

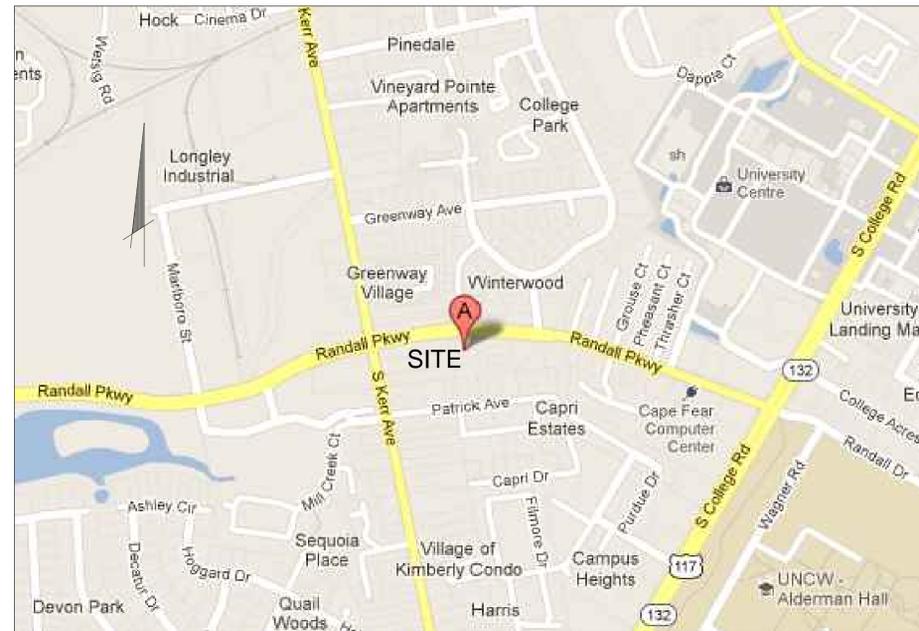
The Solstice Lofts

4810 Randall Parkway

City of Wilmington, New Hanover County, North Carolina
Major Site Plan Submittal

DEVELOPMENT DATA

PROJECT:	The Solstice Lofts
PLAN TYPE:	MAJOR SITE PLAN
ENGINEER:	CHANDLER ENGINEERING, PA JIM CHANDLER, PE 309 S. FUQUAY AVENUE FUQUAY-VARINA, NC 27526 PHONE: 919-552-4845 FAX: 919-552-6962 EMAIL: jim@chandlerengineeringpa.com
OWNER/DEVELOPER:	THE LOFTS AT RANDALL LLC CATHERINE CONNORS - MANAGER 106 MUIR WOODS DRIVE CARY, NC 27513 PHONE: 919-380-0446 EMAIL: cathy.connors@solsticepartners.net
PROPERTY ADDRESS:	4810 RANDALL PARKWAY 4629 PATRICK AVENUE 363 S. KERR AVENUE 369 S. KERR AVENUE 375 S. KERR AVENUE
PARCEL NUMBER:	313711-67-9382.000 313711-77-1253.000 313711-67-6311.000 313711-67-6221.000 313711-67-6150.000
REFERENCE:	DB 4073, PG 784 DB 5503, PG 1266 DB 5567, PG 479 DB 5298, PG 1819
ZONING:	MF-L (CD)
PROPOSED USE:	MULTI-FAMILY
EXISTING TRACT AREA:	5.57 ACRES



VICINITY MAP - 1"=1000'

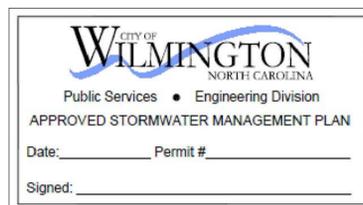
SHEET INDEX

- C1.01 - SITE INVENTORY/TREE PRESERVATION/DEMOLITION PLAN
- C2.01 - SITE LAYOUT PLAN
- C3.01 - SITE GRADING PLAN
- C4.01 - SITE SEDIMENTATION AND EROSION CONTROL PLAN
- C5.01 - SITE UTILITY PLAN
- C5.02 - SANITARY SEWER PLAN/PROFILE
- C6.01 - SITE PLANTING PLAN
- C6.02 - DETAILED PLANTING PLAN
- C7.01 - SITE DETAILS
- C7.02 - SITE DETAILS
- C7.03 - SITE DETAILS
- L1.0 - LIGHTING PLAN
- SSD-1 - CFPUA SANITARY SEWER STANDARD DETAILS
- SSD-2 - CFPUA SANITARY SEWER STANDARD DETAILS
- SSD-3 - CFPUA SANITARY SEWER STANDARD DETAILS
- WSD-1 - CFPUA WATER DISTRIBUTION SYSTEM STANDARD DETAILS
- WSD-2 - CFPUA WATER DISTRIBUTION SYSTEM STANDARD DETAILS

CONDITIONAL DISTRICT ZONING CONDITIONS

1. The use and development of the subject property shall comply with all regulations and requirements imposed by the Land Development Code, the City of Wilmington Technical Standards and Specifications Manual and any other applicable federal, state or local law, ordinance or regulation, as well as any condition stated below. In the event of a conflict, the more stringent requirement or higher standard shall apply.
2. Approval of this rezoning request does not constitute technical approval of the site plan. Final approval by the Technical Review Committee and the issuance of all required permits must occur prior to release of the project for construction.
3. If, for any reason, any condition for approval is found to be illegal or invalid or if the applicant should fail to accept any condition following approval, the approval of the site plan for the district shall be null and void and of no effect and proceedings shall be instituted to rezone the property to its previous zoning classification.
4. The use and development of the subject property shall be in accordance with the plan as submitted 2/21/14 and approved. The permitted use shall be restricted to a maximum 54-unit multi-family residential development.
5. Ingress and egress to the site shall be provided by two, right-in/right-out driveways from Randall Parkway.
6. All existing protected trees not impacted by essential site improvements shall be preserved or mitigated.
7. Access to the site shall be restricted to Randall Parkway.
8. The use of the Patrick Avenue access for construction, pedestrian or any other use associated with the multi-family residential development shall be prohibited.
9. A 10-foot wide multi-use path shall be provided along Randall Parkway and South Kerr Avenue.
10. A minimum of 70 bicycle parking spaces shall be provided on the site.
11. Exterior site lighting shall be installed so as not to shine directly onto adjacent parcels and shall be limited to full cutoff type fixtures.
12. A conceptual site lighting plan shall be submitted prior to construction release.
13. Any freestanding signs on the site shall be monument style with landscaping around the base of the sign, no pole signs shall be permitted and internal illumination shall be prohibited.
14. The use of pine straw as ground cover shall be prohibited within ten (10) feet of any combustible exterior construction.
15. Tree protection fencing shall be installed along all protected trees with signage of no material storage in English and Spanish.
16. All applicable city, state and federal regulations shall be followed.

The Solstice Lofts
4810 Randall Parkway
 City of Wilmington, New Hanover County, North Carolina
 Major Site Plan Submittal



Approved Construction Plan	
Name	Date
Planning _____	_____
Traffic _____	_____
Fire _____	_____

chandler engineering pa
309 S. Fuquay Avenue, Fuquay-Varina, NC 27526
Phone: 919-552-4845 Fax: 919-552-6962

CALL 48 HOURS BEFORE YOU DIG
1-800 632-4949
NORTH CAROLINA ONE-CALL CENTER





GRAPHIC SCALE
 (IN FEET)
 1 inch = 40 ft.

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

ALL DEVELOPMENT SHALL BE IN ACCORDANCE WITH THE CITY OF WILMINGTON LAND DEVELOPMENT CODE

CURVE TABLE

CURVE	RADIUS	LENGTH	TANGENT	BEARING	CHORD	DELTA
C1	2694.48	274.56	137.28	S87°52'32"W	274.44	5°50'17"
C2	2694.98	340.23	170.14	S87°24'44"W	340.00	7°14'00"

LINE TABLE

LINE	BEARING	LENGTH
L1	S79°51'52"W	2.58
L2	S12°13'56"E	12.21

FUTURE KERR AVENUE IMPROVEMENTS SHOWN FOR COORDINATION PURPOSES ONLY AND WERE TAKEN FROM CAD FILE PROVIDED BY THE NCDOT

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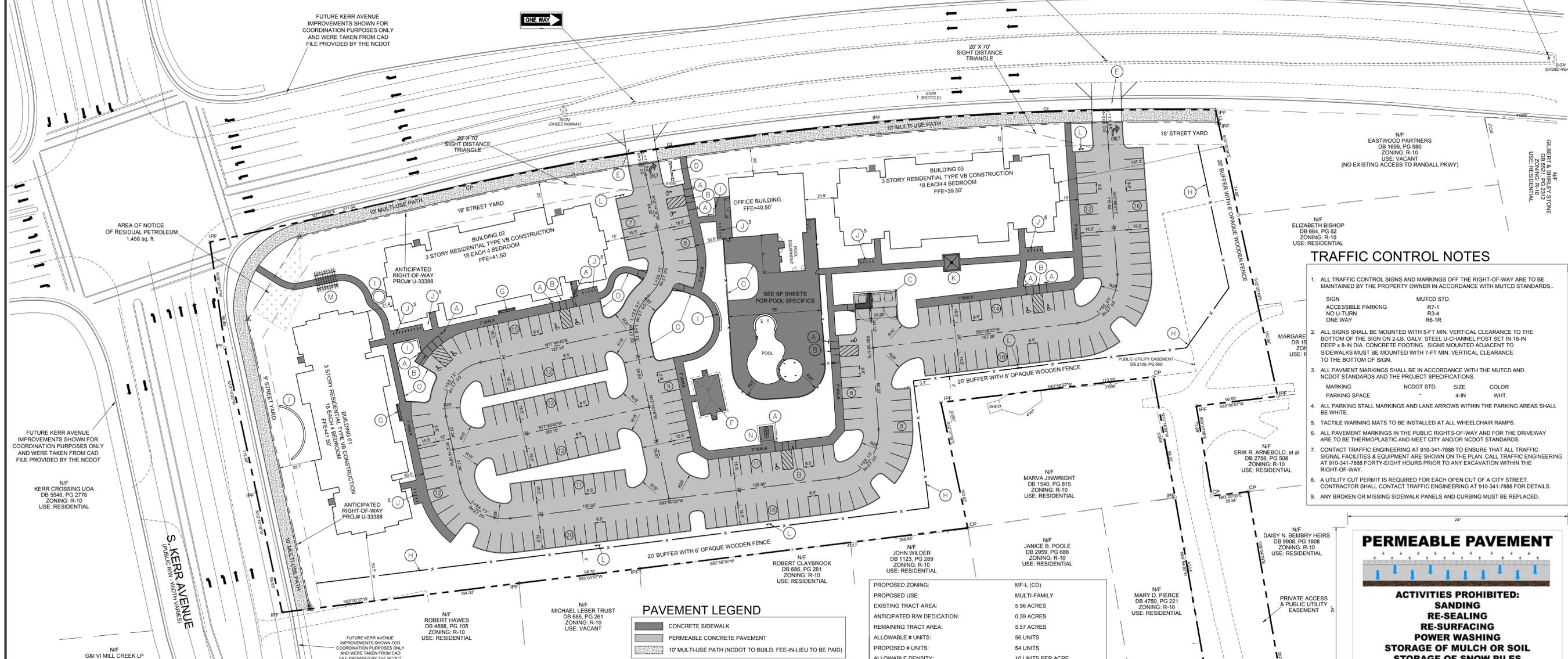
Approved Construction Plan

Name: _____ Date: _____

Planning: _____

Traffic: _____

Fire: _____



TRAFFIC CONTROL NOTES

- ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
- ALL SIGNS SHALL BE MOUNTED WITH 5-FT MIN. VERTICAL CLEARANCE TO THE BOTTOM OF THE SIGN ON 2-LB. GALV. STEEL U-CHANNEL POST SET IN 18-IN DEEP x 8-IN DIA. CONCRETE FOOTINGS. SIGNS MOUNTED ADJACENT TO SIDEWALKS MUST BE MOUNTED WITH 7-FT MIN. VERTICAL CLEARANCE TO THE BOTTOM OF SIGN.
- ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MUTCD AND NCDOT STANDARDS AND THE PROJECT SPECIFICATIONS.
- ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
- TACTILE WARNING MATS TO BE INSTALLED AT ALL WHEELCHAIR RAMPS.
- ALL PAVEMENT MARKINGS IN THE PUBLIC RIGHTS-OF-WAY AND FOR THE DRIVEWAY ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS.
- CONTACT TRAFFIC ENGINEERING AT 910-341-7888 TO ENSURE THAT ALL TRAFFIC SIGNAL FACILITIES & EQUIPMENT ARE SHOWN ON THE PLAN. CALL TRAFFIC ENGINEERING AT 910-341-7888 FORTY-EIGHT HOURS PRIOR TO ANY EXCAVATION WITHIN THE RIGHT-OF-WAY.
- A UTILITY CUT PERMIT IS REQUIRED FOR EACH OPEN CUT OF A CITY STREET. CONTRACTOR SHALL CONTACT TRAFFIC ENGINEERING AT 910-341-7888 FOR DETAILS.
- ANY BROKEN OR MISSING SIDEWALK PANELS AND CURBING MUST BE REPLACED.

