

401 WEST GANNON AVENUE

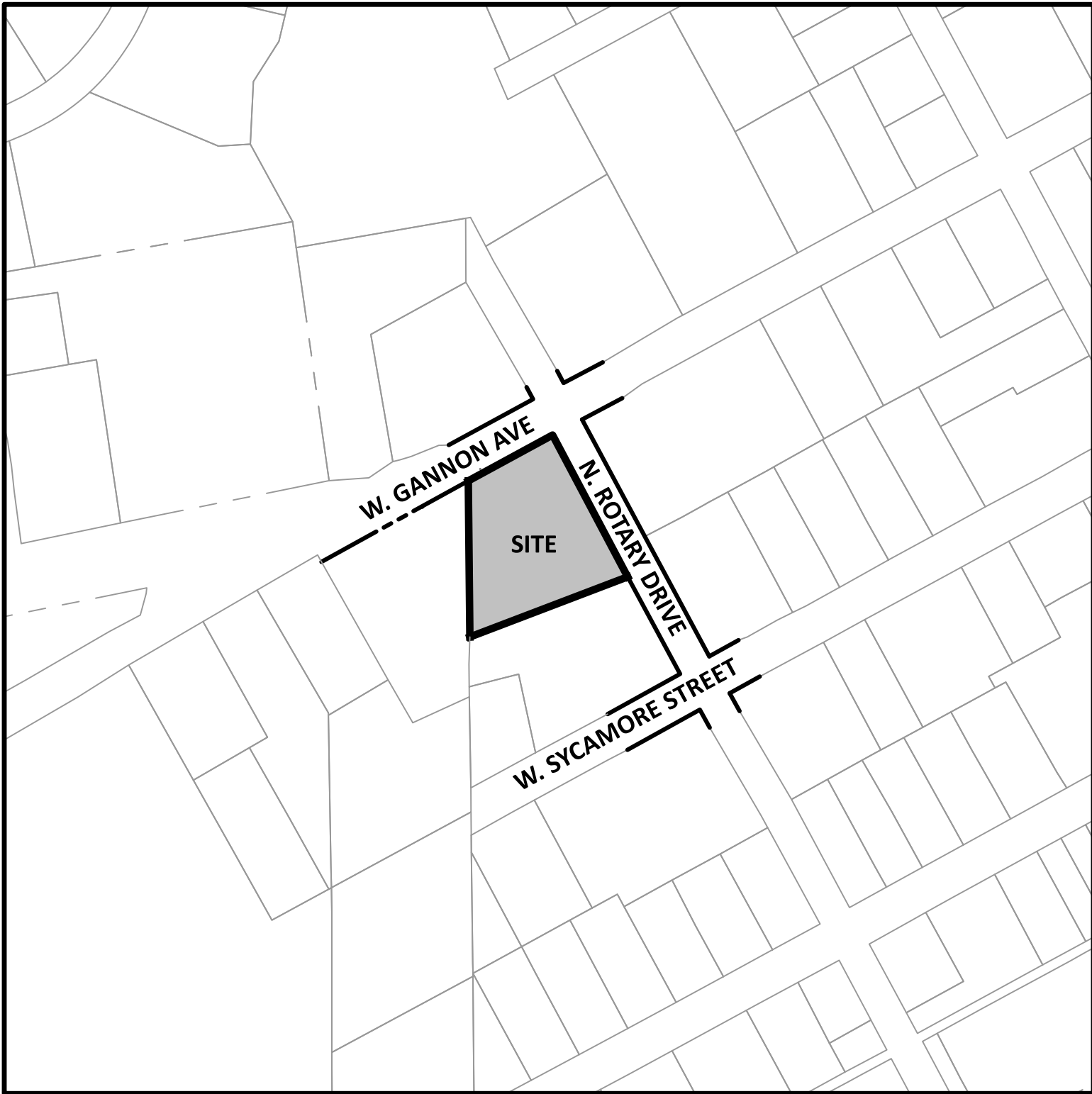
SITE PLAN AND CONSTRUCTION DRAWINGS

ZEBULON, NC

MARCH 1, 2023
REVISED: JULY 10, 2023
REVISED: SEPTEMBER 14, 2023
REVISED: DECEMBER 20, 2023
REVISED: APRIL 15, 2024
REVISED: JUNE 19, 2024

CLIENT
MERIDIAN PROPERTIES GROUP, LLC
4030 WAKE FOREST ROAD, SUITE 100
RALEIGH, NC 27609
919-621-4648

VICINITY MAP
SCALE: 1"=200'

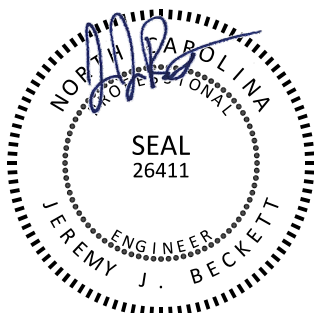


SHEET INDEX

SHEET NO.	SHEET NAME	MOST CURRENT REVISION DATE
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C1.1	STAGING AND DEMOLITION PLAN	7/10/2023
C2.0	SITE PLAN	04/15/2024
C3.0	UTILITY PLAN	04/15/2024
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C5.0	LANDSCAPE PLAN	06/19/2024
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D4.2	RALEIGH WATER DETAILS	7/10/2023
D5.1	LANDSCAPE DETAILS	7/10/2023

PUBLIC IMPROVEMENTS QUANTITIES

PUBLIC ROADS	0 LF
PUBLIC WATER LINE EXTENSION	224 LF
8" PUBLIC SANITARY SEWER EXTENSION	243 LF
PUBLIC STORM DRAINAGE IMPROVEMENTS	0 LF
PROPOSED WATER METERS	11
PROPOSED SEWER CLEANOUTS	11



06/19/2024

EROSION CONTROL, STORMWATER AND FLOODPLAIN MANAGEMENT

APPROVED

EROSION CONTROL ☐ S-

STORMWATER MGMT. ☐ S-

FLOOD STUDY ☐ S-

DATE _____

WAKE COUNTY ENVIRONMENTAL CONSULTANT SIGNATURE

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-2400**

AUTHORIZATION TO CONSTRUCT _____

DATE _____

PRIVATE
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-2401(P)**

AUTHORIZATION TO CONSTRUCT _____

DATE _____

PUBLIC
WATER DISTRIBUTION/EXTENSION SYSTEM

THE CITY OF RALEIGH CONSENTS TO THE CONNECTION AND EXTENSION OF THE CITY'S PUBLIC WATER 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 # **W-1085**

AUTHORIZATION TO CONSTRUCT _____

DATE _____

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 24 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 DOWNSTEAM 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.

SITE PERMITTING APPROVAL
Water and Sewer Permits (If Applicable)

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-XXXX**

The City of Raleigh consents to the connection and extension of the City's Public Water 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 # **W-XXXX**

CITY OF RALEIGH -- PLANS AUTHORIZED FOR CONSTRUCTION

Electronic Approval: This approval is being issued electronically. This approval is valid only upon the signature of a City of Raleigh Review Officer below. The City will retain a copy of the approved plans. Any work authorized by this approval must proceed in accordance with the plans kept on file with the City. This electronic approval may not be edited once issued. Any modification to this approval once issued will invalidate this approval.

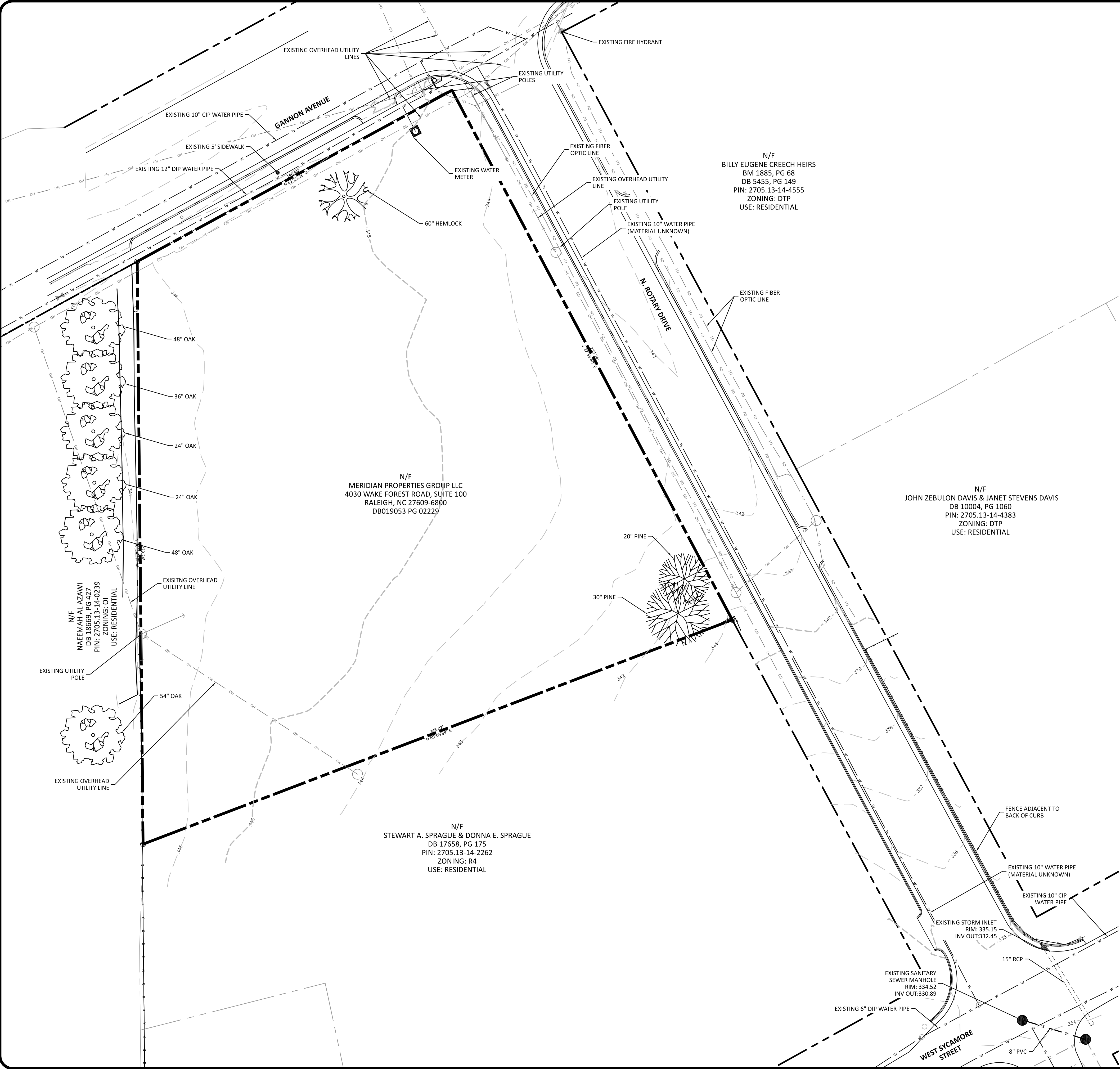
City of Raleigh Development Approval _____
Raleigh Water Review Officer

TOWN OF ZEBULON PROJECT ID: 964220	ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH TOWN OF ZEBULON STANDARDS AND SPECIFICATIONS
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The Nau Company
Consulting Civil Engineers

PO Box 810 Rolesville, NC 27571
919-435-6395
NCBELS License P-0751

PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION



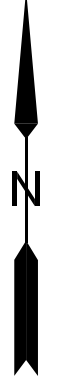
EXISTING CONDITIONS SOURCES

THE EXISTING CONDITIONS SHOWN ON THIS PLAN WERE TAKEN FROM A CAD FILE PROVIDED BY ANGLE RIGHT SURVEYING, PLLC | 3008 ANDERSON DRIVE, SUITE 160 RALEIGH, NC 27609 | 919-810-4324 WITH THE FOLLOWING EXCEPTIONS:

- PROPERTY LINES ADJACENT TO THE SUBJECT PROPERTY WERE TAKEN FROM WAKE COUNTY GIS
- THE 10" CIP WATER LINE IN WEST GANNON AVENUE WAS DIGITIZED FROM CITY OF RALEIGH INFORMATION
- WATER LINE SIZE AND MATERIAL WAS TAKEN FROM INFORMATION PROVIDED BY THE CITY OF RALEIGH

EXISTING CONDITIONS NOTES

- THERE ARE NO ROCK OUTCROPPINGS OR ONSITE SLOPES STEEPER THAN 3H:1V
- THERE ARE NO WETLANDS PRESENT ONSITE
- THERE ARE NO CREEKS, STREAMS PONDS OR DAMS ONSITE.
- THERE ARE PERENNIAL OR INTERMITTENT STREAMS AND NO REQUIRED RIPARIAN BUFFERS ONSITE.
- THERE IS NO FEMA FLOODPLAIN ONSITE PER FEMA PANEL 2705 MAP NUMBER 3720270500K EFFECTIVE JULY 19, 2022



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OWNER/DEVELOPER:
MERIDIAN PROPERTIES GROUP LLC
4030 WAKE FOREST ROAD, SUITE 100
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919-621-4646

REVISIONS		DATE		BY		REVISIONS	
1	2023-07-10	1	2023-07-10	1	2023-07-10	1	2023-07-10

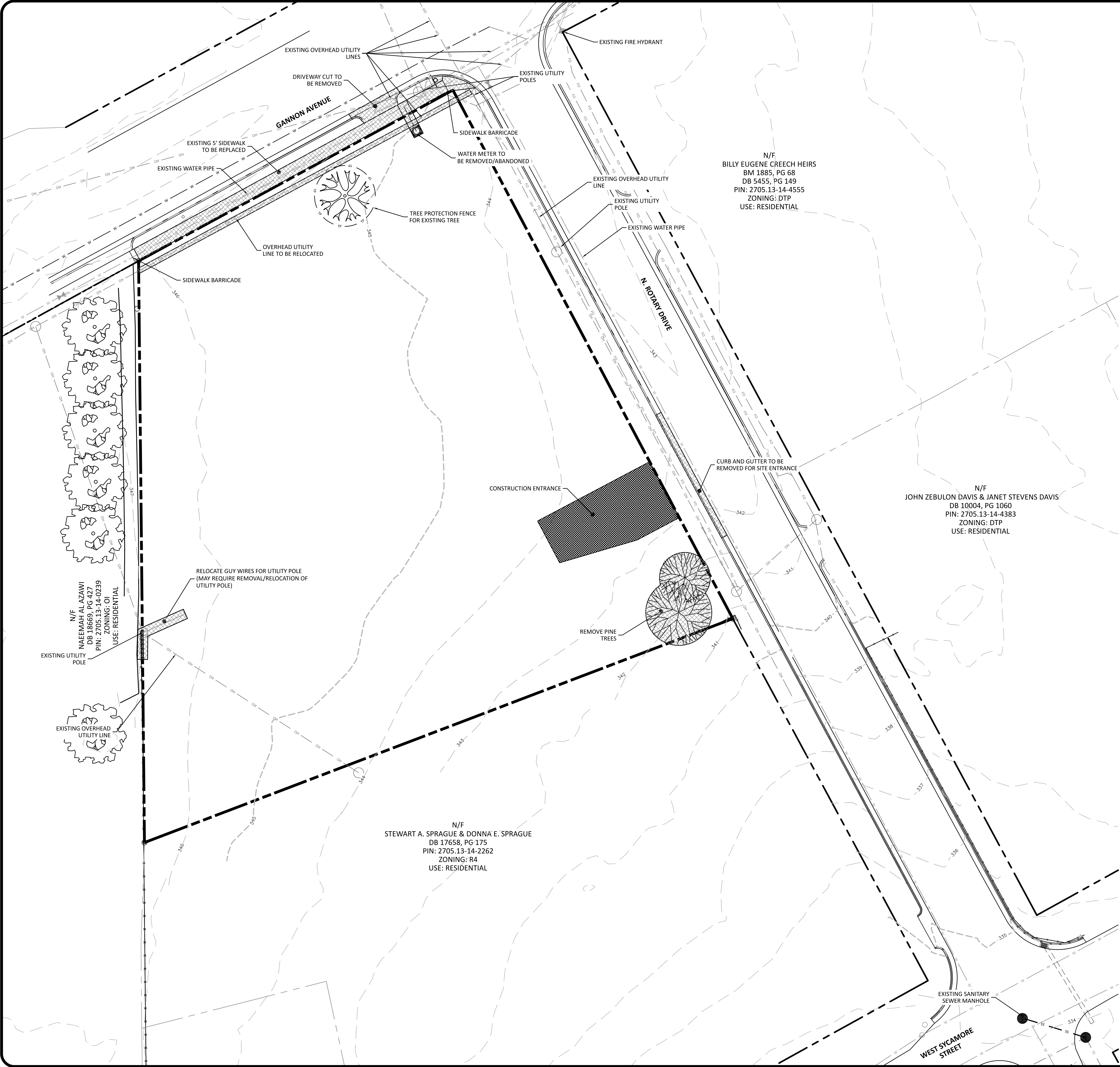
401 GANNON AVENUE
SITE PLAN AND CONSTRUCTION DRAWINGS
ZEBULON, NC
EXISTING CONDITIONS PLAN

NORTH CAROLINA
SEAL
7/10/2023

PROJECT NO: ---
DESIGN BY: JPE
DRAWN BY: JPE
SCALE: 1"=20'
DATE: 2023-03-01
SHEET NO: C1.0

TOWN OF ZEBULON
PROJECT ID: 964220
ALL CONSTRUCTION SHALL BE IN
ACCORDANCE WITH TOWN OF
ZEBULON STANDARDS AND
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20 0 10 20 40
SCALE: 1"=20'
PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION



- STAGING AND DEMOLITION NOTES**
1. THE ONLY TREE TO REMAIN IS THE HEMLOCK TREE ALONG THE NORTHERN PROPERTY BOUNDARY
 2. THERE ARE NO STOCKPILES REQUIRED FOR THIS PROJECT.
 3. CONSTRUCTION AND EMERGENCY ACCESS WILL BE FROM ROTARY DRIVE.
 4. TRAFFIC MANAGEMENT IS NOT NECESSARY FOR THE PROPOSED DEVELOPMENT
 5. THE EXISTING SIDEWALK ALONG GANNON AVENUE WILL REQUIRE A BARRICADE ON EACH END OF THE SITE WHILE THE EXISTING SIDEWALK IS REMOVED AND THE PROPOSED SIDEWALK IS CONSTRUCTED



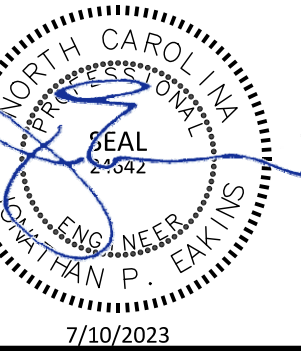
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919-621-4646

REVISIONS

NO.	DATE	DESCRIPTION
1	2023-07-10	ISSUED FOR PERMITS AND REVISIONS PER TOWN COMMENTS

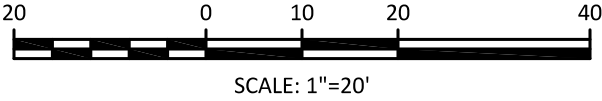
401 GANNON AVENUE
SITE PLAN AND CONSTRUCTION DRAWINGS
ZEBULON, NC
STAGING AND DEMOLITION PLAN



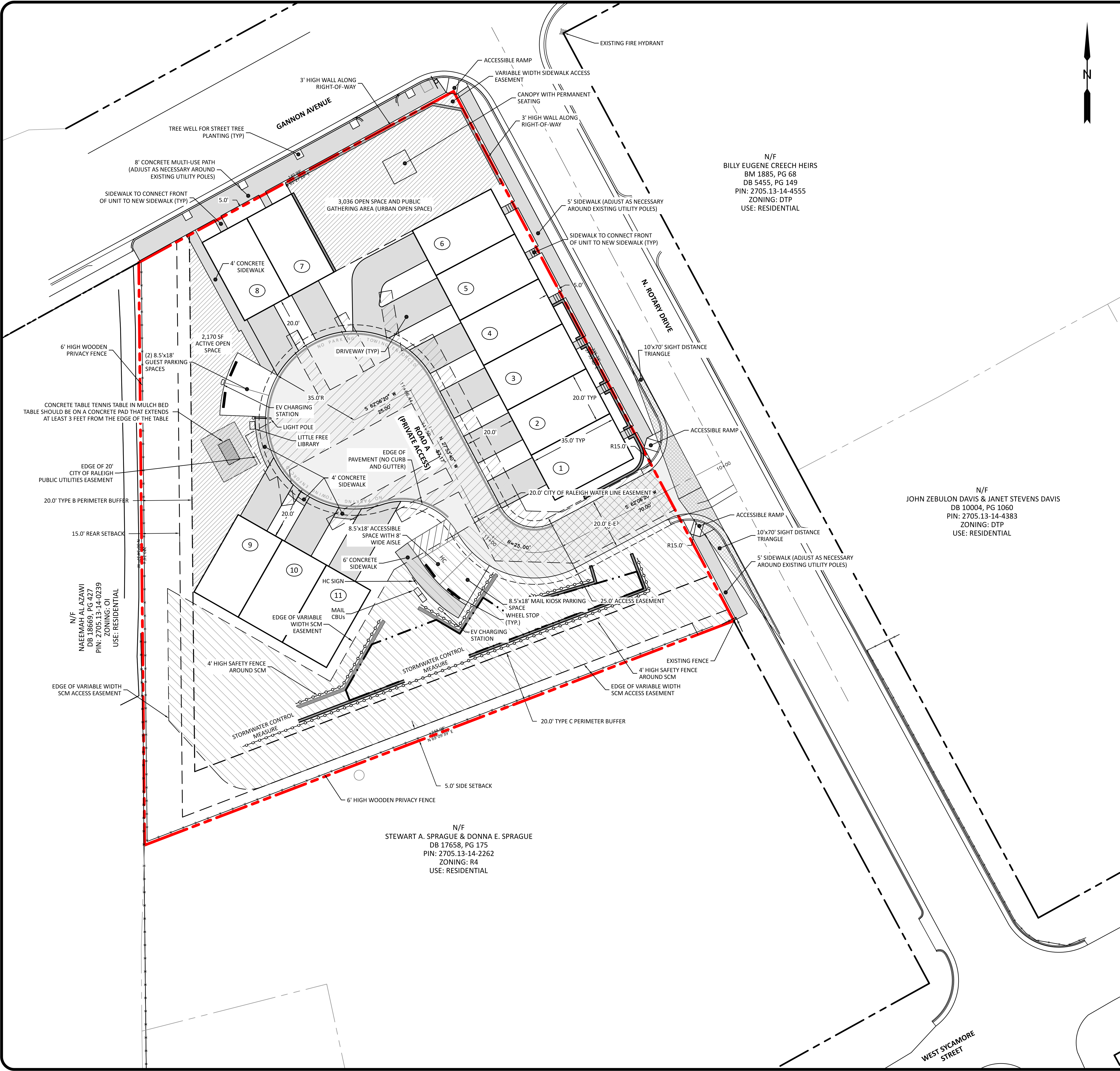
PROJECT NO:	---
DESIGN BY:	JPE
DRAWN BY:	JPE
SCALE:	1"=20'
DATE:	2023-03-01
SHEET NO:	C1.1

TOWN OF ZEBULON
PROJECT ID: 964220

ALL CONSTRUCTION SHALL BE IN
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PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION



SITE PLAN LEGEND

PROPERTY BOUNDARY	---
ACCESS EASEMENT	---
RALEIGH PUBLIC UTILITIES EASEMENT	---
SCM ACCESS EASEMENT	---

EXISTING SITE DATA

PARCEL PIN	2705-15-2309
ZONING	DTP
PARCEL AREA	0.99 ACRES (43,291 SF)
EXISTING USE	VACANT
RIVER BASIN	NEUSE

PROPOSED SITE DATA

ZONING	DTP
EXISTING PARCEL AREA	0.99 ACRES (43,291 SF)
R/W DEDICATION	0 SF
OTHER DEDICATIONS	0 SF
PROPOSED NET SITE AREA	0.99 ACRES (43,291 SF)
PROPOSED USE	RESIDENTIAL (CONDOS)
SINGLE FAMILY UNITS	0
TOWNHOME UNITS	0
CONDO UNITS	11
APARTMENT UNITS	0
TOTAL UNITS	11
NET DENSITY	11.1 UNITS/ACRE
TOTAL OPEN SPACE REQUIRED	10% OF 43,291 SF = 4,329 SF
PASSIVE OPEN SPACE REQUIRED	NONE
TOTAL OPEN SPACE PROVIDED	5,561 SF
ACTIVE OPEN SPACE REQUIRED	50% OF OPEN SPACE REQUIREMENT = 50% OF 4,329 SF = 2,165 SF
ACTIVE OPEN SPACE PROVIDED	2,170 SF
URBAN OPEN SPACE REQUIRED	50% OF OPEN SPACE REQUIREMENT = 50% OF 4,329 SF = 2,165 SF
ACTIVE OPEN SPACE PROVIDED	3,036 SF
REFORESTATION AREA	NOT REQUIRED

PARKING SUMMARY

PARKING SPACES REQUIRED	NONE - EXEMPT PER UDO 5.8.3.B
REQUIRED PARKING CALCULATION	N/A
PARKING SPACES PROVIDED	1 PER GARAGE (11) + 1 PER DRIVEWAY (11) + 2 GUEST SPACES = 24 SPACES TOTAL
REQUIRED MAIL CBU SPACES	2 (PER UDO 6.12.7.B)
MAIL CBU PARKING SPACES PROVIDED	2

LOT COVERAGE SUMMARY

ALLOWABLE LOT COVERAGE	85% OF TOTAL SITE
CALCULATED LOT COVERAGE ALLOWED	43,291 SF x 0.85 = 36,797 SF
BUILDINGS	7,700 SF
DRIVE AREAS	6,785 SF
DRIVEWAYS	3,300 SF
SIDEWALK	695 SF
OTHER IMPERVIOUS	500 SF (FUTURE/UNSPECIFIED)
TOTAL LOT COVERAGE PROPOSED	18,980 SF

PUBLIC IMPROVEMENTS QUANTITIES

PUBLIC ROADS	0 LF
PUBLIC WATER LINE EXTENSION	224 LF
8" PUBLIC SANITARY SEWER EXTENSION	243 LF
PUBLIC STORM DRAINAGE IMPROVEMENTS	0 LF
PROPOSED WATER METERS	11
PROPOSED SEWER CLEANOUTS	11

STORMWATER REQUIREMENTS

THIS PROJECT IS SUBJECT TO THE STORMWATER REQUIREMENTS OF THE TOWN OF ZEBULON AS SUMMARIZED BELOW.

TSS REMOVAL	85%
WATER QUALITY RAINFALL DEPTH	1 INCH
RELEASE RATE FOR WATER QUALITY STORM	2 TO 5 DAYS
PRE/POST PEAK FLOW MITIGATION REQUIREMENT	1-YR 24-HR STORM
NITROGEN REDUCTION	REQUIRED
PHOSPHORUS REDUCTION	NOT REQUIRED

CONDITIONAL REZONING

THIS PROJECT HAS INCORPORATED ELEMENTS REQUIRED AS PART OF THE CONDITIONAL REZONING THAT WAS APPROVED BY THE PLANNING BOARD:

- CONSTRUCTION OF A FENCE ALONG THE ADJACENT RESIDENTIAL PROPERTY LINES
- CONSTRUCTION OF A 3-FOOT WALL ALONG THE STREET SIDE PROPERTY LINES
- CONSTRUCTION OF STRUCTURES SIMILAR TO THE REVISIONS PRESENTED AT THE NOVEMBER 14, 2022 MEETING

GENERAL NOTES

- THE DEVELOPER, CONTRACTOR, SUBCONTRACTORS AND SURVEYOR SHALL CONFIRM THAT THE MOST CURRENT SET OF PLANS AND/OR PLAN SHEET(S) ARE BEING USED FOR CONSTRUCTION AND SHALL KEEP A COPY OF SAID PLANS ON-SITE OR OTHERWISE AVAILABLE FOR REVIEW BY THE OWNER, THE OWNER'S REPRESENTATIVE(S) AND THE PERMITTING AUTHORITIES.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SCHEDULE A PRECONSTRUCTION CONFERENCE WITH REPRESENTATIVES OF THE PERMITTING AUTHORITIES AND A REPRESENTATIVE OF THE OWNER. THE CONTRACTOR SHALL CONFIRM THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED FOR THE PROPOSED CONSTRUCTION. BEGINNING ANY ASPECT OF CONSTRUCTION OR FABRICATING ANY ITEM PRIOR TO RECEIVING ALL PLANS AND APPROPRIATE DOCUMENTATION OF APPROVAL SHALL CAUSE THE CONTRACTOR TO ASSUME FULL RESPONSIBILITY FOR ANY SUBSEQUENT MODIFICATIONS TO THEIR WORK.
- THE CONTRACTOR SHALL CONFIRM THAT ALL CONSTRUCTION AND CONSTRUCTION MATERIALS ARE IN ACCORDANCE WITH THE PERMITS ISSUED AND THE LATEST APPLICABLE FEDERAL, STATE, COUNTY, AND LOCAL CODES. IN THE EVENT OF CONFLICT BETWEEN ANY OF THESE STANDARDS, SPECIFICATIONS, OR PLANS, THE MOST STRINGENT SHALL GOVERN.
- THE CONTRACTOR SHALL DETERMINE AND BE RESPONSIBLE FOR THE MEANS AND METHODS NECESSARY FOR THE CONSTRUCTION OF THE PROJECT AS SHOWN ON THESE PLANS.
- THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE APPROPRIATE PERMITTING AUTHORITY TO PROVIDE THE REQUIRED COORDINATION, DOCUMENTATION AND INSPECTIONS FOR THE RELOCATION OF, OR CONNECTION TO ANY EXISTING UTILITIES.
- THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING INSPECTIONS REQUIRED TO PREPARE AS-BUILT CERTIFICATIONS.
- THE DEVELOPER IS RESPONSIBLE FOR OBTAINING ANY OFFSITE EASEMENTS.
- PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL VERIFY THAT ALL NECESSARY RIGHT OF WAY, EASEMENTS AND ENCROACHMENT AGREEMENTS HAVE BEEN OBTAINED.
- THE CONTRACTOR SHALL CONFIRM THE LOCATION AND ELEVATION OF ALL EXISTING UTILITIES (INCLUDING) WITHIN THE LIMITS OF CONSTRUCTION PRIOR TO BEGINNING CONSTRUCTION AND NOTIFY THE OWNER OR ENGINEER OF ANY DISCREPANCIES. BEGINNING CONSTRUCTION PRIOR TO LOCATING UTILITIES WITHIN THE LIMITS OF CONSTRUCTION AND NOTIFYING THE OWNER OR ENGINEER OF ANY DISCREPANCIES SHALL CAUSE THE CONTRACTOR TO ASSUME FULL RESPONSIBILITY FOR ANY SUBSEQUENT MODIFICATIONS TO THEIR WORK.
- DEPARTURES FROM THE APPROVED CONSTRUCTION DRAWINGS, MUNICIPAL SPECIFICATIONS OR ISSUED PERMITS THAT ARE DEEMED NECESSARY SHALL COORDINATED WITH THE APPROPRIATE PERMITTING AUTHORITY. CHANGES MADE WITHOUT THE APPROPRIATE APPROVAL SHALL CAUSE THE CONTRACTOR TO ASSUME RESPONSIBILITY FOR ANY SUBSEQUENT MODIFICATIONS TO THEIR WORK.
- THE STAKING SURVEYOR AND/OR THEIR SUBCONTRACTOR SHALL INDEPENDENTLY VERIFY THE HORIZONTAL AND VERTICAL DATUM FOR THIS PROJECT PRIOR TO CONSTRUCTION.
- RETAINING WALLS SHALL BE DESIGNED BY OTHERS.
- THE CONTRACTOR SHALL NOTE THAT THE PLANS DO NOT SHOW EVERY OFFSET, TRANSITION, FITTING ETC. THAT MAY BE REQUIRED FOR CONSTRUCTION.
- ALL GRADING, DIMENSIONS, SLOPES TO BUILDING ACCESS/EGRESS POINTS, HANDICAP RAMPS/PARKING SPACES, STRIPING AND PAVEMENT MARKINGS SHALL CONFORM TO ADA REQUIREMENTS AND THE NORTH CAROLINA STATE BUILDING CODE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ADA CONFORMANCE PRIOR TO ANY CONSTRUCTION.
- ALL DIMENSIONS ARE TO BACK-OF-CURB UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS FOR ANY/ALL BUILDING DIMENSIONS AND CONFIRM THAT ANY/ALL BUILDING ALIGNMENTS CONFORM TO THE APPROVED CIVIL PLANS PRIOR TO ANY CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.
- CONTRACTOR SHALL CONFIRM ALL COMPACTION REQUIREMENTS WITH THE GEOTECHNICAL ENGINEER.

PROJECT NOTES

- ALL WATER MAINS WITHIN PUBLIC EASEMENTS AND RIGHTS-OF-WAY SHALL BE OWNED, OPERATED AND MAINTAINED BY THE CITY OF RALEIGH.
- ALL SEWER MAINS WITHIN PUBLIC EASEMENTS AND RIGHTS-OF-WAY SHALL BE OWNED, OPERATED AND MAINTAINED BY THE CITY OF RALEIGH.
- TOWNHOME BUILDINGS ARE 20' WIDE AND 35' DEEP
- UNITS 1-6 ARE REAR LOAD TOWNHOMES THAT FACE N. ROTARY DRIVE
- UNITS 7-8 ARE REAR LOAD TOWNHOMES THAT FACE GANNON AVENUE
- UNITS 9-11 ARE FRONT LOAD TOWNHOMES THAT FACE THE INTERNAL ROAD ACCESS
- ALL UNITS HAVE A 1 CAR GARAGE
- ROAD A WILL BE A DRIVEWAY WITH A ROAD NAME. IT WILL NOT BE A PUBLIC STREET BUT WILL HAVE AN ACCESS EASEMENT
- A CANOPY WITH PERMANENT SEATING WILL BE INSTALLED IN THE OPEN SPACE AND PUBLIC MEETING AREA BETWEEN UNITS 6 AND 7
- PRIOR TO BUILDING PERMITS A PLAT MUST BE RECORDED AT THE WAKE COUNTY REGISTER OF DEEDS OFFICE FOR ALL UTILITY EASEMENT DEDICATIONS.

