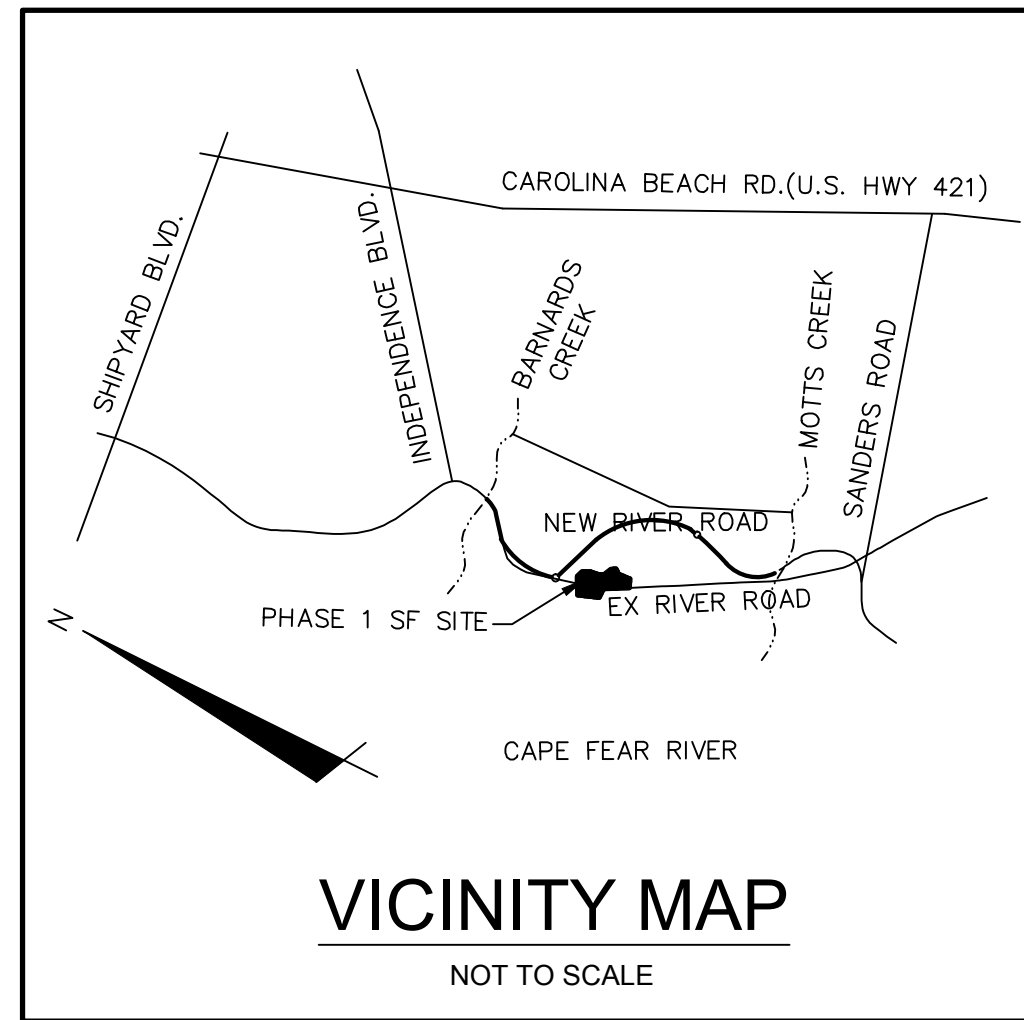


RIVERLIGHTS AGE QUALIFIED - PHASE 2 & 3

CITY OF WILMINGTON, NC

SEPTEMBER 2016

TECHNICAL REVIEW COMMITTEE SUBMITTAL



COUNTY AND AGENCY CONTACTS

A. City of Wilmington
 Planning Department
 102 North Third Street
 PO BOX 1810
 Wilmington, NC 28402-1810
 (910)341-7800
 Contact: Ron Satterfield
 Email: Ron.Satterfield@wilmingtonnc.gov

B. City of Wilmington
 Engineering
 212 Operations Center Drive
 PO BOX 1810
 Wilmington, NC 28402-1810
 (910) 341-7807
 Contact: Rob Gordon
 Email: Rob.Gordon@wilmingtonnc.gov

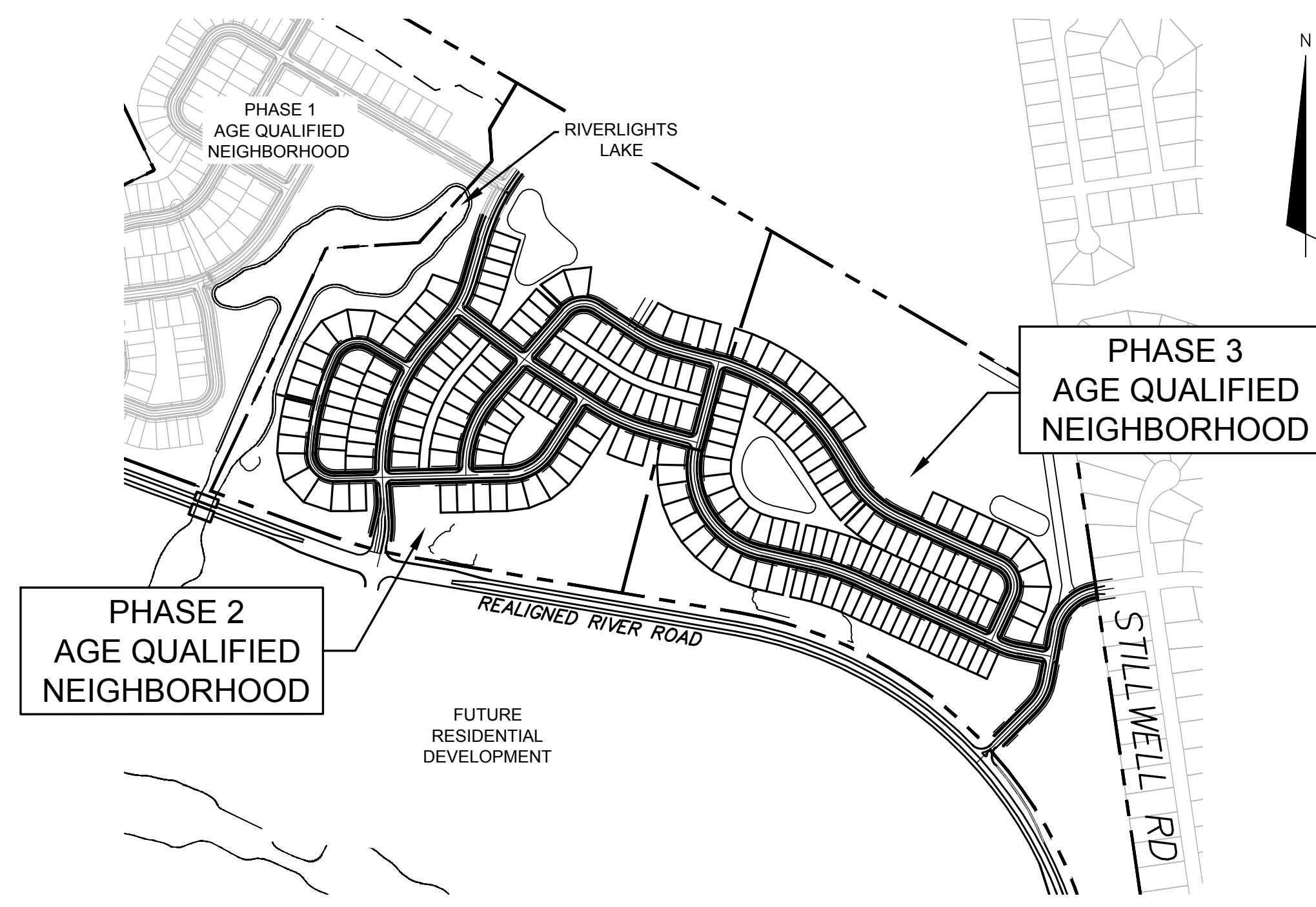
C. New Hanover County
 Sediment and Erosion Control
 230 Government Center Drive, Suite 160
 Wilmington, NC 28403
 (910) 798-7432
 Contact: Beth Wetherill
 Email: BWetherill@nhcgov.com

D. Cape Fear Public Utility Authority
 235 Government Center Drive
 Wilmington, NC 28403
 (910) 332-6626
 Contact: David Dailey
 Email: David.Dailey@cfpua.org

E. NCDENR
 Division of Environmental Health
 Public Water Supply Section
 1634 Mail Service Center
 Raleigh, NC 27699-1634
 (919) 715-3226
 Contact: Christyn Fertenbaugh
 Email: christyn.fertenbaugh@ncdenr.gov



ISSUED FOR PERMITTING
NOT FOR CONSTRUCTION



PROJECT DATA

NAME OF PROJECT:
 RIVERLIGHTS- PHASE 1-A CONVENTIONAL NEIGHBORHOOD
 WILMINGTON, NORTH CAROLINA

OWNER/DEVELOPER:
 NNP IV-CAPE FEAR RIVER, LLC
 3410 RIVER ROAD, SUITE 103
 WILMINGTON, NC 28412
 PHONE: (704)813-8697
 CONTACT: DOUG BROWN

PREPARED BY:
 MCKIM & CREED, INC
 243 NORTH FRONT ST
 WILMINGTON, NC 28401
 PHONE: (910)343-1048
 FAX: (910)251-8282
 CONTACT: KATHRYN ESPINOZA, PE
 EMAIL: KESPINOZA@MCKIMCREED.COM



MCKIM & CREED
 243 North Front Street
 Wilmington, North Carolina 28401
 Phone: (910)343-1048 , Fax: (910)251-8282
 License: F-1222
 www.mckimcreed.com

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch

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

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

Sheet List Table		
Sheet Number	Sheet Title	Sheet Description
1	G-001	COVER
2	G-002	NOTES
2A	G-003	CLOSE-OUT SHEET NOTES
3	CX-101	EXISTING CONDITIONS / SITE INVENTORY PLAN
4	CX-102	TREE REMOVAL PLAN
5	CE-101	PHASE 1 EROSION CONTROL
6	CE-102	PHASE 2 EROSION CONTROL
7	CG-100	OVERALL STORM DRAINAGE AND GRADING PLAN
8	CG-101	STORM DRAINAGE AND GRADING PLAN
9	CG-102	STORM DRAINAGE AND GRADING PLAN
10	CG-103	STORM DRAINAGE AND GRADING PLAN
11	CG-104	STORM DRAINAGE AND GRADING PLAN
12	CS-100	OVERALL SITE PLAN
13	CS-101	SITE PLAN
14	CS-102	SITE PLAN
15	CS-103	SITE PLAN
16	CS-104	SITE PLAN
17	CU-100	OVERALL UTILITY PLAN
18	CU-101	UTILITY PLAN
19	CU-102	UTILITY PLAN
20	CU-103	UTILITY PLAN
21	CU-104	UTILITY PLAN
22	CU-701	PLAN AND PROFILE FLOATING BRIDGE TRAIL STA 10+00 TO STA 25+00
23	CU-702	PLAN AND PROFILE FLOATING BRIDGE TRAIL DEVERAUX DRIVE
24	CU-703	PLAN AND PROFILE DEVERAUX DRIVE STA 21+00.00 TO STA 31+04
25	CU-704	PLAN AND PROFILE FOLSOM AVENUE STA 9+72 TO STA 21+52
26	CU-705	PLAN AND PROFILE BROOMSEDGE TERRACE STA 9+72 TO STA 21+00
27	CU-706	PLAN AND PROFILE BROOMSEDGE TERRACE SNOWDEN ROAD
28	CU-707	PLAN AND PROFILE BROOMSEDGE AVENUE STA 25+08 TO STA 39+00
29	CU-708	PLAN AND PROFILE BROOMSEDGE TERRACE SNOWDEN ROAD
30	CU-709	PLAN AND PROFILE SNOWDEN ROAD STA 21+00 TO 31+88
31	CU-710	PLAN AND PROFILE WILDERNESS DRIVE EXTENTION STA 10+00 TO STA 19+51
32	CU-711	PLAN AND PROFILE EAST OUTFALL SEWER STA.10+00 TO 23+44.40
33	CT-301	TYPICAL CROSS SECTIONS
34	CE-501	EROSION AND SEDIMENT CONTROL DETAILS
35	CE-502	EROSION AND SEDIMENT CONTROL DETAILS
36	CG-501	STORM DRAINAGE DETAILS
37	CG-502	STORM DRAINAGE DETAILS
38	CG-503	STORM DRAINAGE DETAILS
39	CG-504	STORM DRAINAGE DETAILS
40	CS-501	SITE DETAILS
41	CS-502	SITE DETAILS
48	CN-501	STORMWATER MANAGEMENT DETAILS
49	CN-502	STORMWATER MANAGEMENT DETAILS
50	CN-503	STORMWATER MANAGEMENT DETAILS
51	L-160	OVERALL SHEET REFERENCE PLAN
52	L-161	STREET TREE PLAN
53	L-162	STREET TREE PLAN
54	L-163	STORMWATER BMP PLANTING PLAN
55	L-164	STORMWATER BMP PLANTING PLAN
56	L-501	DETAILS

CAPE FEAR PUBLIC UTILITY AUTHORITY CONSTRUCTION PROCEDURE:

- 1. THE DESIGN ENGINEERING SHALL SUBMIT 3 SETS OF FINAL DESIGN PLANS AND APPROVED SPECIFICATIONS PRIOR TO SCHEDULING THE PRE-CONSTRUCTION MEETING.
2. SUBMITTALS FOR MATERIALS SHOULD BE MADE IN ACCORDANCE WITH CFPUA SPECIFICATION SECTION 01340. MATERIAL SHOP DRAWING SUBMITTALS ARE REQUIRED FOR ALL PHYSICAL ASSETS TO ENSURE THEY COMPLY WITH CFPUA TECHNICAL SPECIFICATIONS AND DETAILS.
3. ANY REQUEST FOR DEVIATIONS FROM THE STAMPED DRAWINGS AND MATERIAL SUBMITTALS MUST BE SUBMITTED TO THE CFPUA CONSTRUCTION MANAGER.
4. THE CFPUA INSPECTOR SHALL BE NOTIFIED WHEN ANY MATERIAL IS DELIVERED TO THE JOB SITE.
5. CONTRACTOR SHALL GIVE TWO (2) BUSINESS DAYS NOTIFICATION FOR SCHEDULING TO THE ASSIGNED CFPUA INSPECTOR FOR EACH OF THE FOLLOWING:
OPERATING A CFPUA VALVE (INCLUDES TAPPING VALVES)
WHEN BEGINNING CONSTRUCTION AND IF THE CONTRACTOR PULLS OFF THE SITE
LAYING OUT OF ANY CONNECTION IN EXISTING MANHOLE
CUTTING IN ANY NEW MANHOLES ON EXISTING LINES
CORING ANY MANHOLES
CONNECTING TO AN EXISTING SEWER FORCE MAINS
CONNECTING ONTO EXISTING WATER LINES
ANY BORES AND THREADING CARRIER PIPES
ALL CAMERA WORK, TESTING, CHLORINATION AND WATER SAMPLING
ALL TESTING

CAPE FEAR PUBLIC UTILITY AUTHORITY TESTING PROCEDURE:

- 1. ALL STRUCTURES, PRESSURE PIPING AND GRAVITY SEWER PIPING SHALL BE TESTED BY THE CONTRACTOR AS SPECIFIED IN THE CFPUA SPECIFICATIONS IN ACCORDANCE WITH APPLICABLE REGULATIONS AND AS DIRECTED BY THE CFPUA INSPECTOR. ALL TESTING MUST BE CONDUCTED IN THE PRESENCE OF THE CFPUA INSPECTOR.
2. ALL PRESSURE PIPE LINES MUST BE SUBJECTED TO HYDROSTATIC TESTING IN ACCORDANCE WITH THE APPROPRIATE CFPUA SPECIFICATION.
3. ALL WATER MAINS AND SERVICES MUST BE FLUSHED, CHLORINATED AND SAMPLED IN ACCORDANCE WITH THE CFPUA SPECIFICATION 02660 AND AS DIRECTED BY THE CFPUA INSPECTOR.
4. SEWER LINE SEGMENT TESTING: EACH SEWER LINE SEGMENT (THE SEWER MAIN BETWEEN MANHOLES) SHALL BE TESTED:
THIRTY (30) DAYS AFTER INSTALLATION AND PRIOR TO FINAL ACCEPTANCE OF THE PROJECT, ALL SEWER LINE SEGMENTS AND ALL SERVICES SHALL BE CAMERA INSPECTED AND VIDEO RECORDED.
AS AN ALTERNATIVE TO WAITING THIRTY (30) DAYS TO PERMIT STABILIZATION OF THE SOIL-PIPE SYSTEM, THE CFPUA MAY ACCEPT CERTIFICATION FROM A SOIL TESTING FIRM VERIFYING THAT THE BACKFILL OF THE TRENCH HAS BEEN COMPACTED TO AT LEAST 95% MAXIMUM DENSITY.
AFTER TWO (2) PAPER COPIES OF THE AS-BUILTS HAVE BEEN SUBMITTED TO THE CFPUA INSPECTOR.
AFTER GRAVEL HAS BEEN INSTALLED ON ALL ROADWAYS.
5. VIDEO INSPECTION TESTING: THE CONTRACTOR SHALL PROVIDE A DVD(S) OF EACH SEWER LINE SEGMENT AND SERVICE LINE TO ENSURE THAT THE LINES MEET MINIMUM STANDARDS.
THE MAIN LINE CAMERA INSPECTION MUST HAVE PROJECT NAME, FOOTAGES, MANHOLE NUMBERS, AND DATES OF INSPECTION.
THE SERVICE LINE CAMERA INSPECTION MUST INCLUDE PROJECT NAME, FOOTAGES, ADDRESS AND/OR LOT NUMBER, AND DATE OF INSPECTION.
THE CAMERA INSPECTION MUST SHOW THE FULL DIAMETER OF THE PIPE.
THE CAMERA INSPECTION MUST BE PERFORMED UPON COMPLETION OF CLEANING AND POTABLE WATER INTRODUCED INTO THE SYSTEM TO BE TESTED. ALL DEFECTS IN THE PIPELINE AND APPURTENANCES SHALL BE REMEDIATED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE CFPUA AND WILL BE RE-INSPECTED AS OUTLINED ABOVE.
6. TWO (2) SETS OF AS-BUILT RECORD DRAWINGS SHALL BE PROVIDED IN ACCORDANCE WITH CFPUA SPECIFICATION SECTION 01720 FOR REVIEW.

CITY OF WILMINGTON RECORD DRAWING REQUIREMENTS:

RECORD DRAWINGS (AS-BUILTS) SHALL BE FILED IN THE ENGINEERING OFFICE FOR ASSET MANAGEMENT AND FUTURE USE. RECORD DRAWINGS SHOULD INDICATE WHAT HAS BEEN LOCATED BY THE SURVEYOR AND REFLECT WHAT IS ON AND IN THE GROUND AT A PARTICULAR SITE. ALL INFORMATION PERTAINS TO PUBLIC AND/OR PRIVATE INFRASTRUCTURE, SUCH AS STREETS, WATER, SEWER, AND DRAINAGE. ALL INFRASTRUCTURE SHOWN ON PLANS SHALL BE INDICATED PUBLIC OR PRIVATE. RECORD DRAWINGS SHALL BE SUBMITTED IN BOTH DIGITAL AND HARD COPY FORM. DIGITAL FILES SHALL BE AUTOCAD VERSION 2000 OR LATER. HARD COPIES SHALL HAVE AN ENGINEER'S SEAL AFFIXED AND THE SURVEYOR'S 'STANDARDS OF PRACTICE' STATEMENT SIGNED AND SEALED.
PLANS SHALL INCLUDE
LOCATIONS, TOP ELEVATIONS, INVERT ELEVATIONS FOR ALL MANHOLES
FIRE HYDRANTS, WATER METERS AND SANITARY SEWER CLEANOUTS
NOTE OR SHOW UTILITY CROSSINGS
STREETS AND CURBLINES (LABELED 'PUBLIC' OR 'PRIVATE') WITH SPOT ELEVATIONS PROVIDED AT THE TOP OF CURB, EDGE OF PAVEMENT AND AT THE CENTERLINE EVERY 200 FT AND AT ALL STREETS SHOULD ALSO BE LABELED WITH THE COMPACTED STONE BASED THICKNESS AND ASPHALT THICKNESS
PAVEMENT MARKINGS AND ALL TRAFFIC SIGNS
SIDEWALKS WITH SPOT ELEVATIONS PROVIDED AT THE INSIDE EDGE, OUTSIDE EDGE AND AT THE CENTERLINE EVERY 100 FT AND AT ALL GRADE BREAKS
SIZE, SLOPE AND MATERIAL FOR ALL STORM DRAINAGE PIPES
FOR STORM DRAINAGE: TYPE/MATERIAL OF STRUCTURE, TOP ELEVATION, INVERTS IN AND OUT.
LOCATIONS OF STREET LIGHTING AND TYPE
VICINITY MAP
NORTH ARROW
DATE
SCALE FOR DRAWINGS SHALL BE 1"=20' OR 1"=30'; THE EXCEPTION BEING UTILITY PLANS, WHICH MAY BE SUBMITTED AT 1"=40' OR LESS. NO PLANS ACCEPTED AT 1"=50' OR MORE.
LEGEND
DETAILS IF NEEDED
VERTICAL DATUM
LOT NUMBERS AND LOT LINES
RIGHT-OF-WAY AND EASEMENT LINES
ANY STATE OF NC PERMIT NUMBERS (IF APPLICABLE)
HARD COPIES OF PLANS SHALL BE SIGNED/SEALED/DATED BY A LICENSED SURVEYOR

REQUIREMENTS FOR VIDEO INSPECTION OF STORM SEWER SYSTEMS:

- GENERAL
1. ALL EQUIPMENT USED FOR CLEANING AND VIDEO INSPECTION SHALL BE SPECIFICALLY DESIGNED FOR THE WORK DESCRIBED HEREIN. ALL CAMERAS SHALL BE SELF-POWERED UNITS WITH COLOR, PAN-AND-TILT, MINIMUM RESOLUTION OF 640X480, AND THE ABILITY TO OPERATE IN 100% HUMIDITY CONDITIONS.
2. ALL WORK DESCRIBED HEREIN SHALL BE COMPLETED IN ACCORDANCE WITH NASSCO PIPELINE ASSESSMENT AND CERTIFICATION PROGRAM/ MANHOLE ASSESSMENT AND CERTIFICATION PROGRAM (PACP/MACP) GUIDELINES.
3. THE CITY OF WILMINGTON (COW) RESERVES THE RIGHT TO REFUSE ANY RECORDING OR REPORT ON THE BASIS OF SUBSTANDARD QUALITY.
EXECUTION
1. ALL STORM PIPE INSTALLATIONS SHALL BE COMPLETELY INSTALLED A MINIMUM OF 30 DAYS PRIOR TO VIDEO INSPECTION.
2. THE CONTRACTOR'S CLEANING OPERATIONS SHALL BE PERFORMED PRIOR TO THE VIDEO INSPECTION, AND SHALL FULLY CLEAN THE PIPES AND STRUCTURES AS WELL AS REMOVE ALL SEDIMENT, ROOTS, DEBRIS, ETC.
3. INSPECTIONS OF EACH PIPE SEGMENT SHALL BEGIN IN THE CENTER OF THE START DRAINAGE STRUCTURE AND END IN THE CENTER OF THE END DRAINAGE STRUCTURE.
4. THE CAMERA SHALL BE STOPPED AT EACH PIPE JOINT, DEFECT, IMPERFECTION, ETC.
5. THE DIGITAL RECORDING SHALL BE FREE OF ELECTRICAL INTERFERENCE AND SHALL PRODUCE A CLEAR AND STABLE IMAGE.
6. VIDEO OVERLAY SHALL INCLUDE, AT A MINIMUM, THE OWNER NAME, PROJECT NAME, STREET NAME, DIAMETER OF PIPE, PIPE MATERIAL, DATE AND TIME OF INSPECTION, DIRECTION OF VIDEO (UPSTREAM OR DOWNSTREAM), DRAINAGE STRUCTURE NUMBER DESIGNATION FOR EACH DRAINAGE STRUCTURE ON THE PIPE SEGMENT INSPECTED THAT CORRESPONDS TO THE CONSTRUCTION PLANS.
7. INSPECTION OF EACH PIPE SEGMENT SHALL BE PROVIDED IN A SEPARATE VIDEO FILE.
8. ALL OBSERVATIONS/DEFECTS SHALL BE NOTED BY THE INSPECTOR, WHERE A TEXT DISPLAY SHALL APPEAR DESCRIBING THE OBSERVATION/DEFECT.
9. AN INSPECTION FORM SHALL BE COMPLETED AND SUBMITTED FOR EACH PIPE SEGMENT AND DRAINAGE STRUCTURE INSPECTED AND VIDEOED.

CITY OF WILMINGTON MATERIALS DOCUMENTATION AND TESTING (PROVIDED FOR INFORMATION ONLY/SUBJECT TO CHANGE):

Table with columns: TEST TYPE, LOCATION FOR, TEST TARGET, SPEC, FREQUENCY AND TEST SECTIONS, DOCUMENTATION. Rows include SOIL PROCTORS, DENSITY - NUCLEAR GAUGE, PROOFROLL, DYNAMIC CONE PENETROMETER, etc.

Revision table with columns: REVISION, DESCRIPTIONS/REVISIONS, DATE. Rows include E CITY OF WILMINGTON TRC / CFPUA RESUBMITTAL, D NEW HANOVER COUNTY EROSION CONTROL REC-SUBMITTAL, etc.

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

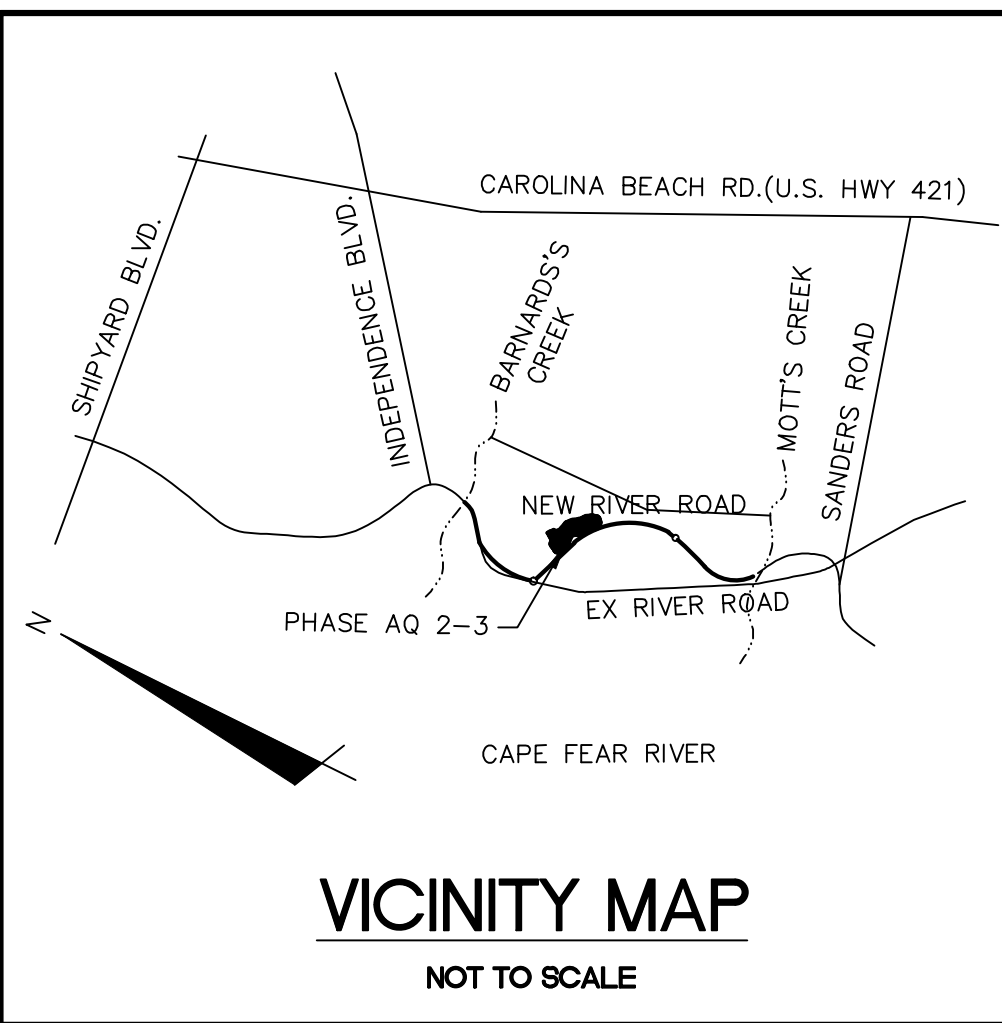
SEAL

MCKIM & CREED logo and contact information: 243 North Front Street, Wilmington, North Carolina 28401. Phone: (910)343-1048, Fax: (910)251-8282. License: F-1222. www.mckimcreed.com

RIVERLIGHTS logo with NAH and North America Services House, Ltd. text.

RIVERLIGHTS - AGE QUALIFIED PHASE 2 & 3 CLOSE-OUT SHEET NOTES

Project and drawing information: DATE: 06/01/16, MCE PROJ.# 02735-0168, DRAWN EEM/KCBE, DESIGNED KCBE, CHECKED NJL, PROJ. MGR. KCBE. SCALE: HORIZONTAL: 1"=50', VERTICAL: N/A. DRAWING NUMBER: G-003, 2A. STATUS: FINAL DESIGN, ISSUED FOR PERMITTING.



VICINITY MAP
NOT TO SCALE

LEGEND

	= REBAR & CAP
	= POWER POLE
	= SANITARY SEWER MANHOLE
	= WETLAND
	= OHE
	= CITY OF WILMINGTON CONSERVATION RESOURCE SETBACK LINE
	= SS
	= 100-YEAR FLOODPLAIN (PRELIMINARY)
	= 100-YEAR FLOODPLAIN (EFFECTIVE)
	= 35' CONSERVATION RESOURCE VEGETATED BUFFER

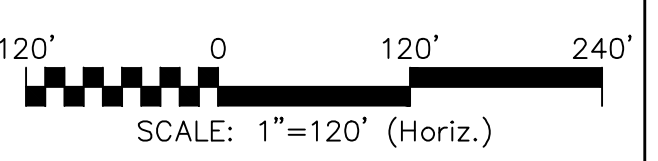
GENERAL NOTES:

- FLOODPLAIN INFORMATION WAS OBTAINED FROM NC FLOODPLAIN MAPPING FLOOD RISK INFORMATION SYSTEM PROGRAM. RIVERLIGHTS IS LOCATED WITHIN FIRM MAP 3720312400K, PANEL 3124 AS REVISED JUNE 02, 2006.
- WETLANDS SHOWN IN THIS PORTION OF RIVERLIGHTS WERE DESCRIBED AS POCOSIN (25' SETBACK) AND BRACKISH (75' SETBACK). CONSERVATION RESOURCE SETBACK LINES WERE GENERATED OUTSIDE OF THE RESOURCE BASED ON THE DESIGNATION.
- FINISHED FLOOR ELEVATIONS OFF ALL INHABITABLE STRUCTURES WILL BE MIN. 2-FEET ABOVE BASE FLOOD ELEVATION. CLOMR PROCESS IS CURRENTLY BEING COORDINATED WITH THE CITY OF WILMINGTON FLOODPLAIN MANAGER AND FEMA FOR LOT FILL AREA WITHIN EXISTING FLOODPLAIN.
- RIVERLIGHTS AGE QUALIFIED NEIGHBORHOOD DOES NOT CONTAIN ANY LOCAL, STATE, OR FEDERALLY RECOGNIZED HISTORIC STRUCTURES OR ARCHEOLOGICAL SITES ON SITE. RIVERLIGHTS WAS ISSUED A NOTICE OF NO FURTHER ACTION LETTER DATED JUNE 2, 2008 FOLLOWING COMPLETION OF AN EA/SEPA DOCUMENT.
- PLATS AND DOCUMENTS SHALL BE RECORDED TO PROVIDE PERPETUAL PROTECTIONS FOR CONSERVATION RESOURCES AND BUFFERS AND PROHIBIT IMPERVIOUS SURFACES WITHIN THE BUFFER, UNLESS EXCEPTIONS ARE PROVIDED BY THE LAND DEVELOPMENT CODE (LDC).
- ANY IMPROVEMENTS ENCRoACHING INTO THE CONSERVATION RESOURCE SETBACK AND/OR PRIMARY CONSERVATION AREA BUFFERS SHALL BE IN ACCORDANCE WITH 18-341 AND 18-433, RESPECTIVELY.

TREE LEGEND

	= CEDAR
	= GUM
	= HOLLY
	= OAK
	= MAPLE
	= PINE

NOTE:
EXISTING TREE CALIPER INCH SIZE IS SHOWN WITHIN THE TREE SYMBOL



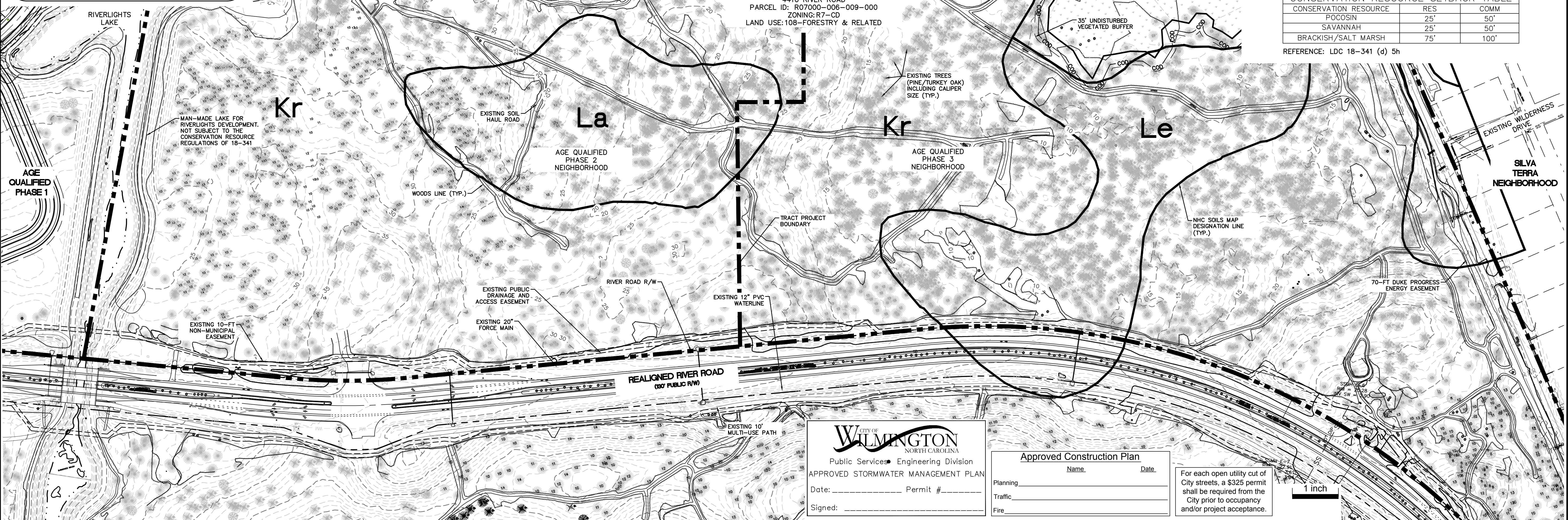
SITE DATA TABLE		AGE QUALIFIED - PHASE 2 & 3	
GENERAL INFORMATION			
APPLICANT NAME	NRP IV- CAPE FEAR RIVER, LLC		
SITE ADDRESS	4410 RIVER ROAD		
PROPERTY OWNER	NRP IV- CAPE FEAR RIVER, LLC		
DEVELOPER	NRP IV- CAPE FEAR RIVER LLC		
MAP SCALE	1"=100'		
PROPERTY BOUNDARY			
TAX PARCEL IDENTIFICATION NUMBER	R07000-006-009-000		
ZONING DISTRICT	R-7/CD CLUSTER		
TOTAL ACREAGE WITHIN THE RIVER ROAD BOUNDARY	1,329.41 ACRES (57,909,099.6 SF)		
TOTAL ACREAGE WITHIN THE SF-2 BOUNDARY	127.16 ACRES (5,539,089.6 SF)		
ADJACENT PROPERTY			
ADJACENT PROPERTY	PROPERTY OWNER	ZONING	
	DUKE PROGRESS ENERGY	I-2	
	BILL CLARK HOMES OF WILM. LLC		
	CAROL BRANNER		
	RITCHIE PAGE		
	MICHAEL TODD		
	JAMES & TERESA CONOLY		
	WILLIAM NOEL III WESNER	R-10	
	ALLEN JOSEPH & BARBARA DITTMER		
	KRISTIN NEWBERRY		
	JOSEPH V. III & BREGETTA GARNETT		
	JOHN S. POTTER		

SITE DATA TABLE		AGE QUALIFIED - PHASE 2 AND 3	
VICINITY			
VICINITY MAP	SEE CX-101		
TOPOGRAPHY AND DRAINAGE			
2-FEET TOPOGRAPHY MINIMUM INTERVAL	SEE CX-101		
DATE OF TOPOGRAPHY DATA	5/5/2015		
100-YR FLOODPLAIN LINE	SEE CX-101		
LOCATION OF NATURAL WATER FEATURES			
DITCHES	SEE CX-101	NON-JURISDICTIONAL	
STREAMS	N/A		
CREEKS	N/A		
FLOOD PRONE AREAS			
AREAS OF NATURALLY CONCENTRATED SURFACE DRAINAGE	N/A		
SOIL			
SOIL TYPE(S) AND BOUNDARIES	SEE CX-101		
NORTH CAROLINA COASTAL AREA MANAGEMENT AD INFORMATION			
CAMA AREA OF ENVIRONMENTAL CONCERN	SEE CX-101		
SETBACKS	75 FT		
CAMA LAND USE CLASSIFICATION(S)	TRANSITION/CONSERVATION		
CONSERVATION RESOURCE REGULATIONS			
PRESENCE OF CONSERVATION RESOURCE	PRESENCE; SEE CX-101		
SETBACKS	TABLE; SEE CX-101		
VEGETATED BUFFER	35'; SEE CX-101		
HISTORIC AND ARCHEOLOGICAL SITES			
LOCAL, STATE, OR FEDERALLY RECOGNIZED HISTORIC STRUCTURE(S) OR ARCHEOLOGICAL RESOURCES	NOT PRESENT		
LOCATION	N/A		
CEMETERIES			
CEMETERIES, BURIAL SITES, OR BURIAL GROUNDS?	NOT PRESENT		
FORESTED AREAS			
BOUNDARIES OF FORESTED AREAS	SEE CX-101		
DOMINANT SPECIES	OAK, PINE		
WETLANDS			
404/SECTION 10 WETLAND LOCATION	PRESENCE; SEE CX-101		
METHOD OF DETERMINATION	ENVIRONMENTAL EVALUATION		
ENDANGERED SPECIES OR HABITAT			
ENDANGERED SPECIES OR HABITAT	NOT PRESENT		
AUTOMOBILE, BICYCLE, PEDESTRIAN, OR TRANSIT FACILITIES			
EXISTING OR PROPOSED THOROUGHFARES, BIKE ROUTES, PEDESTRIAN SIDEWALKS OR TRAILS, AND TRANSIT FACILITIES	SIDEWALK, MULTI-USE PATH CONNECTION		

CONSERVATION RESOURCE SETBACK TABLE

CONSERVATION RESOURCE	RES	COMM
POCOSIN	25'	50'
SAVANNAH	25'	50'
BRACKISH/SALT MARSH	75'	100'

REFERENCE: LDC 18-341 (d) 5h



CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____
Signed: _____

Approved Construction Plan

Name	Date
Planning	
Traffic	
Fire	

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

REVNO.	DESCRIPTIONS	DATE
E	CITY OF WILMINGTON TRC / C/P/UA RESUBMITTAL	09/09/2016
D	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/04/2016
C	CITY OF WILMINGTON TRC / STORMWATER / TREE REMOVAL, NEW HANOVER COUNTY EROSION CONTROL, AND C/P/UA SUBMITTAL	06/29/2016
B	CITY OF WILMINGTON TRC	06/01/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/08/2016

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

SEAL

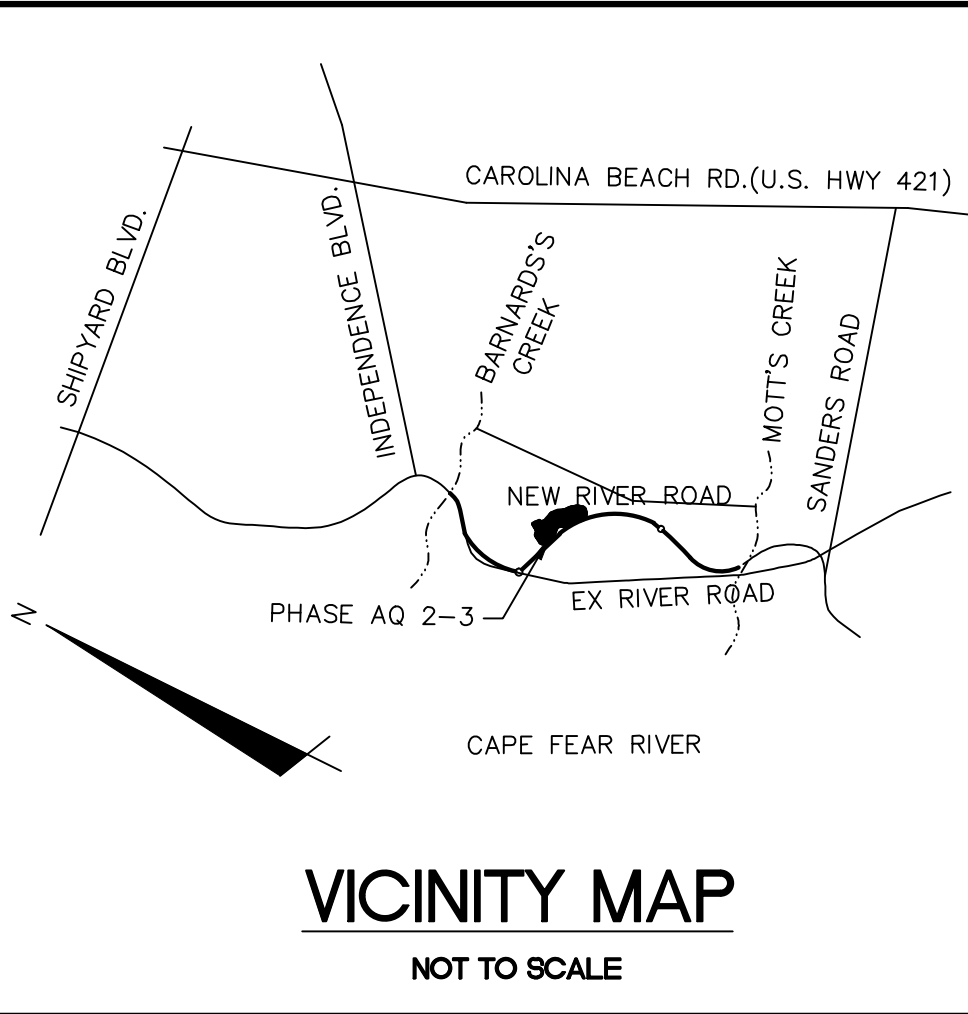
MCKIM & CREED
243 North Front Street
Wilmington, North Carolina 28401
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License: F-1222
www.mckimcreed.com

RIVERLIGHTS
NORTH AMERICA SEXIUS HOUSE, LLC

RIVERLIGHTS - AGE QUALIFIED PHASE 2 & 3

EXISTING CONDITIONS / SITE INVENTORY PLAN

DATE: 06/01/16	SCALE: 1"=100'	MAC FILE NUMBER: CX-101
MCE PROJ. # 02735-0168	HORIZONTAL: 1"=100'	DRAWING NUMBER: 3
DRAWN: EEM/KCBE	VERTICAL: N/A	
DESIGNED: KCBE		
CHECKED: NJL		
PROJ. MGR.: KCBE		
STATUS: FINAL DESIGN	REVISION: E	
ISSUED FOR PERMITTING		



For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

CITY OF WILMINGTON
NORTH CAROLINA
Public Services Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

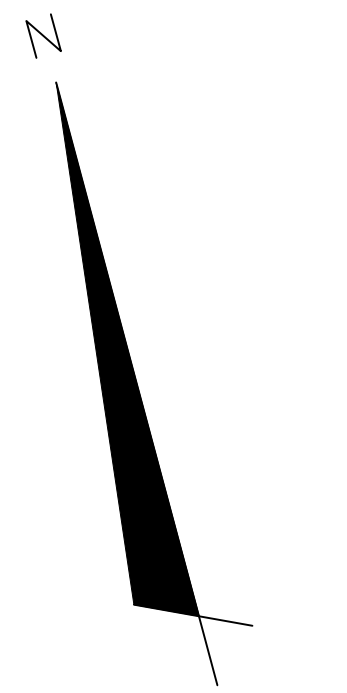
Date: _____ Permit # _____
Signed: _____

Approved Construction Plan

Name	Date
Planning	
Traffic	
Fire	

DEMOLITION NOTES:

1. NO EARTH DISTURBING ACTIVITIES SHALL COMMENCE UNTIL ALL PERIMETER EROSION CONTROL MEASURES ARE IN PLACE IN ACCORDANCE WITH THE EROSION CONTROL SEQUENCE SHOWN IN THESE PLANS.
2. NO EARTH-DISTURBING ACTIVITY OR OTHER WORK SHALL TAKE PLACE WITHIN WETLANDS AREAS NOTED ON SURVEY. CONTRACTOR SHALL FIELD VERIFY WETLAND LIMITS FLAGGING IS IN PLACE AND SHALL NOT ENTER WETLAND AREAS. IF WETLAND FLAGGING IS MISSING OR OTHERWISE DAMAGED, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTE WETLAND LIMITS AND PREVENT DISTURBANCE OR OTHER ACTIVITY WITHIN WETLANDS.
3. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR THE PROTECTION OF ALL PROPERTY CORNER MONUMENTS, AND SHALL HAVE, AT HIS EXPENSE, ALL CORNER MONUMENTS REPLACED WHICH ARE DISTURBED BY CONSTRUCTION ACTIVITIES.
4. CONTRACTOR IS RESPONSIBLE FOR REPAIRS OF DAMAGE TO ANY EXISTING IMPROVEMENTS, AT HIS EXPENSE, DURING CONSTRUCTION, SUCH AS, BUT NOT LIMITED TO, DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB, ETC. REPAIRS SHALL BE EQUAL TO OR BETTER THAN EXISTING CONDITIONS.
5. CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH ALL REGULATIONS GOVERNING THE DEMOLITION, REMOVAL, TRANSPORTATION AND DISPOSAL DO ALL DEMOLITION DEBRIS.
6. CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH THE LATEST OSHA STANDARDS FOR EXCAVATION AND TRENCHING PROCEDURES. CONTRACTOR SHALL USE SUPPORT SYSTEMS, SLOPING, BENCHING, ETC. AS NECESSARY FOR THESE OPERATIONS, AND SHALL COMPLY WITH ALL OSHA PERFORMANCE CRITERIA.
7. CONTRACTOR SHALL TAKE SPECIAL CARE TO PROTECT ALL UTILITIES AND APPURTENANCES TO REMAIN.

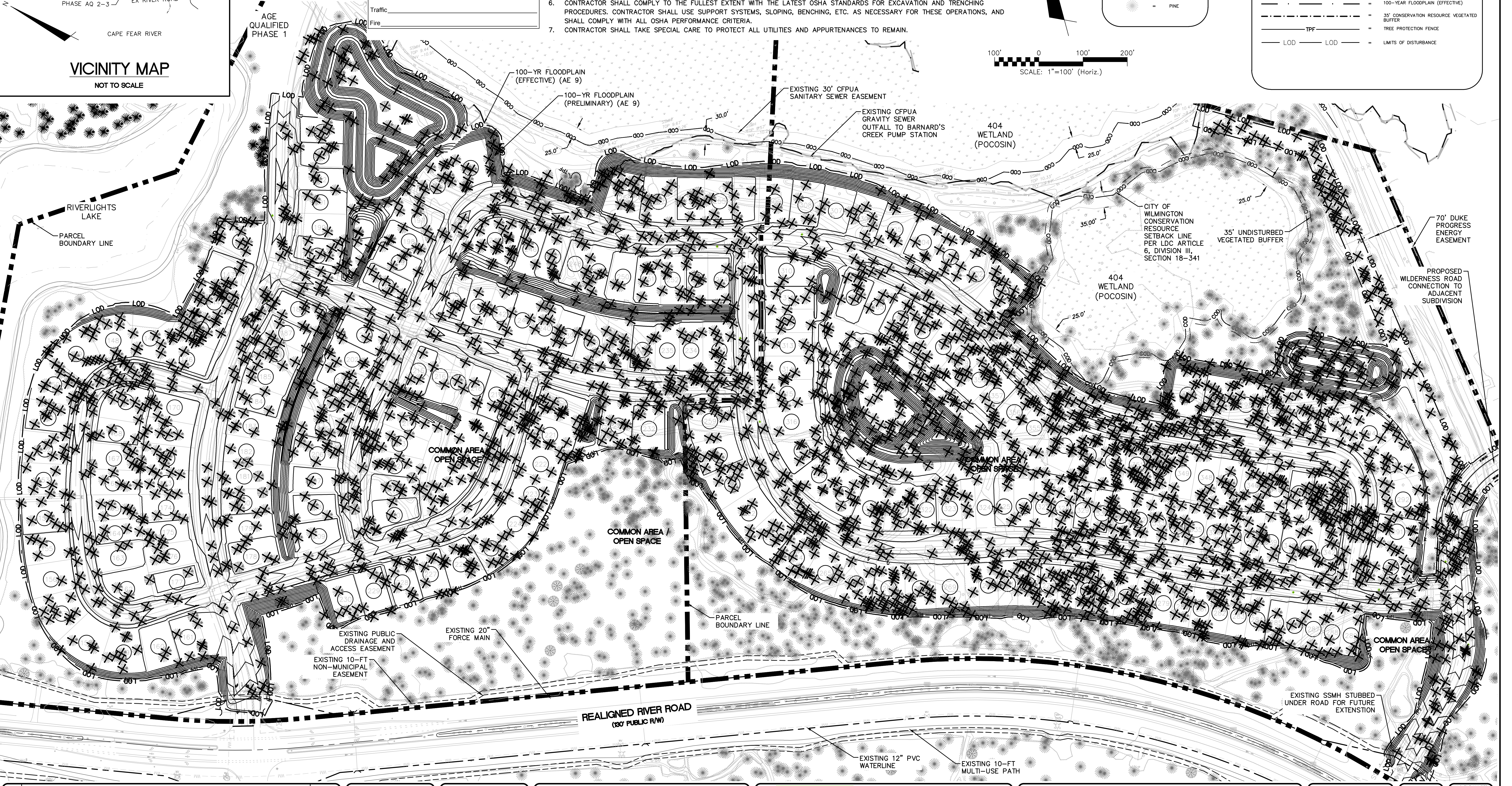
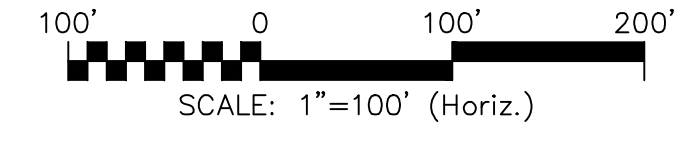


TREE LEGEND

- CEDAR
- GUM
- HOLLY
- OAK
- MAPLE
- PINE

LEGEND

- △ RBC = REBAR & CAP
- = POWER POLE
- = SANITARY SEWER MANHOLE
- = WETLAND
- COD — COD = OVERHEAD ELECTRIC LINE
- COW — COW = CITY OF WILMINGTON CONSERVATION RESOURCE SETBACK LINE
- SSMH — SSMH = SANITARY SEWER MAIN
- 100-YR FLOODPLAIN (PRELIMINARY)
- 100-YR FLOODPLAIN (EFFECTIVE)
- 35' UNDISTURBED VEGETATED BUFFER
- TPF — TPF = TREE PROTECTION FENCE
- LOD — LOD = LIMITS OF DISTURBANCE



REVNO.	DESCRIPTIONS	DATE
E	CITY OF WILMINGTON TRC / CFPWA RESUBMITTAL	09/09/2016
D	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/04/2016
C	CITY OF WILMINGTON TRC / STORMWATER / TREE REMOVAL, NEW HANOVER COUNTY EROSION CONTROL, AND CFPWA SUBMITTAL	06/29/2016
B	CITY OF WILMINGTON TRC	06/29/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	02/09/2016

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

MCKIM & CREED

243 North Front Street
Wilmington, North Carolina 28401
Phone: (910)343-1048, Fax: (910)251-8282
License: F-1222
www.mckimcreed.com

RIVERLIGHTS

NORTH AMERICA SEXKUS HOUSE, LLC

RIVERLIGHTS - AGE QUALIFIED PHASE 2 & 3

TREE REMOVAL PLAN

DATE: 06/01/16
MCE PROJ. # 02735-0168
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: NUL
PROJ. MGR.: KCBE

SCALE: HORIZONTAL: 1"=100'
VERTICAL: N/A

STATUS: FINAL DESIGN
ISSUED FOR PERMITTING

MAC FILE NUMBER: CX-102
DRAWING NUMBER: 4
REVISION: E

LEGEND

- △ RBC = REBAR & CAP
- ⊙ = POWER POLE
- ⊙ = SANITARY SEWER MANHOLE
- ▭ = WETLAND
- OHE — OHE = OVERHEAD ELECTRIC LINE
- COD — COD = CITY OF WILMINGTON CONSERVATION RESOURCE SETBACK LINE
- SS — SS = SANITARY SEWER MAIN
- 100-YEAR FLOODPLAIN (PRELIMINARY)
- 100-YEAR FLOODPLAIN (EFFECTIVE)
- 35' CONSERVATION RESOURCE VEGETATED BUFFER
- TPF — TPF = TREE PROTECTION FENCE
- LOD — LOD = LIMITS OF DISTURBANCE
- SF — SF = SILT FENCE
- >TDD — >TDD = TEMPORARY DIVERSION DITCH

TREE LEGEND

- ⊙ = CEDAR
- ⊙ = GUM
- ⊙ = HOLLY
- ⊙ = OAK
- ⊙ = MAPLE
- ⊙ = PINE

LIMITS OF DISTURBANCE - 64.0 AC

LAT: 34° 9' 3" N
LONG: 77° 56' 9" W

NOTE:

- WHERE SILT FENCE IS REQUIRED IN THE SAME PLACE AS TREE PROTECTION FENCING, ORANGE SILT FENCE AND SIGNAGE FOR TREE PROTECTION MAY BE USED INSTEAD OF DUPLICATE FENCING. SIGNAGE MUST MEET CITY OF WILMINGTON REQUIREMENTS FOR TREE PROTECTION DURING CONSTRUCTION (SD 15-09).
- SILT FENCE TO BE PLACED AT LIMITS OF DISTURBANCE AND HAS BEEN SHOWN AS AN OFFSET FOR CLARITY.

CITY OF WILMINGTON CONSERVATION SETBACK LINE PER LDC ARTICLE 6, DIVISION III, SECTION 18-341

PHASE 1 CONSTRUCTION SEQUENCE

1. ESTABLISH LIMITS OF DISTURBANCE AS SHOWN.
2. A PRE-CONSTRUCTION CONFERENCE MUST BE HELD 48 HOURS PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES. THE EROSION CONTROL INSPECTOR, ENGINEER, AND CONTRACTOR SHALL MEET AT THE NEW HANOVER COUNTY EROSION CONTROL INSPECTOR'S OFFICE.
3. INSTALL TEMPORARY GRAVEL CONSTRUCTION ENTRANCES AS SHOWN. CONTRACTOR SHALL MAINTAIN A SUFFICIENT GRAVEL ENTRANCE UNTIL FINAL SUB-GRADE IS ESTABLISHED. IF DIRT/MUD GETS ON THE STREET, THEN A WASH RACK WILL NEED TO BE INSTALLED.
4. INSTALL TREE PROTECTION FENCING AND SILT FENCING AS NOTED ON PLANS BEFORE COMMENCING ANY LAND DISTURBANCE ACTIVITY. ADDITIONAL TREE PROTECTION FENCING AND SILT FENCE MAY BE REQUIRED. SILT FENCE WILL BE INSTALLED INSIDE OF THE LIMITS OF DISTURBANCE LINE.
5. INSTALL TEMPORARY SKIMMER BASINS WITHIN THE LIMITS OF CONSTRUCTION AS SHOWN ON THE PLANS IN ORDER TO TREAT SEDIMENT LADEN WATER. BASINS SHALL BE CONSTRUCTED PRIOR TO CONSTRUCTION OF ANY DIVERSION DITCHES THAT CONVEY WATER TO THE BASINS. CONTRACTOR TO FIELD ADJUST TEMPORARY DIVERSION DITCHES AS REQUIRED TO MAINTAIN THE DIVERSION TO THE BASINS.
6. COMMENCE GRUBBING AND ROUGH GRADING WITHIN THE LIMITS OF CONSTRUCTION.
7. COMMENCE DEMOLITION OF EXISTING BUILDINGS, DRIVES, FENCES, GATES, WELLS, GARDENS AND EXISTING UTILITY SERVICES. ALL DEMOLITION MATERIAL SHALL BE DISPOSED OF, SALVAGED, OR RECYCLED PER THE PROJECT SPECIFICATIONS.
8. COORDINATE DISCONNECTION OF EXISTING UTILITIES:
 - ELECTRICAL SERVICES AND POLES WITH PROGRESS ENERGY
 - TELEPHONE SERVICES AND POLES WITH BELL SOUTH
 - CABLE WITH TIME WARNER CABLE
 - SEWER AND WATER SERVICES WITH CAPE FEAR PUBLIC UTILITY AUTHORITY
 - STORM DRAINAGE SYSTEM WITH CITY OF WILMINGTON
9. PROVIDE TEMPORARY STABILIZATION AND SEEDING AS NECESSARY TO PREVENT EROSION. REFER TO SHEET CE-501 FOR GROUND STABILIZATION CRITERIA AND SEEDING SCHEDULE.



Public Services Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

Approved Construction Plan

Name _____ Date _____

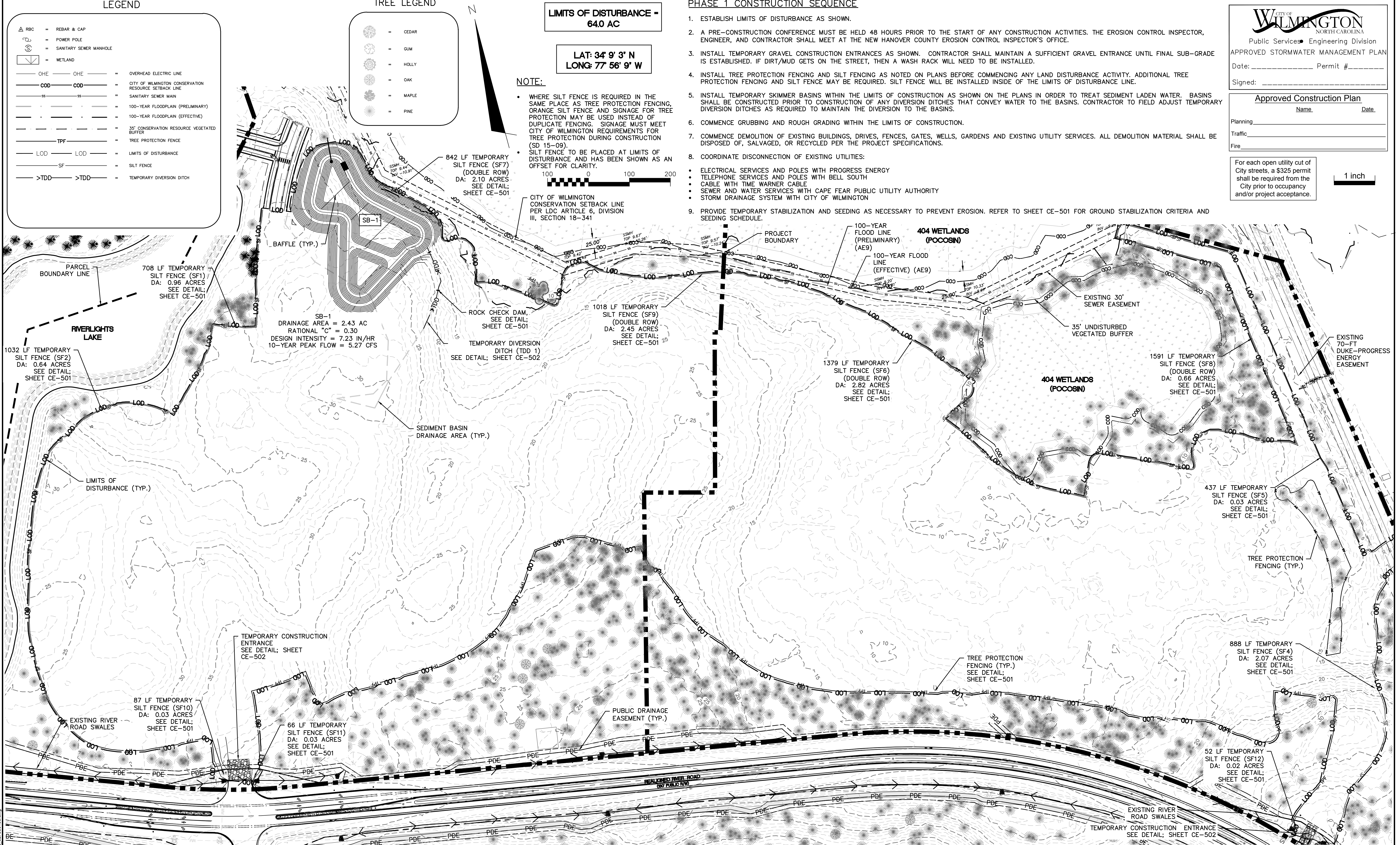
Planning _____

Traffic _____

Fire _____

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch



REVNO.	DESCRIPTIONS	DATE
A	CITY OF WILMINGTON SUBMISSION REVIEW BOARD SUBMITTAL	01/08/2016
B	CITY OF WILMINGTON TRC	06/01/2016
C	CITY OF WILMINGTON TRC / STORMWATER / TREE REMOVAL, NEW HANOVER COUNTY EROSION CONTROL, AND CFWA SUBMITTAL	06/29/2016
D	NEW HANOVER COUNTY EROSION CONTROL, RE-SUBMITTAL	08/04/2016
E	CITY OF WILMINGTON TRC / CFWA RE-SUBMITTAL	08/09/2016

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

SEAL

243 North Front Street
Wilmington, North Carolina 28401
Phone: (910)343-1048, Fax: (910)251-8282
License: F-1222
www.mckimcreed.com

NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS - AGE QUALIFIED PHASE 2 & 3

PHASE 1 EROSION CONTROL

DATE: 06/01/16	SCALE: HORIZONTAL: 1"=100'	MAC FILE NUMBER: CE-101
MCE PROJ # 02735-0168	VERTICAL: N/A	DRAWING NUMBER: 5
DRAWN: EEM/KCBE		
DESIGNED: KCBE		
CHECKED: NJL		
PROJ. MGR: KCBE		
STATUS: FINAL DESIGN	REVISION: E	
ISSUED FOR PERMITTING		

S:\27350168 AQ 2-3864 Drawings\CE 101(AQ-2-3) 027350168.dwg

LEGEND

	REBAR & CAP
	POWER POLE
	SANITARY SEWER MANHOLE
	WETLAND
	OVERHEAD ELECTRIC LINE
	CITY OF WILMINGTON CONSERVATION RESOURCE SETBACK LINE
	SANITARY SEWER MAIN
	100-YEAR FLOODPLAIN (PRELIMINARY)
	100-YEAR FLOODPLAIN (EFFECTIVE)
	35' CONSERVATION RESOURCE VEGETATED BUFFER
	TREE PROTECTION FENCE
	LIMITS OF DISTURBANCE
	SILT FENCE
	TEMPORARY DIVERSION DITCH

TREE LEGEND

	CEDAR
	GUM
	HOLLY
	OAK
	MAPLE
	PINE

LIMITS OF DISTURBANCE = 64.0 AC

**LAT: 34° 9' 3" N
LONG: 77° 56' 9" W**

NOTE:

- WHERE SILT FENCE IS REQUIRED IN THE SAME PLACE AS TREE PROTECTION FENCING, ORANGE SILT FENCE AND SIGNAGE FOR TREE PROTECTION MAY BE USED INSTEAD OF DUPLICATE FENCING. SIGNAGE MUST MEET CITY OF WILMINGTON REQUIREMENTS FOR TREE PROTECTION DURING CONSTRUCTION (SD 15-09).
- SILT FENCE TO BE PLACED AT LIMITS OF DISTURBANCE AND HAS BEEN SHOWN AS AN OFFSET FOR CLARITY.

PHASE 2 CONSTRUCTION SEQUENCE

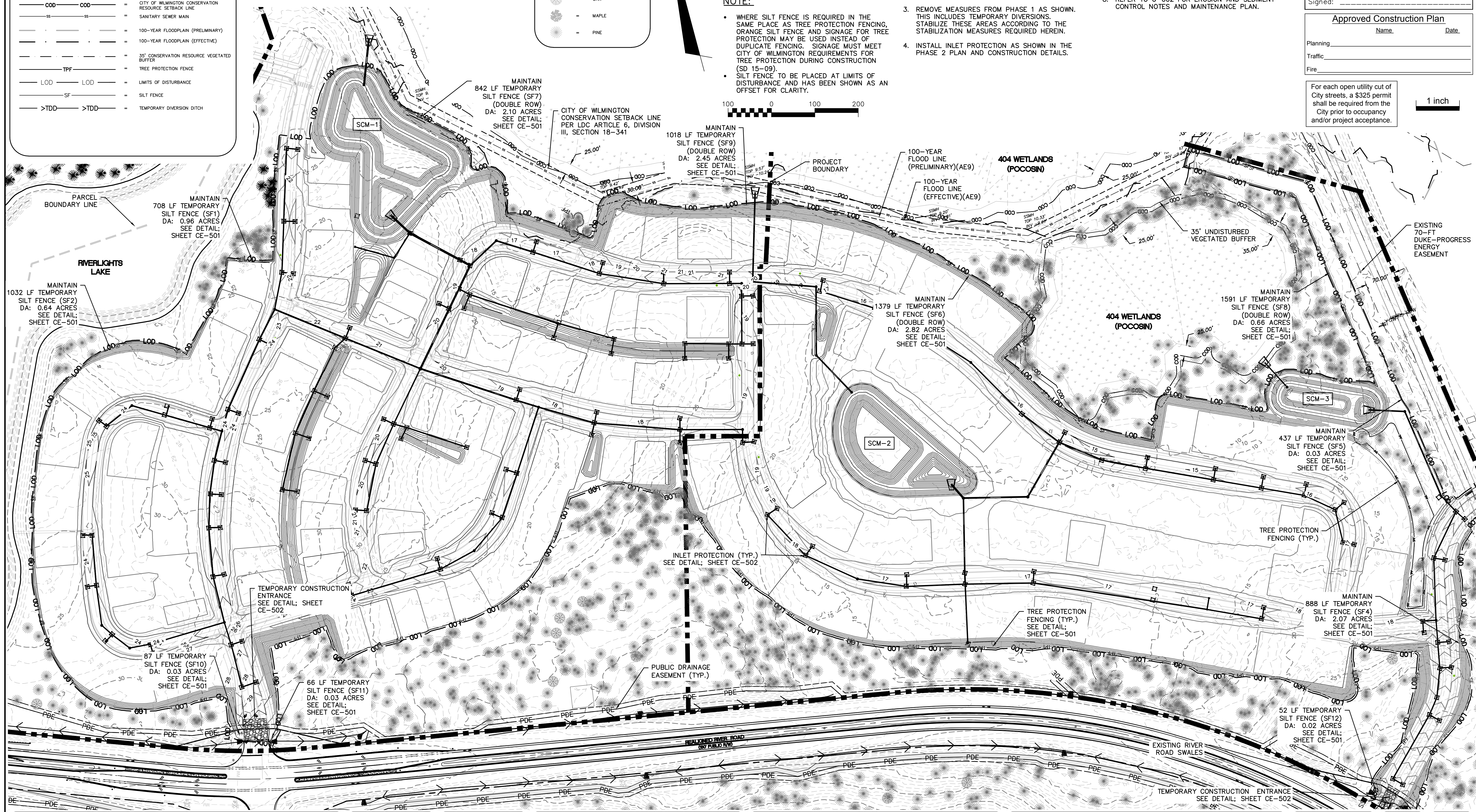
- BEGIN PHASE 2 SEDIMENT AND EROSION CONTROL UPON COMPLETION OF CLEARING AND GRUBBING OPERATIONS, ROUGH GRADING OF THE SITE AND INSTALLATION OF THE STORM WATER COLLECTION SYSTEM.
- MAINTAIN MEASURES FROM PHASE 1 AS SHOWN IN THIS PHASE 2 SEDIMENT AND EROSION CONTROL DRAWING.
- REMOVE MEASURES FROM PHASE 1 AS SHOWN. THIS INCLUDES TEMPORARY DIVERSIONS. STABILIZE THESE AREAS ACCORDING TO THE STABILIZATION MEASURES REQUIRED HEREIN.
- INSTALL INLET PROTECTION AS SHOWN IN THE PHASE 2 PLAN AND CONSTRUCTION DETAILS.
- COMPLETE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS.
- UPON COMPLETION OF CONSTRUCTION, ESTABLISH PERMANENT GROUND COVER AND OVERALL SITE STABILIZATION.
- REMOVE THE SEDIMENT AND EROSION CONTROL MEASURES.
- REFER TO G-002 FOR EROSION AND SEDIMENT CONTROL NOTES AND MAINTENANCE PLAN.

