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DEVELOPMENT DATA:

DEVELOPMENT AREA – 16.00 AC.
PERMITTED DENSITY (@ 17 UNITS/AC.) = 272 UNITS
PROPOSED DENSITY 168 UNITS = 10.5 UNITS/AC.

BUILDING COVERAGE – 81,342 S.F.± (11.7%)
3 X 23,199 S.F. = 69,597 S.F.±
+ CLUBHOUSE = 9,662 S.F.±
+ POOL HOUSE = 830 S.F.±
+ MAINTENANCE = 1253 S.F.±

TOTAL HEATED GROSS FLOOR AREA – 290,133 S.F.± GFA
(APPROX. 23,199 S.F./FLOOR X 12 +
9,662 S.F. FOR CLUBHOUSE)
1,253 S.F. FOR MAINT. BLDG
830 S.F. FOR POOL HOUSE

TOTAL BEDROOMS – 528
48 X 2 BR = 96 BR
48 X 3 BR = 144 BR
72 X 4 BR = 288 BR

MAX. BLDG. HGT. – 4–STORY / 54'–6" MAX.
ADD'L. SETBACKS FOR HGT. OVER 35' = +12'

PARKING –
48 – 2 BR UNITS X 2.00 MIN. SP./UNIT = 96
48 – 3 BR UNITS X 2.25 MIN. SP./UNIT = 108
72 – 4 BR UNITS X 3.00 MIN. SP./UNIT = 216
9,662 S.F. CLUBHOUSE @ 1 MIN. SP./400 S.F. = 25
MINIMUM TOTAL SPACES REQ'D. = 445
168 UNITS X 2.5 MAX. SP./UNIT = 420
9,662 S.F. CLUBHOUSE @ 1 MAX. SP./200 S.F. = 49
MAXIMUM TOTAL SPACES PREMIT'D. = 469
** 528 TOTAL SPACES PROV'D. (17 H/C) **
(MIN. 50% AVERAGE REQ'D. TO BE POROUS = 47/MIN.
70 SPACES ARE DESIGNATED AS POROUS)
BIKE PARKING REQ'D = 25 MIN.
BIKE PARKING PROV'D = 50

DEVELOPMENT DATA (CONTINUED):

IMPERVIOUS SURFACES –

ROOFTOPS –	92,877 S.F.
PAVEMENT –	214,746 S.F.
WALKS & POOL PATIO –	55,424 S.F.
TOTAL:	363,047 S.F. (52.0%)

OPEN SPACE – (MIN. 35% REQ'D.)
16.00 AC. X 35% = 5.60 AC. (243,936 S.F.)
** 270,790 S.F. (38.8%) OPEN SPACE PROV'D. **

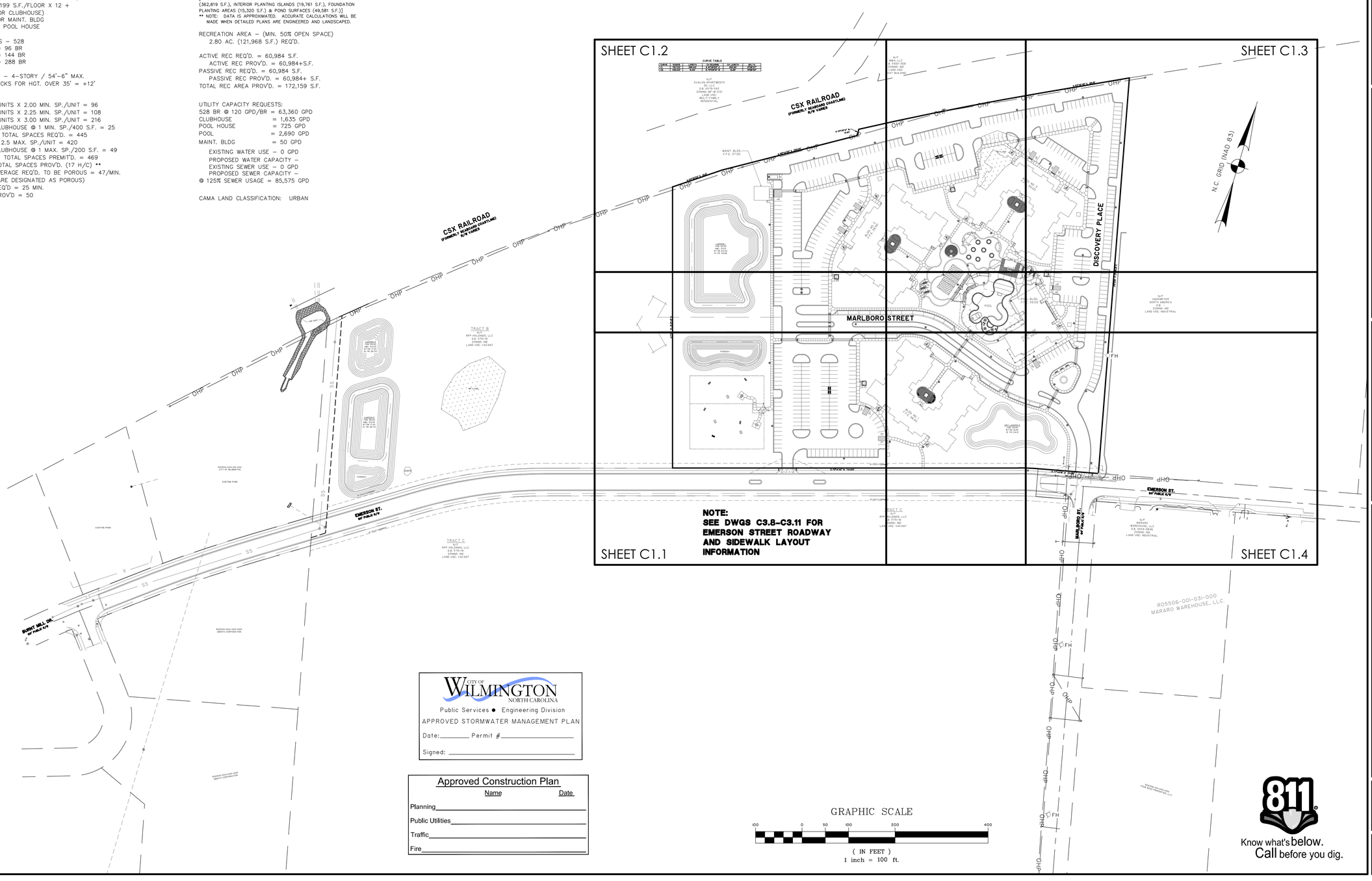
[AREA PROV'D. IS TOTAL TRACT AREA MINUS COVERED SURFACES (362,819 S.F.), INTERIOR PLANTING ISLANDS (19,761 S.F.), FOUNDATION PLANTING AREAS (15,320 S.F.) & POND SURFACES (49,581 S.F.)]
** NOTE: DATA IS APPROXIMATED. ACCURATE CALCULATIONS WILL BE MADE WHEN DETAILED PLANS ARE ENGINEERED AND LANDSCAPED.

RECREATION AREA – (MIN. 50% OPEN SPACE)
2.80 AC. (121,968 S.F.) REQ'D.

ACTIVE REC REQ'D. = 60,984 S.F.
ACTIVE REC PROV'D. = 60,984+S.F.
PASSIVE REC REQ'D. = 60,984 S.F.
PASSIVE REC PROV'D. = 60,984+ S.F.
TOTAL REC AREA PROV'D. = 172,159 S.F.

UTILITY CAPACITY REQUESTS:
528 BR @ 120 GPD/BR = 63,360 GPD
CLUBHOUSE = 1,635 GPD
POOL HOUSE = 725 GPD
POOL = 2,690 GPD
MAINT. BLDG = 50 GPD
EXISTING WATER USE – 0 GPD
PROPOSED WATER CAPACITY –
EXISTING SEWER USE – 0 GPD
PROPOSED SEWER CAPACITY –
@ 125% SEWER USE = 85,575 GPD

CAMA LAND CLASSIFICATION: URBAN



CITY OF WILMINGTON NORTH CAROLINA
Public Services ● Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date:_____ Permit #_____
Signed: _____

Approved Construction Plan

	Name	Date
Planning		
Public Utilities		
Traffic		
Fire		

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

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PROGRESS910
4055 EMERSON STREET
CITY OF WILMINGTON, NORTH CAROLINA

PROGRESS BUILDERS, LLC

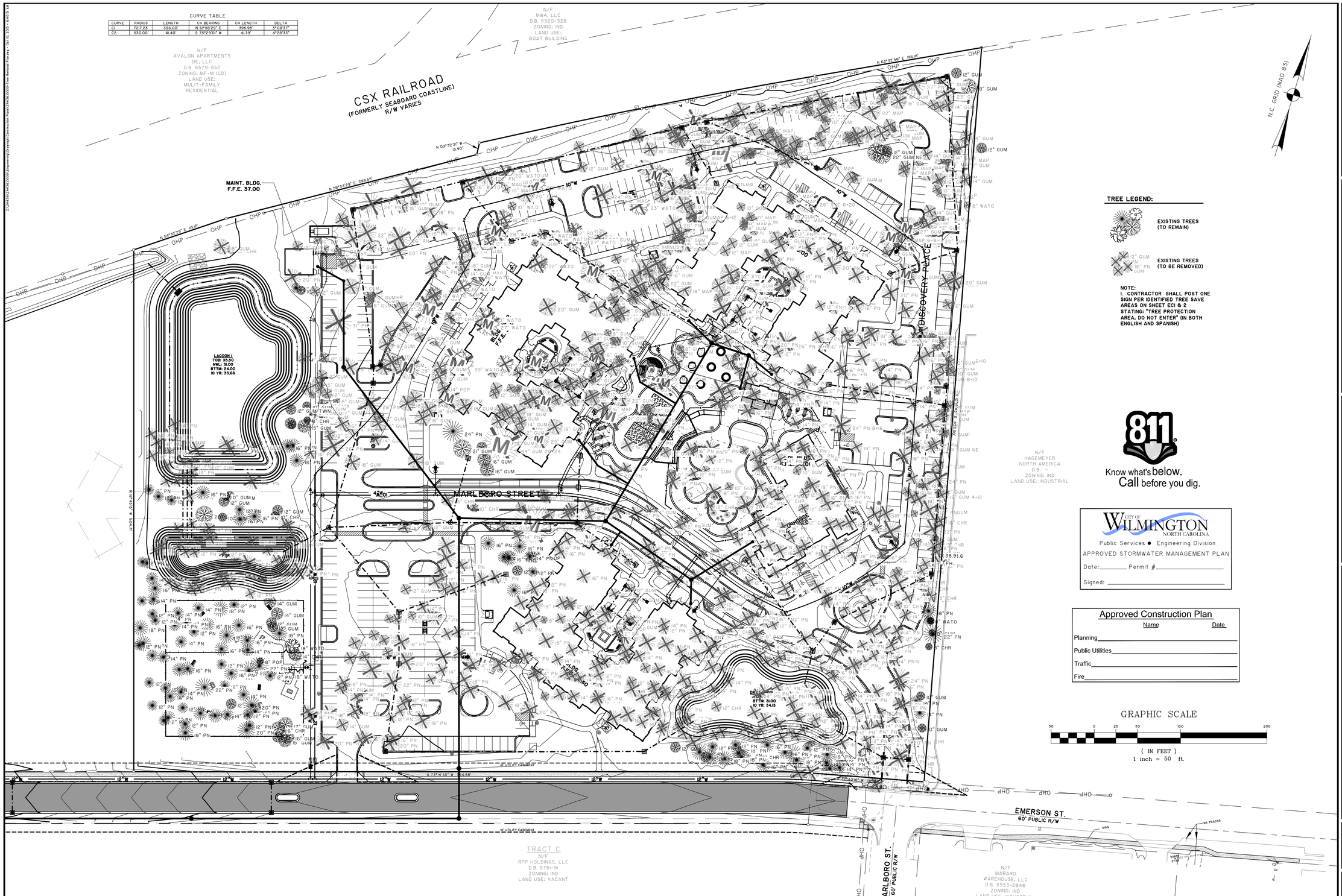
SITE LAYOUT SHEET INDEX

JOB NO:	J-24436.0000
DATE:	9/24/13
DRAWN:	JBJ
DESIGNED:	SKM
REVIEWED:	JDR
APPROVED:	JDR
SCALE:	1" = 100'

C1.0

CURVE TABLE

CURVE	RADIUS	LENGTH	CH BEARING	CH LENGTH	DELTA
C1	7217.23'	396.00'	N 6°58'29" E	395.95'	3°08'37"
C2	530.00'	41.40'	S 75°29'01" W	41.39'	4°28'33"



TREE LEGEND:

EXISTING TREES (TO REMAIN)

EXISTING TREES (TO BE REMOVED)

NOTE:
1. CONTRACTOR SHALL POST ONE SIGN PER IDENTIFIED TREE SAVE AREAS ON SHEET ECI & 2 STATING: "TREE PROTECTION AREA, DO NOT ENTER" (IN BOTH ENGLISH AND SPANISH)

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Planning		
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Fire		

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft.

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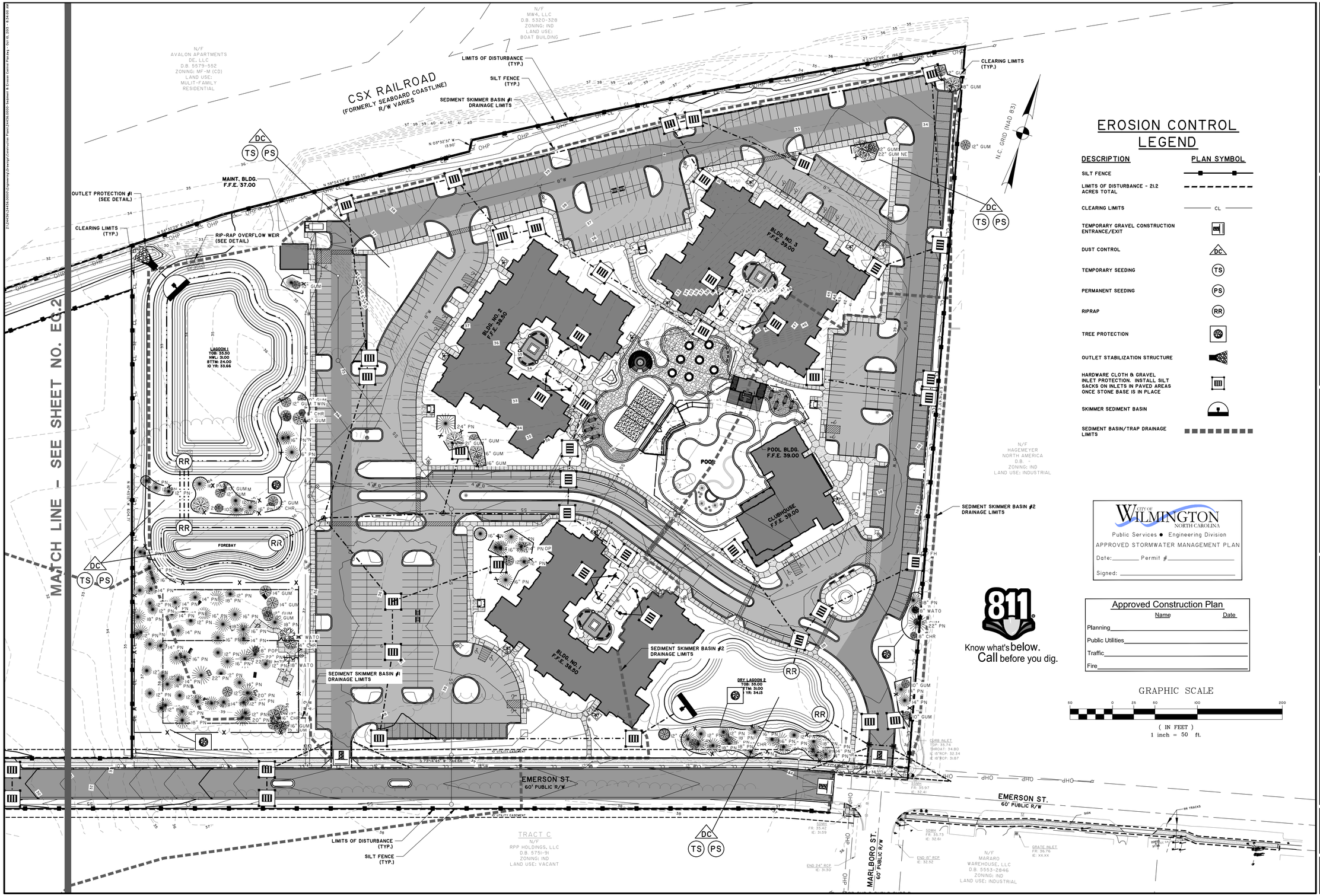
CITY OF WILMINGTON, NORTH CAROLINA

PROGRESS BUILDERS, LLC

TREE REMOVAL PLAN

JOB NO:	J-24436.0000
DATE:	9/24/13
DRAWN:	JBJ
DESIGNED:	SKM
REVIEWED:	JDR
APPROVED:	JDR
SCALE:	1" = 50'

G2.3



EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
SILT FENCE	
LIMITS OF DISTURBANCE - 21.2 ACRES TOTAL	
CLEARING LIMITS	CL
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT	
DUST CONTROL	DC
TEMPORARY SEEDING	TS
PERMANENT SEEDING	PS
RIPRAP	RR
TREE PROTECTION	
OUTLET STABILIZATION STRUCTURE	
HARDWARE CLOTH & GRAVEL INLET PROTECTION. INSTALL SILT SACKS ON INLETS IN PAVED AREAS ONCE STONE BASE IS IN PLACE	
SKIMMER SEDIMENT BASIN	
SEDIMENT BASIN/TRAP DRAINAGE LIMITS	

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SEDIMENT & EROSION CONTROL PLAN

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SCALE:	1" = 50'

