

WATER, SEWER, AND/OR REUSE, AS APPROVED IN THESE PLANS, IS RESPONSIBLE FOR CONTACTING THE PUBLIC UTILITIES DEPARTMENT AT (919) 996-4540 AT LEAST TWENTY FOUR HOURS PRIOR TO BEGINNING ANY OF THEIR CONSTRUCTION.

FAILURE TO NOTIFY BOTH CITY DEPARTMENTS IN ADVANCE OF BEGINNING CONSTRUCTION, WILL RESULT IN THE ISSUANCE OF **MONETARY FINES**, AND REQUIRE REINSTALLATION OF ANY WATER OR SEWER FACILITIES NOT INSPECTED AS A RESULT OF THIS NOTIFICATION FAILURE.

FAILURE TO CALL FOR INSPECTION, INSTALL A DOWNSTREAM PLUG, HAVE PERMITTED PLANS ON THE JOBSITE, OR ANY OTHER VIOLATION OF CITY OF **RALEIGH STANDARDS** WILL RESULT IN A FINE AND POSSIBLE EXCLUSION FROM FUTURE WORK IN THE CITY OF RALEIGH.

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| | PROPOSED INFRAS | TRUCTURE QUANTITIES | |
|------------------|-----------------|---------------------------|--------|
| ITEM | OWNERSHIP | DIAMETER / MATERIAL | LENGTH |
| WATER | PRIVATE | 1.5" TYPE 'K' SOFT COPPER | 67' |
| SEWER | PRIVATE | 4" SCHED 40 PVC | 59' |
| STORM DRAIN | PRIVATE | 8" HDPE | 198' |
| STORM DRAIN | PRIVATE | 12" HDPE | 274' |
| STORM DRAIN | PRIVATE | 15" HDPE | 24' |
| CURB & GUTTER | PRIVATE | 24" | 638' |
| SIDEWALK | PRIVATE | VARIES | 473' |

CALL 48 HOURS BEFORE YOU DIG



ONE-CALL CENTER 1-800-632-4949

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SITE PLANS FOR **ESVILLE CROSSFIT**

850 GRANITE FALLS BLVD ROLESVILLE, NORTH CAROLINA PIN: 1759-82-2247

EVELOPER:

MCARN REALTY, LLC CONTACT: MARK MCARN 403 N CHEATHAM ST FRANKLINTON, NC 27525 919.632.5374 MCARN@BRASSFIELDCOMMERCIAL.COM

ENGINEER OF RECORD:

FLM ENGINEERING, INC CONTACT: JON FRAZIER, PE PO BOX 91727 RALEIGH, NC 27675 919.610.1051 JFRAZIER@FLMENGINEERING.COM

| | | | | RALEIGH, NOR | FICE BOX § | 91727 INA 27675 | | |
|---|----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|------------|----------------------|-----|--|
| | | | | FIRM NC LICEN | NSE NUMB | ER C-4222 | | |
| | | | | REVISI | ON HISTOR | RY | | |
| | | | REV | DESCRIPT | | DATE | BY | |
| | | | # | TOWN OF ROL | | 1/23/2020 | FLM | |
| | | | | | NTS | | | |
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| | | | | | | | | |
| | | | | | | | | |
| T | TITLE | | | ORIGINAL PL | AN SIZE: 2 | 24" X 36" | | |
| | | ORAINAGE PLAN AND DETAILS T CONTROL PLAN - PHASE 1 T CONTROL PLAN - PHASE 2 ETAILS T CONTROL DETAILS | ISSUED FOR REVIEW DO NOT USE FOR CONSTRUCTION SCALE ADJUSTMENT This bar is 1 inch in Lengt ON ORIGINAL DRAWING 0 1" IF IT IS NOT 1 INCH ON THIS SHEET, ADJUST YOUR SCAL ACCORDINGLY | | | | | |
| | | NTROL, STORMWATER PLAIN MANAGEMENT | | ROLESVIL 350 GRANI ROLESVIL | ΓΕ FALI | DSSFIT LS BLVE |) | |
| | EROSION CON STORMWATE | NTROL \Box S ER MGMT. \Box S | | MCARN | | | | |
| | FLOOD STUD | 'I ∐ S | | DATE: SCALE: | | 0-25-2019 S SHOWN | | |
| | DATE | | | SIGNED BY: | | FLM | | |
| | VAKE COUNTY NORTHI CANOLINA EFFECTIVE: 08/23/17 | CONMENTAL CONSULTANT SIGNATURE | | PROVED BY: DJECT NO.: | | FLM 19036 | | |
| | | ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF ROLESVILLE, CITY OF RALEIGH AND WAKE COUNTY STANDARDS AND SPECIFICATIONS | | C | OVER | | | |
| | | | | | | | | |

| | | | | | | | STORM [| ORAINAGE | | ATIONS | | | | | | | |
|---------|-----------|-----------------------|---------------------------------|--------------------------|--------------------------|-----------------------------------|---------------|------------------------|------------------|---------------|--------------|-------------------|-------------------------|-------------------------|-------------------------|-------------------------------|-----------------|
| STRUCTU | RE NUMBER | Cc | I | A | Α | Тс | Q | Q | | | | | | | | | |
| FROM | то | RUNOFF COEFFICIENT | 10-YEAR INTENSITY (in/hr) | DRAINAGE AREA (sf) | DRAINAGE AREA (ac) | TIME OF CONCENTRATION (min) | FLOW (cfs) | TOTAL FLOW (cfs) | SLOPE (ft/ft) | Dtheo (in) | SIZE (in) | Vfull (ft/sec) | PIPE LENGTH (ft)* | UPPER INVERT (ft) | LOWER INVERT (ft) | HOOD/TOP ELEVATION (ft) | PIPE MATERIAL** |
| CB-1 | YI-2 | 0.90 | 7.22 | 4800 | 0.11 | 5.0 | 0.72 | 0.72 | 0.0103 | 6.5 | 12 | 5.0 | 78.00 | 374.00 | 373.20 | 377.50 | HDPE |
| YI-2 | CB-3 | 0.90 | 7.22 | 6800 | 0.16 | 5.0 | 1.01 | 1.73 | 0.0103 | 9.1 | 12 | 5.0 | 126.00 | 373.20 | 371.90 | 378.25 | HDPE |
| CB-3 | CB-4 | 0.90 | 7.22 | 3700 | 0.08 | 5.0 | 0.55 | 2.28 | 0.0103 | 10.1 | 12 | 5.0 | 58.00 | 371.90 | 371.30 | 379.35 | HDPE |
| CB-4 | FES-5 | 0.90 | 7.22 | 3800 | 0.09 | 5.0 | 0.57 | 2.85 | 0.0417 | 8.4 | 12 | 10.0 | 12.00 | 368.00 | 367.50 | 378.80 | HDPE |
| | | 0.00 | 7.00 | 6200 | 0.14 | 5.0 | 0.00 | 0.00 | 0.0204 | 6.2 | 0 | 54 | 08.00 | 277.00 | 275.00 | 270.05 | |
| JB-6 | JB-9 | 0.90 | 7.22 | 6200 | 0.14 | 5.0 | 0.92 | 0.92 | 0.0204 | 6.3 | 8 | 5.4 | 98.00 | 377.00 | 375.00 | 379.95 | HDPE |
| YI-7 | YI-8 | 0.90 | 7.22 | 1000 | 0.02 | 5.0 | 0.15 | 0.15 | 0.0116 | 3.5 | 8 | 4.0 | 43.00 | 376.50 | 376.00 | 379.25 | HDPE |
| YI-8 | JB-9 | 0.90 | 7.22 | 1000 | 0.02 | 5.0 | 0.15 | 0.30 | 0.0323 | 3.8 | 8 | 6.7 | 31.00 | 376.00 | 375.00 | 379.25 | HDPE |
| JB-9 | OUTLET-10 | - | - | - | - | - | - | 1.22 | 0.2885 | 4.3 | 8 | 20.1 | 26.00 | 375.00 | 367.50 | 379.95 | HDPE |

*LENGTHS ARE OF THE PIPE ONLY AND DO NOT INCLUDE FLARED END SECTIONS OR OTHER END TREATMENT **DOUBLE WALL HDPE PIPE (SHALL MEET NC PLUMBING CODE, CHAPTER 11 STORM DRAINAGE, LATEST EDITION)

| | SKIMMER SEDIMENT BASIN DESIGN CALCULATIONS | | | | | | | | | | | | | | |
|-------------------------------|--------------------------------------------|---------------------------|------------------------------------------|----------------|-----------------|------------------|------------------------------|-----------------------------------|---------------------------------------------|-------------------|---------------------------------------------------|----------------------------|--------------|---------------------------|-----------------------------|
| SKIMMER SEDIMENT BASIN DESIGN | | | | | | | | SKIMMER SEDIMENT BASIN EFFICIENCY | | | | | SKIMMER*** | | |
| BASIN NUMBER | DRAINAGE AREA (ac) | DISTURBED AREA (ac) | REQUIRED VOLUME 1800 CF/AC (cf) | DEPTH* (ft) | WIDTH (ft)** | LENGTH (ft)** | VOLUME PROVIDED (cf)** | RUNOFF COEFFICIENT | 10-YEAR RAINFALL INTENSITY (in/hr) | FLOW Q10 (cfs) | REQUIRED SURFACE AREA 435 SF/CFS (sf) | AREA PROVIDED (sf)** | SIZE (in) | ORIFICE RADIUS (in) | ORIFICE DIAMETER (in) |
| SK-1 | 0.73 | 0.67 | 1206 | 2 | - | - | 2508 | 0.5 | 7.22 | 2.64 | 1146 | 1548 | 1.5 | 0.4 | 0.7 |

*DEPTH FROM BOTTOM OF BASIN TO EMERGENCY SPILLWAY ELEVATION

**BASIN SHAPE IS IRREGULAR; VOLUME AND SURFACE AREA TAKEN FROM HYDROCAD MODEL

***SKIMMER SIZED PER SIZING CALCULATOR AT WWW.FAIRCLOTHSKIMMER.COM AT A REQUIRED VOLUME DRAWDOWN RATE OF 72 HOURS

| | TEMPORARY DIVERSION DITCH DESIGN | | | | | | | | | | | | | | | | |
|-----------------|----------------------------------|---------------------------------------------|-----------------------------|------------|----------------|--------------------|-------------------------|------------------------------------|-------------------------------------|--------------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------|----------------------|-----------------|
| DITCH NUMBER | RUNOFF COEFFICIENT | 10-YEAR RAINFALL INTENSITY (in/hr) | DRAINAGE AREA (acres) | Q (cfs) | LENGTH (ft) | CHANNEL SECTION | BOTTOM WIDTH (ft) | LEFT SIDE SLOPE, Z:1 (ft) | RIGHT SIDE SLOPE, Z:1 (ft) | CHANNEL DEPTH (ft) | CHANNEL SLOPE (ft/ft) | NORMAL DEPTH (ft) | FREEBOARD (ft) | SHEAR STRESS (lb/ft2) | VELOCITY (fps) | MANNING'S n VALUE | TEMPORARY LINER |
| TD-1 | 0.50 | 7.22 | 0.48 | 1.73 | 172.00 | TRIANGULAR | - | 2.00 | 2.00 | 1.00 | 0.047 | 0.50 | 0.50 | 1.45 | 3.46 | 0.033 | STRAW WITH NET |
| TD-2 | 0.50 | 7.22 | 0.11 | 0.40 | 76.00 | TRIANGULAR | - | 2.00 | 2.00 | 1.00 | 0.066 | 0.27 | 0.73 | 1.11 | 2.74 | 0.033 | STRAW WITH NET |



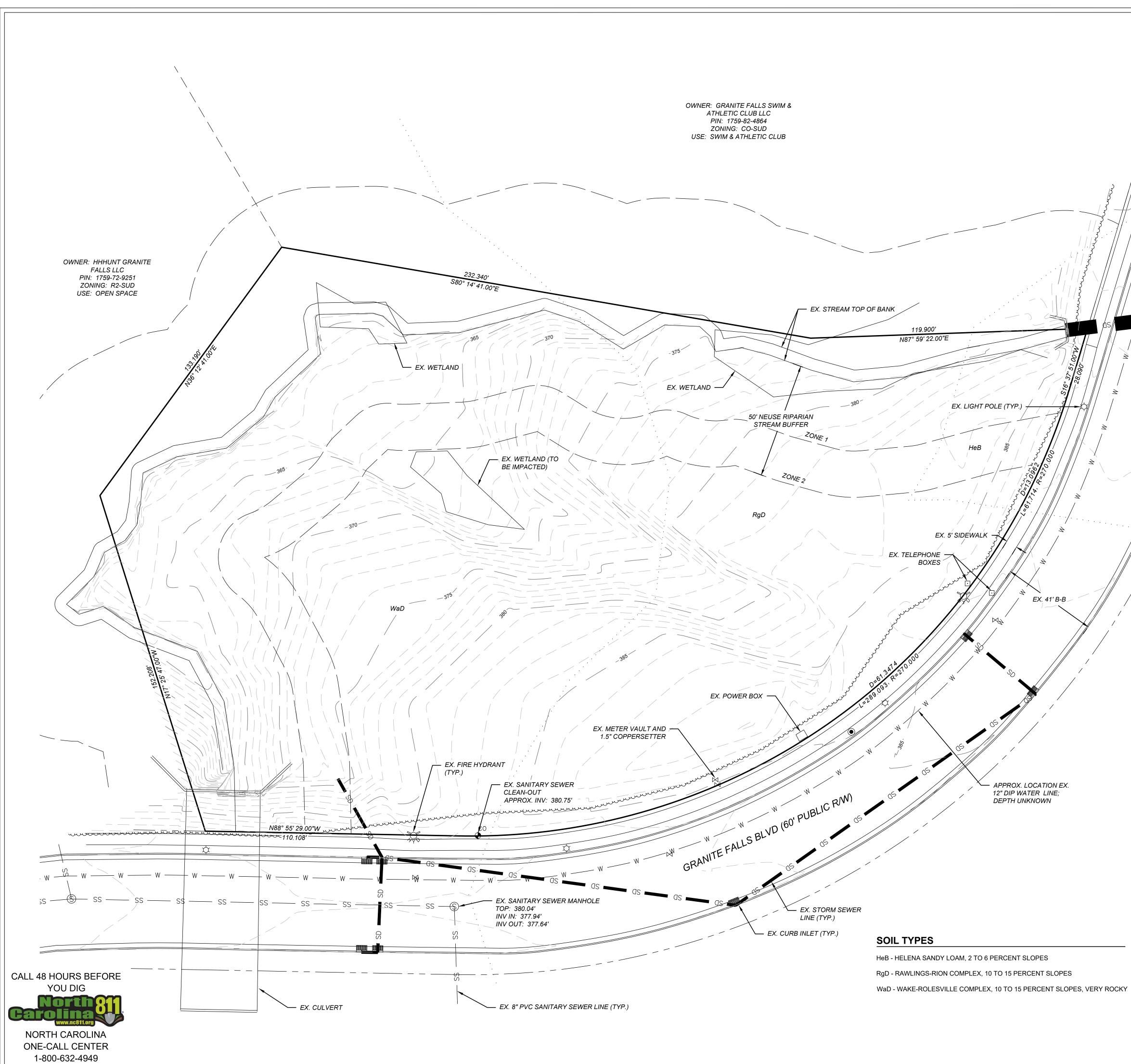
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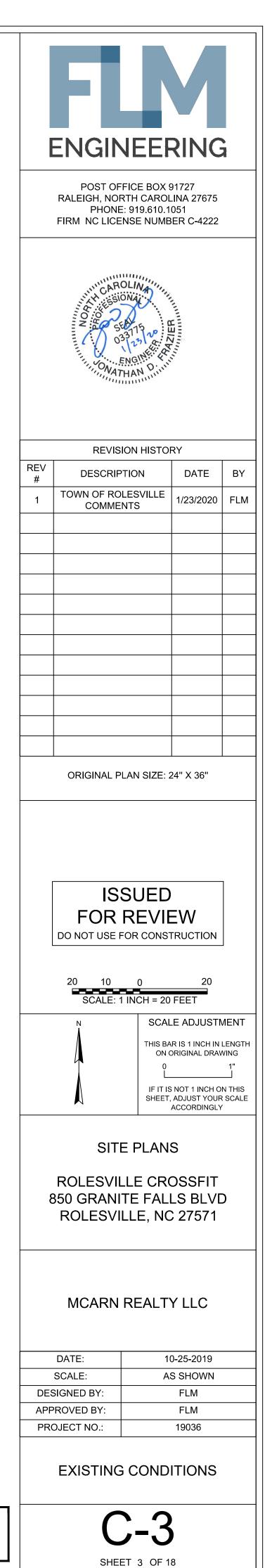
| WETLA | ND 1 |
|------------------------------------|---------------------|
| EMERGENCY SPILLWAY | DESIGN AND L |
| UPPER INVERT (ft) | 371.00 |
| LOWER INVERT (ft) | 367.00 |
| LENGTH (ft) | 8.00 |
| CHANNEL SLOPE (ft/ft) | 0.500 |
| CHANNEL SECTION | TRAPEZOID |
| AVG SIDE SLOPE (Z:1) | 2.00 |
| BOTTOM WIDTH (ft) | 20.00 |
| TOTAL DEPTH (ft) | 1.00 |
| WETTED PERIMETER (ft) | 20.31 |
| CROSS SECTIONAL AREA (sf) | 1.41 |
| 100-YEAR/24-HOUR DESIGN FLOW (cfs) | 6.73 |
| NORMAL DEPTH (ft) | 0.07 |
| AVG VELOCITY (ft/sec) | 4.77 |
| SHEAR STRESS (lb/ft2) | 2.18 |
| | |
| LINER | NAG P300 |
| PERMISSIBLE SHEAR STRESS (lb/ft2) | 8.00 |
| MANNING COEFFICIENT (n) | 0.034 |

