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# Toll Brothers LANGSTON DRIVE PHASE IV CONSTRUCTION DOCUMENTS STEELE CREEK TWSP, MECK. COUNTY CHARLOTTE ETJ, NORTH CAROLINA

PHASE 4

Toll Brothers America's Luxury Home Builder"

**PROJECT AREA** 

Kimley



O

11 - 22 - 2016PROJECT NO. 012826016 SHEET NUMBER

C-1

UTILITY AND GOVERNING AGENCIES CONTACT LIST:

#### WATER COMPANY

CHARLOTTE-MECKLENBURG UTILITIES DEPT. 5100 BROOKSHIRE BOULEVARD

#### SANITARY SEWER COMPANY

CHARLOTTE-MECKLENBURG UTILITIES DEPT. 5100 BROOKSHIRE BOULEVARD CHARLOTTE, NC 28216 (704) 399 - 2221CONTACT: BARBARA GROSS

## NATURAL GAS COMPANY

PIEDMONT NATURAL GAS 4339 SOUTH TRYON STREET CHARLOTTE, NC 28217 (704) 913-2852 TEL CONTACT: KAREN BURTON

#### FIRE MARSHAL

MECKLENBURG COUNTY/CITY FIRE 700 N. TRYON STREET CHARLOTTE, NORTH CAROLINA 28202 (704) 336-3814 TEL CONTACT: JOHN C. MARSHALL

#### **EROSION CONTROL**

CITY OF CHARLOTTE ENGINEERING AND PROPERTY MANAGEMENT 600 E. 4TH STREET CHARLOTTE, NORTH CAROLINA 28202 (704) 517-7570 TEL

#### ENGINEERING DEPARTMENT

CITY OF CHARLOTTE ENGINEERING & PROPERTY MANAGEMENT 600 E. 4TH STREET CHARLOTTE, NORTH CAROLINA 28202 (704) 432-0406 TEL

#### **POWER COMPANY**

526 SOUTH CHURCH STREET

#### **TELEPHONE COMPANY**

BELL SOUTH SMALL BUSINESS (866) 620-6000 EXT. 11067 CONTACT: SHANDA LLYOD

#### CABLE TELEVISION COMPANY

TIME WARNER CABLE (704) 378-2866 TEL CONTACT: MELISSA MCDONNELL

#### DEPARTMENT OF TRANSPORTATION

600 E. 4TH STREET CHARLOTTE, NORTH CAROLINA 28202 (704) 432-1563 TEL

#### PLANNING DEPARTMENT

CHARLOTTE MECKLENBURG PLANNING COMMISSION 600 E. 4TH STREET CHARLOTTE, NORTH CAROLINA 28202 (704) 336-8364 TEL (704) 336-5123 FAX

#### ZONING DEPARTMENT

MECKLENBURG COUNTY ZONING DEPT. 700 N. TRYON STREET CHARLOTTE, NORTH CAROLINA 28202 (704) 336-3569 TEL

**CHARLOTTE ENGINEERING** PCO / DETENTION / DRAINAGE PLAN

FINAL

**APPROVAL** 

**EROSION CONTROL** 

**URBAN FORESTRY** 

NOTE: SCHEDULE PRE-CONSTRUCTION MEETING

AT LEAST 48 HRS. PRIOR TO ANY LAND

DISTURBING ACTIVITY USING THE ONLINE

FORM AT http://development.charmeck.org

**APPROVED** 

**APPROVED** 

**APPROVED** 

APPROVED

By Emily Chien at 10:28 am, Jun 19, 2017

## CHARLOTTE DEPARTMENT OF TRANSPORTATION

OWNER: TOLL BROTHERS. 6067 HEMBY ROAD WEDDINGTON ROAD, NC 28104 704-849-2625 TEL

**CDOT** 

# **ENGINEER:**

elly Robertson

Carlos Alzate

KIMLEY-HORN AND ASSOCIATES, INC. 200 SOUTH TRYON STREET SUITE 200 CHARLOTTE, NORTH CAROLINA 28203 (704) 333-5131 TEL (704) 333-0845 FAX LICENSE NO. F-0102

**LOCATION MAP** 

**SCALE:** 1'' = 200'

## CONTACT: MATT EDWARDS, P.E.

SURVEYOR: YARBROUGH - WILLIAMS AND HOULE, INC. P.O. BOX 7007 CHARLOTTE, NC 28241 704-556-1990 TEL

CONTACT: MARC. A HOULE

LANGSTON DR

APPROVED FOR

CONSTRUCTION

By: Joshua Weaver 6-19-2017

CHARLOTTE-MECKLENBURG PLANNING DEPARTMENT

PHASE 3

**VICINITY MAP** 

THIS DOCUMENT. TOGETHER WITH THE CONCEPTS AND DESIGNS PRESENTED HEREIN. AS AN INSTRUMENT OF SERVICE, IS INTENDED ONLY FOR THE SPECIFIC PURPOSE AND CLIENT FOR WHICH IT WAS PREPARED. REUSE OF AND IMPROPER RELIANCE ON THIS DOCUMENT WITHOUT WRITTEN AUTHORIZATION AND ADAPTATION BY KIMLEY-HORN AND ASSOCIATES, INC. SHALL BE WITHOUT LIABILITY TO KIMLEY-HORN AND ASSOCIATES, INC.

#### **GROUNDWATER NOTE:**

RHINEHILL RD -

THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED ON THIS PROJECT. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE.

PCCO SUI	MMARY	
	21721244, 217	21235, 21721243,
Original Parcel ID Number(s):	21721242, 217	32206
Development Type:	Single-Family	
Subject to PCCO? Y/N	Yes	
If NO, why?		
Watershed:		ylie: Critical Area
Disturbed Area (ac):	28	
Site Area (ac):	31.6	
	DA#1, 2, 3	DA# 4, 5
Total on-site Drainage Area (ac):	23.81	10.8
Existing Built-upon-area (SF):	25700	4356
Existing BUA to be removed (SF):	25700	4356
Existing BUA to remain (SF):	0	0
Proposed New BUA (SF):	414,860	48,775
Proposed % BUA:	40	10
Density (High / Low)	High	Low
Total Post-Project BUA for site:	31%	
Development or Redevelopment?	Development	
Natural Area Required (ac):		5.53
Natural Area provided, total (ac):		5.63
Undisturbed Treed Natural Area Preserved (ac):		5.63
Total stream buffer protected on-site (ac):	0	
Transit Station Area? Y/N	No	
Distressed Business District? Y/N	No	
Mitigation Type (if applicable)	N/A	
Natural Area mitigation? Y/N	No	
Buffer Mitigation? Y/N	No	
Total Phosphorous Mitigation? Y/N	No	

Call before you dig.

Know what's below.

ALL WORK AND MATERIALS SHALL COMPLY WITH ALL CITY, COUNTY AND STATE REGULATIONS AND CODES AND O.S.H.A. STANDARDS.

NO WORK WITHIN NCDOT OR CITY OF CHARLOTTE RIGHT OF WAY SHALL TAKE PLACE WITHOUT ALL PERMITS. EXISTING STRUCTURES WITHIN THE CONSTRUCTION LIMITS ARE TO BE ABANDONED, REMOVED OR RELOCATED AS NECESSARY. ALL COST SHALL BE INCLUDED IN BASE BID.

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RELOCATIONS, INCLUDING BUT NOT LIMITED TO, ALL UTILITIES, STORM DRAINAGE, SIGNS, ETC. AS REQUIRED. ALL WORK SHALL BE IN ACCORDANCE WITH GOVERNING AUTHORITIES SPECIFICATIONS AND SHALL BE APPROVED BY SUCH. ALL COST SHALL BE INCLUDED IN BASE BID. AREAS TO BE DISTURBED SHALL BE IMPROVED PER THE CIVIL PLANS OR RESTORED TO THEIR ORIGINAL OR BETTER CONDITION. CONTRACTOR SHALL REPAIR ANY EXISTING FEATURES THAT ARE DAMAGED DURING CONSTRUCTION TO THE EXISTING OR BETTER CONDITION.

SITE BOUNDARY, TOPOGRAPHY, UTILITY AND ROAD INFORMATION TAKEN FROM A SURVEY PROVIDED BY TOLL BROTHERS. ALL INFORMATION IS TO BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

THE CONTRACTOR SHALL EMPLOY ALL NECESSARY BARRICADES, SIGNS, FENCES, FLASHING LIGHTS, TRAFFIC MEN, ETC. FOR MAINTENANCE AND PROTECTION OF TRAFFIC AS REQUIRED BY THE NORTH CAROLINA DEPT. OF

THE CONTRACTOR SHALL PROTECT ALL MONUMENTS, IRON PINS, AND PROPERTY CORNERS DURING CONSTRUCTION. APPROVAL OF THIS PLAN IS NOT AN AUTHORIZATION TO GRADE ADJACENT PROPERTIES. ANY GRADING BEYOND THE LIMITS OF CONSTRUCTION AS SHOWN ON THE GRADING AND DRAINAGE PLAN WITHOUT AUTHORIZATION IS SUBJECT TO A FINE. WHEN FIELD CONDITIONS WARRANT OFF—SITE GRADING, PERMISSION MUST BE OBTAINED FROM THE AFFECTED PROPERTY OWNERS AND CITY OF CHARLOTTE.

CONTRACTOR AGREES TO REPAIR ANY DAMAGE TO THE PUBLIC RIGHT-OF-WAY IN ACCORDANCE WITH THE STANDARDS OF THE NCDOT AND CITY OF CHARLOTTE.

THE CONTRACTOR SHALL IMMEDIATELY REPORT TO THE OWNER ANY DISCREPANCIES FOUND BETWEEN THE ACTUAL FIELD CONDITIONS AND THE CONSTRUCTION DOCUMENTS AND SHALL WAIT FOR INSTRUCTION PRIOR TO

THE CONTRACTOR SHALL MAINTAIN EACH STREAM, CREEK, OR BACKWASH CHANNEL IN A UNOBSTRUCTED STATE AND SHALL REMOVE FROM THE CHANNEL AND BANKS OF THE STREAM ALL DEBRIS, LOGS, TIMBER, JUNK AND OTHER ACCUMULATIONS.

CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.

CONTRACTOR SHALL POST ASSIGNED BUILDING PERMIT NUMBER AND ADDRESS ON BUILDING.