EC.1

I. GENERAL NOTES

1. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN CASE MORE THAN FOURTEEN (14) DAYS AFTER WORK HAS CEASED, UNLESS ACTIVITY IN THAT PORTION OF THE SITE WILL RESUME WITHIN TWENTY-ONE (21) DAYS.
2. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED EVERY SEVEN (7) DAYS OR AFTER EACH RAINFALL OCCURRENCE THAT EXCEEDS ONE-HALF (0.5) INCH. DAMAGED OR INEFFECTIVE DEVICES SHALL BE REPAIRED OR REPLACED, AS NECESSARY.
3. PROVIDE SILT FENCE AND/OR OTHER CONTROL DEVICES, AS MAY BE REQUIRED, TO CONTROL SOIL EROSION DURING UTILITY CONSTRUCTION. ALL DISTURBED AREAS SHALL BE CLEANED, GRADED AND STABILIZED WITH GRASSING IMMEDIATELY AFTER THE UTILITY INSTALLATION.
4. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.
5. THE CONTRACTOR MUST TAKE NECESSARY ACTION TO MINIMIZE THE TRACKING OF MUD ONTO THE PAVED ROADWAY FROM CONSTRUCTION AREAS. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT AS MAY BE REQUIRED.
6. THE FOLLOWING NOTES ARE SPECIFIED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES (DENR) AND ARE TO BE EXECUTED BY THE CONTRACTOR.
   - A. ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-YEAR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.
   - B. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED, UNLESS ACTIVITY IN THAT PORTION OF THE SITE WILL RESUME WITHIN 21 DAYS.
7. ADDITIONAL MEASURES TO CONTROL EROSION AND SEDIMENT MAY BE REQUIRED BY THE CITY, PROJECT ENGINEER AND/OR NCDENR.
8. ANY GRADING BEYOND WHAT IS DEPICTED IN THE APPROVED AND PERMITTED PLANS IS A VIOLATION OF THE STATE'S EROSION CONTROL AND GRADING REQUIREMENTS AND MAY BE SUBJECT TO A FINE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PAYMENT OF ALL FINES DUE TO VIOLATIONS.
9. GRADING MORE THAN ONE ACRE WITHOUT AN APPROVED EROSION CONTROL PLAN IS A VIOLATION OF SEDIMENT POLLUTION CONTROL ACT AND MAY BE SUBJECT TO A FINE.
10. ALL OFF SITE BORROW MUST COME FROM A STATE APPROVED SOURCE. CONTRACTOR TO SUBMIT WRITTEN DOCUMENTATION IDENTIFYING SOURCE.
11. ALL SURPLUS MATERIAL AND DEMOLITION DEBRIS SHALL BE HAULED OFF SITE TO AN APPROVED WASTE SITE. CONTRACTOR TO SUBMIT WRITTEN DOCUMENTATION IDENTIFYING APPROVED WASTE SITE.

II. CONSTRUCTION SEQUENCE

1. INSTALL GRAVEL CONSTRUCTION ENTRANCE/EXIT, SILT FENCING, TREE PROTECTION AND TEMPORARY DITCH PLUG.
2. CLEARING AND GRUBBING.
3. CONSTRUCT SEDIMENT BASIN AND TRAPS.
4. INSTALL REMAINING DRAINAGE CONVEYANCES AND EROSION CONTROL.
5. SITE ROUGH GRADING & INFRASTRUCTURE.
6. BEGIN BUILDING CONSTRUCTION CONCURRENTLY WITH PARKING LOT CONSTRUCTION.
7. SIDEWALKS AND PAVING. INSTALL SILT SACKS ON INLETS WITHIN PAVED AREAS ONCE STONE BASE IS IN PLACE.
8. FINAL GRASSING & STABILIZATION.
9. RESTORE DRAINAGE CONVEYANCES TO DESIGN SPECIFICATIONS, CONVERT SEDIMENT BASINS TO PERMANENT WATER QUALITY/QUANTITY PONDS AND REMOVE TEMPORARY EROSION CONTROL MEASURE ONCE SITE IS PERMANENTLY STABILIZED.

III. MAINTENANCE PLAN

1. ALL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CHECKED 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 TO MAINTAIN ALL PRACTICES AS DESIGNED.
2. ALL CONSTRUCTION ENTRANCES WILL BE PERIODICALLY TOP-DRESSED WITH AN ADDITIONAL TWO (2) INCHES OF #4 STONE TO MAINTAIN PROPER DEPTH. ANY SEDIMENT THAT IS TRACKED INTO THE STREET WILL BE IMMEDIATELY REMOVED.
3. SEDIMENT WILL BE REMOVED FROM THE SEDIMENT TRAPS AND BASINS WHEN STORAGE CAPACITY HAS BEEN APPROXIMATELY 50% FILLED. GRAVEL WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS PROPERLY.
4. SEDIMENT WILL BE REMOVED FROM BEHIND THE SEDIMENT FENCE WHEN IT BECOMES 0.5 FEET DEEP AT THE FENCE. THE SEDIMENT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER. SILT FENCE STAKES WILL BE SPACED 6 FEET APART UNLESS A WIRE BACKING IS USED WITH 8 FOOT STAKE SPACING.
5. ALL SEEDED AREAS WILL BE FERTILIZED, RESEEDED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE COVER.
6. SEDIMENT, STRAW, LIMBS OR OTHER DEBRIS WILL BE REMOVED FROM THE CHECK DAMS TO PREVENT CLOGGING. STONES WILL BE ADDED AS NECESSARY TO MAINTAIN DESIGN HEIGHT AND CROSS SECTION.
7. SILT SACKS MUST BE INSPECTED ONCE A WEEK AND AFTER EVERY RAINFALL. REMOVE SEDIMENT BUILD UP AFTER EACH INSPECTION OR AT THE INTERVAL SPECIFIED BY THE MANUFACTURER, WHICH EVER IS MORE RESTRICTIVE.

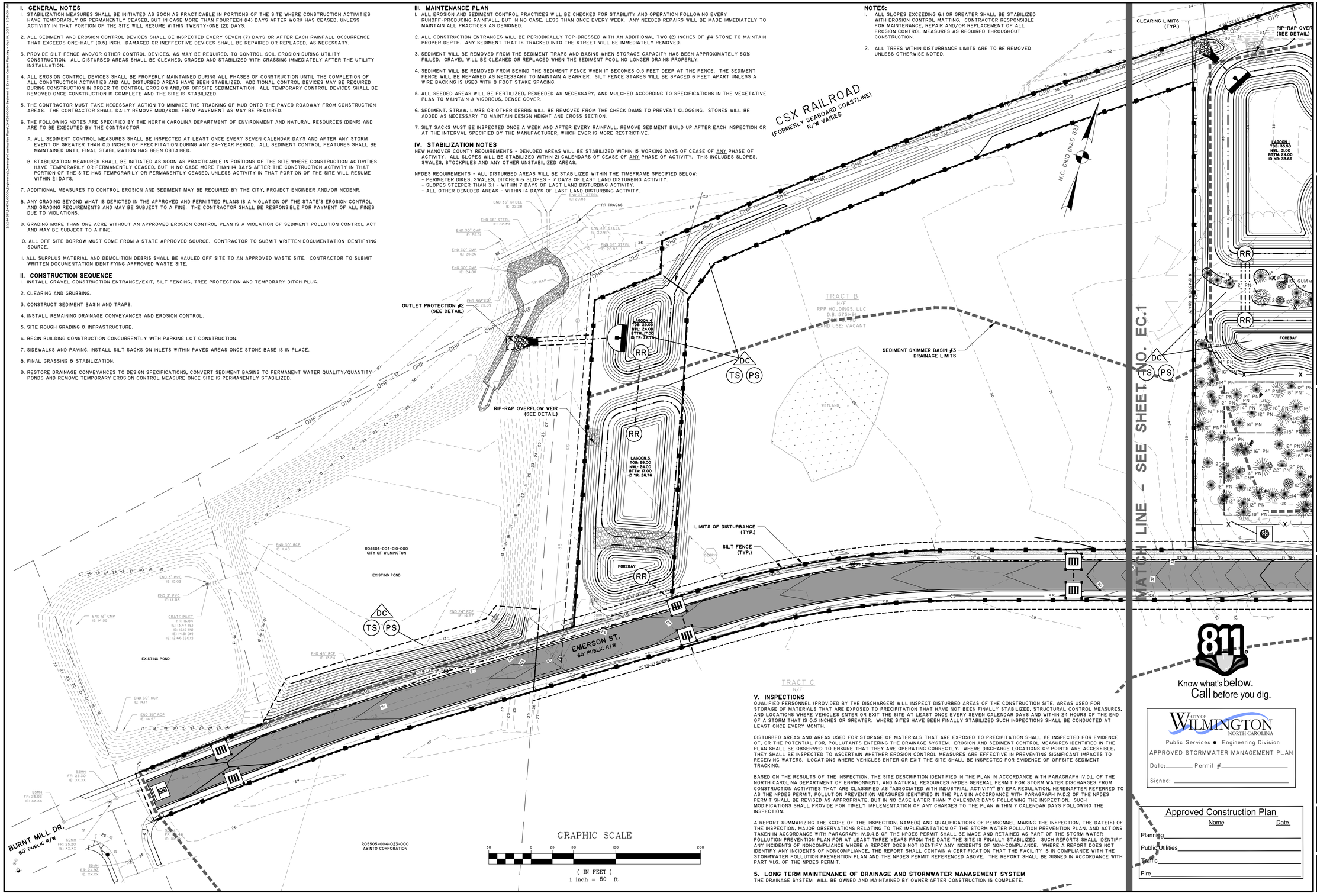
IV. STABILIZATION NOTES

NEW HANOVER COUNTY REQUIREMENTS - DENUDED AREAS WILL BE STABILIZED WITHIN 15 WORKING DAYS OF CEASE OF ANY PHASE OF ACTIVITY. ALL SLOPES WILL BE STABILIZED WITHIN 21 CALENDARS OF CEASE OF ANY PHASE OF ACTIVITY. THIS INCLUDES SLOPES, SWALES, STOCKPILES AND ANY OTHER UNSTABILIZED AREAS.

NPDES REQUIREMENTS - ALL DISTURBED AREAS WILL BE STABILIZED WITHIN THE TIMEFRAME SPECIFIED BELOW:
- PERIMETER DIKES, SWALES, DITCHES & SLOPES - 7 DAYS OF LAST LAND DISTURBING ACTIVITY.
- SLOPES STEEPER THAN 3:1 - WITHIN 7 DAYS OF LAST LAND DISTURBING ACTIVITY.
- ALL OTHER DENUDED AREAS - WITHIN 14 DAYS OF LAST LAND DISTURBING ACTIVITY.

NOTES:

1. ALL SLOPES EXCEEDING 6:1 OR GREATER SHALL BE STABILIZED WITH EROSION CONTROL MATTING. CONTRACTOR RESPONSIBLE FOR MAINTENANCE, REPAIR AND/OR REPLACEMENT OF ALL EROSION CONTROL MEASURES AS REQUIRED THROUGHOUT CONSTRUCTION.
2. ALL TREES WITHIN DISTURBANCE LIMITS ARE TO BE REMOVED UNLESS OTHERWISE NOTED.



V. INSPECTIONS

QUALIFIED PERSONNEL (PROVIDED BY THE DISCHARGER) WILL INSPECT DISTURBED AREAS OF THE CONSTRUCTION SITE, AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION THAT HAVE NOT BEEN FINALLY STABILIZED, STRUCTURAL CONTROL MEASURES, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES OR GREATER. WHERE SITES HAVE BEEN FINALLY STABILIZED SUCH INSPECTIONS SHALL BE CONDUCTED AT LEAST ONCE EVERY MONTH.

DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM. EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. WHERE DISCHARGE LOCATIONS OR POINTS ARE ACCESSIBLE, THEY SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATERS. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFFSITE SEDIMENT TRACKING.

BASED ON THE RESULTS OF THE INSPECTION, THE SITE DESCRIPTION IDENTIFIED IN THE PLAN IN ACCORDANCE WITH PARAGRAPH IV.D.L OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT, AND NATURAL RESOURCES NPDES GENERAL PERMIT FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES THAT ARE CLASSIFIED AS "ASSOCIATED WITH INDUSTRIAL ACTIVITY" BY EPA REGULATION, HEREINAFTER REFERRED TO AS THE NPDES PERMIT, POLLUTION PREVENTION MEASURES IDENTIFIED IN THE PLAN IN ACCORDANCE WITH PARAGRAPH IV.D.2 OF THE NPDES PERMIT SHALL BE REVISED AS APPROPRIATE, BUT IN NO CASE LATER THAN 7 CALENDAR DAYS FOLLOWING THE INSPECTION. SUCH MODIFICATIONS SHALL PROVIDE FOR TIMELY IMPLEMENTATION OF ANY CHANGES TO THE PLAN WITHIN 7 CALENDAR DAYS FOLLOWING THE INSPECTION.

A REPORT SUMMARIZING THE SCOPE OF THE INSPECTION, NAME(S) AND QUALIFICATIONS OF PERSONNEL MAKING THE INSPECTION, THE DATE(S) OF THE INSPECTION, MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE STORM WATER POLLUTION PREVENTION PLAN, AND ACTIONS TAKEN IN ACCORDANCE WITH PARAGRAPH IV.D.4.B OF THE NPDES PERMIT SHALL BE MADE AND RETAINED AS PART OF THE STORM WATER POLLUTION PREVENTION PLAN FOR AT LEAST THREE YEARS FROM THE DATE THE SITE IS FINALLY STABILIZED. SUCH REPORTS SHALL IDENTIFY ANY INCIDENTS OF NONCOMPLIANCE WHERE A REPORT DOES NOT IDENTIFY ANY INCIDENTS OF NON-COMPLIANCE. WHERE A REPORT DOES NOT IDENTIFY ANY INCIDENTS OF NONCOMPLIANCE, THE REPORT SHALL CONTAIN A CERTIFICATION THAT THE FACILITY IS IN COMPLIANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN AND THE NPDES PERMIT REFERENCED ABOVE. THE REPORT SHALL BE SIGNED IN ACCORDANCE WITH PART VI.G. OF THE NPDES PERMIT.

5. LONG TERM MAINTENANCE OF DRAINAGE AND STORMWATER MANAGEMENT SYSTEM

THE DRAINAGE SYSTEM WILL BE OWNED AND MAINTAINED BY OWNER AFTER CONSTRUCTION IS COMPLETE.

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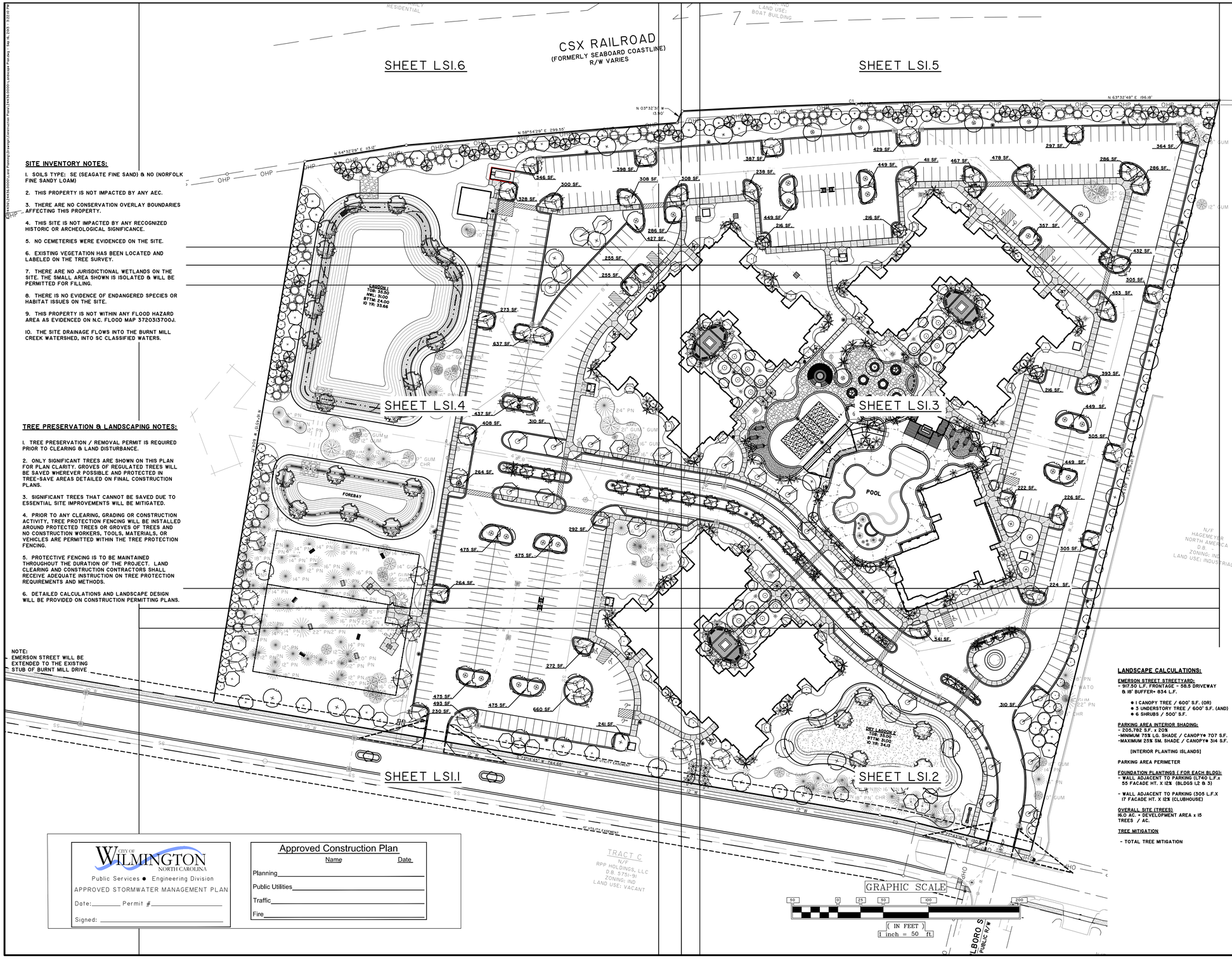

SITE INVENTORY NOTES:

1. SOILS TYPE: SE (SEAGATE FINE SAND) & NO (NORFOLK FINE SANDY LOAM)
2. THIS PROPERTY IS NOT IMPACTED BY ANY AEC.
3. THERE ARE NO CONSERVATION OVERLAY BOUNDARIES AFFECTING THIS PROPERTY.
4. THIS SITE IS NOT IMPACTED BY ANY RECOGNIZED HISTORIC OR ARCHEOLOGICAL SIGNIFICANCE.
5. NO CEMETERIES WERE EVIDENCED ON THE SITE.
6. EXISTING VEGETATION HAS BEEN LOCATED AND LABELED ON THE TREE SURVEY.
7. THERE ARE NO JURISDICTIONAL WETLANDS ON THE SITE. THE SMALL AREA SHOWN IS ISOLATED & WILL BE PERMITTED FOR FILLING.
8. THERE IS NO EVIDENCE OF ENDANGERED SPECIES OR HABITAT ISSUES ON THE SITE.
9. THIS PROPERTY IS NOT WITHIN ANY FLOOD HAZARD AREA AS EVIDENCED ON N.C. FLOOD MAP 3720313700J.
10. THE SITE DRAINAGE FLOWS INTO THE BURNT MILL CREEK WATERSHED, INTO SC CLASSIFIED WATERS.