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

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

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch



REV. NO.	DESCRIPTIONS / REVISIONS	DATE
E	CITY OF WILMINGTON TRC / OFPIA RESUBMITTAL	09/09/2016
D	NEW HANOVER COUNTY EROSION CONTROL RC-SUBMITTAL	08/04/2016
C	CITY OF WILMINGTON TRC / STORMWATER / TREE REMOVAL, NEW HANOVER COUNTY EROSION CONTROL, AND OFPIA SUBMITTAL	06/29/2016
B	CITY OF WILMINGTON TRC	06/01/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/08/2016

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

SEAL

MCKIM & CREED
243 North Front Street
Wilmington, North Carolina 28401
Phone: (910)343-1048, Fax: (910)251-8282
License: F-1222
www.mckimcreed.com

NASH RIVERLIGHTS
NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS - AGE QUALIFIED PHASE 2 & 3
PHASE 2 EROSION CONTROL

DATE: 06/01/16
MCE PROJ. # 02735-0168
DRAWN EEM/KCBE
DESIGNED KCBE
CHECKED N/A
PROJ. MGR. KCBE

SCALE: HORIZONTAL: 1"=100'
VERTICAL: N/A

MAC FILE NUMBER: **CE-102**
DRAWING NUMBER: **6**

STATUS: **FINAL DESIGN**
ISSUED FOR PERMITTING

REVISION: **E**

Approved Construction Plan

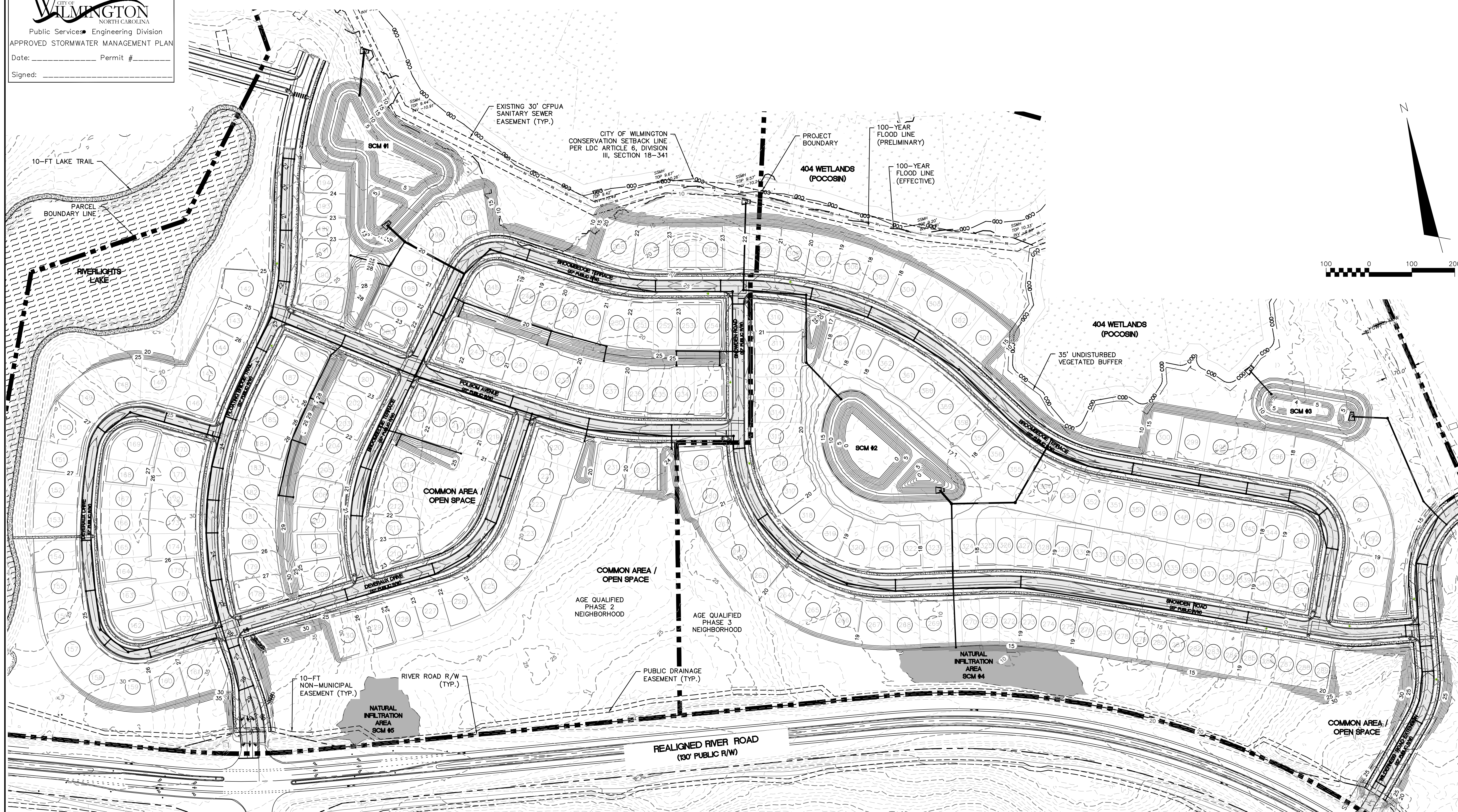
Name: _____ Date: _____
 Planning: _____
 Traffic: _____
 Fire: _____

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch



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



REV. NO.	DESCRIPTIONS / REVISIONS	DATE
E	CITY OF WILMINGTON TRC / CFPUA RESUBMITTAL	09/09/2016
D	NEW HANOVER COUNTY EROSION CONTROL REC-SUBMITTAL	08/04/2016
C	CITY OF WILMINGTON TRC / STORMWATER / TREE REMOVAL, NEW HANOVER COUNTY EROSION CONTROL, AND CFPUA SUBMITTAL	06/29/2016
B	CITY OF WILMINGTON TRC	06/01/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/06/2016

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

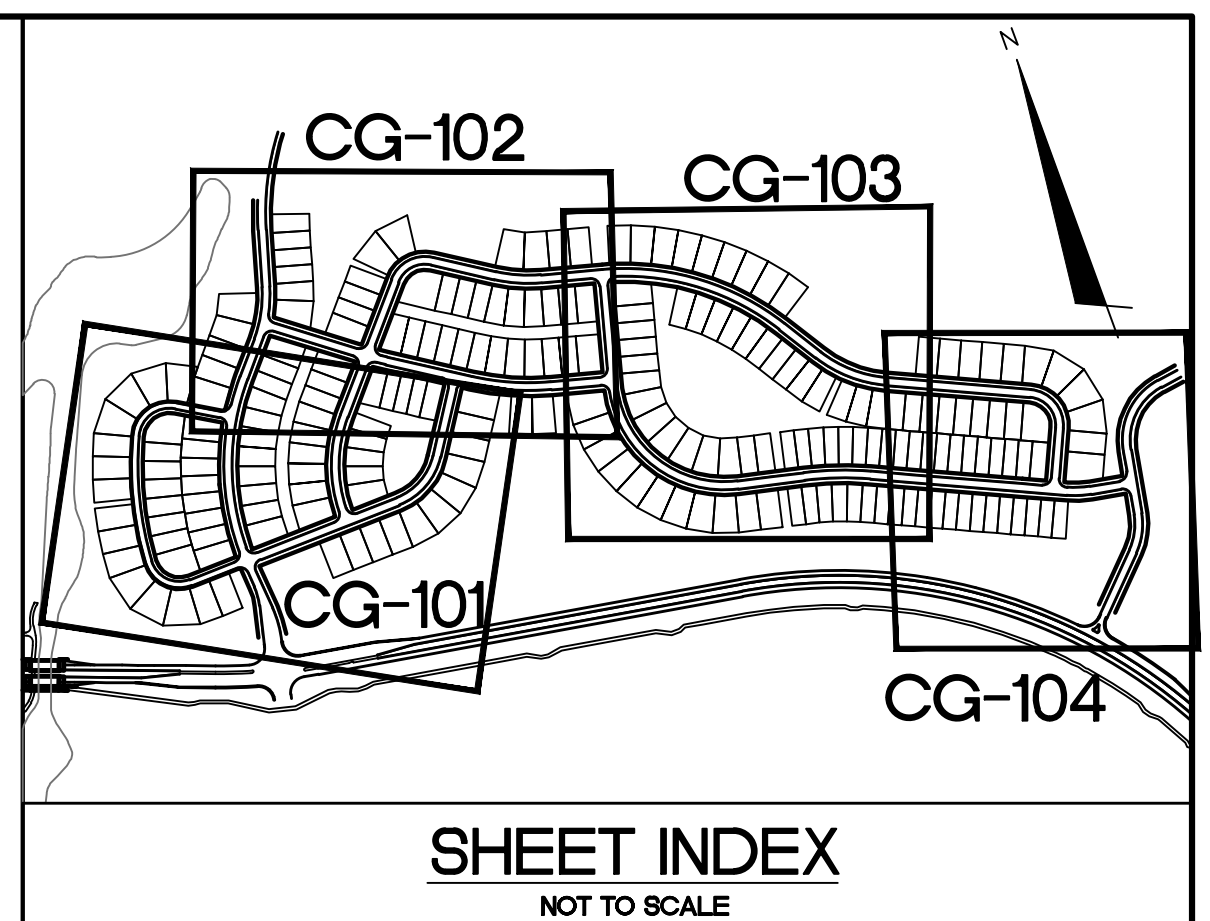
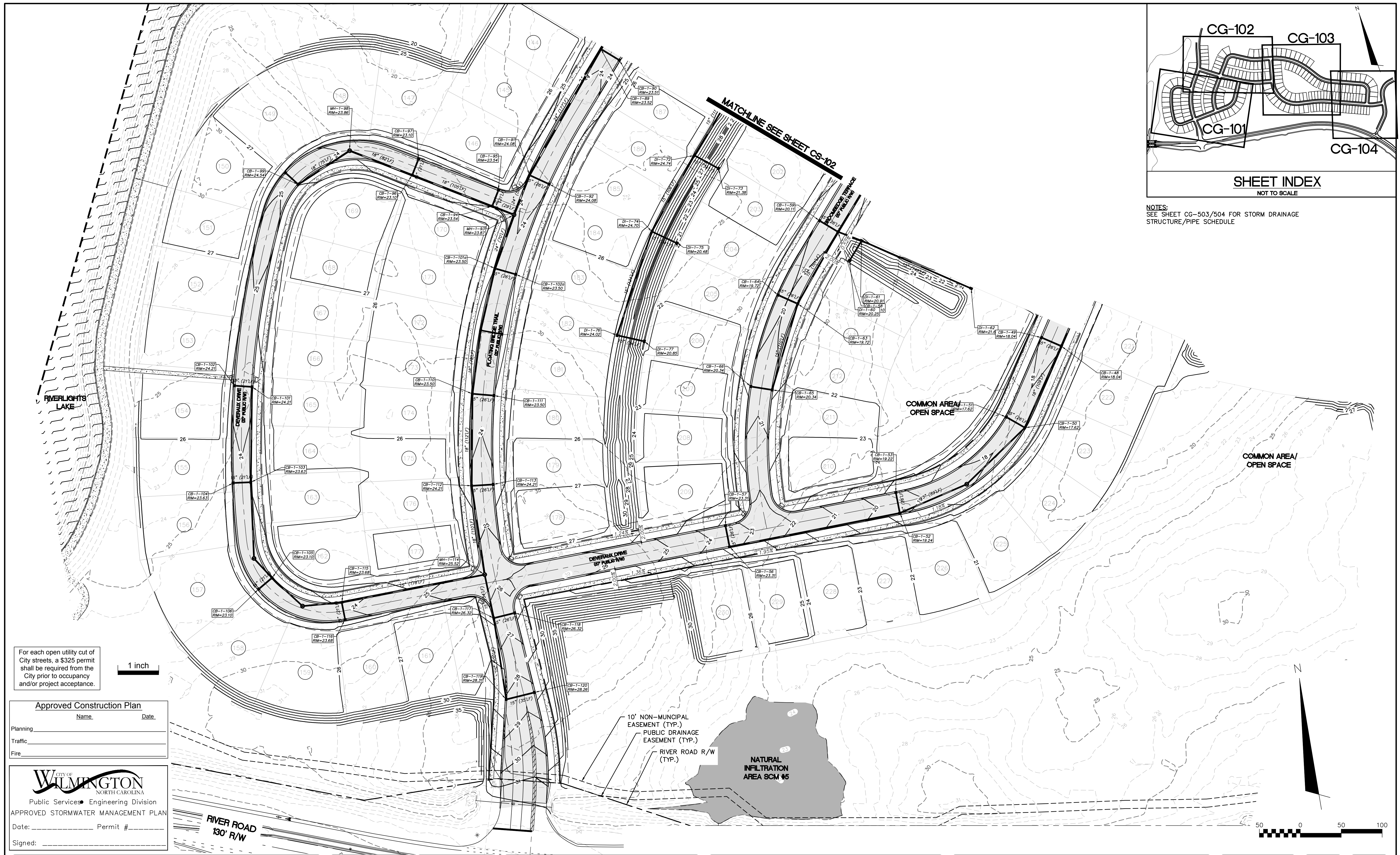
SEAL

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 License: F-1222
 www.mckimcreed.com

NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS - AGE QUALIFIED PHASE 2 & 3
 OVERALL STORM DRAINAGE AND GRADING PLAN

DATE: 06/01/16	SCALE: CG-100	MAC FILE NUMBER: 7
MCE PROJ. # 02735-0168	HORIZONTAL: 1"=100'	DRAWING NUMBER: 7
DRAWN: EEM/KCBE	VERTICAL: N/A	
DESIGNED: KCBE		
CHECKED: N/A		
PROJ. MGR: KCBE		
STATUS: FINAL DESIGN	REVISION: E	
ISSUED FOR PERMITTING		



NOTES:
SEE SHEET CG-503/504 FOR STORM DRAINAGE
STRUCTURE/PIPE SCHEDULE

For each open utility cut of
City streets, a \$325 permit
shall be required from the
City prior to occupancy
and/or project acceptance.

1 inch

Approved Construction Plan
Name _____ Date _____

Planning _____
Traffic _____
Fire _____

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

REVNO.	DESCRIPTIONS	DATE
E	CITY OF WILMINGTON TRC / OFPIA RESUBMITTAL	09/09/2016
D	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/04/2016
C	CITY OF WILMINGTON TRC / STORMWATER / TREE REMOVAL, NEW HANOVER COUNTY EROSION CONTROL, AND OFPIA SUBMITTAL	06/29/2016
B	CITY OF WILMINGTON TRC	06/01/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/09/2016

SEAL
**PRELIMINARY -
DO NOT USE FOR
CONSTRUCTION**

SEAL

MCKIM & CREED
243 North Front Street
Wilmington, North Carolina 28401
Phone: (910)343-1048, Fax: (910)251-8282
License: F-1222
www.mckimcreed.com

NASH
NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS™

**RIVERLIGHTS - AGE QUALIFIED PHASE
2 & 3**

STORM DRAINAGE AND GRADING PLAN

DATE: 06/01/16
MCE PROJ. # 02735-0168
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: NAL
PROJ. MGR: KCBE

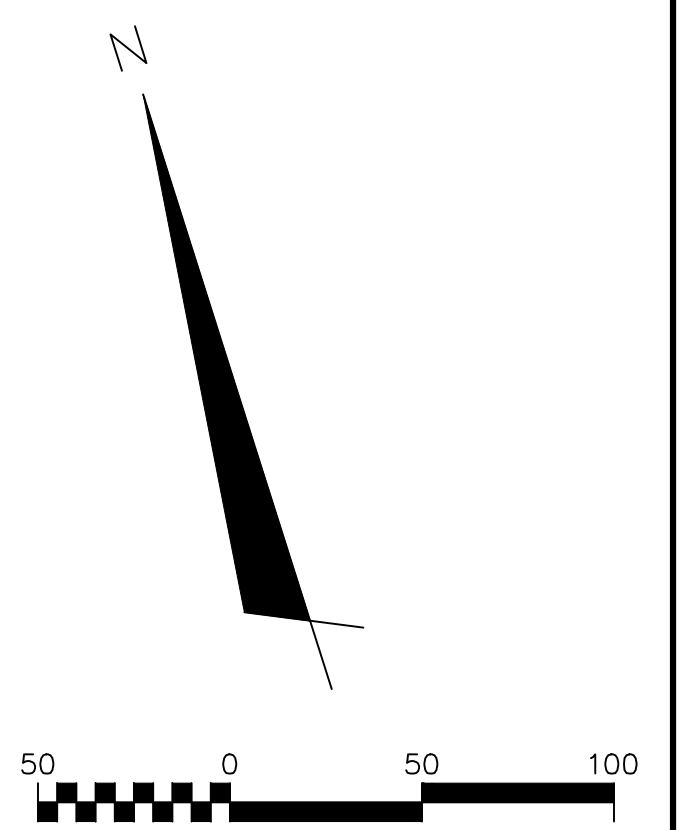
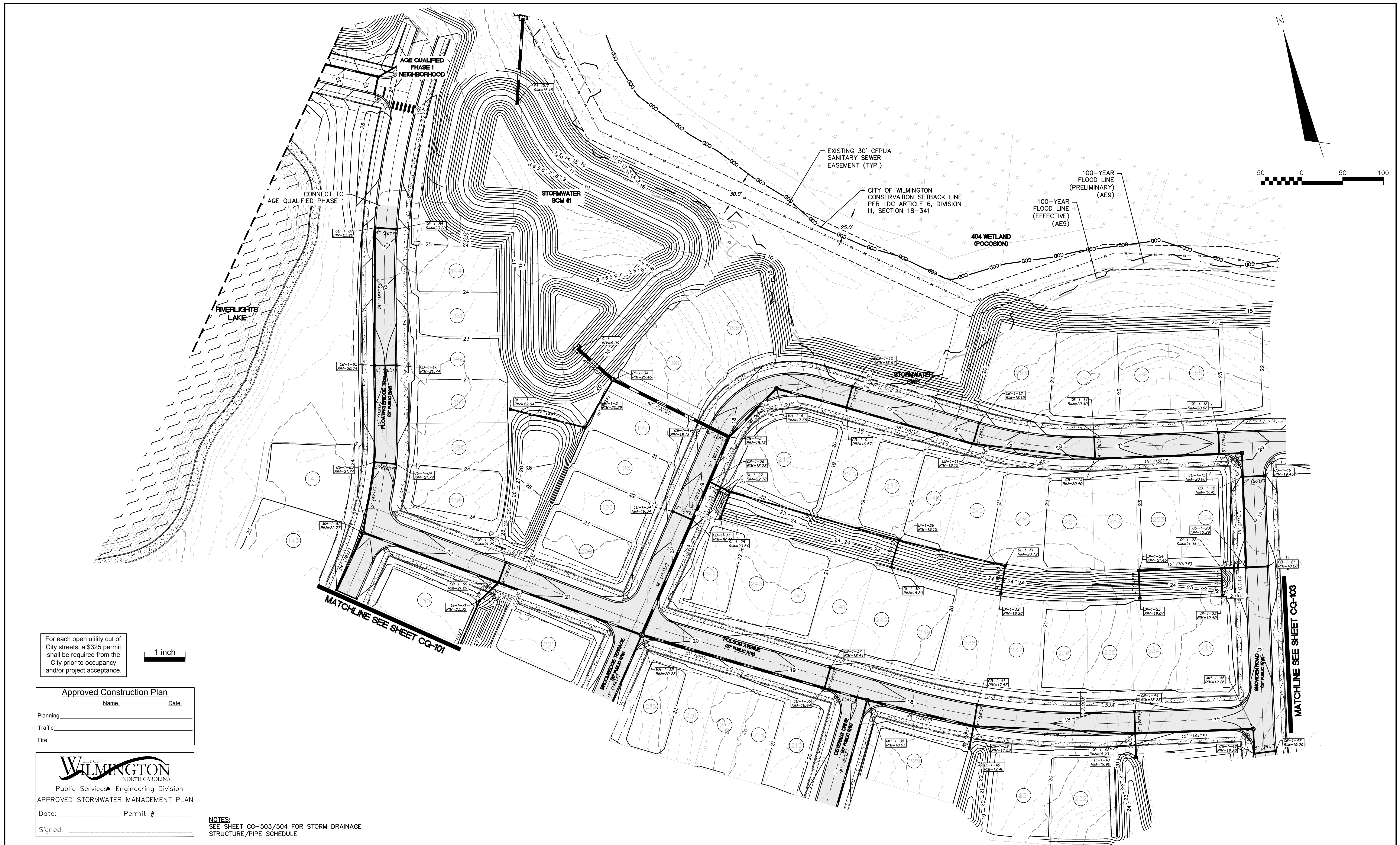
SCALE
HORIZONTAL: 1"=50'
VERTICAL: N/A

MAC FILE NUMBER: **CG-101**
DRAWING NUMBER: **8**

STATUS: **FINAL DESIGN**
ISSUED FOR PERMITTING

REVISION: **E**

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For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch

Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

Fire _____

CITY OF WILMINGTON
NORTH CAROLINA

Public Services Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

NOTES:
SEE SHEET CG-503/504 FOR STORM DRAINAGE STRUCTURE/PIPE SCHEDULE.

REVNO.	DESCRIPTIONS / REVISIONS	DATE
E	CITY OF WILMINGTON TRC / CFPWA RESUBMITTAL	09/09/2016
D	NEW HANOVER COUNTY EROSION CONTROL RC-SUBMITTAL	08/04/2016
C	CITY OF WILMINGTON TRC / STORMWATER / TREE REMOVAL, NEW HANOVER COUNTY EROSION CONTROL, AND CFPWA SUBMITTAL	06/29/2016
B	CITY OF WILMINGTON TRC	06/01/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/06/2016

SEAL

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

SEAL

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NASH RIVERLIGHTS™

NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS - AGE QUALIFIED PHASE 2 & 3

STORM DRAINAGE AND GRADING PLAN

DATE: 06/01/16
MCE PROJ. # 02735-0168
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: NAL
PROJ. MGR.: KCBE

SCALE: HORIZONTAL: 1"=50'
VERTICAL: N/A

MAC FILE NUMBER: CG-102
DRAWING NUMBER: 9

STATUS: FINAL DESIGN
ISSUED FOR PERMITTING

REVISION: E

S:\2735\0168_AQ2-3\60-Drawing\CG101_CG-102_007350168.dwg

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch

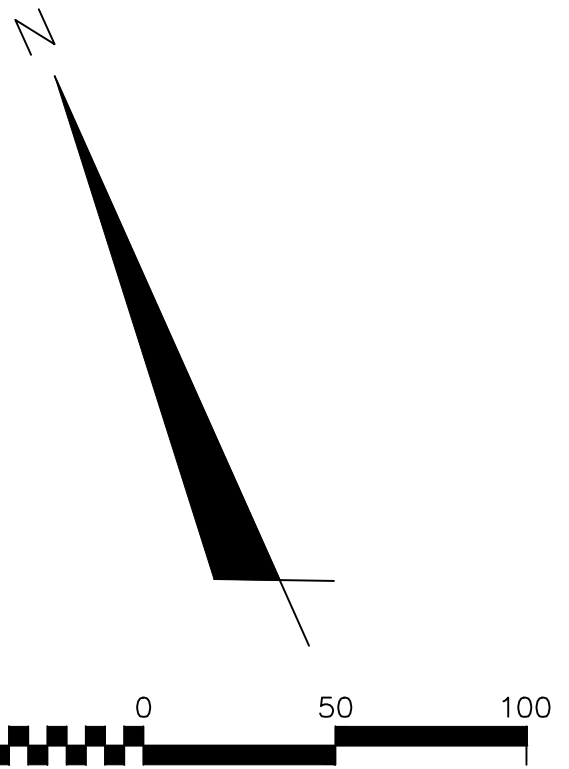
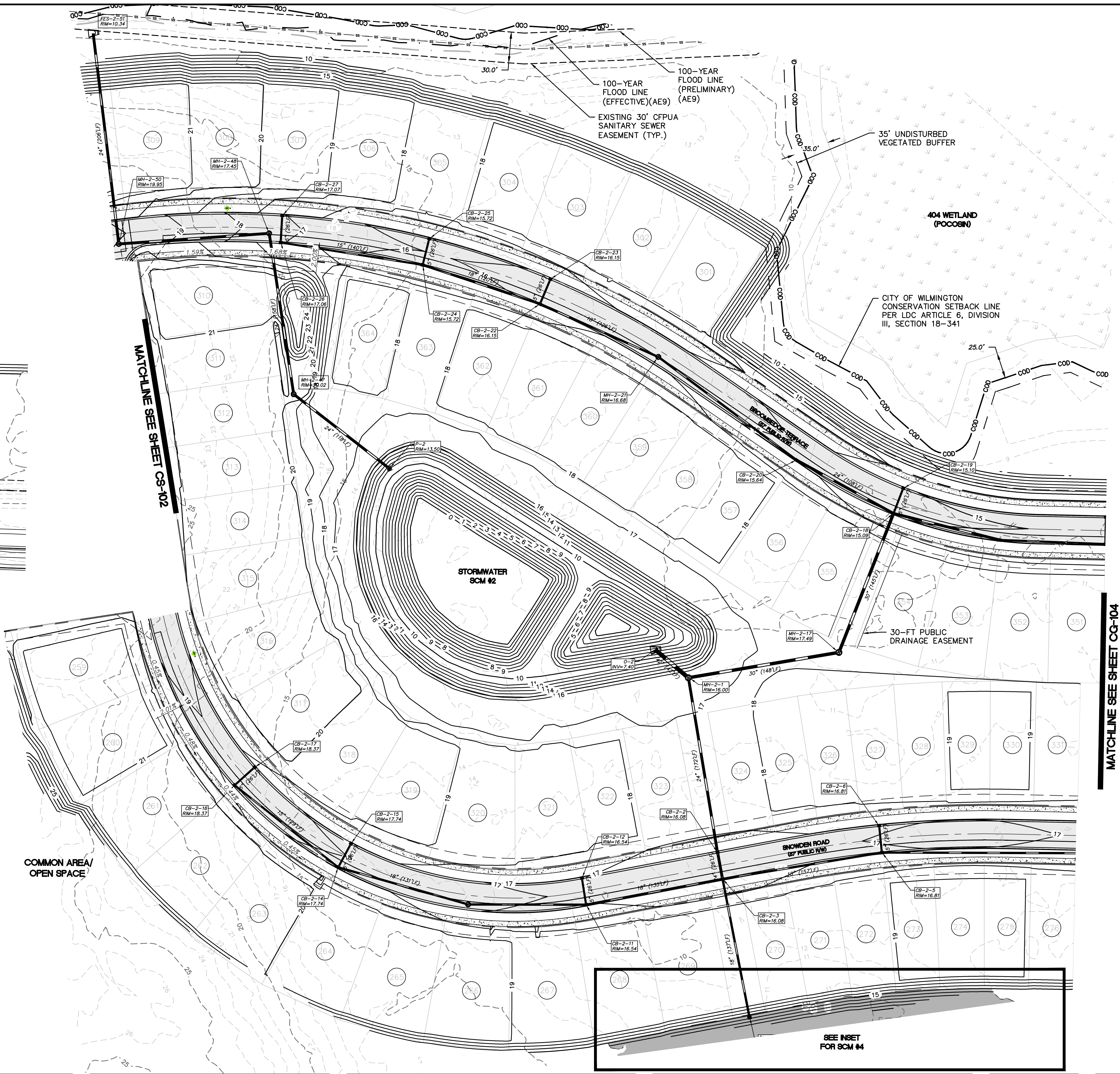
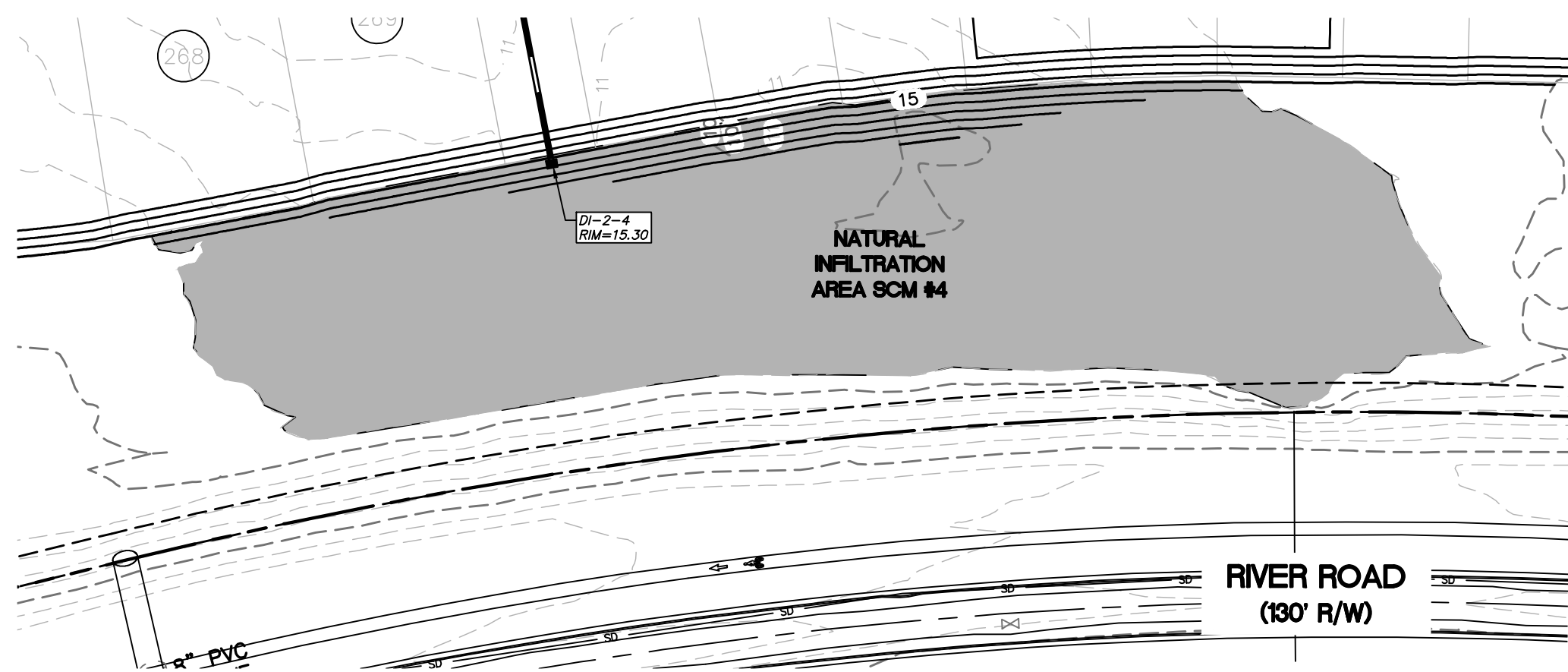
Approved Construction Plan

Name	Date
Planning	
Traffic	
Fire	



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

INSET A: NATURAL INFILTRATION AREA SWC #5



NOTES:
 SEE SHEET CG-503/504 FOR STORM DRAINAGE STRUCTURE/PIPE SCHEDULE

REV. NO.	DESCRIPTIONS / REVISIONS	DATE
E	CITY OF WILMINGTON TRC / OFPIA RESUBMITTAL	09/09/2016
D	NEW HANOVER COUNTY EROSION CONTROL, RC-SUBMITTAL	08/04/2016
C	CITY OF WILMINGTON TRC / STORMWATER / TREE REMOVAL, NEW HANOVER COUNTY EROSION CONTROL, AND OFPIA SUBMITTAL	06/29/2016
B	CITY OF WILMINGTON TRC	06/01/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/06/2016

PRELIMINARY -
 DO NOT USE FOR
 CONSTRUCTION

SEAL

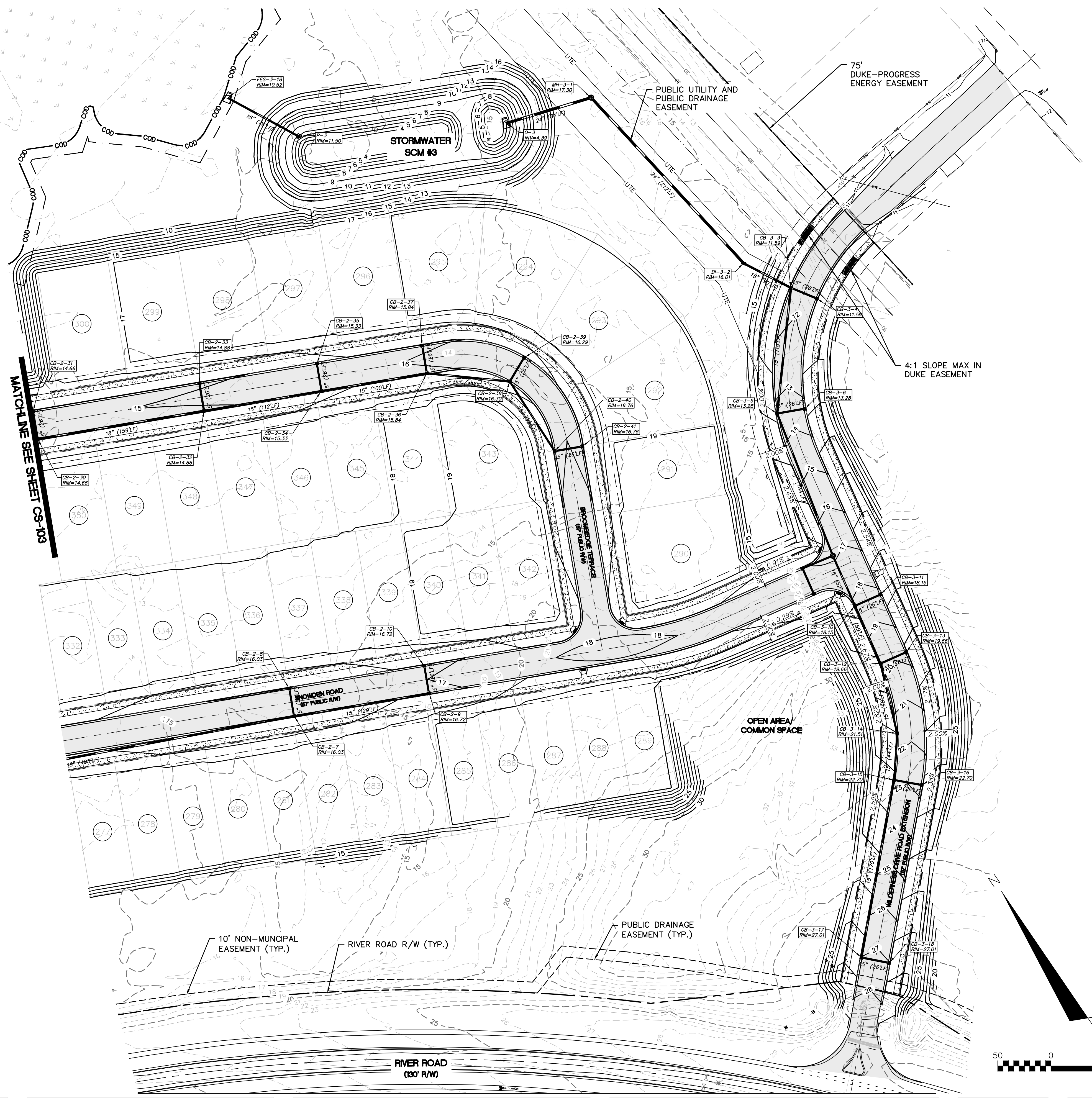
243 North Front Street
 Wilmington, North Carolina 28401
 Phone: (910)343-1048, Fax: (910)251-8282
 License: F-1222
 www.mckimcreed.com

NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS - AGE QUALIFIED PHASE 2 & 3

STORM DRAINAGE AND GRADING PLAN

DATE: 06/01/16	SCALE: CG-103
MCE PROJ. # 02735-0168	HORIZONTAL: 1"=50'
DRAWN: EEM/KCBE	VERTICAL: N/A
DESIGNED: KCBE	REVISION: 10
CHECKED: N/A	STATUS: FINAL DESIGN
PROJ. MGR.: KCBE	ISSUED FOR PERMITTING



For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch

Approved Construction Plan

Name	Date
Planning	
Traffic	
Fire	

CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____
Signed: _____

NOTES:
SEE SHEET CG-503/504 FOR STORM DRAINAGE STRUCTURE/PIPE SCHEDULE

REVNO.	DESCRIPTIONS / REVISIONS	DATE
E	CITY OF WILMINGTON TRC / OFPIA RESUBMITTAL	09/09/2016
D	NEW HANOVER COUNTY EROSION CONTROL, RC-SUBMITTAL	08/04/2016
C	CITY OF WILMINGTON TRC / STORMWATER / TREE REMOVAL, NEW HANOVER COUNTY EROSION CONTROL, AND OFPIA SUBMITTAL	06/29/2016
B	CITY OF WILMINGTON TRC	06/01/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/06/2016

SEAL
PRELIMINARY - DO NOT USE FOR CONSTRUCTION

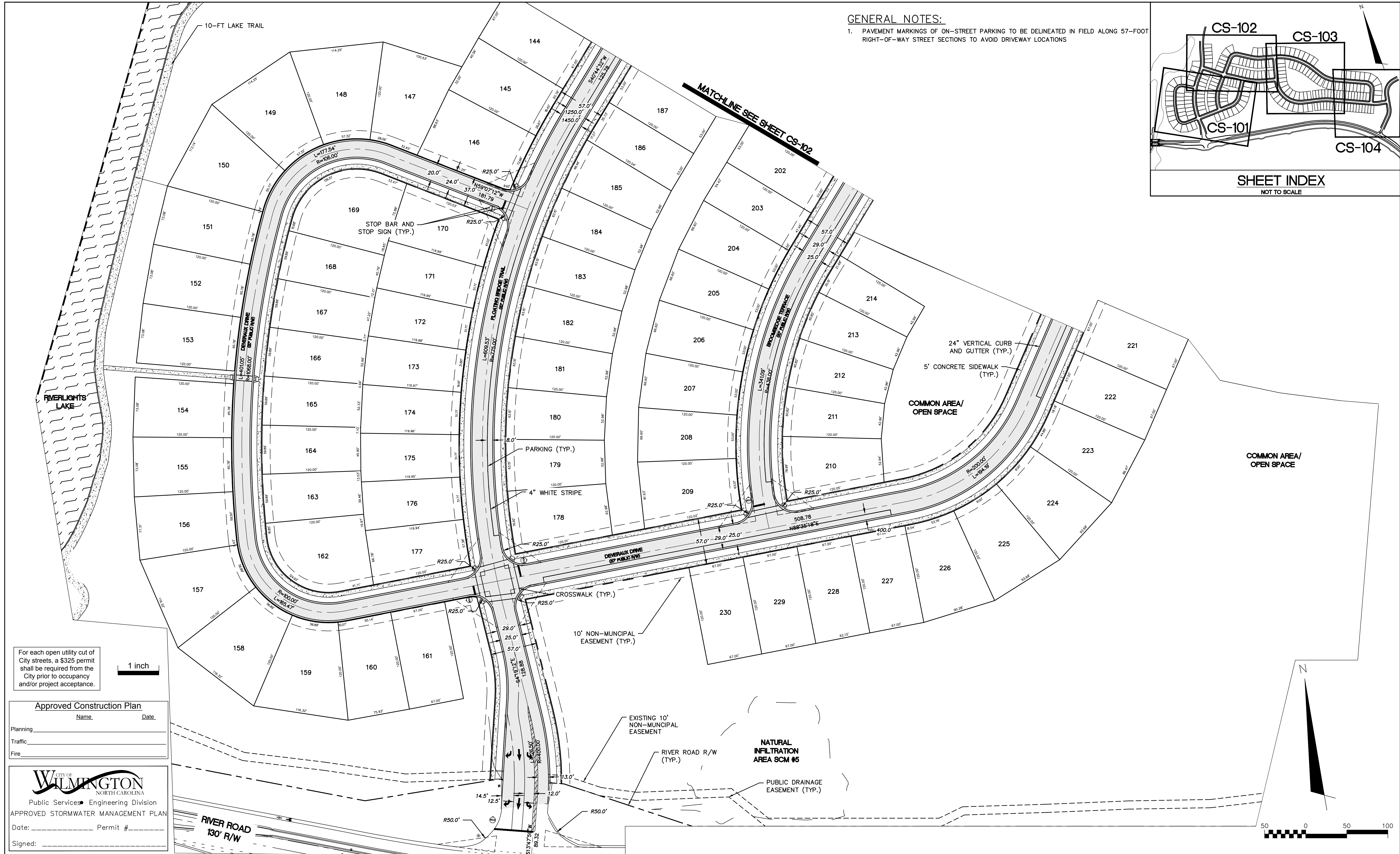
SEAL

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NASH RIVERLIGHTS™
NORTH AMERICA SEKISUI HOUSE, LLC

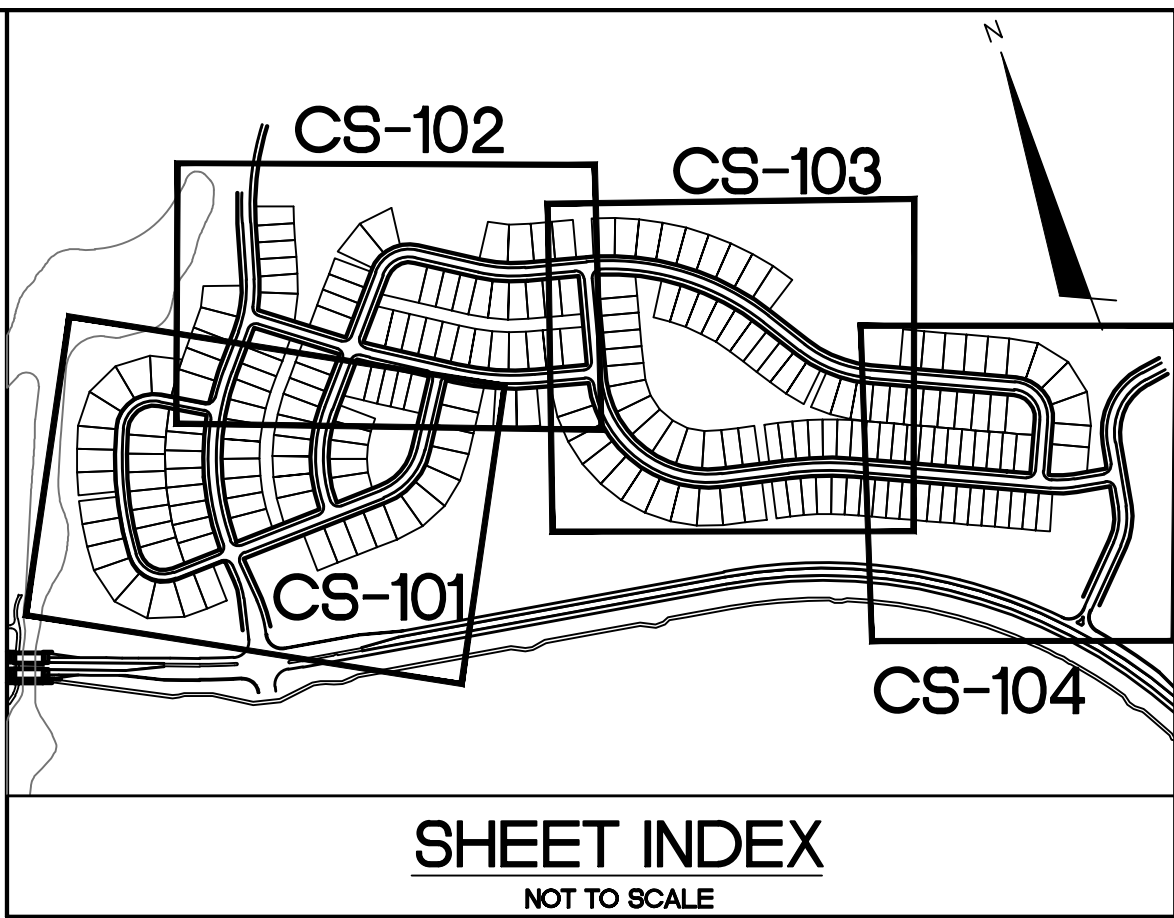
RIVERLIGHTS - AGE QUALIFIED PHASE 2 & 3
STORM DRAINAGE AND GRADING PLAN

DATE: 06/01/16	SCALE: HORIZONTAL: 1"=50'	MAC FILE NUMBER: CG-104
MCE PROJ. # 02735-0168	VERTICAL: N/A	DRAWING NUMBER: 11
DRAWN: EEM/KCBE		
DESIGNED: KCBE		
CHECKED: NAL		
PROJ. MGR.: KCBE		
STATUS: FINAL DESIGN		REVISION: E
ISSUED FOR PERMITTING		



GENERAL NOTES:

1. PAVEMENT MARKINGS OF ON-STREET PARKING TO BE DELINEATED IN FIELD ALONG 57-FOOT RIGHT-OF-WAY STREET SECTIONS TO AVOID DRIVEWAY LOCATIONS



For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch

Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

Fire _____

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

REV. NO.	DESCRIPTIONS	DATE
E	CITY OF WILMINGTON TRC / OFPIA RESUBMITTAL	09/09/2016
D	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/04/2016
C	CITY OF WILMINGTON TRC / STORMWATER / TREE REMOVAL, NEW HANOVER COUNTY EROSION CONTROL, AND OFPIA SUBMITTAL	06/29/2016
B	CITY OF WILMINGTON TRC	06/07/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/08/2016

SEAL
PRELIMINARY - DO NOT USE FOR CONSTRUCTION

SEAL

MCKIM & CREED
243 North Front Street
Wilmington, North Carolina 28401
Phone: (910)343-1048, Fax: (910)251-8282
License: F-1222
www.mckimcreed.com

NASH
NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS

RIVERLIGHTS - AGE QUALIFIED PHASE 2 & 3

SITE PLAN

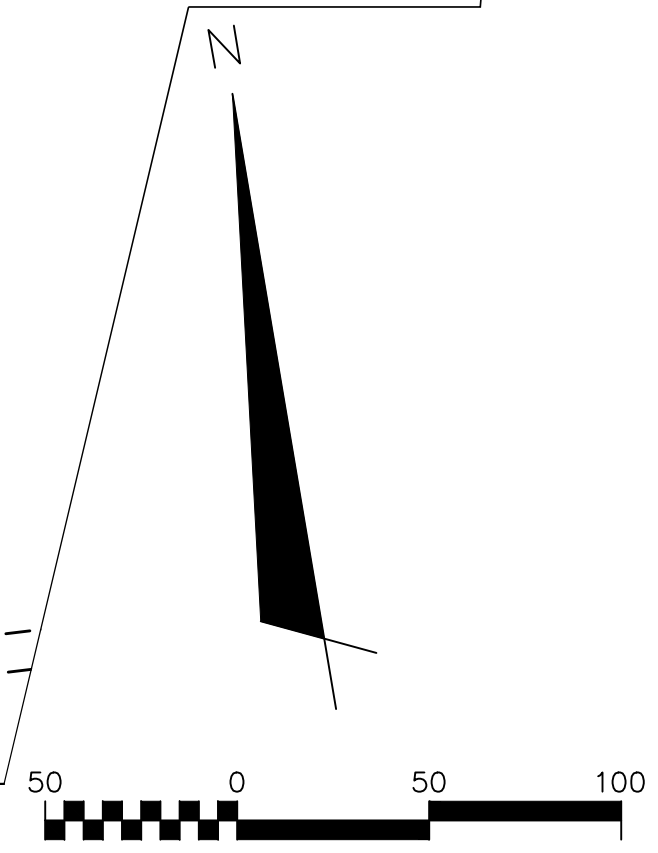
DATE: 06/01/16
MCE PROJ. # 02735-0188
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: NJL
PROJ. MGR: KCBE

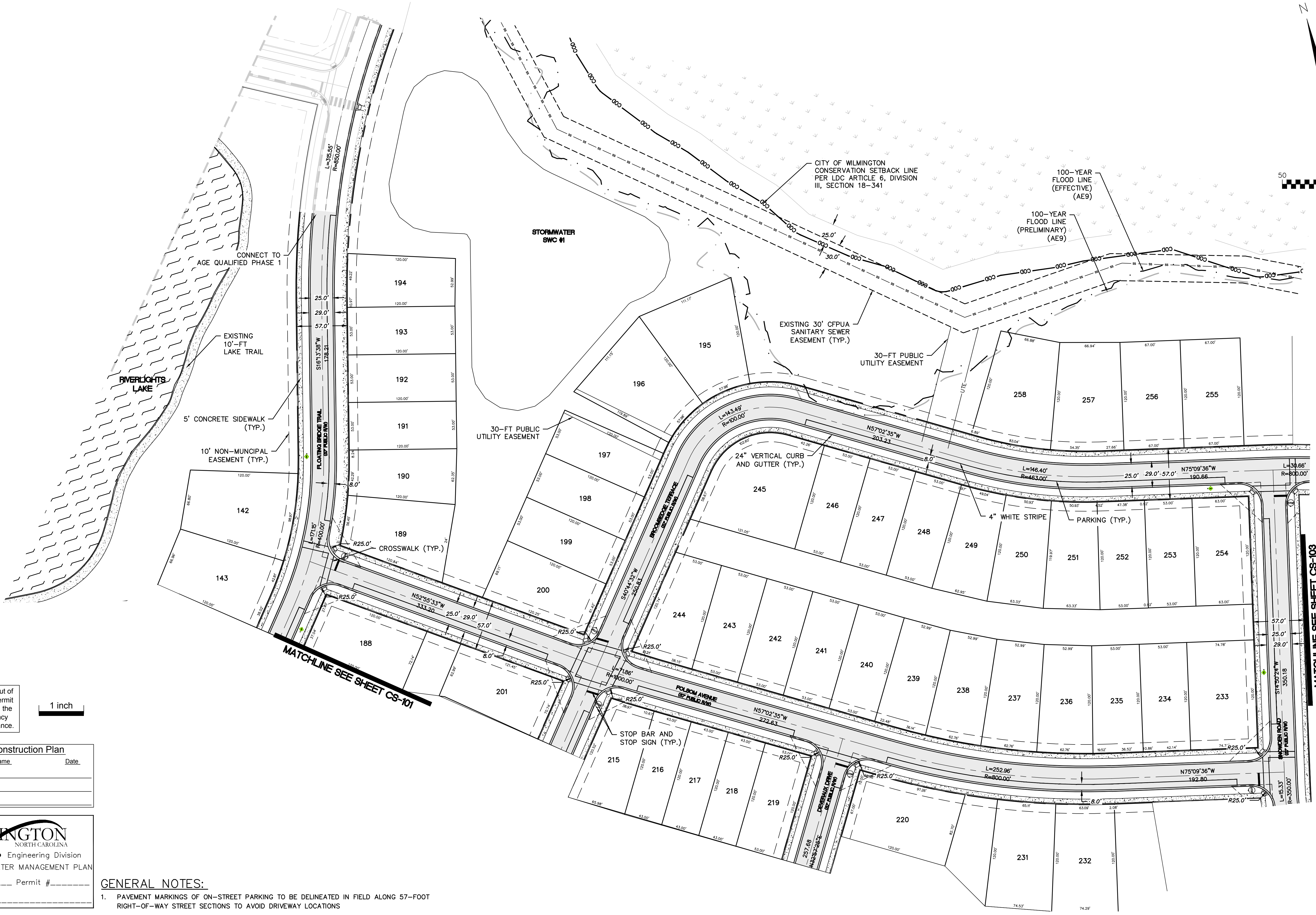
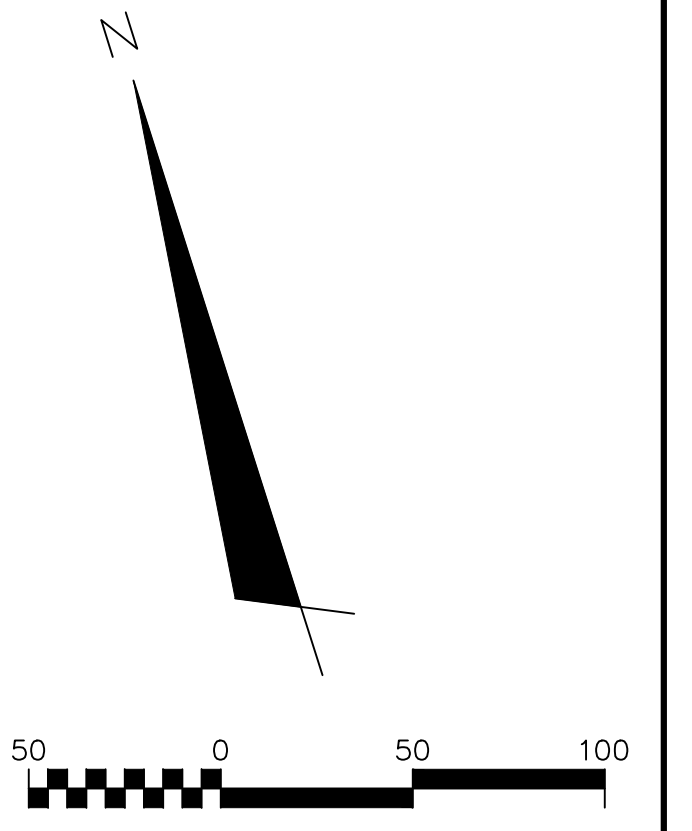
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VERTICAL: N/A

MAC FILE NUMBER: CS-101
DRAWING NUMBER: 13

STATUS: FINAL DESIGN
ISSUED FOR PERMITTING

REVISION: E





For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch

Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

Fire _____

CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

- GENERAL NOTES:**
- PAVEMENT MARKINGS OF ON-STREET PARKING TO BE DELINEATED IN FIELD ALONG 57-FOOT RIGHT-OF-WAY STREET SECTIONS TO AVOID DRIVEWAY LOCATIONS

REV.	DATE	DESCRIPTION
E	06/09/2016	CITY OF WILMINGTON TRC / CFPWA RESUBMITTAL
D	06/04/2016	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL
C	06/29/2016	CITY OF WILMINGTON TRC / STORMWATER / TREE REMOVAL, NEW HANOVER COUNTY EROSION CONTROL, AND CFPWA SUBMITTAL
B	06/01/2016	CITY OF WILMINGTON TRC
A	01/08/2016	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

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NASH RIVERLIGHTS™

NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS - AGE QUALIFIED PHASE 2 & 3

SITE PLAN

DATE: 06/01/16
MCE PROJ. #: 02735-0168
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: N.J.L.
PROJ. MGR.: KCBE

SCALE: HORIZONTAL: 1"=50'
VERTICAL: N/A

MAC FILE NUMBER: CS-102
DRAWING NUMBER: 14

STATUS: FINAL DESIGN
ISSUED FOR PERMITTING

REVISION: E

S:\2735\0168 AC 2 -386-Drawing\CS101_CS-102_077350168.dwg

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch

Approved Construction Plan

Name _____ Date _____

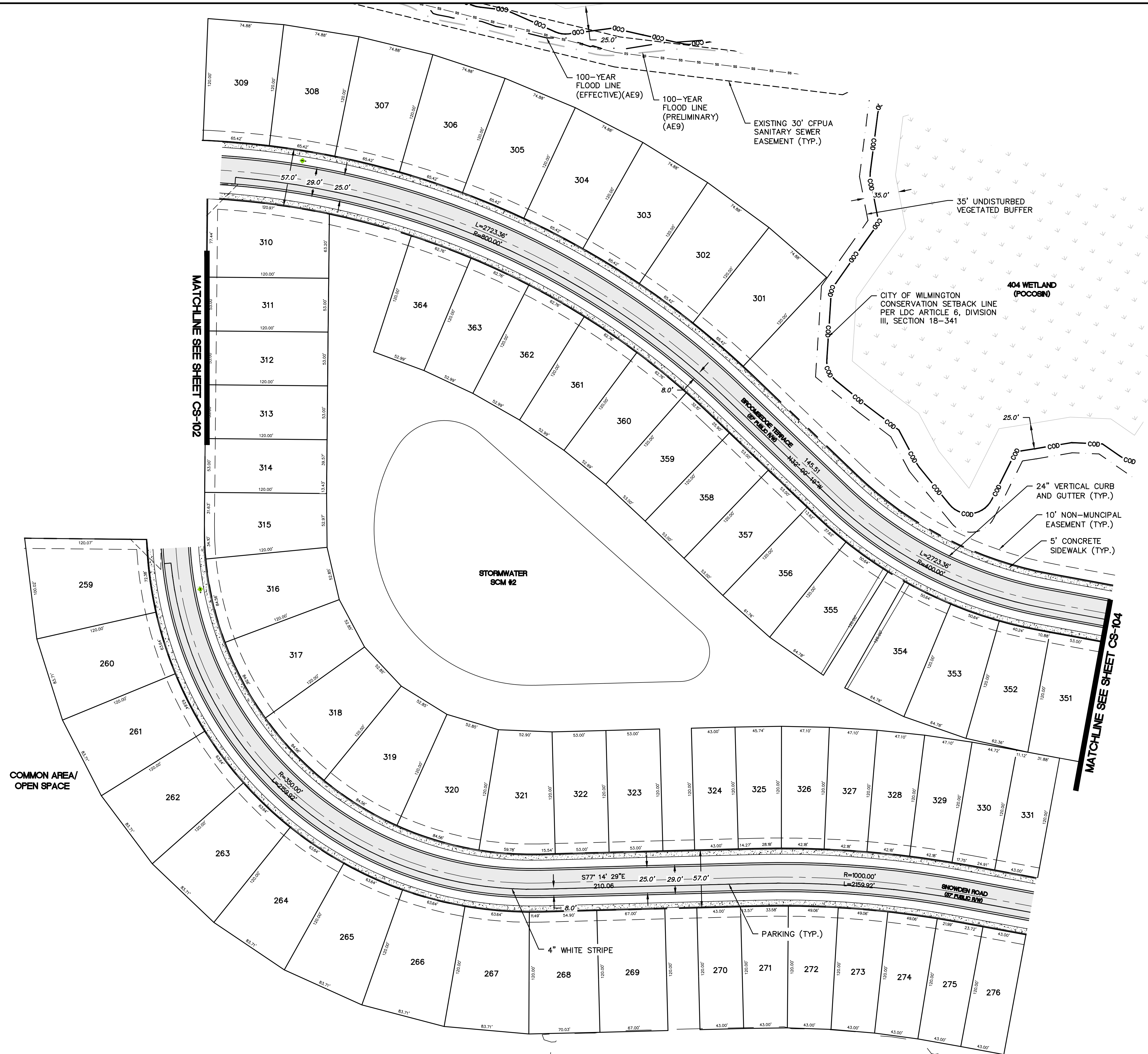
Planning _____
 Traffic _____
 Fire _____



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

GENERAL NOTES:

- PAVEMENT MARKINGS OF ON-STREET PARKING TO BE DELINEATED IN FIELD ALONG 57-FOOT RIGHT-OF-WAY STREET SECTIONS TO AVOID DRIVEWAY LOCATIONS



REV.	DESCRIPTION	DATE
E	CITY OF WILMINGTON TRC / CFPUA RE-SUBMITTAL	06/09/2016
D	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	06/24/2016
C	CITY OF WILMINGTON TRC / STORMWATER / TREE REMOVAL, NEW HANOVER COUNTY EROSION CONTROL, AND CFPUA SUBMITTAL	06/29/2016
B	CITY OF WILMINGTON TRC	06/01/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/08/2016

PRELIMINARY -
DO NOT USE FOR
CONSTRUCTION

SEAL

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 Wilmington, North Carolina 28401
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 License: F-1222
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NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS - AGE QUALIFIED PHASE
 2 & 3
 SITE PLAN

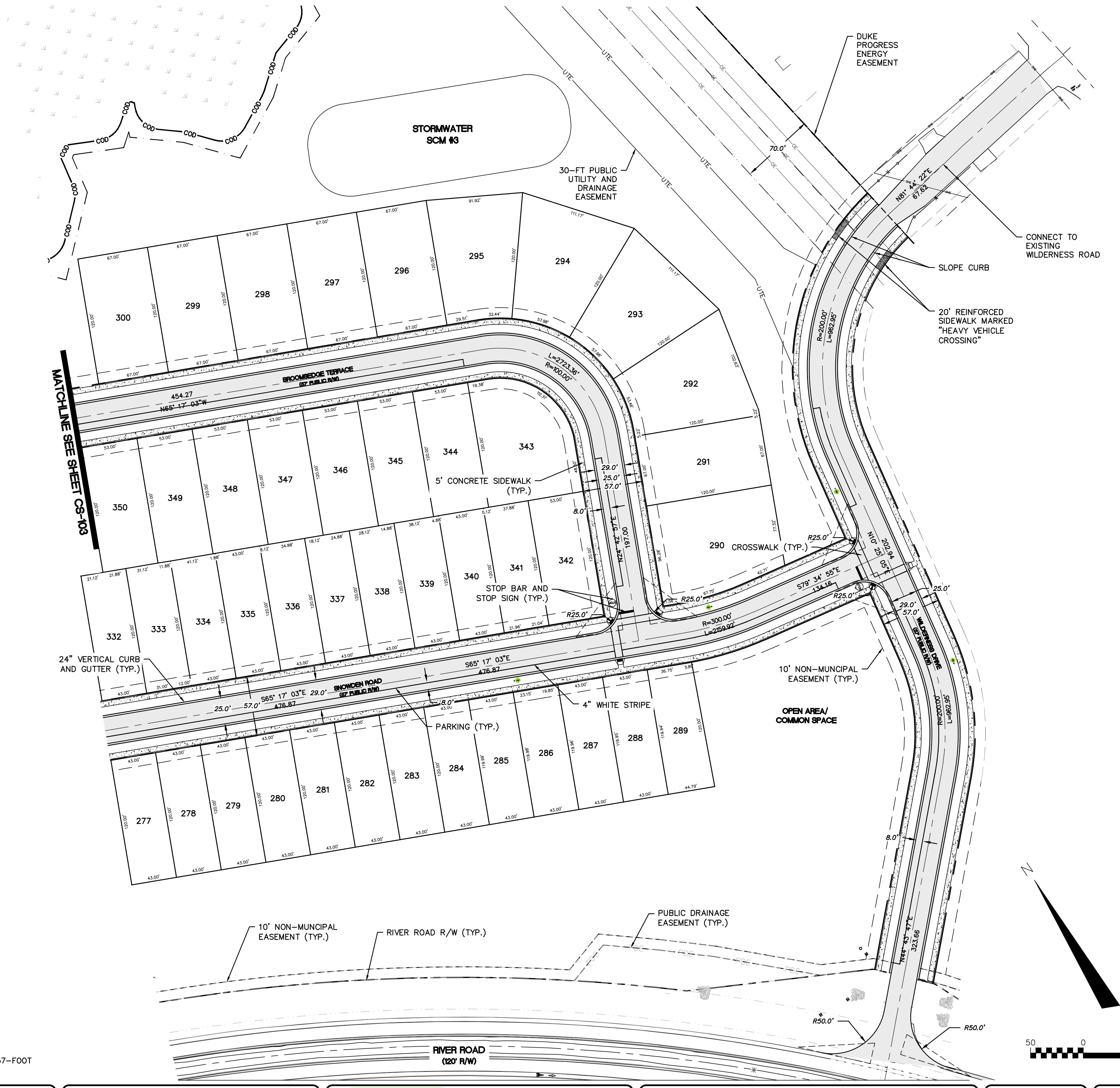
DATE:	06/01/16
MCE PROJ. #:	02735-0168
DRAWN:	EEM/KCBE
DESIGNED:	KCBE
CHECKED:	N.J.L.
PROJ. MGR.:	KCBE

SCALE	HORIZONTAL: 1"=50'
VERTICAL:	N/A

MAC FILE NUMBER	CS-103
DRAWING NUMBER	15
REVISION	E

STATUS: FINAL DESIGN
 ISSUED FOR PERMITTING

S:\2735\0168 AC 2 -386-Drawing\CS-103_CS-104_077350168.dwg



For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch

Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

Fire _____

CITY OF WILMINGTON
NORTH CAROLINA
Public Services Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

GENERAL NOTES:

1. PAVEMENT MARKINGS OF ON-STREET PARKING TO BE DELINEATED IN FIELD ALONG 57-FOOT RIGHT-OF-WAY STREET SECTIONS TO AVOID DRIVEWAY LOCATIONS

REVNO.	DESCRIPTIONS	DATE
E	CITY OF WILMINGTON TRC / CPWA RESUBMITTAL	09/09/2016
D	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/04/2016
C	CITY OF WILMINGTON TRC / STORMWATER / TREE REMOVAL, NEW HANOVER COUNTY EROSION CONTROL, AND CPWA SUBMITTAL	06/29/2016
B	CITY OF WILMINGTON TRC	06/01/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/28/2016

PRELIMINARY -
DO NOT USE FOR
CONSTRUCTION

SEAL

MCKIM & CREED

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Wilmington, North Carolina 28401
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License: F-1222
www.mckimcreed.com

RIVERLIGHTS

NORTH AMERICA SEXISUS HOUSE, LLC

RIVERLIGHTS - AGE QUALIFIED PHASE 2 & 3

SITE PLAN

DATE: 06/01/16
MCE PROJ. # 02735-0168
DRAWN EEM/KCBE
DESIGNED KCBE
CHECKED NJL
PROJ. MGR. KCBE

SCALE
HORIZONTAL: 1"=50'
VERTICAL: N/A

MAC FILE NUMBER
CS-104
DRAWING NUMBER
16

STATUS: **FINAL DESIGN**
ISSUED FOR PERMITTING

REVISION
E

Approved Construction Plan

Name: _____ Date: _____
 Planning: _____
 Traffic: _____
 Fire: _____

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

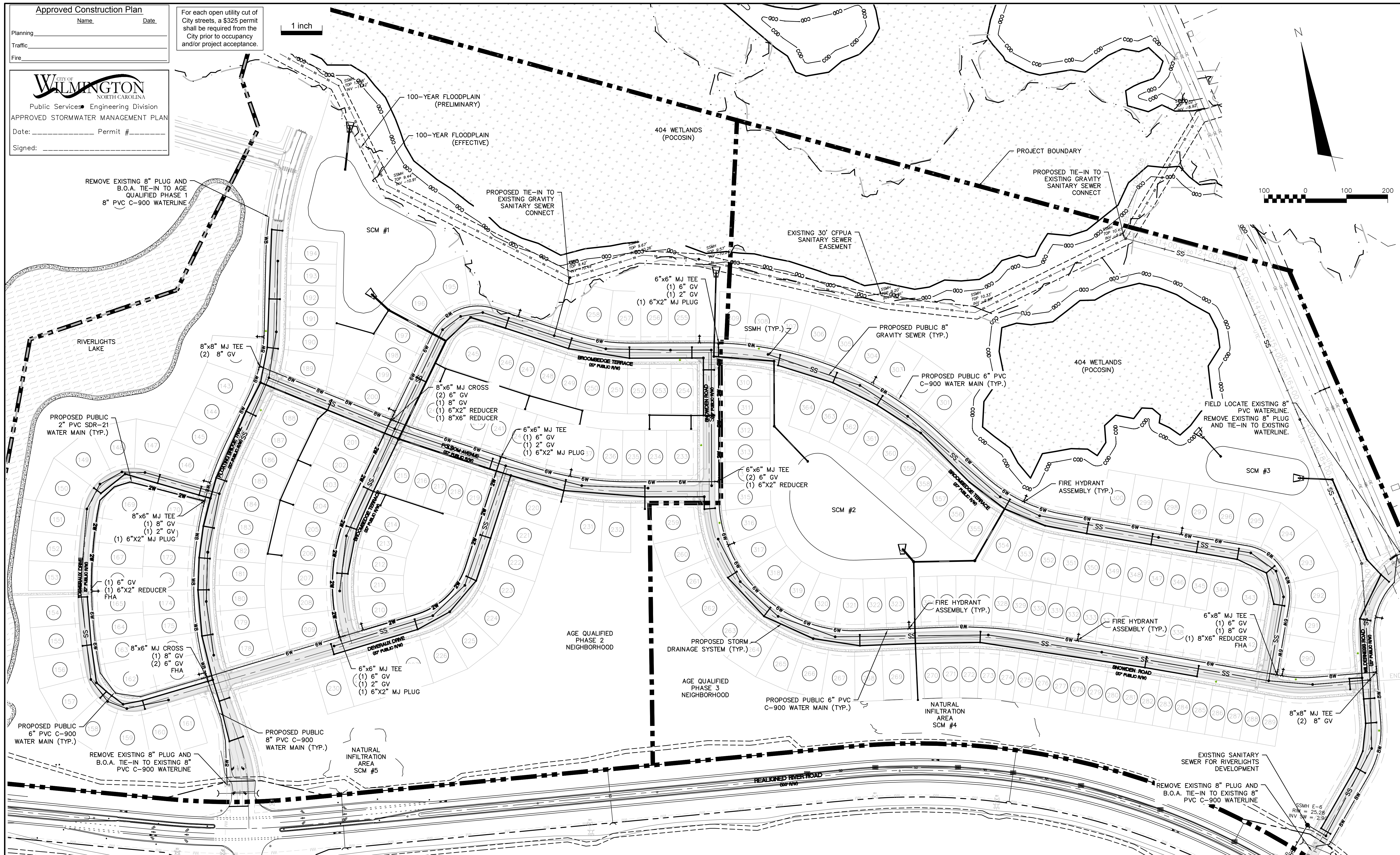
1 inch



Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____



REV. NO.	DESCRIPTIONS / REVISIONS	DATE
E	CITY OF WILMINGTON TRC / CFPWA RESUBMITTAL	09/09/2016
D	NEW HANOVER COUNTY EROSION CONTROL RC-SUBMITTAL	08/04/2016
C	CITY OF WILMINGTON TRC / STORMWATER / TREE REMOVAL, NEW HANOVER COUNTY EROSION CONTROL, AND CFPWA SUBMITTAL	06/29/2016
B	CITY OF WILMINGTON TRC	06/01/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/06/2016

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

SEAL

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 243 North Front Street
 Wilmington, North Carolina 28401
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NASH RIVERLIGHTS™
 NORTH AMERICA SEKISUI HOUSE, LLC

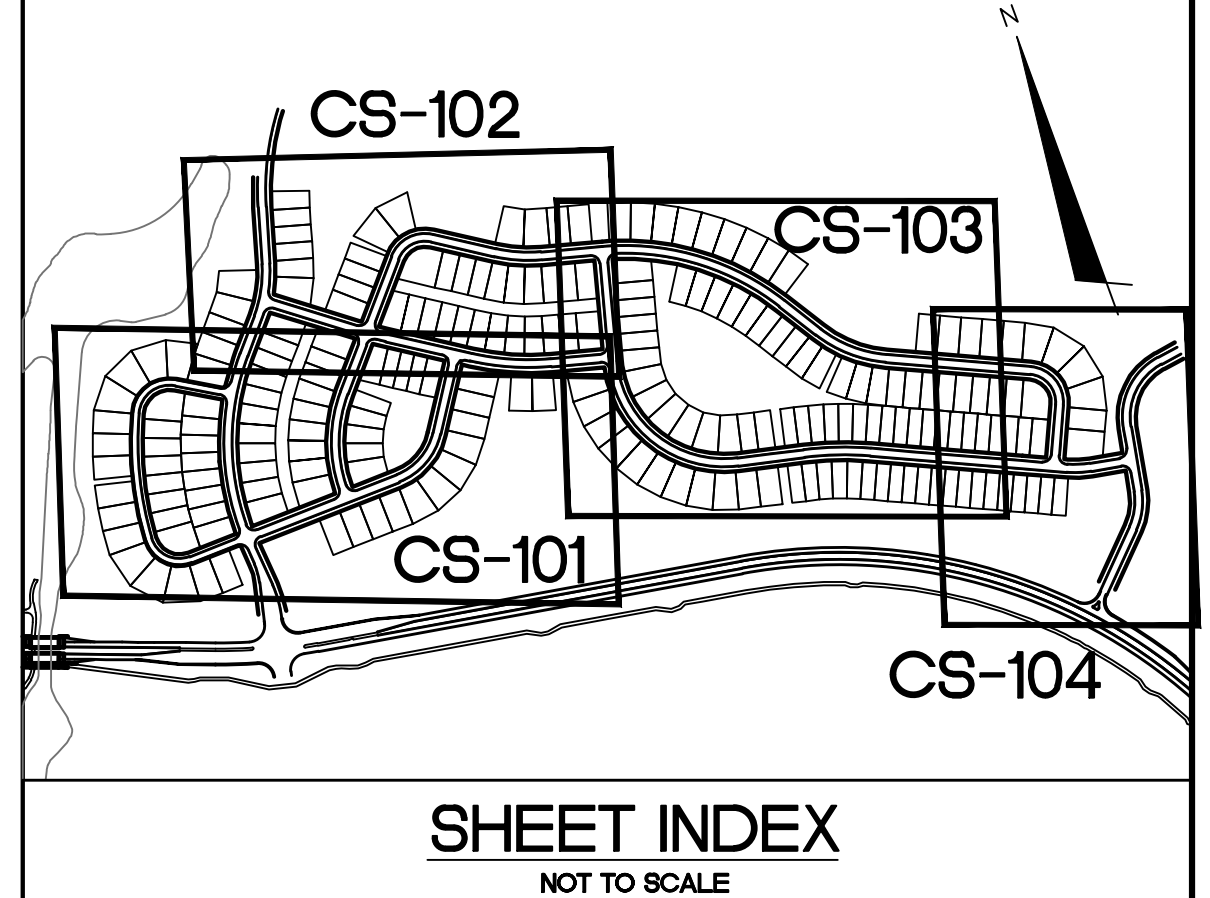
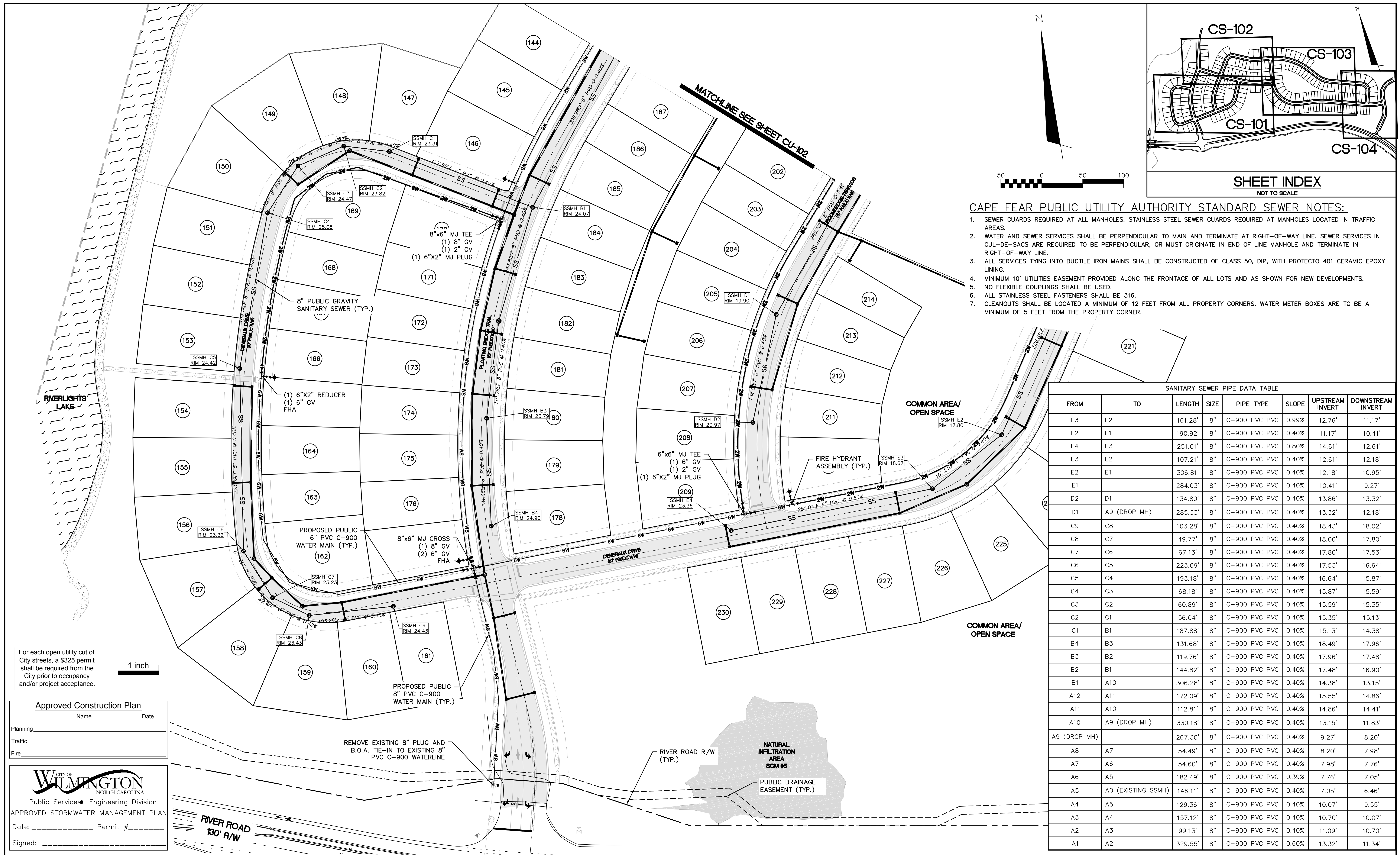
RIVERLIGHTS - AGE QUALIFIED PHASE 2 & 3
OVERALL UTILITY PLAN

DATE: 06/01/16
 MCE PROJ. # 02735-0168
 DRAWN: EEM/KCBE
 DESIGNED: KCBE
 CHECKED: NAL
 PROJ. MGR: KCBE

SCALE: HORIZONTAL: 1"=100'
 VERTICAL: N/A

MAC FILE NUMBER: CU-100
 DRAWING NUMBER: 17
 REVISION: E

STATUS: FINAL DESIGN
 ISSUED FOR PERMITTING



- CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD SEWER NOTES:**
- SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
 - WATER AND SEWER SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE AT RIGHT-OF-WAY LINE. SEWER SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN END OF LINE MANHOLE AND TERMINATE IN RIGHT-OF-WAY LINE.
 - ALL SERVICES TYING INTO DUCTILE IRON MAINS SHALL BE CONSTRUCTED OF CLASS 50, DIP, WITH PROTECTO 401 CERAMIC EPOXY LINING.
 - MINIMUM 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN FOR NEW DEVELOPMENTS.
 - NO FLEXIBLE COUPLINGS SHALL BE USED.
 - ALL STAINLESS STEEL FASTENERS SHALL BE 316.
 - CLEANOUTS SHALL BE LOCATED A MINIMUM OF 12 FEET FROM ALL PROPERTY CORNERS. WATER METER BOXES ARE TO BE A MINIMUM OF 5 FEET FROM THE PROPERTY CORNER.