IN ROLLING OR 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

CONTACT THE UTILITY COMPANY TO RELOCATE ANY EXISTING UTILITY AND/OR LIGHT POLES. ALL EXISTING FACILITIES WHICH CONFLICT WITH THE IMPROVEMENTS UNDER THE SCOPE OF THIS PROJECT MUST BE RELOCATED AT THE EXPENSE OF THE CONTRACTOR.

#### GRADING NOTES:

THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST (3) THREE WORKING DAYS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN

THE CONTRACTOR SHALL CLEAR AND GRUB THE SITE AND PLACE, COMPACT, AND MOISTURE CONDITION ALL FILL PER THE PROJECT GEOTECHNICAL ENGINEERS SPECIFICATIONS. FILL MATERIAL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT.

ALL MANHOLES AND DRAINAGE STRUCTURES THAT ARE CONNECTED TO O-RING WATER TIGHT PIPE SHALL BE CONSTRUCTED WITH A WATER TIGHT CONNECTION WITH BOTH THE UPSTREAM AND DOWNSTREAM PIPE SECTIONS. THE CONTRACTOR SHALL COORDINATE WITH THE GEOTECHNICAL ENGINEER FOR APPROPRIATE SLOPE STABILIZATION ON ALL SLOPES STEEPER THAN 3:1.

THE CONTRACTOR SHALL COORDINATE WITH THE GEOTECHNICAL ENGINEER FOR ANY POND/WETLAND LININGS NECESSARY TO PREVENT PERCOLATION.

THE CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED FOR BLASTING ROCK IF BLAST ROCK IS ENCOUNTERED. CONTRACTOR SHALL BE SOLEY RESPONSIBLE FOR COMPLYING WITH ALL BLASTING AND SAFETY REQUIREMENTS ALL CUT OR FILL SLOPES SHALL BE 2:1 OR FLATTER UNLESS OTHERWISE NOTED.

CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME. ALL PROPOSED CONTOURS AND SPOT ELEVATIONS REFLECT FINISHED GRADES.

ALL ELEVATIONS ARE IN REFERENCE TO THE BENCHMARK. AND THIS MUST BE VERIFIED BY THE GENERAL CONTRACTOR PRIOR TO GROUND BREAKING.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING EXISTING UTILITIES, AND SHALL REPAIR

ALL DAMAGE TO EXISTING UTILITIES THAT OCCUR DURING CONSTRUCTION. CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY TO TRANSITION BACK TO EXISTING GRADE.

LIMITS OF CLEARING SHOWN ON GRADING AND DRAINAGE PLAN ARE BASED UPON THE APPROXIMATE CUT AND FILL SLOPE LIMITS, OR OTHER GRADING REQUIREMENTS.

THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND IMPLEMENTATION OF ALL SHEETING. SHORING, BRACING AND SPECIAL EXCAVATION MEASURES REQUIRED TO MEET OSHA, FEDERAL, STATE AND LOCAL REGULATIONS PURSUANT TO THE INSTALLATION OF THE WORK INDICATED ON THESE DRAWINGS. THE DESIGN ENGINEER ACCEPTS NO RESPONSIBILITY FOR THE DESIGN(S) TO INSTALL SAID ITEMS.

THE CONTRACTOR SHALL INCLUDE IN THE CONTRACT PRICE ANY DEWATERING AND MOISTURE CONDITIONING NECESSARY TO CONSTRUCT THE PROJECT AS SHOWN ON THE PLANS.

GRADES, ELEVATIONS AND LOCATIONS SHOWN ARE APPROXIMATE. AS DIRECTED BY THE ENGINEER, THEY MAY BE ADJUSTED TO ACCOMMODATE UNFORESEEN CONDITIONS. STATIONS, OFFSETS AND ELEVATIONS REFER TO THE CENTER OF DROP INLETS, MANHOLES AND JUNCTION BOXES, AND THE MIDPOINT OF THE LIP FOR CATCH BASINS. ANY CONSTRUCTION OR USE WITHIN THE AREAS DELINEATED AS FLOODWAY DISTRICT FRINGE BOUNDARY LINE OR FLOODWAY DISTRICT ENCROACHMENT BOUNDARY LINE IS SUBJECT TO THE RESTRICTIONS IMPOSED BY THE FLOODWAY REGULATIONS OF MECKLENBURG COUNTY.

ALL DEVELOPMENT CREATING A TOTAL OF 20,000 SQUARE FEET OF IMPERVIOUS AREA SINCE SEPTEMBER 1978 WILL REQUIRE STORM DRAINAGE DETENTION.

#### **GROUND STABILIZATION**

1) SOIL STABILIZATION SHALL BE ACHIEVED ON ANY AREA OF A SITE WHERE LAND-DISTURBING ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED ACCORDING TO THE FOLLOWING SCHEDULE:

i) ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 5 CALENDAR DAYS FROM THE LAST LAND-DISTURBING

ii) ALL OTHER DISTURBED AREAS SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 5 CALENDAR DAYS FROM THE LAST

2) CONDITIONS - IN MEETING THE STABILIZATION REQUIREMENTS ABOVE, THE FOLLOWING CONDITIONS OR EXEMPTIONS SHALL APPLY:

i) EXTENSIONS OF TIME MAY BE APPROVED BY THE PERMITTING AUTHORITY BASED ON WEATHER OR OTHER

SITE-SPECIFIC CONDITIONS THAT MAKE COMPLIANCE IMPRACTICABLE. ii) ALL SLOPES 50' IN LENGTH OR GREATER SHALL APPLY THE GROUND COVER WITHIN 5 DAYS EXCEPT WHEN

THE SLOPE IS FLATTER THAN 4:1. SLOPES LESS THAN 50' SHALL APPLY GROUNDCOVER WITHIN 5 DAYS EXCEPT WHEN SLOPES ARE STEEPER THAN 3:1, THE 5 DAY-REQUIREMENT APPLIES. iii) ANY SLOPED AREA FLATTER THAN 4:1 SHALL BE EXEMPT FROM THE 5-DAY GROUND COVER REQUIREMENT.

iv) SLOPES 10' OR LESS IN LENGTH SHALL BE EXEMPT FROM THE 5-DAY GROUND COVER REQUIREMENT EXCEPT WHEN THE SLOPE IS STEEPER THAN 2:1.

v) ALTHOUGH STABILIZATION IS USUALLY SPECIFIED AS GROUND COVER, OTHER METHODS, SUCH AS CHEMICAL STABILIZATION, MAY BE ALLOWED ON A CASE-BY-CASE BASIS.

vi) FOR PORTIONS OF PROJECTS WITHIN THE SEDIMENT CONTROL COMMISSION-DEFINED "HIGH QUALITY WATER ZONE" (15A NCAC 04A. 0105), STABILIZATION WITH GROUND COVER SHALL BE ACHIEVED AS SOON AS PRACTICABLE BUT IN ANY EVENT ON ALL AREAS OF THE SITE WITHIN 5 CALENDAR DAYS FROM THE LAST LAND

vii) PORTIONS OF A SITE THAT ARE LOWER IN ELEVATION THAN ADJACENT DISCHARGE LOCATIONS AND ARE NOT EXPECTED TO DISCHARGE DURING CONSTRUCTION MAY BE EXEMPT FROM THE TEMPORARY GROUND COVER REQUIREMENTS IF IDENTIFIED ON THE APPROVED E&SC PLAN OR ADDED BY THE PERMITTING AUTHORITY.

3) ALL DIVERSION DITCHES SHALL BE PERMANENTLY MATTED WITH NAG SC-250 OR APPROVED EQUAL

#### **EROSION CONTROL NOTES:**

LIMITS OF GRADING SHOWN ON THE PLAN ARE MAXIMUM LIMITS FOR EROSION CONTROL PURPOSES ONLY. SURVEYOR TO DETERMINE ACTUAL LIMIT.

CONTRACTOR SHALL COORDINATE ALL WORK WITH CITY OF CHARLOTTE.

CITY/COUNTY EROSION CONTROL ORDINANCE AND IS SUBJECT TO A FINE.

PRE-CONSTRUCTION MEETING.

ALL "STD." NUMBERS REFER TO CHARLOTTE LAND DEVELOPMENT STANDARDS MANUAL, NCDEQ STANDARD DETAILS AND SPECIFICATIONS, AND NCDOT STANDARD DETAILS. ON-SITE BURIAL PITS REQUIRE AN ON-SITE DEMOLITION LANDFILL PERMIT FROM THE ZONING ADMINISTRATOR.

ANY GRADING BEYOND THE DENUDED LIMITS SHOWN ON THE PLAN IS A VIOLATION OF THE CITY/COUNTY EROSION CONTROL ORDINANCE AND IS SUBJECT TO A FINE. GRADING MORE THAN ONE ACRE WITHOUT AN APPROVED EROSION CONTROL PLAN IS A VIOLATION OF THE

ALL PERIMETER DIKES, SWALES, PERIMETER SLOPES, AND ALL SLOPES GREATER STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 5 CALENDAR DAYS FROM THE LAST LAND DISTURBING ACTIVITY. ALL OTHER DISTURBED AREAS SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 5 CALENDAR DAYS FROM THE LAST LAND-DISTURBING

ADDITIONAL MEASURES TO CONTROL EROSION AND SEDIMENT MAY BE REQUIRED BY A REPRESENTATIVE OF THE CITY ENGINEERING DEPARTMENT.

SLOPES SHALL BE GRADED NO STEEPER THAN 2:1. FILL SLOPES GREATER THAN 10' REQUIRE ADEQUATE TERRACING (CLDSM #30.16)

A GRADING PLAN MUST BE SUBMITTED FOR ANY GRADING THAT WAS NOT PREVIOUSLY APPROVED.

DRIVEWAY PERMIT FOR CONSTRUCTION ENTRANCES IN NCDOT RIGHT OF WAY MUST BE PRESENTED AT

DEVIATION FROM THESE PLANS AND NOTES WITHOUT THE PRIOR CONSENT OF THE OWNER, HIS REPRESENTATIVE, OR THE ENGINEER MAY BE CAUSE FOR THE WORK TO BE UNACCEPTABLE.

EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO CONSTRUCTION IN ACCORDANCE WITH THE REQUIREMENTS OF THE NORTH CAROLINA SEDIMENTATION POLLUTION CONTROL ACT OF 1973. THE LOCAL JURISDICTIONAL AGENCY, THE APPROVED EROSION CONTROL PERMIT, AND THESE PLANS AND SPECIFICATIONS.

SUFFICIENT EROSION CONTROL PRACTICES MUST BE INSTALLED AND MAINTAINED TO RETAIN SEDIMENT WITHIN THE BOUNDARIES OF THE SITE AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 5 CALENDAR DAYS FROM THE LAST LAND DISTURBING ACTIVITY. ALL OTHER DISTURBED AREAS SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 5 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY.

THE SEDIMENT TRAPS AND DIVERSION DITCHES SHALL BE CLEANED OUT WHEN THE STORAGE CAPACITY HAS BEEN APPROXIMATELY 50% FILLED. GRAVEL SHALL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS PROPERLY.

ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSPECTED BY A CERTIFIED INSPECTOR TWICE A WEEK AND AFTER EVERY 0.5 INCH RAINFALL EVENT, BUT IN NO CASE LESS THAN TWICE EVERY WEEK. NEEDED REPAIRS SHALL BE INITIATED WITHIN 24 HOURS OF INSPECTION. SUBMIT WRITTEN REPORT WITH EACH INSPECTION

SEDIMENT WILL BE REMOVED FROM BEHIND THE SILT FENCING WHEN IT BECOMES 6-INCHES DEEP AT THE FENCE. THE FENCING WILL BE REPAIRED AS NECESSARY TO MAINTAIN SUFFICIENT BARRIER.

ALL SEEDED AREAS WILL BE FERTILIZED, RESEEDED AS NECESSARY, AND MULCHED ACCORDING TO THE PLANS AND SPECIFICATIONS TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.

ALL DRAINAGE SWALES MUST BE GRASSED AND RIP-RAP MUST BE REPLACED AS REQUIRED TO CONTROL EROSION. RIP-RAP WILL CONSIST OF 50 TO 125 POUND STONES PLACED AT ALL HEADWALLS, AND WHERE NOTED ON CONSTRUCTION DRAWINGS. (SEE DETAIL SHEET FOR OUTFALL PIPE SIZE CHART)

ADDITIONAL EROSION CONTROL MEASURES OR SILT BARRIERS TO BE PLACED AS DIRECTED BY THE LOCAL JURISDICTIONAL INSPECTOR

WHEN ANY CONSTRUCTION BORDERS A DRAINAGE COURSE: A. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ANY BUILDING OR OTHER EXCAVATION SPOIL DIRT. CONSTRUCTION TRASH OR DEBRIS, ETC., FROM THE DRAINAGE AREA SHOWN HEREON IN A EXPEDITIOUS MANNER AS

CONSTRUCTION PROGRESSES.

ADDITIONAL SEDIMENT AND EROSION CONTROL NOTES:

REQUIRED AS PER LOCAL JURISDICTIONAL EROSION CONTROL LAWS.

B. THE CONTRACTOR HEREBY AGREES TO STOP ALL WORK AND RESTORE THESE IMMEDIATELY UPON NOTIFICATION BY THE LOCAL JURISDICTIONAL INSPECTOR AND/OR THE OWNER.

FOR ALL CONSTRUCTION ALONG AND/OR ACROSS WATERWAYS, BANK PROTECTION AND STABILIZATION SHALL BE

ALL TREE PROTECTION AND EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO COMMENCING CONSTRUCTION AND SHALL BE MAINTAINED IN PROPER WORKING ORDER UNTIL ALL DISTURBED AREAS ARE STABILIZED AND GROUND COVER IS ESTABLISHED. CONSTRUCTION ENTRANCE PADS SHALL BE INSTALLED THE CONTRACTOR AT CONSTRUCTION ACCESS POINTS PRIOR TO LAND DISTURBANCE.

THE CONTRACTOR SHALL KEEP A COPY OF THE APPROVED LAND DISTURBANCE PLAN AND PERMIT ON SITE WHENEVER LAND DISTURBING ACTIVITY IS IN PROGRESS.

INSTALL SILT FENCE ALONG THE DOWNSTREAM SIDE OF ALL PROPOSED CUT AND FILL CONSTRUCTION AND AS

A TEMPORARY DIVERSION SWALE MAY BE USED IN LIEU OF SILT FENCE WHERE RUNOFF CAN BE DIRECTED TO A TEMPORARY SEDIMENT TRAP.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO PERFORM REQUIRED MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL DEVICES TO ENSURE THEIR FUNCTION AT ALL TIMES.

CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL MEASURES UNTIL PERMANENT VEGETATION HAS BEEN

WHERE SEDIMENT IS TRANSPORTED ONTO A PAVED OR PUBLIC ROAD SURFACE, THE ROAD SURFACE SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER.

WHEN A CRUSHED STONE CONSTRUCTION ENTRANCE HAS BEEN COVERED WITH SOIL OR OR HAS BEEN PUSHED INTO THE SOIL BY CONSTRUCTION TRAFFIC, IT SHALL BE REPLACED WITH A DEPTH OF STONE EQUAL TO THAT OF

CONTRACTOR TO PROTECT THE EXISTING EXPOSED SANITARY SEWER MANHOLES AT ALL TIMES DURING THE CONSTRUCTION.

PERFORM A FINAL DEMUCKING OF ALL SEDIMENT CONTROL DEVICES BEFORE DEMOBILIZATION.

- SILT FENCE SHALL BE MAINTAINED AROUND THE PERIMETER OF ALL EARTHWORK AREAS TO PREVENT SEDIMENT TRANSPORT ONTO ADJACENT PROPERTIES OR OFFSITE ROADWAYS, AS APPLICABLE.
- SILT FENCE FILTER BARRIERS SHALL BE INSTALLED AND MAINTAINED UNTIL CONSTRUCTION IS COMPLETE AND LANDSCAPING IS INSTALLED.
- THE CONTRACTOR SHALL IMMEDIATELY CLEANUP AND REPAIR ALL EROSION DAMAGE AFTER DISCOVERY AND REINSTALL ADEQUATE CONTROL MEASURES AS NECESSARY TO PREVENT REOCCURRENCE OF DAMAGE.
- ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSPECTED WEEKLY AND AFTER EVERY 0.5 INCH RAINFALL EVENT, BUT IN NO CASE LESS THAN ONCE EVERY WEEK. NEEDED REPAIRS SHALL BE MADE IMMEDIATELY. SUBMIT WRITTEN REPORT WITH EACH INSPECTION TO THE OWNER.
- ALL PERIMETER DIKES, SWALES, PERIMETER SLOPES, AND ALL SLOPES GREATER STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 5 CALENDAR DAYS FROM THE LAST LAND DISTURBING ACTIVITY. ALL OTHER DISTURBED AREAS SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 5 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY.
- CONSTRUCTION POINT OF ACCESS TO LIMIT DEPOSITS OF EARTH AND OTHER HAULED MATERIALS ONTO THE ADJACENT LOT. THE CONTRACTOR SHALL ROUTINELY CLEAN ALL SEDIMENT DEPOSITS AND DEBRIS FROM ROADWAY AS THEY OCCUR.

#### TREE PROTECTION NOTES

EXPOSURE TO THE AIR.

- BEFORE DEMOLITION, GRADING, OR CONSTRUCTION BEGINS, CALL URBAN FORESTRY SPECIALIST FOR INSPECTION OF TREE PROTECTION BARRICADES.
- ALL TREES ON PUBLIC PROPERTY ARE PROTECTED BY ORDINANCE AND REMOVAL MUST BE APPROVED BY
- 3. TREE PROTECTION BARRICADES MUST MEET OR EXCEED TREE ORDINANCE STANDARDS (IN MECKLENBURG
- COUNTY COUNTY TREE ORDINANCE GUIDELINES OR LAND DEVELOPMENT STANDARDS MANUAL). NO GRUBBING WITHIN TREE PROTECTION ZONE. LEAVE SOIL AND LEAF LITTER UNDISTURBED. SUPPLEMENT

WITH 1-2 INCHES OF MULCH IF NEEDED. RE-SEED WITH GRASS ONLY IN DISTURBED/GRADED AREAS.