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| WE | TLAND | |
| | | |
| | | |
| JTLET STRUCTURE = | 370.50 | ft |
| | 365.00 | ft |
| RISER = | 5.50 | ft |
| WALL THICKNESS | | |
| ALCULATIONS | | |
| 0' x 0' x 0' = | | 0.00 |
| 0 cf x 150 lb/cf = | | 0.00 |
| 4' x 4' x 2' = | | 32.00 |
| 48 cf x 150 lb/cf = | | 4800.00 |
| [(5 x 5 x 5.5)-(4 x 4 x 5)] | x 150 lb/cf = | 8625.00 |
| GHT = | | 13425.0 |
| Y CALCULATIONS | | |
| 0 cf x 62.4 lb/cf = | | 0.00 |
| (5 x 5 x 6.5) x 62.4 lb/cf | | 8580.00 |
| JYANCY = | | 8580.00 |
| F SAFETY = | | 1.56 |
| | WE UTLET STRUCTURE = RISER = WALL THICKNESS ALCULATIONS $0' \times 0' \times 0' =$ 0 cf 150 lb/cf = $4' \times 4' \times 2' =$ 48 cf 150 lb/cf = $[(5 \times 5 \times 5.5)-(4 \times 4 \times 5)]$ GHT = ALCULATIONS 0 cf x 62.4 lb/cf = $(5 \times 5 \times 6.5) \times 62.4 \text{ lb/cf}$ | r RISER = 5.50 WALL THICKNESS ALCULATIONS $0' \times 0' \times 0' =$ $0 cf x 150 lb/cf =$ $4' x 4' \times 2' =$ $48 cf x 150 lb/cf =$ $[(5 x 5 x 5.5)-(4 x 4 x 5)] x 150 lb/cf =$ GHT = Y CALCULATIONS $0 cf x 62.4 lb/cf =$ $(5 x 5 x 6.5) x 62.4 lb/cf$ JYANCY = |

| AND LIN | | | | | | | | | |
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| 367.00 | | | | | | | | | |
| 8.00 0.500 | | | | | E | ENGIN | EEF | RING | 2 |
| RAPEZOIDAL | | | | | | POST OFFIC RALEIGH, NORTI | CE BOX | 91727 | |
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| 1.00 | | | | | | | | | |
| 20.31 | | | | | | | | | |
| 1.41 | | | | | | WWW CAROL | INA | | |
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| 2.18 | | | | | | EN ONATU | GINER F | | |
| NAG P300 | | | | | | | | | |
| 8.00 | | | | | | | | | |
| 0.034 | |] | | | | | | | |
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| ONS | | | | | 1 | DESCRIPTION TOWN OF ROLE COMMENT | SVILLE | DATE 1/23/2020 | BY FLM |
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| 0.00 | cf | | | | | | | | |
| 0.00 | lbs | | | | | | | | |
| 32.00 4800.00 | cf Ibs | | | | | | | | |
| 8625.00 | lbs | | | | | ORIGINAL PLA | N SIZE: | 24" X 36" | |
| 13425.00 | lbs | | | | | | | | |
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| 8580.00 | lbs | | | | | FOR R | | | |
| 8580.00 | lbs | | | | | DO NOT USE FO | R CONS | TRUCTION | |
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| | | | | | | | | , ADJUST YOUR ACCORDINGLY | |
| | | | | | | SITE | PLAN | S | |
| | | | | | | ROLESVILL | ECR | OSSFIT | |
| | | | | | 8 | 850 GRANITE FALLS BLVD ROLESVILLE, NC 27571 | | | D |
| | | | | | | | | | |
| | | | | | | MCARN REALTY LLC | | | |
| | | | | | | DATE: SCALE: | | 0-25-2019 S SHOWN | |
| | | | | | DES | SIGNED BY: | - | FLM | |
| | | | | | | PROVED BY: | | FLM 19036 | |
| | | | | | | CALCU | LATIC | NS | |
| | | | | CTION SHALL BE IN | ק | | | | |
| | | | ROLESVILLE, CITY C | WITH ALL TOWN OF DF RALEIGH AND WAKE | | С | -2 | , | |
| | | | COUNTY STANDARD | S AND SPECIFICATIONS | _] | | 2 OF 1 | | |



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NOTES

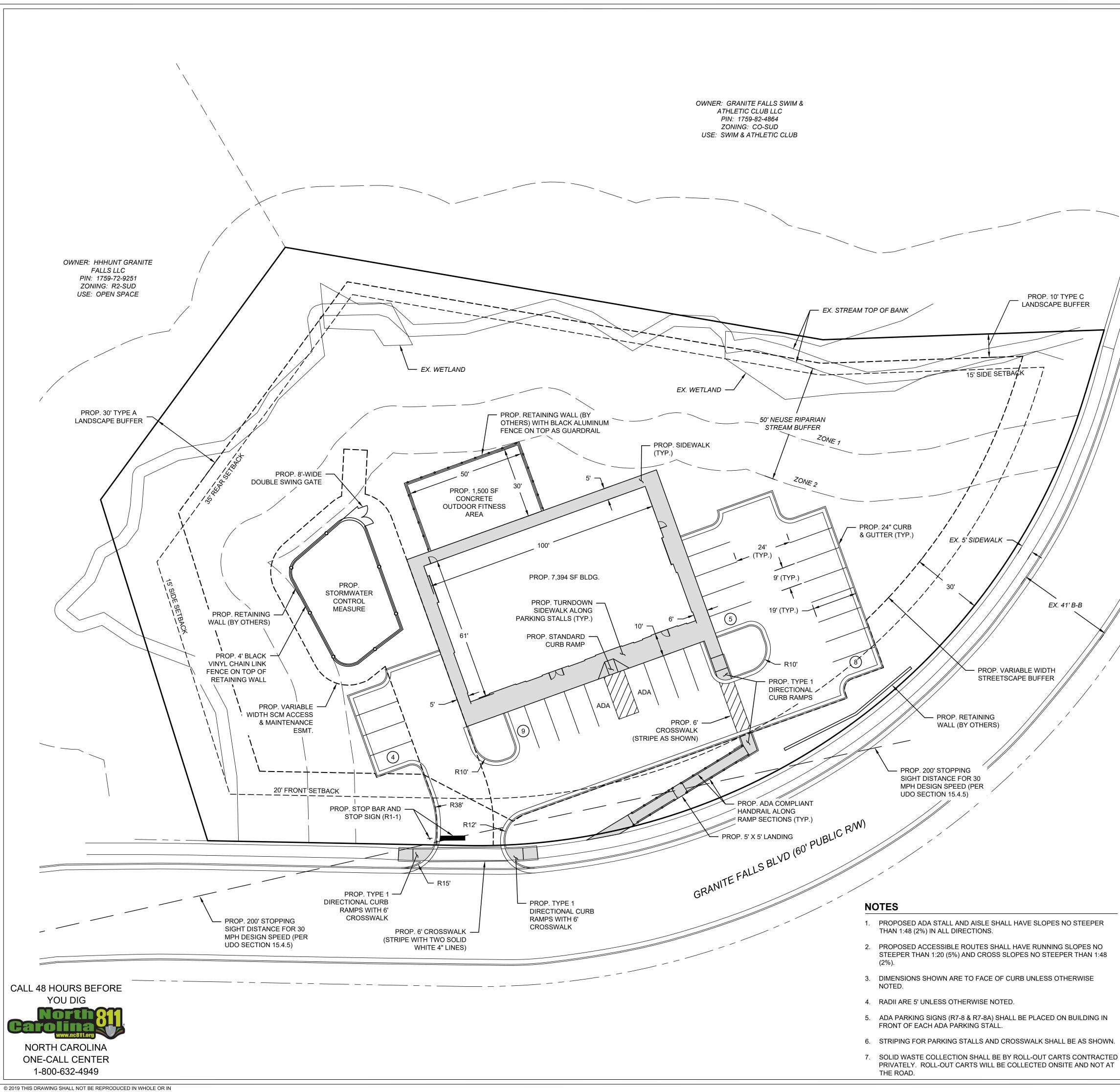
- 1. BOUNDARY AND TOPOGRAPHIC SURVEY DATA PROVIDED BY CAWTHORNE, MOSS & PANCIERA, PC ON JUNE 26, 2019.
- 2. WETLANDS AND STREAMS SHOWN DELINEATED BY CAROLINA ECOSYSTEMS, INC. AND LOCATED BY CAWTHORNE, MOSS & PANCIERA, PC. JURISDICTIONAL DETERMINATION PENDING.
- 3. THERE ARE NO FLOOD PRONE AREAS PRESENT PER FEMA FIRM PANEL NO. 3720175900J, EFFECTIVE MAY 2, 2006.
- 4. THE UTILITIES SHOWN ARE NOT GUARANTEED TO BE A REPRESENTATION OF ALL UTILITIES WITHIN THE PROJECT EXTENT.
- 5. THE CONTRACTOR SHALL CALL THE NORTH CAROLINA ONE-CALL-CENTER AT LEAST 48 HOURS PRIOR TO BEGINNING WORK.
- 6. THE CONTRACTOR SHALL VERIFY DEPTHS AND LOCATIONS OF ALL UTILITIES PRIOR TO BEGINNING WORK AND SHALL USE CARE WHEN OPERATING AROUND EXISTING UTILITIES.
- 7. 8. THE CONTRACTOR SHALL BE FINANCIALLY RESPONSIBLE FOR THE REPAIR OF ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION.

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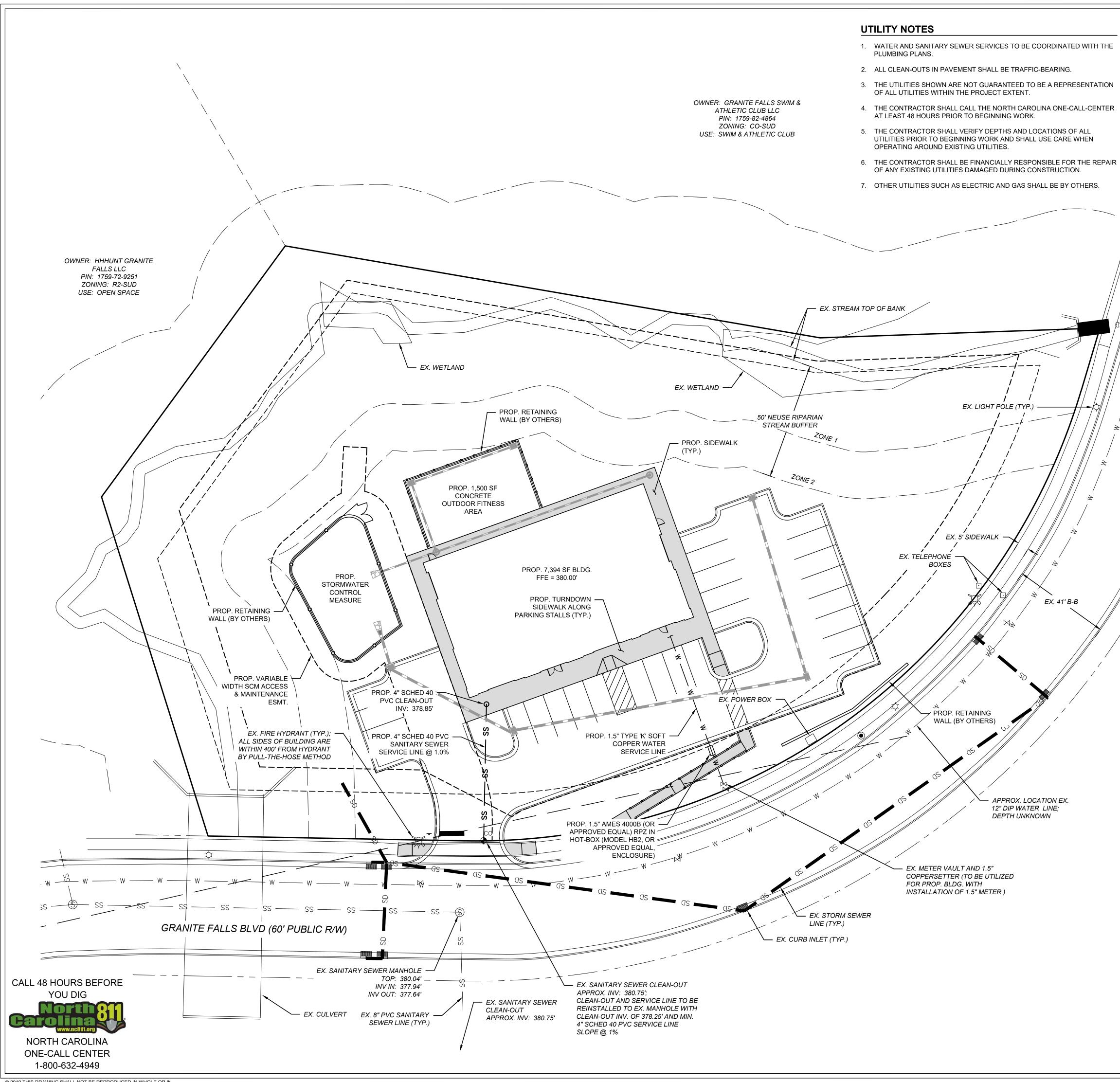
EX. PROPERTY LINE EX. RIGHT-OF-WAY EX. ADJACENT OWNERS EX. MAJOR CONTOUR (5') EX. MINOR CONTOUR (1') EX. CHANNEL/STREAM EX. STREAM BUFFER EX. WATER LINE EX. SANITARY SEWER EX. STORM SEWER EX. TREE LINE EX. SOIL LINE

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF ROLESVILLE, CITY OF RALEIGH AND WAKE COUNTY STANDARDS AND SPECIFICATIONS



PART WITHOUT WRITTEN PERMISSION OF FLM ENGINEERING, INC.

| | POST OFFICE BOX 91727 RALEIGH, NORTH CAROLINA 27 PHONE: 919.610.1051 FIRM NC LICENSE NUMBER C-4 | 7675 |
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| | | |
| | REVISION HISTORY REV # DESCRIPTION DAT 1 TOWN OF ROLESVILLE COMMENTS 1/23/2 | |
| | | |
| | | |
| | | |
| | ORIGINAL PLAN SIZE: 24" X 3 | 6" |
| | ISSUED FOR REVIEW DO NOT USE FOR CONSTRUCT | ION |
| SUMMARY INFORMATION | | |
| DEVELOPMENT NAME: ROLESVILLE CROSSFIT | 20 10 0 | 20 |
| SITE ADDRESS: 850 GRANITE FALLS BLVD, ROLESVILLE, NC 27571 | 20 10 0 SCALE: 1 INCH = 20 FEET | |
| PIN NUMBER(S): 1759-82-2247 | | |
| TOTAL ACREAGE: 1.78 AC | | |
| EXISTING USE: VACANT | THIS BAR IS 1 IN ON ORIGINAL | |
| PROPOSED USE: GYM | | l |
| JURISDICTION: TOWN OF ROLESVILLE CURRENT ZONING DISTRICT: CO-SUD | IF IT IS NOT 1 II SHEET, ADJUST ACCORE | YOUR SCALE |
| SETBACKS: FRONT: 20' SIDE: 15' | SITE PLANS | |
| REAR: 35' | | |
| PROPOSED BUILDING AREA: 7,394 SF REQUIRED PARKING: 1 SPACE PER 500 SF (LOW GENERATOR RETAIL) = 7,394 SF / 500 SF/SPACE = 15 SPACES PROPOSED PARKING: 26 SPACES (2 A DA 2) (AN A COESSIDEE) | ROLESVILLE CROSSI 850 GRANITE FALLS B ROLESVILLE, NC 275 | LVD |
| PROPOSED PARKING: 26 SPACES (2 ADA, 2 VAN ACCESSIBLE) | | |
| WATERSHED: LOWER NEUSE RIVER EXISTING IMPERVIOUS AREA: 0 SF (0.00 AC) OR 0% PROPOSED IMPERVIOUS AREA: 22,658 SF (0.53 AC) OR 29.8% | | |
| | | ן נ |
| LEGEND | | |
| EX. PROPERTY LINE | DATE: 10-25-20 |)19 |
| | SCALE: AS SHO | |
| EX. ADJACENT OWNERS | DESIGNED BY: FLM | |
| EX. STREAM BUFFER | APPROVED BY: FLM |] |
| PROP. SETBACK LINE | PROJECT NO.: 19036 | |
| PROP. EASEMENT/BUFFER | | |
| | SITE PLAN | |
| · • • • • • • • • • • • • • • • • • • • | | |
| ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF ROLESVILLE, CITY OF RALEIGH AND WAKE COUNTY STANDARDS AND SPECIFICATIONS | C-4 | |
| | SHEET 4 OF 18 | |



