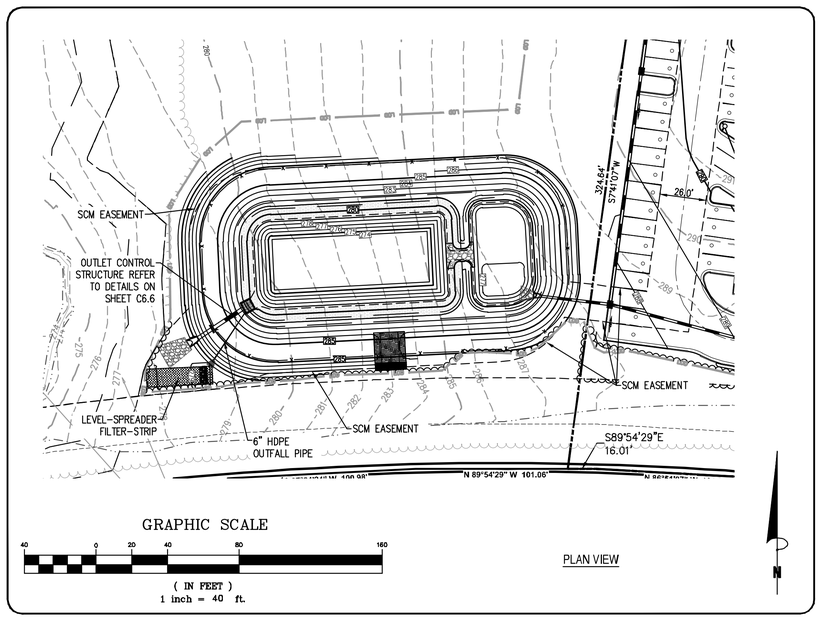


VEGETATIVE FILTER STRIP
SCALE: N.T.S.

OPERATION & MAINTENANCE

North Carolina storm water rules require annual inspections by the regulating agency of level spreader-filter strip areas as a minimum. More frequent inspections by the land owner or system operator are strongly encouraged to ensure the proper operation of level spreader-filter strip areas.

A. Rainfall Event
   1. Inspect the SCM after every runoff-producing rainfall event.
B. Monthly Inspection
   1. Inspect the SCM monthly
   2. Check the level spreader-filter strip area side slopes; remove trash and repair eroded areas before the next rainfall event.
   3. Check the vegetative and rock filters for sediment accumulation, erosion and proper operation of the flow spreader mechanism and repair as necessary.
   4. Visually inspect and repair soil erosion on a monthly basis.
   5. Remulch any void area whenever necessary. Replacement of mulch layers may be necessary every two or three years. mulch should be replaced in the spring. When the mulch layer is replaced, the previous layer should be removed first.
   6. Remove and replace all dead and diseased vegetation considered beyond treatment. This should be done twice a year, once in the spring and once in the fall. Treat all diseased trees and shrubs that are not beyond treatment as needed.
C. Quarterly Inspection
   1. Inspect the collection system (i.e. catch basin, pipes and grass swales) for proper functioning. Clear accumulated trash from basin grates and basin bottoms. Check piping for obstructions.
   2. Check SCM inlet pipes for undercutting, replace rip-rap and repair broken pipes.
   3. Reseed grassed swales, including the vegetated filter if applicable, twice a year as necessary. Repair eroded areas immediately.
D. Six Month Inspection
   1. Remove accumulated sediment from the bottom of the outlet structure or other areas where accumulated sediment is noted.
   2. Inspect the embankment taking note of any wet areas where water may be seeping through the soil.
E. General Inspection
   1. Maximum grass height is to be 6in.
   2. No woody vegetation shall be allowed to grow in the bio-retention area.
   3. Debris shall be removed from blocking the inlet and outlet structures and from areas of potential clogging.
   4. Periodic removal of dead vegetation shall be accomplished.
   5. All components of the level spreader-filter strip system must be kept in good working order.



PLAN VIEW

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NOT TO SCALE

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Bowman North Carolina Ltd.
4006 BARRETT DR
Suite 104
RALEIGH, NC 27609
Phone: (919)553-6570
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STORMWATER MANAGEMENT DETAILS
Tractor Supply
Old US Highway 264
Zebulon, NC Wake County