TREE PRESERVATION & LANDSCAPING NOTES:

1. TREE PRESERVATION / REMOVAL PERMIT IS REQUIRED PRIOR TO CLEARING & LAND DISTURBANCE.
2. ONLY SIGNIFICANT TREES ARE SHOWN ON THIS PLAN FOR PLAN CLARITY. GROVES OF REGULATED TREES WILL BE SAVED WHEREVER POSSIBLE AND PROTECTED IN TREE-SAVE AREAS DETAILED ON FINAL CONSTRUCTION PLANS.
3. SIGNIFICANT TREES THAT CANNOT BE SAVED DUE TO ESSENTIAL SITE IMPROVEMENTS WILL BE MITIGATED.
4. PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES AND NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
5. PROTECTIVE FENCING IS TO BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT. LAND CLEARING AND CONSTRUCTION CONTRACTORS SHALL RECEIVE ADEQUATE INSTRUCTION ON TREE PROTECTION REQUIREMENTS AND METHODS.
6. DETAILED CALCULATIONS AND LANDSCAPE DESIGN WILL BE PROVIDED ON CONSTRUCTION PERMITTING PLANS.

NOTE:
EMERSON STREET WILL BE EXTENDED TO THE EXISTING STUB OF BURNT MILL DRIVE

LANDSCAPE CALCULATIONS:

	REQUIRED	PROVIDED
EMERSON STREET STREETYARD: - 917.50 L.F. FRONTAGE - 58.5 DRIVEWAY & 18' BUFFER= 834 L.F.	15,012 S.F.	15,012 S.F.
● 1 CANOPY TREE / 600' S.F. (OR)	25.1 TREES	39 TREES (19 PRESERVED & 20 PLANTED)
● 3 UNDERSTORY TREE / 600' S.F. (AND)	(N/A) U-TREES	(N/A) U-TREES
● 6 SHRUBS / 500' S.F.	180.1 SHRUBS	227 SHRUBS
PARKING AREA INTERIOR SHADING:	REQUIRED	PROVIDED
- 205,782 S.F. x 20%	41,156 S.F.	48,783 S.F.
-MINIMUM 75% LG. SHADE / CANOPY● 707 S.F.	50.2 TREES	69 TREES
-MAXIMUM 25% SM. SHADE / CANOPY● 314 S.F.	0 U-TREES	
(INTERIOR PLANTING ISLANDS)		38,260 S.F.
PARKING AREA PERIMETER	N/A	N/A
FOUNDATION PLANTINGS (FOR EACH BLDG):	REQUIRED	PROVIDED
- WALL ADJACENT TO PARKING (1,740 L.F.x 55 FACADE HT. X 12% (BLDGS 1,2 & 3)	11,484 S.F.	13,920 S.F.
- WALL ADJACENT TO PARKING (305 L.F.X 17 FACADE HT. X 12% (CLUBHOUSE)	623 S.F.	1,400 S.F.
OVERALL SITE (TREES) 16.0 AC. + DEVELOPMENT AREA x 15 TREES / AC.	240 TREES	628 TREES (95 PRESERVED + 533 PLANTED)
TREE MITIGATION		
- TOTAL TREE MITIGATION	502.2 INCHES	869 INCHES

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Planning		
Public Utilities		
Traffic		
Fire		

811 Know what's below. Call before you dig.

Preliminary
Not for Construction

NO.	REVISIONS	BY	DATE

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PROGRESS910
4055 EMERSON STREET
CITY OF WILMINGTON, NORTH CAROLINA

PROGRESS BUILDERS, LLC

LANDSCAPE SHEET INDEX, NOTES & MITIGATION

JOB NO:	J-24436.0000
DATE:	9/24/13
DRAWN:	JLG
DESIGNED:	JLG
REVIEWED:	BHB
APPROVED:	JDR
SCALE:	1" = 50'

LG1.1

All Regulated Trees to be Removed (Includes Significant Trees as well)	Size																														
Species	1	4	6	8	10	11	12	13	14	15	16	17	18	20	21	22	23	24	25	26	27	28	30	31	33	35	39	41	44	48	(blank)	Grand Total
CHR				4	13		8	1	1	2	2		1																1			33
CYP																														1		1
DW					1																											1
ELM											1																					1
GUM	1			37	49	1	98	3	38	7	35	1	45	13	1	7	5	1	3	1	1	2		1				1	1			352
LAO					2				1																							3
LO							1																									1
MAG		3	4	1	2		2														1											13
MAP			1	6	20		10		9	1	6		4			2				1		1				1						62
MUL													1																			1
OAK				1																												1
PEC							1																									1
PN							101		142	4	113		92	34	1	10		5	1	5	1	1	1	1	1							513
POP					1		1		2	1				1																		6
RO							2				1			1																		4
SYC																1				1				1								3
WATO				1			1		2		5		2	2		1	2			1	2	2					1					22
WILO					1						1											1										3
(blank)																																
Grand Total	**1**	**3**	**5**	**50**	**89**	**1**	**225**	**4**	**195**	**15**	**164**	**1**	**145**	**51**	**2**	**21**	**7**	**6**	**4**	**9**	**5**	**7**	**1**	**3**	**1**	**1**	**1**	**1**	**2**	**1**		**1021**

Count of Significant Hardwoods to be Removed (24" and greater)

Row Labels \ Column Labels	24	25	26	27	28	31	35	39	41	44	48	Grand Total
CHR										1		1
CYP											1	1
GUM	1	3	1	1	2	1			1	1		11
MAP			1		1		1					3
SYC			1			1						2
WATO			1	2	2			1				6
WILO					1							1
Grand Total	**1**	**3**	**4**	**3**	**6**	**2**	**1**	**1**	**1**	**2**	**1**	**25**

Mitigation required for removal of Significant Hardwoods (24" and greater)	Caliper Inches													
Row Labels	24	25	26	27	28	31	35	39	41	44	48	Sub-Total	Mitigation % required	Inches of Mitigation required ((Sub - Total * % Mit. Req. * 2 / 3)
CHR										44		44	50%	14.7
CYP											48	48	100%	32
GUM	24	75	26	27	56	31			41	44		324	75%	162.0
MAP			26		28		35					89	100%	59.3
SYC			26			31						57	75%	28.5
WATO			26	54	56			39				175	100%	116.7
WILO					28							28	100%	18.7
Sub-Total	**24**	**75**	**104**	**81**	**168**	**62**	**35**	**39**	**41**	**88**	**48**	**765**		**431.8**

Count of Significant Pines (32" of greater)to be removed

Row Labels \ Column Labels	33	Grand Total
PN	1	1
Grand Total	**1**	**1**

Mitigation required for removal of Significant Pines (32" and greater)	Caliper Inches			
Row Labels	33	Sub - Total	Mitigation % required	Inches of Mitigation required ((Sub - Total * % Mit. Req.)*2 / 3)
PN	33	33	50%	11
Sub - Total	**33**	**33**		**11**

Count of Significant Small Flowering Trees to be Removed (8" and greater)

Row Labels \ Column Labels	8	10	12	27	Grand Total
DW		1			1
MAG	1	2	2	1	6
Grand Total	**1**	**3**	**2**	**1**	**7**

Mitigation required for removal of Significant Small Flowering Trees (8" and greater)	Caliper Inches						
Row Labels	8	10	12	27	Sub-Total	Mitigation % required	Inches of Mitigation required ((Sub - Total * % Mit. Req. * 2 / 3)
DW		10			10	100%	6.7
MAG	8	20	24	27	79	100%	52.7
Sub-Total	**8**	**30**	**24**	**27**	**89**		**59.3**

All Remaing Trees	Caliper Inches													
Row Labels	8	10	12	13	14	15	16	18	20	22	21	24	17	Grand Total
CHR	4	1	3		1		1							10
GUM	1	7	12	1	2	2	3	1	1	1	2		1	34
PN			30		23		27	15	3	4		1		103
POP	1		1				1							3
WATO	1							2						3
Grand Total	**7**	**8**	**46**	**1**	**26**	**2**	**32**	**18**	**4**	**5**	**2**	**1**	**1**	**153**

Significant Pine	11.0
Significant Hardwood	431.8
Significant Flowering Tree	59.3
Total Significant Tree Mitigation Required	**502.2**

Total Regulated Trees removed within area of disturbance necessary for essential site improvements (Exempt from mitigation)	**988**

Know what's below. Call before you dig.

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Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date:_____ Permit #_____
Signed: _____

Approved Construction Plan
Name Date
Planning_____
Public Utilities_____
Traffic_____
Fire_____

Preliminary
Not for Construction

NO.	REVISIONS	BY	DATE

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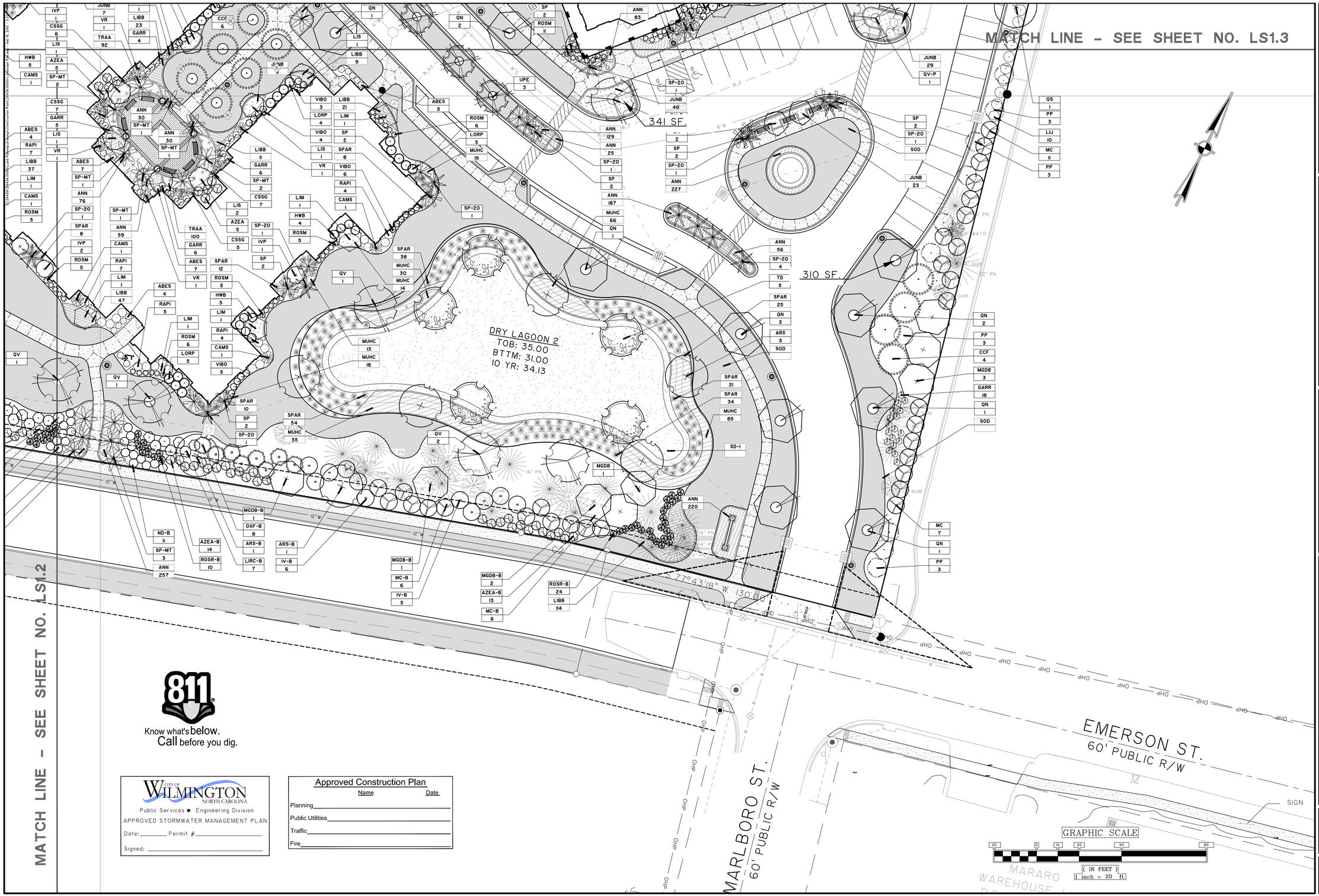
PROGRESS910
4055 EMERSON STREET
CITY OF WILMINGTON, NORTH CAROLINA

PROGRESS BUILDERS, LLC

TREE SUMMARY & MITIGATION CHARTS

JOB NO:	J-24436.0000
DATE:	9/24/13
DRAWN:	JLG
DESIGNED:	JLG
REVIEWED:	BHB
APPROVED:	JDR
SCALE:	N.T.S.

LG1.2



CITY OF WILMINGTON NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date:_____ Permit #_____
Signed: _____

Approved Construction Plan

	Name	Date
Planning		
Public Utilities		
Traffic		
Fire		

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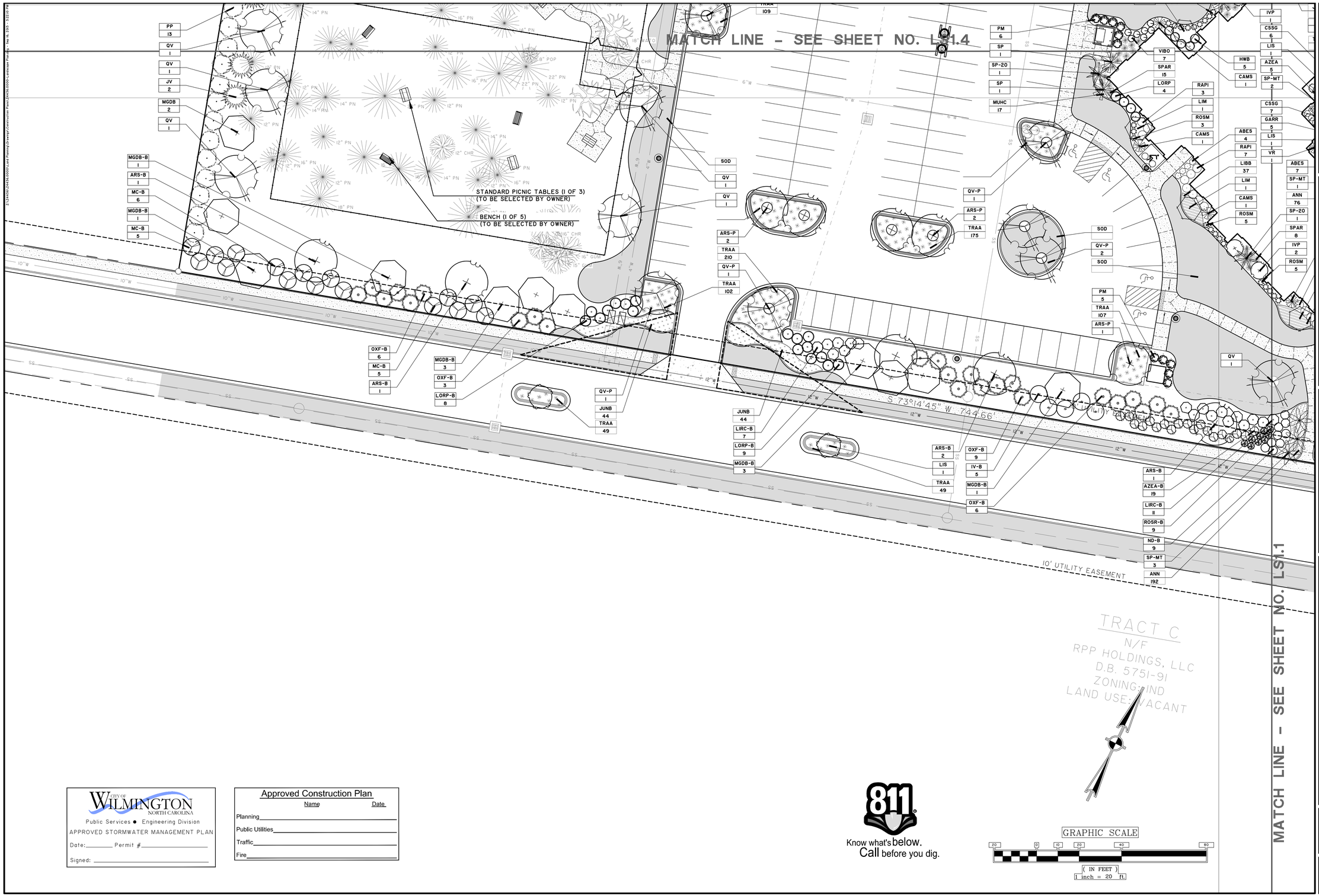
PROGRESS910
4055 EMERSON STREET
CITY OF WILMINGTON, NORTH CAROLINA

