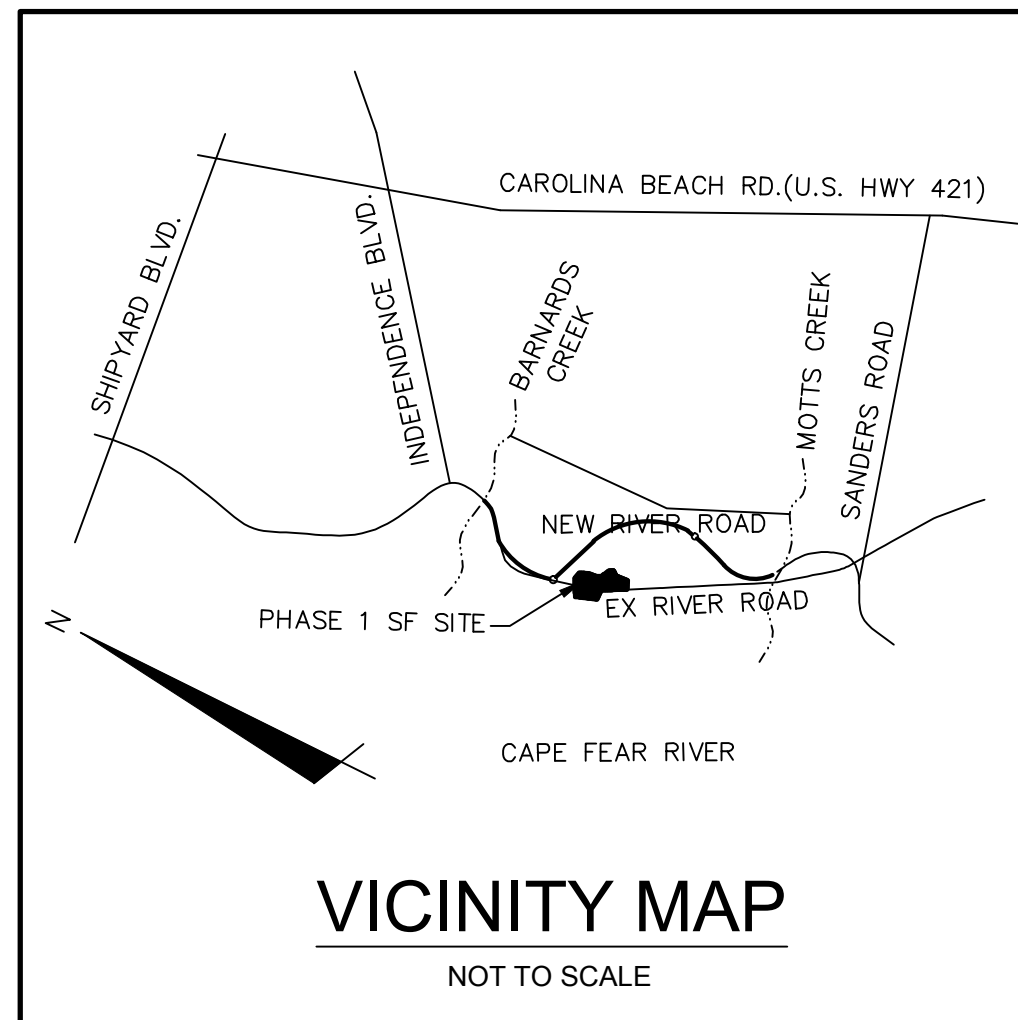


RIVERLIGHTS PHASE I CONVENTIONAL CITY OF WILMINGTON, NC

OCTOBER 12, 2015

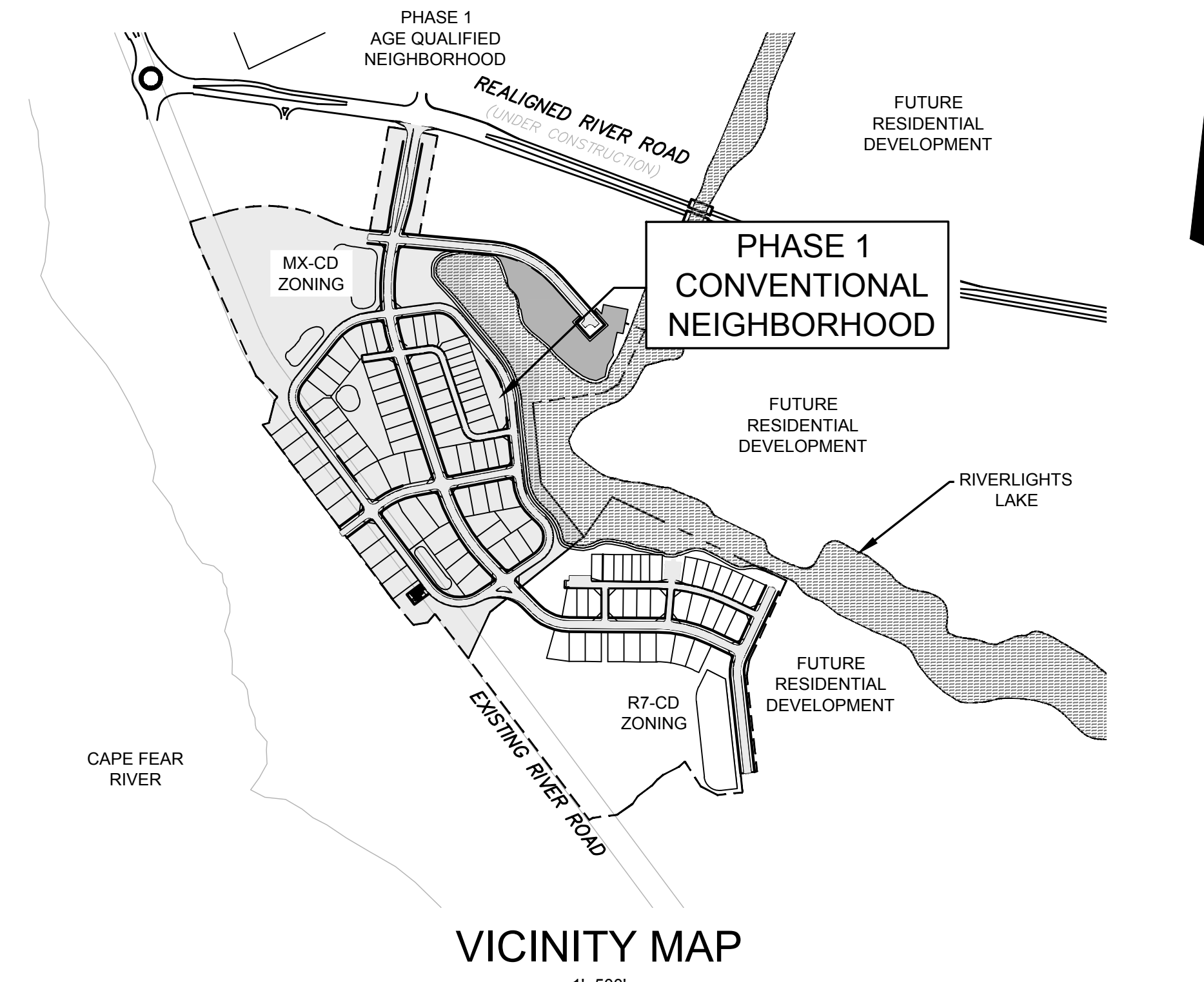
TECHNICAL REVIEW COMMITTEE RESUBMITTAL



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@nhc.gov.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) 707-9051
Contact: Tammy Kaufman
Email: tammy.kaufman@ncdenr.gov**

ISSUED FOR PERMITTING
NOT FOR CONSTRUCTION



PROJECT DATA

NAME OF PROJECT:
RIVERLIGHTS- PHASE 1 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



Know what's below.
Call before you dig.

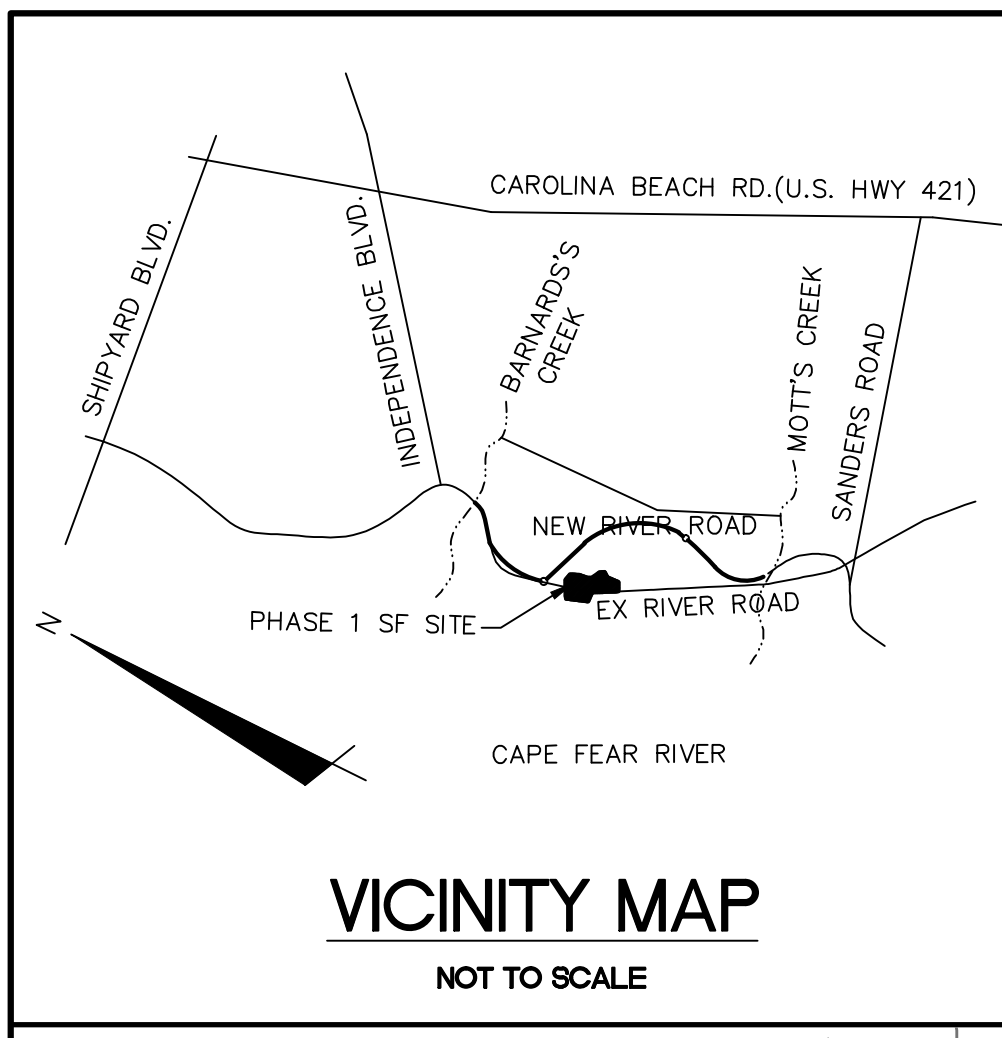


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License: F-1222
www.mckimcreed.com



Sheet List Table		
Sheet Number	Sheet Title	Sheet Description
1	G-001	COVER
2	G-002	NOTES AND LEGEND
3	CX-101	EXISTING CONDITIONS/ SITE INVENTORY PLAN
4	CX-102	TREE REMOVAL PLAN
5	CE-101	EROSION CONTROL PLAN PHASE 1
6	CE-102	EROSION CONTROL PLAN PHASE 2
7	CG-101	STORM DRAINAGE & GRADING PLAN
8	CG-102	STORM DRAINAGE & GRADING PLAN
9	CG-103	STORM DRAINAGE & GRADING PLAN
10	CS-100	OVERALL SITE PLAN
11	CS-101	SITE PLAN
12	CS-102	SITE PLAN
13	CS-103	SITE PLAN
14	CU-101	UTILITY PLAN
15	CU-102	UTILITY PLAN
16	CU-103	UTILITY PLAN
17	CU-701	PLAN AND PROFILE STA 10+00 TO STA 26+00
18	CU-702	PLAN AND PROFILE STA 26+00 TO STA 40+57.83
19	CU-703	PLAN AND PROFILE STA 10+00 TO STA 20+03.54
20	CU-704	PLAN AND PROFILE STA 10+00 TO STA 25+00
21	CU-705	PLAN AND PROFILE STA 25+00 TO STA 28+35.63/STA 10+00 TO STA 17+50
22	CU-706	PLAN AND PROFILE STA 17+50 TO STA 26+07.14
23	CU-707	PLAN AND PROFILE STA 10+00 TO STA 17+74.33
24	CU-708	PLAN AND PROFILE STA 10+00 TO STA 18+72.99 / STA 10+00 TO STA 12+88.50
25	CU-709	PLAN AND PROFILE STATION 10+00 TO STATION 17+76
26	CT-301	TYPICAL CROSS SECTIONS
27	CE-501	EROSION AND SEDIMENT CONTROL DETAILS
28	CE-502	EROSION AND SEDIMENT CONTROL DETAILS
29	CG-501	STORM DRAINAGE DETAILS
30	CG-502	STORM DRAINAGE DETAILS
31	CG-503	STORM DRAINAGE DETAILS
32	CG-504	STORM DRAINAGE DETAILS
33	CS-501	SITE PLAN DETAILS
34	CS-502	SITE PLAN DETAILS
35	WSD-1	UTILITY DETAILS
36	WSD-2	UTILITY DETAILS
37	SSD-1	UTILITY DETAILS
38	SSD-2	UTILITY DETAILS
39	SSD-3	UTILITY DETAILS
40	SSD-4	UTILITY DETAILS
41	CN-501	STORMWATER MANAGEMENT DETAILS
42	CN-502	STORMWATER MANAGEMENT DETAILS
43	CN-503	STORMWATER MANAGEMENT DETAILS
44	CN-504	STORMWATER MANAGEMENT DETAILS
45	L-100	OVERALL PLAN
46	L-161	PLANTING PLAN
47	L-162	PLANTING PLAN
48	L-163	PLANTING PLAN
49	L-164	PLANTING PLAN
50	L-165	PLANTING PLAN
51	L-171	MEWS/GREAT LAWN LAYOUT & MATERIALS PLAN
52	L-181	MEWS/GREAT LAWN GRADING PLAN
53	L-501	DETAILS
54	L-502	DETAILS

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LEGEND

	RBC	REBAR & CAP
	PP	POWER POLE
	SSM	SANITARY SEWER MANHOLE
	W	WETLAND
	OHE	OVERHEAD ELECTRIC LINE
	COD	CITY OF WILMINGTON CONSERVATION RESOURCE SETBACK LINE
	SS	SANITARY SEWER MAIN
	MHW	MEAN HIGH WATER
	AEO	AREA OF ENVIRONMENTAL CONCERN
	100-yr Floodplain (Preliminary)	100-YEAR FLOODPLAIN (PRELIMINARY)
	100-yr Floodplain (Effective)	100-YEAR FLOODPLAIN (EFFECTIVE)
	Coastal Marsh Line	COASTAL MARSH LINE
	35' Conservation Resource Vegetated Buffer	35' CONSERVATION RESOURCE VEGETATED BUFFER
	TPF	TREE PROTECTION FENCE
	LOD	LIMITS OF DISTURBANCE
	SF	SILT FENCE
	TDD	TEMPORARY DIVERSION DITCH

- 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.
 - ITEMS DESIGNATED AS "PROPOSED" ARE PART OF THE RIVER ROAD REALIGNMENT PROJECT THAT IS CURRENTLY UNDER CONSTRUCTION. RIVER ROAD CONSTRUCTION TO BE COMPLETE SPRING 2016.
 - 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. CLOWR PROCESS IS CURRENTLY BEING COORDINATED WITH THE CITY OF WILMINGTON FLOODPLAIN MANAGER AND FEMA FOR LOT FILL AREA WITHIN EXISTING FLOODPLAIN.
 - RIVERLIGHTS CONVENTIONAL 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 ENCRUCHING INTO THE CONSERVATION RESOURCE SETBACK SHALL BE IN ACCORDANCE WITH 18-341.

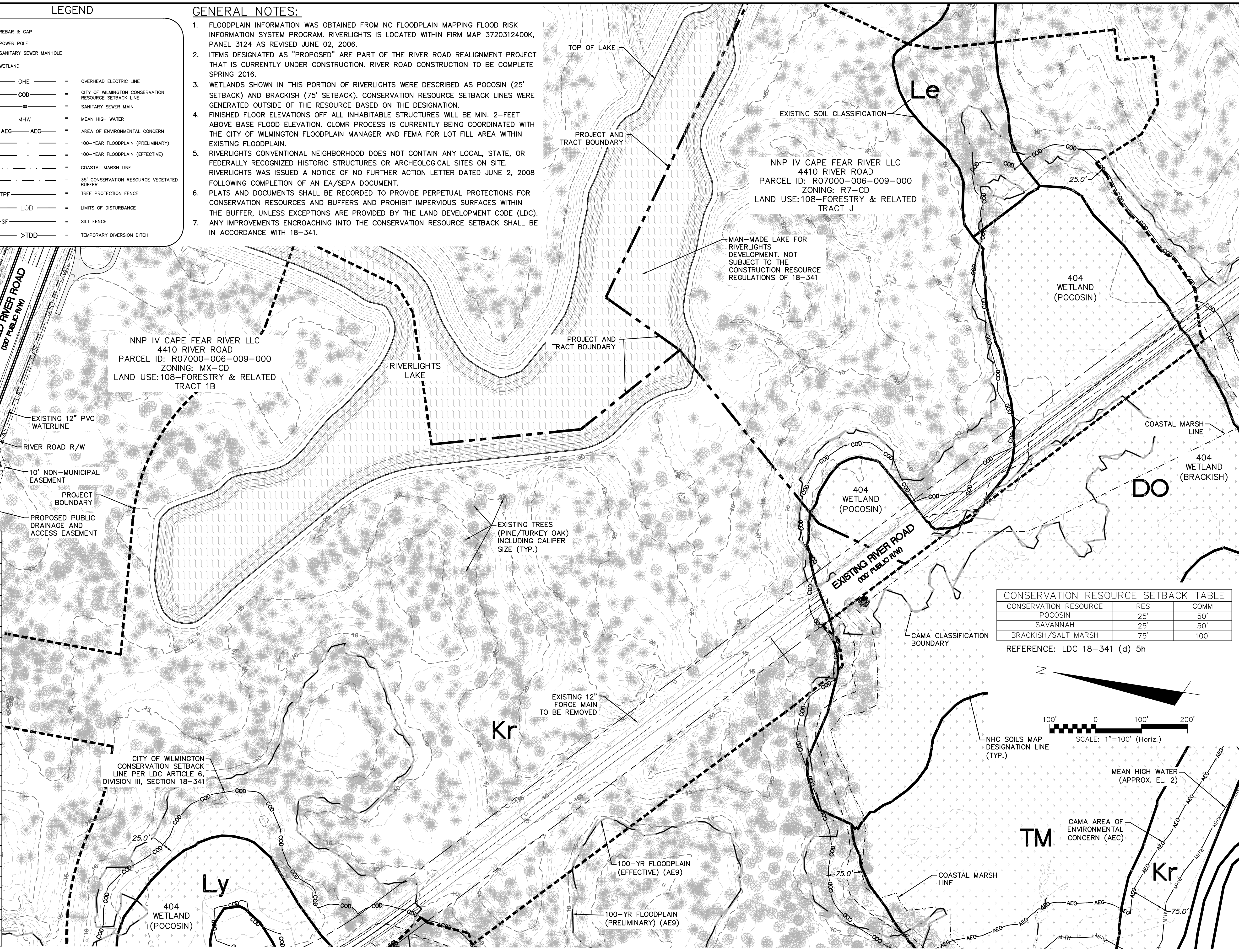
NOTE:
EXISTING TREE CALIPER INCH SIZE IS SHOWN WITHIN THE TREE SYMBOL

TREE LEGEND

	CEDAR
	GUM
	HOLLY
	OAK
	MAPLE
	PINE

SITE DATA TABLE

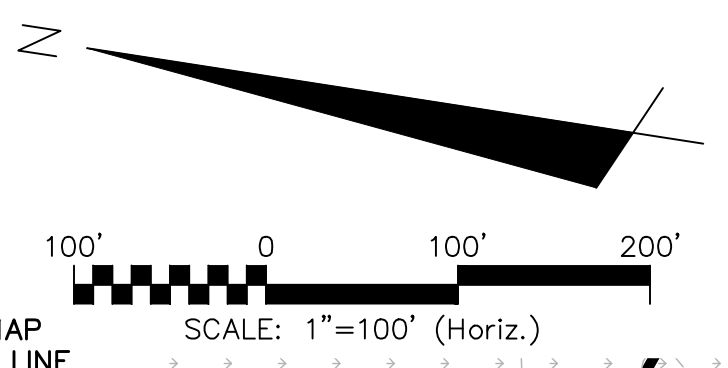
CONVENTIONAL - PHASE 1	
VICINITY	SEE CX-101
TOPOGRAPHY AND DRAINAGE	SEE CX-101
2-FT TOPOGRAPHY MINIMUM INTERVAL	SEE CX-101
DATE OF TOPOGRAPHY DATA	5/5/2015
100-YR FLOODPLAIN LINE	SEE CX-101
LOCATION OF NATURAL WATER FEATURES	LOCATION CLASSIFICATION
DITCHES	SEE CX-101 NON-JURISDICTIONAL
STREAMS	N/A
CREEKS	N/A
FLOOD PRONE AREAS	SEE CX-101
AREAS OF NATURALLY CONCENTRATED SURFACE DRAINAGE	N/A
SOIL	SEE CX-101
SOIL TYPE(S) AND BOUNDARIES	SEE CX-101
NORTH CAROLINA COASTAL AREA MANAGEMENT AD INFORMATION	SEE CX-101
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' BUFFER, 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	N/A
ENDANGERED SPECIES OR HABITAT	
ENDANGERED SPECIES OR HABITAT IN PROJECT AREA	NOT PRESENT
AUTOMOBILE, BICYCLE, PEDESTRIAN, OR TRANSIT FACILITIES	
EXISTING OR PROPOSED THOROUGHFARES, BIKE ROUTES, PEDESTRIAN SIDEWALKS OR TRAILS, AND TRANSIT FACILITIES	NOT PRESENT



CONSERVATION RESOURCE SETBACK TABLE

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

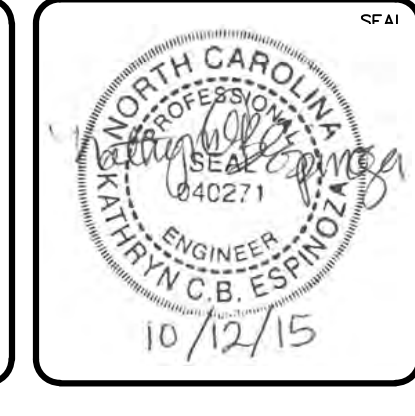
REFERENCE: LDC 18-341 (d) 5h



REVISIONS

REV. NO.	DESCRIPTION	DATE
1	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	10/12/2015
2	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
3	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
4	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
5	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
6	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
7	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/29/2015
8	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
9	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/04/2015

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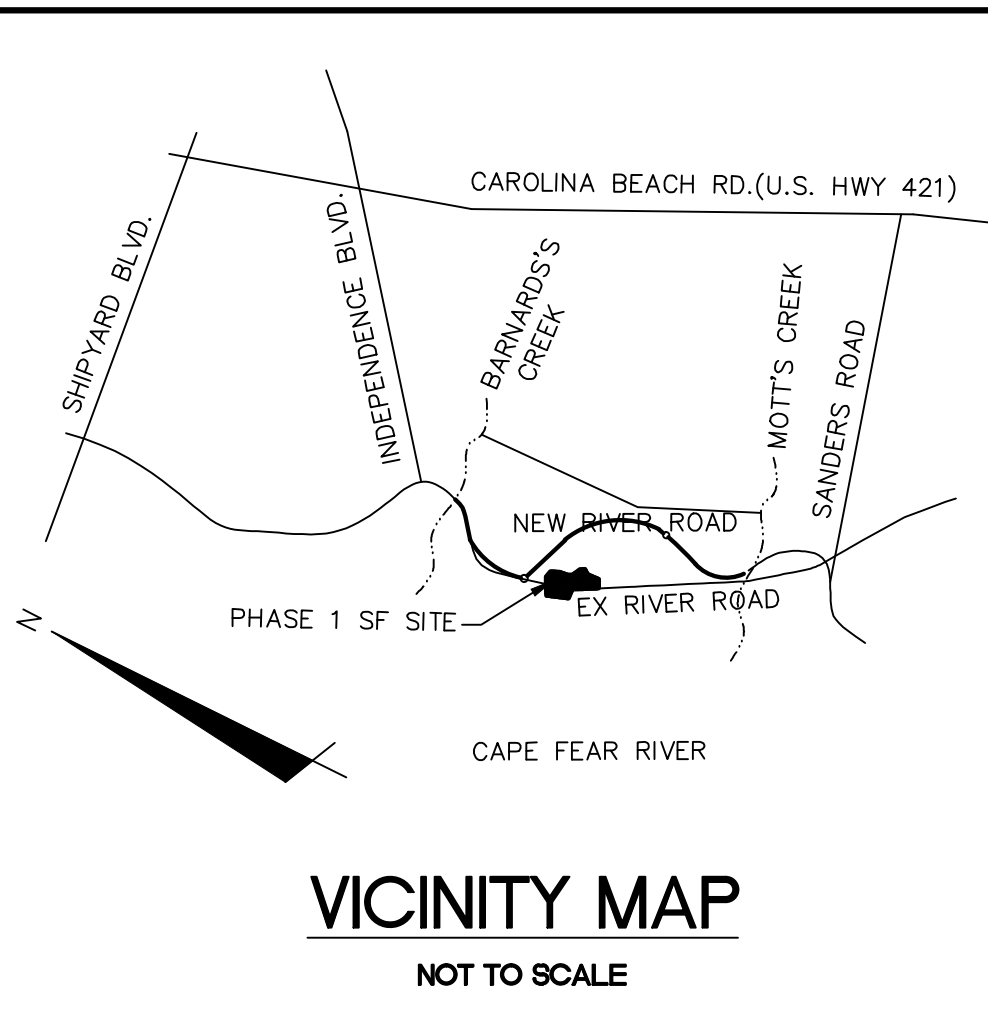
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License: F-1222
www.mckimcreed.com

RIVERLIGHTS
Newland by COMMUNITIES
NORTH AMERICA SENIUS HOUSE, LLC

RIVERLIGHTS CONVENTIONAL NEIGHBORHOOD PH. 1
EXISTING CONDITIONS/ SITE INVENTORY PLAN

DATE: 04-29-2015	SCALE: 1"=100'	M&C FILE NUMBER: CX-101
MCE PROJ. #: 02735-0129	HORIZONTAL: 1"=100'	DRAWING NUMBER: 3
DRAWN: EEM/KCBE	VERTICAL: N/A	REVISION: 1
DESIGNED: KCBE		
CHECKED: NJL		
PROJ. MGR: RMC		
STATUS: FINAL DESIGN		ISSUED FOR PERMITTING

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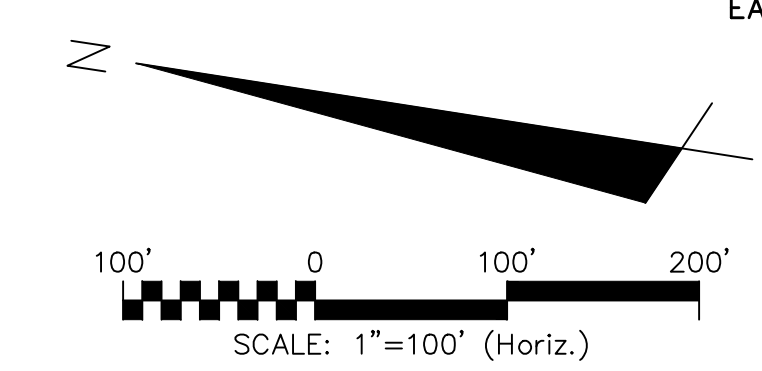


DEMOLITION NOTES:

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 OF 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.
8. SEE ADDITIONAL NOTES ON G-002.

TREE LEGEND

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



- LEGEND**
- RBC = REBAR & CAP
 - POWER POLE
 - SANITARY SEWER MANHOLE
 - WETLAND
 - OHE = OVERHEAD ELECTRIC LINE
 - COD = CITY OF WILMINGTON CONSERVATION RESOURCE SETBACK LINE
 - SS = SANITARY SEWER MAIN
 - MHW = MEAN HIGH WATER
 - AEC = AREA OF ENVIRONMENTAL CONCERN
 - 100-YR FLOODPLAIN (PRELIMINARY)
 - 100-YR FLOODPLAIN (EFFECTIVE)
 - COASTAL MARSH LINE
 - 35' CONSERVATION RESOURCE VEGETATED BUFFER
 - TPF = TREE PROTECTION FENCE
 - LOD = LIMITS OF DISTURBANCE
 - SF = SILT FENCE
 - TDD = TEMPORARY DIVERSION DITCH

REV. NO.	DESCRIPTIONS / REVISIONS	DATE
1	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	10/12/2015
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5	NEW HANOVER COUNTY EROSION CONTROL, RE-SUBMITTAL	07/09/2015
6	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
7	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/21/2015
8	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/08/2015
9	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/08/2015

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RIVERLIGHTS
by
Newland COMMUNITIES

**RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1**

TREE REMOVAL PLAN

DATE: 04-29-2015
MCE PROJ. # 02735-0129
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: NUL
PROJ. MGR.: RMC

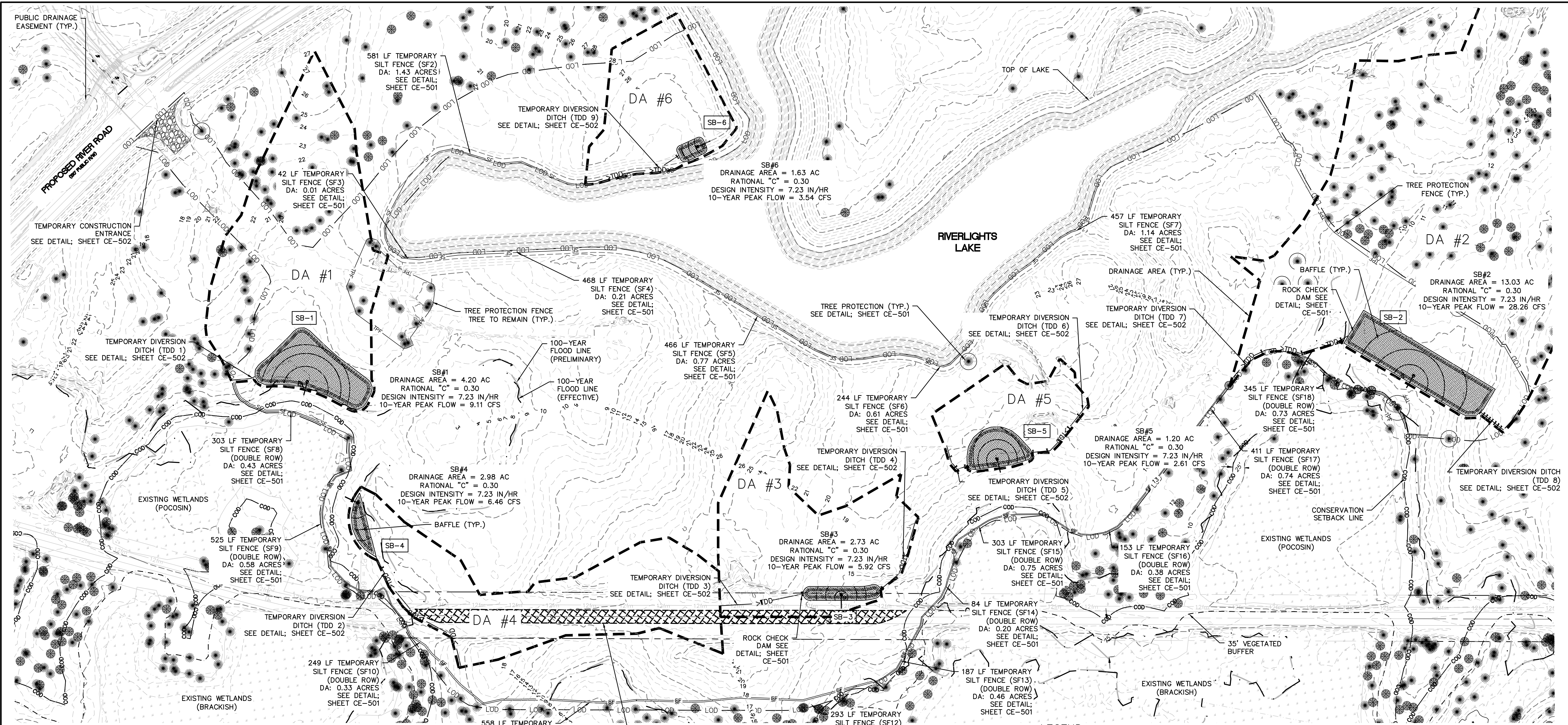
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HORIZONTAL: 1"=50'
VERTICAL: N/A

MC FILE NUMBER: CX-102
DRAWING NUMBER: 4
REVISION: 1

STATUS: FINAL DESIGN
ISSUED FOR PERMITTING



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LAT: 34° 8' 50" N
LONG: 77° 56' 11" W

LIMITS OF DISTURBANCE -
47.51 AC

PHASE 1 CONSTRUCTION SEQUENCE

- ESTABLISH LIMITS OF DISTURBANCE AS SHOWN.
- 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.
- 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.
- 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.
- 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.

- COMMENCE GRUBBING AND ROUGH GRADING WITHIN THE LIMITS OF CONSTRUCTION.
- 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.
- CONTRACTOR SHALL COORDINATE DISCONNECTION OF THE 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
- PROVIDE TEMPORARY STABILIZATION AND SEEDING AS NECESSARY TO PREVENT EROSION. REFER TO SHEET CE-502 FOR GROUND STABILIZATION CRITERIA AND SEEDING SCHEDULE.
- REFER TO G-002 FOR EROSION CONTROL NOTES AND MAINTENANCE PLAN.

REMOVE EXISTING PAVEMENT. REMOVE EXISTING UTILITIES. CONTRACTOR TO COORDINATE WITH ALL APPLICABLE UTILITY COMPANIES.

LEGEND

- Sanitary Sewer Manhole
- Wetland
- OHE - Overhead Electric Line
- COD - City of Wilmington Conservation Resource Setback Line
- SS - Sanitary Sewer Main
- MHW - Mean High Water
- AEC - Area of Environmental Concern
- 100-yr Flood (Preliminary)
- 100-yr Flood (Effective)
- Coastal Marsh Line
- 35' Conservation Resource Vegetated Buffer
- TPF - Tree Protection Fence
- LOD - Limits of Disturbance
- SF - Silt Fence
- TDD - Temporary Diversion Ditch

NOTE:

- WHERE SILT FENCE IS REQUIRED IN THE SAME PLACE AS TREE PROTECTION FENCING, 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).

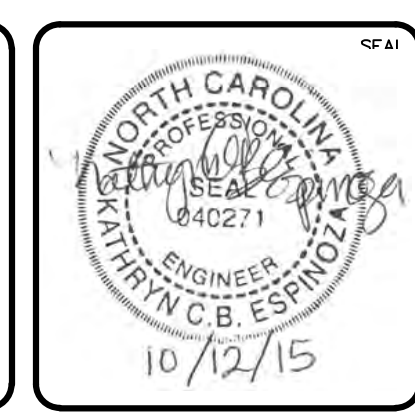
TREE LEGEND

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

Scale: 1"=100' (Horiz.)

REV.	DESCRIPTION	DATE
I	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	10/12/2015
H	CITY SUBMITTAL	09/10/2015
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
E	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/21/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015

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RIVERLIGHTS
Newland by COMMUNITIES

RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1

**EROSION CONTROL PLAN
PHASE 1**

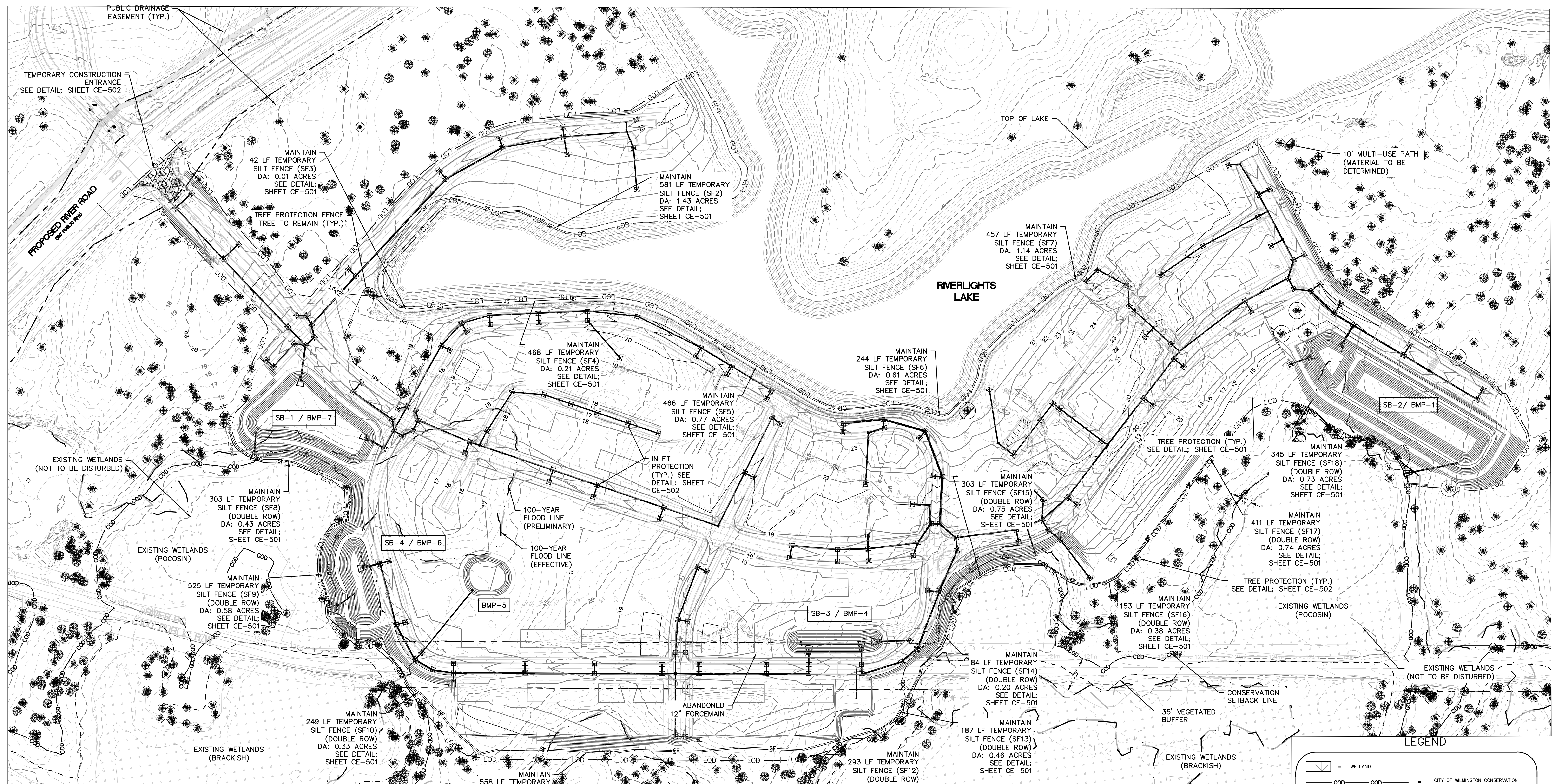
DATE: 04-29-2015
MCE PROJ. # 02735-0129
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: NJL
PROJ. MGR: RMC

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

SCALE FILE NUMBER: CE-101
DRAWING NUMBER: 5
REVISION: 1

STATUS: FINAL DESIGN
ISSUED FOR PERMITTING

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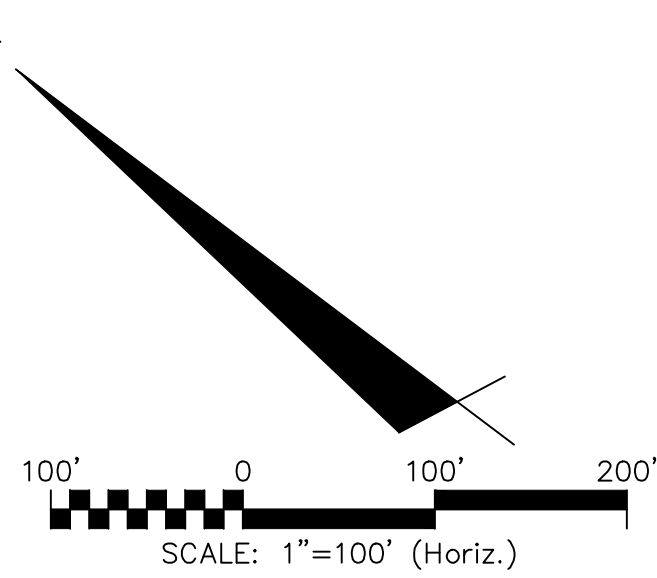
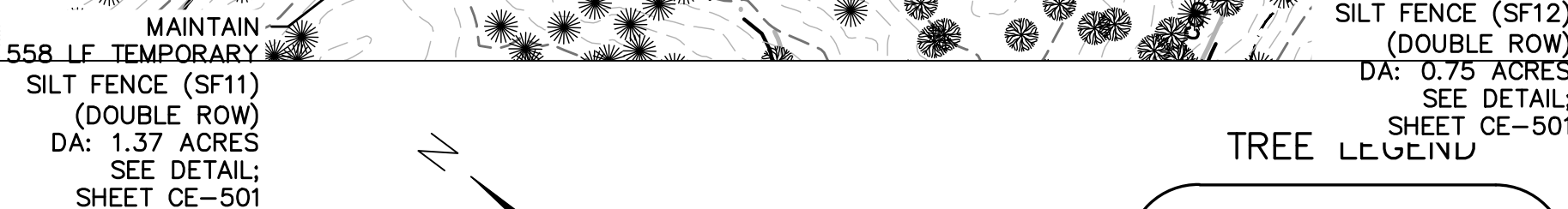


PHASE 2 CONSTRUCTION SEQUENCE

- 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.



LIMITS OF DISTURBANCE = 47.51 AC

**LAT: 34° 8' 50" N
LONG: 77° 56' 11" W**

LEGEND

	= WETLAND		= CITY OF WILMINGTON CONSERVATION RESOURCE SETBACK LINE
	= SANITARY SEWER MAIN		= MEAN HIGH WATER
	= AREA OF ENVIRONMENTAL CONCERN		= 100-YEAR FLOODPLAIN (PRELIMINARY)
	= 100-YEAR FLOODPLAIN (EFFECTIVE)		= COASTAL MARSH LINE
	= 35' CONSERVATION RESOURCE VEGETATED BUFFER		= TREE PROTECTION FENCE
	= LIMITS OF DISTURBANCE		= SILT FENCE
	= TEMPORARY DIVERSION DITCH		

REV.	DESCRIPTION	DATE
1	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	10/12/2015
2	OPPIA SUBMITTAL	09/10/2015
3	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	09/10/2015
4	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	09/03/2015
5	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
6	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
7	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/21/2015
8	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
9	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015

**FINAL DRAWINGS
DO NOT USE FOR
CONSTRUCTION**



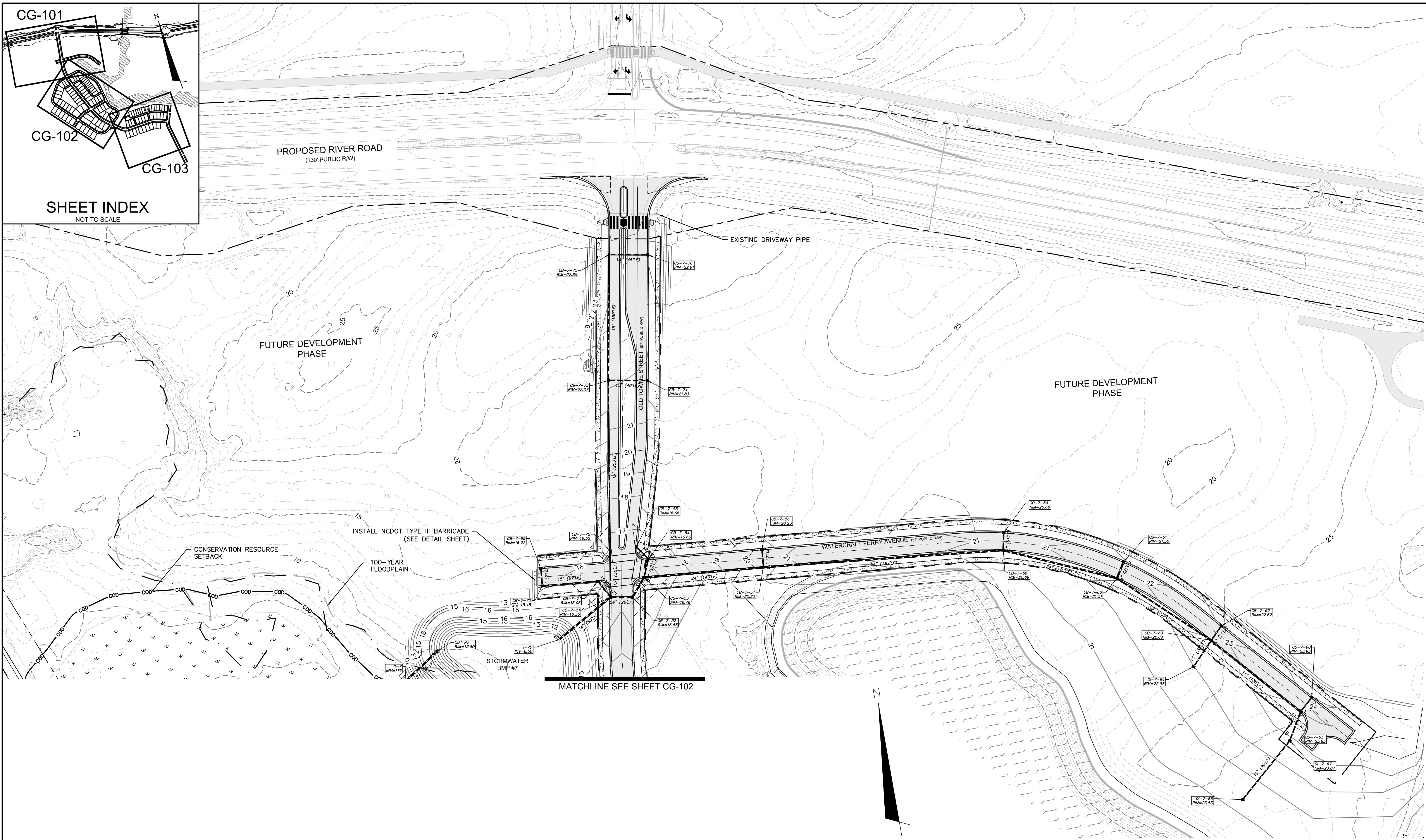
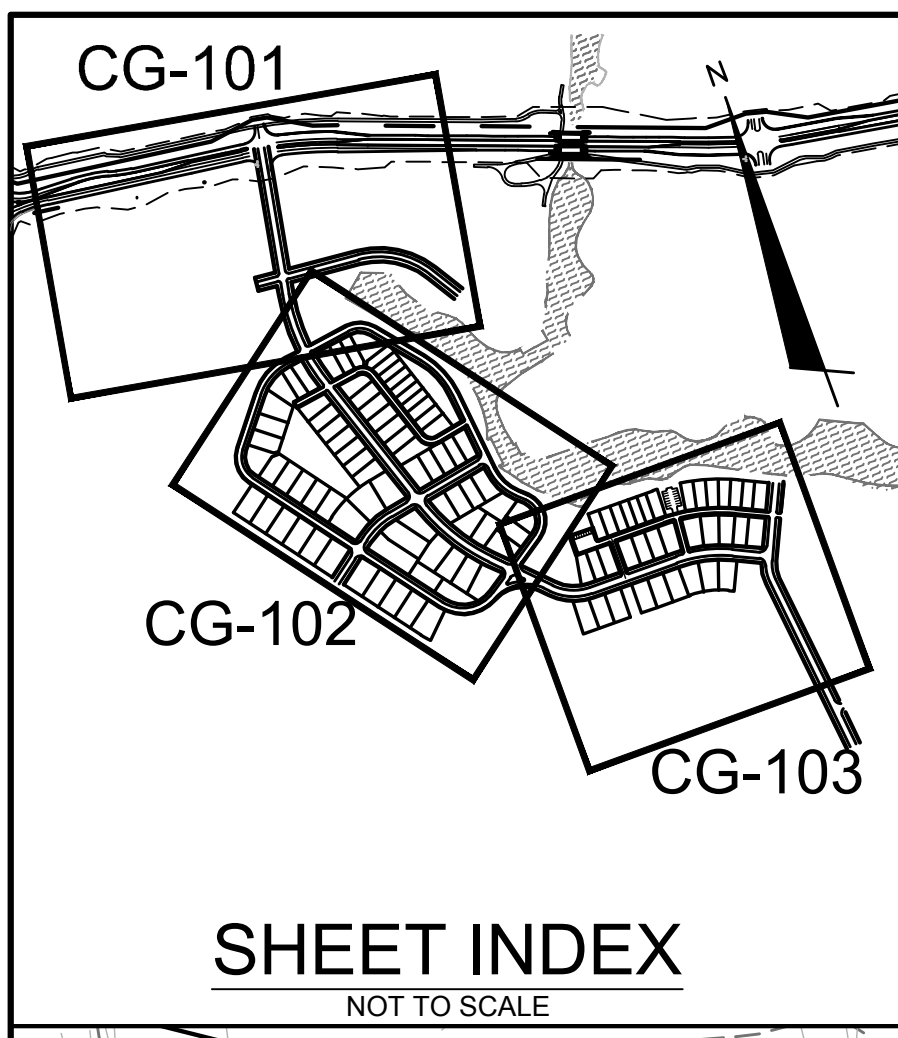
MCKIM & CREED
 243 North Front Street
 Wilmington, North Carolina 28401
 Phone: (910)343-1048, Fax: (910)251-8282
 License: F-1222
 www.mckimcreed.com

RIVERLIGHTS
 by
Newland COMMUNITIES
 NORTH AMERICA SEKISUI HOUSE, LLC

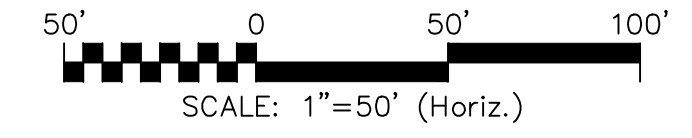
**RIVERLIGHTS
 CONVENTIONAL NEIGHBORHOOD PH. 1
 EROSION CONTROL PLAN
 PHASE 2**

DATE: 04-29-2015	SCALE: HORIZONTAL: 1"=100'	MAC FILE NUMBER: CE-102
MCE PROJ. # 02735-0129	VERTICAL: N/A	DRAWING NUMBER: 6
DRAWN: EEM/KCBE		
DESIGNED: KCBE		
CHECKED: NJL		
PROJ. MGR. RMC		
STATUS: FINAL DESIGN	REVISION: 1	
ISSUED FOR PERMITTING		

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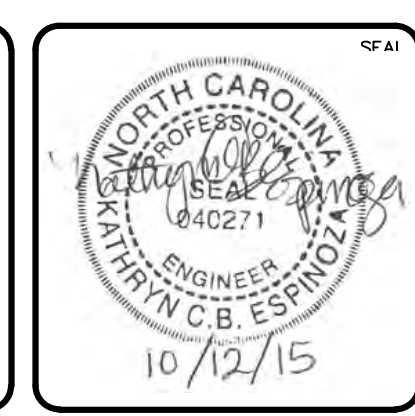


NOTE:
 1. SEE SHEET CN-503/504 FOR STORM DRAIN STRUCTURE/PIPE SCHEDULE.
 2. SEE SHEET G-002 FOR UTILITY CONSTRUCTION NOTES.



REVNO.	DESCRIPTIONS REVISIONS	DATE
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/21/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
E	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RE-SUBMITTAL	08/10/2015
H	CITY SUBMITTAL	08/10/2015
I	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RE-SUBMITTAL	10/12/2015

**FINAL DRAWINGS
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CONSTRUCTION**



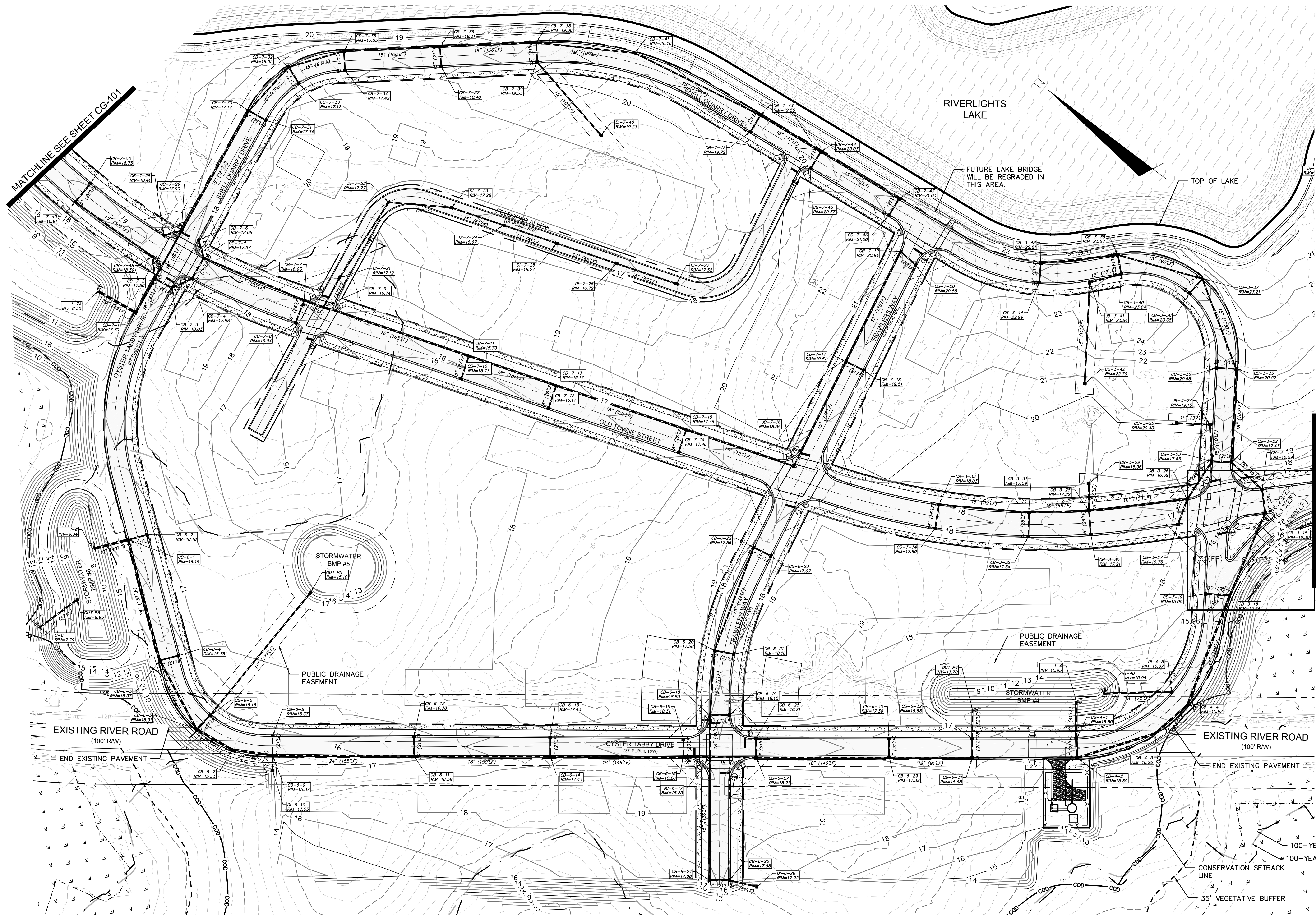
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 by Newland COMMUNITIES
 NORTH AMERICA SERIES HOUSE, LLC

**RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1**
STORM DRAINAGE & GRADING PLAN

DATE: 04-29-2015	SCALE: 1"=50'	MAC FILE NUMBER: CG-101
MCE PROJ. # 02735-0129	HORIZONTAL: 1"=50'	DRAWING NUMBER: 7
DRAWN: EEM/KCBE	VERTICAL: N/A	REVISION: 1
DESIGNED: KCBE		
CHECKED: NJL		
PROJ. MGR: RMC		
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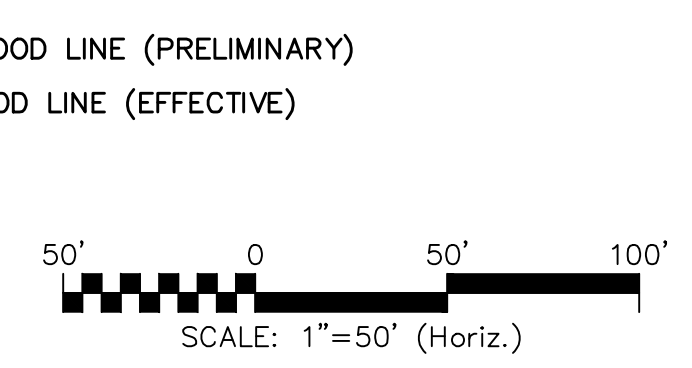
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NOTE:
SEE SHEET CG-503/504 FOR
STORM DRAIN STRUCTURE/PIPE
SCHEDULES

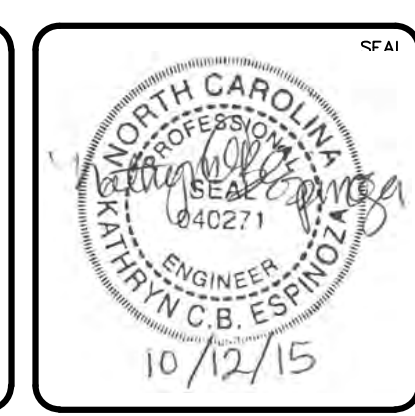
MATCHLINE SEE SHEET CG-103

SEE CG-103 FOR INSET



REV. NO.	DESCRIPTIONS	DATE
I	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	10/12/2015
H	CPWA SUBMITTAL	08/10/2015
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	06/10/2015
F	NEW HANOVER COUNTY EROSION CONTROL - RE-SUBMITTAL	08/03/2015
E	NEW HANOVER COUNTY EROSION CONTROL - RE-SUBMITTAL	07/09/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	04/22/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/21/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015

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FINAL DRAWINGS
DO NOT USE FOR
CONSTRUCTION



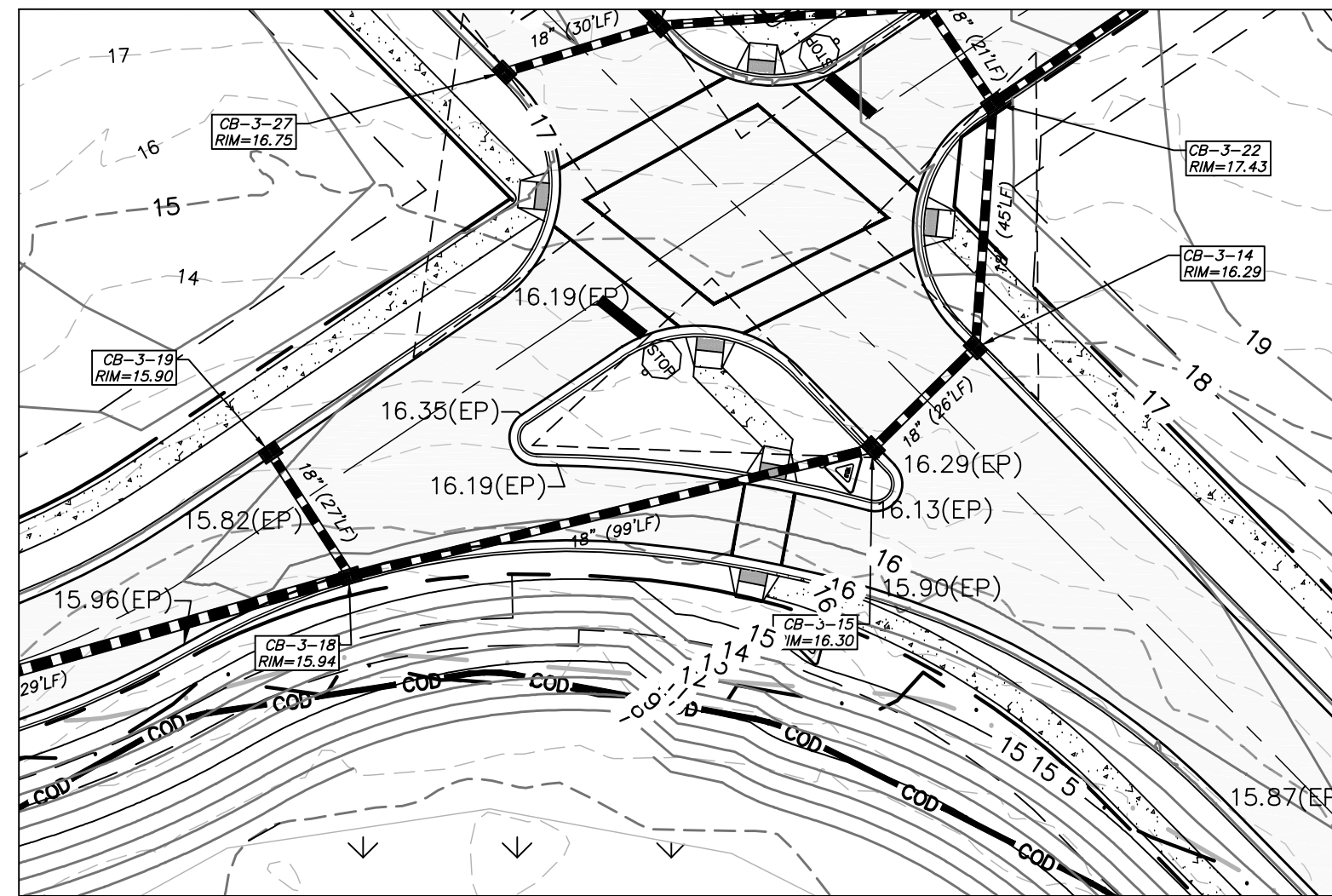
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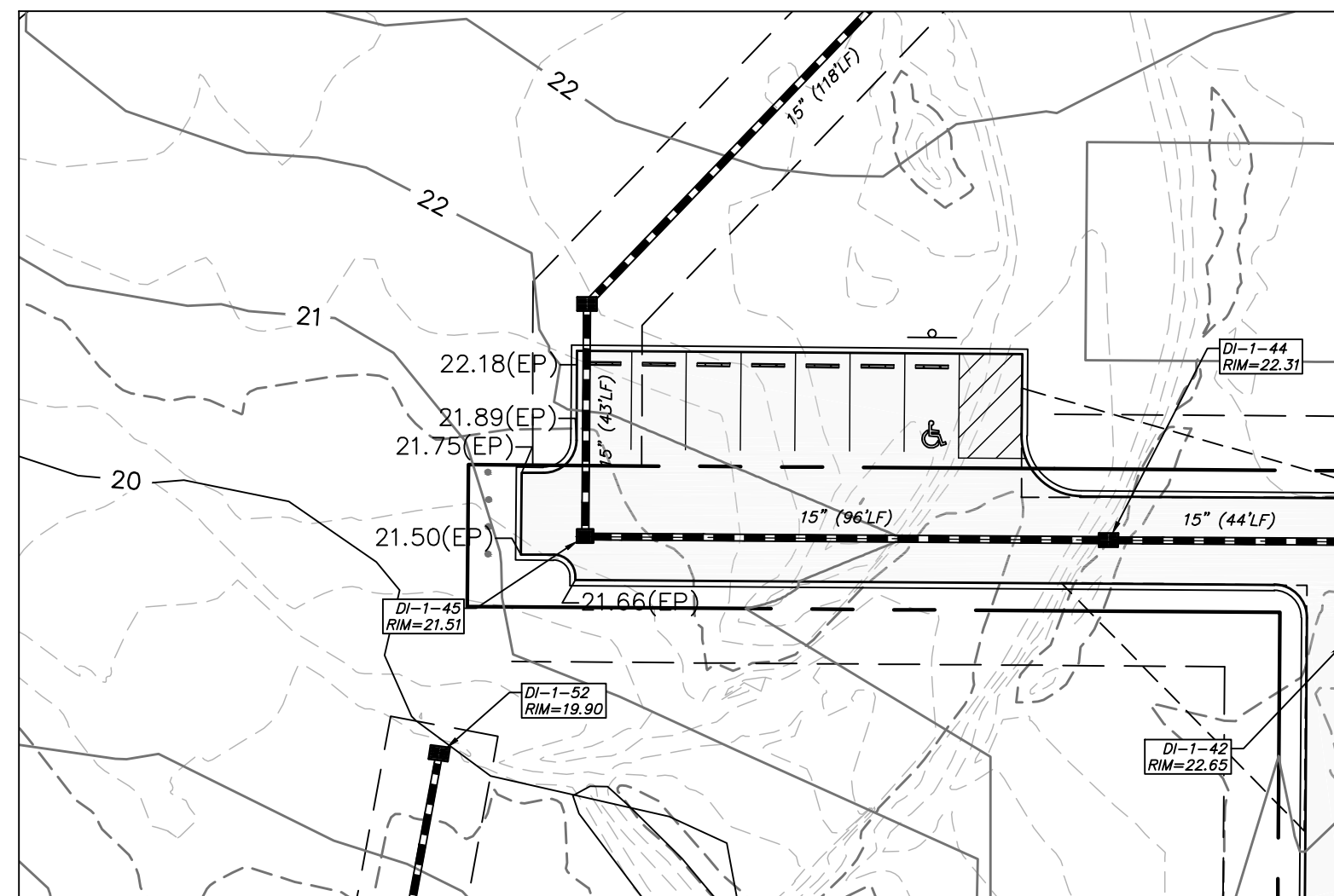
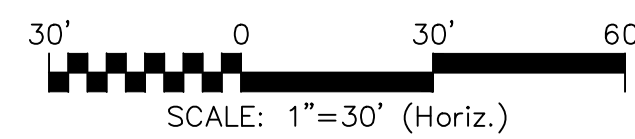
**RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1**
STORM DRAINAGE & GRADING PLAN

DATE: 04-29-2015	SCALE: 1"=50'	MAC FILE NUMBER: CG-102
MCE PROJ. # 02735-0129	HORIZONTAL: 1"=50'	DRAWING NUMBER: 8
DRAWN: EEM/KCBE	VERTICAL: N/A	REVISION: 1
DESIGNED: KCBE		
CHECKED: NJL		
PROJ. MGR: RMC		
STATUS: FINAL DESIGN ISSUED FOR PERMITTING		

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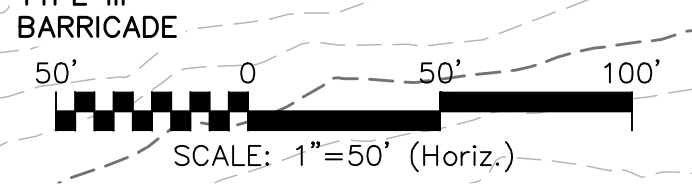
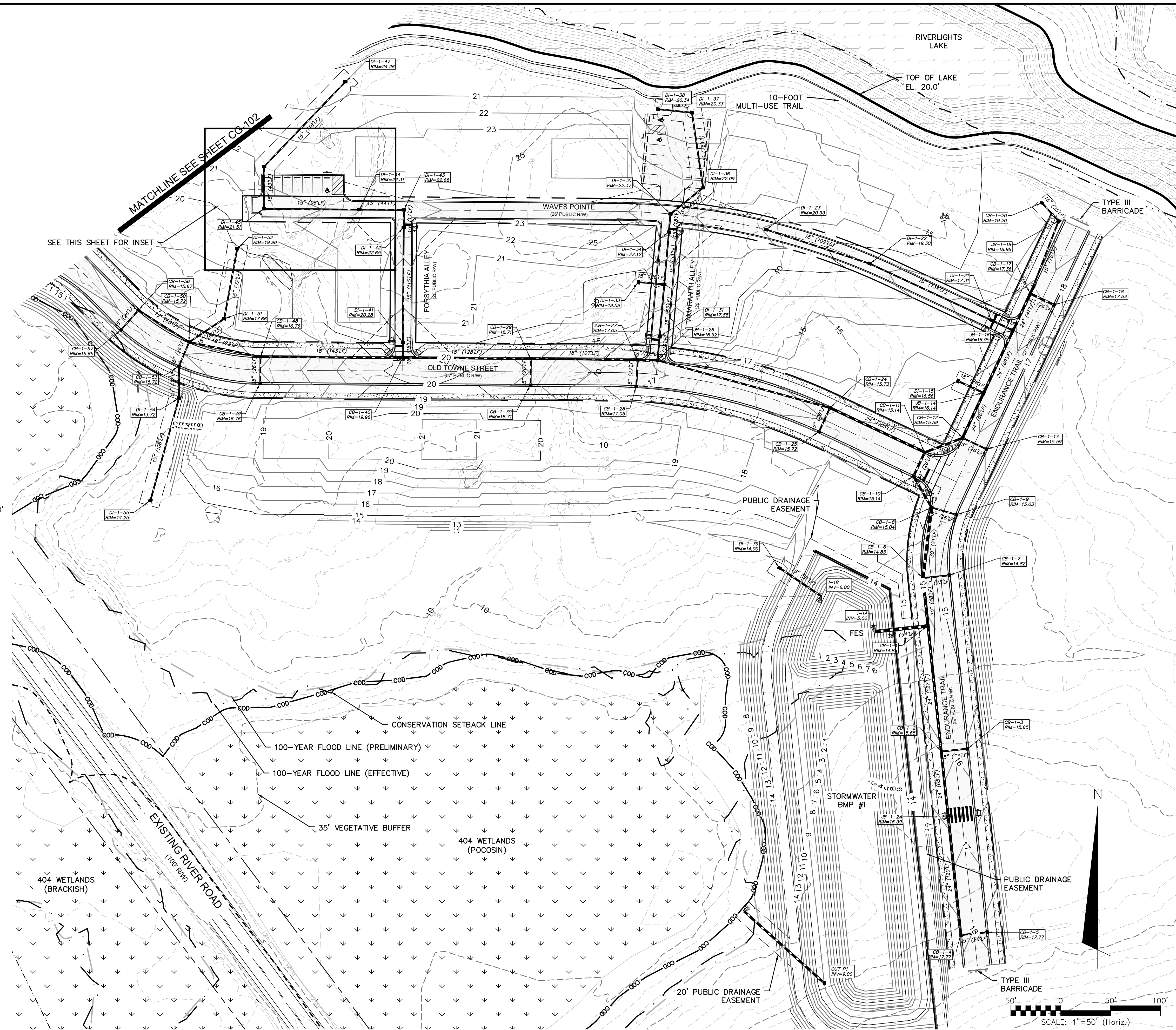


INSET A: OYSTER TABBY DRIVE



INSET B: WAVES POINT

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



REVNO.	DESCRIPTIONS REVISIONS	DATE
I	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	10/12/2015
H	CFWA SUBMITTAL	08/10/2015
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
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A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015

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NORTH AMERICA SERIES HOUSE, LLC

**RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1**

STORM DRAINAGE & GRADING PLAN

DATE:	04-29-2015
MCE PROJ. #	02735-0129
DRAWN	EEM/KCBE
DESIGNED	KCBE
CHECKED	NJL
PROJ. MGR.	RMC

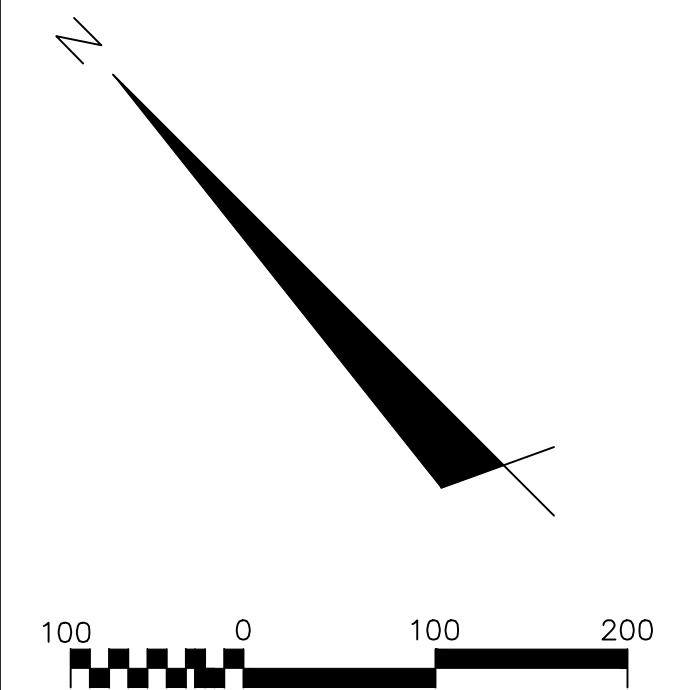
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HORIZONTAL: 1"=50'	CG-103
VERTICAL: N/A	DRAWING NUMBER
	9
	REVISION
	1

STATUS: **FINAL DESIGN**
ISSUED FOR PERMITTING

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SURFACE MATERIAL LEGEND

- ASPHALT
- SIDEWALK
- OPEN SPACE



Parcel Table 1			Parcel Table 2			Parcel Table 3			Parcel Table 4			Parcel Table 5		
Parcel #	Area (SF)	Area (AC)	Parcel #	Area (SF)	Area (AC)	Parcel #	Area (SF)	Area (AC)	Parcel #	Area (SF)	Area (AC)	Parcel #	Area (SF)	Area (AC)
1	6246.20	0.14	22	7534.94	0.17	43	6600.00	0.15	64	7712.94	0.18	85	4950.00	0.11
2	5490.19	0.13	23	5698.41	0.13	44	6600.00	0.15	65	6600.00	0.15	86	6050.00	0.14
3	7838.82	0.18	24	5875.47	0.13	45	6600.00	0.15	66	7800.00	0.18	87	5906.83	0.14
4	9852.48	0.23	25	4169.09	0.10	46	6711.99	0.15	67	7070.11	0.16	88	5400.00	0.12
5	7832.50	0.18	26	3981.17	0.09	47	9750.00	0.22	68	8435.78	0.19	89	6600.00	0.15
6	7742.17	0.18	27	3960.00	0.09	48	9750.00	0.22	69	8137.66	0.19	90	7239.65	0.17
7	7589.05	0.17	28	3960.00	0.09	49	9750.00	0.22	70	9101.25	0.21	91	6600.00	0.15
8	7832.50	0.18	29	3960.00	0.09	50	9750.00	0.22	71	7800.00	0.18	92	6600.00	0.15
9	7832.50	0.18	30	3960.00	0.09	51	9750.00	0.22	72	8684.46	0.20	93	7829.59	0.18
10	7832.50	0.18	31	3960.00	0.09	52	11078.95	0.25	73	4950.00	0.11	94	8101.38	0.19
11	8104.82	0.19	32	4950.00	0.11	53	11050.00	0.25	74	4950.00	0.11	95	8022.22	0.18
12	13815.93	0.32	33	4950.00	0.11	54	9750.00	0.22	75	3960.00	0.09	96	6945.60	0.16
13	12473.62	0.29	34	6142.57	0.14	55	9750.00	0.22	76	3960.00	0.09	97	6495.17	0.15
14	11080.87	0.25	35	6545.85	0.15	56	9750.00	0.22	77	3960.00	0.09	98	7800.00	0.18
15	6746.82	0.15	36	5400.00	0.12	57	14512.30	0.33	78	3960.00	0.09	102	7800.00	0.18
16	6600.00	0.15	37	6600.00	0.15	58	13819.92	0.32	79	5521.97	0.13	103	7800.00	0.18
17	6600.00	0.15	38	6600.00	0.15	59	9395.90	0.22	80	5099.64	0.12	104	7800.00	0.18
18	6600.00	0.15	39	8175.78	0.19	60	10077.12	0.23	81	5077.58	0.12	105	8309.53	0.19
19	6600.00	0.15	40	7819.88	0.18	61	8419.65	0.19	82	5077.58	0.12	106	8429.02	0.19
20	6600.00	0.15	41	6600.00	0.15	62	8539.74	0.20	83	5077.58	0.12	107	7970.83	0.18
21	7014.02	0.16	42	6600.00	0.15	63	10156.49	0.23	84	5026.64	0.12			

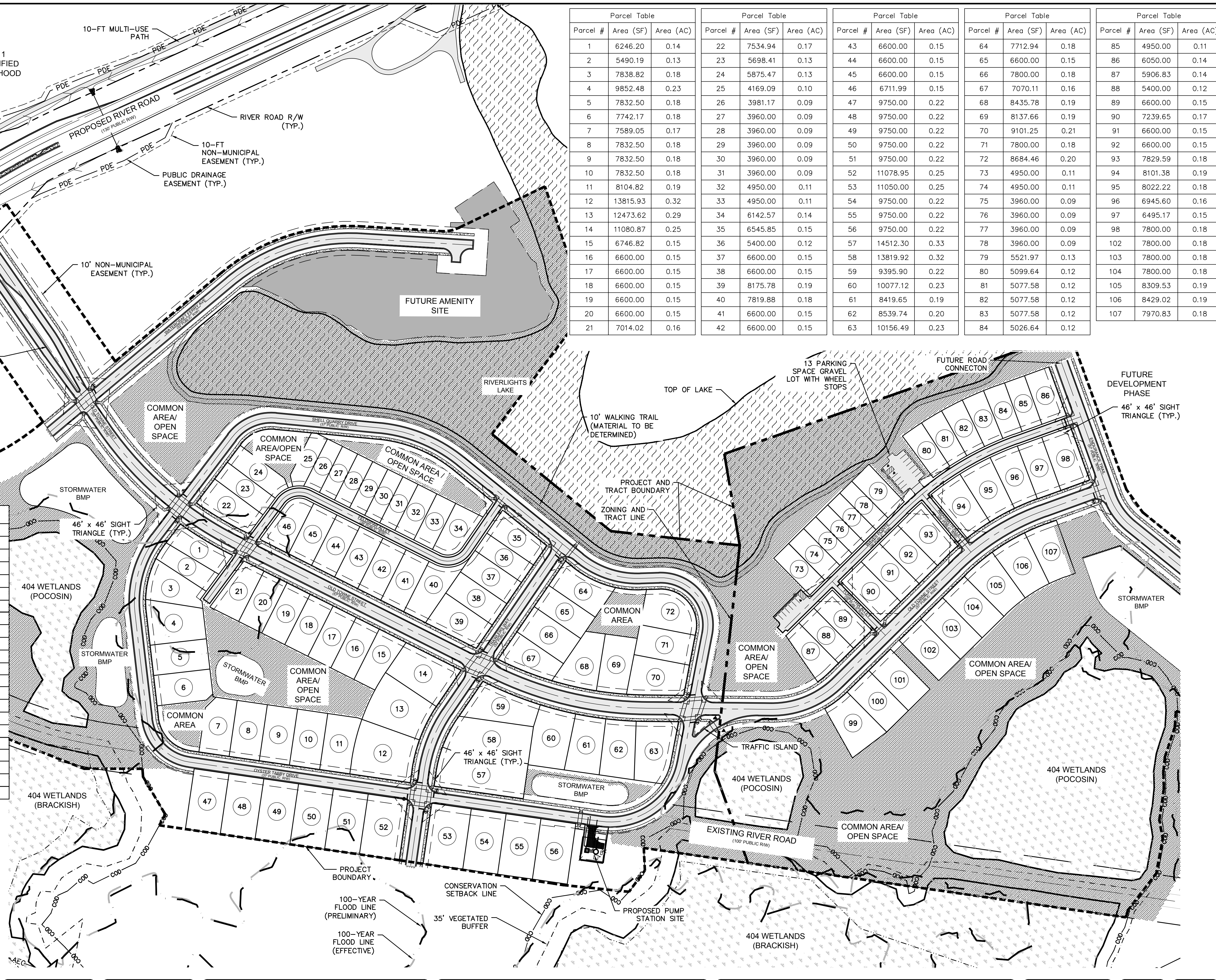
SITE DATA TABLE

	CONVENTIONAL NEIGHBORHOOD—PHASE 1
PARCEL ADDRESS	4410 RIVER ROAD
TAX PARCEL IDENTIFICATION NUMBER	R07000-006-009-000
ZONING DISTRICT	MX CD/R7-CD CLUSTER
CAMA LAND USE CLASSIFICATION	TRANSITION AND CONSERVATION
WATER BODY CLASSIFICATION	SC
TOTAL ACREAGE WITHIN RIVER LIGHTS BOUNDARY	1,329.41 ACRES (57,909,099.6 SF)
TOTAL ACREAGE PHASE 1 CONVENTIONAL BOUNDARY	66.88 ACRES (2,913,334 SF)
PROPOSED NUMBER OF LOTS	107 SINGLE FAMILY
FUTURE AMENITY SITE	2.47 ACRES (107,543.97 SF)
TOTAL WETLANDS WITHIN PROJECT TRACT	6.94 ACRES (302,298.01 SF)
TOTAL WETLANDS IMPACTS	0 ACRES (0 SF)
AREA INSIDE COD SETBACK REQUIRED	5.07 ACRES (220,841.05 SF)
AREA INSIDE COD SETBACK PROVIDED	5.07 ACRES (220,841.05 SF)
TOTAL PARKING REQUIRED	0 SPACES
TOTAL PARKING PROVIDED	20 SPACES
TOTAL HANDICAP SPACES REQUIRED	0 SPACES
TOTAL HANDICAP SPACES PROVIDED	3 SPACES
TOTAL BICYCLE SPACES PROVIDED	0 SPACES
MX-CD CLUSTER: TOTAL OPEN SPACE REQUIRED	46.18 ACRES (2,011,600.8 SF)*
MX-CD CLUSTER: TOTAL OPEN SPACE PROPOSED	11.72 ACRES (510,523.2 SF)
R7-CD CLUSTER: TOTAL OPEN SPACE REQUIRED	462.24 ACRES (20,133,432.0 SF)*
R7-CD CLUSTER: TOTAL OPEN SPACE PROPOSED	14.90 ACRES (649,044.0 SF)

*PROPOSED R7-CD CLUSTER FOR ENTIRE RIVER LIGHTS DEVELOPMENT = 1,155.6 ACRES (40% OPEN SPACE) = 462.24 ACRES REQUIRED FOR ENTIRE RIVER LIGHTS DEVELOPMENT
*PROPOSED MX-CD CLUSTER FOR ENTIRE RIVER LIGHTS DEVELOPMENT = 184.7 ACRES (25% OPEN SPACE) = 46.18 ACRES REQUIRED FOR ENTIRE RIVER LIGHTS DEVELOPMENT

- GENERAL NOTES:**
- A LANDSCAPING PLAN INDICATING THE LOCATION OF REQUIRED STREET TREES SHALL BE SUBMITTED TO THE CITY OF WILMINGTON TRAFFIC ENGINEERING DIVISION AND PARKS AND RECREATION DEPARTMENT FOR APPROVAL PRIOR TO THE RECORDING OF THE FINAL PLAT.
 - 10 FT SEPARATION REQUIRED BETWEEN BUILDINGS.
 - ZERO LOT LINES ARE PERMITTED IN CLUSTER SUBDIVISIONS.
 - ZONING AND LAND USE OF ADJACENT PROPERTIES IS AS FOLLOWS:
NORTH - FUTURE R7-CD CLUSTER / TRANSITION
SOUTH - CAPE FEAR RIVER / TRANSITION
EAST - FUTURE R7-CD CLUSTER / TRANSITION
WEST - FUTURE MX-CD / TRANSITION AND CONSERVATION AREA
 - THE CITY OF WILMINGTON SUBDIVISION REVIEW BOARD (SRB) CONDITIONALLY APPROVED THE PRELIMINARY PLAN FOR CONVENTIONAL NEIGHBORHOOD - PHASE 1 ON APRIL 15TH, 2015.

REVNO.	DESCRIPTIONS	DATE



FINAL DRAWINGS DO NOT USE FOR CONSTRUCTION

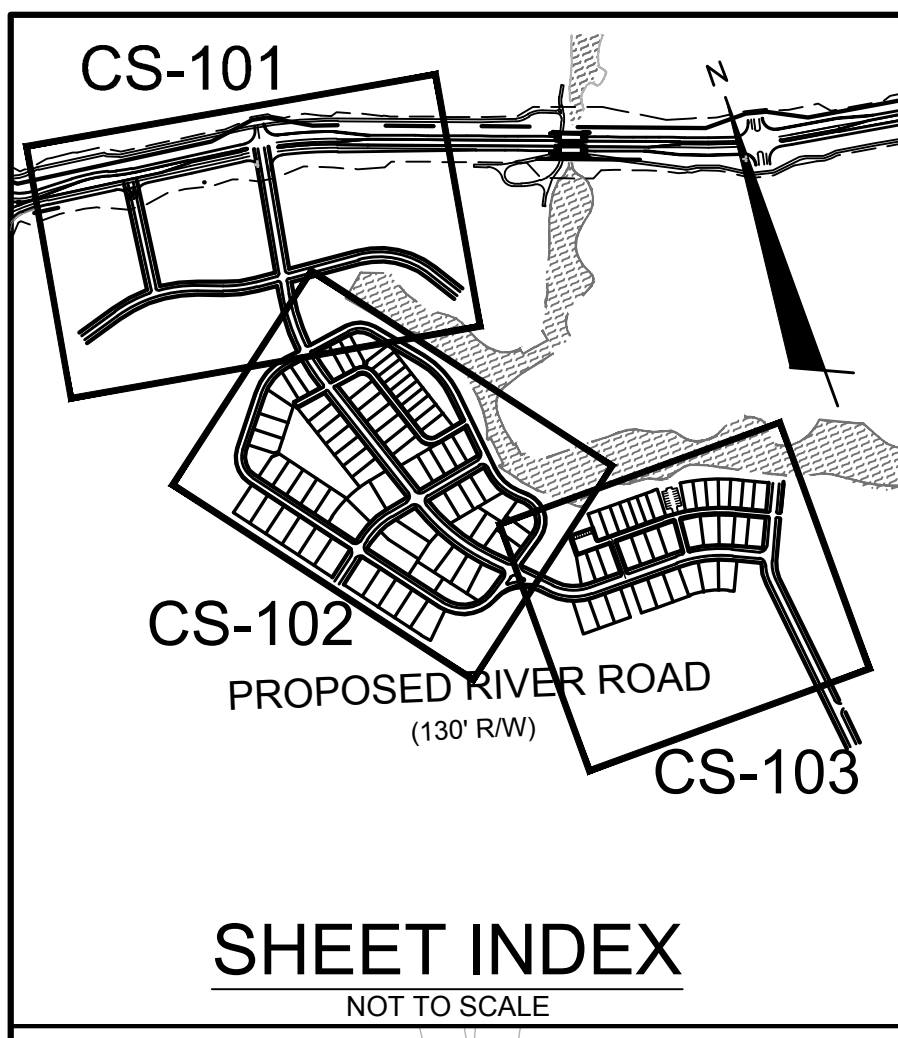
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NORTH AMERICA SENEGU HOUSE, LLC

RIVERLIGHTS CONVENTIONAL NEIGHBORHOOD PH. 1

OVERALL SITE PLAN

DATE:	04-29-2015	SCALE:		MAC FILE NUMBER:	CS-100
MCE PROJ. #	02735-0129	HORIZONTAL:	1"=100'	DRAWING NUMBER:	
DRAWN:	EEM/KCBE	VERTICAL:	N/A	REVISION:	10
DESIGNED:	KCBE				
CHECKED:	NJL				
PROJ. MGR.	RMC				
STATUS: FINAL DESIGN				ISSUED FOR PERMITTING	



PHASE I
AGE QUALIFIED
NEIGHBORHOOD

PHASE I
AGE QUALIFIED
NEIGHBORHOOD

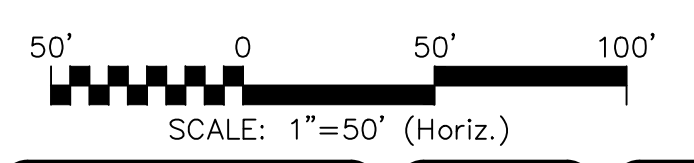
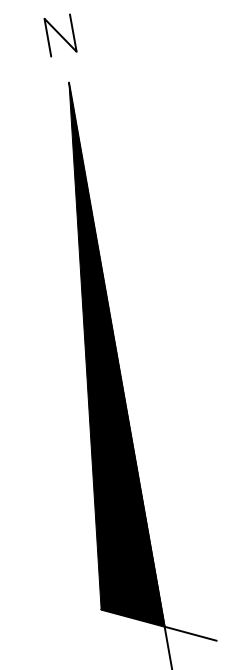
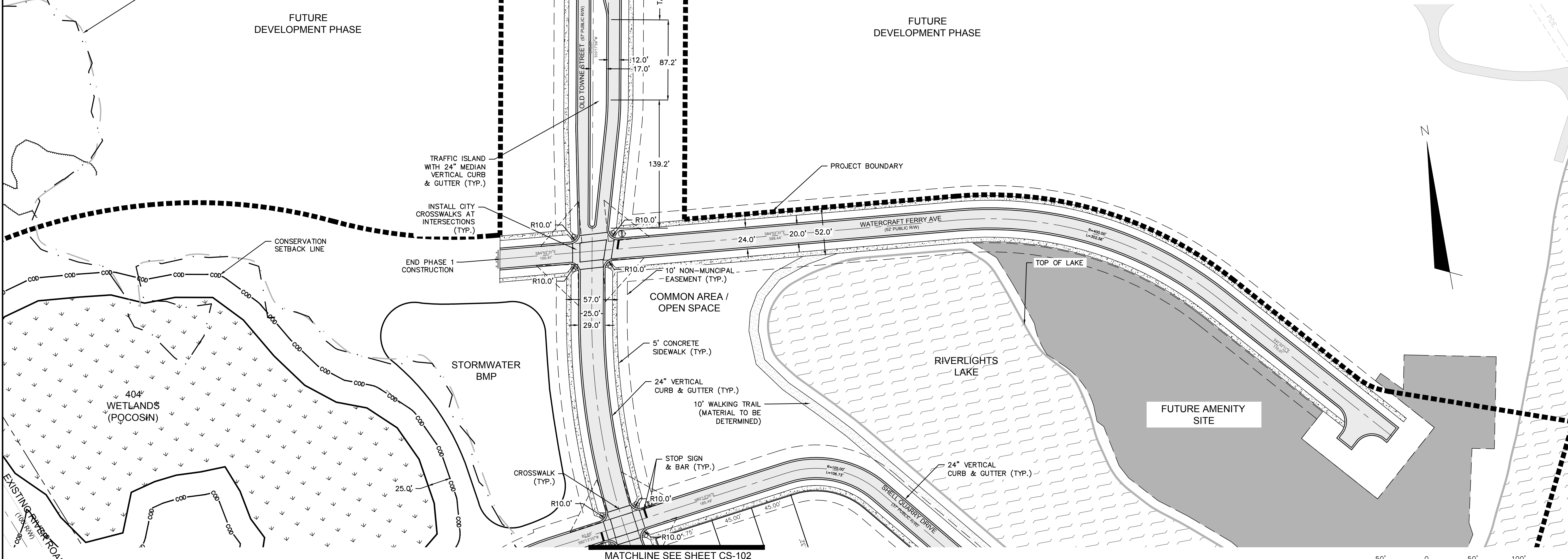
- SUBDIVISION REVIEW BOARD CONDITIONS:**
THE APRIL 15, 2015 SUBDIVISION REVIEW BOARD APPROVAL OF THE PRELIMINARY PLAN IS SUBJECT TO THE FOLLOWING CONDITIONS:
1. THE DEVELOPMENT OF THE SUBJECT PROPERTY SHALL BE IN ACCORDANCE WITH THE PRELIMINARY PLAN AS APPROVED BY THE SRB.
 2. UTILITIES SHALL BE LOCATED UNDER THE ASPHALT TO THE EXTENT POSSIBLE IN ORDER TO AVOID LANDSCAPING CONFLICTS (THIS CONDITION CONTAINS NEW SRB-MODIFIED LANGUAGE).
 3. A TREE PRESERVATION PLAN AND TREE REMOVAL PERMIT SHALL BE REQUIRED FOR THIS PROJECT AND CITY STAFF WILL ISSUE THESE BASED ON ACCEPTABLE LIMITS OF CLEARING AND TREE PRESERVATION.
 4. THE APPLICANT IS REQUIRED TO WORK WITH STAFF TO PRESERVE TREES TO THE MAXIMUM EXTENT PRACTICAL. TREES DESIGNATED TO BE PRESERVED SHALL BE PROPERLY PROTECTED DURING CONSTRUCTION. TREE CLEARING WILL BE LIMITED TO ESSENTIAL SITE IMPROVEMENTS WITHIN THE PROJECT LIMITS AS SHOWN ON THE APPROVED SITE PLAN.
 5. TREES DESIGNATED TO BE PRESERVED MUST BE PROPERLY PROTECTED DURING CONSTRUCTION AND TREE PROTECTION FENCING SHALL BE NOTED ON THE CONSTRUCTION PLANS.
 6. THE PROPOSED AREAS ON THE PLAN THAT ARE DESIGNATED TO BECOME COMMON AREA ARE TO BE CLEARLY LABELED.
 7. NOTATIONS AND LABELS AS TO WHETHER EXISTING AND PROPOSED EASEMENTS ARE PUBLIC OR PRIVATE SHALL BE INCLUDED ON THE PRELIMINARY PLAN.
 8. IF NECESSARY, RESOURCE AREAS, BUFFERS AND SETBACKS PER REQUIREMENTS OF THE LDC SHALL BE SHOWN AND LABELED ON THE PRELIMINARY PLAN.
 9. ALL CITY, STATE AND FEDERAL REGULATIONS SHALL BE MET.
 10. ALL TECHNICAL REVIEW COMMITTEE COMMENTS SHALL BE FOLLOWED.
 11. AN ACCEPTABLE PRELIMINARY PLAN WHICH ADEQUATELY ADDRESSES ALL TRC/SRB COMMENTS SHALL BE SUBMITTED TO THE SUBDIVISION COORDINATOR FOR SIGNATURE WITHIN THIRTY (30) CALENDAR DAYS OF SRB APPROVAL.
 12. IN ORDER TO PROVIDE PEDESTRIAN ACCESSES TO THE WALKING TRAILS WITHIN THE RIGHT OF WAY OF THE FORMER RIVER ROAD, THIS SUBDIVISION SHALL FEATURE TWO FOOTPATHS. SIDEWALK CONNECTIONS TO EACH OF THE FOOTPATHS SHALL BE CONSTRUCTED BY THE SUBDIVIDER FROM THE LOT CORNERS OF PROPOSED LOTS 47 AND 56 RESPECTIVELY TO EACH FOOTPATH. (THIS MODIFICATION WAS ADDED BY SRB'S APPROVAL MOTION).

- CITY OF WILMINGTON NOTES:**
1. ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
 2. INSTALL REFLECTORS PER CITY AND NCDOT STANDARDS. TRAFFIC ENGINEERING MUST APPROVE OF PAVEMENT MARKING LAYOUT PRIOR TO ACTUAL STRIPING.
 3. IF THESE UNITS ARE SOLD AT ANY POINT, THE BUYER MUST RECEIVE A SUBDIVISION STREET DISCLOSURE STATEMENT.