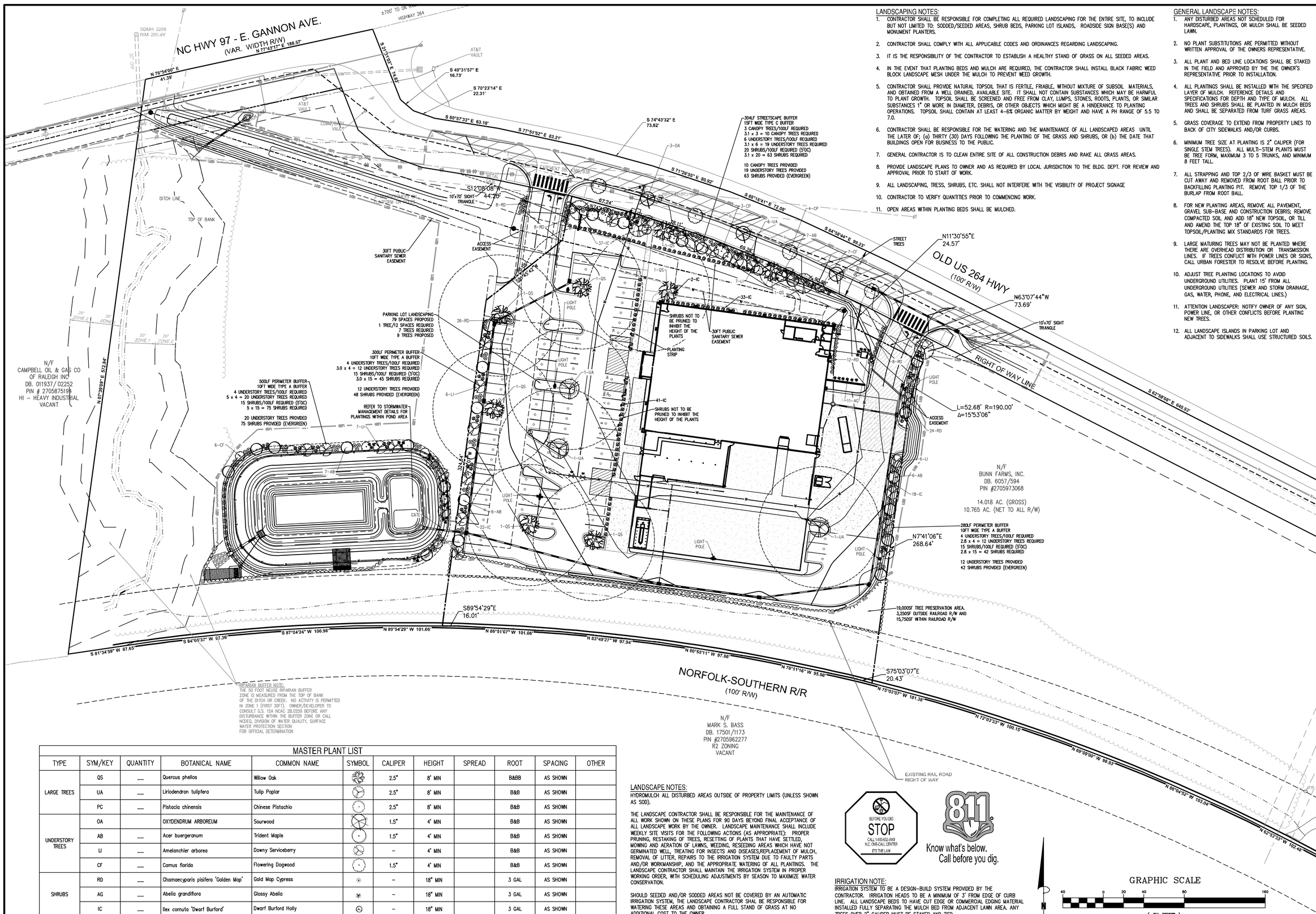
TRACTOR SUPPLY COMPANY

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 34474 MATTHEW E. LORUSSO

PLAN STATUS	
1	10/23 1ST CD SUBMISSION
2	20/23 2ND CD SUBMISSION
3	21/23 REVISED PER CITY OF RALEIGH REVIEW
DATE	DESCRIPTION

MEL	MEL	XXX
DESIGN	DRAWN	CHKD
SCALE	H: 1" = XXX' V: 1" = XXX'	
JOB No.	220127-01-001	
DATE	January 10, 2023	
FILE No.	220127-D-CP-001	
SHEET	C6.9	

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



LANDSCAPING NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETING ALL REQUIRED LANDSCAPING FOR THE ENTIRE SITE, TO INCLUDE BUT NOT LIMITED TO: SODDED/SEEDED AREAS, SHRUB BEDS, PARKING LOT ISLANDS, ROADSIDE SIGN BASE(S) AND MONUMENT PLANTERS.
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. IN THE EVENT THAT PLANTING BEDS AND MULCH ARE REQUIRED, THE CONTRACTOR SHALL INSTALL BLACK FABRIC WEED BLOCK LANDSCAPE MESH UNDER THE MULCH TO PREVENT WEED GROWTH.
5. CONTRACTOR SHALL PROVIDE NATURAL TOPSOIL THAT IS FERTILE, FRIABLE, WITHOUT MIXTURE OF SUBSOIL MATERIALS, AND OBTAINED FROM A WELL DRAINED, AVAILABLE SITE. IT SHALL NOT CONTAIN SUBSTANCES WHICH MAY BE HARMFUL TO PLANT GROWTH. TOPSOIL SHALL BE SCREENED AND FREE FROM CLAY, LUMPS, STONES, ROOTS, PLANTS, OR SIMILAR SUBSTANCES 1" OR MORE IN DIAMETER, DEBRIS, OR OTHER OBJECTS WHICH MIGHT BE A HINDERANCE TO PLANTING OPERATIONS. TOPSOIL SHALL CONTAIN AT LEAST 4–6% ORGANIC MATTER BY WEIGHT AND HAVE A PH RANGE OF 5.5 TO 7.0.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR THE WATERING AND THE MAINTENANCE OF ALL LANDSCAPED AREAS UNTIL THE LATER OF; (a) THIRTY (30) DAYS FOLLOWING THE PLANTING OF THE GRASS AND SHRUBS, OR (b) THE DATE THAT BUILDINGS OPEN FOR BUSINESS TO THE PUBLIC.
7. GENERAL CONTRACTOR IS TO CLEAN ENTIRE SITE OF ALL CONSTRUCTION DEBRIS AND RAKE ALL GRASS AREAS.
8. PROVIDE LANDSCAPE PLANS TO OWNER AND AS REQUIRED BY LOCAL JURISDICTION TO THE BLDG. DEPT. FOR REVIEW AND APPROVAL PRIOR TO START OF WORK.
9. ALL LANDSCAPING, TRESS, SHRUBS, ETC. SHALL NOT INTERFERE WITH THE VISIBILITY OF PROJECT SIGNAGE
10. CONTRACTOR TO VERIFY QUANTITIES PRIOR TO COMMENCING WORK.
11. OPEN AREAS WITHIN PLANTING BEDS SHALL BE MULCHED.