- BRUSH. VINES, AND SMALL TREES (LESS THAN 4" IN DIAMETER, OR AS SMALL AS 2" IN CALIPER) INSIDE THE SETBACK MAY BE HAND-CLEARED ONLY CUT FLUSH WITH GROUND SURFACE. EXISTING TREES MAY BE
- LIMBED UP TO 6 FEET (AT LEAST 2/3 OF THE BRANCHES SHOULD BE LEFT) TO IMPROVE VISIBILITY. EXPOSED TREE ROOTS MUST BE CLEANLY CUT WITH A SHARP PRUNING TOOL; BACKFILL ASAP TO MINIMIZE
- NO SOIL DISTURBANCE OR COMPACTION, CONSTRUCTION MATERIALS, TRAFFIC, BURIAL PITS, TRENCHING OR OTHER LAND DISTURBING ACTIVITY ALLOWED IN THE TREE PROTECTION ZONE, EXCEPT AS SHOWN ON
- 8. TREE PROTECTION BARRIERS SHALL EXTEND AROUND THE TREES WITH A RADIUS OF NO LESS THAN ONE FOOT (1') FOR EVERY ONE INCH (1") OF TRUNK DIAMETER -OR- 1/2 THE HEIGHT OF THE TREE (6' MINIMUM WIDTH), WHICHEVER IS GREATER, UNLESS OTHERWISE APPROVED ON AN INDIVIDUAL BASIS BY THE URBAN
- 9. ALL TREE PROTECTION BARRIERS SHALL BE INSTALLED PRIOR TO ANY GRADING. CONSTRUCTION OR OTHER LAND-DISTURBING ACTIVITY. THEY SHALL BE CONSTRUCTED FROM ANY MATERIAL SUBSTANTIAL ENOUGH TO PROTECT THE ROOTS, TRUNK AND CROWN OF THE TREE, SUCH AS ORANGE SAFETY FENCING ON METAL POSTS, WOODEN 2" X 4" STANDARDS WITH 1" X4" RAILS, OR 3' HIGH SILT FENCE WITH FLAGGING.
- 10. TREE BARRICADES MUST BE INSTALLED BEFORE ANY DEMOLITION, GRADING OR CONSTRUCTION AND NOT REMOVED UNTIL AFTER FINAL INSPECTION BY URBAN FORESTER.
- 11. TREES LOCATED WITHIN THE STREET RIGHT-OF-WAY AND THE TREE PROTECTION ZONE (BUILDING SETBACK WHERE PROPERTY ABUTS THE PUBLIC RIGHT-OF-WAY) SHALL BE PROTECTED FROM DAMAGE OR REMOVAL PER THE MECKLENBURG COUNTY TREE ORDINANCE.
- 12. ANY PROPOSED CONSTRUCTION OR GRADING ADJACENT TO TREES OR THEIR ROOT SYSTEM MUST BE APPROVED BY THE URBAN FORESTRY STAFF OF THE CITY ENGINEERING AND PROPERTY MANAGEMENT DEPARTMENT AND OR THE CITY ARBORIST. THIS INCLUDES THE FOLLOWING: STORM DRAINAGE. UNDERGROUND UTILITIES, DRIVEWAYS, SIDEWALKS, ETC. UTILITIES MAY BE TUNNELED IN THE ROOT ZONE AT A 24" MINIMUM DEPTH IF PLANS HAVE BEEN APPROVED SHOWING THE LOCATION AND METHOD.
- 13. IN SOME CASES, PERMITS MAY BE ISSUED TO ALLOW TEMPORARY (30 DAYS) ACCESS ACROSS THE TREE PROTECTION ZONE. MULCH, 4" TO 6" DEEP, WILL BE REQUIRED TO ACT AS A CUSHION TO PREVENT SOIL COMPACTION. DO NOT STORE MATERIALS OR PARK MACHINERY IN THE PROTECTED ROOT ZONE.
- 14. NO GRUBBING IS PERMITTED IN THE PROTECTED ROOT ZONE. STUMPS, DEAD TREES, AND ANY SHRUB GROWTH TO BE REMOVED SHALL BE CUT FLUSH OR GROUND OUT.
- 15. DO NOT REMOVE BARRIERS UNTIL FINAL COMPLETION OF PROJECT.
- 16. ROOT PRUNING SHALL BE KEPT TO AN ABSOLUTE MINIMUM. THE CUT SHALL BE MADE NO MORE THAN SIX INCHES (6") BEHIND THE BACK OF THE CURB AND TO A DEPTH OF TWO FEET (2') BELOW THE SOIL SURFACE. ROOT PRUNING EQUIPMENT SHALL BE KEPT SHARP TO ENSURE THAT ROOTS ARE CUT CLEANLY AND ARE NOT BROKEN OR TORN BY DULL OR UNSUITABLE EQUIPMENT. ANY EXPOSED ROOTS SHALL BE COVERED WITH SOIL AS SOON AS POSSIBLE TO MINIMIZE EXPOSURE TO AIR.
- 17. PRUNING OF EXISTING TREES SHALL BE DONE ACCORDING TO THE LATEST EDITION OF NATIONAL ARBORIST ASSOCIATION (NAA) STANDARDS IN A MANNER THAT PRESERVES THE NATURAL CHARACTER OF THE CROWN. A PERMIT IS REQUIRED FOR PRUNING TREES IN THE STREET RIGHT-OF-WAY AND TREE PROTECTION ZONE FROM THE URBAN FORESTRY STAFF
- 18. TREES DAMAGED BY CONSTRUCTION SHALL BE FERTILIZED BY THE DRILL HOLE OR DEEP ROOT LIQUID INJECTION METHOD PER NAA STANDARDS.
- 19. TREES THAT DIE AS A RESULT OF THE CONTRACTOR'S NEGLIGENCE TO THESE SPECIFICATIONS SHALL BE REMOVED AND REPLACED BY THE OWNER'S CONTRACTOR WITH A NEW TREE PLANTED PER MITIGATION TREE CHART IN THE TREE ORDINANCE GUIDELINES AND AS DIRECTED BY THE URBAN FORESTRY STAFF AND/OR CITY ARBORIST.
- 20. VIOLATIONS OF TREE PROTECTION REQUIREMENTS ARE SUBJECT TO FINES AND/OR IMMEDIATE CORRECTIVE
- 21. NO GRUBBING IS PERMITTED IN THE PROTECTED ROOT ZONE. STUMPS, DEAD TREES AND ANY SCRUB GROWTH TO BE REMOVED SHALL BE GROUND OUT WITH A STUMP GRINDER OR CUT TO GROUND LEVEL
- 22. ALL PRUNING AND OTHER SURGERY WORK IS TO BE DONE ACCORDING TO NATIONAL ARBORIST ASSOCIATION AND ANSI A300-2001 STANDARDS.
- 23. NO CLIMBING SPURS WILL BE PERMITTED IN PRUNING. TEARDOWNS, SPLITS, AND PEELING MUST BE AVOIDED. PROPER PRUNING TECHNIQUES MUST BE EXERCISED SO TEARDOWNS, SPLITS, AND PEELING OF BARK DOES
- 24. NO TOPPING, ROUNDING OVER, STUB CUTS, OR FLUSH CUTS.
- 25. ANY TREE ROOTS EXPOSED DUE TO DRIVEWAY OR OTHER CONSTRUCTION MUST BE CLEANLY CUT WITH A SHARP INSTRUMENT AND BACKFILLED AS SOON AS POSSIBLE TO MINIMIZE EXPOSURE TO AIR.
- 26. TREES WITHIN THE STREET RIGHT OF WAY ARE PROTECTED BY LAW. A PERMIT IS REQUIRED FROM THE CITY ARBORIST PRIOR TO THE REMOVAL OF ANY RIGHT OF WAY TREES. ALL TREES OVER 8" IN DIAMETER AS MEASURES 4.5' ABOVE GROUND AND LOCATED WITHIN THE SETBACK ARE PROTECTED BY LAW. CONTACT LAND DEVELOPMENT FOR REQUIRED PERMITS.

CONSTRUCTION SPECIFICATIONS

SUBGRADE PREPARATION - PREPARE THE SUBGRADE FOR RIP RAP AND FILTER TO THE REQUIRED LIMITS AND GRADES SHOWN ON THE PLANS. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY APPROXIMATING THAT OF THE SURROUNDING UNDISTURBED MATERIAL OR OVERFILL DEPRESSIONS WITH RIPRAP. REMOVE BRUSH, TREES, STUMPS AND OTHER OBJECTIONABLE MATERIAL. CUT THE SUBGRADE SUFFICIENTLY DEEP THAT THE FINISHED GRADE OF THE RIPRAP WILL BE AT THE ELEVATION OF THE SURROUNDING AREA. CHANNELS SHOULD BE EXCAVATED SUFFICIENTLY TO ALLOW PLACEMENT OF THE RIPRAP IN A MANNER SUCH THAT THE FINISHED INSIDE DIMENSIONS AND GRADE OF THE RIPRAP MEET DESIGN SPECIFICATIONS.

SAND AND GRAVEL FILTER BLANKET - PLACE THE FILTER BLANKET IMMEDIATELY AFTER THE GROUND FOUNDATION IS PREPARED. FOR GRAVEL, SPREAD FILTER STONE IN A UNIFORM LAYER TO THE SPECIFIED DEPTH. WHERE MORE THAN ONE LAYER OF FILTER MATERIAL IS USED, SPREAD THE LAYERS WITH MINIMAL MIXING.

SYNTHETIC FILTER FABRIC - PLACE THE CLOTH FILTER DIRECTLY ON THE PREPARED FOUNDATION. OVERLAP THE EDGES BY AT LEAST 12 INCHES, AND SPACE ANCHOR PINS EVERY 3 FT ALONG THE OVERLAP. BURY THE UPSTREAM END OF THE CLOTH A MINIMUM OF 12 INCHES BELOW GROUND AND WHERE NECESSARY, BURY THE LOWER END OF THE CLOTH OR OVERLAP WITH THE NEXT SECTION AS REQUIRED. TAKE CARE NOT TO DAMAGE THE CLOTH WHEN PLACING RIPRAP. IF DAMAGE OCCURS REMOVE THE RIPRAP AND REPAIR THE SHEET BY ADDING ANOTHER LAYER OF FILTER MATERIALS WITH A MINIMUM OVERLAP OF 12 INCHES AROUND THE DAMAGE AREA. IF EXTENSIVE DAMAGE IS SUSPECTED, REMOVE AND REPLACE THE ENTIRE SHEET.

WHERE LARGE STONES ARE USED OR MACHINE PLACEMENT IS DIFFICULT, A 4-INCH LAYER OF FINE GRAVEL OR SAND MAY BE NEEDED TO PROTECT THE FILTER CLOTH.

STONE PLACEMENT - PLACEMENT OF RIPRAP SHOULD FOLLOW IMMEDIATELY AFTER PLACEMENT OF THE FILTER. PLACE RIPRAP SO THAT IT FORMS A DENSE, WELL-GRADED MASS OF STONE WITH A MINIMUM OF VOIDS. THE DESIGNED DISTRIBUTION OF STONES THROUGHOUT THE MASS MAY BE OBTAINED BY SELECTIVE LOADING AT THE QUARRY AND CONTROLLED DUMPING DURING FINAL PLACEMENT. PLACE RIPRAP TO ITS FULL THICKNESS IN ONE OPERATION. DO NOT PLACE RIPRAP BY DUMPING THE THROUGH CHUTES OR OTHER METHODS THAT CAUSE SEGREGATION OF STONE SIZES. TAKE CARE NOT TO DISLODGE THE UNDERLYING BASE OR FILTER WHEN PLACING

THE FINISHED SLOPE SHOULD BE FREE OF POCKETS OF SMALL STONE OR CLUSTERS OF LARGE STONES. HAND PLACING MAY BE NECESSARY TO ACHIEVE THE PROPER DISTRIBUTION OF STONE SIZES TO PRODUCE A RELATIVELY SMOOTH, UNIFORM SURFACE. THE FINISHED GRADE OF RIPRAP SHOULD BLEND WITH THE SURROUNDING AREA. NO OVERFALL OR PROTRUSION OF RIPRAP SHOULD BE APPARENT. MAINTENANCE

INSPECT CHANNELS AT REGULAR INTERVALS AS WELL AS AFTER MAJOR RAINS, AND MAKE REPAIRS PROMPTLY. GIVE SPECIAL ATTENTION TO THE OUTLET AND INLET SECTIONS AND OTHER POINTS WHERE CONCENTRATED FLOW ENTERS. CAREFULLY CHECK STABILITY AT ROAD CROSSINGS AND LOOK FOR INDICATIONS OF PIPING, SCOUR HOLES, OR BANK FAILURES. MAKE REPAIRS IMMEDIATELY. MAINTAIN ALL VEGETATION ADJACENT TO THE CHANNEL IN A HEALTHY VIGOROUS CONDITION TO PROTECT THE AREA FROM EROSION AND SCOUR DURING OUT-OF-BANK FLOW. CONTROL OF WEED AND BRUSH GROWTH MAY BE NEEDED IN SOME LOCATIONS.