PERMEABLE PAVEMENT



KEY NOTES

- (A) ACCESSIBLE PARKING AND SIGNAGE, SEE DETAIL SHEET
- (B) ACCESSIBLE WHEELCHAIR RAMP, SEE DETAIL SHEET
- (C) DUMPSTER ENCLOSURE, REFER ARCHITECTURAL PLANS.
- (D) PROPOSED PROJECT SIGN, REFER TO ARCHITECTURAL PLANS
- (E) MODIFIED DRIVEWAY APRON, SEE DETAIL SHEET
- (F) PICNIC SHELTER, TABLES, GRILL, REFER TO ARCHITECTURAL PLANS
- (G) PERMANENTLY ANCHORED, WEATHER RESISTENT BENCH WITH A BACK, OWNER TO COORDINATE MANUFACTURER AND COLOR SPECIFICS
- (H) 6' TALL OPAQUE WOODEN FENCE, SEE DETAIL SHEET
- (I) SEAT WALL, SEE DETAIL SHEET
- (J) BIKE RACK, SEE DETAIL SHEET
- (K) GAZEBO, REFER ARCHITECTURAL PLANS.
- (L) 24" x 24" PERMEABLE PAVEMENT SIGN, SEE DETAIL THIS SHEET.
- (M) TRELLIS, REFER TO ARCHITECTURAL PLANS
- (N) MAIL KIOSK, REFER TO ARCHITECTURAL PLANS
- (O) PLANTER WITH CURB, SEE DETAIL SHEET

GENERAL NOTES

- ALL CURVE RADII ARE 5 FT AT FACE OF CURB, UNLESS OTHERWISE NOTED.
- ALL CURBING SHALL BE 4" HIGH BY 6" WIDE HEADER CURB. SEE DETAIL SHEET.
- Ⓜ DENOTES VAN ACCESSIBLE PARKING SPACE.
- ALL REQUIRED IMPROVEMENTS SHALL CONFORM TO CITY OF WILMINGTON STANDARDS AND SPECIFICATIONS.
- SOLID WASTE DUMPSTER AREAS WILL BE SCREENED WITH LANDSCAPE MATERIALS AS REQUIRED BY THE CITY OF WILMINGTON LAND DEVELOPMENT CODE
- ALL HVAC AND MECHANICAL EQUIPMENT WILL BE GROUND MOUNTED AND SHALL BE SCREENED FROM PUBLIC VIEW. REFER TO PLANTING PLAN ADJACENT INFORMATION.
- ALL SIDEWALKS SHALL BE 5-FEET IN WIDTH, UNLESS OTHERWISE NOTED.
- ALL SIDEWALKS THAT ABUT PARKING SHALL BE TURNED DOWN AND BE 7-FEET IN WIDTH.
- ALL PARKING SPACES SHALL BE AS REQUIRED PER THE TECHNICAL STANDARDS.
- ANY FREESTANDING SIGN(S) ON THE SITE SHALL BE MONUMENT STYLE WITH LANDSCAPING AROUND THE BASE OF THE SIGN. NO POLES SIGNS SHALL BE PERMITTED AND INTERNAL ILLUMINATION SHALL BE PROHIBITED.
- ALL PROPOSED VEGETATION WITHIN SIGHT TRIANGLES SHALL NOT INTERFERE WITH CLEAR VISUAL SIGHT LINES FROM 30' - 10'.
- A LANDSCAPING PLAN INDICATING THE LOCATION OF REQUIRED STREET TREES SHALL BE SUBMITTED TO THE CITY OF WILMINGTON TRAFFIC ENGINEERING DIVISION AND PARKS AND RECREATION DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO THE RECORDING OF THE FINAL PLAN.

DEVELOPMENT DATA

PROJECT:	THE SOLSTICE LOFTS
PLAN TYPE:	MAJOR SITE PLAN
ENGINEER:	CHANDLER ENGINEERING, PA JIM CHANDLER, PE 309 S. FLOQUAY AVENUE FLOQUAY-VARINA, NC 27526 PHONE: 919-552-4845 FAX: 919-552-4962 EMAIL: jim@chandlerengineeringpa.com
OWNER/DEVELOPER:	THE LOFTS AT RANDALL LLC CATHERINE CONNORS - MANAGER 105 MUIR WOODS DRIVE CARY, NC 27513 PHONE: 919-380-0446 EMAIL: cathy.connors@solsticepartners.net
PROPERTY ADDRESSES:	4810 RANDALL PARKWAY 4629 PATRICK AVENUE 363 S. KERR AVENUE 369 S. KERR AVENUE 375 S. KERR AVENUE
PARCEL NUMBERS:	313711-67-9382.000 313711-71-1253.000 313711-67-6311.000 313711-67-6221.000 313711-67-6150.000
REFERENCES:	DB 4073, PG 784 DB 5593, PG 1269 DB 5567, PG 479 DB 5298, PG 1819

PAVEMENT LEGEND



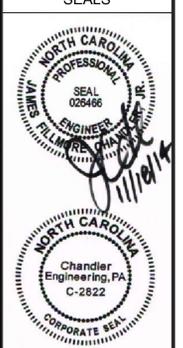
REQUIRED PARKING (QUAD UNITS)

MINIMUM 1 SPACE PER BEDROOM	216
MAXIMUM: MINIMUM PLUS 1 SPACE PER 10 UNITS	221
PROPOSED PARKING:	221
ACCESSIBLE PARKING REQUIRED:	7
ACCESSIBLE PARKING PROVIDED:	10
BIKE PARKING REQUIRED:	20 SPACES
BIKE PARKING PROVIDED:	70 SPACES (35 RACKS)
OPEN SPACE CALCULATIONS:	
OPEN SPACE REQUIRED (POST R/W DEDICATION):	84,920 SF (35.0%)
OPEN SPACE PROVIDED (POST R/W DEDICATION):	93,703 SF (38.6%)
AREA PROVIDED IS TOTAL TRACT AREA (242,629 SF) MINUS COVERED SURFACES (124,440 SF). (DOES NOT INCLUDE EXISTING GRAVEL DRIVE)	
PLANTING ISLANDS (4,104 SF)	
FOUNDATION PLANTING AREA (2,321 SF) AND FENCED BUFFERS (18,061 SF)	
REC. AREA REQUIRED (50% OF OPEN SPACE REQUIRED):	42,460 SF
ACTIVE REC. AREA REQUIRED (50% OF REC AREA):	21,230 SF
PASSIVE REC. AREA REQUIRED (50% OF REC. AREA):	21,230 SF
ACTIVE REC. AREA PROVIDED:	21,717 SF
PASSIVE REC. AREA PROVIDED:	23,265 SF
TOTAL REC. AREA PROVIDED:	44,982 SF

PROPOSED ZONING: MF-L (CD)

PROPOSED ZONING:	MF-L (CD)	
PROPOSED USE:	MULTI-FAMILY	
EXISTING TRACT AREA:	5.96 ACRES	
ANTICIPATED R/W DEDICATION:	0.39 ACRES	
REMAINING TRACT AREA:	5.57 ACRES	
ALLOWABLE # UNITS:	56 UNITS	
PROPOSED # UNITS:	54 UNITS	
ALLOWABLE DENSITY:	10 UNITS PER ACRE	
PROPOSED DENSITY:	9.69 UNITS PER ACRE	
PROPOSED # BEDROOMS:	216 TOTAL BEDROOMS	
GROSS FLOOR AREA (APARTMENTS):	97,938 SF (3 @ 32,646 SF)	
GROSS FLOOR AREA (COMMUNITY CENTER):	3,966 SF	
BUILDING COVERAGE:		
APARTMENT BUILDINGS:	3 @ 10,882 SF	
OFFICE/POOL HOUSE:	3,996 SF	
PICNIC SHELTER:	792 SF	
GAZEBO:	144 SF	
MAIL KIOSK:	184 SF	
TOTAL:	37,762 SF (15.6%)	
MIN. BUILDING SETBACKS:		
(FRONT) CODE: 35' ACTUAL: 20'		
(REAR) CODE: 25' ACTUAL: 53'6"		
(SIDE) CODE: 20' ACTUAL: 137'		
(CORNER SIDE) CODE: 30' ACTUAL: 28'5"		
MAX. BUILDING HEIGHT:	3-STORY / 38' MEAN ROOF	
CAMA LAND CLASSIFICATION:	URBAN	
POST CONSTRUCTION IMPERVIOUS SURFACE AREAS:		
(POST R/W DEDICATION)		
ON-SITE	OFF-SITE	
ROOFTOP:	37,163 SF	0 SF
WALKS:	19,372 SF	10,401 SF
NON-PERMEABLE PAVEMENT:	1,263 SF	1,790 SF
PERMEABLE PAVEMENT:	66,642 SF	0 SF
(75% REDUCTION FOR TYPE A SOILS):	-49,982 SF	
TOTAL:	74,458 SF	12,191 SF

chandler engineering pa
 309 S. Floquay Avenue, Floquay-Varina, NC 27526
 Phone: 919-552-4845 Fax: 919-552-4962



REVISIONS

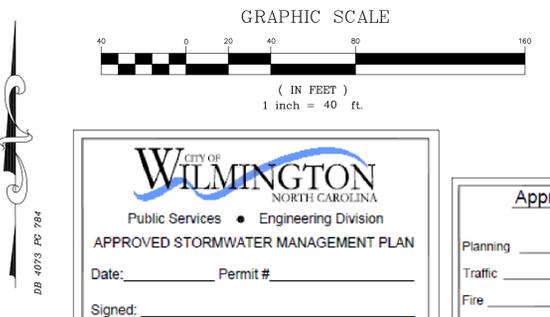
DATE	COMMENTS
10/28/14	REVISED PER COUNTY EROSION COMMENTS
11/14/14	REVISED PER COUNTY EROSION COMMENTS
11/18/14	REVISED PER UTILITY AND GRADING COMMENTS

MAJOR SITE PLAN

The Solstice Lofts
 4810 Randall Parkway
 Wilmington, North Carolina

REVIEWED BY:	JFC
DATE:	6/19/14
PROJECT NUMBER:	13-006
COUNTY:	NEW HANOVER
ZONING:	MF-L (CD)
TOWNSHIP:	WILMINGTON

SITE LAYOUT PLAN
C2.01
 JUNE 2014

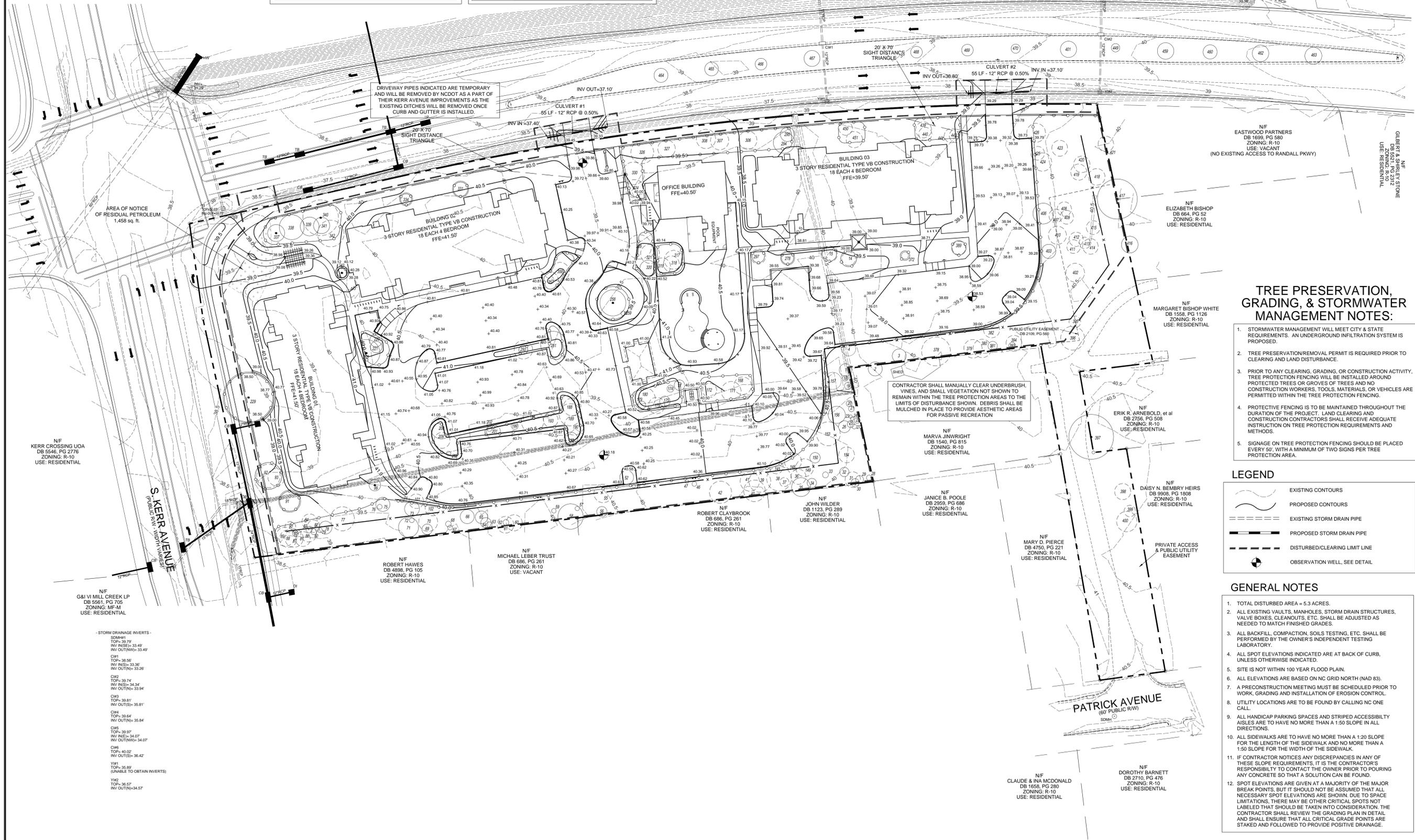


ALL DEVELOPMENT SHALL BE IN ACCORDANCE WITH THE CITY OF WILMINGTON LAND DEVELOPMENT CODE

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

Approved Construction Plan

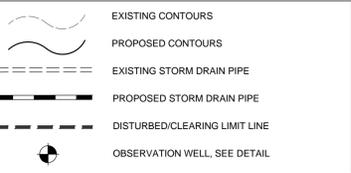
Name	Date
Planning	_____
Traffic	_____
Fire	_____



TREE PRESERVATION, GRADING, & STORMWATER MANAGEMENT NOTES:

- STORMWATER MANAGEMENT WILL MEET CITY & STATE REQUIREMENTS. AN UNDERGROUND INFILTRATION SYSTEM IS PROPOSED.
- TREE PRESERVATION/REMOVAL PERMIT IS REQUIRED PRIOR TO CLEARING AND LAND DISTURBANCE.
- 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.
- 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.
- SIGNAGE ON TREE PROTECTION FENCING SHOULD BE PLACED EVERY 50' WITH A MINIMUM OF TWO SIGNS PER TREE PROTECTION AREA.

