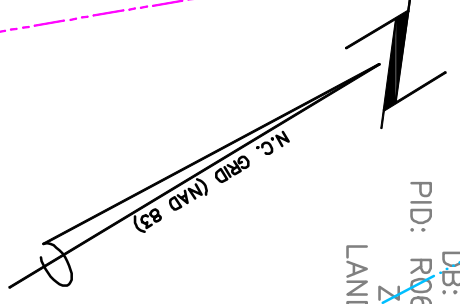
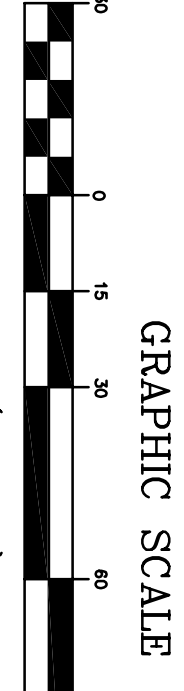


N/F
CITY OF WILMINGTON
DB: 1272 PG: 650
PID: R06500-004-001-004
ZONING: R-15
LAND USE: UNUSED

N/F
CITY OF WILMINGTON
DB: 1272 PG: 650
PID: R06500-004-001-003
ZONING: R-15
LAND USE: UNUSED



ECHO FARMS BLVD
(60' PUBLIC R/W)



Approved Construction Plan
Name: _____
Date: _____

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

ECHO FARM
APARTMENTS

4010 CAROLINA BEACH ROAD
WILMINGTON TOWNSHIP
NEW HANOVER COUNTY
NORTH CAROLINA

DATE: 2-18-2016
SCALE: 3/8"
DRAWN BY: JDC
REVISION DATE:

