

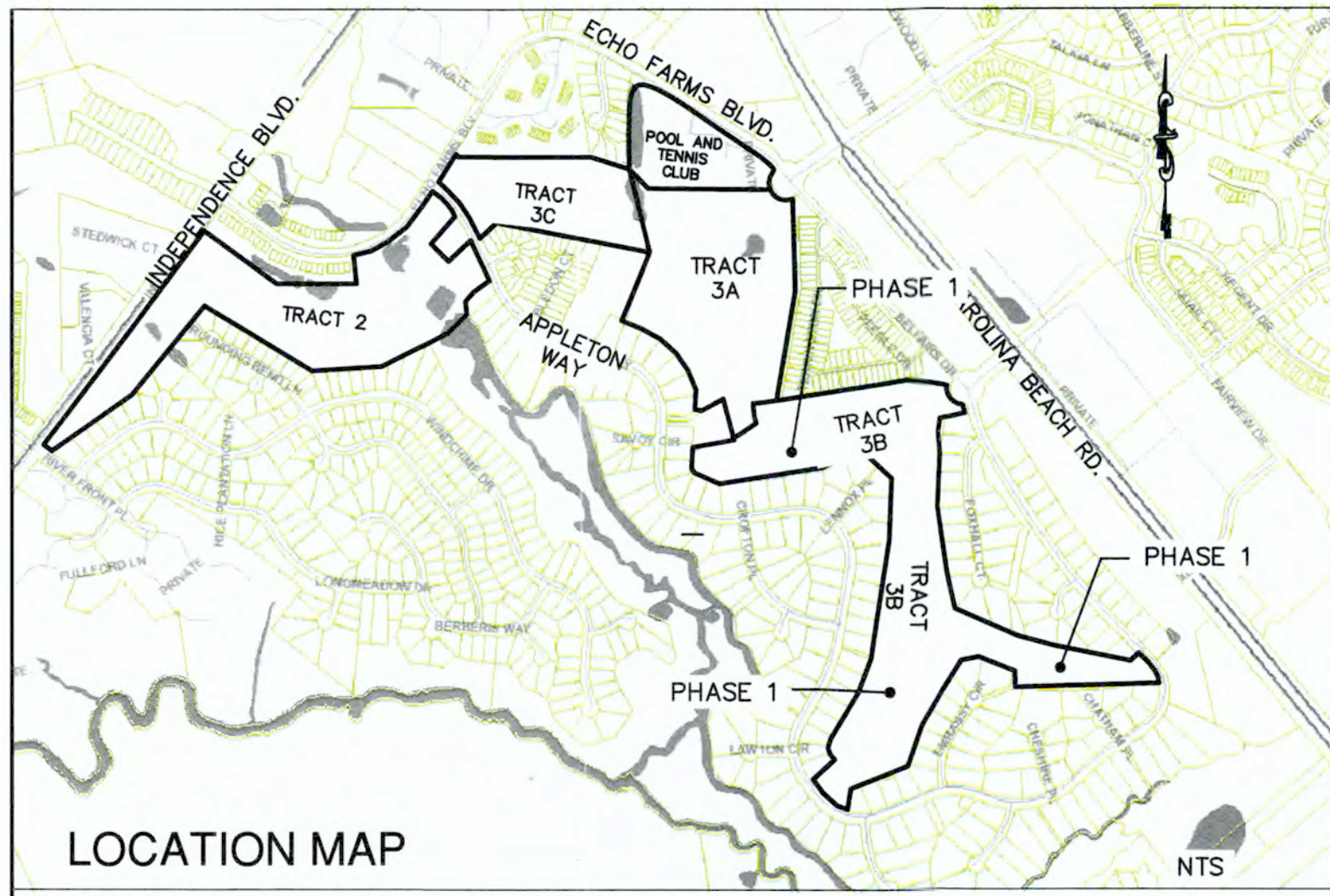
# Memo

**To:** John Tunstall, Norris & Tunstall  
**From:** Brian Chambers, Senior Planner, 910.342.2782  
**CC:** File;  
**Date:** 7/12/2021  
**Re:** Woodlands At Echo Farms Tract 3B Revision 3 TRC Rev 1

---

The following is a list of comments for review from planning regarding the project. Please provide your corrections as listed below. A staff summary of comments:

Staff	Department	Notes
Brian Chambers	Planning, Plan Review	No comments
Rich Christensen	Engineering	Comments attached
Chris Walker	Fire	No comments
Mitesh Baxi	Traffic Engineering	Comments attached
Bill McDow	Transportation	No comments



### LEGEND

	PROPERTY LINE		EXISTING TREE TO BE REMOVED
	DISTURBED AREA LIMITS		EXISTING TREE TO BE SAVED AND PROTECTED
	PROPOSED CONTOUR		WETLANDS
	TEMPORARY SILT FENCE		EROSION CONTROL MAT
	PROPOSED STORMDRAIN PIPE		6' WIDE MULTI USE PATH
	SWALE		
	PROPOSED WATERLINE		
	PROPOSED SANITARY SEWER		
	EXISTING CONTOUR		
	TREE PROTECTION FENCING		
	PERENNIAL STREAM CENTERLINE		
	WATERS OF THE US TOB		
	LOT DRAINAGE ARROW		
	PROPOSED FINISH GRADE		
	SPOT ELEVATION		
	FLARED END SECTION WITH RIP-RAP ENERGY DISSIPATOR		
	DROP INLET WITH INLET PROTECTION (DI)		
	CURB INLET WITH INLET PROTECTION (CI)		
	JUNCTION BOX WITH INLET PROTECTION (JB)		
	PROPOSED FIRE HYDRANT		

**NOTE:**  
 CI TOP REFERS TO ELEVATION AT FLOW LINE  
 DI TOP REFERS TO ELEVATION AT GRATE

**NOTES:**

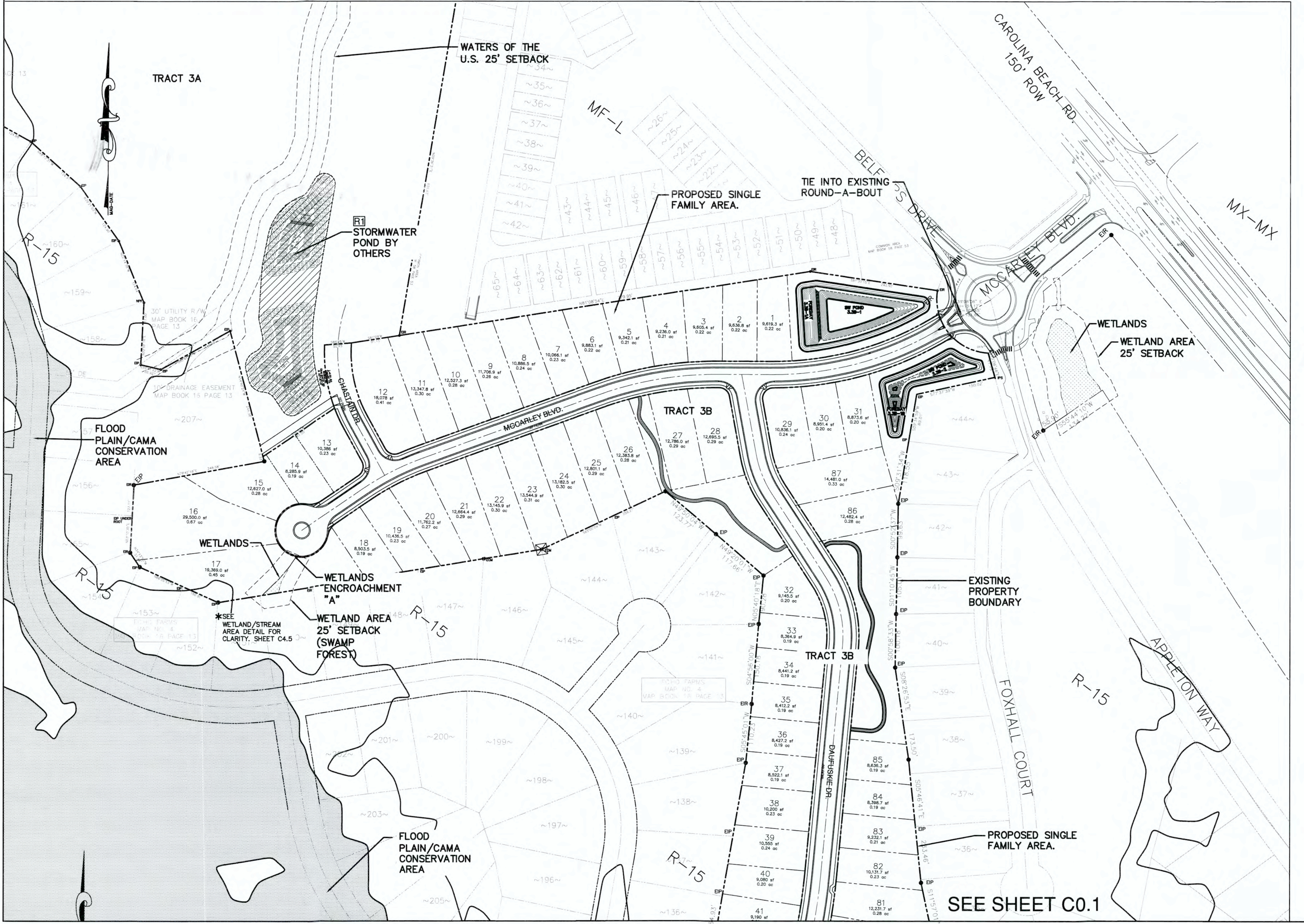
1. ALL COMMON SPACE/OPEN SPACE SHALL BE OWNED AND MAINTAINED BY THE PROPERTY OWNERS ASSOCIATION AFTER COMPLETION OF CONSTRUCTION AND AFTER BEING TURNED OVER TO THE PROPERTY OWNERS ASSOCIATION BY THE DEVELOPER.
2. ALL STRUCTURES LOCATED WITHIN THE FLOOD PLAIN MUST COMPLY WITH ALL FLOOD PLAIN REQUIREMENTS.
3. FLOOD LINES SHOWN ON PLANS ARE FOR INFORMATIONAL PURPOSES ONLY AND REFLECT THE PRELIMINARY FIRMS EXPECTED TO BECOME EFFECTIVE AUGUST 2018.
4. IF THESE UNITS ARE SOLD AT ANY POINT, THE BUYER MUST RECEIVE A SUBDIVISION STREET DISCLOSURE STATEMENT.
5. ANY RESURFACING/CONSTRUCTION OF PEDESTRIAN TRAILS IN CONSERVATION RESOURCE WILL BE LIMITED TO HAND EQUIPMENT AND MINIMAL DISTURBANCE PERMITTED DUE TO THE SENSITIVITY OF THE RESOURCE.

### SITE DATA TABLE TRACT 3B

TRACT 3B AREA: 36.32 AC (1,582,509 SF)	TRACT 3B PH PROPOSED AREA OF SINGLE FAMILY: 37.40 AC (1,629,144 SF)
(1.08 AC FROM TRACT 3A)	
CAMA LAND CLASSIFICATION: URBAN/CONSERVATION AREA	
REQUIRED SETBACKS:	
ATT/DET/DU/TR/Q: F=15' R=15' SI=5 SC=10	
PROPOSED SETBACKS: PROVIDED AS PER CODE	
BUILDING SEPARATION: 16' MIN. REQUIRED AND PROVIDED	
SINGLE FAMILY LOTS SIZE: APPROXIMATELY 60' WIDE X 120' LONG.	
MINIMUM WIDTH: 50'	
MINIMUM SQUARE FOOTAGE: 5,000 SF	
MAXIMUM LOT COVERAGE: 50%	
MAX. BUILDING HEIGHT: 35'-96' WITH ADDITIONAL YARD REQUIREMENTS.	
MAXIMUM ALLOWED DENSITY: 9 UNITS/ACRE	
FOR AREAS LOCATED WITHIN A CAMA CONSERVATION AREA THE MAXIMUM ALLOWED DENSITY IS 2.5 UNITS/ACRE.	
DENSITY TRACT 3B: 92 UNITS	
MAXIMUM ALLOWED UNITS @ 9 UNITS/ACRE = 337 UNITS	
PROPOSED DENSITY 2.45 UNITS/ACRE = 92 UNITS	
OPEN SPACE REQUIREMENT SF: 0.03 AC PER LOT	
TRACT 3B REQUIRED: 2.76 AC AVAILABLE: 4.93 AC	
AS SHOWN: 1.65 AC OPEN SPACE 3.28 AC ACTIVE OPEN SPACE	
SOLID WASTE DISPOSAL: SF: HAND CART	
WATER AND SEWER CAPACITY: SF: 480 G.P.D. PER UNIT = 44,160 G.P.D.	
ADJACENT PROPERTY INFORMATION: SEE SURVEY PLAN	

DATE	DESCRIPTION	BY
3.9.21	UPDATED IMPERVIOUS NUMBERS BASED ON SIDEWALK AND MAP CHANGES.	
3.18.19	SMP 3.1B REMOVED FROM PROJECT AREA, PERMITTING AND MAP CHANGES. CAMEL AND STORMWATER DRAINAGE AREAS ADDED OPEN THROAT DI'S AND DETAIL. REMOVED DETAILS FOR SMP 3.1B. REVISED TREE AND CENTERLINE AS PER DRAWINGS BY OTHERS. ADDED AND CENTERLINE AS PER DRAWINGS BY OTHERS.	

**OVERALL SITE PLAN**  
 WOODLANDS AT ECHO FARMS  
 4114 ECHO FARMS BLVD.  
 WILMINGTON, NC 28412  
 NEW HANOVER COUNTY



**WETLANDS IMPERVIOUS ENCROACHMENT**

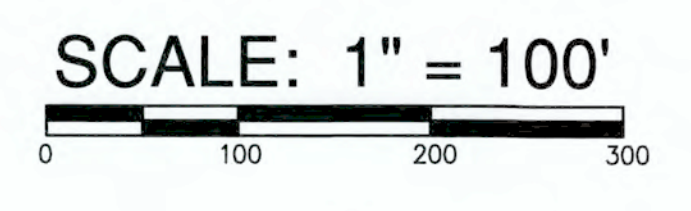
CAMA LAND CLASSIFICATION: URBAN/CONSERVATION AREA  
 WETLANDS (SWAMP FOREST) EXIST ON SITE AND ARE DELINEATED ON THE SITE PLAN.  
 CONSERVATION OVERLAY DISTRICT: NO ENCROACHMENT ALLOWED.  
 CONSERVATION OVERLAY DISTRICT: 25' OFFSET FROM WETLANDS UP TO 25% ENCROACHMENT OF IMPERVIOUS IS ALLOWED.  
 ENCROACHMENT "A": TOTAL AREA WITHIN 25' SETBACK= 6,064 SF (LOT 17)  
 25%= 1516 SF IMPERVIOUS ALLOWED  
 AREA OF ENCROACHMENT=130 SF  
 PERCENT OF ENCROACHMENT=2.14%  
 AMOUNT ALLOWED REMAINING=1,386 SF  
 (SEE WETLANDS/STREAM AREA DETAIL C4.5)

<b>EXISTING IMPERVIOUS AREA</b>	
TRACT 3B IMPERVIOUS AREA SINGLE FAMILY DETACHED:	
CART PATH:	40,575 SF
CART PATH TO BE REMOVED:	40,575 SF
CART PATH TO REMAIN:	0 SF
<b>NEW IMPERVIOUS AREA</b>	
TRACT 3B IMPERVIOUS AREA SINGLE FAMILY DETACHED:	
SIDEWALK:	46,769 SF
ASPHALT/CONC./C&G:	167,871 SF
MULTI USE PATH:	21,930 SF
LOTS (92) @ 3,900 SF:	349,600 SF
TRACT 3B FUTURE:	56,322 SF
<b>R1 TOTAL:</b>	<b>642,492 SF</b>
PERCENT IMP.:	40.6%
<b>NEW OFF-SITE IMPERVIOUS AREA</b>	
TRACT 3B IMPERVIOUS AREA SINGLE FAMILY DETACHED:	
SIDEWALK:	1,229 SF
ASPHALT/CONC./C&G:	5,195 SF
<b>TOTAL:</b>	<b>6,424 SF</b>

**SRB APPROVAL #OBG-4-317**

**NOTE:** ALL FEDERAL, STATE AND LOCAL PERMITS ARE REQUIRED PRIOR TO FULL CONSTRUCTION RELEASE. THIS INCLUDES, BUT IS NOT LIMITED TO: STATE STORM WATER, STATE UTILITY EXTENSION PERMITS, WETLAND DISTURBANCE PERMITS, CITY STORM WATER PERMITS, TREE PROTECTION PERMITS, ETC.

**NOTE:** UPON COMPLETION OF A PROJECT, AND BEFORE A CERTIFICATE OF OCCUPANCY SHALL BE GRANTED, THE APPLICANT SHALL CERTIFY THAT THE COMPLETED PROJECT IS IN ACCORDANCE WITH THE APPROVED STORMWATER MANAGEMENT PLANS AND DESIGNS, AND SHALL SUBMIT ACTUAL "AS-BUILT" PLANS FOR ALL STORMWATER MANAGEMENT FACILITIES OR PRACTICES AFTER FINAL CONSTRUCTION IS COMPLETED. AS-BUILT PLANS SHALL BE PREPARED IN ACCORDANCE WITH THE CITY TECHNICAL STANDARDS. AS-BUILT STORMWATER MEASURES, CONTROLS, AND DEVICES ARE TO BE IN COMPLIANCE WITH THE REQUIREMENTS OF THIS ORDINANCE. A FINAL INSPECTION AND APPROVAL BY THE CITY MANAGER SHALL OCCUR BEFORE THE RELEASE OF ANY PERFORMANCE SECURITIES.