### MAINTENANCE PLAN

- 1. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF EROSION AND SEDIMENT CONTROL DEVICES.
- 2. THE CONTRACTOR SHALL CHECK ALL EROSION AND SEDIMENT CONTROL PRACTICES FOR STABILITY AND OPERATION FOLLOWING EVERY RUNOFF PRODUCING RAINFALL BUT IN NO CASE LESS THAN ONCE EVERY WEEK. ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY BY THE CONTRACTOR TO MAINTAIN ALL PRACTICES AS DESIGNED. ALSO PER NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL STORMWATER PERMIT, A RAIN GAUGE MUST BE INSTALLED ON SITE. THE RAIN GAUGE MUST BE KEPT ONSITE AND INSPECTIONS BY THE CONTRACTOR MUST BE MADE AND LOGGED AFTER EVERY HALF INCH OF RAINFALL AND ONCE A WEEK.
- 3. THE CONTRACTOR SHALL REMOVE SEDIMENT FROM SEDIMENT BASIN WHEN STORAGE CAPACITY HAS BEEN APPROXIMATELY 50% FILLED. GRAVEL WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS PROPERLY.
- 4. THE CONTRACTOR SHALL REMOVE SEDIMENT FROM BEHIND SLIT FENCE WHEN IT BECOMES 0.5 FEET DEEP AT THE FENCE. SLIT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER.
- 5. THE CONTRACTOR SHALL FERTILIZE, RESEED AS NECESSARY, AND MULCH ALL SEEDED AREAS ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.

#### **UTILITY NOTES**

- THE CONTRACTOR IS RESPONSIBLE FOR HORIZONTALLY AND VERTICALLY LOCATING AND PROTECTING ALL PUBLIC OR PRIVATE UTILITIES (SHOWN OR NOT SHOWN) WHICH LIE IN OR ADJACENT TO THE CONSTRUCTION SITE. AT LEAST (3) WORKING DAYS PRIOR TO ANY DEMOLITION, GRADING, OR CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL NOTIFY THE NORTH CAROLINA ONE-CALL UTILITIES LOCATION SERVICE (ULOCO) AT (800)632-4949 FOR PROPER IDENTIFICATION OF EXISTING UTILITIES WITHIN THE SITE.
- SHOULD ANY UNCHARTED OR INCORRECTLY CHARTED UTILITIES BE ENCOUNTERED, THE CONTRACTOR SHALL CONTACT THE OWNER IMMEDIATELY FOR DIRECTIONS.
- CONTRACTOR SHALL COORDINATE ANY INTERRUPTION OF UTILITY SERVICE WITH OWNER AND RESPECTIVE UTILITY COMPANY REPRESENTATIVE.
- ANY PLANNED INTERRUPTION OF UTILITY SERVICE SHALL BE GIVEN A 48 HOUR NOTICE TO THE UTILITY

UNDERGROUND ELECTRIC, TELEPHONE, SEWER, WATER, AND COMMUNICATION CONDUITS.

6. ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH LOCAL POWER COMPANY STANDARDS.

CONTRACTOR SHALL SAW CUT, REMOVE, AND REPLACE ASPHALT PAVEMENT AS NECESSARY TO INSTALL

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PROJECT NO. 012826016 SHEET NUMBER

# SEEDING SCHEDULE AND SEEDBED PREPARATION

- 1. SEED, MULCH, AND FERTILIZE AREAS ACCORDING TO CHARLOTTE LAND DEVELOPMENT STANDARD 30.17.
- 2. PROTECTIVE COVER MUST BE ESTABLISHED ON ALL DISTURBED AREAS, GRADED SLOPES. AND FILLS WITHIN 5 CALENDAR DAYS AFTER LAND DISTURBING ACTIVITY IS COMPLETED OR HAS TEMPORARILY CEASED.

#### SEEDBED PREPARATION

- 1. GRADED SLOPES AND FILL THE ANGLE FOR GRADED SLOPES AND FILLS SHALL BE NO GREATER THAN THE ANGLE WHICH CAN BE RETAINED BY VEGETATIVE COVER OR OTHER ADEQUATE EROSION CONTROL DEVICES OR STRUCTURES. IN ANY EVENT, SLOPES LEFT EXPOSED SHALL, WITHIN 5 WORKING DAYS OF COMPLETION OF ANY PHASE OF GRADING, BE PLANTED OR OTHERWISE PROVIDED WITH GROUND COVER, DEVICES, OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION.
- 2. GROUND COVER WHENEVER LAND DISTURBING ACTIVITY IS UNDERTAKEN ON A TRACT COMPRISING MORE THAN ONE ACRE, IF MORE THAN ONE CONTIGUOUS ACRE IS UNCOVERED, A GROUND COVER SUFFICIENT TO RESTRAIN EROSION MUST BE PLANTED OR OTHERWISE PROVIDED WITHIN 5 WORKING DAYS ON THAT PORTION OF THE TRACT UPON WHICH FURTHER ACTIVE CONSTRUCTION IS NOT BEING UNDERTAKEN.
- 3. SURFACE WATER CONTROL MEASURES TO BE INSTALLED ACCORDING TO THE PLANS.
- 4. AREAS TO BE SEEDED SHALL BE RIPPED AND SPREAD WITH AVAILABLE TOPSOIL 3" DEEP. TOTAL SEEDBED PREPARED DEPTH SHALL BE 4" TO 8" DEEP.
- 5. LOOSE ROCKS, ROOTS, AND OTHER OBSTRUCTIONS SHALL BE REMOVED FROM THE SURFACE SO THAT THEY WILL NOT INTÉRFERE WITH ESTABLISHMENT AND MAINTENANCE OF VEGETATION. SURFACE FOR FINAL SEEDBED PREPARATION, AT FINISH GRADES SHOWN, SHALL BE REASONABLY SMOOTH AND UNIFORM.
- 6. IF NO SOIL TEST IS TAKEN, FERTILIZER AND LIME SHALL BE ACCORDING TO SEEDING SPECIFICATIONS.
- 7. IF SOIL TEST IS TAKEN, PROVIDE LIME AND FERTILIZER ACCORDING TO THE SOIL TEST REPORT.
- 8. LIME AND FERTILIZER SHALL BE APPLIED UNIFORMLY AND MIXED WITH THE SOIL DURING SEEDBED

#### DRAINAGE STRUCTURES

GRADES, ELEVATIONS AND LOCATIONS SHOWN ARE APPROXIMATE. AS DIRECTED BY THE ENGINEER, THEY MAY BE ADJUSTED TO ACCOMMODATE UNFORESEEN CONDITIONS. STATIONS, OFFSETS AND ELEVATIONS REFER TO THE CENTER OF DROP INLETS, MANHOLES AND JUNCTION BOXES, AND THE MIDPOINT OF THE LIP FOR CATCH BASINS. ALL PIPES SHALL BE RCP CLASS III, UNLESS OTHERWISE NOTED. WEEPHOLES ARE TO BE CONSTRUCTED IN ALL DRAINAGE STRUCTURES, A MINIMUM OF 1 WEEPHOLE PER STRUCTURE. WEEPHOLES ARE TO BE CONSTRUCTED IN THE BOTTOM 1/3 OF STRUCTURE AND COVERED ON THE OUTSIDE OF THE STRUCTURE BY A BAG MADE OF FILTER FABRIC AND FILLED WITH #78 STONE. THERE WILL BE NO SEPARATE PAYMENT FOR THIS WORK.

- 1. STORM DRAINAGE WITHIN THE PROJECT SHALL BE REINFORCED CONCRETE PIPE, AS SHOWN ON THE DRAINAGE
- 2. PIPE LENGTHS INDICATED ON THE PLANS ARE APPROXIMATE ONLY.
- 3. SUBSUFACE DRAINAGE FACILITIES MAY BE REQUIRED IN THE STREET RIGHT-OF-WAY IF DEEMED NECESSARY BY THE INSPECTOR.
- 4. UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:
- A. NO MORE THAN 500 LF OF TRENCH MAY BE OPENED AT ONE TIME.
- B. EXCAVATED MATERIAL SHALL BE LACED ON THE UPHILL SIDE OF TRENCHES.
- C. EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.
- D. MATERIAL USED FOR BACK-FILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.
- E. RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL REGULATIONS.
- F. APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.
- 5. ALL PIPES SHALL BE LAID ON STRAIGHT ALIGNMENT AND EVEN GRADES USING A PIPE LASER OR OTHER ACCURATE METHOD.
- 6. ALL PIPES SHALL BE BEDDED PER MANUFACTURER'S RECOMMENDATIONS.