100-YEAR FLOODPLAIN (EFFECTIVE) (AE9)
100-YEAR FLOODPLAIN (PRELIMINARY) (AE9)

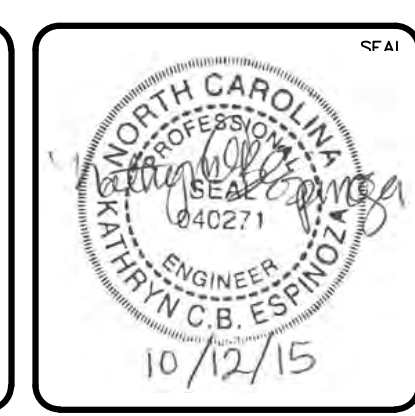
FUTURE
DEVELOPMENT PHASE

FUTURE
DEVELOPMENT PHASE



REVNO.	DESCRIPTIONS	DATE
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H	CITY SUBMITTAL	08/10/2015
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
F	NEW HANOVER COUNTY EROSION CONTROL - RESUBMITTAL	08/03/2015
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C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/21/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015

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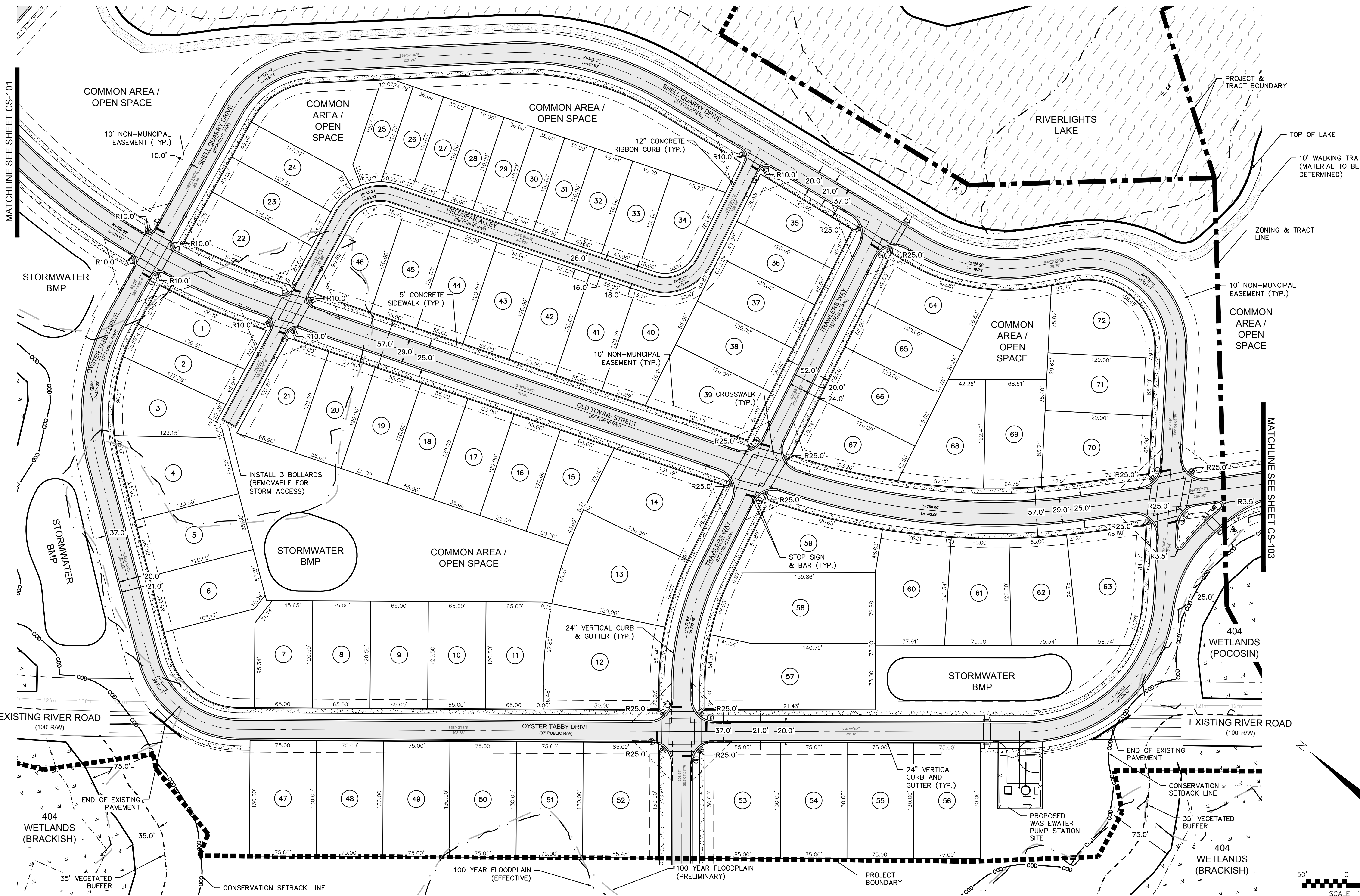
RIVERLIGHTS
Newland by COMMUNITIES
NORTH AMERICA SERIES HOUSE, LLC

**RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1**

SITE PLAN

DATE: 04-29-2015	SCALE: 1"=50'	MAC FILE NUMBER: CS-101
MCE PROJ. #: 02735-0129	HORIZONTAL: 1"=50'	DRAWING NUMBER: 11
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DESIGNED: KCBE		
CHECKED: NJL		
PROJ. MGR: RMC		
STATUS: FINAL DESIGN		REVISION: 1
ISSUED FOR PERMITTING		

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REV.	NO.	DESCRIPTION	DATE
I		CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	10/12/2015
H		CITY SUBMITTAL	08/10/2015
G		CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	06/10/2015
F		NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
E		NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
D		CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
C		NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/29/2015
B		CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
A		CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015

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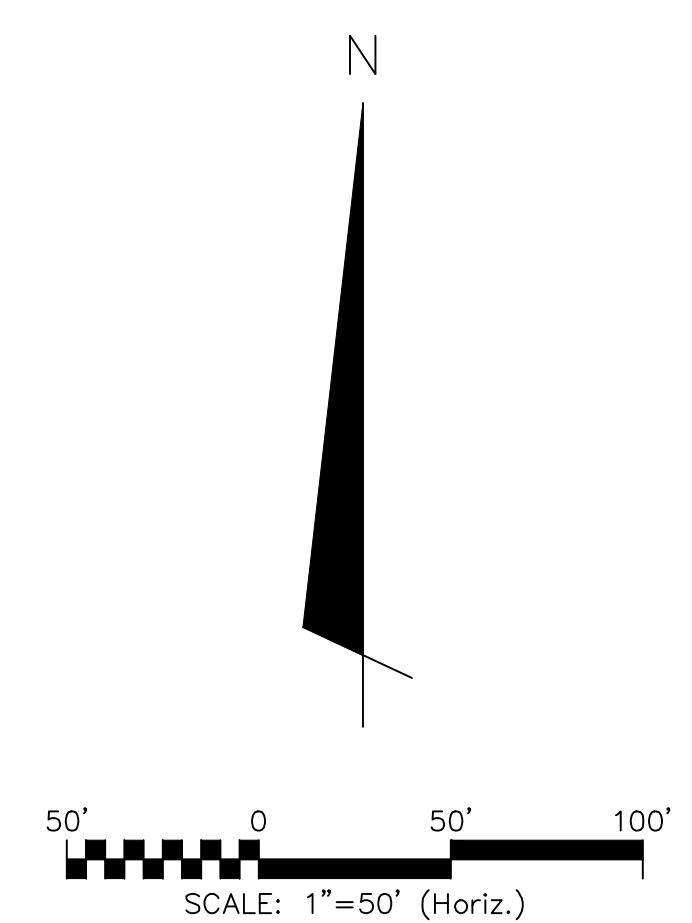
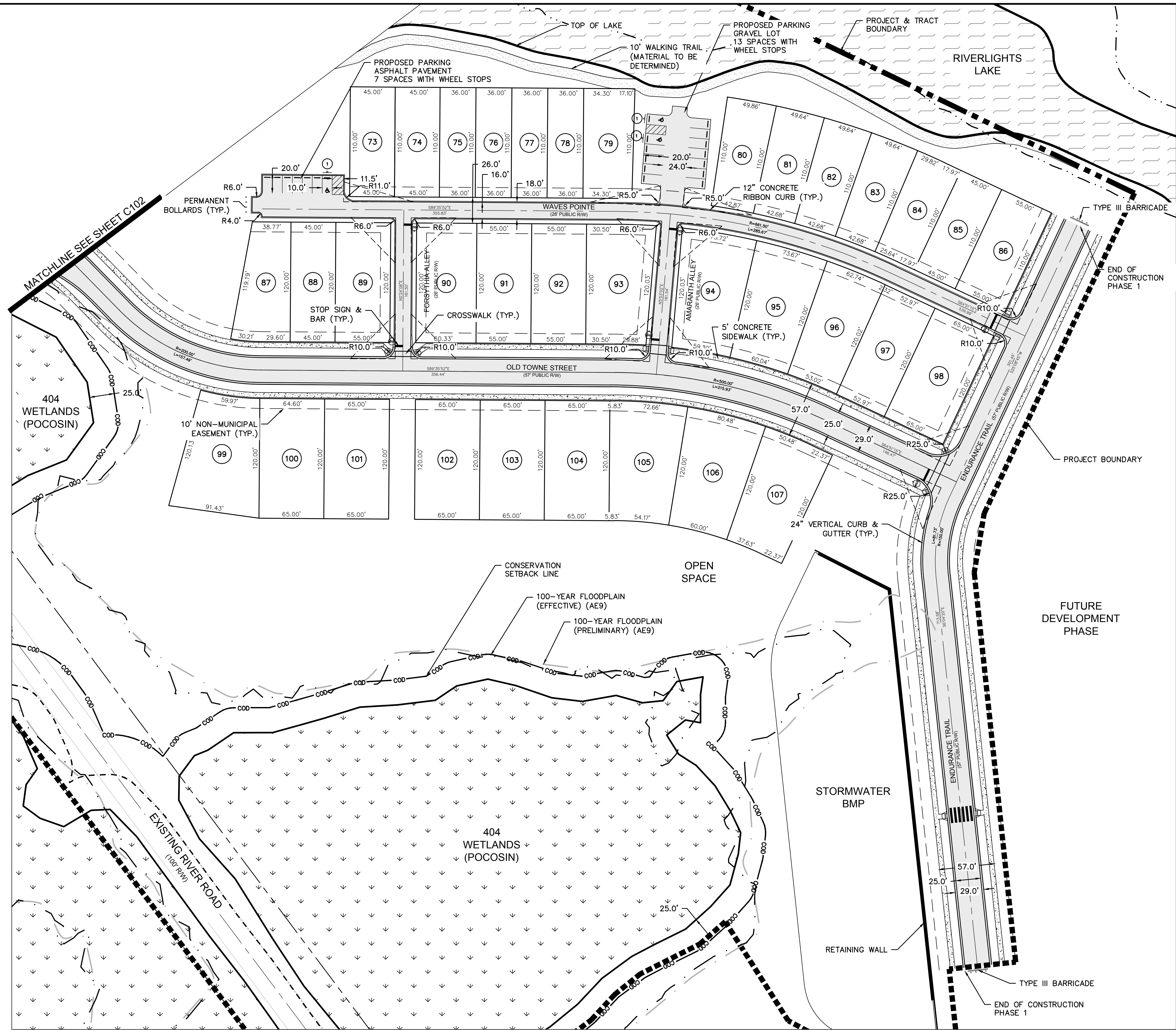
**RIVERLIGHTS
 CONVENTIONAL NEIGHBORHOOD PH. 1**
SITE PLAN

DATE: 04-29-2015	SCALE: 1"=50'	MAC FILE NUMBER: CS-102
MCE PROJ. #: 02735-0129	HORIZONTAL: 1"=50'	DRAWING NUMBER: 12
DRAWN: EEM/KCBE	VERTICAL: N/A	REVISION: 1
DESIGNED: KCBE		
CHECKED: NJL		
PROJ. MGR: RMC		

STATUS: FINAL DESIGN
ISSUED FOR PERMITTING

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REV. NO.	DESCRIPTIONS	DATE
I	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	10/12/2015
H	CPWA SUBMITTAL	08/10/2015
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
E	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/21/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015

FINAL DRAWINGS DO NOT USE FOR CONSTRUCTION



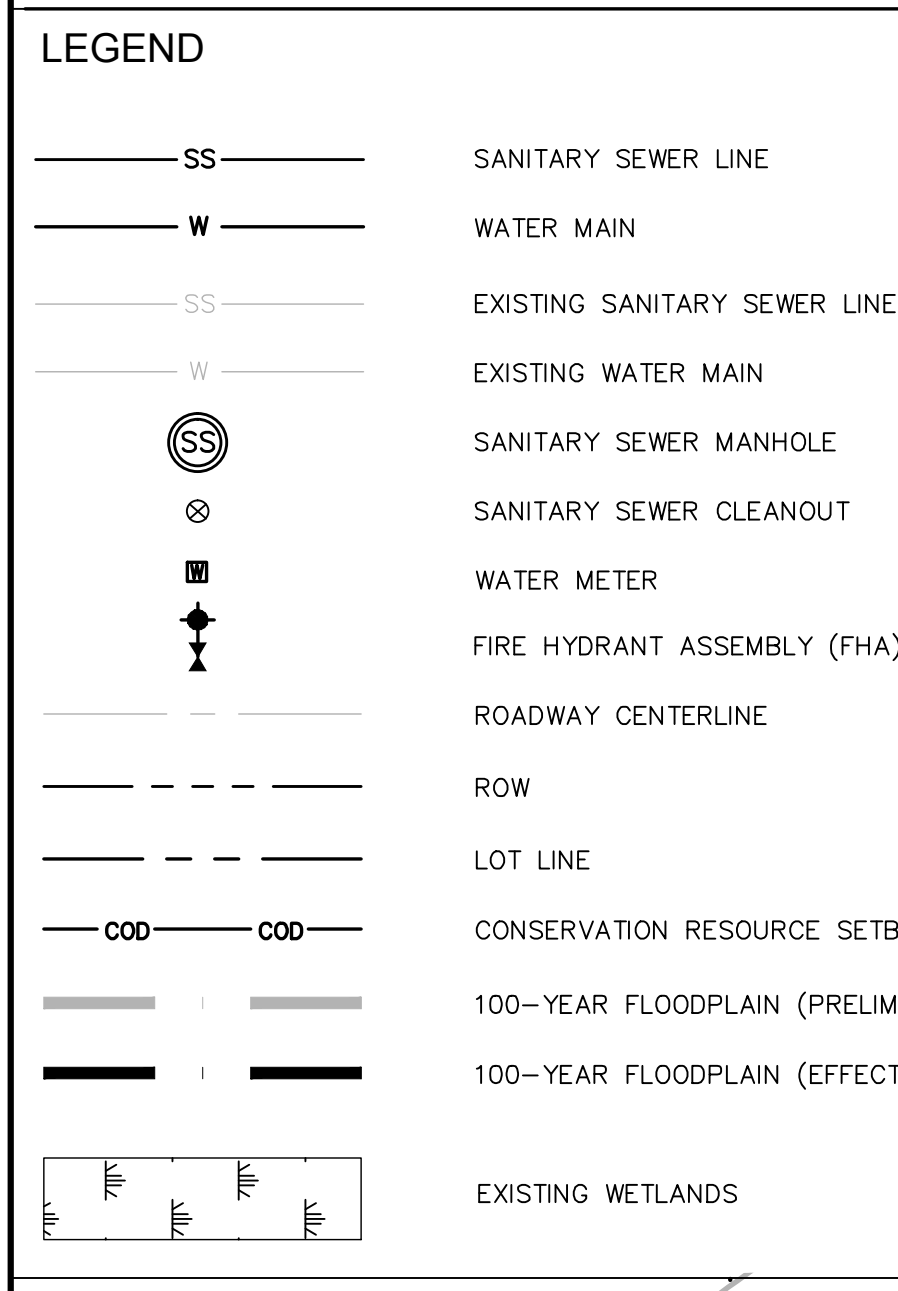
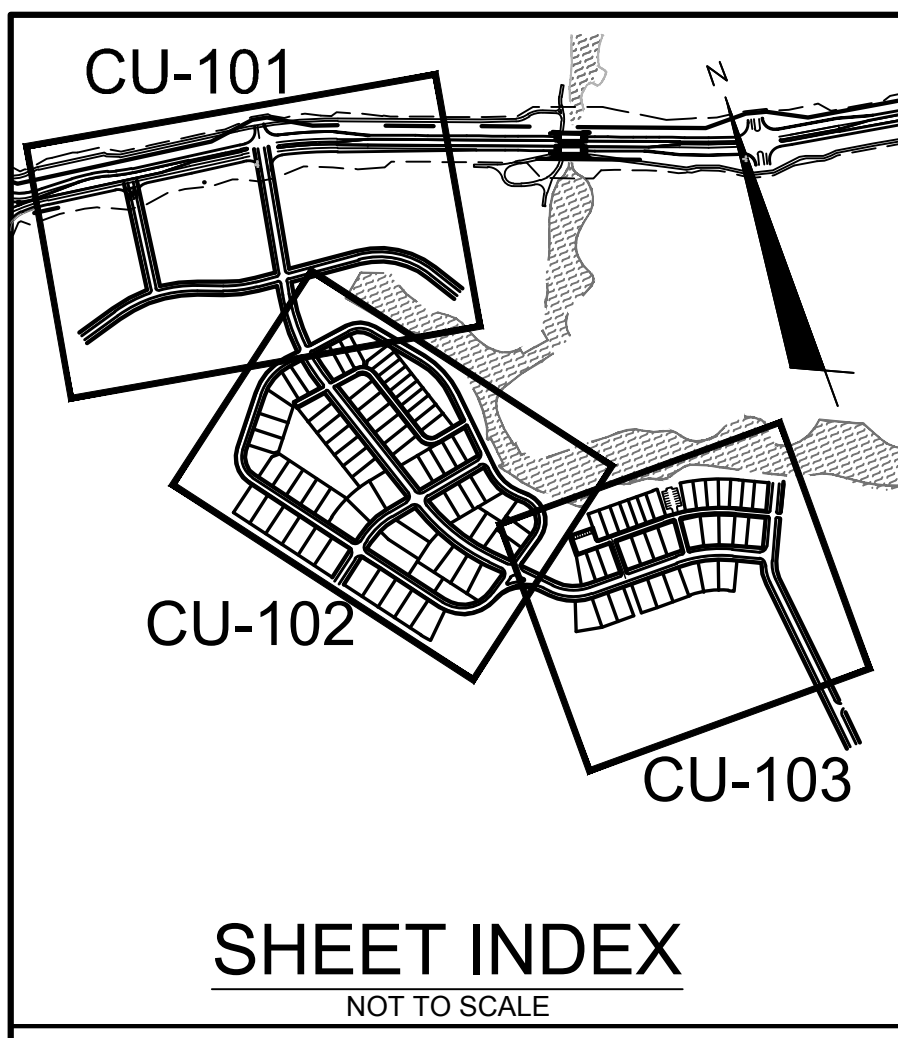
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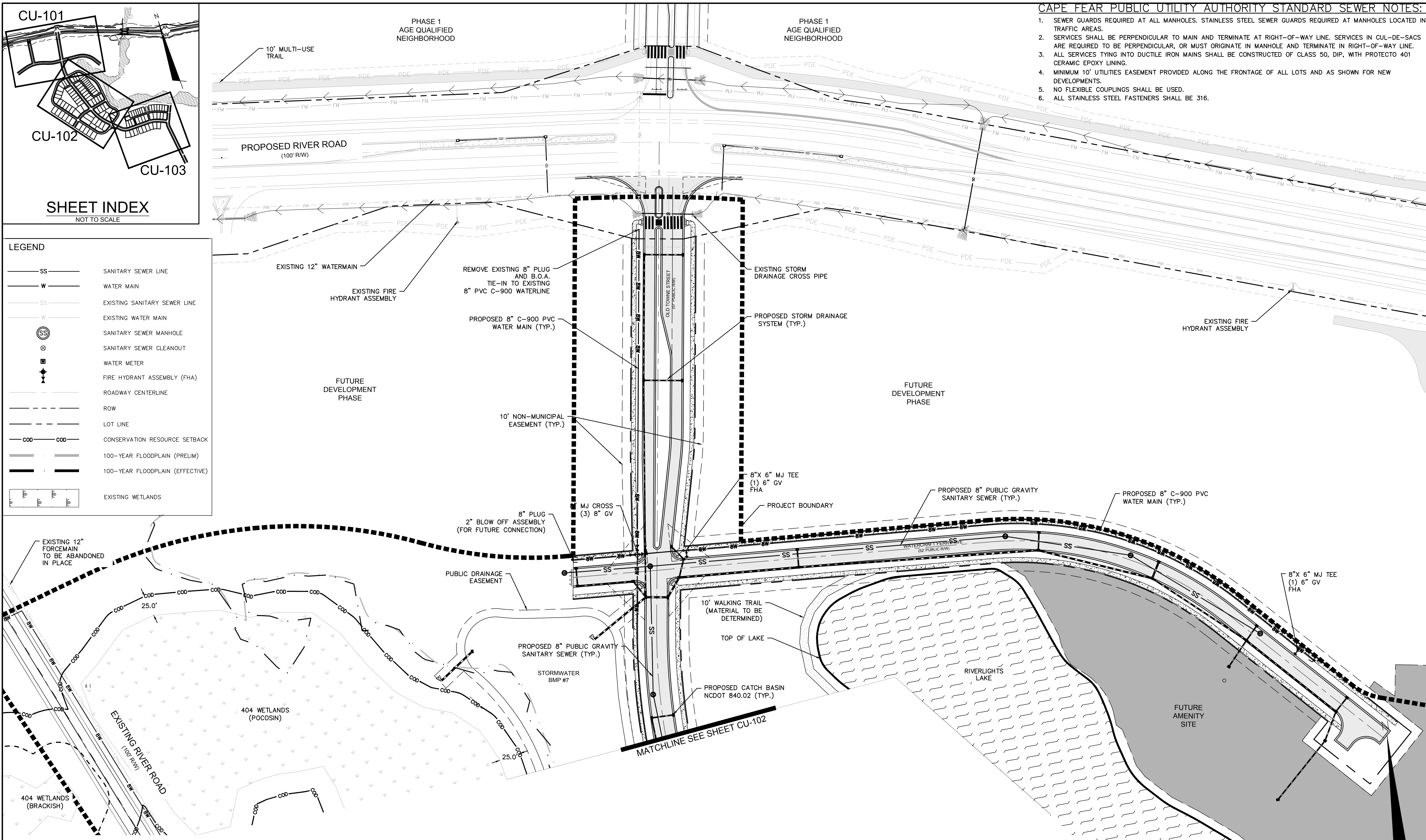
RIVERLIGHTS CONVENTIONAL NEIGHBORHOOD PH. 1
SITE PLAN

DATE: 04-29-2015	SCALE: 1"=50'	MAC FILE NUMBER: CS-103
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DRAWN: EEM/KCBE	VERTICAL: N/A	REVISION: 1
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CHECKED: NJL	ISSUED FOR PERMITTING	
PROJ. MGR: RMC		

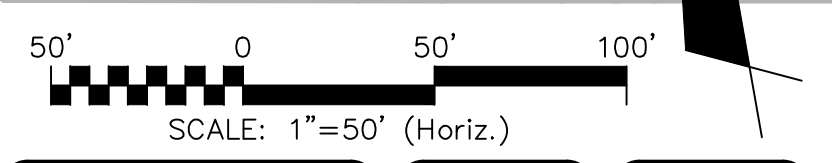
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- CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD SEWER NOTES:**
- SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
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 - MINIMUM 10' UTILITIES 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.

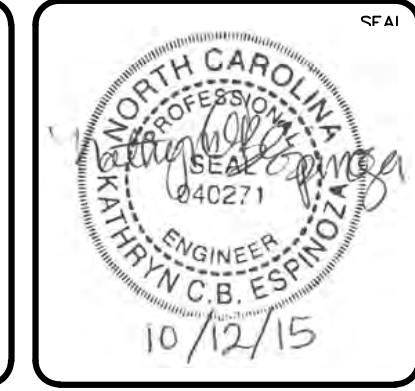


- NOTES:**
- ALL VALVES AND FITTINGS TO BE RESTRAINED JOINT AND BLOCKED PER CFPUA STANDARD DETAILS AND SPECIFICATIONS. SEE CFPUA STANDARD DETAIL SHEETS AND UTILITY NOTES ON G-002.



REVNO.	DESCRIPTIONS	DATE
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/21/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
E	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
H	CFPUA SUBMITTAL	08/10/2015
I	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	10/12/2015

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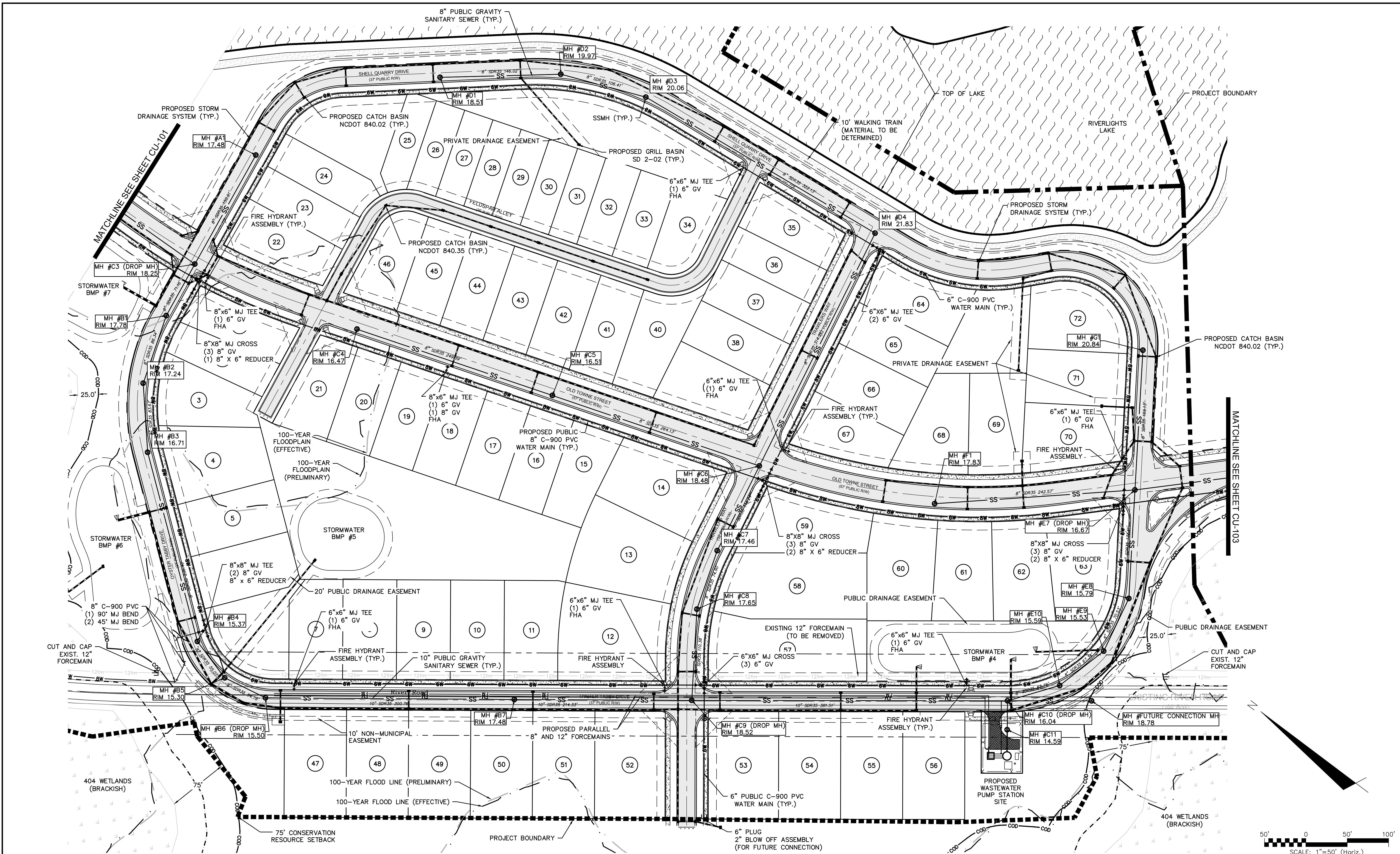
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**RIVERLIGHTS
 CONVENTIONAL NEIGHBORHOOD PH. 1**

UTILITY PLAN

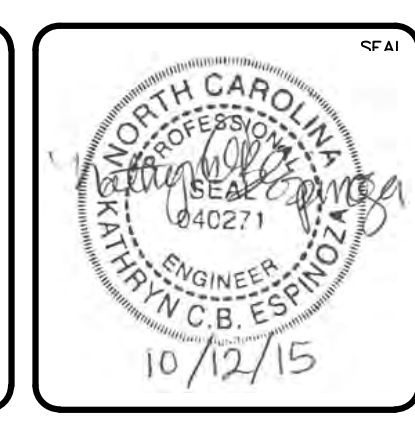
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DRAWN: EEM/KCBE	VERTICAL: N/A	REVISION: 1
DESIGNED: KCBE	STATUS: FINAL DESIGN	
CHECKED: NJL	ISSUED FOR PERMITTING	
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REV. NO.	DESCRIPTIONS	DATE
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	06/22/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
E	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
H	CPWA SUBMITTAL	08/10/2015
I	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	10/12/2015

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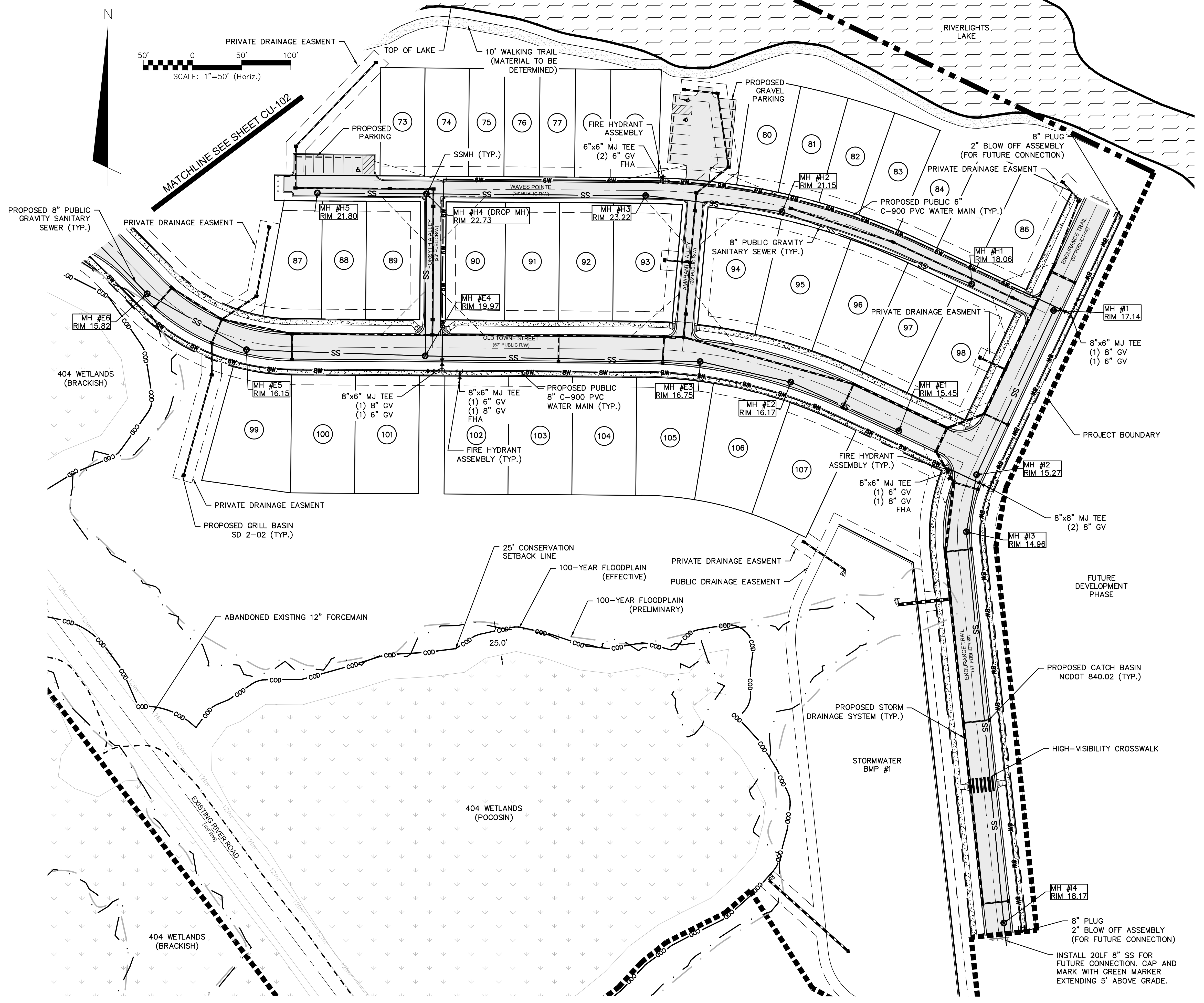
**RIVERLIGHTS
 CONVENTIONAL NEIGHBORHOOD PH. 1**

UTILITY PLAN

DATE: 04-29-2015	SCALE: 1"=50'	MAC FILE NUMBER: CU-102
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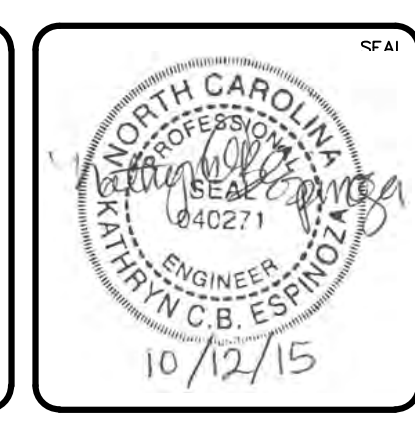
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REV. NO.	DESCRIPTIONS	DATE
I	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	10/12/2015
H	CFWA SUBMITTAL	08/10/2015
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
E	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
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C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/21/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015

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**RIVERLIGHTS
 CONVENTIONAL NEIGHBORHOOD PH. 1**

UTILITY PLAN

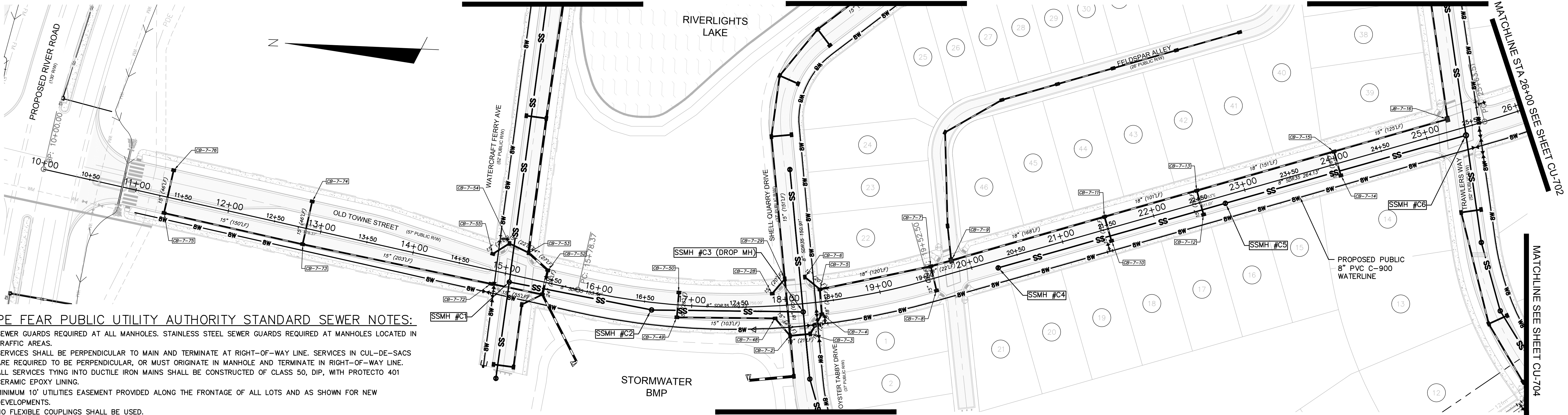
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CHECKED:	NJL		
STATUS:	FINAL DESIGN	ISSUED FOR PERMITTING	REVISION 1

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MATCHLINE SEE SHEET CU-703

MATCHLINE SEE SHEET CU-705

MATCHLINE SEE SHEET CU-705



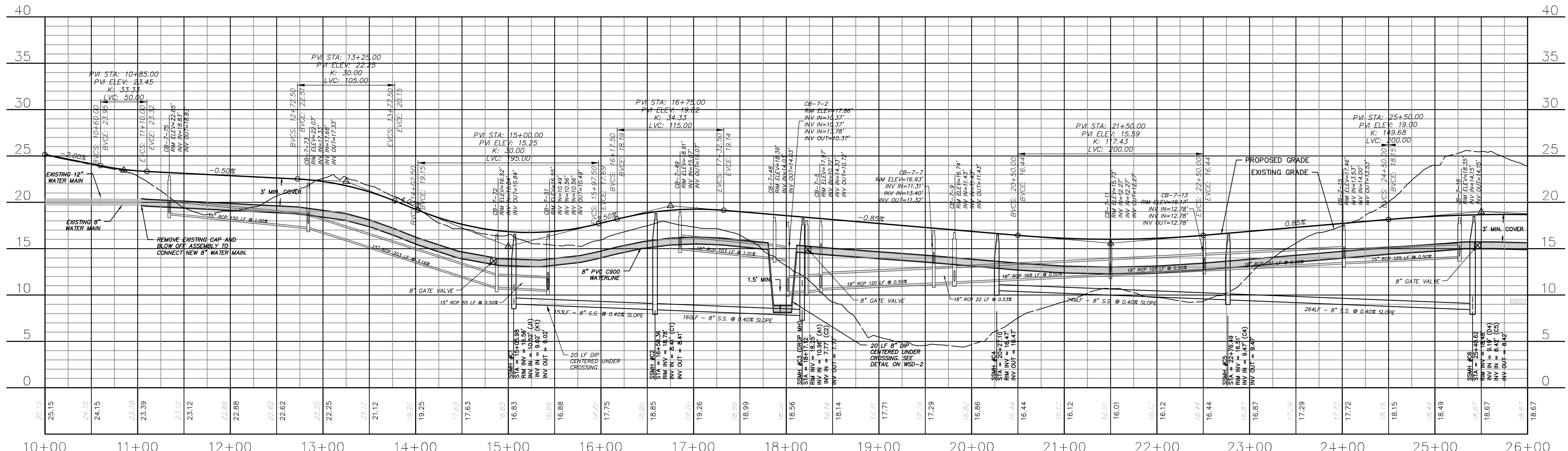
CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD SEWER NOTES:

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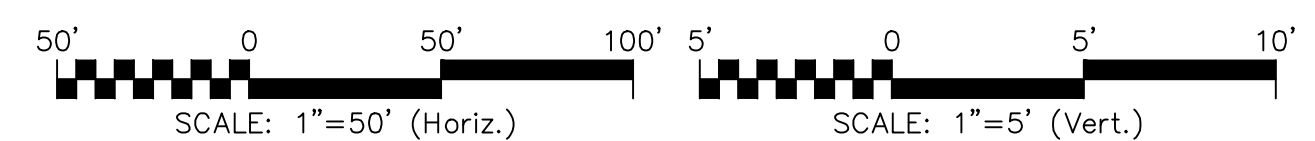
UTILITY NOTES:

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**MATCHLINE SEE SHEET CU-704
OLD TOWNE STREET
(STA 10+00 TO 26+00)**



**OLD TOWNE STREET
(STA 10+00 TO 26+00)**



REV.	DESCRIPTION	DATE
I	CITY OF WILMINGTON TECHNICAL REVIEW RESUBMITTAL	10/12/2015
H	CFPWA SUBMITTAL	08/10/2015
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	06/10/2015
F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
E	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/29/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015

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NORTH AMERICA SENIUS HOUSE, LLC

**RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1**
PLAN AND PROFILE STA 10+00 TO
STA 26+00

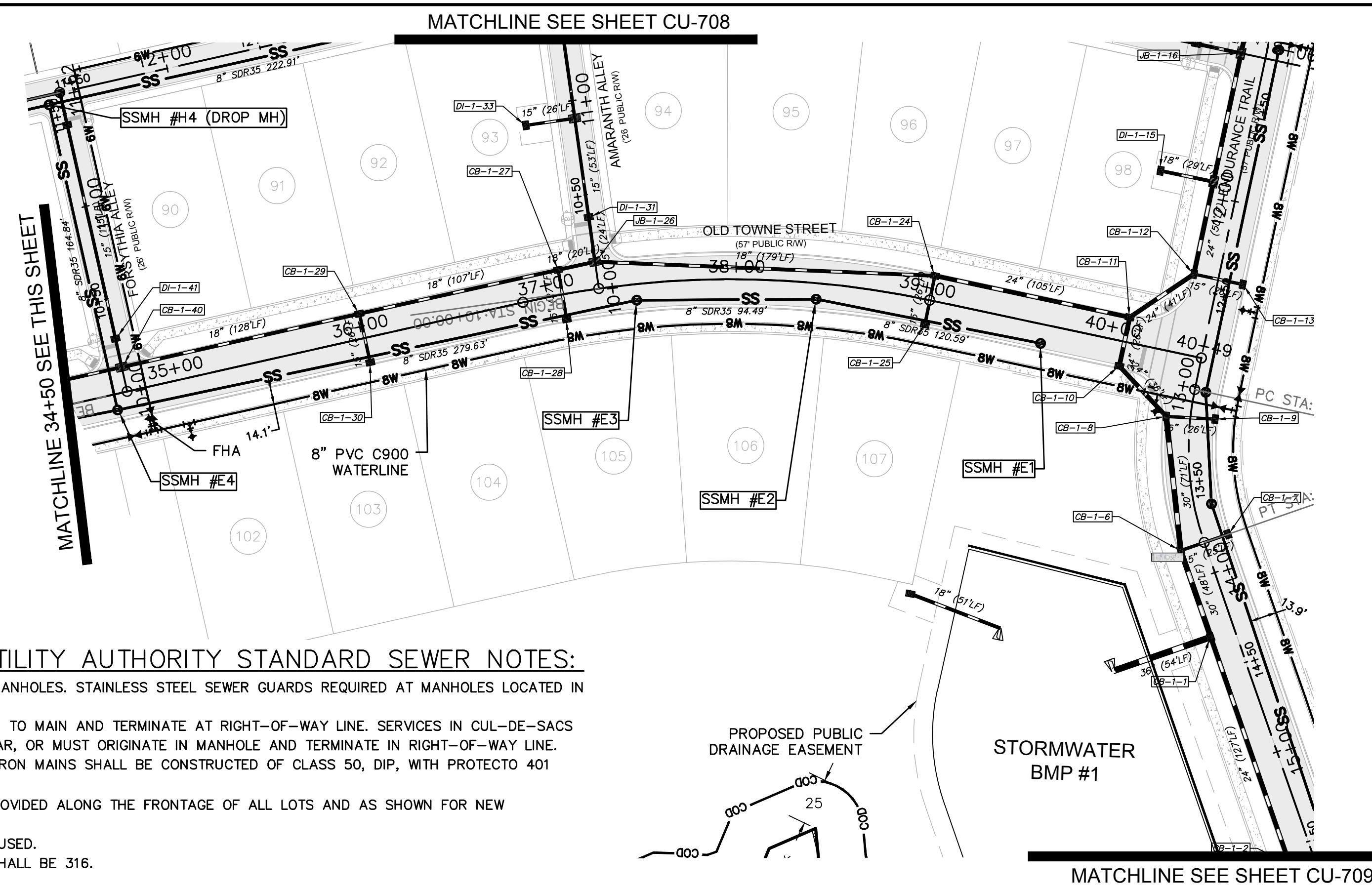
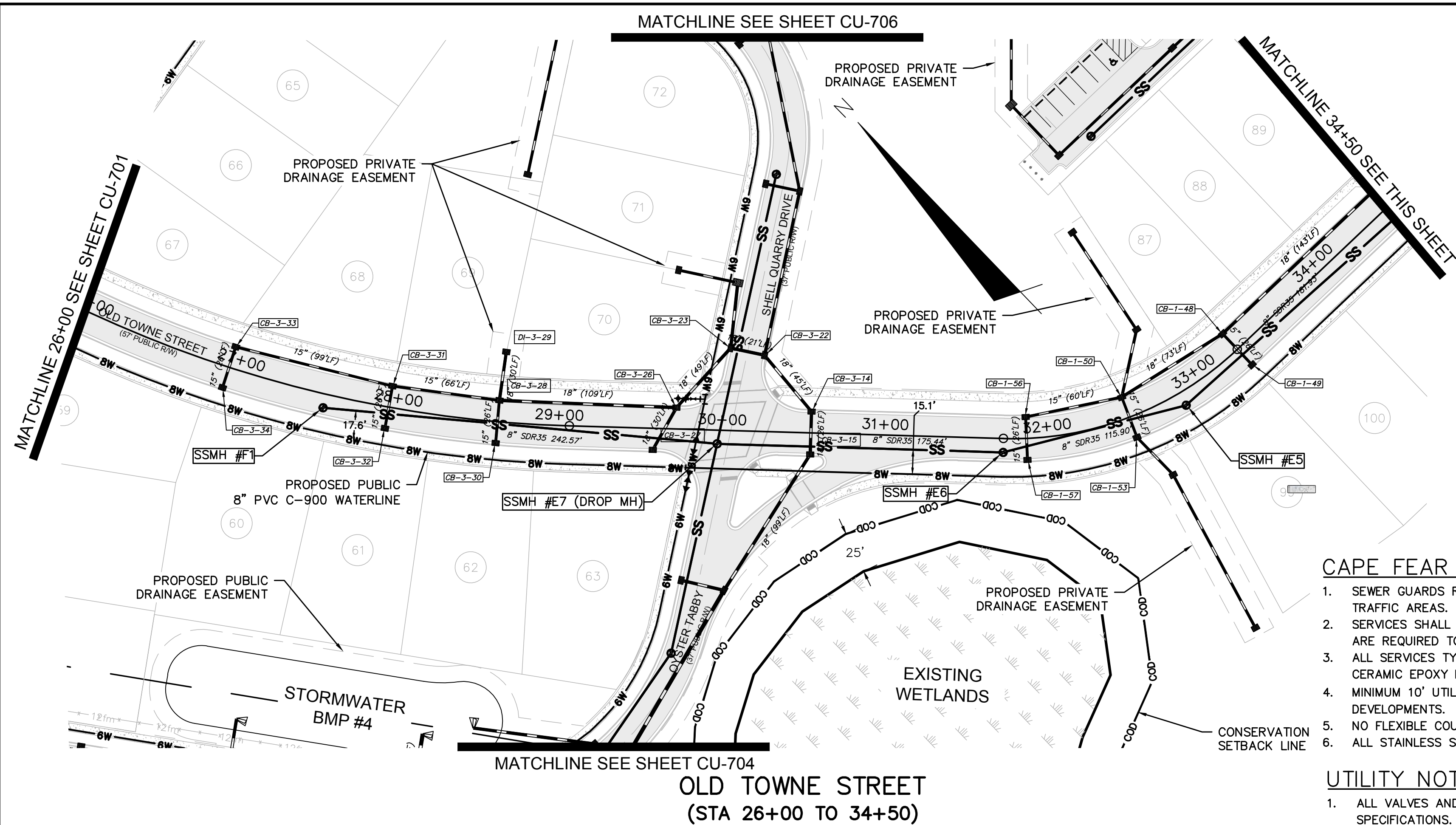
DATE: 04-29-2015
MCE PROJ. # 02735-0129
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: NJL
PROJ. MGR: RMC

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

STATUS: FINAL DESIGN
ISSUED FOR PERMITTING

MAC FILE NUMBER: CU-701
DRAWING NUMBER: 17
REVISION: 1

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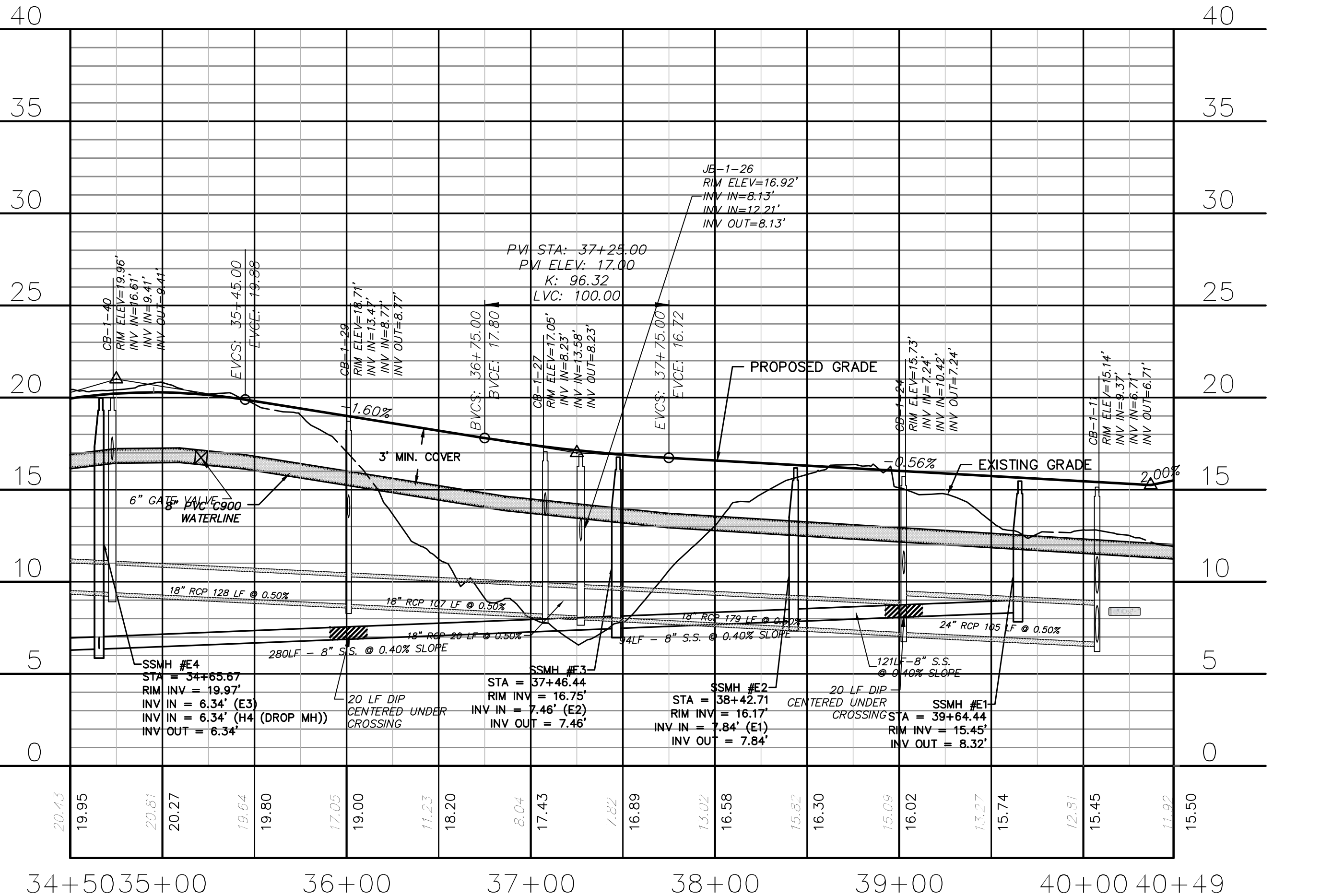
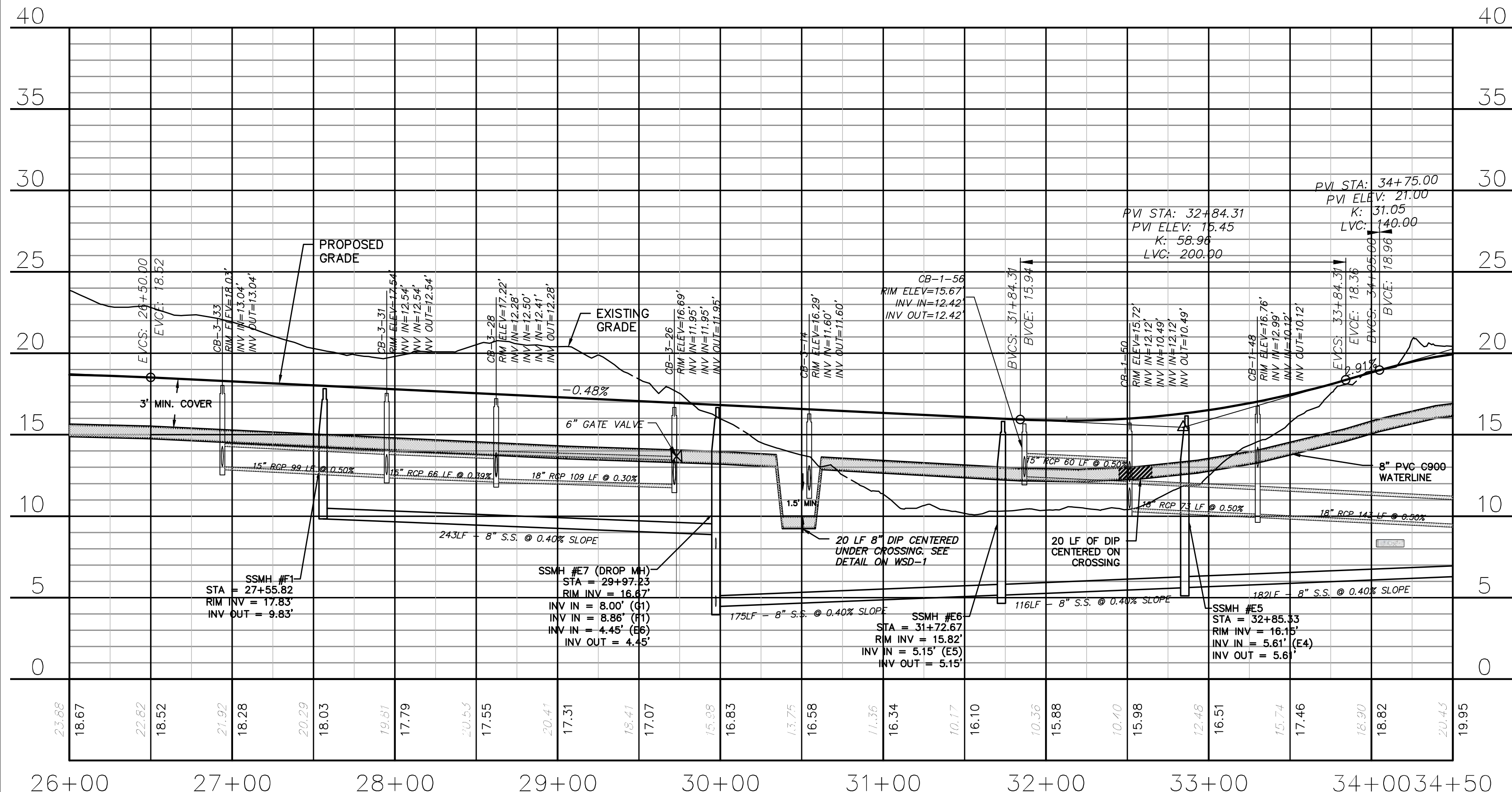


CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD SEWER NOTES:

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UTILITY NOTES:

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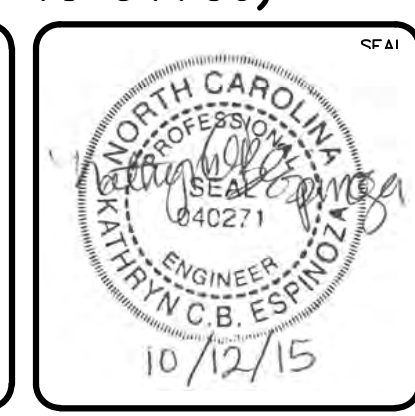


OLD TOWNE STREET (STA 26+00 TO 34+50)

OLD TOWNE STREET (STA 34+50 TO 40+57.83)

REV.	DESCRIPTION	DATE
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/21/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
E	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	09/10/2015
H	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	09/10/2015
I	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	10/12/2015

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NORTH AMERICA SENIUS HOUSE, LLC

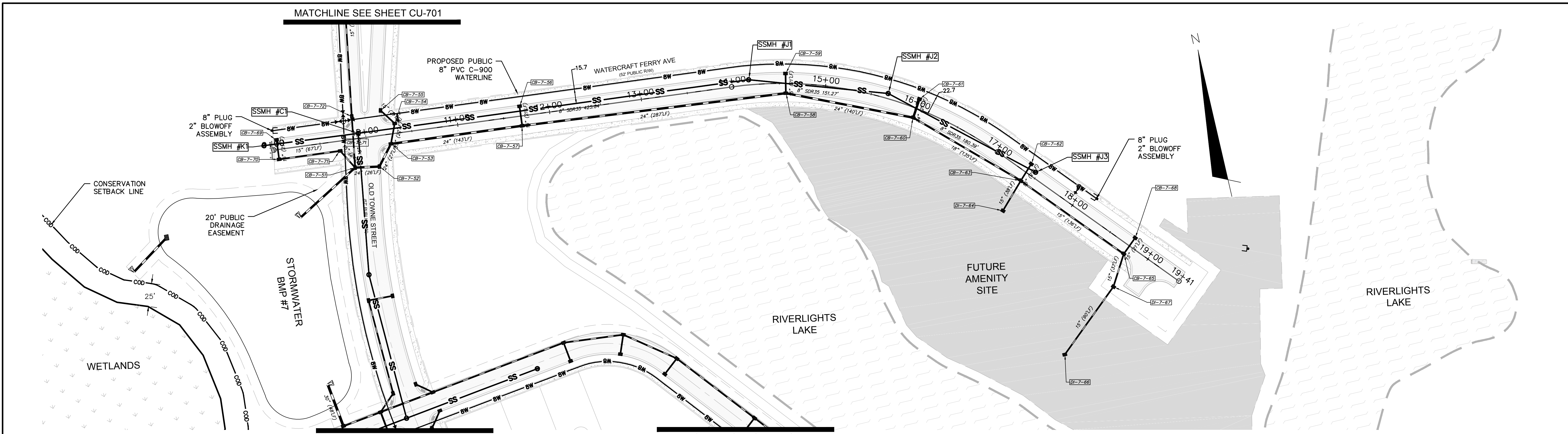
RIVERLIGHTS CONVENTIONAL NEIGHBORHOOD PH. 1
PLAN AND PROFILE STA 26+00 TO STA 40+57.83

DATE: 04-29-2015
MCE PROJ. # 02735-0129
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: NJL
PROJ. MGR: RMC

SCALE: 1"=50' (Horiz.)
SCALE: 1"=5' (Vert.)

MAC FILE NUMBER: CU-702
DRAWING NUMBER: 18
REVISION: 1

STATUS: FINAL DESIGN
ISSUED FOR PERMITTING

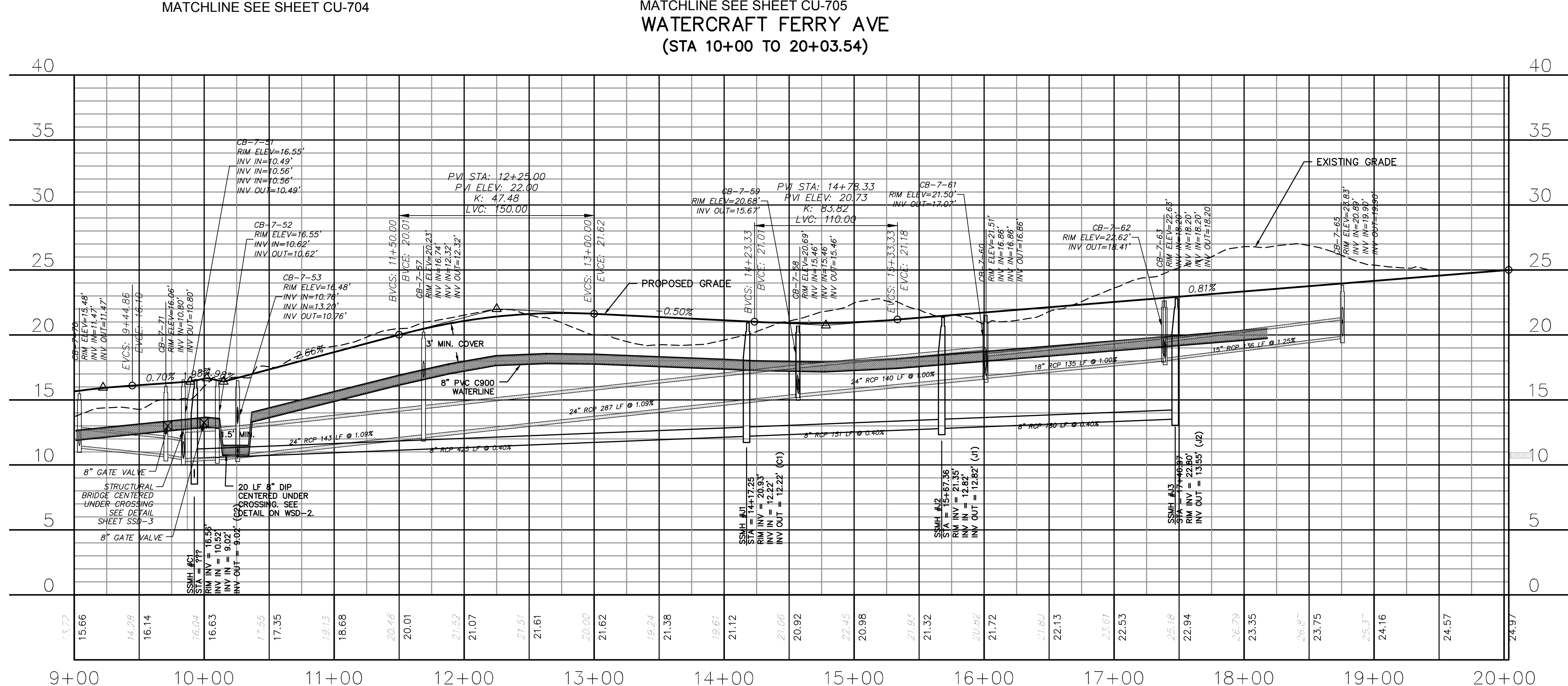


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REV. NO.	DESCRIPTIONS	DATE
I	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	10/12/2015
H	CFPUA SUBMITTAL	08/10/2015
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	06/10/2015
F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
E	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/29/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015

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NORTH AMERICA SENIUS HOUSE, LLC

RIVERLIGHTS CONVENTIONAL NEIGHBORHOOD PH. 1
PLAN AND PROFILE STA 10+00 TO STA 20+03.54

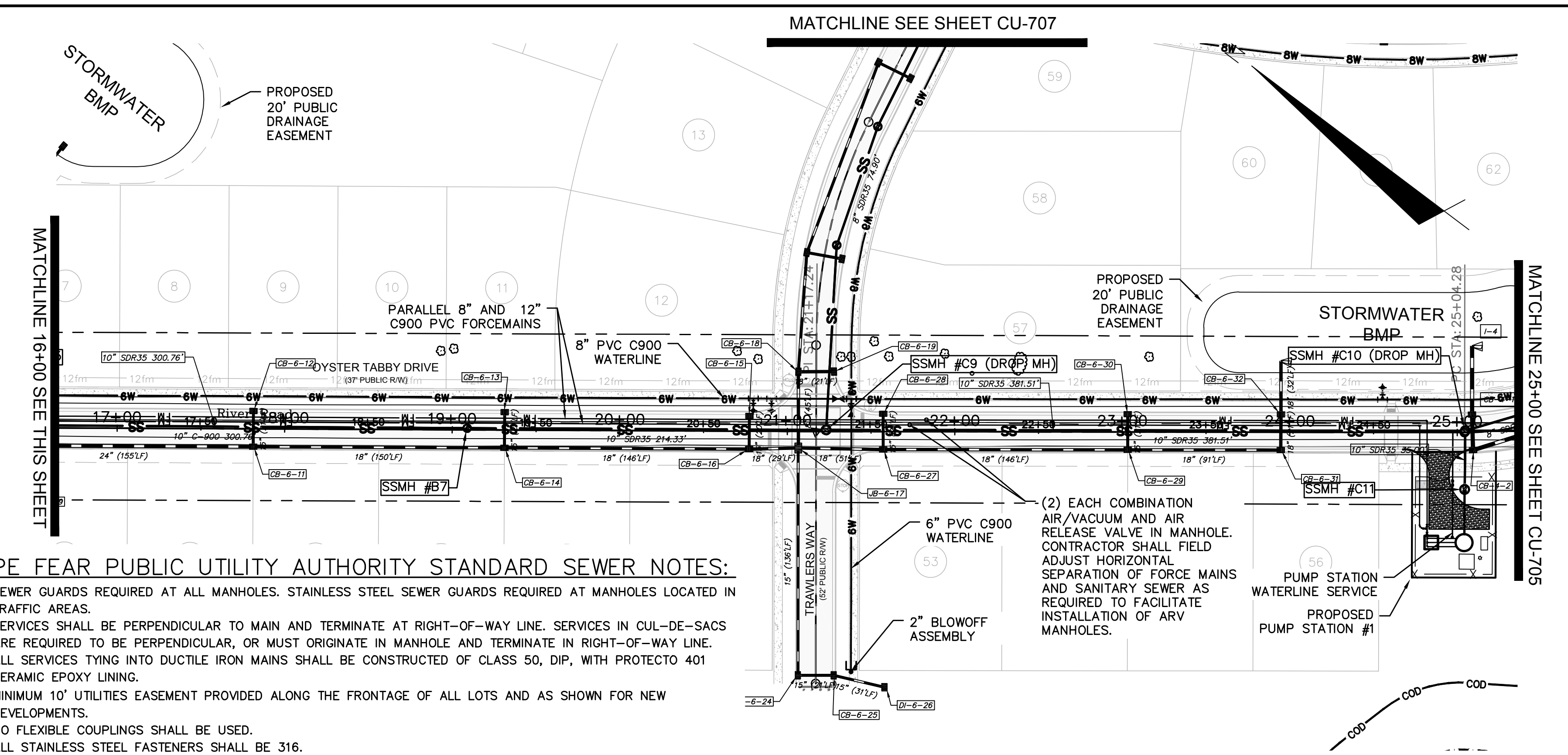
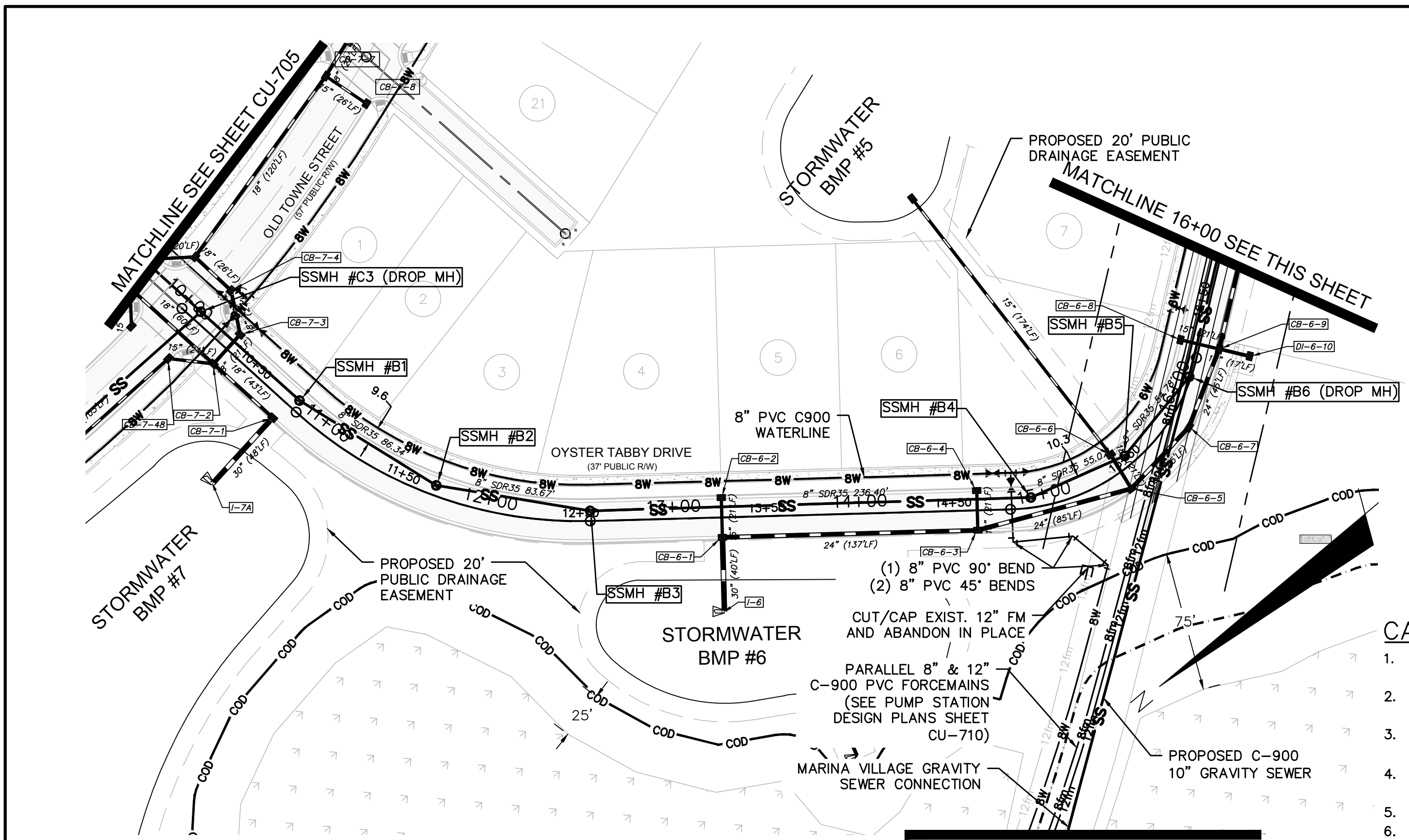
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DESIGNED: KCBE
CHECKED: NJL
PROJ. MGR: RMC

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

STATUS: FINAL DESIGN
ISSUED FOR PERMITTING

MAC FILE NUMBER: CU-703
DRAWING NUMBER: 19
REVISION: 1

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CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD SEWER NOTES:

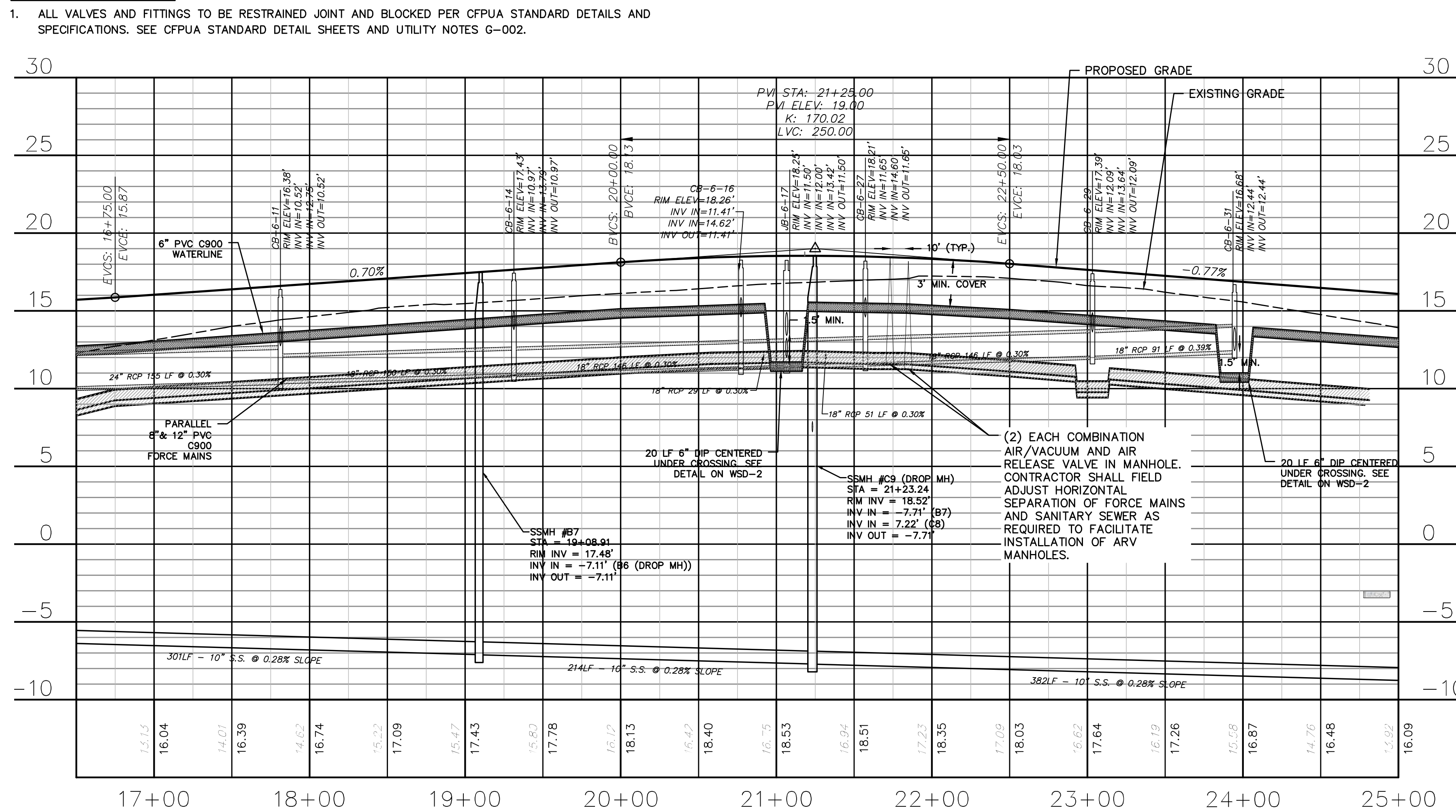
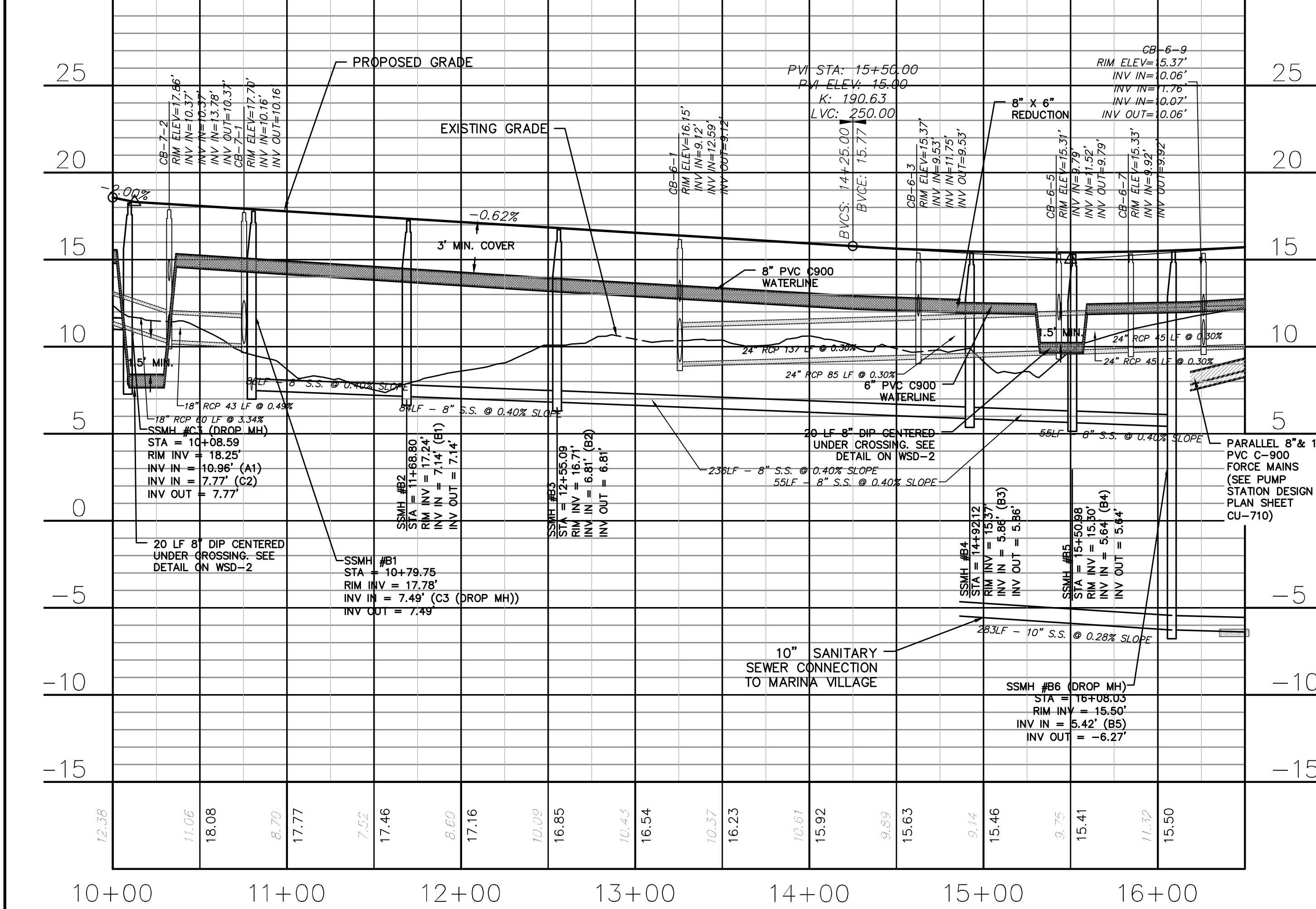
- SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
- SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE AT RIGHT-OF-WAY LINE. SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN MANHOLE AND TERMINATE IN RIGHT-OF-WAY LINE.
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- NO FLEXIBLE COUPLINGS SHALL BE USED.
- ALL STAINLESS STEEL FASTENERS SHALL BE 316.

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.

OYSTER TABBY DRIVE (STA 10+00 TO 16+50)

OYSTER TABBY DRIVE (STA 16+50 TO 25+00)

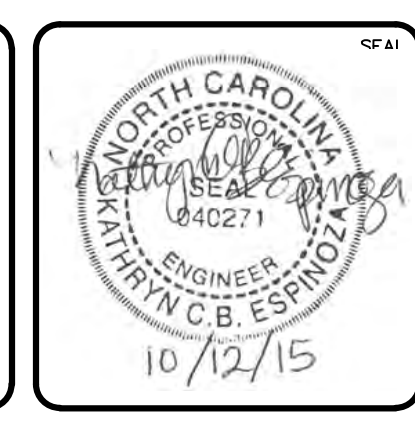


OYSTER TABBY DRIVE (STA 10+00 TO 16+50)

OYSTER TABBY DRIVE (STA 16+50 TO 25+00)

REV. NO.	DESCRIPTION	DATE
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/29/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
E	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
H	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
I	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	10/12/2015

FINAL DRAWINGS
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NORTH AMERICA SENIUS HOUSE, LLC

**RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1**
PLAN AND PROFILE STA 10+00 TO
STA 25+00

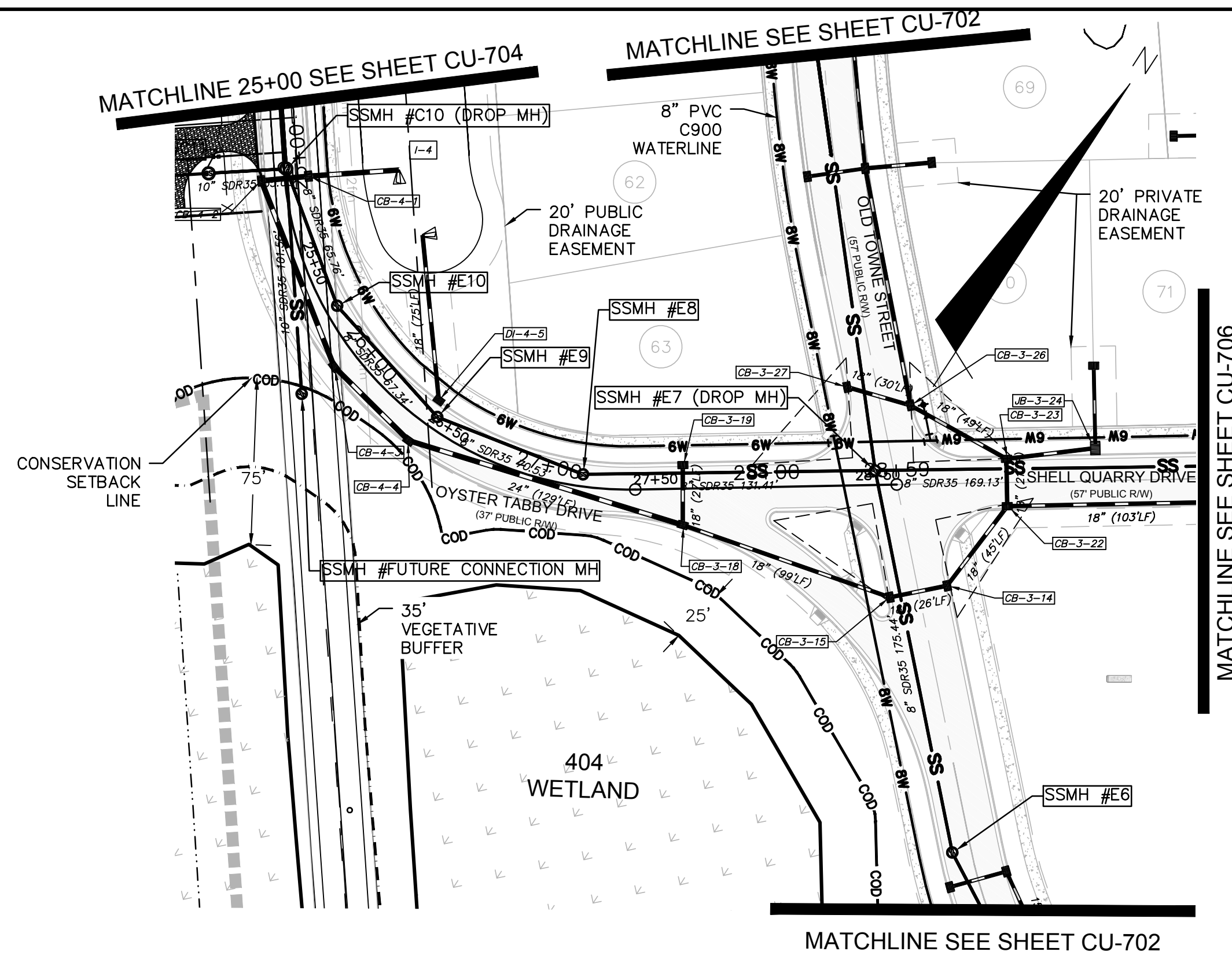
DATE: 04-29-2015
MCE PROJ. # 02735-0129
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: NJL
PROJ. MGR: RMC

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

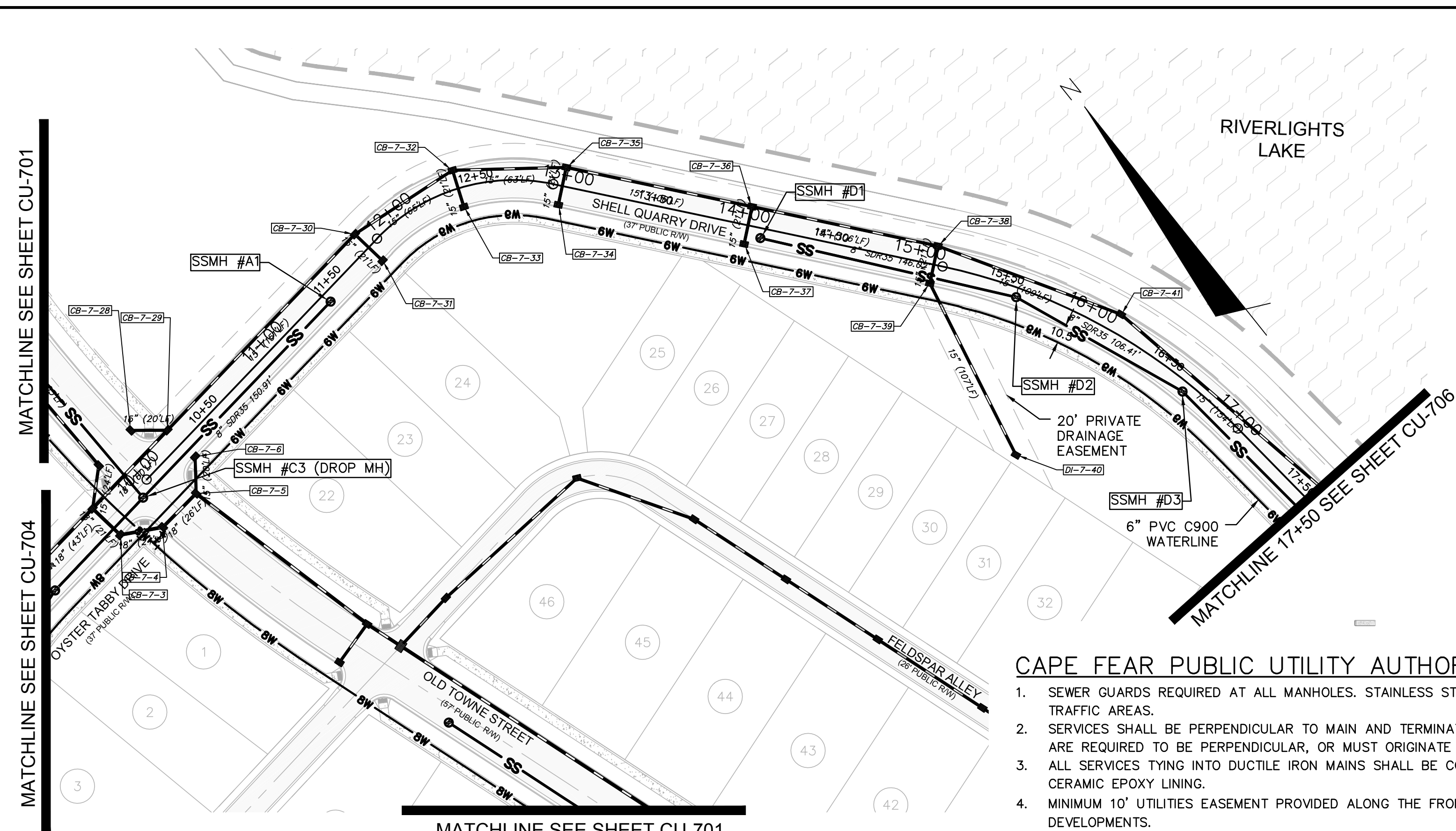
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REVISION: 1

STATUS: FINAL DESIGN
ISSUED FOR PERMITTING

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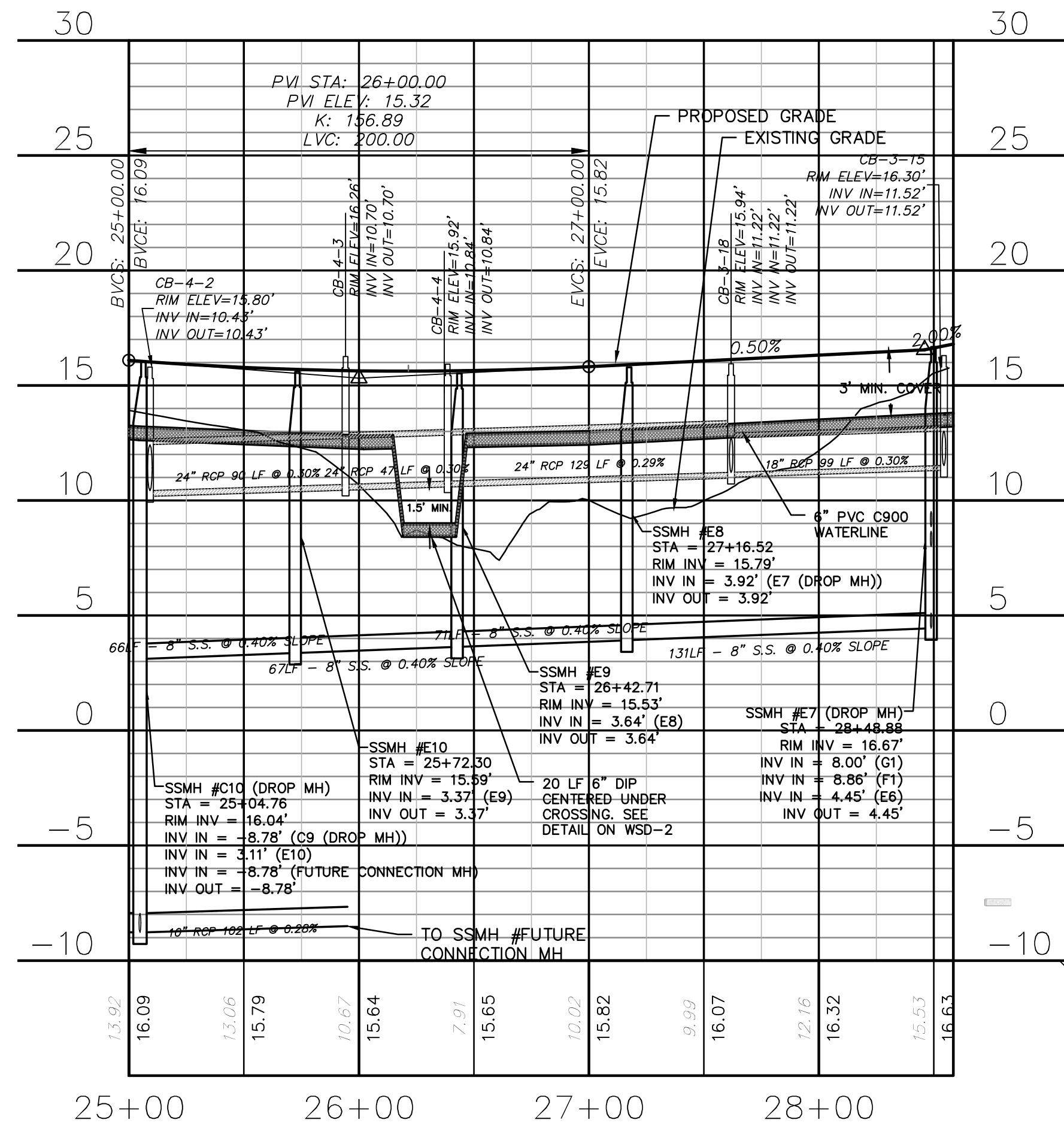
OYSTER TABBY DRIVE
(STA 25+00 TO 28+35.63)



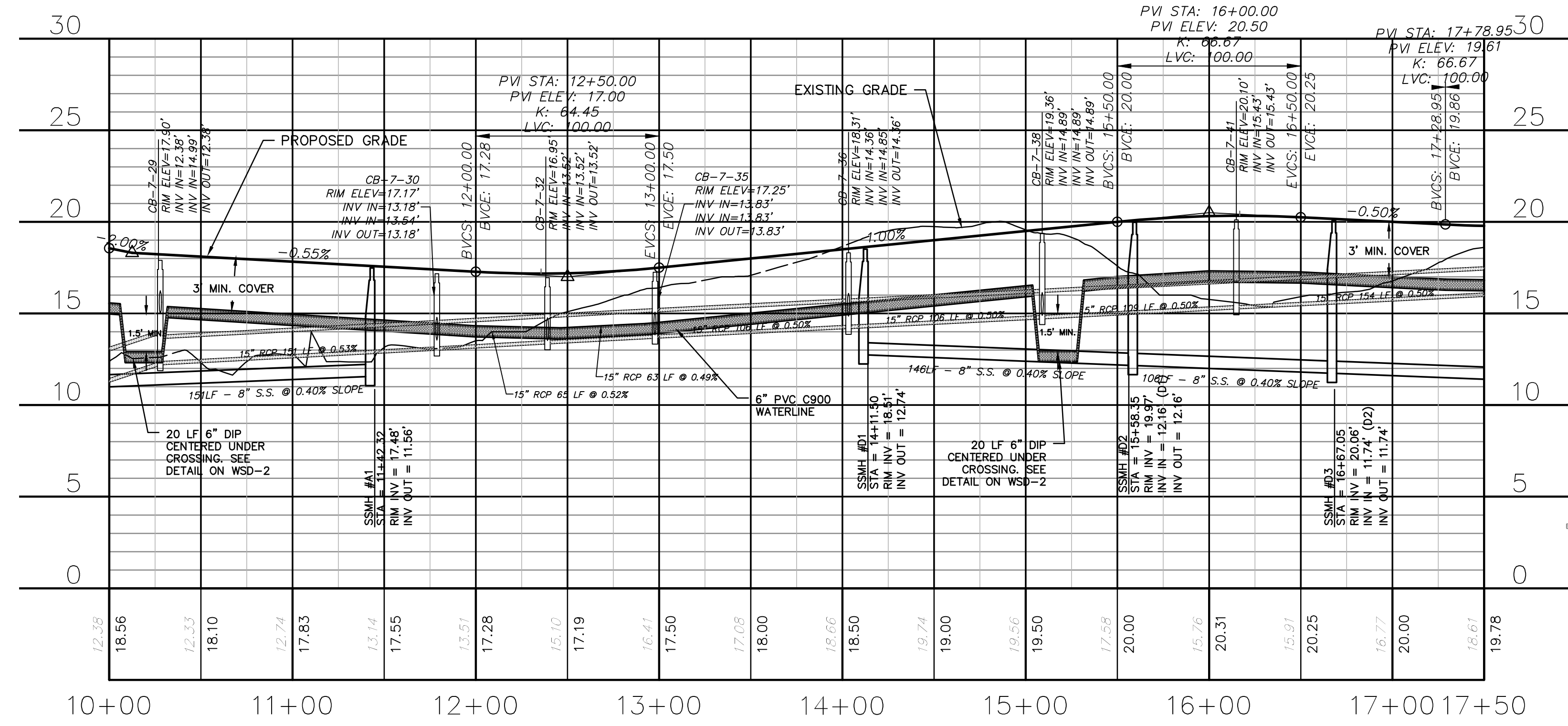
SHELL QUARRY DRIVE
(STA 10+00 TO 17+50)

- 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.
 - SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE AT RIGHT-OF-WAY LINE. SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN MANHOLE AND TERMINATE IN RIGHT-OF-WAY LINE.
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 - NO FLEXIBLE COUPLINGS SHALL BE USED.
 - ALL STAINLESS STEEL FASTENERS SHALL BE 316.

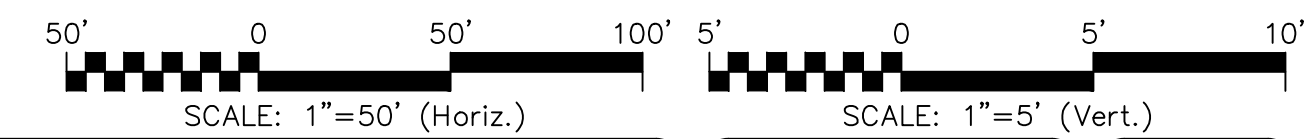
- UTILITY NOTES:**
- ALL VALVES AND FITTINGS TO BE RESTRAINED JOINT AND BLOCKED PER CFPUA STANDARD DETAILS AND SPECIFICATIONS. SEE CFPUA STANDARD DETAIL SHEETS AND UTILITY NOTES G-002.



OYSTER TABBY DRIVE
(STA 25+00 TO 28+35.63)

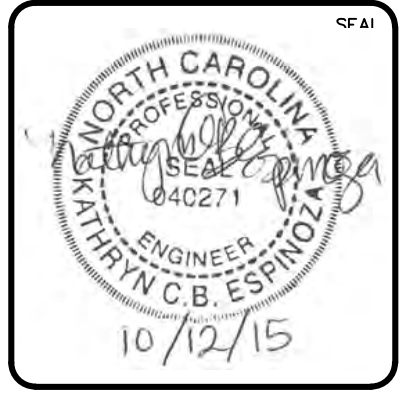


SHELL QUARRY DRIVE
(STA 10+00 TO 17+50)



REVNO.	DESCRIPTIONS	REVISIONS	DATE
I	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL		10/12/2015
H	CFPUA SUBMITTAL		08/10/2015
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL		08/10/2015
F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL		08/03/2015
E	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL		07/29/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL		06/22/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL		05/21/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL		05/06/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL		03/06/2015

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RIVERLIGHTS
by
Newland COMMUNITIES

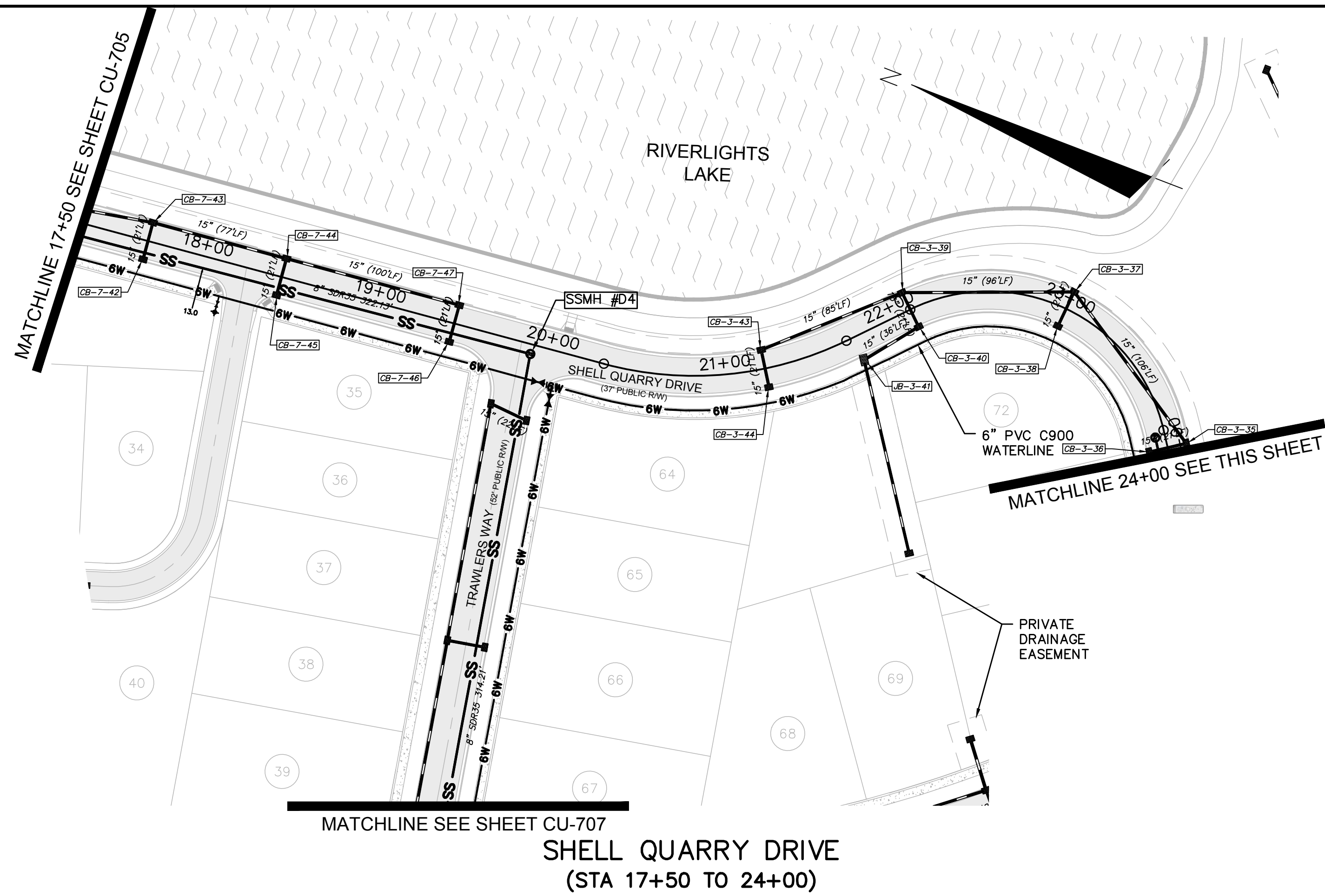
**RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1**
PLAN AND PROFILE STA 25+00 TO
STA 28+35.63/STA 10+00 TO STA
17+50

DATE: 04-29-2015
MCE PROJ # 02735-0129
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: NAL
PROJ. MGR: RMS

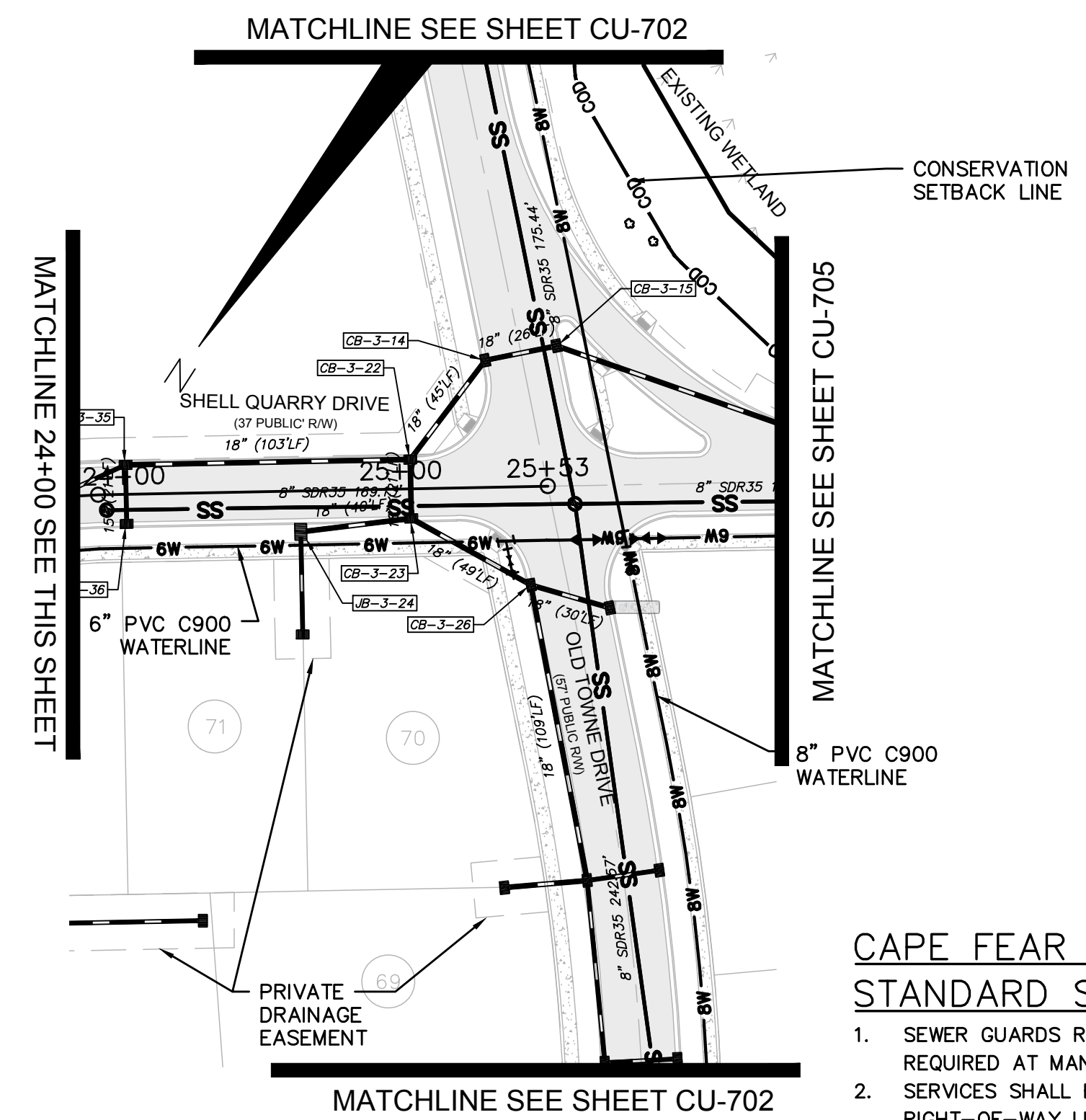
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HORIZONTAL:
1"=50'
VERTICAL:
1"=5'

STATUS: FINAL DESIGN
ISSUED FOR PERMITTING

MAC FILE NUMBER: CU-705
DRAWING NUMBER: 21
REVISION: 1



SHELL QUARRY DRIVE
(STA 17+50 TO 24+00)



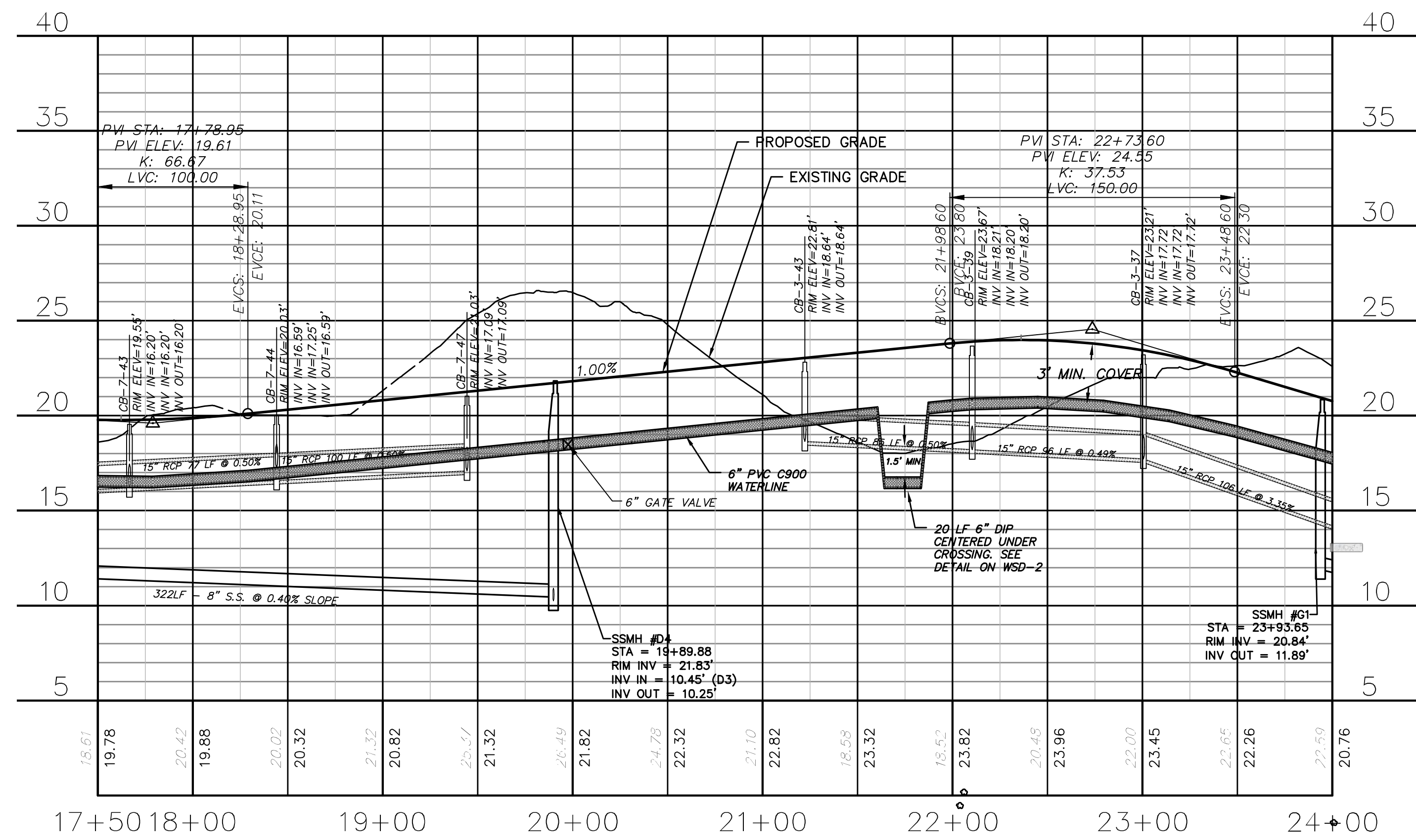
SHELL QUARRY DRIVE
(STA 24+00 TO 26+07.14)

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

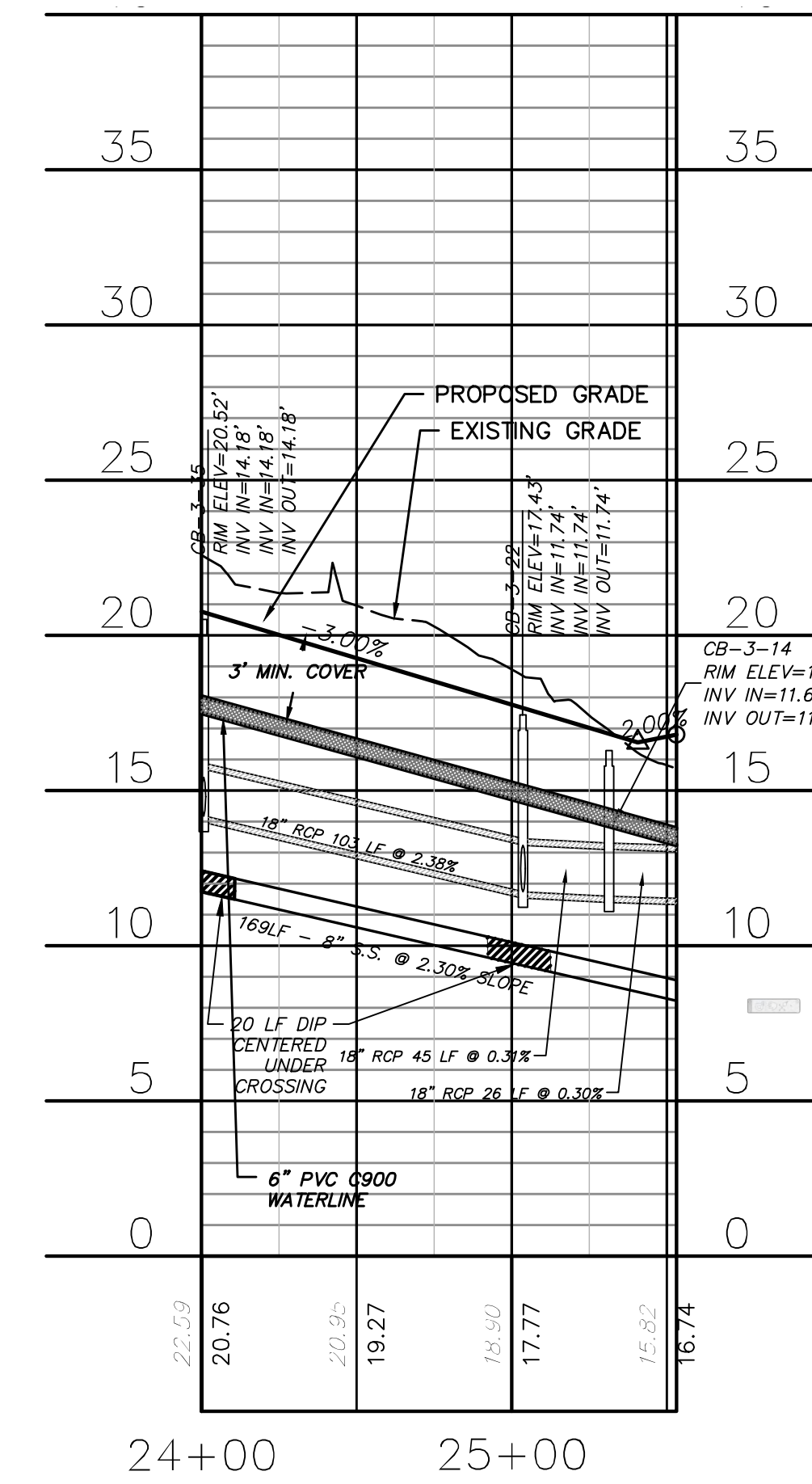
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- ALL STAINLESS STEEL FASTENERS SHALL BE 316.

