

CITY OF WILMINGTON  
NEW HANOVER COUNTY, NORTH CAROLINA

# SHIPYARD VILLAGE APARTMENTS

## PERMIT SUBMITTAL SET

JUNE 24, 2016  
NOT FOR CONSTRUCTION

### DEVELOPMENT INFORMATION:

**OWNER/DEVELOPER:**  
SHIPYARD VILLAGE WILMINGTON, LLC  
PO BOX 29169  
GREENSBORO, NC 27429-9169  
2100-D W. CORNWALLIS DR.  
GREENSBORO, NC 27408

**OWNER'S DESIGNATED REPRESENTATIVE:**  
VERNON POWELL, PRESIDENT  
SHIPYARD VILLAGE WILMINGTON, LLC.  
vernonbpowell@gmail.com  
(336) 282-7200

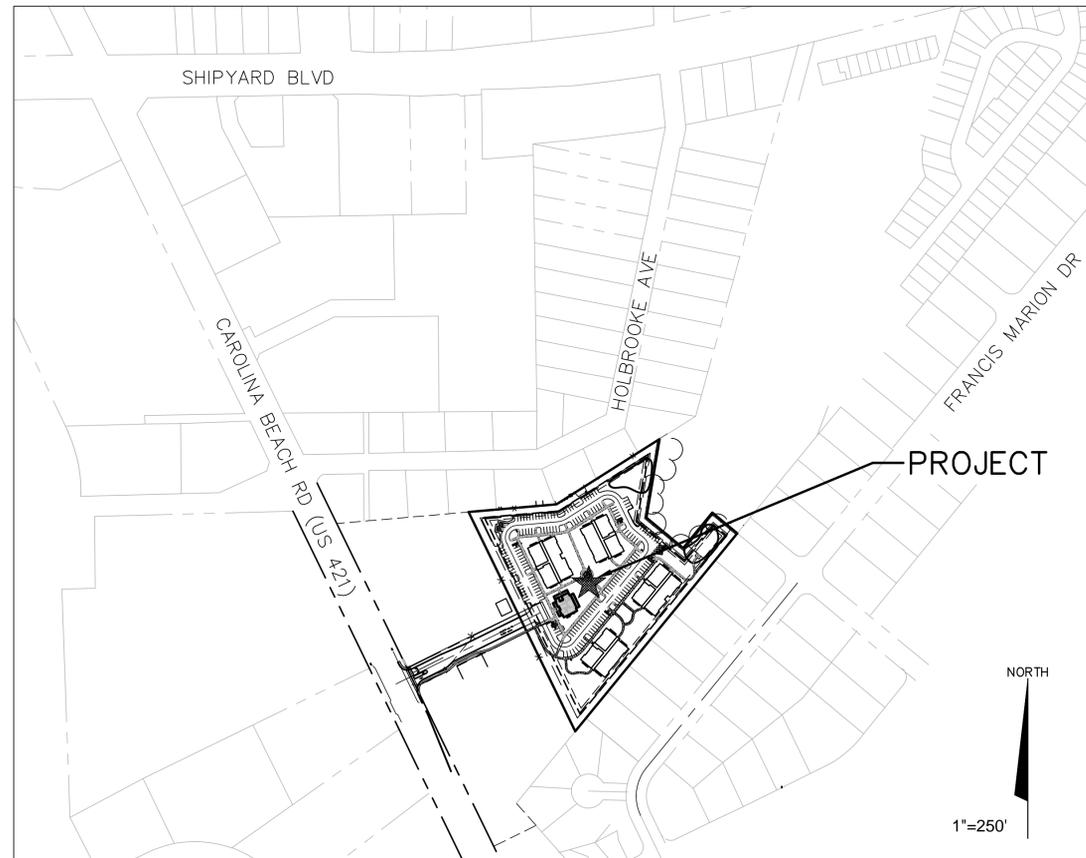
**PROJECT LAND PLANNER / REPRESENTATIVE:**  
TARA S. MURPHY, RLA, ASLA, LEED AP, PMP  
McKIM & CREED, INC.  
243 NORTH FRONT STREET  
WILMINGTON, NORTH CAROLINA 28401  
tschwenzfeier@mckimcreed.com  
(910) 343-1048

**PROJECT ENGINEER / REPRESENTATIVE:**  
TAMARA MURPHY, P.E.  
McKIM & CREED, INC.  
243 NORTH FRONT STREET  
WILMINGTON, NORTH CAROLINA 28401  
tmurphy@mckimcreed.com  
(910) 343-1048

**PROJECT ADDRESS:**  
2821 CAROLINA BEACH ROAD  
WILMINGTON, NC 28412

**TAX PARCEL IDENTIFICATION NUMBER:**  
R06506-008-020-000

**PROPERTY ZONING:**  
MF-M MULTI-FAMILY RESIDENTIAL  
DISTRICT, MEDIUM DENSITY  
CS COMMERCIAL SERVICE



243 North Front Street  
Wilmington, North Carolina 28401  
Phone: (910)343-1048 , Fax: (910)251-8282  
NC LICENSE NO. F-1222  
www.mckimcreed.com



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STORMWATER MANAGEMENT PLAN  
**APPROVED**  
CITY OF WILMINGTON  
ENGINEERING DEPARTMENT  
DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_  
SIGNED \_\_\_\_\_

1 inch

Approved Construction Plan

Name \_\_\_\_\_ Date \_\_\_\_\_

Planning \_\_\_\_\_

Traffic \_\_\_\_\_

Fire \_\_\_\_\_

**PRELIMINARY PLANS  
NOT 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.





**SURVEY NOTES:**

- ALL DISTANCES ARE HORIZONTAL GROUND IN U.S. SURVEY FEET UNLESS OTHERWISE SHOWN.
- BEARINGS BASED ON NC GRID NAD 83(2011).
- REFERENCES: AS SHOWN ON PLAN
- SURVEYOR HAS MADE NO INVESTIGATION OR INDEPENDENT SEARCH FOR EASEMENTS OF RECORD, ENCUMBRANCES, RESTRICTIVE COVENANTS, OWNERSHIP, TITLE EVIDENCE, OR ANY OTHER FACTS THAT AN ACCURATE AND CURRENT TITLE SEARCH MAY DISCLOSE.
- UNDERGROUND UTILITIES ARE SHOWN ONLY WHERE ABOVEGROUND SERVICES WERE VISIBLE.
- SUBSURFACE AND ENVIRONMENTAL CONDITIONS WERE NOT EXAMINED OR CONSIDERED AS A PART OF THIS SURVEY. NO STATEMENT IS MADE CONCERNING THE EXISTENCE OF UNDERGROUND OR OVERHEAD CONTAINERS OR FACILITIES THAT MAY AFFECT THE USE OR DEVELOPMENT OF THIS TRACT.
- THE EXISTENCE OR NONEXISTENCE OF WETLANDS ON SUBJECT PROPERTY HAS NOT BEEN DETERMINED BY THIS SURVEY.
- SUBJECT TO ALL EASEMENTS, RIGHT OF WAYS, AND OR ENCUMBRANCES THAT MAY AFFECT THIS PROPERTY.
- ENCROACHMENTS AS SHOWN ON PLAN.
- TRACT 'A' IS COMBINED WITH LARGE PROPERTY IMMEDIATELY TO THE EAST AND SHOWN AS OWNED BY SHIPYARD VILLAGE WILMINGTON, LLC.

**LINETYPE LEGEND**

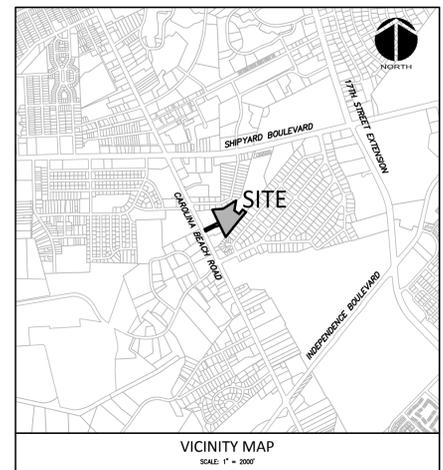
---	MAJOR CONTOUR
- - - -	MINOR CONTOUR
---	RES. PROPERTY LINE
---	PROJECT PROPERTY LINE
---	DRIVEWAY EASEMENT
---	EXISTING RW
---	EXISTING SANITARY SEWER
---	EXISTING WATER LINE
---	EXISTING BACK OF CURB
---	EXISTING STRUCTURE
---	EXISTING TREE LINE
---	SOIL CLASSIFICATION BOUNDARY

**TREE LEGEND**

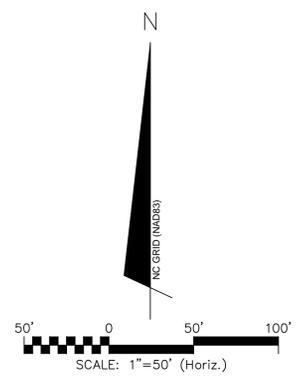
	= CEDAR
	= DOGWOOD
	= OAK
	= MAGNOLIA
	= MAPLE
	= PINE
	= ELM
	= PALM

NOTES

- TREES SHOWN ARE REGULATED OR SIGNIFICANT (IDENTIFIED WITH AN APPROXIMATE DRIP LINE).
- EXISTING TREE CALIPER IS SHOWN WITHIN THE SYMBOL.



SITE DATA TABLE		SHIPYARD VILLAGE APARTMENTS	
GENERAL INFORMATION			
APPLICANT NAME	SHIPYARD VILLAGE WILMINGTON, LLC		
SITE ADDRESS	2821 CAROLINA BEACH ROAD		
PROPERTY OWNER/DEVELOPER	SHIPYARD VILLAGE WILMINGTON, LLC		
MAP SCALE	1"=50'		
PROPERTY BOUNDARY			
TAX PARCEL IDENTIFICATION NUMBER	R06506-008-020-000		
	R06506-008-032-000		
	R06506-008-029-000		
ZONING DISTRICT	MF-M AND CS		
TOTAL ACREAGE	SEE CS-101		
TOPOGRAPHY AND DRAINAGE			
DATE OF TOPOGRAPHY DATA	4/22/2014		
100-YR FLOODPLAIN LINE	NONE IDENTIFIED		
LOCATION OF NATURAL WATER FEATURES	LOCATION	CLASSIFICATION	
DITCHES, STREAMS, CREEKS	N/A	N/A	
FLOOD PRONE AREAS	NONE IDENTIFIED		
AREAS OF NATURALLY CONCENTRATED SURFACE DRAINAGE	N/A		
SOIL (USDA SOIL SURVEY)			
SOIL TYPE(S) AND BOUNDARIES	SEE CX-101		
NORTH CAROLINA COASTAL AREA MANAGEMENT ACT INFORMATION			
CAMA AREA OF ENVIRONMENTAL CONCERN	NONE IDENTIFIED		
SETBACKS	N/A		
CAMA LAND USE CLASSIFICATION(S)	URBAN		
CONSERVATION RESOURCE REGULATIONS			
PRESENCE OF CONSERVATION RESOURCE	NONE		
SETBACKS	N/A		
VEGETATED BUFFER	N/A		
HISTORIC AND ARCHEOLOGICAL SITES			
LOCAL, STATE, OR FEDERALLY RECOGNIZED HISTORIC STRUCTURE(S) OR ARCHEOLOGICAL RESOURCES	LOCATION	CLASSIFICATION	
	N/A	N/A	
CEMETERIES			
CEMETERIES, BURIAL SITES, OR BURIAL GROUNDS	NONE IDENTIFIED		
FORESTED AREAS			
BOUNDARIES OF FORESTED AREAS	SEE CX-101		
FOREST AREA	SEE CX-101		
HABITAT	NONE IDENTIFIED		
DOMINANT SPECIES	OAK, PINE		
WETLANDS			
404/SECTION 10 WETLAND LOCATION	NONE IDENTIFIED		
METHOD OF DETERMINATION	N/A		
IMPACTED WETLANDS	N/A		
ENDANGERED SPECIES OR HABITAT			
ENDANGERED SPECIES OR HABITAT IN PROJECT AREA	NONE IDENTIFIED		
AUTOMOBILE, BICYCLE, PEDESTRIAN, OR TRANSIT FACILITIES			
EXISTING OR PROPOSED THROUGHFARES, BIKE ROUTES, PEDESTRIAN SIDEWALKS OR TRAILS, AND TRANSIT FACILITIES	PROPERTY IS ALONG WAVE ROUTE 106		



1 inch  
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Approved Construction Plan

Name \_\_\_\_\_ Date \_\_\_\_\_

Planning \_\_\_\_\_

Traffic \_\_\_\_\_

Fire \_\_\_\_\_

STORMWATER MANAGEMENT PLAN

APPROVED

CITY OF WILMINGTON

ENGINEERING DEPARTMENT

DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_

SIGNED \_\_\_\_\_

REV. NO.	DESCRIPTIONS	DATE
H	PERMIT SUBMITTAL SET - CON. N/C	6/24/16
G	PERMIT SUBMITTAL SET - CP/PA, N/C/DOT, CON. N/C	5/6/16
F	ADDENDUM #1 - REVISIONS TO UTILITY PLAN	4/7/16
E	CITY OF WILMINGTON STORMWATER AND NHC SEDIMENT AND EROSION CONTROL SUBMITTAL	3/24/16
D	CITY OF WILMINGTON SRB SUBMITTAL	3/17/16
C	CITY OF WILMINGTON TRC SUBMITTAL	2/19/16
B	CITY OF WILMINGTON SRB SUBMITTAL	2/19/16
A	CITY OF WILMINGTON CONCEPT TRC SUBMITTAL	1/19/2015

PRELIMINARY PLAN  
NOT FOR CONSTRUCTION



**MCKIM & CREED**

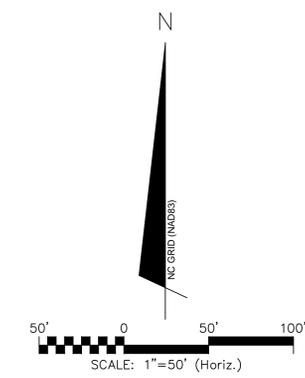
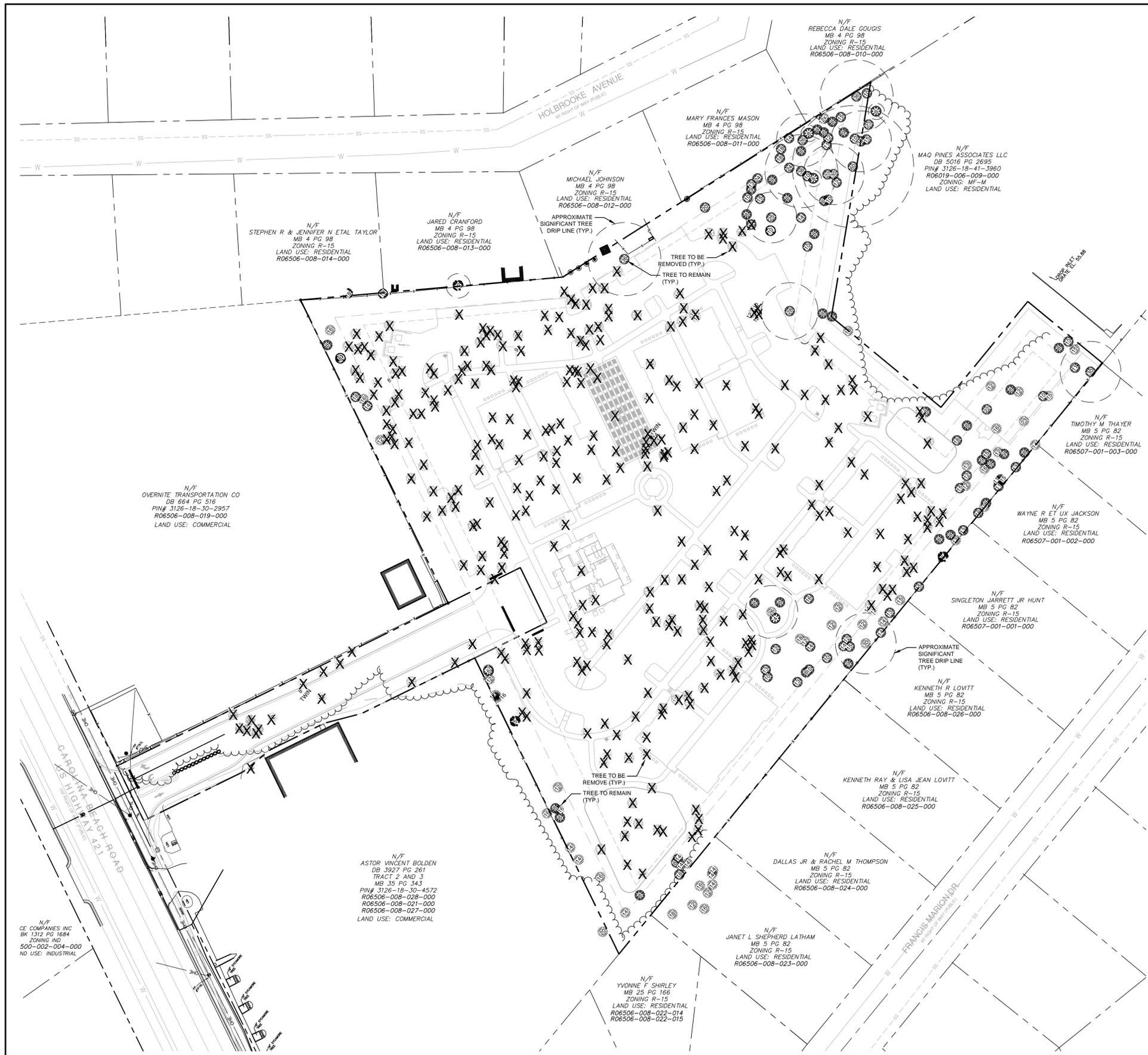
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SHIPYARD VILLAGE APARTMENTS  
2821 CAROLINA BEACH ROAD  
WILMINGTON, NORTH CAROLINA  
TOWNSHIP OF WILMINGTON

SITE INVENTORY PLAN

DATE: XX JUN 2016	SCALE: 1"=50'	MAC FILE NUMBER: CX101
MCE PROJ. #: 07010-0001	HORIZONTAL: 1"=50'	DRAWING NUMBER: 3
DRAWN: TCM/TSM	VERTICAL: N/A	
DESIGNED: TCM/TSM		
CHECKED: RMC		
PROJ. MGR: TSM		
STATUS: PRELIMINARY PLANS NOT FOR CONSTRUCTION	REVISION:	



**TREE LEGEND**

- = CEDAR
  - = DOGWOOD
  - = OAK
  - = MAGNOLIA
  - = MAPLE
  - = PINE
  - = ELM
  - = PALM
- NOTES
- TREES SHOWN ARE REGULATED OR SIGNIFICANT (IDENTIFIED WITH AN APPROXIMATE DRIP LINE).
  - EXISTING TREE CALIPER IS SHOWN WITHIN THE SYMBOL.

**LINETYPE LEGEND**

- MAJOR CONTOUR
- MINOR CONTOUR
- RES. PROPERTY LINE
- PROJECT PROPERTY LINE
- DRIVEWAY EASEMENT
- EXISTING R/W
- EXISTING SANITARY SEWER
- EXISTING WATER LINE
- EXISTING BACK OF CURB
- EXISTING STRUCTURE
- EXISTING TREE LINE
- SOIL CLASSIFICATION BOUNDARY

**Approved Construction Plan**

Name \_\_\_\_\_ Date \_\_\_\_\_

Planning \_\_\_\_\_

Traffic \_\_\_\_\_

Fire \_\_\_\_\_

**STORMWATER MANAGEMENT PLAN**

**APPROVED**

CITY OF WILMINGTON

ENGINEERING DEPARTMENT

DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_

SIGNED \_\_\_\_\_

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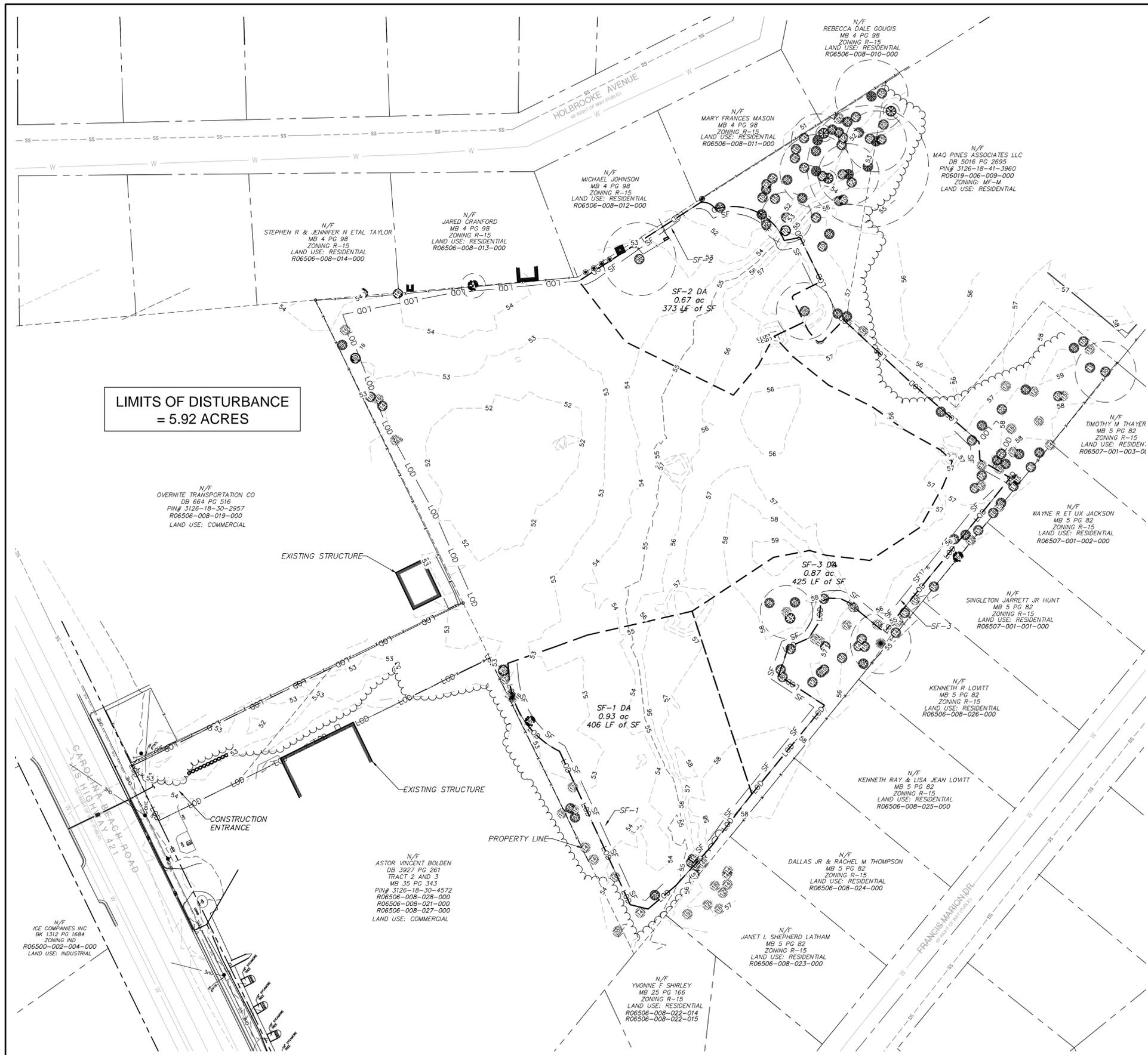
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**SHIPYARD VILLAGE APARTMENTS**

2821 CAROLINA BEACH ROAD  
WILMINGTON, NORTH CAROLINA  
TOWNSHIP OF WILMINGTON

**TREE REMOVAL PLAN**

DATE: XX JUN 2016	SCALE: HORIZONTAL: 1"=50'	MAC FILE NUMBER: CX102
MCE PROJ. #: 07010-0001	VERTICAL: N/A	DRAWING NUMBER: 4
DRAWN: TCM/TSM	PROJ. MGR: TSM	
DESIGNED: TCM/TSM		
CHECKED: RMC		
STATUS: PRELIMINARY PLANS		
NOT FOR CONSTRUCTION		



**PHASE 1 CONSTRUCTION SEQUENCE:**

1. ESTABLISH LIMITS OF DISTURBANCE AS SHOWN.
2. A PRECONSTRUCTION CONFERENCE MUST BE HELD 48 HOURS PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES. THE EROSION CONTROL INSPECTOR, ENGINEER, AND CONTRACTOR SHALL BE PRESENT. A DETAILED EROSION CONTROL PHASING PLAN WILL BE FINALIZED PRIOR TO COMMENCEMENT OF WORK.
3. INSTALL TEMPORARY GRAVEL CONSTRUCTION ENTRANCE AS SHOWN. CONTRACTOR SHALL MAINTAIN A SUFFICIENT GRAVEL ENTRANCE UNTIL FINAL SUBGRADE IS ESTABLISHED. IF DIRT/MUD GETS ON THE STREET, THEN A WASH RACK WILL NEED TO BE INSTALLED.
4. INSTALL TREE PROTECTION FENCING AND SILT FENCING AS NOTED ON PLANS BEFORE COMMENCING ANY LAND DISTURBANCE ACTIVITY. ADDITIONAL TREE PROTECTION FENCING AND SILT FENCE MAY BE REQUIRED.
5. COMMENCE CLEARING AND ROUGH GRADING OPERATIONS AND INSTALL EXISTING STORM DRAINAGE INLET PROTECTION.
6. PROVIDE TEMPORARY SEEDING AS NECESSARY TO PREVENT EROSION.

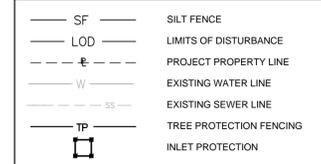
**PHASE 2 CONSTRUCTION SEQUENCE:**

1. INSTALL PROPOSED STORM DRAINAGE THROUGHOUT PROJECT SITE. ALL STORM DRAINAGE PIPING TO BE CLASS III RCP OR HDPE, UNLESS OTHERWISE NOTED.
2. INSTALL INLET PROTECTION AROUND STORM INLETS.
3. COMPACT ALL FILL AREAS TO 95% STD. PROCTOR MAXIMUM DRY DENSITY.
4. INSTALL UTILITIES, POUR CONCRETE FOR BUILDING PADS. PLACE ASPHALT FOR PARKING AND ROADWAYS.
5. COMPLETE BUILDING CONSTRUCTION AND TIE ROOF DRAINS INTO THE STORM DRAINAGE SYSTEM.
6. INSTALL LANDSCAPING AS SHOWN ON CL-101 & CL-102 AND ESTABLISH FINAL GRADES AS SHOWN ON CG-101 & CG-102.
7. INSTALL PERMANENT SEEDING.
8. REMOVE ALL SEDIMENT FROM ALL STORM DRAIN PIPES. CONTRACTOR TO PERFORM ANY NECESSARY GRADING TO CLEAR TEMPORARY SEDIMENT BASINS OF SEDIMENT AND CONVERT TO PERMANENT INFILTRATION BASINS.
9. SILT FENCE MUST REMAIN INSTALLED AND FUNCTIONING PROPERLY UNTIL THE LIMITS OF CONSTRUCTION HAVE BEEN PERMANENTLY STABILIZED.

**EROSION CONTROL NOTES:**

1. CLEAR AND REMOVE FROM SITE ALL TREES, SHRUBS, ROOTS, ROOT MAT, ETC. FROM THE AREA WITHIN DESIGNATED CLEARING LIMITS. DO NOT DISTURB INSIDE TREE PROTECTION FENCING.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING AND RESTORING TO PRE-CONSTRUCTION CONDITIONS ANY AREAS OUTSIDE THE PROJECT LIMITS THAT MAY INADVERTENTLY BE DAMAGED DUE TO THE FAILURE OF THE EROSION MEASURES DURING GRADING AND AFTER GRADING HAS BEEN COMPLETED.
3. CONTRACTOR SHALL CONTINUE TO MAINTAIN PERMANENT AND TEMPORARY EROSION CONTROL MEASURES UNTIL FINAL INSPECTION AND APPROVAL BY NEW HANOVER COUNTY ENGINEERING, IF REQUIRED.
4. PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING SHALL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES AND NO TOOLS, STOCKPILES, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
5. IF THE SAME PERSON CONDUCTS THE LAND-DISTURBING ACTIVITY & ANY RELATED BORROW OR WASTE ACTIVITY, THE RELATED BORROW OR WASTE ACTIVITY SHALL CONSTITUTE PART OF THE LAND-DISTURBING ACTIVITY UNLESS THE BORROW OR WASTE ACTIVITY IS REGULATED UNDER THE MINING ACT OF 1971, OR IS A LANDFILL REGULATED BY THE DIVISION OF WASTE MANAGEMENT. IF THE LAND-DISTURBING ACTIVITY AND ANY RELATED BORROW OR WASTE ACTIVITY ARE NOT CONDUCTED BY THE SAME PERSON, THEY SHALL BE CONSIDERED SEPARATE LAND-DISTURBING ACTIVITIES AND MUST BE PERMITTED EITHER THROUGH THE SEDIMENTATION POLLUTION CONTROL ACT AS A ONE-USE BORROW SITE OR THROUGH THE MINING ACT.
6. CONTACT PERSON SHOULD ISSUE ARISE DURING EROSION AND SEDIMENT CONTROL OPERATION: VERNON POWELL.
7. ANY GRADING BEYOND THE DENIED LIMITS SHOWN ON THE PLAN IS A VIOLATION OF THE COUNTY EROSION CONTROL ORDINANCE AND IS SUBJECT TO A FINE.
8. GRADING MORE THAN ONE ACRE WITHOUT AN APPROVED EROSION CONTROL PLAN IS A VIOLATION OF STATE LAW AND IS SUBJECT TO A FINE.
9. A GROUND COVER MUST BE PROVIDED ON EXPOSED SLOPES WITHIN 15 WORKING DAYS OR 21 CALENDAR DAYS (WHICHEVER IS SHORTER), FOLLOWING COMPLETION OF ANY PHASE OF GRADING; AND, A PERMANENT GROUND COVER FOR ALL DISTURBED AREAS WITHIN 60 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER) FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.
10. ADDITIONAL MEASURES TO CONTROL EROSION AND SEDIMENT MAY BE REQUIRED BY A REPRESENTATIVE OF NEW HANOVER COUNTY.
11. SLOPES SHALL BE GRADED NO STEEPER THAN 3:1.
12. ADDITIONAL DEVICES MAY BE REQUIRED AS AGREED UPON BY THE FIELD INSPECTOR, ENGINEER, AND OWNER.
13. IF ACTIVE CONSTRUCTION CEASES IN ANY AREA FOR MORE THAN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER), ALL DISTURBED AREAS MUST BE SEED, MULCHED, AND TACKED UNLESS WRITTEN APPROVAL IS GRANTED BY THE EROSION CONTROL OFFICER.

**SYMBOLS LEGEND**



**EROSION CONTROL MAINTENANCE:**

1. ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED FOR STABILITY AND OPERATED FOLLOWING EVERY RUNOFF-PRODUCING RAINFALL, BUT IN NO CASE LESS THAN ONCE EVERY WEEK AND WITHIN 24 HOURS OF EVERY HALF INCH RAINFALL.
2. ALL POINTS OF EGRESS WILL HAVE CONSTRUCTION ENTRANCES/EXITS THAT WILL BE PERIODICALLY TOP-DRESSED WITH 2-3" COURSE STONE TO MAINTAIN 3" THICKNESS. ENTRANCES/EXITS WILL BE MAINTAINED IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE SITE. IMMEDIATELY REMOVE OBJECTIONABLE MATERIAL SPILLED, WASHED, OR TRACKED ONTO THE CONSTRUCTION ENTRANCE/EXIT OR PUBLIC ROADWAYS. (NCDENR PRACTICE 6.06)
3. SEDIMENT WILL BE REMOVED FROM BEHIND THE SEDIMENT FENCE WHEN IT BECOMES HALF-FILLED. THE SEDIMENT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER. STAKES MUST BE STEEL. STAKE SPACING WILL BE 6 FEET MAX. WITH THE USE OF EXTRA STRENGTH FABRIC, WITHOUT WIRE BACKING. STAKE SPACING WILL BE 8 FEET MAX. WHEN STANDARD STRENGTH FABRIC AND WIRE BACKING ARE USED. IF ROCK FILTERS ARE DESIGNED AT LOW POINTS IN THE SEDIMENT FENCE THE ROCK WILL BE REPAIRED OR REPLACED IF IT BECOMES FULL HALF OF SEDIMENT, NO LONGER DRAINS AS DESIGNED OR IS DAMAGED. (NCDENR PRACTICE 6.62)
4. SEDIMENT WILL BE REMOVED FROM HARDWARE CLOTH AND GRAVEL INLET PROTECTIONS WHEN THE SEDIMENT REACHES HALF OF THE DEPTH TO THE TOP OF THE ROCK. ROCK WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT CONTROL MEASURE NO LONGER DRAINS AS INTENDED. REMOVE DEBRIS FROM THE ROCK AS NECESSARY TO ALLOW FOR PROPER DRAINAGE. (NCDENR PRACTICES 6.51)
5. ALL SEEDING AREAS WILL BE FERTILIZED, RE-SEEDING AS NECESSARY AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER. 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, SHORT, FLAT SLOPES (FLATTER THAN 3:1 AND LESS THAN 50') LEFT EXPOSED WILL, WITHIN 14 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. ALL OTHER AREAS SHOULD BE STABILIZED WITHIN 7 DAYS AFTER ANY PHASE OF ACTIVITY.
6. SEDIMENT WILL BE REMOVED FROM SEDIMENT BASINS WHEN THE DESIGNED STORAGE CAPACITY HAS BEEN HALF-FILLED WITH SEDIMENT. PULL SKIMMER TO ONE SIDE SO THAT SEDIMENT UNDERNEATH CAN BE REMOVED. SKIMMERS MUST BE CHECKED FOR BLOCKAGES AND DEBRIS REMOVAL, AND MAY BE FLUSHED IF NECESSARY. BAFFLES WILL BE REPAIRED OR REPLACED IF THEY COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE. THEY WILL BE REPLACED PROMPTLY. SEDIMENT WILL BE REMOVED WHEN DEPOSITS REACH HALF THE HEIGHT OF THE FIRST BAFFLE. (NCDENR PRACTICES 6.60, 6.64, & 6.65)
7. SEDIMENT STORAGE BAGS SHALL BE REMOVED ONCE 1/2-CAPACITY IS REACHED. SEDIMENT BAGS SHALL BE DISPOSED OF PROPERLY IN A LANDFILL OR BROKEN ON-SITE FOR BACKFILL. BAGS SHALL BE LIFTED CAREFULLY ACCORDING TO MANUFACTURER'S RECOMMENDATIONS SO THAT BAGS ARE NOT TORN IN-PLACE AND SEDIMENT IS NOT RELEASED OFF-SITE OR DOWNSTREAM.

REV. NO.	DESCRIPTIONS	DATE
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 TOWNSHIP OF WILMINGTON

**SEDIMENT AND EROSION CONTROL PLAN - PHASE 1**

**STORMWATER MANAGEMENT PLAN**

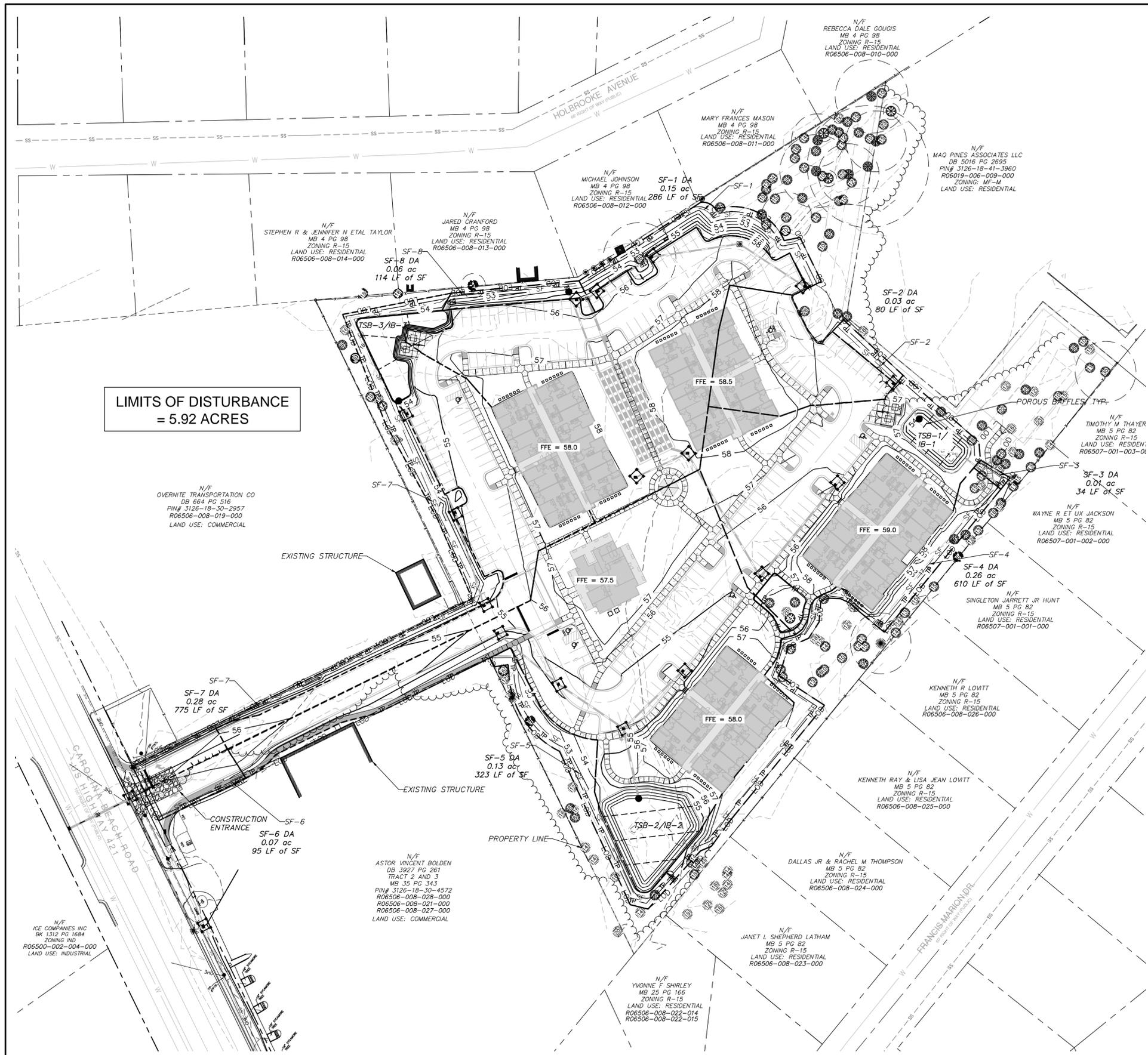
**APPROVED**

CITY OF WILMINGTON  
 ENGINEERING DEPARTMENT

DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_  
 SIGNED \_\_\_\_\_

DATE: XX JUN 2016	SCALE: 1"=50'	MAC FILE NUMBER: CE101
MCE PROJ. #: 07010-0001	HORIZONTAL: 1"=50'	DRAWING NUMBER: 5
DRAWN: TCM/TSM	VERTICAL: N/A	
DESIGNED: TCM/TSM		
CHECKED: RMC		
PROJ. MGR.: TSM		

STATUS: PRELIMINARY PLANS  
NOT FOR CONSTRUCTION



**LIMITS OF DISTURBANCE  
= 5.92 ACRES**

**PHASE 1 CONSTRUCTION SEQUENCE:**

1. ESTABLISH LIMITS OF DISTURBANCE AS SHOWN.
2. A PRECONSTRUCTION CONFERENCE MUST BE HELD 48 HOURS PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES. THE EROSION CONTROL INSPECTOR, ENGINEER, AND CONTRACTOR SHALL BE PRESENT. A DETAILED EROSION CONTROL PHASING PLAN WILL BE FINALIZED PRIOR TO COMMENCEMENT OF WORK.
3. INSTALL TEMPORARY GRAVEL CONSTRUCTION ENTRANCE AS SHOWN. CONTRACTOR SHALL MAINTAIN A SUFFICIENT GRAVEL ENTRANCE UNTIL FINAL SUBGRADE IS ESTABLISHED. IF DIRT/MUD GETS ON THE STREET, THEN A WASH RACK WILL NEED TO BE INSTALLED.
4. INSTALL TREE PROTECTION FENCING AND SILT FENCING AS NOTED ON PLANS BEFORE COMMENCING ANY LAND DISTURBANCE ACTIVITY. ADDITIONAL TREE PROTECTION FENCING AND SILT FENCE MAY BE REQUIRED.
5. COMMENCE CLEARING AND ROUGH GRADING OPERATIONS AND INSTALL EXISTING STORM DRAINAGE INLET PROTECTION.
6. PROVIDE TEMPORARY SEEDING AS NECESSARY TO PREVENT EROSION.