PROGRESS BUILDERS, LLC

LANDSCAPE PLAN

JOB NO:	J-24436.0000
DATE:	9/24/13
DRAWN:	JLG
DESIGNED:	JLG
REVIEWED:	BHB
APPROVED:	JDR
SCALE:	1" = 20'

LS1.1



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JOB NO:	J-24436.0000
DATE:	9/24/13
DRAWN:	JLG
DESIGNED:	JLG
REVIEWED:	BHB
APPROVED:	JDR
SCALE:	1" = 20.000'

LS1.2

CITY OF WILMINGTON NORTH CAROLINA
Public Services ● Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date:_____ Permit #_____
Signed: _____

Approved Construction Plan

	Name	Date
Planning		
Public Utilities		
Traffic		
Fire		

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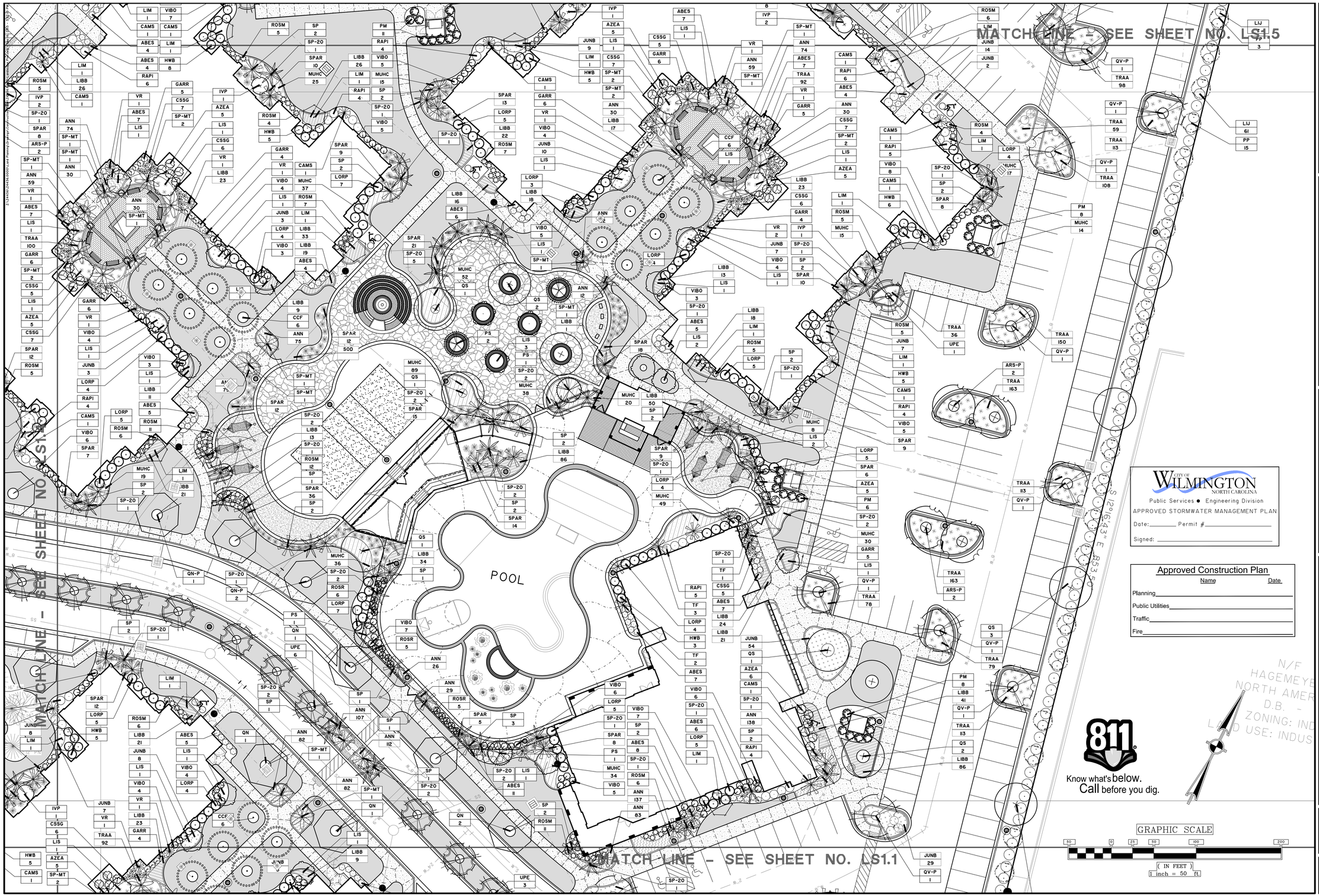

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Public Utilities		
Traffic		
Fire		

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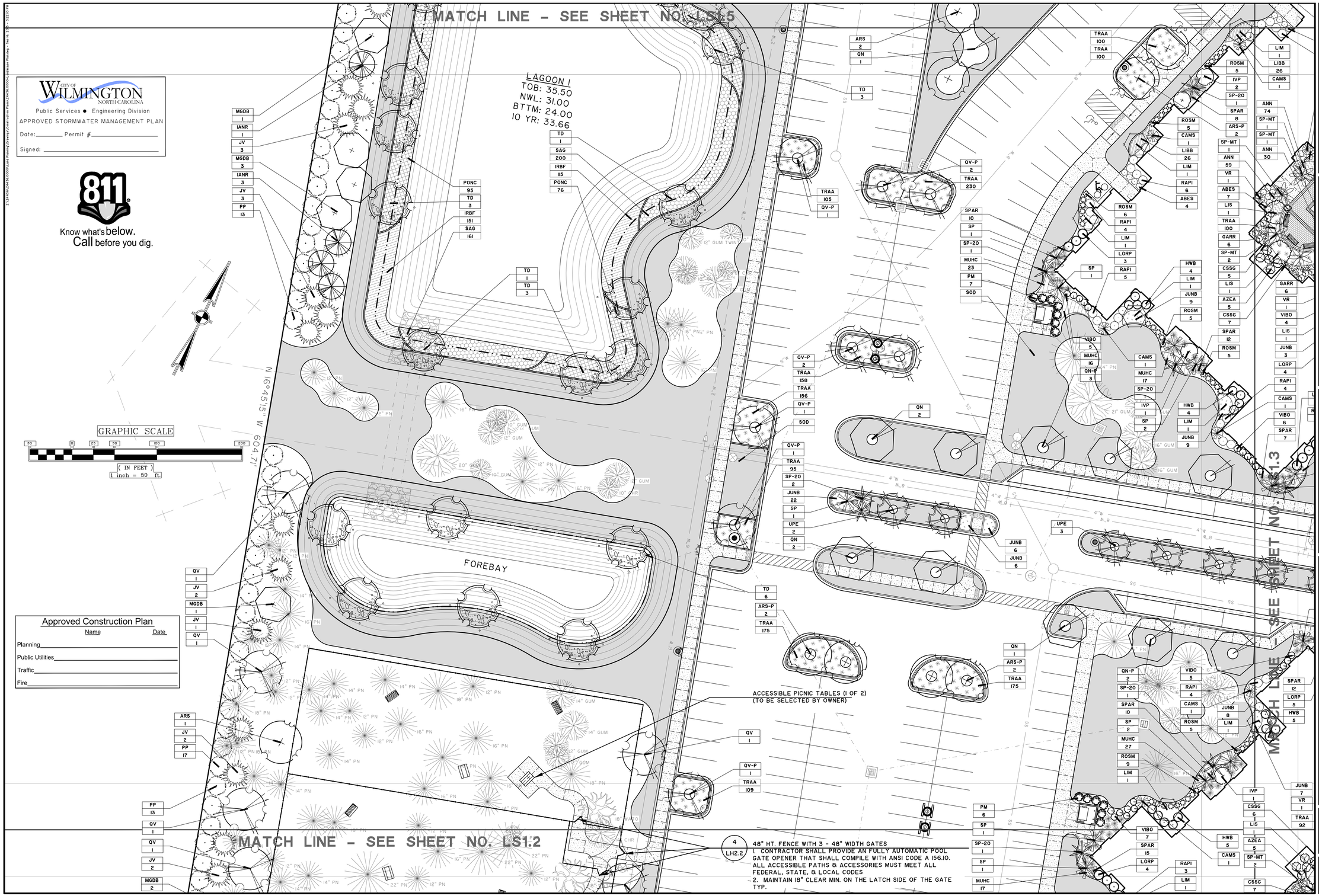
DATE:	9/24/13
DRAWN:	JLG
DESIGNED:	JLG
REVIEWED:	BHB
APPROVED:	JDR
SCALE:	1" = 20'

LS1.3



CITY OF WILMINGTON NORTH CAROLINA
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Signed: _____

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Planning		
Public Utilities		
Traffic		
Fire		

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4055 EMERSON STREET
CITY OF WILMINGTON, NORTH CAROLINA

PROGRESS BUILDERS, LLC

LANDSCAPE PLAN AND DOG PARK LAYOUT AND CALLOUT

JOB NO:	J-24436.0000
DATE:	9/24/13
DRAWN:	JLG
DESIGNED:	JLG
REVIEWED:	BHB
APPROVED:	JDR
SCALE:	1" = 20'

LS1.4

CITY OF WILMINGTON NORTH CAROLINA
Public Services ● Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date:_____ Permit #_____
Signed: _____

Approved Construction Plan

	Name	Date
Planning		
Public Utilities		
Traffic		
Fire		

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N/F
AVALON APARTMENTS
DE, LLC
D.B. 5579-552
ZONING: MF-M (CD)
LAND USE:
MULIT-FAMILY
RESIDENTIAL

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft.

CSX RAILROAD
(FORMERLY SEABOARD COASTLINE)
R/W VARIES

MATCH LINE + SEE SHEET NO. LS1.6

MATCH LINE - SEE SHEET NO. LS1.4

N 54°32'29" E 13.12'
N 58°54'29" E 299.55'
N 03°32'31" W 13.90'

PYR 10
JV 3
IANR 1
MGDB 1
JV 1
IANR 3
ELA 275
MGDB 1
PYR 5
JV 3
IANR 1
MGDB 1
JV 1
MGA 3
PYR 4
IANR 4
QS 1
IANR 3
PYR 3
MGDB 1
MGDB 1
JV 2
PYR 4
MGA 3
PYR 2
IANR 3
JV 2
TD 4
PP 12
MGDB 3
JV 3
IRBF 150
PONC 116
SAG 221
TRAA 129
QV-P 1
QV-P 1
TRAA 123
QV-P 1
TRAA 151
TRAA 113
QV-P 1
QV-P 1
TRAA 18
QV-P 1
QN 2
ARS 1
RAPI 38
TRAA 105
ARS-P 1
ARS-P 1
TRAA 163
ARS 2
QN 1
TRAA 100
TRAA 100
LIM 1
ROSM 5
LIBB 26

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LANDSCAPE PLAN

JOB NO: J-24436.0000
DATE: 9/24/13
DRAWN: JLG
DESIGNED: JLG
REVIEWED: BHB
APPROVED: JDR
SCALE: 1" = 20'

LS1.5

Approved Construction Plan

	Name	Date
Planning		
Public Utilities		
Traffic		
Fire		

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Public Services • Engineering Division
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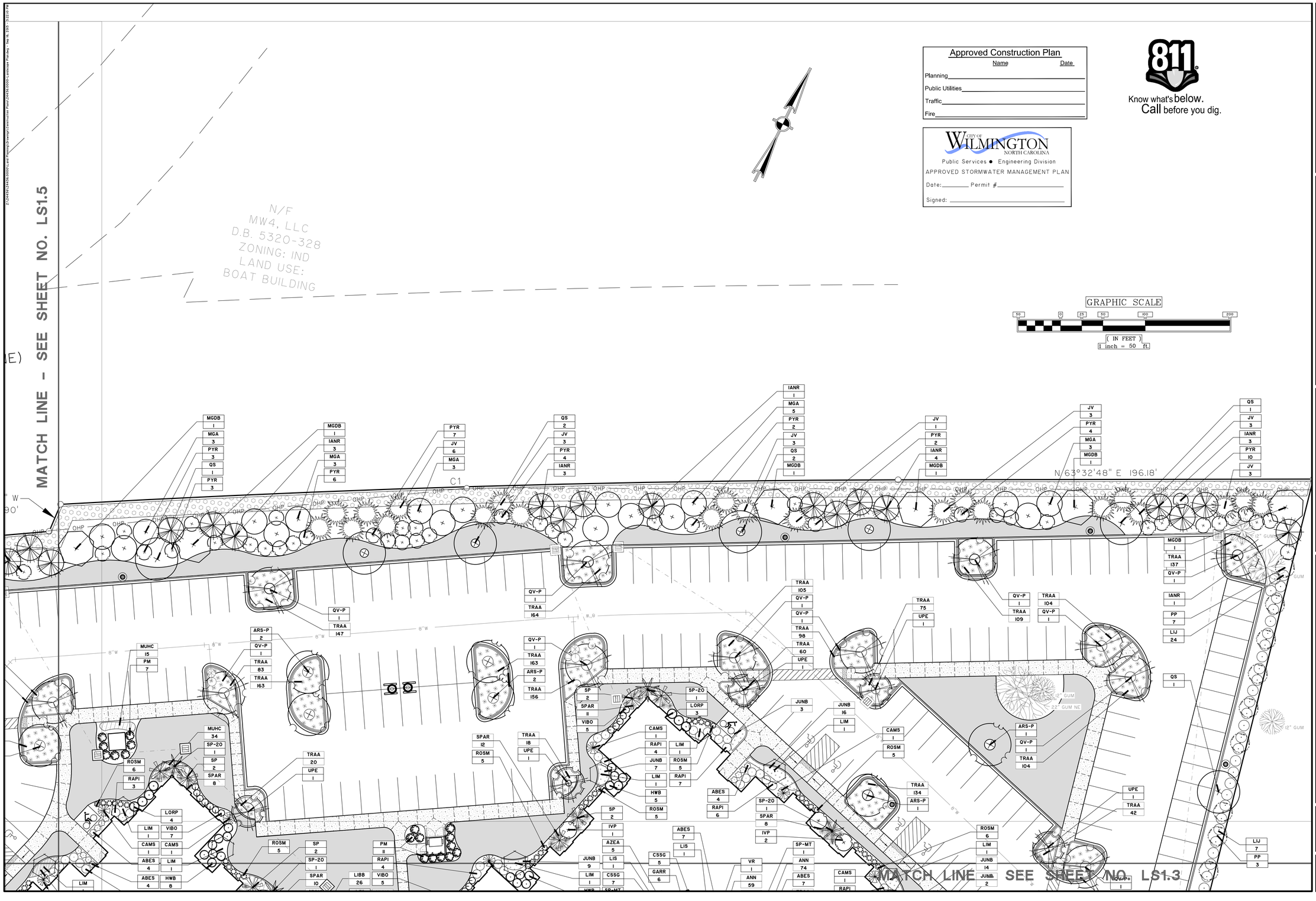

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DESIGNED:	JLG
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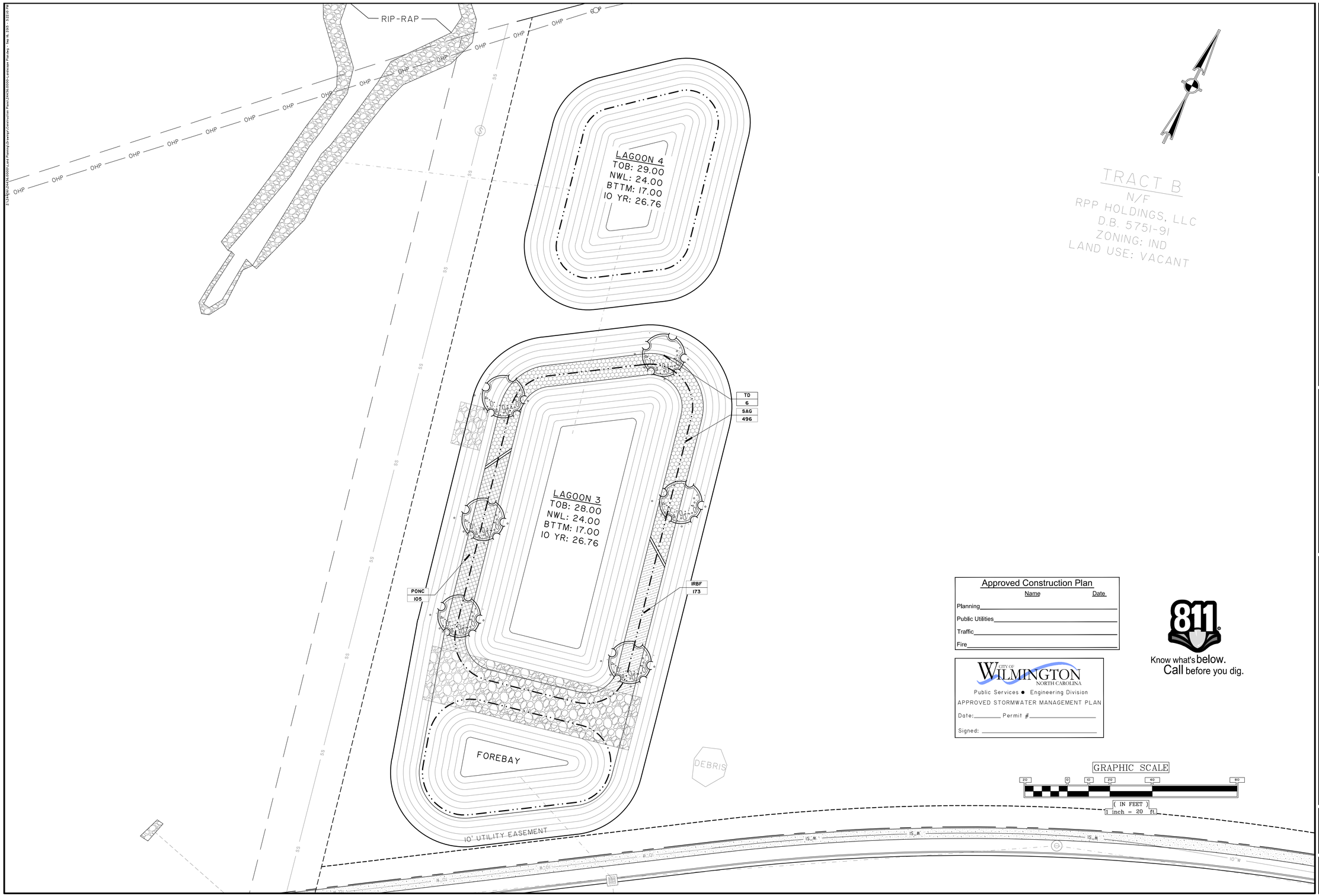
APPROVED:	JDR
SCALE:	1" = 20'