UTILITY NOTES:

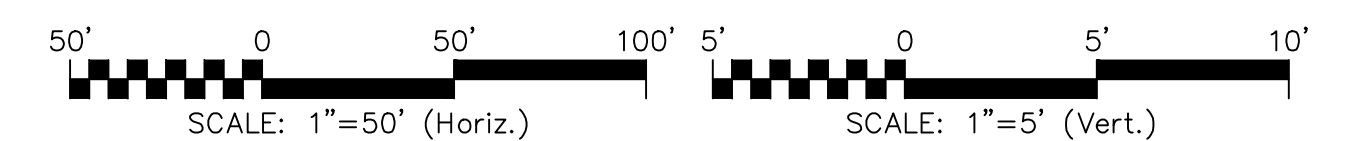
- ALL VALVES AND FITTINGS TO BE RESTRAINED JOINT AND BLOCKED PER CFPUA STANDARD DETAILS AND SPECIFICATIONS. SEE CFPUA STANDARD DETAIL SHEETS.



SHELL QUARRY DRIVE
(STA 17+50 TO 24+00)



SHELL QUARRY DRIVE
(STA 24+00 TO 26+07.14)



REV. NO.	DESCRIPTIONS	DATE
I	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	10/12/2015
H	CFPUA SUBMITTAL	08/10/2015
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	06/10/2015
F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
E	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/21/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/04/2015

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RIVERLIGHTS
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NORTH AMERICA SENIUS HOUSE, LLC

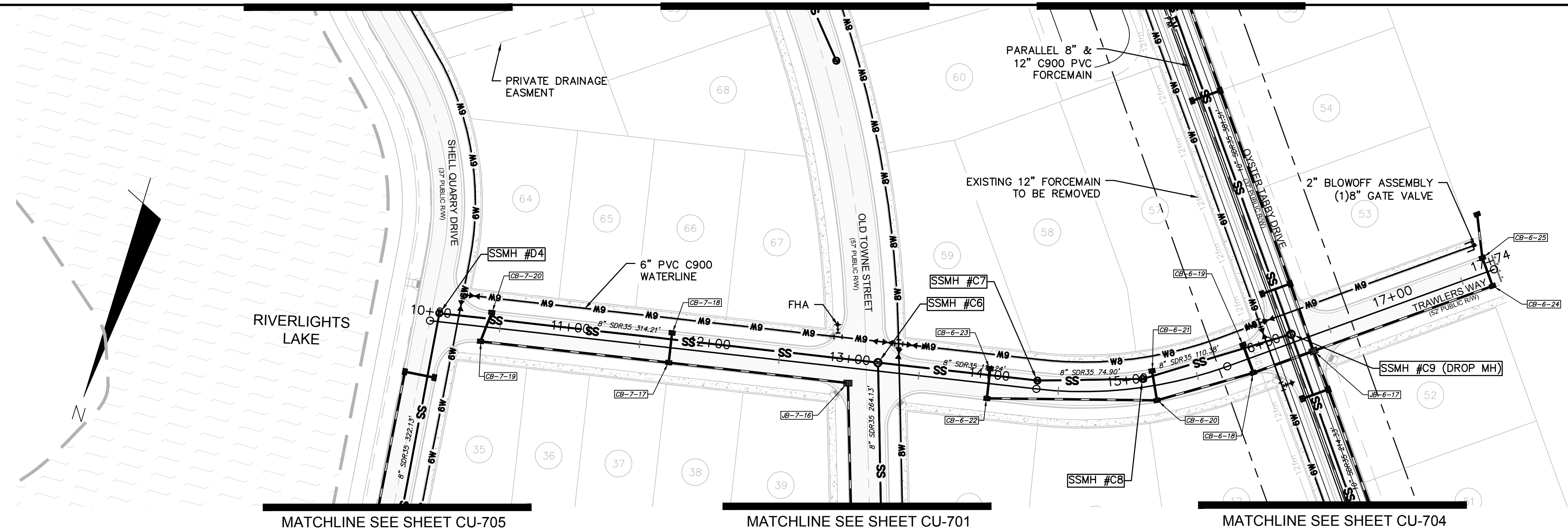
**RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1**
PLAN AND PROFILE STA 17+50 TO
STA 26+07.14

DATE: 04-29-2015
MCE PROJ. # 02735-0129
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: NJL
PROJ. MGR: RMC

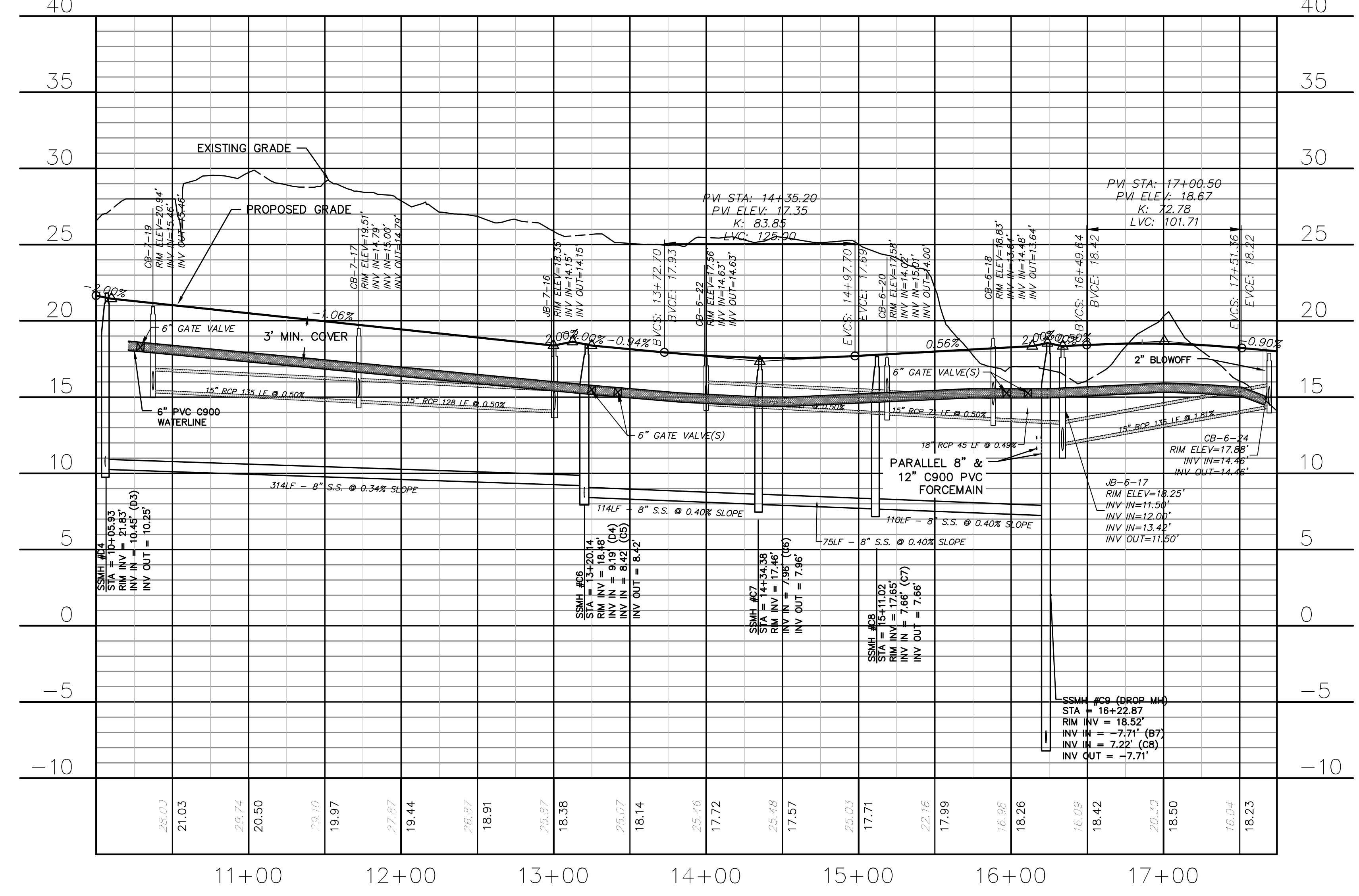
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HORIZONTAL: 1"=50'
VERTICAL: 1"=5'

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ISSUED FOR PERMITTING

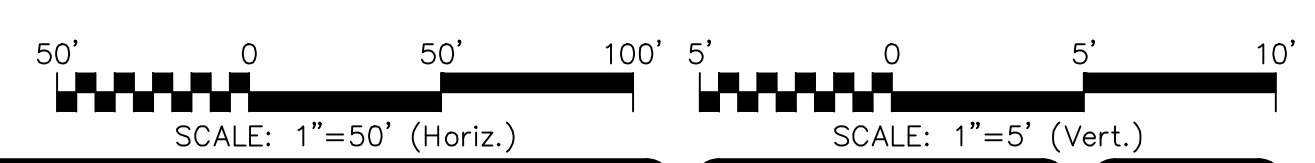
MAC FILE NUMBER: CU-706
DRAWING NUMBER: 22
REVISION: 1



**TRAWLERS WAY
(STA 10+00 TO 17+74.33)**



**TRAWLERS WAY
(STA 10+00 TO 17+74.33)**



CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD SEWER NOTES:

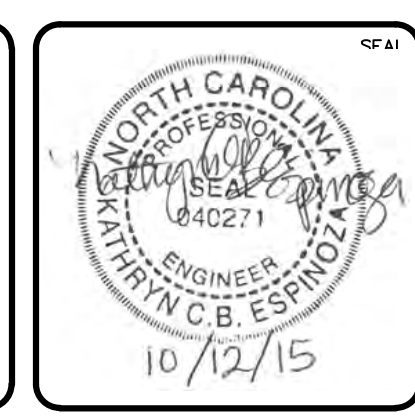
1. SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
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UTILITY NOTES:

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REV. NO.	DESCRIPTIONS	DATE
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H	CFPUA SUBMITTAL	08/10/2015
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F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
E	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/29/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015

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Newland by COMMUNITIES
NORTH AMERICA SENIUS HOUSE, LLC

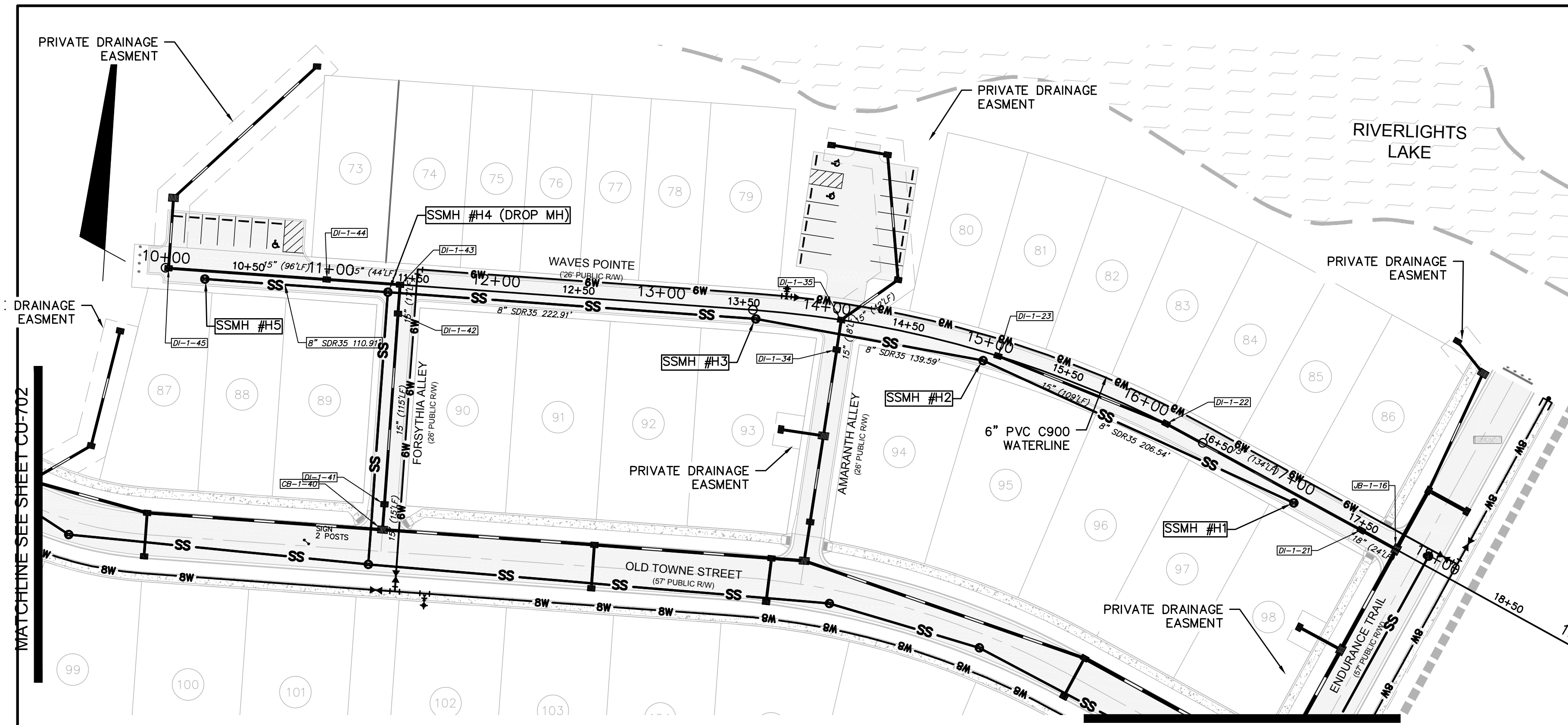
**RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1**
PLAN AND PROFILE STA 10+00 TO
STA 17+74.33

DATE: 04-29-2015
MCE PROJ. # 02735-0129
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: NJL
PROJ. MGR: RMC

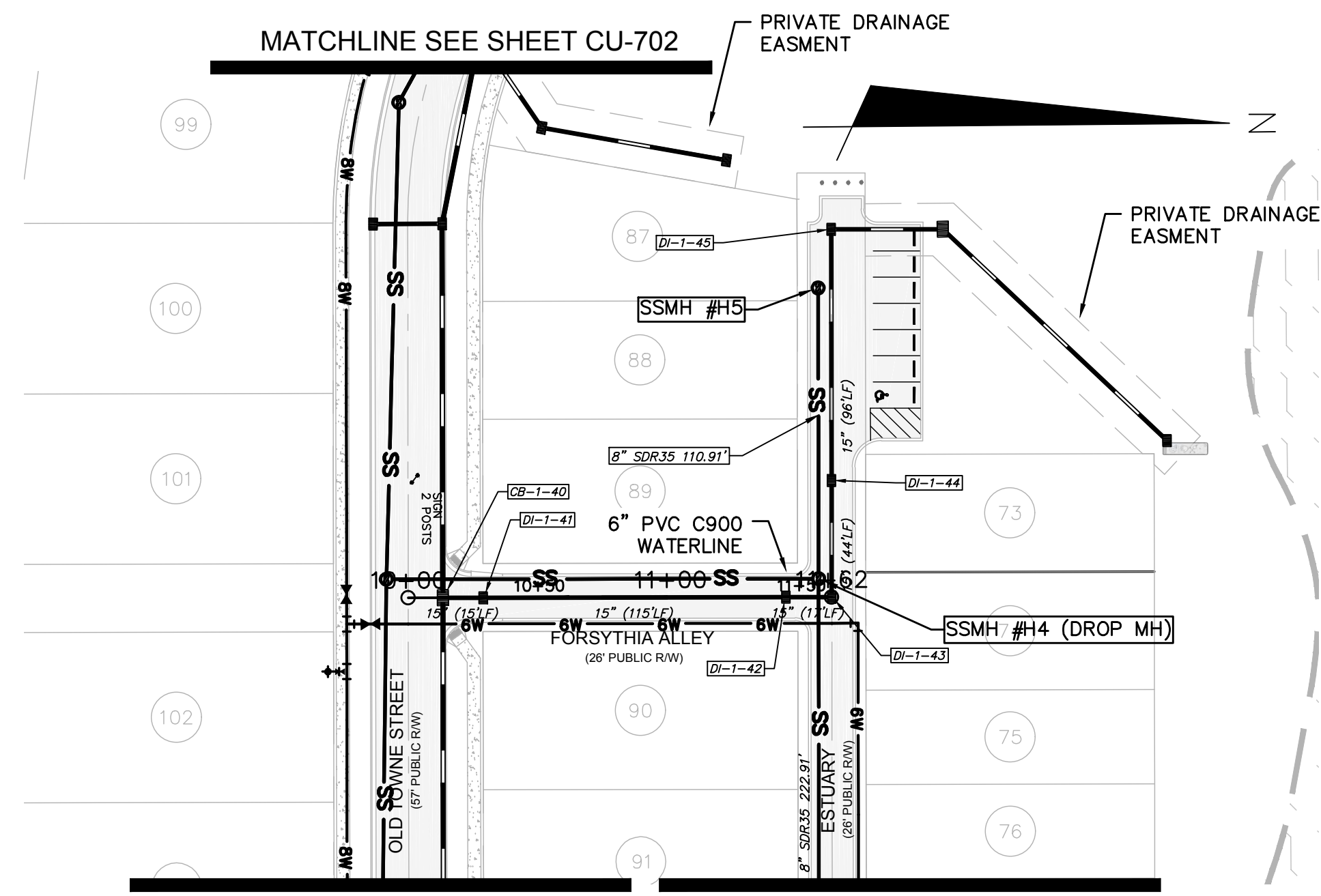
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VERTICAL: 1"=5'

MAC FILE NUMBER: **CU-707**
DRAWING NUMBER: **23**
REVISION: **1**

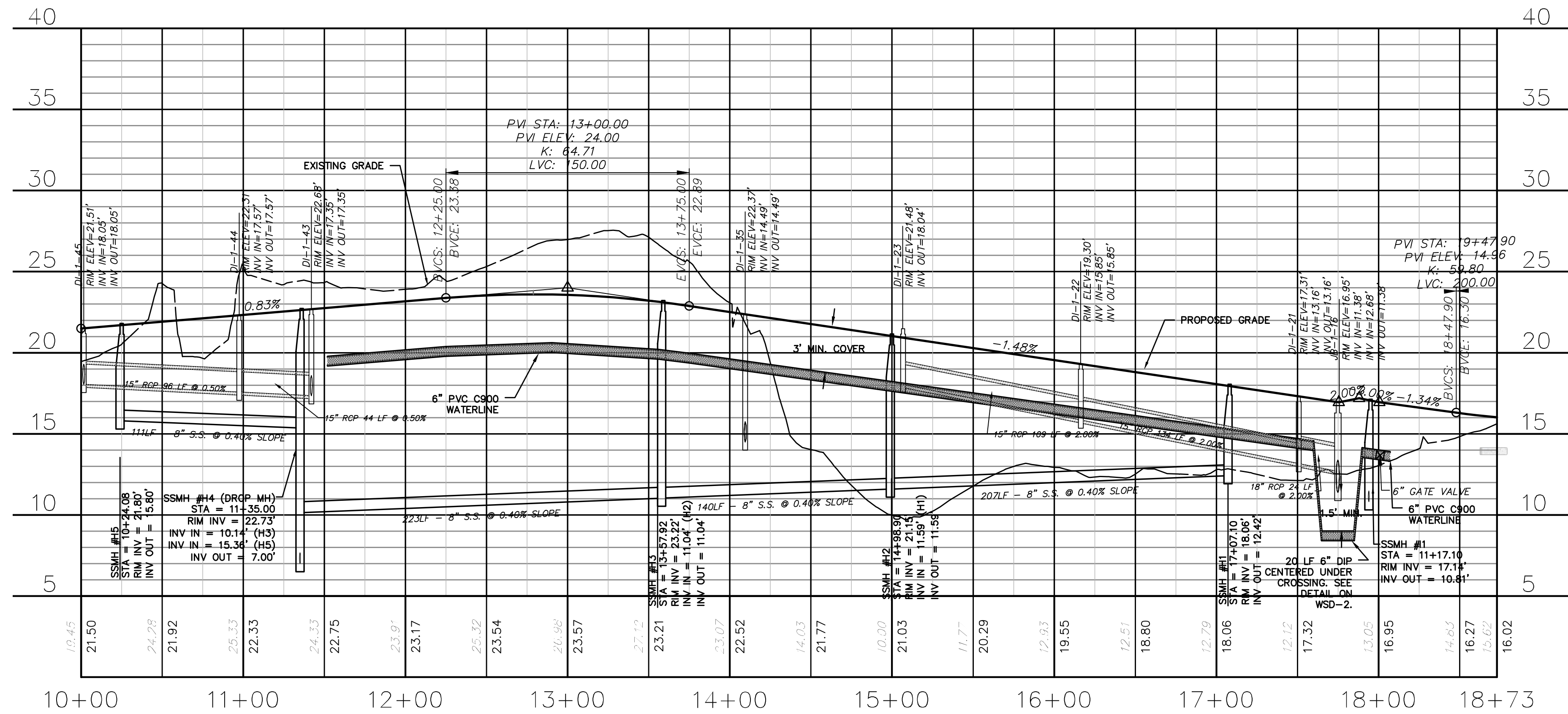
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ISSUED FOR PERMITTING



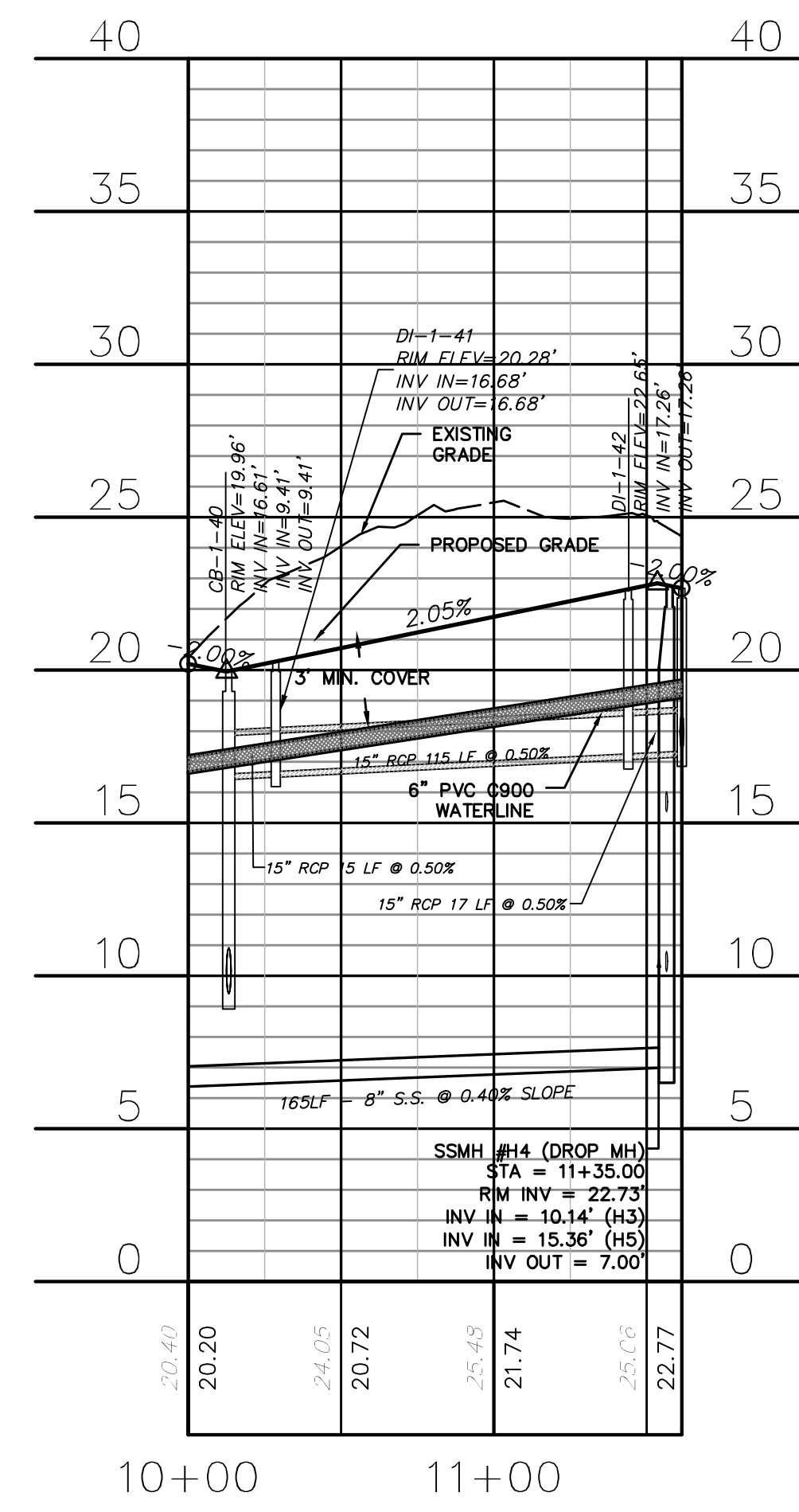
WAVES POINT
(STA 10+00 TO 18+72.99)



FORSYTHIA ALLEY
(STA 10+00 TO 12+88.50)



WAVES POINT
(STA 10+00 TO 18+72.99)



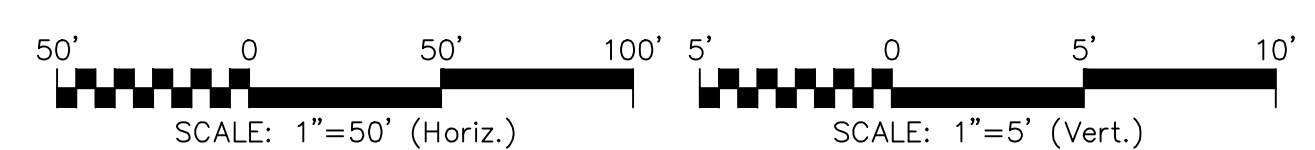
FORSYTHIA ALLEY
(STA 10+00 TO 12+88.50)

CAPE FEAR PUBLIC UTILITY AUTHORITY
STANDARD SEWER NOTES:

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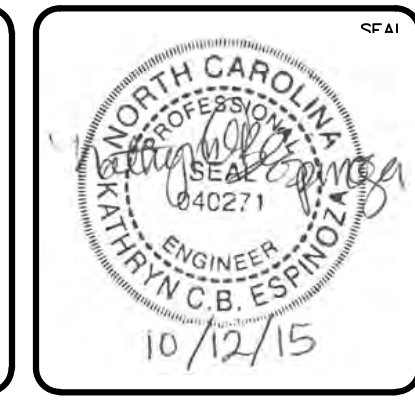
UTILITY NOTES:

- 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.



REV. NO.	DESCRIPTION	DATE
I	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	10/12/2015
H	CFWA SUBMITTAL	08/10/2015
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	06/10/2015
F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
E	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/29/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015

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NORTH AMERICA SENIUS HOUSE, LLC

RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1
PLAN AND PROFILE STA 10+00 TO
STA 18+72.99 / STA 10+00 TO STA
12+88.50

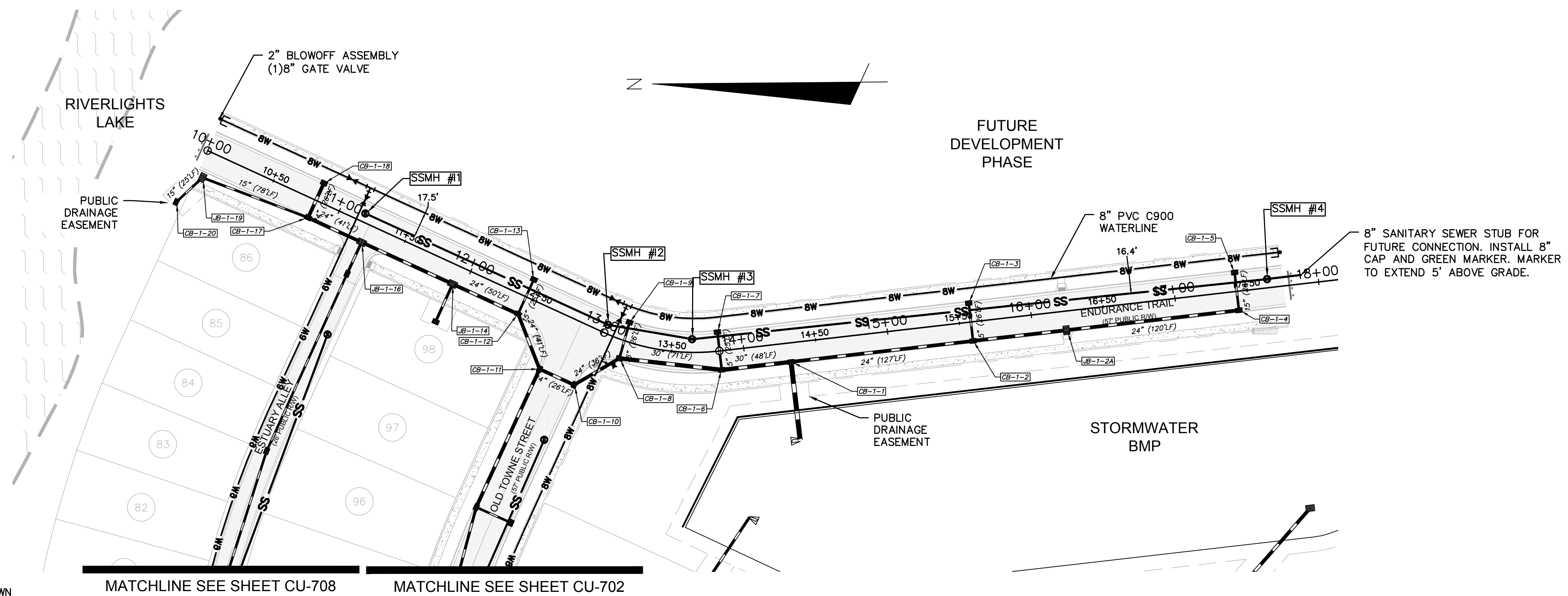
DATE: 04-29-2015
MCE PROJ. # 02735-0129
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: NJL
PROJ. MGR: RMC

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

MAC FILE NUMBER: CU-708
DRAWING NUMBER: 24
REVISION: 1

STATUS: FINAL DESIGN
ISSUED FOR PERMITTING

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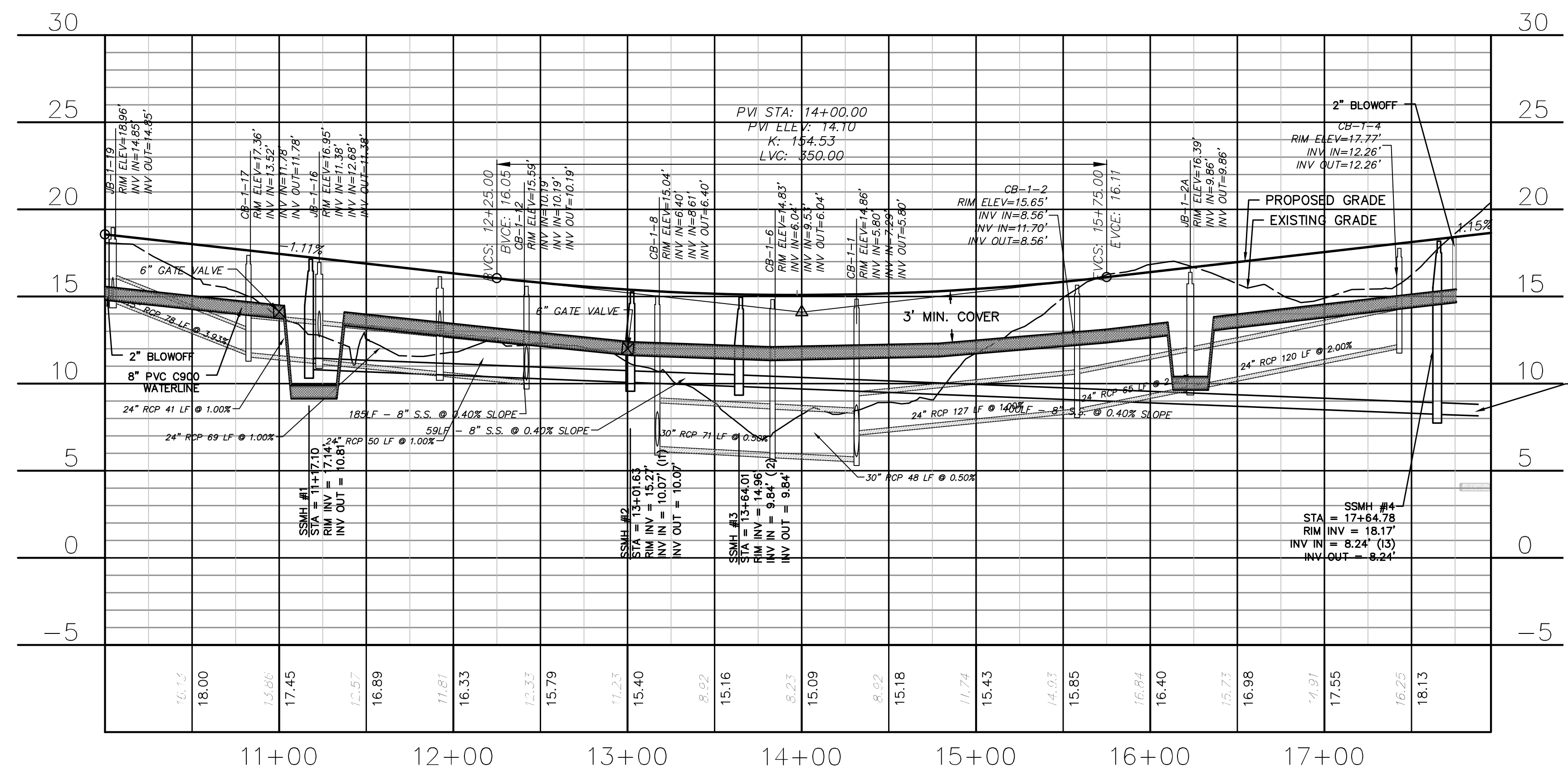
**ENDURANCE TRAIL
(STA 10+00 TO 17+75.69)**

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

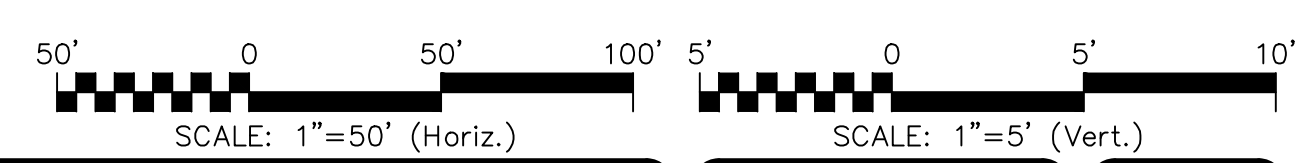
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UTILITY NOTES:

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**ENDURANCE TRAIL
(STA 10+00 TO 17+75.69)**



REV. NO.	DESCRIPTIONS	DATE
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
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G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
H	CFPWA SUBMITTAL	08/10/2015
I	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	10/12/2015

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

RIVERLIGHTS
Newland by COMMUNITIES
NORTH AMERICA SENIUS HOUSE, LLC

**RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1**
PLAN AND PROFILE STATION 10+00
TO STATION 17+76

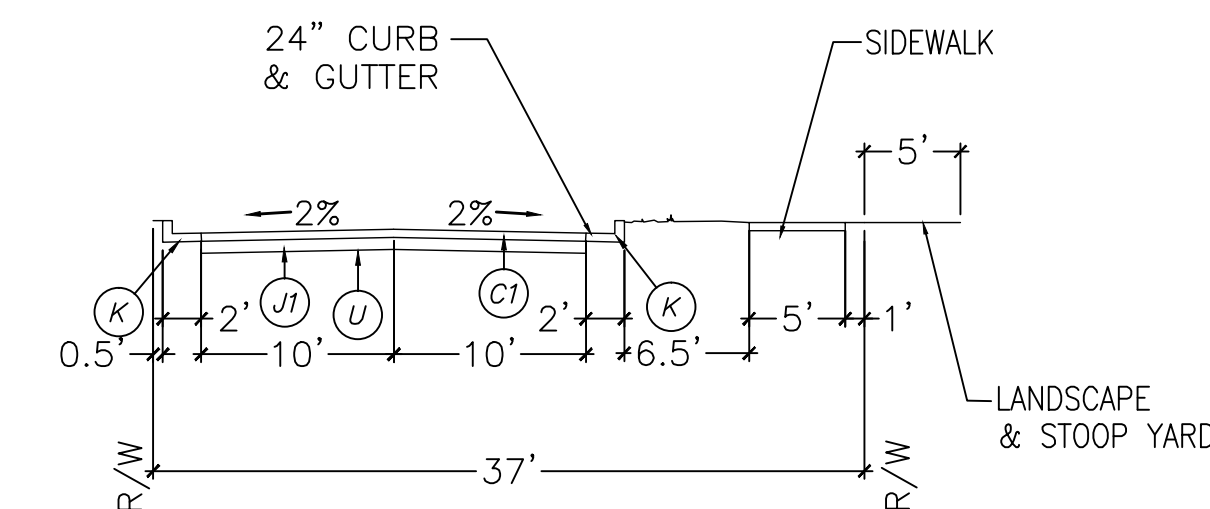
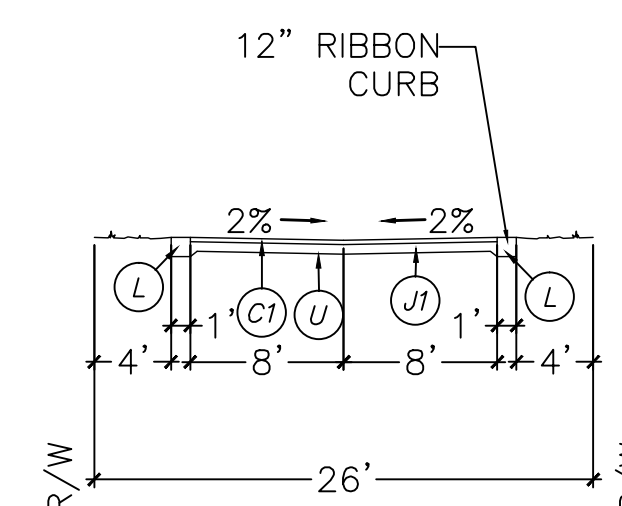
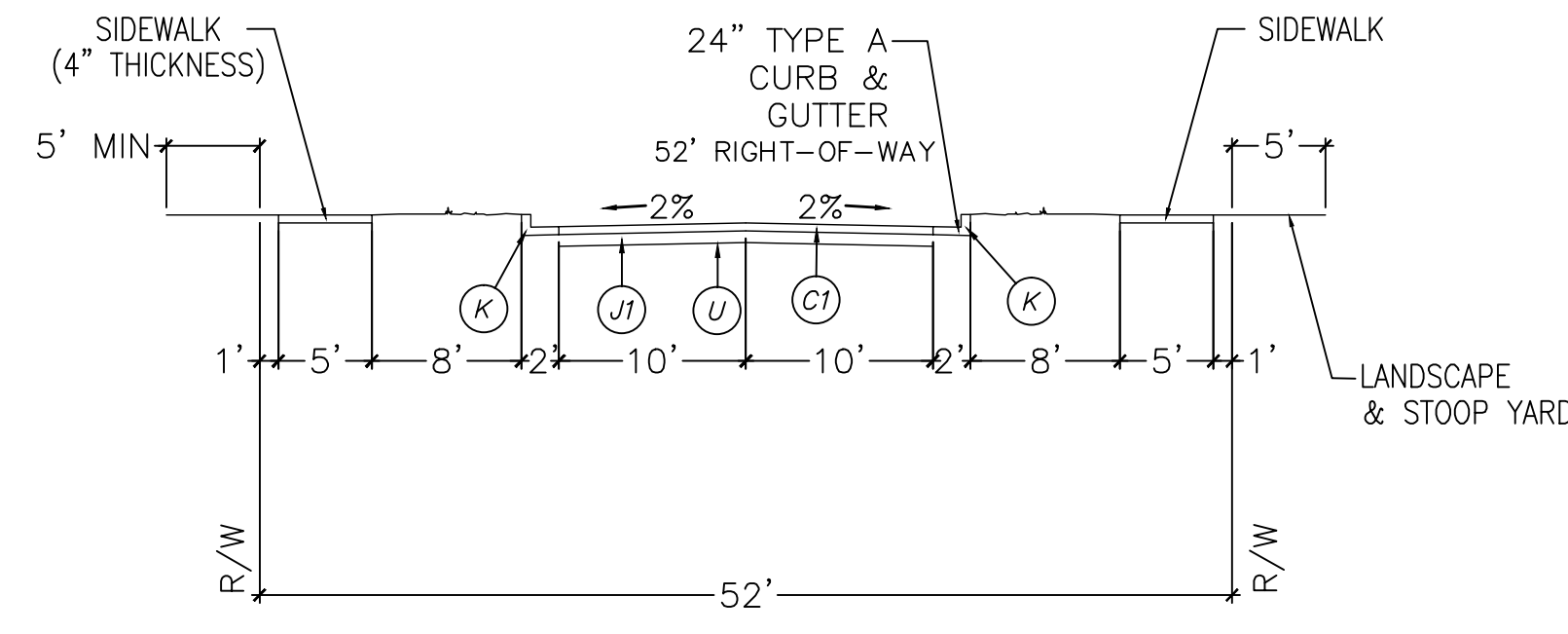
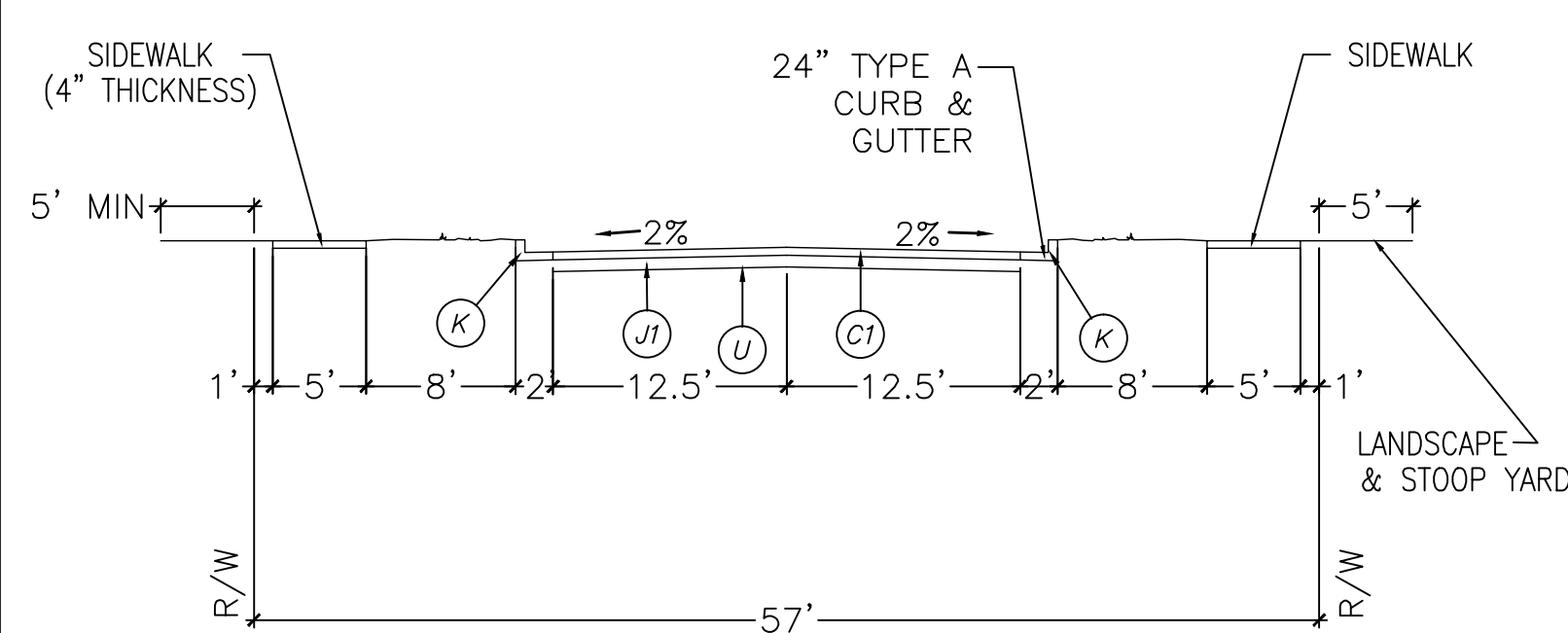
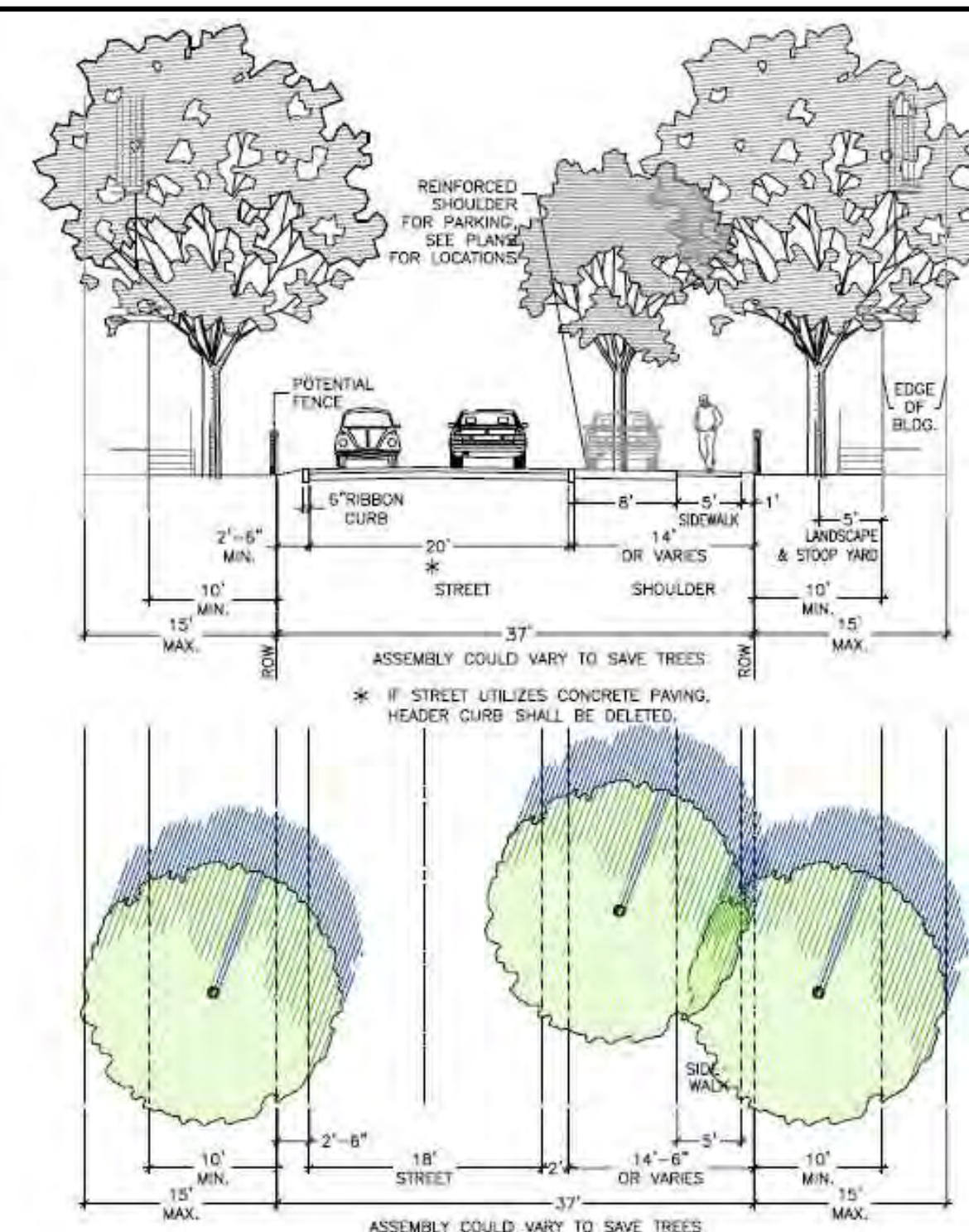
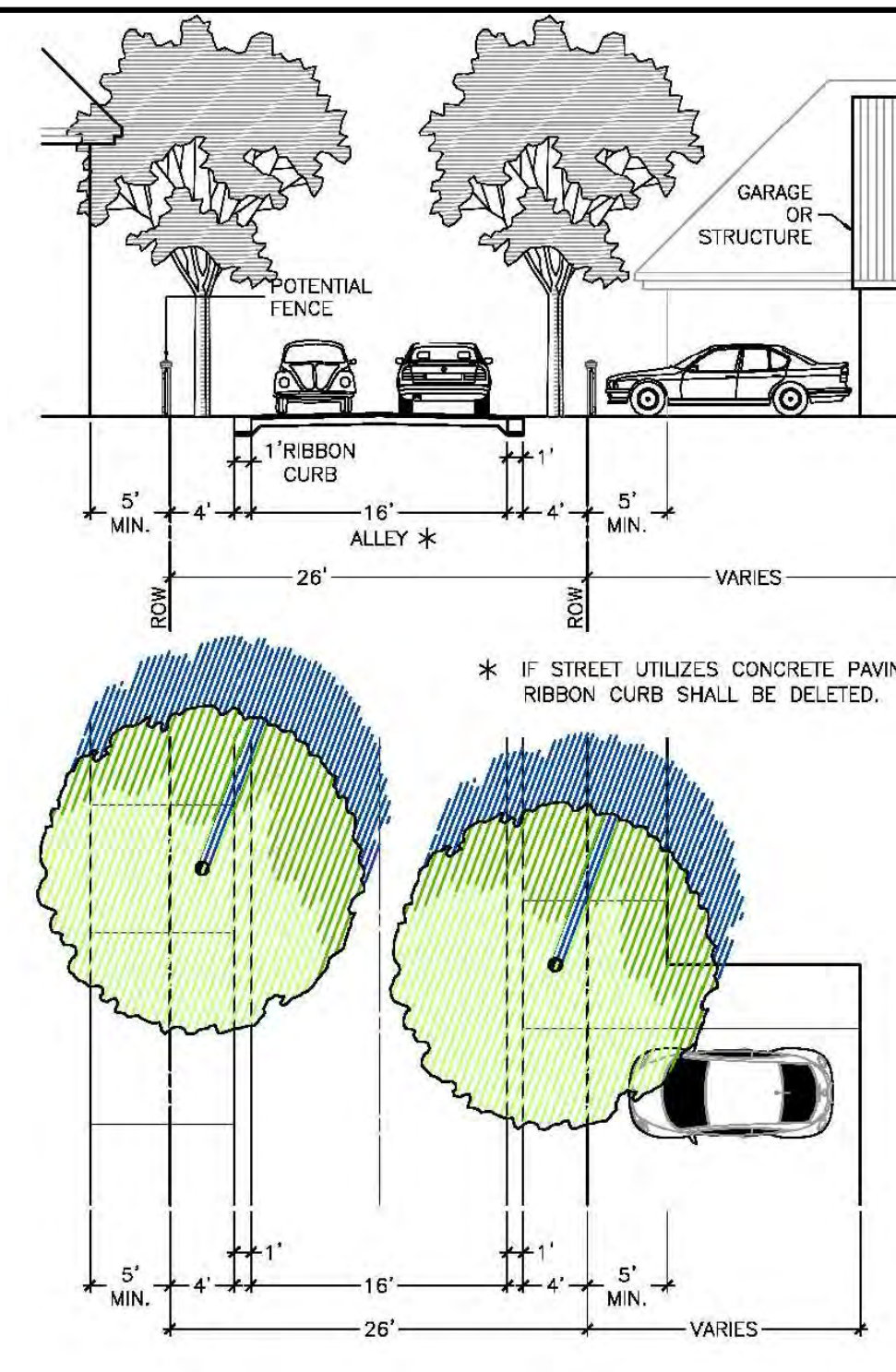
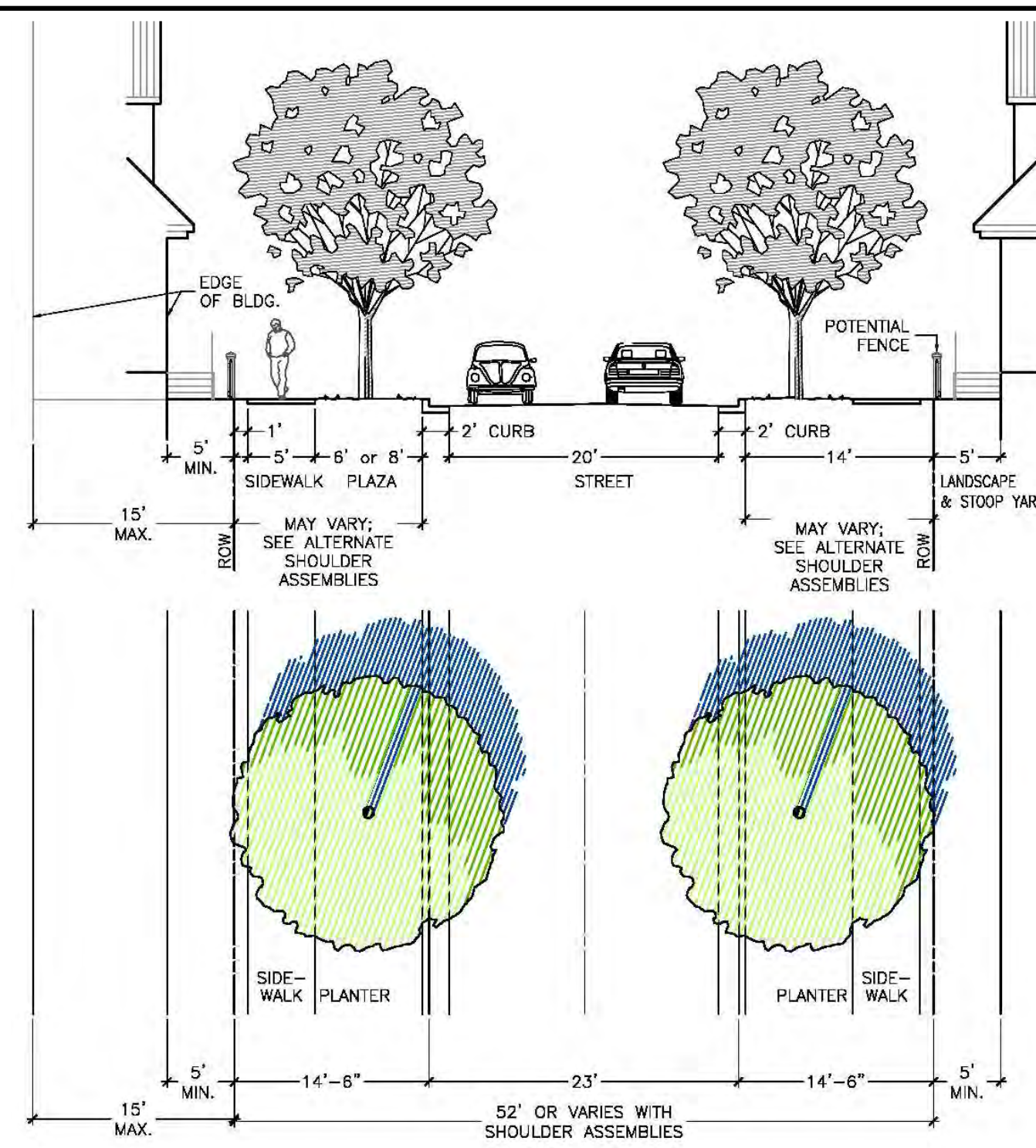
DATE: 04-29-2015
MCE PROJ. # 02735-0129
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: NJL
PROJ. MGR: RMC

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

MAC FILE NUMBER: **CU-709**
DRAWING NUMBER: **25**
REVISION: **1**

STATUS: **FINAL DESIGN**
ISSUED FOR PERMITTING

S:\2725\0129 PH.1\SP-80-Drawings\CU709-02735-0129.dwg, 10/12/2015 2:22:16 PM, T.Murphy



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

52' RIGHT-OF-WAY
(PUBLIC)

26' RIGHT-OF-WAY
(PUBLIC/PRIVATE)
SEE SITE PLANS

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	52 feet
Asphalt Width	20 feet
Design Speed	25 MPH
Traffic Lanes	2 lanes
Parking Lanes	No Parking
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	26 feet
Asphalt Width	16 feet
Design Speed	25 MPH
Traffic Lanes	2 lanes
Parking Lanes	No Parking
Curb Radius	5 feet
Walkway Type	N/A
Curb Type	12" Ribbon Curb
Landscape Type	Irregular Tree Spacing

Right-of-Way Width	37 feet
Asphalt Width	20 feet
Design Speed	25 MPH
Traffic Lanes	2 lanes
Parking Lanes	On Shoulder
Curb Radius	10 feet
Walkway Type	5 foot Sidewalk
Curb Type	24" Vertical C&G
Landscape Type	Irregular Tree Spacing

REV. NO.	DESCRIPTIONS	DATE
I	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	10/12/2015
H	CPWA SUBMITTAL	08/10/2015
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
E	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/21/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015

SEAL
FINAL DRAWINGS
DO NOT USE FOR
CONSTRUCTION



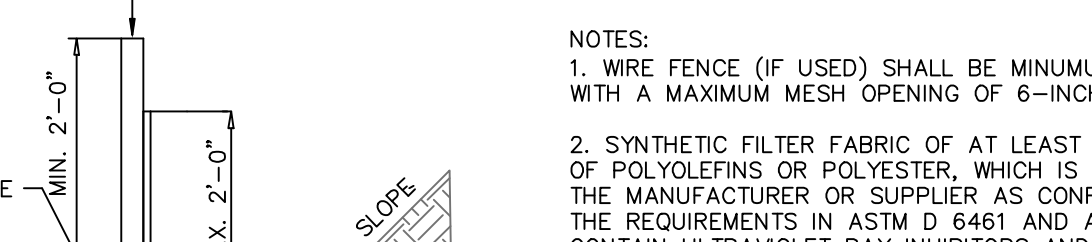
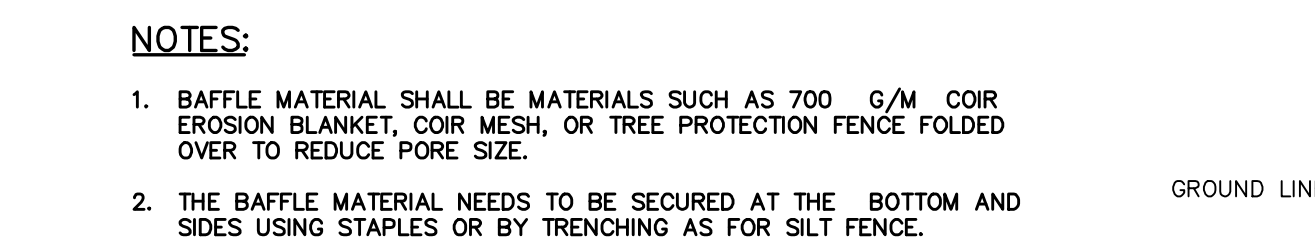
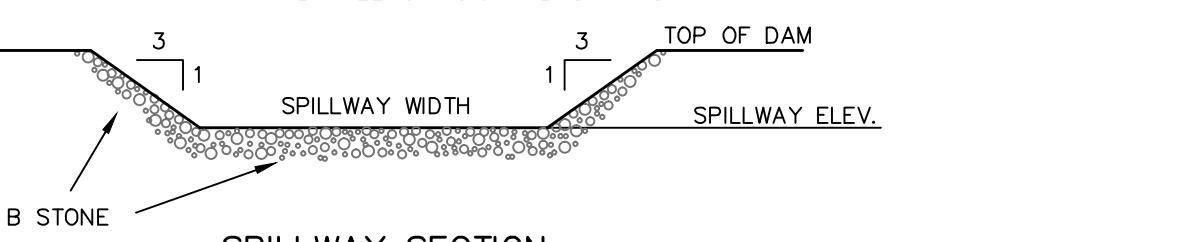
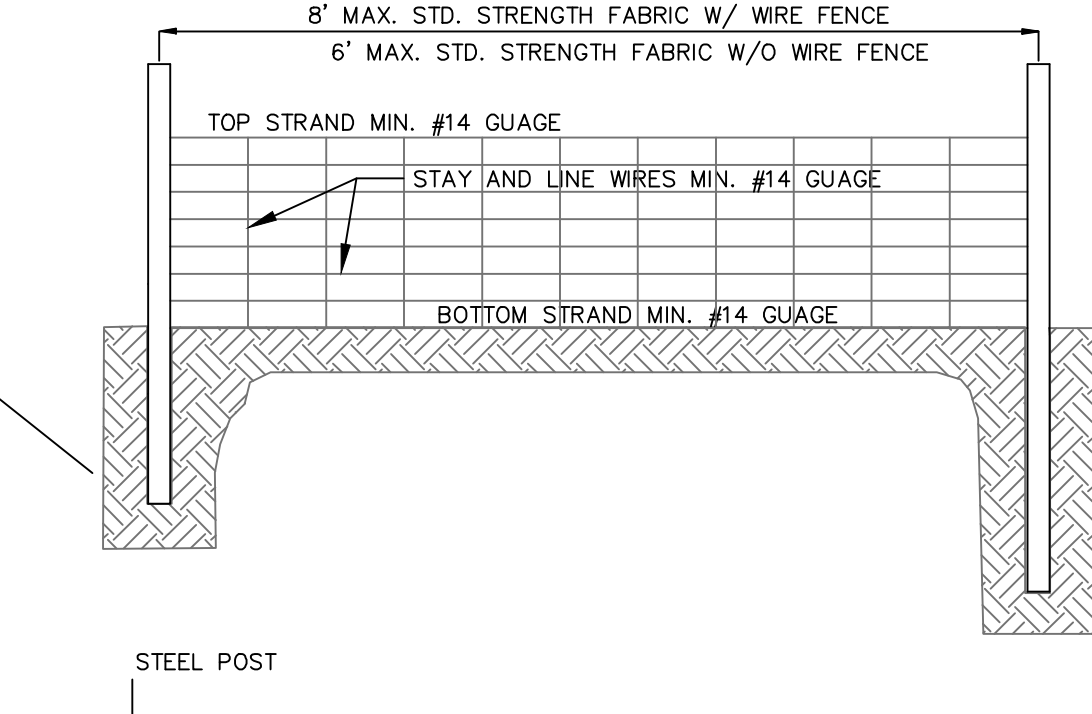
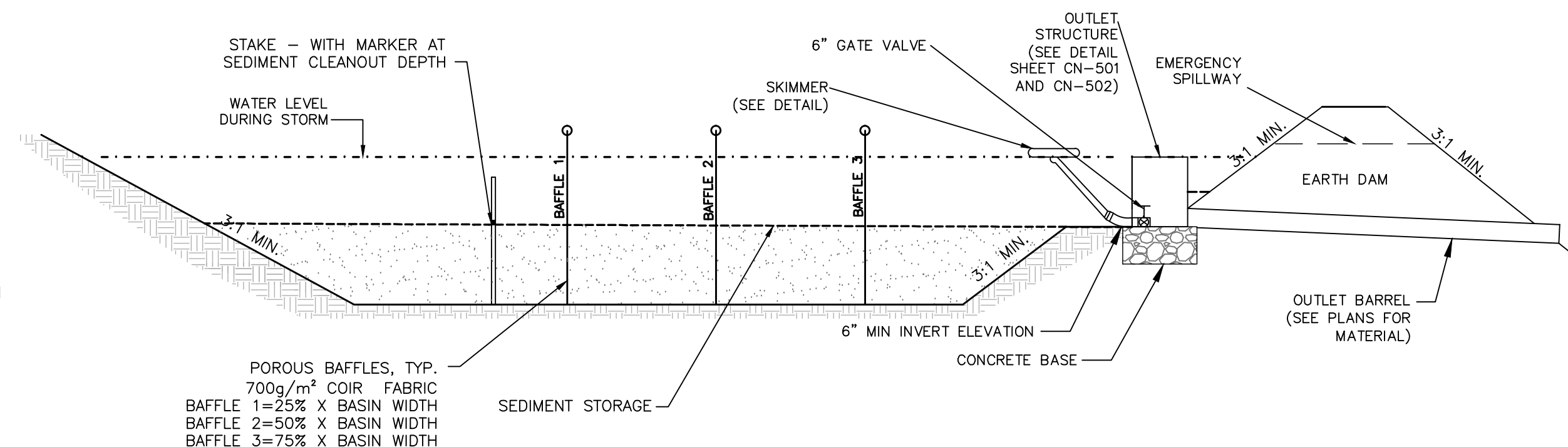
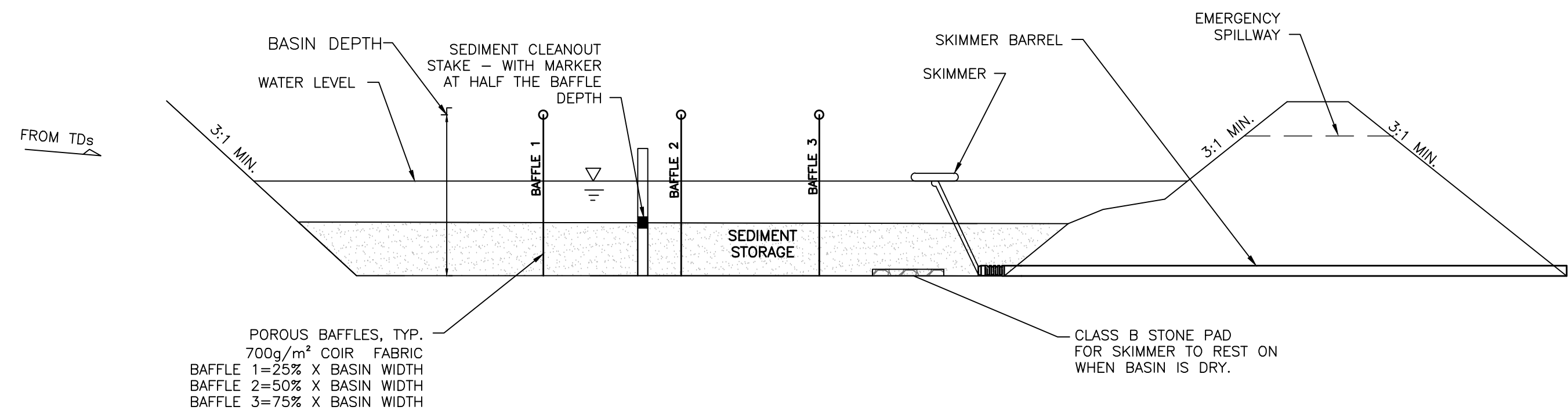
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RIVERLIGHTS
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NORTH AMERICA SERIES HOUSE, LLC

RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1
TYPICAL CROSS SECTIONS

DATE:	04-29-2015	SCALE:	AS NOTED	MAC FILE NUMBER:	CT-301
MCE PROJ. #	02735-0129	HORIZONTAL:	AS NOTED	DRAWING NUMBER:	26
DRAWN:	EEM/KCBE	VERTICAL:	AS NOTED	REVISION:	1
DESIGNED:	KCBE	STATUS: FINAL DESIGN			
CHECKED:	NJL	ISSUED FOR PERMITTING			
PROJ. MGR.:	RMC				

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SKIMMER SEDIMENT BASINS
PHASE 1: SB-1, 2, 3, 4, 5 AND 6
PHASE 2: 5 AND 6

- NOTES:**
1. BAFFLE MATERIAL SHALL BE MATERIALS SUCH AS 700 G/M COIR EROSION BLANKET OR COIR MESH.
 2. THE BAFFLE MATERIAL NEEDS TO BE SECURED AT THE BOTTOM AND SIDES USING STAPLES OR BY TRENCHING AS FOR SILT FENCE.
 3. LOCATE THE EMERGENCY SPILLWAY ON NATURAL SOILS. AVOID PLACING IT THROUGH FILL MATERIAL WHEREVER POSSIBLE.
 4. ALL RUNOFF MUST DISCHARGE TO THE INLET SIDE OF THE BASIN. DISCHARGE RUNOFF INTO THE BASIN IN A MANNER THAT MINIMIZES EROSION.

- NOTES:**
- ORIFICE SIZES ARE FOR THE FAIRCLOTH SKIMMER. IF ANOTHER TYPE OF SKIMMER IS USED THE DEVICE MUST BE ABLE TO DRAIN THE BASIN WITHIN 24 - 72 HOURS.

- NOTES:**
1. BAFFLE MATERIAL SHALL BE MATERIALS SUCH AS 700 G/M COIR EROSION BLANKET, COIR MESH, OR TREE PROTECTION FENCE FOLDED OVER TO REDUCE PORE SIZE.
 2. THE BAFFLE MATERIAL NEEDS TO BE SECURED AT THE BOTTOM AND SIDES USING STAPLES OR BY TRENCHING AS FOR SILT FENCE.
 3. LOCATE THE EMERGENCY SPILLWAY ON NATURAL SOILS. AVOID PLACING IT THROUGH FILL MATERIAL WHEREVER POSSIBLE.
 4. ALL RUNOFF MUST DISCHARGE TO THE INLET SIDE OF THE BASIN. DISCHARGE RUNOFF INTO THE BASIN IN A MANNER THAT MINIMIZES EROSION.
 5. PHASE 2 SKIMMER CONNECTION WILL BE MADE AT THE INVERT OF THE BOTTOM OF THE STORMWATER STRUCTURE AS SHOWN IN SHEETS CN-501 THROUGH CN-503. OUTLET STRUCTURE WEIRS BELOW THE TOP MUST BE BLOCKED IN ORDER FOR THE SKIMMER TO FUNCTION.

- NOTES:**
1. WIRE FENCE (IF USED) SHALL BE MINIMUM 14 GAUGE WITH A MAXIMUM MESH OPENING OF 6-INCHES.
 2. SYNTHETIC FILTER FABRIC OF AT LEAST 95% BY WEIGHT OF POLYOLEFINS OR POLYESTER, WHICH IS CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO THE REQUIREMENTS IN ASTM D 6641 AND ALSO SHOULD CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS ACCORDING TO ASTM D 4355.
 3. SEE THE NC EROSION CONTROL MANUAL FOR SPECIFICATIONS INSTALLING SEDIMENT FENCE USING THE SLICING METHOD MACHINERY.

SKIMMER BASIN CALCULATION TABLE (PHASE 1)

Skimmer No.	Drainage Area ac	Rational C	I10 Intensity in/hr	Q10 Peak Flow cfs	Required SA (325 x Q10) sf	Provided SA (1800cf/ac x DA) sf	Required Vol cf	Provided Vol cf	Storage Depth ft	Storage Vol Drained cf	Weir Width ft
SB-1	4.20	0.30	7.23	9.11	2,961	20,598	7,559	59,033	3.00	37,468	12.0
SB-4	2.98	0.30	7.23	6.46	2,100	2,451	5,364	6,308	3.00	3,422	8.0
SB-3	2.73	0.30	7.23	5.92	1,924	3,781	4,914	9,855	3.00	5,531	8.0
SB-5	1.20	0.30	7.23	2.61	848	8,353	2,163	23,566	3.00	14,668	6.0
SB-2	13.03	0.30	7.23	28.26	9,185	24,760	23,454	70,832	3.00	44,866	20.0
SB-6	1.63	0.30	7.23	3.54	1,151	1,736	2,934	4,552	3.00	2,537	6.0

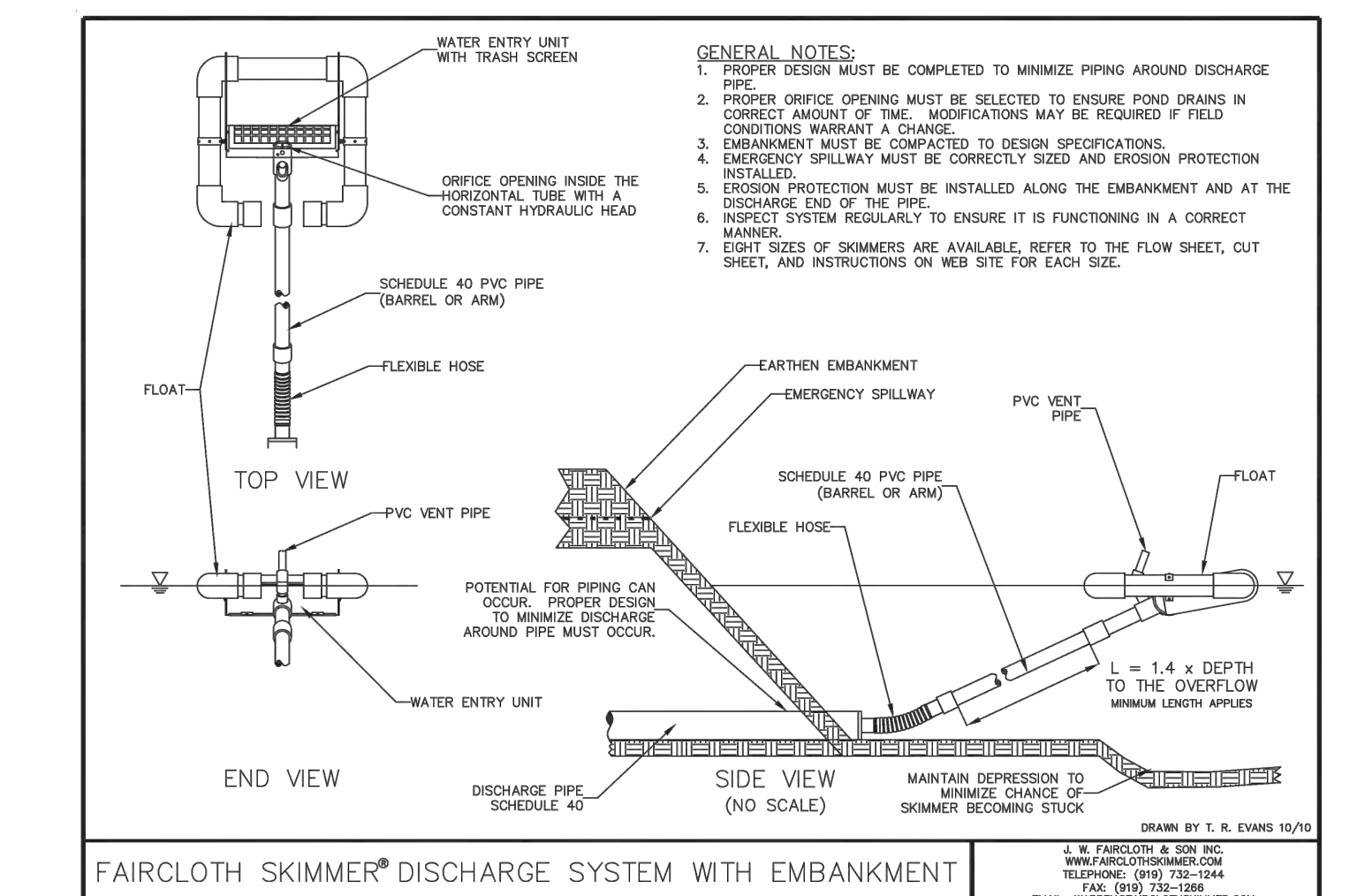
FAIRCLOTH SKIMMER SIZE CALCULATION

Skimmer No.	Dewatering Time (days)	Skimmer Outflow cf/day	Skimmer Size in	Orifice Diameter in	Orifice Radius in	Barrel Outflow gpm	Barrel Pipe in
SB-1	3	12,489	4.0	3.2	1.6	64.9	4.0
SB-4	3	1,141	1.5	1.2	0.6	5.9	4.0
SB-3	3	1,844	2.0	1.4	0.7	9.6	4.0
SB-5	3	4,889	2.5	2.2	1.1	25.4	4.0
SB-2	3	14,955	4.0	3.4	1.7	77.7	4.0
SB-6	3	846	1.5	1.1	0.5	4.4	4.0

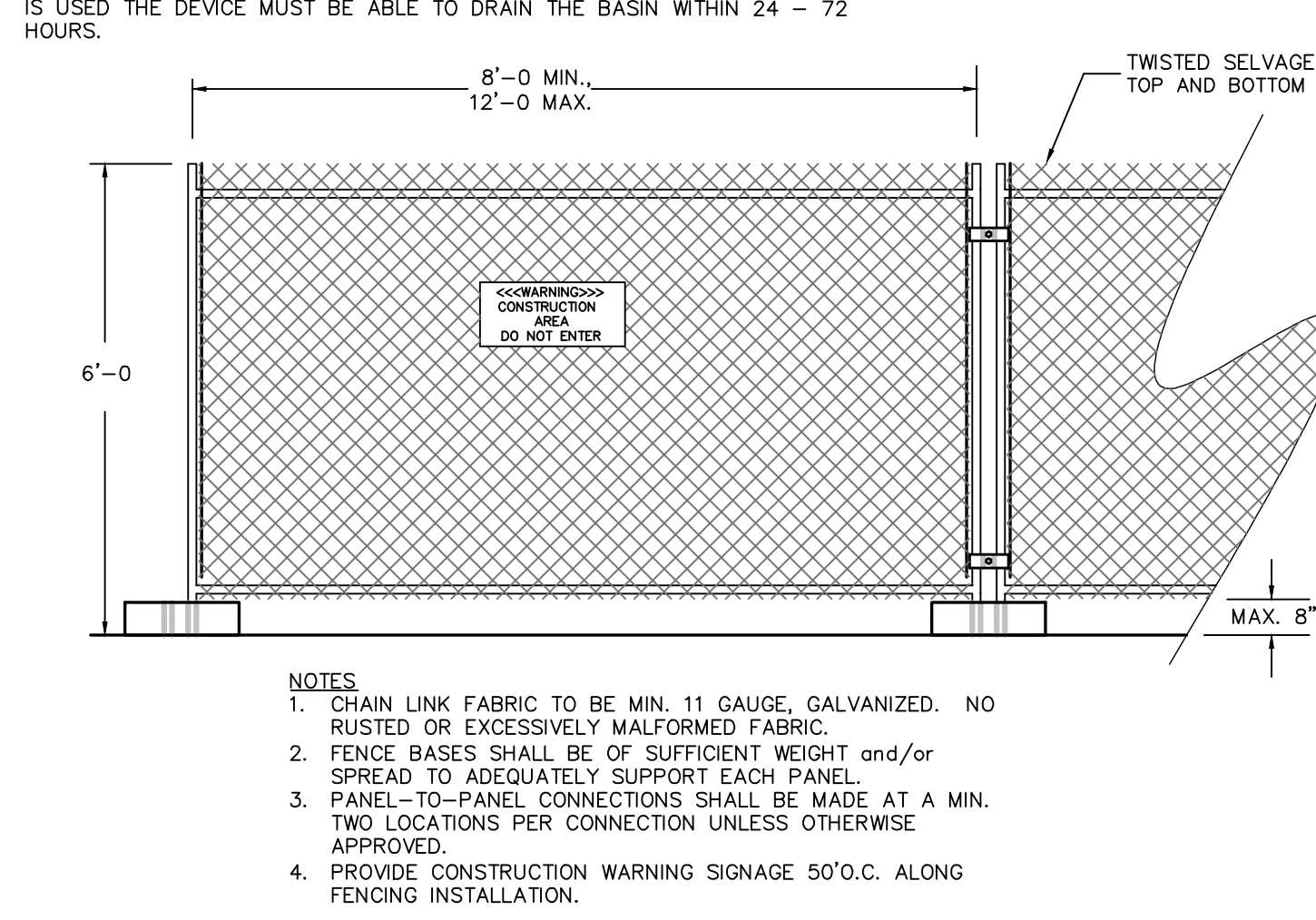
Faircloth Skimmer Selection Table

Skimmer Size in	Outflow Qmax cf/day	Head ft
1.5	1,728	0.125
2	3,283	0.167
2.5	6,234	0.208
3	9,774	0.250
4	20,109	0.333

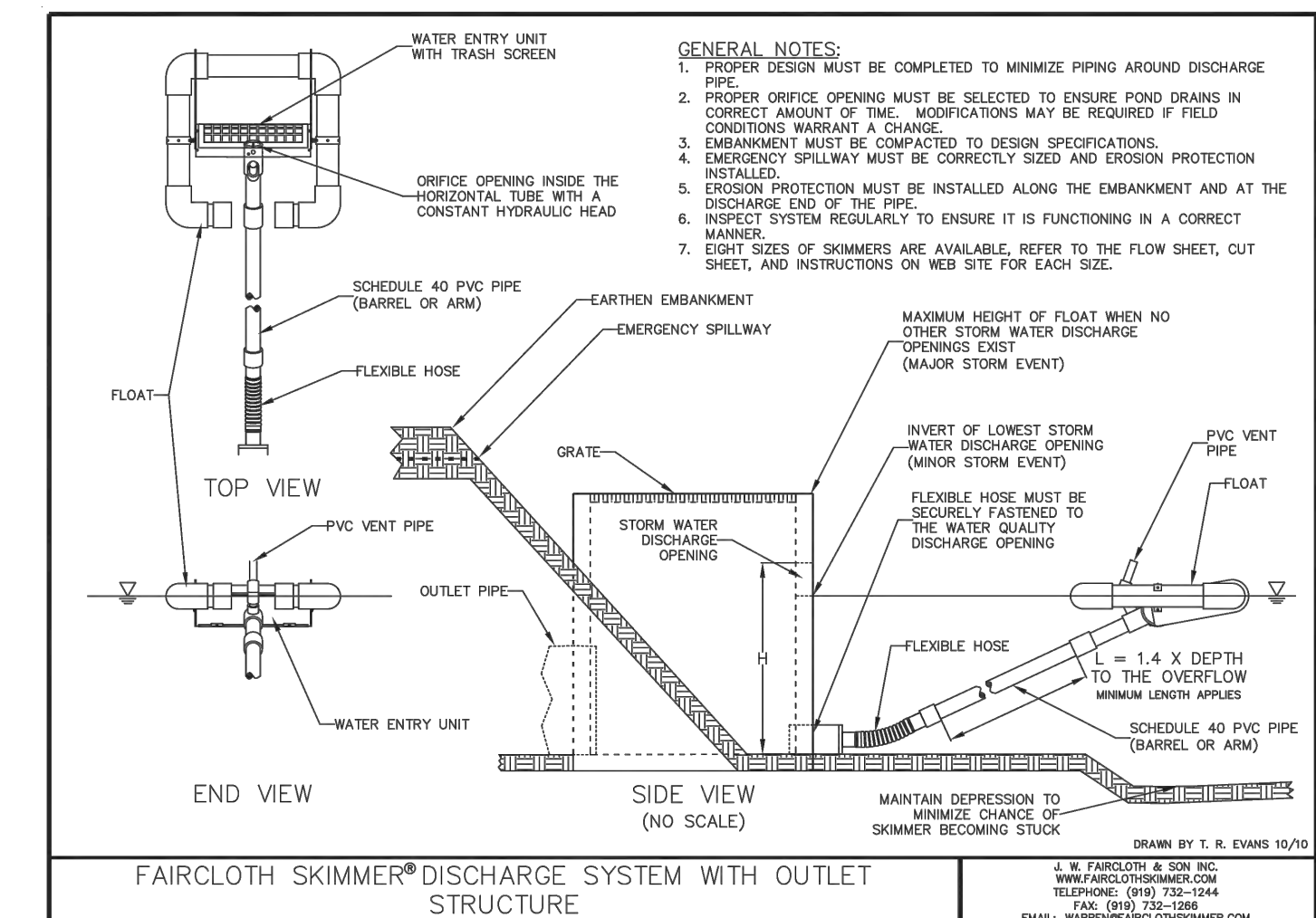
- NOTES:**
1. Q10 Peak Flow were taken from Rational Method.
 2. Required Surface Areas and Volumes were taken from NCDENR ESC Manual.
 3. Faircloth Skimmer Selection Table taken from Table 4-2. NCDOT Level III-A Design of Sediment & Erosion Control Plans Manual
 4. Emergency Weir Width taken from Skimmer Basin Criteria Section of NCDENR ESC Manual Table and/or Hydraulic Routing of the basin to ensure non-erosive velocity.
 5. Minimum Barrel Pipe on the Skimmer is 4-inches. (On a 1% slope the capacity is 100 GPM)
 6. Skimmer Orifice Diameter / Radius were obtained using the Faircloth Skimmer sizing spreadsheet (obtained from their website: <http://www.fairclothskimmer.com/skimmer-sizing>)



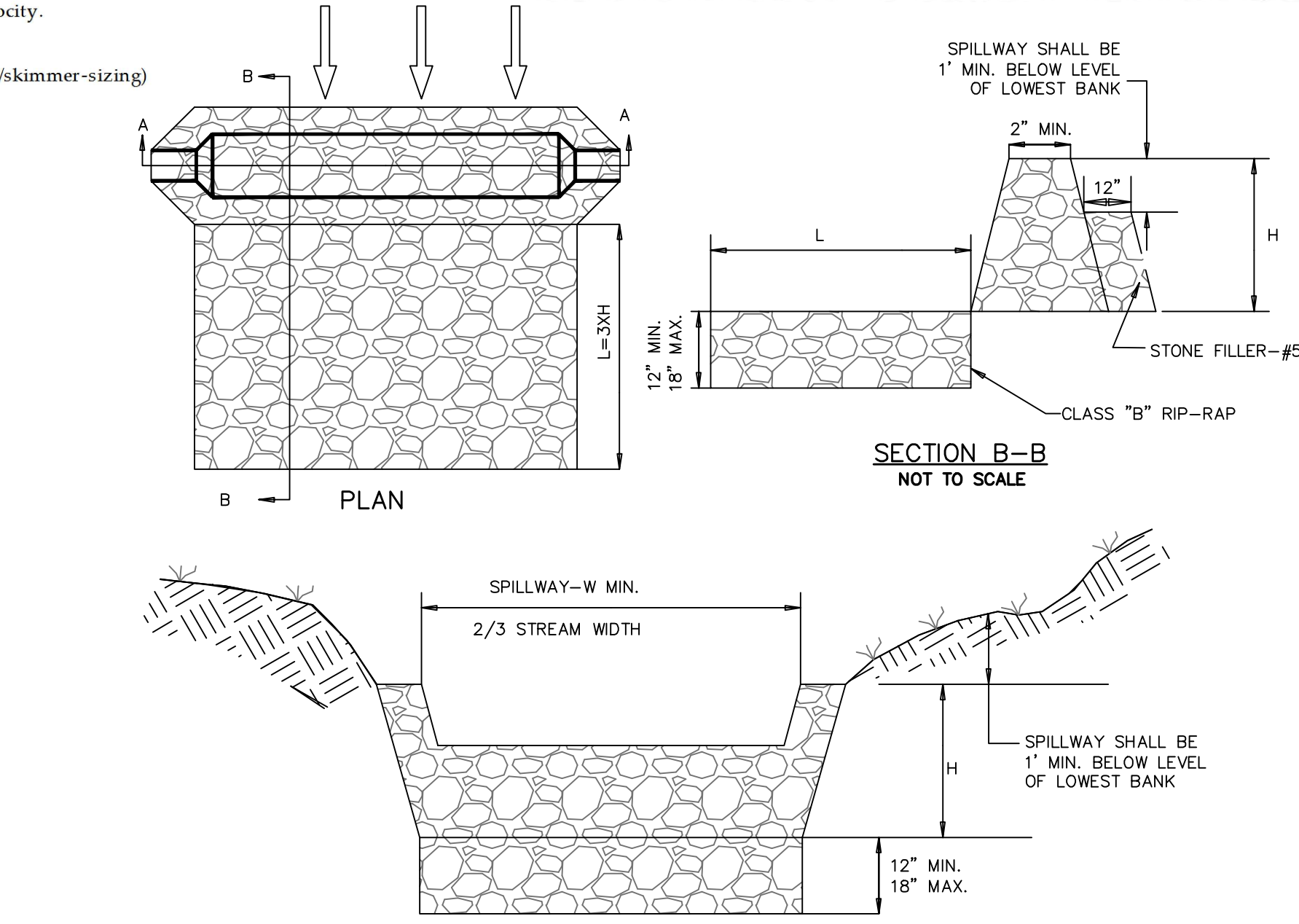
SKIMMER DETAIL WITH EMBANKMENT
NOT TO SCALE



TEMPORARY CONSTRUCTION FENCING
NOT TO SCALE



SKIMMER DETAIL WITH OUTLET STRUCTURE
NOT TO SCALE



DITCH CHECK DAM
SD 13-04
NOT TO SCALE

REV.	DESCRIPTIONS	DATE
1	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	10/12/2015
H	CFPA SUBMITTAL	08/10/2015
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
F	NEW HAMOVER COUNTY EROSION CONTROL RESUBMITTAL	08/03/2015
E	NEW HAMOVER COUNTY EROSION CONTROL RESUBMITTAL	07/29/2015
D	CITY OF WILMINGTON TREE REMOVE SUBMITTAL	06/22/2015
C	NEW HAMOVER COUNTY EROSION CONTROL SUBMITTAL	05/21/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/08/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/08/2015

FINAL DRAWINGS
DO NOT USE FOR
CONSTRUCTION



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RIVERLIGHTS
by
Newland COMMUNITIES

**RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1
EROSION AND SEDIMENT CONTROL
DETAILS**

DATE: 04-29-2015
MCE PROJ. # 02735-0129
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: NUL
PROJ. MGR.: RMC

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

MFC FILE NUMBER: CE-501
DRAWING NUMBER: 27
REVISION: 1

STATUS: FINAL DESIGN
ISSUED FOR PERMITTING

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

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

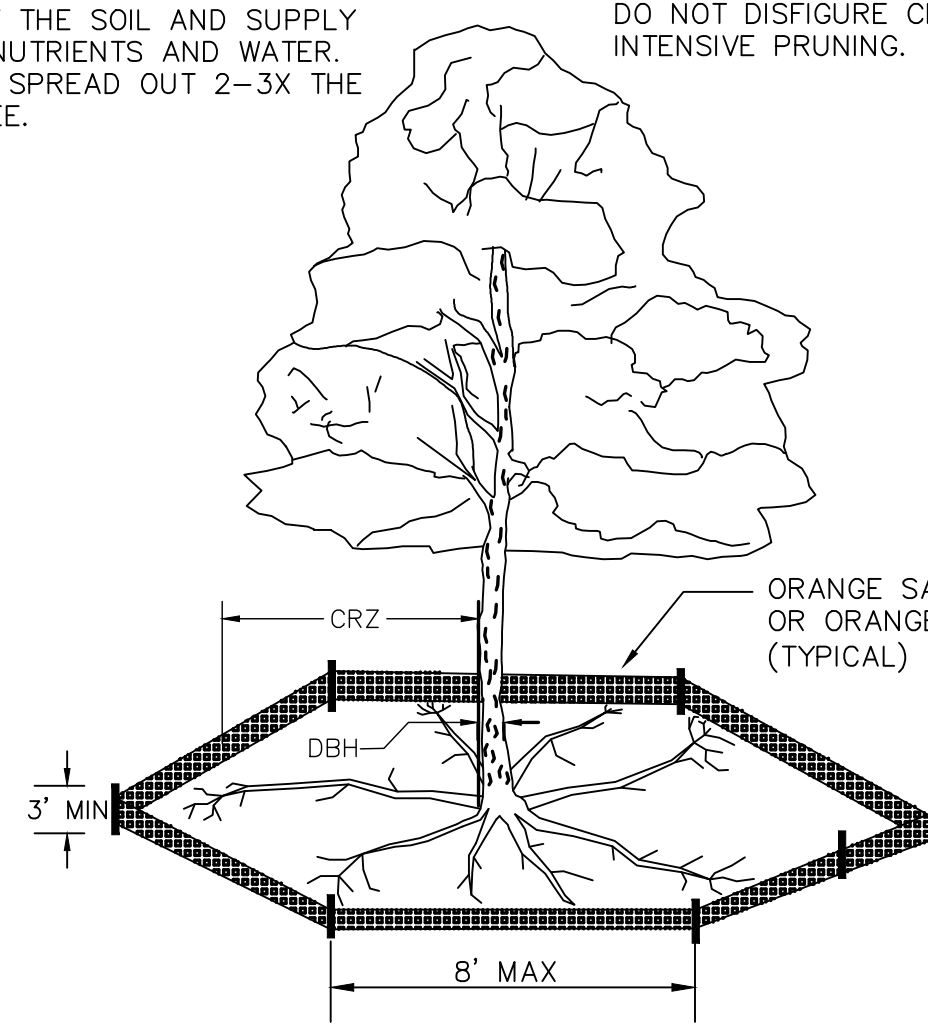
GRASS TYPE	AMOUNT/ 1000 S.F.	TIME OF SEEDING	INITIAL
BERMUDA, COMMON	1-2 LBS.	APRIL - JUNE	25 LBS. 10-10-10
FESCUE, TALL (KENTUCKY 31)	5-7 LBS.	JUNE - AUGUST FEB. - OCT.	25 LBS. 10-10-10
SERICEA LESPEDEZA (SLOPES)	1-2 LBS.	MARCH - APRIL	25 LBS. 10-10-10

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.

