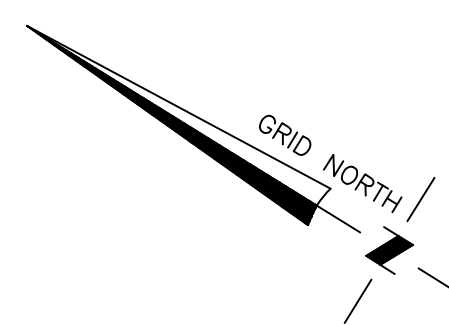


- CONSTRUCTION SEQUENCE:**
1. CONTRACTOR SHALL PLACE ADVANCE WARNING SIGNS & PLACE CONES AS SHOWN ON THE TRAFFIC CONTROL PLAN.
 2. CONTRACTOR SHALL BEGIN GRADING FOR PROPOSED DRIVEWAY CONNECTION AND MILLING EXISTING ROAD AS INDICATED IN THE DRIVEWAY PLANS.
 3. AFTER OVERLAYING ASPHALT AND COMPLETING DRIVEWAY CONNECTIONS, CONTRACTOR SHALL REMOVE CONES IN REVERSE ORDER FROM DOWNSTREAM TO UPSTREAM DIRECTION (REVERSE OF TRAFFIC FLOW).



GENERAL REQUIREMENTS – PAVEMENT WIDENING TRAFFIC CONTROL STANDARD:

A. STREET SPACE IS AT A MINIMUM SO NO MORE SPACE SHOULD BE USED FOR CONSTRUCTION OR MAINTENANCE WORK THAN IS ABSOLUTELY NECESSARY. THROUGH BARRICADING AND CHANNELIZATION, THE REMAINING STREET SPACE IS TO BE USED TO CARRY THE TRAFFIC AROUND THE WORK AREA IN THE BEST WAY POSSIBLE UNDER PREVAILING CONDITIONS.

B. TRAFFIC CONTROL DEVICES SHALL BE SET UP PRIOR TO THE START OF CONSTRUCTION OR MAINTENANCE OPERATIONS, AND SHALL BE REMOVED OR RELOCATED AS THE WORK IS FINISHED OR WORK CONDITIONS CHANGE. THE AGENCY DOING THE WORK SHALL PATROL THE WORK SITE AS REQUIRED TO ENSURE THAT ALL TRAFFIC CONTROL DEVICES ARE IN PLACE AND OPERATING AT ALL TIMES.

C. ALL TRAFFIC CONTROL SIGNS FOR THE WORK AREA SHALL BE REFLECTORIZED. THE REFLECTIVE MATERIALS USED SHALL BE EQUAL TO OR BETTER THAN THE TYPE I, LEVEL A REFLECTIVE SHEETING REQUIREMENTS IN SECTION 633 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND BRIDGES ON FEDERAL HIGHWAY PROJECTS (FP-74).

D. AT NIGHT, ADEQUATE BARRICADES WITH REFLECTORIZED MATERIAL AND LIGHTS ARE REQUIRED TO CALL ATTENTION TO AND TO INDICATE THE ACTUAL LOCATION OF OBSTRUCTIONS AND HAZARDS.

E. WHEN NOT IN USE DURING WORK HOURS OR CONSTRUCTION INACTIVITY, EQUIPMENT SHALL BE PARKED IN SUCH A MANNER AS TO NOT CREATE A SIGHT DISTANCE HAZARD BLOCKING THE MOTORISTS VIEW OF TRAFFIC SIGNS AND SIGNALS AND BEING NOT LESS THAN 10' FROM THE TRAVEL LANE.

F. THE MINIMUM WIDTH FOR TEMPORARY TRAVEL LANES IS 10 FEET; HOWEVER, A 12-FOOT LANE IS ADVISABLE AND SHOULD BE PROVIDED WHENEVER POSSIBLE.

G. WHENEVER TRAFFIC MUST BE ROUTED ACROSS THE CENTERLINE, THE TWO DIRECTIONS OF TRAFFIC MUST BE PHYSICALLY SEPARATED. TRAFFIC CONES CAN BE EFFECTIVELY USED FOR THIS PURPOSE DURING DAYLIGHT HOURS; REFLECTORIZED DRUMS MUST BE USED AT NIGHT.

H. TRAFFIC SHALL NOT BE ROUTED ACROSS CENTERLINE WITH CONES OR DRUMS DURING NON-WORKING HOURS. CONTRACTOR MUST BE ON SITE OR CHANGE PAVEMENT MARKINGS APPROPRIATELY.

I. GENERALLY, THE PEAK FLOW OF TRAFFIC OCCURS BETWEEN THE HOURS OF 7-9 AM AND 4-6 PM, MONDAY THROUGH FRIDAY. DURING THESE HOURS, CONSTRUCTION OR MAINTENANCE WORK WHICH INVOLVE A LANE CLOSURE OR IN ANY WAY IMPEDES TRAFFIC WILL NOT BE ALLOWED ON THOROUGHFARE STREETS EXCEPT FOR EMERGENCY CONDITIONS OR WITH PRIOR APPROVAL FROM THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION.

J. THE AGENCY DOING THE WORK SHALL PROVIDE FLAGGERS AND/OR POLICE CONTROL WHEN REQUIRED. THE CONTRACTOR MAY ALSO BE REQUIRED TO PROVIDE A UNIFORMED OFFICER TO CONTROL TRAFFIC WHEN WORKING IN AND AROUND A SIGNALIZED INTERSECTION.

K. EVERY ATTEMPT SHALL BE MADE TO SCHEDULE AND EXPEDITE THE WORK TO CAUSE THE LEAST INCONVENIENCE TO THE TRAVELING PUBLIC.

L. IN SITUATIONS NOT COVERED IN THIS STANDARD, THE PROTECTION OF TRAVELING PUBLIC AND THE PROTECTION OF THE WORKERS ON SITE WILL DICTATE THE MEASURES TO BE TAKEN CONSISTANT WITH THE GENERAL PRINCIPLES OF CHAPTER 6 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

M. THE CONTRACTOR, UTILITY COMPANY OR GOVERNMENTAL AGENCY INVOLVED IN THE WORK IS RESPONSIBLE FOR NOTIFYING THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION OF ANY MAJOR WORK WHERE THE NUMBER OF TRAVEL LANES ARE REDUCED FROM NORMAL CONDITIONS OR THE STREET IS REQUIRED TO BE CLOSED, EXCEPT IN EMERGENCIES, THE FOLLOWING NOTIFICATION IS REQUIRED:

1. BEGINNING OF CONSTRUCTION – TEN DAYS PRIOR TO BEGINNING WORK.
2. CLOSING 1 OR MORE TRAVEL LANES – FIVE(5) WORKING DAYS PRIOR TO THE SCHEDULED WORK.
3. CLOSING A STREET – TEN (10) WORKING DAYS PRIOR TO THE SCHEDULED WORK.

THIS LEAD TIME IS NECESSARY FOR PLANNING AND NOTIFYING THE PUBLIC OF EXPECTED CHANGES IN THE NORMAL TRAFFIC CONDITIONS.

N. DURING CONSTRUCTION INACTIVITY, THE CONTRACTOR SHALL MAINTAIN A MINIMUM OF ONE TRAVEL LANE IN EACH DIRECTION. THE CONTRACTOR SHALL BACK FILL DROP-OFF ADJACENT TO THE TRAVEL LANE IN ACCORDANCE WITH SECTION XI OF THE WATCH.

O. THE NCDOT DISTRICT ENGINEER OR REPRESENTATIVES ARE AUTHORIZED TO STOP ANY CONSTRUCTION OR MAINTENANCE ACTIVITY WHICH IS NOT PROPERLY SIGNED AND BARRICADED AS REQUIRED BY THIS STANDARD AND THE MUTCD UNTIL SUCH REQUIREMENTS ARE MET.

P. THIS DESIGN STANDARD CANNOT BE USED FOR ALL ROADWAY CONSTRUCTION SITUATIONS. IT IS INTENDED ONLY TO BE USED AS A GUIDELINE. SPECIFIC SITUATIONS MAY REQUIRE ENGINEERING JUDGEMENT IN THE PLACEMENT OF TRAFFIC CONTROL DEVICES, BECAUSE OF LIMITED VERTICAL AND/OR HORIZONTAL SIGHT DISTANCE.