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

NCDENR PWSS WATER PERMIT #:	_____	GPD
WATER CAPACITY:	_____	GPD
DWO SEWER PERMIT #:	_____	GPD
SEWER CAPACITY:	_____	GPD
SEWER SHED # AND PLANT:	_____	
SEWER TO FLOW THROUGH NEI:	YES OR NO (CIRCLE ONE)	

**LAND OWNER/APPLICANT**  
 ECHO FARMS, LLC  
 MATRIX DEVELOPMENT GROUP  
 CN4000 FORSGATE DRIVE  
 CHANURBY, NJ 08512  
 732-521-2900

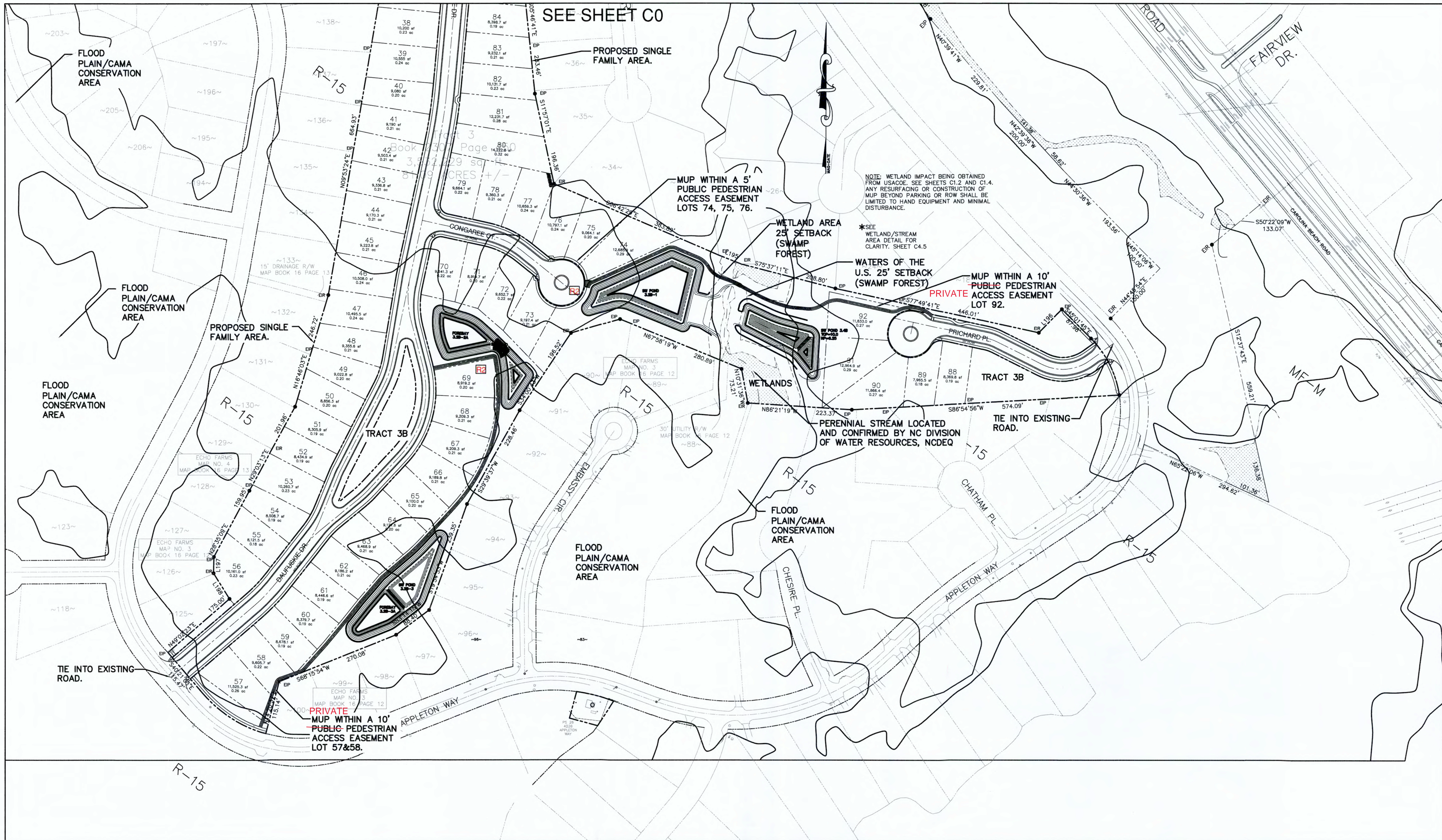
**NORRIS & TUNSTALL**  
 CONSULTING ENGINEERS P.C.  
 1429 ASHLITTLE RIVER RD. NW  
 WILMINGTON, NC 28420  
 PHONE (910) 343-9653

License #C-3641  
**16083**

DES.	JUST
CKD.	JPN
DRWN.	NKS
DATE	6/27/18



**CO**



SEE SHEET C0

PROPOSED SINGLE FAMILY AREA.

MUP WITHIN A 5' PUBLIC PEDESTRIAN ACCESS EASEMENT LOTS 74, 75, 76.

WETLAND AREA 25' SETBACK (SWAMP FOREST)

NOTE: WETLAND IMPACT BEING OBTAINED FROM USACE. SEE SHEETS C1.2 AND C1.4. ANY RESURFACING OR CONSTRUCTION OF MUP BEYOND PARKING OR ROW SHALL BE LIMITED TO HAND EQUIPMENT AND MINIMAL DISTURBANCE.

\*SEE WETLAND/STREAM AREA DETAIL FOR CLARITY. SHEET C4.5

WATERS OF THE U.S. 25' SETBACK (SWAMP FOREST)

MUP WITHIN A 10' PUBLIC PEDESTRIAN ACCESS EASEMENT LOT 92.

PERENNIAL STREAM LOCATED AND CONFIRMED BY NC DIVISION OF WATER RESOURCES, NCDEQ

TIE INTO EXISTING ROAD.

WETLANDS

TRACT 3B

FLOOD PLAIN/CAMA CONSERVATION AREA

R-15

FLOOD PLAIN/CAMA CONSERVATION AREA

PROPOSED SINGLE FAMILY AREA.

R-15

FLOOD PLAIN/CAMA CONSERVATION AREA

R-15

FLOOD PLAIN/CAMA CONSERVATION AREA

R-15

FLOOD PLAIN/CAMA CONSERVATION AREA

R-15

FLOOD PLAIN/CAMA CONSERVATION AREA

R-15

FLOOD PLAIN/CAMA CONSERVATION AREA

R-15

FLOOD PLAIN/CAMA CONSERVATION AREA

R-15

FLOOD PLAIN/CAMA CONSERVATION AREA

R-15

FLOOD PLAIN/CAMA CONSERVATION AREA

R-15

FLOOD PLAIN/CAMA CONSERVATION AREA

R-15

FLOOD PLAIN/CAMA CONSERVATION AREA

R-15

PRIVATE MUP WITHIN A 10' PUBLIC PEDESTRIAN ACCESS EASEMENT LOT 57&58.

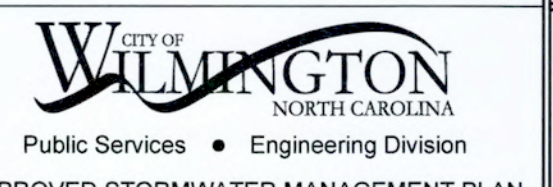
TIE INTO EXISTING ROAD.

- NOTES:
1. ALL COMMON SPACE/OPEN SPACE SHALL BE OWNED AND MAINTAINED BY THE PROPERTY OWNERS ASSOCIATION AFTER COMPLETION OF CONSTRUCTION AND AFTER BEING TURNED OVER TO THE PROPERTY OWNERS ASSOCIATION BY THE DEVELOPER.
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  4. IF THESE UNITS ARE SOLD AT ANY POINT, THE BUYER MUST RECEIVE A SUBDIVISION STREET DISCLOSURE STATEMENT.
  5. ANY RESURFACING/CONSTRUCTION OF PEDESTRIAN TRAILS IN CONSERVATION RESOURCE WILL BE LIMITED TO HAND EQUIPMENT AND MINIMAL DISTURBANCE PERMITTED DUE TO THE SENSITIVITY OF THE RESOURCE.

SCALE: 1" = 100'

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

NCDENR PWSS WATER PERMIT # \_\_\_\_\_ GPD  
 WATER CAPACITY: \_\_\_\_\_ GPD  
 DWQ SEWER PERMIT # \_\_\_\_\_ GPD  
 SEWER CAPACITY: \_\_\_\_\_ GPD  
 SEWER SHED # AND PLANT: \_\_\_\_\_  
 SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)



Date: \_\_\_\_\_ Permit # \_\_\_\_\_

Signed: \_\_\_\_\_

Approved Construction Plan

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

Planning: \_\_\_\_\_

Traffic: \_\_\_\_\_

Fire: \_\_\_\_\_

SYMBOL	DATE	DESCRIPTION	BY
	3.9.21	UPDATED IMPERVIOUS NUMBERS BASED ON SIDEWALK AND MUP CHANGES.	

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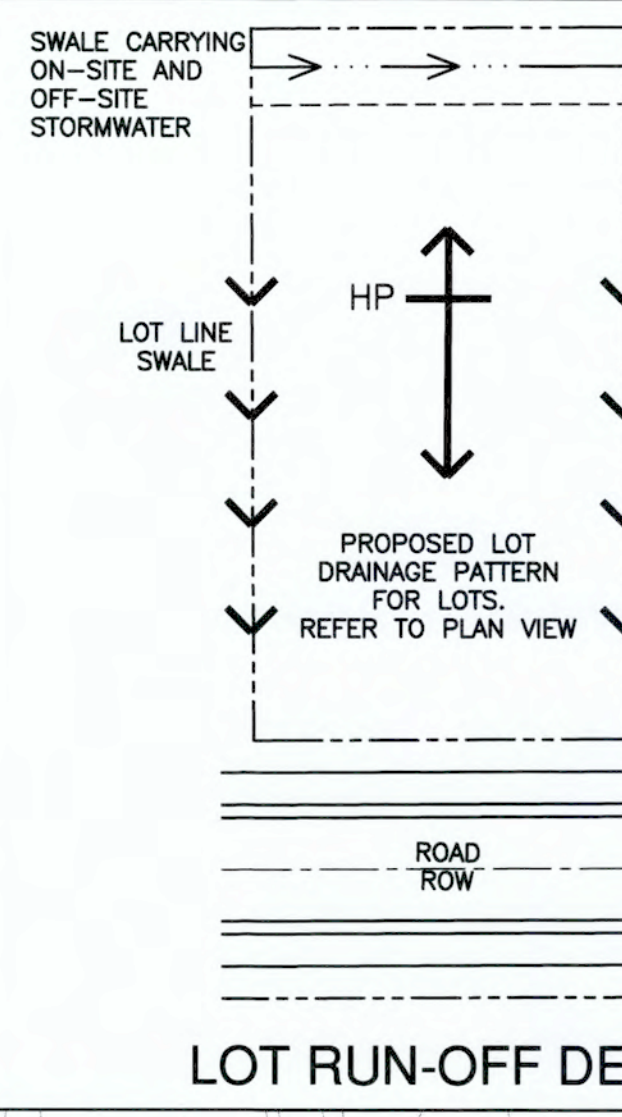
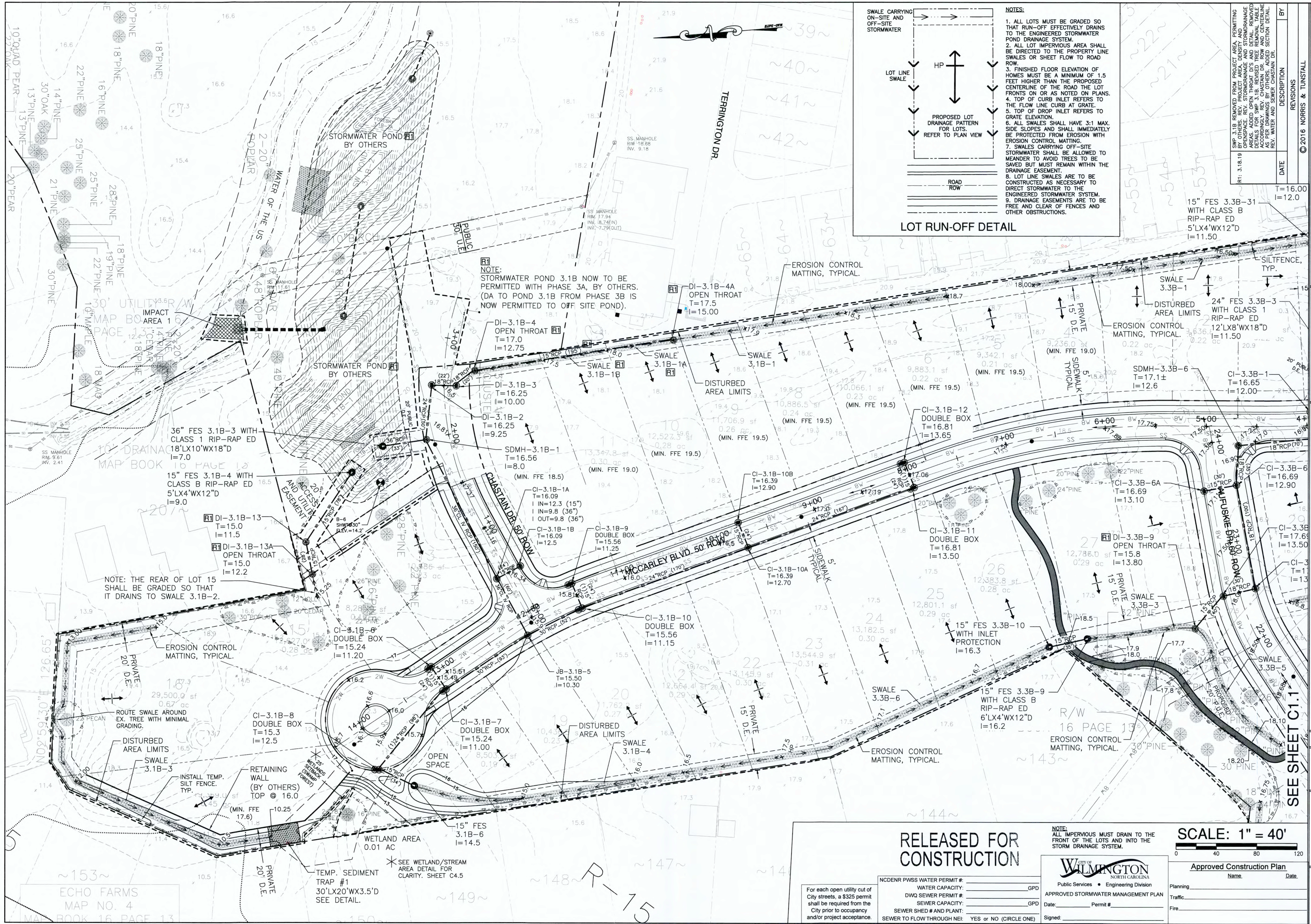
LAND OWNER/APPLICANT  
 ECHO FARMS, LLC  
 MATRIX DEVELOPMENT GROUP  
 CN4000 FORSGATE DRIVE  
 CRANFURY, NJ 08012  
 732-521-2900

**NORRIS & TUNSTALL**  
 CONSULTING ENGINEERS P.C.  
 902 MARKET STREET  
 WILMINGTON, NC 28401  
 PHONE (910) 343-9653  
 1429 ASHLITTLE RIVER RD, NW  
 ASHL, NC 28420  
 PHONE (910) 287-5900

Licence #C-3641  
 16083  
 DES. JST  
 ORD. JPN  
 DRWN. NKS  
 DATE 6/29/21



**C0.1**



- NOTES:**
1. ALL LOTS MUST BE GRADED SO THAT RUN-OFF EFFECTIVELY DRAINS TO THE ENGINEERED STORMWATER POND DRAINAGE SYSTEM.
  2. ALL LOT IMPERVIOUS AREA SHALL BE DIRECTED TO THE PROPERTY LINE SWALES OR SHEET FLOW TO ROAD ROW.
  3. FINISHED FLOOR ELEVATION OF HOMES MUST BE A MINIMUM OF 1.5 FEET HIGHER THAN THE PROPOSED CENTERLINE OF THE ROAD THE LOT FRONTS ON OR AS NOTED ON PLANS.
  4. TOP OF CURB INLET REFERS TO THE FLOW LINE CURB AT GRATE.
  5. TOP OF DROP INLET REFERS TO GRATE ELEVATION.
  6. ALL SWALES SHALL HAVE 3:1 MAX. SIDE SLOPES AND SHALL IMMEDIATELY BE PROTECTED FROM EROSION WITH EROSION CONTROL MATTING.
  7. SWALES CARRYING OFF-SITE STORMWATER SHALL BE ALLOWED TO MEANDER TO AVOID TREES TO BE SAVED BUT MUST REMAIN WITHIN THE DRAINAGE EASEMENT.
  8. LOT LINE SWALES ARE TO BE CONSTRUCTED AS NECESSARY TO DIRECT STORMWATER TO THE ENGINEERED STORMWATER SYSTEM.
  9. DRAINAGE EASEMENTS ARE TO BE FREE AND CLEAR OF FENCES AND OTHER OBSTRUCTIONS.