#### **PAVING CURBING NOTES**

- 1. WHERE PROPOSED CURB AND GUTTER TIES TO EXISTING CURB OR CURB AND GUTTER, A TRANSITION OF 10' SHALL BE MADE TO CONFORM TO THE EXISTING HEIGHTS AND SHAPES.
- 2. BEFORE ANY EARTHWORK IS DONE, THE CONTRACTOR SHALL STAKE OUT AND MARK THE LIMITS OF PAVEMENT AND OTHER ITEMS ESTABLISHED IN THE PLANS. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY ENGINEERING AN SURVEYING FOR LINE AND GRADE CONTROL POINTS RELATED TO EARTHWORK.
- 3. ALL PAVEMENT SUB GRADES SHALL BE SCARIFIED TO A DEPTH OF 8 INCHES AND COMPACTED TO A MINIMUM DENSITY OF 100 PERCENT OF ASTM D-1557 DENSITY AT OPTIMUM MOISTURE CONTENT UNLESS OTHERWISE SHOWN ON THE CONSTRUCTION PLANS OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER. FILL SHALL BE PLACED AND COMPACTED IN MAXIMUM 8" LIETS. IN AREAS WHERE ROCK IS ENCOUNTERED AT FINAL SUB-GRADE ELEVATION, THE EXPOSED ROCK SHALL BE TOPPED WITH A LEVELING COURSE OF SANDY CLAY OR CLAYEY SAND (P.IO. BETWEEN 4 AND 15) AS NEEDED TO PROVIDE A SMOOTH SURFACE FOR PAVING.
- 4. THE CONTRACTOR SHALL CLEAR AND GRUB THE SITE AND PLACE, COMPACT AND MOISTURE CONDITION ALL FILL PER THE PROJECT GEOTECHNICAL ENGINEER'S SPECIFICATIONS. THE FILL MATERIAL TO BE USED SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT.
- 5. ALL CURB JOINTS SHALL EXTEND THROUGH THE CURB. MINIMUM LENGTH OF OFFSET JOINTS AT RADIUS POINTS IS 1.5 FEET. ALL JOINTS SHALL BE SEALED WITH JOINT SEALANT.
- 6. TESTING OF MATERIALS REQUIRED FOR THE CONSTRUCTION OF THE PAVING IMPROVEMENTS SHALL BE PERFORMED BY AN APPROVED AGENCY FOR TESTING MATERIALS. THE NOMINATION OF THE TESTING LABORATORY AND THE PAYMENT OF SUCH TESTING SERVICES SHALL BE MADE BY THE CONTRACTOR. THE OWNER SHALL APPROVE THE LABORATORY NOMINATED TO DO THE TESTING OF MATERIALS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO SHOW BY STANDARD TESTING PROCEDURES THAT THE WORK CONSTRUCTED DOES MEET THE REQUIREMENTS OF THE COUNTY'S SPECIFICATIONS.
- 7. ALL REINFORCING STEEL SHALL BE NEW DOMESTIC BILLET STEEL CONFORMING TO ASTM A-615, GRADE 60, AND SHALL BE SUPPORTED BY BAR CHAIRS.
- 8. ALL SIGNS, PAVEMENT MARKINGS, AND OTHER TRAFFIC CONTROL DEVICES ON PUBLIC STREETS SHALL CONFORM TO MUTCD, NCDOT AND CITY OF CHARLOTTE STANDARDS.
- 9. CONTRACTOR SHALL FURNISH THE INSTALL ALL PAVEMENT MARKINGS. ALL PAINT FOR PAVEMENT MARKING SHALL ADHERE TO NCDOT STANDARDS.
- 10. ALL HANDICAP RAMPING, STRIPING, AND PAVEMENT MARKINGS SHALL CONFORM TO ADA REQUIREMENTS.

#### S.W.I.M. BUFFER NOTES

- 1. THE STREAMSIDE ZONE OF THE BUFFER MUST BE LEFT COMPLETELY UNDISTURBED. IN THE MANAGED USE ZONE, A LIMITED NUMBER OF TREES CAN BE REMOVED PROVIDED THAT THE TREE DENSITY REMAINING IS A MINIMUM OF 8 HEALTHY TREES OF A MINIMUM OF 6-INCH CALIPER PER 1000 SQUARE FEET. REMOVAL OF EXISTING VEGETATION MUST BET PERFORMED IN SUCH A MANNER AS TO PREVENT DAMAGE TO THE ROOTS OF
- 2. PLANS CLEARLY INDICATE THAT NO FILL MATERIAL IS TO BE BROUGHT INTO THE BUFFER AND THAT NO STRUCTURE ARE ALLOWED WITHIN ANY OF THE BUFFER AREAS.
- 3. GRADING AND OTHER LAND DISTURBING ACTIVITIES ARE ALLOWED ONLY IN THE UPLAND ZONE. HOWEVER, THESE ACTIVITIES MUST BE PERFORMED IN SUCH A MANNER AS TO PREVENT DAMAGE TO THE ROOTS OF REMAINING TREES. GRASS OR OTHER SUITABLE GROUND COVER CAN BE APPLIES TO THE UPLAND ZONE.
- 4. THE OUTSIDE BOUNDARY OF THE BUFFER MUST BE CLEARLY MARKED WITH ORANGE FABRIC FENCING PRIOR TO ANY LAND DISTURBING ACTIVITIES OF THE THE SITE AND THIS FENCING MUST BE CALLED OUT ON THE PLANS.
- 5. THE OUTSIDE BOUNDARY OF THE STREAM BUFFER MUST BE PERMANENTLY MARKED WITH AN IRON PIN OR OTHER ACCEPTABLE PROPERTY CORNER MARKER AT STREET CROSSING AND THIS MARKER MUST BE CALLED OUT ON THE PLANS.

#### SAND FILTER MAINTENANCE SCHEDULE

- 1. AFTER EVERY SIGNIFICANT RUNOFF PRODUCING RAINFALL BENT AND AT LEAST MONTHLY INSPECT THE SAND FILTER SYSTEM FOR CLOGGING, SEDIMENT ACCUMULATION, EROSION, TRASH ACCUMULATION, VEGETATED COVER, AND GENERAL CONDITION. RAKE DEBRIS SCREEN AND FIRST INCH OF SAND.
- 2. REPAIR ERODED AREAS IMMEDIATELY. RE-SEED THE EMBANKMENT AS NECESSARY TO MAINTAIN GOOD VEGETATIVE COVER. MOW VEGETATIVE COVER ON EMBANKMENT TO MAINTAIN A MAXIMUM HEIGHT OF SIX INCHES. REMOVE TRASH AS NEEDED.
- 3. INSPECT AND REPAIR THE COLLECTION SYSTEM (I.E. CATCH BASINS, PIPING, SWALES, RIP RAP, ETC.) QUARTERLY TO MAINTAIN PROPER FUNCTIONING.
- 4. REMOVE ACCUMULATED SEDIMENT FROM THE SAND FILTER FOREBAY SEMIANNUALLY OR WHEN MORE THAN 1 FOOT OF STORAGE IS LOST. REMOVED SEDIMENT SHALL BE DISPOSED OF IN AN APPROPRIATE MANNER AND SHALL BE HANDLED IN A MANNER THAT ILL NOT ADVERSELY IMPACT WASTER QUALITY, (I.E. STOCKPILING NEAR A SAND FILTER OR STREAM, ETC.)
- 5. SEDIMENT, TOPSOIL, AND 3 INCHES OF FILTER MATERIAL MUST BE REMOVED AFTER THE ALLOWABLE DRAWDOWN TIME IS EXCEEDED BY 25 PERCENT.
- 6. ENTIRE FILTER MEDIA AND UNDERDRAIN SYSTEM MUST BE REPLACED IF REMOVAL OF 3 INCHES OF MEDIA DOES NOT RESTORE FILTRATION RATE.
- 7. PERFORM ANNUAL INSPECTION OF THE SAND FILTER (ANNUAL INSPECTION REPORTS TO BE KEPT BY THE OWNER.) PRIOR TO INSPECTION, NOTIFICATION MUST BE GIVEN TO STORM WATER SERVICES.

#### CITY OF CHARLOTTE STANDARD NOTES

- 1. COORDINATE ALL CURB AND STREET GRADES IN INTERSECTION WITH INSPECTOR.
- 2. ALL ROAD IMPROVEMENTS ARE TO BE COORDINATED WITH NCDOT PRIOR TO CONSTRUCTION.
- 3. DEVELOPER WILL PROVIDE STREET SIGNS PER CLDSM# 50.05 (9" SIGNS ONLY).
- 4. SIGHT TRIANGLES SHOWN ARE THE MINIMUM REQUIRED.
- 5. 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.
- 6. 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
- 7. IN ORDER TO ENSURE PROPER DRAINAGE, KEEP A MINIMUM OF 0.5% SLOPE ON THE CURB.
- SUBSURFACE DRAINAGE FACILITIES MAY BE REQUIRED IN THE STREET RIGHT-OF-WAY IF DEEMED NECESSARY BY THE INSPECTOR
- 9. CURB AND GUTTER SHOWN ON PLANS MAY BE ADJUSTED BASED UPON FIELD STAKING BY CITY ENGINEERING. ASSOCIATED STORM DRAINAGE MAY ALSO REQUIRE MODIFICATION BASED UPON FIELD
- 10. 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.
- 11. HIGH-DENSITY POLYETHYLENE (HDPE) STORM DRAINAGE PIPE INSTALLED WITHIN EXISTING OR PROPOSED PUBLIC STREET RIGHT-OF-WAY MUST BE APPROVED BY NCDOT PRIOR TO ANY BACKFILL BEING PLACED. BACKFILL MATERIAL MUST BE APPROVED BY NCDOT PRIOR TO PLACEMENT OF THE MATERIAL WITHIN THE PUBLIC STREET RIGHT-OF-WAY.
- 12. 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.
- 13. 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.
- 14. 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.
- 15. ALL OPENINGS (E.G., DOORS, WINDOWS, VENTS) IN STRUCTURES BUILT ON ALL LOTS 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
- 16. PE SEALED SHOP DRAWINGS FOR RETAINING WALL MUST BE SUBMITTED TO CITY ENGINEER PRIOR TO
- 17. "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.
- 18. PRIOR TO INSTALLATION, PE SEALED SHOP DRAWINGS FOR UNDERGROUND DETENTION SYSTEMS MUST BE FURNISHED TO CITY OF CHARLOTTE ENGINEERING FOR APPROVAL.
- 19. PRIOR TO CO. SURVEYOR SEALED AS-BUILT DRAWINGS OF ALL WATER QUALITY BMP'S AND DETENTION SYSTEMS MUST BE PROVIDED.
- 20. 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.
- 21. PER SECTION 18-175(E) OF THE 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 (PCCES) MUST BE RECORDED PRIOR TO THE ISSUANCE OF THE CERTIFICATE OF
- 22. THE DEVELOPER SHALL CONTACT THE CHARLOTTE DEPARTMENT OF TRANSPORTATION (GUS JORDI. 704-333-7086) 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.
- 23. 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
- 24. 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) 336-3888.
- 25. 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.
- 26. ANY WORK WITHIN THE CITY'S R/W THAT REQUIRES CLOSURE OF THE SIDEWALK OR TRAVEL LANE FOR LESS THAN 30 DAYS REQUIRES A R/W USE PERMIT REQUEST. TRAFFIC CONTROL PLANS MUST BE IN ACCORDANCE WITH CDOT'S WORK ARE TRAFFIC CONTROL HANDBOOK (WATCH) AND MUST BE REVIEWED AND APPROVED. CONTRACTOR SHALL CONTACT CDOT AT LEAST 5 BUSINESS DAYS IN ADVANCE OF BEGINNING OF WORK AT (704) 432-1562.
- 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.