LAND-DESIGN SOUTH LANDSCAPE PLAN

LAND-DESIGN SOUTH
100 B CORAL DRIVE
RTP, NC 27640
PHONE: 919-251-5200

Developer: ECHO FARM APARTMENTS, LLC
115 S. CAROLINA DRIVE
WILMINGTON, NC 28403
PHONE: 919-251-5200

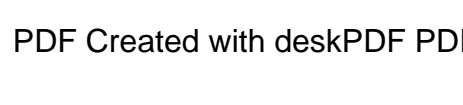
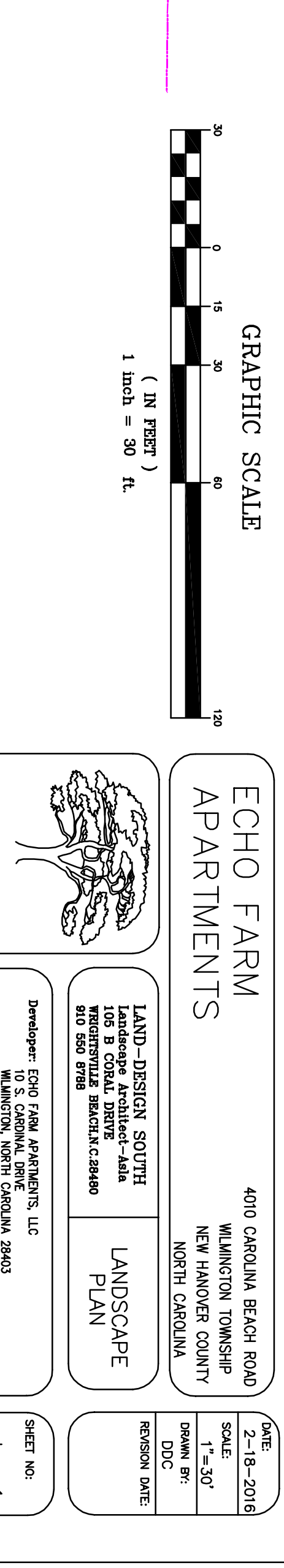
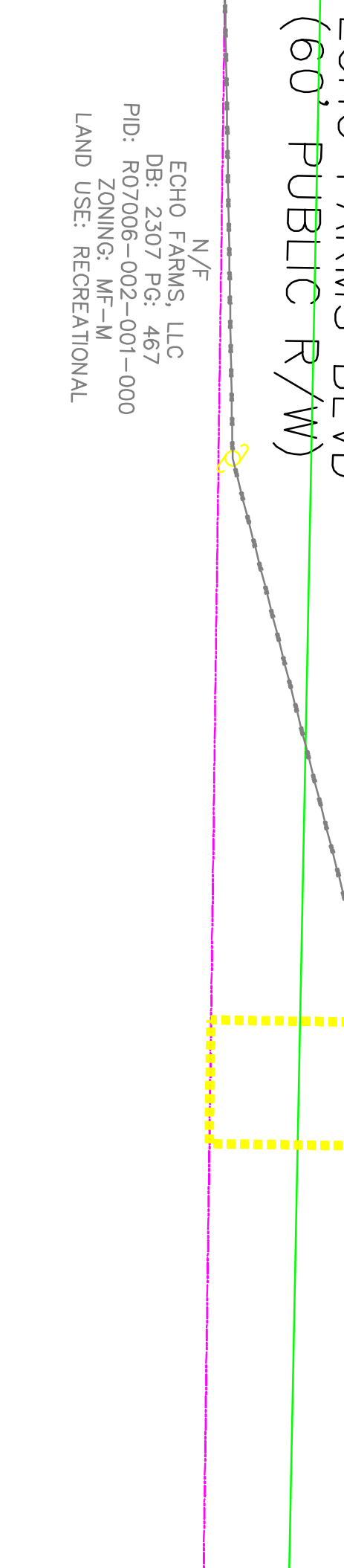
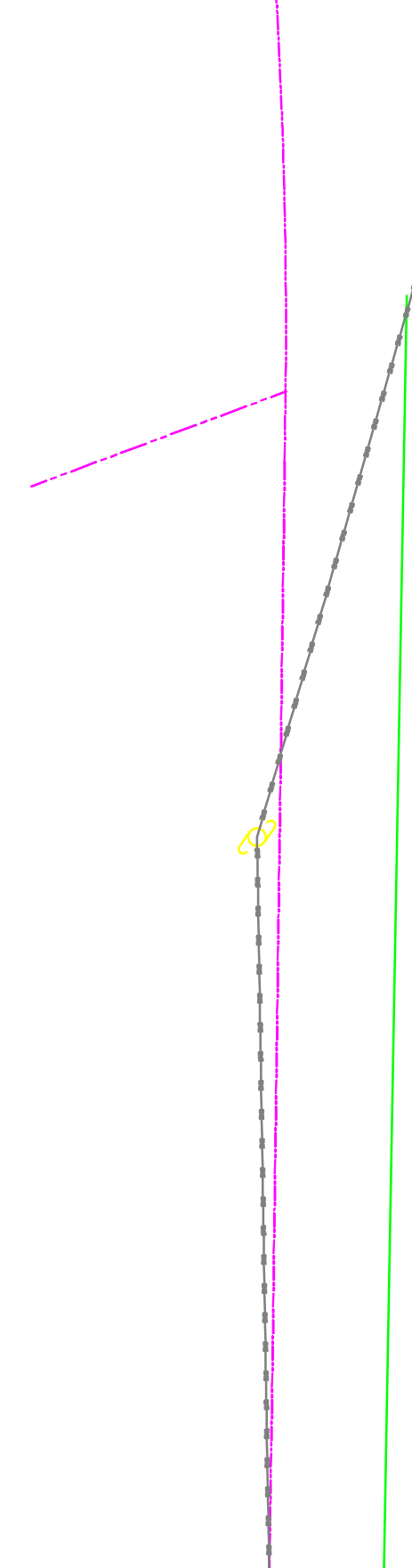
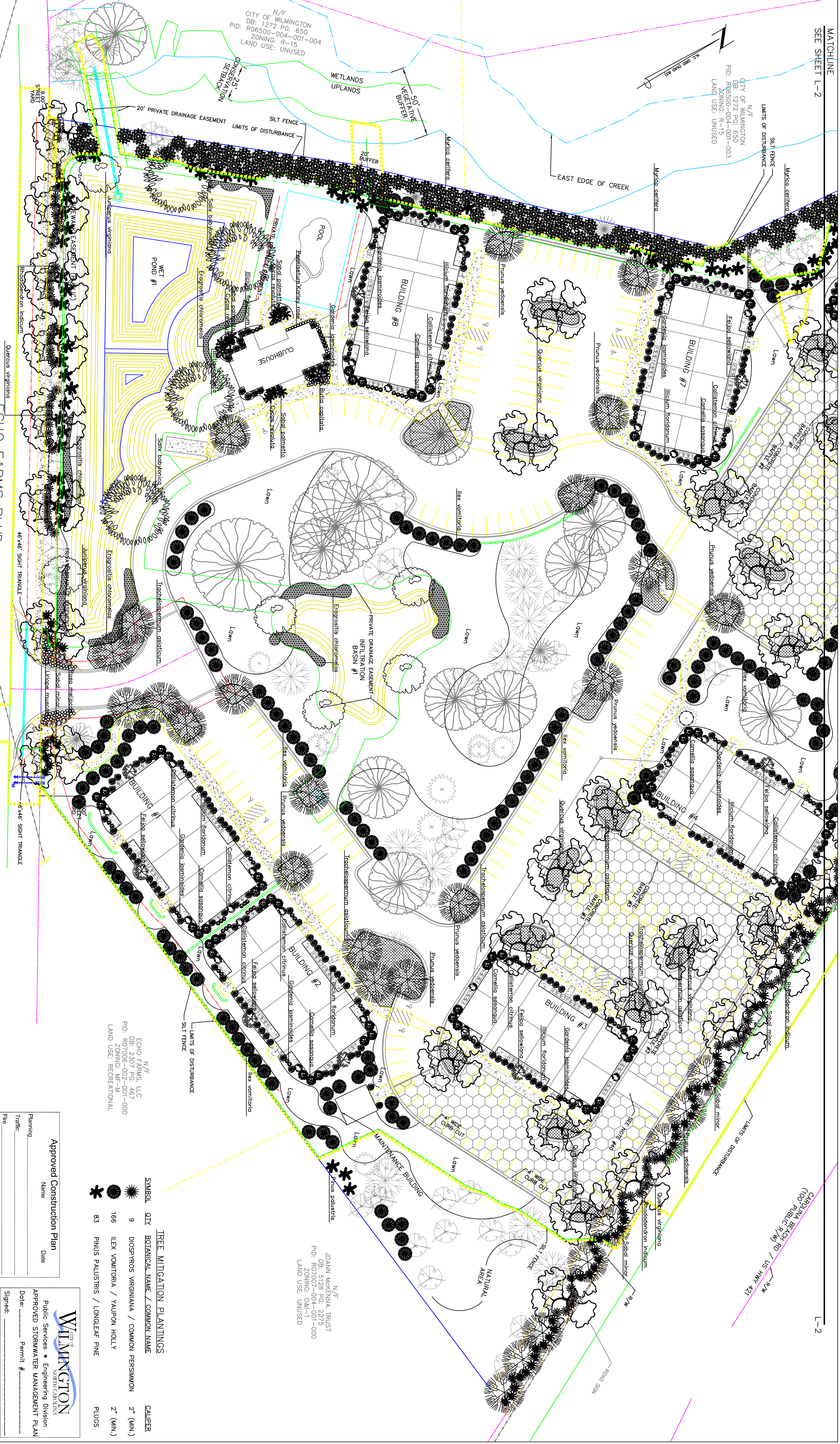
TREE MITIGATION PLANTINGS

