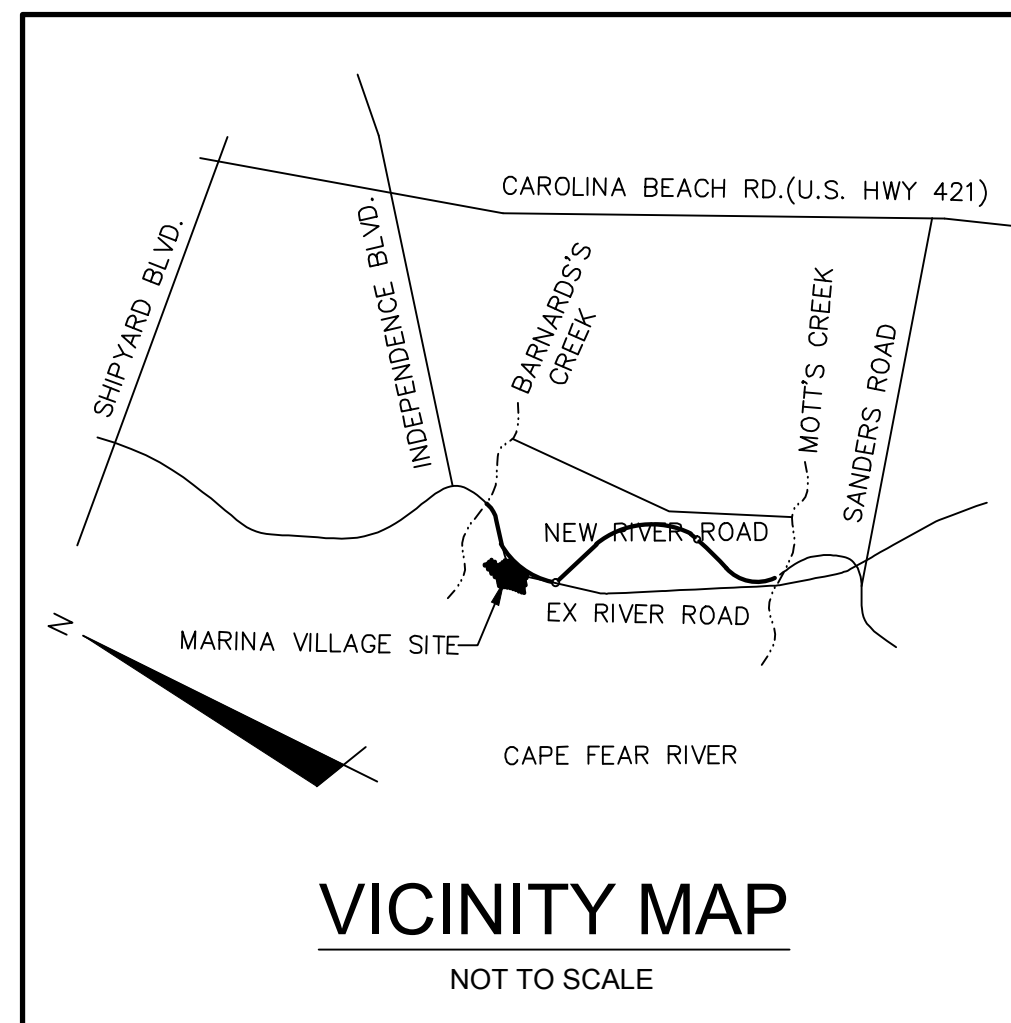


RIVERLIGHTS MARINA VILLAGE- PHASE 1B

CITY OF WILMINGTON, NC

MARCH 17, 2016 (REVISED SEPT. 21, 2016)

ISSUED FOR CONSTRUCTION



CITY AND AGENCY CONTACTS

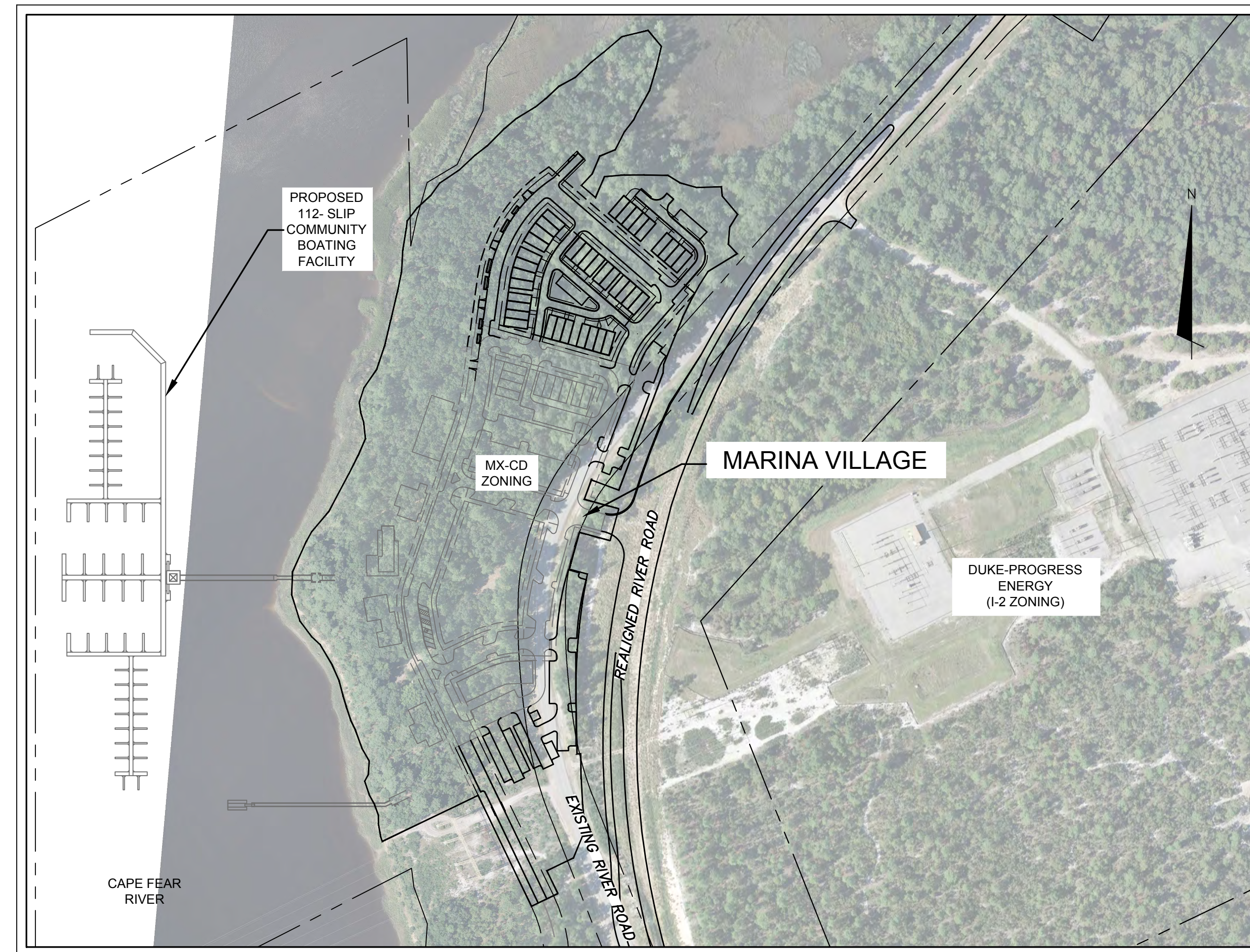
A. City of Wilmington
Planning Department
102 North Third Street
PO BOX 1810
Wilmington, NC 28402-1810
(910)341-7800
Contact: Ron Satterfield
Email: Ron.Satterfield@wilmingtonnc.gov

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

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

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

E. NCDENR
Division of Environmental Health
Public Water Supply Section
1634 Mail Service Center
Raleigh, NC 27699-1634
(919) 707-9075
Contact: Christyn Fertenbaugh
Email: christyn.fertenbaugh@ncdenr.gov



PROJECT DATA

NAME OF PROJECT:
RIVERLIGHTS - MARINA VILLAGE PHASE 1B
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: NICK LAURETTA, PE, LEED AP
EMAIL: NLAURETTA@MCKIMCREED.COM



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



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

Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

Fire _____

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

Date: _____ Permit # _____

Signed: _____

SHEET INDEX		
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2	G-002	ABBREVIATIONS & LEGEND
3	G-003	GENERAL NOTES
4	CX-101	EXISTING CONDITIONS SITE INVENTORY MAP
5	CX-102	TREE REMOVAL PLAN
6	GE-101	PHASE 1 SEDIMENT & EROSION CONTROL PLAN
7	GE-102	PHASE 2 SEDIMENT & EROSION CONTROL PLAN
8	CG-101	GRADING PLAN NORTH
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12	CS-101	SITE PLAN
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23	CN-501	STORMWATER MANAGEMENT DETAILS
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36	SSD-3	UTILITY DETAILS
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ABBREVIATIONS

ALT	ALTERNATE
AMP	AMPERE
ANCH	ANCHOR
Ac.	ACRE
BIT	BITUMINOUS
BLDG	BUILDING
BM	BEAM, BENCH MARK
BOTT	BOTTOM
CB	CATCH BASIN
C/C	CENTER TO CENTER
CDI	CURB DROP INLET
CFM	CUBIC FEET PER MINUTE
C&G	CURB & GUTTER
CI	CAST IRON
CL	CAST IN PLACE
CMP	CENTERLINE, CLASS
CO	CORRUGATED METAL PIPE
CONC	CLEANOUT
CONC	CONCRETE
CONC PWMT	CONCRETE PAVEMENT
COND	CONDUIT
CONSTR	CONSTRUCT, CONSTRUCTION
CTR	CENTER
CTV	CABLE TELEVISION
DB	DEED BOOK
DI	DROP INLET, DUCTILE IRON
DIA	DIAMETER
DISCH	DISCHARGE
DWG	DRAWING
E	EAST
EA	EACH
EAP	EXPOSED AGGREGATE PAVING
EL, ELEV	ELEVATION
ELEC	ELECTRIC, ELECTRICAL
EMER	EMERGENCY
EOP, EP	EDGE OF PAVEMENT
EQUIP	EQUIPMENT
ESMT	EASEMENT
EW	EACH WAY, END WALL
EXIST, EX	EXISTING
FL	FLOW LINE
FLG	FLANGE
FLR	FLOOR
FM	FORCE MAIN
FT	FOOT, FEET
G	GAS LINE, GUTTER
GA	GAGE
GAL	GALLON
GALV	GALVANIZED
GEN	GENERATOR
GPM	GALLONS PER MINUTE
h	HEIGHT
HP	HORSEPOWER
HWY	HIGHWAY
ID	INSIDE DIAMETER
INV	INVERT
IP	IRON PIPE, IRON PIN
IPF	IRON PIN FOUND
IR	IRON ROD
JB	JUNCTION BOX
KW	KILOWATTS
M	METER
MANUF, MFR	MANUFACTURER
MATL	MATERIAL
MAX	MAXIMUM
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MIN	MINIMUM
MON	MONUMENT
N	NORTH
N&C	NAIL AND CAP
NEC	NATIONAL ELECTRIC CODE
NGS	NATIONAL GEODETIC SURVEY
NIC	NOT IN CONTRACT
NO.	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
PNL	PANEL
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
PVMT	POINT OF VERTICAL CURVE PAVEMENT
QTY, QUAN	QUANTITY
RCCP	REINFORCED CONCRETE CYLINDER PIPE
RCM	RECLAIMED WATER MAIN
RCP	REINFORCED CONCRETE PIPE
RED	REDUCER
REF	REFERENCE
REINF	REINFORCED, REINFORCING
REQ'D	REQUIRED
REV	REVISION
ROW, R/W	RIGHT OF WAY
RT	RIGHT
RJ	REUSE WATER MAIN
RW	RAW WATER
S	SOUTH
SAN	SANITARY
SCHED	SCHEDULE
SD	STORM DRAIN
S.F.	SQUARE FEET
SHT	SHEET
SR	STATE ROUTE
STA	STATION
STD	STANDARD
S/W	SIDEWALK
TELE, TEL	TELEPHONE
TOT	TOP OF BANK
TOS	TOE OF SLOPE
TPS	TURN POINT SET
TS & V	TAPPING SLEEVE & VALVE
TYP	TYPICAL
UL	UNDERWRITERS LAB
UNO	UNLESS NOTED OTHERWISE
V	VOLT
VC	VITRIFIED CLAY
VERT	VERTICAL
VOL	VOLUME
W	WIDTH
W/	WITH
WM	WATER METER, WATER MAIN
WP	WEATHERPROOF, WEATHERPROOF
WSL	WATER SERVICE LINE
WV	WATER VALVE

LEGEND

DESCRIPTION	EXISTING	NEW
PROPERTY LINE	---	---
ROAD RIGHT-OF-WAY	---	---
UTILITY EASEMENT	---	---
PAVED ROADWAY	---	---
DIRT OR CRUSHED STONE ROADWAY	---	---
STORM DRAINAGE	12" RCP	12" RCP
GAS LINE	12" G	12" G
OVERHEAD ELECTRIC	OHE	OHE
OVERHEAD TELEPHONE	OHT	OHT
OVERHEAD TELEVISION	OHTV	OHTV
UNDERGROUND ELECTRIC	UGE	UGE
UNDERGROUND TELEPHONE	UGT	UGT
UNDERGROUND TELEVISION	UGTV	UGTV
DIRECTION OF FLOW	→	→
GROUND ELEVATION	7.26	7.64 (TOP OF CURB) 7.26 (EDGE OF PAVEMENT)
CONTOUR (MAJOR)	15	15
CONTOUR (MINOR)	12	12
MANHOLE	○	●
CATCH BASIN	□	□
INLETS	□	□
DROP INLET (THROAT OPENING)	□	□
UTILITY POLE	○	○
LIGHT POLE	○	○
SUPPORT POLE	○	○
LANDSCAPE LIGHTING	○	○
UTILITY PEDESTAL	□	□
GUY WIRE	—	—
BOLLARD	○	○
MAILBOX	□	□
SIGN	□	□
BENCHMARK	○	○
TREE LINE	—	—
SHRUB	○	○
EXISTING IRON ROD (DISTURBED)	○	○
EXISTING IRON ROD	○	○
LIMITS OF DISTURBANCE	LOD	LOD
SILT FENCE	SF	SF
TREE PROTECTION FENCE	TP	TP
TEMPORARY DIVERSION DITCH	TDD	TDD
SANITARY SEWER LINE	SS	SS
SANITARY SEWER MANHOLE	○	○
WATER LINE	8" W	8" W
FIRE HYDRANT	○	○
VALVE	○	○
STORMWATER PIPE	—	—
CITY OF WILMINGTON CONSERVATION RESOURCE SETBACK LINE	COO	COO
MEAN HIGH WATER	MHW	MHW
AREA OF ENVIRONMENTAL CONCERN	AEG	AEG
100-YEAR FLOODPLAIN (PRELIMINARY)	—	—
100-YEAR FLOODPLAIN (EFFECTIVE)	—	—
COASTAL MARSH LINE	—	—
35' CONSERVATION RESOURCE VEGETATED BUFFER	—	—
CAMA CLASSIFICATION BOUNDARY	—	—

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

1 inch

Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

Fire _____

CITY OF WILMINGTON
NORTH CAROLINA

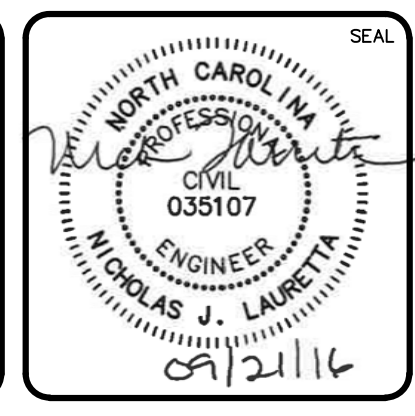
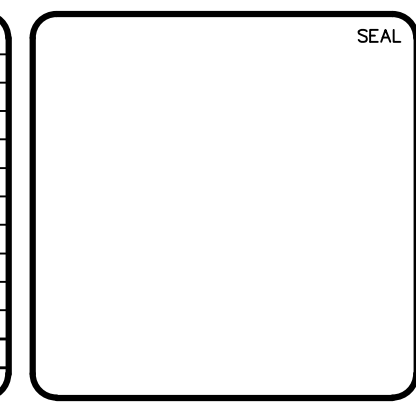
Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

REVNO.	DESCRIPTIONS	DATE
4	CITY OF WILMINGTON ENGINEERING COMMENTS	09/21/2016
3	CITY OF WILMINGTON IRC COMMENTS	08/23/2016
2	SITE PLAN AND STORM DRAINAGE REVISIONS	07/19/2016
1	CIPRA COMMENTS	06/11/2016
0	ISSUED FOR CONSTRUCTION	03/17/2016



MCKIM & CREED

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www.mckimcreed.com

RIVERLIGHTS

NORTH AMERICA SEKISUI HOUSE, LLC

**RIVERLIGHTS MARINA VILLAGE
PHASE 1B**

ABBREVIATIONS & LEGEND

DATE: 17MAR16
MCE PROJ. # 2735-0124

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

MAC FILE NUMBER: G-002
DRAWING NUMBER: 2

STATUS: FINAL DESIGN
ISSUED FOR CONSTRUCTION

REVISION: 0

CONSTRUCTION NOTES

- 1. CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH NEW HANOVER COUNTY AND THE CITY OF WILMINGTON STANDARDS AND SPECIFICATIONS.
2. CONTRACTOR IS FULLY RESPONSIBLE FOR ACQUIRING THE LOCATION OF EXISTING UTILITIES FROM THE APPROPRIATE PARTIES PRIOR TO CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE FOR PLACING BARRICADES, USING FLAGMEN, ETC. AS NECESSARY TO INSURE SAFETY TO THE PUBLIC.
4. THESE DRAWINGS SHOW INFORMATION OBTAINED FROM THE AVAILABLE RECORDS REGARDING PIPES, CONDUITS, TELEPHONE LINES, AND OTHER STRUCTURES AND CONDITIONS WHICH EXIST ALONG THE LINES OF WORK AND BELOW THE SURFACE OF THE GROUND...

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 form with fields for Name, Date, Planning, Traffic, Fire, and Permit #.

Table with 4 columns: REVNO, DESCRIPTION, REVISIONS, DATE. Contains revision history for the construction plan.

DEMOLITION NOTES

- 1. THE CONTRACTOR SHALL VISIT THE SITE TO BECOME FAMILIARIZED WITH FIELD DEMOLITION CONDITIONS.
2. THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER DISPOSAL OF ALL DEMOLISHED DEBRIS ASSOCIATED WITH THE PROJECT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
3. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST GENERATED BY THE WORK, INCLUDING BUT NOT LIMITED TO DEMOLITION AND CONSTRUCTION ACTIVITIES, SITE VEHICULAR TRAFFIC AND RELATED OPERATIONS.

EXCAVATION, GRADING, AND BACKFILLING NOTES

- 1. ANY UNDERCUTTING IN GOOD SOIL SHALL BE REPLACED AND THE REPLACEMENT MATERIAL SHALL BE COMPACTED TO NINETY-FIVE (95) PERCENT OF MAXIMUM DENSITY OBTAINED AT OPTIMUM MOISTURE CONTENT, AS DETERMINED BY THE ASTM D 698 STANDARD PROCTOR TEST METHOD.
2. BEFORE BACKFILLING IS COMMENCED OVER PIPES AND OTHER INSTALLATIONS, EARTH FILL SHALL BE SOLIDLY TAMPED AROUND AND ABOVE THE PIPE TO A DEPTH OF ONE (1) FOOT ABOVE THE TOP OF THE PIPE.
3. THE MATERIAL FOR BACKFILLING SHALL BE FREE FROM ALL PERISHABLE AND OBJECTIONABLE MATERIALS BEFORE PLACING ANY BACKFILL.

STORM DRAINAGE AND GRADING NOTES

- 1. IN ACCORDANCE WITH NC GENERAL STATUTES, NPDES REGULATIONS, AND NCDENR REQUIREMENTS, STORMWATER DISCHARGE OUTFALLS SHALL BE INSPECTED BY THE CONTRACTOR. INSPECTIONS SHALL BE PERFORMED BY THE CONTRACTOR ONCE A WEEK AND WITHIN 24 HOURS OF EACH STORM EVENT.
2. INLET PROTECTION SHALL BE INSTALLED AROUND OUTFALL. DEVICES SHALL BE CONSTRUCTED TO FINAL PROPOSED CONDITION UPON STABILIZATION OF CONTRIBUTING GROUND SURFACES AND REMOVAL OF SEDIMENT FROM STORM PIPES.
3. ALL DIMENSIONS AND GRADES SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

UTILITY NOTES

- 1. SCHEDULE A PRECONSTRUCTION MEETING WITH CAPE FEAR PUBLIC UTILITY AUTHORITY 48 HOURS PRIOR TO CONSTRUCTION OF WATER AND SEWER LINES.
2. WATER AND SANITARY SEWER UTILITY MAINS ARE CONTAINED WITH PUBLIC DRAINAGE EASEMENTS. MAINS ARE PRIVATE BEYOND THE PUBLIC UTILITY EASEMENT.
3. THIS PROJECT SHALL COMPLY WITH THE CFPWA CROSS CONNECTION CONTROL REQUIREMENTS. WATER METER(S) CANNOT BE RELEASED UNTIL ALL REQUIREMENTS ARE MET AND NCDENR HAS ISSUED THE "FINAL APPROVAL".
4. ALL COMMERCIAL WATER SERVICES AND ANY IRRIGATION SYSTEMS SUPPLIED BY CFPWA WATER SHALL HAVE A BACKFLOW PREVENTION DEVICE ACCEPTABLE TO CFPWA AND APPROVED BY USCFCCOHR OR ASSE.

MATERIALS AND EASEMENT NOTES:

- ALL CATCH BASINS ARE NCDOT STD 840.01
• ALL DROP INLETS IN TRAFFIC AREAS ARE NCDOT STD 840.35, ALL DROP INLETS IN LANDSCAPE AREAS ARE CITY OF WILMINGTON STD 2-02 & 14-04.
• ALL STORM DRAINAGE PIPING TO BE CLASS III RCP, UNLESS OTHERWISE NOTED
• ALL STORM DRAINAGE PIPING CONVEYING DISCHARGE FROM THE PUBLIC RIGHT-OF-WAY SHALL BE CONTAINED WITHIN A PUBLIC DRAINAGE EASEMENT WHOSE WIDTH IS DETERMINED BY THE DEPTH OF BURY

EROSION CONTROL NOTES

- 1. ANY GRADING BEYOND THE DENUDED LIMITS SHOWN ON THE PLAN IS A VIOLATION OF THE COUNTY EROSION CONTROL ORDINANCE AND IS SUBJECT TO A FINE.
2. GRADING MORE THAN ONE ACRE WITHOUT AN APPROVED EROSION CONTROL PLAN IS A VIOLATION OF STATE LAW AND IS SUBJECT TO A FINE.
3. GROUND COVER MUST BE PROVIDED ON EXPOSED SLOPES WITHIN 21 CALENDAR DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING; AND, A PERMANENT GROUND COVER FOR ALL DISTURBED AREAS WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER) FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.

EROSION CONTROL MAINTENANCE PLAN:

- 1. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED AND REPAIRED, AS NECESSARY, EVERY SEVEN (7) DAYS AND WITHIN 24 HOURS OF EVERY ONE-HALF (0.5) INCH OR GREATER RAINFALL OCCURRENCE.
2. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED.
3. SEDIMENT SHALL BE REMOVED FROM BEHIND THE SILT FENCE WHEN IT BECOMES ABOUT 0.5 FEET DEEP. THE SEDIMENT FENCE WILL BE REPAIRED OR REPLACED AS NECESSARY TO MAINTAIN A BARRIER.

NOTE (G.S. 113A-57 (2))

THE ANGLE FOR GRADED SLOPES AND FILLS SHALL BE NO GREATER THAN THE ANGLE THAT CAN BE RETAINED BY VEGETATIVE COVER OR OTHER ADEQUATE EROSION CONTROL DEVICES OR STRUCTURES. IN ANY EVENT, SLOPES LEFT EXPOSED WILL, WITHIN 21 CALENDAR DAYS OF COMPLETION OF ANY GRADING, BE PLANTED OR OTHERWISE PROVIDED WITH TEMPORARY OR PERMANENT GROUND COVER, DEVICES, OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION.

CITY OF WILMINGTON STANDARD NOTES

- 1. CONTACT THE NORTH CAROLINA ONE CALL CENTER PRIOR TO DOING ANY DIGGING AT 1-800-632-4949.
2. PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING SHALL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES AND NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
3. ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS.

NOTE COW(18-458)

NO EQUIPMENT IS ALLOWED ONSITE UNTIL ALL TREE PROTECTION FENCING AND SILT FENCING HAS BEEN INSTALLED AND APPROVED BY THE ENGINEER.

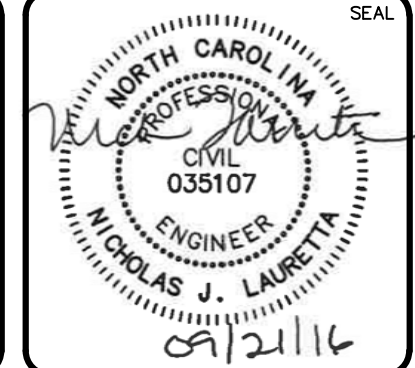
FIRE PROTECTION NOTES

- 1. HYDRANT MUST BE WITHIN 150' OF THE FDC.
2. THE FDC MUST BE WITHIN 40' OF FIRE APPARATUS PLACEMENT.
3. LANDSCAPING OR PARKING CANNOT BLOCK OR IMPEDE THE FDC OR FIRE HYDRANTS. A 3-FOOT CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE HYDRANT AND FDC.
4. HYDRANTS MUST BE LOCATED WITHIN 8' OF THE CURB PER CITY OF WILMINGTON STANDARDS. HYDRANTS WILL BE LOCATED WITHIN 6' OF THE CURB PER CFPWA STANDARDS.

UTILITY COMPANY CONTACTS

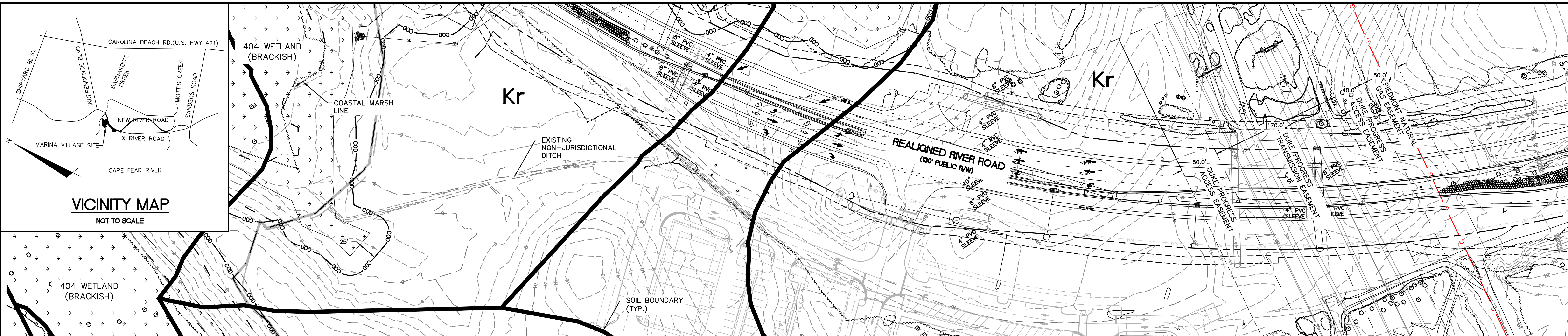
DUKE/PROGRESS ENERGY: SID LIVINGSTON/MARK HATFIELD (910) 452-2777
DUKE ENERGY (TRANSMISSION): BILL WILDER (910) 772-4903
AT&T (BELLSOUTH): JAMES BATSON (910) 452-5300
TIME WARNER CABLE: ROBERT JOHN (910) 216-4494
PIEDMONT NATURAL GAS: PAUL GONKA (910) 512-2841
DJ MEDeiros (910) 431-3233
CAPE FEAR PUBLIC UTILITY AUTHORITY (910) 332-6550

Table with 3 columns: SITE AREA DESCRIPTION, STABILIZATION TIMEFRAME, STABILIZATION TIMEFRAME EXCEPTIONS. Lists criteria for ground stabilization.

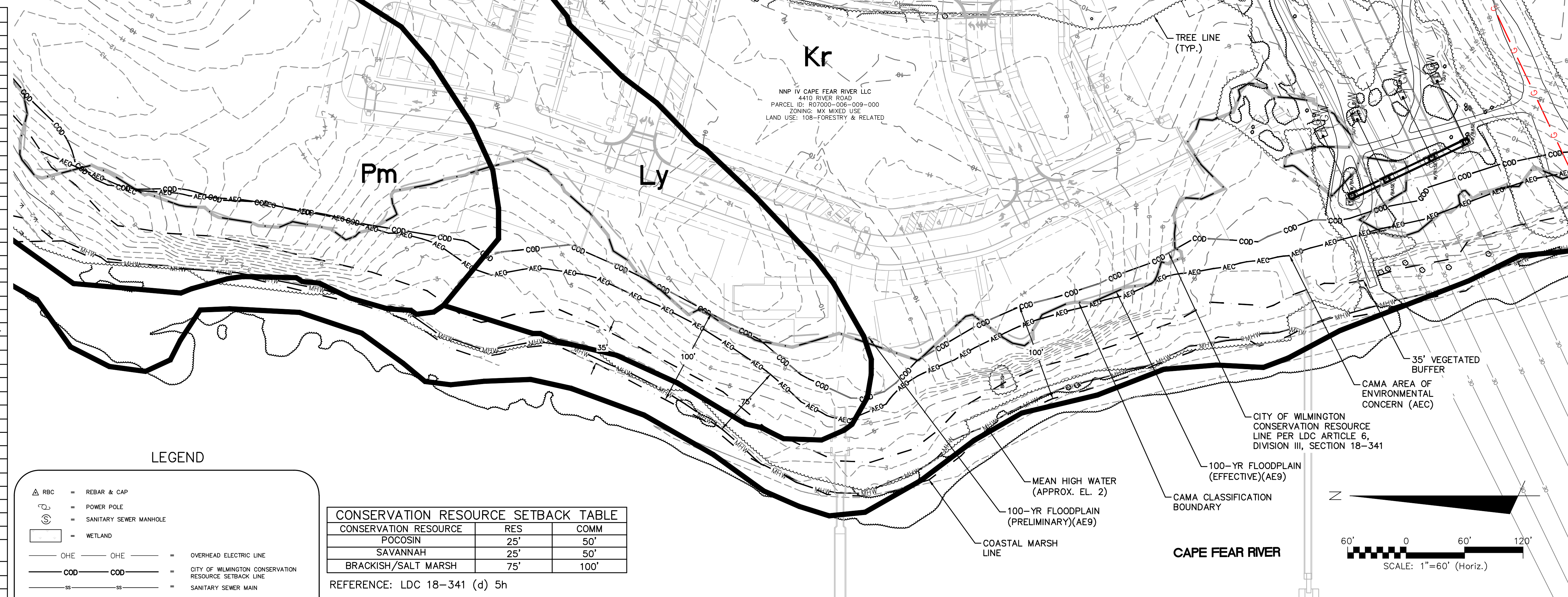


RIVERLIGHTS MARINA VILLAGE PHASE 1B GENERAL NOTES

Project information block including DATE (17MAR16), MCE PROJ. # (2735-0124), SCALE (HORIZONTAL: N/A), and STATUS (FINAL DESIGN).



SITE DATA TABLE		MARINA VILLAGE - PHASE 2	
GENERAL INFORMATION			
APPLICANT NAME	NNP IV- CAPE FEAR RIVER, LLC		
SITE ADDRESS	4410 RIVER ROAD		
PROPERTY OWNER	NNP IV- CAPE FEAR RIVER, LLC		
DEVELOPER	NNP IV- CAPE FEAR RIVER LLC		
MAP SCALE	1"=60'		
PROPERTY BOUNDARY			
TAX PARCEL IDENTIFICATION NUMBER	R07000-006-009-000		
ZONING DISTRICT	MX		
TOTAL ACREAGE WITHIN THE RIVER ROAD BOUNDARY	1,329.41 ACRES (57,909,099.6 SF)		
TOTAL ACREAGE WITHIN THE MARINA VILLAGE BOUNDARY	38.67 ACRES (1,684,343 SF)		
ADJACENT PROPERTY			
ADJACENT PROPERTY	PROPERTY	ZONING	
	WATERMARK MARINA	LI	
	DUKE PROGRESS ENERGY	I-2	
VICINITY			
VICINITY MAP	SEE CX-101		
TOPOGRAPHY AND DRAINAGE			
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			
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			
SOIL TYPE(S) AND BOUNDARIES	SEE CX-101		
NORTH CAROLINA COASTAL AREA MANAGEMENT AD INFORMATION			
CAMA AREA OF ENVIRONMENTAL CONCERN	SEE CX-101		
SETBACKS	75 FT		
CAMA LAND USE CLASSIFICATION(S)	TRANSITION/CONSERVATION		
CONSERVATION RESOURCE REGULATIONS			
PRESENCE OF CONSERVATION RESOURCE	PRESENCE; SEE CX-101		
SETBACKS	TABLE; SEE CX-101		
VEGETATED BUFFER	35' 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, BURIAL SITES, OR BURIAL GROUNDS?			
	NOT PRESENT		
FORESTED AREAS			
BOUNDARIES OF FORESTED AREAS	SEE CX-101		
FOREST AREA	19.17 ACRES (835,039 SF)		
HABITAT	FORESTED WETLAND/TIDAL MARSH		
DOMINANT SPECIES	OAK, PINE		
WETLANDS			
404/SECTION 10 WETLAND LOCATION	PRESENCE; SEE CX-101		
METHOD OF DETERMINATION	FIELD SURVEY		
IMPACTED WETLANDS	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		



LEGEND

	= REBAR & CAP
	= POWER POLE
	= SANITARY SEWER MANHOLE
	= WETLAND
	= OVERHEAD ELECTRIC LINE
	= 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
	= CAMA CLASSIFICATION BOUNDARY

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

TREE LEGEND

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

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 BRACKISH/SALT MARSH AND POCOSIN WETLANDS AND CONSERVATION RESOURCE SETBACK LINES WERE GENERATED AS 100' FOR COMMERCIAL, 75' FOR RESIDENTIAL, AND 25', RESPECTIVELY, MINIMUM OUTSIDE OF THE RESOURCE.
- FINISHED FLOOR ELEVATIONS OFF ALL INHABITABLE STRUCTURES WILL BE MIN. 2- FEET ABOVE BASE FLOOD ELEVATION

SURVEY NOTES:

- ALL DISTANCES ARE HORIZONTAL GROUND IN US SURVEY FEET UNLESS OTHERWISE SHOWN.
- BEARINGS BASED ON NCGRID NAD83.
- VERTICAL DATUM IS NAVD 88.
- UNDERGROUND UTILITIES ARE SHOWN ONLY WHERE ABOVEGROUND SERVICES WERE VISIBLE.

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

Approved Construction Plan

Name: _____ Date: _____

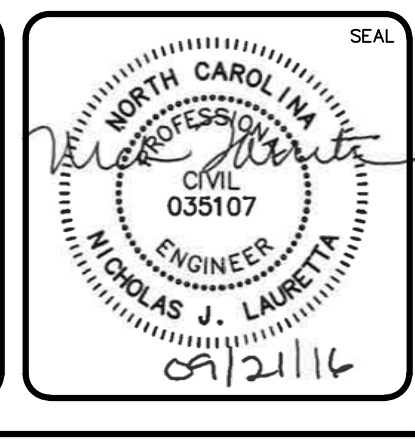
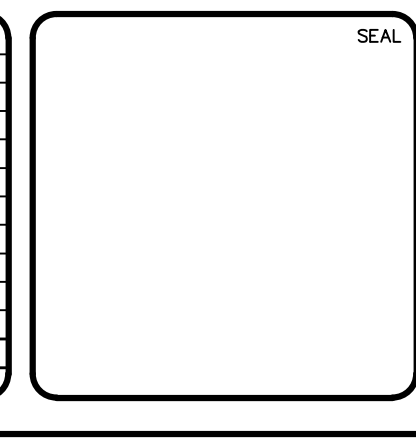
Planning _____

Traffic _____

Fire _____



REVNO.	DESCRIPTIONS	DATE
4	CITY OF WILMINGTON ENGINEERING COMMENTS	09/21/2016
3	CITY OF WILMINGTON TRC COMMENTS	08/23/2016
2	SITE PLAN AND STORM DRAINAGE REVISIONS	07/19/2016
1	CITY COMMENTS	06/17/2016
0	ISSUED FOR CONSTRUCTION	03/17/2016



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RIVERLIGHTS

North America Sekisui House, LLC

RIVERLIGHTS MARINA VILLAGE PHASE 1B

EXISTING CONDITIONS SITE INVENTORY MAP

DATE: 17MAR16
MCE PROJ. #: 2735-0124
DRAWN: ALM
DESIGNED: NJL
CHECKED: KCB
PROJ. MGR.: NJL

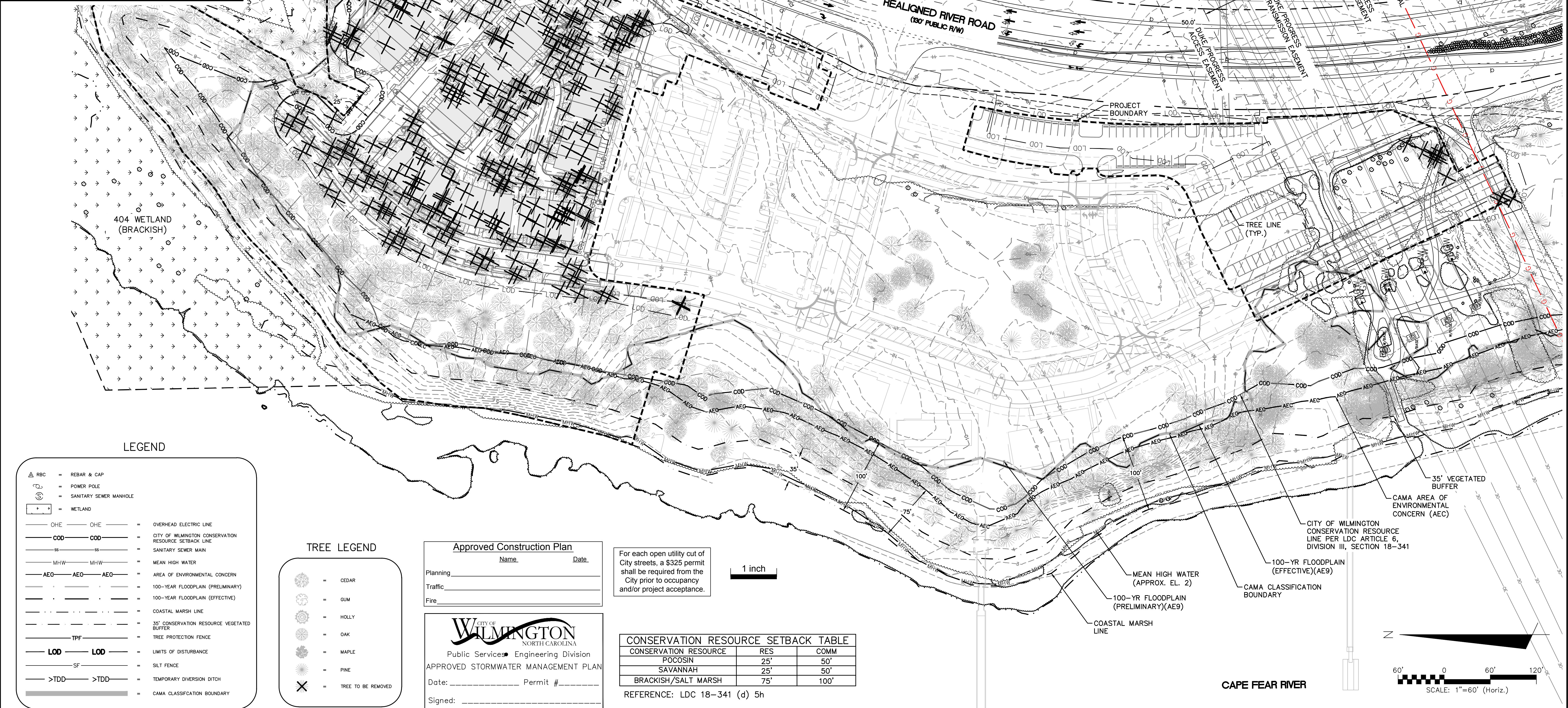
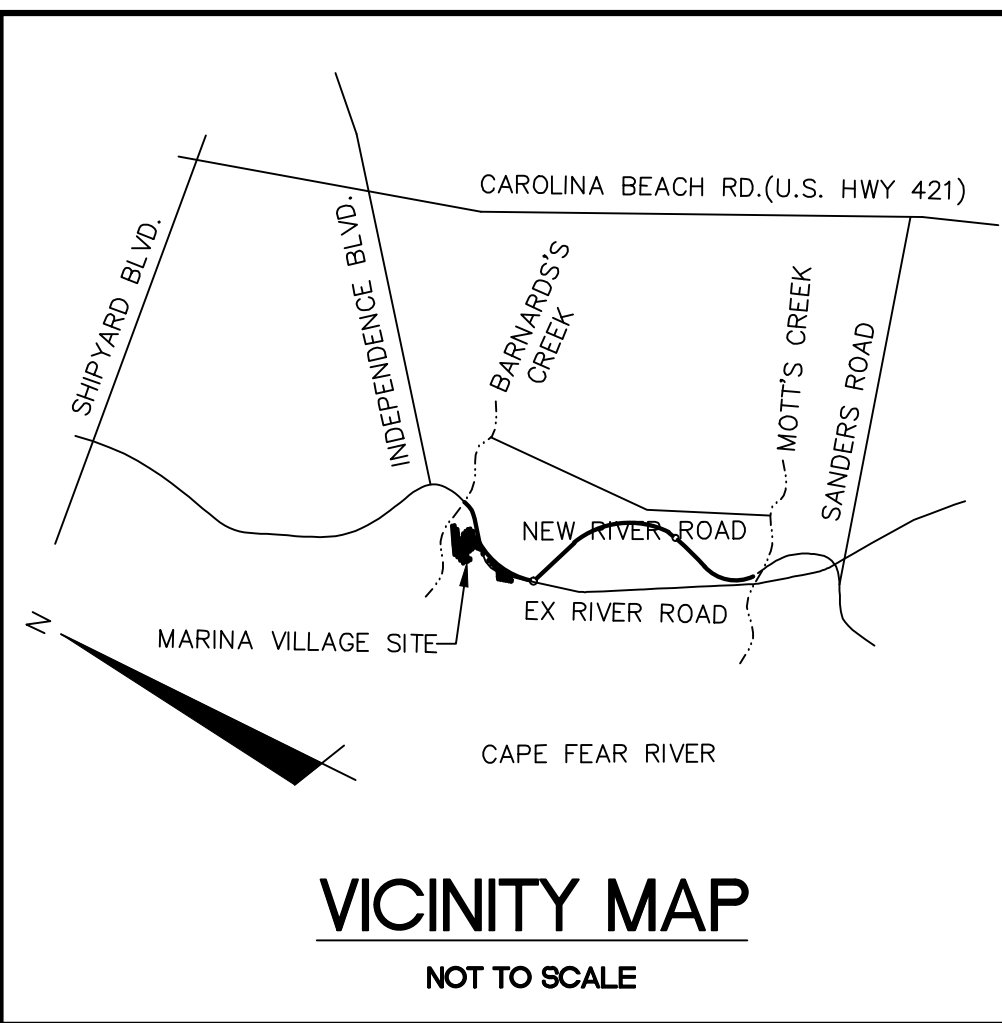
SCALE: HORIZONTAL: 1"=60'
VERTICAL: N/A

MAC FILE NUMBER: CX-101
DRAWING NUMBER: 4

STATUS: FINAL DESIGN
ISSUED FOR CONSTRUCTION

REVISION: 0

S:\2735\0124 Marina Village\08 Drawings\Phase 1B\CX-101.dwg



LEGEND

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

TREE LEGEND

- ⊙ = CEDAR
- ⊙ = GUM
- ⊙ = HOLLY
- ⊙ = OAK
- ⊙ = MAPLE
- ⊙ = PINE
- ⊗ = TREE TO BE REMOVED

Approved Construction Plan

Name: _____ Date: _____

Planning _____

Traffic _____

Fire _____

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

Date: _____ Permit # _____

Signed: _____

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

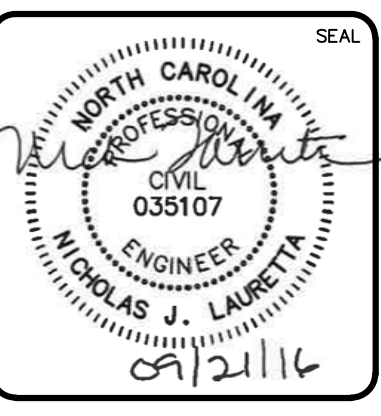
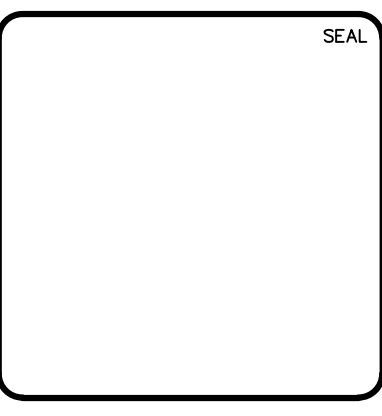
1 inch

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

REVNO.	DESCRIPTIONS	DATE
4	CITY OF WILMINGTON ENGINEERING COMMENTS	09/21/2016
3	CITY OF WILMINGTON IRC COMMENTS	08/23/2016
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0	ISSUED FOR CONSTRUCTION	03/17/2016



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RIVERLIGHTS
NASH
NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS MARINA VILLAGE PHASE 1B

TREE REMOVAL PLAN

DATE: 17MAR16
MCE PROJ. #: 2735-0124
DRAWN: ALM
DESIGNED: NJL
CHECKED: KCBE
PROJ. MGR.: NJL

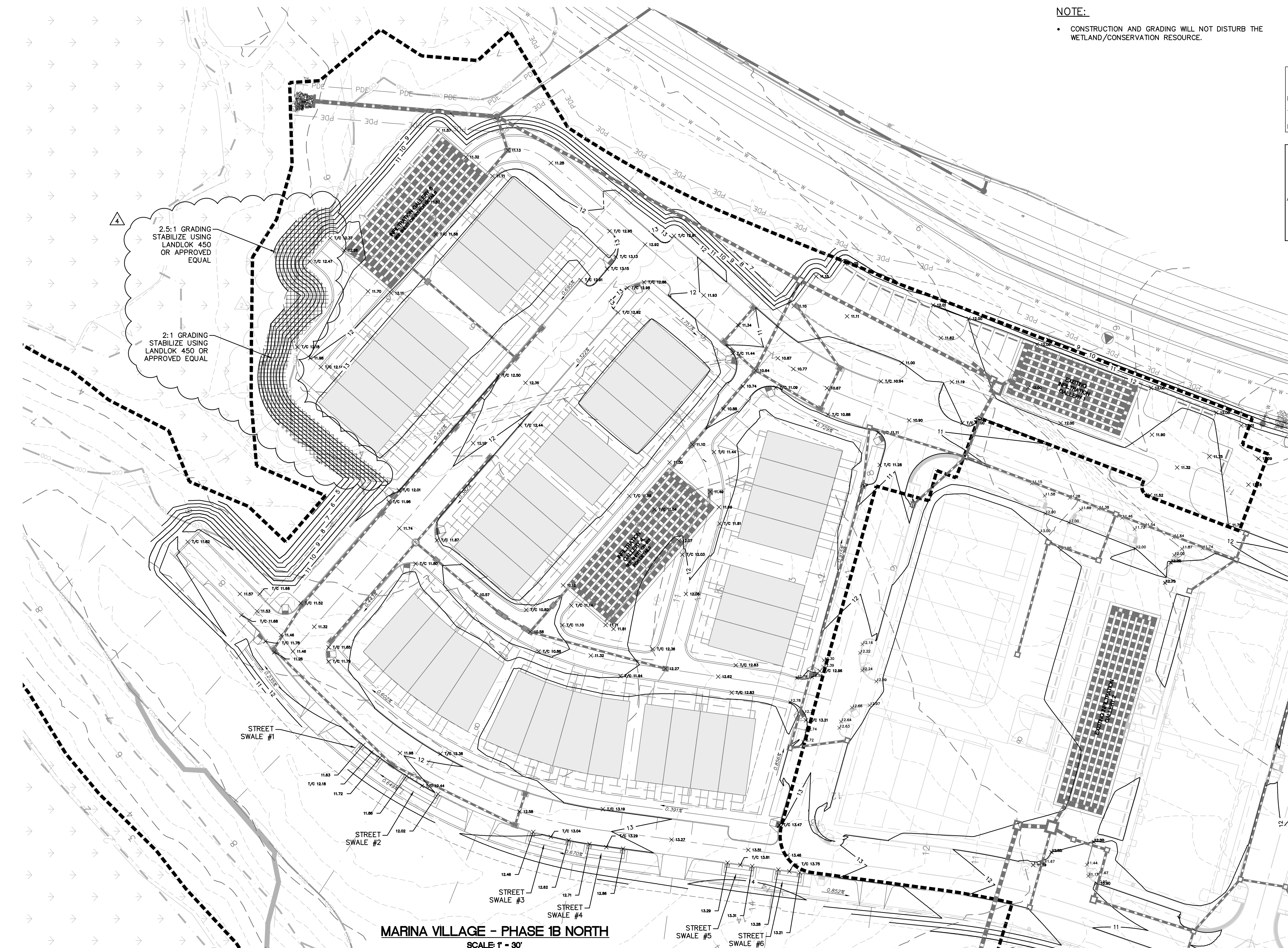
SCALE: HORIZONTAL: 1"=60'
VERTICAL: N/A

MAC FILE NUMBER: CX-102
DRAWING NUMBER: 5

STATUS: FINAL DESIGN
ISSUED FOR CONSTRUCTION

REVISION: 3

S:\2735\0124 Marina Village\08 Drawings\Phase 1B\CX-102.dwg



NOTE:

- CONSTRUCTION AND GRADING WILL NOT DISTURB THE WETLAND/CONSERVATION RESOURCE.

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

1 inch

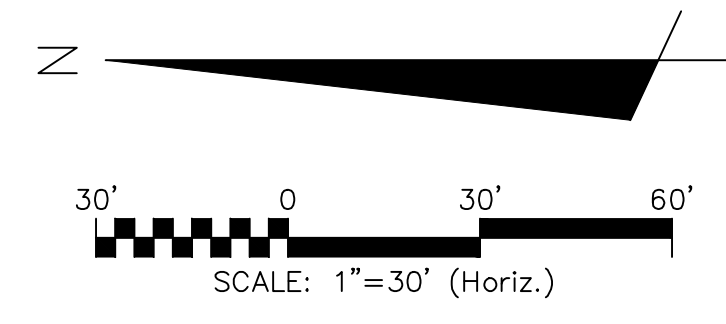
Approved Construction Plan

Name	Date
Planning	
Traffic	
Fire	

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

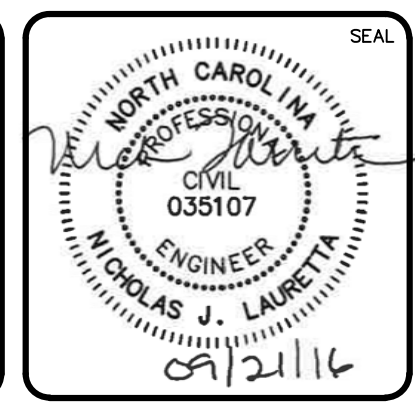
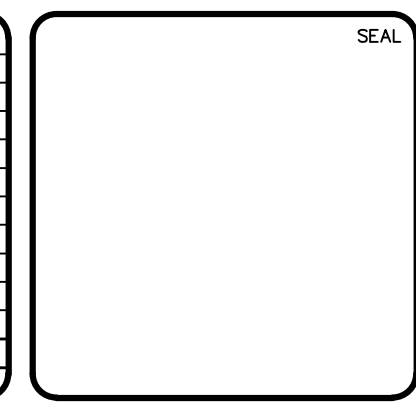
2.5:1 GRADING STABILIZE USING LANDLOK 450 OR APPROVED EQUAL

2:1 GRADING STABILIZE USING LANDLOK 450 OR APPROVED EQUAL



MARINA VILLAGE - PHASE 1B NORTH
SCALE 1" = 30'

REVNO.	DESCRIPTIONS	DATE
4	CITY OF WILMINGTON ENGINEERING COMMENTS	09/21/2016
3	CITY OF WILMINGTON IRC COMMENTS	08/23/2016
2	SITE PLAN AND STORM DRAINAGE REVISIONS	07/19/2016
1	CIPRA COMMENTS	06/11/2016
0	ISSUED FOR CONSTRUCTION	03/17/2016



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RIVERLIGHTS
NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS MARINA VILLAGE PHASE 1B
GRADING PLAN NORTH

DATE: 17MAR16	SCALE: CG-101	MAC FILE NUMBER: CG-101
MCE PROJ. # 2735-0124	HORIZONTAL: 1"=30'	DRAWING NUMBER: 8
DRAWN: ALM	VERTICAL: N/A	REVISION: 3
DESIGNED: NJL		
CHECKED: KCBE		
PROJ. MGR.: NJL		
STATUS: FINAL DESIGN		ISSUED FOR CONSTRUCTION

S:\2735\0124 Marina Village\08 Drawings\Phase 1B\CG-101.dwg

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

1 inch

Approved Construction Plan	
Name	Date
Planning	
Traffic	
Fire	

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

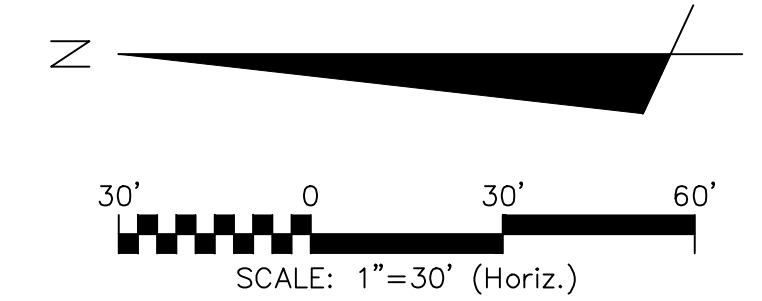
Date: _____ Permit # _____
Signed: _____



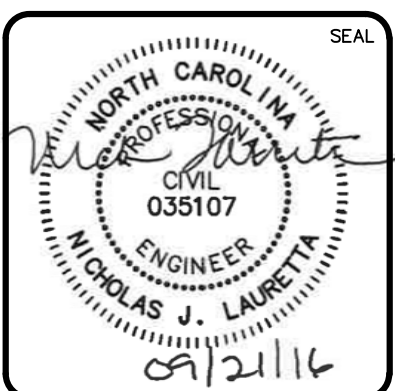
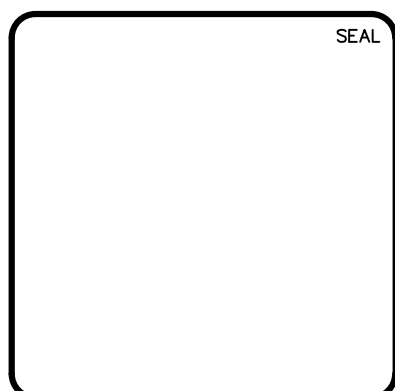
MARINA VILLAGE - PHASE 1B SOUTH
SCALE: 1" = 50'

NOTE:

- CONSTRUCTION AND GRADING WILL NOT DISTURB THE WETLAND/CONSERVATION RESOURCE.