## **MAXIMUM BUILT UPON AREA**

					lmı	pervious Area Data T	able					
Drainage Area	Drainage Area Size (AC)	Density Classification	Sandfilter #	Maximum Allowable Impervious Area (%) *	Maximum Allowable Impervious Area (AC)	Total Design Impervious (AC)	Impervious Area: Lots (AC)	Impervious Area: Roads, Sidewalks (AC)	# of Full Lots	# of Half Lots	# of Total Lots	Design Impervious Area per Lot (sf)
DA-1	9.37	High	1	50%	4.69	4.08	2.53	1.55	23	9	27.5	4000 SF
DA-2	5.59	High	2	50%	2.80	2.54	1.56	0.98	14	6	17	4000 SF
DA-3	8.85	High	3	50%	4.43	3.18	2.02	1.16	17	10	22	4000 SF
DA-4	0.57	Low	N/A	12%	0.07	0.05	0.05	0.00	0	1	0.5	4000 SF
DA-5	10.23	Low	N/A	12%	1.23	0.75	0.55	0.20	1	10	6	4000 SF

\* THE SITE FALLS WITHIN THE LOWER LAKE WYLIE WATERSHED OVERLAY CRITICAL AREA AND THH PSCO WESTERN CATAWBA WATERSHED DISTRICT. PER SECTION 10.706 OF THE CITY OF CHARLOTTE CODE, HIGH DENSITY RESIDENTIAL AREAS IN LOWER LAKE WYLIE WATERSHED OVERLAY CRITICAL AREAS HAVE A MAXIMUM ALLOWABLE BUILT UPON AREA OF 50%. PER PSCO STANDARDS FOR THE WESTERN CATAWBA WATERSHED DISTRICT, HIGH DENSITY AREAS (AREAS WITH BUA>12%) MUST PROVIDE STORMWATER MANAGEMENT MEASURES IN ACCORDANCE WITH THE CITY OF CHARLOTTE POST CONSTRUCTION STORMWATER ORDINANCE (7/2016). PER PSCO STANDARDS, LOW DENSITY AREAS IN THE WESTERN CATAWBA WATERSHED DISTRICT ARE NOT REQUIRED TO PROVIDE STORMWATER MANAGEMENT MEASURES IN ACCORDANCE WITH THE CITY OF CHARLOTTE POST CONSTRUCTION STORMWATER ORDINANCE BUT MUST REMAIN BELOW 12% BUA.

#### WATER AND SEWER NOTES

- 1. THE CONTRACTOR SHALL CONSTRUCT GRAVITY SEWER LATERALS, MANHOLES GRAVITY SEWER LINES AND DOMESTIC WATER AND FIRE PROTECTION SYSTEM AS SHOWN ON THE CHARLOTTE WATER SANITARY SEWER AND WATER DISTRIBUTION PLANS. THE CONTRACTOR SHALL FURNISH ALL NECESSARY MATERIALS, EQUIPMENT, MACHINERY, TOOLS, MEANS OF TRANSPORTATION AND LABOR NECESSARY TO COMPLETE THE WORK IN FULL AND COMPLETE ACCORDANCE WITH THE SHOWN, DESCRIBED AND REASONABLY INTENDED REQUIREMENTS OF THE CONTRACT DOCUMENTS AND JURISDICTIONAL AGENCY REQUIREMENTS. IN THE EVENT THAT THE CONTRACT DOCUMENTS AND THE JURISDICTIONAL AGENCY REQUIREMENTS ARE NOT IN AGREEMENT, THE MOST STRINGENT SHALL
- 2. ALL EXISTING UNDERGROUND UTILITY LOCATIONS SHOWN ARE APPROXIMATE THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS FOR UTILITY LOCATION AND COORDINATION IN ACCORDANCE WITH THE NOTES CONTAINED IN THE GENERAL CONSTRUCTION SECTION OF THIS SHEET.
- 3. THE CONTRACTOR SHALL RESTORE ALL DISTURBED VEGETATION IN KIND, UNLESS SHOWN OTHERWISE.
- 4. DEFLECTION OF PIPE JOINTS AND CURVATURE OF PIPE SHALL NOT EXCEED THE MANUFACTURER'S SPECIFICATIONS. SECURELY CLOSE ALL OPEN ENDS OF PIPE AND FITTINGS WITH A WATERTIGHT PLUG WHEN WORK IS NOT IN PROGRESS. THE INTERIOR OF ALL PIPES SHALL BE CLEAN AND JOINT SURFACES WIPED CLEAN AND DRY AFTER THE PIPE HAS BEEN LOWERED INTO THE TRENCH. VALVES SHALL BE PLUMB AND LOCATED ACCORDING TO THE PLANS.
- 5. ALL PHASES OF INSTALLATION, INCLUDING UNLOADING, TRENCHING, LAYING AND BACK FILLING, SHALL BE DONE IN A FIRST CLASS WORKMANLIKE MANNER. ALL PIPE AND FITTINGS SHALL BE CAREFULLY STORED FOLLOWING MANUFACTURER'S RECOMMENDATIONS. CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE COATING OR LINING IN ANY DUCTILE IRON PIPE FITTINGS. ANY PIPE OR FITTING WHICH IS DAMAGED OR WHICH HAS FLAWS OR IMPERFECTIONS WHICH, IN THE OPINION OF THE ENGINEER OR OWNER, RENDERS IT UNFIT FOR USE, SHALL NOT BE USED. ANY PIPE NOT SATISFACTORY FOR USE SHALL BE CLEARLY MARKED AND IMMEDIATELY REMOVED FROM THE JOB SITE, AND SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- 6. WATER FOR FIRE FIGHTING SHALL BE AVAILABLE FOR USE PRIOR TO COMBUSTIBLES BEING BROUGHT
- 7. ALL UTILITY AND STORM DRAIN TRENCHES LOCATED UNDER AREAS TO RECEIVE PAVING SHALL BE COMPLETELY BACK FILLED IN ACCORDANCE WITH THE GOVERNING JURISDICTIONAL AGENCY'S SPECIFICATIONS. IN THE EVENT THAT THE CONTRACT DOCUMENTS AND THE JURISDICTIONAL AGENCY REQUIREMENTS ARE NOT IN AGREEMENT, THE MOST STRINGENT SHALL GOVERN.
- 8. UNDERGROUND LINES SHALL BE SURVEYED BY A STATE OF NORTH CAROLINA PROFESSIONAL LAND SURVEYOR PRIOR TO BACK FILLING.
- 9. CONTRACTOR SHALL PERFORM, AT HIS OWN EXPENSE, ANY AND ALL TESTS REQUIRED BY THE SPECIFICATIONS AND/OR ANY AGENCY HAVING JURISDICTION. THESE TESTS MAY INCLUDE. BUT MAY NOT BE LIMITED TO. INFILTRATION AND EXFILTRATION, TELEVISION INSPECTION AND A MANDREL TEST ON GRAVITY SEWER. A COPY OF THE TEST RESULTS SHALL BE PROVIDED TO THE UTILITY PROVIDERS, OWNER AND JURISDICTIONAL AGENCY AS REQUIRED.

#### 3RD PARTY TEST REPORTS REQUIRED

TEST REPORTS REQUIRED FOR CLOSE OUT INCLUDE, BUT ARE NOT LIMITED TO:

- DENSITY TEST REPORTS
- BACTERIOLOGICAL TESTS OF WATER SYSTEM PRESSURE TEST OF WATER/SEWER
- LEAK TESTS ON SEWER SYSTEM AND GREASE TRAPS ANY OTHER TESTING REQUIRED BY THE AGENCY

#### ADDITIONAL NOTES

- 1. THERE WILL BE NO DEMOLITION LANDFILL.
- 2. PROJECT IS ESTIMATED TO BE COMPLETE WITHIN 36 MONTHS OF INITIATION OF CONSTRUCTION.

5	23,3/1	5	3
6	24,330	5	3
7	25,465	5	3
8	27,250	5	3
9	28,277	5	3
10	28,996	5	3
11	12,486	5	3
12	11,545	3	-
		<del> </del>	
13	9,510	3	
14	8,327	3	
15	8,636	3	
16	9,592	3	
17	9,012	3	
		3	
18	8,952	<del> </del>	
19	8,953	3	
20	9,405	1	
21	10,689	1	
22	10,017	1	
23	8,887	1	
24	9,116	1	
25	8,886	1	
26	9,217	1	
27	12,959	1	
		-	
28	9,279	1	
29	9,697	1	
30	8,834	1	
31	8,271	1	
32	7,994	1	
	t	-	
33	9,110	1	
34	9,166	2	
35	8,658	2	
36	8,951	2	
37	10,643	2	
38	9,525	2	
	****	<del> </del>	
39	12,467	2	4
40	8,666	1	3
41	8,336	1	3
42	8,336	1	3
43	8,336	1	2
		<del>                                     </del>	
44	8,336	1	2
45	8,336	1	2
46	8,820	1	2
47	8,544	1	2
48	11,539	3	_
49	10,228	3	
50	10,228	3	
51	9,531	3	
52	11,752	3	
53	10,249	3	
		<del> </del>	
54	11,205	3	
55	11,672	3	
56	10,742	3	
57	10,830	1	3
		1	
58	12,499		
59	9,556	1	
60	9,571	1	
61	9,151	1	
62	15,041	1	
	<u> </u>	<del> </del>	
63	8,987	1	
64	10,385	1	
65	22,471	1	
66	17,785	1	
67	9,188	2	
		1	
68	10,039	2	
69	9,845	2	

LOT # | LOT SIZE (SF)

20.496 | 5

3 | 22,448 | 5 3

4 | 22,656 | 5 3

23,371

20,818

Area(s)