SYMBOL	QTY	BOTANICAL NAME / COMMON NAME	CAULIPER
●	9	DIOSPYROS VIRGINIANA / COMMON PERSIMMON	2" (MIN.)
●	166	LEX VOMITORIA / YALPON HOLLY	2" (MIN.)
●	83	PINUS PALUSTRIS / LONGLEAF PINE	PLUS

N/F
JOANN MCKENNA TRUST
DB: 5128 PG: 2275
PID: R07007-004-001-000
ZONING: 0.6I-1
LAND USE: UNUSED

N/F
ECHO FARMS, LLC
DB: 2307 PG: 487
PID: R07006-002-001-000
ZONING: MF-M
LAND USE: RECREATIONAL

N/F
ECHO FARMS, LLC
DB: 2307 PG: 467
PID: R07006-002-001-000
ZONING: MF-M
LAND USE: RECREATIONAL

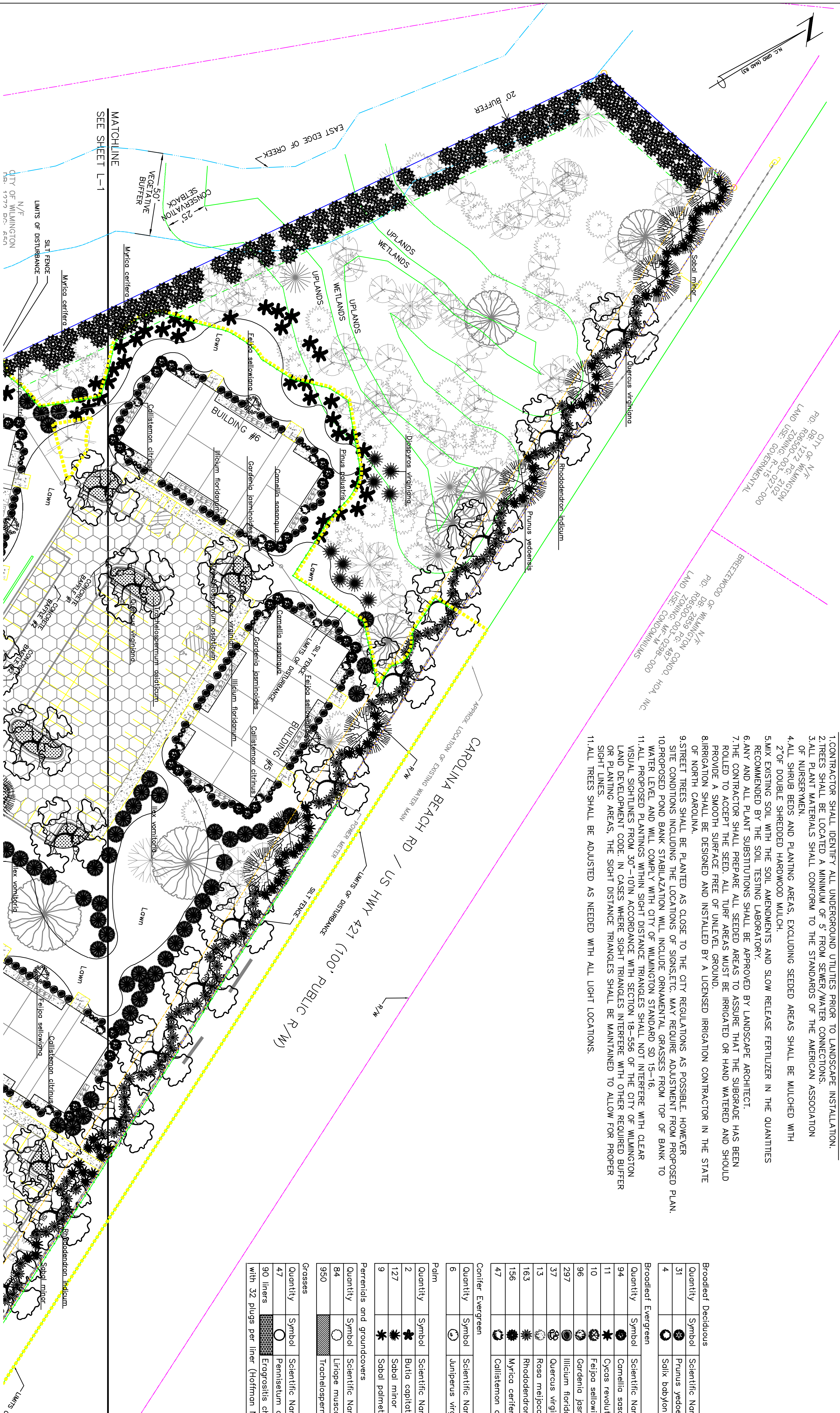


LANDSCAPE NOTES

1. CONTRACTOR SHALL IDENTIFY ALL UNDERGROUND UTILITIES PRIOR TO LANDSCAPE INSTALLATION.
2. TREES SHALL BE LOCATED A MINIMUM OF 5' FROM SEWER/WATER CONNECTIONS.
3. ALL PLANT MATERIALS SHALL CONFORM TO THE STANDARDS OF THE AMERICAN ASSOCIATION OF NURSERYMEN.
4. ALL SHRUB BEDS AND PLANTING AREAS, EXCLUDING SEEDED AREAS SHALL BE MULCHED WITH 2" OF DOUBLE SHREDED HARDWOOD MULCH.
5. MIX EXISTING SOIL WITH THE SOIL AMENDMENTS AND SLOW RELEASE FERTILIZER IN THE QUANTITIES RECOMMENDED BY THE SOIL TESTING LABORATORY.
6. ANY AND ALL PLANT SUBSTITUTIONS SHALL BE APPROVED BY LANDSCAPE ARCHITECT.