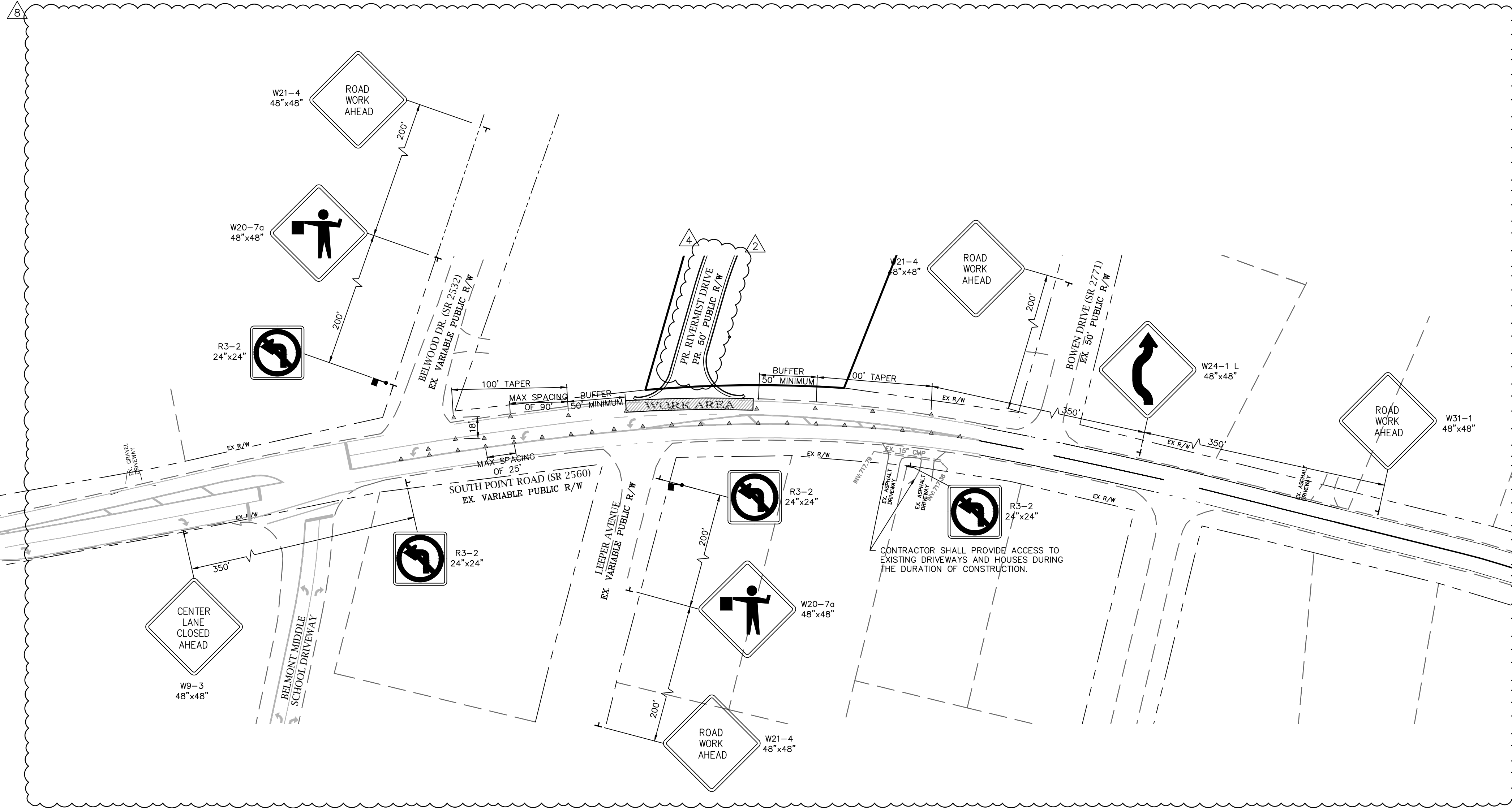
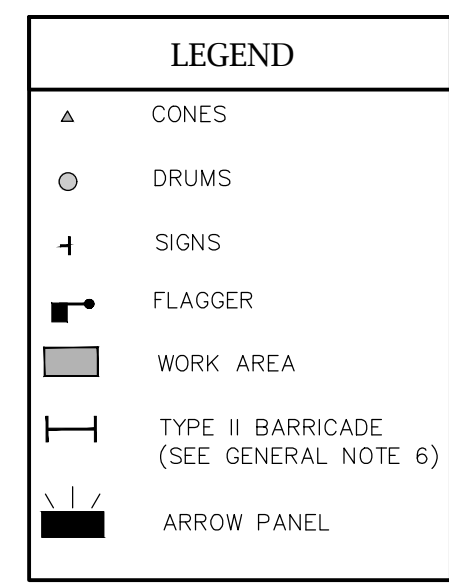
Q. WHEN PERSONNEL AND/OR EQUIPMENT ARE WITHIN 3' OF THE EDGE OF AN OPEN TRAVEL LANE, THE CONTRACTOR SHALL REFER TO THE TRAFFIC CONTROL PLAN OR NCDOT ROADWAY STD. DWS. NO. 150.05A FOR THE APPROPRIATE LANE CLOSURE.

R. OPERATIONAL SIGNS ARE GENERALLY MOUNTED ON PORTABLE SUPPORT. THESE ARE USUALLY USED FOR SHORT TERM OPERATIONS TO WARN AND GUIDE TRAFFIC.

S. ALL DRUMS SHALL BE BALLASTED IN SUCH A MANNER THAT THEY WILL BE STABLE UNDER WIND AND VEHICLE ACTION. BALLASTING SHALL BE DONE WITH SANDBAGS OR OTHER YIELDING MATERIAL SITUATED ON THE BASE OF THE DRUM.

GENERAL NOTES:

1. LANE CLOSURES SHALL BE INSTALLED WITH THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE UPSTREAM SIDE OF TRAFFIC. LANE CLOSURES SHALL BE REMOVED AGAINST THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE DOWNSTREAM SIDE OF TRAFFIC.
2. TRAFFIC SHOULD NOT BE STOPPED IN ANY ONE DIRECTION FOR MORE THAN 5 MINUTES AT A TIME.
3. THE POSTED SPEED LIMIT ON SOUTH POINT DRIVE (SR 2560) IS 45 MPH.
4. ALL DRAINAGE FACILITIES, CURB CUTS, AND CURB RAMPS MUST BE CONSTRUCTED IN COMPLIANCE WITH NCDOT STANDARDS & SPECIFICATIONS.
5. PAVEMENT SECTION FOR ALL PAVEMENT SHALL BE A MINIMUM OF: 6" B25.0C BASE COARSE (2 - 3.0" LIFTS) 3.5" 119.0C ASPHALT INTERMEDIATE COURSE AND 1.5" 59.5C ASPHALT SURFACE COARSE OR EQUIVALENT
6. TYPE II BARRICADE REQUIRED ONLY IF WORK ZONE IS UNATTENDED OVERNIGHT.
7. ALL LANE MARKINGS ON SOUTH POINT DRIVE AND OF ADJACENT INTERSECTIONS SHALL BE THERMOPLASTIC PER NCDOT STANDARDS & SPECIFICATIONS.