LS1.6



Approved Construction Plan

	Name	Date
Planning		
Public Utilities		
Traffic		
Fire		

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PROGRESS BUILDERS, LLC

LANDSCAPE PLAN

JOB NO:	J-24436.0000
DATE:	9/24/13
DRAWN:	JBJ
DESIGNED:	SKM
REVIEWED:	JDR
APPROVED:	JDR
SCALE:	1" = 20'

LS1.7

CITY OF WILMINGTON NORTH CAROLINA
Public Services ● Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
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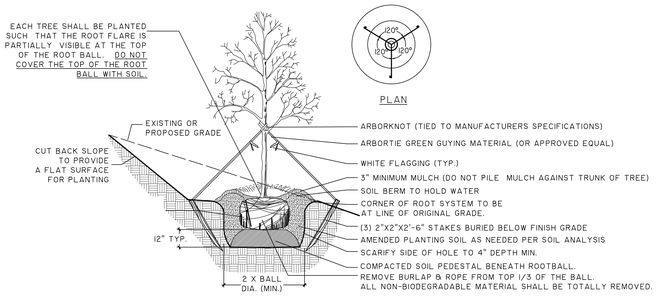
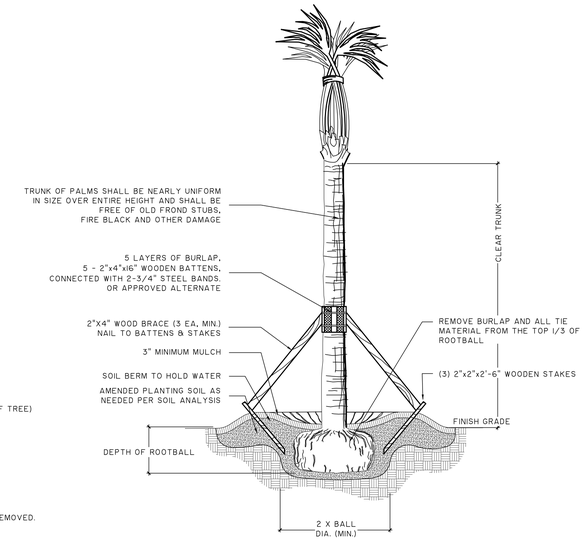
	Name	Date
Planning		
Public Utilities		
Traffic		
Fire		



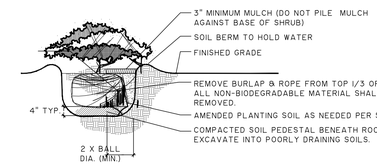
NOTES:
1) SEE LANDSCAPE NOTES FOR THE TYPE OF MULCH MATERIAL TO USE.
2) ONLY GUY TREES WHEN SITE CONDITIONS REQUIRE IT.
3) PLANT ROOT BALL FLUSH WITH FINISHED GRADE UNLESS AREA HAS POOR DRAINAGE, IN WHICH CASE PLANT ROOTBALL 2" ABOVE GRADE.
4) REMOVE ALL BRANCHES THAT ARE DAMAGED, RUBBING, OR CROSSING OTHER BRANCHES.
5) NEVER CUT A CENTRAL LEADER.
6) FINAL TREE STAKING AND PLACEMENT TO BE APPROVED BY OWNER'S REP.
7) CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.

TREE PLANTING ON A SLOPE
NOT TO SCALE



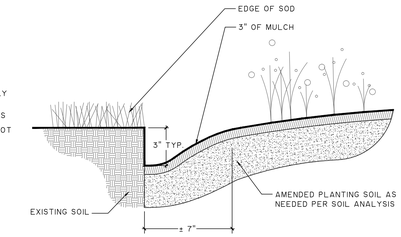
NOTES:
1) SEE LANDSCAPE NOTES FOR THE TYPE OF MULCH MATERIAL TO USE.
2) PLANT ROOT BALL FLUSH WITH FINISHED GRADE UNLESS AREA HAS POOR DRAINAGE, IN WHICH CASE PLANT ROOTBALL 2" ABOVE GRADE.
3) SABAL PALMETTOS SHALL BE DEFOLIATED. PROTECT CABBAGE HEAD FROM DAMAGE. ALL OTHER PALM SPECIES MUST HAVE FRONDS TIED W/BIODEGRADABLE STRAP OR TWINE.
4) FINAL TREE STAKING AND PLACEMENT TO BE APPROVED BY OWNER'S REP.
5) CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.

PALM TREE PLANTING
NOT TO SCALE



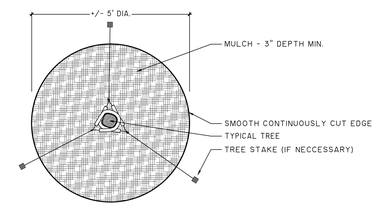
1) SEE LANDSCAPE NOTES FOR THE TYPE OF MULCH MATERIAL TO USE.
2) WHEN GROUNDCOVER AND SHRUBS ARE USED IN MASSES, DO NOT FORM SOIL BERMS ON INDIVIDUAL PLANTS AND ENTIRE PLANTING BED SHALL BE EXCAVATED TO RECEIVE PLANTING SOIL AND PLANT MATERIAL.
3) PLANT ROOT BALL FLUSH WITH FINISHED GRADE UNLESS AREA HAS POOR DRAINAGE, IN WHICH CASE PLANT ROOTBALL 2" ABOVE GRADE. COORDINATE WITH OWNER'S REP. PRIOR TO SETTING ROOTBALL ELEVATIONS.
4) CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.

SHRUB PLANTING
NOT TO SCALE



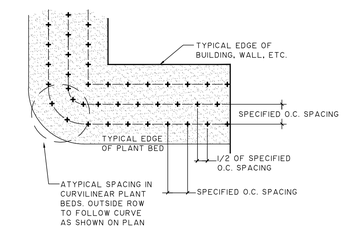
NOTES:
1) TRENCH EDGE TO BE LOCATED BETWEEN PLANTING BEDS AND ALL LAWN AREAS.

SOD TO PLANT BED EDGE
NOT TO SCALE



NOTES:
1) SEE LANDSCAPE NOTES FOR THE TYPE OF MULCH MATERIAL TO USE.
2) APPLY MULCH IN A +/- 5' DIAMETER WHERE PROPOSED TREE PLANTINGS OCCUR IN SOD OR SEEDED AREA.

TREE RING
NOT TO SCALE



NOTES:
1) EXCAVATE ENTIRE BED SPECIFIED FOR GROUNDCOVER PLANTING TO A DEPTH OF 12".

PLANT SPACING DETAIL
NOT TO SCALE

GENERAL PLANTING / IRRIGATION NOTES:

1. REQUIREMENTS FOR THE MEASUREMENTS, BRANCHING, GRADING, QUALITY, BALLING AND BURLAPPING OF PLANTS IN THE PLANT LIST SHOULD FOLLOW OR EXCEED THE STANDARDS CURRENTLY RECOMMENDED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC. IN THE AMERICAN STANDARD FOR NURSERY STOCKS (ASNS). UNLESS OTHERWISE SPECIFIED, ANY SIZE SPECIFIED SHALL BE CONSIDERED MINIMUM. MINIMUMS FOR HEIGHT, SPREAD, CALIPER, ETC. SHALL TAKE PRECEDENT OVER A SPECIFIED CONTAINER SIZE. (I.E. - IF 7 GALLON IS REQUIRED, TO PROVIDE A SPECIFIED HEIGHT OR SPREAD THAT IS SPECIFIED AS A 3 GALLON, THEN THE 7 GALLON SHALL BE SHALL BE REQUIRED AND INCLUDED IN THE BASE BID AND SHALL NOT BE CONSIDERED A CHANGE ORDER.

2. ALL PLANTS SHALL HAVE A WELL FORMED HEAD WITH MINIMUM CALIPER, HEIGHT AND SPREAD OF THE SIDE BRANCHES AS SHOWN ON THE PLANT LIST. TRUNKS SHALL BE UNDAMAGED AND SHAPE SHALL BE TYPICAL OF THE SPECIES.

3. MEASUREMENT OF CONIFER HEIGHT SHALL INCLUDE NOT MORE THAN FIFTY (50) PER CENT OF THIS YEARS' VERTICAL GROWTH (TOP CANDLE).

4. THE LANDSCAPE CONTRACTOR IS HEREBY NOTIFIED OF THE EXISTENCE OF UNDERGROUND UTILITIES WITHIN THE LIMITS OF THE PROJECT AREA. THE CONTRACTOR SHOULD VERIFY THE EXACT LOCATION OF ALL UTILITY LINES PRIOR TO COMMENCEMENT OF DIGGING OPERATIONS. CONTRACTOR RESPONSIBLE FOR LOCATING, PROTECTING, AND REPAIRING ALL DAMAGE TO BUILDINGS, UTILITIES, PAVEMENT, AND CURB & GUTTER. ANY REPAIRS SHALL BE DONE PROMPTLY AT CONTRACTOR'S EXPENSE.

5. THE CONTRACTOR WILL BE RESPONSIBLE FOR STAKING AND LAYOUT OF PLANTINGS ON THIS PROJECT. THE LANDSCAPE ARCHITECT OR OWNER SHALL BE ADVISED WHEN STAKES ARE READY FOR INSPECTION ON VARIOUS PLANTING AREAS. ALL LAYOUT WORK SHALL BE INSPECTED AND APPROVED BY THE LANDSCAPE ARCHITECT AND OWNER PRIOR TO OPENING ANY PLANTING PITS.

6. IT IS THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR TO VERIFY THAT EACH EXCAVATED TREE OR SHRUB PIT WILL PERCOLATE (DRAIN) PRIOR TO ADDING TOPSOIL AND INSTALLING TREES OR SHRUBS. THE CONTRACTOR SHALL FILL THE BOTTOM OF HOLES WITH SIX (6) INCHES OF WATER. THIS WATER SHOULD PERCOLATE WITHIN A TWENTY-FOUR (24) HOUR PERIOD. IF WATER DOESN'T PERC, CONTRACTOR SHALL NOTIFY THE OWNER'S REP PRIOR TO INSTALLING PLANTS.

7. SHOULD THE LANDSCAPE CONTRACTOR ENCOUNTER UNSATISFACTORY SURFACE OR SUBSURFACE DRAINAGE CONDITIONS, SOIL DEPTH, LATENT SOILS, HARD PANS, STEAM OR OTHER UTILITY LINES OR OTHER CONDITIONS THAT WILL JEOPARDIZE THE HEALTH AND VIGOR OF THE PLANTS, HE MUST ADVISE THE LANDSCAPE ARCHITECT IN WRITING OF THE CONDITIONS PRIOR TO INSTALLING THE PLANTS. OTHERWISE, THE LANDSCAPE CONTRACTOR WARRANTS THAT THE PLANTING AREAS ARE SUITABLE FOR PROPER GROWTH AND DEVELOPMENT OF THE PLANTS TO BE INSTALLED.

8. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING UP THE SITE AT THE COMPLETION OF THE PROJECT AND SHALL MAINTAIN THE SITE IN A REASONABLY NEAT AND CLEAN STATE THROUGHOUT THE INSTALLATION PROCESS. STREETS AND PAVED AREAS SHALL BE CLEANED REGULARLY TO REMOVE CONSTRUCTION MATERIALS AND OTHER DEBRIS RESULTING FROM WORK OF THE PROJECT.

9. PLANTS SHALL BE GUARANTEED FOR THE LENGTH OF TIME REQUIRED BY THE LOCAL JURISDICTION (MIN. OF TWO (2) FULL YEARS) AFTER THE FORMAL ACCEPTANCE OF THE PLANTING BY THE OWNER AND SHALL BE ALIVE AND IN SATISFACTORY GROWTH AT THE END OF THE GUARANTEE PERIOD. ANY PLANT NOT IN A HEALTHY AND VIGOROUS STATE AT THE END OF THE GUARANTEE PERIOD SHALL BE REPLACED AT NO COST TO THE OWNER, PLANTS SEVERELY DAMAGED BY VANDALS ARE NOT SUBJECT TO REPLACEMENT BY THE CONTRACTOR.

10. REPLACEMENTS OF DEAD OR UNSATISFACTORY MATERIAL SHALL BE MADE AS SPECIFIED IN THE PLANT LIST. THE OWNER OR LANDSCAPE ARCHITECT SHALL INSPECT REPLACED PLANTS WHEN ALL REPLACEMENTS HAVE BEEN MADE. REPLACEMENTS ARE TO BE ALIVE AND IN A HEALTHY CONDITION WHEN THE REPLACEMENTS ARE COMPLETE. REPLACEMENTS ARE NOT SUBJECT TO AN ADDITIONAL GUARANTEE, BUT THE LANDSCAPE CONTRACTOR SHALL CONSULT WITH THE LANDSCAPE ARCHITECT ON REASON FOR PLANT DECLINE/DEATH AND HOW TO AVOID FUTURE INSTANCES.

11. SHOULD THE CONTRACTOR NOT MAKE REPLACEMENTS IN A SATISFACTORY AND TIMELY FASHION IN ACCORD WITH THE PLANTING NOTES, THE OWNER, AFTER PROPER NOTIFICATION TO THE CONTRACTOR MAY UTILIZE THE FUNDS OF THE RETAINAGE TO HAVE THE REPLACEMENTS MADE IN ACCORDANCE WITH THE SPECIFICATIONS BY ANOTHER CONTRACTOR.

12. NO EXCAVATION OR PLANTING PIT SHALL BE LEFT UNATTENDED OVERNIGHT.

13. PLANT MATERIAL QUANTITIES PROVIDED IN THE PLANT LIST ARE FOR REFERENCE ONLY AND THE CONTRACTOR IS RESPONSIBLE FOR THE ACTUAL PLANT MATERIAL COUNTS. DISCREPANCIES BETWEEN QUANTITIES SHOWN ON THE PLANTING PLAN AND THOSE IN THE PLANT LIST SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT FOR CLARIFICATION. IF CLARIFICATION OF DISCREPANCIES FROM THE LANDSCAPE ARCHITECT IS NOT POSSIBLE, THEN QUANTITIES SHOWN ON THE PLANTING PLAN SHALL TAKE PRECEDENCE.

14. REMOVE BURLAP/STRAPPING AND WIRE BASKET FROM TOP ⅓ OF ROOT BALL ON TREES.

15. REMOVE PAPER, PLASTIC OR METAL AROUND ROOT BALLS OF SHRUBS.

16. DO NOT WRAP TREES.

17. WATER ALL PLANT MATERIAL IMMEDIATELY AFTER PLANTING.

18. TREE GUYING MATERIAL SHALL BE 'ARBOR-TIE' OR EQUIVALENT.

19. ALL PLANT BEDS TO BE MULCHED WITH 3" OF DOUBLE SHREADED HARDWOOD MULCH.

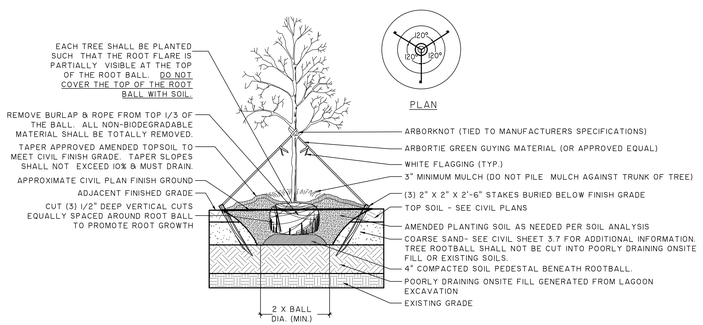
20. ALL AREAS OF PLANTING, INCLUDING AREAS OF GRASS SEEDING AND SOD, SHALL BE GRADED TO PROVIDE POSITIVE DRAINAGE AND SHALL BE PROVIDED APPROPRIATE SOIL FOR THE PROPOSED PLANTINGS. THE LANDSCAPE CONTRACTOR SHALL ADJUST PH AND / OR SOIL FERTILITY BY UNIFORMLY INCORPORATING REQUIRED SOIL CONDITIONING MATERIALS AT THE RATE AND DEPTH DETERMINED BY THE ANALYSIS OF THE SOIL TEST (AS REQUIRED IN 3.02 AND 3.12 OF THE LANDSCAPING SPECIFICATIONS). EACH SOIL TEST SHALL BE SPECIFIC TO THE PROPOSED PLANT MATERIAL TO BE INSTALLED IN A GIVEN AREA.

21. ALL EXISTING VEGETATION WITHIN AREAS TO BE PLANTED / SODDED / SEEDED SHALL BE REMOVED PRIOR TO PLANTING / SODDING / SEEDING. ALL AREAS INDICATED TO BE GRASS SEED SHALL BE HYDROSEEDED PER EROSION SEDIMENT CONTROL SPECIFICATIONS FOR PERMANENT STABILIZATION.