7. THE CONTRACTOR SHALL PREPARE ALL SEEDED AREAS TO ASSURE THAT THE SUBGRADE HAS BEEN ROLLED TO ACCEPT THE SEED. ALL TURF AREAS MUST BE IRRIGATED OR HAND WATERED AND SHOULD PROVIDE A SMOOTH SURFACE FREE OF UNLEVEL GROUND.
8. IRRIGATION SHALL BE DESIGNED AND INSTALLED BY A LICENSED IRRIGATION CONTRACTOR IN THE STATE OF NORTH CAROLINA.
9. STREET TREES SHALL BE PLANTED AS CLOSE TO THE CITY REGULATIONS AS POSSIBLE. HOWEVER SITE CONDITIONS INCLUDING THE LOCATIONS OF SIGNS ETC. MAY REQUIRE ADJUSTMENT FROM PROPOSED PLAN.
10. PROPOSED POND BANK STABILIZATION WILL INCLUDE ORNAMENTAL GRASSES FROM TOP OF BANK TO WATER LEVEL AND WILL COMPLY WITH CITY OF WILMINGTON STANDARD SD 15-16.
11. ALL PROPOSED PLANTINGS WITHIN SIGHT DISTANCE TRIANGLES SHALL NOT INTERFERE WITH CLEAR VISUAL SIGHTLINES WITHIN 30'-10' IN ACCORDANCE WITH SECTION 18-556 OF THE CITY OF WILMINGTON LAND DEVELOPMENT CODE. IN CASES WHERE SIGHT TRIANGLES INTERFERE WITH OTHER REQUIRED BUFFER OR PLANTING AREAS, THE SIGHT DISTANCE TRIANGLES SHALL BE MAINTAINED TO ALLOW FOR PROPER SIGHT LINES.
11. ALL TREES SHALL BE ADJUSTED AS NEEDED WITH ALL LIGHT LOCATIONS.