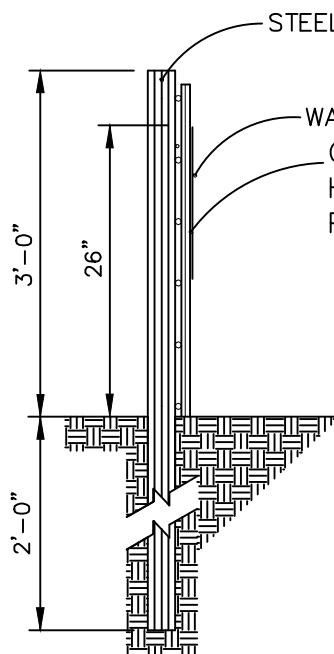
NOTE:

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:

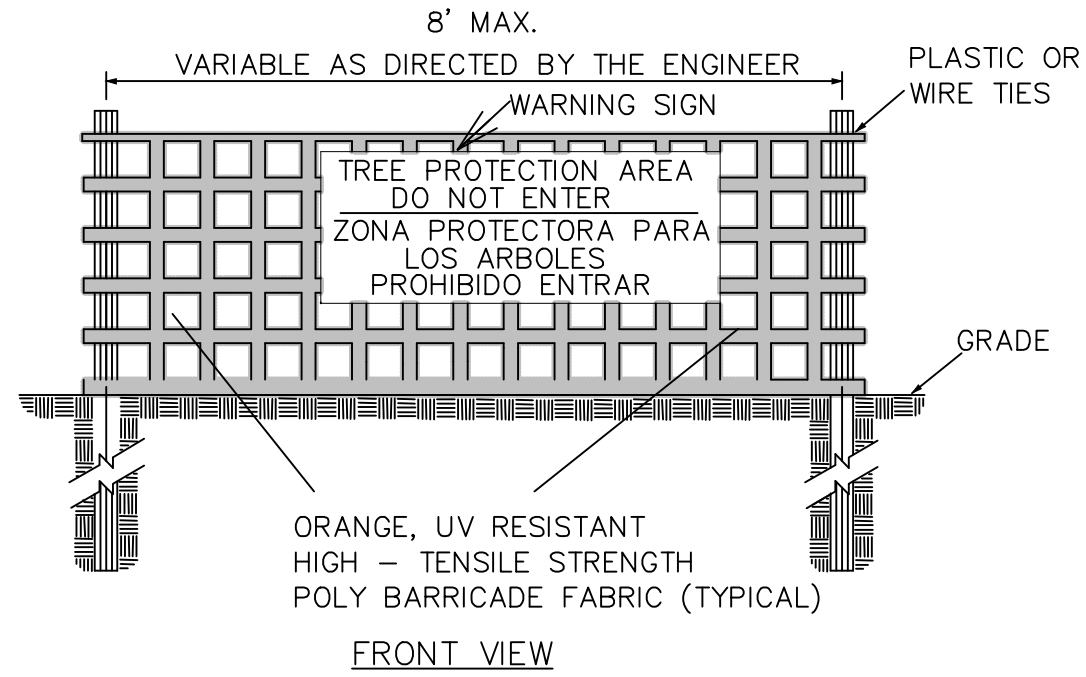
CROWN OF THE TREE IS NEEDED FOR LEAF GROWTH TO PRODUCE OXYGEN, FILTER THE AIR, REDUCE WIND AND SOFTEN NOISE. DO NOT DISFIGURE CROWN WITH INTENSIVE PRUNING.



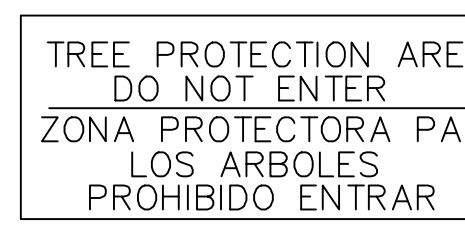
SIDE VIEW

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.



FRONT VIEW



WARNING SIGN DETAIL

METHOD OF TREE PROTECTION DURING CONSTRUCTION

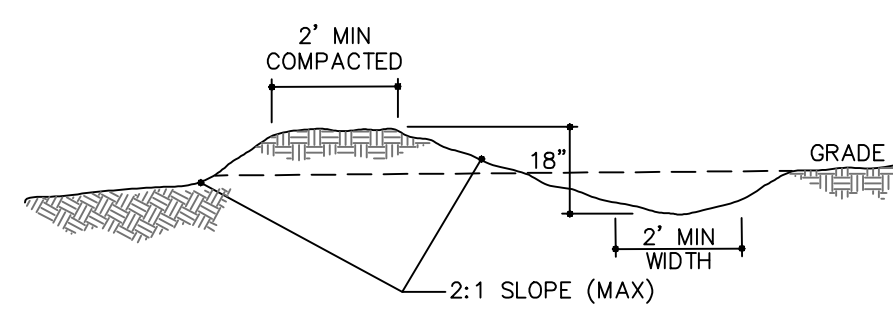
SD 15-09

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 #
TDD1	0.17	0.4	51	12.50	12.00	0.50	0.98	BARE EARTH	0.020	1.61	NO LINING	SB-1
TDD2	2.49	5.4	317	14.00	10.00	4.00	1.26	BARE EARTH	0.020	3.89	LINING REQ	SB-4
TDD3	0.54	1.2	183	17.00	14.00	3.00	1.64	BARE EARTH	0.020	2.77	LINING REQ	SB-3
TDD4	0.31	0.7	175	15.00	14.00	1.00	0.57	BARE EARTH	0.020	1.63	NO LINING	SB-3
TDD5	0.05	0.1	82	20.50	14.00	6.50	7.93	BARE EARTH	0.020	2.56	LINING REQ	SB-5
TDD6	0.35	0.8	174	23.00	14.00	9.00	5.18	BARE EARTH	0.020	3.63	LINING REQ	SB-5
TDD7	3.74	8.1	287	14.00	8.00	6.00	2.09	BARE EARTH	0.020	5.12	LINING REQ	SB-2
TDD8	0.23	0.5	64	23.00	8.00	15.00	23.44	BARE EARTH	0.020	9.47	LINING REQ	SB-2
TDD9	1.13	2.5	215	23.00	22.00	1.00	0.47	BARE EARTH	0.020	0.92	NO LINING	SB-6

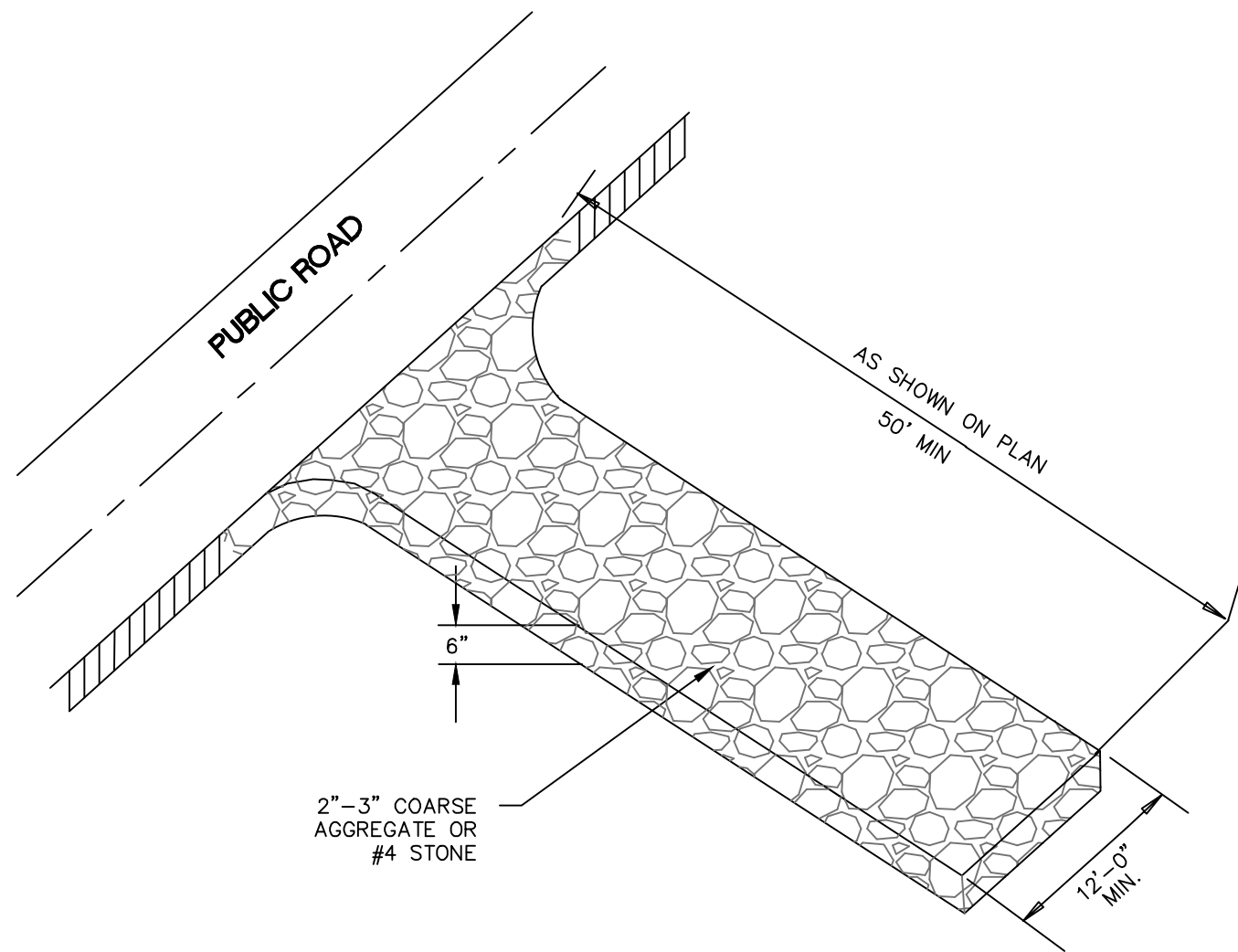
TDD NUMBER	SECONDARY LINING	MANNING n	VELOCITY (FPS)	COMMENT	DEPTH in	MIN. DEPTH in	CHECK DAM SPACING (FT)	NUMBER REQUIRED	NUMBER PROVIDED	BMP #
TDD1	EXCELSIOR	0.020	1.61	EXCELSIOR OK	1.9	18	204	0	0	SB-1
TDD2	EXCELSIOR	0.035	2.57	EXCELSIOR OK	8.3	18	159	2	2	SB-4
TDD3	EXCELSIOR	0.035	1.85	EXCELSIOR OK	3.9	18	122	2	2	SB-3
TDD4	EXCELSIOR	0.020	1.63	EXCELSIOR OK	2.9	18	350	1	1	SB-3
TDD5	EXCELSIOR	0.035	1.74	EXCELSIOR OK	0.7	18	25	3	3	SB-5
TDD6	EXCELSIOR	0.035	2.44	EXCELSIOR OK	2.3	18	39	5	5	SB-5
TDD7	EXCELSIOR	0.035	3.38	EXCELSIOR OK	8.9	18	96	3	3	SB-2
TDD8	EXCELSIOR	0.035	3.86	EXCELSIOR OK	1.2	18	9	8	8	SB-2
TDD9	EXCELSIOR	0.020	0.92	EXCELSIOR OK	9.5	21	430	1	1	SB-6

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) was also evaluated and found to be sufficient for the proposed lining.

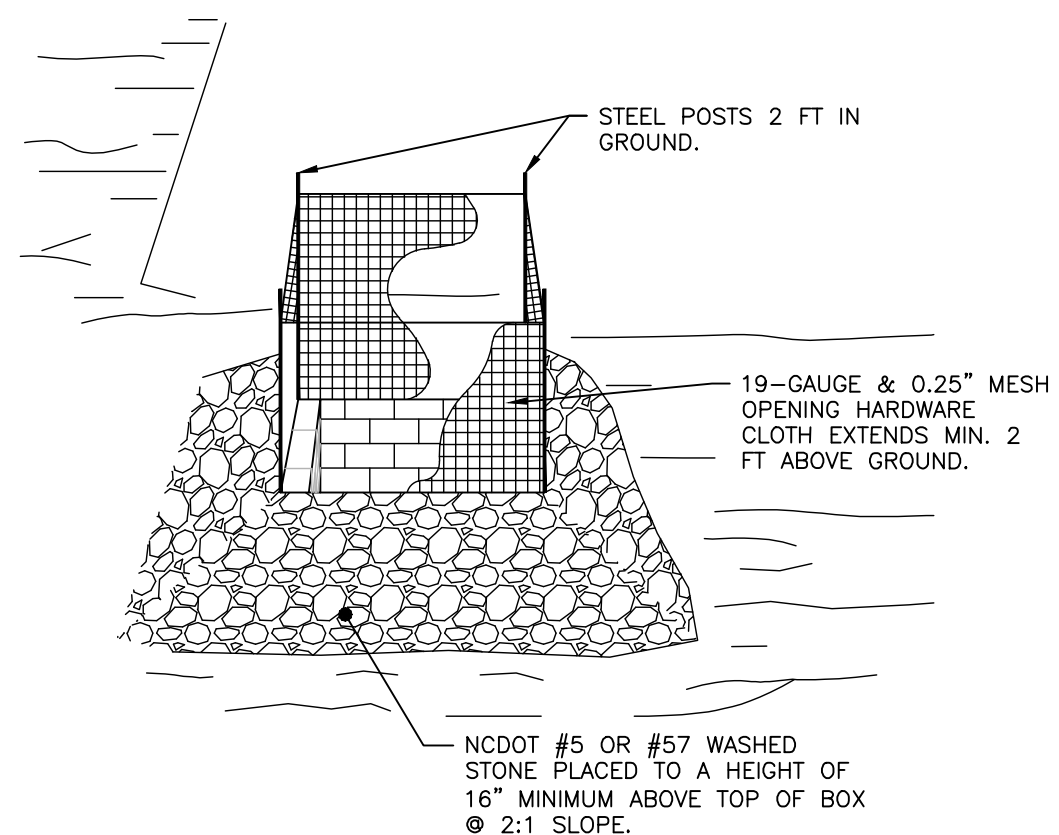


TEMPORARY DIVERSION DITCH
NOT TO SCALE



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

REV. NO.	DESCRIPTIONS/REVISIONS	DATE
1	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	10/12/2015
2	CIP/A SUBMITTAL	08/10/2015
3	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
4	NEW HANOVER COUNTY EROSION CONTROL RESUBMITTAL	08/03/2015
5	NEW HANOVER COUNTY EROSION CONTROL RESUBMITTAL	07/29/2015
6	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
7	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/21/2015
8	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
9	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015

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RIVERLIGHTS
 CONVENTIONAL NEIGHBORHOOD PH. 1
 EROSION AND SEDIMENT CONTROL DETAILS

NORTH AMERICA SEKISUI HOUSE, LLC
 Newland COMMUNITIES

RIVERLIGHTS
 CONVENTIONAL NEIGHBORHOOD PH. 1
 EROSION AND SEDIMENT CONTROL
 DETAILS

DATE: 04-29-2015	SCALE: HORIZONTAL: 1"=50'
MCE PROJ. # 02735-0129	VERTICAL: N/A
DRAWN: EEM/KCBE	PROJ. MGR.: RMC
DESIGNED: KCBE	
CHECKED: NUL	

M/C FILE NUMBER: CE-502	REVISION: 1
DRAWING NUMBER: 28	
STATUS: FINAL DESIGN	
ISSUED FOR PERMITTING	

S:\2726\0129 Ph. 1 SF\80 Drawings\DETAILS\02735\0129.dwg, 10/12/2015 4:20:32 PM, T.Murphy

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

ENGLISH STANDARD DRAWING FOR CONCRETE CATCH BASIN 12" THRU 54" PIPE

840.02

GENERAL NOTES:
 USE CLASS "B" CONCRETE THROUGHOUT.
 PROVIDE ALL CATCH BASINS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.
 OPTIONAL CONSTRUCTION - MONOLITHIC FOUR 2" REINFORCING BARS OR #4 BARS ORNELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.
 USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.
 IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.
 USE TYPE "G", "F" AND "G" GRATES UNLESS OTHERWISE INDICATED.
 FOR 3'-0" IN HEIGHT OR LESS USE 6" WALLS AND BOTTOM SLAB. OVER 3'-0" IN HEIGHT USE 8" WALLS AND BOTTOM SLAB. ADJUST QUANTITIES ACCORDINGLY.
 CONSTRUCT WITH PIPE CORNERS MATCHING.
 CHAMFER ALL EXPOSED CORNERS 1".
 DRAWING NOT TO SCALE.

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

ENGLISH STANDARD DRAWING FOR CONCRETE CATCH BASIN 12" THRU 54" PIPE

840.02

DIMENSIONS OF BOX & PIPE											
PIPE	SPAN	WIDTH	HEIGHT	MIN.	HEIGHT	CONC.	IN BOX	DEDUCTIONS	ONE PIPE	ONE PIPE	ONE PIPE
D	A	B	H	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
12"	3'-0"	2'-2"	2'-0"	3'-0"	3'-0"	0.235	0.772	0.015	0.658	0.235	0.658
18"	3'-0"	2'-2"	2'-0"	3'-0"	3'-0"	0.235	0.987	0.053	0.934	0.235	0.934
24"	3'-0"	2'-2"	2'-0"	3'-0"	3'-0"	0.235	1.001	0.059	0.942	0.235	0.942
30"	3'-0"	2'-2"	2'-0"	3'-0"	3'-0"	0.235	1.033	0.069	0.964	0.235	0.964
36"	3'-0"	2'-2"	2'-0"	3'-0"	3'-0"	0.235	1.038	0.069	0.969	0.235	0.969
42"	3'-0"	2'-2"	2'-0"	3'-0"	3'-0"	0.235	1.038	0.069	0.969	0.235	0.969
48"	3'-0"	2'-2"	2'-0"	3'-0"	3'-0"	0.235	1.038	0.069	0.969	0.235	0.969
54"	3'-0"	2'-2"	2'-0"	3'-0"	3'-0"	0.235	1.038	0.069	0.969	0.235	0.969

* RISER HAS .228 CUBIC YARDS OF CONCRETE PER FOOT HEIGHT

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

ENGLISH STANDARD DRAWING FOR TRAFFIC BEARING PRECAST DRAINAGE STRUCTURE 12" THRU 54" PIPE

840.46

GENERAL NOTES:
 THIS PRECAST BOX MAY BE USED FOR THE FOLLOWING STANDARDS: 840.04, 840.05, 840.14, 840.15, 840.31, 840.32, 840.34, 840.35, 840.38 AND 840.41.
 INSTALL AND PAV FOR PRECAST DRAINAGE STRUCTURES IN ACCORDANCE WITH NCOTD STANDARD SPECIFICATION SECTION 840.
 USE 4000 PSI MINIMUM COMPRESSIVE STRENGTH CONCRETE.
 LIMIT MAXIMUM DEPTH TO TOP OF BOTTOM SLAB TO 15'-0".
 PLACE LIFT HOLES OR PINS IN ACCORDANCE WITH OSHA STANDARD 1926.704.
 ORIENT STRUCTURES SO THAT CORNERS WILL NOT BE CUT OR MODIFIED UNLESS ALLOWED BY DETAIL IN PLANS.
 PRECAST ALL ELEMENTS TO MEET ASTM 915.
 FRAME AND GRATE HEIGHT MAY BE ADJUSTED WITH CONCRETE OR BRICK IN ACCORDANCE WITH STANDARD 840.25.
 PROVIDE PRECAST STRUCTURES OVER 4'-0" IN DEPTH WITH STEPS 12" ON CENTER IN ACCORDANCE WITH STD. NO. 840.66.
 WELDED WIRE FABRIC MAY BE SUBSTITUTED FOR REBAR IF THE SAME MIN. AREA OF STEEL IS PROVIDED.
 SEAL JOINTS WITH AN APPROVED SEALANT (SEE SECTION 840 OF NCOTD STANDARD SPECIFICATIONS).
 LIMIT MAXIMUM STRUCTURE SIZE INSIDE CLEAR DIMENSIONS TO 6'-0" X 6'-0".
 THE OUTSIDE PIPE DIAMETER PLUS 2" IS THE MINIMUM STRUCTURE SIZE OR THE OPENING REQUIRED FOR GRATE AND FRAME WHICHEVER IS GREATER.
 ROUND MANHOLE MAY BE USED IN LIEU OF SQUARE PROVIDED 2 EXTRA #5'S ARE PLACED ON EVERY SIDE NOT ADJACENT TO A WALL. SEE STD. DWG. 840.04 FOR MANHOLE INSTALLATION.

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

ENGLISH STANDARD DRAWING FOR FRAME, GRATES, AND HOOD FOR USE ON STANDARD CATCH BASIN

840.03

NOTE: USE TYPE "E", "F" AND "G" GRATE UNLESS OTHERWISE NOTED.

ALIGN FRAME WITH INSIDE EDGE OF WALL TO ALLOW FOR VERTICAL ADJUSTMENT FOR WALL SECTION.

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

ENGLISH STANDARD DRAWING FOR FRAME, GRATES, AND HOOD FOR USE ON STANDARD CATCH BASIN

840.03

DETAIL SHOWING TYPES OF GRATES USE ACCORDING TO WATER FLOW.

RAISED FLOW ARROW 1/2" HIGH

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

ENGLISH STANDARD DRAWING FOR CONCRETE DROP INLET 12" THRU 30" PIPE

840.14

DIMENSIONS AND QUANTITIES FOR DROP INLET (BASED ON MIN. HEIGHT, H)											
PIPE	SPAN	WIDTH	HEIGHT	MIN.	HEIGHT	CONC.	IN BOX	DEDUCTIONS	ONE PIPE	ONE PIPE	ONE PIPE
D	A	B	H	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
12"	3'-0"	2'-0"	2'-0"	3'-0"	3'-0"	0.222	0.622	0.015	0.607	0.222	0.607
15"	3'-0"	2'-0"	2'-0"	3'-0"	3'-0"	0.222	0.644	0.023	0.621	0.222	0.621
18"	3'-0"	2'-0"	2'-0"	3'-0"	3'-0"	0.222	0.703	0.033	0.670	0.222	0.670
24"	3'-0"	2'-0"	2'-0"	3'-0"	3'-0"	0.222	0.814	0.059	0.755	0.222	0.755
30"	3'-0"	2'-0"	2'-0"	3'-0"	3'-0"	0.222	0.925	0.092	0.833	0.222	0.833

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

ENGLISH STANDARD DRAWING FOR DROP INLET FRAME AND GRATES FOR USE WITH STD. DWG. S 840.14 AND 840.15

840.16

NOTE: CONSTRUCT GRATED DROP INLET TO COINCIDE WITH NORMAL OR SUPERELEVATED SHOULDER OR PAVEMENT SLOPE.

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

ENGLISH STANDARD DRAWING FOR ANCHOR FOR BRICK/CONCRETE/PRECAST CONCRETE

840.25

NOTE: CONSTRUCT GRATED DROP INLET TO COINCIDE WITH NORMAL OR SUPERELEVATED SHOULDER OR PAVEMENT SLOPE.

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

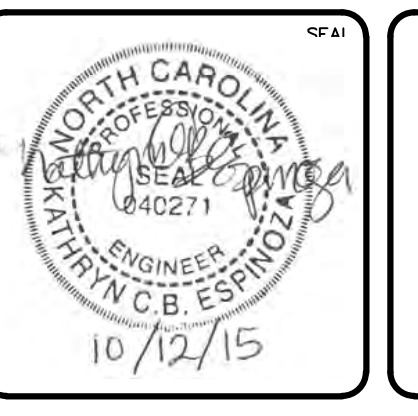
ENGLISH STANDARD DRAWING FOR DRAINAGE STRUCTURE STEPS

840.66

NOTE: ALL STEPS PROTRUDING 4" FROM INSIDE FACE OF STRUCTURE WALL. STEPS DIFFERING IN DIMENSIONS, CONFIGURATION, OR MATERIALS FROM THOSE SHOWN MAY ALSO BE USED PROVIDED THE CONTRACTOR HAS FURNISHED THE ENGINEER WITH DETAILS OF THE PROPOSED STEPS AND HAS RECEIVED WRITTEN APPROVAL FROM THE ENGINEER FOR THE USE OF SUCH STEPS.

REV.	DESCRIPTION	DATE
1	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	10/12/2015
2	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
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6	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	06/22/2015
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8	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	05/21/2015
9	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	05/06/2015
10	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/08/2015

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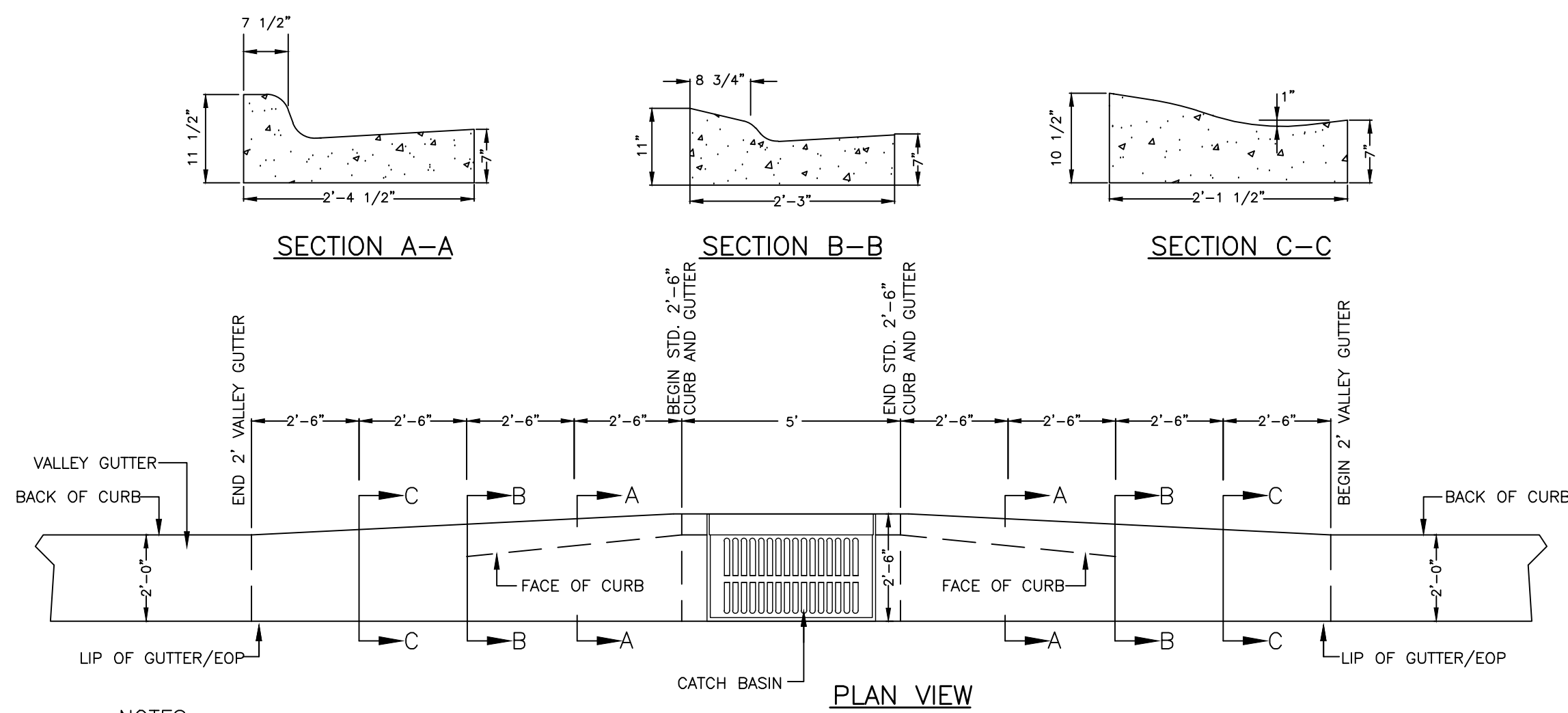
RIVERLIGHTS
 CONVENTIONAL NEIGHBORHOOD PH. 1

STORM DRAINAGE DETAILS

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 DRAWING NUMBER: 29
 REVISION: 1

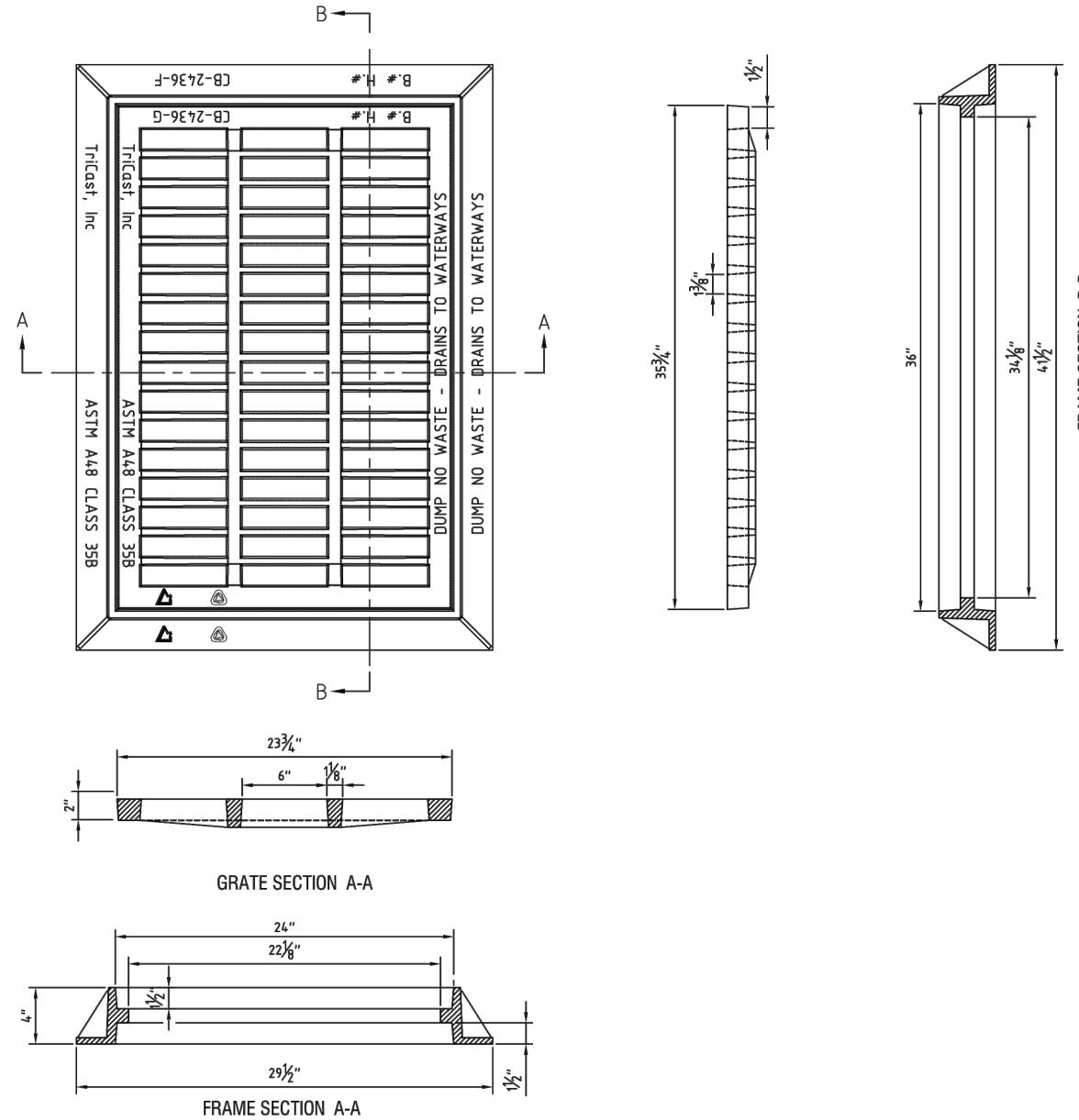
DATE: 04-29-2015
 SCALE: HORIZONTAL: 1"=50'
 VERTICAL: N/A

STATUS: FINAL DESIGN
 ISSUED FOR PERMITTING

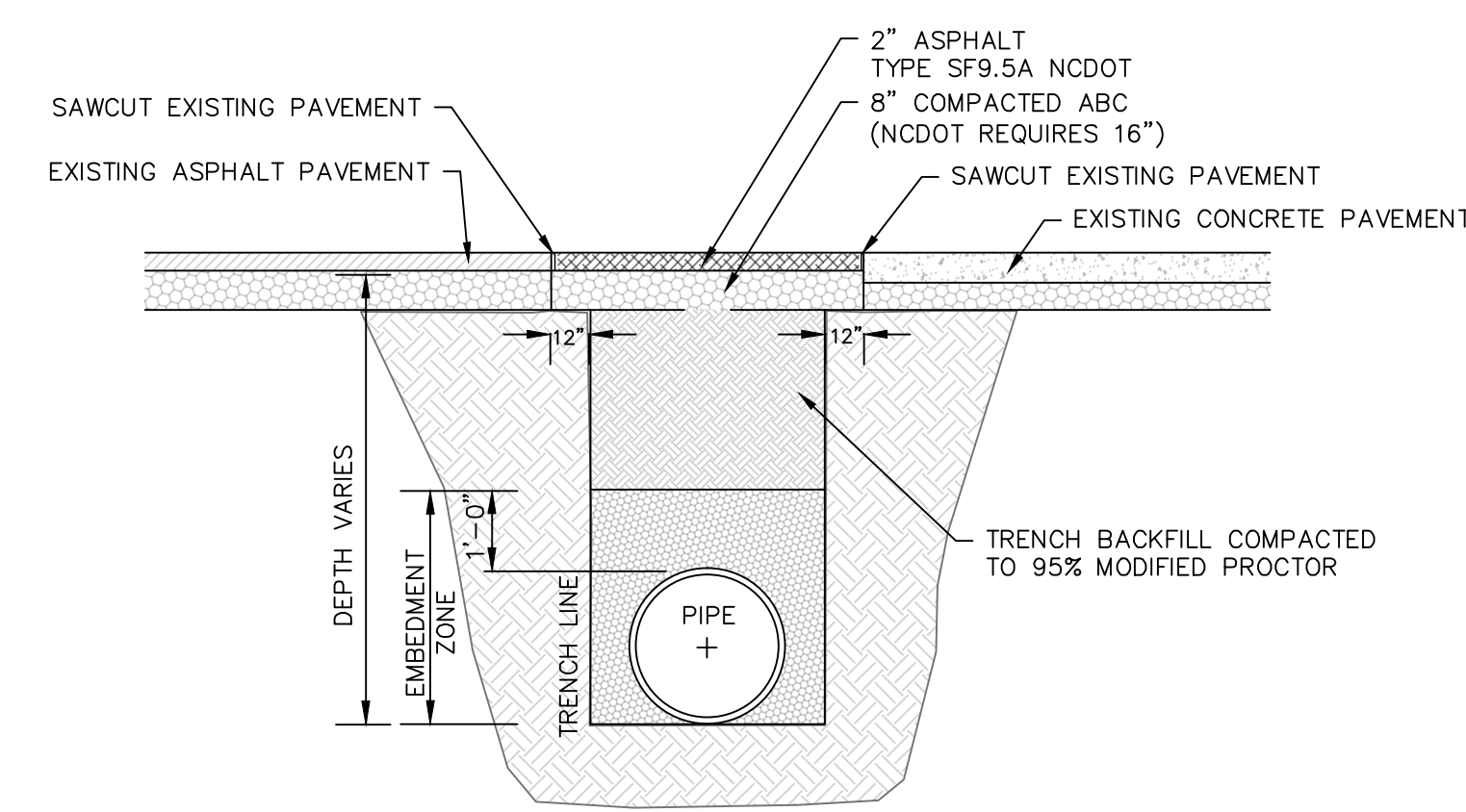
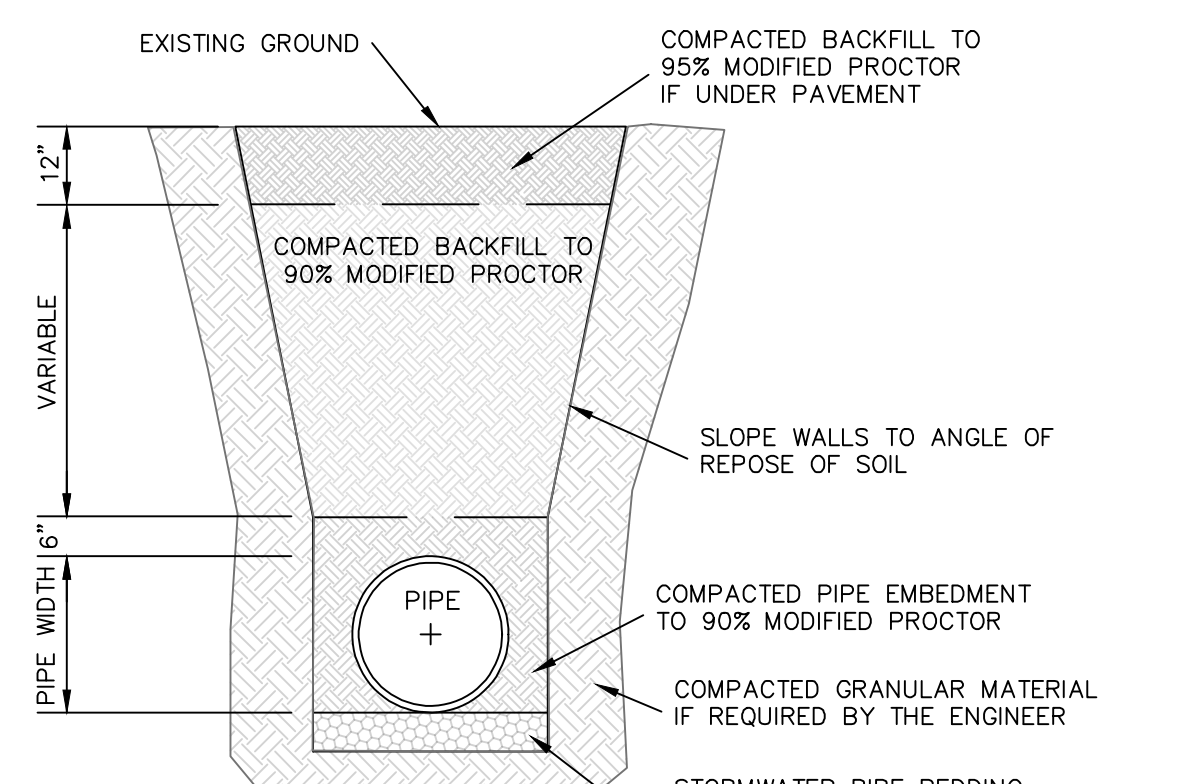
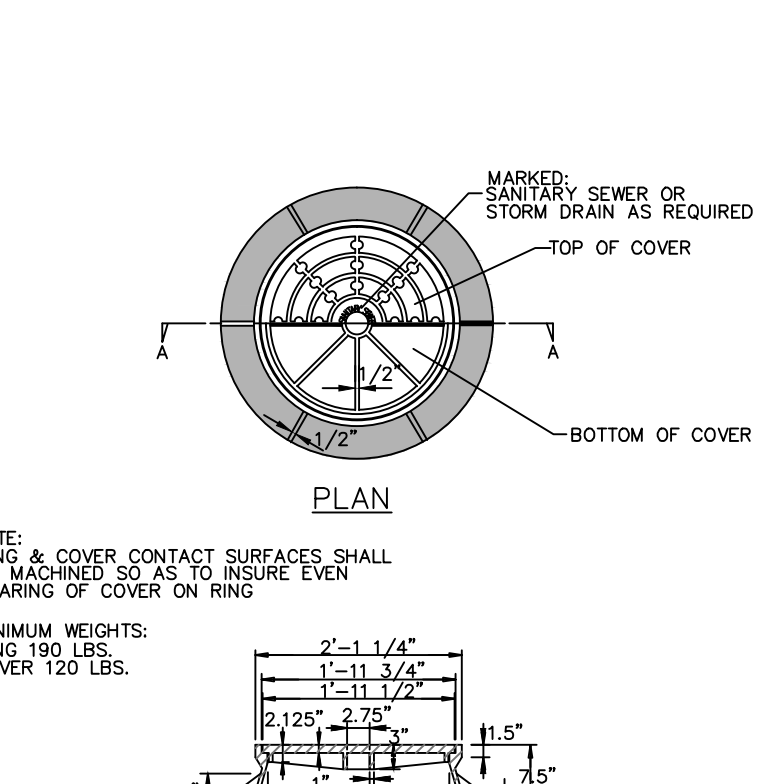
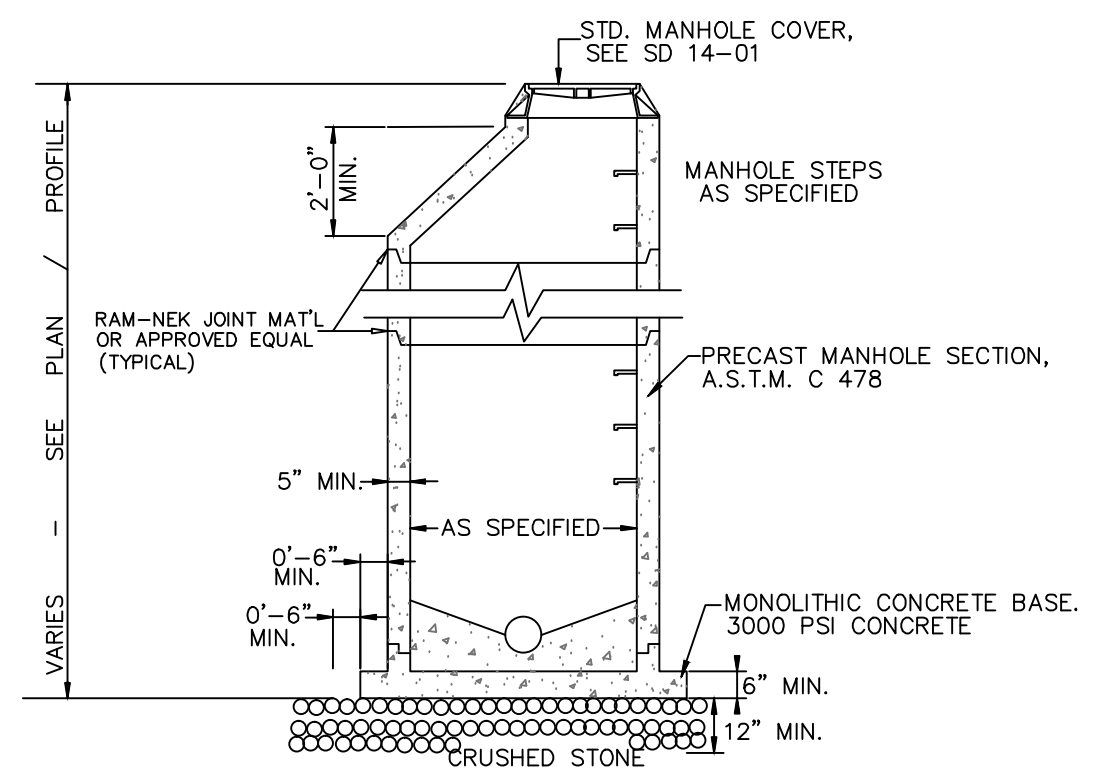


- NOTES:
- TRANSITION IS NOT TO BE LOCATED WITHIN THE CURB RADIUS.
 - TRANSITIONS ARE CONSTRUCTED AT ALL ROADWAY CATCH BASIN LOCATIONS.

CURB TRANSITION
NOT TO SCALE



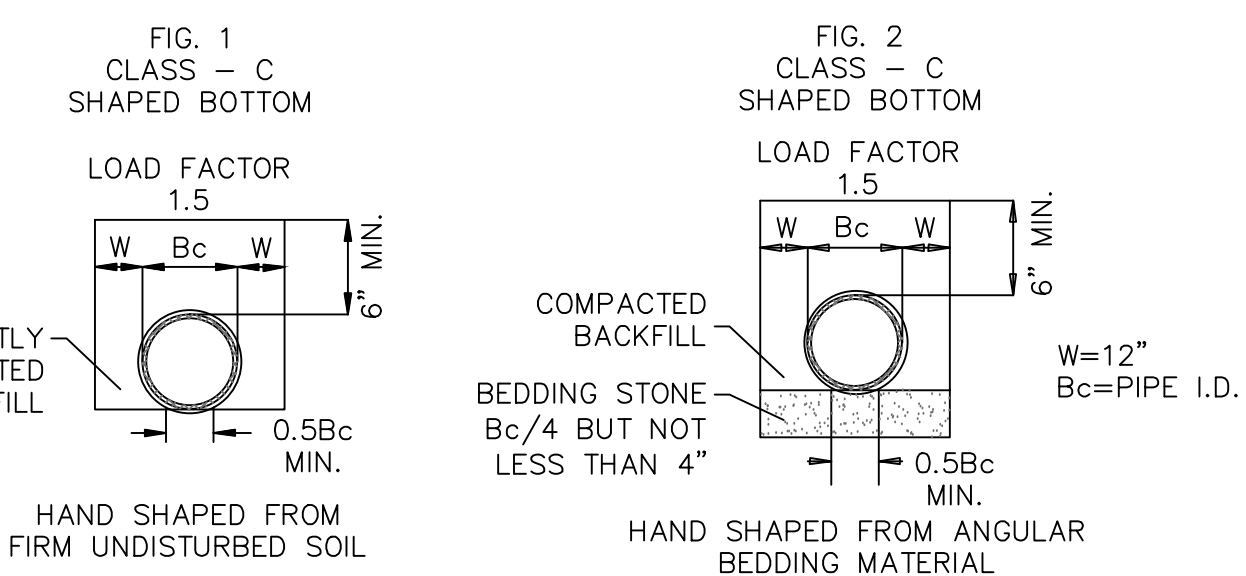
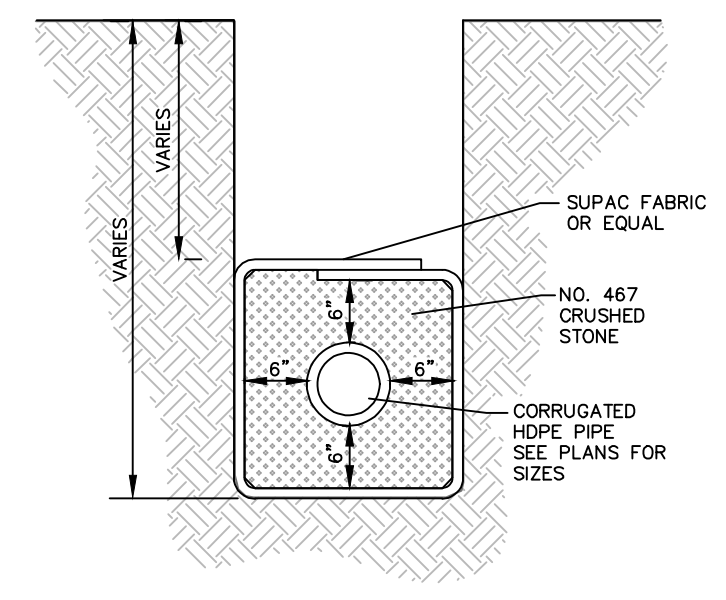
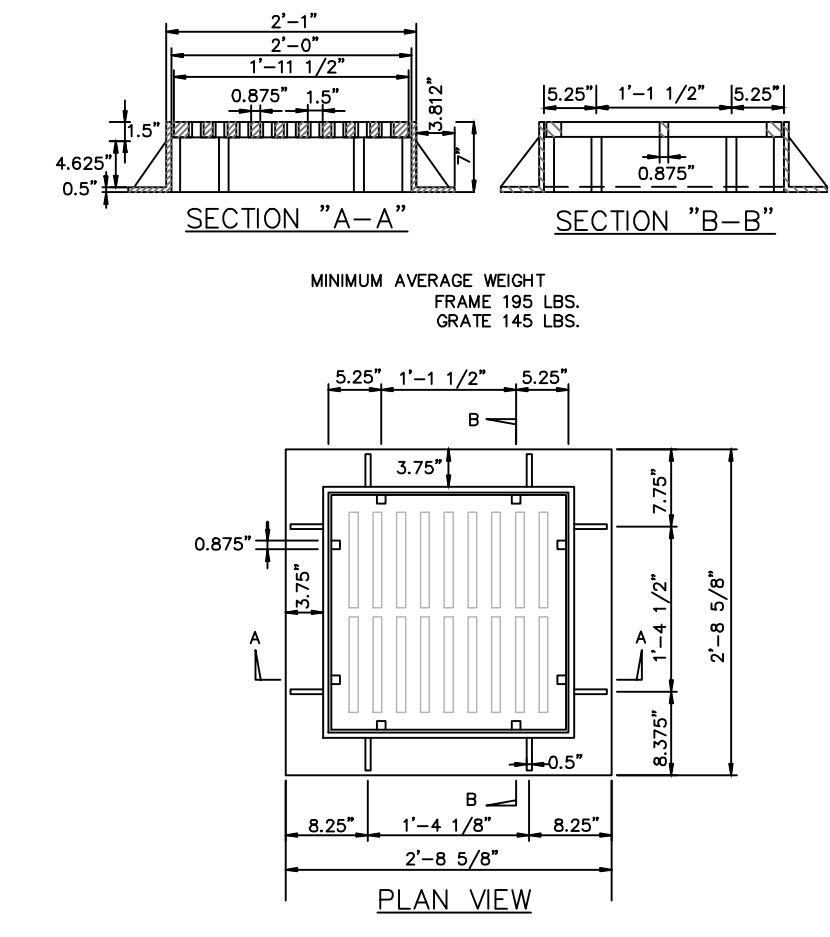
24"x36" CASTING (2DI)
NOT TO SCALE



- 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



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 ON-SITE OF A REPRESENTATIVE OF THE GAS COMPANY WHEN WORKING IN THE VICINITY OF ANY GAS MAINS.

NOTE:
FRAME AND GRATE TO BE STANDARD CITY OF WILMINGTON CAST IRON FRAME AND GRATE PER SD 14-04

GRILL BASIN
SD 2-02
NOT TO SCALE

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION RALEIGH, N.C.	<p>TYPE III BARRICADE END-OF-ROADWAY APPLICATIONS</p>	STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.
	<p>GENERAL NOTES</p> <ol style="list-style-type: none"> HORIZONTAL RAILS FOR MAY BE CONSTRUCTED OF APPROVED COMPOSITE, HOLLOW/CORRUGATED EXTRUDED RIGID POLYOLEFIN, HIGH DENSITY POLYETHYLENE, OR OTHER NCDOT APPROVED MATERIAL. BARRICADE SHALL BE LIMITED TO A MAXIMUM LENGTH OF 8 FT UNLESS NCHRP 350 CRASH TESTED FOR CATEGORY II DEVICES AND NCDOT APPROVED. ONLY NCDOT APPROVED COMPOSITE AND ROLL-UP SIGNS MAY BE MOUNTED ON THE BARRICADE RAILS. MOUNT SIGNS TO BARRICADE RAILS TO ENSURE SIGN WILL NOT BECOME DETACHED UNDER NORMAL WIND AND TRAFFIC CONDITIONS. SIGNS SHALL BE MOUNTED A MINIMUM OF 1 FOOT FROM THE GROUND TO THE BOTTOM OF THE SIGN UNLESS SIGNS R11-3 OR R11-4 ARE REQUIRED BY THE PLANS OR DIRECTED BY THE ENGINEER. USE TYPE VII OR HIGHER PRISMATIC RETROREFLECTIVE SHEETING ON BOTH SIDES OF THE BARRICADE RAILS. BARRICADE MUST BE NCHRP 350 FOR CATEGORY II DEVICES AND NCDOT APPROVED WITH STABILIZER BAR OR ADEQUATE LATERAL BRACING. ASSEMBLY OF THE GENERIC BARRICADES MUST BE SELF CERTIFIED BY THE ASSEMBLER. BARRICADES USED TO CLOSE A ROADWAY SHALL EXTEND ACROSS THE ENTIRE ROADWAY. WHERE LOCAL TRAFFIC MUST BE MAINTAINED, THEY MAY BE PLACED IN A STAGGERED PATTERN. STRIPES ON WORK ZONE BARRICADE RAILS SHALL BE ALTERNATE ORANGE AND WHITE RETROREFLECTIVE STRIPES, SLOPED DOWNWARD TOWARDS THE SIDE WHICH TRAFFIC IS TO PASS OR TURN IN DETOURING. WHERE NO TURNS ARE INTENDED, THE STRIPES SHOULD SLOPE DOWNWARD TOWARD THE CENTER OF THE BARRICADE OR BARRICADES. USE RED AND WHITE STRIPES FOR PERMANENT BARRICADES. SEE THE DEPARTMENT'S APPROVED PRODUCTS LIST AT https://apps.dot.state.nc.us/vendor/approvedproducts. PLACE MANUFACTURER'S NAME AND FEDERAL HIGHWAY ADMINISTRATION'S NCHRP 350 APPROVAL LETTER NUMBER ON BARRICADE FRAME. PLACE SANDBAGS OR OTHER APPROVED BALLASTING METHODS ON THE FEET OF THE FRAME. DO NOT PLACE SANDBAGS ON TOP OF A STRIPED RAIL OR STABILIZER BAR. DO NOT BALLAST BARRICADES BY HEAVY OBJECTS SUCH AS ROCKS, CHAINS OF CONCRETE OR OTHER ITEMS THAT WOULD CAUSE DAMAGE IF THE BARRICADE IS STRUCK BY A VEHICLE. 	
ENGLISH STANDARD DRAWING FOR BARRICADES TYPE-III	ENGLISH STANDARD DRAWING FOR BARRICADES TYPE-III	
SHEET 1 OF 1 1145.01		SHEET 1 OF 1 1145.01

REV. NO.	DESCRIPTIONS	DATE
I	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	10/12/2015
H	CITYA SUBMITTAL	08/10/2015
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
E	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
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C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/29/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015

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STATE OF NORTH CAROLINA
PROFESSIONAL ENGINEER
SEAL
10/12/15

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RIVERLIGHTS
Newland by COMMUNITIES
NORTH AMERICA SENIUS HOUSE, LLC

RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1
STORM DRAINAGE DETAILS

DATE: 04-29-2015	SCALE: CG-502
MCE PROJ. # 02735-0129	HORIZONTAL: 1"=50'
DRAWN: EEM/KCBE	VERTICAL: N/A
DESIGNED: KCBE	REVISION: 30
CHECKED: NJL	
PROJ. MGR: RMC	
STATUS: FINAL DESIGN	ISSUED FOR PERMITTING

STRUCTURE TABLE STRM - Pond 1		STRUCTURE TABLE STRM - Pond 1		STRUCTURE TABLE STRM - Pond 4		STRUCTURE TABLE STRM - Pond 6		STRUCTURE TABLE STRM - Pond 6		STRUCTURE TABLE STRM - Pond 7		STRUCTURE TABLE STRM - Pond 7		STRUCTURE TABLE STRM - Pond 7			
STRUCTURE NAME	DETAILS	STRUCTURE NAME	DETAILS	STRUCTURE NAME	DETAILS	STRUCTURE NAME	DETAILS	STRUCTURE NAME	DETAILS	STRUCTURE NAME	DETAILS	STRUCTURE NAME	DETAILS	STRUCTURE NAME	DETAILS		
CB-1-1	RIM = 14.86 INV IN = 5.80 N INV IN = 7.29 S INV OUT = 5.80 W	DI-1-23	RIM = 21.48 INV OUT = 18.04 E	CB-3-14	RIM = 16.29 INV IN = 9.12 SW INV IN = 11.60 SW	CB-6-1	RIM = 16.15 INV IN = 9.12 SW INV IN = 12.59 SE INV OUT = 9.12 NW	JB-6-17	RIM = 18.25 INV IN = 11.50 SE INV IN = 12.00 SW INV IN = 13.42 NE INV OUT = 11.50 NW	CB-7-1	RIM = 17.70 INV IN = 10.16 E INV OUT = 10.16 N	CB-7-42	RIM = 19.72 INV OUT = 16.53 E	DI-7-21	RIM = 17.12 INV IN = 11.61 E INV OUT = 11.61 W	DI-7-21	RIM = 17.12 INV IN = 11.61 E INV OUT = 11.61 W

REVNO.	DESCRIPTIONS	DATE
1	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	10/12/2015
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RIVERLIGHTS
 NORTH AMERICA SEKISUI HOUSE, LLC
 Newland COMMUNITIES

RIVERLIGHTS
 CONVENTIONAL NEIGHBORHOOD PH. 1
STORM DRAINAGE DETAILS

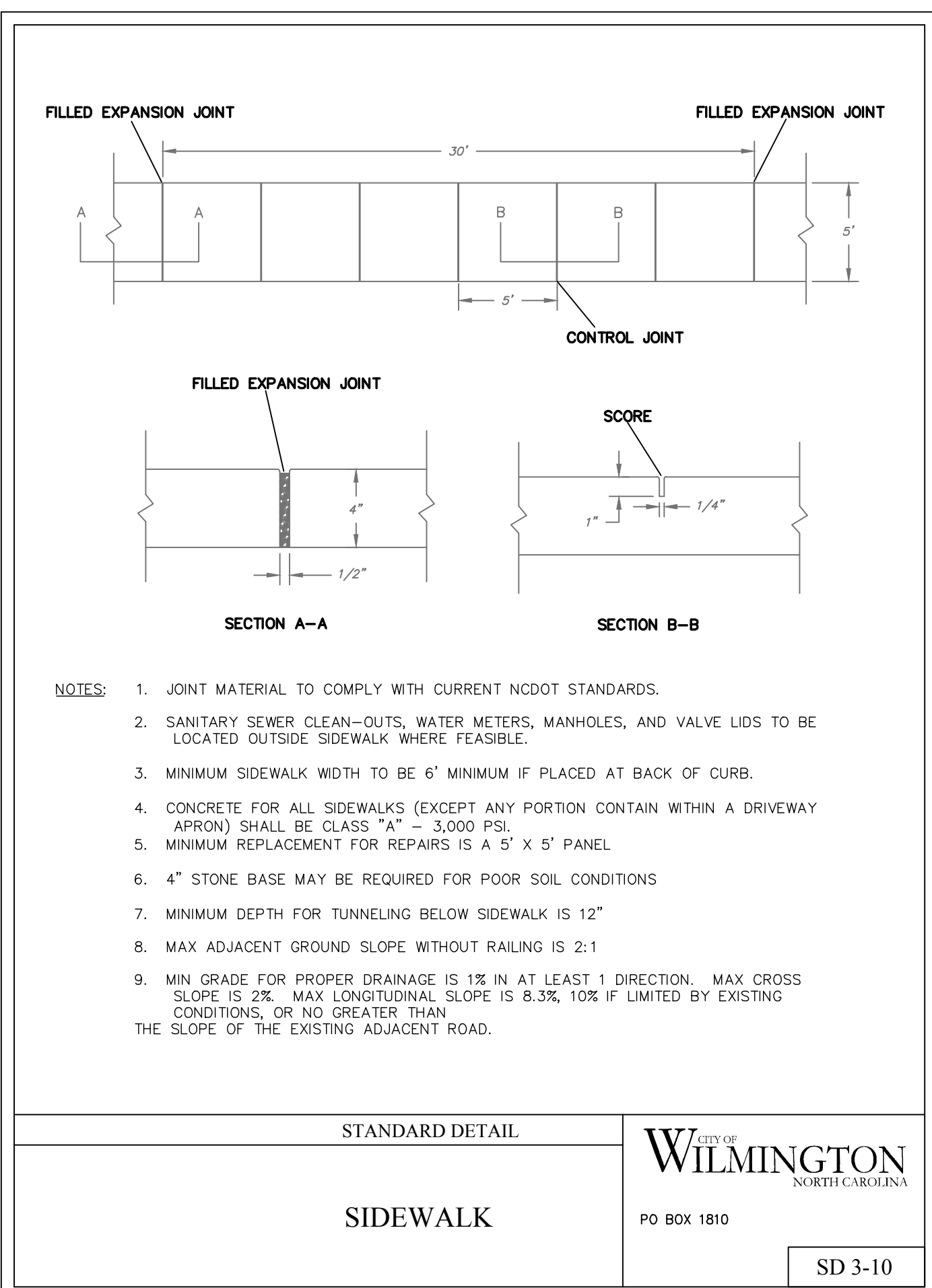
DATE: 04-29-2015
 MCE PROJ. # 02735-0129
 DRAWN: EEM/KCBE
 DESIGNED: KCBE
 CHECKED: NUL
 PROJ. MGR.: RMC

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

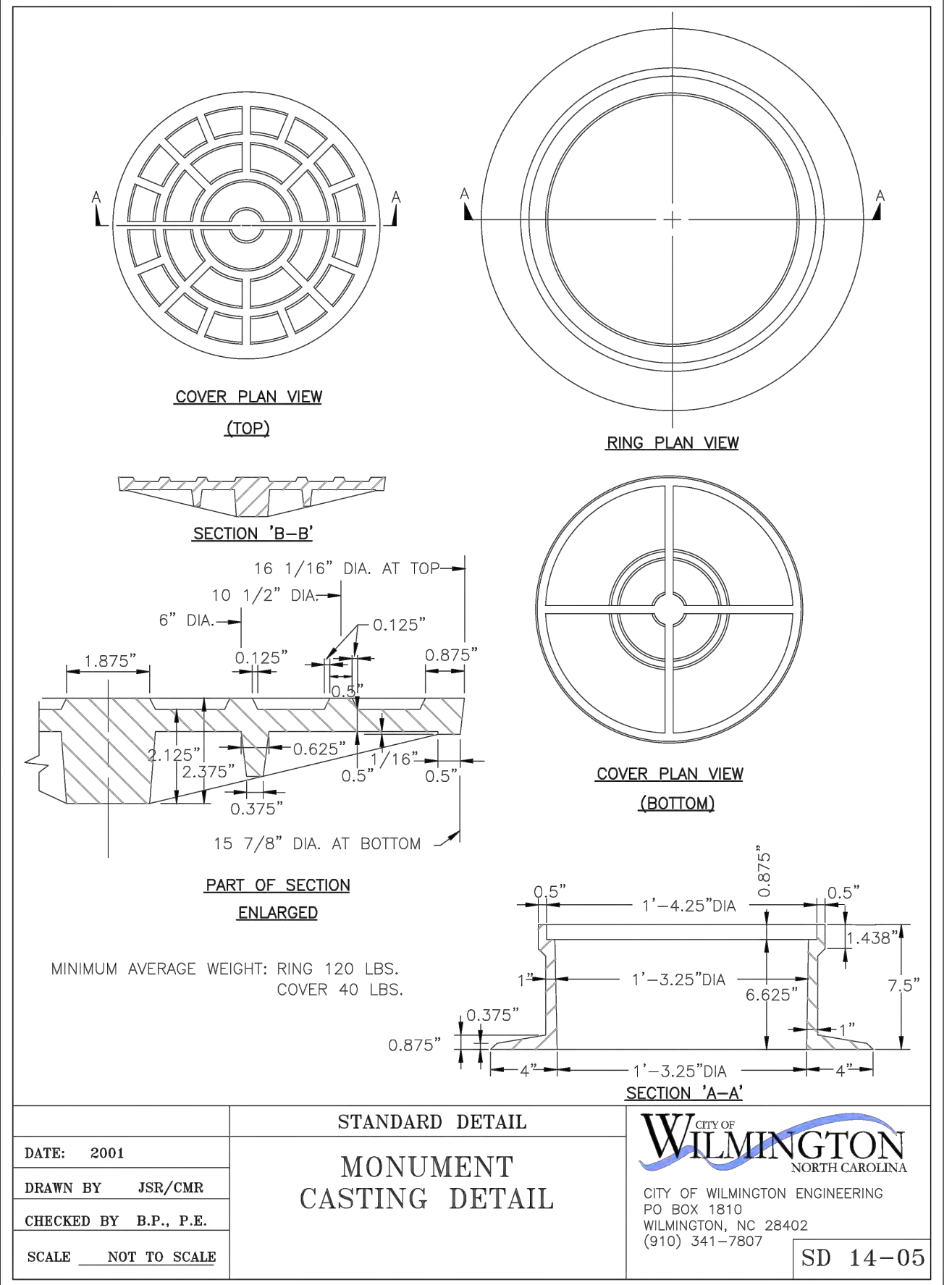
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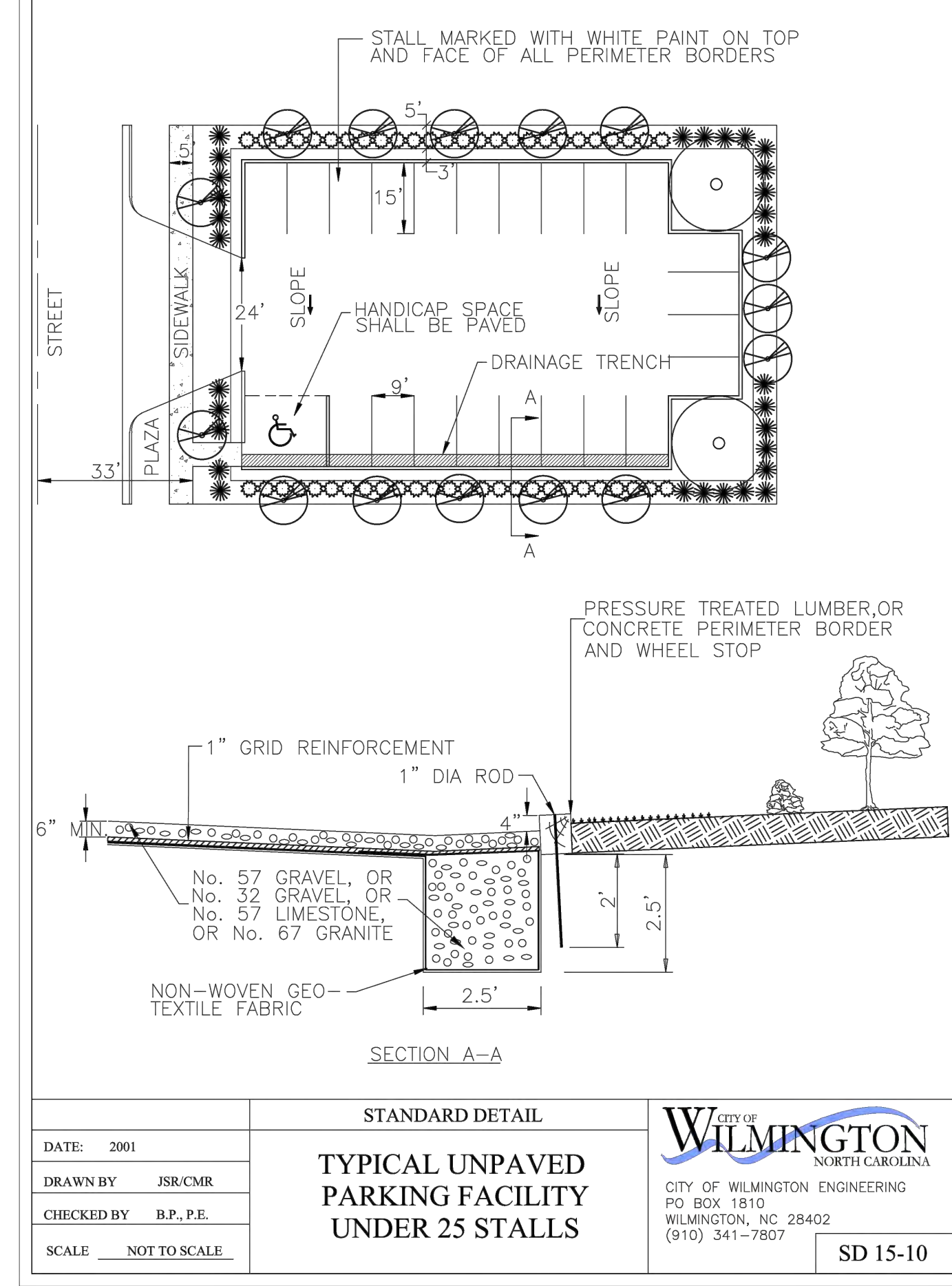
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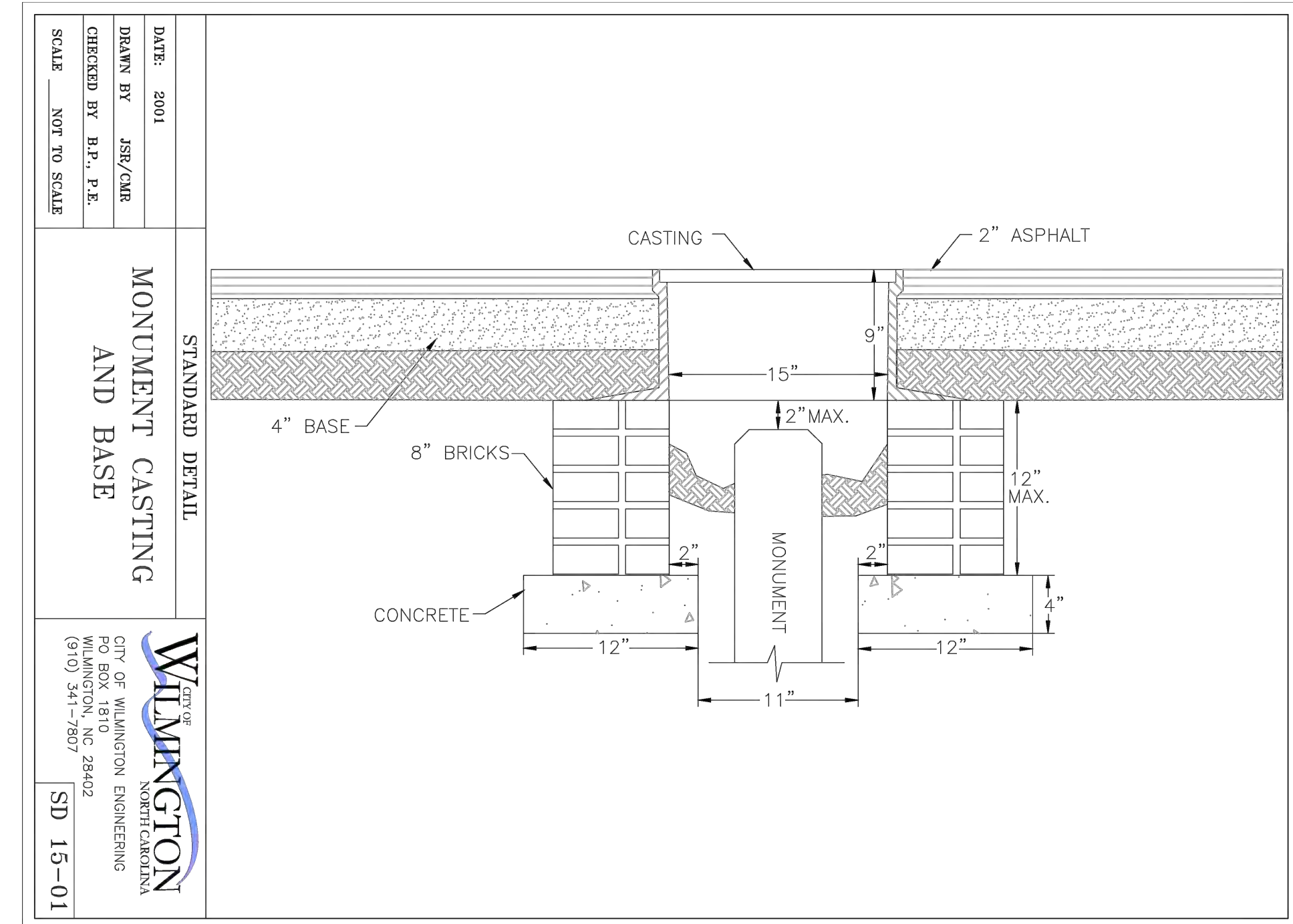
STANDARD DETAIL
SIDEWALK
CITY OF WILMINGTON
NORTH CAROLINA
PO BOX 1810
SD 3-10



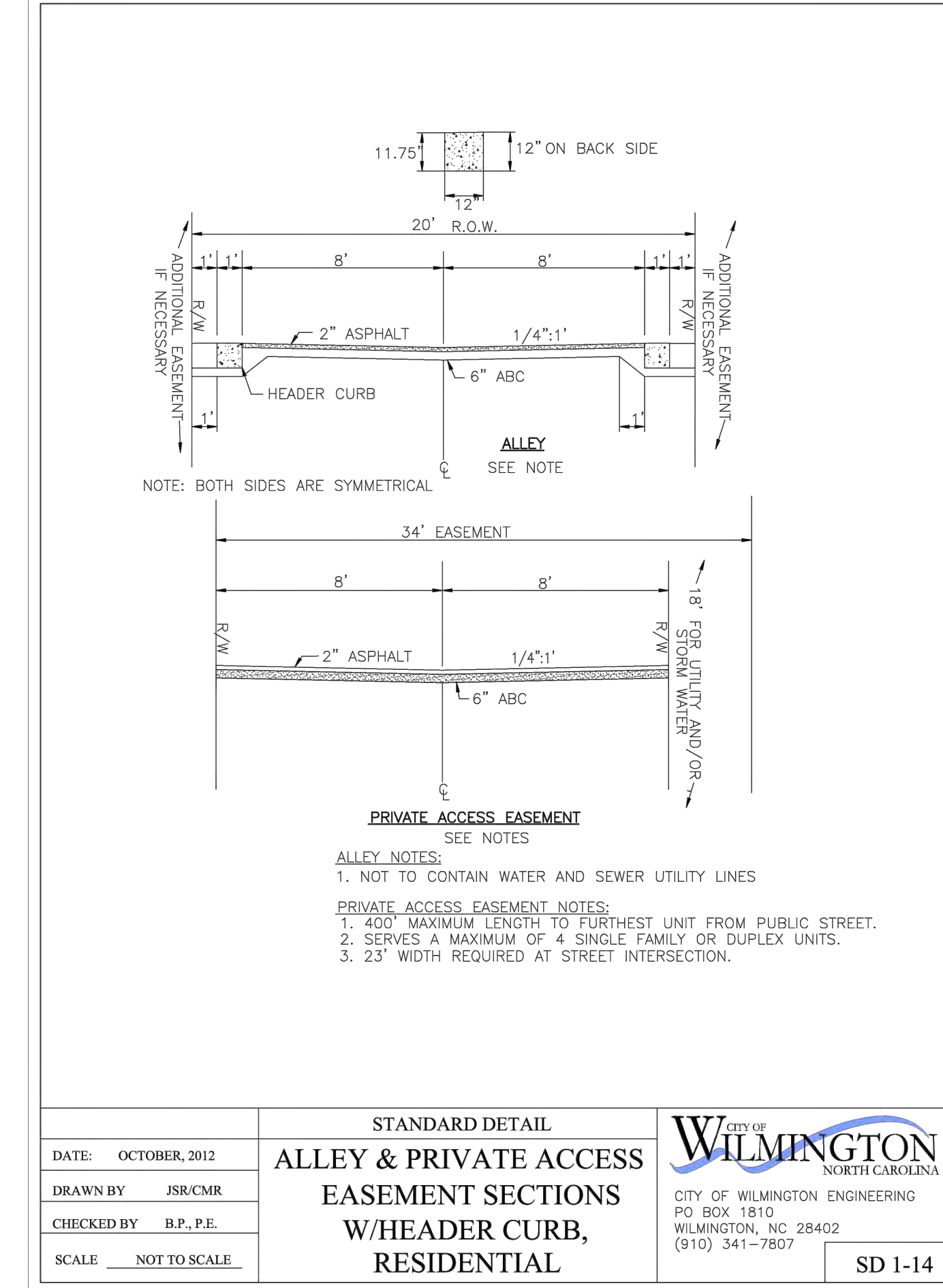
STANDARD DETAIL
MONUMENT CASTING
CITY OF WILMINGTON
NORTH CAROLINA
CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807
SD 14-05



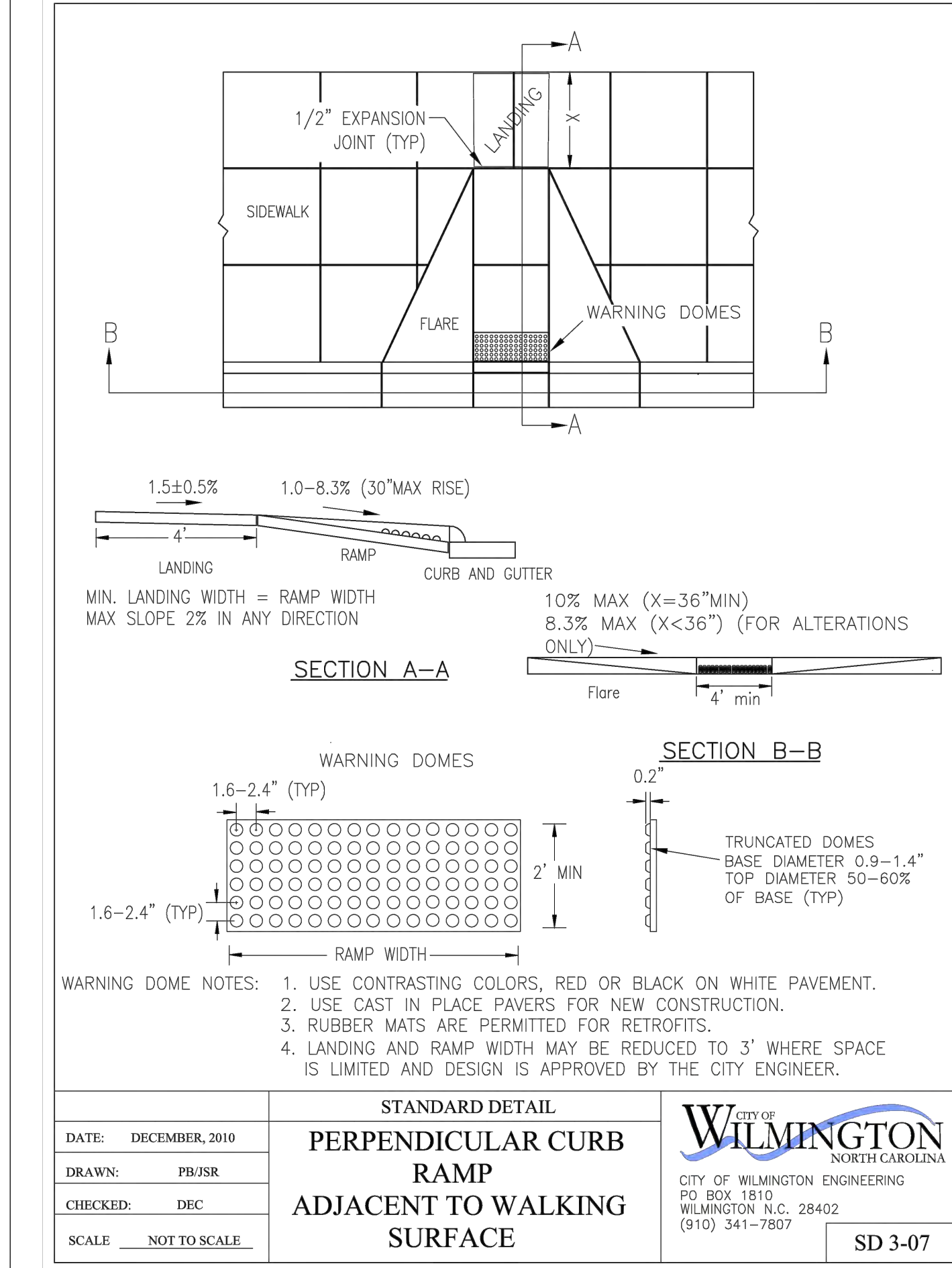
STANDARD DETAIL
TYPICAL UNPAVED PARKING FACILITY UNDER 25 STALLS
CITY OF WILMINGTON
NORTH CAROLINA
CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807
SD 15-10



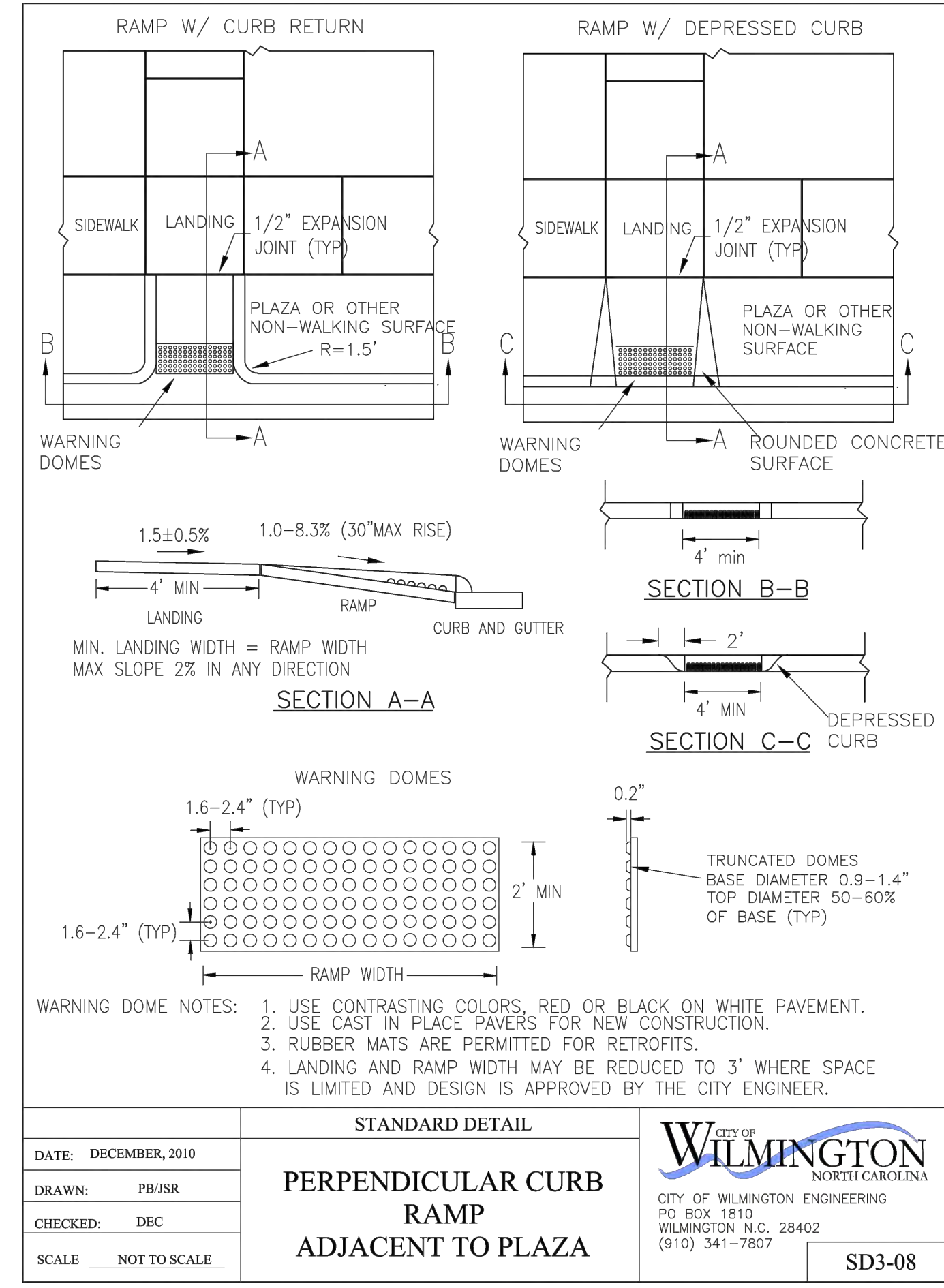
STANDARD DETAIL
MONUMENT CASTING AND BASE
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NORTH CAROLINA
CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807
SD 15-01



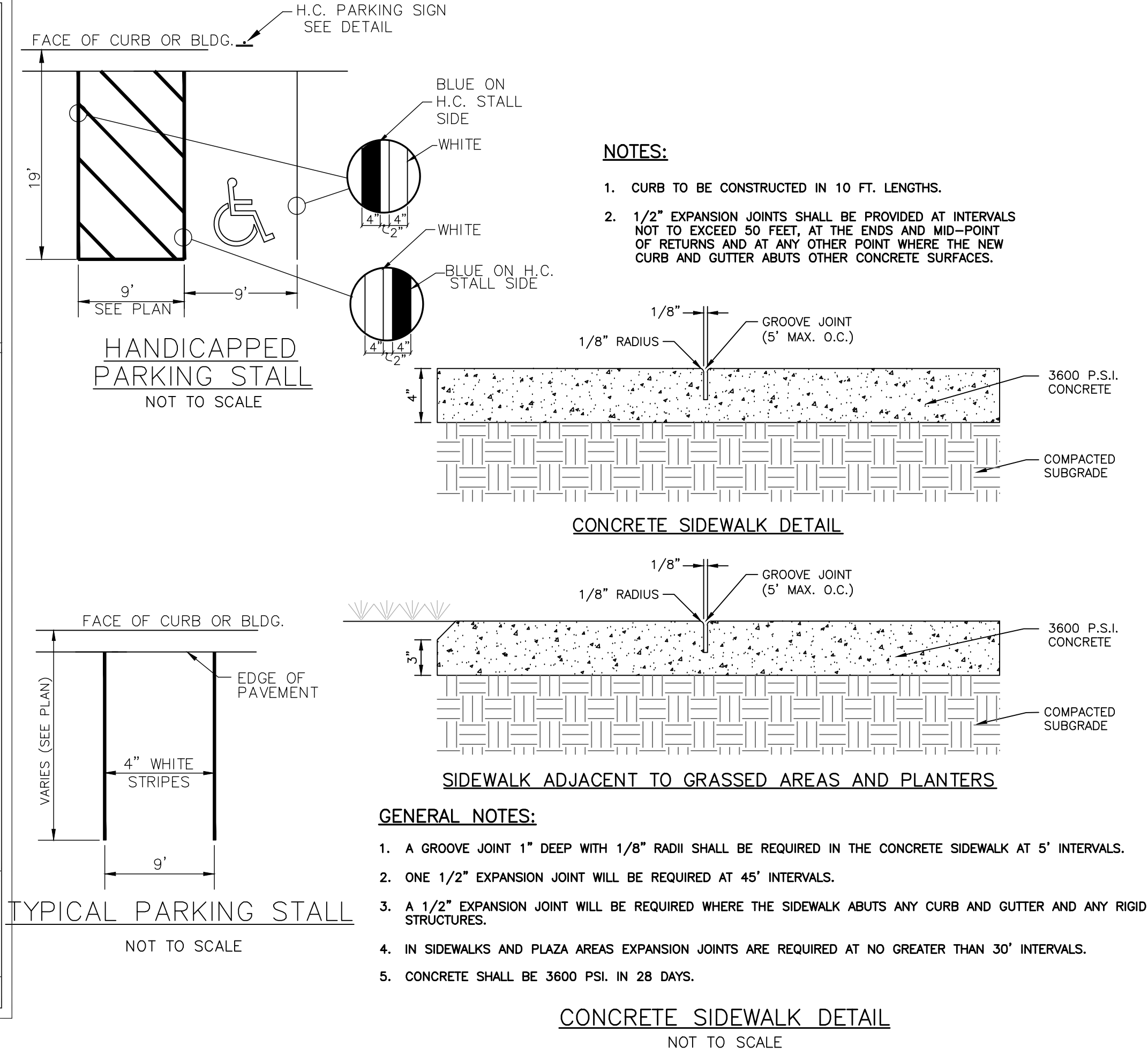
STANDARD DETAIL
ALLEY & PRIVATE ACCESS EASEMENT SECTIONS W/HEADER CURB, RESIDENTIAL
CITY OF WILMINGTON
NORTH CAROLINA
CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807
SD 1-14



STANDARD DETAIL
PERPENDICULAR CURB RAMP ADJACENT TO WALKING SURFACE
CITY OF WILMINGTON
NORTH CAROLINA
CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807
SD 3-07



STANDARD DETAIL
PERPENDICULAR CURB RAMP ADJACENT TO PLAZA
CITY OF WILMINGTON
NORTH CAROLINA
CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807
SD3-08



STANDARD DETAIL
HANDICAPPED PARKING STALL
NOT TO SCALE
CITY OF WILMINGTON
NORTH CAROLINA
CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807
SD 15-01

REV. NO.	DESCRIPTIONS	DATE
1	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	10/12/2015
2	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
3	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
4	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
5	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/29/2015
6	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
7	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/21/2015
8	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/08/2015
9	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/08/2015

FINAL DRAWINGS
DO NOT USE FOR
CONSTRUCTION



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243 North Front Street
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License: F-1222
www.mckimcreed.com

RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1
SITE PLAN DETAILS
NORTH AMERICA SEKISUI HOUSE, LLC
Newland COMMUNITIES

RIVERLIGHTS CONVENTIONAL NEIGHBORHOOD PH. 1
SITE PLAN DETAILS

DATE: 10/12/2015	SCALE: 1"=50'	MAC FILE NUMBER: CS-501
DRAWN BY: EEM/KCBE	HORIZONTAL: 1"=50'	DRAWING NUMBER: 33
DESIGNED BY: KCBE	VERTICAL: N/A	REVISION: 1
CHECKED BY: NUL		
PROJ. MGR.: RMC		

STATUS: FINAL DESIGN
ISSUED FOR PERMITTING

GENERAL NOTES

- IN ACCORDANCE WITH N.C.G.S. 136-44.14, ALL STREET CURBS BEING CONSTRUCTED OR RECONSTRUCTED SHALL PROVIDE WHEELCHAIR RAMPS 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.
- WHEELCHAIR RAMPS SHALL BE LOCATED AS INDICATED IN DETAIL DRAWINGS; HOWEVER, EXISTING LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC. MAY AFFECT PLACEMENT.
- CURB RAMPS SHALL HAVE DETECTABLE WARNINGS EXTENDING THE FULL WIDTH OF THE RAMP AND A MINIMUM OF 2'-0" IN LENGTH.

CONSTRUCTION NOTES

- CONSTRUCTION SHALL CONFORM WITH CONSTRUCTION STANDARDS OF THE GOVERNING BODY WHICH HAS JURISDICTION OF THE PARTICULAR STREET.
- WHEELCHAIR RAMPS SHALL BE CONSTRUCTED OF CLASS "A" CONCRETE WITH THE SURFACE HAVING A ROUGH, NON-SKID TYPE FINISH.
- A 1/2-IN. EXPANSION JOINT SHALL BE REQUIRED WHERE THE CONCRETE WHEELCHAIR RAMP JOINS ANY RIGID PAVEMENT OR STRUCTURE.
- IN NO CASE SHALL THE WIDTH OF A CURB RAMP OR CURB CUT BE LESS THAN 40-IN. (3'-0", 4'-0"), NOT INCLUDING THE FLARED SIDES.
- TRANSITIONS FROM RAMPS TO WALKS, GUTTERS OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES.
- THE MAXIMUM SLOPE ON THE CURB RAMP RUN IS 1:12.
- THE MAXIMUM CROSS SLOPE OF THE CURB RAMP IS 1:50.
- MAXIMUM SLOPES OF ADJOINING GUTTERS, ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP, OR ACCESSIBLE ROUTE SHALL NOT EXCEED 1:20.
- 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.
- 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.

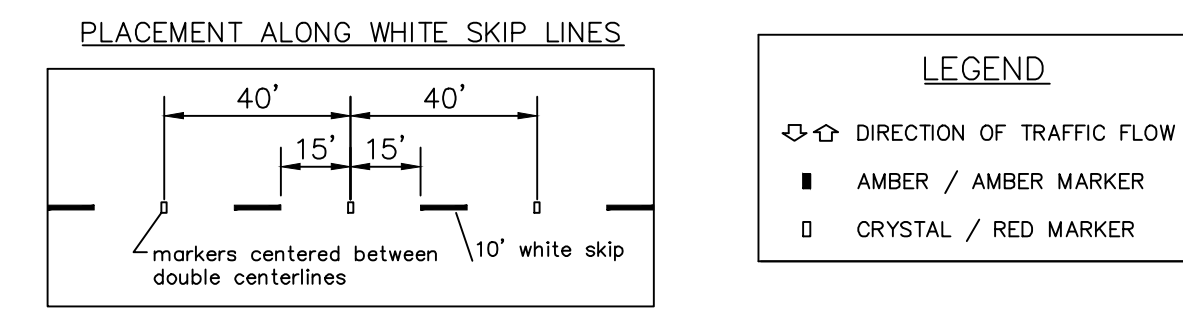
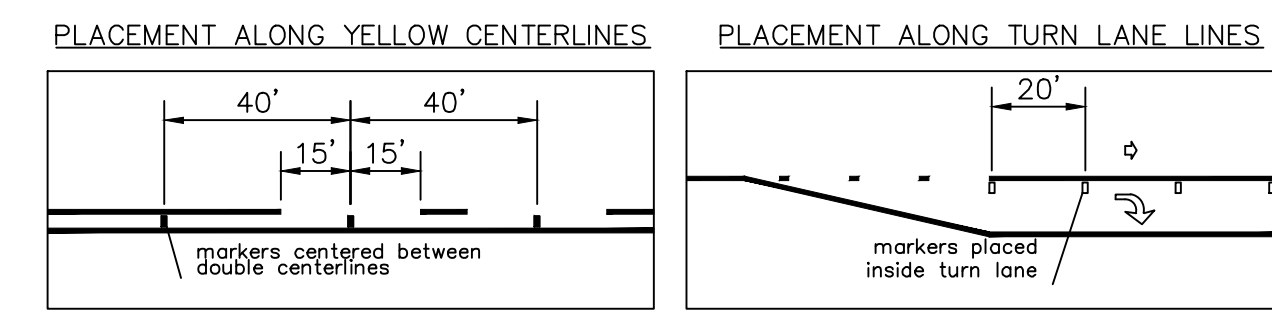
ADDITIONAL NOTES

- 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.
- PARKING SHALL BE ELIMINATED A MINIMUM OF 20 FEET BACK OF THE PEDESTRIAN CROSSWALK.
- 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.
- INSTALL REFLECTORS PER CITY AND NCDOT STANDARDS. TRAFFIC ENGINEERING MUST APPROVE OF PAVEMENT MARKING LAYOUT PRIOR TO ACTUAL STRIPING.
- CURB RAMPS AT MARKED CROSSINGS SHALL BE WHOLLY CONTAINED WITHIN THE MARKINGS, EXCLUDING ANY FLARED SIDES.
- THE BOTTOM OF DIAGONAL (CORNER TYPE) CURB RAMPS AT MARKED CROSSINGS SHALL HAVE 48-IN. MINIMUM CLEAR SPACE WITHIN THE MARKINGS.
- 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.

PAVEMENT MARKER SPACING CHART	
TYPE OF PAVEMENT MARKING	TYPICAL SPACING IN FT (speed limit <= 45mph)
Centerlines--along through lanes	40
Centerlines--along horizontal curves	per Traffic Engineering
Skip Lines--along through lanes	40
Turn Lanes--Skip Lines	40
Turn Lanes--Solid Lane Lines	20
Turn Lanes--Centerlines	40
Painted Islands--White	20
Painted Islands--Yellow	40
Raised Median Islands	40
Other Markings	per Traffic Engineering

GENERAL NOTES

- CRYSTAL/RED MARKERS SHALL BE USED ALONG WHITE PAVEMENT MARKINGS UNLESS OTHERWISE DIRECTED BY TRAFFIC ENGINEERING. RED SIDE OF MARKER TO FACE WRONG-WAY TRAFFIC.
- PAVEMENT MARKERS SHOULD NOT BE PLACED CLOSER THAN 2 INCHES TO A PAVEMENT CONSTRUCTION JOINT, EXCEPT WHEN PLACED BETWEEN DOUBLE YELLOW CENTERLINES.
- PAVEMENT MARKERS SHALL NOT BE PLACED DIRECTLY ON PAVEMENT MARKINGS.
- PAVEMENT MARKERS USED IN CONJUNCTION WITH DOUBLE YELLOW CENTERLINES SHALL BE PLACED MID-WAY BETWEEN THE LINES, WITH A GAP BETWEEN MARKER AND MARKINGS.