DATE	DESCRIPTION	BY

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**GRADING, DRAINAGE AND EROSION CONTROL PLAN**  
**WOODLANDS AT ECHO FARMS**  
 4114 ECHO FARMS BLVD.  
 WILMINGTON, NC 28412  
 NEW HANOVER COUNTY

**LAND OWNER/APPLICANT**  
 ECHO FARMS, LLC  
 MATRIX DEVELOPMENT GROUP  
 CN4000 FORSGATE DRIVE  
 GRANBURY, NJ 08512  
 732-521-2800

**NORRIS & TUNSTALL**  
 CONSULTING ENGINEERS P.C.  
 902 MARKET STREET  
 WILMINGTON, NC 28401  
 PHONE (910) 345-9653  
 1429 ASH-LITTLE RIVER RD. NW  
 ASH, NC 28420  
 PHONE (910) 287-3900

SEE SHEET C1.1

Scale: 1" = 40'

Approved Construction Plan

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

Planing: \_\_\_\_\_

Traffic: \_\_\_\_\_

Fire: \_\_\_\_\_

Signature: \_\_\_\_\_

Professional Seal: NORRIS & TUNSTALL, ENGINEERS, SEAL 19851

**C1**

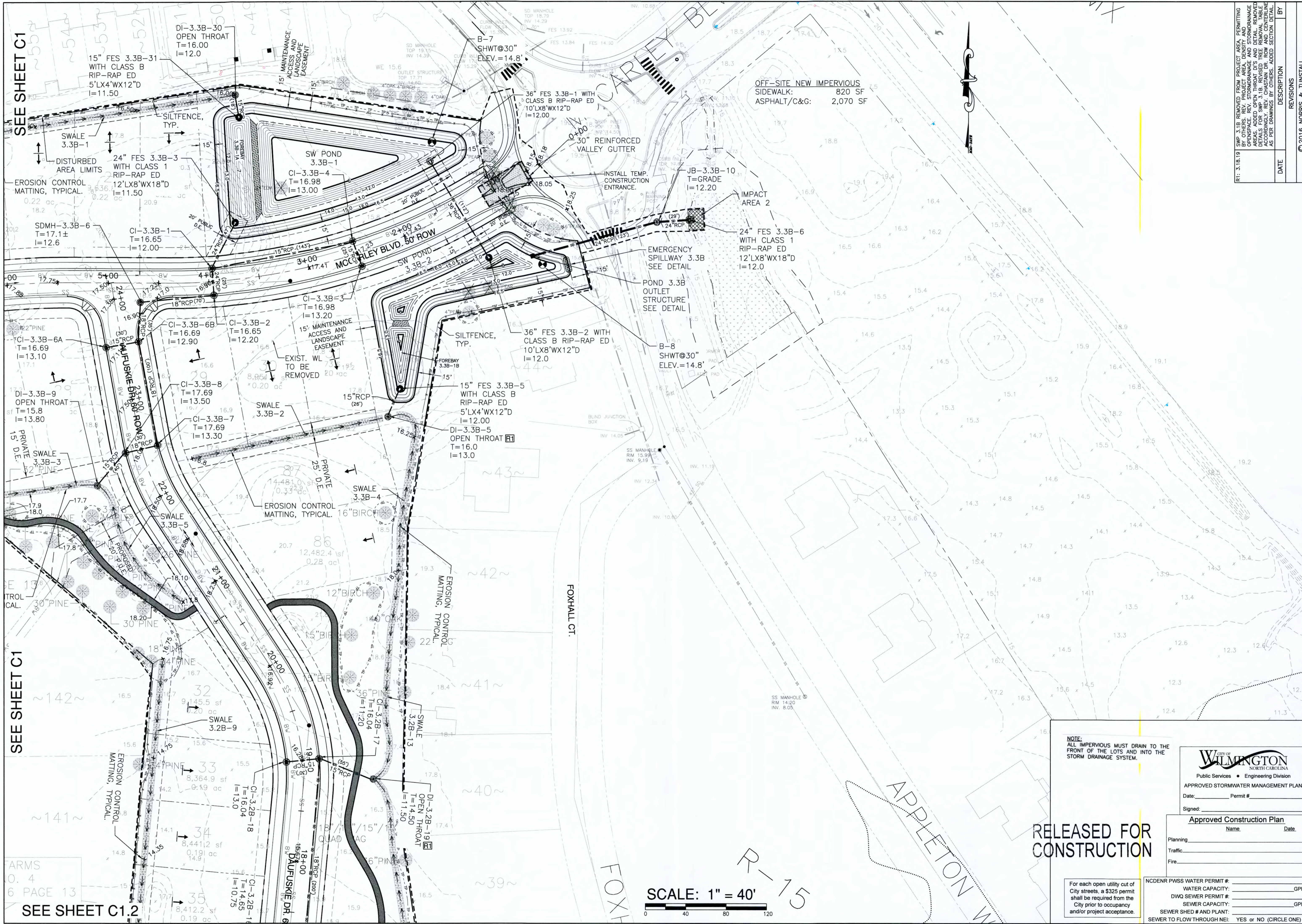
**RELEASED FOR CONSTRUCTION**

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

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

CNDENR PWSS WATER PERMIT #:	_____
WATER CAPACITY:	_____ GPD
DWQ SEWER PERMIT #:	_____
SEWER CAPACITY:	_____ GPD
SEWER SHED # AND PLANT:	_____
SEWER TO FLOW THROUGH NEI:	YES or NO (CIRCLE ONE)

G:\projects\2016\16083 Woodlands at Echo Farms\16083 Plans\dwg\16083.mxd, 9/20/2019 7:56:40 AM



SEE SHEET C1

SEE SHEET C1

SEE SHEET C1.2

DATE	DESCRIPTION	BY

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GRADING, DRAINAGE AND EROSION CONTROL PLAN  
WOODLANDS AT ECHO FARMS  
4114 ECHO FARMS BLVD.  
WILMINGTON, NC 28412  
NEW HANOVER COUNTY

LAND OWNER/APPLICANT  
ECHO FARMS, LLC  
MATRYX DEVELOPMENT GROUP  
CNA400 FORSGATE DRIVE  
CHAMBERS, NJ 00812  
732-321-2500

**NORRIS & TUNSTALL**  
CONSULTING ENGINEERS P.C.

902 MARKET STREET  
WILMINGTON, NC 28401  
PHONE (910) 343-9653

1429 ASH-LITTLE RIVER RD, NW  
ASH, NC 28420  
PHONE (910) 287-5900

Licence #C-3641

NOTE:  
ALL IMPERVIOUS MUST DRAIN TO THE  
FRONT OF THE LOTS AND INTO THE  
STORM DRAINAGE SYSTEM.

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

Approved Construction Plan

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

Planning: \_\_\_\_\_

Traffic: \_\_\_\_\_

Fire: \_\_\_\_\_

RELEASED FOR  
CONSTRUCTION

SCALE: 1" = 40'

0 40 80 120

16083

DES. JUST  
O.D. JPN  
DRWN. NKS

DATE 9/20/19



**C1.1**

NCDENR PWSS WATER PERMIT #	
WATER CAPACITY:	_____ GPD
DWQ SEWER PERMIT #	
SEWER CAPACITY:	_____ GPD
SEWER SHED # AND PLANT:	
SEWER TO FLOW THROUGH NEI:	YES OR NO (CIRCLE ONE)

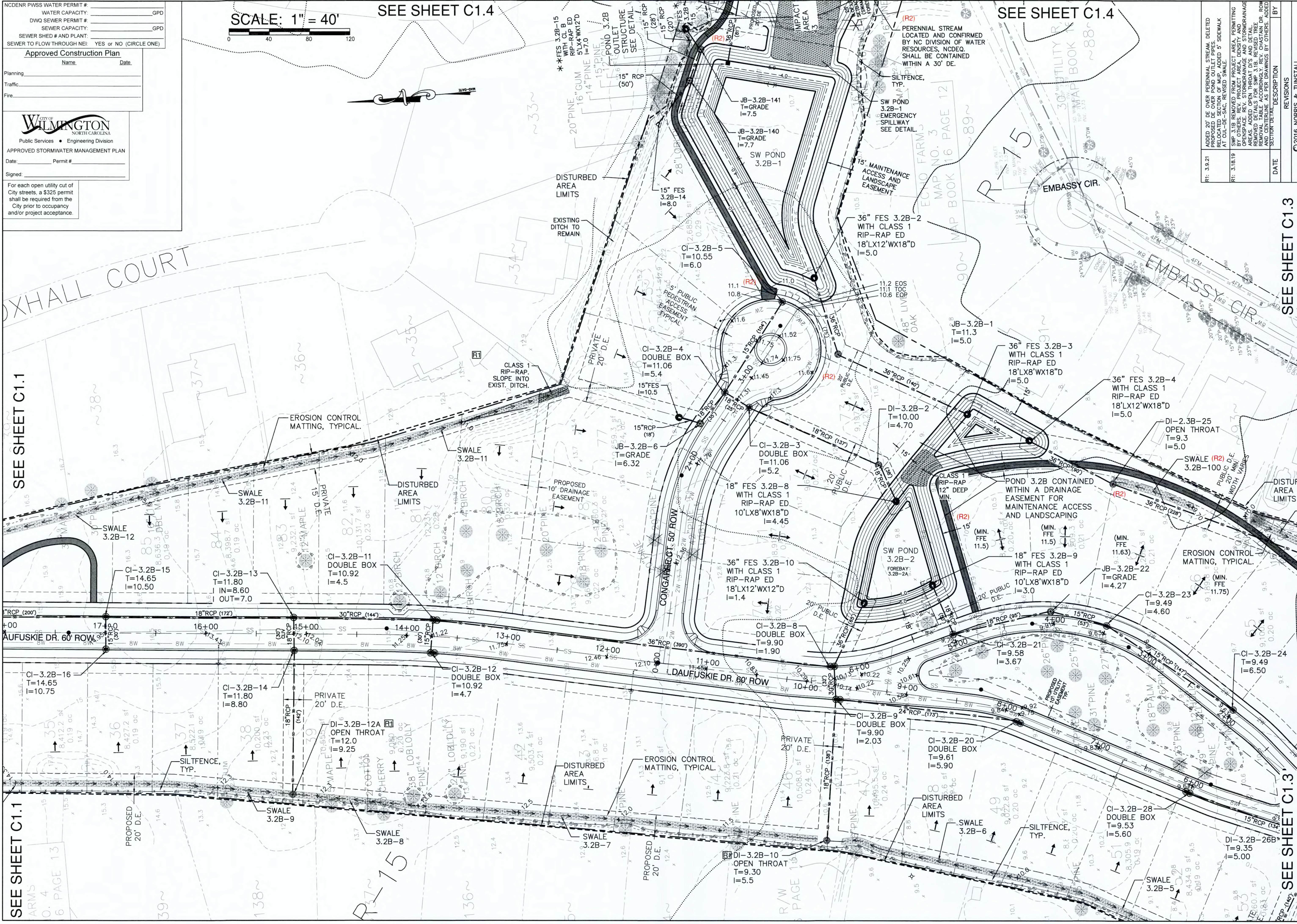
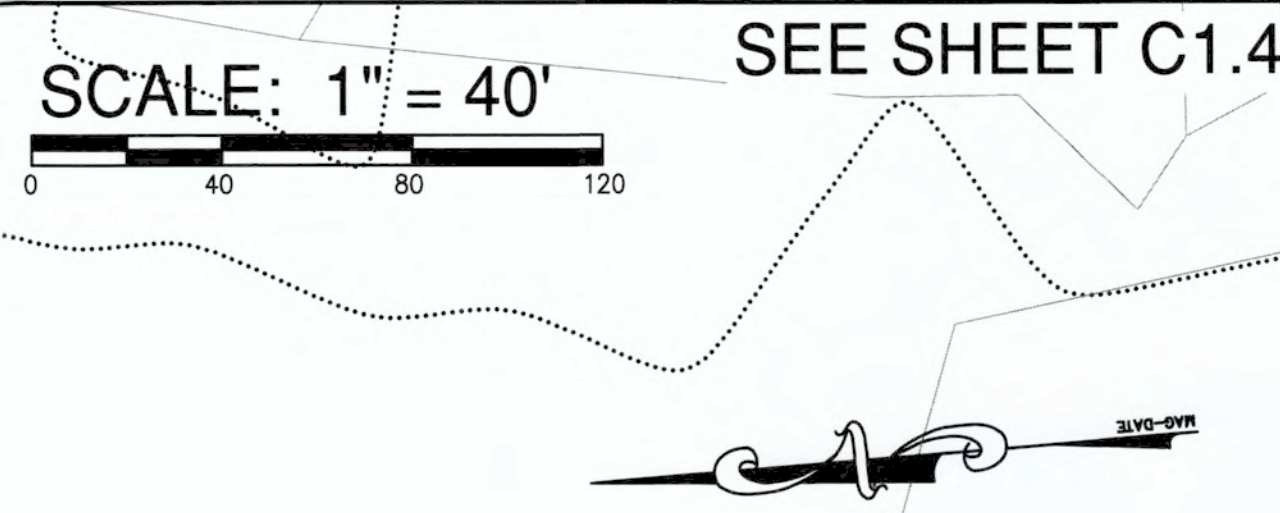
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 SEWER CAPACITY: \_\_\_\_\_ GPD  
 SEWER SHED # AND PLANT: \_\_\_\_\_  
 SEWER TO FLOW THROUGH NEI: YES OR NO (CIRCLE ONE)

**Approved Construction Plan**  
 Name: \_\_\_\_\_ Date: \_\_\_\_\_

Planning: \_\_\_\_\_  
 Traffic: \_\_\_\_\_  
 Fire: \_\_\_\_\_

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

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



NO.	DATE	DESCRIPTION	BY
1	3.9.21	ADDED 30' DE OVER PERENNIAL STREAM, DELETED PROPOSED SECTION OF M.I.P., ADDED 5' SIDEWALK AT CUL-DE-SAC, REVISED SWALE.	
2	3.18.19	SWP 3.1B REMOVED FROM PROJECT AREA, PERMITTING OPERATIONS, NEW STORMWATER AND STORMWATER AREAS, ADDED THROAT DI'S AND DETAIL. REMOVED DETAILS FOR SWP 3.1B, REVISED TREE ROW AND CENTERLINE AS PER DRAWINGS BY OTHERS. ADDED SECTION DETAIL DESCRIPTION.	

SEE SHEET C1.3

LAND OWNER/APPLICANT  
**ECHO FARMS, LLC**  
 MATRIX DEVELOPMENT GROUP  
 CN4000 FORSGATE DRIVE  
 CRANFORD, NJ 08012  
 732-521-2900

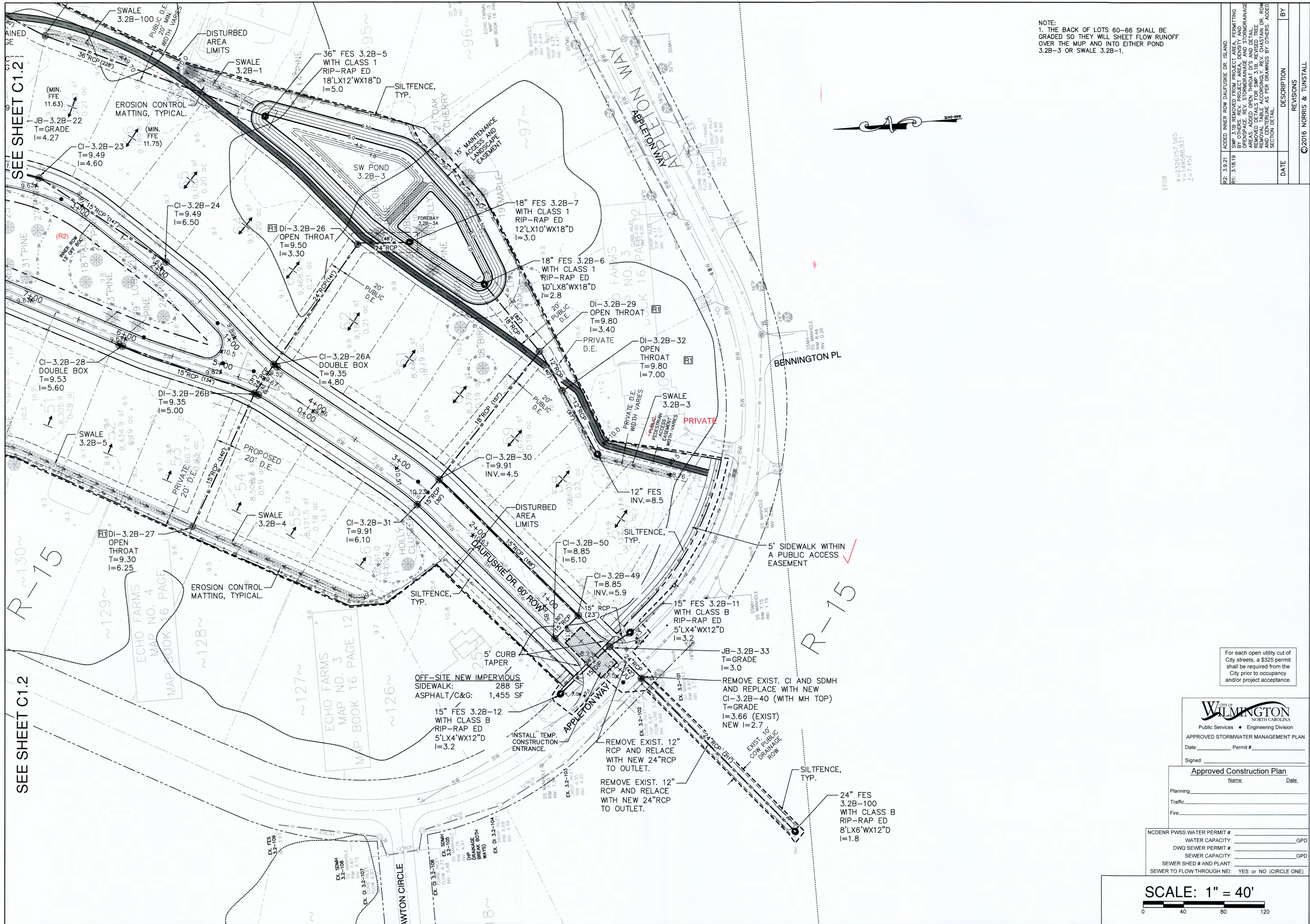
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1429 ASHLITTLE RIVER RD, NW  
 ASH, NC 28420  
 PHONE (910) 287-5900

Licence #C-3641  
**16083**  
 DES: JST  
 CKD: JPN  
 DRWN: NKS  
 DATE: 9/20/19

SEE SHEET C1.2



NOTE:  
1. THE BACK OF LOTS 60-66 SHALL BE GRADED SO THEY WILL SHEET FLOW RUNOFF OVER THE MUP AND INTO EITHER POND 3.2B-3 OR SWALE 3.2B-1.

DATE	DESCRIPTION	BY
3.9.21	ADDED INNER ROW DAUFUSKIE DR. ISLAND.	
3.18.19	SWP 3.1B REMOVED FROM PROJECT AREA, PERMITTING OPENSPACE, REV. STORMDRAINAGE AND STORMDRAINAGE AREAS, ADDED OPEN THROAT DI'S AND DETAILS, REMOVED EXIST. SWP 3.1B FROM PROJECT AREA, ROW REMOVED TABLE CORRECTING CHANGES, ADDED AND CENTERLINE AS PER DRAWINGS BY OTHERS, ADDED SECTION DETAIL.	