CITY OF RALEIGH UTILITY NOTES

- 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 24" MIN. VERTICAL SEPARATION AT ALL SANITARY SEWER & RCP STORM DRAIN CROSSINGS. WHERE ADEQUATE SEPARATIONS CANNOT BE ACHIEVED, SPECIFY DIP MATERIALS & A CONCRETE CRADLE HAVING 6" MIN. CLEARANCE (PER CORPUD DETAILS W-41 & S-49)
- f. ALL OTHER UNDERGROUND UTILITIES SHALL CROSS WATER & SEWER FACILITIES WITH 18" MIN. VERTICAL SEPARATION REQUIRED.
- 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.
- CONTRACTOR SHALL MAINTAIN CONTINUOUS WATER & SEWER SERVICE TO EXISTING RESIDENCES & BUSINESSES THROUGHOUT CONSTRUCTION OF PROJECT. ANY NECESSARY SERVICE INTERRUPTIONS SHALL BE PRECEDED BY A 24 HOUR ADVANCE NOTICE TO THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT.
- 5. 3.0' MINIMUM COVER IS REQUIRED ON ALL WATER MAINS & SEWER FORCEMAINS. 4.0' MINIMUM COVER IS REQUIRED ON ALL REUSE MAINS.
- 6. IT IS THE DEVELOPER'S RESPONSIBILITY TO ABANDON OR REMOVE EXISTING WATER & SEWER SERVICES NOT BEING USED IN REDEVELOPMENT OF A SITE UNLESS OTHERWISE DIRECTED BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT. THIS INCLUDES ABANDONING TAP AT MAIN & REMOVAL OF SERVICE FROM ROW OR EASEMENT PER CORPUD HANDBOOK PROCEDURE.
- INSTALL COPPER WATER SERVICES WITH METERS LOCATED AT ROW OR WITHIN A 2'X2' WATERLINE EASEMENT IMMEDIATELY ADJACENT. NOTE: IT IS THE APPLICANT'S RESPONSIBILITY TO PROPERLY SIZE THE WATER SERVICE FOR EACH CONNECTION TO PROVIDE ADEQUATE FLOW & PRESSURE.
- INSTALL PVC SEWER SERVICES @ 1.0% MINIMUM GRADE WITH CLEANOUTS LOCATED AT ROW OR EASEMENT LINE & SPACED EVERY 75 LINEAR FEET MAXIMUM.
- PRESSURE REDUCING VALVES ARE REQUIRED ON ALL WATER SERVICES EXCEEDING 80 PSI; BACKWATER VALVES ARE REQUIRED ON ALL SANITARY SEWER SERVICES HAVING BUILDING DRAINS LOWER THAN 1.0' ABOVE THE NEXT UPSTREAM MANHOLE.
- 10. ALL ENVIRONMENTAL PERMITS APPLICABLE TO THE PROJECT MUST BE OBTAINED FROM NCDWR, USACE &/OR FEMA FOR ANY RIPARIAN BUFFER, WETLAND &/OR FLOODPLAIN IMPACTS (RESPECTIVELY) PRIOR TO CONSTRUCTION.
- 11. NCDOT / RAILROAD ENCROACHMENT AGREEMENTS ARE REQUIRED FOR ANY UTILITY WORK (INCLUDING MAIN EXTENSIONS & SERVICE TAPS) WITHIN STATE OR RAILROAD ROW PRIOR TO CONSTRUCTION.
- 12. GREASE INTERCEPTOR / OIL WATER SEPARATOR SIZING CALCULATIONS & INSTALLATION SPECIFICATIONS SHALL BE APPROVED BY THE CORPUD FOG PROGRAM COORDINATOR PRIOR TO ISSUANCE OF A BUILDING PERMIT. CONTACT TIM BEASLEY AT (919) 996-2334 OR timothy.beasley@raleighnc.gov FOR MORE INFORMATION.
- 13. CROSS-CONNECTION CONTROL PROTECTION DEVICES ARE REQUIRED BASED ON DEGREE OF HEALTH HAZARD INVOLVED AS LISTED IN APPENDIX-B OF THE RULES GOVERNING PUBLIC WATER SYSTEMS IN NORTH CAROLINA. THESE GUIDELINES ARE THE MINIMUM REQUIREMENTS. THE DEVICES SHALL MEET AMERICAN SOCIETY OF SANITARY ENGINEERING (ASSE) STANDARDS OR BE ON THE UNIVERSITY OF SOUTHERN CALIFORNIA APPROVAL LIST. THE DEVICES SHALL BE INSTALLED AND TESTED (BOTH INITIAL AND PERIODIC TESTING THEREAFTER) IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS OR THE LOCAL CROSS-CONNECTION CONTROL PROGRAM, WHICHEVER IS MORE STRINGENT. CONTACT JOANIE HARTLEY AT (919) 996-5923 OR joanie.hartley@raleighnc.goc FOR MORE INFORMATION

EX. PROPERTY LINE

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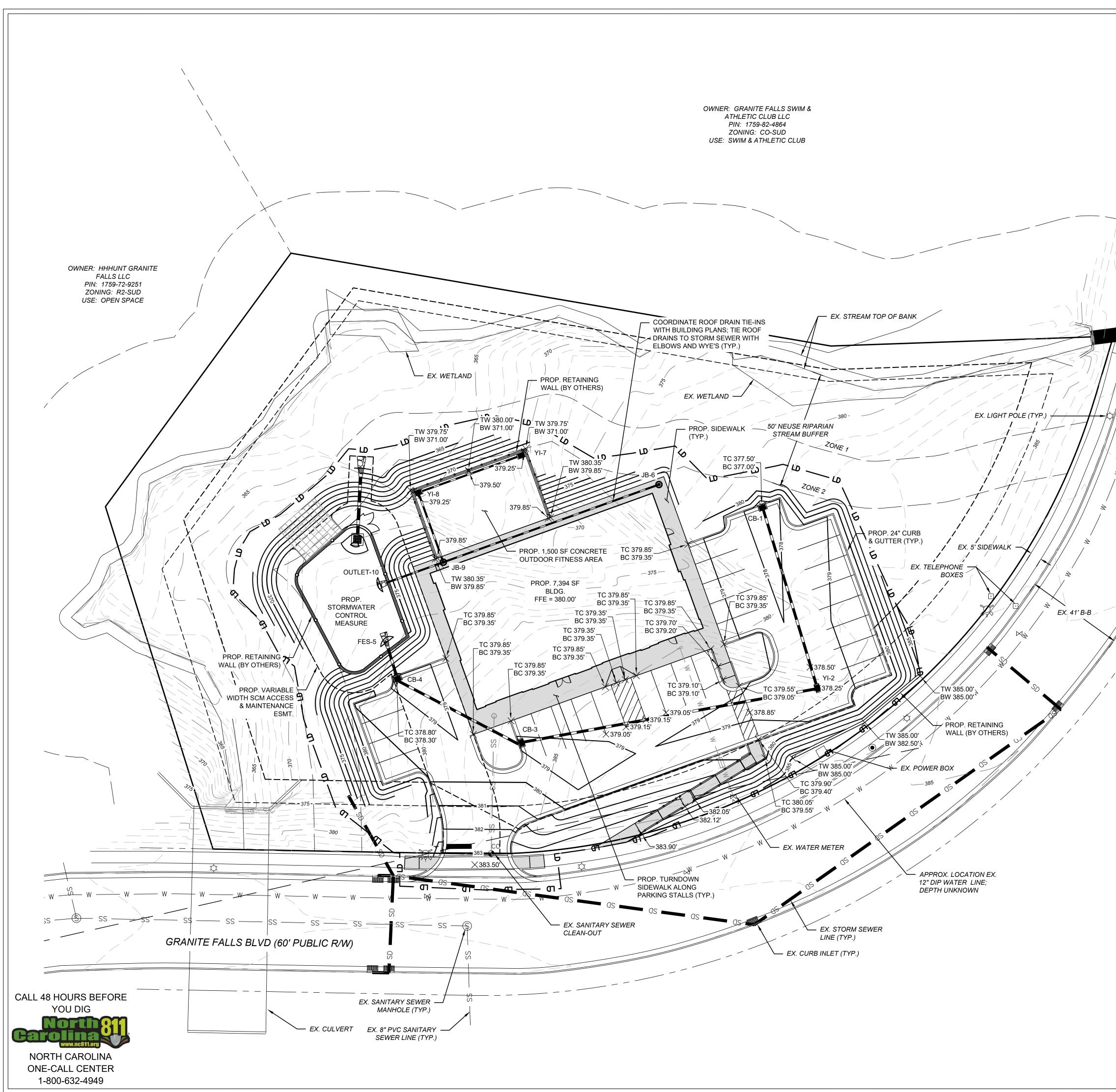
EX. RIGHT-OF-WAY EX. ADJACENT OWNERS EX. CHANNEL/STREAM EX. STREAM BUFFER EX. WATER LINE EX. SANITARY SEWER EX. STORM SEWER PROP. SETBACK LINE PROP. EASEMENT/BUFFER PROP. CHAINLINK FENCE PROP. ADA HANDRAIL/GUARDRAIL PROP. WATER LINE PROP. SANITARY SEWER PROP. STORM SEWER

> ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF ROLESVILLE, CITY OF RALEIGH AND WAKE COUNTY STANDARDS AND SPECIFICATIONS

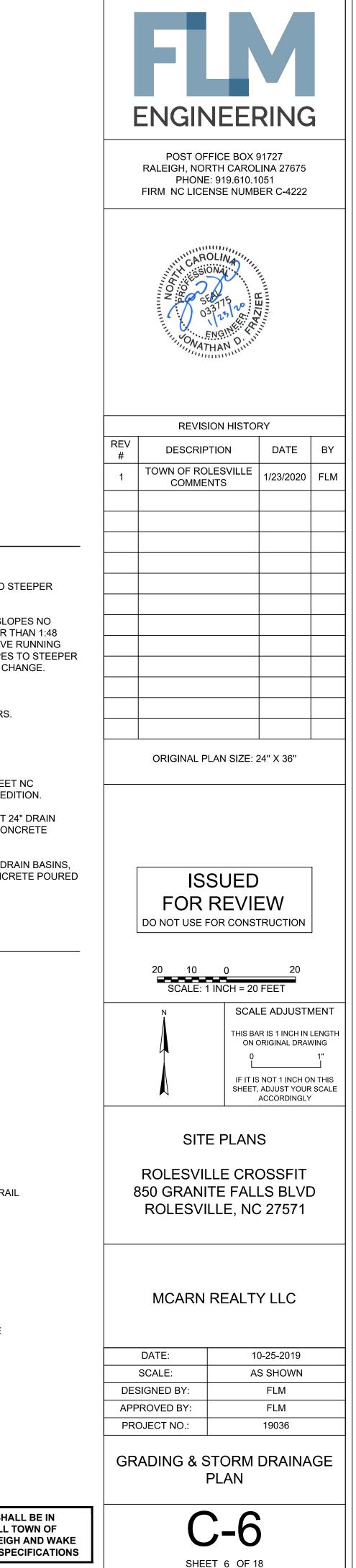
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| UTILITY PLAN | | | | | |

C-5

SHEET 5 OF 18



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NOTES

- 1. PROPOSED CONTOURS REPRESENT FINISH GRADES.
- PROPOSED ADA STALL AND AISLE SHALL HAVE SLOPES NO STEEPER 2. THAN 1:48 (2%) IN ALL DIRECTIONS.
- PROPOSED ACCESSIBLE ROUTES SHALL HAVE RUNNING SLOPES NO STEEPER THAN 1:20 (5%) AND CROSS SLOPES NO STEEPER THAN 1:48 (2%). PROPOSED ACCESSIBLE RAMP SECTIONS SHALL HAVE RUNNING SLOPES NO STEEPER THAN 1:12 (8.33%) AND CROSS SLOPES TO STEEPER THAN 1:48 (2%) WITH LANDINGS EVERY 2.5' OF ELEVATION CHANGE.
- 4. SLOPES ARE 2H:1V UNLESS OTHERWISE NOTED.
- 5. RETAINING WALLS SHOWN SHALL BE DESIGNED BY OTHERS.
- 6. SEE SHEET C-2 FOR PIPE TABLE.
- 7. ALL HDPE SHALL BE DOUBLE WALL.
- 8. ALL HDPE PIPE AND ROOF DRAIN CONNECTIONS SHALL MEET NC PLUMBING CODE CHAPTER 11 STORM DRAINAGE, LATEST EDITION.
- 9. JUNCTION BOXES JB-6 AND JB-9 SHALL BE ADS NYLOPLAST 24" DRAIN BASINS, OR APPROVED EQUAL, WITH SOLID COVER AND CONCRETE POURED IN BOTTOM TO ELIMINATE SUMP.
- 10. YARD INLETS YI-7 AN DYI-8 SHALL BE ADS NYLOPLAST 24" DRAIN BASINS, OR APPROVED EQUAL, WITH 24" DROP-IN GRATE AND CONCRETE POURED IN BOTTOM TO ELIMINATE SUMP.

LEGEND

| | EX. PROPERTY LINE |
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| | EX. RIGHT-OF-WAY |
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| | EX. MINOR CONTOUR |
| | PROP. SETBACK LINE |
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| —— W —— W —— | PROP. WATER LINE |
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EX. ADJACENT OWNERS EX. CHANNEL/STREAM EX. STREAM BUFFER EX. WATER LINE EX. SANITARY SEWER EX. STORM SEWER EX. MAJOR CONTOUR (5') EX. MINOR CONTOUR (1') PROP. SETBACK LINE PROP. EASEMENT/BUFFER PROP. CHAINLINK FENCE PROP. ADA HANDRAIL/GUARDRAIL PROP. WATER LINE PROP. SANITARY SEWER PROP. STORM SEWER PROP. CURB INLET (CB) PROP. YARD INLET PROP. FLARED END SECTION PROP. JUNCTION BOX PROP. LIMIT OF DISTURBANCE PROP. MAJOR CONTOUR (5') PROP. MINOR CONTOUR (1') TOP OF CURB ELEVATION BOTTOM OF CURB ELEVATION TOP OF WALL ELEVATION BOTTOM OF WALL ELEVATION SPOT ELEVATION

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF ROLESVILLE, CITY OF RALEIGH AND WAKE COUNTY STANDARDS AND SPECIFICATIONS

NOTES

- THE WETLAND MUST BE STABILIZED WITHIN 14 DAYS OF CONSTRUCTION. CONSTRUCTION SHALL BE SEQUENCED SO THAT VEGETATION CAN BE PLANTED AND THE WETLAND BROUGHT ONLINE WITHIN 14 DAYS. PLANTS MAY NEED TO BE WATERED DURING THIS TIME IF THE DEVICE IS NOT BROUGHT ONLINE THE SAME DAY. STABILIZATION MAY BE IN THE FORM OF FINAL VEGETATION PLANTINGS OR A TEMPORARY MEANS UNTIL THE VEGETATION BECOMES ESTABLISHED. IF USING A TEMPORARY MEANS, CONTRACTOR SHALL PROVIDE A WET HYDROSEED MIX. CONTRACTOR SHALL SCARIFY THE SOIL TO A HALF-INCH PRIOR TO HYDROSEEDING.
- INLET AND OUTLET CHANNELS SHALL BE PROTECTED FROM SCOUR THAT MAY OCCUR DURING PERIODS OF HIGH FLOW. STANDARD EROSION CONTROL MEASURES SHOULD BE USED.
- THE STORMWATER WETLAND SHOULD BE STAKED AT THE ONSET OF THE PLANTING SEASON. WATER DEPTHS IN THE WETLAND SHOULD BE MEASURED TO CONFIRM THE ORIGINAL PLANTING ZONES. AT THIS TIME, IT MAY BE NECESSARY TO MODIFY THE PLANTING PLAN TO REFLECT ALTERED DEPTHS OR THE AVAILABILITY OF WETLAND PLANT STOCK. CONTRACTOR SHALL COORDINATE PLANTINGS, PLANTING ZONES AND WATER DEPTHS WITH THE ENGINEER. SURVEYED PLANTING ZONES SHOULD BE MARKED ON AN "AS-BUILT" OR RECORD DESIGN PLAN AND LOCATED IN THE FIELD USING STAKES OR FLAGS.
- THE WETLAND DRAIN SHOULD BE FULLY OPENED FOR NO MORE THAN 3 DAYS PRIOR TO THE PLANTING DATE (WHICH SHOULD COINCIDE WITH THE DELIVERY DATE FOR THE WETLAND PLANT STOCK) TO PRESERVE SOIL MOISTURE AND WORKABILITY.
- NURSERY STOCK SHALL BE TRANSPLANTED FROM LOCAL AQUATIC PLANT NURSERIES. THE OPTIMAL PERIOD FOR TRANSPLANTING EXTENDS FROM EARLY APRIL TO MID-JUNE SO THAT THE WETLAND PLANTS WILL HAVE A FULL GROWING SEASON TO BUILD THE ROOT RESERVES NEEDED TO SURVIVE THE WINTER. HOWEVER, SOME SPECIES MAY BE PLANTED SUCCESSFULLY IN EARLY FALL. CONTRACTOR SHALL CONTACT NURSERY WELL IN ADVANCE OF CONSTRUCTION TO ENSURE THAT THEY WILL HAVE THE DESIRED SPECIES AVAILABLE.
- POST-NURSERY CARE OF WETLAND PLANTS IS VERY IMPORTANT IN THE INTERVAL BETWEEN DELIVERY OF THE PLANTS AND THEIR SUBSEQUENT INSTALLATION BECAUSE THEY ARE PRONE TO DESICCATION. STOCK SHOULD BE FREQUENTLY WATERED AND SHADED.
- SHWT TO BE EVALUATED PRIOR TO CONSTRUCTION. IF SHWT IS WITHIN 6" OF PPE ELEVATION, A CLAY LINER WILL NOT BE REQUIRED. OTHERWISE, INSTALLATION OF A 6" CLAY LINER WILL BE REQUIRED. CLAY LINER SHALL HAVE A MINIMUM 15% PASSING THE #200 SIEVE AND A MAX PERMEABILITY OF 1 X 10⁻⁵ CM/SEC. ACCEPTABLE ALTERNATIVES INCLUDE A 30 MIL POLY-LINER OR A BENTONITE LINER.
- GRADES SHOWN REPRESENT FINISH GRADE ELEVATIONS. TO ACHIEVE FINISH GRADE ELEVATIONS, INSTALL 4" OF TOPSOIL. SOIL pH, COMPACTION AND OTHER ATTRIBUTES OF THE FIRST 12-INCH DEPTH OF THE SOIL SHALL BE ANALYZED BY A SOIL SCIENTIST AND/OR LANDSCAPE ARCHITECT DURING CONSTRUCTION. AMENDMENTS SHALL BE MADE AS NECESSARY.
- PROVIDE PLANTS PER TABLE ON THIS SHEET. DAM STRUCTURE AND PERIMETER FILL SLOPES SHALL BE PLANTED WITH NON-CLUMPING TURN GRASS. TREES AND WOODY SHRUBS NOT ALLOWED.