LEGEND

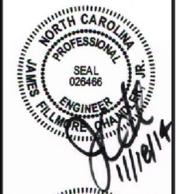


GENERAL NOTES

- TOTAL DISTURBED AREA = 5.3 ACRES.
- ALL EXISTING VAULTS, MANHOLES, STORM DRAIN STRUCTURES, VALVE BOXES, CLEANOUTS, ETC. SHALL BE ADJUSTED AS NEEDED TO MATCH FINISHED GRADES.
- ALL BACKFILL, COMPACTION, SOIL TESTING, ETC. SHALL BE PERFORMED BY THE OWNER'S INDEPENDENT TESTING LABORATORY.
- ALL SPOT ELEVATIONS INDICATED ARE AT BACK OF CURB, UNLESS OTHERWISE INDICATED.
- SITE IS NOT WITHIN 100 YEAR FLOOD PLAIN.
- ALL ELEVATIONS ARE BASED ON NC GRID NORTH (NAD 83).
- A PRECONSTRUCTION MEETING MUST BE SCHEDULED PRIOR TO WORK, GRADING AND INSTALLATION OF EROSION CONTROL.
- UTILITY LOCATIONS ARE TO BE FOUND BY CALLING NC ONE CALL.
- ALL HANDICAP PARKING SPACES AND STRIPED ACCESSIBILITY AISLES ARE TO HAVE NO MORE THAN A 1:50 SLOPE IN ALL DIRECTIONS.
- ALL SIDEWALKS ARE TO HAVE NO MORE THAN A 1:20 SLOPE FOR THE LENGTH OF THE SIDEWALK AND NO MORE THAN A 1:50 SLOPE FOR THE WIDTH OF THE SIDEWALK.
- IF CONTRACTOR NOTICES ANY DISCREPANCIES IN ANY OF THESE SLOPE REQUIREMENTS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE OWNER PRIOR TO POURING ANY CONCRETE SO THAT A SOLUTION CAN BE FOUND.
- SPOT ELEVATIONS ARE GIVEN AT A MAJORITY OF THE MAJOR BREAK POINTS, BUT IT SHOULD NOT BE ASSUMED THAT ALL NECESSARY SPOT ELEVATIONS ARE SHOWN. DUE TO SPACE LIMITATIONS, THERE MAY BE OTHER CRITICAL SPOTS NOT LABELED THAT SHOULD BE TAKEN INTO CONSIDERATION. THE CONTRACTOR SHALL REVIEW THE GRADING PLAN IN DETAIL AND SHALL ENSURE THAT ALL CRITICAL GRADE POINTS ARE STAKED AND FOLLOWED TO PROVIDE POSITIVE DRAINAGE.

chandler engineering pa
309 S. Fünbury Avenue, Fünbury-Veolia, NC 27526
Phone: 919-552-4845 Fax: 919-552-6952

SEALS



REVISIONS

DATE	COMMENTS
10/28/14	REVISED PER COUNTY EROSION COMMENTS
11/14/14	REVISED PER COUNTY EROSION COMMENTS
11/18/14	REVISED PER UTILITY AND GRADING CHANGES

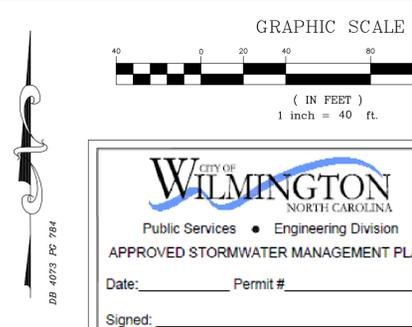
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SITE GRADING PLAN

C3.01
JUNE 2014

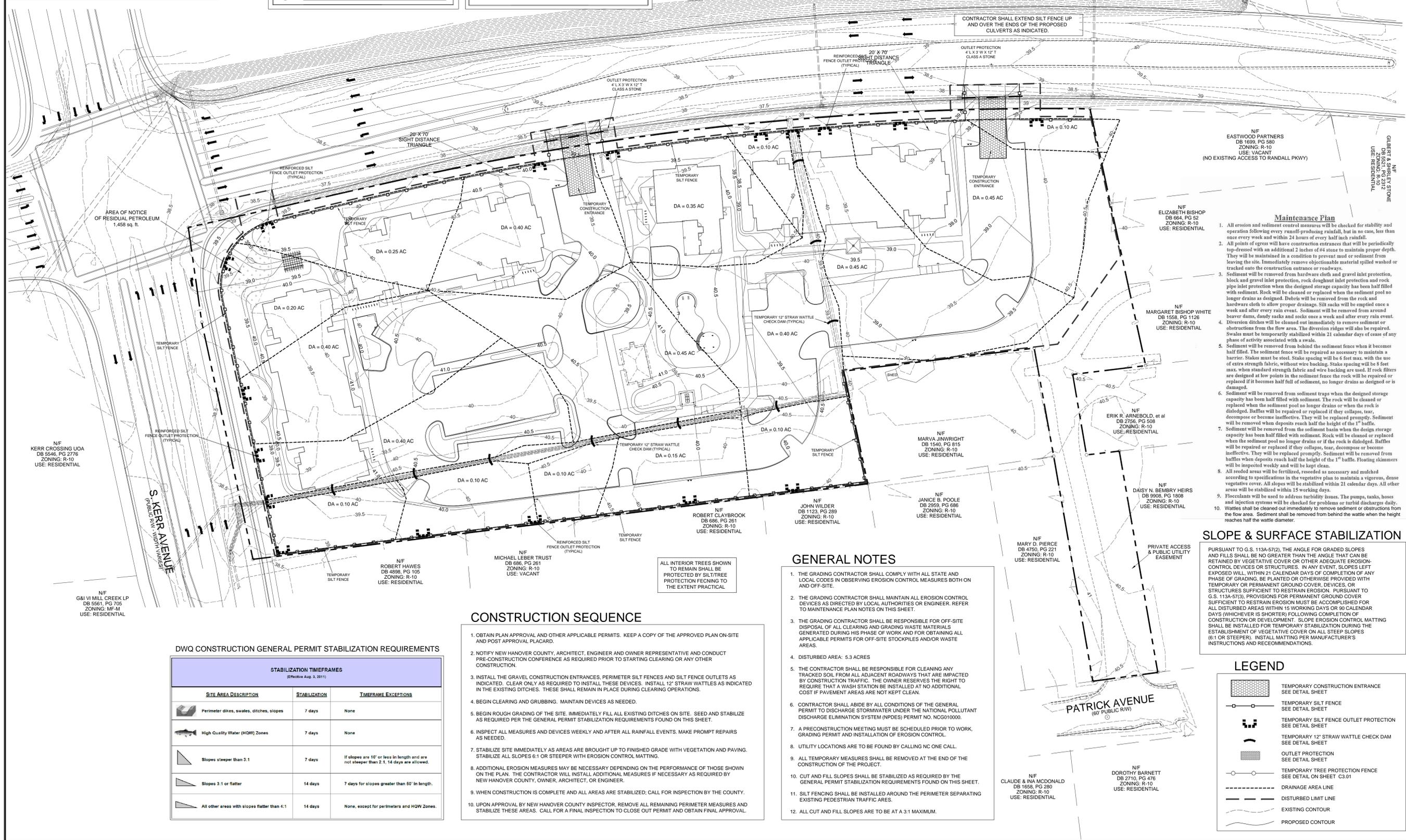


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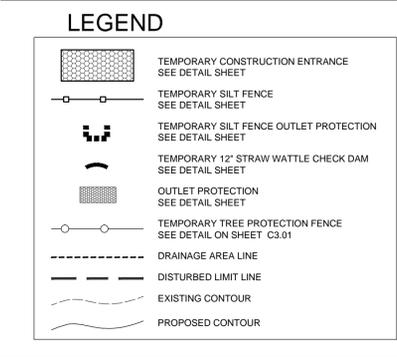
Approved Construction Plan

Name	Date
Planning	
Traffic	
Fire	



- Maintenance Plan**
- All erosion and sediment control measures will be checked for stability and operation following every runoff-producing rainfall, but in no case, less than once every week and within 24 hours of every half inch rainfall.
 - All points of access will have construction entrances that will be periodically top-dressed with an additional 2 inches of #4 stone to maintain proper depth. They will be maintained in a condition to prevent mud or sediment from leaving the site. Immediately remove objectionable material spilled washed or tracked onto the construction entrance or roadways.
 - Sediment will be removed from hardware cloth and gravel inlet protection, block and gravel inlet protection, rock doughnut inlet protection and rock pipe inlet protection when the designed storage capacity has been half filled with sediment. Rock will be cleaned or replaced when the sediment pool no longer drains as designed. Debris will be removed from the rock and hardware cloth to allow proper drainage. Silt sacks will be emptied once a week and after every rain event. Sediment will be removed from around beaver dams, dandy sacks and socks once a week and after every rain event.
 - Diversion ditches will be cleaned out immediately to remove sediment or obstructions from the flow area. The diversion ridges will also be repaired. Swales must be temporarily stabilized within 21 calendar days of cease of any phase of activity associated with a swale.
 - Sediment will be removed from behind the sediment fence when it becomes half filled. The sediment fence will be repaired as necessary to maintain a barrier. Stakes must be steel. Stake spacing will be 6 feet max. with the use of extra strength fabric, without wire backing. Stake spacing will be 8 feet max. when standard strength fabric and wire backing are used. If rock filters are designed at low points in the sediment fence the rock will be repaired or replaced if it becomes half full of sediment, no longer drains as designed or is damaged.
 - Sediment will be removed from sediment traps when the designed storage capacity has been half filled with sediment. The rock will be cleaned or replaced when the sediment pool no longer drains or when the rock is dislodged. Baffles will be repaired or replaced if they collapse, tear, decompose or become ineffective. They will be replaced promptly. Sediment will be removed when deposits reach half the height of the 1" baffles.
 - Sediment will be removed from the sediment basin when the design storage capacity has been half filled with sediment. Rock will be cleaned or replaced when the sediment pool no longer drains or if the rock is dislodged. Baffles will be repaired or replaced if they collapse, tear, decompose or become ineffective. They will be replaced promptly. Sediment will be removed from baffles when deposits reach half the height of the 1" baffles. Floating skimmers will be inspected weekly and will be kept clean.
 - All seeded areas will be fertilized, reseeded as necessary and mulched according to specifications in the vegetative plan to maintain a vigorous, dense vegetative cover. All slopes will be stabilized within 21 calendar days. All other areas will be stabilized within 15 working days.
 - Flocculants will be used to address turbidity issues. The pumps, tanks, hoses and injection systems will be checked for problems or turbid discharges daily. Wastes shall be cleaned out immediately to remove sediment or obstructions from the flow area. Sediment shall be removed from behind the wattle when the height reaches half the wattle diameter.

- SLOPE & SURFACE STABILIZATION**
- PURSUANT TO G.S. 113A-57(2), THE ANGLE FOR GRADED SLOPES AND FILLS SHALL BE NO GREATER THAN THE ANGLE THAT CAN BE RETAINED BY VEGETATIVE COVER OR OTHER ADEQUATE EROSION-CONTROL DEVICES OR STRUCTURES. IN ANY EVENT, SLOPES LEFT EXPOSED WILL, WITHIN 21 CALENDAR DAYS OF COMPLETION OF ANY PHASE OF GRADING, BE PLANTED OR OTHERWISE PROVIDED WITH TEMPORARY OR PERMANENT GROUND COVER, DEVICES, OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION. PURSUANT TO G.S. 113A-57(3), PROVISIONS FOR PERMANENT GROUND COVER SUFFICIENT TO RESTRAIN EROSION MUST BE ACCOMPLISHED FOR ALL DISTURBED AREAS WITHIN 15 WORKING DAYS OR 60 CALENDAR DAYS (WHICHEVER IS SHORTER) FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT. SLOPE EROSION CONTROL MATTING SHALL BE INSTALLED FOR TEMPORARY STABILIZATION DURING THE ESTABLISHMENT OF VEGETATIVE COVER ON ALL STEEP SLOPES (6:1 OR STEEPER). INSTALL MATTING PER MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.



GENERAL NOTES

- THE GRADING CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL CODES IN OBSERVING EROSION CONTROL MEASURES BOTH ON AND OFF-SITE.
- THE GRADING CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL DEVICES AS DIRECTED BY LOCAL AUTHORITIES OR ENGINEER. REFER TO MAINTENANCE PLAN NOTES ON THIS SHEET.
- THE GRADING CONTRACTOR SHALL BE RESPONSIBLE FOR OFF-SITE DISPOSAL OF ALL CLEARING AND GRADING WASTE MATERIALS GENERATED DURING HIS PHASE OF WORK AND FOR OBTAINING ALL APPLICABLE PERMITS FOR OFF-SITE STOCKPILES AND/OR WASTE AREAS.
- DISTURBED AREA: 5.3 ACRES
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING ANY TRACKED SOIL FROM ALL ADJACENT ROADWAYS THAT ARE IMPACTED BY CONSTRUCTION TRAFFIC. THE OWNER RESERVES THE RIGHT TO REQUIRE THAT A WASH STATION BE INSTALLED AT NO ADDITIONAL COST IF PAVEMENT AREAS ARE NOT KEPT CLEAN.
- CONTRACTOR SHALL ABIDE BY ALL CONDITIONS OF THE GENERAL PERMIT TO DISCHARGE STORMWATER UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT NO. NC0010000.
- A PRECONSTRUCTION MEETING MUST BE SCHEDULED PRIOR TO WORK, GRADING PERMIT AND INSTALLATION OF EROSION CONTROL.
- UTILITY LOCATIONS ARE TO BE FOUND BY CALLING NC ONE CALL.
- ALL TEMPORARY MEASURES SHALL BE REMOVED AT THE END OF THE CONSTRUCTION OF THE PROJECT.
- CUT AND FILL SLOPES SHALL BE STABILIZED AS REQUIRED BY THE GENERAL PERMIT STABILIZATION REQUIREMENTS FOUND ON THIS SHEET.
- SILT FENCING SHALL BE INSTALLED AROUND THE PERIMETER SEPARATING EXISTING PEDESTRIAN TRAFFIC AREAS.
- ALL CUT AND FILL SLOPES ARE TO BE AT A 3:1 MAXIMUM.

CONSTRUCTION SEQUENCE

- OBTAIN PLAN APPROVAL AND OTHER APPLICABLE PERMITS. KEEP A COPY OF THE APPROVED PLAN ON-SITE AND POST APPROVAL PLACARD.
- NOTIFY NEW HANOVER COUNTY, ARCHITECT, ENGINEER AND OWNER REPRESENTATIVE AND CONDUCT PRE-CONSTRUCTION CONFERENCE AS REQUIRED PRIOR TO STARTING CLEARING OR ANY OTHER CONSTRUCTION.
- INSTALL THE GRAVEL CONSTRUCTION ENTRANCES, PERIMETER SILT FENCES AND SILT FENCE OUTLETS AS INDICATED. CLEAR ONLY AS REQUIRED TO INSTALL THESE DEVICES. INSTALL 12" STRAW WATTLES AS INDICATED IN THE EXISTING DITCHES. THESE SHALL REMAIN IN PLACE DURING CLEARING OPERATIONS.
- BEGIN CLEARING AND GRUBBING. MAINTAIN DEVICES AS NEEDED.
- BEGIN ROUGH GRADING OF THE SITE. IMMEDIATELY FILL ALL EXISTING DITCHES ON SITE. SEED AND STABILIZE AS REQUIRED PER THE GENERAL PERMIT STABILIZATION REQUIREMENTS FOUND ON THIS SHEET.
- INSPECT ALL MEASURES AND DEVICES WEEKLY AND AFTER ALL RAINFALL EVENTS. MAKE PROMPT REPAIRS AS NEEDED.
- STABILIZE SITE IMMEDIATELY AS AREAS ARE BROUGHT UP TO FINISHED GRADE WITH VEGETATION AND PAVING. STABILIZE ALL SLOPES 6:1 OR STEEPER WITH EROSION CONTROL MATTING.
- ADDITIONAL EROSION MEASURES MAY BE NECESSARY DEPENDING ON THE PERFORMANCE OF THOSE SHOWN ON THE PLAN. THE CONTRACTOR WILL INSTALL ADDITIONAL MEASURES IF NECESSARY AS REQUIRED BY NEW HANOVER COUNTY, OWNER, ARCHITECT, OR ENGINEER.
- WHEN CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED, CALL FOR INSPECTION BY THE COUNTY.
- UPON APPROVAL BY NEW HANOVER COUNTY INSPECTOR, REMOVE ALL REMAINING PERIMETER MEASURES AND STABILIZE THESE AREAS. CALL FOR A FINAL INSPECTION TO CLOSE OUT PERMIT AND OBTAIN FINAL APPROVAL.

