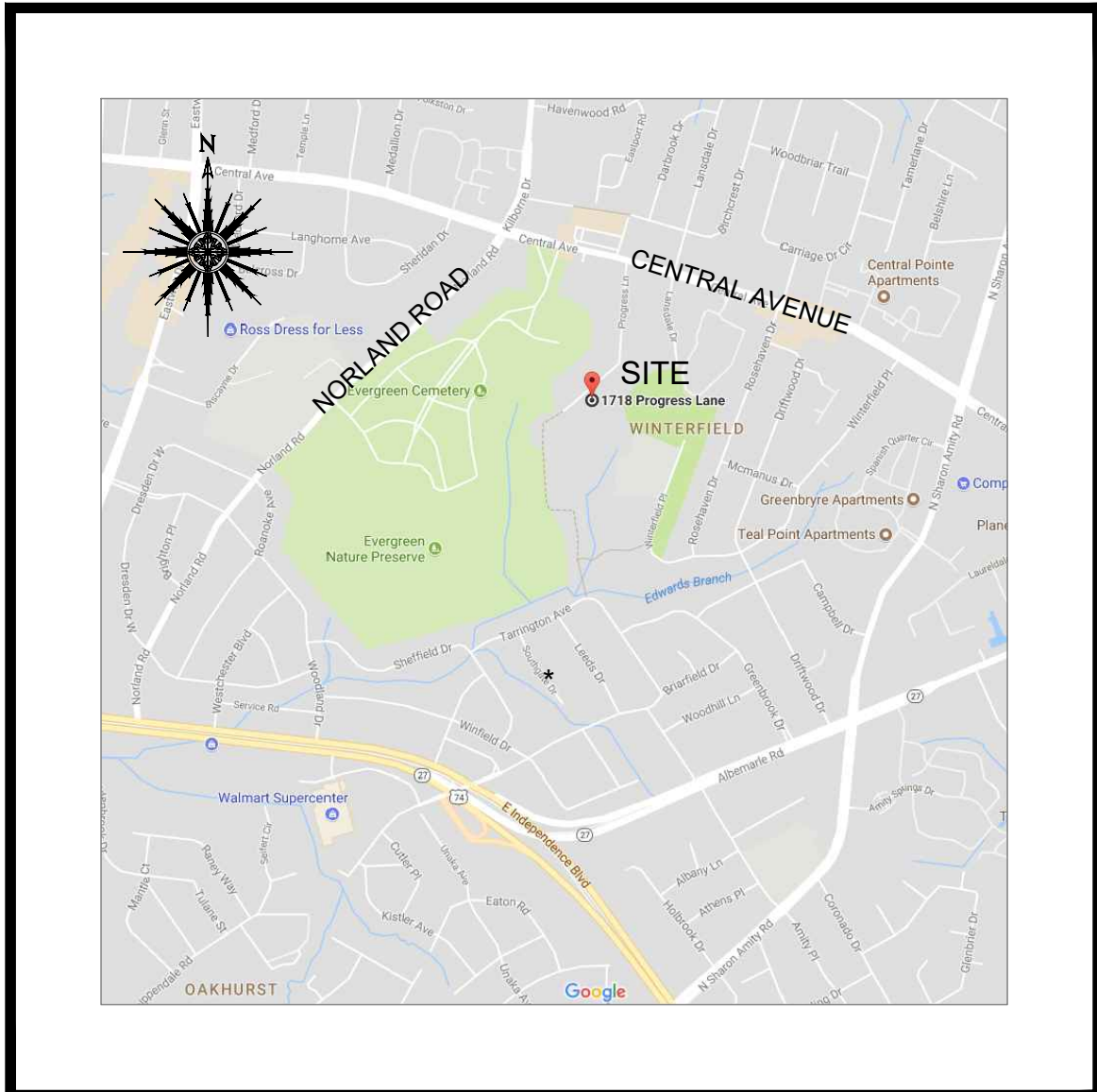




CLT GIS PARCEL MAP
NOT TO SCALE



VICINITY MAP
NOT TO SCALE

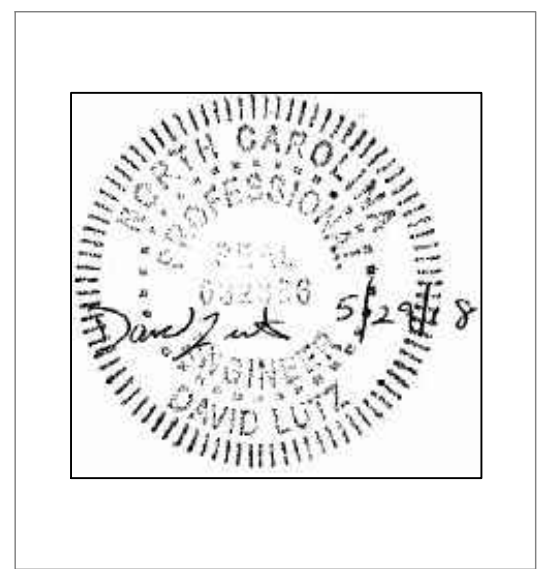


AERIAL VIEW OF SITE
NOT TO SCALE

ROLSTON HERITAGE SUBDIVISION

1718 PROGRESS LANE - PID # 13103121

MECKLENBURG COUNTY CHARLOTTE, NC



REVISION
**APPROVED FOR
CONSTRUCTION**
CHARLOTTE-MECKLENBURG PLANNING DEPARTMENT
By: Joshua Weaver 5-31-2018



FINAL APPROVAL
PROJECT NUMBER: SDRSFR-2018-00017

ENGINEERING
PCSO / DETENTION / DRAINAGE PLAN

EROSION CONTROL

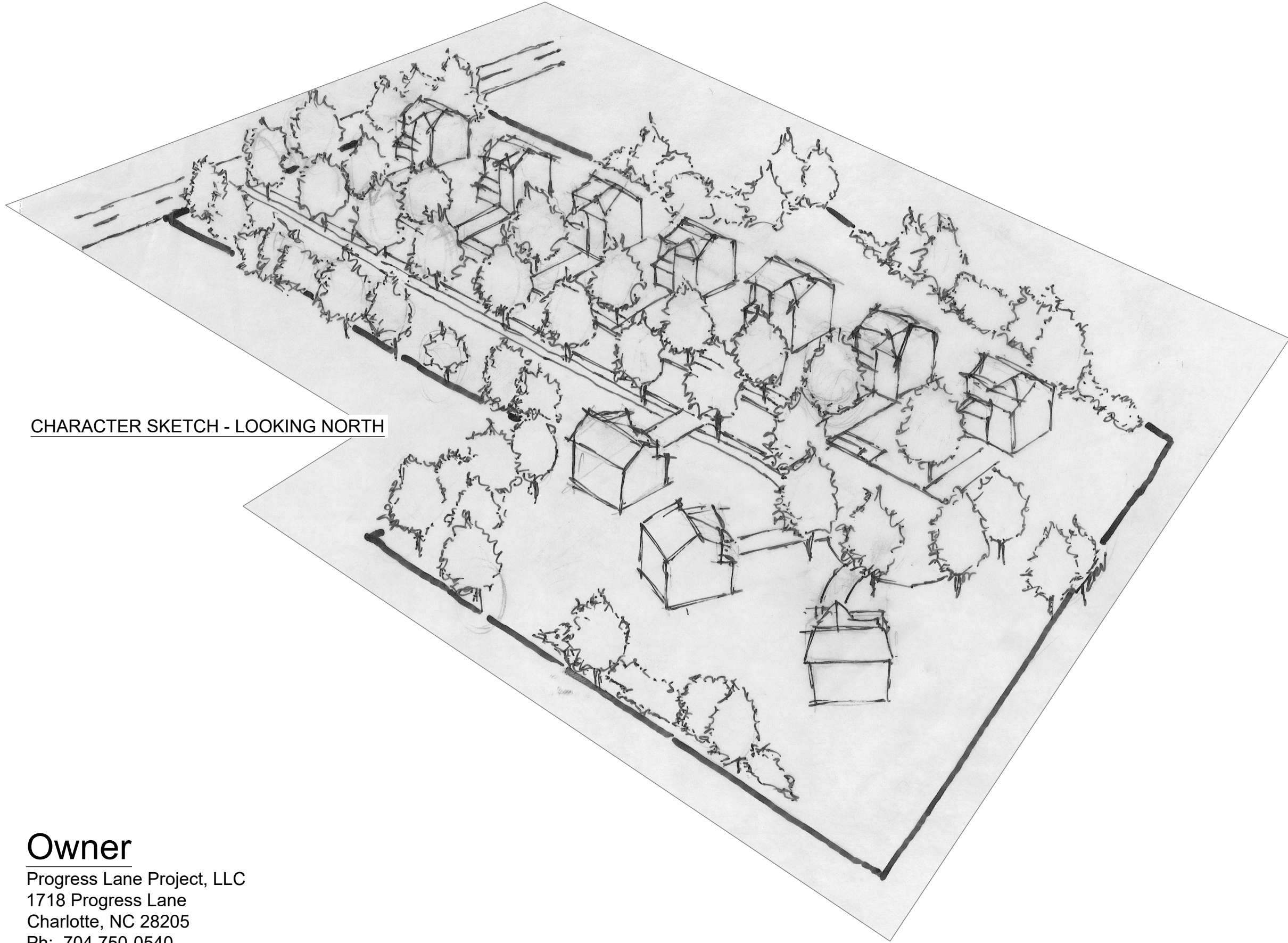
URBAN FORESTRY
TREE ORDINANCE

CDOT

NOTE: SCHEDULE PRE-CONSTRUCTION MEETING
AT LEAST 48 HRS. PRIOR TO ANY LAND
DISTURBING ACTIVITY USING THE ONLINE
FORM FOUND AT <http://charlottenc.gov/ld>

APPROVED
By Jack Fulghum at 10:46 am, May 31, 2018

APPROVED



CHARACTER SKETCH - LOOKING NORTH

Owner
Progress Lane Project, LLC
1718 Progress Lane