10. CATTAILS SHALL NOT BE PLANTED IN WETLAND.

- **OUTLET STRUCTURE NOTES & SPECIFICATIONS**
- 18" RCP OUTLET SHALL BE CLASS III RCP MEETING REQUIREMENTS OF ASTM C76. THE PIPE JOINTS SHALL BE MORTAR OR FLEXIBLE PLASTIC TYPE JOINT.
- THE MANHOLE OUTLET RISER SHALL BE 4'X4' I.D. MEETING ASTM C-913. THE MANHOLE JOINTS SHALL BE ASTM C-443 RUBBER GASKET JOINTS. MANHOLE JOINTS SHALL BE SECURELY ANCHORED TO PREVENT SEPARATION. CONTRACTOR IS RESPONSIBLE FOR DESIGN OF THE MANHOLE SECTION ANCHORING SYSTEM.
- WATERTIGHT SEAL SHALL BE PROVIDED AT RISER/BARREL INTERFACE. PERVIOUS MATERIAL SUCH AS SAND, GRAVEL, OR CRUSHED STONE SHALL NOT BE USED AS BACKFILL AROUND THE PIPE OR ANTI-SEEP COLLAR. FILL MATERIAL AROUND THE RISER/BARREL STRUCTURE SHALL BE PLACED IN 4" LAYERS AND COMPACTED TO THE SAME DENSITY AS THE ADJACENT EMBANKMENT.
- OUTLET STRUCTURE SHALL BE PROVIDED WITH STEPS 1'-2" ON CENTER. STEPS SHALL BE IN ACCORDANCE WITH NCDOT STD. 840.66.
- CONCRETE ANTI-FLOATATION BLOCK SHALL BE PRECAST DURING FABRICATION. IF THE CONCRETE ANTI-FLOATATION BLOCK IS CAST SEPARATE FROM THE MANHOLE ASSEMBLY THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANCHORING THE ANTI-FLOATATION BLOCK TO THE MANHOLE RISER ASSEMBLY
- ALL POURED CONCRETE SHALL BE A MINIMUM 3,000 PSI (28 DAY) UNLESS OTHERWISE NOTED.
- NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED AROUND EACH JOINT OF THE 18" RCP BARREL IN 2' WIDE STRIPS CENTERED ON JOINT. FABRIC SHALL BE AMOCO STYLE 4553 POLYPROPYLENE NON-WOVEN NEEDLE PUNCHED OR APPROVED EQUAL (NON-WOVEN FABRIC).

BERM SPECIFICATIONS

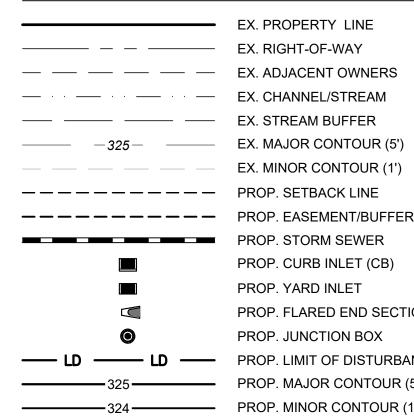
- ALL FILL SOILS FOR BERM SECTION SHALL BE CLEAN, IMPERMEABLE MATERIAL AND COMPACTED TO AT LEAST 98% STANDARD PROCTOR MAXIMUM DRY DENSITY, AT OPTIMUM MOISTURE CONTENT. NO BLASTED MATERIALS SHALL BE USED IN THE EMBANKMENT CONSTRUCTION. SOILS SHALL NOT EXHIBIT SIGNIFICANT SHRINK/SWELL OR DISPERSIVE CHARACTERISTICS. THE ON-SITE GEOTECHNICAL ENGINEER SHALL APPROVE THE SOILS FOR PLACEMENT WITHIN THE BERM SECTION. THE GEOTECHNICAL ENGINEER SHALL ALSO SPECIFY THE METHODS TO BE USED FOR PLACEMENT OF FILL.
- IN ALL FILL AREAS OF THE BERM, A SOILS COMPACTION TEST SHALL BE CONDUCTED EACH 2,500 SQUARE FEET PER VERTICAL CUT OF FILL.
- A KEY TRENCH IS TO BE PROVIDED IN ALL FILL AREAS. TRENCH TO EXTEND A MINIMUM OF FIVE FEET BELOW EXISTING GRADE. SOILS AND COMPACTION FOR KEY TRENCH SHALL MEET ALL REQUIREMENTS OF #1 ABOVE.
- FILL PLACEMENT SHALL NOT EXCEED A MAXIMUM OF 8" LIFTS. EACH LIFT SHALL BE CONTINUOUS FOR THE ENTIRE LENGTH OF EMBANKMENT. BEFORE PLACEMENT OF FILL FOR THE BERM SECTION, ALL UNSUITABLE MATERIAL SHALL BE REMOVED AND THE SURFACE PROPERLY PREPARED FOR FILL PLACEMENT.
- NO TREES OF ANY TYPE MAY BE LOCATED ON THE BERM SECTION.
- 6. SIDE SLOPES SHALL BE LINED WITH NAG S75, OR APPROVED EQUAL
- INSTALL ANTI-SEEP COLLAR AT MIDPOINT OF OUTLET PIPE. CONCRETE SHALL BE 3,000 PSI (28 DAYS) AND REINFORCED WITH #4 REBAR 12" O.C. EACH WAY. MINIMUM BEARING CAPACITY BENEATH COLLAR SHALL BE 2,000 PSF.

CALL 48 HOURS BEFORE YOU DIG

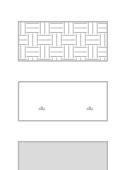


1-800-632-4949

LEGEND



EX. PROPERTY LINE EX. MAJOR CONTOUR (5') PROP. CURB INLET (CB) PROP. YARD INLET PROP. FLARED END SECTION PROP. JUNCTION BOX PROP. LIMIT OF DISTURBANCE PROP. MAJOR CONTOUR (5') —— PROP. MINOR CONTOUR (1')



SHALLOW LAND AREA

SHALLOW WATER AREA

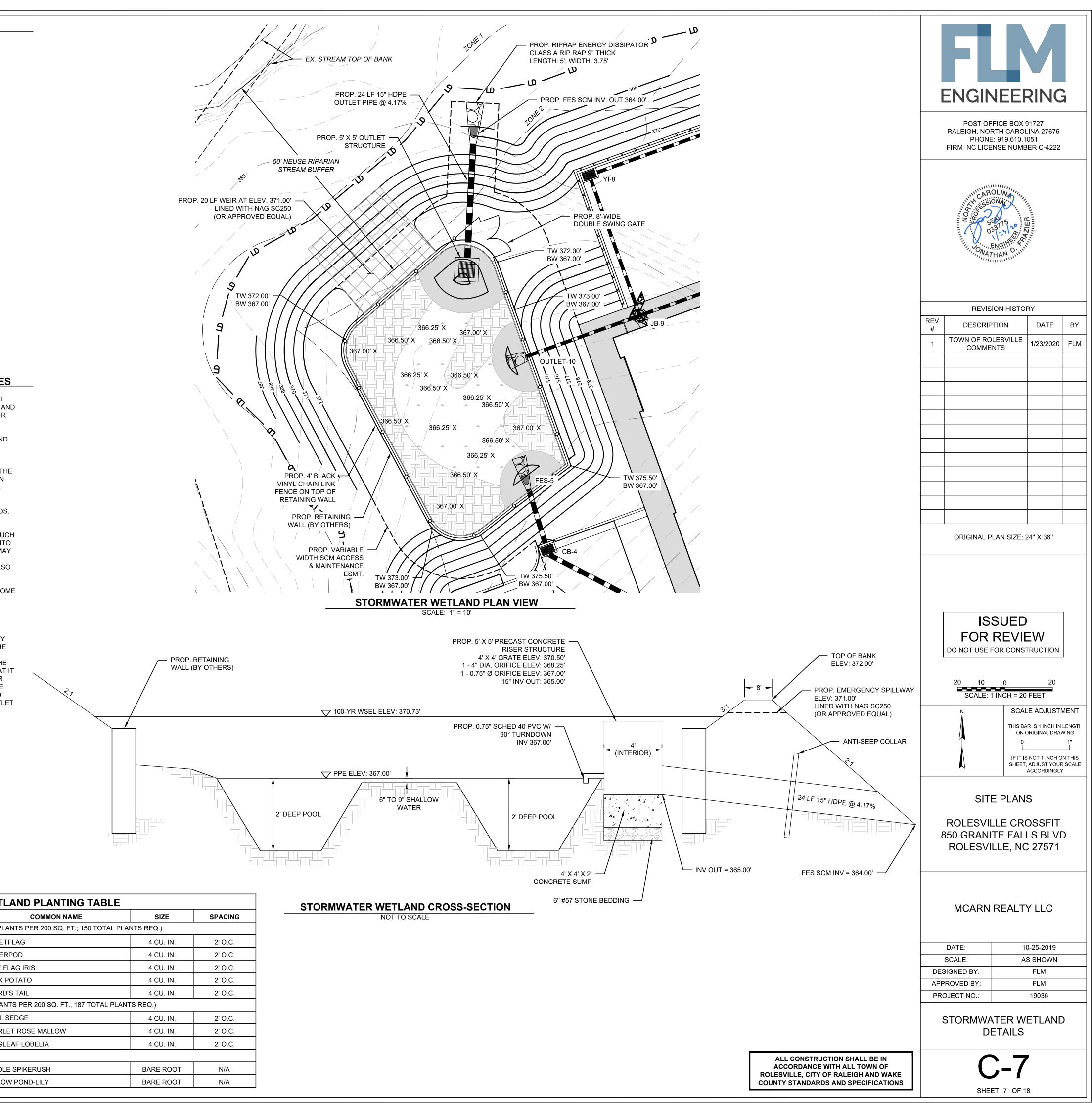
DEEP POOL AREA

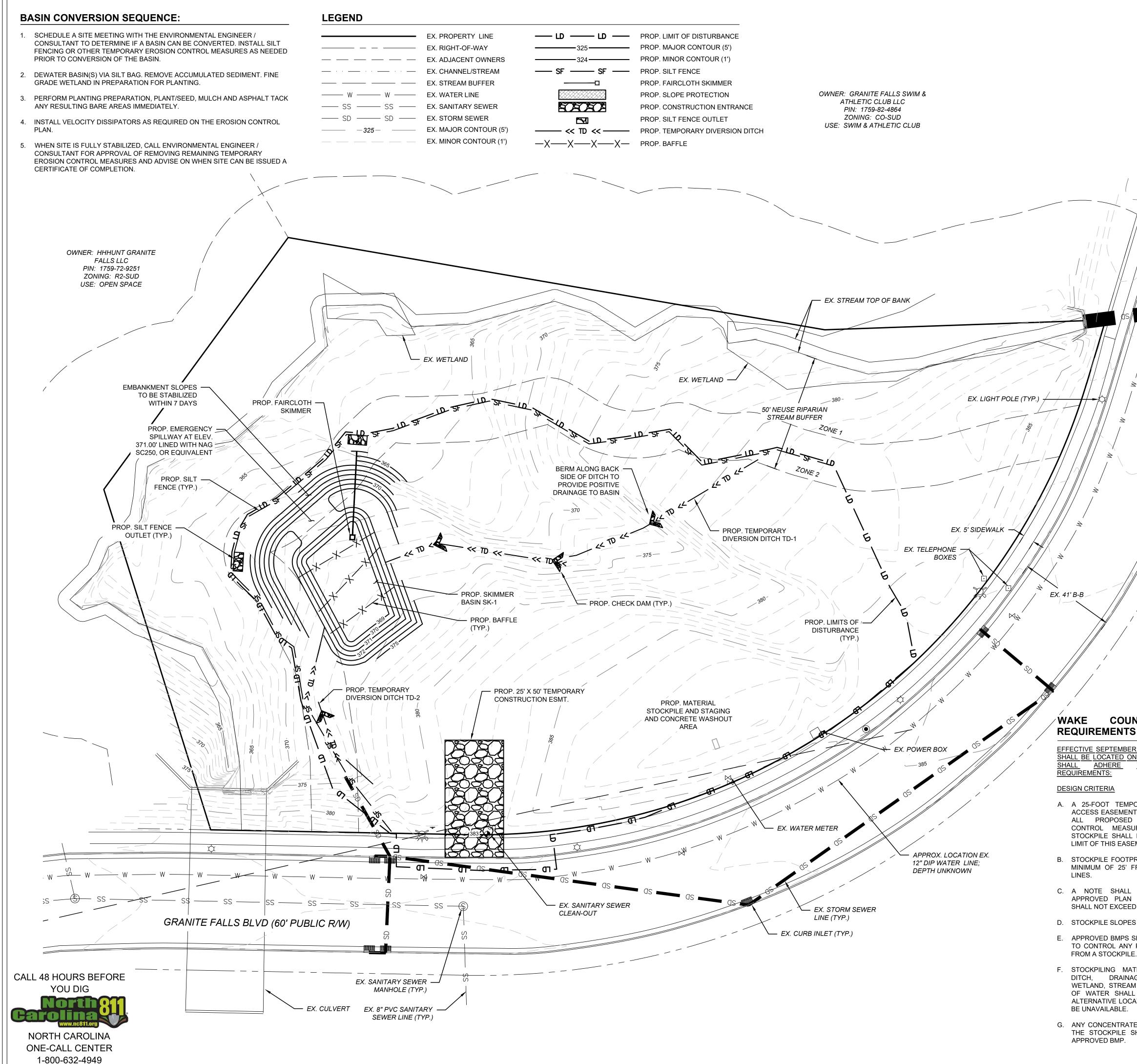
STORMWATER WETLAND MAINTENANCE NOTES

- 1. THE LANDSCAPE PROFESSIONAL MANAGING THE WETLAND MUST UNDERSTAND THE BIOLOGICAL REQUIREMENTS OF THE PLANTS AND MANAGE WATER LEVELS APPROPRIATELY TO PROVIDE FOR THEIR NEEDS.
- 2. ALTHOUGH WETLAND PLANTS REQUIRE WATER FOR GROWTH AND REPRODUCTION, THEY CAN BE KILLED BY DROWNING IN EXCESSIVELY DEEP WATER. USUALLY, INITIAL GROWTH IS BEST WITH TRANSPLANTED PLANTS IN WET, WELL-AERATED SOIL. OCCASIONAL INUNDATION FOLLOWED BY EXPOSURE TO AIR OF THE MAJORITY OF THE VEGETATION ENABLES THE PLANTS TO OBTAIN OXYGEN AND GROW OPTIMALLY. CONVERSELY, FREQUENT SOIL SATURATION IS IMPORTANT FOR WETLAND PLANT SURVIVAL.
- 3. DRAMATIC SHIFTS CAN OCCUR AS PLANT SUCCESSION PROCEEDS. THE PLANT COMMUNITY REFLECTS MANAGEMENT AND CAN INDICATE PROBLEMS OR THE RESULTS OF IMPROVEMENTS. FOR EXAMPLE, A REQUIREMENT OF SUBMERGED AQUATIC PLANTS, SUCH AS PONDWEED (POTAMOGETON SPP.), IS LIGHT PENETRATION INTO THE WATER COLUMN. THE DISAPPEARANCE OF THESE PLANTS MAY INDICATE INADEQUATE WATER CLARITY. THE APPEARANCE OF INVASIVE SPECIES OR DEVELOPMENT OF A MONOCULTURE IS ALSO A SIGN OF A PROBLEM WITH THE AQUATIC/SOIL/VEGETATIVE REQUIREMENTS. FOR INSTANCE, MANY INVASIVE SPECIES CAN QUICKLY SPREAD AND TAKE OVER A WETLAND. IF CATTAILS BECOME INVASIVE, THEY CAN BE REMOVED BY A LICENSED AQUATIC PESTICIDE APPLICATOR BY WIPING AQUATIC GLYPHOSATE, A SYSTEMIC HERBICIDE, ON THE CATTAILS.
- 4. UNLIKE MAINTENANCE REQUIREMENTS FOR WET OR DRY STORMWATER PONDS, SEDIMENT SHOULD ONLY BE SELECTIVELY REMOVED FROM STORMWATER WETLANDS, PRIMARILY FROM THE FOREBAY.SEDIMENT REMOVAL DISTURBS STABLE VEGETATION COVER AND DISRUPTS FLOWPATHS THROUGH THE WETLAND. THE TOP FEW INCHES OF SEDIMENT SHOULD BE STOCKPILED SO THAT IT CAN BE REPLACED OVER THE SURFACE OF THE WETLAND AFTER THE COMPLETION OF SEDIMENT REMOVAL TO RE-ESTABLISH THE VEGETATIVE COVER USING ITS OWN SEED BANK. ACCUMULATED SEDIMENT SHOULD BE REMOVED FROM AROUND INLET AND OUTLET STRUCTURES.