GENERAL LANDSCAPE NOTES:

1. ANY DISTURBED AREAS NOT SCHEDULED FOR HARDSCAPE, PLANTINGS, OR MULCH SHALL BE SEEDED LAWN.
2. NO PLANT SUBSTITUTIONS ARE PERMITTED WITHOUT WRITTEN APPROVAL OF THE OWNERS REPRESENTATIVE.
3. ALL PLANT AND BED LINE LOCATIONS SHALL BE STAKED IN THE FIELD AND APPROVED BY THE THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
4. ALL PLANTINGS SHALL BE INSTALLED WITH THE SPECIFIED LAYER OF MULCH. REFERENCE DETAILS AND SPECIFICATIONS FOR DEPTH AND TYPE OF MULCH. ALL TREES AND SHRUBS SHALL BE PLANTED IN MULCH BEDS AND SHALL BE SEPARATED FROM TURF GRASS AREAS.
5. GRASS COVERAGE TO EXTEND FROM PROPERTY LINES TO BACK OF CITY SIDEWALKS AND/OR CURBS.
6. MINIMUM TREE SIZE AT PLANTING IS 2" CALIPER (FOR SINGLE STEM TREES). ALL MULTI-STEM PLANTS MUST BE TREE FORM, MAXIMUM 3 TO 5 TRUNKS, AND MINIMUM 8 FEET TALL.
7. ALL STRAPPING AND TOP 2/3 OF WIRE BASKET MUST BE CUT AWAY AND REMOVED FROM ROOT BALL PRIOR TO BACKFILLING PLANTING PIT. REMOVE TOP 1/3 OF THE BURLAP FROM ROOT BALL.
8. FOR NEW PLANTING AREAS, REMOVE ALL PAVEMENT, GRAVEL SUB-BASE AND CONSTRUCTION DEBRIS; REMOVE COMPACTED SOIL AND ADD 18" NEW TOPSOIL, OR TILL AND AMEND THE TOP 18" OF EXISTING SOIL TO MEET TOPSOIL/PLANTING MIX STANDARDS FOR TREES.
9. LARGE MATURING TREES MAY NOT BE PLANTED WHERE THERE ARE OVERHEAD DISTRIBUTION OR TRANSMISSION LINES. IF TREES CONFLICT WITH POWER LINES OR SIGNS, CALL URBAN FORESTER TO RESOLVE BEFORE PLANTING.
10. ADJUST TREE PLANTING LOCATIONS TO AVOID UNDERGROUND UTILITIES. PLANT 15' FROM ALL UNDERGROUND UTILITIES (SEWER AND STORM DRAINAGE, GAS, WATER, PHONE, AND ELECTRICAL LINES.)
11. ATTENTION LANDSCAPER: NOTIFY OWNER OF ANY SIGN, POWER LINE, OR OTHER CONFLICTS BEFORE PLANTING NEW TREES.
12. ALL LANDSCAPE ISLANDS IN PARKING LOT AND ADJACENT TO SIDEWALKS SHALL USE STRUCTURED SOILS.

MASTER PLANT LIST

TYPE	SYM/KEY	QUANTITY	BOTANICAL NAME	COMMON NAME	SYMBOL	CALIPER	HEIGHT	SPREAD	ROOT	SPACING	OTHER
LARGE TREES	QS	___	Quercus phellos	Willow Oak		2.5"	8' MIN		B&BB	AS SHOWN	
	UA	___	Liriodendron tulipfera	Tulip Poplar		2.5"	8' MIN		B&B	AS SHOWN	
	PC	___	Pistacia chinensis	Chinese Pistachio		2.5"	8' MIN		B&B	AS SHOWN	
UNDERSTORY TREES	OA	___	OXYDENDRUM ARBOREUM	Sourwood		1.5"	4' MIN		B&B	AS SHOWN	
	AB	___	Acer buergeranum	Trident Maple		1.5"	4' MIN		B&B	AS SHOWN	
	LI	___	Amelanchier arborea	Downy Serviceberry		–	4' MIN		B&B	AS SHOWN	
	CF	___	Cornus florida	Flowering Dogwood		1.5"	4' MIN		B&B	AS SHOWN	
SHRUBS	RD	___	Chamaecyparis pisifera 'Golden Mop'	Gold Mop Cypress		–	18" MIN		3 GAL	AS SHOWN	
	AG	___	Abelia grandiflora	Glossy Abelia		–	18" MIN		3 GAL	AS SHOWN	
	IC	___	Ilex cornuta 'Dwarf Burford'	Dwarf Burford Holly		–	18" MIN		3 GAL	AS SHOWN	

LANDSCAPE NOTES:

HYDROMULCH ALL DISTURBED AREAS OUTSIDE OF PROPERTY LIMITS (UNLESS SHOWN AS SOD).

THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL WORK SHOWN ON THESE PLANS FOR 90 DAYS BEYOND FINAL ACCEPTANCE OF ALL LANDSCAPE WORK BY THE OWNER. LANDSCAPE MAINTENANCE SHALL INCLUDE WEEKLY SITE VISITS FOR THE FOLLOWING ACTIONS (AS APPROPRIATE): PROPER PRUNING, RESTAKING OF TREES, RESETTING OF PLANTS THAT HAVE SETTLED, MOWING AND AERATION OF LAWNS, WEEDING, RESEEDING AREAS WHICH HAVE NOT GERMINATED WELL, TREATING FOR INSECTS AND DISEASES,REPLACEMENT OF MULCH, REMOVAL OF LITTER, REPAIRS TO THE IRRIGATION SYSTEM DUE TO FAULTY PARTS AND/OR WORKMANSHIP, AND THE APPROPRIATE WATERING OF ALL PLANTINGS. THE LANDSCAPE CONTRACTOR SHALL MAINTAIN THE IRRIGATION SYSTEM IN PROPER WORKING ORDER, WITH SCHEDULING ADJUSTMENTS BY SEASON TO MAXIMIZE WATER CONSERVATION.

SHOULD SEEDED AND/OR SODDED AREAS NOT BE COVERED BY AN AUTOMATIC IRRIGATION SYSTEM, THE LANDSCAPE CONTRACTOR SHAL BE RESPONSIBLE FOR WATERING THESE AREAS AND OBTAINING A FULL STAND OF GRASS AT NO ADDITIONAL COST TO THE OWNER.

IRRIGATION NOTE:

IRRIGATION SYSTEM TO BE A DESIGN-BUILD SYSTEM PROVIDED BY THE CONTRACTOR. IRRIGATION HEADS TO BE A MINIMUM OF 3' FROM EDGE OF CURB LINE. ALL LANDSCAPE BEDS TO HAVE CUT EDGE OR COMMERCIAL EDGING MATERIAL INSTALLED FULLY SEPARATING THE MULCH BED FROM ADJACENT LAWN AREA. ANY TREES OVER 2" CALIPER MUST BE STAKED AND TIED.

BEFORE YOU DIG STOP CALL 1-800-632-4949 N.C. ONE-CALL CENTER IT'S THE LAW

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

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

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

TSC
TRACTOR SUPPLY COMPANY

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

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 34434 3/31/23 MATTHEW E. LONGTIN

PLAN STATUS	
1/10/23	1ST CD SUBMISSION
2/20/23	2ND CD SUBMISSION
3/21/23	REVISED PER CITY OF RALEIGH REVIEW
DATE	DESCRIPTION

MEL	MEL	XXX
DESIGN	DRAWN	CHKD

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

JOB No. 220127-01-001

DATE January 10, 2023

FILE No. 220127-D-CP-001

SHEET C7.0

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

Zebulon, NC.

Front-Left Elevation

Trees removed for clarity

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Conceptual Elevation

Zebulon, NC

October 14, 2022

PRIMAX

TSC TRACTOR SUPPLY Co.

Zebulon, NC.

Front Elevation

Zebulon, NC.

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

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

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

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

Front Elevation

UDO Analysis

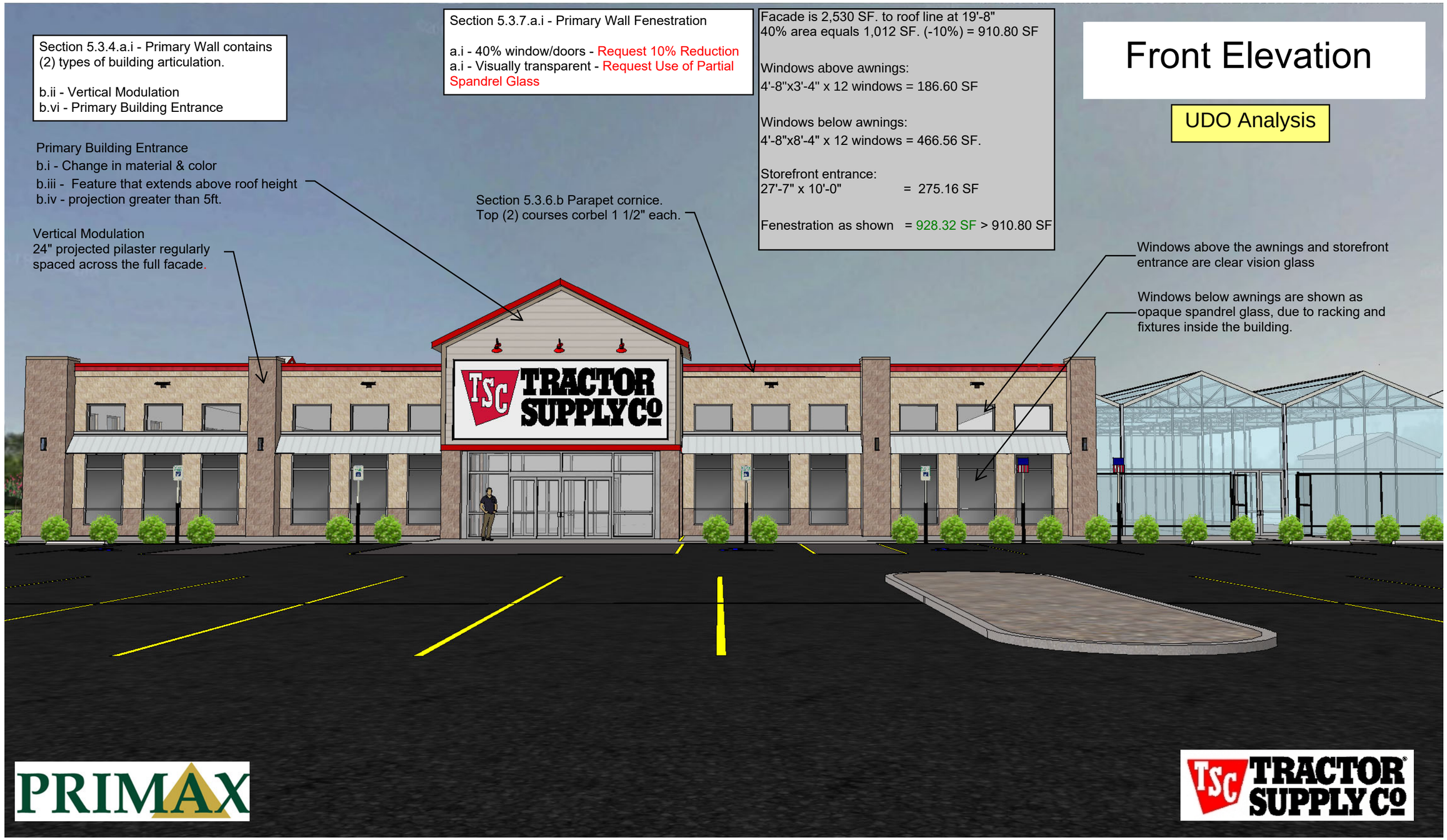
Primary Building Entrance
b.i - Change in material & color
b.iii - Feature that extends above roof height
b.iv - projection greater than 5ft.

