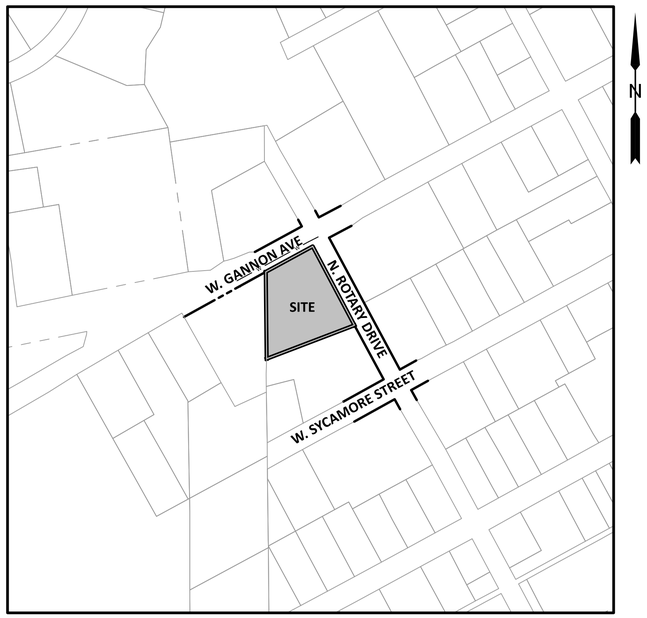
401 WEST GANNON AVENUE

SITE PLAN AND CONSTRUCTION DRAWINGS

VICINITY MAP
SCALE: 1"=200'



ZEBULON, NC

MARCH 1, 2023
REVISED JULY 10, 2023
REVISED SEPTEMBER 14, 2023

CLIENT

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

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C2.0	SITE PLAN	9/14/2023
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D1.2	TOWN OF ZEBULON & SITE DETAILS	9/14/2023
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D2.1	EROSION CONTROL DETAILS	7/10/2023
D2.2	EROSION CONTROL DETAILS	7/10/2023
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D4.1	RALEIGH WATER DETAILS	7/10/2023
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	O LF
PROPOSED WATER METERS	11
PROPOSED SEWER CLEANOUTS	11

NORTH CAROLINA PROFESSIONAL SEAL 24042 ENGINEER JONATHAN P. EARLINS

9/14/2023

EROSION CONTROL, STORMWATER AND FLOODPLAIN MANAGEMENT

APPROVED

EROSION CONTROL ☐ S-_____

STORMWATER MGMT. ☐ S-_____

FLOOD STUDY ☐ S-_____

DATE_____

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 # _____

AUTHORIZATION TO CONSTRUCT _____

DATE _____

PRIVATE

SEWER COLLECTION/EXTENSION SYSTEM

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.

CITY OF RALEIGH
PUBLIC UTILITIES DEPARTMENT PERMIT # _____

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 # _____

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 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.

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 contruction 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 contruction 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_____

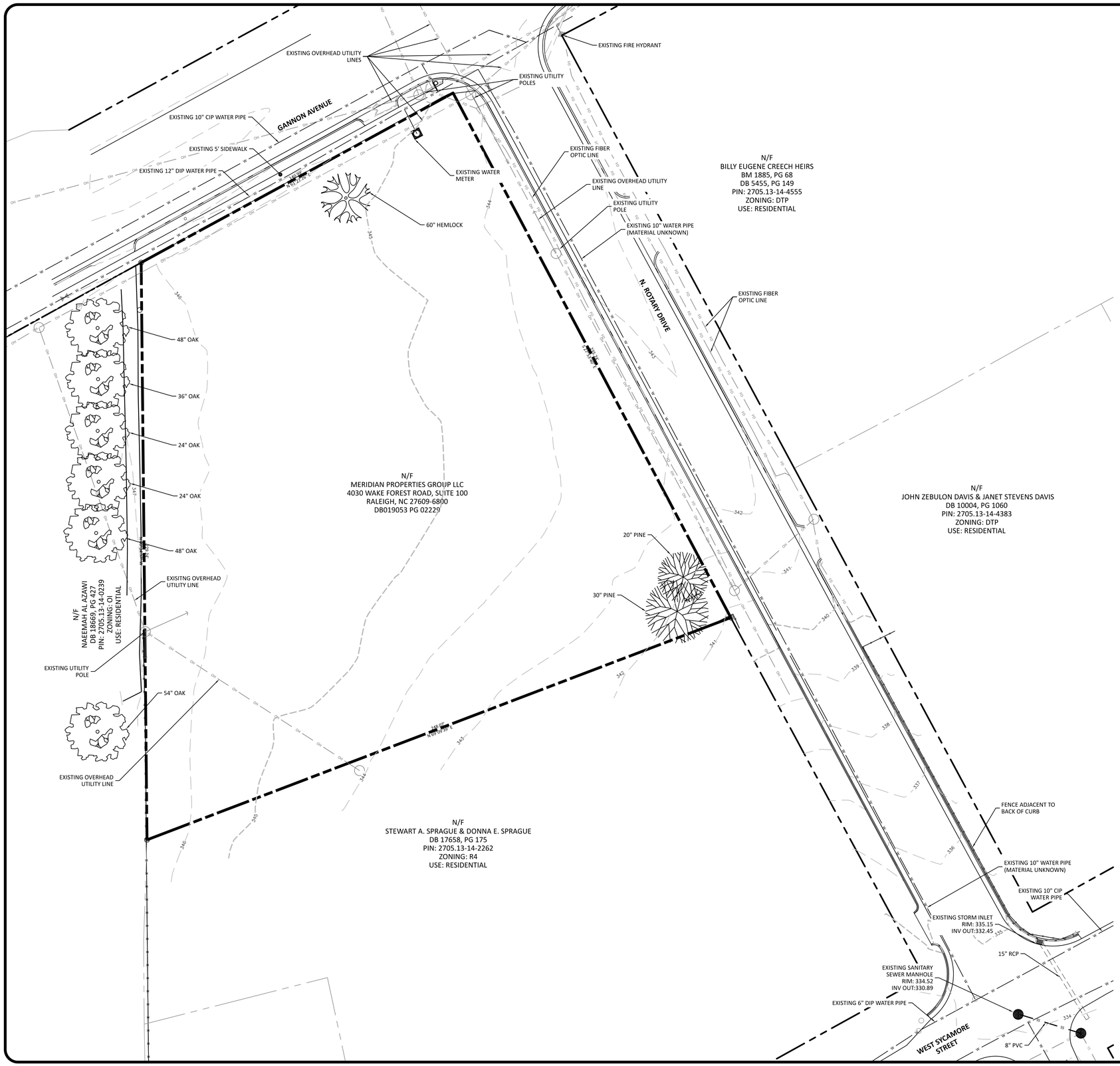
Raleigh Water Review Officer

TOWN OF ZEBULON
PROJECT ID: 964220

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

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

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

TOWN OF ZEBULON
PROJECT ID: 964220

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

20 0 10 20 40
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:
MERIDIAN PROPERTIES GROUP, LLC
4030 WAKE FOREST ROAD, SUITE 100
RALEIGH, NC 27609
919-621-4648

REVISIONS

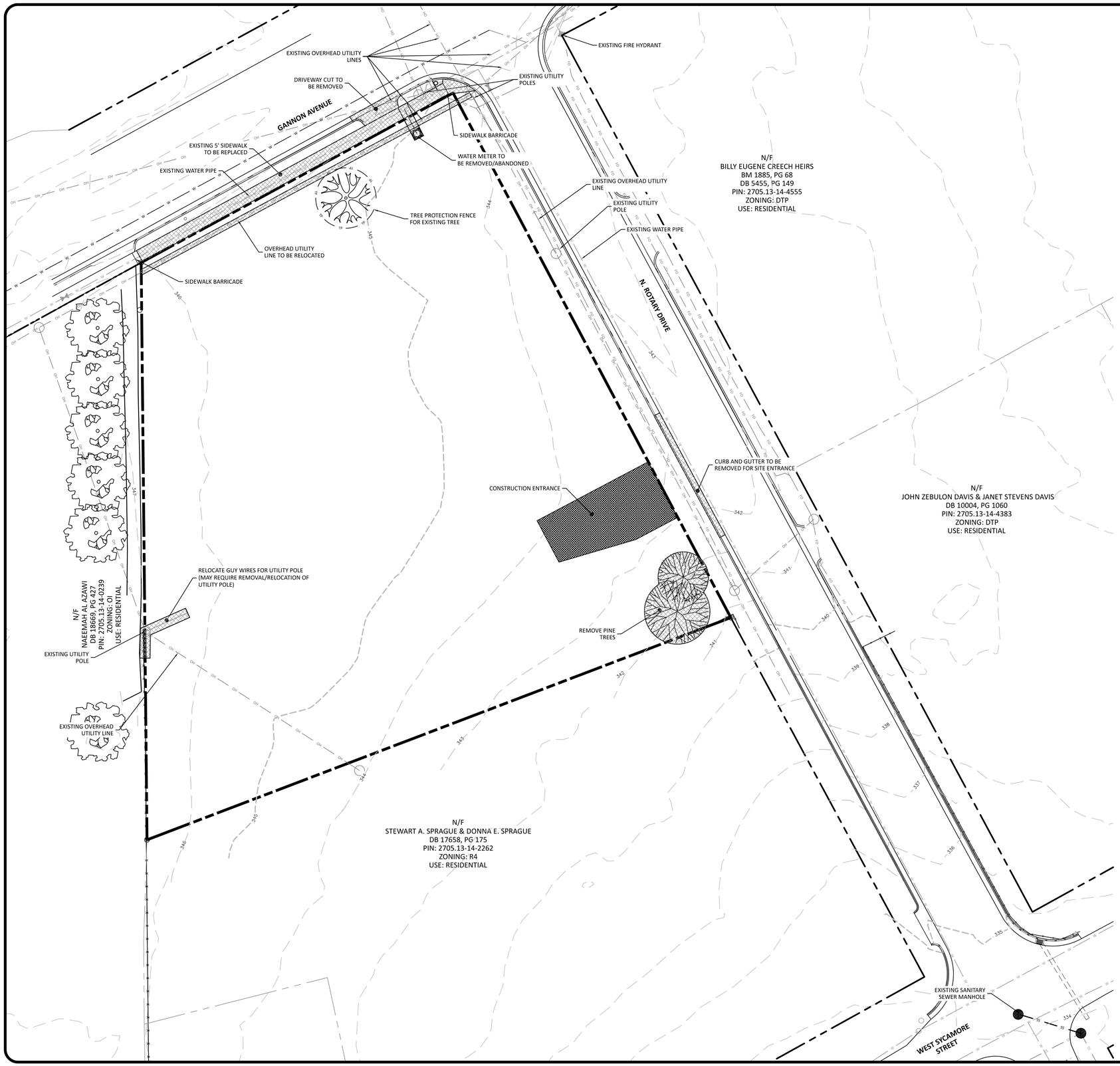
1	2023-07-10	LAYOUT UPDATES AND REVISIONS PER TOWN COMMENTS

401 GANNON AVENUE
SITE PLAN AND CONSTRUCTION DRAWINGS
ZEBULON, NC

EXISTING CONDITIONS PLAN

NORTH CAROLINA PROFESSIONAL SEAL 049412 ENGINEER JEFFREY P. EAKINS
7/10/2023

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



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

N

TOWN OF ZEBULON PROJECT ID: 964220	ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH TOWN OF ZEBULON STANDARDS AND SPECIFICATIONS

20 0 10 20 40

SCALE: 1"=20'

PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

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OWNER/DEVELOPER:

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4030 WAKE FOREST ROAD, SUITE 100
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919-621-4648

REVISIONS

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

401 GANNON AVENUE
SITE PLAN AND CONSTRUCTION DRAWINGS

ZEBULON, NC

STAGING AND DEMOLITION PLAN

NORTH CAROLINA PROFESSIONAL SEAL 045042 ENGINEER JEFFREY P. EAKINS

7/10/2023

PROJECT NO: ---

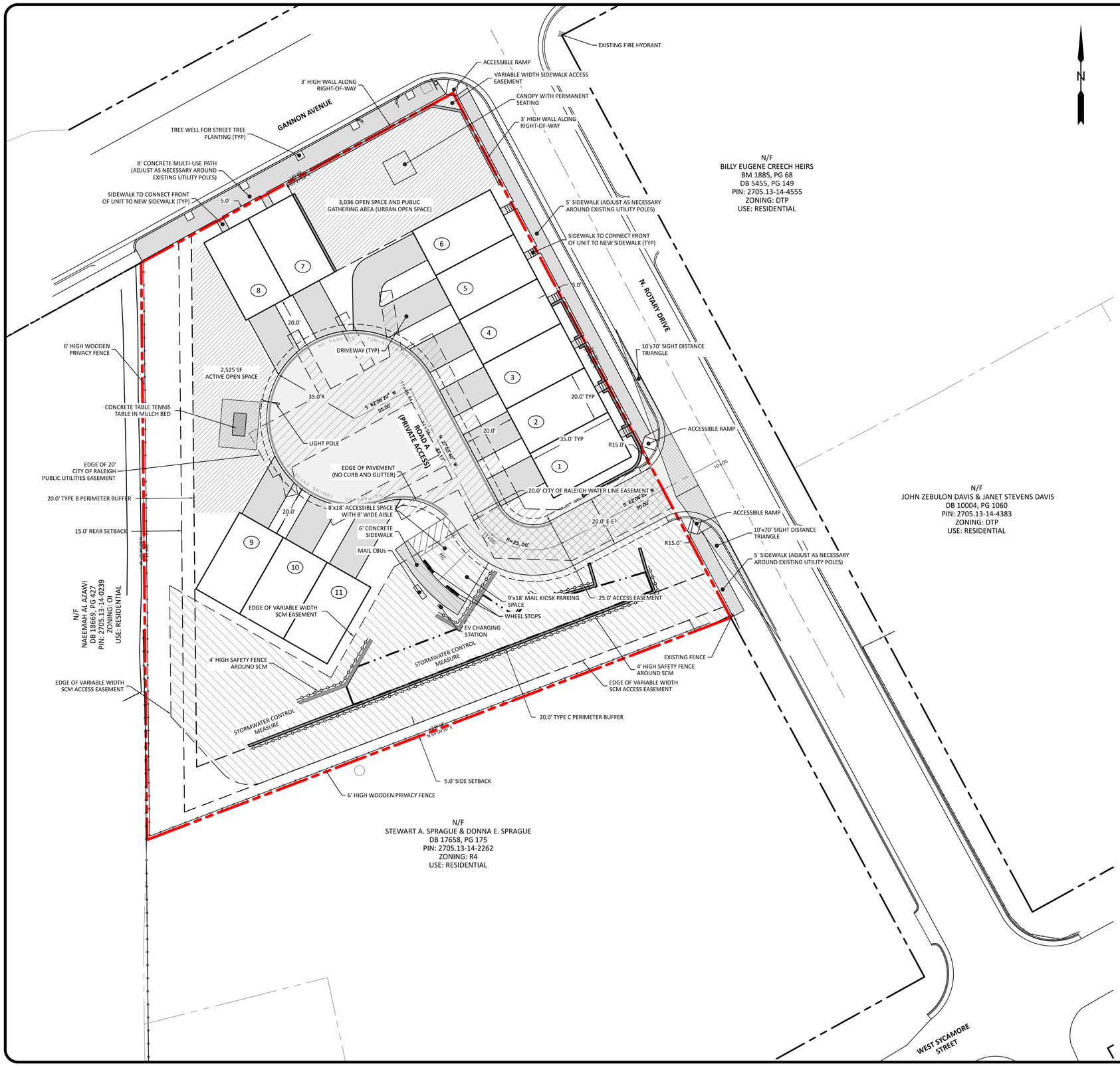
DESIGN BY: JPE

DRAWN BY: JPE

SCALE: 1"=20'

DATE: 2023-03-01

SHEET NO: C1.1



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	2,525 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 AND 1 PER DRIVEWAY SPACE = 22 SPACES
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	6,400 SF
DRIVEWAYS	3,300 SF
SIDEWALK	300 SF
OTHER IMPERVIOUS	500 SF (FUTURE/UNSPECIFIED)
TOTAL LOT COVERAGE PROPOSED	18,200 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	O 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.

STORMWATER REQUIREMENTS	
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:

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

GENERAL NOTES

1. 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.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SCHEDULE A PRECONSTRUCTION CONFERENCE WITH REPRESENTATIVES OF THE PERMITTING AUTHORITIES AND A REPRESENTATIVE OF THE OWNER.
3. 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 RECIEVING ALL PLANS AND APPROPRIATE DOCUMENTATION OF APPROVAL SHALL CAUSE THE CONTRACTOR TO ASSUME FULL REPONSIBILITY FOR ANY SUBSEQUENT MODIFICATIONS TO THEIR WORK.
4. 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.
5. THE CONTRACTOR SHALL DETERMINE AND BE RESPONSIBLE FOR THE MEANS AND METHODS NECESSARY FOR THE CONSTRUCTION OF THE PROJECT AS SHOWN ON THESE PLANS.
6. 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.
7. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING INSPECTIONS REQUIRED TO PREPARE AS-BUILT CERTIFICATIONS.
8. THE DEVELOPER IS RESPONSIBLE FOR OBTAINING ANY OFFSITE EASEMENTS.
9. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL VERIFY THAT ALL NECESSARY RIGHT OF WAY, EASEMENTS AND ENCROACHMENT AGREEMENTS HAVE BEEN OBTAINED.
10. THE CONTRACTOR SHALL CONFIRM THE LOCATION AND ELEVATION OF ALL EXISTING UTILITIES (INCLUDING STORM STRUCTURES) 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.
11. 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.
12. THE STAKING SURVEYOR AND/OR THEIR SUBCONTRACTOR SHALL INDEPENDENTLY VERIFY THE HORIZONTAL AND VERTICAL DATUM FOR THIS PROJECT PRIOR TO CONSTRUCTION.
13. RETAINING WALLS SHALL BE DESIGNED BY OTHERS.
14. THE CONTRACTOR SHALL NOTE THAT THE PLANS DO NOT SHOW EVERY OFFSET, TRANSITION, FITTING ETC. THAT MAY BE REQUIRED FOR CONSTRUCTION.
15. 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.
16. ALL DIMENSIONS ARE TO BACK-OF-CURB UNLESS OTHERWISE NOTED.
17. 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.
18. CONTRACTOR SHALL CONFIRM ALL COMPACTION REQUIREMENTS WITH THE GEOTECHNICAL ENGINEER.