22. CONTRACTOR TO SUPPLY AUTOMATIC IRRIGATION SYSTEMS, COMPLETE AND INSTALLED. SYSTEM TO INCLUDE ALL VALVES, PIPES, HEADS, FITTINGS, RAIN SENSOR, AND CLOCK AND TO PROVIDE 100% COVERAGE OF ALL NEW SODDED AREAS, TREES, SHRUBS AND PLANTING BEDS. COORDINATE IRRIGATION WITH OWNER'S REPRESENTATIVE. (CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF PROPOSED IRRIGATION SYSTEM FOR OWNER ACCEPTANCE)

23. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR AUTOMATIC IRRIGATION SYSTEMS. CONTRACTOR SHALL PROVIDE ELECTRIC METER AND SERVICE IN ACCORDANCE WITH STATE AND LOCAL CODES FOR IRRIGATION SYSTEM. LOCATION OF METERS AND CONTROL PANELS FOR IRRIGATION SHALL BE APPROVED BY OWNER'S REP. PRIOR TO INSTALLATION.

24. ALL TREES SHALL BE INSTALLED PER THE REQUIREMENTS OF THE CITY OF WILMINGTON, NORTH CAROLINA APPLICABLE ORDINANCES.



NOTES:
1) SEE LANDSCAPE NOTES FOR THE TYPE OF MULCH MATERIAL TO USE.
2) ONLY GUY TREES WHEN SITE CONDITIONS REQUIRE IT.
3) PLANT ROOT BALL A MINIMUM OF 2" OR HIGHER AS DICTATED BY BY SITE CONDITIONS TO PREVENT ANY CUT INTO POORLY DRAINING SOILS.
4) REMOVE ALL BRANCHES THAT ARE DAMAGED, RUBBING, OR CROSSING OTHER BRANCHES.
5) NEVER CUT A CENTRAL LEADER.
6) FINAL TREE STAKING AND PLACEMENT TO BE APPROVED BY OWNER'S REP.
7) CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.

TREE PLANTING
NOT TO SCALE

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NO.	REVISIONS	BY	DATE

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PROGRESS910
4055 EMERSON STREET
CITY OF WILMINGTON, NORTH CAROLINA
PROGRESS BUILDERS, LLC
PLANT SCHEDULE, NOTES & DETAILS

JOB NO:	J-24436.0000
DATE:	9/24/13
DRAWN:	JBJ
DESIGNED:	SKM
REVIEWED:	JDR
APPROVED:	JDR
SCALE:	NTS

LS2.1

PLANT SCHEDULE

TREES

QNTY	ABBRV	SCIENTIFIC NAME	COMMON NAME	PLANTING SIZE	SPACING	MISCELLANEOUS / REMARKS	MITIGATION INCHES PROVIDED
23	ARS-P	Acer rubrum 'Summers Red'	'Summers Red' Red Maple	B & B OR CONT. ; 2.5" Cal. Min., 14-16' Ht.	AS SHOWN	Specimen	0
9	ARS	Acer rubrum 'Summers Red'	'Summers Red' Red Maple	B & B OR CONT. ; 2.5" Cal. Min., 14-16' Ht.	AS SHOWN	Specimen	22.5
22	CCF	Cercis canadensis 'Forest Pansy'	'Forest Pansy' Redbud	B & B ; 2.5" Cal. 12' HT. X 4' SPD.	AS SHOWN	Specimen, single trunk	55
34	IANR	Ilex aquifolium x cornuta 'Nellie R. Stevens'	'Nellie R. Stevens Holly	2.5" CAL. 12-14" O.A. HT.	AS SHOWN	Specimen, full to ground	0
12	IVP	Ilex vomitoria 'Pendula'	Weeping Youpon Holly	CONT. 60" O.A. HT.	AS SHOWN	Specimen, full to ground	0
50	JV	Juniperus virginiana 'Burkii'	Eastern Red Cedar	B & B OR CONT. ; 2.5" Cal., 10 TO 12' Ht.	AS SHOWN	Full to ground	100
30	LIM	Lagerstroemia indica 'Muskogee'	'Muskogee' Crape Myrtle	CONT. 10' - 12' HT.	AS SHOWN	Specimen, multi-trunk, 3 trunk min, 1" Cal. per cane	90
37	LIS	Lagerstroemia indica 'Sarah's Favorite'	Sarah's Favorite Crape Myrtle White	CONT. 2.5" CAL. 12' - 14' HT. O.A.HT.	AS SHOWN	Specimen, Standard	92.5
23	MGA	Magnolia grandiflora 'ALTA'	'ALTA' Southern Magnolia	B & B OR CONT. ; 2.5" Cal. Min., 14-16' Ht.	AS SHOWN	Specimen, Full to Ground	0
25	MGDB	Magnolia grandiflora 'D.D. Blanchard'	'D.D. Blanchard' Southern Magnolia	B & B OR CONT. ; 2.5" Cal. Min., 14-16' Ht.	AS SHOWN	Specimen, Full to Ground	62.5
92	PP	Pinus palustris	Longleaf Pine	B & B OR CONT. ; 2.5" Cal. Min., 14-16' Ht.	AS SHOWN	Specimen	184
5	PS	Prunus serrulata 'Kwanzan'	Kwanzan Cherry	B & B OR CONT. ; 2.5 CAL. 4' SPD.,12' O.A. HT.	AS SHOWN	Speciman	12.5
8	QN-P	Quercus nuttallii	Nuttall Oak	B & B OR CONT. ; 2.5" Cal. Min., 14-16' Ht.	AS SHOWN	Specimen	0
21	QN	Quercus nuttallii	Nuttall Oak	B & B OR CONT. ; 2.5" Cal. Min., 14-16' Ht.	AS SHOWN	Specimen	52.5
20	QS	Quercus shumardii	Shumard Oak	B & B OR CONT. ; 2.5" Cal. Min., 12-14' Ht.	AS SHOWN	Specimen	50
13	QV	Quercus virginiana 'Cathedral'	'Cathedral' Live Oak	B & B OR CONT. ; 2.5" Cal. Min., 12-14' Ht.	AS SHOWN	Specimen	32.5
39	QV-P	Quercus virginiana 'Cathedral'	'Cathedral' Live Oak	B & B OR CONT. ; 2.5" Cal. Min., 12-14' Ht.	AS SHOWN	Specimen	0
66	SP	Sabal palmetto	Sabal Palm	BR 14-16' OA HT	AS SHOWN	Stagger HTs.	0
62	SP-20	Sabal palmetto	Sabal Palm	BR 20' OA HT	AS SHOWN	Stagger HTs.	0
36	SP-MT	Sabal palmetto	Sabal Palm	BR 20' OA HT	AS SHOWN	Matching HTs.	0
32	TD	Taxodium distichum	Bald Cypress	B & B or CONT. 2.5" Cal.14' HT. X 6' SPD.	AS SHOWN	Specimen	65
6	TF	Trachycarpus fortunei	Windmill Palm	B & B ; 6-8' OA. HT	AS SHOWN	Multi-stem 2 Starger ht. trunks	0
20	UPE	Ulmus parvifolia 'BSNUPF' PP17,655	'Everclear' Elm	B&B OR CONT. ; 2.5" CAL. 4'SPD. X12' HT.	AS SHOWN	Specimen	50

BUFFER TREES

QNTY	ABBRV	SCIENTIFIC NAME	COMMON NAME	PLANTING SIZE	SPACING	MISCELLANEOUS / REMARKS	MITIGATION INCHES PROVIDED
7	ARS-B	Acer rubrum 'Summers Red'	'Summers Red' Red Maple	B & B OR CONT. ; 2.5 " Cal. Min., 14-16' Ht.	AS SHOWN	Specimen	0
13	MGDB-B	Magnolia grandiflora 'D.D. Blanchard'	'D.D. Blanchard' Southern Magnolia	B & B OR CONT. ; 2.5" Cal. Min., 14-16' Ht.	AS SHOWN	Specimen, Full to Ground	0

SHRUBS

QNTY	ABBRV	SCIENTIFIC NAME	COMMON NAME	PLANTING SIZE	SPACING	MISCELLANEOUS / REMARKS
139	ABES	Abelia x grandiflora 'Frances Mason'	'Frances Mason' Abelia	CONT. 18" X 18"	AS SHOWN	Full
41	AZEA	Azalea x 'Conlee' PP#10567	Encore Azalea Autumn Amethyst™	CONT. 20" X 20"	AS SHOWN	Full to Ground
80	CSSG	Camellia sasanqua 'Shishi Gashira'	Shishi Gashira Camellia	CONT. 24" O.A. HT.	AS SHOWN	Full to ground
22	CAMS	Camellia sasanqua 'White Doves'	White Doves Camellia	CONT. 36" O.A. HT.	AS SHOWN	Full
275	ELA	Elaeagnus pungens	Elaeagnus	7 GAL. ; 30" HT.	5'	Full
86	GARR	Gardenia jasminoides 'Radicans'	Dwarf Gardenia	CONT. 16" X 16"	AS SHOWN	Full
64	HWB	Hebe 'Wiri Blush'	Wiri Blush Hebe	CONT. 24" X 24"	AS SHOWN	Full
102	LIJ	Ligustrum japonicum	Japanese Privet	CONT. 36' O.A. HT.	AS SHOWN	Full
108	LORP	Loropetalum chinense 'Purple Diamond'	Purple Diamond Loropetalum	CONT. 20" X 20"	AS SHOWN	Full
18	MC	Myrica cerifera	Wax Myrtle	CONT. 36' O.A. HT.	AS SHOWN	Full to Ground
58	PM	Podocarpus macrophyllus 'Maki'	Southern Yew	CONT. 36" O.A. HT.	AS SHOWN	Full to Ground
69	PYR	Pyrcantha koidzumi	Formosa Firethorn	CONT. 48" O.A. HT.	AS SHOWN	Full
149	RAPI	Raphiolepis indica	Indian Hawthorn	CONT. 20" X 20"	AS SHOWN	Full
16	ROSR	Rosa 'Radtko'	The Double Knock Out®Rose	CONT. 18" X 18"	AS SHOWN	Full to Ground
201	ROSM	Rosa 'Meidritora'	Coral Drift®	CONT. 20" X 20"	AS SHOWN	Full to Ground
145	VIBO	Viburnum Obovatum 'Mrs. Schiller's Delight'	Viburnum 'Mrs. Schillers Delight'	CONT. 20" X 20"	AS SHOWN	Full
15	VR	Viburnum rhytidophyllum	Leatherleaf Viburnum	CONT. 48' O.A. HT.	AS SHOWN	Full

BUFFER SHRUBS

QNTY	ABBRV	SCIENTIFIC NAME	COMMON NAME	PLANT SIZE	SPACING	MISCELLANEOUS / REMARKS
46	AZEA-B	Azalea x 'Conlee' PP#10567	Encore Azalea Autumn Amethyst™	CONT. 36" X 20"	AS SHOWN	Full to Ground
16	IV-B	Ilex vomitoria	Youpon Holly	CONT. 36" O.A. HT.	AS SHOWN	Specimen, full to ground
25	LIRC-B	Ligustrum japonicum	Japanses Privet	CONT. 36" X 24"	AS SHOWN	Full
17	LORP-B	Loropetalum chinense 'Purple Diamond'	Purple Diamond Loropetalum	CONT. 36" X 20"	AS SHOWN	Full
28	MC-B	Myrica cerifera	Wax Myrtle	CONT. 36' O.A. HT.	AS SHOWN	Full to Ground
20	ND-B	Nandina domestica 'Harbour Dwarf'	Harbour Dwarf Nandina	CONT. 18" X 18"	AS SHOWN	Full to ground
32	OXF-B	Osmanthus x fortunei	Fortune's Tea Olive	CONT. 48" OA HT.	AS SHOWN	Specimen, full to ground
43	ROSR-B	Rosa 'Radtko'	The Double Knock Out®Rose	CONT. 18" X 18"	AS SHOWN	Full to Ground

ORNAMENTAL GRASSES AND GROUNDCOVERS

QNTY	ABBRV	SCIENTIFIC NAME	COMMON NAME	PLANTING SIZE	SPACING	MISCELLANEOUS / REMARKS
2858 S.F.	ANN	-	Seasonal Color	CONT. 12" O.A. HT.	12"	Species to be selected by owner. Plant at appropriate spacing to create immediate solid mass. Plant in 6 to 9" garden soil mound.
8650 S.F	SD-1	----------	Rentention Basin Mix	---------- ----------	12"	See Grassing Specifications
147000 S.F.	SOD	Cynodon dactylon 'Celebration'	'Celebration' Bermuda Grass	---------- ----------		Dense roots
589	IRBF	Iris versicolor	Blue Flag Iris	CONT. 12" O.A. HT.	2'	Full
399	JUNB	Juniperus squamata expansa 'Parsonii'	Parson's Juniper	CONT. 12" X 20"	2.5'	Full
960	LIBB	Liriope muscari 'Big Blue'	Big Blue Liriope	CONT. 6" O.A. HT.	18"	Full
927	MUHC	Muhlenbergia capillaris	Pink Muhly Grass	1 GAL ; 6" X 12"	2'	Full
392	PONC	Pontederia Cordata	Pickerelweed	CONT. 3' O.A. HT.	3'	
1078	SAG	Sagittaria lancifolia	Bulltongue	CONT. 24" O.A. HT.	2'	
538	SPAR	Spartina bakeri	Cord Grass	CONT. 12 x18"	AS SHOWN	Full
6436	TRAA	Trachelospermum asiaticum	Asiatic Jasmine	CONT. 4" X 8"	18"	Full

CITY OF WILMINGTON NORTH CAROLINA
Public Services ● Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date:_____ Permit #_____
Signed: _____

Approved Construction Plan
Name Date
Planning_____
Public Utilities_____
Traffic_____
Fire_____

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PROGRESS910
4055 EMERSON STREET
CITY OF WILMINGTON, NORTH CAROLINA
PROGRESS BUILDERS, LLC
PLANT SCHEDULE

JOB NO: J-24436.0000
DATE: 9/24/13
DRAWN: JLG
DESIGNED: JLG
REVIEWED: RPT
APPROVED: JDR
SCALE:

LS2.2

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LANDSCAPING SPECIFICATION

LANDSCAPING

PART 1 - GENERAL

1.1 DESCRIPTION

A. The work covered in this section consists of soil preparation, fine grading, lawns, trees, shrubs and ground cover plantings, their protection and maintenance of planted areas until acceptance.

1.2 RELATED WORK

A. See Civil and Landscape plans and specifications.

1.3 QUALITY ASSURANCE

A. Qualifications of Workmen: Contractor shall provide at least one person present at all times during execution of work that is thoroughly familiar with the type of materials being installed and proper equipment and methods for their installation and who shall direct all work performed under this section.

B. Standards: All seed, sod, trees, shrubs, and ground covers shall meet or exceed the specifications of Federal, State, County and / or Municipality laws requiring inspection for disease and insect control.

1. Plants and planting methods shall conform to the latest edition of American Standard for Nursery Stock, American Nursery & Landscape Association, 1000 Vermont Avenue, NW, Suite 300, Washington, DC 20005

2. Plants shall be true and representative of their genus, species, cultivar, or variety. Nursery stock shipped in accordance with the required specifications shall be deemed to be acceptable within the terms of this section if it is typical in size and habit for the species in the region of the country in which it is grown unless the specifications include additional details.

3. One of each bundle or lot shall be tagged with name and size of the plant in accordance with American Nursery & Landscape Association standards. In all cases, botanical names shall take precedence over common names. Landscape Architect should be consulted in the event questions arise about nomenclature of plants to be used and their availability.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Deliver grass seed in original containers showing analysis of seed mixture, percentage of pure seed, year of production, net weight, date of packaging and location of packaging. Damaged packages are not acceptable.

B. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

C. Deliver sod on pallets.

D. Handling of plants shall be by lifting the root mass or container and not by lifting plant by trunk or branches. Handling of plants in an improper fashion shall be cause for rejection of plant materials. Care must be taken during all phases of the location and planting procedures not to damage root system, trunk or branches. All plant materials shall be planted as soon after arrival at the site as possible. Contractor is responsible for keeping plants safe from injury by the construction activity and watered to prevent drying out before planting. Balled and burlapped plants shall be "Healed-in" and protected with burlap or other accepted material if they cannot be planted upon delivery. Plants with broken major branches, badly bruised or damaged bark are not acceptable and will be rejected.

1.5 PLANTING DATES

A. The planting season for trees, shrubs and groundcovers is between October 1st and June 1st of the following year. Do not plant if temperature is below freezing or above 90 degrees. Planting at any other time other than the planting season is the Contractor's option and full responsibility and without additional compensation. Planting may, at the option of the Contractor, be postponed into the following planting season but without additional compensation provided the Owner and local governing jurisdiction have approved.

C. Planting dates for sod, sprigging or seeding shall be per the grassing specification.

1.6 MEASUREMENT AND PAYMENT

A. Measurement - The items listed in the proposal shall be considered as sufficient to complete the work in accordance with the plans and specifications. Any portion of the work not listed in bid form, but required to complete the work, shall be deemed to be a part of the item with which it is associated and shall be included in the cost of the unit shown on the bid form.

B. Payment - Payment for the unit shown on the bid form shall be considered to cover the cost of all labor, material, equipment, and performing all operations necessary to complete the work in place. No payment will be made for any material wasted, used for the convenience of the Contractor, unused or rejected.

1. Trees, Shrubs, and Groundcovers - Will be paid for at the contract unit price for planted/installed and accepted trees, shrubs, and groundcovers.

2. Payment for grassing will be made per the grassing specification.

3. Clearing - Will be paid for at the lump sum price for clearing.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Contractor shall, at time of delivery, furnish Owner and / or Landscape Architect with invoices of all materials received; in order the quality and source of materials may be reviewed.

2.2 TOPSOIL

A. See Earthwork specification for topsoil / rootzone soil specification.

2.3 SEED

A. See grassing specification.

2.4 SPRIG

A. See grassing specification.

2.5 SOD

A. See grassing specification.

2.6 PLANT MATERIALS

A. Provide all plant materials as indicated on the plans. In the event of any discrepancies between quantities of plants indicated on the plant schedule and those indicated on the plan, plan quantities shall govern.