Charlotte, NC 28205
Ph: 704.750-0540

Civil Engineer
CES Group Engineers, LLP
Firm License #: F-1240
274 N. Hwy. 16, Suite 300
Denver, NC 28037
Ph: 704.489.1500

Utilities
Water/Sewer:
Charlotte Water

Electric:
Duke

Phone / Cable / Etc...
T.B.D.

Natural Gas:
T.B.D.



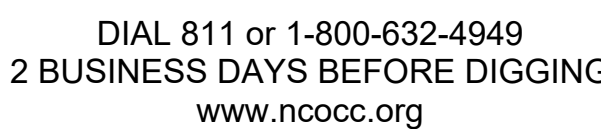
**CES GROUP
ENGINEERS, LLP**
NC FIRM LICENCE# F-1240
274 N. HWY. 16, SUITE 300
DENVER, NC 28037
T 704. 489.1500
www.ces-group.net

DRAWING INDEX	
SHEET #	TITLE / DATA
	COVER SHEET
C 1	LEGEND AND NOTES
C 2	EXISTING CONDITIONS
C 3.1	EROSION CONTROLS (PHASE 1)
C 3.2	EROSION CONTROLS (PHASE 2)
C 4	SITE PLAN
C 5	GRADING PLAN
C 5.1	STORM PROFILES
C 6	UTILITY PLAN
C 6.1	SANITARY PROFILE
C 7	ROADWAY PROFILES
C 7.1	SIGHT VIEW PROFILES
DE 1	CONSTRUCTION DETAILS
DE 2	CONSTRUCTION DETAILS
DE 3	CONSTRUCTION DETAILS
DE 4	CONSTRUCTION DETAILS
DE 5	CONSTRUCTION DETAILS
DE 6	CONSTRUCTION DETAILS