PROJECT NOTES

1. ALL WATER MAINS WITHIN PUBLIC EASEMENTS AND RIGHTS-OF-WAY SHALL BE OWNED, OPERATED AND MAINTAINED BY THE CITY OF RALEIGH.
2. ALL SEWER MAINS WITHIN PUBLIC EASEMENTS AND RIGHTS-OF-WAY SHALL BE OWNED, OPERATED AND MAINTAINED BY THE CITY OF RALEIGH.
3. TOWNHOME BUILDINGS ARE 20' WIDE AND 35' DEEP
4. UNITS 1-6 ARE REAR LOAD TOWNHOMES THAT FACE N. ROTARY DRIVE
5. UNITS 7-8 ARE REAR LOAD TOWNHOMES THAT FACE GANNON AVENUE
6. UNITS 9-11 ARE FRONT LOAD TONHNTOMES THAT FACE THE INTERNAL ROAD ACCESS
7. ALL UNITS HAVE A 1 CAR GARAGE
8. ROAD A WILL BE A DRIVEWAY WITH A ROAD NAME. IT WILL NOT BE A PUBLIC STREET BUT WILL HAVE AN ACCESS EASEMENT
9. A CANOPY WITH PERMANENT SEATING WILL BE INSTALLED IN THE OPEN SPACE AND PUBLIC MEETING AREA BETWEEN UNITS 6 AND 7
10. 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

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

20 0 10 20 40
SCALE: 1"=20'

PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

The Nau Company
Consulting Civil Engineers
PO Box 810 Rolesville, NC 27571
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OWNER/DEVELOPER:
MERIDIAN PROPERTIES GROUP, LLC
4030 WAKE FOREST ROAD, SUITE 100
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919-621-4648

REVISIONS

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

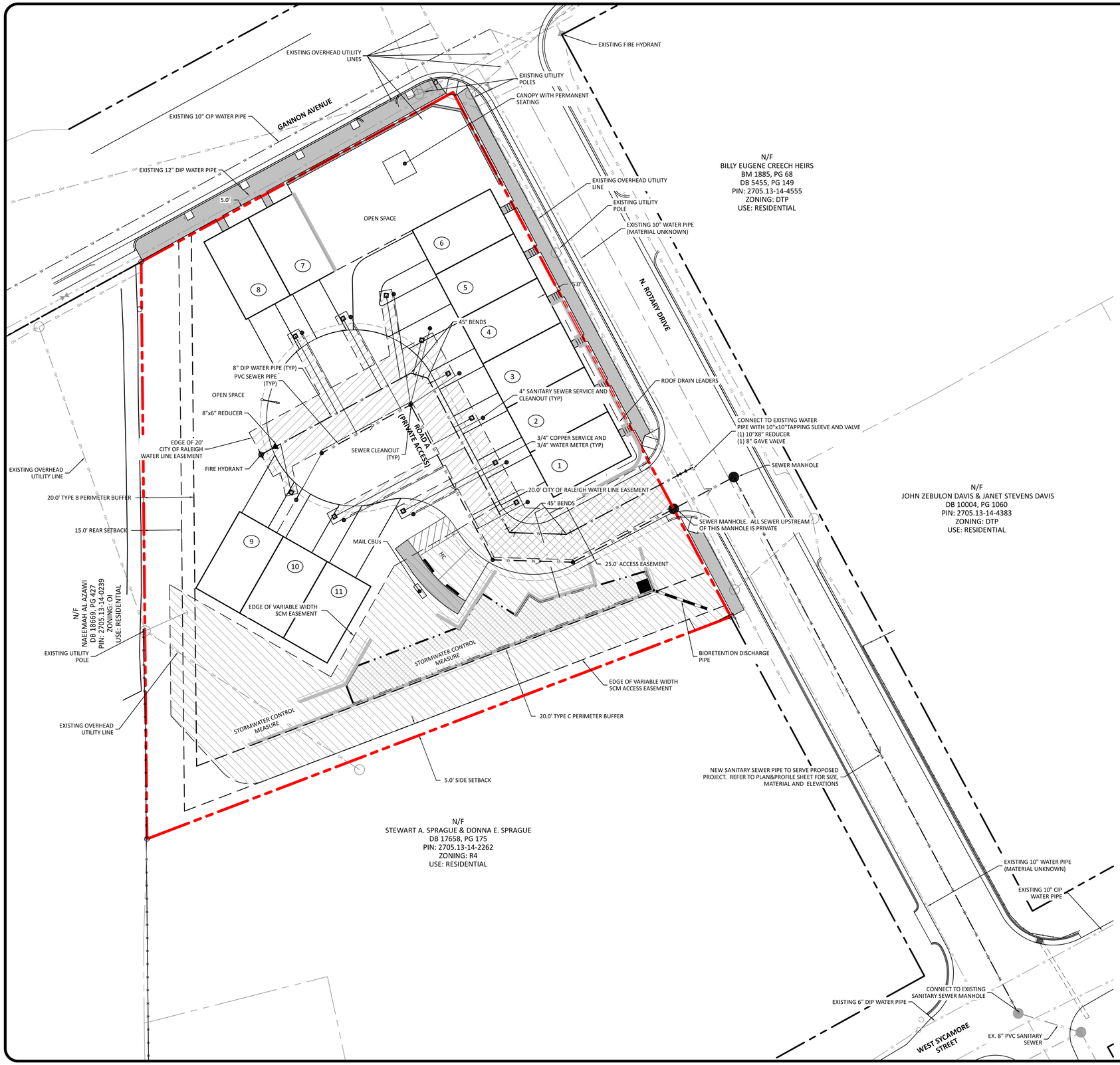
401 GANNON AVENUE
SITE PLAN AND CONSTRUCTION DRAWINGS

ZEBULON, NC

SITE PLAN

NORTH CAROLINA PROFESSIONAL SEAL 042 ENGINEER JEFFRAN P. OAKLAND
9/14/2023

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



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

CITY OF RALEIGH STANDARD UTILITY NOTES

1. ALL MATERIALS & CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH DESIGN STANDARDS, DETAILS & SPECIFICATIONS (REFERENCE: CORPUD HANDBOOK, CURRENT EDITION)
2. UTILITY SEPARATION REQUIREMENTS: A) A DISTANCE OF 100' SHALL BE MAINTAINED BETWEEN SANITARY SEWER & ANY PRIVATE OR PUBLIC WATER SUPPLY SOURCE SUCH AS AN IMPOUNDED RESERVOIR USED AS A SOURCE OF DRINKING WATER. IF ADEQUATE LATERAL SEPARATION CANNOT BE ACHIEVED, FERROUS SANITARY SEWER PIPE SHALL BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS. HOWEVER, THE MINIMUM SEPARATION SHALL NOT BE LESS THAN 25' FROM A PRIVATE WELL OR 50' FROM A PUBLIC WELL B) WHEN INSTALLING WATER &/OR SEWER MAINS, THE HORIZONTAL SEPARATION BETWEEN UTILITIES SHALL BE 10'. IF THIS SEPARATION CANNOT BE MAINTAINED DUE TO EXISTING CONDITIONS, THE VARIATION ALLOWED IS THE WATER MAIN IN A SEPARATE TRENCH WITH THE ELEVATION OF THE WATER MAIN AT LEAST 18" ABOVE THE TOP OF THE SEWER & MUST BE APPROVED BY THE PUBLIC UTILITIES DIRECTOR. ALL DISTANCES ARE MEASURED FROM OUTSIDE DIAMETER TO OUTSIDE DIAMETER C) WHERE IT IS IMPOSSIBLE TO OBTAIN PROPER SEPARATION, OR ANYTIME A SANITARY SEWER PASSES OVER A WATERMAIN, DIP MATERIALS OR STEEL ENCASEMENT EXTENDED 10' ON EACH SIDE OF CROSSING MUST BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS D) 5.0' MINIMUM HORIZONTAL SEPARATION IS REQUIRED BETWEEN ALL SANITARY SEWER & STORM SEWER FACILITIES, UNLESS DIP MATERIAL IS SPECIFIED FOR SANITARY SEWER E) MAINTAIN 18" MIN. VERTICAL SEPARATION AT ALL WATERMAIN & RCP STORM DRAIN CROSSINGS; MAINTAIN 18" MIN. VERTICAL SEPARATION AT ALL SANITARY SEWER & RCP STORM DRAIN CROSSINGS. WHERE ADEQUATE SEPARATIONS CANNOT BE ACHIEVED, SPECIFY DIP MATERIALS & A CONCRETE CRADLE HAVING 6" MIN. CLEARANCE (PER CORPUD DETAILS W41 & S-49) F) ALL OTHER UNDERGROUND UTILITIES SHALL CROSS WATER & SEWER FACILITIES WITH 18" MIN. VERTICAL SEPARATION REQUIRED
3. ANY NECESSARY FIELD REVISIONS ARE SUBJECT TO REVIEW & APPROVAL OF AN AMENDED PLAN &/OR PROFILE BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT PRIOR TO CONSTRUCTION
4. DEVELOPER SHALL PROVIDE 30 DAYS ADVANCE WRITTEN NOTICE TO OWNER FOR ANY WORK REQUIRED WITHIN AN EXISTING CITY OF RALEIGH UTILITY EASEMENT TRAVERSING PRIVATE PROPERTY
5. CONTRACTOR SHALL MAINTAIN CONTINUOUS WATER & SEWER SERVICE TO EXISTING RESIDENCES & BUSINESSES THROUGHOUT CONSTRUCTION OF PROJECT. ANY NECESSARY SERVICE INTERRUPTIONS SHALL BE PRECEDED BY A 24 HOUR ADVANCE NOTICE TO THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT
6. 3.0' MINIMUM COVER IS REQUIRED ON ALL WATER MAINS & SEWER FORCEMAINS. 4.0' MINIMUM COVER IS REQUIRED ON ALL REUSE MAINS
7. IT IS THE DEVELOPER'S RESPONSIBILITY TO ABANDON OR REMOVE EXISTING WATER & SEWER SERVICES NOT BEING USED IN REDEVELOPMENT OF A SITE UNLESS OTHERWISE DIRECTED BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT. THIS INCLUDES ABANDONING TAP AT MAIN & REMOVAL OF SERVICE FROM ROW OR EASEMENT PER CORPUD HANDBOOK PROCEDURE
8. INSTALL ¾" COPPER WATER SERVICES WITH METERS LOCATED AT ROW OR WITHIN A 2'X2' WATERLINE EASEMENT IMMEDIATELY ADJACENT. NOTE: IT IS THE APPLICANT'S RESPONSIBILITY TO PROPERLY SIZE THE WATER SERVICE FOR EACH CONNECTION TO PROVIDE ADEQUATE FLOW & PRESSURE
9. INSTALL 4" PVC SEWER SERVICES @ 1.0% MINIMUM GRADE WITH CLEANOUTS LOCATED AT ROW OR EASEMENT LINE & SPACED EVERY 75 LINEAR FEET MAXIMUM
10. PRESSURE REDUCING VALVES ARE REQUIRED ON ALL WATER SERVICES EXCEEDING 80 PSI; BACKWATER VALVES ARE REQUIRED ON ALL SANITARY SEWER SERVICES HAVING BUILDING DRAINS LOWER THAN 1.0' ABOVE THE NEXT UPSTREAM MANHOLE
11. ALL ENVIRONMENTAL PERMITS APPLICABLE TO THE PROJECT MUST BE OBTAINED FROM NCDWQ, USACE &/OR FEMA FOR ANY RIPARIAN BUFFER, WETLAND &/OR FLOODPLAIN IMPACTS (RESPECTIVELY) PRIOR TO CONSTRUCTION
12. NCDOT / RAILROAD ENCROACHMENT AGREEMENTS ARE REQUIRED FOR ANY UTILITY WORK (INCLUDING MAIN EXTENSIONS & SERVICE TAPS) WITHIN STATE OR RAILROAD ROW PRIOR TO CONSTRUCTION
13. GREASE INTERCEPTOR / OIL WATER SEPARATOR SIZING CALCULATIONS & INSTALLATION SPECIFICATIONS SHALL BE APPROVED BY THE RW FOG PROGRAM COORDINATOR PRIOR TO ISSUANCE OF A UC / BLDG PERMIT. CONTACT (919) 996-4516 OR FOG@RALEIGHNC.GOV FOR MORE INFORMATION
14. CROSS-CONNECTION CONTROL PROTECTION DEVICES ARE REQUIRED BASED ON DEGREE OF HEALTH HAZARD INVOLVED AS LISTED IN APPENDIX-B OF THE RULES GOVERNING PUBLIC WATER SYSTEMS IN NORTH CAROLINA. THESE GUIDELINES ARE THE MINIMUM REQUIREMENTS. THE DEVICES SHALL MEET AMERICAN SOCIETY OF SANITARY ENGINEERING (ASSE) STANDARDS OR BE ON THE UNIVERSITY OF SOUTHERN CALIFORNIA APPROVAL LIST. THE DEVICES SHALL BE INSTALLED AND TESTED (BOTH INITIAL AND PERIODIC TESTING THEREAFTER) IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS OR THE LOCAL CROSS-CONNECTION CONTROL PROGRAM, WHICHEVER IS MORE STRINGENT. A CERTIFICATE OF COMPLIANCE SHALL ALSO BE OBTAINED FROM THE RW CROSSCONNECTION COORDINATOR FOR EACH DEVICE PRIOR TO ISSUANCE OF A UC / BLDG PERMIT. CONTACT (919) 996-5923 OR CROSS.CONNECTION@RALEIGHNC.GOV FOR MORE INFORMATION
15. NOTICE FOR PROJECTS WITH REPLACED OR OVERSIZED MAINS: IF THE CITY'S REIMBURSEMENT FOR AN OVERSIZED MAIN OR URBAN MAIN REPLACEMENT PROJECT IS $250,000 OR GREATER - THE PROJECT MUST BE PUBLICLY BID

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 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.

PRIVATE

SEWER COLLECTION/EXTENSION SYSTEM

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.

CITY OF RALEIGH
PUBLIC UTILITIES DEPARTMENT PERMIT # _____
AUTHORIZATION TO CONSTRUCT _____
DATE _____

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 # _____
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
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DATE _____

TOWN OF ZEBULON
PROJECT ID: 964220

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

20 0 10 20 40
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:
MERIDIAN PROPERTIES GROUP, LLC
4030 WAKE FOREST ROAD, SUITE 100
RALEIGH, NC 27609
919-621-4648

REVISIONS

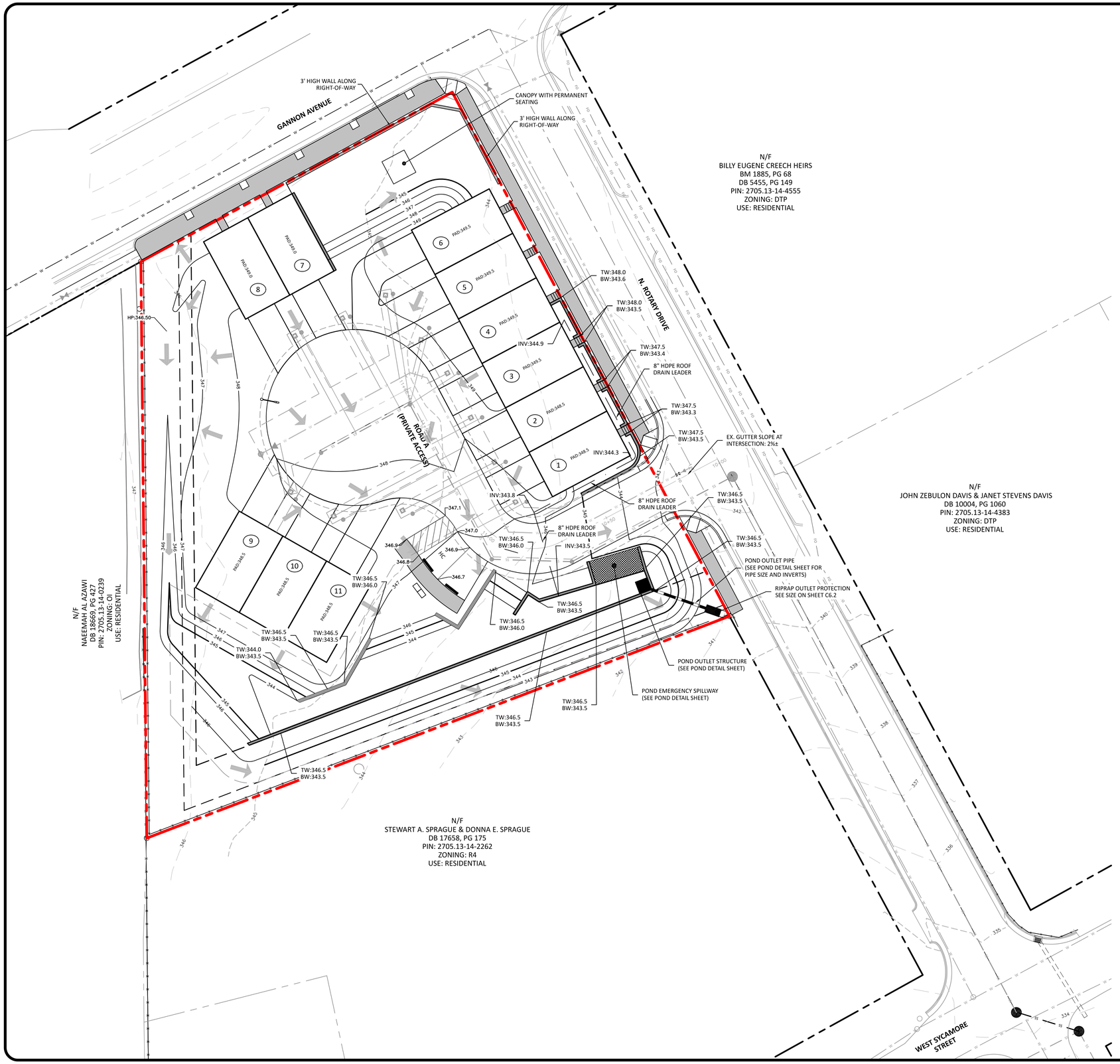
1	2023-07-10	LAYOUT UPDATES AND REVISIONS PER TOWN COMMENTS
2	2023-09-14	LAYOUT UPDATES AND REVISIONS PER TOWN COMMENTS

401 GANNON AVENUE
SITE PLAN AND CONSTRUCTION DRAWINGS
ZEBULON, NC

UTILITY PLAN

NORTH CAROLINA PROFESSIONAL SEAL 042 ENGINEER JONATHAN P. EAKINS
9/14/2023

PROJECT NO: ---
DESIGN BY: JPE
DRAWN BY: JPE
SCALE: 1"=20'
DATE: 2023-03-01
SHEET NO: C3.0



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

GRADING/DRAINAGE PLAN LEGEND

1' CONTOUR
5' CONTOUR
SURFACE FLOW DIRECTION
POND OUTLET STRUCTURE
POND OUTLET PIPE

STORM DRAINAGE NOTES

1. 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.
2. ALL STORM DRAINAGE PIPES SHALL BE CLASS III REINFORCED CONCRETE PIPE (RCP) UNLESS NOTED OTHERWISE.
3. ALL STORM DRAINAGE PIPE IN TRAFFIC AREAS SHALL HAVE A MINIMUM COVER OF 2 FEET TO THE PIPE CROWN UNLESS OTHERWISE APPROVED.
4. ALL STORM DRAINAGE PIPE IN TRAFFIC NON-AREAS SHALL HAVE A MINIMUM COVER OF 1 FOOT TO THE PIPE CROWN UNLESS OTHERWISE APPROVED.
5. ALL CONCRETE SHALL MEET A MINIMUM 3000 PSI COMPRESSIVE STRENGTH.
6. ALL PIPE IN STORM DRAINAGE STRUCTURES SHALL BE STRUCK EVEN WITH THE INSIDE WALL.
7. 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.
8. 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.
9. 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.
10. MATERIALS DEEMED AS UNSUITABLE FOR BACKFILL PURPOSES SHALL BE REMOVED AND REPLACED WITH SUITABLE MATERIAL.
11. 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.
12. UNDER NO CIRCUMSTANCES SHALL WATER BE ALLOWED TO RISE IN UNBACKFILLED TRENCHES AFTER PIPE HAS BEEN PLACED.

GRADING NOTES

1. PROPOSED CONTOURS REPRESENT APPROXIMATE ELEVATIONS AT A POINT. PROPOSED SPOT ELEVATIONS AND ROADWAY PROFILES SUPERCEED CONTOUR INFORMATION.
2. ALL AREAS SHALL BE GRADED FOR POSITIVE DRAINAGE AWAY FROM BUILDING FOUNDATIONS AND SHALL MAINTAIN ADEQUATE DRAINAGE DURING CONSTRUCTION.
3. 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.
4. CONTRACTOR IS TO CONTACT NORTH CAROLINA "ONE CALL" AT 811 FOR UNDERGROUND UTILITY LOCATION 48 HOURS PRIOR TO ANY DIGGING.
5. CONTRACTOR SHALL LOCATE AND VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
6. ANY AND ALL DISTURBED AREAS SHALL BE FINE GRADED, SEEDED WITH PERMANENT GRASS SEEDING MIX AND STRAWED PRIOR TO DEMOBILIZATION FROM THE SITE.
7. ALL SWALES/DITCHES ALONG PROPERTY LINES AND REAR YARDS SHOULD BE 2% OR STEEPER.
8. SLOPES STEEPER THAN 3H:1V SHOULD BE EVALUATED AND DESIGNED BY A GEOTECHNICAL ENGINEER
9. 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

1. 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

TOWN OF ZEBULON
PROJECT ID: 964220

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

20 0 10 20 40
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:
MERIDIAN PROPERTIES GROUP, LLC
4030 WAKE FOREST ROAD, SUITE 100
RALEIGH, NC 27609
919-621-4648

REVISIONS

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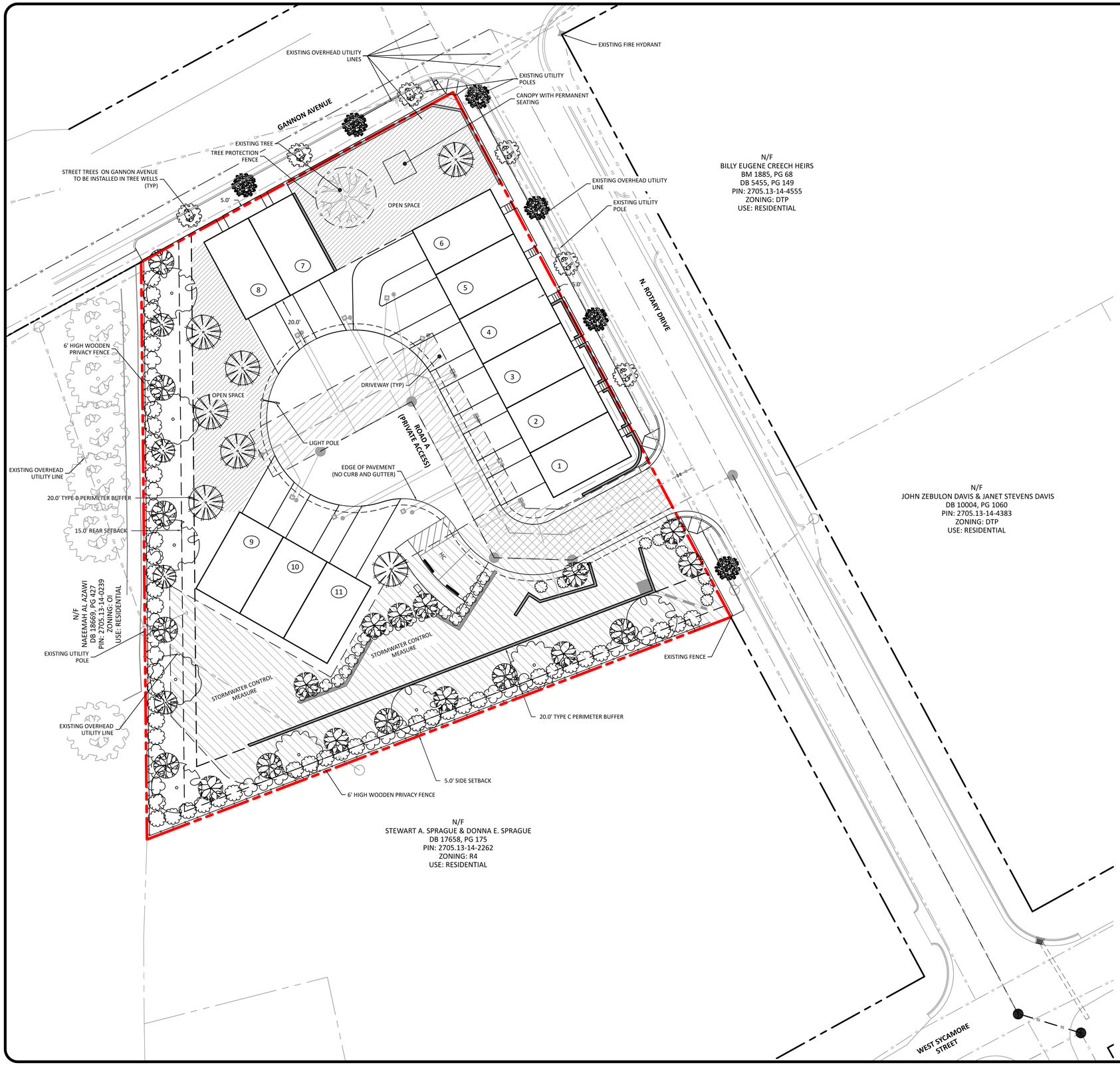
401 GANNON AVENUE
SITE PLAN AND CONSTRUCTION DRAWINGS