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

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

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

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Zebulon, NC.

Front-Right Elevation

Zebulon, NC.


Greenhouse Connection
Split Face CMU Pilaster
Painted Sanderling
SW7513
Two Course Corbelled
Cornice Cap
Smooth Face CMU Wall
Painted Urban Putty
SW7532
Clear polycarbonate
panel @ gabled ends
Clear poly sheet covering
pre-fab greenhouse
8' high black chainlink
fence and gate
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Zebulon, NC.


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.
Greenhouse Connection
UDO Analysis
PRIMAX
TSC TRACTOR SUPPLY Co

Zebulon, NC.

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

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Loading Area

UDO Analysis

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

Material change occurs at screen wall, required to screen loading area per Section 5.10.5

Painted smooth face CMU to match primary building face, from logical point behind the masonry screen wall to wrapping the corner and terminate at front of greenhouse

Smooth face CMU painted Sanderling SW7513

Metal panel dumpster enclosure gates painted black

Section 5.3.1.H - Dumpster Enclosure Design
1. Constructed of same block as primary building
2. Gates metal panels painted black

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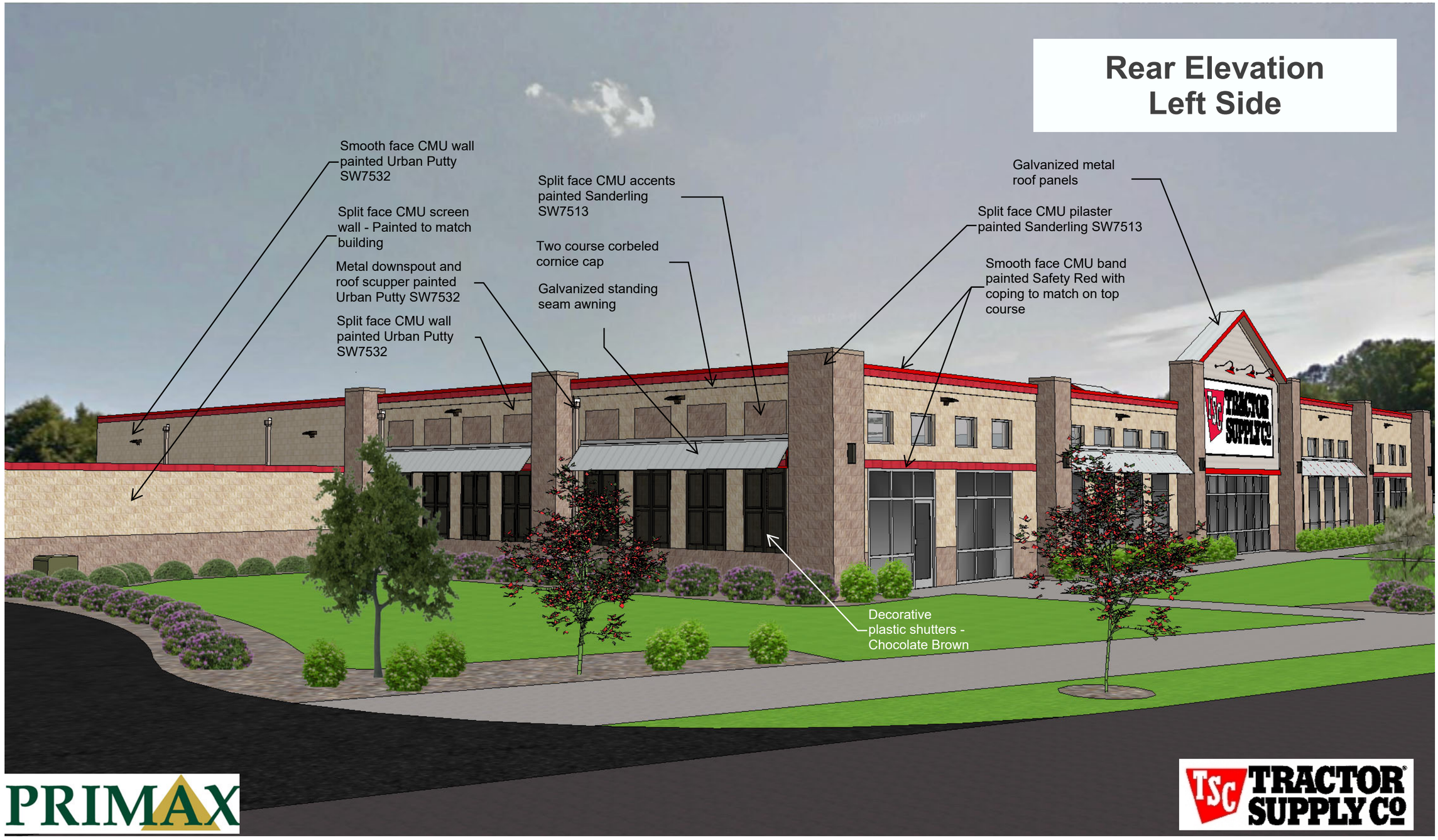
TSC TRACTOR SUPPLY CO.