REVNO.	DESCRIPTIONS REVISIONS	DATE
4	CITY OF WILMINGTON ENGINEERING COMMENTS	09/21/2016
3	CITY OF WILMINGTON IRC COMMENTS	08/23/2016
2	SITE PLAN AND STORM DRAINAGE REVISIONS	07/19/2016
1	CIPRA COMMENTS	06/11/2016
0	ISSUED FOR CONSTRUCTION	03/17/2016



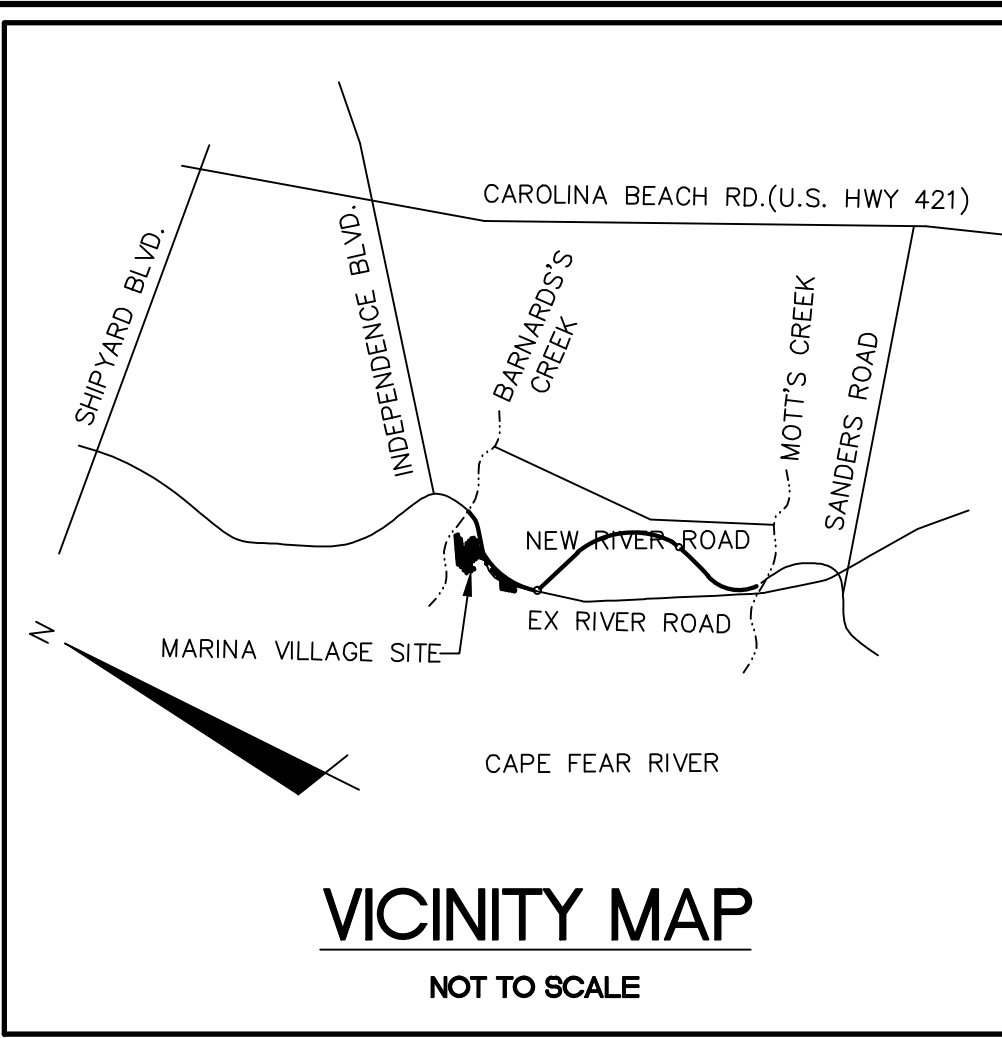
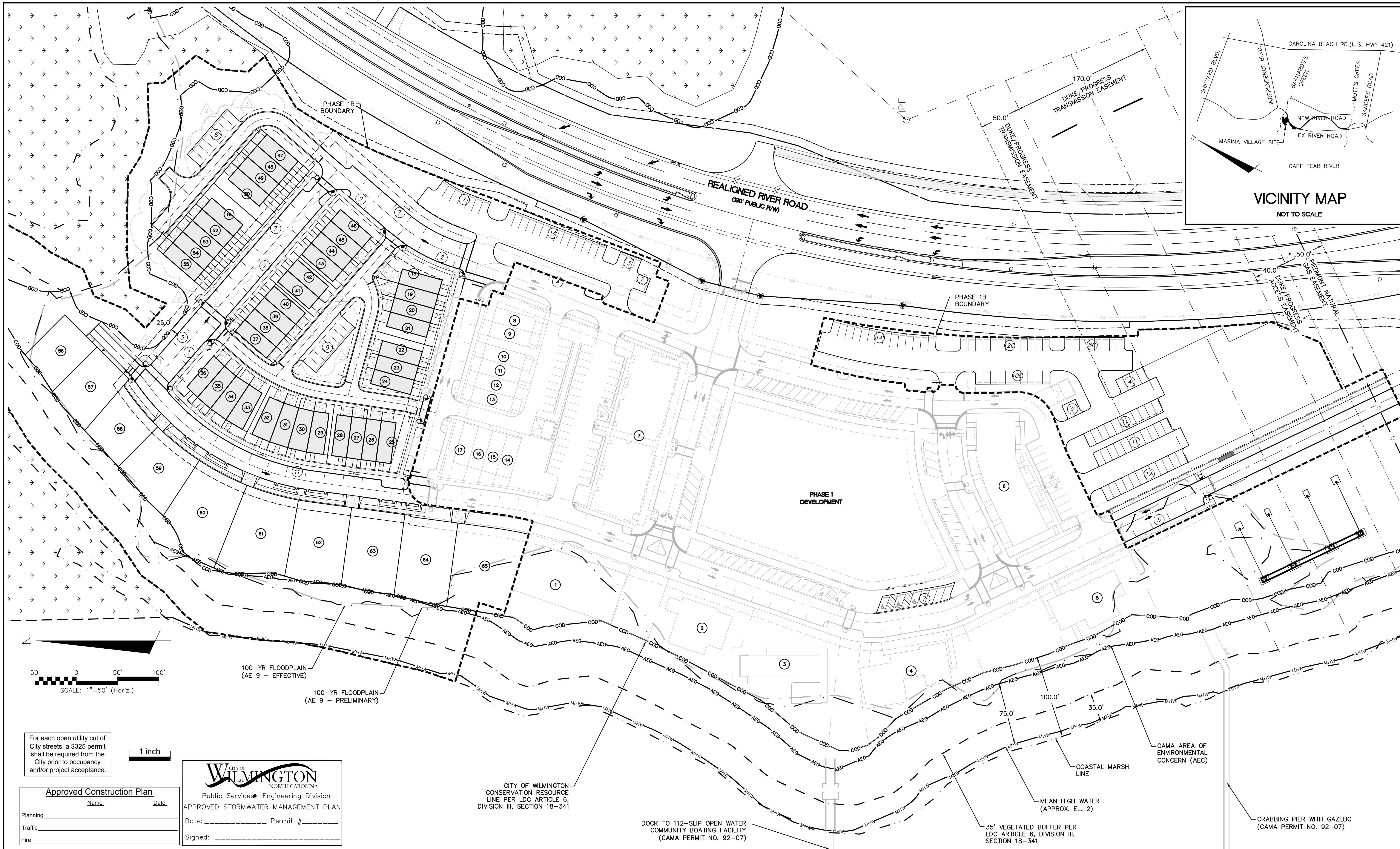
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RIVERLIGHTS
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NORTH AMERICA SEKISUI HOUSE, LLC

**RIVERLIGHTS MARINA VILLAGE
PHASE 1B**

GRADING PLAN SOUTH

DATE: 17MAR16	SCALE: CG-102	MAC FILE NUMBER: CG-102
MCE PROJ. # 2735-0124	HORIZONTAL: 1"=30'	DRAWING NUMBER: 9
DRAWN: ALM	VERTICAL: N/A	REVISION: 2
DESIGNED: NJL		
CHECKED: KCBE		
PROJ. MGR.: NJL		
STATUS: FINAL DESIGN		REVISION: 2
ISSUED FOR CONSTRUCTION		



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

Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

Fire _____

CITY OF WILMINGTON
NORTH CAROLINA
Public Services Engineering Division

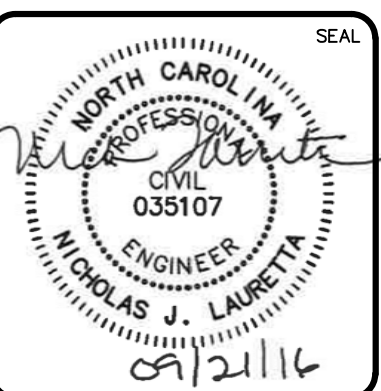
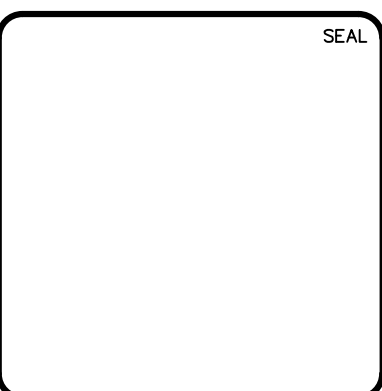
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

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

REVNO.	DESCRIPTIONS	DATE
4	CITY OF WILMINGTON ENGINEERING COMMENTS	09/21/2016
3	CITY OF WILMINGTON IRC COMMENTS	08/23/2016
2	SITE PLAN AND STORM DRAINAGE REVISIONS	07/19/2016
1	CIPRA COMMENTS	04/17/2016
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RIVERLIGHTS

NORTH AMERICA SEKISUI HOUSE, LLC

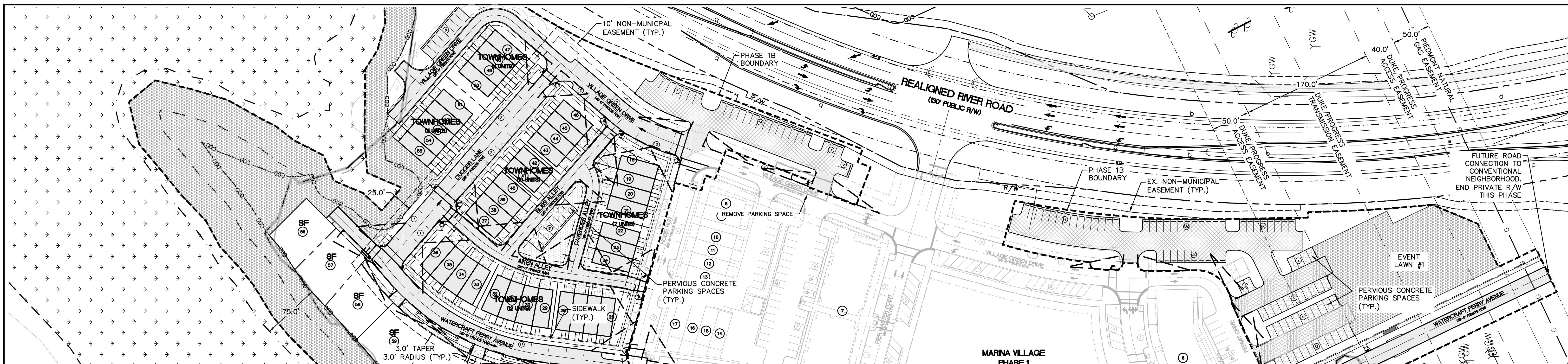
**RIVERLIGHTS MARINA VILLAGE
PHASE 1B**

OVERALL SITE PLAN

DATE: 17MAR16	SCALE: CS-100
MCE PROJ. # 2735-0124	HORIZONTAL: 1"=50'
DRAWN: ALM	VERTICAL: N/A
DESIGNED: NJL	MAC FILE NUMBER: CS-100
CHECKED: KCBE	DRAWING NUMBER: 11
PROJ. MGR.: NJL	REVISION: 3

STATUS: FINAL DESIGN
ISSUED FOR CONSTRUCTION

S:\23050724 Marina Village\08-Drawings\Phase 1B\CS-100.dwg



SITE DATA TABLE		MARINA VILLAGE - PHASE 1B	
PARCEL ADDRESS	4410 RIVER ROAD		
TAX PARCEL IDENTIFICATION NUMBER	R07000-006-009-000		
ZONING DISTRICT	CD-MX		
CAMA LAND USE CLASSIFICATION	TRANSITION AND CONSERVATION		
TOTAL ACREAGE WITHIN THE RIVERLIGHTS BOUNDARY	1,329.41 ACRES (57,909,100 SF)		
TOTAL ACREAGE WITHIN THE MARINA VILLAGE BOUNDARY	38.67 ACRES (1,684,343 SF)		
TOTAL ACREAGE OF COASTAL WETLANDS	14.57 ACRES (634,715 SF)		
TOTAL PROJECT AREA (STORMWATER PROJECT AREA)	24.10 ACRES (1,049,628 SF)		
TOTAL ACREAGE OF NON-COASTAL WETLANDS (ISOLATED/404)	76,797 SF (1.76 ACRES)		
TOTAL ACREAGE WITHIN THE MARINA VILLAGE - PHASE 1B	9.84 ACRES (428,668 SF)		
BUILDING SETBACKS AND SEPARATIONS (MX ZONING)	REQUIRED	PROPOSED	
FRONT	N/A	N/A	
REAR	N/A	N/A	
SIDE (INTERIOR)	N/A	N/A	
SIDE (CORNER)	N/A	N/A	
TOTAL BUILDING(S) SIZE (SQUARE FOOTAGE)	68,000 SF		
NC BUILDING CODE CONSTRUCTION TYPE	VB		
BUILDING LOT COVERAGE	16%		
NUMBER OF BUILDINGS	38 DUPLEX TOWNHOUSE		
TOTAL AMOUNT OF DISTURBED AREA	5.24 AC (228,450 SF)		
TOTAL ACRES WITHIN 100-YR FLOODPLAIN/BELOW MHW MARK	0.01 ACRES (513 SF)		
TOTAL ACRES WITHIN WETLANDS (DWQ PROJECT #07-1335)	N/A		

IMPERVIOUS AREA (EXISTING - PHASE 1)		
ROOF TOPS	52,249	SF
ROADWAYS	92,792	SF
PARKING	0	SF
SIDEWALKS	35,408	SF
OTHER	0	SF
TOTAL PRE DEVELOPMENT/%	180,449/17.2	SF/%

IMPERVIOUS AREA (PROPOSED)		
ROOF TOPS	71,516	SF
ROADWAYS	51,562	SF
PARKING	43,575	SF
PERVIOUS PARKING	0	SF
PERVIOUS PARKING (75% REDUCTION)	0	SF
SIDEWALKS	22,078	SF
PERVIOUS SIDEWALK	0	SF
PERVIOUS SIDEWALK (75% REDUCTION)	0	SF
FUTURE ALLOTMENT	0	SF
OTHER	0	SF
TOTAL S.F. (ONSITE IMPERVIOUS AREA)	188,731	SF
PERCENTAGE (ONSITE IMPERVIOUS AREA/ONSITE AREA)	18.0	%
PERCENTAGE (EXIST. ONSITE IMPERVIOUS AREA/ONSITE AREA)	17.2	%
TOTAL SQUARE FOOTAGE OF IMPERVIOUS SURFACES SHOWN IN THE STREET YARD	0	SF

PARKING CALCULATIONS		
MINIMUM NUMBER OF SPACES REQUIRED	N/A	
MAXIMUM NUMBER OF SPACES ALLOWED	494	
(48) TOWNHOMES (2.5 SPACES/UNIT)	120	
(24) APARTMENTS (2.5 SPACES/UNIT)	60	
(10) SINGLE FAMILY (2.5 SPACES/UNIT)	25	
RESTAURANTS (1 SPACE / 65 SF GFA)	151	
ART GALLERY (1 SPACE / 250 SF GFA)	31	
RIVER HOUSE (1 SPACE / 65 SF GFA)	31	
RETAIL (1 SPACE / 200 SF GFA)	20	
MARINA (1 SPACE / 2 WET SLIPS)	56	
PARKING SPACES PROVIDED (PHASE 1B)	172	
PARKING SPACES PROVIDED (PHASE 1)	180	
PARKING SPACES PROVIDED (TOTAL)	352	
COMPACT CAR PARKING SPACES	30	
BICYCLE PARKING SPACES REQUIRED	20	
BICYCLE PARKING SPACES PROVIDED	20	
HANDICAP SPACES REQUIRED	9	
HANDICAP SPACES PROVIDED	9	

SURFACE MATERIAL LEGEND		
	ASPHALT - STREET SECTION	
	ASPHALT - DRIVE AISLE	
	GRAVEL - PARKING LOT	
	PERVIOUS CONCRETE	
	ROOFTOP	
	SIDEWALK	
	COMMON SPACE	
	OPEN SPACE	

PARKING NOTE:
 • ALL BICYCLE PARKING IS PROVIDED IN PHASE 1.

KEYNOTES:
 46'x46' STREET CORNER SIGHT DISTANCE TRIANGLE
 20'x70' DRIVEWAY SIGHT DISTANCE TRIANGLE

NOTE:
 ALL PROPOSED VEGETATION WITHIN SIGHT TRIANGLES SHALL NOT INTERFERE WITH CLEAR VISUAL SIGHT LINES FROM 30" - 10'

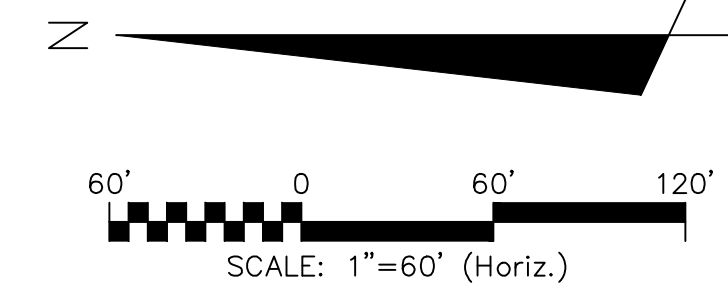
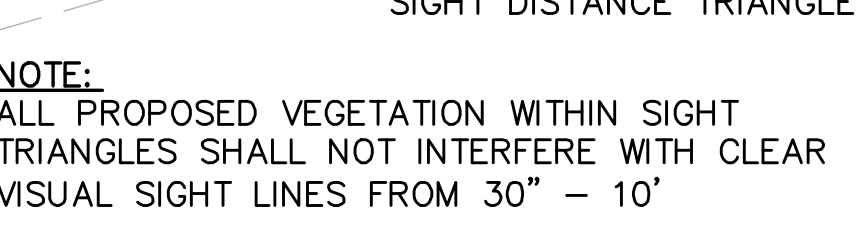
WATER & SEWER DEMAND	
WATER DEMAND	17,280 GDP
SANITARY SEWER DEMAND	17,280 GDP

TOTAL ACREAGE OF MARINA VILLAGE - PHASE 1B WITHIN COD: 2.06 ACRES (89,951 SF)
 TOTAL ACREAGE OF MARINA VILLAGE - PHASE 1B ENCROACHMENT INTO THE COD: 0 ACRES (0 SF)

COMMON SPACE CALCULATIONS	
TOTAL COMMON SPACE REQUIRED	18.47 ACRES (804,640 SF)*
TOTAL COMMON SPACE PROPOSED	0.08 ACRES (3,634 SF)

OPEN SPACE CALCULATIONS*	
TOTAL OPEN SPACE REQUIRED	46.18 ACRES (2,011,601 SF)*
TOTAL OPEN SPACE PROPOSED	2.82 ACRES (122,991 SF)

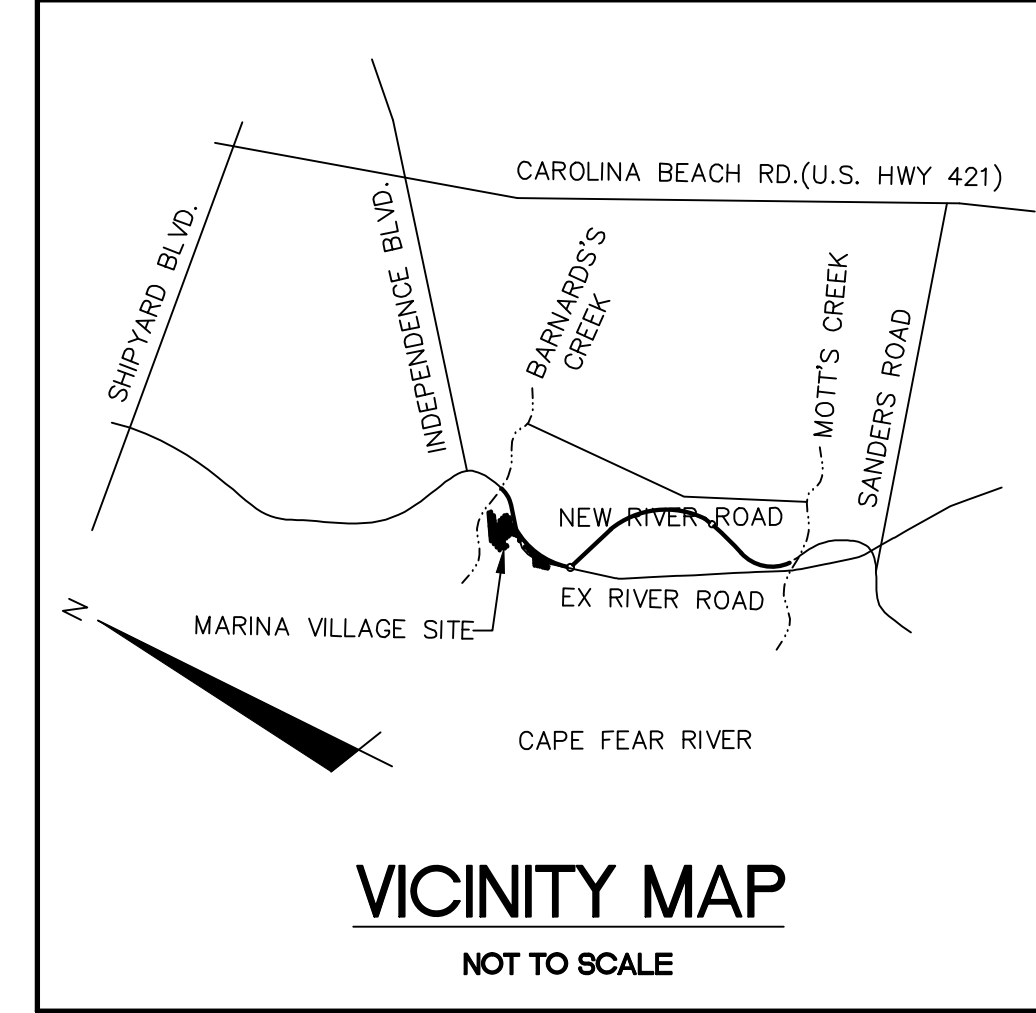
*PROPOSED MX-CD CLUSTER FOR ENTIRE RIVER LIGHTS DEVELOPMENT = 184.7 ACRES
 OPEN SPACE AND COMMON SPACE ACRES REQUIRED FOR ENTIRE RIVERLIGHTS DEVELOPMENT
 @ 25% OPEN SPACE AND 10% COMMON SPACE = 46.18 AC (OPEN) AND 18.47 AC (COMMON)



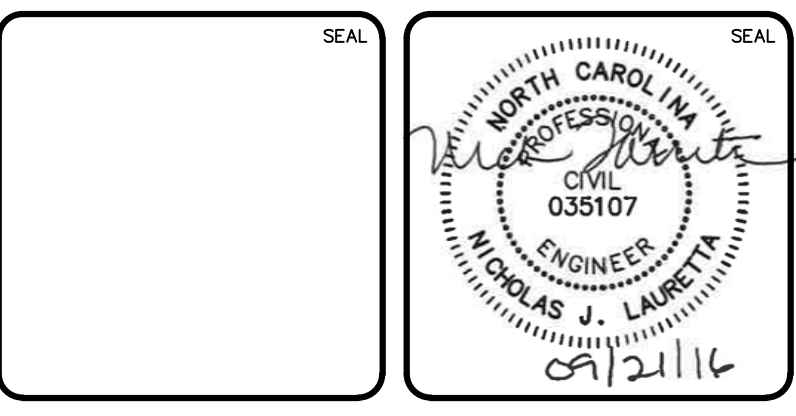
CAPE FEAR RIVER

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

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



REVNO.	DESCRIPTIONS / REVISIONS	DATE
4	CITY OF WILMINGTON ENGINEERING COMMENTS	09/21/2016
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RIVERLIGHTS
 NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS MARINA VILLAGE PHASE 1B
 SITE PLAN

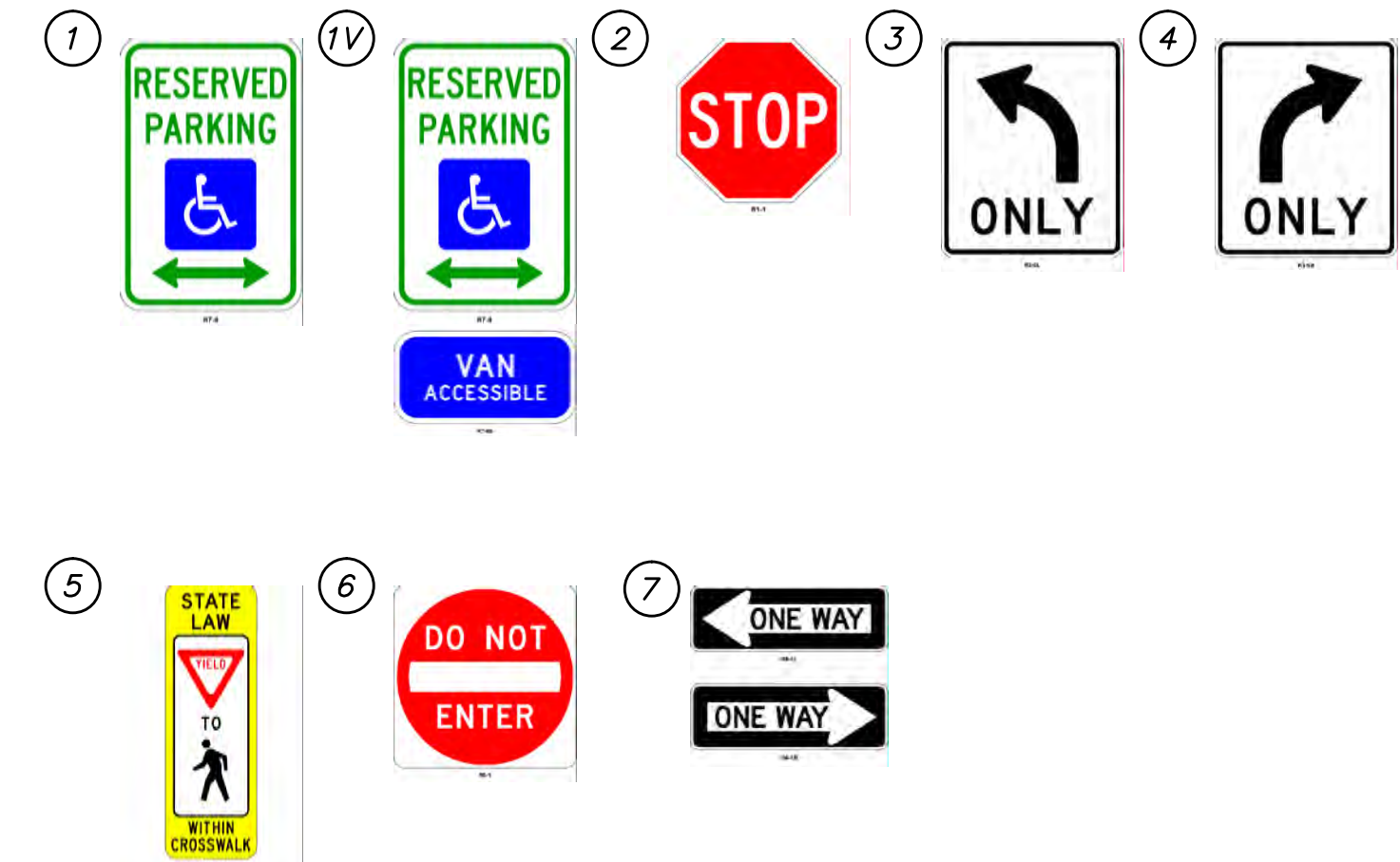
DATE:	17MAR16 <th>SCALE:</th> <td>1"=60'</td> <th>MAC FILE NUMBER:</th> <td>CS-101 </td>	SCALE:	1"=60'	MAC FILE NUMBER:	CS-101
MCE PROJ. #	2735-0124	HORIZONTAL:	1"=60'	DRAWING NUMBER:	12
DRAWN:	ALM	VERTICAL:	N/A	REVISION:	3
DESIGNED:	NUL	STATUS: FINAL DESIGN			
CHECKED:	KCBE	ISSUED FOR CONSTRUCTION			
PROJ. MGR.:	NUL				

CITY OF WILMINGTON NOTES:

- ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
- ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
- A UTILITY CUT PERMIT IS REQUIRED FOR EACH OPEN CUT OF A CITY STREET. CONTACT 341-5888 FOR MORE DETAILS. IN CERTAIN CASES AN ENTIRE RESURFACING OF THE AREA BEING OPEN CUT MAY BE REQUIRED.
- A LANDSCAPING PLAN INDICATING THE LOCATION OF REQUIRED STREET TREES SHALL BE SUBMITTED TO THE CITY OF WILMINGTON TRAFFIC ENGINEERING DIVISION AND PARKS AND RECREATION DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO THE RECORDING OF THE FINAL PLAT.
- ZERO LOT LINES ARE PERMITTED.
- BUILDINGS LOCATED ON THE PERIPHERY OF THE MX DISTRICT SHALL BE SET BACK A MINIMUM OF 20 (TWENTY) FEET FROM THE MX DISTRICT BOUNDARY.
- ZONING AND LAND USE OF ADJACENT PROPERTIES IS AS FOLLOWS:
 NORTH - FUTURE MX-CD / TRANSITION
 SOUTH - FUTURE MX-CD / TRANSITION AND CONSERVATION AREA
 WEST - FUTURE MX-CD / TRANSITION
 EAST - I-2 / TRANSITION AND CONSERVATION AREA
- INSTALL REFLECTORS PER CITY AND NCDOT STANDARDS. TRAFFIC ENGINEERING MUST APPROVE OF PAVEMENT MARKING LAYOUT PRIOR TO ACTUAL STRIPING.
- IT SHALL BE THE RESPONSIBILITY OF THE SUBDIVIDER TO ERECT OFFICIAL STREET NAME SIGNS AT ALL INTERSECTIONS ASSOCIATED WITH THE SUBDIVISION IN ACCORDANCE WITH THE TECHNICAL STANDARDS AND SPECIFICATION MANUAL. THE SUBDIVIDER MAY ACQUIRE AND ERECT OFFICIAL STREET NAME SIGNS OR CHOOSE TO CONTRACT WITH THE CITY TO INSTALL THE STREET SIGNS AND THE SUBDIVIDER SHALL PAY THE COSTS OF SUCH INSTALLATION. CONTACT TRAFFIC ENGINEERING AT 341-7888 TO DISCUSS INSTALLATION OF TRAFFIC AND STREET NAME SIGNS. PROPOSED STREET NAMES MUST BE APPROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS.
- CONTACT TRAFFIC ENGINEERING AT 341-7888 FORTY-EIGHT HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT OF WAY.
- IF THESE UNITS ARE SOLD AT ANY POINT, THE BUYER MUST RECEIVE A SUBDIVISION STREET DISCLOSURE STATEMENT.

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 BRACKISH/SALT MARSH AND POCOSIN WETLANDS AND CONSERVATION RESOURCE SETBACK LINES WERE GENERATED AS 100' AND 25', RESPECTIVELY, MINIMUM OUTSIDE OF THE RESOURCE.
- FINISHED FLOOR ELEVATIONS OFF ALL INHABITABLE STRUCTURES WILL BE MIN. 2- FEET ABOVE BASE FLOOD ELEVATION
- RIVERLIGHTS PHASE 1 MARINA VILLAGE COMMUNITY 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.
- EXISTING THOROUGHFARES, BIKE ROUTES, PEDESTRIAN SIDEWALKS OR TRAILS AND TRANSITS FACILITIES DO EXIST ON THE ADJACENT MARINA VILLAGE PHASE 1 SITE.



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



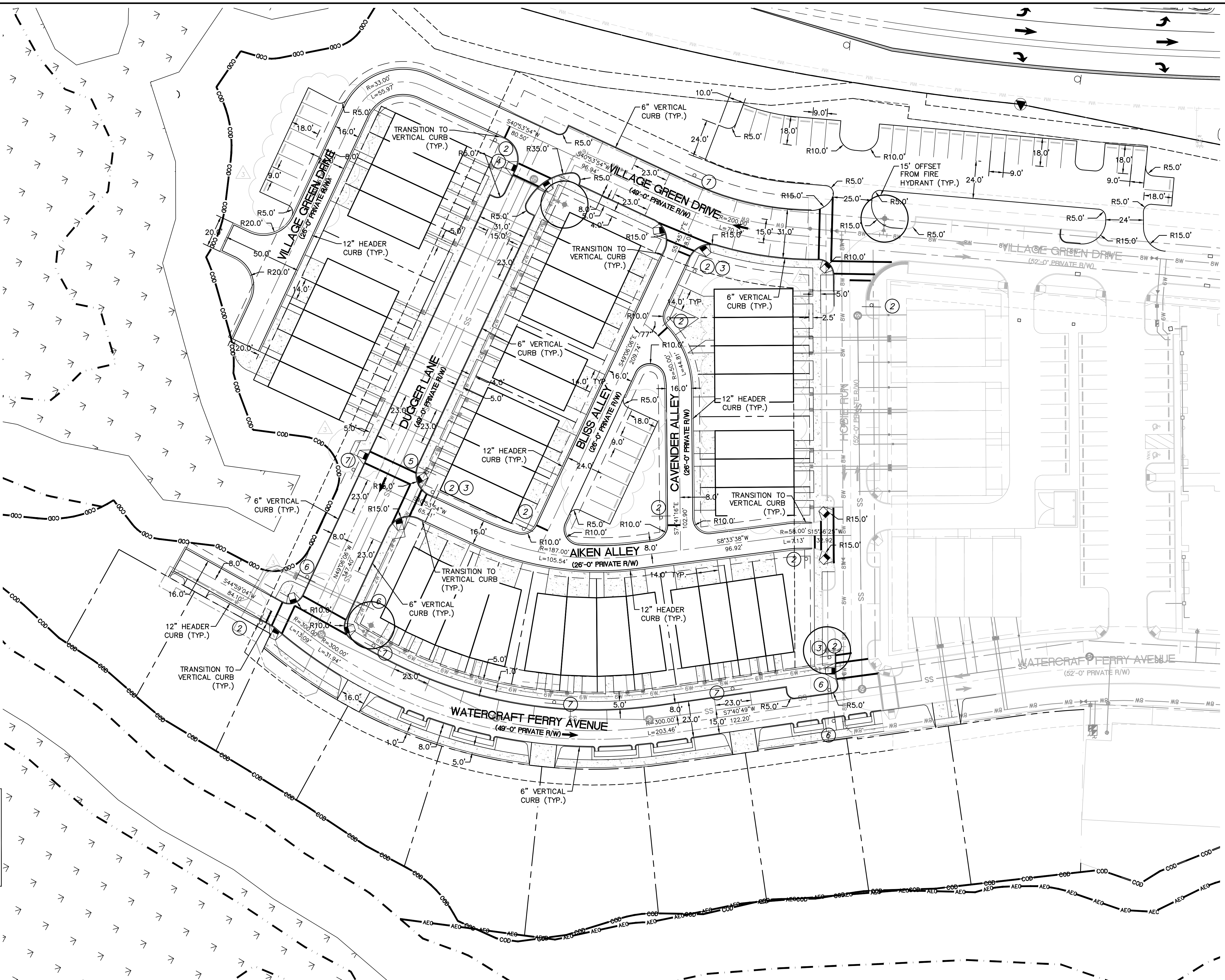
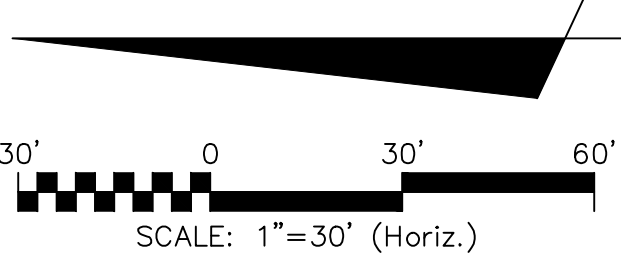
Approved Construction Plan

Name _____ Date _____

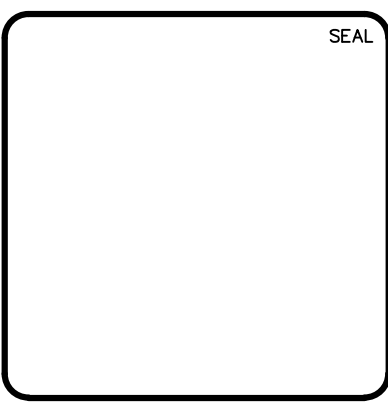
Planning _____ Date: _____ Permit # _____

Traffic _____

Fire _____ Signed: _____



REVNO.	DESCRIPTIONS / REVISIONS	DATE
4	CITY OF WILMINGTON ENGINEERING COMMENTS	09/21/2016
3	CITY OF WILMINGTON TRC COMMENTS	08/23/2016
2	SITE PLAN AND STORM DRAINAGE REVISIONS	07/19/2016
1	CITY COMMENTS	06/11/2016
0	ISSUED FOR CONSTRUCTION	03/17/2016



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 www.mckimcreed.com

RIVERLIGHTS

NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS MARINA VILLAGE PHASE 1B

SITE PLAN NORTH

DATE: 17MAR16
 MCE PROJ. #: 2735-0124
 DRAWN: ALM
 DESIGNED: NJL
 CHECKED: KCBE
 PROJ. MGR.: NJL

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

MAC FILE NUMBER: CS-102
 DRAWING NUMBER: 13
 REVISION: 3

STATUS: FINAL DESIGN
 ISSUED FOR CONSTRUCTION



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

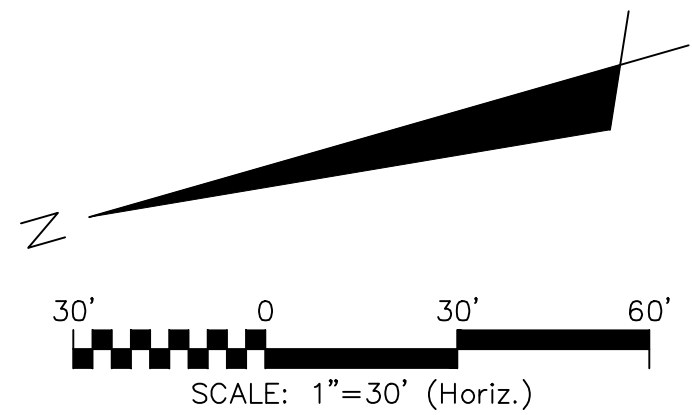
1 inch

Approved Construction Plan

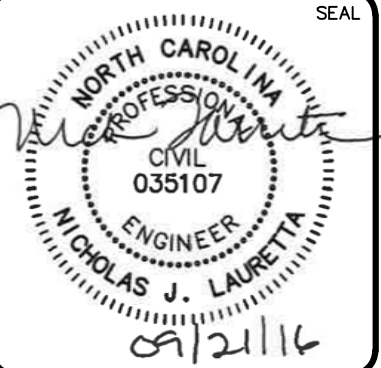
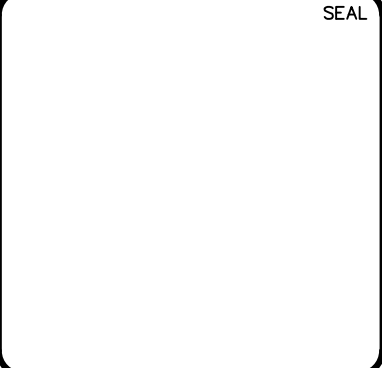
Name _____ Date _____
 Planning _____
 Traffic _____
 Fire _____

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

1 RESERVED PARKING (Blue square with wheelchair symbol and double arrows)
 1V RESERVED PARKING (Blue square with wheelchair symbol and double arrows, Van Accessible)
 2 STOP (Red octagon)
 3 ONLY (Black square with white arrow pointing right)
 4 ONLY (Black square with white arrow pointing left)
 5 STATE LAW (Yellow diamond with red border, pedestrian symbol, "BEYOND CROSSWALK")
 6 DO NOT ENTER (Red circle with white bar)
 7 ONE WAY (Black rectangle with white arrow pointing right)



REVNO.	ISSUED FOR CONSTRUCTION	DESCRIPTIONS REVISIONS	DATE
4		CITY OF WILMINGTON ENGINEERING COMMENTS	09/21/2016
3		CITY OF WILMINGTON IRC COMMENTS	08/23/2016
2		SITE PLAN AND STORM DRAINAGE REVISIONS	07/19/2016
1		CIPRA COMMENTS	06/17/2016
0		ISSUED FOR CONSTRUCTION	03/17/2016



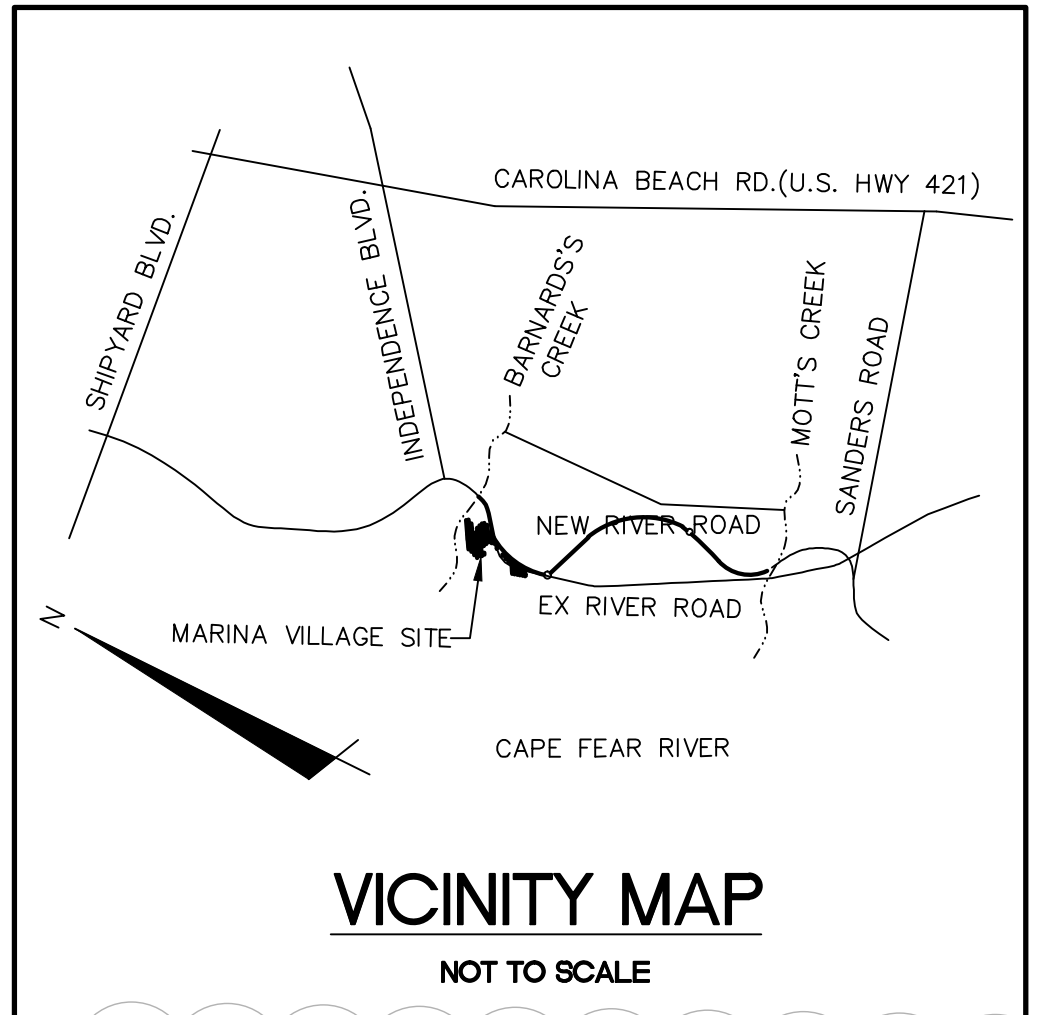
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 Wilmington, North Carolina 28401
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 www.mckimcreed.com

RIVERLIGHTS
 NORTH AMERICA SEIKISUI HOUSE, LLC

RIVERLIGHTS MARINA VILLAGE PHASE 1B
SITE PLAN SOUTH

DATE: 17MAR16	SCALE: CS-103
MCE PROJ. # 2735-0124	HORIZONTAL: 1"=30'
DRAWN: ALM	VERTICAL: N/A
DESIGNED: NJL	REVISION: 14
CHECKED: KCBE	
PROJ. MGR.: NJL	
STATUS: FINAL DESIGN	REVISION: 0
ISSUED FOR CONSTRUCTION	

S:\2350\0124 Marina Village\08 Drawings\Phase 1B\CS-103.dwg



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

1 inch

Approved Construction Plan

Name: _____ Date: _____

Planning: _____

Traffic: _____

Fire: _____

WILMINGTON
NORTH CAROLINA
Public Services Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit #: _____

Signed: _____

(5) SHALLOW SERVICES TRANSITION TO 401 PROTECTO LINED DIP OVER CROSSING INCLUDING TOP 45° ELBOW AND TRANSITION FITTING. TRANSITION TO SCH. 40 PVC 1 FT BEFORE COMBINATION.