PERIMETER BUFFER NOTE

PER UDO 5.6.8.B.1 THE PERIMETER BUFFER ALONG THE SOUTHERN PROPERTY LINE HAS BEEN REDUCED BY 10 FEET DUE TO THE PRESENCE OF A PROPOSED 6' HIGH PRIVACY FENCE

PAVEMENT MARKING NOTE

THE "NO PARKING" MARKINGS IN THE CUL-DE-SAC SHALL BE RED THERMOPLASTIC MARKINGS

MAIL CLUSTER BOX UNIT NOTE

MAIL CLUSTER BOX UNITS ARE REQUIRED TO BE COVERED AND ILLUMINATED PER ZEBULON UDO SEC 6.12.7

TOWN OF ZEBULON
PROJECT ID: 964220

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20 0 10 20 40
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PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

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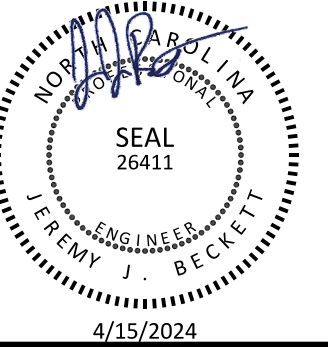
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REVISIONS	1	2	3	4
1	2023-07-10	2023-09-14	2023-12-20	2024-04-15
2	LAYOUT UPDATES AND REVISIONS PER TOWN COMMENTS	LAYOUT UPDATES AND REVISIONS PER TOWN COMMENTS	LAYOUT UPDATES AND REVISIONS PER TOWN AND COUNTY COMMENTS	LAYOUT UPDATES AND REVISIONS PER TOWN AND COUNTY COMMENTS

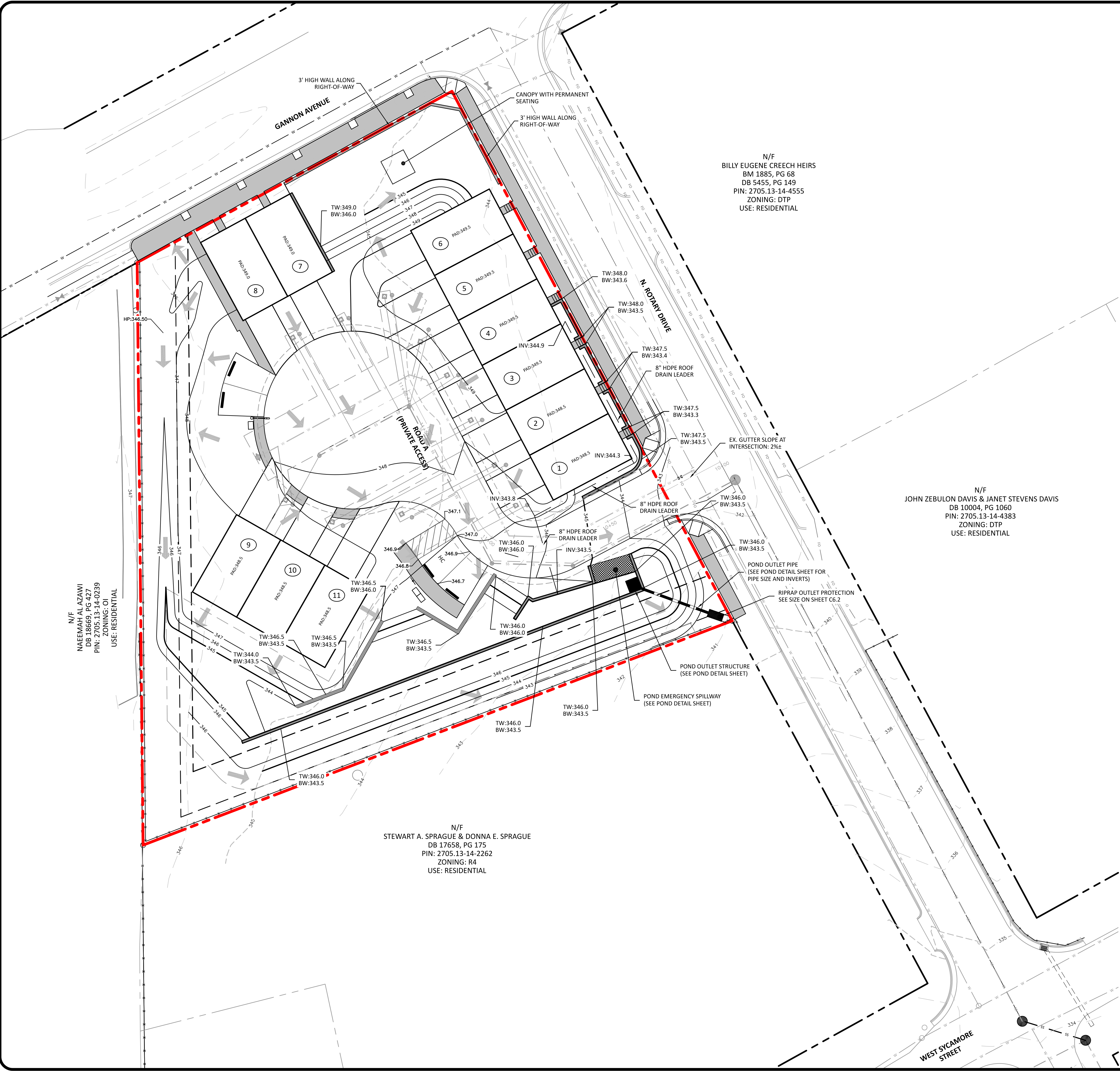
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SITE PLAN AND CONSTRUCTION DRAWINGS

ZEBULON, NC

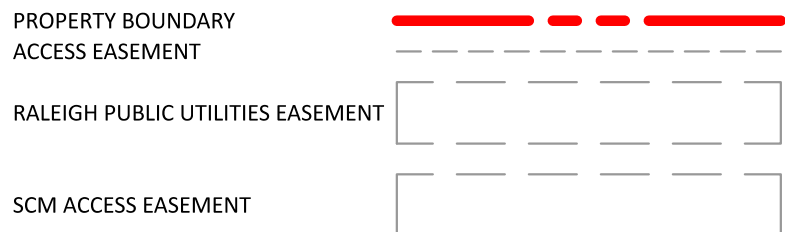
SITE PLAN



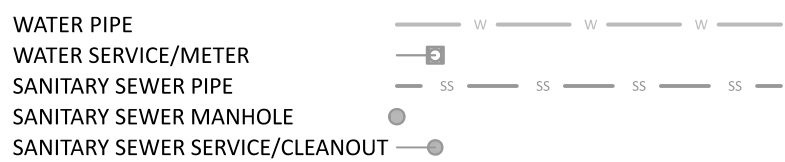
PROJECT NO:	---
DESIGN BY:	JPE
DRAWN BY:	JPE
SCALE:	1"=20'
DATE:	2023-03-01
SHEET NO:	C2.0



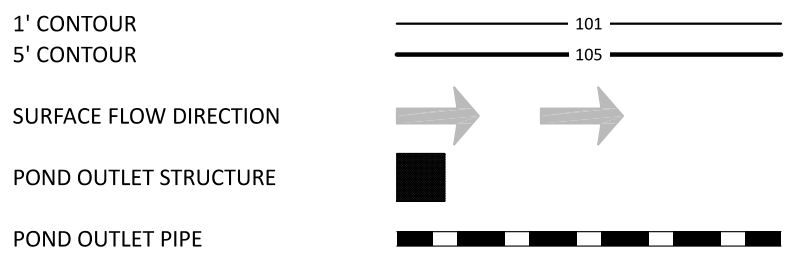
SITE PLAN LEGEND



UTILITY PLAN LEGEND



GRADING/DRAINAGE PLAN LEGEND



STORM DRAINAGE NOTES

- RIM ELEVATION FOR A CATCH BASIN (CB) OR CURB INLET (CI) IS TOP OF CURB (T/C). RIM ELEVATION FOR DROP INLET (DI) OR YARD INLET (YI) IS TOP OF BOX OR TOP OF GRATE (NOT SLAB). RIM ELEVATION FOR A MANHOLE (MH) OR JUNCTION BOX (JB) IS CENTER OF THE STRUCTURE COVER.
- ALL STORM DRAINAGE PIPES SHALL BE CLASS III REINFORCED CONCRETE PIPE (RCP) UNLESS NOTED OTHERWISE.
- ALL STORM DRAINAGE PIPE IN TRAFFIC AREAS SHALL HAVE A MINIMUM COVER OF 2 FEET TO THE PIPE CROWN UNLESS OTHERWISE APPROVED.
- ALL STORM DRAINAGE PIPE IN TRAFFIC NON-AREAS SHALL HAVE A MINIMUM COVER OF 1 FOOT TO THE PIPE CROWN UNLESS OTHERWISE APPROVED.
- ALL CONCRETE SHALL MEET A MINIMUM 3000 PSI COMPRESSIVE STRENGTH.
- ALL PIPE IN STORM DRAINAGE STRUCTURES SHALL BE STRUCK EVEN WITH THE INSIDE WALL.
- ALL PIPE JOINTS SHALL BE MADE WITH PREFORMED JOINT SEALER WHICH CONFORMS TO AASHTO SPECIFICATION M-198 FOR TYPE B FLEXIBLE PASTIC GASKETS UNLESS OTHERWISE NOTED.
- EACH DRAINAGE STRUCTURE SHALL HAVE A SHAPED INVERT CONSTRUCTED FROM CONCRETE, AND A BENCH WITH A MAXIMUM 5:1 SLOPE. THE BENCH SHALL BEGIN AT A HEIGHT OF ONE-HALF THE PIPE DIAMETER FOR 12 TO 24 INCH PIPE, ONE-THIRD THE PIPE DIAMETER FOR 30 - 48 INCH PIPE, AND ONE-FOURTH THE DIAMETER FOR PIPE GREATER THAN 48 INCHES.
- ALL BACKFILL SHALL BE NON-PLASTIC IN NATURE, FREE FROM ROOTS, VEGETATIVE MATTER, WASTE, CONSTRUCTION MATERIAL OR OTHER OBJECTIONABLE MATERIAL. SUITABLE SOILS SHALL BE CAPABLE OF COMPACTED BY MECHANICAL MEANS AND SHALL HAVE NO TENDENCY TO FLOW OR BEHAVE IN A PLASTIC MANNER UNDER TAMPING BLOWS OR PROOF ROLLING.
- MATERIALS DEEMED AS UNSUITABLE FOR BACKFILL PURPOSES SHALL BE REMOVED AND REPLACED WITH SUITABLE MATERIAL.
- BACKFILLING OF TRENCHES SHALL BE PERFORMED IMMEDIATELY AFTER PIPE IS LAID. THE FILL AROUND AND ABOVE THE PIPE SHALL BE COMPACTED IN ACCORDANCE WITH THE PERMITTING AUTHORITY'S SPECIFICATIONS AND/OR THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.
- UNDER NO CIRCUMSTANCES SHALL WATER BE ALLOWED TO RISE IN UNBACKFILLED TRENCHES AFTER PIPE HAS BEEN PLACED.

GRADING NOTES

- PROPOSED CONTOURS REPRESENT APPROXIMATE ELEVATIONS AT A POINT. PROPOSED SPOT ELEVATIONS AND ROADWAY PROFILES SUPERSEED CONTOUR INFORMATION.
- ALL AREAS SHALL BE GRADED FOR POSITIVE DRAINAGE AWAY FROM BUILDING FOUNDATIONS AND SHALL MAINTAIN ADEQUATE DRAINAGE DURING CONSTRUCTION.
- ALL GRADING, BACKFILLING, EXCAVATION, ETC. SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS SET FORTH BY THE LOCAL GOVERNING AUTHORITY. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR COORDINATING ALL CONSTRUCTION ACTIVITIES WITH SAID AUTHORITY.
- CONTRACTOR IS TO CONTACT NORTH CAROLINA "ONE CALL" AT 811 FOR UNDERGROUND UTILITY LOCATION 48 HOURS PRIOR TO ANY DIGGING.
- CONTRACTOR SHALL LOCATE AND VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
- ANY AND ALL DISTURBED AREAS SHALL BE FINE GRADED, SEEDED WITH PERMANENT GRASS SEEDING MIX AND STRAWED PRIOR TO DEMOBILIZATION FROM THE SITE.
- ALL SWALES/DITCHES ALONG PROPERTY LINES AND REAR YARDS SHOULD BE 2% OR STEEPER.
- SLOPES STEEPER THAN 3H:1V SHOULD BE EVALUATED AND DESIGNED BY A GEOTECHNICAL ENGINEER.
- THE CONTRACTOR SHALL NOTE THAT SPILL CURB SHALL BE USED AS NECESSARY IN PARKING AREAS, AT INTERSECTIONS, AT MEDIANS TO ELIMINATE AREAS OF STANDING WATER IN THE CURB.

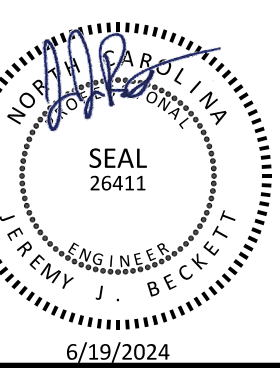
GENERAL GRADING NOTES

- NO SITE DEVELOPMENT ACTIVITY, INCLUDING BUT NOT LIMITED TO TESTING, CLEARING, INSTALLATION OF S&E MEASURES OR GRADING, SHALL OCCUR UNTIL REQUIRED PROTECTION FENCING HAS BEEN INSTALLED AND INSPECTED.

REVISIONS		1	2	3	4	5
LAYOUT UPDATES AND REVISIONS PER TOWN COMMENTS		2023-07-10	2023-09-14	2023-12-20	2024-04-15	2024-06-19
LAYOUT UPDATES AND REVISIONS PER TOWN COMMENTS						
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401 GANNON AVENUE
SITE PLAN AND CONSTRUCTION DRAWINGS

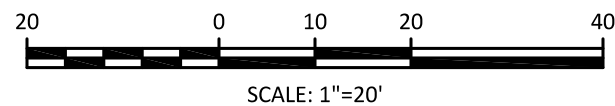
ZEBULON, NC
GRADING AND DRAINAGE PLAN



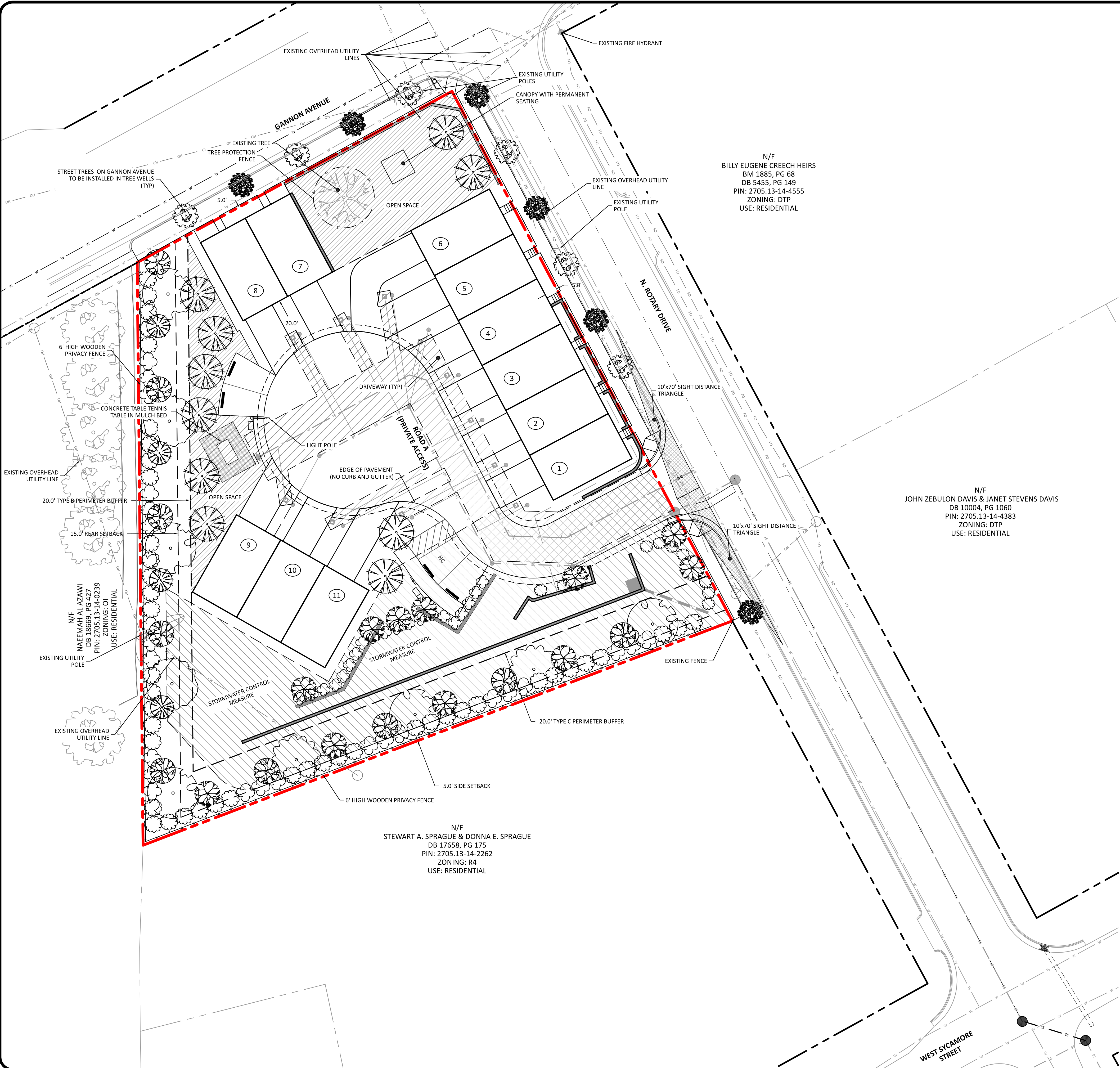
PROJECT NO:	---
DESIGN BY:	JPE
DRAWN BY:	JPE
SCALE:	1"=20'
DATE:	2023-03-01
SHEET NO:	C4.0

TOWN OF ZEBULON
PROJECT ID: 964220

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



PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION



N/F
BILLY EUGENE CREECH HEIRS
BM 1885, PG 68
DB 5455, PG 149
PIN: 2705.13-14-4555
ZONING: DTP
USE: RESIDENTIAL

N/F
JOHN ZEBULON DAVIS & JANET STEVENS DAVIS
DB 10004, PG 1060
PIN: 2705.13-14-4383
ZONING: DTP
USE: RESIDENTIAL

N/F
STEWART A. SPRAGUE & DONNA E. SPRAGUE
DB 17658, PG 175
PIN: 2705.13-14-2262
ZONING: R4
USE: RESIDENTIAL

SITE PLAN LEGEND

PROPERTY BOUNDARY	
ACCESS EASEMENT	
RALEIGH PUBLIC UTILITIES EASEMENT	
SCM ACCESS EASEMENT	

UTILITY PLAN LEGEND

WATER PIPE	
WATER SERVICE/METER	
SANITARY SEWER PIPE	
SANITARY SEWER MANHOLE	
SANITARY SEWER SERVICE/CLEANOUT	

TYPE "B" BUFFER LANDSCAPE PLANT LIST						
#	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	TYPE
45		Morella cerifera	WAX MYRTLE	18" HT/ 3 GAL	CONT.	EVERGREEN SHRUB
24		Agarista populifolia	FLORIDA DOGHOBBLE	18" HT/ 3 GAL	CONT.	EVERGREEN SHRUB
4		Cercis Canadensis	REDBUD	1.5" CAL/ 4" HT	B&B	UNDERSTORY TREE
9		Ilex x 'Nellie R. Stevens'	NELLIE STEVENS HOLLY	1.5" CAL/ 4" HT	B&B	UNDERSTORY TREE
4		Amelanchier arborea	SERVICEBERRY	1.5" CAL/ 4" HT	B&B	UNDERSTORY TREE
5		Quercus Phellos	WILLOW OAK	2.0" CAL/ 8" HT	B&B	CANOPY TREE
2		Acer Rubrum	RED MAPLE	2.0" CAL/ 8" HT	B&B	CANOPY TREE
2		Celtis laevigata	HACKBERRY	2.0" CAL/ 8" HT	B&B	CANOPY TREE

SCM SCREENING LANDSCAPE PLANT LIST						
#	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	TYPE
10		Morella cerifera	WAX MYRTLE	18" HT/ 3 GAL	CONT.	EVERGREEN SHRUB
20		Agarista populifolia	FLORIDA DOGHOBBLE	18" HT/ 3 GAL	CONT.	EVERGREEN SHRUB
7		Amelanchier arborea	SERVICEBERRY	1.5" CAL/ 4" HT	B&B	UNDERSTORY TREE

STREET TREE PLANT LIST						
#	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	TYPE
6		Koeleruteria paniculata	GOLDENRAIN TREE	1.5" CAL/ 4" HT	B&B	UNDERSTORY TREE
6		Magnolia x soulangiana var Alexandrina	SAUCER MAGNOLIA	1.5" CAL/ 4" HT	B&B	UNDERSTORY TREE

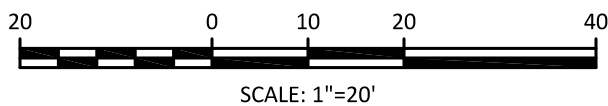
ADDITIONAL SHADE TREES						
SHADE TREES ADDED IN ADDITION TO REQUIRED BUFFERS AND STREET TREES						
#	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	TYPE
10		Sorbus alnifolia	KOREAN MOUNTAINASH	1.5" CAL/ 4" HT	B&B	SHADE TREE

STREET TREE INSTALLATION NOTES

- STREET TREES ALONG GANNON AVENUE SHALL BE INSTALLED IN A 3'x3' TREE WELL.
- CARE SHOULD BE TAKEN TO NOT DAMAGE EXISTING WATER LINES AND FIBER OPTIC LINES DURING PLANTING OF STREET TREES ALONG GANNON AVENUE AND ROTARY DRIVE
- STREET TREES ALONG ROTARY DRIVE WERE SELECTED FROM THE TOWN'S LIST OF UNDERSTORY TREES THAT ARE SUITABLE FOR PLANTING UNDER POWER LINES. DIFFERENT TREES MAY BE NEEDED DEPENDING ON THE HEIGHT OF THE EXISTING OVERHEAR UTILITY LINES.

TOWN OF ZEBULON
PROJECT ID: 964220

ALL CONSTRUCTION SHALL BE IN
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The Nau Company
Consulting Civil Engineers
PO Box 810, Rolesville, NC 27571
919-435-6395
NCBELS License P-0751

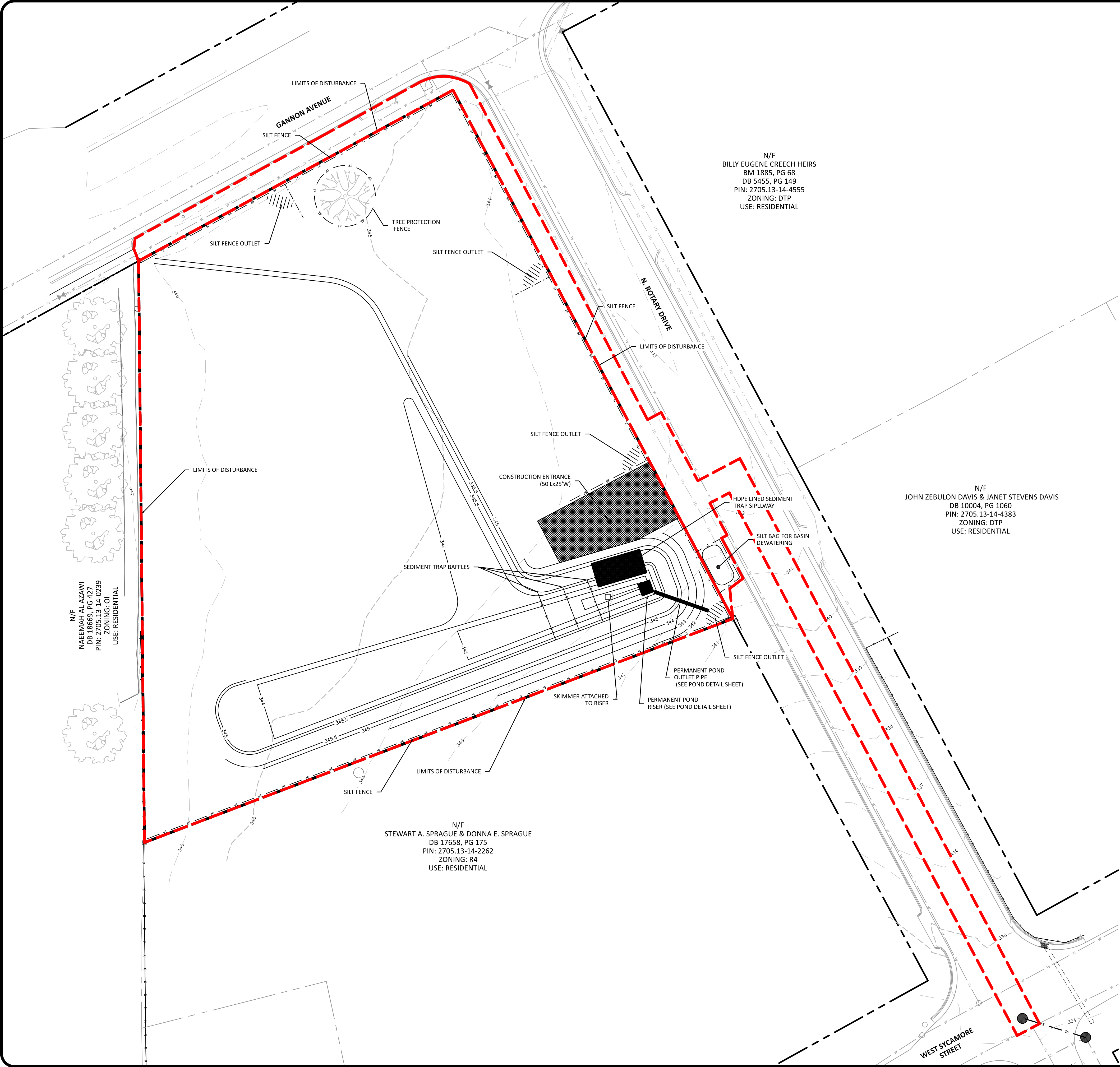
OWNER/DEVELOPER:
MERIDIAN PROPERTIES GROUP LLC
4030 WAKE FOREST RD., SUITE 100
RALEIGH, NC 27609
919-621-4646

401 GANNON AVENUE
SITE PLAN AND CONSTRUCTION DRAWINGS

ZEBULON, NC
LANDSCAPE PLAN



PROJECT NO: ---
DESIGN BY: JPE
DRAWN BY: JPE
SCALE: 1"=20'
DATE: 2023-03-01
SHEET NO: **C5.0**



N/F
BILLY EUGENE CREECH HEIRS
BM 1885, PG 68
DB 5455, PG 149
PIN: 2705.13-14-4555
ZONING: DTP
USE: RESIDENTIAL

N/F
JOHN ZEBULON DAVIS & JANET STEVENS DAVIS
DB 10004, PG 1060
PIN: 2705.13-14-4383
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USE: RESIDENTIAL

N/F
STEWART A. SPRAGUE & DONNA E. SPRAGUE
DB 17658, PG 175
PIN: 2705.13-14-2262
ZONING: R4
USE: RESIDENTIAL

N/F
NAEEMAH AL AZAWI
DB 18669, PG 427
PIN: 2705.13-14-0239
ZONING: OI
USE: RESIDENTIAL

REQUIRED WAKE COUNTY EROSION CONTROL SEQUENCE

1. SCHEDULE A PRECONSTRUCTION CONFERENCE WITH THE ENVIRONMENTAL CONSULTANT. OBTAIN A LANDDISTURBING PERMIT.
2. INSTALL GRAVEL CONSTRUCTION PAD, TEMPORARY DIVERSIONS, SILT FENCE, SEDIMENT BASINS 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 ENVIRONMENTAL CONSULTANT FOR AN ONSITE INSPECTION BY THE ENVIRONMENTAL CONSULTANT TO OBTAIN A CERTIFICATE OF COMPLIANCE.
4. BEGIN CLEARING AND GRUBBING. MAINTAIN DEVICES AS NEEDED.
5. ROUGH GRADE SITE.
6. INSTALL STORM SEWER, IF SHOWN, AND PROTECT INLETS WITH BLOCK AND GRAVEL INLET CONTROLS, SEDIMENT TRAPS OR OTHER APPROVED MEASURES AS SHOWN ON THE PLAN. BEGIN CONSTRUCTION, BUILDING, ETC.
7. STABILIZE SITE AS AREAS ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION, PAVING, DITCH LININGS, ETC. SEED AND MULCH DENUDED AREAS PER GROUND STABILIZATION TIME FRAMES.
8. WHEN CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED COMPLETELY CALL ENVIRONMENTAL CONSULTANT FOR AN INSPECTION.
9. 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.
10. WHEN VEGETATION HAS BECOME ESTABLISHED, CALL FOR A FINAL SITE INSPECTION BY THE ENVIRONMENTAL CONSULTANT. OBTAIN A CERTIFICATE OF COMPLETION.

WAKE COUNTY SEDIMENT BASIN REMOVAL SEQUENCE

1. SCHEDULE A SITE MEETING WITH THE ENVIRONMENTAL 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. CONTACT NCDEQ - RALEIGH REGIONAL OFFICE (919) 791-4200 TO DETERMINE THE DIVISION OF ENERGY, MINERAL AND LAND RESOURCES CONTACT PERSON TO RECEIVE DEWATERING NOTIFICATIONS. AT LEAST 10 DAYS PRIOR TO BEGINNING DEWATERING ACTIVITY, SEND EMAIL TO NCDEQ-DEMLR CONTACT PERSON AND COPY ENVIRONMENTAL CONSULTANT THAT MET YOU ONSITE. THE EMAIL SHOULD INCLUDE: E&SC JURISDICTION: WAKE COUNTY, WAKE COUNTY PROJECT: NAME, NUMBER, AND LOCATION (CITY/TOWN), ENVIRONMENTAL CONSULTANT NAME, AND ADDRESS THE FOLLOWING: A) REASON FOR CONVERSION, B) BASIN #, C) DEWATERING METHOD, AND D) ALL OTHER NECESSARY INFO FROM PART II, SECTION G, ITEM 4 OF THE NCG01. (KEEP EMAIL FOR YOUR NPDES MONITORING DOCUMENTATION)
3. AFTER RECEIVING POSITIVE CONFIRMATION FROM NCDEQ-DEMLR THAT YOU MAY REMOVE THE BASIN OR ON > DAY 11, WHICHEVER IS SOONER. REMOVE BASIN(S) AND ASSOCIATED TEMPORARY DIVERSION DITCHES. IF PIPES NEED TO BE EXTENDED, PERFORM THIS OPERATION AT THIS TIME. FINE GRADE AREA IN PREPARATION FOR SEEDING.
4. PERFORM SEEDBED PREPARATION, SEED, MULCH AND ANCHOR ANY RESULTING BARE AREAS IMMEDIATELY.
5. INSTALL VELOCITY DISSIPATORS AND/OR LEVEL SPREADERS AS REQUIRED ON THE EROSION CONTROL PLAN.
6. WHEN SITE IS FULLY STABILIZED, CALL ENVIRONMENTAL 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 CONSULTANT TO DETERMINE WHEN A BASIN MAY BE CONVERTED FOR STORMWATER USE. SOME MUNICIPALITIES MAY ALSO REQUIRE THIS.

SITE SPECIFIC STAGE 1 CONSTRUCTION SEQUENCE

1. INSTALL CONSTRUCTION ENTRANCE, PERIMETER SILT FENCE AND SILT FENCE OUTLETS
2. GRADE IN SEDIMENT BASIN, BASIN SPILLWAY AND INSTALL PERMANENT POND RISER AND OUTLET PIPE
3. ATTACH SKIMMER TO RISER AND INSTALL BAFFLES IN SEDIMENT BASIN ONCE ALL NECESSARY EROSION CONTROL DEVICES ARE INSTALLED BEGIN GRADING
4. AS GRADING PROGRESSES, GRADUALLY TRANSITION FROM STAGE 1 TO STAGE 2.
5. REFER TO STAGE 2 EROSION CONTROL PLAN FOR ADDITIONAL SEQUENCING

THE SEDIMENT BASIN SHALL NOT BE CONVERTED TO THE FINAL STORMWATER CONTROL MEASURE UNTIL THE AREA UPSTREAM HAS BEEN ADEQUATELY STABILIZED AND HAS BEEN APPROVED BY THE EROSION CONTROL INSPECTOR. THIS INCLUDES MAINTAINING THE SKIMMER AND BAFFLES IN THE TRAP AND MAINTAINING INLET PROTECTION AT THE UPSTREAM INLETS.

THERE WILL BE NO STOCKPILES NECESSARY FOR THIS PROJECT.