PAVEMENT MARKINGS RAISED PAVEMENT MARKERS SD 11-10

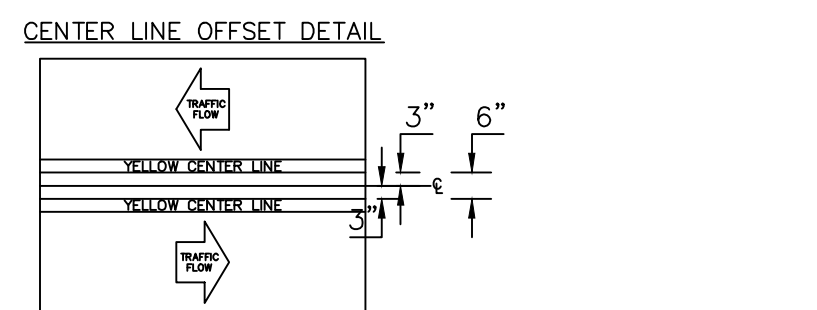
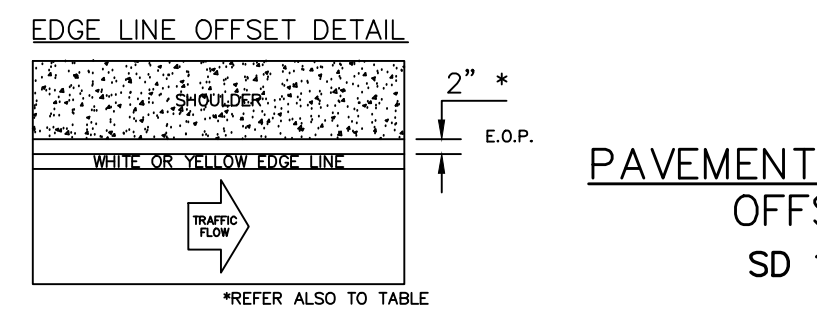
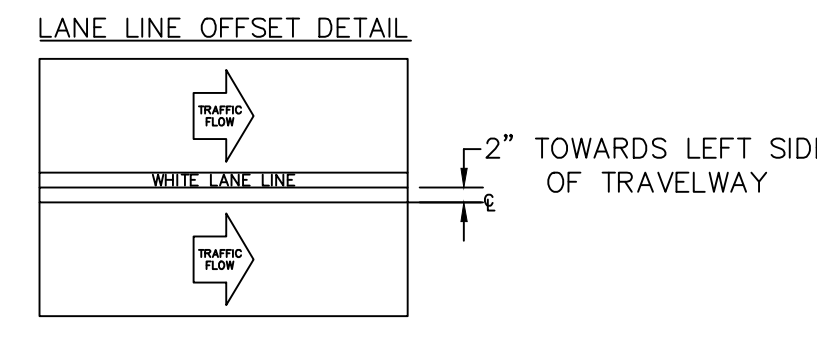
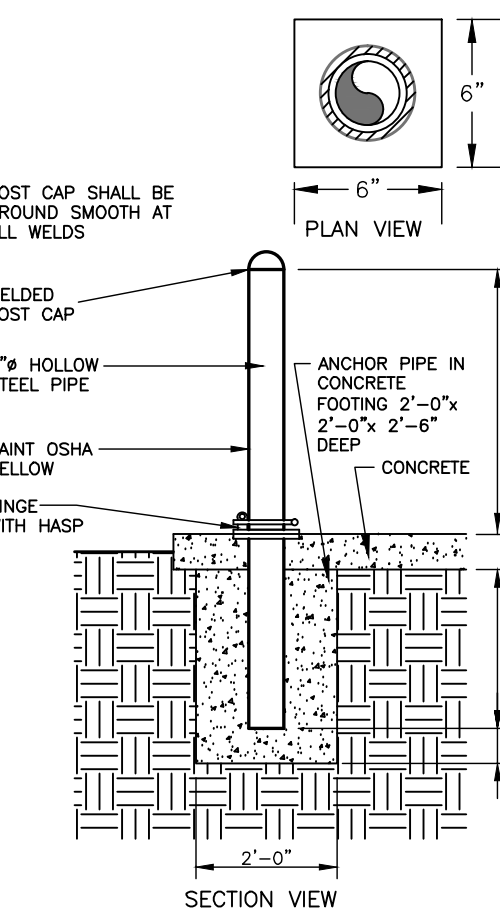
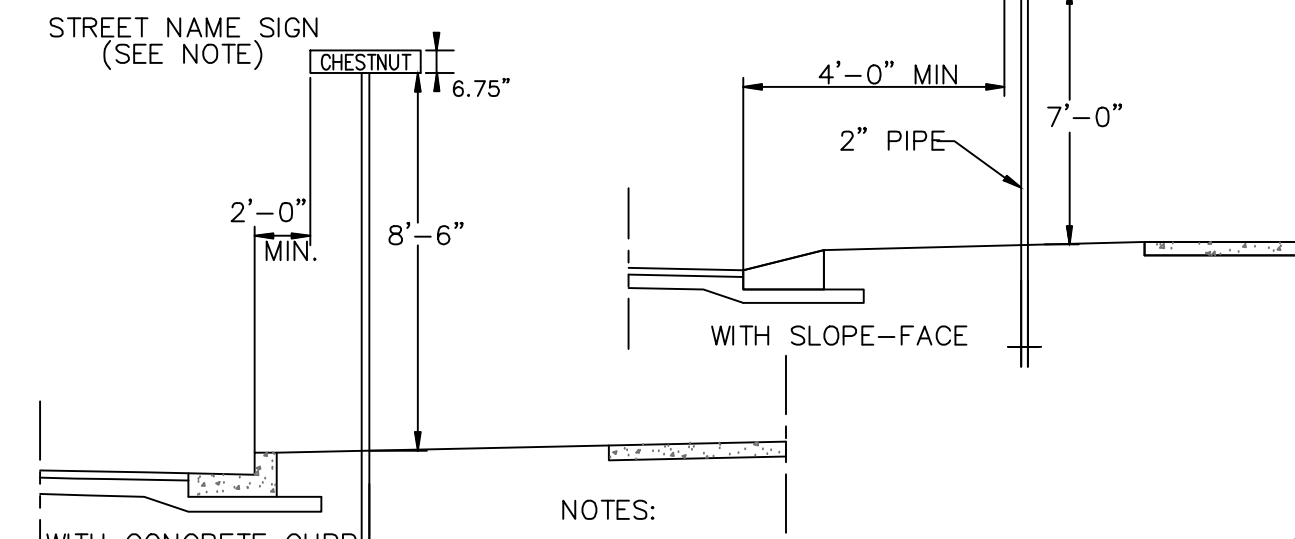
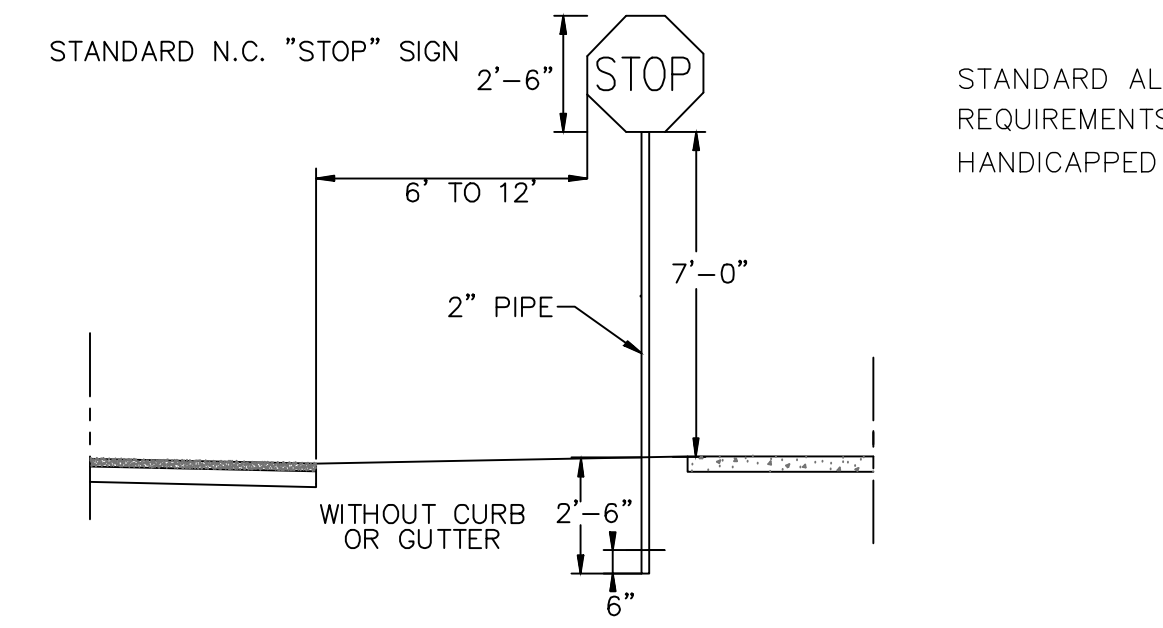


TABLE 1		
EDGE LINE OFFSETS FOR 2-LANE, 2-WAY ROADWAYS WITH UN-PAVED SHOULDERS		
WIDTH OF TRAVEL PAVEMENT	MAX. EDGE LINE OFFSET FROM E. O. P.	MINIMUM LANE WIDTH
16' - 20'	2"	8' - 10'
22'	2"	11'
24'	1"	11'
26'	2"	11'
28'	2"	12'
30'	3"	12'
32'	4"	12'

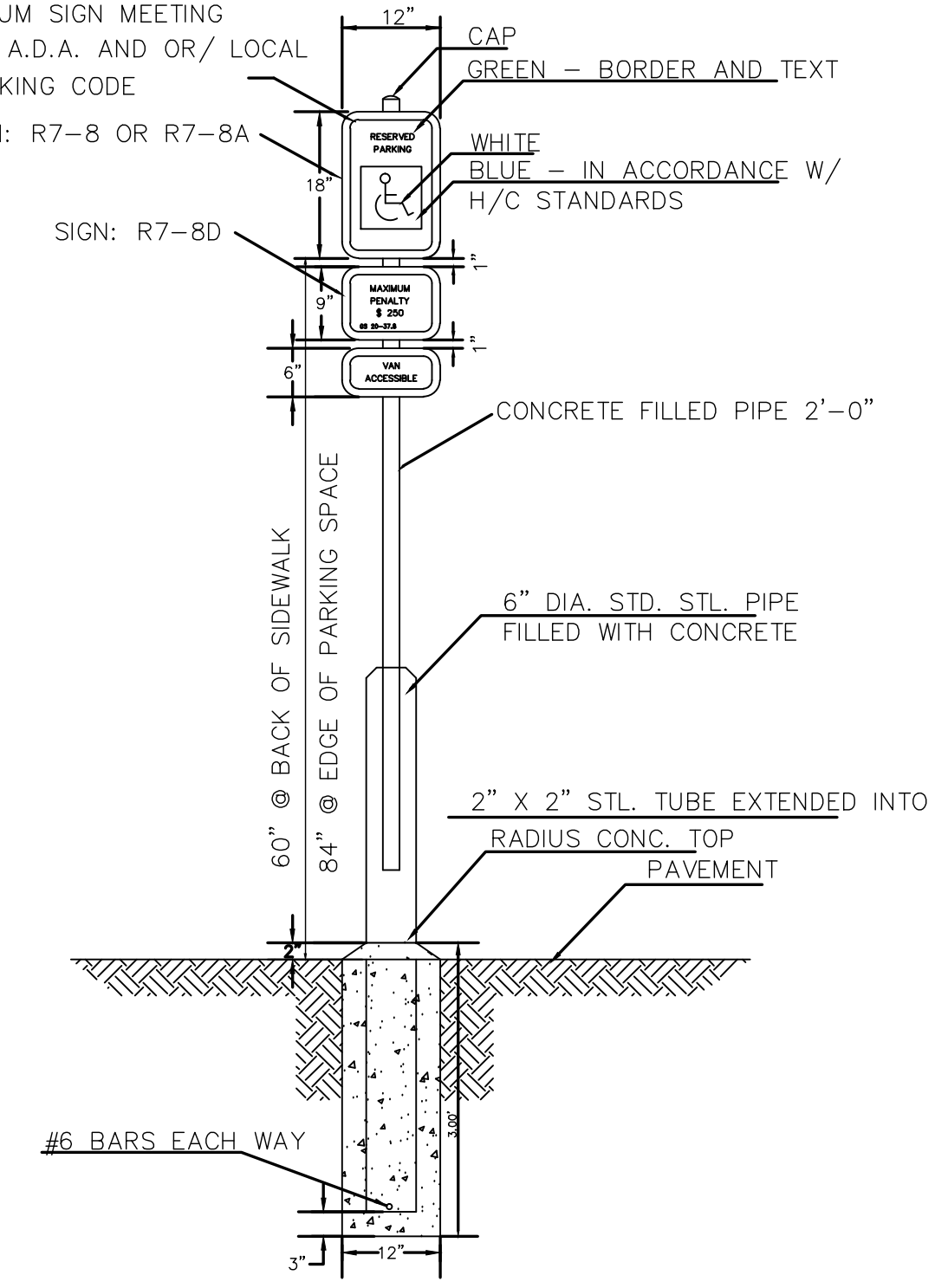


COLLAPSIBLE PIPE BOLLARD NOT TO SCALE

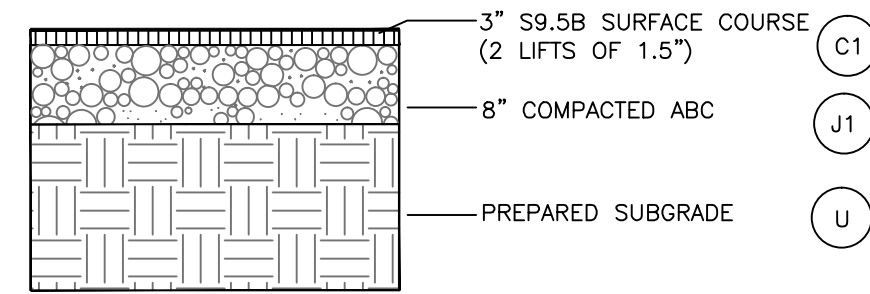


- NOTES:**
- STREET NAME SIGNS SHALL BE A MINIMUM OF 6" EXTRUDED ALUMINUM BLADES USING A MINIMUM OF 4" C SERIES LETTERING IN REFLECTIVE SILVER & REFLECTIVE GREEN BACKGROUND.
 - ALL REFLECTIVE SIGNS SHALL BE MADE OF ENGINEERING GRADE OR HIGH INTENSITY GRADE REFLECTIVE SHEETING OR APPROVED EQUIVALENT.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

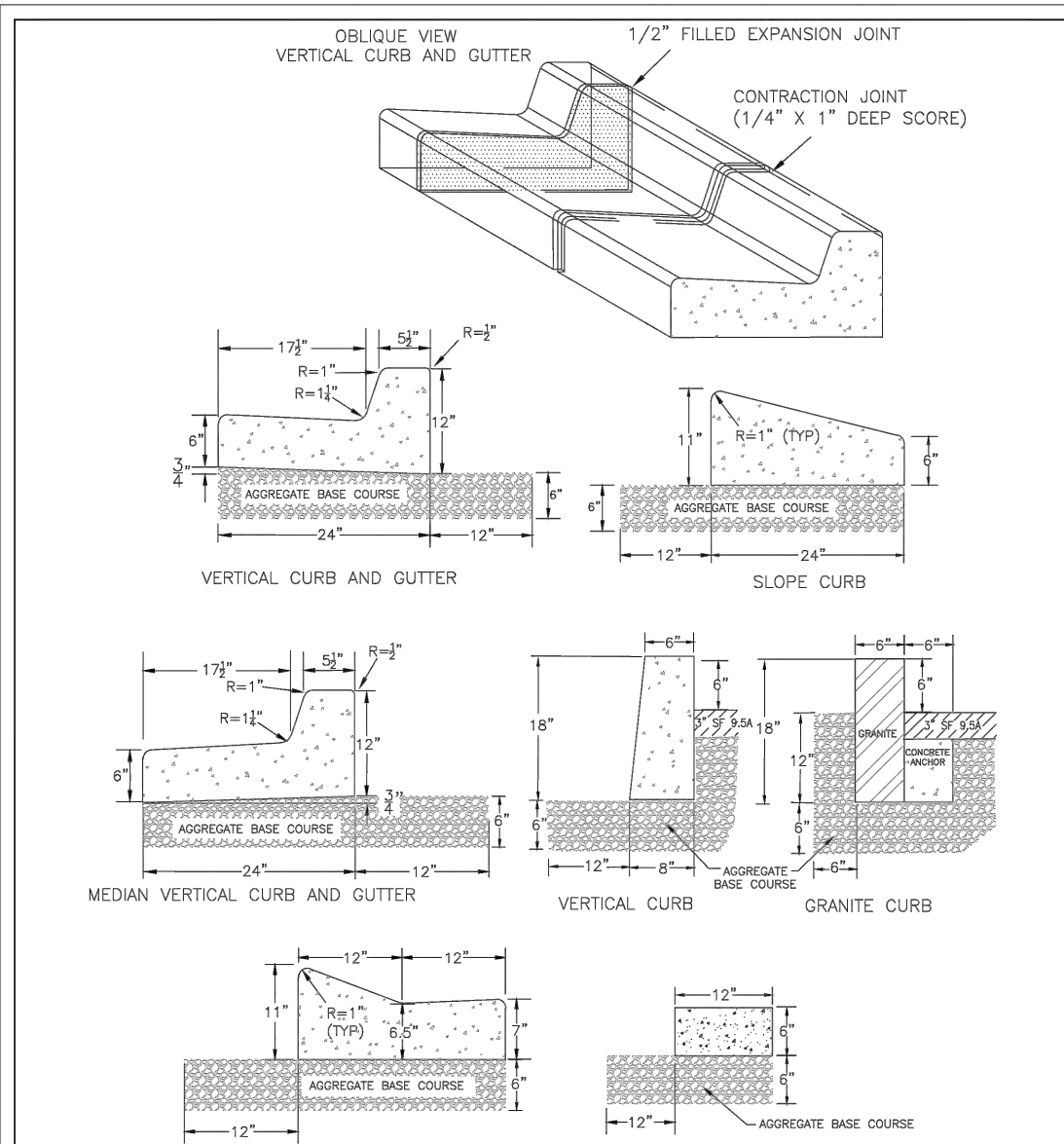
STANDARD SIGN INSTALLATION LOCATION SD 15-04 NOT TO SCALE



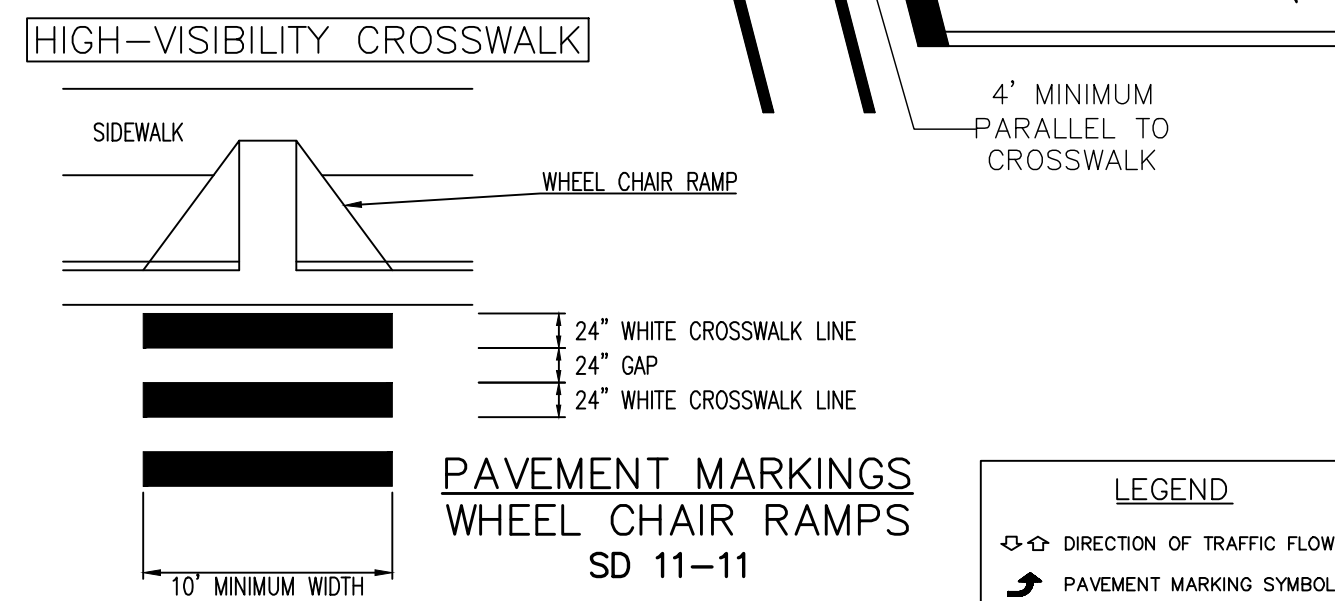
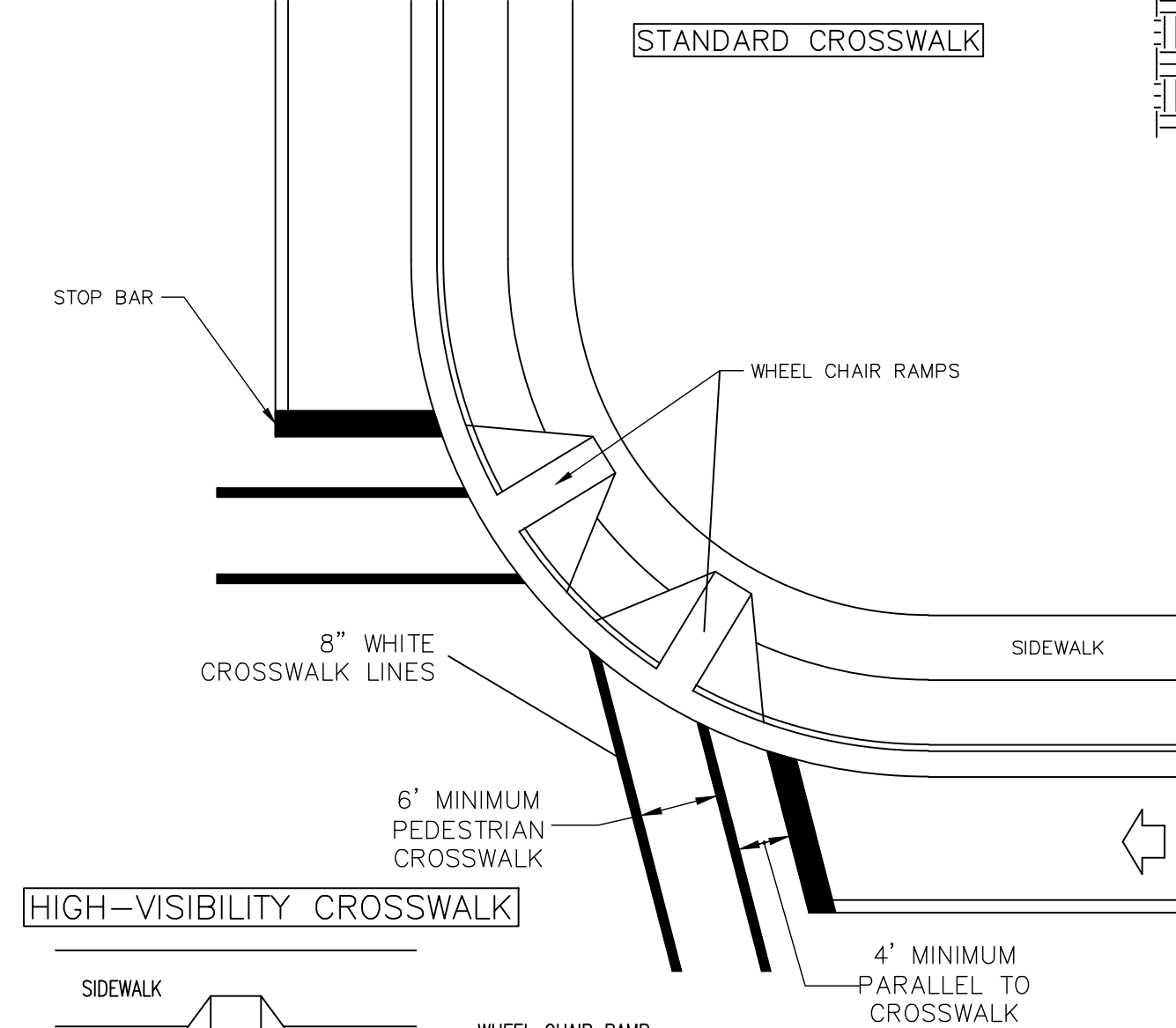
HANDICAP PARKING SIGN NOT TO SCALE



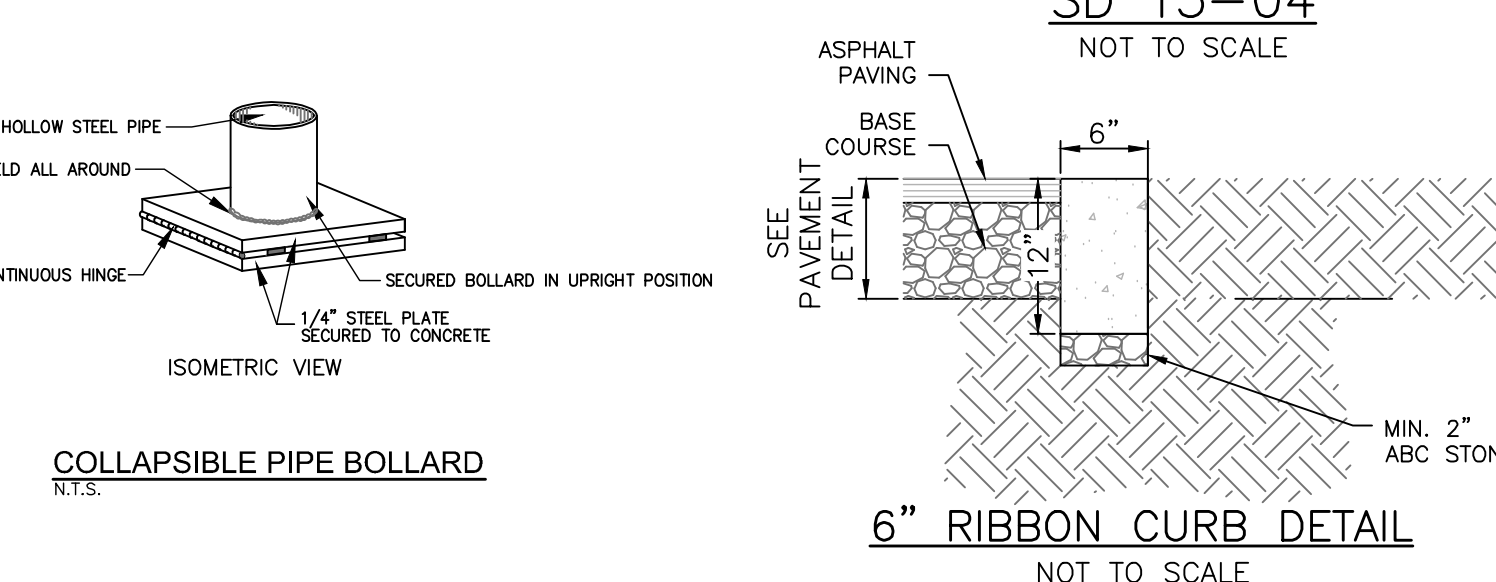
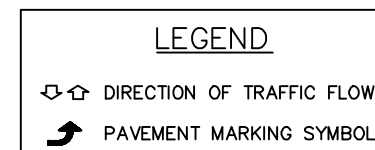
ASPHALT PAVEMENT SECTION (PUBLIC STREET) NOT TO SCALE



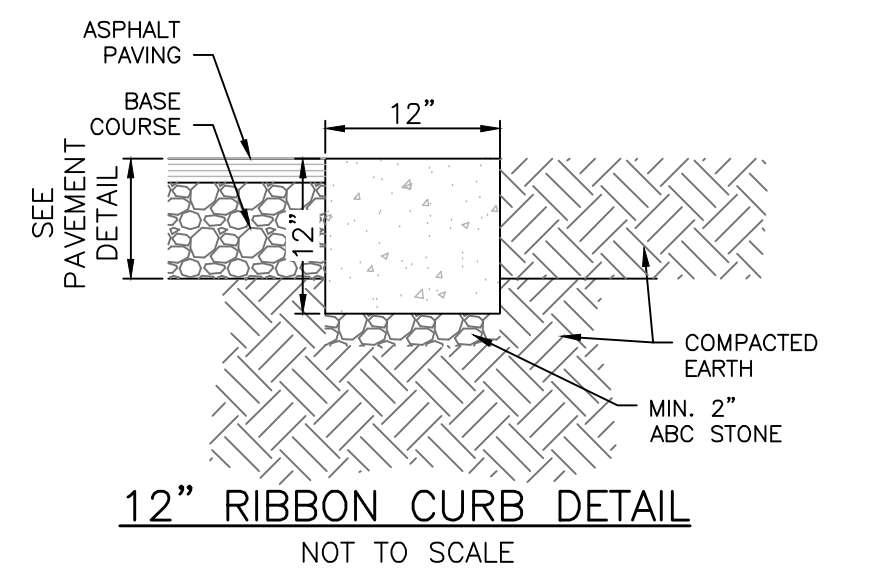
STANDARD DETAIL CURBING SD 3-11



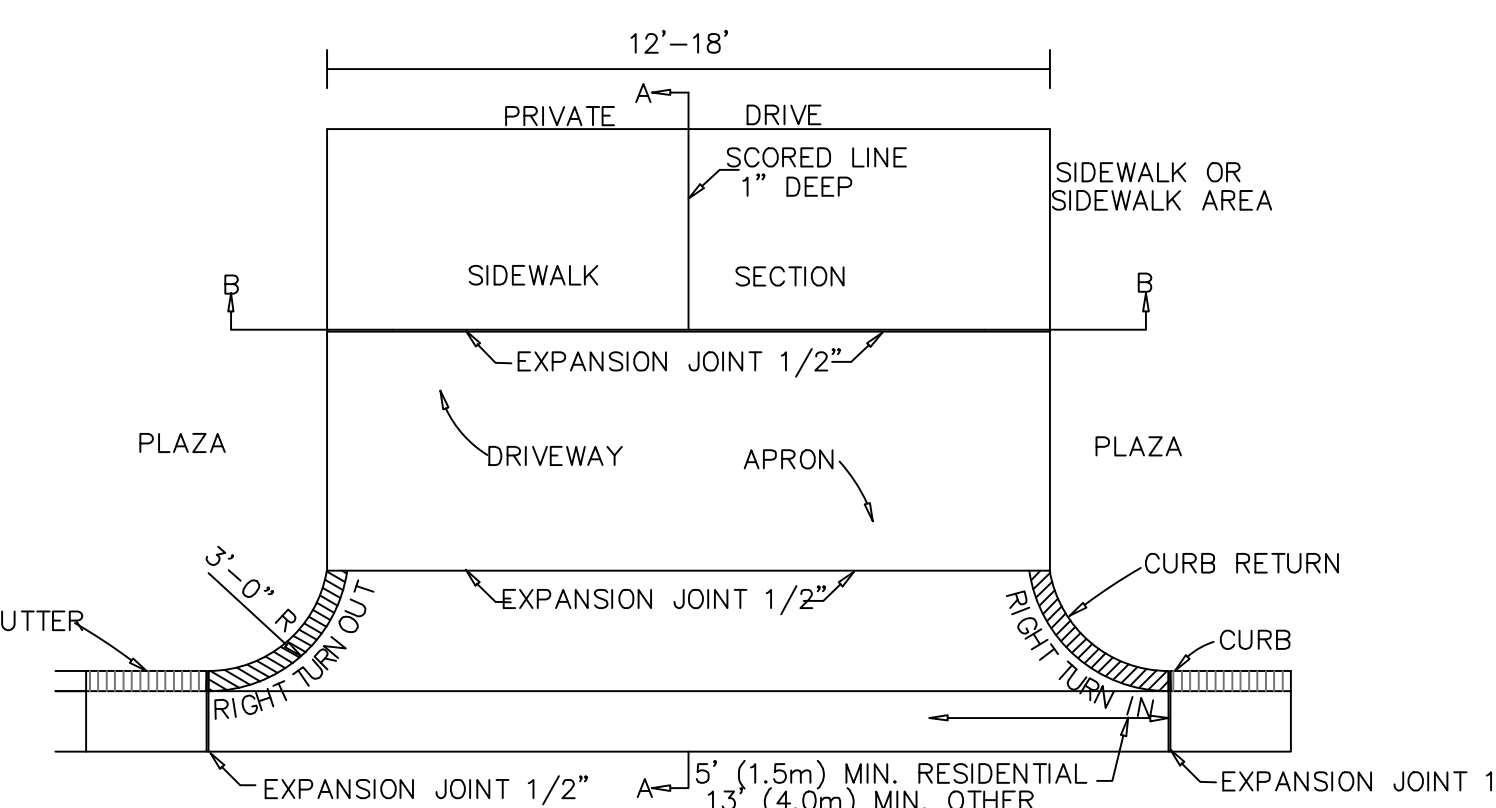
PAVEMENT MARKINGS WHEEL CHAIR RAMPS SD 11-11



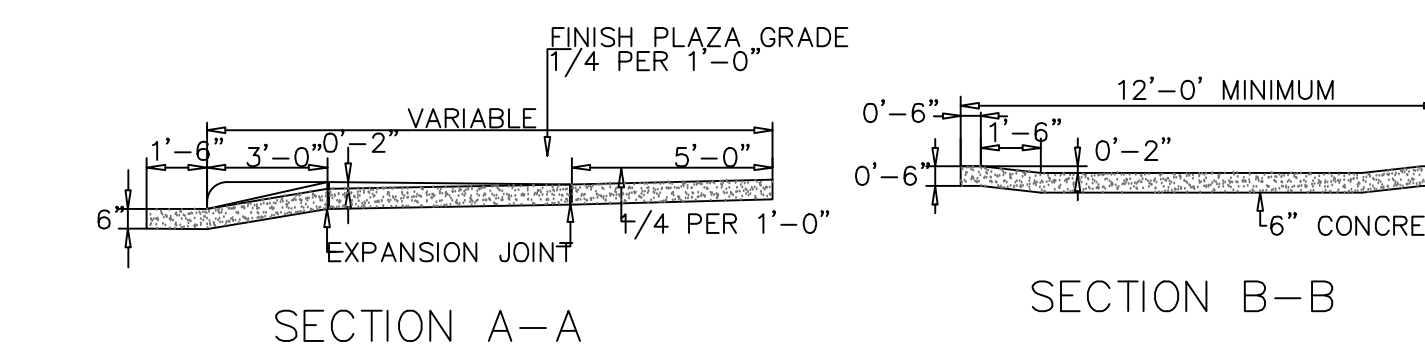
6" RIBBON CURB DETAIL NOT TO SCALE



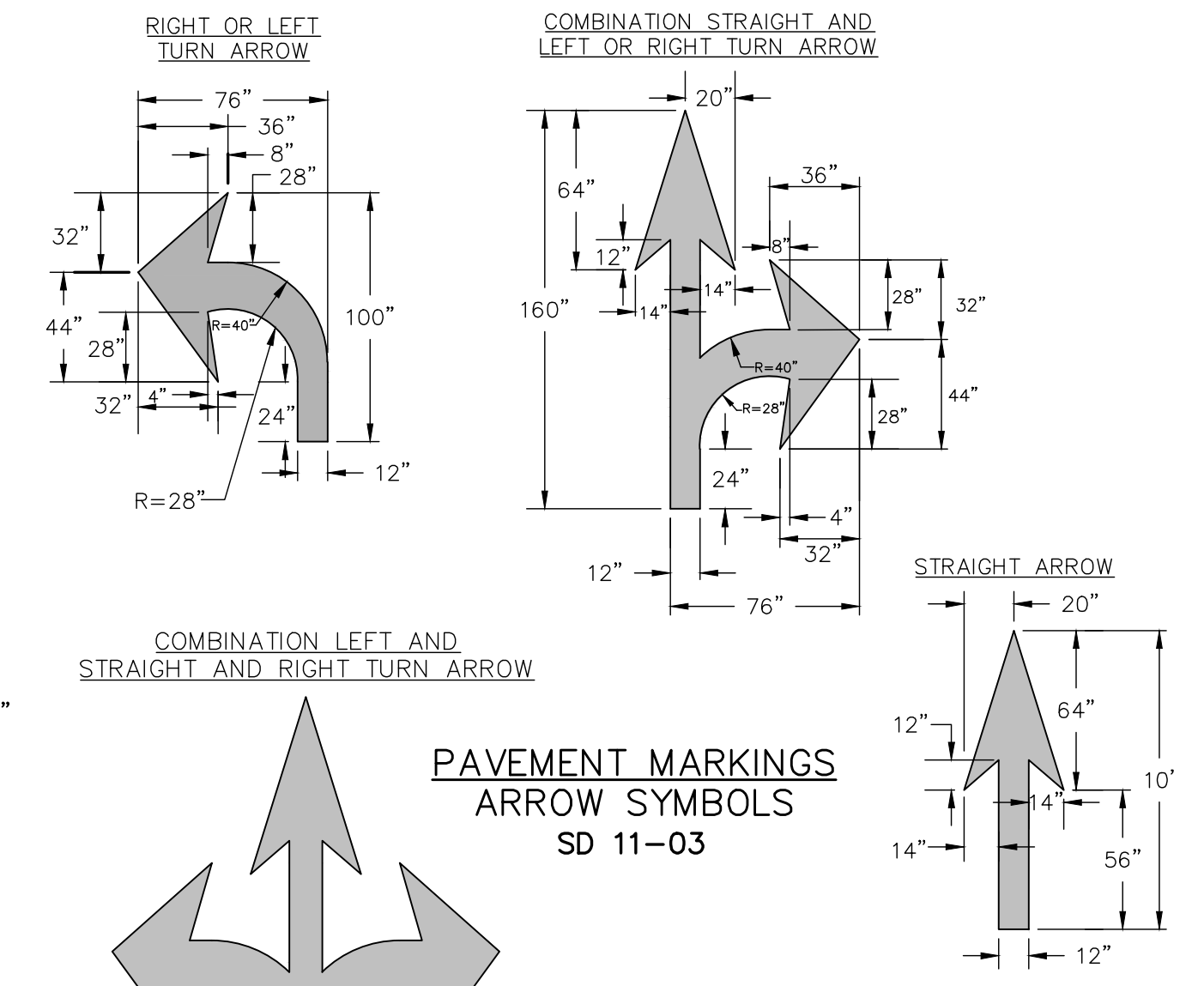
12" RIBBON CURB DETAIL NOT TO SCALE



PAVEMENT PLAN



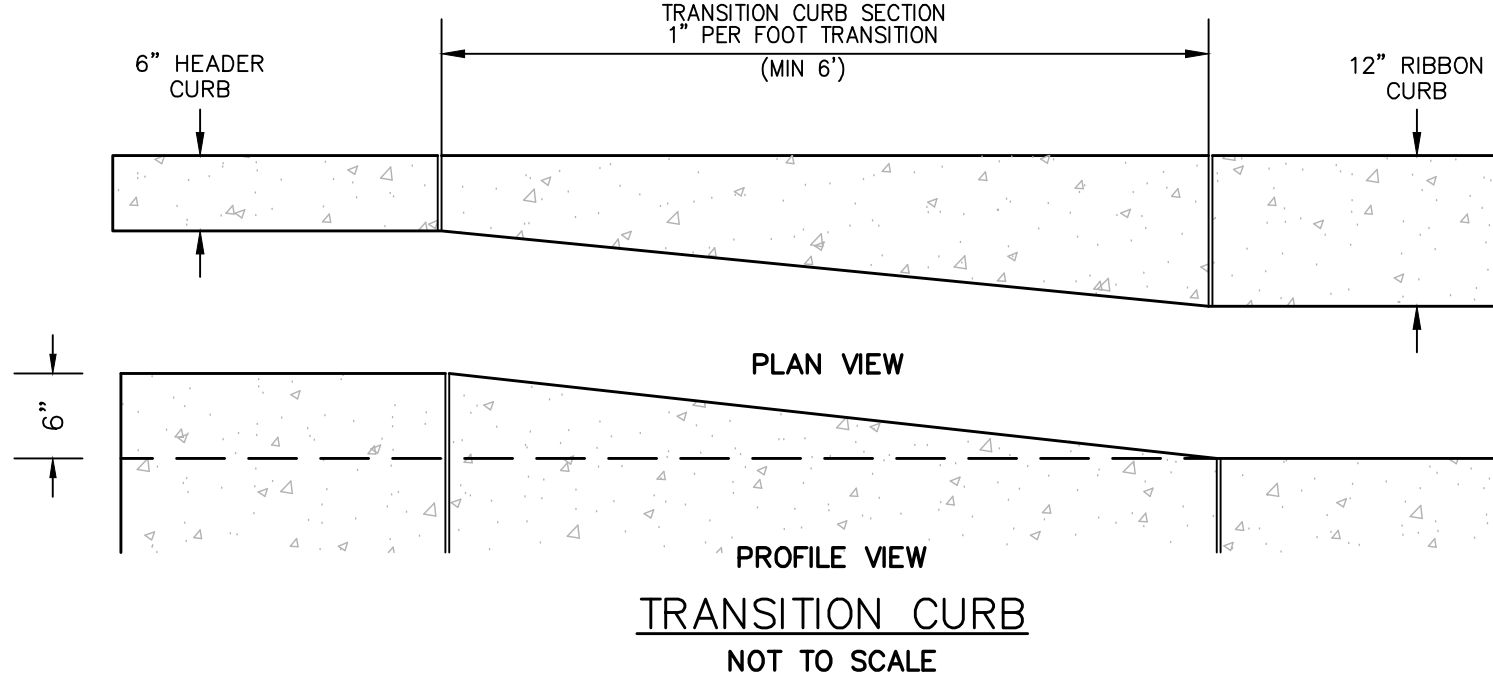
MODIFIED STANDARD DRIVEWAY DETAIL SD 8-02 NOT TO SCALE



PAVEMENT MARKINGS ARROW SYMBOLS SD 11-03

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

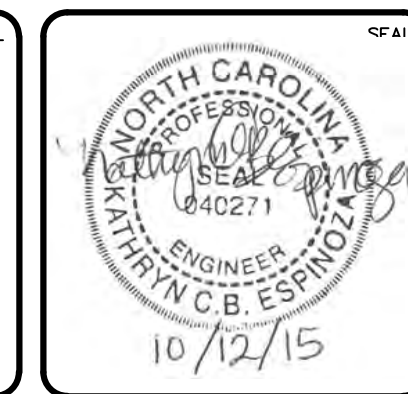
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CHECKED:	DEC
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TRANSITION CURB NOT TO SCALE

REVNO.	DESCRIPTIONS	DATE
1	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	10/12/2015
2	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
3	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
4	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
5	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
6	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
7	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/21/2015
8	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/08/2015
9	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/08/2015

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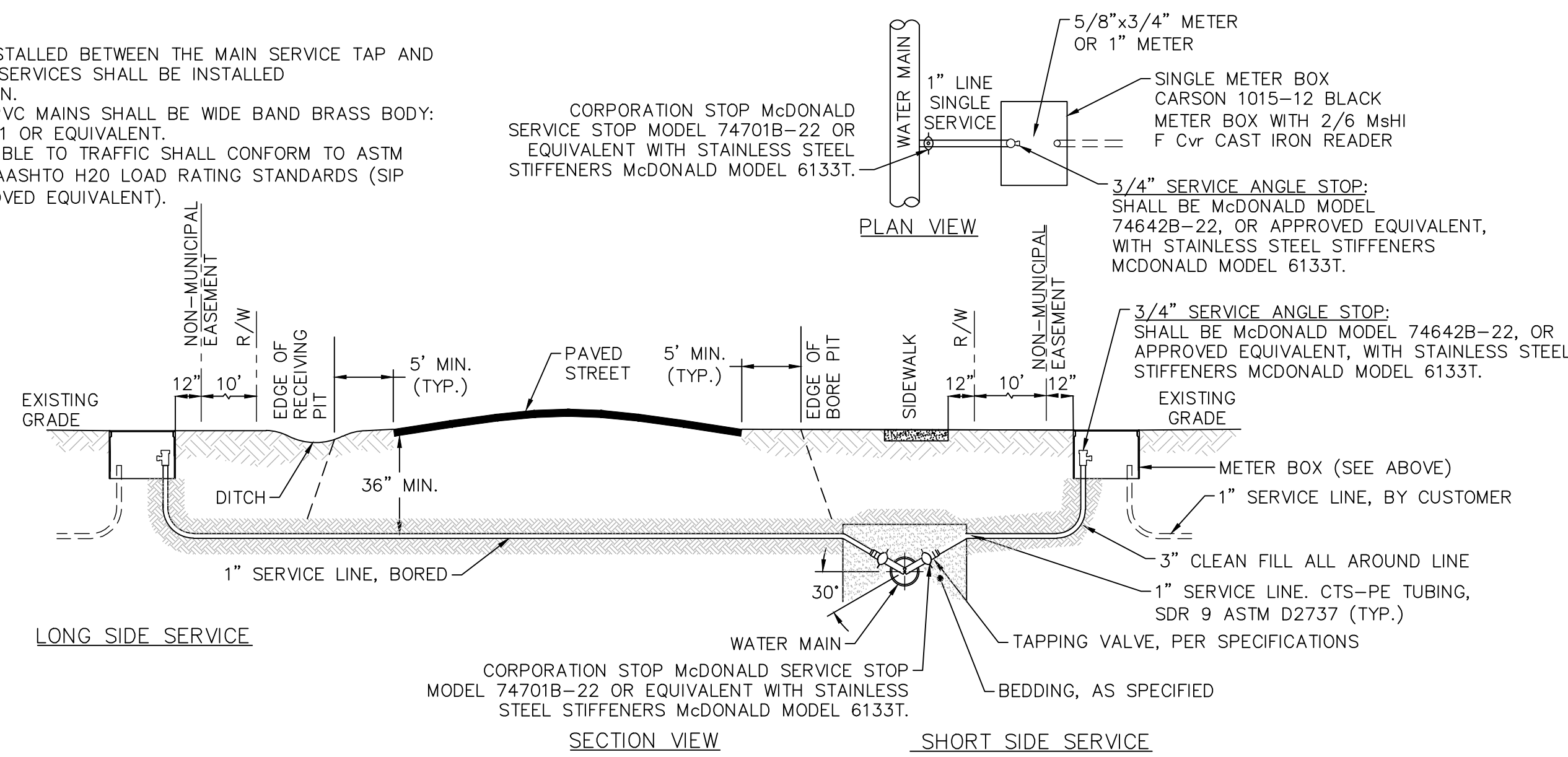
RIVERLIGHTS
 CONVENTIONAL NEIGHBORHOOD PH. 1
 SITE PLAN DETAILS
 NORTH AMERICA SEKISUI HOUSE, LLC
 Newland COMMUNITIES

RIVERLIGHTS CONVENTIONAL NEIGHBORHOOD PH. 1
 DATE: 04-29-2015
 MCE PROJ. # 02735-0129
 DRAWN: EEM/KCBE
 DESIGNED: KCBE
 CHECKED: NUL
 PROJ. MGR.: RMC

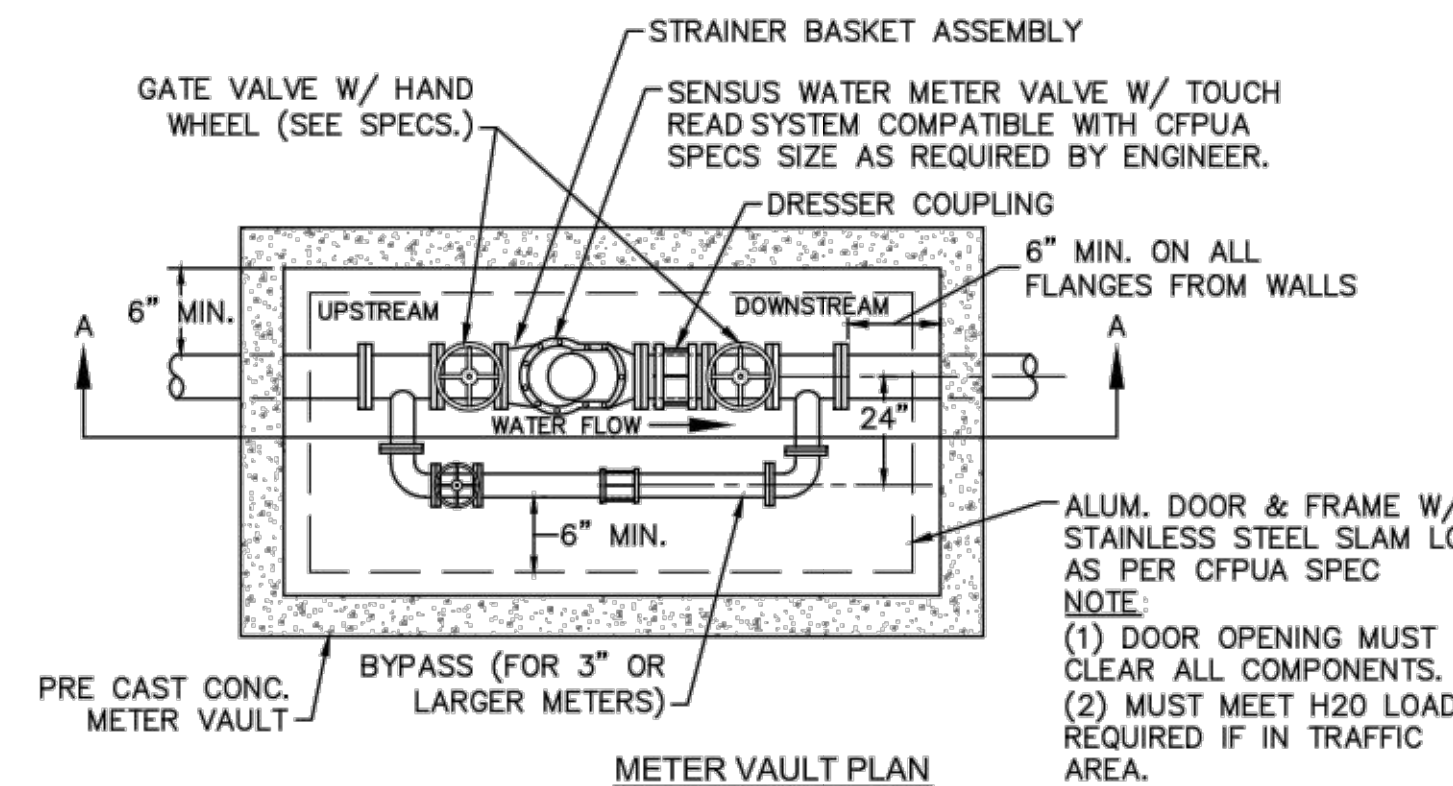
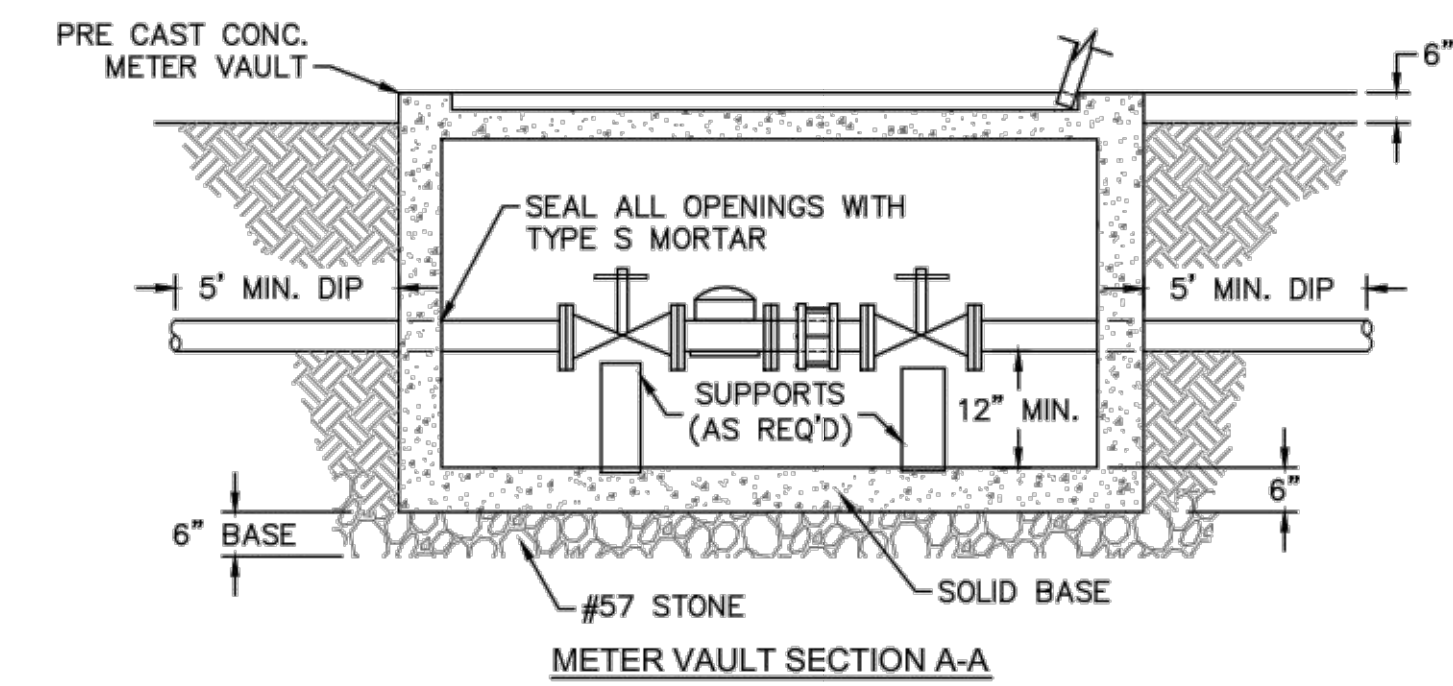
SCALE: 1"=50'
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 VERTICAL: N/A
 STATUS: FINAL DESIGN
 ISSUED FOR PERMITTING
 REVISION: 1

MAC FILE NUMBER: CS-502
 DRAWING NUMBER: 34

- NOTES:**
- NO JOINT SHALL BE INSTALLED BETWEEN THE MAIN SERVICE TAP AND THE METER STOP. ALL SERVICES SHALL BE INSTALLED PERPENDICULAR TO MAIN.
 - SERVICE SADDLES ON PVC MAINS SHALL BE WIDE BAND BRASS BODY: SADDLE McDONALD 3801 OR EQUIVALENT.
 - METER BOXES SUSCEPTIBLE TO TRAFFIC SHALL CONFORM TO ASTM A48, CLASS 30B AND AASHTO H20 LOAD RATING STANDARDS (SIP MODEL 4240 OR APPROVED EQUIVALENT).



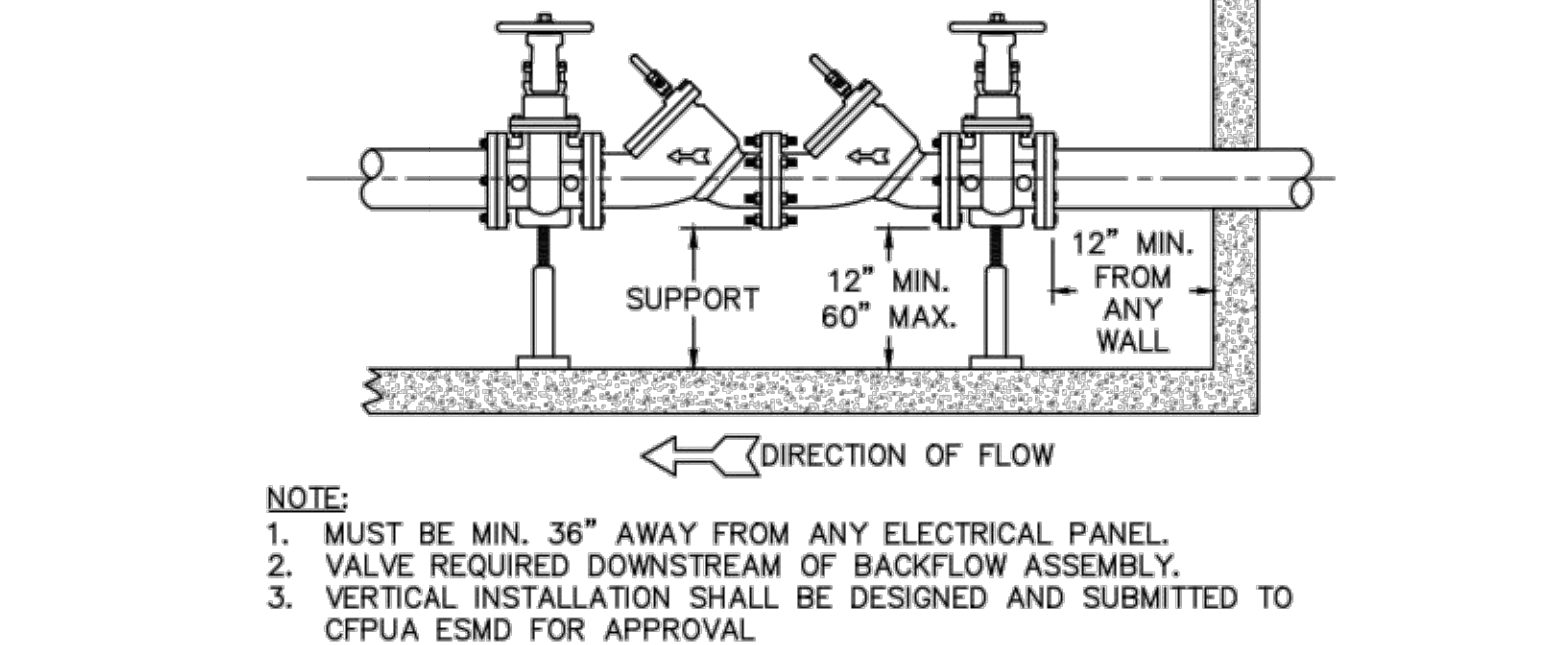
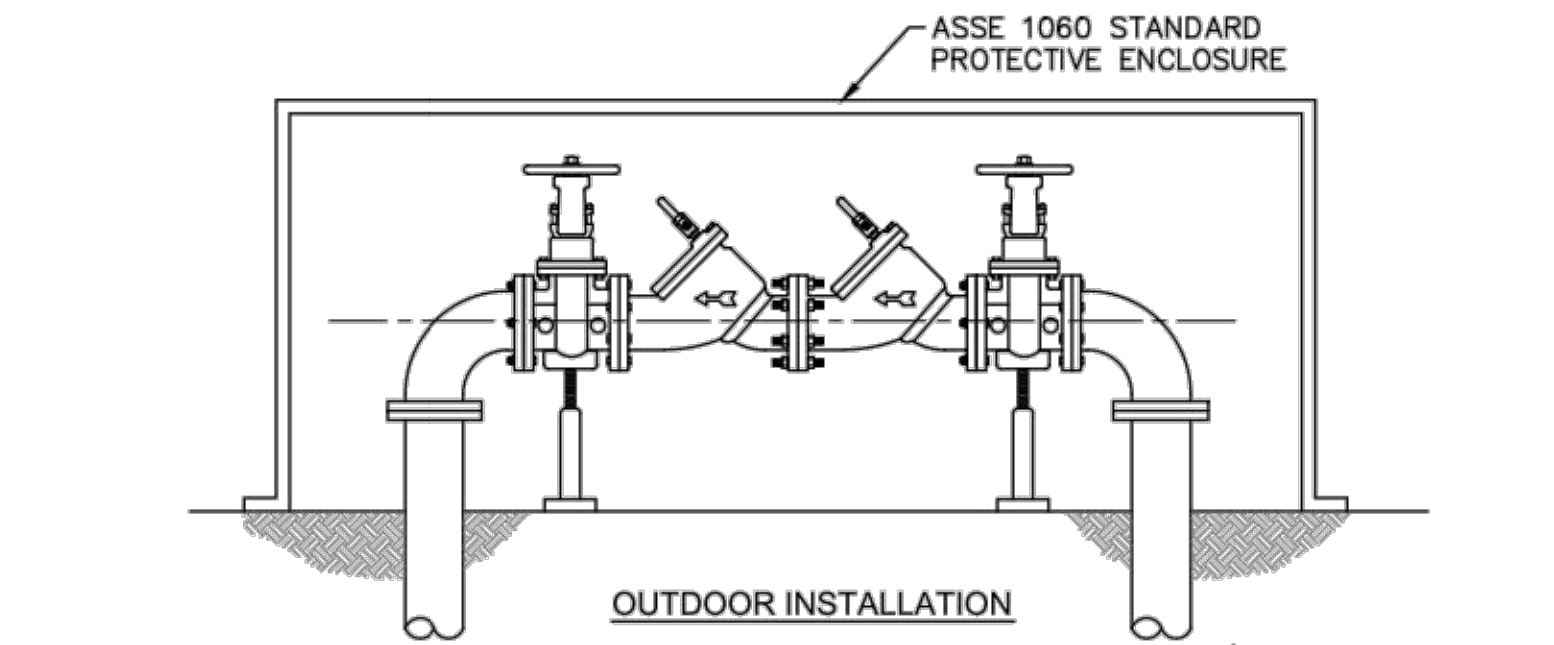
REVISED SINGLE SERVICE CONNECTION
TYPICAL WATER SERVICE CONNECTION FOR RESIDENTIAL SINGLE FAMILY HOME ON CFPWA WATER SYSTEM
NOT TO SCALE



WATER METER VAULT
NOT TO SCALE

- NOTES:**
- ALL SERVICES SHALL BE INSTALLED PERPENDICULAR TO MAIN.
 - SERVICE SADDLES ON PVC MAINS SHALL BE WIDE BAND BRASS BODY: McDONALD 3800, FORD S90 (DOUBLE STRAP) OR EQUIVALENT.
 - METER BOXES SUSCEPTIBLE TO TRAFFIC SHALL CONFORM TO ASTM A48, CLASS 30B AND AASHTO H20 LOAD RATING STANDARDS (OLDCASTLE PRECAST MODEL B1730 OR APPROVED EQUIVALENT).
 - METER BOXES SUSCEPTIBLE TO INCIDENTAL, NON-DELIBERATE TRAFFIC SHALL CONFORM TO ANSI/SCTE 77 TIER 15 LOAD RATING STANDARDS (SYNERTECH MODEL DUO 17x30 OR APPROVED EQUIVALENT).
 - NON-TRAFFIC METER BOXES SHALL BE SIGMA MB2203 OR APPROVED EQUIVALENT.
 - 3" CLEAN FILL REQUIRED ALL AROUND 2" POLY SERVICE LINE.

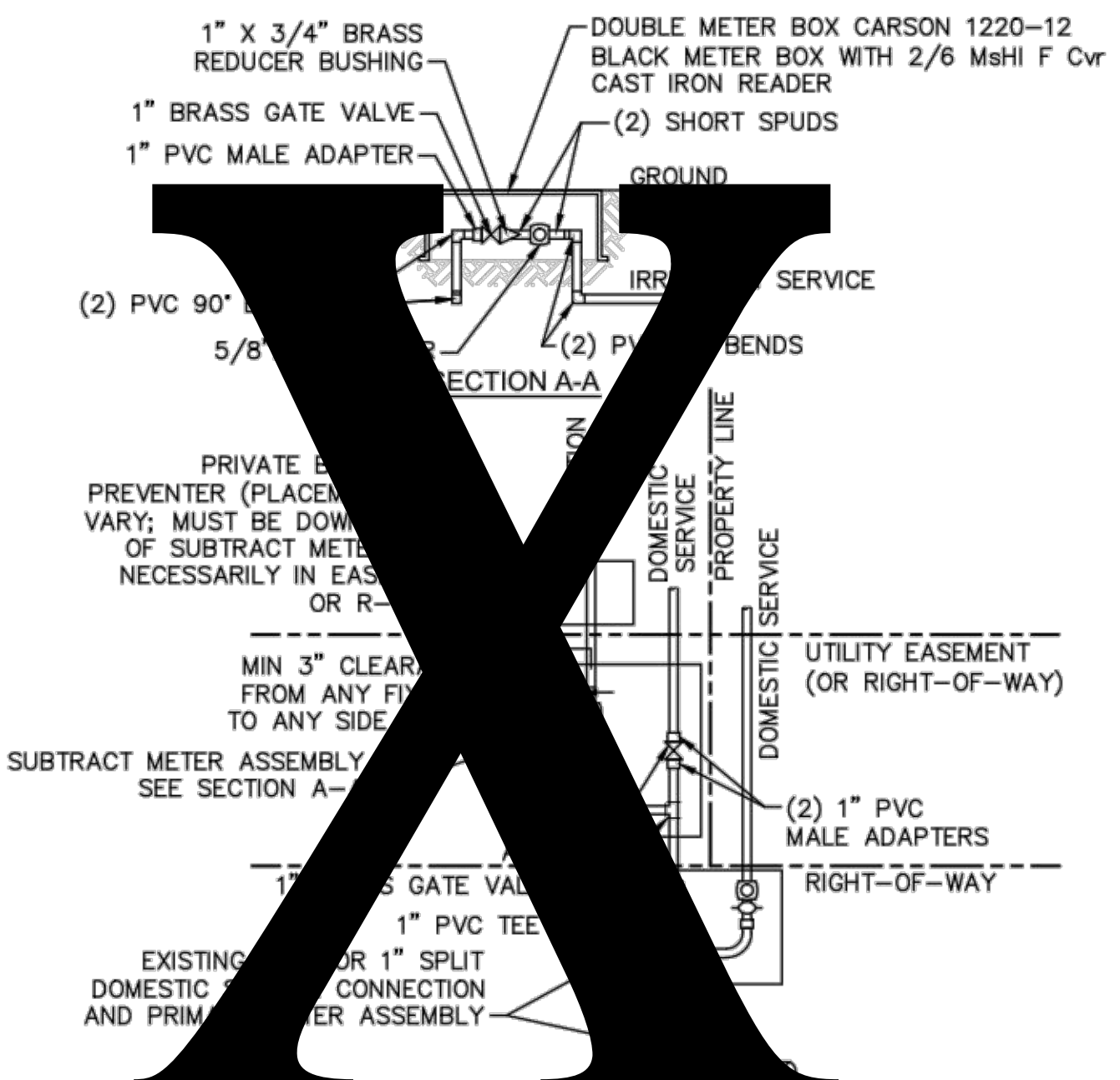
FOR 1-1/2" OR 2" WATER SERVICES
LARGE METER
NOT TO SCALE



DOUBLE CHECK VALVE ASSEMBLY
NOT TO SCALE

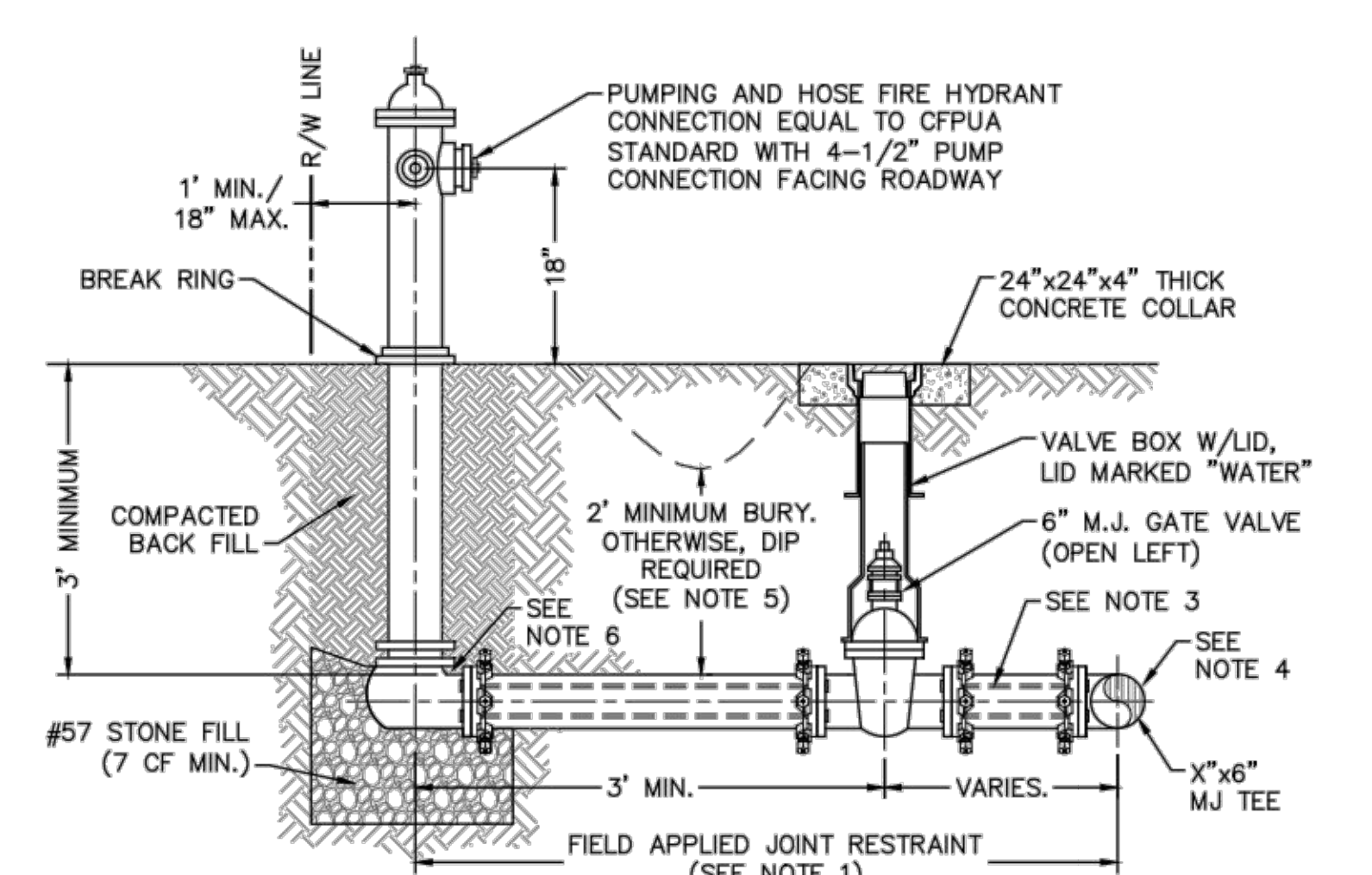
- GENERAL NOTES:**
- NO EXCAVATED MATERIAL SHALL BE PLACED IN ANY STREAM, DITCH OR DRAINAGE-WAY.
 - THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES BEFORE ANY CONSTRUCTION BEGINS.
 - THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES WHILE CONSTRUCTION IS IN PROGRESS.
 - THE CONTRACTOR IS RESPONSIBLE FOR STABILIZATION OF ALL DISTURBED AREAS.
 - THE CONTRACTOR IS RESPONSIBLE FOR LAY DOWN AND STOCKPILE AREAS (TO ARRANGE AND ENSURE COMPLIANCE WITH ALL LOCAL AND STATE REGULATIONS).

THE DETAILS SHOWN HEREON SUPERCEDE CFPWA WRITTEN TECHNICAL SPECIFICATIONS VERSIONS 1.00 - 1.04

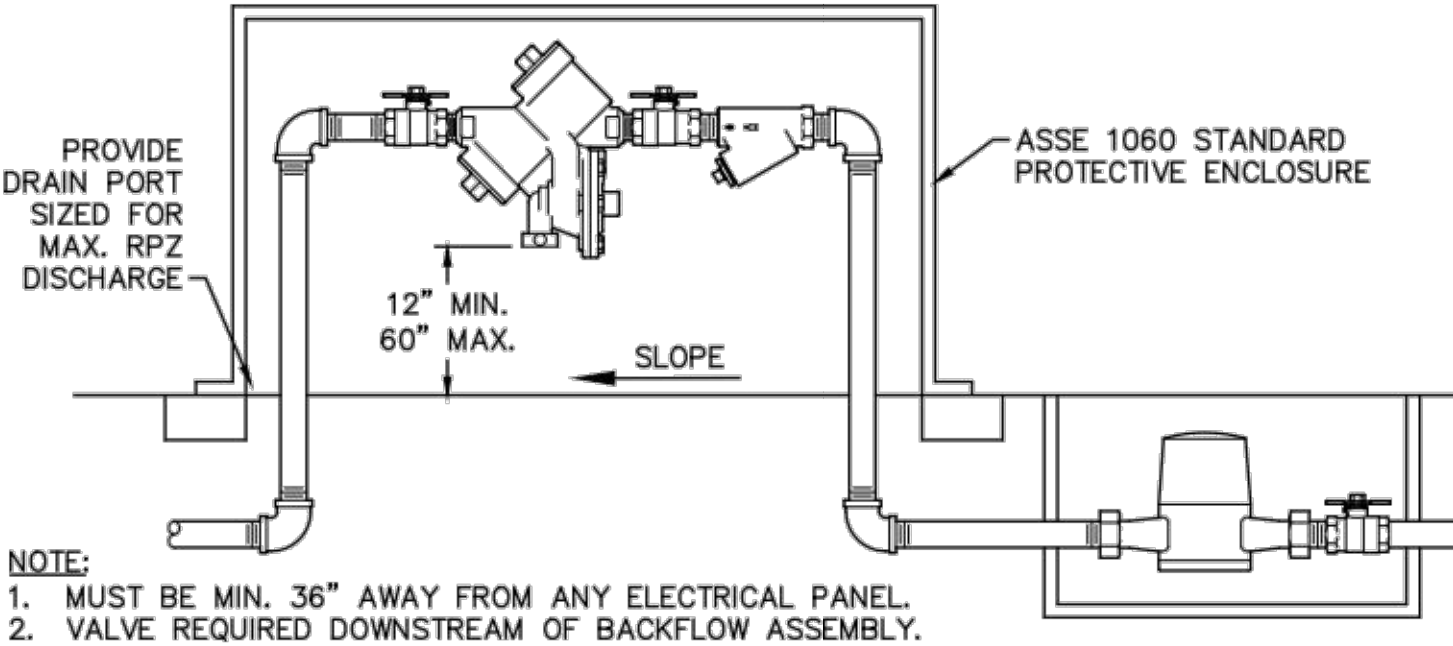
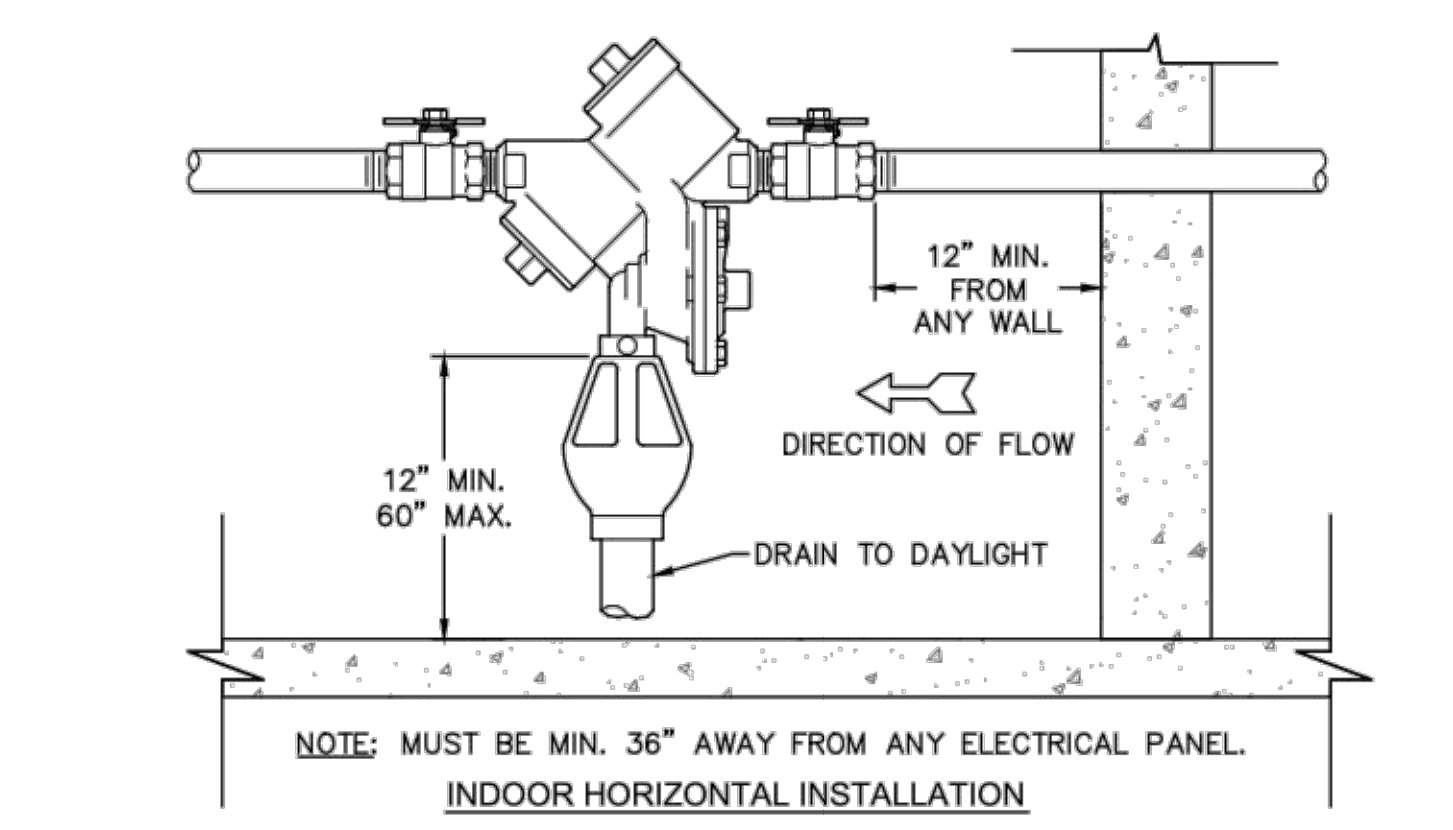


- NOTES:**
- BEYOND THE PRIMARY DOMESTIC METER ASSEMBLY, CFPWA IS ONLY RESPONSIBLE FOR METER AND WASHERS OF SUBTRACT METER ASSEMBLY.
 - ALL PIPE AND FITTINGS UP TO FINAL SERVICE LINE TO BE 1" EXCLUDING METERS.

DOUBLE SERVICE CONNECTION USING SUBTRACT METER
NOT TO SCALE



- NOTES:**
- JOINT RESTRAINT SYSTEMS SHALL BE WEDGE ACTION STYLE FOR DI OR C-900 PVC PIPE AS MANUFACTURED BY EBAA IRON, SIGMA STAR PIPE PRODUCTS OR APPROVED EQUAL.
 - WHEN HYDRANT LEGS REQUIRE FULL LENGTH PIPE SECTIONS, OVER BELL RESTRAINT SYSTEM SHALL HAVE 316 STAINLESS STEEL HARNESS AND FASTENERS.
 - CONTINUOUS 316 STAINLESS STEEL RODS (TEE TO VALVE AND VALVE TO HYDRANT) MAY BE USED WITH COR-BLUE MJ T-BOLT AND GASKET KITS, AS AN ALTERNATIVE.
 - HYDRANT TEE SHALL BE RESTRAINED ON EACH SIDE OF MAIN PLUS ANY VALVE, FITTING, OR JOINT IN MAIN WITHIN 10- FEET OF HYDRANT TEE.
 - HYDRANT AND VALVE SHALL BE PLACED OUTSIDE DITCH LIMITS.
 - WEEP HOLES OPEN AND UNBLOCKED TO DRAIN.



REDUCED PRESSURE PRINCIPLE ASSEMBLY
NOT TO SCALE

REV:	DESCRIPTION:	DATE:
1	Single Service Connection, Double Service Connection, and Large Meter Revised	10/26/12
2	Single Service Connection and Fire Hydrant Details Revised	7/23/13
3	Fire Hydrant Detail Revised	01/03/14

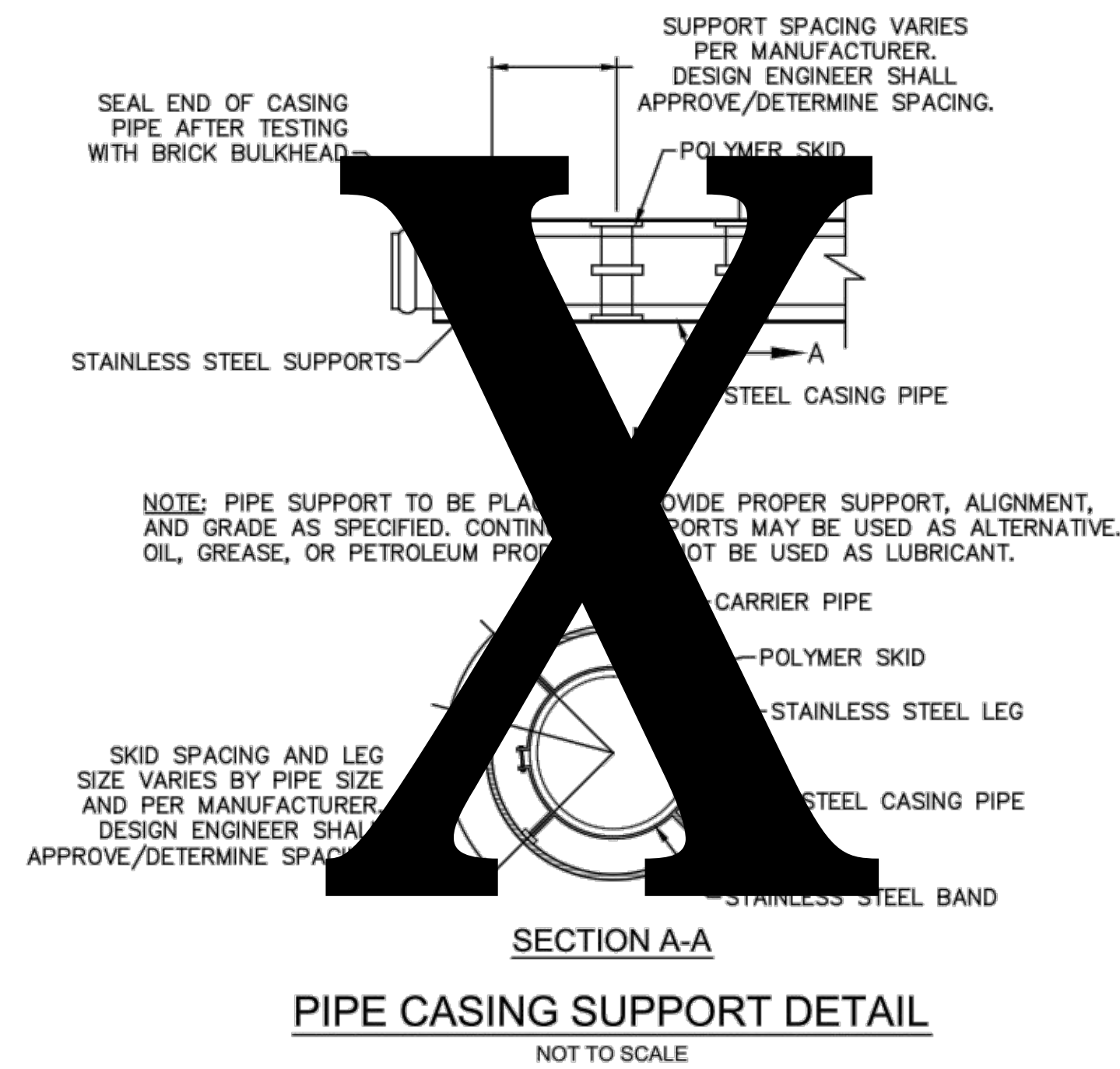
CFPUA WATER DISTRIBUTION SYSTEM

STANDARD DETAILS

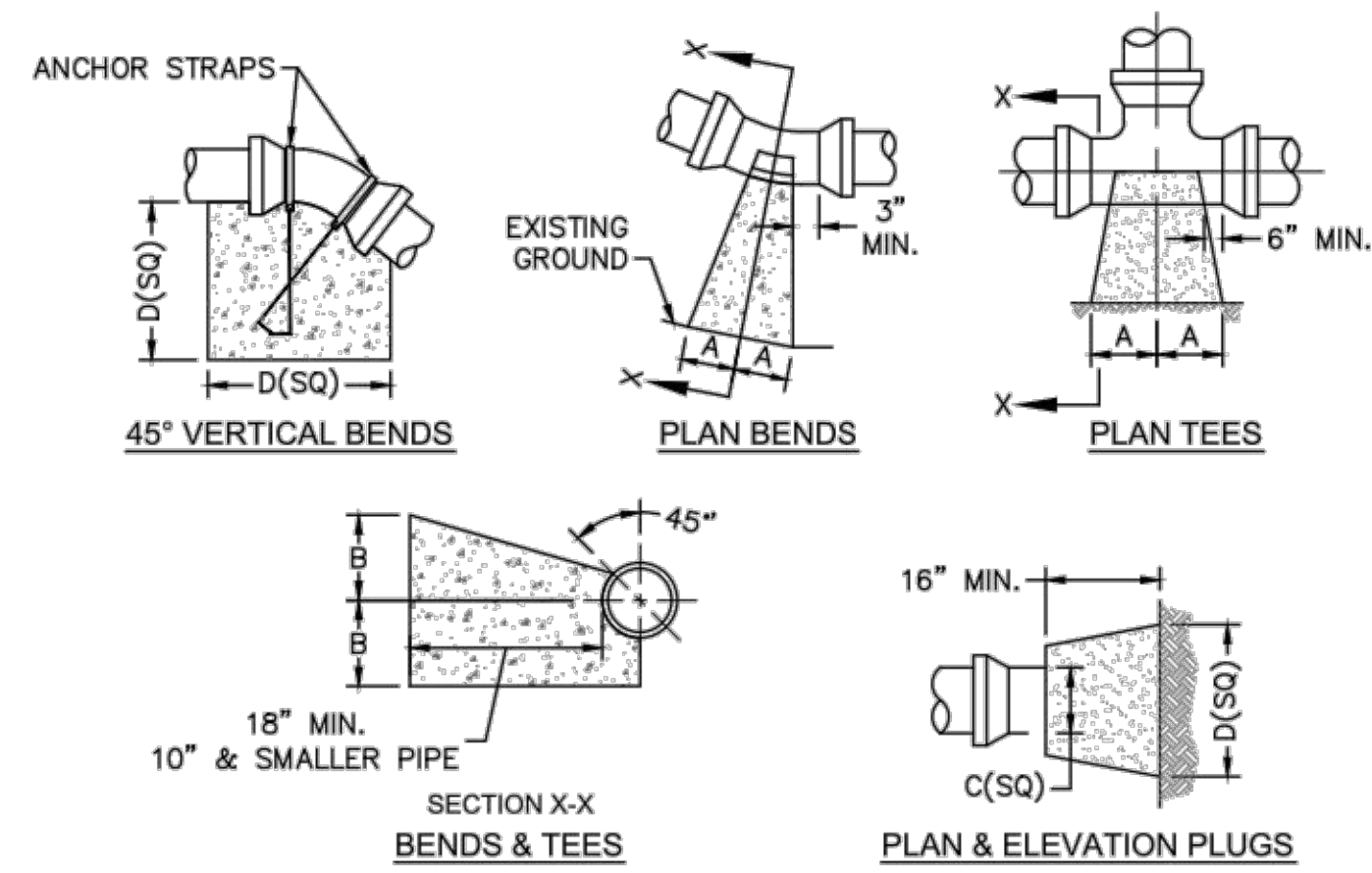
CAPE FEAR PUBLIC UTILITY AUTHORITY
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
OFFICE: (910)332-6560

DATE: 1/9/12
SCALE: N/A
DRAWN BY: CFPWA
CHECKED BY: CFPWA
PROJECT NO.:

SHEET NO:
WSD-1



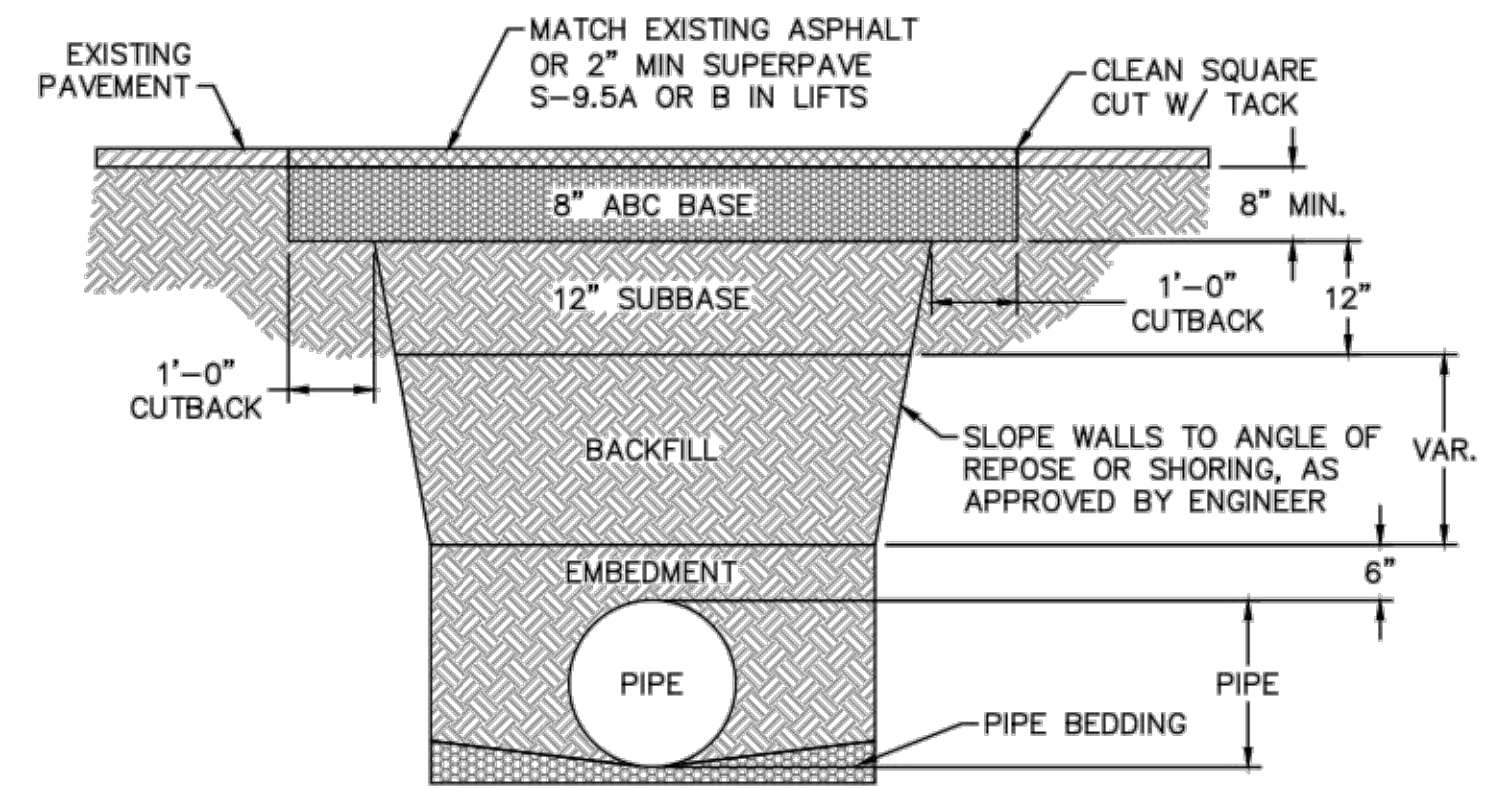
PIPE CASING SUPPORT DETAIL



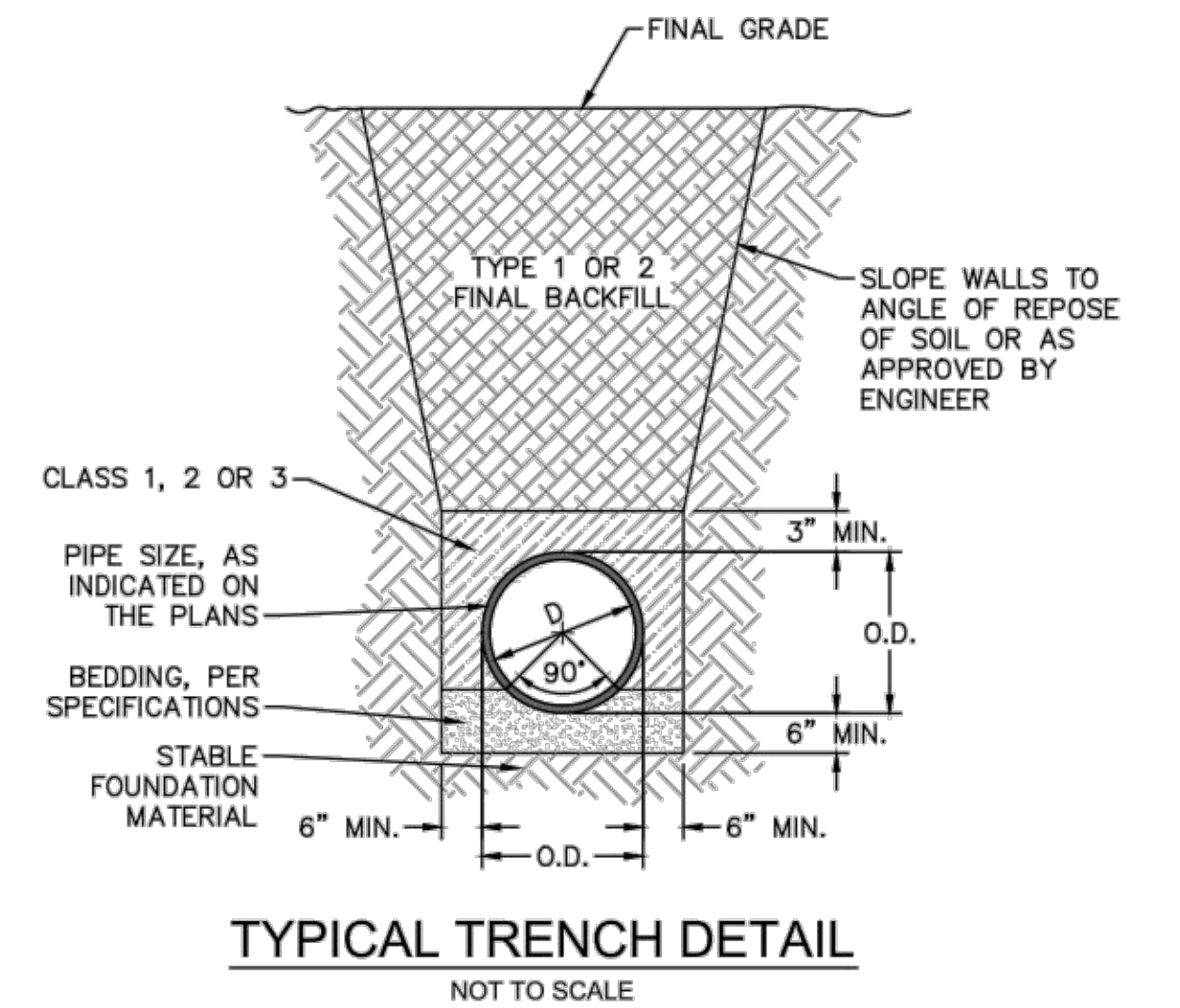
SIZE	90 BENDS		45 BENDS		22 1/2 BENDS		TEES/PLUGS		45 VERT. BENDS
	A	B	A	B	A	B	A	B	
3"	8"	6"	5"	6"	3"	7"	6"	8"	27"
4"	8"	9"	5"	8"	3"	11"	6"	9"	28"
6"	14"	11"	9"	9"	8"	8"	12"	9"	36"
8"	16"	16"	12"	12"	10"	13"	14"	13"	42"
10"	18"	22"	15"	14"	14"	16"	18"	15"	50"
12"	20"	28"	18"	17"	16"	16"	22"	18"	62"
14"	26"	29"	21"	19"	18"	18"	26"	20"	72"
16"	33"	29"	25"	21"	20"	21"	32"	21"	83"
18"	40"	30"	28"	24"	22"	23"	36"	24"	88"

- NOTES:
 1. BASED ON 160 PSI TEST PRESSURE AND 2000 PSF SOIL BEARING CAPACITY.
 2. ALL BEARING SURFACES TO BE CARRIED TO UNDISTURBED GROUND.
 3. USE MEG-A-LUG (PREFERRED) IN LIEU OF BLOCKING AND RODDING.

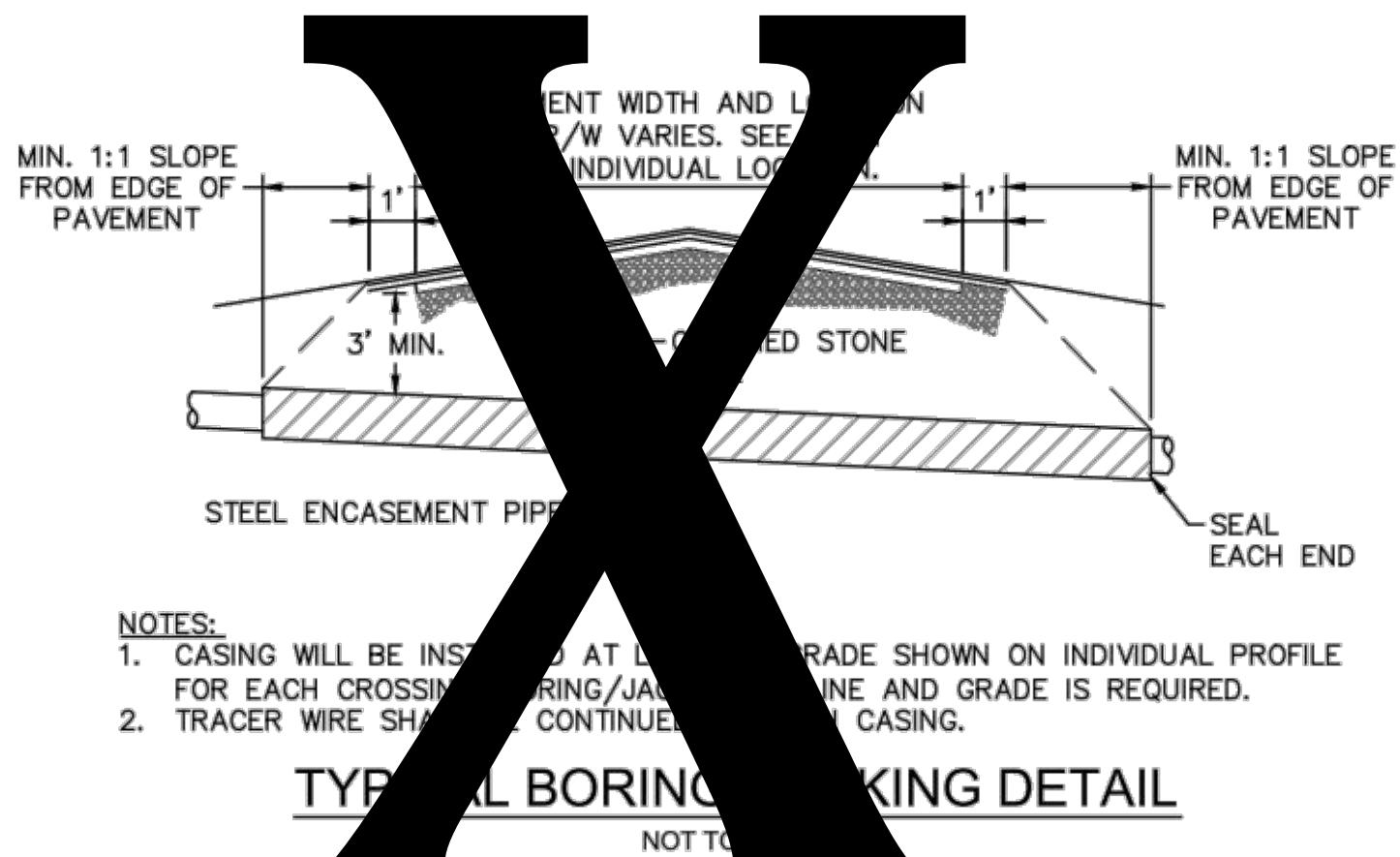
THRUST BLOCK DETAIL



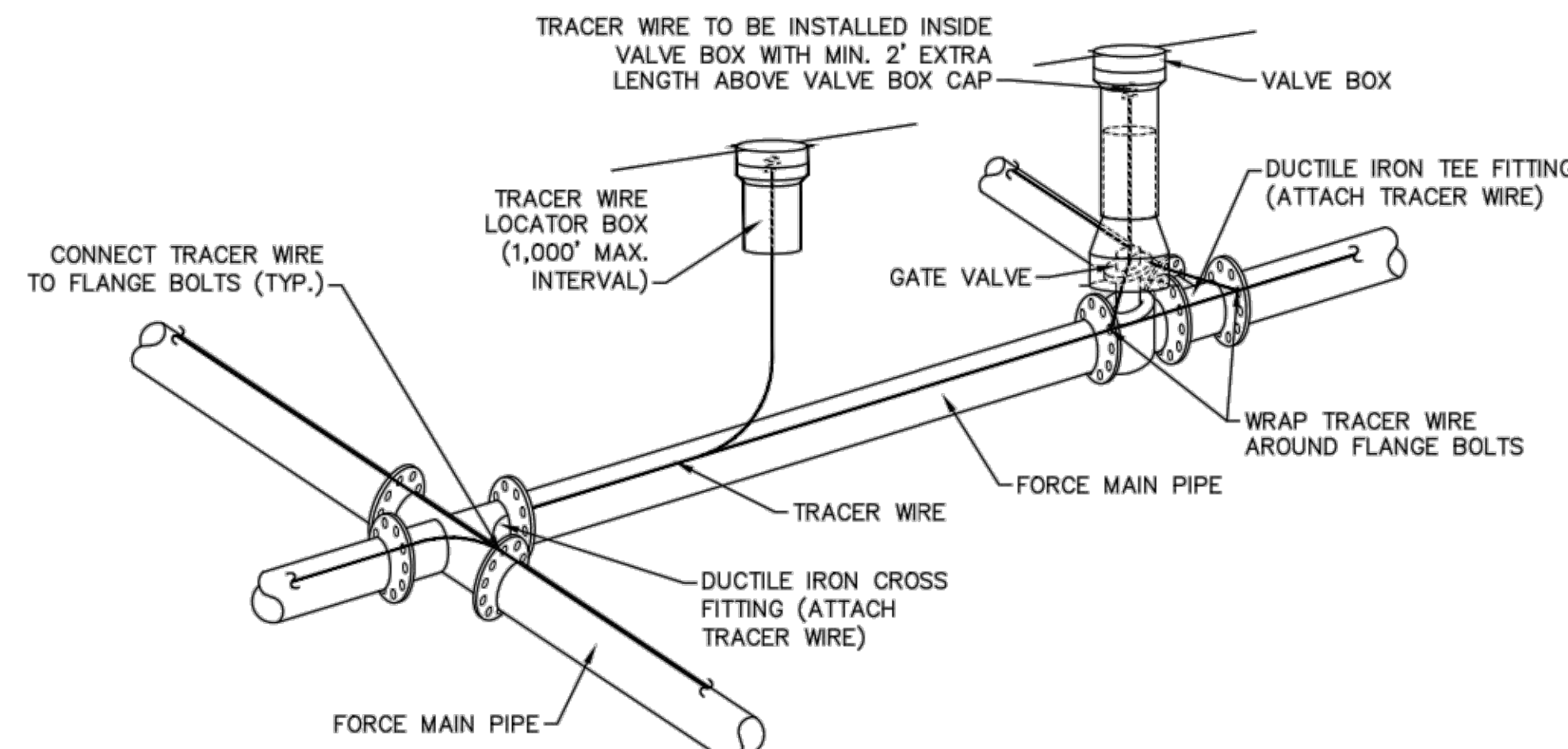
PAVEMENT REPAIR WHERE PIPE INSTALLED



TYPICAL TRENCH DETAIL

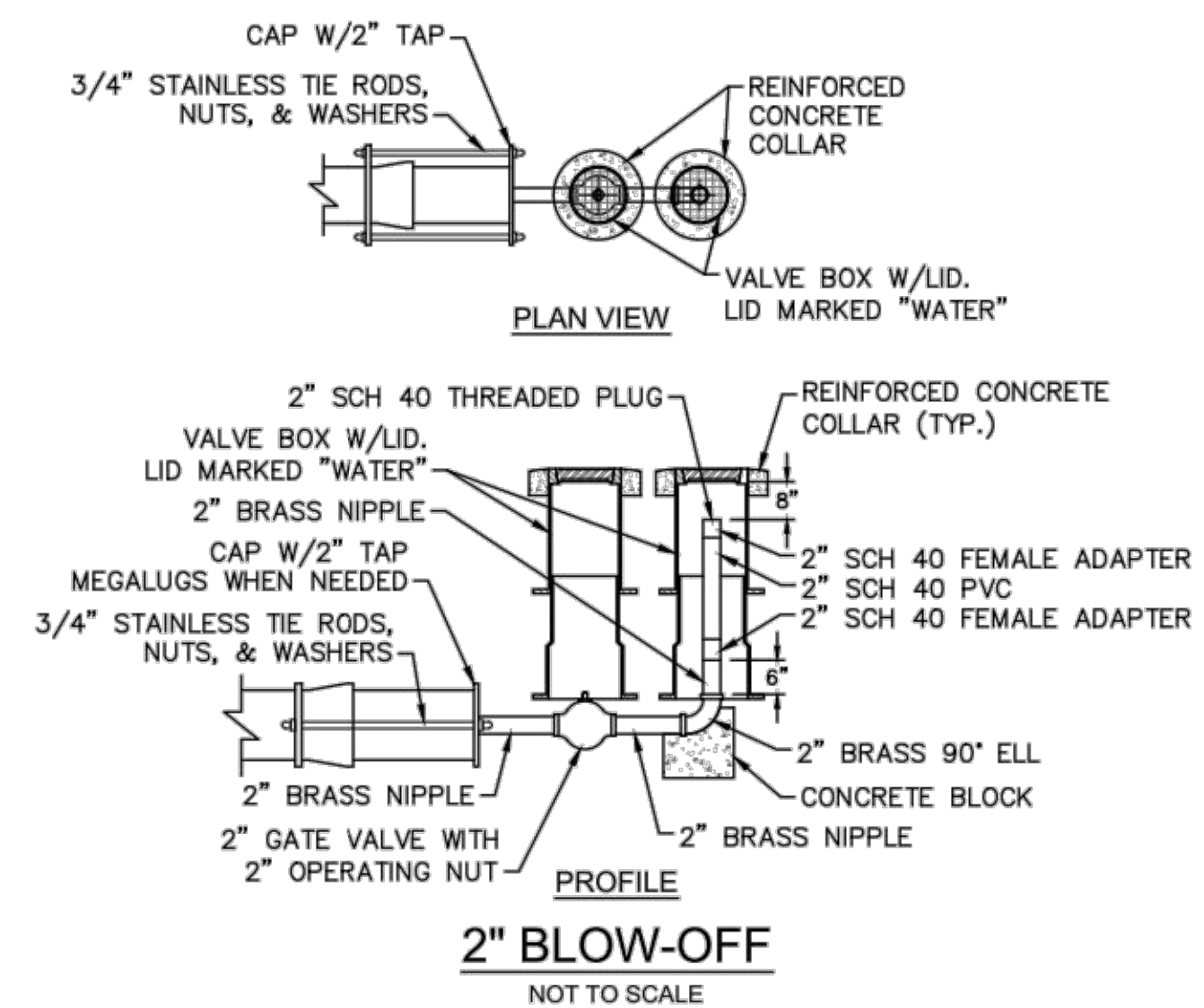


TYPICAL BORING AND TAPPING DETAIL

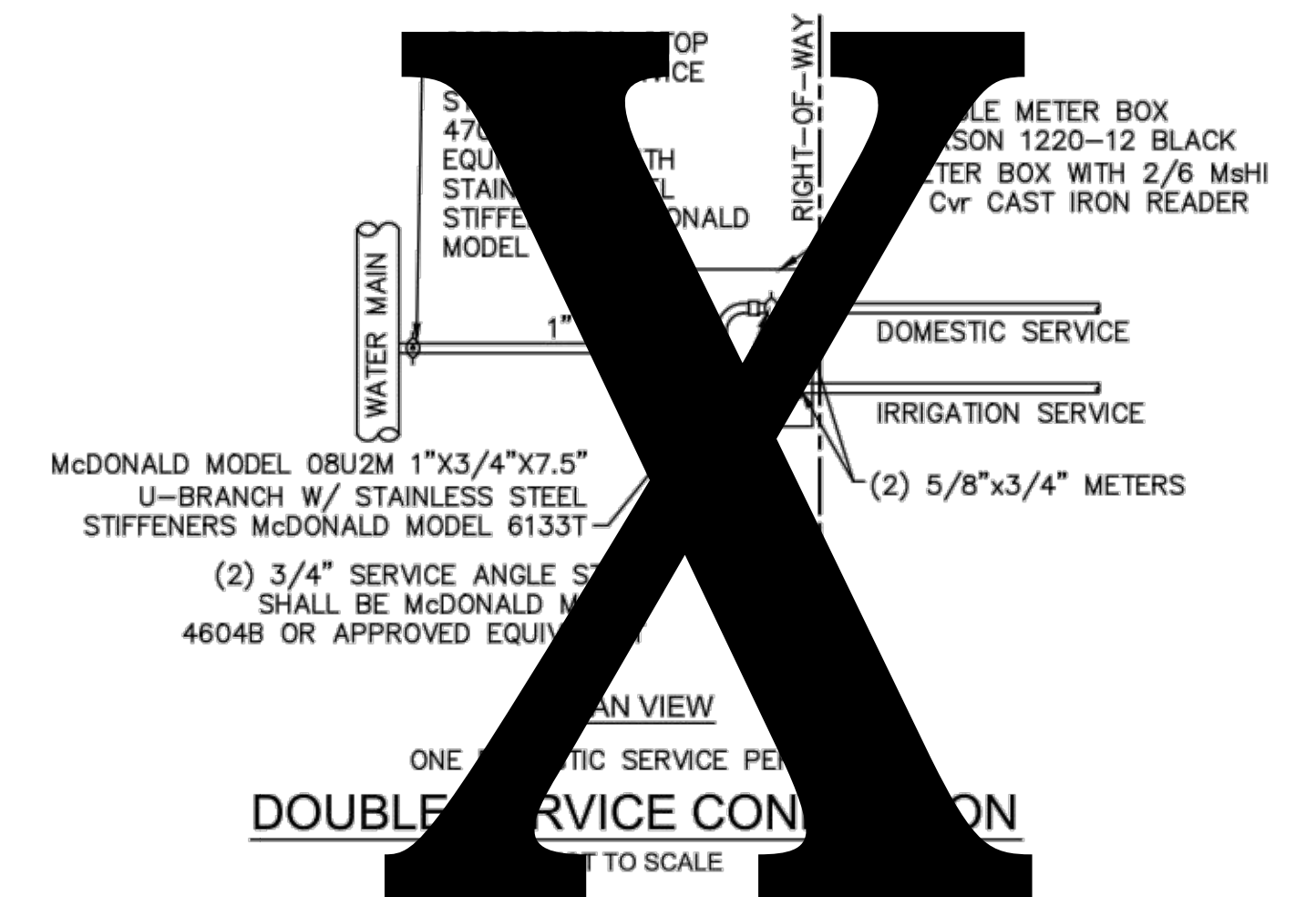


- NOTES:
 1. TRACER WIRE SHALL BE #10 COPPER SOLID CORE COPPER WIRE WITH GAS AND OIL RESISTANT INSULATION
 2. WIRE SHALL BE STRAPPED TO ALL PVC FORCE MAIN PIPING WITH DUCT TAPE AT 12-FT. INTERVALS.
 3. SECURE WIRE TO ALL TEE AND CROSS FITTINGS.
 4. ALL WIRE SPLICES SHALL HAVE WATER PROOF WIRE CONNECTIONS.