Mc² ENGINEERING
 MC² ENGINEERING, INC.
 2110 BEN CRAIG DR., STE. 400
 CHARLOTTE, NC 28262
 PHONE 704.510.1979

6/11/21

THE DESIGNS AND DRAWINGS SHOWN ARE THE PROPERTY OF MC² ENGINEERING, INC. REPRODUCTION OR USE FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY MC² ENGINEERING, INC. IS PROHIBITED. 2018 ©

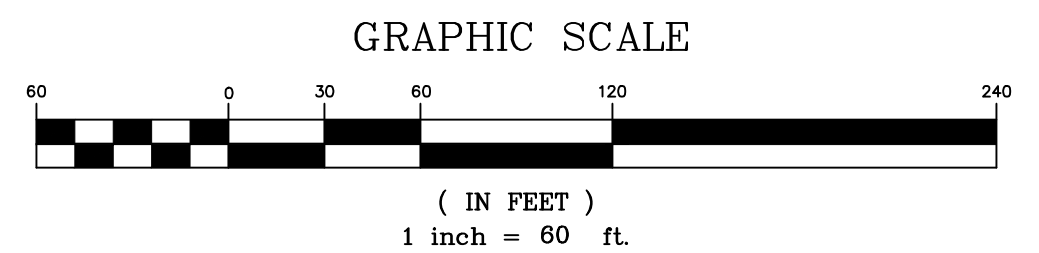
RIVERMIST SUBDIVISION
 SOUTH POINT ROAD
 BELMONT, NC

SHINVILLE RIDGE PARTNERS, LLC
 20607 BETHEL CHURCH ROAD
 CORNELIUS, NC 28031

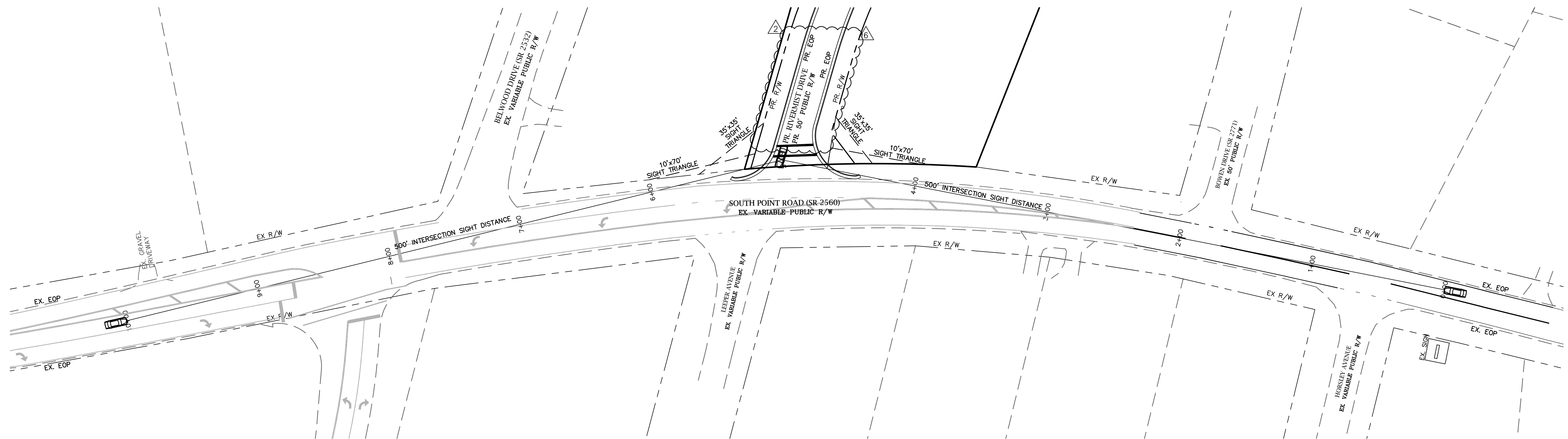
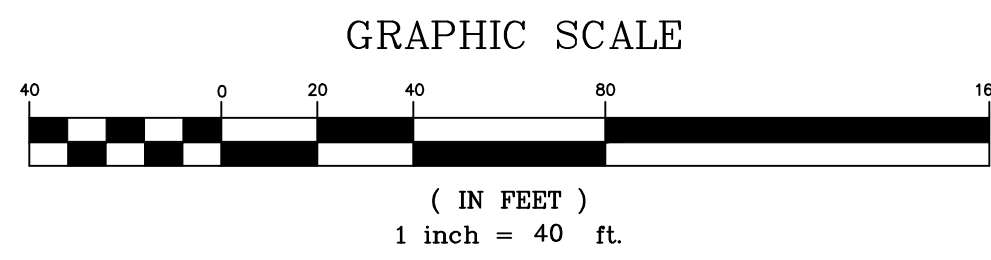
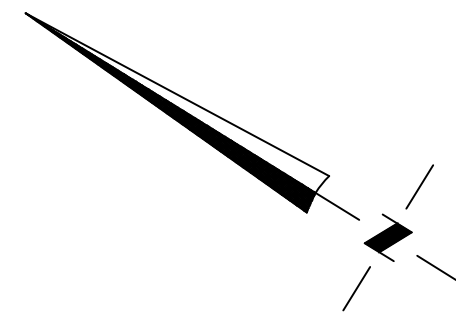
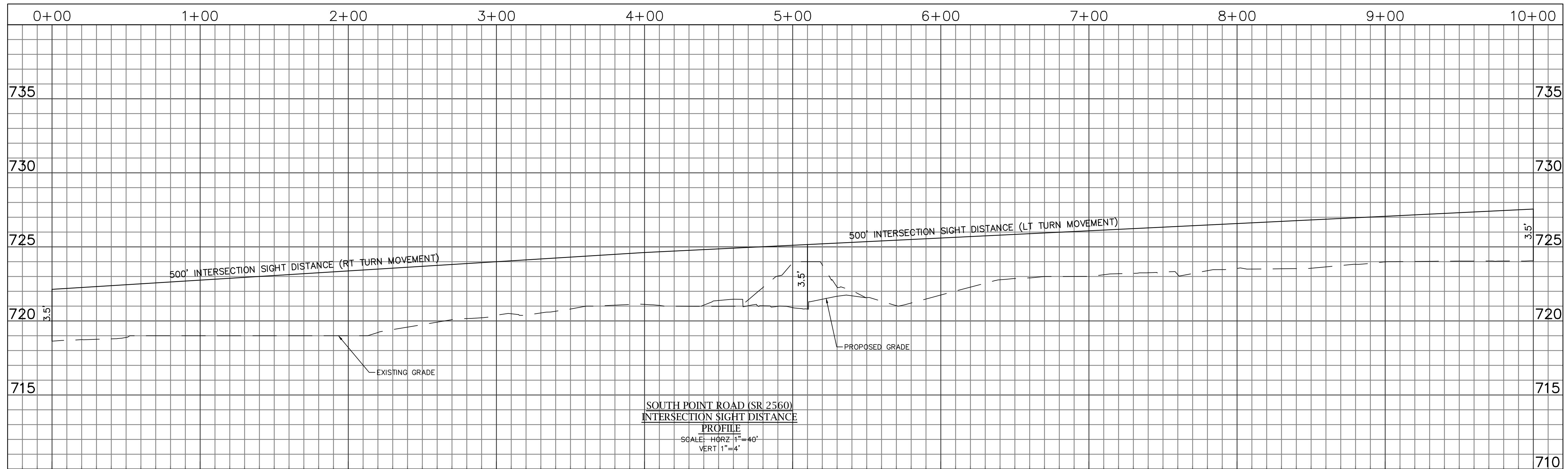
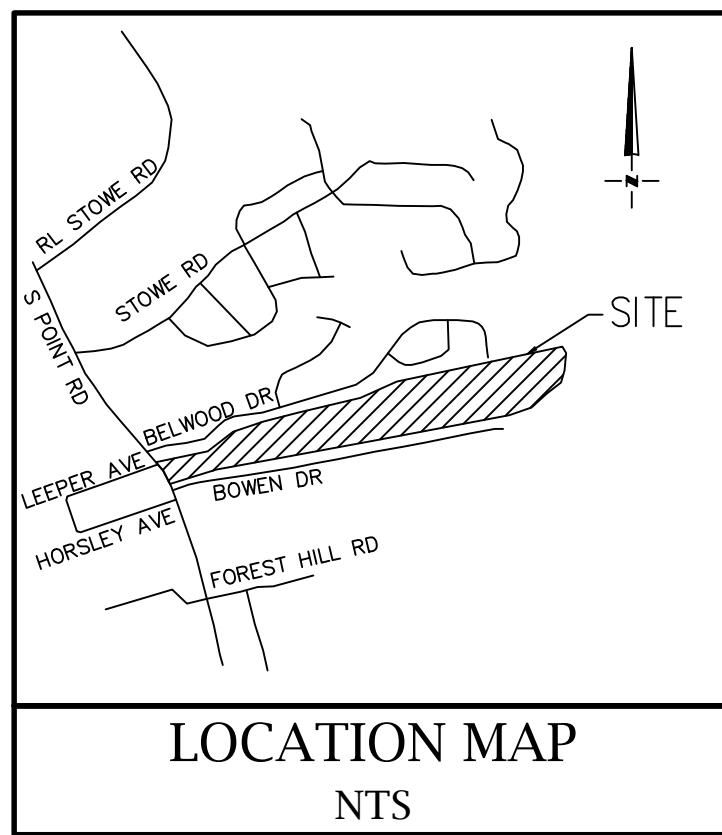
S. POINT ROAD TRAFFIC CONTROL PLAN