SILT FENCE OUTLETS MAY BE ADJUSTED IN THE FIELD TO MATCH LOW POINTS ALONG SILT FENCE

TOTAL ONSITE DISTURBED AREA
43,290 SF (0.99 AC)

TOTAL OFFSITE DISTURBED AREA:
5,875 SF (0.13 AC)

TOTAL DISTURBED AREA:
49,165 SF (1.13 AC)

SEDIMENT TRAP DATA	
DRAINAGE AREA	0.55 AC
DISTURBED AREA	0.55 AC
Q(10)	2.0 CFS
VOLUME REQUIRED	1,980 CF
VOLUME PROVIDED	2,024 CF
SURFACE AREA REQUIRED	870 SF
SURFACE AREA PROVIDED	2,587 SF
TOP OF BERM ELEV.	345.5
BOTTOM OF TRAP ELEV.	342.0
SEDIMENT DEPTH	2.0 FT
SPILLWAY LENGTH	20 FT
SPILLWAY ELEV.	344.0
SKIMMER SIZE	2.0 IN
SKIMMER ORIFICE SIZE	1.0 IN

OUTLET PROTECTION - SCM	
Q(10)	1.0 CFS
APRON LENGTH	4 FT
APRON WIDTH	3 FT
APRON THICKNESS	9 INCHES
STONE SIZE	NCDOT CLASS A



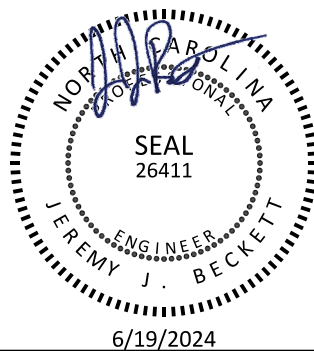
The Nau Company
Consulting Civil Engineers
PO Box 810, Rolesville, NC 27571
919-435-6395
NCBELS License P-0751

OWNER/DEVELOPER:
MERIDIAN PROPERTIES GROUP, LLC
4050 WAKE FOREST ROAD, SUITE 100
RALEIGH, NC 27609
919-621-4646

REVISIONS	
NO.	DATE
1	2023-07-10
2	2023-09-14
3	2023-12-20
4	2024-04-15
5	2024-06-19

401 GANNON AVENUE
SITE PLAN AND CONSTRUCTION DRAWINGS
ZEBULON, NC

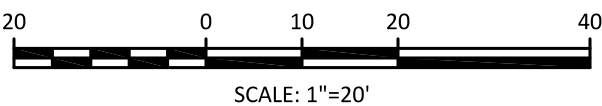
EROSION CONTROL PLAN STAGE 1

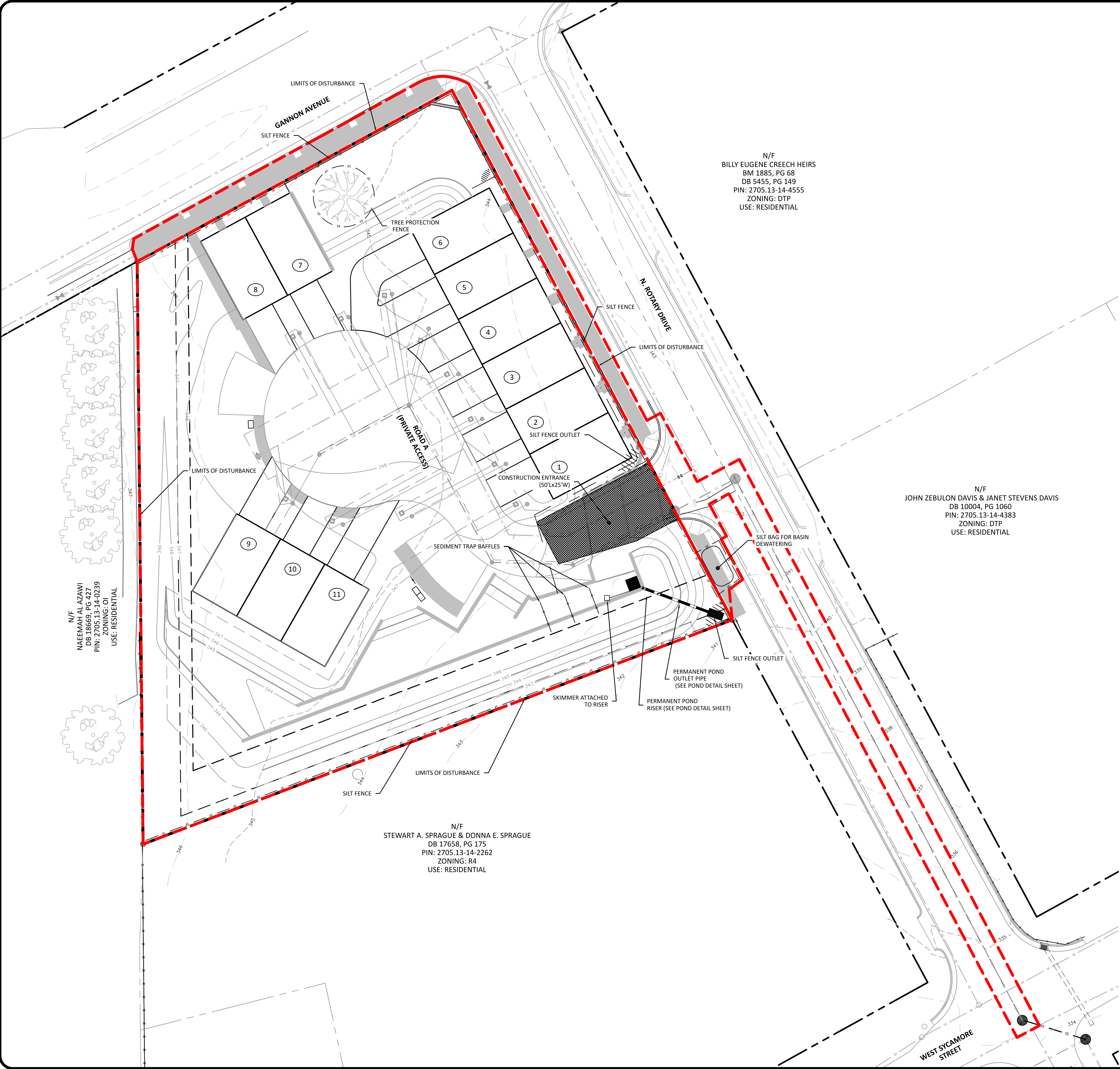


PROJECT NO:	---
DESIGN BY:	JPE
DRAWN BY:	JPE
SCALE:	1"=20'
DATE:	2023-03-01
SHEET NO:	C6.1

TOWN OF ZEBULON
PROJECT ID: 964220

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





N/F
BILLY EUGENE CREECH HEIRS
BM 1885, PG 68
DB 5455, PG 149
PIN: 2705.13-14-4555
ZONING: DTP
USE: RESIDENTIAL

N/F
JOHN ZEBULON DAVIS & JANET STEVENS DAVIS
DB 10004, PG 1060
PIN: 2705.13-14-4383
ZONING: DTP
USE: RESIDENTIAL

N/F
STEWART A. SPRAGUE & DONNA E. SPRAGUE
DB 17658, PG 175
PIN: 2705.13-14-2262
ZONING: R4
USE: RESIDENTIAL

N/F
N/AEEMAH AL AZAWI
DB 18669, PG 427
PIN: 2705.13-14-0239
ZONING: OI
USE: RESIDENTIAL

REQUIRED WAKE COUNTY EROSION CONTROL SEQUENCE

- SCHEDULE A PRECONSTRUCTION CONFERENCE WITH THE ENVIRONMENTAL CONSULTANT. OBTAIN A LANDDISTURBING PERMIT. INSTALL GRAVEL CONSTRUCTION PAD, TEMPORARY DIVERSIONS, SILT FENCE, SEDIMENT BASINS 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.
- CALL ENVIRONMENTAL CONSULTANT FOR AN ONSITE INSPECTION BY THE ENVIRONMENTAL CONSULTANT TO OBTAIN A CERTIFICATE OF COMPLIANCE.
- BEGIN CLEARING AND GRUBBING. MAINTAIN DEVICES AS NEEDED.
- ROUGH GRADE SITE.
- INSTALL STORM SEWER, IF SHOWN, AND PROTECT INLETS WITH BLOCK AND GRAVEL INLET CONTROLS, SEDIMENT TRAPS OR OTHER APPROVED MEASURES AS SHOWN ON THE PLAN. BEGIN CONSTRUCTION, BUILDING, ETC.
- STABILIZE SITE AS AREAS ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION, PAVING, DITCH LININGS, ETC. SEED AND MULCH DENUDED AREAS PER GROUND STABILIZATION TIME FRAMES.
- WHEN CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED COMPLETELY CALL ENVIRONMENTAL CONSULTANT FOR AN INSPECTION.
- 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.
- WHEN VEGETATION HAS BECOME ESTABLISHED, CALL FOR A FINAL SITE INSPECTION BY THE ENVIRONMENTAL CONSULTANT. OBTAIN A CERTIFICATE OF COMPLETION.

WAKE COUNTY SEDIMENT BASIN REMOVAL SEQUENCE

- SCHEDULE A SITE MEETING WITH THE ENVIRONMENTAL 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.
- CONTACT NCDEQ - RALEIGH REGIONAL OFFICE (919) 791-4200 TO DETERMINE THE DIVISION OF ENERGY, MINERAL AND LAND RESOURCES CONTACT PERSON TO RECEIVE DEWATERING NOTIFICATIONS. AT LEAST 10 DAYS PRIOR TO BEGINNING DEWATERING ACTIVITY, SEND EMAIL TO NCDEQ-DEMLR CONTACT PERSON AND COPY ENVIRONMENTAL CONSULTANT THAT MET YOU ONSITE. THE EMAIL SHOULD INCLUDE: E&SC JURISDICTION: WAKE COUNTY, WAKE COUNTY PROJECT: NAME, NUMBER, AND LOCATION (CITY/TOWN), ENVIRONMENTAL CONSULTANT NAME, AND ADDRESS THE FOLLOWING: A) REASON FOR CONVERSION, B) BASIN #, C) DEWATERING METHOD, AND D) ALL OTHER NECESSARY INFO FROM PART II, SECTION G, ITEM 4 OF THE NCG02. (KEEP EMAIL FOR YOUR NPDES MONITORING DOCUMENTATION)
- AFTER RECEIVING POSITIVE CONFIRMATION FROM NCDEQ-DEMLR THAT YOU MAY REMOVE THE BASIN OR ON > DAY 11, WHICHEVER IS SOONER. REMOVE BASIN(S) AND ASSOCIATED TEMPORARY DIVERSION DITCHES. IF PIPES NEED TO BE EXTENDED, PERFORM THIS OPERATION AT THIS TIME. FINE GRADE AREA IN PREPARATION FOR SEEDING.
- PERFORM SEEDED PREPARATION, SEED, MULCH AND ANCHOR ANY RESULTING BARE AREAS IMMEDIATELY.
- INSTALL VELOCITY DISSIPATORS AND/OR LEVEL SPREADERS AS REQUIRED ON THE EROSION CONTROL PLAN.
- WHEN SITE IS FULLY STABILIZED, CALL ENVIRONMENTAL 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 CONSULTANT TO DETERMINE WHEN A BASIN MAY BE CONVERTED FOR STORMWATER USE. SOME MUNICIPALITIES MAY ALSO REQUIRE THIS.

SITE SPECIFIC STAGE 2 CONSTRUCTION SEQUENCE

- AS GRADING PROGRESSES, GRADUALLY TRANSITION FROM STAGE 1 TO STAGE 2.
- INSTALL ALL UTILITIES ONCE SITE HAS BEEN BROUGHT UP TO FINISHED GRADE. INSTALL RETAINING WALLS ALONGSIDE PROPOSED TOWNHOMES AS PADS ARE BROUGHT UP TO FINISHED GRADE.
- THE SEDIMENT BASIN WILL BECOME A PERMANENT STORMWATER CONTROL MEASURE (SCM). GRADE BERM TO FINAL GRADES AND INSTALL RETAINING WALLS ALONG INTERIOR OF SCM.
- THE DIVERSION INTO THE SEDIMENT BASIN WILL GRADUALLY GO AWAY AS GRADING PROGRESSES. ENSURE SURFACE FLOW INTO THE SEDIMENT BASIN OR TO A SILT FENCE AS GRADING PROGRESSES.
- ONCE FINAL GRADES HAVE BEEN ESTABLISHED STABILIZE GROUND IN ACCORDANCE WITH THE SEEDING SCHEDULES IN THIS PLAN.
- THE SEDIMENT BASIN WILL BE USED AS A BIORETENTION AREA. THE SOIL MEDIA MIX FOR THE BIORETENTION SHOULD NOT BE PLACED UNTIL THE SITE HAS BEEN STABILIZED.
- CONVERT THE SEDIMENT BASIN TO A PERMANENT SCM IN ACCORDANCE WITH THE SEQUENCE IN THESE PLANS

THE SEDIMENT BASIN SHALL NOT BE CONVERTED TO THE FINAL STORMWATER CONTROL MEASURE UNTIL THE AREA UPSTREAM HAS BEEN ADEQUATELY STABILIZED AND HAS BEEN APPROVED BY THE EROSION CONTROL INSPECTOR. THIS INCLUDES MAINTAINING THE SKIMMER AND Baffles IN THE TRAP AND MAINTAINING INLET PROTECTION AT THE UPSTREAM INLETS.

THERE WILL BE NO STOCKPILES NECESSARY FOR THIS PROJECT.

SILT FENCE OUTLETS MAY BE ADJUSTED IN THE FIELD TO MATCH LOW POINTS ALONG SILT FENCE

TOTAL ONSITE DISTURBED AREA
43,290 SF (0.99 AC)

TOTAL OFFSITE DISTURBED AREA:
5,875 SF (0.13 AC)

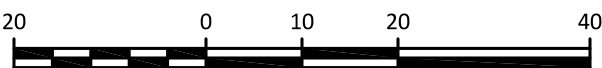
TOTAL DISTURBED AREA:
49,165 SF (1.13 AC)

SEDIMENT TRAP DATA	
DRAINAGE AREA	0.55 AC
DISTURBED AREA	0.55 AC
Q(10)	2.0 CFS
VOLUME REQUIRED	1,980 CF
VOLUME PROVIDED	2,024 CF
SURFACE AREA REQUIRED	870 SF
SURFACE AREA PROVIDED	2,587 SF
TOP OF BERM ELEV.	345.5
BOTTOM OF TRAP ELEV.	342.0
SEDIMENT DEPTH	2.0 FT
SPILLWAY LENGTH	20 FT
SPILLWAY ELEV.	344.0
SKIMMER SIZE	2.0 IN
SKIMMER ORIFICE SIZE	1.0 IN

OUTLET PROTECTION - SCM	
Q(10)	1.0 CFS
APRON LENGTH	4 FT
APRON WIDTH	3 FT
APRON THICKNESS	9 INCHES
STONE SIZE	NCDOT CLASS A

TOWN OF ZEBULON
PROJECT ID: 964220

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



SCALE: 1"=20'

PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

The Nau Company
Consulting Civil Engineers
PO Box 810, Rolesville, NC 27571
919-435-6395
NCBELS License P-0751

OWNER/DEVELOPER:
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4050 WAKE FOREST ROAD, SUITE 100
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RA 919-621-4646

REVISIONS	
NO.	DATE
1	2023-07-10
2	2023-09-14
3	2023-12-20
4	2024-04-15
5	2024-06-19

401 GANNON AVENUE
SITE PLAN AND CONSTRUCTION DRAWINGS

ZEBULON, NC
EROSION CONTROL PLAN STAGE 2



PROJECT NO: ---

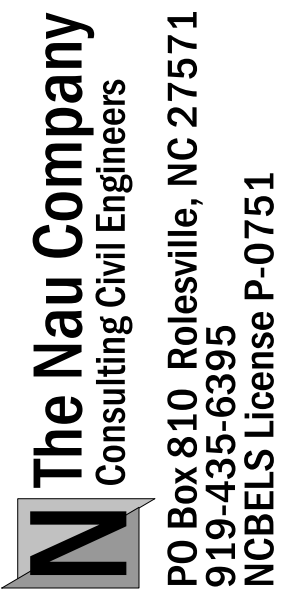
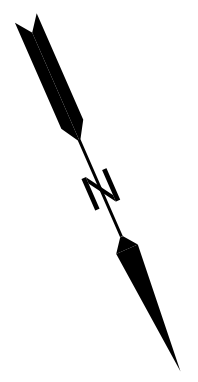
DESIGN BY: JPE

DRAWN BY: JPE

SCALE: 1"=20'

DATE: 2023-03-01

SHEET NO: C6.2



OWNER/DEVELOPER:

The City of Raleigh consents to the connect

The City of Raleigh consents to the connection and extension of the City's Public Water 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 # W-XXXX

City of Raleigh Development Approval _____
Raleigh Water Review Officer

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 24 HOURS PRIOR TO BEGINNING ANY OF THEIR CONSTRUCTION.

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.

THE CITY OF RALEIGH CONSENTS TO THE CONNECTION TO ITS PUBLIC SEWER SYSTEM AND EXTENSION OF THE PRIVATE SEWER COLLECTION 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.

AUTHORIZATION TO CONSTRUCT _____

DATE _____

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.

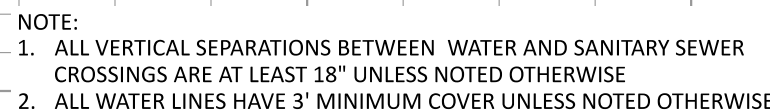
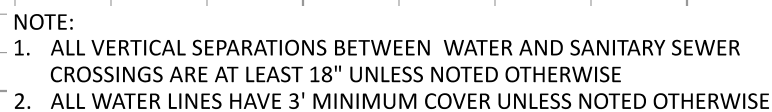
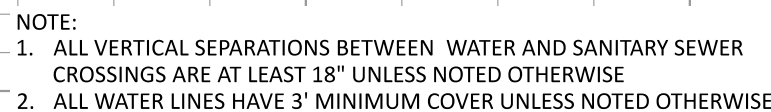
AUTHORIZATION TO CONSTRUCT _____

DATE _____

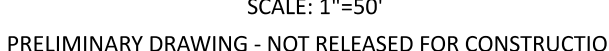
THE CITY OF RALEIGH CONSENTS TO THE CONNECTION AND EXTENSION OF THE CITY'S PUBLIC WATER SYSTEM AS SHOWN ON THIS PLAN. THE MATERIAL AND CONSTRUCTION METHODS USED FOR THIS PROJECT SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE CITY'S PUBLIC UTILITIES HANDBOOK.

AUTHORIZATION TO CONSTRUCT _____

DATE _____



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



PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

ZEBULON, NC

**PLAN AND PROFILE - ROAD A AND SANITARY
SEWER OUTFALL A**

DESIGN BY: JPE

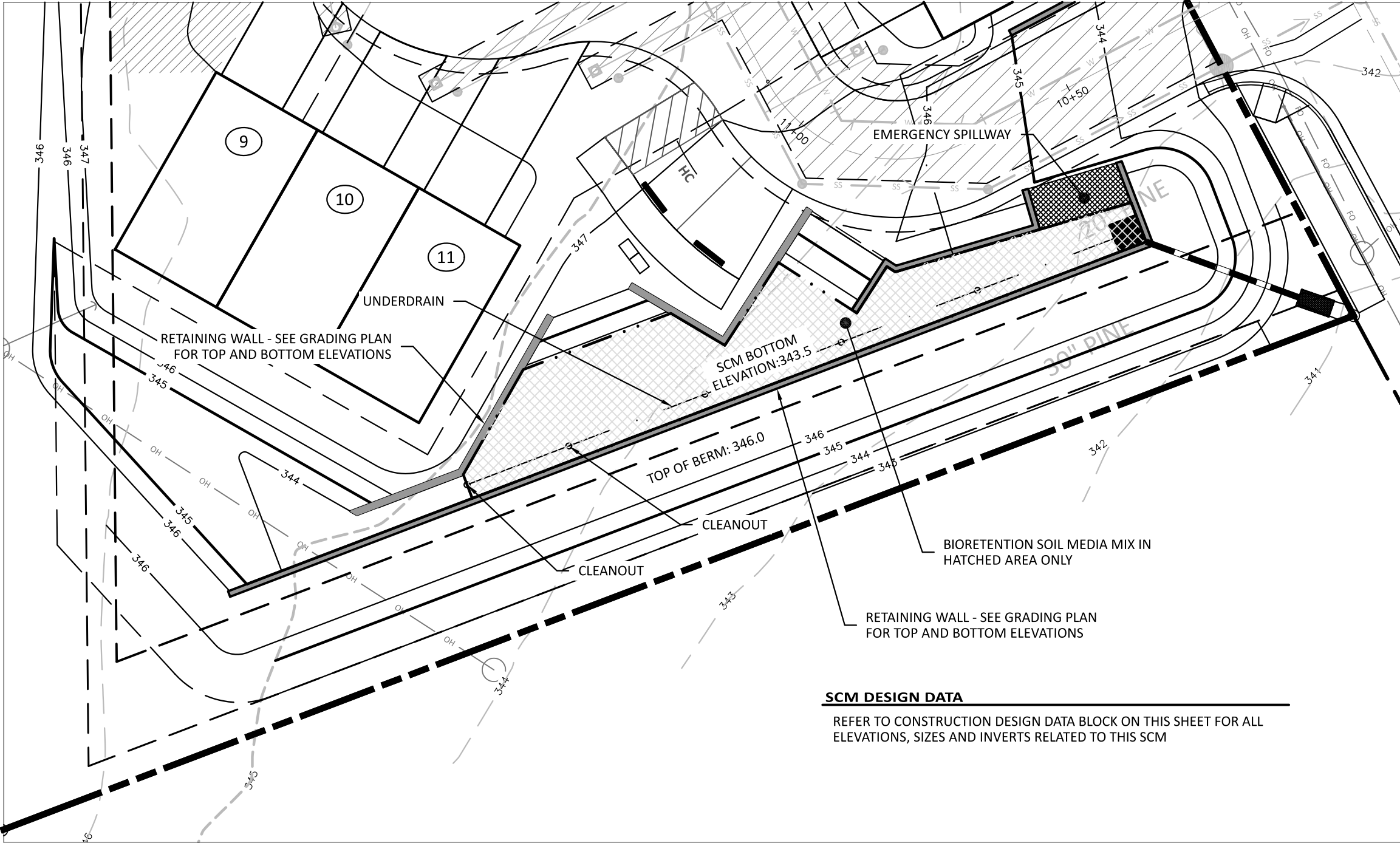
DRAWN BY: IPF

SCALE: 1"=50' HORIZ
1"=5' VERT

DATE: 2023-03-01

SHEET NO: 35.1

C7.1



BIORETENTION AREA GRADING

SCALE: 1"=50'

CONSTRUCTION DESIGN DATA		
DESIGN PARAMETER	DESIGN VALUE	AS-BUILT VALUE
TOP OF DAM ELEVATION	346.0	XXX
SEDIMENT CLEANOUT ELEV.	N/A	XXX
BOTTOM OF POND ELEVATION	343.5	XXX
RISER CREST ELEV.	344.5	XXX
RISER CREST LENGTH	3FT (TWO SIDES OF RISER)	XXX
BOTTOM OF RISER SLAB ELEV.	345.5	XXX
RISER SIZE	48"x48" I.D SQUARE	XXX
NORMAL POOL ELEVATION	N/A	XXX
UNDERDRAIN PIPE DIAMETER	4.0 IN	XXX
ORIFICE DIAMETER	N/A	XXX
BARREL DIAMETER	12"	XXX
BARREL UPSTREAM INV.	341.9	XXX
BARREL DOWNSTREAM INV.	341.2	XXX
BARREL LENGTH	23 FT	XXX
EMERGENCY SPILLWAY ELEV.	344.9	XXX
EMERGENCY SPILLWAY LENGTH	15 FT	XXX
ANTI-FLOTATION BLOCK SIZE	6"x6"x18"	XXX
ANTI-SEEPAGE COLLAR SIZE	3"x3'	XXX
CALCULATED POND DATA		
SURFACE AREA REQUIRED	1297 SF	XXX
SURFACE AREA PROVIDED	1505 SF	XXX
WQ RAINFALL VOLUME	1297 CF	XXX
ELEV. AT WQ VOLUME	344.2	XXX
Q(1) DISCHARGE	<0.1 CFS	XXX
Q(1) ELEV.	344.3	XXX
Q(2) DISCHARGE	0.1 CFS	XXX
Q(2) ELEV.	344.6	XXX
Q(10) DISCHARGE	1.5 CFS	XXX
Q(10) ELEV.	345.0	XXX
Q(100) DISCHARGE	5.8 CFS	XXX
Q(100) ELEV.	345.1	XXX
POND CONTOUR DATA		
ELEVATION	AREA	
343.5	1505 SF	XXX
344.0	1844 SF	XXX
345.0	2685 SF	XXX
346.0	3447 SF	XXX

SCM DESIGN DATA

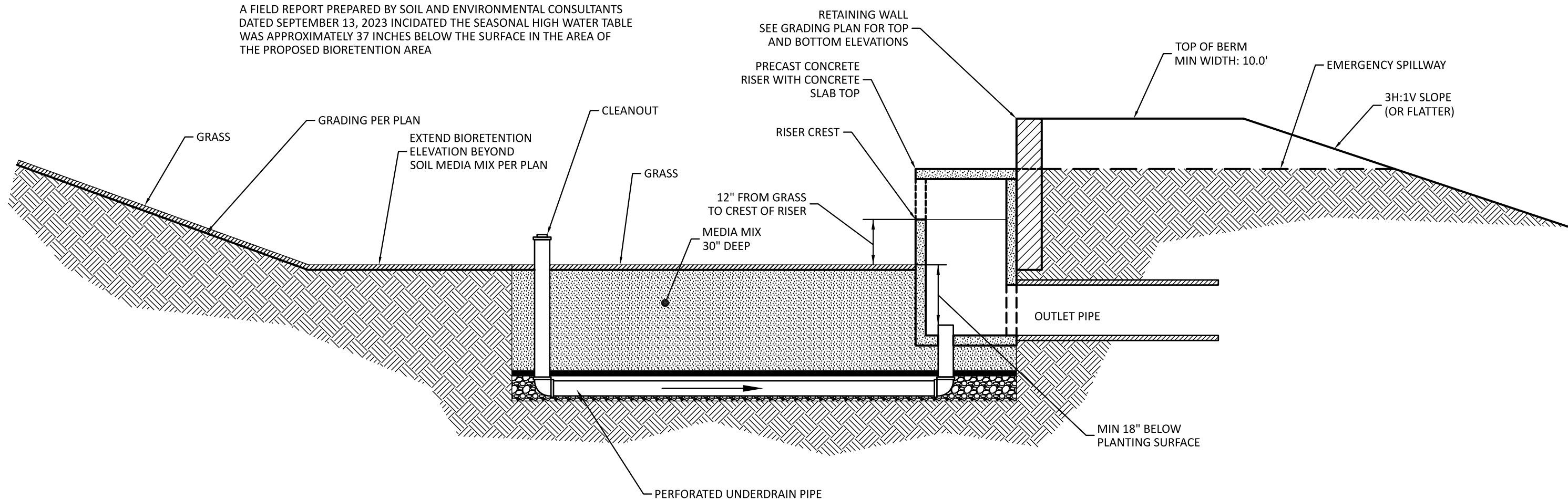
REFER TO CONSTRUCTION DESIGN DATA BLOCK ON THIS SHEET FOR ALL ELEVATIONS, SIZES AND INVERTS RELATED TO THIS SCM

RISER OPENING NOTE

THE OPENINGS IN THE RISER BETWEEN THE RISER CREST AND BOTTOM OF RISER SLAB SHALL BE FITTED WITH A SCREEN WITH OPENINGS NO LARGER THAN 2 INCHES TO PREVENT LARGE DEBRIS FROM ENTERING THE OUTLET SYSTEM.

SHWT NOTE

A FIELD REPORT PREPARED BY SOIL AND ENVIRONMENTAL CONSULTANTS DATED SEPTEMBER 13, 2023 INDICATED THE SEASONAL HIGH WATER TABLE WAS APPROXIMATELY 37 INCHES BELOW THE SURFACE IN THE AREA OF THE PROPOSED BIORETENTION AREA



BIORETENTION AREA - TYPICAL CROSS SECTION

NOT TO SCALE

BIORETENTION AREA CONSTRUCTION TIMING

1. THE CONTRACTOR SHALL GRADE AND PLACE THE SOIL MEDIA IN THE BIORETENTION CELL AS ONE OF THE LAST STEPS IN THE CONSTRUCTION PROCESS.
2. THE BIORETENTION AREA SHALL NOT BE CONSTRUCTED UNTIL BUILT UPON AREAS THAT DRAIN TO THE VEGETATED RECEIVING AREAS ARE COMPLETED
3. UNTIL ADJACENT AREAS THAT DRAIN TO THE VEGETATED RECEIVING AREA ARE STABILIZED OR SURFACE FLOW IS DIVERTED AWAY FROM THE CELL

BIORETENTION AREA GENERAL NOTES

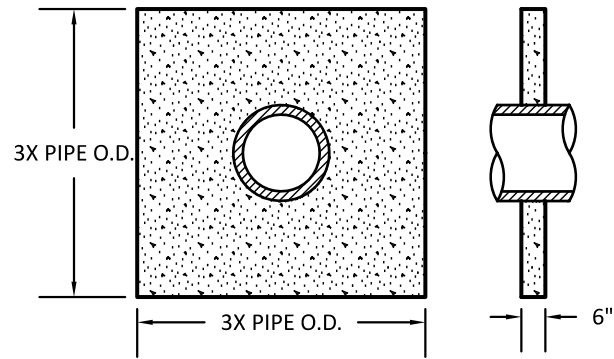
1. THE PONDING DEPTH OF THE BIORETENTION AREA IS LIMITED TO 12 INCHES.
2. THE MEDIA DEPTH FOR A BIORETENTION CELL WITH GRASS IS 30 INCHES AND 36 INCHES FOR BIORETENTION AREAS WITH TREES AND SHRUBS
3. THE BIORETENTION MIX IS DESIGNED TO MAINTAIN LONG TERM FERTILITY AND POLLUTANT PROCESSING CAPABILITY
4. THE SOIL MEDIA SHOULD BE SENT TO A LABORATORY FOR ANALYSIS OF THE P-INDEX. SOILS WITH A HIGH P-INDEX CAN INCREASE THE PHOSPHORUS IN THE STORMWATER RUNOFF.
5. THE SOIL MEDIA SHOULD NOT BE MECHANICALLY COMPACTED. IT IS RECOMMENDED TO EITHER WATER IT OR WALK ON IT AS IT IS PLACED
6. SOD SHOULD BE USED IN THE BOTTOM OF THE BIORETENTION AREA

MEDIA MIX NOTES

MEDIA MIX SPECIFICATIONS
THE MEDIA SHOULD BE COMPOSED OF A HOMOGENOUS MIX OF THE FOLLOWING:

75% TO 85% MEDIUM TO COARSE WASHED SAND
8% TO 10% FINES (SILT AND CLAY)
5% TO 10% ORGANIC MATTER (SUCH AS PINE BARK FINES)

MEDIA P-INDEX
THE MEDIA P-INDEX SHOULD BE LESS THAN 50



ANTI-SEEPAGE COLLAR

NOT TO SCALE

NOTES

1. THE CONCRETE COLLAR SHALL HAVE A MINIMUM 28-DAY STRENGTH OF 3000 PSI.
2. ANTI-SEEPAGE COLLARS SHALL BE CONNECTED TO THE BARREL PIPE WITH A WATER TIGHT JOINT.
3. INSTALL ANTI-SEEPAGE COLLAR AT THE CENTER OF THE EMBANKMENT.
4. ANTI-SEEPAGE COLLARS SHALL BE INSTALLED AT LEAST 2 FEET FROM ANY PIPE JOINT.

EMERGENCY SPILLWAY LINING

THE EMERGENCY SPILLWAY SHALL BE LINED WITH NORTH AMERICAN GREEN VMAX S200 OR APPROVED EQUAL

SEEDING SPECIFICATIONS

COMPLETE GRADING BEFORE PREPARING SEEDBEDS, AND INSTALL ALL NECESSARY EROSION CONTROL PRACTICES SUCH AS, DIKES, WATERWAYS, AND BASINS. MINIMIZE STEEP SLOPES BECAUSE THEY MAKE SEEDBED PREPARATION DIFFICULT AND INCREASE THE EROSION HAZARD. IF SOILS BECOME COMPACTED DURING GRADING, LOOSEN THEM TO A DEPTH OF 6-8 INCHES USING A RIPPER, HARROW, OR CHISEL FLOW.

SEEDBED PREPARATION

- GOOD SEEDBED PREPARATION IS ESSENTIAL TO SUCCESSFUL PLANT ESTABLISHMENT. A GOOD SEEDBED IS WELL-PULVERIZED, LOOSE, AND UNIFORM. WHERE HYDROSEEDING METHODS ARE USED, THE SURFACE MAY BE LEFT WITH A MORE IRREGULAR SURFACE OF LARGE CLODS AND STONES.
- LIMING—APPLY LIME ACCORDING TO SOIL TEST RECOMMENDATIONS. IF THE PH (ACIDITY) OF THE SOIL IS NOT KNOWN, AN APPLICATION OF GROUND AGRICULTURAL LIMESTONE AT THE RATE OF 1 TO 1 1/2 TONS/ACRE ON COARSE-TEXTURED SOILS AND 2-3 TONS/ACRE ON FINETEXTURED SOILS IS USUALLY SUFFICIENT. APPLY LIMESTONE UNIFORMLY AND INCORPORATE INTO THE TOP 4-6 INCHES OF SOIL. SOILS WITH A PH OF 6 OR HIGHER NEED NOT BE LIMED.
 - FERTILIZER—BASE APPLICATION RATES ON SOIL TESTS. WHEN THESE ARE NOT POSSIBLE, APPLY A 10-10-10 GRADE FERTILIZER AT 700-1,000 LB/ACRE. BOTH FERTILIZER AND LIME SHOULD BE INCORPORATED INTO THE TOP 4-6 INCHES OF SOIL. IF A HYDRAULIC SEEDER IS USED, DO NOT MIX SEED AND FERTILIZER MORE THAN 30 MINUTES BEFORE APPLICATION.
 - SURFACE ROUGHENING—IF RECENT TILLAGE OPERATIONS HAVE RESULTED IN A LOOSE SURFACE, ADDITIONAL ROUGHENING MAY NOT BE REQUIRED, EXCEPT TO BREAK UP LARGE CLODS. IF RAINFALL CAUSES THE SURFACE TO BECOME SEALED OR CRUSTED, LOOSEN IT JUST PRIOR TO SEEDING BY DISKING, RAKING, HARROWING, OR OTHER SUITABLE METHODS. GROOVE OR FURROW SLOPES STEEPER THAN 3:1 ON THE CONTOUR BEFORE SEEDING (PRACTICE 6.03, SURFACE ROUGHENING).

PLANT SELECTION

SELECT AN APPROPRIATE SPECIES OR SPECIES MIXTURE FROM TABLE 6.10A FOR SEEDING IN LATE WINTER AND EARLY SPRING. TABLE 6.10B FOR SUMMER, AND TABLE 6.10C FOR FALL. IN THE MOUNTAINS, DECEMBER AND JANUARY SEEDINGS HAVE POOR CHANCES OF SUCCESS. WHEN IT IS NECESSARY TO PLANT AT THESE TIMES, USE RECOMMENDATIONS FOR FALL AND A SECURELY TACKED MULCH.

SEEDING

EVENLY APPLY SEED USING A CYCLONE SEEDER (BROADCAST), DRILL, CULTIPACKER SEEDER, OR HYDROSEEDER. USE SEEDING RATES GIVEN IN TABLES 6.10A-6.10C. BROADCAST SEEDING AND HYDROSEEDING ARE APPROPRIATE FOR STEEP SLOPES WHERE EQUIPMENT CANNOT BE DRIVEN. HAND BROADCASTING IS NOT RECOMMENDED BECAUSE OF THE DIFFICULTY IN ACHIEVING A UNIFORM DISTRIBUTION. SMALL GRAINS SHOULD BE PLANTED NO MORE THAN 1 INCH DEEP. AND GRASSES AND LEGUMES NO MORE THAN 1/2 INCH. BROADCAST SEED MUST BE COVERED BY RAKING OR CHAIN DRAGGING, AND THEN LIGHTLY FIRMED WITH A ROLLER OR CULTIPACKER. HYDROSEEDED MIXTURES SHOULD INCLUDE A WOOD FIBER (CELLULOSE) MULCH.

MULCHING

THE USE OF AN APPROPRIATE MULCH WILL HELP ENSURE ESTABLISHMENT UNDER NORMAL CONDITIONS, AND IS ESSENTIAL TO SEEDING SUCCESS UNDER HARSH SITE CONDITIONS (PRACTICE 6.14, MULCHING). HARSH SITE CONDITIONS INCLUDE:

- SEEDING IN FALL FOR WINTER COVER (WOOD FIBER MULCHES ARE NOT CONSIDERED ADEQUATE FOR THIS USE),
- SLOPES STEEPER THAN 3:1,
- EXCESSIVELY HOT OR DRY WEATHER,
- ADVERSE SOILS (SHALLOW, ROCKY, OR HIGH IN CLAY OR SAND), AND
- AREAS RECEIVING CONCENTRATED FLOW.

IF THE AREA TO BE MULCHED IS SUBJECT TO CONCENTRATED WATERFLOW, AS IN CHANNELS, ANCHOR MULCH WITH NETTING (PRACTICE 6.14, MULCHING).

FROM: DEMLR EC MANUAL SECTION 6.10 REVISED 5/13

POND CERTIFICATION REQUIREMENTS

THE CONTRACTOR SHALL NOTE THAT THE FOLLOWING DOCUMENTATION IS REQUIRED FOR CERTIFICATION OF THIS POND. ADDITIONAL ITEMS MAY BE REQUIRED DEPENDING ON THE REVIEWING AUTHORITY.

1. AN AS-BUILT SURVEY WITH BARREL PIPE INVERTS AND DIAMETER, RISER DIMENSIONS AND CREST ELEVATION, ORIFICE ELEVATION(S) AND DIAMETER(S)
2. AN AS-BUILT TOPOGRAPHIC SURVEY OF THE POND AT ONE FOOT CONTOUR INTERVALS, INCLUDING THE TOP OF EMBANKMENT AND DOWNSTREAM SLOPE(S) OF THE EMBANKMENT
3. COMPACTION TESTS PERFORMED PER THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. THIS SHOULD INCLUDE COMPACTION TESTS OF SOIL UNDER THE BARREL PIPE IF THE CONCRETE CRADLE WAS NOT USED.
4. VERIFICATION OF ANTI-SEEPAGE COLLAR SIZE AND INSTALLATION
5. VERIFICATION OF ANTI-FLOTATION BLOCK DIMENSIONS AND INSTALLATION

PERMANENT SODDING

ALL SOD SHOULD BE PLACED IN ACCORDANCE WITH SECTION 6.12 OF THE DENR EROSION CONTROL MANUAL.