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LAND OWNER/APPLICANT  
ECHO FARMS, LLC  
MATRIX DEVELOPMENT GROUP  
CNA4000 FORSGATE DRIVE  
CRANBURY, NJ 08512  
732-621-2900

GRADING, DRAINAGE AND EROSION CONTROL PLAN  
WOODLANDS AT ECHO FARMS  
4114 ECHO FARMS BLVD.  
WILMINGTON, NC 28412  
NEW HANOVER COUNTY

**NORRIS & TUNSTALL**  
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ASH, NC 28420  
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For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

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

Permit # \_\_\_\_\_  
Date: \_\_\_\_\_  
Signed: \_\_\_\_\_  
Name: \_\_\_\_\_ Date: \_\_\_\_\_

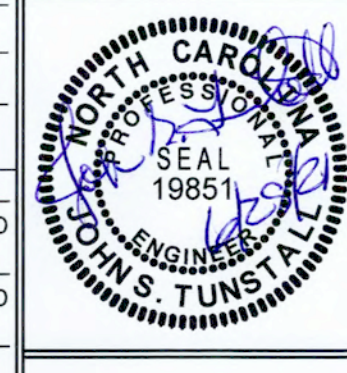
Approved Construction Plan

Planning \_\_\_\_\_  
Traffic \_\_\_\_\_  
Fire \_\_\_\_\_

NCDENR PWSS WATER PERMIT # \_\_\_\_\_ GPD  
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SEWER SHED # AND PLANT: \_\_\_\_\_  
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SCALE: 1" = 40'

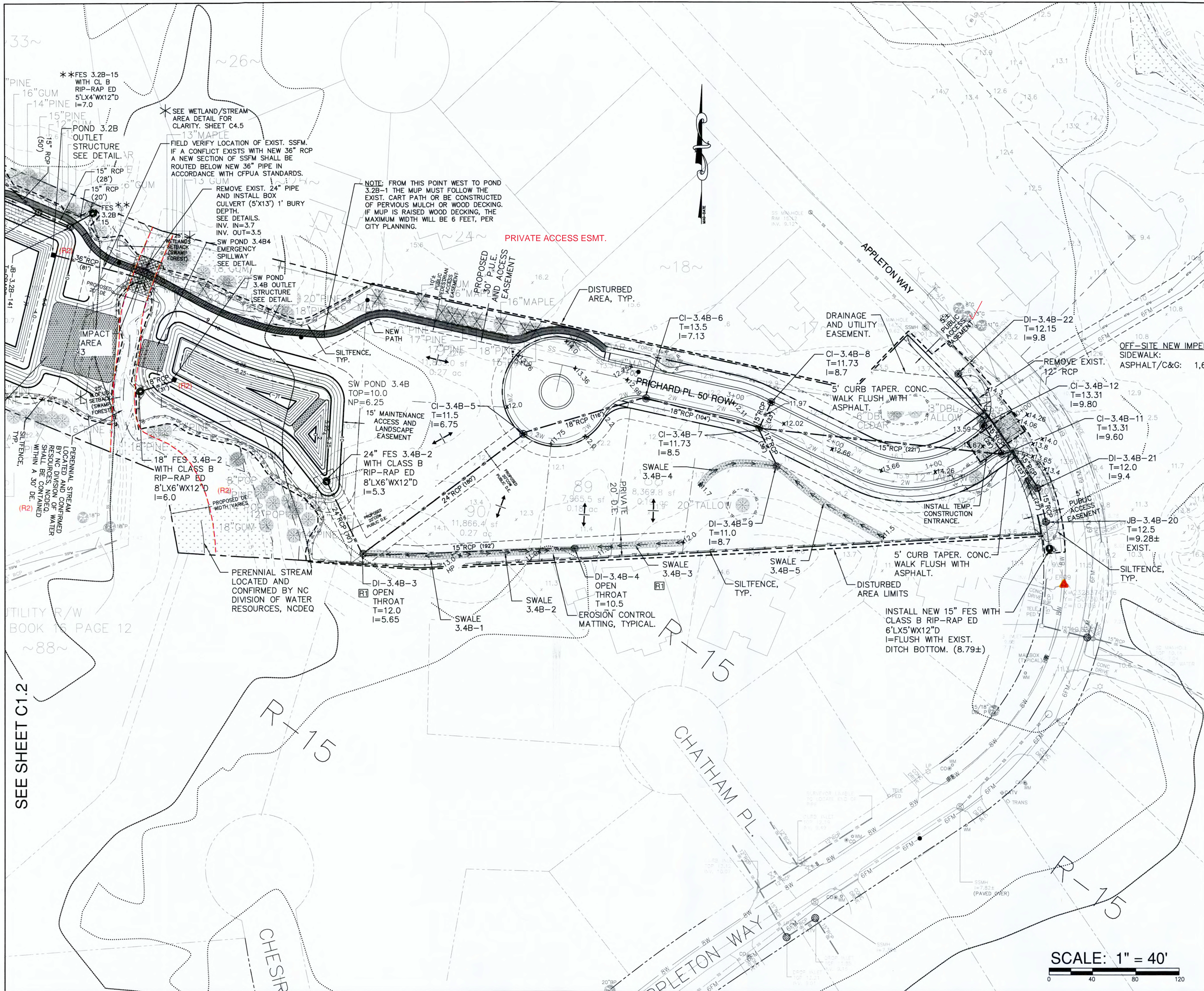
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**16083**  
DES. JST  
CHK. JPN  
DRWN. NKS  
DATE 6/28/21



**C1.3**

SEE SHEET C1.2

SEE SHEET C1.2



DATE	DESCRIPTION	BY
3.9.21	ADDED 20' DE OVER PERENNIAL STREAM. DELETED PROPOSED DE OVER POND OUTLET PIPES.	
3.18.19	SWP 3.1B REMOVED FROM PROJECT AREA. PERMITTING BY OTHERS. REV. PROJECT AREA. REVISED DRAINAGE AREAS. ADDED OPEN THROAT DI'S AND DETAIL REMOVED DETAILS FOR SWP 3.1B. REVISED TREE AND VEGETATION AS PER DRAWINGS BY OTHERS. ADDED	

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 REVISIONS

LAND OWNER/APPLICANT  
 ECHO FARMS, LLC  
 MATRIX DEVELOPMENT GROUP  
 CN4000 FORSGATE DRIVE  
 CHANBURY, NJ 00512  
 732-521-2900

**NORRIS & TUNSTALL**  
 CONSULTING ENGINEERS P.C.  
 1429 ASHLITTLE RIVER RD, NW  
 WILMINGTON, NC 28401  
 PHONE (910) 343-9653

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

City of Wilmington  
 NORTH CAROLINA  
 Public Services • Engineering Division  
 APPROVED STORMWATER MANAGEMENT PLAN  
 Date: \_\_\_\_\_ Permit # \_\_\_\_\_  
 Signed: \_\_\_\_\_  
**Approved Construction Plan**  
 Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Planning: \_\_\_\_\_  
 Traffic: \_\_\_\_\_  
 Fire: \_\_\_\_\_

NC DENR PWSS WATER PERMIT #: \_\_\_\_\_  
 WATER CAPACITY: \_\_\_\_\_ GPD  
 DWQ SEWER PERMIT #: \_\_\_\_\_  
 SEWER CAPACITY: \_\_\_\_\_ GPD  
 SEWER SHED # AND PLANT: \_\_\_\_\_  
 SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

License #C-3641  
**16083**  
 DES. JST  
 CKD. JPN  
 DRWN. NKS  
 DATE 9/20/19

**SEAL 1985**  
 NORRIS & TUNSTALL  
 ENGINEERS

SCALE: 1" = 40'

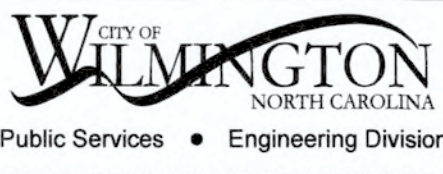
**C1.4**



NCDENR PWSS WATER PERMIT # \_\_\_\_\_ GPD  
 WATER CAPACITY: \_\_\_\_\_ GPD  
 DWQ SEWER PERMIT # \_\_\_\_\_ GPD  
 SEWER CAPACITY: \_\_\_\_\_ GPD  
 SEWER SHED # AND PLANT: \_\_\_\_\_  
 SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

**Approved Construction Plan**  
 Name: \_\_\_\_\_ Date: \_\_\_\_\_

Planning: \_\_\_\_\_  
 Traffic: \_\_\_\_\_  
 Fire: \_\_\_\_\_



Public Services • Engineering Division  
 APPROVED STORMWATER MANAGEMENT PLAN  
 Date: \_\_\_\_\_ Permit # \_\_\_\_\_

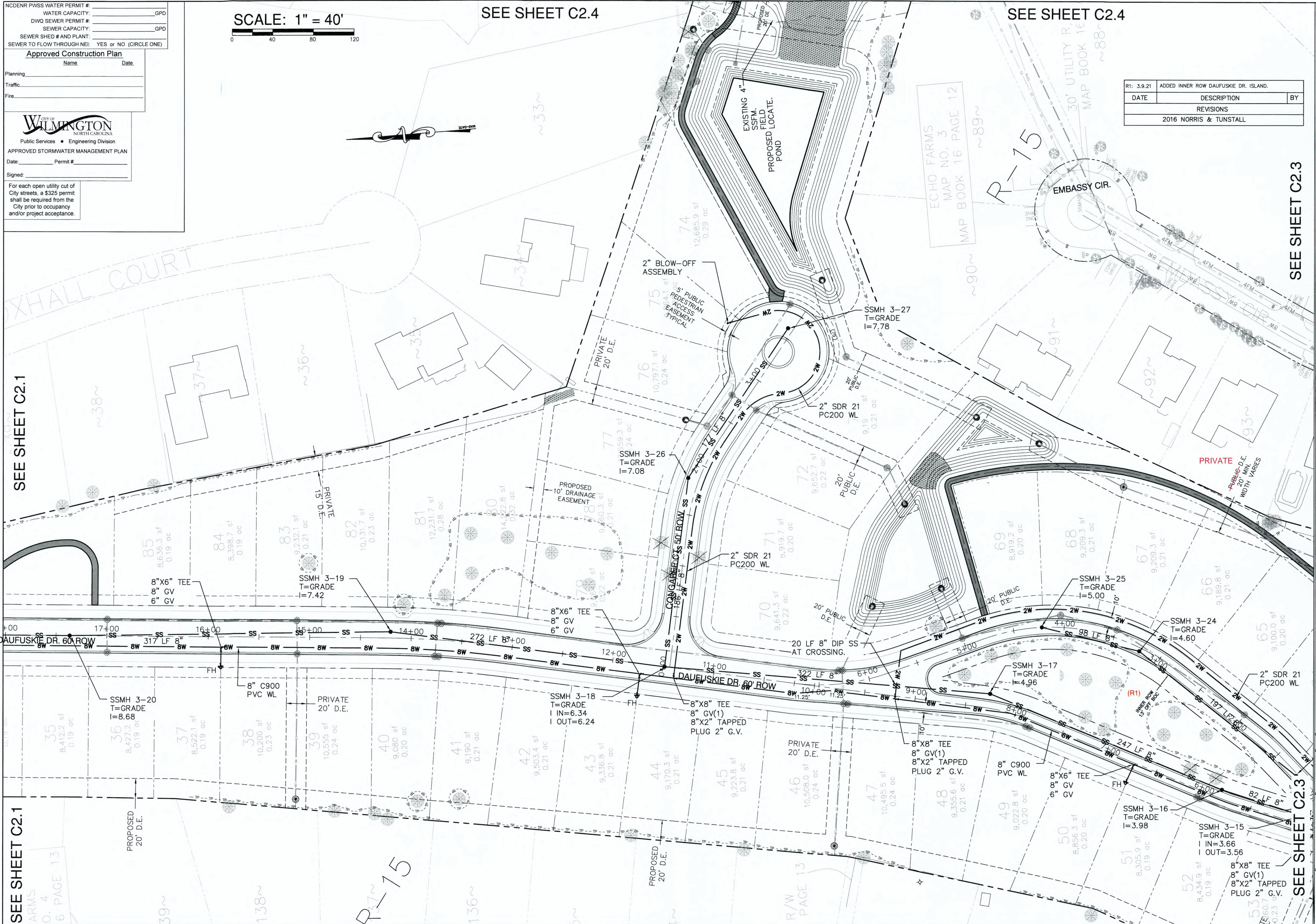
Signed: \_\_\_\_\_  
 For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

SCALE: 1" = 40'

SEE SHEET C2.4

SEE SHEET C2.4

DATE	DESCRIPTION	BY
R1: 3.9.21	ADDED INNER ROW DAUFUSKIE DR. ISLAND.	
REVISIONS		
2016 NORRIS & TUNSTALL		



UTILITY PLAN  
 WOODLANDS AT ECHO FARMS  
 4114 ECHO FARMS BLVD.  
 WILMINGTON, NC 28412  
 NEW HANOVER COUNTY

LAND OWNER/APPLICANT  
 ECHO FARMS, LLC  
 MATRIX DEVELOPMENT GROUP  
 4040 FORSGATE DRIVE  
 CHAMBURY, NJ 08512  
 732-521-2800

**NORRIS & TUNSTALL**  
 CONSULTING ENGINEERS P.C.  
 902 MARKET STREET  
 WILMINGTON, NC 28401  
 1429 ASH-LITTLE RIVER RD. NW  
 ASH, NC 28420  
 PHONE (910) 343-9653

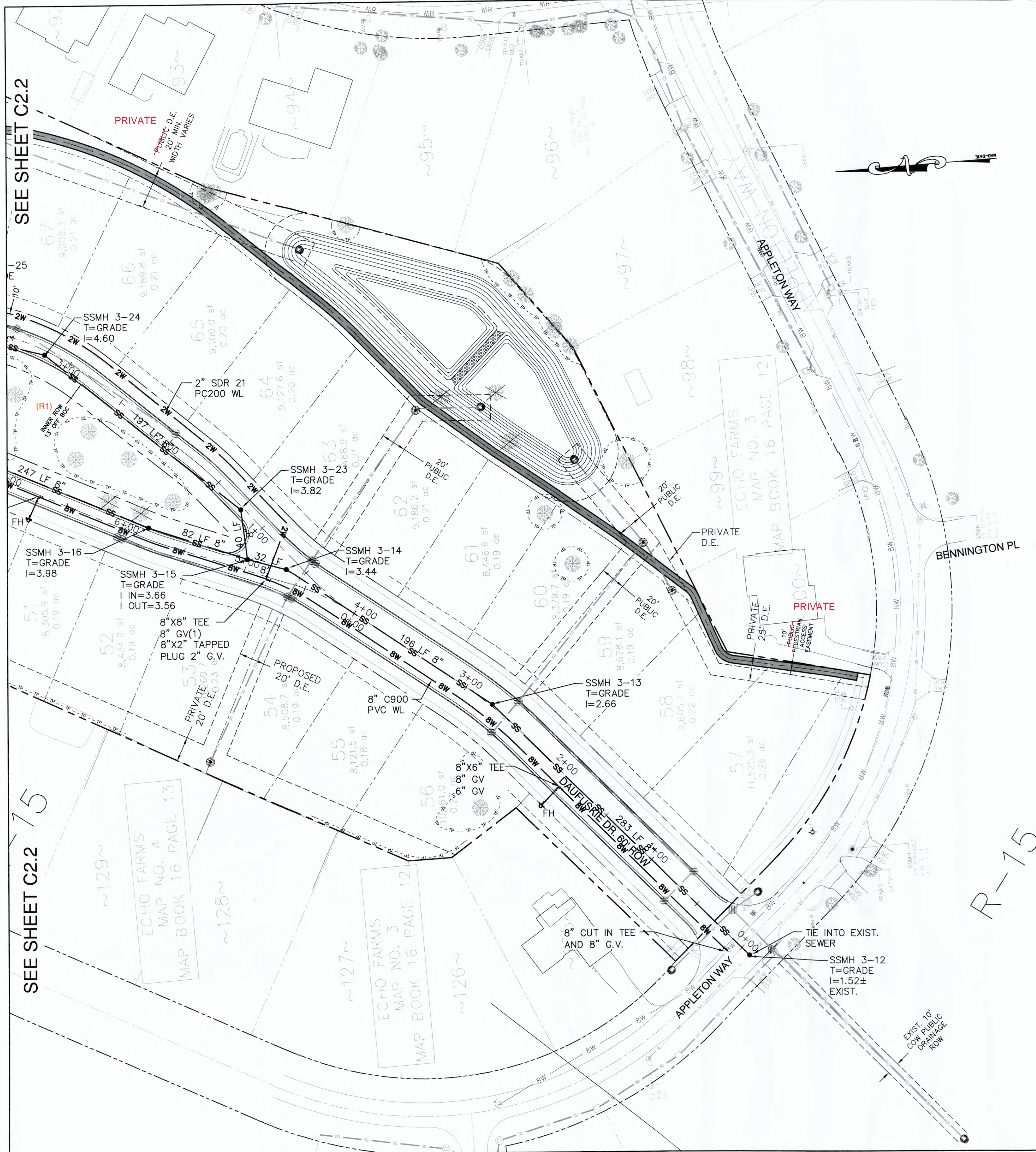
Licence #C-3641  
**16083**  
 DES: JST  
 CDR: JPN  
 DRWN: NKS  
 DATE: 9/20/19



**C2.2**

C:\Projects\2016\16083\_Woodlands at Echo Farms\16083\_Plans\dwg\16083\_master.rvt.dwg, 5/18/2021 8:09:23 AM

R1: 3.9.21	ADDED INNER ROW DAUFUSKIE DR. ISLAND.	
DATE	DESCRIPTION	BY
REVISIONS		
2016 NORRIS & TUNSTALL		



SEE SHEET C2.2

SEE SHEET C2.2

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

**CITY OF WILMINGTON**  
 NORTH CAROLINA  
 Public Services • Engineering Division  
 APPROVED STORMWATER MANAGEMENT PLAN  
 Date: \_\_\_\_\_ Permit # \_\_\_\_\_

Signed: \_\_\_\_\_  
**Approved Construction Plan**  
 Name \_\_\_\_\_ Date \_\_\_\_\_