STANDARD ABBREVIATION TABLE					
AB	ANCHOR BOLT	EXIST	EXISTING	PERP	PERPENDICULAR
ABAN	ABANDON OR ABANDONED	EXP	EXPANSION JOINT	PI	POINT OF INTERSECTION
ABUT	ABUTMENT	EXT	EXTERIOR	PIV	POST INDICATOR VALVE
ABVT	ABOVE	FR	FRAME	PL	PLATE PROPERTY LINE
ACT	ACOUSTICAL	FD	FLOOR DRAIN	PLYWD	PLYWOOD
ADD	ADDITIONAL	FDN	FOUNDATION	POL	POINT ON LINE
ADJ	ADJACENT	FES	FLARED END SECTION	PP	POWER POLE
AFF	ABOVE FINISH FLOOR	FF	FINISH FLOOR	POT	POINT ON TANGENT
AGGR	AGGREGATE	FFE	FINISHED FLOOR ELEVATION	PRC	POINT OF REVERSE CURVE
ALUM	ALUMINUM	FH	FIRE HYDRANT	PSI	POUNDS PER SQUARE INCH
ALT	ALTERNATE	FIG	FIGURE	PT	POINT OF TANGENT
ANC	ANCHOR BOLT	FIN	FINISH	PVI	POINT OF VERTICAL INTERSECTION
APPROX	APPROXIMATE	FIXT	FIXTURE	PVC	POLYVINYL CHLORIDE
ARCH	ARCHITECTURAL	FL	FLOOR	PVMT	PAVEMENT
AWWA	AMERICAN WATER WORKS ASSOCIATION	FLEX	FLEXIBLE	PVT	PRIVATE
		FLG	FLANGE		
AVG	AVERAGE	FT	FOOT	R	RADIUS RISER
		FTG	FOOTING	RAS	RETURN ACTIVATED SLUDGE
		FUT	FUTURE	RR	RAIL ROAD
BIT	BITUMINOUS			RCP	REINFORCED CONCRETE PIPE
BJ	BELL JOINT			RD	ROOF DRAIN, ROAD
BL	BASE LINE	GAL	GALLON	RDCR	REDUCER
BEG	BEGIN OR BEGINNING	GALV	GALVANIZED	RECPT	RECEPTACLE
BLDG	BUILDING	GAR	GARAGE	RECT	RECTANGULAR
BLKG	BLOCKING	GND	GROUND	REINF	REINFORCE, REINFORCEMENT
BM	BENCH MARK, BEAM	GR	GRAVEL	REF	REFERENCE
BOTT	BOTTOM	GOVT	GOVERNMENT	REL	RELOCATED
BP	BYPASS	GPM	GALLONS PER MINUTE	REQD	REQUIRED
BRG	BEARING	GRTG	GRATING	REV	REVISION
BMT	BASEMENT	GV	GATE VALVE	RTE	ROUTE
BV	BUTTERFLY VALVE	GW	GRAY WATER	RTE	RIGHT
				R/W	RIGHT-OF-WAY
C	CHANNEL, COLD	HDPE	HIGH DENSITY POLYETHYLENE PIPE		
C/C, C TO	CENTER TO CENTER	HB	HOSE BIB		
CAB	CABINET	HK	HOOK	S	SOUTH, SWITCH
CAP	CAPACITY	HM	HOLLOW METAL	SAN	SANITARY
CE	CONSTRUCTION EASEMENT	HOR,HORIZ	HORIZONTAL	SCH	SCHEDULE
CF	CUBIC FEET	HP	HORSE POWER	SD	STORM DRAIN
CG	CHANGE OF GRADE	HPT	HIGH POINT	SDE	STORM DRAIN EASEMENT
C & G	CURB AND GUTTER	HYD	HYDRANT	SECT	SECTION
CI	CAST IRON			SER	SERVICE
CIRC	CIRCULAR	ID	INSIDE DIAMETER	SF	SILT FENCE
CKT	CIRCUIT	IN	INCH	SH	SHEET
CL	CENTER LINE	INSUL	INSULATION	SHTG	SHEETING
CLR	CLEAR	INV	INVERT	SIM	SIMILAR
CONST	CONSTRUCTION	IPS	IRON PIN SET	SPEC	SPECIFICATION
COR	CORNER			SQ	SQUARE
CMP	CORRUGATED METAL PIPE	JT	JOINT	SS	SANITARY SEWER
CMU	CONCRETE MASONRY UNITS	JB	JUNCTION BOX	SSE	SANITARY SEWER EASEMENT
CND	CONDUIT			ST	STREET
CO	CLEAN OUT	L	LENGTH, LONG	STA	STATION
COMB	COMBINATION	LAT	LATERAL	STD	STANDARD
CONC	CONCRETE	LCUE	LINCOLN COUNTY UTILITY EASEMENT	STL	STEEL
CONN	CONNECT, CONNECTION	LF	LINEAL FOOT	STRUCT	STRUCTURAL
CONT	CONTINUOUS, CONTROL	LG	LONG	STY	STORY
CONTR	CONTRACTOR	LOD	LIMITS OF DISTURBANCE	SUR	SURVEY
CONV	CONVEYOR	LP	LIGHT POLE	SURF	SURFACE
CP	COORDINATE POINT	LR	LONG RADIUS	S/W	SIDEWALK
CR STONE	CRUSHED STONE	LT	LEFT	SYMM	SYMMETRICAL
CTR	CENTER	LTG	LIGHTING		
CULV	CULVERT			T	TREAD, TOP
CY	CUBIC YARD	MACH	MACHINERY	T & B	TOP AND BOTTOM
		MAS	MASONRY	TDC	TURNED DOWN CURB
D	DEPTH OR DEGREE OF CURVE	MATL	MATERIAL	TELE	TELEPHONE
DEPT	DEPARTMENT	MAX	MAXIMUM	TEMP	TEMPORARY
DF	DRINKING FOUNTAIN	MECH	MECHANICAL	THK	THICK
DI	DROP INLET, DUCTILE IRON	MFR	MANUFACTURER	TP	TRAVERSE POINT
DIA	DIAMETER	MH	MANHOLE, MOUNTING HEIGHT	TRTD	TREATED
DIM	DIMENSION	MIN	MINIMUM	TS	TOP OF SLAB
DIP	DUCTILE IRON PIPE	MISC	MISCELLANEOUS	TV	TELEVISION
DISC	DISCONNECT	MJ	MECHANICAL JOINT	TW	TOP OF WALL
DMH	DROP MANHOLE	MO	MASONRY OPENING	TYP	TYPICAL
DN	DOWN	MON	MONUMENT		
DR	DRIVE	MTD	MOUNTED	UG	UNDERGROUND
DS	DOWN SPOUT	MTL	METAL	UON	UNLESS OTHERWISE NOTED
DTL	DETAIL	MV	MUD VALVE	U.S.C.&G.S.	UNITED STATES COAST AND GEODETIC SURVEY
DW,D/W	DRIVEWAY				
DWL	DWELLING	N & C	NAIL AND CAP		
DWG	DRAWING	NIC	NOT IN CONTRACT	V, VAL	VALVE
E	EAST	NO	NUMBER	VAP BAR	VAPOR BARRIER
EA	EACH	NTS	NOT TO SCALE	VC	VERTICAL CURVE
EBL	EASTBOUND LANE	NCDOT	NORTH CAROLINA DEPT. OF TRANSPORTATION	VERT	VERTICAL CURVE
EF	EACH FACE			VOL	VOLUME
EJ	EXPANSION JOINT	OC	ON CENTERS	V.S.D.	VERTICAL SIGHT DISTANCE
EL,ELEV	ELEVATION	OD	OUTSIDE DIAMETER		
ELEC	ELECTRICAL	OPER	OPERATOR	W.B.L.	WEST BOUND LANE
ENGR	ENGINEER	OPNG	OPENING	W.B.L.	WIDE FLANGE, WIDE
ENTR	ENTRANCE	OPP	OPPOSITE	W/	


STANDARD LEGEND		
EXISTING	NEW	DESCRIPTION
		BUILDING WITH PORCH OR STOOP
		FOUNDATION ONLY
		CONTOUR, CONTOUR WITH ELEVATION
		SPOT ELEVATION
		CONCRETE CURB
		CONCRETE CURB & GUTTER
		CONCRETE SIDEWALK
		PAVEMENT
		UNPAVED OR GRAVEL ROAD
		TREE LINE
		SILT FENCE
		DITCH
		PROPERTY LINE
		CENTERLINE OR BASELINE
		LIMITS OF DISTURBANCE
		BENCHMARK
		STORM DRAIN AND ENDWALL
		GRAVITY SANITARY SEWER
		FORCE MAIN - PROFILE
		FORCE MAIN - PLAN
		GAS MAIN OR SERVICE LINE
		WATER MAIN OR SERVICE LINE
		OVERHEAD ELECTRICAL LINE
		UNDERGROUND ELECTRICAL LINE
		PIPE FITTINGS
		FIRE HYDRANT
		GATE VALVE
		CLEAN OUT
		MANHOLE
		BLOW OFF
		DROP INLET (CURB AND GRATING TYPES)
		G.M. - GAS METER. W.M. - WATER METER
		TELEPHONE LINE
		UNDERGROUND TELEPHONE LINE
		TELEPHONE POLE GUY AND ANCHOR
		POWER POLE GUY AND ANCHOR
		LIGHT POLE
		TELEPHONE PEDESTAL
		BURIED TELEPHONE VAULT
		CABLE TV
		ELECTRIC LIGHT
		PROPERTY MARKER
		MAILBOX
		NATURAL GAS MARKER
		ABANDON OR REMOVE
		PAVED DITCH
		DRIVEWAY CULVERT
		CULVERT WITH FLARED END SECTION
		CULVERT WITH OUTLET PROTECTION AND LEVEL SPREADER
		WATER VALVE
		CONTROL POINT/TRVERSE POINT
		COORDINATE POINT
		SIGN
		WETLAND
		RETAINING WALL
		PARKING COUNT