FROM	TO	LENGTH	SIZE	PIPE TYPE	SLOPE	UPSTREAM INVERT	DOWNSTREAM INVERT
F3	F2	161.28'	8"	C-900 PVC PVC	0.99%	12.76'	11.17'
F2	E1	190.92'	8"	C-900 PVC PVC	0.40%	11.17'	10.41'
E4	E3	251.01'	8"	C-900 PVC PVC	0.80%	14.61'	12.61'
E3	E2	107.21'	8"	C-900 PVC PVC	0.40%	12.61'	12.18'
E2	E1	306.81'	8"	C-900 PVC PVC	0.40%	12.18'	10.95'
E1		284.03'	8"	C-900 PVC PVC	0.40%	10.41'	9.27'
D2	D1	134.80'	8"	C-900 PVC PVC	0.40%	13.86'	13.32'
D1	A9 (DROP MH)	285.33'	8"	C-900 PVC PVC	0.40%	13.32'	12.18'
C9	C8	103.28'	8"	C-900 PVC PVC	0.40%	18.43'	18.02'
C8	C7	49.77'	8"	C-900 PVC PVC	0.40%	18.00'	17.80'
C7	C6	67.13'	8"	C-900 PVC PVC	0.40%	17.80'	17.53'
C6	C5	223.09'	8"	C-900 PVC PVC	0.40%	17.53'	16.64'
C5	C4	193.18'	8"	C-900 PVC PVC	0.40%	16.64'	15.87'
C4	C3	68.18'	8"	C-900 PVC PVC	0.40%	15.87'	15.59'
C3	C2	60.89'	8"	C-900 PVC PVC	0.40%	15.59'	15.35'
C2	C1	56.04'	8"	C-900 PVC PVC	0.40%	15.35'	15.13'
C1	B1	187.88'	8"	C-900 PVC PVC	0.40%	15.13'	14.38'
B4	B3	131.68'	8"	C-900 PVC PVC	0.40%	18.49'	17.96'
B3	B2	119.76'	8"	C-900 PVC PVC	0.40%	17.96'	17.48'
B2	B1	144.82'	8"	C-900 PVC PVC	0.40%	17.48'	16.90'
B1	A10	306.28'	8"	C-900 PVC PVC	0.40%	14.38'	13.15'
A12	A11	172.09'	8"	C-900 PVC PVC	0.40%	15.55'	14.86'
A11	A10	112.81'	8"	C-900 PVC PVC	0.40%	14.86'	14.41'
A10	A9 (DROP MH)	330.18'	8"	C-900 PVC PVC	0.40%	13.15'	11.83'
A9 (DROP MH)		267.30'	8"	C-900 PVC PVC	0.40%	9.27'	8.20'
AB	A7	54.49'	8"	C-900 PVC PVC	0.40%	8.20'	7.98'
A7	A6	54.60'	8"	C-900 PVC PVC	0.40%	7.98'	7.76'
A6	A5	182.49'	8"	C-900 PVC PVC	0.39%	7.76'	7.05'
A5	A0 (EXISTING SSMH)	146.11'	8"	C-900 PVC PVC	0.40%	7.05'	6.46'
A4	A5	129.36'	8"	C-900 PVC PVC	0.40%	10.07'	9.55'
A3	A4	157.12'	8"	C-900 PVC PVC	0.40%	10.70'	10.07'
A2	A3	99.13'	8"	C-900 PVC PVC	0.40%	11.09'	10.70'
A1	A2	329.55'	8"	C-900 PVC PVC	0.60%	13.32'	11.34'

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch

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

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

REMOVE EXISTING 8" PLUG AND B.O.A. TIE-IN TO EXISTING 8" PVC C-900 WATERLINE

RIVER ROAD R/W (TYP.)

NATURAL INFILTRATION AREA SCM #6

PUBLIC DRAINAGE EASEMENT (TYP.)

RIVER ROAD 130' R/W

REVNO.	DESCRIPTIONS	DATE
E	CITY OF WILMINGTON TRC / OFPIA RESUBMITTAL	09/09/2016
D	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/04/2016
C	CITY OF WILMINGTON TRC / STORMWATER / TREE REMOVAL, NEW HANOVER COUNTY EROSION CONTROL, AND OFPIA SUBMITTAL	06/29/2016
B	CITY OF WILMINGTON TRC	06/01/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/06/2016

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

SEAL

MCKIM & CREED
 243 North Front Street
 Wilmington, North Carolina 28401
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NASH RIVERLIGHTS™
 NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS - AGE QUALIFIED PHASE 2 & 3
 UTILITY PLAN

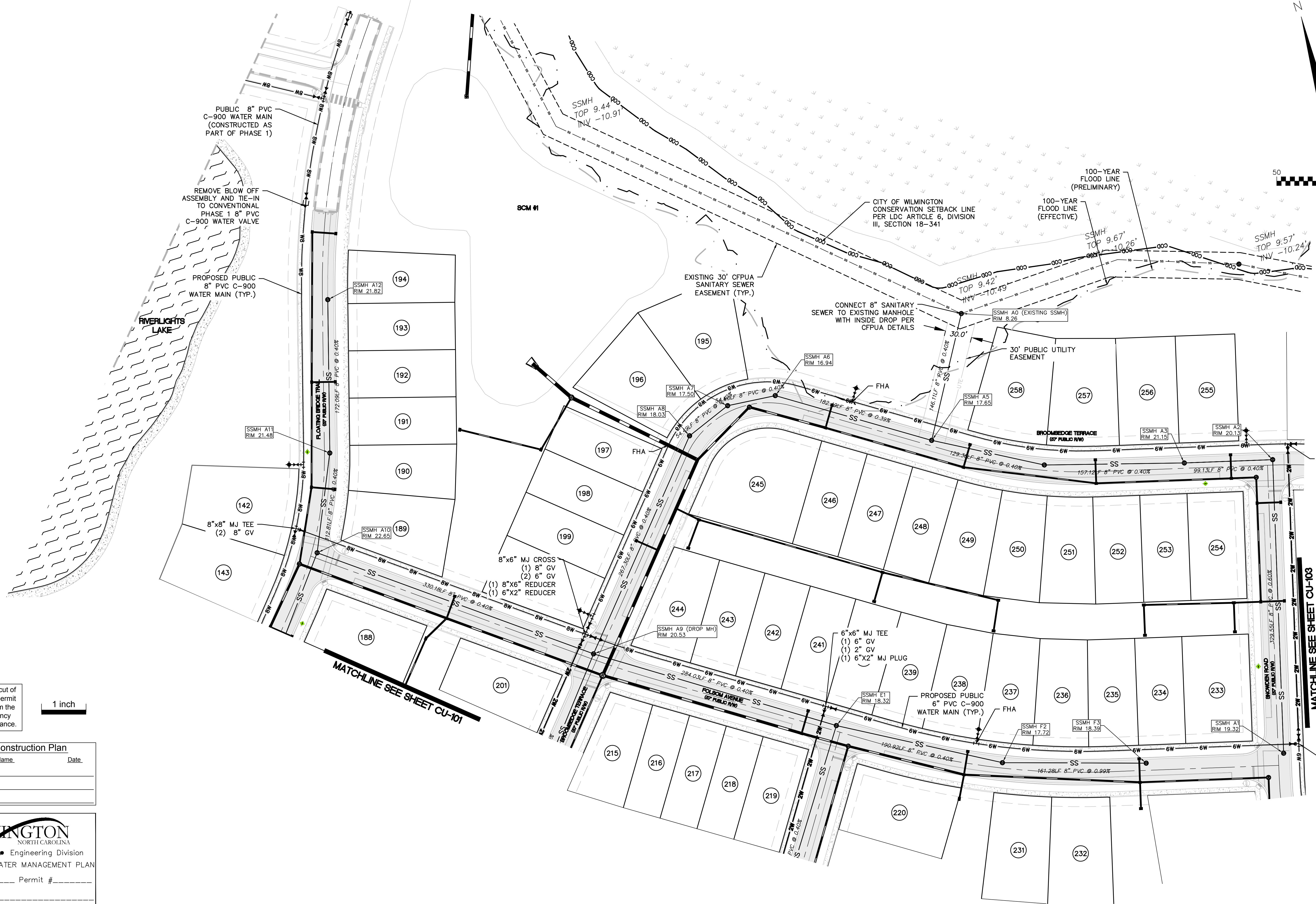
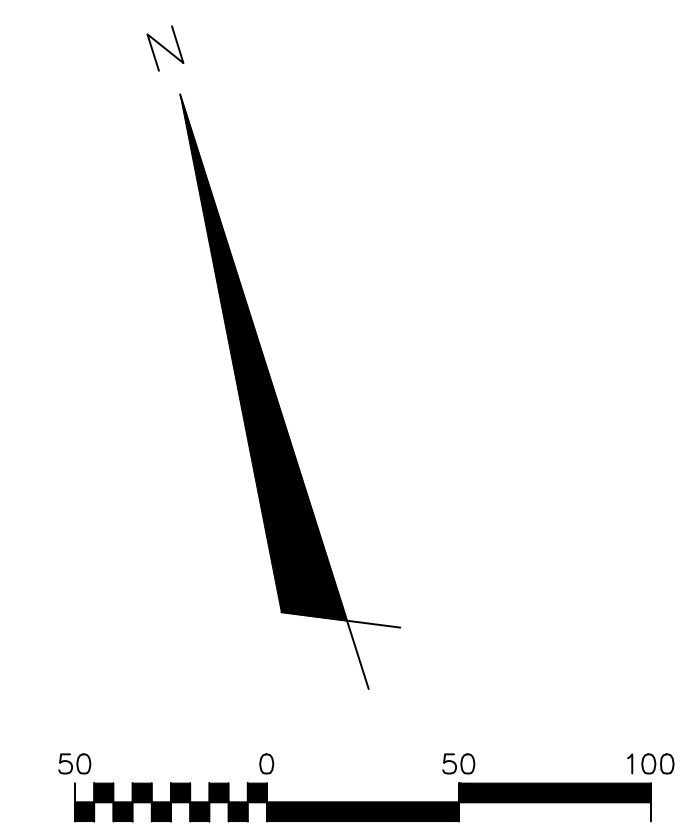
DATE: 06/01/16
 MCE PROJ. # 02735-0168
 DRAWN: EEM/KCBE
 DESIGNED: KCBE
 CHECKED: NJL
 PROJ. MGR.: KCBE

SCALE: HORIZONTAL: 1"=50'
 VERTICAL: N/A

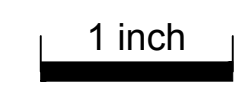
MAC FILE NUMBER: CU-101
 DRAWING NUMBER: 18

STATUS: FINAL DESIGN
 ISSUED FOR PERMITTING

REVISION: E



For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.



Approved Construction Plan		
Name	Date	
Planning		
Traffic		
Fire		

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

REV. NO.	DESCRIPTIONS	DATE
E	CITY OF WILMINGTON TRC / OFPUA RESUBMITTAL	09/09/2016
D	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/04/2016
C	CITY OF WILMINGTON TRC / STORMWATER / TREE REMOVAL, NEW HANOVER COUNTY EROSION CONTROL, AND OFPUA SUBMITTAL	06/29/2016
B	CITY OF WILMINGTON TRC	06/01/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/06/2016

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

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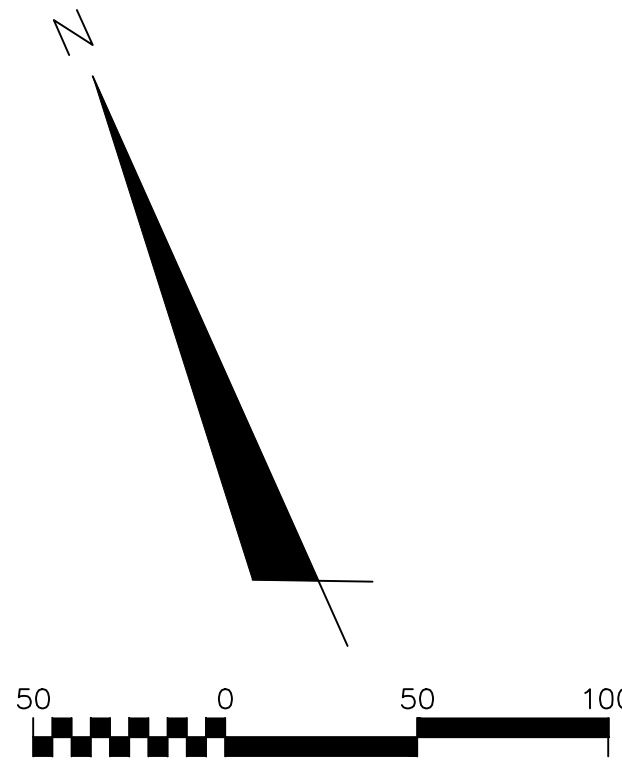
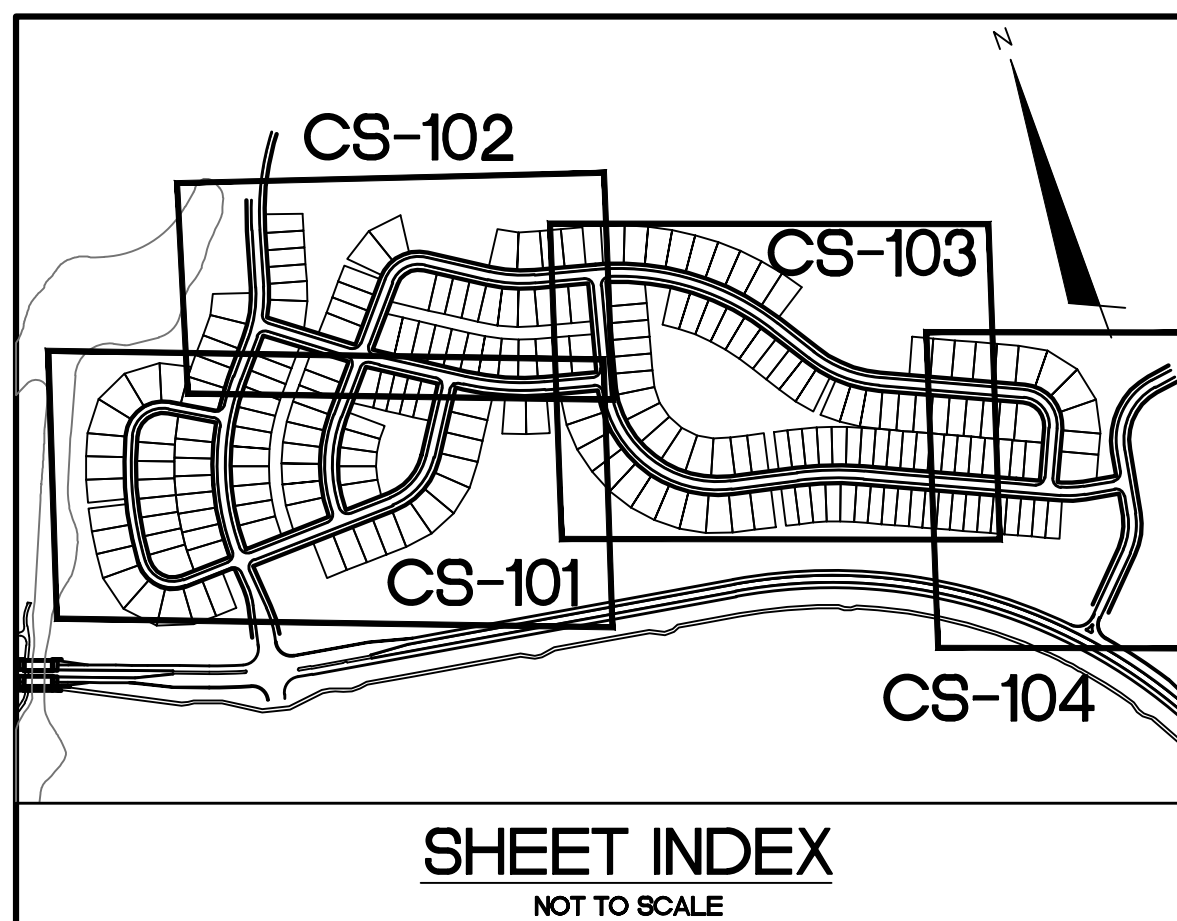
NASH RIVERLIGHTS
NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS - AGE QUALIFIED PHASE 2 & 3
UTILITY PLAN

DATE: 06/01/16	SCALE: 1"=50'	MAC FILE NUMBER: CU-102
MCE PROJ. # 02735-0168	HORIZONTAL: 1"=50'	DRAWING NUMBER: 19
DRAWN: EEM/KCBE	VERTICAL: N/A	
DESIGNED: KCBE		
CHECKED: NAL		
PROJ. MGR.: KCBE		
STATUS: FINAL DESIGN	REVISION: E	
ISSUED FOR PERMITTING		

- 6"x6" MJ TEE
- (1) 6" GV
- (1) 2" GV
- (1) 6"x2" MJ PLUG

- 6"x6" MJ TEE
- (2) 6" GV
- (3) (1) 6"x2" REDUCER



For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch

Approved Construction Plan

Name: _____ Date: _____

Planning: _____

Traffic: _____

Fire: _____

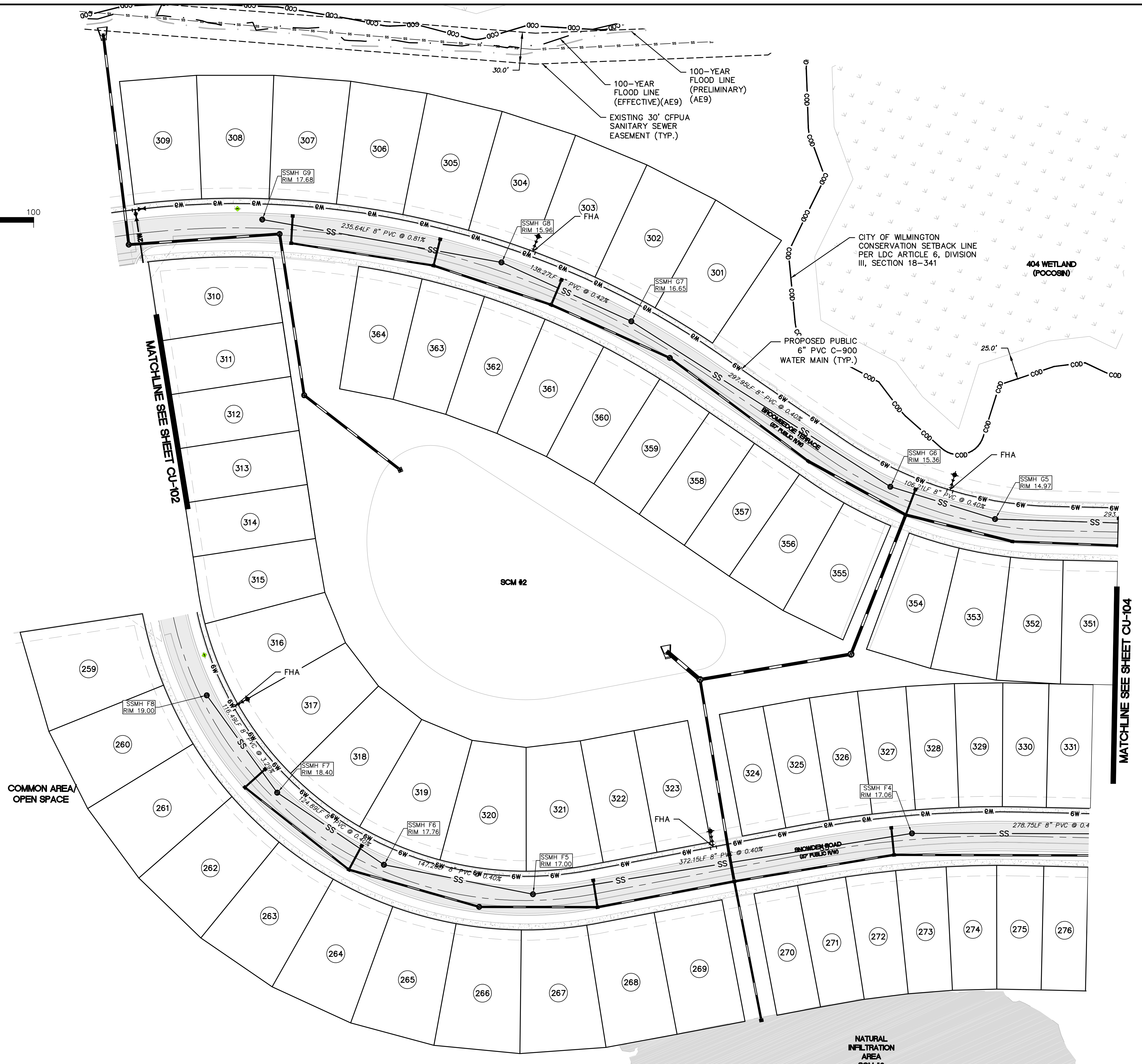
CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

SANITARY SEWER PIPE DATA TABLE							
FROM	TO	LENGTH	SIZE	PIPE TYPE	SLOPE	UPSTREAM INVERT	DOWNSTREAM INVERT
G9	G8	235.64'	8"	C-900 PVC PVC	0.81%	10.90'	9.00'
G8	G7	138.27'	8"	C-900 PVC PVC	0.42%	9.00'	8.41'
G7	G6	297.95'	8"	C-900 PVC PVC	0.40%	8.41'	7.22'
G6	G5	106.21'	8"	C-900 PVC PVC	0.40%	7.22'	6.80'
G5	G4	293.73'	8"	C-900 PVC PVC	0.40%	6.79'	5.62'
G4	G3	227.33'	8"	C-900 PVC PVC	0.40%	5.62'	4.71'
G3	G2	75.70'	8"	C-900 PVC PVC	0.40%	4.71'	4.40'
G2	G1	65.17'	8"	C-900 PVC PVC	0.40%	4.40'	4.14'
G1	F2	206.85'	8"	C-900 PVC PVC	0.40%	4.14'	3.32'
F8	F7	116.49'	8"	C-900 PVC PVC	3.29%	13.00'	9.17'
F7	F6	124.89'	8"	C-900 PVC PVC	0.40%	9.17'	8.67'
F6	F5	147.26'	8"	C-900 PVC PVC	0.40%	8.67'	8.07'
F5	F4	372.15'	8"	C-900 PVC PVC	0.40%	8.07'	6.59'
F4	F3	278.75'	8"	C-900 PVC PVC	0.40%	6.59'	5.47'
F3	F2	411.50'	8"	C-900 PVC PVC	0.40%	5.47'	3.83'
F2	F1	107.06'	8"	C-900 PVC PVC	0.40%	3.32'	2.89'
F1		138.08'	8"	C-900 PVC PVC	0.40%	2.89'	2.34'



REV. NO.	DESCRIPTIONS	DATE
E	CITY OF WILMINGTON TRC / OFPIA RESUBMITTAL	09/09/2016
D	NEW HANOVER COUNTY EROSION CONTROL REC-SUBMITTAL	08/04/2016
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B	CITY OF WILMINGTON TRC	06/01/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/06/2016

SEAL

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

SEAL

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NASH
NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS™

RIVERLIGHTS - AGE QUALIFIED PHASE 2 & 3

UTILITY PLAN

DATE: 06/01/16
MCE PROJ. # 02735-0168
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: NJL
PROJ. MGR.: KCBE

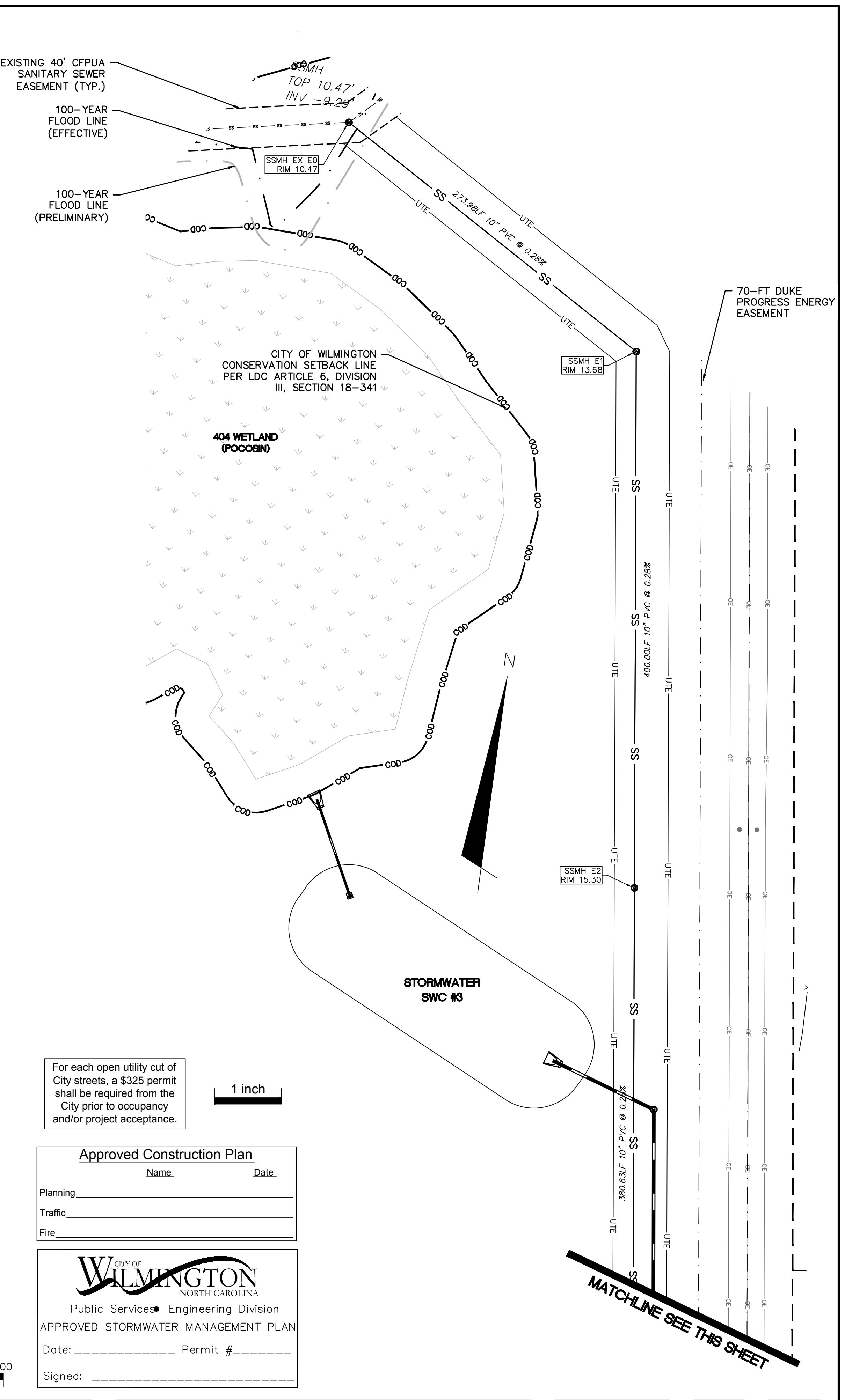
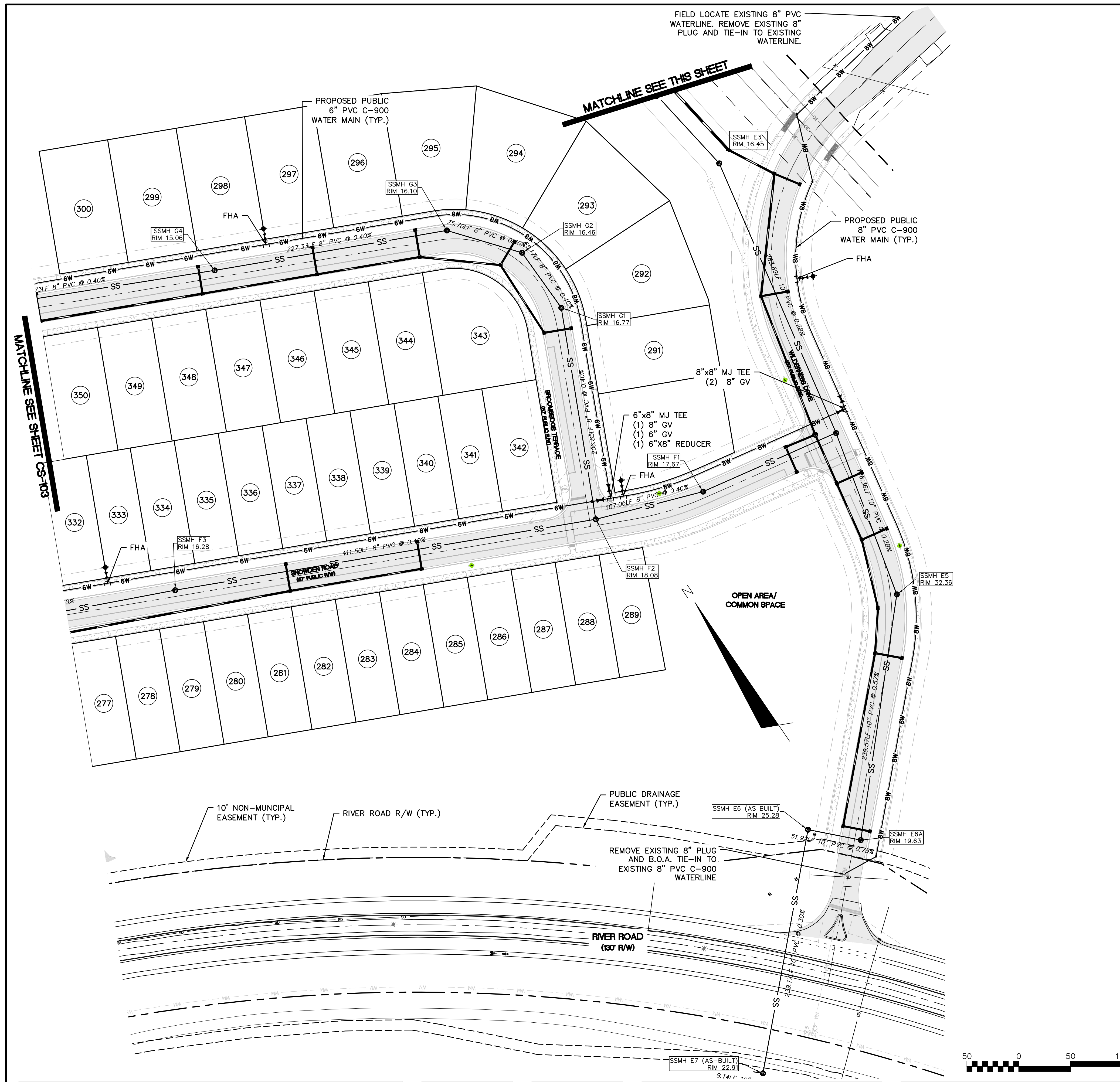
SCALE: HORIZONTAL: 1"=50'
VERTICAL: N/A

MAC FILE NUMBER: CU-103
DRAWING NUMBER: 20

STATUS: **FINAL DESIGN**
ISSUED FOR PERMITTING

REVISION: E

S:\27350168_AQ-2-3\03-Drawing\CU103_CU104_072516165.dwg



REVNO.	DESCRIPTIONS / REVISIONS	DATE
E	CITY OF WILMINGTON TRC / OFPIA RESUBMITTAL	09/09/2016
D	NEW HANOVER COUNTY EROSION CONTROL RC-SUBMITTAL	08/04/2016
C	CITY OF WILMINGTON TRC / STORMWATER / TREE REMOVAL, NEW HANOVER COUNTY EROSION CONTROL, AND OFPIA SUBMITTAL	06/29/2016
B	CITY OF WILMINGTON TRC	06/01/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/08/2016

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

MCKIM & CREED
 243 North Front Street
 Wilmington, North Carolina 28401
 Phone: (910)343-1048, Fax: (910)251-8282
 License: F-1222
www.mckimcreed.com



RIVERLIGHTS – AGE QUALIFIED PHASE 2 & 3

UTILITY PLAN

DATE: 06/01/16	SCALE: 1"=50'	HAC FILE NUMBER: CU-104
MCE PROJ # 02735-0168	HORIZONTAL: 1"=50'	DRAWING NUMBER: 21
DRAWN: EEM/KCBE	VERTICAL: N/A	
DESIGNED: KCBE		
CHECKED: NJL		
PROJ. MGR.: KCBE		
STATUS: FINAL DESIGN ISSUED FOR PERMITTING		

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan

Name: _____ Date: _____

Planning: _____
 Traffic: _____
 Fire: _____

APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit #: _____

Signed: _____



CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD SEWER NOTES:

- SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
- WATER AND SEWER SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE AT RIGHT-OF-WAY LINE. SEWER SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN END OF LINE MANHOLE AND TERMINATE IN RIGHT-OF-WAY LINE.
- ALL SERVICES TYING INTO DUCTILE IRON MAINS SHALL BE CONSTRUCTED OF CLASS 50, DIP, WITH PROTECTO 401 CERAMIC EPOXY LINING.
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- NO FLEXIBLE COUPLINGS SHALL BE USED.
- ALL STAINLESS STEEL FASTENERS SHALL BE 316.
- CLEANOUTS SHALL BE LOCATED A MINIMUM OF 12 FEET FROM ALL PROPERTY CORNERS. WATER METER BOXES ARE TO BE A MINIMUM OF 5 FEET FROM THE PROPERTY CORNER.

UTILITY NOTES:

- ALL VALVES AND FITTINGS TO BE RESTRAINED JOINT AND BLOCKED PER CFPWA STANDARD DETAILS AND SPECIFICATIONS. SEE CFPWA STANDARD DETAIL SHEETS AND UTILITY NOTES G-002.

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

Fire _____

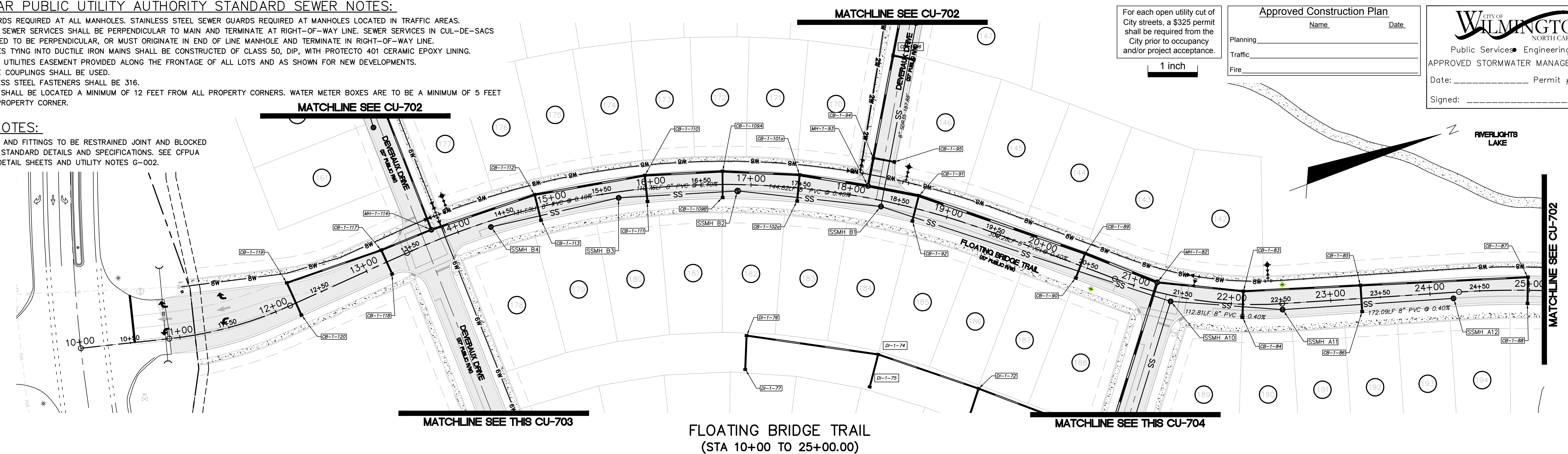
CITY OF WILMINGTON
NORTH CAROLINA

Public Services Engineering Division

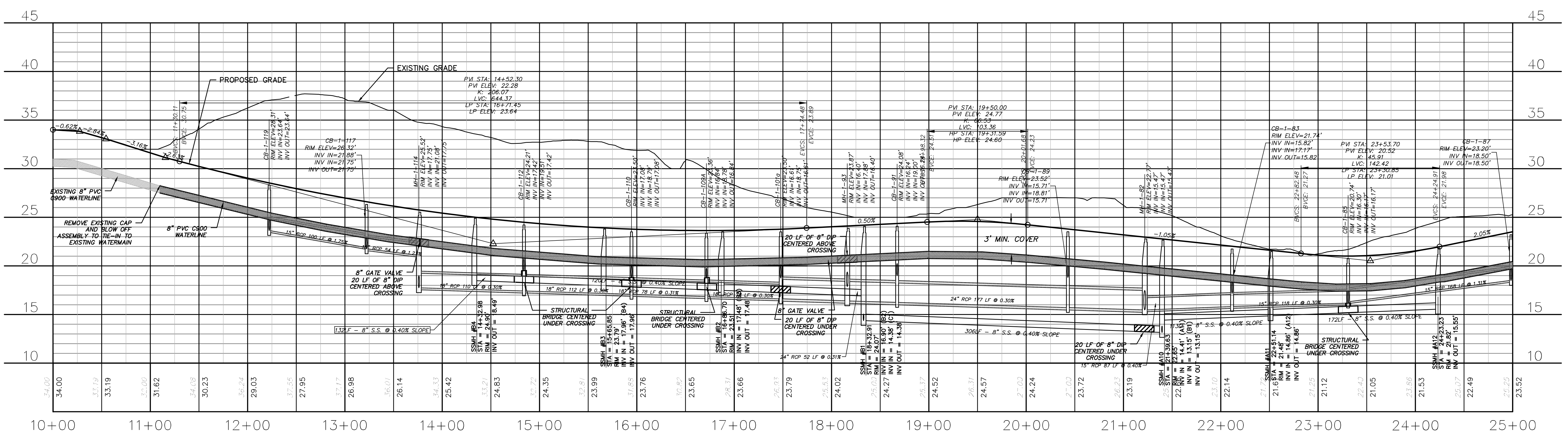
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit #: _____

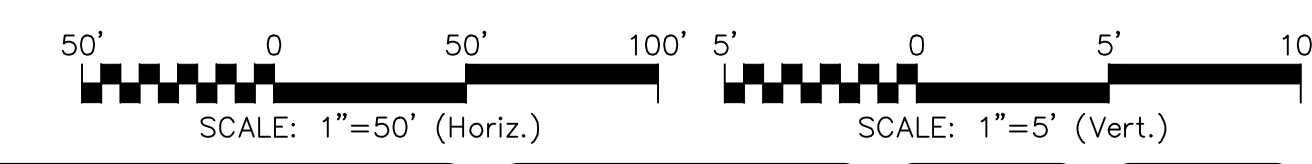
Signed: _____



FLOATING BRIDGE TRAIL
(STA 10+00 TO 25+00.00)



FLOATING BRIDGE TRAIL
(STA 10+00 TO 25+00.00)



REVNO.	DESCRIPTIONS	DATE
E	CITY OF WILMINGTON TRC / CFPWA RESUBMITTAL	09/09/2016
D	NEW HANOVER COUNTY EROSION CONTROL, REC-SUBMITTAL	08/04/2016
C	CITY OF WILMINGTON TRC / STORMWATER / TREE REMOVAL, NEW HANOVER COUNTY EROSION CONTROL, AND CFPWA SUBMITTAL	08/29/2016
B	CITY OF WILMINGTON TRC	06/01/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/08/2016

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

SEAL

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NASH RIVERLIGHTS

NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS - AGE QUALIFIED PHASE 2 & 3

PLAN AND PROFILE
FLOATING BRIDGE TRAIL
STA 10+00 TO STA 25+00

DATE: 06/01/16
MCE PROJ. # 02735-0168
DRAWN EEM/KCBE
DESIGNED KCBE
CHECKED NAL
PROJ. MGR. KCBE

SCALE
HORIZONTAL: 1"=50'
VERTICAL: 1"=5'

MAC FILE NUMBER: **CU-701**
DRAWING NUMBER: **22**

STATUS: **FINAL DESIGN**
ISSUED FOR PERMITTING

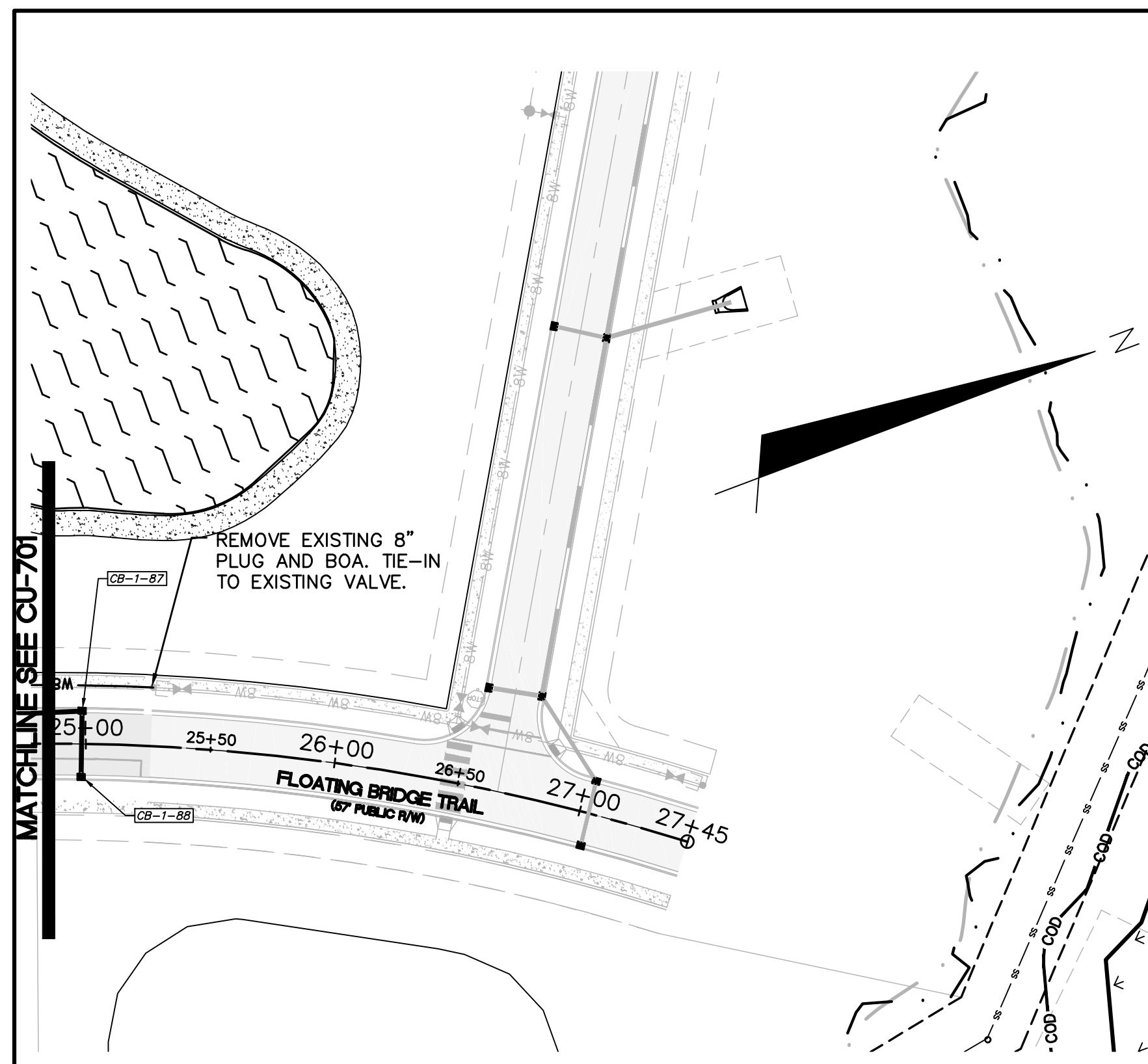
REVISION: **E**

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

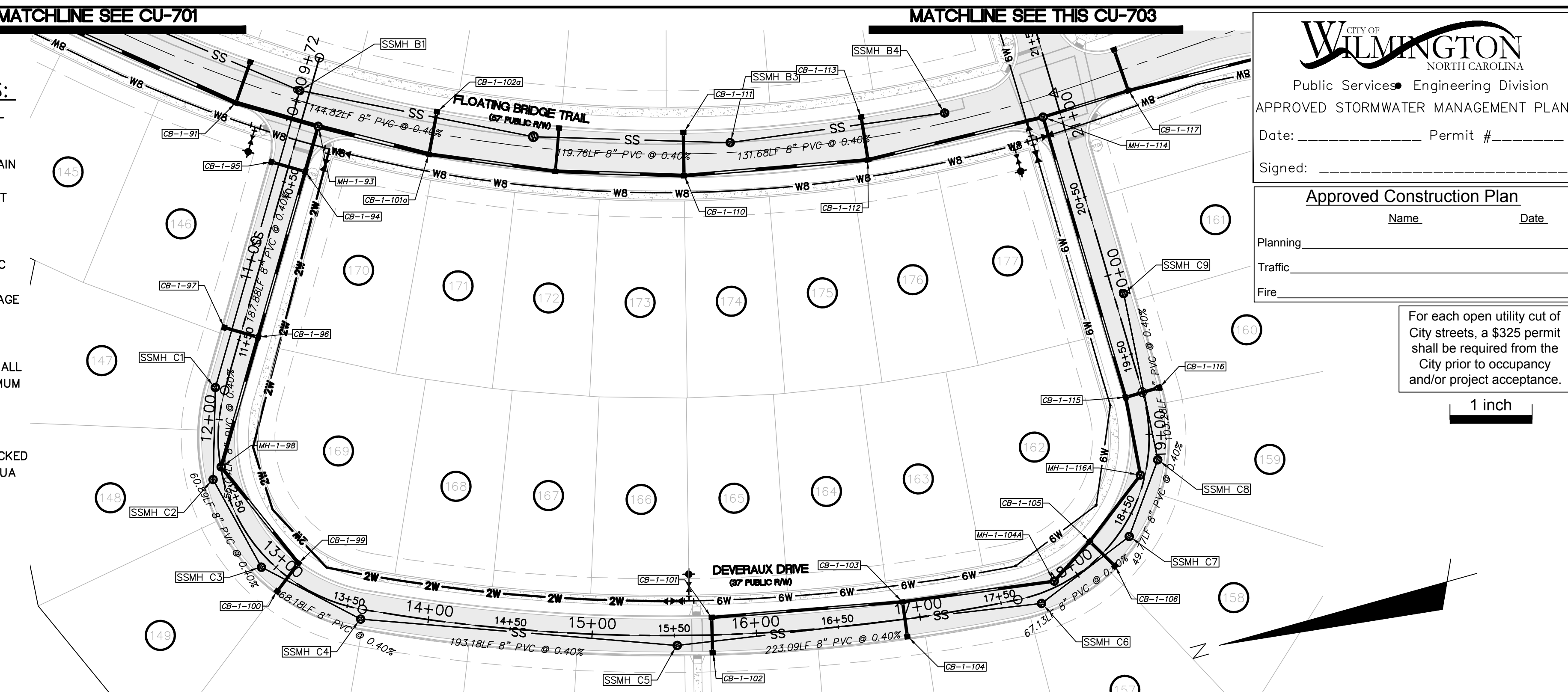
1 inch

- CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD SEWER NOTES:**
- SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
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 - CLEANOUTS SHALL BE LOCATED A MINIMUM OF 12 FEET FROM ALL PROPERTY CORNERS. WATER METER BOXES ARE TO BE A MINIMUM OF 5 FEET FROM THE PROPERTY CORNER.

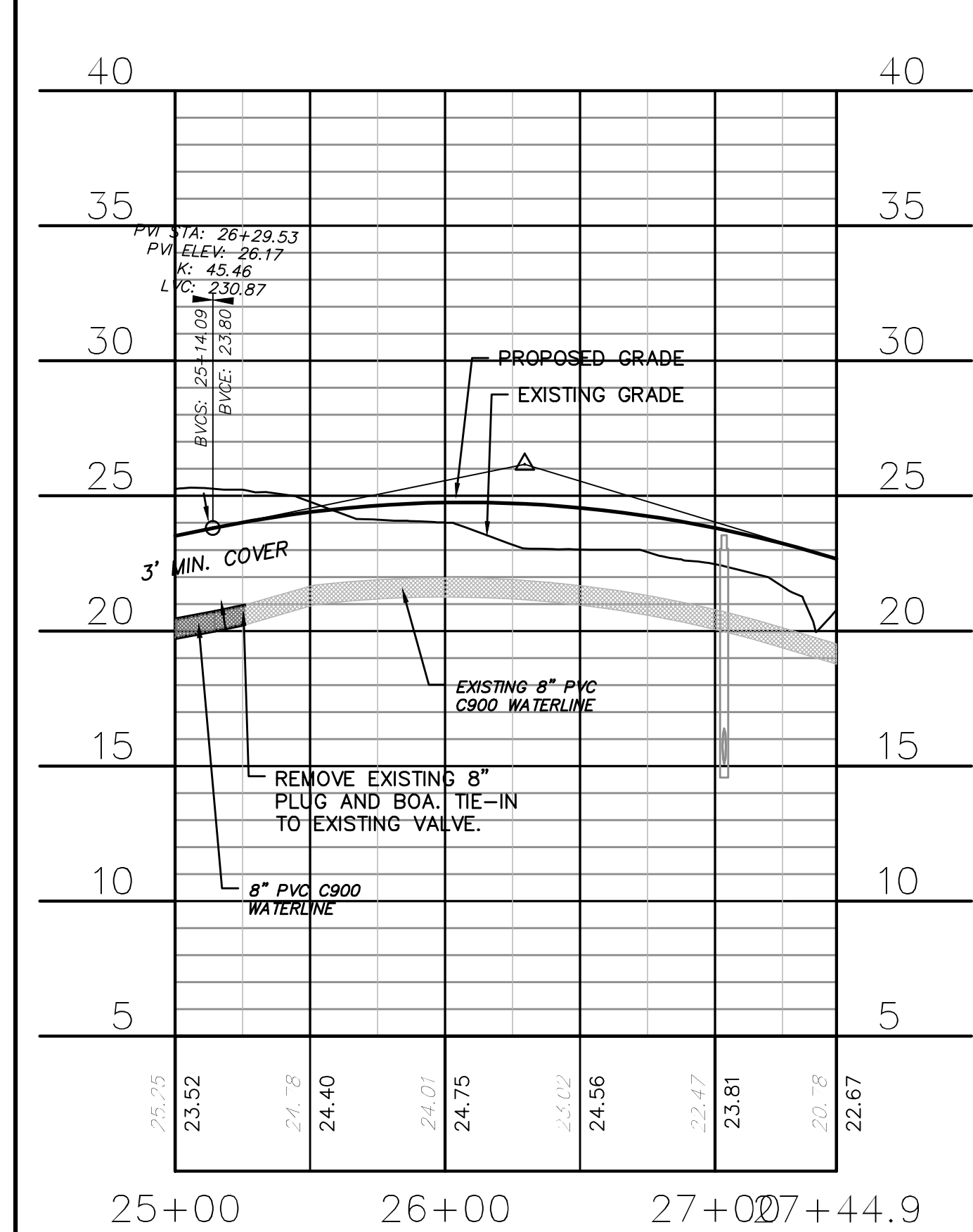
- UTILITY NOTES:**
- ALL VALVES AND FITTINGS TO BE RESTRAINED JOINT AND BLOCKED PER CFPUA STANDARD DETAILS AND SPECIFICATIONS. SEE CFPUA STANDARD DETAIL SHEETS AND UTILITY NOTES G-002.



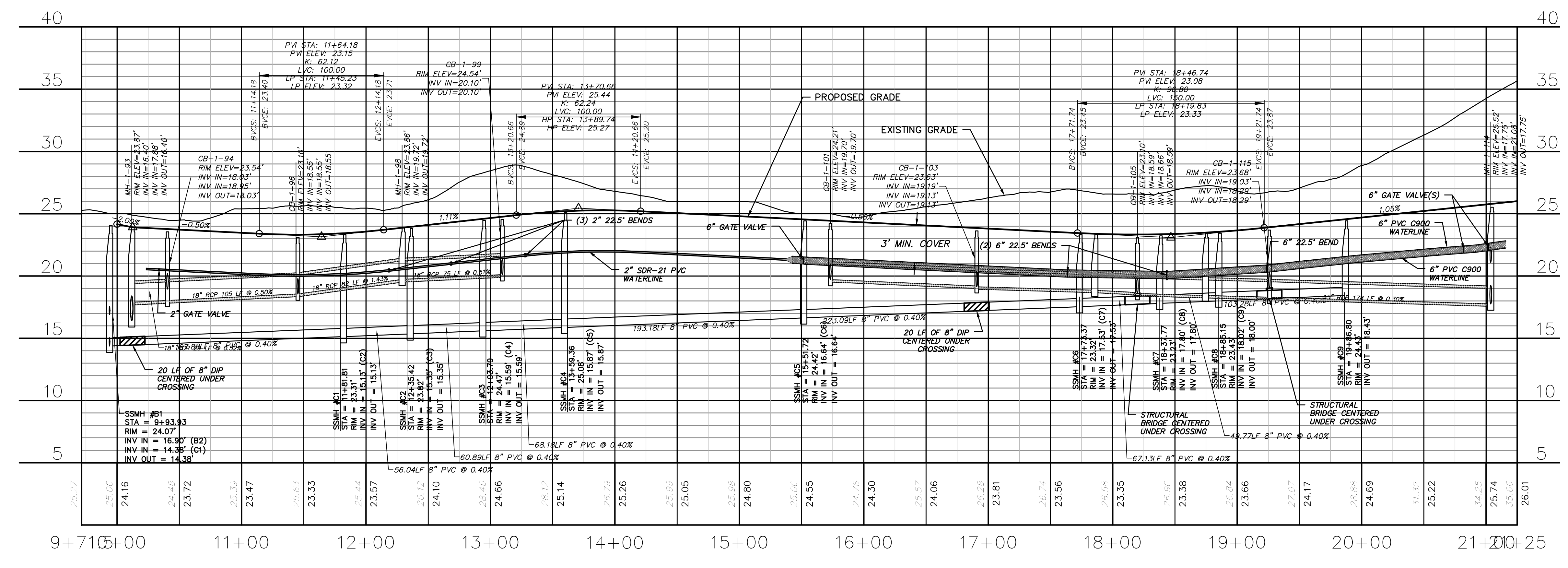
FLOATING BRIDGE TRAIL
(STA 25+00.00 TO 27+44.90)



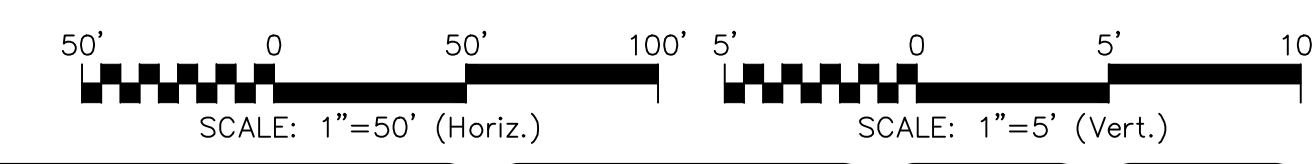
DEVERAUX DRIVE
(STA 9+71.50 TO 21+25.00)



FLOATING BRIDGE TRAIL
(STA 25+00.00 TO 27+44.90)



DEVERAUX DRIVE
(STA 9+71.50 TO 21+25.00)



REVNO.	DESCRIPTIONS	DATE
E	CITY OF WILMINGTON TRC / CFPUA RESUBMITTAL	09/09/2016
D	NEW HANOVER COUNTY EROSION CONTROL RC-SUBMITTAL	08/04/2016
C	CITY OF WILMINGTON TRC / STORMWATER / TREE REMOVAL, NEW HANOVER COUNTY EROSION CONTROL, AND CFPUA SUBMITTAL	06/29/2016
B	CITY OF WILMINGTON TRC	06/01/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/06/2016

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

SEAL

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Wilmington, North Carolina 28401
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NASH RIVERLIGHTS™
NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS - AGE QUALIFIED PHASE 2 & 3
PLAN AND PROFILE
FLOATING BRIDGE TRAIL
DEVERAUX DRIVE

DATE: 06/01/16
MCE PROJ. # 02735-0168
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: NAL
PROJ. MGR: KCBE

SCALE: HORIZONTAL: 1"=50'
VERTICAL: 1"=5'

STATUS: **FINAL DESIGN**
ISSUED FOR PERMITTING

MAC FILE NUMBER: **CU-702**
DRAWING NUMBER: **23**
REVISION: **E**

CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD SEWER NOTES:

- SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
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UTILITY NOTES:

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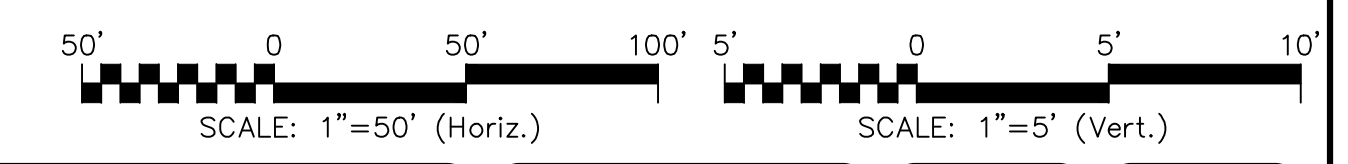
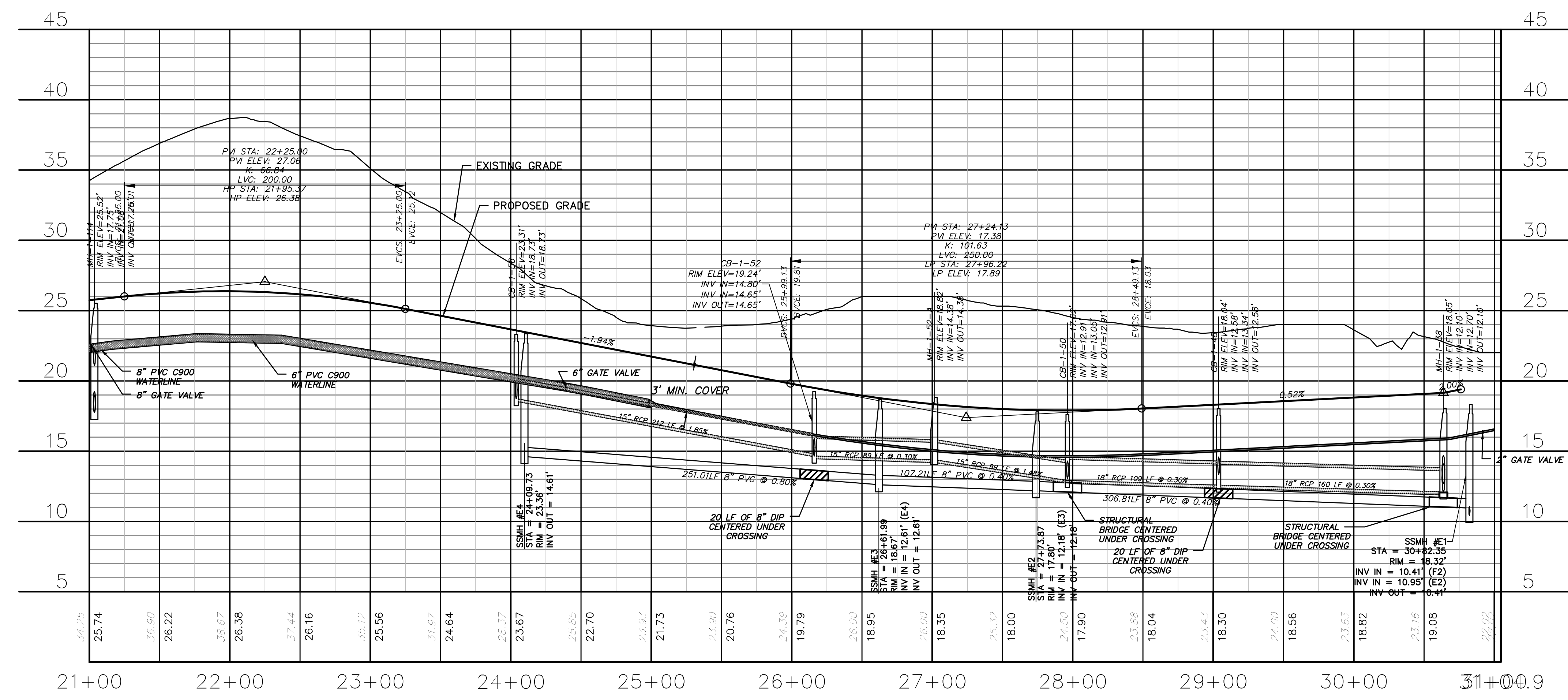
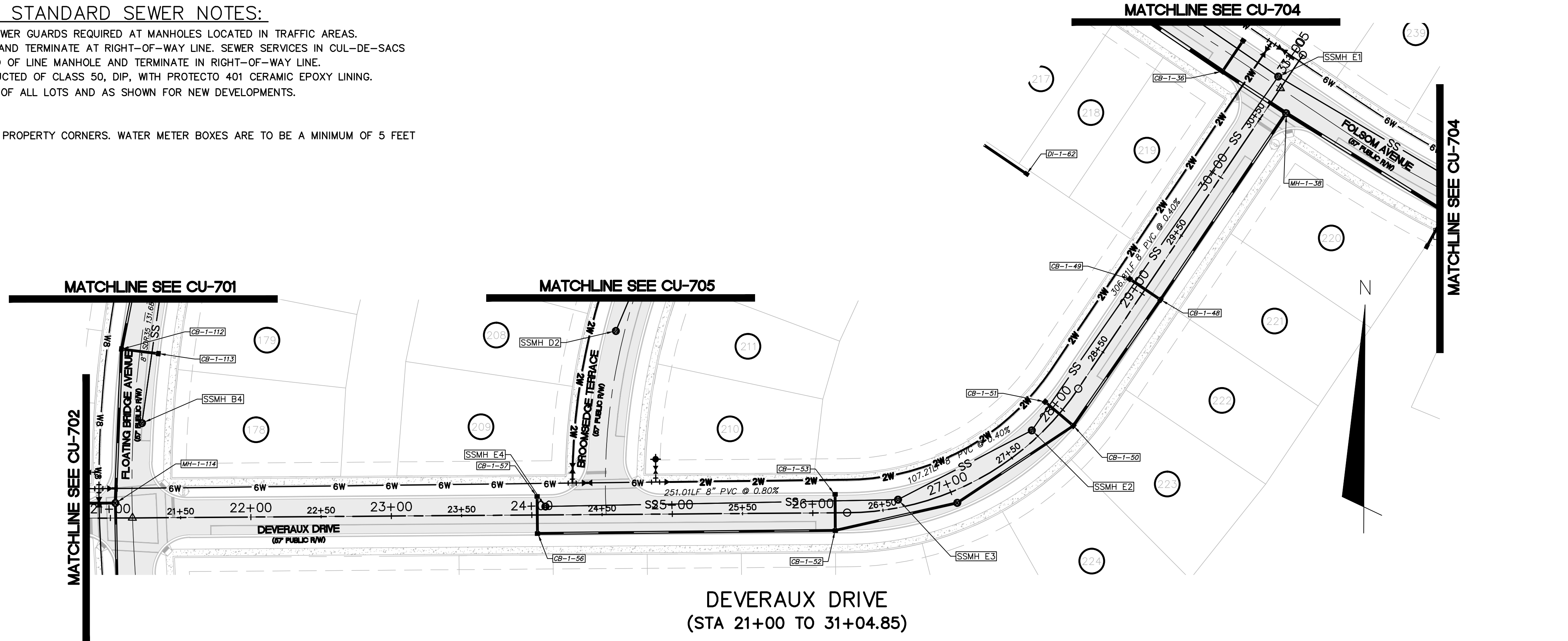
CITY OF WILMINGTON
NORTH CAROLINA
Public Services Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: _____ Permit # _____
Signed: _____

Approved Construction Plan

Name	Date
Planning	
Traffic	
Fire	

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch



REV. NO.	DESCRIPTIONS	DATE
E	CITY OF WILMINGTON TRC / CFPWA RESUBMITTAL	09/09/2016
D	NEW HANOVER COUNTY EROSION CONTROL, RE-SUBMITTAL	08/04/2016
C	CITY OF WILMINGTON TRC / STORMWATER / TREE REMOVAL, NEW HANOVER COUNTY EROSION CONTROL, AND CFPWA SUBMITTAL	06/29/2016
B	CITY OF WILMINGTON TRC	06/01/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/08/2016

PRELIMINARY -
DO NOT USE FOR
CONSTRUCTION

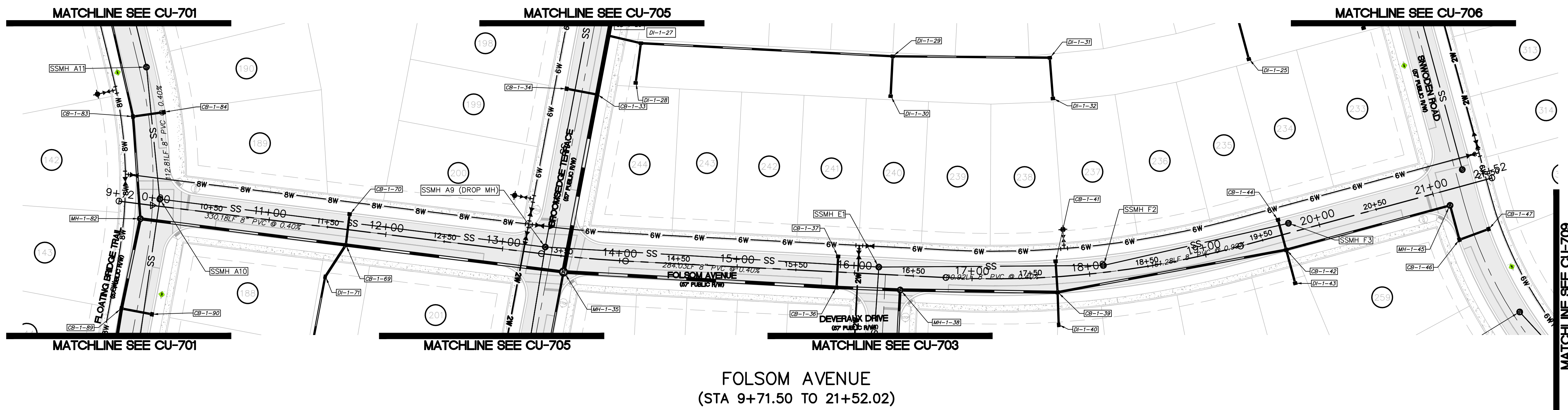
SEAL

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NASH RIVERLIGHTS™
NORTH AMERICA SEKISUI HOUSE, LLC

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PLAN AND PROFILE
DEVERAUX DRIVE
STA 21+00.00 TO STA 31+04

DATE: 06/01/16	SCALE: HORIZONTAL: 1"=50'	MAC FILE NUMBER: CU-703
MCE PROJ. # 02735-0168	VERTICAL: 1"=5'	DRAWING NUMBER: 24
DRAWN: EEM/KCBE		
DESIGNED: KCBE		
CHECKED: NAL		
PROJ. MGR.: KCBE		
STATUS: FINAL DESIGN		REVISION: E
ISSUED FOR PERMITTING		



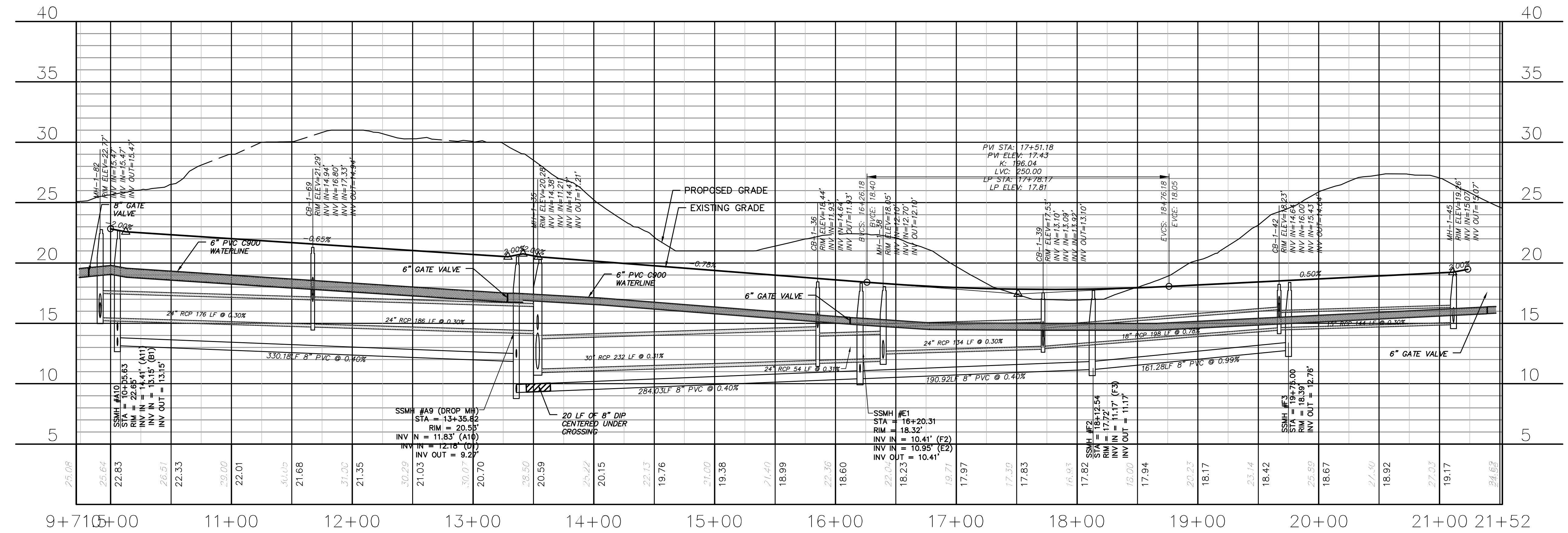
FOLSOM AVENUE
(STA 9+71.50 TO 21+52.02)

CAPE FEAR PUBLIC UTILITY AUTHORITY
STANDARD SEWER NOTES:

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UTILITY NOTES:

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FOLSOM AVENUE
(STA 9+71.50 TO 21+52.02)

CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

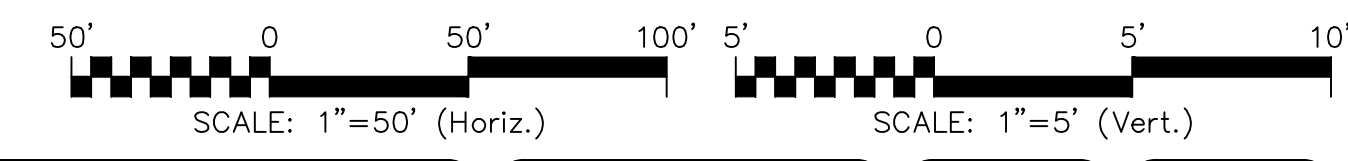
Signed: _____

Approved Construction Plan

Name	Date
Planning	
Traffic	
Fire	

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch



REVNO.	DESCRIPTIONS	DATE
E	CITY OF WILMINGTON TRC / CFPWA RESUBMITTAL	09/09/2016
D	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/04/2016
C	CITY OF WILMINGTON TRC / STORMWATER / TREE REMOVAL, NEW HANOVER COUNTY EROSION CONTROL, AND CFPWA SUBMITTAL	06/29/2016
B	CITY OF WILMINGTON TRC	06/01/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/08/2016

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RIVERLIGHTS™

NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS – AGE QUALIFIED PHASE 2 & 3

PLAN AND PROFILE
FOLSOM AVENUE
STA 9+72 TO STA 21+52

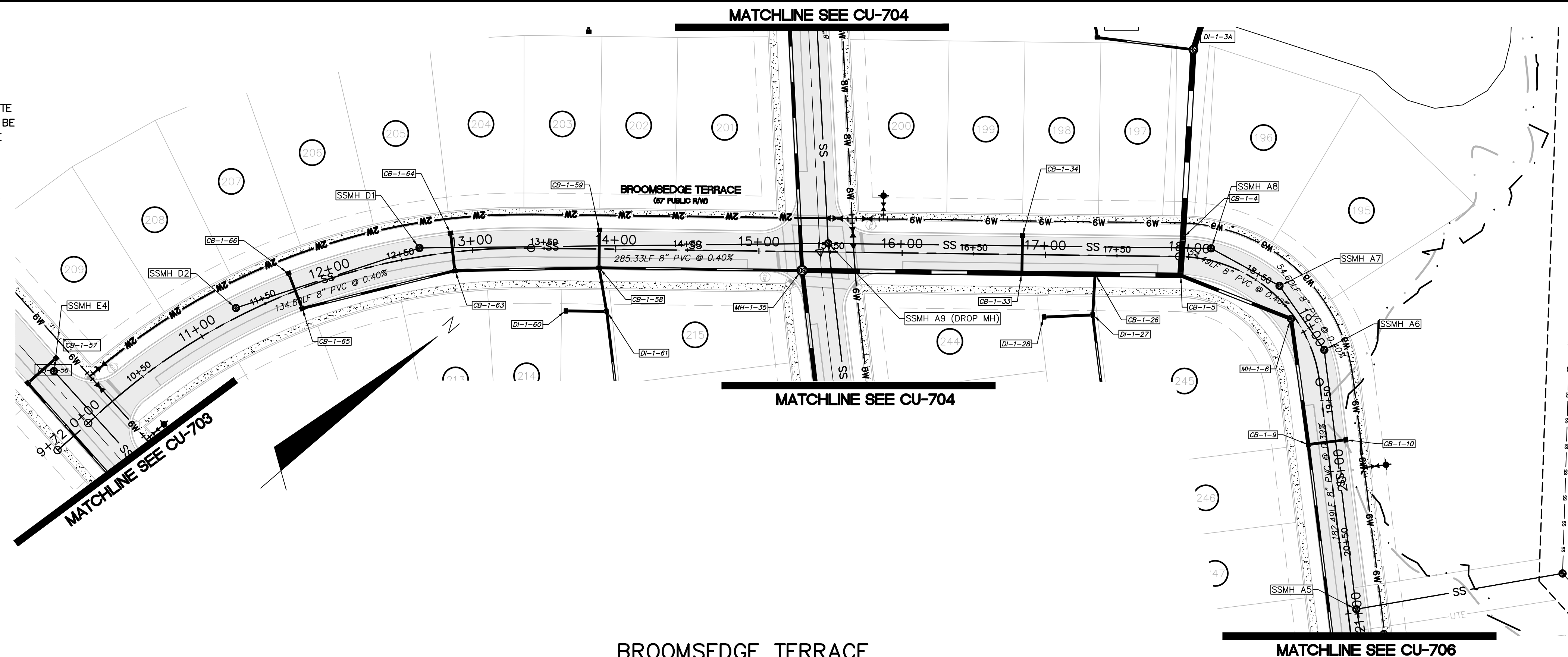
DATE: 06/01/16	SCALE: HORIZONTAL: 1"=50'	MAC FILE NUMBER: CU-704
MCE PROJ. # 02735-0168	DESIGNED: EEM/KCBE	DRAWING NUMBER: 25
CHECKED: NUL	PROJ. MGR.: KCBE	REVISION: E
STATUS: FINAL DESIGN		ISSUED FOR PERMITTING