(2) 1" PE WATER LATERAL
VARIABLE WIDTH UTILITY EASEMENT (MIN. 10')

(2) SIMPLEX GRINDER PUMP STATIONS

MH #MV-24
8" PVC INV IN = 7.66'
8" PVC INV OUT = 7.66'
RIM = 11.38'

FIRE HYDRANT ASSEMBLY (TYP.)
6"x6" MJ TEE
6" DIP

MH #MV-23
8" PVC INV IN = 7.17'
8" PVC INV OUT = 7.17'
RIM = 12.18'

MH #MV-22
8" PVC INV IN = 6.78'
8" PVC INV OUT = 6.78'
RIM = 12.80'

CONNECT TO EX- PIPE STUB INSTALLED DURING PHASE 1

EX. MH #MV-21
8" PVC INV IN = 6.24'
8" PVC INV IN = 6.39'
8" PVC INV OUT = 6.39'
RIM = 13.19'

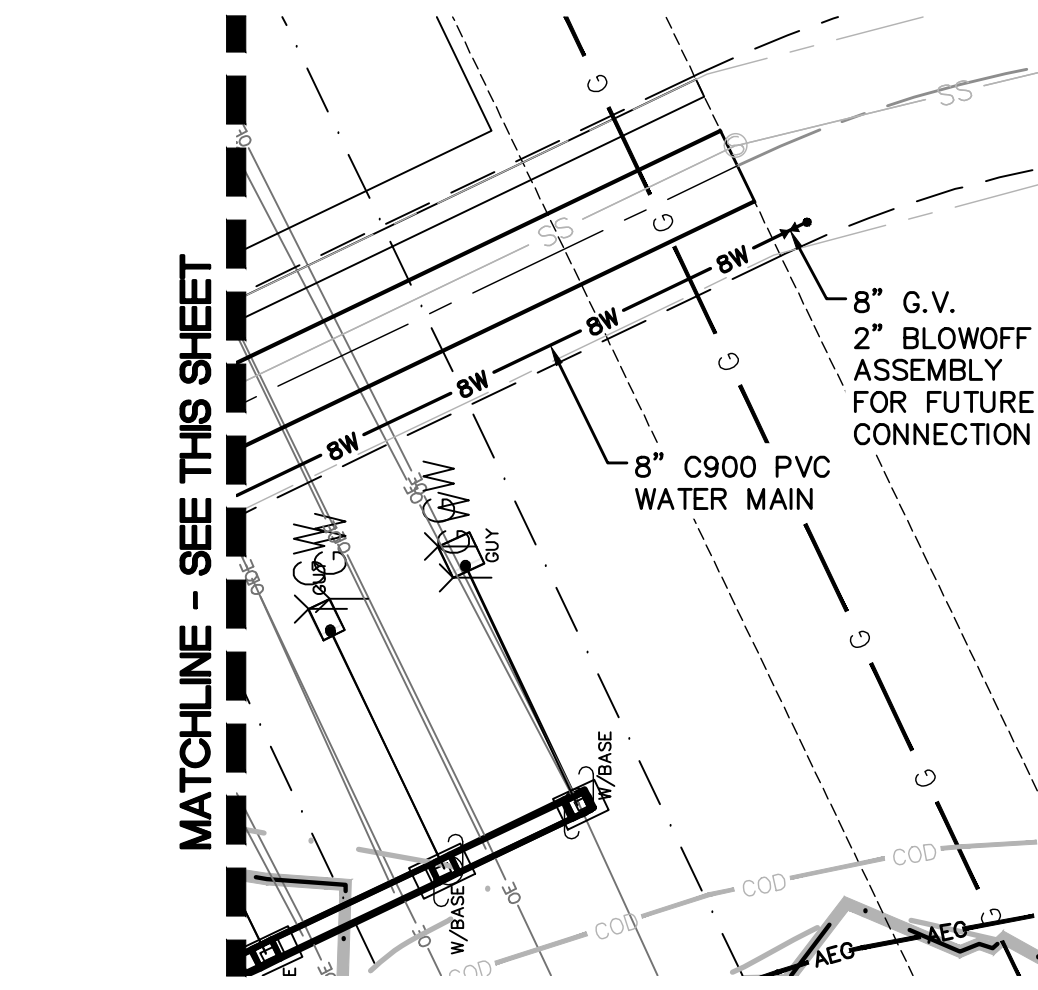
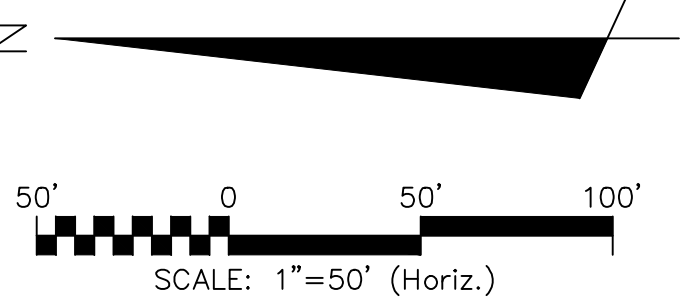
8" G.V.
2" BLOWOFF ASSEMBLY FOR FUTURE CONNECTION

8" C900 PVC WATER MAIN

CFPUA STANDARD SEWER NOTES:

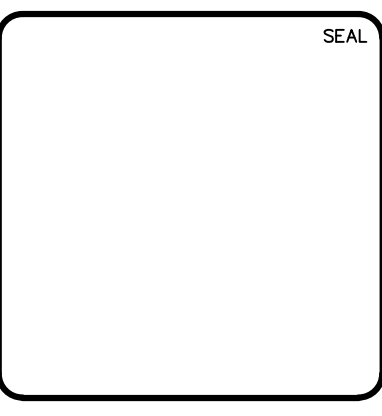
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- PLACED WATER METERS 5' FROM PROPERTY CORNER
- PLACED CLEANOUTS IN CENTER OF LOT
- ROTATED FIRE HYDRANTS TOWARDS PROPERTY LINE
- REMOVED HORIZONTAL OFFSET ON 2" MAIN ALONG VILLAGE GREEN DRIVE
- CONVERTED 2 SINGLE FAMILY LOTS TO 5 TOWNHOME LOTS
- REMOVED 1 TOWNHOME LOT ON HOBIE RUN



MATCHLINE - SEE THIS SHEET

REVNO.	DESCRIPTION	DATE
4	CITY OF WILMINGTON ENGINEERING COMMENTS	09/21/2016
3	CITY OF WILMINGTON IRC COMMENTS	08/23/2016
2	SITE PLAN AND STORM DRAINAGE REVISIONS	07/19/2016
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RIVERLIGHTS

North America Sekisui House, LLC

RIVERLIGHTS MARINA VILLAGE PHASE 1B

UTILITY PLAN

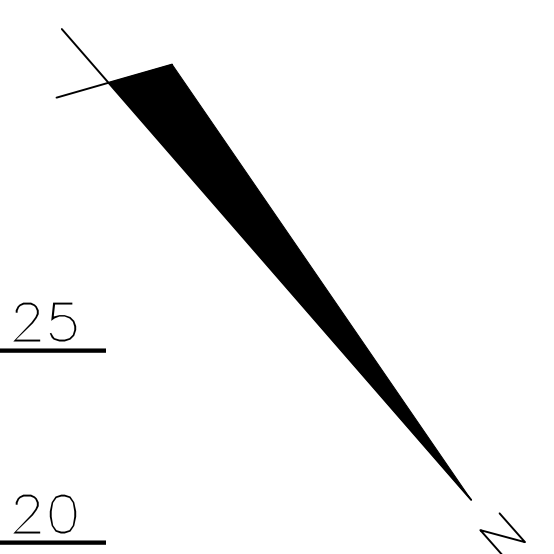
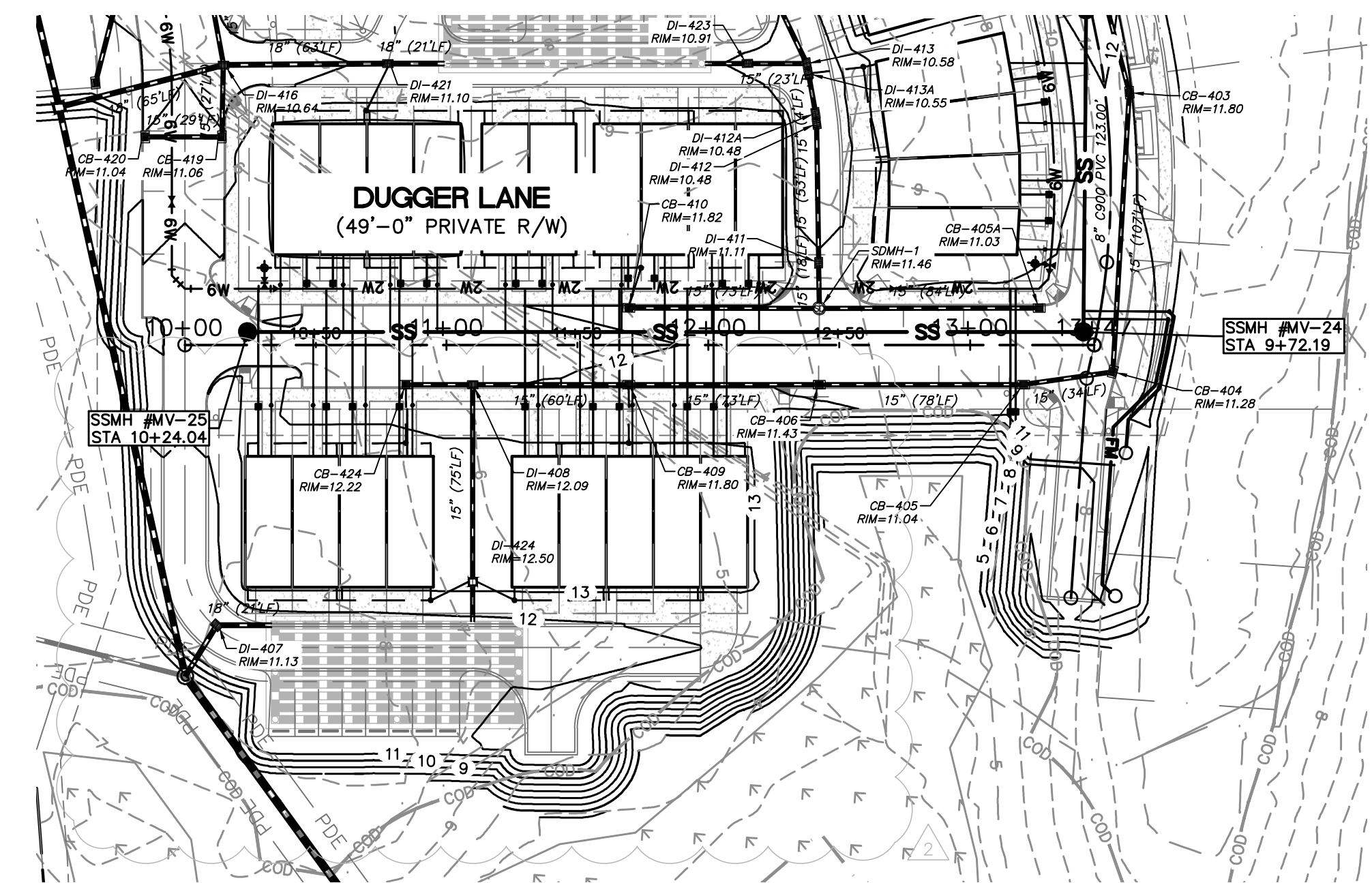
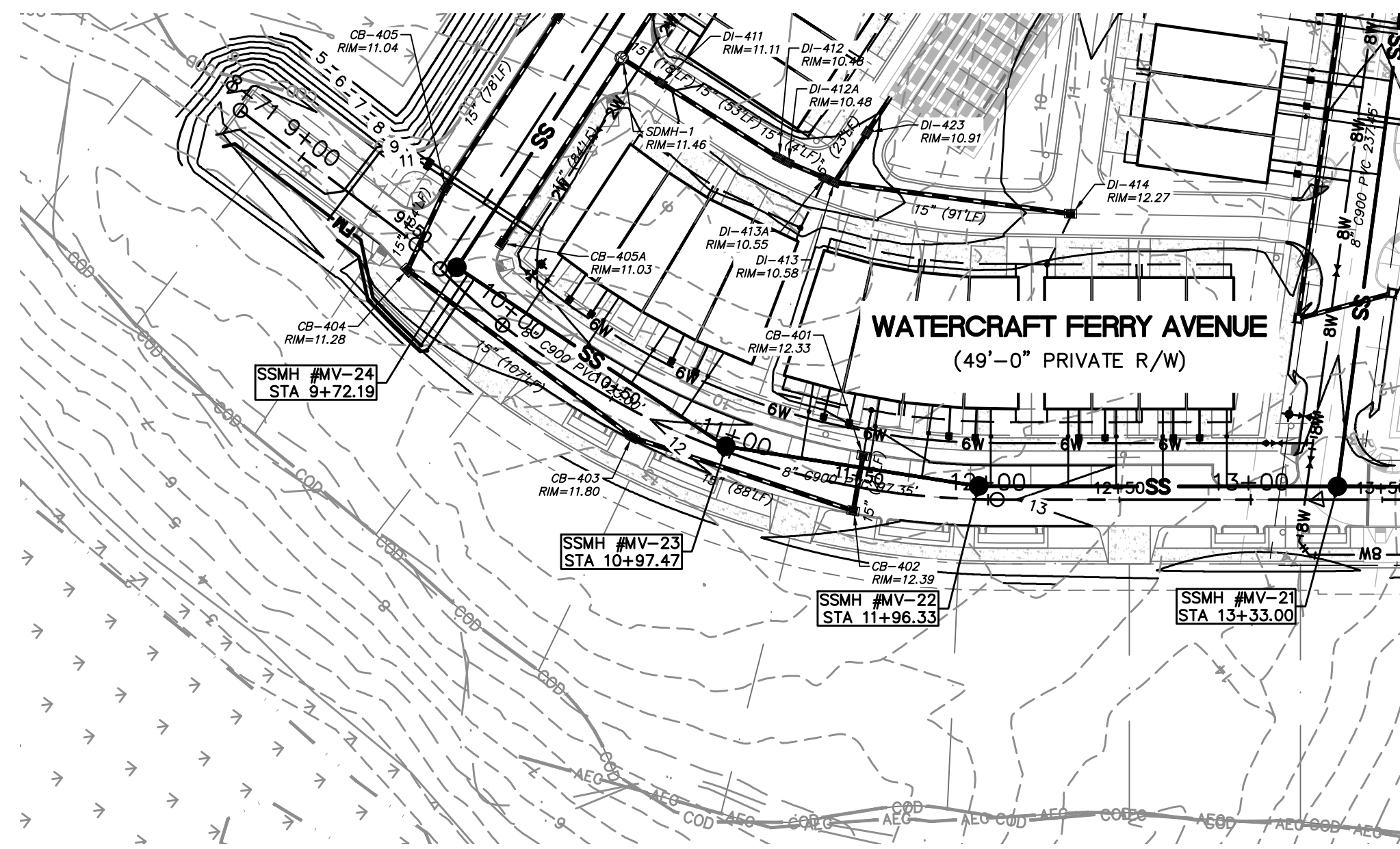
DATE: 17MAR16
MCE PROJ. #: 2735-0124
DRAWN: ALM
DESIGNED: NJL
CHECKED: KCBE
PROJ. MGR.: NJL

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

MAC FILE NUMBER: CU-101
DRAWING NUMBER: 15

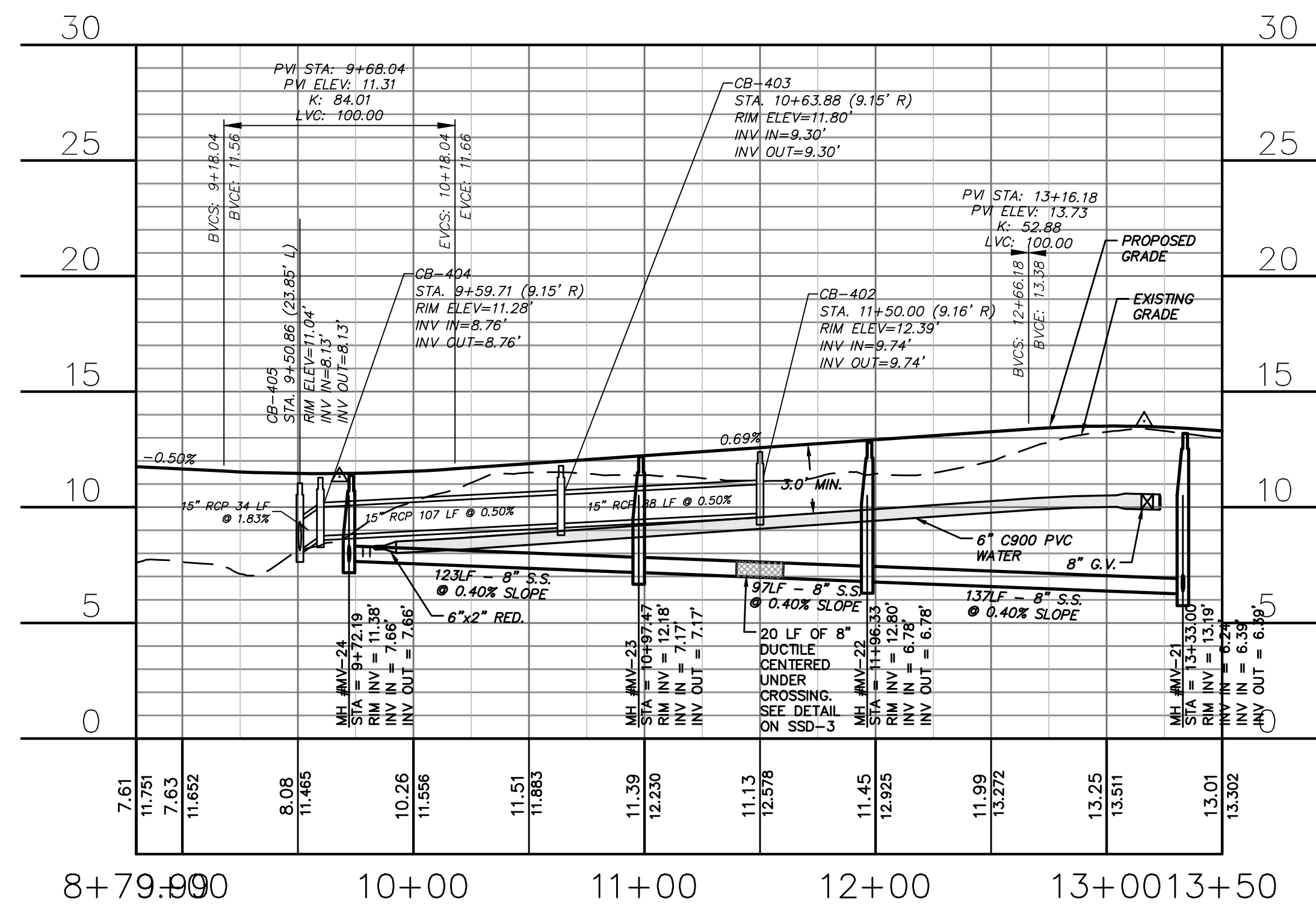
STATUS: FINAL DESIGN
ISSUED FOR CONSTRUCTION

REVISION: 2

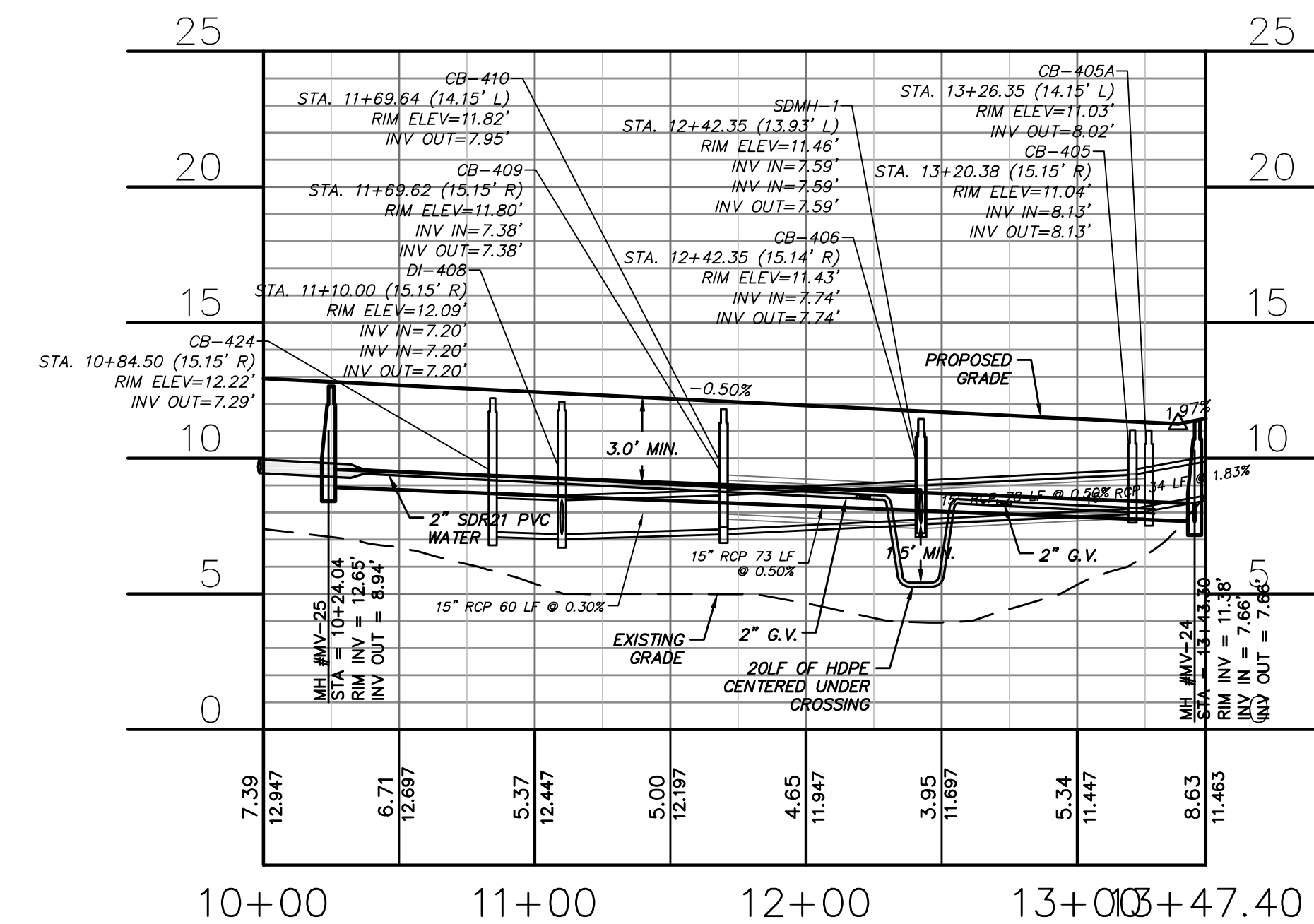


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WATERCRAFT FERRY AVENUE
SCALE: HOR. 1"=50', VERT. 1"=5'



DUGGER LANE
SCALE: HOR. 1"=50', VERT. 1"=5'

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

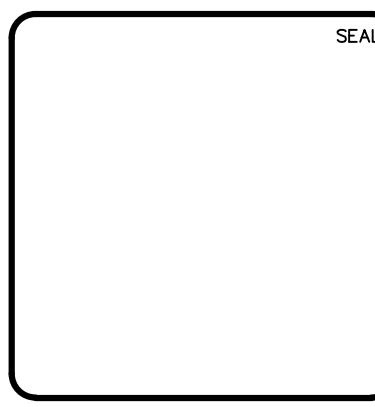
Approved Construction Plan

Name	Date
Planning	
Traffic	
Fire	

- CONVERTED 2 SINGLE FAMILY LOTS TO 5 TOWNHOME LOTS
- REMOVED 1 TOWNHOME LOT ON HOBIE RUN

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

REVNO.	DESCRIPTIONS	DATE
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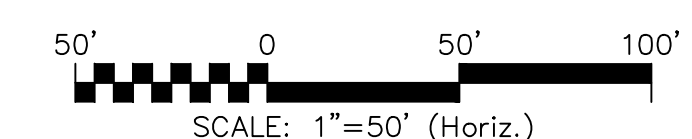
RIVERLIGHTS
NASH
NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS MARINA VILLAGE PHASE 1B
PLAN AND PROFILE

DATE: 17MAR16
MCE PROJ. # 2735-0124
DRAWN: ALM
DESIGNED: NJL
CHECKED: KCBE
PROJ. MGR.: NJL

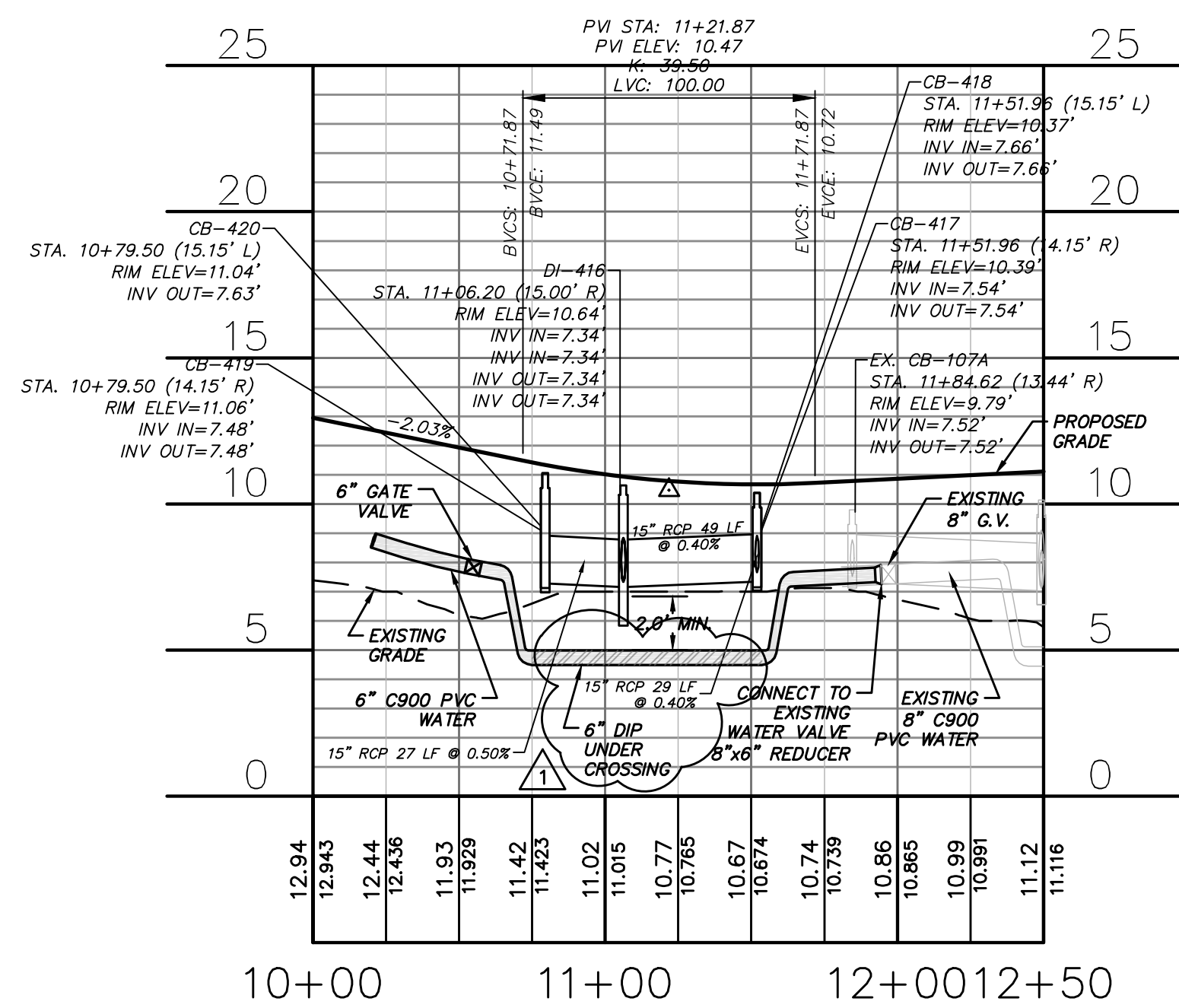
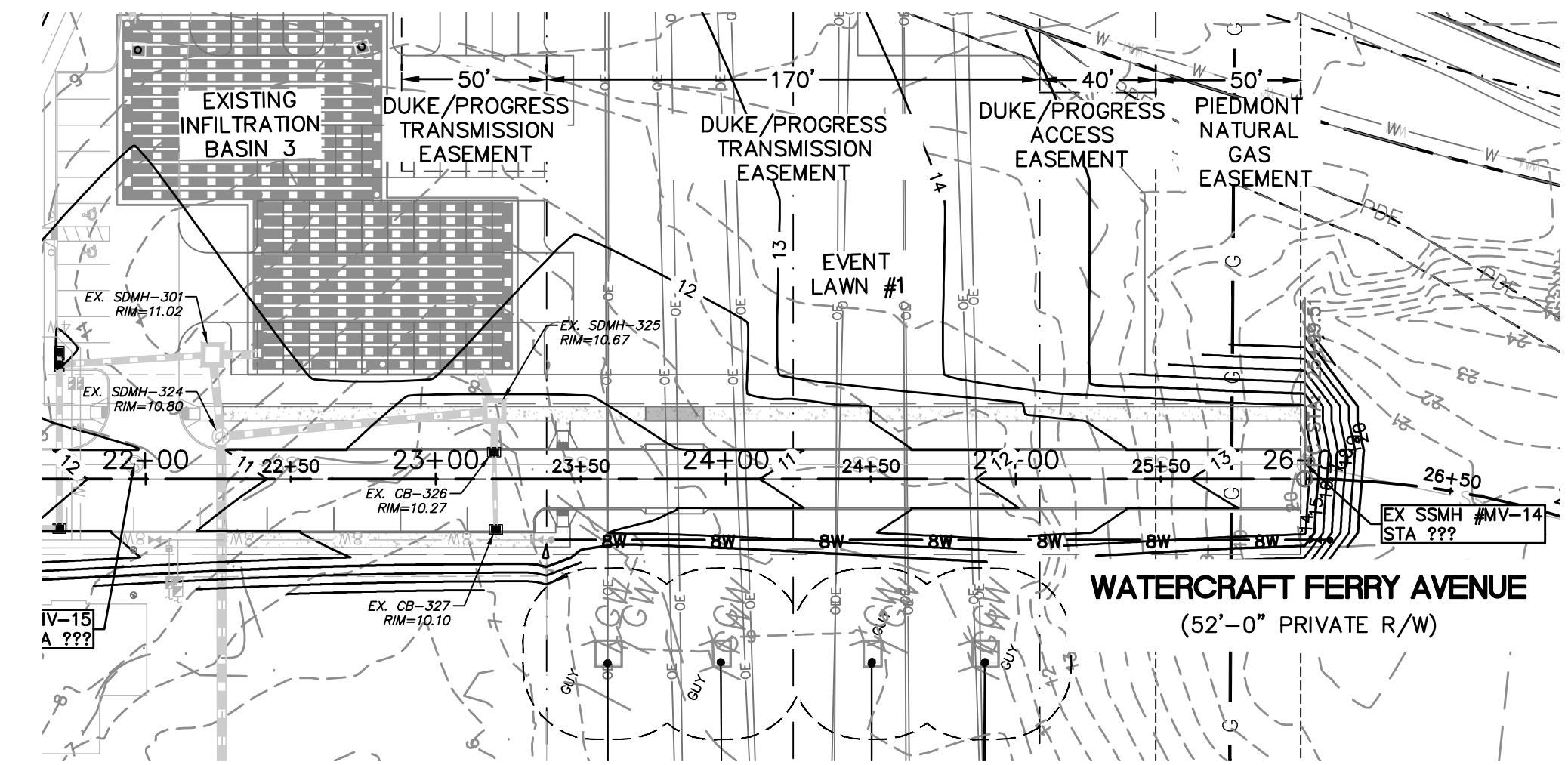
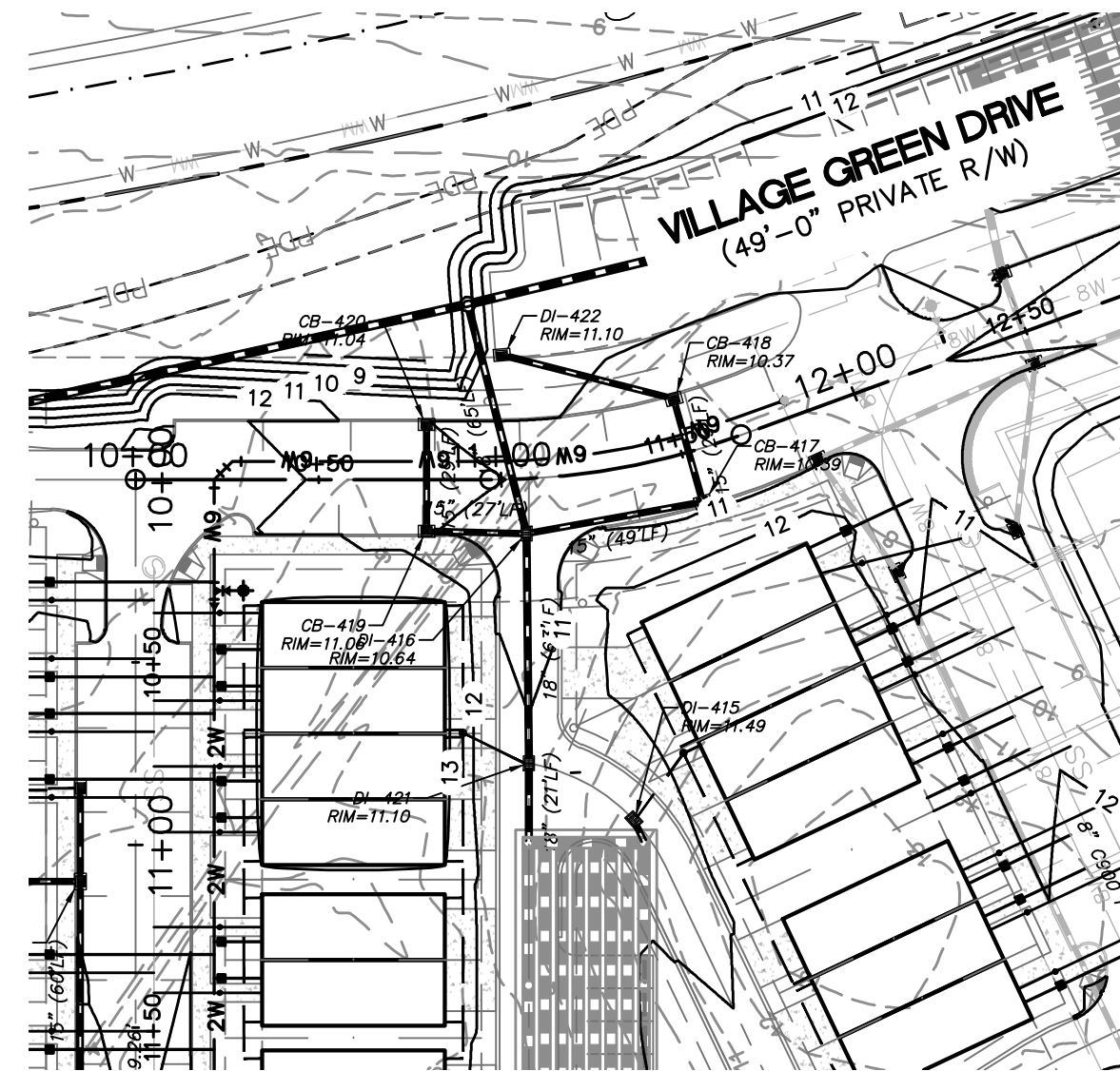
SCALE: HORIZONTAL: 1"=50'
VERTICAL: 1"=5'

MAC FILE NUMBER: CU-701
DRAWING NUMBER: 16
REVISION: 2
STATUS: FINAL DESIGN
ISSUED FOR CONSTRUCTION



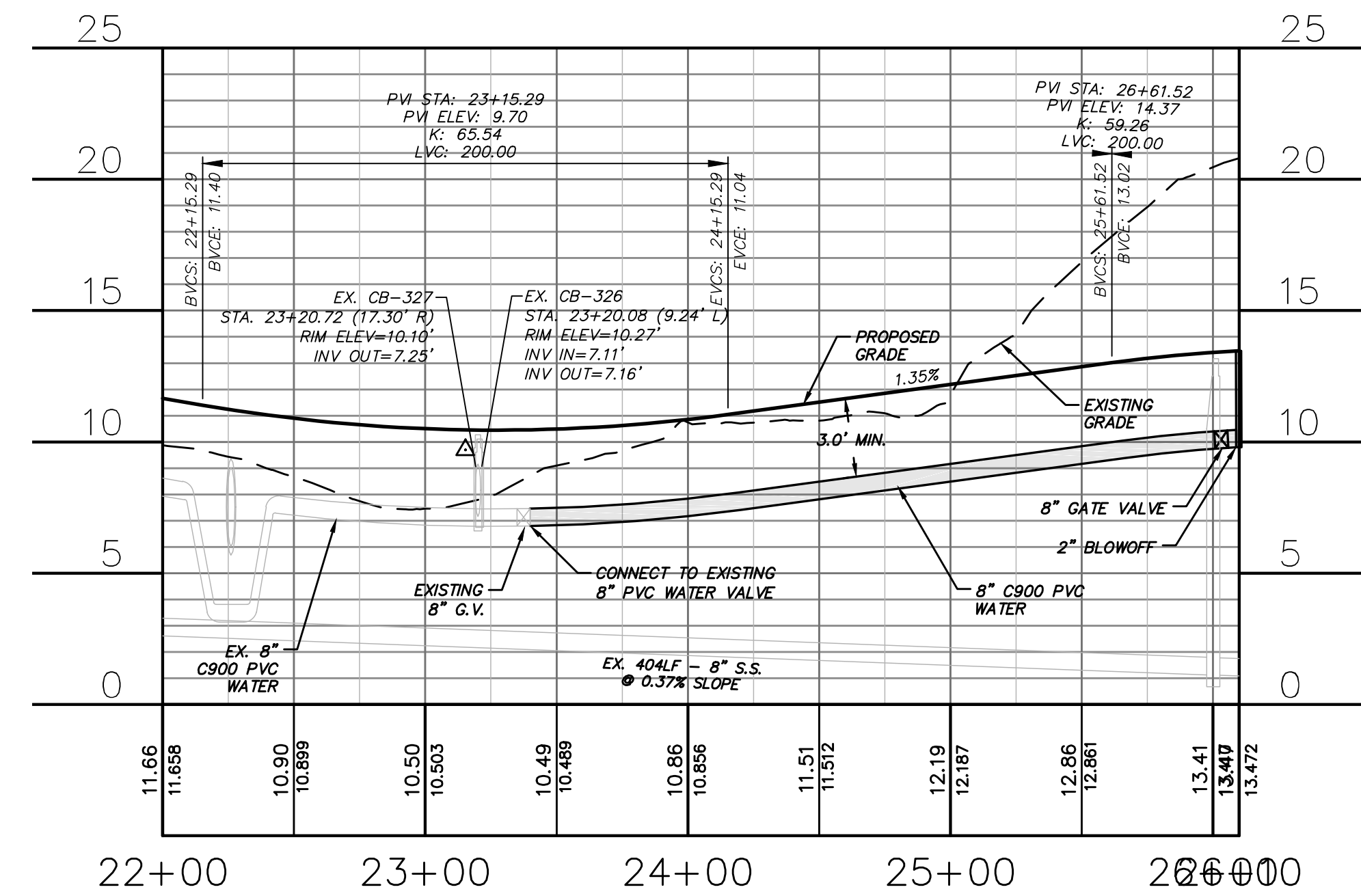
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VILLAGE GREEN DRIVE

SCALE: HOR. 1"=50', VERT. 1"=5'



WATERCRAFT FERRY AVENUE

SCALE: HOR. 1"=50', VERT. 1"=5'

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1 inch

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

Date: _____ Permit # _____

Signed: _____

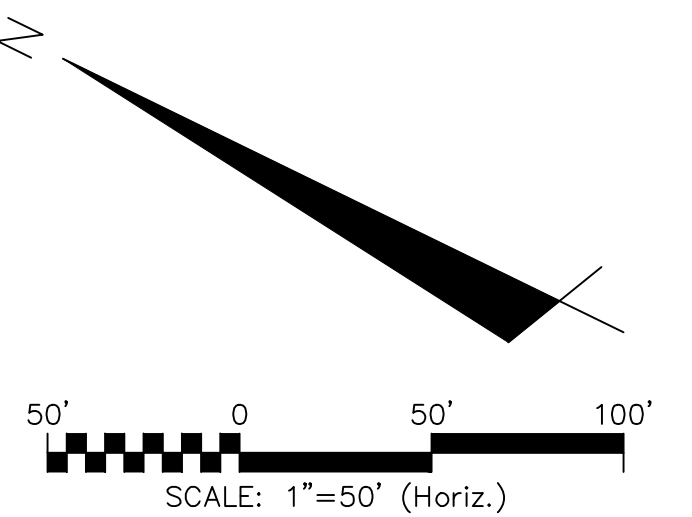
Approved Construction Plan

Name: _____ Date: _____

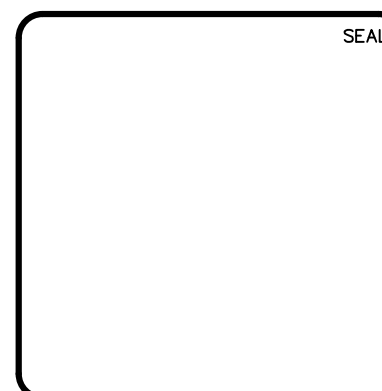
Planning: _____

Traffic: _____

Fire: _____



REVNO.	ISSUED FOR CONSTRUCTION	DESCRIPTIONS REVISIONS	DATE
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RIVERLIGHTS

NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS MARINA VILLAGE PHASE 1B

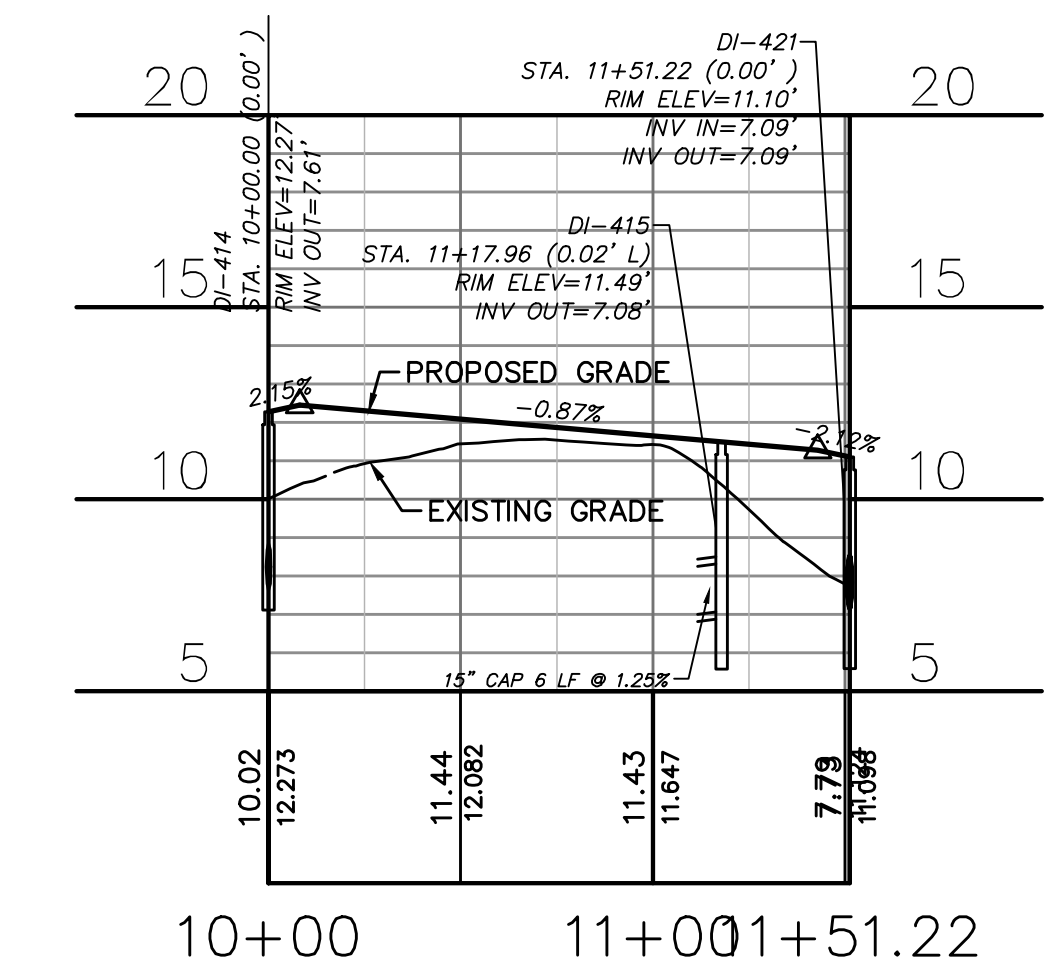
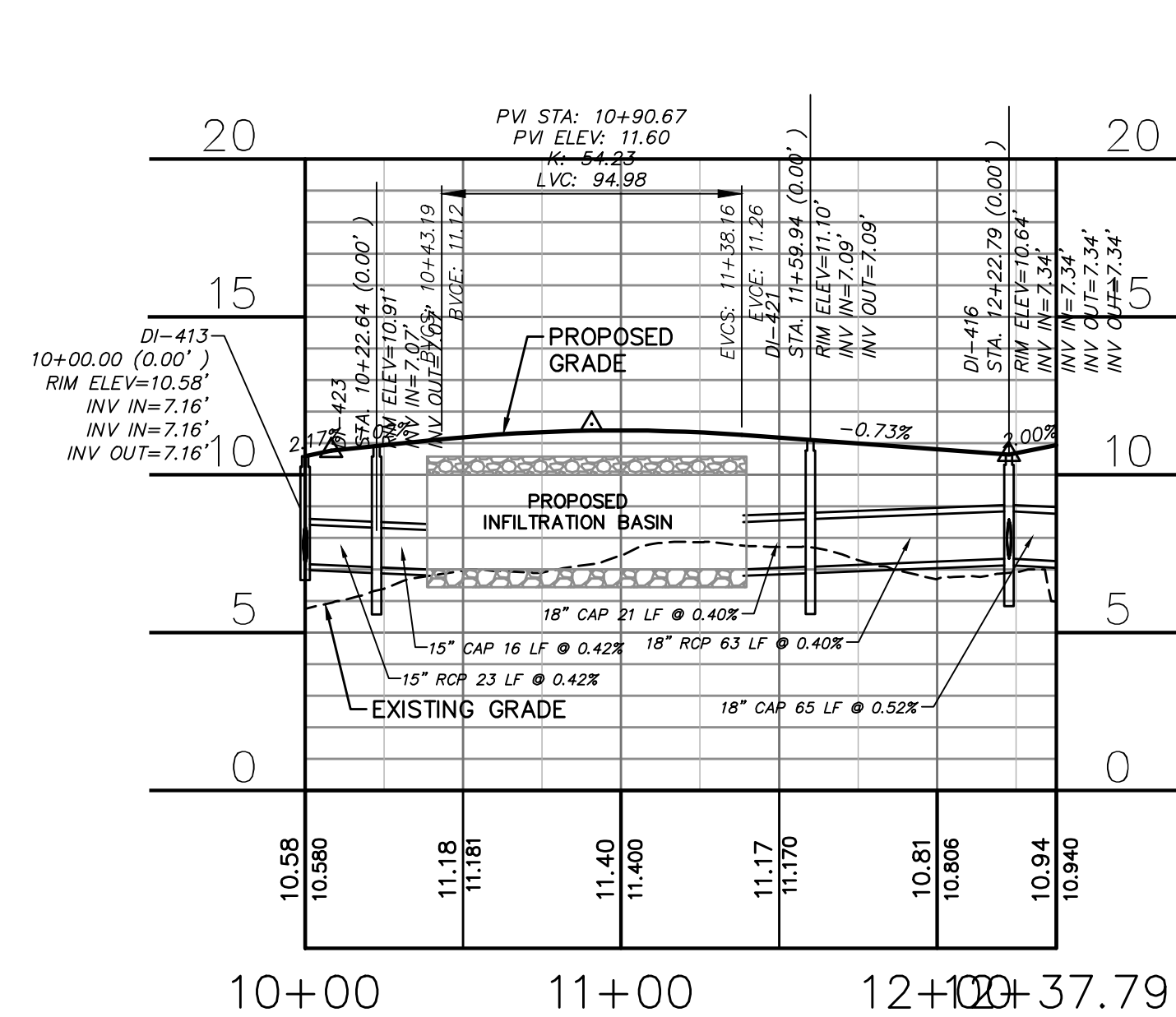
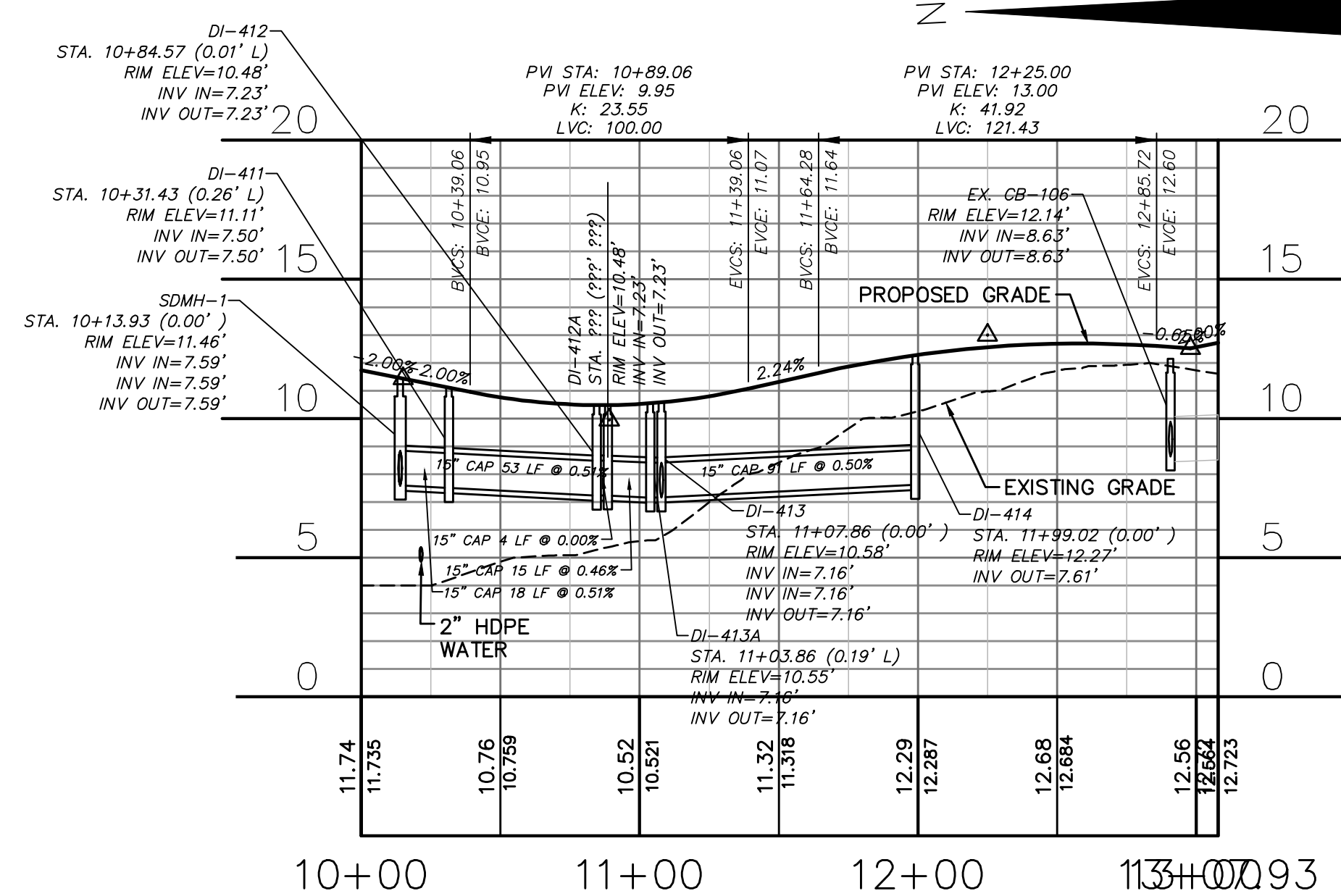
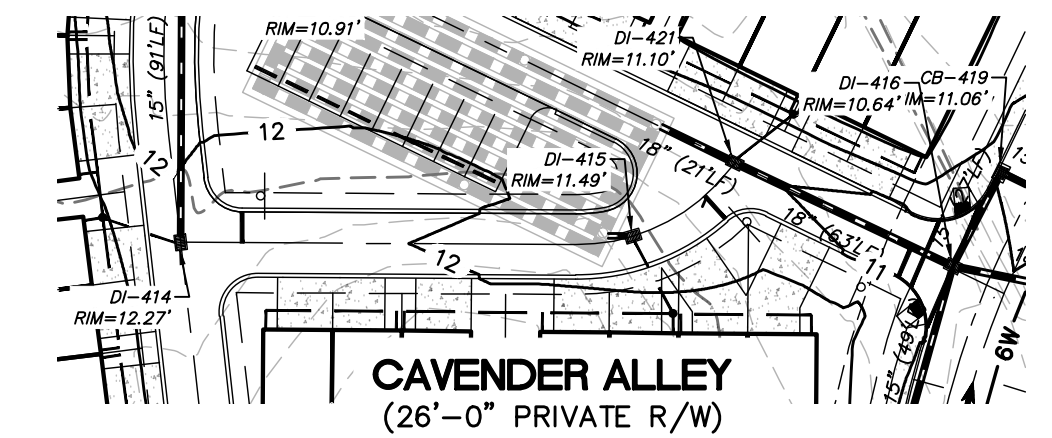
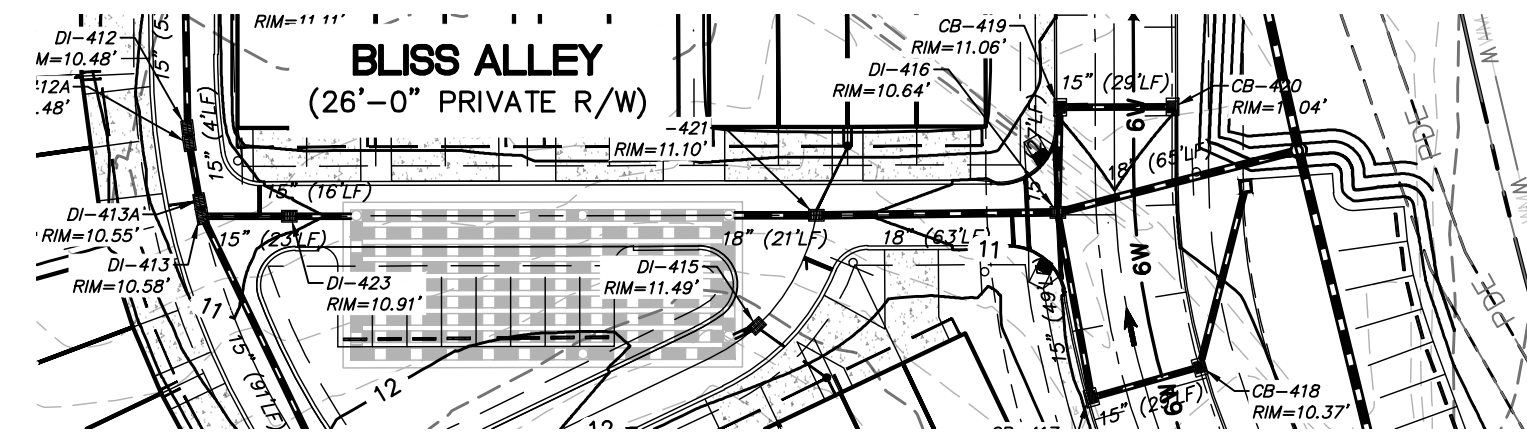
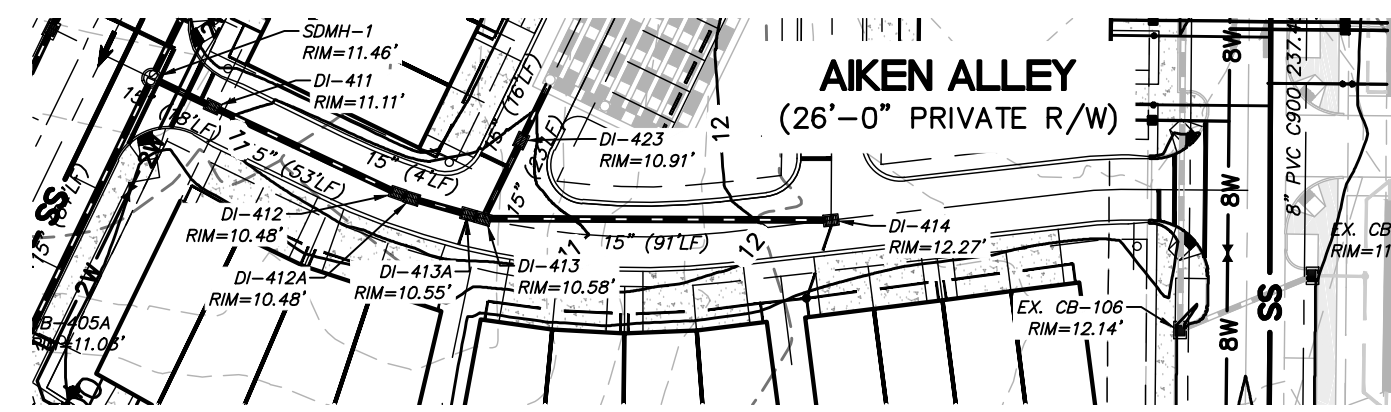
PLAN AND PROFILE