DWQ CONSTRUCTION GENERAL PERMIT STABILIZATION REQUIREMENTS

STABILIZATION TIMEFRAMES (Effective Aug. 3, 2011)		
SITE AREA DESCRIPTION	STABILIZATION	TIMEFRAME EXCEPTIONS
Perimeter dikes, swales, ditches, slopes	7 days	None
High Quality Water (HQW) Zones	7 days	None
Slopes steeper than 3:1	7 days	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed.
Slopes 3:1 or flatter	14 days	7 days for slopes greater than 50' in length.
All other areas with slopes flatter than 4:1	14 days	None, except for perimeters and HQW Zones.

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3009 S. Flamingo Avenue - Flamingo - Virginia, NC 27576
Phone: 919-552-4845 Fax: 919-552-6992

SEALS

PROFESSIONAL ENGINEER
SEAL 026466
JAMES W. CHANDLER, P.E.
NORTH CAROLINA

CHANDLER ENGINEERING, P.A.
CORPORATE SEAL
C-2822

REVISIONS

DATE	COMMENTS
10/28/14	REVISED PER COUNTY EROSION COMMENTS
11/14/14	REVISED PER COUNTY EROSION COMMENTS
11/18/14	REVISED PER UTILITY AND GRADING CHANGES

MAJOR SITE PLAN

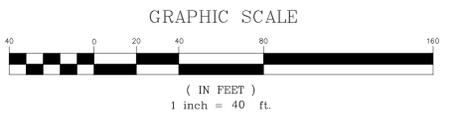
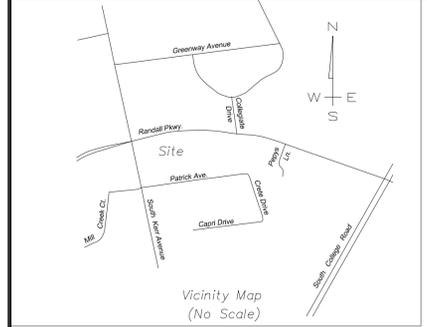
The Solstice Lofts
4810 Randall Parkway
Wilmington, North Carolina

REVIEWED BY: JFC
DATE: 6/19/14
PROJECT NUMBER: 13-006
COUNTY: NEW HANOVER
ZONING: MF-L (CD)
TOWNSHIP: WILMINGTON

SITE SEDIMENTATION AND EROSION CONTROL PLAN

C4.01

JUNE 2014



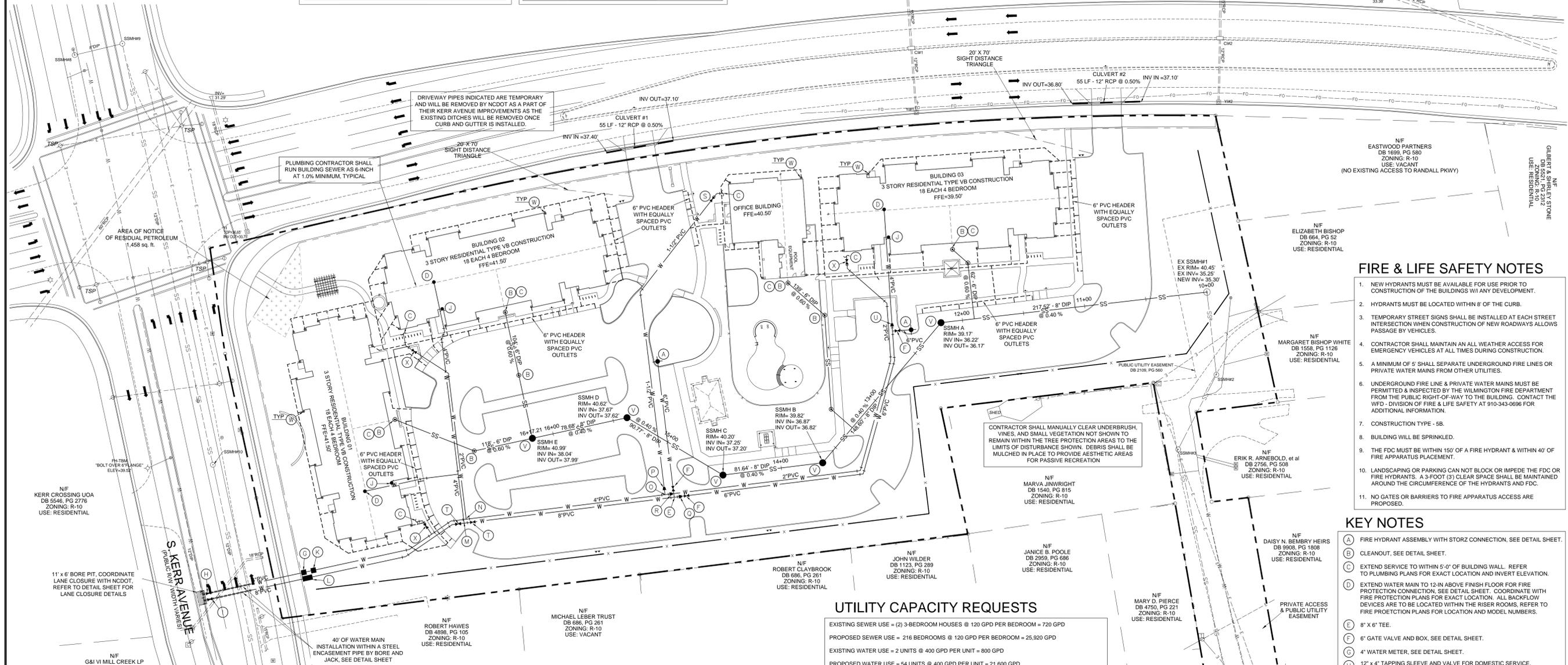
CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: _____ Permit # _____
Signed: _____

Approved Construction Plan
Name _____ Date _____
Planning _____
Traffic _____
Fire _____

ALL DEVELOPMENT SHALL BE IN ACCORDANCE WITH THE CITY OF WILMINGTON LAND DEVELOPMENT CODE

COMBUSTIBLE MATERIAL NOTE

AN APPROVED WATER SUPPLY FOR FIRE PROTECTION, EITHER TEMPORARY OR PERMANENT, SHALL BE MADE AVAILABLE AS SOON AS COMBUSTIBLE MATERIAL ARRIVES ON THE SITE. A WATER SUPPLY MUST BE CONNECTED TO THE WET STANDPIPE, AND UNDERGROUND WATER SUPPLY AND HYDRANTS MUST BE AVAILABLE FOR THE DRY STANDPIPES AS SOON AS COMBUSTIBLE MATERIALS ARE ON THE JOB SITE. THE UNFINISHED BUILDING IS MOST VULNERABLE TO FIRE AND MUST BE PROTECTED AS MUCH AS POSSIBLE.



FIRE & LIFE SAFETY NOTES

- NEW HYDRANTS MUST BE AVAILABLE FOR USE PRIOR TO CONSTRUCTION OF THE BUILDINGS WITH ANY DEVELOPMENT.
- HYDRANTS MUST BE LOCATED WITHIN 8' OF THE CURB.
- TEMPORARY STREET SIGNS SHALL BE INSTALLED AT EACH STREET INTERSECTION WHEN CONSTRUCTION OF NEW ROADWAYS ALLOWS PASSAGE BY VEHICLES.
- CONTRACTOR SHALL MAINTAIN AN ALL WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
- A MINIMUM OF 5' SHALL SEPARATE UNDERGROUND FIRE LINES OR PRIVATE WATER MAINS FROM OTHER UTILITIES.
- UNDERGROUND FIRE LINE & PRIVATE WATER MAINS MUST BE PERMITTED & INSPECTED BY THE WILMINGTON FIRE DEPARTMENT FROM THE PUBLIC RIGHT-OF-WAY TO THE BUILDING. CONTACT THE WFD - DIVISION OF FIRE & LIFE SAFETY AT 910-343-6966 FOR ADDITIONAL INFORMATION.
- CONSTRUCTION TYPE - 5B.
- BUILDING WILL BE SPRINKLED.
- THE FDC MUST BE WITHIN 150' OF A FIRE HYDRANT & WITHIN 40' OF FIRE APPARATUS PLACEMENT.
- LANDSCAPING OR PARKING CAN NOT BLOCK OR IMPEDE THE FDC OR FIRE HYDRANTS. A 3-FOOT (3') CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE HYDRANTS AND FDC.
- NO GATES OR BARRIERS TO FIRE APPARATUS ACCESS ARE PROPOSED.

KEY NOTES

- (A) FIRE HYDRANT ASSEMBLY WITH STORZ CONNECTION, SEE DETAIL SHEET.
- (B) CLEAN-OUT, SEE DETAIL SHEET.
- (C) EXTEND SERVICE TO WITHIN 5'-0" OF BUILDING WALL. REFER TO PLUMBING PLANS FOR EXACT LOCATION AND INVERT ELEVATION.
- (D) EXTEND WATER MAIN TO 12-IN ABOVE FINISH FLOOR FOR FIRE PROTECTION CONNECTION, SEE DETAIL SHEET. COORDINATE WITH FIRE PROTECTION PLANS FOR EXACT LOCATION. ALL BACKFLOW DEVICES ARE TO BE LOCATED WITHIN THE RISER ROOMS, REFER TO FIRE PROTECTION PLANS FOR LOCATION AND MODEL NUMBERS.
- (E) 8" x 6" TEE.
- (F) 6" GATE VALVE AND BOX, SEE DETAIL SHEET.
- (G) 4" WATER METER, SEE DETAIL SHEET.
- (H) 12" x 4" TAPPING SLEEVE AND VALVE FOR DOMESTIC SERVICE, SEE DETAIL SHEET.
- (I) 12" x 8" TAPPING SLEEVE AND VALVE FOR FIRE SERVICE, SEE DETAIL SHEET.
- (J) FDC TO BE LOCATED ON BUILDING WALL. REFER TO FIRE PROTECTION PLANS FOR EXACT LOCATION AND SPECIFICS.
- (K) 4" REDUCED PRESSURE ASSEMBLY IN HEATED ENCLOSURE, SEE DETAIL SHEET.
- (L) 8" REDUCED PRESSURE DETECTOR ASSEMBLY IN HEATED ENCLOSURE, SEE DETAIL SHEET.
- (M) 8" x 4" TEE.
- (N) 4" x 2" TEE.
- (O) 2" x 2" TEE.
- (P) 2" x 1-1/2" REDUCER.
- (Q) 8" x 6" REDUCER.
- (R) 4" x 2" REDUCER.
- (S) 1.5" GATE VALVE AND BOX, SEE DETAIL SHEET.
- (T) 8" GATE VALVE AND BOX, SEE DETAIL SHEET.
- (U) 6" x 4" REDUCER.
- (V) OFFSET MANHOLE, SEE DETAIL SHEET.
- (W) DOWNSPOUT SCREEN, SEE DETAIL SHEET.
- (X) 2" GATE VALVE AND BOX, SEE DETAIL SHEET.

UTILITY CAPACITY REQUESTS

EXISTING SEWER USE = (2) 3-BEDROOM HOUSES @ 120 GPD PER BEDROOM = 720 GPD
 PROPOSED SEWER USE = 216 BEDROOMS @ 120 GPD PER BEDROOM = 25,920 GPD
 EXISTING WATER USE = 2 UNITS @ 400 GPD PER UNIT = 800 GPD
 PROPOSED WATER USE = 54 UNITS @ 400 GPD PER UNIT = 21,600 GPD

UTILITY NOTES

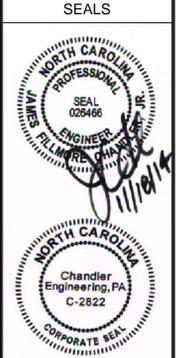
- EXISTING WATER & SANITARY SEWER SERVICES ARE CURRENTLY AVAILABLE TO THE SITE FROM CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA) PUBLIC MAINS.
- ALL UTILITY SERVICES, SUCH AS ELECTRIC, CATV, GAS, & TELEPHONE SHALL BE INSTALLED UNDERGROUND.
- ALL WATER & SEWER UTILITIES TO BE INSTALLED PER CFPUA TECHNICAL SPECIFICATIONS & STANDARDS.
- PROJECT SHALL COMPLY WITH CFPUA CROSS CONNECTION CONTROL REQUIREMENTS. WATER METER(S) CANNOT BE RELEASED UNTIL ALL REQUIREMENTS ARE MET AND NCDEN HAS ISSUED THEIR "FINAL APPROVAL". CALL 343-3910 FOR INFORMATION.
- ANY BACKFLOW PREVENTION DEVICES REQUIRED BY CFPUA WILL NEED TO BE ON THE LIST OF APPROVED DEVICES BY USCFCCHR OR ASSE.
- WATER & SEWER SERVICES CANNOT BE ACTIVATED ON NEW MAINS UNTIL THE ENGINEER'S CERTIFICATION AND AS-BUILTS ARE RECEIVED AND "FINAL APPROVAL" ISSUED BY THE PUBLIC WATER SUPPLY SECTION OF NCDEN, AND "FINAL ENGINEERING CERTIFICATION" ISSUED BY DIVISION OF WATER QUALITY SECTION OF NCDEN.
- IF CONTRACTOR DESIRES CFPUA WATER FOR CONSTRUCTION, HE SHALL APPLY IN ADVANCE FOR THIS SERVICE AND MUST PROVIDE A REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTION DEVICE ON THE DEVELOPER'S SIDE OF THE WATER METER BOX.
- WHEN PVC WATER MAINS AND SERVICES ARE PROPOSED, THE PIPES ARE TO BE MARKED WITH NO. 10 INSULATED, SINGLE-STRAND COPPER WIRE INSTALLED & STRAPPED TO THE PIPES WITH DUCT TAPE. THIS IS TO BE ACCESSIBLE IN ALL VALVES AND METER BOXES TO AID IN FUTURE LOCATION OF FACILITIES.
- THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF EXISTING UTILITIES DURING CONSTRUCTION. CALL ULOCO AT 1-800-632-4849. CONTRACTOR IS RESPONSIBLE FOR THE REPAIR AND REPLACEMENT OF ANY UTILITIES, CURB & GUTTER, PAVEMENT, ETC. THAT MAY BE DAMAGED DURING CONSTRUCTION. DAMAGED ITEMS SHALL BE REPAIRED TO AT LEAST THE QUALITY OR WORKMANSHIP FOUND IN THE ORIGINAL ITEM.
- THE BELL SOUTH CONTACT IS STEVE DAYVAULT, BUILDING INDUSTRY CONSULTANT, AT 910-392-8712. CONTACT HIM PRIOR TO STARTING THE PROJECT IN ORDER TO FACILITATE GOOD COMMUNICATION AND MAXIMUM FLEXIBILITY.
- THE PROCESS FOR TELEPHONE CABLE PLACEMENT:
 - FINAL GRADE WILL NEED TO BE ESTABLISHED
 - POWER WILL PLACE THEIR CABLE FIRST - APPROX. 3' DEEP
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- ANY IRRIGATION SYSTEM SUPPLIED BY CITY WATER SHALL COMPLY WITH THE CITY'S CROSS CONNECTION CONTROL REGULATIONS. CALL 910-343-3910 FOR INFORMATION.