Zebulon, NC.

Rear Elevation
Left Side



PRIMAX

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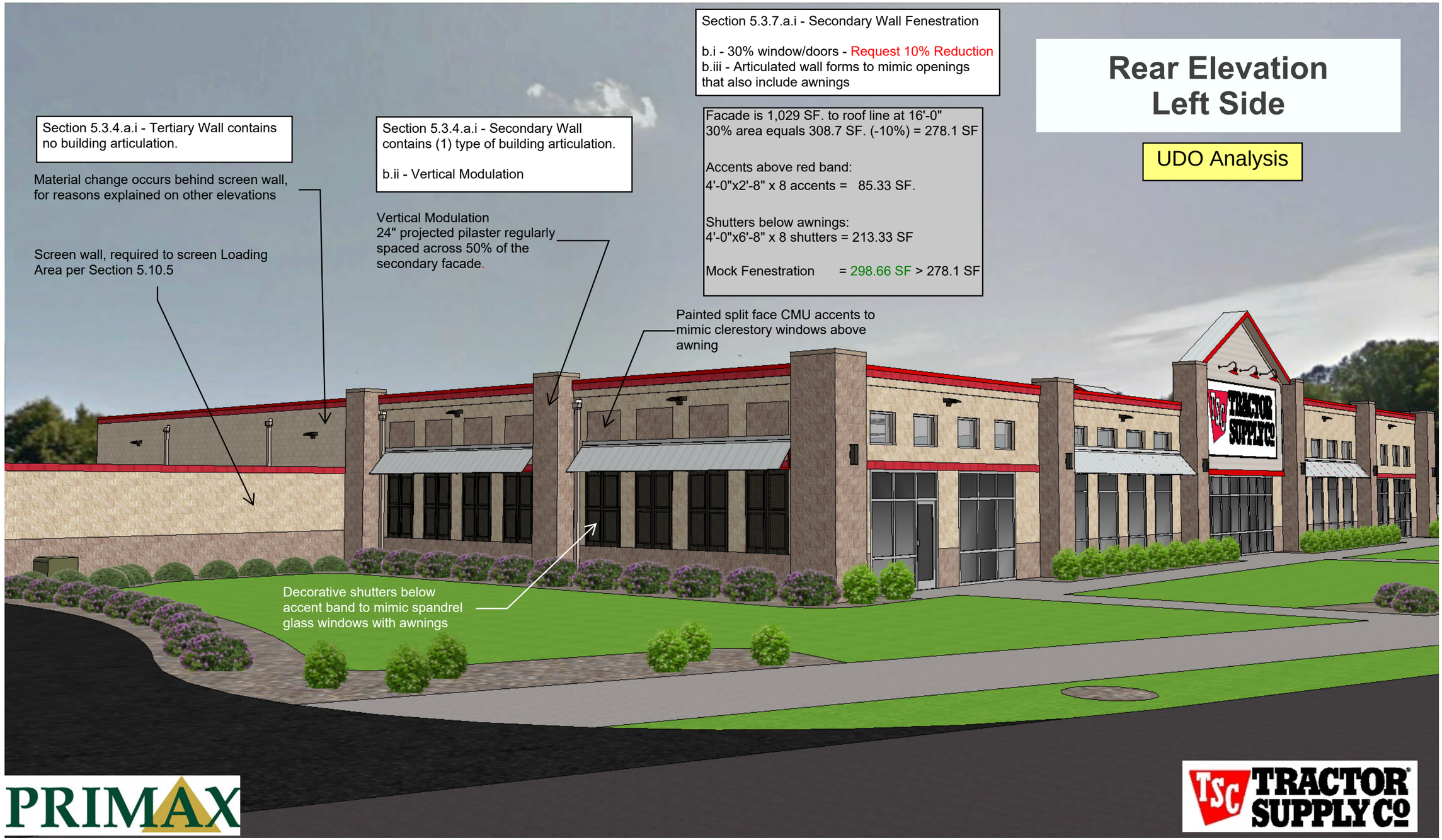
Zebulon, NC.