DATE: 17MAY16
MCE PROJ. # 2735-0124
DRAWN: ALM
DESIGNED: NJL
CHECKED: KCBE
PROJ. MGR.: NJL

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

MAC FILE NUMBER: CU-702
DRAWING NUMBER: 17
REVISION: 0

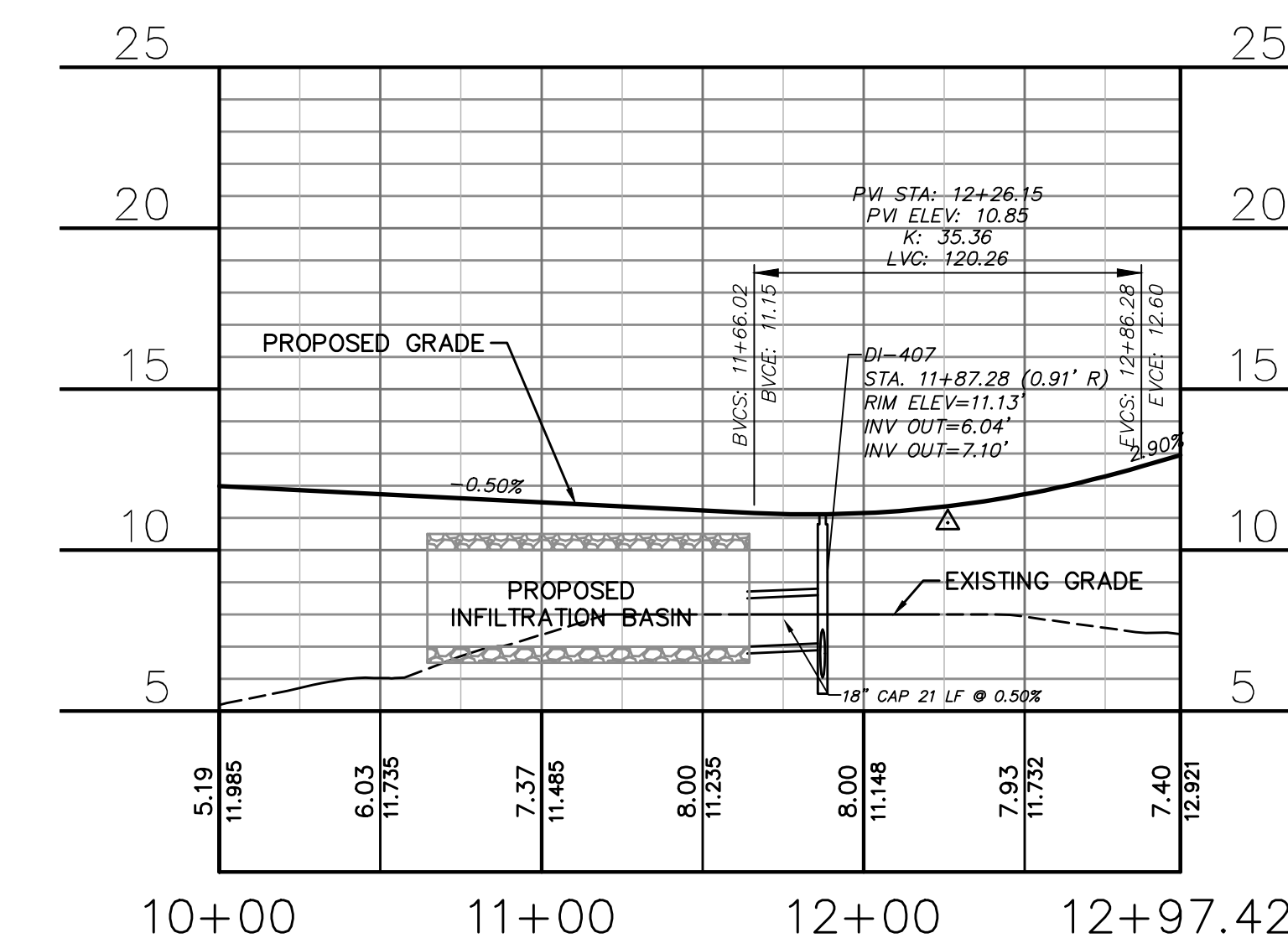
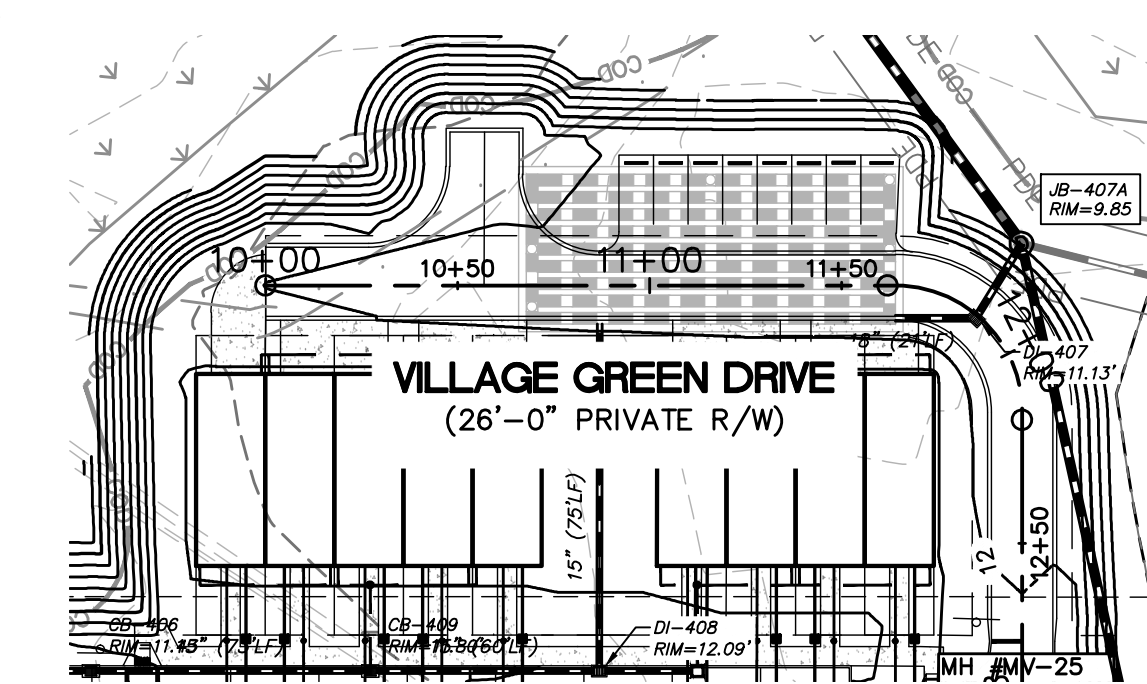
STATUS: FINAL DESIGN
ISSUED FOR CONSTRUCTION



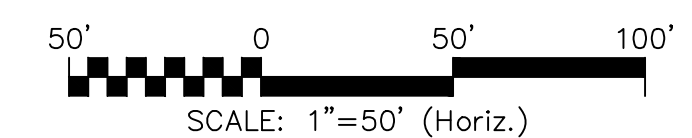
AIKEN ALLEY
HOR. 1"=50', VERT. 1"=5'

BLISS ALLEY
HOR. 1"=50', VERT. 1"=5'

CAVENDER ALLEY
HOR. 1"=50', VERT. 1"=5'



VILLAGE GREEN DRIVE
HOR. 1"=50', VERT. 1"=5'



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1 inch

Approved Construction Plan

Name	Date
Planning	
Traffic	
Fire	



Public Services Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

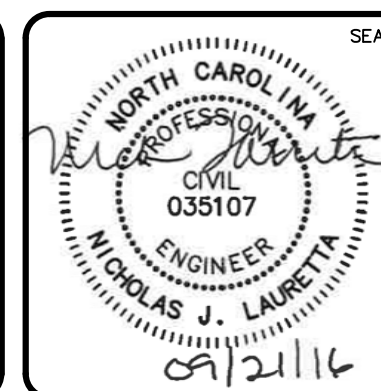
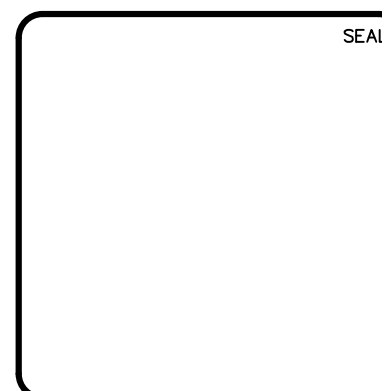
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NASH
NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS MARINA VILLAGE PHASE 1B
PLAN AND PROFILE

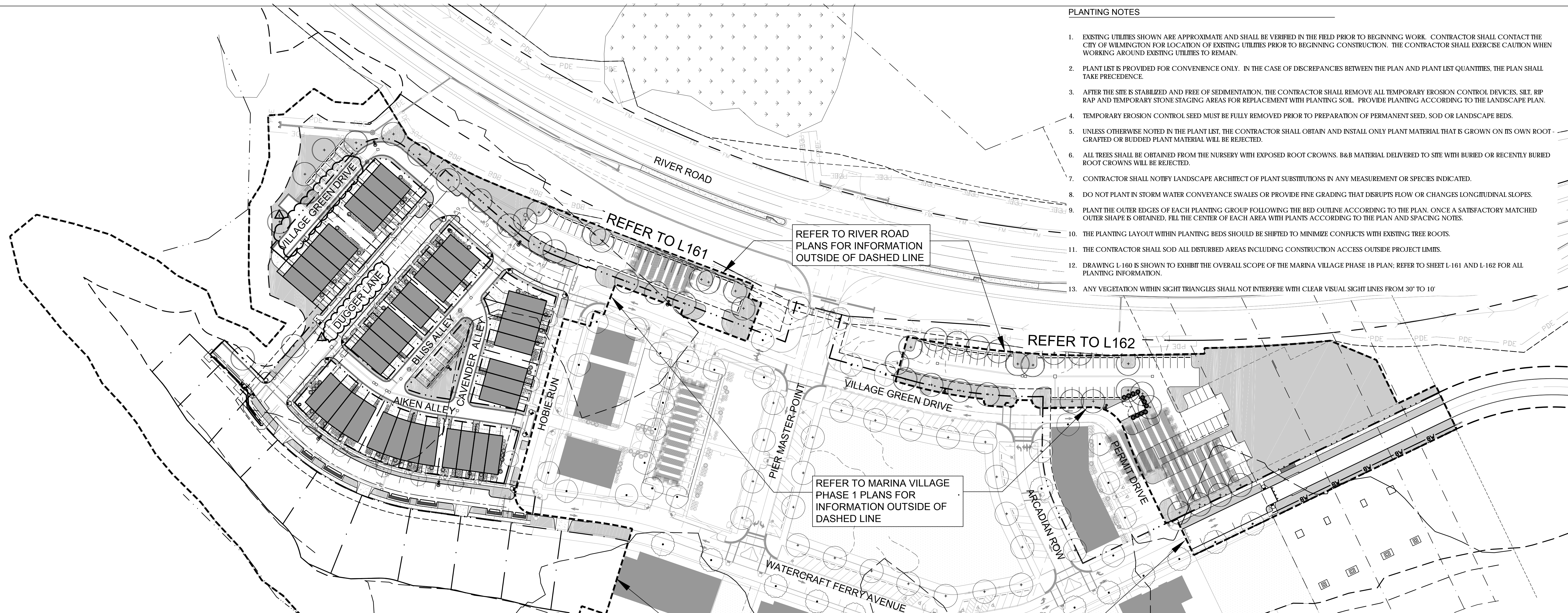
DATE: 17MAR16
MCE PROJ. # 2735-0124
DRAWN: ALM
DESIGNED: NJL
CHECKED: KCBE
PROJ. MGR.: NJL

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

MAC FILE NUMBER: CU-703
DRAWING NUMBER: 18
REVISION: 2
STATUS: FINAL DESIGN
ISSUED FOR CONSTRUCTION

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 FOR LOCATION OF EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN WORKING AROUND EXISTING UTILITIES TO REMAIN.
- 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.
- CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT OF PLANT SUBSTITUTIONS IN ANY MEASUREMENT OR SPECIES INDICATED.
- 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.
- DRAWING L-160 IS SHOWN TO EXHIBIT THE OVERALL SCOPE OF THE MARINA VILLAGE PHASE 1B PLAN; REFER TO SHEET L-161 AND L-162 FOR ALL PLANTING INFORMATION.
- ANY VEGETATION WITHIN SIGHT TRIANGLES SHALL NOT INTERFERE WITH CLEAR VISUAL SIGHT LINES FROM 30' TO 10'



PARKING LOT SHADE DATA TABLE (REFER TO PLAN FOR LOCATIONS):

<p>PARKING LOT 1 (REFER TO L161):</p> <p>TOTAL PARKING SF: 12,172 REQUIRED: 20% SHADE COVER FOR PARKING LOT PAVED SURFACE PROVIDED AT MATURE CANOPY GROWTH CALCULATION: 20% OF 12,172 SF = 2,434 SF SHADE PROVIDED: 6,363 SF: 52% SHADE COVER FOR PARKING LOT PAVED SURFACE PROVIDED AT MATURE CANOPY GROWTH</p>	<p>PARKING LOT 4 (REFER TO L162):</p> <p>TOTAL PARKING SF: 6,958 REQUIRED: 20% SHADE COVER FOR PARKING LOT PAVED SURFACE PROVIDED AT MATURE CANOPY GROWTH CALCULATION: 20% OF 6,958 SF = 1,392 SF SHADE PROVIDED: 1,414 SF: 20% SHADE COVER FOR PARKING LOT PAVED SURFACE PROVIDED AT MATURE CANOPY GROWTH</p>
<p>PARKING LOT 2 (REFER TO L162):</p> <p>TOTAL PARKING SF: 16,927 REQUIRED: 20% SHADE COVER FOR PARKING LOT PAVED SURFACE PROVIDED AT MATURE CANOPY GROWTH CALCULATION: 20% OF 17,195 SF = 3,439 SF SHADE PROVIDED: 8,837.5 SF: 52% SHADE COVER FOR PARKING LOT PAVED SURFACE PROVIDED AT MATURE CANOPY GROWTH</p>	<p>PARKING LOT 5 (REFER TO L161):</p> <p>TOTAL PARKING SF: 1,347 REQUIRED: 20% SHADE COVER FOR PARKING LOT PAVED SURFACE PROVIDED AT MATURE CANOPY GROWTH CALCULATION: 20% OF 1,347 SF = 269 SF SHADE PROVIDED: 1,060 SF: 78% SHADE COVER FOR PARKING LOT PAVED SURFACE PROVIDED AT MATURE CANOPY GROWTH</p>
<p>PARKING LOT 3 (REFER TO L162):</p> <p>TOTAL PARKING SF: 6,019 REQUIRED: 20% SHADE COVER FOR PARKING LOT PAVED SURFACE PROVIDED AT MATURE CANOPY GROWTH CALCULATION: 20% OF 6,019 SF = 1,204 SF SHADE PROVIDED: 353.5 SF: 5.87% SHADE COVER FOR PARKING LOT PAVED SURFACE PROVIDED AT MATURE CANOPY GROWTH</p>	<p>ENTIRE SITE PARKING CALCULATIONS:</p> <p>TOTAL PARKING LOT SF (LOTS 1-5): 43,423 SF REQUIRED: 20% SHADE COVER FOR PARKING LOT PAVED SURFACE PROVIDED AT MATURE CANOPY GROWTH SHADE PROVIDED: 18,028 SF: 41.5% SHADE COVER FOR PARKING LOT PAVED SURFACE PROVIDED AT MATURE CANOPY GROWTH</p>

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

Approved Construction Plan

Name: _____ Date: _____

Planning: _____

Traffic: _____

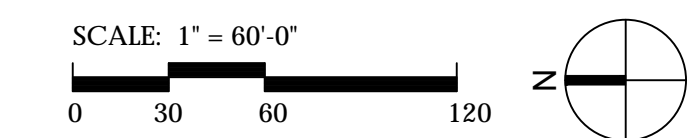
Fire: _____

CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division

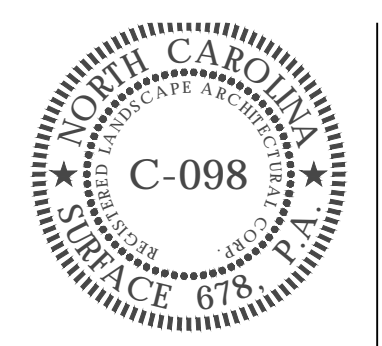
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____



REV. NO.	ISSUED FOR CONSTRUCTION	DESCRIPTIONS	DATE
4	REVISION 4		09/26/2016
3	REVISION 3		08/24/2016
2	REVISION 2		07/20/2016
1	ISSUED FOR CONSTRUCTION		03/02/2016



OVERALL PLANTING PLAN SHEET REFERENCE

MARINA VILLAGE PHASE 1B

DATE	11/03/2015	SCALE	AS NOTED
PROJECT			
DRAWN	JL		
DESIGNED	JC, ED		
CHECKED	JC, ED		
PROJ. MGR.	JC		

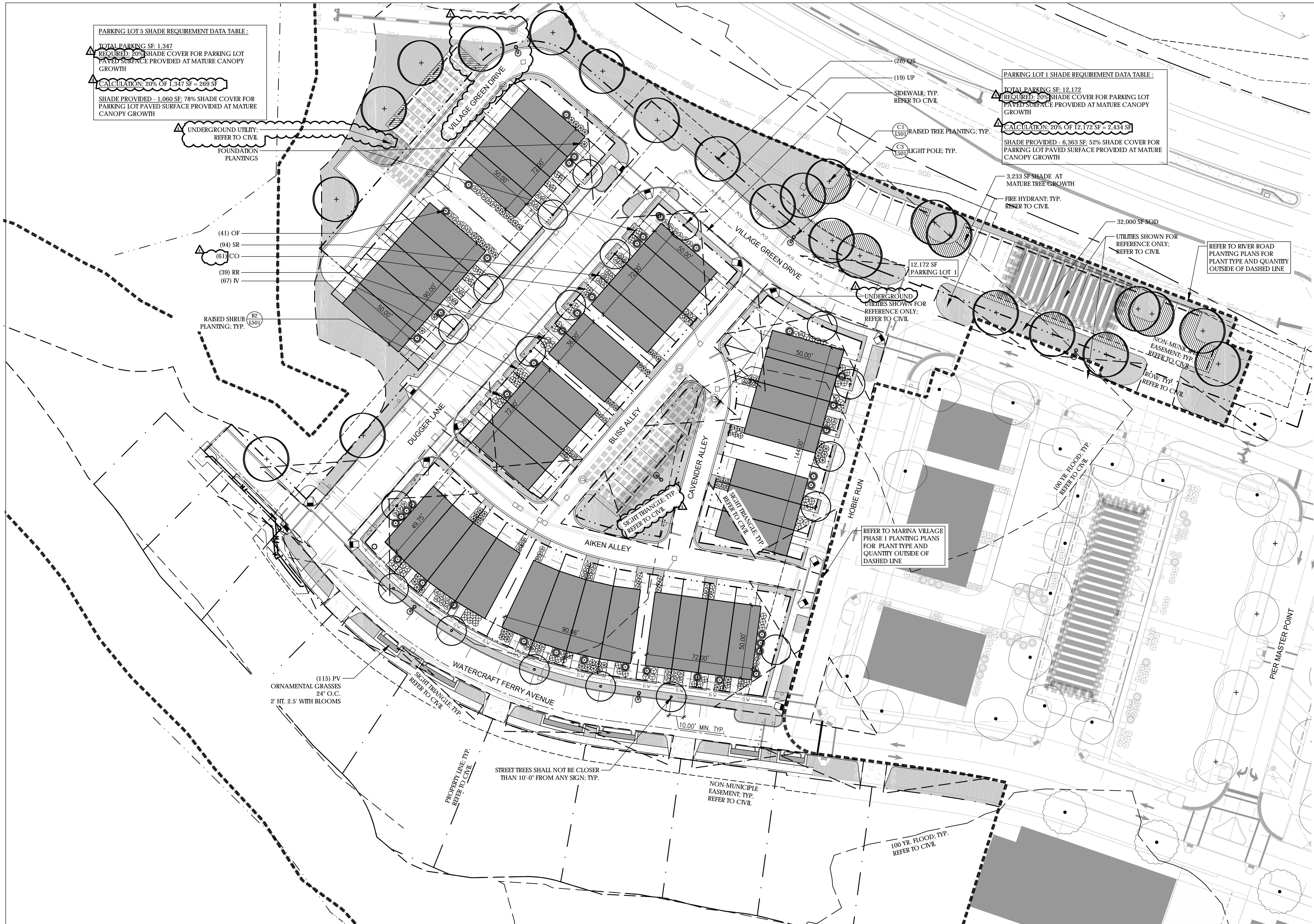
DRAWING NUMBER
L160

CONSTRUCTION DOCUMENTS

PARKING LOT 5 SHADE REQUIREMENT DATA TABLE:
 TOTAL PARKING SF: 1,347
 REQUIRED: 20% SHADE COVER FOR PARKING LOT PAVED SURFACE PROVIDED AT MATURE CANOPY GROWTH
 CALCULATION: 20% OF 1,347 SF = 269 SF
 SHADE PROVIDED - 1,060 SF; 78% SHADE COVER FOR PARKING LOT PAVED SURFACE PROVIDED AT MATURE CANOPY GROWTH

PARKING LOT 1 SHADE REQUIREMENT DATA TABLE:
 TOTAL PARKING SF: 12,172
 REQUIRED: 20% SHADE COVER FOR PARKING LOT PAVED SURFACE PROVIDED AT MATURE CANOPY GROWTH
 CALCULATION: 20% OF 12,172 SF = 2,434 SF
 SHADE PROVIDED - 6,363 SF; 52% SHADE COVER FOR PARKING LOT PAVED SURFACE PROVIDED AT MATURE CANOPY GROWTH

LEGEND	
PARKING LOT SHADE REQUIREMENT	
SOD: 419 TIFWAY BERMUDA; SAND BASED SOD	
TREES	
	QUERCUS SHUMARDII
	ULMUS PARVIFOLIA 'EVERCLEAR'
SHRUBS	
	SERENOA REPENS
	CHAMAECYPARIS OBTUSA 'NANA' GRACILIS
	ILEX VOMITORIA OBTUSA 'NANA'
	ROSA 'RADRAZZ'
	OSMANTHUS FORTUNEI
SIGHT LIGHTING	
	LIGHT POLE: TYP. REFER TO DETAIL C3 / L501



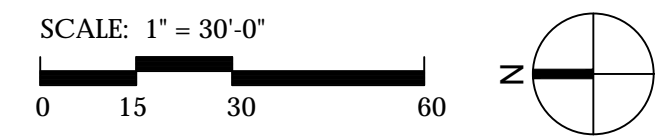
1 inch

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

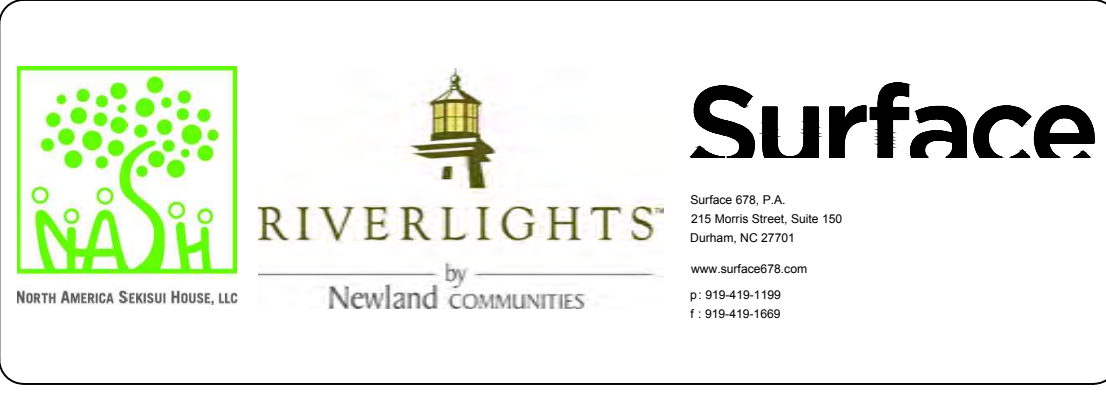
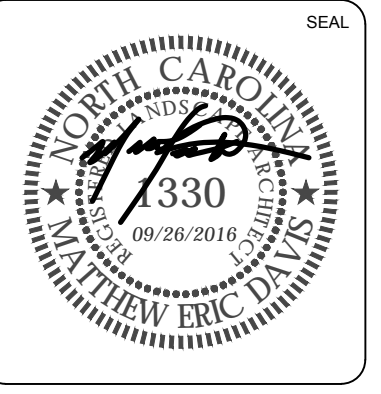
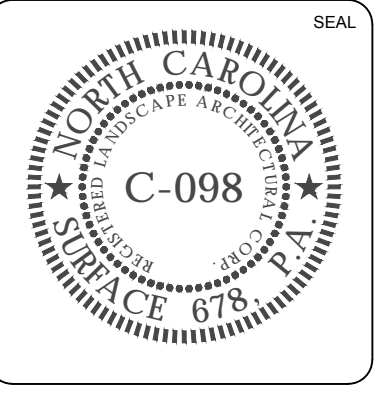
Approved Construction Plan

Name	Date
Planning	
Traffic	
Fire	

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



REV. NO.	DESCRIPTIONS / REVISIONS	DATE
4	REVISION 4	09/26/2016
3	REVISION 3	09/24/2016
2	REVISION 2	07/29/2016
0	ISSUED FOR CONSTRUCTION	03/02/2016



PLANTING PLAN NORTH
MARINA VILLAGE PHASE 1B

DATE	11/03/2015	SCALE	AS NOTED	DRAWING NUMBER	L161
PROJECT					
DRAWN	JL				
DESIGNED	JC, ED				
CHECKED	JC, ED				
PROJ. MGR.	JC				

CONSTRUCTION DOCUMENTS

PLANTING SCHEDULE: MARINA VILLAGE PHASE 1B

SYM	QTY	BOTANICAL NAME	COMMON NAME	CAL/RT	MIN. HT.	MIN. SPR.	REMARKS
STREET TREES							
QS	74	QUERCUS SHUMARDII	SHUMARD OAK	3"	----	----	STRONG CENTRAL LEADER; NO INCLUDED BARK
UP	19	ULMUS PARVIFOLIA 'EVERCLEAR'	LACEBARK ELM	3"	----	----	STRONG CENTRAL LEADER; NO INCLUDED BARK
DECIDUOUS SHRUBS							
RR	40	ROSA 'RADRAZZ'	KNOCKOUT ROSE	CONT	12"	12"	FULL DENSE
EVERGREEN SHRUBS							
CO	61	CHAMAECYPARIS OBTUSA 'NANA' GRACILLIS	DWARF HINKO CYPRESS	CONT	12"	12"	FULL DENSE
IV	67	ILEX VOMITORIA 'NANA'	DWARF YAUPON HOLLY	CONT	12"	12"	FULL DENSE
OF	41	OSMANTHUS FORTUNEI	TEA OLIVE	CONT	12"	12"	FULL DENSE
SR	94	SERENOA REPENS	SAW PALMETTO	CONT	12"	12"	FULL DENSE
ORNAMENTAL GRASSES							
PV	115	PANICUM VIRGATUM 'CAPE BREEZE' PP24895	CAPE BREEZE DWARF SWITCHGRASS	----	----	----	----
SOD							
							419 TFWAY BERMUDA SAND BASED SOD

PARKING LOT 2 SHADE REQUIREMENT DATA TABLE:
 TOTAL PARKING SF: 16,927
 REQUIRED: 20% SHADE COVER FOR PARKING LOT PAVED SURFACE PROVIDED AT MATURE CANOPY GROWTH
 CALCULATION: 20% OF 17,195 SF = 3,439 SF
 SHADE PROVIDED - 8,837.5 SF: 52% SHADE COVER FOR PARKING LOT PAVED SURFACE PROVIDED AT MATURE CANOPY GROWTH

REFER TO RIVER ROAD PAINTING PLANS FOR PLANT TYPE AND QUANTITY OUTSIDE OF DASHED LINE
 4,231 SF SHADE AT MATURE GROWTH
 (29) QS

PARKING LOT 4 SHADE REQUIREMENT DATA TABLE:
 TOTAL PARKING SF: 6,958
 REQUIRED: 20% SHADE COVER FOR PARKING LOT PAVED SURFACE PROVIDED AT MATURE CANOPY GROWTH
 CALCULATION: 20% OF 6,958 SF = 1,392 SF
 SHADE PROVIDED - 1,414 SF: 20% SHADE COVER FOR PARKING LOT PAVED SURFACE PROVIDED AT MATURE CANOPY GROWTH

PARKING LOT 3 SHADE REQUIREMENT DATA TABLE:
 TOTAL PARKING SF: 6,019
 REQUIRED: 20% SHADE COVER FOR PARKING LOT PAVED SURFACE PROVIDED AT MATURE CANOPY GROWTH
 CALCULATION: 20% OF 6,019 SF = 1,204 SF
 SHADE PROVIDED - 353.5 SF: 5.87% SHADE COVER FOR PARKING LOT PAVED SURFACE PROVIDED AT MATURE CANOPY GROWTH

LEGEND

	PARKING LOT SHADE REQUIREMENT
	SOD: 419 TFWAY BERMUDA; SAND BASED SOD
TREES	
	QUERCUS SHUMARDII
	ULMUS PARVIFOLIA 'EVERCLEAR'
SHRUBS	
	SERENOA REPENS
	CHAMAECYPARIS OBTUSA 'NANA' GRACILLIS
	ILEX VOMITORIA OBTUSA 'NANA'
	ROSA 'RADRAZZ'
	OSMANTHUS FORTUNEI
SIGHT LIGHTING	
	LIGHT POLE: TYP. REFER TO DETAIL C3 / L501

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

Approved Construction Plan

Name: _____ Date: _____

Planning: _____

Traffic: _____

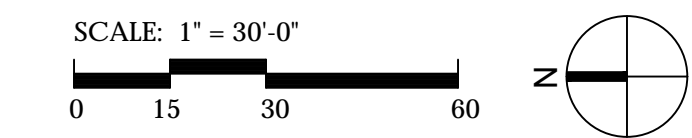
Fire: _____

CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division

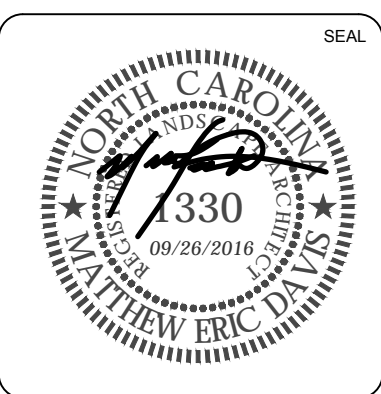
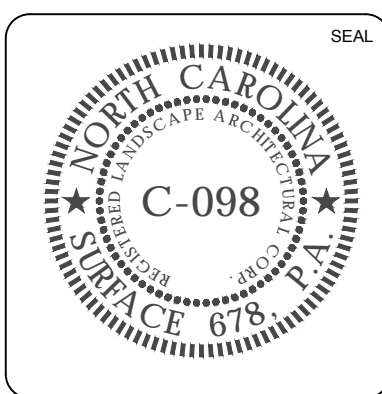
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____



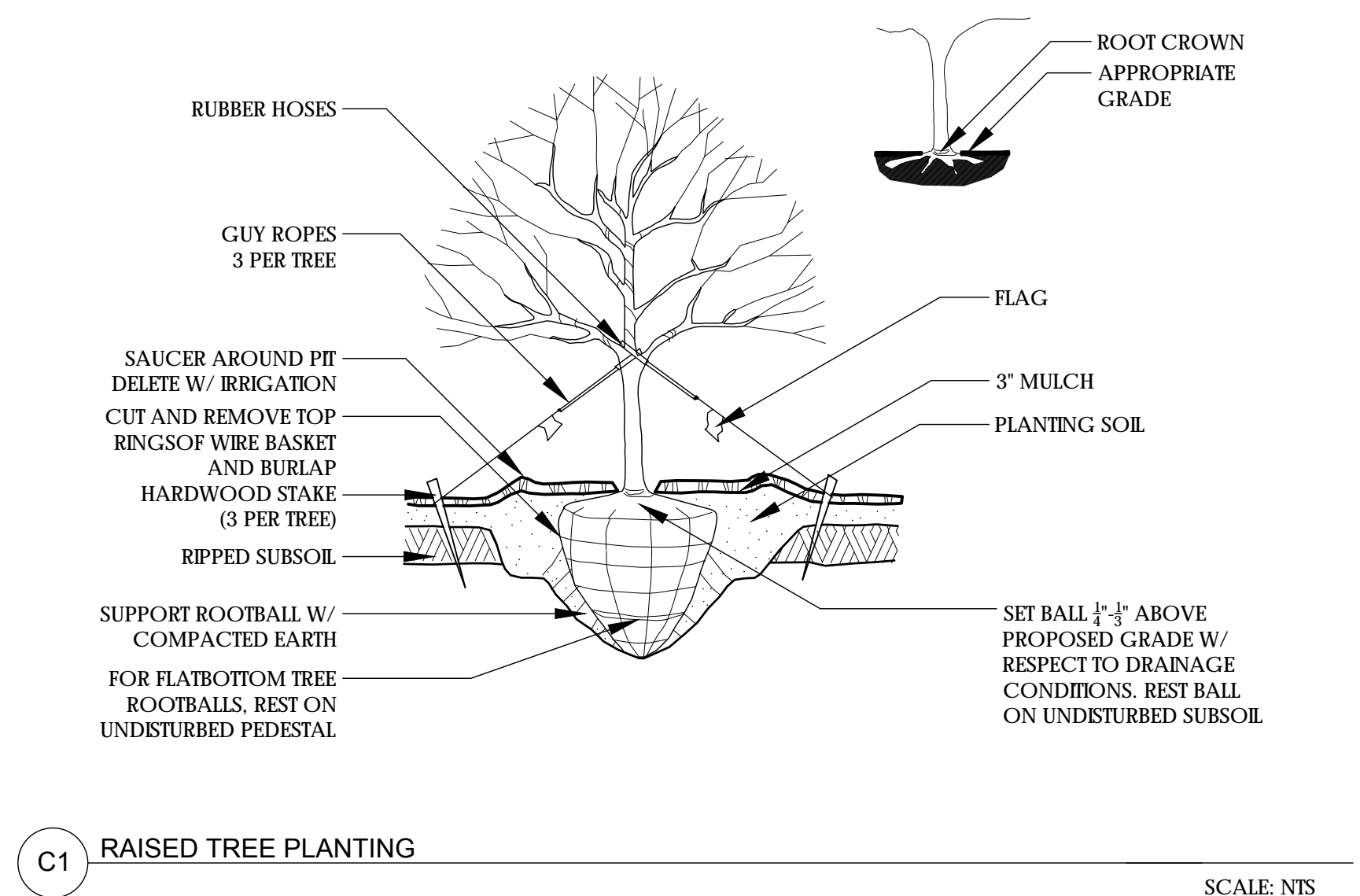
REV. NO.	DESCRIPTIONS	REVISIONS	DATE
4	REVISION 4		09/29/2016
3	REVISION 3		08/24/2016
2	REVISION 2		07/20/2016
0	ISSUED FOR CONSTRUCTION		03/02/2016



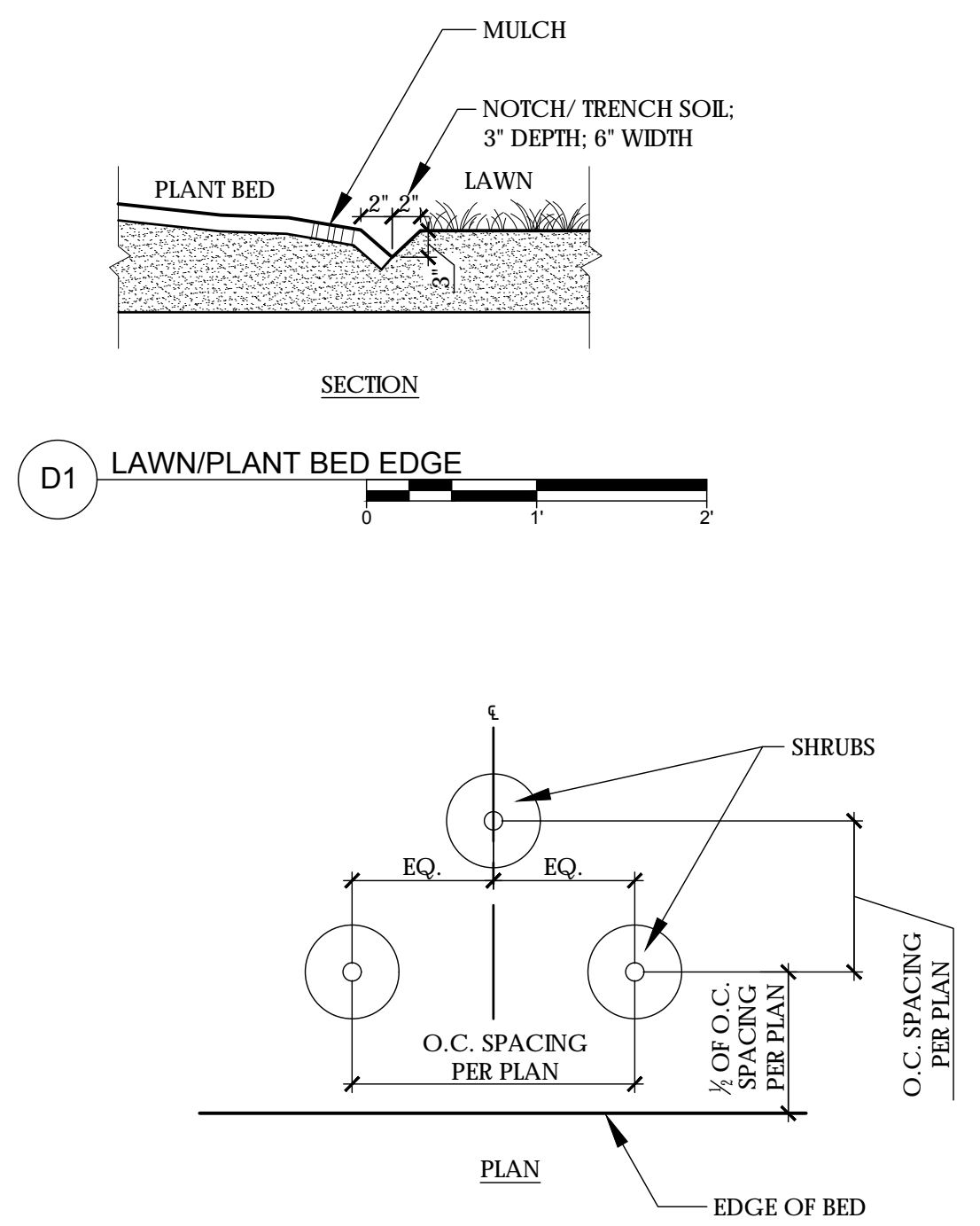
PLANTING PLAN SOUTH
 MARINA VILLAGE PHASE 1B

DATE	11/03/2015	SCALE	AS NOTED
PROJECT		DRAWN	JL
DESIGNED	JC, ED	CHECKED	JC, ED
PROJ. MGR.	JC		
DRAWING NUMBER		L162	

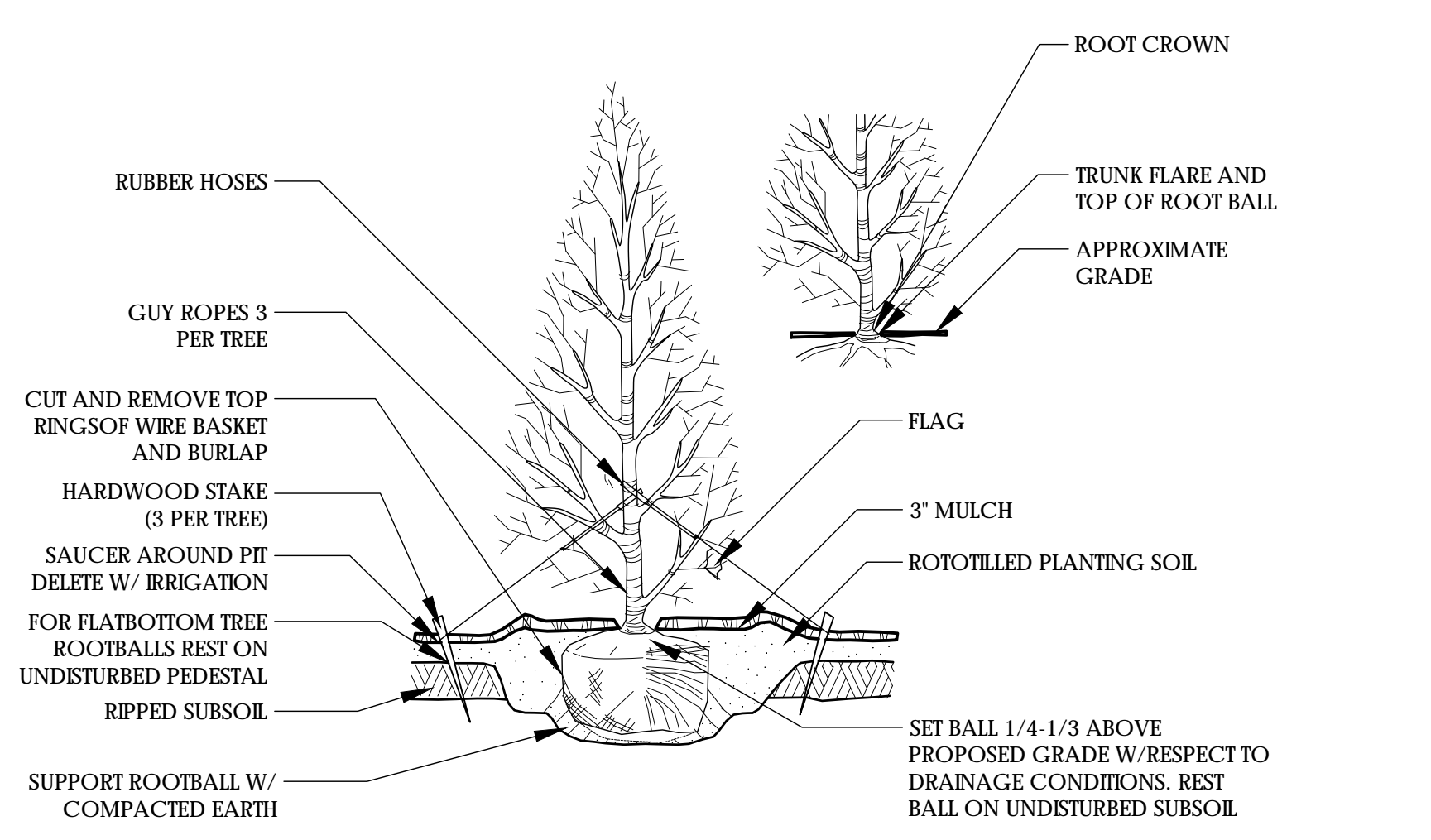
CONSTRUCTION DOCUMENTS



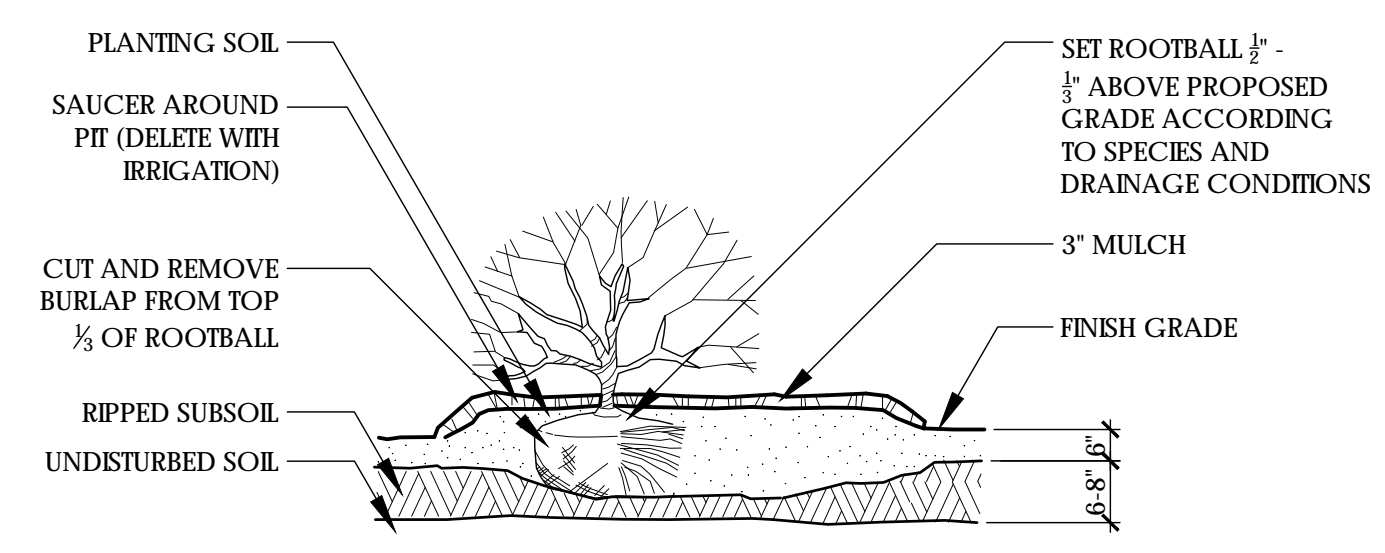
C1 RAISED TREE PLANTING SCALE: NTS



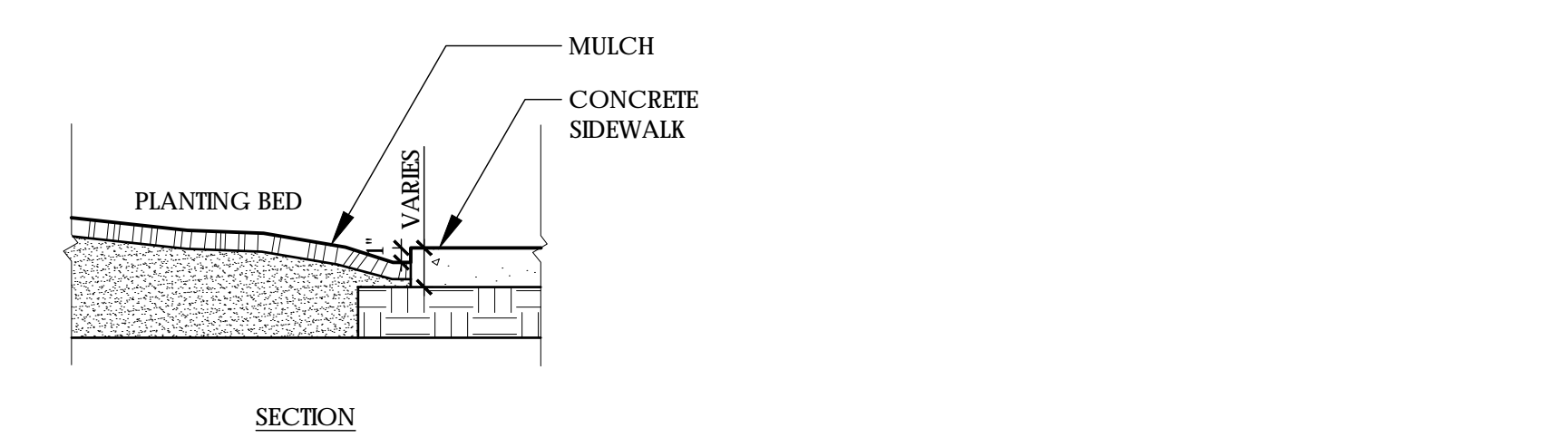
D1 LAWN/PLANT BED EDGE



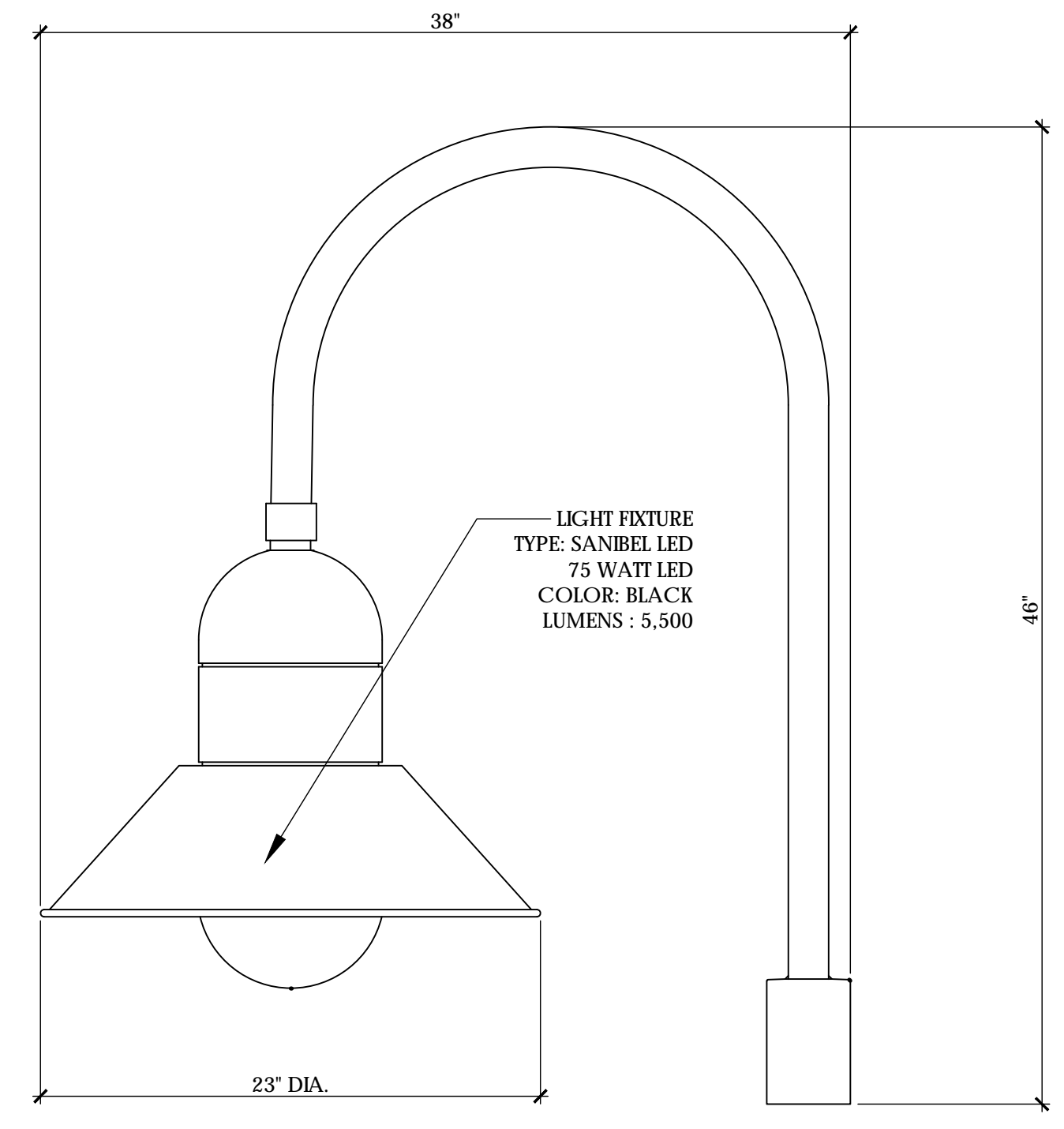
B1 EVERGREEN TREE PLANTING SCALE: NTS



B2 RAISED SHRUB PLANTING SCALE: NTS

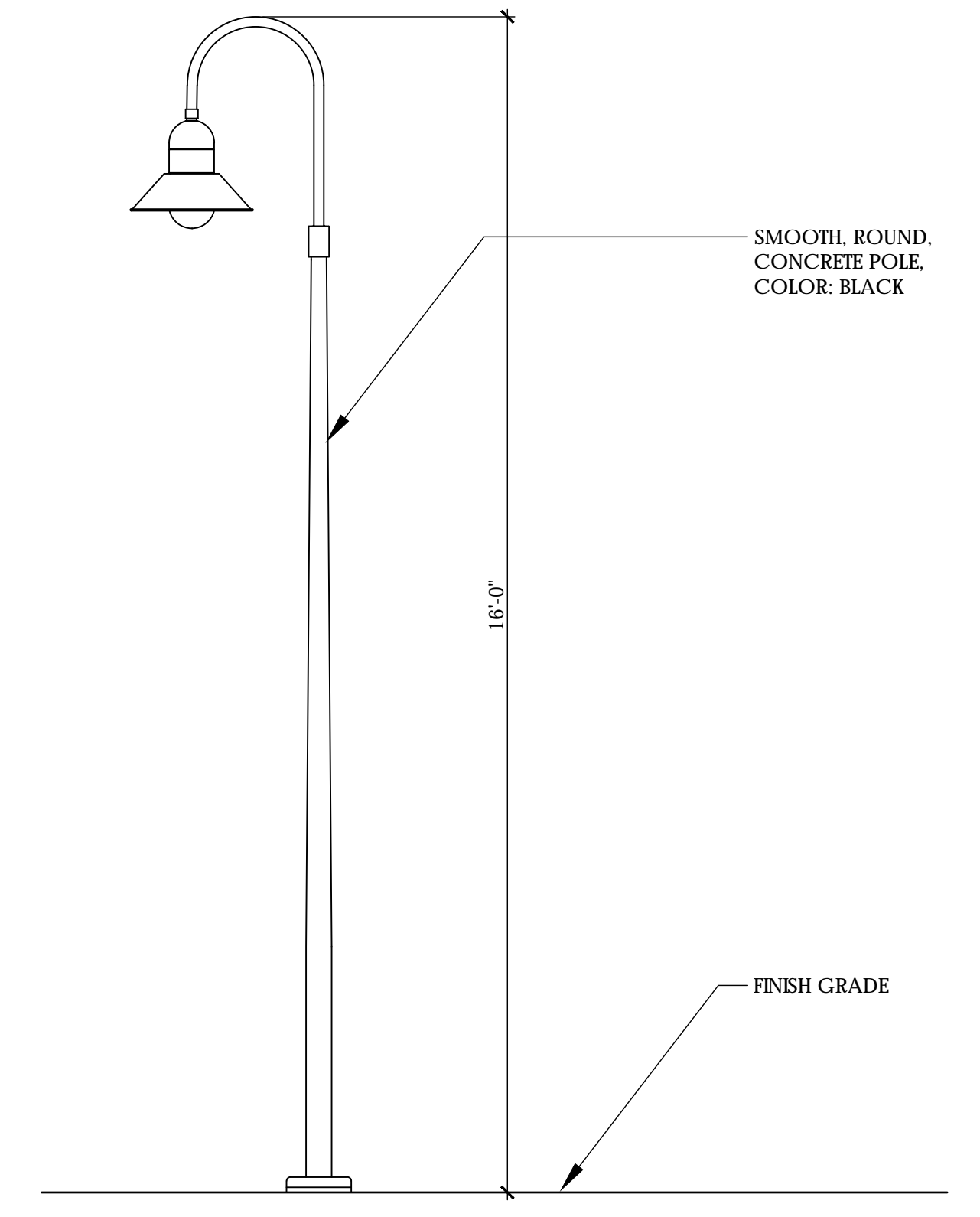


A1 CONCRETE/PLANT BED EDGE

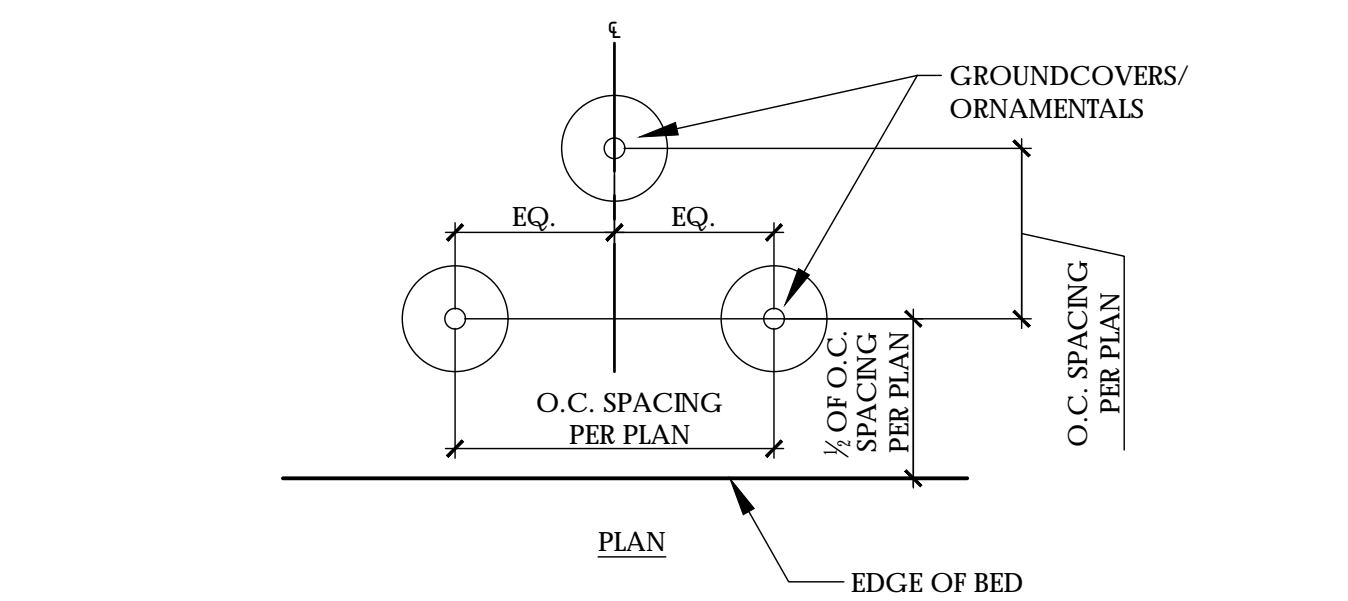


C3 LIGHT POLE

* 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.