Planning \_\_\_\_\_  
 Traffic \_\_\_\_\_  
 Fire \_\_\_\_\_

NCDENR PWSS WATER PERMIT # \_\_\_\_\_  
 WATER CAPACITY: \_\_\_\_\_ GPD  
 DWQ SEWER PERMIT # \_\_\_\_\_  
 SEWER CAPACITY: \_\_\_\_\_ GPD  
 SEWER SHED # AND PLANT: \_\_\_\_\_  
 SEWER TO FLOW THROUGH NE: YES or NO (CIRCLE ONE)

**SCALE: 1" = 40'**  
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UTILITY PLAN  
 WOODLANDS AT ECHO FARMS  
 4114 ECHO FARMS BLVD.  
 WILMINGTON, NC 28412  
 NEW HANOVER COUNTY

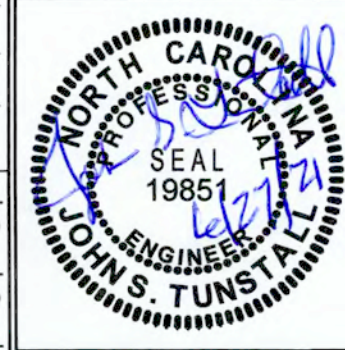
LAND OWNER/APPLICANT  
 ECHO FARMS, LLC  
 MATRIX DEVELOPMENT GROUP  
 CN4000 FORSGATE DRIVE  
 CRANFORD, NJ 08512  
 732-521-2900

**NORRIS & TUNSTALL**  
 CONSULTING ENGINEERS P.C.  
 902 MARKET STREET  
 WILMINGTON, NC 28401  
 PHONE: (910) 343-9653  
 1425 ASHLITTLE RIVER RD., NW  
 WILMINGTON, NC 28401  
 PHONE: (910) 287-5300

License #C-3641  
**16083**

DES. JST  
 CKD. JPN  
 DRWN. NKS

DATE 9/20/19



**C2.3**

NC DENR PWSS WATER PERMIT # \_\_\_\_\_ GPD  
 WATER CAPACITY: \_\_\_\_\_ GPD  
 DWQ SEWER PERMIT # \_\_\_\_\_ GPD  
 SEWER CAPACITY: \_\_\_\_\_ GPD  
 SEWER SHED # AND PLANT: \_\_\_\_\_  
 SEWER TO FLOW THROUGH NET: YES or NO (CIRCLE ONE)

**Approved Construction Plan**  
 Name \_\_\_\_\_ Date \_\_\_\_\_

Planning \_\_\_\_\_  
 Traffic \_\_\_\_\_  
 Fire \_\_\_\_\_

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

Date \_\_\_\_\_ Permit # \_\_\_\_\_

Signed: \_\_\_\_\_

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

SCALE: 1" = 40'

SEE SHEET C3.4

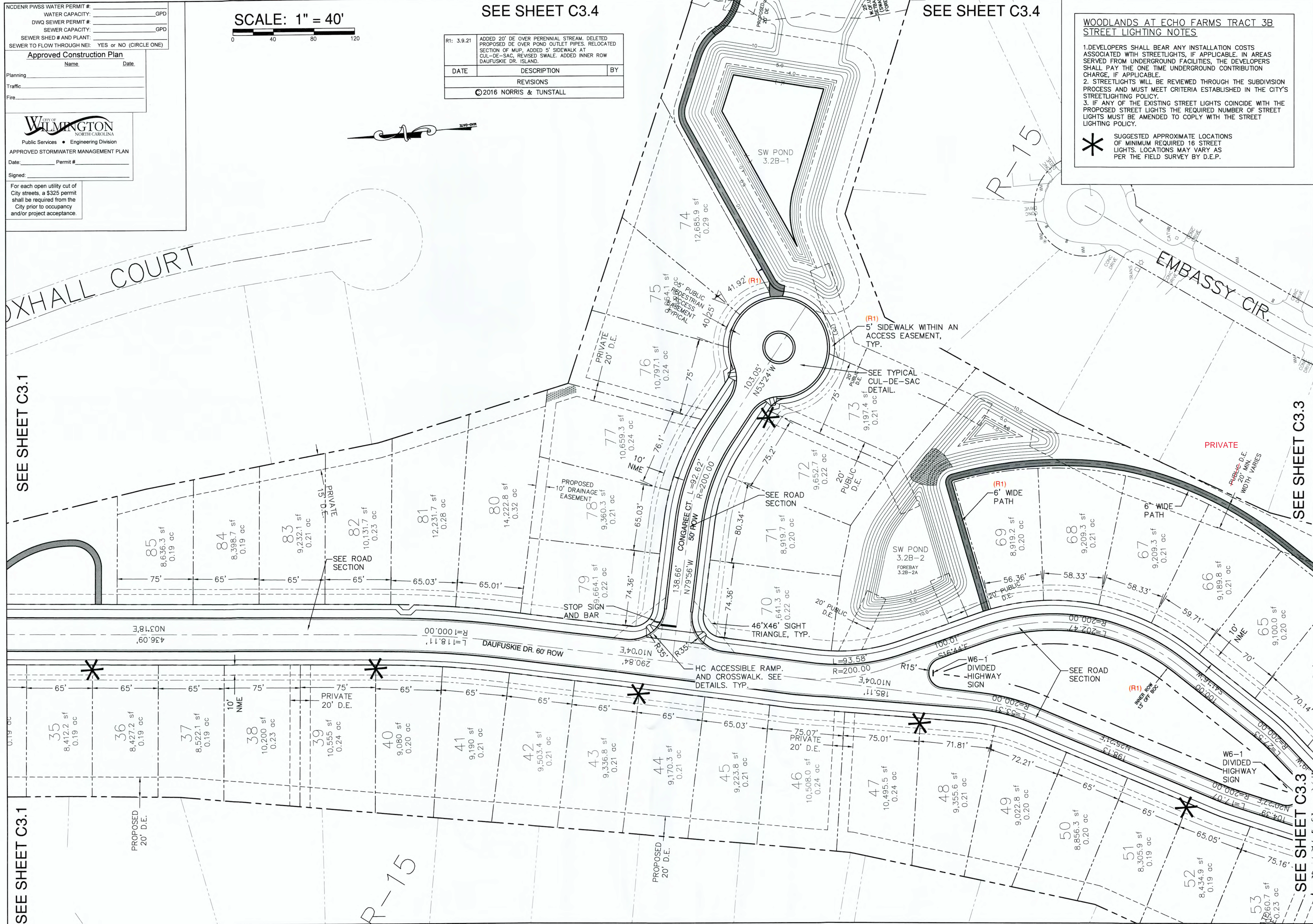
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DATE	DESCRIPTION	BY
REVISIONS		
©2016 NORRIS & TUNSTALL		

SEE SHEET C3.4

**WOODLANDS AT ECHO FARMS TRACT 3B STREET LIGHTING NOTES**

1. DEVELOPERS SHALL BEAR ANY INSTALLATION COSTS ASSOCIATED WITH STREETLIGHTS, IF APPLICABLE. IN AREAS SERVED FROM UNDERGROUND FACILITIES, THE DEVELOPERS SHALL PAY THE ONE TIME UNDERGROUND CONTRIBUTION CHARGE, IF APPLICABLE.
2. STREETLIGHTS WILL BE REVIEWED THROUGH THE SUBDIVISION PROCESS AND MUST MEET CRITERIA ESTABLISHED IN THE CITY'S STREETLIGHTING POLICY.
3. IF ANY OF THE EXISTING STREET LIGHTS COINCIDE WITH THE PROPOSED STREET LIGHTS THE REQUIRED NUMBER OF STREET LIGHTS MUST BE AMENDED TO COMPLY WITH THE STREET LIGHTING POLICY.

\* SUGGESTED APPROXIMATE LOCATIONS OF MINIMUM REQUIRED 16 STREET LIGHTS. LOCATIONS MAY VARY AS PER THE FIELD SURVEY BY D.E.P.



LAYOUT PLAN  
 WOODLANDS AT ECHO FARMS  
 4114 ECHO FARMS BLVD.  
 WILMINGTON, NC 28412  
 NEW HANOVER COUNTY

LAND OWNER/APPLICANT  
 ECHO FARMS, LLC  
 MATRIX DEVELOPMENT GROUP  
 CN4000 FORSGATE DRIVE  
 CRANBURY, NJ 08512  
 732-521-2900

**NORRIS & TUNSTALL**  
 CONSULTING ENGINEERS P.C.

902 MARKET STREET  
 WILMINGTON, NC 28401  
 PHONE (910) 343-9653

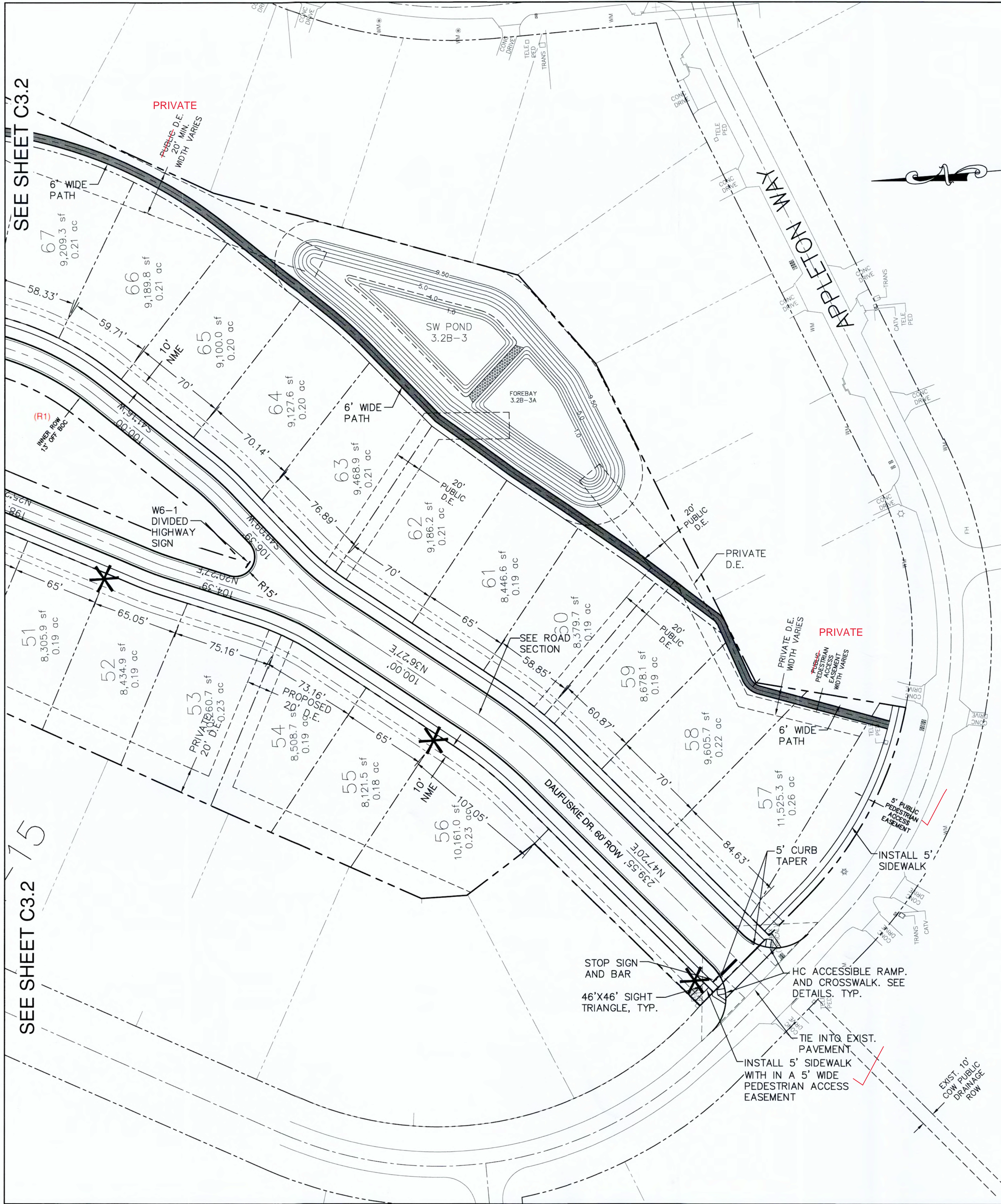
1429 ASHLITTLE RIVER RD., NW  
 ASHLINGTON, NC 28401  
 PHONE (910) 287-5906

License #C-3641  
**16083**  
 DES. JST  
 CDD. JPN  
 DRWN. NKS  
 DATE 6/27/18

**SEAL**  
 19851  
 JOHN S. TUNSTALL  
 PROFESSIONAL ENGINEER

**C3.2**

\projects\2016\16083 Woodlands at Echo Farms\16083.master.rfd.dwg, 5/19/2021 7:57:55 AM



SEE SHEET C3.2

SEE SHEET C3.2

**WOODLANDS AT ECHO FARMS TRACT 3B STREET LIGHTING NOTES**

1. DEVELOPERS SHALL BEAR ANY INSTALLATION COSTS ASSOCIATED WITH STREETLIGHTS, IF APPLICABLE. IN AREAS SERVED FROM UNDERGROUND FACILITIES, THE DEVELOPERS SHALL PAY THE ONE TIME UNDERGROUND CONTRIBUTION CHARGE, IF APPLICABLE.
2. STREETLIGHTS WILL BE REVIEWED THROUGH THE SUBDIVISION PROCESS AND MUST MEET CRITERIA ESTABLISHED IN THE CITY'S STREETLIGHTING POLICY.
3. IF ANY OF THE EXISTING STREET LIGHTS COINCIDE WITH THE PROPOSED STREET LIGHTS THE REQUIRED NUMBER OF STREET LIGHTS MUST BE AMENDED TO COMPLY WITH THE STREET LIGHTING POLICY.

\* SUGGESTED APPROXIMATE LOCATIONS OF MINIMUM REQUIRED 16 STREET LIGHTS. LOCATIONS MAY VARY AS PER THE FIELD SURVEY BY D.E.P.

DATE	DESCRIPTION	BY
R1: 3.9.21	ADDED INNER ROW DAUFUSKIE DR. ISLAND.	
REVISIONS		
© 2016 NORRIS & TUNSTALL		

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

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

NC DENR PWSS WATER PERMIT #: \_\_\_\_\_ GPD  
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 SEWER CAPACITY: \_\_\_\_\_ GPD  
 SEWER SHED # AND PLANT: \_\_\_\_\_  
 SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

**SCALE: 1" = 40'**

LAYOUT PLAN  
 WOODLANDS AT ECHO FARMS  
 4114 ECHO FARMS BLVD.  
 WILMINGTON, NC 28412  
 NEW HANOVER COUNTY

LAND OWNER/APPLICANT  
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 MATRIX DEVELOPMENT GROUP  
 4040 FORSGATE DRIVE  
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 PHONE (910) 343-9653

Licence #C-3641  
**16083**  
 DES. JST  
 CKD. JPN  
 DRWN. NKS  
 DATE 6/28/21



**C3.3**

SEE SHEET C3.2

SEE SHEET C3.2

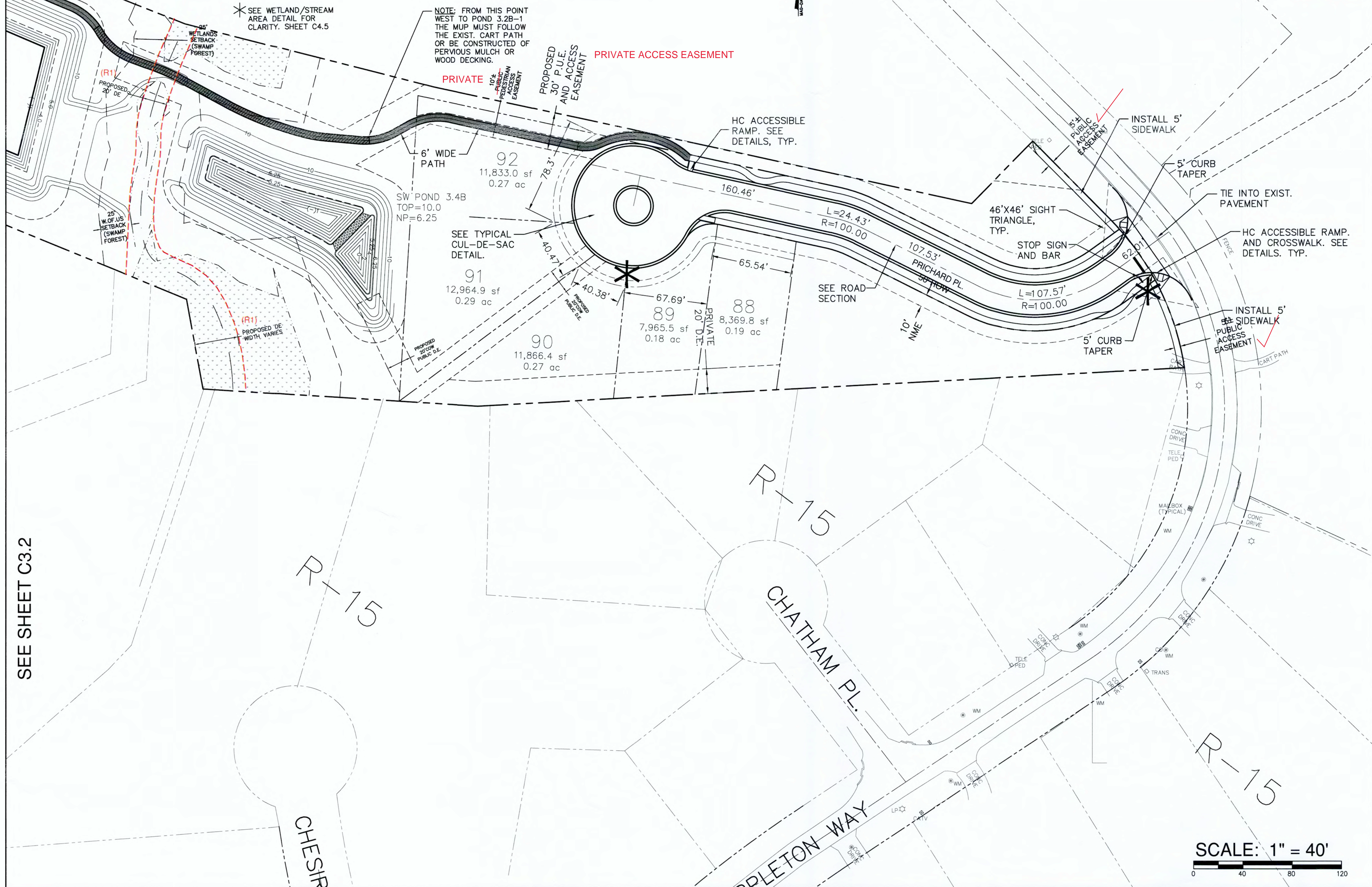
RT: 3.9.21	ADDED 20' DE OVER PERENNIAL STREAM, DELETED PROPOSED DE OVER POND OUTLET PIPES.	
DATE	DESCRIPTION	BY
REVISIONS		
© 2016 NORRIS & TUNSTALL		

NOTE: ANY RESURFACING/CONSTRUCTION OF PEDESTRIAN TRAILS IN CONSERVATION RESOURCE WILL BE LIMITED TO HAND EQUIPMENT AND MINIMAL DISTURBANCE PERMITTED DUE TO THE SENSITIVITY OF THE RESOURCE.