REVISIONS		
2	11/27/18	BELMONT COMMENTS
4	9/24/19	BELMONT COMMENTS
8	6/11/21	NCDOT/BELMONT CMTS

FINAL DRAWING FOR REVIEW PURPOSES ONLY
 CAD FILE: 18-017 BASE.DWG
 PROJECT NO.: 18-017
 DESIGNED BY: TAP
 REVIEWED BY: JDM
 DATE: OCTOBER 8, 2018



C6.5



MC² ENGINEERING
MC² ENGINEERING, INC.
2110 BEN CRAIG DR., STE. 400
CHARLOTTE, NC 28262
PHONE 704.510.1979

6/11/21

THE DESIGNS AND DRAWINGS SHOWN ARE THE PROPERTY OF MC² ENGINEERING, INC. REPRODUCTION OR USE FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY MC² ENGINEERING, INC. IS PROHIBITED. 2018 ©

RIVERMIST SUBDIVISION
SOUTH POINT ROAD
BELMONT, NC

SHINNVILLE RIDGE PARTNERS, LLC
20607 BETHEL CHURCH ROAD
CORNELIUS, NC 28031

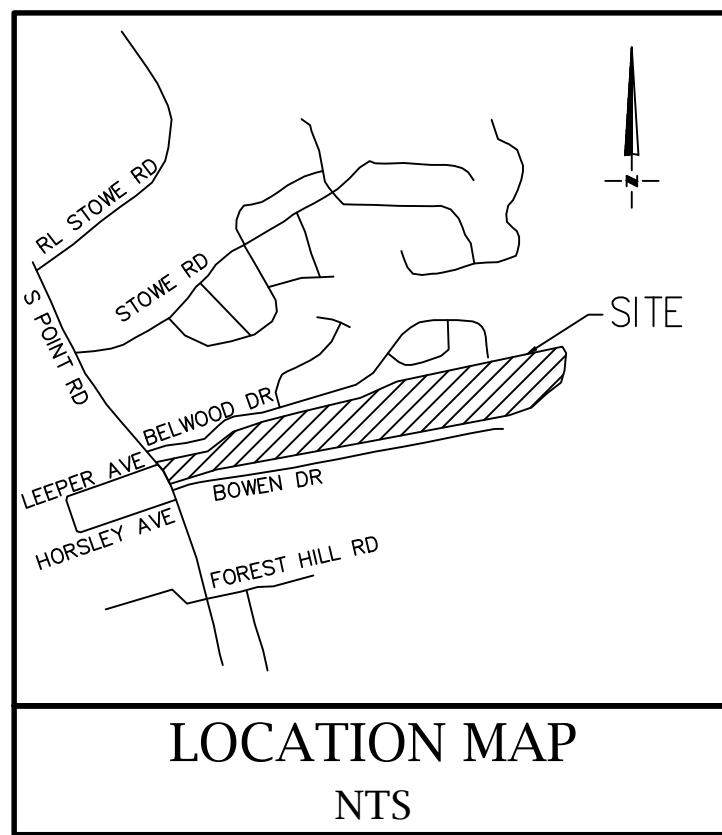
S. POINT DRIVE INTERSECTION SIGHT DISTANCE

REVISIONS		
2	11/27/18	BELMONT COMMENTS
4	9/24/19	BELMONT COMMENTS
8	6/11/21	NCDOT/BELMONT CMTS

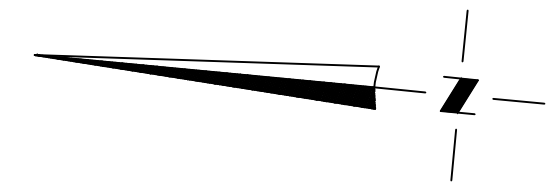
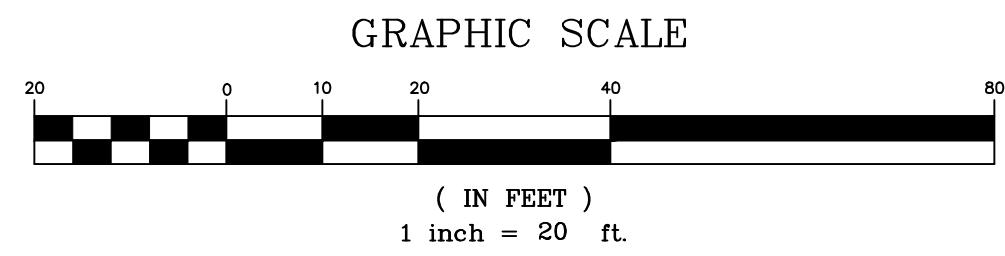
FINAL DRAWING FOR REVIEW PURPOSES ONLY

CAD FILE: 18-017 BASE.DWG
PROJECT NO.: 18-017
DESIGNED BY: TAP
REVIEWED BY: JDM
DATE: OCTOBER 8, 2018

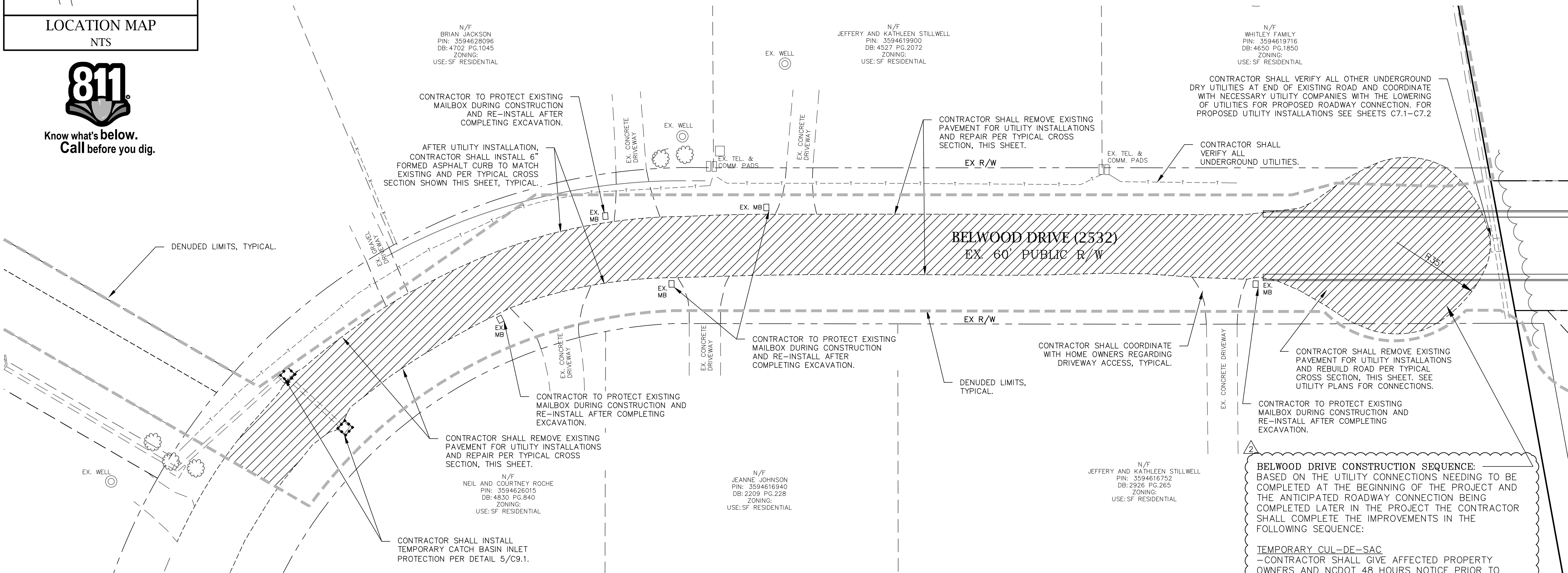
C6.8



NOTE:
CONTRACTOR SHALL COORDINATE WITH HOME OWNERS TO ALLOW ACCESS TO DRIVEWAYS DURING CONSTRUCTION. CONTRACTOR SHALL REPAIR CONCRETE DRIVEWAYS TO MATCH EXISTING FOR THOSE AFFECTED DURING UTILITY INSTALLATION