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
Rear Elevation
Left Side
UDO Analysis
Section 5.3.4.a.i - Tertiary Wall contains no building articulation.
Section 5.3.4.a.i - Secondary Wall contains (1) type of building articulation.
b.ii - Vertical Modulation
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
Material change occurs behind screen wall, for reasons explained on other elevations
Screen wall, required to screen Loading Area per Section 5.10.5
Vertical Modulation
24" projected pilaster regularly spaced across 50% of the secondary facade.
Painted split face CMU accents to mimic clerestory windows above awning
Decorative shutters below accent band to mimic spandrel glass windows with awnings
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Zebulon, NC.

Left Elevation

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

b.ii - Vertical Modulation
b.v - Roof Modulation

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

Facade is 3,126 SF. to roof line from at 19'-8" in front to 16'-0" in the back.
40% area equals 1,250 SF. (-10%) = 1125 SF

Windows above awnings = 175.05

Windows below awnings = 311.10

Storefront below awning = 640.00

Fenestration as shown = 1,126.15 SF > 1,125 SF

Left Elevation

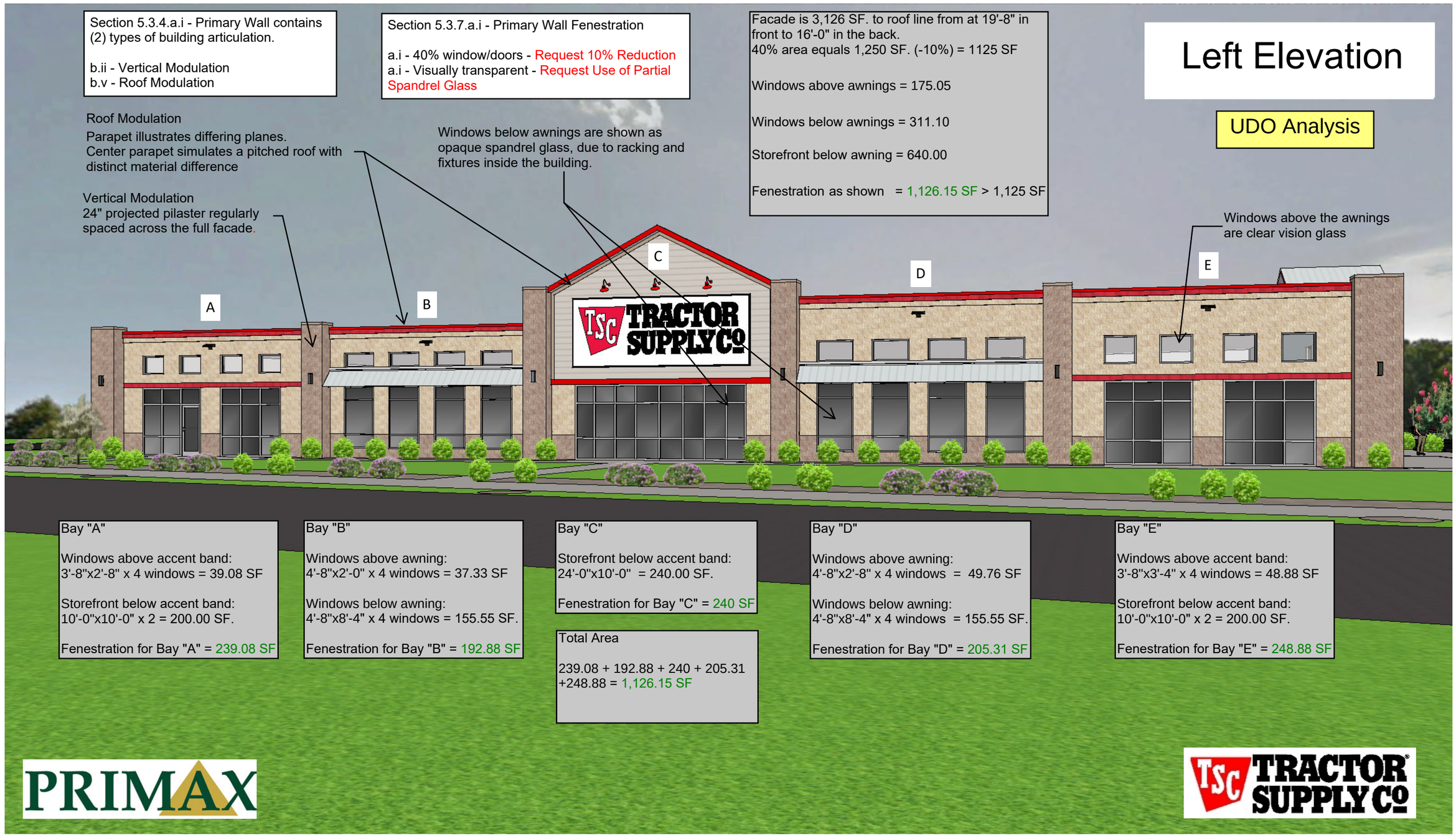
UDO Analysis

Roof Modulation
Parapet illustrates differing planes.
Center parapet simulates a pitched roof with distinct material difference

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

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

Windows above the awnings are clear vision glass



Bay "A"

Windows above accent band:
3'-8"x2'-8" x 4 windows = 39.08 SF

Storefront below accent band:
10'-0"x10'-0" x 2 = 200.00 SF.