TRACER WIRE DETAIL



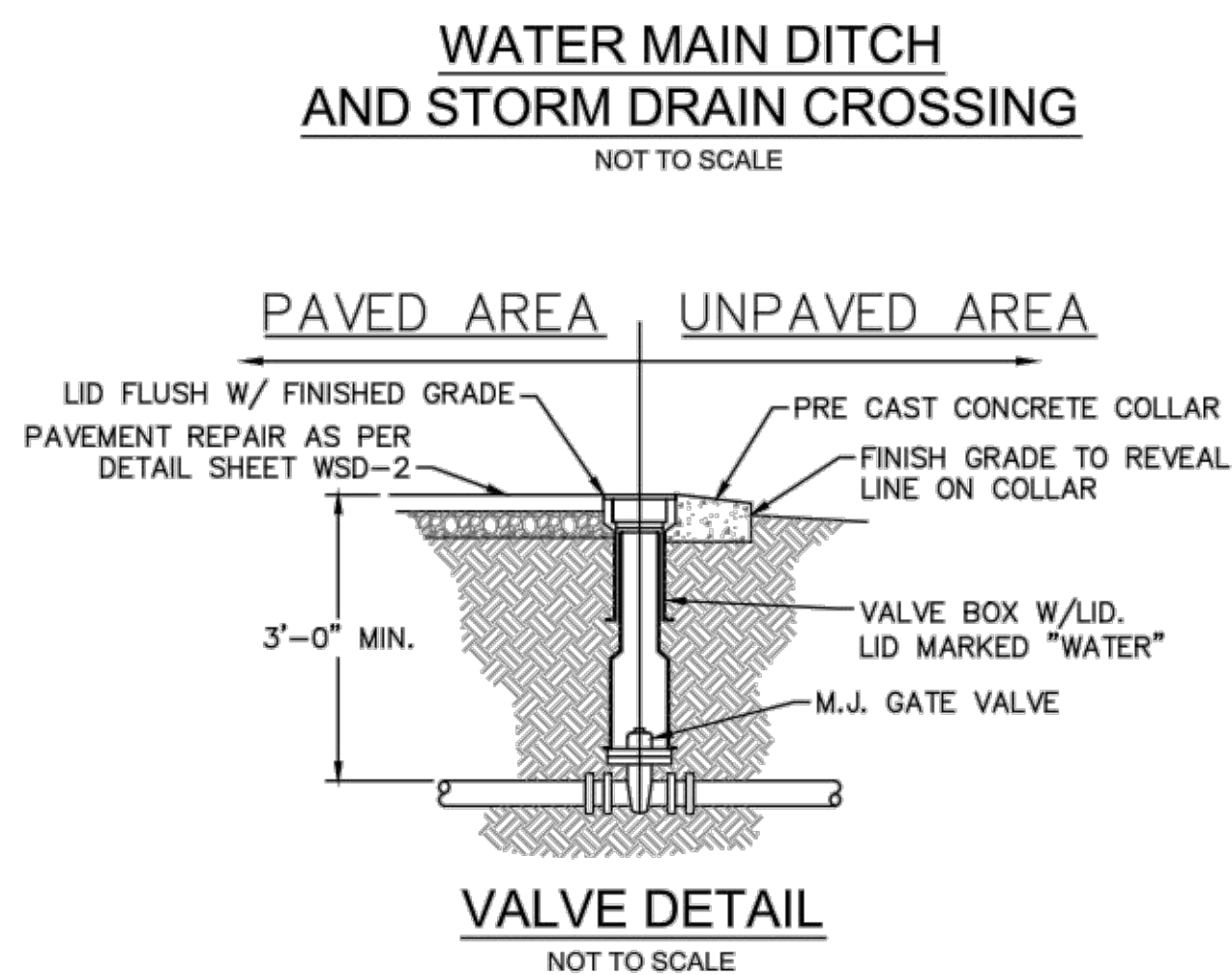
2" BLOW-OFF



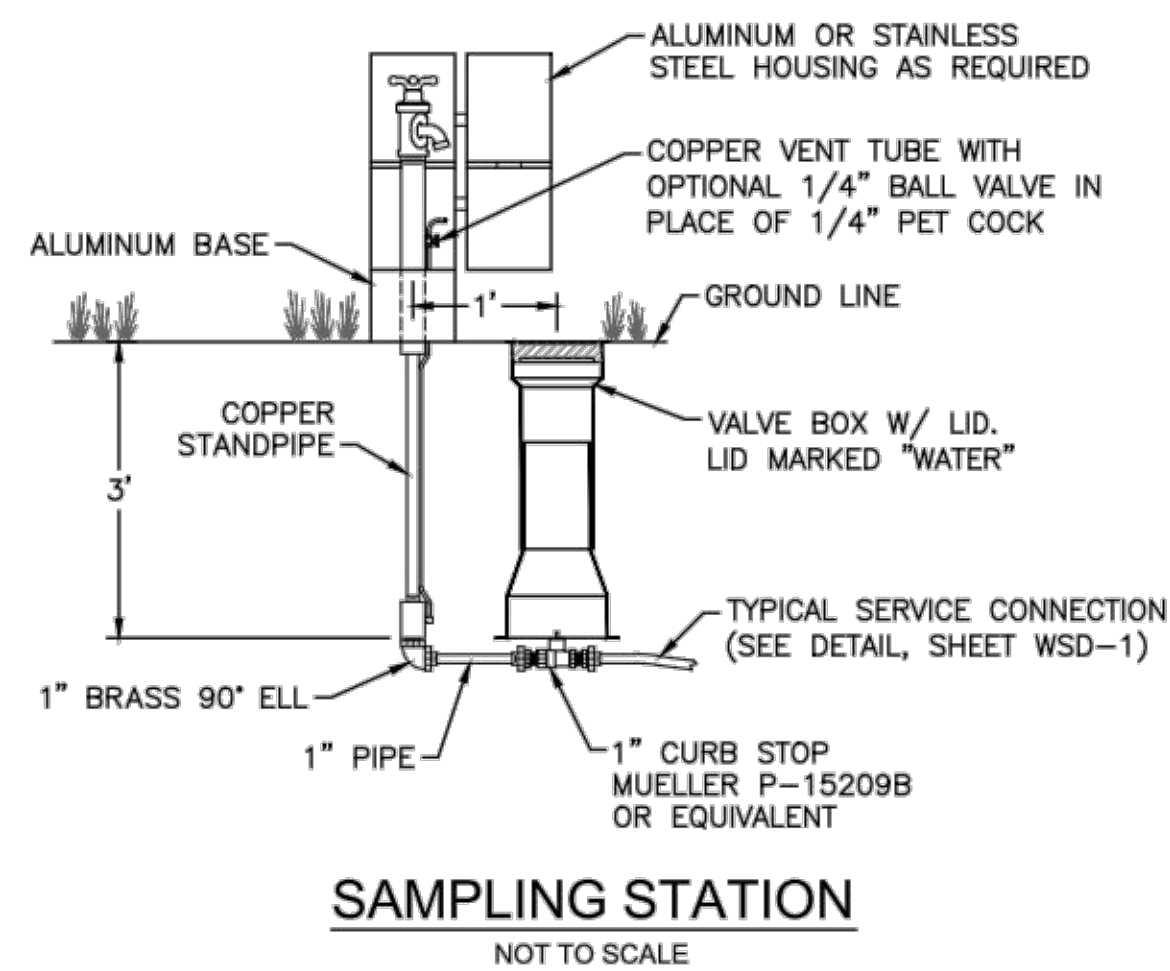
DOUBLE SERVICE CONNECTION

- GENERAL NOTES:
 1. NO EXCAVATED MATERIAL SHALL BE PLACED IN ANY STREAM, DITCH OR DRAINAGE-WAY.
 2. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES BEFORE ANY CONSTRUCTION BEGINS.
 3. THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES WHILE CONSTRUCTION IS IN PROGRESS.
 4. THE CONTRACTOR IS RESPONSIBLE FOR STABILIZATION OF ALL DISTURBED AREAS.
 5. THE CONTRACTOR IS RESPONSIBLE FOR LAY DOWN AND STOCKPILE AREAS (TO ARRANGE AND ENSURE COMPLIANCE WITH ALL LOCAL AND STATE REGULATIONS).

THE DETAILS SHOWN HEREON SUPERCEDE CFPWA WRITTEN TECHNICAL SPECIFICATIONS VERSIONS 1.00 - 1.04



VALVE DETAIL



SAMPLING STATION

REV:	DESCRIPTION:	DATE:
1	Revised Water Main Ditch and Storm Crossing Detail	11/12/13
2	Revised Water Main Ditch and Storm Crossing Detail	05/05/14

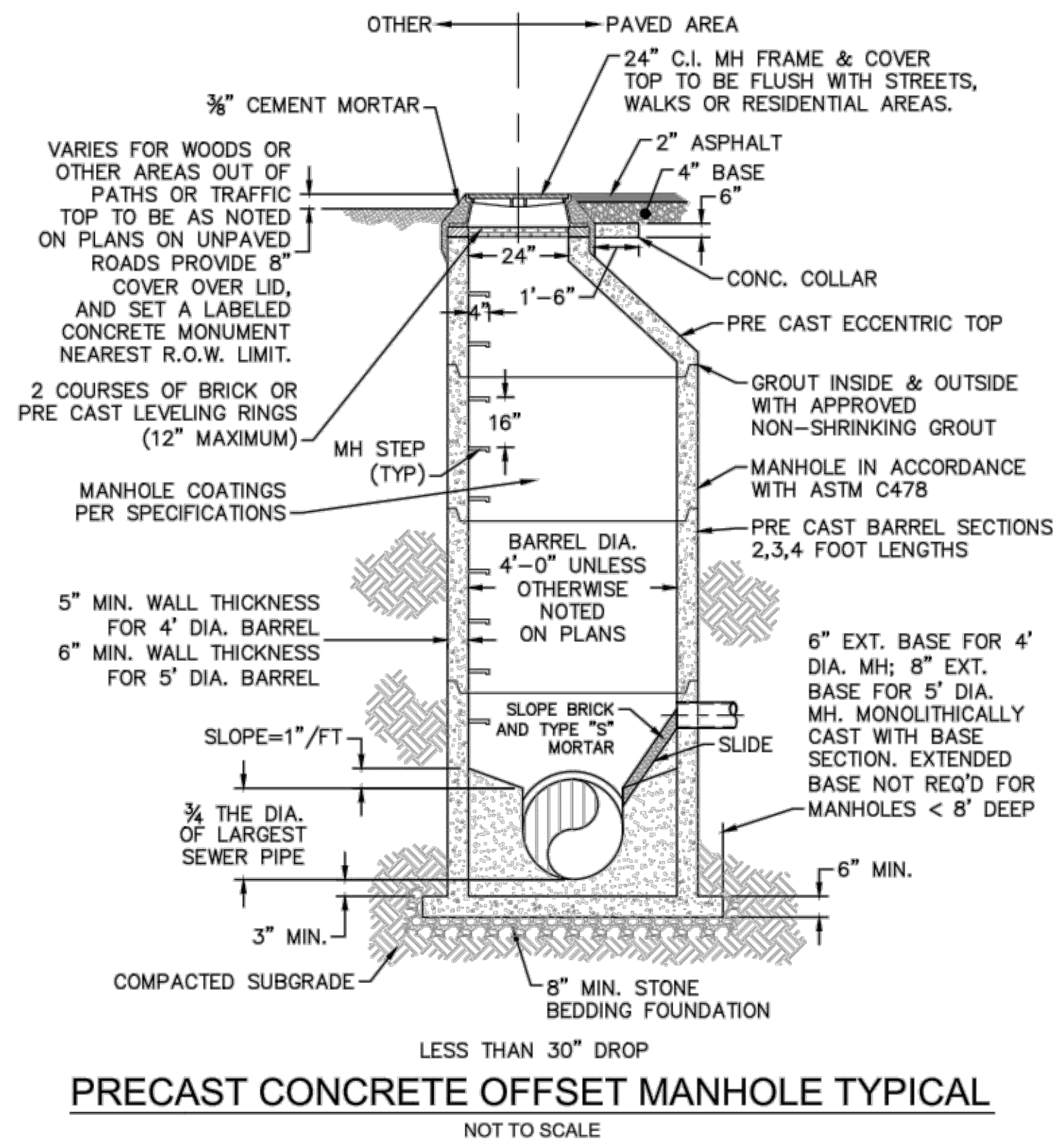
CFPUA WATER DISTRIBUTION SYSTEM

STANDARD DETAILS

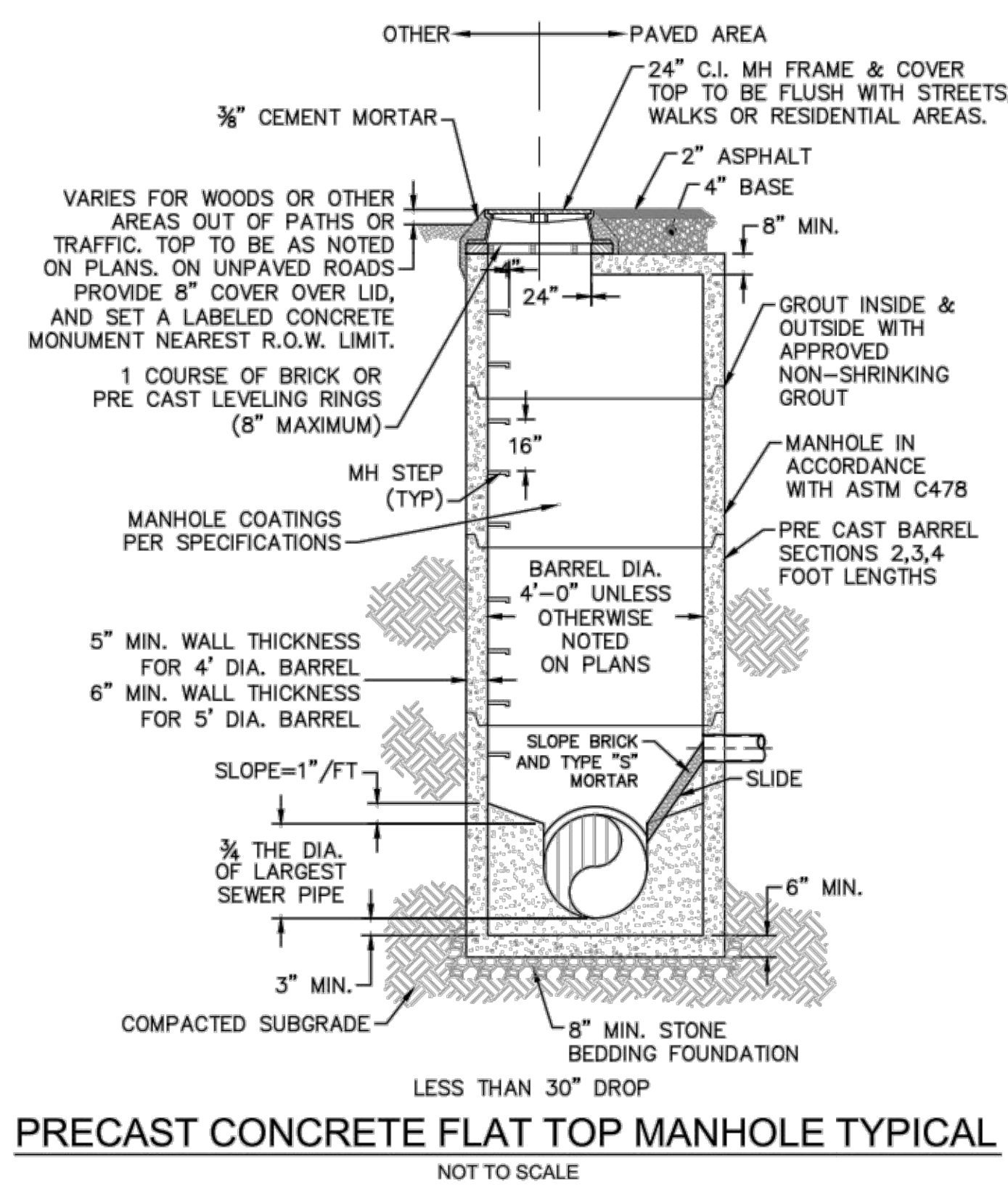
CAPE FEAR PUBLIC UTILITY AUTHORITY
 235 GOVERNMENT CENTER DRIVE
 WILMINGTON, NC 28403
 OFFICE: (910)332-6560

DATE: 1/9/12
 SCALE: N/A
 DRAWN BY: CFPWA
 CHECKED BY: CFPWA
 PROJECT NO.:

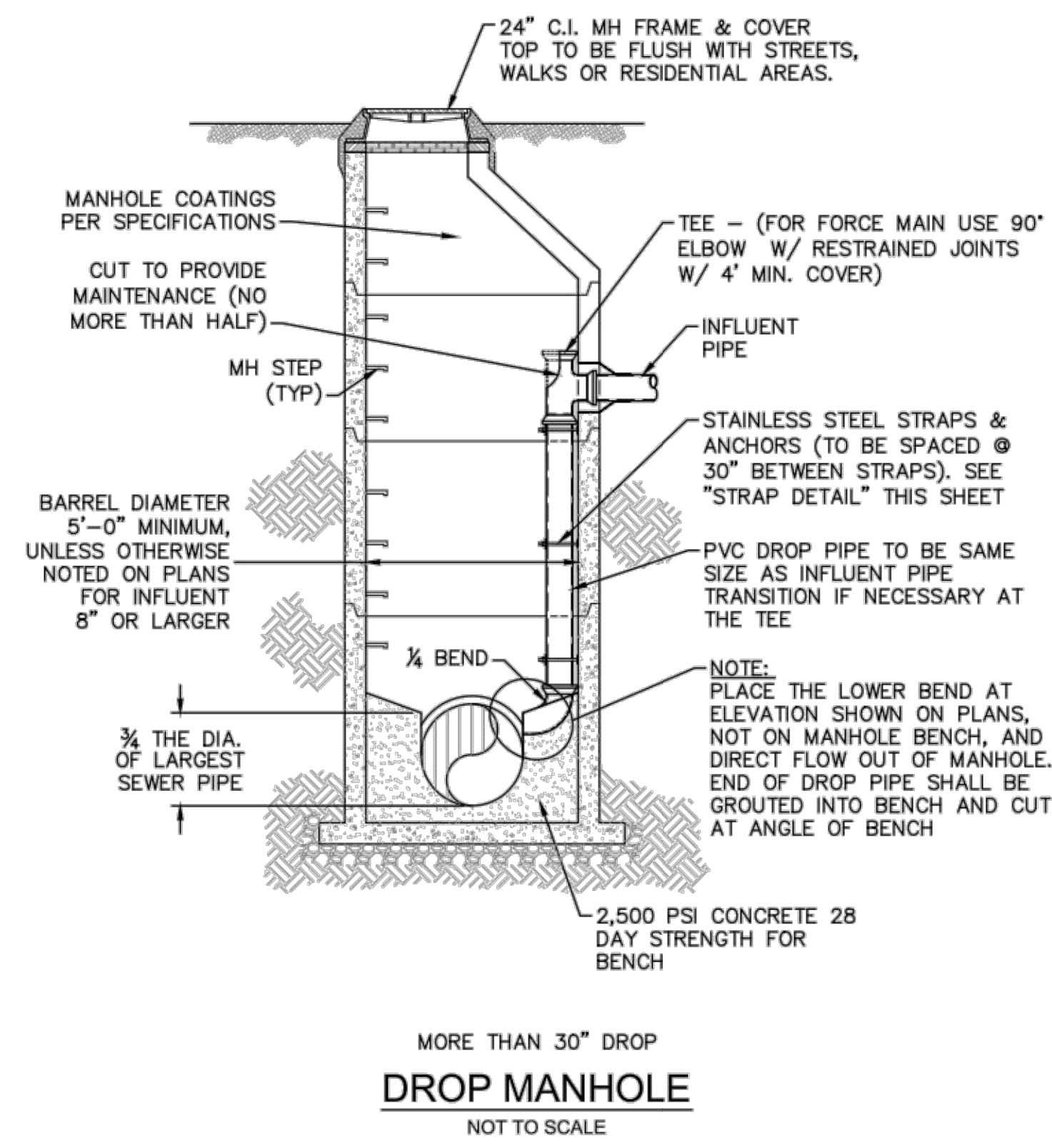
SHEET NO:
 WSD-2



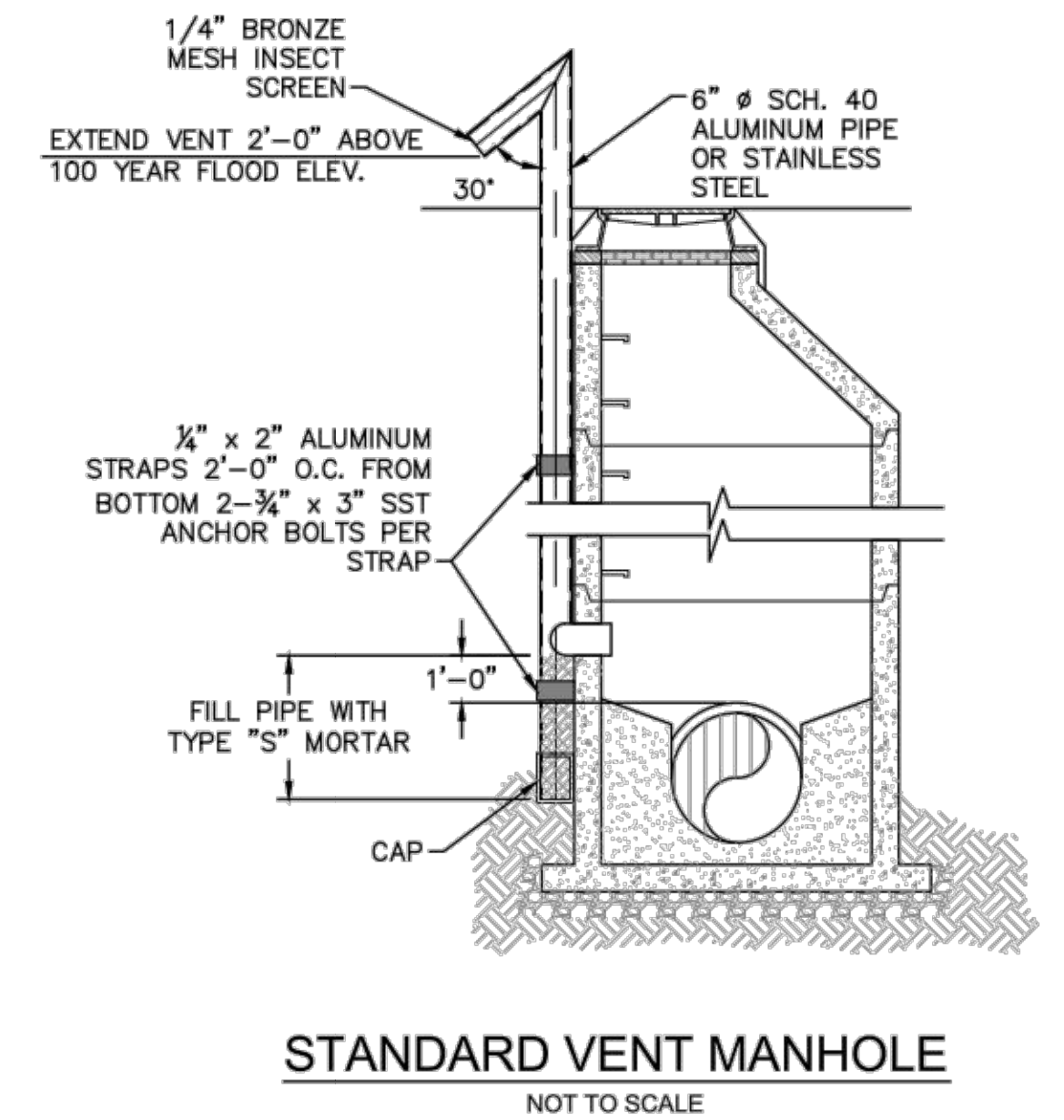
PRECAST CONCRETE OFFSET MANHOLE TYPICAL
NOT TO SCALE



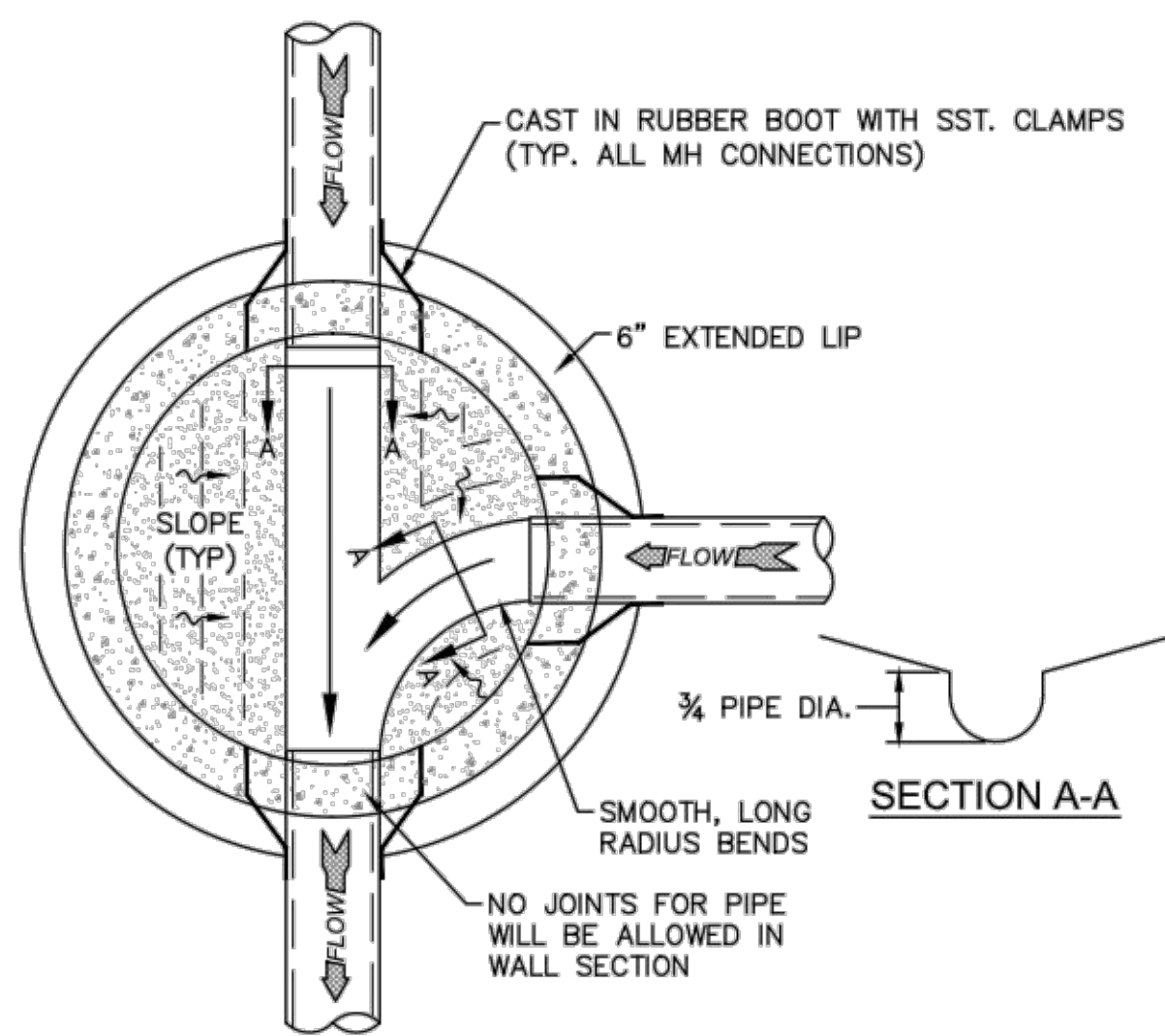
PRECAST CONCRETE FLAT TOP MANHOLE TYPICAL
NOT TO SCALE



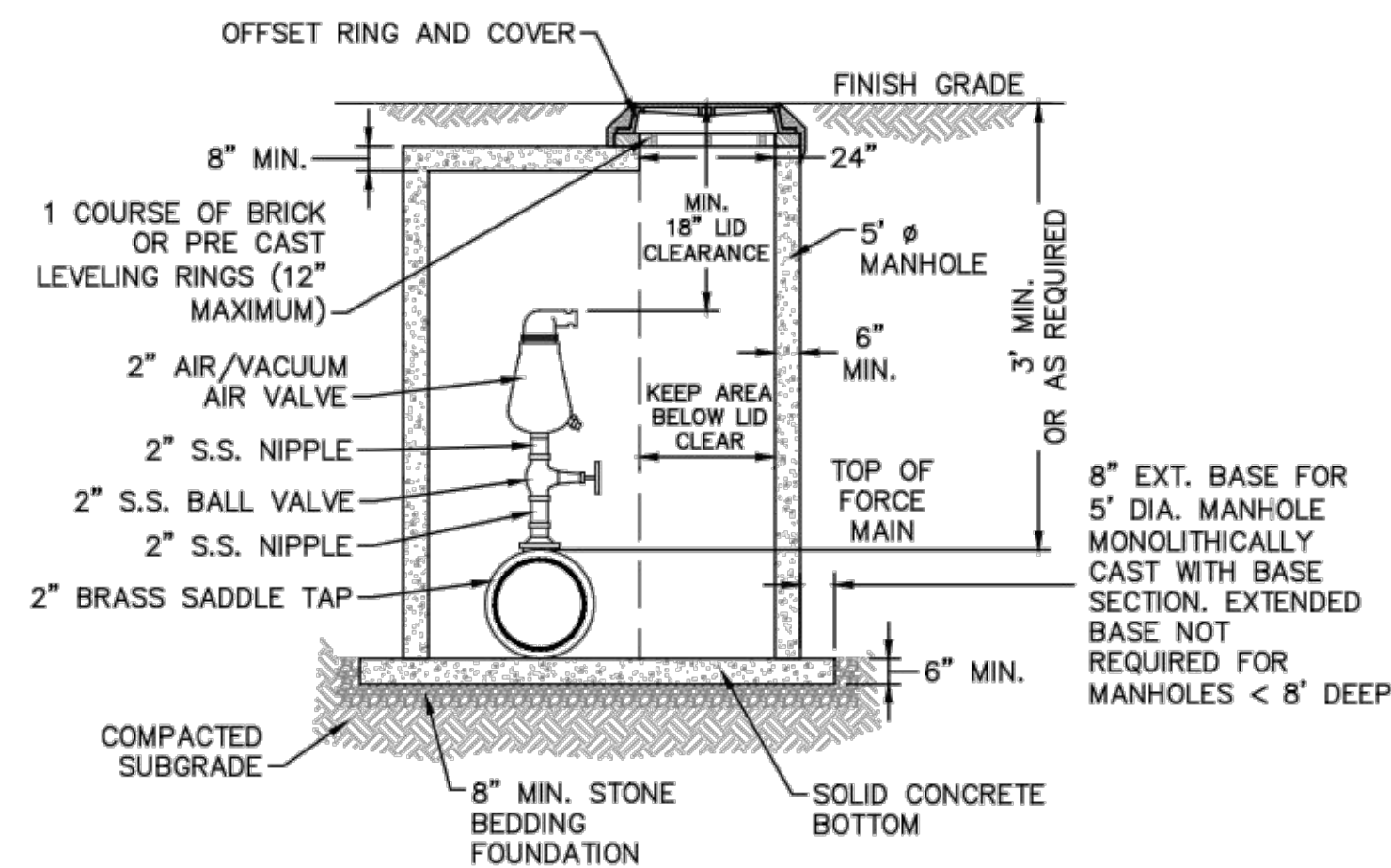
DROP MANHOLE
NOT TO SCALE



STANDARD VENT MANHOLE
NOT TO SCALE

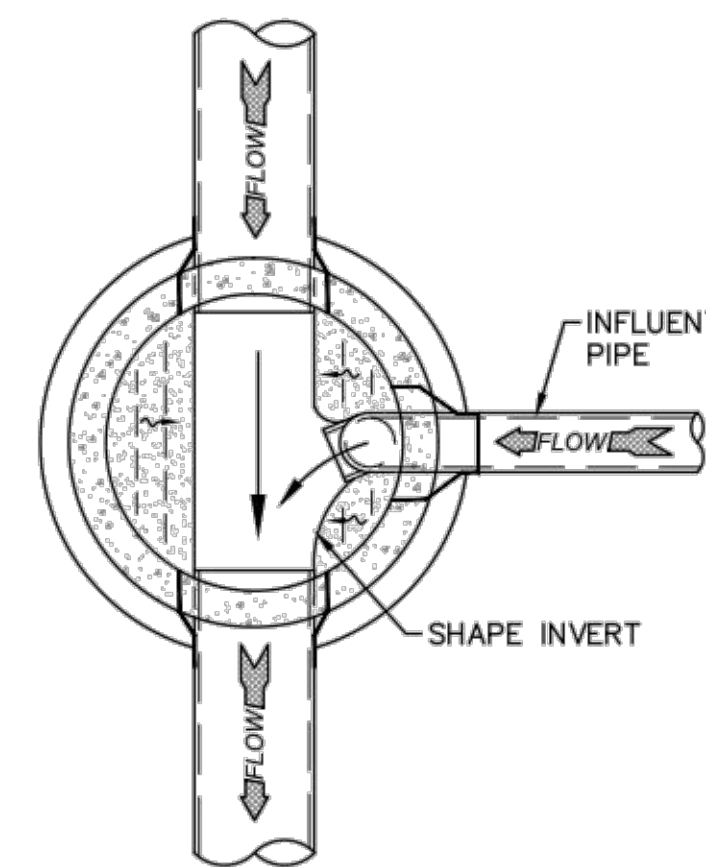


MANHOLE FLOOR PLAN
NOT TO SCALE

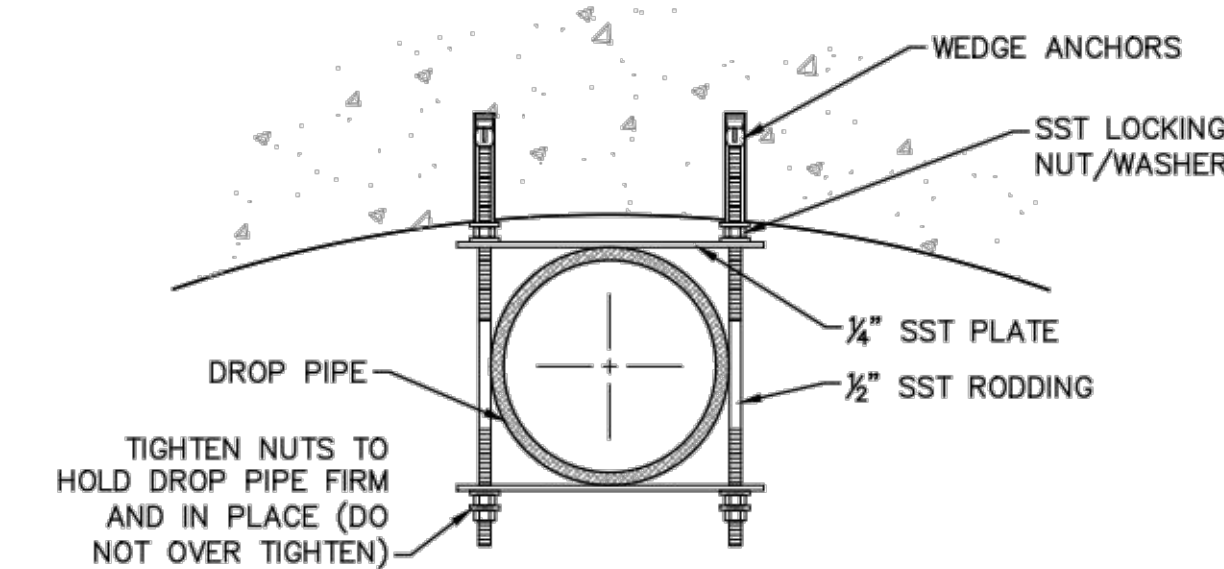


NOTES:
1. CONTRACTOR TO INSTALL VALVE AND MANHOLE AT SUFFICIENT DEPTH TO ALLOW FOR ACCESS.
2. FORCE MAIN TO BE OFFSET IN MANHOLE TO KEEP AREA BELOW LID CLEAR.
3. REFER TO SPECIFICATIONS FOR ADDITIONAL DETAILS.
4. USE CAST IN RUBBER BOOT WITH SST. CLAMPS FOR ALL MH CONNECTIONS, INCLUDING FORCE MAIN.

AIR / VACUUM AND AIR RELEASE COMBINATION VALVE
NOT TO SCALE



DROP MANHOLE FLOOR PLAN
NOT TO SCALE



NOTE: ALL PARTS TO BE SST.

STRAP DETAIL
NOT TO SCALE

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.
- SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE AT RIGHT-OF-WAY LINE. SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN MANHOLE AND TERMINATE AT 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.

STANDARD SEWER NOTES
(REQUIRED ON ALL SEWER PLAN AND PROFILE SHEETS)

GENERAL NOTES:

- NO EXCAVATED MATERIAL SHALL BE PLACED IN ANY STREAM, DITCH OR DRAINAGE-WAY.
- THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES BEFORE ANY CONSTRUCTION BEGINS.
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THE DETAILS SHOWN HEREON SUPERCEDE CFPUA WRITTEN TECHNICAL SPECIFICATIONS VERSIONS 1.00 - 1.04

CFPUA SANITARY SEWER

STANDARD DETAILS

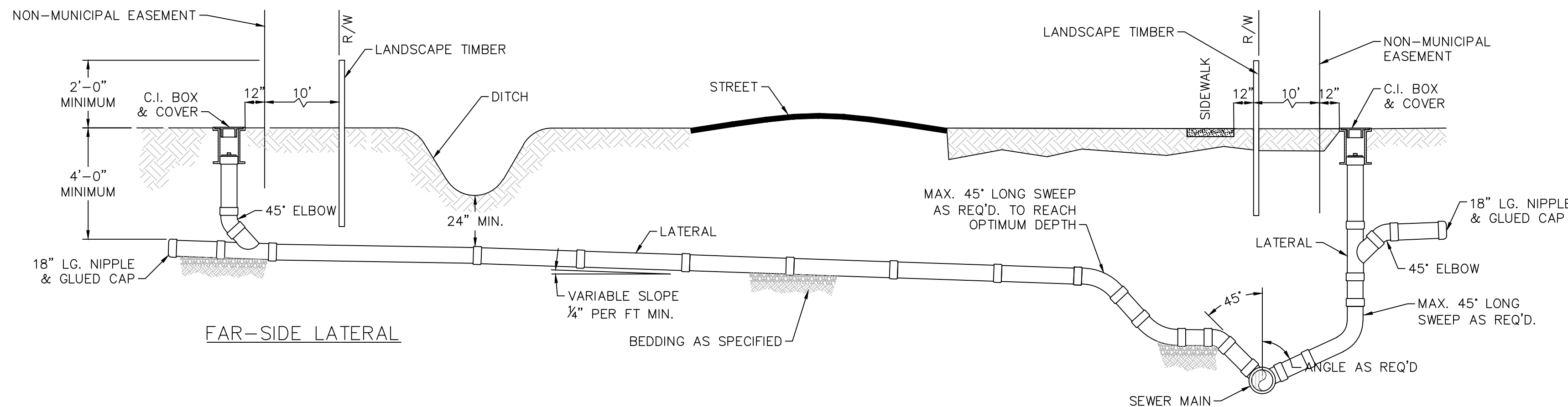


CAPE FEAR PUBLIC UTILITY AUTHORITY
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
OFFICE: (910)332-6560

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CFPUA
CHECKED BY:
CFPUA
PROJECT NO.:

SHEET NO:
SSD-1

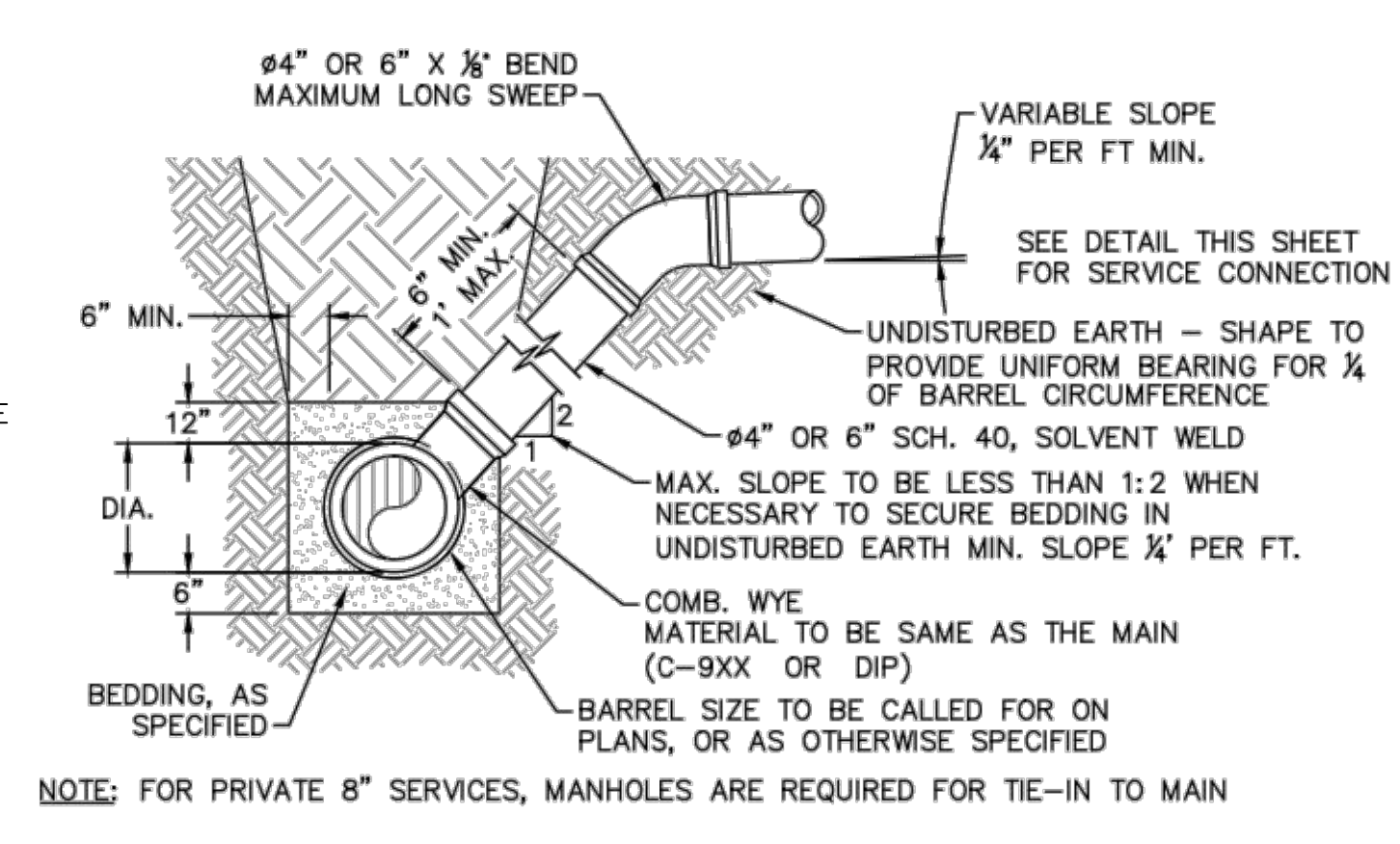
REV:	DESCRIPTION:	DATE:
1	AIR / VACUUM AND AIR RELEASE COMBINATION VALVE REVISED	10/26/12
2	STANDARD SEWER NOTE #6 REVISED	12/10/12
3	REVISED STANDARD VENT MANHOLE TO EXTEND VENT 2'-0" ABOVE 100 YR FLOOD	11/20/14



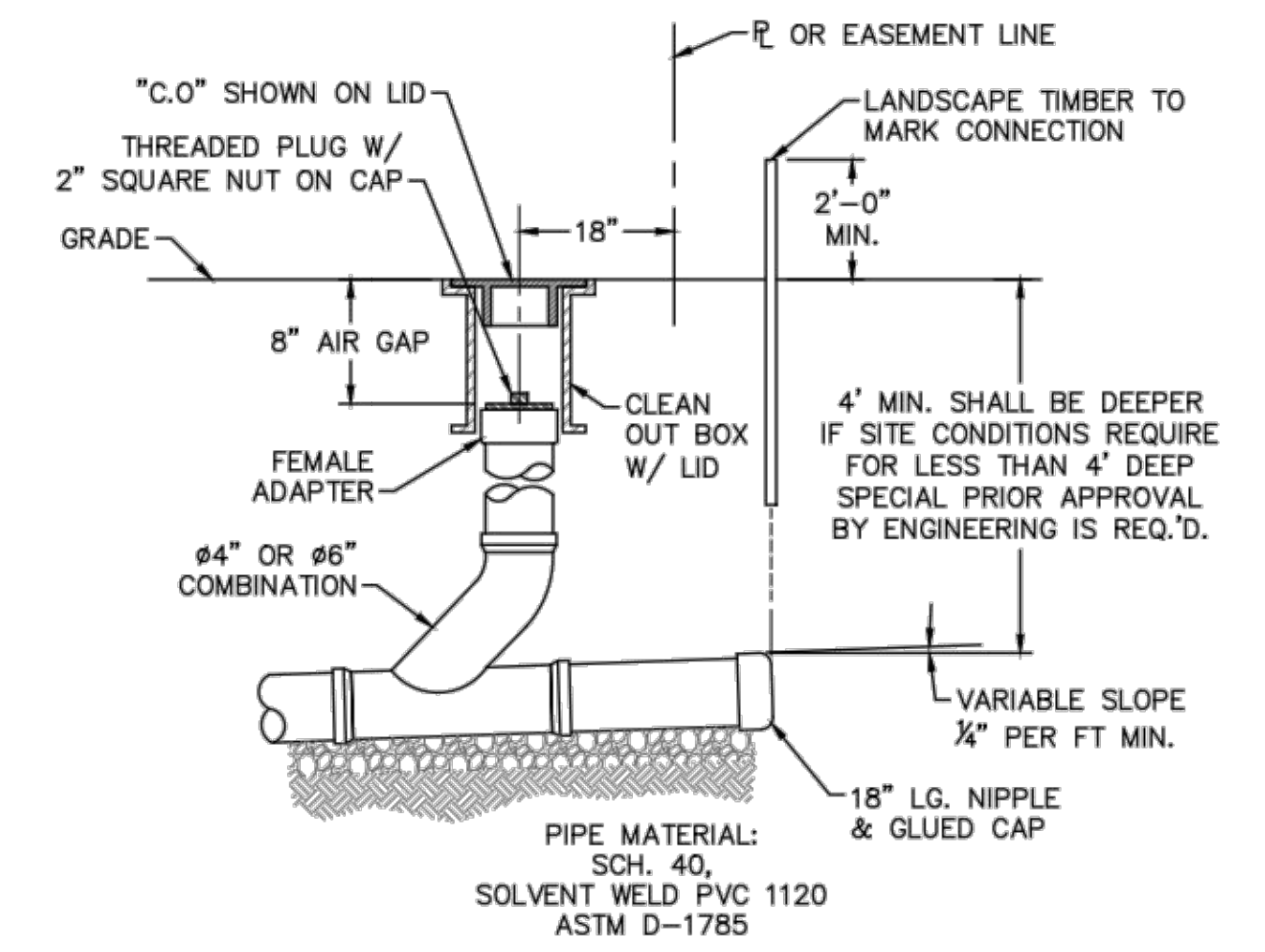
NOTE: FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR TIE-IN TO MAIN

REVISED STANDARD SERVICE CONNECTION TO SANITARY SEWER
NOT TO SCALE

NOTE: FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR TIE-IN TO MAIN

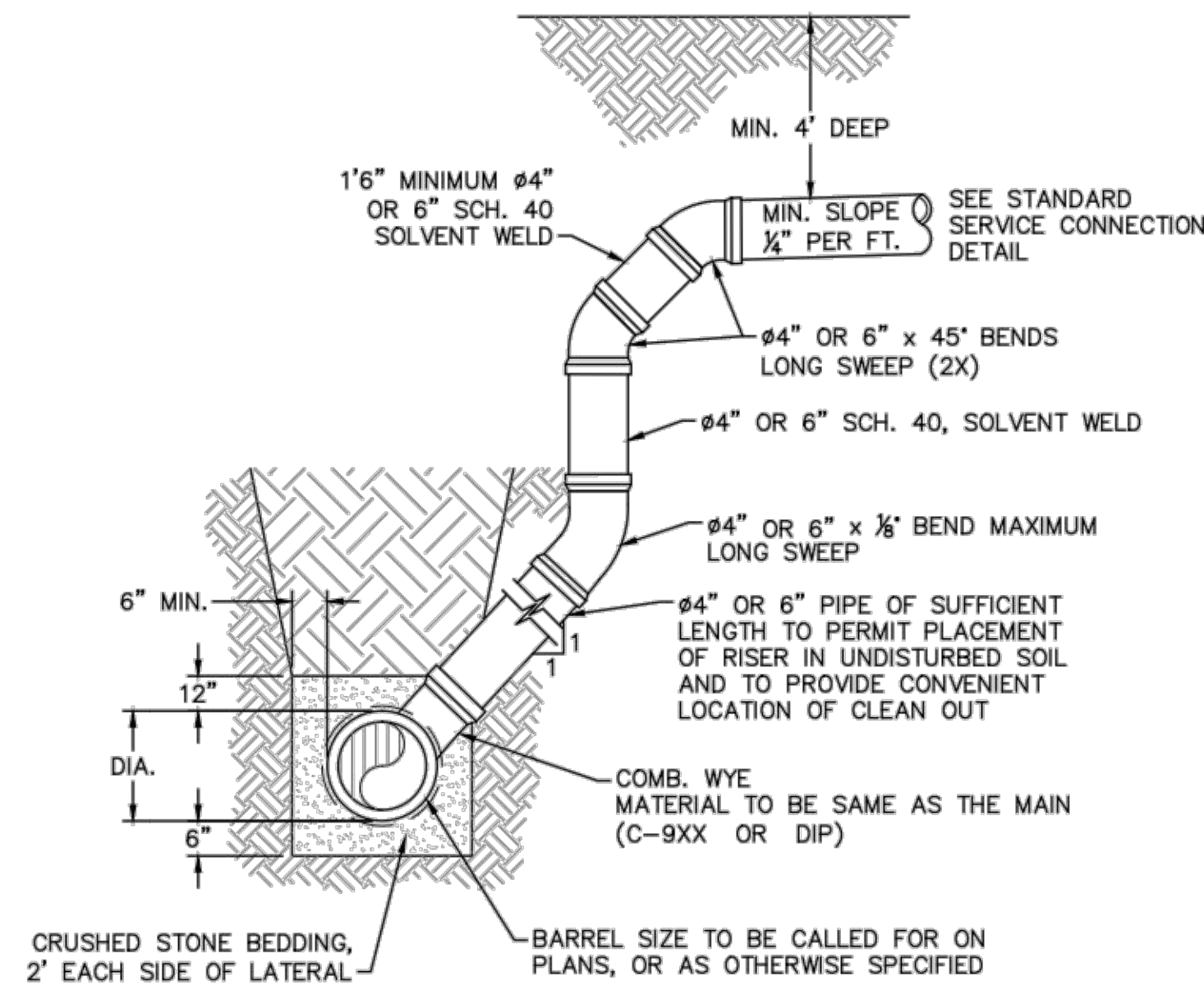


STANDARD SERVICE LATERAL
NOT TO SCALE



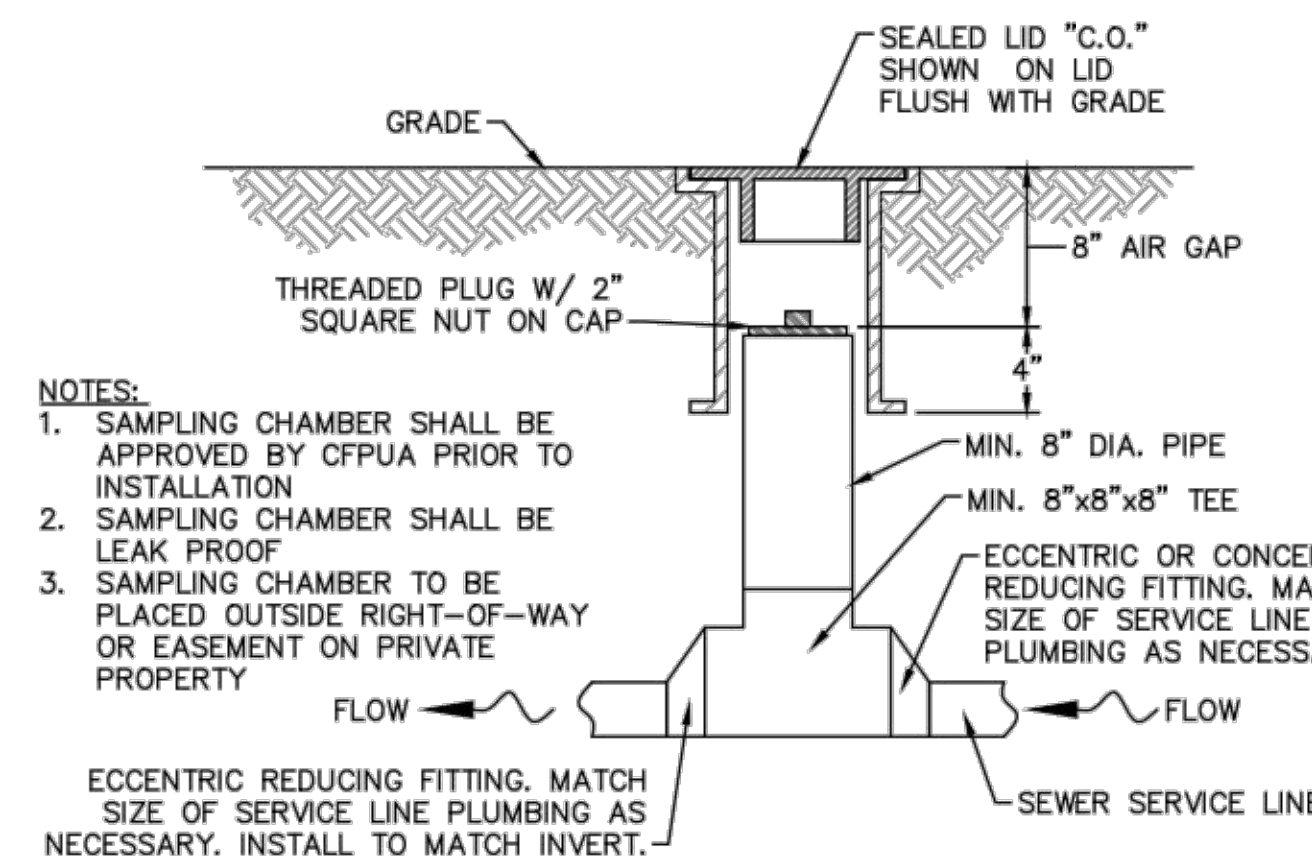
NOTE: FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR TIE-IN TO MAIN

SERVICE CONNECTION & CLEAN-OUT
NOT TO SCALE



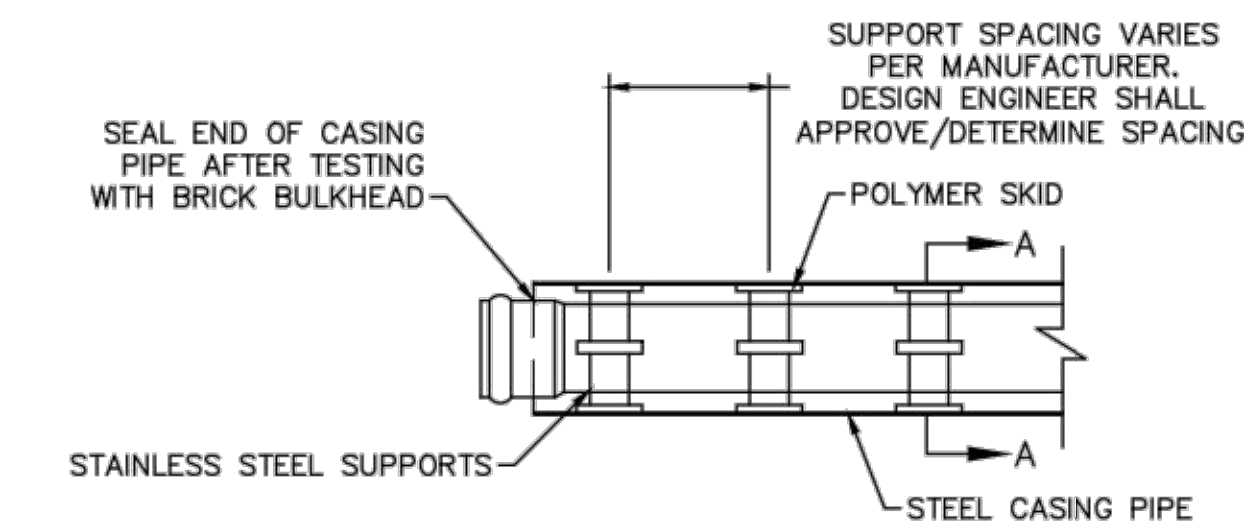
NOTES:
1. SPECIAL CARE SHALL BE TAKEN DURING BACKFILL OPERATIONS. THE RISER SHALL BE PLUMB AND TRUE AT ALL TIMES, AND REST ON FIRM, STABLE FOUNDATION.
2. FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR TIE-IN TO MAIN.

DEEP SERVICE LATERAL
NOT TO SCALE

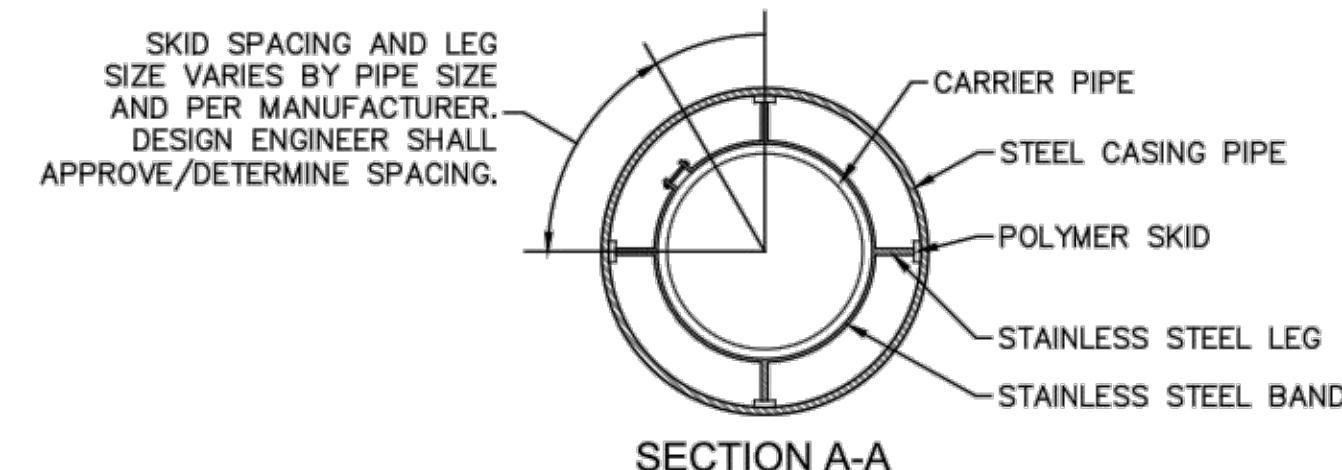


NOTES:
1. SAMPLING CHAMBER SHALL BE APPROVED BY CFPUA PRIOR TO INSTALLATION.
2. SAMPLING CHAMBER SHALL BE LEAK PROOF.
3. SAMPLING CHAMBER TO BE PLACED OUTSIDE RIGHT-OF-WAY OR EASEMENT ON PRIVATE PROPERTY.
ECCENTRIC REDUCING FITTING, MATCH SIZE OF SERVICE LINE PLUMBING AS NECESSARY. INSTALL TO MATCH INVERT.

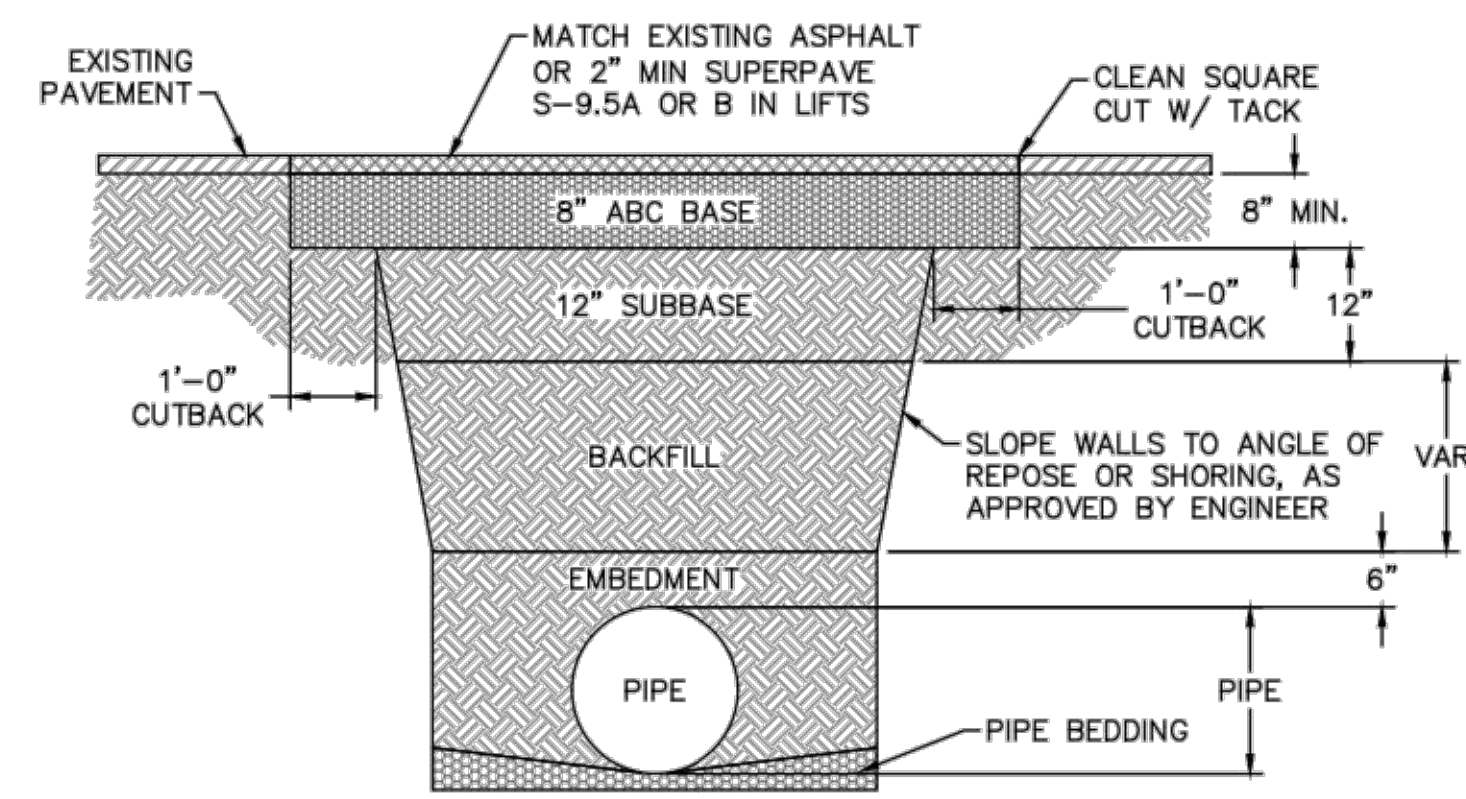
SAMPLING CHAMBER
NOT TO SCALE



NOTE: PIPE SUPPORT TO BE PLACED TO PROVIDE PROPER SUPPORT, ALIGNMENT, AND GRADE AS SPECIFIED. CONTINUOUS SUPPORTS MAY BE USED AS ALTERNATIVE. OIL, GREASE, OR PETROLEUM PRODUCT MAY NOT BE USED AS LUBRICANT.

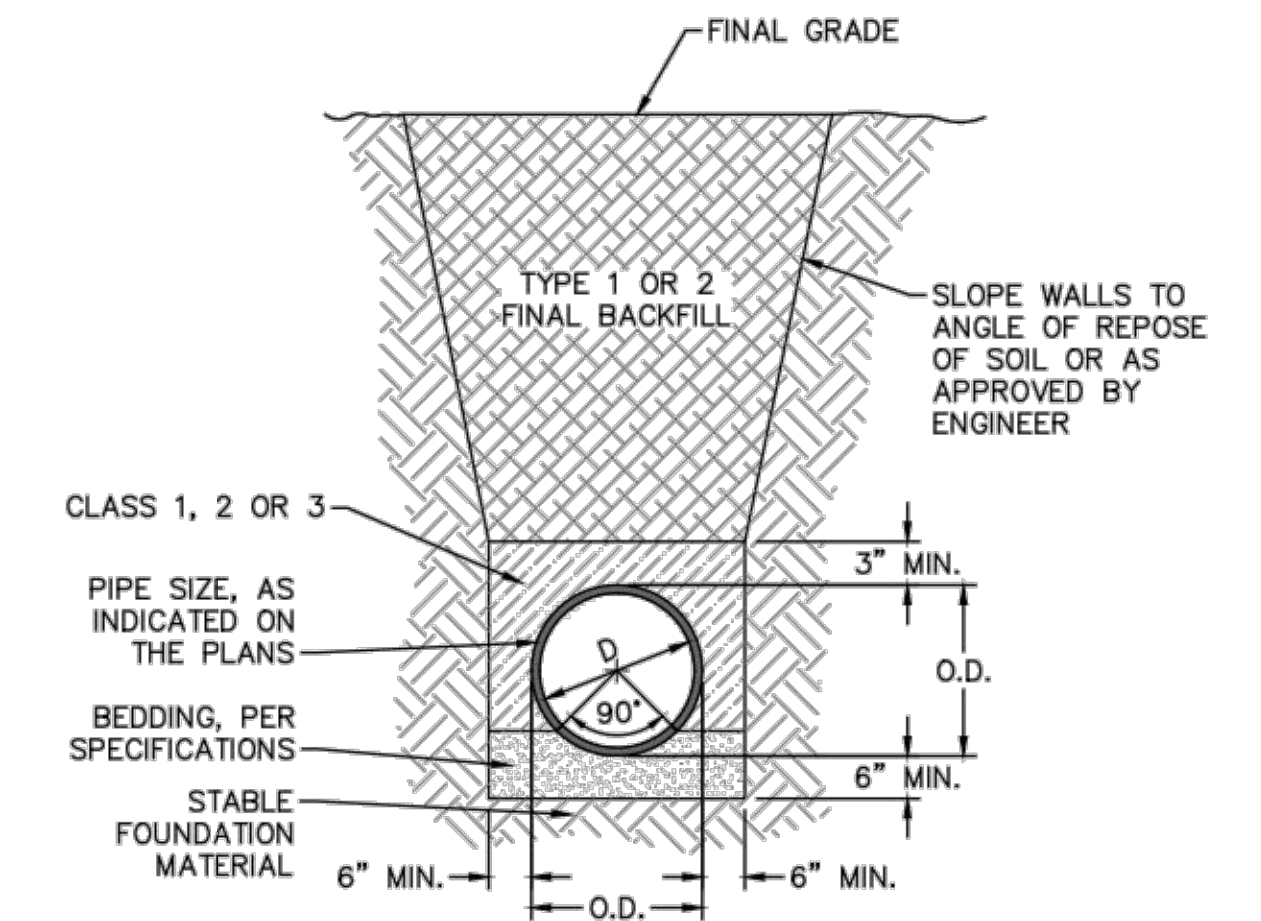


PIPE CASING SUPPORT DETAIL
NOT TO SCALE

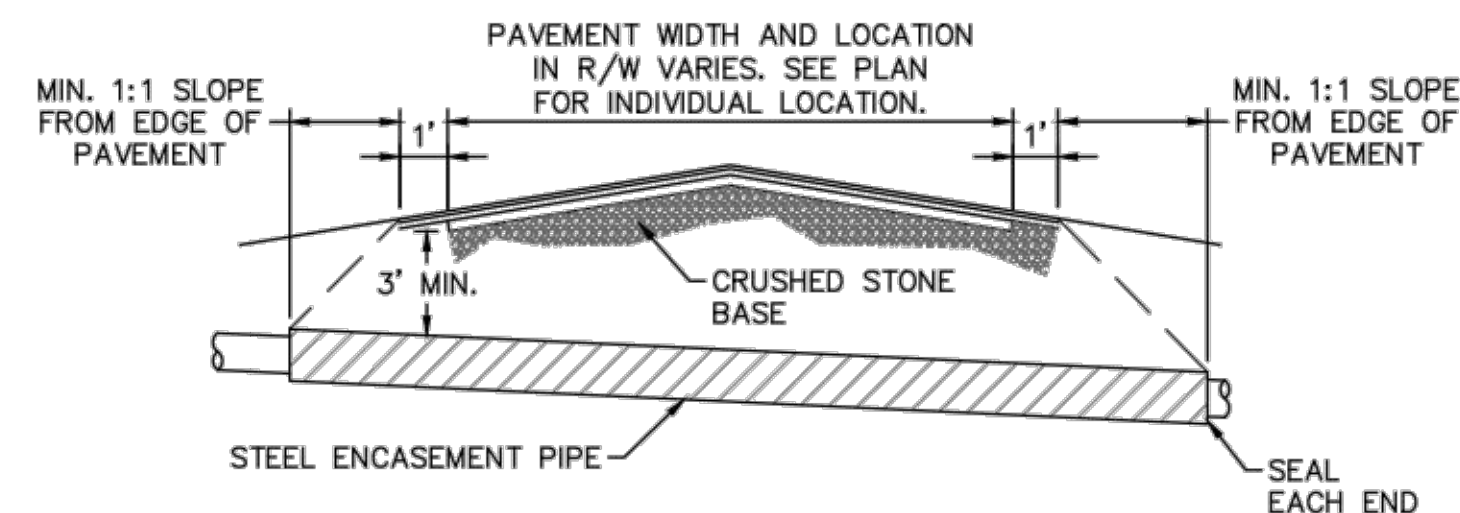


NOTES:
1. BACKFILL SHALL BE SUITABLE MATERIAL THAT IS FREE FROM HEAVY CLAY, GUMBOS, DEBRIS, ORGANICS AND LITTLE TO NO EXCESSIVE MOISTURE.
2. SELECT BACKFILL MAY BE SUBSTITUTED OR REQUIRED BY CITY TO ACHIEVE COMPACTION, (I.E. #57, ABC, CRUSHED LIMESTONE, CLEAN SAND, FLOWABLE FILL, ETC).
3. 8-INCH OF ABC BASE MATERIAL SHALL BE USED ON CITY STREETS.
4. BACKFILL AND BASE MATERIALS SHALL BE COMPACTED 12" MINIMUM LIFTS.
5. SOIL SHALL BE COMPACTED BY A MECHANIZED TAMPER (I.E. JUMPING JACK), HOWEVER, VIBRATORY ROLLERS > 18" WIDTH MAY BE USED FOR LARGER EXCAVATIONS. THE PLATE TAMP METHOD SHALL NOT BE USED.
6. ALL APPROVED CASTINGS SHALL BE SET FLUSH TO GRADE AND SUPPORTED IF APPLICABLE.
7. ABC BASE AND SUBBASE COMPACTED TO 98% AND BACKFILL AND EMBEDMENT COMPACTED TO 90% AS DETERMINED BY THE MODIFIED PROCTOR AASHTO METHOD T-99.
8. 1-FOOT CUTBACKS OF ASPHALT SHALL BE PREPARED ON UNDISTURBED SOIL. MINIMUM ASPHALT DENSITY IS 90%.

PAVEMENT REPAIR WHERE PIPE INSTALLED
NOT TO SCALE



TYPICAL TRENCH DETAIL
NOT TO SCALE



NOTES:
1. CASING WILL BE INSTALLED AT LINE AND GRADE SHOWN ON INDIVIDUAL PROFILE FOR EACH CROSSING. BORING/JACKING TO LINE AND GRADE IS REQUIRED.
2. TRACER WIRE SHALL BE CONTINUED THROUGH CASING.

TYPICAL BORING/JACKING DETAIL
NOT TO SCALE

GENERAL NOTES:
1. NO EXCAVATED MATERIAL SHALL BE PLACED IN ANY STREAM, DITCH OR DRAINAGE-WAY.
2. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES BEFORE ANY CONSTRUCTION BEGINS.
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REV:	DESCRIPTION:	DATE:
1	SAMPLING CHAMBER REVISED	10/26/12

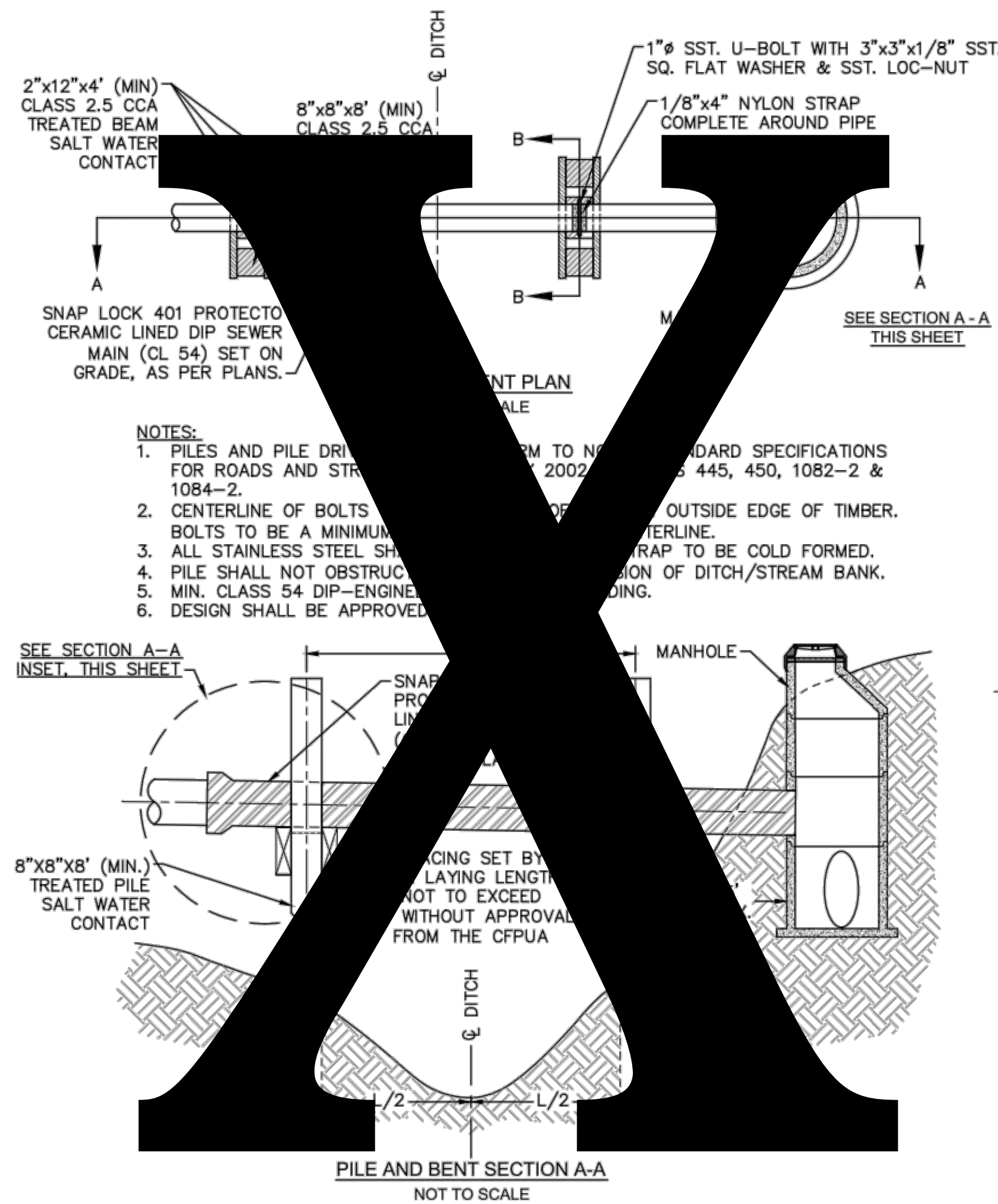
CFPUA SANITARY SEWER

STANDARD DETAILS

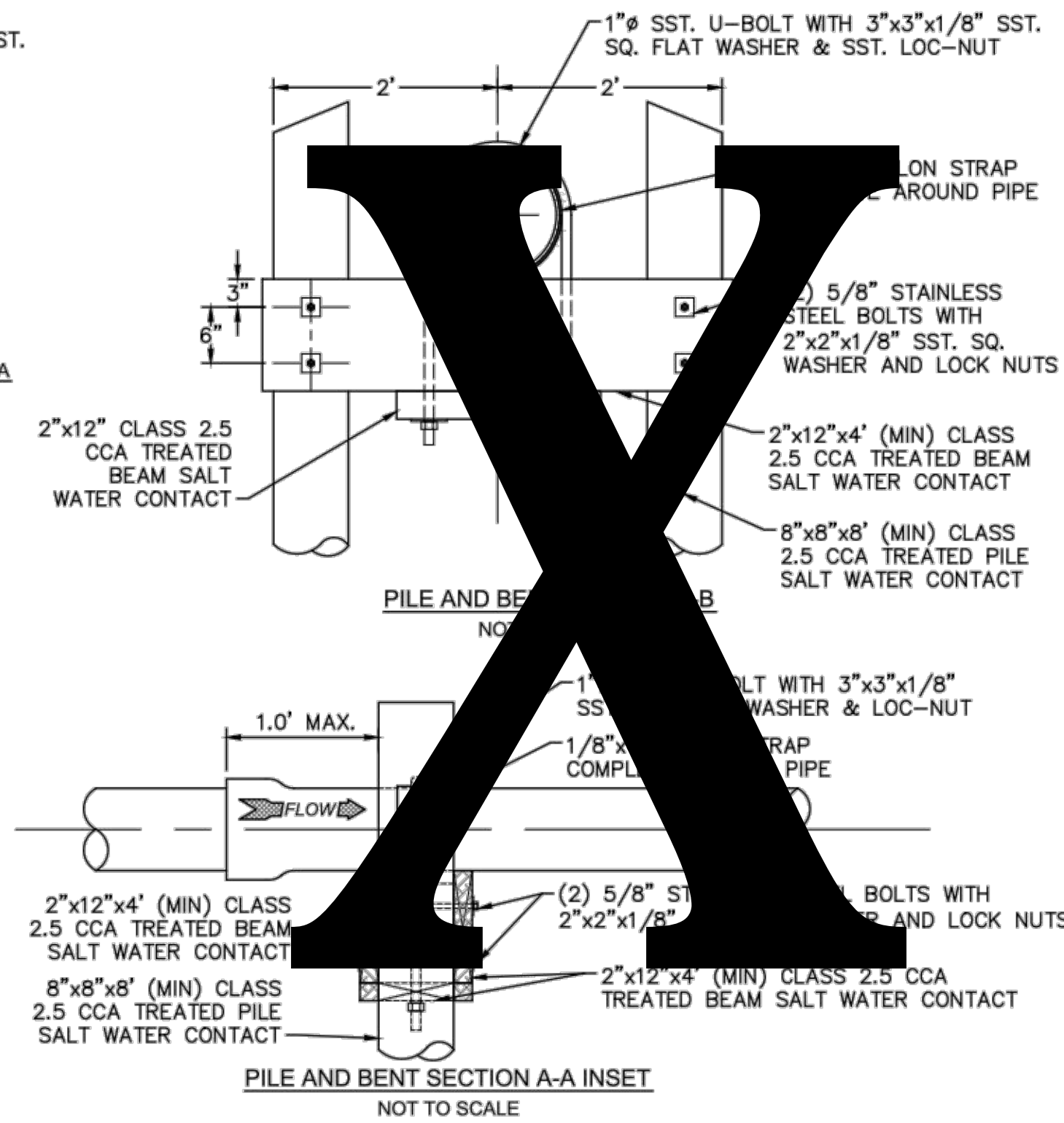
CAPE FEAR PUBLIC UTILITY AUTHORITY
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
OFFICE: (910)332-6560

DATE:
1/9/12
SCALE:
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DRAWN BY:
CFPUA
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CFPUA
PROJECT NO.:

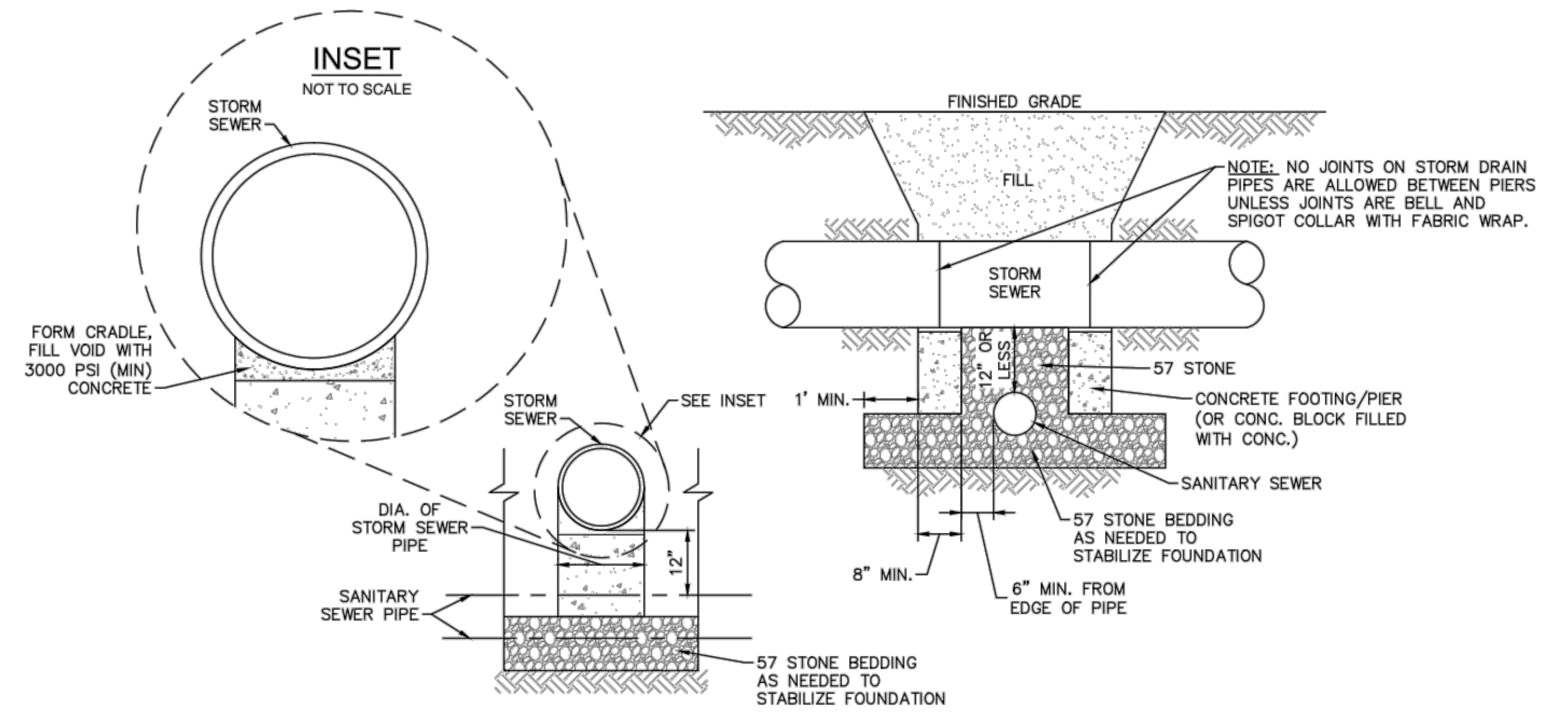
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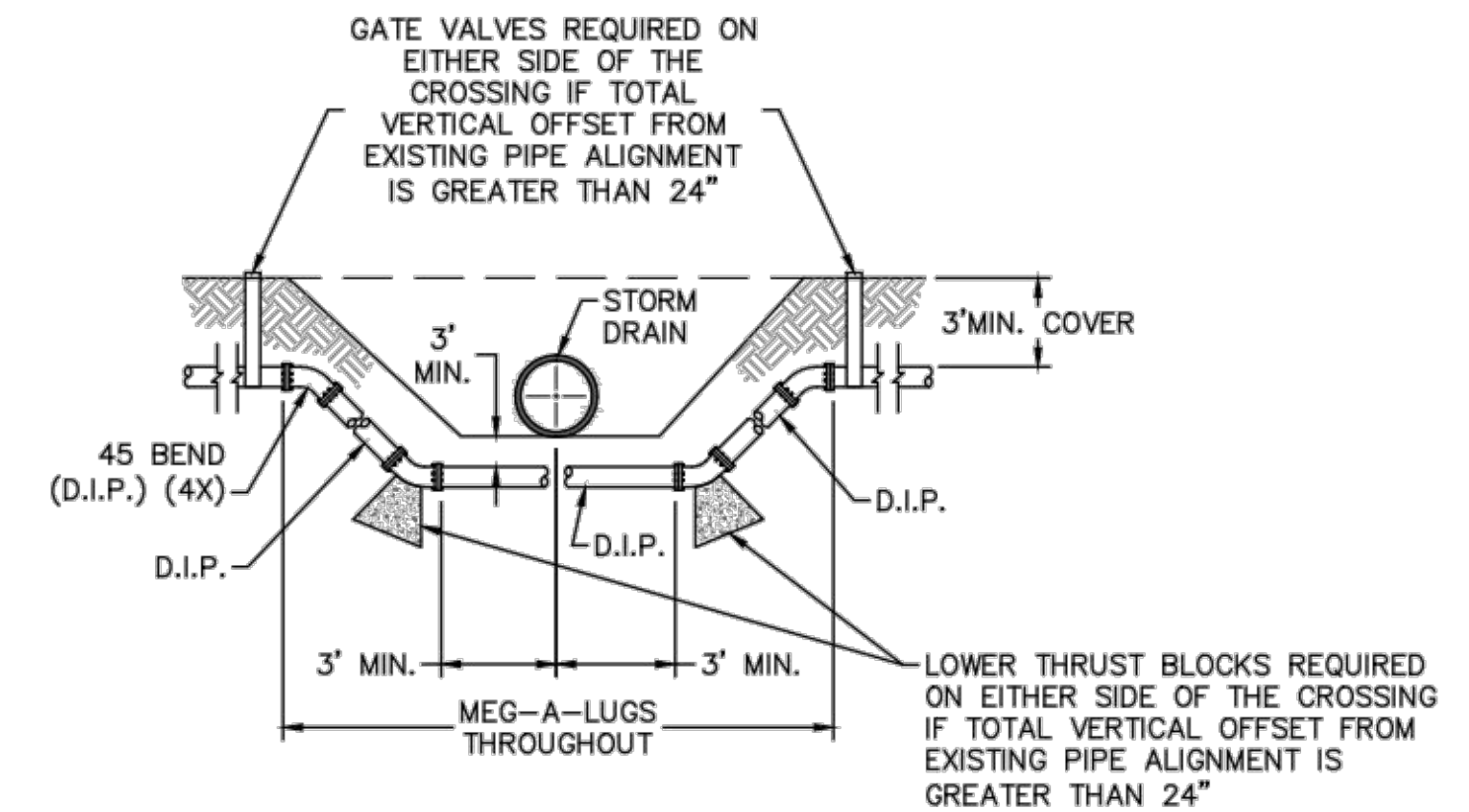
PILE AND BENT DETAIL
NOT TO SCALE



PILE AND BENT SECTION A-A INSET
NOT TO SCALE

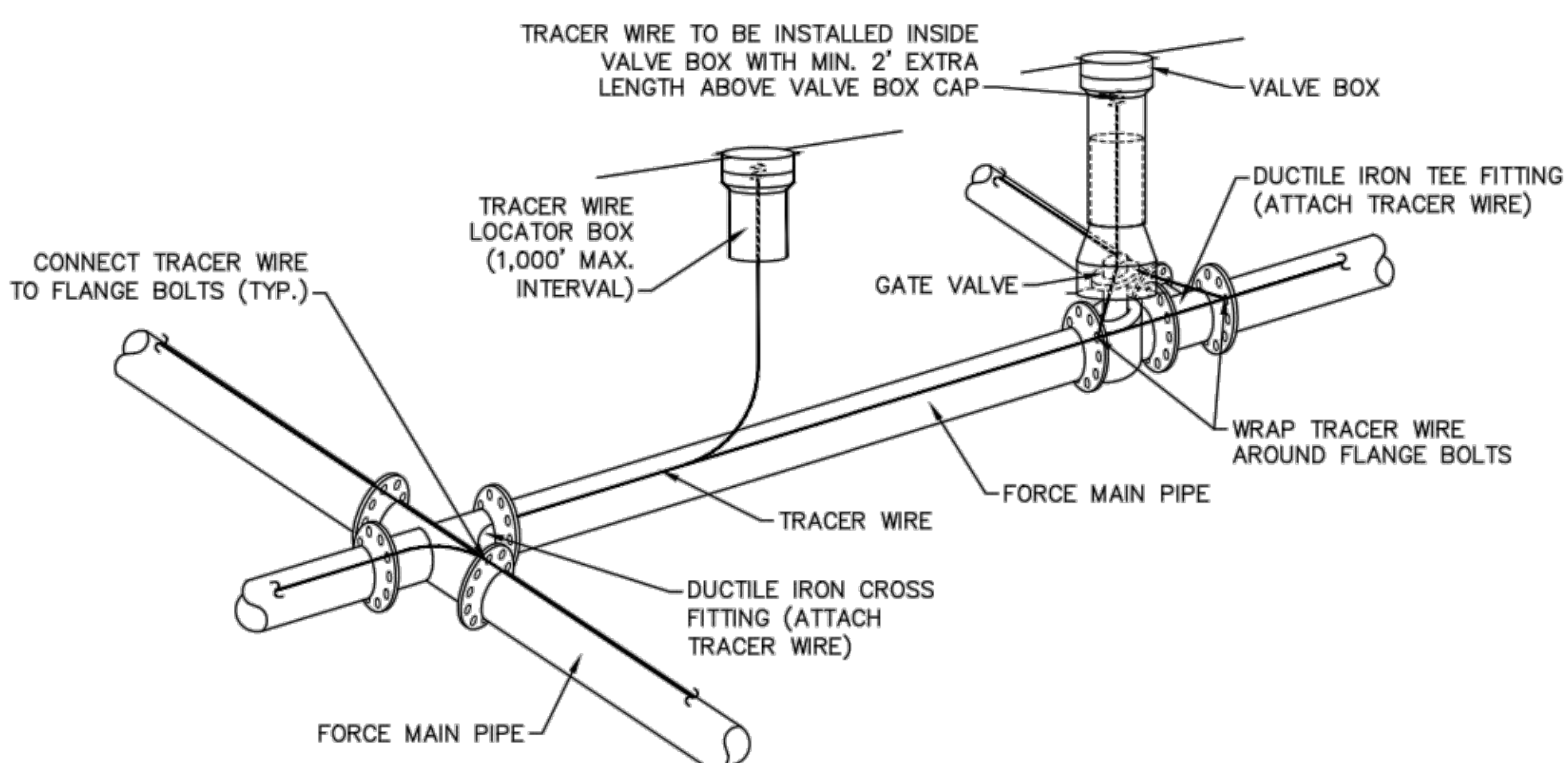


STRUCTURAL BRIDGING DETAIL FOR STORMWATER OVER GRAVITY SEWER INSTALLATIONS WITH LESS THAN 12" SEPARATION
NOT TO SCALE



NOTE: USE D.I.P. (CL50 OR BETTER)

FORCE MAIN DITCH AND STORM DRAIN CROSSING
NOT TO SCALE



- NOTES:**
1. TRACER WIRE SHALL BE #10 COPPER SOLID CORE COPPER WIRE WITH GAS AND OIL RESISTANT INSULATION
 2. WIRE SHALL BE STRAPPED TO ALL PVC FORCE MAIN PIPING WITH DUCT TAPE AT 12'-FT. INTERVALS.
 3. SECURE WIRE TO ALL TEE AND CROSS FITTINGS.
 4. ALL WIRE SPLICES SHALL HAVE WATER PROOF WIRE CONNECTIONS.