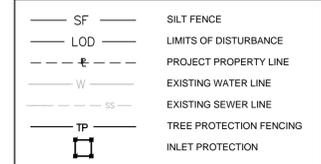
**PHASE 2 CONSTRUCTION SEQUENCE:**

1. INSTALL PROPOSED STORM DRAINAGE THROUGHOUT PROJECT SITE. ALL STORM DRAINAGE PIPING TO BE CLASS III RCP OR HDPE, UNLESS OTHERWISE NOTED.
2. INSTALL INLET PROTECTION AROUND STORM INLETS.
3. COMPACT ALL FILL AREAS TO 95% STD. PROCTOR MAXIMUM DRY DENSITY.
4. INSTALL UTILITIES, POUR CONCRETE FOR BUILDING PADS, PLACE ASPHALT FOR PARKING AND ROADWAYS.
5. COMPLETE BUILDING CONSTRUCTION AND TIE ROOF DRAINS INTO THE STORM DRAINAGE SYSTEM.
6. INSTALL LANDSCAPING AS SHOWN ON CL-101 & CL-102 AND ESTABLISH FINAL GRADES AS SHOWN ON CG-101 & CG-102.
7. INSTALL PERMANENT SEEDING.
8. REMOVE ALL SEDIMENT FROM ALL STORM DRAIN PIPES. CONTRACTOR TO PERFORM ANY NECESSARY GRADING TO CLEAR TEMPORARY SEDIMENT BASINS OF SEDIMENT AND CONVERT TO PERMANENT INFILTRATION BASINS.
9. SILT FENCE MUST REMAIN INSTALLED AND FUNCTIONING PROPERLY UNTIL THE LIMITS OF CONSTRUCTION HAVE BEEN PERMANENTLY STABILIZED.

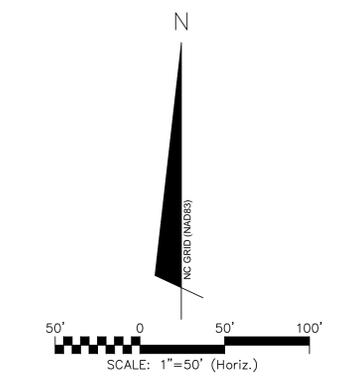
**EROSION CONTROL NOTES:**

1. CLEAR AND REMOVE FROM SITE ALL TREES, SHRUBS, ROOTS, ROOT MAT, ETC. FROM THE AREA WITHIN DESIGNATED CLEARING LIMITS. DO NOT DISTURB INSIDE TREE PROTECTION FENCING.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING AND RESTORING TO PRE-CONSTRUCTION CONDITIONS ANY AREAS OUTSIDE THE PROJECT LIMITS THAT MAY INADVERTENTLY BE DAMAGED DUE TO THE FAILURE OF THE EROSION MEASURES DURING GRADING AND AFTER GRADING HAS BEEN COMPLETED.
3. CONTRACTOR SHALL CONTINUE TO MAINTAIN PERMANENT AND TEMPORARY EROSION CONTROL MEASURES UNTIL FINAL INSPECTION AND APPROVAL BY NEW HANOVER COUNTY ENGINEERING, IF REQUIRED.
4. PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING SHALL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES AND NO TOOLS, STOCKPILES, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
5. IF THE SAME PERSON CONDUCTS THE LAND-DISTURBING ACTIVITY & ANY RELATED BORROW OR WASTE ACTIVITY, THE RELATED BORROW OR WASTE ACTIVITY SHALL CONSTITUTE PART OF THE LAND-DISTURBING ACTIVITY UNLESS THE BORROW OR WASTE ACTIVITY IS REGULATED UNDER THE MINING ACT OF 1971, OR IS A LANDFILL REGULATED BY THE DIVISION OF WASTE MANAGEMENT. IF THE LAND-DISTURBING ACTIVITY AND ANY RELATED BORROW OR WASTE ACTIVITY ARE NOT CONDUCTED BY THE SAME PERSON, THEY SHALL BE CONSIDERED SEPARATE LAND-DISTURBING ACTIVITIES AND MUST BE PERMITTED EITHER THROUGH THE SEDIMENTATION POLLUTION CONTROL ACT AS A ONE-USE BORROW SITE OR THROUGH THE MINING ACT.
6. CONTACT PERSON SHOULD ARISE DURING EROSION AND SEDIMENT CONTROL OPERATION: VERNON POWELL.
7. ANY GRADING BEYOND THE DENIED LIMITS SHOWN ON THE PLAN IS A VIOLATION OF THE COUNTY EROSION CONTROL ORDINANCE AND IS SUBJECT TO A FINE.
8. GRADING MORE THAN ONE ACRE WITHOUT AN APPROVED EROSION CONTROL PLAN IS A VIOLATION OF STATE LAW AND IS SUBJECT TO A FINE.
9. A GROUND COVER MUST BE PROVIDED ON EXPOSED SLOPES WITHIN 15 WORKING DAYS OR 21 CALENDAR DAYS (WHICHEVER IS SHORTER), FOLLOWING COMPLETION OF ANY PHASE OF GRADING, AND, A PERMANENT GROUND COVER FOR ALL DISTURBED AREAS WITHIN 15 WORKING DAYS OR 30 CALENDAR DAYS (WHICHEVER IS SHORTER) FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.
10. ADDITIONAL MEASURES TO CONTROL EROSION AND SEDIMENT MAY BE REQUIRED BY A REPRESENTATIVE OF NEW HANOVER COUNTY.
11. SLOPES SHALL BE GRADED NO STEEPER THAN 3:1.
12. ADDITIONAL DEVICES MAY BE REQUIRED AS AGREED UPON BY THE FIELD INSPECTOR, ENGINEER, AND OWNER.
13. IF ACTIVE CONSTRUCTION CEASES IN ANY AREA FOR MORE THAN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER), ALL DISTURBED AREAS MUST BE SEED, MULCHED, AND TACKED UNLESS WRITTEN APPROVAL IS GRANTED BY THE EROSION CONTROL OFFICER.

**SYMBOLS LEGEND**



NOTE: SEE SHEET CE-501 FOR SEDIMENT AND EROSION CONTROL DETAILS.



**EROSION CONTROL MAINTENANCE:**

1. ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED FOR STABILITY AND OPERATED FOLLOWING EVERY RUNOFF-PRODUCING RAINFALL, BUT IN NO CASE LESS THAN ONCE EVERY WEEK AND WITHIN 24 HOURS OF EVERY HALF INCH RAINFALL.
2. ALL POINTS OF EGRESS WILL HAVE CONSTRUCTION ENTRANCES/EXITS THAT WILL BE PERIODICALLY TOP-DRESSED WITH 3" COARSE STONE TO MAINTAIN 3" THICKNESS. ENTRANCES/EXITS WILL BE MAINTAINED IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE SITE. IMMEDIATELY REMOVE OBJECTIONABLE MATERIAL SPILLED, WASHED, OR TRACKED ONTO THE CONSTRUCTION ENTRANCE/EXIT OR PUBLIC ROADWAYS. (NCDENR PRACTICE 6.06)
3. SEDIMENT WILL BE REMOVED FROM BEHIND THE SEDIMENT FENCE WHEN IT BECOMES HALF-FILLED. THE SEDIMENT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER. STAKES MUST BE STEEL. STAKE SPACING WILL BE 6 FEET MAX. WITH THE USE OF EXTRA STRENGTH FABRIC, WITHOUT WIRE BACKING. STAKE SPACING WILL BE 8 FEET MAX. WHEN STANDARD STRENGTH FABRIC AND WIRE BACKING ARE USED. IF ROCK FILTERS ARE DESIGNED AT LOW POINTS IN THE SEDIMENT FENCE THE ROCK WILL BE REPAIRED OR REPLACED IF IT BECOMES HALF FULL OF SEDIMENT, NO LONGER DRAINS AS DESIGNED OR IS DAMAGED. (NCDENR PRACTICE 6.62)
4. SEDIMENT WILL BE REMOVED FROM HARDWARE CLOTH AND GRAVEL INLET PROTECTIONS WHEN THE SEDIMENT REACHES HALF OF THE DEPTH TO THE TOP OF THE ROCK. ROCK WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT CONTROL MEASURE NO LONGER DRAINS AS INTENDED. REMOVE DEBRIS FROM THE ROCK AS NECESSARY TO ALLOW FOR PROPER DRAINAGE. (NCDENR PRACTICES 6.51)
5. ALL SEEDING AREAS WILL BE FERTILIZED, RE-SEEDING AS NECESSARY AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER. 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, SHORT, FLAT SLOPES (FLATTER THAN 3:1 AND LESS THAN 50') LEFT EXPOSED WILL, WITHIN 14 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. ALL OTHER AREAS SHOULD BE STABILIZED WITHIN 7 DAYS AFTER ANY PHASE OF ACTIVITY.
6. SEDIMENT WILL BE REMOVED FROM SEDIMENT BASINS WHEN THE DESIGNED STORAGE CAPACITY HAS BEEN HALF-FILLED WITH SEDIMENT. PULL SKIMMER TO ONE SIDE SO THAT SEDIMENT UNDERNEATH CAN BE REMOVED. SKIMMERS MUST BE CHECKED FOR BLOCKAGES AND DEBRIS REMOVAL, AND MAY BE FLUSHED IF NECESSARY. BAFFLES WILL BE REPAIRED OR REPLACED IF THEY COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE. THEY WILL BE REPLACED PROMPTLY. SEDIMENT WILL BE REMOVED WHEN DEPOSITS REACH HALF THE HEIGHT OF THE FIRST BAFFLE. (NCDENR PRACTICES 6.60, 6.64, & 6.65)
7. SEDIMENT STORAGE BAGS SHALL BE REMOVED ONCE 1/2-CAPACITY IS REACHED. SEDIMENT BAGS SHALL BE DISPOSED OF PROPERLY IN A LANDFILL OR BROKEN ON-SITE FOR BACKFILL. BAGS SHALL BE LIFTED CAREFULLY ACCORDING TO MANUFACTURER'S RECOMMENDATIONS SO THAT BAGS ARE NOT TORN IN-PLACE AND SEDIMENT IS NOT RELEASED OFF-SITE OR DOWNSTREAM.

**STORMWATER MANAGEMENT PLAN**

**APPROVED**  
CITY OF WILMINGTON  
ENGINEERING DEPARTMENT  
DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_  
SIGNED \_\_\_\_\_

**Approved Construction Plan**  
Name \_\_\_\_\_ Date \_\_\_\_\_  
Planning \_\_\_\_\_  
Traffic \_\_\_\_\_  
Fire \_\_\_\_\_

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

REV. NO.	DESCRIPTIONS	DATE
H	PERMIT SUBMITTAL SET - CON. NHC	6/24/16
G	PERMIT SUBMITTAL SET - CPWA, NCDOT, CON. NHC	5/6/16
F	ADDENDUM #1 - REVISIONS TO UTILITY PLAN	4/7/16
E	CITY OF WILMINGTON STORMWATER AND NHC SEDIMENT AND EROSION CONTROL SUBMITTAL	3/24/16
D	CITY OF WILMINGTON SRB SUBMITTAL	3/17/16
C	CITY OF WILMINGTON TRC SUBMITTAL	2/19/16
B	CITY OF WILMINGTON SRB SUBMITTAL	2/2/16
A	CITY OF WILMINGTON CONCEPT TRC SUBMITTAL	11/9/2015

**PRELIMINARY PLAN  
NOT FOR  
CONSTRUCTION**



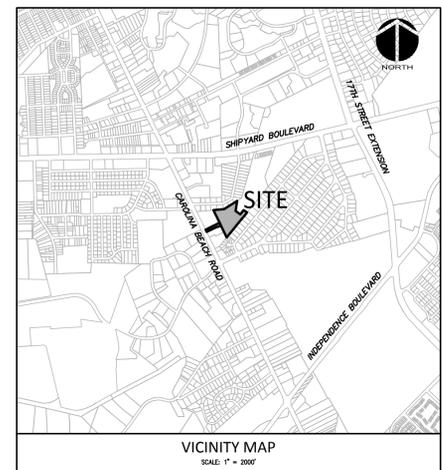
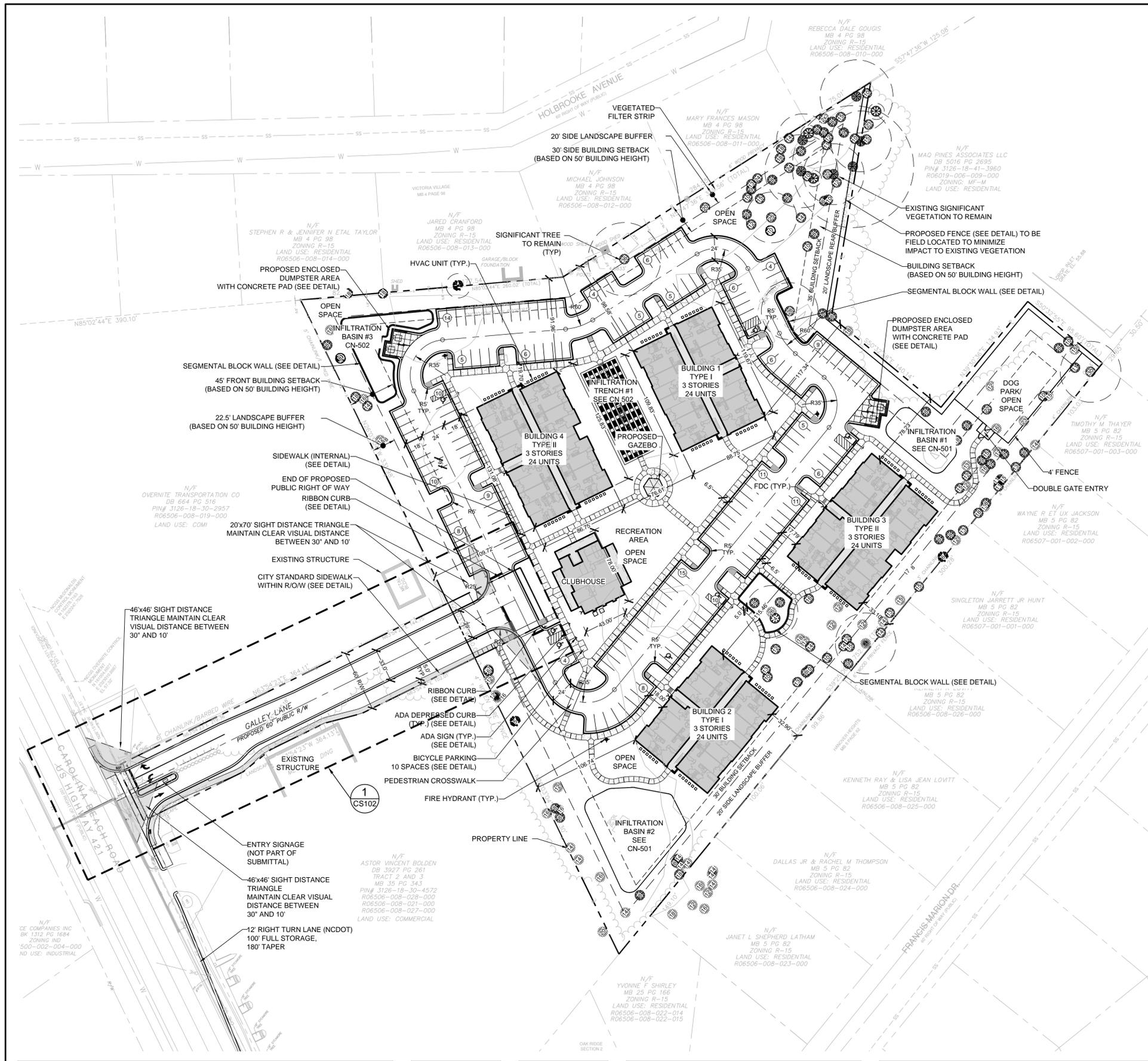
**MCKIM & CREED**  
243 North Front Street  
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NC LICENSE F-1222  
www.mckimcreed.com

**SHIPYARD VILLAGE WILMINGTON, LLC**  
PO BOX 29169  
GREENSBORO, NC 27429-9169

**SHIPYARD VILLAGE APARTMENTS**  
2821 CAROLINA BEACH ROAD  
WILMINGTON, NORTH CAROLINA  
TOWNSHIP OF WILMINGTON

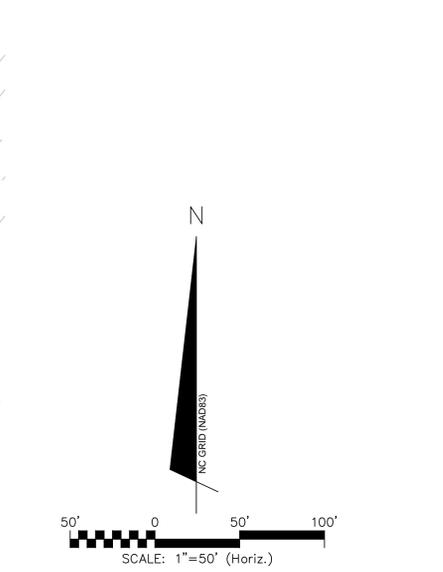
**SEDIMENT AND EROSION CONTROL - PHASE 2**

DATE: XX JUN 2016	SCALE: HORIZONTAL: 1"=50'	MAC FILE NUMBER: CE102
MCE PROJ #: 07010-0001	VERTICAL: N/A	DRAWING NUMBER: 6
DRAWN: TCM/TSM		
DESIGNED: TCM/TSM		
CHECKED: RMC		
PROJ. MGR.: TSM		
STATUS: PRELIMINARY PLANS NOT FOR CONSTRUCTION	REVISION:	



**GENERAL NOTES:**

- PROJECT IS NOT WITHIN ANY SPECIAL HIGHWAY OVERLAY DISTRICT.
- PROJECT IS NOT WITHIN ANY CORRIDOR OVERLAY DISTRICT.
- NO WETLANDS HAVE BEEN IDENTIFIED ON SITE.
- CONTACT THE NORTH CAROLINA ONE CALL CENTER PRIOR TO DOING ANY DIGGING. 1-800-632-4949.
- THE AT&T CONTACT IS JAMES BATSON - HE IS THE BUILDING INDUSTRY CONSULTANT - (910) 392-8712. PLEASE CONTACT HIM PRIOR TO STARTING THE PROJECT IN ORDER TO FACILITATE GOOD COMMUNICATION AND MAXIMUM FLEXIBILITY.
- THE PROCESS FOR TELEPHONE CABLE PLACEMENT:
  - FINAL GRADE WILL NEED TO BE ESTABLISHED.
  - POWER WILL PLACE THEIR CABLE FIRST AT APPROXIMATELY 3 FT DEEP.
  - BELLSOUTH/CABLE TV WILL THEN PLACE THEIR CABLE AT APPROXIMATELY 2 FEET DEEP.
- SITE DIMENSIONS FOR PARKING AREAS ARE TO THE FACE OF CURB.
- ALL PROPOSED VEGETATION WITHIN SIGHT DISTANCE TRIANGLES SHALL NOT INTERFERE WITH CLEAR VISUAL SIGHT LINES FROM 30' TO 10'.
- SEE SHEET 4 (CS-102) FOR TYPICAL HANDICAP SPACE DIMENSION INFORMATION.
- NO FEMA 100-YEAR FLOODPLAIN HAS BEEN IDENTIFIED ON SITE.



SITE DATA TABLE		SHIPYARD VILLAGE	
PARCEL ADDRESS	2821 CAROLINA BEACH ROAD		
BUILDING SETBACKS	REQUIRED	PROPOSED	
FRONT	35'	35'	
REAR	25'	25'	
SIDE (INTERIOR)	20'	20'	
SIDE (CORNER)	30'	30'	
TAX PARCEL IDENTIFICATION NUMBER(S)	R06506-008-020-000 R06506-008-029-000 R06506-008-032-000		
PARCEL DEED BOOK AND PAGE NUMBER(S)	DB 5387 PG 329 DB 5813 PG 1822		
CURRENT ZONING	MF-M (17 DU/AC) AND CS		
TOTAL ACREAGE	7.19 ACRES (313,133 SF)		
AREA OF PROPOSED PUBLIC RIGHT OF WAY	0.81 ACRES (26,604 SF)		
REMAINING SITE	6.58 ACRES (286,529 SF)		
MAX DENSITY ALLOWED	111 UNITS		
DENSITY PROPOSED	96 UNITS		
BUILDING SIZE WITH SQUARE FOOTAGE	45,506 GROSS SF		
(2) BUILDING TYPE 1	10,082 SF (EACH)		
(2) BUILDING TYPE 2	11,061 SF (EACH)		
CLUBHOUSE	3,220 SF		
NC BUILDING CODE CONSTRUCTION TYPE	VB		
BUILDING LOT COVERAGE	14.49%		
PROPOSED BUILDING HEIGHT	50' (BLDG. TYPE 1 & 2) 15' CLUBHOUSE		
NUMBER OF STORIES & SQUARE FEET PER FLOOR	3 STORIES, SF VARIES		
TOTAL AMOUNT OF DISTURBED AREA	6.60 ACRES (287,613 SF)		
CAMA LAND USE CLASSIFICATION	URBAN		
EXISTING IMPERVIOUS AREA	0		
IMPERVIOUS AREA (PROPOSED)			
BUILDINGS	46,207	SF	
ROADWAYS AND PARKING	79,998	SF	
SIDEWALKS	20,095	SF	
OFF-SITE IMPERVIOUS (WITHIN CAROLINA BEACH ROAD PUBLIC R/W)	4,210	SF	
TOTAL S.F. (ONSITE IMPERVIOUS AREA)	146,300	SF	
PERCENTAGE (ONSITE IMPERVIOUS AREA/ONSITE AREA)	46.7	%	
PARKING CALCULATIONS			
PROPOSED USE:	MULTI-FAMILY		
SPACES PROVIDED	179		
MAXIMUM SPACES ALLOWED (2.5 PER UNIT)	240		
MINIMUM SPACES REQUIRED	177		
36 1 BEDROOM UNITS @ 1.5 SPACES PER UNIT	54 SPACES		
48 2 BEDROOM UNITS @ 2.0 SPACES PER UNIT	96 SPACES		
12 3 BEDROOM UNITS @ 2.25 SPACES PER UNIT	27 SPACES		
ACCESSIBLE SPACES REQUIRED	6 (1 VAN)		
ACCESSIBLE SPACES PROVIDED	6 (1 VAN)		
BICYCLE PARKING SPACES REQUIRED	10		
BICYCLE PARKING SPACES PROVIDED	10		
OPEN SPACE CALCULATIONS			
TOTAL OPEN SPACE REQUIRED (35% OF SITE, EXCLUDING PUBLIC RIGHT OF WAY)	2.30 ACRES (100,285 SF)		
OPEN SPACE PROVIDED	2.58 ACRES (112,385 SF)		
REQUIRED ACTIVE OPEN SPACE (17.5% OF SITE, EXCLUDING PUBLIC RIGHT OF WAY)	1.15 ACRES (50,142.5 SF)		
PROPOSED ACTIVE OPEN SPACE	1.20 ACRES (52,272 SF)		
REQUIRED PASSIVE OPEN SPACE (17.5% OF SITE, EXCLUDING PUBLIC RIGHT OF WAY)	1.15 ACRES (50,142.5 SF)		
PROPOSED PASSIVE OPEN SPACE	1.38 ACRES (60,113 SF)		

REV. NO.	DESCRIPTIONS	DATE
H	PERMIT SUBMITTAL SET - COW, N/C	6/24/16
G	PERMIT SUBMITTAL SET - CFWA, NCDOT, COW, N/C	5/6/16
F	ADDENDUM #1 - REVISIONS TO UTILITY PLAN	4/7/16
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C	CITY OF WILMINGTON TRC SUBMITTAL	2/19/16
B	CITY OF WILMINGTON SRB SUBMITTAL	2/19/16
A	CITY OF WILMINGTON CONCEPT TRC SUBMITTAL	1/19/2015

PRELIMINARY PLAN  
NOT FOR CONSTRUCTION



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 TOWNSHIP OF WILMINGTON

OVERALL SITE PLAN

STORMWATER MANAGEMENT PLAN  
**APPROVED**  
 CITY OF WILMINGTON  
 ENGINEERING DEPARTMENT  
 DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_  
 SIGNED \_\_\_\_\_

DATE: XX JUN 2016  
 MCE PROJ. # 07010-0001  
 DRAWN TCM/TSM  
 DESIGNED TCM/TSM  
 CHECKED RMC  
 PROJ. MGR. TSM

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

MAC FILE NUMBER: CS101  
 DRAWING NUMBER: 7

STATUS: PRELIMINARY PLANS NOT FOR CONSTRUCTION

1 inch

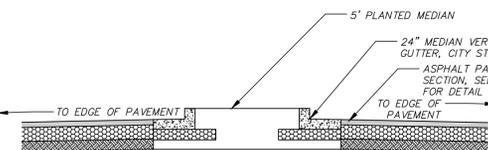
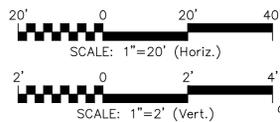
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Approved Construction Plan

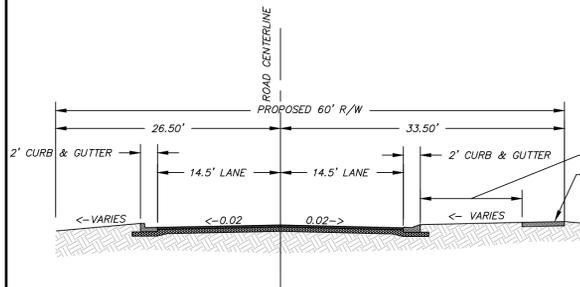
Name \_\_\_\_\_ Date \_\_\_\_\_
Planning \_\_\_\_\_
Traffic \_\_\_\_\_
Fire \_\_\_\_\_

STORMWATER MANAGEMENT PLAN

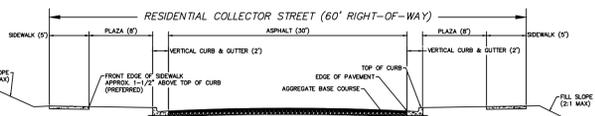
APPROVED
CITY OF WILMINGTON
ENGINEERING DEPARTMENT
DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_
SIGNED \_\_\_\_\_



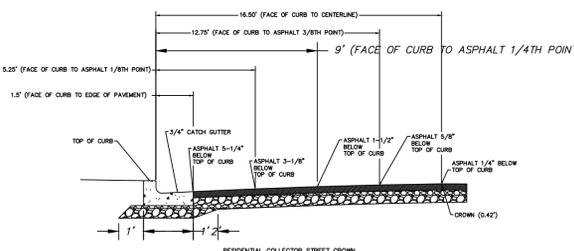
CONCRETE TRAFFIC ISLAND DETAIL
SCALE: N.T.S.



GALLEY LANE CROSS SECTION
60' PROPOSED PUBLIC RIGHT OF WAY
SCALE: 1" = 10'

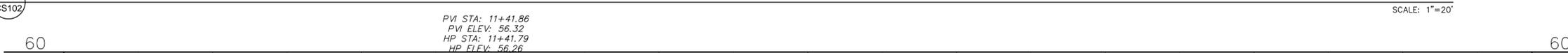


RESIDENTIAL COLLECTOR STREET SECTION

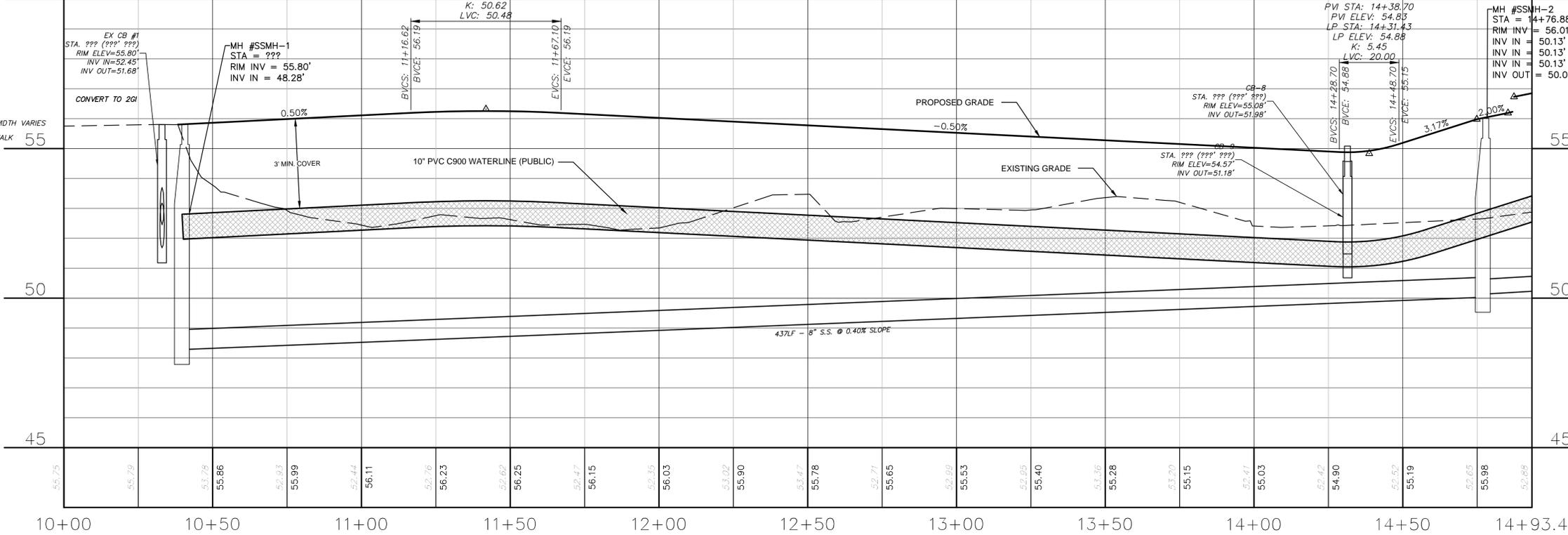


RESIDENTIAL COLLECTOR STREET CROSS SECTION

1 PROPOSED VARYING WIDTH PUBLIC RIGHT OF WAY (GALLEY LANE)



SCALE: 1" = 20'



GALLEY LANE
PROPOSED 60' PUBLIC RIGHT OF WAY
HORIZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 2'
NOTE: SEE CS501 FOR ASPHALT PAVEMENT SECTION.

2 COW STANDARD STREET SECTION (SD 3-01.2)

NOT TO SCALE

Table with 2 columns: REV. NO. and DATE. Includes revision history for permit submittals and utility plans.

PRELIMINARY PLAN
NOT FOR CONSTRUCTION



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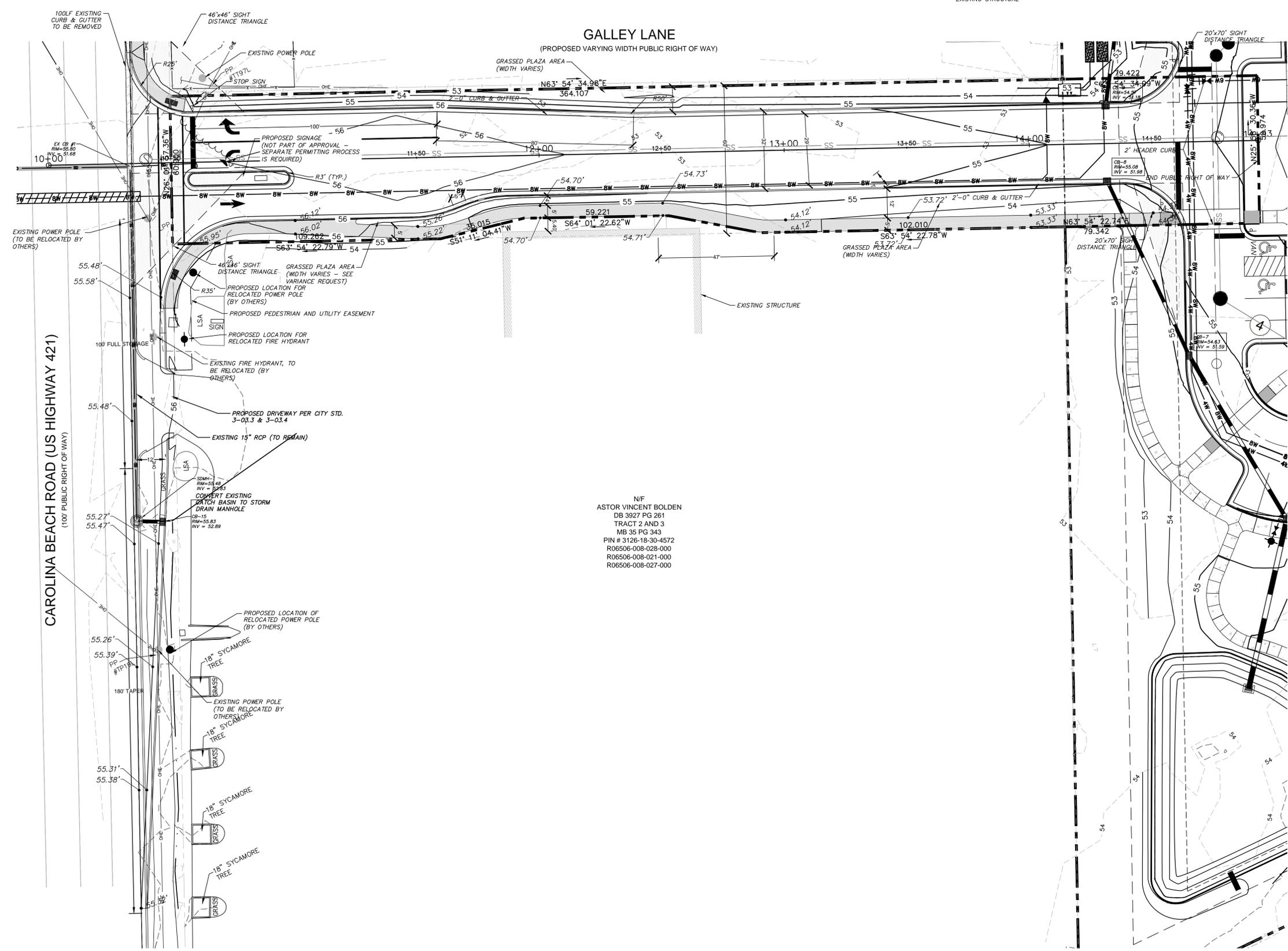
SHIPYARD VILLAGE APARTMENTS
2821 CAROLINA BEACH ROAD
WILMINGTON, NORTH CAROLINA
TOWNSHIP OF WILMINGTON
SITE PLAN ENLARGEMENT
GALLEY LANE

DATE: XX JUN 2016
SCALE: HORIZONTAL: 1" = 20', VERTICAL: N/A
DRAWN: TCM/TSM
DESIGNED: TCM/TSM
CHECKED: RMC
PROJ. MGR.: TSM
STATUS: PRELIMINARY PLANS NOT FOR CONSTRUCTION
DRAWING NUMBER: CS102
REVISION: 8

EXISTING STRUCTURE

### GALLEY LANE

(PROPOSED VARYING WIDTH PUBLIC RIGHT OF WAY)



1 inch

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**Approved Construction Plan**

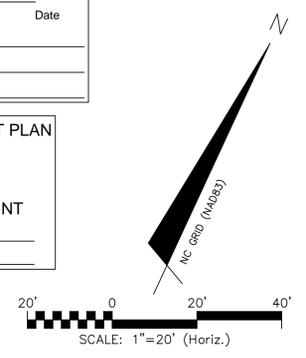
Name \_\_\_\_\_ Date \_\_\_\_\_

Planning \_\_\_\_\_

Traffic \_\_\_\_\_

Fire \_\_\_\_\_

**STORMWATER MANAGEMENT PLAN**  
**APPROVED**  
 CITY OF WILMINGTON  
 ENGINEERING DEPARTMENT  
 DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_  
 SIGNED \_\_\_\_\_



#### NOTES:

- CAROLINA BEACH ROAD CURRENT POSTED SPEED LIMIT IS 45 MPH.
- PAVEMENT SECTION FOR TURN LANE SHALL BE 5.5" B25.0B, 3" I 19.0B, AND 1.5" SF9.5A. SEE CS-504 FOR PAVEMENT SECTION DETAIL.