**WOODLANDS AT ECHO FARMS TRACT 3B STREET LIGHTING NOTES**

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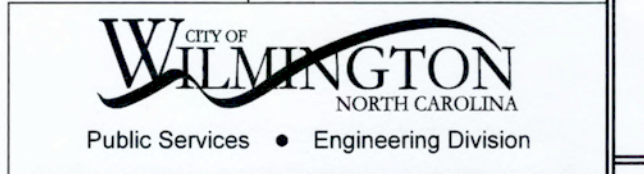


LAYOUT PLAN  
WOODLANDS AT ECHO FARMS  
4114 ECHO FARMS BLVD.  
WILMINGTON, NC 28412  
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LAND OWNER/APPLICANT  
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732-521-2900

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902 MARKET STREET  
WILMINGTON, NC 28401  
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APPROVED STORMWATER MANAGEMENT PLAN  
Date: \_\_\_\_\_ Permit # \_\_\_\_\_

Signed: \_\_\_\_\_  
Approved Construction Plan  
Name: \_\_\_\_\_ Date: \_\_\_\_\_

Planning: \_\_\_\_\_  
Traffic: \_\_\_\_\_  
Fire: \_\_\_\_\_

NCDENR PWSS WATER PERMIT # \_\_\_\_\_  
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SEWER SHED # AND PLANT: \_\_\_\_\_  
SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

License #C-3641  
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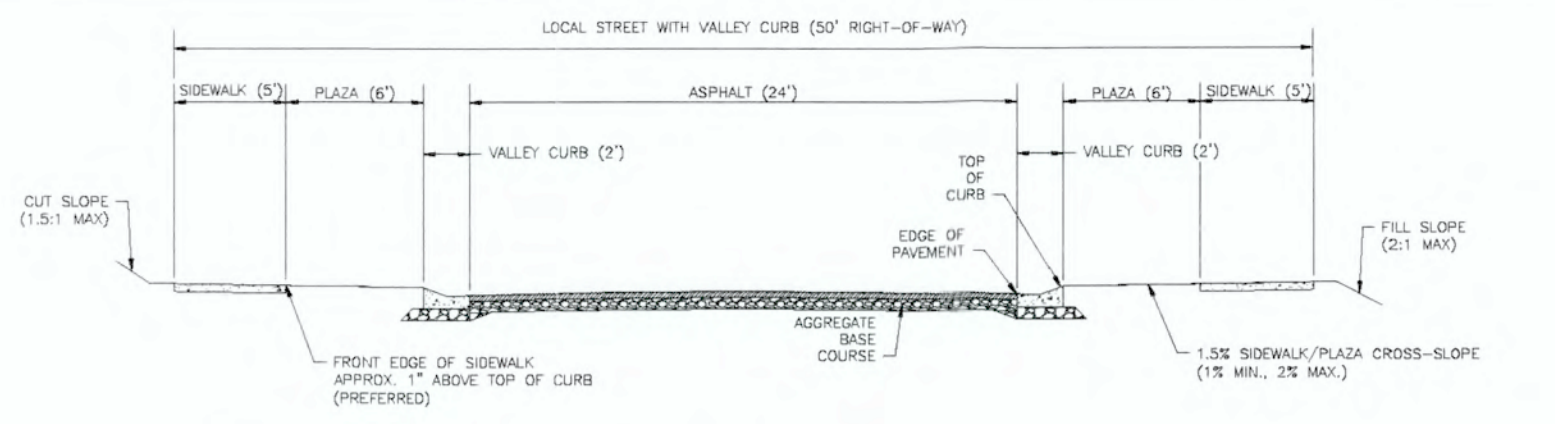
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CKD. JPN  
DRWN. NKS  
DATE 6/27/18



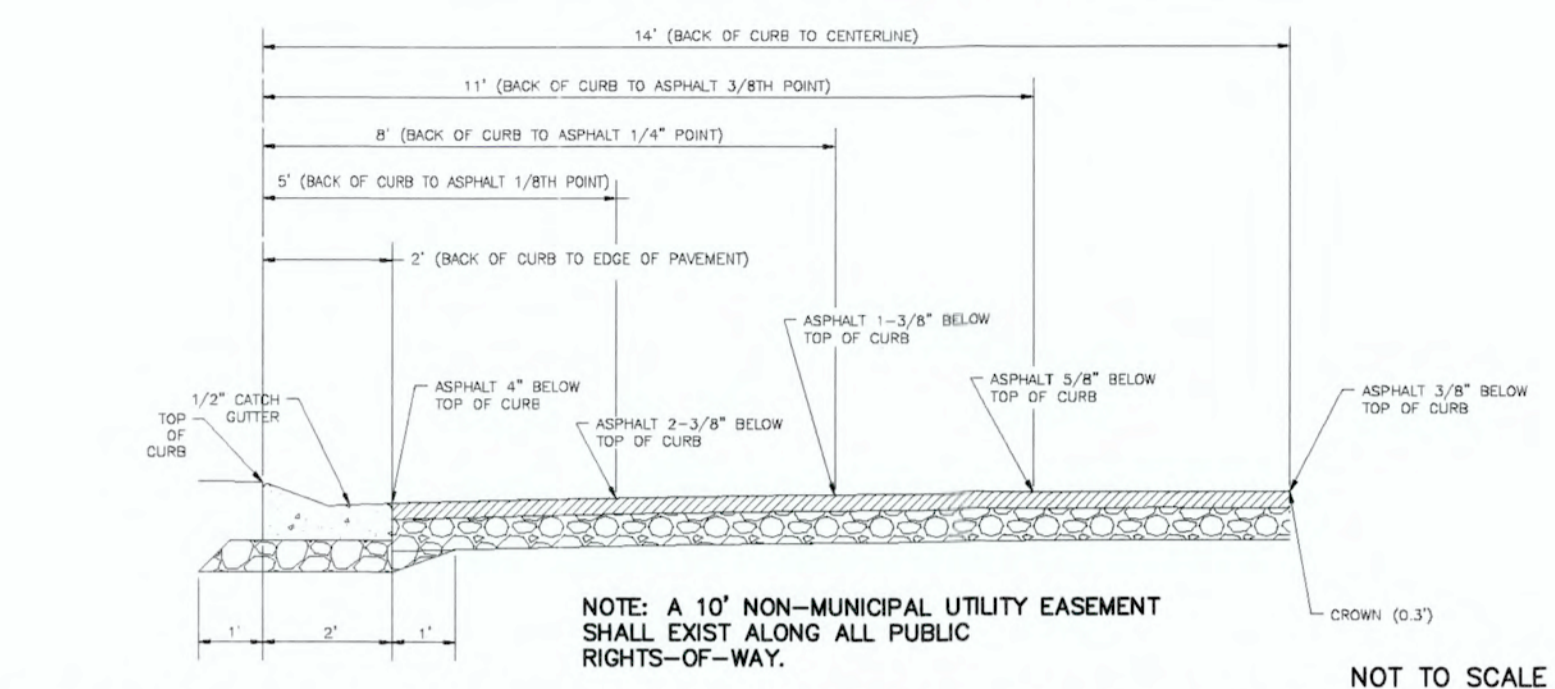
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**C3.4**

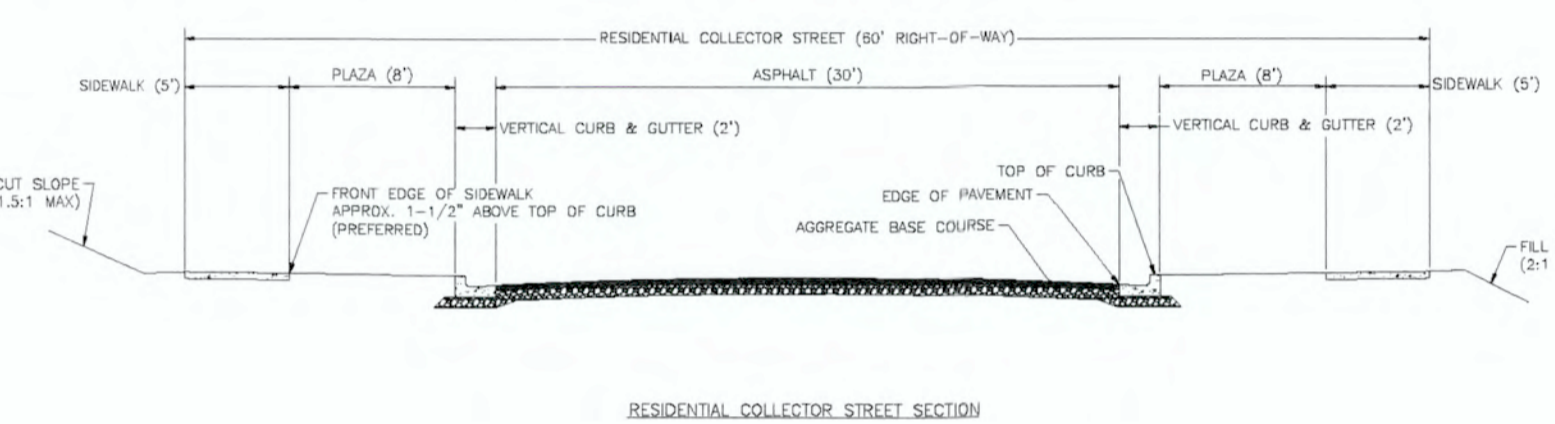
©\projects\2016\16083 Woodlands at Echo Farms\16083\_Plan\16083.mxd, 3/11/2018 11:31:02 AM