SPECIES:

HYBRID BERMUDAGRASS

SOIL PREPARATION:

APPLY LIME AT A RATE OF 100 LB PER 1,000 SF. APPLY FERTILIZER AT A RATE OF 25 LB PER 1,000 SF OF 10-10-10 IN FALL OR 5-10-10 IN SPRING.

SOD INSTALLATION:

1. PRIOR TO LAYING SOD, CLEAR SURFACE OF SOIL OF ALL TRASH AND DEBRIS. FILL ALL LOW SPOTS TO AVOID STANDING WATER.
2. PRIOR TO INSTALLATION, STORE ALL SOD IN SHADE AND MOISTEN TO MAINTAIN VIABILITY. DELIVERY AND INSTALLATION OF SOD SHOULD TAKE PLACE WITHIN A PERIOD OF 36 HOURS.
3. DURING SUMMER, LIGHTLY IRRIGATE SOIL IMMEDIATELY BEFORE LAYING SOD.
4. LAY FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO AND BUTTING TIGHTLY AGAINST EACH OTHER. STAGGER STRIPS IN A BRICK-LIKE PATTERN. ENSURE THAT THE SOD IS NOT STRETCHED OR OVERLAPPED. TRIM AND FIT IRREGULAR AREAS WITH A KNIFE OR SHARP SPADE.
5. INSTALL STRIPS OF SOD WITH THEIR LONGEST DIMENSION PERPENDICULAR TO THE SLOPE. ON SLOPES 3:1 OR GREATER, OR WHEREVER EROSION MAY BE A PROBLEM, SECURE SOD WITH PEGS OR STAPLES.
6. AT THE SODDING OF AREAS IS COMPLETE, ROLL SOD TO PROVIDE FIRM CONTACT BETWEEN ROOTS AND SOIL.
7. IRRIGATE UNTIL THE SOIL IS WET 4 INCHES BELOW THE SOD. KEEP SODDED AREAS MOIST TO A DEPTH OF 4 INCHES UNTIL GRASS TAKES ROOT.
8. NO MOWING SHOULD OCCUR UNTIL THE SOD IS FIRMLY ROOTED, USUALLY 2-3 WEEKS.

MAINTENANCE:

WATER AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE. GRASS HEIGHT SHOULD BE MAINTAINED BETWEEN 1 AND 2 INCHES. APPLY FERTILIZER ANNUALLY AT A RATE OF 5-6 LB NITROGEN PER 1,000 SF.

PERMANENT SEEDING

FOR GENTLE SLOPES, SUN OR SEMI-SHADE, HIGH-MAINTENANCE, MINIMUM CARE LAWNS

SEEDING MIXTURE

SPECIES	RATE (LB/ACRE)
TALL FESCUE BLEND (EQUAL PARTS OF TWO OR PREFERABLY THREE TURF-TYPE TALL FESCUES)	200-500

SEEDING DATES

	BEST	POSSIBLE
BELOW 2,500 FT	AUG 15 - SEPT 1	JULY 25 - SEPT 15
	MAR 1 - APR 1	MAR 1 - MAY10
ABOVE 2,500 FT	JULY 25 - AUG 15	JULY 15 - AUG 30
	MAR 20 - APR 20	MAR 5 - MAY 15

SOIL AMMENDMENTS

APPLY LIME AND FERTILIZER ACCORDING TO SOIL TESTS, OR APPLY 4,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 4,000 LB/ACRE 10-10-10 FERTILIZER.

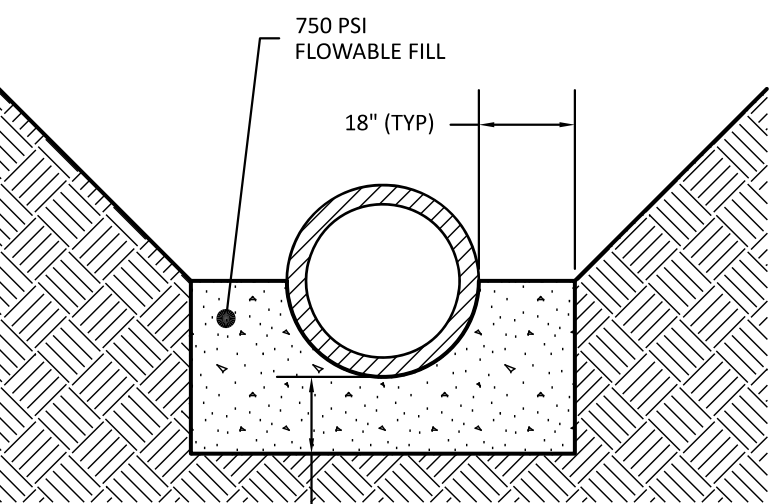
MULCH

APPLY 4,000 LB/ACRE GRAIN STRAW OR EQUIVALENT COVER OF ANOTHER SUITABLE MULCH. ANCHOR STRAW BY TACKING WITH ASPHALT AT 400 GAL/ACRE, NETTING, OR ROVING OR BY ROLLING AND WATERING

MAINTENANCE

THE BUNCH-TYPE HABIT OF TALL FESCUE RESTRICTS ITS SPREAD INTO DAMAGED AREAS. RESEED BARE SPOTS IN THE FALL. REFERTILIZE ANNUALLY IN LATE WINTER AND AGAIN IN FALL. RESEED, FERTILIZE, AND MULCH DAMAGED AREAS IMMEDIATELY.

NOTE: PERMANENT SEEDING NOTED ABOVE IS ONLY FOR AREAS NOT COVERED WITH SOD



CONCRETE CRADLE DETAIL

NOT TO SCALE

CONCRETE CRADLE NOTES

1. EXCAVATE TRENCH FOR THE CONCRETE CRADLE AND BARREL PER THE DIMENSIONS ON THE CONCRETE CRADLE DETAIL
2. PLACE BARREL PIPE ON CONCRETE BLOCKS TO ACHIEVE SLOPE AND INVERTS NOTED ON THE POND DETAIL SHEET.
3. PLACE 2 FOOT WIDE STRIPS OF FILTER FABRIC OVER PIPE JOINTS BEFORE PLACING FLOWABLE FILL
4. PLACE FLOWABLE FILL AS ONE LIFT UP TO THE SPRINGLINE OF THE PIPE.
5. ALLOW CRADLE TO CURE FOR AT LEAST 7 DAY BEFORE USING ANY VIBRATING EQUIPMENT IN THE VICINITY OF THE PIPE.

CONCRETE CRADLE ALTERNATE

THE CONTRACTOR MAY CHOOSE TO ELIMINATE THE CONCRETE CRADLE AND USE COMPACTED BACKFILL. IF THE CONCRETE CRADLE IS NOT USED THE COMPACTED BACKFILL MUST BE PLACED PER THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.

TOWN OF ZEBULON
PROJECT ID: 964220

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

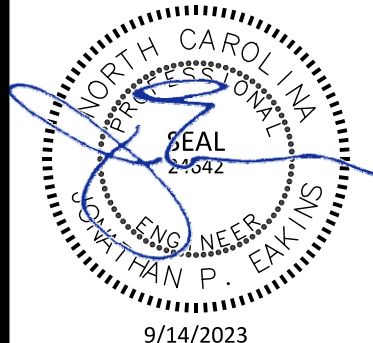
PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

The Nau Company
Consulting Civil Engineers
PO Box 810, Rolesville, NC 27571
919-435-6395
NCBELS License P-0751

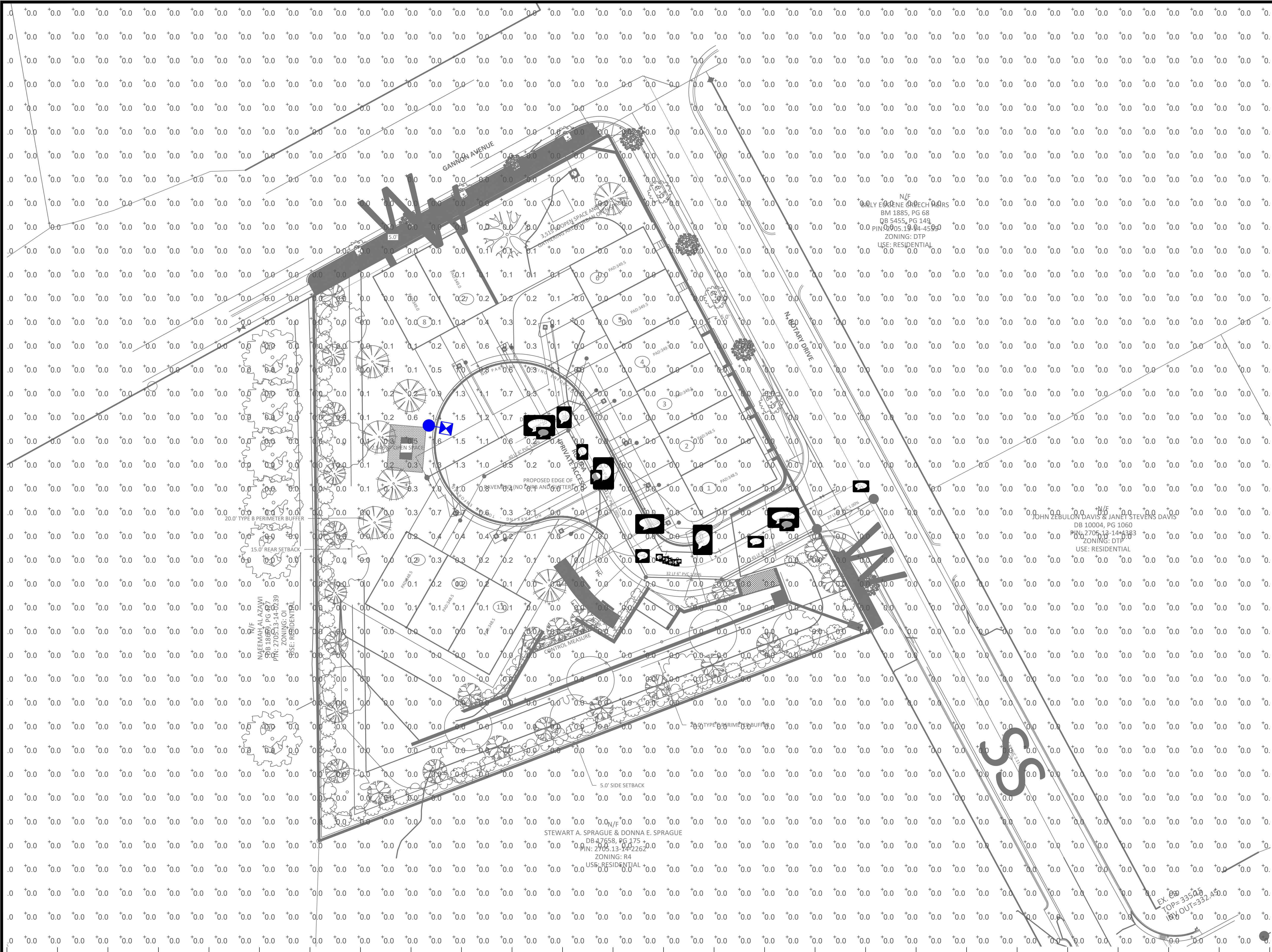
OWNER/DEVELOPER:
MERIDIAN PROPERTIES GROUP, LLC
4050 WAKE FOREST RD, SUITE 100
RALEIGH, NC 27609
919-621-4666

401 GANNON AVENUE
SITE PLAN AND CONSTRUCTION DRAWINGS

ZEBULON, NC
SCM GRADING AND DETAILS



PROJECT NO:	---
DESIGN BY:	JPE
DRAWN BY:	JPE
SCALE:	AS NOTED
DATE:	2023-03-01
SHEET NO:	C8.1





MICRO LED ROADWAY
(Meets Dark Sky Criteria)

LED
(Light-emitting diode)

Mounting height 20', 25', 30'

Color Gray | Black

Pole Fiberglass
Metal
Wood

Applications Neighborhoods
Parks
Streets

Light source: LED (nA/volt)
Wavelength: 50 watts, 75 watts
Lumens: 5,200 - 8,120
Light pattern: IESNA Type II, III, V
IESNA cutoff classification: Full-cutoff
BUD rating: Type II = E10002 (50w)
Type III = E10003 (75w)
Type V = E10002 (100w-150w)
Color temperature: 3,000K, 4,000K

FOOTCANDLE
Provides basic-free installation and service.
Little or no installation cost.
Design services by lighting professionals included.
Maintenance, electricity & warranty included.
One low monthly cost on your electric bill.

BENEFITS
Frees up capital for other projects.
Meets industry standards and lighting ordinances.
Eliminates high and unexpected repair bills.
Convenience and savings for you.

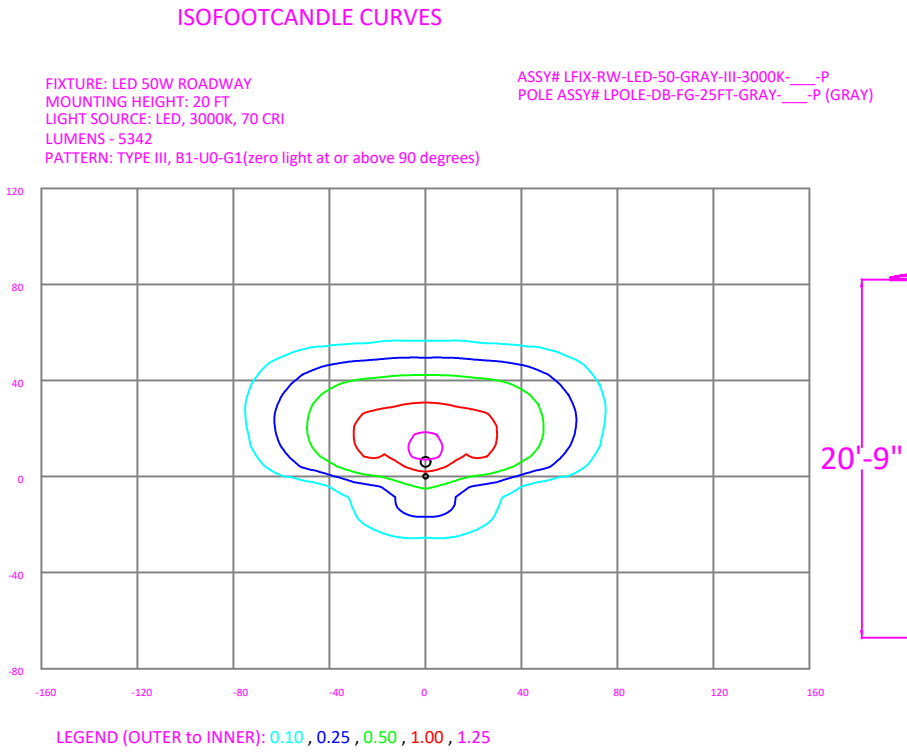
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For additional information, contact us at DB.Central@duke-energy.com

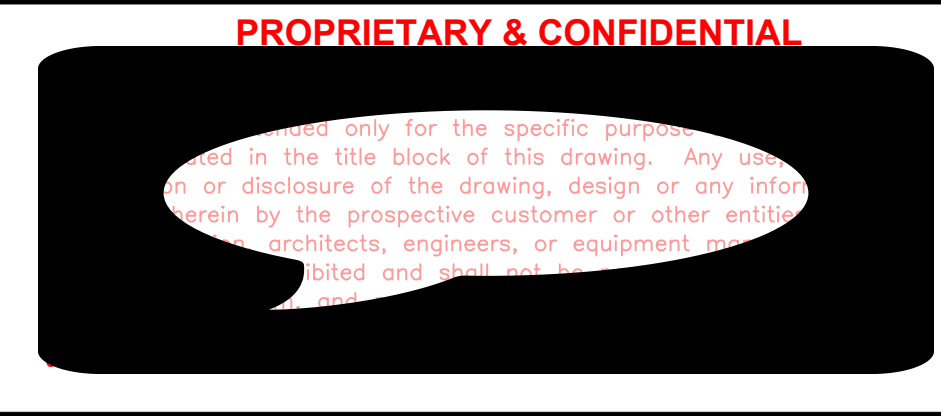
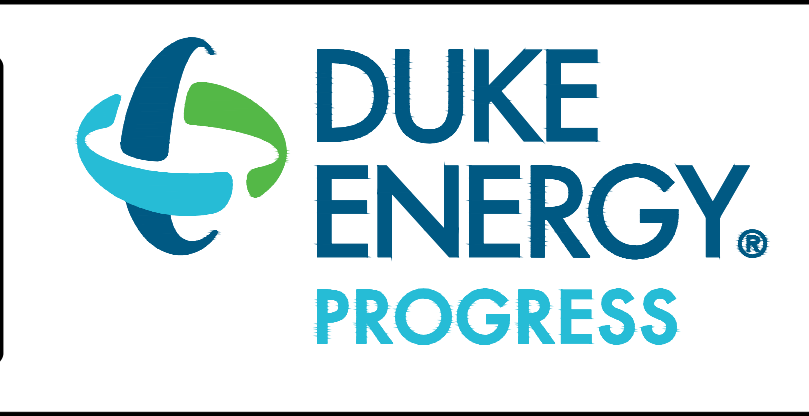
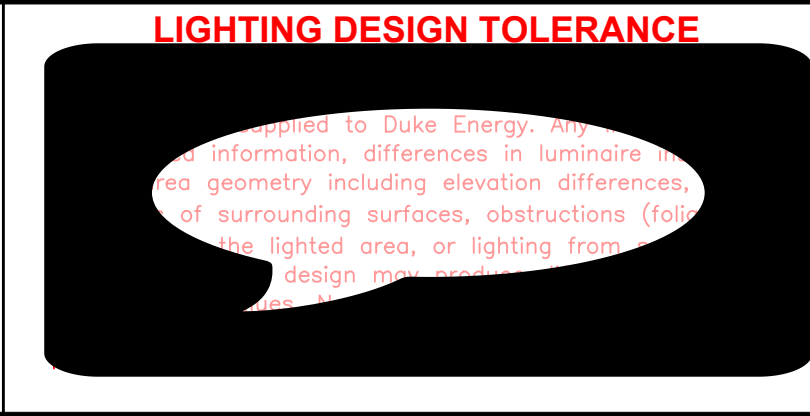
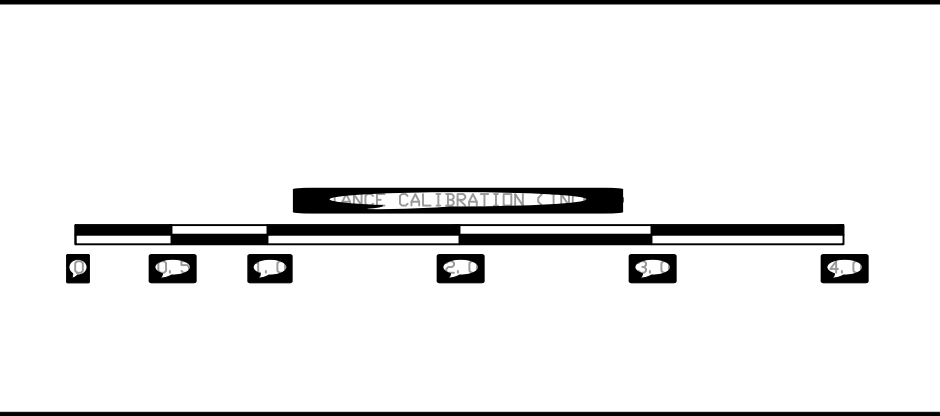
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DUKE ENERGY PROGRESS
SUSTAINABLE ENERGY SOLUTIONS

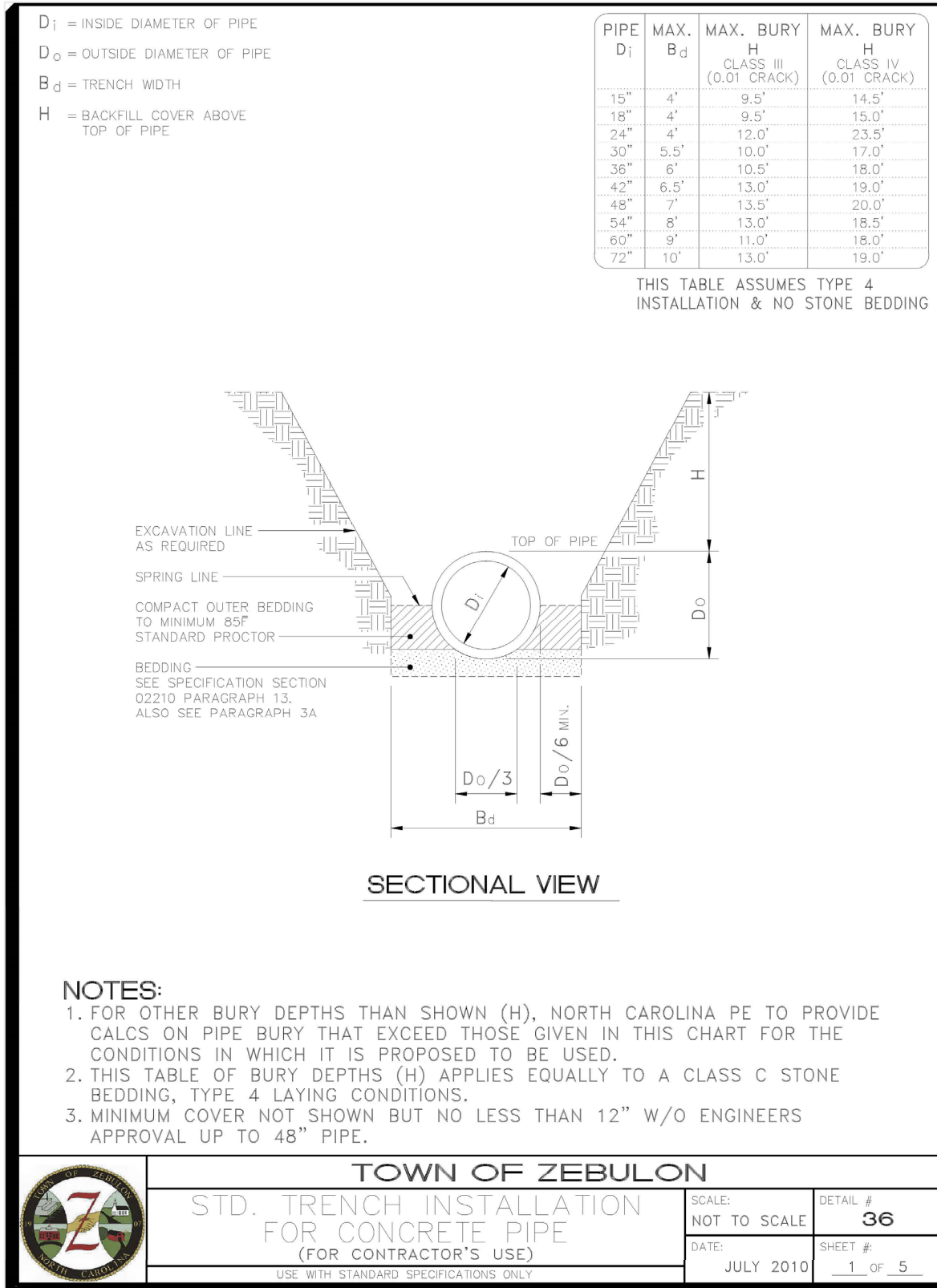
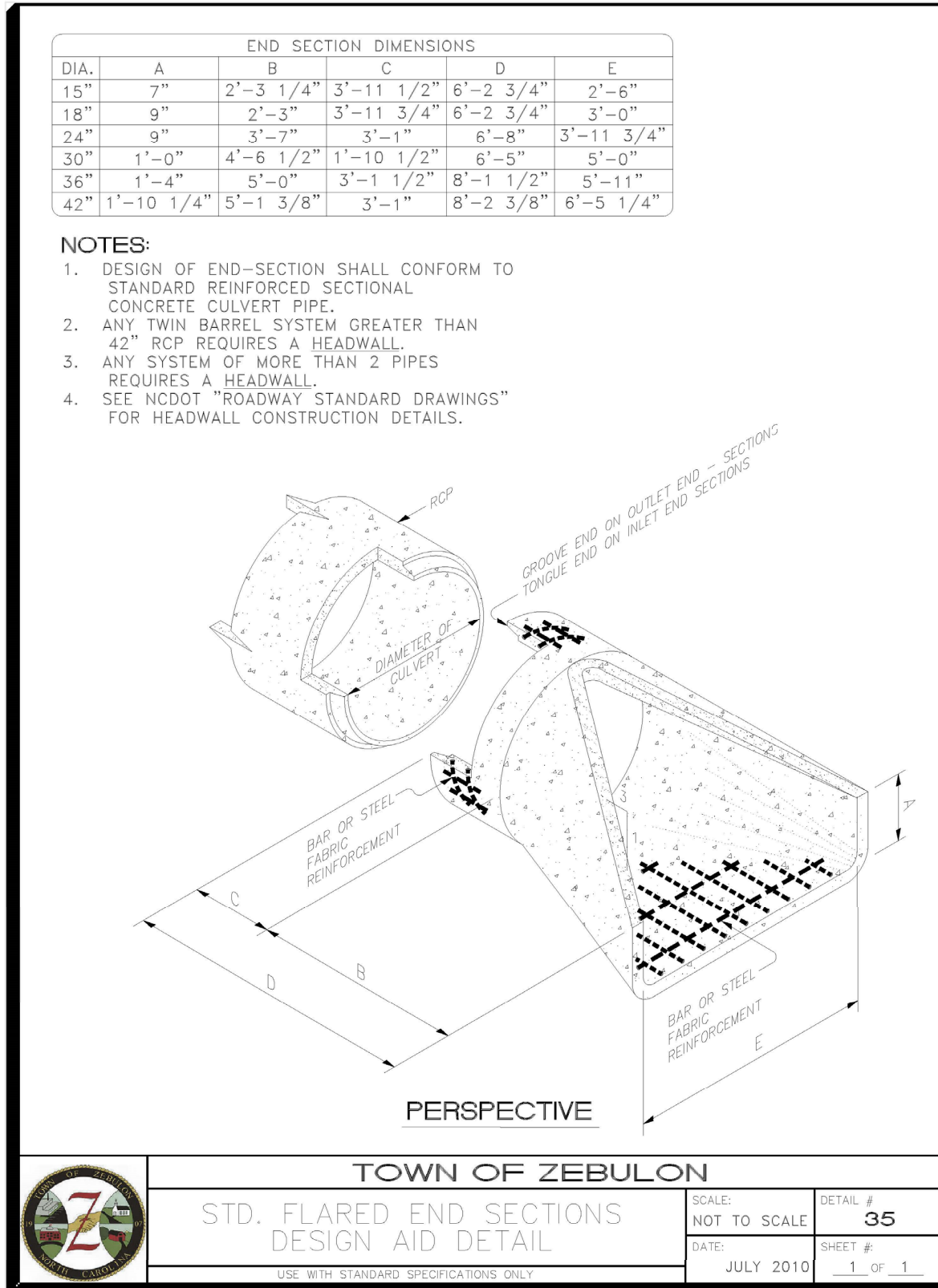
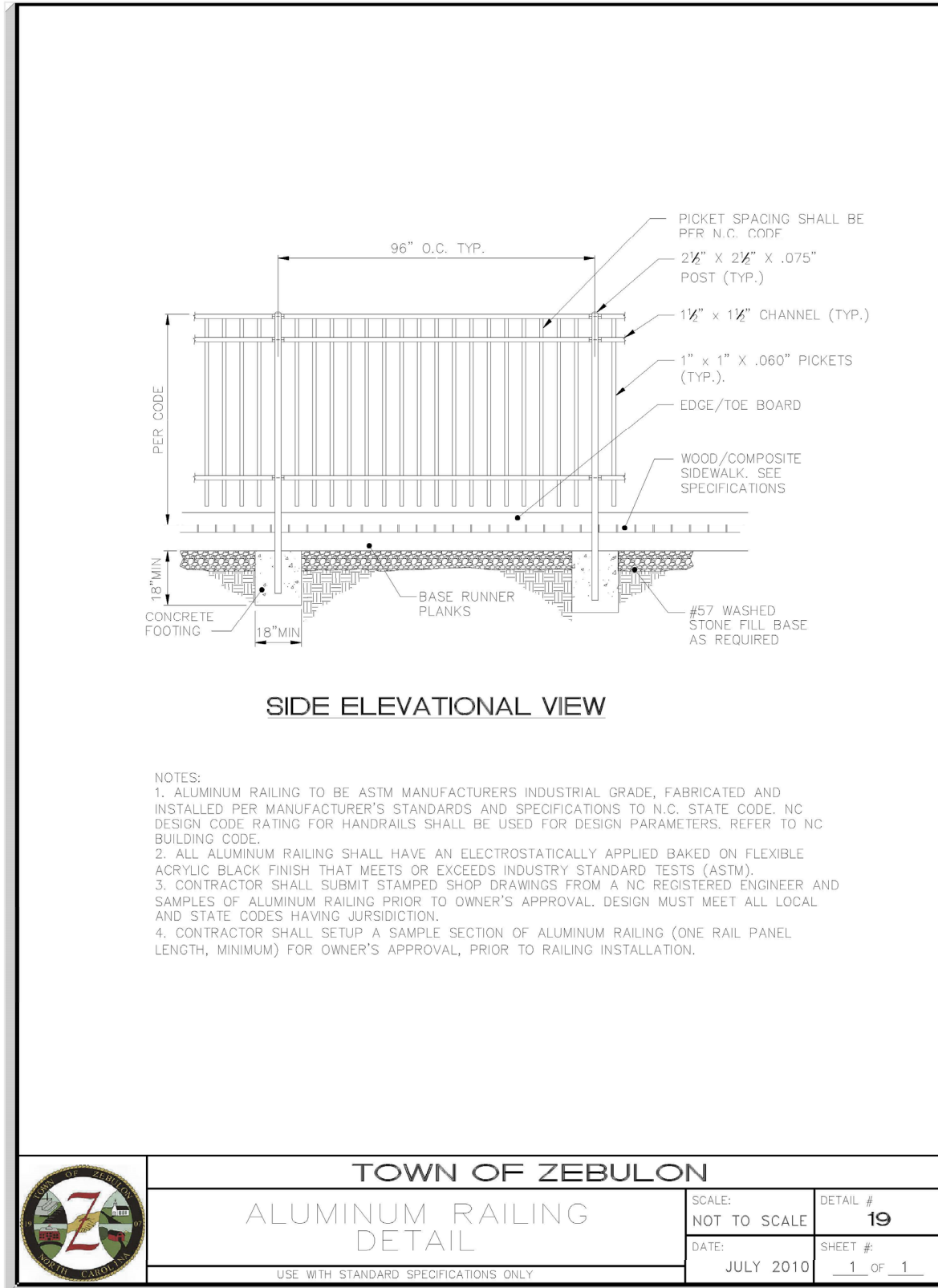
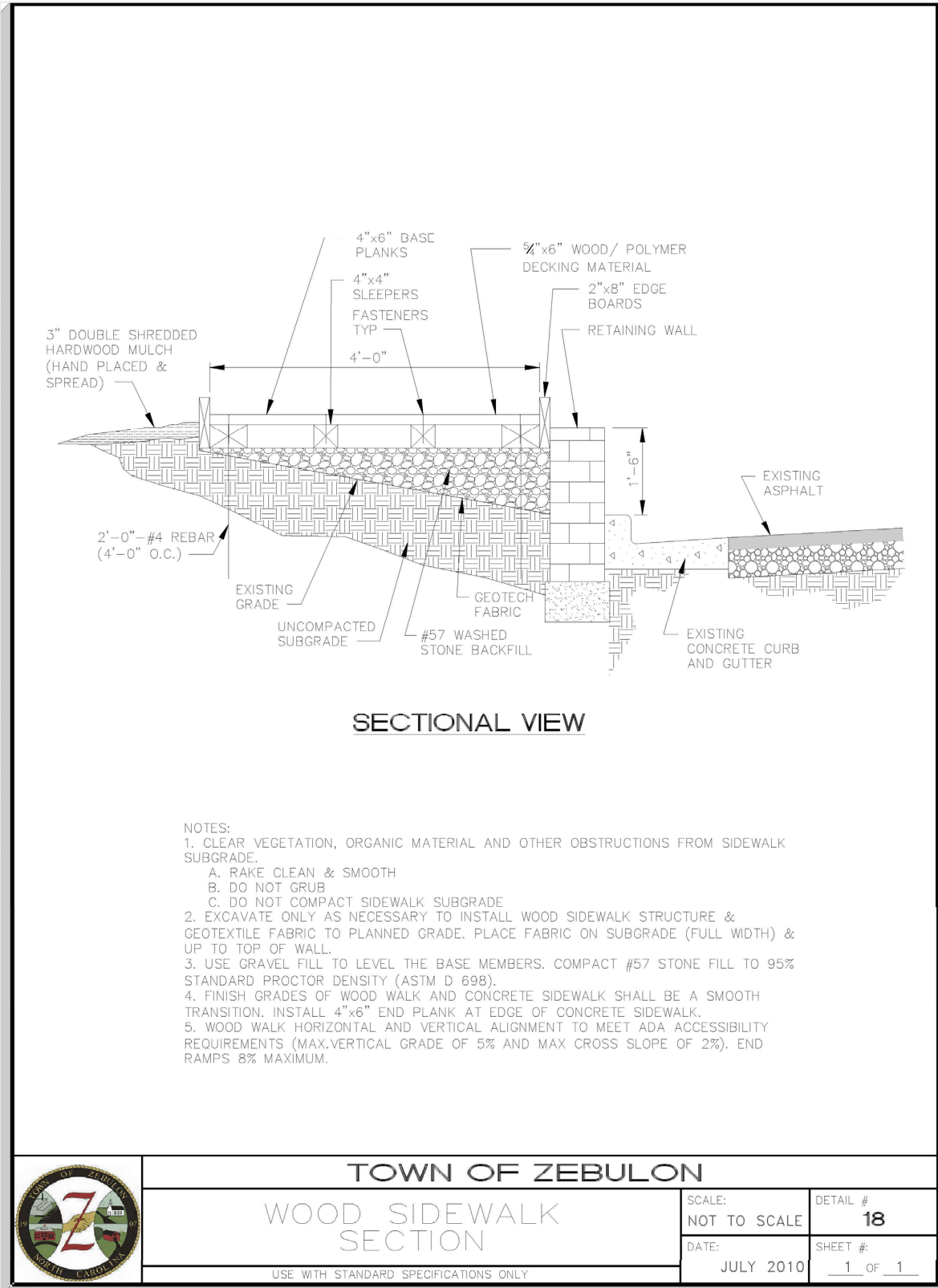
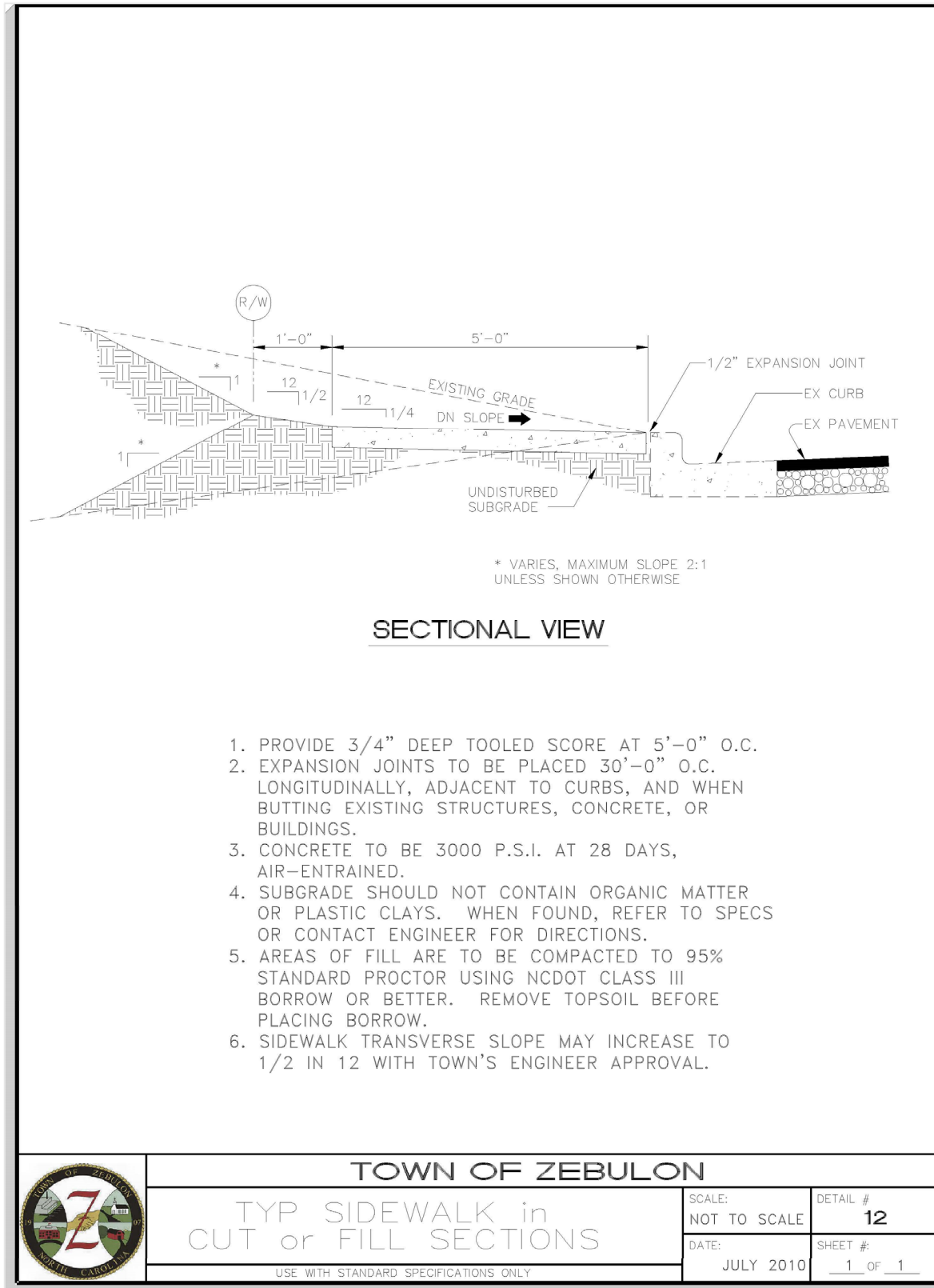
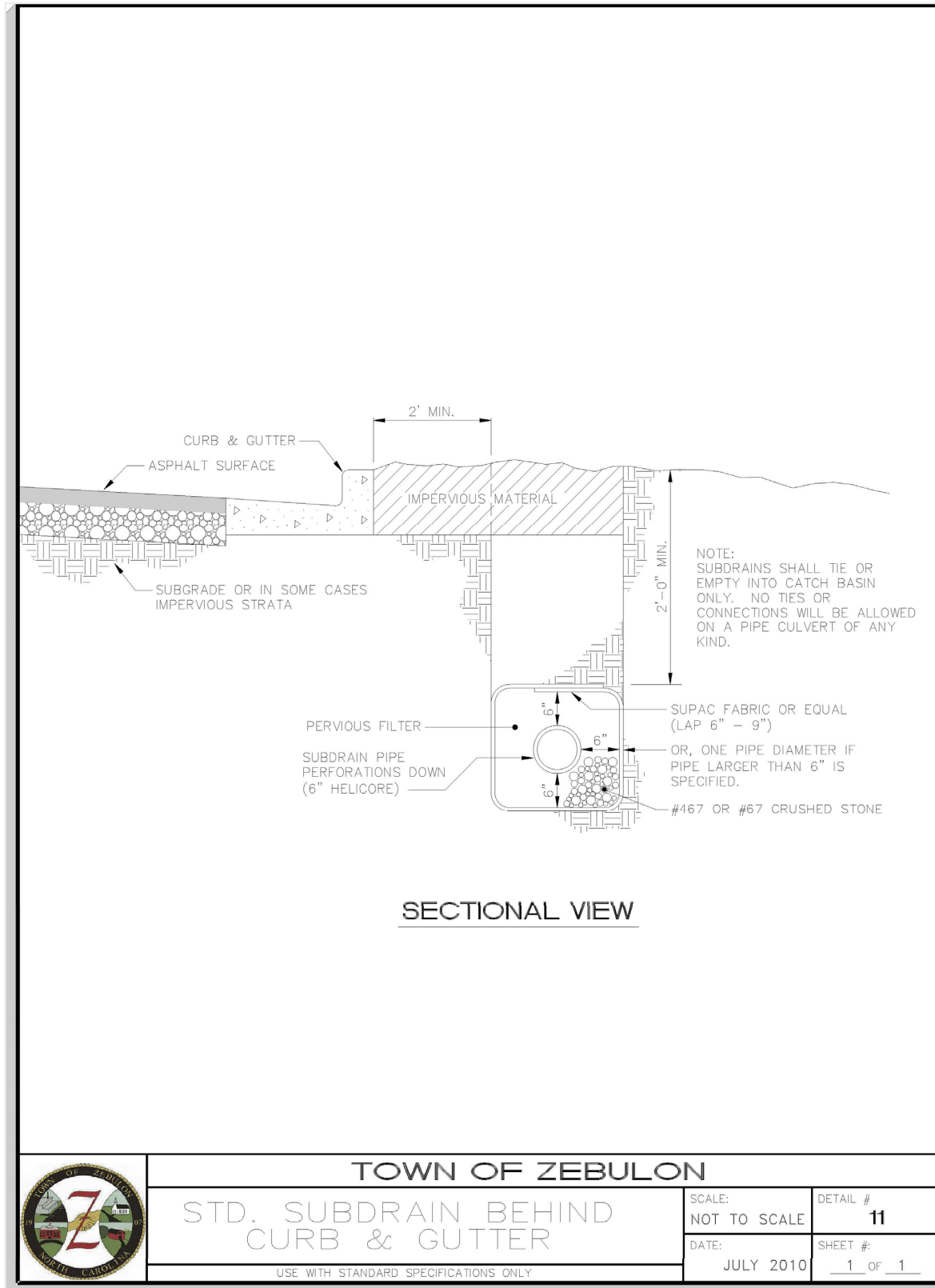
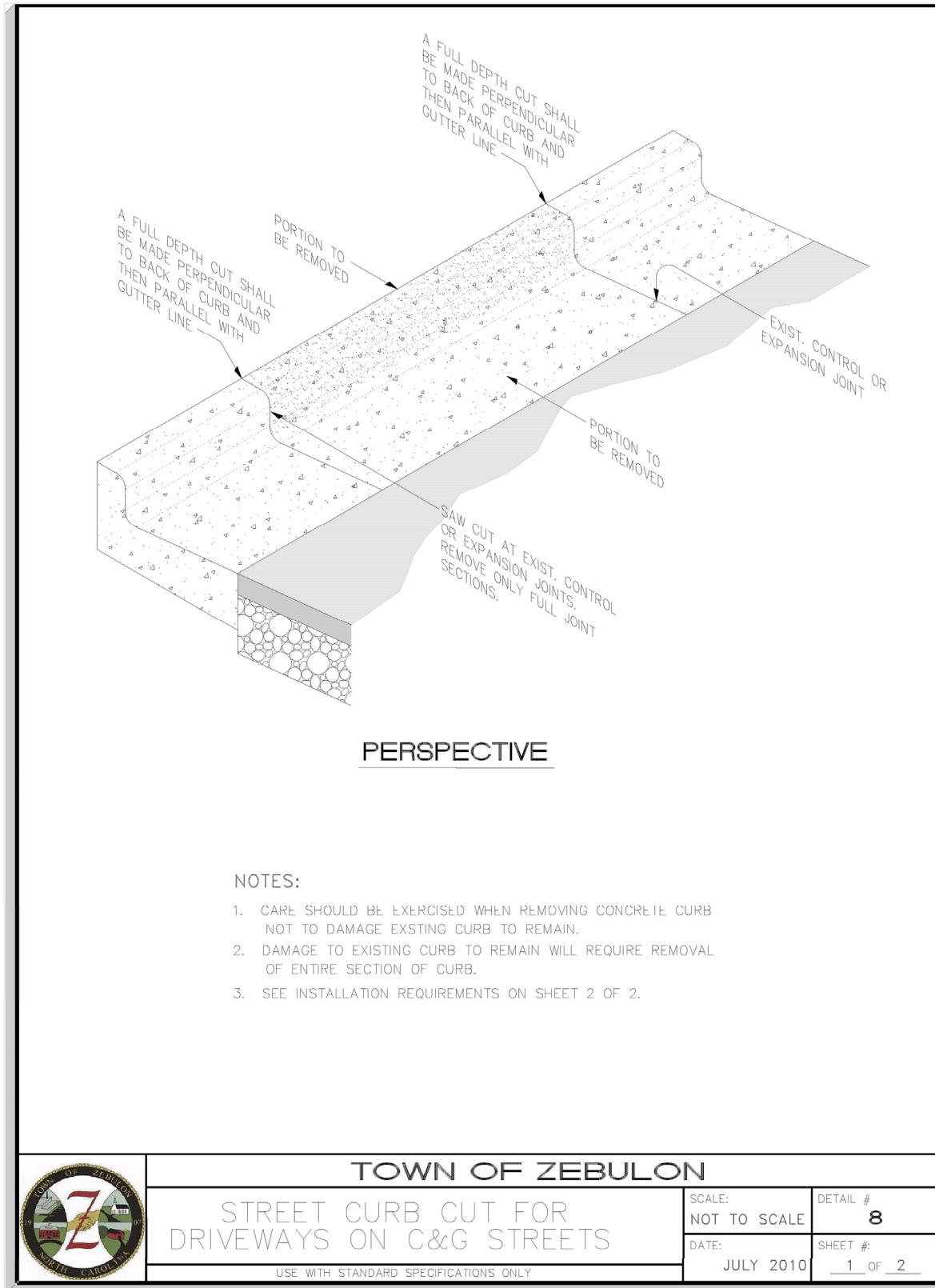
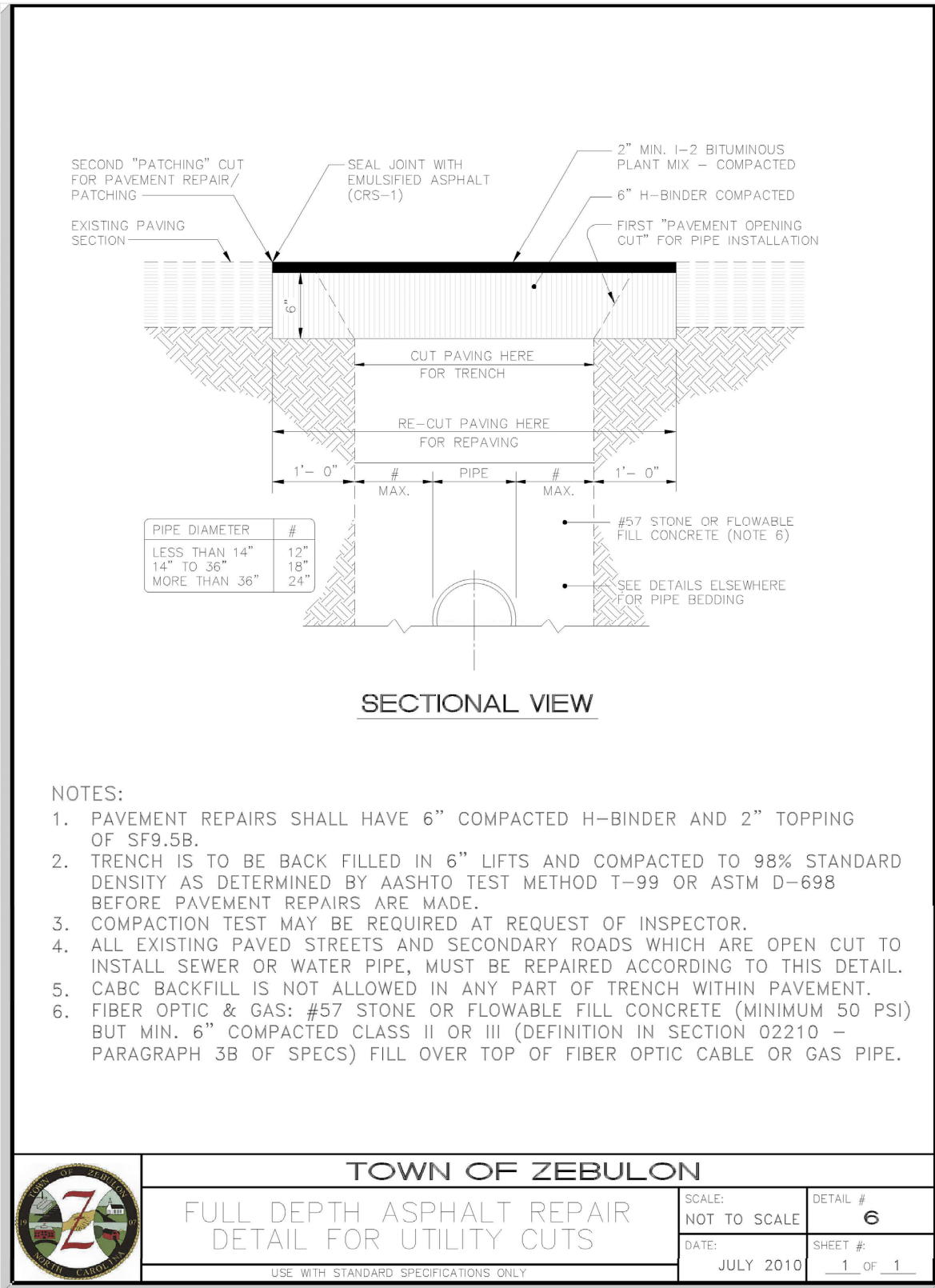