1. COORDINATE ALL CURB AND STREET GRADES IN INTERSECTION WITH INSPECTOR.
2. ALL ROAD IMPROVEMENTS AT PROGRESS LANE ARE TO BE COORDINATED WITH THE CITY OF CHARLOTTE ENGINEERING DEPARTMENT PRIOR TO CONSTRUCTION.
3. DEVELOPER WILL PROVIDE STREET SIGNS PER CLDSMM# 50.05 (8" SIGNS ONLY).
4. SIGHT TRIANGLES SHOWN ARE THE MINIMUM REQUIRED.
5. DIRECT VEHICULAR ACCESS TO PROGRESS LANE FROM LOT 1 IS PROHIBITED.
6. IN ROLLING AND HILLY TERRAINS, SWEEPING OF THE STONE BASE AND/OR APPLICATION OF A TACK COAT MAY BE REQUIRED NEAR INTERSECTIONS. THESE REQUIREMENTS WILL BE ESTABLISHED BY THE INSPECTOR AND BASED ON FIELD CONDITIONS.
7. APPROVAL OF THIS PLAN IS NOT AN AUTHORIZATION TO GRADE ADJACENT PROPERTIES. WHEN FIELD CONDITIONS WARRANT OFF-SITE GRADING, PERMISSION MUST BE OBTAINED FROM THE AFFECTED PROPERTY OWNERS.
8. IN ORDER TO ENSURE PROPER DRAINAGE, KEEP A MINIMUM OF 0.5% SLOPE ON THE CURB.
9. SUBSURFACE DRAINAGE FACILITIES MAY BE REQUIRED IN THE STREET RIGHT-OF-WAY IF DEEMED NECESSARY BY THE INSPECTOR.
10. CURB AND GUTTER SHOWN ON PLANS ALONG ROLSTON PLACE MAY BE ADJUSTED BASED UPON FIELD STAKING BY CITY ENGINEERING. ASSOCIATED STORM DRAINAGE MAY ALSO REQUIRE MODIFICATION BASED UPON FIELD CONDITIONS.
11. THE PURPOSE OF THE STORM DRAINAGE EASEMENT (SDE) IS TO PROVIDE STORM WATER CONVEYANCE. BUILDINGS ARE NOT PERMITTED IN THE EASEMENT AREA. ANY OTHER OBJECTS WHICH IMPEDE STORM WATER FLOW OR SYSTEM MAINTENANCE ARE ALSO PROHIBITED.
12. HIGH-DENSITY POLYETHYLENE (HDPE) STORM DRAINAGE PIPE INSTALLED WITHIN EXISTING OR PROPOSED PUBLIC STREET RIGHT-OF-WAY MUST BE APPROVED BY THE CITY'S INSPECTOR PRIOR TO ANY BACKFILL BEING PLACED. BACKFILL MATERIAL MUST BE APPROVED BY THE CITY INSPECTOR PRIOR TO PLACEMENT OF THE MATERIAL WITHIN THE PUBLIC STREET RIGHT-OF-WAY.
13. THE DEVELOPER SHALL MAINTAIN EACH STREAM, CREEK, OR BACKWASH CHANNEL IN AN UNOBSTRUCTED STATE AND SHALL REMOVE FROM THE CHANNEL AND BANKS OF THE STREAM ALL DEBRIS, LOGS, TIMBER, JUNK AND OTHER ACCUMULATIONS.
14. ANY BUILDING WITHIN THE 100+1 STORMWATER ELEVATION LINE IS SUBJECT TO THE RESTRICTIONS OF THE (CITY OF CHARLOTTE/MECKLENBURG COUNTY) SUBDIVISION ORDINANCE, SECTION 7.200.8.
15. ANY CONSTRUCTION OR USE WITHIN THE FUTURE CONDITIONS FLOOD FRINGE LINE IS SUBJECT TO THE RESTRICTIONS IMPOSED BY THE FLOODWAY REGULATIONS OF THE CITY OF CHARLOTTE AND MECKLENBURG COUNTY.
16. ALL OPENINGS (E.G., DOORS, WINDOWS, VENTS) IN STRUCTURES BUILT ON LOT #S SHOULD BE LOCATED A MINIMUM OF ONE FOOT ABOVE THE ADJACENT FINISHED GROUND SURFACE (APPLIES TO LOTS WHICH MAY EXPERIENCE SIGNIFICANT OVERLAND FLOW NOT CONSIDERED IN THE 100+1 FLOOD ANALYSIS).
17. PE SEALED SHOP DRAWINGS FOR RETAINING WALL MUST BE SUBMITTED TO CITY ENGINEER PRIOR TO CONSTRUCTION.
18. "AS-BUILT" DRAWINGS AND PLANS OF THE STORM DRAINAGE SYSTEM, INCLUDING DESIGNED DITCHES, MUST BE SUBMITTED PRIOR TO SUBDIVISION FINAL INSPECTION TO THE CITY/COUNTY ENGINEERING DEPARTMENT IN ACCORDANCE WITH THE CITY/COUNTY SUBDIVISION ORDINANCE.
19. PRIOR TO INSTALLATION, PE SEALED SHOP DRAWINGS FOR UNDERGROUND DETENTION SYSTEMS MUST BE FURNISHED TO CITY OF CHARLOTTE ENGINEERING FOR APPROVAL.
20. PRIOR TO CO, SURVEYOR SEALED AS-BUILT DRAWINGS OF ALL WATER QUALITY BMP'S AND DETENTION SYSTEMS MUST BE PROVIDED.
21. PRIOR TO PLAT RECORDATION, OFFSITE R/W AND/OR CONSTRUCTION EASEMENTS ARE REQUIRED TO BE OBTAINED ACCORDING TO THE GUIDELINES OF THE "OFFSITE R/W ACQUISITION PROCESS". THESE NEEDED R/W AND CONSTRUCTION LIMITS ARE CLEARLY SHOWN ON THE ROADWAY IMPROVEMENT PLAN.
22. PER SECTION 18-175(E) OF CITY CODE AND SECTION 10.0 OF THE CITY'S POST CONSTRUCTION CONTROLS ADMINISTRATIVE MANUAL, ALL REQUIRED NATURAL AREAS AND/OR POST CONSTRUCTION CONTROLS EASEMENTS (PCEES) MUST BE RECORDED PRIOR TO THE ISSUANCE OF THE CERTIFICATE OF OCCUPANCY.
23. THE DEVELOPER SHALL CONTACT THE CHARLOTTE DEPARTMENT OF TRANSPORTATION (GUS JORDI, 704-336-7086) TO IDENTIFY ANY CONFLICTS WITH TRAFFIC SIGNALIZATION EQUIPMENT. 60- 90 DAYS WILL BE REQUIRED TO COORDINATE RELOCATION. DEVELOPER SHALL BE RESPONSIBLE FOR ALL RELATED RELOCATION COST AND/OR ANY REPAIR COST CAUSED BY THE CONTRACTOR/DEVELOPER.
24. CERTIFICATION AND STREET CUT PERMITS ARE REQUIRED FOR UTILITY CUTS ON CITY STREETS. ALLOW 7 DAYS PROCESSING FOR PERMIT. FOR INFORMATION CONTACT CHARLOTTE DEPARTMENT OF TRANSPORTATION (704-336-4025) OR VISIT [HTTP://WWW.CHARMECK.ORG/DEPARTMENTS/TRANSPORTATION/STREET-MAINTENANCE/HOME.HTM](http://www.charmeck.org/departments/transportation/street-maintenance/home.htm)
25. NON-STANDARD ITEMS (IE: PAVERS, IRRIGATION SYSTEMS, ETC.) IN THE RIGHT-OF-WAY REQUIRE A RIGHT-OF-WAY ENCROACHMENT AGREEMENT WITH THE CHARLOTTE DEPARTMENT OF TRANSPORTATION/NORTH CAROLINA DEPARTMENT OF TRANSPORTATION BEFORE INSTALLATION. FOR CITY OF CHARLOTTE MAINTAINED STREETS, CONTACT CDOT AT (704) 336-8388.
26. SIDEWALK WITHIN THE CITY'S R/W THAT REQUIRES REPLACEMENT AS PART OF THE DEVELOPMENT AND/OR STREET IMPROVEMENTS SHOULD BE PHASED IN SUCH A WAY AS TO MINIMIZE THE DURATION OF THE SIDEWALK CLOSURE TO THE EXTENT FEASIBLE. THE DEVELOPER SHOULD MAKE EVERY ATTEMPT TO HAVE SIDEWALK REPAIRED AND REOPENED FOR PUBLIC USE WITHIN 30 DAYS OF REMOVAL.
27. RIGHT-OF-WAY CLOSURES LONGER THAN 30 DAYS REQUIRE A R/W LEASE AGREEMENT WHICH WILL INCLUDE THE SUBMITTAL OF A TRAFFIC CONTROL PLAN, TRAFFIC CONTROL PLANS REQUIRED THROUGH A LEASE AGREEMENT MAY BE DIFFERENT FROM THE ONE REQUIRED DURING THE LAND DEVELOPMENT PLAN REVIEW AND ARE SUBJECT TO REVISIONS. THE REVISED TRAFFIC CONTROL PLANS MUST BE SUBMITTED AS PART OF THE LEASE AGREEMENT PROCESS FOR APPROVAL PRIOR TO START OF R/W CLOSURES. CONTRACTOR SHALL CONTACT CDOT AT (704) 336-8348
28. CONSTRUCTION STAGING WITHIN CITY R/W LASTING MORE THAN 30 DAYS REQUIRES A R/W LEASE AGREEMENT. CONTRACTOR SHALL CONTACT CDOT AT (704) 336-8348.
29. ANY WORK WITHIN THE CITY'S R/W THAT REQUIRES CLOSURE OF A SIDEWALK OR TRAVEL LANE MUST BE APPROVED BY CDOT AND WILL REQUIRE A R/W USE PERMIT OR R/W LEASE DEPENDING UPON THE PROPOSED DURATION OF CLOSURE. THESE APPROVALS ARE IN ADDITION TO SITE APPROVALS AND SHOULD BE COORDINATED WITH CDOT PRIOR TO CONSTRUCTION. CONTRACTOR SHALL CONTACT CDOT AT (704) 432-1562 AT LEAST 5 BUSINESS DAYS PRIOR TO BEGINNING WORK FOR IMPACTS LESS THAN 30 DAYS. CONTRACTOR SHALL CONTACT CDOT AT (704) 336-8348 AS SOON AS POSSIBLE FOR IMPACTS GREATER THAN 30 DAYS. EVERY EFFORT SHALL BE MADE TO CONSTRUCT IMPROVEMENTS WITH MINIMAL IMPACT TO DRIVERS AND PEDESTRIANS.
30. DEVELOPER TO CONTACT CDOT (ANTHONY MENDEZ: 704-336-4371) DURING SITE PLAN PREPARATION TO DISCUSS STREET LIGHTING REQUIREMENTS, IF ANY, FOR THIS PROJECT. COORDINATE WITH DUKE ENERGY AND CDOT AS NECESSARY TO DETERMINE LIGHTING LEVELS, LIGHTING LAYOUT AND REQUIREMENTS FOR INSTALLATION.