CAPE FEAR PUBLIC UTILITY AUTHORITY
STANDARD SEWER NOTES:

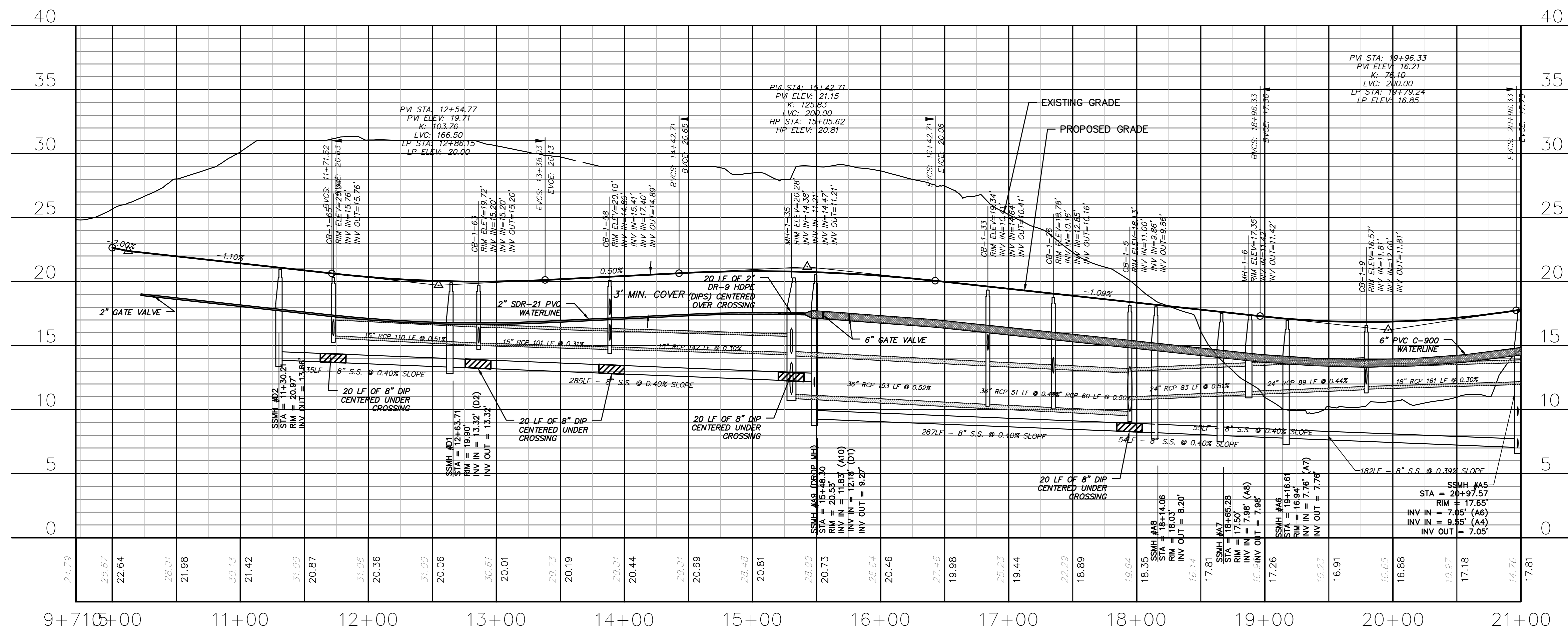
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UTILITY NOTES:

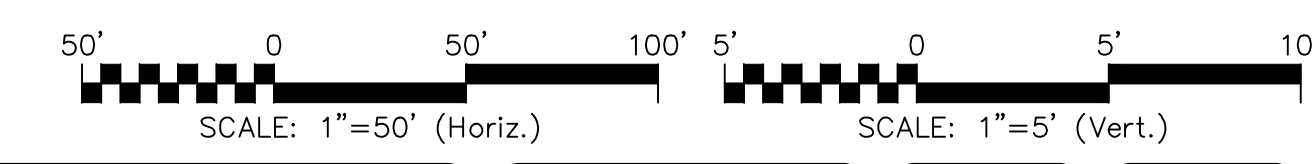
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BROOMSEDGE TERRACE
(STA 9+71.50 TO 21+00.00)



BROOMSEDGE TERRACE
(STA 9+71.50 TO 21+00.00)



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

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

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1 inch

REVNO.	DESCRIPTIONS	DATE
E	CITY OF WILMINGTON TRC / CFPWA RESUBMITTAL	09/09/2016
D	NEW HANOVER COUNTY EROSION CONTROL, RC-SUBMITTAL	08/24/2016
C	CITY OF WILMINGTON TRC / STORMWATER / TREE REMOVAL, NEW HANOVER COUNTY EROSION CONTROL, AND CFPWA SUBMITTAL	06/29/2016
B	CITY OF WILMINGTON TRC	06/01/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/06/2016

SEAL
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NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS - AGE QUALIFIED PHASE 2 & 3
PLAN AND PROFILE
BROOMSEDGE TERRACE
STA 9+72 TO STA 21+00

DATE: 06/01/16	SCALE: HORIZONTAL: 1"=50'	MAC FILE NUMBER: CU-705
MCE PROJ. # 02735-0168	VERTICAL: 1"=5'	DRAWING NUMBER: 26
DRAWN: EEM/KCBE		
DESIGNED: KCBE		
CHECKED: NAL		
PROJ. MGR.: KCBE		
STATUS: FINAL DESIGN		REVISION: E
ISSUED FOR PERMITTING		

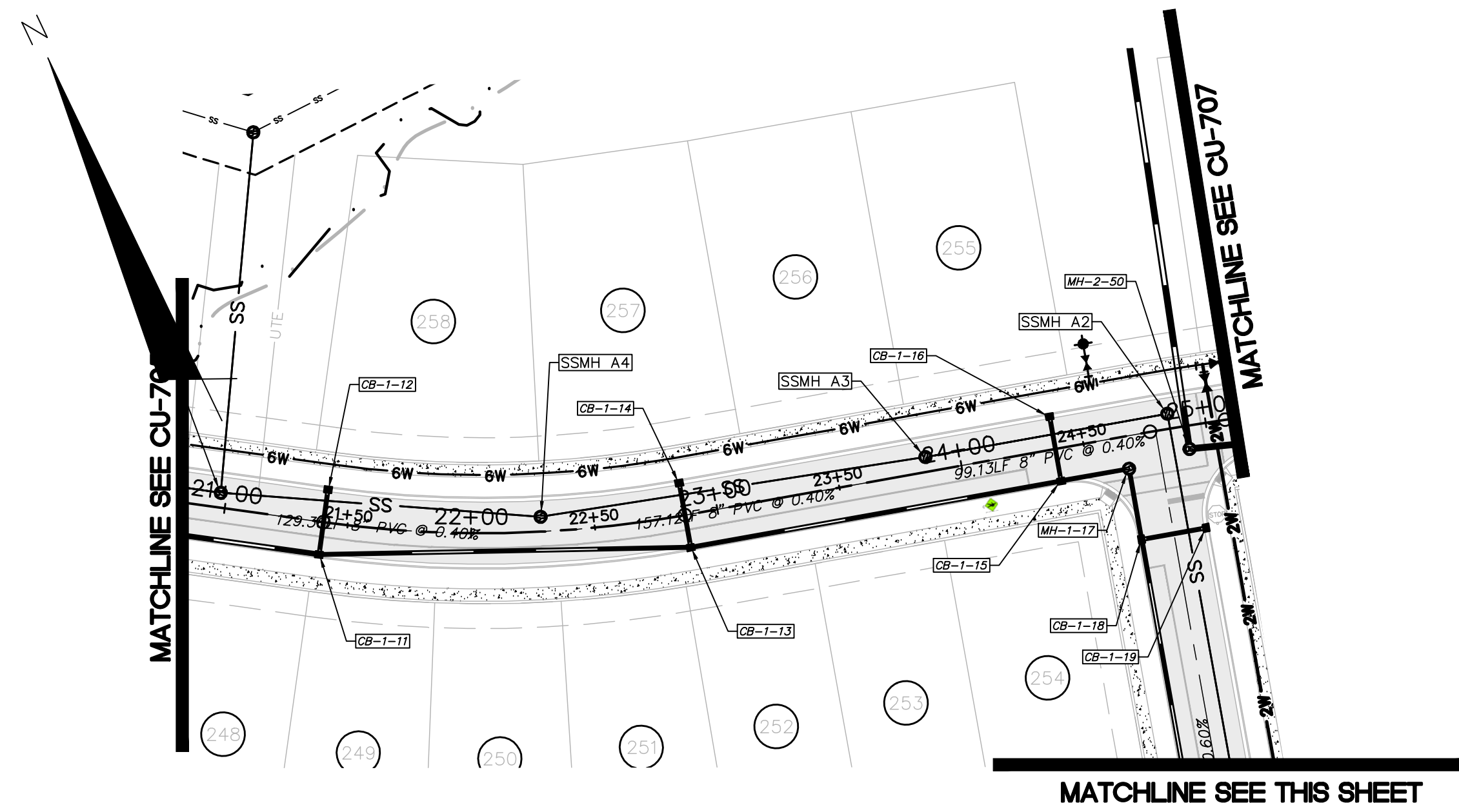
CAPE FEAR PUBLIC UTILITY AUTHORITY

STANDARD SEWER NOTES:

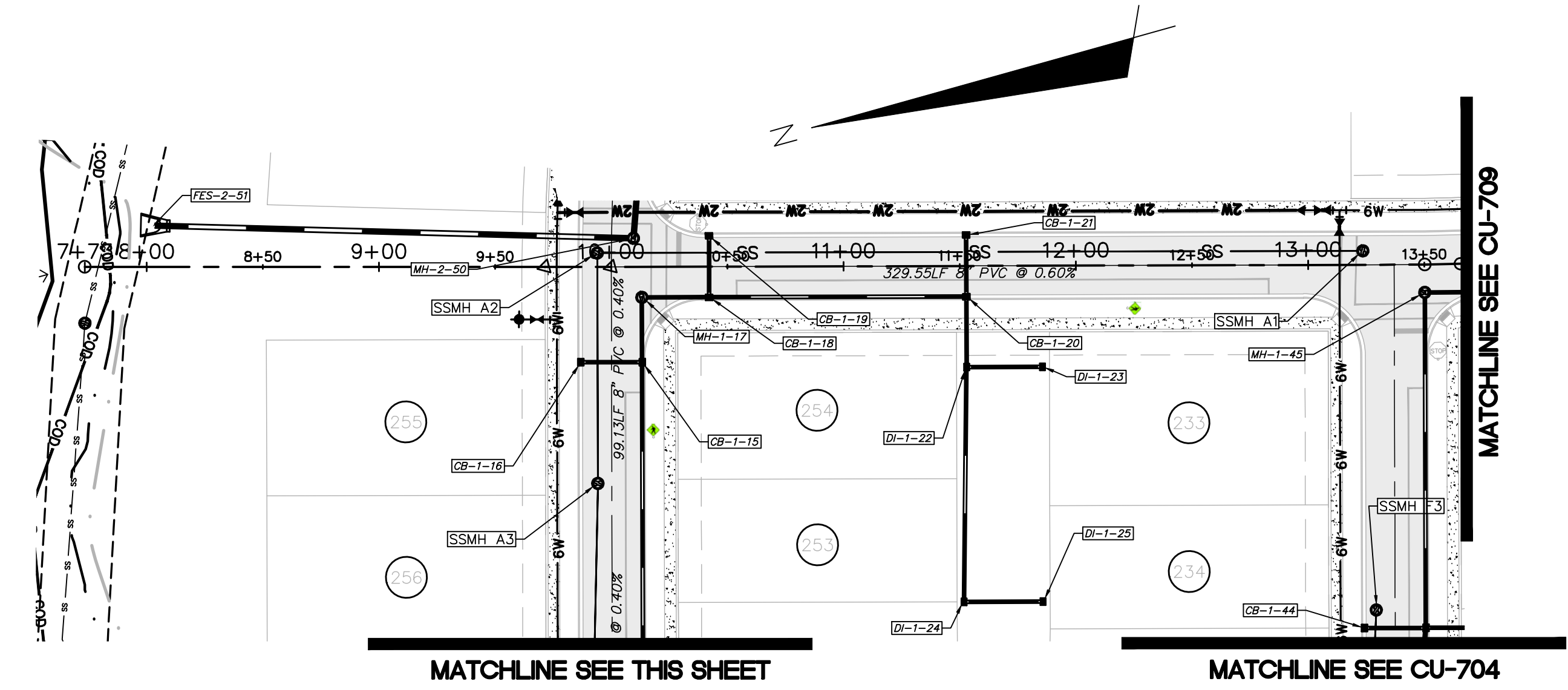
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UTILITY NOTES:

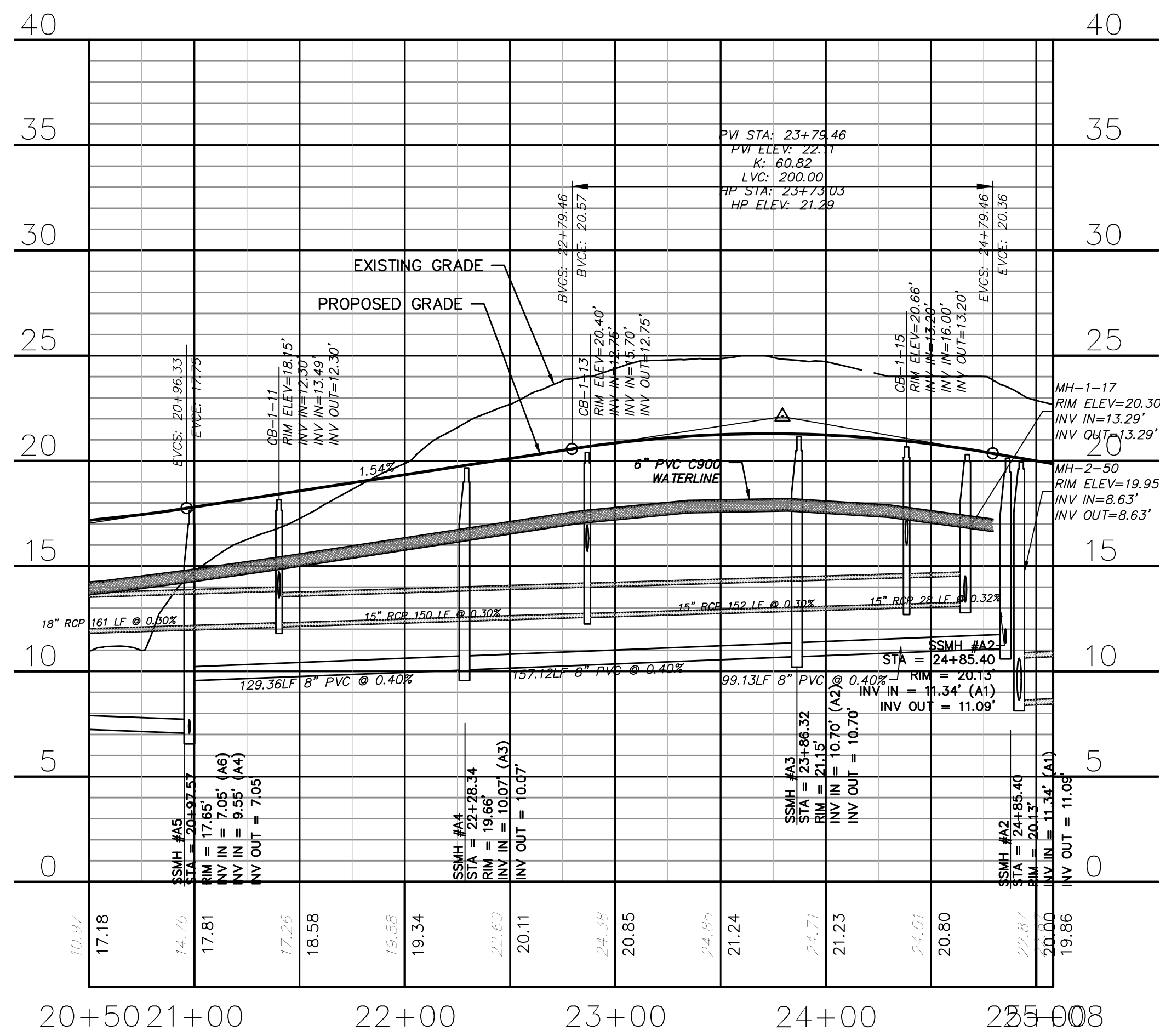
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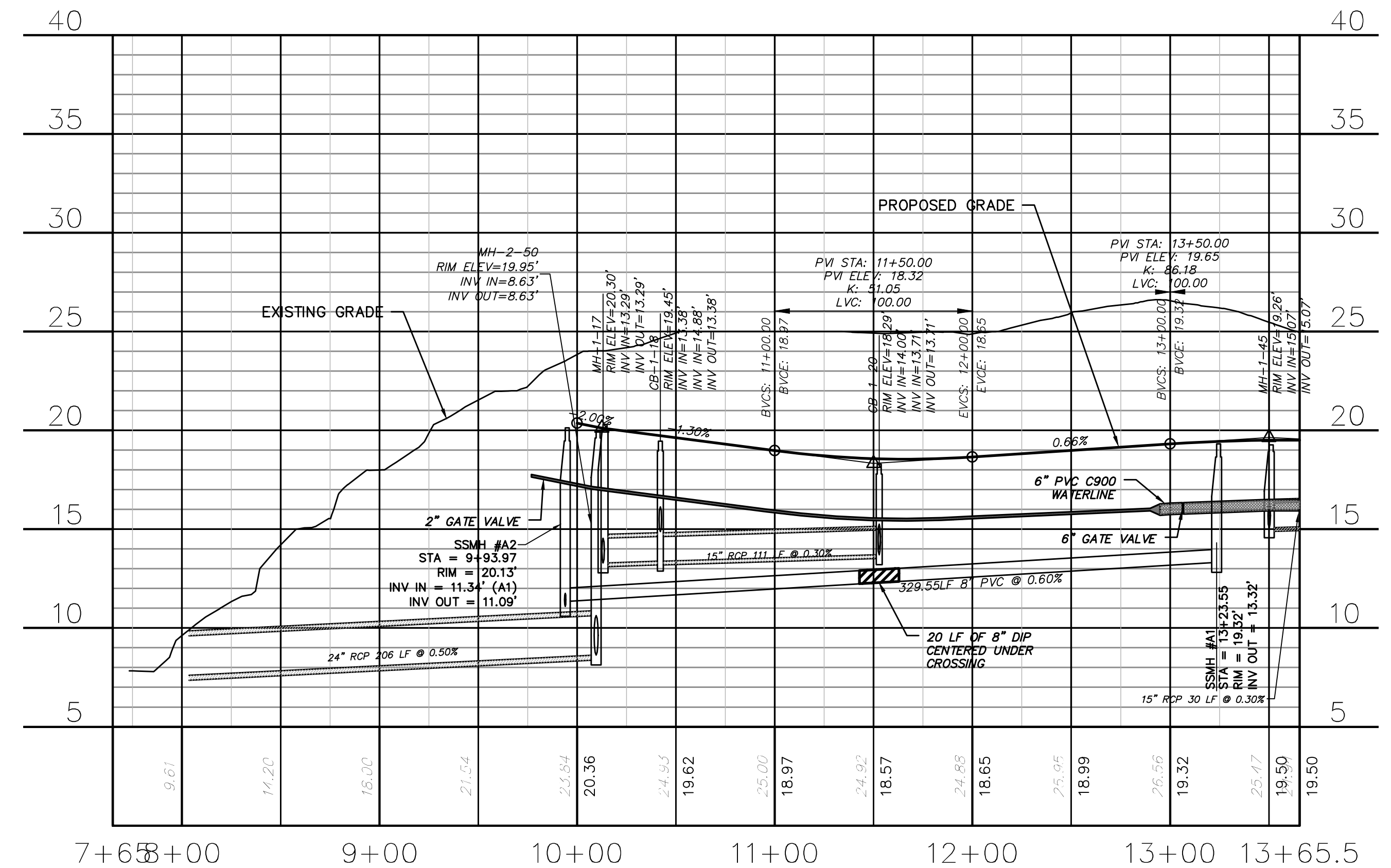
BROOMSDGE TERRACE
(STA 21+00.00 TO 25+07.98)



SNOWDEN ROAD
(STA 7+72.00 TO 13+65.50)



BROOMSDGE TERRACE
(STA 21+00.00 TO 25+07.98)

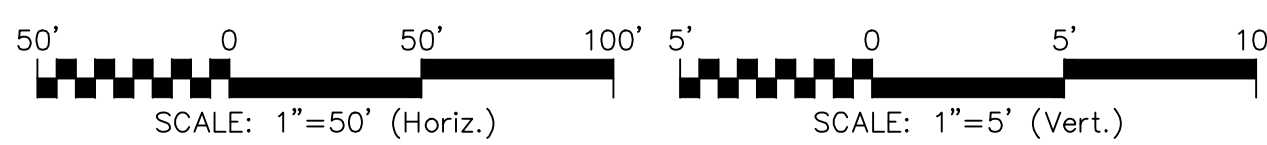


SNOWDEN ROAD
(STA 7+72.00 TO 13+65.50)

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

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

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REV.	DESCRIPTION	DATE
E	CITY OF WILMINGTON TRC / CFPWA RESUBMITTAL	09/09/2016
D	NEW HANOVER COUNTY EROSION CONTROL RC-SUBMITTAL	08/04/2016
C	CITY OF WILMINGTON TRC / STORMWATER / TREE REMOVAL, NEW HANOVER COUNTY EROSION CONTROL, AND CFPWA SUBMITTAL	06/29/2016
B	CITY OF WILMINGTON TRC	06/10/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/08/2016

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

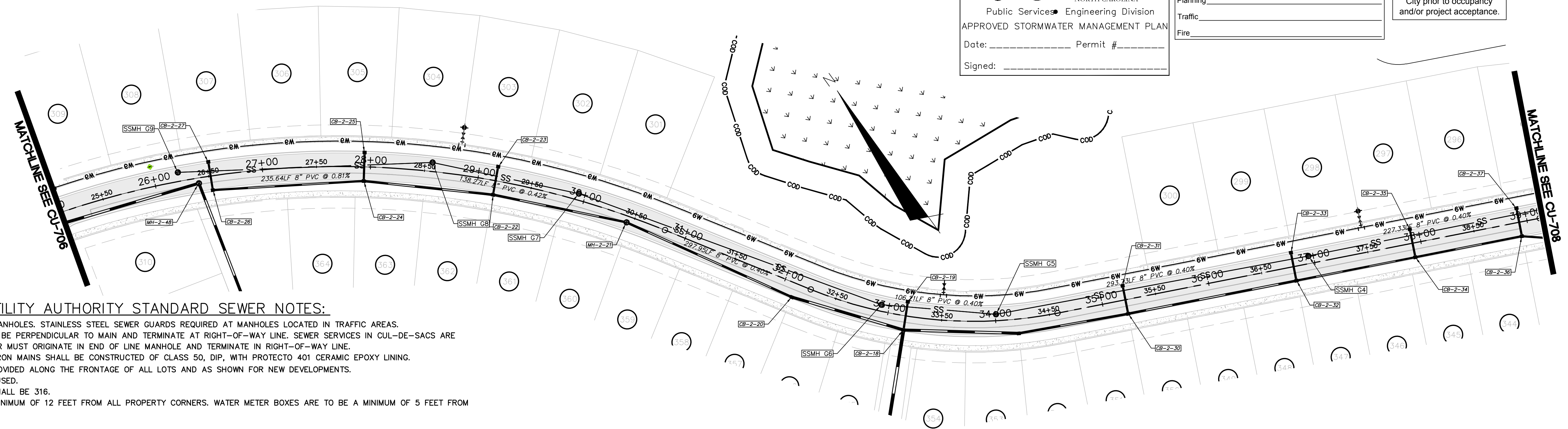
SEAL

MCKIM & CREED
243 North Front Street
Wilmington, North Carolina 28401
Phone: (910)343-1048, Fax: (910)251-8282
License: F-1222
www.mckimcreed.com

NASH RIVERLIGHTS™
NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS - AGE QUALIFIED PHASE 2 & 3
PLAN AND PROFILE
BROOMSDGE TERRACE
SNOWDEN ROAD

DATE: 06/01/16
MCE PROJ. # 02735-0168
DRAWN EEM/KCBE
DESIGNED KCBE
CHECKED NJL
PROJ. MGR. KCBE
SCALE: HORIZONTAL: 1"=50', VERTICAL: 1"=5'
MAC FILE NUMBER: CU-706
DRAWING NUMBER: 27
STATUS: FINAL DESIGN
ISSUED FOR PERMITTING
REVISION: E



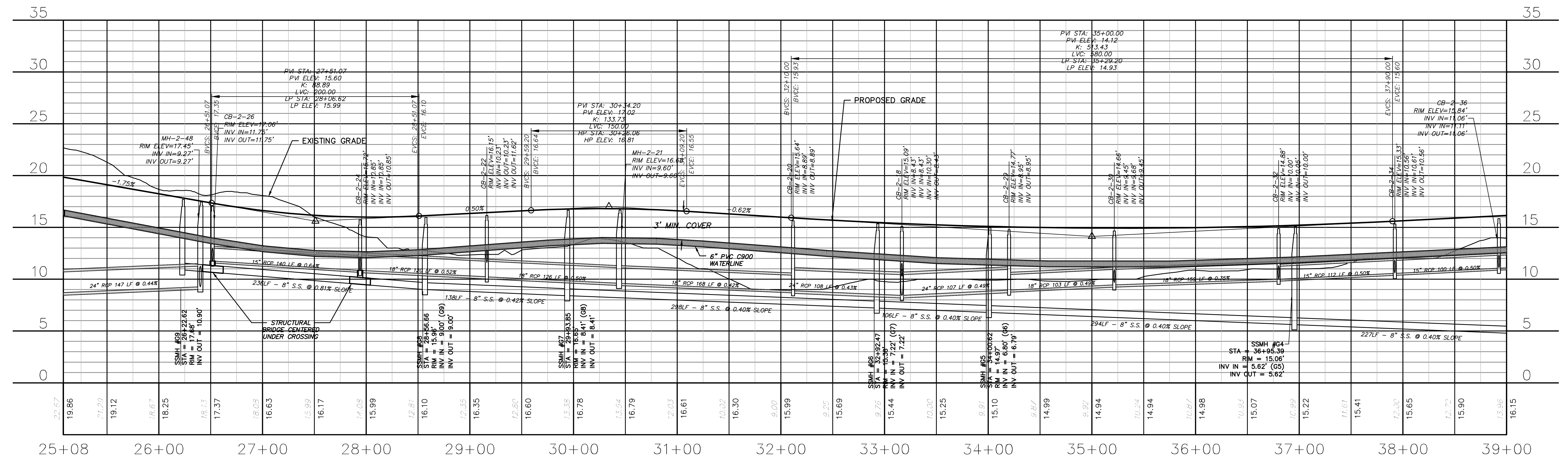
CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD SEWER NOTES:

- SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
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- NO FLEXIBLE COUPLINGS SHALL BE USED.
- ALL STAINLESS STEEL FASTENERS SHALL BE 316.
- CLEANOUTS SHALL BE LOCATED A MINIMUM OF 12 FEET FROM ALL PROPERTY CORNERS. WATER METER BOXES ARE TO BE A MINIMUM OF 5 FEET FROM THE PROPERTY CORNER.

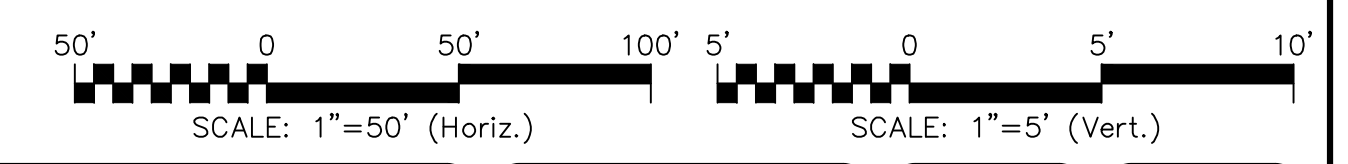
UTILITY NOTES:

- ALL VALVES AND FITTINGS TO BE RESTRAINED JOINT AND BLOCKED PER CFPWA STANDARD DETAILS AND SPECIFICATIONS. SEE CFPWA STANDARD DETAIL SHEETS AND UTILITY NOTES G-002.

**BROOMSDGE TERRACE
(STA 25+07.98 TO 39+00.00)**



**BROOMSDGE TERRACE
(STA 25+07.98 TO 39+00.00)**



REVNO.	DESCRIPTIONS	DATE
E	CITY OF WILMINGTON TRC / CFPWA RESUBMITTAL	09/09/2016
D	NEW HANOVER COUNTY EROSION CONTROL, RC-SUBMITTAL	08/24/2016
C	CITY OF WILMINGTON TRC / STORMWATER / TREE REMOVAL, NEW HANOVER COUNTY EROSION CONTROL, AND CFPWA SUBMITTAL	06/29/2016
B	CITY OF WILMINGTON TRC	06/01/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/08/2016

SEAL
 PRELIMINARY -
 DO NOT USE FOR
 CONSTRUCTION

SEAL



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 NORTH AMERICA SEKISUI HOUSE, LLC

**RIVERLIGHTS - AGE QUALIFIED PHASE
2 & 3**

**PLAN AND PROFILE
BROOMSDGE AVENUE
STA 25+08 TO STA 39+00**

DATE: 06/01/16
 MCE PROJ. # 02735-0168
 DRAWN EEM/KCBE
 DESIGNED KCBE
 CHECKED NAL
 PROJ. MGR. KCBE

SCALE
 HORIZONTAL: 1"=50'
 VERTICAL: 1"=5'

STATUS: **FINAL DESIGN**
 ISSUED FOR PERMITTING

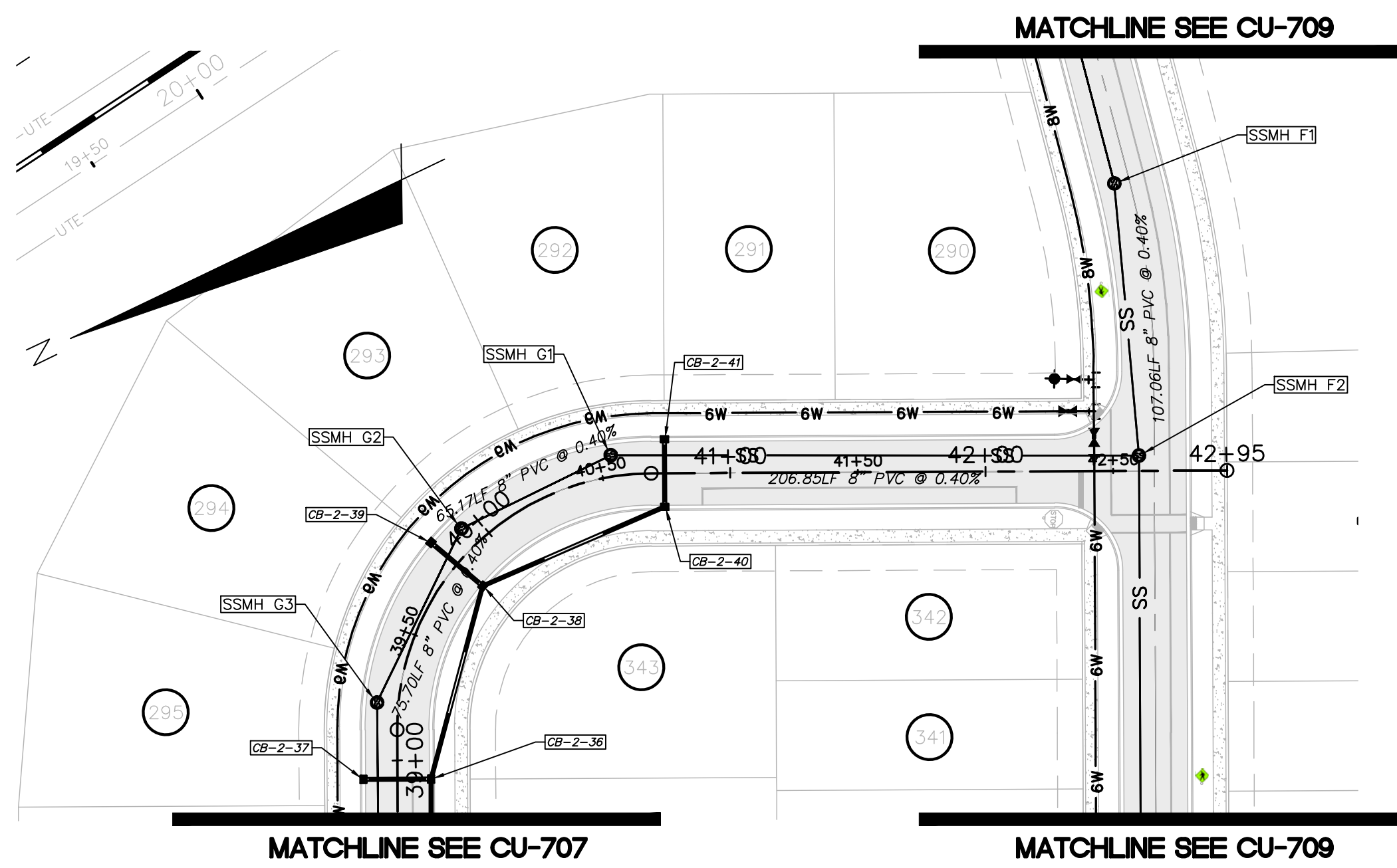
MAC FILE NUMBER: **CU-707**
 DRAWING NUMBER: **28**
 REVISION: **E**

**CAPE FEAR PUBLIC UTILITY AUTHORITY
STANDARD SEWER NOTES:**

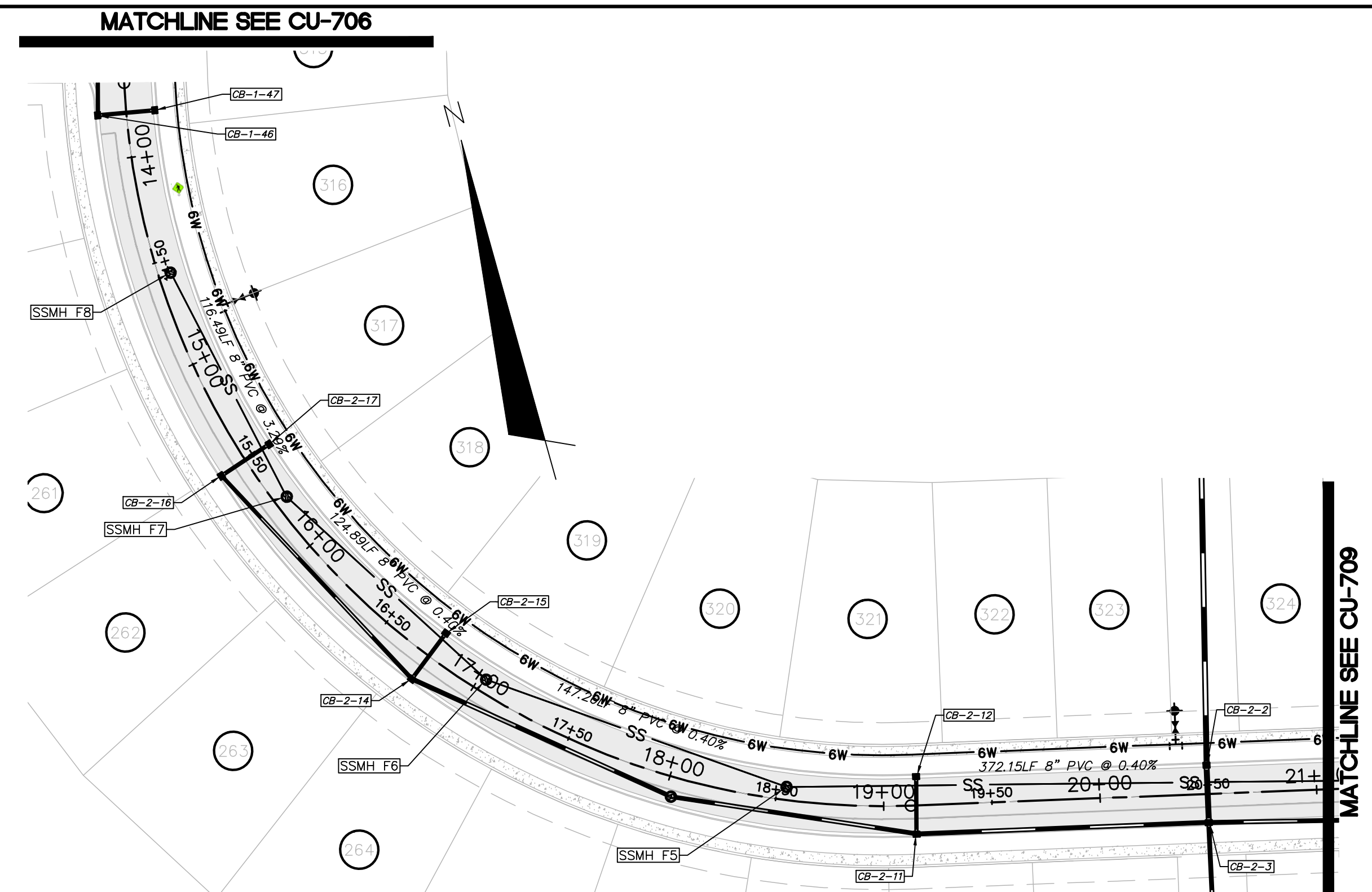
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UTILITY NOTES:

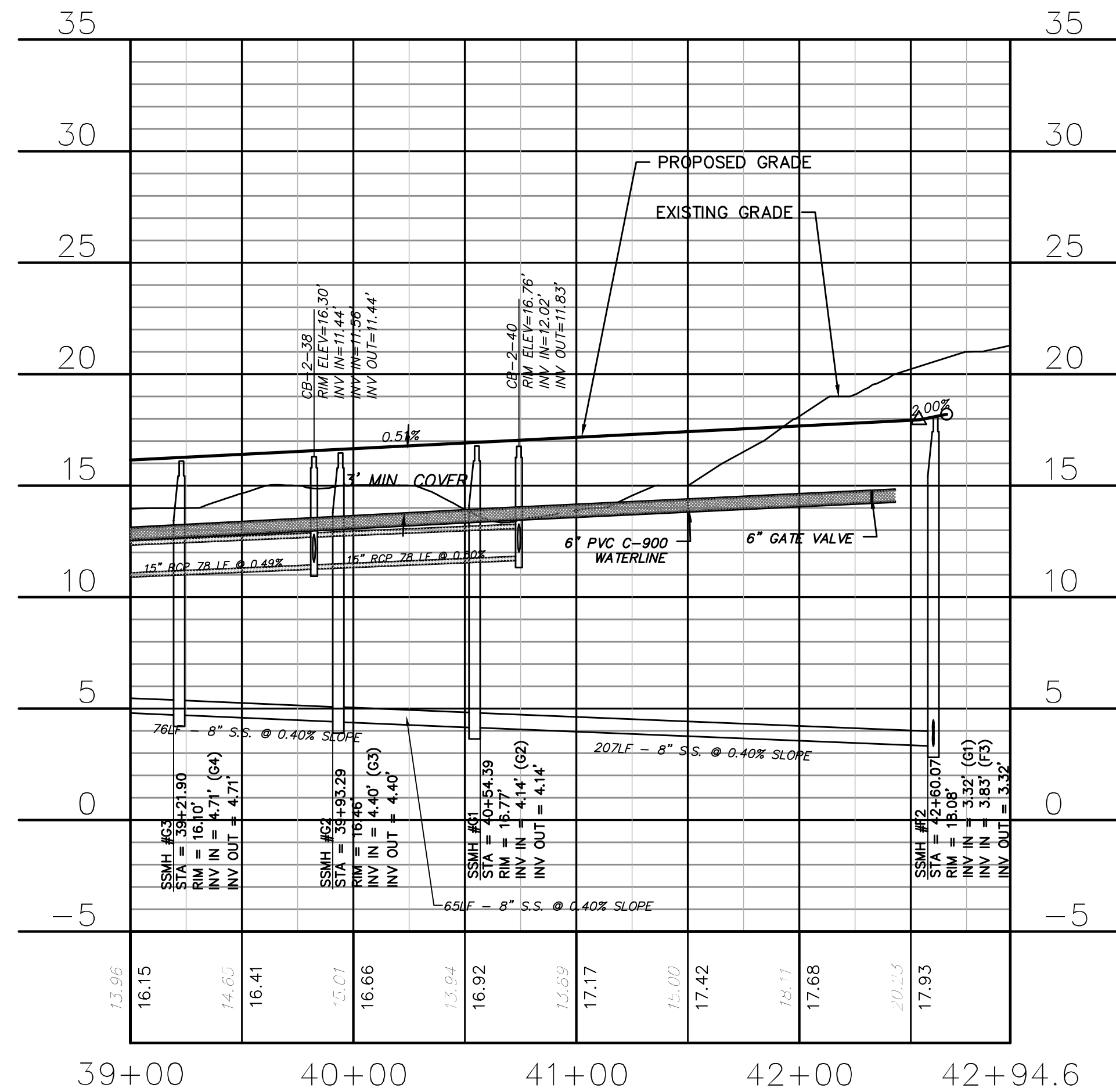
- ALL VALVES AND FITTINGS TO BE RESTRAINED JOINT AND BLOCKED PER CFPWA STANDARD DETAILS AND SPECIFICATIONS. SEE CFPWA STANDARD DETAIL SHEETS AND UTILITY NOTES G-002.



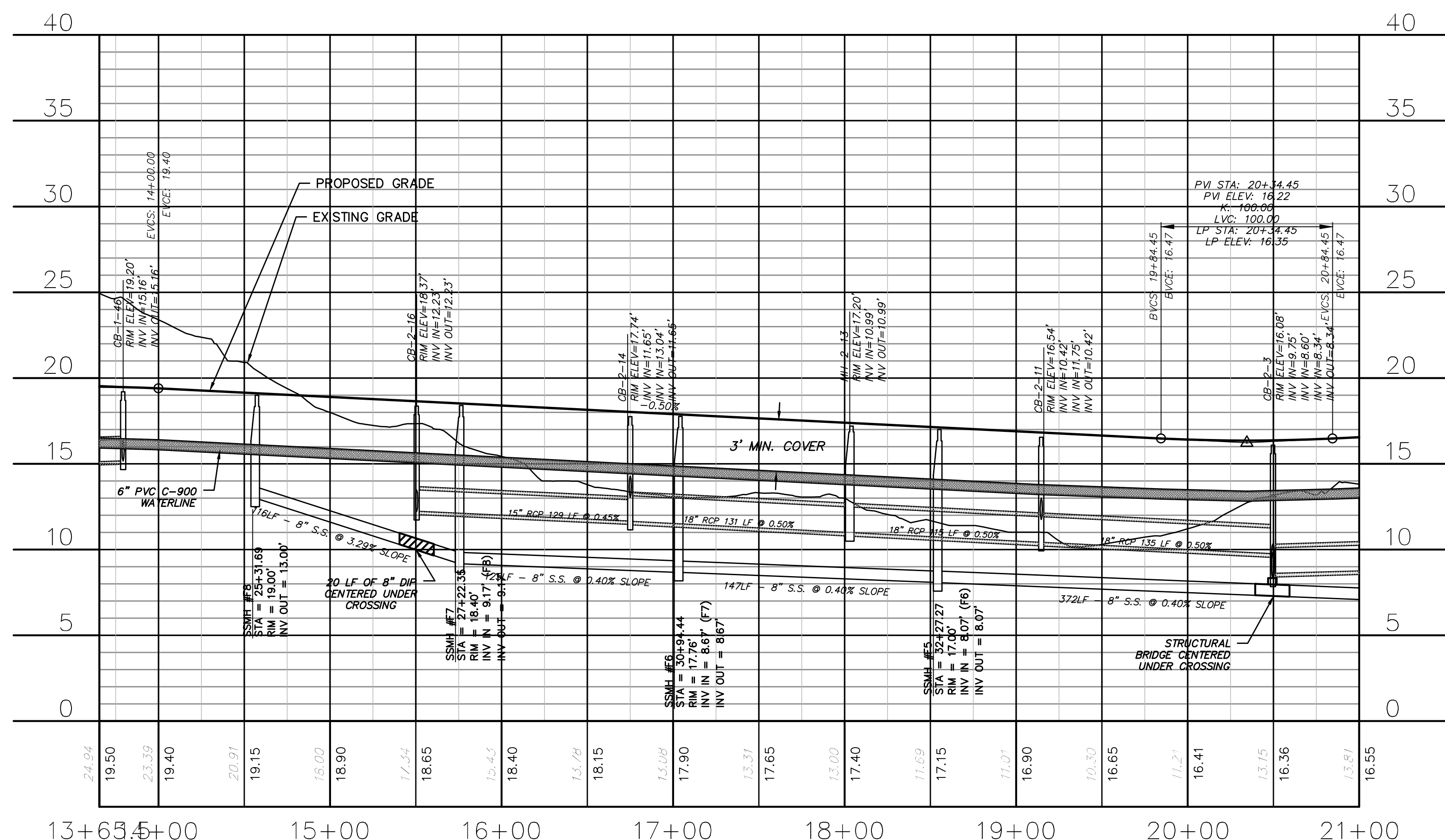
**BROOMSEDGE TERRACE
(STA 39+00.00 TO 42+94.57)**



**SNOWDEN ROAD
(STA 13+65.50 TO 21+00.00)**



**BROOMSEDGE TERRACE
(STA 39+00.00 TO 42+94.57)**



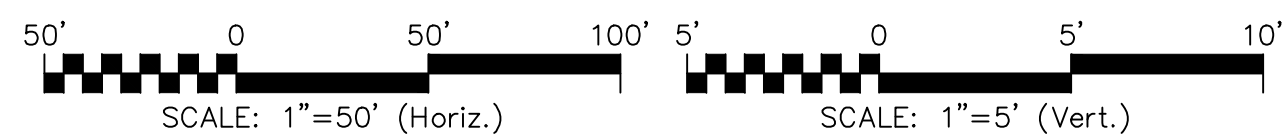
**SNOWDEN ROAD
(STA 13+65.50 TO 21+00.00)**

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

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

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch



REVNO.	DESCRIPTIONS	DATE
E	CITY OF WILMINGTON TRC / CFPWA RESUBMITTAL	09/09/2016
D	NEW HANOVER COUNTY EROSION CONTROL, RC-SUBMITTAL	08/04/2016
C	CITY OF WILMINGTON TRC / STORMWATER / TREE REMOVAL, NEW HANOVER COUNTY EROSION CONTROL, AND CFPWA SUBMITTAL	06/29/2016
B	CITY OF WILMINGTON TRC	06/01/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/08/2016

PRELIMINARY -
DO NOT USE FOR
CONSTRUCTION

SEAL

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www.mckimcreed.com

RIVERLIGHTS™
NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS - AGE QUALIFIED PHASE 2 & 3
**PLAN AND PROFILE
BROOMSEDGE TERRACE
SNOWDEN ROAD**

DATE: 06/01/16
MCE PROJ. # 02735-0168
DRAWN EEM/KCBE
DESIGNED KCBE
CHECKED NJL
PROJ. MGR. KCBE

SCALE
HORIZONTAL: 1"=50'
VERTICAL: 1"=5'

MAC FILE NUMBER: CU-708
DRAWING NUMBER: 29
REVISION: E

STATUS: FINAL DESIGN
ISSUED FOR PERMITTING

CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD SEWER NOTES:

- SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
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UTILITY NOTES:

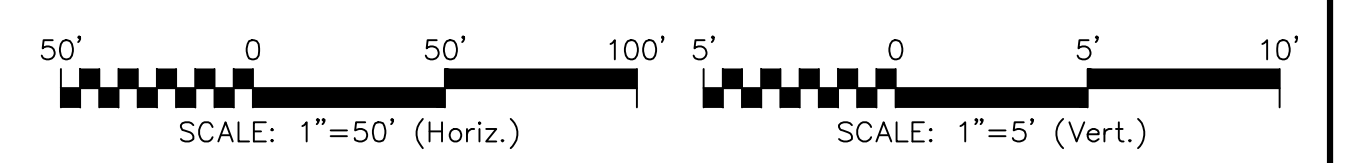
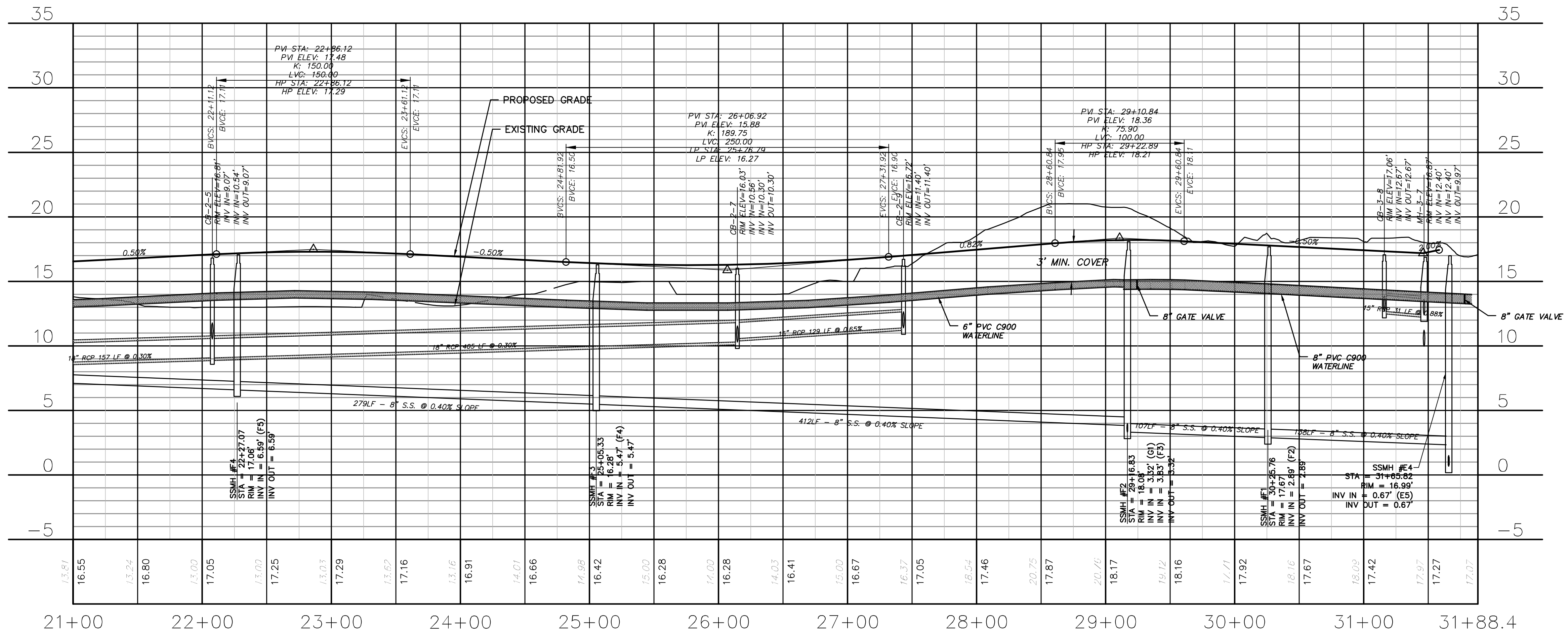
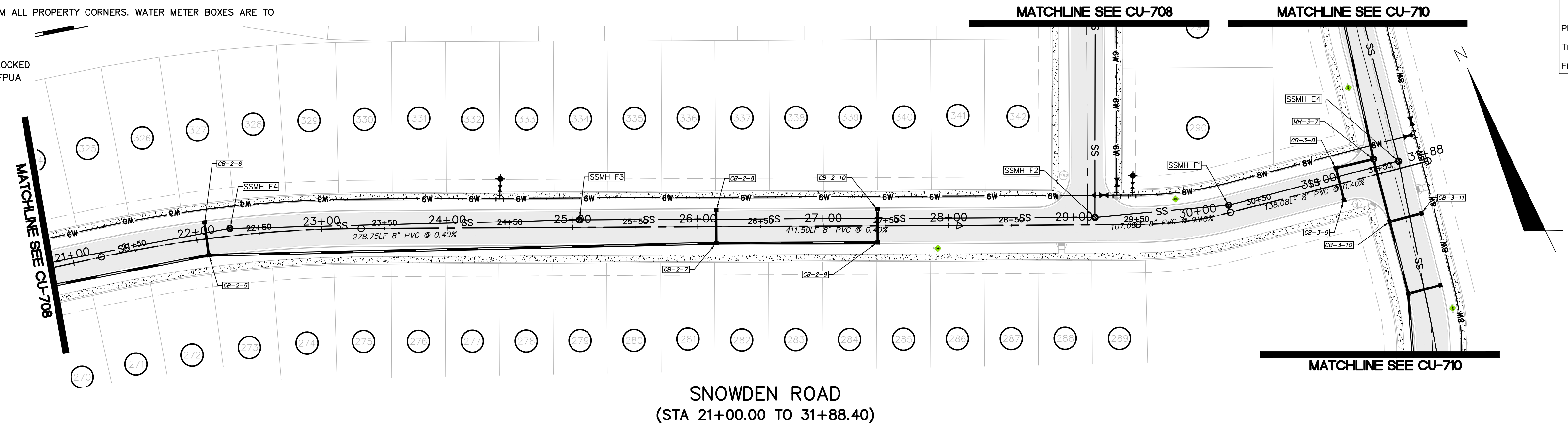
- ALL VALVES AND FITTINGS TO BE RESTRAINED JOINT AND BLOCKED PER CFPWA STANDARD DETAILS AND SPECIFICATIONS. SEE CFPWA STANDARD DETAIL SHEETS AND UTILITY NOTES G-002.

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

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

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch



REV. NO.	DESCRIPTIONS / REVISIONS	DATE
E	CITY OF WILMINGTON TRC / CFPWA RESUBMITTAL	09/09/2016
D	NEW HANOVER COUNTY EROSION CONTROL, RE-SUBMITTAL	08/04/2016
C	CITY OF WILMINGTON TRC / STORMWATER / TREE REMOVAL, NEW HANOVER COUNTY EROSION CONTROL, AND CFPWA SUBMITTAL	06/29/2016
B	CITY OF WILMINGTON TRC	06/01/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/08/2016

SEAL
PRELIMINARY - DO NOT USE FOR CONSTRUCTION

SEAL

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NASH RIVERLIGHTS™
NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS - AGE QUALIFIED PHASE 2 & 3
PLAN AND PROFILE
SNOWDEN ROAD
STA 21+00 TO 31+88

DATE: 06/01/16
MCE PROJ. # 02735-0168
DRAWN EEM/KCBE
DESIGNED KCBE
CHECKED N.J.L.
PROJ. MGR. KCBE

SCALE
HORIZONTAL: 1"=50'
VERTICAL: 1"=5'

MAC FILE NUMBER: **CU-709**
DRAWING NUMBER: **30**

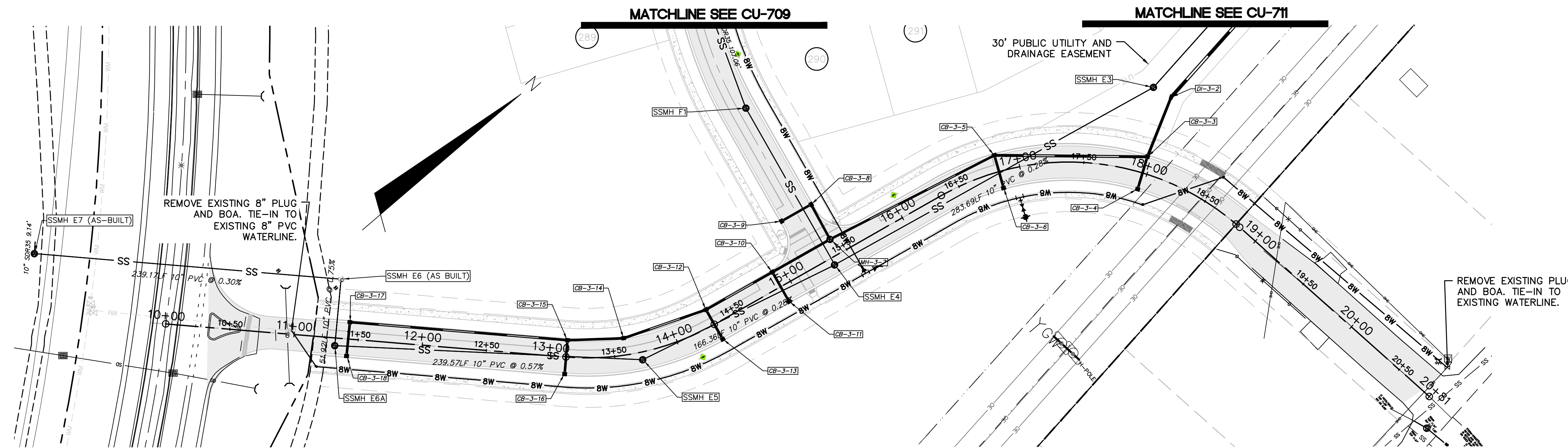
STATUS: **FINAL DESIGN**
ISSUED FOR PERMITTING

REVISION: **E**

CAPE FEAR PUBLIC UTILITY
AUTHORITY STANDARD SEWER

NOTES:

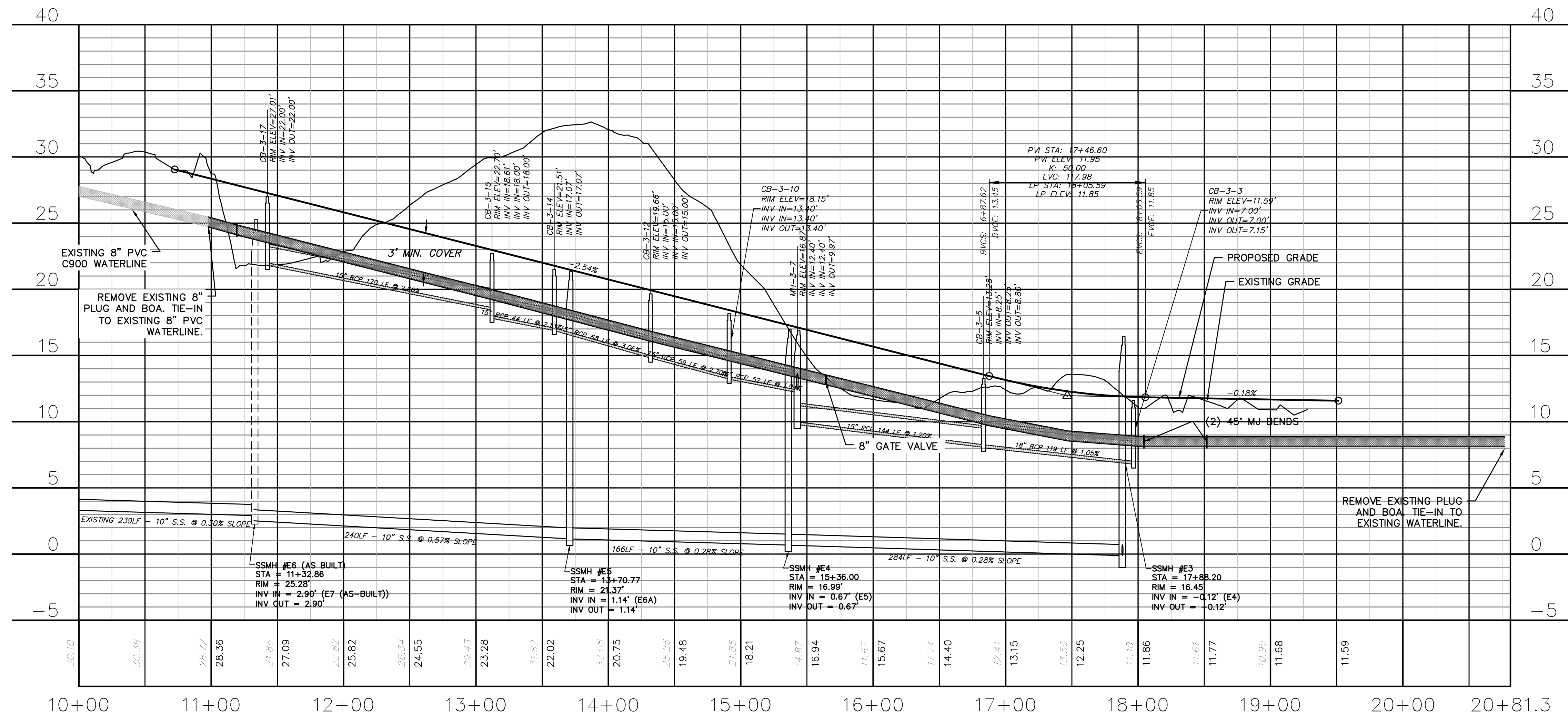
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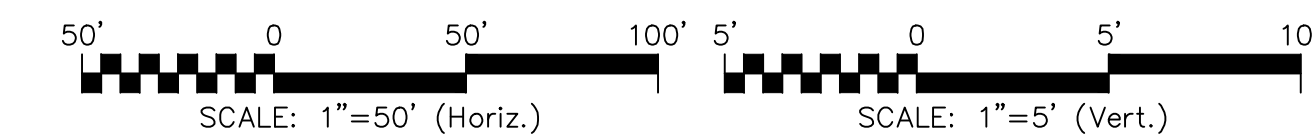
WILDERNESS ROAD
(STA 10+00.00 TO 19+51.43)

UTILITY NOTES:

- ALL VALVES AND FITTINGS TO BE RESTRAINED JOINT AND BLOCKED PER CFPWA STANDARD DETAILS AND SPECIFICATIONS. SEE CFPWA STANDARD DETAIL SHEETS AND UTILITY NOTES G-002.



WILDERNESS ROAD
(STA 10+00.00 TO 19+51.43)



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

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

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch

REV. NO.	DESCRIPTIONS	DATE
E	CITY OF WILMINGTON TRC / CFPWA RESUBMITTAL	09/09/2016
D	NEW HANOVER COUNTY EROSION CONTROL, RC-SUBMITTAL	08/04/2016
C	CITY OF WILMINGTON TRC / STORMWATER / TREE REMOVAL, NEW HANOVER COUNTY EROSION CONTROL, AND CFPWA SUBMITTAL	06/29/2016
B	CITY OF WILMINGTON TRC	06/01/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/08/2016

PRELIMINARY -
DO NOT USE FOR
CONSTRUCTION

SEAL

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NASH
NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS™

RIVERLIGHTS - AGE QUALIFIED PHASE 2 & 3

**PLAN AND PROFILE
WILDERNESS DRIVE EXTENTION
STA 10+00 TO STA 19+51**

DATE: 06/01/16
MCE PROJ. # 02735-0168
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: NAL
PROJ. MGR.: KCBE

SCALE: HORIZONTAL: 1"=50'
VERTICAL: 1"=5'

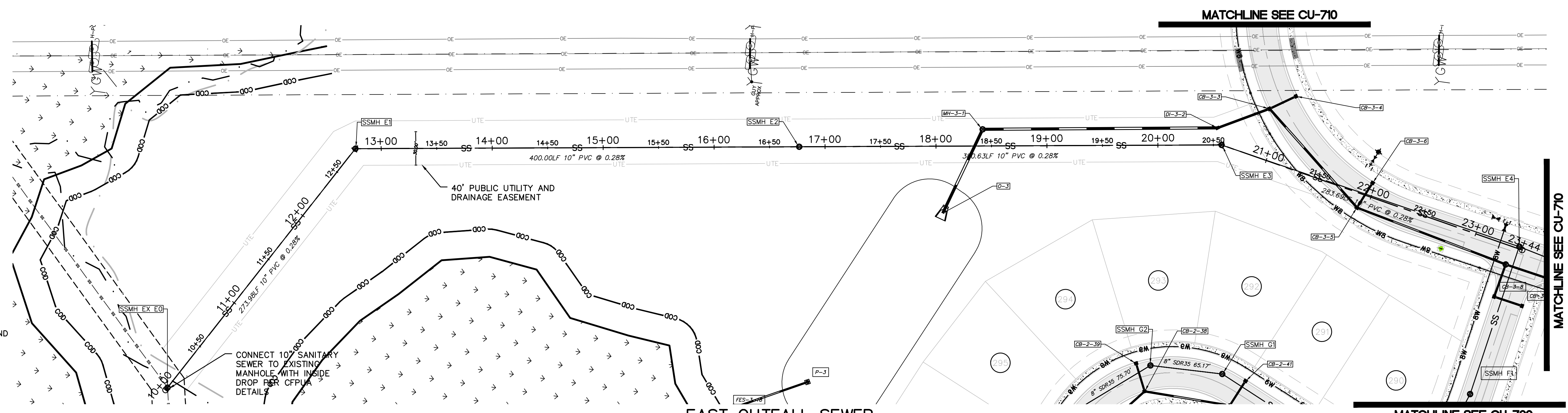
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DRAWING NUMBER: 31
REVISION: E

STATUS: FINAL DESIGN
ISSUED FOR PERMITTING

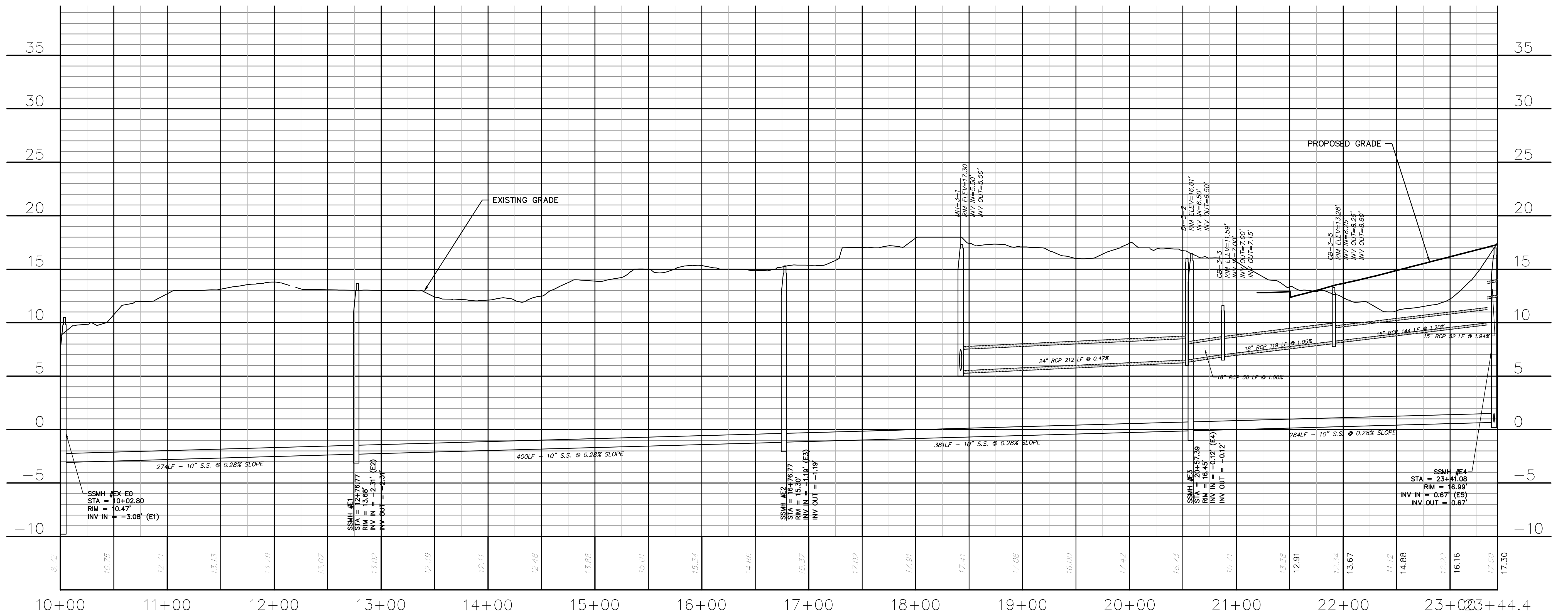
CAPE FEAR PUBLIC UTILITY
AUTHORITY STANDARD SEWER

- NOTES:**
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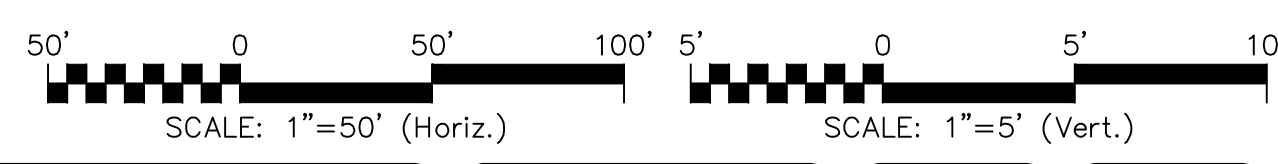
- UTILITY NOTES:**
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EAST OUTFALL SEWER
(STA 10+00.00 TO 23+44.40)



EAST OUTFALL SEWER
(STA 10+00.00 TO 23+44.40)



CITY OF WILMINGTON
NORTH CAROLINA
Public Services Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____
Signed: _____

Approved Construction Plan

Name	Date
Planning	
Traffic	
Fire	

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.