Schedule						
Symbol	Label	Quantity	Description	Number Lamps	Lumens Per Lamp	Light Loss Factor
	A	1	LED 50w Roadway - Type III - 3000K	1	5312	0.85

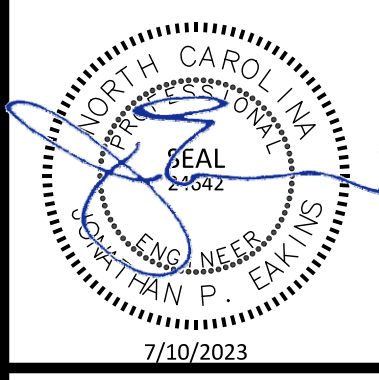
NO.	DATE	REVISION	BY



401 GANNON AVE		
Zebulon, NC		
SITE LIGHTING ARRANGEMENT		
Designed by	DUKE ENERGY PROGRESS LIGHTING SOLUTIONS	
Reviewed by	N. Johnson	Scale 1" = 20'
Date	03/14/2024	Size Drawing size "D"
Description	LED Roadway	
Drawing No.	24-0085A	Sht. 1 OF 1



REVISIONS	DATE	DESCRIPTION
1	2023-07-10	ADD LAYOUT AND ELEVATIONS PER TOWN COMMENTS



PROJECT NO:	---
DESIGN BY:	JPE
DRAWN BY:	JPE
SCALE:	NTS
DATE:	2023-03-01
SHEET NO:	D1.1

Table 1 Equivalent USCS and AASHTO Soil Classification for SIDD Soil Designations				
SIDD Soil	Representative Soil Types	Percent Compaction		
	USCS	AASHTO	Standard Proctor	Modified Proctor
Gravelly Sand (Category I)	SW, SP, GW, GP	A1,A3	100	95
			95	90
			90	85
			85	80
			80	75
Sandy Silt (Category II)	GM, SM, ML, Also GC, SC with less than 20% passing #200 sieve	A2,A4	100	95
			95	90
			90	85
			85	80
			80	75
Silty Clay (Category III)	CL, MH, DC, SC	A5,A6	100	90
			95	85
			90	80
			85	75
			80	70
	CH		100	90
			95	85
			90	80
			85	75
			80	70

Table 2 Standard EMBANKMENT Installation Soils and Minimum Compaction Requirements			
Installation Type ⁴	Bedding Thickness	Haunch and Outer Bedding	Lower Side
Type 1	D ₀ /24 minimum, not less than 75 mm (3"). If rock foundation, use D ₀ /12 minimum, not less than 150 mm (6").	98% Category I	90% Category I, 95% Category II, 100% Category III
Type 2	D ₀ /24 minimum, not less than 75 mm (3"). If rock foundation, use D ₀ /12 minimum, not less than 150 mm (6").	90% Category I or 95% Category II	85% Category I, 90% Category II, 95% Category III
Type 3	D ₀ /24 minimum, not less than 75 mm (3"). If rock foundation, use D ₀ /12 minimum, not less than 150 mm (6").	85% Category I, 90% Category II, or 95% Category III	80% Category I, 85% Category II, or 90% Category III
Type 4	D ₀ /24 minimum, not less than 75 mm (3"). If rock foundation, use D ₀ /12 minimum, not less than 150 mm (6").	No compaction required, except if Category III use 85% Category II	No compaction required, except if Category III use 85% Category II

Notes:

1. Compaction and soils symbols – i.e. "98% Category I" refers to Category 1 soil material with a minimum standard Proctor compaction of 98%. See Table 1 for equivalent modified Proctor values.
2. Soil in the outer bedding, haunch, and lower side zones, except within D₀/3 from the pipe springline, shall be compacted to at least the same compaction as the majority of the soil in the overfill zone.
3. Subtrenches
 - 3.1 A subtrench is defined as a trench with its top below finished grade by more than 0.1 H or, for roadways, its top is at an elevation lower than 0.3 m (1') below the bottom of the pavement base material.
 - 3.2 The minimum width of a subtrench shall be 1.33 D₀ or wider if required for adequate space to attain the specified compaction in the haunch and bedding zones.
 - 3.3 For subtrenches with wall of natural soil, any portion of the lower side zone in the subtrench wall shall be at least as firm as an equivalent soil placed to the compaction requirements specified for the lower side zone and as firm as the majority of soil in the overfill zone, or shall be removed and replaced with soil compacted to the specified level.
4. Type 1 installation = relatively high quality material & high compaction effort. Type 4 installation = little or no control over material and compaction.



TOWN OF ZEBULON
STD. TRENCH INSTALLATION
(TRENCH CONDITION SHOWN)

SCALE: NOT TO SCALE
DATE: JULY 2010
SHEET # 36
USE WITH STANDARD SPECIFICATIONS ONLY

Typical Reinforced Water Wall Section
Standard Unit - Near Vertical Section

Wall Section with Pipe in Reinforced Zone
Standard Unit - Near Vertical Section

Typical Pipe Outlet Detail
Standard Unit - Near Vertical Section

Wall Plan at Pier / Manhole
Compas Unit - Near Vertical Section

Fence Plan Detail
Standard Unit - Near Vertical Section

Fence Section Detail
Standard Unit - Near Vertical Section

Typical Guardrail Detail
Standard Unit - Near Vertical Section

Drainage Swale Detail
Compas Unit - Near Vertical Section

Connection Details
Compas Unit - Near Vertical Section

Parapet End Detail
Near Vertical Section

Conceptual Details

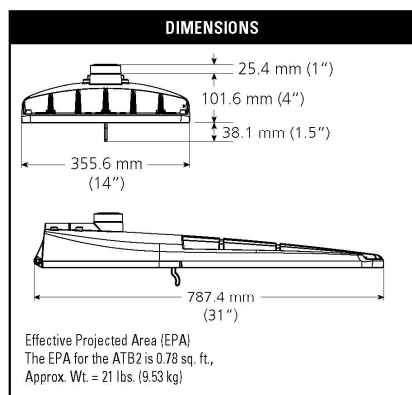
Keystone Retaining Wall Systems
Typical Wall Details



Autobahn Series ATB2 Roadway Lighting



Applications:
Roadways
Off ramps
Residential streets
Parking lots



STANDARDS

DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/DPL to confirm which versions are qualified. Color temperatures of < 3000K must be specified for International Dark-Sky Association certification. Rated for: 40°C to 49°C ambient. CSA Certified to U.S. and Canadian standards. Complies with ANSI: C136.1, C136.10, C136.14, C136.31, C136.15, C136.37

Note: Specifications subject to change without notice.

Autobahn Series - AEL 1199 ATB2



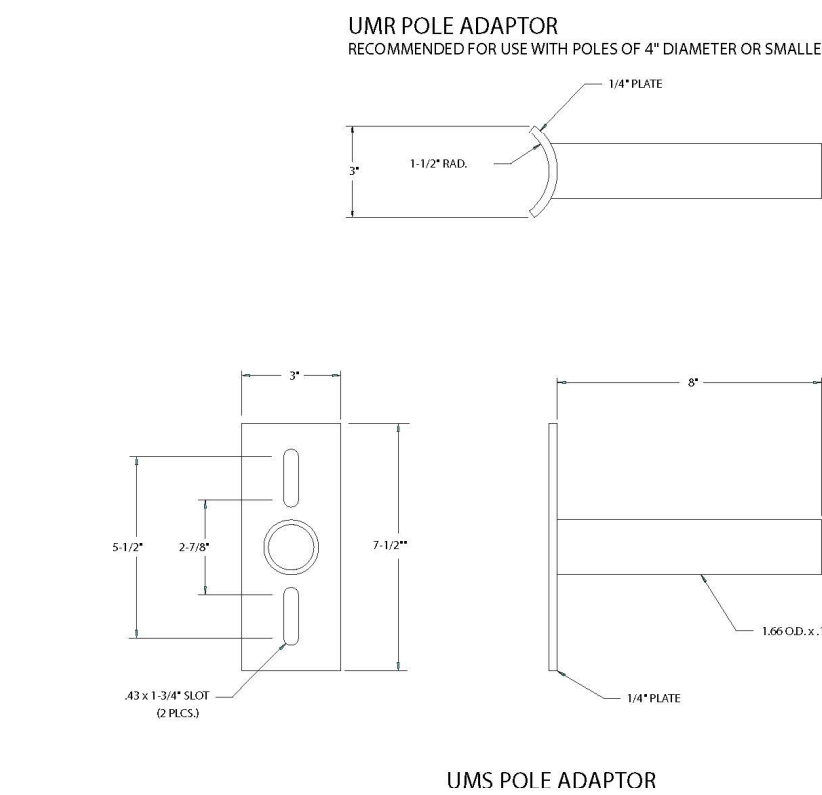
Autobahn Series ATB2 Roadway Lighting

ORDERING INFORMATION

Series	Performance Packages	Voltage	Optics
ATB2 Autobahn LED Roadway	40LEDE70 488 Chips, 700mA Driver 40LEDE10 488 Chips, 1000mA Driver 40LEDE15 488 Chips, 1500mA Driver 40LEDE20 488 Chips, 2000mA Driver 40LEDE25 488 Chips, 2500mA Driver 40LEDE30 488 Chips, 3000mA Driver 40LEDE35 488 Chips, 3500mA Driver 40LEDE40 488 Chips, 4000mA Driver 40LEDE45 488 Chips, 4500mA Driver 40LEDE50 488 Chips, 5000mA Driver	MVOLT Multi-volt, 120-277V 347 347V 480 480V	R2 Roadway Type II R3 Roadway Type III R4 Roadway Type IV R5 Roadway Type V

Example: ATB2 40LEDE70 MVOLT R2

Options			
Color Temperature (CCT)	(Blank) 4000K CCT, 70 CRI Min. 3K 3000K CCT, 70 CRI Min. 5K 5000K CCT, 70 CRI Min.	UMS-XX 8" Horizontal Arm for Round Pole, Painted to match Fixture UMS-XX 8" Horizontal Arm for Square Pole, Painted to match Fixture UMS-GALV 8" Horizontal Arm for Round Pole, Galvanized UMS-GALV 8" Horizontal Arm for Square Pole, Galvanized	Accessories (field installed): ATB2H40 Light Response Shield LEM 40 House Side ATB2H50 Light Response Shield LEM 50 House Side ATB2H60 Light Response Shield LEM 60 House Side ATB2H80 Light Response Shield LEM 80 House Side ATB2H90 Light Response Shield LEM 90 House Side ATB2H100 Light Response Shield LEM 100 House Side
Finish	(Blank) Gray (Standard) BK Black BZ Bronze DOB Dark Bronze GI Graphite WH White	Controls (Blank) PF 7 Pin Photocontrol Receptacle (Dimmable Driver Included) NO No Photocontrol Receptacle AD Field Adjustable Output DM 0V-10V Dimmable Driver (Controls by sensor)	Notes 1. Not available in 347 or 480V. 2. Not available with DM option.
Surge Protection	Standard 10kV/5kA SPD 20 20kV/10kA SPD MP MOV Pack IL SPD with Indicator Light	PCSS Solid State Long Life Photocontrol POLL Solid State Long Life Photocontrol SH Shorting Cap	Packaging (Blank) JP Single Unit (Standard) JP Job Pack (24/Pallet)
Terminal Block	(Blank) Terminal Block (Standard) T2 Wired to L1 & L2 Positions	BL External Bubble Level HS House Side Shield NL Name Label XL Not CSA Certified HK Hingekeepers	



UMS POLE ADAPTOR



Warranty Five year limited warranty. Complete warranty terms located at: www.ael.com

Autobahn Series - AEL 1199 ATB2

Note: Specifications subject to change without notice.

Please contact your sales representative for the latest product information.

TOWN OF ZEBULON
PROJECT ID: 964220

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

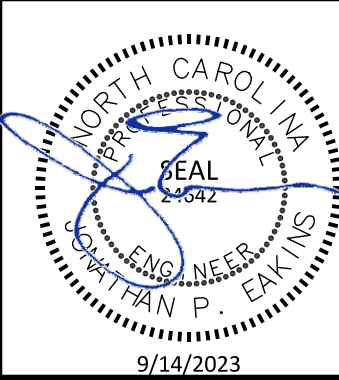
PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

The Nau Company
Consulting Civil Engineers
PO Box 810, Roanoke, NC 27571
919-435-6395
NCBELS License P-0751

OWNER/DEVELOPER:
MERIDIAN PROPERTIES GROUP LLC
4030 WAKE FOREST ROAD, SUITE 100
RALEIGH, NC 27609
919-621-4668

REVISIONS
1 2023-07-10
2 2023-09-14

401 GANNON AVENUE
SITE PLAN AND CONSTRUCTION DRAWINGS
ZEBULON, NC



PROJECT NO: ---
DESIGN BY: JPE
DRAWN BY: JPE
SCALE: NTS
DATE: 2023-03-01
SHEET NO: D1.2

LUMBER CUT LIST

We have included below helpful drawings to highlight the required length of lumber for your 10'x10' GRID 30 Single Pergola Kit with Water-Repellant Top for 6x6 Wood Posts build.

It is crucial to cut your wood and build to the exact measurements for the water-repellant top to fit correctly. Please see the images below for the precise measurements as indicated by **A** and **B**.

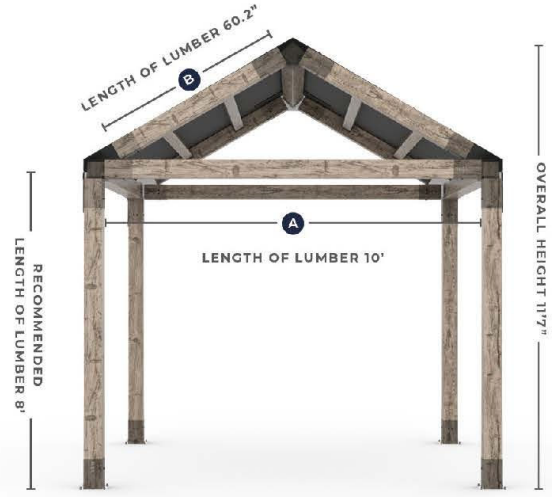


Figure 1

2

CANOPY/SUN SHADE CUT SHEET

ATTACHING THE WATER-REPELLANT TOP

Divide your **C** measurement by 3 to equally space out the **KNECT** brackets. Be sure to pay special attention to the grommet placement and shift slightly to ensure that the grommets **DO NOT overlap with the KNECT brackets**. Attach with screws provided.

Attach side mounts.

Attach the top using the straps to help achieve the starting position of 2.75", the halfway point of your 6x6 dressed lumber (the actual dimension of 5.5"x5.5") on all sides including the gables.

Attach screws throughout the top in all grommets starting with one side and then repeating on the opposite side.

There is an additional reinforcement on the underside as well. The middle reinforcement should be aligned at the center at the peak (see figure 3).



Figure 3

4

CANOPY/SUN SHADE NOTE

THE DETAILS IN THESE PLANS FOR THE CANOPY/SUN SHADE ARE FOR REFERENCE ONLY. THE FINAL PRODUCT SELECTED AND INSTALLED MAY DIFFER IN SIZE, SHAPE AND STYLE FROM WHAT IS SHOWN HERE.

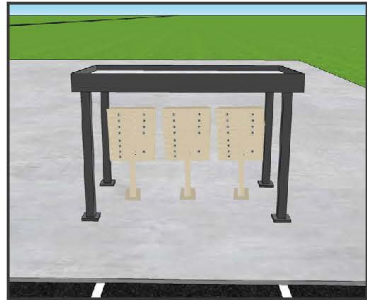
BETTER BUILT
STRONGER BUILT
PANEL BUILT

Panel Built Mailbox Shelters are the perfect solution to get your community's mailbox clusters up to USPS code. Our shelters can provide maximum protection from the elements with options for fully enclosed shelters with sidewalls. Panel Built's shelters are available in fully custom designs able to seamlessly blend into your existing architecture.

Mailbox Shelters



- ☒ **Standard Design**
- 14 gauge steel mechanical tube framing (or heavier)
 - Prime to paint system epoxy primer with urethane finish
 - 1/4" clear tempered glass windows
 - 3" thick aluminum roof panels
 - 2" - 3" thick steel shelter walls
 - Interior LED Lighting & Electric



- ☒ **Features**
- Shed, hip, or raised fascia roof
 - Variety of custom color options
 - Standard, Tinted, or Reflective window glass options
 - Heavy-duty welded steel frame
 - Ready-to-anchor baseplates for quick installation on-site
 - Custom, architectural designs available



- ☒ **Shelter Options**
- Available in fully-welded and bolt-together designs
 - Side-wall options available for maximum weather coverage
 - Exterior mounted security lights
 - Fully enclosed options available with lockable access control

MAIL CBU COVER CUT SHEET

MAIL CBU COVER NOTE

THE DETAILS IN THESE PLANS FOR THE MAIL CBU COVER ARE FOR REFERENCE ONLY. THE FINAL PRODUCT SELECTED AND INSTALLED MAY DIFFER IN SIZE, SHAPE AND STYLE FROM WHAT IS SHOWN HERE.

PING PONG / TABLE TENNIS

PING PONG / TABLE TENNIS



CONCRETE AND STEEL PING PONG / TABLE TENNIS

Regulation Size: 108" x 60" x 30" H, table top thickness 4"
Weight: 2,615 lbs. - 4,034 lbs. (varies per model)

Net Features

2 net options available
Stainless steel & side gussets
1/4" thick plate that extends between table tops
Gusseted stainless steel end supports for added strength
Tamper resistant assembly screws

CONCRETE AND STEEL PING PONG / TABLE TENNIS

Regulation Size: 108" x 60" x 30" H, table top thickness 4"
Weight: 2,615 lbs. - 4,034 lbs. (varies per model)

Table Customization Options

Net signage. Aluminum backed signs attach to both sides of the net. Secured with tamper resistant bolts.
Laser engraved net. Note: This option is available, but only readable from one side of the table. The opposite side is mirrored.
Logo applied to the playing surface at both ends. We use the highest quality concrete paints. Custom colors are available.
Contrast Sandblast wording on vertical edge of the tabletop at both ends.
Bronze plaques for donations, dedications or memorials.
Special Color table tops & base

ACTIVE OPEN SPACE AMENITY

ACTIVE OPEN SPACE AMENITY NOTE

THE DETAILS IN THESE PLANS FOR THE ACTIVE OPEN SPACE AMENITY ARE FOR REFERENCE ONLY. THE FINAL PRODUCT SELECTED AND INSTALLED MAY DIFFER IN SIZE, SHAPE AND STYLE FROM WHAT IS SHOWN HERE.