B. Plants shall be sound, healthy and vigorous, well branched and densely foliated when in leaf. They shall be free of disease, insect pests, eggs or larvae, and shall have healthy, well developed root systems. Plants shall be from a nursery within 300 miles north or south of the project location and shall have been grown under climate conditions similar to those in the locality of project. Trees for planting in rows shall be uniform in size and shape.

B. Plants shall possess a normal balance between height and width. Plants shall be measured when branches are in their normal position. Height and spread dimensions specified refer to the main body of plant and not from branch tip to tip. Plants larger in size than specified may be used with no change in contract price.

C. Plants shall be dug with firm natural balls of earth, of diameter not less than recommended by American Standard for Nursery Stock and of sufficient depth to include fibrous and feeding roots. Plants will not be accepted if ball is cracked or broken before or during planting operations.

D. Trees specified for Street Tree Grade shall conform to standards of the A.N.L.A.:

1. Suitable for planting as street trees.

2. Free of branches to approximately 50% of height from ground.

3. Crown of tree shall be in good balance with the trunk.

2.7 FERTILIZER

A. Commercial fertilizer shall be slow release 5-10-10 or 6-12-12 (or as recommended by soil test), uniform in composition, free flowing, and suitable for application with appropriate equipment. Deliver to site unopened in manufacturer's standard containers showing weight, analysis and name of manufacturer. If stored on site, protect from the elements.

2.8 PEAT MOSS

A. Peat moss shall be finely shredded, 90% organic moss peat, brown in color and suitable for horticultural purposes. Peat shall be measured in air dry condition, containing not more than 35% moisture by weight. Ash content shall not exceed 10%.

2.9 MULCH FOR TREES, SHRUBS, AND GROUND COVERS

A. Mulch for non bio-retention areas shall be as shown on plans.

B. Mulch for bio-retention areas shall be shredded hardwood.

2.10 STAKING EQUIPMENT

A. Trees and palms shall be staked as shown in landscape plans.

2.11 WATER

A. Permanent water source for this project shall coordinated with the Owner. Contractor shall be responsible for any temporary water needs.

PART 3 - EXECUTION

3.1 FINE GRADING

A. All areas within limits of construction shall be fine graded to the desired grades. All areas within limits of construction are to be fine graded, free of roots, debris and/or other objectionable material, before planting or grassing commence. Any additional fill material needed to fill low or uneven areas shall be provided by the Contractor. Positive drainage away from structures shall be provided in all plant beds so standing water does not occur. Planting beds shall be raised above adjacent lawn areas to provide good drainage conditions.

B. Planting and grassed areas, if not loose, shall be loosened to a minimum depth of 3-inches before fertilizer, seed or sod is applied.

3.2 FERTILIZER

A. Contractor shall provide Topsoil Analysis Tests that has been performed by a State Agricultural Experiment Station, Soil and Water Conservation District, State University, or other qualified private testing laboratory, as approved by Landscape Architect.

B. Apply fertilizer after fine grading and mix thoroughly into upper 2 inches of soil.

C. Fertilizer shall be applied at the rate recommended by Topsoil Analysis Test.

3.3 SODDING

A. See grassing specification.

3.4 SPRIGGING

A. See grassing specification.

3.5 SEEDING

A. See grassing specification.

3.6 SEED PROTECTION

A. See grassing specification.

3.7 LAYOUT OF TREES, SHRUBS, AND GROUND COVERS

A. All plants shall be placed in the proper location as shown on construction plans, allowing Landscape Architect to review all plant locations prior to actual planting. Landscape Architect may make minor adjustments which shall not be cause for changes to the contract price.

3.8 OBSTRUCTIONS BELOW GROUND

A. Prior to excavating planting holes, Contractor shall determine the exact location of electrical, phone, or television cables or conduits, water, drainage or sewer lines, and any other subsurface structures and take precautions to protect them. Any damage to underground utilities shall be repaired immediately at the Contractor's expense.

B. In the event rock, underground construction work, or other obstructions are encountered in any plant hole excavation under this contract, alternate locations may be selected. Where locations cannot be changed, the obstructions shall be removed to a depth of not less than three (3) feet below grade and not less than six (6) inches below bottom of ball or roots when plant is properly set at the required grade. The Contractor shall be responsible for the removal of such rock or other underground obstructions encountered.

3.9 PLANTING HOLES

A. For trees, shrubs and ground covers the planting hole shall be as shown on planting details in the plans. Do not leave planting holes open overnight. In the event that plant holes are dug and not planted in a timely manner, install four (4) foot high orange safety fencing around all excavated areas.

3.10 PLANTING TREES AND SHRUBS

A. Shall be same as grown in the nursery and/or container soil level. Adjust bottom soil mix to insure proper planting level with the proposed surrounding grades. Check plants to insure proper vertical alignment.

B. Fill holes to proper height to receive plant, and thoroughly tamp before setting the plant. Set plant in upright position in the center of the hole, and compact the backfill mixture around the ball or roots. Add soil amendments as required to improve fertility of existing soil and plant growing conditions.

1. When balled or burlapped trees are set, compact topsoil around base of ball to fill all voids. All bindings shall be removed and the top half of burlap removed from around root ball. If burlap is made of natural fibers it can be laid back from the root mass or can be cut away. Remove all burlap if it is made of non-degradable material/fabric. All weeds growing on the root mass shall be removed prior to planting.

2. Containerized plants shall have the container removed prior to planting. Care shall be taken to protect root mass from injury and the root mass intact. If root mass shows evidence of being bound or matted, three vertical 1/2" deep cuts shall be made on alternate sides of the root mass and roots pulled away slightly. This is to untangle roots which have begun to "circle" the root mass and to encourage new root growth. All weeds growing in the root mass shall be removed prior to planting.

3. Roots of bare root plants shall be spread out and topsoil carefully worked in among them. Remove with a clean cut, any broken or frayed roots.

3.11 PLANTING GROUND COVERS

A. Planting beds shall be thoroughly worked to a depth of twelve (12) inches incorporating fertilizer at the recommended rate suggest by the soils test. Rake prepared planting bed until level, smooth and free from all soil, lumps, rocks, sticks and other deleterious materials. Bed area should be neatly outlined. Space the plants evenly as indicated on the drawings. Plant only in soil that is moist and friable, and not wet or soggy. In the case of planting in the open on hot days, shorten the time between planting and watering.

3.12 WATERING

A. Thoroughly water each plant when the hole is 1/3 full, again at 2/3 full and then complete backfilling. Once backfilling is complete, water again, then tamp the soil in place until the surface of the backfill is level with the surrounding area and the plant bears the same relation of finished grade as it bore to existing grade before being dug.

B. Earth saucers shall be constructed around the perimeter of planting holes of all trees and all single planted shrubs. Earth saucers shall be minimum 3" high and compacted to retain water. Earth saucers shall not be installed in areas where the subsoil is very poorly drained or around mass shrub / groundcover plantings.

C. All trees and shrubs to be hand watered on a regular basis as necessary during the warranty period.

3.13 SOIL MIX

A. Shall be per Earthwork specification.

3.14 STAKING OF TALL PLANTS

A. Shall be done only if site / environment conditions make if required. If required, trees and palms shall be staked as indicated on the plans.

3.15 MULCHING

A. All plants shall be mulched with an evenly thick layer of clean mulch immediately after planting. Mass plant beds shall be completely mulched to the limits of the bed as shown on the plans. Limit of mulching for individual trees and shrubs shall be slightly beyond the saucer berm. The areas mulched shall be tidy and clean in appearance.

3.16 PRUNING

A. Remove dead, broken or bruised branches after planting using clean, sharp tools.

3.17 WEEDING

A. All planted areas shall be kept free from weeds and undesirable grasses until final acceptance by the Owner. See General notes on plans for additional information.

3.18 INSECT AND DISEASE CONTROL

A. All plant materials shall be disease or insect free upon arrival to the site, however, should any plants show signs of insect or disease infestations, Contractor shall identify nature of infestation and submit to Architect a proposed method of control. Contractor shall treat all infested plants at its expense. Should the infestation be wide spread and uncontrollable, plants affected shall be removed from site, fresh plants brought in and all other plants treated to prevent infestation of remaining plants at Contractor's expense.

3.19 CLEAN UP

A. Contractor is responsible for removing all trash, debris, rubbish and all other materials associated with the construction from site on a daily basis. All tags, flags, and labels will be removed from plants and trees. The site shall be left broom clean and tidy. Clean up of the site is a prerequisite to final acceptance by the Owner.

PART 4 - MAINTENANCE AND WARRANTY

4.1 MAINTENANCE

A. Protect all plantings (grass, plants and trees) until accepted by Owner. All damage, regardless of cause, shall be immediately repaired and plants replaced if necessary. Erect temporary fences, barricades, signs and other protection as needed to prevent trampling. Contractor is not responsible for replacement of damaged or missing plants and plant materials due to vandalism or other acts beyond the control of the Contractor if proper barriers or other safeguards have been maintained.

B. Maintenance shall include but is not limited to watering, weeding, cultivating, removal of dead material, mulch reapplication, resetting plants to proper grades or upright position, lawn mowing, fertilizing, and other necessary operations.

C. The Contractor shall repair immediately any areas damaged as a result of construction operations or erosion.

E. The Contractor shall maintain all proposed plantings until substantial completion is sued by the Owner.

F. At the end of the maintenance period, all plants shall be in a healthy growing condition. During the maintenance period, should the appearance of any plant indicate weakness and probability of dying, immediately replace without additional cost to the Owner. Replacements required because of vandalism or other causes beyond the control of the Contractor are not part of this contract.

4.2 WARRANTY

A. All shrubs, ground cover, and trees shall be guaranteed by the Contractor to be alive and healthy for a one year period after substantial completion is issued by the Owner. A final inspection with the Owner shall be conducted at the end of the warranty period to determine if any plants will be required to be replaced.

B. Any lawn, plant, or tree which is dead or not showing satisfactory growth shall be replaced at Contractor's expense at the end of warranty period. All replacements shall be of original quality and of a size equal to adjacent plants or trees of the same kind.

END OF SECTION

CITY OF WILMINGTON NORTH CAROLINA
Public Services ● Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date:_____ Permit #_____
Signed: _____

Approved Construction Plan
Name Date
Planning_____
Public Utilities_____
Traffic_____
Fire_____

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NO.	REVISIONS	BY	DATE

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PROGRESS910
4055 EMERSON STREET
CITY OF WILMINGTON, NORTH CAROLINA

PROGRESS BUILDERS, LLC

LANDSCAPE SPECIFICATIONS

JOB NO:	J-24436.0000
DATE:	9/24/13
DRAWN:	JLG
DESIGNED:	JLG
REVIEWED:	BHB
APPROVED:	JDR
SCALE:	

LS2.3

Z:\24436\24436.0000\Land Planning\Drawings\Construction Plans\24436.0000-Landscape Plan.dwg - Sep 16, 2013 - 3:23:10 PM

GRASSING SPECIFICATION

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Seeding, planting grass, and fertilizing graded areas around buildings, structures, soccer fields and sidewalk shoulders and other disturbed areas.

B. Seed protection.

C. Maintaining grassed areas until final acceptance.

1.2 RELATED WORK

A. Civil and Landscape plans and specifications.

1.3 DELIVERY, STORAGE, AND HANDLING

A. Deliver grass seed in original containers showing analysis of seed mixture, percentage of pure seed, year of production, net weight, date of packaging, and location of packaging. Damaged packages are not acceptable. Store in cool, dry locations away from contaminants.

B. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer. Damaged bags are not acceptable. Store in cool, dry locations away from contaminants.

C. Deliver sod on pallets.

D. All material shall be acceptable to Engineer prior to use.

1.4 PLANTING DATES

A. This specification provides for establishment of a permanent grass cover between the dates of March 1 and September 30. If finished earth grades are not completed in time to permit planting and establishment of permanent grass during the favorable season between dates specified above unless otherwise accepted, Contractor will be required to plant a temporary cover to protect new graded areas from erosion and to keep windborne dust to a minimum. The temporary cover shall be planted between October 1 and February 28 unless otherwise permitted.

1.5 MEASUREMENT AND PAYMENT

A. When the season or stage of project is such results of grassing work cannot be determined, conditional acceptance will be made on work completed. When conditional acceptance is made for items of work covered, Contractor shall be entitled to 50% of bid price for the actual work placed and shall receive remaining 50% of bid price when final acceptance is made. Conditional acceptance shall not apply to the remaining items of work, and full bid price payment shall be made when work is acceptably placed and completed in accordance with specifications.

B. Payment for grassing will be made at contract unit price for the item "Grassing" and such payment shall constitute full compensation for furnishing and placing seed and fertilizer or sod where directed and protecting and maintaining seed and sod in all graded and disturbed areas.

PART 2 - PRODUCTS

Contractor shall submit source and species certification documents to Engineer and Owner's Representative for review prior to installation. Supply complete information on all analysis / test methodologies and results; laboratory certifications, manufacturer's specifications, and agency approvals to the Landscape Architect prior to placement of soil mixtures. In addition, provide the Landscape Architect with thoroughly mixed sample of soil mixes for approval prior to placement. Landscape Contractor shall make modifications and improvements to soil mixes deemed necessary by the soil analysis to meet requirements specified here in before, and to ensure proper growing medium for plant material.

2.1 SEED

A. All seed shall conform to all State Laws and to all requirements and regulations of the State Department of Agriculture.

B. The varieties of seed, as specified in Section 2.2, shall be individually packaged or bagged, and tagged to show name of seed, net weight, origin, germination, lot number, and other information required by the State Department of Agriculture.

C. The Engineer reserves the right to test, reject, or accept all seed before seeding.

2.2 SEEDING SCHEDULE

A. SEED		RATE	PLANTING DATES
SD-1	Roundstone Seed (or accept equal) Retention basin mix - 133	2.75 lbs/ acre (drilled) 3.5 lbs / acre (hydroseeded)	March 1 - September 30
	Annual Rye (Temp only)	75-lbs/acre	October 1 - February 28

2.3 FERTILIZER

A. Commercial fertilizer of approved type, conforming to state fertilizer laws at the rate as recommended by soils test.

2.4 LIME

A. Agricultural grade, ground limestone at the rate as recommended by soils test.

2.5 SPRIG

A. Healthy living stems, stolons, or rhizomes and attached roots of locally adapted grass without adhering soil, including two to three nodes and from 4 to 6 inches long. Obtain from heavy, dense certified sod. Provide sprigs which have been grown under climatic conditions similar to those in the locality of the project. Coordinate harvesting and planting operations to prevent exposure of sprigs to the sun for more than 30 minutes before covering and moistening. Sprigs showing signs of will, mold, containing weeds or other detrimental material or that are heat damaged will be rejected.

B. The varieties of sprig, as specified in section 2.6, shall be individually packaged or bagged, and tagged to show name of sprig, net weight, origin and other information required by the State Department of Agriculture.

C. Sprigs shall be pure to variety specified and shall be free of other grass species, weeds or foreign matter.

D. Sprigs shall be harvested by digging (not collected above soil level) shredding sod, by rototilling sod and raking, by vericutling or by a sprig harvester. Sprigs shall consist of mostly rhizomes and crowns with only a few green leaves.

2.6 SPRIGGING SCHEDULE

A. SPRIG	RATE	PLANTING DATES
'Tifway 419' Bermuda (or approved equal)	1,000 bushels / ac. (Coverage in 3 months)	April 1 - August 31
Stabilize site with temporary grass seed (See section 2.2)		September 1 - March 31

B. In areas where existing grass is to be matched, Contractor shall sprig at the rate and dates recommended by sprig distributor.

2.7 SOD

A. Sod shall be premium grade, densely rooted, good quality grass of the species and certified variety as shown on the plans, free from noxious weeds with no surface soil being visible. The sod shall be obtained from areas where the soil is reasonably fertile. Sod of specified species with not less than 95 percent germination, not less than 85 percent pure seed, and not more than 0.5 percent weed seed. The sod shall be machine cut to a uniform soil thickness that shall contain practically all of the dense root system and not be less than 1-inch thick.

B. Before cutting, sod shall be mowed to a height of not less that 1-1/2" or more than 2". Sod shall be cut in uniform widths min. 12" and in lengths min. 24 inches.

C. Sod shall be delivered to site in a fresh, moist condition with healthy green foliage. It shall be unloaded from delivery trucks on pallets or rolls and placed in final position within 24 hours of delivery. Sod shall be protected from wind and sun and shall not be allowed to dry out before planting.

D. Sod shall be strong enough to support its own weight and retain its size and shape when suspended vertically from a firm grasp on the upper 10 percent of the section.

2.8 ACCESSORIES

A. Straw Mulch: Oat or wheat straw, reasonably free from weeds, foreign matter detrimental to plant life, and in dry condition.

B. Excelsior Mulch: Excelsior mulch shall consist of wood fibers cut from sound, green timber. The average length of fibers shall be 4 to 6 inches. Cut shall be made in such a manner as to provide maximum strength of fiber, but at a slight angle to natural grain of the wood to cause splintering of fibers when weathering in order to provide adherence to each other and to soil.

C. Wood cellulose fiber shall be made from wood chip particles manufactured particularly for discharging uniformly on the ground surface when dispersed by a hydraulic water sprayer. It shall remain in uniform suspension in water under agitation and blend with grass seed and fertilizer to form a homogenous slurry. Mulch fibers shall intertwine physically to form a strong moisture holding mat on the ground surface and allow rainfall to percolate into underlying soil. The mulch shall be heat processed to contain no germination or growth-inhibiting factors. It shall be dyed (non-toxic) an appropriate color to facilitate metering of material.

2.9 PRODUCT REVIEW

A. Contractor shall provide the Engineer with a complete description of all products before ordering. The Engineer will review all products before they are ordered.

PART 3 - EXECUTION

3.1 PREPARATION

A. Areas to be seeded or sprigged shall be made smooth and uniform and shall conform to the finished grade indicated on plans.

B. Remove foreign materials, plants, roots, stones, and debris from surfaces to be seeded.

C. Grassing areas, if not loose, shall be loosened to a minimum depth of 3 inches before fertilizer, seed, sprig or sod is applied.

D. Amendments to soils shall be incorporated into loosened 3 inch top soil layer as recommended by soils test.

3.2 STAND OF GRASS

A. Before acceptance of seeding or sprigging is performed for the establishment of permanent vegetation, Contractor will be required to produce a satisfactory stand of perennial grass whose root system shall be developed sufficiently to survive dry periods and winter weather and be capable of re-establishment in spring.

B. Before acceptance of seeding performed for the establishment of temporary vegetation, Contractor will be required to produce a stand of grass sufficient to control erosion for a given area and length of time before the next phase of construction or establishment of permanent vegetation is to commence.

3.3 SEEDING AND SPRIGGING DATES

A. Seeding and sprigging shall be performed during periods and at rates specified in their respective schedules. Seeding and sprigging work may, at discretion of Contractor, be performed throughout the year using schedule prescribed for given period. Seeding and sprigging work shall not be conducted when the ground is frozen or excessively wet. Contractor will be required to produce a satisfactory stand of grass regardless of the period of year work is performed.

3.4 APPLYING LIME AND FERTILIZER

A. Following advance preparation and placing selected material for shoulders and slopes, lime and fertilizer, if called for based on soil tests, shall be spread uniformly over the designated areas, and shall be thoroughly mixed with the soil to a depth of approximately 2 inches. Fertilizer and lime shall be applied at the rate at the rate recommended by required soils test. Unless otherwise provided, lime will not be applied for temporary seeding. In all cases where practicable, acceptable mechanical spreaders shall be used for spreading fertilizer. On steep slopes subject to slides and inaccessible to power equipment, the slopes shall be adequately scarified. Fertilizer may be applied on steep slopes by hydraulic methods as a mixture of fertilizer and seed. When fertilizer is applied with combination seed and fertilizer drills, no further incorporation will be necessary. The fertilizer and seed shall be applied together when Wood Cellulose Fiber Mulch is used. Any stones larger than 2 ½ inches in any dimension, larger clods, roots, or other debris brought to the surface shall be removed.

3.5 SEEDING

A. Seed shall be sown within 24 hours following application of fertilizer and lime and preparation of the seedbed as specified in Section 3.4. Seed shall be uniformly sown at rate specified by the use of acceptable mechanical seed drills. Rotary hand seeders, power sprayers or other satisfactory equipment may be used on steep slopes or on other areas inaccessible to seed drills.

B. Seeds shall be covered and lightly compacted by means of cultipacker or light roller if the drill does not perform this operation. On slopes inaccessible to compaction equipment, the seed shall be covered by dragging spiked chains, by light harrowing or by other satisfactory methods.

C. Apply water with fine spray immediately after each area has been sown.

D. Do not sow seed when ground is too dry, during windy periods or immediately following a rain.

E. If permitted by the special provisions, wood cellulose fiber mulch or excelsior fiber mulch may be used.

3.6 SEED PROTECTION (STRAW MULCH)

A. All seeded areas seeded with permanent grasses shall be uniformly mulched in a continuous blanket immediately following seeding and compacting operations, using at least 2 tons of straw per acre.

3.7 SEED PROTECTION (EXCELSIOR MULCH)

A. Seed shall be sown as specified in Section 3.5. Within 24 hours after covering of seed, excelsior mulch shall be uniformly applied at the rate of 2 tons per acre. The mulch may be applied hydraulically or by other acceptable methods. Should the mulch be placed in a dry condition, it shall be thoroughly wetted immediately after placing. Engineer may require light rolling of the mulch to form a tight mat.

3.8 SEED PROTECTION (WOOD CELLULOSE FIBER MULCH)

A. After the lime has been applied and ground prepared as specified in Section 3.4, wood cellulose fiber mulch shall be applied at a rate of 1,500 pounds per acre in a mixture of seed and fertilizer. Hydraulic equipment shall be used for application of fertilizer, seed, and slurry of the prepared wood pulp. This equipment shall have a built-in agitation system with an operating capacity sufficient to agitate, suspend, and homogeneously mix a slurry of the specified amount of fiber, fertilizer, seed, and water. The slurry distribution lines shall be large enough to prevent stoppage. The discharge line shall be equipped with a set of hydraulic spray nozzles which will provide an even distribution of slurry on various areas to be seeded. The slurry tank shall have a minimum capacity of 1,000 gallons.

Seed, fertilizer, wood pulp mulch, and water shall all be combined into the slurry tank for distribution of all ingredients in one operation by hydraulic seeding method specified herein. Materials shall be combined in a manner recommended by the manufacturer. The slurry mixture shall be regulated so amounts and rates of application shall result in a uniform application of all materials at rates not less than amount specified. Using the color of wood pulp as a guide, equipment operator shall spray prepared seedbed with a uniform visible coat. The slurry shall be applied in a sweeping motion, in an arched stream to fall like rain, allowing wood fibers to build upon each other until an even coat is achieved.

3.9 SPRIGGING

A. Sprigs shall be placed at the date and rates as shown in section 2.6. The sprigging method shall be by broadcast sprigging, hydroplanting or row planter. Sprigging procedure shall ensure even coverage.

B. Sprigs applied by broadcast over the site with a distributor or hydroseeder shall be planted at the rates listed in section 2.6. Cover broadcast sprigs with straw mulch immediately after broadcast and water in immediately (within 2 hours).

C. Sprigs installed by row planter creating a narrow furrow that covers 50 to 80% of the sprig with soil may use less sprig material. Rate shall be as recommended by sprig supplier to provide a solid stand of turf within the time required in Section 2.6. Water in immediately (within 1 hour).

3.10 SODDING

A. Sod shall be placed between March 1st and December 1st. However, if sod is to be placed during periods of temperatures over 90 degrees F., the contractor shall take extra care for quick placement of sod with adequate, consistent watering necessary to ensure sod thrives as planted.

B. Sod shall be placed within 24 hours of cutting.

C. Place top elevation of sod 1/2 inch below adjoining paving or curbs.

D. All areas to be sodded shall be brought to the proper line grade or cross section as was existing prior to construction. Sod shall be placed so that, upon completion, the edges of the sodded areas will be smooth and will conform to the proposed finished grade. Sod shall be laid smooth, edge to edge, with staggered joints. Sod shall be immediately pressed firmly into contact with the sod bed by tamping or rolling, to eliminate any air pockets. A true and even surface shall be provided, to insure knitting without displacement of the sod or deformation of the surfaces of the sodded areas. Do not stretch or overlap sod pieces. Following compaction, screened soil of good quality shall be used to fill all cracks, and excess soil shall be worked into the grass with rakes or other suitable equipment. On slopes steeper than 3 to 1, the sod shall be fastened in place with suitable wood or metal pins to hold the sod in place. Any damage by erosion or other causes that may have occurred after completion of grading operations shall be repaired, before commencing with the sodding operations.

E. Immediately before sodding, moisten topsoil with a fine spray to a minimum 1" depth. Sod shall not be laid on soil that is dry and powdery.

F. Sod shall be moist when laid and placed on moist ground. The sod shall be carefully placed by hand, beginning at the toe of slopes and working upwards. The length of the strips shall be at right angles to the flow of surface water. All joints shall be tightly butted and end joints shall be staggered at least 12 inches. The sod shall be immediately pressed firmly into the ground by tamping or rolling. Fill all joints between strips with fine screened soil. Sod on slopes shall be pegged with sod pegs to prevent movement. The sod shall be watered, mowed, weeded, repaired, or otherwise maintained, to insure the establishment of a uniform healthy stand of grass until acceptance.

G. Within 2 hours after sod has been placed, thoroughly water to a minimum depth of 4". After sod and soil have dried, roll sodded areas to ensure good bond between sod and soil and to remove depressions and irregularities. Roll sodded areas with a roller not exceeding 150 lbs. per foot of roller width.

PART 4 - MAINTENANCE, WARRANTY AND ACCEPTANCE

4.1 MAINTENANCE

A. Maintenance shall consist of providing protection against traffic, watering to ensure uniform seed germination and to keep surface of soil damp, and repairing any areas damaged as a result of construction operations or erosion. Maintenance shall also include, but is not limited to, watering, weeding, cultivating, removal of dead material, lawn mowing, fertilizing, and other necessary operations.

B. The Contractor shall maintain all proposed plantings until the date of final acceptance by the Owner.

4.2 WARRANTY

A. All grassed areas shall be guaranteed by the Contractor to be alive and healthy for a one year period from the date of substantial completion issued by the Owner. A final inspection with the Owner shall be conducted at the end of the warranty period to determine if any areas require replanting. At the end of the warranty period, the sod shall show evidence of rooting to the underlying soil and shall have no competitive weed growth from either the sod or from between the sod joints.

B. Any grassed area which is dead or not showing satisfactory growth shall be replaced at Contractor's expense at the end of warranty period. All replacements shall be of original quality and of a size equal to adjacent plants or trees of the same kind. Replacements required because of vandalism, excessive use or other causes beyond the control of the Contractor are not part of this contract.

4.3 ACCEPTANCE

A. Before acceptance of seeding performed for the establishment of permanent vegetation, Contractor will be required to produce a satisfactory stand of perennial grass whose root system shall be developed sufficiently to survive dry periods and winter weather and be capable of reestablishment in spring.

B. A minimum coverage of 80% density over 100% of the disturbed area is required for seeded areas before project acceptance. Sprig and sod areas shall have 95 % coverage over 100% of the disturbed area prior project acceptance.

END OF SECTION

CITY OF WILMINGTON NORTH CAROLINA
Public Services ● Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date:_____ Permit #_____
Signed: _____

Approved Construction Plan

	Name	Date
Planning		
Public Utilities		
Traffic		
Fire		

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4055 EMERSON STREET
CITY OF WILMINGTON, NORTH CAROLINA

PROGRESS BUILDERS, LLC

GRASSING SPECIFICATION

JOB NO:	J-24436.0000
DATE:	9/24/13
DRAWN:	JBJ
DESIGNED:	SKM
REVIEWED:	JDR
APPROVED:	JDR
SCALE:	

LS2.4

LUMINAIRE SCHEDULE

Symbol	Label	Qty	Catalog Number	Description	Lamp	File	Lumens	LLF	Watts
	A	25	LIGHTSOURCE 15M XH MT1 R3 AY LC LIGHTSOURCE B015-02-S1-BC43	DECORATIVE POST TOP	ONE 150-WATT CLEAR ED17 METAL HALIDE, HORIZONTAL POS.	247_15M_R3_AY.ies	12500	0.74	182
	B1	6	LED 80C 1000 50K T3M MVOLT RTSP25-X-XXX-XXX BC PSAB	LED W/2LARGE & 2 SMALL LIGHT ENGINES, (2) TYPE T3M OPTICS	LED	LED_80C_1000_50K_T3M_MVOLT.ies	24506	0.90	275
	B2	7	LED 80C 1000 50K T3M MVOLT HS RTSP25-X-XXX-XXX BC PSAB	LED W/2LARGE & 2 SMALL LIGHT ENGINES, (2) T3M OPTICS, WITH HOUSE SIDE SHIELD	LED	LED_80C_1000_50K_T3M_MVOLT_HS.ies	18460	0.90	275
	C1	4	LED 80C 1000 50K T5M MVOLT RTSP25-X-XXX-XXX BC PSAB	LED W/2 LARGE & 2 SMALL LIGHT ENGINES, (2) LED, TYPE T5M OPTICS	LED	LED_80C_1000_50K_T5M_MVOLT.ies	26085	0.90	275
	C2	3	LED 80C 1000 50K T5M MVOLT RTSP25-X-XXX-XXX BC PSAB	LED W/2 LARGE & 2 SMALL LIGHT ENGINES, (2) LED, TYPE T5M OPTICS	LED	LED_80C_1000_50K_T5M_MVOLT.ies	26085	0.90	550
	V	2	LED 60C 1000 50K T4M MVOLT HS RTSP25-X-XXX-XXX BC PSAB	LED WITH (2) 30 LED LIGHT ENGINES, TYPE T4M WITH HOUSE SIDE SHIELD	LED	LED COURT_60C_1000_50K_T4M_MVOLT_HS.ies	13913	0.90	209
	S	2	SIGN LIGHT TCF 2/13DTT 120 LPI	SIGN LIGHT	2 - 13 WATT DTT	98122211.IES	2300	1.00	35

STATISTICS

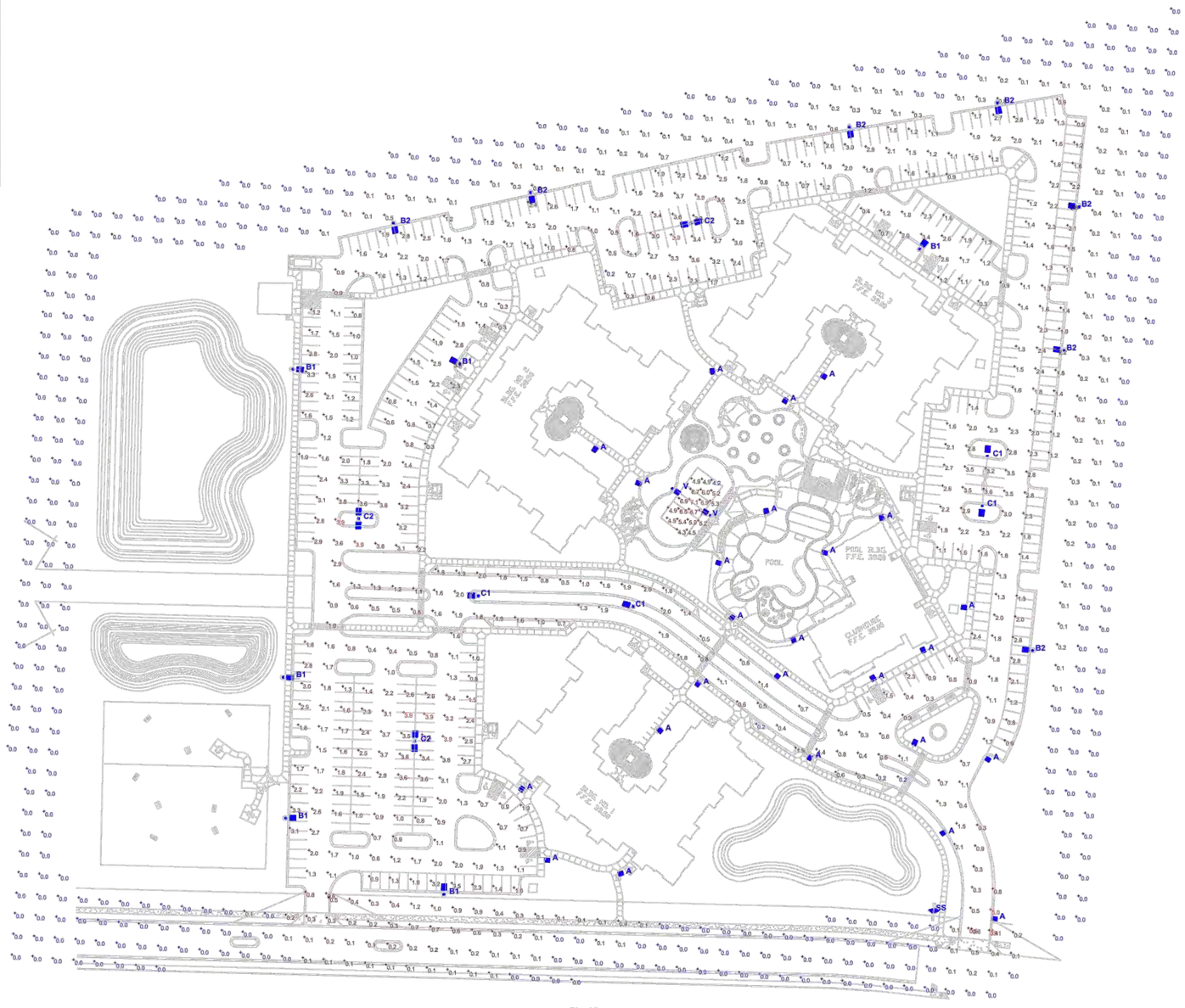
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
DRIVEWAY	+	1.0 fc	5.0 fc	0.2 fc	25.0:1	5.0:1
PARKING	+	1.9 fc	3.9 fc	0.2 fc	19.5:1	9.5:1
PROPOERTY LINE	+	0.1 fc	3.1 fc	0.0 fc	N / A	N / A
VOLLEYBALL COURT	+	5.7 fc	7.1 fc	4.2 fc	1.7:1	1.4:1

NOTES

1. ALL FOOTCANDLE VALUES ARE MAINTAINED.
2. LUMINAIRES ARE MOUNTED ON 25 FT STEEL POLES WITH 3 FT BASE.

DECORATIVE FIXTURE

LED FIXTURE



Plan View
Scale 1" = 50'

CITY OF WILMINGTON NORTH CAROLINA
Public Services ● Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date:_____ Permit #_____
Signed: _____

Approved Construction Plan

	Name	Date
Planning		
Public Utilities		
Traffic		
Fire		

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Know what's below.
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LIGHTSOURCE

PROGRESS 910 - 4055 EMERSON STREET
WILMINGTON, NC
PROGRESS BUILDERS

Designer	JGM3
Date	Oct 16 2013
Scale	AS SHOWN
Drawing No.	005PXP

3 of 3

Preliminary
For Review Only

NO.	REVISIONS	BY	DATE

THOMAS & HUTTON
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SITE LIGHTING PLAN

JOB NO:	J-24436.0000
DATE:	9/24/13
DRAWN:	JBJ
DESIGNED:	SKM
REVIEWED:	JDR
APPROVED:	JDR
SCALE:	NOT TO SCALE

SL.1