C3 LIGHT FIXTURE POLE ELEVATION



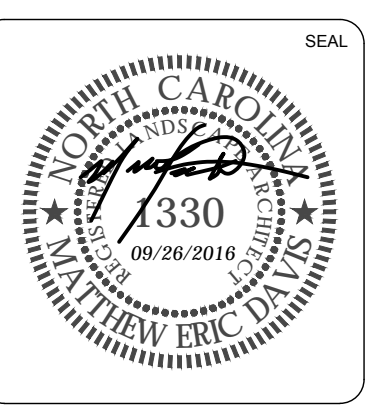
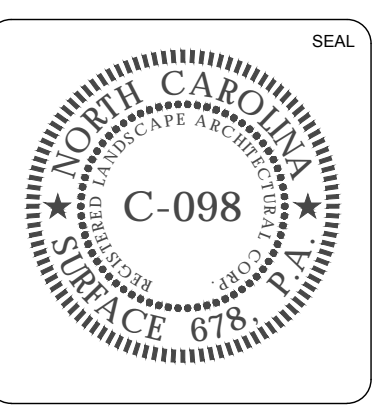
A3 GROUNDCOVER PLANTING SCALE: NTS

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

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

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

REV. NO.	DESCRIPTIONS	DATE
4	REVISION 4	09/26/2016
3	REVISION 3	09/24/2016
2	REVISION 2	07/20/2016
0	ISSUED FOR CONSTRUCTION	03/02/2016



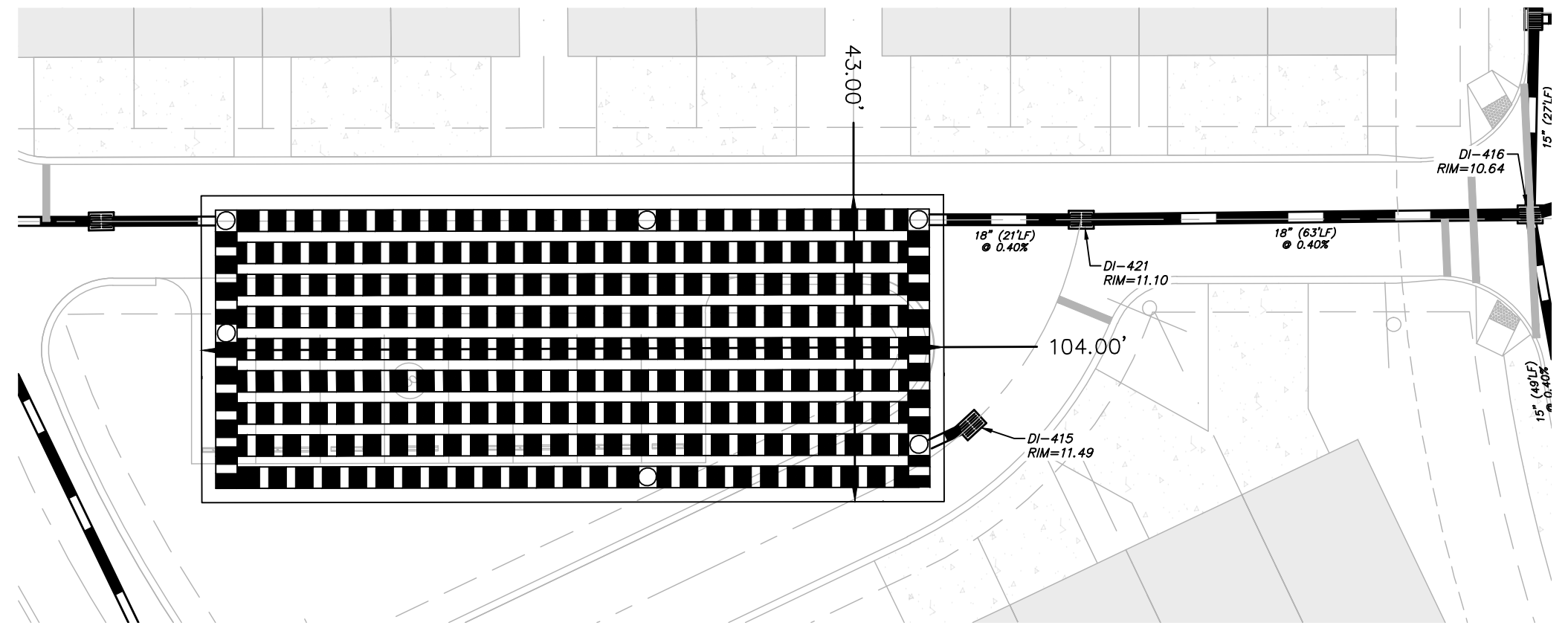
LANDSCAPE DETAILS
 MARINA VILLAGE PHASE 1B

DATE	11/03/2015	SCALE	AS NOTED
PROJECT			
DRAWN	JL		
DESIGNED	JC, ED		
CHECKED	JC, ED		
PROJ. MGR.	JC		

DRAWING NUMBER
L501

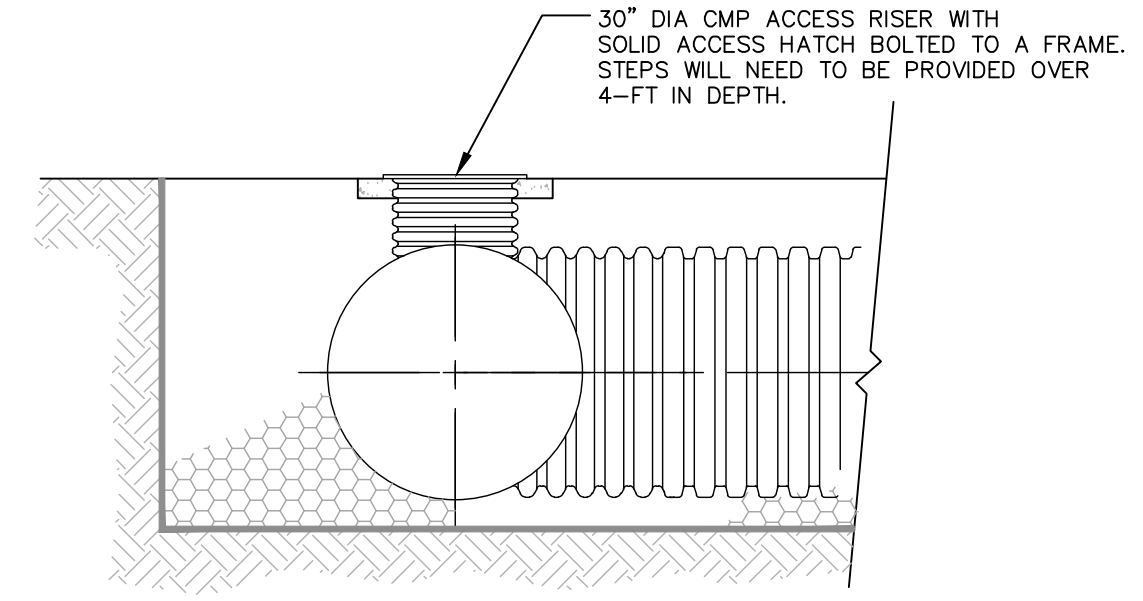
CONSTRUCTION DOCUMENTS

INFILTRATION GALLERY 4

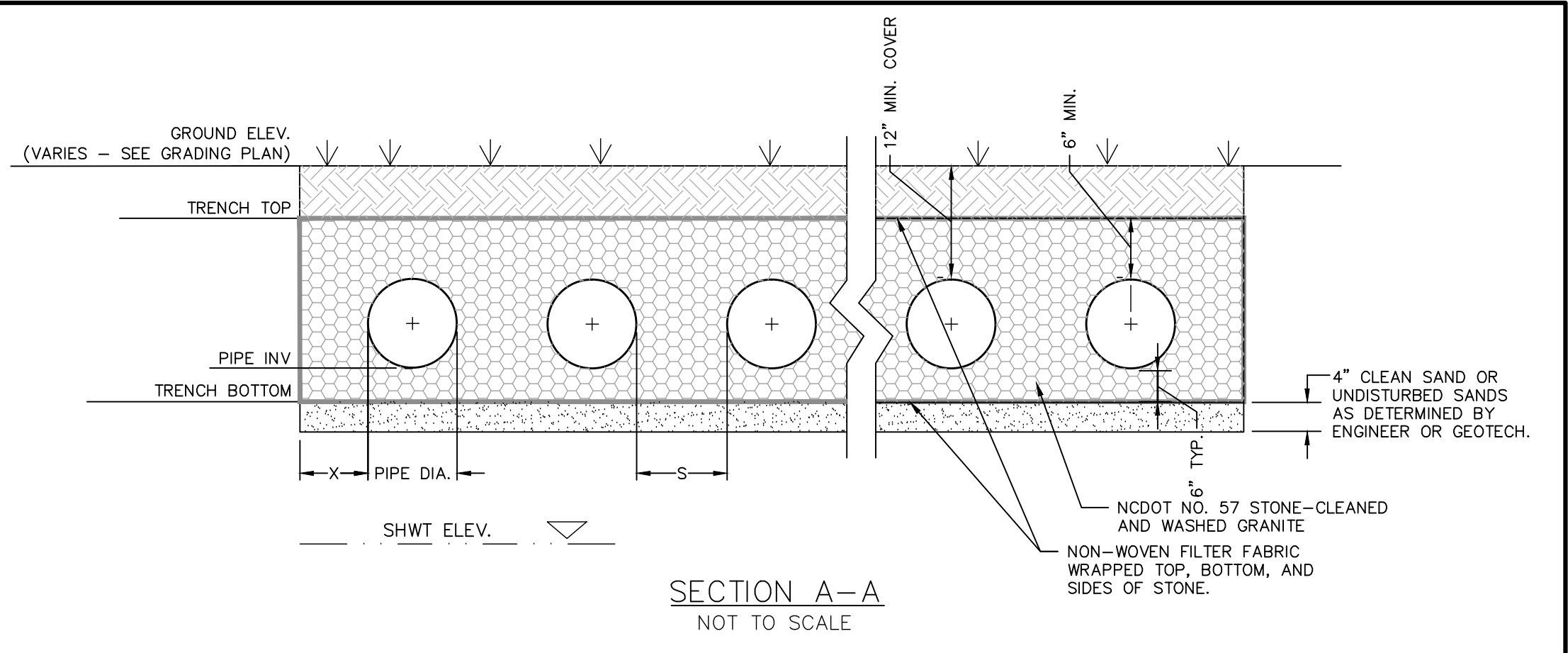


INFILTRATION GALLERY 4
 DA= 1.88 AC
 WOV STORAGE REQD.= 5,062 CF
 STORAGE PROV.= 10,972 CF

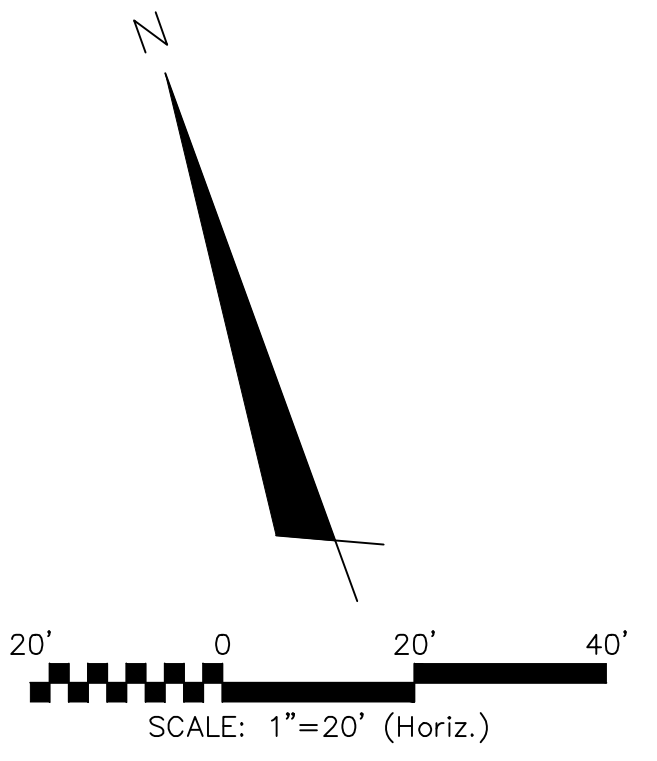
PLAN VIEW
 SCALE: 1" = 20'



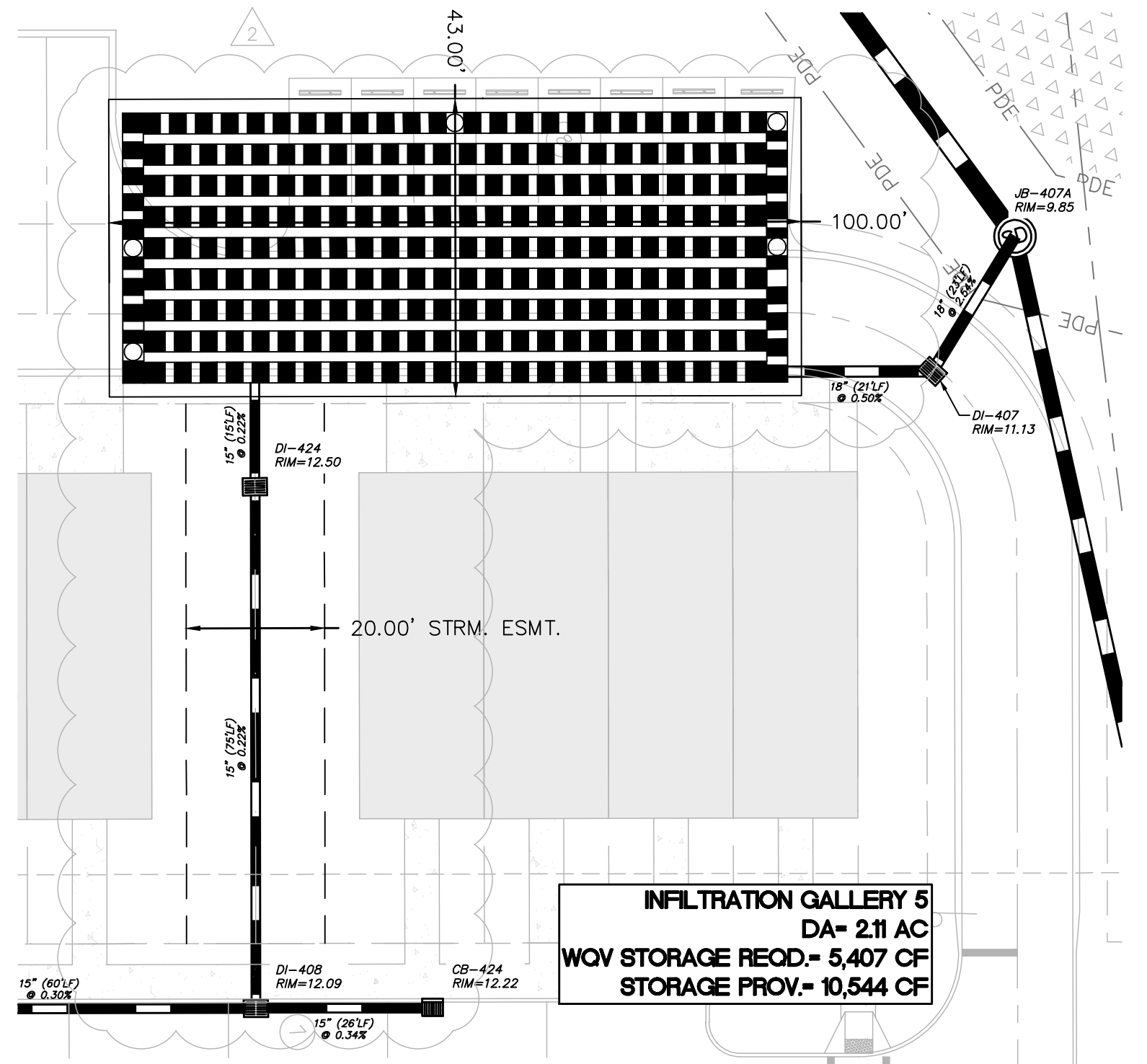
TYP. CMP ACCESS RISER
 NOT TO SCALE



SECTION A-A
 NOT TO SCALE



INFILTRATION GALLERY 5



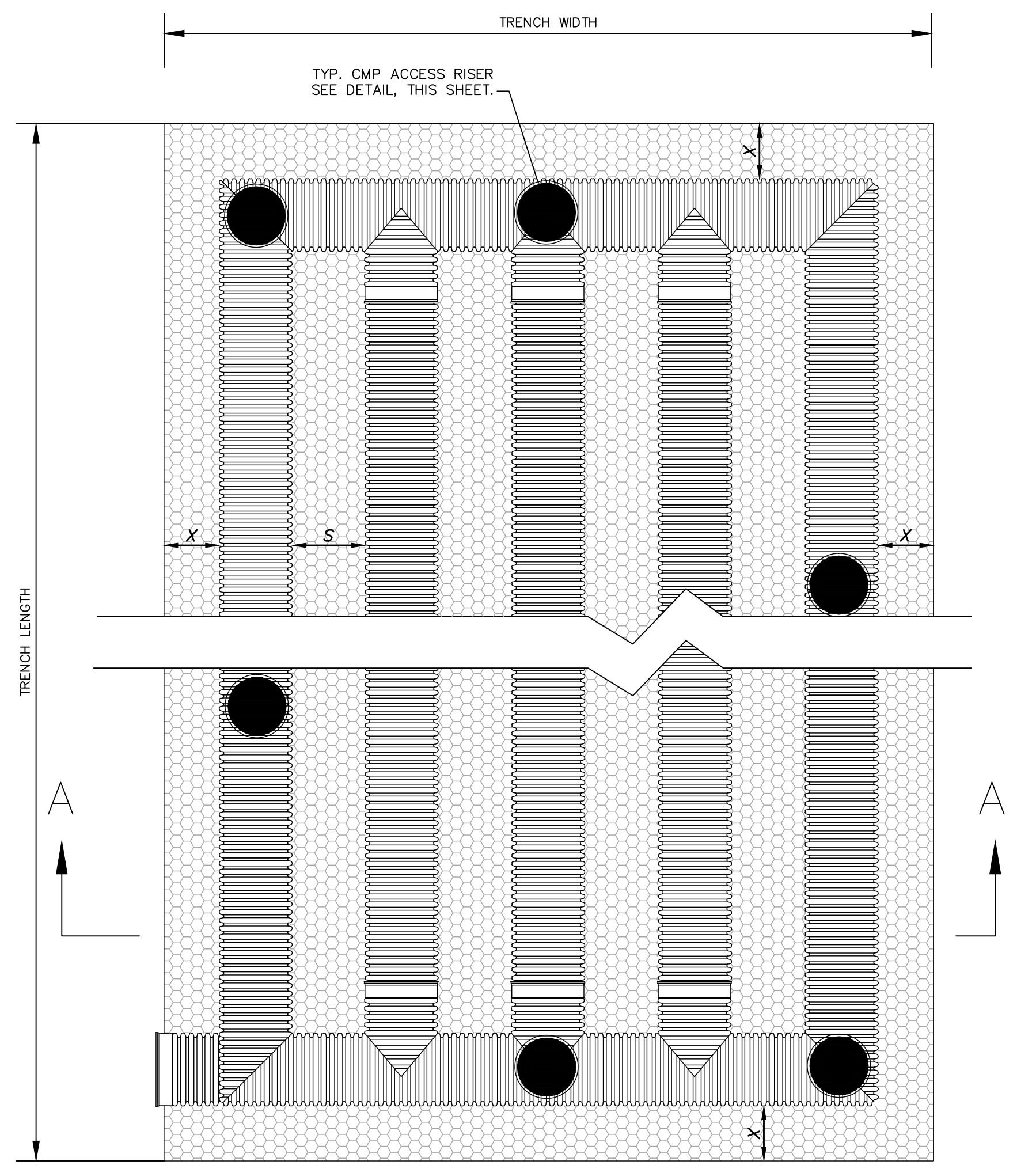
INFILTRATION GALLERY 5
 DA= 2.11 AC
 WOV STORAGE REQD.= 5,407 CF
 STORAGE PROV.= 10,544 CF

PLAN VIEW
 SCALE: 1" = 20'

DESIGN	DI-416	DI-407
RIM ELEVATION	10.64'	11.11'
WEIR ELEVATION	9.00'	9.25'
SUMP ELEVATION	6.34'	6.04'
OUTFALL PIPE INVERT	7.34'	7.10'

DESIGN	INFILTRATION GALLERY 4	INFILTRATION GALLERY 5
# OF RUNS	9	9
LENGTH PER RUN	100'	96'
PIPE DIAMETER (IN)	36" CAP	36" CAP
MIN. X (IN)	2'	2'
MIN. S (IN)	1/2 DIA. OF PIPE	1/2 DIA. OF PIPE
TRENCH WIDTH (FT)	43'	43'
TRENCH LENGTH (FT)	104'	100'
SHWT ELEVATION	4.50'	4.50'
TRENCH BOTTOM ELEVATION	6.50'	6.50'
PIPE TRENCH INVERT	7.00'	7.00'
TRENCH TOP ELEVATION	10.50'	10.50'
10-YR WSEL	9.25'	9.35'

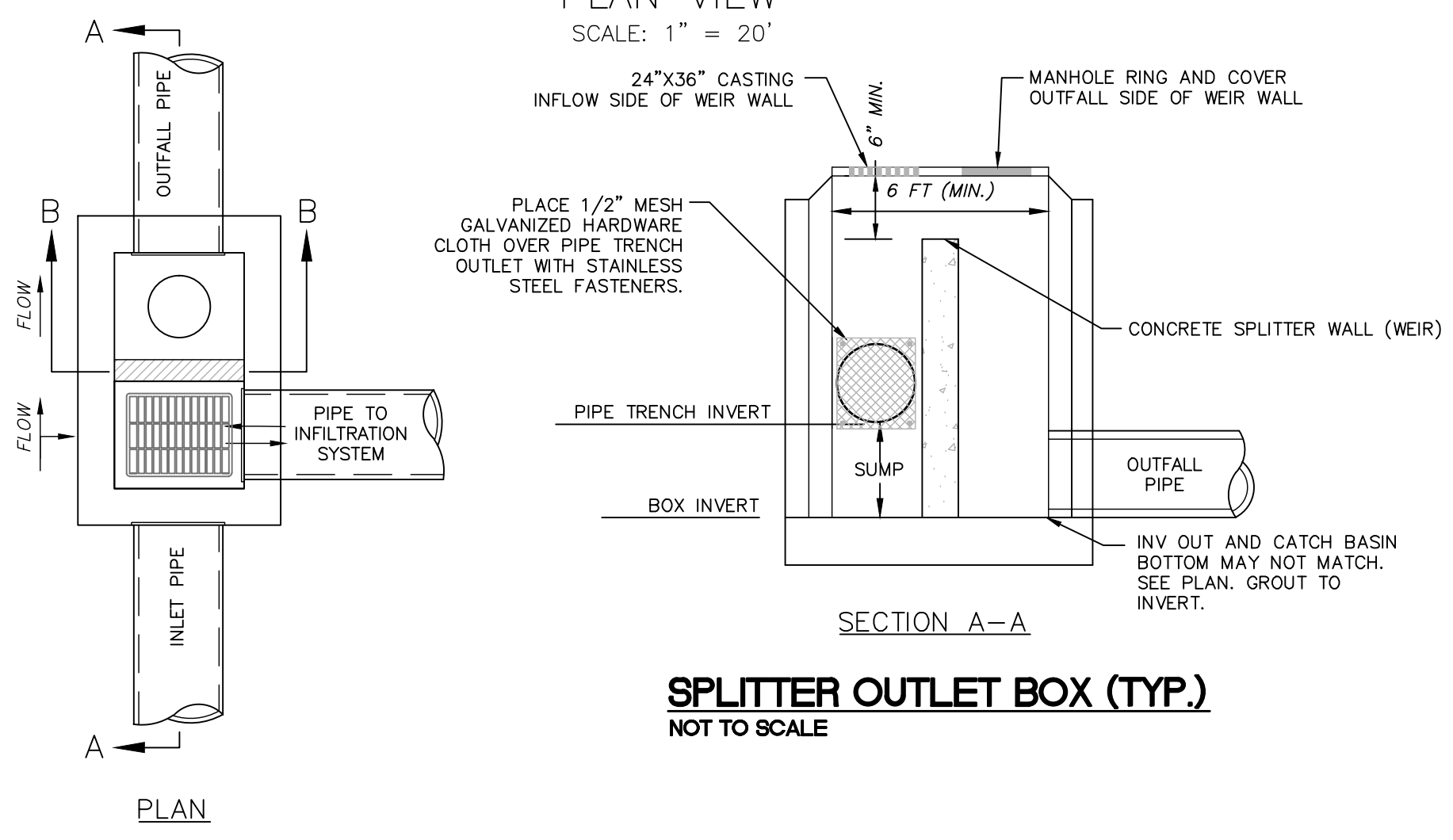
- NOTES:**
- SHWT AND HIGH RIVER ELEVATIONS TAKEN FROM SITE & SOILS EVALUATION REPORT BY ECS CAROLINAS, LLP, DATED FEBRUARY 18, 2015 FOR NEWLAND COMMUNITIES, LLC.
 - EXISTING ELEVATIONS TAKEN FROM COMBINATION OF FIELD MEASUREMENTS AND TOPOGRAPHY SURVEY BY MCKIM & CREED, INC.



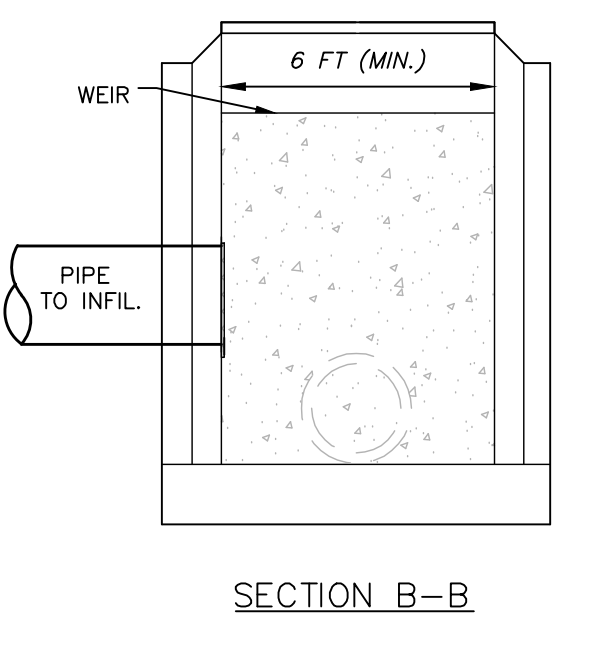
PLAN VIEW
 NOT TO SCALE

- NOTES:**
- INFILTRATION TRENCH PIPE SHALL BE CONTECH PERFORATED ALUMINIZED OR ALUMINUM CMP PIPE MEETING AASHTO M-36, CLASS 2 PERFORATIONS (3/8" DIA); OR PERFORATED HDPE MEETING AASHTO CLASS 2, TYPE S PERFORATIONS. CONTRACTOR TO SUBMIT INFILTRATION TRENCH SPECIFICATION FOR ENGINEER APPROVAL.
 - CMP OR HDPE PIPE TO BE INSTALLED PER ASTM & MANUFACTURER'S RECOMMENDATIONS. PIPE JOINTS TO BE PER MANUFACTURER'S RECOMMENDATIONS AS AN UNDERGROUND INFILTRATION SYSTEM.
 - SEE TABLE FOR NUMBER OF PIPE RUNS AND DIMENSIONS.
 - IT IS IMPORTANT THAT FILL MATERIAL FOR THE INFILTRATION TRENCHES SHALL BE SAME MATERIAL AS EXISTING SOILS UNDERLYING THE TRENCH. BE SURE NOT TO COMPACT THE SAND UNDER THE TRENCH SO THAT PROPER INFILTRATION RATES CAN OCCUR BELOW THE TRENCHES.

TYP. INFILTRATION TRENCH SYSTEM
 NOT TO SCALE



SPLITTER OUTLET BOX (TYP.)
 NOT TO SCALE



SECTION B-B

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

Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

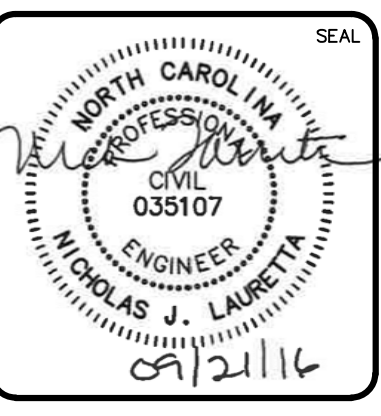
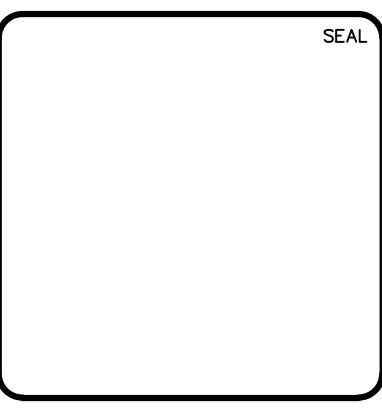
Fire _____

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

Date: _____ Permit # _____

Signed: _____

REVNO.	DESCRIPTIONS / REVISIONS	DATE
4	CITY OF WILMINGTON ENGINEERING COMMENTS	09/21/2016
3	CITY OF WILMINGTON IRC COMMENTS	08/23/2016
2	SITE PLAN AND STORM DRAINAGE REVISIONS	07/19/2016
1	CIPRA COMMENTS	06/11/2016
0	ISSUED FOR CONSTRUCTION	03/17/2016



MCKIM & CREED

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

RIVERLIGHTS
 NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS MARINA VILLAGE PHASE 1B

STORMWATER MANAGEMENT DETAILS

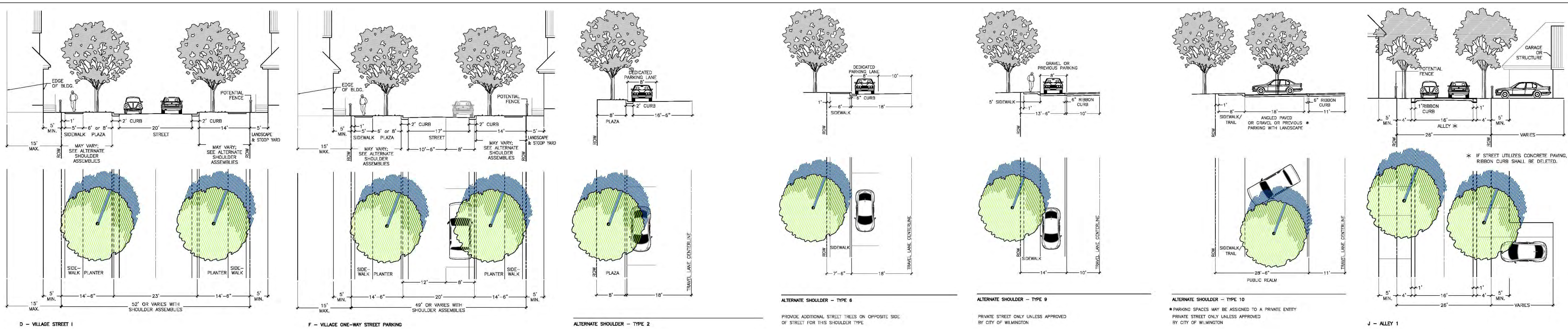
DATE: 17MAR16
 MCE PROJ. # 2735-0124
 DRAWN: ALM
 DESIGNED: NJL
 CHECKED: KCBE
 PROJ. MGR.: NJL

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

MAC FILE NUMBER: CN-501
 DRAWING NUMBER: 23

STATUS: FINAL DESIGN
 ISSUED FOR CONSTRUCTION

REVISION: 2



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

1 inch

Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

Fire _____

CITY OF WILMINGTON
NORTH CAROLINA

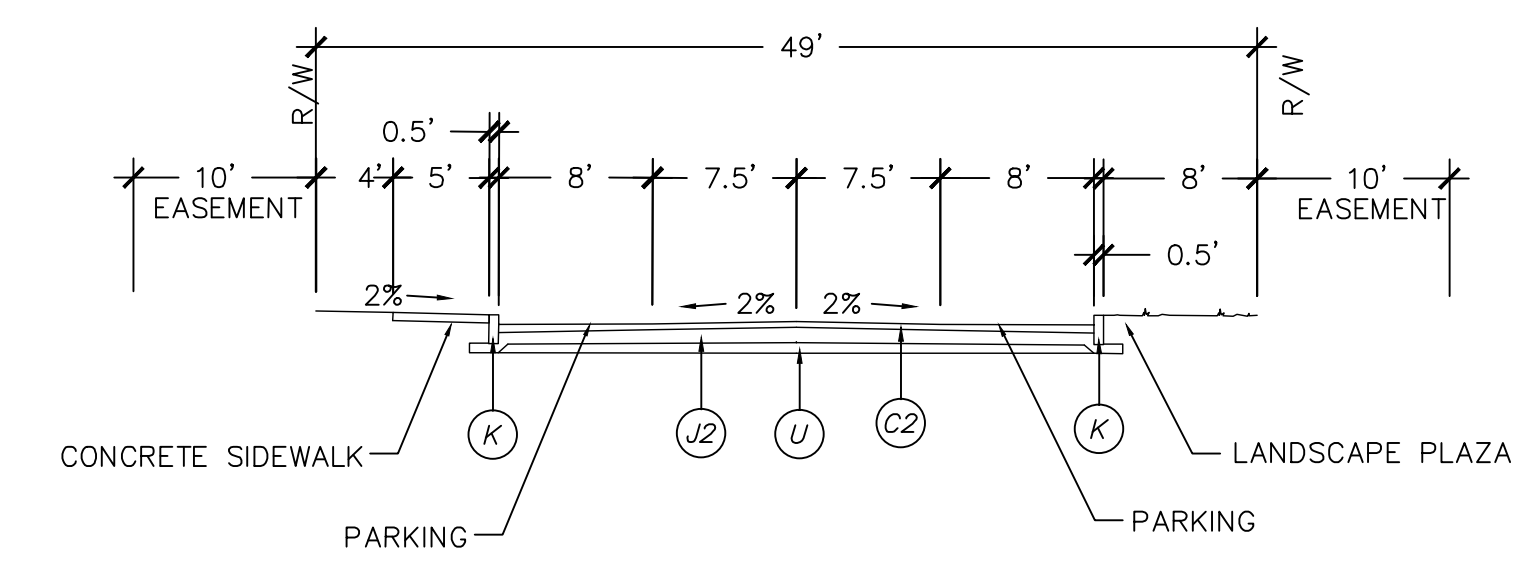
Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

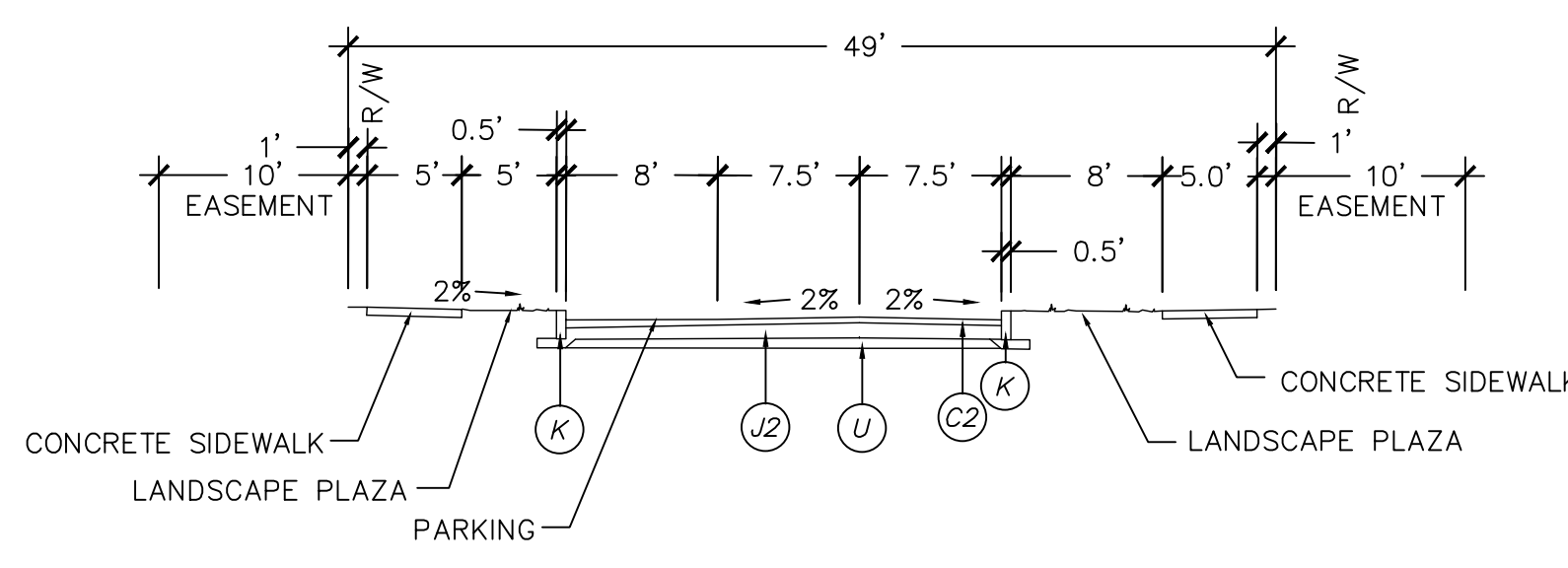
Date: _____ Permit # _____

Signed: _____

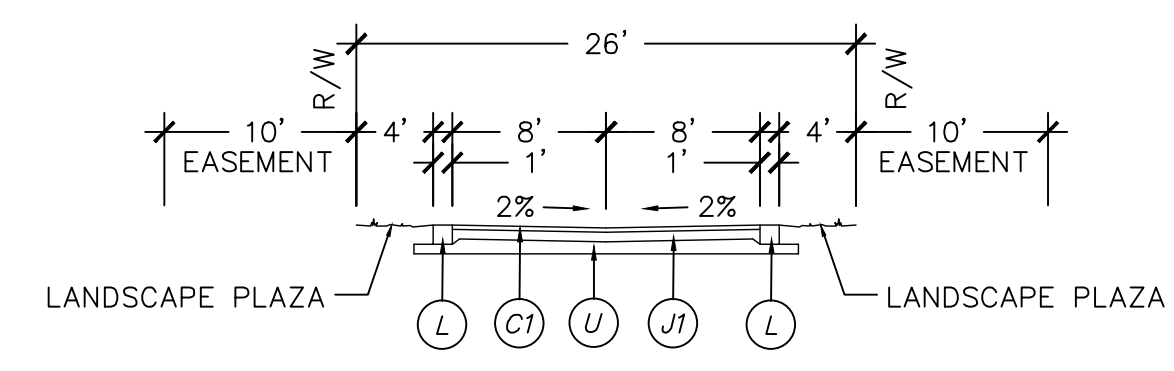
ILLUSTRATIVE STREET SECTIONS FROM DEVELOPMENT AGREEMENT



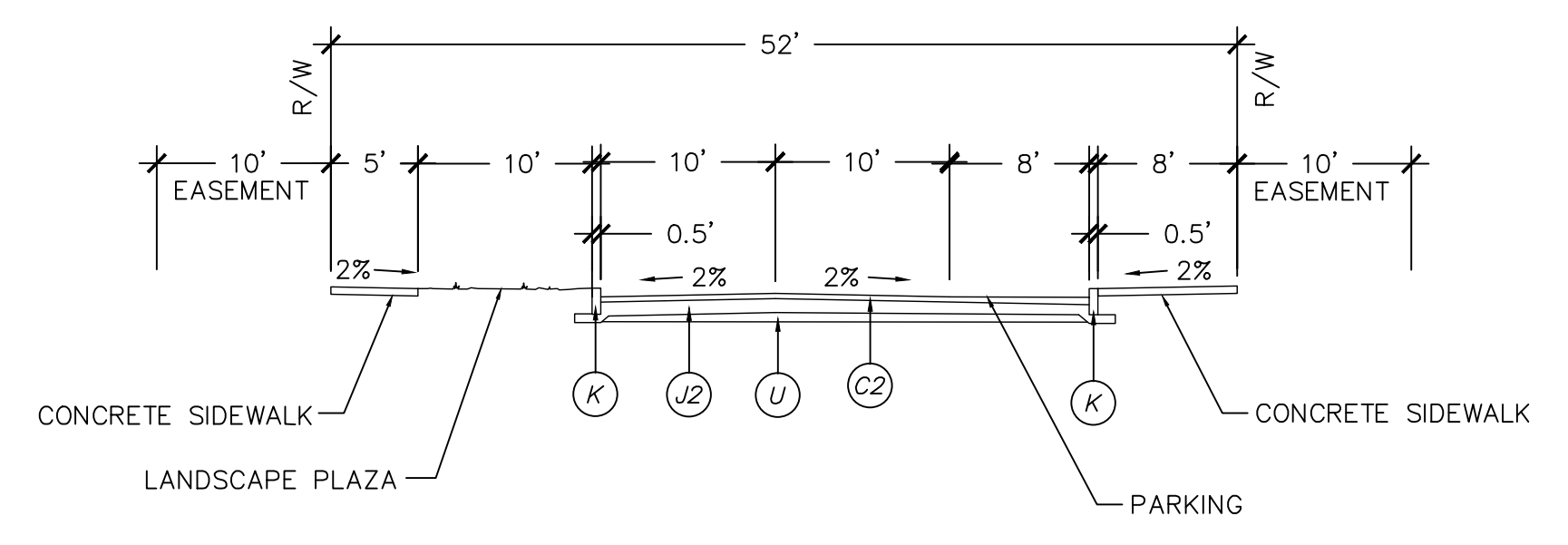
UNDIVIDED TYPICAL SECTION
VILLAGE ONE WAY STREET PARKING
49' PUBLIC R/W
VILLAGE GREEN DRIVE
NOT TO SCALE



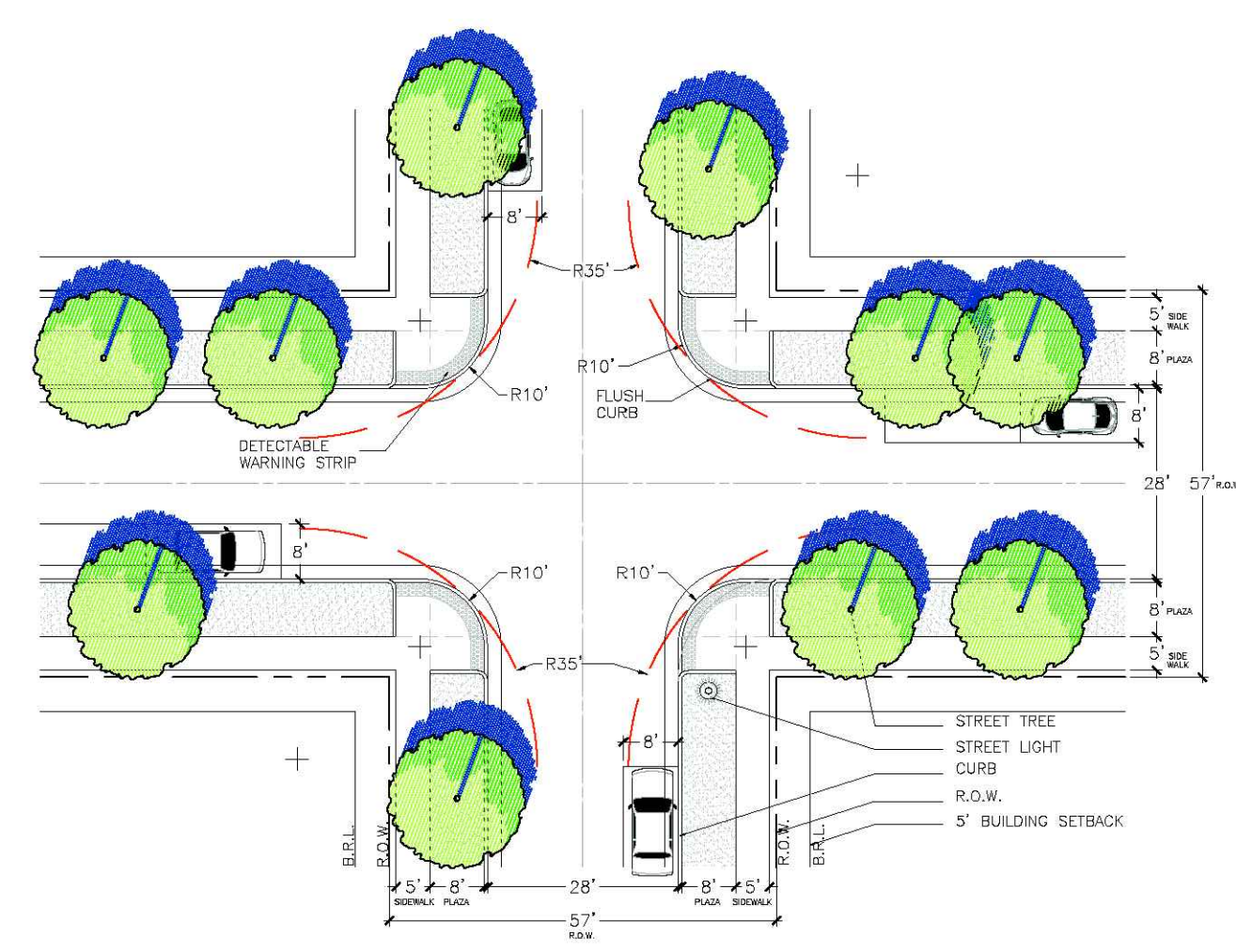
UNDIVIDED TYPICAL SECTION
VILLAGE ONE WAY STREET PARKING
49' PUBLIC R/W
WATERCRAFT FERRY AVENUE
NOT TO SCALE



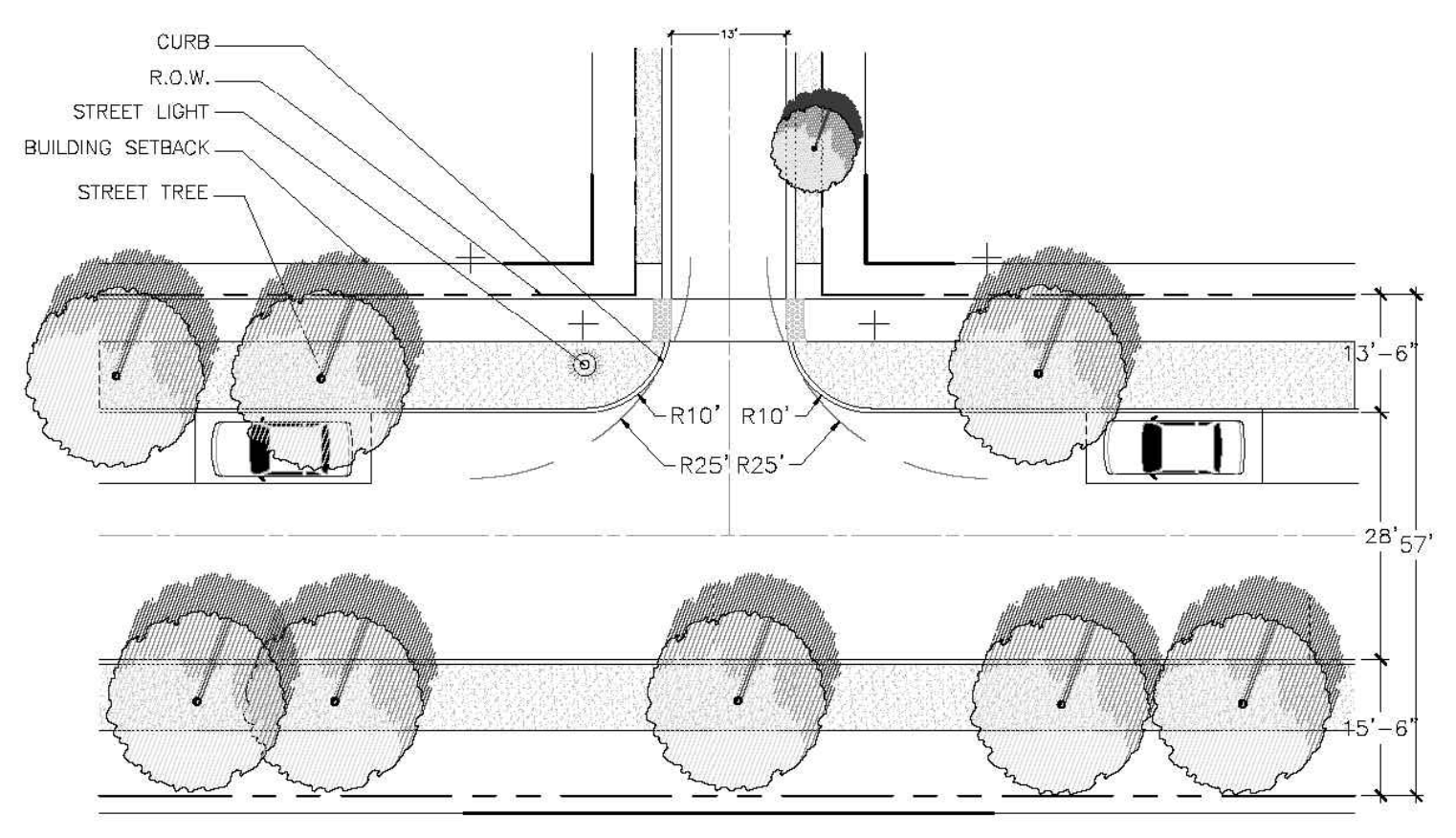
ALLEY TYPICAL SECTION
26' PUBLIC R/W
NOT TO SCALE



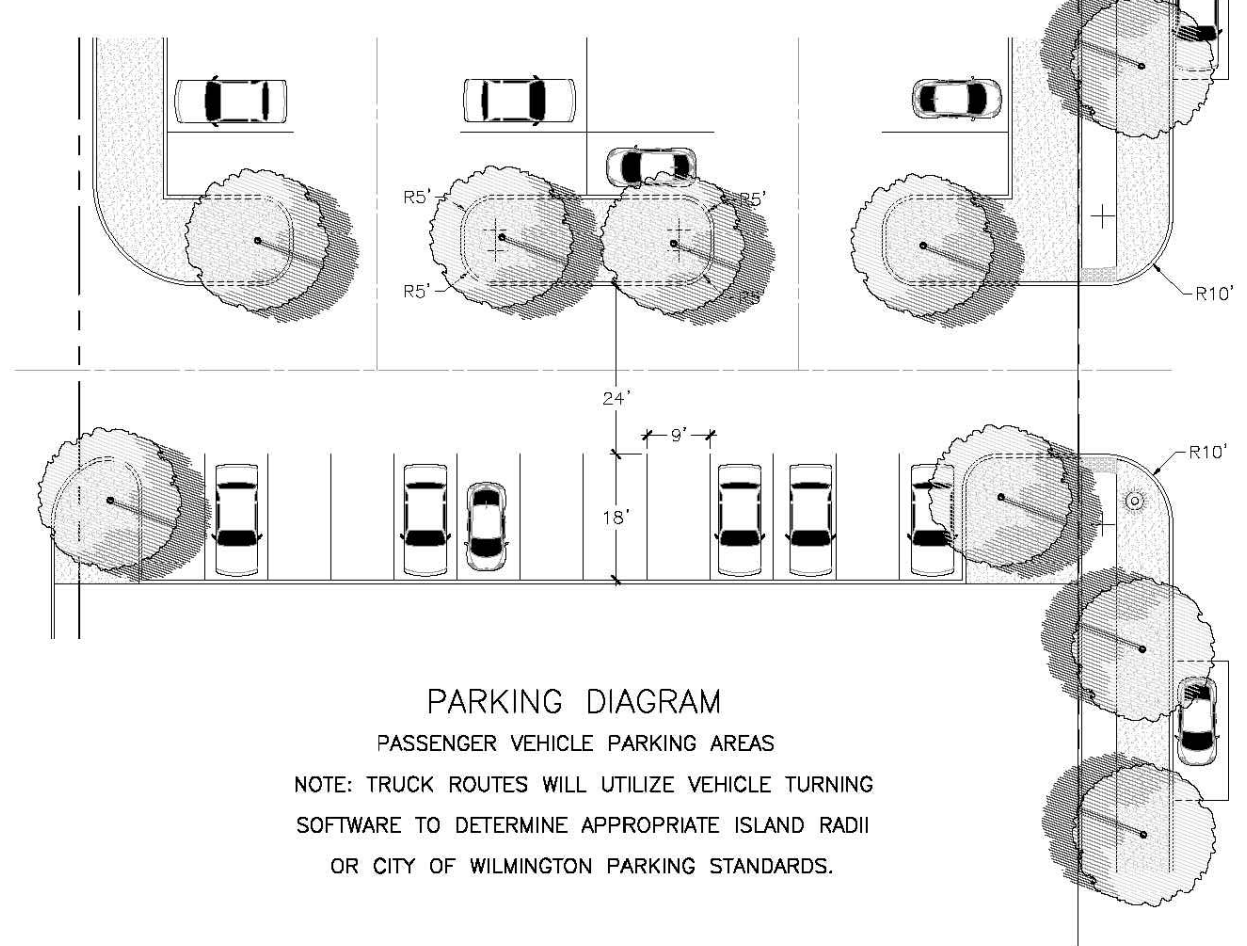
UNDIVIDED TYPICAL SECTION
VILLAGE STREET 1 W/ALTERNATE SHOULDER 4 + 6
52' PRIVATE R/W
NOT TO SCALE



INTERSECTION DIAGRAM
VILLAGE STREET AND
VILLAGE STREET



INTERSECTION DIAGRAM
VILLAGE (RESIDENTIAL)
AND ALLEY II



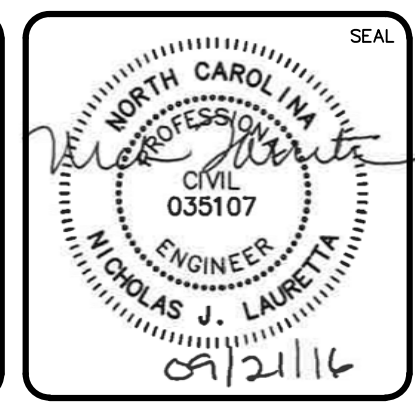
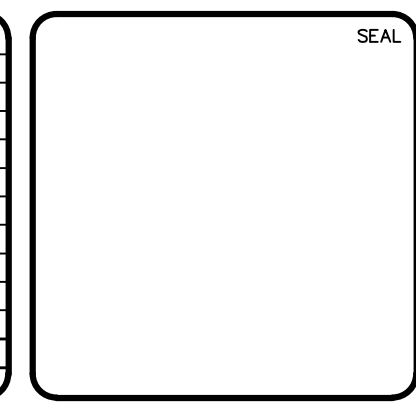
PARKING DIAGRAM
PASSENGER VEHICLE PARKING AREAS
NOTE: TRUCK ROUTES WILL UTILIZE VEHICLE TURNING SOFTWARE TO DETERMINE APPROPRIATE ISLAND RADIUS OR CITY OF WILMINGTON PARKING STANDARDS.