REVNO.	DESCRIPTIONS	DATE
E	CITY OF WILMINGTON TRC / CFPWA RESUBMITTAL	09/09/2016
D	NEW HANOVER COUNTY EROSION CONTROL RC-SUBMITTAL	08/04/2016
C	CITY OF WILMINGTON TRC / STORMWATER / TREE REMOVAL, NEW HANOVER COUNTY EROSION CONTROL, AND CFPWA SUBMITTAL	06/29/2016
B	CITY OF WILMINGTON TRC	06/01/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/09/2016

PRELIMINARY -
DO NOT USE FOR
CONSTRUCTION

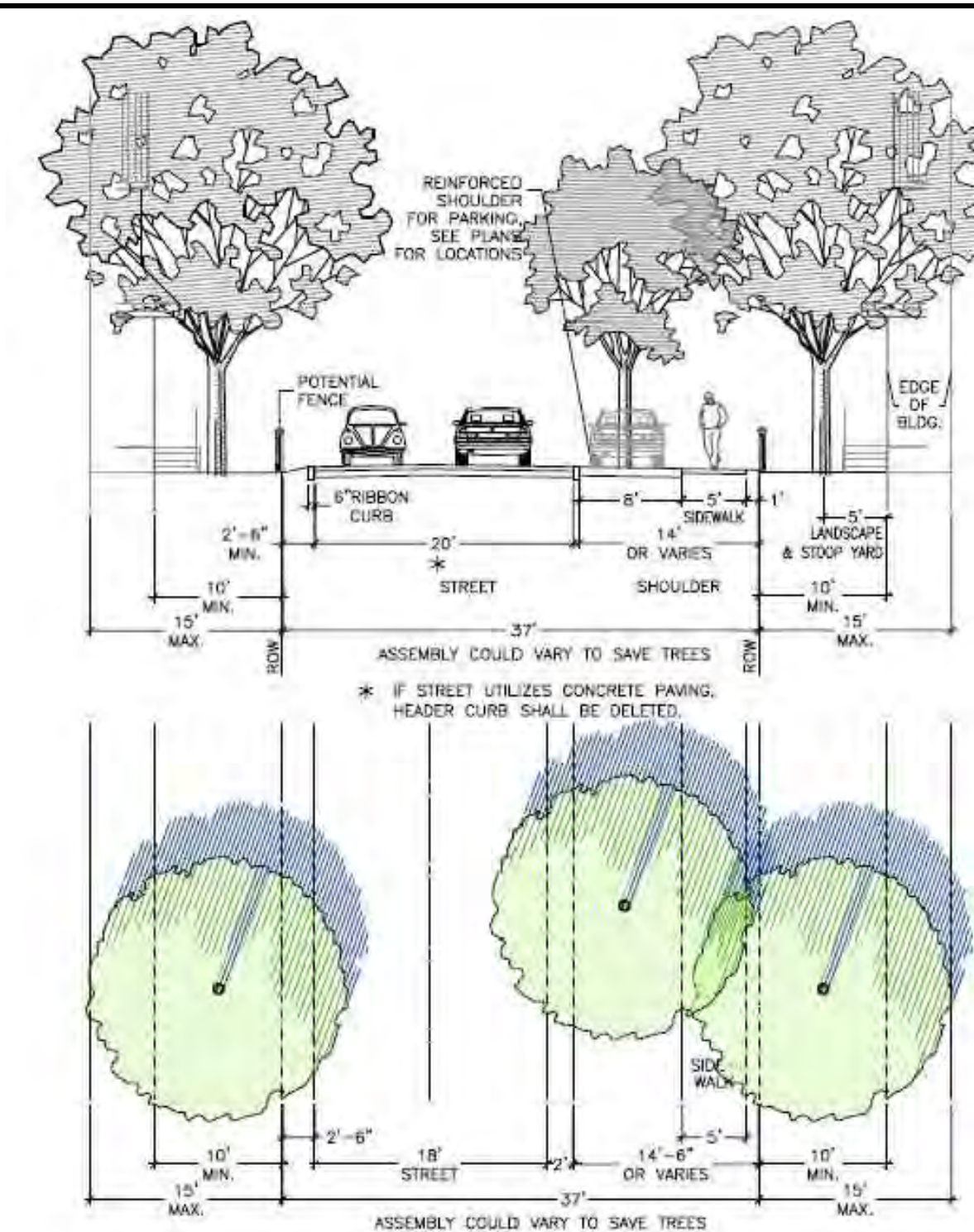
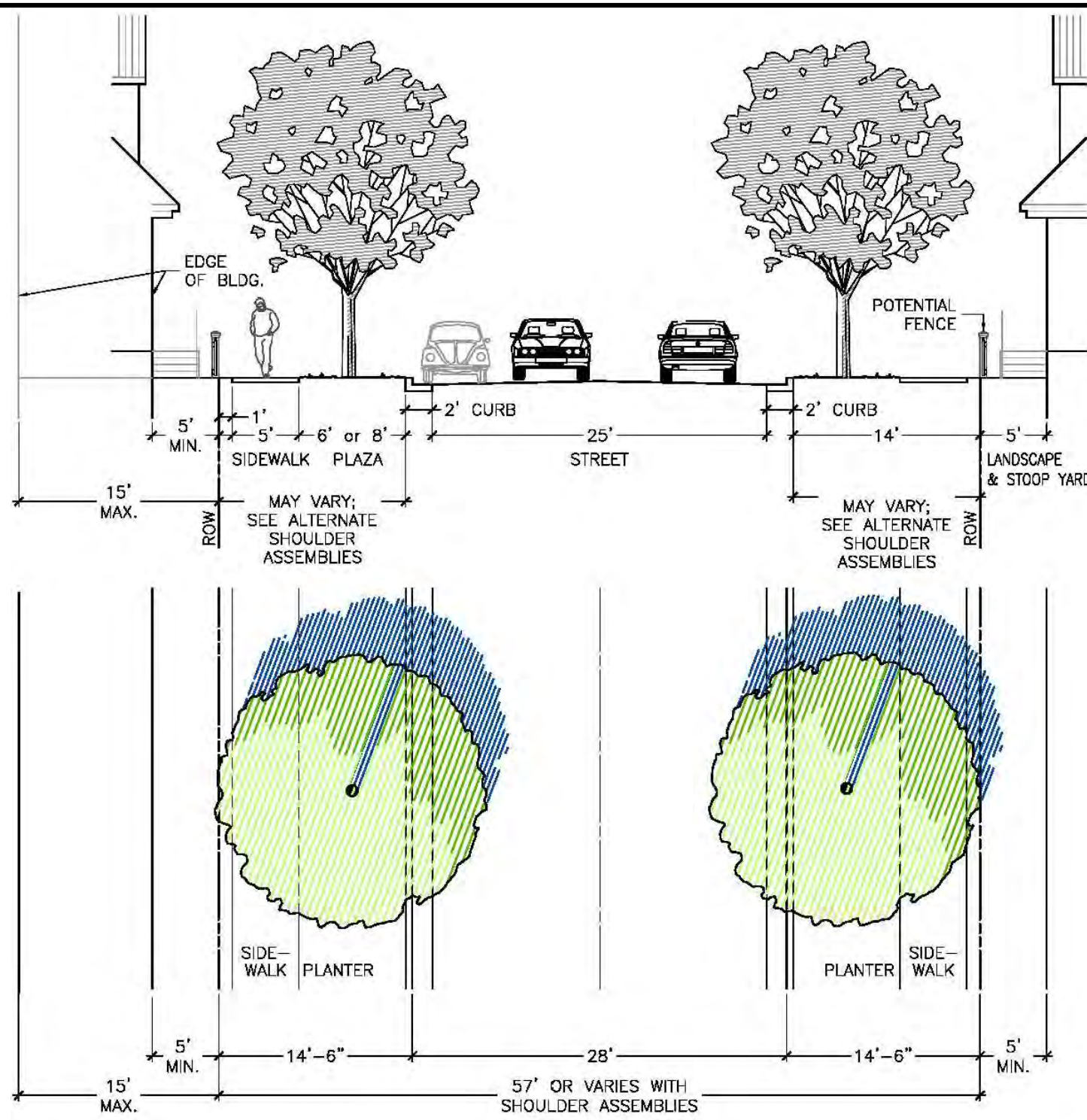
SEAL

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RIVERLIGHTS
NORTH AMERICA SERVICES HOUSE, LLC

RIVERLIGHTS - AGE QUALIFIED PHASE 2 & 3
PLAN AND PROFILE
EAST OUTFALL SEWER
STA.10+00 TO 23+44.40

DATE: 06/01/16	SCALE: HORIZONTAL: 1"=50'	MAC FILE NUMBER: CU-711
MCE PROJ. # 02735-0168	DESIGNED: KCBE	DRAWING NUMBER: 32
DRAWN: EEM/KCBE	CHECKED: N/A	REVISION: E
PROJ. MGR: KCBE	STATUS: FINAL DESIGN	ISSUED FOR PERMITTING



For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch

Approved Construction Plan

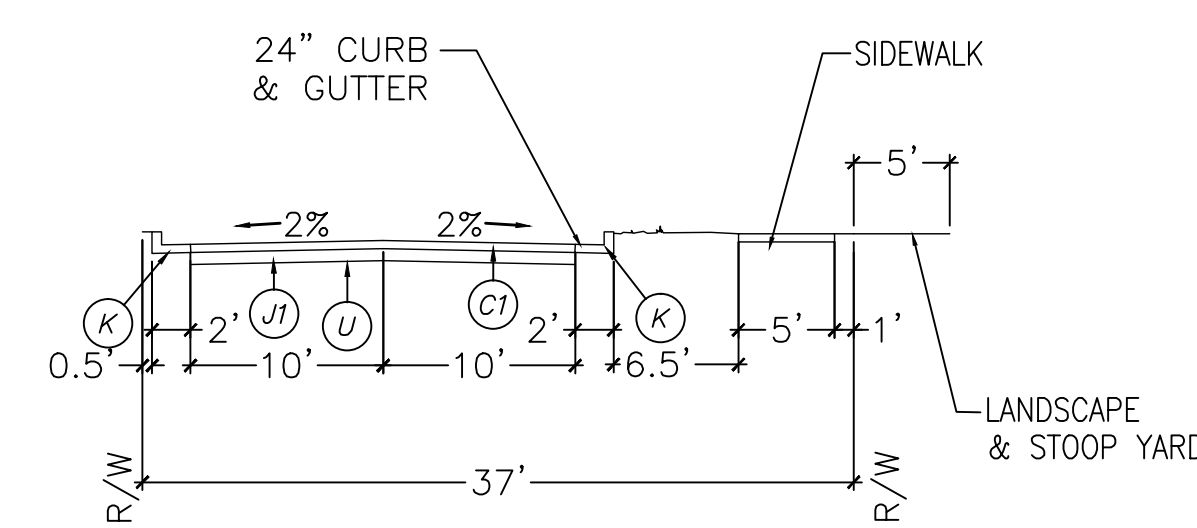
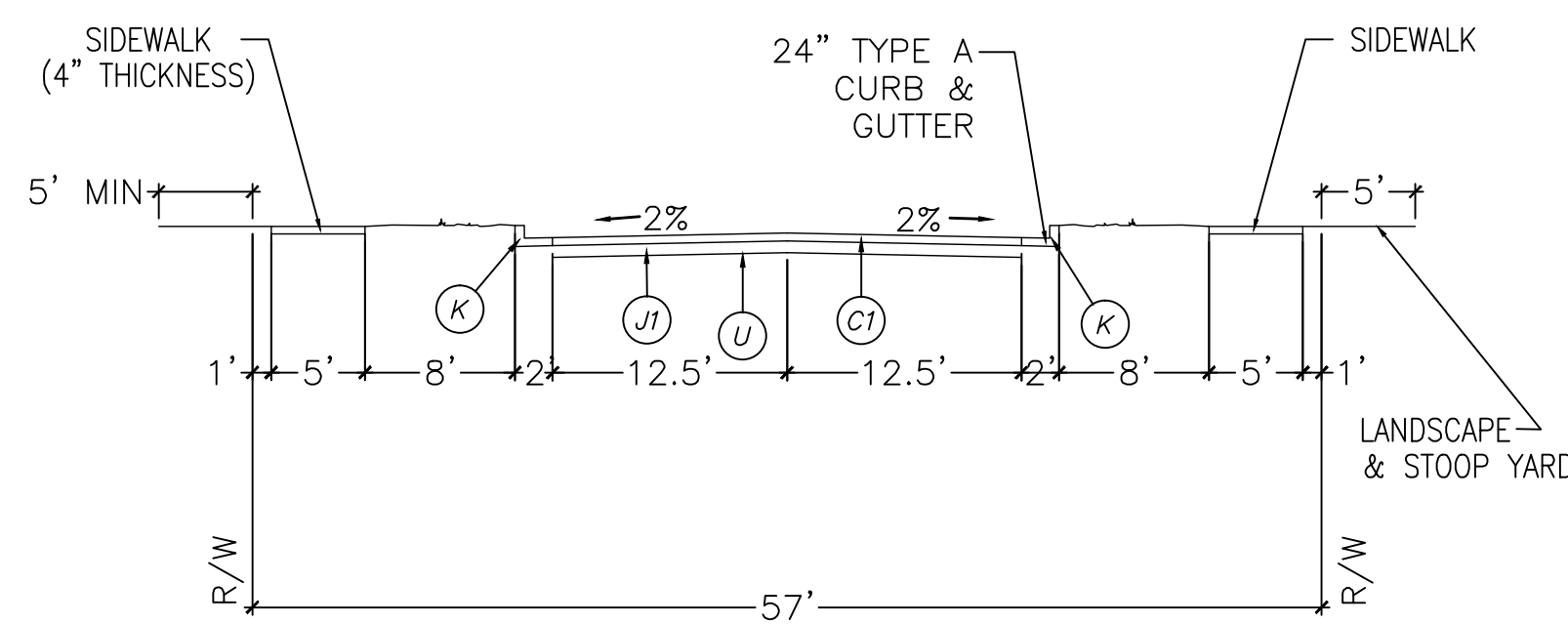
Name _____ Date _____
 Planning _____
 Traffic _____
 Fire _____



Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____



57' RIGHT-OF-WAY - COLLECTOR (PUBLIC)

37' RIGHT-OF-WAY (PUBLIC)

Right-of-Way Width	57 feet
Asphalt Width	25 feet
Design Speed	25 MPH
Traffic Lanes	2 lanes
Parking Lanes	One Side @ 8 feet, marked
Curb Radius	25 feet
Walkway Type	5 foot sidewalk
Curb Type	24" Vertical C&G
Landscape Type	Irregular spacing-50'oc max

Right-of-Way Width	37 feet
Asphalt Width	20 feet
Design Speed	25 MPH
Traffic Lanes	2 lanes
Parking Lanes	No Parking
Curb Radius	10 feet
Walkway Type	5 foot Sidewalk
Curb Type	24" Vertical C&G
Landscape Type	Irregular Tree Spacing

PAVEMENT SCHEDULE	
C1	3" ASPHALT CONCRETE SURFACE COARSE, TYPE S9.5B AT AN AVERAGE RATE OF 336 LBS. PER SQ. YD.
J1	8.0" COMPACTED ABC STONE BASE COURSE
K	24.0" VERTICAL CURB & GUTTER (TYPE A)
U	COMPACTED SUBGRADE

*SEE SHEET CS-502 (34) FOR ADDITIONAL DETAILS AND SECTIONS FOR CURBING, PAVEMENT, STONE, AND SUBGRADE.

REV. NO.	DESCRIPTIONS	DATE
E	CITY OF WILMINGTON TRC / OFPIA RESUBMITTAL	09/09/2016
D	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/04/2016
C	CITY OF WILMINGTON TRC / STORMWATER / TREE REMOVAL, NEW HANOVER COUNTY EROSION CONTROL, AND OFPIA SUBMITTAL	06/29/2016
B	CITY OF WILMINGTON TRC	06/01/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/06/2016

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

SEAL

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NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS - AGE QUALIFIED PHASE 2 & 3

TYPICAL CROSS SECTIONS

DATE: 06/01/16
 MCE PROJ. # 02735-0168
 DRAWN: EEM/KCBE
 DESIGNED: KCBE
 CHECKED: NJL
 PROJ. MGR.: KCBE

SCALE: HORIZONTAL: N/A, VERTICAL: N/A

MAC FILE NUMBER: CT-301
 DRAWING NUMBER: 33

STATUS: FINAL DESIGN
 ISSUED FOR PERMITTING

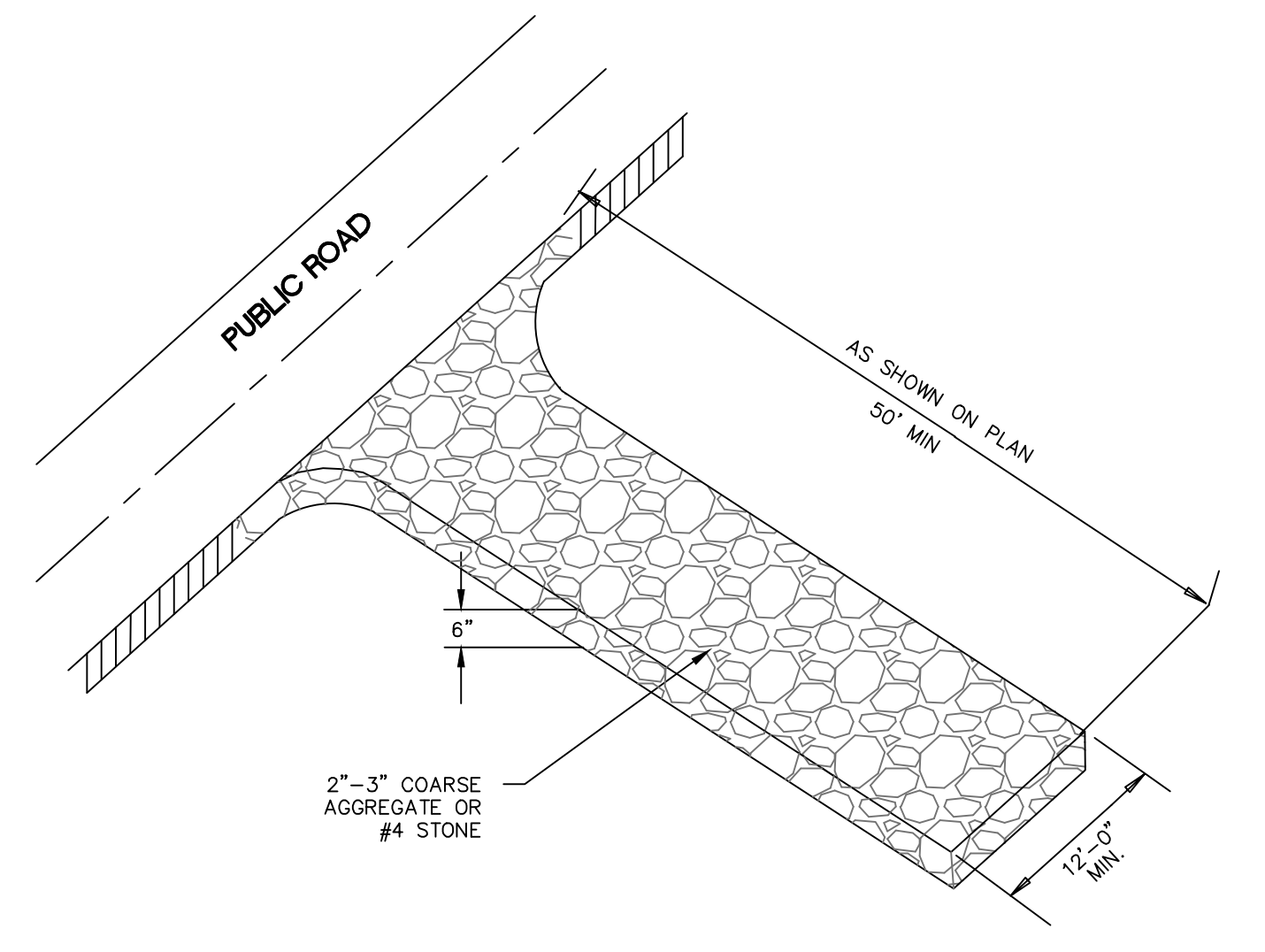
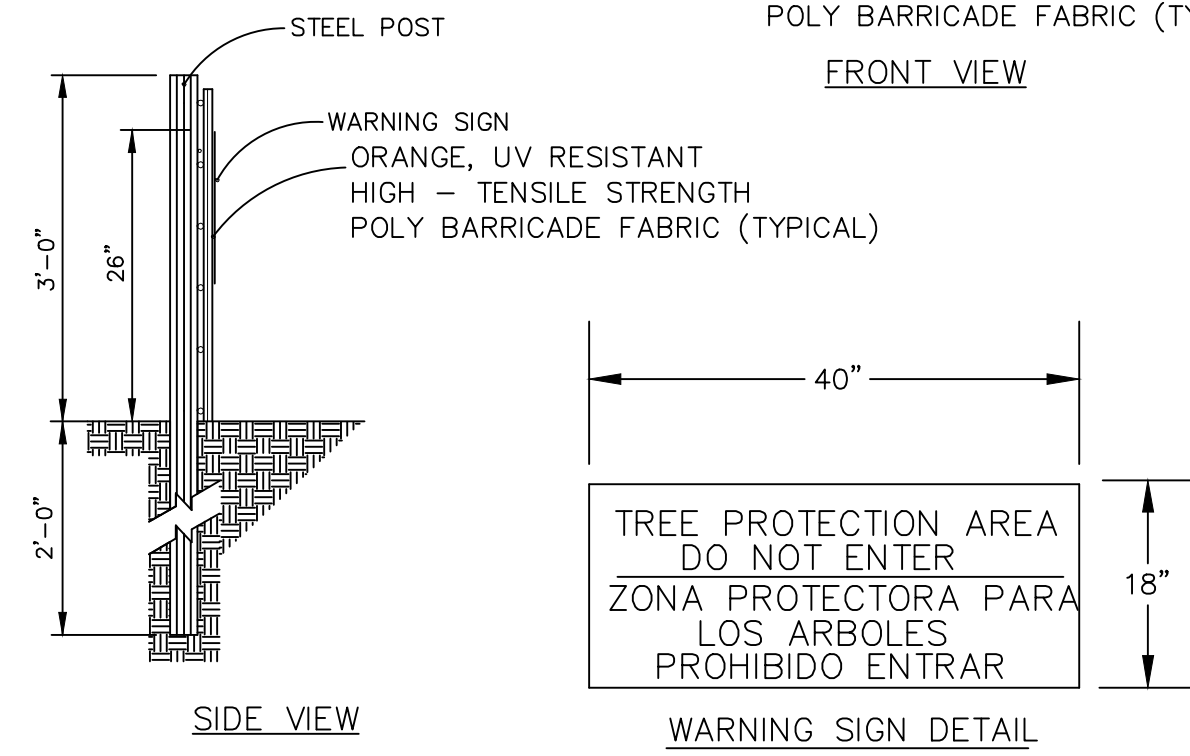
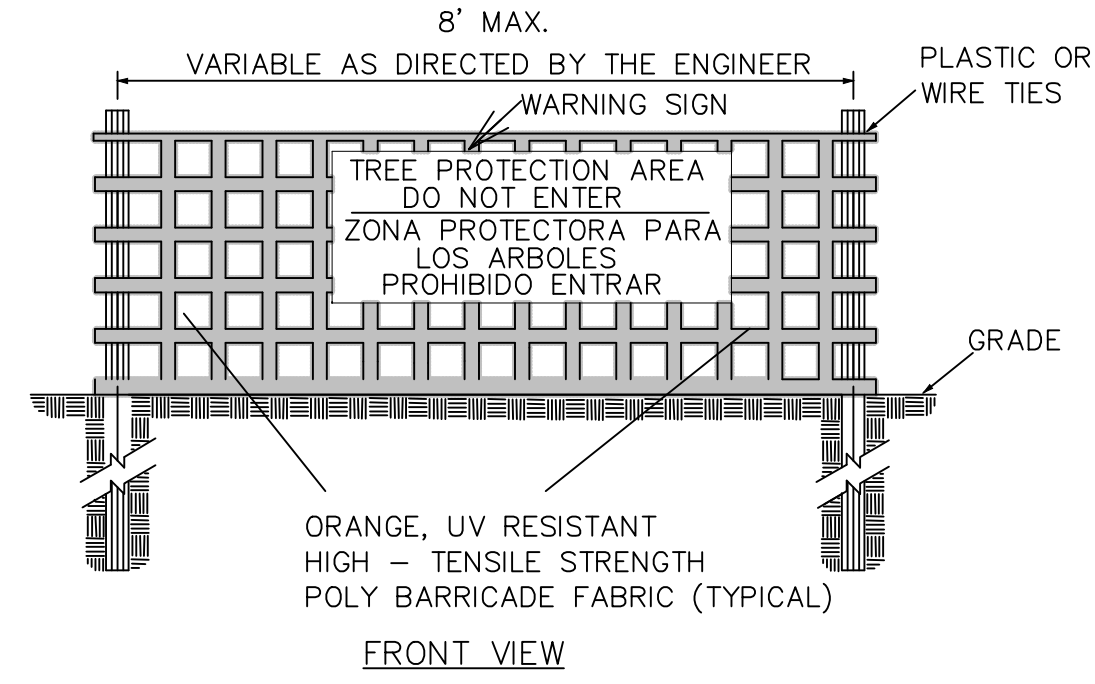
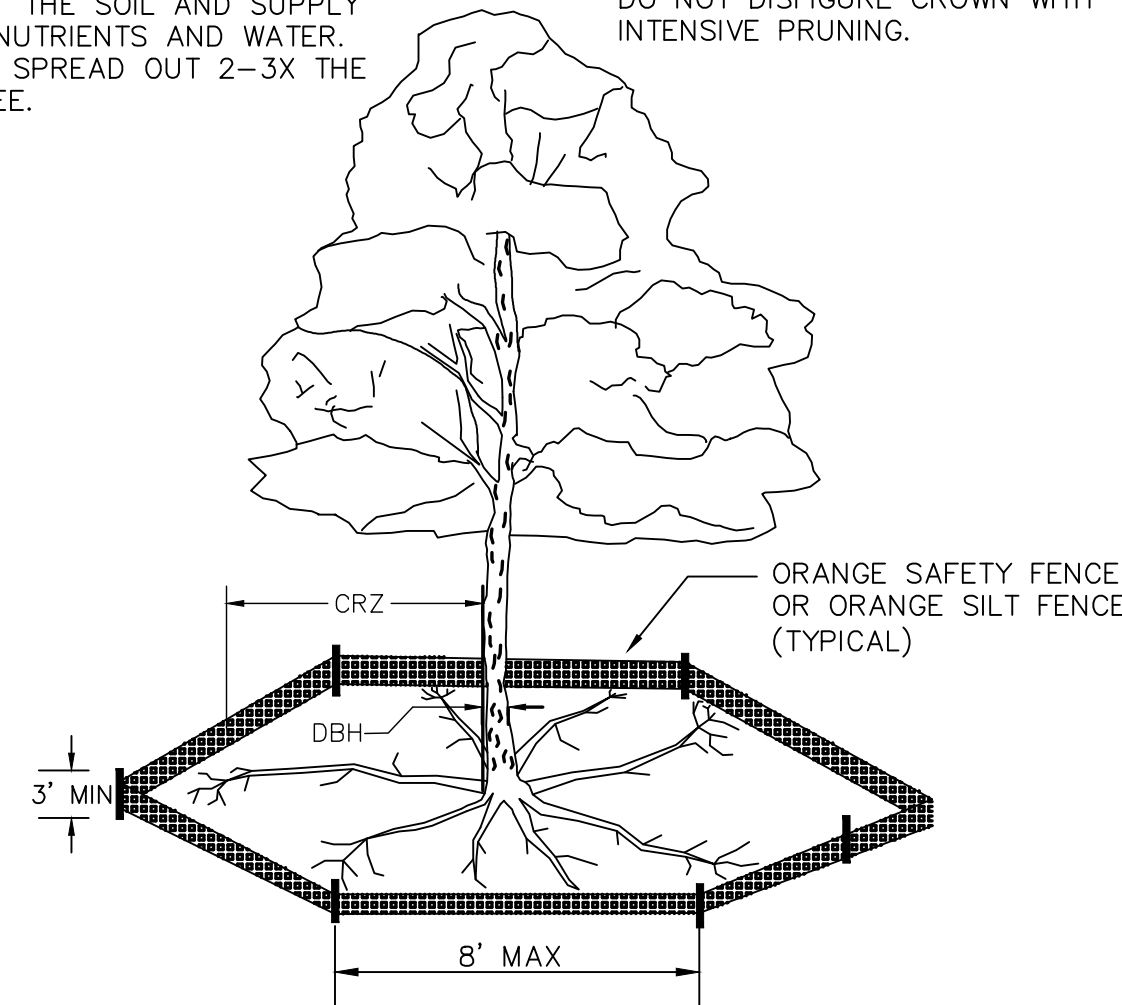
REVISION: E

SEEDBED PREPARATION:

1. CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3 INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.
2. RIP THE ENTRANCE AREA TO 6 INCHES DEPTH.
3. REMOVE ALL LOOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
4. APPLY AGRICULTURAL LIME, FERTILIZER, AND SUPERPHOSPHATE UNIFORMLY AND MIX WITH SOIL (SEE BELOW*).
5. CONTINUE TILLAGE UNTIL A WELL - PULVERIZED, FIRM, REASONABLY UNIFORM SEEDBED IS PREPARED 4 TO 6 INCHES DEEP.
6. SEED ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK AFTER SEEDING.
7. MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
8. INSPECT ALL SEEDED 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.
9. CONSULT CONSERVATION INSPECTOR ON MAINTENANCE TREATMENT AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.
10. APPLY:
 - AGRICULTURAL LIMESTONE - 2 TONS/ACRE
 - FERTILIZER - 1000 LBS/ACRE (10-10-10)
 - SUPERPHOSPHATE - 500 LBS/ACRE (20%)
 - MULCH - 2 TONS/ACRE (SMALL GRAIN STRAW)
 - ANCHOR - ASPHALT EMULSION AT 450 GAL/ACRE

NOTE: THE CRITICAL ROOT ZONE (CRZ) OF A TREE IS WHERE THE MAJORITY OF A TREE'S ROOTS LAY. 85% OF MOST TREE ROOTS ARE FOUND IN THE TOP 24" OF THE SOIL AND SUPPLY THE MAJORITY OF NUTRIENTS AND WATER. GENERALLY, ROOTS SPREAD OUT 2-3X THE HEIGHT OF THE TREE.

NOTE: CROWN OF THE TREE IS NEEDED FOR LEAF GROWTH TO PRODUCE OXYGEN, FILTER THE AIR, REDUCE WIND AND SOFTEN NOISE. DO NOT DISFIGURE CROWN WITH INTENSIVE PRUNING.



TEMPORARY SEEDING				
GRASS TYPE	AMOUNT/1000 S.F.	TIME OF SEEDING	INITIAL	
RYE GRAIN	1-2 LBS.	APRIL - JUNE	25 LBS.	10-10-10
BROWNTOP MILLET	1-2 LBS	JUNE - AUGUST	25 LBS	10-10-10

PERMANENT SEEDING				
GRASS TYPE	AMOUNT/1000 S.F.	TIME OF SEEDING	INITIAL	
BERMUDA COMMON	1-2 LBS.	APRIL - JUNE	25 LBS.	10-10-10
FESCUE, TALL (KENTUCKY 31)	5-7 LBS	JUNE - AUGUST FEB. - OCT.	25 LBS	10-10-10
SERICEA LESPEDEZA (SLOPES)	1-2 LBS	MARCH - APRIL	25 LBS	10-10-10

NOTES:

1. PROTECT CRITICAL ROOT ZONE (CRZ) OF TREES PRIOR TO CONSTRUCTION. CLEARLY MARK THE TREES AND ERECT A PROTECTIVE BARRIER AT THE CRZ. BARRIER SHALL BE MAINTAINED UNTIL CONSTRUCTION IS COMPLETE.
2. CRZ RADIUS IS 1 FT PER INCH OF TREE DIAMETER AT BREAST HEIGHT (DBH).
3. IF CONSTRUCTION OCCURS WITHIN THE CRZ, AT LEAST 12" OF MULCH AND/OR LOGGING MATTS SHALL BE PLACED WHERE MACHINERY MANEUVERS TO REDUCE SOIL COMPACTION IN THIS ZONE.
4. WHERE SIDEWALKS AND PATHWAYS PASS WITHIN CRZ, EXTRA CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE ROOTS. ALTERNATE CONSTRUCTION METHODS, SUCH AS A REINFORCED SIDEWALK, SHALL BE IMPLEMENTED AS NECESSARY.
5. FOR ALL TREES, CUTTING OF LARGE STRUCTURAL ROOTS LOCATED NEAR THE BASE OF THE TRUNK IS PROHIBITED. DO NOT COMPACT SOIL BENEATH TREES. NO VEHICLE SHALL BE ALLOWED TO PARK UNDER TREES. NO MATERIALS OR EQUIPMENT SHALL BE STORED BENEATH TREES. DAMAGING THE BARK WITH LAWNMOWERS, CONSTRUCTION EQUIPMENT, OR ANYTHING ELSE IS PROHIBITED. CONTRACTOR SHALL REPAIR DAMAGE TO TREES.
6. FAILING TO INSTALL OR MAINTAIN PROTECTION MEASURES SHALL RESULT IN A STOP WORK ORDER AND FINE OF \$500/DAY. DISTURBANCE OTHER THAN THAT ALLOWED ON THE APPROVED PLAN WILL REQUIRE OWNER TO POST A LETTER OF CREDIT FOR 3 YRS FOR TREE MITIGATION.

NOTES:

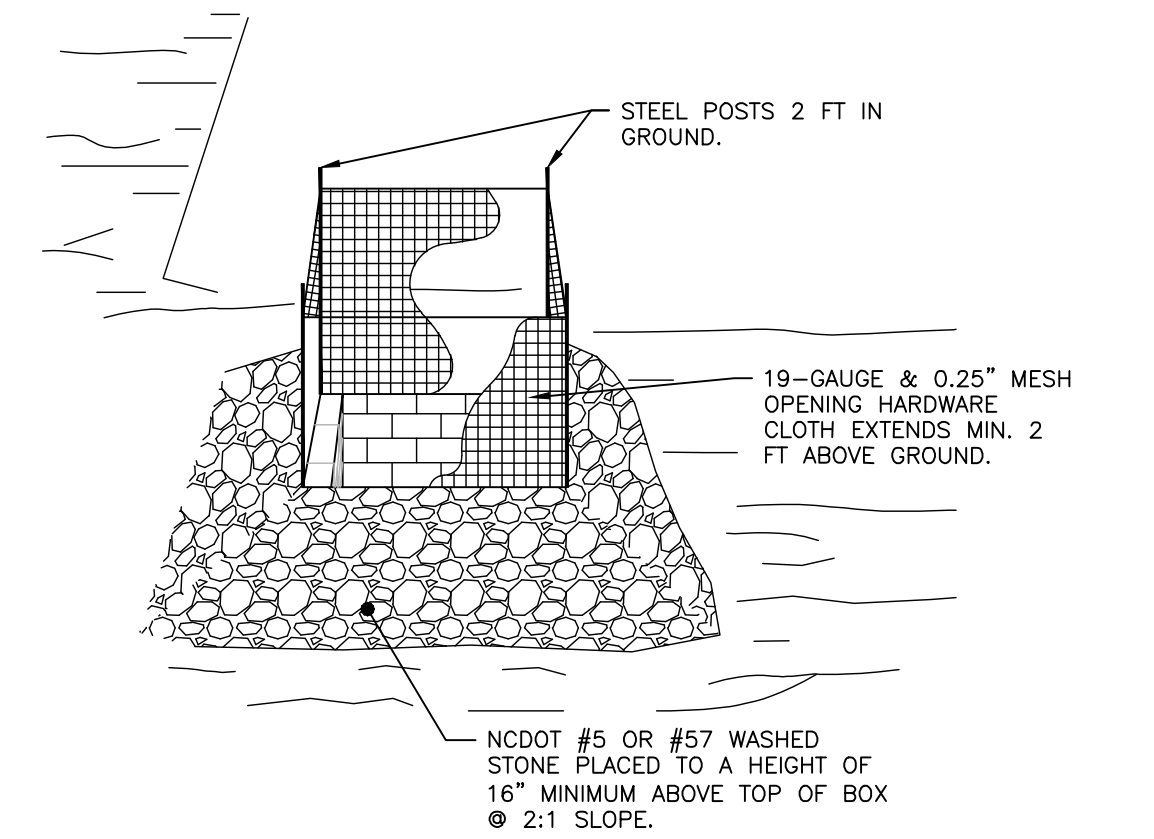
1. THE TREE PROTECTION FENCING SHALL NOT BE VIOLATED FOR THE ENTIRE DURATION OF THE PROJECT WITHOUT APPROVAL FROM URBAN FORESTRY STAFF.
2. WARNING SIGNS TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL. LETTERS TO BE 3" HIGH, MINIMUM, CLEARLY LEGIBLE AND SPACED AS DETAILED.
3. SIGNS SHALL BE PLACED AT 50' MAXIMUM INTERVALS. PLACE A SIGN AT EACH END OF LINEAR TREE PROTECTION AND 50' ON CENTER THEREAFTER. FOR TREE PROTECTION AREAS LESS THAN 100' IN PERIMETER, PROVIDE NO LESS THAN TWO SIGNS PER PROTECTION AREA.
4. ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC. MAINTAIN TREE PROTECTION FENCE AND SIGNS THROUGHOUT DURATION OF PROJECT.
5. TREE PROTECTION FENCING AND SIGNAGE SHALL BE REMOVED AFTER CONSTRUCTION.
6. ADDITIONAL SIGNS MAY BE REQUIRED BY CITY OF WILMINGTON, BASED ON ACTUAL FIELD CONDITIONS.

TREE PROTECTION NOTES:

1. NO LAND DISTURBANCE INCLUDING TREE REMOVAL IS TO OCCUR OUTSIDE THE LIMITS OF DISTURBANCE SHOWN ON THE PLANS. [18-457(b)]
2. PROTECTIVE FENCING IS TO BE PROPERLY MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT. [18-458]
3. LAND CLEARING AND CONSTRUCTION CONTRACTORS SHALL RECEIVE ADEQUATE INSTRUCTION ON TREE PROTECTION REQUIREMENTS AND METHODS. [18-457(d)]
4. ANY TREES AND/OR AREAS DESIGNATED TO BE PROTECTED MUST PROPERLY BARRICADED WITH FENCING AND PROTECTED THROUGHOUT CONSTRUCTION TO INSURE THAT NO CLEARING AND GRADING OR STAGING OF MATERIALS WILL OCCUR IN THOSE AREAS. [18-458]
5. NO EQUIPMENT IS ALLOWED ON THE SITE UNTIL ALL TREE PROTECTION FENCING AND SILT FENCING HAS BEEN INSTALLED AND APPROVED. [18-458]
6. REGULATED AND SIGNIFICANT TREES IN THE STREET YARD [18-456(c)] AND ANY TREES IN ANY REQUIRED BUFFERS [18-456(b)] ARE REQUIRED TO BE RETAINED.

METHOD OF TREE PROTECTION DURING CONSTRUCTION
SD 15-09

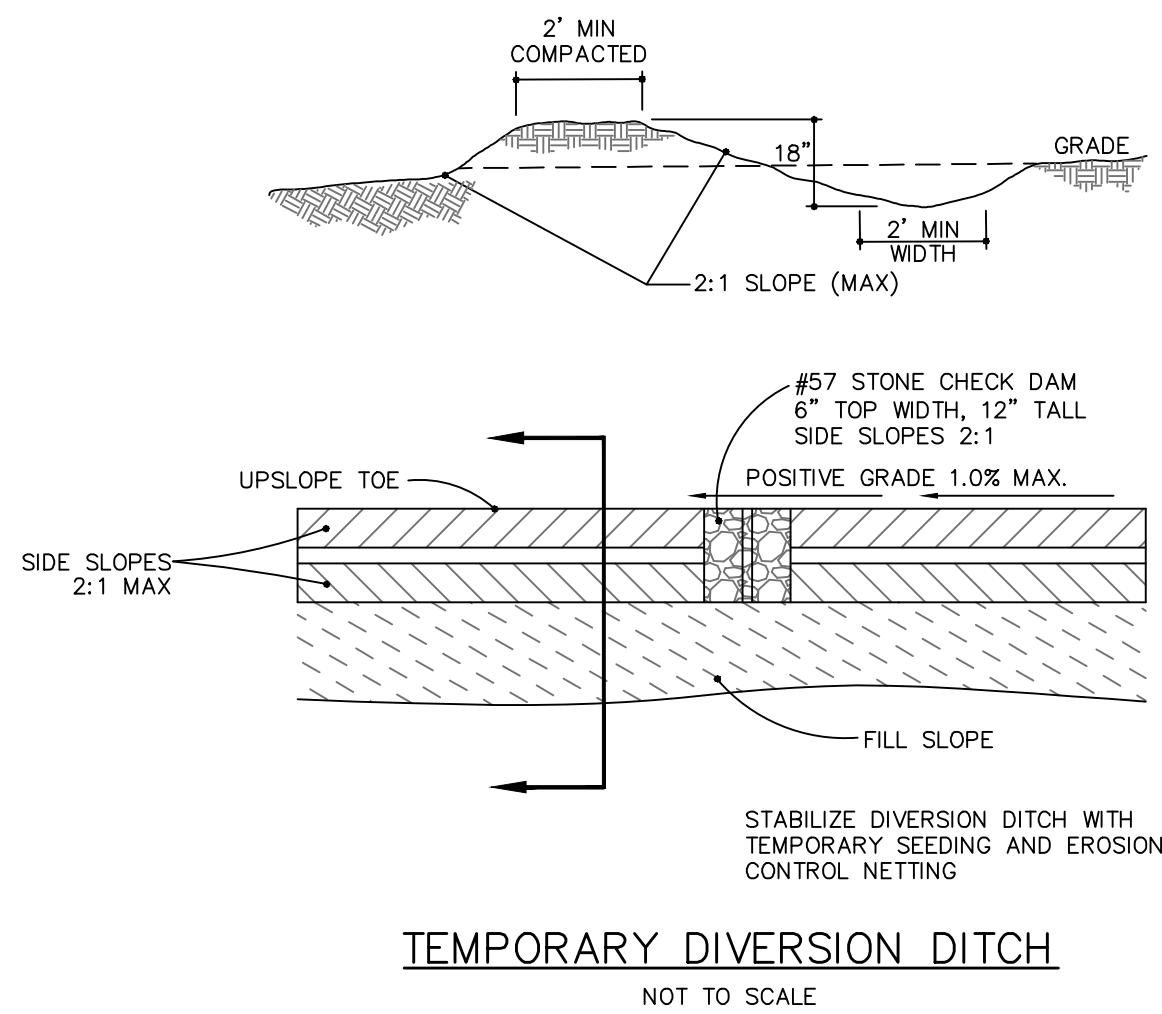
CONSTRUCTION ENTRANCE/EXIT
SD 13-03
NOT TO SCALE



NOTES:

1. DRIVE 5-FOOT STEEL POSTS (1.25 lb/ft steel) 2 FEET INTO THE GROUND SURROUNDING THE INLET. SPACE POSTS EVENLY AROUND THE PERIMETER OF THE INLET, A MAXIMUM OF 4 FEET APART.
2. SURROUND THE POSTS WITH AT LEAST 19-GAUGE HARDWARE CLOTH WITH A 1/4-INCH MESH OPENING. SECURE THE WIRE MESH TO THE STEEL POSTS AT THE TOP, MIDDLE, AND BOTTOM FOR A MIN. 2 FEET ABOVE THE GROUND. PLACING A 2-FOOT FLAP OF THE WIRE MESH UNDER THE GRAVEL FOR ANCHORING AND REMOVAL IS RECOMMENDED.
3. UNIFORMLY GRADE A SHALLOW DEPRESSION APPROACHING THE INLET. THE TOP ELEVATION OF THE STRUCTURE MUST BE AT LEAST 12-INCHES LOWER THAN THE SURROUNDING GROUND ELEVATION DOWNSLOPE FROM THE INLET TO ENSURE THAT STORM FLOWS GET INTO THE INTENDED INLET; UNLESS OTHER SEDIMENT-CONTROL DEVICES ARE INSTALLED TO PREVENT OFF-SITE SEDIMENT-RUNOFF.

TEMP. STORM DRAIN INLET PROTECTION
NOT TO SCALE



For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch

Approved Construction Plan

Name: _____ Date: _____

Planning _____

Traffic _____

Fire _____

CITY OF WILMINGTON
NORTH CAROLINA

Public Services Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

TDD NUMBER	DA (AC)	Q 10 (CFS)	LENGTH (FT)	HIGH (FT)	LOW (FT)	ELEVATION DIFF. (FT)	SLOPE (%)	INITIAL LINING	MANNING n	VELOCITY (FPS)	COMMENT	BMP #
TDD 1	0.60	1.52	223	21.50	14.50	7.00	3.14	BARE EARTH	0.020	4.13	LINING REQ	SB-1

TEMPORARY ROCK CHECK DAMS/WATTLES											
TDD NUMBER	SECONDARY LINING	MANNING n	VELOCITY (FPS)	COMMENT	DEPTH in	MIN. DEPTH in	CHECK DAM SPACING (FT)	NUMBER REQUIRED	NUMBER PROVIDED	BMP #	
TDD 1	EXCELSIOR	0.035	2.76	EXCELSIOR OK	4.0	18	64	4	4	SB-1	

Notes:

1. Q10 taken from Rational Method.
2. Manning n value for bare earth = 0.020 per NC ESC Manual Table 8.05f
3. Manning n value for excelsior (curled wood) matting = 0.035 per NC ESC Manual Table 8.05f
4. Tractive Force (Shear Stress) w as also evaluated and found to be sufficient for the proposed lining.

REVNO.	DESCRIPTIONS	DATE
E	CITY OF WILMINGTON TRC / CPWA RESUBMITTAL	09/09/2016
D	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/04/2016
C	CITY OF WILMINGTON TRC / STORMWATER / TREE REMOVAL, NEW HANOVER COUNTY EROSION CONTROL, AND CPWA SUBMITTAL	06/29/2016
B	CITY OF WILMINGTON TRC	06/01/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/28/2016

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

SEAL

MCKIM & CREED

243 North Front Street
Wilmington, North Carolina 28401
Phone: (910)343-1048, Fax: (910)251-8282
License: F-1222
www.mckimcreed.com

RIVERLIGHTS

NORTH AMERICA SEXISUI HOUSE, LLC

RIVERLIGHTS - AGE QUALIFIED PHASE 2 & 3

EROSION AND SEDIMENT CONTROL DETAILS

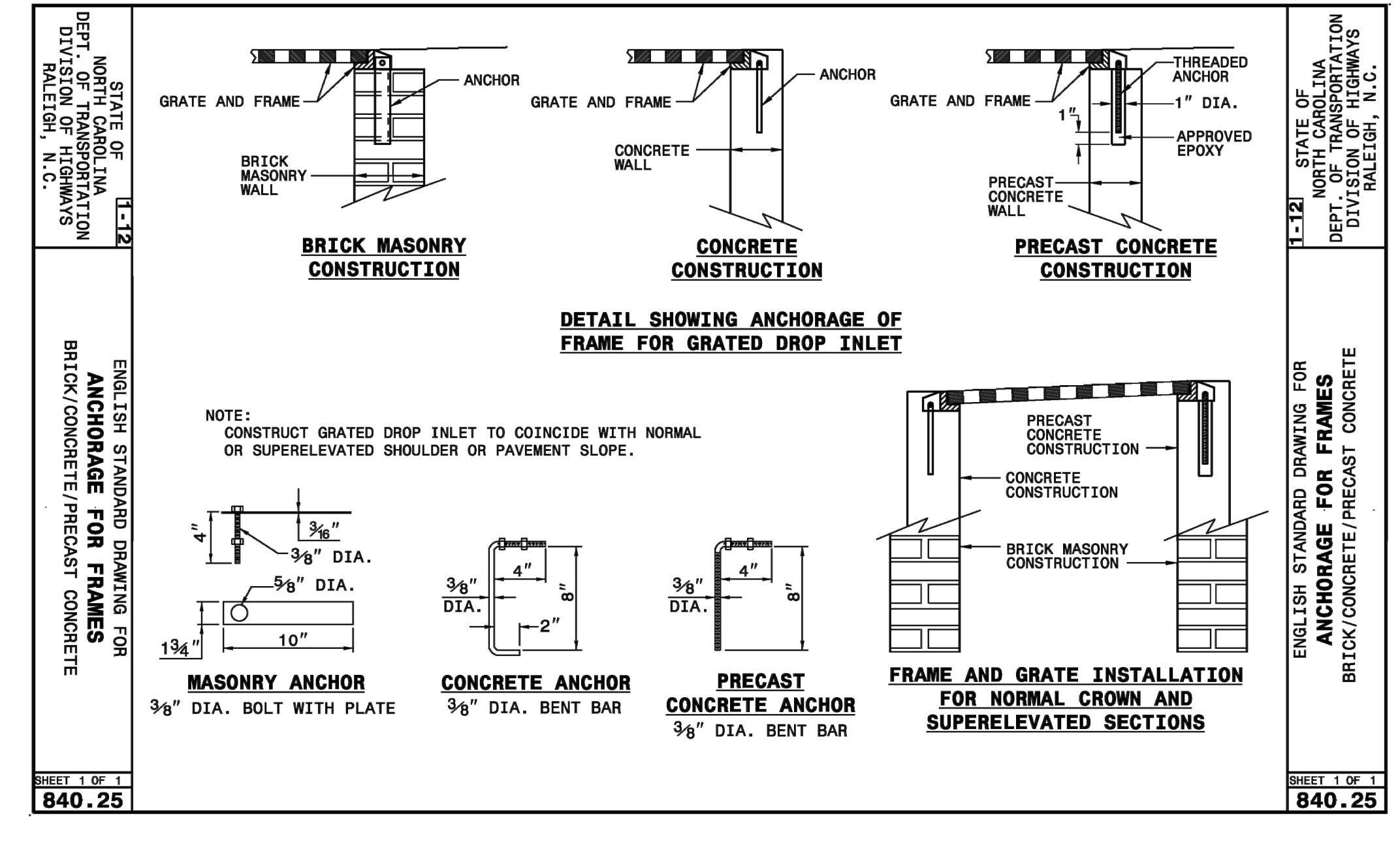
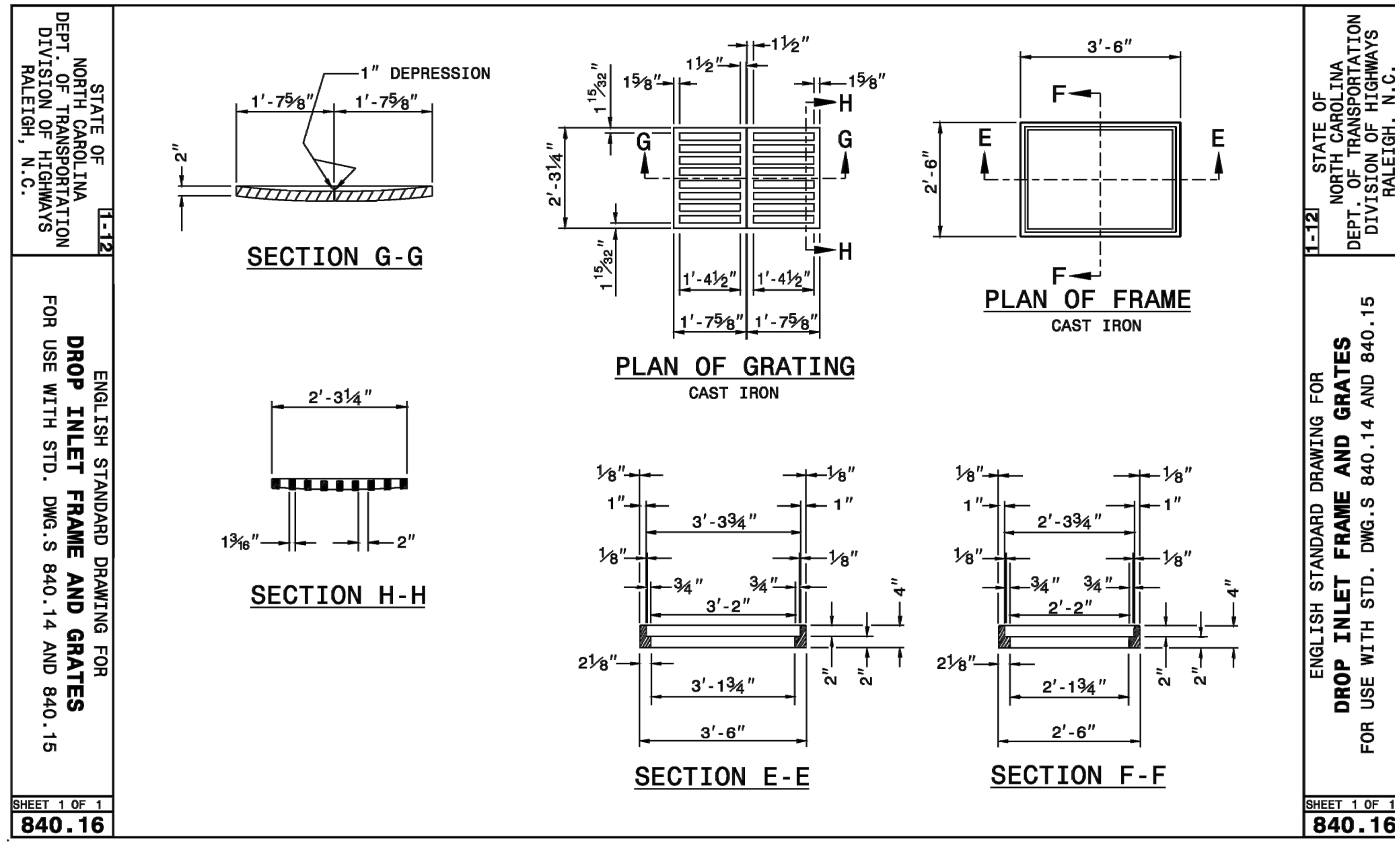
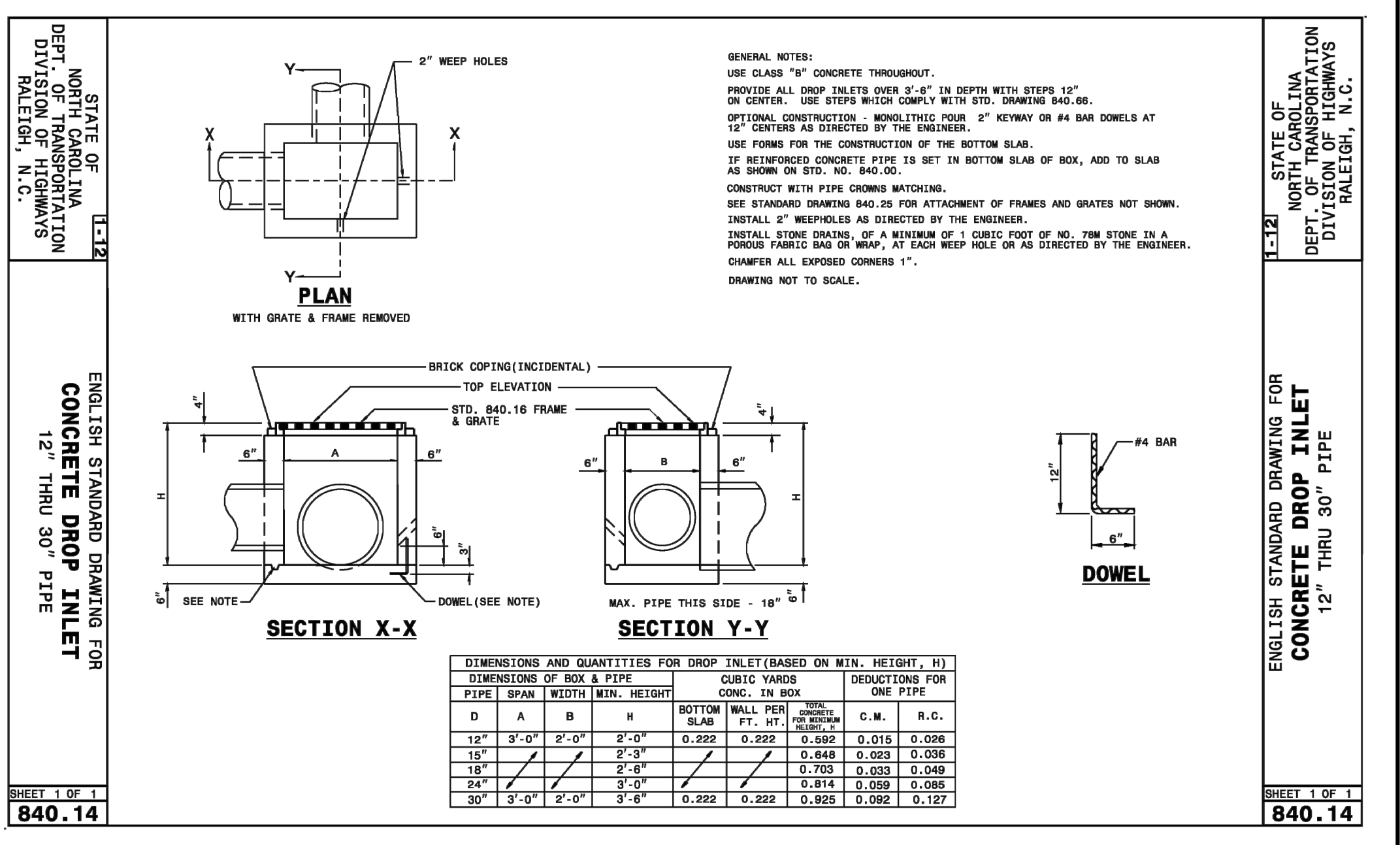
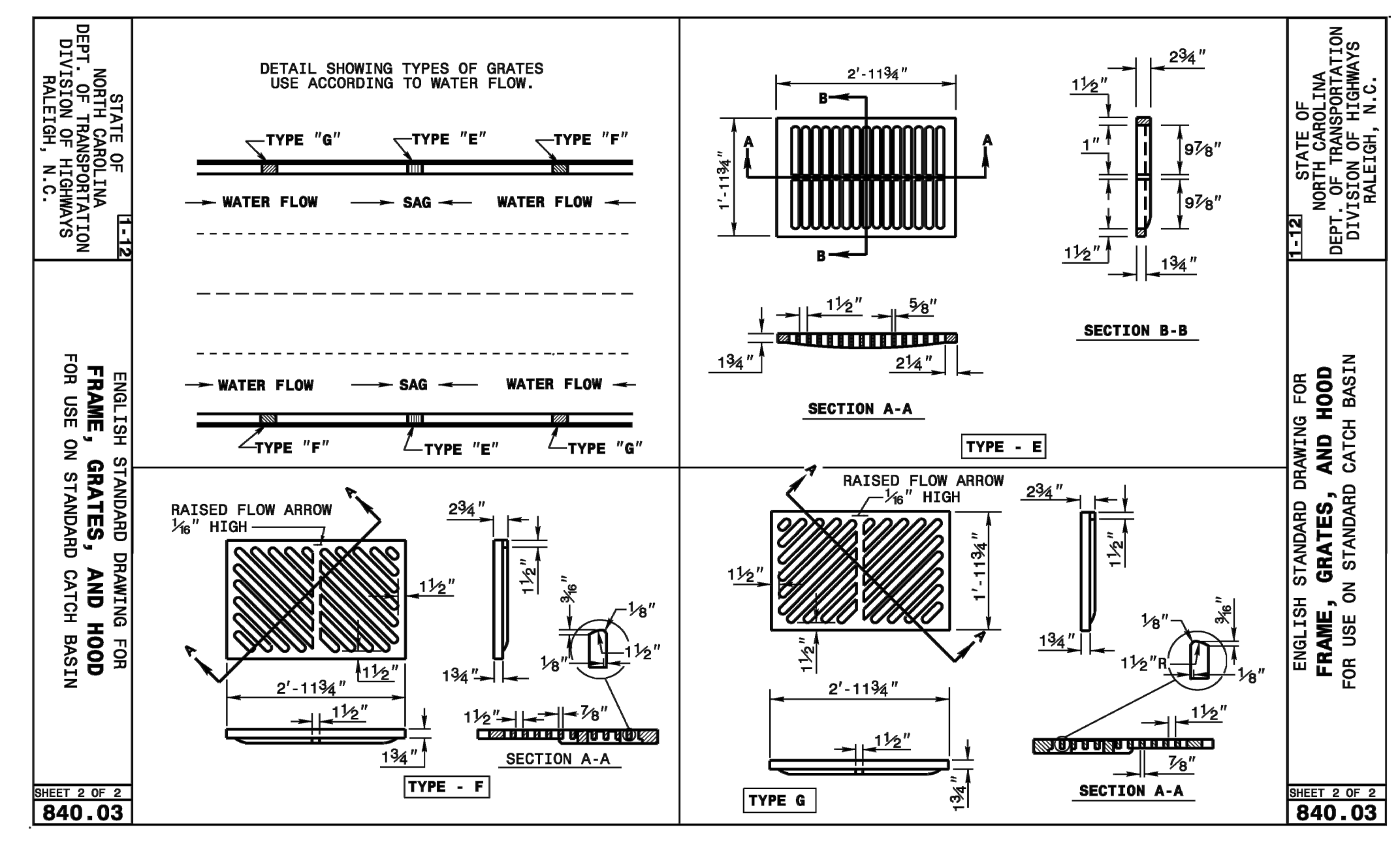
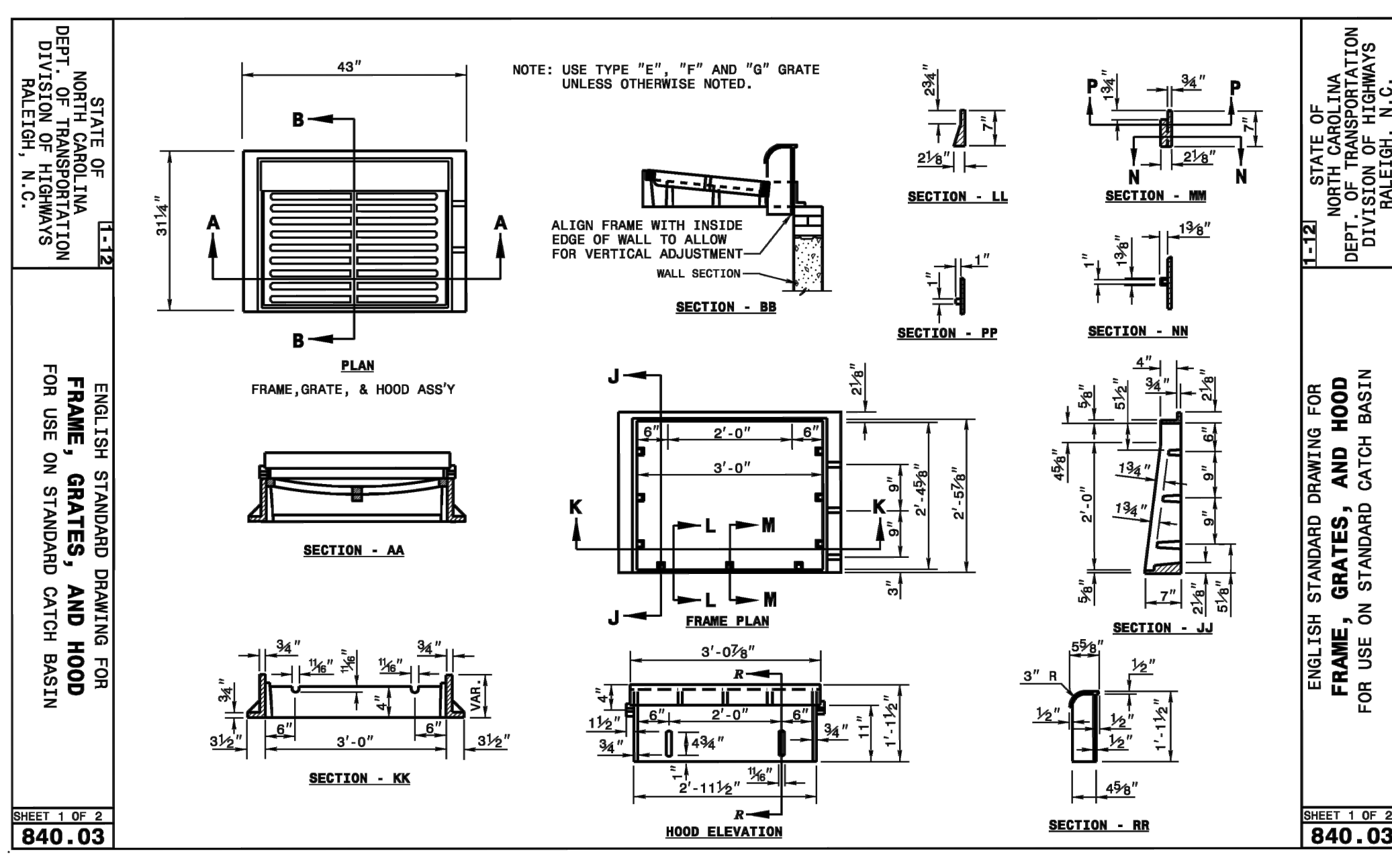
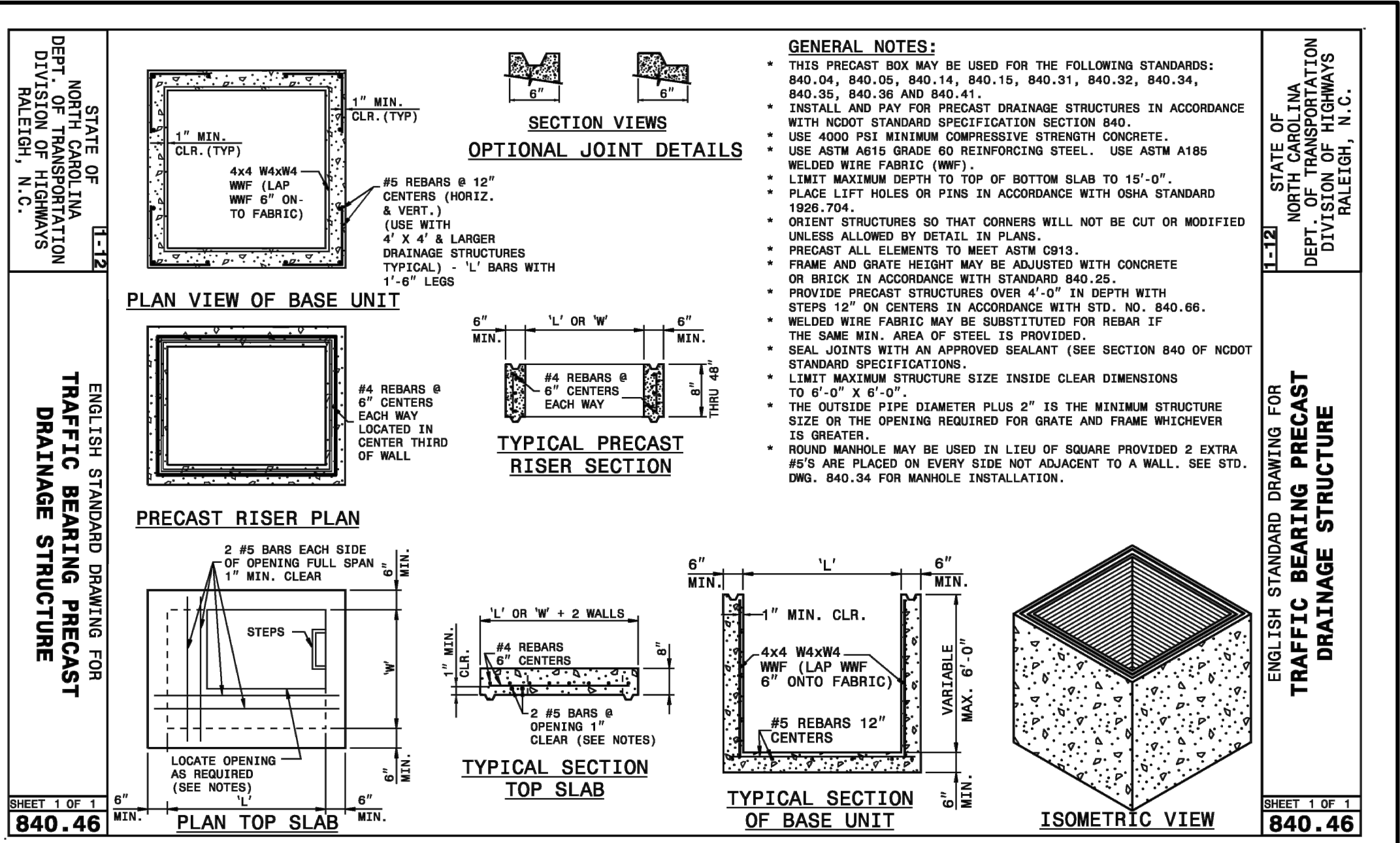
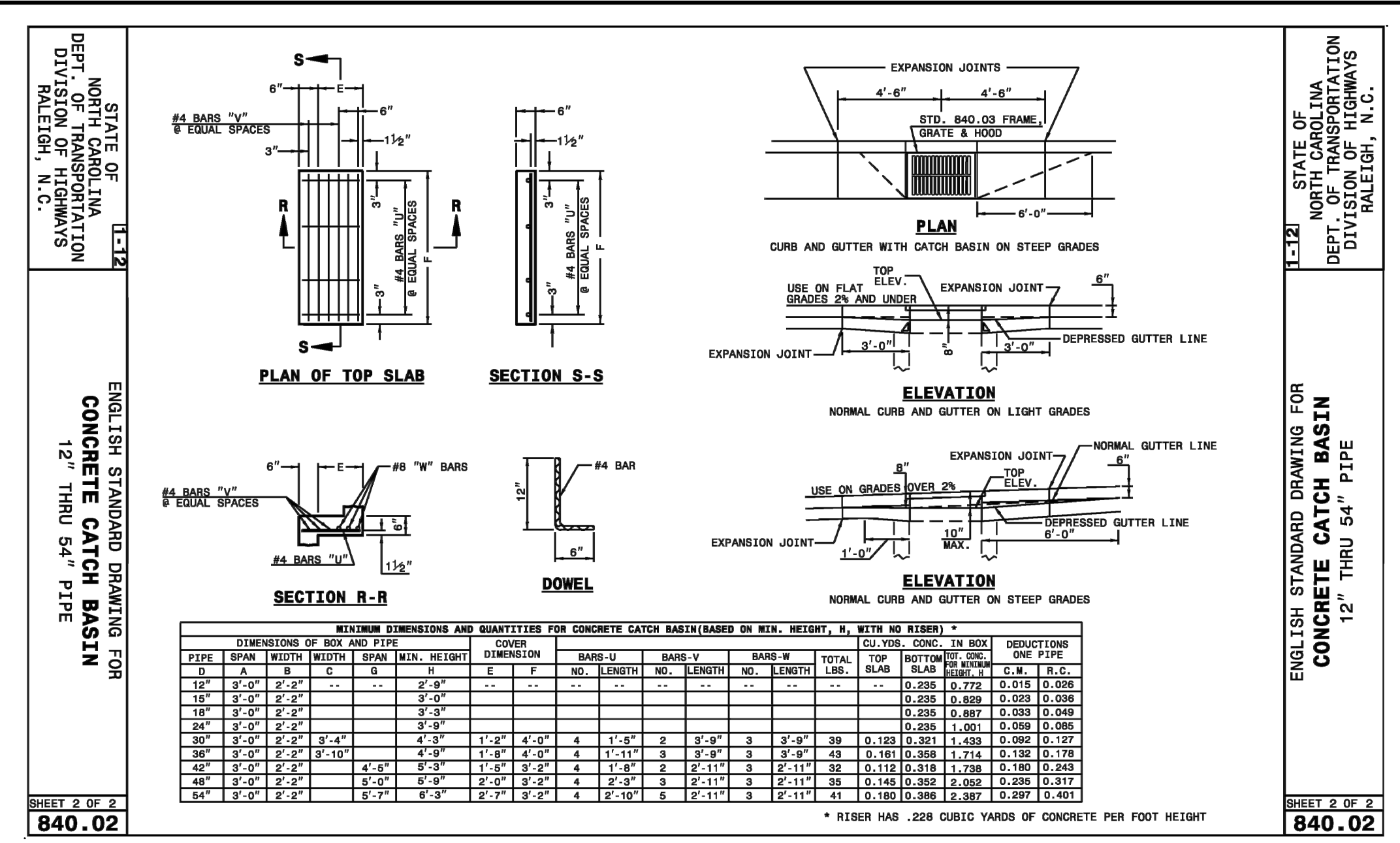
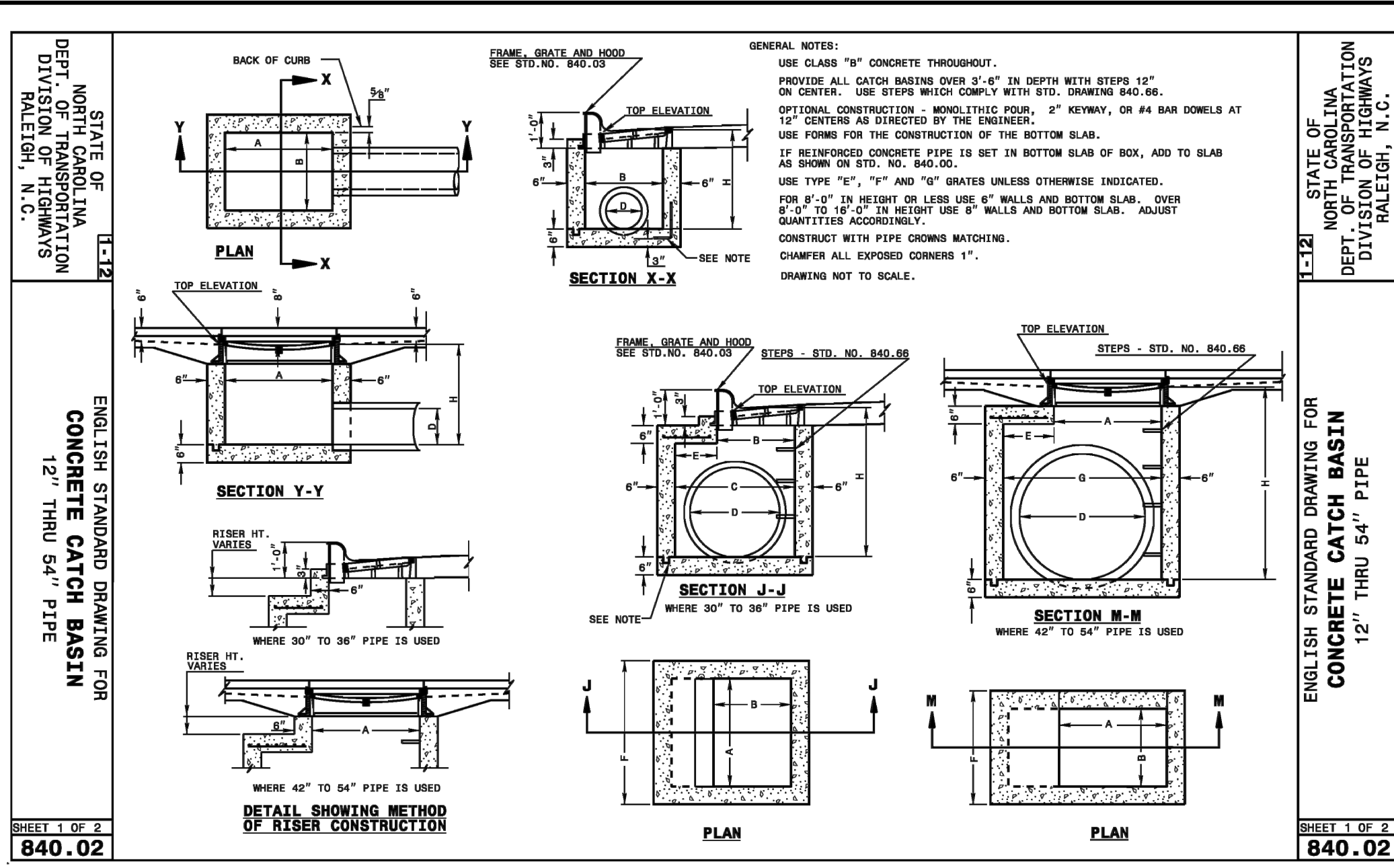
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DESIGNED KCBE
CHECKED NJL
PROJ. MGR. KCBE

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VERTICAL: N/A

MAC FILE NUMBER: CE-502
DRAWING NUMBER: 35

STATUS: FINAL DESIGN
ISSUED FOR PERMITTING

REVISION: E



For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch

Approved Construction Plan

Name: _____ Date: _____

Planning: _____

Traffic: _____

Fire: _____

CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

REVNO.	DESCRIPTIONS	DATE
E	CITY OF WILMINGTON TRC / CPFA RESUBMITTAL	09/09/2016
D	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/04/2016
C	CITY OF WILMINGTON TRC / STORMWATER / TREE REMOVAL, NEW HANOVER COUNTY EROSION CONTROL, AND CPFA SUBMITTAL	06/29/2016
B	CITY OF WILMINGTON TRC	06/01/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/08/2016