A circular professional engineer seal for the State of North Carolina. The outer ring contains the text "NORTH CAROLINA" at the top and "PROFESSIONAL ENGINEER" at the bottom. Inside the ring, the text "SEAL" is at the top, "042263" is in the center, and "DAVID LUTZ" is at the bottom. A handwritten signature "David Lutz" is written across the seal. To the right of the seal, the license number "51297-8" is handwritten.

NO:	ISSUE:	DATE:
1	ADDRESS CITY COMMENTS	1/29/18
2	ADDRESS CITY COMMENTS	2/28/18
3	TREE SAVE REVISIONS	5/8/18
4	ADDRESS CITY COMMENTS	5/29/18



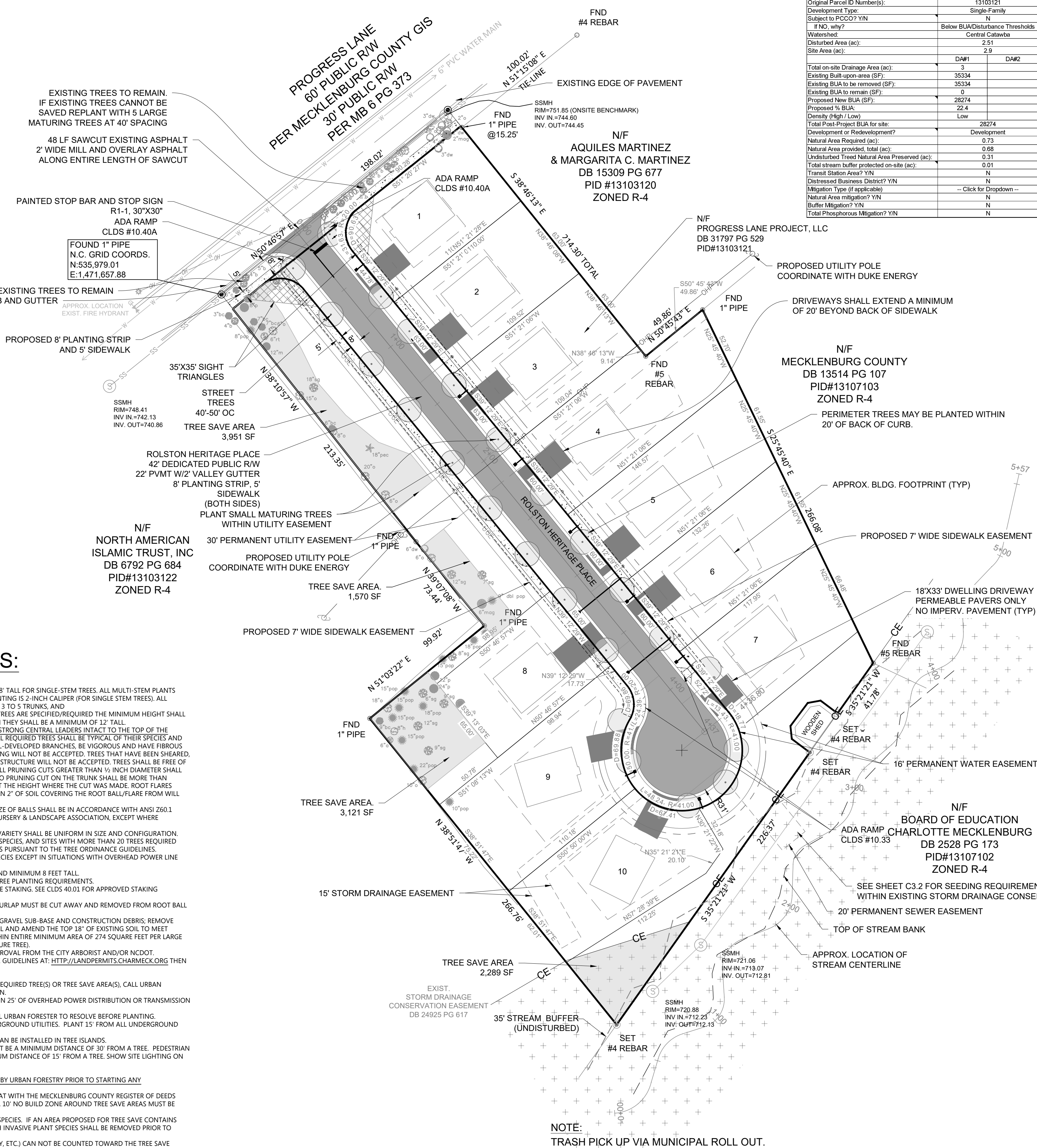
1718 PROGRESS LANE - PID # 13103121
MECKLENBURG COUNTY
CHARLOTTE, NC

LANDSCAPE NOTES:

- PLANT MATERIAL**
- MINIMUM TREE SIZE AT PLANTING IS 2" CALIPER AND 8' TALL FOR SINGLE-STEM TREES. ALL MULTI-STEM PLANTS MUST BE TREE FORM. 13. MINIMUM TREE SIZE AT PLANTING IS 2-INCH CALIPER (FOR SINGLE STEM TREES). ALL MULTI-STEM PLANTS MUST BE TREE FORM. MAXIMUM 3 TO 5 TRUNKS, AND MINIMUM 10' TALL. WHERE 5" SINGLE-STEM CALIPER TREES ARE SPECIFIED/REQUIRED THE MINIMUM HEIGHT SHALL BE 10' TALL. IF MULTI-STEM TREES ARE SPECIFIED THEN THEY SHALL BE A MINIMUM OF 12' TALL.
 - ALL NEW TREES MUST HAVE STRAIGHT TRUNKS WITH STRONG CENTRAL LEADERS INTACT TO THE TOP OF THE CROWN UNLESS MULTI-STEM TREES ARE SPECIFIED. ALL REQUIRED TREES SHALL BE TYPICAL OF THEIR SPECIES AND VARIETY, HAVE NORMAL GROWTH HABITS, HAVE WELL-DEVELOPED BRANCHES, BE VIGOROUS AND HAVE FIBROUS ROOT SYSTEMS. TREES WITH CO-DOMINANT BRANCHING WILL NOT BE ACCEPTED. TREES THAT HAVE BEEN SHEARED, TOPPED OR CUT BACK TO MULTIPLY THE BRANCHING STRUCTURE WILL NOT BE ACCEPTED. TREES SHALL BE FREE OF ABRASIONS, DAMAGE, DISEASE, PESTS AND CRACKS. ALL PRUNING CUTS GREATER THAN 1/2 INCH DIAMETER SHALL HAVE CALLUS TISSUE FORMED PRIOR TO PLANTING. NO PRUNING CUT ON THE TRUNK SHALL BE MORE THAN ONE-HALF THE DIAMETER OF THE CENTRAL LEADER AT THE HEIGHT WHERE THE CUT WAS MADE. ROOT FLARES SHALL BE LOCATED AT GRADE. TREES WITH MORE THAN 2" OF SOIL COVERING THE ROOT BALL/FLARE FROM PLANTING WILL NOT BE ACCEPTED (CLDS 40.09).
 - SIZE OF REQUIRED PLANTS, SPREAD OF ROOTS AND SIZE OF BALLS SHALL BE IN ACCORDANCE WITH ANSI Z60.1 (LATEST EDITION) AS PUBLISHED BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION, EXCEPT WHERE SPECIFIED/AUTHORIZED BY URBAN FORESTRY.
 - ALL REQUIRED TREES OF A PARTICULAR SPECIES AND VARIETY SHALL BE UNIFORM IN SIZE AND CONFIGURATION. A MINIMUM OF 50% OF NEW TREES MUST BE NATIVE SPECIES, AND SITES WITH MORE THAN 20 TREES REQUIRED WILL HAVE TO INSTALL MULTIPLE (3 OR MORE) SPECIES PURSUANT TO THE TREE ORDINANCE GUIDELINES.
 - 75% OF REQUIRED TREES MUST BE LARGE MATURE SPECIES EXCEPT IN SITUATIONS WITH OVERHEAD POWER LINE CONFLICTS.
- PLANTING REQUIREMENTS** MAXIMUM 3 TO 5 TRUNKS, AND MINIMUM 8 FEET TALL.
- SHOW CLDS 40.01 & 40.09 ON PLAN FOR DETAILED TREE PLANTING REQUIREMENTS.