TOWN OF ZEBULON
PROJECT ID: 964220

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

PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

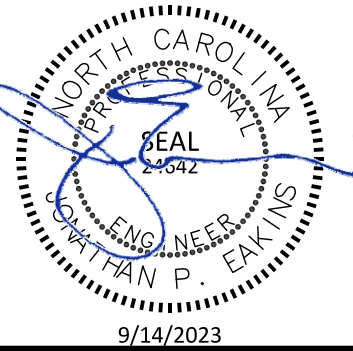
REVISIONS

NO.	DATE	REVISIONS
1	2023-07-10	LAYOUT UPDATES AND REVISIONS PER TOWN COMMENTS
2	2023-09-14	LAYOUT UPDATES AND REVISIONS PER TOWN COMMENTS

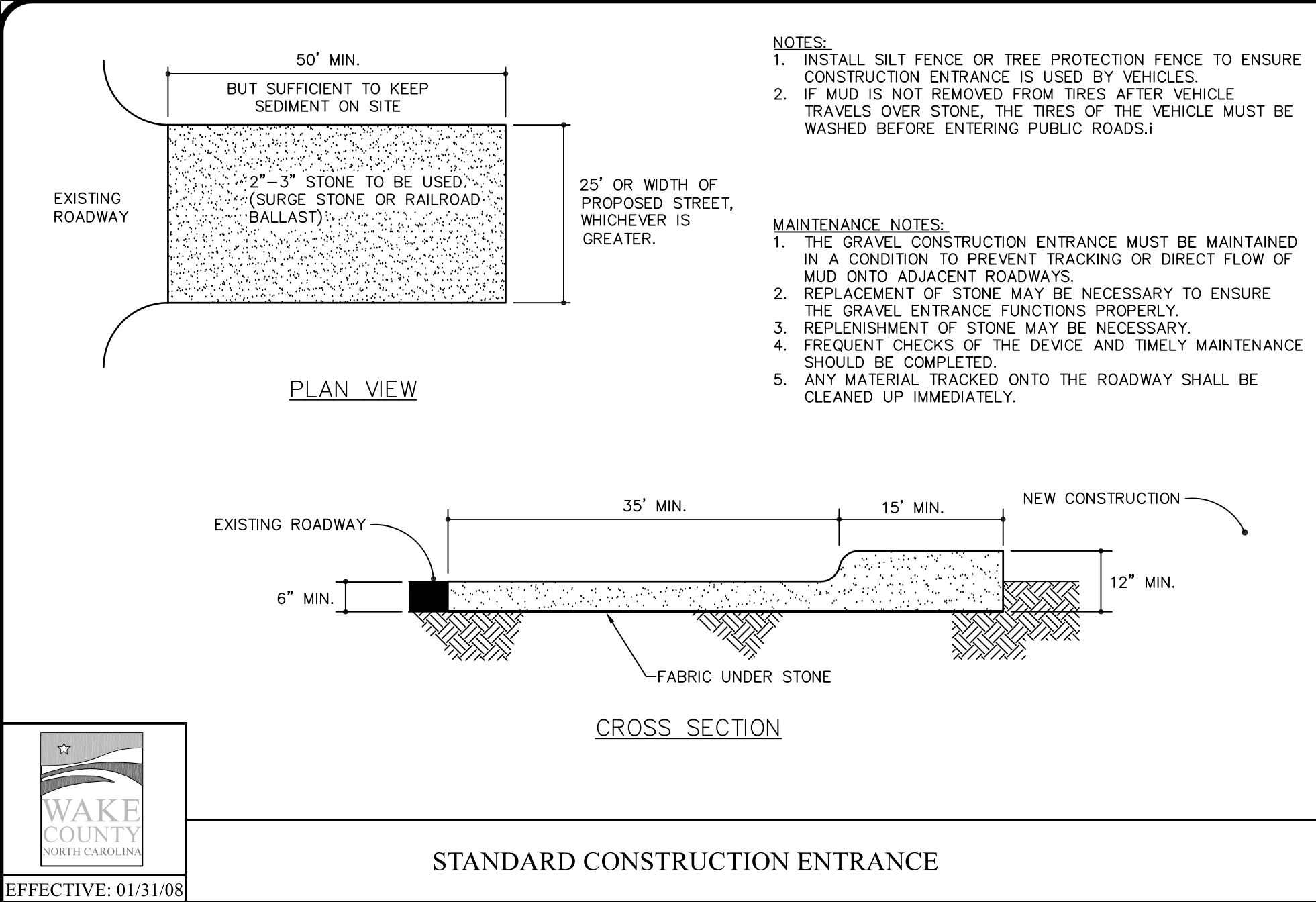
401 GANNON AVENUE
SITE PLAN AND CONSTRUCTION DRAWINGS

ZEBULON, NC

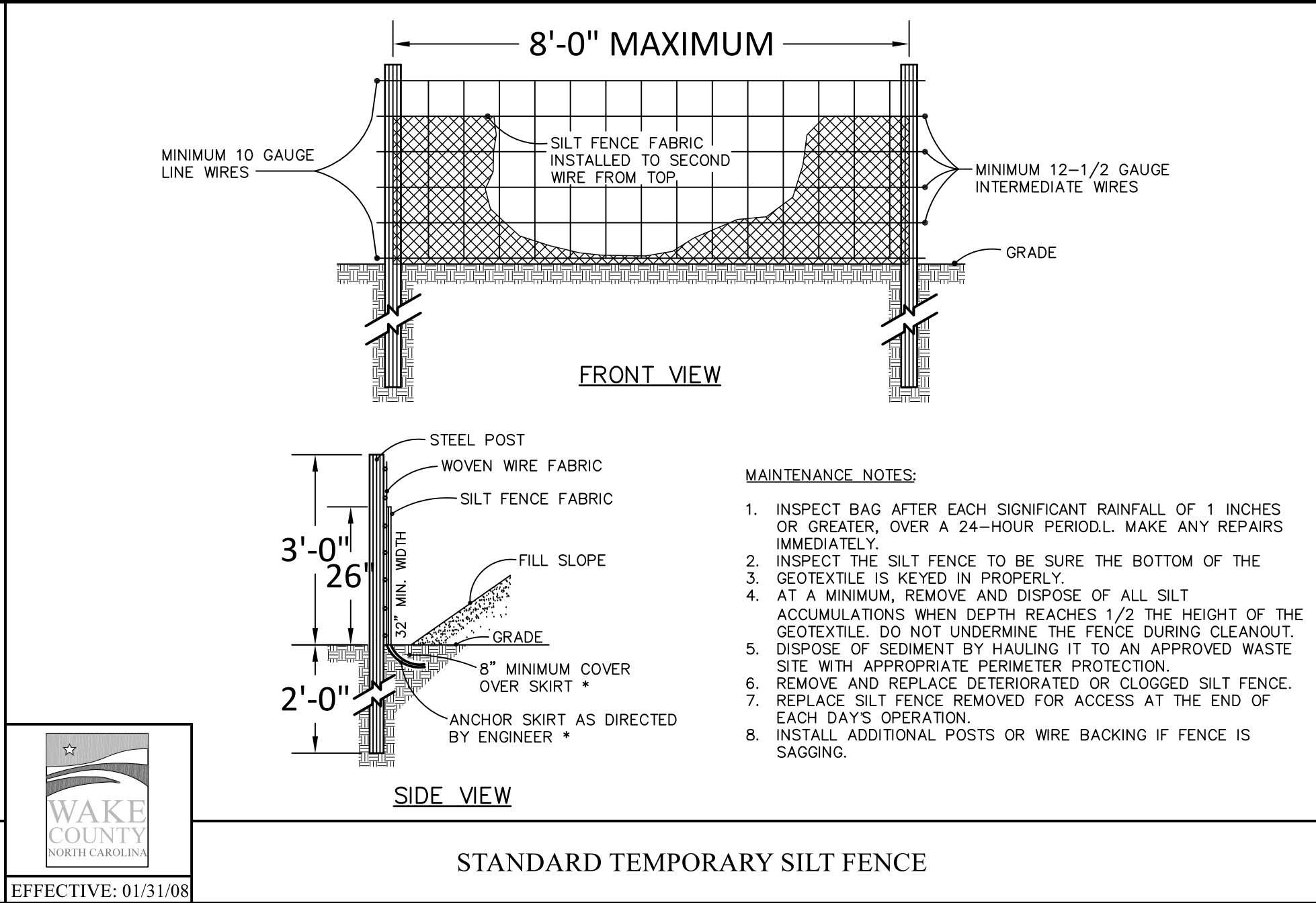
SITE DETAILS



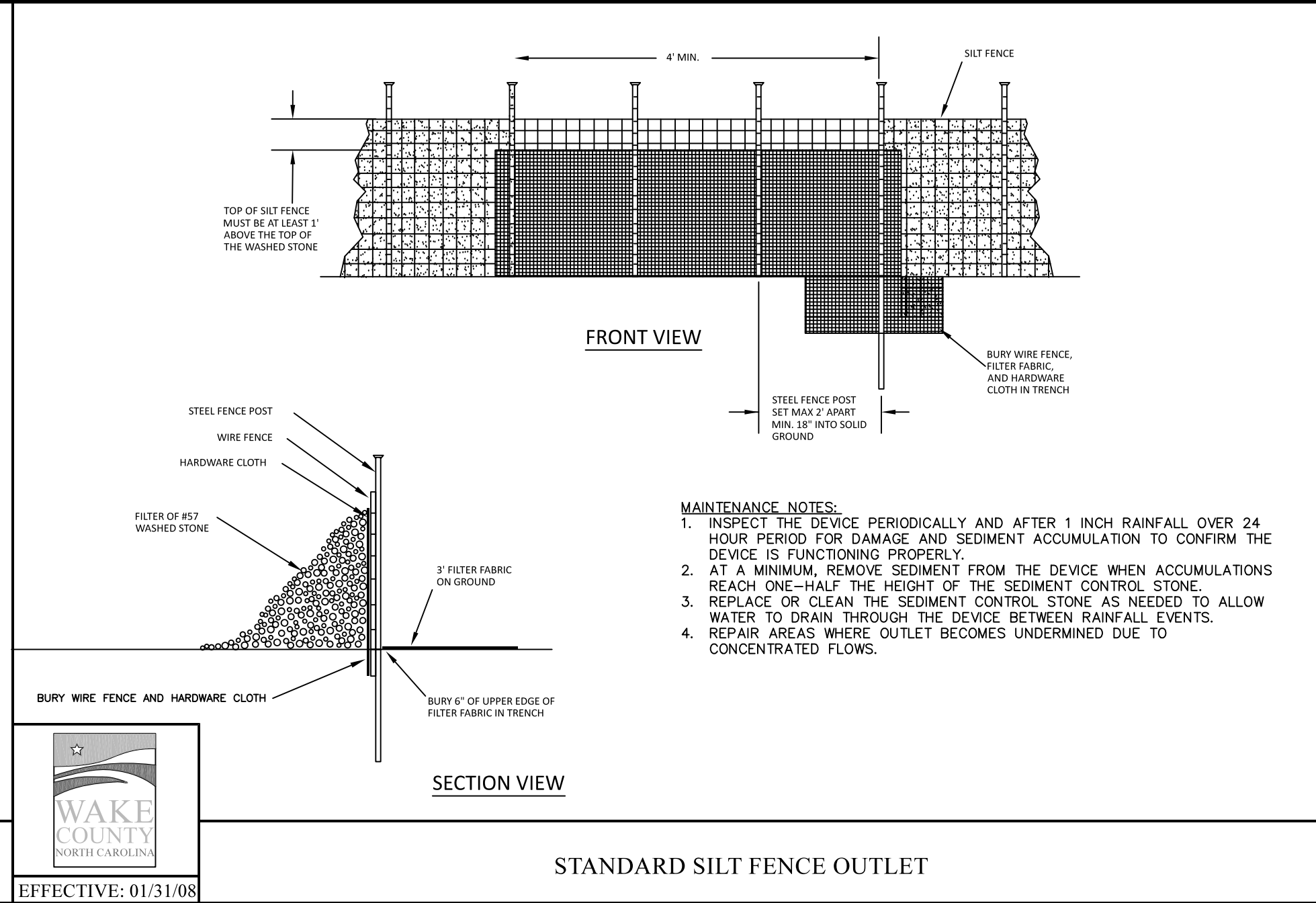
PROJECT NO:	---
DESIGN BY:	JPE
DRAWN BY:	JPE
SCALE:	NTS
DATE:	2023-03-01
SHEET NO:	D1.3



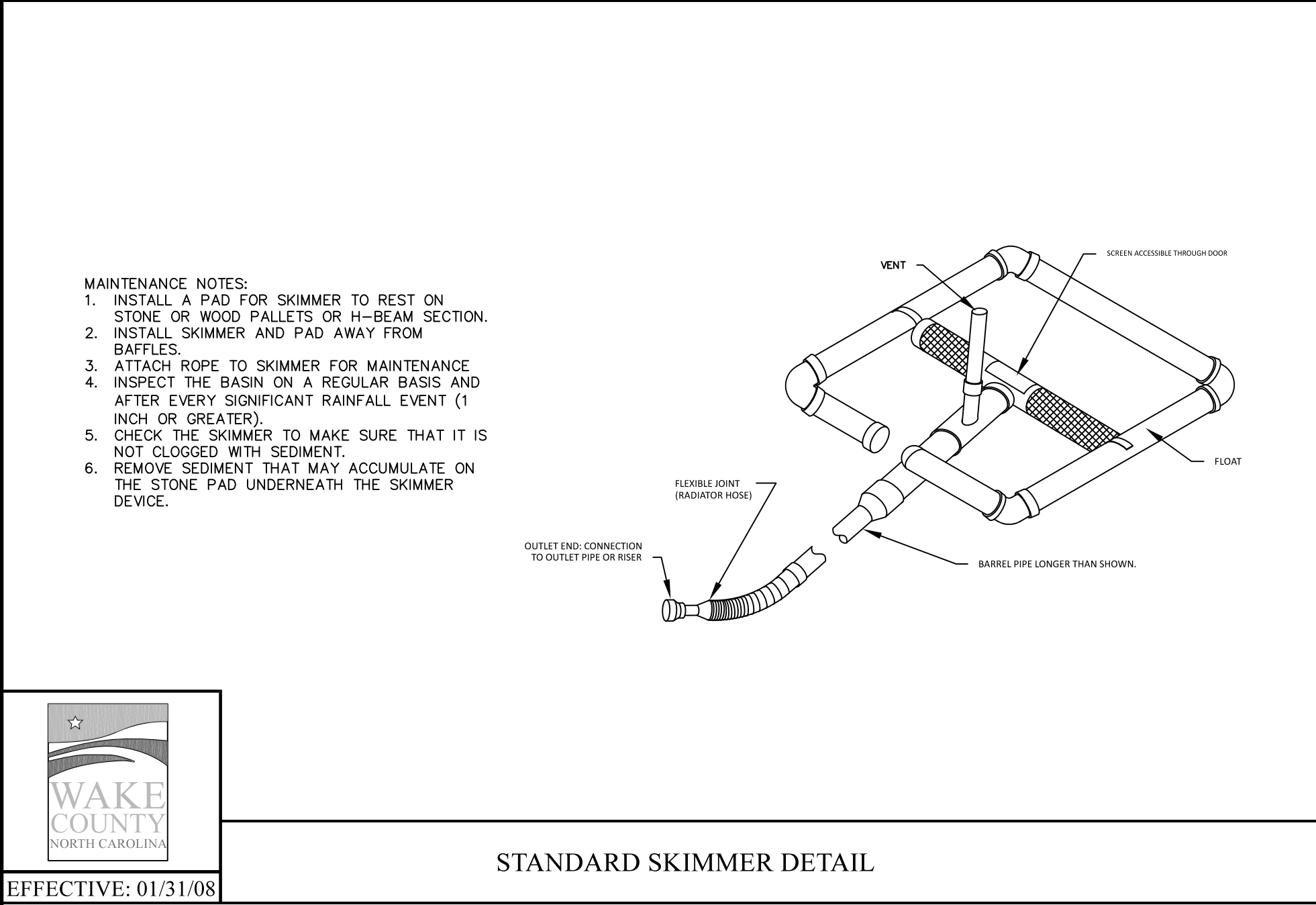
STANDARD CONSTRUCTION ENTRANCE



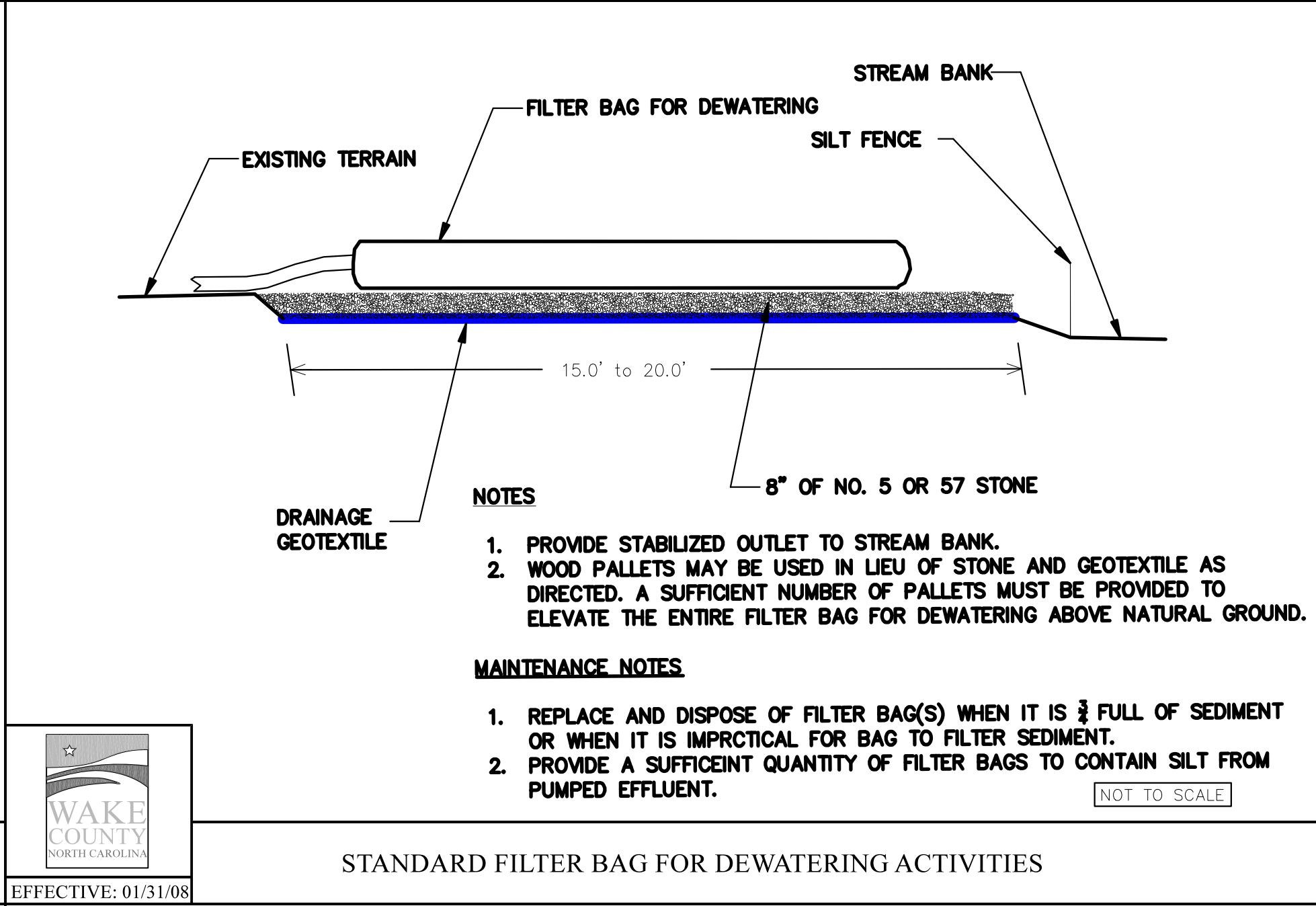
STANDARD TEMPORARY SILT FENCE



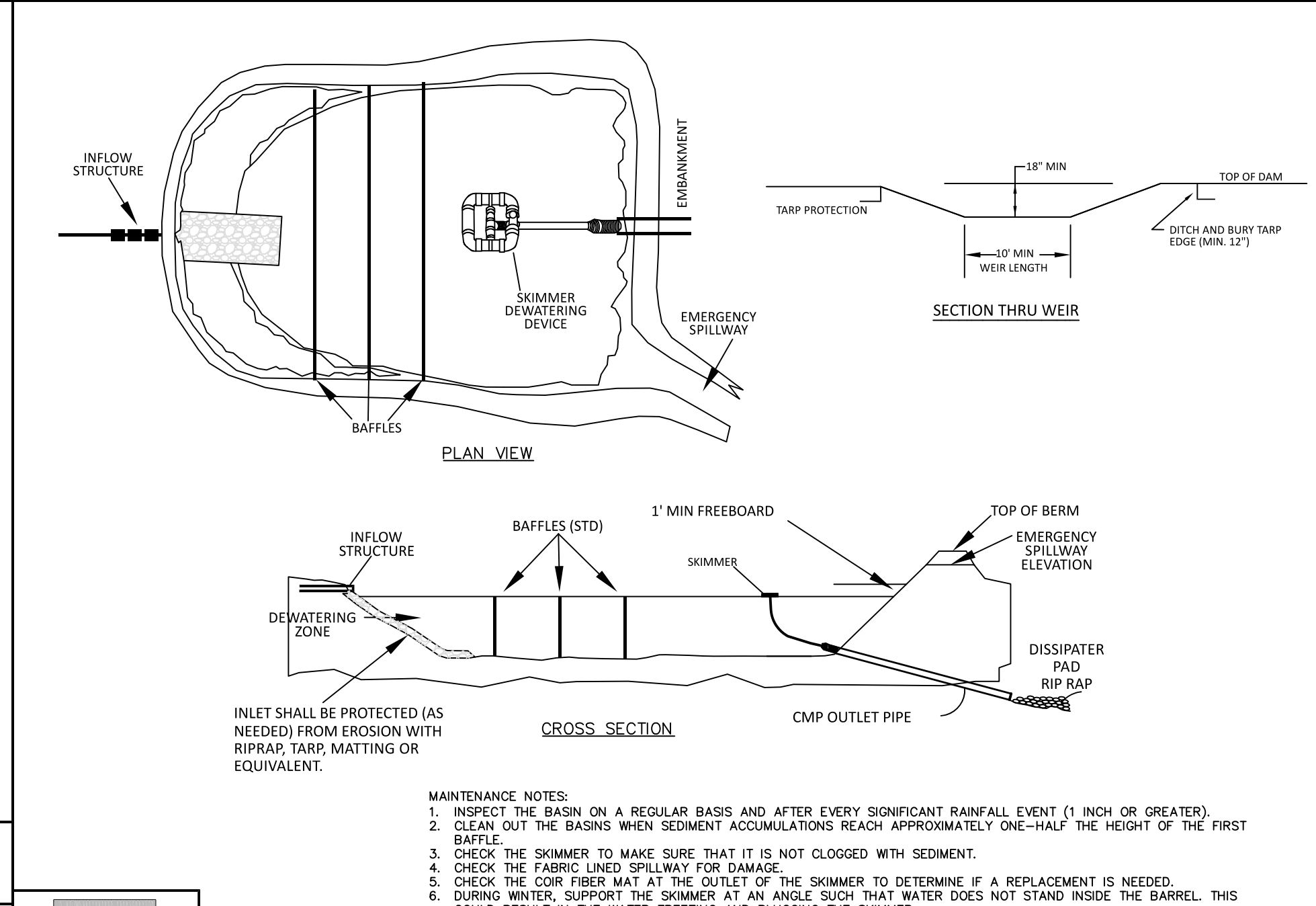
STANDARD SILT FENCE OUTLET



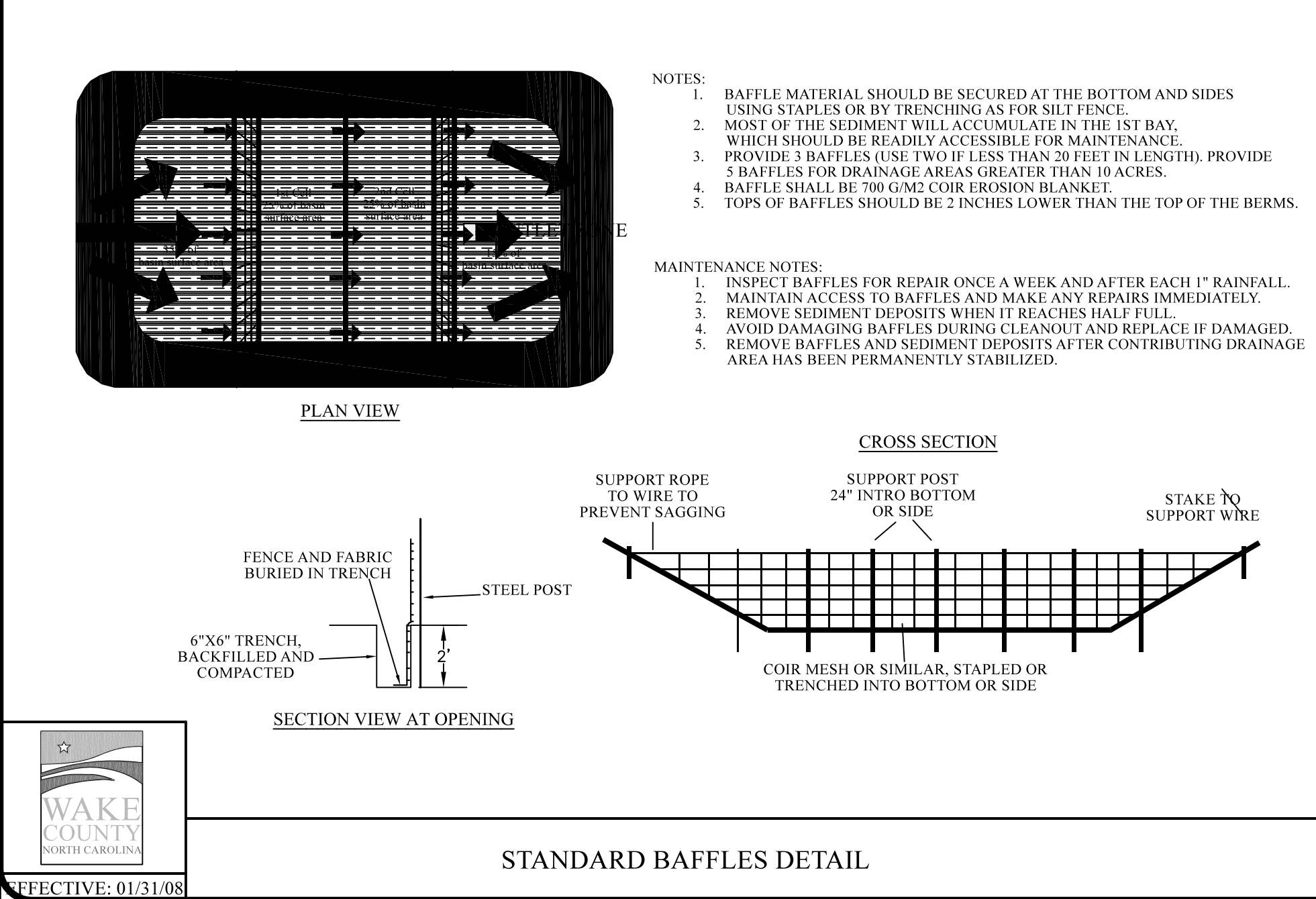
STANDARD SKIMMER DETAIL



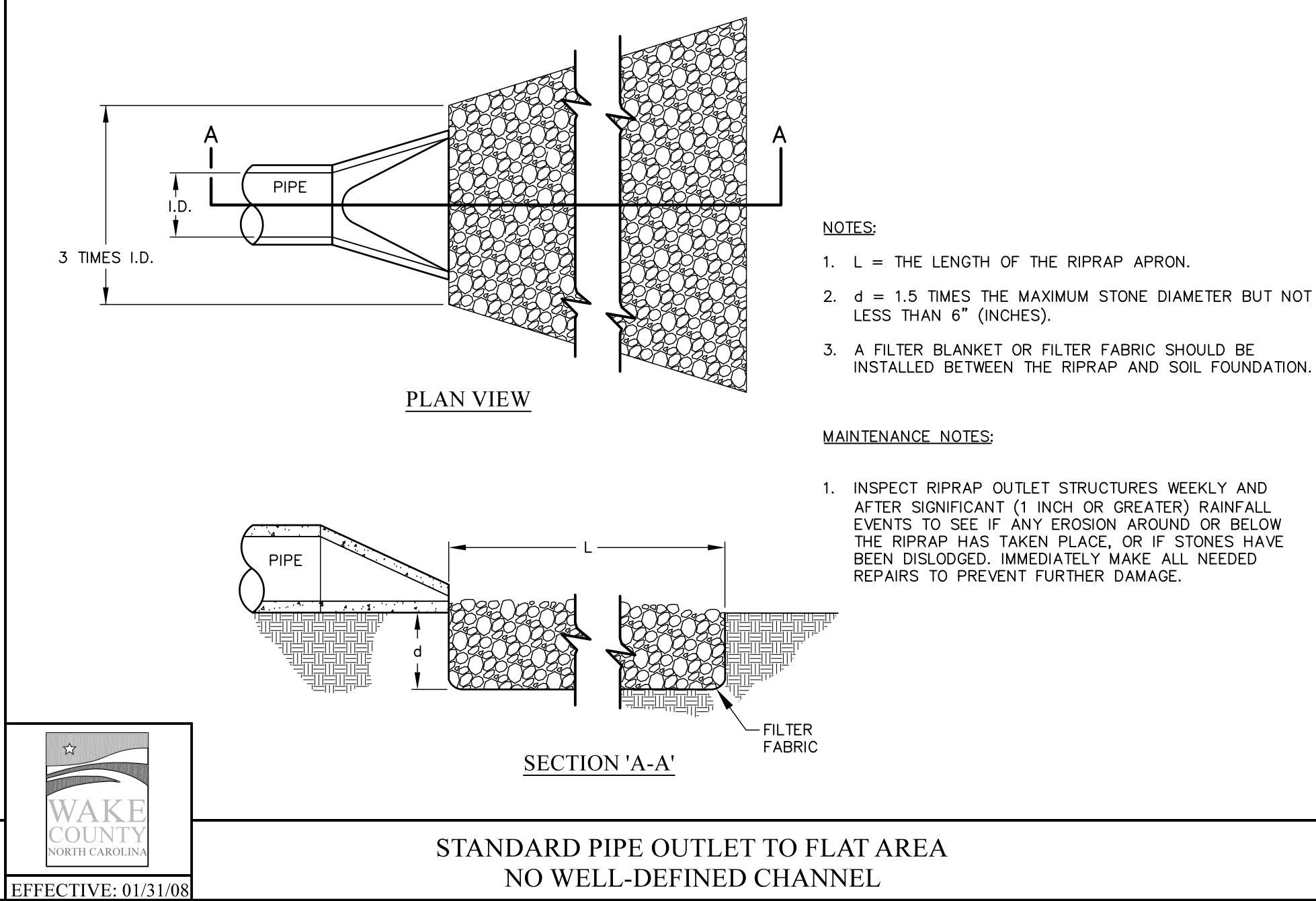
STANDARD FILTER BAG FOR DEWATERING ACTIVITIES



STANDARD SKIMMER BASIN



STANDARD BAFFLES DETAIL



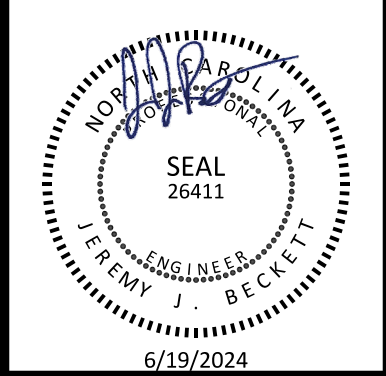
STANDARD PIPE OUTLET TO FLAT AREA
NO WELL-DEFINED CHANNEL

TOWN OF ZEBULON
PROJECT ID: 964220

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

PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

REVISIONS		1	2	3	4	5
LAYOUT UPDATES AND REVISIONS PER TOWN COMMENTS		2023-07-10	2023-09-14	2023-12-20	2024-04-15	2024-06-19
LAYOUT UPDATES AND REVISIONS PER TOWN AND COUNTY COMMENTS						
LAYOUT UPDATES AND REVISIONS PER TOWN AND COUNTY COMMENTS						
LAYOUT UPDATES AND REVISIONS PER TOWN AND COUNTY COMMENTS						



PROJECT NO:	---
DESIGN BY:	JPE
DRAWN BY:	JPE
SCALE:	NTS
DATE:	2023-03-01
SHEET NO:	D2.1

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 General 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	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed. -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
(d) Slopes 3:1 to 4:1	14	
(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 • Strips 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.

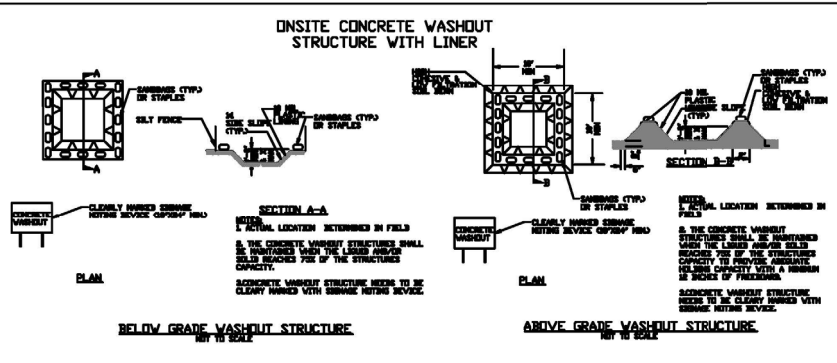
- EQUIPMENT AND VEHICLE MAINTENANCE**
1. Maintain vehicles and equipment to prevent discharge of fluids.
 2. Provide drip pans under any stored equipment.
 3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
 4. Collect all spent fluids, store in separate containers 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 liquid 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 soil/waterage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.



- 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 lot 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 leavings 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 leavings 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 gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those unattended 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 2.0 inch 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 2.0 inch 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 2.0 inch in 24 hours	If visible sedimentation 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 2.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation 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 reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit 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 drain 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 timeframe or an assurance 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 documented in the manner described:	
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 In addition to the E&SC Plan documents above, the following items shall be kept on the site and available for agency 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 30 days. 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.	
(c) All data used to complete the Notice of Intent and older 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. 145-215.85. (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 Division's Emergency Response personnel at (800) 662-7956, (800) 858-0368 or (919) 733-3300.	
Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment disposition 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 determine 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 1(b)(c) above	• 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. • 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.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	• Within 24 hours, an oral or electronic notification.
(d) Unanticipated bypasses [40 CFR 122.41(m)(6)]	• 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 recurrence of the noncompliance. [40 CFR 122.41(j)(6).
(e) Noncompliance with the conditions of this permit that may endanger health or the environment [40 CFR 122.41(i)(7)]	• Division staff may waive the requirement for a written report on a case-by-case basis.



NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19

TOWN OF ZEBULON
PROJECT ID: 964220

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

PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

OWNER/DEVELOPER:

MERIDIAN PROPERTIES GROUP, LLC
40300 WAKE FOREST RD, SUITE 100
RALEIGH, NC 27609
919-621-4646

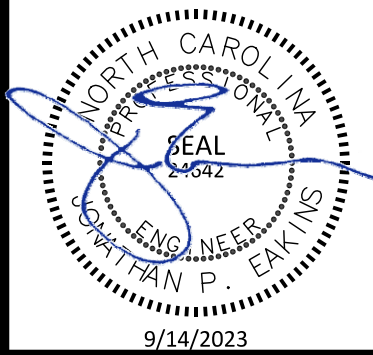
REVISIONS

1	2023-07-10	LAYOUT UPDATES AND REVISIONS PER TOWN COMMENTS
2	2023-09-14	LAYOUT UPDATES AND REVISIONS PER TOWN COMMENTS

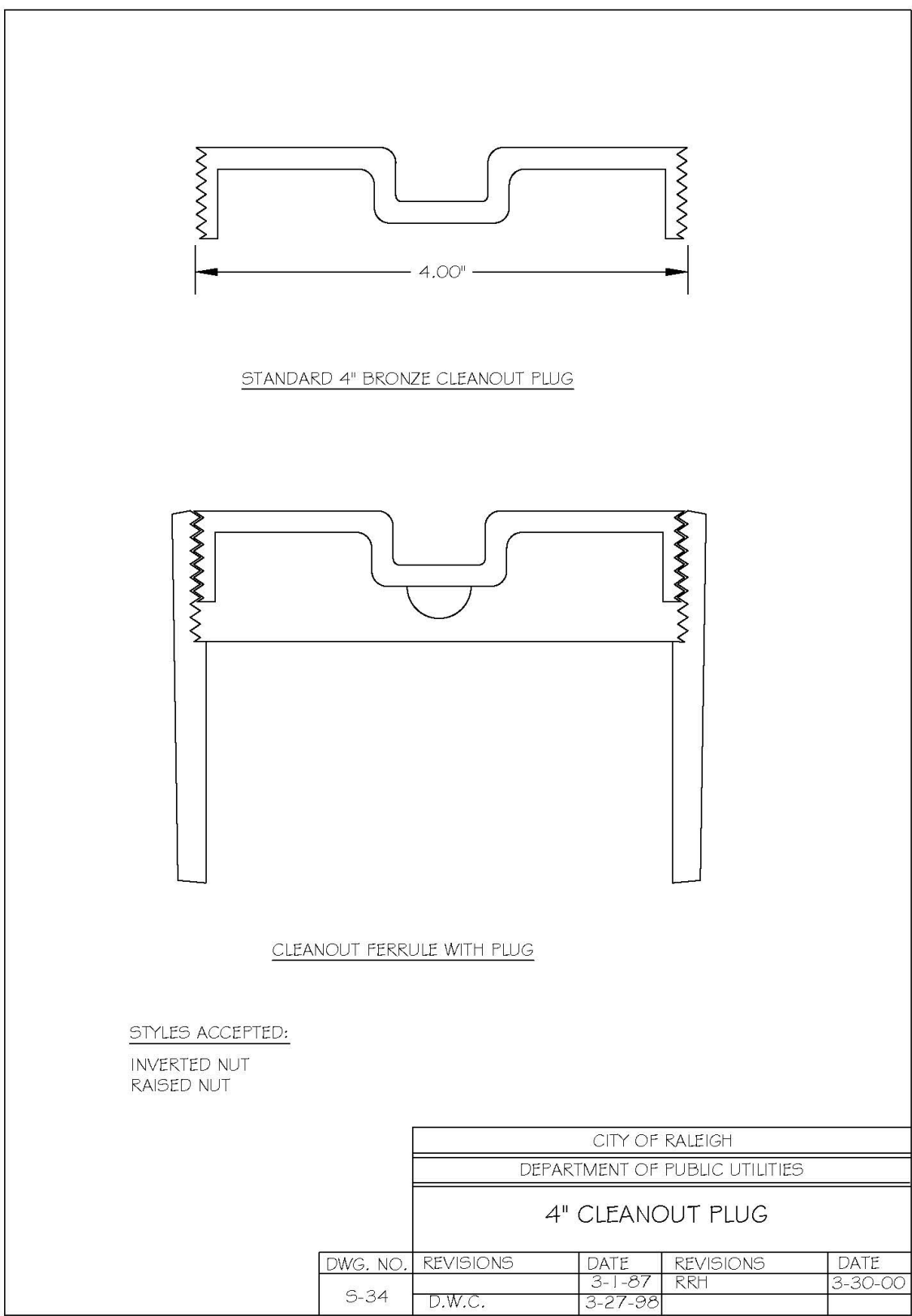
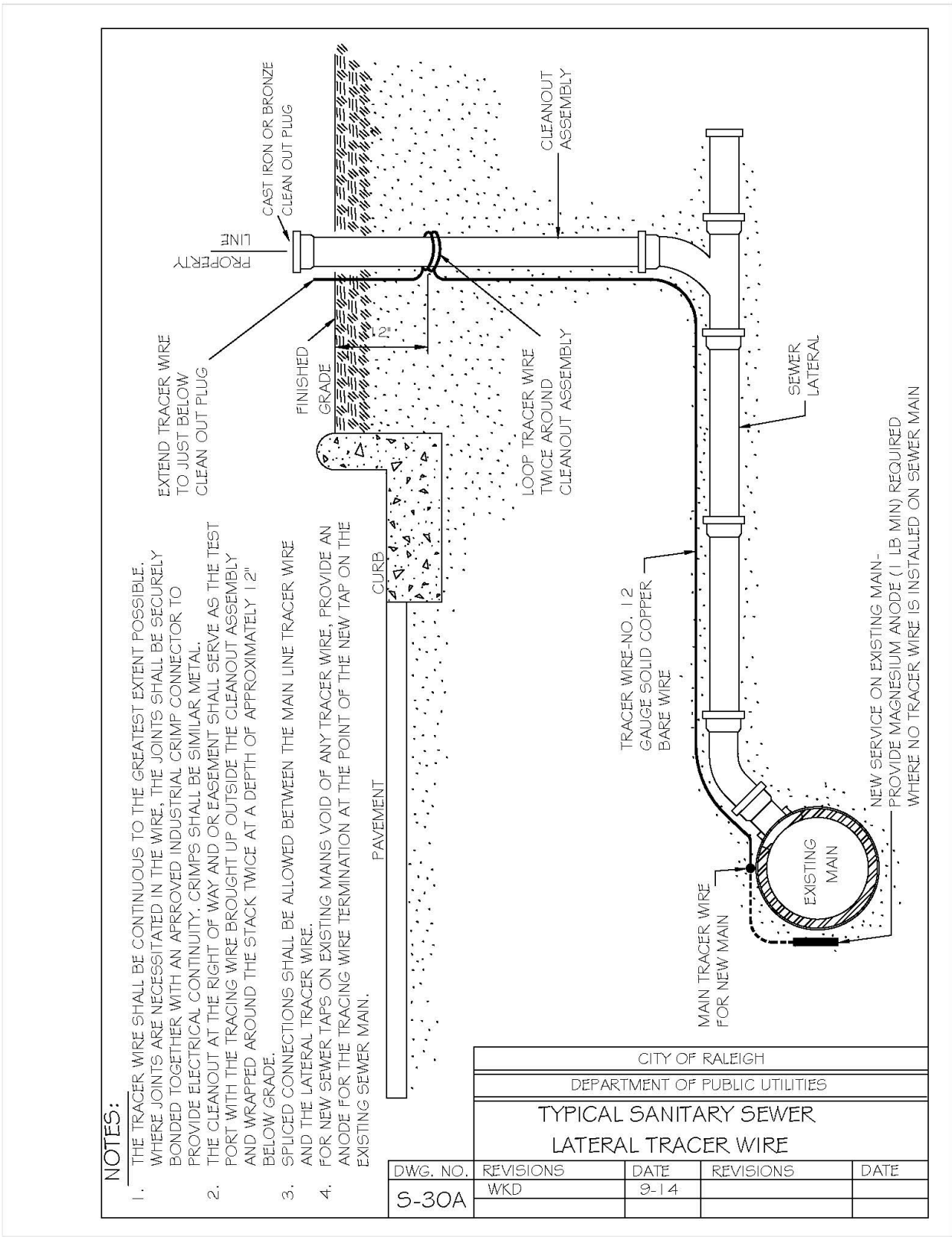
401 GANNON AVENUE
SITE PLAN AND CONSTRUCTION DRAWINGS

ZEBULON, NC

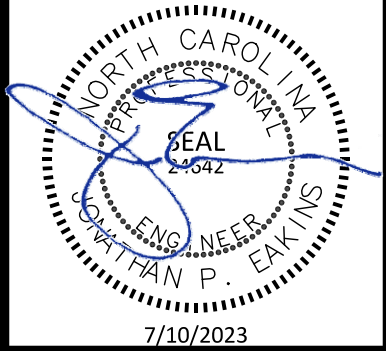
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PROJECT NO:	---
DESIGN BY:	JPE
DRAWN BY:	JPE
SCALE:	NTS
DATE:	2023-03-01
SHEET NO:	D2.2

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401 GANNON AVENUE
SITE PLAN AND CONSTRUCTION DRAWINGS
ZEBULON, NC
SANITARY SEWER DETAILS



PROJECT NO:	----
DESIGN BY:	JPE
DRAWN BY:	JPE
SCALE:	NTS
DATE:	2023-03-01
SHEET NO:	D3.1

TOWN OF ZEBULON
PROJECT ID: 964220

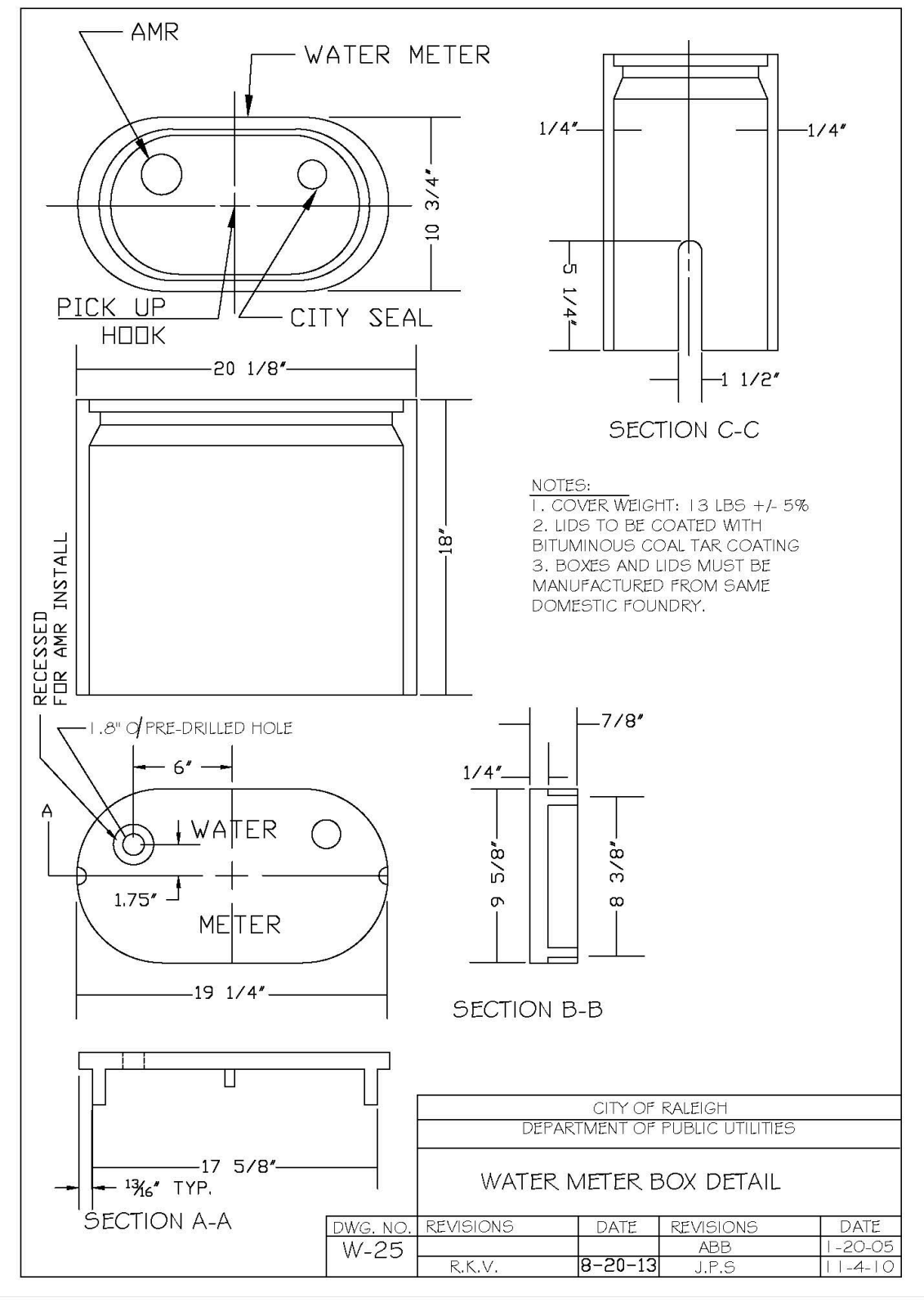
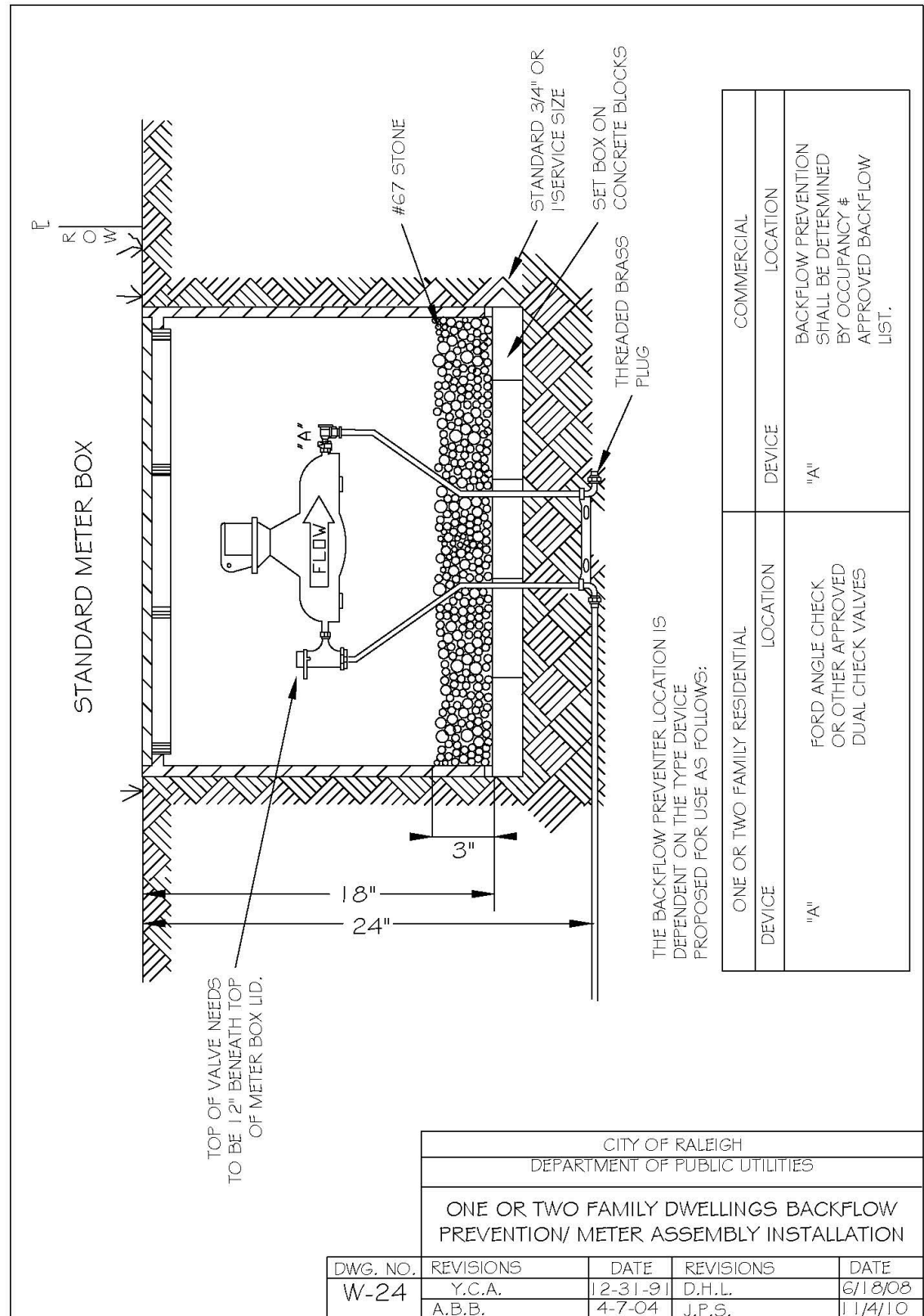
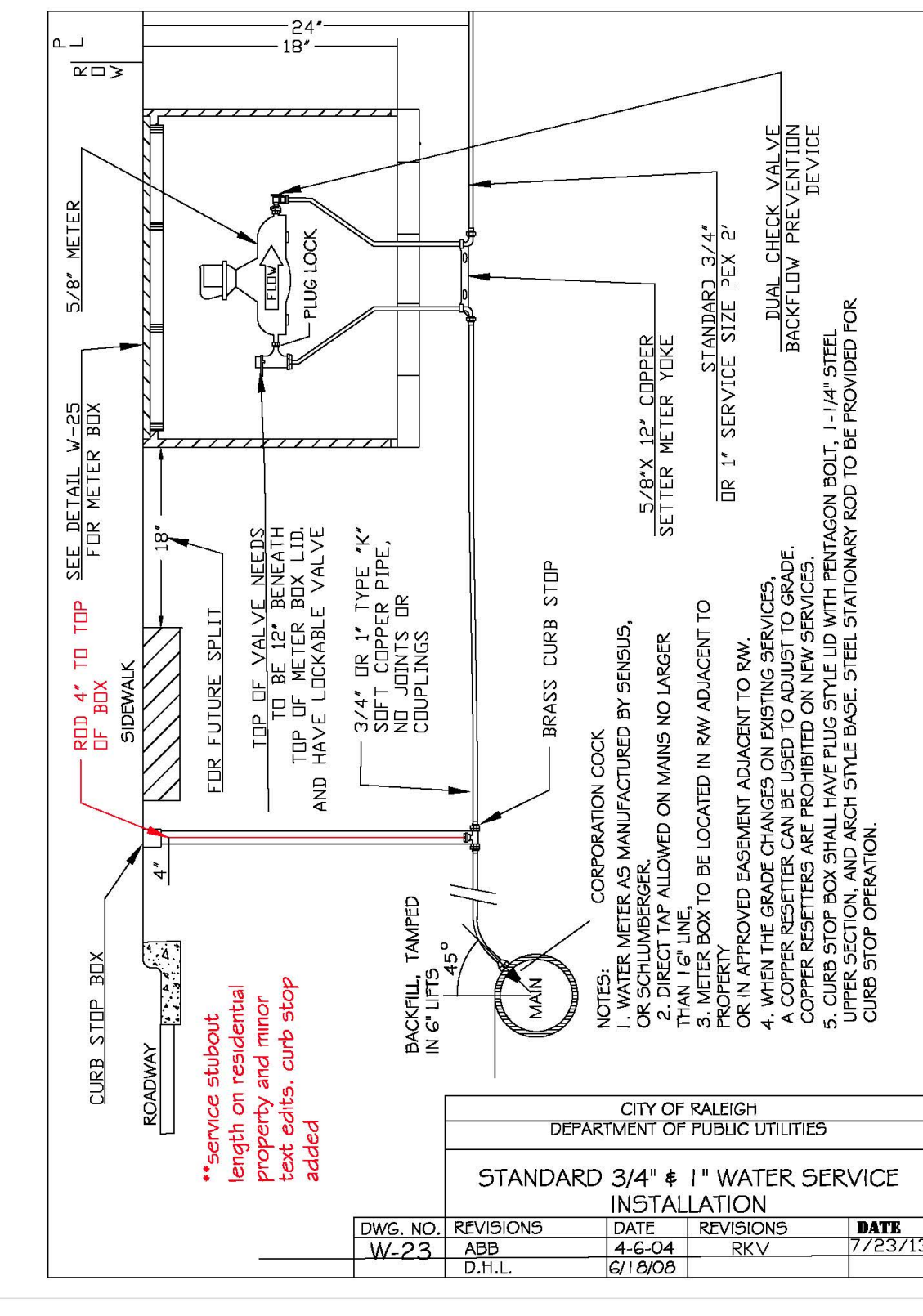
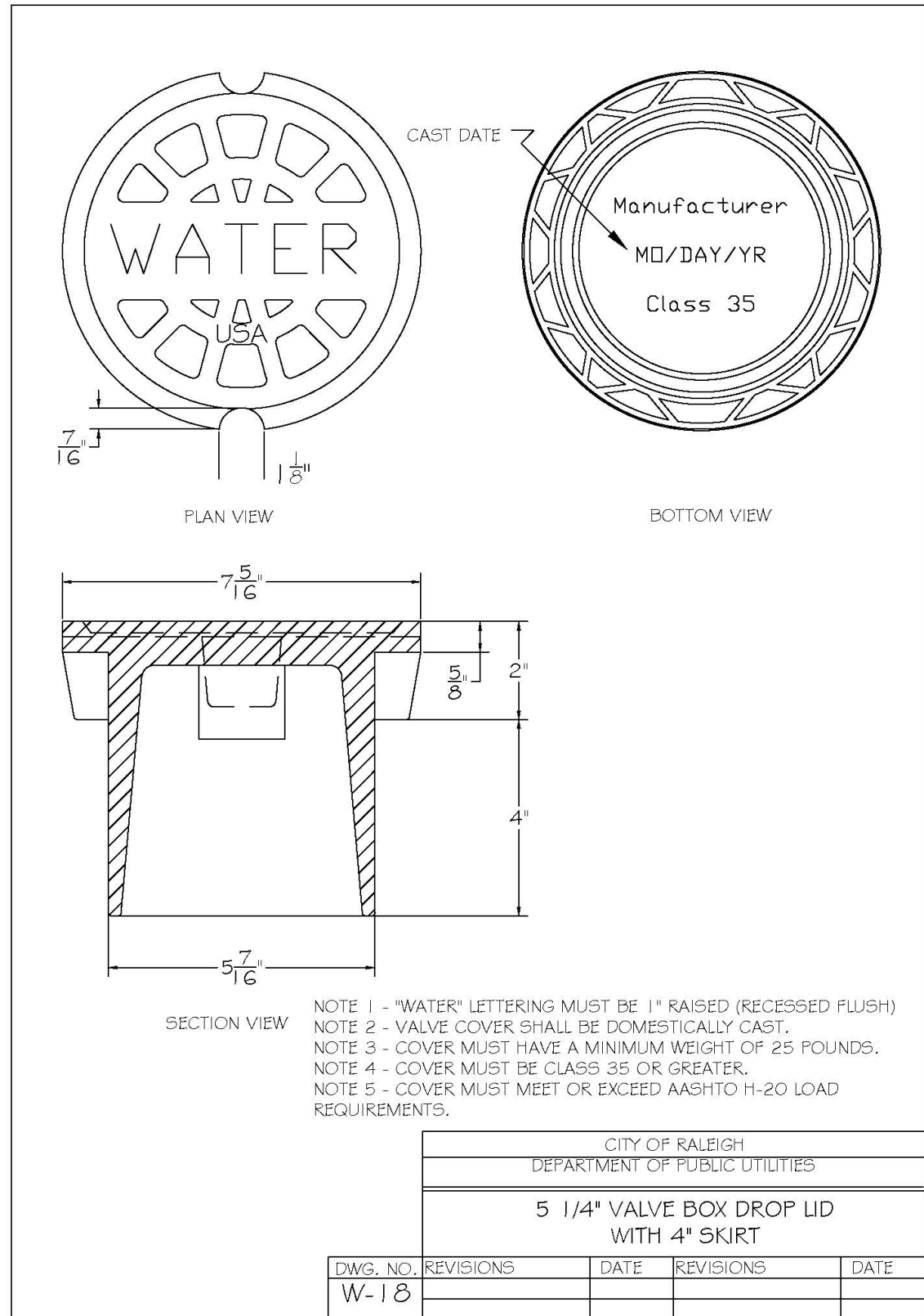
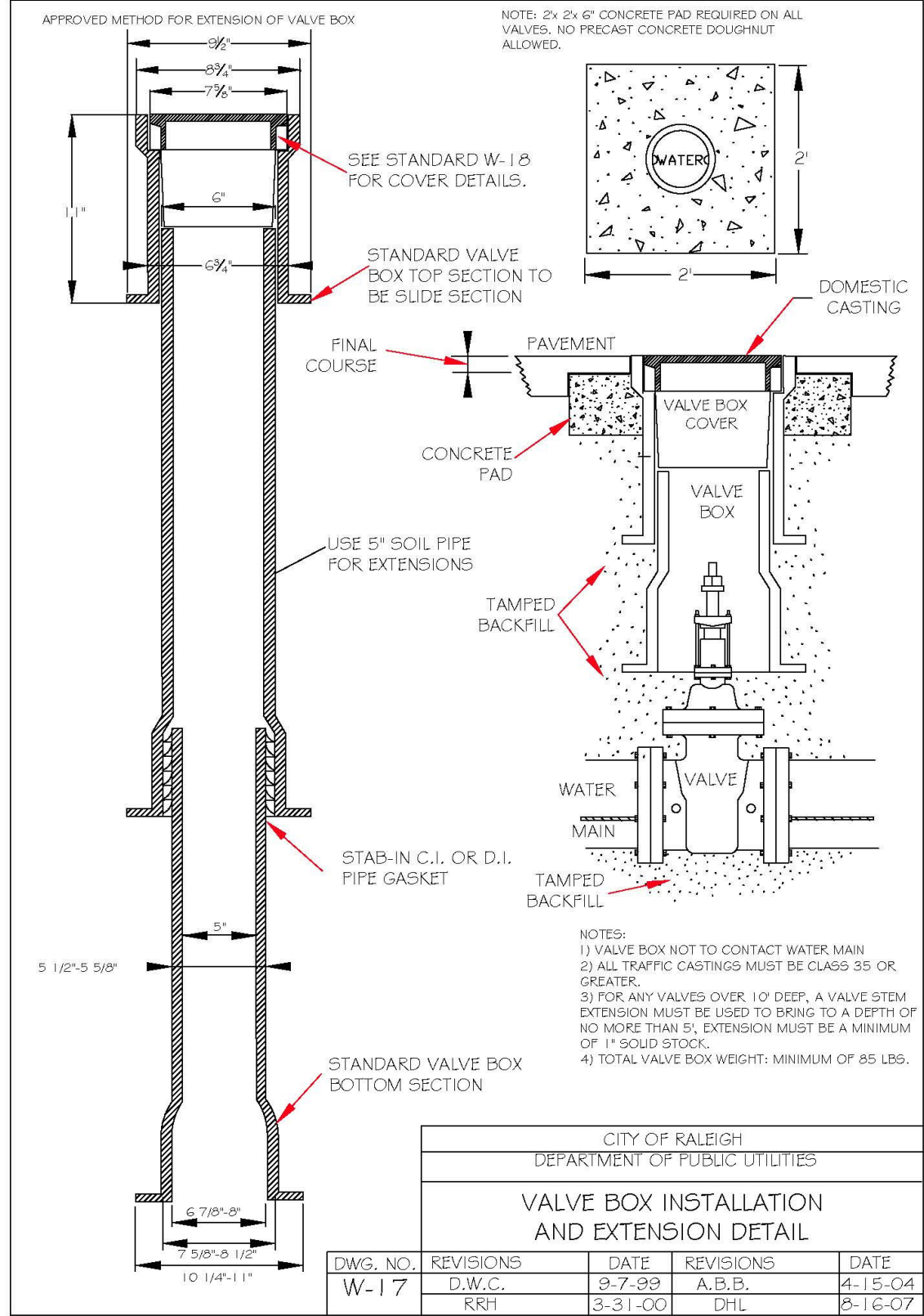
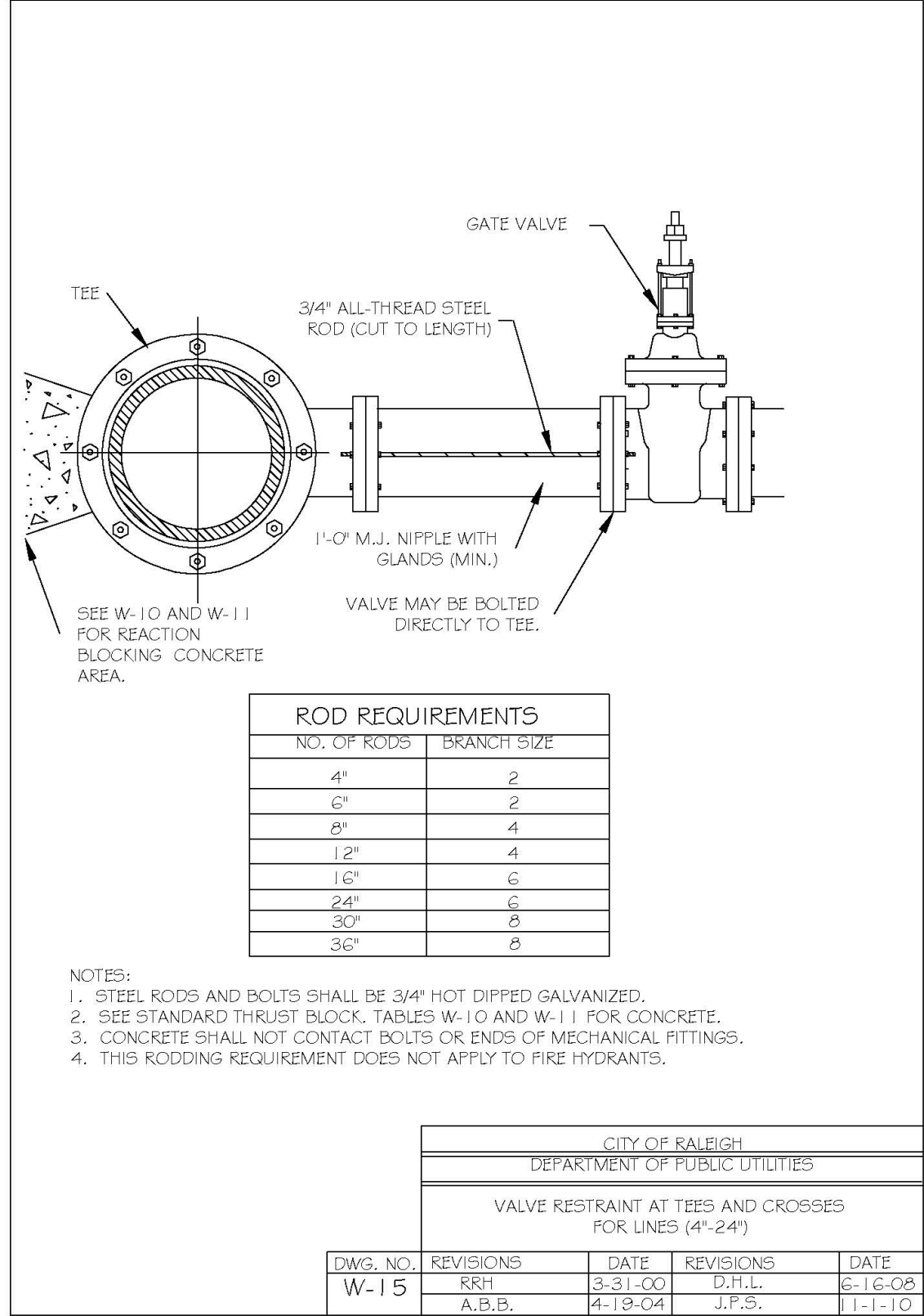
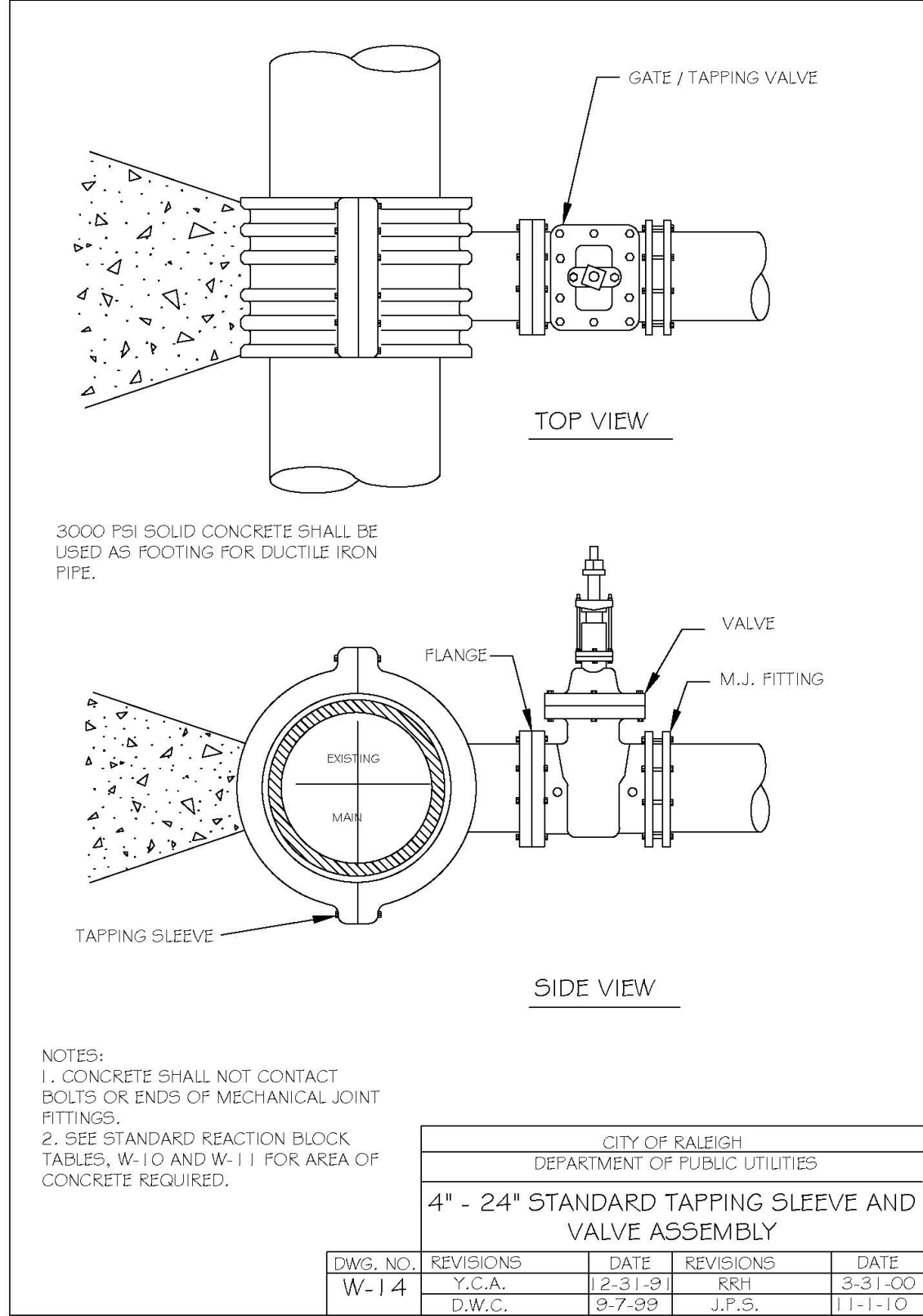
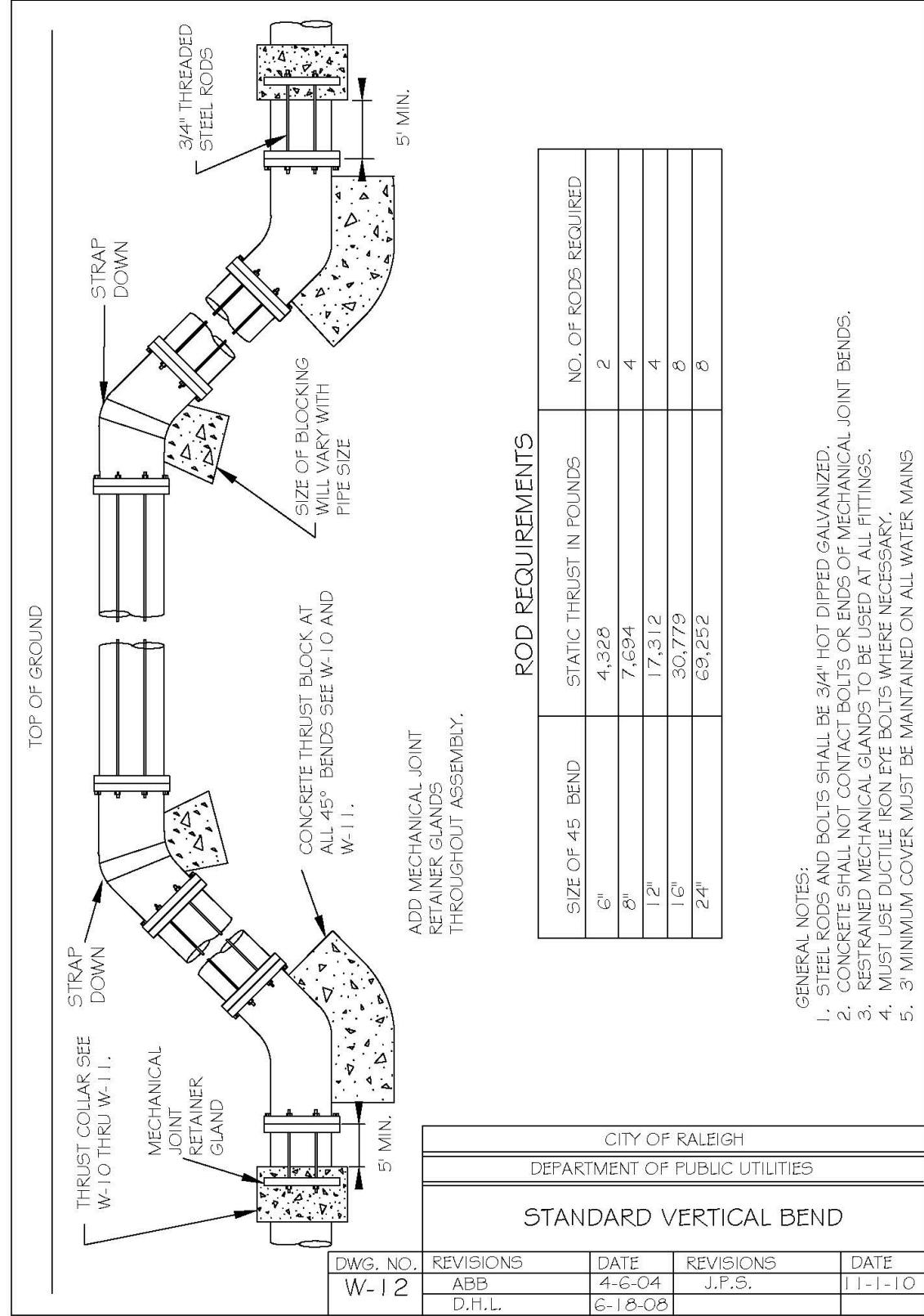
ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH TOWN OF ZEBULON STANDARDS AND SPECIFICATIONS