PAVEMENT SCHEDULE	
C1	2" ASPHALT CONCRETE SURFACE COARSE, TYPE SF9.5A AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
C2	3" ASPHALT CONCRETE SURFACE COARSE, TYPE S9.5B AT AN AVERAGE RATE OF 336 LBS. PER SQ. YD.
J1	6.0" COMPACTED ABC STONE BASE COURSE
J2	8.0" COMPACTED ABC STONE BASE COURSE
K	6.0" VERTICAL CURB
L	12.0" RIBBON CURB
U	COMPACTED SUBGRADE

* SEE SHEET CS-501 (14) FOR ADDITIONAL DETAILS AND SECTIONS FOR CURBING, PAVEMENT, STONE, AND SUBGRADE.

ILLUSTRATIVE INTERSECTION DIAGRAMS FROM DEVELOPMENT AGREEMENT

REVNO.	DESCRIPTIONS	DATE
4	CITY OF WILMINGTON ENGINEERING COMMENTS	09/21/2016
3	CITY OF WILMINGTON IRC COMMENTS	08/23/2016
2	SITE PLAN AND STORM DRAINAGE REVISIONS	07/19/2016
1	CIPRA COMMENTS	06/17/2016
0	ISSUED FOR CONSTRUCTION	03/17/2016



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RIVERLIGHTS

NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS MARINA VILLAGE
PHASE 1B

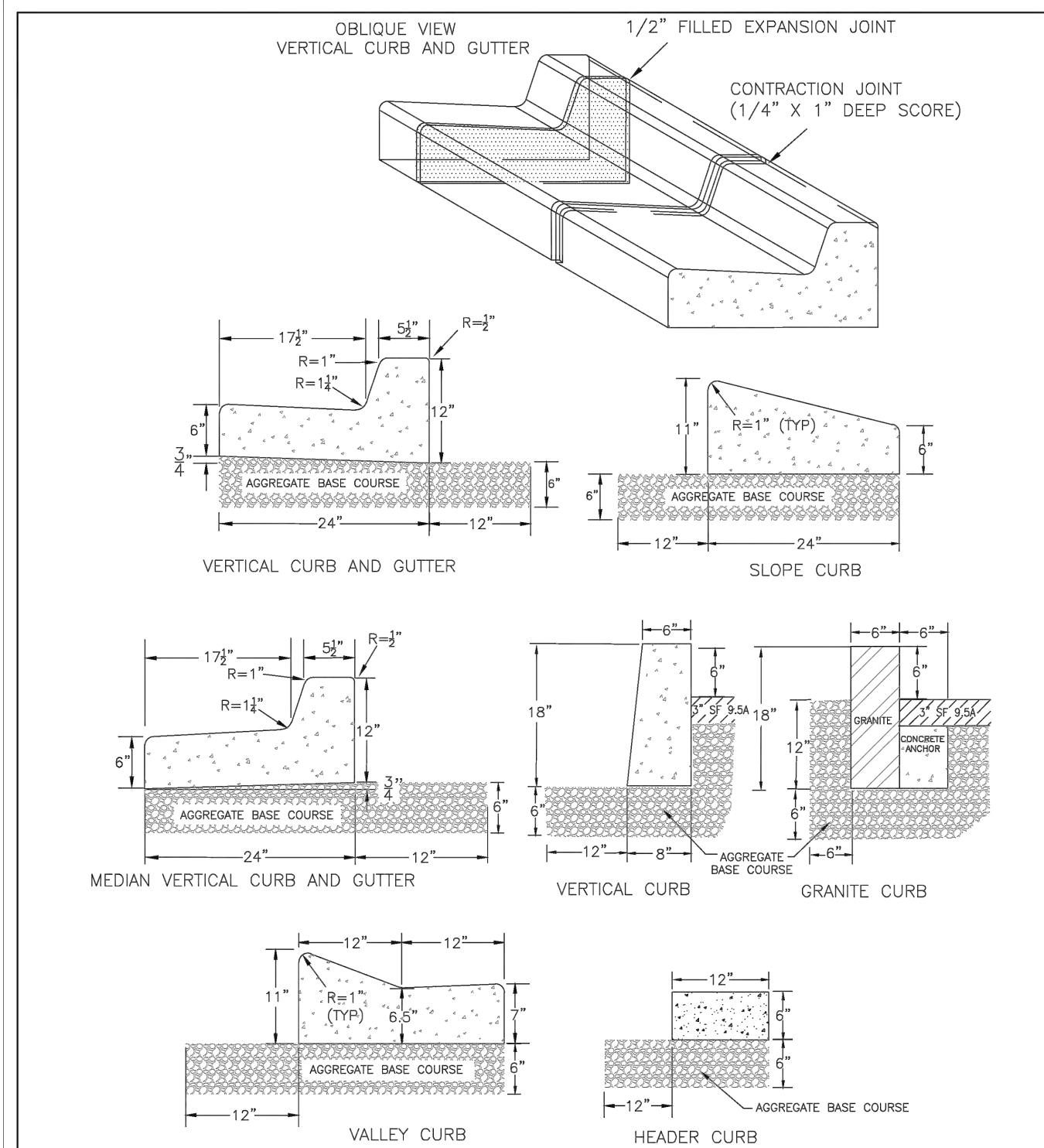
ROADWAY SECTIONS

DATE: 17MAR16
MCE PROJ. # 2735-0124
DRAWN: ALM
DESIGNED: NJL
CHECKED: KCBE
PROJ. MGR.: NJL

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

MAC FILE NUMBER: CT-301
DRAWING NUMBER: 24
REVISION: 0

STATUS: FINAL DESIGN
ISSUED FOR CONSTRUCTION

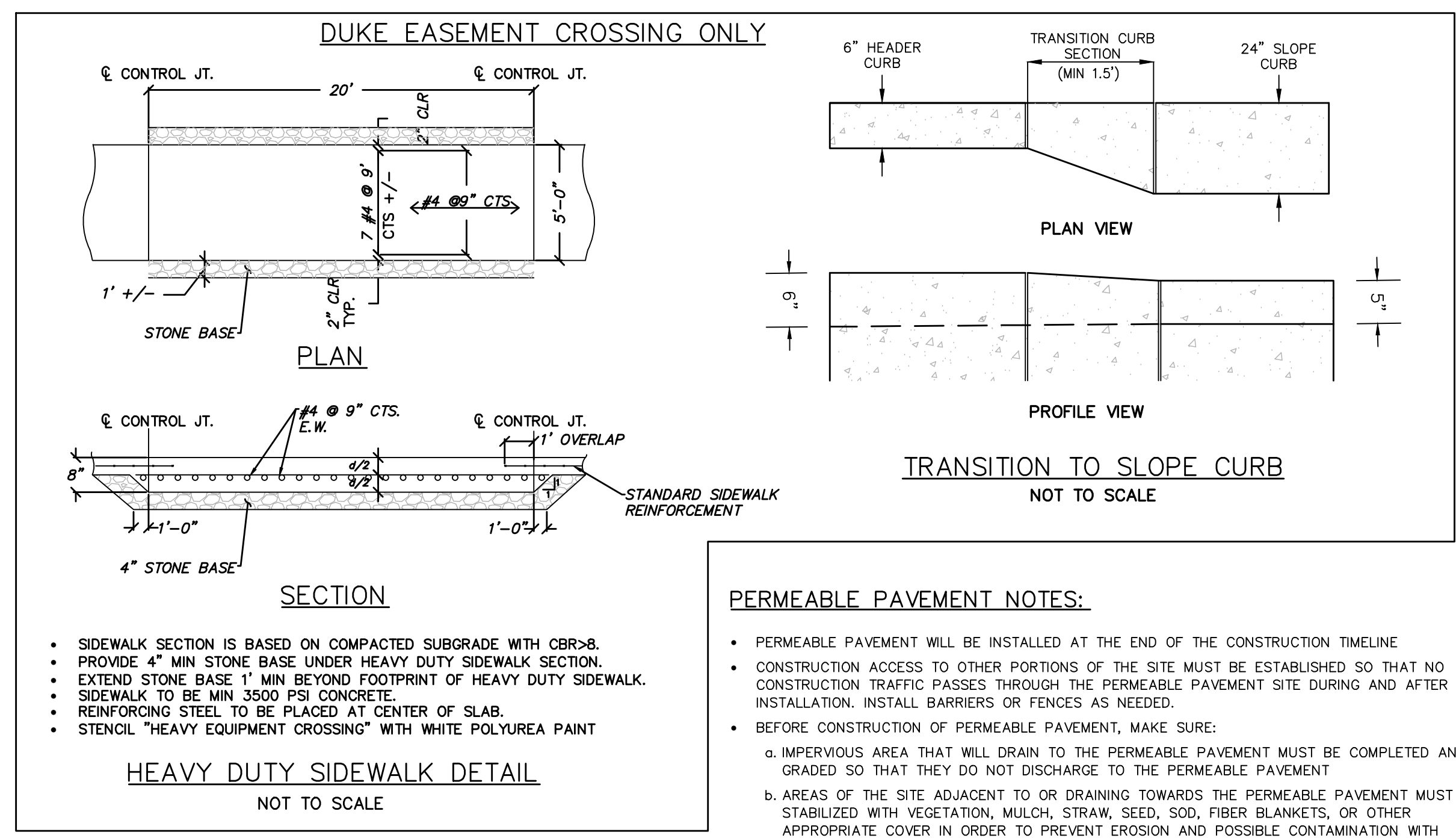


STANDARD DETAIL CURBING

DATE: AUGUST, 2011
 DRAWN: PBJ/SR
 CHECKED: DEC
 SCALE: NOT TO SCALE

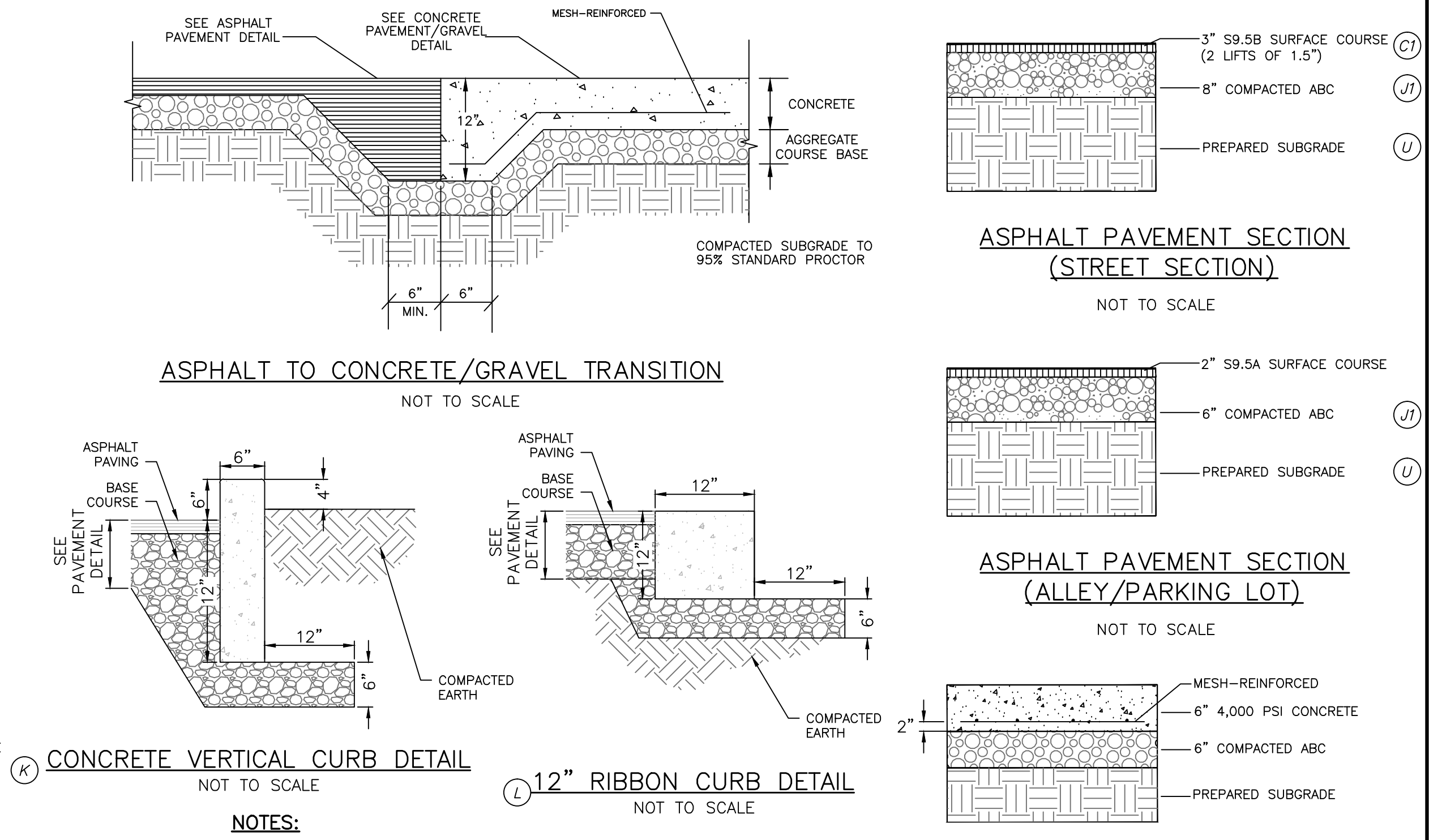
CITY OF WILMINGTON
 NORTH CAROLINA
 CITY OF WILMINGTON ENGINEERING
 PO BOX 1810
 WILMINGTON, N.C. 28402
 (910) 341-7807

SD 3-11



PERMEABLE PAVEMENT NOTES:

- PERMEABLE PAVEMENT WILL BE INSTALLED AT THE END OF THE CONSTRUCTION TIMELINE.
- CONSTRUCTION ACCESS TO OTHER PORTIONS OF THE SITE MUST BE ESTABLISHED SO THAT NO CONSTRUCTION TRAFFIC PASSES THROUGH THE PERMEABLE PAVEMENT SITE DURING AND AFTER INSTALLATION. INSTALL BARRIERS OR FENCES AS NEEDED.
- BEFORE CONSTRUCTION OF PERMEABLE PAVEMENT, MAKE SURE:
 - IMPERVIOUS AREA THAT WILL DRAIN TO THE PERMEABLE PAVEMENT MUST BE COMPLETED AND GRADED SO THAT THEY DO NOT DISCHARGE TO THE PERMEABLE PAVEMENT
 - AREAS OF THE SITE ADJACENT TO OR DRAINING TOWARDS THE PERMEABLE PAVEMENT MUST BE STABILIZED WITH VEGETATION, MULCH, STRAW, SEED, SOIL, FIBER BLANKETS, OR OTHER APPROPRIATE COVER IN ORDER TO PREVENT EROSION AND POSSIBLE CONTAMINATION WITH SEDIMENT.
 - THE FORECAST SHOULD BE FOR A WINDOW OF DRY WEATHER TO PREVENT EXCESS COMPACTION OR SMEARING OF THE SUBGRADE WHILE IT IS EXPOSED.
- IN ORDER TO PRESERVE SUBGRADE INFILTRATION RATES:
 - DO NOT ALLOW EQUIPMENT TO CROSS THE PAVEMENT AREA
 - USE EQUIPMENT WITH TRACKS RATHER THAN TIRES TO MINIMIZE SOIL COMPACTION
 - THE FINAL SUBGRADE SLOPE SHALL NOT EXCEED 0.5%
- INSPECT ALL #57 STONE TO INSURE THAT IT IS CLEAN, FREE OF FINES, AND CONFORMS TO THE SPECIFICATIONS IN THE DESIGN PLANS. IF AGGREGATED BECOME CONTAMINATED WITH SEDIMENT, THEN IT SHALL BE REPLACED WITH CLEAN MATERIALS.
- IF THE EXCAVATED SUBGRADE SURFACE IS SUBJECT TO RAINFALL BEFORE THE PLACEMENT OF THE AGGREGATE BASE, THE RESULTING SURFACE CRUST MUST BE SCARIFIED BREAK UP THE CRUST
- ALL AGGREGATE SHOULD BE SPREAD, NOT DUMPED, BY A FRONT END LOADER



ASPHALT PAVEMENT SECTION (STREET SECTION)
NOT TO SCALE

ASPHALT TO CONCRETE/GRAVEL TRANSITION
NOT TO SCALE

CONCRETE VERTICAL CURB DETAIL
NOT TO SCALE

12" RIBBON CURB DETAIL
NOT TO SCALE

CONCRETE PAVEMENT SECTION (DUMPSTER PAD)
NOT TO SCALE

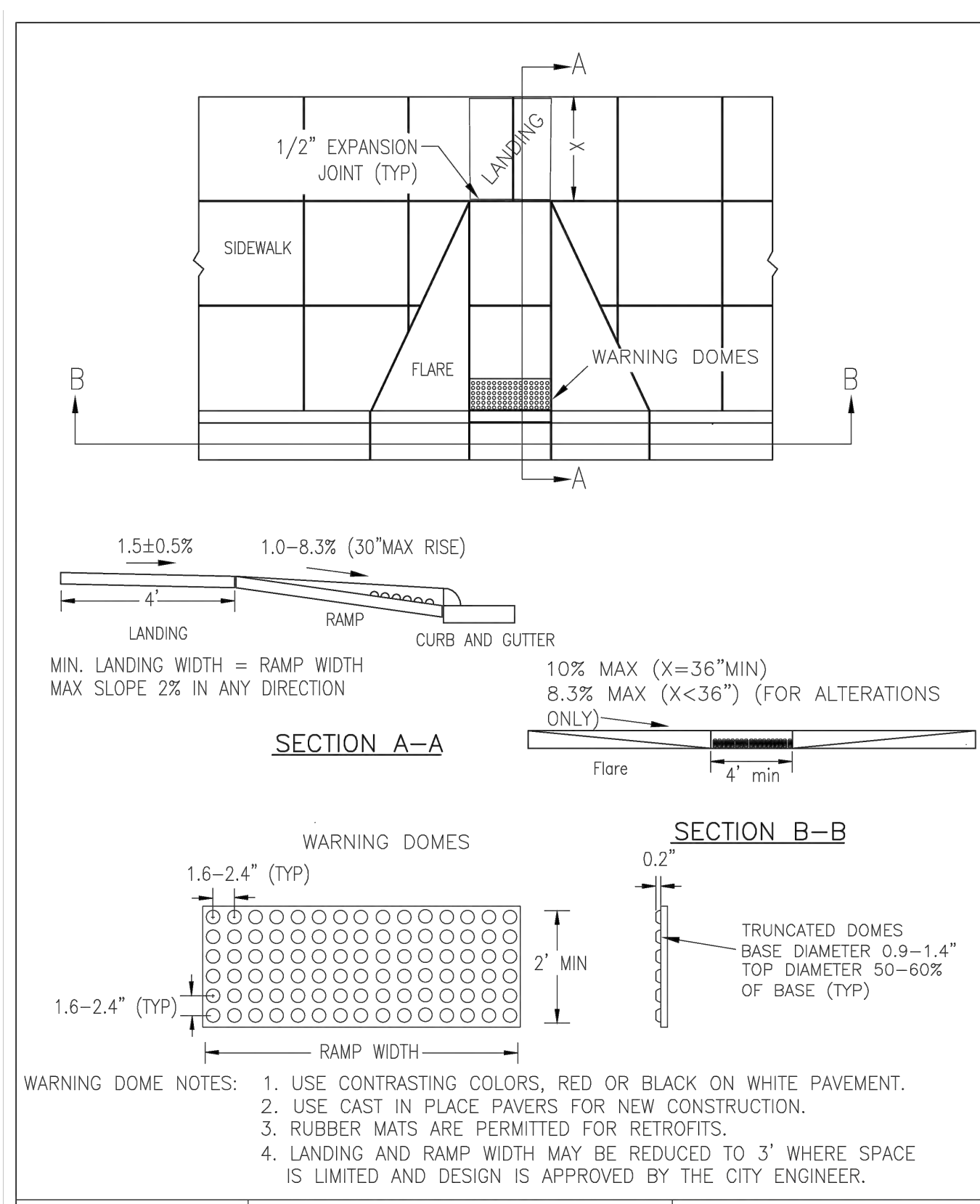
GRAVEL PARKING SECTION (PARKING LOT)
NOT TO SCALE

PERVIOUS PAVEMENT SECTION (PARKING STALLS)
NOT TO SCALE

CONCRETE SIDEWALK DETAIL
NOT TO SCALE

SIDEWALK ADJACENT TO GRASSED AREAS AND PLANTERS
NOT TO SCALE

CONCRETE SIDEWALK DETAIL
NOT TO SCALE

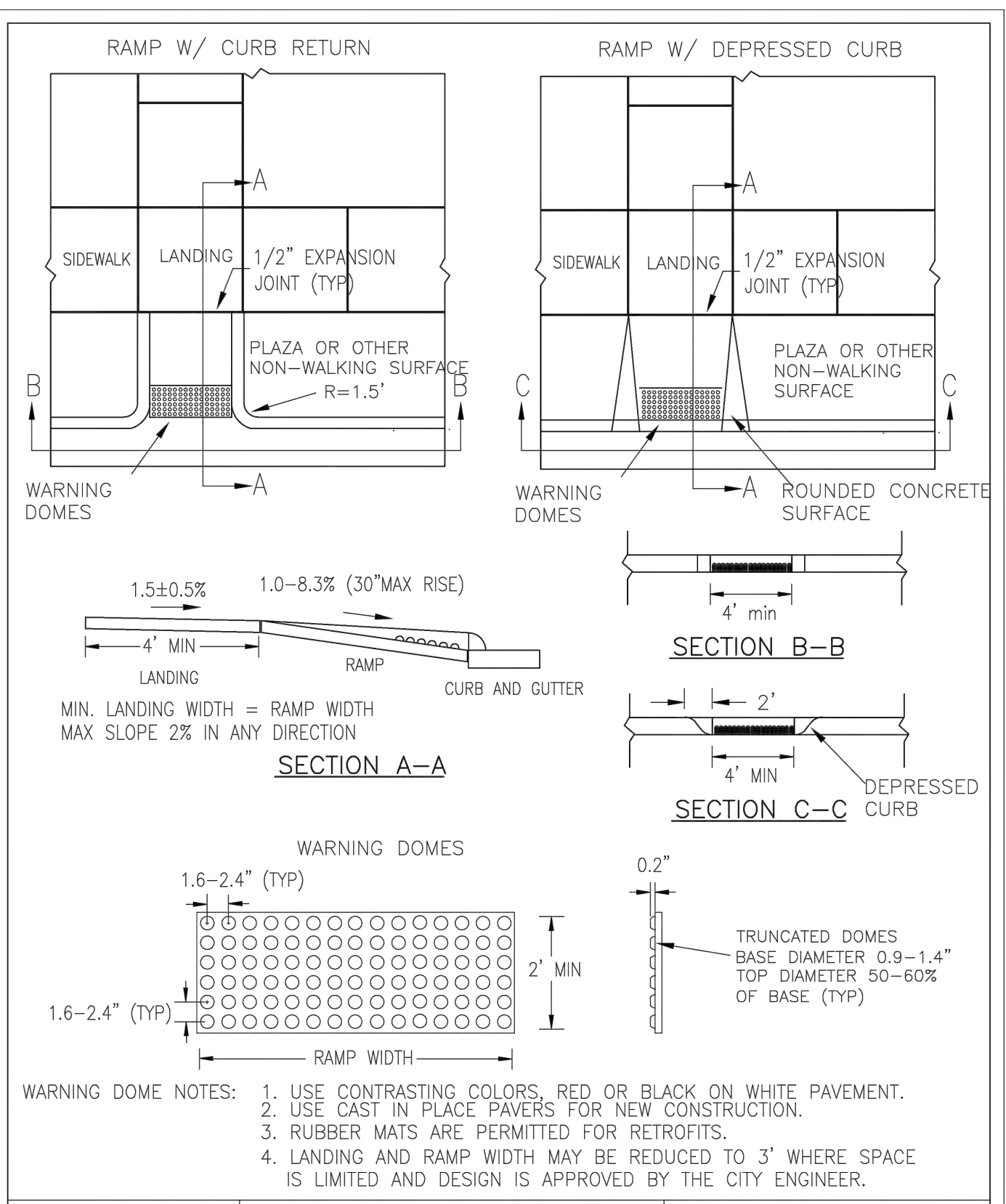


STANDARD DETAIL PERPENDICULAR CURB RAMP ADJACENT TO WALKING SURFACE

DATE: DECEMBER, 2010
 DRAWN: PBJ/SR
 CHECKED: DEC
 SCALE: NOT TO SCALE

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SD 3-07

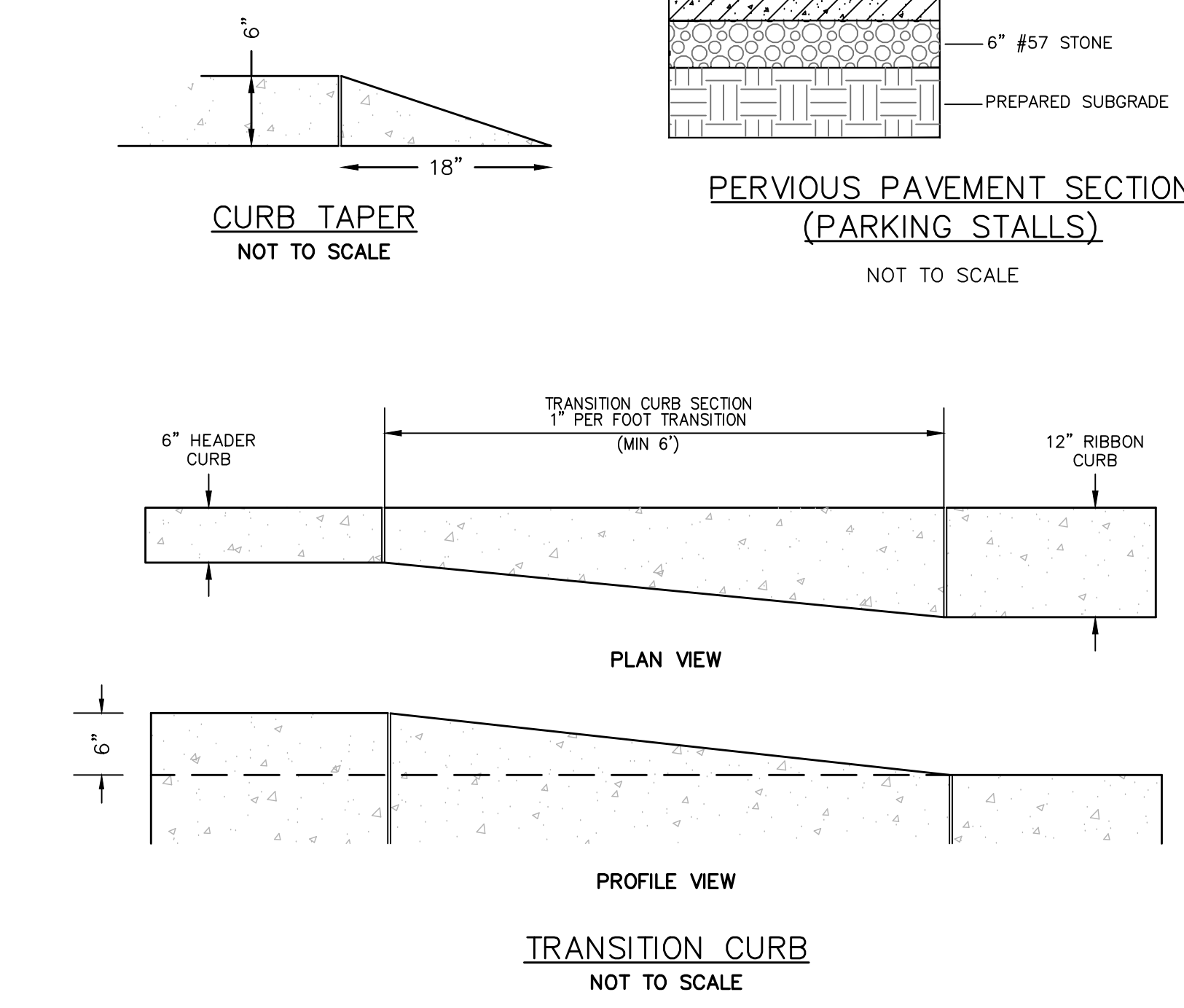


STANDARD DETAIL PERPENDICULAR CURB RAMP ADJACENT TO PLAZA

DATE: DECEMBER, 2010
 DRAWN: PBJ/SR
 CHECKED: DEC
 SCALE: NOT TO SCALE

CITY OF WILMINGTON
 NORTH CAROLINA
 CITY OF WILMINGTON ENGINEERING
 PO BOX 1810
 WILMINGTON, N.C. 28402
 (910) 341-7807

SD3-08



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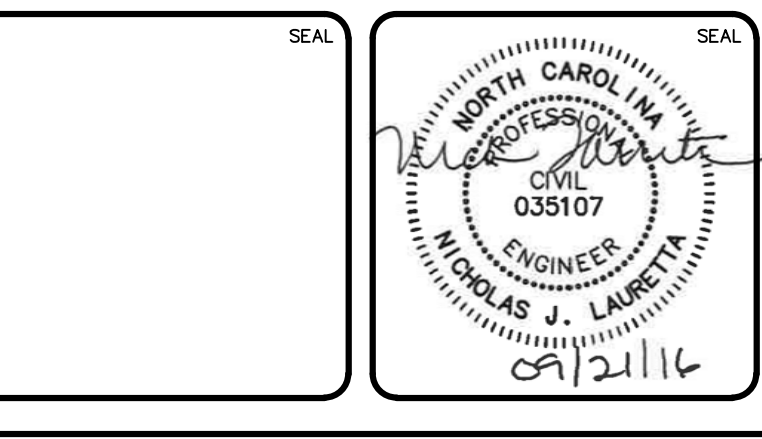
Approved Construction Plan

Name _____ Date _____

Planning _____
 Traffic _____
 Fire _____

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

REVNO.	DESCRIPTIONS REVISIONS	DATE
4	CITY OF WILMINGTON ENGINEERING COMMENTS	09/21/2016
3	CITY OF WILMINGTON TRC COMMENTS	08/23/2016
2	SITE PLAN AND STORM DRAINAGE REVISIONS	07/19/2016
1	CFRVA COMMENTS	06/17/2016
0	ISSUED FOR CONSTRUCTION	03/17/2016



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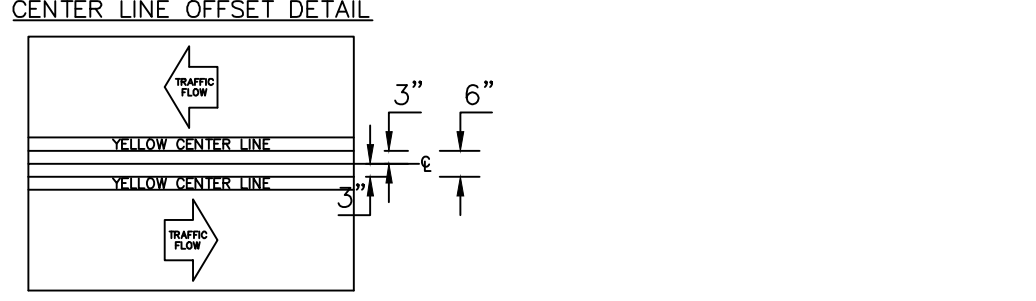
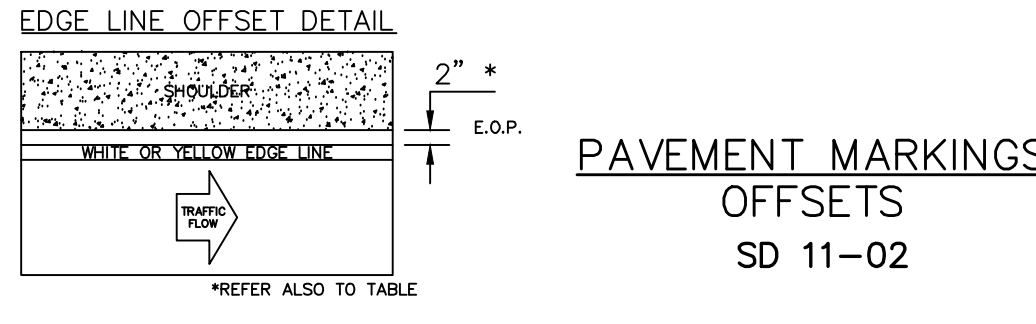
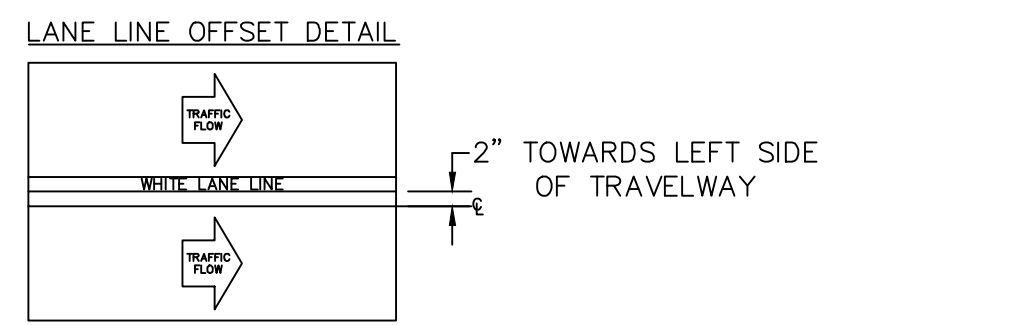
RIVERLIGHTS

NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS MARINA VILLAGE PHASE 1B

SITE DETAILS

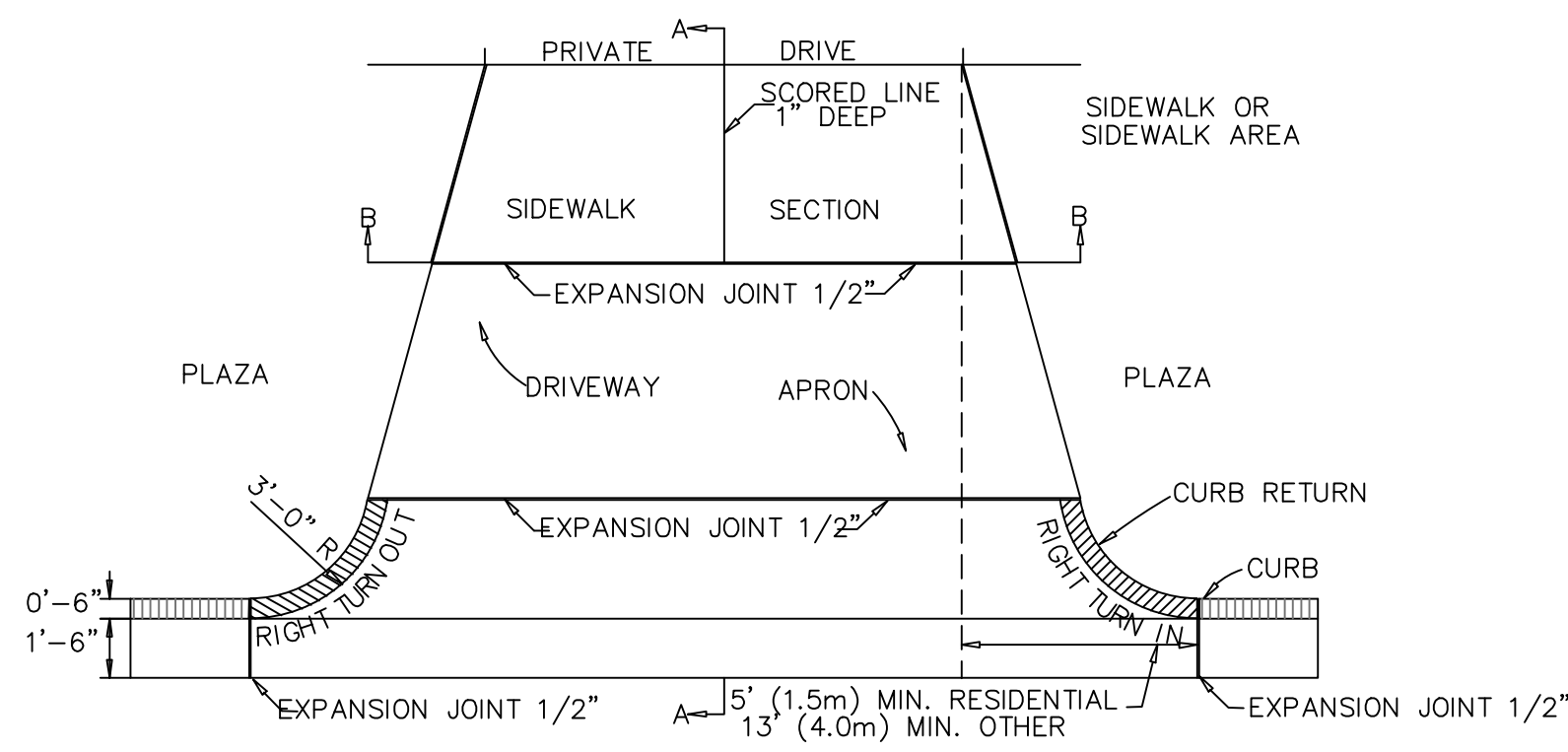
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DRAWN: ALM	VERTICAL: N/A	
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PROJ. MGR.: NJL		
STATUS: FINAL DESIGN		REVISION: 0
ISSUED FOR CONSTRUCTION		



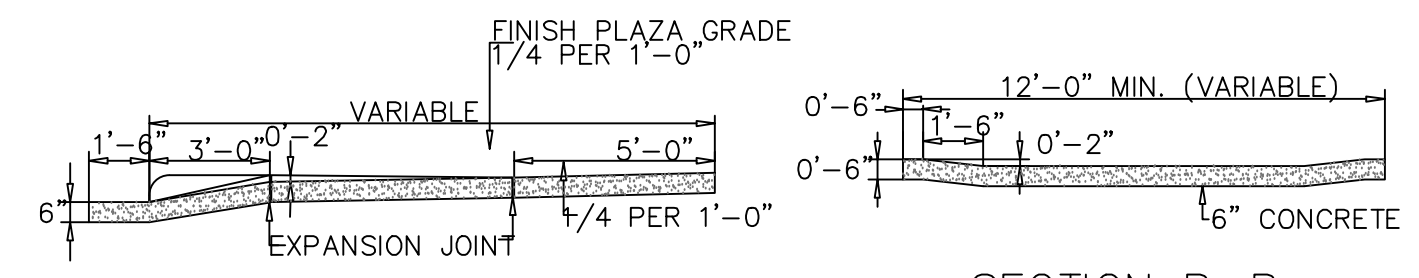
PAVEMENT MARKINGS OFFSETS SD 11-02

TABLE 1
EDGE LINE OFFSETS FOR 2-LANE, 2-WAY ROADWAYS WITH UN-PAVED SHOULDERS

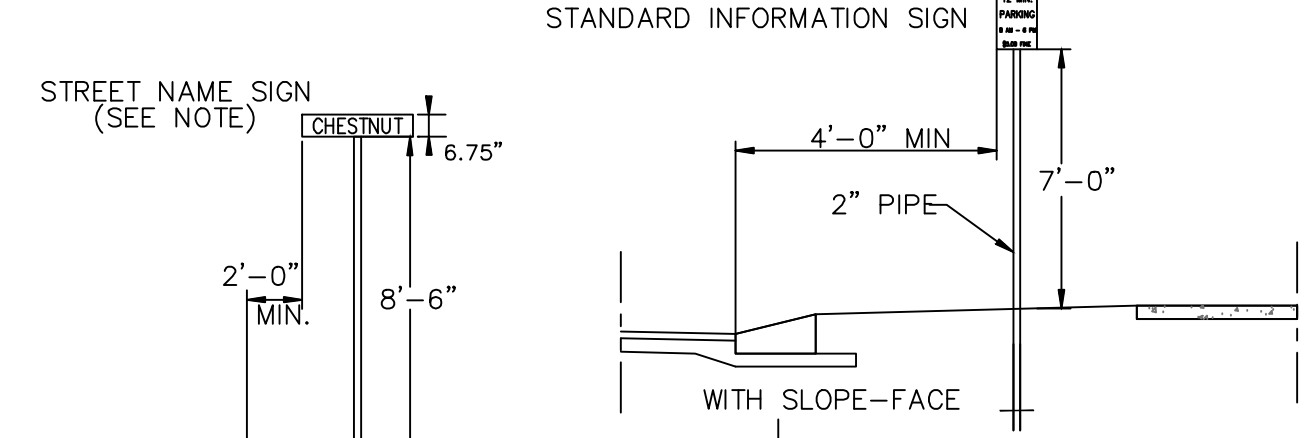
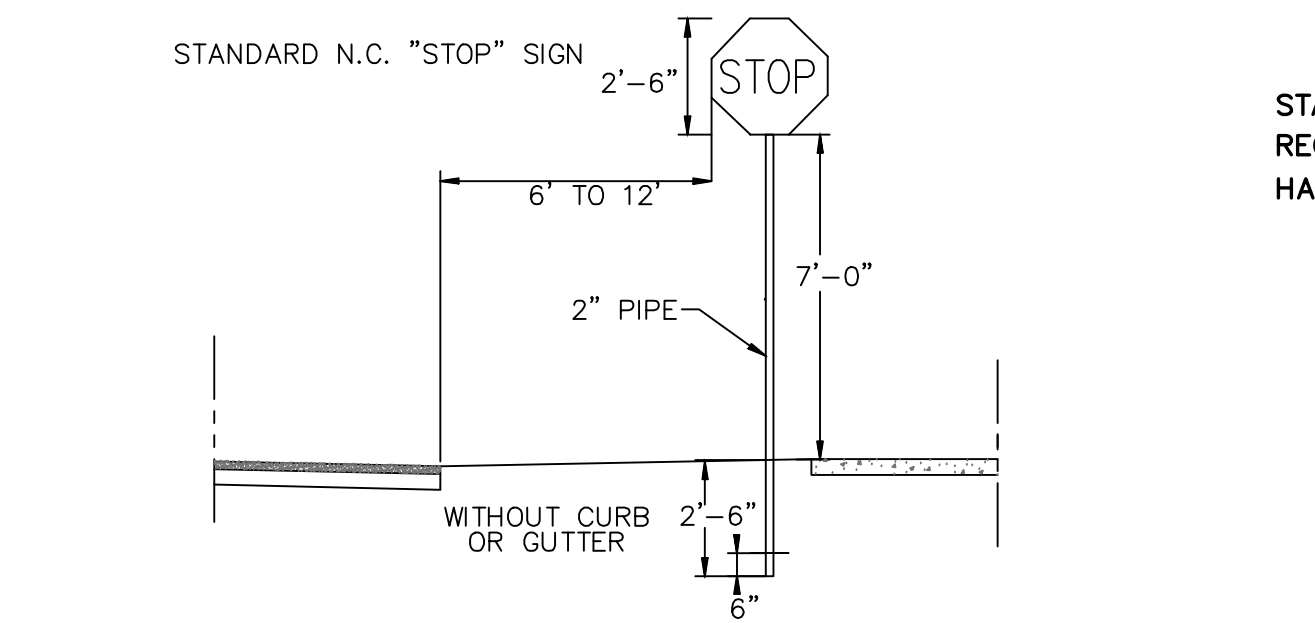
WIDTH OF TRAVEL PAVEMENT	MAX. EDGE LINE OFFSET FROM E. O. P.	MINIMUM LANE WIDTH
16' - 20'	2'	8' - 10'
22'	2'	11'
24'	1'	11'
26'	2'	11'
28'	2'	12'
30'	3'	12'
32'	4'	12'



PAVEMENT PLAN

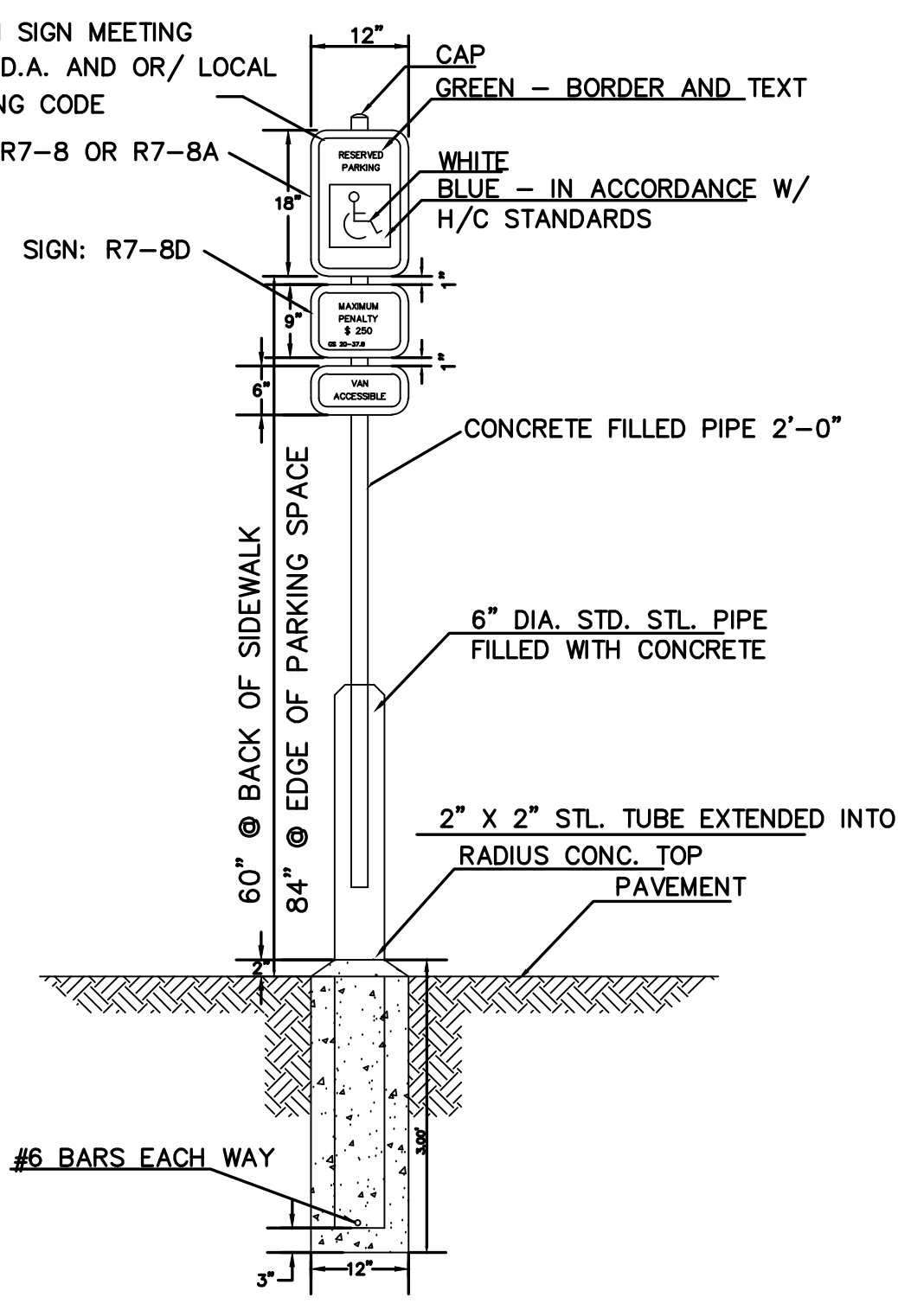


STANDARD DRIVEWAY DETAIL SD 8-02 NOT TO SCALE

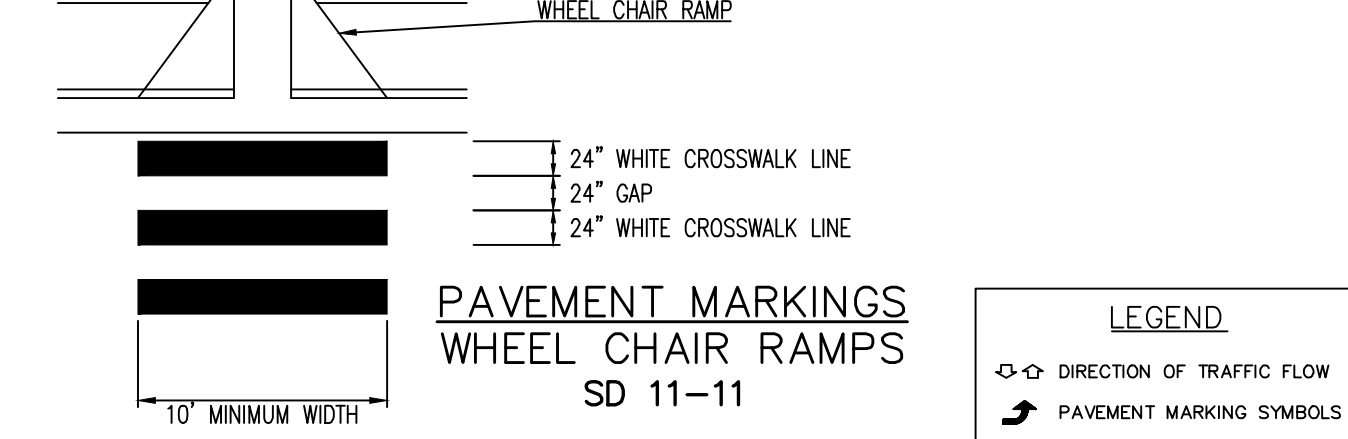
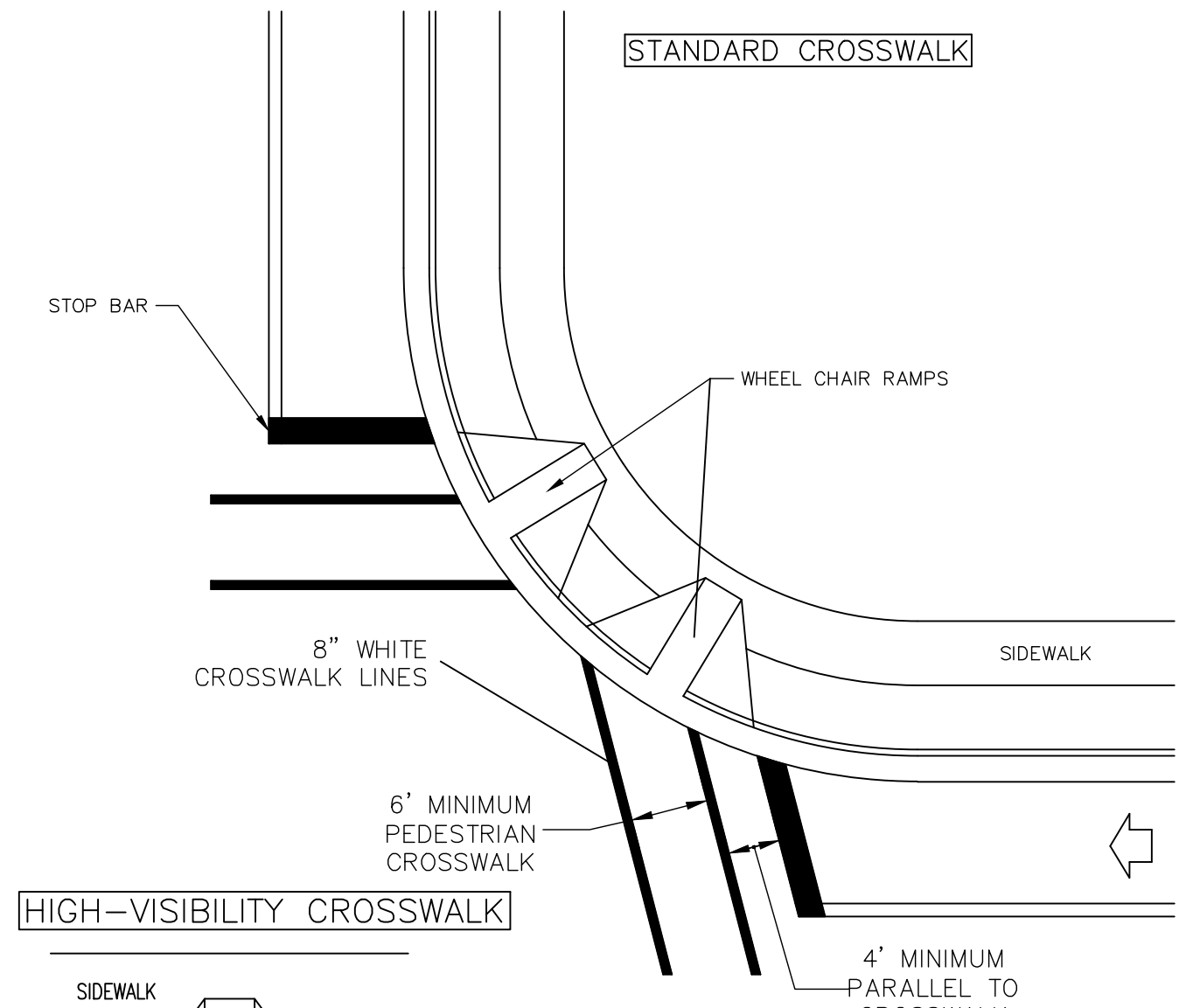


- NOTES:
- STREET NAME SIGNS SHALL BE A MINIMUM OF 6" EXTRUDED ALUMINUM BLADES USING A MINIMUM OF 4" C SERIES LETTERING IN REFLECTIVE SILVER & REFLECTIVE GREEN BACKGROUND.
 - ALL REFLECTIVE SIGNS SHALL BE MADE OF ENGINEERING GRADE OR HIGH INTENSITY GRADE REFLECTIVE SHEETING OR APPROVED EQUIVALENT.
 - 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.