TRACER WIRE DETAIL
NOT TO SCALE

- GENERAL NOTES:**
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REV:	DESCRIPTION:	DATE:

CFPUA SANITARY SEWER

STANDARD DETAILS

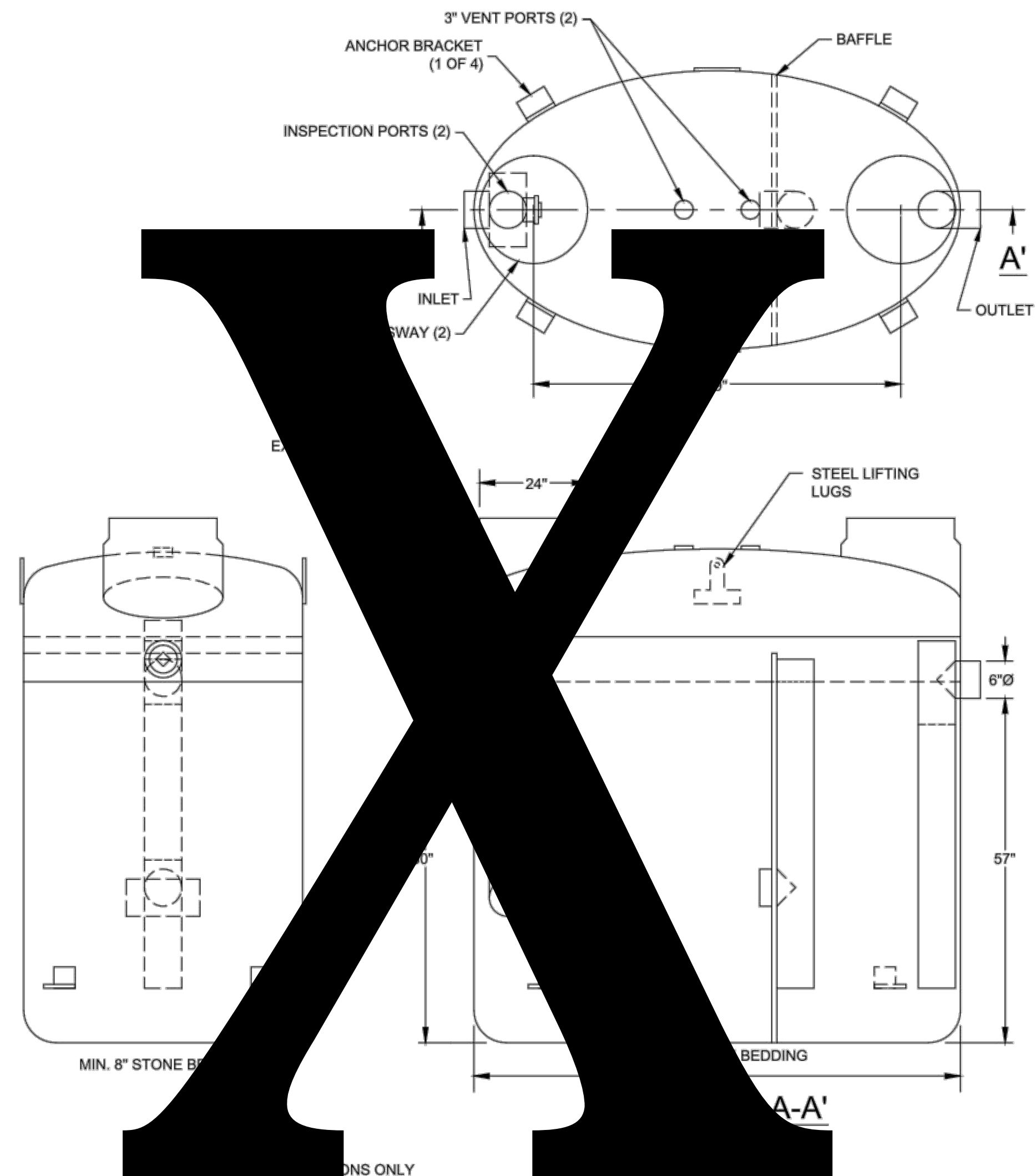


CAPE FEAR PUBLIC UTILITY AUTHORITY
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CFPUA
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PROJECT NO.:

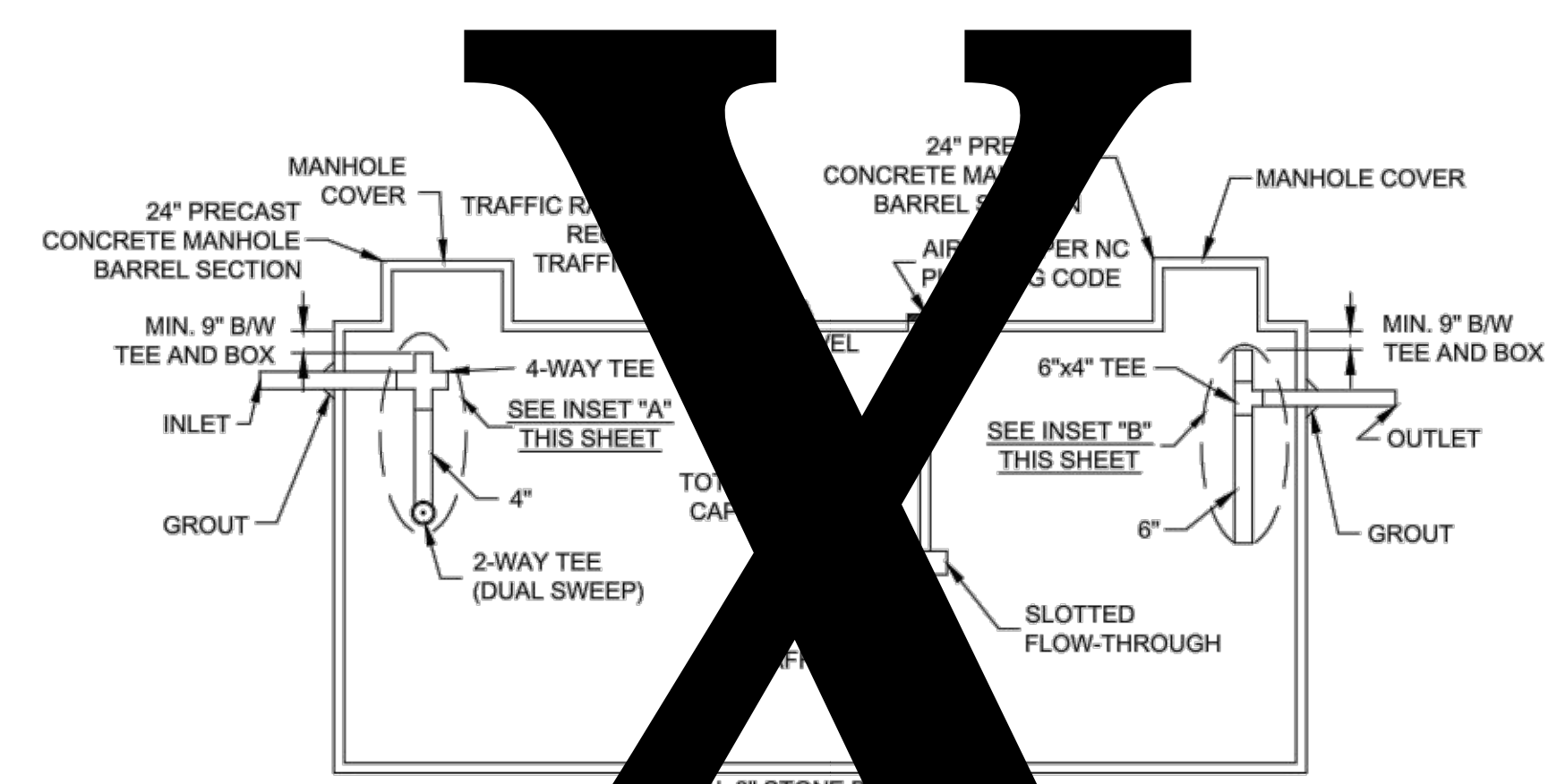
SHEET NO:
SSD-3

Stewardship. Sustainability. Service.

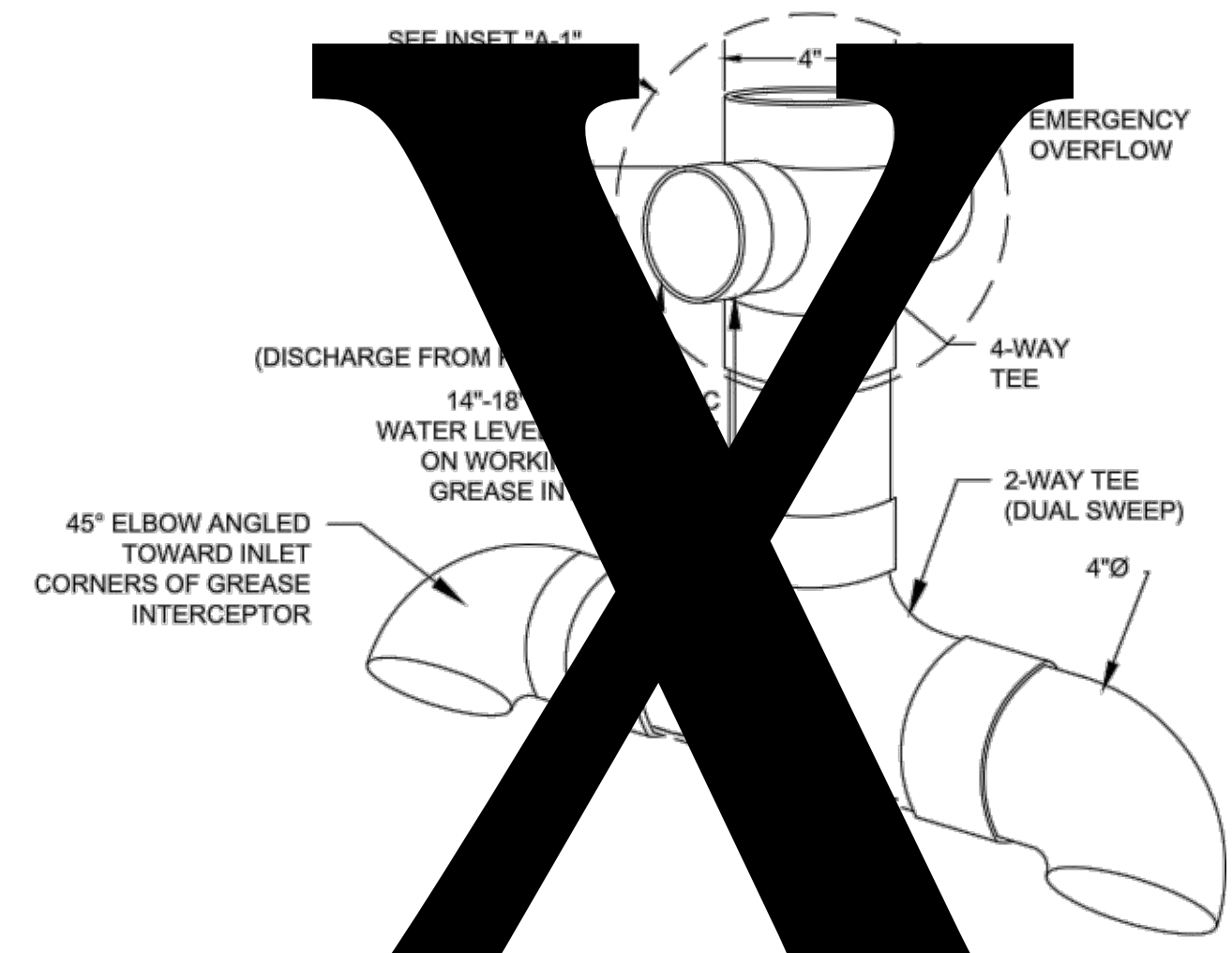


- 1. INSTALLATION INSTRUCTIONS ONLY
- 2. MIN. THICKNESS: 1/4" WALL AND 3/8" TOP AND BOTTOM BOWLS
- 3. STANDARD PIPE STUBS ARE SOCKET SDR 35 PVC
- 4. EXTENSION COLLARS SHALL BE CAULKED WITH SIKAFLEX OR EQUIVALENT FOR WATERTIGHT SEAL
- 5. FOLLOW MANUFACTURE'S SPECS FOR TRAFFIC OR PEDESTRIAN LOADING

FIBERGLASS GREASE INTERCEPTOR
NOT TO SCALE



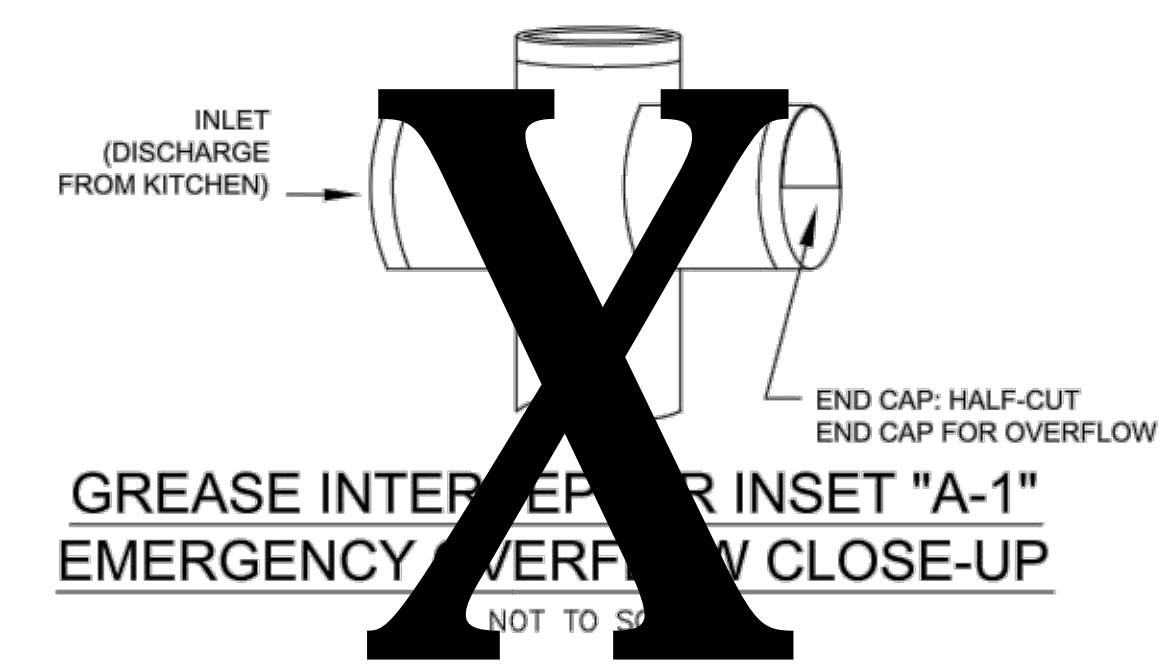
CONCRETE GREASE RECEPTOR
NOT TO SCALE



4" SANITARY TEE
NOT TO SCALE



GREASE INTERCEPTER INSET "B"
NOT TO SCALE



GREASE INTERCEPTER INSET "A-1"
NOT TO SCALE

GENERAL NOTES:

1. NO EXCAVATED MATERIAL SHALL BE PLACED IN ANY STREAM, DITCH OR DRAINAGE-WAY.
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CFPUA SANITARY SEWER

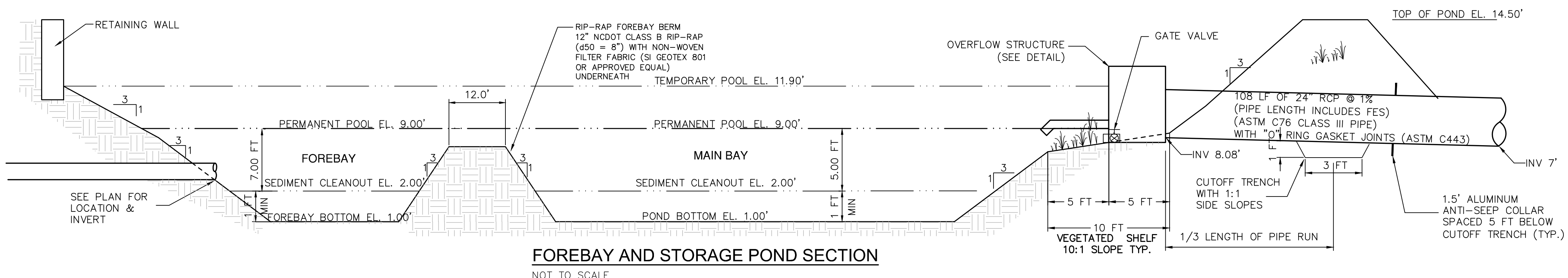
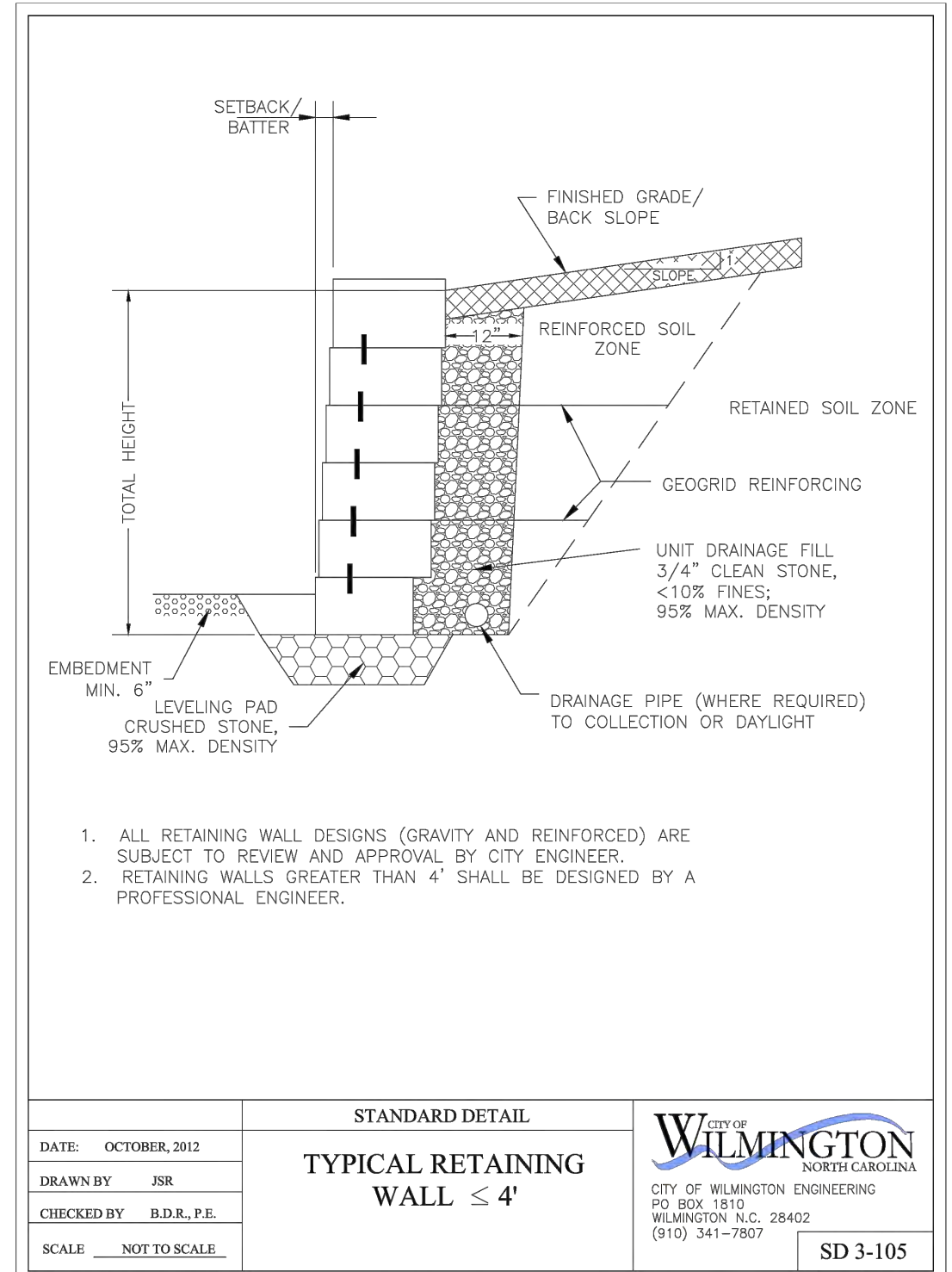
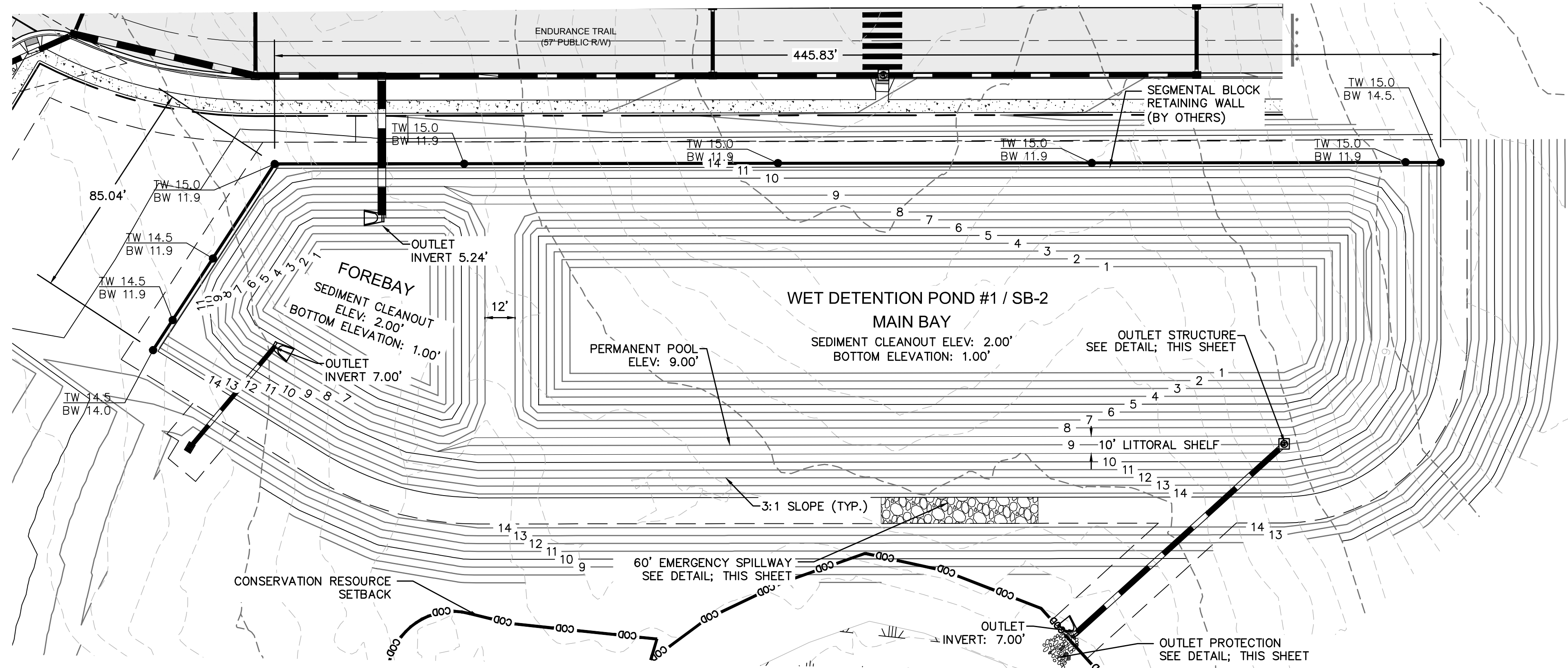
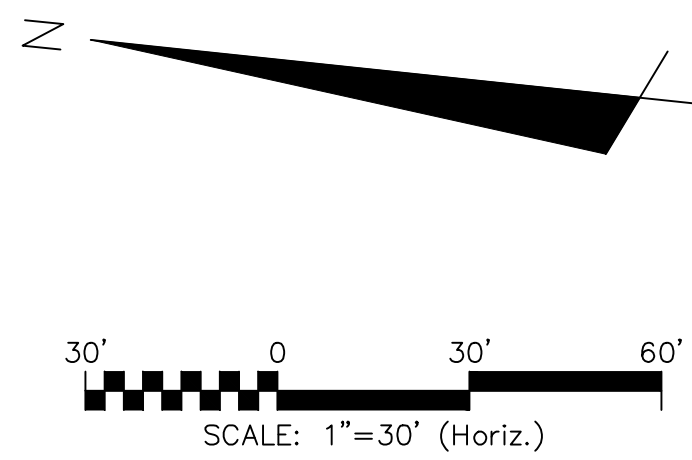
STANDARD DETAILS

CAPE FEAR PUBLIC UTILITY AUTHORITY
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
OFFICE: (910)332-6560
Stewardship. Sustainability. Service.

DATE:	1/9/12
SCALE:	N/A
DRAWN BY:	CFPUA
CHECKED BY:	CFPUA
PROJECT NO.:	

SHEET NO:
SSD-4

REV:	DESCRIPTION:	DATE:

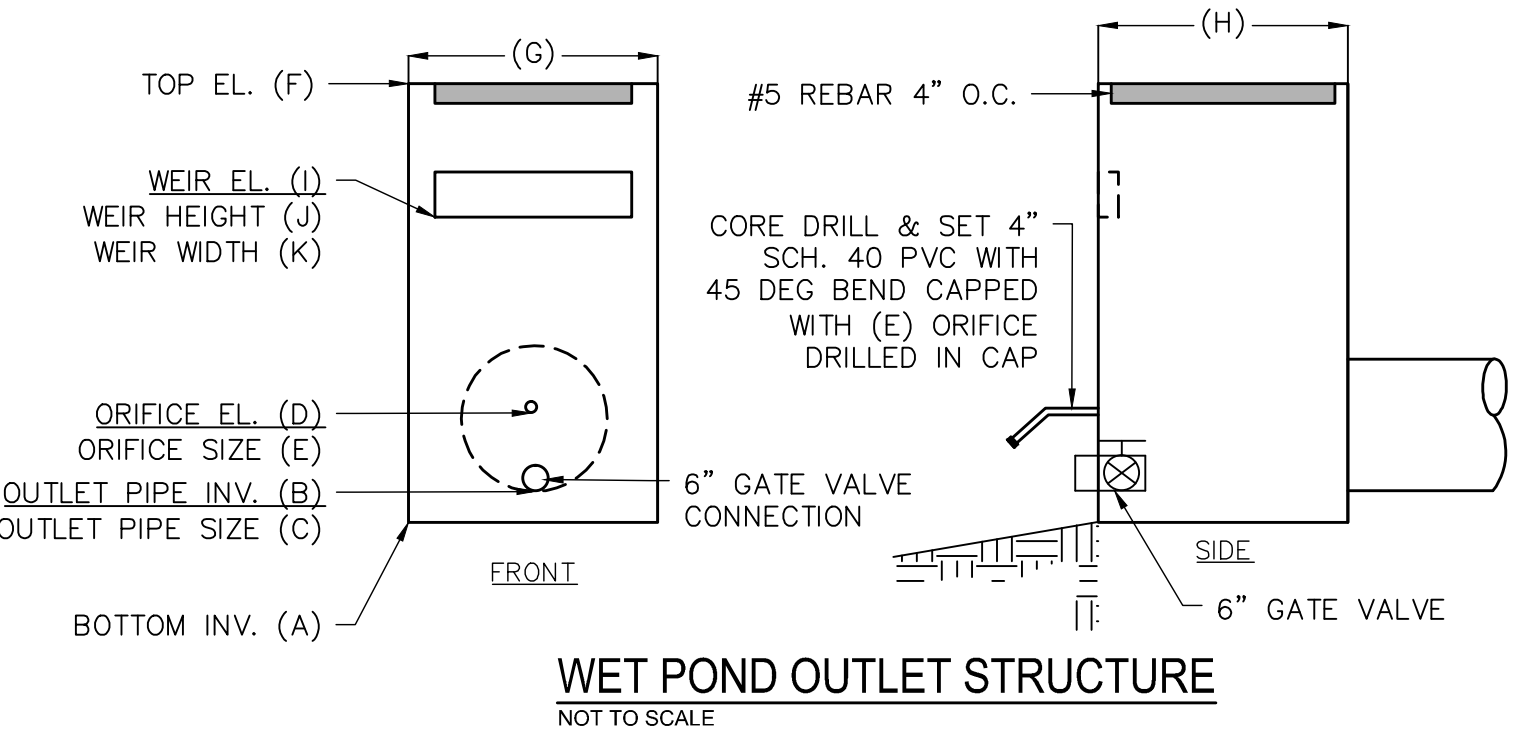
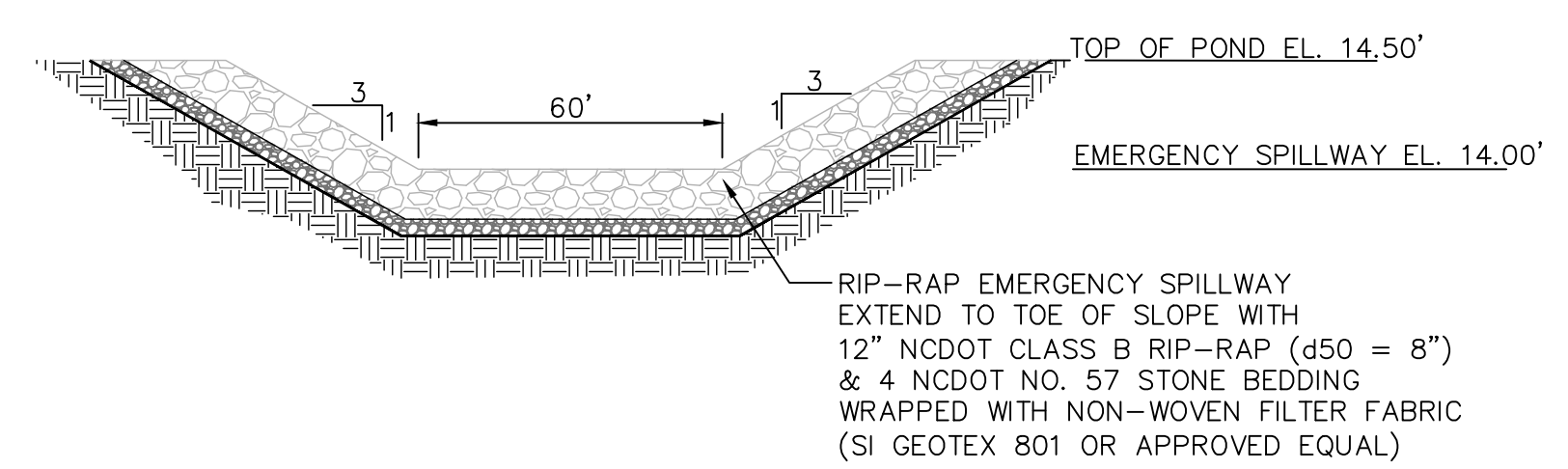


WET DETENTION POND NOTES

- 1) TEMPORARY PUMP WILL BE PROVIDED BY OWNER TO DRAIN POND/FOREBAY FOR ROUTINE MAINTENANCE OR IN AN EMERGENCY.
- 2) SOD SLOPES ABOVE THE PERMANENT POOL AROUND THE INSIDE OF THE FOREBAY, ABOVE THE VEGETATED SHELF AROUND THE MAIN BAY AND SLOPES OUTSIDE OF THE POND.
- 3) CONTRACTOR SHALL EXCAVATE VEGETATED SHELF AS NECESSARY TO PROVIDE ADEQUATE CLEARANCE AROUND RISER FOR PVC PIPE INVERT.
- 4) THE SEASONAL HIGH WATER TABLE WAS FOUND TO BE ~ EL. 9.35 IN THE MAIN BAY OF THE WET DETENTION POND.

GENERAL NOTES

1. CONTRACTOR SHALL VERIFY LOCATIONS OF EXISTING UTILITIES.
2. THE IMPROVEMENTS SHOWN ON THIS SITE PLAN CANNOT DEVIATE FROM THE PLAN ONCE APPROVED WITHOUT WRITTEN APPROVAL OF ENGINEER.
3. SITE WILL REQUIRE A STATE EROSION CONTROL PERMIT AND STATE STORMWATER PERMIT.
4. IMPERVIOUS AREA SHALL DRAIN TO PROPOSED STATE PERMITTED STORMWATER POND.



WET POND OUTLET STRUCTURE	
WET POND 1	
A	8.08'
B	8.08'
C	24"
D	9.00'
E	4"
F	13.50'
G	6'
H	6'
I	11.9'
J	6"
K	12"

OUTLET PROTECTION	
OUTLET PIPE DIA.	24"
OUTLET FLOW RATE	3.67 CFS
OUTLET VELOCITY	5.22 FT/S
MATERIAL	CLASS A
LENGTH	8'
WIDTH	6'
STONE DIA.	3"
THICKNESS	9"

PIPE OUTLET PROTECTION NOT TO SCALE

REVNO.	DESCRIPTIONS	DATE
I	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	10/12/2015
H	CFWA SUBMITTAL	09/10/2015
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
E	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/21/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015

FINAL DRAWINGS
DO NOT USE FOR
CONSTRUCTION



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

RIVERLIGHTS
 NORTH AMERICA SERIES HOUSE, LLC
 Newland by COMMUNITIES

**RIVERLIGHTS
 CONVENTIONAL NEIGHBORHOOD PH. 1
 STORMWATER MANAGEMENT DETAILS**

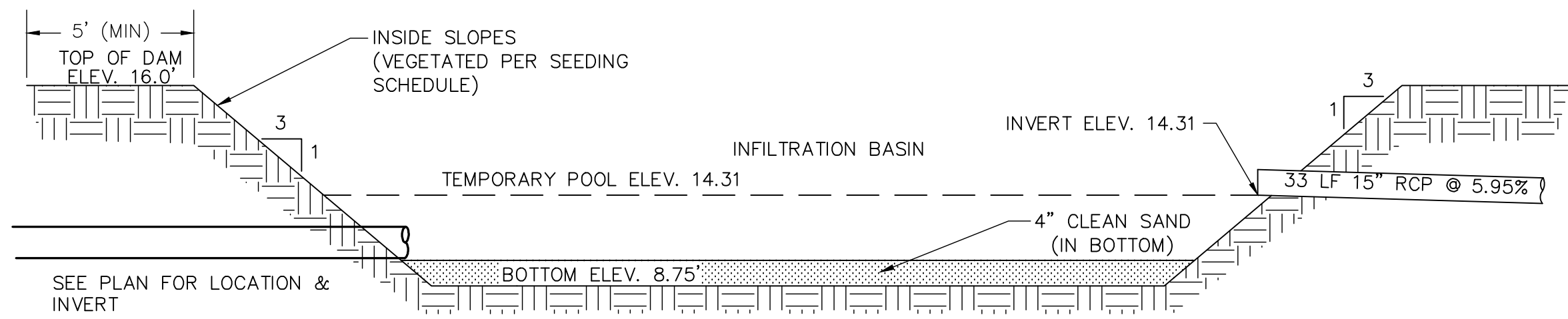
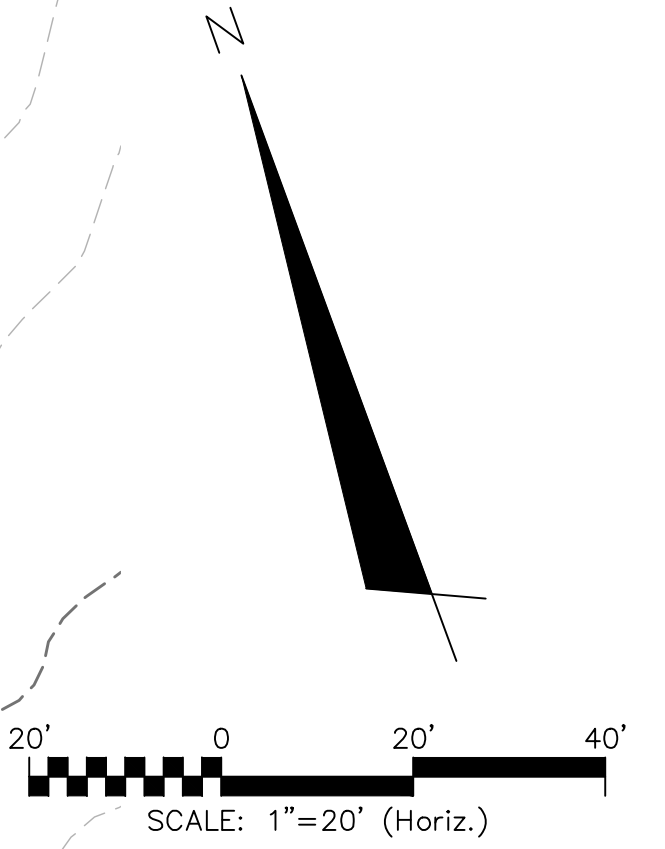
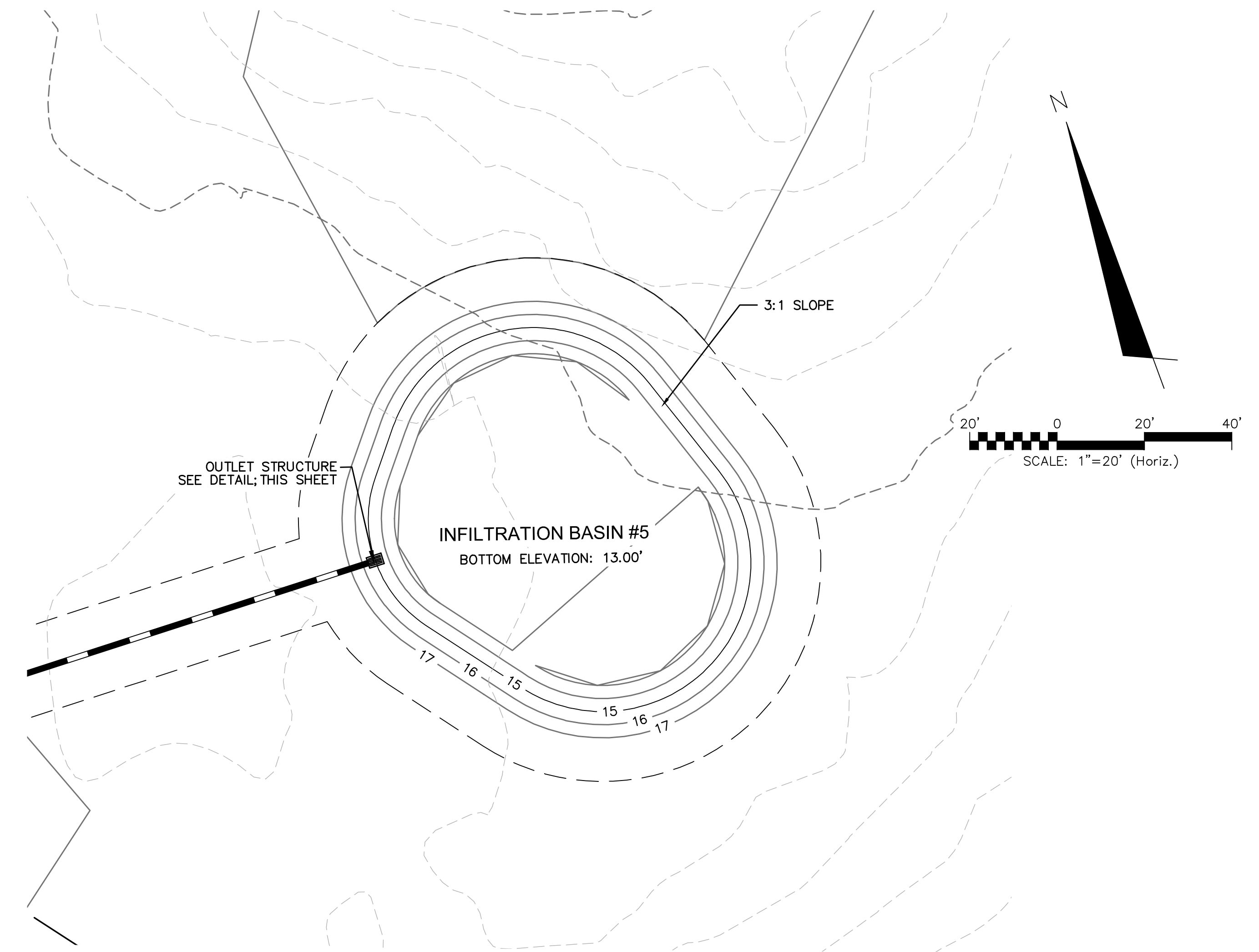
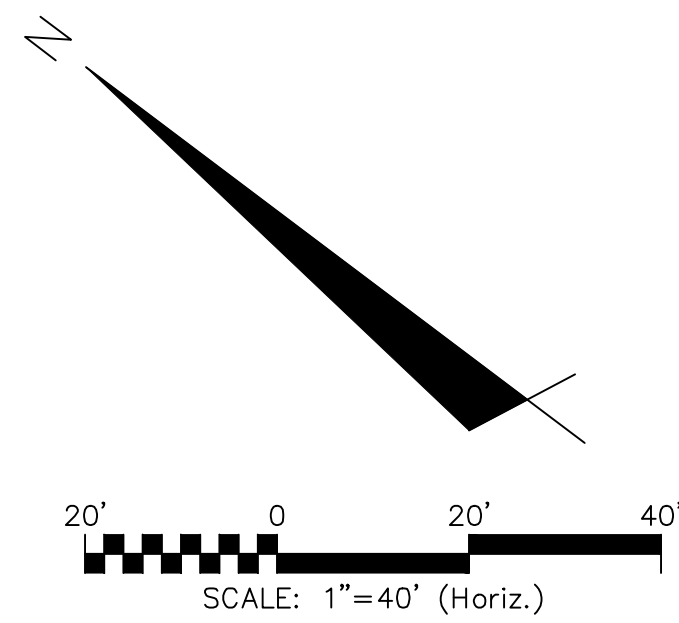
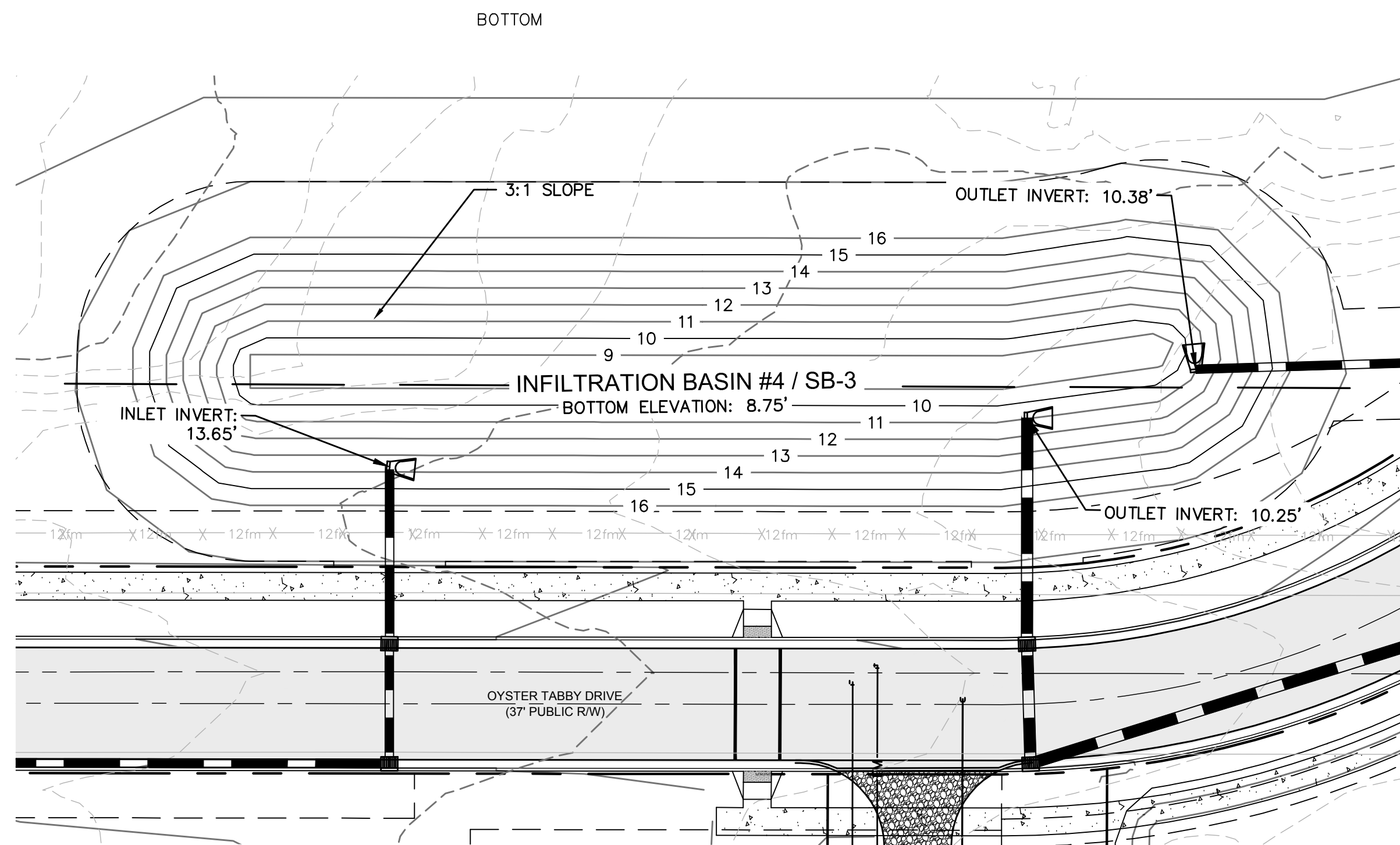
DATE: 04-29-2015
 MCE PROJ. # 02735-0129
 DRAWN: EEM/KCBE
 DESIGNED: KCBE
 CHECKED: NJL
 PROJ. MGR: RMC

SCALE: 1"=30'
 HORIZONTAL: 1"=30'
 VERTICAL: N/A

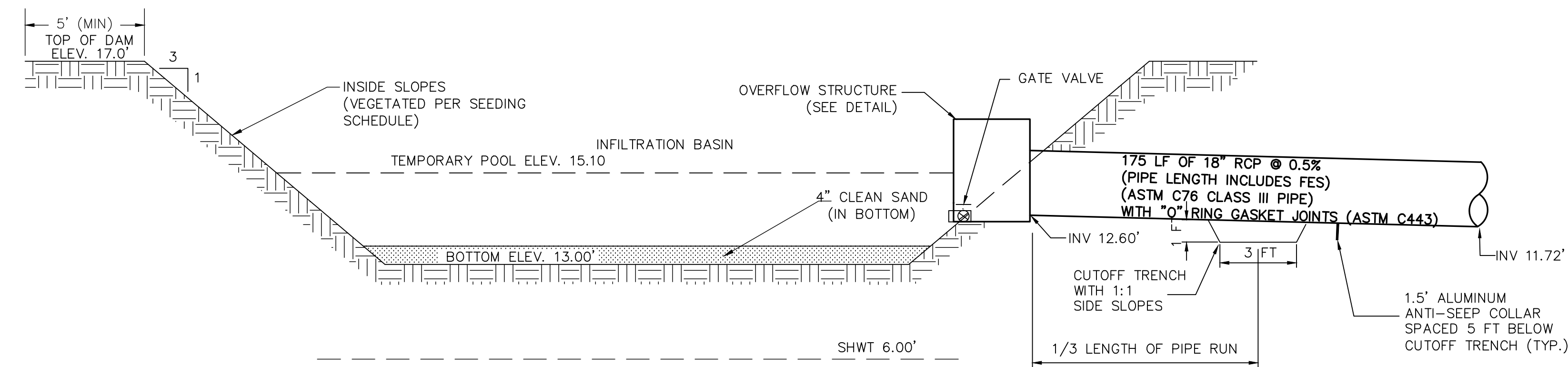
MAC FILE NUMBER: CN-501
 DRAWING NUMBER: 41
 REVISION: 1

STATUS: FINAL DESIGN
 ISSUED FOR PERMITTING

S:\27250\129 Ph. 1 SF-00 Drawings\CN501-02735-0129.dwg, 10/14/2015 3:25:48 PM, AMendeshall



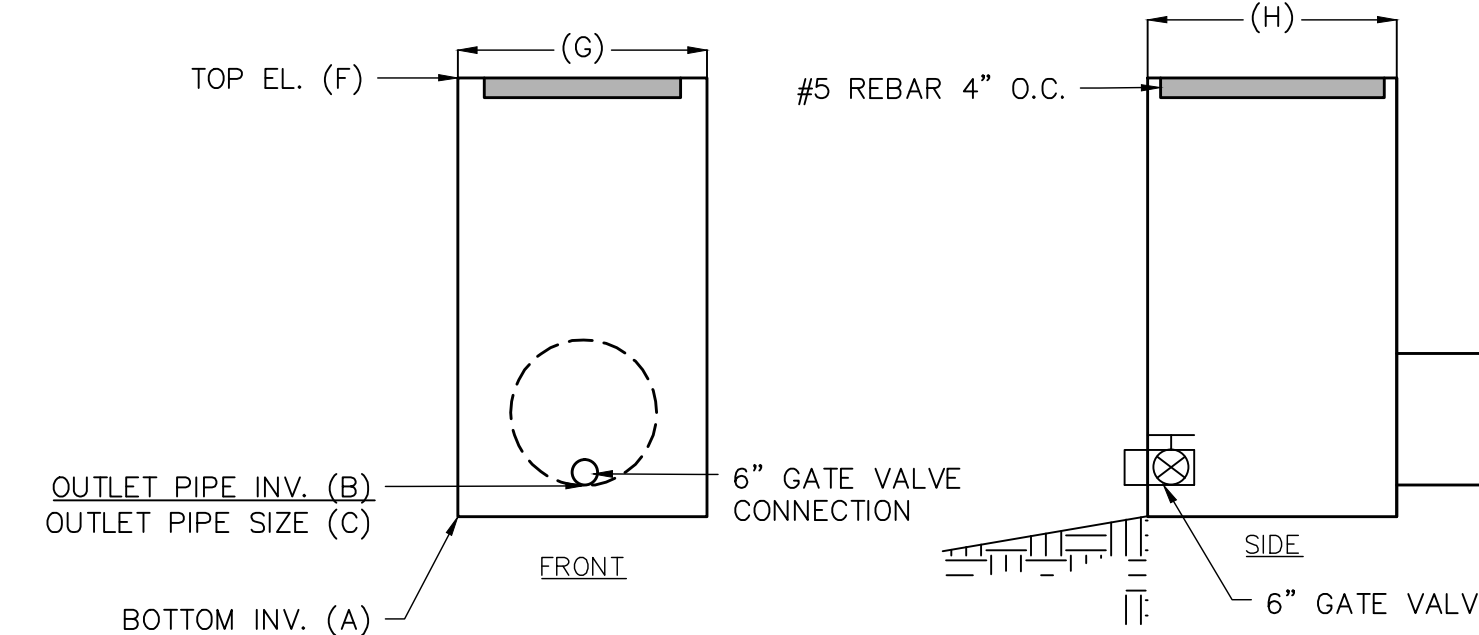
INFILTRATION BASIN
NOT TO SCALE



INFILTRATION BASIN
NOT TO SCALE

NOTES

1. THE ENTIRE INFILTRATION BASIN SHALL BE SEEDED PER THE SEEDING SCHEDULE IMMEDIATELY FOLLOWING THE COMPLETION OF CONSTRUCTION.
2. THE BOTTOM SHALL BE OVEREXCAVATED 4" AND BACKFILLED WITH CLEAN SAND TO THE BOTTOM ELEVATION SPECIFIED.
3. IF HARDPAN OR OTHER UNSUITABLE SOILS ARE ENCOUNTERED, OVEREXCAVATE THE BOTTOM A MINIMUM OF 2" AND BACKFILL WITH ENGINEER APPROVED SANDY SOIL MATERIAL.
4. IF THE BASIN IS USED AS AN EROSION CONTROL DEVICE, THE BOTTOM MUST BE COMPLETELY CLEANED OUT, OVEREXCAVATED 6" AND BACKFILLED WITH AN ENGINEER APPROVED SANDY SOIL MATERIAL.



OUTLET STRUCTURE
NOT TO SCALE

OUTLET STRUCTURE	
INFILTRATION #5	
A	12.60'
B	12.60'
C	18"
F	15.10
G	2'
H	2'

NOTE

1. 50-YR DISCHARGE THROUGH WEIR ASSUMING THE BASIN WILL NOT INFILTRATE.
WEIR EQUATION: $Q50 = C \cdot L \cdot h^{3/2}$
 $Q50 = 8.373 \text{ cfs} = 3.0 \cdot 8.0 \text{ ft} \cdot h^{3/2}$
 $h = 0.496' = 5.95"$

REV. NO.	DESCRIPTIONS	DATE
I	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	10/12/2015
H	CFWA SUBMITTAL	08/10/2015
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	08/10/2015
F	NEW HANOVER COUNTY EROSION CONTROL, RE-SUBMITTAL	08/03/2015
E	NEW HANOVER COUNTY EROSION CONTROL, RE-SUBMITTAL	07/09/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
C	NEW HANOVER COUNTY EROSION CONTROL, SUBMITTAL	05/21/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015

SEAL
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Newland by COMMUNITIES
NORTH AMERICA SERIES HOUSE, LLC

RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1
STORMWATER MANAGEMENT DETAILS

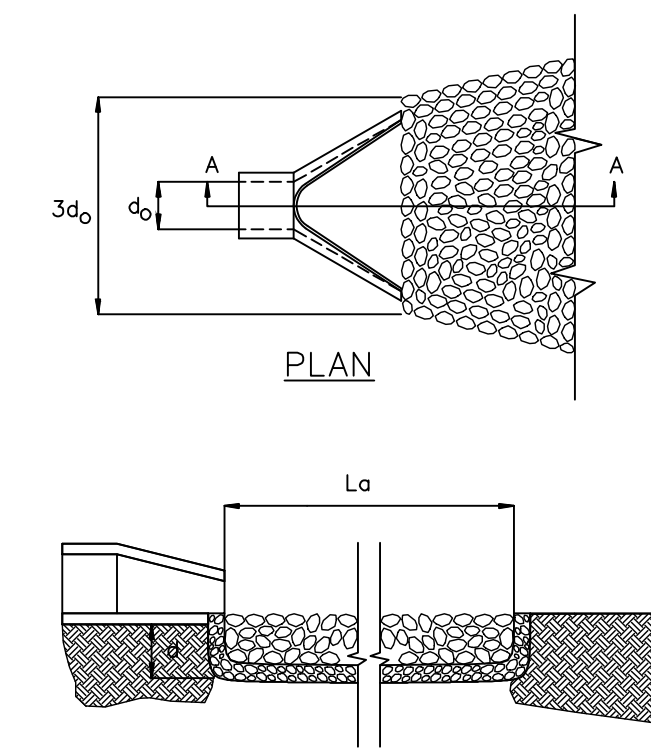
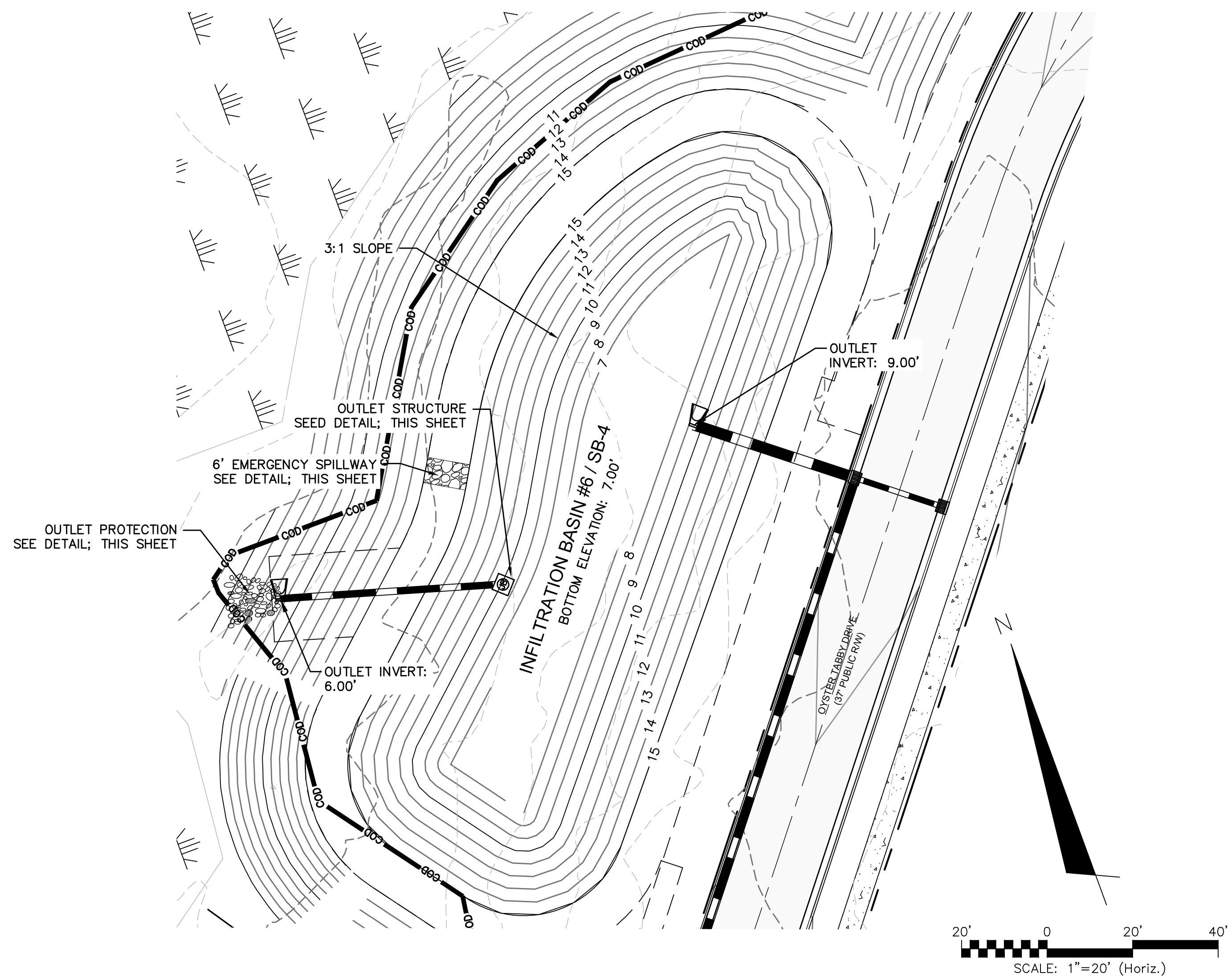
DATE: 04-29-2015
MCE PROJ. # 02735-0129
DRAWN: EEM/KCBE
DESIGNED: KCBE
CHECKED: NJL
PROJ. MGR: RMC

SCALE: 1"=20'
HORIZONTAL: 1"=20'
VERTICAL: N/A

MAC FILE NUMBER: CN-502
DRAWING NUMBER: 42
REVISION: G

STATUS: FINAL DESIGN
ISSUED FOR PERMITTING

S:\2726\0129 Ph.1_SFB04 Drawings\CN501-02735\0129.dwg, 10/14/2015 3:25:56 PM, A\mendenhall



- NOTES:
1. La 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.

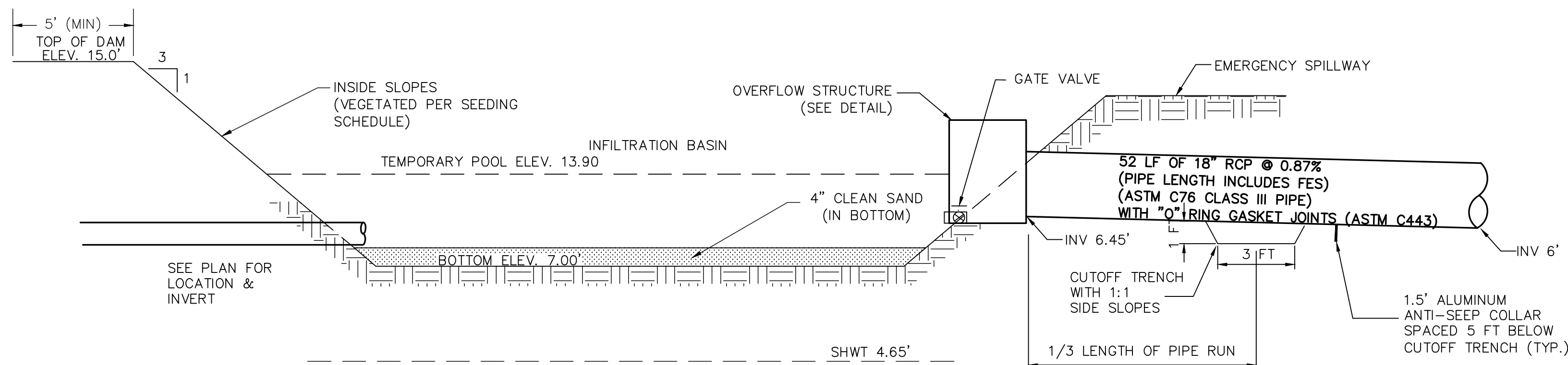
PIPE OUTLET PROTECTION
NOT TO SCALE

OUTLET PROTECTION	
OUTLET PIPE DIA.	18"
OUTLET FLOW RATE	8.22 CFS*
OUTLET VELOCITY	6.45 FT/S
MATERIAL	CLASS A
LENGTH	6'
WIDTH	4.5'
STONE DIA.	3"
THICKNESS	9"

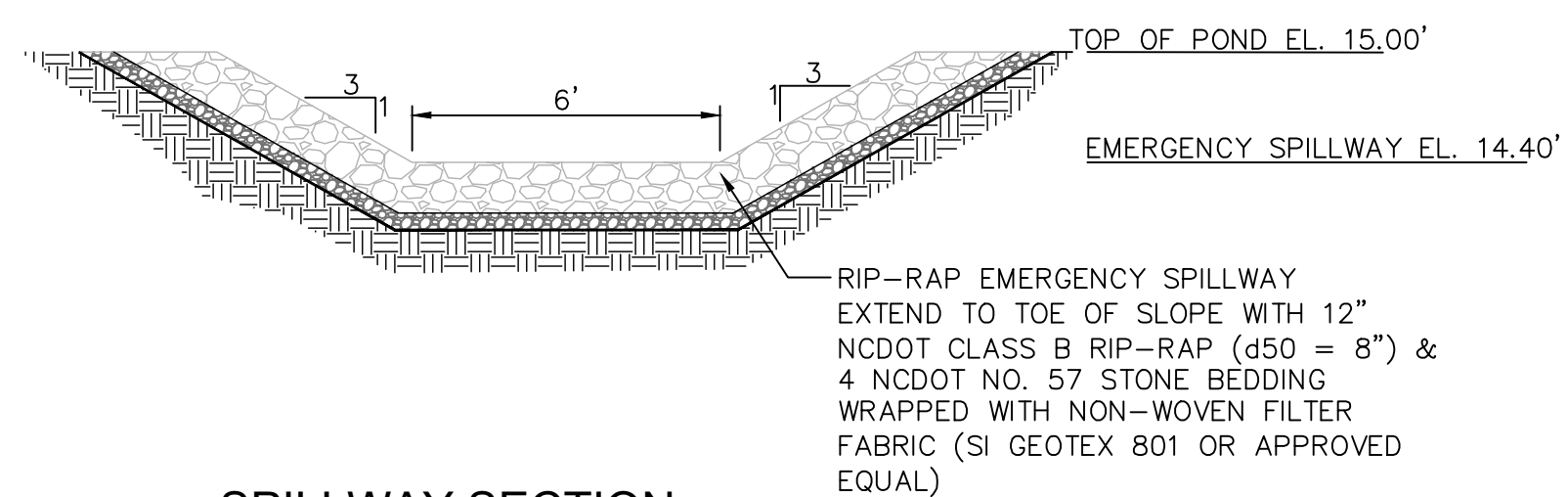
*25-YEAR
NO Q FOR 10-YEAR

NOTES

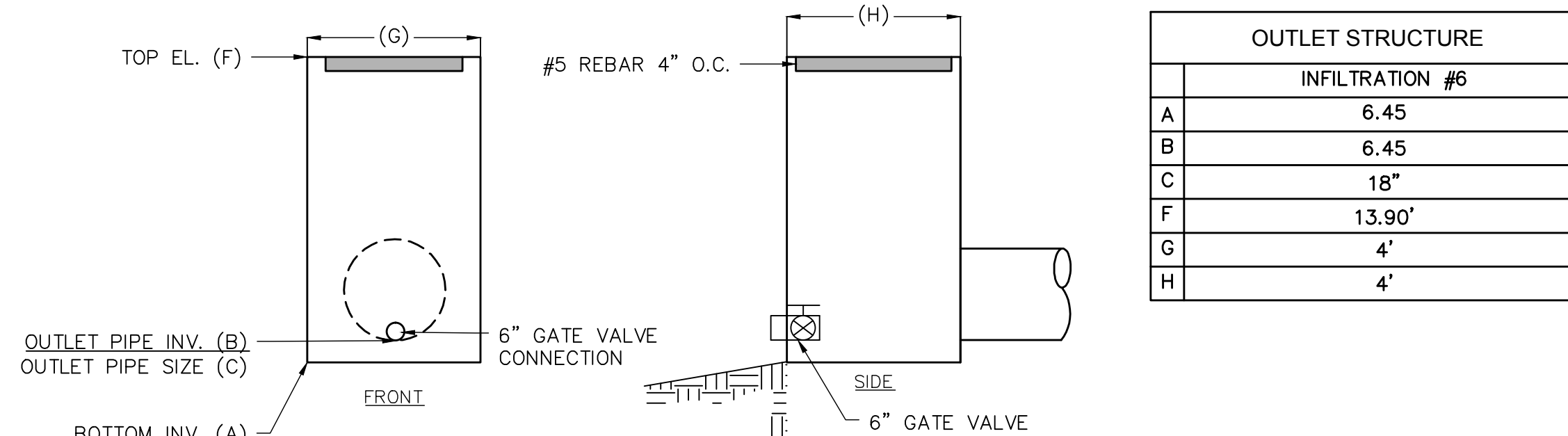
1. THE ENTIRE INFILTRATION BASIN SHALL BE SEEDED PER THE SEEDING SCHEDULE IMMEDIATELY FOLLOWING THE COMPLETION OF CONSTRUCTION.
2. THE BOTTOM SHALL BE OVEREXCAVATED 4" AND BACKFILLED WITH CLEAN SAND TO THE BOTTOM ELEVATION SPECIFIED.
3. IF HARDPAN OR OTHER UNSUITABLE SOILS ARE ENCOUNTERED, OVEREXCAVATE THE BOTTOM A MINIMUM OF 2" AND BACKFILL WITH ENGINEER APPROVED SANDY SOIL MATERIAL.
4. IF THE BASIN IS USED AS AN EROSION CONTROL DEVICE, THE BOTTOM MUST BE COMPLETELY CLEANED OUT, OVEREXCAVATED 6" AND BACKFILLED WITH AN ENGINEER APPROVED SANDY SOIL MATERIAL.
5. 50-YR DISCHARGE THROUGH WEIR ASSUMING THE BASIN WILL NOT INFILTRATE.
WEIR EQUATION: $Q_{50} = C \cdot L \cdot h^{3/2}$
 $Q_{50} = 29.56 \text{ cfs} = 3.0 \cdot 24.0 \text{ ft} \cdot h^{3/2}$
 $h = 0.488' = 5.86"$



INFILTRATION BASIN
NOT TO SCALE



SPILLWAY SECTION
NOT TO SCALE

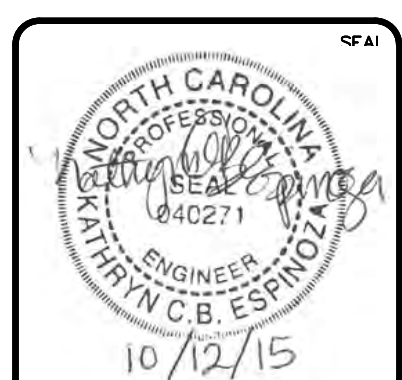


OUTLET STRUCTURE
NOT TO SCALE

OUTLET STRUCTURE	
INFILTRATION #6	
A	6.45
B	6.45
C	18"
F	13.90'
G	4'
H	4'

REV.	DESCRIPTION	DATE
I	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	10/12/2015
H	CFWA SUBMITTAL	08/10/2015
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	06/10/2015
F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
E	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	07/09/2015
D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/21/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/06/2015

SEAL
FINAL DRAWINGS
DO NOT USE FOR
CONSTRUCTION

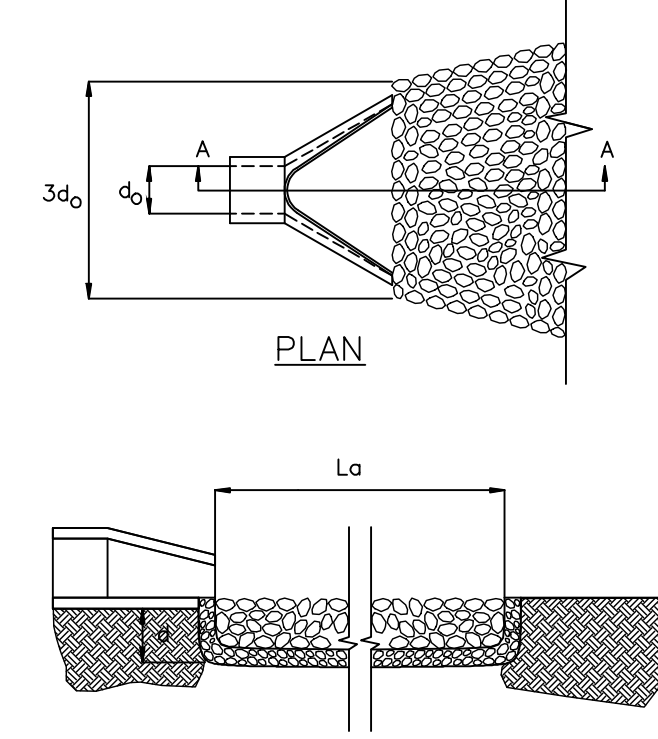
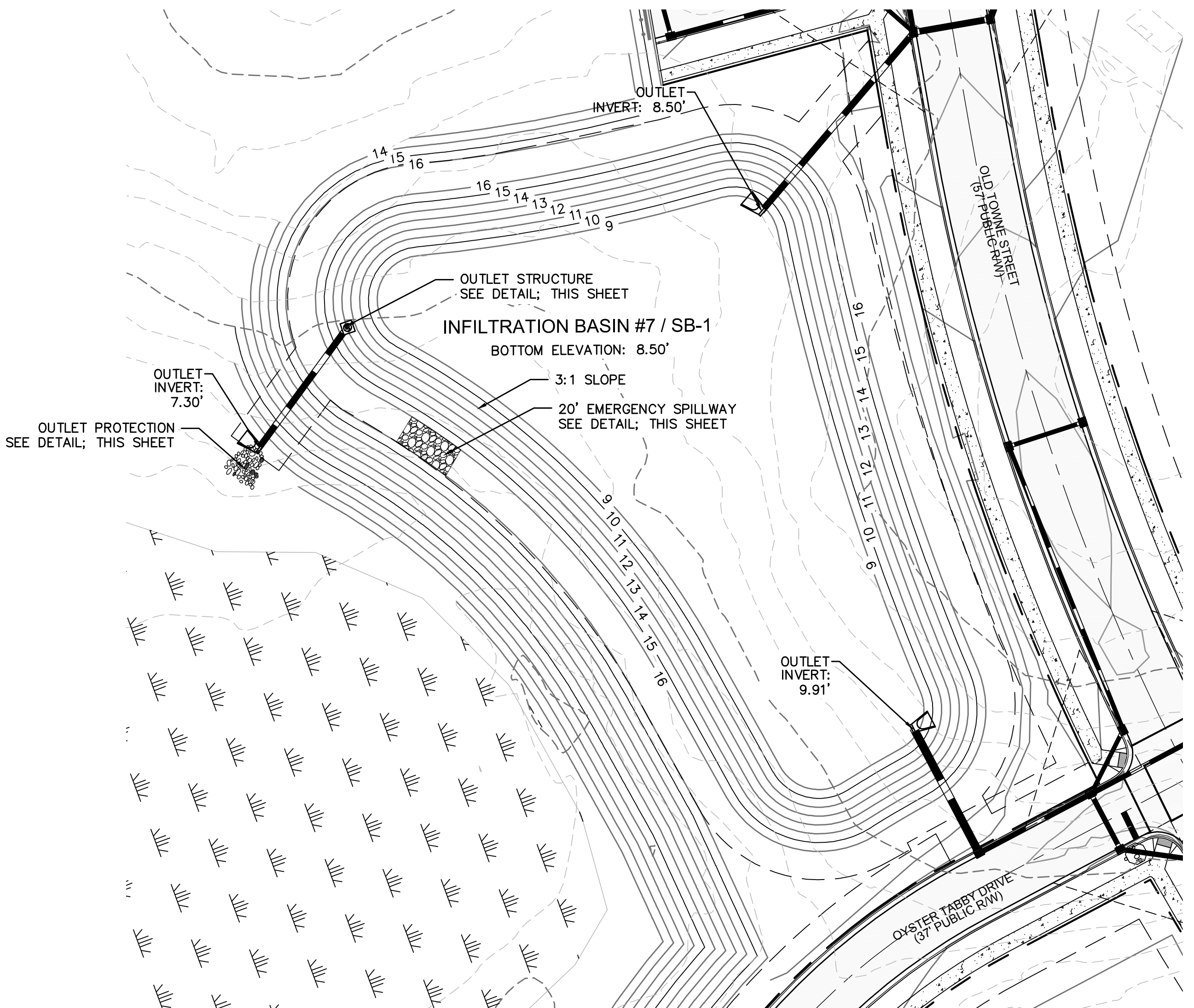
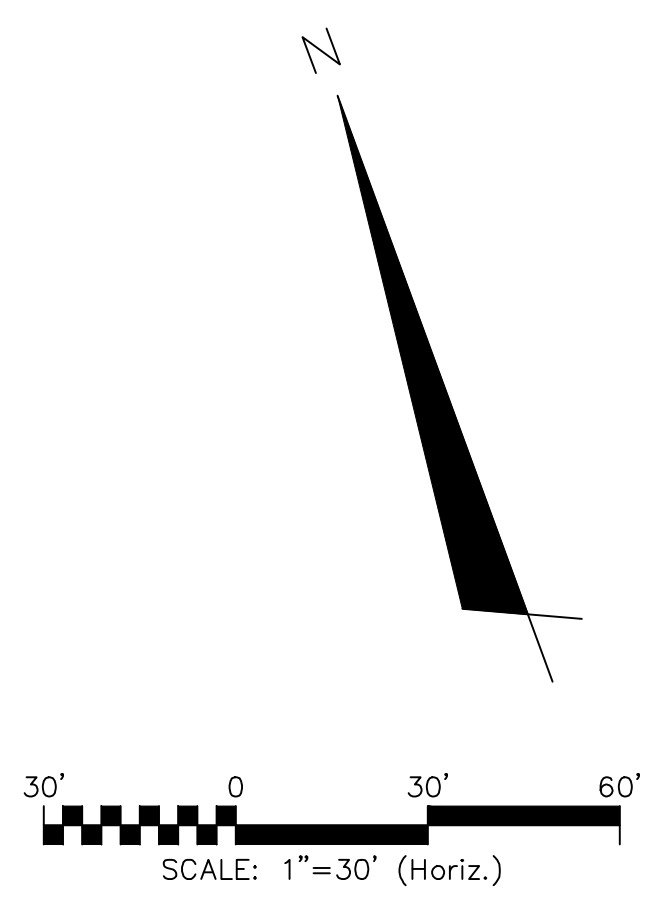


MCKIM & CREED
243 North Front Street
Wilmington, North Carolina 28401
Phone: (910)343-1048, Fax: (910)251-8282
License: F-1222
www.mckimcreed.com

RIVERLIGHTS
Newland by COMMUNITIES
NORTH AMERICA SERIES HOUSE, LLC

**RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1**
STORMWATER MANAGEMENT DETAILS

DATE: 04-29-2015	SCALE: 1"=20'	MAC FILE NUMBER: CN-503
MCE PROJ. # 02735-0129	HORIZONTAL: 1"=20'	DRAWING NUMBER: 43
DRAWN: EEM/KCBE	VERTICAL: N/A	REVISION: 1
DESIGNED: KCBE	STATUS: FINAL DESIGN	
CHECKED: NJL	ISSUED FOR PERMITTING	
PROJ. MGR: RMC		



- NOTES:
1. L_a 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.

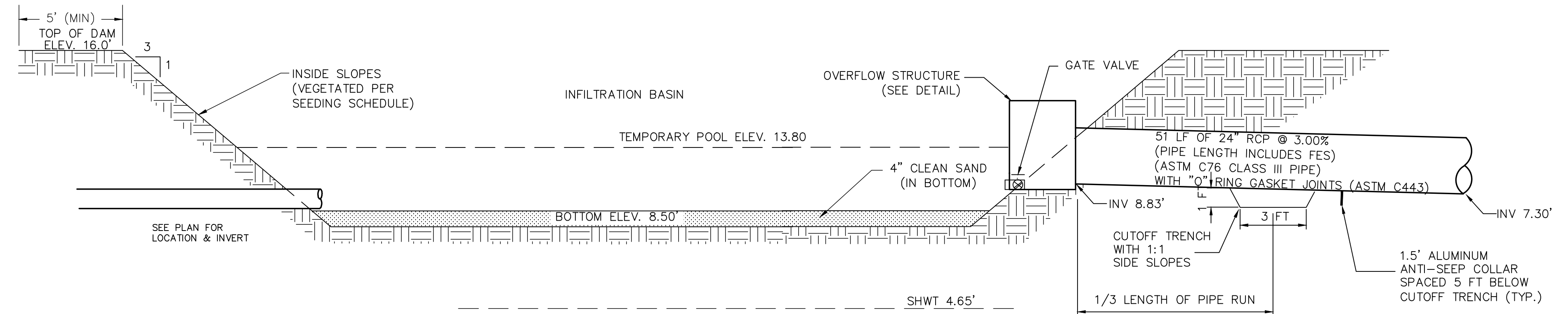
PIPE OUTLET PROTECTION
NOT TO SCALE

OUTLET PROTECTION	
OUTLET PIPE DIA.	24"
OUTLET FLOW RATE	23.28 CFS*
OUTLET VELOCITY	12.95 FT/S
MATERIAL	CLASS I
LENGTH	16'
WIDTH	6'
STONE DIA.	13"
THICKNESS	22"

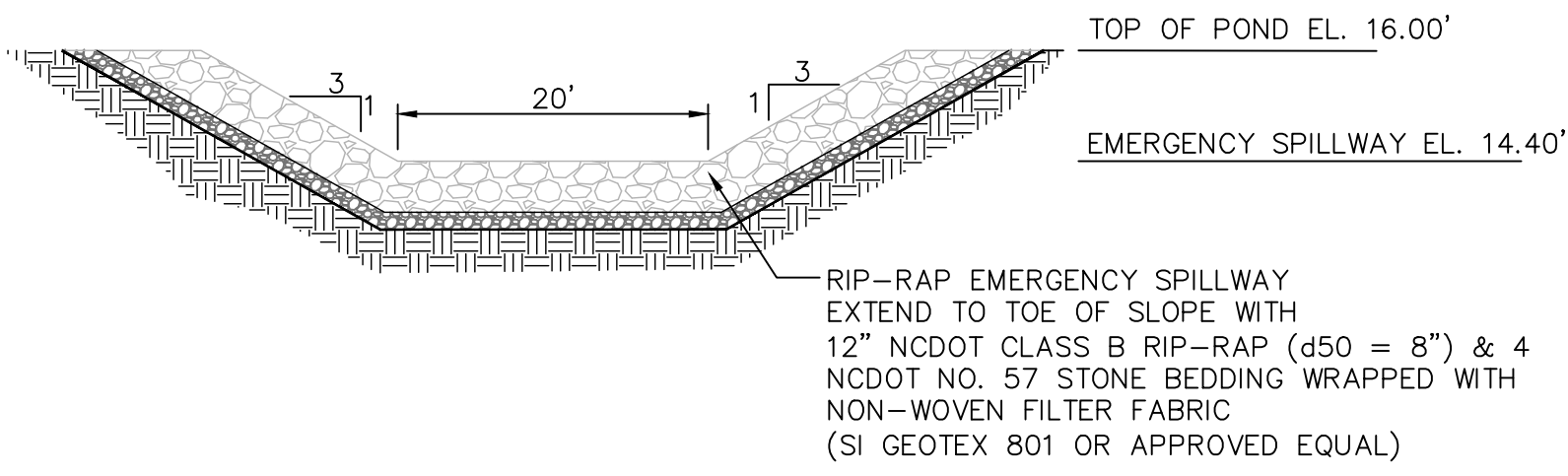
*25-YEAR
NO Q FOR 10-YEAR

NOTES

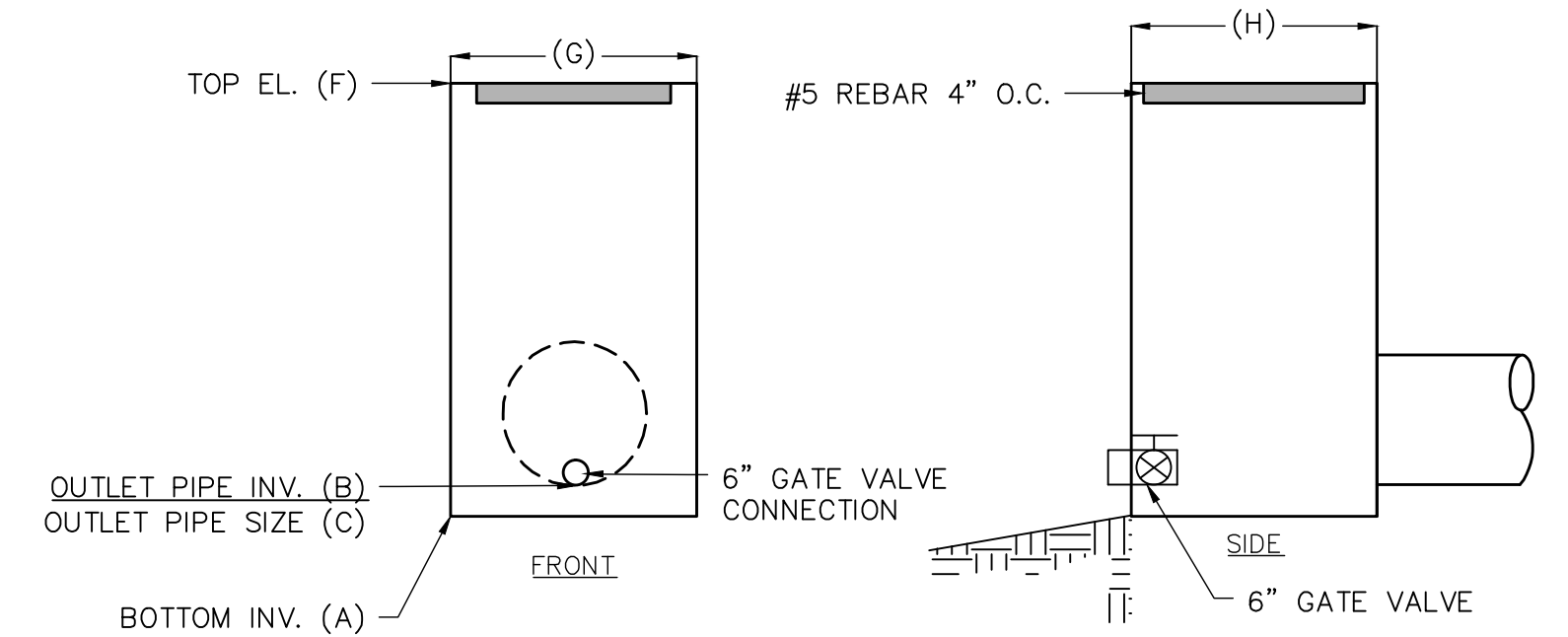
1. THE ENTIRE INFILTRATION BASIN SHALL BE SEEDING SCHEDULE IMMEDIATELY FOLLOWING THE COMPLETION OF CONSTRUCTION.
2. THE BOTTOM SHALL BE OVEREXCAVATED 4" AND BACKFILLED WITH CLEAN SAND TO THE BOTTOM ELEVATION SPECIFIED.
3. IF HARDPAN OR OTHER UNSUITABLE SOILS ARE ENCOUNTERED, OVEREXCAVATE THE BOTTOM A MINIMUM OF 2" AND BACKFILL WITH ENGINEER APPROVED SANDY SOIL MATERIAL.
4. IF THE BASIN IS USED AS AN EROSION CONTROL DEVICE, THE BOTTOM MUST BE COMPLETELY CLEANED OUT, OVEREXCAVED 6" AND BACKFILLED WITH AN ENGINEER APPROVED SANDY SOIL MATERIAL.
5. 50-YR DISCHARGE THROUGH WEIR ASSUMING THE BASIN WILL NOT INFILTRATE.
WEIR EQUATION: $Q_{50} = C \cdot L \cdot h^{3/2}$
 $Q_{50} = 50.45 \text{ cfs} = 3.0 \cdot 20.0 \text{ ft} \cdot h^{3/2}$
 $h = 0.841' = 10.09"$



INFILTRATION BASIN
NOT TO SCALE



SPILLWAY SECTION
NOT TO SCALE



OUTLET STRUCTURE
NOT TO SCALE

OUTLET STRUCTURE	
INFILTRATION #7	
A	8.83'
B	8.83'
C	24"
F	13.80'
G	4'
H	4'

REV. NO.	DESCRIPTIONS	DATE
I	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	10/12/2015
H	CFWA SUBMITTAL	09/10/2015
G	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE RESUBMITTAL	09/10/2015
F	NEW HANOVER COUNTY EROSION CONTROL RE-SUBMITTAL	08/03/2015
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D	CITY OF WILMINGTON TREE REMOVAL SUBMITTAL	06/22/2015
C	NEW HANOVER COUNTY EROSION CONTROL SUBMITTAL	05/21/2015
B	CITY OF WILMINGTON TECHNICAL REVIEW COMMITTEE SUBMITTAL	05/06/2015
A	CITY OF WILMINGTON SUBDIVISION REVIEW BOARD SUBMITTAL	03/04/2015

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CONSTRUCTION



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License: F-1222
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RIVERLIGHTS
Newland by COMMUNITIES
NORTH AMERICA SERIES HOUSE, LLC

RIVERLIGHTS
CONVENTIONAL NEIGHBORHOOD PH. 1
STORMWATER MANAGEMENT DETAILS

DATE:	04-29-2015
MCE PROJ. #	02735-0129
DRAWN	EEM/KCBE
DESIGNED	KCBE
CHECKED	NJL
PROJ. MGR.	RMC

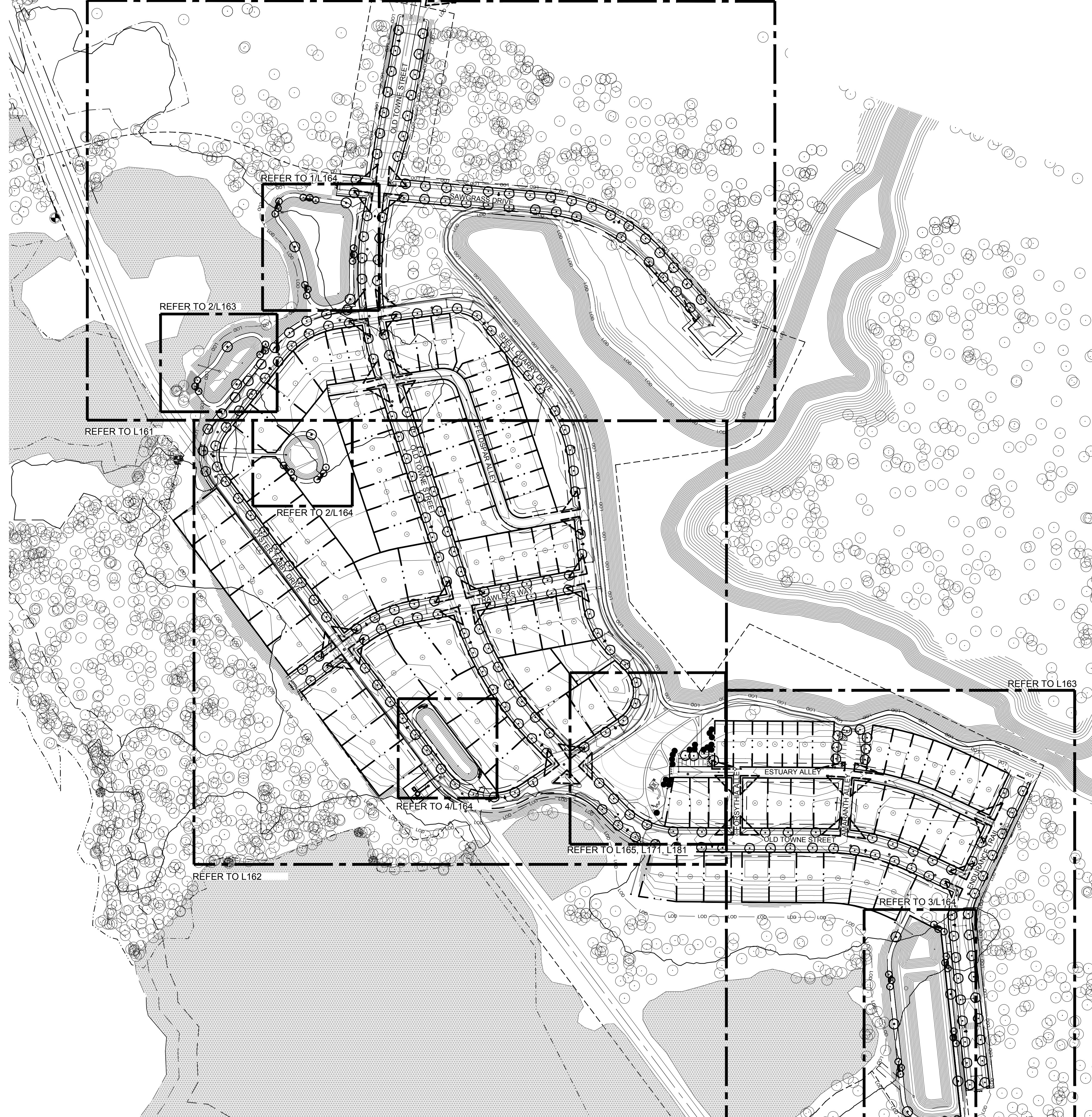
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HORIZONTAL:	1"=30'
VERTICAL:	N/A
DATE	04-29-2015
SCALE	1"=30'
DATE	04-29-2015
SCALE	1"=30'

STATUS: **FINAL DESIGN**
ISSUED FOR PERMITTING

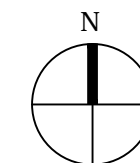
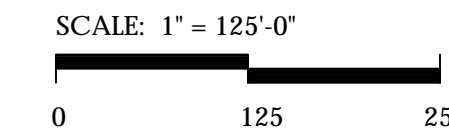
S:\2726\0129 Ph. 1_SFB06 Drawings\CN501-02735\0129.dwg, 10/14/2015 3:26:08 PM, A:\mehdhal

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 AREAS INCLUDING CONSTRUCTION ACCESS OUTSIDE PROJECT LIMITS.
- REFER TO CIVIL DRAWINGS FOR ABBREVIATIONS AND LEGENDS
- REFER TO L165 FOR STREET TREE PLANTING SCHEDULE

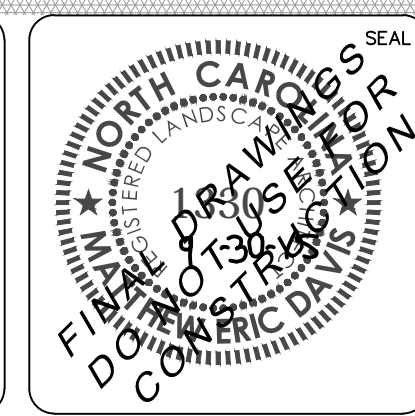
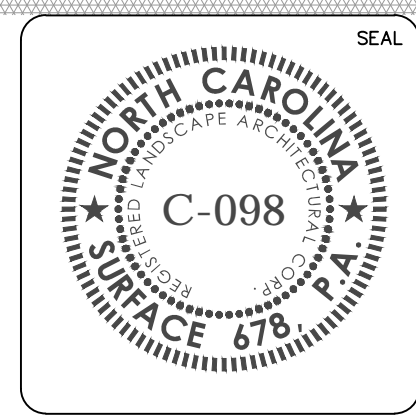


1 inch



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. NO.	DESCRIPTIONS	DATE
	REVISIONS	



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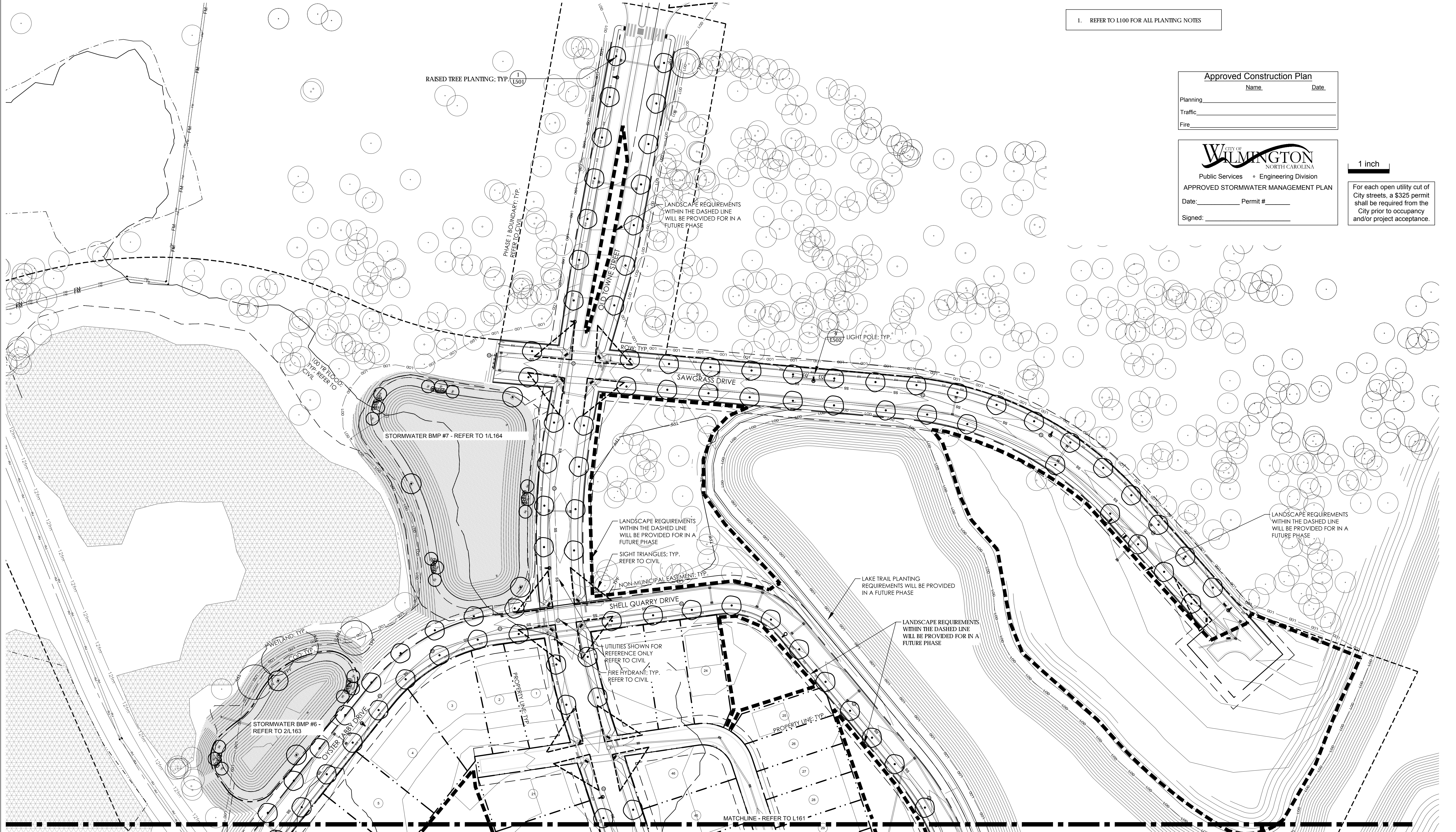
RIVERLIGHTS
Newland COMMUNITIES

RIVER LIGHTS -
CONVENTIONAL AREA

OVERALL PLAN

DATE: 05/06/2015	SCALE	MAC FILE NUMBER
MCE PROJ. # 2735-0124	1"=125'-0"	DRAWING NUMBER
DRAWN: JL		L100
DESIGNED: JC, ED		
CHECKED: JC, ED		
PROJ. MGR: JC		
STATUS: FINAL DESIGN		REVISION

I. REFER TO L100 FOR ALL PLANTING NOTES

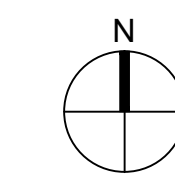
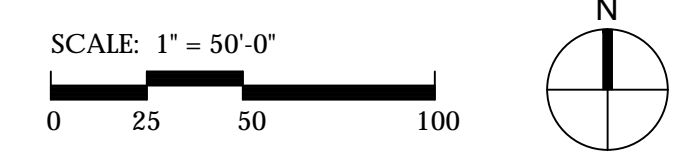


Approved Construction Plan
 Name _____ Date _____
 Planning _____
 Traffic _____
 Fire _____

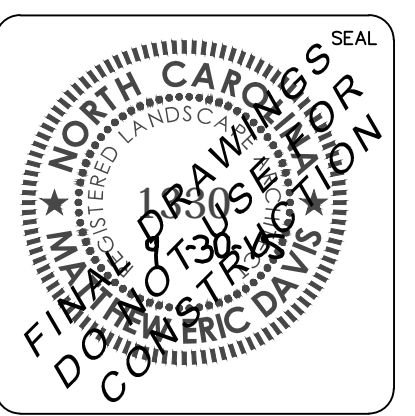
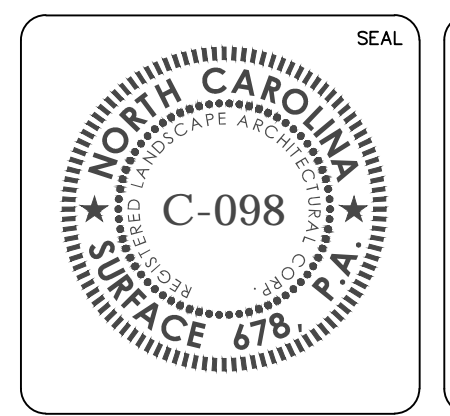
CITY OF WILMINGTON NORTH CAROLINA
 Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
 Date: _____ Permit # _____
 Signed: _____

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.