| STORMWATER WETLAND PLANTING TABLE | | | | | | |
|-----------------------------------|----------------------------------------|---------------------------------------------|----------------|---------|--|--|
| QUANTITY | BOTANICAL NAME | COMMON NAME | SIZE | SPACING | | |
| SHALLOW WATE | R PLANTINGS (AREA = 600 SQ. FT.; 50 HE | RBACEOUS PLANTS PER 200 SQ. FT.; 150 TOTA | L PLANTS REQ.) | | | |
| 30 | ACORUS SUBCORDATUM | SWEETFLAG | 4 CU. IN. | 2' O.C. | | |
| 30 | HYDROLEA QUADRIVALVIS | WATERPOD | 4 CU. IN. | 2' O.C. | | |
| 30 | IRIS VIRGINICA | BLUE FLAG IRIS | 4 CU. IN. | 2' O.C. | | |
| 30 | SAGITTARIA LATIFOLIA | DUCK POTATO | 4 CU. IN. | 2' O.C. | | |
| 30 | SAURURUS CERNUUS | LIZARD'S TAIL | 4 CU. IN. | 2' O.C. | | |
| SHALLOW LAND | PLANTINGS (AREA = 745 SQ. FT.; 50 HERE | BACEOUS PLANTS PER 200 SQ. FT.; 187 TOTAL I | PLANTS REQ.) | | | |
| 63 | CAREX TENERA | QUILL SEDGE | 4 CU. IN. | 2' O.C. | | |
| 63 | HIBISCUS COCCINEUS | SCARLET ROSE MALLOW | 4 CU. IN. | 2' O.C. | | |
| 63 | LOBELIA ELONGATA | LONGLEAF LOBELIA | 4 CU. IN. | 2' O.C. | | |
| DEEP POOL | | | | | | |
| 15 | ELEOCHARIS ACICULARIS | NEEDLE SPIKERUSH | BARE ROOT | N/A | | |
| 15 | NUPHAR LUTEA SSP. ADVENA | YELLOW POND-LILY | BARE ROOT | N/A | | |

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WAKE COUNTY CONSTRUCTION SEQUENCE

1. SCHEDULE A PRECONSTRUCTION CONFERENCE WITH THE ENVIRONMENTAL CONSULTANT. OBTAIN A LAND-DISTURBING PERMIT.

PHASE 1

- 2. INSTALL GRAVEL CONSTRUCTION PAD, TEMPORARY DIVERSIONS, SILT FENCE, SKIMMER SEDIMENT BASIN OR OTHER MEASURES AS SHOWN ON THE APPROVED PLAN. CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES. SEED TEMPORARY DIVERSIONS AND BASIN IMMEDIATELY AFTER CONSTRUCTION.
- 3. CALL WAKE COUNTY FOR AN ONSITE INSPECTION BY THE ENVIRONMENTAL CONSULTANT TO OBTAIN A CERTIFICATE OF COMPLIANCE.
- 4. BEGIN CLEARING AND GRUBBING. MAINTAIN DEVICES AS NEEDED.
- 5. BEGIN ROUGH GRADING.

PHASE 2

- 6. INSTALL STORM SEWER AND PROTECT INLETS WITH INLET PROTECTION, OR OTHER APPROVED MEASURES AS SHOWN ON THE PLAN.
- STABILIZE SITE AS AREAS ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION, PAVING, ETC. SEED AND MULCH DENUDED AREAS PER GROUND STABILIZATION TIME FRAMES.
- WHEN CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED COMPLETELY, CALL WAKE COUNTY FOR AN INSPECTION BY THE ENVIRONMENTAL CONSULTANT.
- IF SITE IS APPROVED, REMOVE TEMPORARY DIVERSIONS, SILT FENCE, ETC., AND SEED OR STABILIZE ANY RESULTING BARE AREAS. ALL REMAINING PERMANENT EROSION CONTROL DEVICES, SUCH AS VELOCITY DISSIPATORS, SHOULD NOW BE INSTALLED.
- UPON STABILIZATION OF THE ENTIRE DISTURBED AREA, CONVERT SKIMMER BASIN TO STORMWATER WETLAND AS SHOWN ON THE APPROVED PLANS.
- 11 WHEN VEGETATION HAS BECOME ESTABLISHED, CALL FOR A FINAL SITE INSPECTION BY THE ENVIRONMENTAL CONSULTANT. OBTAIN A CERTIFICATE OF COMPLETION.

EROSION CONTROL NOTES

- 1. ALL LAND DISTURBING ACTIVITIES SHALL BE CONDUCTED IN ACCORDANCE WITH WAKE COUNTY AND NCDEQ STANDARDS.
- 2. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE MAINTAINED IN PROPER WORKING CONDITION DURING THE PERIOD OF CONSTRUCTION.
- 3. ADDITIONAL EROSION CONTROL MEASURES AND/OR MODIFICATIONS TO PROPOSED MEASURES MAY BE NECESSARY DEPENDING ON ACTUAL SITE CONDITIONS.
- 4. THE TOTAL DISTURBED AREA IS 0.93 ACRE.
- 5. SILT FENCE OUTLETS TO BE PLACED AS SHOWN AND AT LOW POINTS ALONG SILT FENCE AS NECESSARY.
- 6. SEE EROSION CONTROL CALCULATIONS ON SHEET C-2.
- 7. SKIMMER BASIN GRADES SHOWN ARE 2H:1V UNLESS OTHERWISE NOTED.
- 8. CONTRACTOR SHALL ESTABLISH GROUND COVER IMMEDIATELY AFTER DISTURBANCE DURING CONSTRUCTION OF PERMANENT SWALES.
- 9. PROVIDE STABLE TRANSITION AT TEMPORARY DIVERSION ENTRANCES TO BASIN - LINE SLOPE AT ENTRANCE WITH 12" ROCK RIPRAP.

10. RIPRAP ENERGY DISSIPATOR DIMENSIONS SHOWN ON DETAIL SHEET C-14.

- 11. DISTURBED AREAS TO BE STABILIZED AND GROUND COVER SHOULD BE ACHIEVED WITHIN 7 WORKING DAYS FOLLOWING COMPLETION OF DEVELOPMENT, PER THE NPDES CONSTRUCTION STORMWATER GENERAL PERMIT.
- 12. SEE DETAIL SHEETS C-15 AND C-16 FOR EROSION AND SEDIMENT CONTROL MAINTENANCE REQUIREMENTS.

13. TREE CLEARING BEYOND THE LIMITS OF DISTURBANCE IS NOT PROPOSED.

COUNTY

EFFECTIVE SEPTEMBER 1, 2008 - SOIL STOCKPILES SHALL BE LOCATED ON THE APPROVED PLAN AND ADHERE TO THE FOLLOWING

STOCKPILE

A. A 25-FOOT TEMPORARY MAINTENANCE AND ACCESS EASEMENT SHALL BE SHOWN AROUND ALL PROPOSED STOCKPILES (EROSION CONTROL MEASURES SURROUNDING THE STOCKPILE SHALL BE SHOWN AT THE OUTER LIMIT OF THIS EASEMENT).

B. STOCKPILE FOOTPRINTS SHALL BE SETBACK A MINIMUM OF 25' FROM ADJACENT PROPERTY

C. A NOTE SHALL BE PROVIDED ON THE APPROVED PLAN THAT STOCKPILE HEIGHT SHALL NOT EXCEED 35 FEET.

D. STOCKPILE SLOPES SHALL BE 2:1 OR FLATTER.

E. APPROVED BMPS SHALL BE SHOWN ON A PLAN TO CONTROL ANY POTENTIAL SEDIMENT LOSS FROM A STOCKPILE.

F. STOCKPILING MATERIALS ADJACENT TO A DITCH, DRAINAGEWAY, WATERCOURSE, WETLAND, STREAM BUFFER, OR OTHER BODY OF WATER SHALL BE AVOIDED UNLESS AN ALTERNATIVE LOCATION IS DEMONSTRATED TO

G. ANY CONCENTRATED FLOW LIKELY TO AFFECT THE STOCKPILE SHALL BE DIVERTED TO AN OFF-SITE SPOIL OR BORROW AREAS MUST BE IN COMPLIANCE WITH WAKE COUNTY UDO AND STATE REGULATIONS. ALL SPOIL AREAS OVER AN ACRE ARE REQUIRED TO HAVE AN APPROVED SEDIMENT CONTROL PLAN. DEVELOPER/CONTRACTOR SHALL NOTIFY WAKE COUNTY OF ANY OFFSITE DISPOSAL OF SOIL PRIOR TO DISPOSAL. FILL OF FEMA FLOODWAYS AND NON-ENCROACHMENT AREAS ARE PROHIBITED EXCEPT AS OTHERWISE PROVIDED BY SUBSECTION 14-19-2 OF THE WAKE COUNTY DEVELOPMENT ORDINANCE UNIFIED (CERTIFICATIONS AND PERMITS REQUIRED).

MAINTENANCE REQUIREMENTS TO BE NOTED ON THE PLAN

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

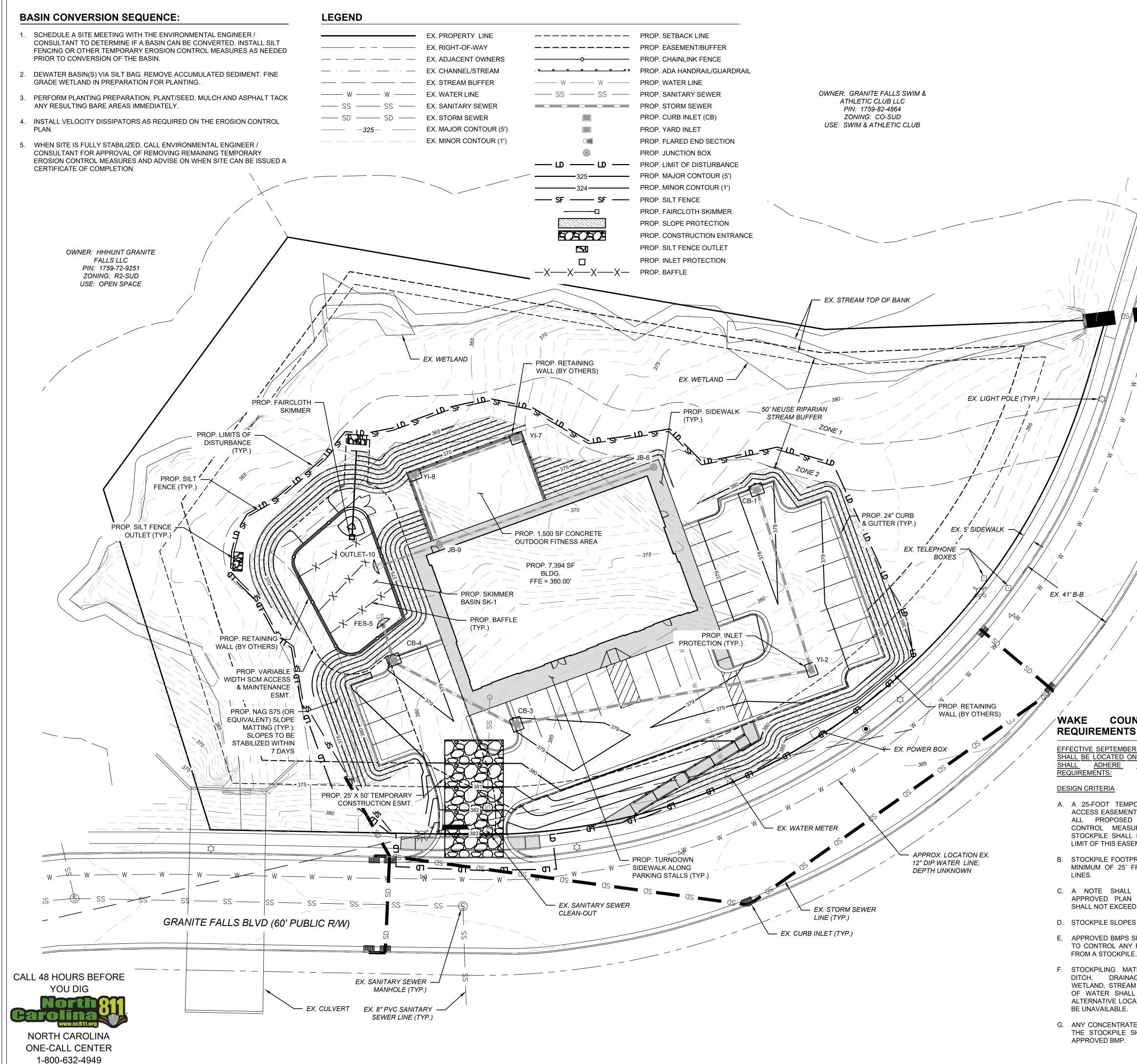
ALL CONSTRUCTION SHALL BE IN

ACCORDANCE WITH ALL TOWN OF

ROLESVILLE, CITY OF RALEIGH AND WAKE

COUNTY STANDARDS AND SPECIFICATIONS

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WAKE COUNTY CONSTRUCTION SEQUENCE

1. SCHEDULE A PRECONSTRUCTION CONFERENCE WITH THE ENVIRONMENTAL CONSULTANT. OBTAIN A LAND-DISTURBING PERMIT.

PHASE 1

- 2. INSTALL GRAVEL CONSTRUCTION PAD, TEMPORARY DIVERSIONS, SILT FENCE, SKIMMER SEDIMENT BASIN OR OTHER MEASURES AS SHOWN ON THE APPROVED PLAN. CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES. SEED TEMPORARY DIVERSIONS AND BASIN IMMEDIATELY AFTER CONSTRUCTION.
- 3. CALL WAKE COUNTY FOR AN ONSITE INSPECTION BY THE ENVIRONMENTAL CONSULTANT TO OBTAIN A CERTIFICATE OF COMPLIANCE.
- 4. BEGIN CLEARING AND GRUBBING. MAINTAIN DEVICES AS NEEDED.
- 5. BEGIN ROUGH GRADING.

PHASE 2

- INSTALL STORM SEWER AND PROTECT INLETS WITH INLET PROTECTION, OR OTHER APPROVED MEASURES AS SHOWN ON THE PLAN.
- STABILIZE SITE AS AREAS ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION, PAVING, ETC. SEED AND MULCH DENUDED AREAS PER GROUND STABILIZATION TIME FRAMES.
- WHEN CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED COMPLETELY, CALL WAKE COUNTY FOR AN INSPECTION BY THE ENVIRONMENTAL CONSULTANT.
- IF SITE IS APPROVED, REMOVE TEMPORARY DIVERSIONS, SILT FENCE, ETC., AND SEED OR STABILIZE ANY RESULTING BARE AREAS. ALL REMAINING PERMANENT EROSION CONTROL DEVICES, SUCH AS VELOCITY DISSIPATORS, SHOULD NOW BE INSTALLED.
- UPON STABILIZATION OF THE ENTIRE DISTURBED AREA, CONVERT SKIMMER BASIN TO STORMWATER WETLAND AS SHOWN ON THE APPROVED PLANS.
- 11 WHEN VEGETATION HAS BECOME ESTABLISHED, CALL FOR A FINAL SITE INSPECTION BY THE ENVIRONMENTAL CONSULTANT. OBTAIN A CERTIFICATE OF COMPLETION.

EROSION CONTROL NOTES

- 1. ALL LAND DISTURBING ACTIVITIES SHALL BE CONDUCTED IN ACCORDANCE WITH WAKE COUNTY AND NCDEQ STANDARDS.
- 2. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE MAINTAINED IN PROPER WORKING CONDITION DURING THE PERIOD OF CONSTRUCTION.
- 3. ADDITIONAL EROSION CONTROL MEASURES AND/OR MODIFICATIONS TO PROPOSED MEASURES MAY BE NECESSARY DEPENDING ON ACTUAL SITE CONDITIONS.
- 4. THE TOTAL DISTURBED AREA IS 0.93 ACRE.
- 5. SILT FENCE OUTLETS TO BE PLACED AS SHOWN AND AT LOW POINTS ALONG SILT FENCE AS NECESSARY.
- 6. SEE EROSION CONTROL CALCULATIONS ON SHEET C-2.
- 7. SKIMMER BASIN GRADES SHOWN ARE 2H:1V UNLESS OTHERWISE NOTED.
- 8. CONTRACTOR SHALL ESTABLISH GROUND COVER IMMEDIATELY AFTER DISTURBANCE DURING CONSTRUCTION OF PERMANENT SWALES.
- 9. PROVIDE STABLE TRANSITION AT TEMPORARY DIVERSION ENTRANCES TO BASIN - LINE SLOPE AT ENTRANCE WITH 12" ROCK RIPRAP.