UTILITY LEGEND

	EXISTING	PROPOSED		EXISTING	PROPOSED
ELECTRICAL (OVERHEAD)	E	E	LIGHT POLE	LP	LP
ELECTRICAL (UNDERGROUND)	UE	UE	UTILITY POLE	UP	UP
FOUNDATION DRAIN	FD	FD	MANHOLE	MH	MH
GAS	G	G	CLEAN OUT	CO	CO
SANITARY SEWER	SS	SS	DROP INLET/CATCH BASIN	DI, CB	DI, CB
TELEPHONE (OVERHEAD)	T	T	FIRE HYDRANT	FH	FH
TELEPHONE (UNDERGROUND)	UT	UT	WATER VALVE	WV	WV
WATER	W	W	POST INDICATOR VALVE	PIV	PIV
ROOF DRAIN	RD	RD	THRUST BLOCKING	TB	TB
FORCE MAIN (SEWER)	FM	FM	DOWNSPOUT CONNECTION	DC	DC
FIBER OPTIC	FO	FO			
PLANTER DRAIN	PD	PD			
CHILLED WATER	CW	CW			
STORM DRAIN	SD	SD			

SANITARY SEWER INVERTS -	STORM DRAINAGE INVERTS -
SSMH1 RIM= 40.45 INV OUT(S)= 35.25	SSMH1 TOP= 39.79 INV IN(S)= 33.49 INV OUT(S)= 33.49
SSMH2 RIM= 40.15 INV IN(S)= 34.96 INV OUT(S)= 34.96	SSMH2 TOP= 38.56 INV IN(S)= 33.36 INV OUT(S)= 33.36
SSMH3 RIM= 40.31 INV IN(S)= 34.51 INV OUT(S)= 34.51	SSMH3 TOP= 39.74 INV IN(S)= 33.94 INV OUT(S)= 33.94
SSMH4 RIM= 40.45 INV IN(S)= 33.25 INV OUT(S)= 33.25	SSMH4 TOP= 39.64 INV IN(S)= 33.84 INV OUT(S)= 33.84
SSMH5 RIM= 39.57 INV IN(S)= 32.87 INV OUT(S)= 26.57	SSMH5 TOP= 39.97 INV IN(S)= 34.07 INV OUT(S)= 34.07
SSMH6 RIM= 39.81 INV IN(S)= 34.01 INV OUT(S)= 34.01	SSMH6 TOP= 40.02 INV IN(S)= 36.42 INV OUT(S)= 36.42
SSMH7 RIM= 39.99 INV IN(S)= 34.29 INV OUT(S)= 34.29	SSMH7 TOP= 39.99 INV IN(S)= 34.29 INV OUT(S)= 34.29
SSMH8 RIM= 38.46 INV IN(S)= 35.36 INV OUT(S)= 25.36	SSMH8 TOP= 38.57 INV IN(S)= 34.57 INV OUT(S)= 34.57
SSMH9 RIM= 37.62 INV IN(S)= 34.29 INV OUT(S)= 24.92	SSMH9 TOP= 37.62 INV IN(S)= 34.29 INV OUT(S)= 24.92
SSMH10 RIM= 38.46 INV IN(S)= 35.36 INV OUT(S)= 25.36	SSMH10 TOP= 38.46 INV IN(S)= 35.36 INV OUT(S)= 25.36

chandler engineering pa
309 S. Flamingo Avenue, Flamingo-Virginia, NC 27526
Phone: 919-552-4845 Fax: 919-552-6962



REVISIONS

DATE	COMMENTS
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MAJOR SITE PLAN

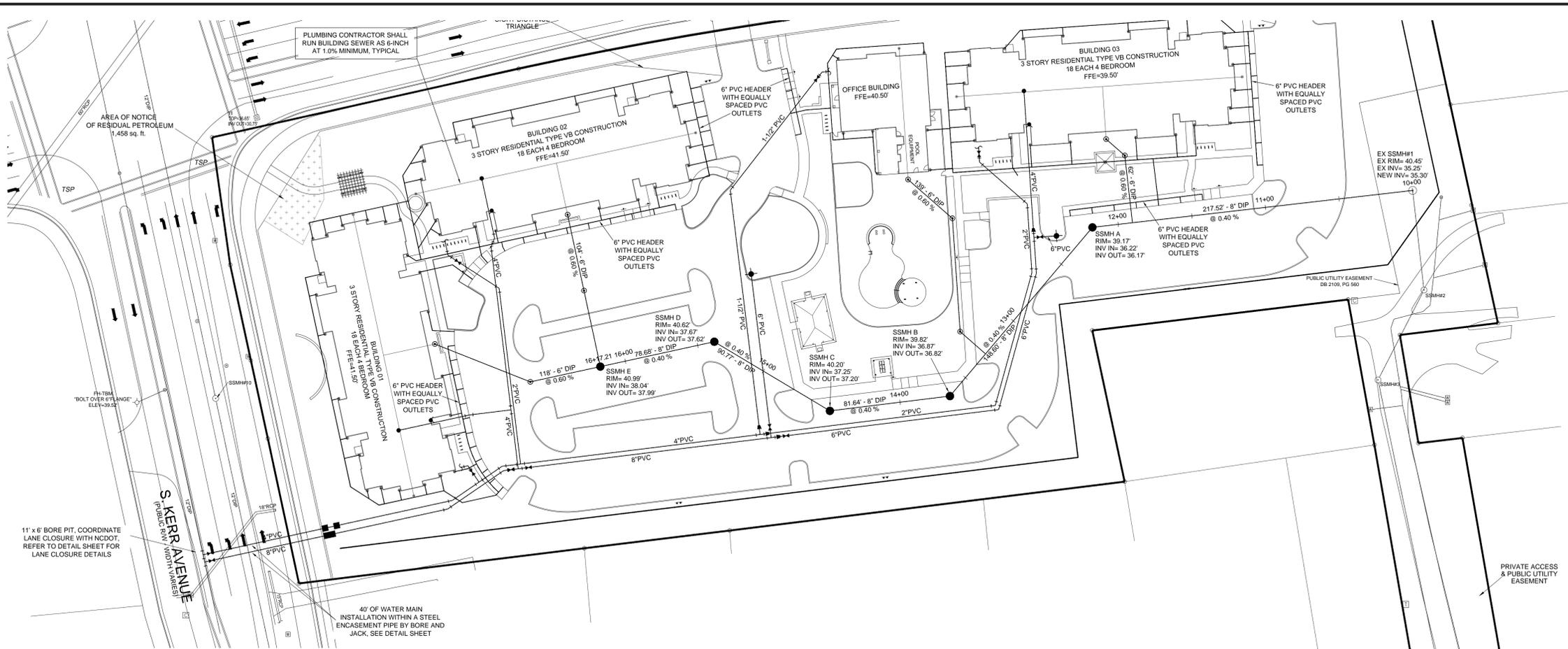
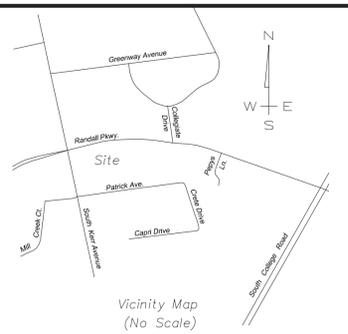
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Wilmington, North Carolina

REVIEWED BY: JFC
DATE: 6/19/14
PROJECT NUMBER: 13-006
COUNTY: NEW HANOVER
ZONING: MF-L (CD)
TOWNSHIP: WILMINGTON

SITE UTILITY PLAN

C5.01

JUNE 2014



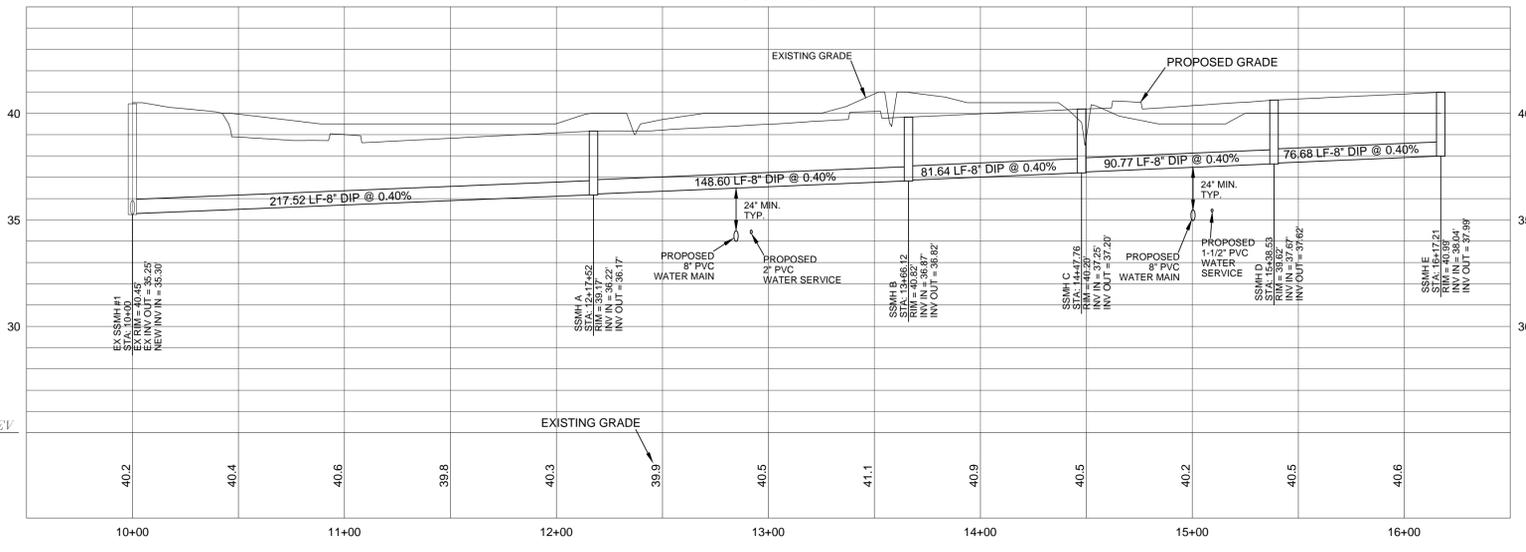
PROPOSED SANITARY SEWER MAIN
 EX SS MANHOLE #1 THRU SS MANHOLE E
 STA. 10+00 THRU 16+17.21
 HORIZONTAL SCALE: 1"=40'
 VERTICAL SCALE: 1"=4'

UTILITY LEGEND

	EXISTING	PROPOSED		EXISTING	PROPOSED
ELECTRICAL (OVERHEAD)	E		LIGHT POLE	LP	★
ELECTRICAL (UNDERGROUND)	UE		UTILITY POLE	PP	●
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GAS	G		CLEAN OUT	CO	⊙
SANITARY SEWER	SS		DROP INLET, CATCH BASIN	DI, CB	■
TELEPHONE (OVERHEAD)	T		FIRE HYDRANT	FH	⊙
TELEPHONE (UNDERGROUND)	UT		WATER VALVE	WV	⊕
WATER	W		POST INDICATOR VALVE		⊕
ROOF DRAIN	RD	RD	THRUST BLOCKING		⊕
FORCE MAIN (SEWER)	FM	FM	DOWNSPOUT CONNECTION		■
FIBER OPTIC	FO	FO			
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STORM DRAIN					

UTILITY NOTES

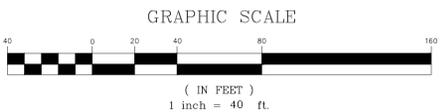
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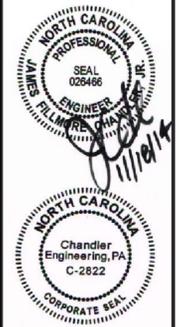


WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
 Date: _____ Permit # _____
 Signed: _____

Approved Construction Plan
 Name _____ Date _____
 Planning _____
 Traffic _____
 Fire _____

chandler engineering pa
 309 S. Fungway Avenue, Fungway-Veneta, NC 27526
 Phone: 919-552-4845 Fax: 919-552-6982

SEALS



REVISIONS

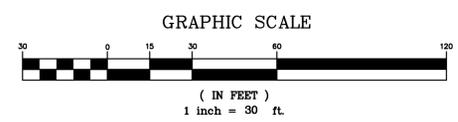
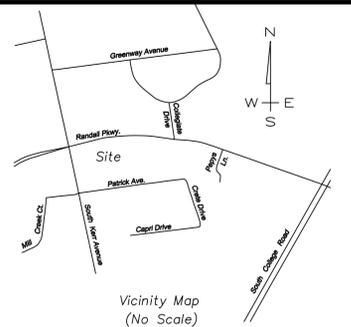
DATE	COMMENTS
10/28/14	REVISED PER COUNTY EROSION COMMENTS
11/14/14	REVISED PER COUNTY EROSION COMMENTS
11/18/14	REVISED PER UTILITY AND GRADING CHANGES