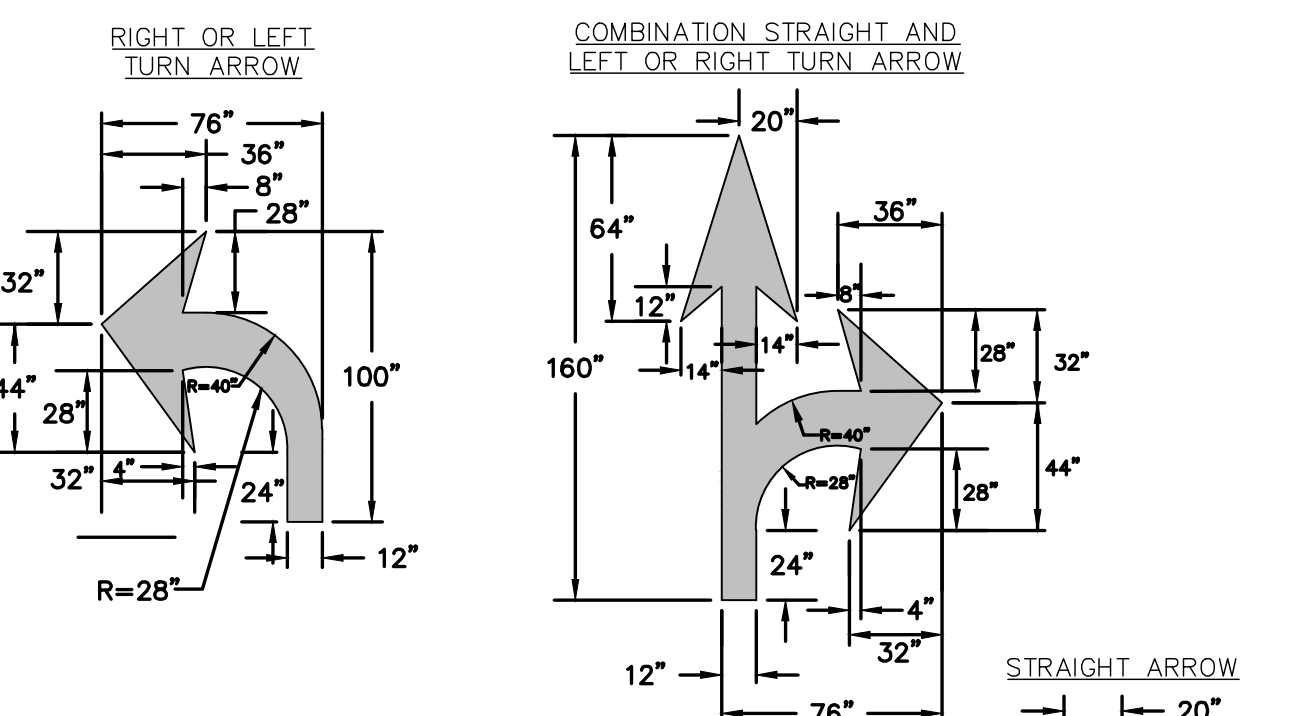
STANDARD SIGN INSTALLATION LOCATION SD 15-04 NOT TO SCALE



HANDICAP PARKING SIGN NOT TO SCALE

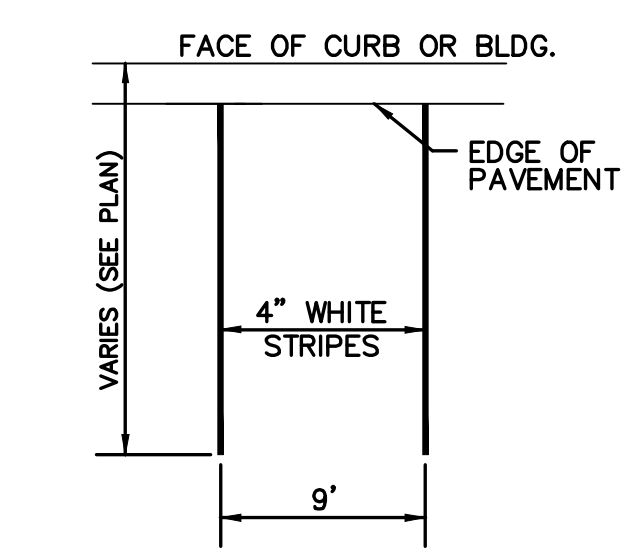


LEGEND
 ↗ DIRECTION OF TRAFFIC FLOW
 ↘ PAVEMENT MARKING SYMBOLS

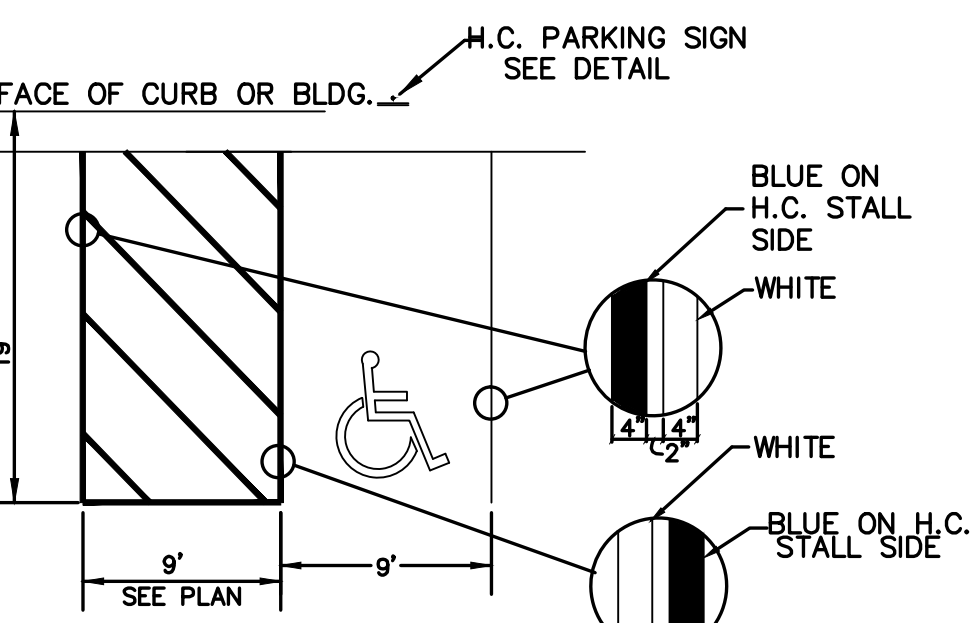


PAVEMENT MARKINGS ARROW SYMBOLS SD 11-03

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



TYPICAL PARKING STALL NOT TO SCALE



HANDICAPPED PARKING STALL NOT TO SCALE

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'-FT. 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'-FT, 4-IN.), 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.
- 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.

SD 8-09

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

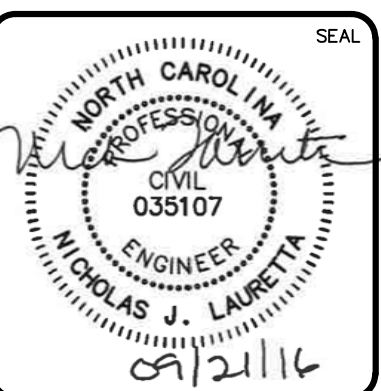
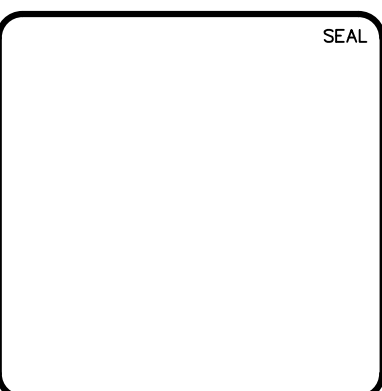
1 inch

Approved Construction Plan

Name	Date
Planning	
Traffic	
Fire	

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

REVNO.	DESCRIPTIONS REVISIONS	DATE
4	CITY OF WILMINGTON ENGINEERING COMMENTS	09/21/2016
3	CITY OF WILMINGTON TRC COMMENTS	08/23/2016
2	SITE PLAN AND STORM DRAINAGE REVISIONS	07/19/2016
1	CITY COMMENTS	06/11/2016
0	ISSUED FOR CONSTRUCTION	03/17/2016

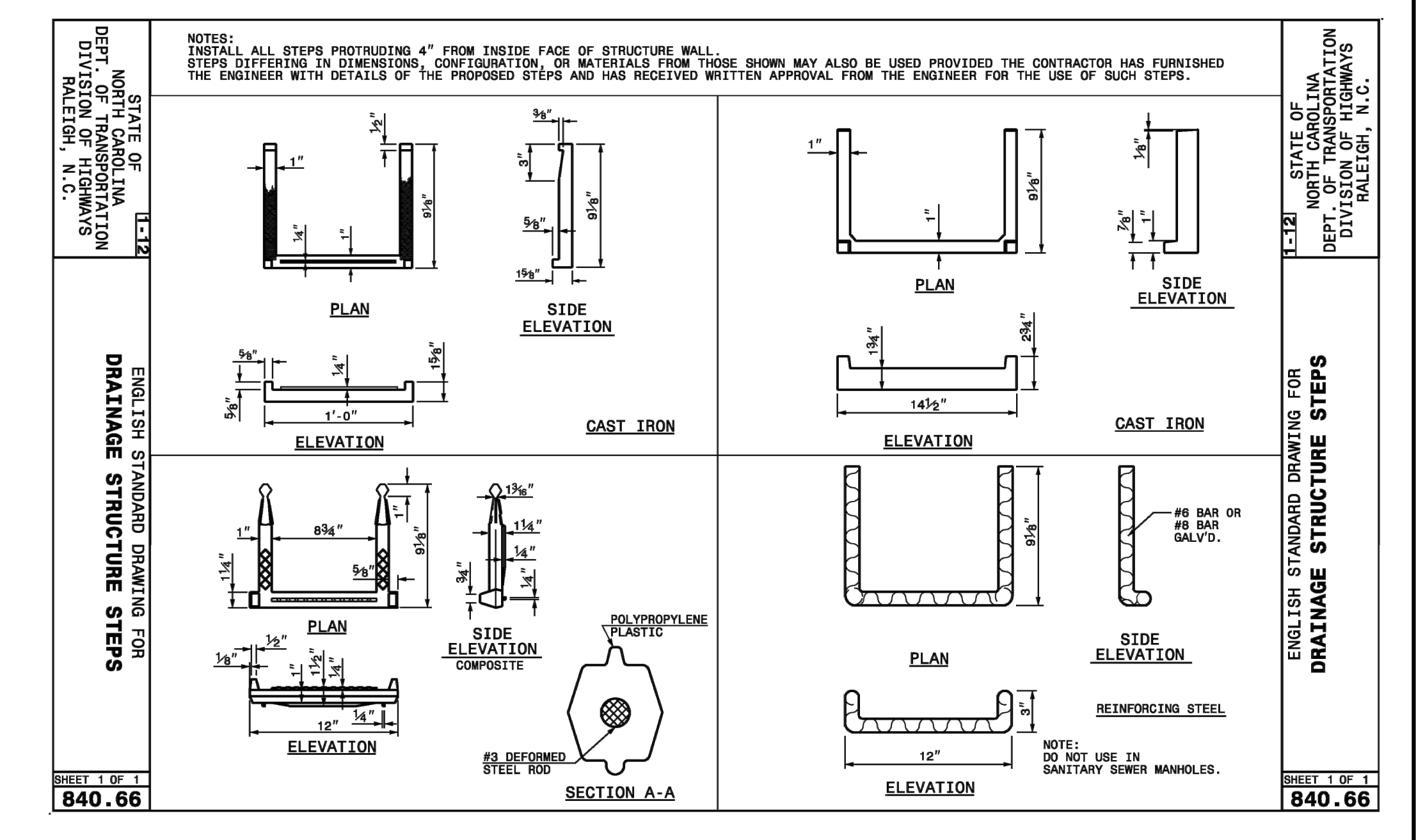
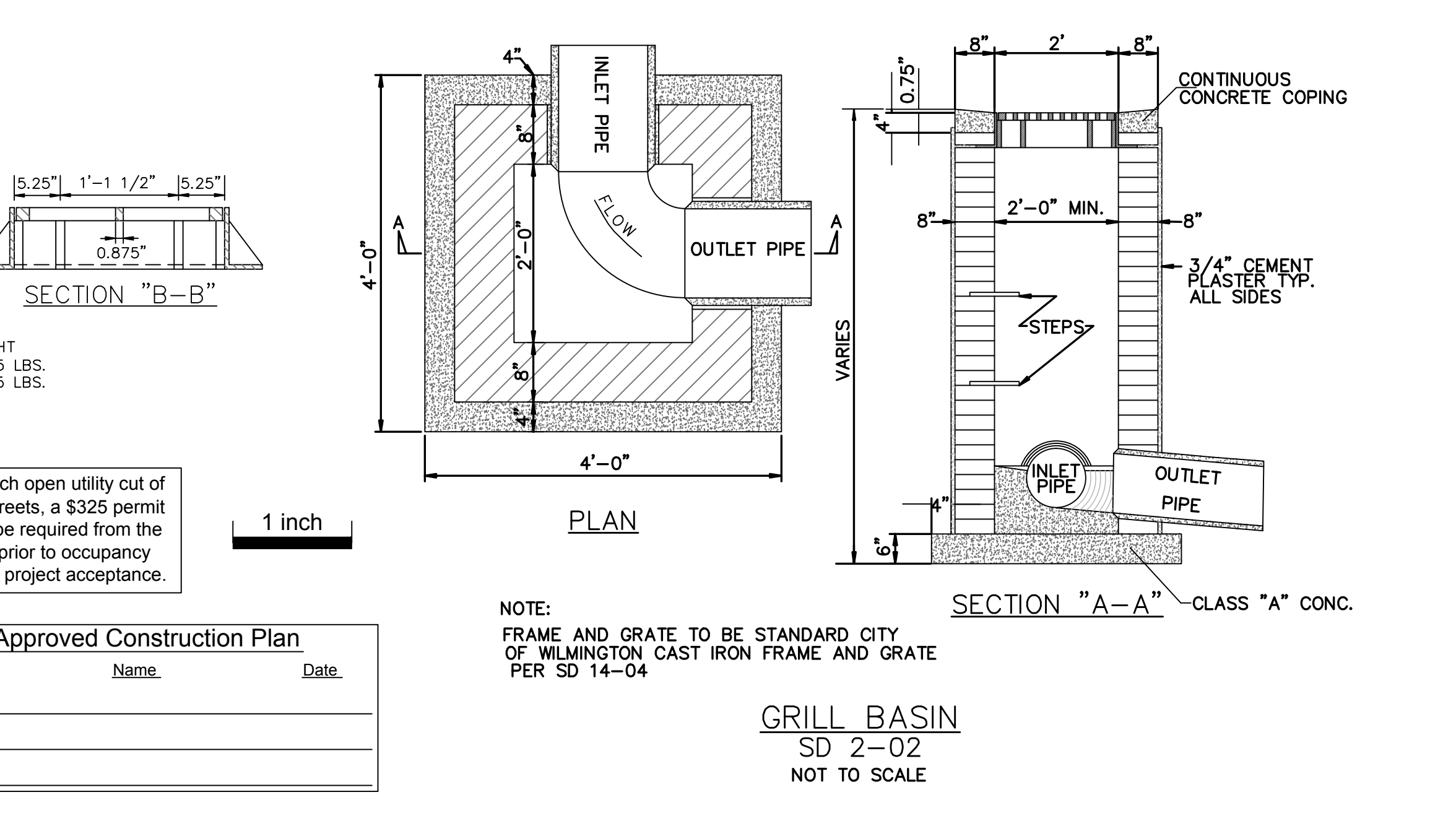
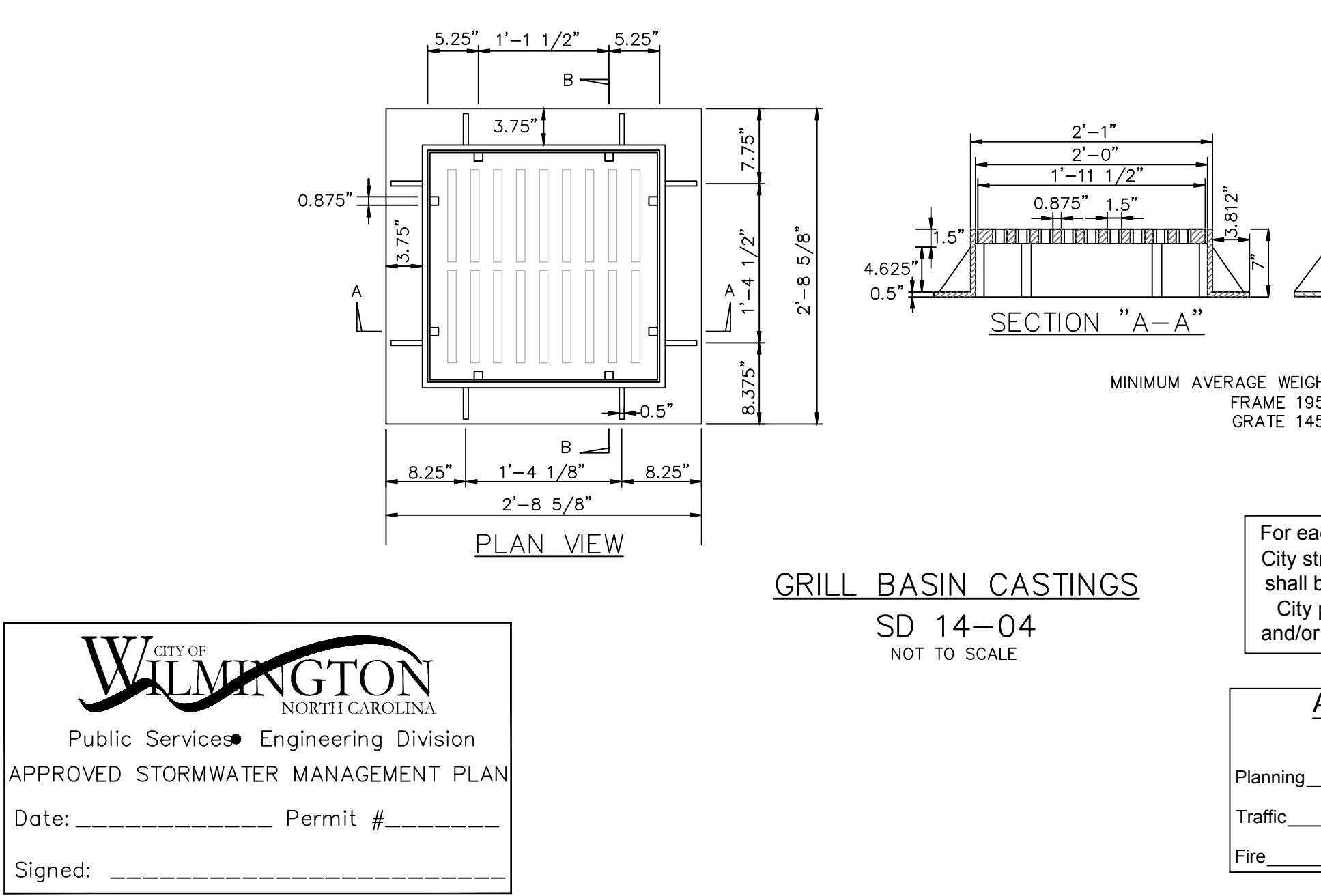
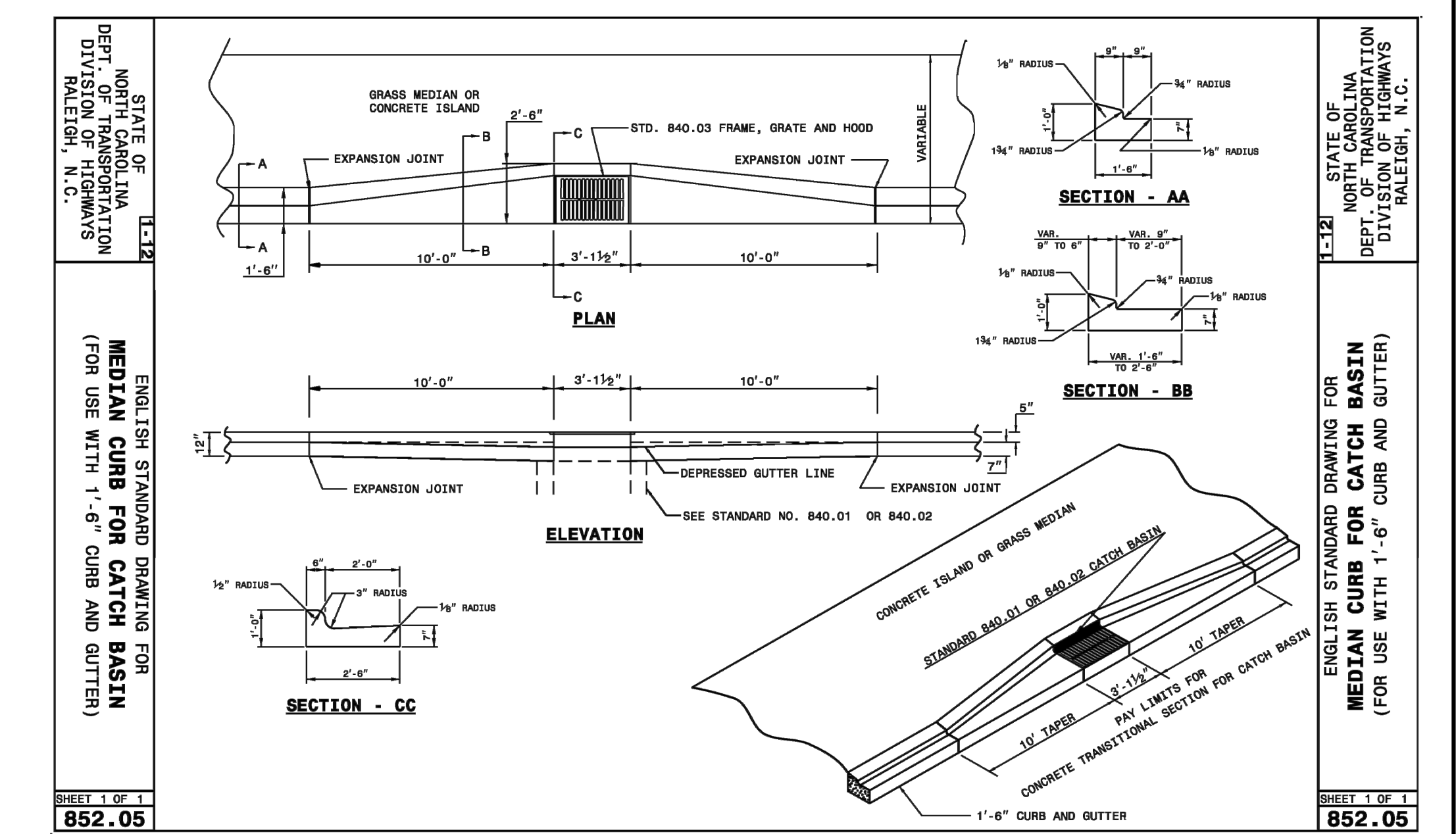
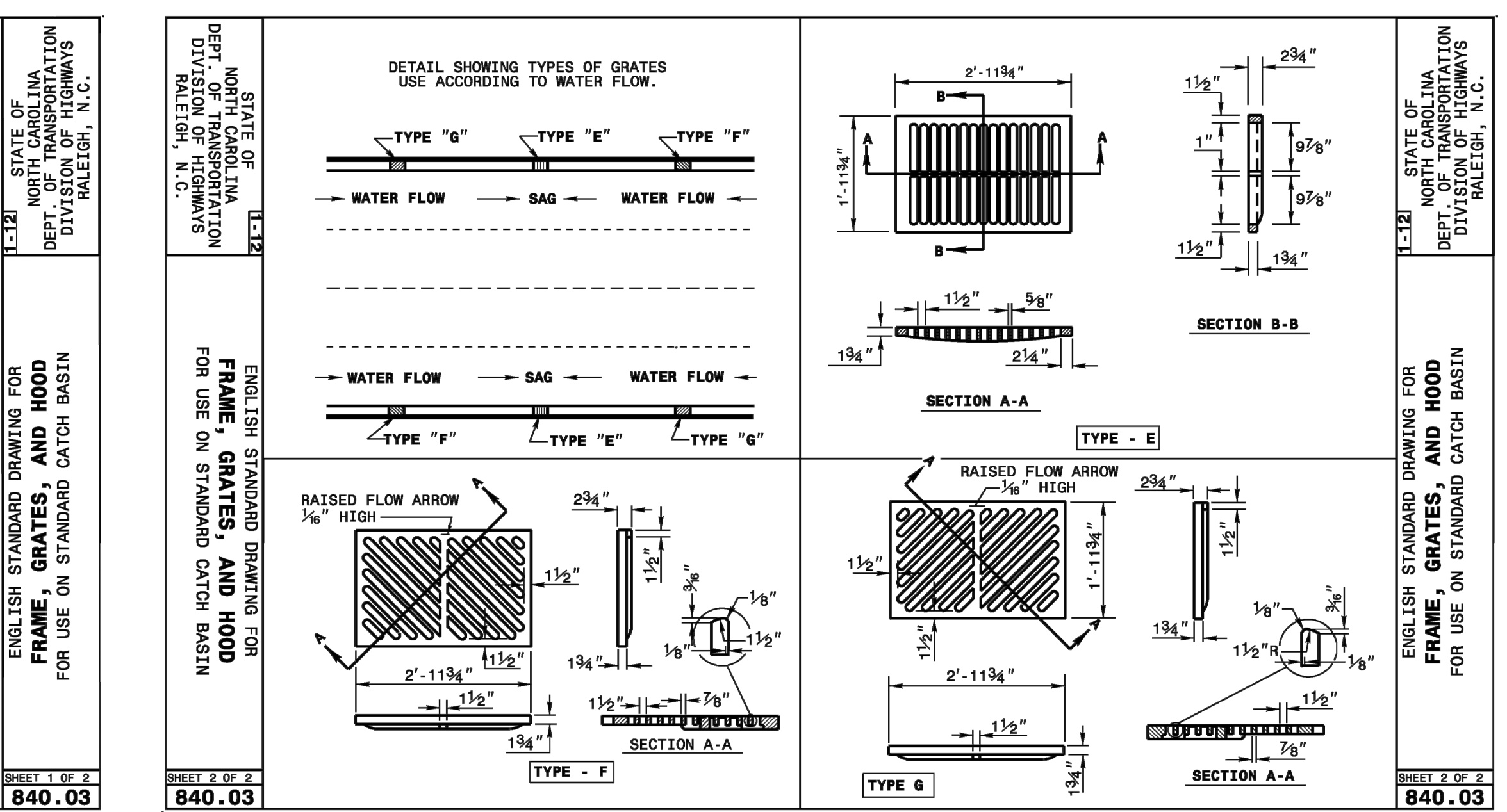
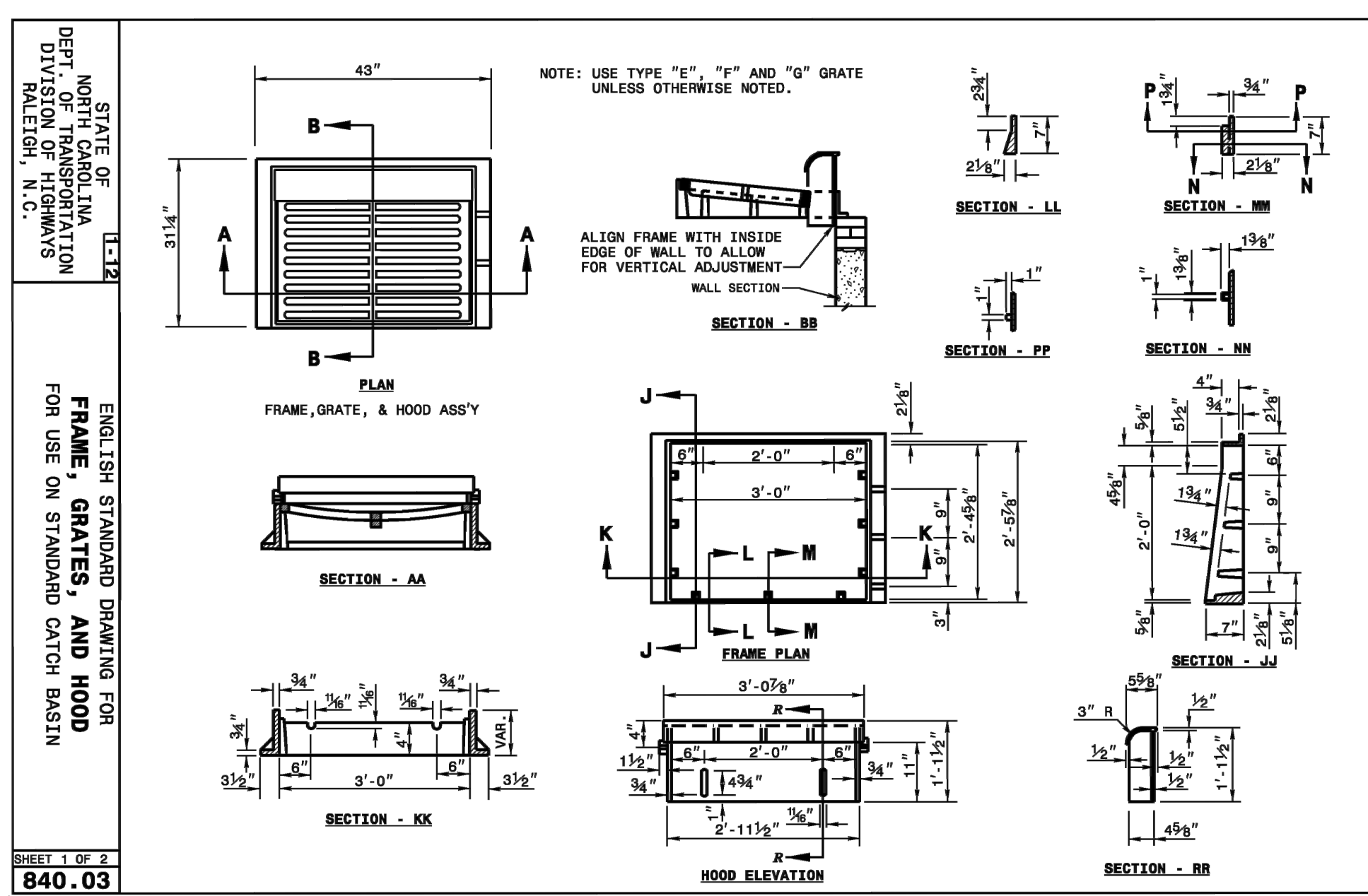
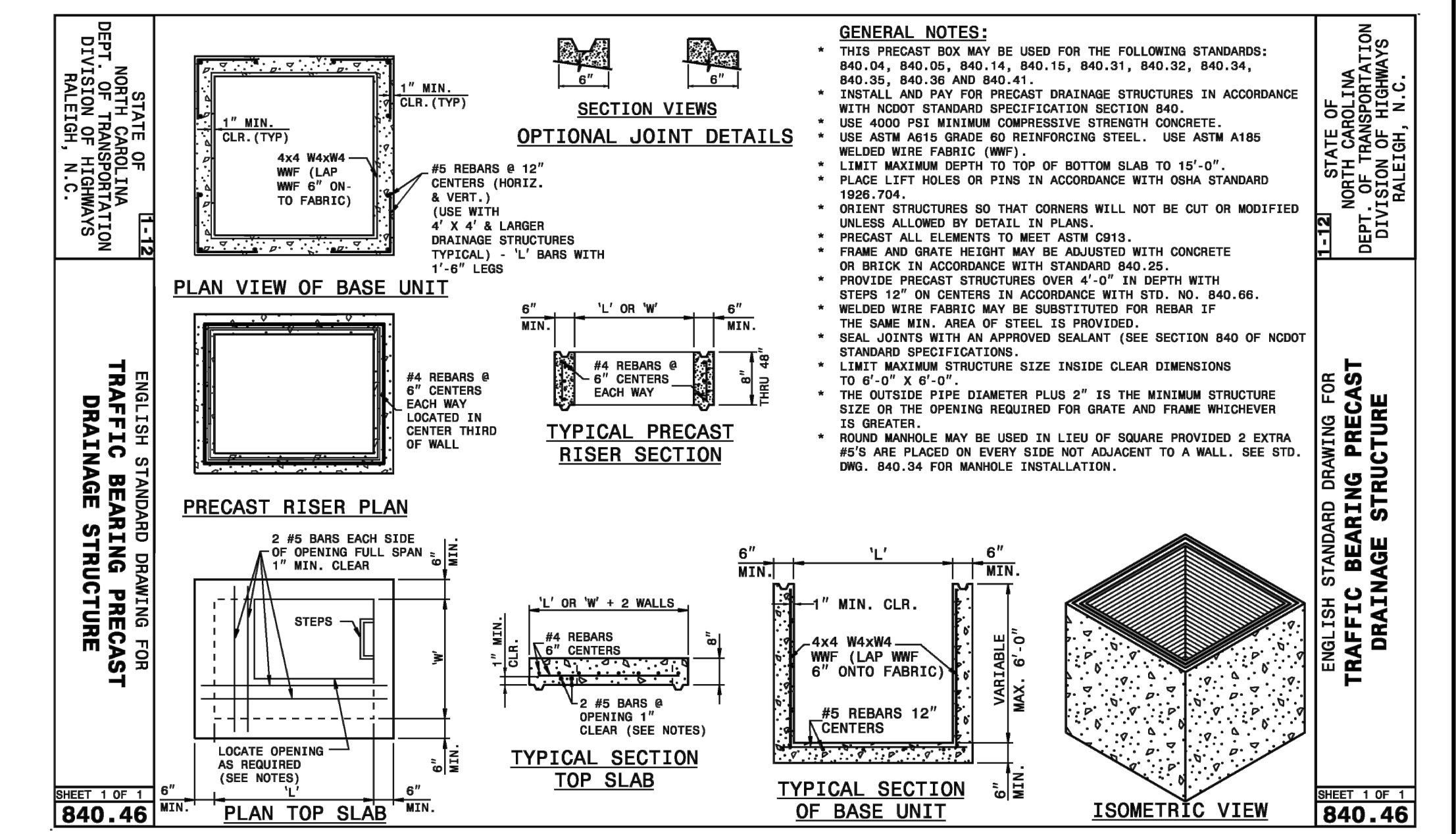
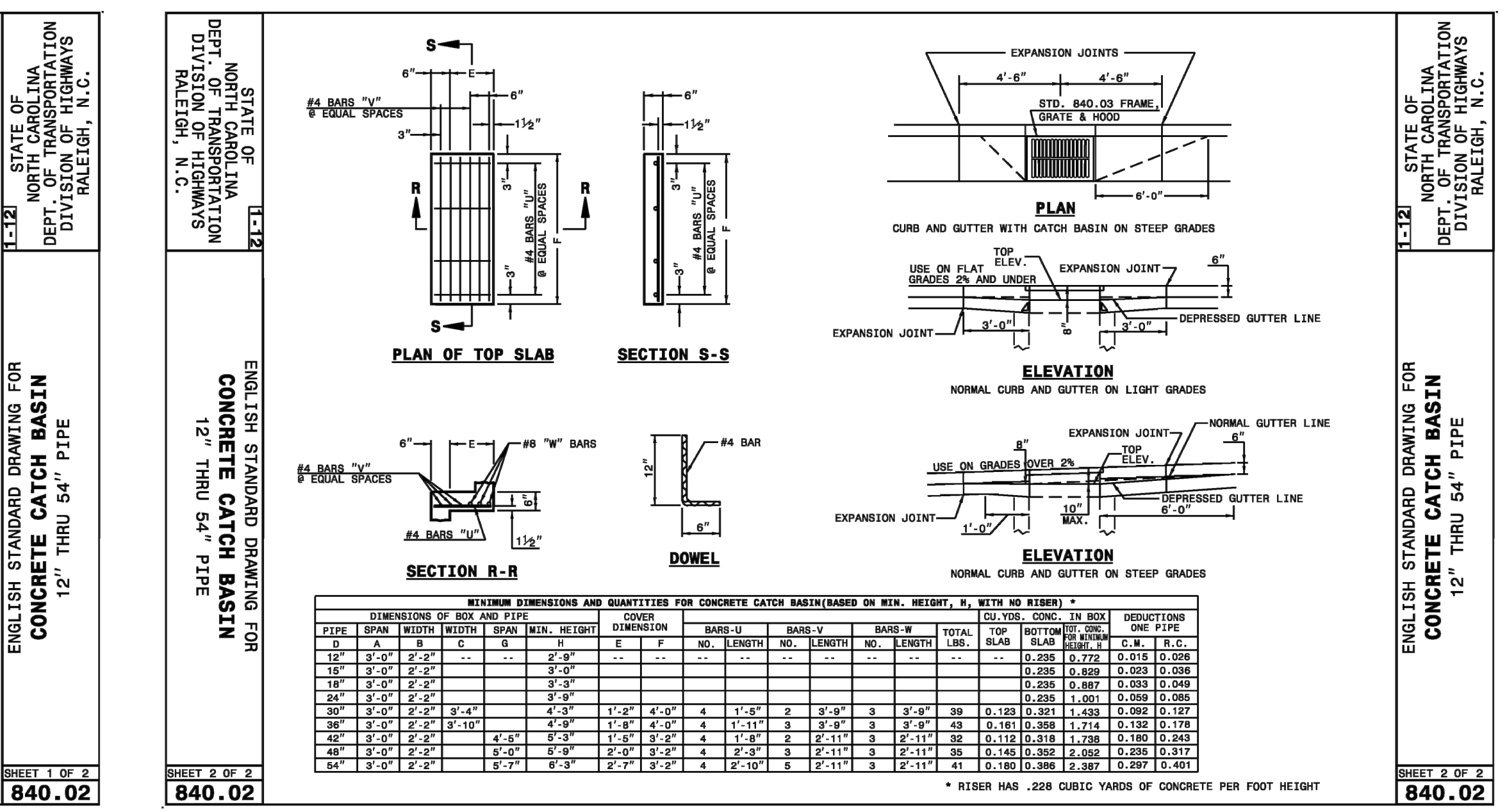
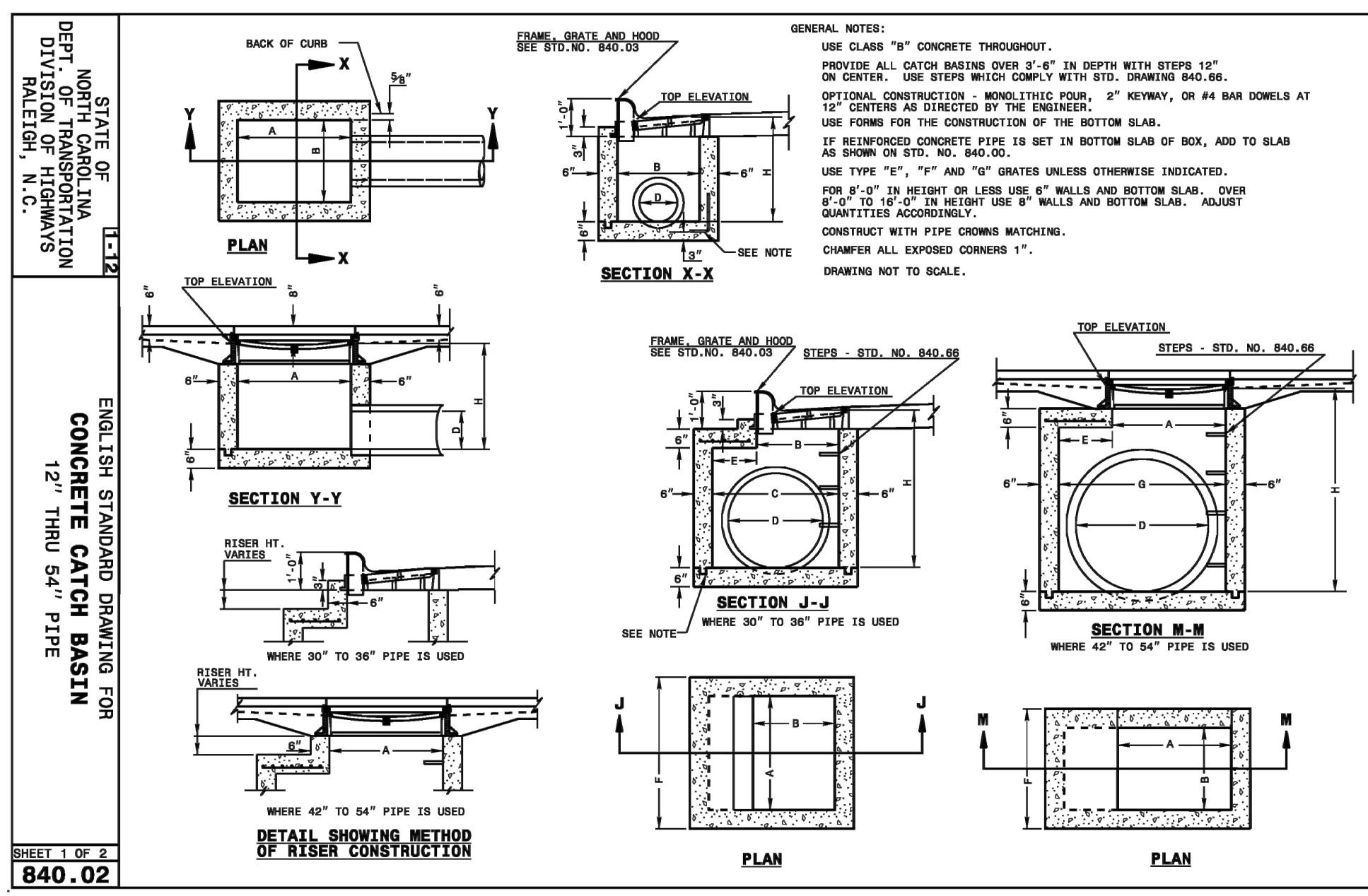


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RIVERLIGHTS
 NORTH AMERICA SEKISUI HOUSE, LLC

RIVERLIGHTS MARINA VILLAGE PHASE 1B
 SITE DETAILS

DATE: 17MAR16	SCALE: CS-502
MCE PROJ. # 2735-0124	HORIZONTAL: N/A
DRAWN: ALM	VERTICAL: N/A
DESIGNED: NJL	REVISION: 28
CHECKED: KCB	
PROJ. MGR.: NJL	
STATUS: FINAL DESIGN	ISSUED FOR CONSTRUCTION
	REVISION: 0



REVNO.	ISSUED FOR CONSTRUCTION	DATE
4	CITY OF WILMINGTON ENGINEERING COMMENTS	09/21/2016
3	CITY OF WILMINGTON IRC COMMENTS	08/23/2016
2	SITE PLAN AND STORM DRAINAGE REVIEWS	07/19/2016
1	CITY COMMENTS	06/17/2016
0	ISSUED FOR CONSTRUCTION	03/17/2016

MCKIM & CREED
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Wilmington, North Carolina 28401
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License: F-1222
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NASH
NORTH CAROLINA PROFESSIONAL ENGINEER
035107
NICHOLAS J. LAURETTI
09/21/16

RIVERLIGHTS
NORTH AMERICA SEKISUI HOUSE, LLC

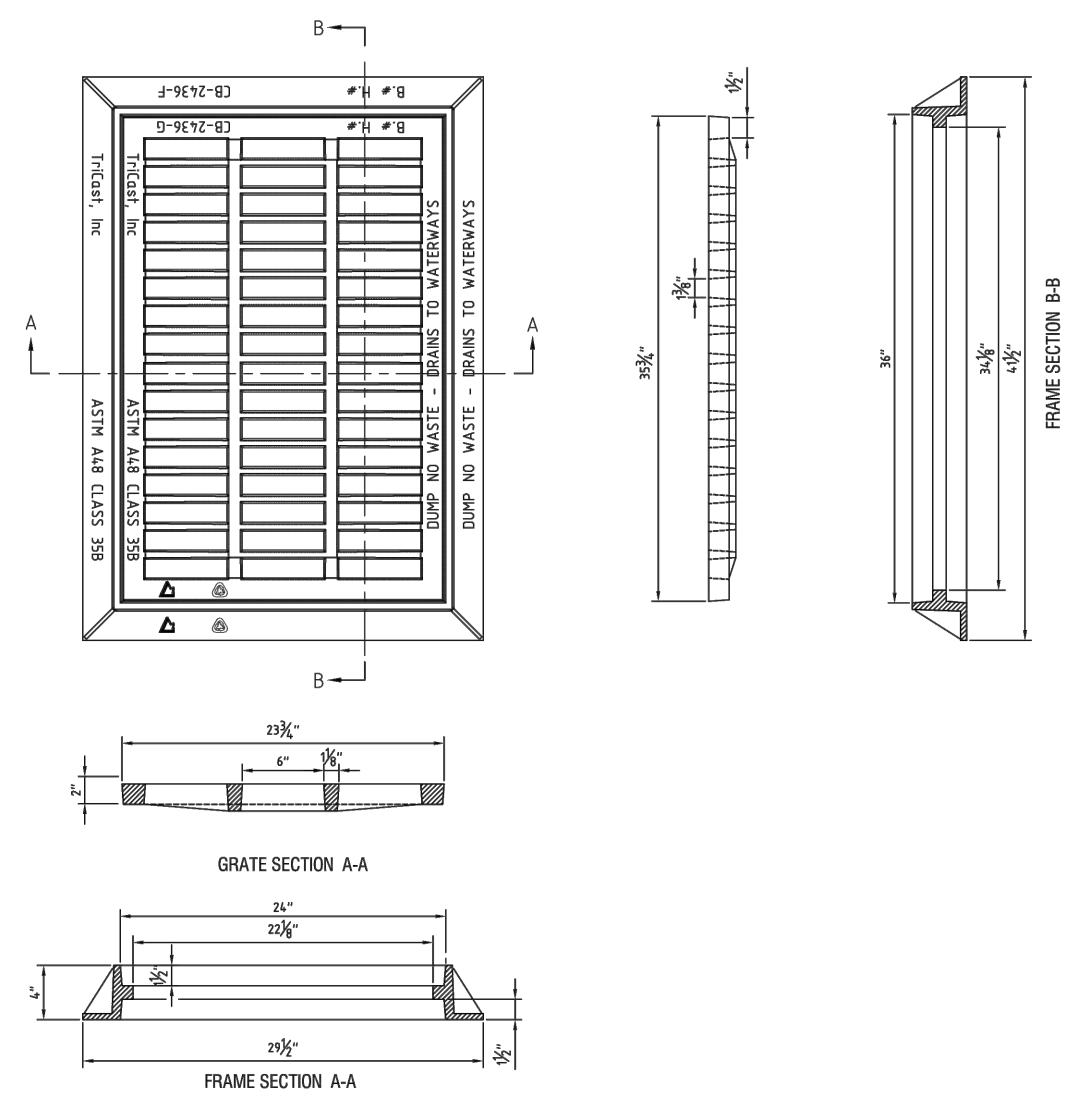
RIVERLIGHTS MARINA VILLAGE
PHASE 1B
STORMWATER DRAINAGE DETAILS

DATE: 17MAR16
MCE PROJ. # 2735-0124
DRAWN: ALM
DESIGNED: NJL
CHECKED: KCBE
PROJ. MGR.: NJL

SCALE
HORIZONTAL: N/A
VERTICAL: N/A

MAC FILE NUMBER
CG-501
DRAWING NUMBER
29

STATUS: FINAL DESIGN
ISSUED FOR CONSTRUCTION
REVISION 0



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

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

ENGLISH STANDARD DRAWING FOR CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS 15" THRU 48" PIPE - 90° SKEW

838.01

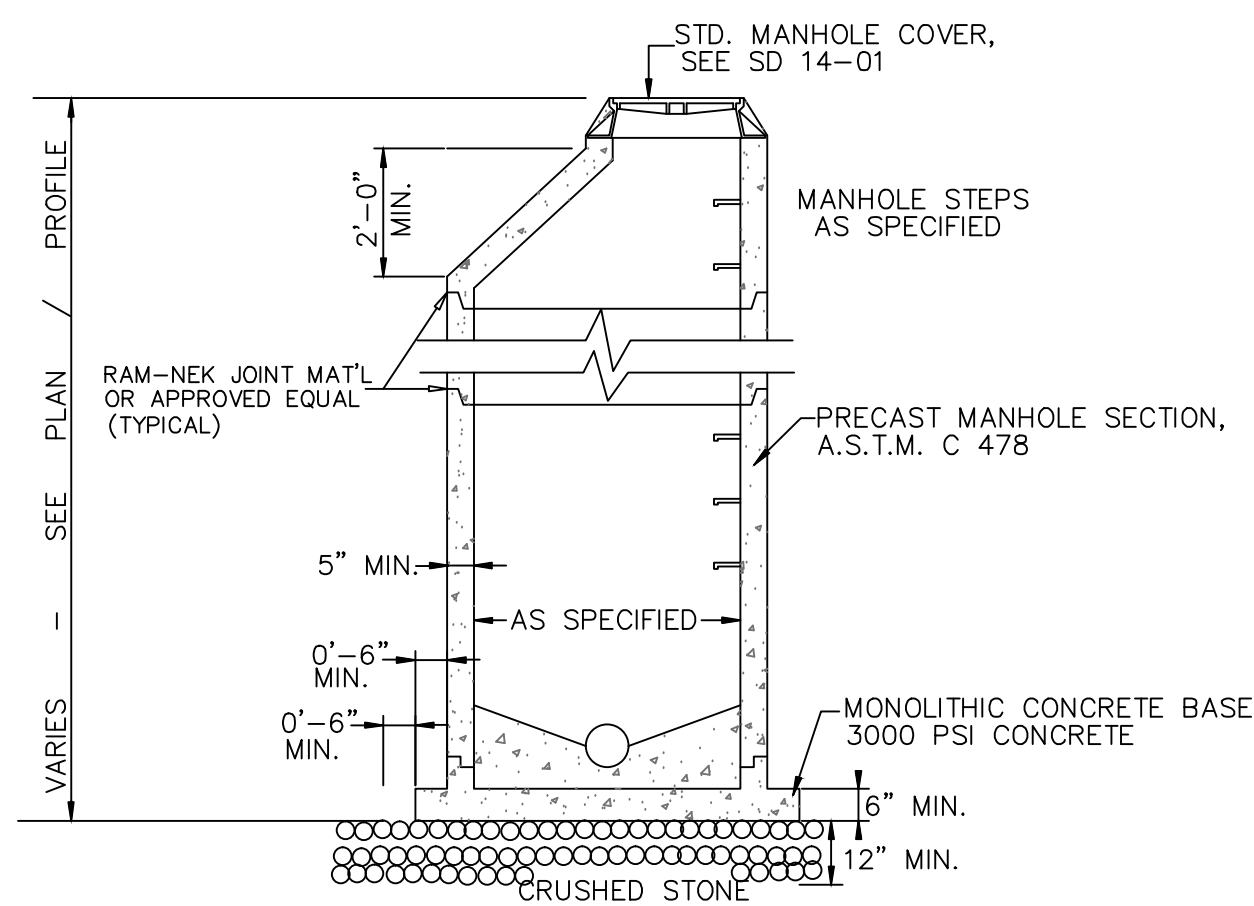
PIPE LOC.	SINGLE PIPE				DOUBLE PIPE			
	15"	18"	24"	48"	15"	18"	24"	48"
BARS	2x2	2x2	2x2	2x2	2x2	2x2	2x2	2x2
G QTY.	2	2	2	2	2	2	2	2
M QTY.	-	-	-	-	2	1	1	2
G QTY.	2	2	2	2	2	2	2	2
TOTAL LBS.	9	14	14	19	55	12	12	19

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

ENGLISH STANDARD DRAWING FOR TRAFFIC BEARING GRATED DROP INLET FOR CAST IRON DOUBLE FRAME AND GRATES

840.35

COMMON		CONCRETE ALT.		BRICK ALT.	
BAR	SIZE	LENGTH	QUANTITY	LENGTH	QUANTITY
A	3/8"	18	36	3/8"	18
B	3/8"	18	36	3/8"	18
C	3/8"	18	36	3/8"	18
D	3/8"	18	36	3/8"	18
E	3/8"	18	36	3/8"	18
F	3/8"	18	36	3/8"	18
G	3/8"	18	36	3/8"	18
H	3/8"	18	36	3/8"	18
I	3/8"	18	36	3/8"	18
J	3/8"	18	36	3/8"	18
K	3/8"	18	36	3/8"	18
L	3/8"	18	36	3/8"	18
M	3/8"	18	36	3/8"	18
N	3/8"	18	36	3/8"	18
O	3/8"	18	36	3/8"	18
P	3/8"	18	36	3/8"	18
Q	3/8"	18	36	3/8"	18
R	3/8"	18	36	3/8"	18
S	3/8"	18	36	3/8"	18
T	3/8"	18	36	3/8"	18
U	3/8"	18	36	3/8"	18
V	3/8"	18	36	3/8"	18
W	3/8"	18	36	3/8"	18
X	3/8"	18	36	3/8"	18
Y	3/8"	18	36	3/8"	18
Z	3/8"	18	36	3/8"	18



NOTE: EXTENDED BASE MAY NOT BE REQUIRED WHERE MANHOLES ARE GREATER THAN 4 FEET INSIDE DIAMETER

PRECAST MANHOLE
SD 14-11

NOT TO SCALE

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

ENGLISH STANDARD DRAWING FOR CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS 15" THRU 48" PIPE - 90° SKEW

838.01

PIPE LOC.	SINGLE PIPE				DOUBLE PIPE			
	15"	18"	24"	48"	15"	18"	24"	48"
BARS	2x2	2x2	2x2	2x2	2x2	2x2	2x2	2x2
G QTY.	2	2	2	2	2	2	2	2
M QTY.	-	-	-	-	2	1	1	2
G QTY.	2	2	2	2	2	2	2	2
TOTAL LBS.	9	14	14	19	55	12	12	19

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

ENGLISH STANDARD DRAWING FOR TRAFFIC BEARING GRATED DROP INLET FOR CAST IRON DOUBLE FRAME AND GRATES

840.35

GENERAL NOTES:
- USE CLASS "AA" CONCRETE FOR CAST IN PLACE CONCRETE BOX.
- USE CLASS "B" CONCRETE IN THE WALL CAVITY FOR REINFORCED BRICK CONSTRUCTION AND CLASS "AA" FOR THE FOOTING BASE.
- CHAMFER ALL EXPOSED CONCRETE CORNERS 1".
- USE FORMS TO CONSTRUCT THE BOTTOM SLAB.
- IF PIPES ARE SET IN THE BASE FOLLOW CONSTRUCTION PROCEDURE SHOWN BY THE MASONRY CONSTRUCTION.
- PRECAST UNITS MADE OF CLASS "AA" CONCRETE MAY BE USED IN LIEU OF BRICK MASONRY CONSTRUCTION.
- INCLUDE REINFORCING STEEL COST IN THE UNIT OR LINEAR FOOT BID PRIOR TO MASONRY DRAINAGE STRUCTURE.
- REFERENCE STD. UMG 840.25 FOR FRAME ANCHORAGE.
- CONCRETE BRICK, JUMBO BRICK AND 4" SOLID CONCRETE BLOCK WILL BE PERMITTED.
- CONCRETE FOR BRICK BOX REFER TO SECTION 832 OF THE STANDARD SPECIFICATIONS.
- PROVIDE GRATED DROP INLETS OVER 3'-6" DEEP WITH STEPS SPACED 12" ON CENTER AS DIRECTED BY STD. UMG 840.66.
- FRAME AND GRATES ARE SEPARATE CONTRACT ITEMS.