10. RIPRAP ENERGY DISSIPATOR DIMENSIONS SHOWN ON DETAIL SHEET C-14.

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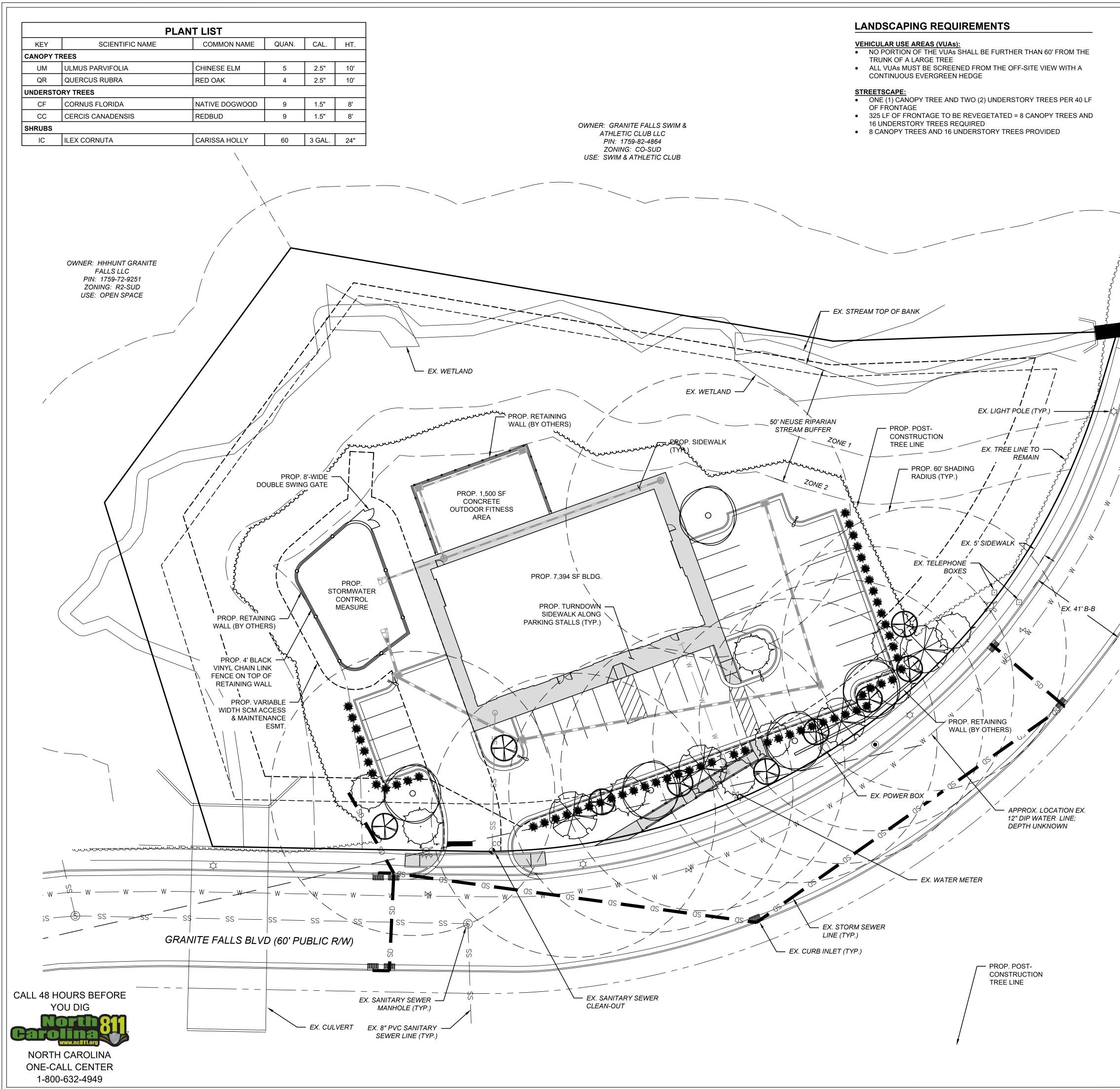
ACCORDANCE WITH ALL TOWN OF

ROLESVILLE, CITY OF RALEIGH AND WAKE

COUNTY STANDARDS AND SPECIFICATIONS

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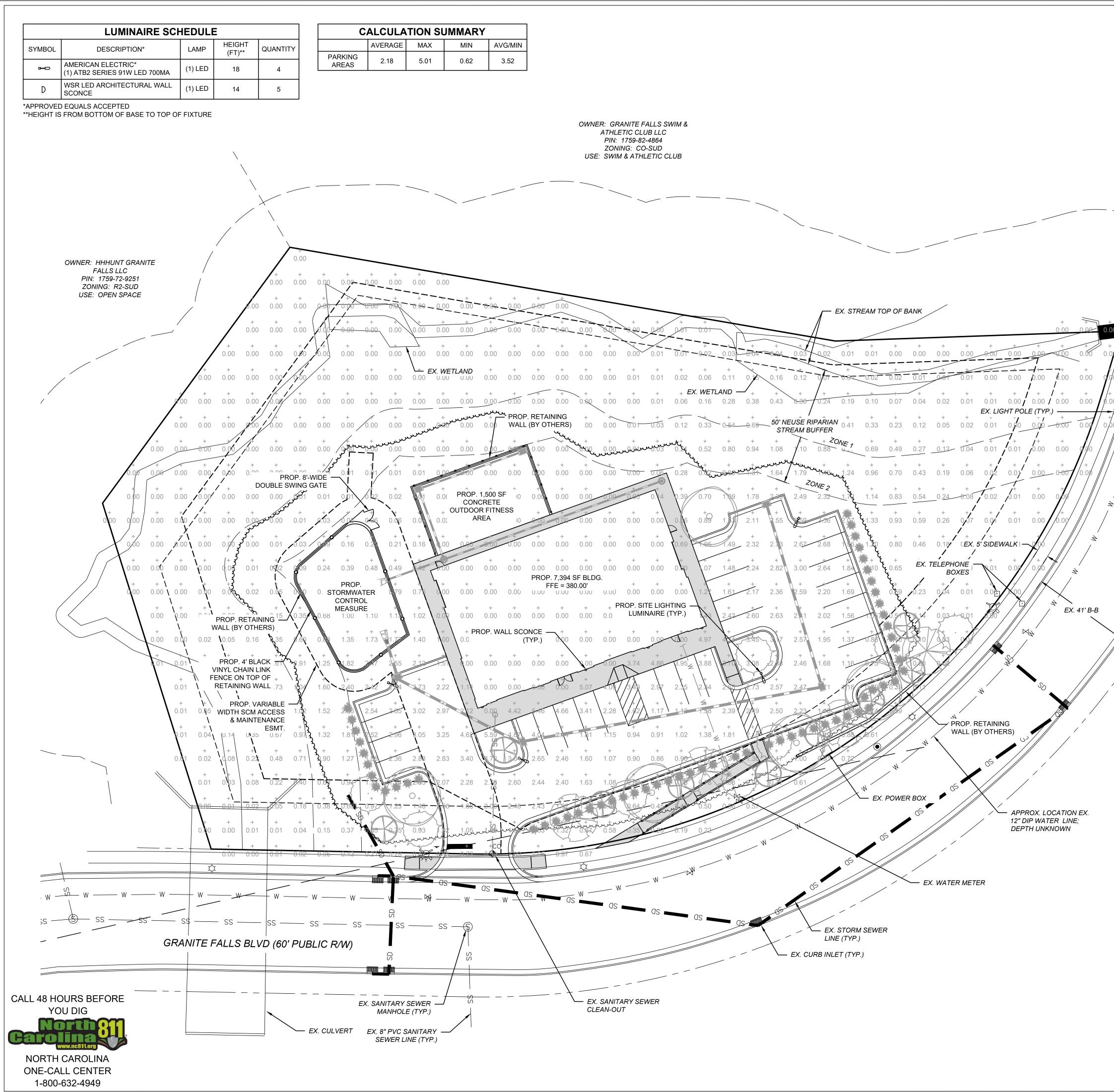
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| | DTES | | | | | | |
| 1. | ALL NEW PLANTINGS S | SHALL MEET THE REQUIREMENTS OF THE TOWN OF | | | | | |
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| 2. | | S NOT OCCUPIED BY STRUCTURES, PAVING OR | | | | | |
| | SPECIFICATIONS. | GRADED AND SEEDED AS INDICATED IN | | | | | |
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| 3. | ALL TREE PLANTINGS S MULCH. | SHALL BE MULCHED WITH 4" CLEAN, PINE STRAW | | | | | |
| | | | | | | | • |
| 4. | ALL PLANT BEDS TO BE | E EDGED WITH TYPICAL "V-CHANNEL" EDGE. | | ISS | SUED |) | |
| 5. | A MINIMUM OF FOUR IN | NDIVIDUAL SOIL SAMPLES SHALL BE TAKEN | | | | | |
| | THROUGHOUT THE SIT | E FOR OVERALL SOIL ANALYSIS. | | FOR F | KEVI | EVV | |
| 6. | CONTRACTOR TO UTIL | IZE ALL ONSITE TOPSOIL. CONTRACTOR SHALL | | DO NOT USE FO | OR CONS | TRUCTION | |
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| | EXISTING TOPSOIL IS N PROJECT. | NOT SUFFICIENT TO MEET THE NEEDS OF THIS | | | | | |
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| 7. | | TO RECEIVE 1 CY OF SOIL CONDITIONER FOR EACH 75 A. ACCEPTABLE SOIL CONDITIONERS SHALL BE | | SCALE: 1 I | NCH = 20 |) FEET | |
| | | A. ACCEPTABLE SOIL CONDITIONERS SHALL BE K, PEAT MOSS OR SHREDDED/COMPOSTED LEAVES. | | N | SCA | LE ADJUSTN | /ENT |
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| 9. | | IFY QUANTITIES OF PLANTINGS AS SHOWN. O ON PLANS SHALL PREVAIL OVER QUANTITIES | | | L F T | S NOT 1 INCH OI | |
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| ١U. | ALL PLANTS ARE TO BE PLANTED. | E THOROUGHLY "WATERED IN" THE SAME DAY AS | | | | | |
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| 11. | THE PLANT HOLE WIDT OF THE ROOT BALL. | TH SHALL BE A MINIMUM THREE TIMES THE DIAMETER | | | | | |
| | | | | ROLESVILI | LE CR | OSSFIT | |
| 12. | | NG AND TWINE FROM ROOT BALL. REMOVE WIRE FROM TOP 1/3 OF ROOT BALL BEFORE BACKFILLING | 8 | 50 GRANIT | E FAL | LS BLVE |) |
| | AROUND BALL IS COM | | | ROLESVIL | | | |
| | | E SMOOTH BARKED AT THE TIME OF PLANTING AND | | | , | - | |
| 12 | | F ALL TREE WRAPPING SHALL EXTEND FROM THE TOP | | | | | |
| 13. | OF THE BACKFILL TO T | | | | | | |
| 13. | | THE LOWERWOST TREE DRANCHES. | | | | | |
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| | ALL TREES, WHEN PLA FINISHED GRADE AS TO | NTED, SHALL HAVE THE SAME RELATIONSHIP TO | | | ד י <i>א</i> דכ | $\mathbf{V} + \mathbf{C}$ | |
| 14. | FINISHED GRADE AS TO | NTED, SHALL HAVE THE SAME RELATIONSHIP TO O THE GRADING PLAN. | | MCARN F | REALT | Y LLC | |
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| 14. 15. | FINISHED GRADE AS TO LANDSCAPING SHOWN INSTALLATION AND MA UDO. | NTED, SHALL HAVE THE SAME RELATIONSHIP TO O THE GRADING PLAN. I MEETS QUANTITY REQUIREMENTS. ALL | | MCARN F | | Y LLC 0-25-2019 | |
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EX. PROPERTY LINE EX. RIGHT-OF-WAY EX. ADJACENT OWNERS EX. CHANNEL/STREAM EX. STREAM BUFFER EX. WATER LINE **EX. SANITARY SEWER** EX. STORM SEWER PROP. SETBACK LINE PROP. EASEMENT/BUFFER PROP. CHAINLINK FENCE PROP. ADA HANDRAIL/GUARDRAIL PROP. WATER LINE PROP. SANITARY SEWER PROP. STORM SEWER PROP. SITE LIGHTING LUMINAIRE FOOT CANDLES

NOTES

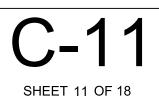
- ALL SITE LIGHTING SHALL CONFORM TO THE REQUIREMENTS O TOWN OF ROLESVILLE UNIFIED DEVELOPMENT ORDINANCE (UD 14, SECTION 14.8, EXTERIOR LIGHTING.
- THE PARKING AREA SHALL HAVE A MINIMUM LIGHT LEVEL OF 0.1 CANDLE, A MAXIMUM LIGHT LEVEL OF 6 FOOT CANDLES, AN AVE 1.9 - 2.9 FOOT CANDLES, AND A MAXIMUM AVG/MIN UNIFORMITY THE "MEDIUM" HORIZONTAL ILLUMINATION STANDARDS FOR GE PARKING AND PEDESTRIAN AREAS.
- THE MAXIMUM LIGHT LEVEL AT ANY RESIDENTIAL PROPERTY LI BE 0.3 MAINTAINED FOOT CANDLE AND AT ANY COMMERCIAL PF LINE SHALL BE 1.0 MAINTAINED FOOT CANDLE.
- THE INTENT OF THIS DRAWING IS TO SHOW FOOT CANDLE LEVE ON FIXTURES SHOWN. LIGHT LEVELS MAY VARY BASED ON ACT FIXTURE INSTALLED.
- 5. THIS IS A SITE LIGHTING CALCULATION PLAN ONLY AND DOES N PROVIDE ELECTRICAL CONNECTIONS FOR FIXTURES SHOWN. DEVELOPERS (OWNERS, BUILDERS, AND GENERAL CONTRACTO RESPONSIBLE FOR COORDINATING WITH ELECTRICAL CONTRA POWER COMPANY FOR POWER CONNECTIONS FOR ALL FIXTUR
- 6. ALL OTHER LIGHTING SHALL BE BY OWNER.
- 7. LIGHT POLES SHALL BE BLACK FIBERGLASS AND FIXTURES SHA BLACK AND AS NOTED IN THE LUMINAIRE SCHEDULE AND THE I SHEET C-12.

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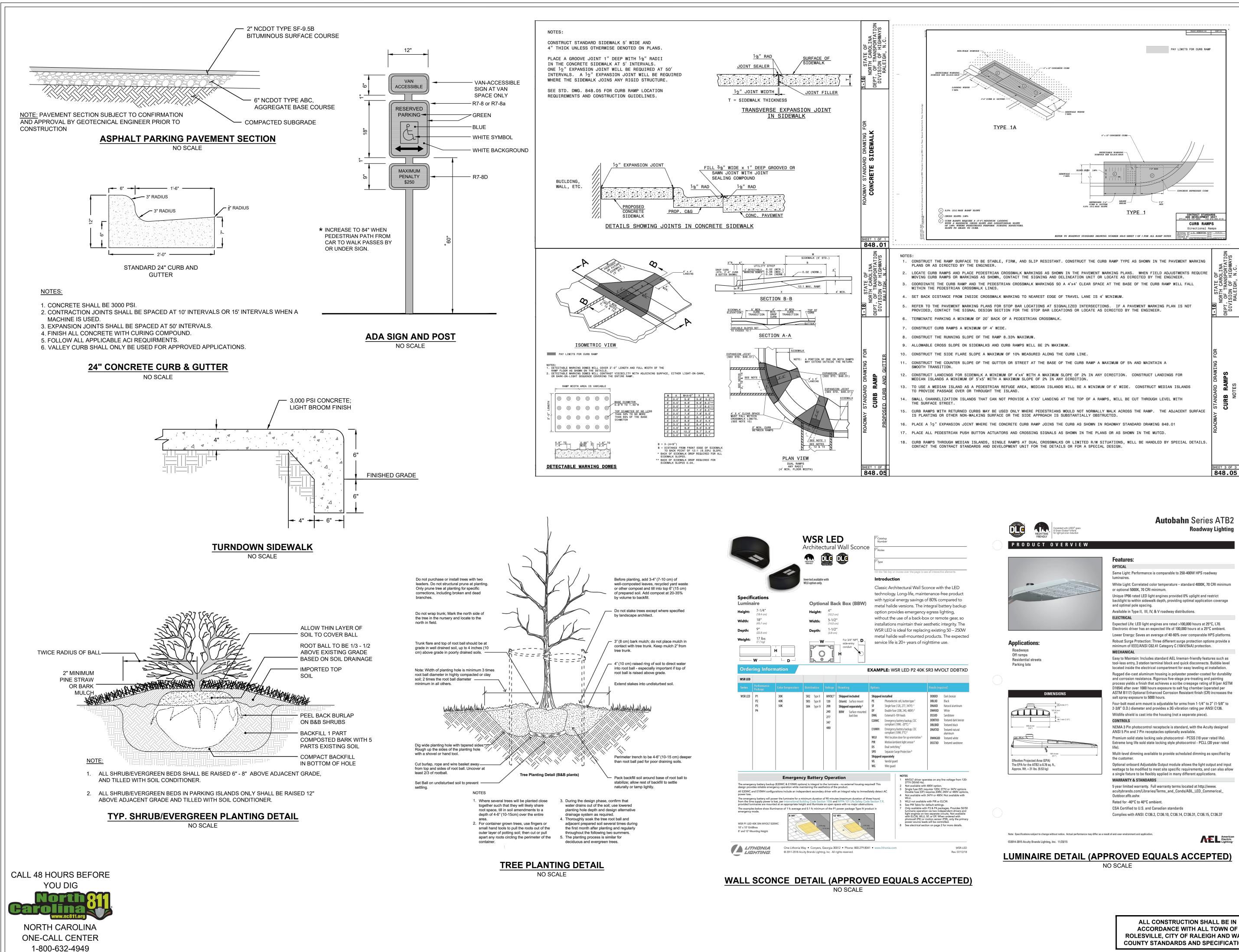
MCARN REALTY LLC

| DATE: | 10-25-2019 |
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| DESIGNED BY: | FLM |
| APPROVED BY: | FLM |
| PROJECT NO.: | 19036 |

LIGHTING PLAN



ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF ROLESVILLE, CITY OF RALEIGH AND WAKE COUNTY STANDARDS AND SPECIFICATIONS



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PART WITHOUT WRITTEN PERMISSION OF FLM ENGINEERING, INC.