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

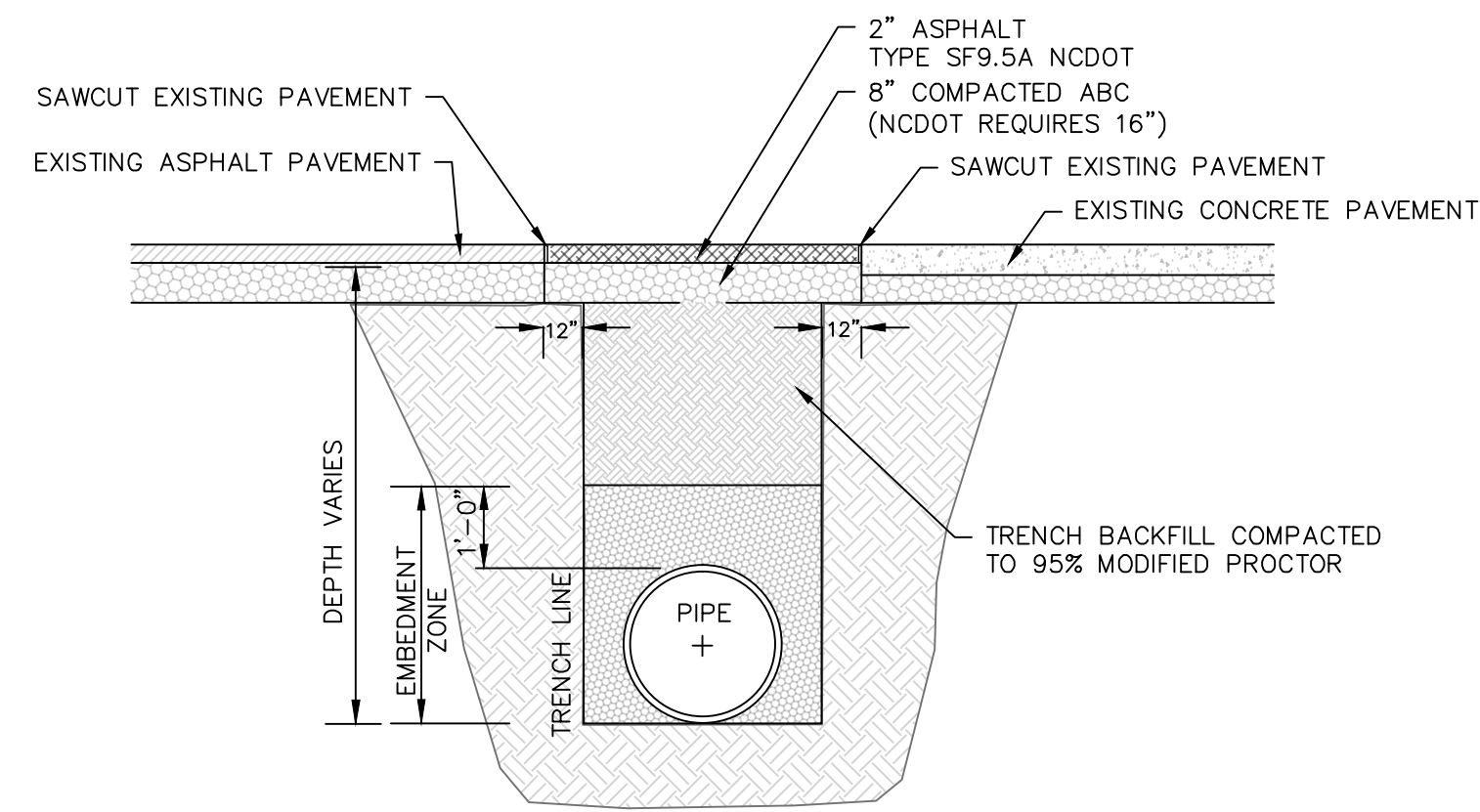
MCKIM & CREED
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RIVERLIGHTS
 NORTH AMERICA SEXUSI HOUSE, LLC

RIVERLIGHTS - AGE QUALIFIED PHASE 2 & 3

STORM DRAINAGE DETAILS

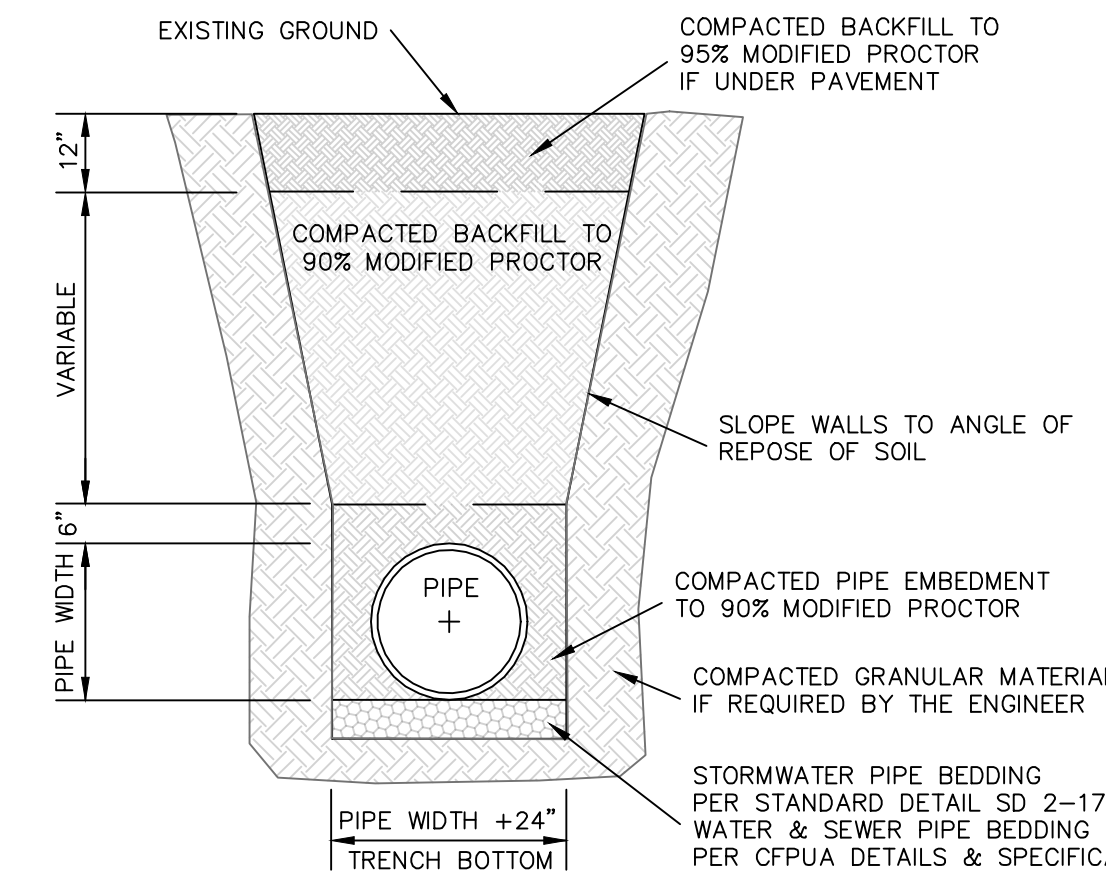
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CHECKED	NJL		
PROJ. MGR.	KCBE		
STATUS: FINAL DESIGN		ISSUED FOR PERMITTING	



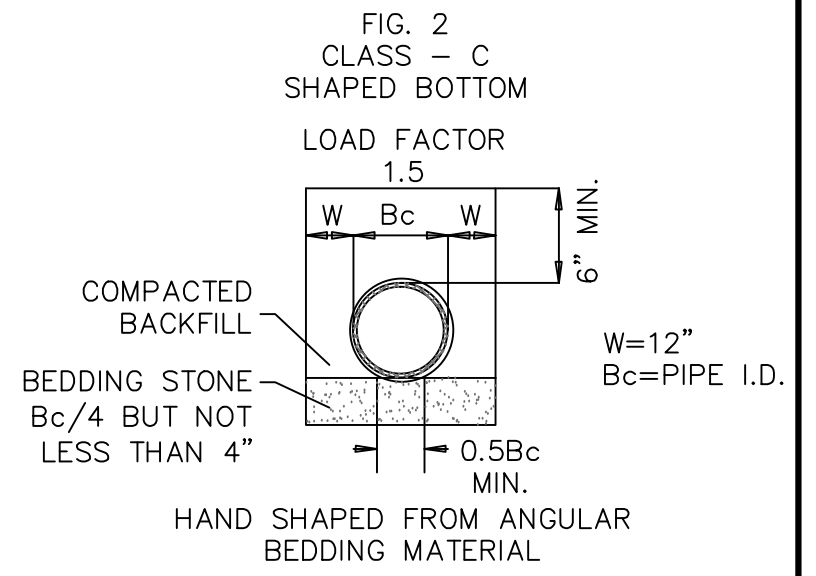
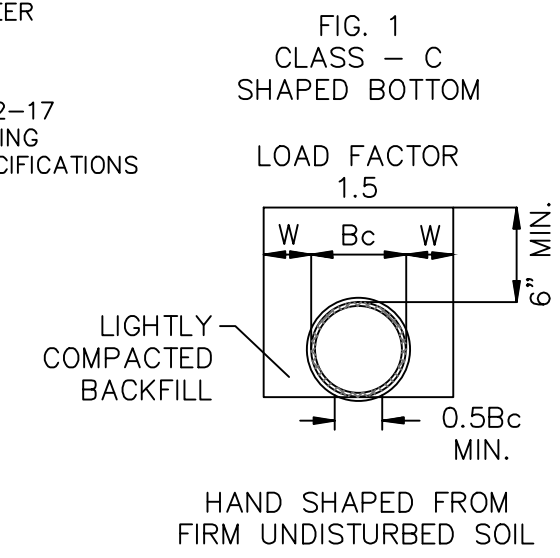
NOTES:
 * BACKFILL TO BE INSTALLED IN 6" LIFTS (MAXIMUM) AND COMPACTED TO A MINIMUM DENSITY OF 95% AS DETERMINED BY THE MODIFIED A.A.S.H.T.O. STANDARD METHOD T-99
 * CUT - BACK TO BE PREPARED AFTER TRENCH BACKFILLING AND COMPACTION

STANDARD SHOWING METHOD MAKING PAVEMENT REPAIRS WHERE PIPE IS INSTALLED

PAVEMENT REPAIR DETAIL
SD 1-16
NOT TO SCALE



STANDARD PIPE TRENCH DETAIL
SD 1-07
NOT TO SCALE



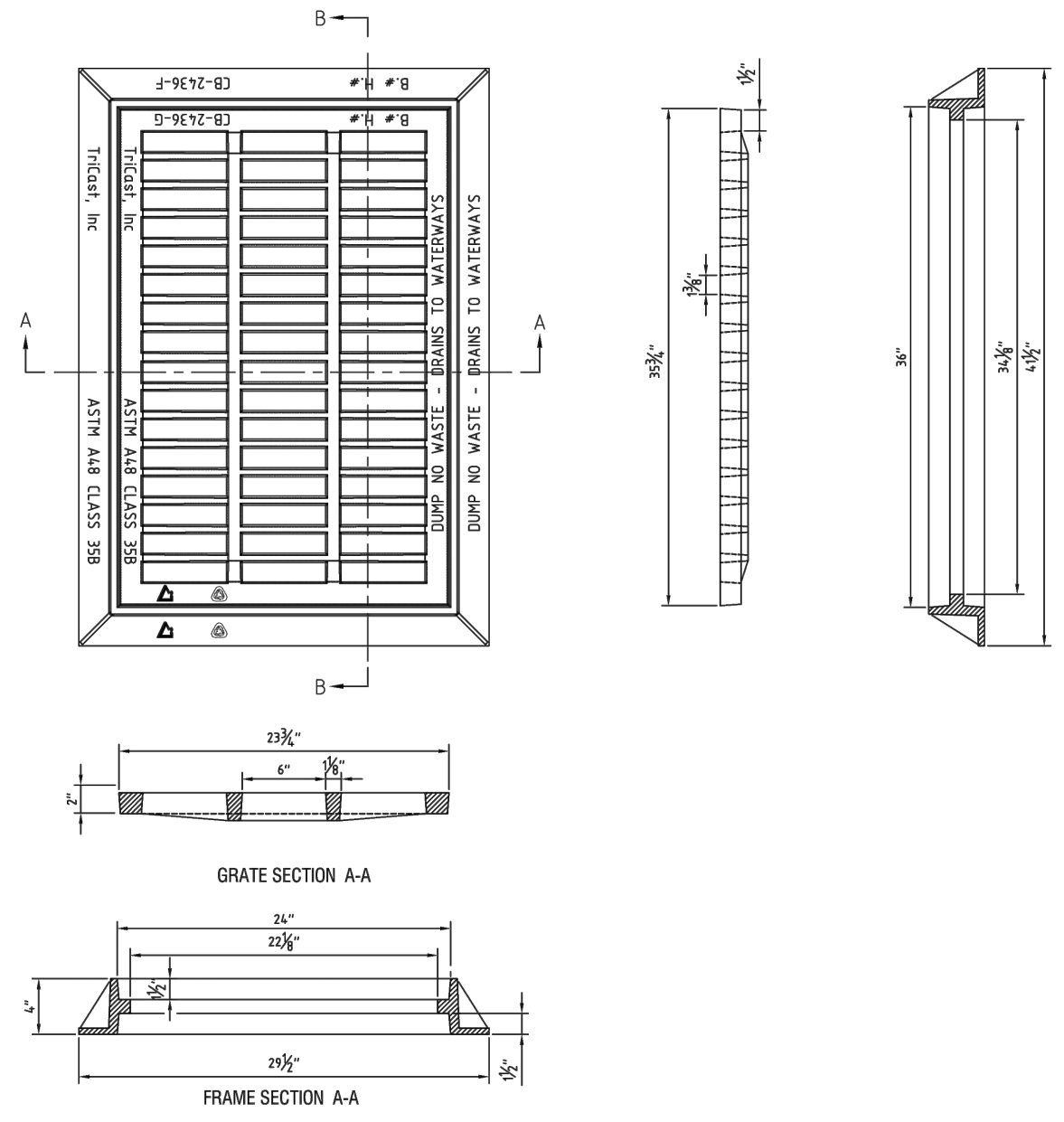
GUIDELINES FOR BEDDING DETAILS.
STORM SEWER CLASS C

SD 2-17
NOT TO SCALE

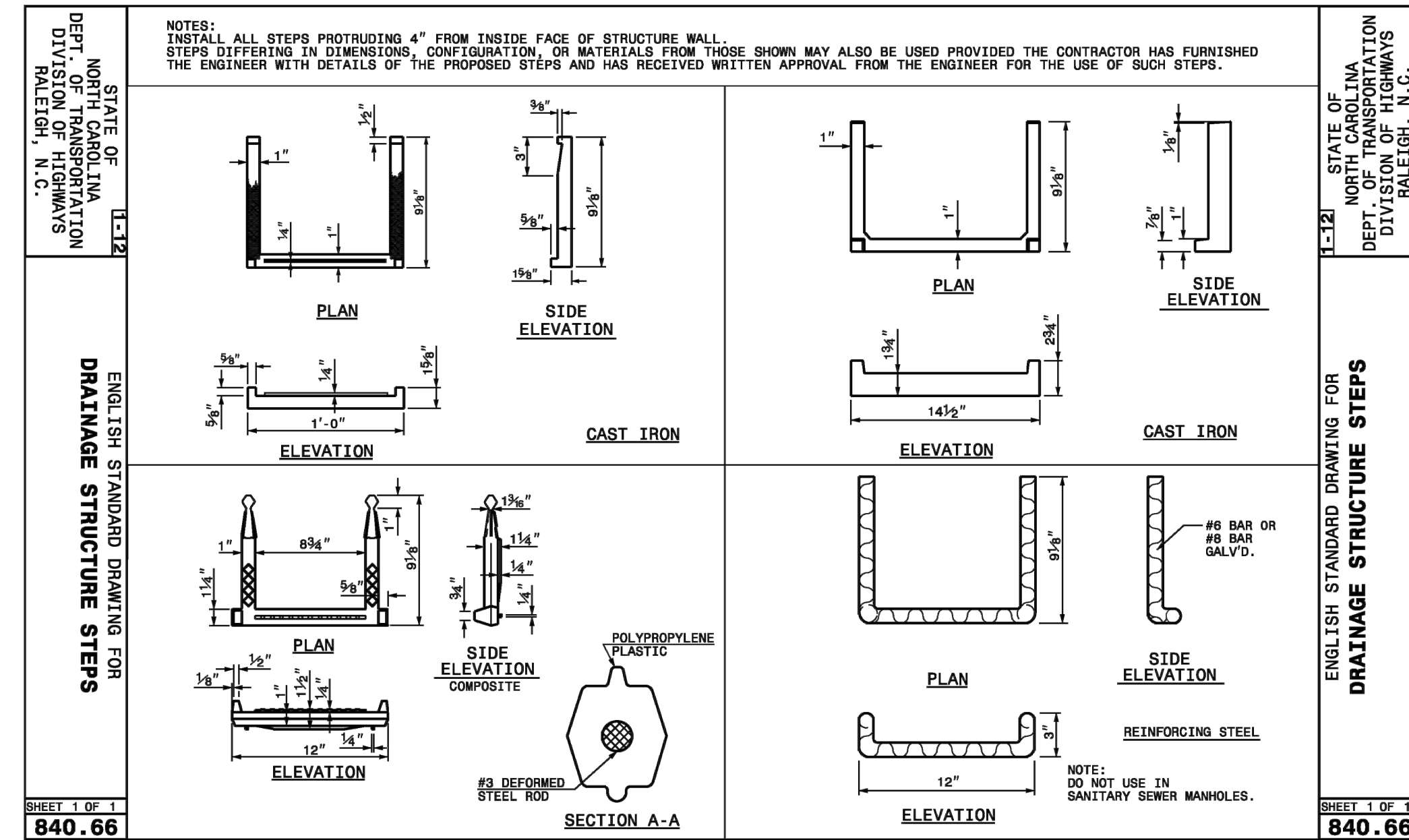
STORM DRAINAGE NOTES:

- ALL PIPE BEDDING SHALL BE CLASS "C" UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- ALL STORM DRAINAGE PIPES SHALL BE RCP CLASS III UNLESS OTHERWISE NOTED ON THE PLANS.
- DO NOT PLANT TREES WITHIN UTILITY AND DRAINAGE EASEMENTS.
- THE ENGINEER AND THE CONTRACTOR SHALL INSPECT ALL EXISTING PIPES USED IN THE FINAL DRAINAGE SYSTEM AND AGREE ON THE CONDITION OF THE PIPES PRIOR TO CONSTRUCTION. IF DAMAGE OCCURS TO THESE PIPES DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF THE PIPE(S).
- THE CONTRACTOR SHALL CONTACT ONECALL BEFORE COMMENCING ANY WORK. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES WHETHER INDICATED ON THE DRAWINGS OR NOT. THE CONTRACTOR WILL ASSURE THE PRESENCE ONSITE OF A REPRESENTATIVE OF THE GAS COMPANY WHEN WORKING IN THE VICINITY OF ANY GAS MAINS.

- EXCAVATION FOR STORM DRAINAGE PIPE SHALL BE TO THE LINES AND GRADES AS SHOWN ON THE PLANS.
- THE BEDDING SHALL BE SHAPED IN ACCORDANCE WITH CLASS "C" BEDDING AS SHOWN ON CITY STANDARD DETAIL SD 2-17.
- THE BEDDING SHALL PROVIDE A FIRM FOUNDATION OF UNIFORM DENSITY ALONG THE ENTIRE LENGTH OF PIPE. RECESSES SHALL BE MADE TO ACCOMMODATE BELLS AND JOINTS.
- WHERE UNSTABLE SOILS ARE ENCOUNTERED AS DETERMINED BY GEOTECHNICAL ENGINEER, A MINIMUM 4-INCH THICK BEDDING OF STONE SHALL BE PLACED, SEE FIGURE 2, SD 2-17.
- THE STONE SHALL BE UNIFORMLY GRADED FROM 3/4 INCH TO NO. 4 IN ACCORDANCE WITH ASTM C-33. CARE SHALL BE TAKEN TO PREVENT UNDERCUTTING IN SUITABLE SOIL.
- AREAS UNDERCUT SHALL BE FILLED WITH SUITABLE SOIL AND COMPACTED TO 95% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D 1557 STANDARD TEST METHOD.

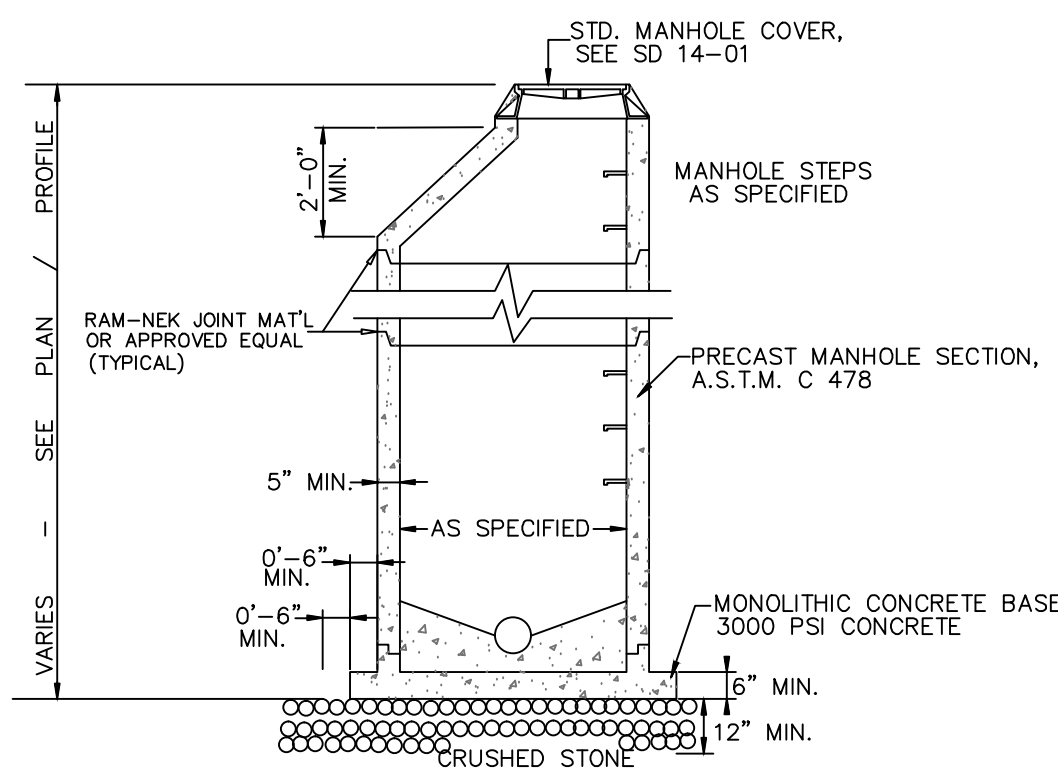


24"x36" CASTING (2DI)
NOT TO SCALE

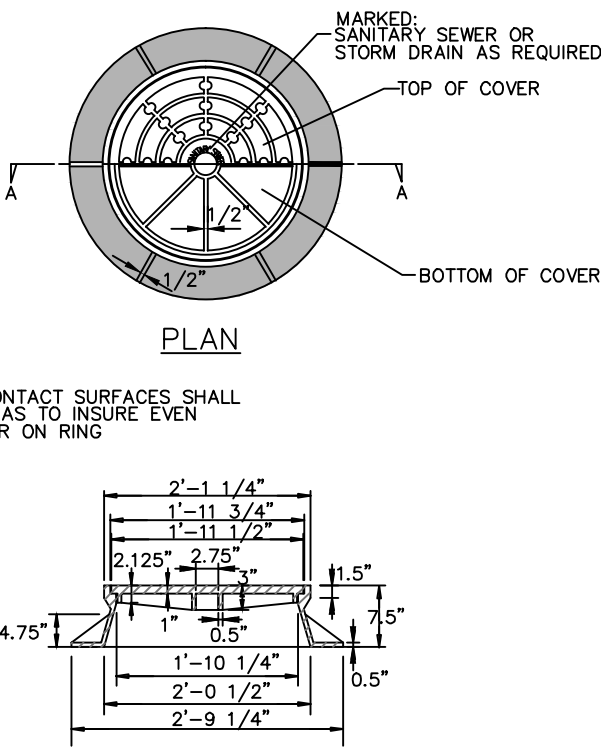


840.66

840.66



PRECAST MANHOLE
SD 14-11
NOT TO SCALE



STANDARD MANHOLE RING AND COVER
SD 14-01
NOT TO SCALE

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1 inch

Approved Construction Plan

Name _____ Date _____

Planning _____

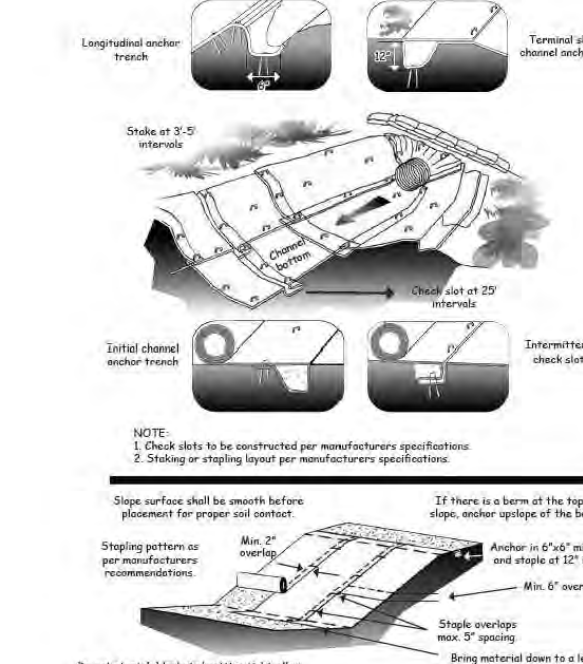
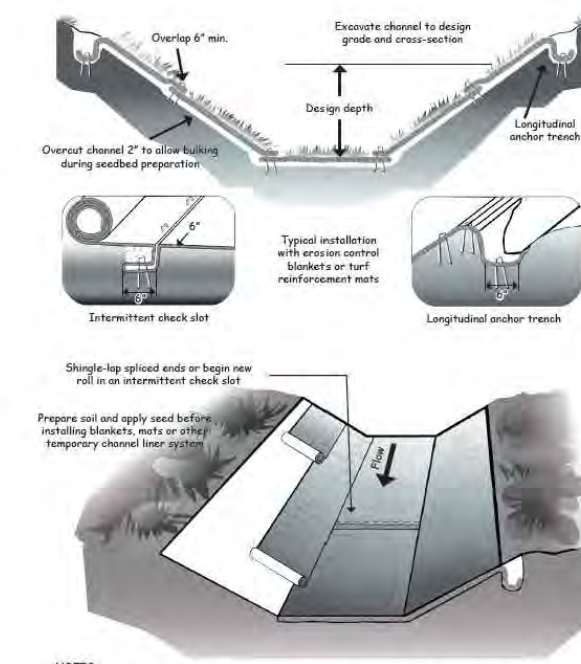
Traffic _____

Fire _____

City of Wilmington
Public Services Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____



ROLLED EROSION CONTROL PRODUCT (RECP)
NOT TO SCALE (NCDENR PRACTICE STD. 6.17)

- NOTES:
- USE EXCELSIOR MATTING (OR APPROVED EQUAL) AT A MINIMUM FOR THE ROLLED EROSION CONTROL PRODUCT ON SLOPES AND BOTTOMS OF DRAINAGE DITCHES AS INDICATED.
 - STABILIZE WITH PERMANENT VEGETATION WHEN CONDITIONS ARE SUITABLE FOR ROOT ESTABLISHMENT.

REVNO.	DESCRIPTION	DATE
E	CITY OF WILMINGTON IRC / CPFA RESUBMITTAL	09/09/2016
D	NEW HANCOCK COUNTY EROSION CONTROL RE-SUBMITTAL	08/04/2016
C	CITY OF WILMINGTON IRC / STORMWATER / TREE REMOVAL, NEW HANCOCK COUNTY EROSION CONTROL, AND CPFA SUBMITTAL	06/29/2016
B	CITY OF WILMINGTON IRC	06/01/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/28/2016

PRELIMINARY -
DO NOT USE FOR
CONSTRUCTION

SEAL

MCKIM & CREED

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NASH

RIVERLIGHTS

NORTH AMERICA SEXISUI HOUSE, LLC

RIVERLIGHTS - AGE QUALIFIED PHASE 2 & 3

STORM DRAINAGE DETAILS

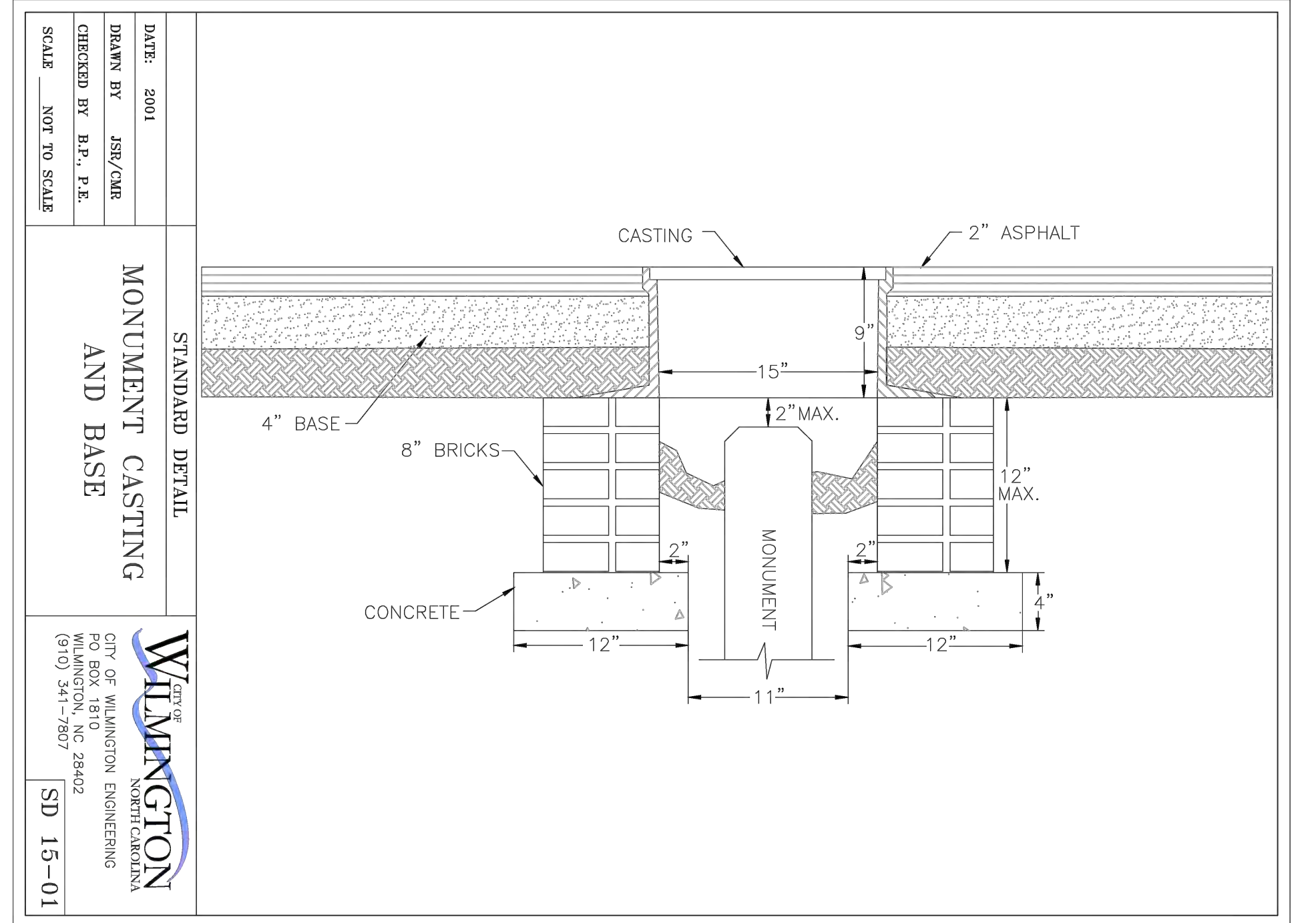
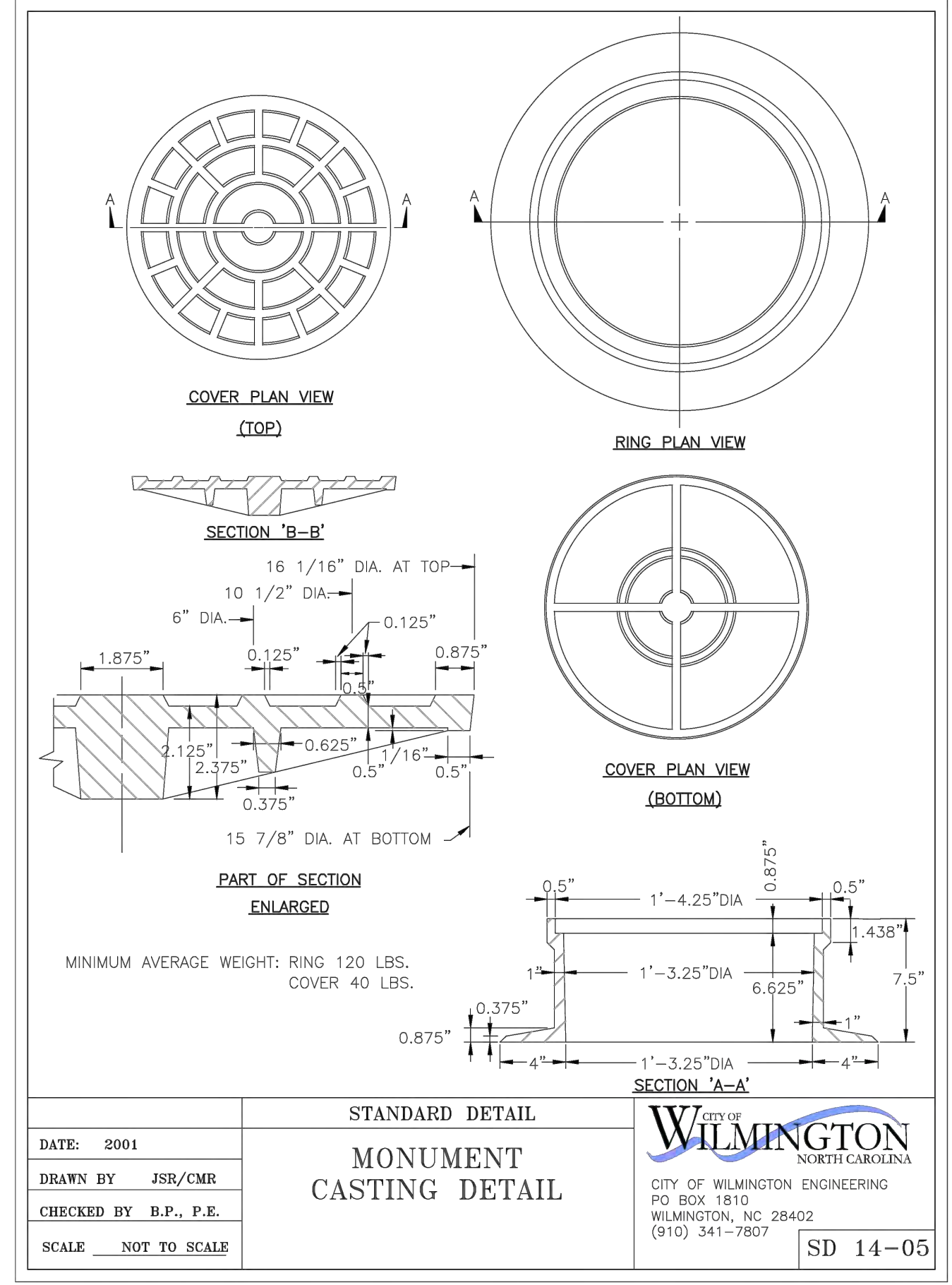
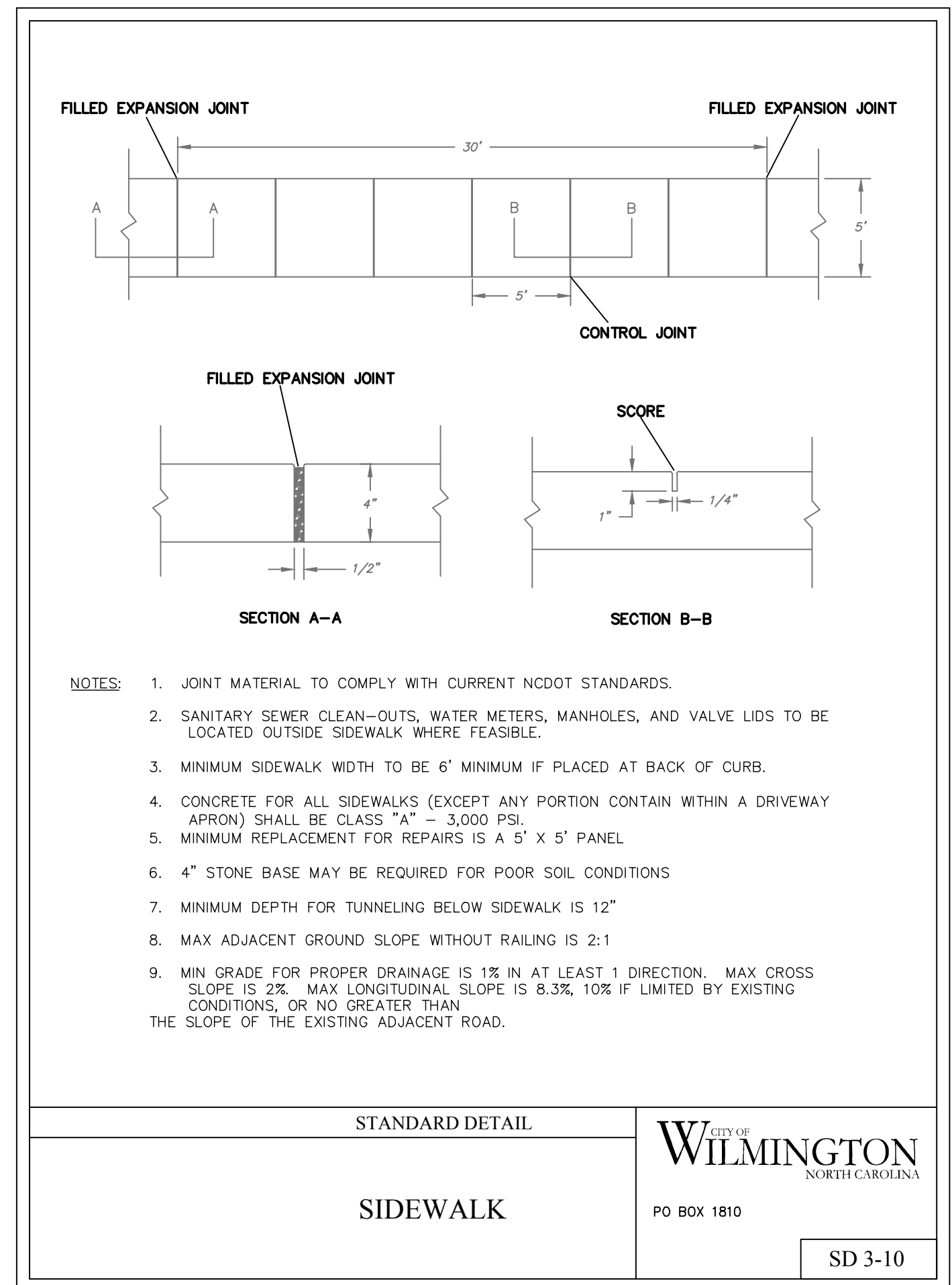
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SCALE: HORIZONTAL: N/A, VERTICAL: N/A

MAC FILE NUMBER: CG-502
DRAWING NUMBER: 37

STATUS: FINAL DESIGN
ISSUED FOR PERMITTING

REVISION: E



- GENERAL NOTES:**
1. A GROOVE JOINT 1" DEEP WITH 1/8" RADII SHALL BE REQUIRED IN THE CONCRETE SIDEWALK AT 5' INTERVALS.
 2. ONE 1/2" EXPANSION JOINT WILL BE REQUIRED AT 45' INTERVALS.
 3. A 1/2" EXPANSION JOINT WILL BE REQUIRED WHERE THE SIDEWALK ABUTS ANY CURB AND GUTTER AND ANY RIGID STRUCTURES.
 4. IN SIDEWALKS AND PLAZA AREAS EXPANSION JOINTS ARE REQUIRED AT NO GREATER THAN 30' INTERVALS.
 5. CONCRETE SHALL BE 3600 PSI. IN 28 DAYS.
 6. PER ADA REQUIREMENTS; MAXIMUM SIDEWALK CROSS SLOPE SHALL NOT BE STEEPER THAN 1:48, MAXIMUM SIDEWALK RUNNING SLOPE OF WALKING SURFACE SHALL NOT BE STEEPER THAN 1:20, AREAS STEEPER THAN 1:20 REQUIRE RAMP AND HANDRAILS, RAMP RUNS WITH A RISE GREATER THAN 6" SHALL HAVE HANDRAILS, RAMP RUNS SHALL HAVE A RUNNING SLOPE NOT STEEPER THAN 1:12, MAXIMUM RISE PER RAMP IS 30", LANDINGS MUST BE PROVIDED WHERE NECESSARY. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES.

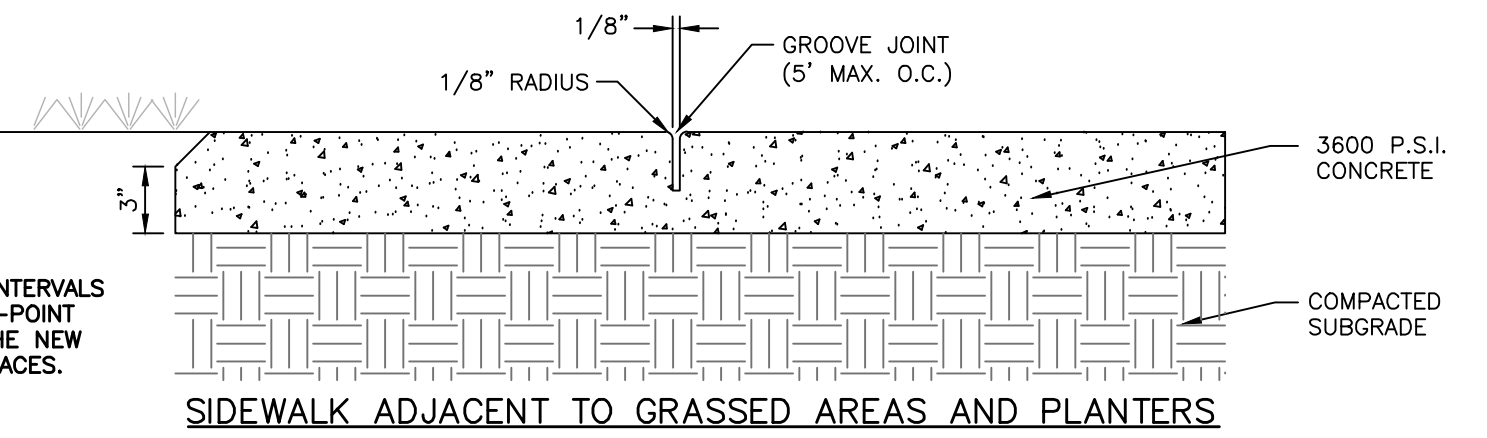
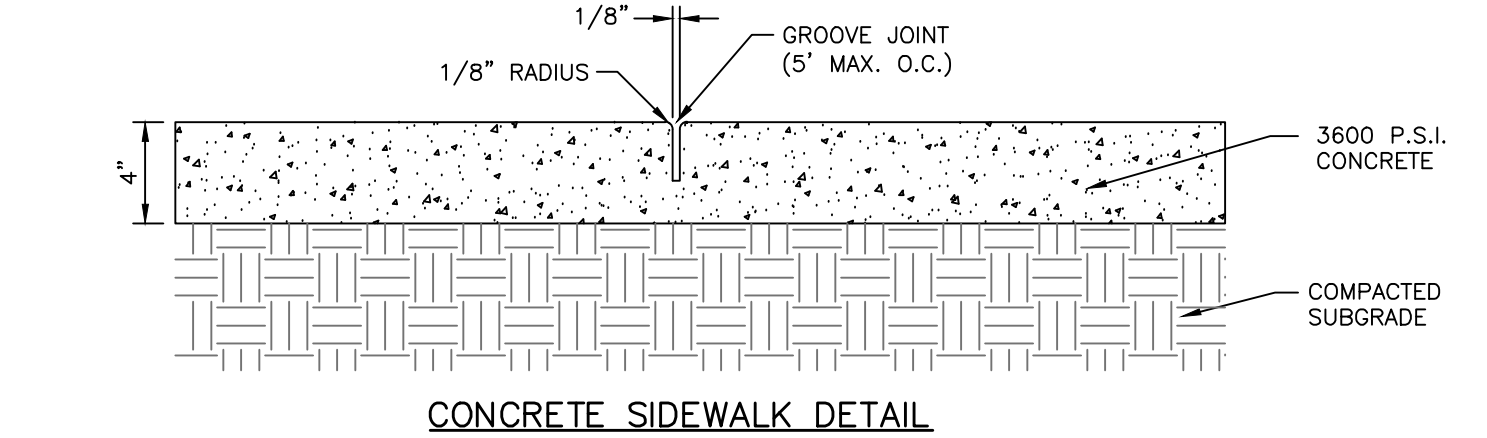
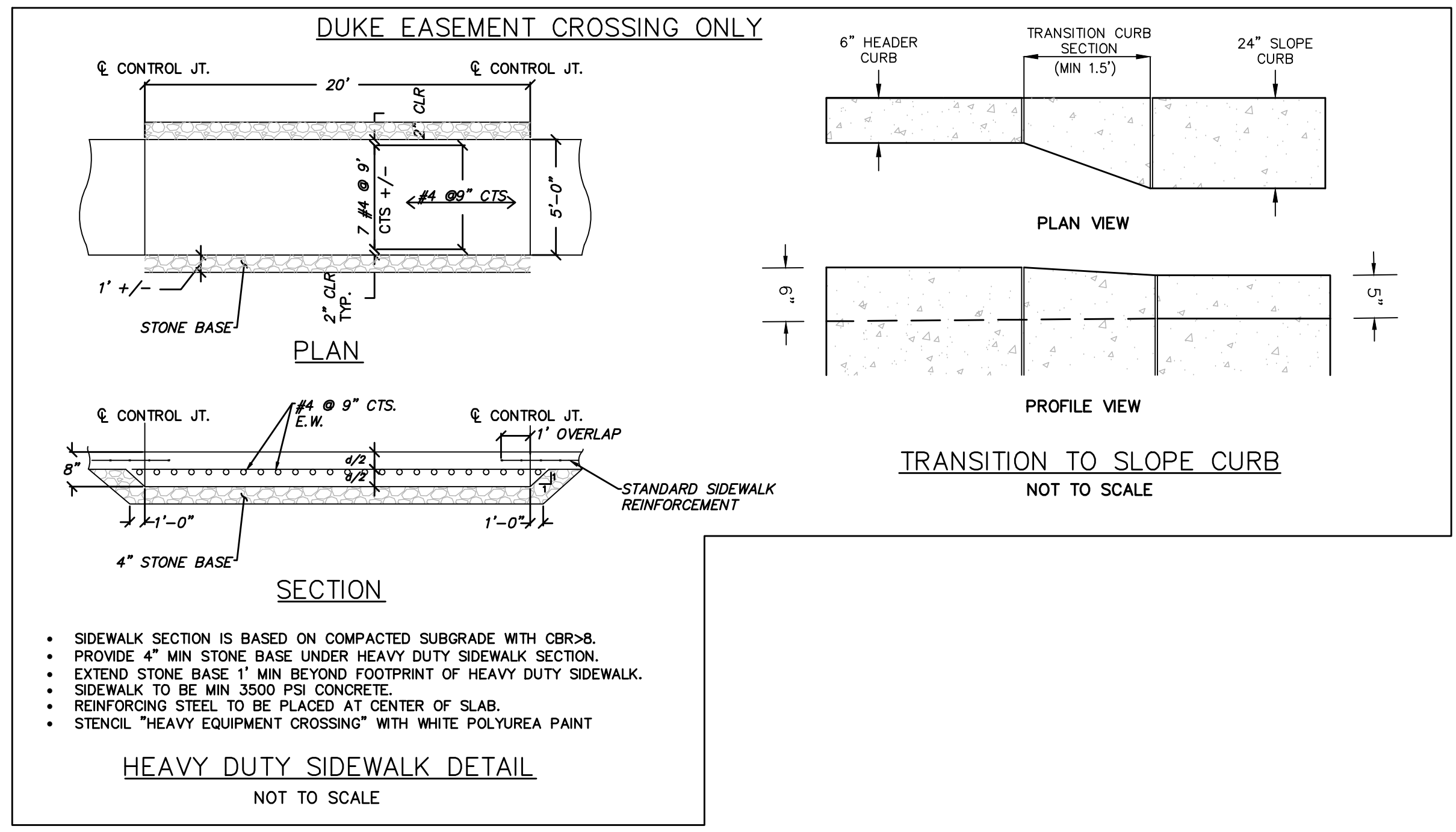
STANDARD DETAIL
SIDEWALK
SD 3-10

STANDARD DETAIL
MONUMENT
CASTING DETAIL
SD 14-05

DATE: 2001
DRAWN BY: JSR/CMR
CHECKED BY: B.P., P.E.
SCALE: NOT TO SCALE

STANDARD DETAIL
MONUMENT
CASTING
AND BASE

WILMINGTON
CITY OF WILMINGTON ENGINEERING
WILMINGTON, NC 28402
(910) 341-7807



- NOTES:**
1. CURB TO BE CONSTRUCTED IN 10 FT. LENGTHS.
 2. 1/2" EXPANSION JOINTS SHALL BE PROVIDED AT INTERVALS NOT TO EXCEED 50 FEET, AT THE ENDS AND MID-POINT OF RETURNS AND AT ANY OTHER POINT WHERE THE NEW CURB AND GUTTER ABUTS OTHER CONCRETE SURFACES.

WILMINGTON
Public Services Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____
Signed: _____

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 inch

Approved Construction Plan

Name _____ Date _____

Planning _____
Traffic _____
Fire _____

REVNO.	DESCRIPTION	DATE
E	CITY OF WILMINGTON TRC / CPPIA RESUBMITTAL	09/09/2016
D	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/04/2016
C	CITY OF WILMINGTON TRC / STORMWATER / TREE REMOVAL, NEW HANOVER COUNTY EROSION CONTROL, AND CPPIA SUBMITTAL	06/29/2016
B	CITY OF WILMINGTON TRC	06/01/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/28/2016

PRELIMINARY -
DO NOT USE FOR
CONSTRUCTION

SEAL

MCKIM & CREED
243 North Front Street
Wilmington, North Carolina 28401
Phone: (910)343-1048, Fax: (910)251-8282
License: F-1222
www.mckimcreed.com

RIVERLIGHTS
NORTH AMERICA SEXISUI HOUSE, LLC

RIVERLIGHTS - AGE QUALIFIED PHASE
2 & 3

SITE DETAILS

DATE: _____
MCE PROJ. # 02735-0168
DRAWN EEM/KCBE
DESIGNED KCBE
CHECKED NJL
PROJ. MGR. KCBE

SCALE: HORIZONTAL: N/A
VERTICAL: N/A

MAC FILE NUMBER: CS-501
DRAWING NUMBER: 40

STATUS: FINAL DESIGN
ISSUED FOR PERMITTING

REVISION: E

GENERAL NOTES

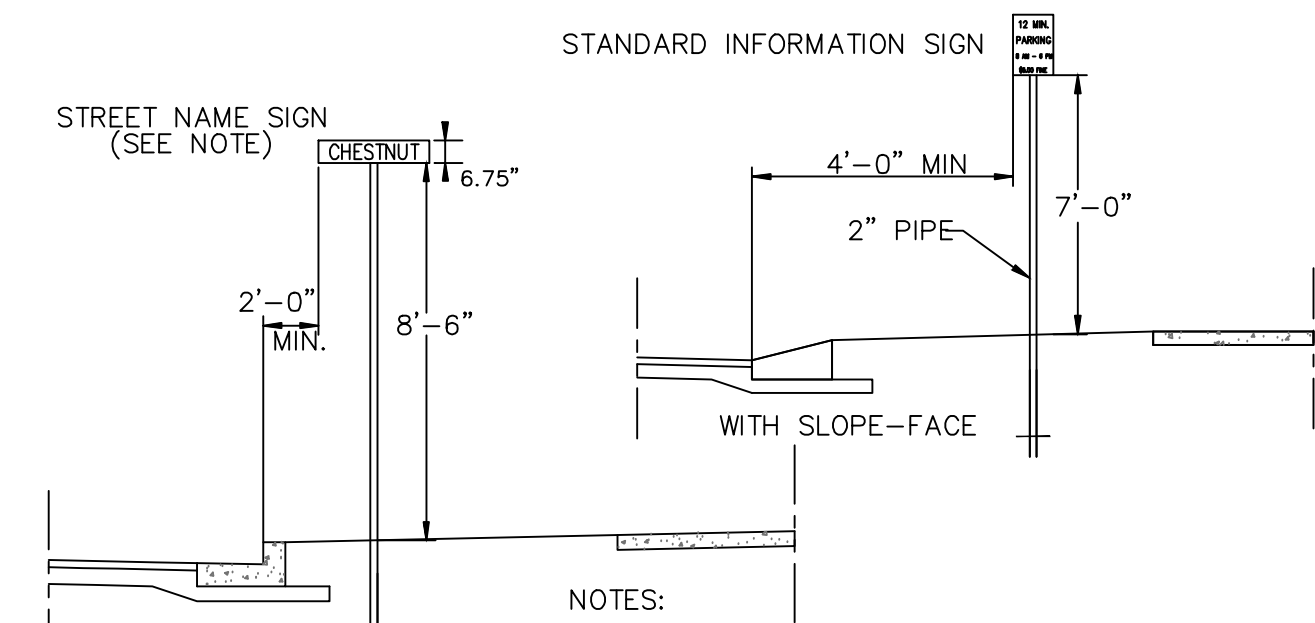
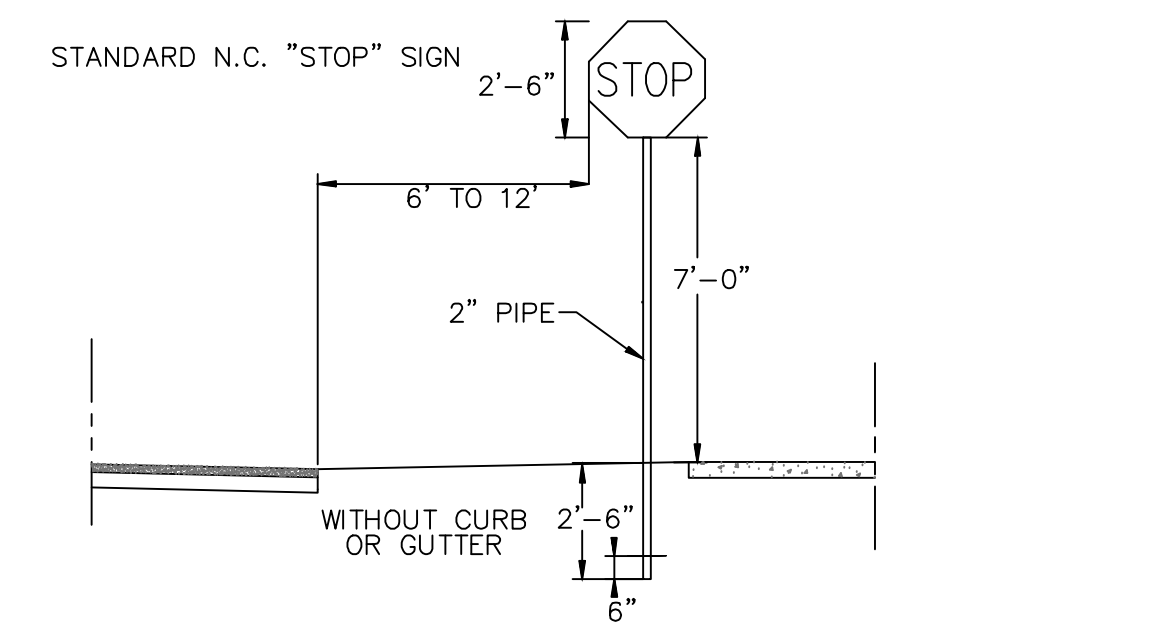
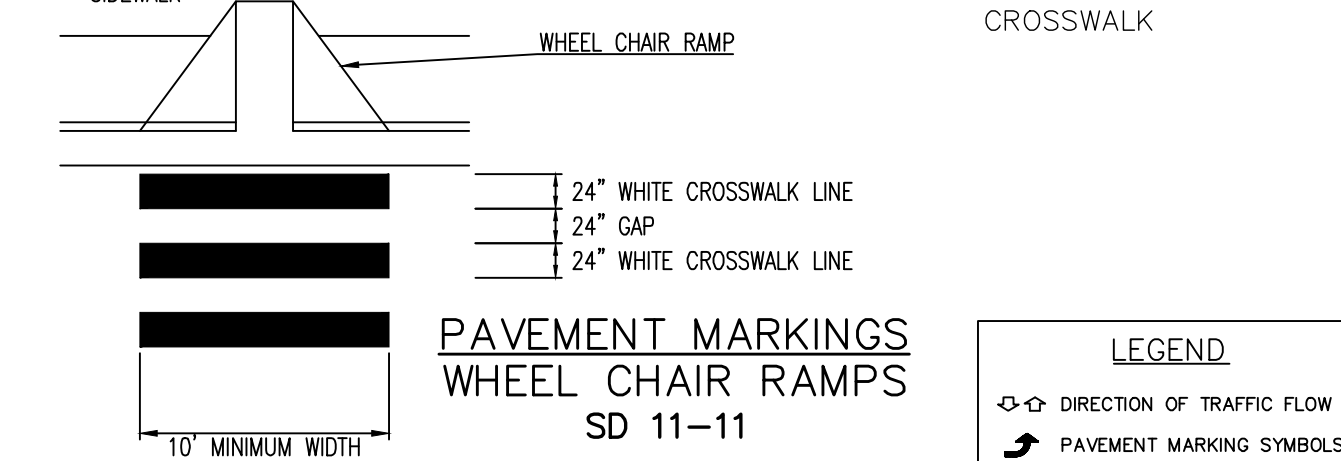
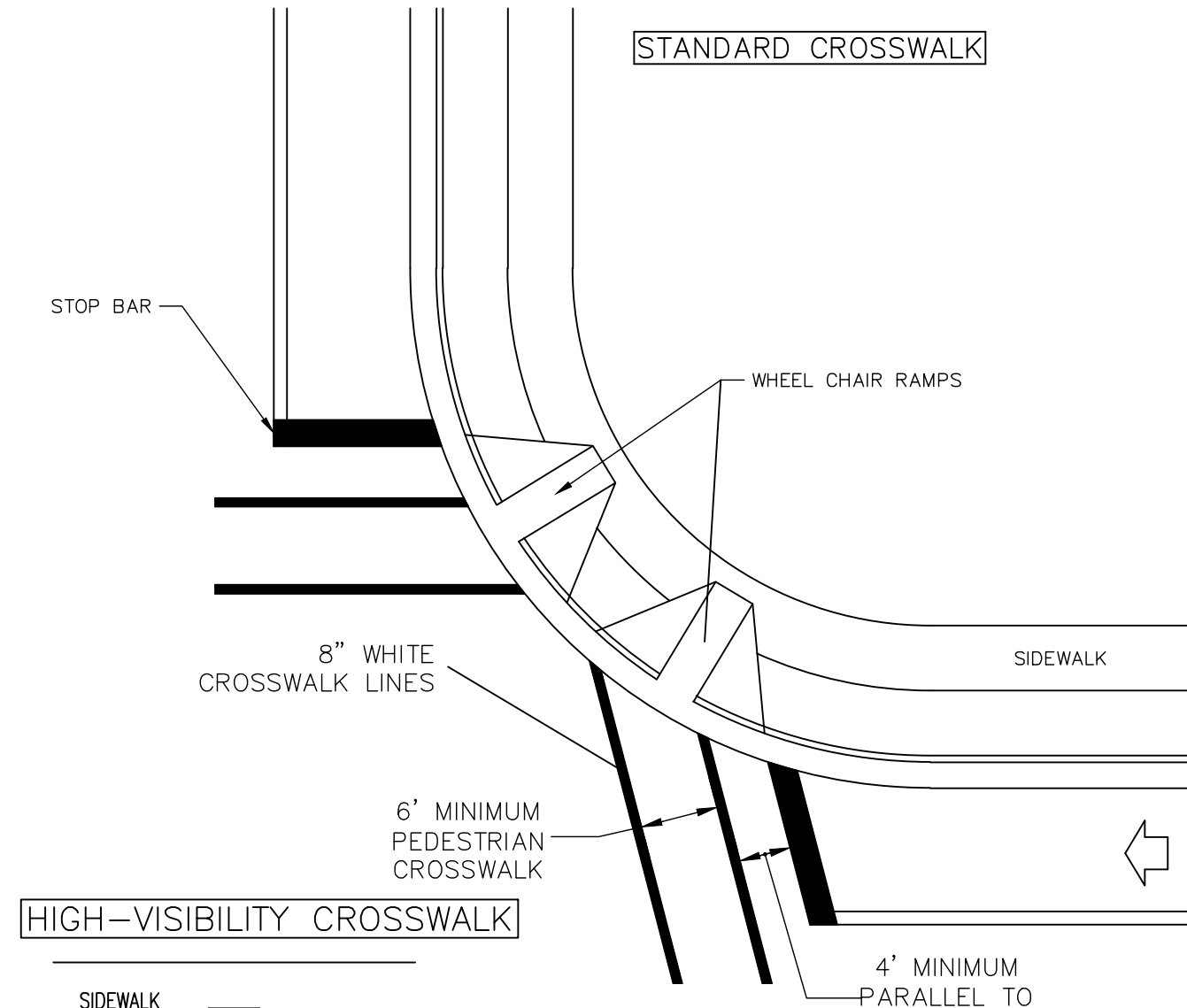
1. IN ACCORDANCE WITH N.C.G.S. 136-44.14, ALL STREET CURBS BEING CONSTRUCTED OR RECONSTRUCTED SHALL PROVIDE WHEELCHAIR RAMP FOR THE PHYSICALLY HANDICAPPED ON EACH SIDE OF ANY STREET OR ROAD, WHERE CURBS AND SIDEWALKS ARE PROVIDED AND AT OTHER MAJOR POINTS OF PEDESTRIAN FLOW.
2. WHEELCHAIR RAMP SHALL BE LOCATED AS INDICATED IN DETAIL DRAWINGS; HOWEVER, EXISTING LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC. MAY AFFECT PLACEMENT.
3. CURB RAMP SHALL HAVE DETECTABLE WARNINGS EXTENDING THE FULL WIDTH OF THE RAMP AND A MINIMUM OF 2'-FT. IN LENGTH.

CONSTRUCTION NOTES

1. CONSTRUCTION SHALL CONFORM WITH CONSTRUCTION STANDARDS OF THE GOVERNING BODY WHICH HAS JURISDICTION OF THE PARTICULAR STREET.
2. WHEELCHAIR RAMP SHALL BE CONSTRUCTED OF CLASS "A" CONCRETE WITH THE SURFACE HAVING A ROUGH, NON-SKID TYPE FINISH.
3. A 1/2-IN. EXPANSION JOINT SHALL BE REQUIRED WHERE THE CONCRETE WHEELCHAIR RAMP JOINS ANY RIGID PAVEMENT OR STRUCTURE.
4. IN NO CASE SHALL THE WIDTH OF A CURB RAMP OR CURB CUT BE LESS THAN 40-IN. (3'-FT. 4-IN.), NOT INCLUDING THE FLARED SIDES.
5. TRANSITIONS FROM RAMPS TO WALKS, GUTTERS OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES.
6. THE MAXIMUM SLOPE ON THE CURB RAMP RUN IS 1:12.
7. THE MAXIMUM CROSS SLOPE OF THE CURB RAMP IS 1:50.
8. MAXIMUM SLOPES OF ADJOINING GUTTERS, ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP, OR ACCESSIBLE ROUTE SHALL NOT EXCEED 1:20.
9. ANY RAISED ISLANDS IN CROSSINGS SHALL BE CUT THROUGH LEVEL WITH THE STREET OR HAVE CURB RAMPS AT BOTH SIDES AND A LEVEL AREA AT LEAST 48-IN. LONG BETWEEN THE CURB RAMPS.
10. DETECTABLE WARNINGS SHALL CONSIST OF RAISED TRUNCATED DOMES WITH A DIAMETER OF NOMINAL 0.9-IN., A HEIGHT OF NOMINAL 0.2-IN. AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35-IN. AND SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT.

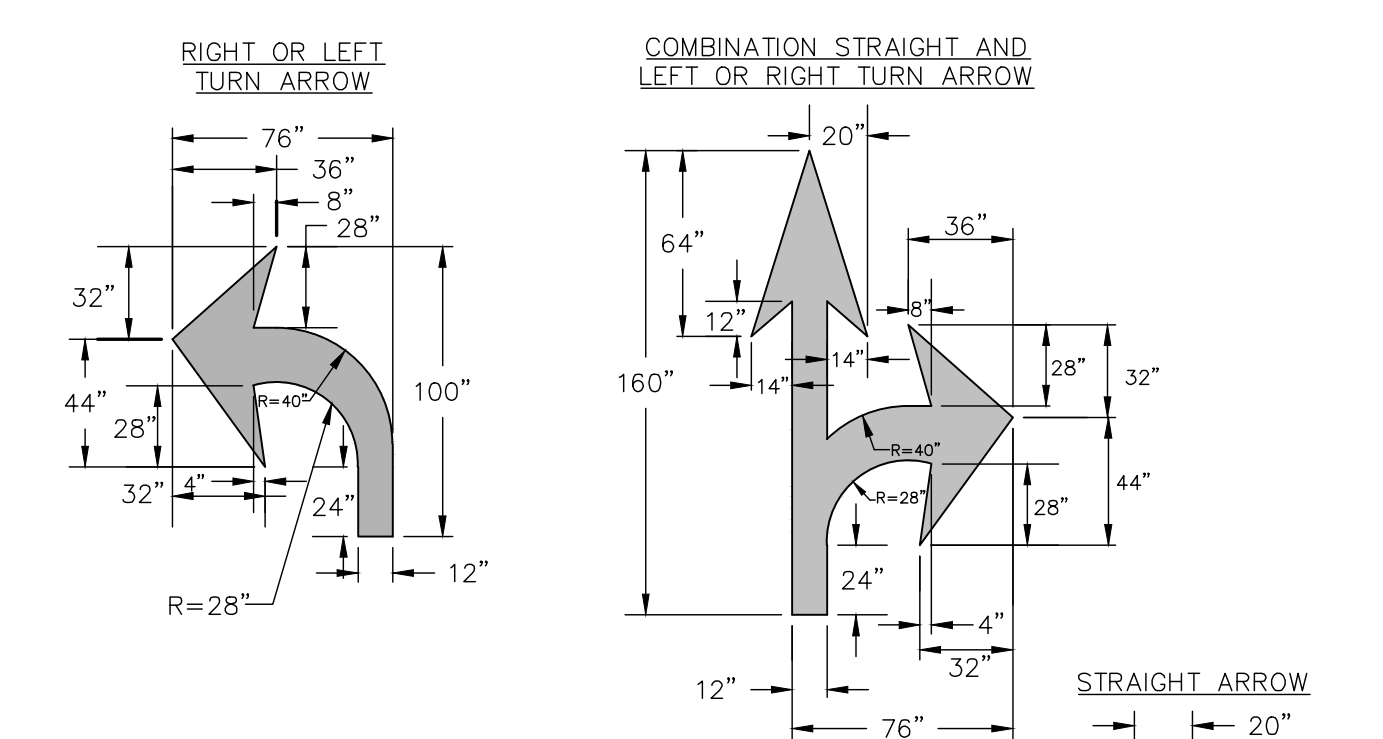
ADDITIONAL NOTES

1. STOP BARS SHALL BE USED WHERE IT IS IMPORTANT TO INDICATE THE POINT BEHIND WHICH VEHICLES ARE REQUIRED TO STOP IN COMPLIANCE WITH A TRAFFIC SIGNAL, STOP SIGN OR OTHER LEGAL REQUIREMENT.
2. PARKING SHALL BE ELIMINATED A MINIMUM OF 20 FEET BACK OF THE PEDESTRIAN CROSSWALK.
3. ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION. THIS DOCUMENT IS AVAILABLE FROM THE SUPERINTENDENT OF DOCUMENTS, U.S. GOVERNMENT PRINTING OFFICE, WASHINGTON, D.C. 20402.
4. INSTALL REFLECTORS PER CITY AND NCDOT STANDARDS. TRAFFIC ENGINEERING MUST APPROVE OF PAVEMENT MARKING LAYOUT PRIOR TO ACTUAL STRIPING.
5. CURB RAMPS AT MARKED CROSSINGS SHALL BE WHOLLY CONTAINED WITHIN THE MARKINGS, EXCLUDING ANY FLARED SIDES.
6. THE BOTTOM OF DIAGONAL (CORNER TYPE) CURB RAMPS AT MARKED CROSSINGS SHALL HAVE 48-IN. MINIMUM CLEAR SPACE WITHIN THE MARKINGS.
7. IF DIAGONAL CURB RAMPS HAVE FLARED SIDES, THEY SHALL HAVE AT LEAST A 24-IN. LONG SEGMENT OF STRAIGHT CURB LOCATED ON EACH SIDE OF THE CURB RAMP AND WITHIN THE MARKED CROSSING.

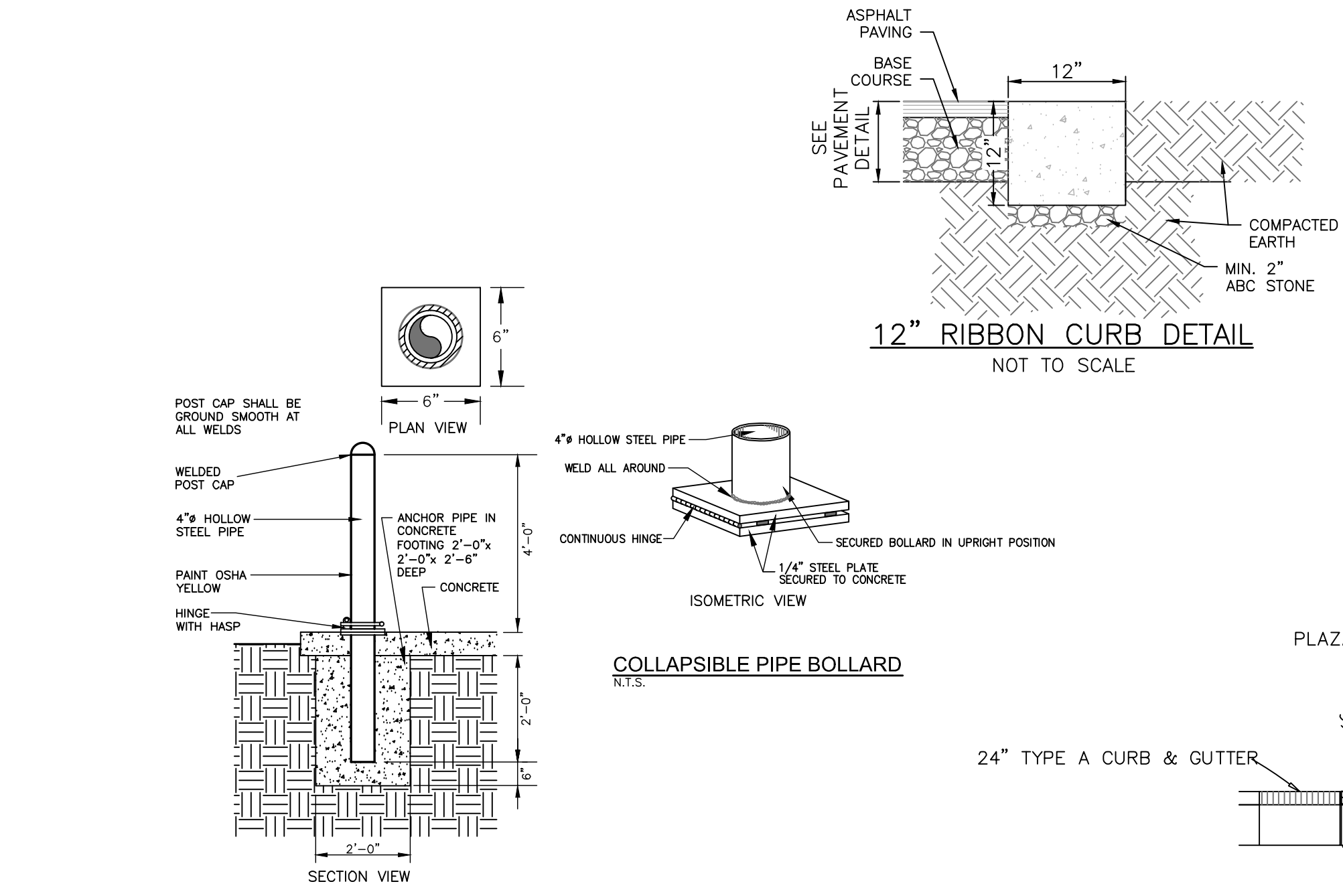
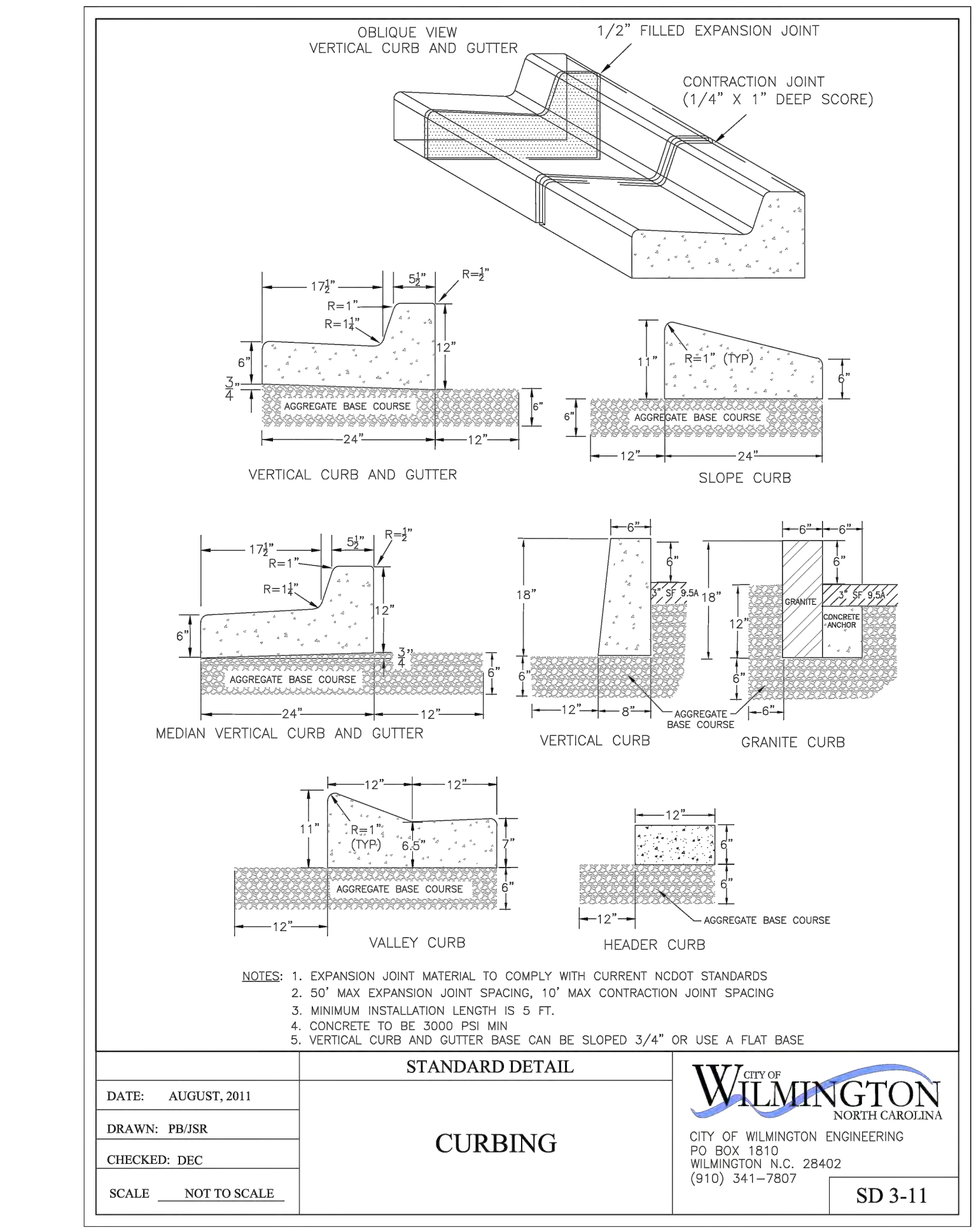


- NOTES:**
1. STREET NAME SIGNS SHALL BE A MINIMUM OF 6" EXTRUDED ALUMINUM BLADES USING A MINIMUM OF 4" C SERIES LETTERING IN REFLECTIVE SILVER & REFLECTIVE GREEN BACKGROUND.
 2. ALL REFLECTIVE SIGNS SHALL BE MADE OF ENGINEERING GRADE OR HIGH INTENSITY GRADE REFLECTIVE SHEETING OR APPROVED EQUIVALENT.
 3. ALL SIGNS PLACED IN RIGHT-OF-WAY WILL BE APPROVED BY TRAFFIC ENGINEERING DIVISION.
 4. ALL FOOTINGS TYPICAL FOR ALL SIGNS, WHICH NEED TO BE ANCHORED IN CONCRETE.