ZEBULON, NC

GRADING AND DRAINAGE PLAN

NORTH CAROLINA PROFESSIONAL SEAL 040642 ENGINEER JEFFREY PAUL EAKINS
9/14/2023

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



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		Ligustrum japonicum	CURLY-LEAF PRIVET	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		Ligustrum japonicum	CURLY-LEAF PRIVET	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		Koelreuteria 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
7		Sorbus alnifolia	KOREAN MOUNTAINASH	1.5" CAL/ 4' HT	B&B	SHADE TREE

STREET TREE INSTALLATION NOTES

1. STREET TREES ALONG GANNON AVENUE SHALL BE INSTALLED IN A 3'x3' TREE WELL.
2. 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.
3. 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 ACCORDANCE WITH TOWN OF ZEBULON STANDARDS AND SPECIFICATIONS

20 0 10 20 40
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:
MERIDIAN PROPERTIES GROUP, LLC
4030 WAKE FOREST ROAD, SUITE 100
RALEIGH, NC 27609
919-621-4648

REVISIONS

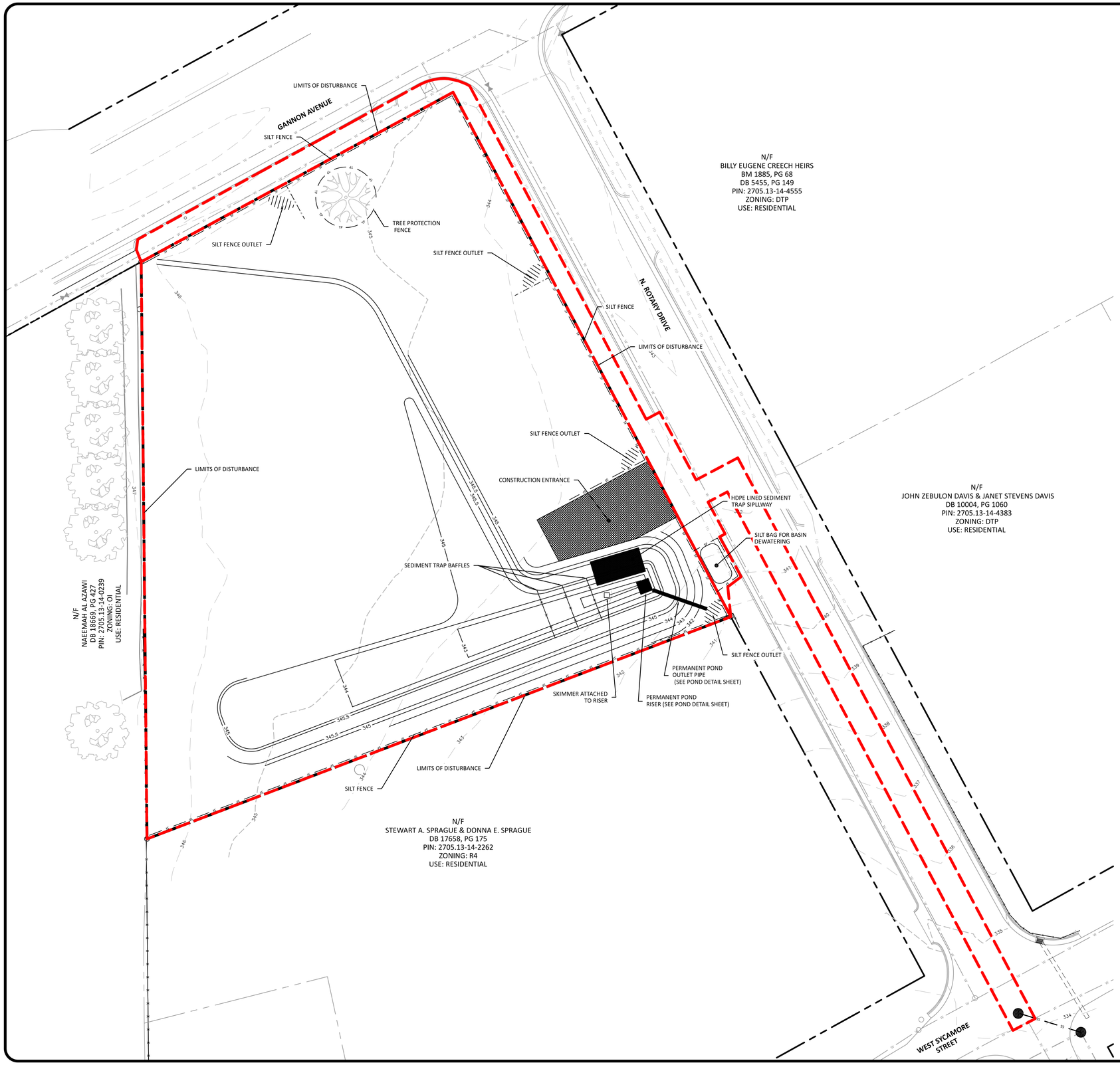
1	2023-07-10	LAYOUT UPDATES AND REVISIONS PER TOWN COMMENTS

401 GANNON AVENUE
SITE PLAN AND CONSTRUCTION DRAWINGS
ZEBULON, NC

LANDSCAPE PLAN

NORTH CAROLINA PROFESSIONAL SEAL 045092 ENGINEER JONATHAN P. EAKINS
7/10/2023

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



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. ROUGH GRADE SITE.
5. 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.
6. 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.
7. WHEN CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED COMPLETELY, CALL ENVIRONMENTAL CONSULTANT FOR AN INSPECTION.
8. 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.
9. 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 DIVSION 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
4. ONCE ALL NECESSARY EROSION CONTROL DEVICES ARE INSTALLED BEGIN GRADING
5. AS GRADING PROGRESSES, GRADUALLY TRANSITION FROM STAGE 1 TO STAGE 2.
6. 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	990 CF
VOLUME PROVIDED	1,687 CF
SURFACE AREA REQUIRED	870 SF
SURFACE AREA PROVIDED	1,914 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	1.5 IN
SKIMMER ORIFICE SIZE	0.5 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

20 0 10 20 40
SCALE: 1"=20'
PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

The Nau Company
Consulting Civil Engineers
PO Box 810 Rolesville, NC 27571
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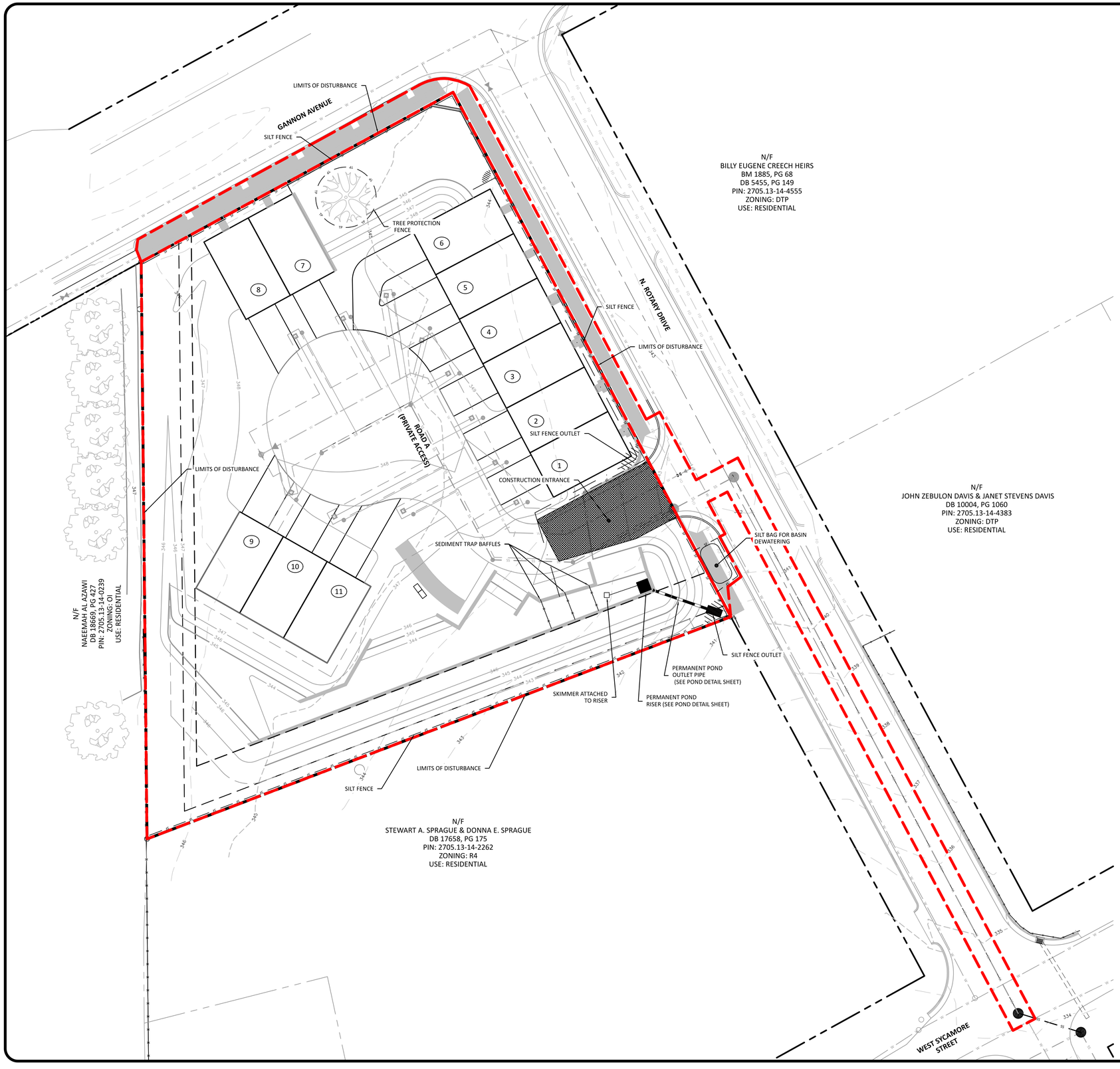
401 GANNON AVENUE
SITE PLAN AND CONSTRUCTION DRAWINGS
ZEBULON, NC

EROSION CONTROL PLAN STAGE 1

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 040642 JAYTON P. EAKINS
9/14/2023

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



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. ROUGH GRADE SITE.
5. 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.
6. 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.
7. WHEN CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED COMPLETELY, CALL ENVIRONMENTAL CONSULTANT FOR AN INSPECTION.
8. 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.
9. 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 2 CONSTRUCTION SEQUENCE

1. AS GRADING PROGRESSES, GRADUALLY TRANSITION FROM STAGE 1 TO STAGE 2.
2. THE SEDIMENT BASIN WILL BECOME A PERMANENT STORMWATER CONTROL MEASURE (SCM). GRADE BERM TO FINAL GRADES AND INSTALL WALLS ALONG INTERIOR OF SCM
3. 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.
4. ONCE FINAL GRADES HAVE BEEN ESTABLISHED STABILIZE GROUND IN ACCORDANCE WITH THE SEEDING SCHEDULES IN THIS PLAN
5. 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
6. 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	990 CF
VOLUME PROVIDED	1,687 CF
SURFACE AREA REQUIRED	870 SF
SURFACE AREA PROVIDED	1,914 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	1.5 IN
SKIMMER ORIFICE SIZE	0.5 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

20 0 10 20 40
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:
MERIDIAN PROPERTIES GROUP, LLC
4030 WAKE FOREST ROAD, SUITE 100
RALEIGH, NC 27609
919-621-4648

REVISIONS

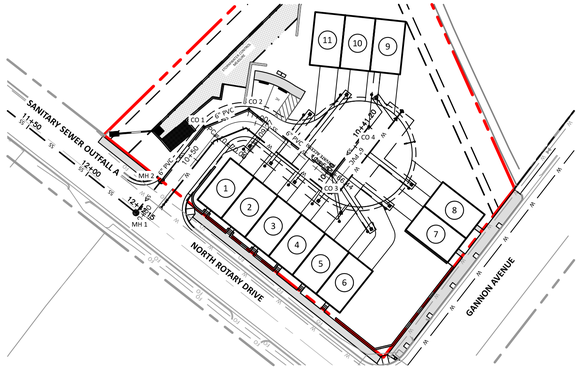
1	2023-07-10	LAYOUT UPDATES AND REVISIONS PER TOWN COMMENTS
2	2023-09-14	LAYOUT UPDATES AND REVISIONS PER TOWN COMMENTS

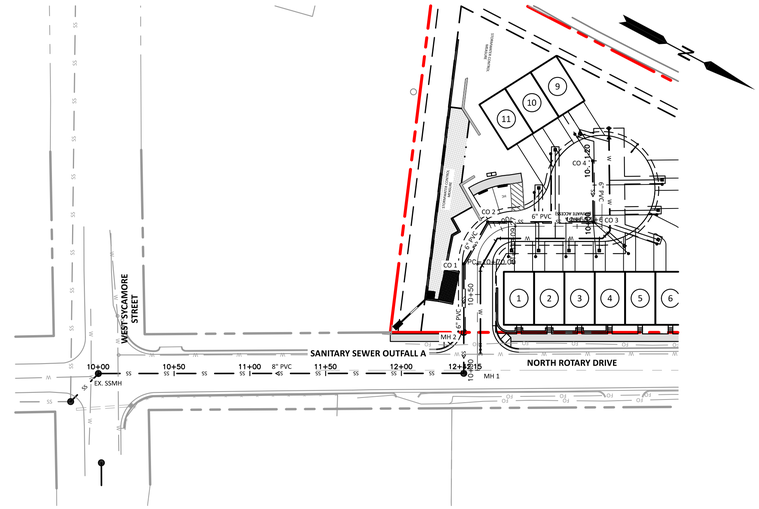
401 GANNON AVENUE
SITE PLAN AND CONSTRUCTION DRAWINGS
ZEBULON, NC

EROSION CONTROL PLAN STAGE 2

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 045042 JONATHAN P. EAKINS
9/14/2023

PROJECT NO: ---
DESIGN BY: JPE
DRAWN BY: JPE
SCALE: 1"=20'
DATE: 2023-03-01
SHEET NO: C6.2





PRIVATE

SEWER COLLECTION/EXTENSION SYSTEM

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.

CITY OF RALEIGH
PUBLIC UTILITIES DEPARTMENT PERMIT # _____

AUTHORIZATION TO CONSTRUCT _____

DATE _____

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 # _____

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 # _____

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 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.

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 contruction 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

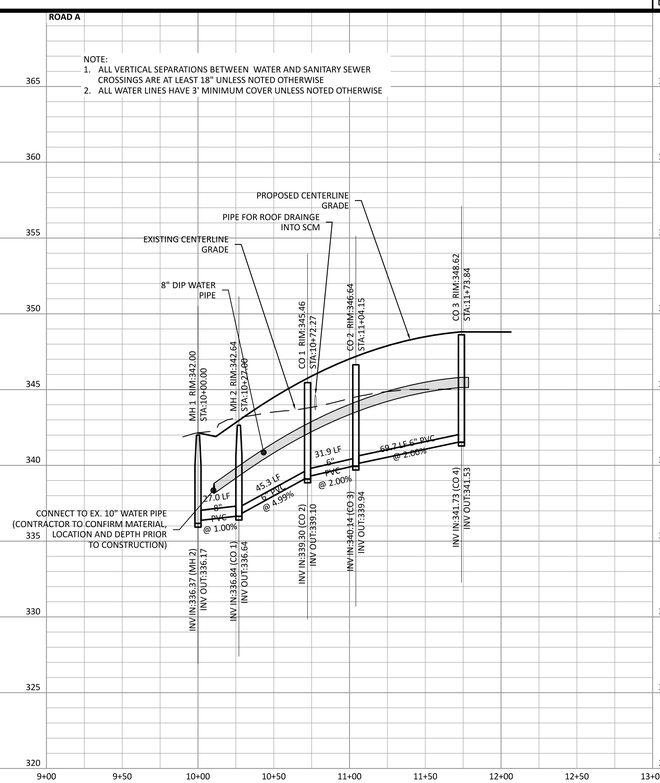
The City of Raleigh consents to the connection and extension of the City's Public Water System as shown on this plan. The material and contruction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # W-XXXX

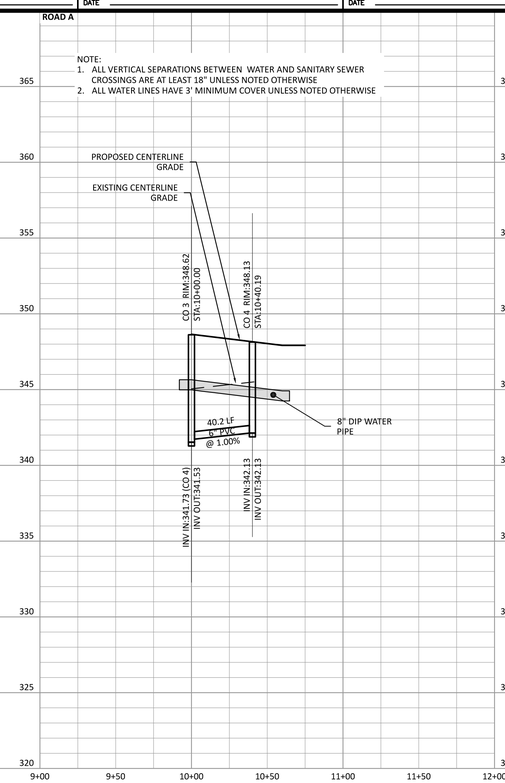
CITY OF RALEIGH – PLANS AUTHORIZED FOR CONSTRUCTION

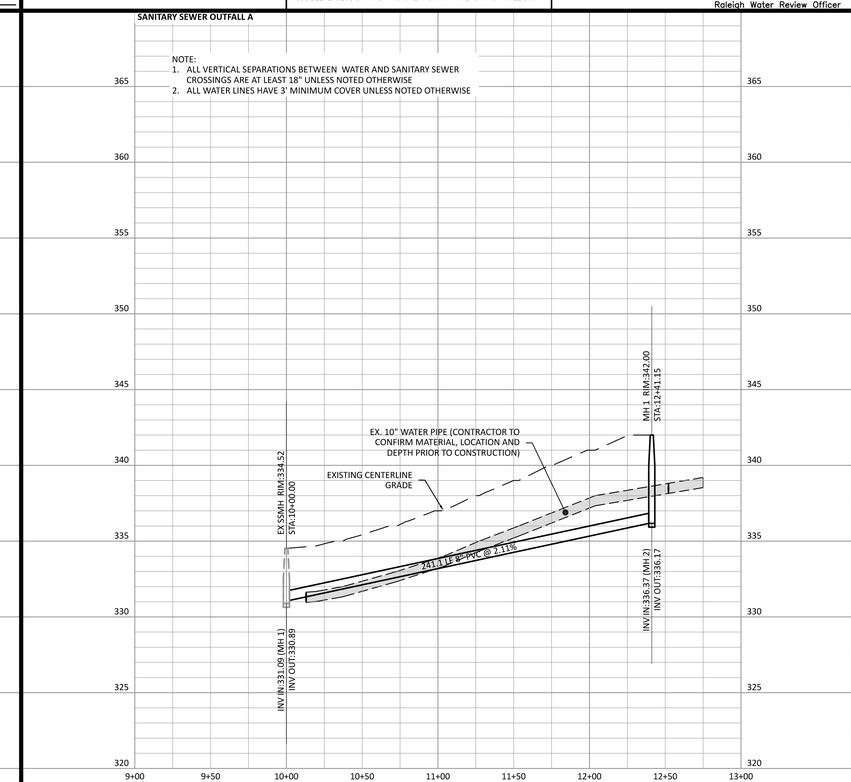
Electronic Approval: This approval is being issued electronically. This approval is valid only upon the signature of a City of Raleigh Review Officer Below. The City will retain a copy of the approved plans. Any work authorized by this approval must proceed in accordance with the plans kept on file with 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

50 0 25 50 100
SCALE: 1"=50'

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
4030 WAKE FOREST ROAD, SUITE 100
RALEIGH, NC 27609
919-621-4648

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

PLAN AND PROFILE - ROAD A AND SANITARY SEWER OUTFALL A

NORTH CAROLINA PROFESSIONAL SEAL 045462 ENGINEER JEFFREY P. EAKINS
9/14/2023

PROJECT NO: ---

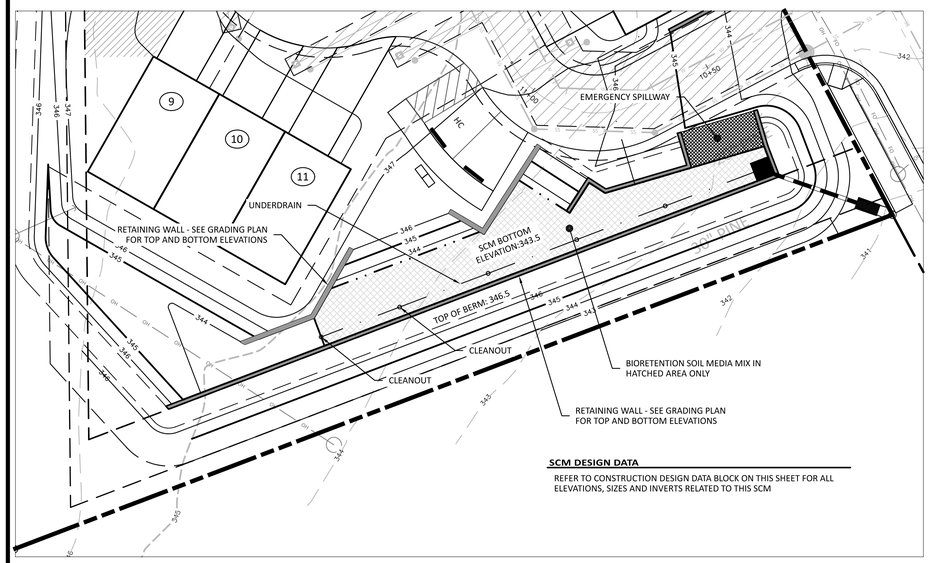
DESIGN BY: JPE

DRAWN BY: JPE

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

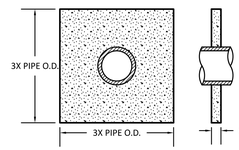
DATE: 2023-03-01

SHEET NO: **C7.1**



BIORETENTION AREA GRADING

SCALE: 1"=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.