Plant Table

Quantity	Symbol	Scientific Name	Common Name	Planting Size
31		<i>Prunus yedoensis</i>	Yoshino Cherry	2" cal
4		<i>Salix babingtonia</i>	Babylon weeping willow	2" cal
Broadleaf Evergreen				
94		<i>Camellia sasangua</i>	Dark pink camellia	3-gal
11		<i>Cycas revoluta</i>	Sago palm	3-gal
10		<i>Feijoa sellowiana</i>	Pineapple guava	3-gal
96		<i>Gardenia jasminoides</i>	'August beauty' gardenia	3-gal
297		<i>Illicium floridanum</i>	Florida anise	3-gal
37		<i>Quercus virginiana</i>	Southern live oak	2" cal
13		<i>Rosa meijocosa</i>	Red drift rose	3-gal
163		<i>Rhododendron indicum</i>	George Tabor azalea	3-gal
156		<i>Myrica carifera</i>	Southern wax myrtle	6"
47		<i>Callistemon citrinus</i>	Bottlebrush	3-GAL
Conifer Evergreen				
Quantity	Symbol	Scientific Name	Common Name	Planting Size
6		<i>Juniperus virginiana</i>	Eastern red cedar	6-8"
Palm				
Quantity	Symbol	Scientific Name	Common Name	Planting Size
2		<i>Batis capitata</i>	Pindo palm	6' banded
127		<i>Sabal minor</i>	Dwarf palmetto palm	3-gal
9		<i>Sabal palmetto</i>	Palmetto palm	16' banded
Perennials and groundcovers				
Quantity	Symbol	Scientific Name	Common Name	Planting Size
84		<i>Liriope muscari</i>	Big blue liriope	1-gal
950		<i>Trachelospermum asiaticum</i>	Asian jasmine	1-gal
Grasses				
Quantity	Symbol	Scientific Name	Common Name	Planting Size
47		<i>Pennisetum orientale</i>	Karley rose penstemon	3-gal
90 liners		<i>Eragrostis chloroneas</i>	Blue love grass	Plugs
with 32 plugs per liner (Hoffman Nursery)				



LANDSCAPE CALCULATIONS:

TREES PER DISTURBED ACRE:
 9.83 ACRES X 15 = 147.45, 144 TREES REQUIRED
 STREET YARD - CAROLINA BEACH ROAD (PRIMARY FRONTAGE)
 REQUIRED STREET YARD = 1103.55 FT
 REQUIRED STREET YARD = 18 X 1103.55 = 19863.90 SF
 REQUIRED STREET YARD = 18 X 1103.55 = 19863.90 SF
 IMPROVED AREA = 90.51 SF
 PROVIDED PLANTING = 227 SHRUBS
 PERCENT PLANTING = 90.51/19863.90 X 100% = 0.46%
 (OR 3 UNDERSTORY TREES PER 1 CANOPY TREE)
 PROVIDED PLANTING = 3323 X 6 = 19938, 199 SHRUBS 3 EXISTING TREES TO REMAIN = 33 TREES

STREET FRONTAGE - ECHO FARMS BLDG. (SECONDARY FRONTAGE)
 STREET FRONTAGE = 469.83 - 37.53 = 432.30 FT
 REQUIRED STREET YARD = 18 X 432.30/2 = 3880.70 SF
 PROVIDED STREET YARD = 3461.82 + 578.81 = 4040.63 SF
 IMPROVED AREA = 90.51 SF
 PROVIDED PLANTING = 227 SHRUBS
 PERCENT PLANTING = 90.51/4040.63 X 100% = 5.78%
 (OR 3 UNDERSTORY TREES PER 1 CANOPY TREE)
 PROVIDED PLANTING = 4040.63/600 = 6.74, 7 CANOPY TREES (OR 3
 UNDERSTORY TREES PER 1 CANOPY TREE)
 PROVIDED PLANTING = 8 TREES & 8 EXISTING TREES TO REMAIN = 16 TREES
 53 SHRUBS

LANDSCAPE CALCULATIONS:

INTERIOR SHADING
 PARKING FACILITY AREA (PARKING LOT AREA TO BACK OF CURB
 (OR BACK OF SIDEWALK ADJACENT TO PARKING SPACES)
 MINUS LANDSCAPE ISLANDS PLUS PRIVATE STREET (INCLUDING
 PORTION WITHIN ECHO FARMS BLDG ROW) = 124,085 SF
 REQUIRED INTERIOR SHADING (S) = 0.2 X 124,085 = 24,817 SF
 PROVIDED INTERIOR SHADING (S) = 17 LVE OAKS @ 707'x1207' = 11,312
 1 EXISTING ONE @ 353'x 353'
 4 EXISTING HARDWOODS @ 707' x 2,828'
 TOTAL (S) = 28,512

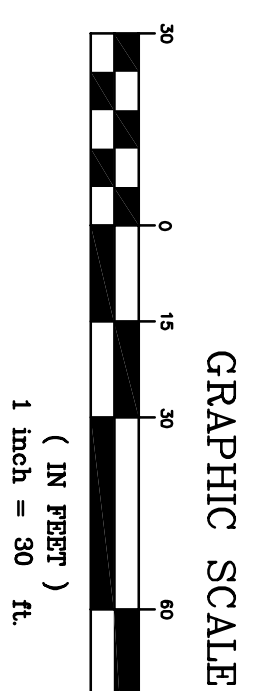
LANDSCAPE CALCULATIONS:

FOUNDATION PLANTING - FRONT OF BUILDINGS #1-8 (PER
 FRONT OR REAR OF BUILDING ADJACENT TO PARKING DRIVE ASSE
 REQUIRED FOUNDATION PLANTING = [30.73 X 112.54] + [0.5 X 10.62 X
 31.86] + [0.5 X 10.62 X 31.86] = 455.61 SF
 PROVIDED FOUNDATION PLANTING (BUILDING #1 & 3-8) = 508.48 SF
 PROVIDED FOUNDATION PLANTING (BUILDING #2) = 960.10 SF

FOUNDATION PLANTING - FRONT OF CLUBHOUSE
 BUILDING ADJACENT TO PARKING/DRIVE ASSE
 REQUIRED FOUNDATION PLANTING = [(31.44 X 51.91) + (0.5 X 12.63 X
 50.53) X 0.12 = 231.43 SF
 PROVIDED FOUNDATION PLANTING (BUILDINGS #1 & 2) = 282.12 SF
 PROVIDED FOUNDATION PLANTING (BUILDINGS #3 & 4) = 235.31 SF
 PROVIDED FOUNDATION PLANTING (BUILDING #5) = 287.45 SF
 PROVIDED FOUNDATION PLANTING (BUILDING #6) = 280.41 SF

FOUNDATION PLANTING - FRONT OF MAINTENANCE BUILDING
 REQUIRED FOUNDATION PLANTING = [(8.98 X 14.09) + (1.31 X 31.43)
 + (8.98 X 19.87) + (13.61 X 4.61 X 0.5) + (67.47 SF) X 0.12 = 93.68 SF
 PROVIDED FOUNDATION PLANTING = 169.84 SF

FOUNDATION PLANTING - FRONT OF MAINTENANCE BUILDING
 REQUIRED FOUNDATION PLANTING = [(10.00' X 20.00') + (0.5 X 6.67 X
 20.00')] X 0.12 = 32 SF
 PROVIDED FOUNDATION PLANTING = 33.42 SF



Approved Construction Plan

Name: _____ Date: _____

Traffic: _____

File: _____

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

ECHO FARM APARTMENTS

LAND-DESIGN SOUTH

LAND-DESIGN SOUTH
 105 S COASTAL HIGHWAY
 WILMINGTON, NORTH CAROLINA 28403
 PHONE: 910-251-5300

Developer: ECHO FARM APARTMENTS, LLC
 WILMINGTON, NORTH CAROLINA 28403
 PHONE: 910-251-5300

DATE: 2-18-2016
 SCALE: 1"=30'
 DRAWN BY: DDC
 REVISION DATE: _____

SHEET NO. L-2