STANDARD SIGN INSTALLATION LOCATION SD 15-04 NOT TO SCALE



- GENERAL NOTES**
- ALL PAVEMENT MARKING SYMBOLS SHALL BE WHITE IN COLOR
 - PAVEMENT MARKING SYMBOLS SHALL NOT BE LOCATED AS TO ENDOURAGE INTO INTERSECTION AREAS.
 - ON PORTLAND CEMENT CONCRETE PAVEMENTS, PAVEMENT MARKING SYMBOLS SHALL NOT BE PLACED ACROSS TRANSVERSE EXPANSION JOINTS UNLESS APPROVED BY THE ENGINEER.



Approved Construction Plan

Name: _____ Date: _____

Planning _____

Traffic _____

Fire _____

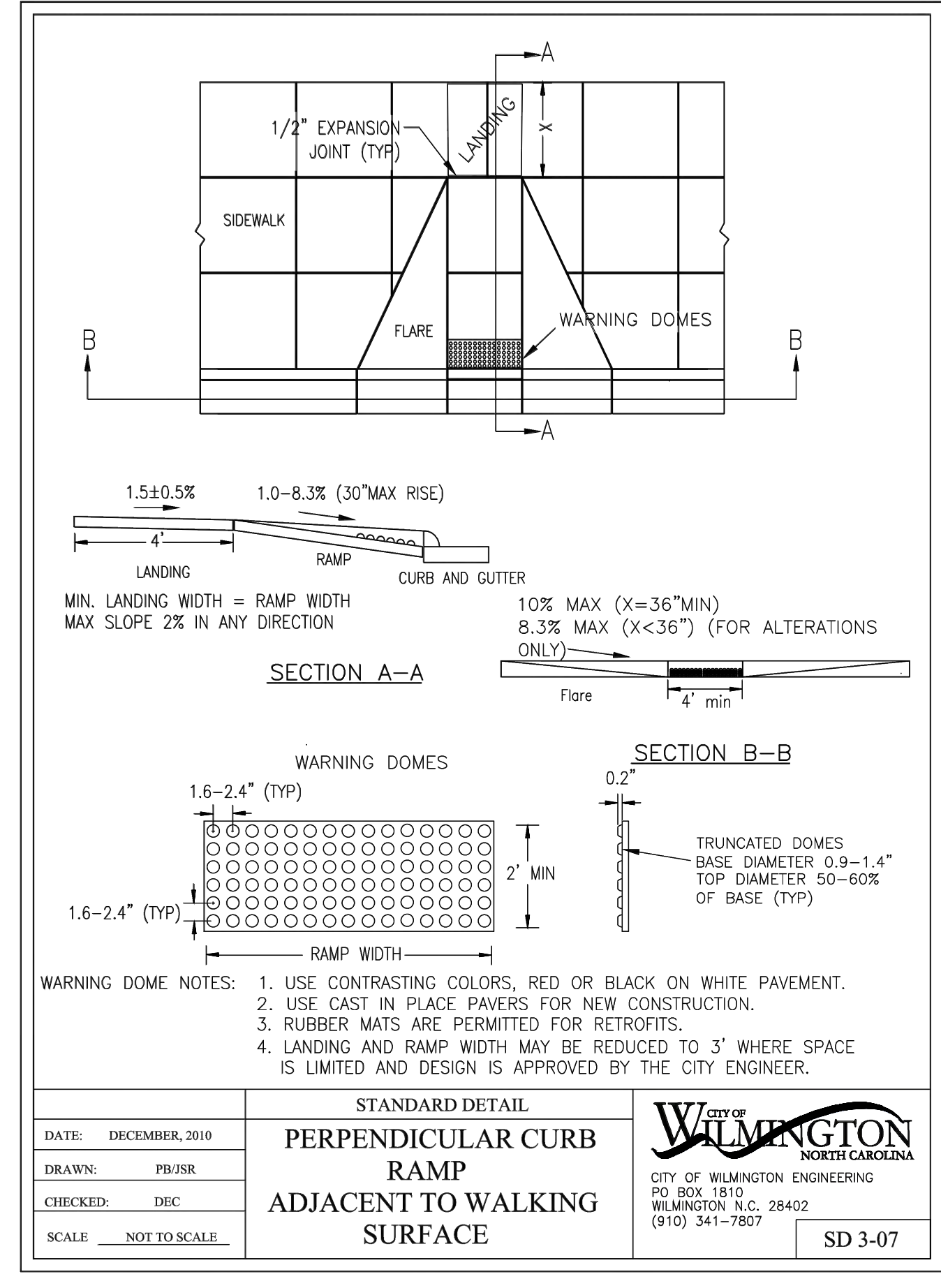
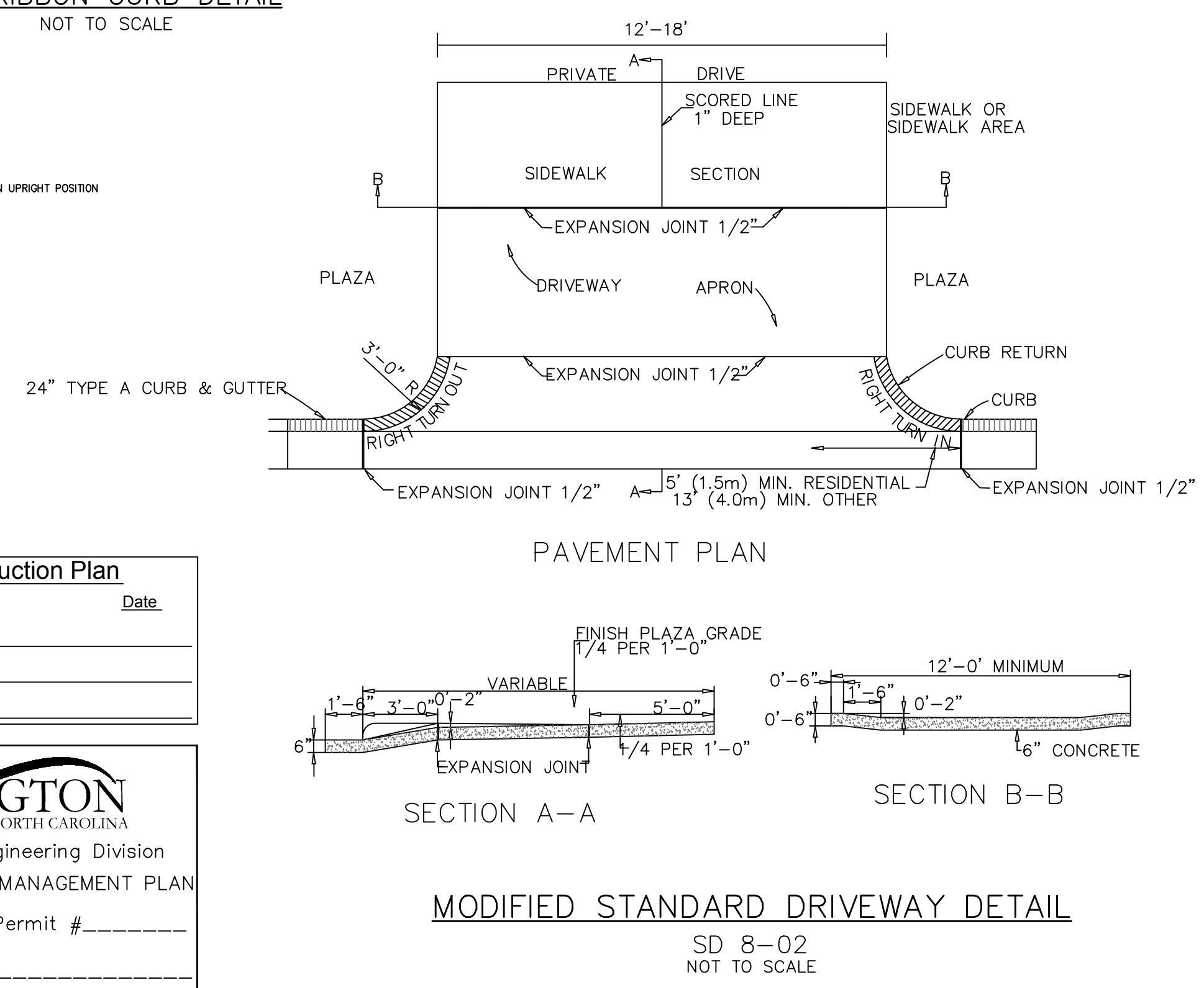
CITY OF WILMINGTON NORTH CAROLINA
Public Services Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

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1 inch



REVNO.	DESCRIPTIONS	DATE
E	CITY OF WILMINGTON IRC / CPFA RESUBMITTAL	09/09/2016
D	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/04/2016
C	CITY OF WILMINGTON IRC / STORMWATER / TREE REMOVAL, NEW HANOVER COUNTY EROSION CONTROL, AND CPFA SUBMITTAL	06/29/2016
B	CITY OF WILMINGTON IRC	06/01/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/28/2016

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

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RIVERLIGHTS

NORTH AMERICA SEXISUI HOUSE, LLC

RIVERLIGHTS - AGE QUALIFIED PHASE 2 & 3

SITE DETAILS

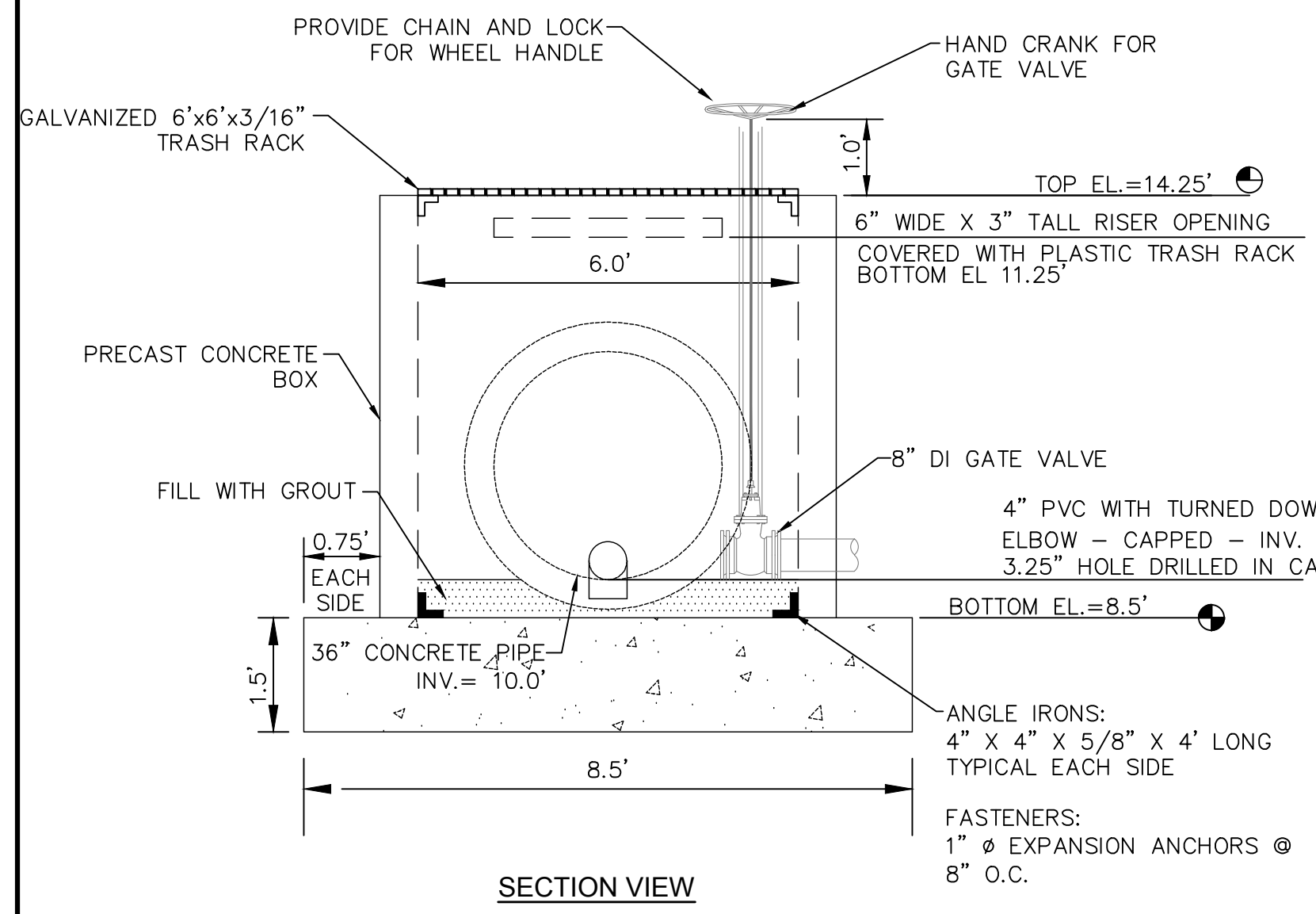
DATE: 06/01/16
MCE PROJ. # 02735-0168
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: NJL
PROJ. MGR.: KCBE

SCALE: HORIZONTAL: N/A, VERTICAL: N/A

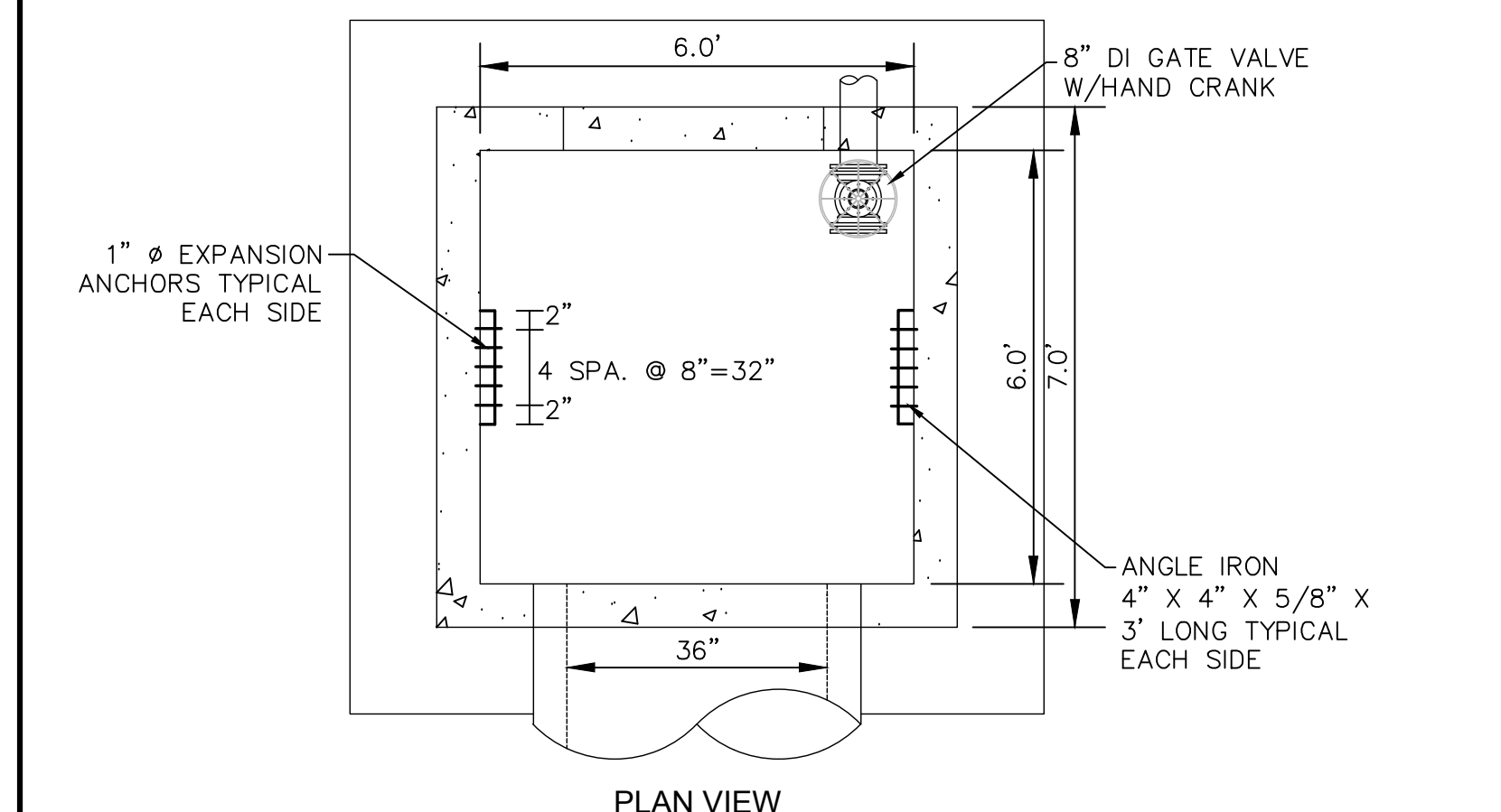
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DRAWING NUMBER: 41

STATUS: FINAL DESIGN
ISSUED FOR PERMITTING

REVISION: E

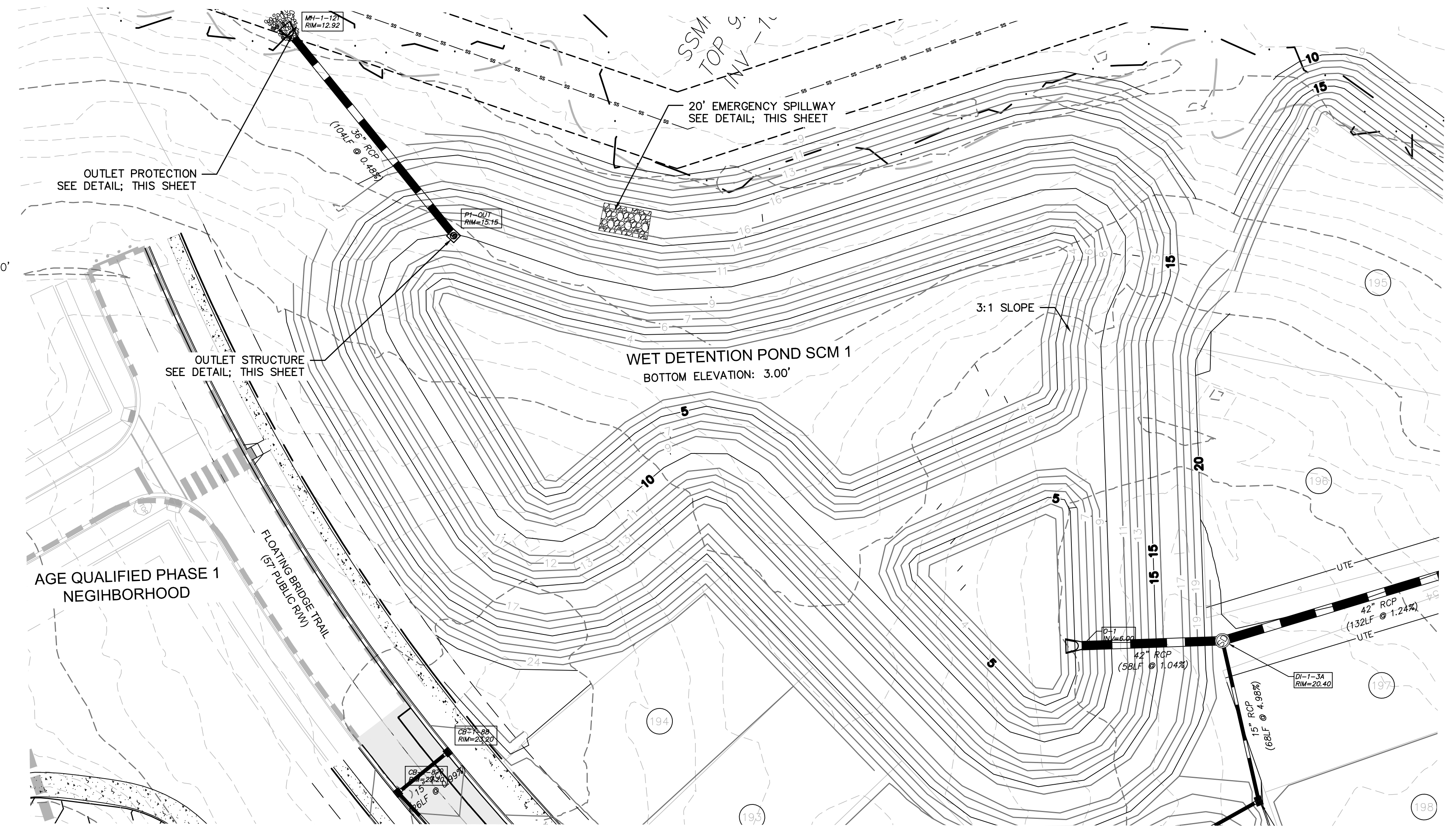


SECTION VIEW



PLAN VIEW

WET POND OUTLET STRUCTURE
NOT TO SCALE



WET DETENTION POND SCM 1
BOTTOM ELEVATION: 3.00'

AGE QUALIFIED PHASE 1
NEIGHBORHOOD

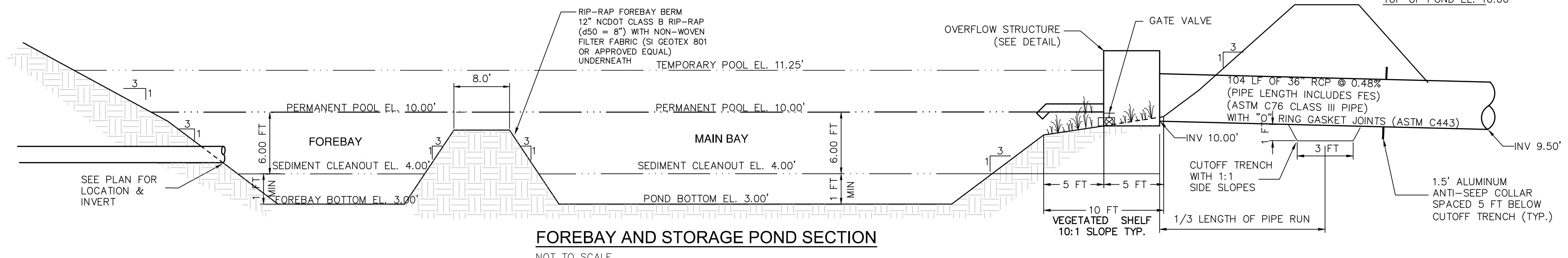
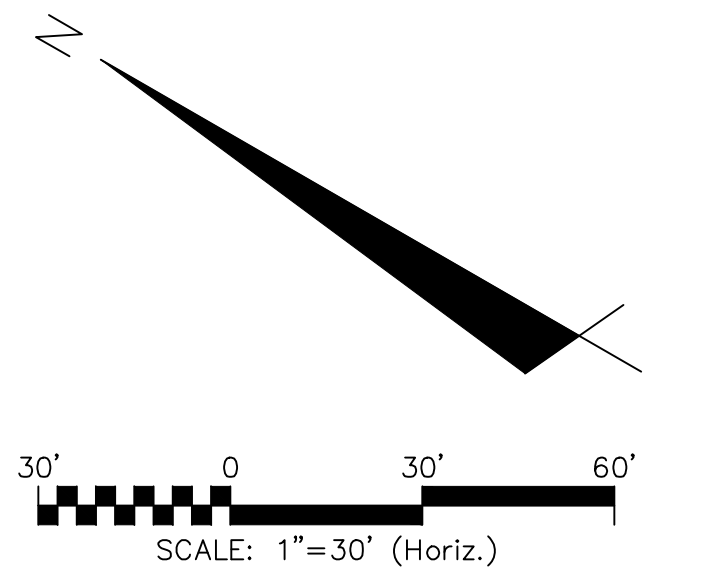
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1 inch

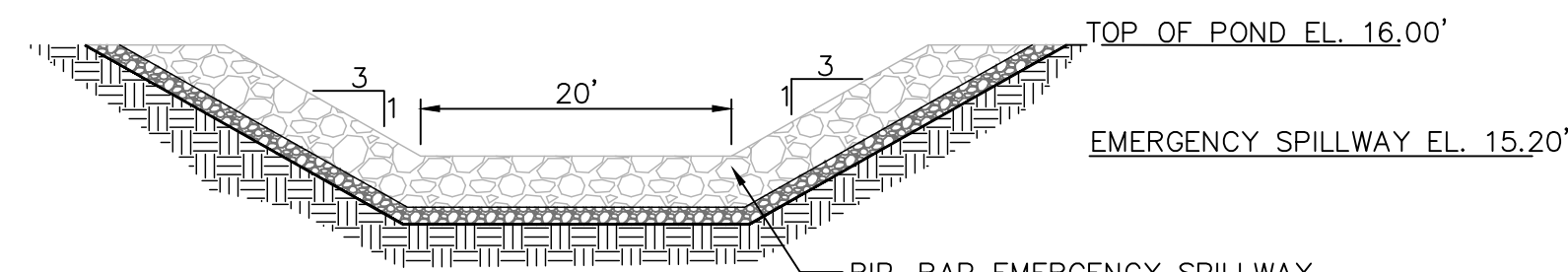
Approved Construction Plan
Name _____ Date _____

Planning _____
Traffic _____
Fire _____

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

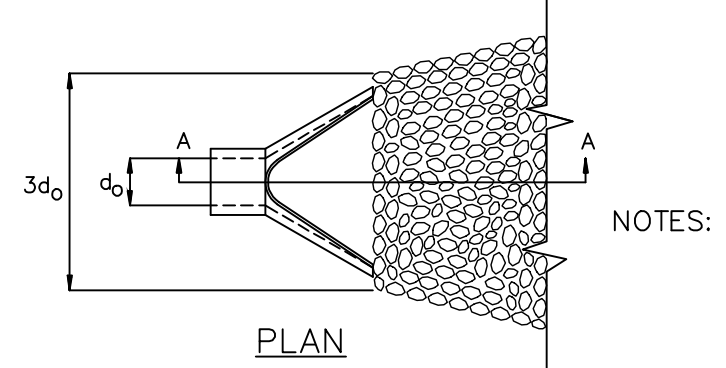


FOREBAY AND STORAGE POND SECTION
NOT TO SCALE

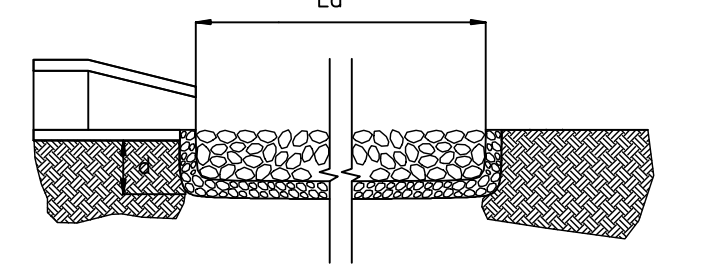


EMERGENCY SPILLWAY SECTION
NOT TO SCALE

OUTLET PROTECTION	
OUTLET PIPE DIA.	36"
OUTLET FLOW RATE	9.68 CFS
OUTLET VELOCITY	5.17 FT/S
MATERIAL	CLASS B
LENGTH	18'
WIDTH	9.0'
STONE DIA.	6"
THICKNESS	22"



PLAN



PIPE OUTLET PROTECTION
NOT TO SCALE

1. L_o IS THE LENGTH OF THE RIPRAP APRON.
2. L = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6'
3. IN A WELL-DEFINED CHANNEL EXTEND THE APRON UP THE CHANNEL BANKS TO AN ELEVATION OF 6" ABOVE THE MAXIMUM TAILWATER DEPTH OR TO THE TOP OF THE BANK, WHICHEVER IS LESS.
4. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND SOIL FOUNDATION.

REV. NO.	DESCRIPTIONS / REVISIONS	DATE
E	CITY OF WILMINGTON TRC / OFPIA RESUBMITTAL	09/09/2016
D	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/24/2016
C	CITY OF WILMINGTON TRC / STORMWATER / TREE REMOVAL, NEW HANOVER COUNTY EROSION CONTROL, AND OFPIA SUBMITTAL	06/29/2016
B	CITY OF WILMINGTON TRC	06/01/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/06/2016

PRELIMINARY -
DO NOT USE FOR
CONSTRUCTION

SEAL

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NASH RIVERLIGHTS™
NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS - AGE QUALIFIED PHASE 2 & 3
STORMWATER MANAGEMENT DETAILS

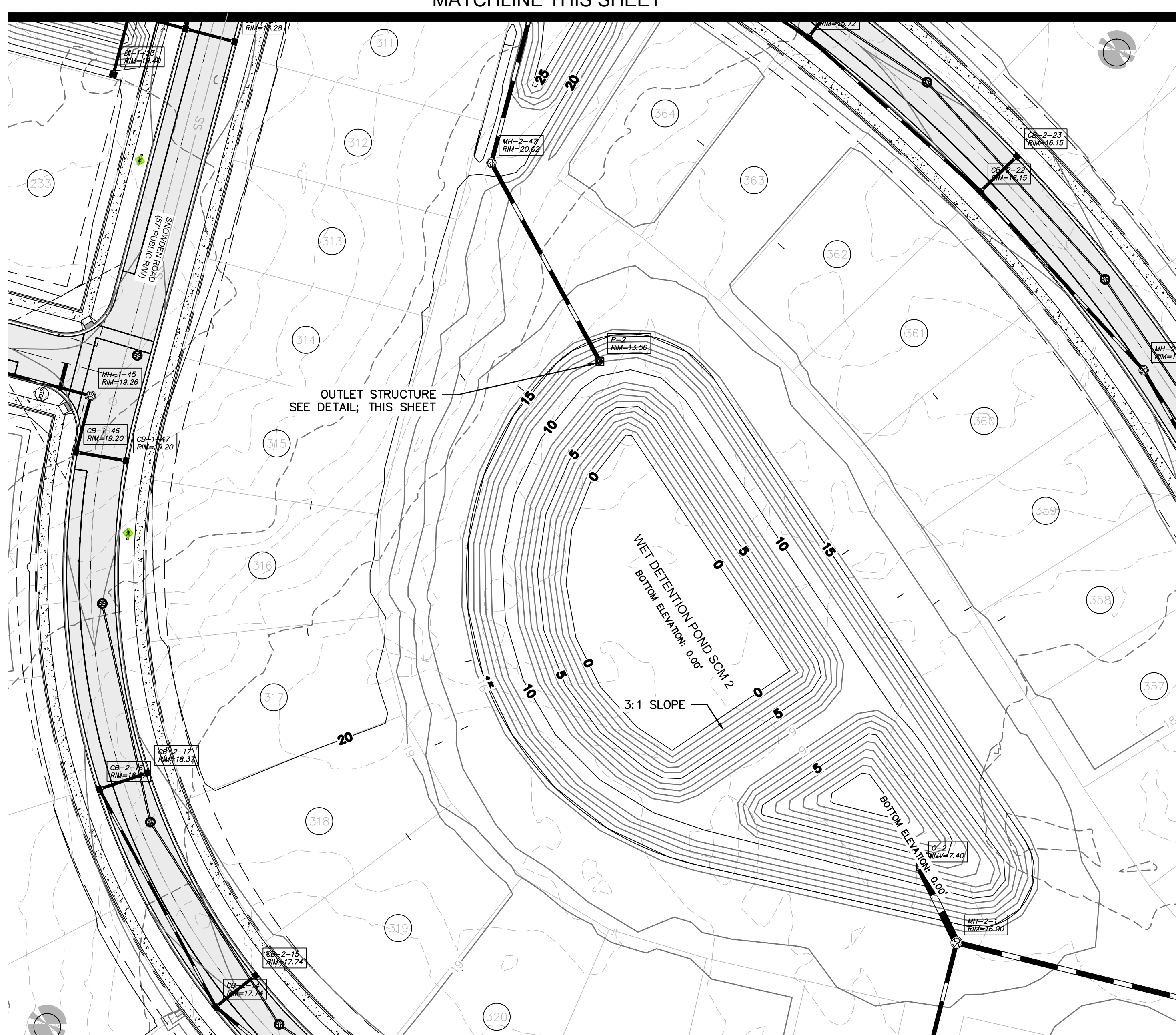
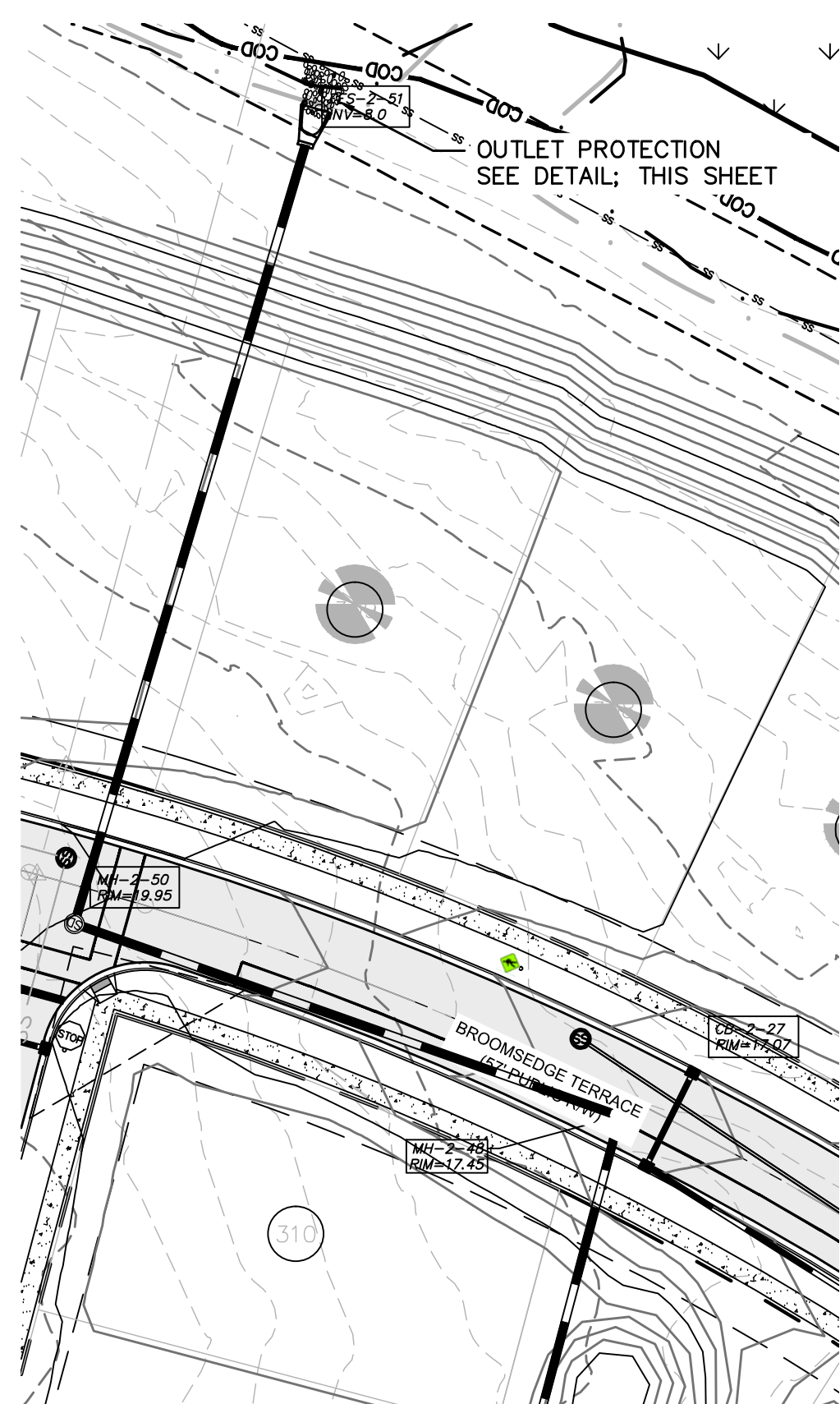
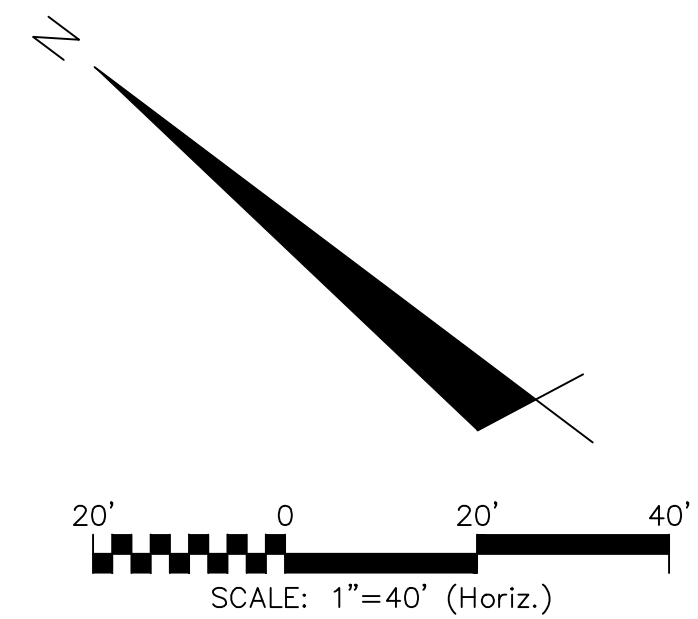
DATE: 06/01/16
MCE PROJ. # 02735-0168
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: N/A
PROJ. MGR.: KCBE


SCALE: HORIZONTAL: 1"=50'
VERTICAL: N/A

MAC FILE NUMBER: CN-501
DRAWING NUMBER: 48

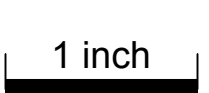
STATUS: FINAL DESIGN
ISSUED FOR PERMITTING

REVISION: E



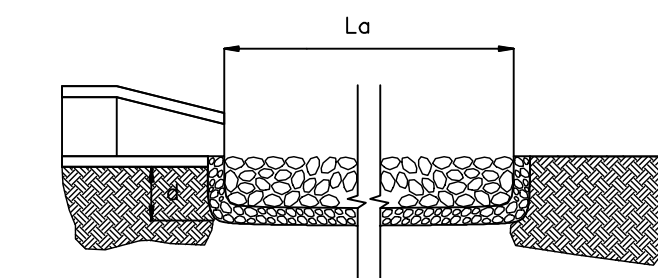
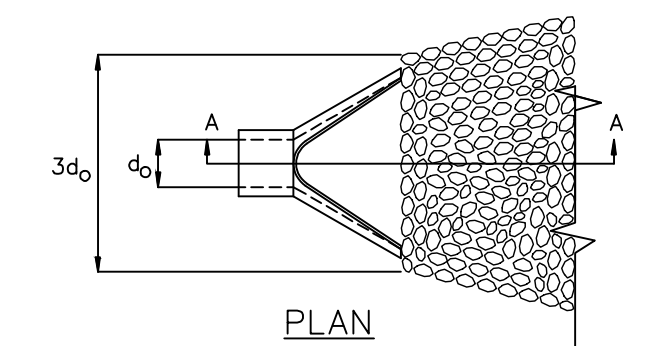

 Public Services Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN
 Date: _____ Permit # _____
 Signed: _____

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.



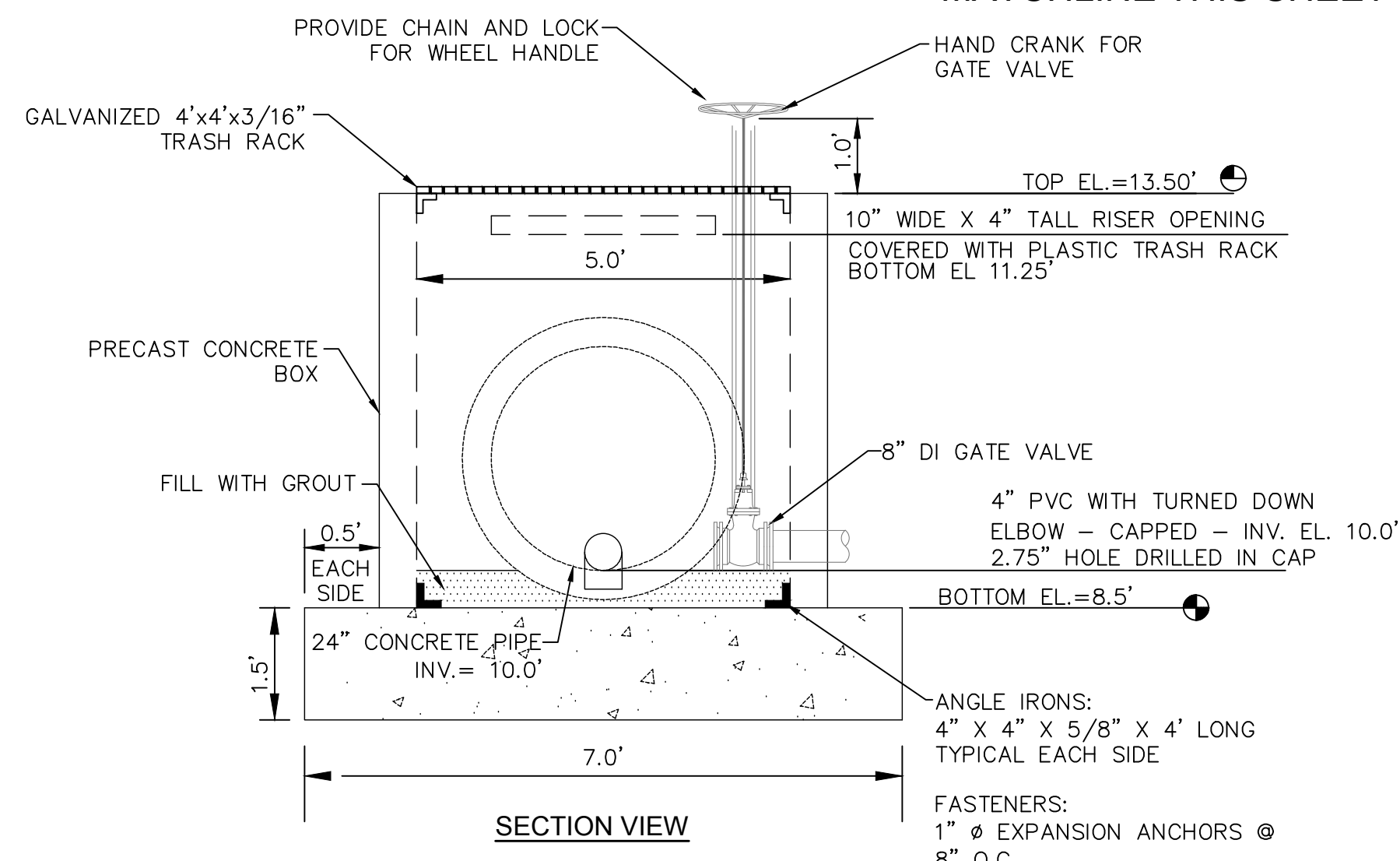
Approved Construction Plan
 Name _____ Date _____
 Planning _____
 Traffic _____
 Fire _____

- NOTES:
1. L_o IS THE LENGTH OF THE RIPRAP APRON.
 2. $d = 1.5$ TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6".
 3. IN A WELL-DEFINED CHANNEL EXTEND THE APRON UP THE CHANNEL BANKS TO AN ELEVATION OF 6" ABOVE THE MAXIMUM TAILWATER DEPTH OR TO THE TOP OF THE BANK, WHICHEVER IS LESS.
 4. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND SOIL FOUNDATION.

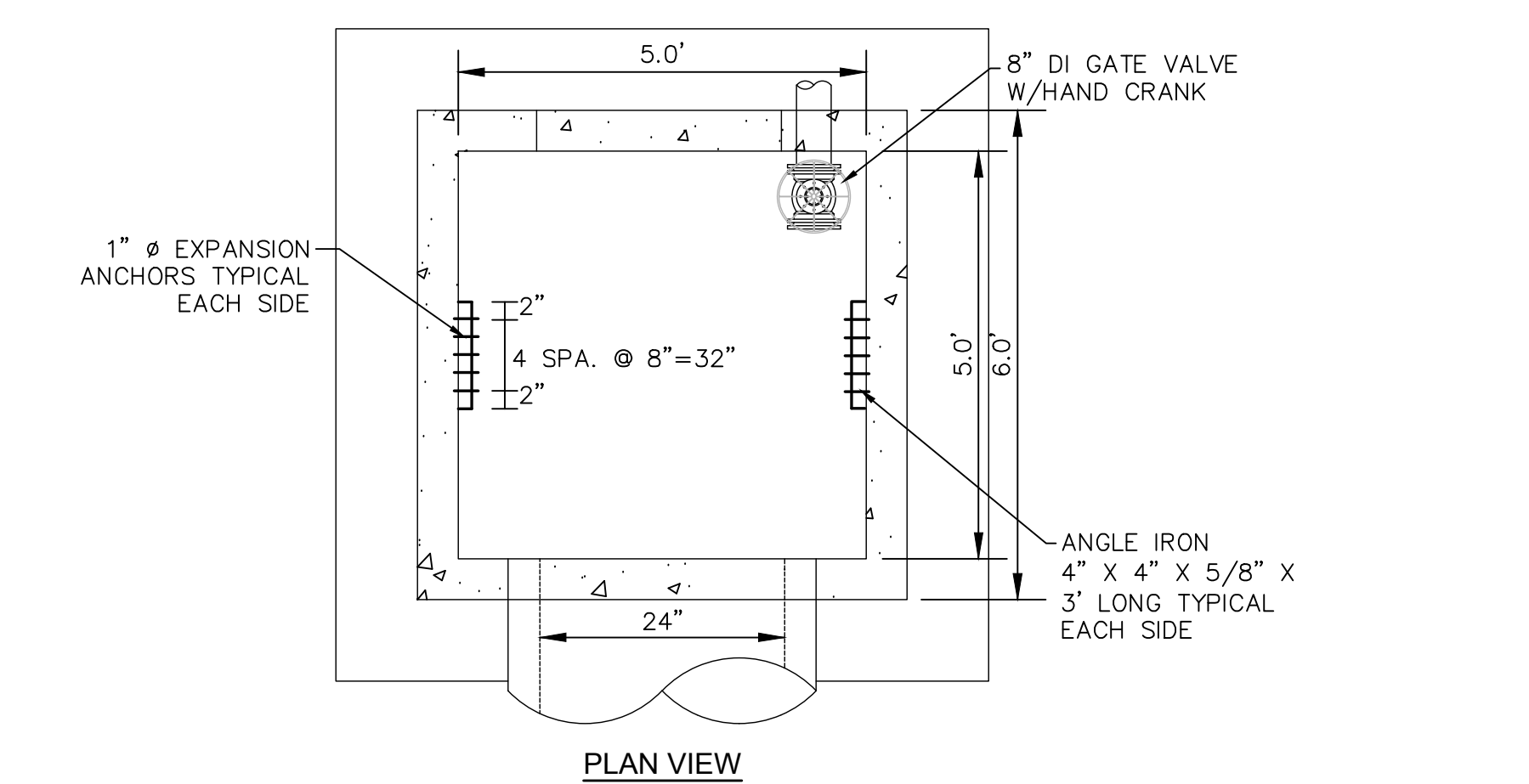


OUTLET PROTECTION	
OUTLET PIPE DIA.	24"
OUTLET FLOW RATE	10.80 CFS
OUTLET VELOCITY	4.44 FT/S
MATERIAL CLASS	CLASS A
LENGTH	8'
WIDTH	6'
STONE DIA.	3"
THICKNESS	9"

PIPE OUTLET PROTECTION
NOT TO SCALE

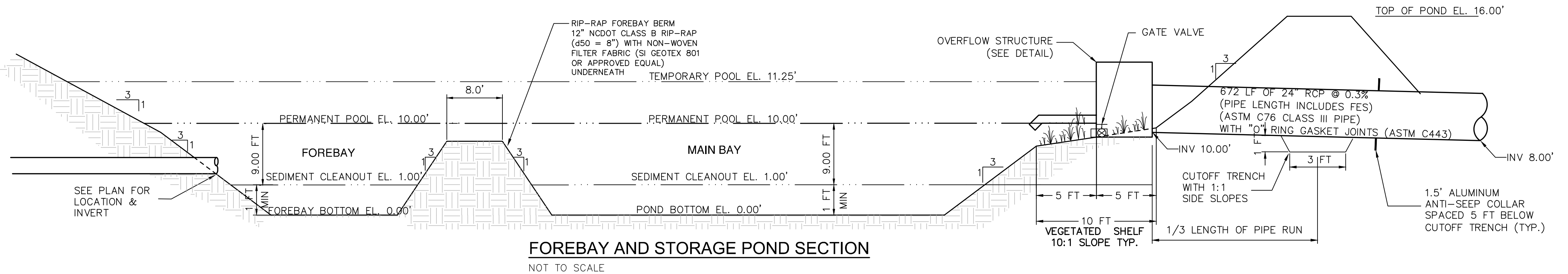


SECTION VIEW



PLAN VIEW

WET POND OUTLET STRUCTURE
NOT TO SCALE



FOREBAY AND STORAGE POND SECTION
NOT TO SCALE

REV. NO.	DESCRIPTIONS / REVISIONS	DATE
E	CITY OF WILMINGTON TRC / OFPIA RESUBMITTAL	09/09/2016
D	NEW HANOVER COUNTY EROSION CONTROL RC-SUBMITTAL	08/04/2016
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B	CITY OF WILMINGTON TRC	06/01/2016
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/06/2016

SEAL
PRELIMINARY - DO NOT USE FOR CONSTRUCTION

SEAL


 243 North Front Street
 Wilmington, North Carolina 28401
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 License: F-1222
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 NORTH AMERICA SEKISUI HOUSE, LLC

 RIVERLIGHTS™

RIVERLIGHTS - AGE QUALIFIED PHASE 2 & 3
STORMWATER MANAGEMENT DETAILS

DATE: 06/01/16
 MCE PROJ. # 02735-0168
 DRAWN EEM/KCBE
 DESIGNED KCBE
 CHECKED NAL
 PROJ. MGR. KCBE
 SCALE: HORIZONTAL: 1"=50', VERTICAL: N/A
 MAC FILE NUMBER: CN-502
 DRAWING NUMBER: 49
 STATUS: FINAL DESIGN
 ISSUED FOR PERMITTING
 REVISION E

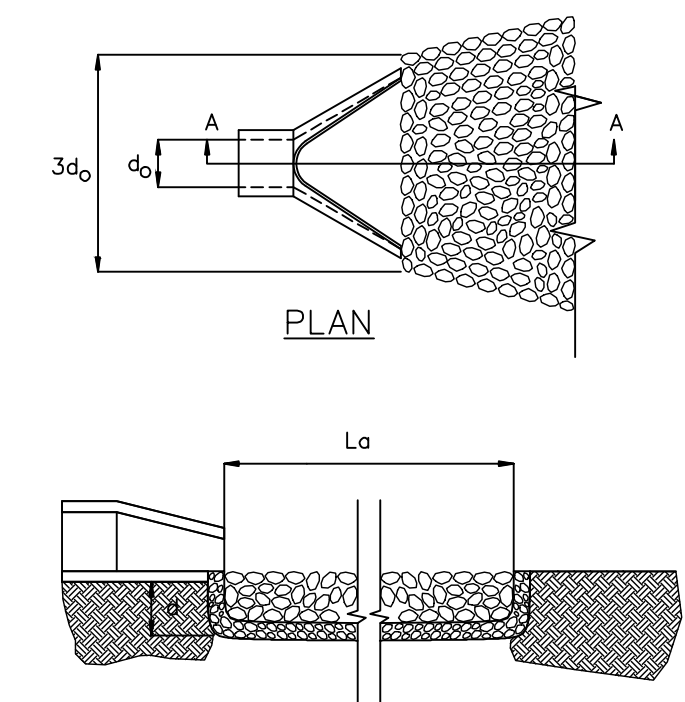
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1 inch

Approved Construction Plan

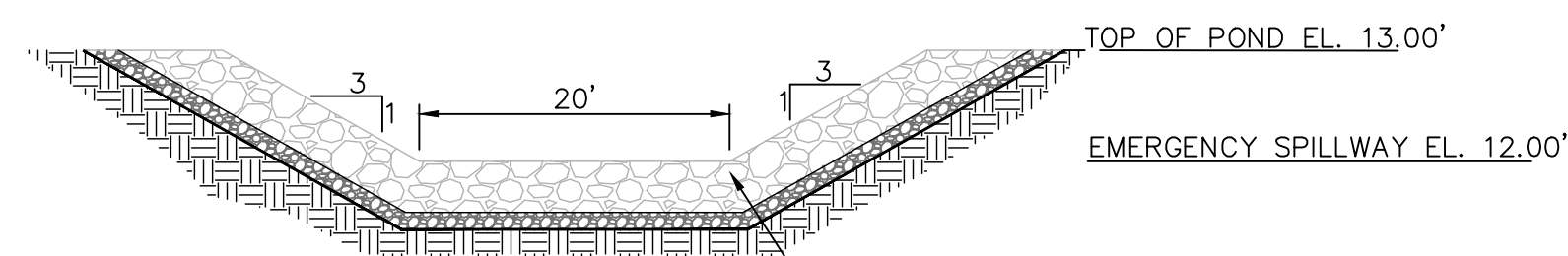
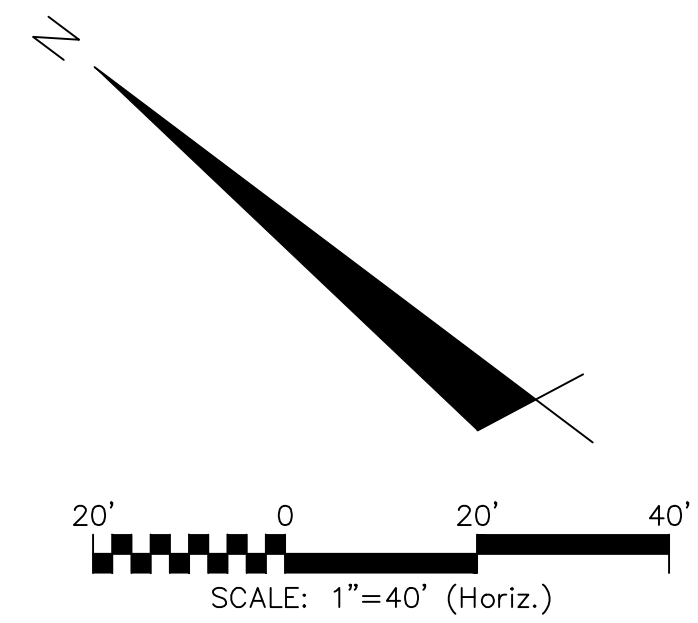
Name	Date
Planning	
Traffic	
Fire	

- NOTES:
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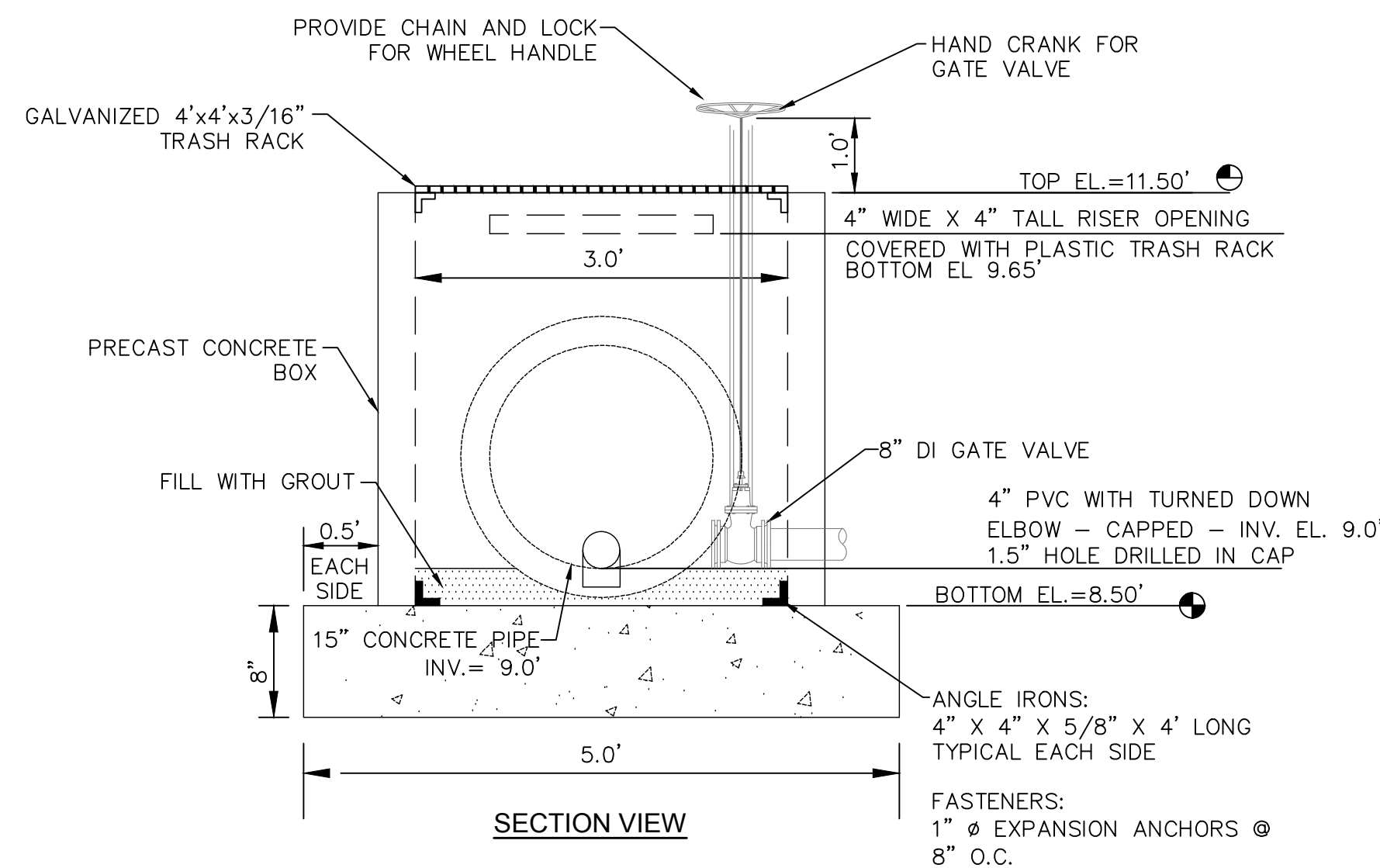
OUTLET PROTECTION	
OUTLET PIPE DIA.	15"
OUTLET FLOW RATE	0.59 CFS
OUTLET VELOCITY	3.62 FT/S
MATERIAL	CLASS A
LENGTH	5'
WIDTH	3.8'
STONE DIA.	3"
THICKNESS	9"

PIPE OUTLET PROTECTION
NOT TO SCALE

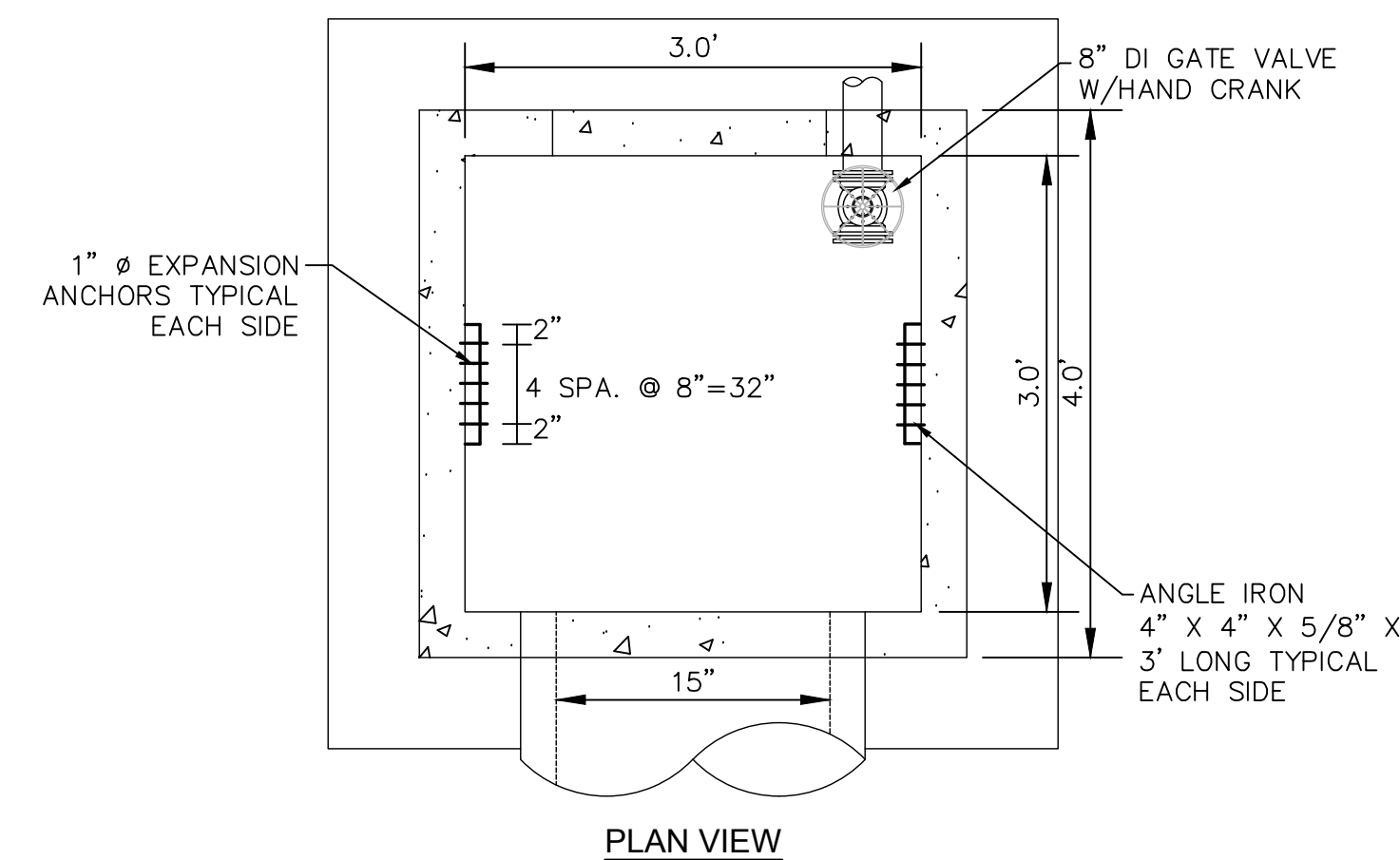


EMERGENCY SPILLWAY SECTION
NOT TO SCALE

RIP-RAP EMERGENCY SPILLWAY EXTEND TO TOE OF SLOPE WITH 12" NCDOT CLASS B RIP-RAP (d50 = 8") & 4 NCDOT NO. 57 STONE BEDDING WRAPPED WITH NON-WOVEN FILTER FABRIC (SI GEOTEX 801 OR APPROVED EQUAL)

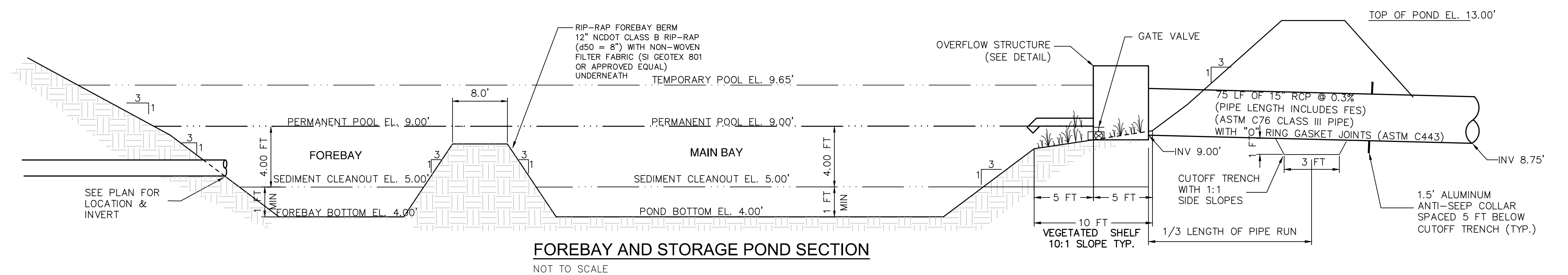
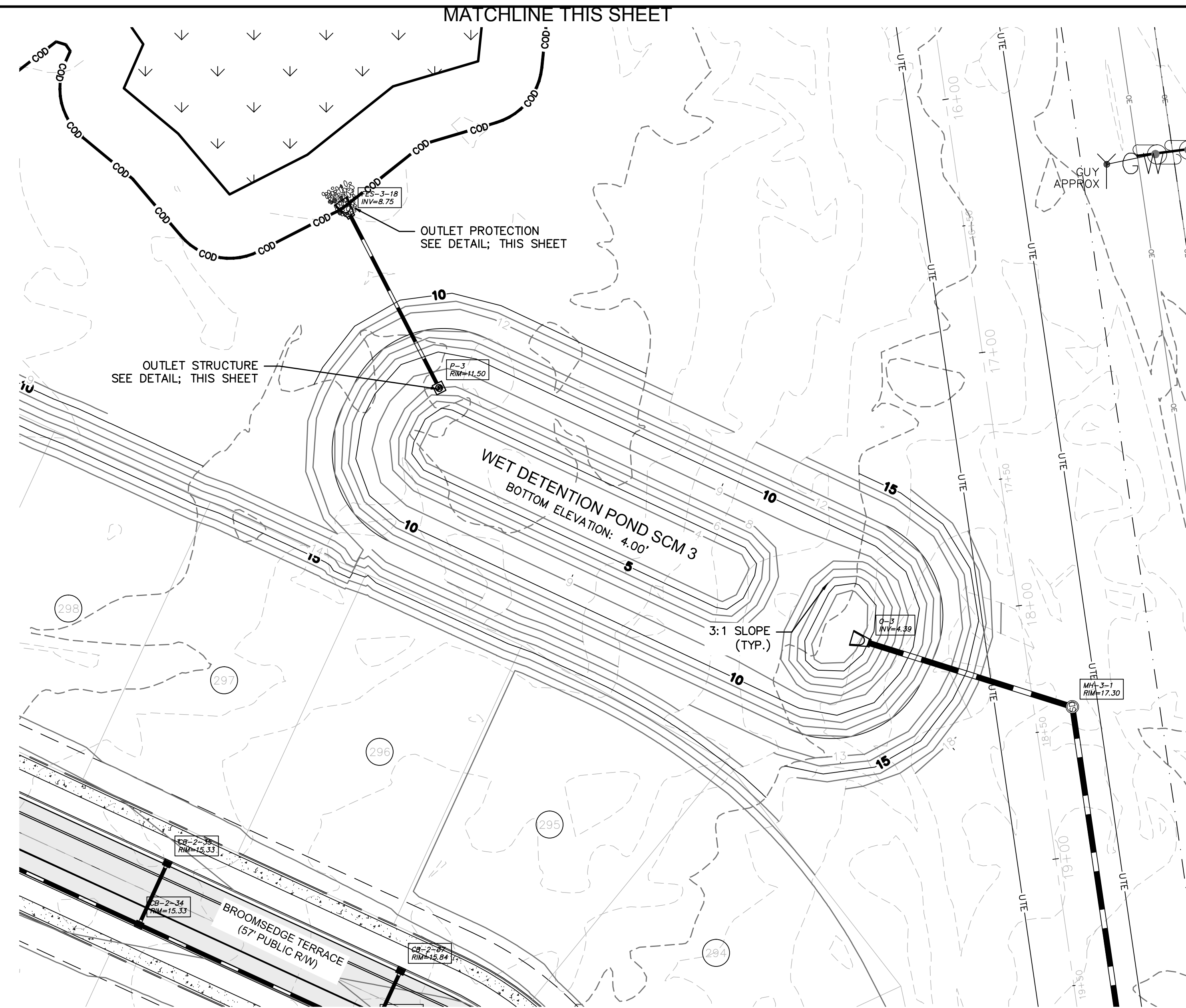


SECTION VIEW



PLAN VIEW

WET POND OUTLET STRUCTURE
NOT TO SCALE



FOREBAY AND STORAGE POND SECTION
NOT TO SCALE

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A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	01/06/2016

SEAL
PRELIMINARY - DO NOT USE FOR CONSTRUCTION

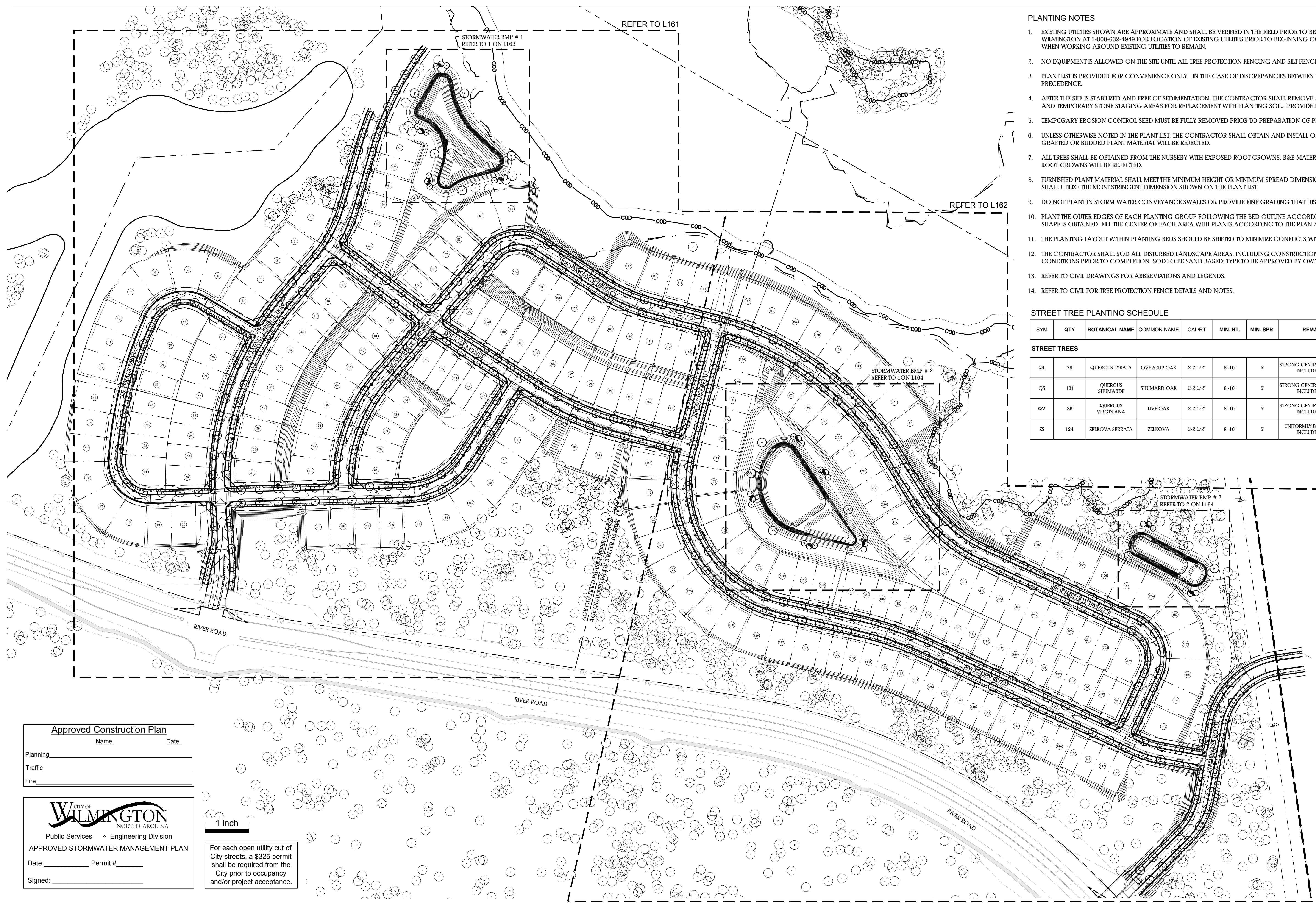
SEAL

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STORMWATER MANAGEMENT DETAILS

DATE: 06/01/16	SCALE: 1"=50'	MAC FILE NUMBER: CN-503
MCE PROJ. # 02735-0168	HORIZONTAL: 1"=50'	DRAWING NUMBER: 50
DRAWN: EEM/KCBE	VERTICAL: N/A	
DESIGNED: KCBE		
CHECKED: NAL		
PROJ. MGR.: KCBE		
STATUS: FINAL DESIGN		REVISION: E
ISSUED FOR PERMITTING		



PLANTING NOTES

- EXISTING UTILITIES SHOWN ARE APPROXIMATE AND SHALL BE VERIFIED IN THE FIELD PRIOR TO BEGINNING WORK. CONTRACTOR SHALL CONTACT THE CITY OF WILMINGTON AT 1-800-632-4949 FOR LOCATION OF EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN WORKING AROUND EXISTING UTILITIES TO REMAIN.
- NO EQUIPMENT IS ALLOWED ON THE SITE UNTIL ALL TREE PROTECTION FENCING AND SILT FENCING HAS BEEN INSTALLED AND APPROVED.
- PLANT LIST IS PROVIDED FOR CONVENIENCE ONLY. IN THE CASE OF DISCREPANCIES BETWEEN THE PLAN AND PLANT LIST QUANTITIES, THE PLAN SHALL TAKE PRECEDENCE.
- AFTER THE SITE IS STABILIZED AND FREE OF SEDIMENTATION, THE CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL DEVICES, SILT, RIP RAP AND TEMPORARY STONE STAGING AREAS FOR REPLACEMENT WITH PLANTING SOIL. PROVIDE PLANTING ACCORDING TO THE LANDSCAPE PLAN.
- TEMPORARY EROSION CONTROL SEED MUST BE FULLY REMOVED PRIOR TO PREPARATION OF PERMANENT SEED, SOD OR LANDSCAPE BEDS.
- UNLESS OTHERWISE NOTED IN THE PLANT LIST, THE CONTRACTOR SHALL OBTAIN AND INSTALL ONLY PLANT MATERIAL THAT IS GROWN ON ITS OWN ROOT-GRAFTED OR BUDDED PLANT MATERIAL WILL BE REJECTED.
- ALL TREES SHALL BE OBTAINED FROM THE NURSERY WITH EXPOSED ROOT CROWNS. B&B MATERIAL DELIVERED TO SITE WITH BURIED OR RECENTLY BURIED ROOT CROWNS WILL BE REJECTED.
- FURNISHED PLANT MATERIAL SHALL MEET THE MINIMUM HEIGHT OR MINIMUM SPREAD DIMENSIONS SHOWN IN THE PLANT LIST HEADINGS. THE CONTRACTOR SHALL UTILIZE THE MOST STRINGENT DIMENSION SHOWN ON THE PLANT LIST.
- DO NOT PLANT IN STORM WATER CONVEYANCE SWALES OR PROVIDE FINE GRADING THAT DISRUPTS FLOW OR CHANGES LONGITUDINAL SLOPES.
- PLANT THE OUTER EDGES OF EACH PLANTING GROUP FOLLOWING THE BED OUTLINE ACCORDING TO THE PLAN. ONCE A SATISFACTORY MATCHED OUTER SHAPE IS OBTAINED, FILL THE CENTER OF EACH AREA WITH PLANTS ACCORDING TO THE PLAN AND SPACING NOTES.
- THE PLANTING LAYOUT WITHIN PLANTING BEDS SHOULD BE SHIFTED TO MINIMIZE CONFLICTS WITH EXISTING TREE ROOTS.
- THE CONTRACTOR SHALL SOD ALL DISTURBED LANDSCAPE AREAS, INCLUDING CONSTRUCTION ACCESS OUTSIDE PROJECT LIMITS, TO MATCH EXISTING CONDITIONS PRIOR TO COMPLETION. SOD TO BE SAND BASED; TYPE TO BE APPROVED BY OWNER PRIOR TO INSTALLATION.
- REFER TO CIVIL DRAWINGS FOR ABBREVIATIONS AND LEGENDS.
- REFER TO CIVIL FOR TREE PROTECTION FENCE DETAILS AND NOTES.