MAJOR SITE PLAN

The Solstice Lofts
 4810 Randall Parkway
 Wilmington, North Carolina

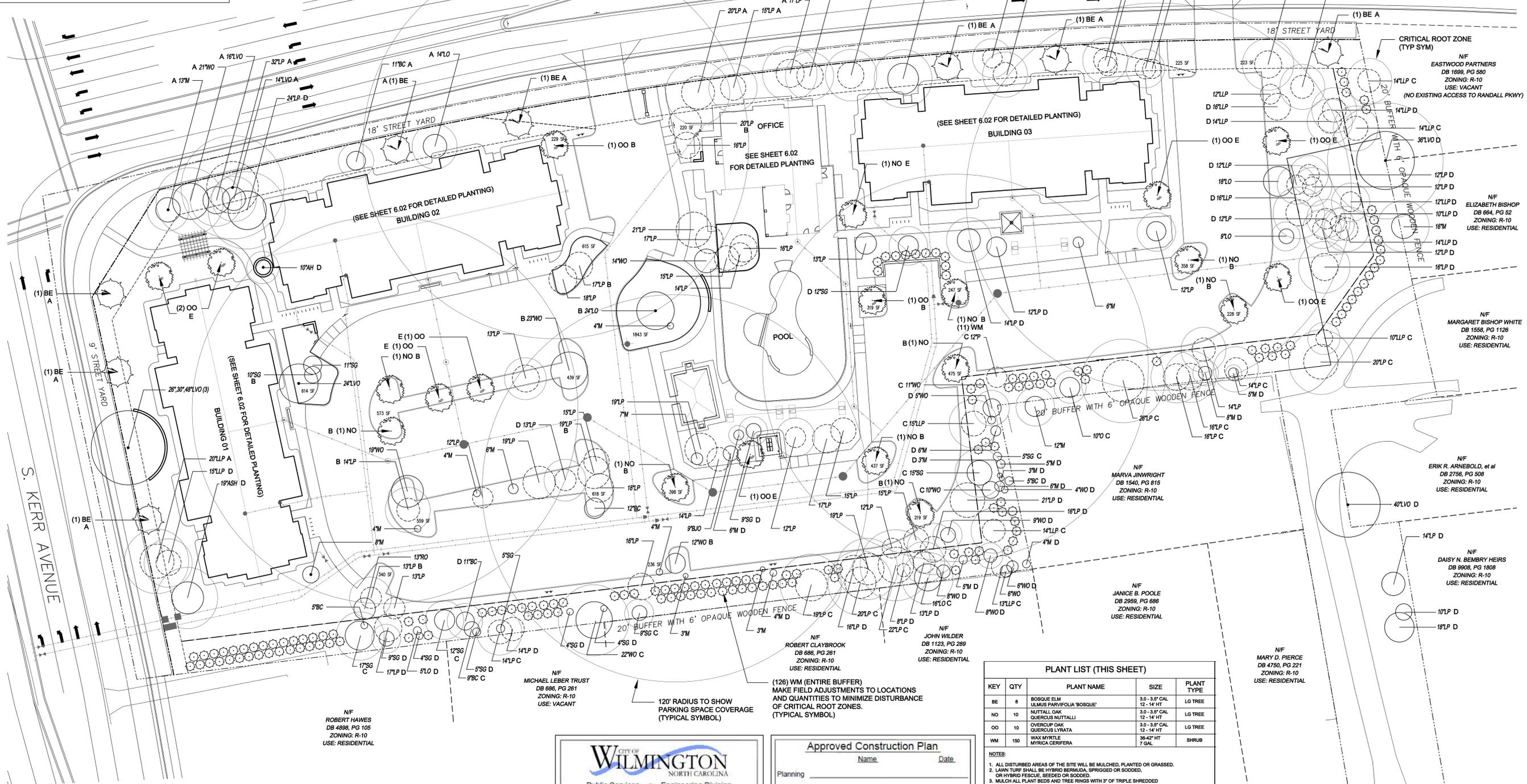
REVIEWED BY:	JFC
DATE:	6/19/14
PROJECT NUMBER:	13-006
COUNTY:	NEW HANOVER
ZONING:	MF-L (CD)
TOWNSHIP:	WILMINGTON

SANITARY SEWER PLAN/PROFILE
C5.02
 JUNE 2014



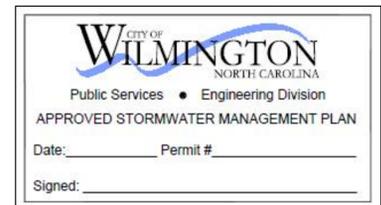
ALL DEVELOPMENT SHALL BE IN ACCORDANCE WITH THE CITY OF WILMINGTON LAND DEVELOPMENT CODE

RANDALL PARKWAY



EXISTING TREE KEY

AH	AMERICAN HOLLY	DW	DOGWOOD	M	SOUTHERN MAGNOLIA	SYC	SYCAMORE
ILEX	OPACA	CORNUS	FLORIDA	MAGNOLIA	GRANDIFLORA	PLATANUS	OCIDENTALIS
CAROLINA	ASH	LLP	LONGLEAF PINE	MIM	MIMOSA TREE	WO	WATER OAK
FRAXINUS	CAROLINIANA	PECAN	ALBIZIA JULIBRISIN	PECAN	PECAN	QUERCUS	NIGRA
PRUNUS	SEROTINA	LO	LAUREL OAK	CARYA	ILLINOENSIS	RM	RED MAPLE
QUERCUS	LAIURIFOLIA	LP	LOBLOLLY PINE	RO	SOUTHERN RED OAK	ACER	RUBRUM
QUERCUS	MARILANDICA	LP	LOBLOLLY PINE	SG	SWEETGUM		
QUERCUS	FALCATA	LVO	LIVE OAK	LIGUAMBAR	STRACIPLUA		
BW	BLACK WALNUT						
JUGLANS	NIGRA						



NOTE:
LANDSCAPE CALCULATIONS AND DETAILED PLANTINGS ARE SHOWN ON SHEET 6.02

Approved Construction

Name: _____ Date: _____

Planning: _____

Traffic: _____

Fire: _____

STEPHEN PEASE
LANDSCAPE ARCHITECTURAL SERVICES

1609 Phelps West Road (919) 612-6851
Fuquay - Varina North Carolina 27526
twopease@earthlink.net

PLANT LIST (THIS SHEET)

KEY	QTY	PLANT NAME	SIZE	PLANT TYPE
BE	8	BOSQUE ELM ULMUS PARVIFOLIA 'BOSQUE'	3.0 - 3.5' CAL 12 - 14' HT	LG TREE
NO	10	NUTTALL OAK QUERCUS NUTTALLI	3.0 - 3.5' CAL 12 - 14' HT	LG TREE
OO	10	OVERCUP OAK QUERCUS LYRATA	3.0 - 3.5' CAL 12 - 14' HT	LG TREE
WM	150	WAX MYRTLE MYRTICA CERIFERA	28-42" HT 7 GAL	SHRUB

NOTES:

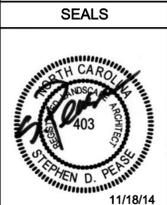
- ALL DISTURBED AREAS OF THE SITE WILL BE MULCHED, PLANTED OR GRASSED.
- LAWN TURF SHALL BE HYBRID BERMUDA, SPRIGGED OR SODDED, OR HYBRID FESCUE, SEEDED OR SODDED.
- MULCH ALL PLANT BEDS AND TREE TRINGS WITH 3" OF TRIPLE SHREDED HARDWOOD BARK.

PRIOR TO ANY CLEARING, GRADING, OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING. SEE GRADING PLAN FOR FENCING LOCATIONS.

ALL PLANTED AND RETAINED LIVING MATERIAL, REQUIRED TO MEET THE PROVISIONS OF THE CITY OF WILMINGTON LAND DEVELOPMENT CODE, SHALL BE PERMANENTLY PROTECTED AND MAINTAINED TO PROFESSIONALLY ACCEPTED STANDARDS BY JOINT AND SEVERAL RESPONSIBILITY OF THE OWNER, OCCUPANT, TENANT, AND RESPECTIVE AGENTS OF THE PROPERTY ON WHICH THE MATERIAL IS LOCATED.

A RAIN / FREEZE SENSOR SHALL BE INSTALLED AS PART OF ANY IRRIGATION SYSTEM USED ON THIS SITE.

chandler engineering pa
309 S. Fuquay Avenue, Fuquay-Varina, NC 27526
Phone: 919-552-4845 Fax: 919-552-6962



SEALS

DATE	COMMENTS
10/28/14	REVISED PER COUNTY EROSION COMMENTS
11/14/14	REVISED PER COUNTY EROSION COMMENTS
11/18/14	REVISED PER UTILITY AND GRADING CHANGES

REVISIONS

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MAJOR SITE PLAN

DATE	COMMENTS
10/28/14	REVISED PER COUNTY EROSION COMMENTS
11/14/14	REVISED PER COUNTY EROSION COMMENTS
11/18/14	REVISED PER UTILITY AND GRADING CHANGES

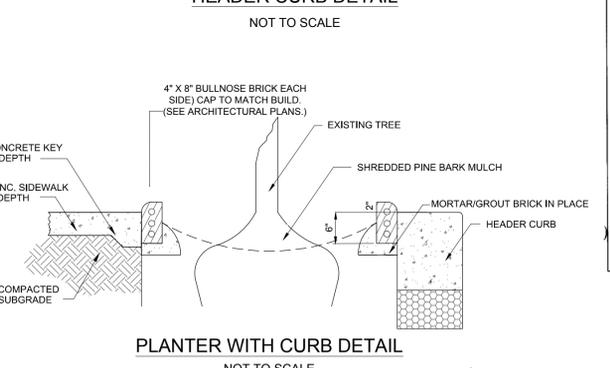
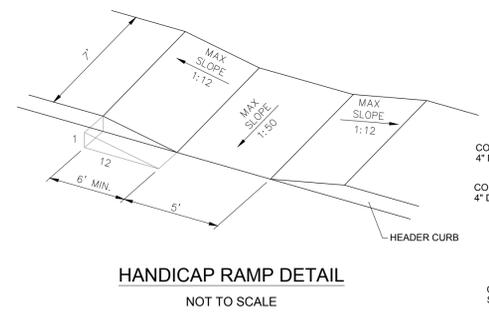
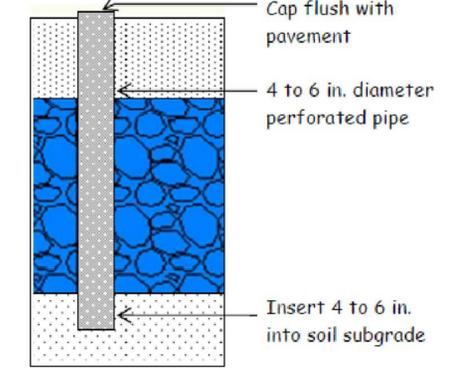
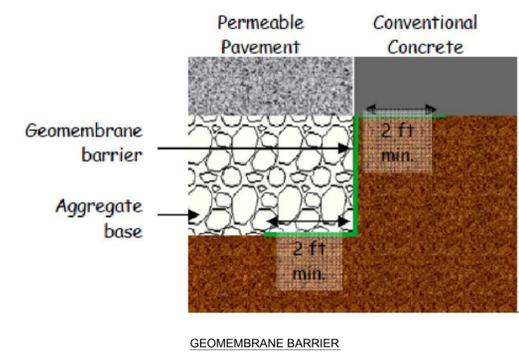
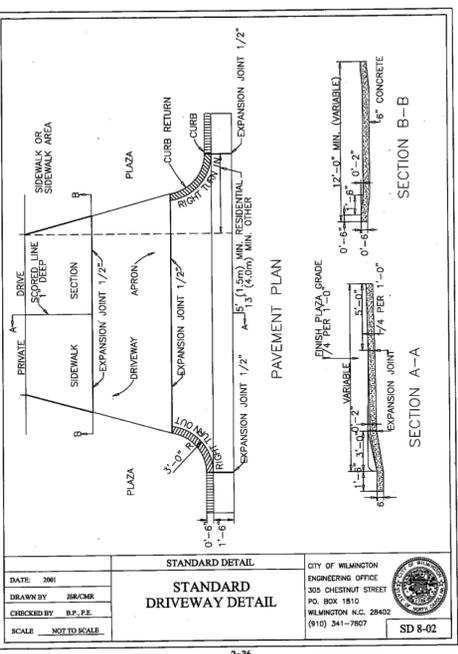
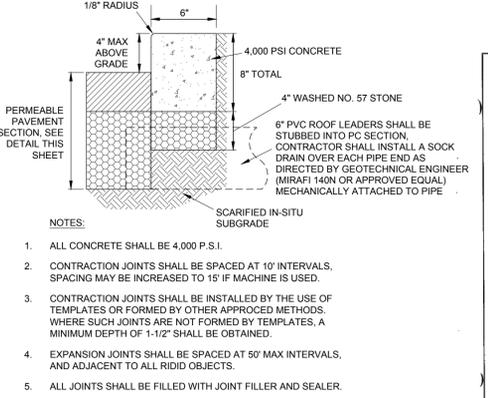
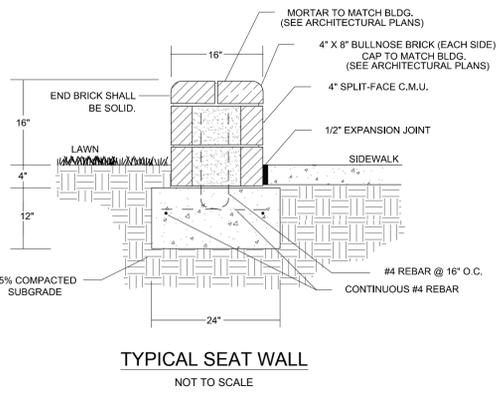
The Solstice Lofts
4810 Randall Parkway
Wilmington, North Carolina

REVIEWED BY: JFC
DATE: 6/19/14
PROJECT NUMBER: 13-006
COUNTY: NEW HANOVER
ZONING: MF-4 (CD)
TOWNSHIP: WILMINGTON

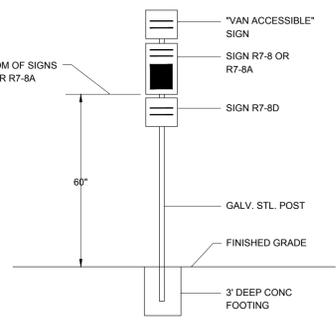
SITE PLANTING PLAN

C6.01

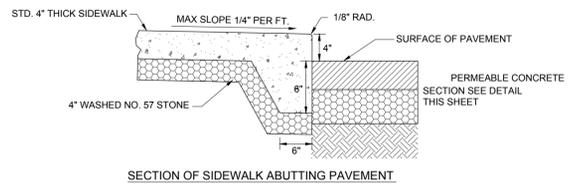
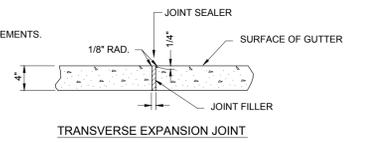
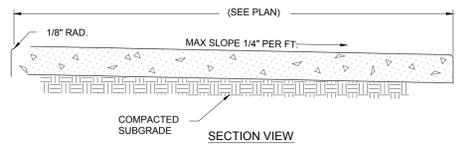
JUNE 2014



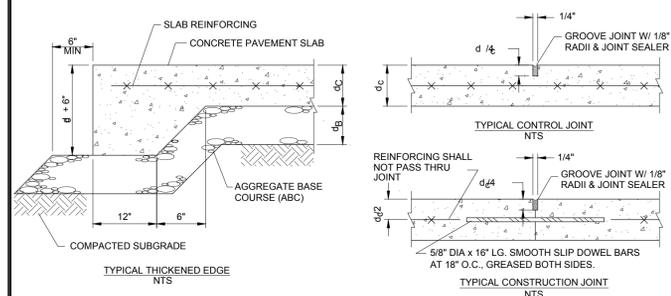
ALL SIGNS SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, NCSBC AND ADA SPECIFICATIONS AND REQUIREMENTS.



- GENERAL NOTES:
- A GROOVE JOINT 1" DEEP WITH 1/8" RADII SHALL BE REQUIRED IN THE CONCRETE SIDEWALK AT 5' INTERVALS UNLESS INDICATED OTHERWISE. SEE SPECS FOR ADDITIONAL JOINT SPACING REQUIREMENTS.
 - ONE 1/2" EXPANSION JOINT WILL BE REQUIRED AT 50' INTERVALS.
 - A 1/2" EXPANSION JOINT WILL BE REQUIRED WHERE THE SIDEWALK JOINS ANY RIGID STRUCTURE.
 - ALL CONCRETE SHALL BE 4,000 P.S.I.