N/F  
 ASTOR VINCENT BOLDEN  
 DB 3927 PG 261  
 TRACT 2 AND 3  
 MB 35 PG 343  
 PIN # 3126-18-30-4572  
 R06506-008-028-000  
 R06506-008-021-000  
 R06506-008-027-000

1 CAROLINA BEACH ROAD TURN LANE PLAN

SCALE: 1"=20'

REV. NO.	DESCRIPTIONS	DATE
H	PERMIT SUBMITTAL SET - CON. N/C	6/24/16
G	PERMIT SUBMITTAL SET - C/P/UA, N/C/DOT, CON. N/C	5/6/16
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C	CITY OF WILMINGTON TRC SUBMITTAL	2/19/16
B	CITY OF WILMINGTON SRB SUBMITTAL	2/2/16
A	CITY OF WILMINGTON CONCEPT TRC SUBMITTAL	11/9/2015

PRELIMINARY PLAN  
 NOT FOR  
 CONSTRUCTION



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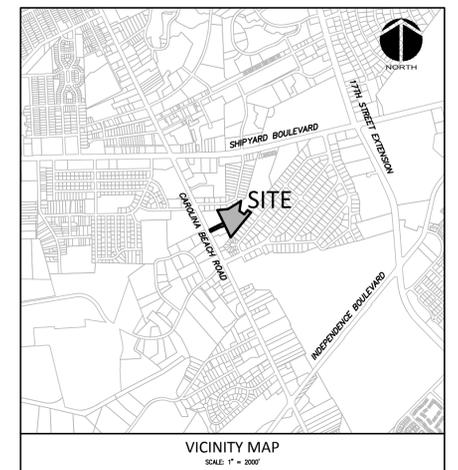
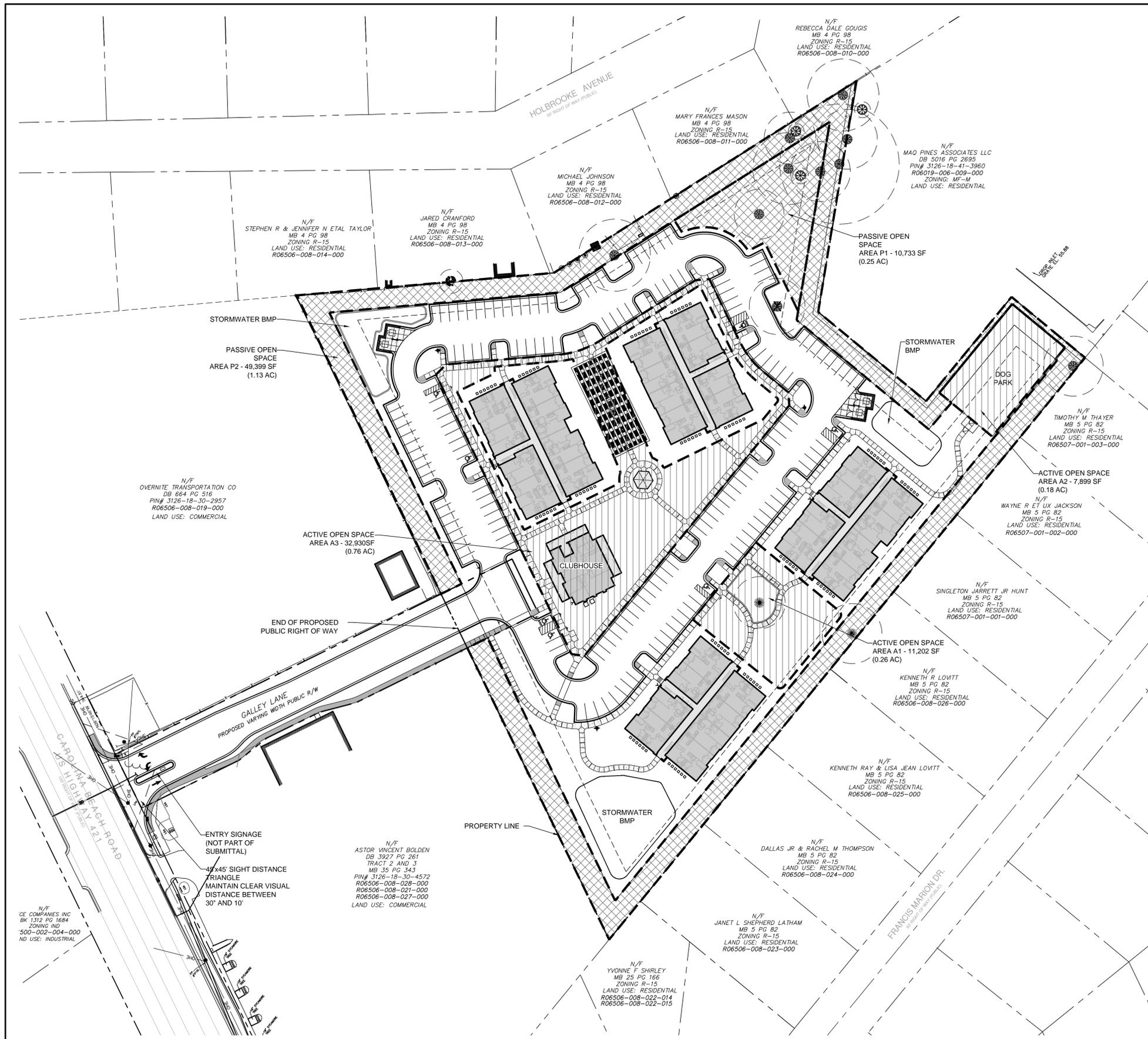
243 North Front Street  
 Wilmington, NC 28401  
 Phone: (910)343-1048, Fax: (910)251-8282  
 NC LICENSE F-1222  
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SHIPYARD VILLAGE WILMINGTON, LLC  
 PO BOX 29169  
 GREENSBORO, NC 27429-9169

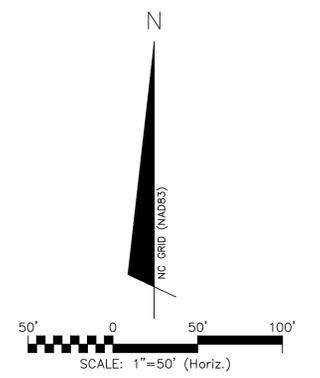
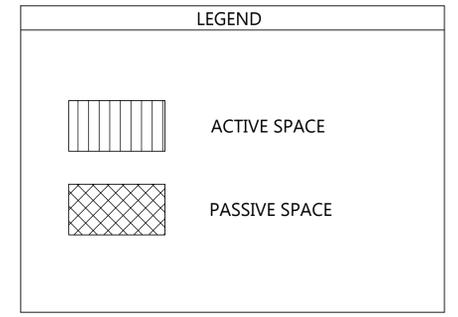
SHIPYARD VILLAGE APARTMENTS  
 2821 CAROLINA BEACH ROAD  
 WILMINGTON, NORTH CAROLINA  
 TOWNSHIP OF WILMINGTON

**CAROLINA BEACH ROAD (US HIGHWAY 421) TURN LANE PLAN**

DATE: XX JUN 2016	SCALE: HORIZONTAL: 1"=20'	PROJECT NUMBER: CS102A
MCE PROJ. #: 07010-0001	VERTICAL: N/A	DRAWING NUMBER: 9
DRAWN: TCM/TSM	DESIGNED: TCM/TSM	CHECKED: RMC
PROJ. MGR.: TSM	STATUS: PRELIMINARY PLANS NOT FOR CONSTRUCTION	REVISION:



OPEN SPACE CALCULATIONS		
TRACT AREA	313,133	SF
TOTAL PROPOSED STORMWATER PONDS	12,205	SF
AREA OF PROPOSED PUBLIC RIGHT OF WAY	21,847	SF
GROSS TRACT AREA (TRACT AREA - SW PONDS)	279,081	SF
REQUIRED OPEN SPACE (35% OF TRACT AREA)	97,678	SF
PROPOSED ACTIVE SPACE	52,272	SF
PROPOSED PASSIVE SPACE	60,113	SF
TOTAL OPEN SPACE (ACTIVE + PASSIVE) PROVIDED	112,385	SF (35.9%)



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 \_\_\_\_\_

**STORMWATER MANAGEMENT PLAN**

**APPROVED**

CITY OF WILMINGTON

ENGINEERING DEPARTMENT

DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_

SIGNED \_\_\_\_\_

REV. NO.	DESCRIPTIONS	DATE
H	PERMIT SUBMITTAL SET - CON. NHC	6/24/16
G	PERMIT SUBMITTAL SET - CP/PLA, NCDOT, COW, NHC	5/6/16
F	ADDENDUM #1 - REVISIONS TO UTILITY PLAN	4/7/16
E	CITY OF WILMINGTON STORMWATER AND NHC SEDIMENT AND EROSION CONTROL SUBMITTAL	3/24/16
D	CITY OF WILMINGTON SRB SUBMITTAL	3/16/16
C	CITY OF WILMINGTON TRC SUBMITTAL	2/19/16
B	CITY OF WILMINGTON SRB SUBMITTAL	2/2/16
A	CITY OF WILMINGTON CONCEPT TRC SUBMITTAL	1/19/2015

**PRELIMINARY PLAN  
NOT FOR CONSTRUCTION**



**MCKIM & CREED**

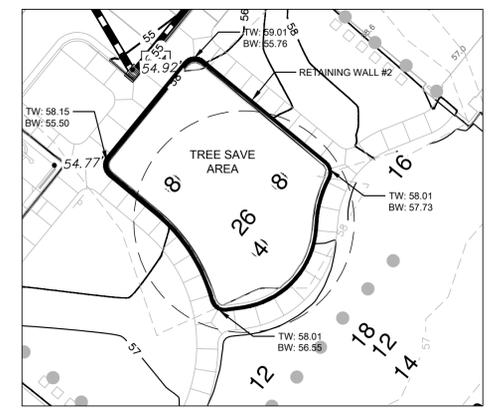
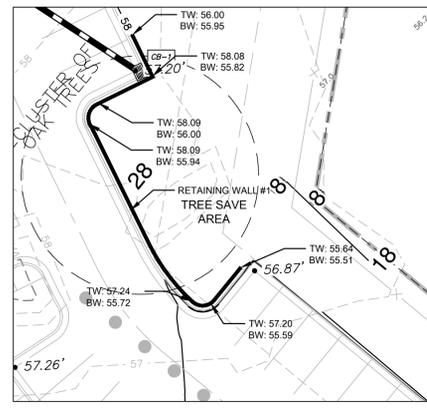
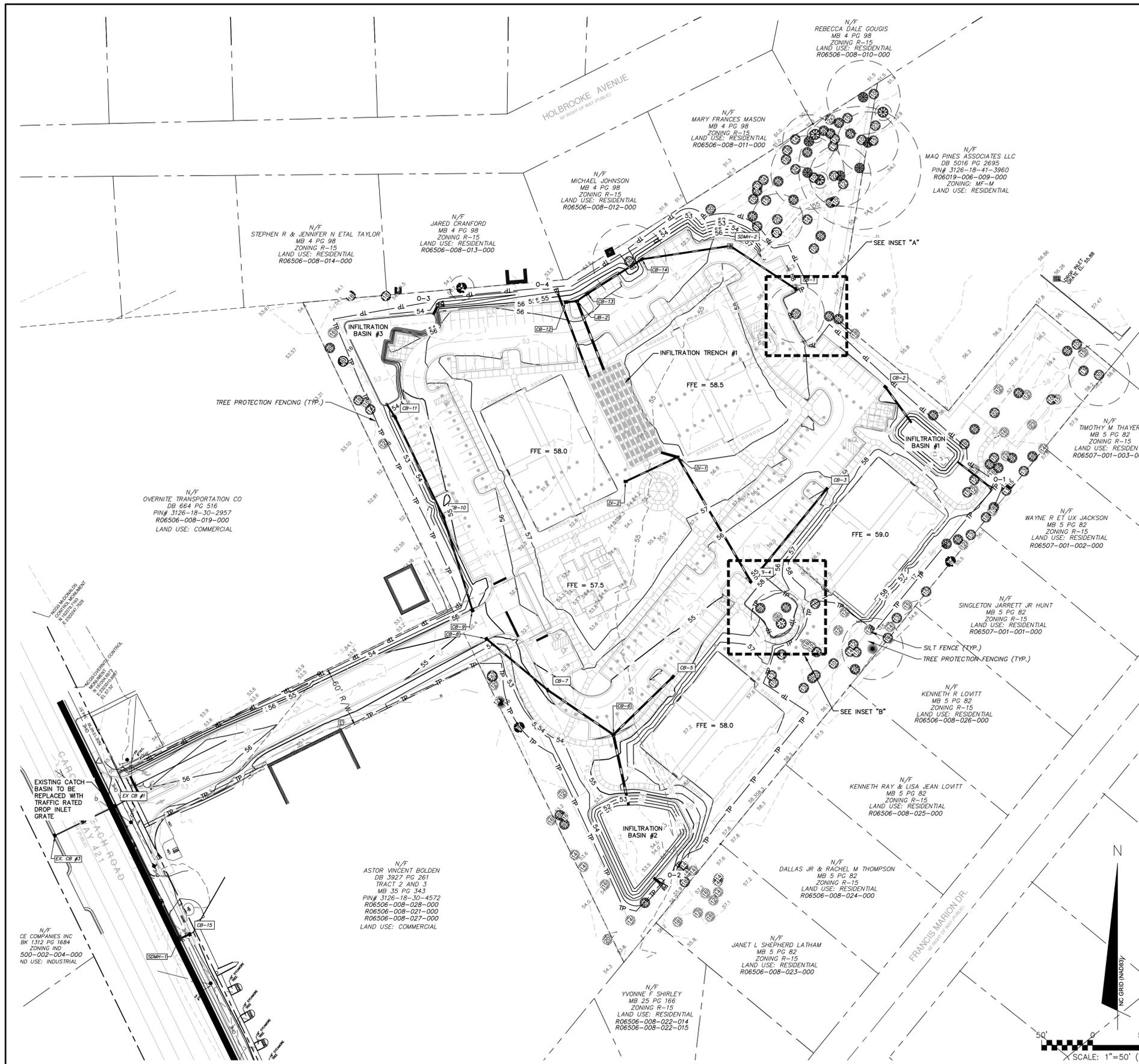
243 North Front Street  
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PO BOX 29169  
GREENSBORO, NC 27429-9169

**SHIPYARD VILLAGE APARTMENTS**  
2821 CAROLINA BEACH ROAD  
WILMINGTON, NORTH CAROLINA  
TOWNSHIP OF WILMINGTON

**OPEN SPACE PLAN**

DATE:	XX JUN 2016	SCALE:	HORIZONTAL: 1"=50'	VERTICAL: N/A	MAC FILE NUMBER: <b>CS103</b>
MCE PROJ. #	07010-0001	DRAWN:	TCM/TSM	DESIGNED:	TCM/TSM
CHECKED:	RMC	PROJ. MGR.:	TSM		
STATUS: <b>PRELIMINARY PLANS NOT FOR CONSTRUCTION</b>			REVISION:		



**Storm Drainage Structure Data Table**

Structure Name	Details
CB-1	RM = 56.12 INV OUT = 51.94
CB-2	RM = 56.5 INV OUT = 54.12
CB-3	RM = 55.49 INV IN = 50.92 RM = 54.91 INV IN = 50.57 INV OUT = 50.57
CB-4	RM = 54.31 INV OUT = 51.62
CB-5	RM = 53.97 INV IN = 51.21 INV IN = 51.21 INV OUT = 51.21
CB-6	RM = 54.63 INV IN = 51.59 INV IN = 51.59 RM = 54.57 INV OUT = 51.98
CB-7	RM = 54.59 RM = 54.85 INV IN = 50.89 INV OUT = 50.89
CB-8	RM = 54.31 INV IN = 50.57 INV IN = 50.57 RM = 55.67 INV OUT = 50.27
CB-9	RM = 55.67 INV IN = 51.26 INV IN = 51.26
CB-10	RM = 56.01 INV IN = 51.45 INV OUT = 51.45 RM = 54.83 INV OUT = 52.89
CB-11	RM = 57.28 INV IN = 52.60 INV IN = 50.14 INV OUT = 50.14 RM = 57.70 INV OUT = 54.00
CB-12	RM = 56.2 INV IN = 50.21 INV IN = 51.22 INV OUT = 53.60
CB-13	RM = 54.77 INV IN = 52.83 INV OUT = 52.83 RM = 56.88 INV IN = 51.71 INV OUT = 51.71
CB-14	RM = 54.39 INV IN = 51.68 INV IN = 51.68 RM = 55.69 INV IN = 50.78

**STORM DRAINAGE PIPE DATA TABLE**

FROM	TO	LENGTH	SIZE	PIPE TYPE	SLOPE	UPSTREAM INVERT	DOWNSTREAM INVERT
CB-1	SDMH-2	75.9	15"	RCP/HDPE	0.30%	51.94	51.71
SDMH-2	CB-14	86.18	15"	RCP/HDPE	0.30%	51.71	51.45
CB-14	CB-13	64.5	15"	RCP/HDPE	0.30%	51.45	51.26
CB-13	JB-2	12.55	15"	RCP/HDPE	0.30%	51.26	51.22
CB-12	JB-2	10.76	15"	RCP/HDPE	0.56%	50.27	50.21
JB-2	IT-1	71.91	24"	RCP/HDPE	0.30%	51.22	51.00
CB-3	CB-4	116.49	15"	RCP/HDPE	0.30%	50.92	50.57
CB-4	DI-1	140.4	18"	RCP/HDPE	0.31%	50.57	50.14
DI-2	DI-1	56.13	15"	RCP/HDPE	2.50%	54.00	52.60
DI-1	IT-1	16.77	24"	RCP/HDPE	0.83%	50.14	50.00
JB-2	O-4	11.88	15"	RCP	0.30%	53.60	53.56
CB-2	IB-1	44.37	18"	RCP/HDPE	0.27%	54.12	54.00
IB-1	O-1	35.97	18"	RCP	0.53%	56.75	56.56
CB-5	CB-6	83.06	18"	RCP/HDPE	0.49%	51.62	51.21
CB-8	CB-7	78.53	15"	RCP/HDPE	0.50%	51.98	51.59
CB-7	CB-6	77.52	18"	RCP/HDPE	0.49%	51.59	51.21
CB-6	IB-2	70.54	24"	RCP/HDPE	0.30%	51.21	51.00
IB-2	O-2	7.28	24"	RCP	0.90%	53.50	53.43
CB-9	CB-10	96.85	15"	RCP/HDPE	0.30%	51.18	50.89
CB-10	CB-11	107.99	15"	RCP/HDPE	0.30%	50.89	50.57
CB-11	IB-3	15.15	15"	RCP/HDPE	0.46%	50.57	50.50
IB-3	O-3	14.38	24"	RCP	0.37%	52.30	52.25
CB-15	SDMH-1/EX CB #2	11.3	15"	RCP	0.54%	52.89	52.83
SDMH-1	EX CB #1	144.15	15"	RCP	0.26%	52.83	52.45
EX CB #1	EX CB #3	65.9	18"	RCP	1.37%	51.68	50.78

**STORM DRAINAGE AND GRADING NOTES:**

- 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 AFTER EACH STORM EVENT OF 1/2 INCH OR GREATER, WITH ONE WEEKLY INSPECTION MINIMUM. NCDENR STANDARD INSPECTION REPORTS SHALL BE PREPARED AND SIGNED WITH COPIES PROVIDED TO THE OWNER, ARCHITECT, AND ENGINEER, BY THE CONTRACTOR.
- 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.
- SEDIMENT / EROSION DEVICES SHALL BE CHECKED BY THE CONTRACTOR DAILY. EACH DEVICE IS TO BE MAINTAINED OR REPLACED IF SEDIMENT ACCUMULATION HAS REACHED ONE HALF THE CAPACITY OF THE DEVICE.
- ALL DIMENSIONS AND GRADES SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY CONSTRUCTION MANAGER IF ANY DISCREPANCIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN OR GRADE CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO CONTRACTOR FOR ANY WORK DONE DUE TO DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.
- UNLESS OTHERWISE NOTED, GRADES AND SPOT ELEVATIONS NOTED ON PLANS INDICATE FINISHED GRADE OR PAVEMENT SURFACE. ALL DIMENSIONS ARE MEASURED TO THE BACK OF CURB UNLESS OTHERWISE INDICATED.
- ALL AREAS TO BE GRADED SO THAT NO AREAS OF STANDING WATER OCCUR.

NOTE: STATE REGULATED WATER BODY SERVING THE WATERSHED: BARNARDS CREEK (C, SW)

**Approved Construction Plan**

Name \_\_\_\_\_ Date \_\_\_\_\_

Planning \_\_\_\_\_

Traffic \_\_\_\_\_

Fire \_\_\_\_\_

**STORMWATER MANAGEMENT PLAN**

**APPROVED**

CITY OF WILMINGTON

ENGINEERING DEPARTMENT

DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_

SIGNED \_\_\_\_\_

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PRELIMINARY PLAN  
NOT FOR CONSTRUCTION



**MCKIM & CREED**

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TOWNSHIP OF WILMINGTON

**GRADING AND DRAINAGE PLAN**

**SHIPYARD VILLAGE APARTMENTS**

2821 CAROLINA BEACH ROAD  
WILMINGTON, NORTH CAROLINA  
TOWNSHIP OF WILMINGTON

**GRADING AND DRAINAGE PLAN**

DATE: XX JUN 2016

MCE PROJ. # 07010-0001

DRAWN TCM/TSM

DESIGNED TCM/TSM

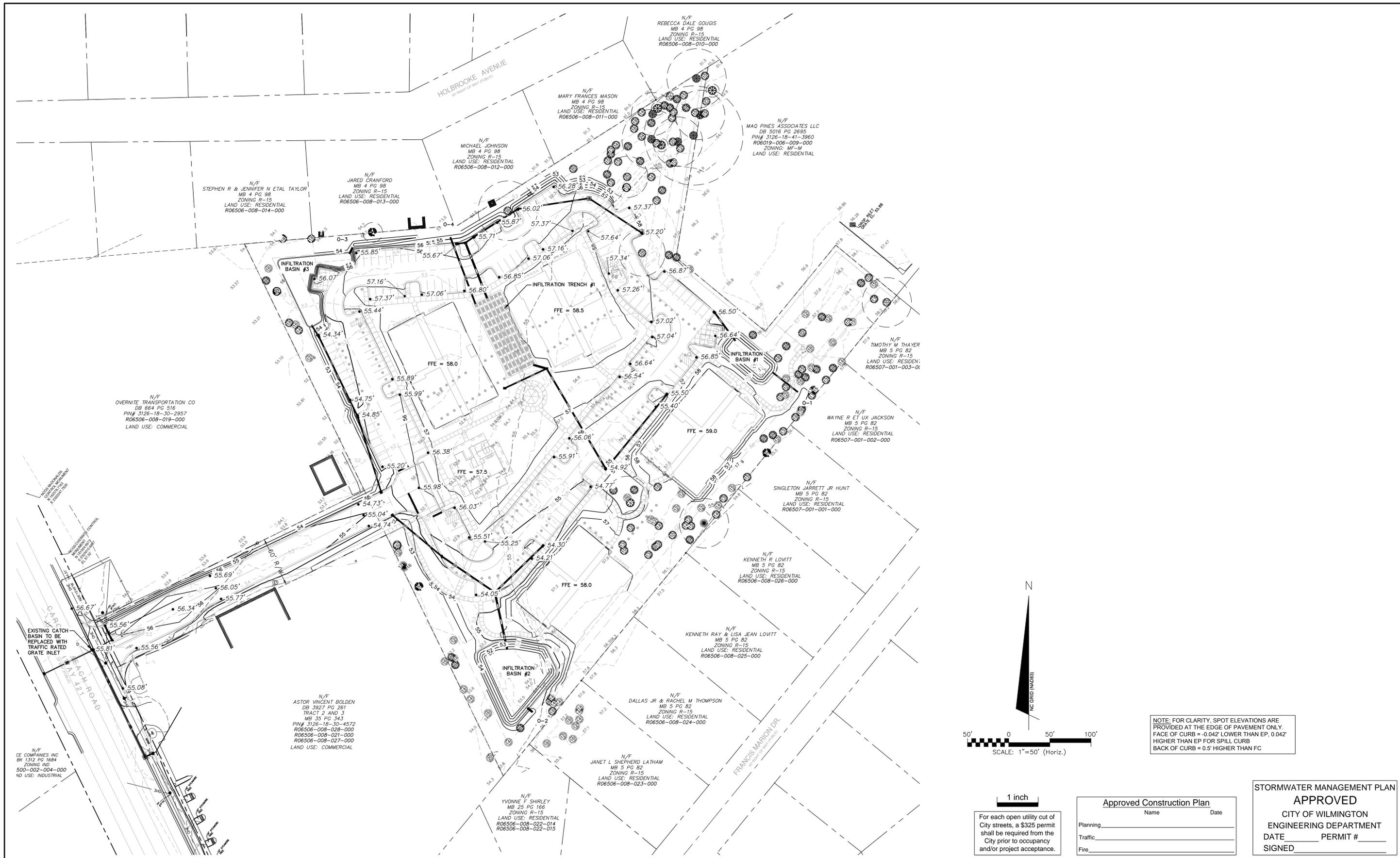
CHECKED RMC

PROJ. MGR. TSM

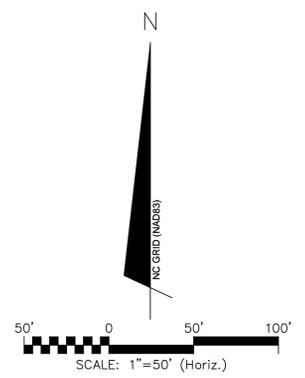
SCALE: HORIZONTAL: 1"=50' VERTICAL: N/A

REV. NO. 11

STATUS: PRELIMINARY PLANS NOT FOR CONSTRUCTION



NOTE: FOR CLARITY, SPOT ELEVATIONS ARE PROVIDED AT THE EDGE OF PAVEMENT ONLY. FACE OF CURB = 0.042' LOWER THAN EP, 0.042' HIGHER THAN EP FOR SPILL CURB. BACK OF CURB = 0.5' HIGHER THAN FC



1 inch  
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Approved Construction Plan

Name \_\_\_\_\_ Date \_\_\_\_\_

Planning \_\_\_\_\_

Traffic \_\_\_\_\_

Fire \_\_\_\_\_

STORMWATER MANAGEMENT PLAN  
**APPROVED**  
CITY OF WILMINGTON  
ENGINEERING DEPARTMENT  
DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_  
SIGNED \_\_\_\_\_

REV. NO.	DESCRIPTIONS	DATE
H	PERMIT SUBMITTAL SET - CON. N/C	6/24/16
G	PERMIT SUBMITTAL SET - CP/PA, N/C/DOT, CON. N/C	5/6/16
F	ADDENDUM #1 - REVISIONS TO UTILITY PLAN	4/7/16
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PRELIMINARY PLAN  
NOT FOR  
CONSTRUCTION



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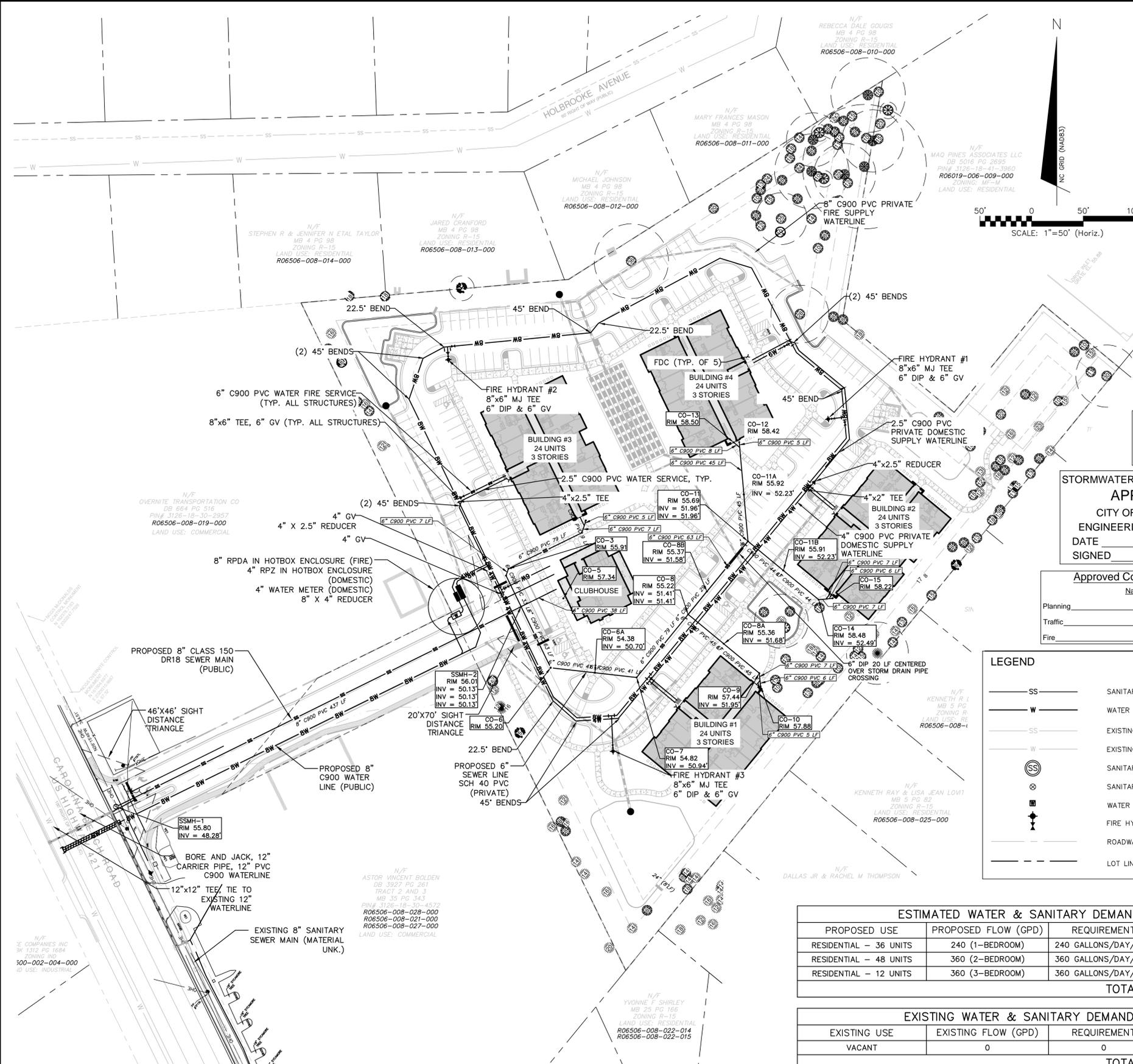
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2821 CAROLINA BEACH ROAD  
WILMINGTON, NORTH CAROLINA  
TOWNSHIP OF WILMINGTON

**GRADING AND DRAINAGE PLAN  
SPOT ELEVATIONS**

DATE: XX JUN 2016	SCALE: 1"=50'	M&E FILE NUMBER: CG102
M&E PROJ. #: 07010-0001	HORIZONTAL: 1"=50'	DRAWING NUMBER: 12
DRAWN: TCM/TSM	VERTICAL: N/A	
DESIGNED: TCM/TSM		
CHECKED: RMC		
PROJ. MGR: TSM		
STATUS: PRELIMINARY PLANS	REVISION:	
NOT FOR CONSTRUCTION		

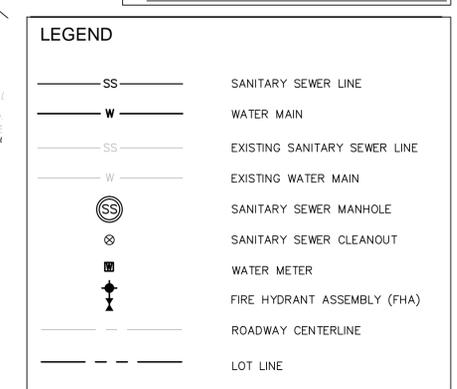


For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

**STORMWATER MANAGEMENT PLAN**  
**APPROVED**  
 CITY OF WILMINGTON  
 ENGINEERING DEPARTMENT  
 DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_  
 SIGNED \_\_\_\_\_

**Approved Construction Plan**

Name	Date
Planning	
Traffic	
Fire	



**UTILITY NOTES**

- SCHEDULE A PRECONSTRUCTION MEETING WITH CAPE FEAR PUBLIC UTILITY AUTHORITY 48 HOURS PRIOR TO CONSTRUCTION OF WATER AND SEWER LINES.
- WATER AND SANITARY SEWER UTILITY MAINS ARE PRIVATE BEYOND THE PUBLIC STREET RIGHT-OF-WAY.
- 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".
- ALL COMMERCIAL WATER SERVICES AND ANY IRRIGATION SYSTEMS SUPPLIED BY CFPWA WATER SHALL HAVE A BACKFLOW PREVENTION DEVICE ACCEPTABLE TO CFPWA AND APPROVED BY USCFCCHRR OR ASSE.
- BACKFLOW PREVENTION AND METERS WILL BE PROVIDED FOR BOTH FIRE LINES (RPDA) AND DOMESTIC SERVICE (RPZ). FIRE LINE BACKFLOW PREVENTER AND DOMESTIC SERVICE BACKFLOW PREVENTER WILL BE LOCATED AS SHOWN ON THE UTILITY PLANS. INSTALLER OF BACKFLOW PREVENTERS MUST CONTACT CFPWA PRIOR TO INSTALLING UNITS TO GIVE CFPWA THE OPTION TO VERIFY INSTALLATION PROCEDURES.
  - REDUCED PRESSURE PRINCIPLE ASSEMBLY FOR DOMESTIC WATER SERVICE
  - REDUCED PRESSURE DETECTOR ASSEMBLY WILL BE UTILIZED FOR THE BACKFLOW PREVENTER ON THE FIRE SERVICE.
- IF THE CONTRACTOR DESIRES CFPWA WATER FOR CONSTRUCTION HE SHALL APPLY IN ADVANCE FOR THIS SERVICE AND MUST PROVIDE A REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTION DEVICE ON THE DEVELOPER'S SIDE OF THE WATER METER BOX.
- WATER: 2.5" PVC SERVICES SHALL BE CONSTRUCTED USING ASTM D2241, IPS, GASKETED PIPE, SDR 21. 4"-12" PVC MAINS AND SERVICES SHALL BE CONSTRUCTED USING AWWA C-900 PVC, CL235 (DR-18).
- SANITARY SEWER: FOR PIPE SIZES 4" AND 6" PIPE SHALL BE SCH 40 CONFORMING TO THE REQUIREMENTS OF ASTM D1785 WITH SOLVENT WELD JOINTS CONFORMING TO ASTM D2672. FOR PIPE SIZES 8" THROUGH 12", PIPE SHALL BE CLASS 150, DR18 CONFORMING TO THE REQUIREMENTS OF AWWA C900 WITH ELASTOMERIC PUSH-ON JOINTS CONFORMING TO ASTM D3212 OR ASTM D3139.
- WATER AND SEWER SERVICES CANNOT BE ACTIVATED ON NEW MAINS UNTIL ENGINEER'S CERTIFICATION AND AS-BUILTS ARE RECEIVED AND "FINAL APPROVAL" ISSUED BY PUBLIC WATER SUPPLY SECTION OF NCDENR AND "FINAL ENGINEERING CERTIFICATION" ISSUED BY DIVISION OF WATER QUALITY OF NCDENR.
- PVC WATER MAINS AND POLYETHYLENE SERVICES ARE TO BE MARKED WITH NO. 10 SINGLE STRAND INSULATED COPPER WIRE INSTALLED THE ENTIRE LENGTH AND STRAPPED TO THE PIPES WITH DUCT TAPE. THE INSULATED WIRE IS TO BE STRIPPED TO BARE WIRE AND SECURED TO ALL VALVES. THIS WIRE IS TO BE ACCESSIBLE AT ALL FIRE HYDRANTS AND WATER METER BOXES TO AID IN FUTURE LOCATION OF FACILITIES.
- SITE UTILITY CONTRACTOR TO PROVIDE WATER AND SANITARY SEWER SERVICE TO WITHIN 5 FEET OF THE BUILDING. CONTRACTOR SHALL COORDINATE SITE PLAN CONNECTIONS WITH THE ARCHITECTURAL BUILDING PLANS.
- MAXIMUM BENDING RADIUS FOR 8" C-900 PVC WATER MAIN BENDS IS 380' (ONE-HALF MANUFACTURER'S RECOMMENDED ALLOWABLE LONGITUDINAL BENDING).
- UNDERGROUND UTILITIES: ALL NEW UTILITIES SHALL BE INSTALLED UNDERGROUND, EXCEPT WHERE SUCH PLACEMENT IS PROHIBITED OR DEEMED IMPRACTICAL BY THE UTILITY PROVIDER. UNDERGROUND TERMINAL FACILITIES FOR STREET LIGHTING ALONG THE PUBLIC STREETS ABUTTING THE SUBJECT SITE SHALL BE INSTALLED BY THE DEVELOPER.
- MINIMUM OF 36" COVERAGE ABOVE ALL WATERMAINS.
- MINIMUM OF 36" VERTICAL SEPARATION BETWEEN WATERLINES AND STORMDRAIN CURB INLETS
- A VARIANCE IS NOT ANTICIPATED FROM ANY NORTH CAROLINA DIVISION OF WATER QUALITY (DWQ) REQUIREMENT.
- PLANS ARE IN COMPLIANCE WITH CAPE FEAR PUBLIC UTILITY AUTHORITY TECHNICAL STANDARDS AND SPECIFICATIONS.