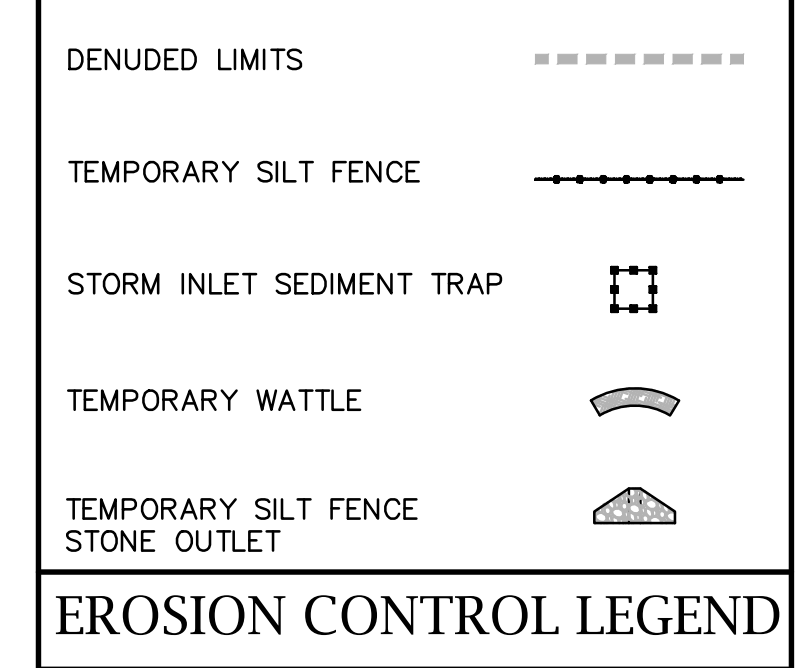
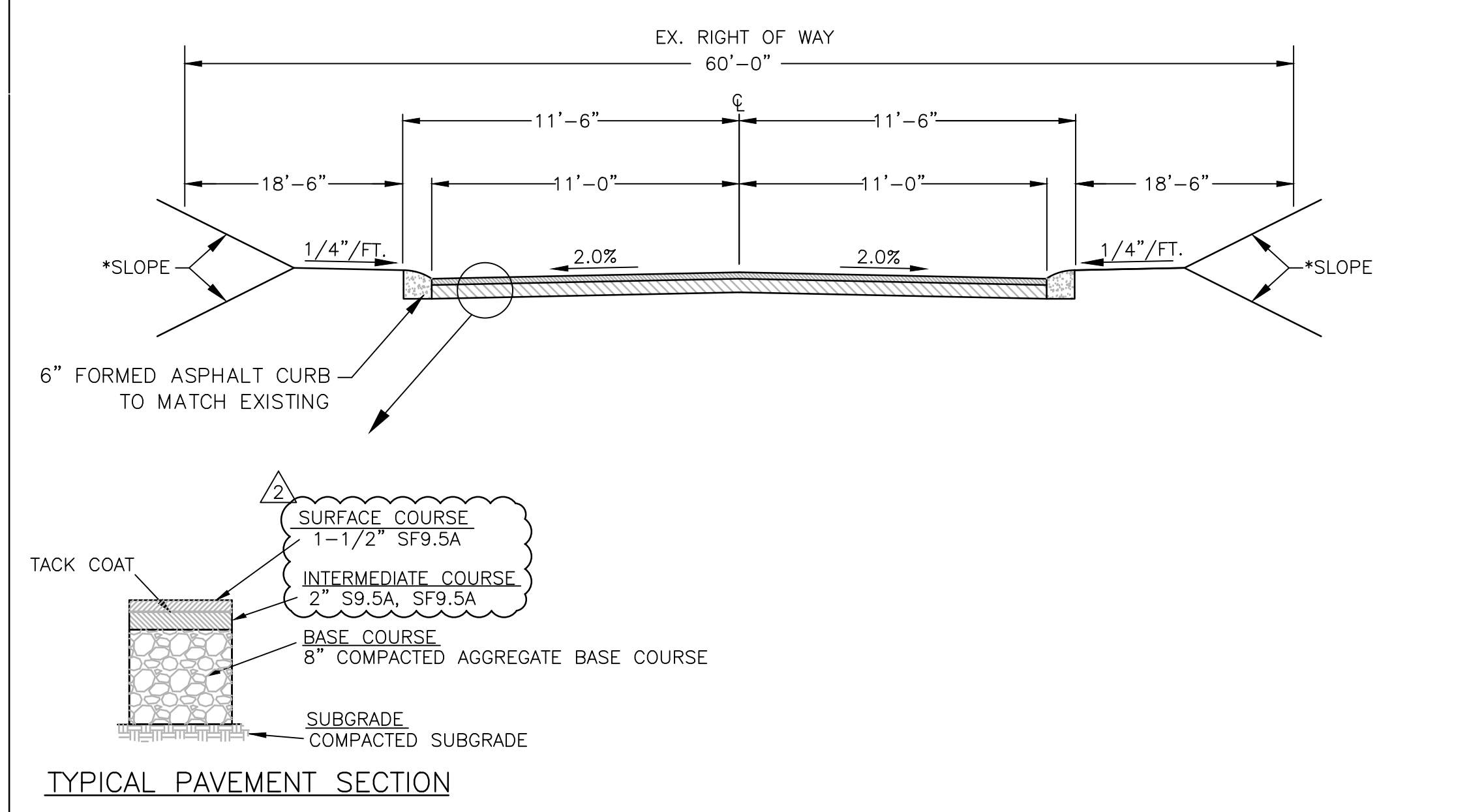
Know what's below.
Call before you dig.



BELWOOD DRIVE CONSTRUCTION SEQUENCE:
BASED ON THE UTILITY CONNECTIONS NEEDING TO BE COMPLETED AT THE BEGINNING OF THE PROJECT AND THE ANTICIPATED ROADWAY CONNECTION BEING COMPLETED LATER IN THE PROJECT THE CONTRACTOR SHALL COMPLETE THE IMPROVEMENTS IN THE FOLLOWING SEQUENCE:

TEMPORARY CUL-DE-SAC
-CONTRACTOR SHALL GIVE AFFECTED PROPERTY OWNERS AND NCDOT 48 HOURS NOTICE PRIOR TO BEGINNING CONSTRUCTION.
-DUE TO THE VAST AMOUNT OF IMPACTS TO THE EXISTING ROAD CONTRACTOR SHALL REMOVE EXISTING ASPHALT.
-INSTALL PROPOSED UTILITIES (GRAVITY SEWER, FORCEMAIN AND WATERMAIN).
-INSTALL PROPOSED STORM SEWER OT 53-CB 51.
-SINCE OT 53 WILL TEMPORARILY BE IN THE ASPHALT OF THE CUL-DE-SAC THE CONTRACTOR SHALL BRICK UP OVER PRECAST STRUCTURE TO THE ELEVATION OF THE OF THE TEMPORARY CUL-DE-SAC.
-INSTALL A TEMPORARY FRAME A GRATE (NCDOT 840.16) ON OT 53.
-CONTRACTOR SHALL INSTALL 8" OF ABC AND 2" INTERMEDIATE COURSE ONLY.

PERMANENT ROAD CONNECTION
-CONTRACTOR SHALL SAWCUT EXISTING CUL-DE-SAC ASPHALT TO LIMITS OF PROPOSED CURB AND GUTTER.
-RE-GRADE LAWN AREA TOWARDS OT 53 AND REMOVE TEMPORARY BRICK, FRAME AND GRATE ON TOP OF PRECAST DRAINAGE OT 53.
-INSTALL PROPOSED CURB AND GUTTER.
-LAY FINAL SURFACE COURSE OF ASPHALT.