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 CONSTRUCTRED UNTIL
   - BUILT UPON AREAS THAT DRAIN TO THE VEGETATED RECEIVING AREAS ARE COMPLETED
   - 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

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 PLOW.

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

PERMANENT SODDING

ALL SOD SHOULD BE PLACED IN ACCORDANCE WITH SECTION 6.12 OF THE NC 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 IRREGULARY 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. AFTER 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 ANNUALY 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.

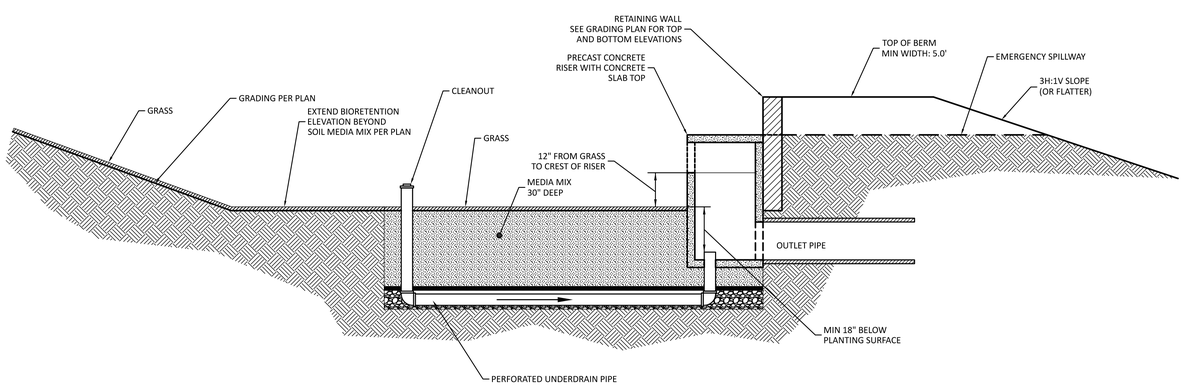
NOTE: PERMANENT SEEDING NOTED ABOVE IS ONLY FOR AREAS NOT COVERED WITH SOD

CONSTRUCTION DESIGN DATA

DESIGN PARAMETER	DESIGN VALUE	AS-BUILT VALUE
TOP OF DAM ELEVATION	346.5	XXX
SEDIMENT CLEANOUT ELEV.	N/A	XXX
BOTTOM OF POND ELEVATION	343.5	XXX
RISER CREST ELEV.	344.5	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.	345.25	XXX
ENERGENCY SPILLWAY LENGTH	20 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	1603 SF	XXX
WQ RAINFALL VOLUME	1297 CF	XXX
ELEV. AT WQ VOLUME	344.1	XXX
Q(1) DISCHARGE	0.1 CFS	XXX
Q(1) ELEV.	344.3	XXX
Q(2) DISCHARGE	0.1 CFS	XXX
Q(2) ELEV.	344.5	XXX
Q(10) DISCHARGE	0.1 CFS	XXX
Q(10) ELEV.	345.2	XXX
Q(100) DISCHARGE	4.6 CFS	XXX
Q(100) ELEV.	345.4	XXX
POND CONTOUR DATA		
ELEVATION	AREA	
343.5	1603 SF	XXX
344.0	2114 SF	XXX
345.0	3013 SF	XXX
346.0	3825 SF	XXX
346.5	4000 SF	XXX

SCM DESIGN DATA

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



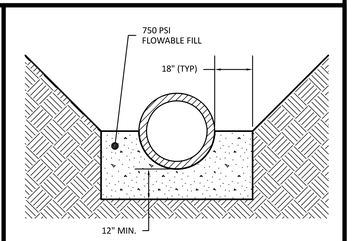
BIORETENTION AREA - TYPICAL CROSS SECTION

NOT TO SCALE

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



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 SBEFORE USING ANY VIBRATING EQUIPMENT IN THE VECINITY 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 ENGINER'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
4030 WAKE FOREST ROAD, SUITE 100
RALEIGH, NC 27609
919-621-4648

REVISIONS

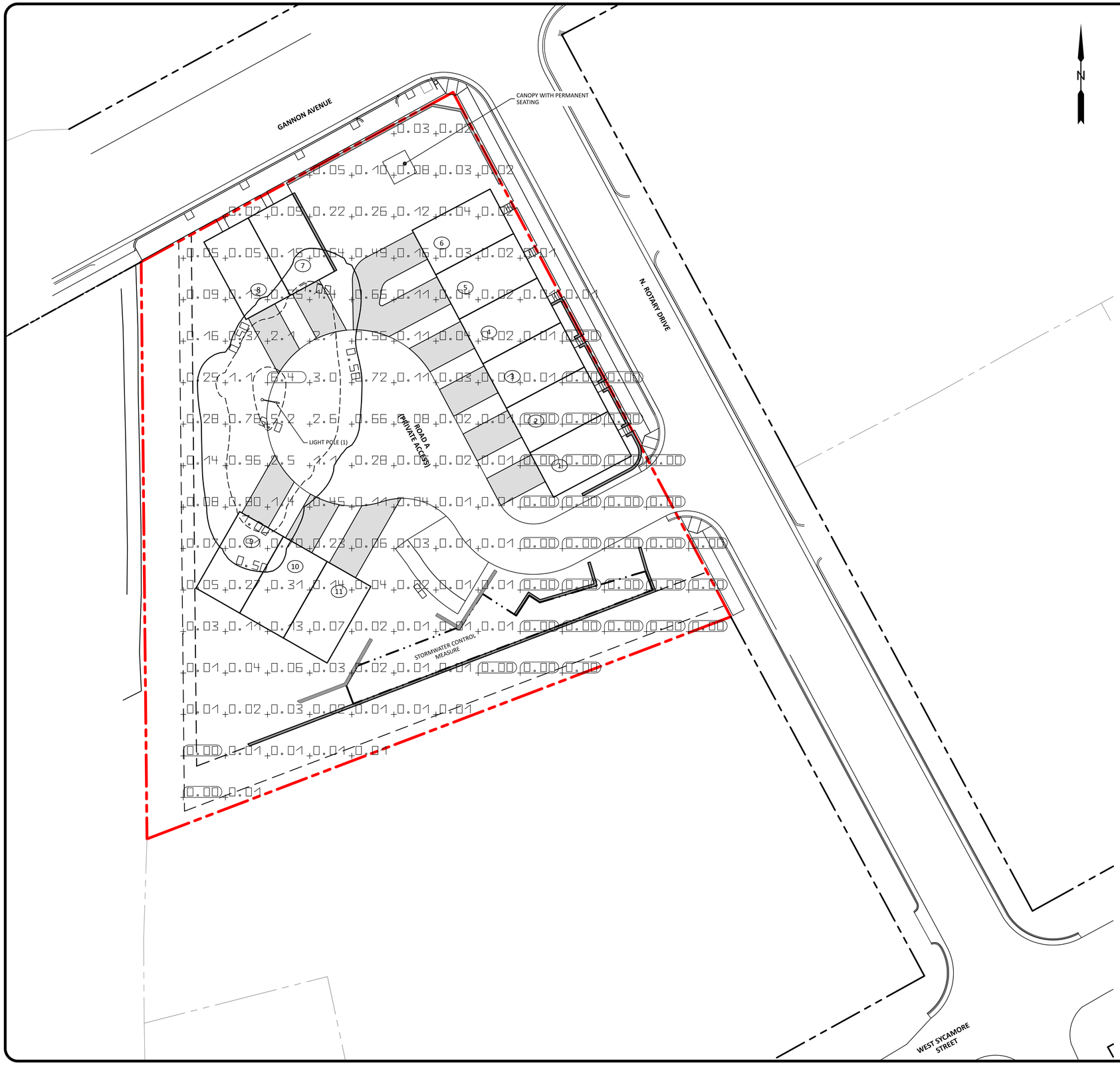
1	2023-07-10	LAYOUT UPDATES AND REVISIONS PER TOWN COMMENTS
2	2023-09-14	LAYOUT UPDATES AND REVISIONS PER TOWN COMMENTS

401 GANNON AVENUE
SITE PLAN AND CONSTRUCTION DRAWINGS
ZEBULON, NC

SCM GRADING AND DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 042421 ENGINEER JONATHAN P. EAKINS
9/14/2023

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



LIGHTING SCHEDULE		
ID	MODEL	HEIGHT
1	AMERICAN ELECTRIC ATB2 SERIES LED 1000ma TYPE 2	20 FEET

LIGHTING DATA				
	AVG	MAX	MAX @ BOUNDARY	MAX @ R/W
LUMENS (fc)	0.26	5.4	0.15	0.04

NOTE

ALL LUMINARIES SHALL BE A FULL-CUTOFF TYPE FIXTURE MOUNTED AT 90 DEGREES

TOWN OF ZEBULON
PROJECT ID: 964220

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

20 0 10 20 40
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:
MERIDIAN PROPERTIES GROUP, LLC
4030 WAKE FOREST ROAD, SUITE 100
RALEIGH, NC 27609
919-621-4648

REVISIONS

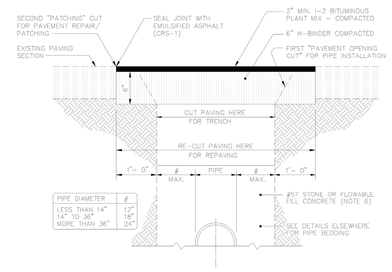
1	2023-07-10	LAYOUT UPDATES AND REVISIONS PER TOWN COMMENTS

401 GANNON AVENUE
SITE PLAN AND CONSTRUCTION DRAWINGS
ZEBULON, NC

LIGHTING PLAN

NORTH CAROLINA PROFESSIONAL SEAL 24092 ENGINEER JONATHAN P. P. EKKING
7/10/2023

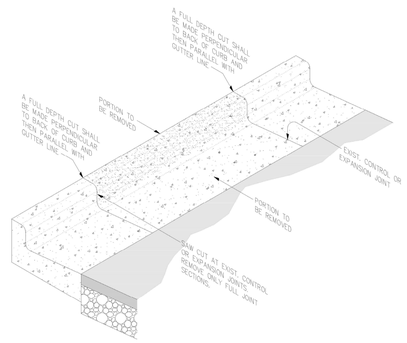
PROJECT NO: ---
DESIGN BY: JPE
DRAWN BY: JPE
SCALE: 1"=20'
DATE: 2023-03-01
SHEET NO: C9.1



SECTIONAL VIEW

NOTES:
1. PAVEMENT REPAIRS SHALL HAVE 6" COMPACTED H-BINDER AND 2" TOPPING OF SF9.5B.
2. TRENCH IS TO BE BACK FILLED IN 6" LIFTS AND COMPACTED TO 98% STANDARD DENSITY AS DETERMINED BY AASHTO TEST METHOD T-99 OR ASTM D-698 BEFORE PAVEMENT REPAIRS ARE MADE.
3. COMPACTION TEST MAY BE REQUIRED AT REQUEST OF INSPECTOR.
4. ALL EXISTING PAVED STREETS AND SECONDARY ROADS WHICH ARE OPEN CUT TO INSTALL SEWER OR WATER PIPE, MUST BE REPAIRED ACCORDING TO THIS DETAIL.
5. CABC BACKFILL IS NOT ALLOWED IN ANY PART OF TRENCH WITHIN PAVEMENT.
6. FIBER OPTIC & GAS: #57 STONE OR FLOWABLE FILL CONCRETE (MINIMUM 50 PSI) BUT MIN. 6" COMPACTED CLASS II OR III (DEFINITION IN SECTION 02210 – PARAGRAPH 3B OF SPECS) FILL OVER TOP OF FIBER OPTIC CABLE OR GAS PIPE.

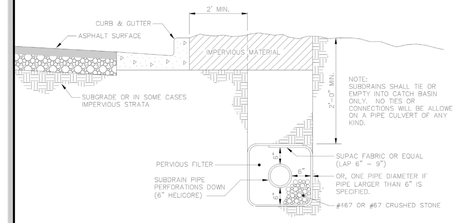
TOWN OF ZEBULON
FULL DEPTH ASPHALT REPAIR DETAIL FOR UTILITY CUTS
SCALE: NOT TO SCALE | DETAIL # 6
DATE: JULY 2010 | SHEET # 1 OF 1
USE WITH STANDARD SPECIFICATIONS ONLY



PERSPECTIVE

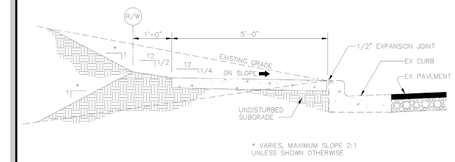
NOTES:
1. CAREFUL SHOULD BE EXERCISED WHEN MOVING CONCRETE CURB NOT TO DAMAGE EXISTING CURB TO REMAIN.
2. DAMAGE TO EXISTING CURB TO REMAIN WILL REQUIRE REMOVAL OF ENTIRE SECTION OF CURB.
3. SEE INSTALLATION REQUIREMENTS ON SHEET 2 OF 2.

TOWN OF ZEBULON
STREET CURB CUT FOR DRIVEWAYS ON C&G STREETS
SCALE: NOT TO SCALE | DETAIL # 8
DATE: JULY 2010 | SHEET # 1 OF 2
USE WITH STANDARD SPECIFICATIONS ONLY



SECTIONAL VIEW

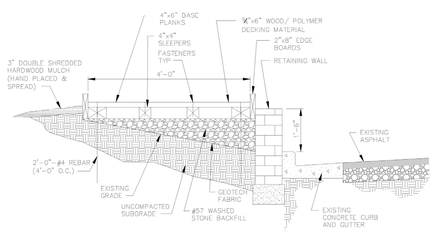
TOWN OF ZEBULON
STD. SUBDRAIN BEHIND CURB & GUTTER
SCALE: NOT TO SCALE | DETAIL # 11
DATE: JULY 2010 | SHEET # 1 OF 1
USE WITH STANDARD SPECIFICATIONS ONLY



SECTIONAL VIEW

1. PROVIDE 3/4" DEEP TOOLED SCORE AT 5'-0" O.C.
2. EXPANSION JOINTS TO BE PLACED 30'-0" O.C. LONGITUDINALLY, ADJACENT TO CURBS, AND WHEN BUTTING EXISTING STRUCTURES, CONCRETE, OR BUILDINGS.
3. CONCRETE TO BE 3000 P.S.I. AT 28 DAYS, AIR-ENTRAINED.
4. SUBGRADE SHOULD NOT CONTAIN ORGANIC MATTER OR PLASTIC CLAYS. WHEN FOUND, REFER TO SPECS OR CONTACT ENGINEER FOR DIRECTIONS.
5. AREAS OF FILL ARE TO BE COMPACTED TO 95% STANDARD PROCTOR USING NCDOT CLASS III BORROW OR BETTER. REMOVE TOPSOIL BEFORE PLACING BORROW.
6. SIDEWALK TRANSVERSE SLOPE MAY INCREASE TO 1/2 IN 12 WITH TOWN'S ENGINEER APPROVAL.

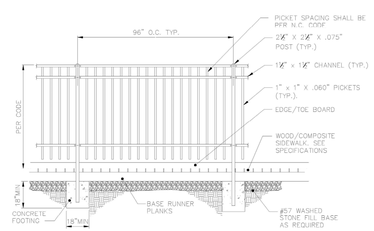
TOWN OF ZEBULON
TYP SIDEWALK in CUT or FILL SECTIONS
SCALE: NOT TO SCALE | DETAIL # 12
DATE: JULY 2010 | SHEET # 1 OF 1
USE WITH STANDARD SPECIFICATIONS ONLY



SECTIONAL VIEW

NOTES:
1. CLEAR VEGETATION, ORGANIC MATERIAL AND OTHER OBSTRUCTIONS FROM SIDEWALK SUBGRADE.
   A. RAKE CLEAN & SMOOTH
   B. DO NOT GRUB
   C. DO NOT COMPACT SIDEWALK SUBGRADE
2. EXCAVATE ONLY AS NECESSARY TO INSTALL WOOD SIDEWALK STRUCTURE & GEOTEXTILE FABRIC TO PLANNED GRADE. PLACE FABRIC ON SUBGRADE (FULL WIDTH) & UP TO TOP OF WALL.
3. USE GRAVEL FILL TO LEVEL THE BASE MEMBERS. COMPACT #57 STONE FILL TO 95% STANDARD PROCTOR DENSITY (ASTM D 698).
4. FINISH GRADES OF WOOD WALK AND CONCRETE SIDEWALK SHALL BE A SMOOTH TRANSITION. INSTALL 4"x6" END PLANK AT EDGE OF CONCRETE SIDEWALK.
5. WOOD WALK HORIZONTAL AND VERTICAL ALIGNMENT TO MEET ADA ACCESSIBILITY REQUIREMENTS (MAX.VERTICAL GRADE OF 5% AND MAX CROSS SLOPE OF 2%). END RAMPS 8% MAXIMUM.

TOWN OF ZEBULON
WOOD SIDEWALK SECTION
SCALE: NOT TO SCALE | DETAIL # 18
DATE: JULY 2010 | SHEET # 1 OF 1
USE WITH STANDARD SPECIFICATIONS ONLY



SIDE ELEVATIONAL VIEW

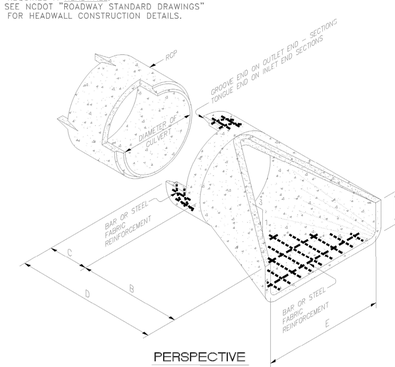
NOTES:
1. ALUMINUM RAILING TO BE ASTM MANUFACTURERS INDUSTRIAL GRADE, FABRICATED AND INSTALLED PER MANUFACTURER'S STANDARDS AND SPECIFICATIONS TO N.C. STATE CODE. NC DESIGN CODE RATING FOR HANDRAILS SHALL BE USED FOR DESIGN PARAMETERS. REFER TO NC BUILDING CODE.
2. ALL ALUMINUM RAILING SHALL HAVE AN ELECTROSTATICALLY APPLIED BAKED ON FLEXIBLE ACRYLIC BLACK FINISH THAT MEETS OR EXCEEDS INDUSTRY STANDARD TESTS (ASTM).
3. CONTRACTOR SHALL SUBMIT STAMPED SHOP DRAWINGS FROM A NC REGISTERED ENGINEER AND SAMPLES OF ALUMINUM RAILING PRIOR TO OWNER'S APPROVAL. DESIGN MUST MEET ALL LOCAL AND STATE CODES HAVING JURSIDICTION.
4. CONTRACTOR SHALL SETUP A SAMPLE SECTION OF ALUMINUM RAILING (ONE RAIL PANEL LENGTH, MINIMUM) FOR OWNER'S APPROVAL, PRIOR TO RAILING INSTALLATION.

TOWN OF ZEBULON
ALUMINUM RAILING DETAIL
SCALE: NOT TO SCALE | DETAIL # 19
DATE: JULY 2010 | SHEET # 1 OF 1
USE WITH STANDARD SPECIFICATIONS ONLY

END SECTION DIMENSIONS

DIA.	A	B	C	D	E
15"	7"	2'-3 1/4"	3'-11 1/2"	6'-2 3/4"	2'-6"
18"	9"	2'-3"	3'-11 3/4"	6'-2 3/4"	3'-0"
24"	9"	3'-7"	3'-1"	6'-8"	3'-11 3/4"
30"	1'-0"	4'-6 1/2"	1'-10 1/2"	6'-5"	5'-0"
36"	1'-4"	5'-0"	3'-1 1/2"	8'-1 1/2"	5'-11"
42"	1'-10 1/4"	5'-1 3/8"	3'-1"	8'-2 3/8"	6'-5 1/4"

NOTES:
1. DESIGN OF END-SECTION SHALL CONFORM TO STANDARD REINFORCED SECTIONAL CONCRETE CULVERT PIPE.
2. ANY TWIN BARREL SYSTEM GREATER THAN 42" RCP REQUIRES A HEADWALL.
3. ANY SYSTEM OF MORE THAN 2 PIPES REQUIRES A HEADWALL.
4. SEE NCDOT "ROADWAY STANDARD DRAWINGS" FOR HEADWALL CONSTRUCTION DETAILS.