**RELATION OF WATER MAINS TO SANITARY SEWERS:**

- LATERAL SEPARATION OF SANITARY SEWERS AND WATER MAINS. WATER MAINS SHALL BE LAID AT LEAST 10 FEET LATERALLY FROM EXISTING OR PROPOSED SEWERS UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT A 10 FOOT LATERAL SEPARATION, IN WHICH CASE:
  - THE WATER MAIN IS LAID IN A SEPARATE TRENCH, WITH THE ELEVATION OF THE BOTTOM OF THE WATER MAIN AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER, OR
  - THE WATER MAIN IS LAID IN THE SAME TRENCH AS THE SEWER WITH THE WATER MAIN LOCATED AT ONE SIDE ON A BENCH OF UNDISTURBED EARTH, AND ABOVE THE TOP OF THE SEWER.
- CROSSING A WATER MAIN OVER A SEWER MAIN: WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS OVER A SEWER MAIN THE WATER MAIN SHALL BE LAID AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 24 INCHES ABOVE THE TOP OF THE SEWER MAIN, UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT AN 18 INCH VERTICAL SEPARATION - IN WHICH CASE BOTH THE WATER MAIN AND THE SEWER MAIN SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING.
- CROSSING A WATER MAIN UNDER A SEWER MAIN: WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS UNDER A SEWER MAIN BOTH THE WATER MAIN AND THE SEWER MAIN SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING.
- CROSSING A SEWER MAIN/WATER MAIN OVER OR UNDER A STORM DRAIN: WHENEVER IT IS NECESSARY FOR A SEWER MAIN/WATER MAIN TO CROSS A STORM DRAIN PIPE, THE SEWER MAIN/WATER MAIN SHALL BE LAID AT SUCH AN ELEVATION THAT THE OUTSIDE OF THE SEWER MAIN/WATER MAIN NEAREST TO THE OUTSIDE OF THE STORM DRAIN PIPE SHALL MAINTAIN A 24 INCH CLEAR SEPARATION DISTANCE HORIZONTAL, OR THE SEWER MAIN/WATER MAIN SHALL EITHER BE CONSTRUCTED OF DUCTILE IRON PIPE OR ENCASED IN EITHER CONCRETE OR DUCTILE IRON PIPE FOR AT LEAST 5 FEET ON EITHER SIDE OF THE CROSSING.

**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

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

- SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
- SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE AT RIGHT-OF-WAY LINE. SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN MANHOLE AND TERMINATE AT RIGHT-OF-WAY LINE.
- ALL SERVICES TYING INTO DUCTILE IRON MAINS SHALL BE CONSTRUCTED OF CLASS 50, DIP, WITH PROTECTO 401 CERAMIC EPOXY LINING.
- MINIMUM 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN FOR NEW DEVELOPMENTS.
- NO FLEXIBLE COUPLINGS SHALL BE USED.
- ALL STAINLESS STEEL FASTENERS SHALL BE 316.

**FIRE PROTECTION NOTES:**

- HYDRANT MUST BE WITHIN 150' OF THE FDC.
- THE FDC MUST BE WITHIN 40' OF FIRE APPARATUS PLACEMENT.
- 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.
- HYDRANTS MUST BE LOCATED WITHIN 8' OF THE CURB.
- COMBUSTIBLE MATERIALS MAY NOT BE STORED OR ERRECTED ON SITE WITHOUT CITY FIRE INSPECTOR APPROVAL.
- NEW HYDRANTS MUST BE AVAILABLE FOR USE PRIOR TO CONSTRUCTION OF THE BUILDING(S).
- UNDERGROUND FIRE LINE AND PRIVATE WATER MAINS MUST BE PERMITTED AND INSPECTED BY THE WILMINGTON FIRE DEPARTMENT FROM THE PUBLIC RIGHT-OF-WAY TO THE BUILDING. CONTACT THE WILMINGTON FIRE DEPARTMENT DIVISION OF FIRE AND LIFE SAFETY AT 910-343-0696 FOR ADDITIONAL INFORMATION.
- A MINIMUM OF 5' SHALL SEPARATE UNDERGROUND FIRE LINES OR PRIVATE WATER MAINS FROM UNDERGROUND UTILITIES
- CONTRACTOR SHALL MAINTAIN AN ALL WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
- TEMPORARY STREET SIGNS SHALL BE INSTALLED AT EACH STREET INTERSECTION WHEN CONSTRUCTION OF NEW ROADWAYS ALLOWS PASSAGE BY VEHICLES.



**ESTIMATED WATER & SANITARY DEMAND**

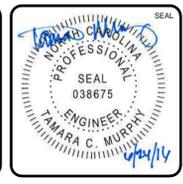
PROPOSED USE	PROPOSED FLOW (GPD)	REQUIREMENT	FLOW (GAL)
RESIDENTIAL - 36 UNITS	240 (1-BEDROOM)	240 GALLONS/DAY/UNIT	8,640
RESIDENTIAL - 48 UNITS	360 (2-BEDROOM)	360 GALLONS/DAY/UNIT	17,280
RESIDENTIAL - 12 UNITS	360 (3-BEDROOM)	360 GALLONS/DAY/UNIT	4,320
<b>TOTAL =</b>			<b>30,240</b>

**EXISTING WATER & SANITARY DEMAND**

EXISTING USE	EXISTING FLOW (GPD)	REQUIREMENT	FLOW (GAL)
VACANT	0	0	0
<b>TOTAL =</b>			<b>0</b>

REV. NO.	DESCRIPTIONS	DATE
H	PERMIT SUBMITTAL SET - COW, NHC	02/16/18
G	PERMIT SUBMITTAL SET - CFPWA, NCDOT, COW, NHC	06/16/18
F	ACCESSORY - REVISIONS TO UTILITY PLAN	07/18/18
E	CITY OF WILMINGTON STORMWATER AND NHC SEDIMENT AND EROSION CONTROL SUBMITTAL	02/16/18
D	CITY OF WILMINGTON SRB SUBMITTAL	04/16/18
C	CITY OF WILMINGTON TRC SUBMITTAL	07/16/18
B	CITY OF WILMINGTON SRB SUBMITTAL	02/16/18
A	CITY OF WILMINGTON CONCEPT TRC SUBMITTAL	11/20/15

PRELIMINARY PLAN  
NOT FOR CONSTRUCTION



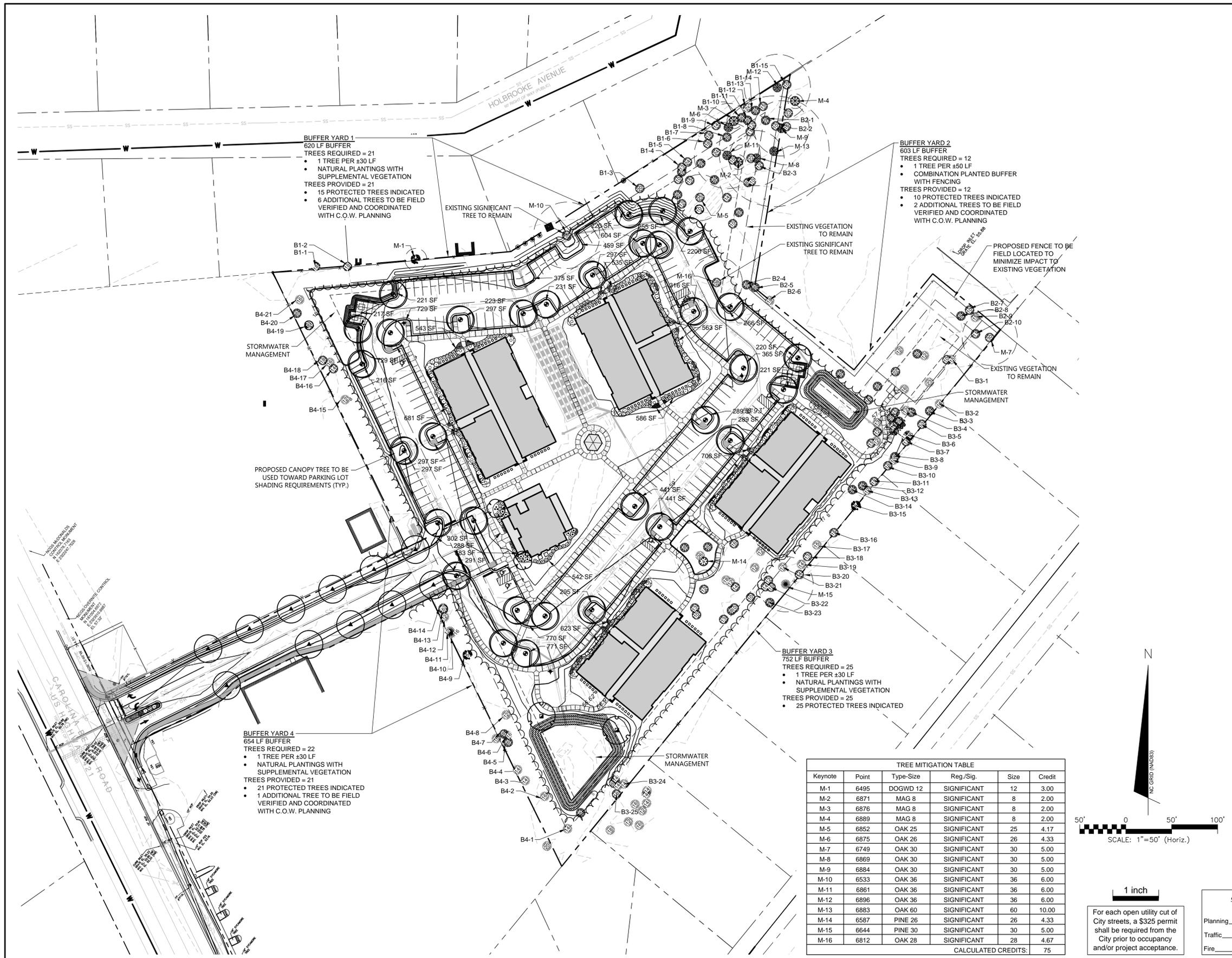
**MCKIM & CREED**  
 243 North Front Street  
 Wilmington, NC 28401  
 Phone: (910)343-1048, Fax: (910)251-8282  
 NC LICENSE F-1222  
 www.mckimcreed.com

**SHIPYARD VILLAGE WILMINGTON, LLC**  
 PO BOX 29169  
 GREENSBORO, NC 27429-9169

**SHIPYARD VILLAGE APARTMENTS**  
 2821 CAROLINA BEACH ROAD  
 WILMINGTON, NORTH CAROLINA  
 TOWNSHIP OF WILMINGTON

**UTILITY PLAN**

DATE: XX JUN 2018	SCALE: HORIZONTAL: 1"=50'	MAC FILE NUMBER: CU101
MCE PROJ.# 07010-0001	VERTICAL: N/A	DRAWING NUMBER: 13
DRAWN: TCM/TSM		
DESIGNED: TCM/TSM		
CHECKED: RMC		
PROJ. MGR.: TSM		
STATUS: PRELIMINARY PLANS NOT FOR CONSTRUCTION		



### LANDSCAPE DATA:

SEC. 18-481 PARKING LOT

INTERIOR PARKING AREA = 67,517 SF (EXCLUSIVE OF ROW)

SHADING REQUIRED (20%) = 13,503 SF  
SHADING PROPOSED (20%) = 13,503 SF

LANDSCAPED ISLANDS PROPOSED ARE A MINIMUM OF 12' X 18' (216 SF)  
EACH CANOPY TREE SHALL HAVE A MINIMUM PLANTING AREA OF 200 SF  
NO PARKING SPACE SHALL BE LOCATED FURTHER THAN 120' FROM A PLANTED ISLAND

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SEC. 18-498 BUFFER YARD

SEE SITE PLAN - SITE DATA TABLE FOR CALCULATIONS

SEE PLAN FOR REQUIRED TREES QUANTITIES IN BUFFER YARD AND EXISTING TREES AS CREDIT TOWARD THE REQUIREMENT.

BUFFER YARDS TO BE FIELD EVALUATED AFTER CLEARING IS COMPLETED.  
SUPPLEMENTAL LANDSCAPE MATERIAL TO BE PROVIDED IN ACCORDANCE WITH SEC. 18-503

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SEC. 18-460 MITIGATION

REGULATED TREES TO BE REMOVED ARE WITHIN THE AREA OF ESSENTIAL SITE IMPROVEMENTS. NO MITIGATION REQUIRED.

(2) SIGNIFICANT TREES TO BE REMOVED AND REQUIRE MITIGATION (75" CALIPER TOTAL). SEE TREE REMOVAL PLAN FOR LOCATIONS. SEE TABLE BELOW FOR TREES PROVIDING MITIGATION CREDIT. SEE PLAN FOR TREE CREDIT LOCATIONS.

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SEC. 18-477 STREETYARD

NOT APPLICABLE

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SEC. 18-490 FOUNDATION

AREA REQUIRED = 9,940 SF

[398 LF BUILDING FACADE TYPE I X 50' HEIGHT X 12%]  
[394 LF BUILDING FACADE TYPE II X 50' HEIGHT X 12%]  
[242 LF BUILDING FACADE CLUB X 15' HEIGHT X 12%]

AREA PROPOSED = 9,940 SF

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DISTURBED AREA

DISTURBED AREA = 6.06 AC (TOTAL INCLUDING R/O/W)

TREES PER ACRE REQUIRED TO BE PLANTED (15) = 37  
TREES PROPOSED = 37

- ### GENERAL NOTES:
- ANY AREAS NOT INDICATED TO HAVE HARDSCAPE, PLANTING, OR MULCH SHALL BE SODDED OR SEEDED.
  - ALL PLANTING TYPES SHALL COMPLY WITH LOCAL GOVERNING CODES AND REGULATIONS. CONFORM TO REQUIREMENTS OF PLANT LIST AND TO THE AMERICAN ASSOCIATION OF NURSERYMEN 'AMERICAN STANDARD OF NURSERY STOCK' AND 'HORTICULTURAL STANDARDS' AS TO SPECIES, AGE, SIZE, AND PLANTING RECOMMENDATIONS.
  - THE CONTRACTOR SHALL REPAIR OR REPLACE (AT THE OWNERS DISCRETION) ANY DAMAGE TO EXISTING UTILITIES, WALKS, PAVING OR OTHER SITE ELEMENTS IN PLACE AT THE COMMENCEMENT OF WORK, AT NO ADDITIONAL COST TO THE OWNER.
  - ALL TRASH AND CONSTRUCTION DEBRIS SHALL BE REMOVED FROM THE SITE PRIOR TO ESTABLISHMENT OF FINISH GRADES.
  - TREE SAVE AREAS SHALL BE MAINTAINED AS NOTED.
  - ANY DISCREPANCIES BETWEEN THIS SHEET AND OTHERS, AS THEY RELATE TO MATERIALS, QUANTITIES AND SPECIFICATIONS SHALL BE REFERRED TO THE LANDSCAPE ARCHITECT FOR CLARIFICATION.
  - PRIOR TO ANY CLEARING, GRADING, OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.

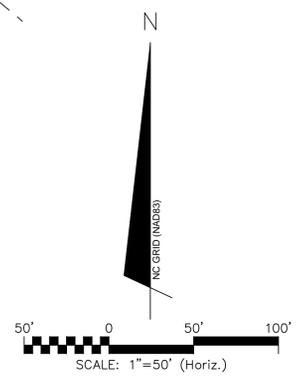
### LANDSCAPE LEGEND:

TREES	BOTANICAL NAME / COMMON NAME
	LAGERSTROEMIA X 'NATCHEZ' / CRAPE MYRTLE
	QUERCUS LAURIFOLIA / LAUREL-LEAVED OAK
	SALIX BABYLONICA / WEEPING WILLOW
	ZELKOVA SERRATA 'VILLAGE GREEN' / SAWLEAF ZELKOVA
SOD/SEED	BOTANICAL NAME / COMMON NAME
	PHALARIS ARUNDINACEA / REED CANARY GRASS

NOTE: SEE SHEET CL-102 FOR GROUND COVERS AND SHRUBS

### TREE MITIGATION TABLE

Keynote	Point	Type-Size	Reg./Sig.	Size	Credit
M-1	6495	DOGWD 12	SIGNIFICANT	12	3.00
M-2	6871	MAG 8	SIGNIFICANT	8	2.00
M-3	6876	MAG 8	SIGNIFICANT	8	2.00
M-4	6889	MAG 8	SIGNIFICANT	8	2.00
M-5	6852	OAK 25	SIGNIFICANT	25	4.17
M-6	6875	OAK 26	SIGNIFICANT	26	4.33
M-7	6749	OAK 30	SIGNIFICANT	30	5.00
M-8	6869	OAK 30	SIGNIFICANT	30	5.00
M-9	6884	OAK 30	SIGNIFICANT	30	5.00
M-10	6533	OAK 36	SIGNIFICANT	36	6.00
M-11	6861	OAK 36	SIGNIFICANT	36	6.00
M-12	6896	OAK 36	SIGNIFICANT	36	6.00
M-13	6883	OAK 60	SIGNIFICANT	60	10.00
M-14	6587	PINE 26	SIGNIFICANT	26	4.33
M-15	6644	PINE 30	SIGNIFICANT	30	5.00
M-16	6812	OAK 28	SIGNIFICANT	28	4.67
CALCULATED CREDITS:					75



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 \_\_\_\_\_

STORMWATER MANAGEMENT PLAN

APPROVED

CITY OF WILMINGTON

ENGINEERING DEPARTMENT

DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_

SIGNED \_\_\_\_\_

REV. NO.	DESCRIPTIONS	DATE
H	PERMIT SUBMITTAL SET - CON. NHC	6/24/16
G	PERMIT SUBMITTAL SET - CP/PA, NCDOT, CON. NHC	5/6/16
F	ADDENDUM #1 - REVISIONS TO UTILITY PLAN	4/7/16
E	CITY OF WILMINGTON STORMWATER AND NHC SEDIMENT AND EROSION CONTROL SUBMITTAL	3/24/16
D	CITY OF WILMINGTON SRB SUBMITTAL	3/16/16
C	CITY OF WILMINGTON TRC SUBMITTAL	2/19/16
B	CITY OF WILMINGTON SRB SUBMITTAL	2/2/16
A	CITY OF WILMINGTON CONCEPT TRC SUBMITTAL	1/19/2015

PRELIMINARY PLAN  
NOT FOR CONSTRUCTION



**MCKIM & CREED**

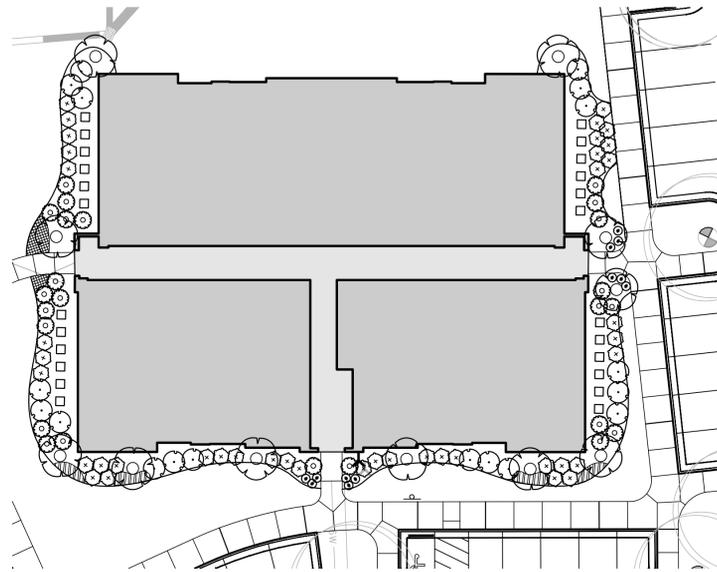
243 North Front Street  
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NC LICENSE F-1222  
www.mckimcreed.com

SHIPYARD VILLAGE WILMINGTON, LLC  
PO BOX 29169  
GREENSBORO, NC 27429-9169

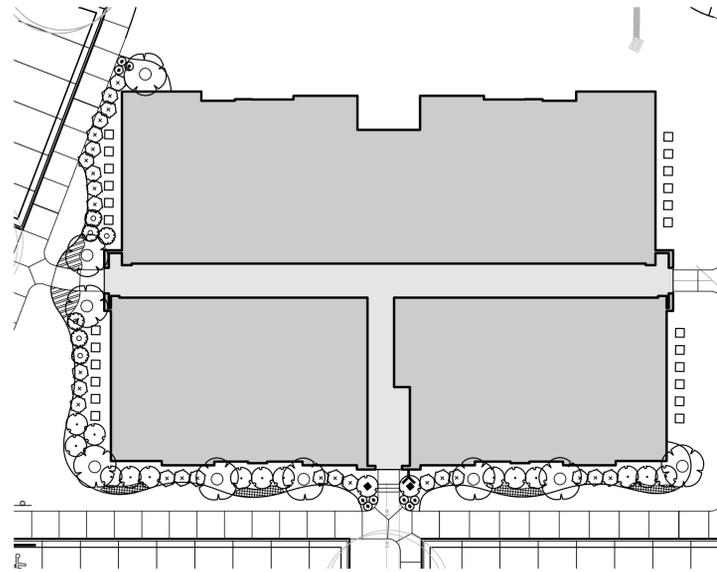
SHIPYARD VILLAGE APARTMENTS  
2821 CAROLINA BEACH ROAD  
WILMINGTON, NORTH CAROLINA  
TOWNSHIP OF WILMINGTON

OVERALL LANDSCAPE PLAN

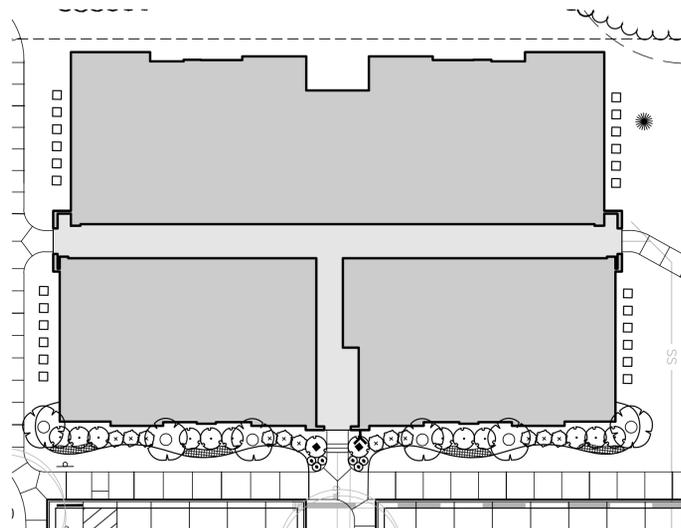
DATE: XX JUN 2016	SCALE: HORIZONTAL: 1"=50'	MAC FILE NUMBER: CL101
MCE PROJ. #: 07010-0001	VERTICAL: N/A	DRAWING NUMBER: 14
DRAWN: TCM/TSM	DESIGNED: TCM/TSM	CHECKED: RMC
PROJ. MGR: TSM	STATUS: PRELIMINARY PLANS	REVISION: NOT FOR CONSTRUCTION



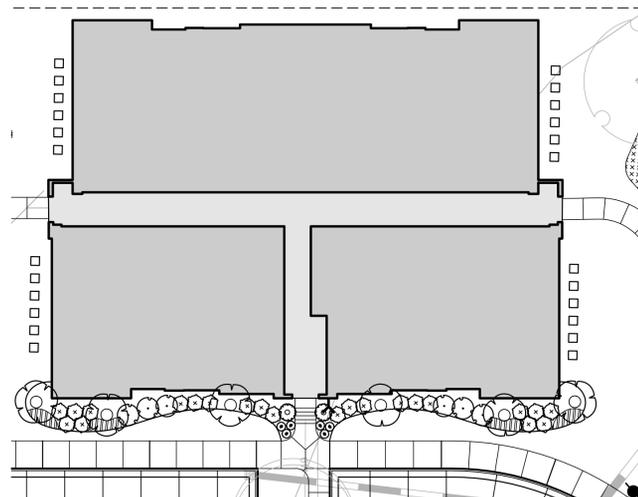
BUILDING 4 PLAN



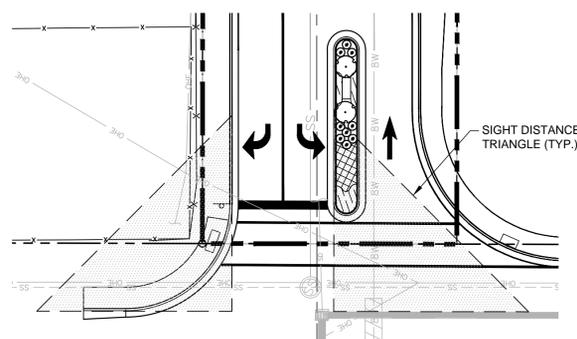
BUILDING 3 PLAN



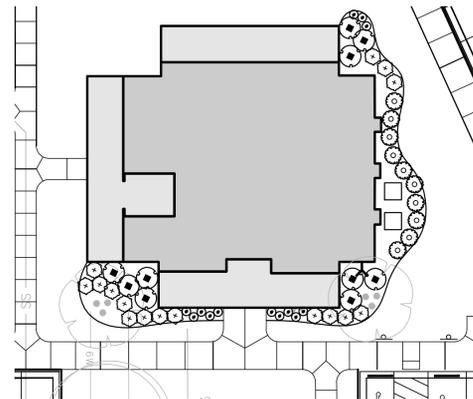
BUILDING 2 PLAN



BUILDING 1 PLAN



MAIN ENTRY ISLAND



CLUBHOUSE OFFICE PLAN

**PLANT LEGEND**

SHRUBS	BOTANICAL NAME / COMMON NAME
	ABELIA X GRANDIFLORA 'EDWARD GOUCHER' / GLOSSY ABELIA
	ILEX CRENATA 'CONVEXA' / CONVEX-LEAVED JAPANESE HOLLY
	LIGUSTRUM JAPONICUM 'ROTUNDFOLIUM' / JAPANESE PRIVET
	MYRICA CERIFERA / WAX MYRTLE
	NANDINA DOMESTICA 'FIREPOWER' / DWARF HEAVENLY BAMBOO
	PITTOSPORUM TOBIRA 'COMPACTUM' / COMPACT PITTOSPORUM
GROUND COVERS	BOTANICAL NAME / COMMON NAME
	GARDENIA JASMINOIDES 'RADICANS' / CAPE GARDENIA
	HYPERICUM CALYGINUM / CREEPING ST. JOHN'S WORT
	JUNIPERUS CHINENSIS 'SARGENTII' / SARGANT JUNIPER
	MIXED ANNUALS / MIXED ANNUALS
SOD/SEED	BOTANICAL NAME / COMMON NAME
NOTE: SEE SHEET CL-102 FOR GROUND COVERS AND SHRUBS	

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 \_\_\_\_\_

STORMWATER MANAGEMENT PLAN  
**APPROVED**  
CITY OF WILMINGTON  
ENGINEERING DEPARTMENT  
DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_  
SIGNED \_\_\_\_\_

REV. NO.	DESCRIPTIONS / REVISIONS	DATE
H	PERMIT SUBMITTAL SET - CON. N/C	02/16
G	PERMIT SUBMITTAL SET - C/P/UA, N/C/DOT, CON. N/C	05/16
F	ADDENDUM #1 - REVISIONS TO UTILITY PLAN	07/16
E	CITY OF WILMINGTON STORMWATER AND NHC SEDIMENT AND EROSION CONTROL SUBMITTAL	03/16
D	CITY OF WILMINGTON SRB SUBMITTAL	04/16
C	CITY OF WILMINGTON TRC SUBMITTAL	2/16/16
B	CITY OF WILMINGTON SRB SUBMITTAL	2/2/16
A	CITY OF WILMINGTON CONCEPT TRC SUBMITTAL	11/9/2015

PRELIMINARY PLAN  
NOT FOR CONSTRUCTION



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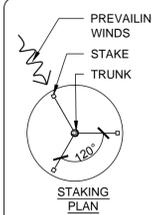
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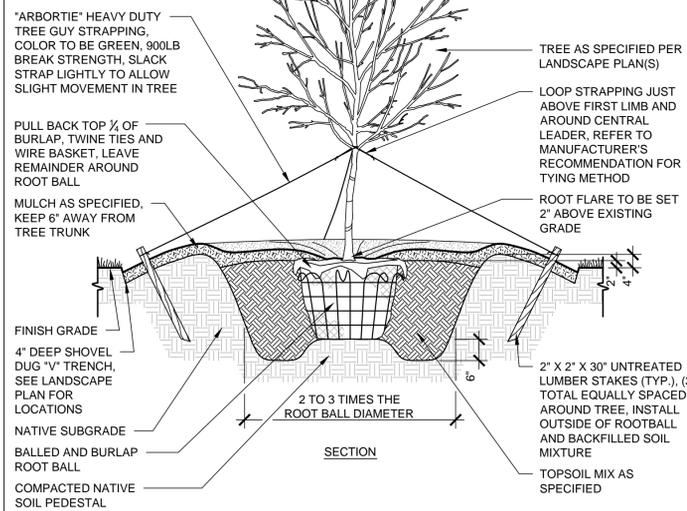
**ENLARGED LANDSCAPE PLANS**

DATE: XX JUN 2016	SCALE: HORIZONTAL: 1"=20'	MAC FILE NUMBER: CL102
MCE PROJ. #: 07010-0001	VERTICAL: N/A	DRAWING NUMBER: 15
DRAWN: TCM/TSM		
DESIGNED: TCM/TSM		
CHECKED: RMC		
PROJ. MGR.: TSM		
STATUS: PRELIMINARY PLANS NOT FOR CONSTRUCTION		

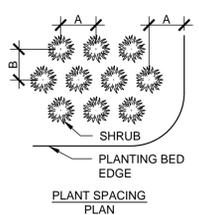
- A. ALL EXISTING VEGETATION THAT IS USED TO MEET LANDSCAPING REQUIREMENTS, ALL REQUIRED PLANTED LIVING MATERIAL, AND ALL REQUIRED BERMS SHALL BE MAINTAINED BY THE OWNER OF THE PROPERTY ON A CONTINUING BASIS. ANY PLANTED MATERIAL WHICH BECOMES DAMAGED OR DISEASED OR DIES SHALL BE REPLACED BY THE OWNER WITHIN 60 DAYS OF THE OCCURRENCE OF SUCH CONDITION. IF, IN THE OPINION OF THE ZONING ADMINISTRATOR THERE ARE SEASONAL CONDITIONS WHICH WILL NOT PERMIT THE TIMELY REPLACEMENT OF THE VEGETATION (E.G. TOO HOT OR TOO COOL FOR SUCCESSFUL REPLANTING) THIS REQUIREMENT MAY BE ADMINISTRATIVELY WAIVED UNTIL A TIME CERTAIN WHEN THE REPLANTING WOULD BE SUCCESSFUL.
- B. VERIFICATION OF TOTAL LANDSCAPE MATERIAL QUANTITIES AS SHOWN ON THE LANDSCAPE PLANS AND IN THE PLANT LIST SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR. THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED OF ANY DISCREPANCIES PRIOR TO FINAL BIDDING OR INSTALLATION.
- C. ALL PLANTING TYPES SHALL COMPLY WITH LOCAL GOVERNING CODES AND REGULATIONS, CONFORM TO REQUIREMENTS OF PLANT LIST AND TO THE AMERICAN ASSOCIATION OF NURSERYMEN "AMERICAN STANDARD OF NURSERY STOCK" AND "HORTICULTURAL STANDARDS" AS TO SPECIES, AGE, SIZE, AND PLANTING RECOMMENDATIONS.
- D. LANDSCAPE MATERIAL PLACED IN PREPARED HOLES SHALL BE PROPERLY BACKFILLED PRIOR TO THE END OF THE WORKING DAY.
- E. ALL SAUCERS SHALL BE SOAKED WITH WATER AND MULCHED IMMEDIATELY FOLLOWING INSTALLATION.
- F. ALL PREPARED GROUND COVER AND ANNUAL BED INSTALLATIONS SHALL BE PROPERLY SOAKED AND MULCHED PRIOR TO THE END OF THE DAY.
- G. LANDSCAPE ARCHITECT SHALL APPROVE ANY ON-SITE PLANT STORAGE AREA FOR ACCESSIBILITY, SHADE CONDITIONS, HEALING-IN MULCH MATERIAL AND TEMPORARY WATERING METHODS.
- H. ALL ROPE AND WRAPPING TWINE SHALL BE CUT AND REMOVED FROM AROUND THE UPPER PARTS OF THE ROOT BALL. METAL BASKET WIRES AND BURLAP SHALL BE PULLED BACK AND TUCKED UNDER THE EDGES OF THE SAUCER RINGS ON ALL TREES AND LARGE SHRUBS. ALL SYNTHETIC BURLAP SHALL BE REMOVED FROM PLANT BALLS PRIOR TO BACK FILLING.
- I. ALL PLANT BEDS OR RAISED SAUCER RINGS SHALL BE EDGED WITH SMOOTH, CONTINUOUS CURVES.
- J. ALL PLANT MATERIAL SHALL BE PLANTED AT HEIGHTS AND WIDTHS AS ILLUSTRATED IN PLANTING DETAILS.
- K. TREE GUYING SHALL BE PERFORMED WITHIN A WEEK OF PLANTING. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL TREE GUYING STRAPPING AND STAKES AFTER THE FIRST FULL GROWING SEASON OR ONE YEAR, WHICH EVER COMES FIRST.
- L. CONTRACTOR SHALL VERIFY LOCATIONS OF UNDERGROUND UTILITIES PRIOR TO PLANTING.
- M. ANY EXPOSED OR UNCOVERED LINES SHALL BE SHOWN TO GENERAL CONTRACTOR PRIOR TO BACKFILLING.
- N. ALL PLANT BEDS AND RAISED SAUCER RINGS SHALL BE GRADED TO PROVIDE ADEQUATE DRAINAGE AND SHALL BE MULCHED AS SPECIFIED.
- O. ALL MATERIALS, PLANTING AND LANDSCAPE WORK SHALL CONFORM TO THE CURRENT MUNICIPAL AUTHORITIES STANDARD SPECIFICATIONS AND DETAILS.
- P. ALL LANDSCAPE AREAS THAT ARE NOT PLANTED AND MULCHED OR PAVED SHALL BE SEEDED OR SODDED.
- Q. FIRST YEAR PRUNING OF TREE CROWN SHALL BE LIMITED TO REMOVAL OF DEAD & DAMAGED WOOD.
- R. TREE PROTECTION FENCE SHALL BE INSTALL, INSPECTED AND APPROVED PRIOR TO CLEARING, GRADING AND CONSTRUCTION ACTIVITY OR ISSUANCE OF ANY RELATED PERMITS. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
- S. MULCH LINE SMOOTH CONTINUOUS CURVES. CLEAR OUT FIRST 5' FROM DEBRIS AND UNDERBRUSH AT AREAS OF EXISTING VEGETATION TO REMAIN.
- T. ALL TREES NOT WITHIN A PLANT BED TO BE TREATED WITH A 6" DIAMETER MULCH RING TYPICAL, UNLESS OTHERWISE INDICATED ON THE PLANTING PLANS.
- U. ALL TREES TO HAVE A MINIMUM 2" CALIPER AT THE TIME OF PLANTING, UNLESS OTHERWISE INDICATED IN THE PLANTING SPECIFICATION. CALIPER TO BE MEASURED 48" ABOVE THE ROOT BALL.
- V. TREES SHALL BE LOCATED A MINIMUM OF 5 FEET FROM SEWER/WATER CONNECTIONS OR AS OTHERWISE DICTATED BY LOCAL REGULATIONS. CONTRACTOR SHALL BE LIABLE FOR DAMAGE TO ANY AND ALL PUBLIC OR PRIVATE UTILITIES.
- W. SUBSTITUTIONS OF PLANT MATERIALS SPECIFIED CAN ONLY OCCUR WITH PRIOR APPROVAL BY LANDSCAPE ARCHITECT.
- X. ESTABLISH PLANT BED CONFIGURATION. LANDSCAPE ARCHITECT TO APPROVE BED LAYOUT IN FIELD.
- Y. AREAS DAMAGED BY ACTIVITIES OF CONTRACTOR SHALL BE RE-ESTABLISHED TO PRE-DISTURBANCE CONDITION AT NO ADDITIONAL COST TO THE OWNER.
- Z. USE HERBICIDES, PESTICIDES, AND FERTILIZER IN A MANNER CONSISTENT WITH THE FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT AND IN ACCORDANCE WITH LABEL RESTRICTIONS.
- AA. CONTRACTOR SHALL INSURE THAT ALL PLANT MATERIAL IS FREE OF FIRE ANTS PRIOR TO INSTALLATION.
- AB. LANDSCAPE ARCHITECT OR OWNER SHALL APPROVE PLACEMENT OF TREES PRIOR TO PLANTING.