SITE CONSTRUCTION
±28.77 AC (1,253,254 SF)
ROAD WIDENING ON S. POINT RD.
±0.70 AC (30,351 SF)
TOTAL DISTURBED AREA:
±29.47 AC (1,283,605 SF)
DISTURBED ACREAGE

2 TYPICAL X-SECTION FOR BELWOOD DRIVE PAVEMENT REPAIR (SR 2532)

Mc² ENGINEERING
Mc² ENGINEERING, INC.
2110 BEN CRAIG DR., STE. 400
CHARLOTTE, NC 28262
PHONE 704.510.1979

Professional Engineer Seal: 29606, License No. 3703, State of North Carolina, signed 9/24/19.
Professional Engineer Seal: C-2630, License No. 1835, State of North Carolina, signed 10/1/18.

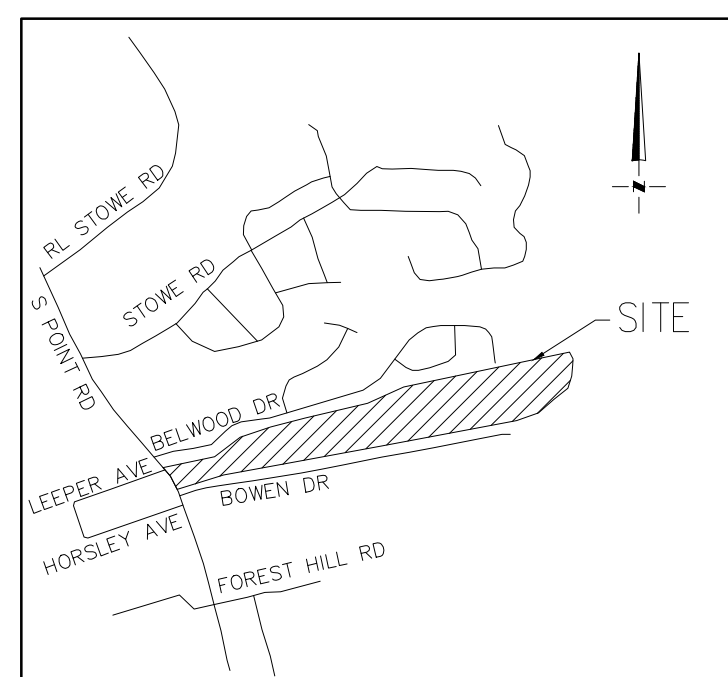
THE DESIGNS AND DRAWINGS SHOWN ARE THE PROPERTY OF Mc² ENGINEERING, INC. REPRODUCTION OR USE FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY Mc² ENGINEERING, INC. IS PROHIBITED.

RIVERMIST SUBDIVISION
SOUTH POINT ROAD
BELMONT, NC
SHINNVILLE RIDGE PARTNERS, LLC
20607 BETHEL CHURCH ROAD
CORNELIUS, NC 28031

BELWOOD DRIVE ROADWAY IMPROVEMENTS

REVISIONS		
NO.	DATE	DESCRIPTION
2	11/27/18	BELMONT COMMENTS

FINAL DRAWING FOR REVIEW PURPOSES ONLY
CAD FILE: 18-017 BASE.DWG
PROJECT NO.: 18-017
DESIGNED BY: TAP
REVIEWED BY: JDM
DATE: OCTOBER 8, 2018
C6.9



LOCATION MAP
NTS

UTILITY COVER	C7.0
OFF-SITE UTILITY CONNECTIONS/BELWOOD	C7.1
OFF-SITE UTILITY CONNECTIONS/BELWOOD	C7.2
RIVERMIST DRIVE WATER AND SEWER	C7.3
RIVERMIST DRIVE WATER AND SEWER	C7.4
RIVERMIST DRIVE WATER AND SEWER	C7.5
RIVERMIST DRIVE WATER AND SEWER/OFF-SITE	C7.6
WATERCOURSE WAY WATER AND SEWER	C7.7
UTILITY DETAILS	C9.4-C9.6

SHEET INDEX

DEVELOPER/OWNER:	SHINNILLE RIDGE PARTNERS, LLC
	20607 BETHEL CHURCH ROAD CORNELIUS, NC 28031
PID#:	207491 & 207492
JURISDICTION:	CITY OF BELMONT
DEED BOOK & PAGE:	4977 / 1780
TOTAL SITE ACREAGE:	44.45 AC
PROPOSED USE:	SINGLE FAMILY
TOTAL LOTS:	86

DEVELOPMENT SUMMARY

PUBLIC-WATER	
12" WATER MAIN	1,994 LF
8" WATER MAIN	4,522 LF
2" WATER MAIN	665 LF
FIRE HYDRANTS	11 EA
PUBLIC-SANITARY SEWER	
12" SANITARY SEWER FORCEMAIN	2,053 LF
8" GRAVITY SANITARY SEWER	4,372.52 LF
SANITARY SEWER MANHOLES	18 LF
PRIVATE-SANITARY SEWER	
3" LOW PRESSURE SS FORCEMAIN	1,295 LF

MATERIAL SUMMARY

CITY OF BELMONT GENERAL UTILITY NOTES:

- WATER SERVICES.** PARTS FOR WATER SERVICES MUST BE AS LISTED ON THE WATER SERVICE CONNECTION PARTS AS AVAILABLE ON THE CITY'S WEBSITE. THE LIST HAS RECENTLY BEEN UPDATED TO INCLUDE THE AMI METERS NOW IN USE THROUGHOUT THE CITY.
- WATER VOLUME AND PRESSURE.** IT IS NOTED THAT THE CITY OF BELMONT DOES NOT GUARANTEE WATER VOLUME AND WATER DISTRIBUTION SYSTEM PRESSURE.
- WATER REQUIRED FOR FIRE PROTECTION.** NO VERTICAL BUILDING CONSTRUCTION MAY PROCEED UNTIL THE WATER MAINS AND FIRE HYDRANTS ARE INSTALLED AND APPROVED FOR OPERATION BY THE NCDENR PUBLIC WATER SUPPLY SECTION. THIS PROCESS REQUIRES COMPLETE INSTALLATION, PRESSURE TESTING OF THE WATER MAIN, DISINFECTION, ACCEPTABLE BACTERIOLOGICAL TEST RESULTS, CERTIFICATION BY THE DESIGN ENGINEER, AND APPLICANT CERTIFICATION. THE CERTIFICATION OF THE WATER LINE WILL LIKELY BE THE CRITICAL PATH ITEM FOR STARTING BUILDING CONSTRUCTION.
- WATER AND SEWER SYSTEMS ACTIVATION.** THESE FACILITIES CANNOT BE ACTIVATED UNTIL FINAL APPROVAL FROM NCDENR IS OBTAINED AND THE NCDENR APPROVAL LETTERS ARE RECEIVED BY THE CITY. THE CITY EXPECTS THE DESIGN ENGINEER TO PROVIDE THE SERVICES REQUIRED IN ORDER FOR HIM TO MAKE THE CERTIFICATIONS NECESSARY FOR SUCH FINAL APPROVALS. THE DEVELOPER SHALL VERIFY THAT HE HAS AUTHORIZED THE DESIGN ENGINEER TO PERFORM SUCH INSPECTIONS. ATTACHED IS THE DEVELOPER'S ACKNOWLEDGEMENT OF ENGINEER'S RESPONSIBILITIES DURING CONSTRUCTION FORM THAT MUST BE SIGNED AND SUBMITTED PRIOR TO PLAN APPROVAL. IF A DIFFERENT ENGINEER WILL BE RETAINED BY THE DEVELOPER FOR CONSTRUCTION PHASE PROFESSIONAL SERVICES, THE DEVELOPER MUST NOTIFY THE CITY IN WRITING OF SUCH CHANGE IN ENGINEER. A NOTE MUST BE ADDED TO THE PLANS INDICATING THE REQUIRED ENGINEER CERTIFICATIONS AND NOTIFICATION OF CHANGE OF ENGINEER.

NOTE:
CONNECTION TO THE EXISTING BELMONT WATER MAIN CAN BE MADE ONLY AFTER SUCCESSFUL SAMPLING AND TESTING. REDUCED PRESSURE BACKFLOW DEVICE MUST BE TESTED & CERTIFIED AT EACH LOCATION.