STREET TREE PLANTING SCHEDULE

SYM	QTY	BOTANICAL NAME	COMMON NAME	CAL/RT	MIN. HT.	MIN. SPR.	REMARKS
STREET TREES							
QL	78	QUERCUS LYRATA	OVERCUP OAK	2-2 1/2"	8'-10'	5'	STRONG CENTRAL LEADER; NO INCLUDED BARK
QS	131	QUERCUS SHUMARDII	SHUMARD OAK	2-2 1/2"	8'-10'	5'	STRONG CENTRAL LEADER; NO INCLUDED BARK
QV	36	QUERCUS VIRGINIANA	LIVE OAK	2-2 1/2"	8'-10'	5'	STRONG CENTRAL LEADER; NO INCLUDED BARK
ZS	124	ZELKOVA SERRATA	ZELKOVA	2-2 1/2"	8'-10'	5'	UNIFORMLY BRANCHED; NO INCLUDED BARK

Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

Fire _____

CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division

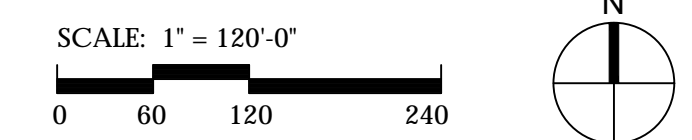
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

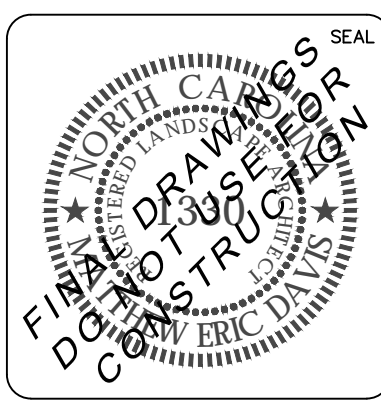
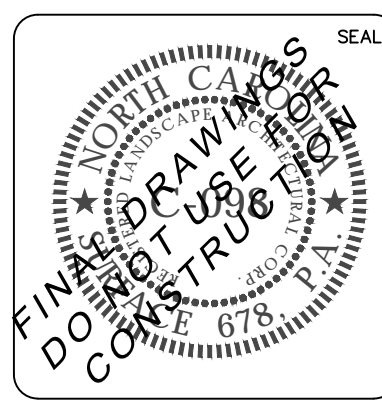
Signed: _____

1 inch

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.



REVNO.	DESCRIPTIONS REVISIONS	DATE
A	TRC RESUBMISSION	08/05/2016



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by Newland COMMUNITIES

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215 Morris Street, Suite 150
Durham, NC 27701
www.surface678.com
P: 919-419-1199
F: 919-419-1669

RIVERLIGHTS AGE QUALIFIED PHASE 2 AND 3

OVERALL PLANTING PLAN

DATE: 05/25/2016

MCE PROJ. # _____

DRAWN: JL

DESIGNED: JC, ED

CHECKED: JC, ED

PROJ. MGR.: JC

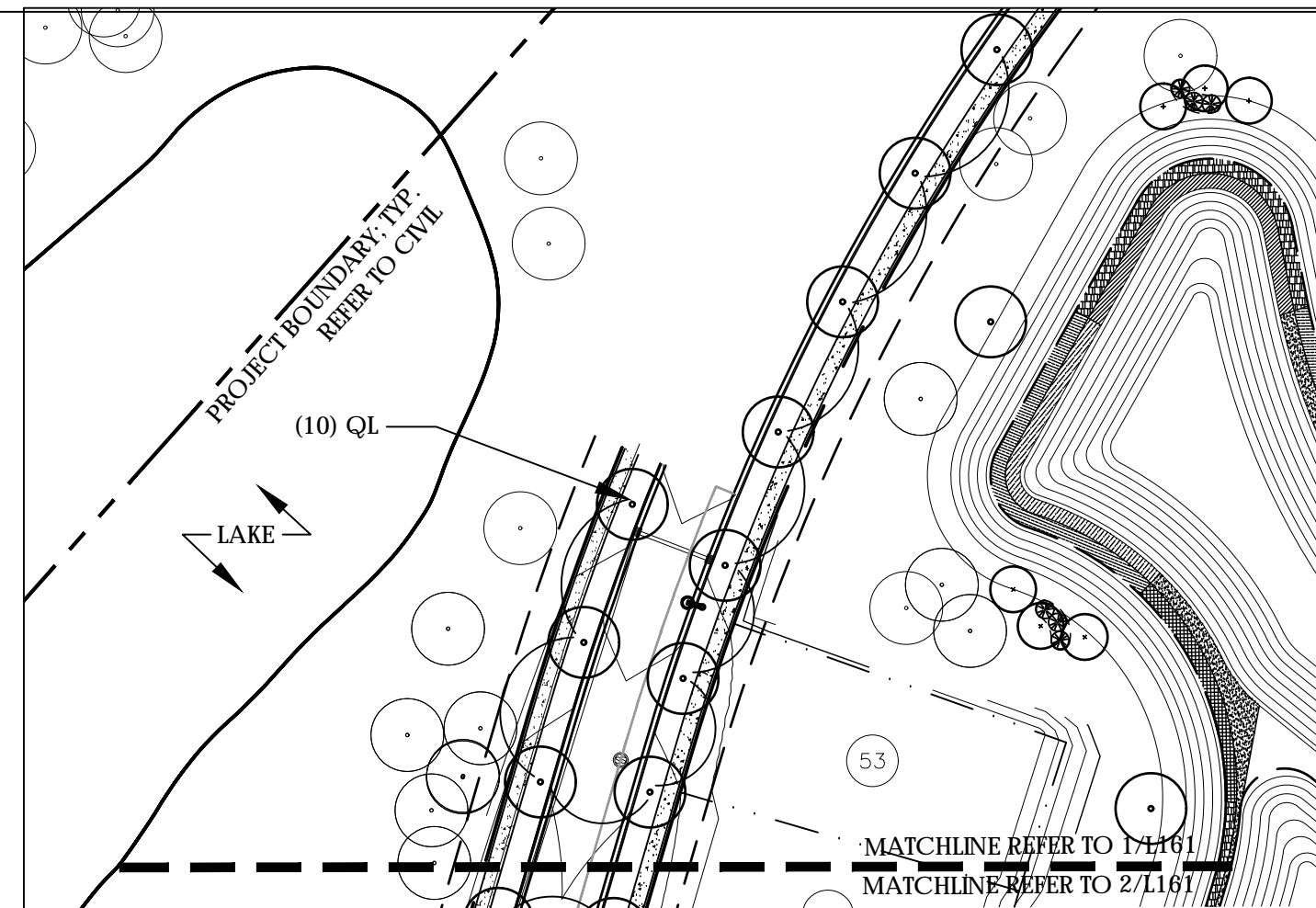
STATUS: _____

SCALE: AS NOTED

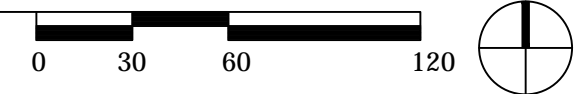
M&C FILE NUMBER: _____

DRAWING NUMBER: **L160**

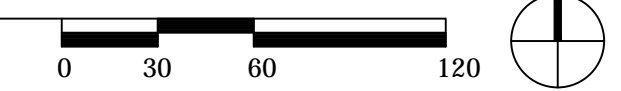
REVISION: _____



1 STREET TREE PLANTING PLAN
SCALE: 1" = 60'-0"



2 STREET TREE PLANTING PLAN
SCALE: 1" = 60'-0"



Approved Construction Plan

Name: _____ Date: _____

Planning _____

Traffic _____

Fire _____

CITY OF WILMINGTON
NORTH CAROLINA

Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

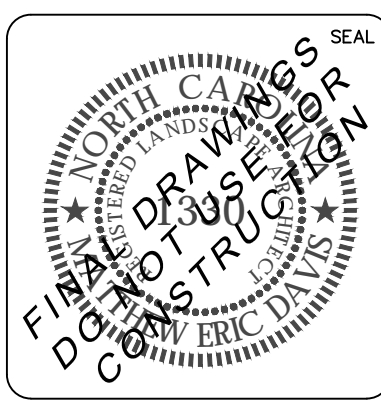
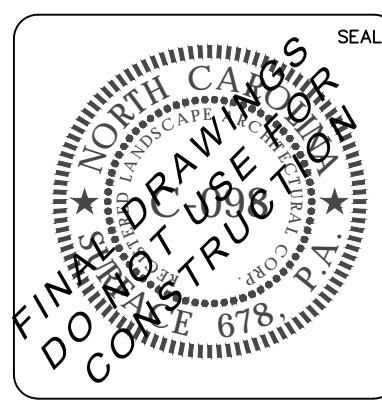
Date: _____ Permit # _____

Signed: _____

1 inch

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

REV.	DESCRIPTION	DATE
A	TRC RESUBMISSION	08/05/2016



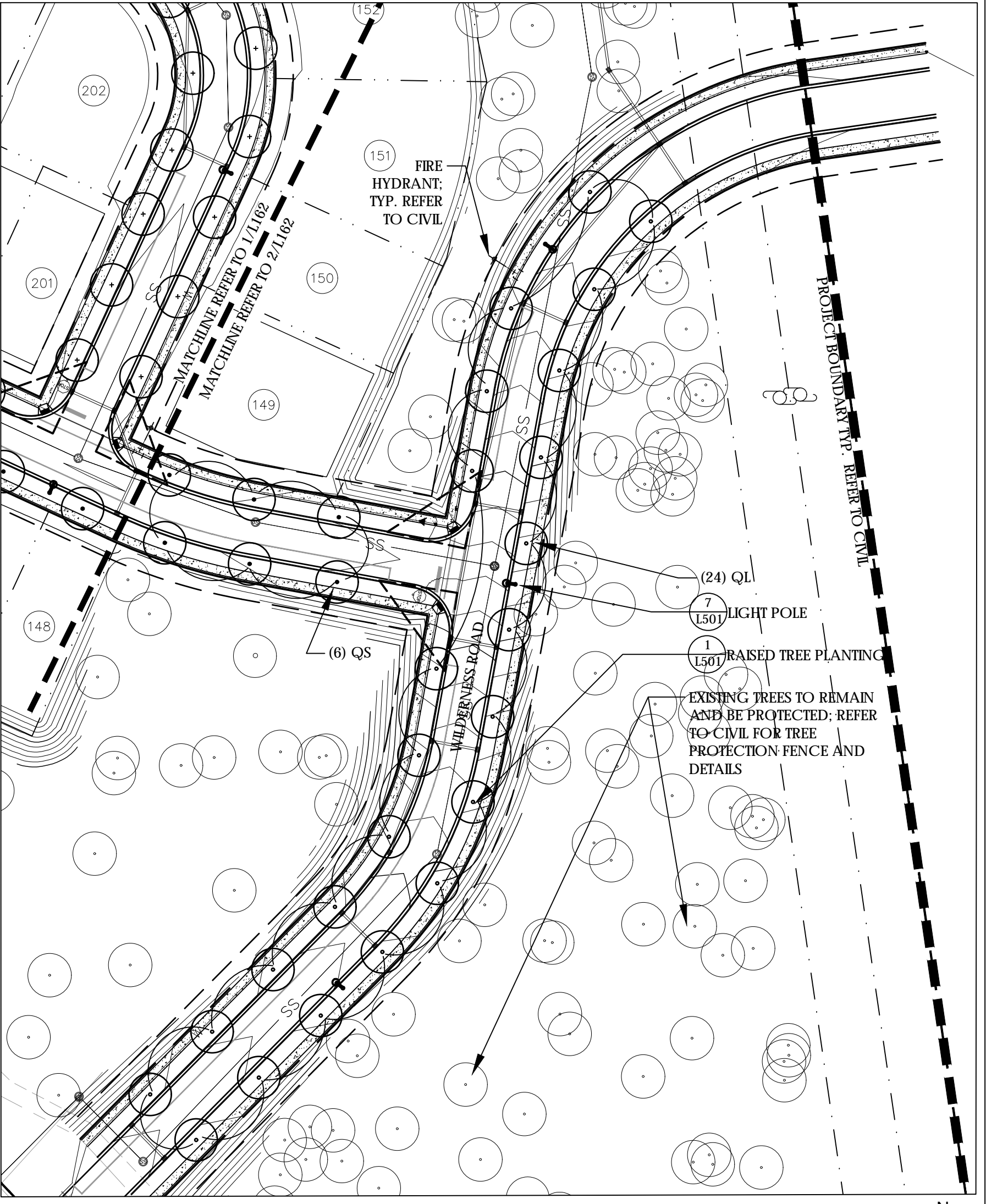
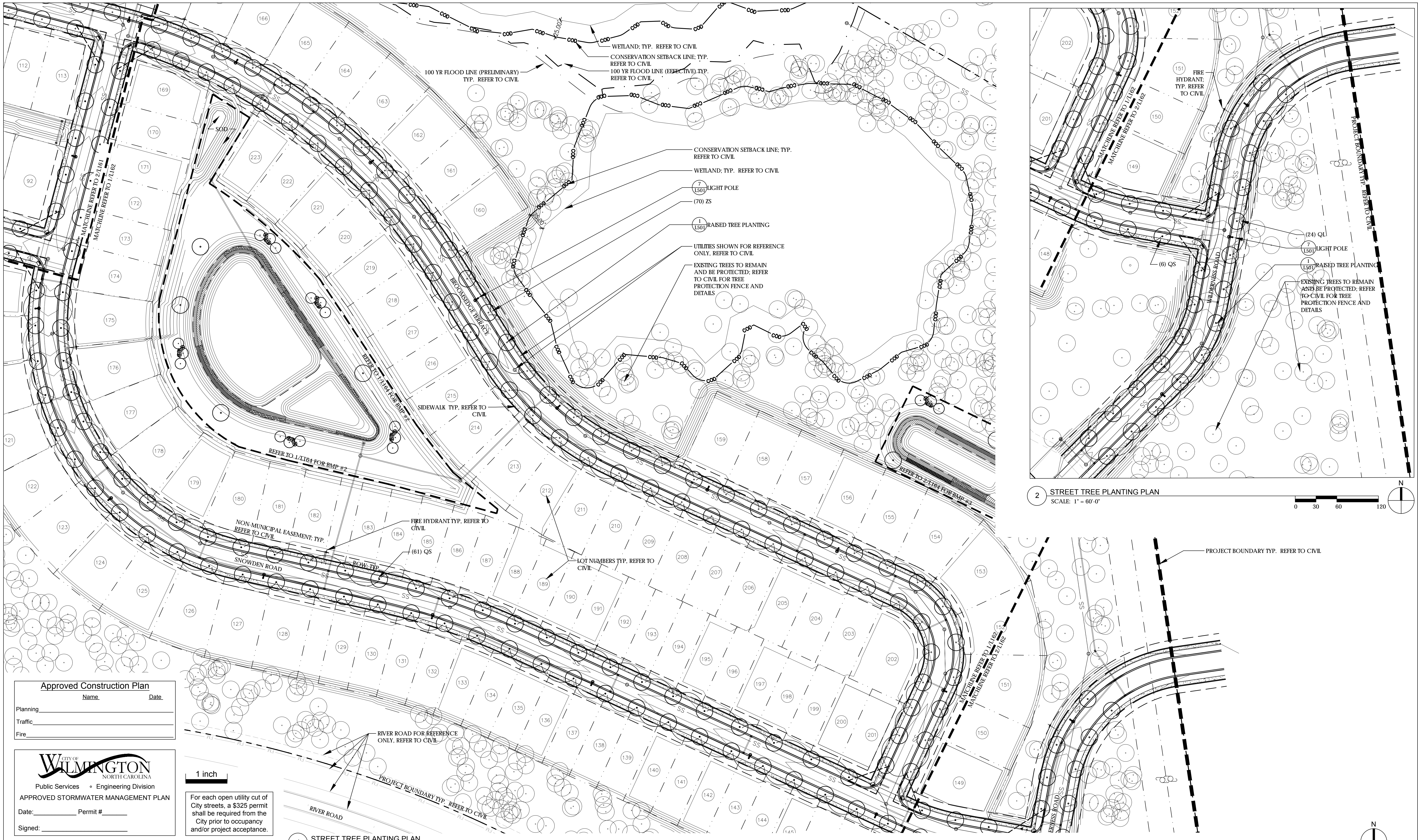
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RIVERLIGHTS AGE QUALIFIED PHASE 2 AND 3

STREET TREE PLANTING PLAN

DATE: 05/25/2016	SCALE: AS NOTED	M&C FILE NUMBER
M&C PROJ. #	DESIGNED: J.C., E.D.	DRAWING NUMBER
DRAWN: J.C.	CHECKED: J.C., E.D.	L161
PROJ. MGR.: J.C.	STATUS:	REVISION



2 STREET TREE PLANTING PLAN
SCALE: 1" = 60'-0"

Approved Construction Plan

Name	Date
Planning	
Traffic	
Fire	

CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

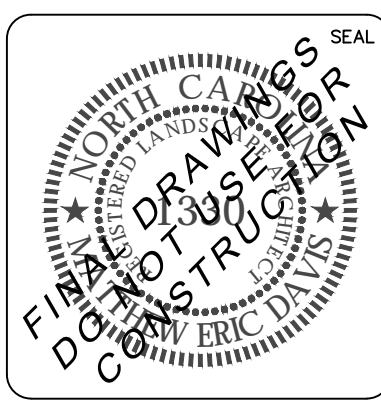
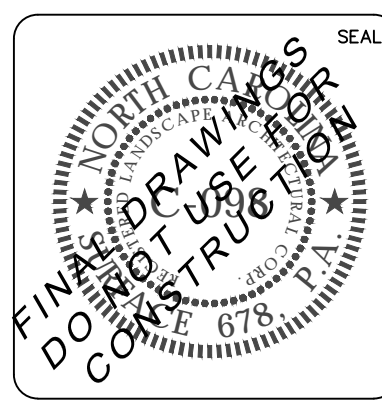
Date: _____ Permit # _____
Signed: _____

1 inch

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

1 STREET TREE PLANTING PLAN
SCALE: 1" = 60'-0"

REVNO.	DESCRIPTIONS/REVISIONS	DATE
A	TBC RESUBMISSION	08/05/2016



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**RIVERLIGHTS AGE QUALIFIED
PHASE 2 AND 3**

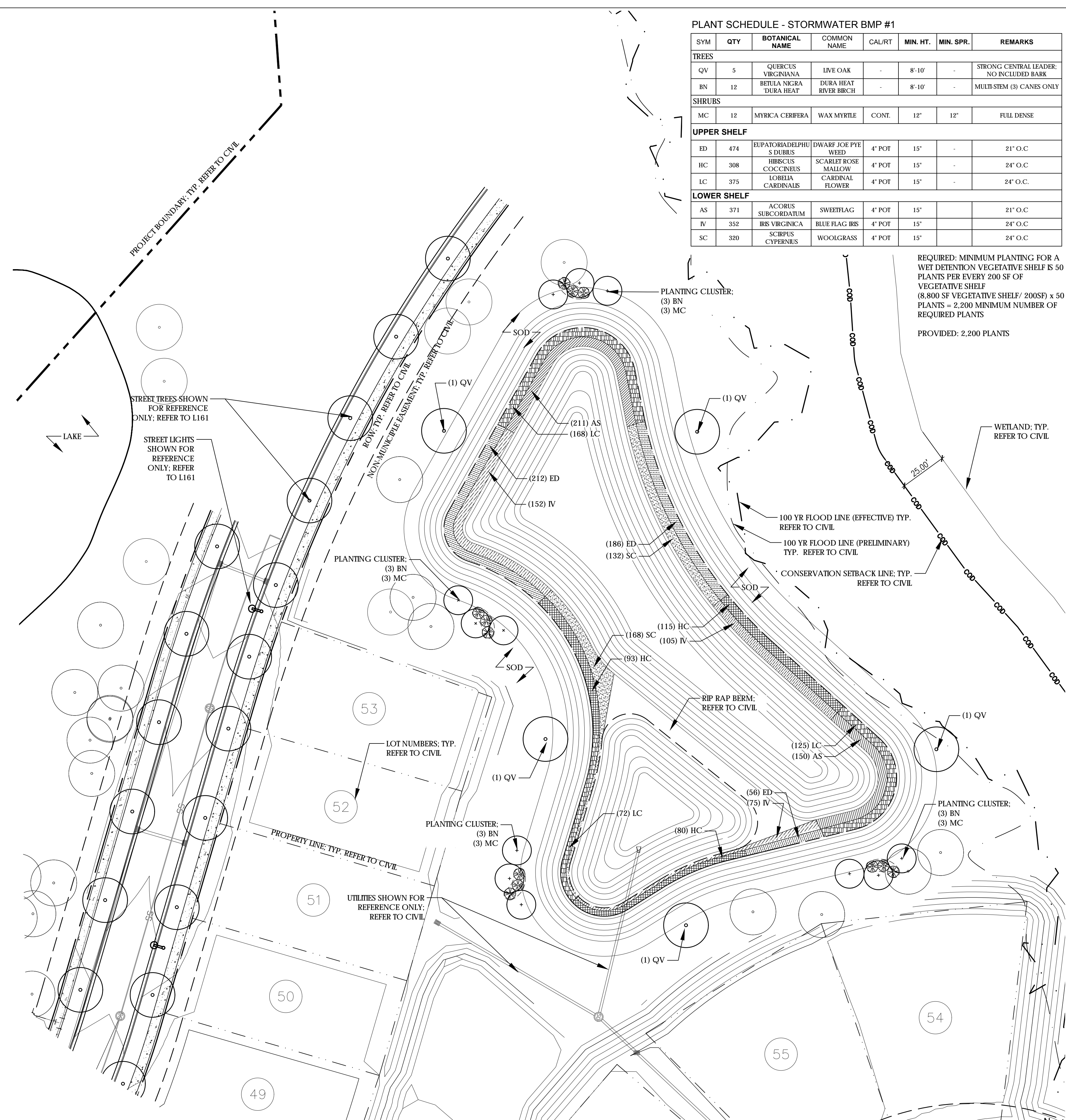
**STREET TREE
PLANTING PLAN**

DATE: 05/25/2016	SCALE: AS NOTED	M&C FILE NUMBER
M&C PROJ. #		DRAWING NUMBER
DRAWN: JI		L162
DESIGNED: JIC, ED		
CHECKED: JIC, ED		
PROJ. MGR.: JC		
STATUS: NOT FOR CONSTRUCTION		

PLANT SCHEDULE - STORMWATER BMP #1

SYM	QTY	BOTANICAL NAME	COMMON NAME	CAL/RT	MIN. HT.	MIN. SPR.	REMARKS
TREES							
QV	5	QUERCUS VIRGINIANA	LIVE OAK	-	8'-10'	-	STRONG CENTRAL LEADER; NO INCLUDED BARK
BN	12	BETULA NIGRA 'DURA HEAT'	DURA HEAT RIVER BIRCH	-	8'-10'	-	MULTI-STEM (3) CANES ONLY
SHRUBS							
MC	12	MYRTICA CERIFERA	WAX MYRTLE	CONT.	12"	12"	FULL DENSE
UPPER SHELF							
ED	474	EUPATORIUM DELPHIENSIS	DWARF JOE PYE WEED	4" POT	15"	-	21" O.C.
HC	308	HIBISCUS COCCINEUS	SCARLET ROSE MALLOW	4" POT	15"	-	24" O.C.
LC	375	LOBELIA CARDINALIS	CARDINAL FLOWER	4" POT	15"	-	24" O.C.
LOWER SHELF							
AS	371	ACORUS SUBCORDATUS	SWEETFLAG	4" POT	15"	-	21" O.C.
IV	352	IRIS VIRGINICA	BLUE FLAG BIR	4" POT	15"	-	24" O.C.
SC	320	SCRIPUS CYPERNUS	WOOLGRASS	4" POT	15"	-	24" O.C.

REQUIRED: MINIMUM PLANTING FOR A WET DETENTION VEGETATIVE SHELF IS 50 PLANTS PER EVERY 200 SF OF VEGETATIVE SHELF (8,800 SF VEGETATIVE SHELF / 200SF) x 50 PLANTS = 2,200 MINIMUM NUMBER OF REQUIRED PLANTS
 PROVIDED: 2,200 PLANTS



1 STORMWATER BMP #1
 SCALE: 1" = 30'-0"

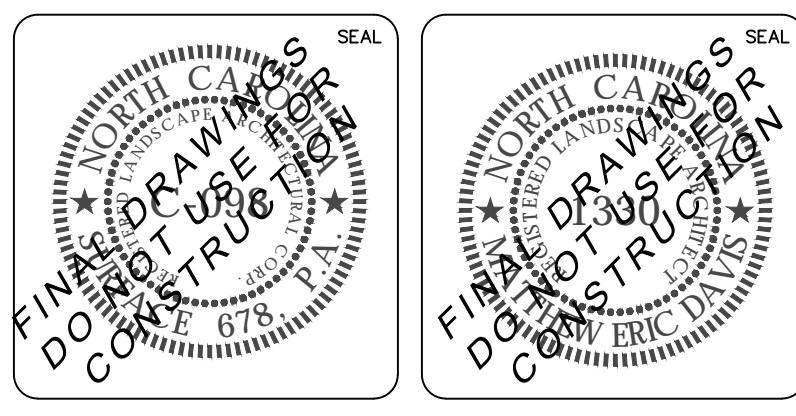
CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
 Date: _____ Permit # _____
 Signed: _____

1 inch
 For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan

Name	Date
Planning	
Traffic	
Fire	

REVNO.	DESCRIPTIONS REVISIONS	DATE
A	TRC RESUBMISSION	08/05/2016



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RIVERLIGHTS AGE QUALIFIED PHASE 2 AND 3
STORMWATER BMP PLANTING PLAN

DATE: 05/25/2016	SCALE: AS NOTED	M&C FILE NUMBER: L163
M&C PROJ. #	DRAWN: JL	DRAWING NUMBER: L163
DESIGNED: JCG, ED	CHECKED: JCG, ED	REVISION:
PROJ. MGR.: JCG	STATUS:	

PLANT SCHEDULE - STORMWATER BMP #2

SYM	QTY	BOTANICAL NAME	COMMON NAME	CAL/RT	MIN. HT.	MIN. SPR.	REMARKS
TREES							
QV	4	QUERCUS VIRGINIANA	LIVE OAK	-	8'-10'	-	STRONG CENTRAL LEADER; NO INCLUDED BARK
BN	15	BETULA NIGRA DURA HEAT	RIVER BIRCH	-	8'-10'	-	MULTI-STEM (3) CANES ONLY
SHRUBS							
MC	15	MYRICA CERIFERA	WAX MYRTLE	CONT.	12"	12"	FULL DENSE
UPPER SHELF							
ED	446	EUPATORIADELPHI S DUBIUS	DWARF JOE PYE WEED	4" POT	15"	-	21" O.C
HC	359	HIBSCUS COCCINEUS	SCARLET ROSE MALLOW	4" POT	15"	-	24" O.C
LC	308	LOBELIA CARDINALIS	CARDINAL FLOWER	4" POT	15"	-	24" O.C
LOWER SHELF							
AS	399	ACORUS SUBCORDATUM	SWEETFLAG	4" POT	15"	-	21" O.C
IV	281	IRS VIRGINICA	BLUE FLAG IRIS	4" POT	15"	-	24" O.C
SC	385	SCRIPUS CYPERNIS	WOOLGRASS	4" POT	15"	-	24" O.C

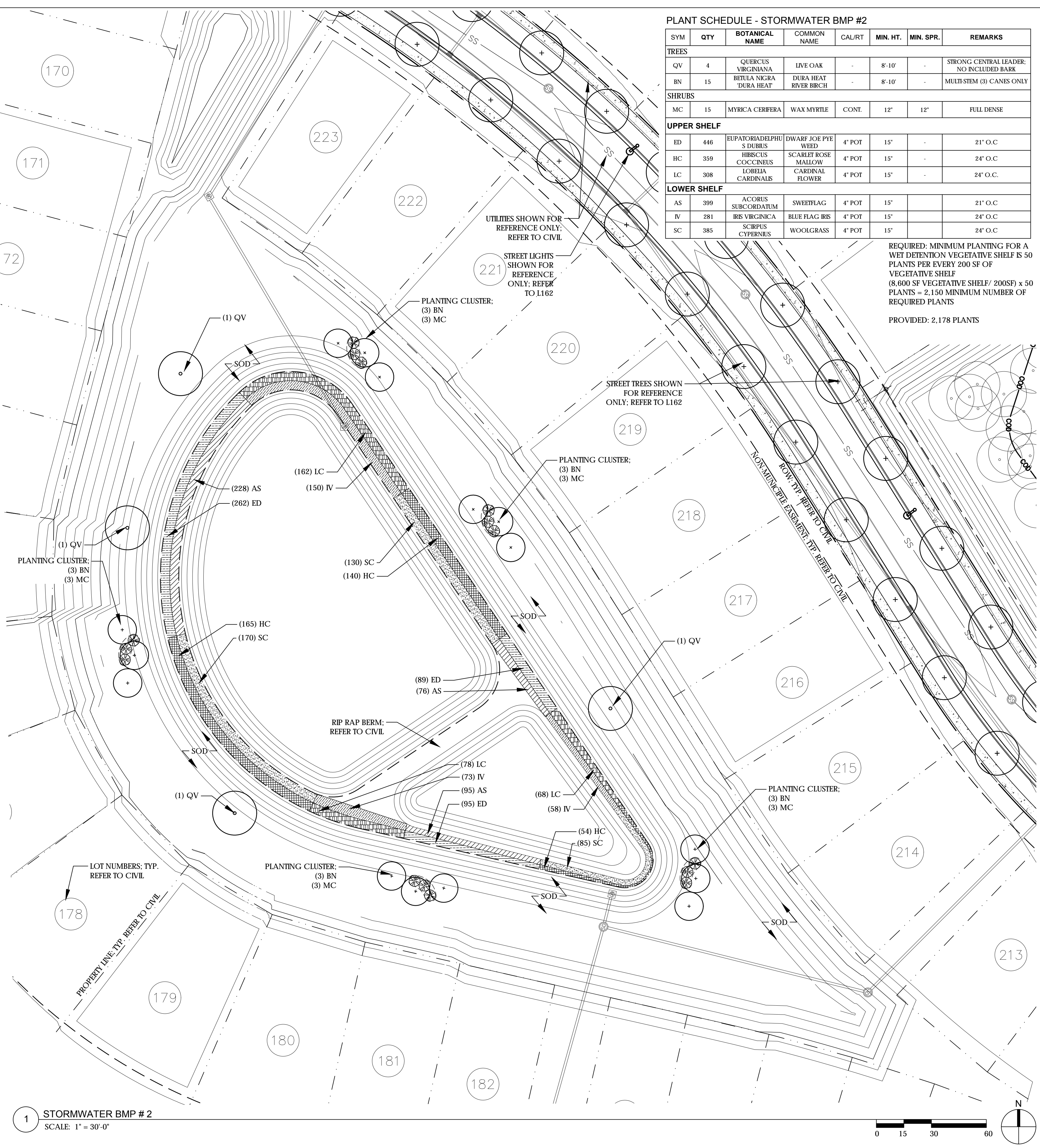
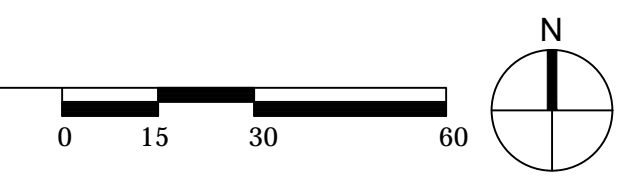
REQUIRED: MINIMUM PLANTING FOR A WET DETENTION VEGETATIVE SHELF IS 50 PLANTS PER EVERY 200 SF OF VEGETATIVE SHELF
(8,600 SF VEGETATIVE SHELF/ 200SF) x 50 PLANTS = 2,150 MINIMUM NUMBER OF REQUIRED PLANTS
PROVIDED: 2,178 PLANTS

PLANT SCHEDULE - STORMWATER BMP #3

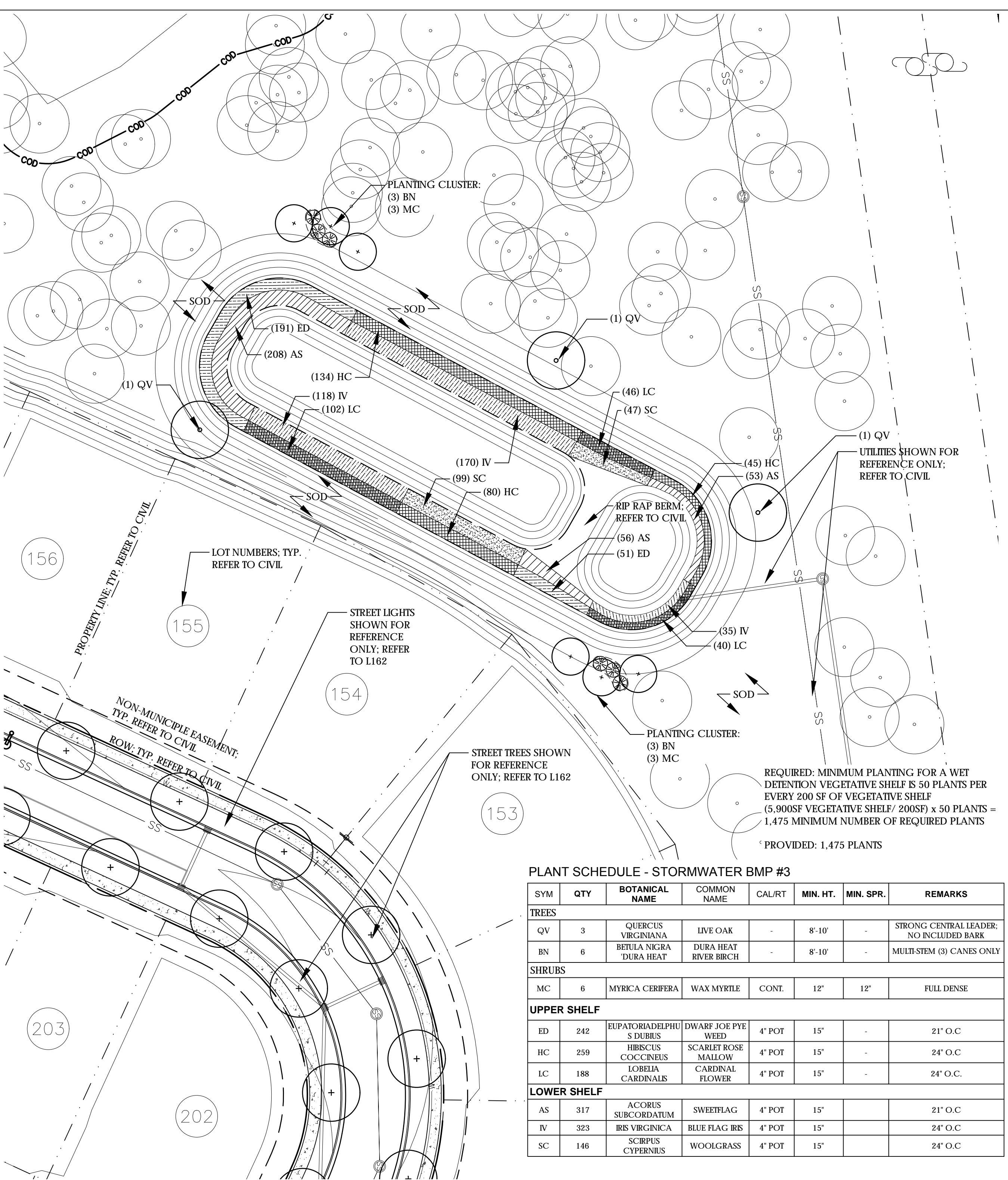
SYM	QTY	BOTANICAL NAME	COMMON NAME	CAL/RT	MIN. HT.	MIN. SPR.	REMARKS
TREES							
QV	3	QUERCUS VIRGINIANA	LIVE OAK	-	8'-10'	-	STRONG CENTRAL LEADER; NO INCLUDED BARK
BN	6	BETULA NIGRA DURA HEAT	RIVER BIRCH	-	8'-10'	-	MULTI-STEM (3) CANES ONLY
SHRUBS							
MC	6	MYRICA CERIFERA	WAX MYRTLE	CONT.	12"	12"	FULL DENSE
UPPER SHELF							
ED	242	EUPATORIADELPHI S DUBIUS	DWARF JOE PYE WEED	4" POT	15"	-	21" O.C
HC	259	HIBSCUS COCCINEUS	SCARLET ROSE MALLOW	4" POT	15"	-	24" O.C
LC	188	LOBELIA CARDINALIS	CARDINAL FLOWER	4" POT	15"	-	24" O.C
LOWER SHELF							
AS	317	ACORUS SUBCORDATUM	SWEETFLAG	4" POT	15"	-	21" O.C
IV	323	IRS VIRGINICA	BLUE FLAG IRIS	4" POT	15"	-	24" O.C
SC	146	SCRIPUS CYPERNIS	WOOLGRASS	4" POT	15"	-	24" O.C

REQUIRED: MINIMUM PLANTING FOR A WET DETENTION VEGETATIVE SHELF IS 50 PLANTS PER EVERY 200 SF OF VEGETATIVE SHELF
(5,900SF VEGETATIVE SHELF/ 200SF) x 50 PLANTS = 1,475 MINIMUM NUMBER OF REQUIRED PLANTS
PROVIDED: 1,475 PLANTS

2 STORMWATER BMP #3
SCALE: 1" = 30'-0"



1 STORMWATER BMP #2
SCALE: 1" = 30'-0"

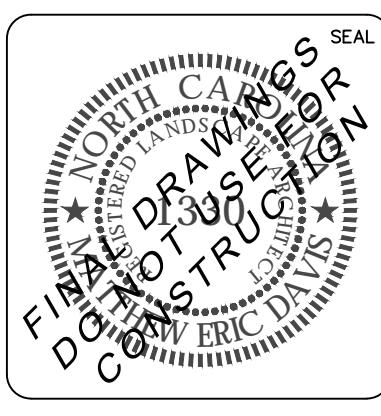
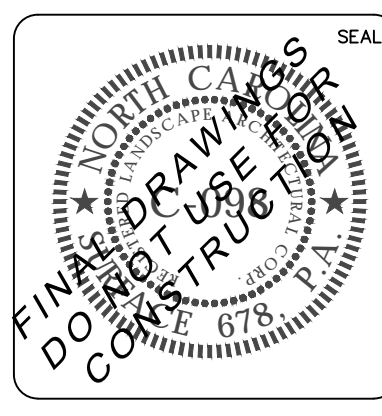


CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: _____ Permit # _____
Signed: _____

1 inch
For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

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

REVNO.	DESCRIPTIONS REVISIONS	DATE
A	TRC RESUBMISSION	08/05/2016

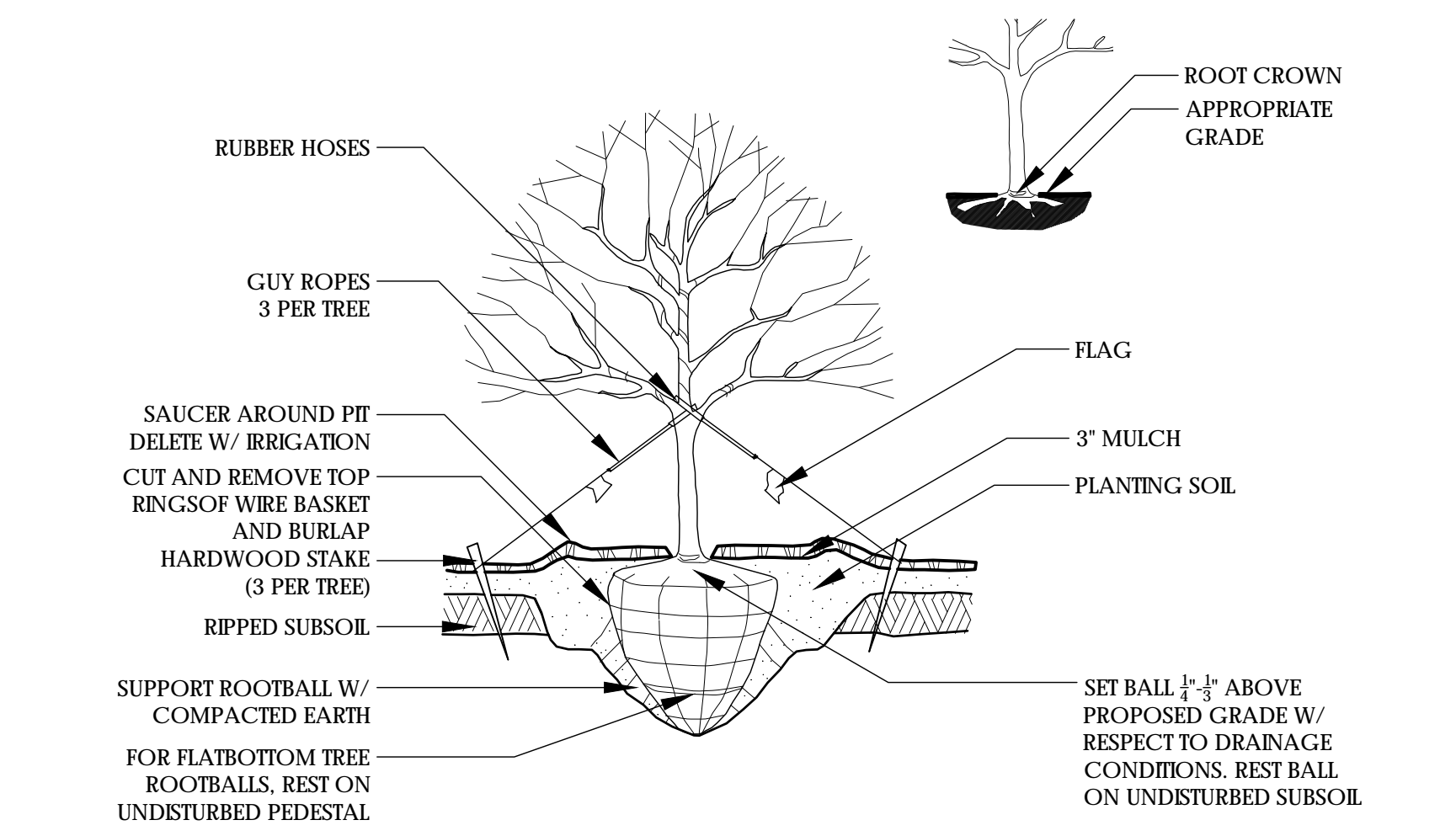


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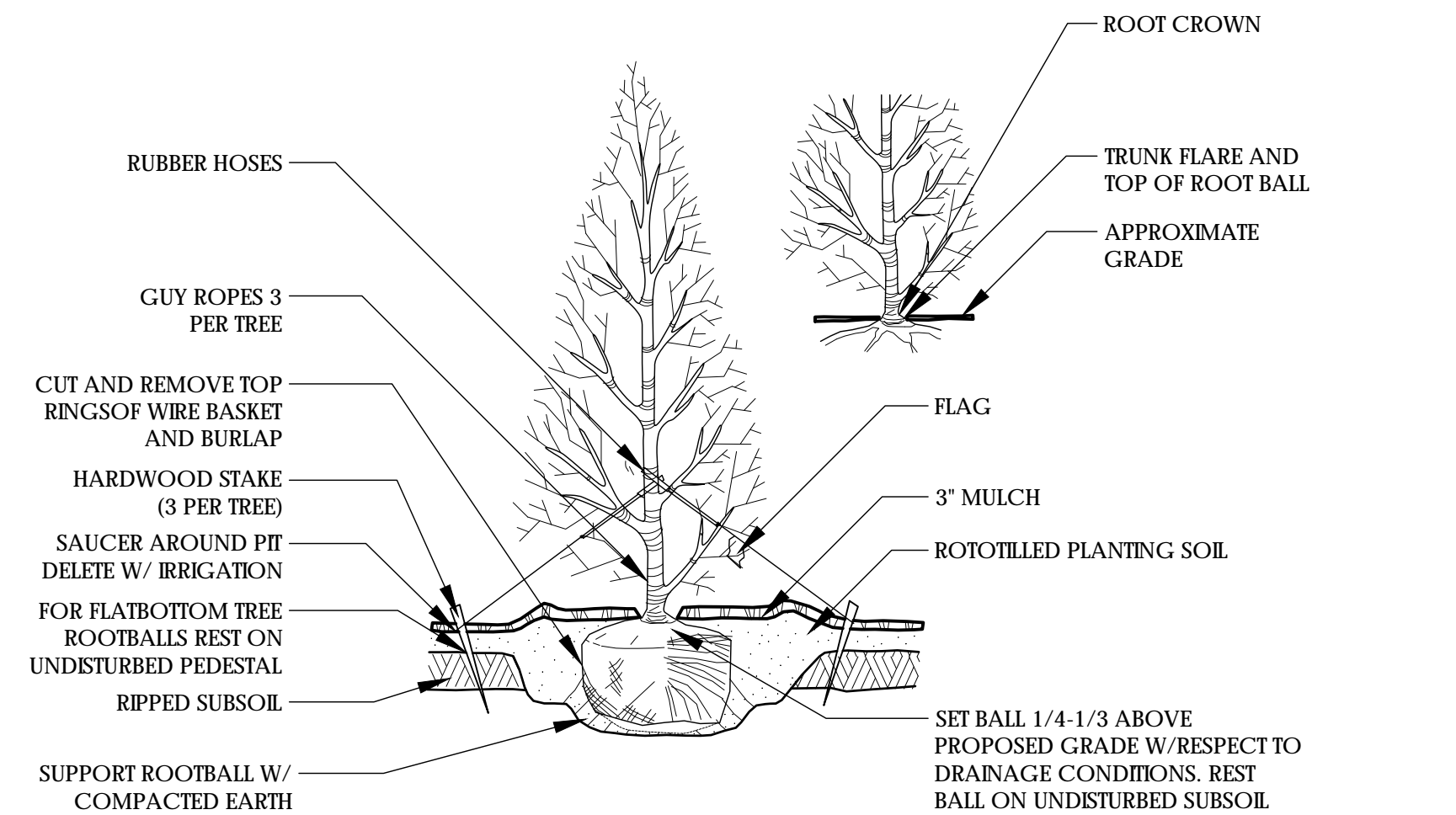
Surface
RIVERLIGHTS
Newland COMMUNITIES

RIVERLIGHTS AGE QUALIFIED PHASE 2 AND 3
STORMWATER BMP PLANTING PLAN

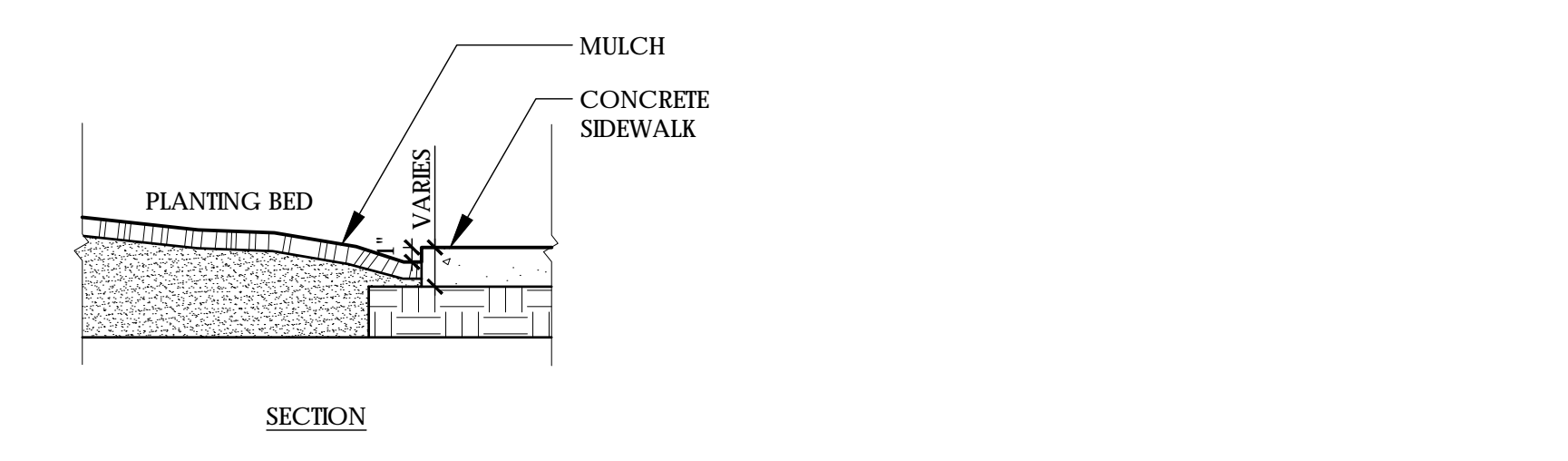
DATE: 05/25/2016	SCALE: AS NOTED	M&C FILE NUMBER
M&C PROJ. #	DESIGNED: J.C., E.D.	DRAWING NUMBER
DRAWN: J.C.	CHECKED: J.C., E.D.	L164
PROJ. MGR.: J.C.	STATUS:	REVISION



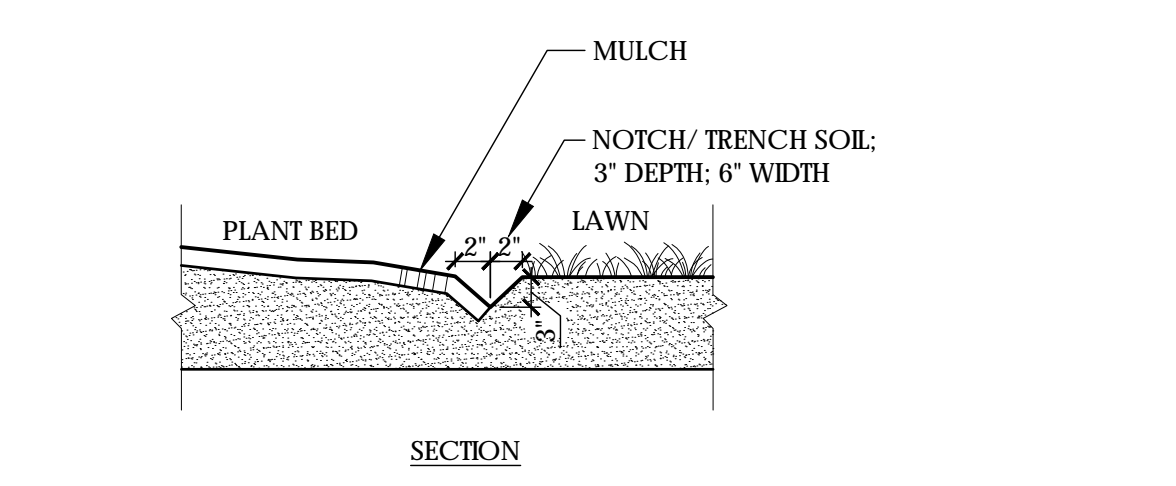
1 RAISED TREE PLANTING SCALE: NTS



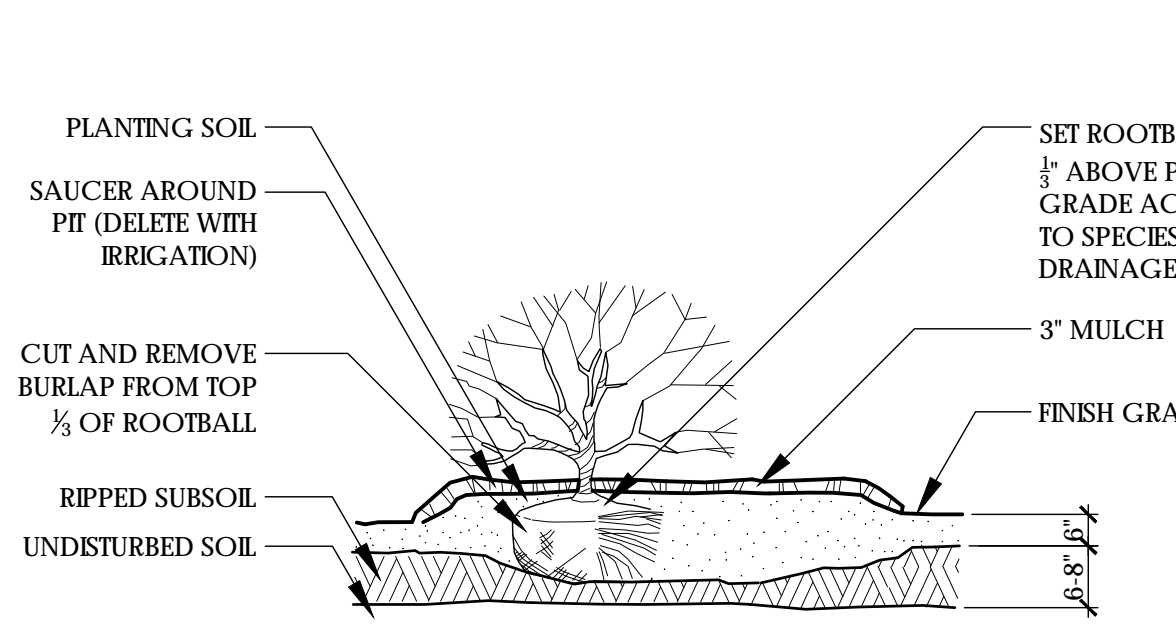
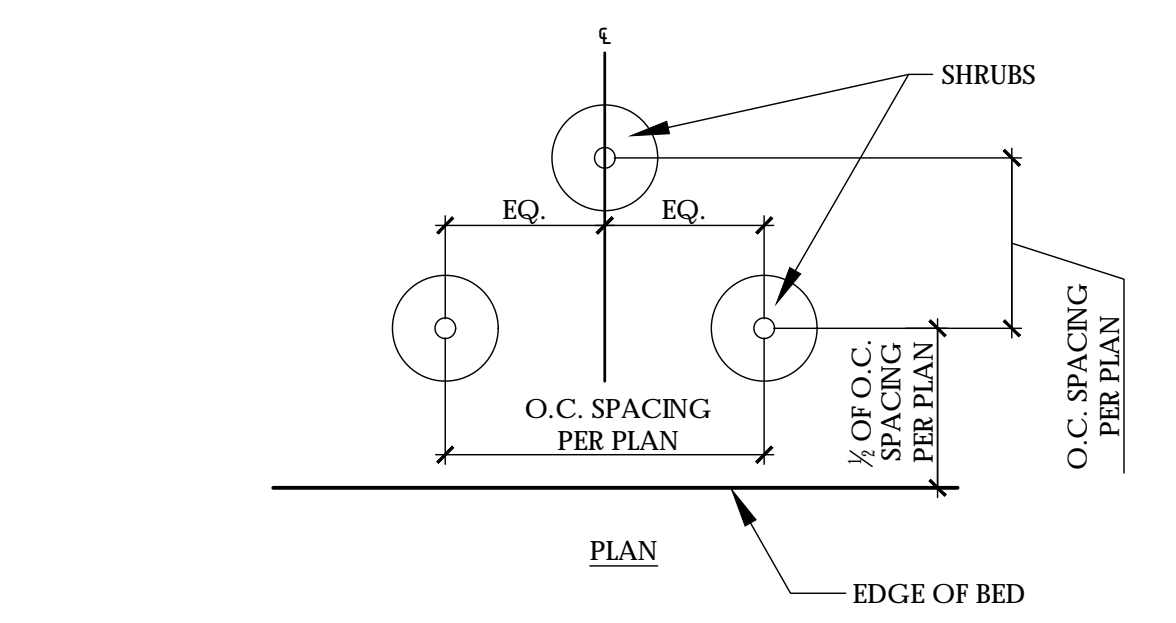
2 EVERGREEN TREE PLANTING SCALE: NTS



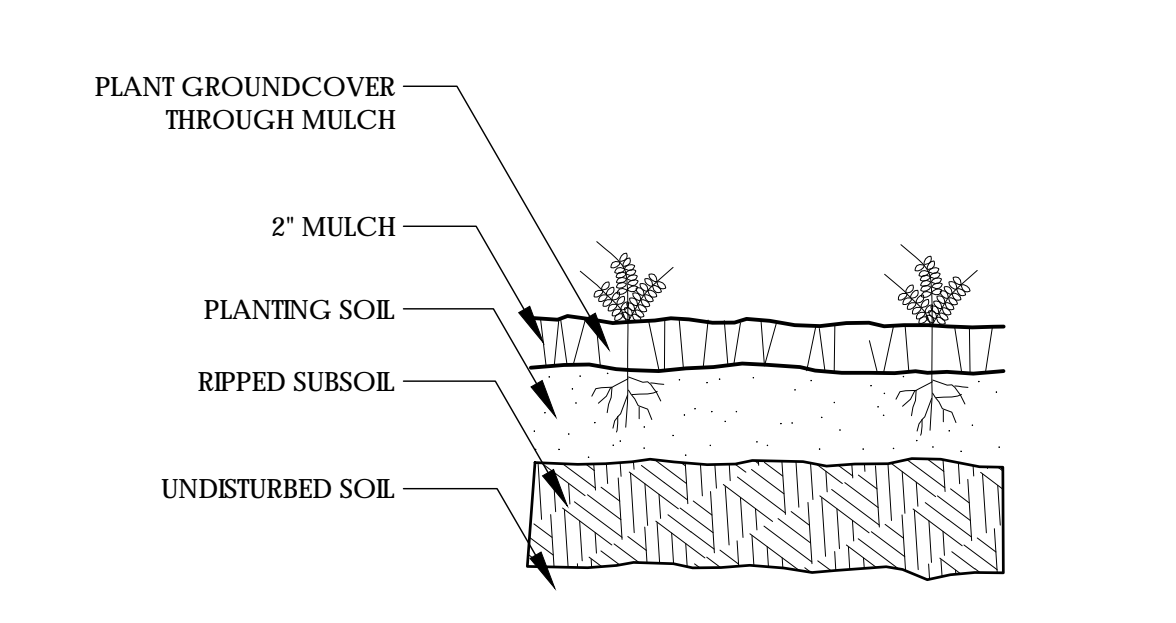
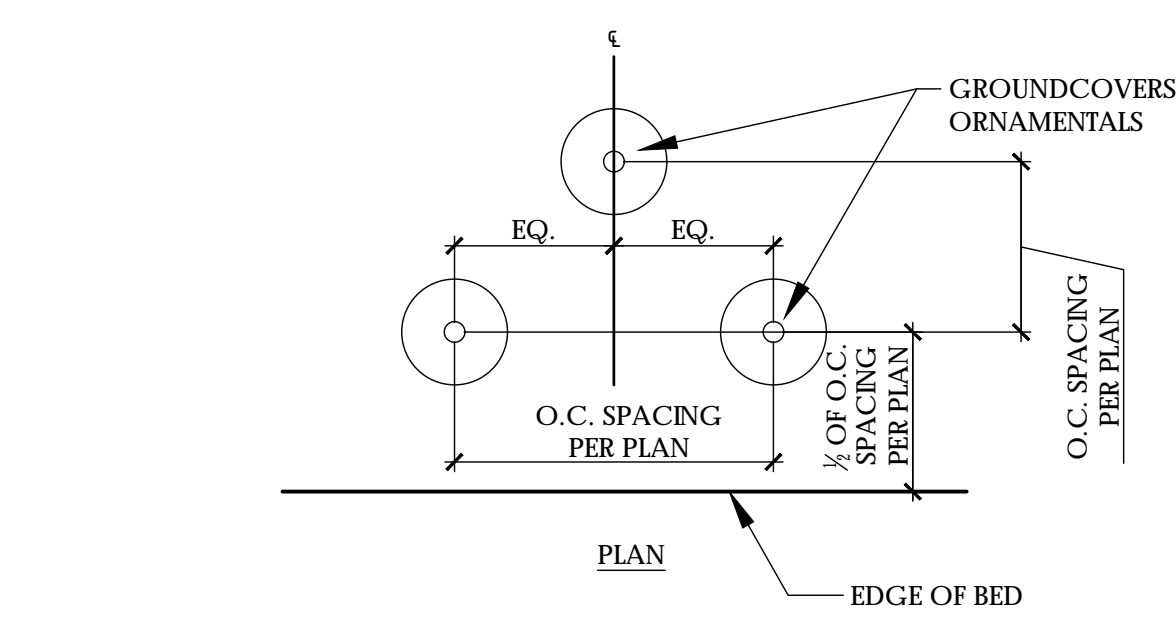
3 CONCRETE/PLANT BED EDGE



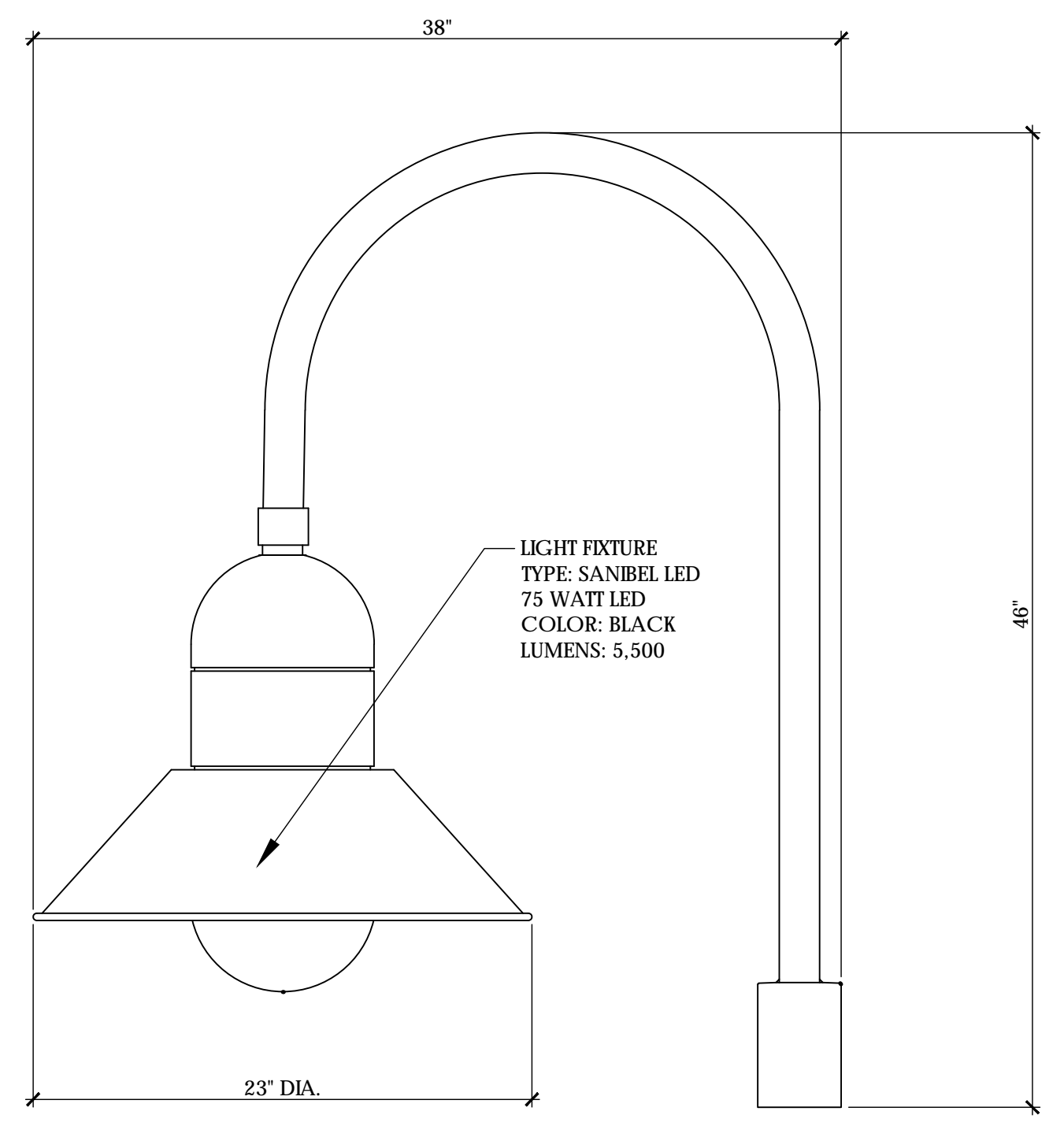
4 LAWN/PLANT BED EDGE



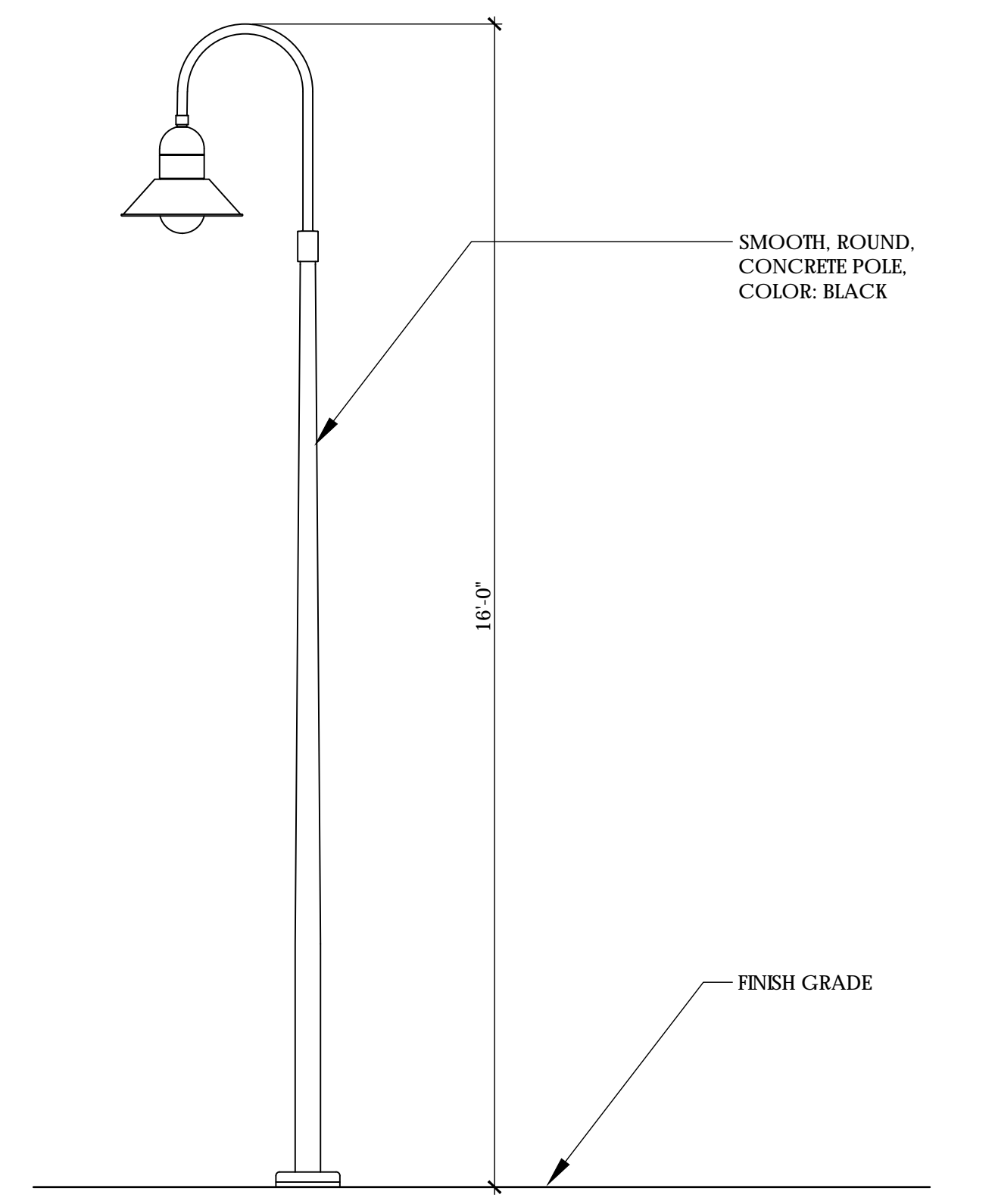
5 RAISED SHRUB PLANTING SCALE: NTS



6 GROUNDCOVER PLANTING SCALE: NTS



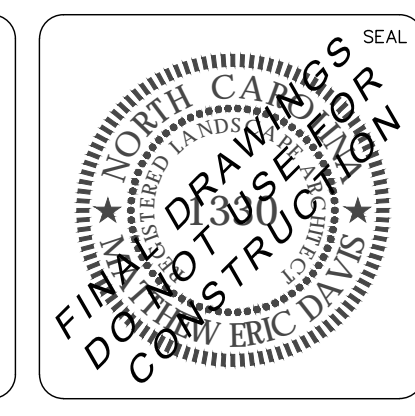
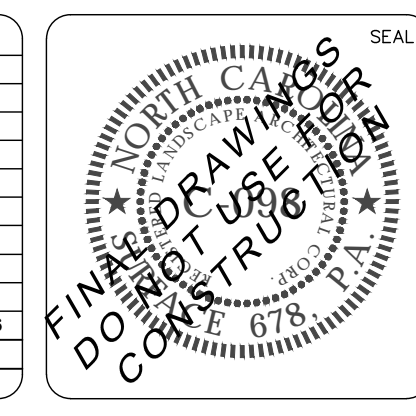
NON STANDARD LIGHT FIXTURE DETAIL



LIGHT FIXTURE POLE ELEVATION

7 LIGHT POLE * LIGHTING SHOWN FOR REFERENCE ONLY. * LIGHT POLE TO BE SIMILAR IN STYLE, COLOR, TYPE. * FINAL LAYOUT AND FOOT CANDLE STUDIES SHALL BE PROVIDED BY THE POWER COMPANY.

REV. NO.	DESCRIPTIONS REVISIONS	DATE
A	TBC RESUBMISSION	08/05/2016



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RIVERLIGHTS AGE QUALIFIED PHASE 2 AND 3
LANDSCAPE DETAILS

DATE: 05/25/2016	SCALE: AS NOTED	M&C FILE NUMBER
MCE PROJ. #		DRAWING NUMBER
DRAWN: JL		L501
DESIGNED: JC, ED		
CHECKED: JC, ED		
PROJ. MGR.: JC		
STATUS:		REVISION

Approved Construction Plan

Name: _____ Date: _____

Planning: _____

Traffic: _____

Fire: _____

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

1 inch

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