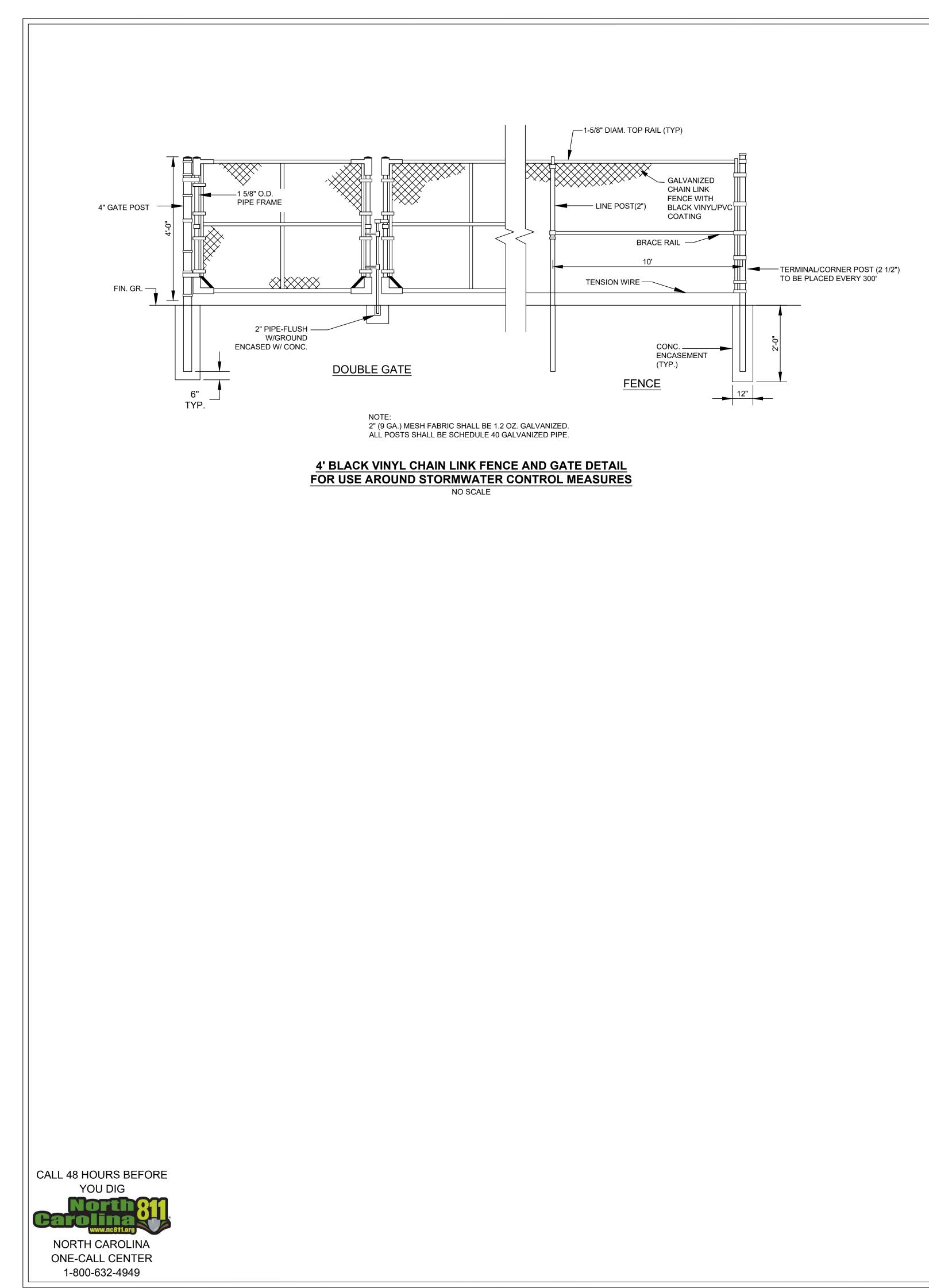
Autobahn Series ATB2 **Roadway Lighting**

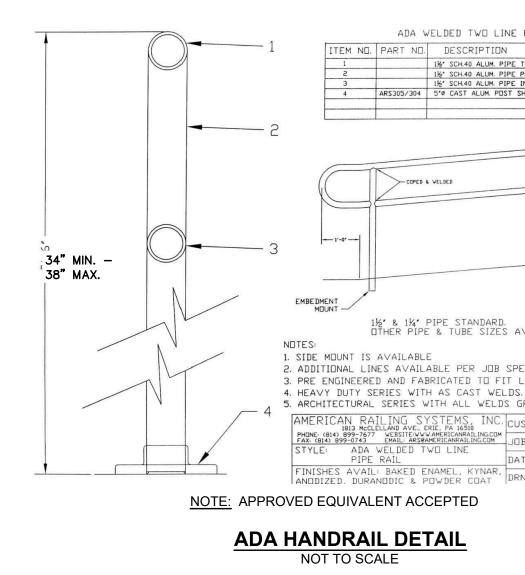
wattage to be modified to meet site specific requirements, and can also allow

| Æ | American Electric Lighting |
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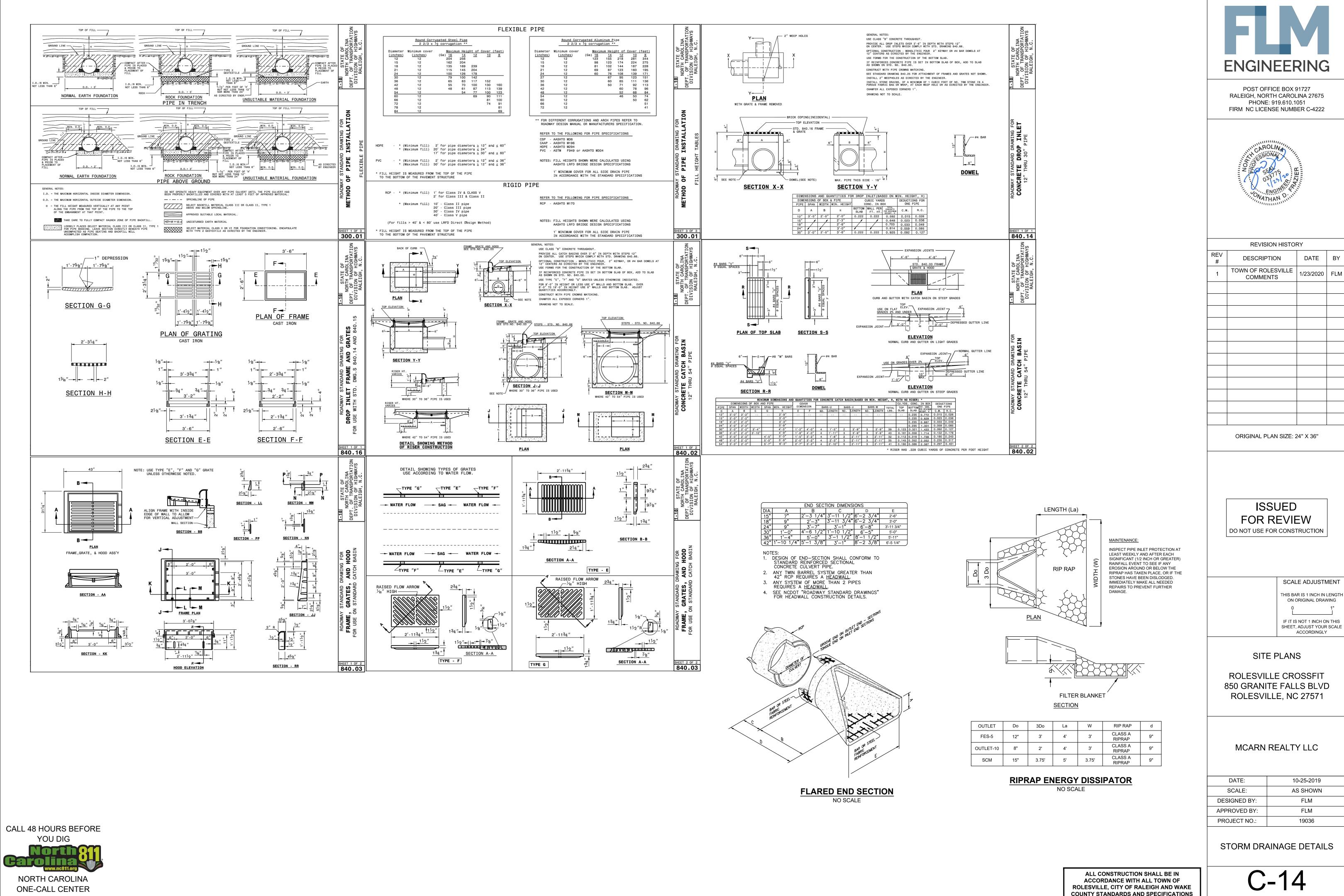
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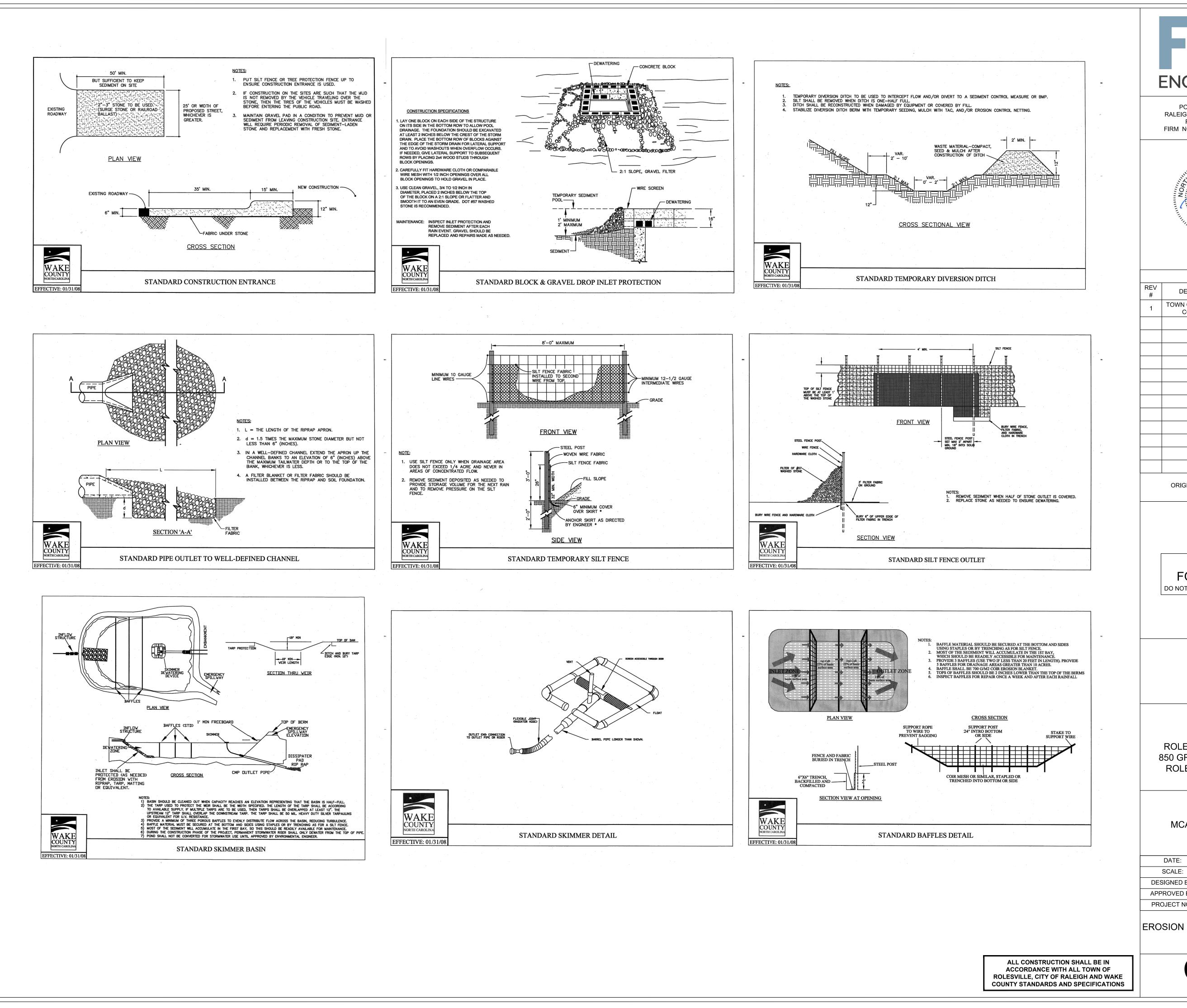
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1-800-632-4949

SHEET 14 OF 18



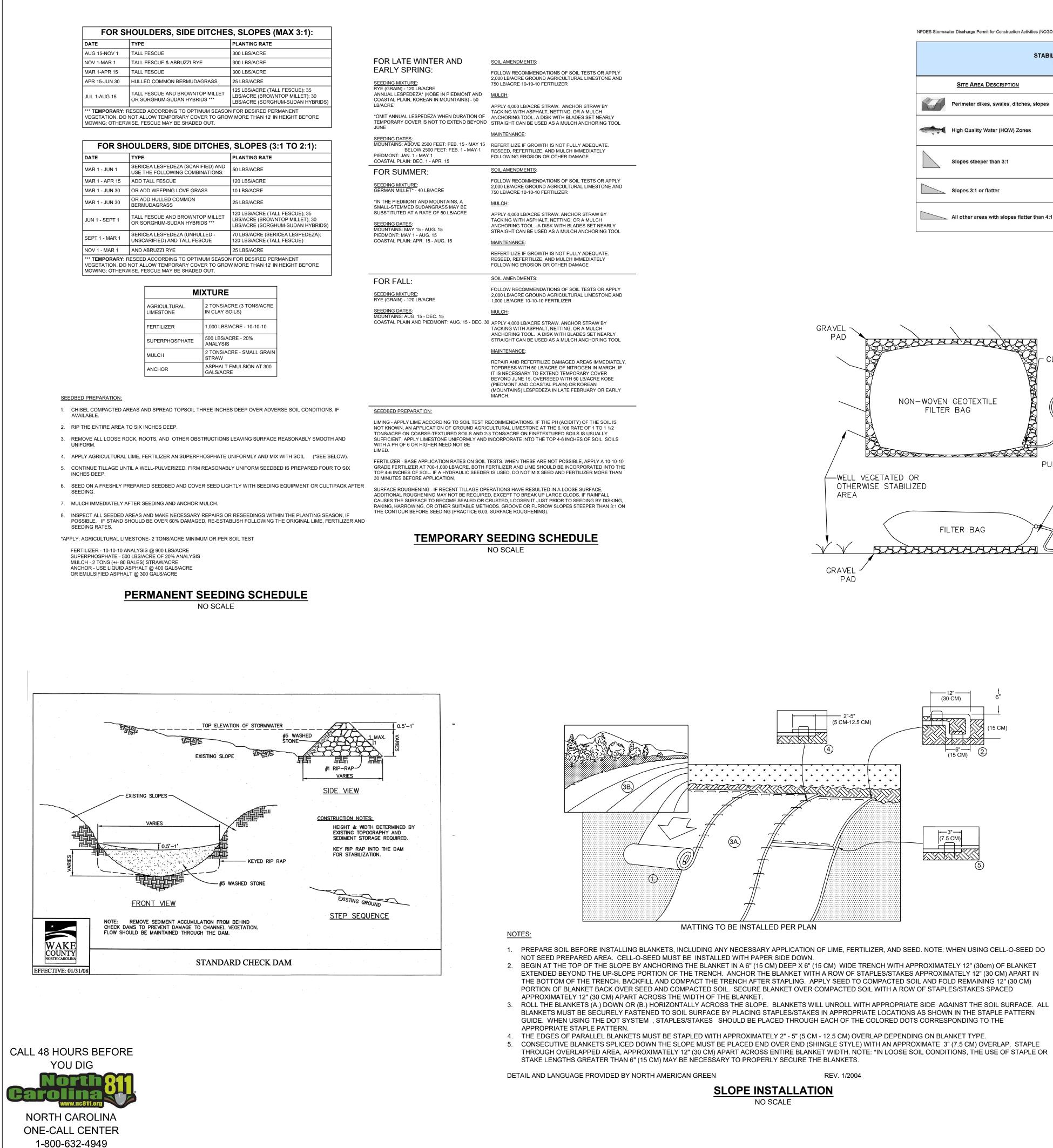


NORTH CAROLINA ONE-CALL CENTER 1-800-632-4949

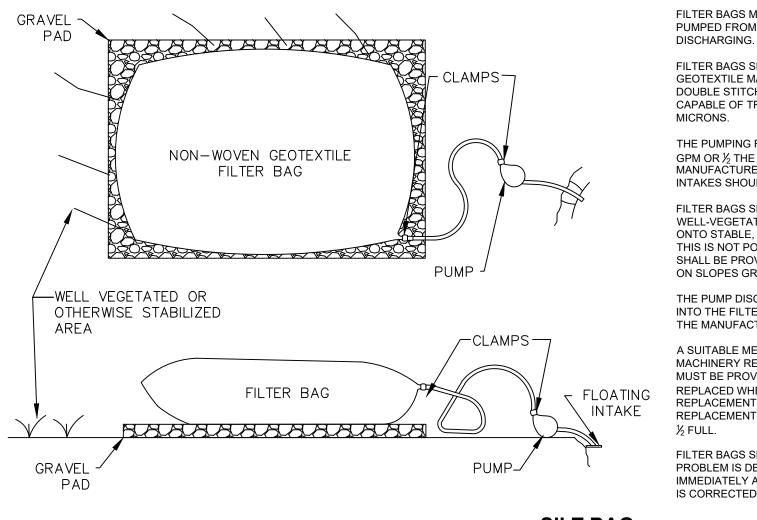
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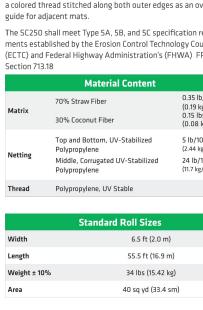
| NPDES S | Stormwa | ater Discharge Permit for Construction Activities (NCGO1) | | NCDENR/Division of Energy, Mineral and Land Resources |
|-----------|------------------------------------------------------|-----------------------------------------------------------|---------------|----------------------------------------------------------------------------------------|
| | STABILIZATION TIMEFRAMES (Effective Aug. 3, 2011) | | | |
| | | SITE AREA DESCRIPTION | STABILIZATION | TIMEFRAME EXCEPTIONS |
| No. | R | Perimeter dikes, swales, ditches, slopes | 7 days | None |
| - Carlora | × | High Quality Water (HQW) Zones | 7 days | None |
| | \geq | 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. |



SILT BAG NO SCALE

% FULL

IS CORRECTED.