 - PLASTIC HOSE PARTS WILL NOT BE ACCEPTED FOR TREE STAKING. SEE CLDS 40.01 FOR APPROVED STAKING METHOD/MATERIALS.
 - ALL STRAPPING, AND TOP 1/3 OF WIRE BASKET AND BURLAP MUST BE CUT AWAY AND REMOVED FROM ROOT BALL WHEN PLANTING.
 - FOR NEW PLANTING AREAS, REMOVE ALL PAVEMENT, GRAVEL SUB-BASE AND CONSTRUCTION DEBRIS; REMOVE COMPACTED SOIL AND ADD 18" NEW TOPSOIL, OR TILL AND AMEND THE TOP 18" OF EXISTING SOIL TO MEET TOPSOIL PLANTING MIX STANDARDS FOR TREES WITHIN ENTIRE MINIMUM AREA OF 274 SQUARE FEET PER LARGE MATURE TREE AND 200 SQUARE FEET PER SMALL MATURE TREE.
 - TREES PLANTED ON PUBLIC PROPERTY WILL NEED APPROVAL FROM THE CITY ARBORIST AND/OR NCDOT.
 - REVIEW SOIL REQUIREMENTS IN THE TREE ORDINANCE GUIDELINES AT: [HTTP://LANDPERMITS.CHARMECK.ORG](http://LANDPERMITS.CHARMECK.ORG) THEN CLICK TREES.
- UTILITY ISSUES**
- IF ANY UTILITY IS BEING INSTALLED IN OR NEAR ANY REQUIRED TREE(S) OR TREE SAVE AREA(S), CALL URBAN FORESTER TO RESOLVE PRIOR TO UTILITY INSTALLATION.
 - LARGE MATURING TREES MAY NOT BE PLANTED WITHIN 25' OF OVERHEAD POWER DISTRIBUTION OR TRANSMISSION LINES.
 - IF TREES CONFLICT WITH POWER LINES OR SIGNS, CALL URBAN FORESTER TO RESOLVE BEFORE PLANTING.
 - ADJUST TREE PLANTING LOCATIONS TO AVOID UNDERGROUND UTILITIES. PLANT 15' FROM ALL UNDERGROUND UTILITIES.
 - NO LIGHT POLES, UTILITY POLES OR TRANSFORMERS CAN BE INSTALLED IN TREE ISLANDS.
 - COMMERCIAL SCALE LIGHTING (> 15' IN HEIGHT) MUST BE A MINIMUM DISTANCE OF 30' FROM A TREE. PEDESTRIAN SCALE LIGHTING (< 15' IN HEIGHT) MUST BE A MINIMUM DISTANCE OF 15' FROM A TREE. SHOW SITE LIGHTING ON LANDSCAPE PLAN.
- TREE SAVE AND PRESERVATION**
- TREE PROTECTION MUST BE INSTALLED AND VERIFIED BY URBAN FORESTRY PRIOR TO STARTING ANY CONSTRUCTION ACTIVITY.
 - TREE SAVE AREAS MUST BE RECORDED ON A FINAL PLAT WITH THE MECKLENBURG COUNTY REGISTER OF DEEDS BEFORE URBAN FORESTRY HOLDS CAN BE RELEASED. A 10' NO BUILD ZONE AROUND TREE SAVE AREAS MUST BE REFERENCED ON THE PLAT.
 - TREE SAVE AREAS SHALL BE FREE OF INVASIVE PLANT SPECIES. IF AN AREA PROPOSED FOR TREE SAVE CONTAINS INVASIVE PLANT SPECIES AT TIME OF PROPOSAL, SUCH INVASIVE PLANT SPECIES SHALL BE REMOVED PRIOR TO FINAL CO.
 - THE AREA OF ANY EASEMENTS (WATER, SEWER, UTILITY, ETC.) CAN NOT BE COUNTED TOWARD THE TREE SAVE REQUIREMENT.
 - ANY ALTERATIONS TO TREE SAVE AREAS MUST BE ACCOMPLISHED WITHOUT MECHANIZED EQUIPMENT.
 - NO STRUCTURE WILL BE ALLOWED WITHIN 10' OF TREE SAVE AREAS UNLESS APPROVED BY URBAN FORESTRY.
 - ALL TREES ON PUBLIC PROPERTY ARE PROTECTED AND REMOVAL MUST BE PERMITTED BY THE CITY ARBORIST (704)336-4262.
- GENERAL**
- CALL FOR AN INSPECTION OF TREE PROTECTION/PLANTING AREAS, A MINIMUM OF 5 DAYS BEFORE A CO IS NEEDED.
 - VISIT CITY OF CHARLOTTE'S LAND DEVELOPMENT WEBSITE FOR ADDITIONAL INFORMATION AND URBAN FORESTRY REQUIREMENTS: [HTTP://LANDPERMITS.CHARMECK.ORG](http://LANDPERMITS.CHARMECK.ORG) THEN CLICK TREES.