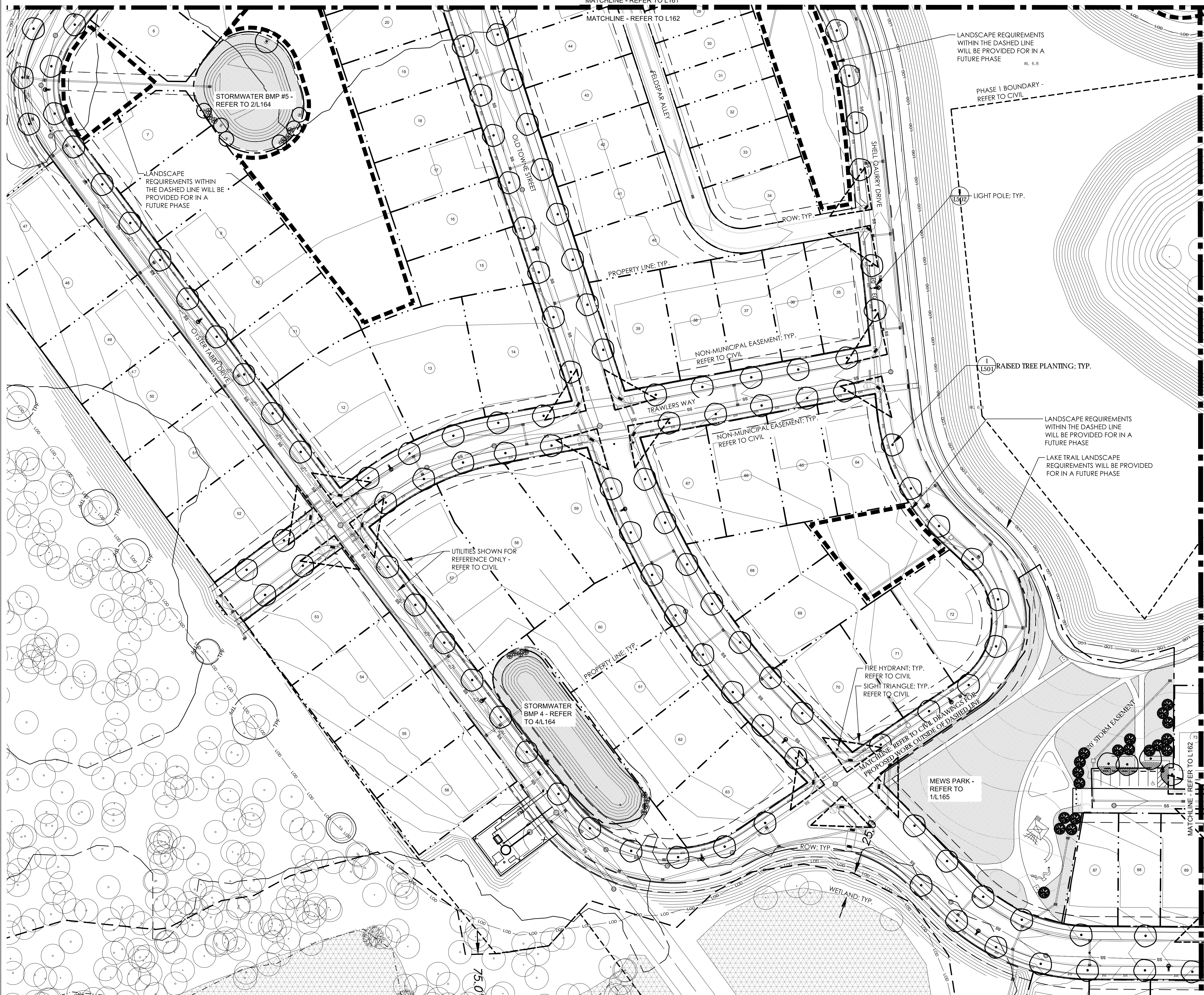
REVNO.	DESCRIPTIONS	DATE



RIVER LIGHTS - CONVENTIONAL AREA

PLANTING PLAN

DATE: 05/06/2015	SCALE: 1"= 50'-0"	MAC FILE NUMBER
MCE PROJ. # 2735-0124	DRAWING NUMBER	L161
DRAWN: JC		
DESIGNED: JC, ED		
CHECKED: JC, ED		
PROJ. MGR.: JC		
STATUS: FINAL DESIGN		
		REVISION



1. REFER TO L100 FOR ALL PLANTING NOTES

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

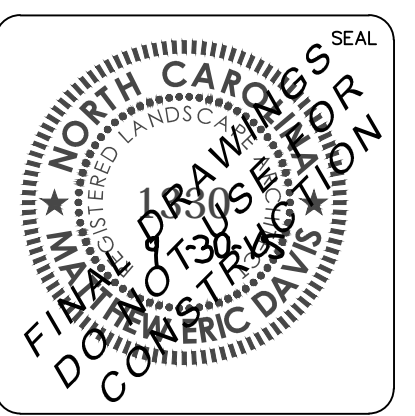
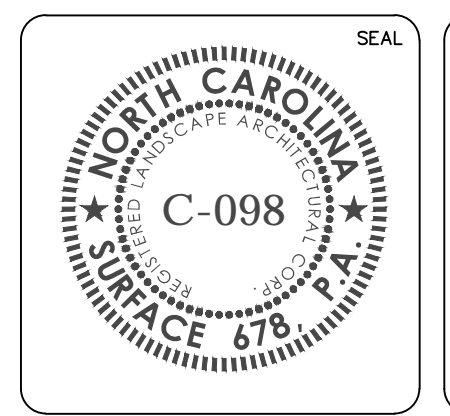
For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

SCALE: 1" = 50'-0"

0 25 50 100

REVNO.	DESCRIPTIONS / REVISIONS	DATE

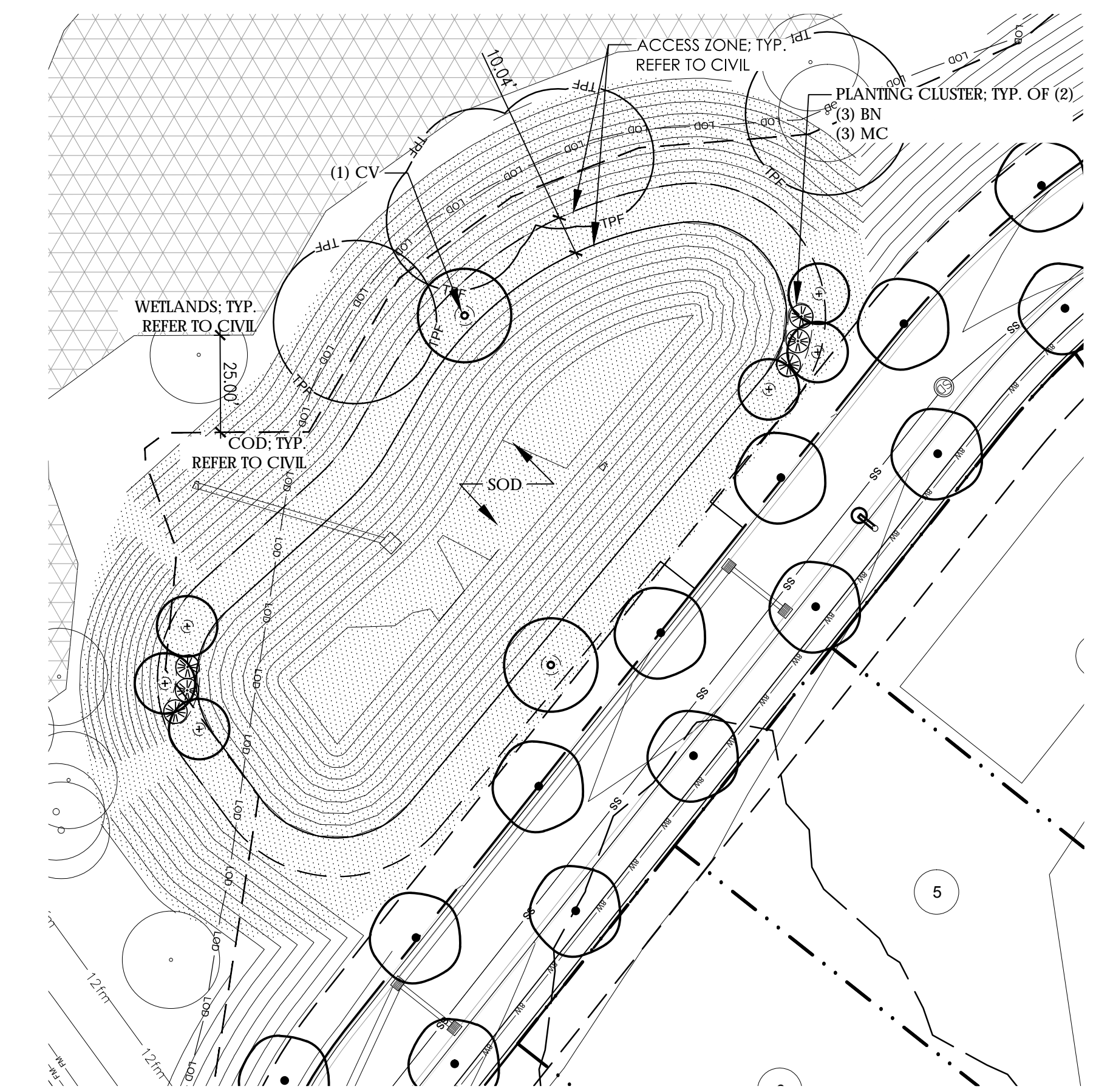
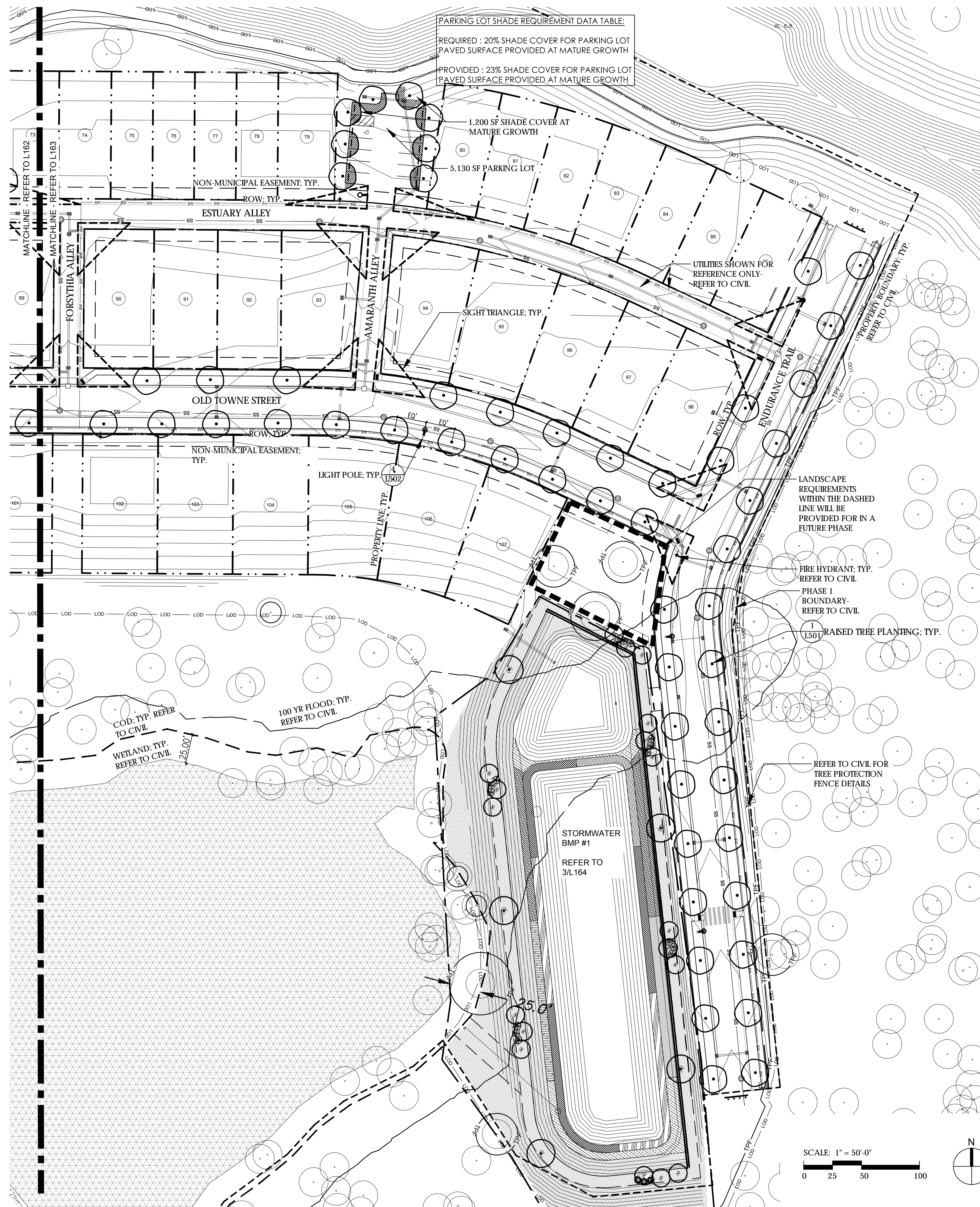
CITY OF WILMINGTON TRC SUBMITTAL 3 09/30/2015
 CITY OF WILMINGTON TRC SUBMITTAL 2 08/05/2015



RIVER LIGHTS - CONVENTIONAL AREA

PLANTING PLAN

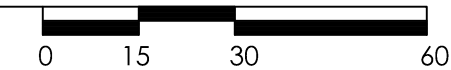
DATE: 05/06/2015	SCALE: 1" = 50'-0"	MAC FILE NUMBER
MCE PROJ. # 2735-0124	DRAWING NUMBER L162	REVISION
DRAWN: JC		
DESIGNED: JC, ED		
CHECKED: JC, ED		
PROJ. MGR.: JC		
STATUS: FINAL DESIGN		



PLANTING SCHEDULE - STORMWATER BMP #6

SYM	QTY	BOTANICAL NAME	COMMON NAME	CAL/RT	MIN. HT.	MIN. SPR.	REMARKS
TREES							
CV	1	CHINANTHUS VIRGINICUS	FRINGE TREE	-	8'-10"	-	-
BN	6	BETULA NIGRA 'DURA HEAT'	DURA HEAT RIVER BIRCH	-	8'-10"	-	-
SHRUBS							
MC	6	MYRTICA CERIFERA	WAX MYRTLE	CONT	12"	12"	FULL DENSE
SOD							
BERMUDA	17,500 SF	BERMUDA	BERMUDA	-	-	-	SAND BASED GROWN SOD

2 STORMWATER BMP #6
SCALE: 1" = 30'-0"



1. REFER TO L100 FOR ALL PLANTING NOTES

Approved Construction Plan

Name: _____ Date: _____

Planning: _____

Traffic: _____

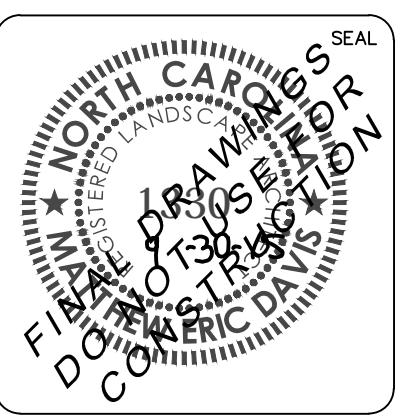
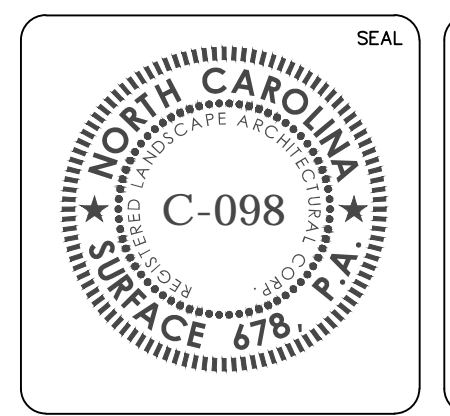
Fire: _____

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.

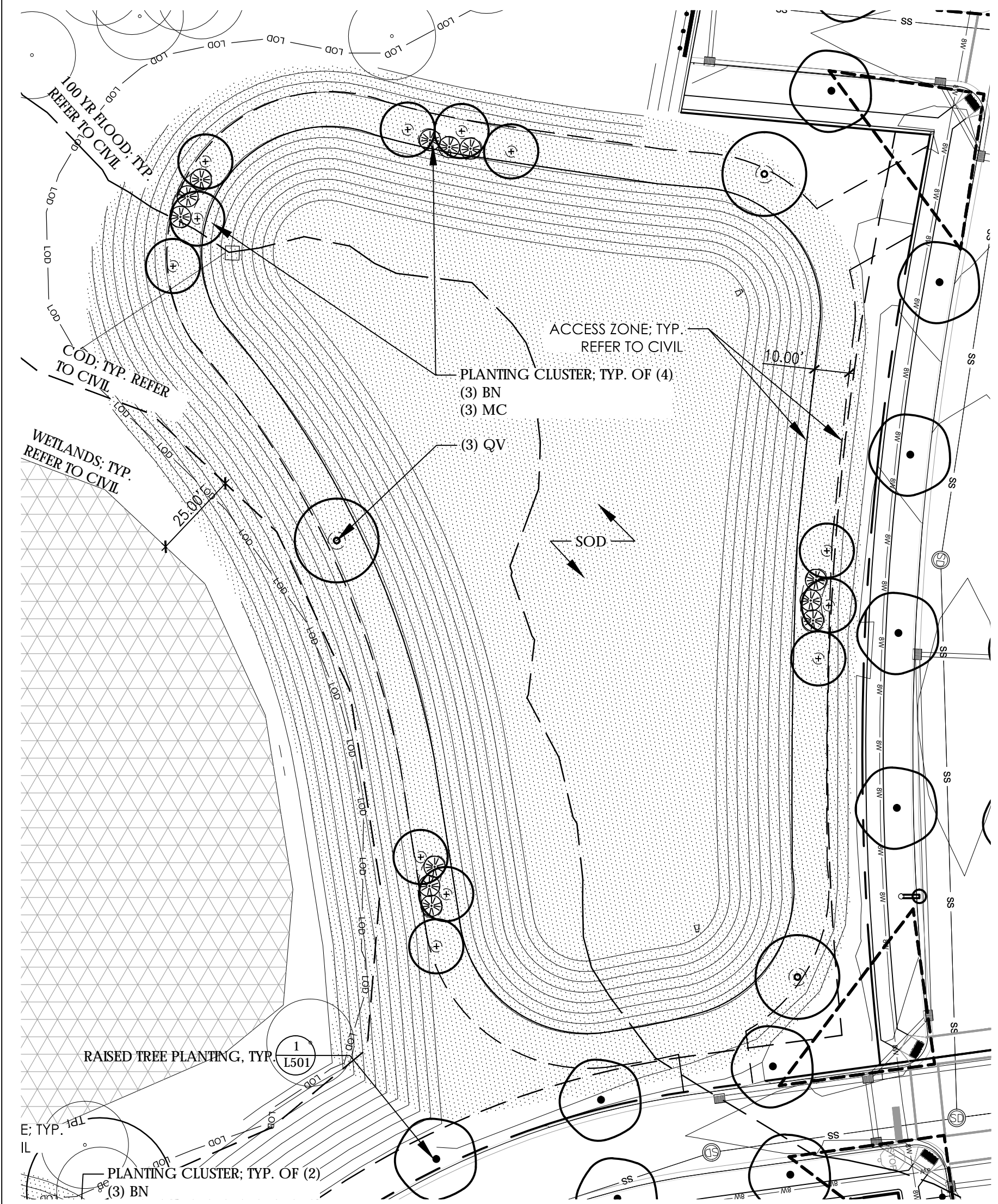
REVNO.	DESCRIPTIONS	DATE



RIVER LIGHTS - CONVENTIONAL AREA

PLANTING PLAN

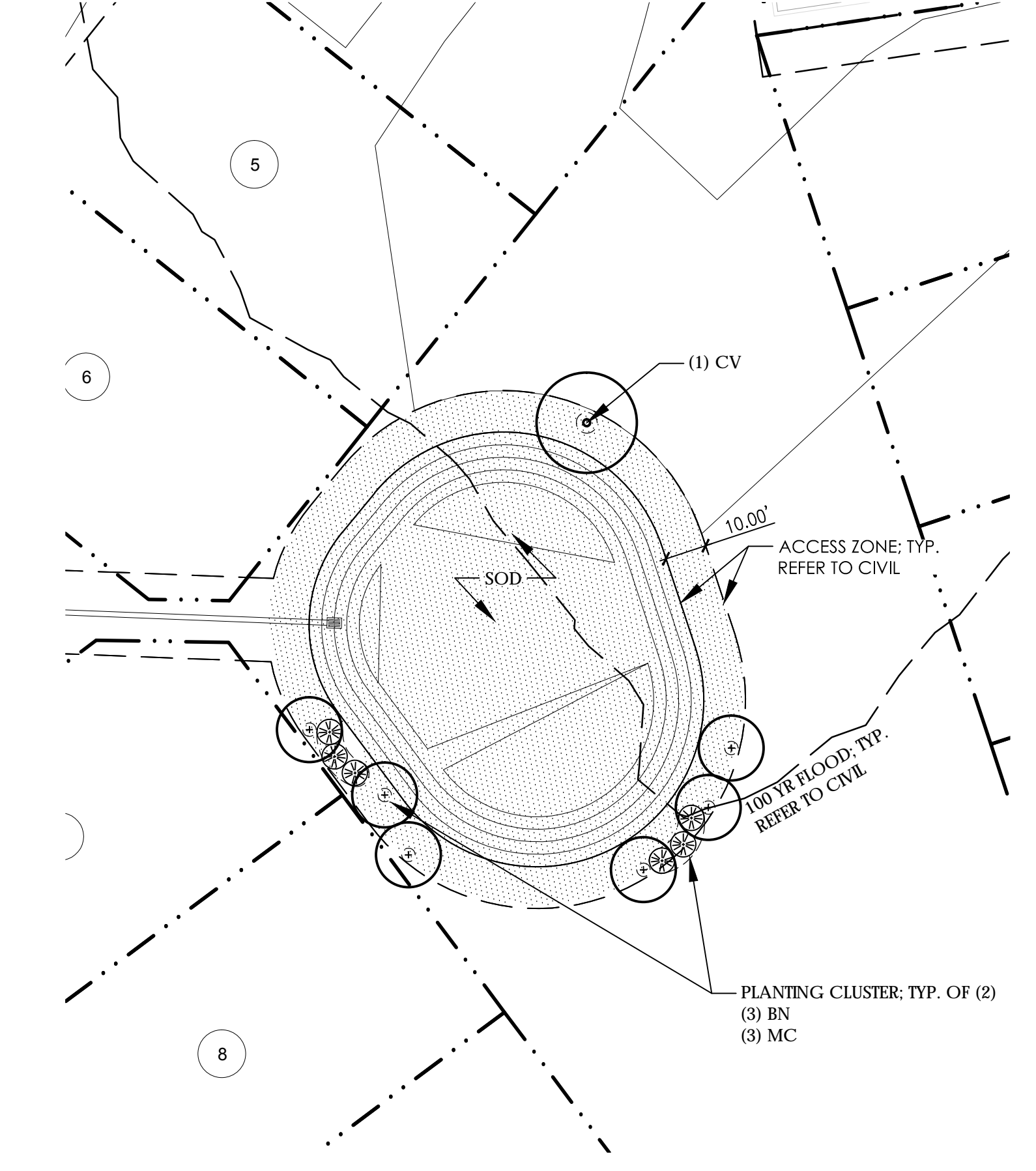
DATE: 05/06/2015	SCALE: 1" = 50'-0"	M&C FILE NUMBER
MCE PROJ. # 2735-0124	DRAWING NUMBER	L163
DRAWN: JI		
DESIGNED: JC, ED		
CHECKED: JC, ED		
PROJ. MGR. JC	REVISION	
STATUS: FINAL DESIGN		



1 PLANTING SCHEDULE - STORMWATER BMP #7

SYM	QTY	BOTANICAL NAME	COMMON NAME	CAL/RT	MIN. HT.	MIN. SPR.	REMARKS
TREES							
QV	3	QUERCUS VIRGINIANA	LIVE OAK	-	8'-10'	-	-
BN	12	BETULA NIGRA 'DURA HEAT'	DURA HEAT RIVER BIRCH	-	8'-10'	-	-
SHRUBS							
MC	12	MYRICA CERIFERA	WAX MYRTLE	CONT	12"	12"	FULL DENSE
SOD							
BERMUDA	46,000 SF	BERMUDA	BERMUDA	-	-	-	SAND BASED GROWN SOD

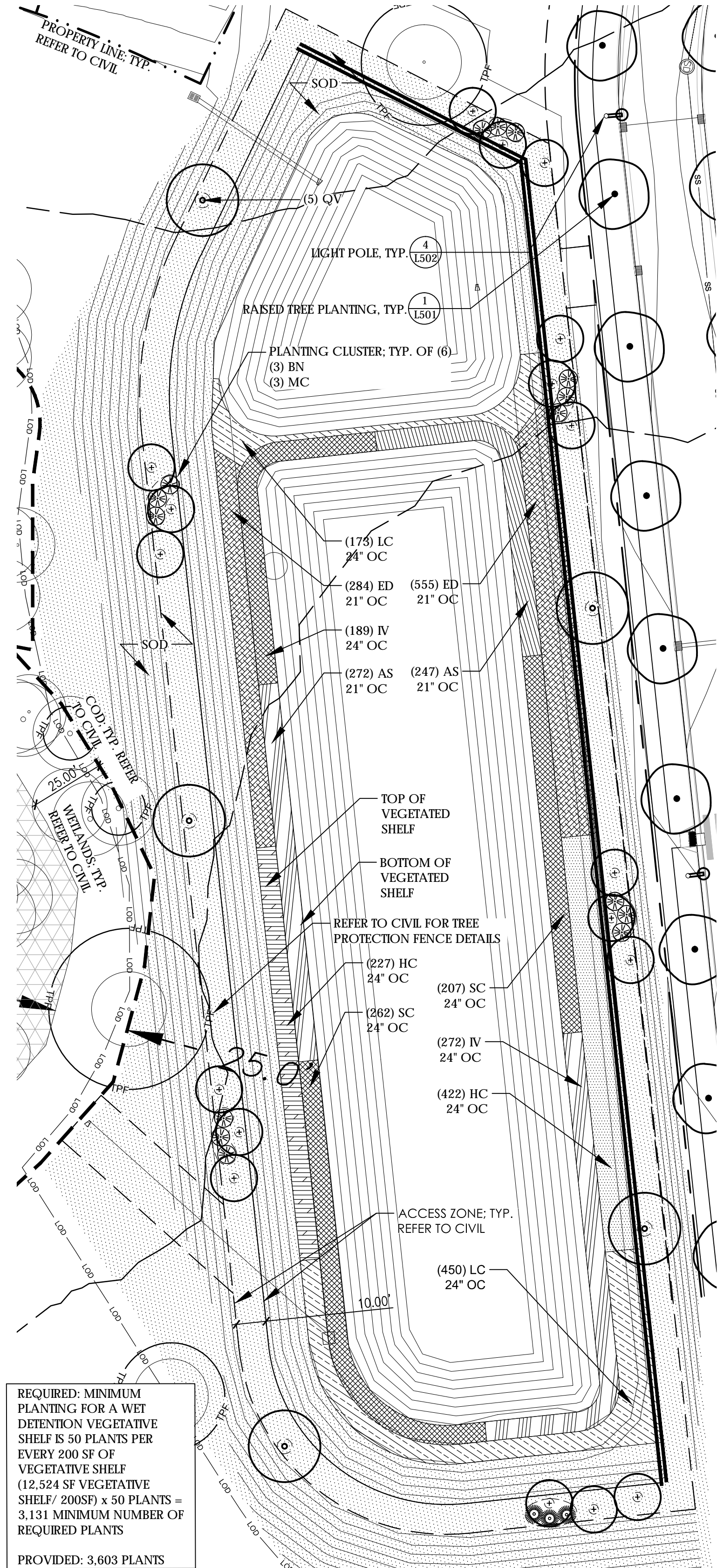
1 STORMWATER BMP #7 SCALE: 1" = 30'-0"



2 PLANTING SCHEDULE - STORMWATER BMP #5

SYM	QTY	BOTANICAL NAME	COMMON NAME	CAL/RT	MIN. HT.	MIN. SPR.	REMARKS
TREES							
CV	1	CHINANTHUS VIRGINICUS	FRINGE TREE	-	8'-10'	-	-
BN	6	BETULA NIGRA 'DURA HEAT'	DURA HEAT RIVER BIRCH	-	8'-10'	-	-
SHRUBS							
MC	6	MYRICA CERIFERA	WAX MYRTLE	CONT	12"	12"	FULL DENSE
SOD							
BERMUDA	10,500 SF	BERMUDA	BERMUDA	-	-	-	SAND BASED GROWN SOD

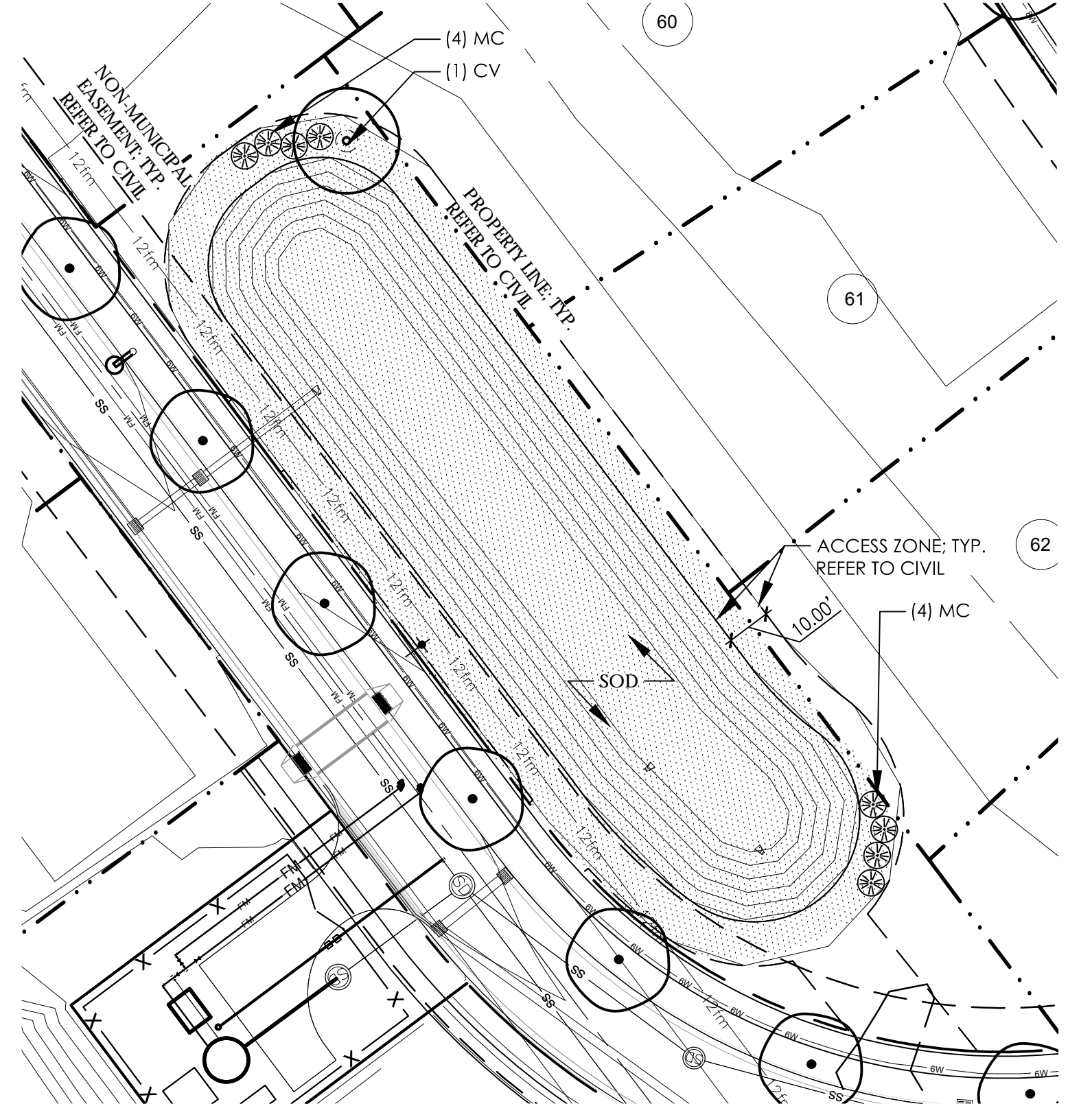
2 STORMWATER BMP #5 SCALE: 1" = 30'-0"



3 PLANTING SCHEDULE - STORMWATER BMP #1

SYM	QTY	BOTANICAL NAME	COMMON NAME	CAL/RT	MIN. HT.	MIN. SPR.	REMARKS
UPPER SHELF							
ED	839	EUPATORIADELPHUS DUBBUS	DWARF JOE PYE WEED	4" POT	15"	-	21" O.C.
HC	649	HIBISCUS COCCINEUS	SCARLET ROSE MALLOW	4" POT	15"	-	24" O.C.
LC	623	LOBELIA CARDINALIS	CARDINAL FLOWER	4" POT	15"	-	24" O.C.
LOWER SHELF							
AS	519	ACORIS SUBCORDATUM	SWEETFLAG	4" POT	15"	-	21" O.C.
IV	504	IRIS VIRGINICA	BLUE FLAG IRIS	4" POT	15"	-	24" O.C.
SC	469	SCRIPUS CYPERNUS	WOOLGRASS	4" POT	15"	-	24" O.C.
SOD							
SOD	41,500 SF	BERMUDA	BERMUDA	-	-	-	SAND BASED GROWN SOD

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



4 PLANTING SCHEDULE - STORMWATER BMP #4

SYM	QTY	BOTANICAL NAME	COMMON NAME	CAL/RT	MIN. HT.	MIN. SPR.	REMARKS
TREES							
CV	1	CHINANTHUS VIRGINICUS	FRINGE TREE	-	8'-10'	-	-
SHRUBS							
MC	8	MYRICA CERIFERA	WAX MYRTLE	CONT	12"	12"	FULL DENSE
SOD							
BERMUDA	11,500 SF	BERMUDA	BERMUDA	-	-	-	SAND BASED GROWN SOD

4 STORMWATER BMP #4 SCALE: 1" = 30'-0"

- REFER TO L100 FOR ALL PLANTING NOTES
- CITY OF WILMINGTON NOTES:
 - PROVIDE A MINIMUM OF 3 INCHES OF MULCH AROUND ALL VEGETATION.
 - LANDSCAPE SHALL BE A MINIMUM SLOPE OF 7:1.
 - PROVIDE A MINIMUM OF 3 INCH DEPTH OF MULCH AROUND ALL VEGETATION.
 - VEGETATION MUST BE EVENLY DISTRIBUTED AT A MINIMUM OF 100 FT. AROUND STORM WATER FACILITY.

Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

Fire _____



APPROVED STORMWATER MANAGEMENT PLAN

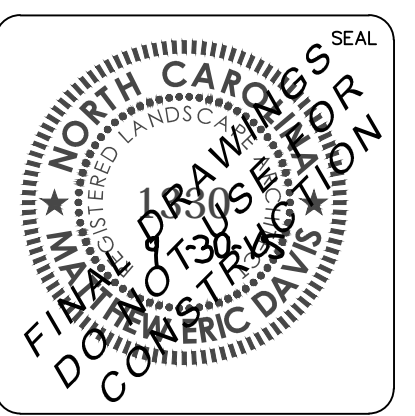
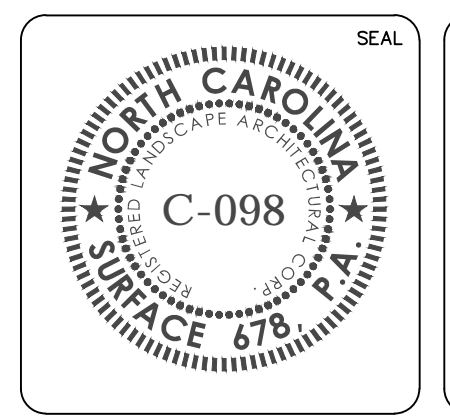
Date: _____ Permit # _____

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.

REV. NO.	DESCRIPTIONS	DATE

CITY OF WILMINGTON TRC SUBMITTAL 3 09/30/2015
 CITY OF WILMINGTON TRC SUBMITTAL 2 08/05/2015



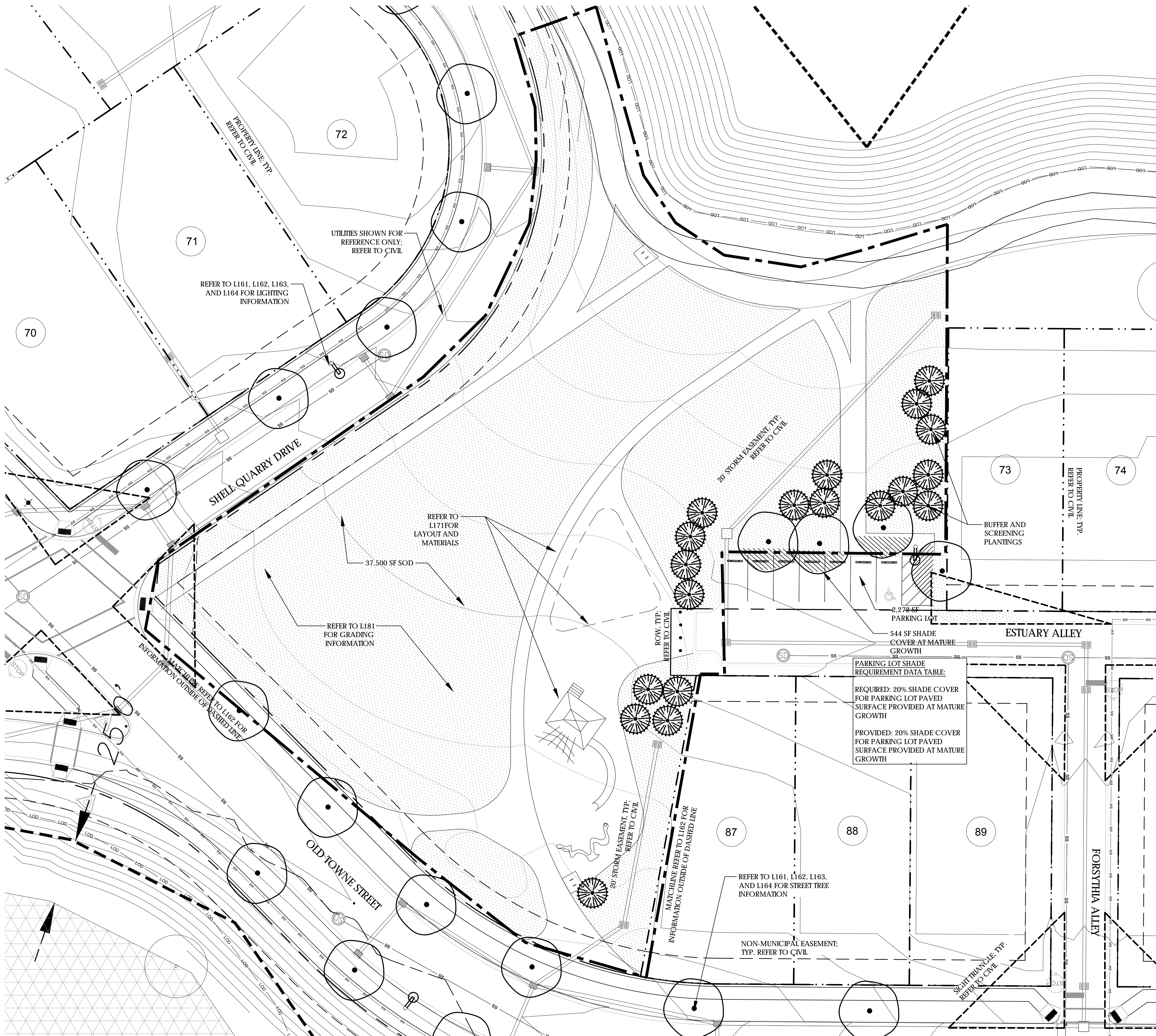
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215 Morris Street, Suite 150
Durham, NC 27701
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RIVER LIGHTS - CONVENTIONAL AREA

PLANTING PLAN

DATE: 05/06/2015	SCALE: 1" = 30'-0"	MAC FILE NUMBER
MCE PROJ. # 2735-0124	DRAWING NUMBER	L164
DRAWN: JI	CHECKED: JI, ED	PROJ. MGR.: JC
STATUS: FINAL DESIGN		REVISION



STREET TREE PLANTING SCHEDULE

SYM	QTY	BOTANICAL NAME	COMMON NAME	CAU/RT	MIN. HT.	MIN. SPR.	REMARKS
STREET TREES							
AB	-	ACER BUERGERANUM 'BRASS'	VALYNOB TRIDENT MAPLE	2-2 1/2"	-	-	STRONG CENTRAL LEADER; NO INCLUDED BARK
AB	-	ACER BUERGERANUM 'ARMTF'	AERYN TRIDENT MAPLE	2-2 1/2"	-	-	STRONG CENTRAL LEADER; NO INCLUDED BARK
NS	-	NYSSA SYLVATICA	BLACK GUM	2-2 1/2"	-	-	STRONG CENTRAL LEADER; NO INCLUDED BARK
QC	-	QUERCUS COCCINEA	SCARLET OAK	2-2 1/2"	-	-	STRONG CENTRAL LEADER; NO INCLUDED BARK
QH	-	QUERCUS HEMISPHERICA	LAUREL OAK	2-2 1/2"	-	-	STRONG CENTRAL LEADER; NO INCLUDED BARK
QL	-	QUERCUS LYRATA 'HIGH BEAM'	HIGH BEAM OVERCUP OAK	2-2 1/2"	-	-	STRONG CENTRAL LEADER; NO INCLUDED BARK
QPH	-	QUERCUS PHELOS	WILLOW OAK	2-2 1/2"	-	-	STRONG CENTRAL LEADER; NO INCLUDED BARK
QV	-	QUERCUS VIRGINIANA	LIVE OAK	2-2 1/2"	-	-	STRONG CENTRAL LEADER; NO INCLUDED BARK
QVC	-	QUERCUS VIRGINIANA 'CATHEDRAL'	CATHEDRAL LIVE OAK	2-2 1/2"	-	-	STRONG CENTRAL LEADER; NO INCLUDED BARK
QVH	-	QUERCUS VIRGINIANA 'HIGHRISE'	HIGHRISE LIVE OAK	2-2 1/2"	-	-	STRONG CENTRAL LEADER; NO INCLUDED BARK
UP	-	ULMUS PARVIFOLIA 'ELMER I'	ATHENA CLASSIC ELM	2-2 1/2"	-	-	UNIFORMLY BRACHED; NO INCLUDED BARK
UP	-	ULMUS PARVIFOLIA 'ELMER I'	ATHENA CLASSIC ELM	2-2 1/2"	-	-	UNIFORMLY BRACHED; NO INCLUDED BARK
ZS	-	ZELKOVA SERRATA	ZELKOVA	2-2 1/2"	-	-	UNIFORMLY BRACHED; NO INCLUDED BARK

NOTE:
 1. STREET TREE PLANT SCHEDULE IS INTENDED TO PROVIDE A LIST OF PLANT SPECIES THAT MAY BE INSTALLED AS STREET TREES.

1 MEWS PARK
 SCALE: 1" = 20'-0"

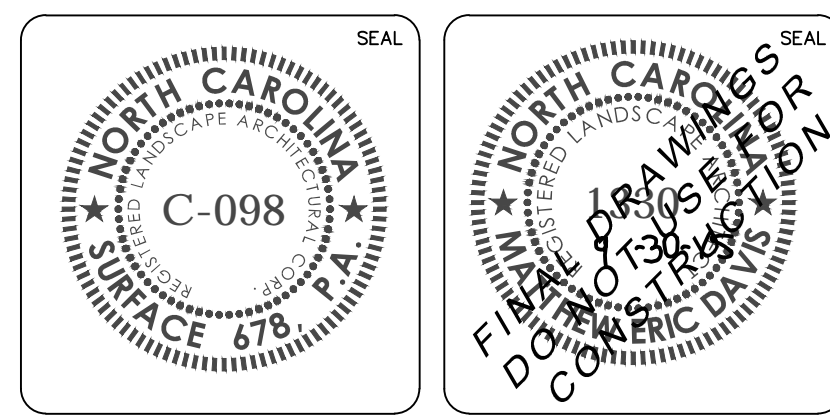
1. REFER TO L160 FOR ALL PLANTING NOTES

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. NO.	DESCRIPTIONS	DATE

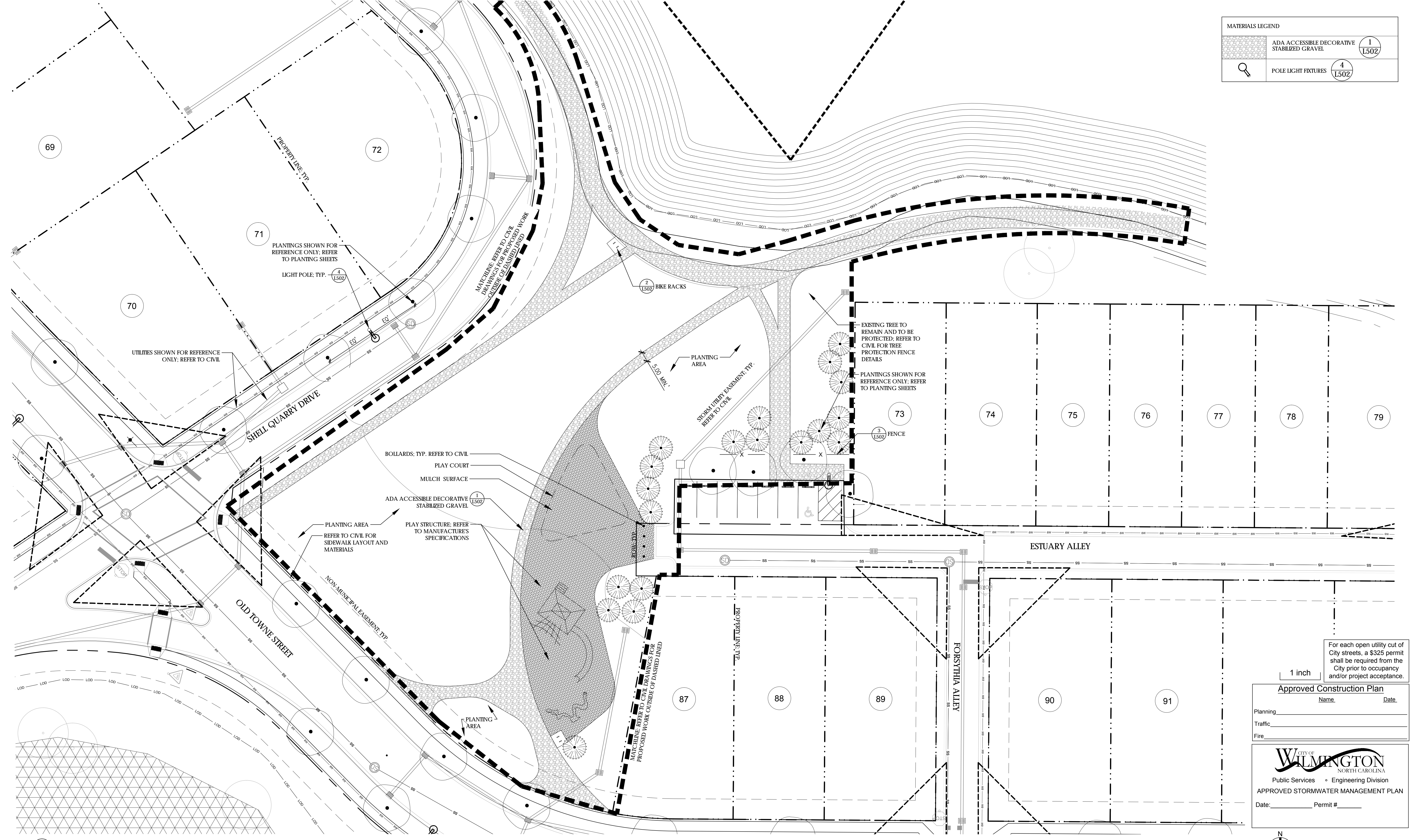


RIVER LIGHTS - CONVENTIONAL AREA
 PLANTING PLAN

DATE: 05/06/2015	SCALE: 1" = 20'-0"	M&C FILE NUMBER
MCE PROJ. # 2735-0124	DRAWING NUMBER	L165
DRAWN: JL	CHECKED: JC, ED	DESIGNED: JC, ED
PROJ. MGR.: JC	STATUS: FINAL DESIGN	REVISION

MATERIALS LEGEND

	ADA ACCESSIBLE DECORATIVE STABILIZED GRAVEL	1 L502
	POLE LIGHT FIXTURES	4 L502



1 MEWS PARK / GREAT LAWN LAYOUT AND MATERIALS
SCALE: 1" = 20'-0"

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 _____

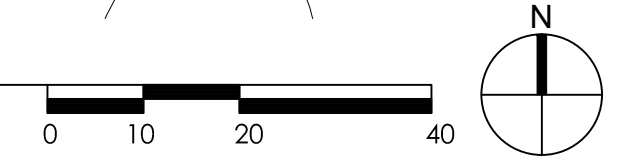
Fire _____

CITY OF WILMINGTON
NORTH CAROLINA

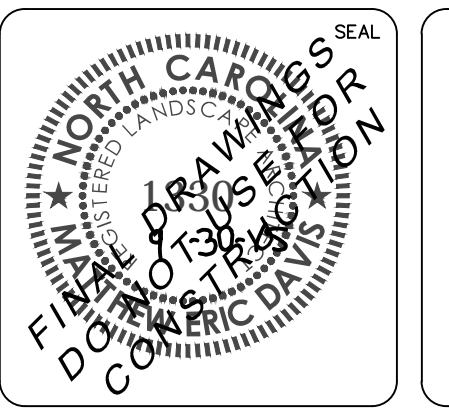
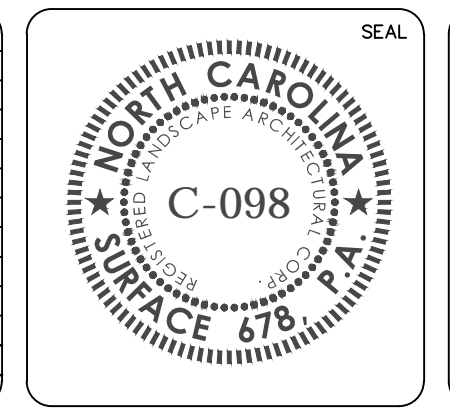
Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____



REVNO.	DESCRIPTIONS	DATE
CITY OF WILMINGTON TRC SUBMITTAL 3		09/30/2015
CITY OF WILMINGTON TRC SUBMITTAL 2		08/05/2015



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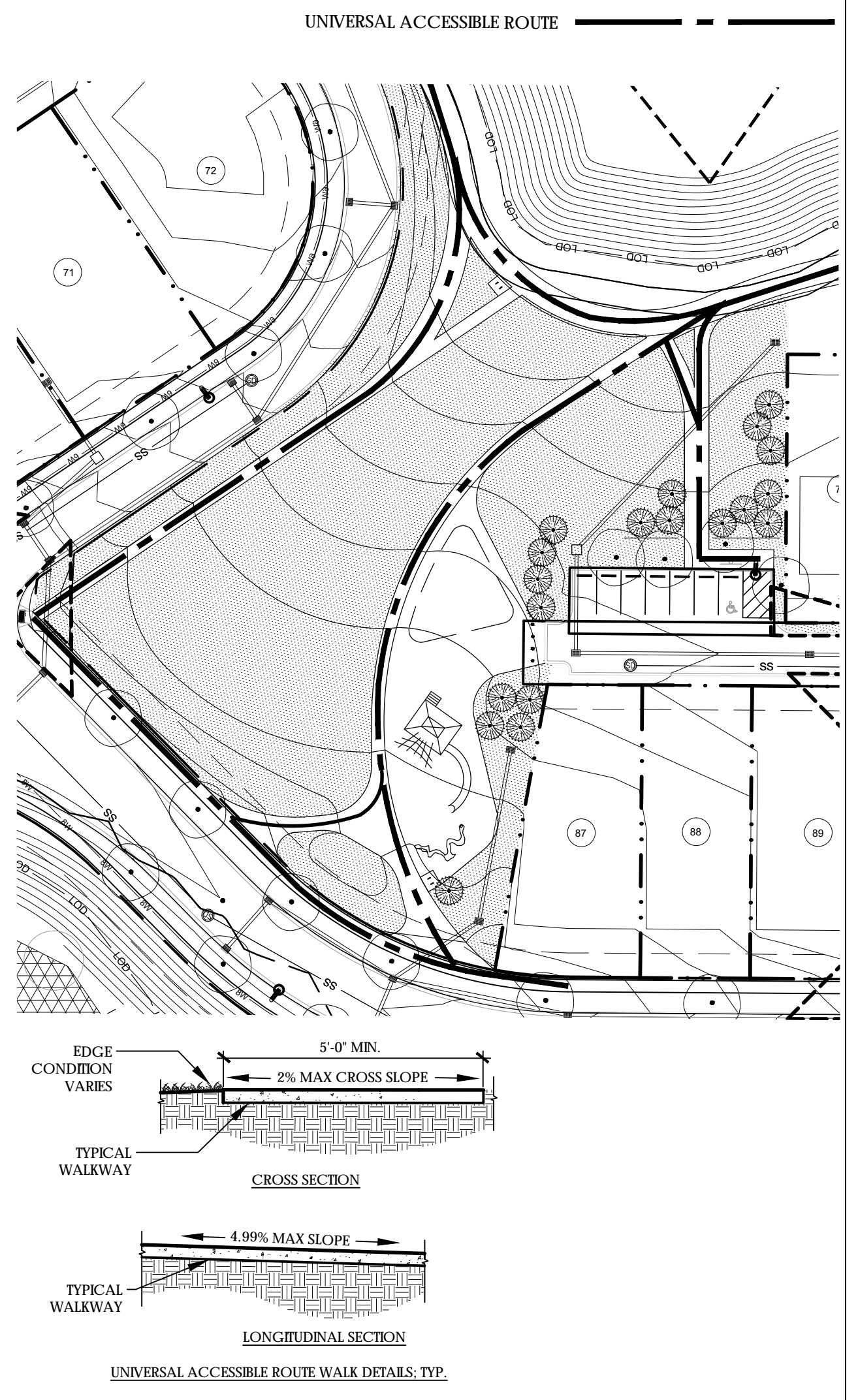
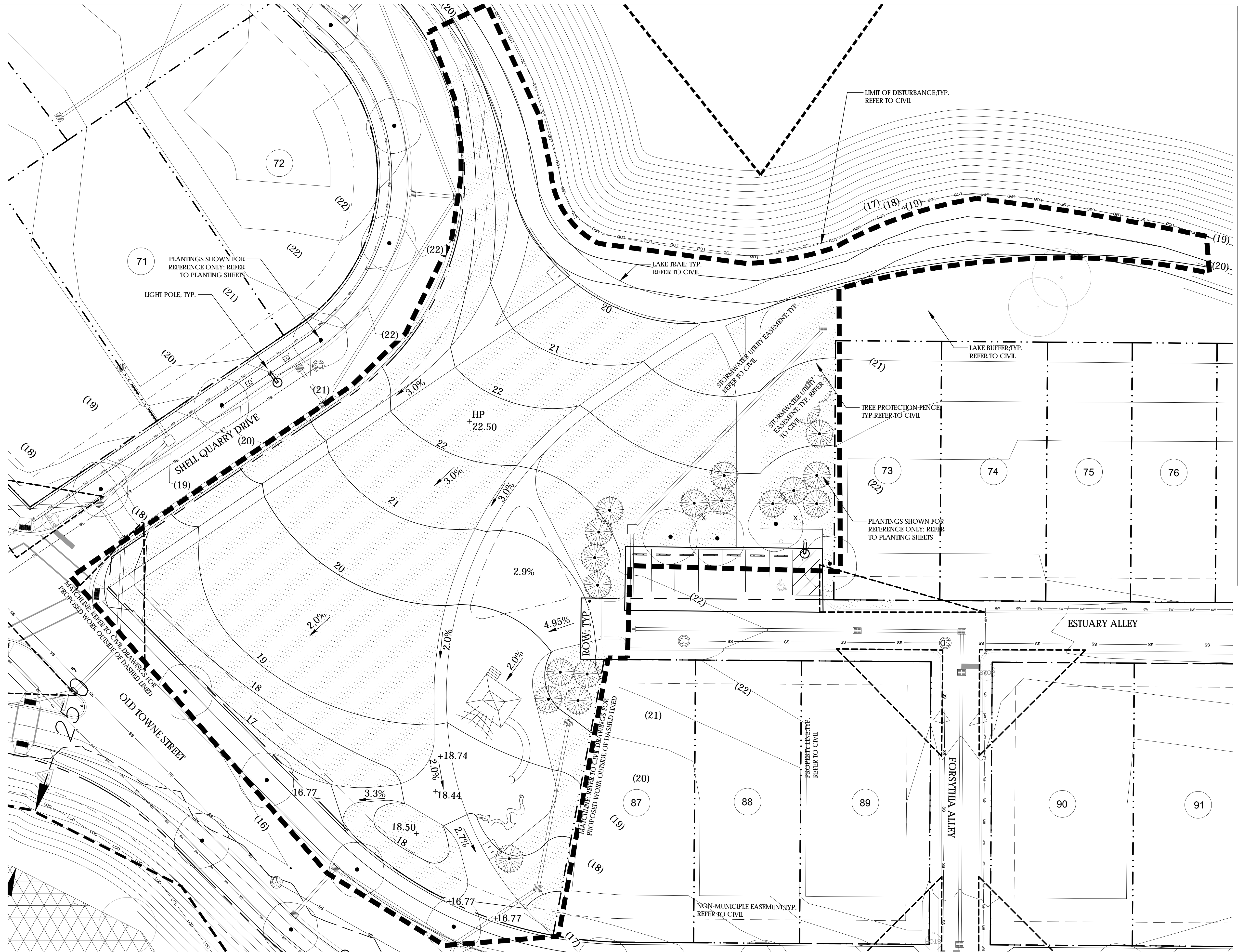
Surface

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

RIVERLIGHTS - CONVENTIONAL AREA

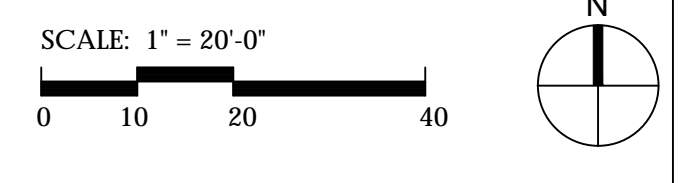
MEWS / GREAT LAWN LAYOUT AND MATERIALS PLAN

DATE: 05/06/2015	SCALE: 1" = 20'-0"	MAC FILE NUMBER: L171
MCE PROJ. # 2735-0124	DRAWN: JL	DESIGNED: JC, ED
CHECKED: JC, ED	PROJ. MGR.: JC	STATUS: FINAL DESIGN



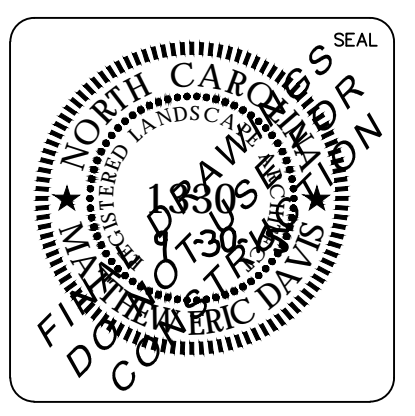
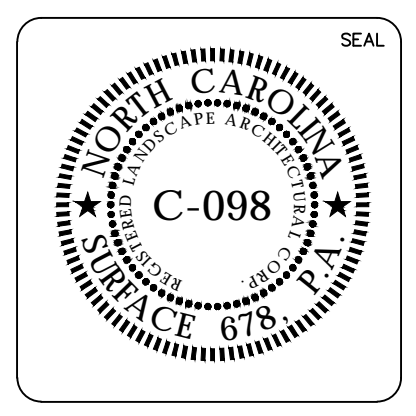
2 ACCESSIBILITY DIAGRAM
SCALE: NTS

1 MEWS / GREAT LAWN PARK GRADING PLAN
SCALE: 1" = 20'-0"



REVNO.	DESCRIPTIONS	DATE

CITY OF WILMINGTON TRC SUBMITTAL 3 09/30/2015
CITY OF WILMINGTON TRC SUBMITTAL 2 08/05/2015

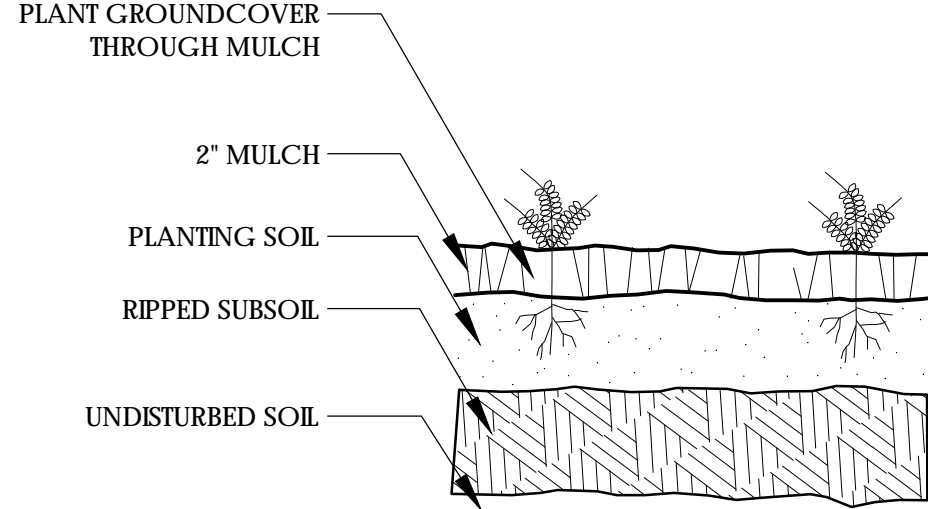
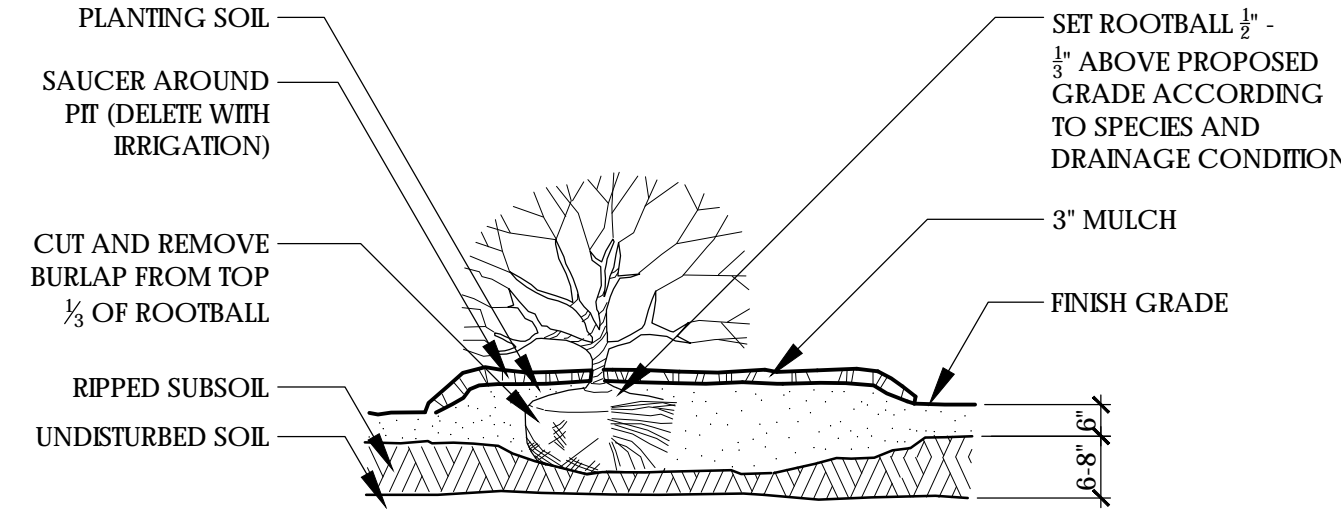
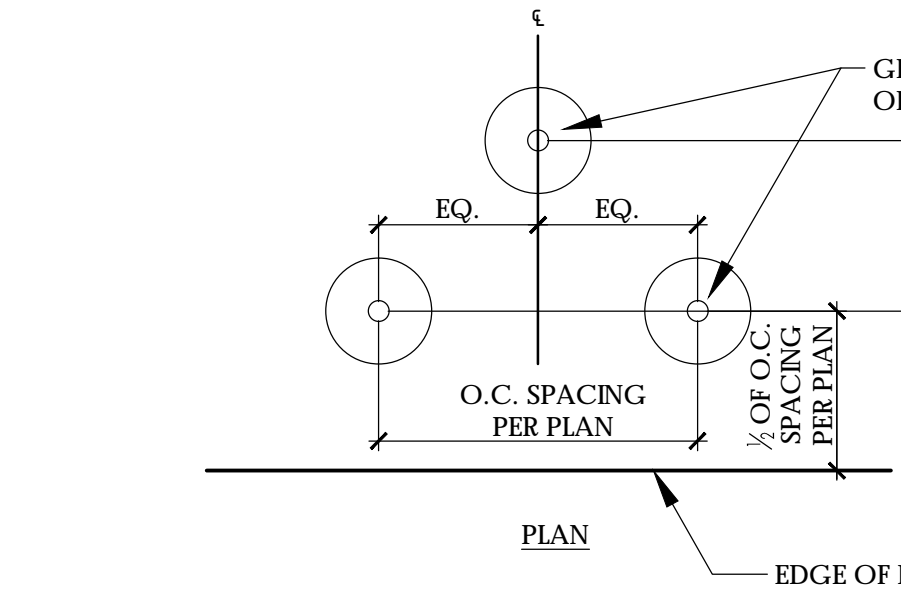
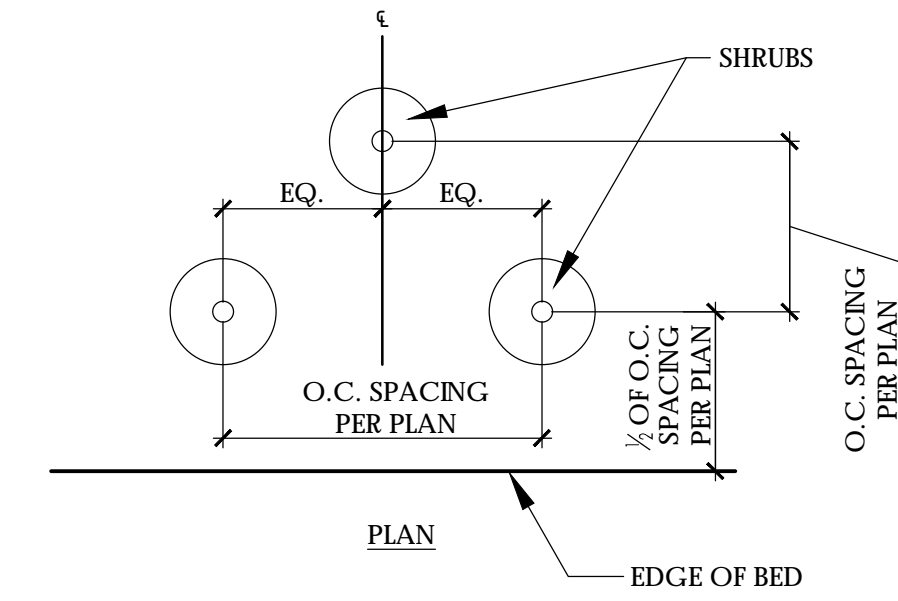
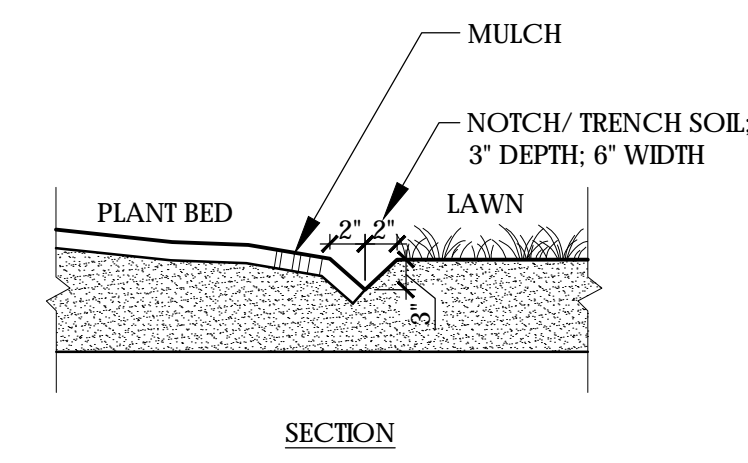
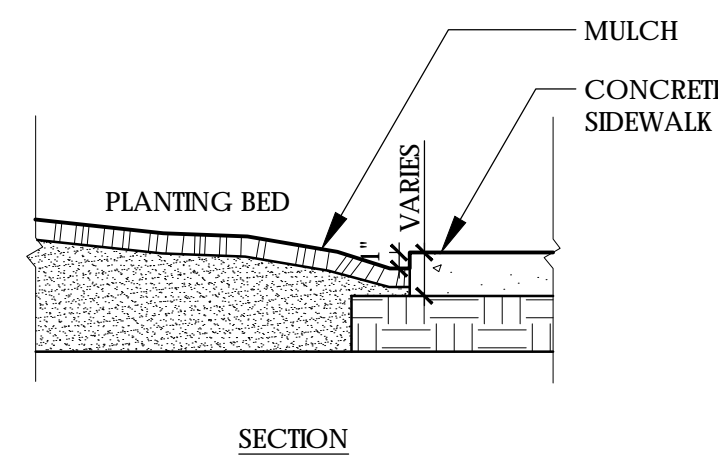
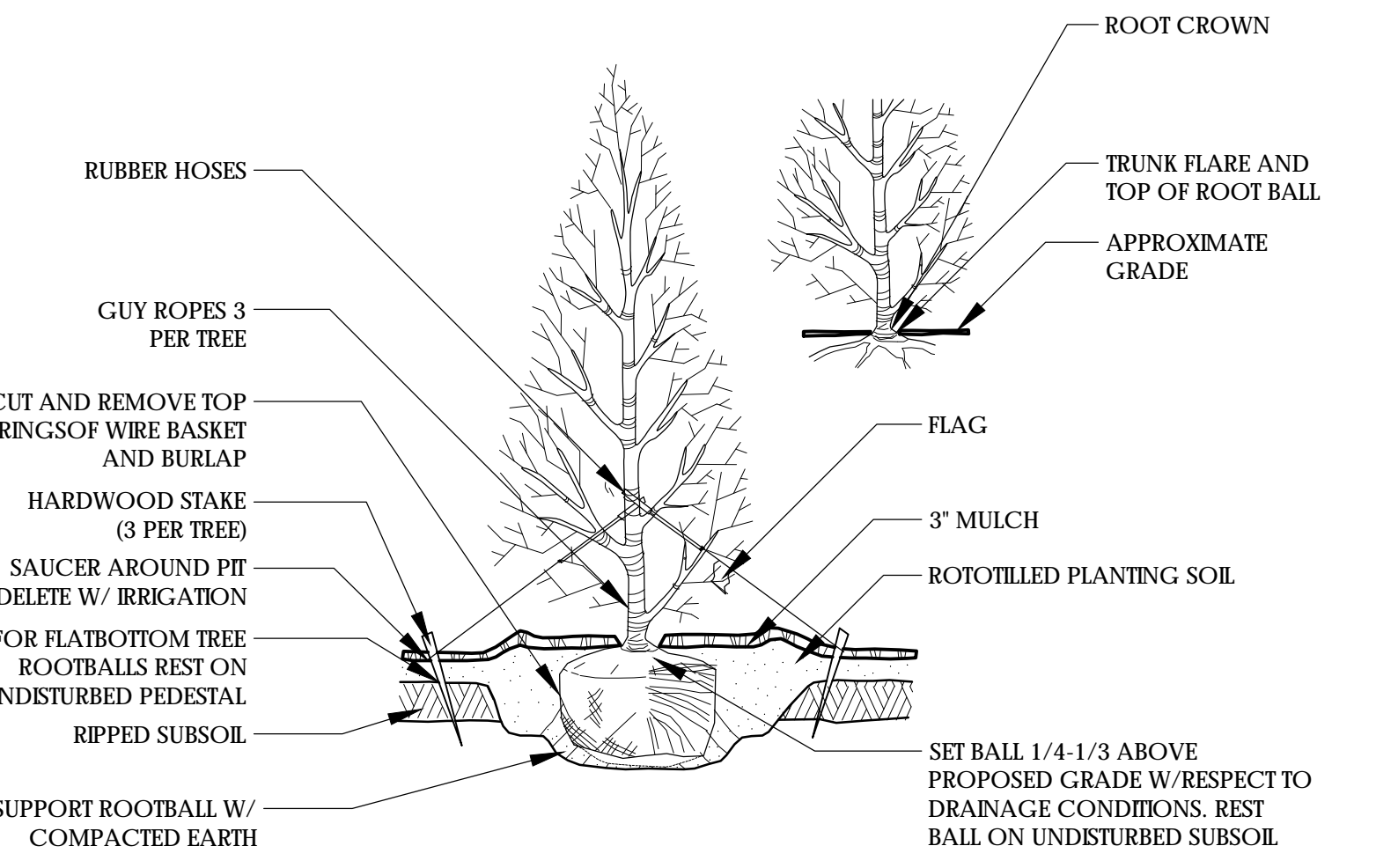
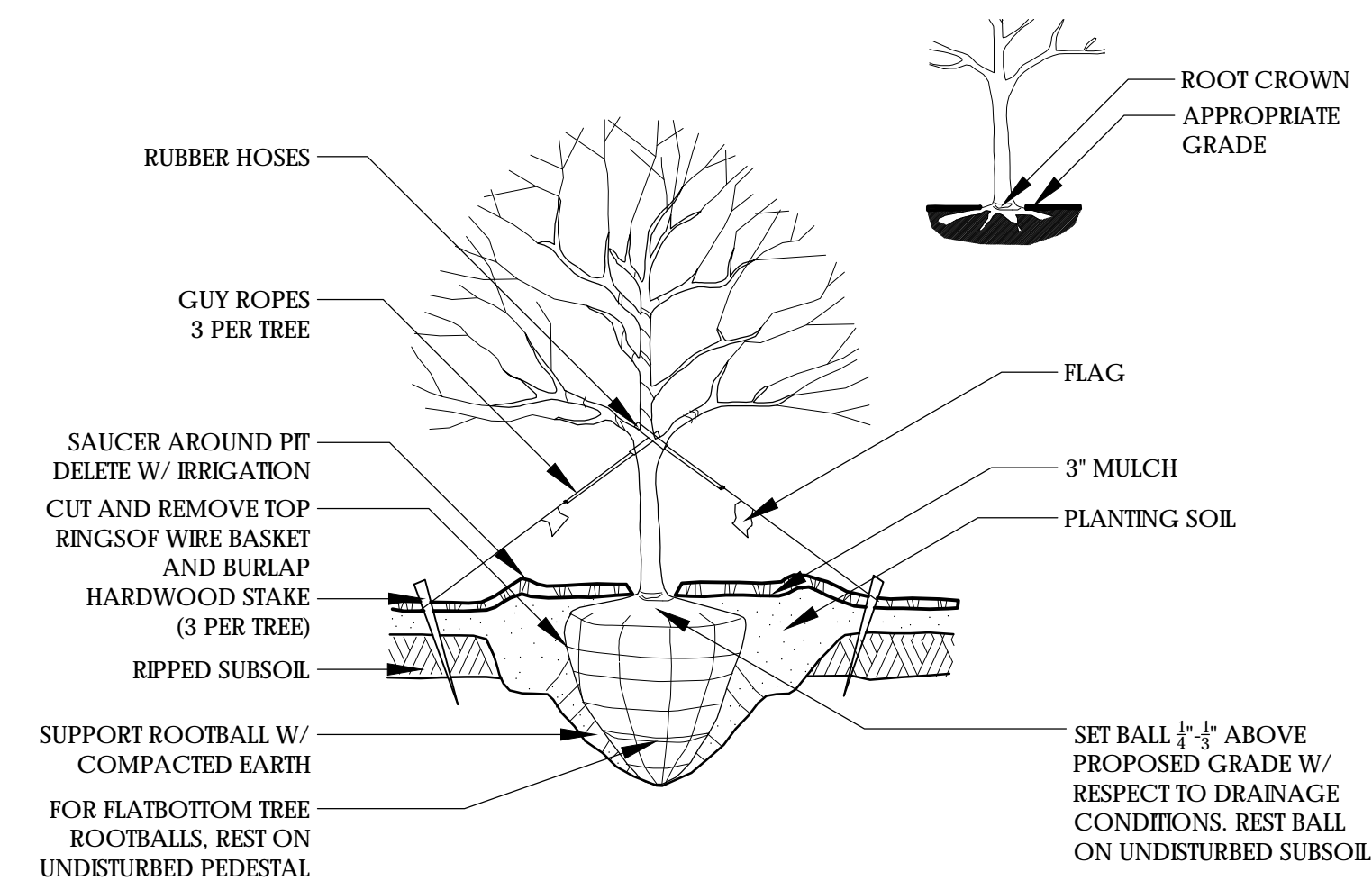


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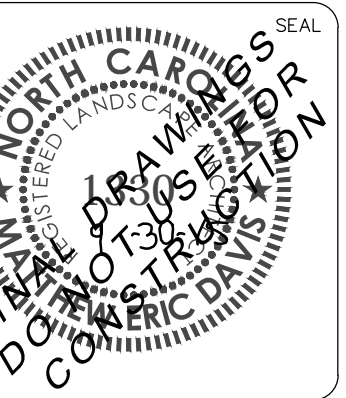
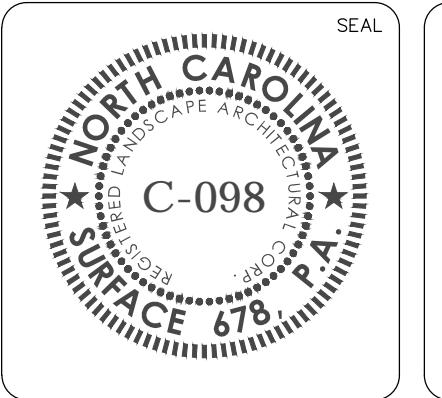
RIVERLIGHTS by Newland COMMUNITIES
Surface 678, P.A.
215 Morris Street, Suite 100
Durham, NC 27701
P: 919-419-1199
F: 919-419-1669

RIVERLIGHTS - CONVENTIONAL AREA
MEWS / GREAT LAWN GRADING PLAN

DATE: 05/06/2015	SCALE: 1" = 20'-0"	MFC FILE NUMBER
MCE PROJ. # 2735-0124		DRAWING NUMBER
DRAWN: JL		L181
DESIGNED: JC, ED		
CHECKED: JC, ED		
PROJ. MGR: JC		
STATUS: FINAL DESIGN	REVISION	

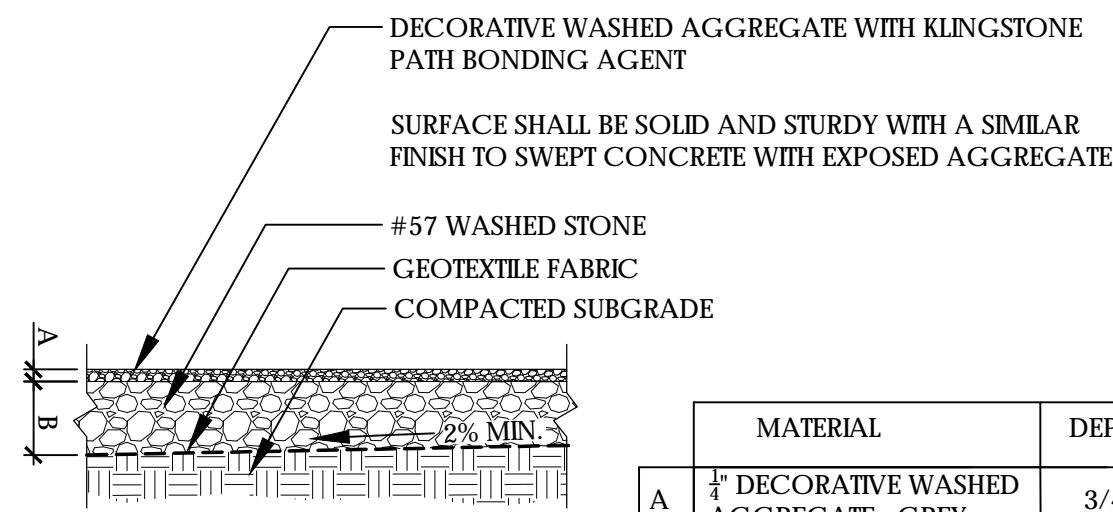


REV. NO.	DESCRIPTIONS	DATE



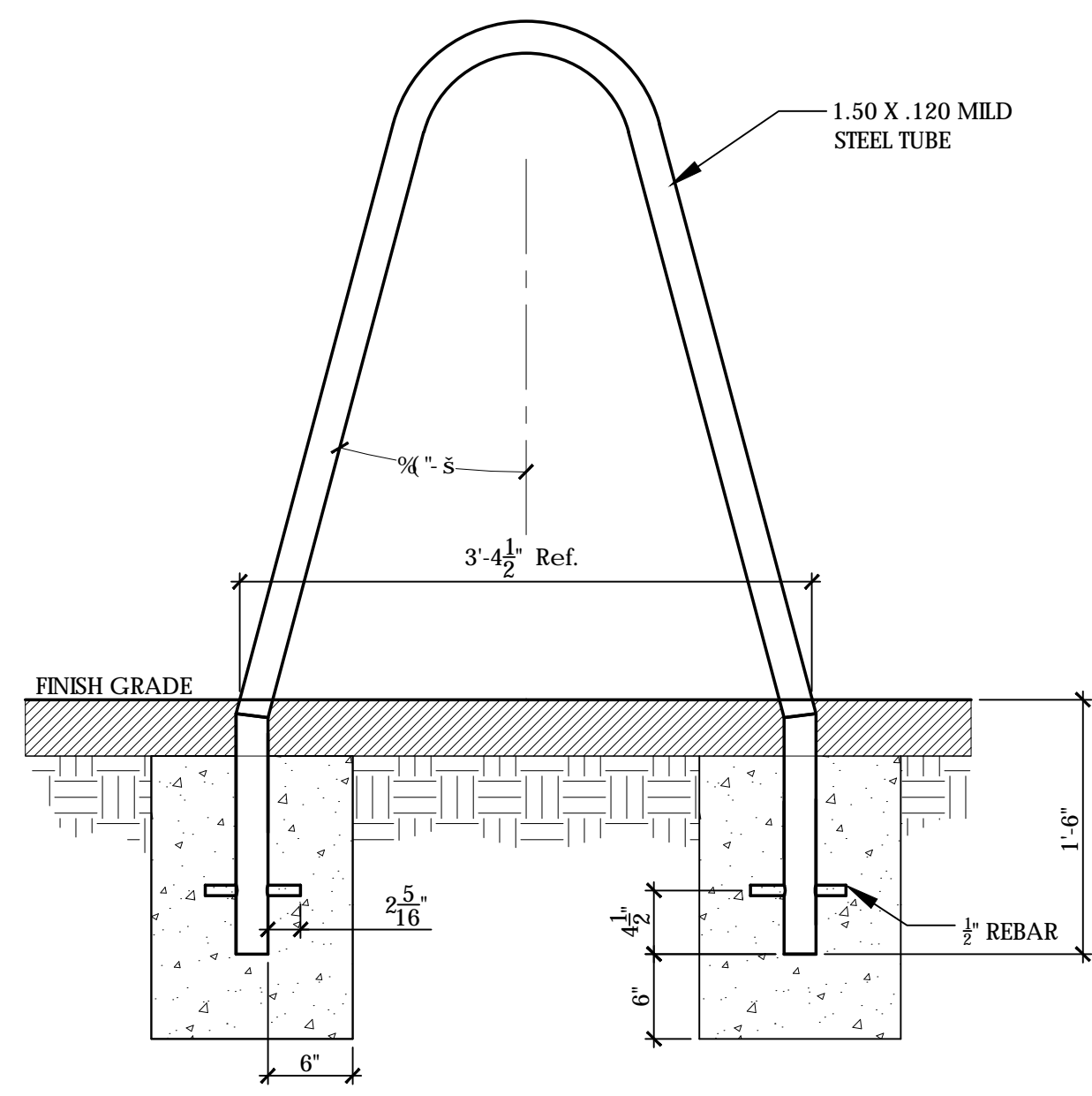
RIVERLIGHTS - CONVENTIONAL AREA
DETAILS

DATE: 05/06/2015	SCALE: AS SHOWN	M&C FILE NUMBER: L501
MCE PROJ. # 2735-0124		
DRAWN: JL		
DESIGNED: JC, ED		
CHECKED: JC, ED		
PROJ. MGR.: JC		
STATUS: FINAL DESIGN		REVISION:

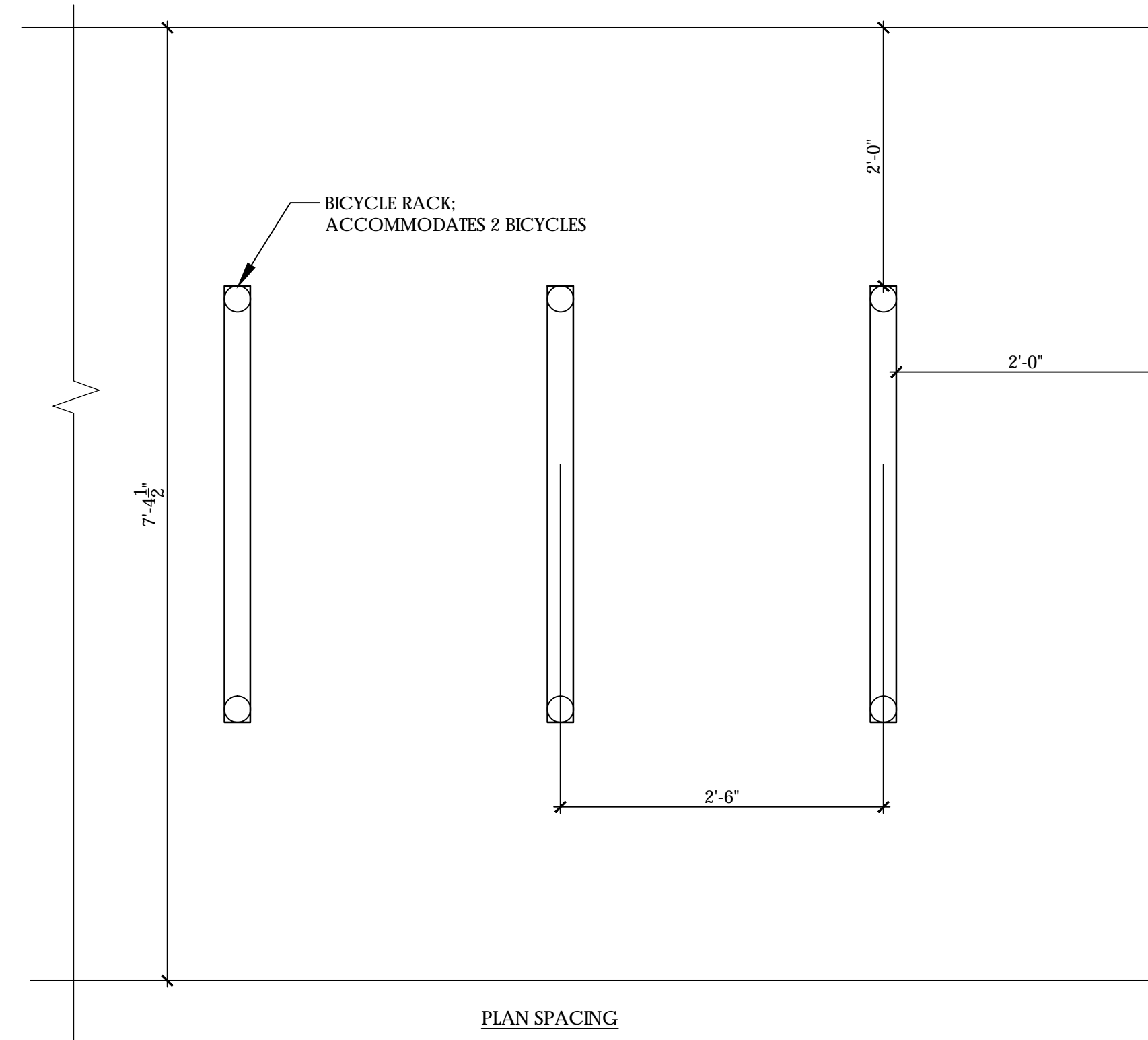


MATERIAL	DEPTH
A 1/4" DECORATIVE WASHED AGGREGATE, GREY	3/4"
B #57 WASHED STONE	3" MIN.

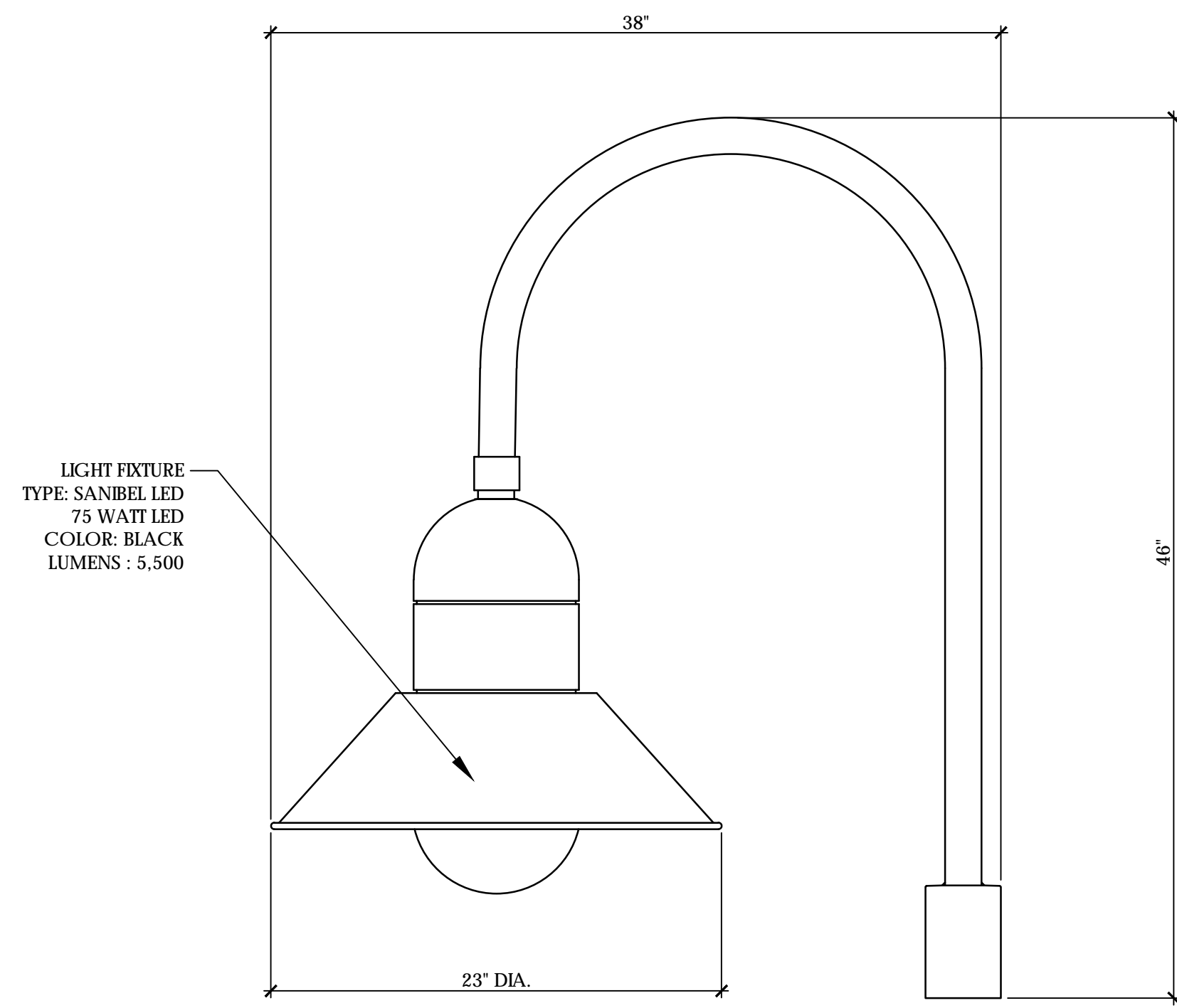
1 ADA ACCESSIBLE DECORATIVE STABILIZED GRAVEL
CONTRACTOR TO PROVIDE SHOP DRAWINGS



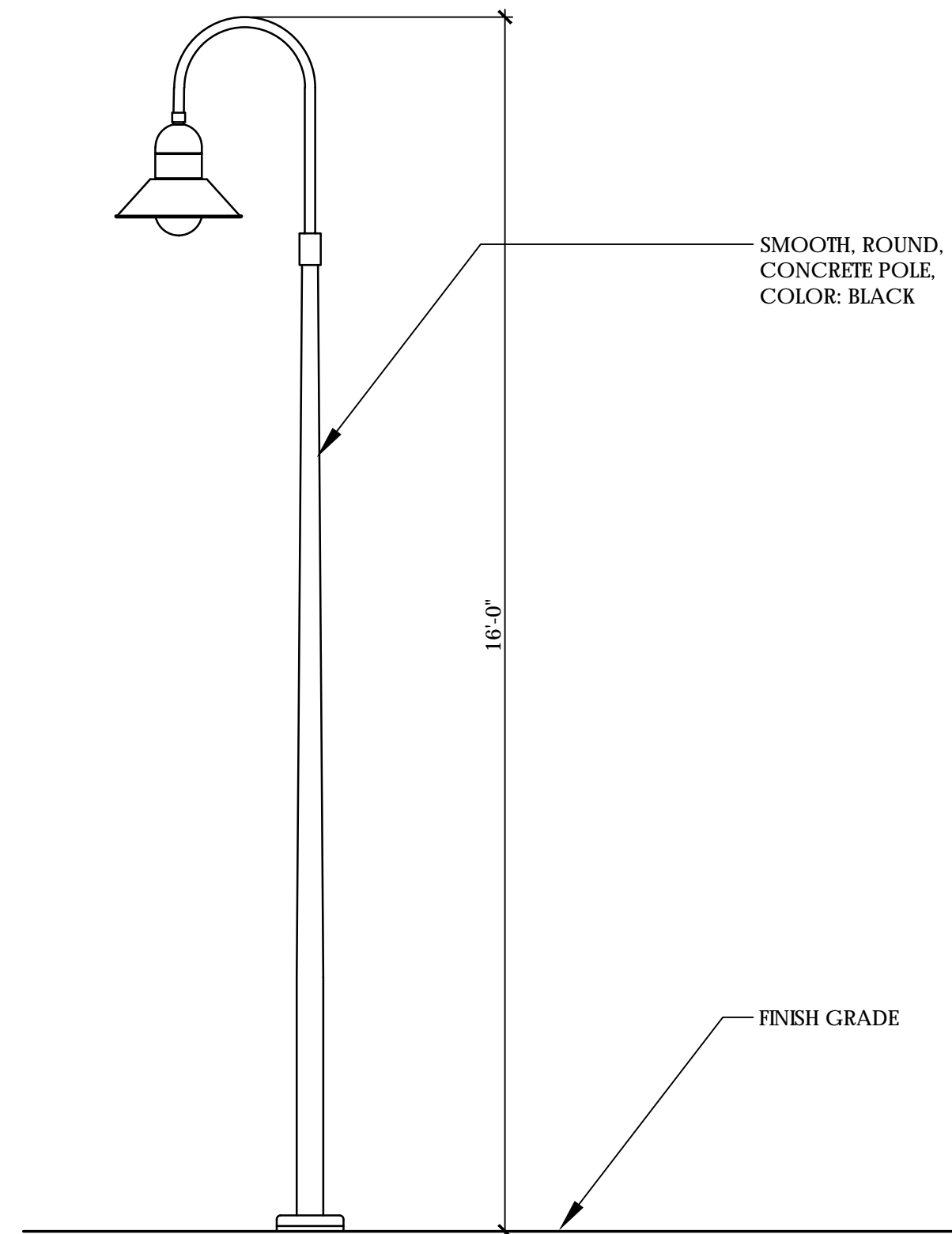
2 BICYCLE RACK
CONTRACTOR TO PROVIDE SHOP DRAWINGS



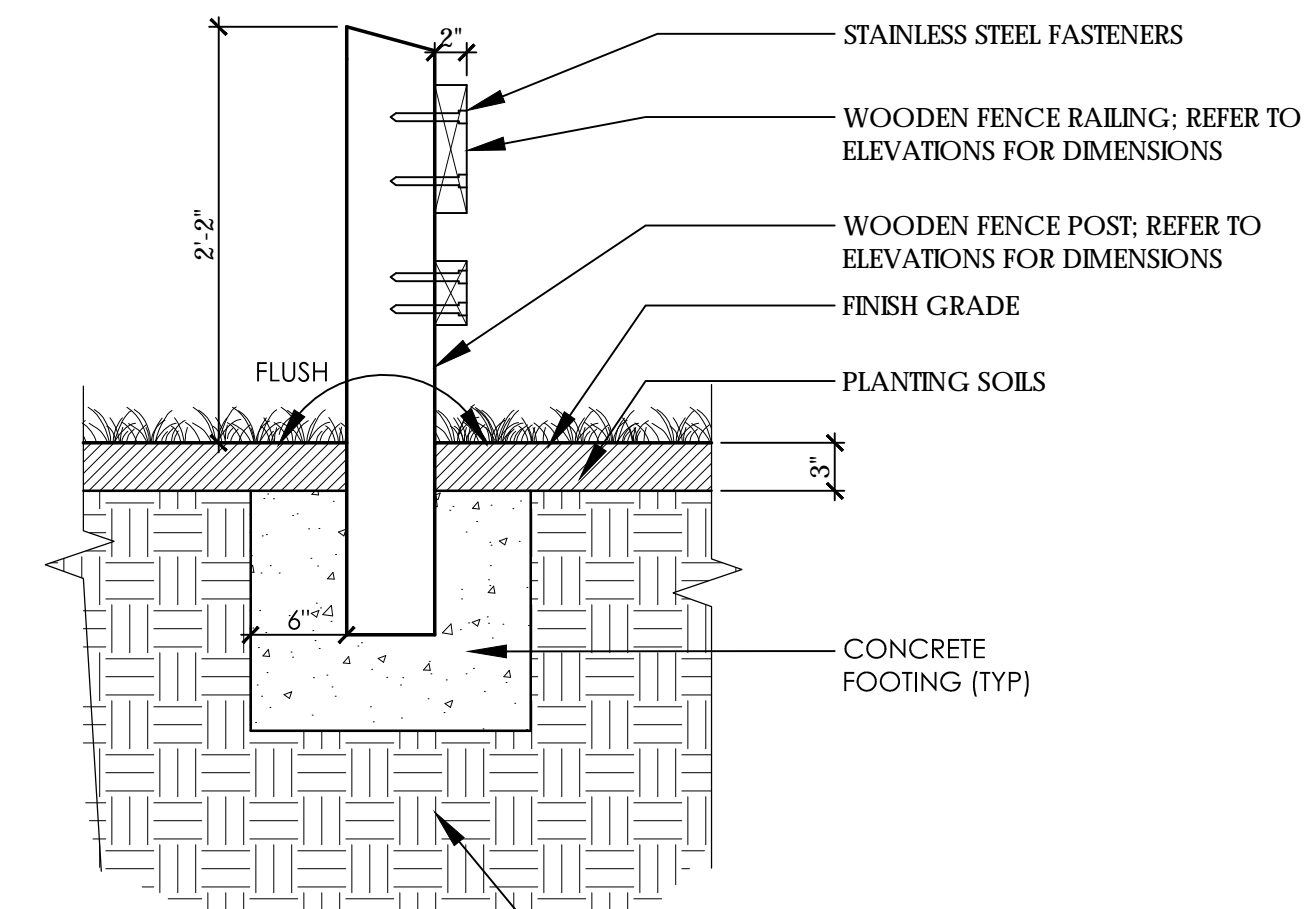
PLAN SPACING



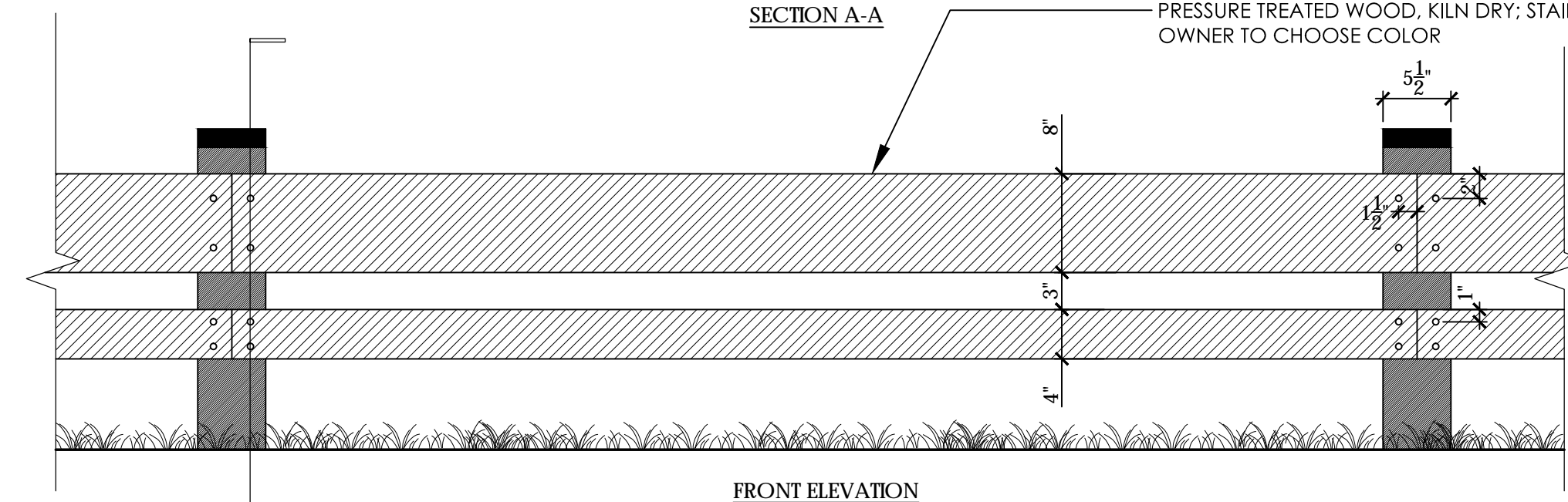
NON STANDARD LIGHT FIXTURE DETAIL



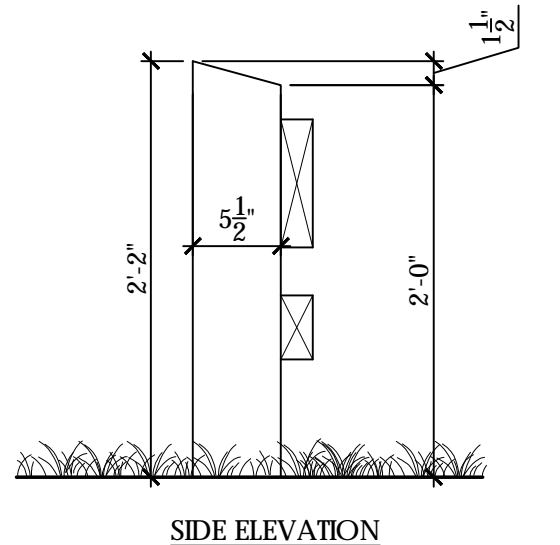
LIGHT FIXTURE POLE ELEVATION



SECTION A-A



FRONT ELEVATION

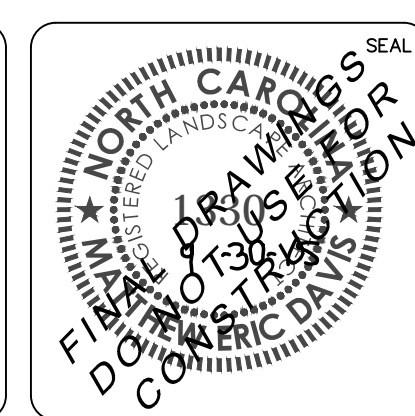
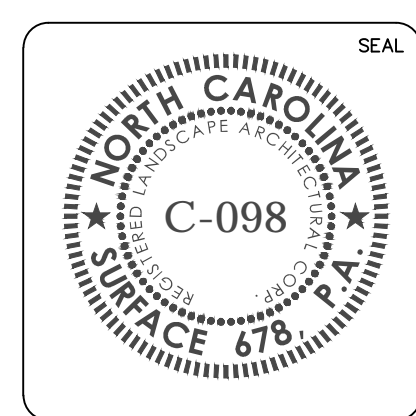


SIDE ELEVATION

3 FENCE

4 LIGHT POLE
* LIGHT POLE 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	DATE



RIVERLIGHTS - CONVENTIONAL AREA

DETAILS

DATE: 05/06/2019	SCALE: AS SHOWN	MAC FILE NUMBER
MCE PROJ. # 2735-0124	DRAWING NUMBER	L502
DRAWN: J	DESIGNED: JC, ED	CHECKED: JC, ED
PROJ. MGR.: JC	STATUS: FINAL DESIGN	REVISION