0

032640

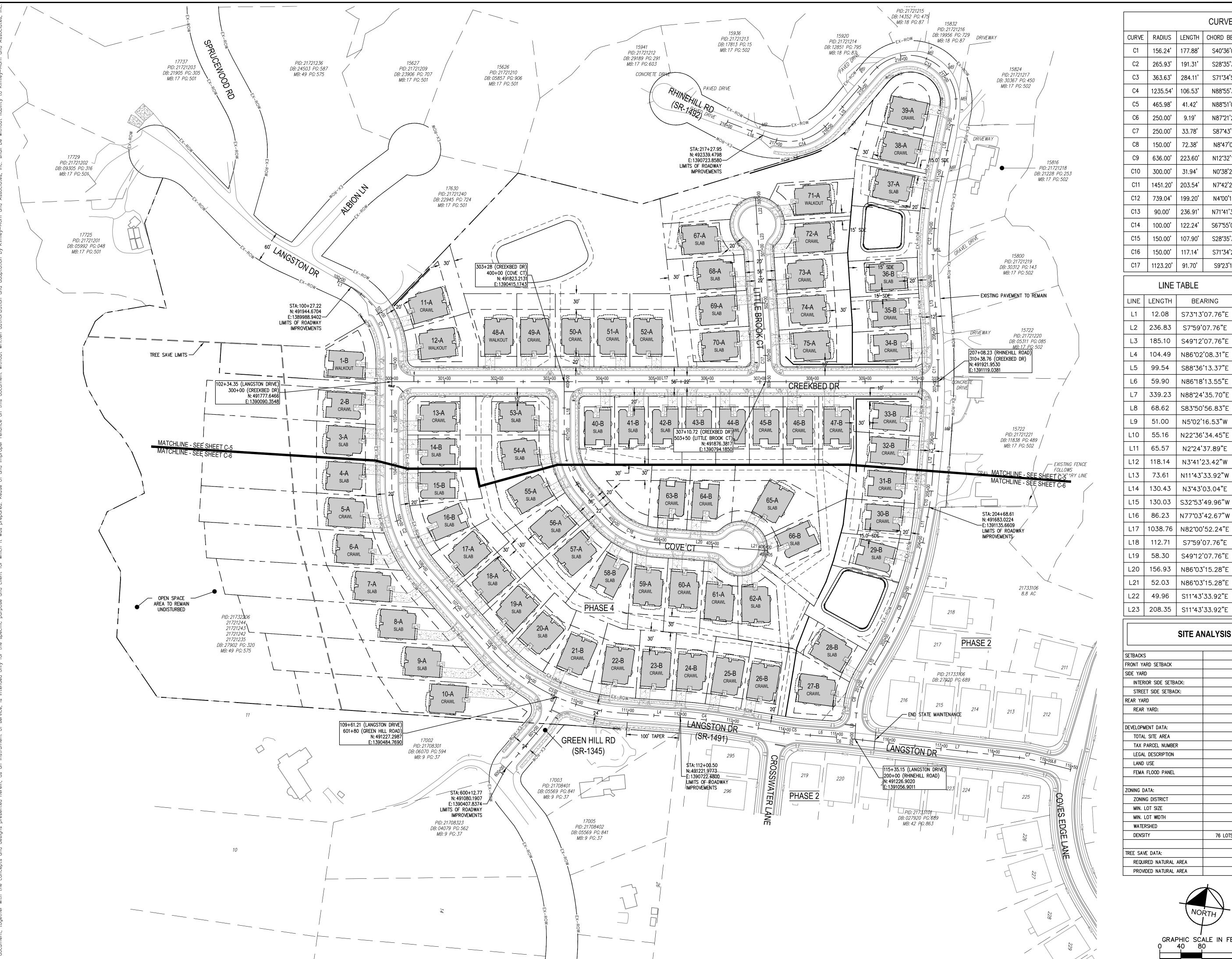
NOT FOR CONSTRUCTION

表:Noneth

10,240 10,215 2 9,235 73 9,782 74 9,571 2 75 | 10,282 | 2

> Know what's **below.** Call before you dig.

11-22-2016 PROJECT NO. 012826016 SHEET NUMBER



CURVE	RADIUS	LENGTH	CHORD BE	ARING	CHORD	DELTA	TANGENT
C1	156.24	177.88	S40°36'0	8"E	168.43'	65 <b>°</b> 14'00"	99.98'
C2	265.93	191.31'	S28 <b>*</b> 35 <b>'</b> 3	6"E	187.21'	41°13'04"	100.00
C3	363.63'	284.11'	S71°34'5	3 <b>"</b> E	276.94	44°45'56"	149.75
C4	1235.54	106.53	N88*55'3	34"E	106.50'	4*56'24"	53.30'
C5	465.98'	41.42'	N88 <b>°</b> 51'0	0 <b>"</b> E	41.40'	5 <b>°</b> 05'33"	20.72
C6	250.00'	9.19'	N87°21'2	:5 <b>"</b> E	9.19'	2*06'22"	4.60'
C7	250.00'	33.78'	S87°43'1	1"E	33.75'	7*44'27"	16.91'
C8	150.00'	72.38'	N8*47'0	9"E	71.68'	27°38'51"	36.91'
С9	636.00'	223.60'	N12 <b>*</b> 32 <b>'</b> 1	7 <b>"</b> E	222.45	20°08'36"	112.96'
C10	300.00'	31.94'	N0°38'23	3"W	31.93'	6*06'01"	15.99'
C11	1451.20'	203.54	N7°42'29	9"W	203.38'	8°02'11"	101.94
C12	739.04	199.20'	N4°00'15	5"W	198.60'	15 <b>°</b> 26'37"	100.21
C13	90.00'	236.91	N71°41'3	3"W	174.20'	150°49'13"	345.77
C14	100.00'	122.24	S67 <b>°</b> 55'0	4"W	114.77'	70 <b>°</b> 02'27"	70.07
C15	150.00'	107.90'	S28°35'3	8"E	105.59'	41°13'00"	56.41'
C16	150.00'	117.14'	S71°34'2	6"E	114.18'	44°44'37"	61.74'
C17	1123.20'	91.70'	S9 <b>*</b> 23'14	4"E	91.67'	4*40'40"	45.87'
	LINE	TABLE					
LINE	LENGTH	BEA	ARING				

S88**°**36'13.37"E

N22°36'34.45"E

N2°24'37.89"E

**CURVE TABLE** 

	<u> </u>		
130.43	N3°43'	03.04"E	
130.03	S32°53	'49.96"W	
86.23	N77°03	'42.67"W	
1038.76	N82°00	'52.24"E	
112.71	S7 <b>°</b> 59'	07.76"E	
58.30	S49°12	'07.76"E	
156.93	N86°03	3'15.28"E	
52.03	N86°03	3'15.28"E	
49.96	S11°43	'33.92"E	
208.35	S11°43	'33.92"E	
	SIIE AI	NALISIS	TABLE
			•
ARD SETBACK			20'
D IOR SIDE SETB/	ACK:		20' 5'
D			
D IOR SIDE SETB <i>i</i>			5'
D IOR SIDE SETBAC ET SIDE SETBAC			5'
D IOR SIDE SETBA ET SIDE SETBAC RD			5' 10'
D IOR SIDE SETBA ET SIDE SETBAC RD YARD:			5' 10'
D IOR SIDE SETBACET SIDE SETBACE RD YARD: MENT DATA:	CK:		5' 10' 30'
IOR SIDE SETBACE T SIDE SETBACE RD YARD: MENT DATA: L SITE AREA	CK:		5' 10' 30' ±31.6 ACRES
DIOR SIDE SETBACET SIDE SETBACET SIDE SETBACET SIDE SETBACET SETBACET SETBACET SETBACET SETBACET SITE AREA	CK:		±31.6 ACRES 21721242 L2 M50-994 SINGLE FAMILY RESIDENTIAL
IOR SIDE SETBACE T SIDE SETBACE TYARD: MENT DATA: SITE AREA PARCEL NUMBER DESCRIPTION	CK:		±31.6 ACRES 21721242 L2 M50-994
IOR SIDE SETBACE T SI	CK:		±31.6 ACRES 21721242 L2 M50-994 SINGLE FAMILY RESIDENTIAL
IOR SIDE SETBACE T SIDE SETBACE RD YARD: MENT DATA: SITE AREA PARCEL NUMBER DESCRIPTION USE FLOOD PANEL	CK:		±31.6 ACRES 21721242 L2 M50-994 SINGLE FAMILY RESIDENTIAL
IOR SIDE SETBACE T SIDE SETBACE T SIDE SETBACE TYARD:  MENT DATA:  SITE AREA PARCEL NUMBER DESCRIPTION USE FLOOD PANEL  ATA:	CK:		5' 10' 30' ±31.6 ACRES 21721242 L2 M50-994 SINGLE FAMILY RESIDENTIAL 3710349900J
IOR SIDE SETBACE T SIDE SETBACE RD YARD: MENT DATA: SITE AREA PARCEL NUMBER DESCRIPTION USE FLOOD PANEL ATA: IG DISTRICT	CK:		5' 10' 30'  ±31.6 ACRES 21721242 L2 M50-994 SINGLE FAMILY RESIDENTIAL 3710349900J
IOR SIDE SETBACE TO SIDE SETBACE TO SIDE SETBACE TO SIDE SETBACE TO SITE AREA PARCEL NUMBER DESCRIPTION USE FLOOD PANEL TO SIZE TO SIZE	CK:		5' 10' 30'  ±31.6 ACRES 21721242 L2 M50-994 SINGLE FAMILY RESIDENTIAL 3710349900J  R5 6000 SF
	86.23 1038.76 112.71 58.30 156.93 52.03 49.96 208.35	86.23 N77°03 1038.76 N82°00 112.71 S7°59' 58.30 S49°12 156.93 N86°03 52.03 N86°03 49.96 S11°43 208.35 S11°43	86.23 N77°03'42.67"W 1038.76 N82°00'52.24"E 112.71 S7°59'07.76"E 58.30 S49°12'07.76"E 156.93 N86°03'15.28"E 52.03 N86°03'15.28"E 49.96 S11°43'33.92"E 208.35 S11°43'33.92"E  SITE ANALYSIS

OVERAL RHINEHILL - PHASE IV TRACT 2, 3 AND 4 STEELE CREEK TWSP K COUNTY, NORTH CAROLINA

Horn

Kimley

CAR KESSIG BEAL 032640

NONE ET SE

NOT FOR CONSTRUCTION

SITE

5.53 AC

5.63 AC

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160 Know what's below.

11-22-2016 PROJECT NO. 012826016 SHEET NUMBER