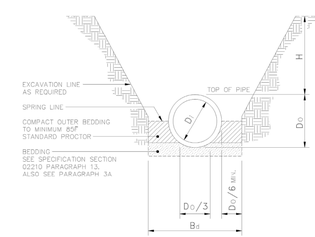
PERSPECTIVE

TOWN OF ZEBULON
STD. FLARED END SECTIONS DESIGN AID DETAIL
SCALE: NOT TO SCALE | DETAIL # 35
DATE: JULY 2010 | SHEET # 1 OF 1
USE WITH STANDARD SPECIFICATIONS ONLY

D_i = INSIDE DIAMETER OF PIPE
D_o = OUTSIDE DIAMETER OF PIPE
B_d = TRENCH WIDTH
H = BACKFILL COVER ABOVE TOP OF PIPE

PIPE D_i	MAX. B_d	MAX. BURY H CLASS III (0.01 CRACK)	MAX. BURY H CLASS IV (0.01 CRACK)
15"	4'	9.5'	14.5'
18"	4'	9.5'	15.0'
24"	4'	12.0'	23.5'
30"	5.5'	10.0'	17.0'
36"	6'	10.5'	18.0'
42"	6.5'	13.0'	19.0'
48"	7'	13.5'	20.0'
54"	8'	13.0'	18.5'
60"	9'	11.0'	18.0'
72"	10'	13.0'	19.0'

THIS TABLE ASSUMES TYPE 4 INSTALLATION & NO STONE BEDDING



SECTIONAL VIEW

NOTES:
1. FOR OTHER BURY DEPTHS THAN SHOWN (H), NORTH CAROLINA PE TO PROVIDE CALCS ON PIPE BURY THAT EXCEED THOSE GIVEN IN THIS CHART FOR THE CONDITIONS IN WHICH IT IS PROPOSED TO BE USED.
2. THIS TABLE OF BURY DEPTHS (H) APPLIES EQUALLY TO A CLASS C STONE BEDDING, TYPE 4 LAYING CONDITIONS.
3. MINIMUM COVER NOT SHOWN BUT NO LESS THAN 12" W/O ENGINEERS APPROVAL UP TO 48" PIPE.

TOWN OF ZEBULON
STD. TRENCH INSTALLATION FOR CONCRETE PIPE (FOR CONTRACTOR'S USE)
SCALE: NOT TO SCALE | DETAIL # 36
DATE: JULY 2010 | SHEET # 1 OF 5
USE WITH STANDARD SPECIFICATIONS ONLY

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
4030 WAKE FOREST ROAD, SUITE 100
RALEIGH, NC 27609
919-621-4648

REVISIONS

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

401 GANNON AVENUE
SITE PLAN AND CONSTRUCTION DRAWINGS
ZEBULON, NC

TOWN OF ZEBULON DETAILS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 040642 JEFFREY P. EKLUND
7/10/2023

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

	Representative Soil Types		Percent Compaction	
SIDD Soil	USCS.	AASHTO	Standard Proctor	Modified Proctor
Gravelly Sand (Category I)	SW, SP, GW, GP	A1,A3	100 95 90 85 80 61	95 90 85 80 75 59
Sandy Silt (Category II)	GM, SM, ML Also GC, SC with less than 20% passing #200 sieve	A2,A4	100 95 90 85 80 49	95 90 85 80 75 46
Silty Clay (Category III)	CL, MH GC, SC	A5,A6	100 95 90 85 80 45	90 85 80 75 70 40
	CH		100 95 90 45	90 85 80 40

TOWN OF ZEBULON

STD. TRENCH INSTALLATION (TRENCH CONDITION SHOWN)

USE WITH STANDARD SPECIFICATIONS ONLY

SCALE: NOT TO SCALE | DETAIL # 36 | DATE: JULY 2010 | SHEET # 3 OF 5

Table 2 Standard EMBANKMENT Installation Soils and Minimum Compaction Requirements

Installation Type [4]	Bedding Thickness	Haunch and Outer Bedding	Lower Side
Type 1	$D_o/24$ minimum, not less than 75 mm (3"). If rock foundation,use $D_o/12$ minimum, not less than 150 mm (6").	98% Category I	90% Category I, 95% Category II, or 100% Category III
Type 2	$D_o/24$ minimum, not les than 75 mm (3"). If rock foundation, use $D_o/12$ minimum,not less than 150 mm (6").	90% Category I or 95% Categiry II	85% Category I, 90% Category II, or 95% Category III
Type 3	$D_o/24$ minimum, not less than 75 mm (3"). If rock foundation, use $D_o/12$ minimum, not less than 150 mm (6").	85% Category I, 90% Category II, or 95% Category III	85% Category I, 90% Category II, or 95% Category III
Type 4	$D_o/24$ minimum, not less than 75 mm (3"). If rock foundation, use $D_o/12$ minimum, not less than 150 mm (6").	No compaction required, except if Category III, use 85% Category III	No compaction required, except if Category III, use 85% Category III

Notes:

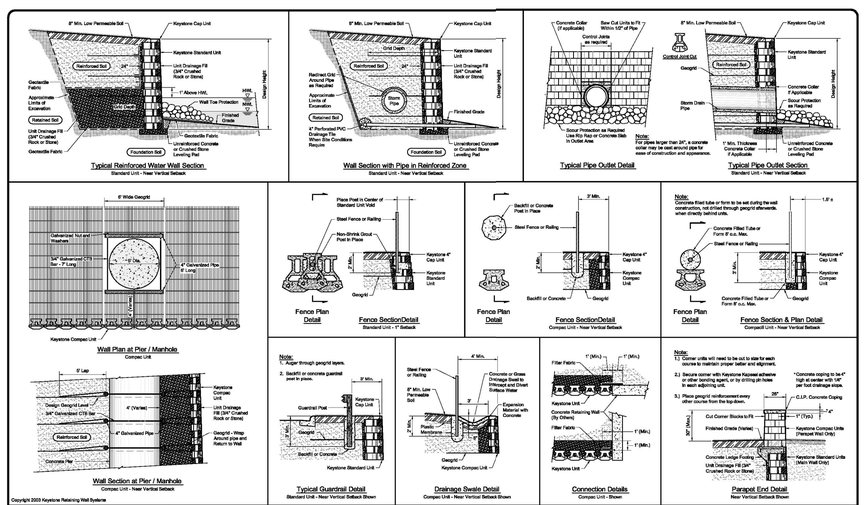
1. Compaction and soils symbols – i.e. "98% Category I" refers to Category 1 soil material with a minimum standard Proctor compaction of 98%. See Table 1 for equivalent modified Proctor values.
2. Soil in the outer bedding, haunch, and lower side zones, except within D0/3 from the pipe springline, shall 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 D_o 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)

USE WITH STANDARD SPECIFICATIONS ONLY

SCALE: NOT TO SCALE | DETAIL # 36 | DATE: JULY 2010 | SHEET # 4 OF 5



Copyright 2009 Keystone Retaining Wall Systems

Design is for internal stability of the KEYSTONE wall structure only. External stability, including but not limited to foundation and slope stability is the responsibility of the Owner. The design is based on the assumptions that the site soil/foundation materials have adequate bearing capacity and quality of materials conform to KEYSTONE's specification for this project.

This drawing is being furnished for this specific project only. Any party accepting this document does so in confidence and agrees that it shall not be duplicated in whole or in part, nor disclosed to others without the consent of Keystone Retaining Wall Systems, Inc.

NO.	DATE	REVISION	BY

KEYSTONE RETAINING WALL SYSTEMS
4444 W 78th Street
Minneapolis, MN 55435
800-661-7366

Designed By: RKM | Checked By: CDM | Scale: No Scale

Title: Conceptual Details

Project: Keystone Retaining Wall Systems Typical Wall Details

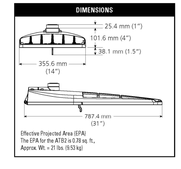
Date: | Project No: | Drawing No:

Autobahn Series ATB2
Roadway Lighting

PRODUCT OVERVIEW

Applications:
Roadways
Off ramps
Residential streets
Parking lots

DIMENSIONS



Effective Projected Area (EPA): The EPA for the ATB2 is 0.39 sq. ft.,
Approx. Wt. = 21 lbs (9.53kg)

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/QPL to confirm which versions are qualified.

Color temperatures of ≤ 3000K must be specified for International Dark-Sky Association certification.

Rated for -40°C to 40°C ambient.
CSA Certified to U.S. and Canadian standards
Complies with ANSI: C136.2, C136.10, C136.14, C136.31, C136.15, C136.37

Note: Specifications subject to change without notice.

Autobahn Series – AEL_0109_ATB2

Features:

OPTICAL

Same Light: Performance is comparable to 250-400W HPS roadway luminaires.

White Light: Correlated color temperature - 4000K, 70 CRI minimum, 3000K, 70CRI minimum or optional 5000K, 70 CRI minimum.

Unique IP66 rated LED light engines provided 0% uplight and restrict backlight to within sidewalk depth, providing optimal application coverage and optimal pole spacing.

Available in Type II, III, IV, & V roadway distributions.

ELECTRICAL

Expected Life: LED light engines are rated >100,000 hours at 25°C, L70. Electronic driver has an expected life of 100,000 hours at a 25°C ambient.

Lower Energy: Saves an average of 40-60% over comparable HPS platforms.

Robust Surge Protection: Three different surge protection options provide a minimum of ANSI C136.2 10kV/5kA protection. 20kV/10kA protection is also available.

MECHANICAL

Easy to Maintain: Includes standard AEL lineman-friendly features such as tool-less entry, 3 station terminal block and quick disconnects. Bubble level located inside the electrical compartment for easy leveling at installation.

Rugged die-cast aluminum housing is polyester powder-coated for durability and corrosion resistance. Rigorous five-stage pre-treating and painting process yields a finish that achieves a scribe creepage rating of 7 (per ASTM D1654) after over 5000 hours exposure to salt fog chamber (operated per ASTM B117).

Four-bolt mast arm mount is adjustable for arms from 1-1/4" to 2" (1-5/8" to 2-3/8" O.D.) diameter and provides a 36 vibration rating per ANSI C136.

Wildlife shield is cast into the housing (not a separate piece).

CONTROLS

NEMA 3 Pin photocontrol receptacle is standard, with the Acuity designed ANSI 7 Pin receptacle optionally available.

Premium solid state locking sale photocontrol - PCSS (10 year rated life). Extreme long life solid state locking style photocontrol - PCLL (20 year rated life).

Optional onboard Adjustable Output module allows the light output and input wattage to be modified to meet site specific requirements, and can also allow a single fixture to be flexibly applied in many different applications.

AEL American Electric Lighting
AEL Roadspanner, 3825 Colerdaine Road, Granville, OH 43023
AEL Roadspanner, Roadway Lighting
© 2018 2020 Acuity Brands Lighting, Inc. All Rights Reserved. ATB2 Rev. 03/06/20

Warranty Five-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/support/warranty-and-conditions
Actual performance may differ as a result of environmental and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

Please contact your sales representative for the latest product information.

Autobahn Series ATB2
Roadway Lighting

ORDERING INFORMATION

Example: ATB2 40LEDE30 MVOLT R2

Series	Performance Packages	Voltage	Optics
ATB2 Autobahn LED Roadway	40LEDE30 40B Chips, 700mA Driver 40LEDE10 40B Chips, 1050mA Driver 40LEDE13 40B Chips, 1300mA Driver 40LEDE15 40B Chips, 1500mA Driver 60LEDE30 60B Chips, 700mA Driver 60LEDE05 60B Chips, 850mA Driver 60LEDE10 60B Chips, 1050mA Driver 60LEDE13 60B Chips, 1300mA Driver 60LEDE15 60B Chips, 1500mA Driver 80LEDE30 80B Chips, 700mA Driver 80LEDE05 80B Chips, 850mA Driver 80LEDE10 80B Chips, 1050mA Driver 80LEDE12 80B Chips, 1200mA Driver 80LEDE15 80B Chips, 1500mA 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

Options

Color Temperature (CCT)
(Blank) 4000K CCT, 70 CRI Min.
3K 3000K CCT, 70 CRI Min.
5K 5000K CCT, 70 CRI Min.

Paint
(Blank) Gray (Standard)
BK Black
BZ Bronze
DDB Dark Bronze
GI Graphite
WH White

Surge Protection
(Blank) Standard 10kV/5kA SPD
20 20kV/10KA SPD
MP MOV Pack
IL[1] SPD with Indicator Light

Terminal Block
(Blank) Terminal Block (Standard)
T2 Wired to L1 & L2 Positions

Misc.
BL External Bubble Level
HS House-Side Shield
NL Nema Label
XL Not CSA Certified
HK Hingekeepers

Misc. (continued)
UMR-XX 8" Horizontal Arm for Round Pole, Painted to match Fixture
UMS-XX 8" Horizontal Arm for Square Pole, Painted to match Fixture
UMR-GALV 8" Horizontal Arm for Round Pole, Galvanized
UMS-GALV 8" Horizontal Arm for Square Pole, Galvanized

Controls
(Blank) 3 Pin NEMA Photocontrol Receptacle (Standard)
P7[1] 7 Pin Photocontrol Receptacle (Dimmable Driver Included)
NR No Photocontrol Receptacle
AO[1] Field Adjustable Output
DM 0V-10V Dimmable Driver (Controls by others)
PCSS[1] Solid State Lighting Photocontrol (120-277V)
PCLL Solid State Long Life Photocontrol
SH Shorting Cap

Packaging
(Blank) Single Unit (Standard)
JP Job Pack (24/Pallet)

Accessories (field installed):
ATB2HS40 Light Trespass Shield LEM 40 House Side
ATB2SS40 Light Trespass Shield LEM 40 Street Side
ATB2HS60 Light Trespass Shield LEM 60 House Side
ATB2SS60 Light Trespass Shield LEM 60 Street Side
ATB2HS80 Light Trespass Shield LEM 80 House Side
ATB2SS80 Light Trespass Shield LEM 80 Street Side

Notes
1. Not available in 347 or 480V.
2. Not available with DM option.

AEL American Electric Lighting
AEL Roadspanner, 3825 Colerdaine Road, Granville, OH 43023
AEL Roadspanner, Roadway Lighting
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Warranty Five-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/support/warranty-and-conditions
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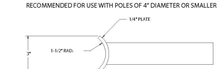
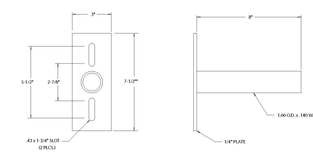
Autobahn Series ATB2
Roadway Lighting

UMR POLE ADAPTOR
RECOMMENDED FOR USE WITH POLES OF 4" DIAMETER OR SMALLER





UMS POLE ADAPTOR

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
4030 WAKE FOREST ROAD, SUITE 100
RALEIGH, NC 27609
919-621-4648

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
TOWN OF ZEBULON & SITE DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 049242 ENGINEER JONATHAN P. EKKING
9/14/2023

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**.

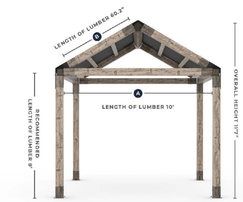


figure 1

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

CANOPY/SUN SHADE CUT SHEET

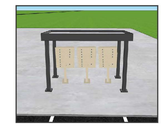
CANOPY/SUN SHADE NOTE

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 mechinical 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

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

For more information about these pieces, call (800) 233-3907

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

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.

For more information about these pieces, call (800) 233-3907

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:
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4030 WAKE FOREST ROAD, SUITE 100
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REVISIONS:

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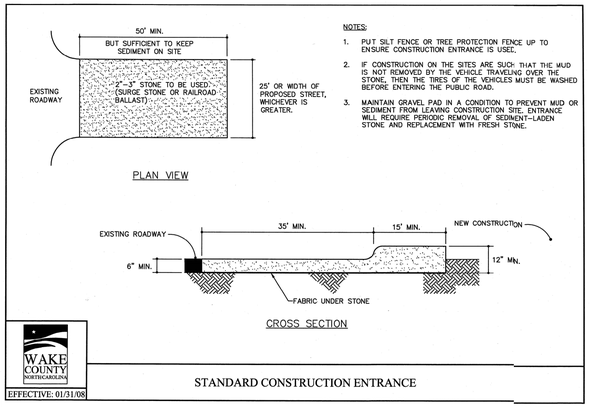
2	2023-09-14	LAYOUT UPDATES AND REVISIONS PER TOWN COMMENTS

401 GANNON AVENUE
SITE PLAN AND CONSTRUCTION DRAWINGS
ZEBULON, NC

SITE DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 045482 ENGINEER JONATHAN P. EATKINS
9/14/2023

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



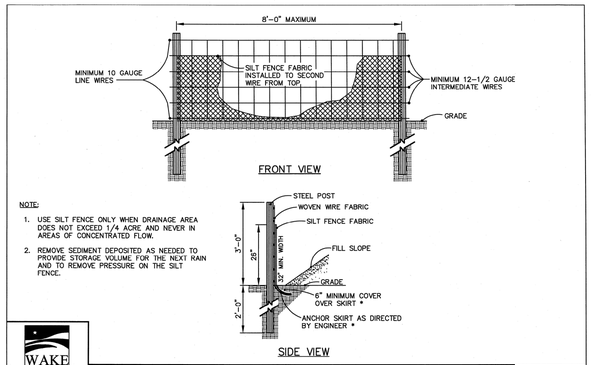
NOTES:

1. PUT SILT FENCE OR TREE PROTECTION FENCE UP TO ENSURE CONSTRUCTION ENTRANCE IS USEC.
2. IF CONSTRUCTION ON THE SITES ARE SUCH THAT THE MUD IS NOT REMOVED BY THE VEHICLE TRAVELING OVER THE STONE, THEN THE TIRES OF THE VEHICLES MUST BE WASHED BEFORE ENTERING THE PUBLIC ROAD.
3. MAINTAIN GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING CONSTRUCTION SITE. ENTRANCE WILL REQUIRE PERIODIC REMOVAL OF SEDIMENT-LADEN STONE AND REPLACEMENT WITH FRESH STONE.

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD CONSTRUCTION ENTRANCE



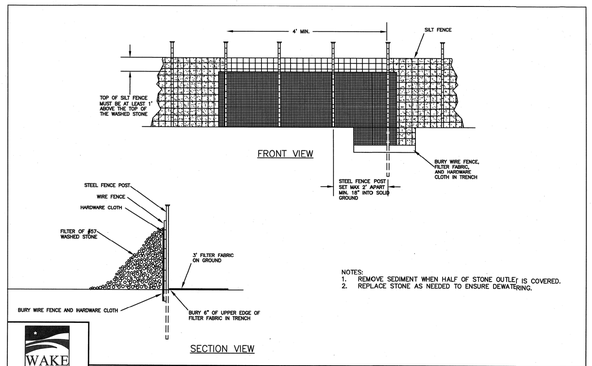
NOTE:

1. USE SILT FENCE ONLY WHEN DRAINAGE AREA DOES NOT EXCEED 1/4 ACRE AND NEVER IN AREAS OF CONCENTRATED FLOW.
2. REMOVE SEDIMENT DEPOSITED AS NEEDED TO PROVIDE STORAGE VOLUME FOR THE NEXT RAIN AND TO REMOVE PRESSURE ON THE SILT FENCE.

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD TEMPORARY SILT FENCE



NOTES:

1. REMOVE SEDIMENT WHEN HALF OF STONE OUTLET IS COVERED.
2. REPLACE STONE AS NEEDED TO ENSURE DEWATERING.

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD SILT FENCE OUTLET

NPDES Stormwater Discharge Permit for Construction Activities (NCGO1)
NCDENR/Division of Water Quality
NEW STABILIZATION TIMEFRAMES
(Effective Aug. 3, 2011)

SITE AREA DESCRIPTION	STABILIZATION TIMEFRAME EXCEPTIONS	
Perimeter dikes, swales, ditches, slopes	7 days	None
High Quality Water (HQW) Zones	7 days	None
Slopes steeper than 3:1	7 days	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed.
Slopes 3:1 or flatter	14 days	7 days for slopes greater than 50' in length.
All other areas with slopes flatter than 4:1	14 days	None, except for perimeters and HQW Zones.

Seedbed Preparation:

1. Chisel compacted areas and spread topsoil three inches deep over adverse soil conditions, if available.
2. Rip the entire area to six inches deep.
3. Remove all loose rock, roots and other obstructions, leaving surface reasonably smooth and uniform.
4. Apply agricultural lime, fertilizer and superphosphate uniformly and mix with soil (see mixture below).
5. Continue tillage until a well-pulverized, firm, reasonably uniform seedbed is prepared four to six inches deep.
6. Seed on a freshly prepared seedbed and cover seed lightly with seeding equipment or cultipack after seeding.
7. Mulch immediately after seeding and anchor mulch.
8. Inspect all seeded areas and make necessary repairs or reseedings within the planting season. If possible, if stand should be more than 60% damaged, re-establish following the original lime, fertilizer and seeding rates.
9. Consult S&EC Environmental Engineers on maintenance treatment and fertilization after permanent cover is established.