RELATION OF WATER MAINS TO SEWERS (TAKEN FROM 15A NCAC 18C SECTION .0906 AND 15A NCAC 2T.1)

- LATERAL SEPARATION OF SEWERS AND WATER MAINS**
- SEWER AND WATER MAINS SHALL HAVE AT LEAST A 10 FEET HORIZONTALLY SEPARATION MEASURED FROM OUTSIDE EDGE TO OUTSIDE EDGE OF PIPE.
 - IF IT IS IMPOSSIBLE TO OBTAIN PROPER HORIZONTAL AND VERTICAL SEPARATION AS DESCRIBED ABOVE OR ANYTIME THE SEWER IS OVER THE WATER MAIN, BOTH THE WATER MAIN AND SEWER MUST BE CONSTRUCTED OF FERROUS PIPE COMPLYING WITH PUBLIC WATER SUPPLY DESIGN STANDARDS AND BE PRESSURE TESTED TO 150 PSI TO ASSURE WATERTIGHTNESS BEFORE BACKFILLING.
 - A 24 INCH VERTICAL SEPARATION SHALL BE PROVIDED BETWEEN STORM SEWER AND SANITARY SEWER LINES OR FERROUS PIPE SPECIFIED.
 - CROSSING A WATER MAIN OVER A SEWER.
 - WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS OVER A SEWER, THE WATER MAIN SHALL BE LAID AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 24 INCHES ABOVE THE TOP OF THE SEWER, UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT AN 24-INCH VERTICAL SEPARATION IN WHICH CASE BOTH THE WATER MAIN AND SEWER SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING.
 - CROSSING A WATER MAIN UNDER A SEWER.
 - WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS UNDER A SEWER, BOTH THE WATER MAIN AND THE SEWER SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING. A SECTION OF WATER MAIN PIPE SHALL BE CENTERED AT THE POINT OF CROSSING.

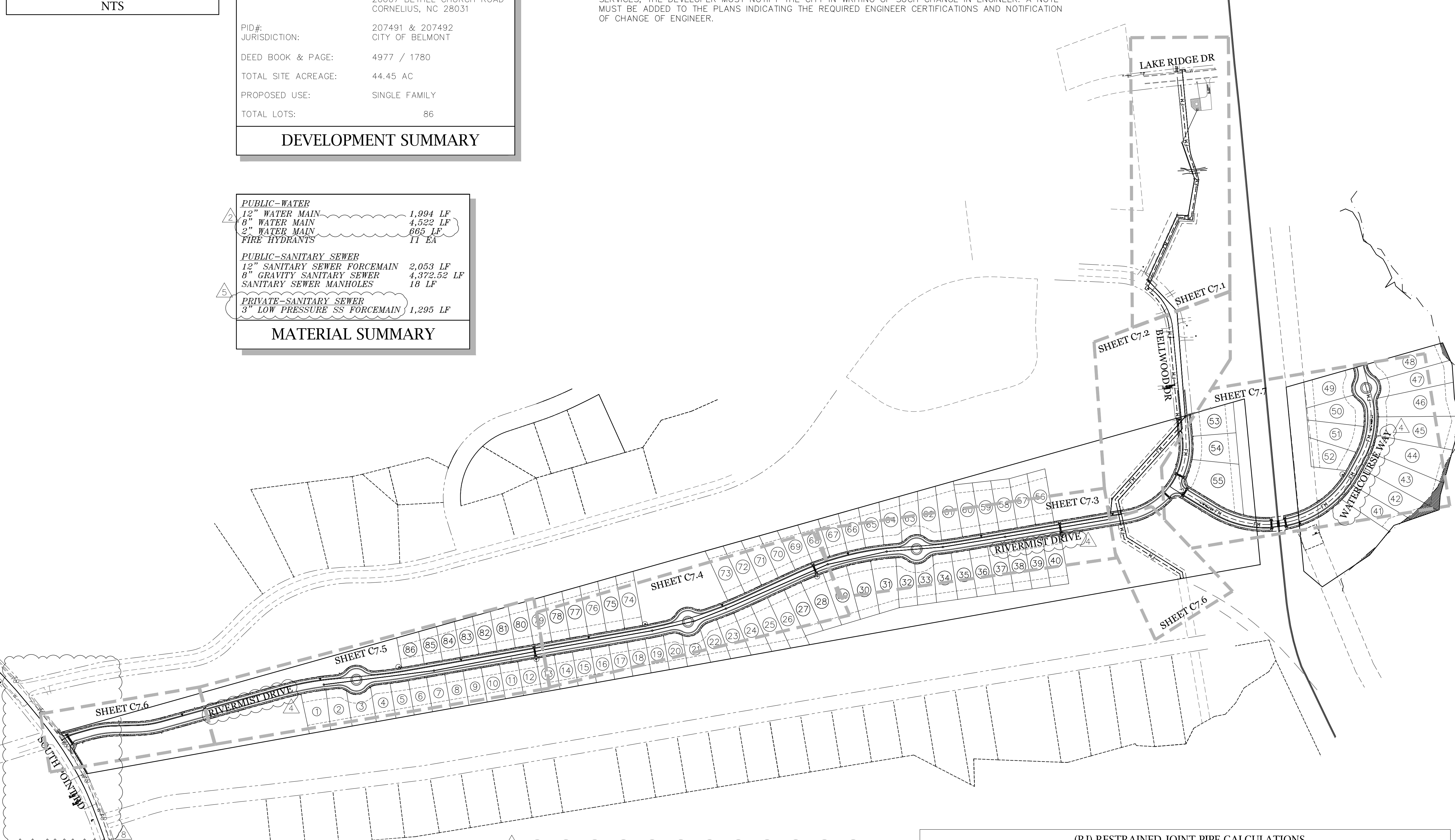
SANITARY SEWER LATERAL NOTE:

ALL SANITARY SEWER LATERALS SHALL BE 4" PVC SCHEDULE 40 PIPE, OR 4" CAST IRON SOIL PIPE. WHERE SEPARATIONS FROM WATER MAINS CANNOT BE MAINTAINED, SERVICES SHALL BE TERMINATED WITHIN THE 5 FOOT UTILITY EASEMENT LOCATED ACROSS THE FRONT OF THE PROPOSED LOTS. THE TERMINATION SHALL BE WITH A 4" CLEANOUT. THE SERVICE LINE SHALL BE PLUGGED AT THE CLEANOUT AND INCLUDED IN THE TESTING OF THE MAINLINE SANITARY SEWER LINE. THE CLEANOUT SHALL BE PROTECTED FROM DAMAGE WITH ORANGE FENCING DURING THE CONSTRUCTION OF THE STREET IMPROVEMENTS AND THE HOUSE. SEWER SERVICE LINES SHALL NOT BE LOCATED UNDER PROPOSED DRIVEWAY PAVEMENTS. IF UPON PERMITTING OF PROPOSED HOUSES IT IS DETERMINED THAT THE SERVICE WILL BE UNDER DRIVEWAY PAVEMENT, THE DEVELOPER WILL BE RESPONSIBLE FOR ABANDONING THE SEWER SERVICE IN ACCORDANCE WITH CITY REQUIREMENTS AND INSTALLING A NEW SEWER SERVICE IN THE CORRECT LOCATION.

WATER SERVICE NOTE:

ALL WATER SERVICES SHALL BE 1" TYPE "K" COPPER PIPE. SERVICES INSTALLED UNDER THIS PROJECT SHALL INCLUDE THE WATER SERVICE SADDLE WITH STAINLESS STEEL STRAPS, CORPORATION STOP, COPPER PIPE, AND 1" X 3/4" REDUCING CURB STOP. THE CURB STOP SHALL BE LOCATED WITHIN THE 5 FOOT UTILITY EASEMENT LOCATED ACROSS THE FRONT OF THE PROPOSED LOTS. THE CURB STOP SHALL BE PROTECTED WITH A PLASTIC VALVE BOX AND ORANGE FENCING. WATER SERVICE LINES SHALL NOT BE LOCATED UNDER PROPOSED DRIVEWAY PAVEMENTS. IF UPON PERMITTING OF PROPOSED HOUSES IT IS DETERMINED THAT THE SERVICE WILL BE UNDER DRIVEWAY PAVEMENT, THE DEVELOPER WILL BE RESPONSIBLE FOR ABANDONING THE WATER SERVICE IN ACCORDANCE WITH CITY REQUIREMENTS AND INSTALL A NEW WATER SERVICE IN THE CORRECT LOCATION. ON A FEE BASIS, THE CITY OF BELMONT WILL INSTALL THE METER YOKE, METER, AND METER BOX WHEN THE INDIVIDUAL LOT WATER SERVICE ACCOUNT IS ESTABLISHED. THE HOUSE BUILDER PLUMBER SHALL DIG UP AND EXPOSE THE CURB STOP AND MAKE SURE THAT THE CURB STOP IS AT THE PROPER ELEVATION PRIOR TO THE CITY INSTALLATION OF A METER.