Fenestration for Bay "A" = 239.08 SF

Bay "B"

Windows above awning:
4'-8"x2'-0" x 4 windows = 37.33 SF

Windows below awning:
4'-8"x8'-4" x 4 windows = 155.55 SF.

Fenestration for Bay "B" = 192.88 SF

Bay "C"

Storefront below accent band:
24'-0"x10'-0" = 240.00 SF.

Fenestration for Bay "C" = 240 SF

Total Area

239.08 + 192.88 + 240 + 205.31 +248.88 = 1,126.15 SF

Bay "D"

Windows above awning:
4'-8"x2'-8" x 4 windows = 49.76 SF

Windows below awning:
4'-8"x8'-4" x 4 windows = 155.55 SF.

Fenestration for Bay "D" = 205.31 SF

Bay "E"

Windows above accent band:
3'-8"x3'-4" x 4 windows = 48.88 SF

Storefront below accent band:
10'-0"x10'-0" x 2 = 200.00 SF.

Fenestration for Bay "E" = 248.88 SF

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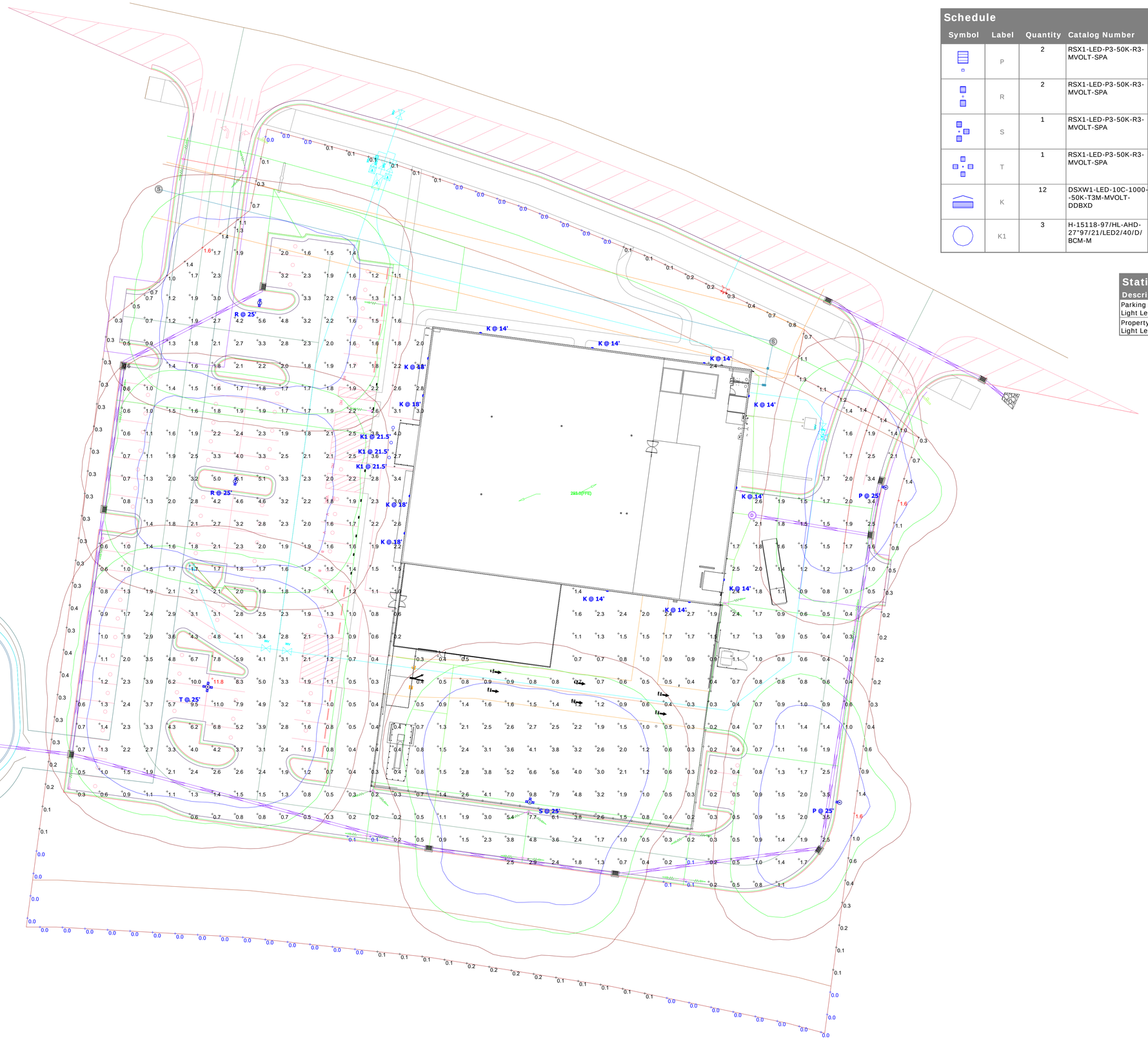
Zebulon, NC.


Front-Left
Elevation
TRACTOR SUPPLY Co
PRIMAX
TSC TRACTOR SUPPLY Co



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/2ft. 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/2ft. 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	11.8 fc	0.1 fc	6.21	118.0:1	19.0:1
Property Line Light Levels	+	0.3 fc	1.6 fc	0.0 fc	5.33	N/A	N/A

villa LIGHTING

Tractor Supply Co - Zebulon, NC
Parking Lot Lighting Layout

Designer
Adam Carrier
Date
02/08/2023
Scale
Not to Scale
Drawing No.

Summary