Mixture

Agricultural Limestone	2 tons/acre (3 tons/acre in clay soils)
Fertilizer	1,000 lbs/acre – 10-10-10
Superphosphate	500 lbs/acre – 20% analysis
Mulch	2 tons/acre – small grain straw
Anchor	Asphalt emulsion at 300 gals/acre

Seding Schedule

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

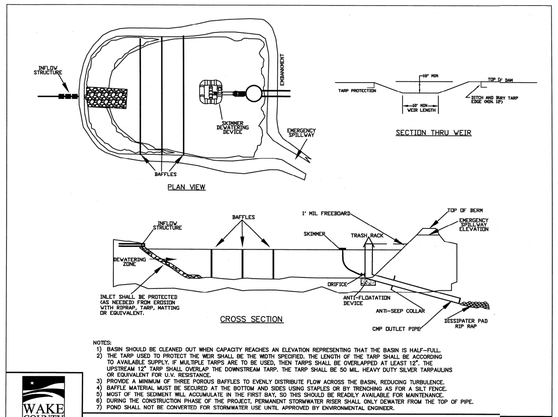
Date	Type	Planting Rate
Aug 15–Nov 1	Tall Fescue	300 lbs/acre
Nov 1–Mar 1	Tall Fescue & Abruzzi Rye	300 lbs/acre
Mar 1–Apr 15	Tall Fescue	300 lbs/acre
Apr 15–Jun 30	Hulled Common Bermudagrass	25 lbs/acre
Jul 1–Aug 15	Tall Fescue AND Browntop Millet or Sorghum-Sudan Hybrids***	125 lbs/acre (Tall Fescue);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

For Shoulders, Side Ditches, Slopes (3:1 to 2:1):

Date	Type	Planting Rate
Mar 1–Jun 1	Sericea Lespedeza (scarified) and use the following combinations:	50 lbs/acre (Sericea Lespedeza);
Mar 1–Apr 15	Add Tall Fescue	120 lbs/acre
Mar 1–Jun 30	Or add Weeping Love grass	10 lbs/acre
Mar 1–Jun 30	Or add Hulled Common Bermudagrass	25 lbs/acre
Jun 1–Sept 1	Tall Fescue AND Browntop Mullet or Sorghum-Sudan Hybrids***	120 lbs/acre (Tall Fescue); 35 lbs/acre (Browntop Mullet); 30 lbs/acre (Sorghum-Sudan Hybrids)
Sept 1–Mar 1	Sericea Lespedeza (unhulled – unscarified) AND Tall Fescue	70 lbs/acre (Sericea Lespedeza); 120 lbs/acre (Tall Fescue)
Nov 1–Mar 1	AND Abruzzi Rye	25 lbs/acre

Consult S&EC Environmental Engineers for additional information concerning other alternatives for vegetation of denuded areas. The above vegetation rates are those that do well under local conditions; other seeding rate combinations are possible.

*** **TEMPORARY**: Reseed according to optimum season for desired permanent vegetation. Do not allow temporary cover to grow more than 12" in height before mowing; otherwise, fescue may be shaded out.

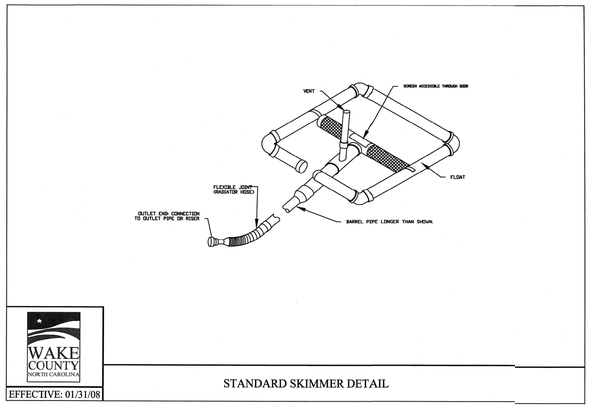


NOTES:
1) BASIN SHOULD BE CLEANED OUT WHEN CAPACITY REACHES AN ELEVATION REPRESENTING THAT THE BASIN IS HALF-FULL.
2) THE TARP USED TO PROTECT THE WEIR SHALL BE THE WIDTH SPECIFIED. THE LENGTH OF THE TARP SHALL BE ACCORDING TO AVAILABLE SUPPLY. IF MULTIPLE TARPS ARE TO BE USED, THEN TARPS SHALL BE OVERLAPPED AT LEAST 12". THE UPSTREAM 12" TARP SHALL OVERLAP THE DOWNSTREAM TARP. THE TARP SHALL BE 50 MIL. HEAVY DUTY SILVER TARPAULINS OR EQUIVALENT FOR U.V. RESISTANCE.
3) PROVIDE A MINIMUM OF THREE FOROUS BAFFLES TO EVENLY DISTRIBUTE FLOW ACROSS THE BASIN, REDUCING TURBULENCE.
4) BAFFLE MATERIAL SHOULD BE SECURED AT THE BOTTOM AND SIDES USING STAPLES OR BY TRENCHING AS FOR SILT FENCE.
5) MOST OF THE SEDIMENT WILL ACCUMULATE IN THE 1ST BAY, SO THIS SHOULD BE READILY ACCESSIBLE FOR MAINTENANCE.
6) DURING THE CONSTRUCTION PHASE OF THE PROJECT, PERMANENT STORMWATER RISER SHALL ONLY DEWATER FROM THE TOP OF PIPE.
7) POND SHALL NOT BE CONVERTED FOR STORMWATER USE UNTIL APPROVED BY ENVIRONMENTAL ENGINEER.

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

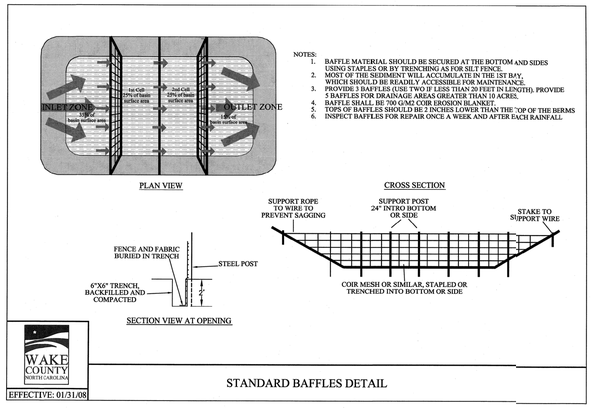
STANDARD SKIMMER ATTACHED TO PERMANENT RISER



WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD SKIMMER DETAIL



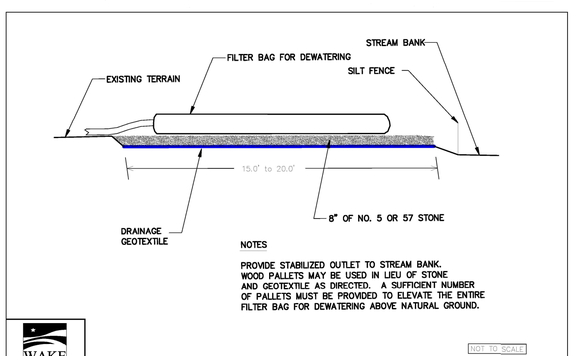
NOTES:

1. BAFFLE MATERIAL SHOULD BE SECURED AT THE BOTTOM AND SIDES USING STAPLES OR BY TRENCHING AS FOR SILT FENCE.
2. MOST OF THE SEDIMENT WILL ACCUMULATE IN THE 1ST BAY, SO THIS SHOULD BE READILY ACCESSIBLE FOR MAINTENANCE.
3. PROVIDE A MINIMUM OF THREE FOROUS BAFFLES (50 FEET IN LENGTH). PROVIDE 5 BAFFLES FOR DRAINAGE AREAS GREATER THAN 5 ACRES.
4. BAFFLE SHALL BE 700-G/M2 COIR EROSION BLANKET.
5. TOPS OF BAFFLES SHOULD BE 3 INCHES LOWER THAN THE TOP OF THE BERMS
6. INSPECT BAFFLES FOR REPAIR ONCE A WEEK, AND AFTER EACH RAINFALL.

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD BAFFLES DETAIL



NOTES

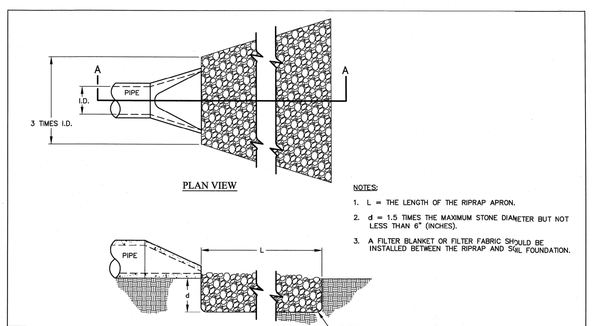
PROVIDE STABILIZED OUTLET TO STREAM BANK. WOOD PALLETS MAY BE USED IN LIEU OF STONE AND GEOTEXTILE AS DIRECTED. A SUFFICIENT NUMBER OF PALLETS MUST BE PROVIDED TO ELEVATE THE ENTIRE FILTER BAG FOR DEWATERING ABOVE NATURAL GROUND.

NOT TO SCALE

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD FILTER BAG FOR DEWATERING ACTIVITIES



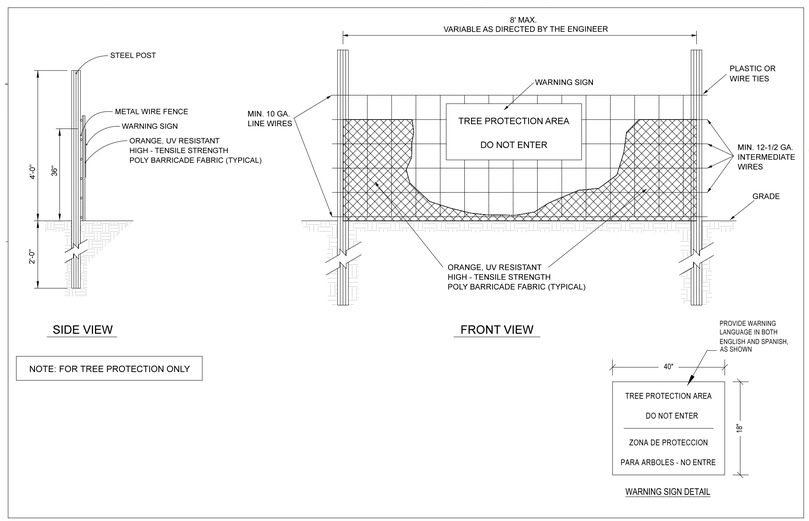
NOTES:

1. L = THE LENGTH OF THE RIPRAP APRON.
2. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6" (INCHES).
3. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND SOIL FOUNDATION.

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

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

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 ROAD, SUITE 100
RALEIGH, NC 27609
919-621-4648

REVISIONS

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

401 GANNON AVENUE
SITE PLAN AND CONSTRUCTION DRAWINGS
ZEBULON, NC

EROSION CONTROL DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 042 ENGINEER JONATHAN P. EKING
7/10/2023

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
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

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

GROUND STABILIZATION SPECIFICATION

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

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

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

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

EQUIPMENT AND VEHICLE MAINTENANCE

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

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

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

PAINT AND OTHER LIQUID WASTE

1. Do not dump paint and other 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.

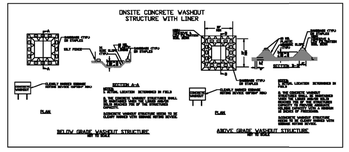
PORTABLE TOILETS

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 coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.

NORTH CAROLINA *Environmental Quality*



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 un-attended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 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 ≥ 1.0 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 ≥ 1.0 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 ≥ 1.0 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 drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). 2. Documentation that the required ground stabilization measures have been provided within the required 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).

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

(b) Anticipated bypasses and unanticipated bypasses.

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

NORTH CAROLINA *Environmental Quality*

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

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 ROAD, SUITE 100
RALEIGH, NC 27609
919-621-4648

REVISIONS

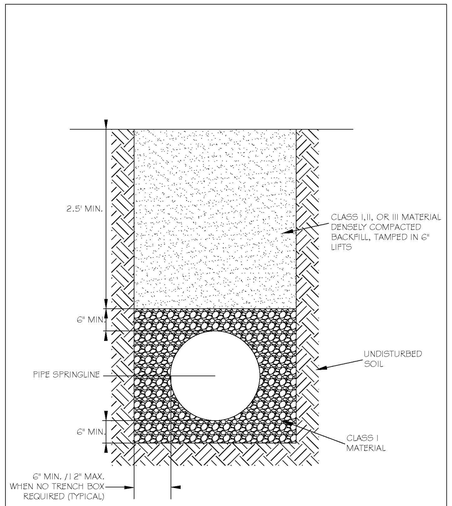
1	2023-07-10	LAYOUT UPDATES AND REVISIONS PER TOWN COMMENTS
2	2023-09-14	LAYOUT UPDATES AND REVISIONS PER TOWN COMMENTS

401 GANNON AVENUE
SITE PLAN AND CONSTRUCTION DRAWINGS
ZEBULON, NC

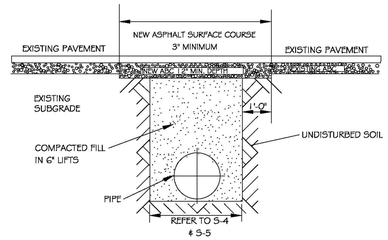
EROSION CONTROL DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 045242 ENGINEER JONATHAN P. EAKINS
9/14/2023

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

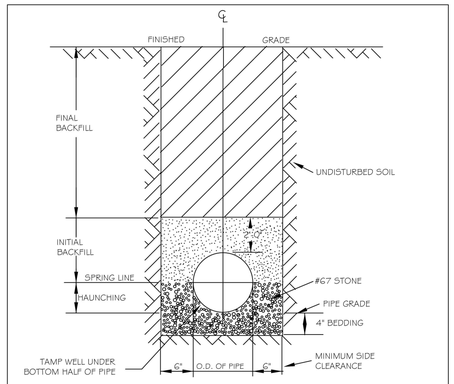


CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
STANDARD BEDDING DETAILS FOR CCFRPM PIPES				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-1	J.P.S.	10-8-10		



NOTES:
1. IN NCDOT MAINTAINED ROADWAYS ENCROACHMENT PAVEMENT PATCH REQUIREMENTS SHALL TAKE PRECEDENCE.
2. THE PAVEMENT CUT SHALL BE DEFINED BY A STRAIGHT EDGE AND CUT WITH AN APPROPRIATE SAWCUT MACHINE.
3. THE TRENCH SUBGRADE MATERIAL SHALL BE BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED TO A DENSITY OF AT LEAST 95% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY NCDOT.
4. THE FINAL 1' OF FILL SHALL CONSIST OF ABC MATERIAL COMPACTED TO A DENSITY EQUAL TO 100% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-80 AS MODIFIED BY NCDOT.
5. THE ENTIRE THICKNESS AND VERTICAL EDGE OF CUT SHALL BE TACKED.
6. THE SAME DEPTH OF PAVEMENT MATERIAL WHICH EXISTS SHALL BE REINSTALLED, BUT IN NO CASE SHALL THE ASPHALT BE LESS THAN 3" THICK.
7. THE ASPHALT PAVEMENT MATERIAL SHALL BE INSTALLED AND COMPACTED THOROUGHLY WITH A SMOOTH DRUM ROLLER TO ACHIEVE A SMOOTH LEVEL PATCH.
8. REFER TO CITY OF RALEIGH STANDARDS FOR TRENCHES AND PIPE BEDDING (S-4 & S-5) FOR ADDITIONAL DETAILS.
9. NO HAND PATCHING ALLOWED.
10. PAVEMENT CUTS WITHIN NCDOT ROW SHALL CONFORM TO THE APPROVED ON SITE ENCROACHMENT PERMIT.

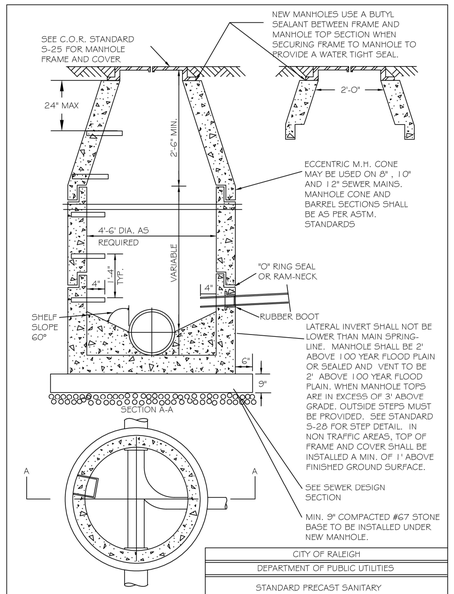
CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
STANDARD ASPHALT PAVEMENT PATCH DETAIL				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-3	D.W.C.	11-1-99	A.B.B.	4-19-04
	RRH	3-30-00	J.P.S.	10-8-10



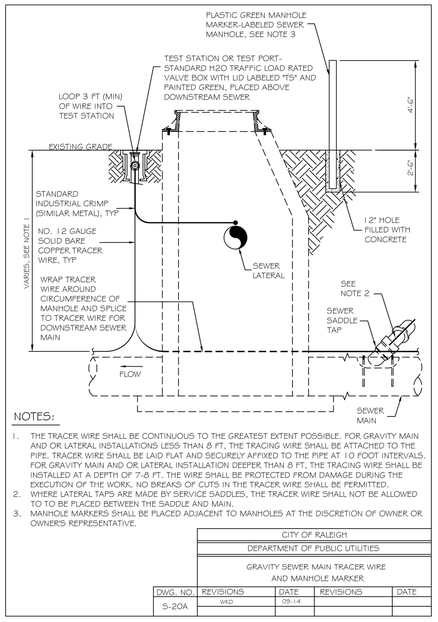
TYPICAL TRENCH BOTTOM DIMENSIONS FOR SDR 35 PVC GRAVITY PIPE

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

CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
TRENCH BOTTOM DIMENSIONS AND BACKFILLING REQUIREMENTS FOR PVC GRAVITY SEWER MAIN				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-5	TO NOTES	3-1-87	D.W.C.	9-3-99
		7-2-82	RRH	3-30-00

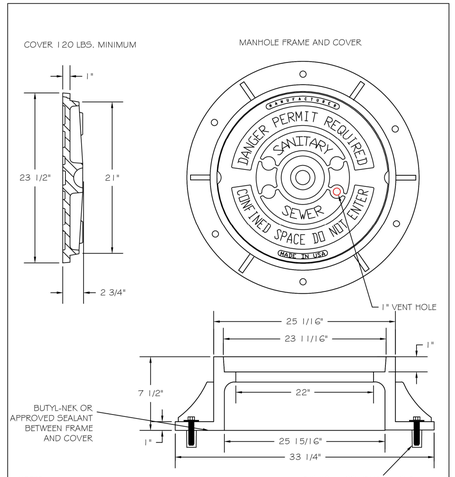


CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
STANDARD PRECAST SANITARY SEWER MANHOLE				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-20	Y.C.A.	12-31-92	ABB	2-21-05
	RRH	3-30-00	D.H.L.	6-16-08



NOTES:
1. THE TRACER WIRE SHALL BE CONTINUOUS TO THE GREATEST EXTENT POSSIBLE. FOR GRAVITY MAIN AND OR LATERAL INSTALLATIONS LESS THAN 8 FT, THE TRACING WIRE SHALL BE ATTACHED TO THE PIPE. TRACER WIRE SHALL BE LAID FLAT AND SECURELY AFFIXED TO THE PIPE AT 10 FOOT INTERVALS. FOR GRAVITY MAIN AND OR LATERAL INSTALLATION DEEPER THAN 8 FT, THE TRACING WIRE SHALL BE INSTALLED AT A DEPTH OF 7-8 FT. THE WIRE SHALL BE PROTECTED FROM DAMAGE DURING THE EXECUTION OF THE WORK. NO BREAKS OF CUTS IN THE TRACER WIRE SHALL BE PERMITTED.
2. WHERE LATERAL TAPS ARE MADE BY SERVICE SADDLES, THE TRACER WIRE SHALL NOT BE ALLOWED TO TO BE PLACED BETWEEN THE SADDLE AND MAIN.
3. MANHOLE MARKERS SHALL BE PLACED ADJACENT TO MANHOLES AT THE DISCRETION OF OWNER OR OWNER'S REPRESENTATIVE.

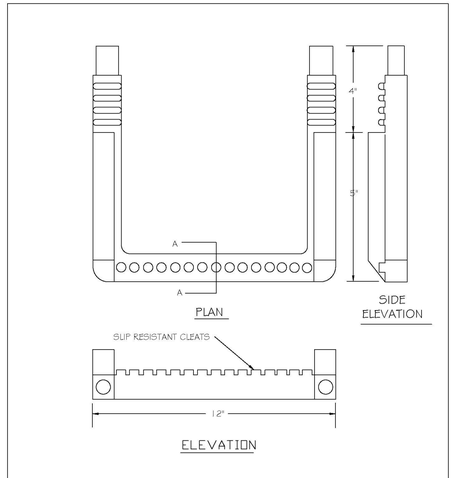
CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
GRAVITY SEWER MAIN TRACER WIRE AND MANHOLE MARKER				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-20A	WKD	09-14		



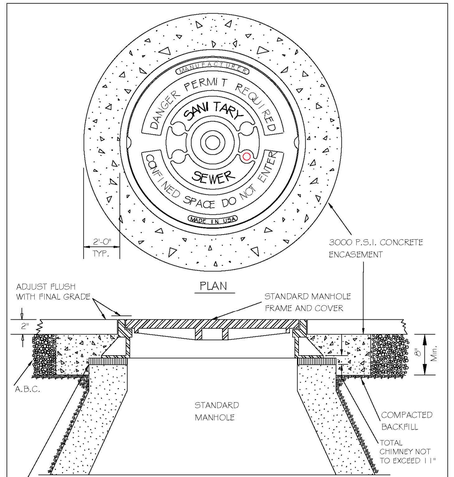
NOTES:
1) ALL MANHOLE FRAMES SHALL BE DOMESTICALLY CAST.
2) FRAME SHALL BE A MINIMUM WEIGHT OF 182 LBS. WITHIN PUBLIC ROW AND 160 LBS. WITHIN EASEMENTS.
3) COVER SHALL WEIGH A MIN. OF 120 LBS.
4) ALL MANHOLE FRAMES OUTSIDE OF PAVED SURFACES SHALL BE BOLTED TO THE CONE SECTION OR RING WITH A MINIMUM OF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

5/8"X3" LAGSHIELD IN HOLE DRILLED INTO CONE OR RING WITH ANCHOR SUNK TO DESIGN DEPTH, AND 5/8"X3" HOT DIPPED GALVANIZED LAG BOLT AND WASHER.

CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
STANDARD MANHOLE COVER				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-25	3-1-87	3-1-87	A.B.B.	2-9-05
	RRH	3-30-00	D.H.L.	6-18-08



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



CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
STANDARD MANHOLE FRAME AND COVER DETAIL WITHIN PAVED SURFACES				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-29	Y.C.A.	12-31-92	ABB	9-20-04
	RRH	3-30-00	DHL	1-29-07

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
4030 WAKE FOREST ROAD, SUITE 100
RALEIGH, NC 27609
919-621-4648

REVISIONS

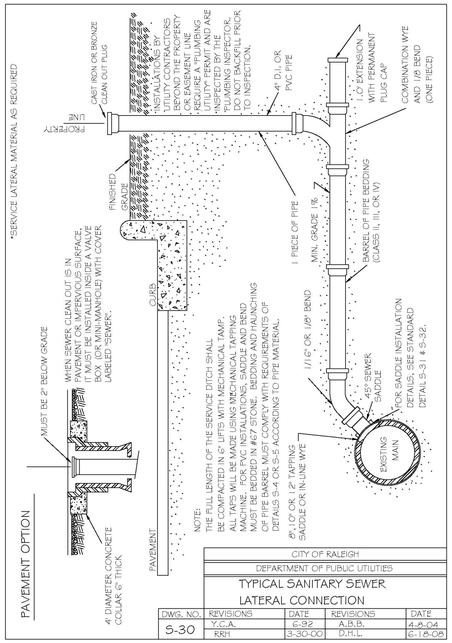
1	2023-07-10	LAYOUT UPDATES AND REVISIONS PER TOWN COMMENTS

401 GANNON AVENUE
SITE PLAN AND CONSTRUCTION DRAWINGS
ZEBULON, NC

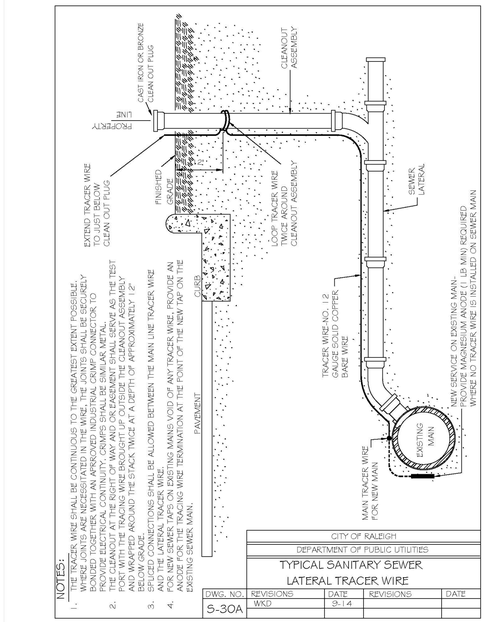
SANITARY SEWER DETAILS

NORTH CAROLINA PROFESSIONAL SEAL ENGINEER JONATHAN P. EAKINS 7/10/2023

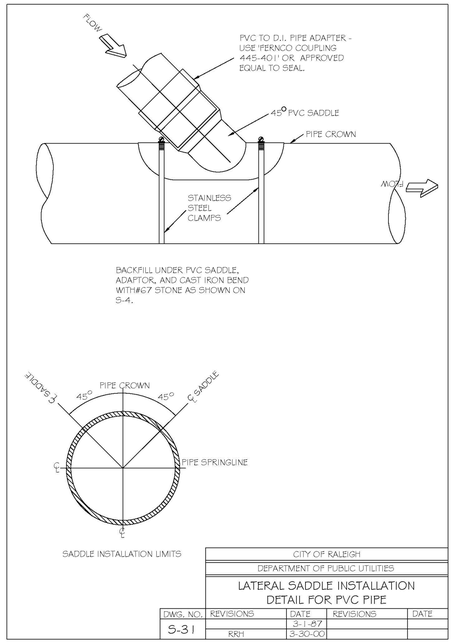
PROJECT NO: ---
DESIGN BY: JPE
DRAWN BY: JPE
SCALE: NTS
DATE: 2023-03-01
SHEET NO: D3.1



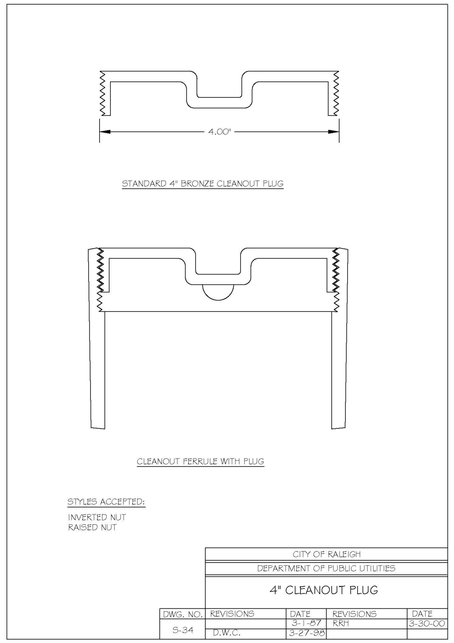
CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
TYPICAL SANITARY SEWER LATERAL CONNECTION				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-30	Y.C.A.	6-92	A.B.B.	4-8-04
	KRH	3-30-00	D.H.L.	6-18-08



CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
TYPICAL SANITARY SEWER LATERAL TRACER WIRE				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-30A	WKD	3-14		



CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
LATERAL SADDLE INSTALLATION DETAIL FOR PVC PIPE				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-31	KRH	3-1-87		
		3-30-00		



CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
4" CLEANOUT PLUG				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-34	D.W.C.	3-1-87	KRH	3-30-00
		3-27-88		

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
4030 WAKE FOREST ROAD, SUITE 100
RALEIGH, NC 27609
919-621-4648

REVISIONS

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

401 GANNON AVENUE
SITE PLAN AND CONSTRUCTION DRAWINGS

ZEBULON, NC

SANITARY SEWER DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 24042 ENGINEER JONATHAN P. EDKINS

7/10/2023

PROJECT NO: ---

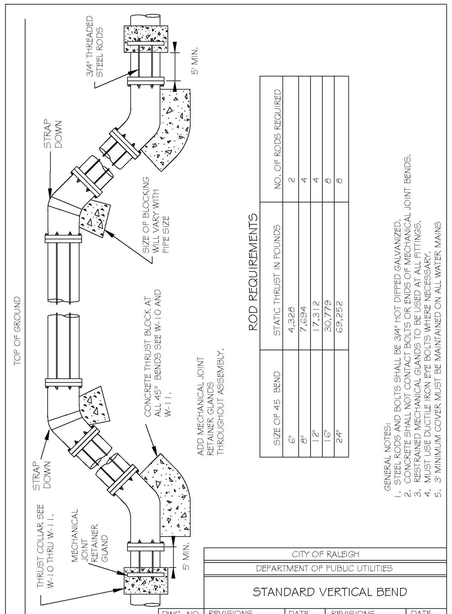
DESIGN BY: JPE

DRAWN BY: JPE

SCALE: NTS

DATE: 2023-03-01

SHEET NO: D3.1



ROD REQUIREMENTS

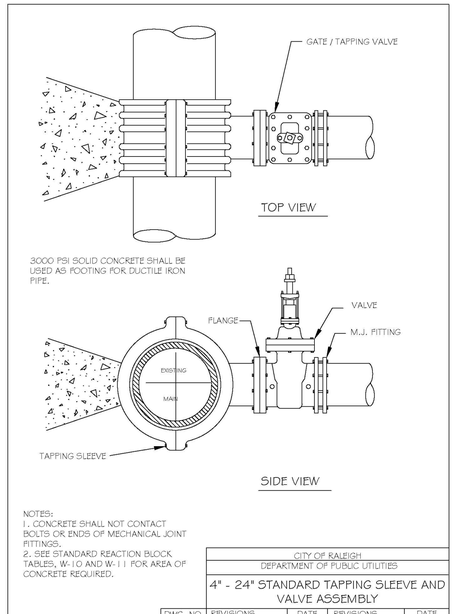
SIZE OF 45 BEND	STATIC THRUST IN POUNDS	NO. OF RODS REQUIRED
6"	4,328	2
8"	7,694	4
12"	17,312	4
16"	30,776	6
24"	69,252	6

GENERAL NOTES:
1. STEEL RODS AND BOLTS SHALL BE 3/4" HOT DIPPED GALVANIZED.
2. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT BENDS.
3. RESTRAINED MECHANICAL GLANDS TO BE USED AT ALL FITTINGS.
4. MUST USE DUCTILE IRON PIPE BOLTS WHERE NECESSARY.
5. 5' MINIMUM COVER MUST BE MAINTAINED ON ALL WATER MAINS

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES

STANDARD VERTICAL BEND

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-12	ABB	4-6-04	J.P.S.	11-1-10
	D.H.L.	6-18-05		

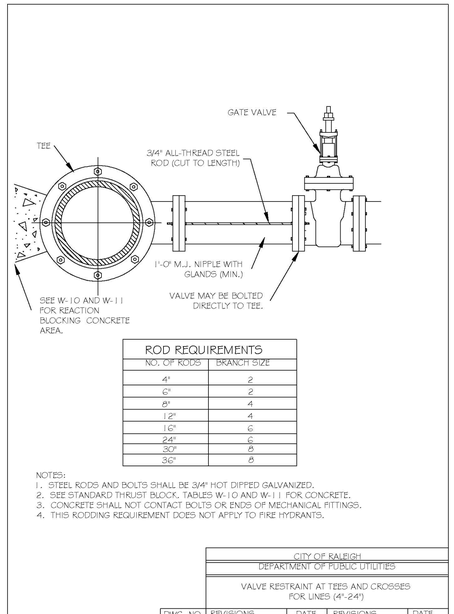


NOTES:
1. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS.
2. SEE STANDARD REACTION BLOCK TABLES, W-10 AND W-11 FOR AREA OF CONCRETE REQUIRED.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES

4" - 24" STANDARD TAPPING SLEEVE AND VALVE ASSEMBLY

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-14	Y.C.A.	12-31-91	KRH	3-31-00
	D.W.C.	9-7-99	J.P.S.	11-1-10



ROD REQUIREMENTS

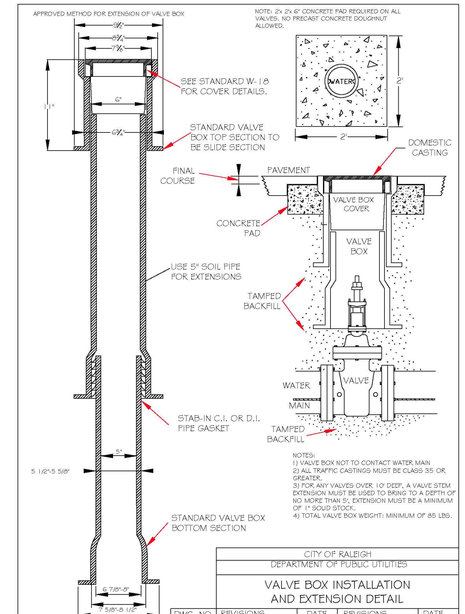
NO. OF RODS	BRANCH SIZE
4"	2
6"	2
8"	4
12"	4
16"	6
24"	6
30"	8
36"	8

NOTES:
1. STEEL RODS AND BOLTS SHALL BE 3/4" HOT DIPPED GALVANIZED.
2. SEE STANDARD THRUST BLOCK, TABLES W-10 AND W-11 FOR CONCRETE.
3. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL FITTINGS.
4. THIS RODDING REQUIREMENT DOES NOT APPLY TO FIRE HYDRANTS.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES

VALVE RESTRAINT AT TEES AND CROSSES FOR LINES (4"-24")

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-15	KRH	3-31-00	D.H.L.	6-16-05
	A.B.B.	4-19-04	J.P.S.	11-1-10

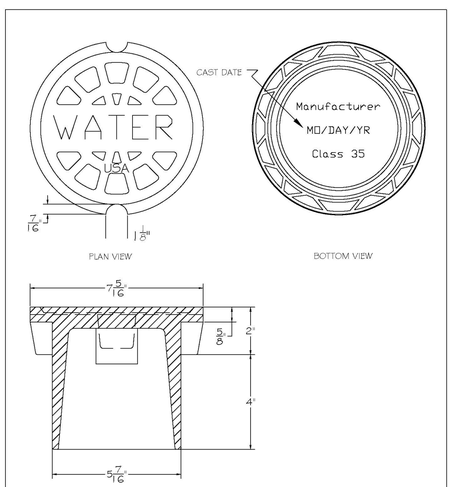


NOTES:
1) VALVE BOX NOT TO CONTACT WATER MAIN
2) ALL TRAFFIC CASTINGS MUST BE CLASS 35 OR GREATER.
3) FOR ANY VALVES OVER 10' DEEP, A VALVE STEM EXTENSION MUST BE USED TO BRING TO A DEPTH OF NO MORE THAN 5'. EXTENSION MUST BE A MINIMUM OF 1" SOLID STOCK.
4) TOTAL VALVE BOX WEIGHT: MINIMUM OF 85 LBS.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES

VALVE BOX INSTALLATION AND EXTENSION DETAIL

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-17	D.W.C.	9-7-99	A.B.B.	4-15-04
	KRH	3-31-00	DHL	5-16-07

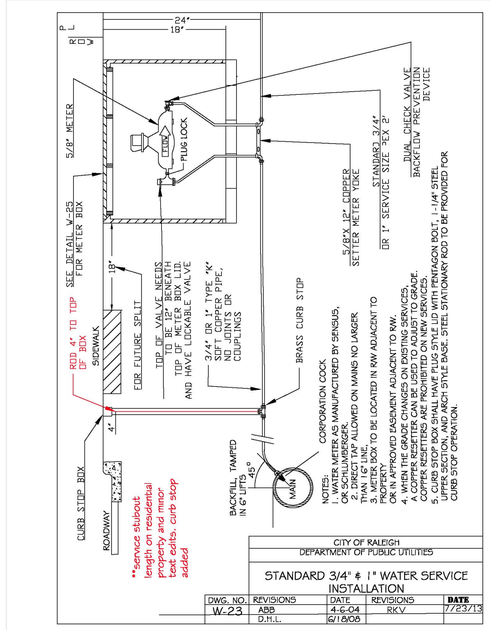


NOTE 1 - "WATER" LETTERING MUST BE 1" RAISED (RECESSED FLUSH)
NOTE 2 - VALVE COVER SHALL BE DOMESTICALLY CAST.
NOTE 3 - COVER MUST HAVE A MINIMUM WEIGHT OF 25 POUNDS.
NOTE 4 - COVER MUST BE CLASS 35 OR GREATER.
NOTE 5 - COVER MUST MEET OR EXCEED AASHTO H-20 LOAD REQUIREMENTS.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES

5 1/4" VALVE BOX DROP LID WITH 4" SKIRT

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-18				

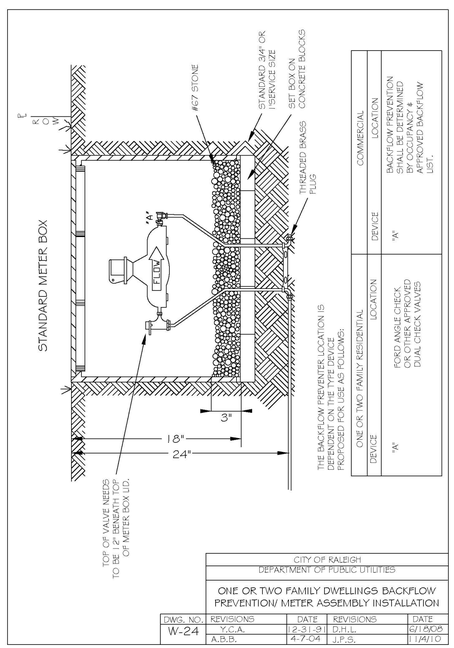


NOTES:
1. WATER METER SHALL BE MANUFACTURED BY SENSUS, OR SCHLUMBERGER.
2. DIRECT TAP ALLOWED ON MAINS NO LARGER THAN 1" TYPE "K".
3. METER BOX TO BE LOCATED IN R/W ADJACENT TO PROPERTY.
4. IN APPROVED EASEMENT ADJACENT TO R/W.
5. WATER METER BOXES ARE PROHIBITED ON NEW SERVICES. A COPPER RESETTER CAN BE USED TO ADJUST TO GRADE. COPPER RESETTERS ARE PROHIBITED ON NEW SERVICES.
6. CURB STOP BOX SHALL HAVE PLUG STILL IN WITH PENTAGON NUT. 1" MAY BE REQUIRED ABOVE STEEL SHAFT DEPENDING ON SITE CONDITIONS. STEEL SHAFT OWNERS ROD TO BE PROVIDED FOR CURB STOP OPERATION.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES

STANDARD 3/4" & 1" WATER SERVICE INSTALLATION

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-23	ABB	4-6-04	RKV	7/23/13
	D.H.L.	6/18/05		

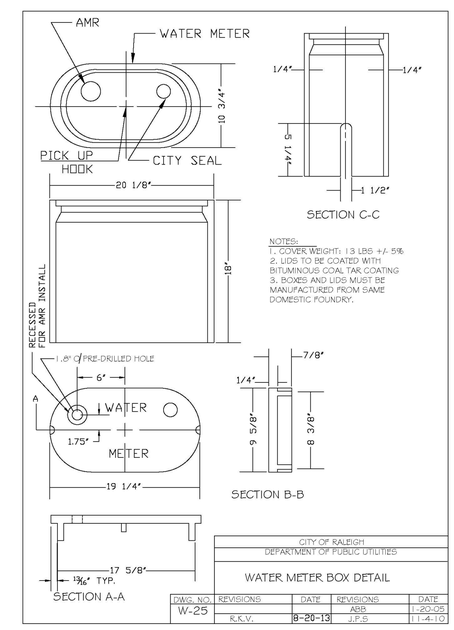


	COMMERCIAL	
ONE OR TWO FAMILY RESIDENTIAL	DEVICE	BACKFLOW PREVENTION SHALL BE DETERMINED BY OCCUPANCY & APPROVED BACKFLOW LIST.
LOCATION:	DEVICE	
FORD ANGLE CHECK OR OTHER APPROVED DUAL CHECK VALVES	"A"	
	"A"	

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES

ONE OR TWO FAMILY DWELLINGS BACKFLOW PREVENTION/ METER ASSEMBLY INSTALLATION

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-24	Y.C.A.	12-31-91	D.H.L.	6/18/05
	A.B.B.	4-7-04	J.P.S.	1/4/10



NOTES:
1. COVER WEIGHT: 13 LBS +/- 5%
2. LIDS TO BE COATED WITH BITUMINOUS COAL TAR COATING
3. BOXES AND LIDS MUST BE MANUFACTURED FROM SAME DOMESTIC FOUNDRY.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES

WATER METER BOX DETAIL

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-25	K.K.V.	8-20-13	ABB	1-20-05
			J.P.S	11-4-10

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
4030 WAKE FOREST ROAD, SUITE 100
RALEIGH, NC 27609
919-621-4648

REVISIONS

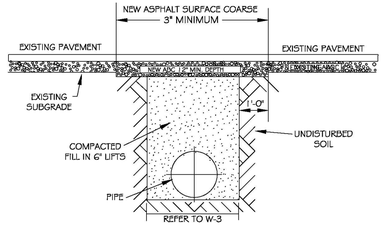
1	2023-07-10	LAYOUT UPDATES AND REVISIONS PER TOWN COMMENTS

401 GANNON AVENUE
SITE PLAN AND CONSTRUCTION DRAWINGS
ZEBULON, NC

WATER DETAILS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 24042 JEFFREY P. EAKINS
7/10/2023

PROJECT NO: ---
DESIGN BY: JPE
DRAWN BY: JPE
SCALE: NTS
DATE: 2023-03-01
SHEET NO: D4.1



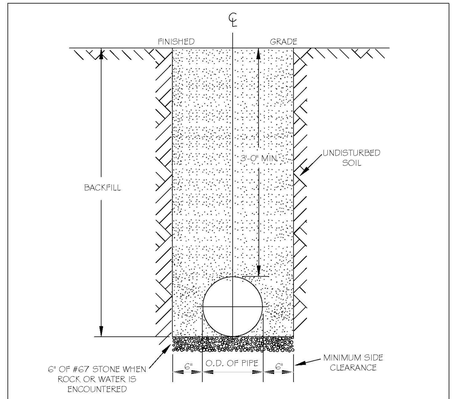
NOTES:

1. THE PAVEMENT CUT SHALL BE DEFINED BY A STRAIGHT EDGE AND CUT WITH AN APPROPRIATE SAW CUT MACHINE.
2. THE TRENCH SUBGRADE MATERIAL SHALL BE BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED TO A DENSITY OF AT LEAST 95% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY NCDOT.
3. THE FINAL 1' OF FILL SHALL CONSIST OF ABC MATERIAL COMPACTED TO A DENSITY EQUAL TO 100% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-80 AS MODIFIED BY NCDOT.
4. THE ENTIRE THICKNESS/ VERTICAL EDGE OF CUT SHALL BE TACKED.
5. THE SAME DEPTH OF PAVEMENT MATERIAL WHICH EXISTS SHALL BE REINSTALLED, BUT IN NO CASE SHALL THE ASPHALT BE LESS THAN 3" THICK.
6. THE ASPHALT PAVEMENT MATERIAL SHALL BE INSTALLED AND COMPACTED THOROUGHLY WITH A SMOOTH DRUM ROLLER TO ACHIEVE A SMOOTH LEVEL PATCH.
7. REFER TO CITY OF RALEIGH STANDARDS FOR TRENCHES AND PIPE BEDDING, W-3. FOR ADDITIONAL DETAILS.
8. NO HAND PATCHING ALLOWED.
9. PAVEMENT CUTS WITHIN NCDOT ROW SHALL CONFORM TO THE APPROVED ON SITE ENCROACHMENT PERMIT.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES

STANDARD ASPHALT PAVEMENT PATCH DETAIL

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-2	RRH	3-31-00	A.B.B.	4-16-04
	D.W.C.	11-1-99	J.P.S.	10-29-10



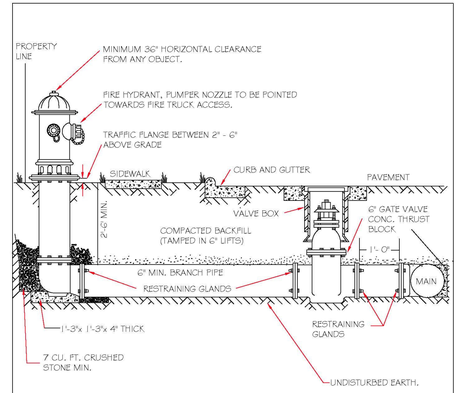
NOTES:

1. TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
2. NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN BACKFILL.
3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.
4. BACKFILL SHALL BE TAMPED IN 6" LIFTS.
5. ACHIEVE 95% COMPACTION IN BACKFILL.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES

TRENCH BOTTOM DIMENSIONS & BACKFILLING REQUIREMENTS FOR DUCTILE IRON

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-3	D.W.C.	3-3-99	ABB	2-15-05
	KRH	3-31-00	J.P.S.	10-29-10



NOTES:

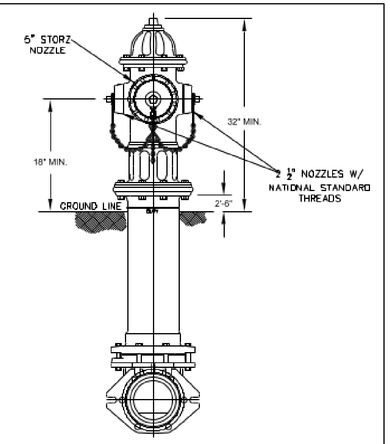
1. FIRE HYDRANT SHALL BE AS MANUFACTURED: MUELLER, AMERICAN DARLING, KENNEDY, M&H, WATEROUS, CLOW, EAST JORDAN IRON WORKS, OR US PIPE.
2. BRANCH PIPE SHALL BE DUCTILE IRON AWWA C150-96
3. 6" GATE VALVE SHALL BE AWWA C500-86 OPEN LEFT
4. STEEL RODS AND BOLTS SHALL BE ¾" HOT DIPPED GALVANIZED
5. FIRE HYDRANTS WILL BE INSTALLED IN TRUE VERTICAL POSITION
   RODS SHALL NOT BE COUPLED MORE THAN ONCE. IF THE LENGTH FROM THE VALVE TO THE HYDRANT EXCEEDS 20' THEN A MECHANICAL RESTRAINING GLAND WITH A REBAR CAGE SHALL BE INSTALLED NO MORE THAN 10' FROM HYDRANT AND POURED IN CONCRETE.
   FIRE HYDRANTS TO BE LOCATED IN ROW OR 2 FOOT EASEMENT ADJACENT TO ROW

ANYTIME SITE WORK, CONSTRUCTION, ROAD WORK, OR ANY OTHER WORK CHANGES THE GRADE OF THE FIRE HYDRANT, THE PERSON RESPONSIBLE FOR THE WORK IS RESPONSIBLE FOR ADJUSTING THE FIRE HYDRANT TO STAY WITHIN COMPLIANCE.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES

STANDARD FIRE HYDRANT INSTALLATION DETAIL

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-4	ABB	4-6-04	PAP	2/17/09
	DHL	2/14/06		



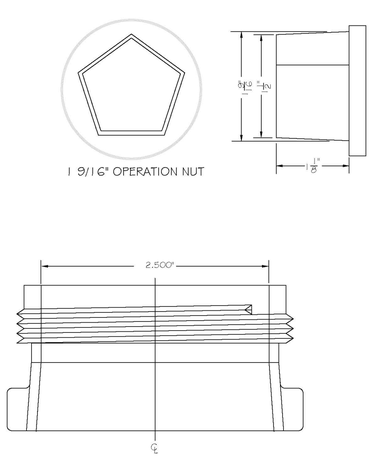
NOTES:

1. ALL PUBLIC FIRE HYDRANTS IN THE CITY OF RALEIGH AND THE MERGER TOWNS OF GARNER, ROLESVILLE, WAKE FOREST, KNIGHTDALE, WENDELL AND ZEBULON SHALL BE PAINTED CHROME YELLOW WITH HIGH REFLECTIVE ALUMINUM SILVER CAPS, BONNETS AND OPERATING NUTS.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES
RALEIGH, GARNER, KNIGHTDALE, ROLESVILLE, WAKE FOREST, WENDELL & ZEBULON

STANDARD FIRE HYDRANT WITH 5" STORZ PUMPER NOZZLE

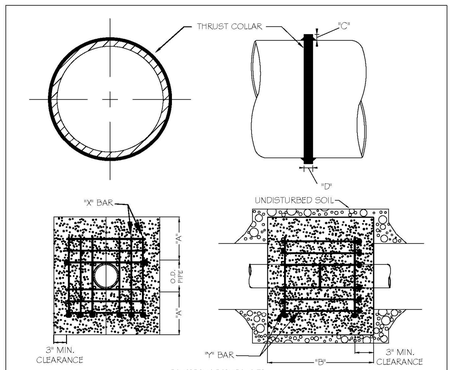
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-5	MAB	6-30-10		



CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES

HYDRANT OPERATING NUT AND 2 1/2" OUTLET THREADS

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-6	KRH	3-31-00	DHL	2-18-08
	A.B.B	4-13-04	J.P.S	11-1-10



REINFORCING REQUIREMENTS

I.D. PIPE	REBAR SIZE	"A" BAR LENGTH	"A" BAR WEIGHT	"Y" BAR LENGTH	"Y" BAR WEIGHT	NO. REQUIRED
6" - 36"	#5	2'-2"+ O.D. PIPE	1.043 LBS/FT	1'-1"	1.1 LBS. EACH	X-24, Y-12
48" & greater	#6	3'-0"+ O.D. PIPE	1.502 LBS/FT	1'-3"	1.9 LBS. EACH	X-24, Y-12

THRUST COLLAR, AND THRUST SCHEDULE

I.D. PIPE	"A"	"B"	"C"	"D"
6" - 16"	1'-4"	1'-7"	2"	3/8"
20" - 24"	1'-4"	1'-7"	3"	1/2"
30" - 36"	1'-4"	1'-7"	4"	5/8"
48" & greater	1'-8"	1'-9"	6"	7/8"

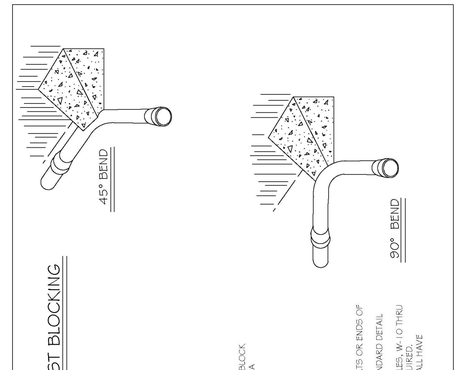
NOTES:

1. SEE STANDARD DETAIL W-9 FOR THRUST BLOCK LOCATIONS.
2. CONCRETE SHALL BE 3000 PSI AND TRANSIT MIXED.
3. REINFORCING BARS SHALL BE DEFORMED AND TIED TOGETHER.
4. TRENCH BOTTOM WIDTH IN VICINITY OF THRUST BLOCK INSTALLATION SHALL BE THE MINIMUM WIDTH AS SHOWN ON STANDARD DETAIL W-3.
5. BACKFILL TAMPED IN 6" LIFTS PER STANDARD DETAIL W-3.
6. THRUST COLLAR MUST BE FACTORY WELDED ON BOTH SIDES ALONG BOTH EDGES OF COLLAR AROUND CIRCUMFERENCE.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES

THRUST BLOCKING DESIGN DATA FOR WATER MAINS

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-7	RRH	-21-00	J.P.S.	11-1-10
	D.H.L.	6-18-08		



NOTES:

1. CONCRETE SHALL BE 3000 PSI.
2. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS.
3. THRUSTS BLOCKS SHALL CONFORM TO STANDARD DETAIL W-3.
4. SEE STANDARD THRUST BLOCK TABLES, W-10 THRU W-11 FOR AREA OF CONCRETE REQUIRED.
5. ALL BENDS AND INTERSECTIONS SHALL HAVE CONCRETE THRUST BLOCKING.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES

STANDARD THRUST BLOCKING VIEWS

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-9	D.W.C.	3-1-87	KRH	3-31-00
		9-7-99	D.H.L.	6-18-08

REACTION BEARING AREAS FOR HORIZONTAL WATER PIPE BENDS
BASED ON TEST PRESSURE OF 200 P.S.I.

ALL AREAS GIVEN IN SQUARE FEET.

SIZE AND DEGREE OF BEND	STATIC THRUST IN POUNDS	MODERATELY DRY CLAY, 4000 LBS/FT²	SOFT CLAY, 2000 LBS/FT²	LOOSE LBS/FT³ DRY SOIL SAND	MEDIUM LBS/FT³ DRY SOIL SAND	SAND, COMPACT FIRM 5000 LBS/FT²	SAND, CLEAN DRY 4000 LBS/FT²	SOIL LOOSE LBS/FT² GRAVELLY, VERY POOR	SOIL POOR 1,000 LBS/FT²
6"									
11 1/4°	1,108	1	1	1	1	1	1	2	1
22 1/2°	2,207	1	2	2	1	1	1	3	1
45°	4,328	2	3	3	1	1	2	5	1
90°	7,996	2	4	5	1	1	2	8	1
PLUG	5,655	2	3	4	1	1	2	6	1
8"									
11 1/4°	1,970	1	1	2	1	1	1	2	1
22 1/2°	3,922	1	2	3	1	1	1	4	1
45°	7,694	2	4	5	1	1	2	8	1
90°	14,215	4	8	9	2	2	4	15	2
PLUG	10,053	3	5	6	2	2	3	10	1
12"									
11 1/4°	4,433	2	3	3	1	1	2	5	1
22 1/2°	8,826	3	5	6	2	2	3	9	1
45°	17,312	5	9	11	3	3	5	18	2
90°	31,983	8	16	19	4	4	8	32	4
PLUG	22,619	6	12	14	3	3	6	23	3
16"									
11 1/4°	7,881	2	4	5	1	1	2	8	1
22 1/2°	15,691	4	8	10	2	2	4	16	2
45°	30,779	8	16	19	4	4	8	31	4
90°	56,861	15	29	35	8	8	15	57	6
PLUG	40,213	10	21	25	5	5	10	41	5

REACTION BEARING AREAS ARE IN SQUARE FEET MEASURED IN A VERTICAL PLANE IN THE TRENCH SIDE AT AN ANGLE OF 90° TO THE THRUST VECTOR.

USE 6" - 90 BEND VALUE FOR HYDRANTS FOR ADDITIONAL SAFETY FACTOR.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES

THRUST BLOCKING DESIGN QUANTITY TABLE

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-10	D.W.C.	6-23-99		

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
4030 WAKE FOREST ROAD, SUITE 100
RALEIGH, NC 27609
919-621-4648

REVISIONS

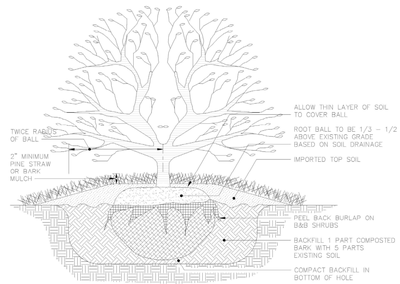
1	2023-07-10	LAYOUT UPDATES AND REVISIONS PER TOWN COMMENTS

401 GANNON AVENUE
SITE PLAN AND CONSTRUCTION DRAWINGS
ZEBULON, NC

WATER DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 040262 ENGINEER JEFFREY PAUL EAKINS
7/10/2023

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



SECTIONAL VIEW

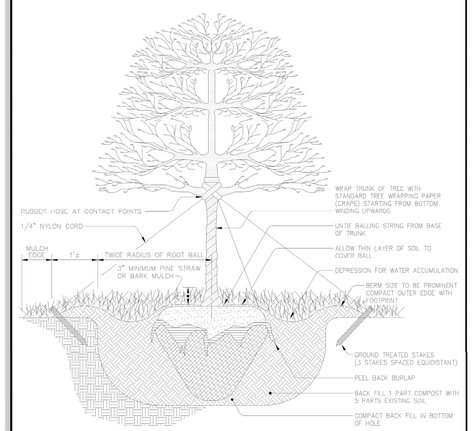
TOWN OF ZEBULON

TYPICAL SHRUB PLANTING DETAIL

USE WITH STANDARD SPECIFICATIONS ONLY

SCALE:	DETAIL #
NOT TO SCALE	43
DATE: JULY 2010	SHEET # 1 OF 1

NOTE:
PRUNE LOWER BRANCHES OF TREE BACK TO MAIN TRUNK SO THAT REMAINING HEAD IS APPROX. 1/2 OF TOTAL TREE HEIGHT



SECTIONAL VIEW

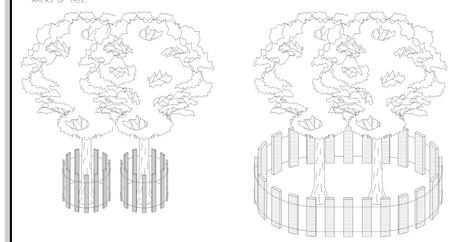
TOWN OF ZEBULON

TYPICAL TREE STAKING and PLANTING DETAIL

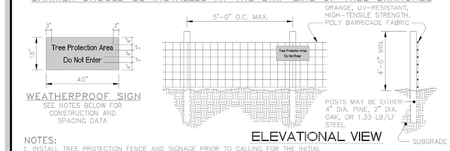
USE WITH STANDARD SPECIFICATIONS ONLY

SCALE:	DETAIL #
NOT TO SCALE	44
DATE: JULY 2010	SHEET # 1 OF 1

NOTES:
IN SPITE OF PRECAUTIONS, SOME DAMAGE TO TREES MAY OCCUR.
IN SUCH CASES REPAIR ANY DAMAGE TO CROWN, TRUCK OR ROOT SYSTEM IMMEDIATELY.
- REPAIR ROOTS BY CUTTING OFF THE DAMAGED AREAS AND PAINT THEM WITH TREE PAINT. SPREAD PEAT MOSS OR MOIST TOPSOIL OVER EXPOSED ROOTS.
- REPAIR DAMAGE TO BARK BY TRIMMING AROUND THE DAMAGED AREA AS SHOWN IN DETAIL 45 TAPER THE CUT TO PROVIDE DRAINAGE AND PAINT WITH TREE PAINT.
- CUT OFF ALL DAMAGED TREE LIMBS ABOVE THE TREE COLLAR AT THE TRUNK OR MAIN BRANCH. USE THREE SEPARATE CUTS AS SHOWN IN DETAIL 45 TO AVOID PEELING BARK FROM HEALTHY AREAS OF TREE.



BARRIER SHOULD BE INSTALLED AT THE DRIP LINE OF TREE BRANCHES



WEATHERPROOF SIGN
SEE NOTES BELOW FOR CONSTRUCTION AND SPACING DATA

ELEVATIONAL VIEW

NOTES:
1. INSTALL TREE PROTECTION FENCE AND SIGNAGE PRIOR TO CALLING FOR THE INITIAL ON SITE INSPECTION BY THE TOWN OF ZEBULON CONSTRUCTION INSPECTOR.
2. WARNING SIGNS TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL.
3. LETTERS ARE TO BE 3" HIGH MINIMUM, CLEARLY LEGIBLE AND SPACED AS DETAILED.
4. SIGNS ARE TO BE PLACED NO GREATER THAN 200' ON CENTER.
5. PLACE A SIGN AT EACH END OF LINEAR TREE PROTECTION AREAS AND 200' ON CENTER THEREAFTER.
6. FOR TREE PROTECTION AREAS LESS THAN 200' IN PERIMETER, PROVIDE NO LESS THAN ONE SIGN PER PROTECTED AREA.
7. ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC.
8. MAINTAIN TREE PROTECTION FENCE THROUGHOUT DURATION OF PROJECT.
9. ADDITIONAL SIGNS MAY BE REQUIRED BY TOWN OF ZEBULON PUBLIC WORKS DEPT. BASED ON ACTUAL FIELD CONDITIONS.

TOWN OF ZEBULON

STANDARD TREE PROTECTION DETAIL

USE WITH STANDARD SPECIFICATIONS ONLY

SCALE:	DETAIL #
NOT TO SCALE	46
DATE: JULY 2010	SHEET # 1 OF 1

AVENUE COLLECTION

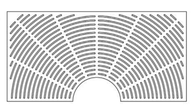
AVENUE COLLECTION

SQUARE

SERIES NO.	GRATE SIZE	AVAILABLE TREE OPENING SIZES	SLOT SIZE
R-8704	36" x 36"	12", 16" dia.	0.25"
R-8704-A	36" x 36"	12", 16" dia.	0.25"
R-8710	48" x 48"	16" dia.	0.375"
R-8712	60" x 60"	16" dia.	0.375"
R-8715	72" x 72"	16" dia.	0.25"

DETAILS

- Available with light openings: R-8704-A, R-8710, R-8712, R-8715



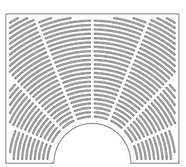
R-8712

RECTANGLE

SERIES NO.	GRATE SIZE	AVAILABLE TREE OPENING SIZES	SLOT SIZE
R-8810	36" x 60"	16" dia.	0.25"

DETAILS

- Available with light openings: R-8810



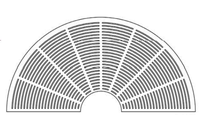
R-8810

CIRCLE

SERIES NO.	GRATE SIZE	AVAILABLE TREE OPENING SIZES	SLOT SIZE
R-8881	30" round	12" dia.	0.25"
R-8872	55.25" round	12" dia.	0.25"
R-8876	72" round	16", 18" dia.	0.25"

DETAILS

- Available with light openings: R-8881, R-8876



R-8872

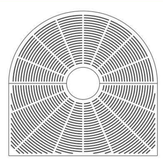
AVENUE COLLECTION

COMBO

SERIES NO.	GRATE SIZE	AVAILABLE TREE OPENING SIZES	SLOT SIZE
R-8959	72" Combo	16" dia.	0.25"

DETAILS

- Available with light openings: R-8959



R-8959

INSTALLATION PROCEDURES

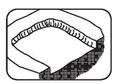
INSTALLATION PROCEDURES

Neenah's tree grate frames are designed to make the installation job easy and accurate. Our frames can be incorporated into your forms in just minutes. The seat of the frame should be cleaned prior to setting the grate. Grate halves are to be bolted together on the underside using the bolt slots provided.

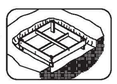
ALL OR ANY PART OF THE PRECEDING SPECIFICATIONS AND PROCEDURES MAY BE INCORPORATED IN YOUR PROJECT DOCUMENTS.

FOR POURED CONCRETE INSTALLATIONS
(Neenah tree grates and R-8500 Type U frames)

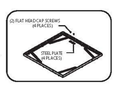
STEP 1:
Excavate tree pit.



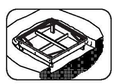
STEP 2:
Place wood frame within excavation. Set at proper grade. Make form outside dimension 45.75" x 45.75" for 48" x 48" grate, 57.75" x 57.75" for 60" x 60" grate or 69.75" x 69.75" for 72" x 72" grate.



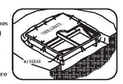
STEP 3:
Assemble the R-8500 Type U tree grate frame using the hardware provided. Make sure to tighten the countersunk flat-head screws so they are flush or below the bearing surface of the frame.



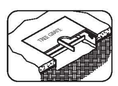
STEP 4:
Place frame on wood form. Place both tree grate halves within the frame.



STEP 5:
IMPORTANT. Wire grates, frames and form together. Check and adjust frame alignment and elevation if needed. Install #3 rebar through lugs on frame and support as required. Ensure there is a .1075" spacing between vertical faces of the frame and grate.



STEP 6:
Pour and finish concrete. Do not remove tree grate or trim alignment wires until concrete has set up.



NOTE: FAILURE TO FOLLOW THESE FORMING PROCEDURES COULD RESULT IN AN UNSATISFACTORY INSTALLATION.

If you have any questions regarding installation or if you must deviate from the above instructions, contact the Neenah Product Engineering Department. Additional detailed installation information is available from your Neenah sales representative or from our website at www.neenahfoundry.com.

MADE IN USA NEENAH

TOWN OF ZEBULON PROJECT ID: 964220

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PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

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REVISIONS

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

401 GANNON AVENUE
SITE PLAN AND CONSTRUCTION DRAWINGS
ZEBULON, NC

LANDSCAPE DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 049412 ENGINEER JEFFRAN P. EAKINS
7/10/2023

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