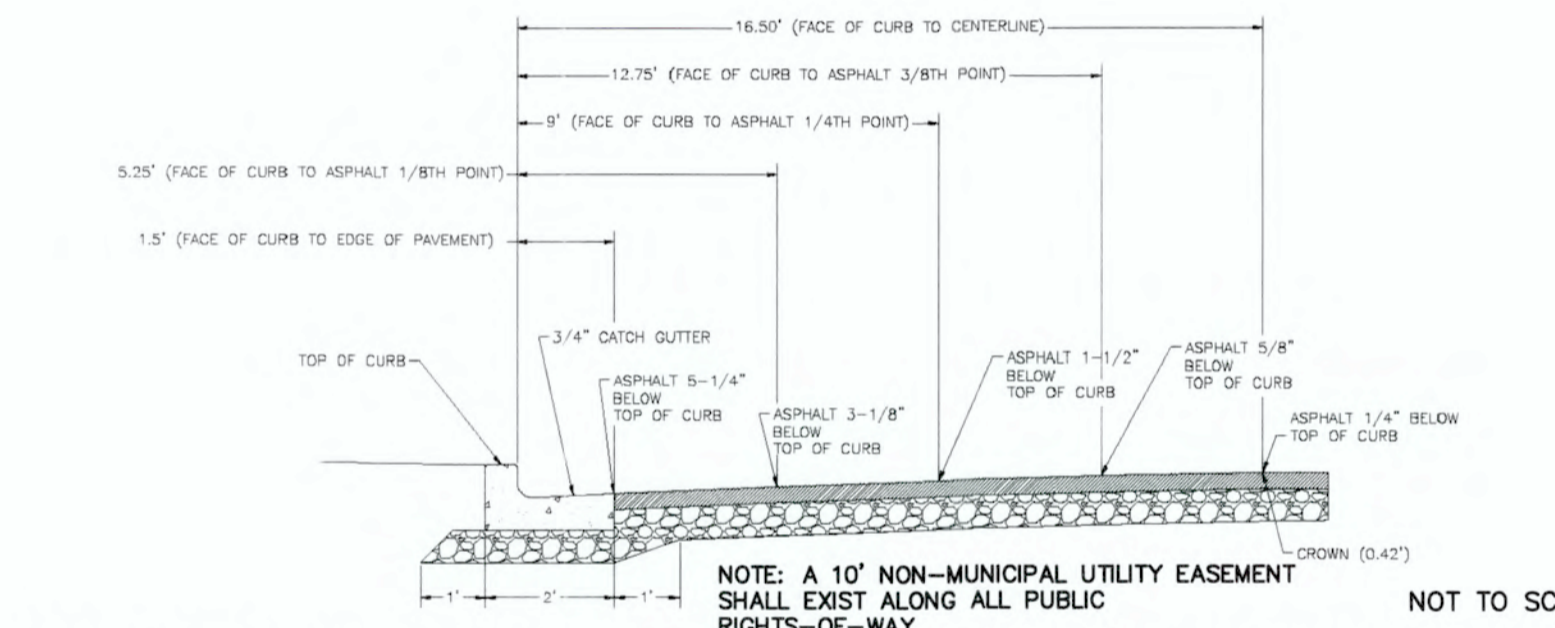
LOCAL STREET WITH VALLEY CURB-SECTION



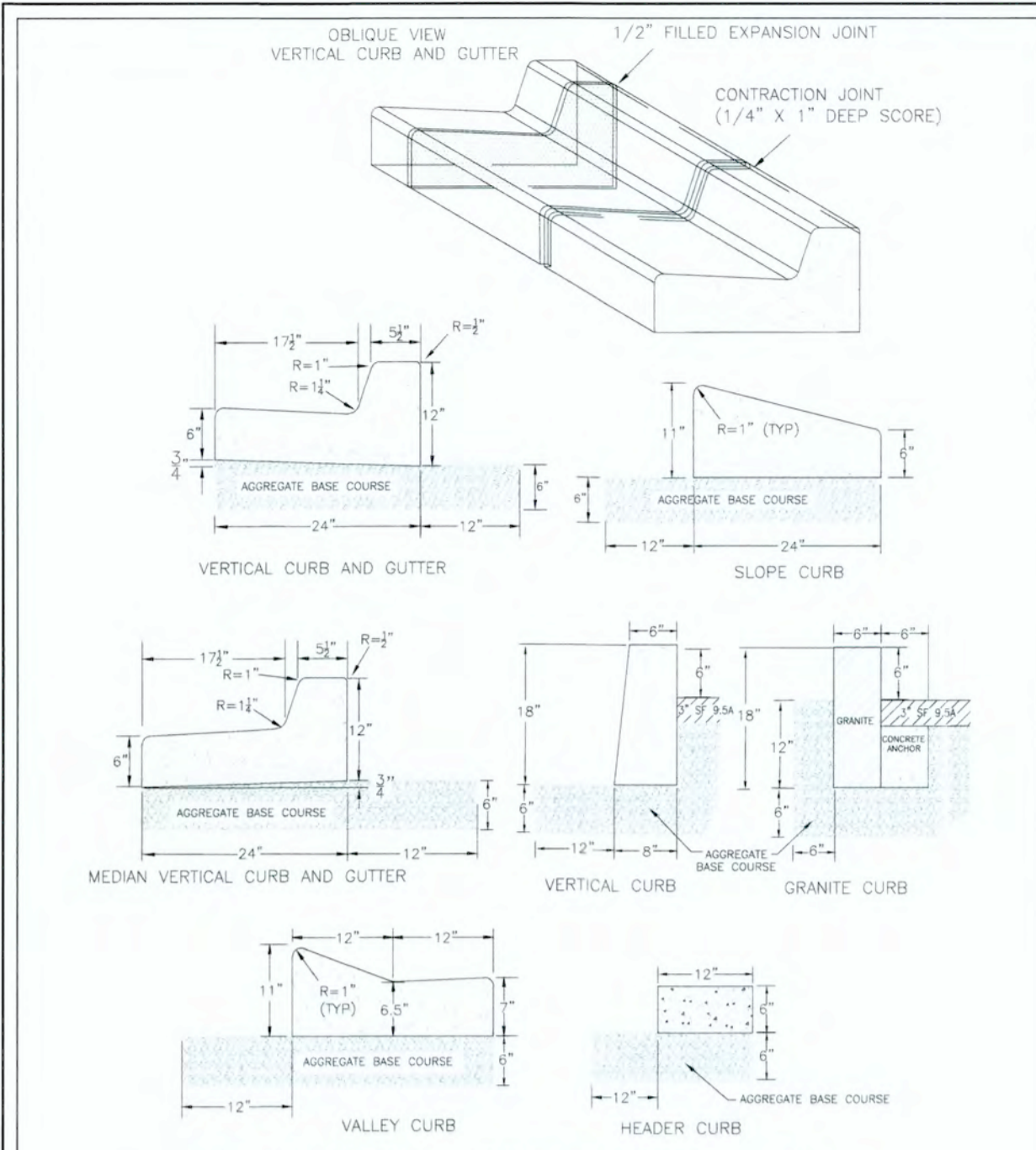
C.O.W. LOCAL STREET WITH VALLEY CURB DETAIL



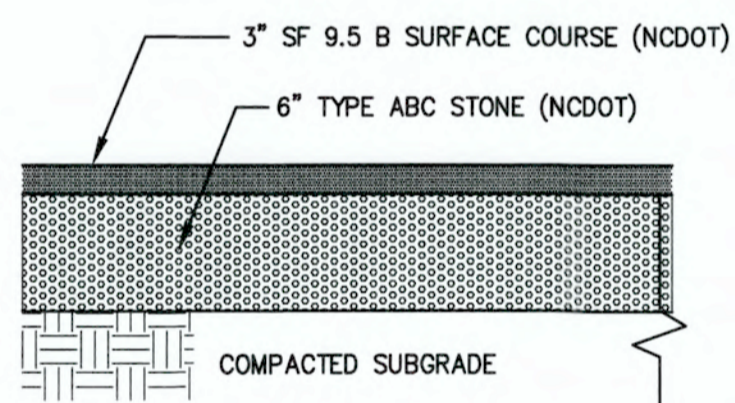
RESIDENTIAL COLLECTOR STREET SECTION



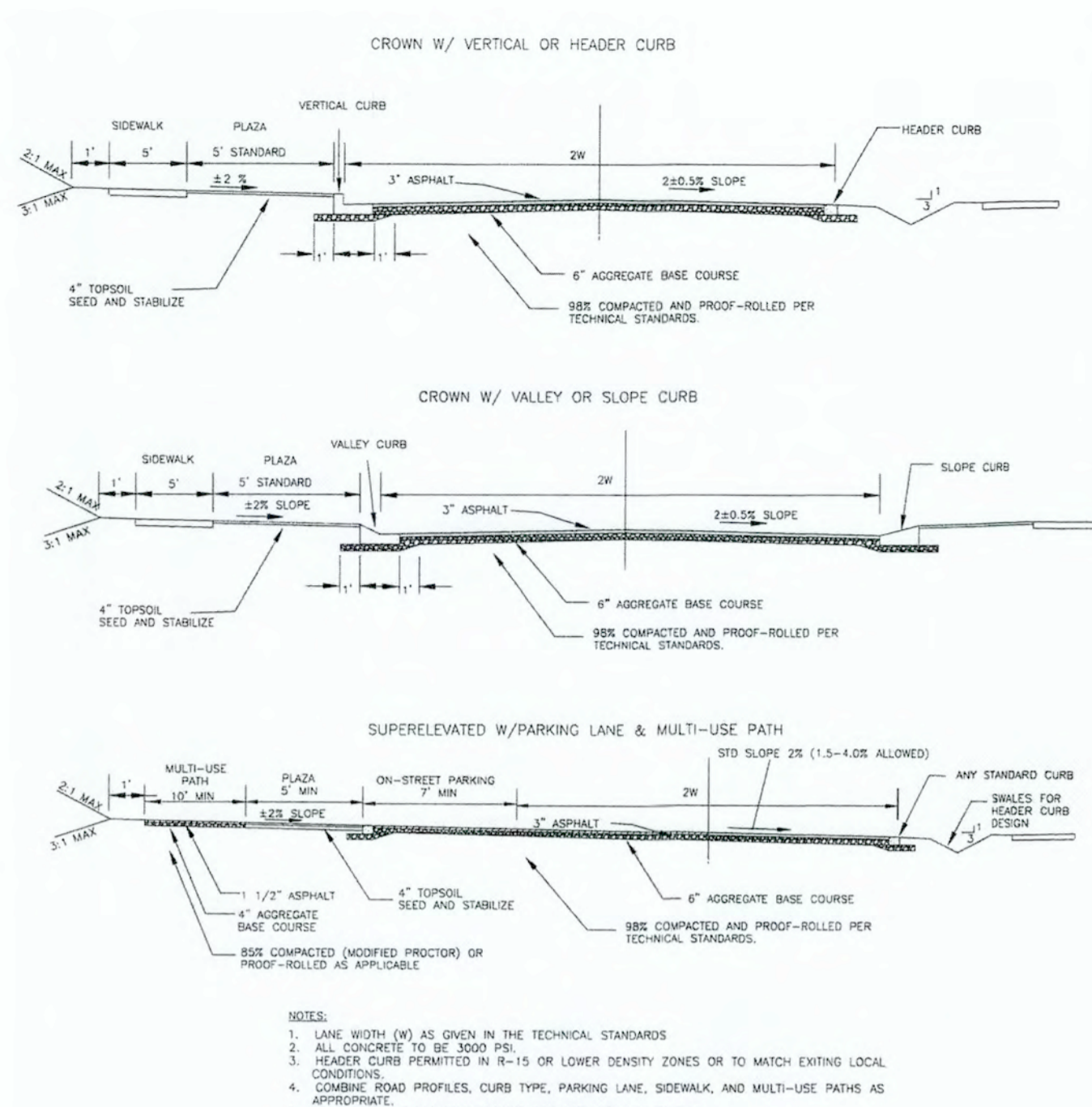
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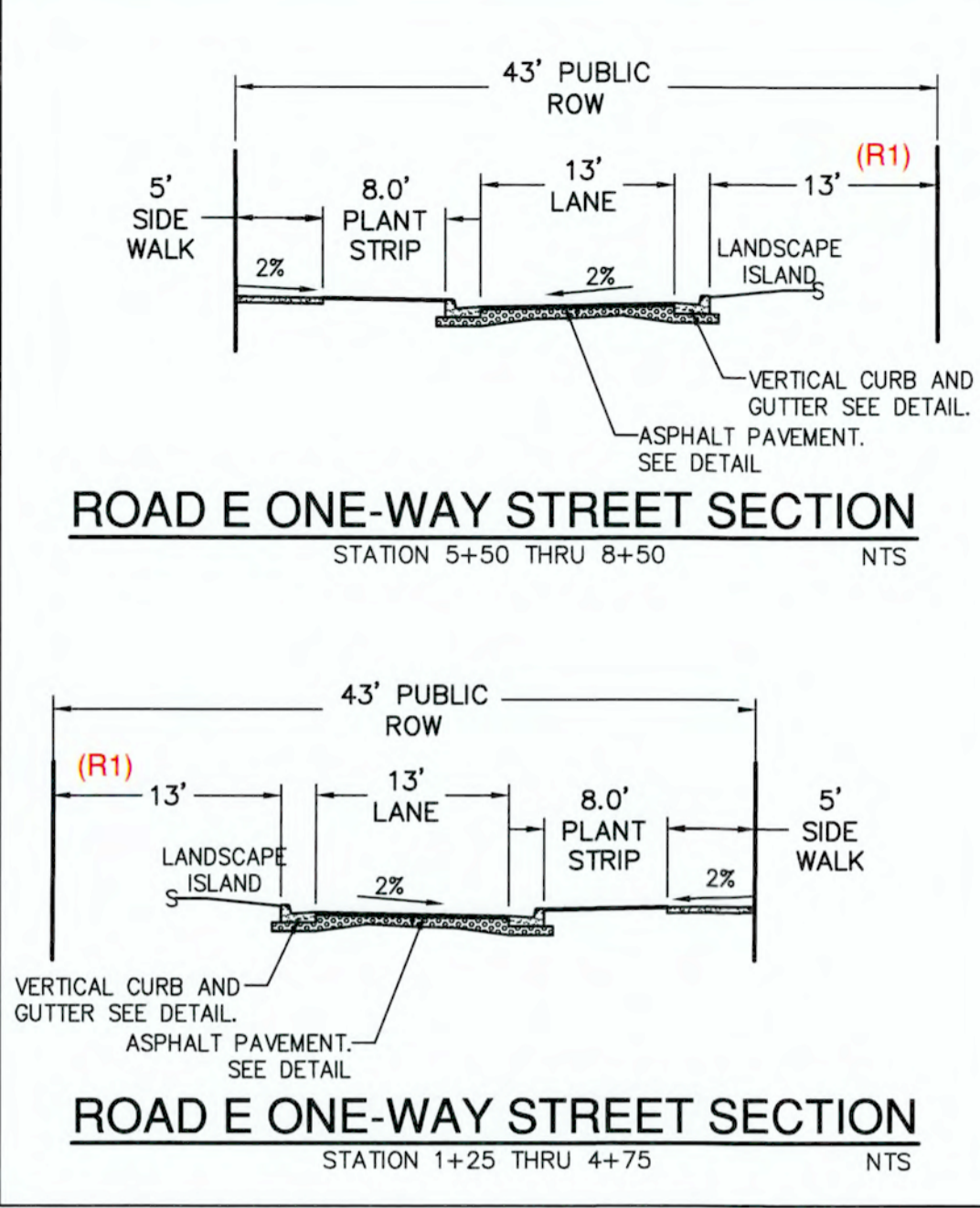
C.O.W. STANDARD CURBING DETAIL



ASPHALT PAVEMENT SECTION



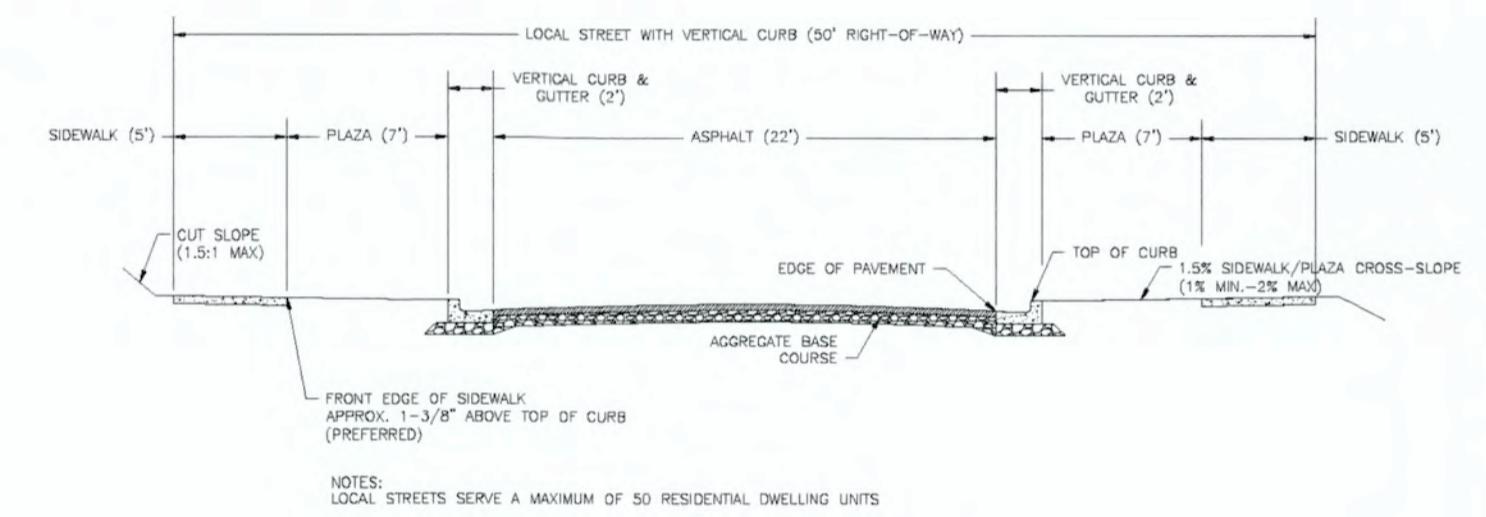
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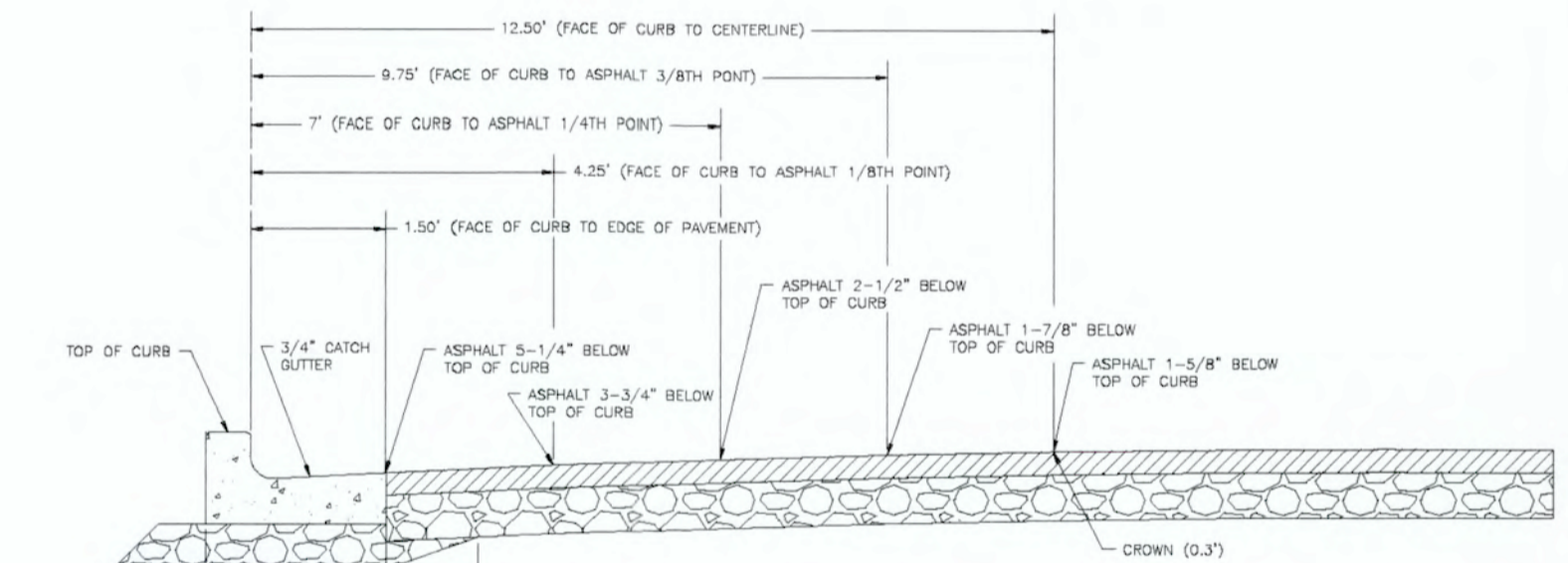
ROAD E ONE-WAY STREET SECTION

ROAD E ONE-WAY STREET SECTION

NOTE: A 10' NON-MUNICIPAL UTILITY EASEMENT SHALL EXIST ALONG ALL PUBLIC RIGHTS-OF-WAY.