PLANTING SCHEDULE						
ITEM	QTY	SCIENTIFIC NAME	COMMON NAME	SIZE	SPACING	NOTES
AB	27	Acer Barbatum	Florida Maple	2" CAL MIN.	40-50 FT OC	STREET TREE, ADJUST SPACING FOR DRIVEWAYS, UTILITIES, ETC.
CC	2	Cercis Canadensis	Eastern Redbud	2" CAL MIN.	30-40 FT OC	STREET TREE, USE IN OVERHEAD UTILITY EASEMENT

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NOTE:
TRASH PICK UP VIA MUNICIPAL ROLL OUT.

PCCO SUMMARY		
Original Parcel ID Number(s):	13103121	
Development Type:	Single-Family	
Subject to PCCO? Y/N	N	
If NO, why?	Below BUA/Disturbance Thresholds	
Watershed:	Central Catawba	
Disturbed Area (ac):	2.51	
Site Area (ac):	DA#1	DA#2
	2.9	
Total on-site Drainage Area (ac):	3	
Existing Built-upon-area (SF):	35334	
Existing BUA to be removed (SF):	35334	
Existing BUA to remain (SF):	0	
Proposed New BUA (SF):	28274	
Proposed % BUA:	22.4	
Density (High/Low):	Low	
Total Post-Project BUA for site:	28274	
Development or Redevelopment?	Development	
Natural Area Required (ac):	0.73	
Natural Area provided, total (ac):	0.68	
Undisturbed Treed Natural Area Preserved (ac):	0.31	
Total stream buffer protected on-site (ac):	0.01	
Transit Station Area? Y/N	N	
Distressed Business District? Y/N	N	
Mitigation Type (if applicable)	--- Click for Dropdown ---	
Natural Area mitigation? Y/N	N	
Buffer Mitigation? Y/N	N	
Total Phosphorous Mitigation? Y/N	N	

SITE INFORMATION

ZONING AND TAX MAP INFORMATION

CURRENT ZONING: R-4
SITE BEING DEVELOPED AS R-4 CLUSTER
PID #13103121
JURISDICTION: CITY

AREA SUMMARY

TOTAL AREA = 2.89 acres
NUMBER OF LOTS = (2.4 * 4) = 9.6 + 1.24 = 10.84 (10 PROPOSED)
DENSITY BONUS = 0.31 ACRES * 4 = 1.24
AVERAGE LOT AREA = 7778 sq.ft.
MINIMUM LOT AREA = 6431 sq.ft.
MINIMUM LOT WIDTH = 60 ft.
DESIGN PROVIDES MORE THAN 10% TREE SAVE AREA IN COMMON OPEN SPACE IN ORDER TO USE THE REDUCED LOT SIZES.

MAX BUILDING COVERAGE: 45% OF LOT (4,001-6500 SF)
40% OF LOT (6,501-8,500 SF)
35% OF LOT (8,501-15,000 SF)

SITE UTILITIES

WATER - CHARLOTTE WATER
SEWER - CHARLOTTE WATER
ELECTRICITY - DUKE
NATURAL GAS -
TELEPHONE -
CABLE TV -

SETBACK REQUIREMENTS

FRONT YARD = 25'
SIDE YARD = 10'
REAR YARD = 40'

STATE AND LOCAL INFORMATION

FEMA PANEL 5710457300K
WATER SHED: N/A
SOILS ON SITE: CuB, CaD2, MS
(THE SOIL CLASSIFICATIONS ARE BASED ON USDA SCS SOIL RECLASSIFICATIONS, DATED MARCH 22, 1995)
TERRAIN CLASSIFICATION: LEVEL
STREET DESIGNATIONS: RESIDENTIAL LOCAL
SCHOOL DISTRICT:
FIRE DISTRICT:
PROPOSED USE: SINGLE FAMILY RESIDENTIAL

SURVEY AND WETLAND INFORMATION

BOUNDARY AND TOPOGRAPHIC SURVEY (DATED AUGUST 17, 2017)
PROVIDED BY: CES GROUP ENGINEERS, LLP
WETLAND DELINEATIONS PROVIDED BY: A FINE LINE DESIGN (DATED AUGUST 22, 2017).

TREE INFORMATION

TREE SAVE:
REQUIRED: 2.9 ACRES * 10.01% = 0.24 ACRES (10,465 SF)
PROVIDED: 10,831 SF (0.28 ACRES)

PERIMETER TREES

ALONG PROGRESS LANE
REQUIRED: 198 LF * 40' = 4.95 = 5 TREES
EXISTING TREES ALONG PROGRESS LANE TO BE SAVED AS CALLED OUT ON THIS SHEET.
REPLANT LARGE MATURING TREES IF EXISTING TREES CANNOT BE SAVED ALONG PROGRESS LANE.