- GENERAL NOTES:
- A. TREE TO BE STRAIGHTENED PRIOR TO BACKFILL AND GUYING
  - B. SCARIFY BOTTOM AND SIDES OF PLANT PIT.
  - C. STAKE AND GUY TREES 3" CALIPER OR GREATER, OR TREES IN WINDING LOCATIONS AS DIRECTED BY LANDSCAPE ARCHITECT.
  - D. DO NOT WRAP TREE TRUNK.
  - E. MARK NORTH SIDE OF TREE AT NURSERY AND PLANT WITH MARKING FACING NORTH.
  - F. BACKFILL PLANTING PITS WITH TOPSOIL MIXTURE AS SPECIFIED, PACK SOIL AROUND BASE OF ROOTBALL TO STABILIZE, INSTALL REMAINDER IN 9" LAYERS, HAND TAMP TO REMOVE VOIDS AND WATER EACH LAYER



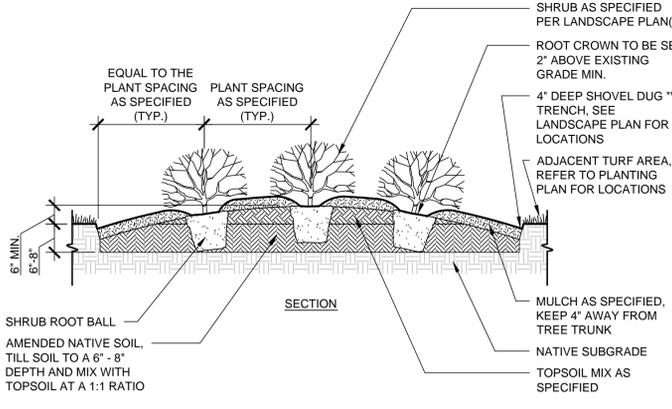
5 TYPICAL TREE PLANTING SCALE: NTS



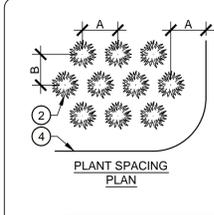
PLANT SPACING CHART

SPACING (A)	ROW OFFSET (B)	SPACING (A)	ROW OFFSET (B)
1'-0" O.C.	10" O.C.	5'-0" O.C.	4'-4" O.C.
1'-6" O.C.	1'-4" O.C.	6'-0" O.C.	5'-2" O.C.
2'-0" O.C.	1'-8" O.C.	7'-0" O.C.	6'-1" O.C.
2'-6" O.C.	2'-2" O.C.	8'-0" O.C.	6'-11" O.C.
3'-0" O.C.	2'-7" O.C.	9'-0" O.C.	7'-10" O.C.
3'-6" O.C.	3'-0" O.C.	10'-0" O.C.	8'-8" O.C.
4'-0" O.C.	3'-6" O.C.		

- GENERAL NOTES:
- A. SCARIFY BOTTOM AND SIDES OF PLANTING PIT.
  - B. THE BOTTOM OF SHRUB ROOT BALLS SHALL NOT PROJECT INTO THE NATIVE SUBGRADE. LARGER ROOT BALL PLANTS (>7 GAL.) WILL REQUIRE ADDITIONAL AMENDED SOIL DEPTH.
  - C. BACKFILL PLANTING PITS WITH TOPSOIL MIXTURE AS SPECIFIED, INSTALL IN 6" LAYERS, HAND TAMP TO REMOVE VOIDS AND WATER EACH LAYER
  - D. ALL ROOT BALLS REMOVED FROM CONTAINERS SHALL BE SCARIFIED BY HAND PRIOR TO PLACEMENT AND BACKFILLING WITH PREPARED SOILS. HAND TOOLS SHALL NOT BE USED TO SCARIFY ROOT BALLS.
  - E. REFER TO GRADING PLANS FOR MOUND HEIGHTS.



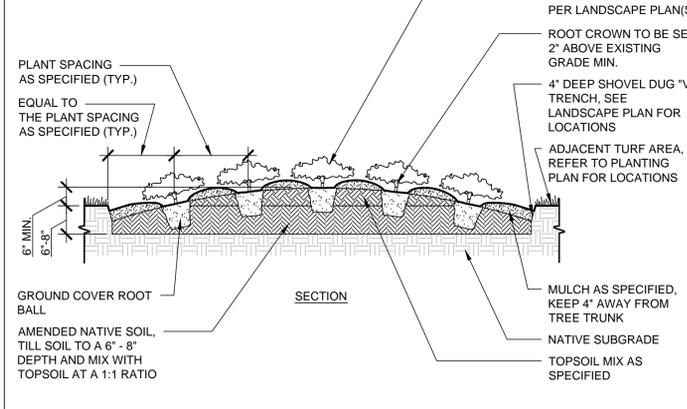
4 TYPICAL SHRUB PLANTING SCALE: NTS



PLANT SPACING CHART

SPACING (A)	ROW OFFSET (B)	SPACING (A)	ROW OFFSET (B)
6" O.C.	5" O.C.	24" O.C.	1'-9" O.C.
8" O.C.	7" O.C.	36" O.C.	2'-7" O.C.
12" O.C.	10" O.C.	4'-0" O.C.	3'-6" O.C.
15" O.C.	1'-1" O.C.	5'-0" O.C.	4'-4" O.C.
18" O.C.	1'-4" O.C.	6'-0" O.C.	5'-2" O.C.

- GENERAL NOTES:
- A. SCARIFY BOTTOM AND SIDES OF PLANTING PIT.
  - B. THE BOTTOM OF SHRUB ROOT BALLS SHALL NOT PROJECT INTO THE NATIVE SUBGRADE. LARGER ROOT BALL PLANTS (>7 GAL.) WILL REQUIRE ADDITIONAL AMENDED SOIL DEPTH.
  - C. BACKFILL PLANTING PITS WITH TOPSOIL MIXTURE AS SPECIFIED, INSTALL IN 6" LAYERS, HAND TAMP TO REMOVE VOIDS AND WATER EACH LAYER
  - D. ALL ROOT BALLS REMOVED FROM CONTAINERS SHALL BE SCARIFIED BY HAND PRIOR TO PLACEMENT AND BACKFILLING WITH PREPARED SOILS. HAND TOOLS SHALL NOT BE USED TO SCARIFY ROOT BALLS.
  - E. REFER TO GRADING PLANS FOR MOUND HEIGHTS.



2 GROUND COVER PLANTING SCALE: NTS

PLANT SCHEDULE

TREES	COMMON NAME	SIZE	CALIPER	HEIGHT	QTY	REMARKS	
LAGERSTROEMIA X 'NATCHEZ'	CRAPE MYRTLE	B & B	2" CAL.	8'-10' HT.	2	UNIFORM CANOPY & MATCHED	
QUERCUS LAURIFOLIA	LAUREL-LEAVED OAK	B & B	2" CAL.	12'-14' HT.	32	SINGLE DOMINANT LEADER, UNIFORM CANOPY & MATCHED	
SALIX BABYLONICA	WEeping WILLOW	B & B	2" CAL.	10'-12' HT.	2	UNIFORM CANOPY & MATCHED	
ZELKOVA SERRATA 'VILLAGE GREEN'	SAWLEAF ZELKOVA	B & B	2" CAL.	10'-12' HT.	11	UNIFORM CANOPY & MATCHED	
SHRUBS	COMMON NAME	SIZE	HEIGHT	SPREAD	SPACING	QTY	REMARKS
ABELIA X GRANDIFLORA 'EDWARD GOUCHER'	GLOSSY ABELIA	3 GAL.	18"-24" HT.	18"-24" SPD.	5' O.C.	14	UNIFORM HEAD & MATCHED
ILEX CRENATA 'CONVEXA'	CONVEX-LEAVED JAPANESE HOLLY	3 GAL.	18"-24" HT.	18"-24" SPD.	4' O.C.	116	UNIFORM HEAD & MATCHED
LIGUSTRUM JAPONICUM 'ROTUNDFOLIUM'	JAPANESE PRIVET	3 GAL.	15"-18" HT.	12"-15" SPD.	3.5' O.C.	42	UNIFORM HEAD & MATCHED
MYRICA CERIFERA	WAX MYRTLE	15 GAL.	4'-5' HT.	4'-5' HT.		35	PRUNE TO MULTI-TRUNK TREE FORM
NANDINA DOMESTICA 'FIREPOWER'	DWARF HEAVENLY BAMBOO	3 GAL.	15"-18" HT.	15"-18" SPD.	3' O.C.	55	
PITTOSPORUM TOBIRA 'COMPACTUM'	COMPACT PITTOSPORUM	3 GAL.	18"-24" HT.	18"-24" SPD.	5' O.C.	53	UNIFORM HEAD & MATCHED
GROUND COVERS	COMMON NAME	SIZE	SPACING	SPACING	QTY	REMARKS	
GARDENIA JASMINOIDES 'RADICANS'	CAPE GARDENIA	1 GAL.	30" O.C.	30" o.c.	41	MATCHED	
HYPERICUM CALYCIUM	CREeping ST. JOHN'S WORT	1 GAL.	15" O.C.	1" o.c.	19,482	MATCHED	
JUNIPERUS CHINENSIS 'SARGENTII'	SARGANT JUNIPER	1 GAL.	36" O.C.	36" o.c.	6	MATCHED	
MIXED ANNUALS	MIXED ANNUALS	FLAT	8" O.C.	8" o.c.	118	PER OWNER	
SOD/SEED	COMMON NAME	SIZE	SPACING	SPACING	QTY	REMARKS	
PHALARIS ARUNDINACEA	REED CANARY GRASS	SEED	1/4 LBS / 1000 SF	1/4 LBS / 1000 SF	4,699 SF		
EREMOCHLOA OPHIUROIDES	CENTPEDE GRASS	SEED	1/4 LBS / 1000 SF	1/4 LBS / 1000 SF			

3 TYPICAL TREE PLANTING NO SCALE

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

Approved Construction Plan

Name \_\_\_\_\_ Date \_\_\_\_\_

Planning \_\_\_\_\_

Traffic \_\_\_\_\_

Fire \_\_\_\_\_

STORMWATER MANAGEMENT PLAN APPROVED

CITY OF WILMINGTON ENGINEERING DEPARTMENT

DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_

SIGNED \_\_\_\_\_

6 GENERAL LANDSCAPE NOTES SCALE: NTS

REV. NO.	DESCRIPTIONS	DATE
H	PERMIT SUBMITTAL SET - COW, NHC	6/24/16
G	PERMIT SUBMITTAL SET - CFWA, NCDOT, COW, NHC	5/6/16
F	ADDENDUM #1 - REVISIONS TO UTILITY PLAN	4/7/16
E	CITY OF WILMINGTON STORMWATER AND NHC SEDIMENT AND EROSION CONTROL SUBMITTAL	3/24/16
D	CITY OF WILMINGTON SRB SUBMITTAL	3/16/16
C	CITY OF WILMINGTON TRC SUBMITTAL	2/19/16
B	CITY OF WILMINGTON SRB SUBMITTAL	2/2/16
A	CITY OF WILMINGTON CONCEPT TRC SUBMITTAL	11/9/2015

PRELIMINARY PLAN NOT FOR CONSTRUCTION



**MCKIM & CREED**

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SHIPYARD VILLAGE APARTMENTS  
2821 CAROLINA BEACH ROAD  
WILMINGTON, NORTH CAROLINA  
TOWNSHIP OF WILMINGTON

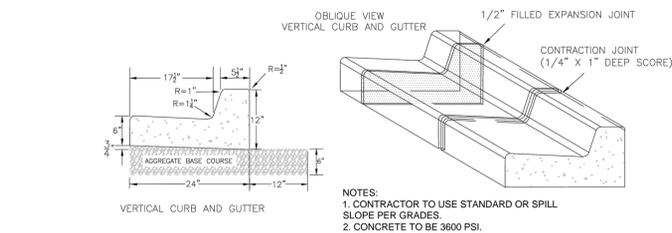
LANDSCAPE DETAILS

DATE: XX JUN 2016  
MCE PROJ. # 07010-0001  
DRAWN TCM/TSM  
DESIGNED TCM/TSM  
CHECKED RMC  
PROJ. MGR. TSM

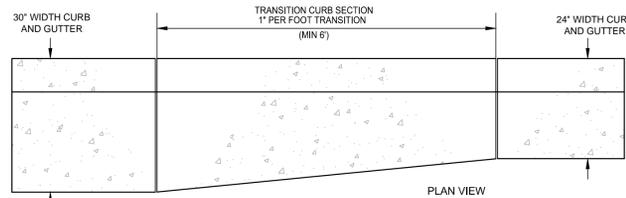
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DRAWING NUMBER: 16

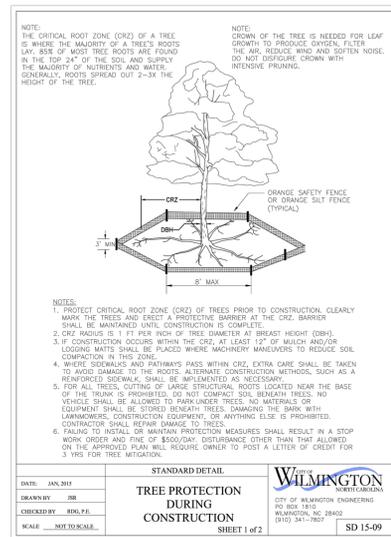
STATUS: PRELIMINARY PLANS NOT FOR CONSTRUCTION



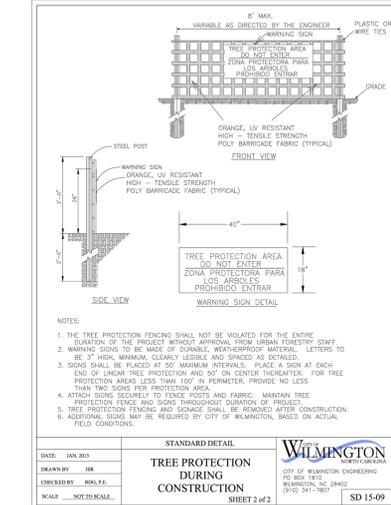
**11 STANDARD 24\"/>**



**10 TRANSITION CURB DETAILS**

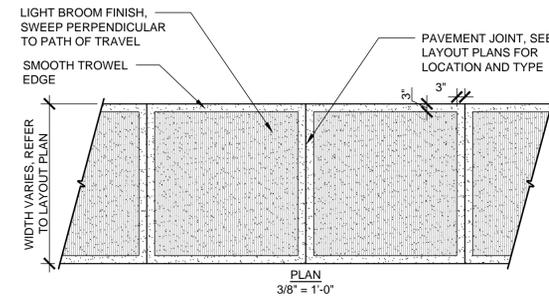


**9 TREE PROTECTION DURING CONSTRUCTION**

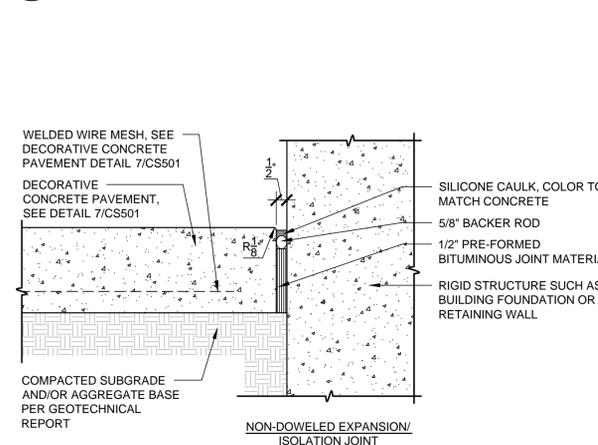


**8 TREE PROTECTION DURING CONSTRUCTION**

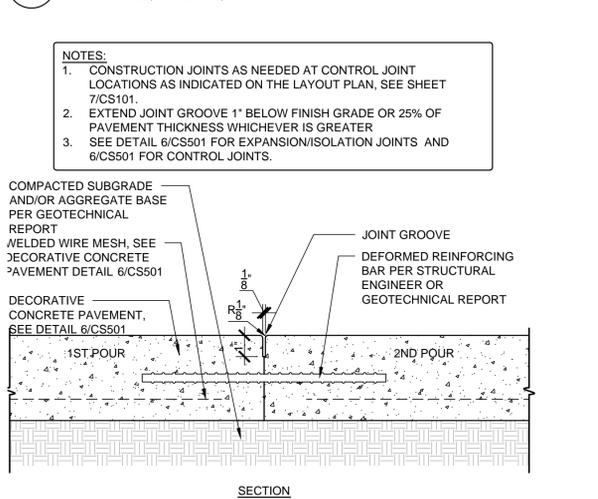
- NOTES:**
1. ALL WALKWAYS SHALL MEET GOVERNING MUNICIPALITIES REQUIREMENTS.
  2. SUBGRADE SHALL NOT CONTAIN ANY ORGANIC MATTER.
  3. REFER TO LAYOUT PLAN FOR PAVEMENT JOINT TYPES AND LOCATIONS
  4. PER ADA REQUIREMENTS: MAXIMUM CROSS SLOPE OF WALKING SURFACE SHALL NOT BE STEEPER THAN 1:48, MAXIMUM RUNNING SLOPE OF WALKING SURFACE SHALL NOT BE STEEPER THAN 1:20, WALKING SURFACES ALONG AN ACCESSIBLE ROUTE STEEPER THAN 1:20 REQUIRE RAMPS, RAMP RUNS WITH A RISE GREATER THAN 6\"/>



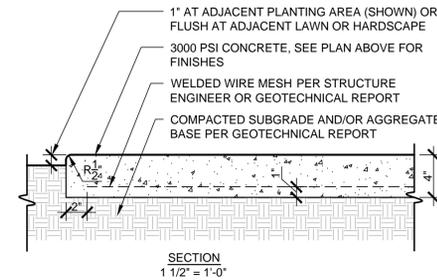
**7 INTERNAL CONCRETE SIDEWALK**



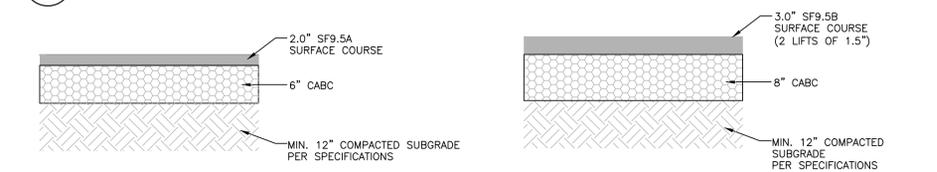
**6 INTERNAL CONCRETE SIDEWALK EXPANSION/ISOLATION JOINTS**



**5 INTERNAL CONCRETE SIDEWALK CONTROL JOINTS**



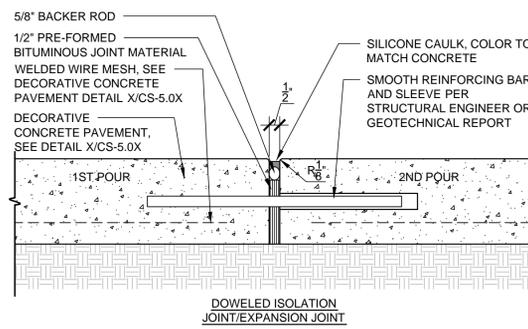
**4 NCDOT TURN LANE PAVEMENT**



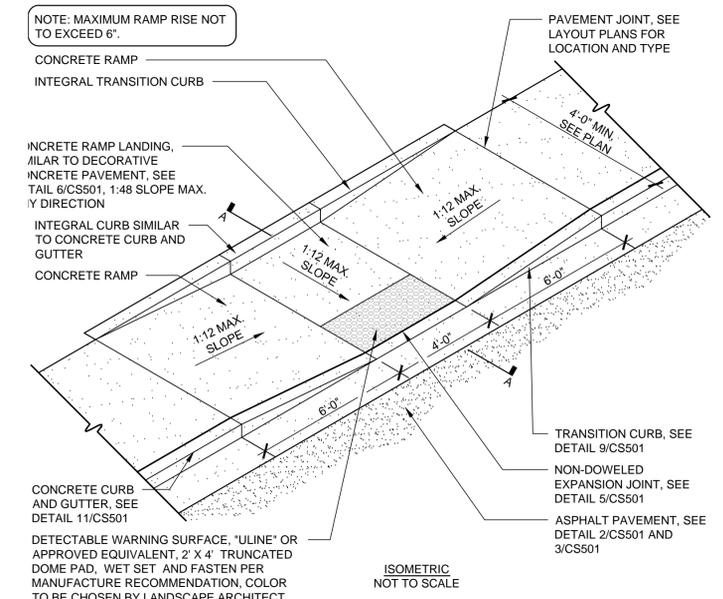
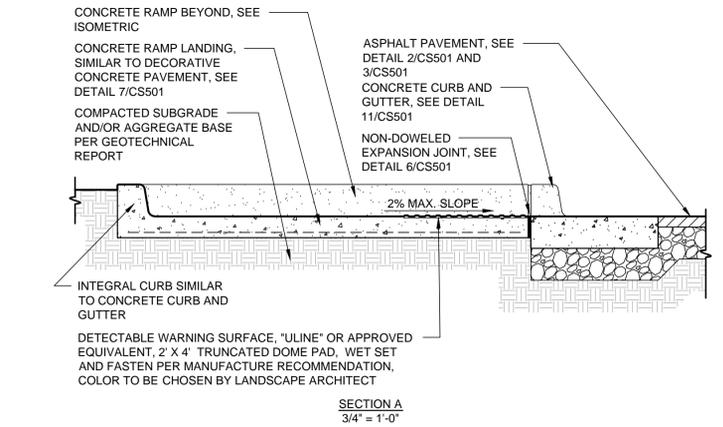
**3 PARKING AREA PAVEMENT SECTION**

**2 STREET 'A' PAVEMENT SECTION (RW)**

- NOTES:**
1. EXPANSION JOINTS SHALL BE LOCATED AS INDICATED ON THE LAYOUT PLANS, SEE SHEET 7/CS101.
  2. EXTEND EXPANSION JOINT 100% THROUGH PAVEMENT SURFACE.
  3. ENSURE JOINTS ARE FREE OF NON-COMPRESSIBLE MATERIALS DURING INSTALLATION AND AFTER INSTALLATION.
  4. WELDED WIRE MESH SHALL NOT PASS THROUGH ISOLATION/EXPANSION JOINTS.
  5. SEE DETAIL 5/CS501 FOR CONTROL JOINTS AND 5/CS501 FOR CONSTRUCTION JOINTS.



**1 HANDICAP CURB ACCESS DETAILS**



**3 PARKING AREA PAVEMENT SECTION**

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 \_\_\_\_\_

STORMWATER MANAGEMENT PLAN  
**APPROVED**  
 CITY OF WILMINGTON  
 ENGINEERING DEPARTMENT  
 DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_  
 SIGNED \_\_\_\_\_

REV. NO.	DESCRIPTIONS	DATE
H	PERMIT SUBMITTAL SET - COW-NHC	6/24/16
G	PERMIT SUBMITTAL SET - COW-NCDOT COW-NHC	5/6/16
F	ADDENDUM #1 - REVISIONS TO UTILITY PLAN	4/7/16
E	CITY OF WILMINGTON STORMWATER AND NHC SEDIMENT AND EROSION CONTROL SUBMITTAL	3/26/16
D	CITY OF WILMINGTON SRB SUBMITTAL	3/16/16
C	CITY OF WILMINGTON TRC SUBMITTAL	2/15/16
B	CITY OF WILMINGTON SRB SUBMITTAL	2/2/16
A	CITY OF WILMINGTON CONCEPT TRC SUBMITTAL	11/5/2015

PRELIMINARY PLAN  
 NOT FOR  
 CONSTRUCTION



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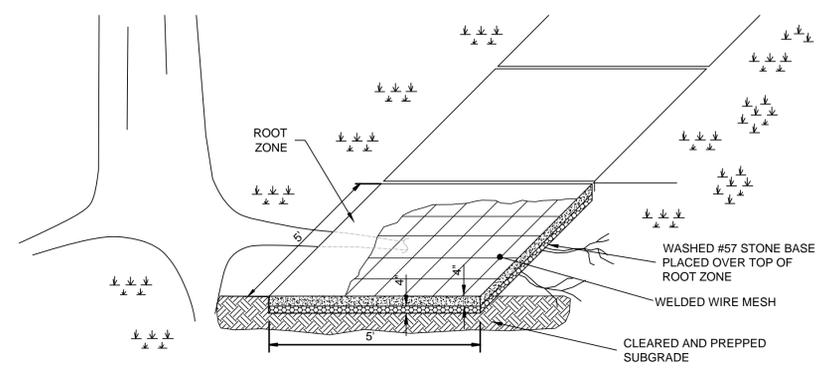
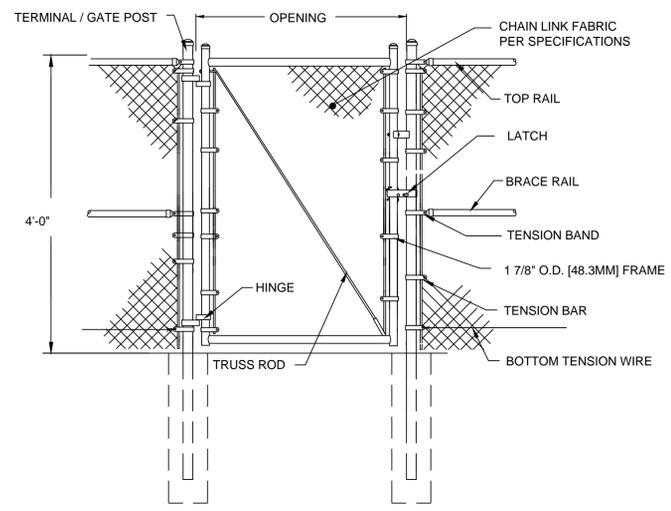
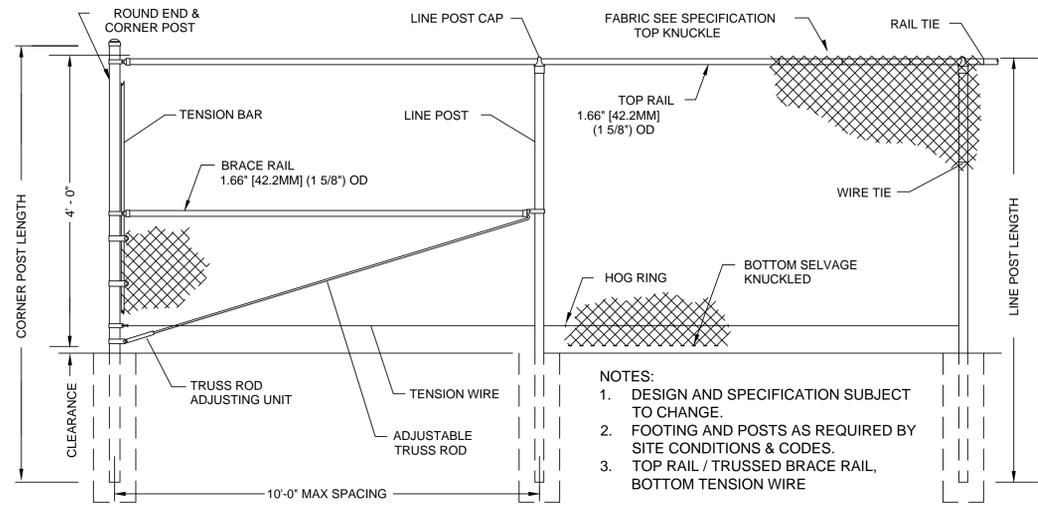
SHIPYARD VILLAGE WILMINGTON, LLC  
 PO BOX 29169  
 GREENSBORO, NC 27429-9169

SHIPYARD VILLAGE APARTMENTS  
 2821 CAROLINA BEACH ROAD  
 WILMINGTON, NORTH CAROLINA  
 TOWNSHIP OF WILMINGTON

**SITE DETAILS**

DATE:	XX JUN 2016	SCALE:	N/A	MAC FILE NUMBER:	CS501
MCE PROJ. #	07010-0001	HORIZONTAL:	N/A	DRAWING NUMBER:	17
DRAWN:	TCM/TSM	VERTICAL:	N/A		
DESIGNED:	TCM/TSM				
CHECKED:	RMG				
PROJ. MGR.	TSM				

STATUS: PRELIMINARY PLANS NOT FOR CONSTRUCTION

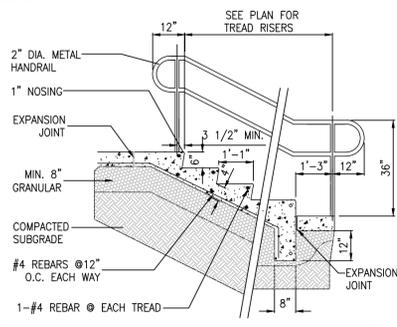


NOTES:  
 1. DESIGN AND SPECIFICATION SUBJECT TO CHANGE.  
 2. FOOTING AND POSTS AS REQUIRED BY SITE CONDITIONS & CODES.  
 3. TOP RAIL / TRUSSED BRACE RAIL, BOTTOM TENSION WIRE

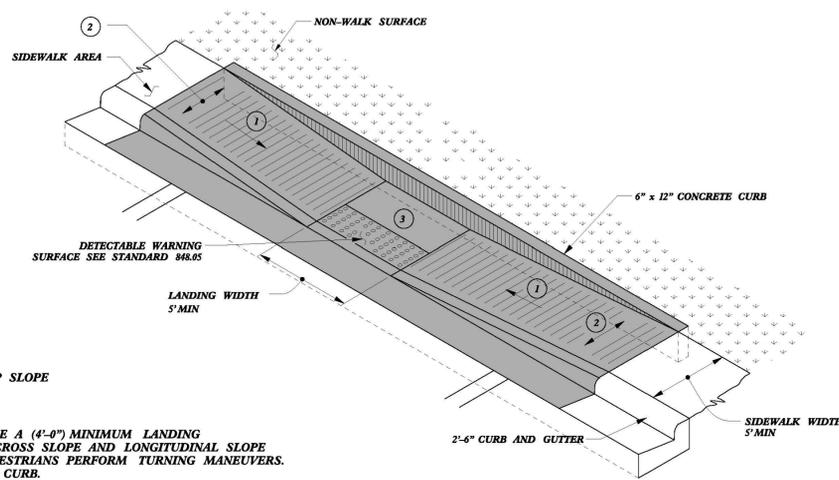
NOTES:  
 1. REINFORCED SIDEWALK LOCATED BY ENGINEER.  
 2. ALL OTHER CITY OF WILMINGTON STANDARD SIDEWALK DETAILS APPLY.  
 3. WELDED WIRE MESH SHALL BE 6x6 W 4.0/4.0 AND FREE OF OIL, DIRT AND DEFECTS AND PROTECTED FROM DAMAGE. WIRE SPLICES SHALL OVERLAP 12 INCHES AND BE TIED TOGETHER AND SUPPORTED IN POSITION.

**8 DOG PARK CHAIN LINK FENCE AND GATE (BLACK VINYL COATED)**  
 CS502 NOT TO SCALE

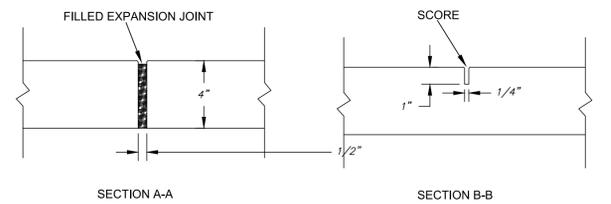
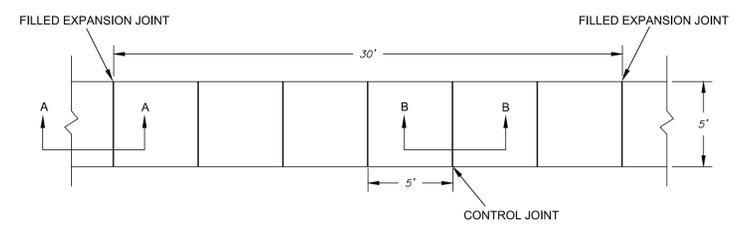
**2 C.O.W. REINFORCED SIDEWALK (SD 3-100)**  
 CS502 NOT TO SCALE



NOTES:  
 1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.  
 2. DO NOT SCALE DRAWINGS.  
 3. TREADS TO BE BROOM FINISHED.  
 4. POSTS TO BE FLANGE-MOUNTED.



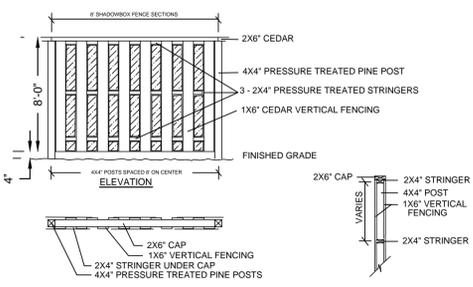
1. 8.33% (12:1) MAX RAMP SLOPE  
 2. CROSS SLOPE: 2.00%  
 3. CURB RAMP REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.



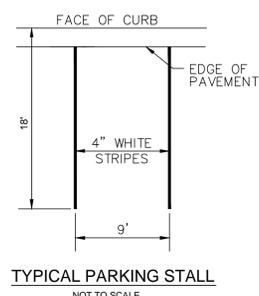
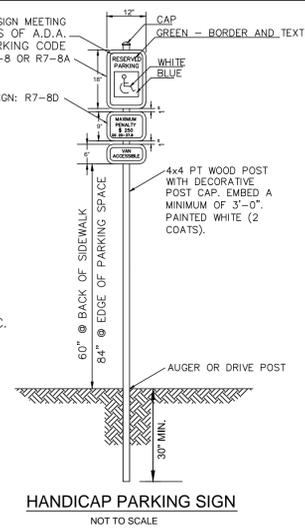
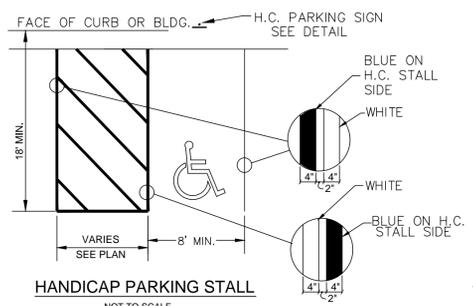
NOTES:  
 1. JOINT MATERIAL TO COMPLY WITH CURRENT NCDOT STANDARDS.  
 2. SANITARY SEWER CLEAN-OUTS, WATER METERS, MANHOLES, AND VALVE LIDS TO BE LOCATED OUTSIDE SIDEWALK WHERE FEASIBLE.  
 3. MINIMUM SIDEWALK WIDTH TO BE 6' MINIMUM IF PLACED AT BACK OF CURB.  
 4. CONCRETE FOR ALL SIDEWALKS (EXCEPT ANY PORTION CONTAIN WITHIN A DRIVEWAY APRON) SHALL BE CLASS "A" - 3,000 PSI.  
 5. MINIMUM REPLACEMENT FOR REPAIRS IS A 5' X 5' PANEL  
 6. 4" STONE BASE MAY BE REQUIRED FOR POOR SOIL CONDITIONS  
 7. MINIMUM DEPTH FOR TUNNELING BELOW SIDEWALK IS 12"  
 8. MAX ADJACENT GROUND SLOPE WITHOUT RAILING IS 2:1  
 9. MIN GRADE FOR PROPER DRAINAGE IS 1% IN AT LEAST 1 DIRECTION. MAX CROSS SLOPE IS 2%. MAX LONGITUDINAL SLOPE IS 0.3%, 10% IF LIMITED BY EXISTING CONDITIONS, OR NO GREATER THAN THE SLOPE OF THE EXISTING ADJACENT ROAD.