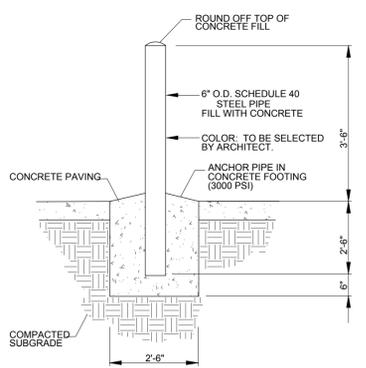
TYPICAL CONCRETE SIDEWALK NOT TO SCALE



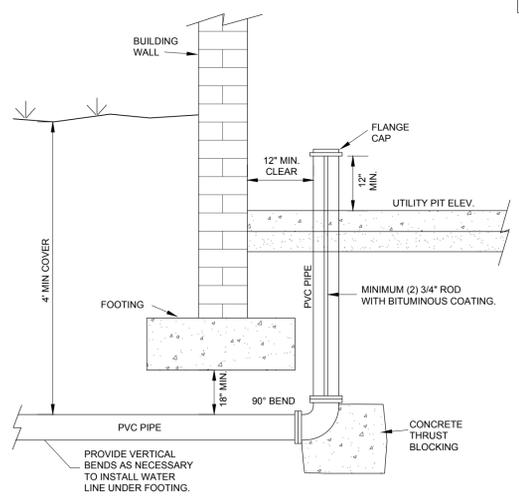
- NOTES:
- ALL CONCRETE SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF 4500 PSI (ASTM C39) WITH ENTRAINED AIR BETWEEN 4% AND 6%.
 - CONTRACTION JOINTS SHALL BE SPACED AT 15 FT O.C.E.W. MAX. OR AS INDICATED ON THE PLAN.
 - EXPANSION JOINTS SHALL BE SPACED AT 50 FT O.C.E.W. MAX. OR AS INDICATED ON THE PLAN AND WHERE CONCRETE PAVEMENT ABUTS ANY RIGID OBJECT.

CONCRETE PAVEMENT DIMENSIONS	HEAVY	LIGHT
CONC SLAB THICKNESS, d = c	6"	4"
ABC THICKNESS, d = b	6"	4"
REINFORCEMENT = 6x6-9x2.9Wx2.9		

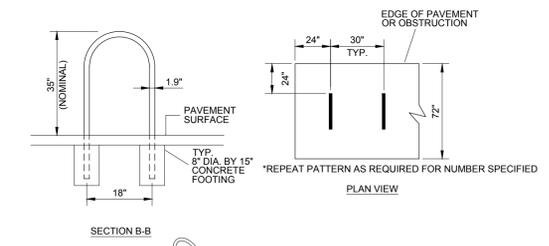
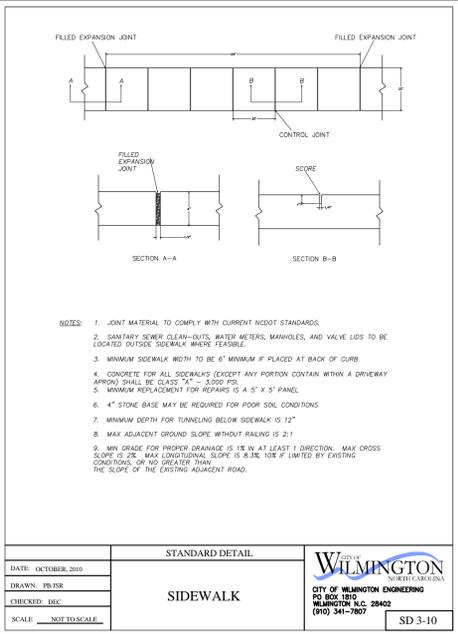
CONCRETE PAVEMENT NOT TO SCALE



STEEL BOLLARD NOT TO SCALE



STANDARD FIRE SERVICE INSTALLATION AT BUILDING NOT TO SCALE

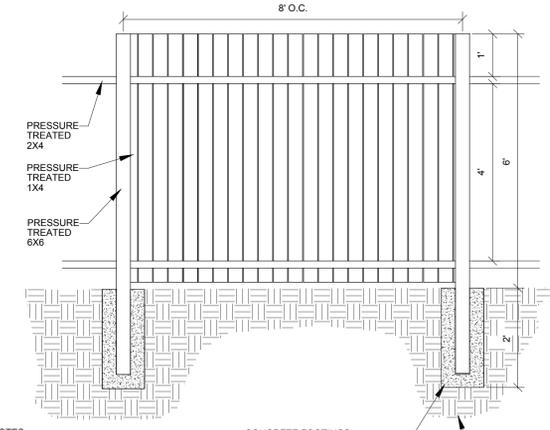


INVERTED U-SHAPED BIKE RACK NOT TO SCALE



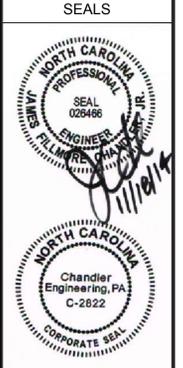
- NOTES:
- THE ULTIMATE DOWNSPOUT SCREEN™ BY ANDERSON WINDOW AND GUTTER CLEANING SHALL BE INSTALLED AT EACH DOWNSPOUT LOCATION. CONTRACTOR MAY SUBMIT EQUIVALENT PRODUCT FOR SUBSTITUTION APPROVAL. MODEL AND SIZE SHALL BE AS REQUIRED BASED ON DOWNSPOUT SIZE SPECIFIED BY THE ARCHITECT. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION.

DOWNSPOUT SCREEN NOT TO SCALE



OPAQUE WOODEN FENCE NOT TO SCALE

chandler engineering pa
309 S. Fugate Avenue, Fugate/Varna, NC 27526
Phone: 919-552-4845 Fax: 919-552-6962



REVISIONS

NO.	DATE	DESCRIPTION

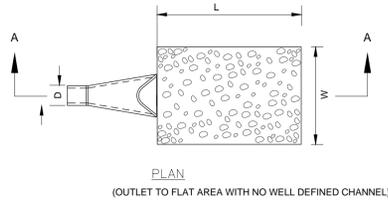
MAJOR SITE PLAN

The Solstice Lofts
4810 Randall Parkway
Wilmington, North Carolina

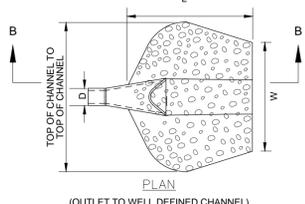
SITE DETAILS

REVIEWED BY:	JFC
DATE:	6/19/14
PROJECT NUMBER:	13-006
COUNTY:	NEW HANOVER
ZONING:	MF-L (CD)
TOWNSHIP:	WILMINGTON

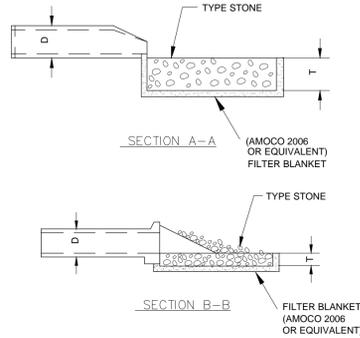
C7.01
JUNE 2014



PLAN
(OUTLET TO FLAT AREA WITH NO WELL DEFINED CHANNEL)



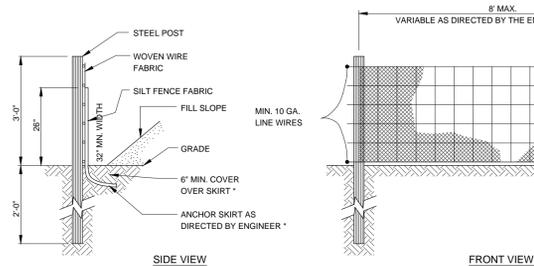
PLAN
(OUTLET TO WELL DEFINED CHANNEL)



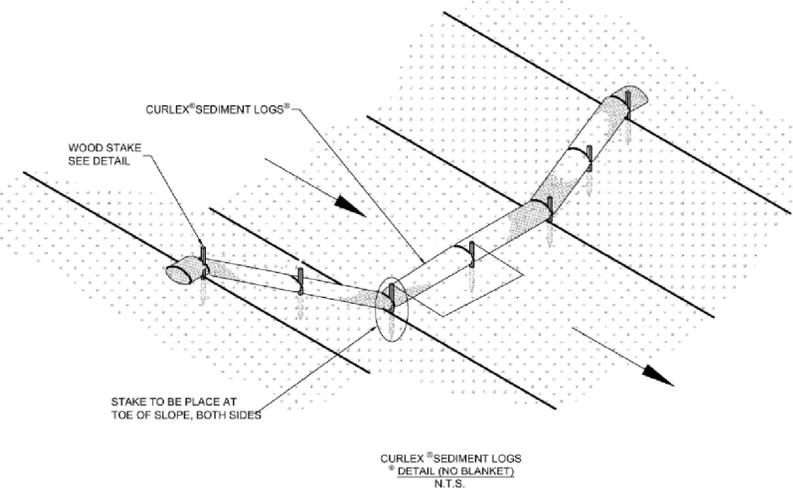
SECTION A-A (AMOCO 2006 OR EQUIVALENT) FILTER BLANKET
SECTION B-B FILTER BLANKET (AMOCO 2006 OR EQUIVALENT)

- NOTES:
- TOP OF RIP RAP AT DOWNSTREAM END OF APRON SHALL BE FLUSH WITH NATURAL GRADE OF THE RECEIVING CHANNEL.
 - VEGETATE ALL DISTURBED AREAS WITH VEGETATION IMMEDIATELY AFTER INSTALLATION.
 - SEE EROSION CONTROL PLAN FOR DIMENSIONS.
 - SEE SECTION 6.41 OF "NCDENR EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL" FOR ADDITIONAL INFORMATION REGARDING MATERIALS, CONSTRUCTION AND SPECIFICATIONS.

OUTLET PROTECTION
NOT TO SCALE

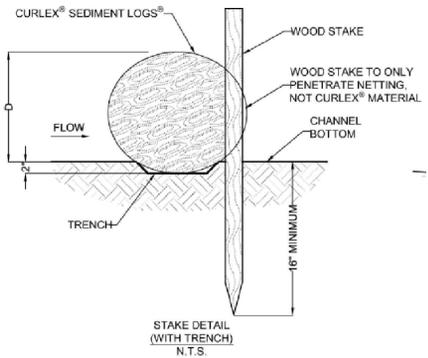


STANDARD TEMPORARY SILT FENCE
NOT TO SCALE



- NOTE:
TRENCH OPTION IS MOST APPLICABLE IN LOOSE, UNCONSOLIDATED SOILS.
- 1 1/2" X 1 1/2" X 30" WOODEN STAKES ARE RECOMMENDED FOR 6", 9", AND 12" SEDIMENT LOGS.
 - 1 1/2" X 1 1/2" X 48" WOODEN STAKES ARE RECOMMENDED FOR 20" SEDIMENT LOGS.

STRAW WATTLE CHECK DAM DETAIL
NOT TO SCALE



STAKE DETAIL (WITH TRENCH)
N.T.S.

Well-Drained Sandy Loams to Dry Sands, Coastal Plain and Eastern Edge of Piedmont; Low- to Medium-Care Lawns

Seeding mixture Species*	Rate
Centipedegrass	10-20 lb/acre (seed) or 33 bu/acre (sprigs)

Seeding dates
Mar. - June
(Sprigging can be done through July where water is available for irrigation.)

Soil amendments
Apply lime and fertilizer according to soil tests, or apply 300 lb/acre 10-10-10 fertilizer.

Sprigging
Plant sprigs in furrows with a tractor-drawn transplanter, or broadcast by hand.

Furrows should be 4-6 inches deep and 2 feet apart. Place sprigs about 2 feet apart in the row with one end at or above ground level (Figure 6.11d).

Broadcast at rates shown above, and press sprigs into the top 1/2-2 inches of soil with a disk set straight so that sprigs are not brought back toward the surface.

Mulch
Do not mulch.

Maintenance
Fertilize very sparingly—20 lb/acre nitrogen in spring with no phosphorus. Centipedegrass cannot tolerate high pH or excess fertilizer.

*Refer to Appendix 8.02 for botanical names.

* PERMANENT SEEDING SCHEDULE FROM NCDENR EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL. SEE MANUAL FOR ADDITIONAL INFORMATION.

- SEEDBED PREPARATION
- CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3 INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.
 - RIP THE ENTIRE AREA TO 6 INCHES DEPTH.
 - REMOVE ALL LOOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
 - APPLY AGRICULTURAL LIME, FERTILIZER, AND SUPERPHOSPHATE UNIFORMLY AND MIX WITH SOIL (SEE BELOW*).
 - CONTINUE TILLAGE UNTIL A WELL-PULVERIZED, FIRM, REASONABLY UNIFORM SEEDBED IS PREPARED 4 TO 6 INCHES DEEP.
 - SEED ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK AFTER SEEDING.
 - MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH IF SPECIFIED.
 - INSPECT ALL SEEDBED AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. IF STAND SHOULD BE OVER 60% DAMAGED, REESTABLISH FOLLOWING ORIGINAL LIME, FERTILIZER AND SEEDING RATES.
 - CONSULT SAEC ENVIRONMENTAL ENGINEERS ON MAINTENANCE TREATMENT AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.
 - SEE SECTION 6.11 OF "NCDENR EROSION CONTROL PLANNING AND DESIGN MANUAL" FOR ADDITIONAL INFORMATION REGARDING MATERIALS, CONSTRUCTION AND SPECIFICATIONS.
- *APPLY: AGRICULTURAL LIMESTONE - 2 TONS/ACRE (3 TONS/ACRE IN CLAY SOILS)
FERTILIZER - 1,000 LBS./ACRE - 10-10-10
SUPERPHOSPHATE - 500 LBS./ACRE - 20%
IF SPECIFIED
MULCH - 2 TONS/ACRE - SMALL GRAIN STRAW
ANCHOR - ASPHALT EMULSION @ 300 GALS./ACRE

PERMANENT SEEDING SCHEDULE

Temporary Seeding Recommendations for Late Winter and Early Spring

Seeding mixture Species	Rate (lb/acre)
Rye (grain)	120
Annual lespedeza (Kobe in Piedmont and Coastal Plain, Korean in Mountains)	50

Omit annual lespedeza when duration of temporary cover is not to extend beyond June.

Seeding dates
Mountains—Above 2500 feet: Feb. 15 - May 15
Below 2500 feet: Feb. 1 - May 1
Piedmont—Jan. 1 - May 1
Coastal Plain—Dec. 1 - Apr. 15

Soil amendments
Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10-10-10 fertilizer.

Mulch
Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.

Maintenance
Re-fertilize if growth is not fully adequate. Reseed, re-fertilize and mulch immediately following erosion or other damage.

Temporary Seeding Recommendations for Summer

Seeding mixture Species	Rate (lb/acre)
German millet	40

In the Piedmont and Mountains, a small-stemmed Sudangrass may be substituted at a rate of 50 lb/acre.