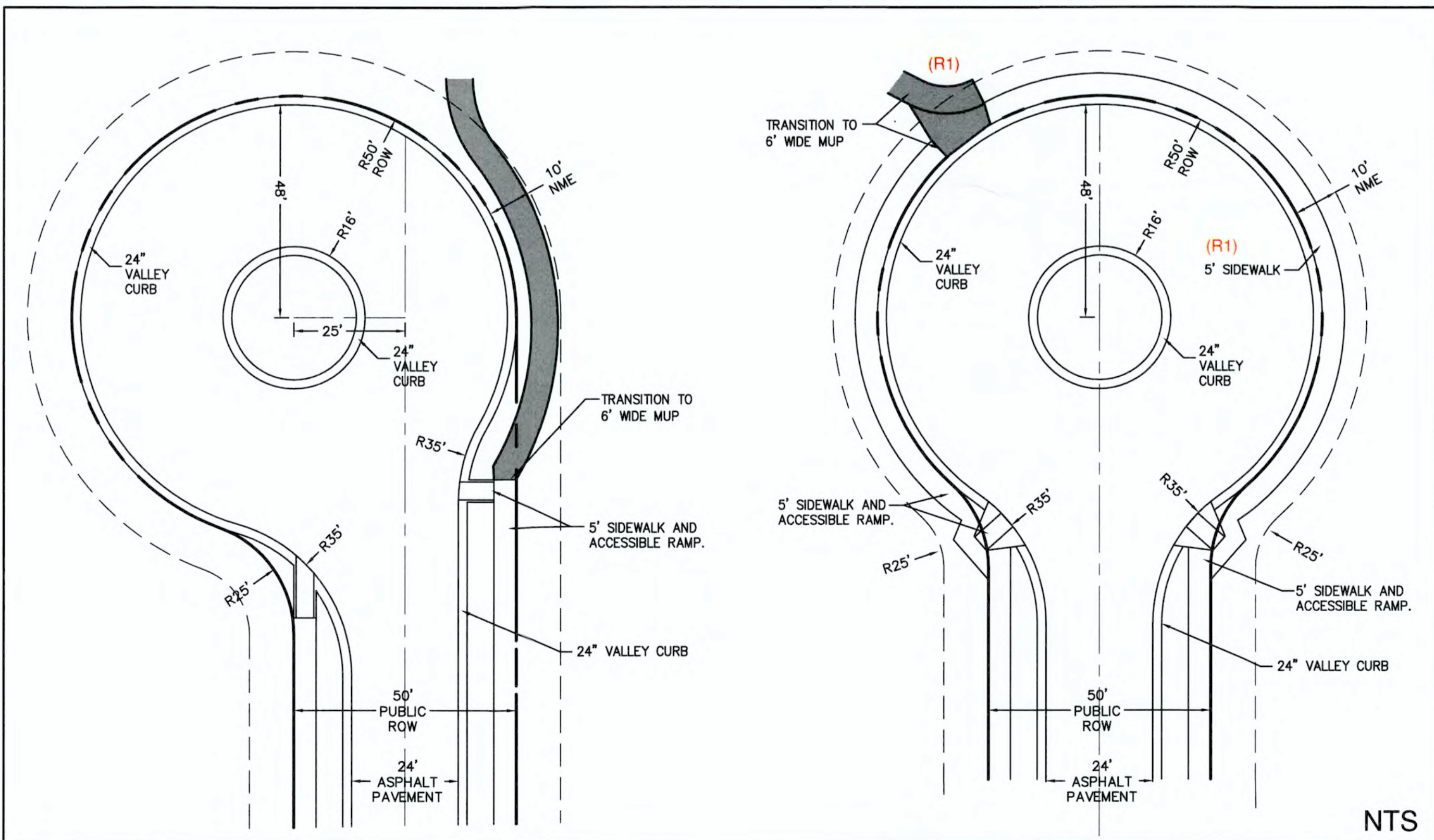
LOCAL STREET WITH VALLEY CURB SECTION



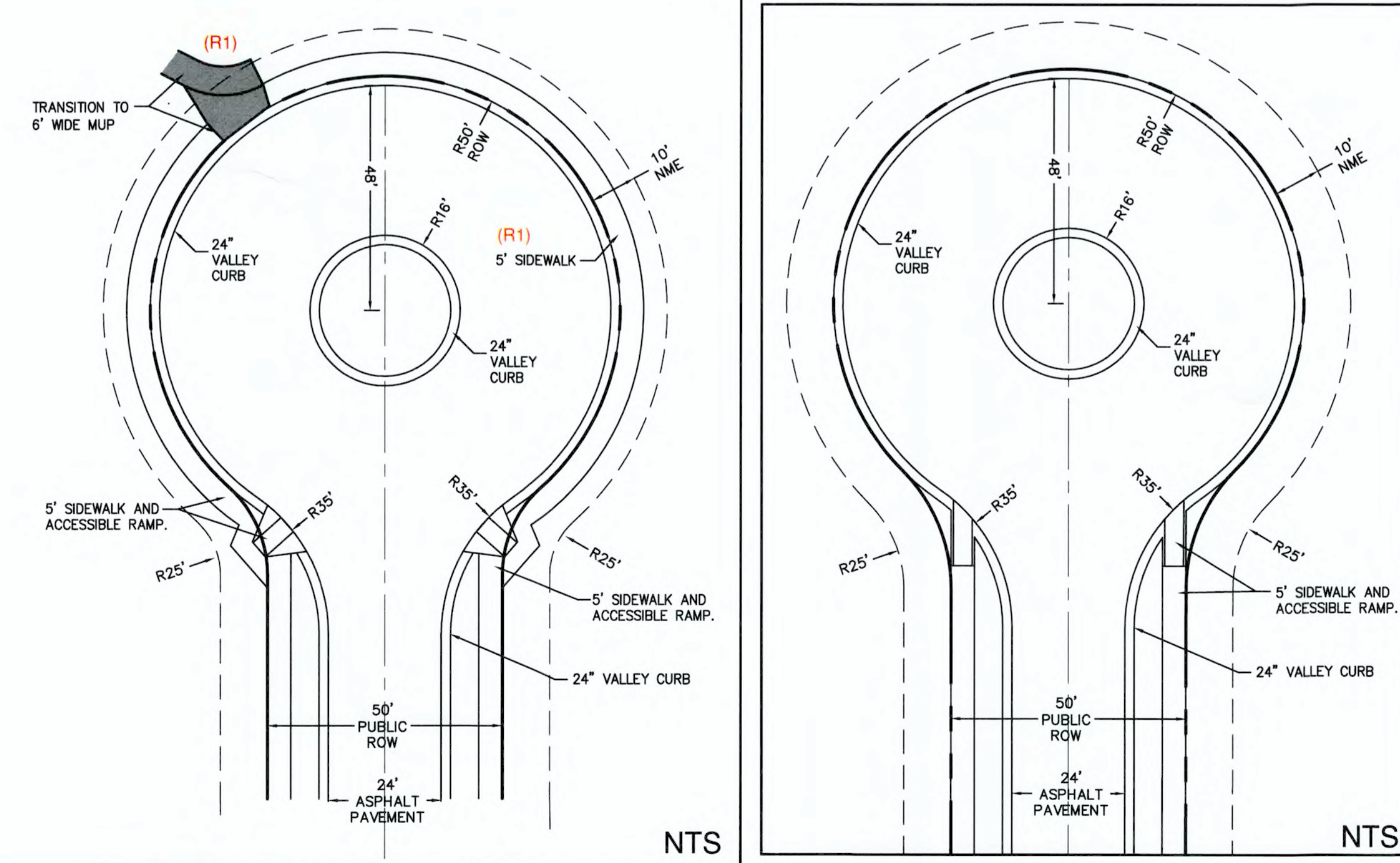
C.O.W. LOCAL STREET WITH VALLEY CURB

CITY OF WILMINGTON STANDARD NOTES:

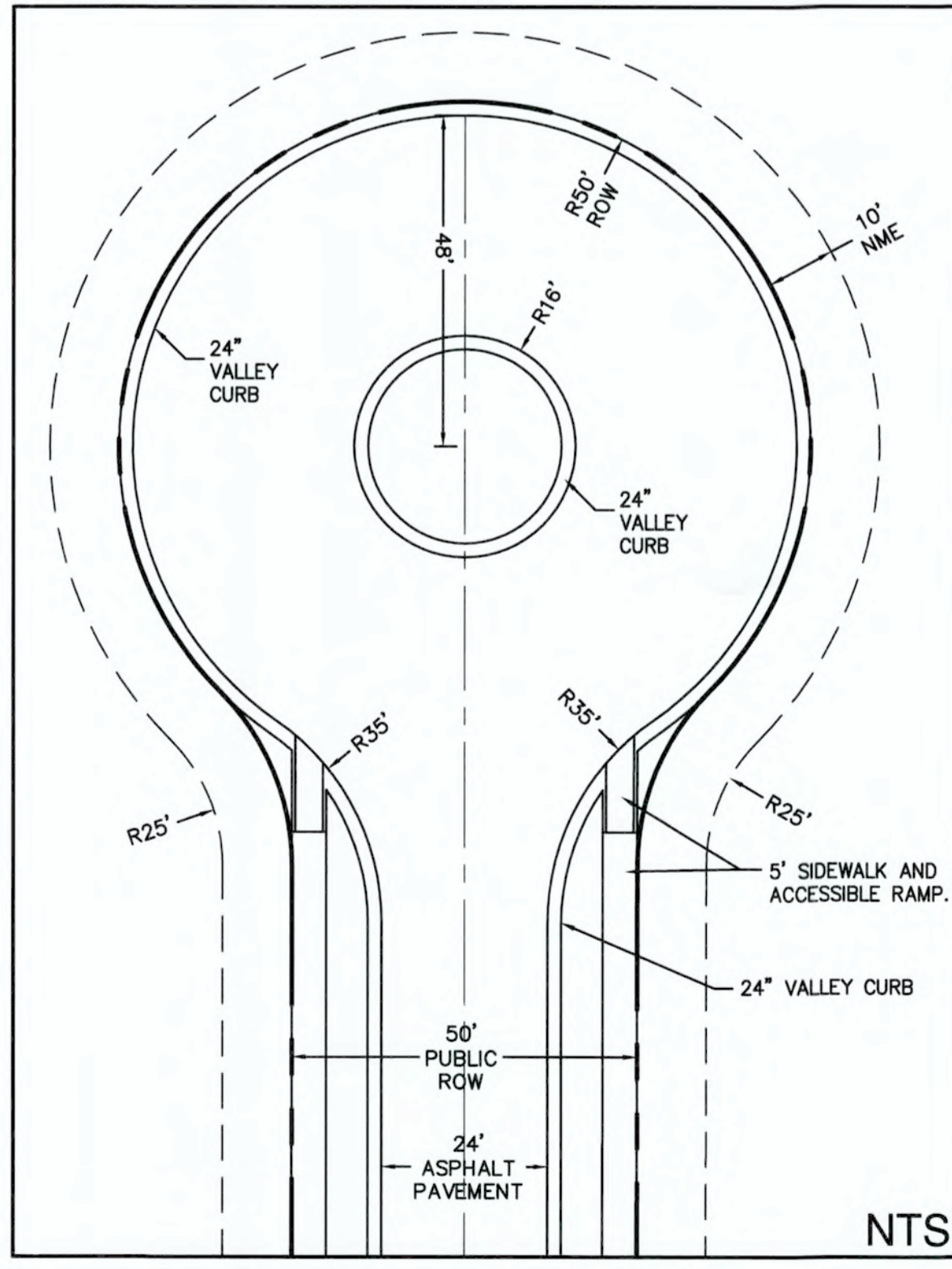
- CONTACT THE NORTH CAROLINA ONE CALL CENTER PRIOR TO DOING ANY DIGGING AT 1-800-632-4949.
- PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES AND NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
- ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR MUTCD STANDARDS.
- ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
- INSTALL REFLECTORS PER CITY AND NCDOT STANDARDS. TRAFFIC ENGINEERING MUST APPROVE OF PAVEMENT MARKING LAYOUT PRIOR TO ACTUAL STRIPING.
- ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
- TRAFFIC CONTROL DEVICES (INCLUDING SIGNS AND PAVEMENT MARKINGS) IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
- IT SHALL BE THE RESPONSIBILITY OF THE SUBDIVIDER TO ERECT OFFICIAL STREET NAME SIGNS AT ALL INTERSECTIONS ASSOCIATED WITH THE SUBDIVISION IN ACCORDANCE WITH THE TECHNICAL STANDARDS AND SPECIFICATIONS MANUAL. THE SUBDIVIDER MAY ACQUIRE AND ERECT OFFICIAL STREET NAME SIGNS OR MAY CHOOSE TO CONTRACT WITH THE CITY TO INSTALL THE STREET SIGNS AND THE SUBDIVIDER SHALL PAY THE COST OF SUCH INSTALLATION. CONTACT TRAFFIC ENGINEERING AT 341-7888 TO DISCUSS INSTALLATION OF TRAFFIC AND STREET NAME SIGNS. POSTED STREET NAMES MUST BE APPROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS.
- CONTACT TRAFFIC ENGINEERING AT 341-7888 FORTY-EIGHT HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT-OF-WAY.
- A UTILITY CUT PERMIT IS REQUIRED FOR EACH OPEN CUT OF A CITY STREET. CONTACT 341-5888 FOR MORE DETAILS. IN CERTAIN CASES AN ENTIRE RESURFACING OF THE AREA BEING OPEN CUT MAY BE REQUIRED.
- ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS, AND CURBING WILL BE REPLACED.
- CONTACT TRAFFIC ENGINEERING AT 341-7888 TO DISCUSS STREET LIGHTING OPTIONS.
- PROJECT SHALL COMPLY WITH CFWA CROSS CONNECTION CONTROL REQUIREMENTS. WATER METER(S) CANNOT BE RELEASED UNTIL ALL REQUIREMENTS ARE MET AND THE STATE HAS GIVEN THEIR FINAL APPROVAL. CALL 343-3910 FOR INFORMATION.
- IF THE CONTRACTOR DESIRES CFWA 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.
- ANY IRRIGATION SYSTEM SUPPLIED BY CFWA WATER SHALL COMPLY WITH CFWA CROSS CONNECTION CONTROL REGULATIONS. CALL 332-6558 FOR INFORMATION.
- ANY BACKFLOW PREVENTION DEVICES REQUIRED BY CFWA WILL NEED TO BE ON THE LIST OF APPROVED DEVICES BY USOPCCOHR OR ASSE.
- WHEN PVC WATER MAINS AND/OR POLYETHYLENE SERVICES ARE PROPOSED, THE PIPES ARE TO BE MARKED WITH NO. 10 INSULATED SINGLE STRAND COPPER WIRE INSTALLED THE ENTIRE LENGTH 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.
- THE NUMBER AND SPACING OF DRIVEWAYS FOR ALL INTERCONNECTED SITES WILL BE DETERMINED BY THE COMBINED FRONTAGE OF THE INTERCONNECTED PROPERTIES.
- UNDERGROUND FIRE LINE MUST BE PERMITTED AND INSPECTED BY THE WILMINGTON FIRE DEPARTMENT FROM THE PUBLIC ROW TO THE BUILDING. CONTACT THE WILMINGTON FIRE DEPARTMENT DIVISION OF FIRE AND LIFE SAFETY AT 910-343-0896 FOR ADDITIONAL INFORMATION.
- A LANDSCAPE PLAN INDICATING THE LOCATION OF REQUIRED STREET TREES SHALL BE SUBMITTED TO THE CITY OF WILMINGTON TRAFFIC ENGINEERING DIVISION AND PARKS AND RECREATION DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO THE RECORDING OF THE FINAL PLAN.
- IF AN IRRIGATION SYSTEM IS PLANNED FOR THE SITE, UTILIZE MOISTURE SENSORS.
- ALL PROPOSED VEGETATION WITHIN THE SIGHT TRIANGLES SHALL NOT INTERFERE WITH CLEAR VISUAL SIGHT LINES FROM 30'-10'.
- PLEASE CONSIDER INCORPORATING XERIC LANDSCAPING FOR ALL NEW LANDSCAPING.
- THE CONTRACTOR WILL MAINTAIN ALL WEATHER EMERGENCY ACCESS TO CONSTRUCTION SITE AT ALL TIMES.



CUL-DE-SAC DETAIL PRICHARD PL.



CUL-DE-SAC DETAIL CONGAREE CT.



TYPICAL CUL-DE-SAC DETAIL

CDCNDR PWSS WATER PERMIT #:	
WATER CAPACITY:	GPD
DWQ SEWER PERMIT #:	
SEWER CAPACITY:	GPD
SEWER SHED # AND PLANT:	
SEWER TO FLOW THROUGH NEI:	YES OR NO (CIRCLE ONE)

Approved Construction Plan

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

Planning \_\_\_\_\_

Traffic \_\_\_\_\_

Fire \_\_\_\_\_

APPROVED STORMWATER MANAGEMENT PLAN

Date: \_\_\_\_\_ Permit # \_\_\_\_\_

Signed: \_\_\_\_\_

**NORRIS & TUNSTALL**  
CONSULTING ENGINEERS P.C.

Public Services • Engineering Division

1429 ASH-LITTLE RIVER RD, NW  
WILMINGTON, NC 28401  
PHONE (910) 287-5900

C4.1



DES. JUST  
CHKD. JPN  
DRWN. NKS

DATE 6/27/18

16083

Licence #C-3641

**NORRIS & TUNSTALL**  
CONSULTING ENGINEERS P.C.

1429 ASH-LITTLE RIVER RD, NW  
WILMINGTON, NC 28401  
PHONE (910) 287-5900

LAND OWNER/APPLICANT  
ECHO FARMS, LLC  
MATRIX DEVELOPMENT GROUP  
C4K000 FORSGATE DRIVE  
CRANBURY, NJ 08512  
732-521-2800

NOTES AND DETAILS  
WOODLANDS AT ECHO FARMS  
4114 ECHO FARMS BLVD.  
WILMINGTON, NC 28412  
NEW HANOVER COUNTY

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NO.	DATE	DESCRIPTION	BY
R2-3.9.21		RELOCATED SECTION OF MUP, ADDED 5' SIDEWALK AT CUL-DE-SAC, ADDED INNER ROW DAUPHINE DR. ISLAND.	
R1-3.18.19		REVISIONS PERMITTED BY OTHER REVIEW PROJECTS. PERMITTED OPENSPACE, REV. STORMWATER AND STORMDRAINAGE AREAS, ADDED OPEN THROUGH D/S AND DETAIL REMOVAL TABLE ACCORDING TO REV. CHASTAIN DR. ROW AND CENTERLINE AS PER DRAWINGS BY OTHERS. ADDED SECTION DETAILS.	

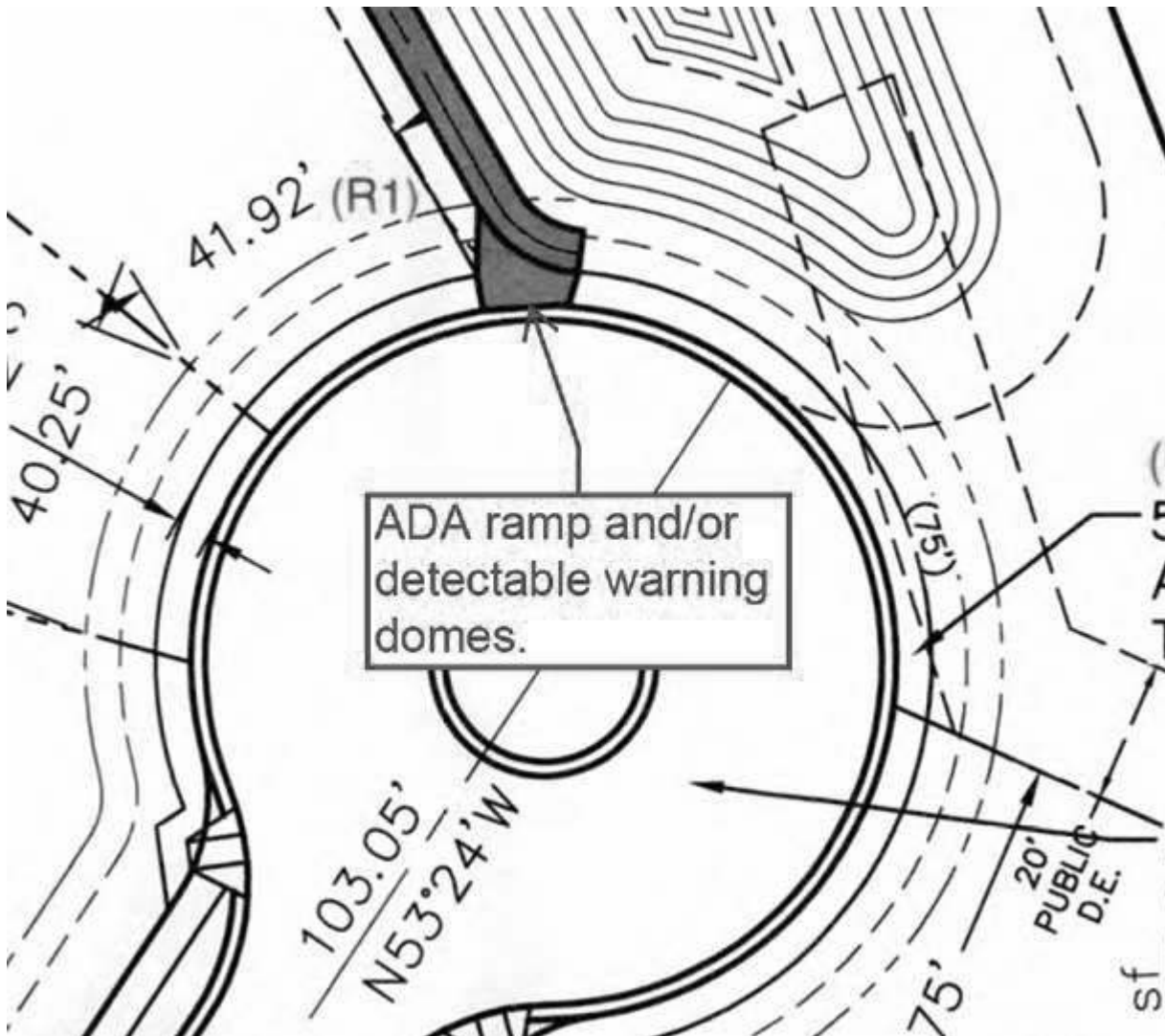
## Brian Chambers

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**From:** Mitesh Baxi  
**Sent:** Monday, July 12, 2021 7:25 AM  
**To:** Brian Chambers; Chris Walker; Bill McDow  
**Subject:** RE: New Submittal for Woodlands at Echo Farms Tract 3B

Hi Brian,

With the end of MUP at the Cul-de-sac they may require ADA ramp with detectable warning domes at the transition to drive aisle. It was not there in the previously approved plan since MUP was in continuity.



Regards  
Mitesh Baxi