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 _____

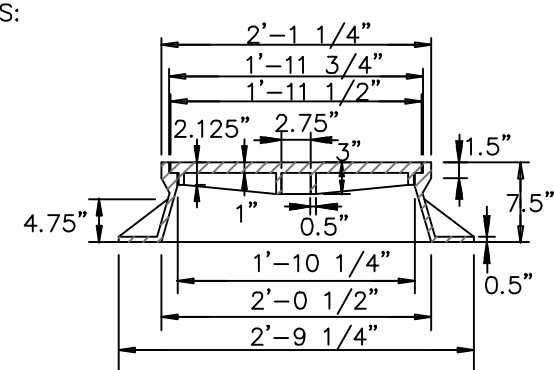
CITY OF WILMINGTON
NORTH CAROLINA
Public Service Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

NOTE: RING & COVER CONTACT SURFACES SHALL BE MACHINED SO AS TO INSURE EVEN BEARING OF COVER ON RING

MINIMUM WEIGHTS:
RING 190 LBS.
COVER 120 LBS.



STANDARD MANHOLE RING AND COVER
SD 14-01

NOT TO SCALE

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

ENGLISH STANDARD DRAWING FOR CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS 15" THRU 48" PIPE - 90° SKEW

838.01

GENERAL NOTES:
CHAMFER ALL CORNERS 1" OR HAVE A RADIUS OF 1".
PLACE 2 #6 "V" BARS IN THE TOP OF ALL ENDWALL FOR PIPE CULVERTS 42" AND OVER WITH A MINIMUM OF 3" COVER AND A LENGTH OF 6" LESS THAN ENDWALL LENGTH.
CONSTRUCT BOTTOM SLAB WITH FORMS.
DO NOT INTERPRET WALL THICKNESS (T) SHOWN FOR THE THICKNESS ACCEPTABLE, BUT IS USED IN COMPUTING ENDWALL QUANTITIES.
WHEN THE CONTRACTOR ELECTS TO USE A CONSTRUCTION JOINT AT THE BOTTOM OF THE PIPE, PLACE BAR "X" DOWELS IN THE BASE AS SHOWN ON PLANS. SPACE BARS APPROXIMATELY ON 12" CENTERS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
WHEN THE CONTRACTOR ELECTS TO USE A CONSTRUCTION JOINT AT THE BOTTOM OF THE PIPE AND POUR THE BASE SEPARATELY LEAVE THE POUR ROUGH.
USE CLASS "B" CONCRETE.

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

ENGLISH STANDARD DRAWING FOR ANCHORAGE FOR FRAMES BRICK/CONCRETE/PRECAST CONCRETE

840.25

DETAIL SHOWING ANCHORAGE OF FRAME FOR GRATED DROP INLET

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

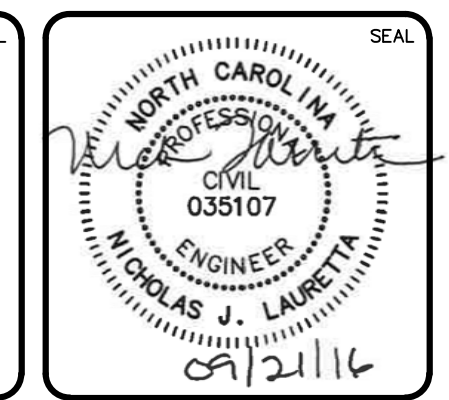
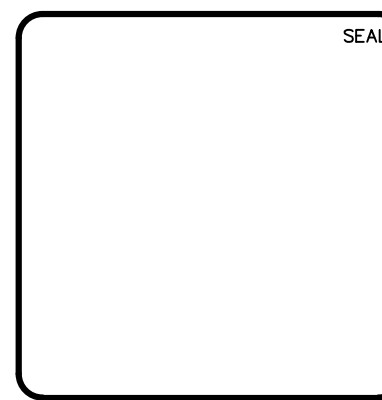
MASONRY ANCHOR: 3/8" DIA. BOLT WITH PLATE

CONCRETE ANCHOR: 3/8" DIA. BENT BAR

PRECAST CONCRETE ANCHOR: 3/8" DIA. BENT BAR

FRAME AND GRATE INSTALLATION FOR NORMAL CROWN AND SUPERELEVATED SECTIONS

REVNO.	DESCRIPTION	DATE
4	CITY OF WILMINGTON ENGINEERING COMMENTS	09/21/2016
3	CITY OF WILMINGTON IRC COMMENTS	08/23/2016
2	SITE PLAN AND STORM DRAINAGE REVISIONS	07/19/2016
1	CIVIL COMMENTS	06/17/2016
0	ISSUED FOR CONSTRUCTION	03/17/2016



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RIVERLIGHTS

NORTH AMERICA SIKSUI HOUSE, LLC

RIVERLIGHTS MARINA VILLAGE
PHASE 1B

STORMWATER DRAINAGE DETAILS

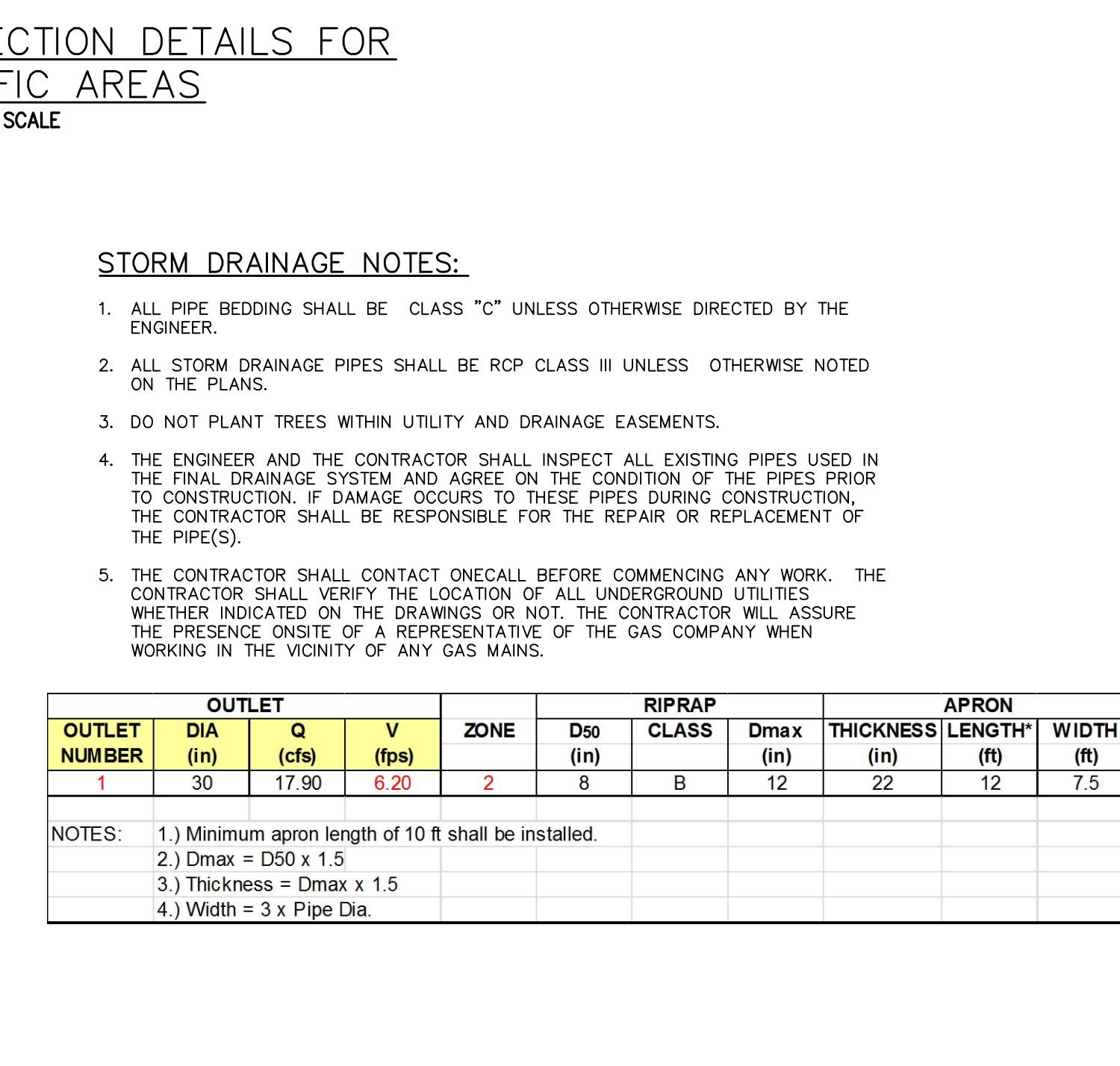
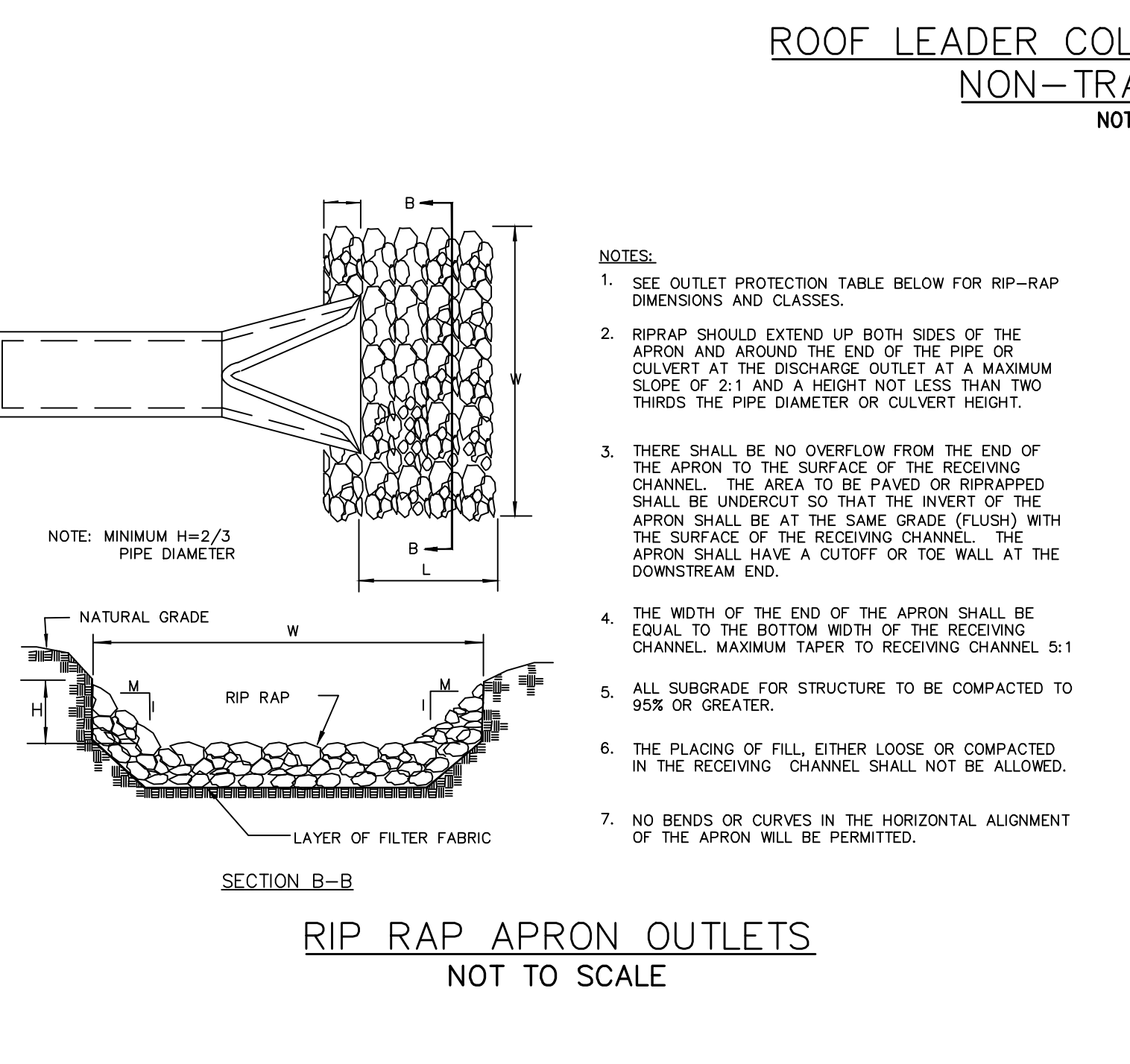
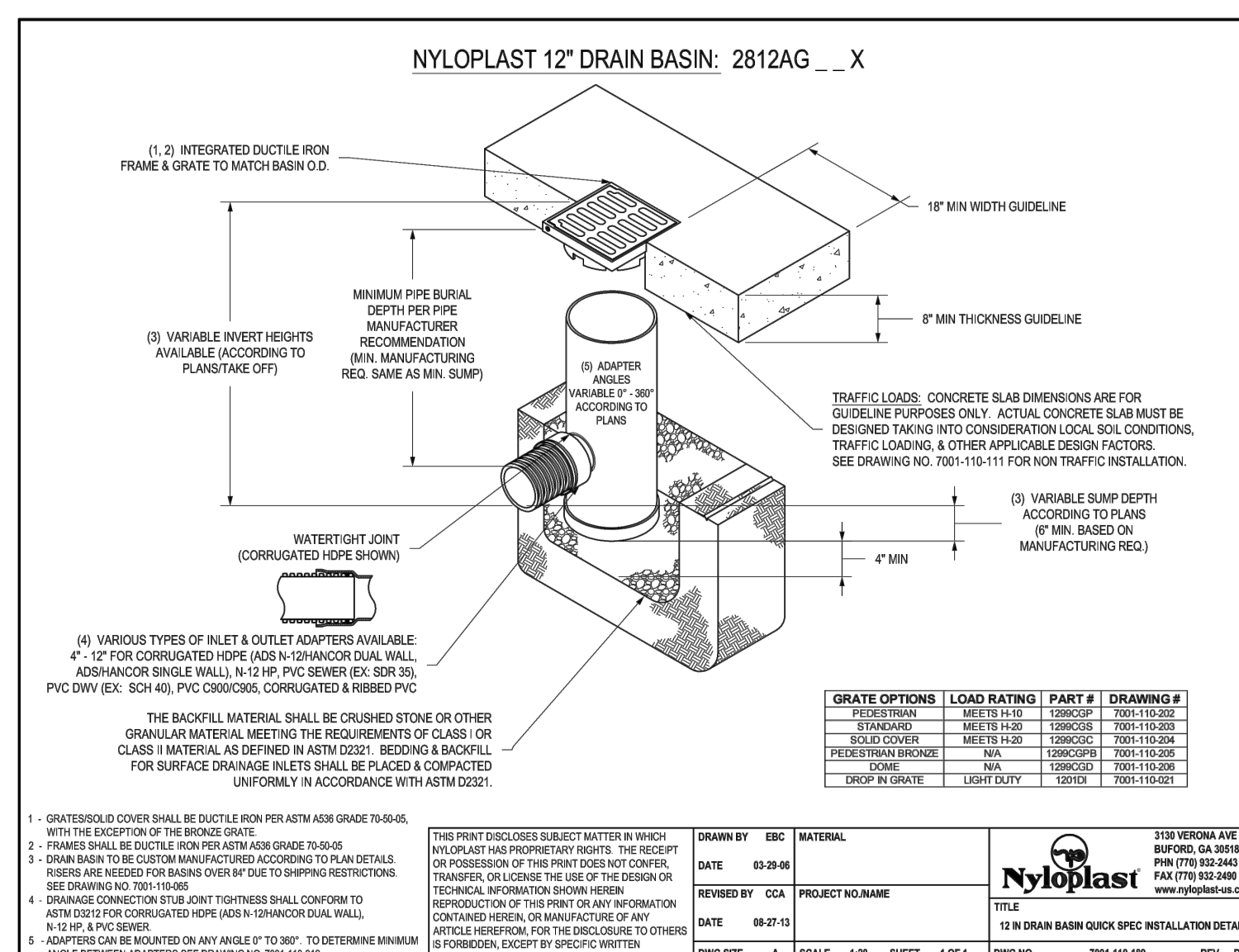
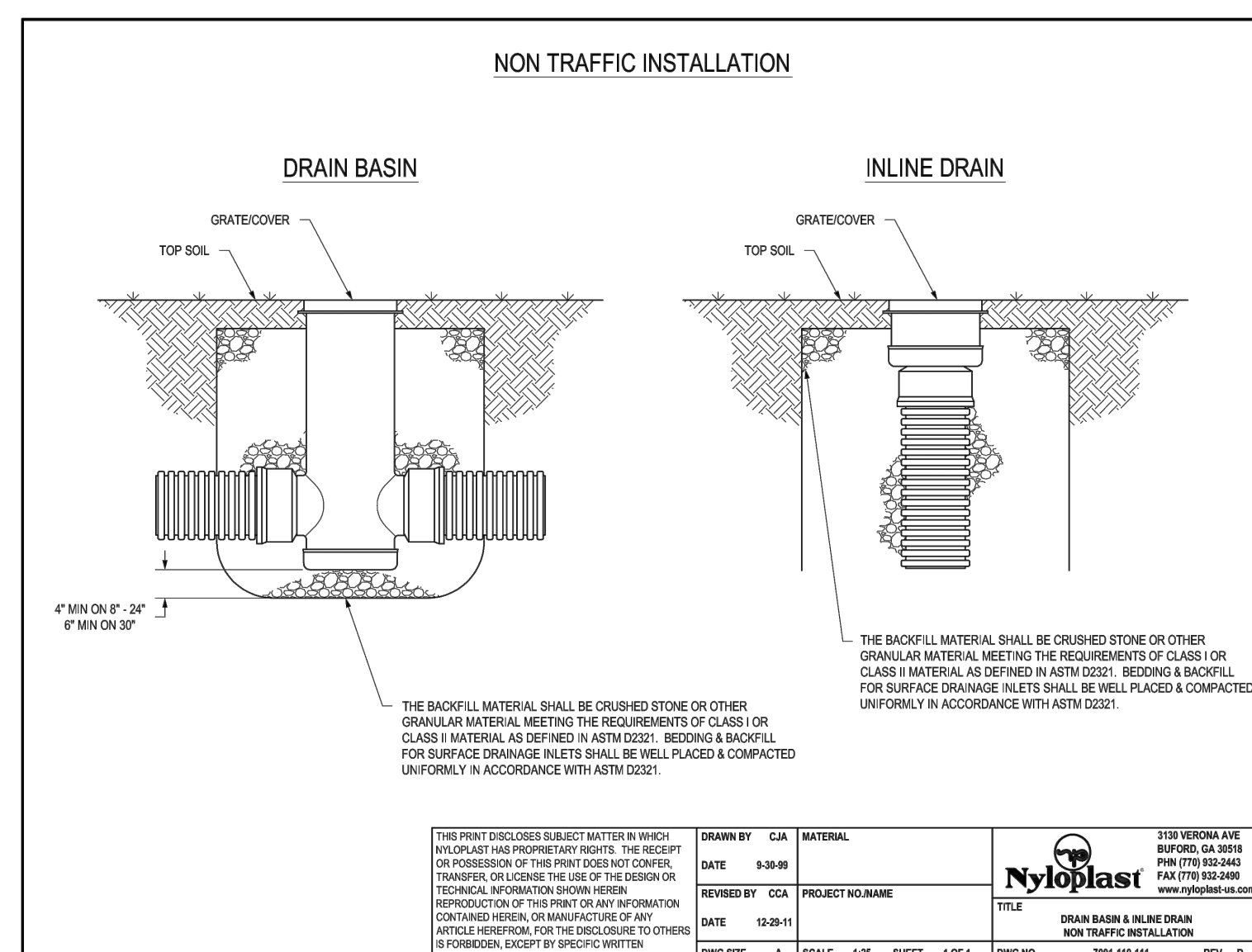
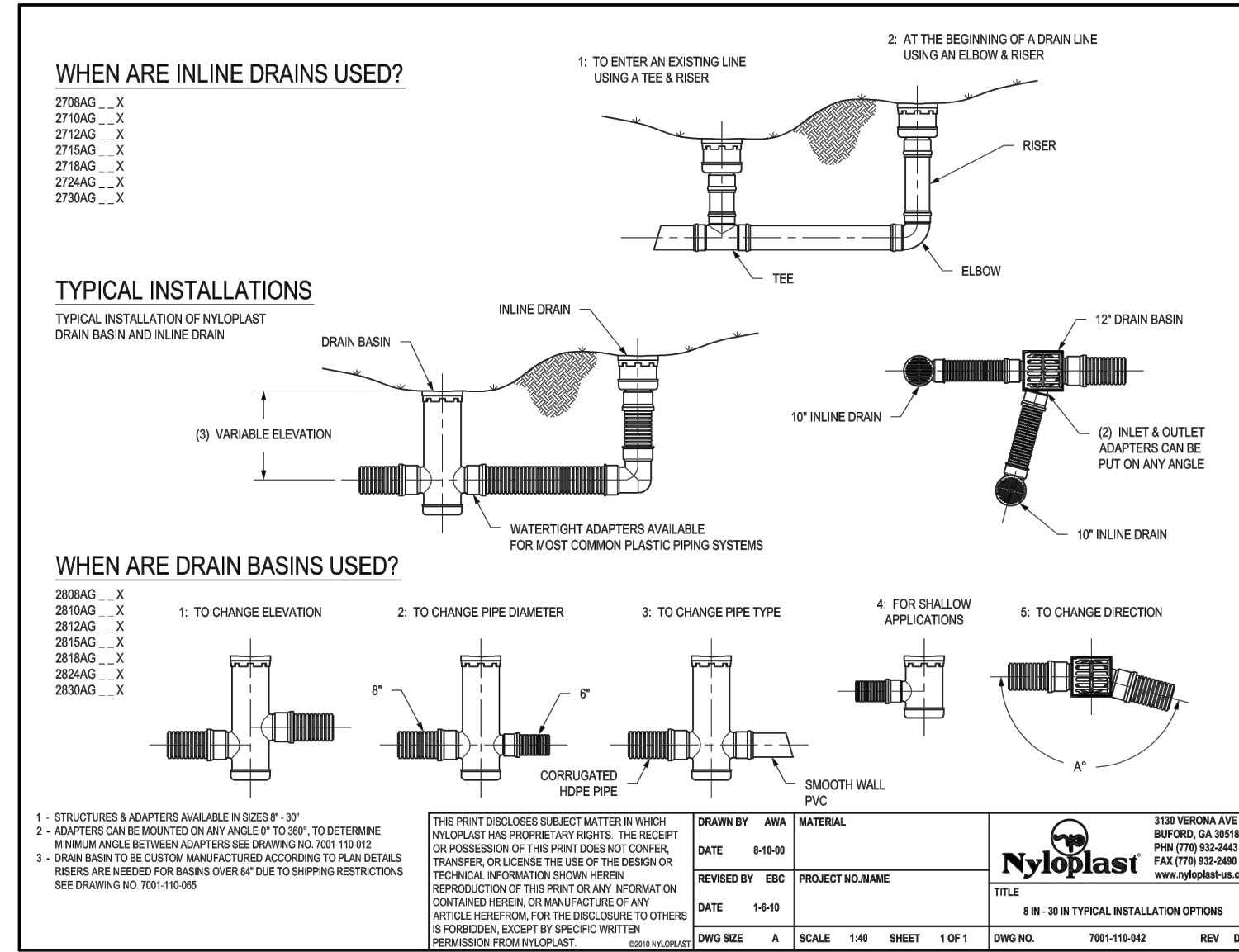
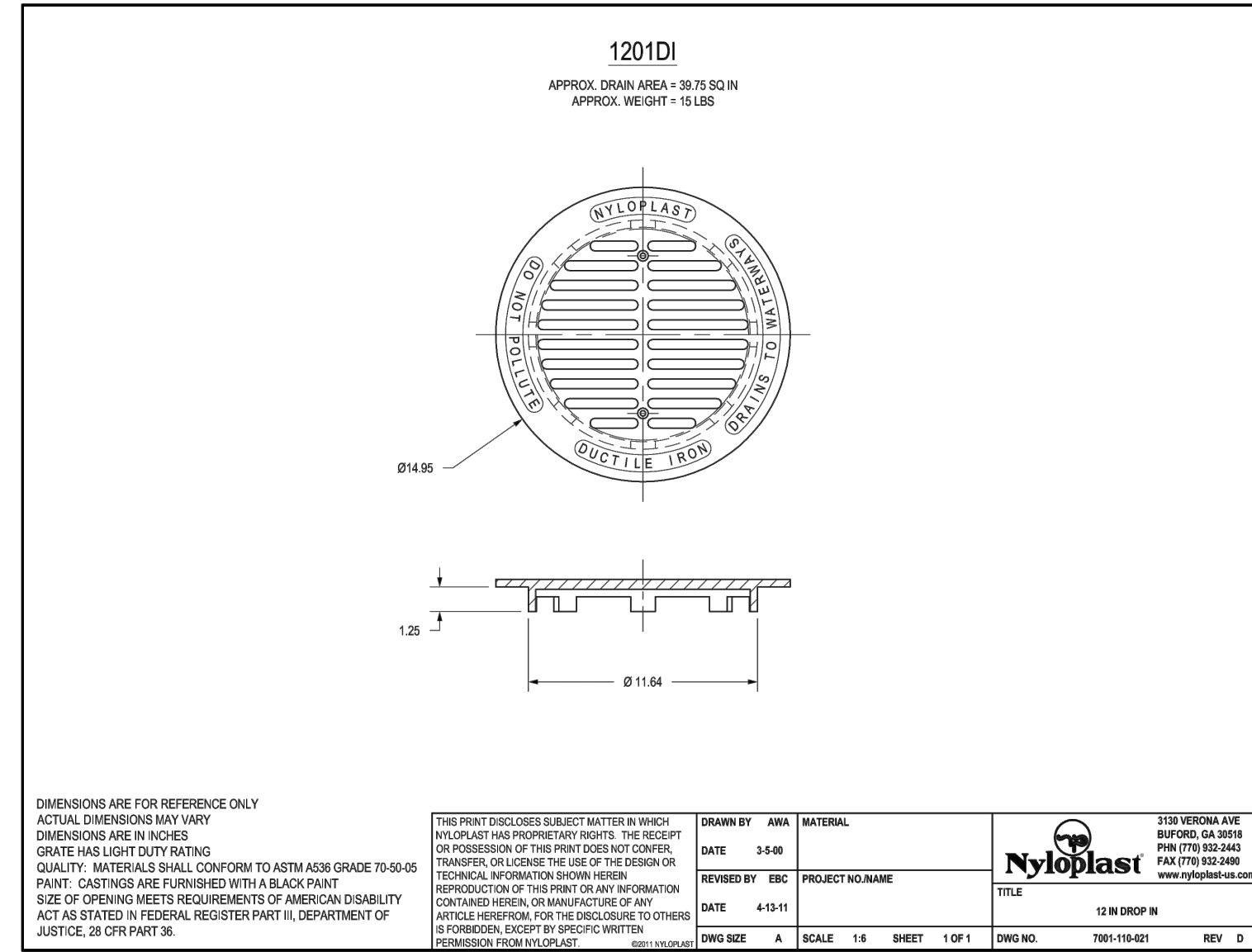
DATE: 17MAR16
MCE PROJ. # 2735-0124
DRAWN: ALM
DESIGNED: NJL
CHECKED: KCB
PROJ. MGR.: NJL

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

MAC FILE NUMBER: CG-502
DRAWING NUMBER: 30

STATUS: FINAL DESIGN
ISSUED FOR CONSTRUCTION

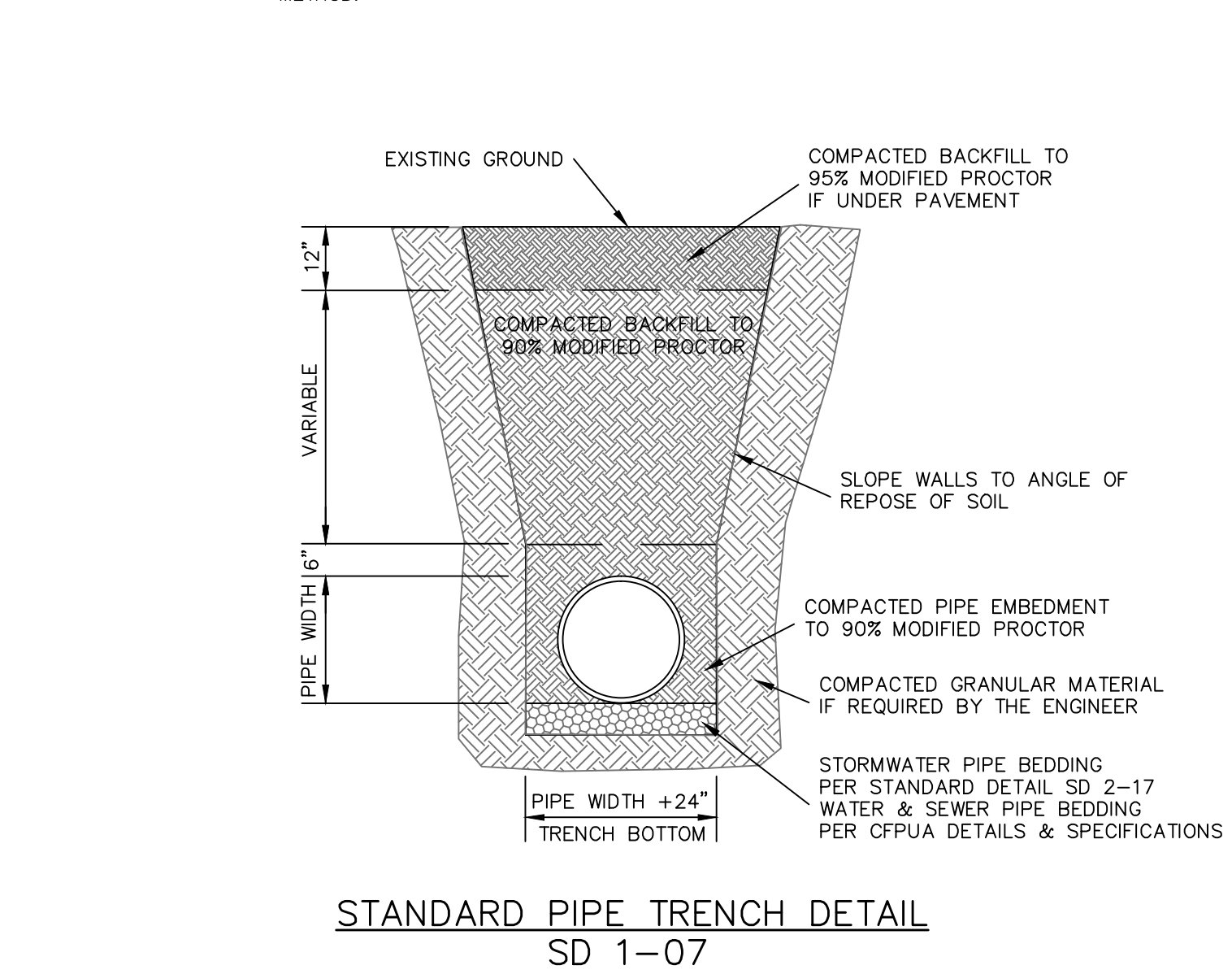
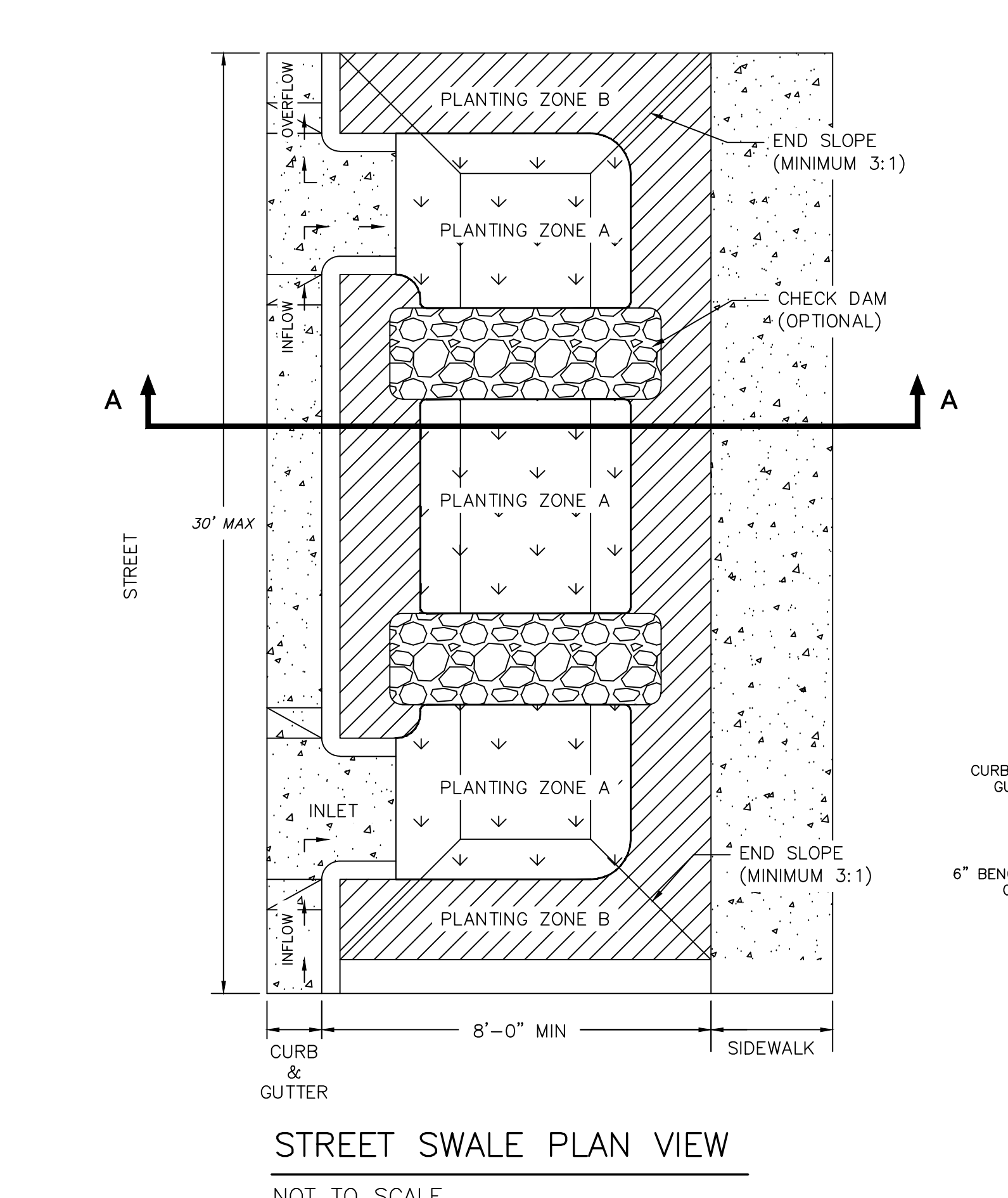
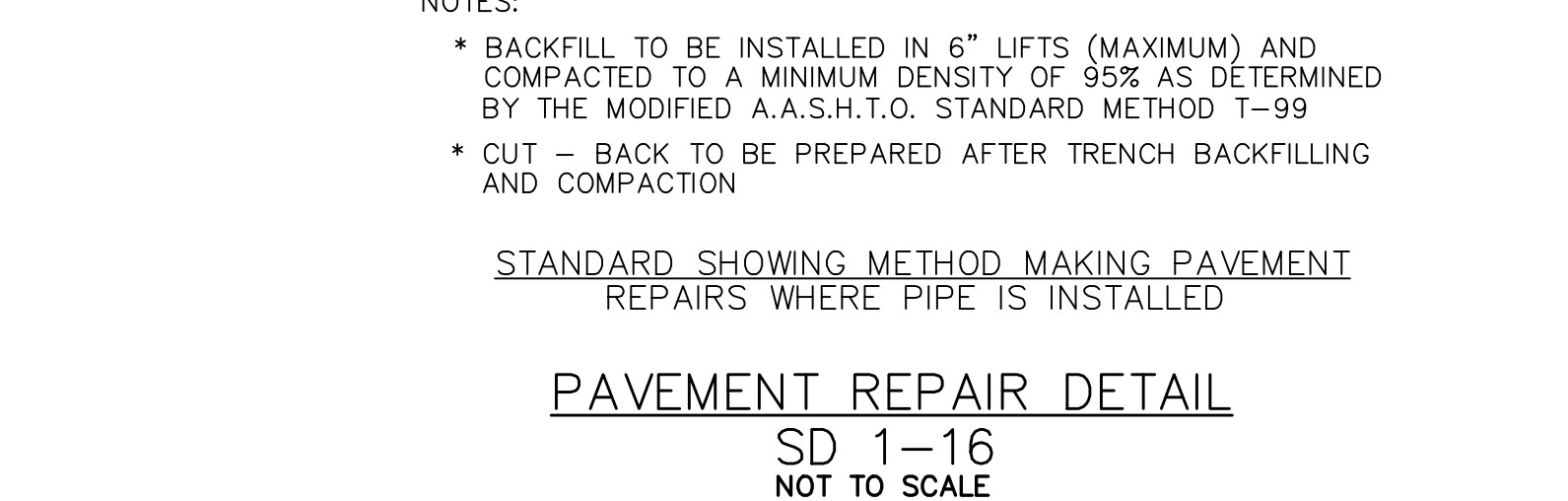
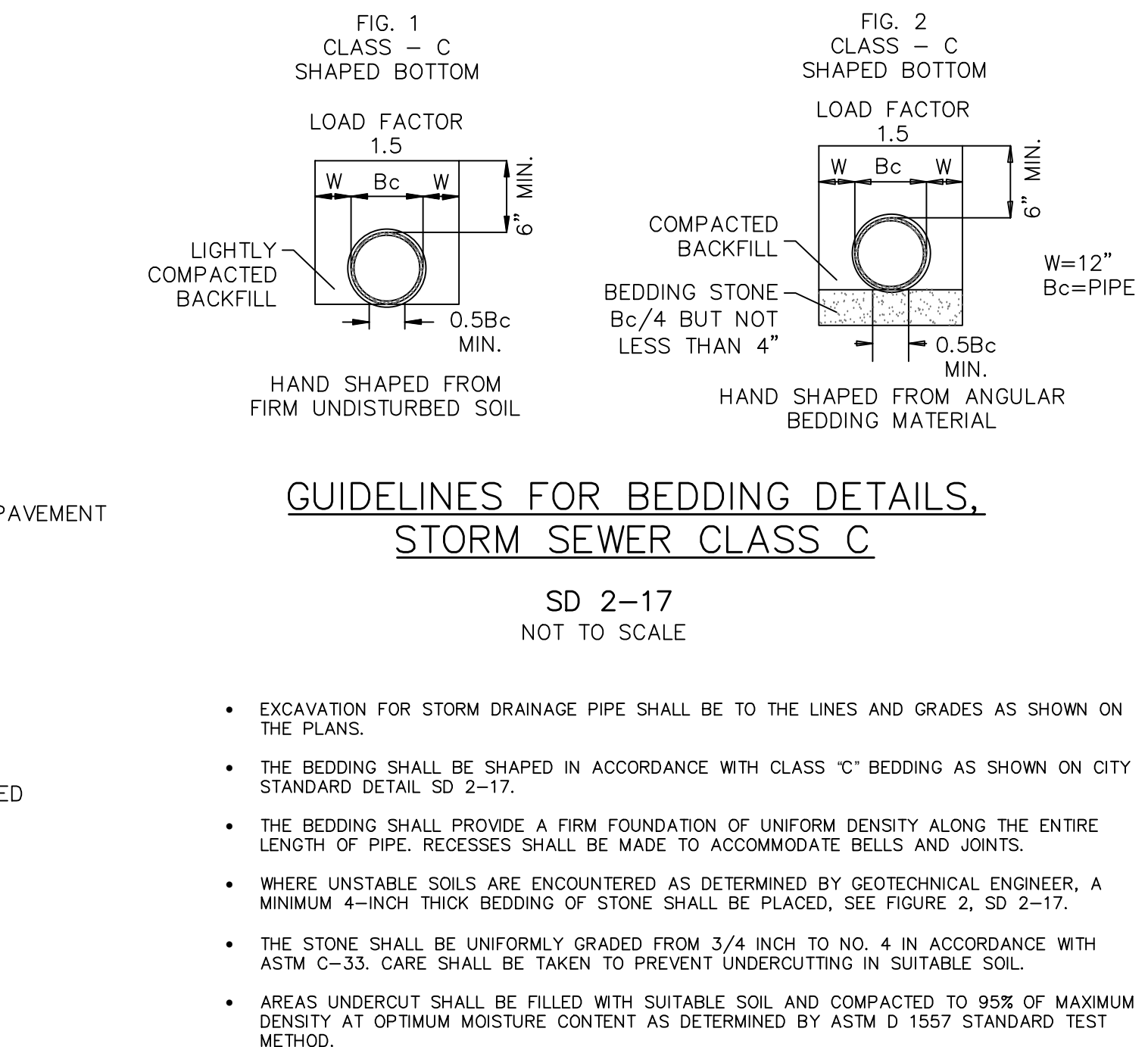
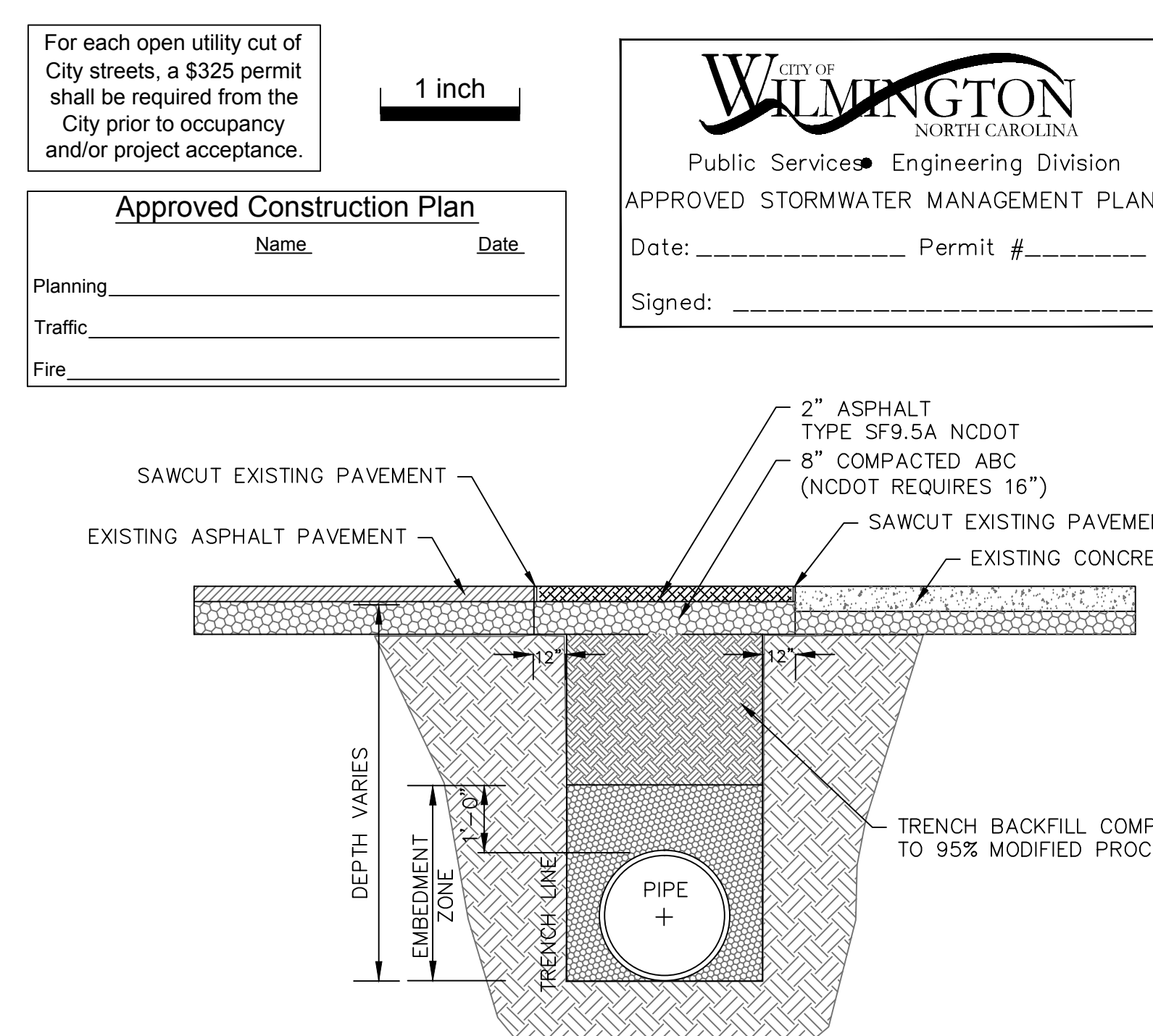
REVISION: 0



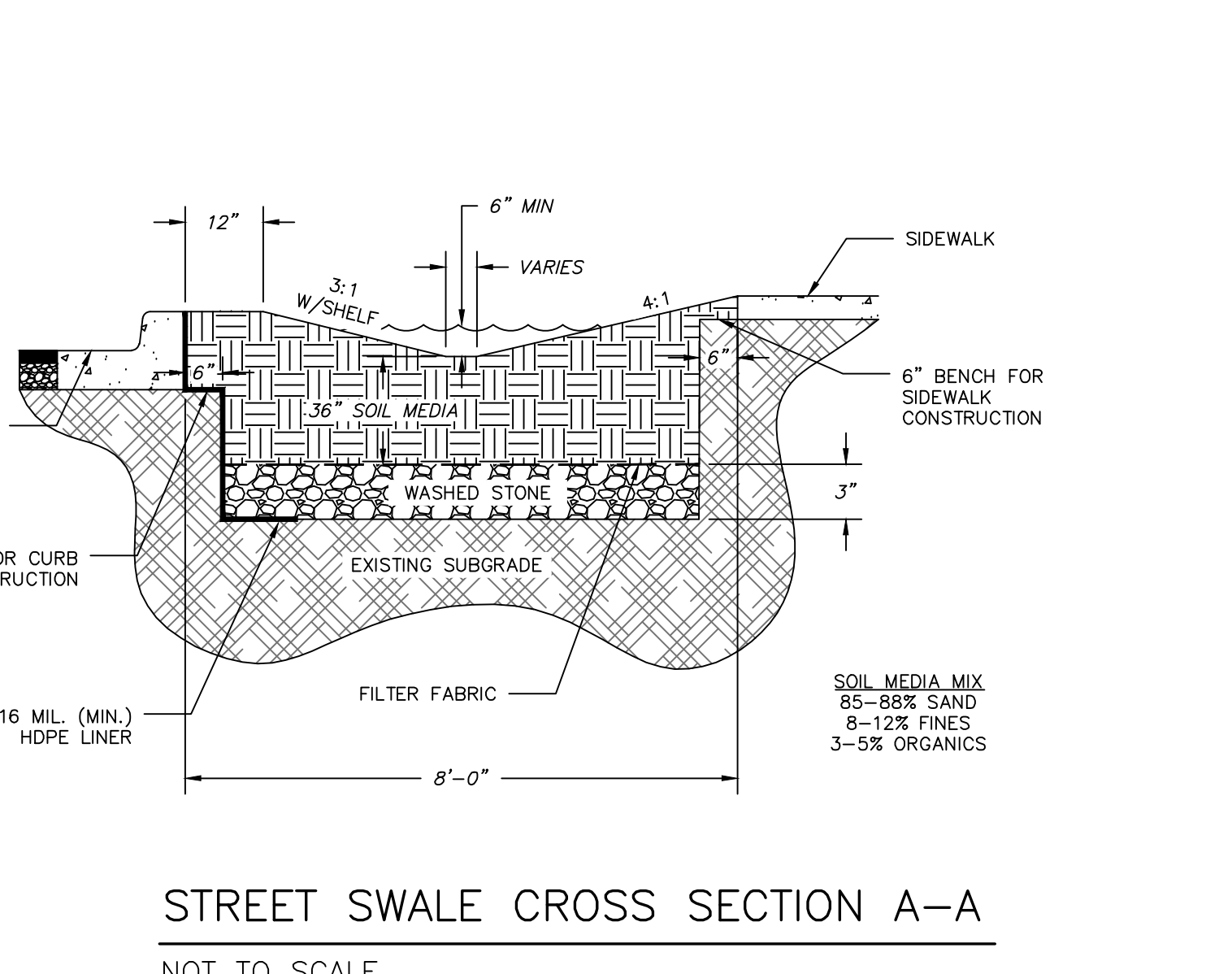
REV. NO.	ISSUED FOR CONSTRUCTION	DESCRIPTIONS / REVISIONS	DATE
4		CITY OF WILMINGTON ENGINEERING COMMENTS	09/21/2016
3		CITY OF WILMINGTON TRC COMMENTS	08/23/2016
2		SITE PLAN AND STORM DRAINAGE REVISIONS	07/19/2016
1		CIPVA COMMENTS	06/17/2016
0		ISSUED FOR CONSTRUCTION	03/17/2016



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NORTH AMERICA SEKSUIS HOUSE, LLC



RIVERLIGHTS MARINA VILLAGE
PHASE 1B

DATE: 17MAR16
MCE PROJ. # 2735-0124
DRAWN: ALM
DESIGNED: NJL
CHECKED: KCBE
PROJ. MGR: NJL

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

MAC FILE NUMBER: CG-503
DRAWING NUMBER: 31

STATUS: FINAL DESIGN
ISSUED FOR CONSTRUCTION

REVISION: 0