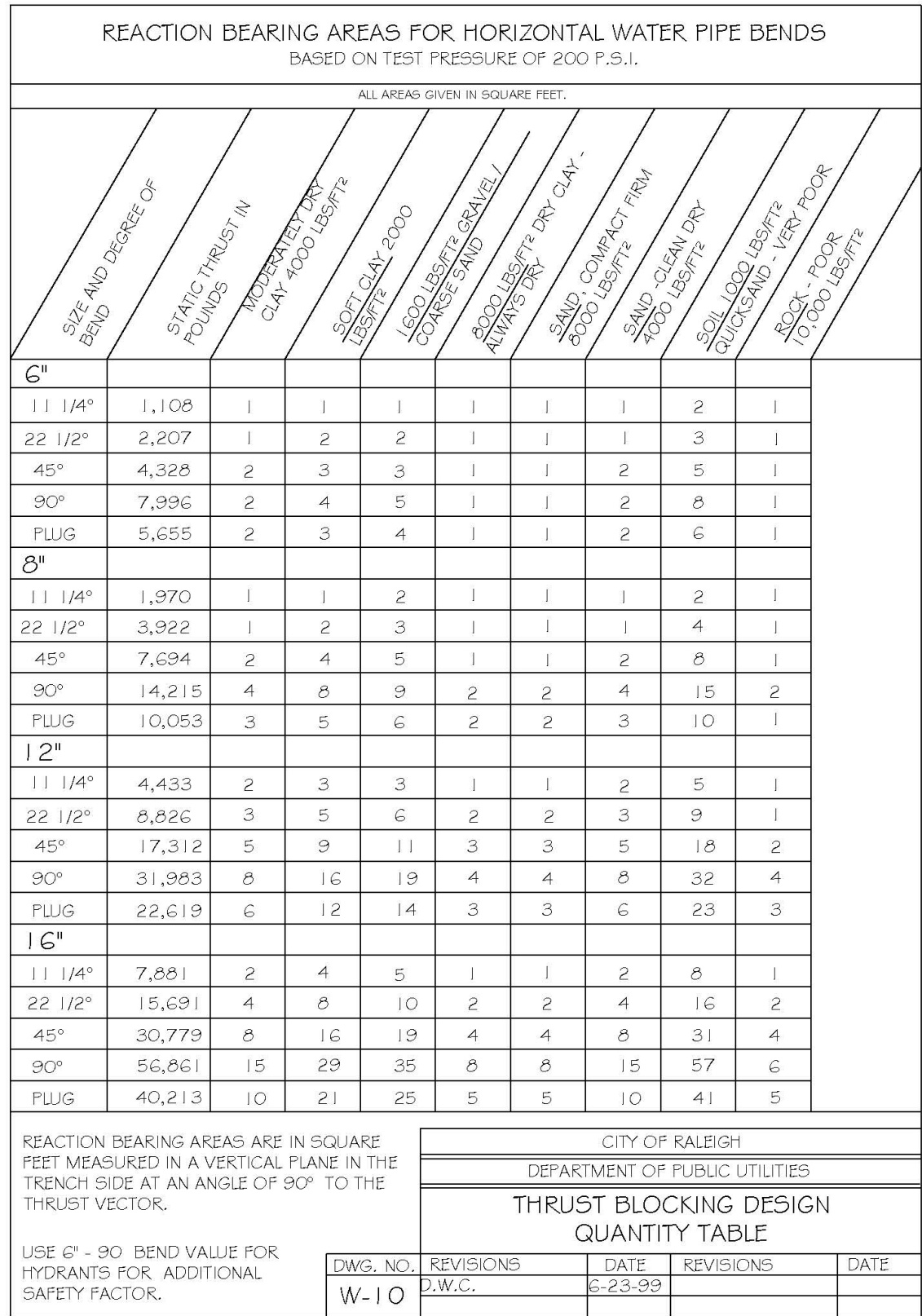
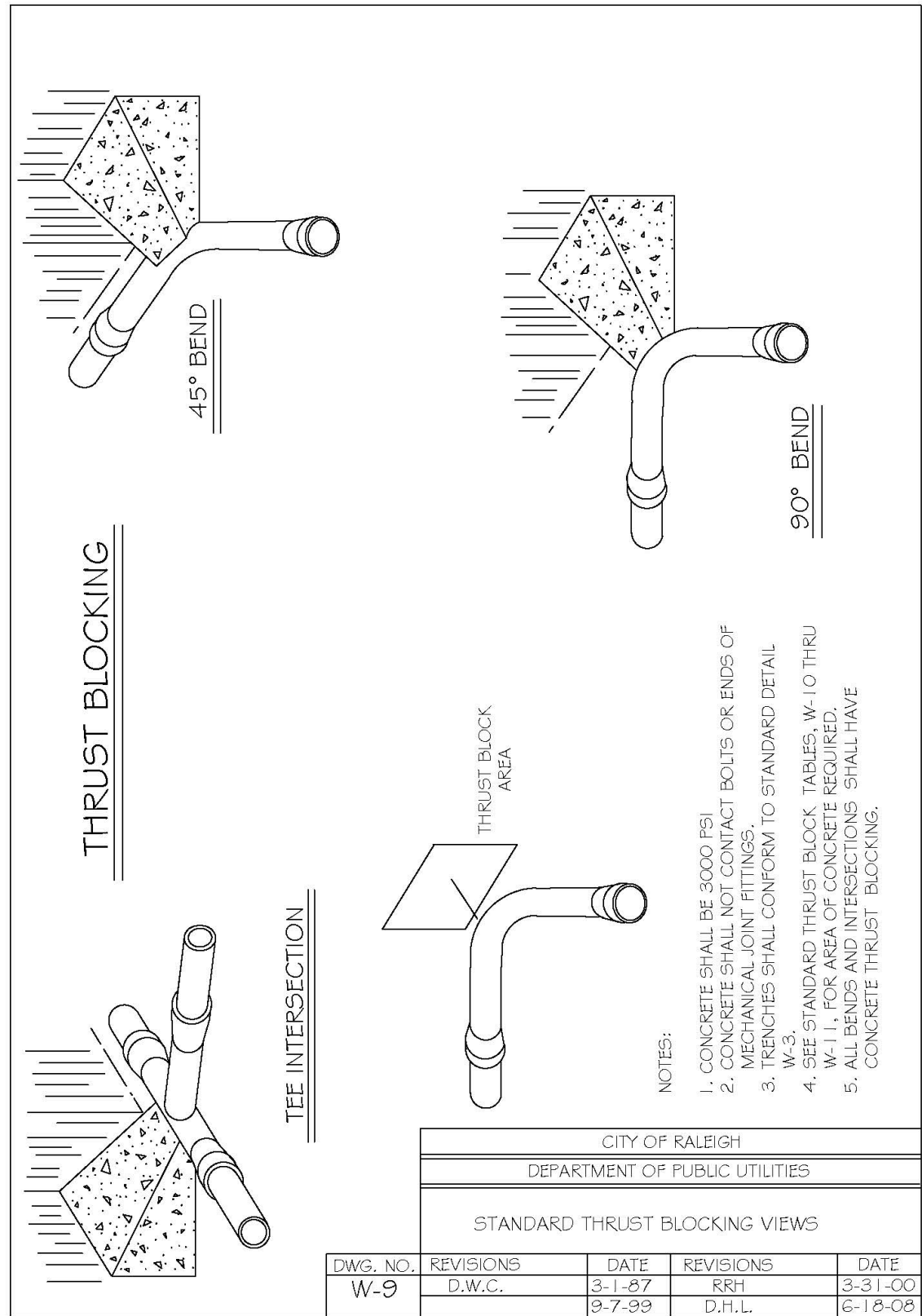
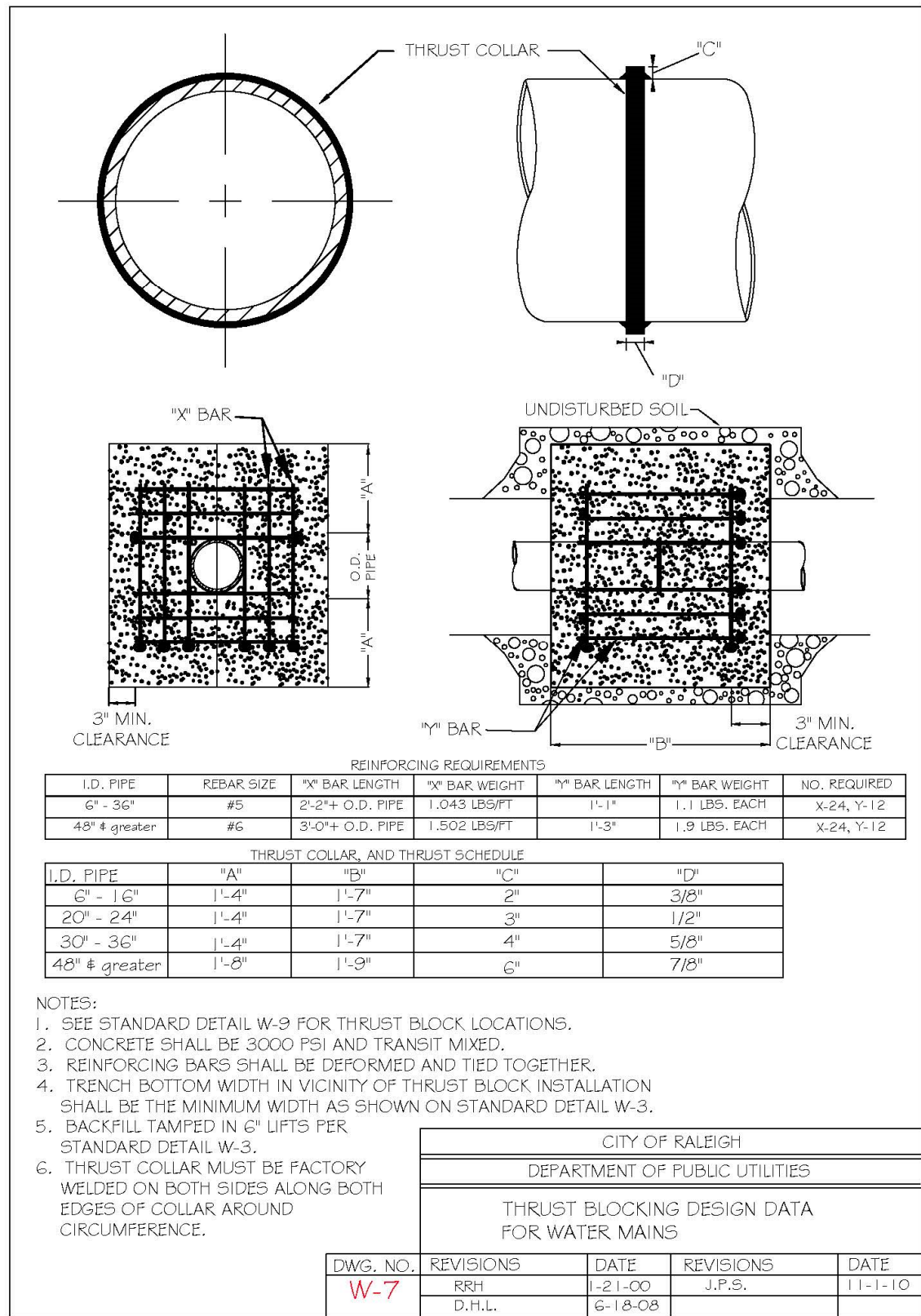
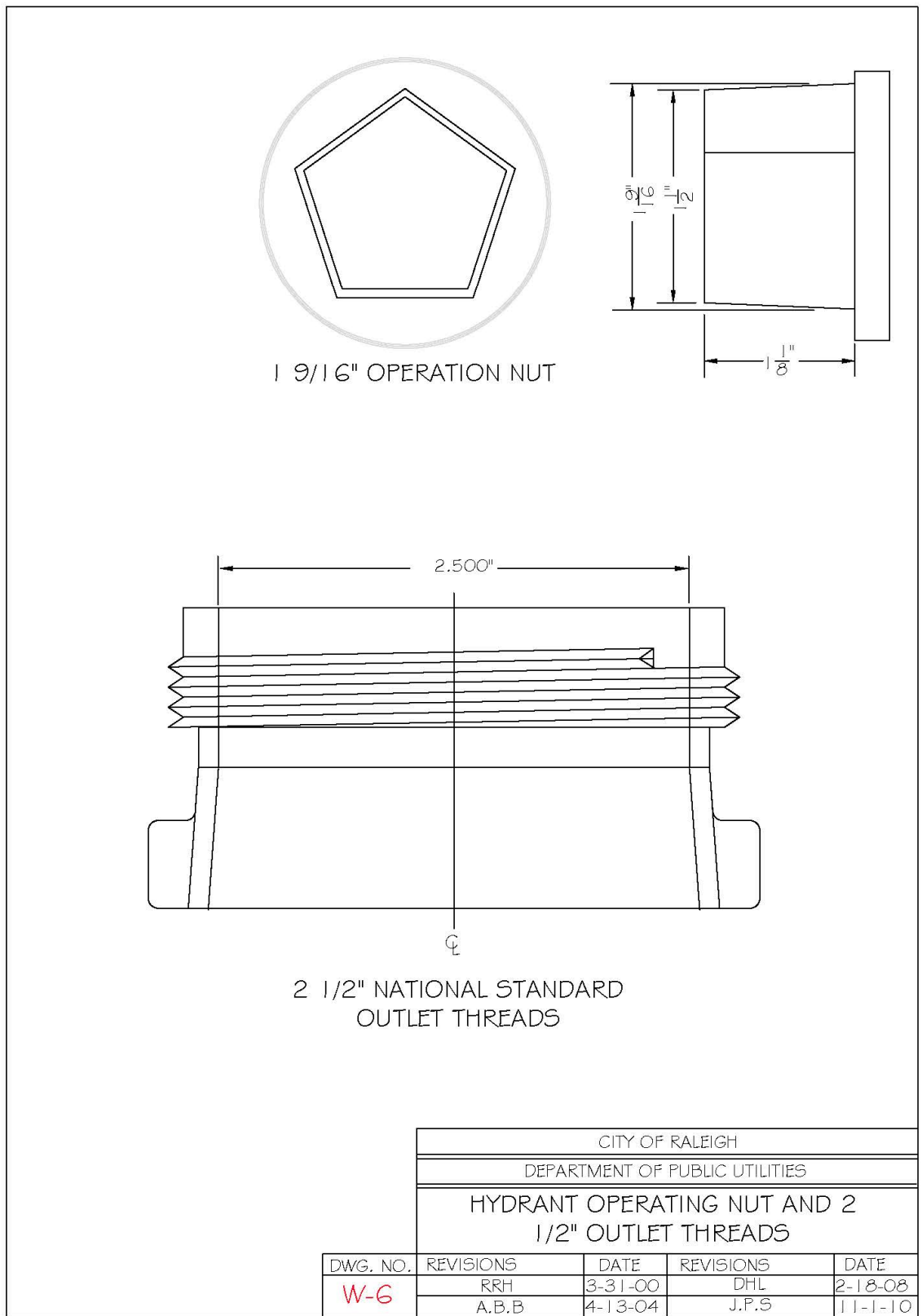
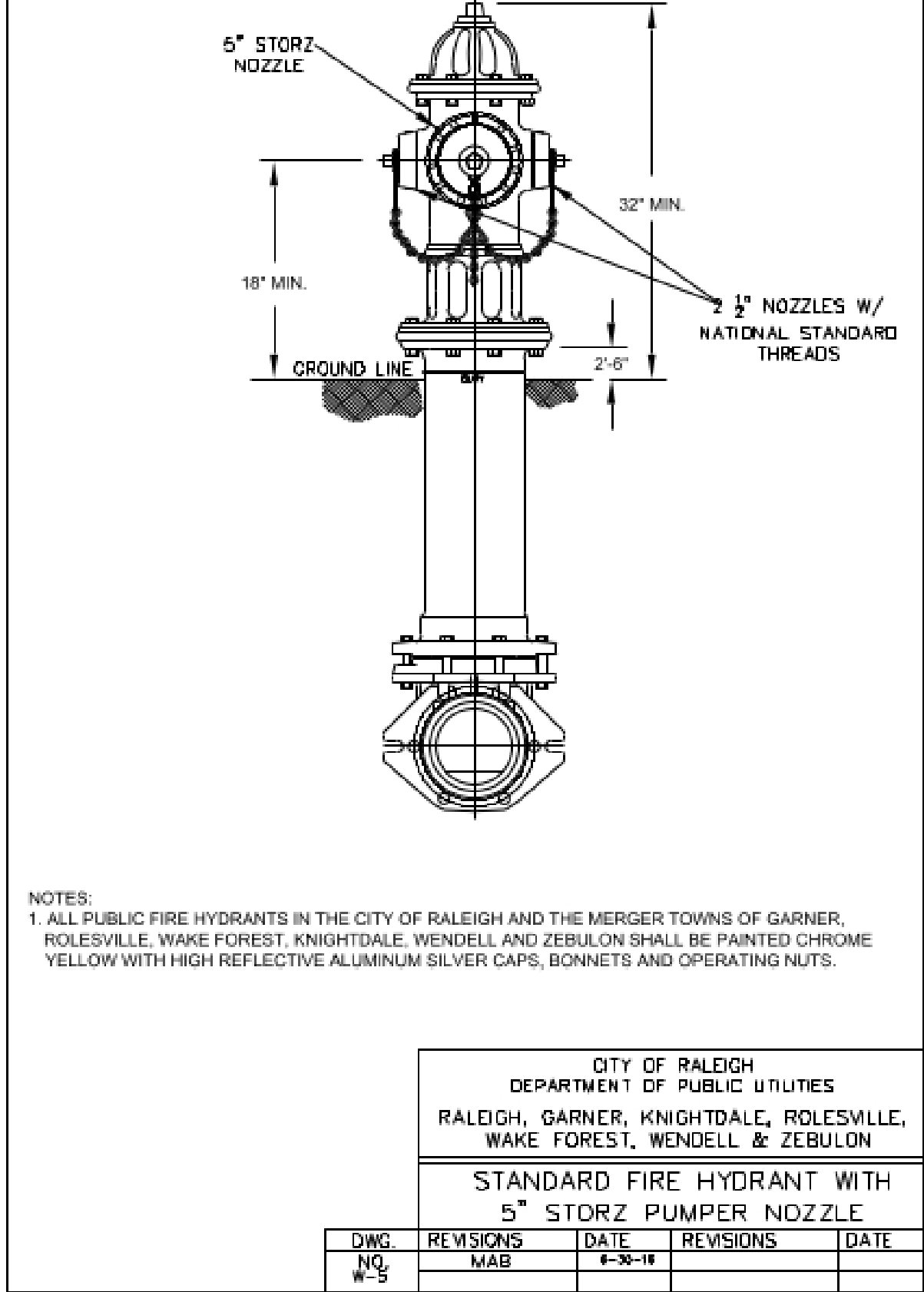
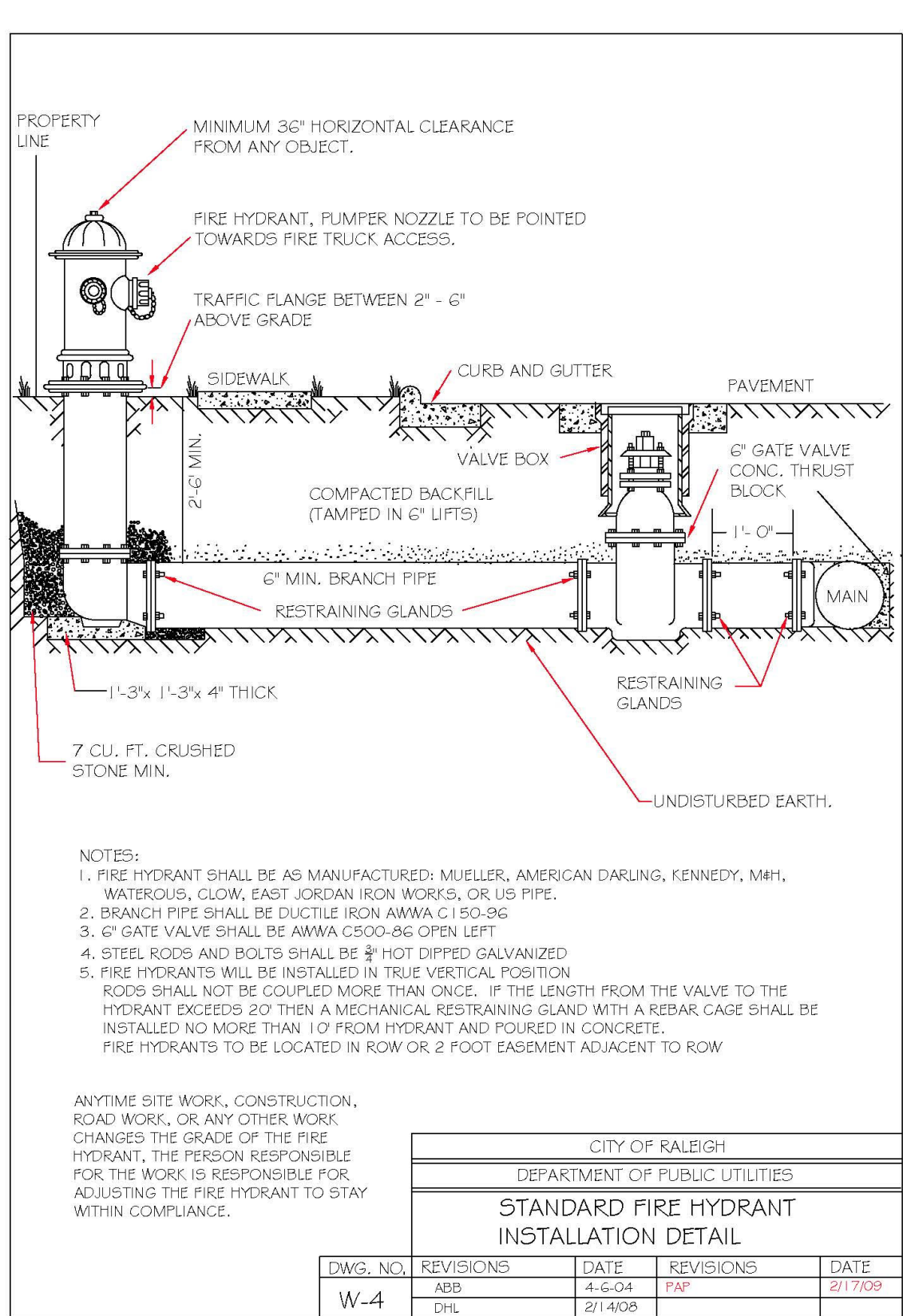
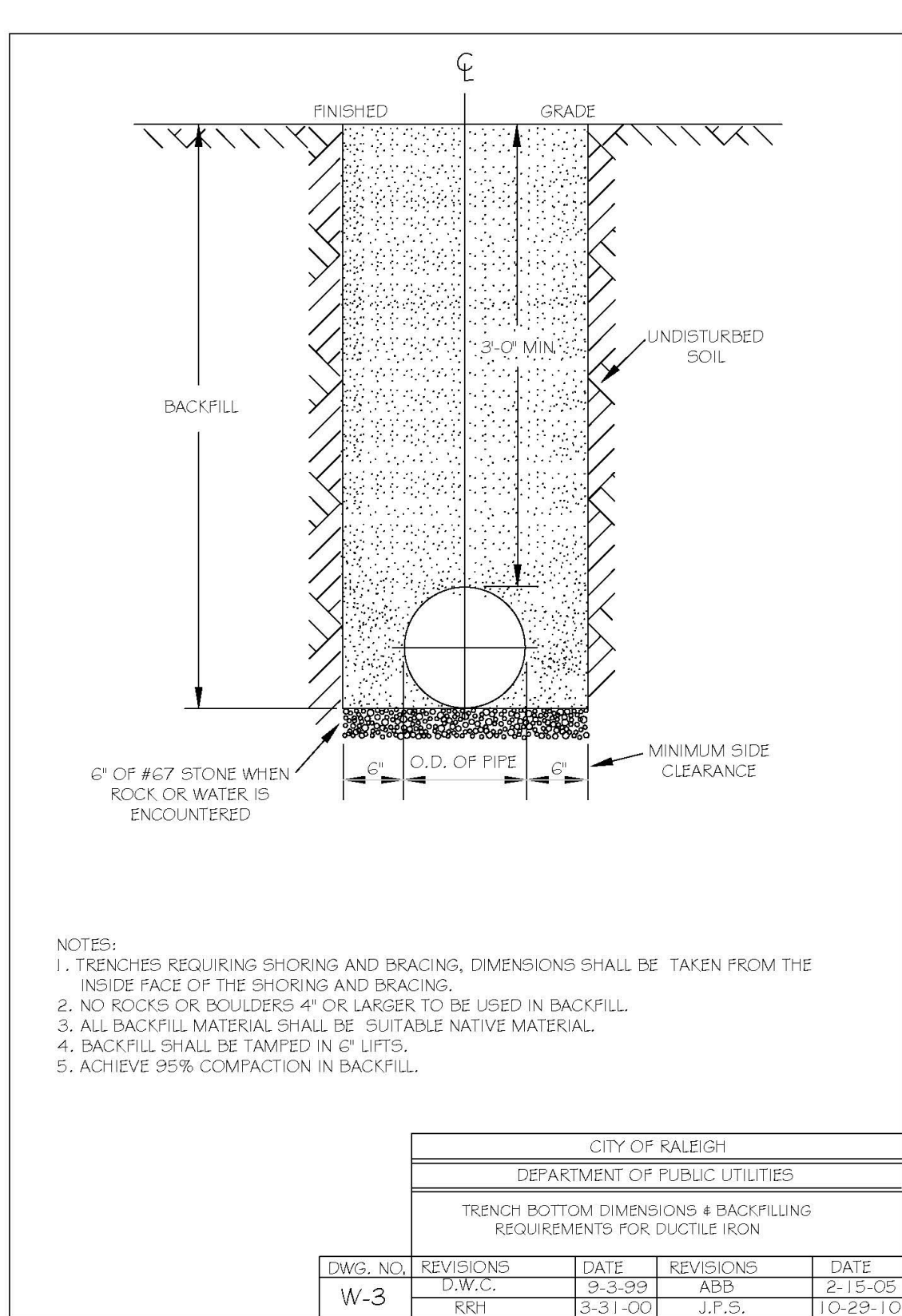
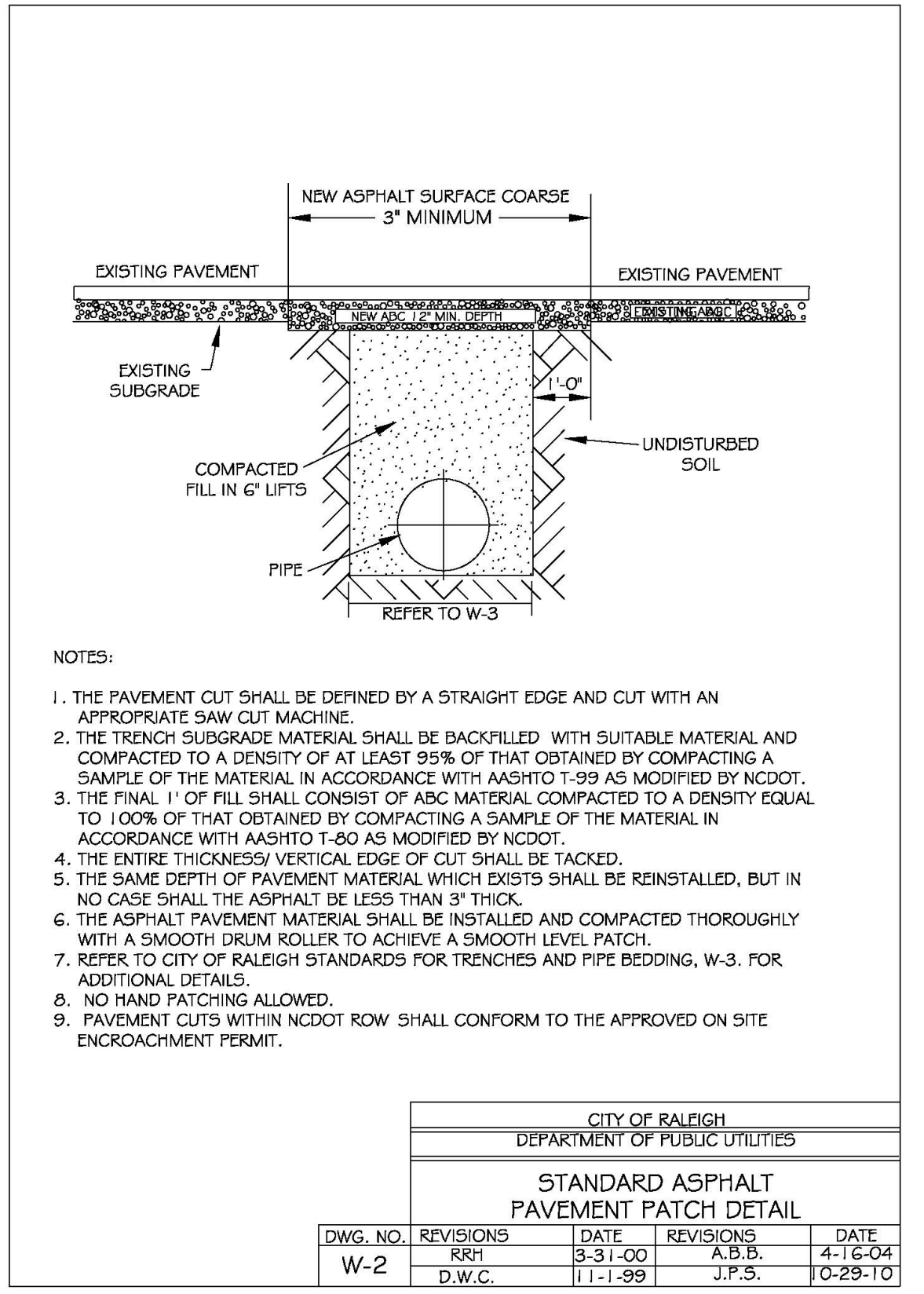
PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

The Nau Company
Consulting Civil Engineers

PO Box 810 Rolesville, NC 27571
919-435-6395
NCBELS License P-0751

MERIDIAN PROPERTIES GROUP, LLC
 4030 WAKE FOREST ROAD, SUITE 100
 RALEIGH, NC 27609
 919-621-4648





TOWN OF ZEBULON
PROJECT ID: 964220

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

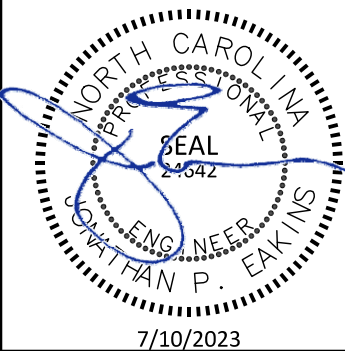
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PO Box 810, Rolesville, NC 27571
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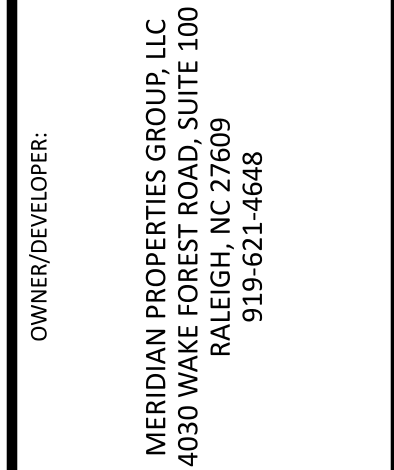
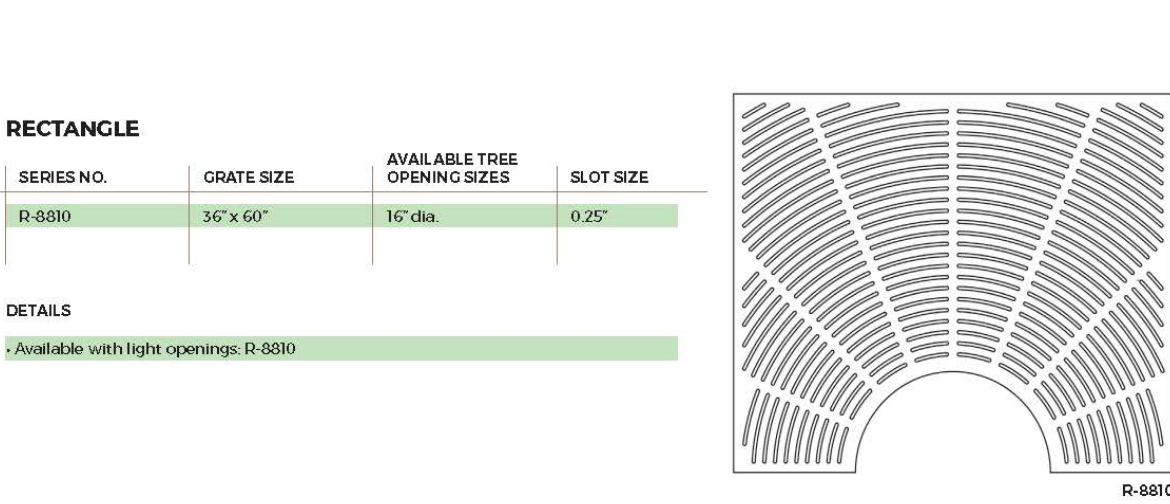
OWNER/DEVELOPER:
MERIDIAN PROPERTIES GROUP LLC
4030 WAKE FOREST RD., SUITE 100
RALEIGH, NC 27609
919-621-4646

REVISIONS		CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES	
NO.	DATE	BY	DESCRIPTION
1	2023-07-10	JPE	ADD L. UPDATE AND REVISIONS PER TOWN COMMENTS

401 GANNON AVENUE
SITE PLAN AND CONSTRUCTION DRAWINGS
ZEBULON, NC
WATER DETAILS



PROJECT NO: ---
DESIGN BY: JPE
DRAWN BY: JPE
SCALE: NTS
DATE: 2023-03-01
SHEET NO: D3.1

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401 GANNON AVENUE
SITE PLAN AND CONSTRUCTION DRAWINGS
ZEBULON, NC
LANDSCAPE DETAILS



PROJECT NO:	---
DESIGN BY:	JPE
DRAWN BY:	JPE
SCALE:	NTS
DATE:	2023-03-01
SHEET NO:	D5.1