**7 CONCRETE STAIRS**  
 CS502 NOT TO SCALE

**4 NCDOT PARALLEL CURB RAMP TYPE 2**  
 CS502 NOT TO SCALE



NOTE: FOUNDATIONS FOR THE FENCE POSTS SHALL BE DESIGNED BY THE FENCE CONTRACTOR



**1 C.O.W. SIDEWALK (SD 3-10)**  
 CS502 NOT TO SCALE

**6 SHADOW BOX WOOD FENCE**  
 CS502 NOT TO SCALE

POLY DOGIPOT® DOGVALET® - SAND BEIGE (#1006-2)  
 Dogipot DogValeT OR APPROVED EQUIVALENT  
 • H 32.0" x W 19.0" x D 14.0"  
 • 152 mm sand beige rotational molded polyethylene  
 • Weight: 30lbs  
 • 400-bag capacity (includes two (2) rolls of 200 count DOGIPOT® SMART Litter Pick Up Bags™)  
 • Two diamond bag dispenser slots  
 • 12-gauge 2" x 2" x 4" square galvanized steel mounting post  
 • Front locking access panel  
 • Includes box of 50 count DOGIPOT® SMART Litter Pick Up Bags™  
 • Clearly posted instructions  
 • Installation instructions and mounting hardware included



**7 PET WASTE RECEPTACLE**  
 CS502 NOT TO SCALE

**3 PARKING STRIPING & HANDICAP DETAILS**  
 CS502 NOT TO SCALE

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 \_\_\_\_\_

STORMWATER MANAGEMENT PLAN  
**APPROVED**  
 CITY OF WILMINGTON  
 ENGINEERING DEPARTMENT  
 DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_  
 SIGNED \_\_\_\_\_

REV. NO.	DESCRIPTIONS	DATE
A	CITY OF WILMINGTON CONCEPT TRC SUBMITTAL	11/5/2015
B	CITY OF WILMINGTON SRB SUBMITTAL	2/2/16
C	CITY OF WILMINGTON TRC SUBMITTAL	2/15/16
D	CITY OF WILMINGTON SRB SUBMITTAL	3/16/16
E	CITY OF WILMINGTON SRB SUBMITTAL	3/16/16
F	ADDENDUM #1 - REVISIONS TO UTILITY PLAN	4/7/16
G	PERMIT SUBMITTAL SET - CIVIL, NCDOT, COW, NHC	5/6/16
H	PERMIT SUBMITTAL SET - COW, NHC	6/24/16

PRELIMINARY PLAN  
 NOT FOR CONSTRUCTION



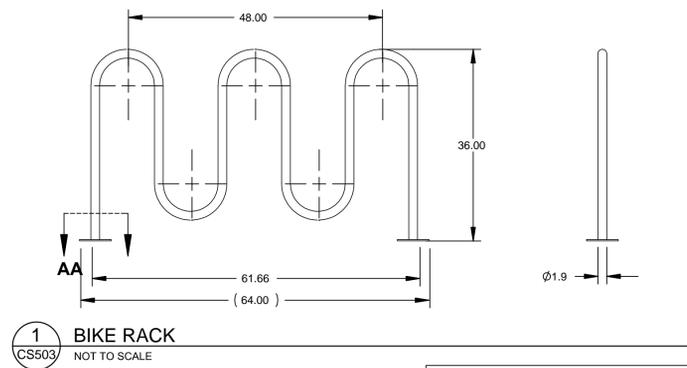
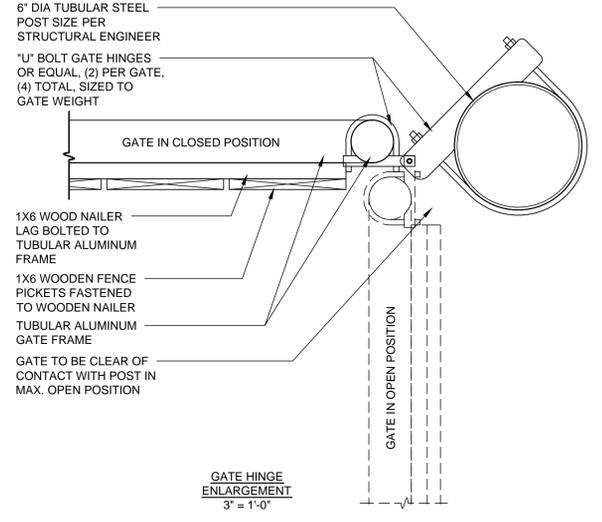
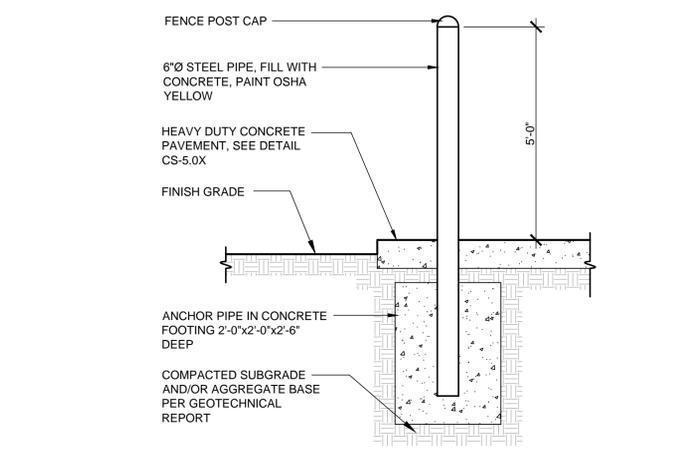
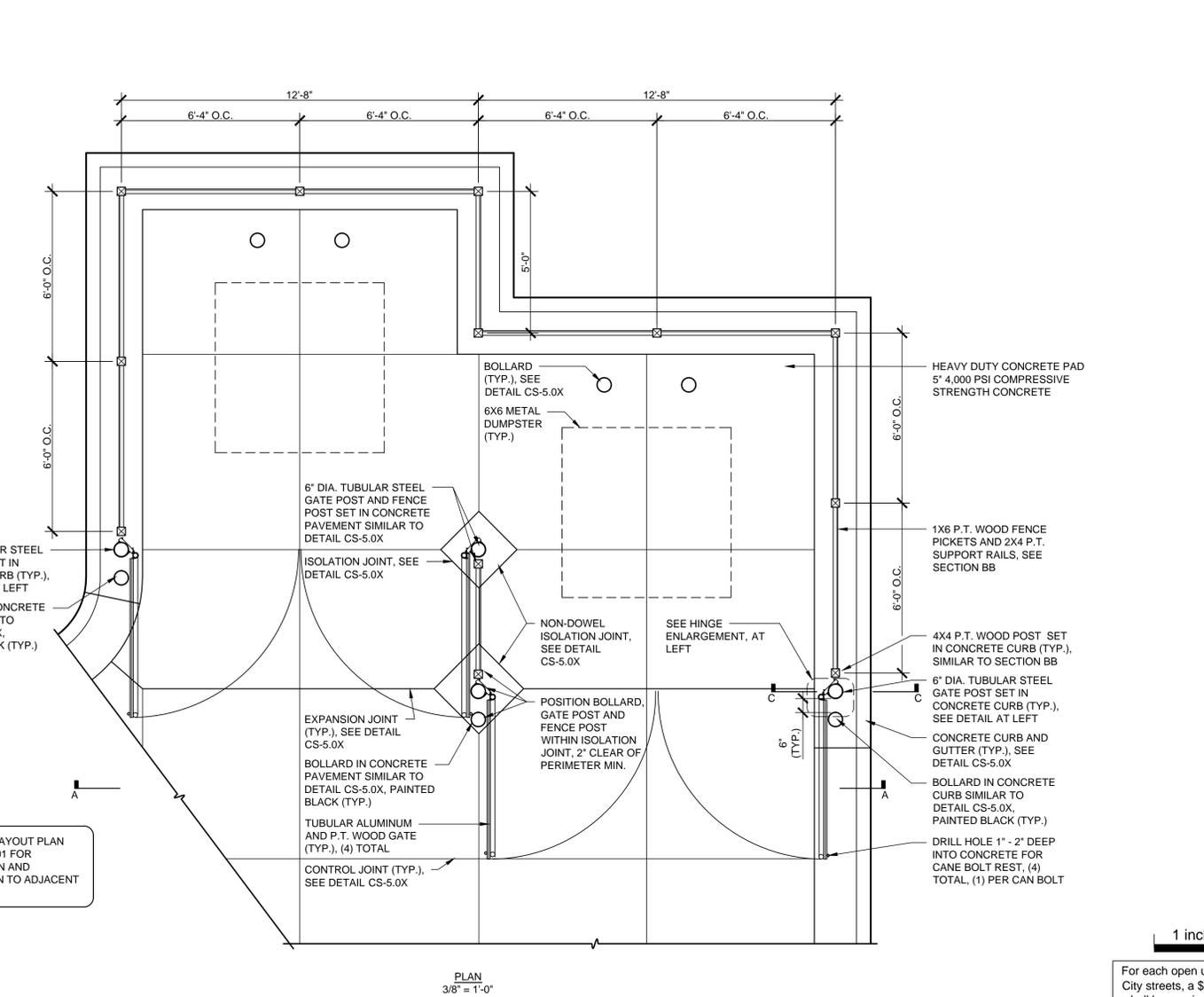
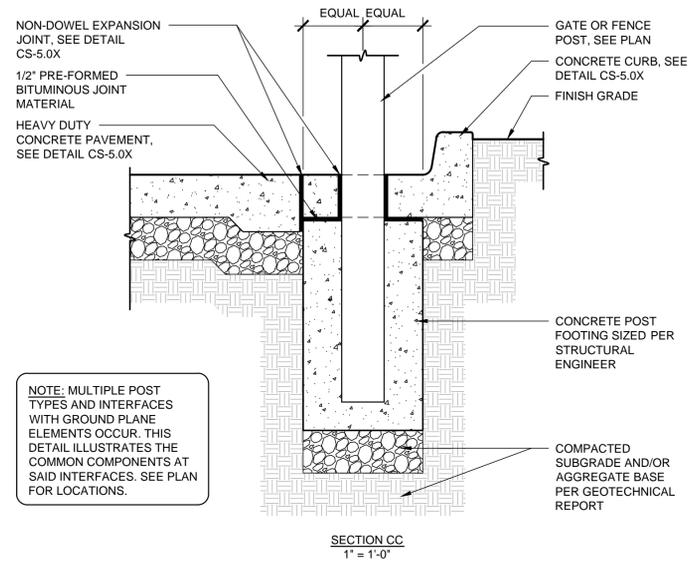
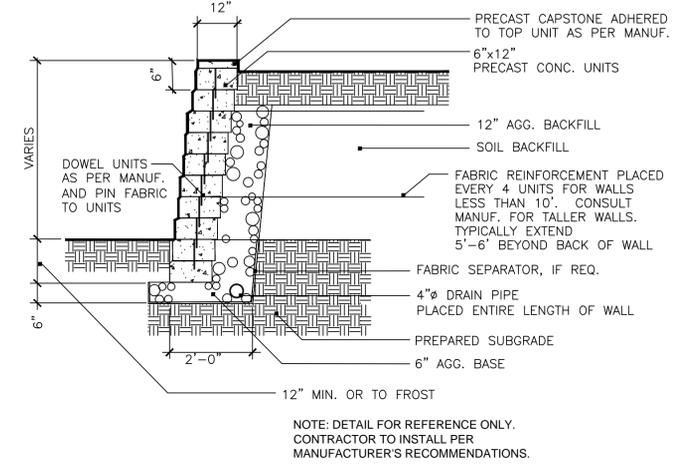
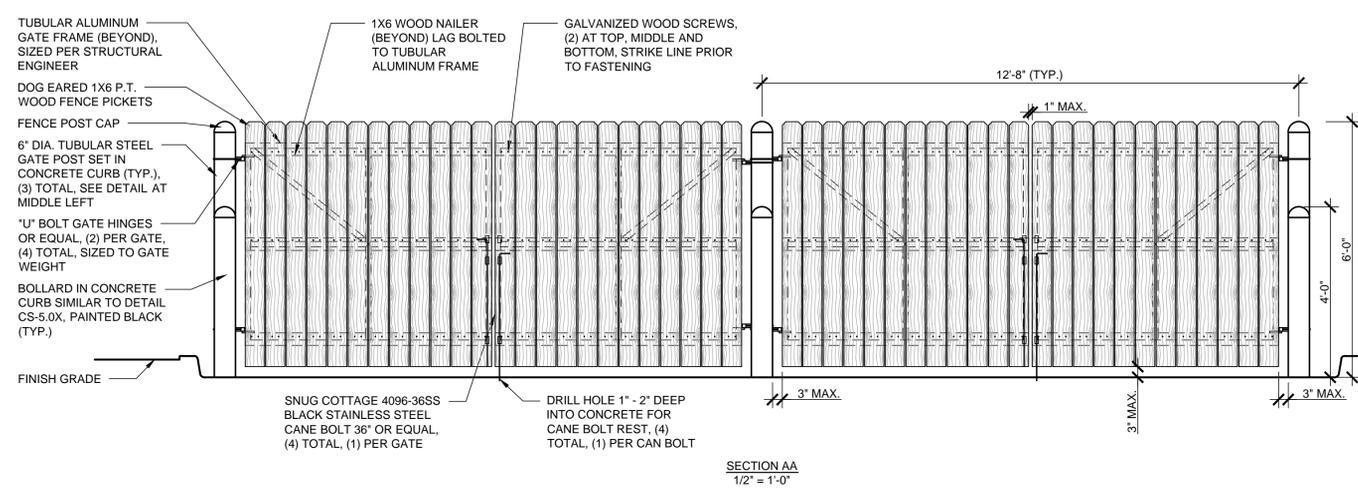
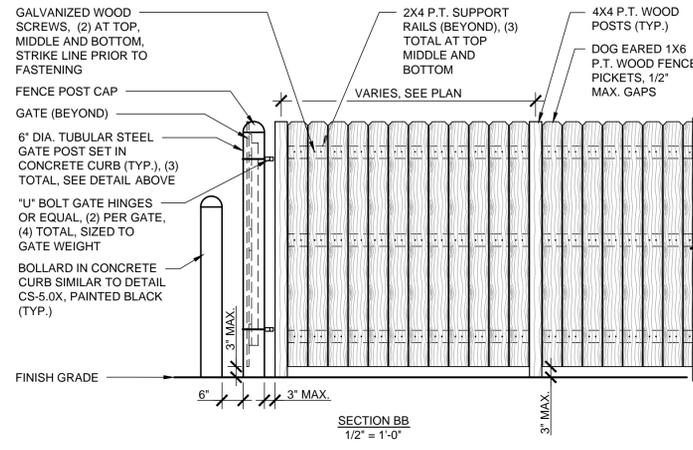
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SHIPYARD VILLAGE APARTMENTS  
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 TOWNSHIP OF WILMINGTON  
**SITE DETAILS**

DATE:	XX JUN 2016	SCALE:	N/A	MAC/FEE NUMBER:	CS502
MCE PROJ. #	07010-0001	HORIZONTAL:	N/A	DRAWING NUMBER:	18
DRAWN	TCM/TSM	VERTICAL:	N/A		
DESIGNED	TCM/TSM				
CHECKED	RMC				
PROJ. MGR.	TSM				

STATUS: PRELIMINARY PLANS  
 NOT FOR CONSTRUCTION



REV.	NO.	DESCRIPTION	DATE
H	1	PERMIT SUBMITTAL SET - COW, NHC	02/15/16
G	1	PERMIT SUBMITTAL SET - CPWA, NDDOT, COW, NHC	08/19/15
F	1	ADDENDUM #1 - REVISIONS TO UTILITY PLAN	07/16/15
E	1	CITY OF WILMINGTON STORMWATER AND NHC SEDIMENT AND EROSION CONTROL SUBMITTAL	03/19/15
D	1	CITY OF WILMINGTON SRB SUBMITTAL	03/19/15
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A	1	CITY OF WILMINGTON CONCEPT TRC SUBMITTAL	11/20/15

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SHIPYARD VILLAGE APARTMENTS  
 2821 CAROLINA BEACH ROAD  
 WILMINGTON, NORTH CAROLINA  
 TOWNSHIP OF WILMINGTON

**SITE DETAILS**

DATE: XX JUN 2016  
 MCE PROJ. # 07010-0001  
 DRAWN TCM/TSM  
 DESIGNED TCM/TSM  
 CHECKED RMC  
 PROJ. MGR. TSM

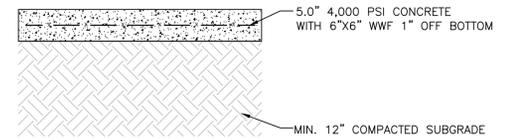
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 MCE FILE NUMBER: CS503  
 DRAWING NUMBER: 19

STATUS: PRELIMINARY PLANS  
 NOT FOR CONSTRUCTION

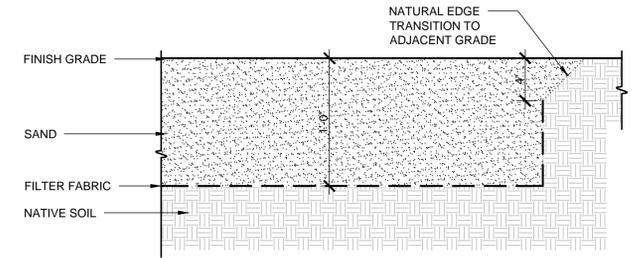
1 inch  
 For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

Approved Construction Plan  
 Name \_\_\_\_\_ Date \_\_\_\_\_  
 Planning \_\_\_\_\_  
 Traffic \_\_\_\_\_  
 Fire \_\_\_\_\_

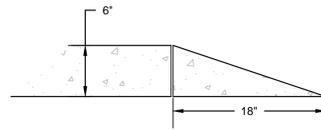
STORMWATER MANAGEMENT PLAN  
**APPROVED**  
 CITY OF WILMINGTON  
 ENGINEERING DEPARTMENT  
 DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_  
 SIGNED \_\_\_\_\_



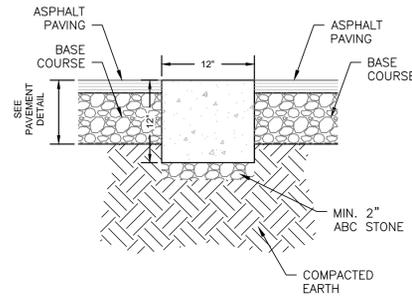
**3 HEAVY DUTY CONCRETE PAVEMENT**  
CS504 NOT TO SCALE



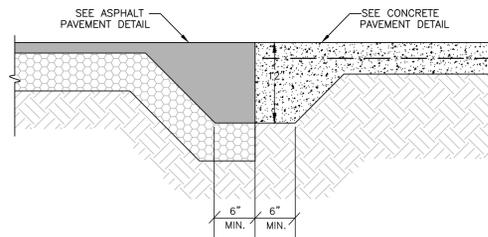
**2 DOG PARK SAND BED**  
CS504 NOT TO SCALE



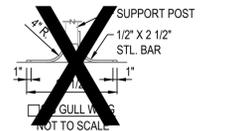
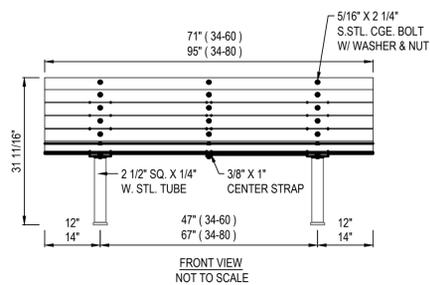
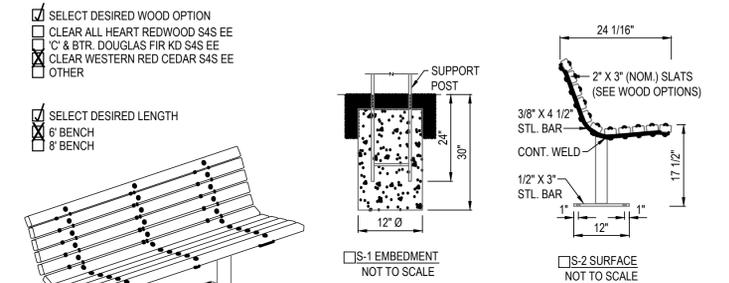
**6 CURB TAPER**  
CS504 NOT TO SCALE



**5 12" RIBBON CURB**  
CS504 NOT TO SCALE



**4 ASPHALT TO CONCRETE TRANSITION ( DUMPSTER DRIVEWAY)**  
CS504 NOT TO SCALE



- NOTES:**
- INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
  - DO NOT SCALE DRAWINGS.
  - ALL STL. MEMBERS COATED W/ ZINC RICH EPOXY THEN FINISHED W/ POLYESTER POWDER COATING.
  - ALL WOOD MEMBERS TREATED W/ CLEAR PRESERVATIVE.
  - 1/2" X 3 3/4" EXPANSION ANCHOR BOLTS PROVIDED FOR S-2, S-3 & S-4 OPTIONS.
  - CONTRACTOR'S NOTE: FOR PRODUCT AND PURCHASING INFORMATION VISIT [www.CADdetails.com/info](http://www.CADdetails.com/info) REFERENCE NUMBER 017-326.

**1 34 SERIES WOOD BENCH**  
CS504 NOT TO SCALE

1 inch

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Approved Construction Plan

Name \_\_\_\_\_ Date \_\_\_\_\_

Planning \_\_\_\_\_

Traffic \_\_\_\_\_

Fire \_\_\_\_\_

STORMWATER MANAGEMENT PLAN  
**APPROVED**  
CITY OF WILMINGTON  
ENGINEERING DEPARTMENT  
DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_  
SIGNED \_\_\_\_\_

REV. NO.	DESCRIPTIONS / REVISIONS	DATE
H	PERMIT SUBMITTAL SET - CON. NHC	02/16/16
G	PERMIT SUBMITTAL SET - CPWA, NCDOT, COV. NHC	06/16/16
F	ADDENDUM #1 - REVISIONS TO UTILITY PLAN	07/16/16
E	CITY OF WILMINGTON STORMWATER AND NHC SEDIMENT AND EROSION CONTROL SUBMITTAL	03/16/16
D	CITY OF WILMINGTON SRB SUBMITTAL	03/16/16
C	CITY OF WILMINGTON TRC SUBMITTAL	2/16/16
B	CITY OF WILMINGTON SRB SUBMITTAL	2/16/16
A	CITY OF WILMINGTON CONCEPT TRC SUBMITTAL	11/9/2015

PRELIMINARY PLAN  
NOT FOR  
CONSTRUCTION



**MCKIM & CREED**

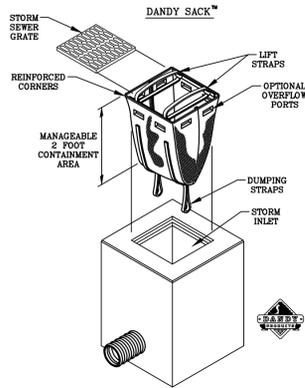
243 North Front Street  
Wilmington, NC 28401  
Phone: (910)343-1048, Fax: (910)251-8282  
NC LICENSE F-1222  
[www.mckimcreed.com](http://www.mckimcreed.com)

SHIPYARD VILLAGE WILMINGTON, LLC  
PO BOX 29169  
GREENSBORO, NC 27429-9169

SHIPYARD VILLAGE APARTMENTS  
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**SITE DETAILS**

DATE: XX JUN 2016	SCALE: HORIZONTAL: N/A, VERTICAL: N/A	MCE FILE NUMBER: CS504
MCE PROJ. #: 07010-0001	DRAWN: TCM/TSM	DRAWING NUMBER: 20
DESIGNED: TCM/TSM	CHECKED: RMC	
PROJ. MGR.: TSM		
STATUS: PRELIMINARY PLANS NOT FOR CONSTRUCTION		



**DANDY SACK™ SPECIFICATIONS**

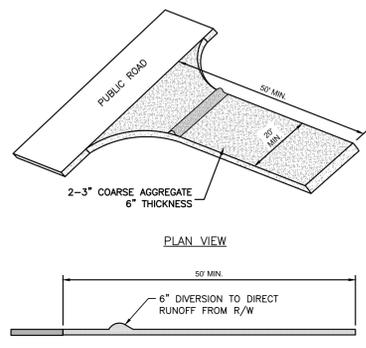
NOTE: THE DANDY SACK™ WILL BE MANUFACTURED BY THIS U.S.A. FROM A WOVEN MONOFILAMENT FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS:

Material Property	Test Method	Units	MIN	MAX
Grain Tenure Strength	ASTM D 2452	lb (kg)	1.78 (800)	1.80 (815)
Grain Tenure Elongation	ASTM D 2452	%	10	15
Grain Tenure Modulus	ASTM D 2452	lb/in (kg/cm)	1000	1000
Grain Tenure Tear Strength	ASTM D 2452	lb (kg)	18.7	19.0
Grain Tenure Tear Elongation	ASTM D 2452	%	100	100
UV Resistance	ASTM D 3355	min. (US Std Spec)	0.20	0.20
Apparent Abrasion Rate	ASTM D 4481	1/min (200 g/200/74)	380	100
Flame Retard	ASTM D 4481	sec	0.06	0.06

**IN-FLOW DANDY SACK™ (SAFETY STRAPS)**

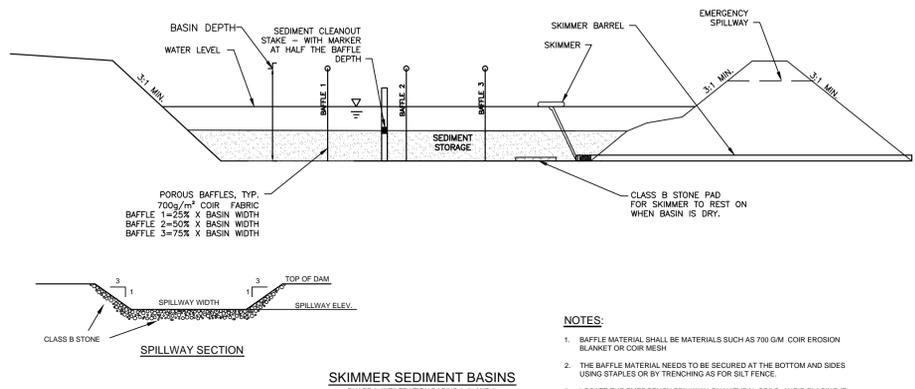
Material Property	Test Method	Units	MIN	MAX
Grain Tenure Strength	ASTM D 2452	lb (kg)	1.62 (736)	0.80 (360)
Grain Tenure Elongation	ASTM D 2452	%	10	15
Grain Tenure Modulus	ASTM D 2452	lb/in (kg/cm)	1000	1000
Grain Tenure Tear Strength	ASTM D 2452	lb (kg)	18.7	19.0
Grain Tenure Tear Elongation	ASTM D 2452	%	100	100
UV Resistance	ASTM D 3355	min. (US Std Spec)	0.20	0.20
Apparent Abrasion Rate	ASTM D 4481	1/min (200 g/200/74)	380	100
Flame Retard	ASTM D 4481	sec	0.06	0.06

\*Note: All Dandy Sacks™ can be ordered with our optional of absorbent pillows



**6 TEMPORARY DANDY SACK® INLET PROTECTION**  
CE501 NOT TO SCALE

**4 TEMPORARY CONSTRUCTION ENTRANCE**  
CE501 NOT TO SCALE  
NCDEMLR PRACTICE STD. 6.06



**SKIMMER BASIN CALCULATION TABLE**

Skimmer No.	Drainage Area ac	Rational C	I10 Intensity in/hr	Q10 Peak Flow cfs	Required SA (350 x Q10) sf	Provided SA sf	Required Vol (1800cf/ac x DA) cf	Provided Vol cf	Storage Depth ft	Storage Vol Drained cf	Weir Width ft
SB-1	0.99	0.85	7.23	6.10	2,135	2,430	1,786	5,311	3.00	2,293	6.0
SB-2	1.55	0.66	7.23	7.40	2,589	6,723	2,790	18,124	3.00	9,073	10.0
SB-3	0.62	0.91	7.23	4.08	1,428	3,052	1,116	7,630	3.00	4,578	4.0

**FAIRCLOTH SKIMMER SIZE CALCULATION**

Skimmer No.	Dewatering Time (days)	Skimmer Outflow c/d/day	Skimmer Size in	Orifice Diameter in	Orifice Radius in	Barrel Outflow gpm	Barrel Pipe in
SB-1	3	764	1.5	1.0	0.5	4.0	4.0
SB-2	3	3,024	2.5	1,500	0.8	15.7	4.0
SB-3	3	1,526	2.0	1,250	0.6	7.9	4.0

**NOTES:**

- Q10 Peak Flow were taken from Rational Method.
- Required Surface Areas and Volumes were taken from NCDENR ESC Manual.
- Faircloth Skimmer Selection Table taken from Table 4-2. NCDOT Level III-A Design of Sediment & Erosion Control Plans Manual
- Emergency Weir Width taken from Skimmer Basin Criteria Section of NCDENR ESC Manual Table and/or Hydraulic Routing of the basin to ensure non-erosive velocity.
- Minimum Barrel Pipe on the Skimmer is 4-inches. (On a 1% slope the capacity is 100 GPM)

**5 TEMPORARY SEDIMENT BASIN**  
CS501 NOT TO SCALE

**NPDES PERMIT NCG 010000 PLAN NOTES:**

- ACCORDING TO NPDES NCG 010000 EFFECTIVE AUGUST 3, 2011; THE PLANS SHALL CONFORM TO GROUND STABILIZATION REQUIREMENTS OF SECTION II.B.2 GROUND STABILIZATION.
- ACCORDING TO NPDES NCG 010000 EFFECTIVE AUGUST 3, 2011; THE SEDIMENT BASINS SHALL CONFORM TO SURFACE WITHDRAWAL REQUIREMENTS OF SECTION II.B.4 SEDIMENT BASINS.

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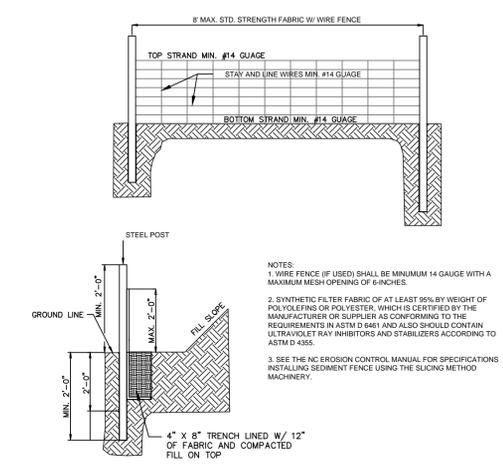
**VEGETATION PLAN SPECIFICATIONS**

- ALL DISTURBED AREAS SHALL BE DRESSED TO THE EXISTING TYPICAL SECTION AND TILLED OR RIPPED TO A MIN. DEPTH OF 4-INCHES. THE TOP 2 INCHES SHALL BE PULVERIZED TO PROVIDE A UNIFORM SEEDBED.
- LIME AND FERTILIZER SHOULD BE INCORPORATED INTO THE SOIL PRIOR TO SEEDING OR SOD. FOLLOW SOIL TESTS OR AS FOLLOWS:
  - AGRICULTURAL LIMESTONE - 2 TONS/ACRE
  - FERTILIZER - 1000 LBS/ACRE (10-10-10)
  - SUPERPHOSPHATE - 500 LBS/ACRE (20%)
  - MULCH - 2 TONS/ACRE (SMALL GRAIN STRAW)
  - ANCHOR - ASPHALT EMULSION AT 450 GAL/ACRE
- FOR OPEN AREAS, USE STRAW MULCH AS A MINIMUM FOR STABILIZATION IF THE AREAS CANNOT BE SEEDED ACCORDING TO THE PLANTING DATES. OTHER MULCHING PRACTICES ARE LISTED IN SECTION 6.14 OF THE EROSION CONTROL MANUAL FOR MULCHING.
- FOR DITCHES AND SLOPES, USE EXCELSIOR MATTING AS A MINIMUM FOR STABILIZATION IF THE AREAS CANNOT BE SEEDED ACCORDING TO THE PLANTING DATES. OTHER MATTING PRACTICES ARE LISTED IN SECTION 6.14 OF THE EROSION CONTROL MANUAL FOR MULCHING.
- CHEMICAL STABILIZERS MAY BE USED, BUT IT IS NOT RECOMMENDED FOR VEGETATION GROWTH. REFER TO THE EROSION CONTROL MANUAL FOR A LIST OF STABILIZERS AND FOLLOW MANUFACTURER'S SPECIFICATIONS.
- THE FOLLOWING TABLES ARE REFERENCED FROM NC EROSION CONTROL MANUAL SEC. 6.10 AND 6.11, AND THE STABILIZATION TABLE IS REFERENCED FROM NPDES NCG 010000.

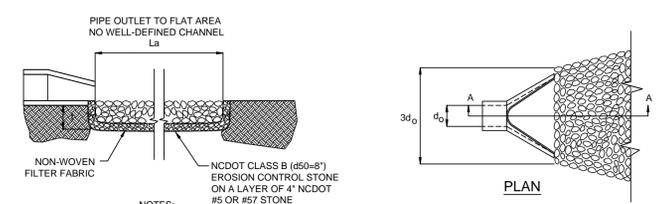
**STORMWATER MANAGEMENT PLAN APPROVED**  
CITY OF WILMINGTON  
ENGINEERING DEPARTMENT  
DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_  
SIGNED \_\_\_\_\_

**Approved Construction Plan**  
Name \_\_\_\_\_ Date \_\_\_\_\_  
Planning \_\_\_\_\_  
Traffic \_\_\_\_\_  
Fire \_\_\_\_\_

**3 STANDARD EROSION CONTROL NOTES**  
CE501



**2 TEMPORARY SILT FENCE**  
CE501 NOT TO SCALE



**1 PIPE OUTLET PROTECTION**  
CE501 NOT TO SCALE

**RIP-RAP APRON SCHEDULE**

RIPRAP LOCATIONS	PIPE DIA. (IN.)	LENGTH, L <sub>a</sub> (ft)	UPSTREAM WIDTH, 3x DIA (FT.)	DOWNSTREAM WIDTH, W (FT.)	STONE THICKNESS t (IN.)
O-1	15	5	3.75	VARIES WITH SWALE	9"
O-2	24	8	6.0	VARIES WITH SWALE	9"
O-3	24	8	6.0	VARIES WITH SWALE	9"
O-4	18	6	4.5	VARIES WITH SWALE	9"

REV	NO.	DESCRIPTION	DATE
H	1	PERMIT SUBMITTAL SET - COV. NHC	02/16/16
G	1	PERMIT SUBMITTAL SET - CIP/PA, NCDOT, COV. NHC	06/16/16
F	1	ADDENDUM #1 - REVISIONS TO UTILITY PLAN	07/16/16
E	1	CITY OF WILMINGTON STORMWATER AND NHC SEDIMENT AND EROSION CONTROL SUBMITTAL	03/16/16
D	1	CITY OF WILMINGTON SRB SUBMITTAL	03/16/16
C	1	CITY OF WILMINGTON TRC SUBMITTAL	2/16/16
B	1	CITY OF WILMINGTON SRB SUBMITTAL	2/16/16
A	1	CITY OF WILMINGTON CONCEPT TRC SUBMITTAL	11/5/2015

PRELIMINARY PLAN  
NOT FOR CONSTRUCTION

SEAL  
TAMARA C. MURPHY  
ENGINEER

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

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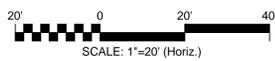
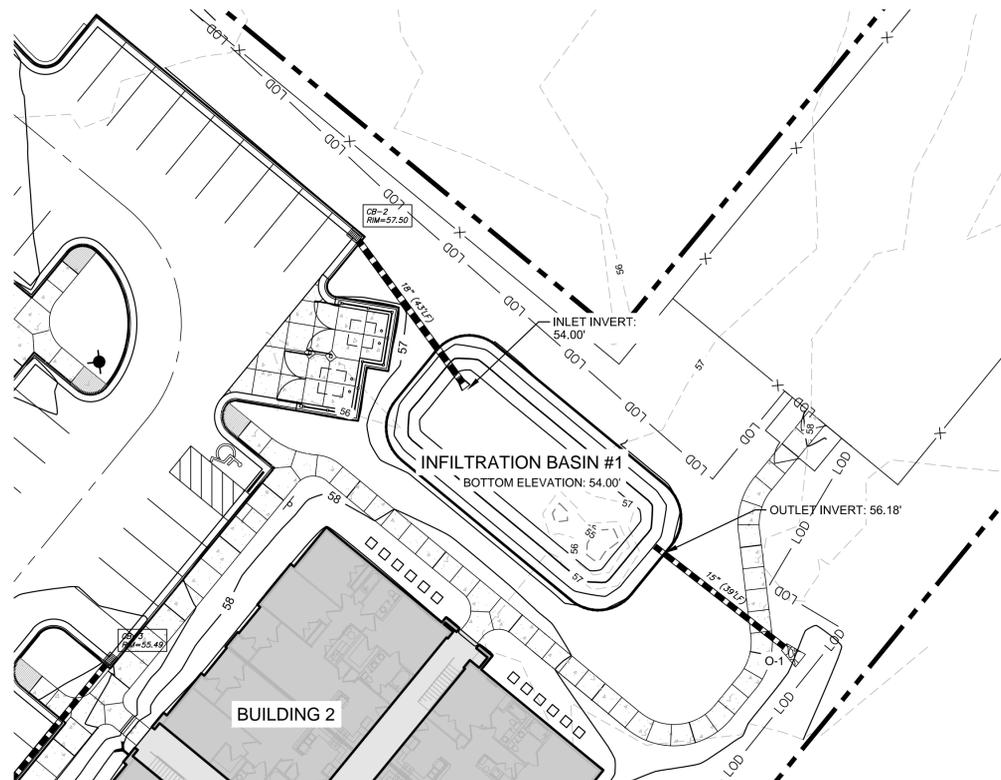
SHIPYARD VILLAGE APARTMENTS  
2821 CAROLINA BEACH ROAD  
WILMINGTON, NORTH CAROLINA  
TOWNSHIP OF WILMINGTON  
EROSION CONTROL DETAILS

DATE: XX JUN 2016  
MCE PROJ. # 07010-0001  
DRAWN TCM/TSM  
DESIGNED TCM/TSM  
CHECKED RMC  
PROJ. MGR. TSM

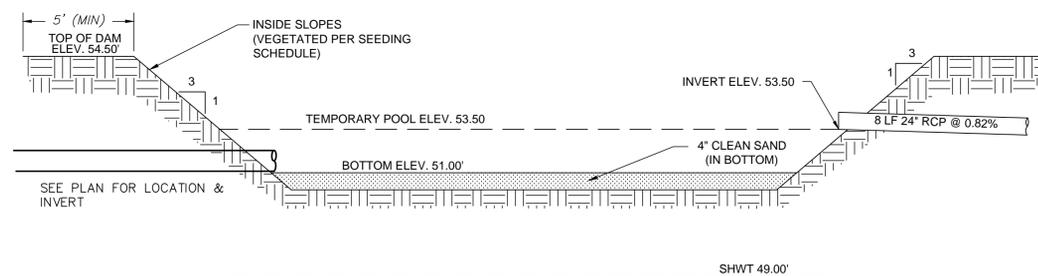
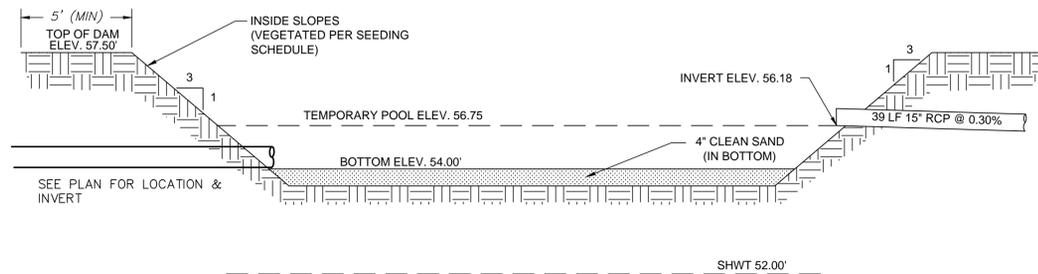
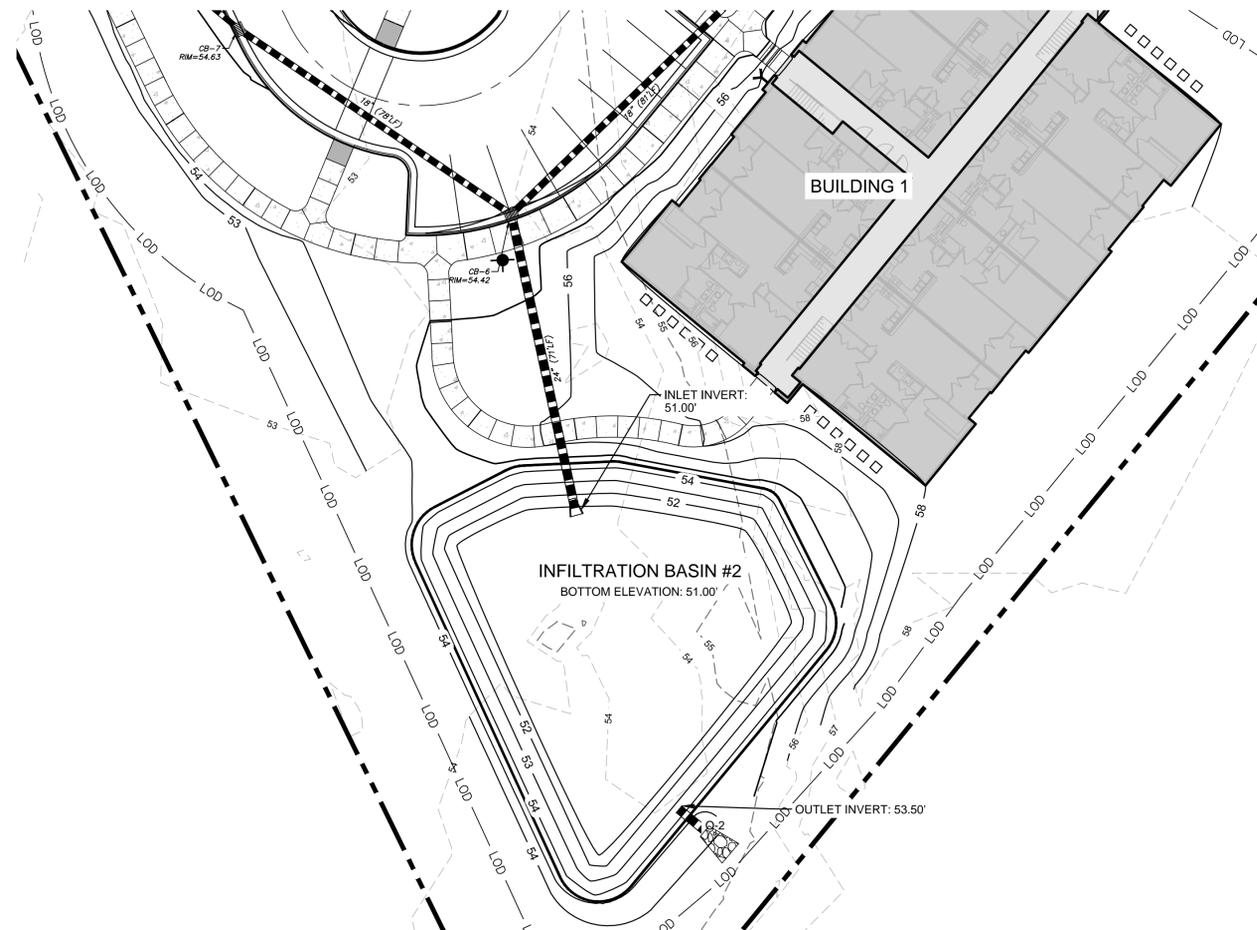
SCALE: HORIZONTAL: N/A  
VERTICAL: N/A