ROLLMAXTM



FILTER BAGS MAY BE USED TO FILTER WATER PUMPED FROM EXCAVATIONS PRIOR TO

FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150

THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR ½ THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS, PUMP INTAKES SHOULD BE FLOATING AND SCREENED.

FILTER BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREAS AND DISCHARGED ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE FLOW PATH SHALL BE PROVIDED. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%.

THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE FILTER BAG IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED.

A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES MUST BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME ½ FULL. SPARE REPLACEMENT BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE

FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM



Specification Sheet – VMax[®] SC250[®] Turf Reinforcement Mat

| ESCRIPT | | | Index Property | Test Method | Typical |
|--------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|------------------------------------------------|-------------------------|------------------------|---------------------------|
| hine-produ | site turf reinforcement mat (C-TRM) uced mat of 70% straw and 30% coc ed into permanent three-dimensiona | onut fiber matrix | Thickness | ASTM D6525 | 0.62 in. (15.75 mm) |
| | ing. The matrix shall be evenly distril | | Resiliency | ASTM 6524 | 95.2% |
| | h of the matting and stitch bonded t abilized nettings with 0.50 x 0.50 inc | | Density | ASTM D792 | 0.891 g/cm |
| Denings, a | in ultra heavy UV stabilized, dramati ntermediate netting with 0.5 x 0.5 in | cally corrugated | Mass/Unit Area | ASTM 6566 | 16.13 oz/sy (548 g/sm) |
| enings, a | nd covered by an heavy duty UV sta 0.50 inch (1.27 x 1.27 cm) openings. | bilized nettings | UV Stability | ASTM D4355/ 1000 HR | 100% |
| 5 | netting shall form prominent closely entire width of the mat. The three ne | | Porosity | ECTC Guidelines | 99% |
| itched to | gether on 1.50 inch (3.81cm) centers ene thread to form permanent three | with UV stabilized | Stiffness | ASTM D1388 | 222.65 oz- |
| inforcem | ent matting. All mats shall be manuf | actured with | Light Penetration | ASTM D6567 | 4.1% |
| | nread stitched along both outer edge djacent mats. | s as an overlap | Tensile Strength - MD | ASTM D6818 | 709 lbs/ft (10.51 kN/r |
| The SC250 shall meet Type 5A, 5B, and 5C specification require- ments established by the Erosion Control Technology Council | | | Elongation - MD | ASTM D6818 | 23.9% |
| | Federal Highway Administration's (F | 57 | Tensile Strength - TD | ASTM D6818 | 712 lbs/ft (10.56 kN/ |
| | Material Content | | Elongation - TD | ASTM D6818 | 36.9% |
| | 70% Straw Fiber | 0.35 lb/sq yd | Biomass Improvement | ASTM D7322 | 441% |
| Aatrix | 30% Coconut Fiber | (0.19 kg/sm) 0.15 lbs/sq yd (0.08 kg/sm) | | | |
| | Top and Bottom, UV-Stabilized | 5 lb/1000 sq ft | Design I | Permissible Shear | Stress |
| etting | Polypropylene Middle, Corrugated UV-Stabilized | (2.44 kg/100 sm) 24 lb/1000 sf | | Short Duration | Long Durati |
| | Polypropylene | (11.7 kg/100 sm) | Phase 1: Unvegetated | 3.0 psf (144 Pa) | 2.5 psf (120 Pa) |
| hread | Polypropylene, UV Stable | | Phase 2: Partially Veg. | 8.0 psf (383 Pa) | 8.0 psf (383 Pa) |
| | | | Phase 3: Fully Veg. | 10.0 psf (480 Pa) | 8.0 psf (383 Pa) |
| | Standard Roll Sizes | | Unvegetated Velocity | 9.5 fps | (2.9 m/s) |
| /idth | 6.5 ft (2.0 m |) | Vegetated Velocity | 15 fps | (4.6 m/s) |
| ength | 55.5 ft (16.9 r | | | | |
| veight ± 10 | % 34 lbs (15.42 k | a) | | | |

NORTH AMERICAN GREEN SC250 **EROSION CONTROL BLANKET** NO SCALE

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| ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF ROLESVILLE, CITY OF RALEIGH AND WAKE COUNTY STANDARDS AND SPECIFICATIONS | C | -1 | | 6 8 | |
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ENGINEERING

POST OFFICE BOX 91727

RALEIGH, NORTH CAROLINA 27675

PHONE: 919.610.1051

FIRM NC LICENSE NUMBER C-4222

REVISION HISTORY

DATE

1/23/2020 FLM

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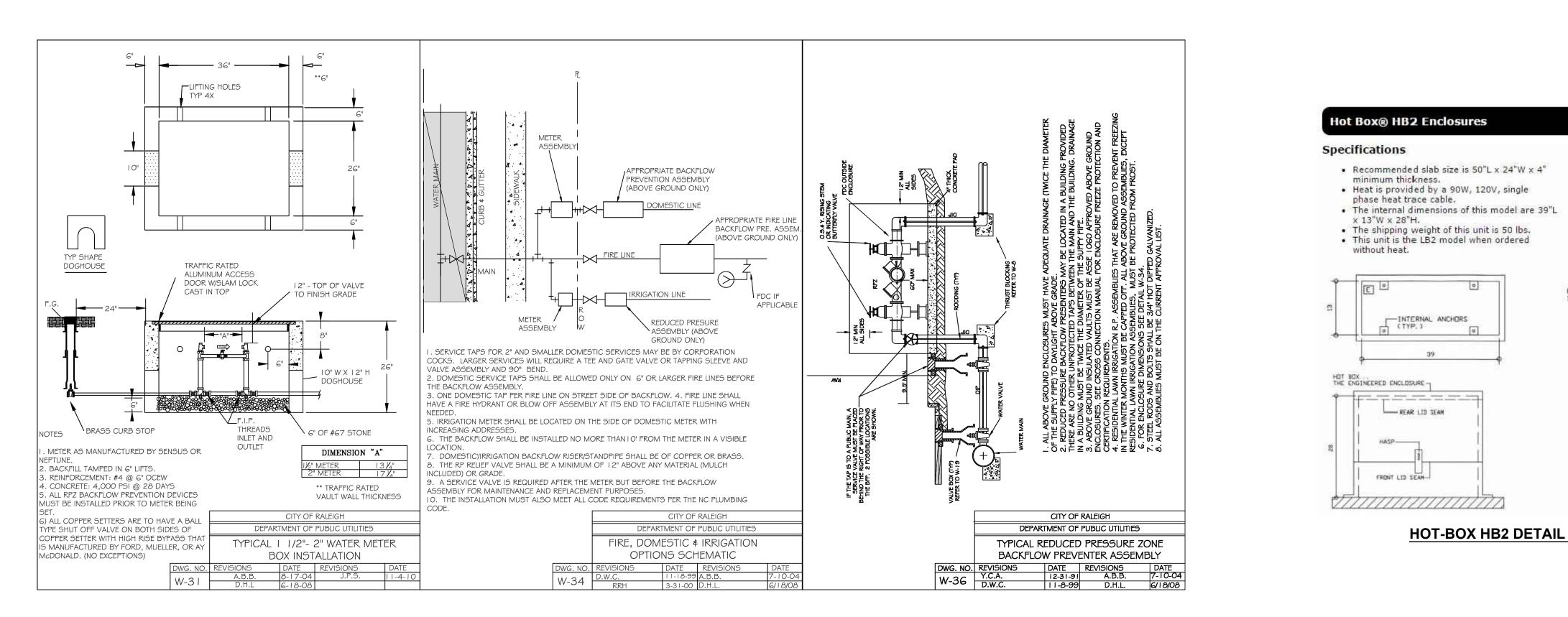
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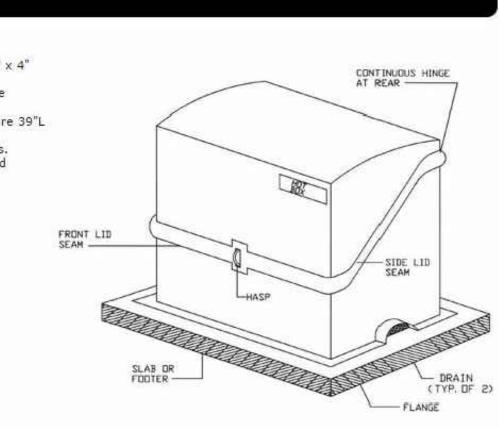
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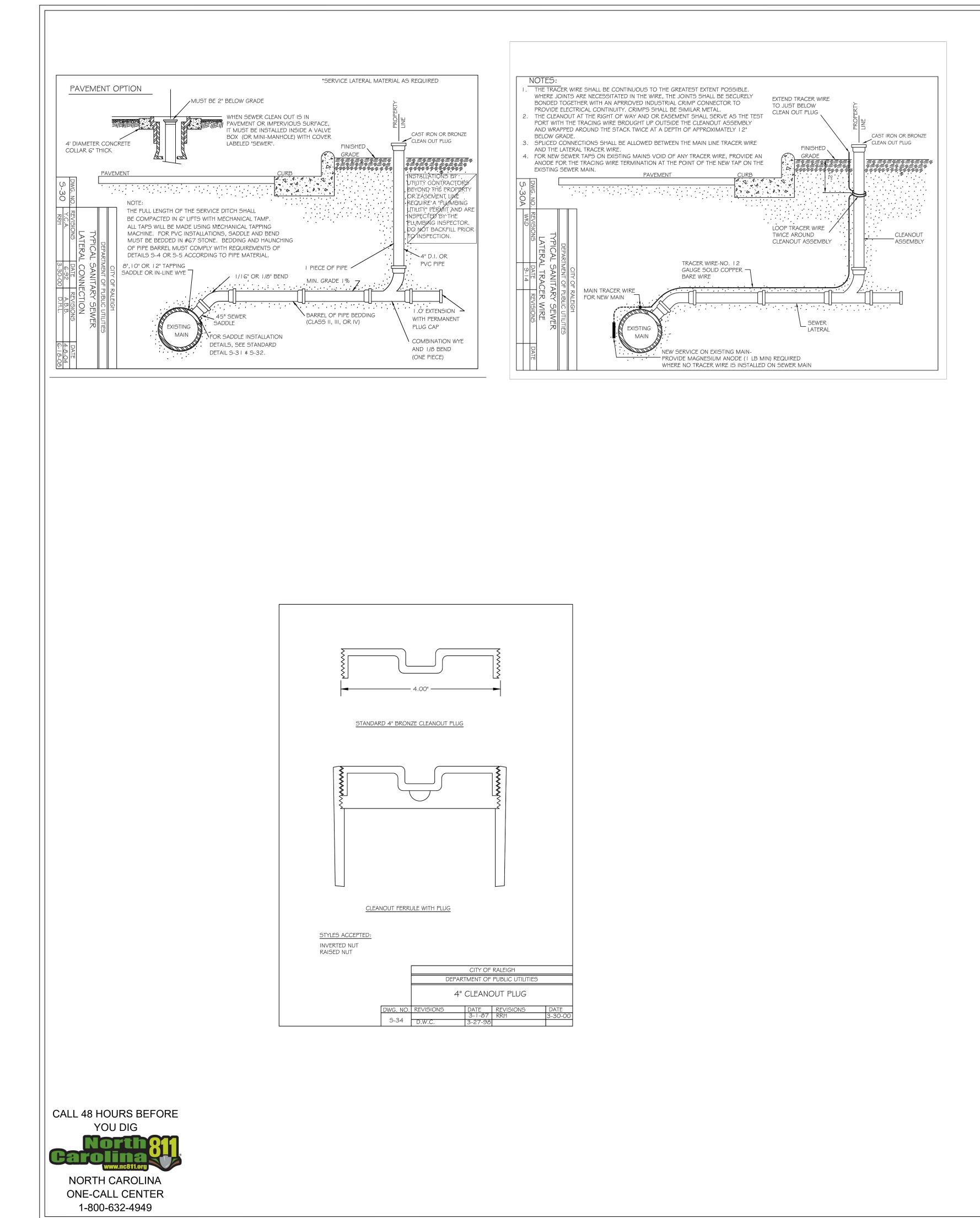


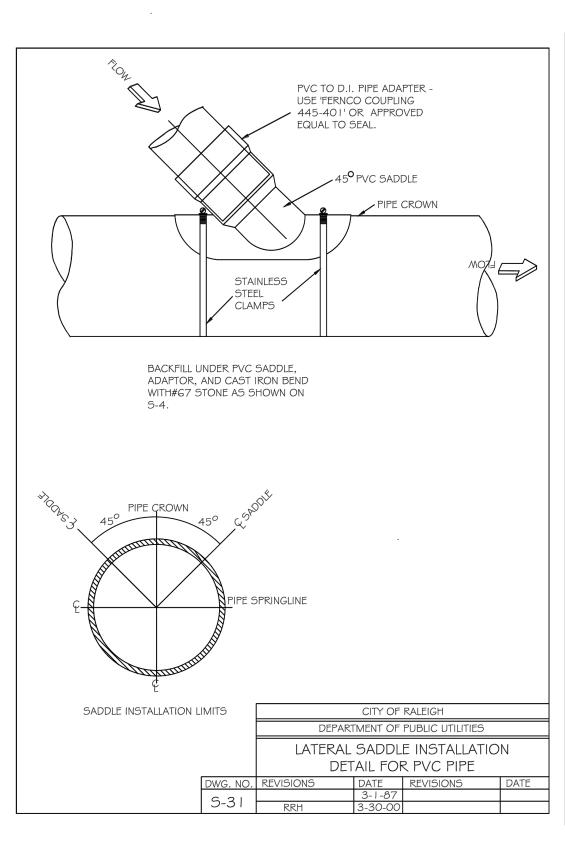


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| | SITE PLANS ROLESVILLE CROSSFIT 850 GRANITE FALLS BLVD ROLESVILLE, NC 27571 | | | |) | | | |
| | | MCARN F | REALT | Y LLC | | | | |
| | | DATE: | 1 | 0-25-2019 | | | | |
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| ROLESVILLE, CITY OF RALEIGH AND WAKE COUNTY STANDARDS AND SPECIFICATIONS | | | T 17 OF 1 | | | | | |
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HOT-BOX HB2 DETAIL (APPROVED EQUALS ACCEPTED) NO SCALE





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| BE | | |
| DLE TO | | S 1/23/2020 FLM |
| ASTM C.361-77 RUBBER TUBULAR CANENTED TO CEMENTED TO SADDLE SADDLE NOTE: SADDLE TO BE GENECO E40 OR EQUAL | | |
| ASTM RUBBER GASKET CEN CEN CEN | | |
| CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES | | |
| LATERAL SADDLE INSTALLATION DETAIL FOR VCP AND DUCTILE IRON PIPE | | |
| NO. REVISIONS DATE REVISIONS DATE 2 3-1-87 3-1-87 | | |
| Z RRH 3-30-00 | | |
| | | |
| | | |
| | | |
| | | |
| | ORIGINAL PLA | N SIZE: 24" X 36" |
| | FOR R DO NOT USE FO SITE ROLESVILL 850 GRANITE ROLESVILL | UED EVIEW R CONSTRUCTION SCALE ADJUSTMENT THIS BAR IS 1 INCH IN LENGTH ON ORIGINAL DRAWING 0 1" IF IT IS NOT 1 INCH ON THIS SHEET, ADJUST YOUR SCALE ACCORDINGLY PLANS E CROSSFIT FALLS BLVD E, NC 27571 CEALTY LLC |
| | APPROVED BY: PROJECT NO.: | FLM 19036 |
| | | DETAILS |
| ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF | | -18 |
| ROLESVILLE, CITY OF RALEIGH AND WAKE COUNTY STANDARDS AND SPECIFICATIONS | | |
| | SHEET | 18 OF 18 |
| | | |