ALONG ROLSTON HERITAGE PLACE
REQUIRED: 472 LF * 40' = 11.8 = 12.2 = 24 TREES
PROVIDED: 24 TREES

Maximum Building Coverage per Zoning				
Lot #	Area (sf)	Width	Bldg Cov. (sf)	
1	7,077	65.00	2,831	
2	6,915	63.00	2,766	
3	6,885	63.00	2,754	
4	8,772	60.00	3,070	
5	8,365	60.00	3,346	
6	7,506	60.00	3,002	
7	7,209	65.91	2,884	
8	6,431	65.00	2,894	
9	9,924	75.00	3,473	
10	8,602	75.00	3,011	

MAXIMUM BUILT UPON AREA PER POST CONSTRUCTION STORMWATER ORDINANCE = 2.9 AC * 23.9% = 30,191 SF
BUA REMAINING FOR LOTS = 30,191 SF - 17,925 SF = 12,266 SF
MAXIMUM BUILT UPON AREA PER LOT = 1,226 SF

LEGEND	
CONC. WALK	
ROADWAY PAVING	
DRIVEWAY PAVING (PERMEABLE PAVERS)	

PROGRESS LANE			
AREA CALCULATIONS			
IMPERV. AREA			
OVERALL SITE		SF	AC
		126,455	2.90
ROW	W	L	TOTAL SF
ROADWAY (INC C&G)	26	488	13,939
SIDEWALK (2) SIDES	2 @ 5	385	3,986
TOTAL			17,925
LOT. TYP.	W	L	TOTAL SF
RESIDENCE	25	40	1,000
DRIVEWAY 2 CAR - 10 *	18	33	1,277
# OF LOTS		10	
TOTAL		11,277	0.26
TOTAL IMPERV. AREA		SF	AC
		29,202	0.67
% OF SITE		23.09%	
OPEN SPACE			
OVERALL SITE		SF	AC
		126,455	2.90
ROW		21,942	0.50
LOTS (AVG. 7778 SF)		77,686	1.78
TOTAL LOT COVERAGE		SF	AC
		26,827	0.62
% OF SITE		21.21%	

NOTE: WIDTH AND LENGTHS IN ABOVE TABLE ARE TYPICAL BUT MAY VARY. AREAS ARE CALCULATED FROM PROPOSED LINEWORK.
*NOTE: DRIVEWAYS WILL ALL BE CONSTRUCTED WITH PERMEABLE PAVEMENT AND QUALIFY FOR BUILT UPON AREA (BUA) CREDIT OF 75% PERVIOUS AND 25% BUA. IMPERVIOUS AREA IN ABOVE TABLE REFLECTS 25% OF THE ACTUAL AREA OF THE DRIVEWAYS. SEE PERMEABLE PAVEMENT CALCULATIONS AND INFILTRATION TEST RESULTS ON SHEET C5.

SITE NOTES:

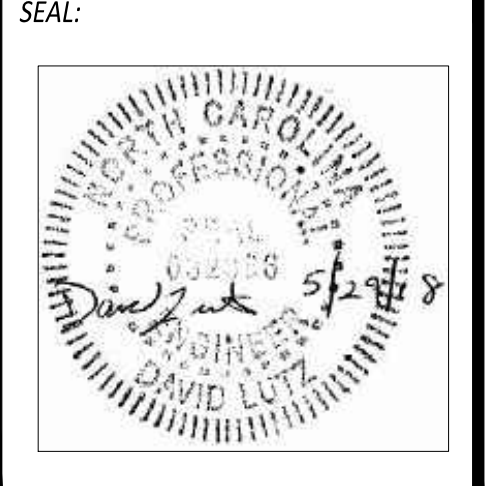
- DIMENSIONS AND COORDINATE POINTS ARE TO THE FACE OF CURB, EDGE OF PAVEMENT, OR CORNER OF BUILDING UNLESS OTHERWISE NOTED.
- ALL IMPROVEMENTS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH STATE AND LOCAL STANDARDS.
- ANY DISCREPANCIES FOUND IN THE FIELD SHALL BE CALLED TO THE ATTENTION OF THE OWNER OR ENGINEER PRIOR TO PROCEEDING WITH WORK.
- PRIOR TO BEGINNING CONSTRUCTION, THE GENERAL CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS AND APPROVALS FROM ALL REGULATORY AUTHORITIES.
- THE GENERAL CONTRACTOR SHALL CONTACT ALL OWNERS OF EASEMENTS, UTILITIES AND RIGHT-OF-WAYS, PUBLIC AND PRIVATE, PRIOR TO WORKING IN THESE AREAS.
- GENERAL CONTRACTOR SHALL MAINTAIN THE SITE IN A MANNER SO THAT WORKMAN AND THE PUBLIC SHALL BE PROTECTED FROM INJURY.
- DO NOT SCALE DRAWINGS FOR ACTUAL DIMENSIONS, AS IT IS A REPRODUCTION AND SUBJECT TO DISTORTION.
- ALL SIGNS, PAVEMENT MARKINGS, AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION.
- CONTRACTOR SHALL SAW-CUT EXISTING ASPHALT/CONCRETE AS NECESSARY TO TIE IN SMOOTHLY TO EXISTING.
- THE ENGINEER WILL PROVIDE THE CONTRACTOR WITH AN ELECTRONIC FILE OF THESE DRAWINGS UPON REQUEST.
- CONTRACTOR SHALL COORDINATE RELOCATION/REMOVAL OF EXISTING UTILITIES WITH THE UTILITY OWNER AS APPLICABLE.
- STOP BEFORE YOU DIG. CALL NC ONE-CALL CENTER AT 1-800-632-4949, IT'S THE LAW.
- ESTIMATED CONSTRUCTION TIMEFRAME IS 2018.

CONTRACTOR NOTES:

- CONTRACTOR IS FULLY RESPONSIBLE FOR CONTACTING APPROPRIATE PARTIES AND ENSURING THAT EXISTING UTILITIES ARE LOCATED PRIOR TO BEGINNING CONSTRUCTION
- CONTRACTOR IS RESPONSIBLE FOR PLACING BARRICADES / FENCING AS NECESSARY TO ENSURE SAFETY TO THE PUBLIC

SCALE: 1" = 40'

Know what's below.
Call before you dig.
NORTH CAROLINA
ONE-CALL CENTER INC.
DIAL 811 or 1-800-632-4949
2 BUSINESS DAYS BEFORE DIGGING
www.ncocc.org



REVISIONS		
NO.	ISSUE:	DATE:
1	ADDRESS CITY COMMENTS	1/29/18
2	ADDRESS CITY COMMENTS	2/28/18
3	TREE SAVE REVISIONS	5/8/18
4	ADDRESS CITY COMMENTS	5/29/18

CES GROUP ENGINEERS, LLP
NC FIRM LICENSE# F-1240
274 N. HWY. 16, SUITE 300
DENVER, NC 28037
T 704. 489.1500
www.ces-group.net

PROJECT DESCRIPTION:

ROLSTON HERITAGE SUBDIVISION

1718 PROGRESS LANE - PID # 13103121
MECKLENBURG COUNTY
CHARLOTTE, NC

DRAWN BY:
SMC

CHECKED BY:
DSL

PROJECT NO:
6923

COMMENTS:

DATE APPROVED:

SCALE:
1" = 40'

DRAWING TITLE:
SITE PLAN

DRAWING NUMBER:

C4