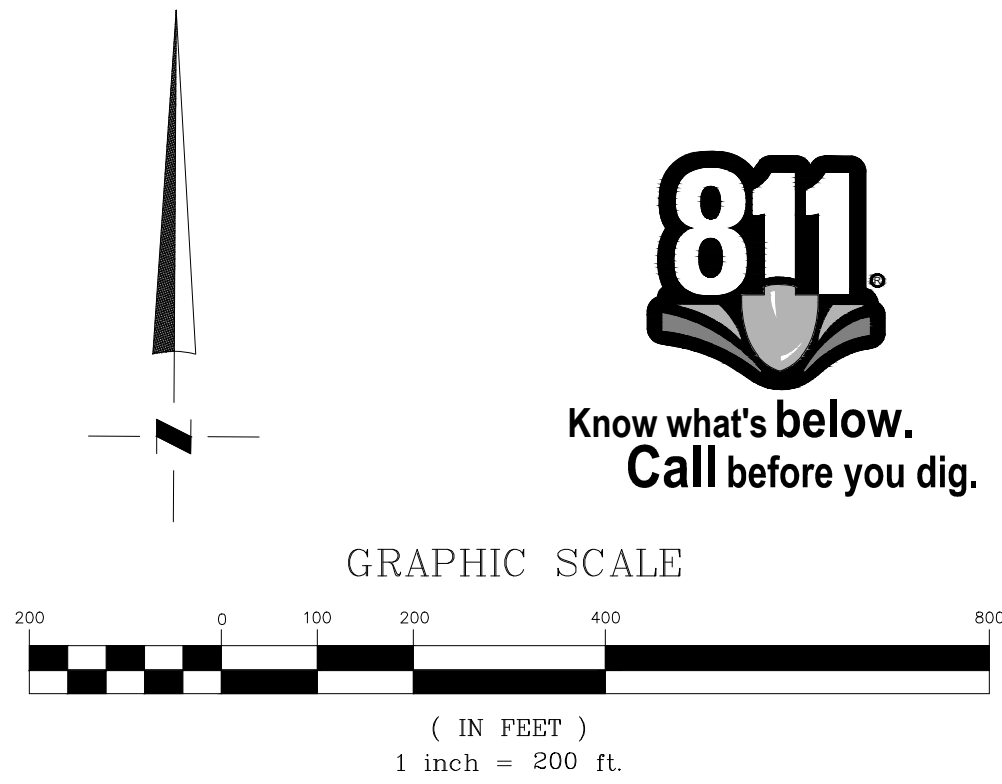
THE LOW PRESSURE SEWER SYSTEM (LPSS) TO BE OWNED AND MAINTAINED BY THE HOA SHALL INCLUDE THE INDIVIDUAL PUMP STATIONS, 1.5" SERVICE FORCEMAINS AND 3" COMBINED FORCEMAIN THAT SERVES LOTS (41-52,54,55).



NORFOLK SOUTHERN RAIL ROAD STANDARD NOTES:
ALL UTILITY INSTALLATIONS OR RELOCATIONS THAT ARE REQUIRED IN CONJUNCTION WITH THIS PROJECT CAN BE INSTALLED OR RELOCATED AS PART OF THE PROJECT PROVIDED THE CONSTRUCTION IS PERFORMED BY THE PROJECT CONTRACTOR OR PROJECT CONTRACTOR'S SUB-CONTRACTOR. HOWEVER, THE UTILITY MUST SUBMIT AN APPLICATION FOR THE INSTALLATION OR RELOCATION TO NS PIPE AND WIRE FOR APPROPRIATE HANDLING FOR LICENSE AGREEMENT AND APPLICABLE FEES. FOR UTILITY APPLICATIONS GO TO: WWW.NSCORP.COM/CONTENT/NSCORP/EN/REAL-ESTATE/NORFOLK-SOUTHERN-SERVICES/WIRE-PIPELINE-FIBER-OPTIC-PROJECTS.HTML
NOTE: LICENSE AGREEMENT MUST BE EXECUTED PRIOR TO UTILITY BEING INSTALLED OR RELOCATED.
CONTRACTOR WILL NOT BE PERMITTED TO STORE ANY EQUIPMENT ON NS PROPERTY WITHOUT PERMISSION FROM THE NS RAILROAD ENGINEER IN ACCORDANCE WITH SECTION E.5.K.1 OF THE NS PUBLIC PROJECTS MANUAL
ALL ROADWAY WORK WITHIN 2' OF THE OUTSIDE EDGE OF RAIL SHALL BE COMPLETED BY NORFOLK SOUTHERN FORCES AT THE SPONSOR'S EXPENSE.

(RJ) RESTRAINED JOINT PIPE CALCULATIONS

BEND	FITTING TYPE	PIPE MATERIAL	SOIL TYPE	SAFETY FACTOR	TRENCH TYPE	DEPTH OF BURY	TEST PRESSURE	NOMINAL SIZE	BRANCH SIZE	LENGTH ALONG RUN	RESTRAINED LENGTH	
SEWER	90°	HORIZONTAL	DIP	ML	1.5	3	4'	150 PSI	12"		32 FT	
	45°	HORIZONTAL	DIP	ML	1.5	3	4'	150 PSI	12"		14 FT	
	22.5°	HORIZONTAL	DIP	ML	1.5	3	4'	150 PSI	12"		7 FT	
	45°	VERTICAL	DIP	ML	1.5	3	4'	150 PSI	12"	HIGH SIDE 24' / LOW SIDE 14'		53 FT
	90°	HORIZONTAL	DIP	ML	1.5	3	4'	200 PSI	12"			22 FT
WATER	45°	HORIZONTAL	DIP	ML	1.5	3	4'	200 PSI	12"		9 FT	
	22.5°	HORIZONTAL	DIP	ML	1.5	3	4'	200 PSI	12"			53 FT
	45°	VERTICAL	DIP	ML	1.5	3	4'	200 PSI	12"	HIGH SIDE 32' / LOW SIDE 18'		53 FT
	90°	HORIZONTAL	PVC	ML	1.5	3	3'	200 PSI	8"			22 FT
	45°	HORIZONTAL	PVC	ML	1.5	3	3'	200 PSI	8"			68 FT
		TEE	PVC	ML	1.5	3	3'	200 PSI	12"	8"	9'	104 FT
	REDUCER	PVC	ML	1.5	3	3'	200 PSI	8"	2"			



Mc² ENGINEERING
 MC² ENGINEERING, INC.
 2110 BEN CRAIG DR., STE. 400
 CHARLOTTE, NC 28262
 PHONE 704.510.1979

Professional Engineer Seal for **Michael D. Yellum**, License No. 29606, State of North Carolina, expires 6/11/21.

THE GEODESIC AND DRAWINGS SHOWN ARE THE PROPERTY OF MC² ENGINEERING, INC. REPRODUCTION OR USE FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY MC² ENGINEERING, INC. IS PROHIBITED. 2018 ©

RIVERMIST SUBDIVISION
 SOUTH POINT ROAD
 BELMONT, NC

SHINNILLE RIDGE PARTNERS, LLC
 20607 BETHEL CHURCH ROAD
 CORNELIUS, NC 28031

UTILITY COVER SHEET

NO.	DATE	REVISIONS
2	11/27/18	BELMONT COMMENTS
4	9/24/19	BELMONT COMMENTS
5	10/30/20	NS/LPSS COMMENTS
8	6/11/21	NCDOT/BELMONT CMTS

FINAL DRAWING FOR REVIEW PURPOSES ONLY
 CAD FILE: 18-017 BASE.DWG
 PROJECT NO.: 18-017
 DESIGNED BY: TAP
 REVIEWED BY: JDM
 DATE: OCTOBER 8, 2018

C7.0