MAC/FILE NUMBER: CE501  
DRAWING NUMBER: 21

STATUS: PRELIMINARY PLANS  
NOT FOR CONSTRUCTION



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



**INFILTRATION BASIN #1**  
NOT TO SCALE

**INFILTRATION BASIN #2**  
NOT TO SCALE

1 inch  
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**STORMWATER MANAGEMENT PLAN**  
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CITY OF WILMINGTON  
ENGINEERING DEPARTMENT  
DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_  
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**Approved Construction Plan**  
Name \_\_\_\_\_ Date \_\_\_\_\_  
Planning \_\_\_\_\_  
Traffic \_\_\_\_\_  
Fire \_\_\_\_\_

REV. NO.	DESCRIPTIONS / REVISIONS	DATE
H	PERMIT SUBMITTAL SET - COW, NHC	02/16
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F	ADDENDUM #1 - REVISIONS TO UTILITY PLAN	07/16
E	CITY OF WILMINGTON STORMWATER AND NHC SEDIMENT AND EROSION CONTROL SUBMITTAL	03/16
D	CITY OF WILMINGTON SRB SUBMITTAL	03/16
C	CITY OF WILMINGTON TRC SUBMITTAL	2/15/16
B	CITY OF WILMINGTON SRB SUBMITTAL	2/2/16
A	CITY OF WILMINGTON CONCEPT TRC SUBMITTAL	11/5/2015

PRELIMINARY PLAN  
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**STORMWATER MANAGEMENT DETAILS**

DATE:	XX JUN 2016	SCALE:	N/A	M&C FILE NUMBER:	CN501
M&C PROJ. #	07010-0001	HORIZONTAL:	N/A	DRAWING NUMBER:	22
DRAWN:	TCM/TSM	VERTICAL:	N/A		
DESIGNED:	TCM/TSM				
CHECKED:	RMG				
PROJ. MGR.	TSM				
STATUS:	PRELIMINARY PLANS NOT FOR CONSTRUCTION				

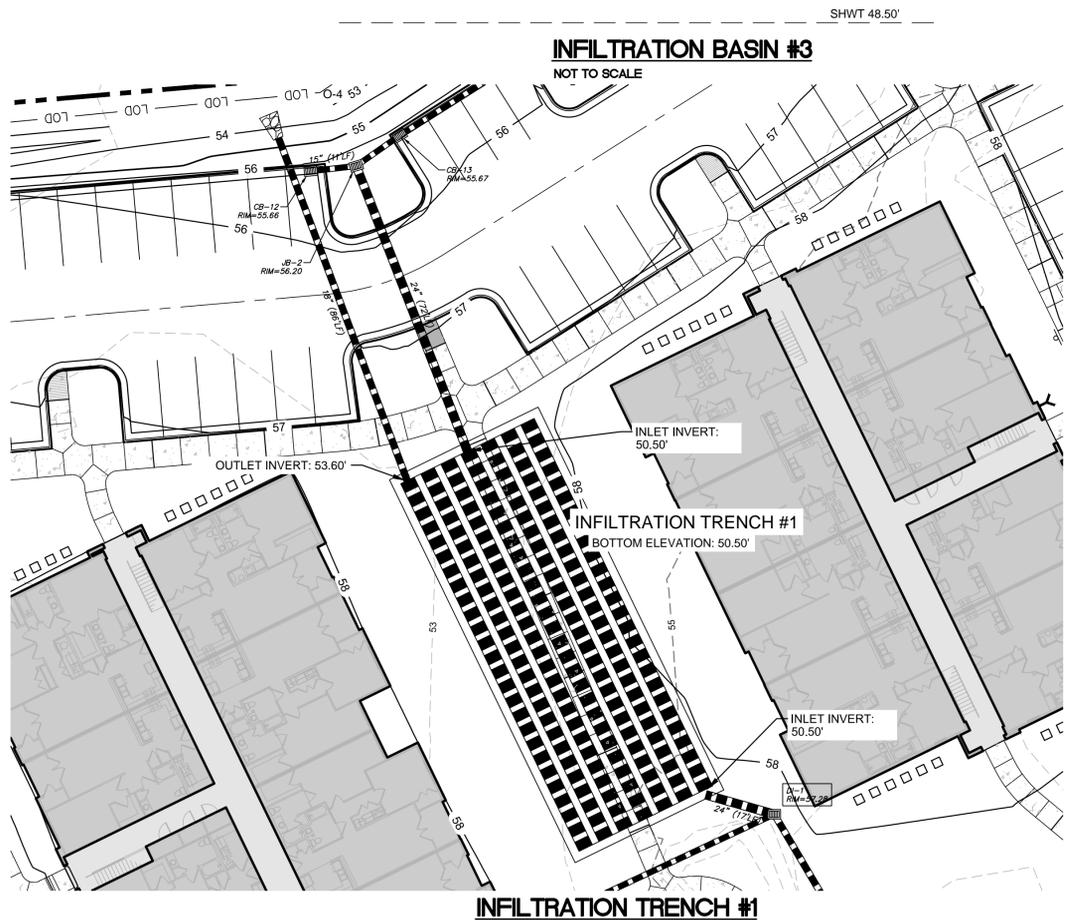
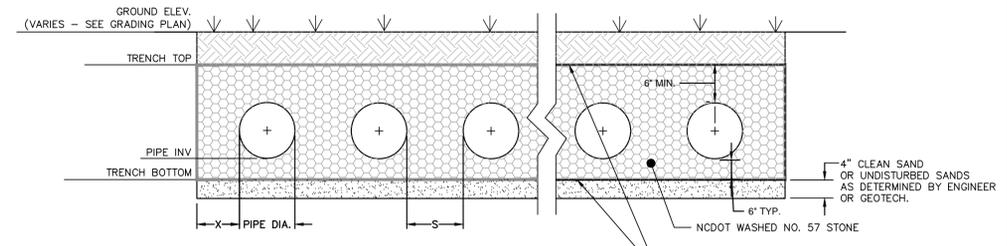
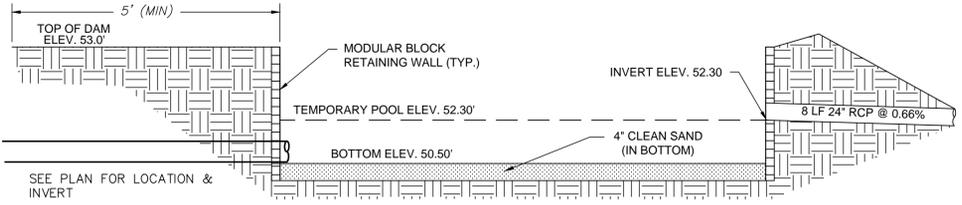
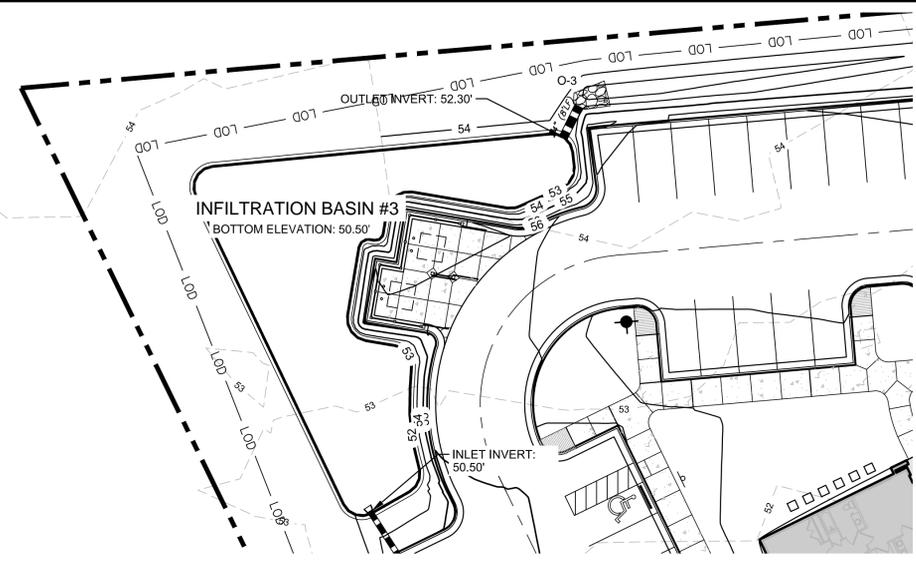
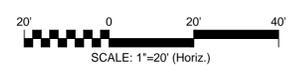
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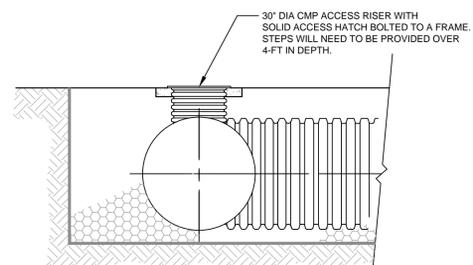
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 Name \_\_\_\_\_ Date \_\_\_\_\_  
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 Traffic \_\_\_\_\_  
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**NOTES**

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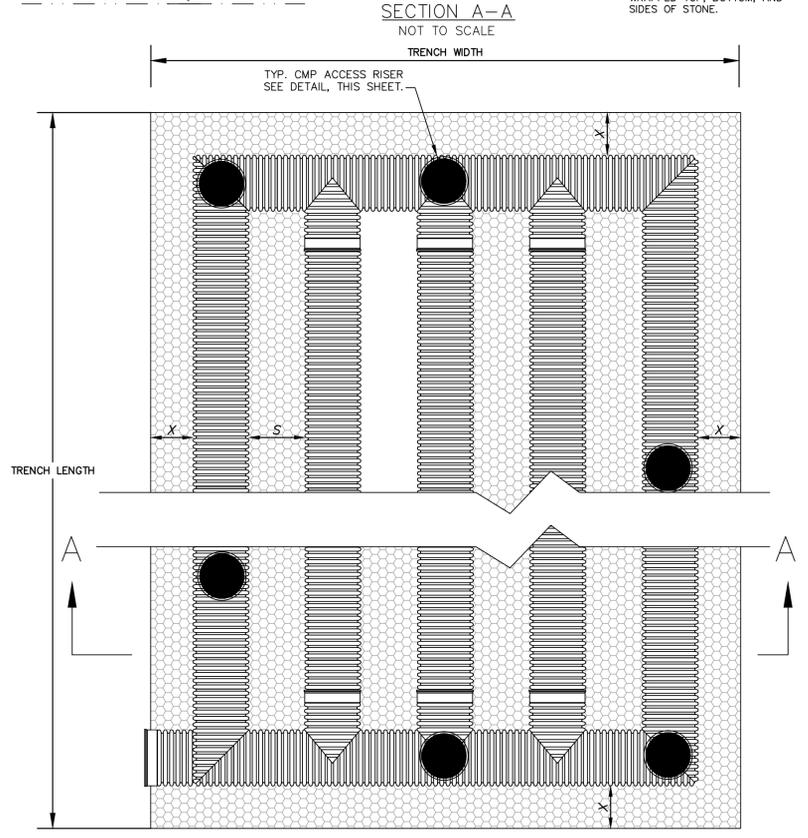
INFILTRATION TRENCH SYSTEM TABLE	
DESIGN	INFILTRATION TRENCH #1
# OF RUNS	7
PIPE DIAMETER (IN)	42" CMP
MIN. X (IN)	1/2 DIA. OF PIPE
MIN. S (IN)	1/2 DIA. OF PIPE
TRENCH WIDTH (FT)	39'
TRENCH LENGTH (FT)	100'
SHWT ELEVATION	48.50'
TRENCH BOTTOM ELEVATION	50.50'
PIPE TRENCH INVERT	51.00'
TRENCH TOP ELEVATION	55.00'
10-YR WSEL	52.49'
25-YR WSEL	53.08'
50-YR WSEL	53.65'
1.5" WSEL	52.23'



**TYP. CMP ACCESS RISER**  
 NOT TO SCALE

**NOTES:**

1. INFILTRATION TRENCH PIPE SHALL BE CONTECH PERFORATED 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.
2. 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.
3. SEE TABLE FOR NUMBER OF PIPE RUNS AND DIMENSIONS.
4. 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.
5. SHWT ELEVATIONS TAKEN FROM SITE & SOILS VALUATION REPORT BY ECS CAROLINAS, LLP DATED JANUARY 20, 2016 FOR SHIPYARD VILLAGE WILMINGTON, LLC.
6. EXISTING ELEVATIONS TAKEN FROM TOPOGRAPHY SURVEY BY MCKIM & CREED, INC. DATED APRIL 22, 2014.
7. IF HARDPAN OR OTHER UNSUITABLE SOILS ARE ENCOUNTERED, OVEREXCAVATE THE BOTTOM A MINIMUM OF 2' AND BACKFILL WITH ENGINEER APPROVED SANDY SOIL MATERIAL.



**TYP. INFILTRATION TRENCH SYSTEM**  
 NOT TO SCALE

REV. NO.	DESCRIPTIONS	DATE
H	PERMIT SUBMITTAL SET - COV. N/C	6/24/16
G	PERMIT SUBMITTAL SET - CIVIL, NCDOT, COV. N/C	5/9/16
F	ADDENDUM #1 - REVISIONS TO UTILITY PLAN	4/7/16
E	CITY OF WILMINGTON STORMWATER AND N/C SEDIMENT AND EROSION CONTROL SUBMITTAL	3/24/16
D	CITY OF WILMINGTON SRB SUBMITTAL	3/16/16
C	CITY OF WILMINGTON TRC SUBMITTAL	2/19/16
B	CITY OF WILMINGTON SRB SUBMITTAL	2/19/16
A	CITY OF WILMINGTON CONCEPT TRC SUBMITTAL	11/5/2015

PRELIMINARY PLAN  
 NOT FOR CONSTRUCTION



**MCKIM & CREED**  
 243 North Front Street  
 Wilmington, NC 28401  
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 NC LICENSE F-1222  
 www.mckimcreed.com

SHIPYARD VILLAGE WILMINGTON, LLC  
 PO BOX 29169  
 GREENSBORO, NC 27429-9169

SHIPYARD VILLAGE APARTMENTS  
 2821 CAROLINA BEACH ROAD  
 WILMINGTON, NORTH CAROLINA  
 TOWNSHIP OF WILMINGTON  
**STORMWATER MANAGEMENT DETAILS**

DATE:	XX JUN 2016	SCALE:	N/A	MCK FILE NUMBER:	CN502
MCE PROJ. #	07010-0001	HORIZONTAL:	N/A	DRAWING NUMBER:	23
DRAWN:	TCM/TSM	VERTICAL:	N/A		
DESIGNED:	TCM/TSM				
CHECKED:	RM/C				
PROJ. MGR.	TSM				
STATUS: PRELIMINARY PLANS NOT 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.

STORMWATER MANAGEMENT PLAN  
APPROVED  
CITY OF WILMINGTON  
ENGINEERING DEPARTMENT  
DATE \_\_\_\_\_ PERMIT # \_\_\_\_\_  
SIGNED \_\_\_\_\_

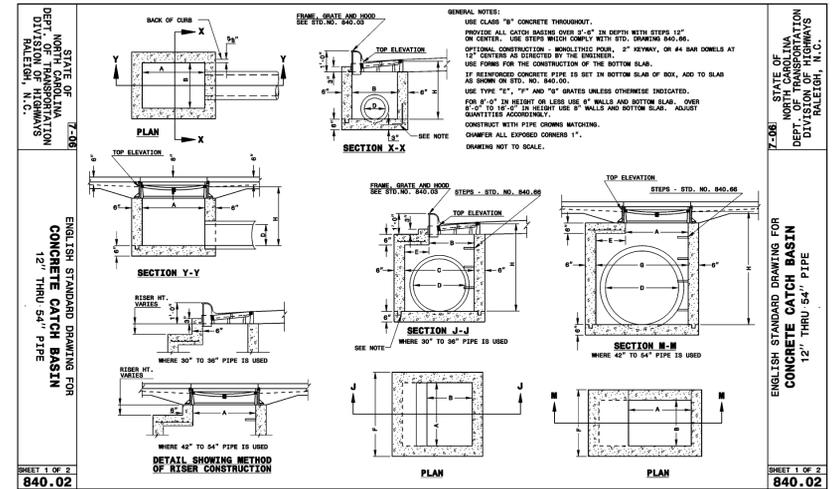
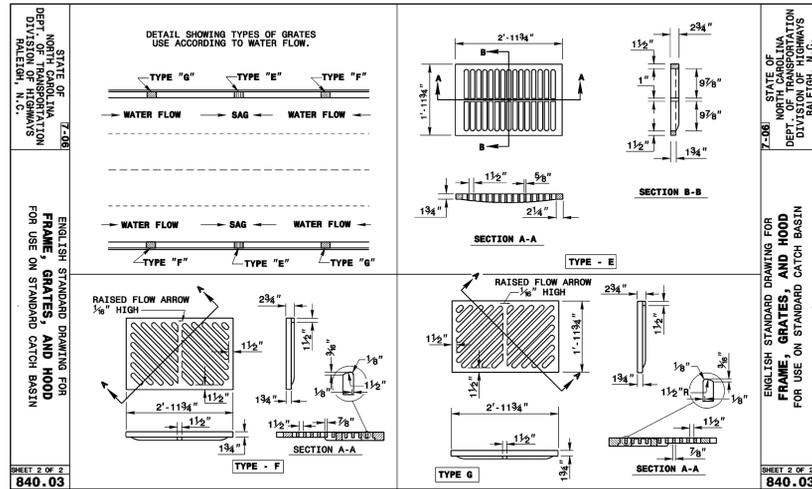
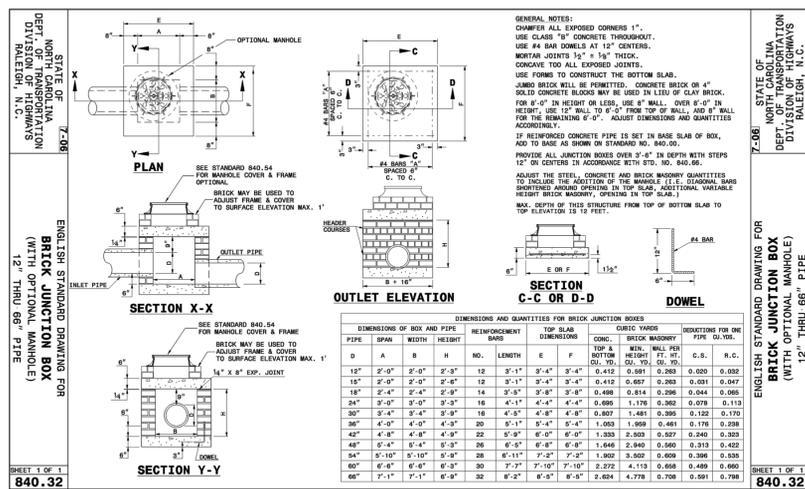
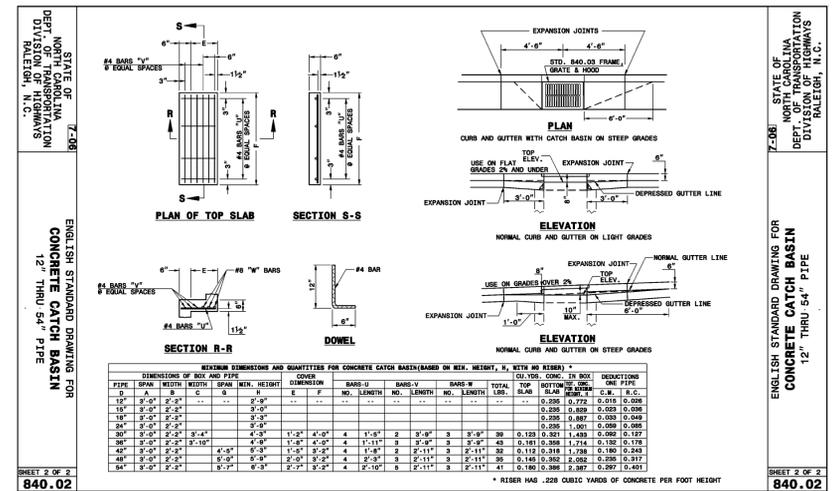
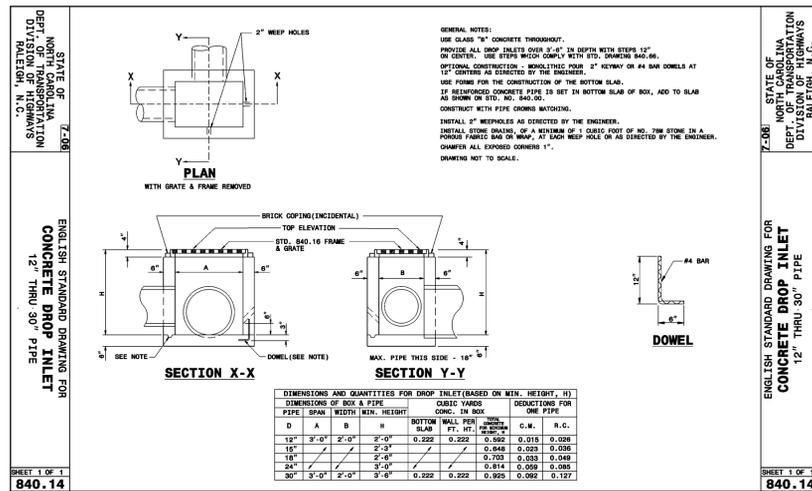
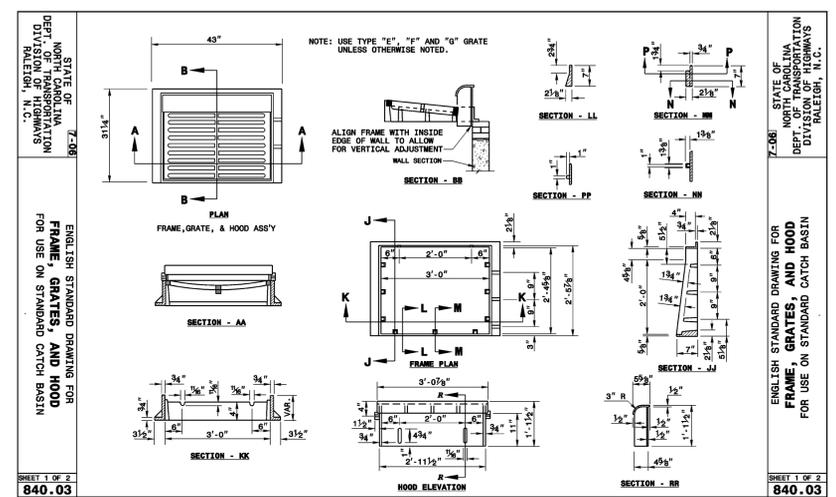
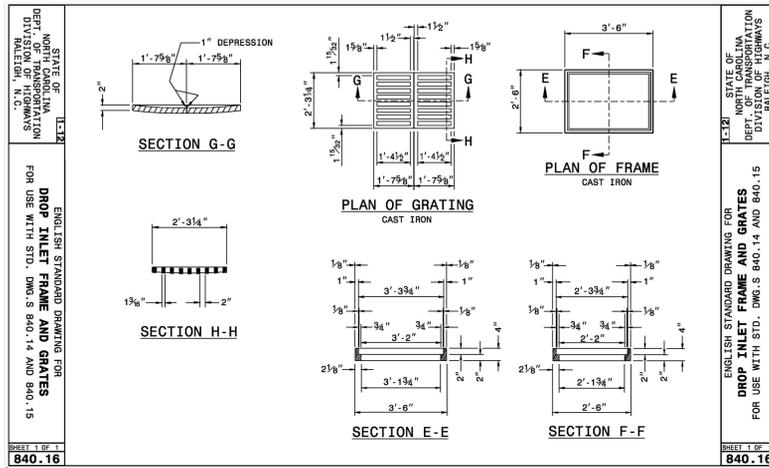
Approved Construction Plan

Name \_\_\_\_\_ Date \_\_\_\_\_

Planning \_\_\_\_\_

Traffic \_\_\_\_\_

Fire \_\_\_\_\_



REV.	NO.	DESCRIPTION	DATE
H	1	PERMIT SUBMITTAL SET - CON. N/C	05/15/16
G	1	PERMIT SUBMITTAL SET - CIVIL, N/C	05/15/16
F	1	ADDENDUM #1 - REVISIONS TO UTILITY PLAN	07/16/16
E	1	CITY OF WILMINGTON STORMWATER AND N/C SEDIMENT AND EROSION CONTROL SUBMITTAL	03/16/16
D	1	CITY OF WILMINGTON SRS SUBMITTAL	03/16/16
C	1	CITY OF WILMINGTON TRC SUBMITTAL	03/16/16
B	1	CITY OF WILMINGTON SRS SUBMITTAL	03/16/16
A	1	CITY OF WILMINGTON CONCEPT TRC SUBMITTAL	11/02/15



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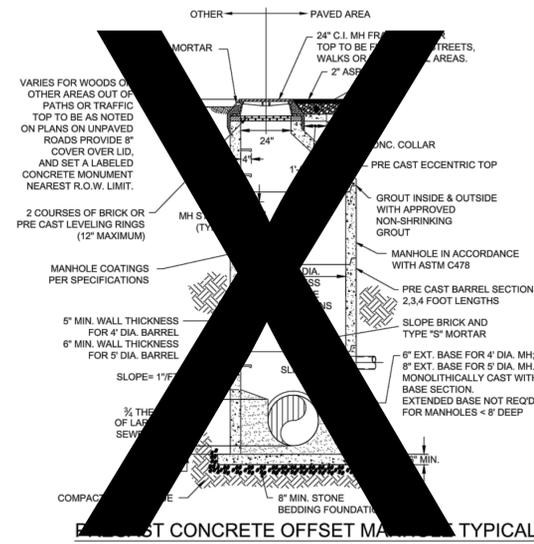
SHIPYARD VILLAGE WILMINGTON, LLC  
PO BOX 29169  
GREENSBORO, NC 27429-9169

SHIPYARD VILLAGE APARTMENTS  
2821 CAROLINA BEACH ROAD  
WILMINGTON, NORTH CAROLINA  
TOWNSHIP OF WILMINGTON

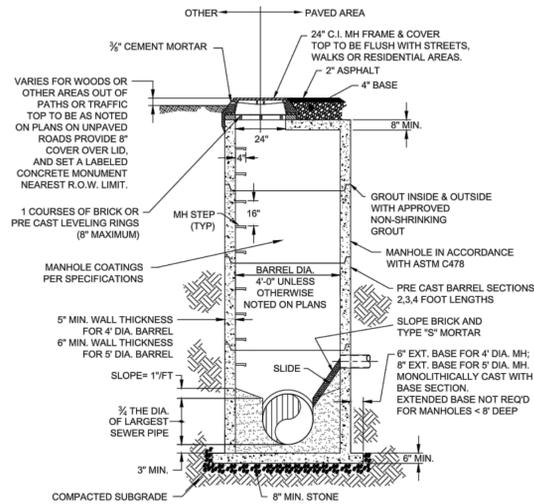
DATE: XX JUN 2016  
MCE PROJ. #: 07010-0001  
DRAWN: TCM/TSM  
DESIGNED: TCM/TSM  
CHECKED: RMC  
PROJ. MGR: TSM

SCALE: HORIZONTAL: CG501  
VERTICAL: 24

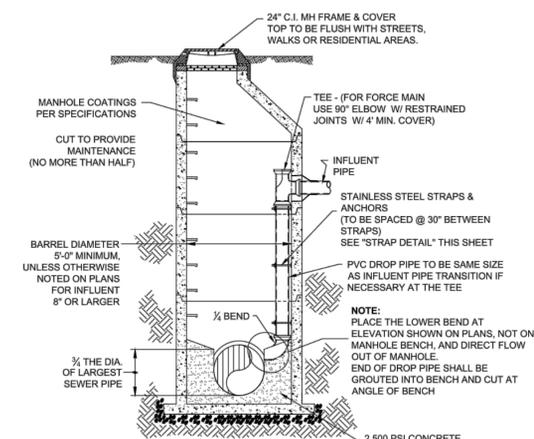
STATUS: PRELIMINARY PLANS  
NOT FOR CONSTRUCTION



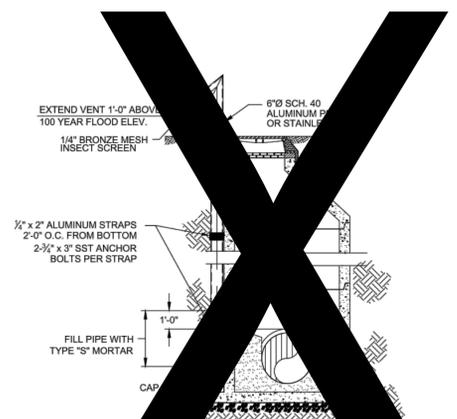
**PRECAST CONCRETE OFFSET MANHOLE TYPICAL**  
(LESS THAN 30" DROP)  
NOT TO SCALE



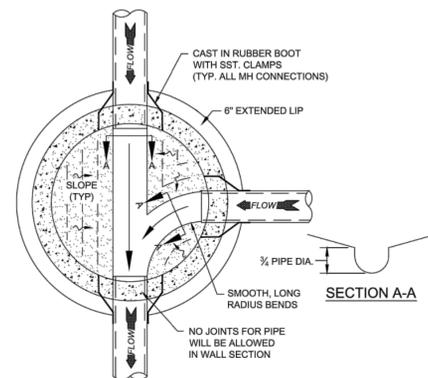
**PRECAST CONCRETE FLAT TOP MANHOLE TYPICAL**  
(LESS THAN 30" DROP)  
NOT TO SCALE



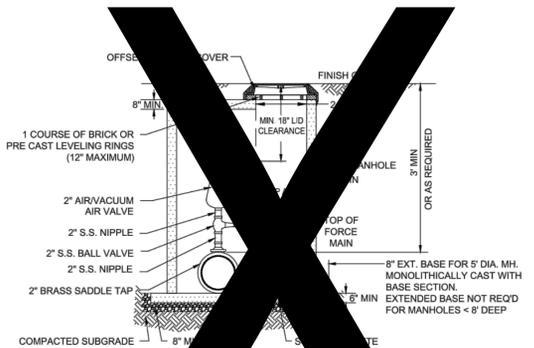
**DROP MANHOLE**  
(MORE THAN 30" DROP)  
NOT TO SCALE



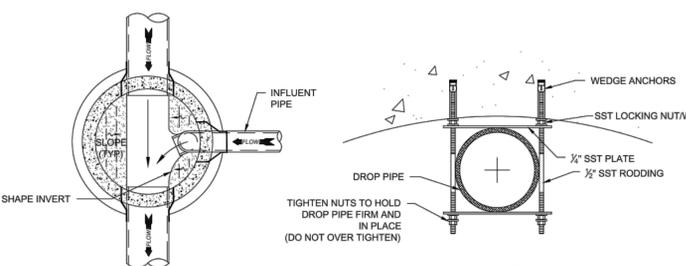
**STANDARD VENT MANHOLE**  
NOT TO SCALE



**MANHOLE FLOOR PLAN**  
NOT TO SCALE



**VACUUM AND AIR RELEASE COMBINATION VALVE**  
NOT TO SCALE



**DROP MANHOLE FLOOR PLAN**  
NOT TO SCALE

**STRAP DETAIL**  
NOT TO SCALE

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

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

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

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

<b>CFPUA SANITARY SEWER</b>		DATE: 1/9/12
<b>STANDARD DETAILS</b>		SCALE: N/A
 <b>CAPE FEAR PUBLIC UTILITY AUTHORITY</b> 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560		DRAWN BY: CFPUA
		CHECKED BY: CFPUA
		PROJECT NO.:
		<b>SHEET NO:</b> SSD-1

REV:	DESCRIPTION:	DATE:
1	AIR / VACUUM AND AIR RELEASE COMBINATION VALVE REVISED	10/26/12
2	STANDARD SEWER NOTE #6 REVISED	12/10/12

REV. NO.	DESCRIPTIONS	DATE
H	PERMIT SUBMITTAL SET - COW, NHC	6/24/16
G	PERMIT SUBMITTAL SET - CFPUA, NCDOT, COW, NHC	5/9/16
F	ADDENDUM #1 - REVISIONS TO UTILITY PLAN	4/7/16
E	CITY OF WILMINGTON STORMWATER AND NHC SEDIMENT AND EROSION CONTROL SUBMITTAL	3/31/16
D	CITY OF WILMINGTON SRB SUBMITTAL	3/16/16
C	CITY OF WILMINGTON TRC SUBMITTAL	2/15/16
B	CITY OF WILMINGTON SRB SUBMITTAL	2/2/16
A	CITY OF WILMINGTON CONCEPT TRC SUBMITTAL	11/5/2015

PRELIMINARY PLAN  
NOT FOR  
CONSTRUCTION

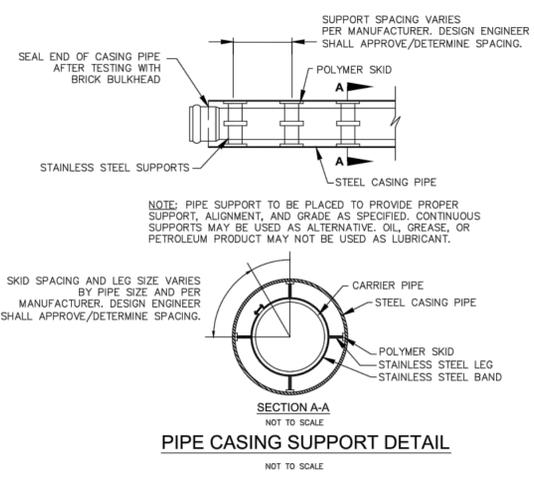
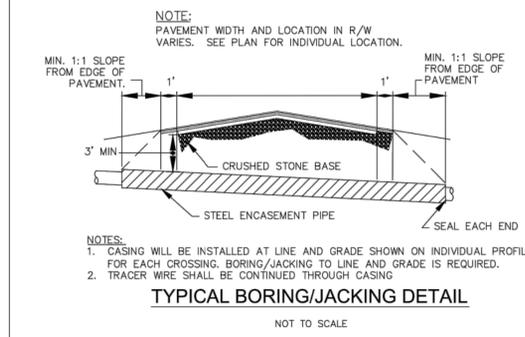
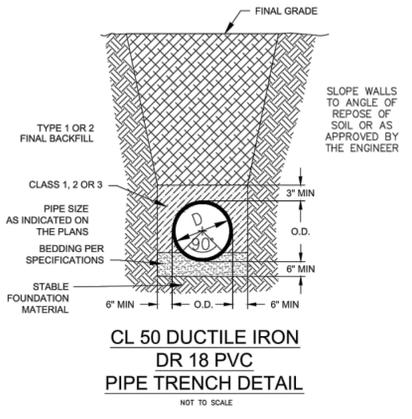
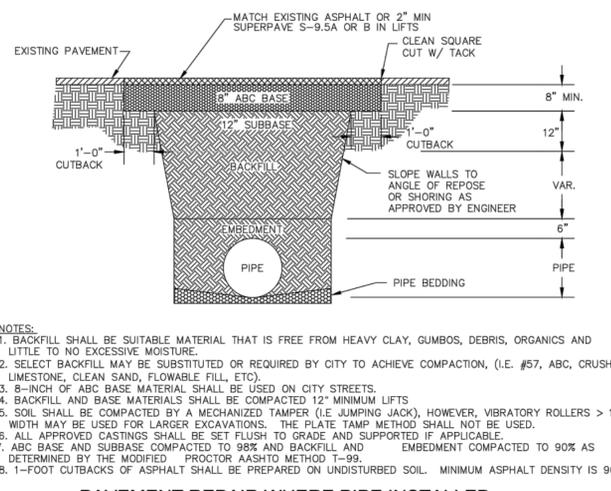
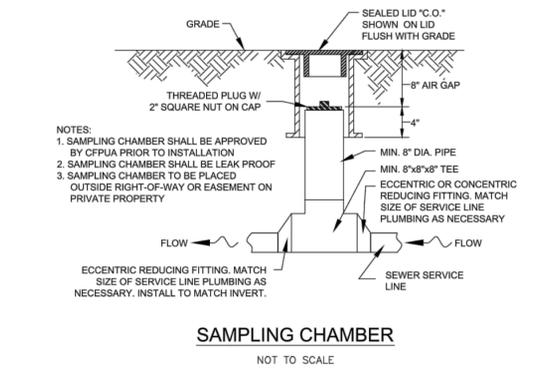
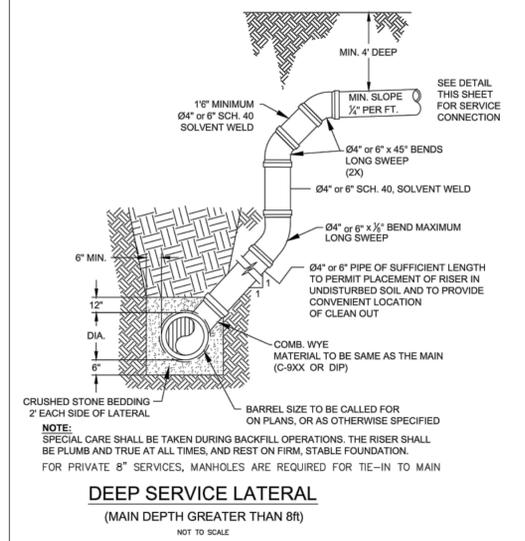
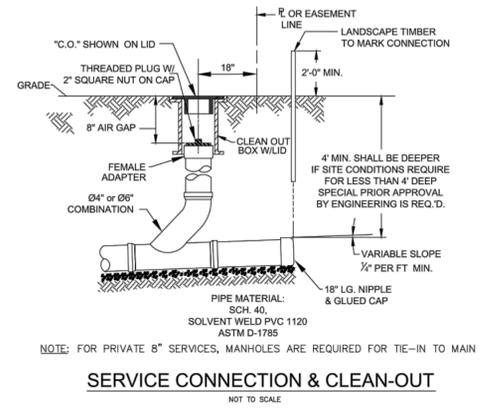
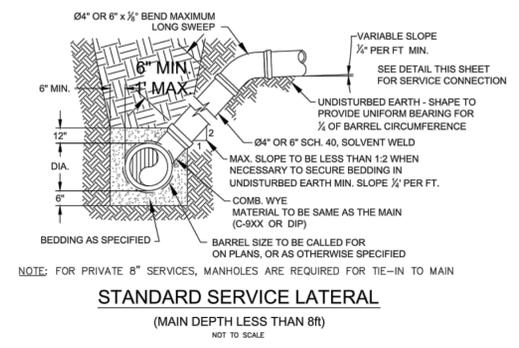
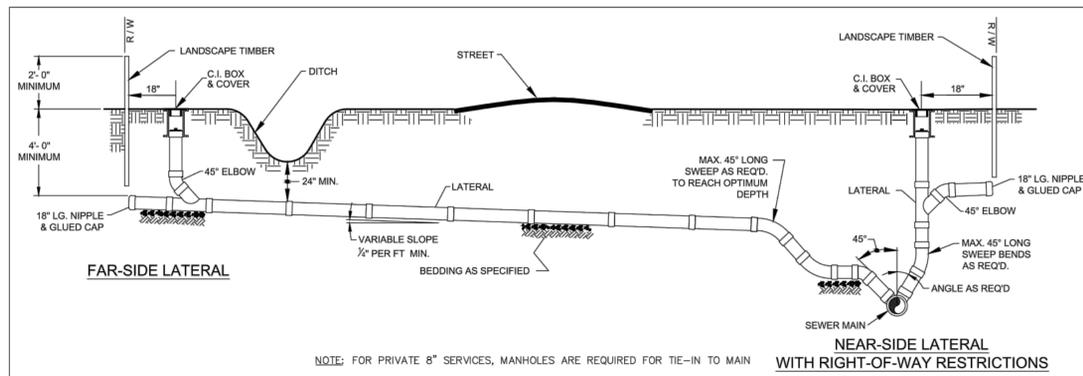
  