Seeding dates
Mountains—May 15 - Aug. 15
Piedmont—May 1 - Aug. 15
Coastal Plain—Apr. 15 - Aug. 15

Soil amendments
Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10-10-10 fertilizer.

Mulch
Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.

Maintenance
Re-fertilize if growth is not fully adequate. Reseed, re-fertilize and mulch immediately following erosion or other damage.

Temporary Seeding Recommendations for Fall

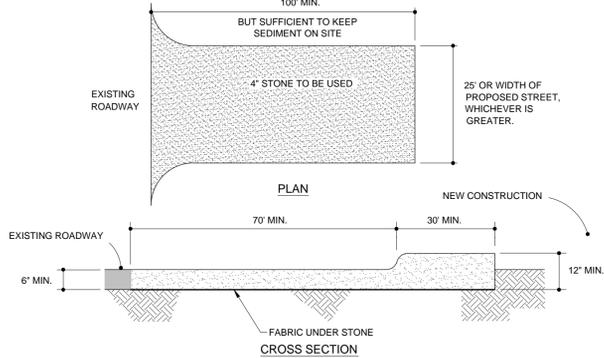
Seeding mixture Species	Rate (lb/acre)
Rye (grain)	120

Seeding dates
Mountains—Aug. 15 - Dec. 15
Coastal Plain and Piedmont—Aug. 15 - Dec. 30

Soil amendments
Follow soil tests or apply 2,000 lb/acre ground agricultural limestone and 1,000 lb/acre 10-10-10 fertilizer.

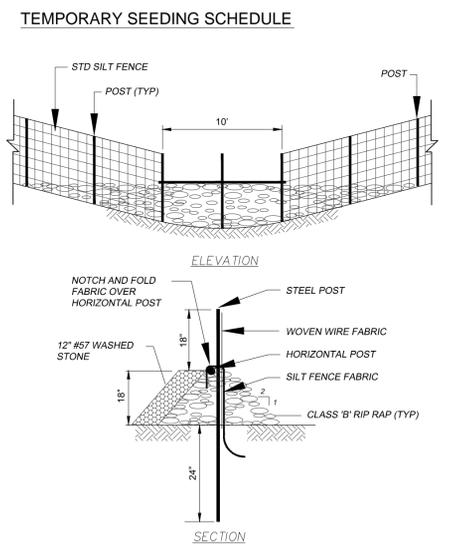
Mulch
Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.

Maintenance
Repair and re-fertilize damaged areas immediately. Topdress with 50 lb/acre of nitrogen in March. If it is necessary to extent temporary cover beyond June 15, overseed with 50 lb/acre Kobe (Piedmont and Coastal Plain) or Korean (Mountains) lespedeza in late February or early March.



- NOTES:
- ENTRANCE(S) SHALL BE LOCATED TO PROVIDE MAXIMUM UTILITY BY ALL CONSTRUCTION VEHICLES.
 - TURNING RADIUS SUFFICIENT TO ACCOMMODATE LARGE TRUCKS IS TO BE PROVIDED.
 - MUST BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR DIRECT FLOW OF MUD ONTO STREETS. PERIODIC TOPDRESSING WITH STONE WILL BE NECESSARY. CONTRACTOR SHALL MAINTAIN AS NECESSARY.
 - ANY MATERIAL WHICH STILL MAKES IT ONTO THE ROAD MUST BE CLEANED UP IMMEDIATELY.
 - FREQUENT CHECKS OF THE ENTRANCE(S) AND TIMELY MAINTENANCE SHALL BE PROVIDED.
 - NOTES ARE APPLICABLE AT ALL POINTS OF INGRESS AND EGRESS UNTIL SITE IS STABILIZED.
 - SEE SECTION 6.06 OF "NCDENR EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL" FOR ADDITIONAL INFORMATION REGARDING MATERIALS, CONSTRUCTION AND SPECIFICATIONS.

TEMPORARY CONSTRUCTION ENTRANCE
NOT TO SCALE



REINFORCED SILT FENCE OUTLET
NOT TO SCALE

Specifications
Complete grading before preparing seedbeds, and install all necessary erosion control practices such as, dikes, waterways, and basins. Minimize steep slopes because they make seedbed preparation difficult and increase the erosion hazard. If soils become compacted during grading, loosen them to a depth of 6-8 inches using a ripper, harrow, or chisel plow.

SEEDBED PREPARATION
Good seedbed preparation is essential to successful plant establishment. A good seedbed is well-pulverized, loose, and uniform. Where hydroseeding methods are used, the surface may be left with a more irregular surface of large clods and stones.

Liming—Apply lime according to soil test recommendations. If the pH (acidity) of the soil is not known, an application of ground agricultural limestone at the rate of 1 to 1 1/2 tons/acre on coarse-textured soils and 2-3 tons/acre on fine-textured soils is usually sufficient. Apply limestone uniformly and incorporate into the top 4-6 inches of soil. Soils with a pH of 6 or higher need not be limed.

Fertilizer—Base application rates on soil tests. When these are not possible, apply a 10-10-10 grade fertilizer at 700-1,000 lb/acre. Both fertilizer and lime should be incorporated into the top 4-6 inches of soil. If a hydraulic seeder is used, do not mix seed and fertilizer more than 30 minutes before application.

Surface roughening—If recent tillage operations have resulted in a loose surface, additional roughening may not be required, except to break up large clods. If rainfall causes the surface to become sealed or crusted, loosen it just prior to seeding by disking, raking, harrowing, or other suitable methods. Groove or furrow slopes steeper than 3:1 on the contour before seeding (Practice 6.03, Surface Roughening).

PLANT SELECTION
Select an appropriate species or species mixture from Table 6.10a for seeding in late winter and early spring, Table 6.10b for summer, and Table 6.10c for fall.

In the Mountains, December and January seedings have poor chances of success. When it is necessary to plant at these times, use recommendations for fall and a securely tacked mulch.

SEEDING
Evenly apply seed using a cyclone seeder (broadcast), drill, cultipacker seeder, or hydroseeder. Use seeding rates given in Tables 6.10a-6.10c. Broadcast seeding and hydroseeding are appropriate for steep slopes where equipment cannot be driven. Hand broadcasting is not recommended because of the difficulty in achieving a uniform distribution.

Small grains should be planted no more than 1 inch deep, and grasses and legumes no more than 1/2 inch. Broadcast seed must be covered by raking or chain dragging, and then lightly firmed with a roller or cultipacker. Hydroseeded mixtures should include a wood fiber (cellulose) mulch.

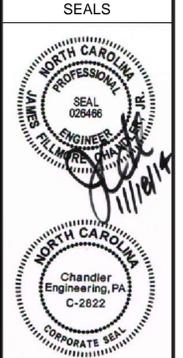
MULCHING
The use of an appropriate mulch will help ensure establishment under normal conditions, and is essential to seeding success under harsh site conditions (Practice 6.14, Mulching). Harsh site conditions include:
• seeding in fall for winter cover (wood fiber mulches are not considered adequate for this use).
• slopes steeper than 3:1.
• excessively hot or dry weather.
• adverse soils (shallow, rocky, or high in clay or sand), and
• areas receiving concentrated flow.

If the area to be mulched is subject to concentrated waterflow, as in channels, anchor mulch with netting (Practice 6.14, Mulching).

Maintenance
Reseed and mulch areas where seeding emergence is poor, or where erosion occurs, as soon as possible. Do not mow. Protect from traffic as much as possible.

* TEMPORARY SEEDING SCHEDULE FROM NCDENR EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL. SEE MANUAL FOR ADDITIONAL INFORMATION.

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REVISIONS

DATE	COMMENTS
10/28/14	REVISED PER COUNTY EROSION COMMENTS
11/18/14	REVISED PER UTILITY AND GRADING CHANGES

MAJOR SITE PLAN

REVIEWED BY: JFC
DATE: 6/19/14
PROJECT NUMBER: 13-006
COUNTY: NEW HANOVER
ZONING: MF-L (CD)
TOWNSHIP: WILMINGTON

SITE DETAILS

C7.02

JUNE 2014

The Solstice Lofts
4810 Randall Parkway
Wilmington, North Carolina

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR TRAFFIC CONTROL DESIGN TABLES BUFFER SPACE & SIGHT DISTANCE

DESIGN SPEED (MPH)	MINIMUM STOPPING SIGHT DISTANCE (FEET)	MINIMUM PASSING SIGHT DISTANCE (FEET)	MINIMUM LONGITUDINAL BUFFER SPACE (FEET)
30	200	1090	100
35	205	1200	100
40	205	1470	100
45	260	1800	100
50	425	1830	240
55	465	1985	300
60	570	2135	345
65	645	2280	405
70	730	2480	470
75	820	2680	540
80	910	2880	615

GENERAL NOTES

- TABLES ARE BASED ON THE ASHTO GREEN BOOK "A" POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. MINIMUM SIGHT DISTANCE VALUES ARE FOR PASSENGER CAR VEHICLES ON MET AND LEVEL ROADWAYS. CONSULT THE ASHTO GREEN BOOK TO MAKE FINAL DETERMINATION OF STOPPING SIGHT DISTANCE REQUIREMENTS.
- BUFFER SPACE TABLE IS BASED ON THE BRAKING DISTANCE PORTION OF STOPPING SIGHT DISTANCE FOR MET AND LEVEL PAVEMENTS.
- USE OF STOPPING SIGHT DISTANCE IN TRAFFIC CONTROL PLAN APPLICATIONS INCLUDES PROVIDING SIGHT DISTANCE FOR TRAFFIC APPROACHING A LANE CLOSURE. PROVIDE 2-LANE, 2-WAY ROADWAYS STOPPING SIGHT DISTANCE TO THE FLAGGER. FOR LANE CLOSURES ON MULTILANE ROADWAYS PROVIDE STOPPING SIGHT DISTANCE TO THE BEGINNING OF THE LANE CLOSURE WEDGE TAPER, OR FLAGGING ARROW BOARD. EXTEND LANE CLOSURES AT THE BUFFER SPACE SUCH THAT STOPPING SIGHT DISTANCE IS PROVIDED.
- USE OF MINIMUM PASSING SIGHT DISTANCE TABLE IN TRAFFIC CONTROL PLAN APPLICATIONS INCLUDES PROVIDING SIGHT DISTANCE REQUIREMENTS FOR PLACEMENT OF PAVEMENT MARKING PASSING/NO-PASSING ZONES FOR 2-LANE, 2-WAY ROADWAYS.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR TRAFFIC CONTROL DESIGN TABLES BUFFER SPACE & SIGHT DISTANCE

SHEET 2 OF 4
1101.11

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR TRAFFIC CONTROL DESIGN TABLES SPACING OF TEMPORARY SIGNS IN SERIES

POSTED SPEED LIMIT (MPH)	RECOMMENDED DISTANCE BETWEEN SIGNS (FEET)		
	A	B	C
0-30	200	200	200
40-50	300	300	300
60	500	500	500
CONTROLLED ACCESS ROAD (C.A.S.)	1000	1000	2700

GENERAL NOTES

- REFER TO 2009 MUTCD.
- USE THIS STANDARD DRAWING IN CONJUNCTION WITH OTHER TRAFFIC CONTROL ROADWAY STANDARD DRAWINGS WHERE SIGN SPACING DISTANCES A, B, C, ARE SPECIFIED.
- APPLY THE ADVANCE WARNING SIGN SPACING CHART WHERE A SERIES OF 2 OR MORE SIGNS ARE USED. ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE. FIELD ADJUST AS VARIOUS CONDITIONS OCCUR, SUCH AS LIMITED SIGHT DISTANCE, OBSTRUCTION INTERFERENCE, ETC.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR TRAFFIC CONTROL DESIGN TABLES SPACING OF TEMPORARY SIGNS IN SERIES

SHEET 4 OF 4
1101.11

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR TEMPORARY LANE CLOSURES 2-LANE, 2-WAY ROADWAY WITH 2-WAY TURN LANE 1 THRU LANE CLOSED

GENERAL NOTES

- REFER TO STD. 1101.11, FOR "L" DISTANCE AND SIGN SPACING.
- INSTALL LANE CLOSURES WITH THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE UPSTREAM SIDE OF TRAFFIC. REMOVE LANE CLOSURES AGAINST THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE DOWNSTREAM SIDE OF TRAFFIC.
- PLACE CONES ADJACENT TO THE WORK AREA AT THE MAXIMUM SPACING EQUAL IN FEET TO 2 TIMES THE POSTED SPEED LIMIT. PLACE CONES SEPARATING OPPOSING TRAFFIC AT THE MAXIMUM SPACING OF 20 FEET.
- EXTEND LANE CLOSURES AT THE BUFFER SPACE SUCH THAT STOPPING SIGHT DISTANCE IS PROVIDED TO THE BEGINNING OF THE APPROACH SLOTTED TAPER (REFER TO STD. 1101.11 SHEET 2).
- TWAs ARE REQUIRED WHEN A BUFFER SPACE CANNOT BE ATTAINED, OR WHEN DIRECTED BY THE ENGINEER OR AS SHOWN IN THE PLAN. WHEN USED, POSITION TWAs TO MAINTAIN A ROLL-HEAD DISTANCE AS RECOMMENDED BY THE MANUFACTURER.
- DRUMS OR SKINNY-DRUMS MAY BE USED IN LIEU OF CONES. REFER TO ROADWAY STANDARD DRAWING 1180.01 FOR SKINNY-DRUM REQUIREMENTS.
- DO NOT EXCEED A 1 MILE LANE CLOSURE LENGTH UNLESS OTHERWISE SHOWN IN THE TWP OR AS DIRECTED BY THE ENGINEER.

LEGEND

- TWA
- FLAGGER
- CONE
- PORTABLE SIGN
- DIRECTION OF TRAFFIC FLOW

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR TEMPORARY LANE CLOSURES 2-LANE, 2-WAY ROADWAY WITH 2-WAY TURN LANE 1 THRU LANE CLOSED

SHEET 2 OF 10
1101.02

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR SKINNY-DRUM

GENERAL NOTES

- USE BALLAST AS SPECIFIED BY THE MANUFACTURER. DO NOT PLACE BALLAST ON TOP OF THE DRUM.
- IF NECESSARY, PLACE THE NAME OF THE AGENCY, CONTRACTOR, OR SUPPLIER ON NON-RETROREFLECTIVE SURFACES. SHOW THE LETTERS AND NUMBERS USING A NON-RETROREFLECTIVE COLOR AND NOT OVER 2" IN HEIGHT.
- REFER TO SECTION 1180, STANDARD SPECIFICATIONS FOR ROADS AND INSTRUCTIONS FOR ADDITIONAL REQUIREMENTS.
- USE TYPE 3 OR HIGHER HIGH INTENSITY PRISMATIC SHEETING.
- SEE THE DEPARTMENT'S APPROVED PRODUCTS LIST AT <http://apps.dot.state.nc.us/tender/approvedproducts>.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR SKINNY-DRUM

SHEET 1 OF 1
1180.01

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SEALS

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MAJOR SITE PLAN

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C7.03

JUNE 2014