 TAMARA C. MURPHY  
 ENGINEER  
 038675

  
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 243 North Front Street  
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 PO BOX 29169  
 GREENSBORO, NC 27429-9169

**SHIPYARD VILLAGE APARTMENTS**  
 2821 CAROLINA BEACH ROAD  
 WILMINGTON, NORTH CAROLINA  
 TOWNSHIP OF WILMINGTON  
**UTILITY DETAILS**

DATE:	XX JUN 2016	SCALE:	HORIZONTAL: N/A	VERTICAL: N/A	MAC FILE NUMBER: CU501
MCE PROJ. #	07010-0001	DRAWN	TCM/TSM	DESIGNED	TCM/TSM
CHECKED BY:	RMC	PROJ. MGR.	TSM		
STATUS: <b>PRELIMINARY PLANS</b> NOT FOR CONSTRUCTION					



**GENERAL NOTES:**

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

REV:	DESCRIPTION:	DATE:
1	SAMPLING CHAMBER REVISED	10/28/12

**CFPUA SANITARY SEWER**

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

**STANDARD DETAILS**

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

SHEET NO: SSD-2

REV. NO.	DESCRIPTIONS/REVISIONS	DATE
H	PERMIT SUBMITTAL SET - COW, NYC	02/15/12
G	PERMIT SUBMITTAL SET - CFPJA, NCDOT, COW, NYC	06/19/12
F	ADDENDUM #1 - REVISIONS TO UTILITY PLAN	07/16/12
E	CITY OF WILMINGTON STORMWATER AND NYC SEDIMENT AND EROSION CONTROL SUBMITTAL	03/16/12
D	CITY OF WILMINGTON SRB SUBMITTAL	03/16/12
C	CITY OF WILMINGTON TRC SUBMITTAL	2/15/12
B	CITY OF WILMINGTON SRB SUBMITTAL	2/21/12
A	CITY OF WILMINGTON CONCEPT TRC SUBMITTAL	11/5/2011

PRELIMINARY PLAN  
NOT FOR CONSTRUCTION



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**SHIPYARD VILLAGE APARTMENTS**  
2821 CAROLINA BEACH ROAD  
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TOWNSHIP OF WILMINGTON

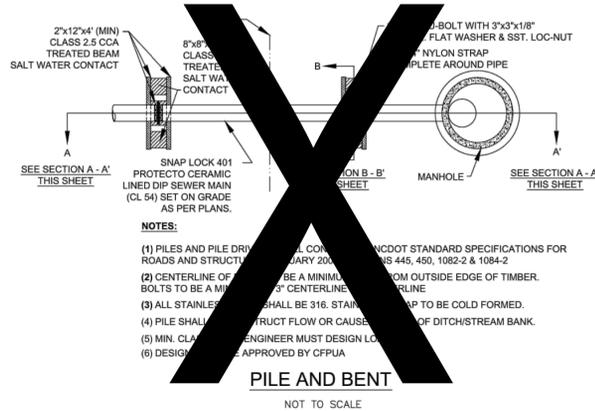
UTILITY DETAILS

DATE: XX JUN 2016  
MCE PROJ. #: 07010-0001  
DRAWN: TCM/TSM  
DESIGNED: TCM/TSM  
CHECKED: RMC  
PROJ. MGR.: TSM

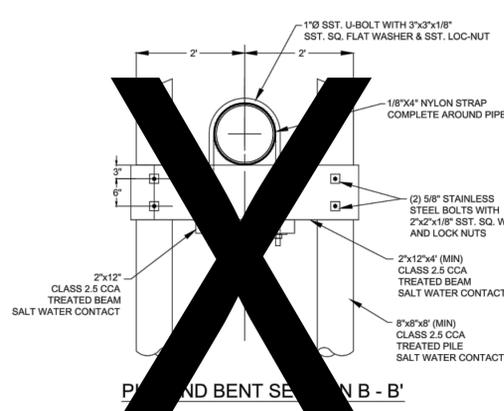
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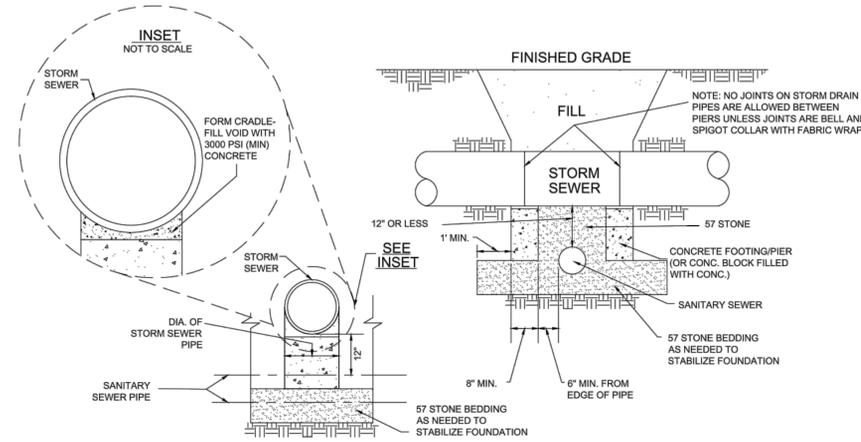
STATUS: PRELIMINARY PLANS  
NOT FOR CONSTRUCTION



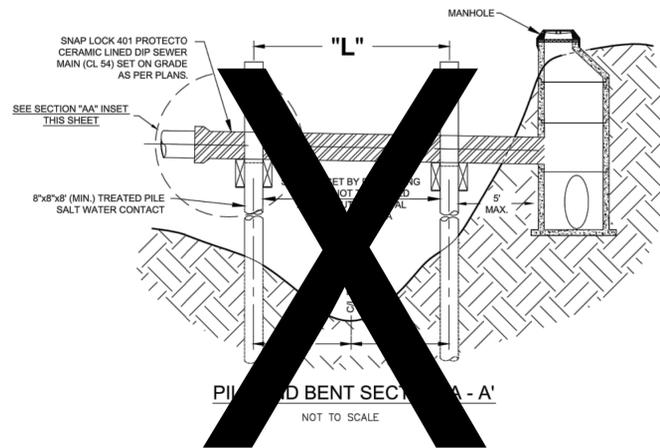
PILE AND BENT SECTION A - A'  
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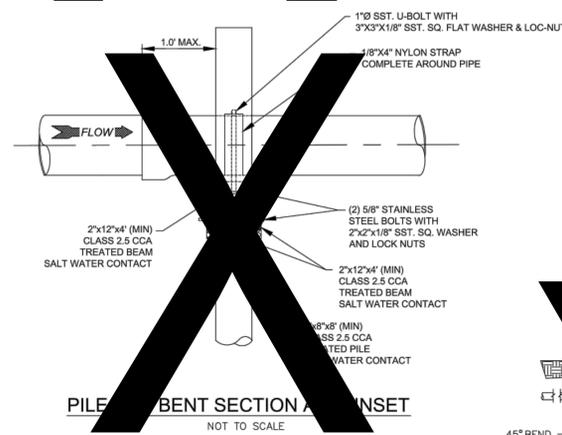
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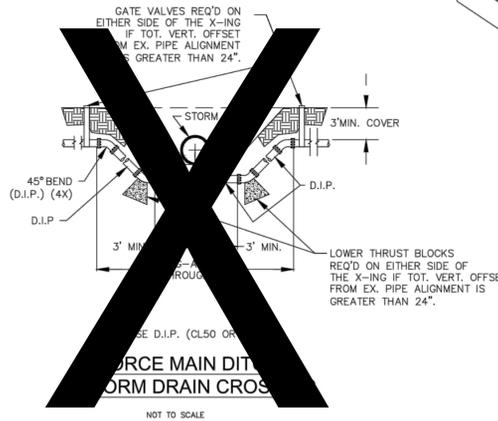
STRUCTURAL BRIDGING DETAIL FOR STORMWATER OVER GRAVITY SEWER INSTALLATIONS WITH LESS THAN 12" SEPARATION  
NOT TO SCALE



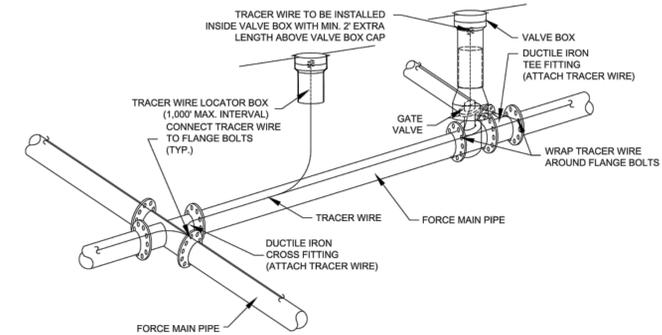
PILE AND BENT SECTION A - A' INSET  
NOT TO SCALE



PILE AND BENT SECTION A - A' INSET  
NOT TO SCALE



FORCE MAIN DITCH AND STORM DRAIN CROSSING  
NOT TO SCALE



TRACER WIRE DETAIL  
NOT TO SCALE

- GENERAL NOTES:**
- NO EXCAVATED MATERIAL SHALL BE PLACED IN ANY STREAM, DITCH OR DRAINAGE-WAY.
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THE DETAILS SHOWN HEREON SUPERCEDE CFPUA WRITTEN TECHNICAL SPECIFICATIONS VERSIONS 1.00 - 1.04

REV:	DESCRIPTION:	DATE:

<b>CFPUA SANITARY SEWER</b>		DATE: 1/8/12
STANDARD DETAILS		SCALE: N/A
<b>CAPE FEAR PUBLIC UTILITY AUTHORITY</b> 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560		DRAWN BY: CFPUA
		CHECKED BY: CFPUA
UTILITY DETAILS		PROJECT NO.:
STATUS: PRELIMINARY PLANS NOT FOR CONSTRUCTION		SHEET NO: SSD-3

REV. NO.	DESCRIPTION/REVISIONS	DATE
H	PERMIT SUBMITTAL SET - COW, NHC	6/24/16
G	PERMIT SUBMITTAL SET - CFPUA, NCDOT, COW, NHC	5/6/16
F	ADDENDUM #1 - REVISIONS TO UTILITY PLAN	4/7/16
E	CITY OF WILMINGTON STORMWATER AND NHC SEDIMENT AND EROSION CONTROL SUBMITTAL	3/30/16
D	CITY OF WILMINGTON SRB SUBMITTAL	3/8/16
C	CITY OF WILMINGTON TRC SUBMITTAL	2/10/16
B	CITY OF WILMINGTON SRB SUBMITTAL	2/2/16
A	CITY OF WILMINGTON CONCEPT TRC SUBMITTAL	11/5/2015

PRELIMINARY PLAN  
NOT FOR  
CONSTRUCTION

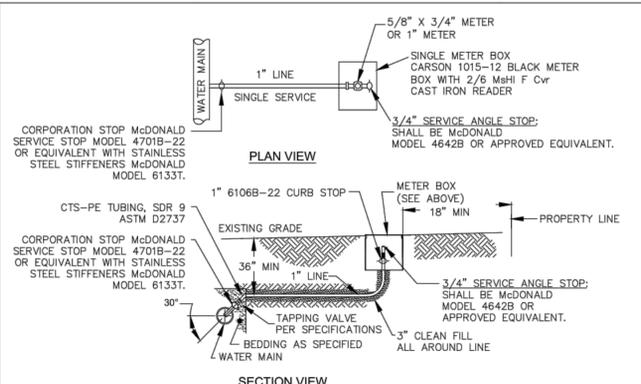
SEAL  
TAMARA C. MURPHY  
ENGINEER

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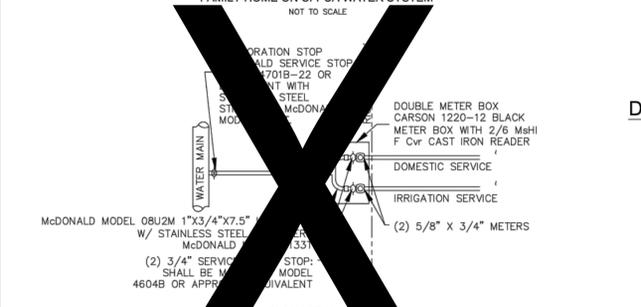
SHIPYARD VILLAGE APARTMENTS  
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 WILMINGTON, NORTH CAROLINA  
 TOWNSHIP OF WILMINGTON

DATE:	XX JUN 2016	SCALE:	N/A	MAC FILE NUMBER:	CU503
MCE PROJ. #	07010-0001	HORIZONTAL:	N/A	DRAWING NUMBER:	27
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DESIGNED	TCM/TSM				
CHECKED	RMC				
PROJ. MGR.	TSM				



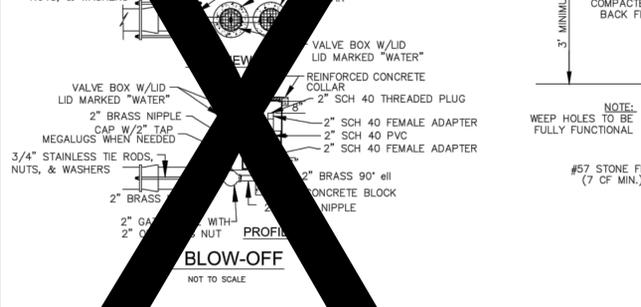
- NOTES:**
- NO JOINT SHALL BE INSTALLED BETWEEN THE MAIN SERVICE TAP AND THE METER STOP. ALL SERVICES SHALL BE INSTALLED PERPENDICULAR TO MAIN.
  - SERVICE SADDLES ON PVC MAINS SHALL BE WIDE BAND BRASS BODY; SADDLE McDONALD 3801 OR EQUIVALENT.
  - METER BOXES SUSCEPTIBLE TO TRAFFIC SHALL CONFORM TO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

**SINGLE SERVICE CONNECTION**  
TYPICAL WATER SERVICE CONNECTION FOR RESIDENTIAL SINGLE FAMILY HOME ON CFPWA WATER SYSTEM



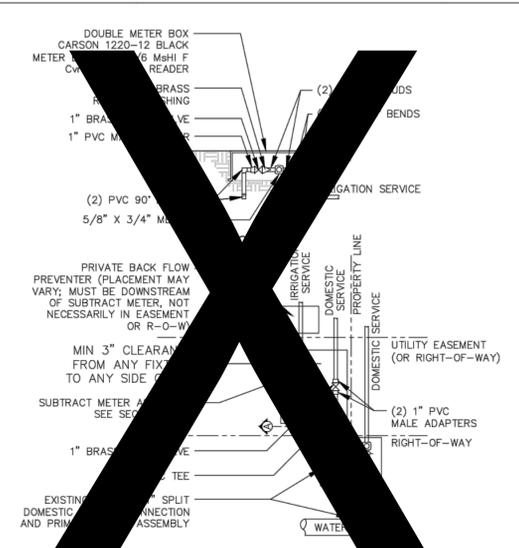
- NOTES:**
- NO JOINT SHALL BE INSTALLED BETWEEN THE MAIN SERVICE TAP AND THE METER STOP. ALL SERVICES SHALL BE INSTALLED PERPENDICULAR TO MAIN.
  - SERVICE SADDLES ON PVC MAINS SHALL BE WIDE BAND BRASS BODY; SADDLE McDONALD 3801 OR EQUIVALENT.
  - METER BOXES SUSCEPTIBLE TO TRAFFIC SHALL CONFORM TO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

**DOUBLE SERVICE CONNECTION**  
TYPICAL WATER SERVICE CONNECTION FOR RESIDENTIAL SINGLE FAMILY HOME ON CFPWA WATER SYSTEM



- NOTES:**
- MUST BE MIN. 36" AWAY FROM ANY ELECTRICAL PANEL.
  - VALVE REQ'D DOWNSTREAM OF BACKFLOW ASSEMBLY.
  - VERTICAL INSTALLATION SHALL BE DESIGNED AND SUBMITTED TO CFPWA ESDM FOR APPROVAL.

**VALVE DETAIL**



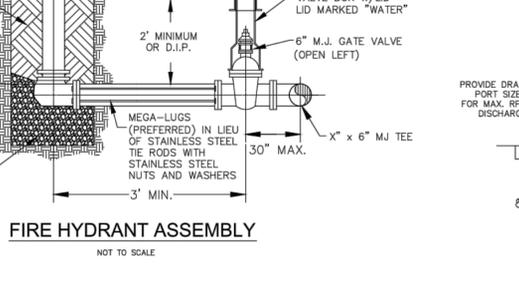
- NOTES:**
- MUST BE MIN. 36" AWAY FROM ANY ELECTRICAL PANEL.
  - VALVE REQ'D DOWNSTREAM OF BACKFLOW ASSEMBLY.
  - VERTICAL INSTALLATION SHALL BE DESIGNED AND SUBMITTED TO CFPWA ESDM FOR APPROVAL.

**FIRE HYDRANT ASSEMBLY**



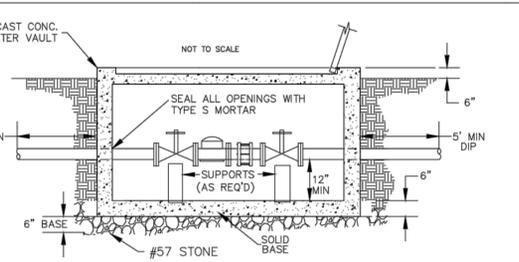
- NOTES:**
- MUST BE MIN. 36" AWAY FROM ANY ELECTRICAL PANEL.
  - VALVE REQ'D DOWNSTREAM OF BACKFLOW ASSEMBLY.
  - VERTICAL INSTALLATION SHALL BE DESIGNED AND SUBMITTED TO CFPWA ESDM FOR APPROVAL.

**INDOOR HORIZONTAL INSTALLATION**



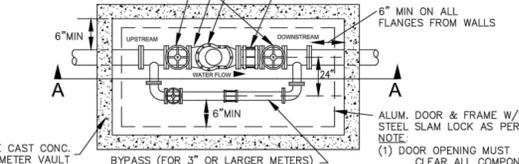
- NOTES:**
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  - VALVE REQ'D DOWNSTREAM OF BACKFLOW ASSEMBLY.
  - VERTICAL INSTALLATION SHALL BE DESIGNED AND SUBMITTED TO CFPWA ESDM FOR APPROVAL.

**OUTDOOR HORIZONTAL INSTALLATION**



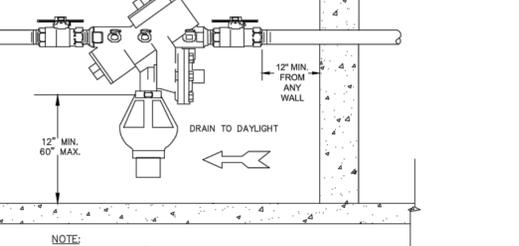
- NOTES:**
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  - VALVE REQ'D DOWNSTREAM OF BACKFLOW ASSEMBLY.
  - VERTICAL INSTALLATION SHALL BE DESIGNED AND SUBMITTED TO CFPWA ESDM FOR APPROVAL.

**METER VAULT SECTION A-A**



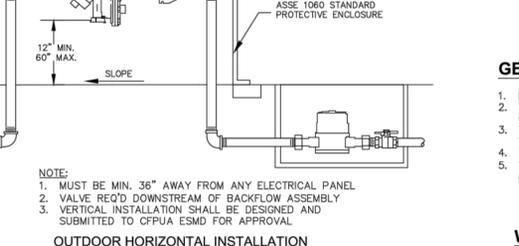
- NOTES:**
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  - VALVE REQ'D DOWNSTREAM OF BACKFLOW ASSEMBLY.
  - VERTICAL INSTALLATION SHALL BE DESIGNED AND SUBMITTED TO CFPWA ESDM FOR APPROVAL.

**WATER METER VAULT**  
FOR WATER METERS LARGER THAN 2"



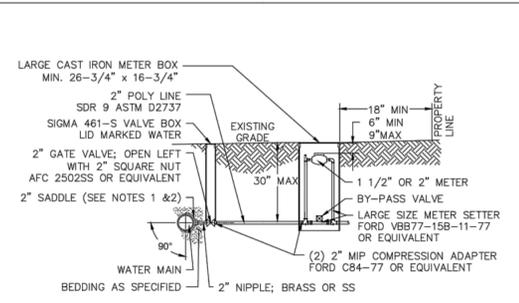
- NOTES:**
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  - VALVE REQ'D DOWNSTREAM OF BACKFLOW ASSEMBLY.
  - VERTICAL INSTALLATION SHALL BE DESIGNED AND SUBMITTED TO CFPWA ESDM FOR APPROVAL.

**INDOOR HORIZONTAL INSTALLATION**



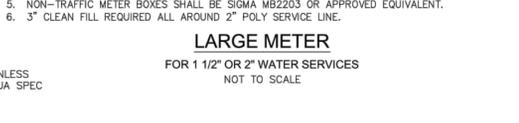
- NOTES:**
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  - VALVE REQ'D DOWNSTREAM OF BACKFLOW ASSEMBLY.
  - VERTICAL INSTALLATION SHALL BE DESIGNED AND SUBMITTED TO CFPWA ESDM FOR APPROVAL.

**OUTDOOR HORIZONTAL INSTALLATION**



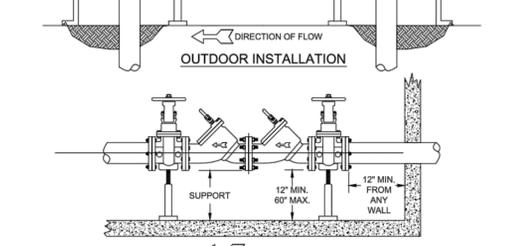
- NOTES:**
- MUST BE MIN. 36" AWAY FROM ANY ELECTRICAL PANEL.
  - VALVE REQ'D DOWNSTREAM OF BACKFLOW ASSEMBLY.
  - VERTICAL INSTALLATION SHALL BE DESIGNED AND SUBMITTED TO CFPWA ESDM FOR APPROVAL.

**LARGE METER**  
FOR 1 1/2" OR 2" WATER SERVICES



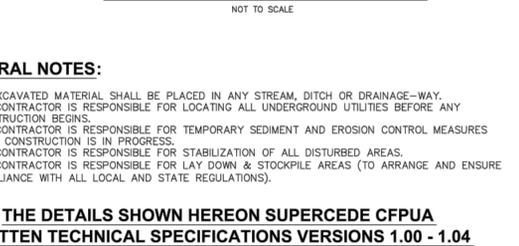
- NOTES:**
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  - VALVE REQ'D DOWNSTREAM OF BACKFLOW ASSEMBLY.
  - VERTICAL INSTALLATION SHALL BE DESIGNED AND SUBMITTED TO CFPWA ESDM FOR APPROVAL.

**OUTDOOR INSTALLATION**



- NOTES:**
- MUST BE MIN. 36" AWAY FROM ANY ELECTRICAL PANEL.
  - VALVE REQ'D DOWNSTREAM OF BACKFLOW ASSEMBLY.
  - VERTICAL INSTALLATION SHALL BE DESIGNED AND SUBMITTED TO CFPWA ESDM FOR APPROVAL.

**INDOOR INSTALLATION**



- NOTES:**
- MUST BE MIN. 36" AWAY FROM ANY ELECTRICAL PANEL.
  - VALVE REQ'D DOWNSTREAM OF BACKFLOW ASSEMBLY.
  - VERTICAL INSTALLATION SHALL BE DESIGNED AND SUBMITTED TO CFPWA ESDM FOR APPROVAL.

**DOUBLE CHECK VALVE ASSEMBLY**

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

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

**CFPWA WATER DISTRIBUTION SYSTEM**

**STANDARD DETAILS**

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

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

REV. NO.	DESCRIPTIONS	DATE
H	PERMIT SUBMITTAL SET - COW-NHC	02/15/16
G	PERMIT SUBMITTAL SET - CFPWA, NCDOT, COW, NHC	05/19/16
F	ADDENDUM #1 - REVISIONS TO UTILITY PLAN	07/16/16
E	CITY OF WILMINGTON STORMWATER AND NHC SEDIMENT AND EROSION CONTROL SUBMITTAL	03/16/16
D	CITY OF WILMINGTON SRB SUBMITTAL	03/16/16
C	CITY OF WILMINGTON TRC SUBMITTAL	2/15/16
B	CITY OF WILMINGTON SRB SUBMITTAL	2/2/16
A	CITY OF WILMINGTON CONCEPT TRC SUBMITTAL	11/5/2015

PRELIMINARY PLAN  
NOT FOR CONSTRUCTION



**MCKIM & CREED**

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

SHIPYARD VILLAGE WILMINGTON, LLC  
2821 CAROLINA BEACH ROAD  
WILMINGTON, NORTH CAROLINA  
TOWNSHIP OF WILMINGTON  
PO BOX 29169  
GREENSBORO, NC 27429-9169

SHIPYARD VILLAGE APARTMENTS  
2821 CAROLINA BEACH ROAD  
WILMINGTON, NORTH CAROLINA  
TOWNSHIP OF WILMINGTON

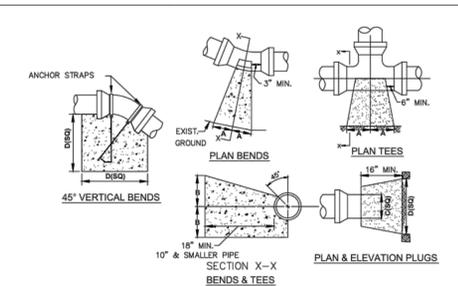
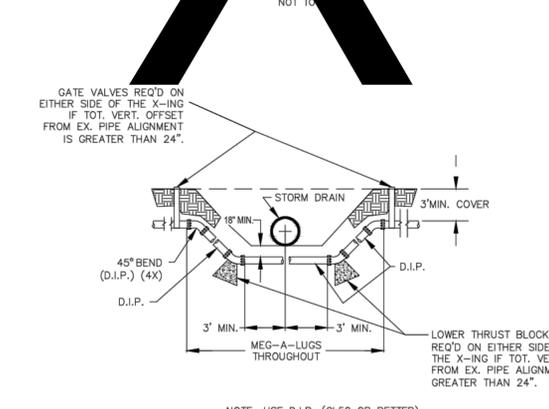
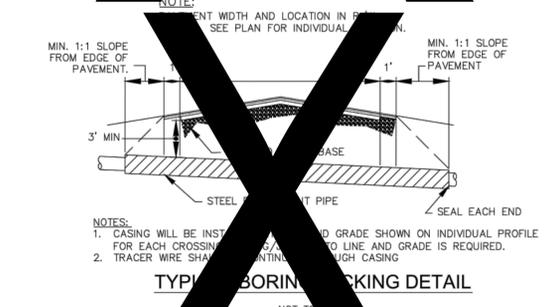
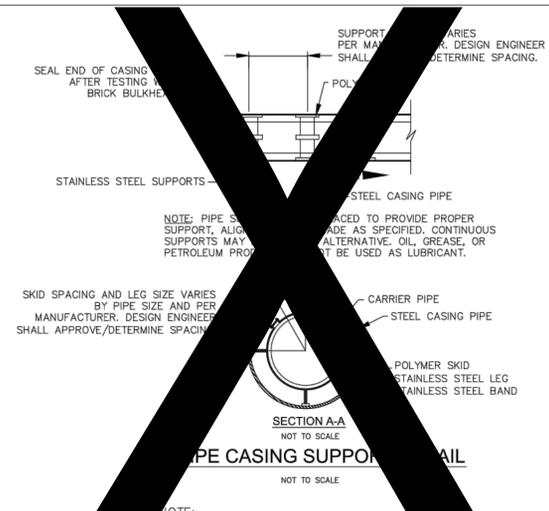
UTILITY DETAILS

DATE: XX JUN 2016  
MCE PROJ. # 07010-0001  
DRAWN: TCM/TSM  
DESIGNED: TCM/TSM  
CHECKED: RMC  
PROJ. MGR. TSM

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

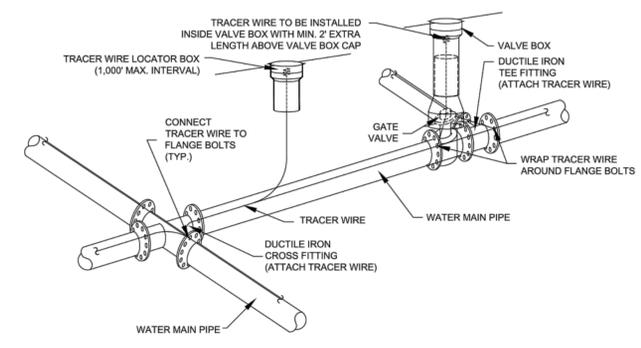
MAC FILE NUMBER: CU504  
DRAWING NUMBER: 28

STATUS: PRELIMINARY PLANS  
NOT FOR CONSTRUCTION

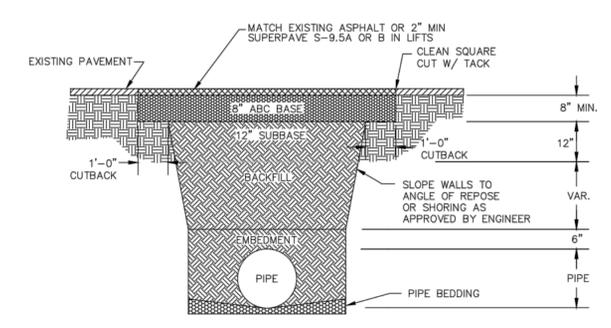
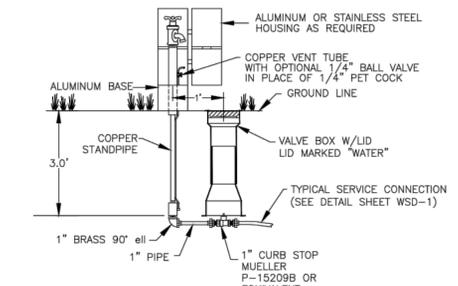


SIZE	90° BENDS		45° BENDS		22 1/2° BENDS		TEES/PLUGS		45° VERT. BENDS
	A	B	A	B	A	B	A	B	
3"	8"	6"	5"	6"	3"	7"	6"	8"	27"
4"	8"	9"	5"	8"	3"	11"	6"	9"	28"
6"	14"	11"	9"	9"	8"	8"	12"	9"	36"
8"	16"	16"	12"	12"	10"	13"	14"	13"	42"
10"	18"	22"	15"	14"	14"	16"	18"	15"	50"
12"	20"	28"	18"	17"	16"	16"	22"	18"	62"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

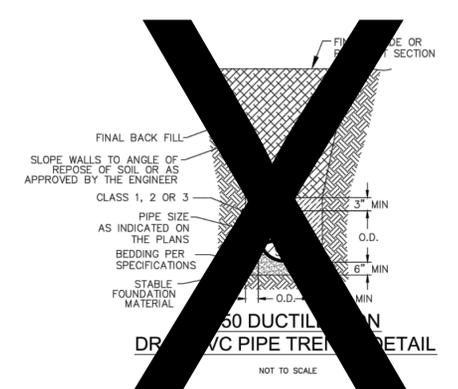
- NOTES:
- BASED ON 160 PSI TEST PRESSURE AND 2000 PSF SOIL BEARING CAPACITY.
  - ALL BEARING SURFACES TO BE CARRIED TO UNDISTURBED GROUND.
  - USE MEG-A-LUG (PREFERRED) IN LIEU OF BLOCKING AND RODDING.



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



- NOTES:
- BACKFILL SHALL BE SUITABLE MATERIAL THAT IS FREE FROM HEAVY CLAY, GUMBS, DEBRIS, ORGANICS AND LITTLE TO NO EXCESSIVE MOISTURE.
  - SELECT BACKFILL MAY BE SUBSTITUTED OR REQUIRED BY CITY TO ACHIEVE COMPACTION, (I.E. #57, ABC, CRUSHED LIMESTONE, CLEAN SAND, FLOWABLE FILL, ETC).
  - 8-INCH OF ABC BASE MATERIAL SHALL BE USED ON CITY STREETS.
  - BACKFILL AND BASE MATERIALS SHALL BE COMPACTED 12" MINIMUM LIFTS
  - SOIL SHALL BE COMPACTED BY A MECHANIZED TAMPER (I.E. JUMPING JACK), HOWEVER, VIBRATORY ROLLERS > 18" WIDTH MAY BE USED FOR LARGER EXCAVATIONS. THE PLATE TAMP METHOD SHALL NOT BE USED.
  - ALL APPROVED CASTINGS SHALL BE SET FLUSH TO GRADE AND SUPPORTED IF APPLICABLE.
  - ABC BASE AND SUBBASE COMPACTED TO 98% AND BACKFILL AND EMBEDMENT COMPACTED TO 90% AS DETERMINED BY THE MODIFIED PROCTOR AASHTO METHOD T-99.
  - 1'-0" CUTBACKS OF ASPHALT SHALL BE PREPARED ON UNDISTURBED SOIL. MINIMUM ASPHALT DENSITY IS 90%.



- GENERAL NOTES:**
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**THE DETAILS SHOWN HEREON SUPERCEDE CFPUA WRITTEN TECHNICAL SPECIFICATIONS VERSIONS 1.00 - 1.04**

<b>CFPUA WATER DISTRIBUTION SYSTEM</b>		DATE: 1/8/12
STANDARD DETAILS		SCALE: N/A
DRAWN BY: CFPUA		CHECKED BY: CFPUA
PROJECT NO.:		SHEET NO: WSD-2
<p>CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6560</p>		

REV:	DESCRIPTION:	DATE:

REV. NO.	DESCRIPTION/REVISIONS	DATE
H	PERMIT SUBMITTAL SET - COW, N/C	6/24/16
G	PERMIT SUBMITTAL SET - CFPUA, NCDOT, COW, N/C	5/6/16
F	ADDENDUM #1 - REVISIONS TO UTILITY PLAN	4/7/16
E	CITY OF WILMINGTON STORMWATER AND N/C SEDIMENT AND EROSION CONTROL SUBMITTAL	3/26/16
D	CITY OF WILMINGTON SRB SUBMITTAL	3/16/16
C	CITY OF WILMINGTON TRC SUBMITTAL	2/15/16
B	CITY OF WILMINGTON SRB SUBMITTAL	2/2/16
A	CITY OF WILMINGTON CONCEPT TRC SUBMITTAL	11/5/2015

PRELIMINARY PLAN  
NOT FOR CONSTRUCTION

SEAL  
TAMARA C. MURPHY  
ENGINEER

**MCKIM & CREED**

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WILMINGTON, NORTH CAROLINA  
TOWNSHIP OF WILMINGTON

UTILITY DETAILS

DATE: XX JUN 2016	SCALE: N/A	HORIZONTAL: N/A	VERTICAL: N/A	MAC FILE NUMBER: CU505
MCE PROJ. #: 07010-0001	DRAWN: TCM/TSM	DESIGNED: TCM/TSM	CHECKED: RMC	PROJ. MGR.: TSM
STATUS: PRELIMINARY PLANS NOT FOR CONSTRUCTION				REVISION: