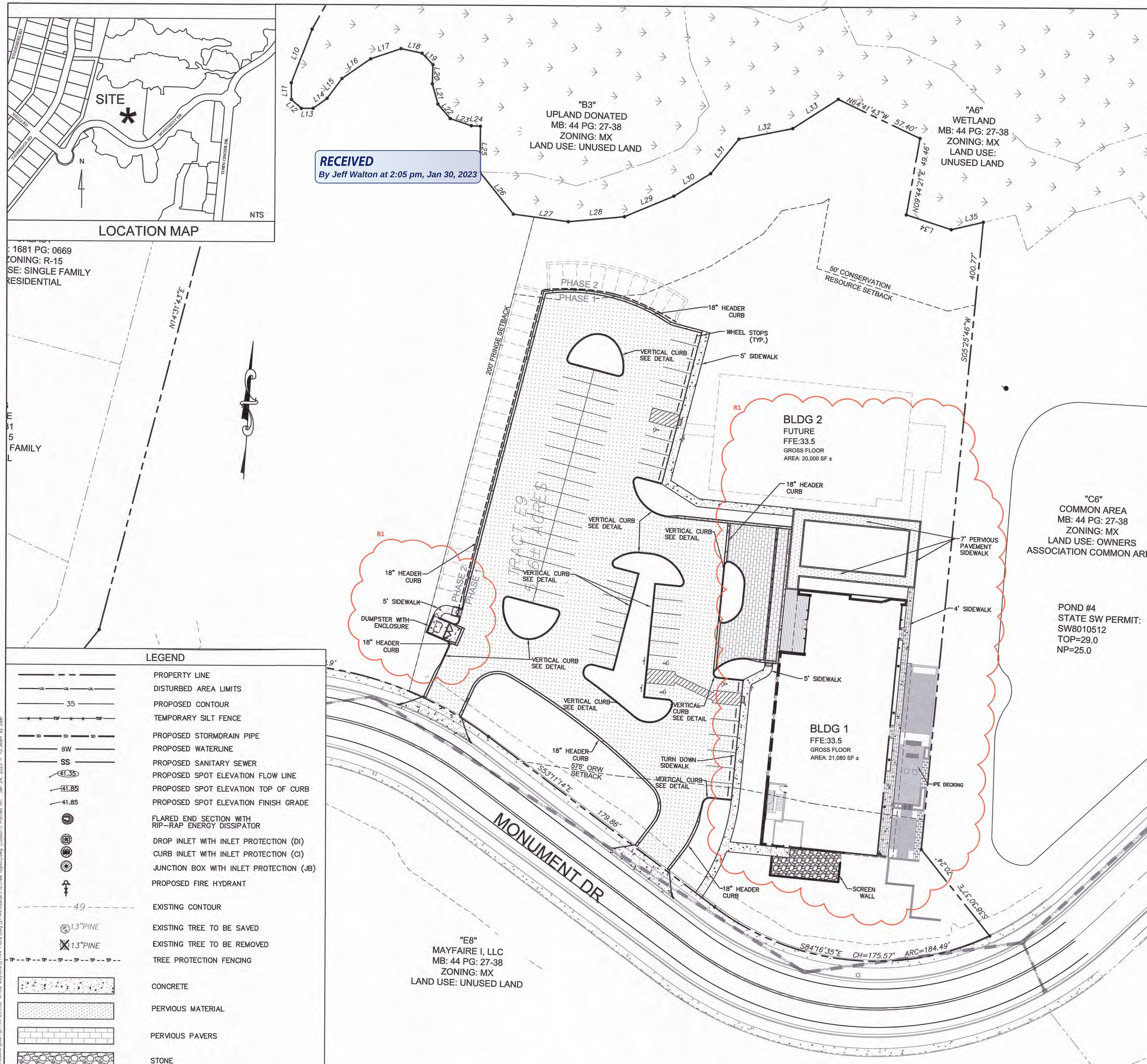
RECEIVED
By Jeff Walton at 2:05 pm, Jan 30, 2023



LEGEND

Symbol	Description
	PROPERTY LINE
	DISTURBED AREA LIMITS
35	PROPOSED CONTOUR
	TEMPORARY SILT FENCE
SD	PROPOSED STORMDRAIN PIPE
8W	PROPOSED WATERLINE
SS	PROPOSED SANITARY SEWER
41.35	PROPOSED SPOT ELEVATION FLOW LINE
41.85	PROPOSED SPOT ELEVATION TOP OF CURB
41.85	PROPOSED SPOT ELEVATION FINISH GRADE
	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
49	EXISTING CONTOUR
13"PINE	EXISTING TREE TO BE SAVED
13"PINE	EXISTING TREE TO BE REMOVED
TP	TREE PROTECTION FENCING
	CONCRETE
	PERVIOUS MATERIAL
	PERVIOUS PAVERS
	STONE

SITE DATA TABLE

PARCEL ID#: R05000-003-023-000
PARCEL PIN#: 315812.12.9173.000
SITE ADDRESS: MONUMENT DRIVE
PARCEL OWNER: MAYFAIRE I, LLC/ JEFFREY L. ZIMMER

PARCEL AREA: 5.17 ACRES (224,783 SF)
PROPOSED PARCEL USE: OFFICE
CURRENT ZONING: MX (MIXED USE)
CAMA LAND CLASSIFICATION: URBAN
FUTURE LAND USE: OFFICE
SOIL TYPE: Le, To

BUILDING SETBACKS MX:
FRONT SETBACK: N/A
INTERIOR SIDE SETBACK: N/A
REAR SETBACKS: N/A

BUILDING SETBACKS PROPOSED:
FRONT SETBACK: 30.25'
SIDE SETBACK (EAST): 28'
SIDE SETBACK (WEST): 421'
REAR SETBACK: 238.1'

BUILDING INFORMATION:
CONSTRUCTION TYPE: II-B
TOTAL # OF BUILDINGS= 2
GROSS FLOOR AREA= 21,080 SF+20,000± SF = 41,080 SF±
HEIGHT BUILDING 1= 35'
HEIGHT BUILDING 2= 35'
NUMBER OF STORIES (BLDG 1)= 2
STORY 1 AREA (BLDG 1)= 11,090 SF
STORY 2 AREA (BLDG 1)= 9,990 SF
BUILDING LOT COVERAGE= (13,342SF/224,783SF)x100=5.94%

IMPERVIOUS AREAS INSIDE 575' ORW:
BUILDING 1= 10,829 SF (ROOF AREA)
CONCRETE, CURB= 3,582 SF
SIDEWALK= 1,644 SF
FUTURE IMPERVIOUS= 15,888 SF
TOTAL IMPERVIOUS AREA= 31,943 SF*
*ALLOWABLE MAYFAIRE IMP. AREA WITHIN 575' ORW = 31,943 SF. PROVIDED BY LAND DESIGN.
PERVIOUS CONCRETE= 36,329 SF
PERVIOUS PAVERS= 2,688 SF
FUTURE PERVIOUS CONCRETE= 4,696 SF

IMPERVIOUS AREAS OUTSIDE 575' ORW:
BUILDING 1= 2,513 SF (ROOF AREA)
CONCRETE, CURB= 370 SF
SIDEWALK= 606 SF
STONE= 722 SF
TOTAL IMPERVIOUS AREA= 4,211 SF
PERVIOUS CONCRETE= 1,511 SF

TOTAL IMPERVIOUS AREAS:
BUILDINGS= (10,829 SF + 2,513 SF) =13,342 SF
CONCRETE CURB=(3,582 SF + 370 SF) =3,952 SF
SIDEWALK= (1,644 SF + 606 SF) =2,250 SF
STONE= 722 SF
FUTURE= 15,888 SF
TOTAL= 36,154 SF
PERCENT IMPERVIOUS= 16.04%
PERVIOUS CONCRETE= (INCLUDING FUTURE)= 41,025 SF
PERVIOUS PAVERS= 2,688 SF

REQUIRED PARKING:
OFFICE: MAX: 1 PER 200 GSF = 200
MIN: 1 PER 300 GSF (NO MIN. REQUIREMENT IN MX ZONING)
TOTAL PARKING REQUIRED: N/A
TOTAL PARKING PROVIDED: 65 (PHASE 1), 32 (PHASE 2)
REGULAR SPACES: 93
HC SPACES: 4
TOTAL SPACES: 97

BIKE PARKING REQUIRED: 5
BIKE PARKING PROVIDED: 5

AREA OF DISTURBED LIMITS = 3.6 ACRES (156,608 SF)

ESTIMATED TRIP GENERATION: TRIPS ACCOMMODATED BY MAYFAIRE TIA.
WEEKDAY AADT: 300 TRIPS
WEEKDAY AM: 58 TOTAL (51 ENTERING, 7 EXITING)
WEEKDAY PM: 98 TOTAL (18 ENTERING, 80 EXITING)

SEWER/WATER DEMAND WITH FUTURE:
40,000 SF / 1 PERSON / 200 SF = 25 GPD/PERSON = 5,000 GPD

WASTE: DUMPSTER

NOTES:
1) SITE IS NOT LOCATED WITHIN A FLOODZONE ACCORDING TO NC FIRMS MAP NUMBER 3720315800K.

SCALE: 1" = 30'
0 30 60 90

REVISIONS

SYMBOL	DATE	DESCRIPTION	BY
R1	1/24/23	REVISED FOR NEW BUILDING FOOTPRINT. ADDED DUMPSTER	RPH

OVERALL SITE PLAN
ZIMMER DEVELOPMENT
COMPANY OFFICE - MAYFAIRE
6725 MONUMENT DRIVE
WILMINGTON, N. C.

OWNER
MAYFAIRE I, LLC / JEFFREY L. ZIMMER
530 GREENVILLE BLVD. SE,
SUITE 200
GREENVILLE, NC 27858
PHONE: (910) 763-4669
EMAIL: JEFFREYZIMMER@ZDC.COM

NORRIS & TUNSTALL
— CONSULTING ENGINEERS P.C. —
2602 IRON GATE DR., SUITE 102
WILMINGTON, NC 28412
PHONE (910) 343-9653
1429 ASH-LITTLE RIVER RD. NW
ASH, NC 28420
PHONE (910) 287-5900

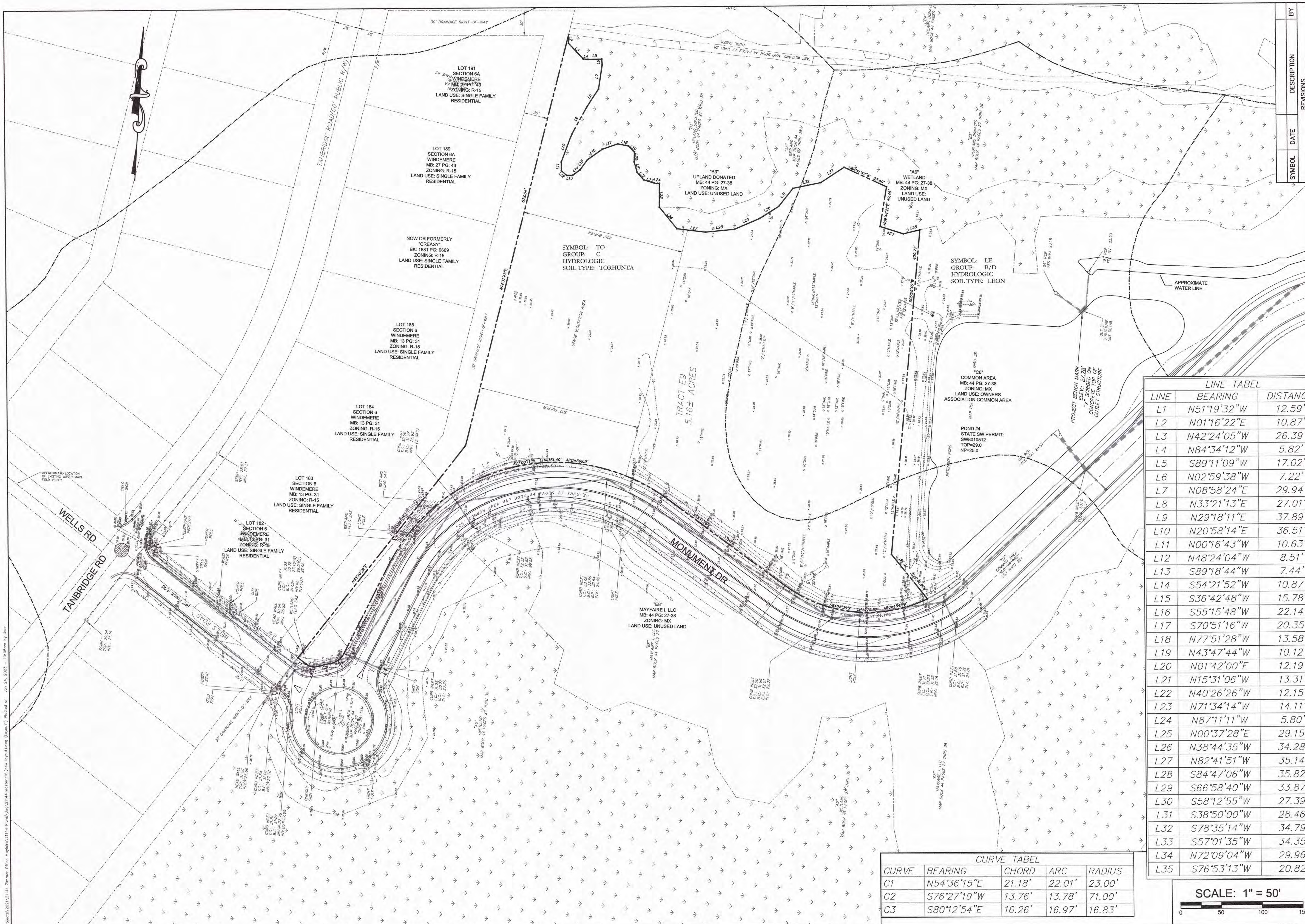
Licence #C-3641

21144

DES. JST
CKD. JPN
DRWN. RPH
DATE 1/24/23

[redacted]

C0



LOT 191
SECTION 6A
WINDEMERE
MB: 27 PG: 43
ZONING: R-15
LAND USE: SINGLE FAMILY RESIDENTIAL
LOT 189
SECTION 6A
WINDEMERE
MB: 27 PG: 43
ZONING: R-15
LAND USE: SINGLE FAMILY RESIDENTIAL
NOW OR FORMERLY "CREASY"
BK: 1681 PG: 0669
ZONING: R-15
LAND USE: SINGLE FAMILY RESIDENTIAL
LOT 185
SECTION 6
WINDEMERE
MB: 13 PG: 31
ZONING: R-15
LAND USE: SINGLE FAMILY RESIDENTIAL
LOT 184
SECTION 6
WINDEMERE
MB: 13 PG: 31
ZONING: R-15
LAND USE: SINGLE FAMILY RESIDENTIAL
LOT 183
SECTION 6
WINDEMERE
MB: 13 PG: 31
ZONING: R-15
LAND USE: SINGLE FAMILY RESIDENTIAL
LOT 182
SECTION 6
WINDEMERE
MB: 13 PG: 31
ZONING: R-15
LAND USE: SINGLE FAMILY RESIDENTIAL
TANBRIDGE ROAD(60' PUBLIC R/W)
WELLS RD
TANBRIDGE RD
MONUMENT DR
30' DRAINAGE RIGHT-OF-WAY
"B3"
UPLAND DONATED
MB: 44 PG: 27-38
ZONING: MX
LAND USE: UNUSED LAND
"A6"
WETLAND
MB: 44 PG: 27-38
ZONING: MX
LAND USE: UNUSED LAND
SYMBOL: TO
GROUP: C
HYDROLOGIC
SOIL TYPE: TORHUNTA
SYMBOL: LE
GROUP: B/D
HYDROLOGIC
SOIL TYPE: LEON
TRACT E9
5.16± ACRES
"C6"
COMMON AREA
MB: 44 PG: 27-38
ZONING: MX
LAND USE: OWNERS ASSOCIATION COMMON AREA
POND #4
STATE SW PERMIT:
SW8010512
TOP=29.0
NP=25.0
"E8"
MAYFAIRE I, LLC
MB: 44 PG: 27-38
ZONING: MX
LAND USE: UNUSED LAND
APPROXIMATE WATER LINE
PROJECT BENCH MARK
APPROXIMATE LOCATION OF EXISTING WATER MAIN. FIELD VERIFY

LINE TABEL		
LINE	BEARING	DISTANCE
L1	N51°19'32"W	12.59'
L2	N01°16'22"E	10.87'
L3	N42°24'05"W	26.39'
L4	N84°34'12"W	5.82'
L5	S89°11'09"W	17.02'
L6	N02°59'38"W	7.22'
L7	N08°58'24"E	29.94'
L8	N33°21'13"E	27.01'
L9	N29°18'11"E	37.89'
L10	N20°58'14"E	36.51'
L11	N00°16'43"W	10.63'
L12	N48°24'04"W	8.51'
L13	S89°18'44"W	7.44'
L14	S54°21'52"W	10.87'
L15	S36°42'48"W	15.78'
L16	S55°15'48"W	22.14'
L17	S70°51'16"W	20.35'
L18	N77°51'28"W	13.58'
L19	N43°47'44"W	10.12'
L20	N01°42'00"E	12.19'
L21	N15°31'06"W	13.31'
L22	N40°26'26"W	12.15'
L23	N71°34'14"W	14.11'
L24	N87°11'11"W	5.80'
L25	N00°37'28"E	29.15'
L26	N38°44'35"W	34.28'
L27	N82°41'51"W	35.14'
L28	S84°47'06"W	35.82'
L29	S66°58'40"W	33.87'
L30	S58°12'55"W	27.39'
L31	S38°50'00"W	28.46'
L32	S78°35'14"W	34.79'
L33	S57°01'35"W	34.35'
L34	N72°09'04"W	29.96'
L35	S76°53'13"W	20.82'

CURVE TABEL				
CURVE	BEARING	CHORD	ARC	RADIUS
C1	N54°36'15"E	21.18'	22.01'	23.00'
C2	S76°27'19"W	13.76'	13.78'	71.00'
C3	S80°12'54"E	16.26'	16.97'	16.83'

SCALE: 1" = 50'

0 50 100 150

SYMBOL	DATE	DESCRIPTION	BY
		REVISIONS	

EXISTING CONDITIONS & SITE INVENTORY

ZIMMER DEVELOPMENT
COMPANY OFFICE - MAYFAIRE
6725 MONUMENT DRIVE
WILMINGTON, N. C.

OWNER
MAYFAIRE I, LLC / JEFFREY L. ZIMMER
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Licence #C-3641

21144

DES. JST
CKD. JPN
DRWN. RPH
DATE 1/24/23

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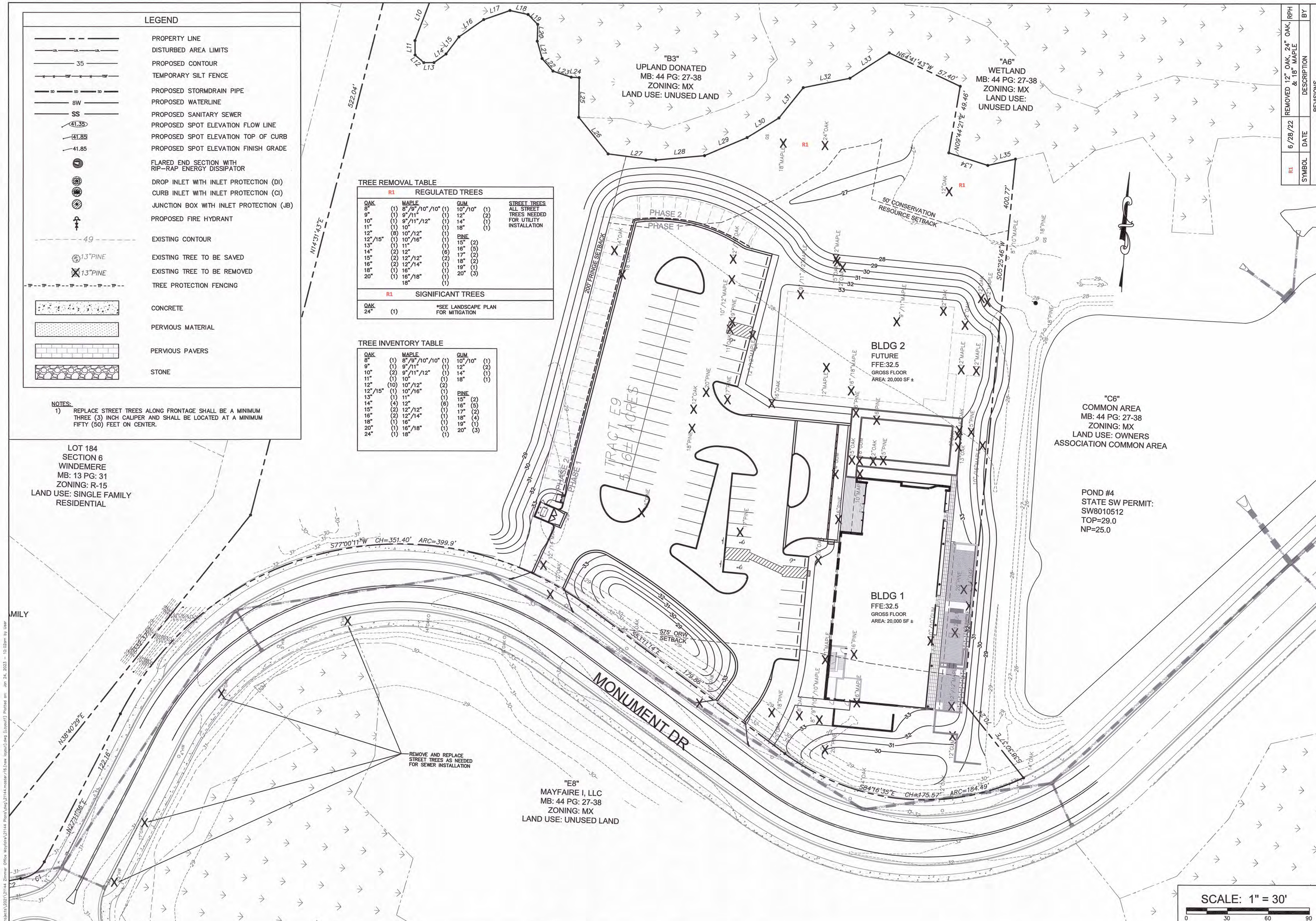
C1



LEGEND

Symbol	Description
	PROPERTY LINE
	DISTURBED AREA LIMITS
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	TEMPORARY SILT FENCE
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	PROPOSED FIRE HYDRANT
49	EXISTING CONTOUR
13"PINE	EXISTING TREE TO BE SAVED
13"PINE	EXISTING TREE TO BE REMOVED
TP	TREE PROTECTION FENCING
	CONCRETE
	PERVIOUS MATERIAL
	PERVIOUS PAVERS
	STONE

NOTES:

1) REPLACE STREET TREES ALONG FRONTAGE SHALL BE A MINIMUM THREE (3) INCH CALIPER AND SHALL BE LOCATED AT A MINIMUM FIFTY (50) FEET ON CENTER.

TREE REMOVAL TABLE

R1 REGULATED TREES

OAK		MAPLE		GUM		STREET TREES
8"	(1)	8"/9"/10"/10"	(1)	10"/10"	(1)	ALL STREET TREES NEEDED FOR UTILITY INSTALLATION
9"	(1)	9"/11"	(1)	12"	(2)	
10"	(1)	9"/11"/12"	(1)	14"	(1)	
11"	(1)	10"	(1)	18"	(1)	
12"	(8)	10"/12"	(1)	PINE		
12"/15"	(1)	10"/16"	(1)	15"	(2)	
13"	(1)	11"	(1)	16"	(5)	
14"	(2)	12"	(6)	17"	(2)	
15"	(2)	12"/12"	(2)	18"	(2)	
16"	(2)	12"/14"	(1)	19"	(1)	
18"	(1)	16"	(1)	20"	(3)	
20"	(1)	16"/18"	(1)			
		18"	(1)			

R1 SIGNIFICANT TREES

OAK		
24"	(1)	*SEE LANDSCAPE PLAN FOR MITIGATION

TREE INVENTORY TABLE

OAK		MAPLE		GUM	
8"	(1)	8"/9"/10"/10"	(1)	10"/10"	(1)
9"	(1)	9"/11"	(1)	12"	(2)
10"	(2)	9"/11"/12"	(1)	14"	(1)
11"	(1)	10"	(1)	18"	(1)
12"	(10)	10"/12"	(2)		
12"/15"	(1)	10"/16"	(1)	PINE	
13"	(1)	11"	(1)	15"	(2)
14"	(4)	12"	(6)	16"	(5)
15"	(2)	12"/12"	(1)	17"	(2)
16"	(2)	12"/14"	(1)	18"	(4)
18"	(1)	16"	(1)	19"	(1)
20"	(1)	16"/18"	(1)	20"	(3)
24"	(1)	18"	(1)		

SCALE: 1" = 30'

0 30 60 90

SYMBOL	DATE	DESCRIPTION	BY
R1	6/28/22	REMOVED 12" OAK, 24" OAK, & 18" MAPLE	RPH

REVISIONS

TREE REMOVAL

ZIMMER DEVELOPMENT COMPANY OFFICE - MAYFAIRE

6725 MONUMENT DRIVE

WILMINGTON, N. C.

OWNER/DEVELOPER
MAYFAIRE I, LLC / JEFFREY L. ZIMMER
530 GREENVILLE BLVD. SE,
SUITE 200
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EMAIL: JEFFREYZIMMER@ZDC.COM

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PHONE (910) 287-5900
Licence #C-3641

21144

DES. JST

CKD. JPN

DRWN. RPH

DATE 1/24/23

[redacted]

C1.1

LEGEND

- PROPERTY LINE
- DISTURBED AREA LIMITS
- 35 — PROPOSED CONTOUR
- TEMPORARY SILT FENCE
- PROPOSED STORMDRAIN PIPE
- 8W — PROPOSED WATERLINE
- SS — PROPOSED SANITARY SEWER
- 41.35 — PROPOSED SPOT ELEVATION FLOW LINE
- 41.85 — PROPOSED SPOT ELEVATION TOP OF CURB
- 41.85 — PROPOSED SPOT ELEVATION FINISH GRADE
- 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
- 49 — EXISTING CONTOUR
- 13"PINE — EXISTING TREE TO BE SAVED
- 13"PINE — EXISTING TREE TO BE REMOVED
- TP - - TP - - TP - - TP - - TP - - TP - - TP - - TREE PROTECTION FENCING
- CONCRETE
- PERVIOUS MATERIAL
- PERVIOUS PAVERS
- STONE

NOTES:
1) ALL FILL MATERIAL UNDER PROPOSED PERVIOUS MATERIALS AND FUTURE PERVIOUS MATERIALS SHALL BE COARSE SAND WITH LESS THAN 5% PASSING #200 SIEVE.
2) ALL MATERIALS (SAND AND PERVOUS MATERIALS) SHALL BE TESTED IN PLACE FOR INFILTRATION PRIOR TO PLACING PERVIOUS MATERIAL.
3) PER CITY OF WILMINGTON, DROP INLET GRATES WITHIN PERVIOUS PARKING SHALL BE RAISED 1/8" HIGHER THAN PERVIOUS CONCRETE ELEVATION.
4) LANDSCAPE ISLANDS SHALL BE DEPRESSED.
5) COORDINATE UTILITIES AT PROPOSED BUILDING WITH MEP PLANS BY CBHF ENGINEERS, PLLC.

ZONING: R-15
LAND USE: SINGLE FAMILY RESIDENTIAL

"C5"
COMMON AREA MAP BOOK 44 PAGES 27 THRU 38

"E8"
MAYFAIRE I, LLC
MB: 44 PG: 27-38
ZONING: MX
LAND USE: UNUSED LAND

"C6"
COMMON AREA
MB: 44 PG: 27-38
ZONING: MX
LAND USE: OWNERS ASSOCIATION COMMON AREA

"C7"
COMMON AREA
MB: 44 PG: 253 THRU 264

BLDG 1
FFE:33.5
GROSS FLOOR AREA: 21,080 SF

BLDG 2
FUTURE
FFE:33.5
GROSS FLOOR AREA: 20,000 SF ±

POND #4
STATE SW PERMIT: SW8010512
TOP=29.0
NP=25.0

MONUMENT DR

LIMITS OF DISTURBANCE AT WELLS ROAD & TANBRIDGE ROAD. REFERENCE SHEET C3.1

SCALE 1"=30'

WELLS RD

TANBRIDGE RD

TEMPORARY SKIMMER LOCATION

SCALE 1"=30'

INFILTRATION BASIN

TEMPORARY SKIMMER, CONNECT TO EXISTING ORIFICE. SEE C6.0 DETAIL #5.

POND #4
STATE SW PERMIT: SW8010512
TOP=29.0
NP=25.0

SCALE: 1" = 30'
0 30 60 90

SYMBOL	DATE	REVISIONS	BY
R1	1/24/23	REVISED FOR NEW BUILDING FOOTPRINT & FFE, ADDED GRADING AND STORMWATER	RPH

GRADING & EROSION CONTROL PLAN
ZIMMER DEVELOPMENT
COMPANY OFFICE - MAYFAIRE
6725 MONUMENT DRIVE
WILMINGTON, N. C.

OWNER/DEVELOPER
MAYFAIRE I, LLC / JEFFREY L. ZIMMER
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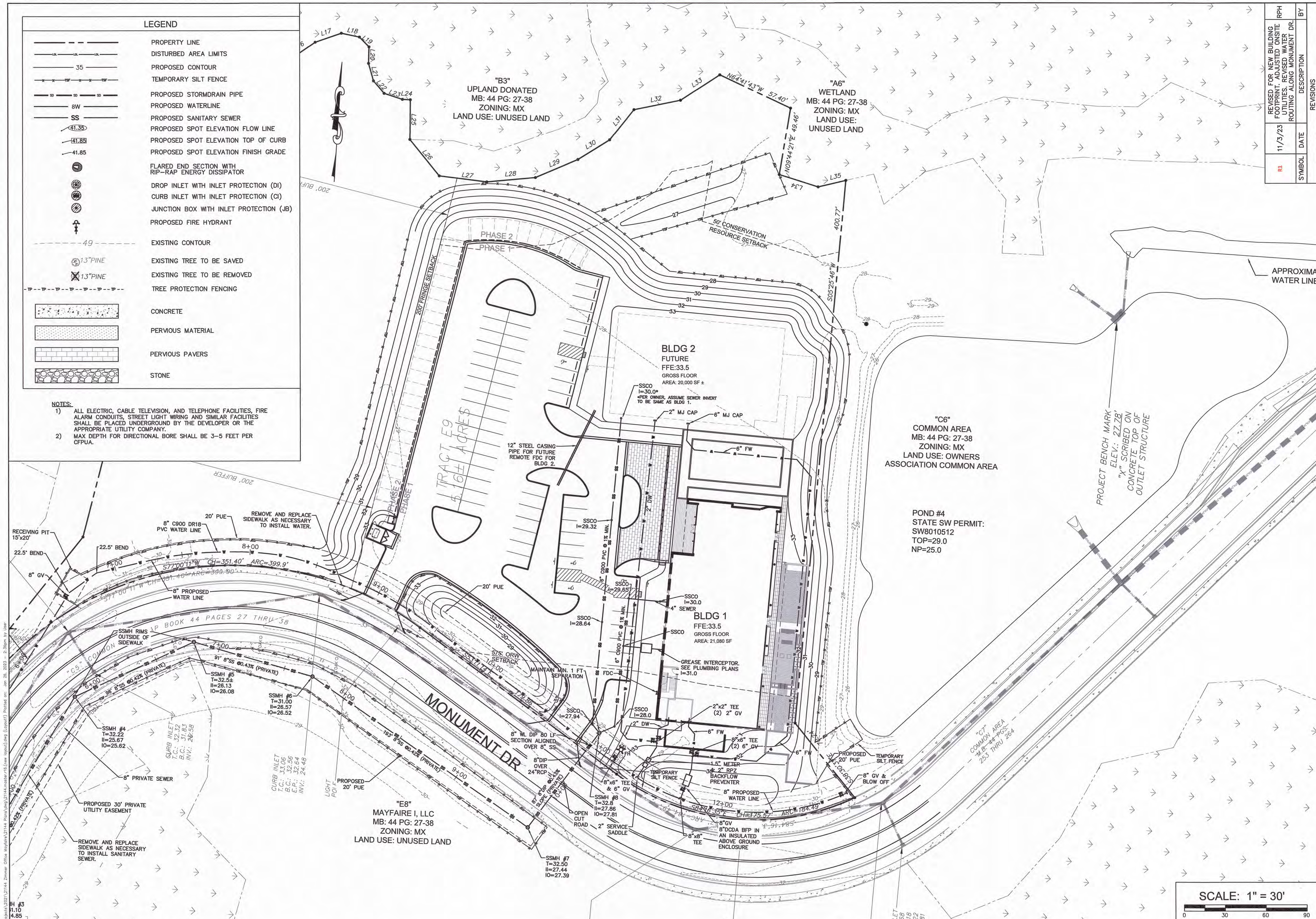
DATE 1/24/23

C2
R1

LEGEND

PROPERTY LINE	
DISTURBED AREA LIMITS	
PROPOSED CONTOUR	35
TEMPORARY SILT FENCE	
PROPOSED STORMDRAIN PIPE	SD
PROPOSED WATERLINE	8W
PROPOSED SANITARY SEWER	SS
PROPOSED SPOT ELEVATION FLOW LINE	41.35
PROPOSED SPOT ELEVATION TOP OF CURB	41.85
PROPOSED SPOT ELEVATION FINISH GRADE	41.85
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	
EXISTING CONTOUR	49
EXISTING TREE TO BE SAVED	13"PINE
EXISTING TREE TO BE REMOVED	13"PINE
TREE PROTECTION FENCING	TP
CONCRETE	
PERVIOUS MATERIAL	
PERVIOUS PAVERS	
STONE	

NOTES:
1) ALL ELECTRIC, CABLE TELEVISION, AND TELEPHONE FACILITIES, FIRE ALARM CONDUITS, STREET LIGHT WIRING AND SIMILAR FACILITIES SHALL BE PLACED UNDERGROUND BY THE DEVELOPER OR THE APPROPRIATE UTILITY COMPANY.
2) MAX DEPTH FOR DIRECTIONAL BORE SHALL BE 3-5 FEET PER CFPUA.



SYMBOL	DATE	DESCRIPTION	BY
R1	11/3/23	REVISED FOR NEW BUILDING FOOTPRINT. ADJUSTED ONSITE UTILITIES. REVISED WATER ROUTING ALONG MONUMENT DR.	RPH

REVISIONS

UTILITY PLAN ONSITE
ZIMMER DEVELOPMENT COMPANY OFFICE - MAYFAIRE
6725 MONUMENT DRIVE
WILMINGTON, N. C.

OWNER/DEVELOPER
MAYFAIRE I, LLC / JEFFREY L. ZIMMER
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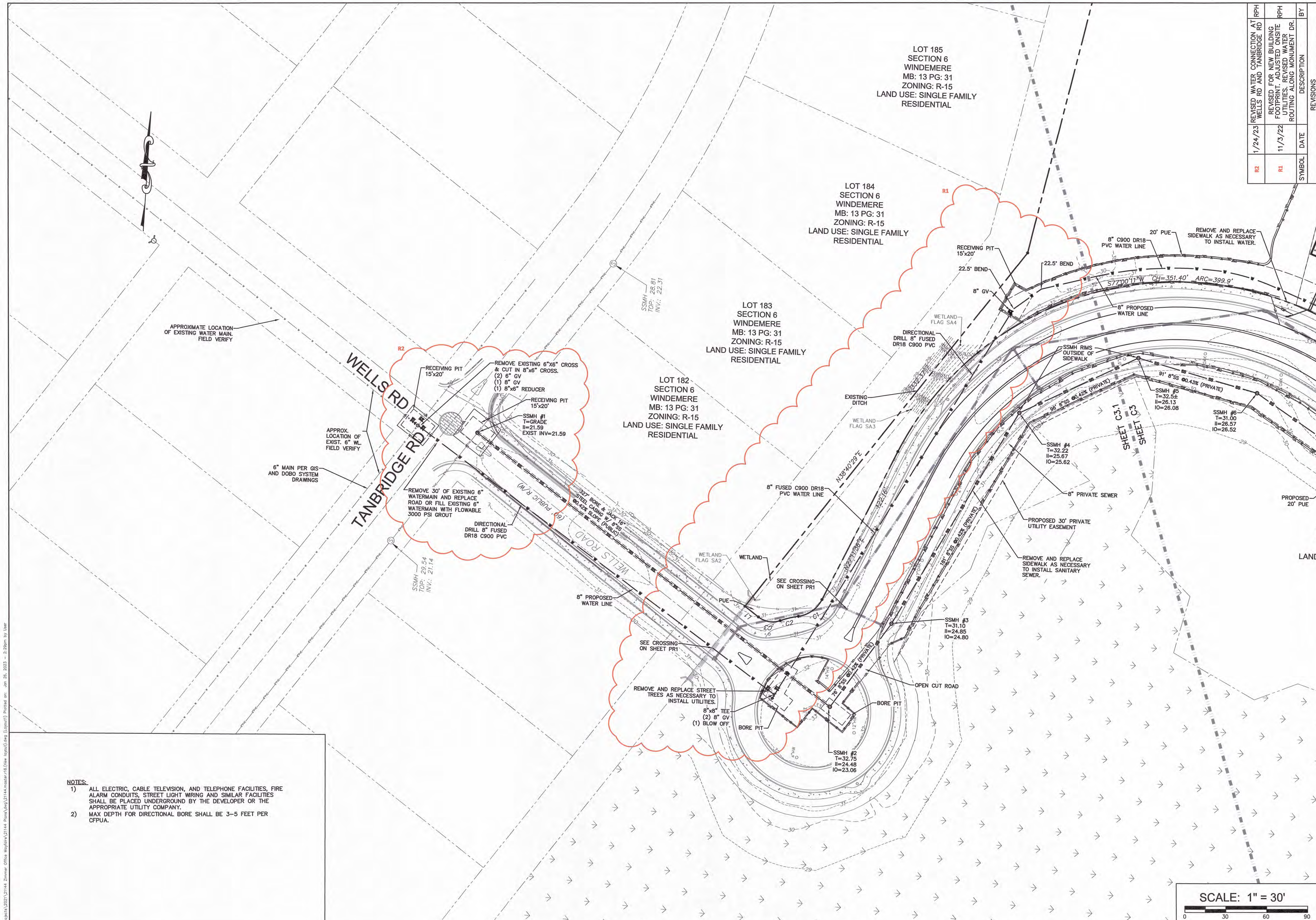
C3
R1



LOT 185
SECTION 6
WINDEMERE
MB: 13 PG: 31
ZONING: R-15
LAND USE: SINGLE FAMILY RESIDENTIAL
LOT 184
SECTION 6
WINDEMERE
MB: 13 PG: 31
ZONING: R-15
LAND USE: SINGLE FAMILY RESIDENTIAL
LOT 183
SECTION 6
WINDEMERE
MB: 13 PG: 31
ZONING: R-15
LAND USE: SINGLE FAMILY RESIDENTIAL
LOT 182
SECTION 6
WINDEMERE
MB: 13 PG: 31
ZONING: R-15
LAND USE: SINGLE FAMILY RESIDENTIAL
WELLS RD
TANBRIDGE RD
WELLS ROAD
APPROXIMATE LOCATION OF EXISTING WATER MAIN. FIELD VERIFY
APPROX. LOCATION OF EXIST. 6" WL. FIELD VERIFY
6" MAIN PER GIS AND DOBO SYSTEM DRAWINGS
RECEIVING PIT 15'x20'
REMOVE EXISTING 6"X6" CROSS & CUT IN 8"x6" CROSS. (2) 6" GV (1) 8" GV (1) 8"x6" REDUCER
RECEIVING PIT 15'x20'
SSMH #1 T=GRADE II=21.59 EXIST INV=21.59
REMOVE 30' OF EXISTING 6" WATERMAIN AND REPLACE ROAD OR FILL EXISTING 6" WATERMAIN WITH FLOWABLE 3000 PSI GROUT
DIRECTIONAL DRILL 8" FUSED DR18 C900 PVC
SSMH TOP: 29.54 INV.: 21.14
SSMH TOP: 28.81 INV.: 22.31
8" PROPOSED WATER LINE
SEE CROSSING ON SHEET PR1
REMOVE AND REPLACE STREET TREES AS NECESSARY TO INSTALL UTILITIES.
8"x8" TEE (2) 8" GV (1) BLOW OFF
BORE PIT
BORE PIT
SSMH #2 T=32.75 II=24.48 IO=23.06
OPEN CUT ROAD
SSMH #3 T=31.10 II=24.85 IO=24.80
WETLAND FLAG SA2
WETLAND
SEE CROSSING ON SHEET PR1
PUE
8" FUSED C900 DR18 PVC WATER LINE
N38°40'29"E
EXISTING DITCH
WETLAND FLAG SA3
WETLAND FLAG SA4
DIRECTIONAL DRILL 8" FUSED DR18 C900 PVC
RECEIVING PIT 15'x20'
22.5° BEND
8" GV
22.5° BEND
8" C900 DR18 PVC WATER LINE
20' PUE
REMOVE AND REPLACE SIDEWALK AS NECESSARY TO INSTALL WATER.
S77°00'11"W CH=351.40' ARC=399.9'
8" PROPOSED WATER LINE
SSMH RIMS OUTSIDE OF SIDEWALK
SSMH #4 T=32.22 II=25.67 IO=25.62
SSMH #5 T=32.5± II=26.13 IO=26.08
SSMH #6 T=31.00 II=26.57 IO=26.52
91' 8"SS @0.43% (PRIVATE)
8" PRIVATE SEWER
PROPOSED 30' PRIVATE UTILITY EASEMENT
REMOVE AND REPLACE SIDEWALK AS NECESSARY TO INSTALL SANITARY SEWER.
PROPOSED 20' PUE
SHEET C3.1
SHEET C3
R1
R2

NOTES:

1) ALL ELECTRIC, CABLE TELEVISION, AND TELEPHONE FACILITIES, FIRE ALARM CONDUITS, STREET LIGHT WIRING AND SIMILAR FACILITIES SHALL BE PLACED UNDERGROUND BY THE DEVELOPER OR THE APPROPRIATE UTILITY COMPANY.
2) MAX DEPTH FOR DIRECTIONAL BORE SHALL BE 3-5 FEET PER CFPUA.

SCALE: 1" = 30'
0 30 60 90

SYMBOL	DATE	DESCRIPTION	BY
R2	1/24/23	REVISED WATER CONNECTION AT WELLS RD AND TANBRIDGE RD	RPH
R1	11/3/22	REVISED FOR NEW BUILDING FOOTPRINT. ADJUSTED ONSITE UTILITIES. REVISED WATER ROUTING ALONG MONUMENT DR.	RPH

REVISIONS

UTILITY PLAN OFFSITE
ZIMMER DEVELOPMENT
COMPANY OFFICE - MAYFAIRE
6725 MONUMENT DRIVE
WILMINGTON, N. C.

OWNER/DEVELOPER
MAYFAIRE I, LLC / JEFFREY L. ZIMMER
530 GREENVILLE BLVD. SE, SUITE 200
GREENVILLE, NC 27858
PHONE: (910) 763-4669
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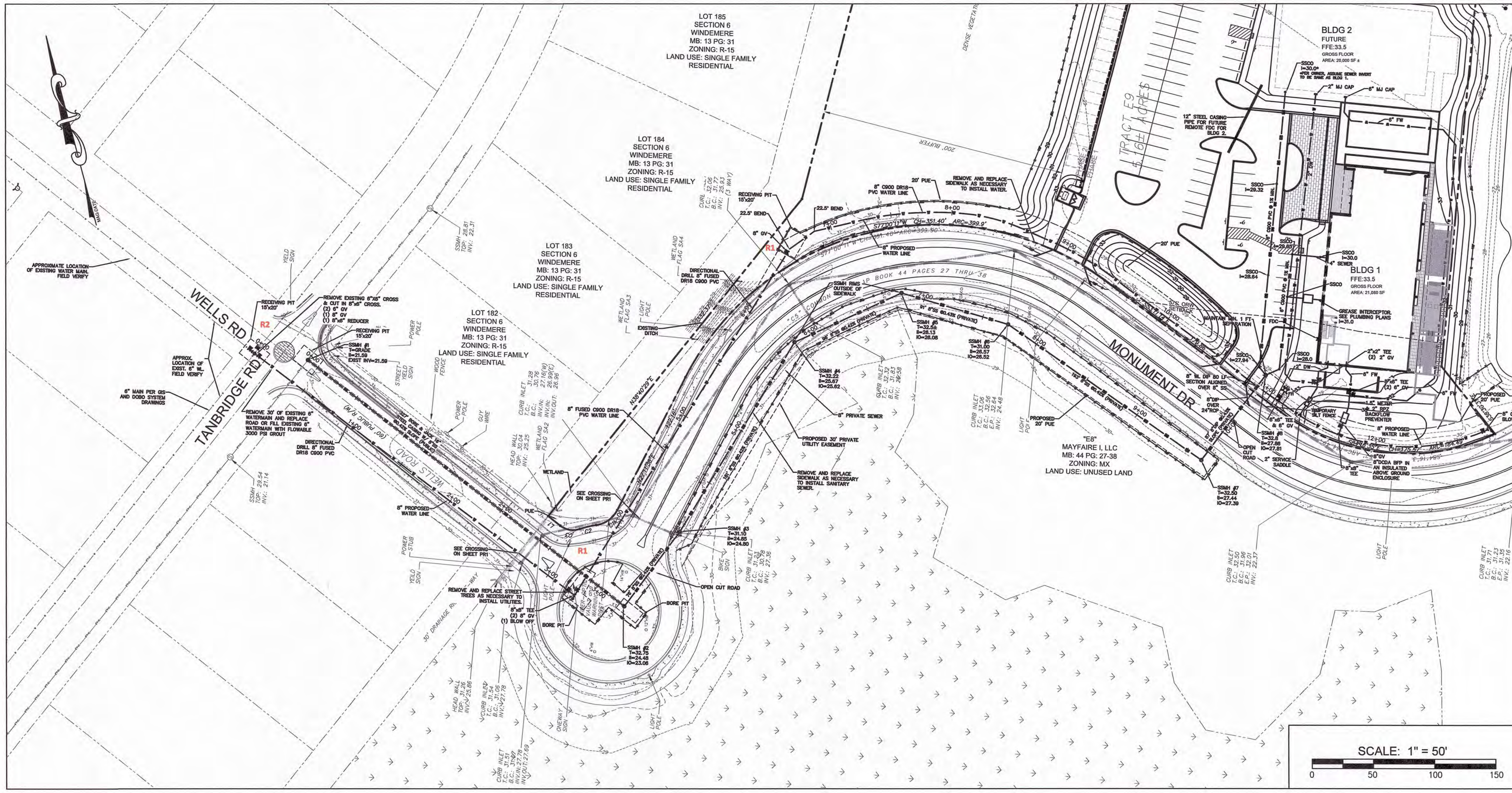
NORRIS & TUNSTALL
CONSULTING ENGINEERS P.C.
2602 IRON GATE DR, SUITE 102 WILMINGTON, NC 28412 PHONE (910) 343-9653
1429 ASH-LITTLE RIVER RD. NW ASH, NC 28420 PHONE (910) 287-5900
Licence #C-3641

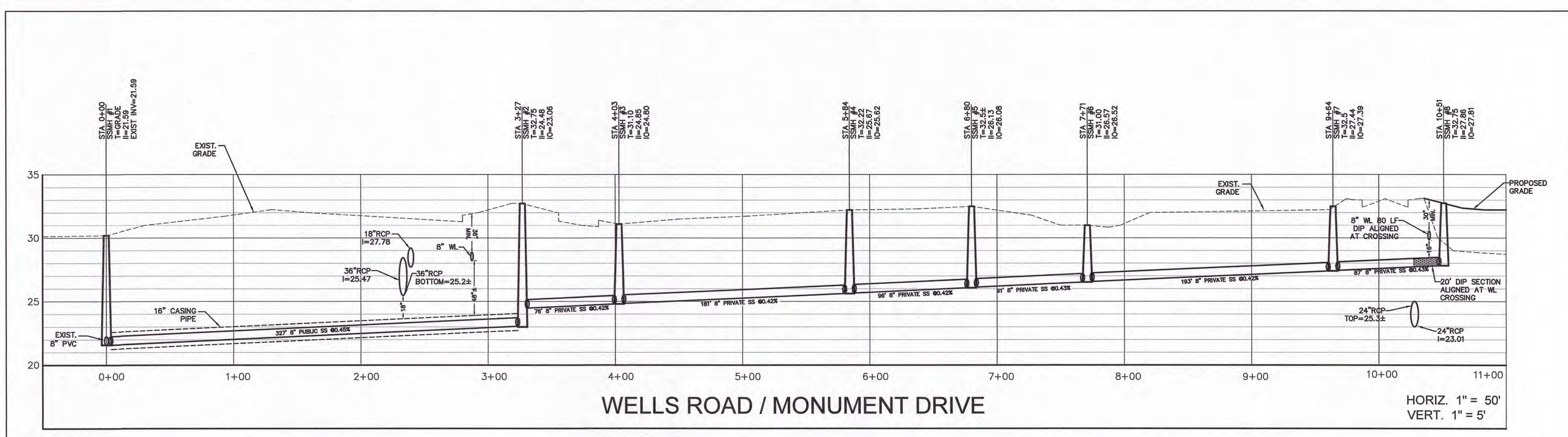
21144

DES. JST
CKD. JPN
DRWN. RPH
DATE 1/24/23

[redacted]

C3.1





NOTES:
1) MAX DEPTH FOR DIRECTIONAL BORE SHALL BE 3–5 FEET PER CFPUA.

REV NO.	DESCRIPTION	DATE
R2	REVISED WATER CONNECTION AT WELLS RD AND TANBRIDGE RD	1/24/23
R1	REVISED FOR NEW BUILDING FOOTPRINT. ADJUSTED ONSITE UTILITIES. REVISED WATER ROUTING ALONG MONUMENT DR.	11/3/22

REVISIONS

[redacted]

Cape Fear Public Utility Authority

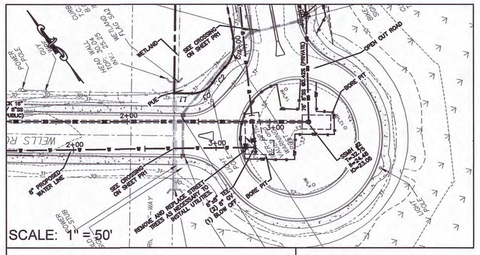
NORRIS & TUNSTALL
CONSULTING ENGINEERS P.C.
2602 IRON GATE DR., SUITE 102
WILMINGTON, NC 28412
PHONE (910) 343-9653

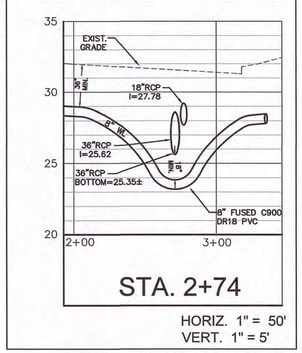
ZIMMER DEVELOPMENT

WATERLINE LAYOUT AND SANITARY SEWER PLAN & PROFILE

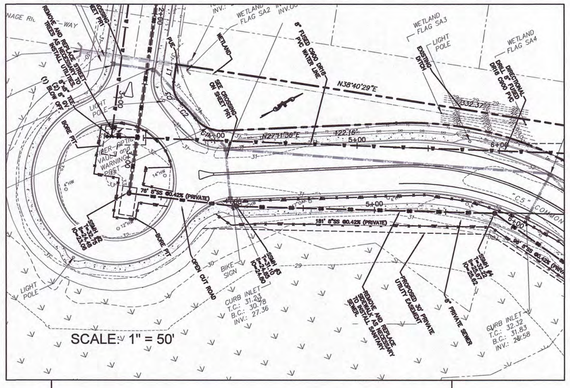
DATE: 1/24/23
SCALE: 1" = 50' 1" = 5'
DRAWN: RPH
CHECKED: JST
PROJECT NO: 21144

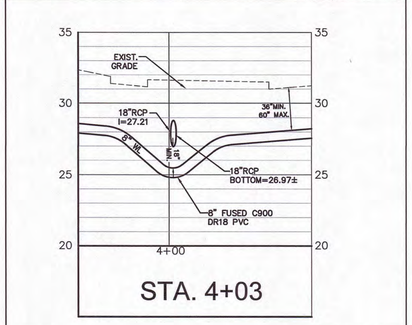
SHEET NO: PR1



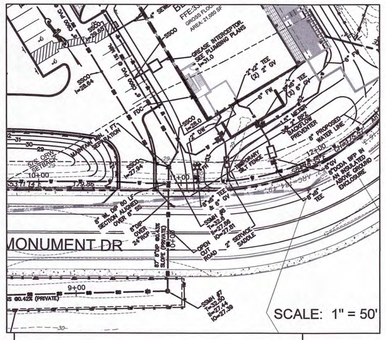


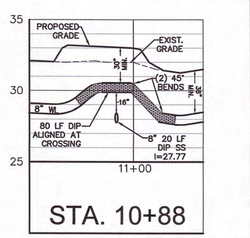
HORIZ. 1" = 50'
VERT. 1" = 5'





HORIZ. 1" = 50'
VERT. 1" = 5'





HORIZ. 1" = 50'
VERT. 1" = 5'

NOTES:
1) MAX DEPTH FOR DIRECTIONAL BORE SHALL BE 3–5 FEET PER CFPUA.

REV NO.	DESCRIPTION	DATE
R1	REVISED FOR NEW BUILDING FOOTPRINT, ADJUSTED ONSITE UTILITIES. REVISED WATER ROUTING ALONG MONUMENT DR.	11/3/23
	REVISIONS	

[redacted]

Cape Fear Public Utility Authority

NORRIS & TUNSTALL
CONSULTING ENGINEERS P.C.
2602 IRON GATE DR., SUITE 102
WILMINGTON, NC 28412
PHONE (910) 343-9653

ZIMMER DEVELOPMENT
WATERLINE LAYOUT AND SANITARY SEWER PLAN & PROFILE

DATE: 1/24/23
SCALE: 1" = 50' 1" = 5'
DRAWN: RPH
CHECKED: JST
PROJECT NO: 21144

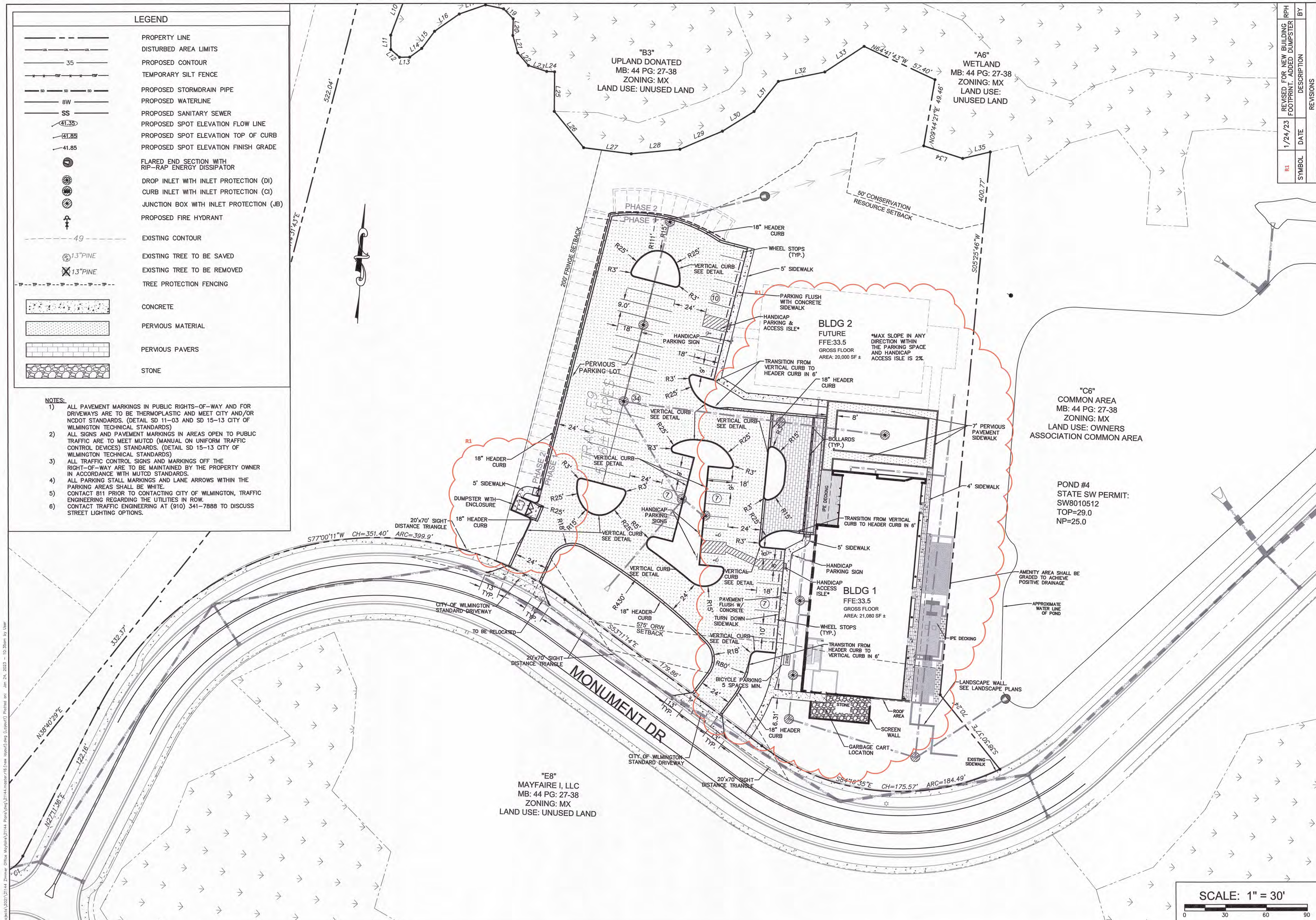
SHEET NO: PR2 R1

LEGEND

—— - ——	PROPERTY LINE
—LDL—LDL—LDL—	DISTURBED AREA LIMITS
—— 35 ——	PROPOSED CONTOUR
—x—x—TSF—x—x—TSF—	TEMPORARY SILT FENCE
—SD—SD—SD—	PROPOSED STORMDRAIN PIPE
—— 8W ——	PROPOSED WATERLINE
—— SS ——	PROPOSED SANITARY SEWER
41.35	PROPOSED SPOT ELEVATION FLOW LINE
41.85	PROPOSED SPOT ELEVATION TOP OF CURB
41.85	PROPOSED SPOT ELEVATION FINISH GRADE
	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
- - 49 - -	EXISTING CONTOUR
13"PINE	EXISTING TREE TO BE SAVED
13"PINE	EXISTING TREE TO BE REMOVED
—TP—TP—TP—TP—	TREE PROTECTION FENCING
	CONCRETE
	PERVIOUS MATERIAL
	PERVIOUS PAVERS
	STONE

NOTES:

1) ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS. (DETAIL SD 11-03 AND SD 15-13 CITY OF WILMINGTON TECHNICAL STANDARDS)
2) ALL SIGNS AND PAVEMENT MARKINGS IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS. (DETAIL SD 15-13 CITY OF WILMINGTON TECHNICAL STANDARDS)
3) ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
4) ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
5) CONTACT 811 PRIOR TO CONTACTING CITY OF WILMINGTON, TRAFFIC ENGINEERING REGARDING THE UTILITIES IN ROW.
6) CONTACT TRAFFIC ENGINEERING AT (910) 341-7888 TO DISCUSS STREET LIGHTING OPTIONS.



SCALE: 1" = 30'

0 30 60 90

SYMBOL	DATE	DESCRIPTION	BY
R1	1/24/23	REVISED FOR NEW BUILDING FOOTPRINT. ADDED DUMPSTER	RPH
		REVISIONS	

LAYOUT PLAN

ZIMMER DEVELOPMENT COMPANY OFFICE - MAYFAIRE
6725 MONUMENT DRIVE
WILMINGTON, N. C.

OWNER/DEVELOPER
MAYFAIRE I, LLC / JEFFREY L. ZIMMER
530 GREENVILLE BLVD. SE,
SUITE 200
GREENVILLE, NC 27858
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EMAIL: JEFFREYZIMMER@ZDC.COM

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ASH, NC 28420
PHONE (910) 287-5900
Licence #C-3641

21144

DES. JST
CKD. JPN
DRWN. RPH
DATE 1/24/23

[redacted]

C4

"B3"
UPLAND DONATED
MB: 44 PG: 27-38
ZONING: MX
LAND USE: UNUSED LAND

"A6"
WETLAND
MB: 44 PG: 27-38
ZONING: MX
LAND USE:
UNUSED LAND

"C6"
COMMON AREA
MB: 44 PG: 27-38
ZONING: MX
LAND USE: OWNERS
ASSOCIATION COMMON AREA

"E8"
MAYFAIRE I, LLC
MB: 44 PG: 27-38
ZONING: MX
LAND USE: UNUSED LAND

"C7"
COMMON AREA
MB: 44 PG: 27-38
253 THRU 264

MONUMENT DR

POND #4
STATE SW PERMIT:
SW8010512
TOP=29.0
NP=25.0

REVISIONS			
SYMBOL	DATE	DESCRIPTION	BY
R1	1/24/23	REVISED FOR NEW BUILDING FOOTPRINT, REVISED DRAINAGE AREAS	RPH

DRAINAGE AREA PLAN
ZIMMER DEVELOPMENT
COMPANY OFFICE - MAYFAIRE
6725 MONUMENT DRIVE
WILMINGTON, N. C.

OWNER/DEVELOPER
MAYFAIRE I, LLC / JEFFREY L. ZIMMER
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EMAIL: JEFFREYZIMMER@ZDC.COM

21144 ZIMMER OFFICE BUILDING DRAINAGE AREAS

DA	TOTAL AREA	CURB, CONCRETE	SIDEWALK	BUILDING	STONE	TOTAL IMPERVIOUS	PERCENT IMPERVIOUS
DA1	8540	170	246	0	722	1138	13%
DA2	2773	0	0	2773	0	2773	100%
DA2A	2283	667	160	0	0	827	36%
DA3	2720	0	0	0	0	0	0%
DA4	5750	0	0	0	0	0	0%
DA5	10569	0	0	10569	0	10569	100%
DA6	5750	0	0	0	0	0	0%
DA7	18714	794	1220	0	0	2014	11%
DA8	5336	0	0	0	0	0	0%
DA9	12397	714	93	0	0	807	7%
DA10	7533	216	0	0	0	216	3%
DA11	8649	203	295	0	0	498	6%
DA12	7652	531	204	0	0	735	10%
DA13	4951	657	32	0	0	689	14%
DA14	1718	0	0	0	0	0	0%
FUTURE						15888	
TOTAL	105335	3952	2250	13342	722	36154	

OFFSITE IMPERVIOUS TO POND#4
(SW8 010512)
BUILDING: 13,342 SF
CONCRETE CURB: 837 SF
SIDEWALK: 406 SF
STONE: 772 SF
FUTURE: 15,368 SF
TOTAL: 30,675 SF
OVERALL DRAINAGE AREA= 44,075 SF

PERVIOUS PAVEMENT DRIVEWAY/PARKING PC#1 & PC#1A
PERVIOUS PAVEMENT: 42,387 SF
CONCRETE CURB: 2,458 SF
SIDEWALK: 1,812 SF
FUTURE: 420 SF
TOTAL: 4,731 SF
OVERALL DRAINAGE AREA= 54,945 SF

PERVIOUS PAVEMENT COURTYARD PC#2
PERVIOUS PAVEMENT: 1,346 SF
CONCRETE CURB: 657 SF
SIDEWALK: 32 SF
FUTURE: 100 SF
TOTAL: 789 SF
OVERALL DRAINAGE AREA= 4,951 SF

SCALE: 1" = 30'
0 30 60 90

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ASH, NC 28420
PHONE (910) 287-5900
Licence #C-3641

21144

DES. JST
CKD. JPN
DRWN. RPH
DATE 1/24/23

C5 R1

SYMBOL	DATE	DESCRIPTION	BY
		REVISIONS	

POND#4 DRAINAGE AREA
ZIMMER DEVELOPMENT
COMPANY OFFICE - MAYFAIRE
6725 MONUMENT DRIVE
WILMINGTON, N. C.

OWNER/DEVELOPER
MAYFAIRE I, LLC / JEFFREY L. ZIMMER
530 GREENVILLE BLVD. SE,
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ASH, NC 28420
PHONE (910) 287-5900

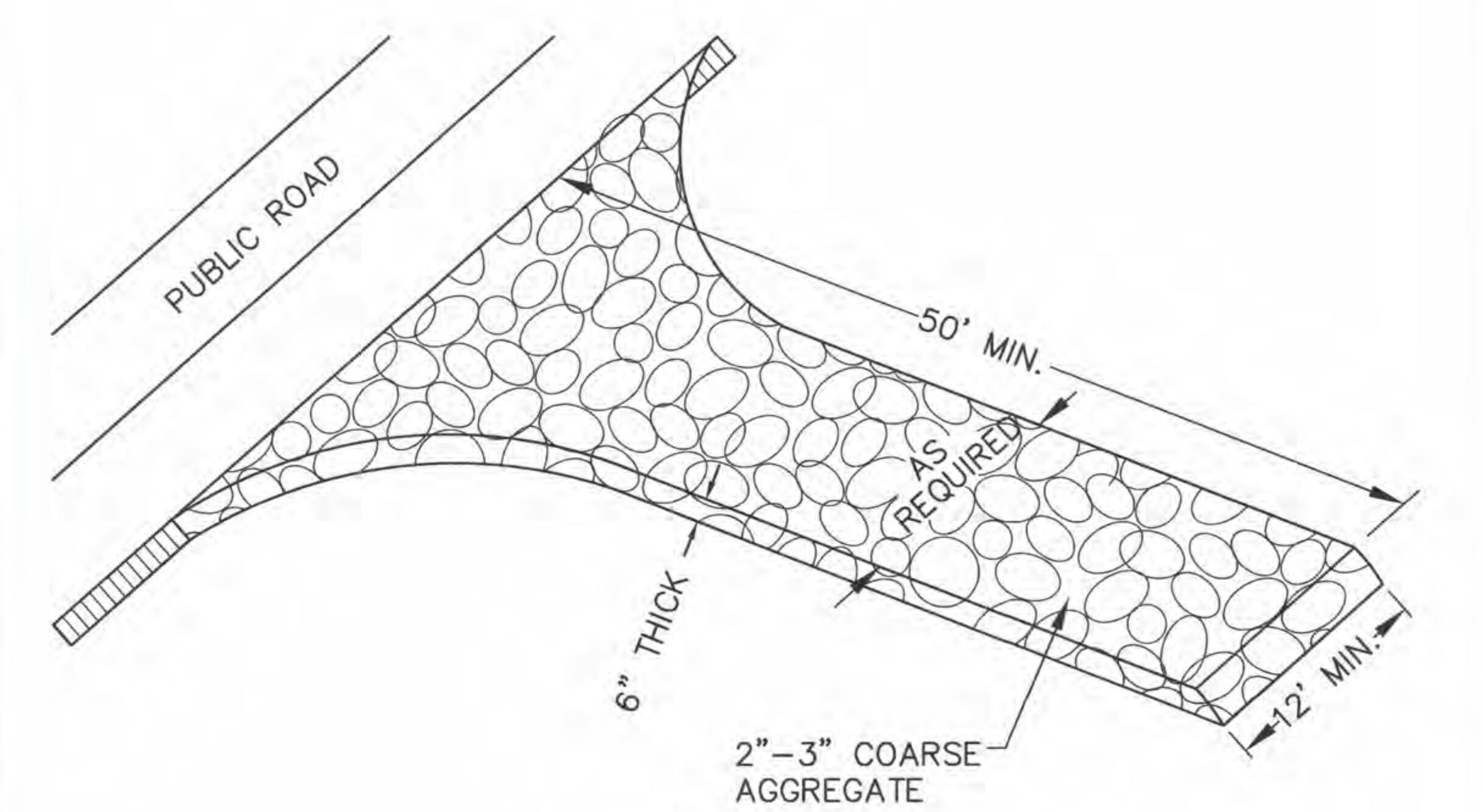
Licence #C-3641

21144

DES.	JST
CKD.	JPN
DRWN.	RPH
DATE	1/24/23

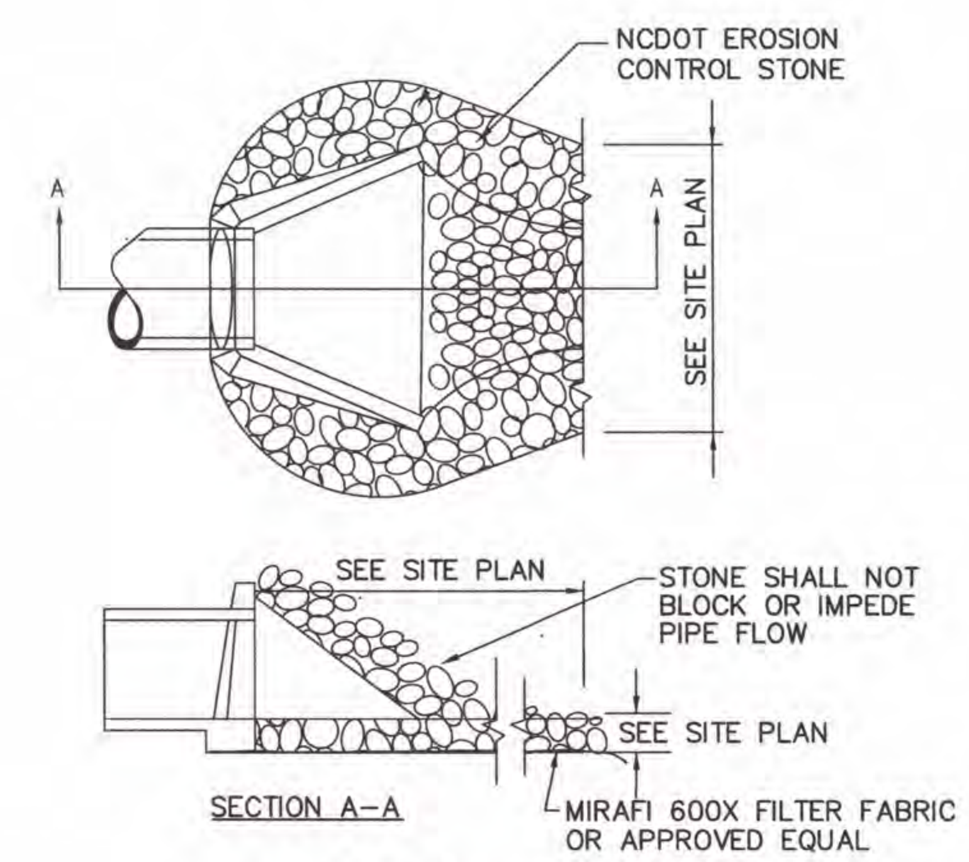
[redacted]

C5.1



NOT TO SCALE

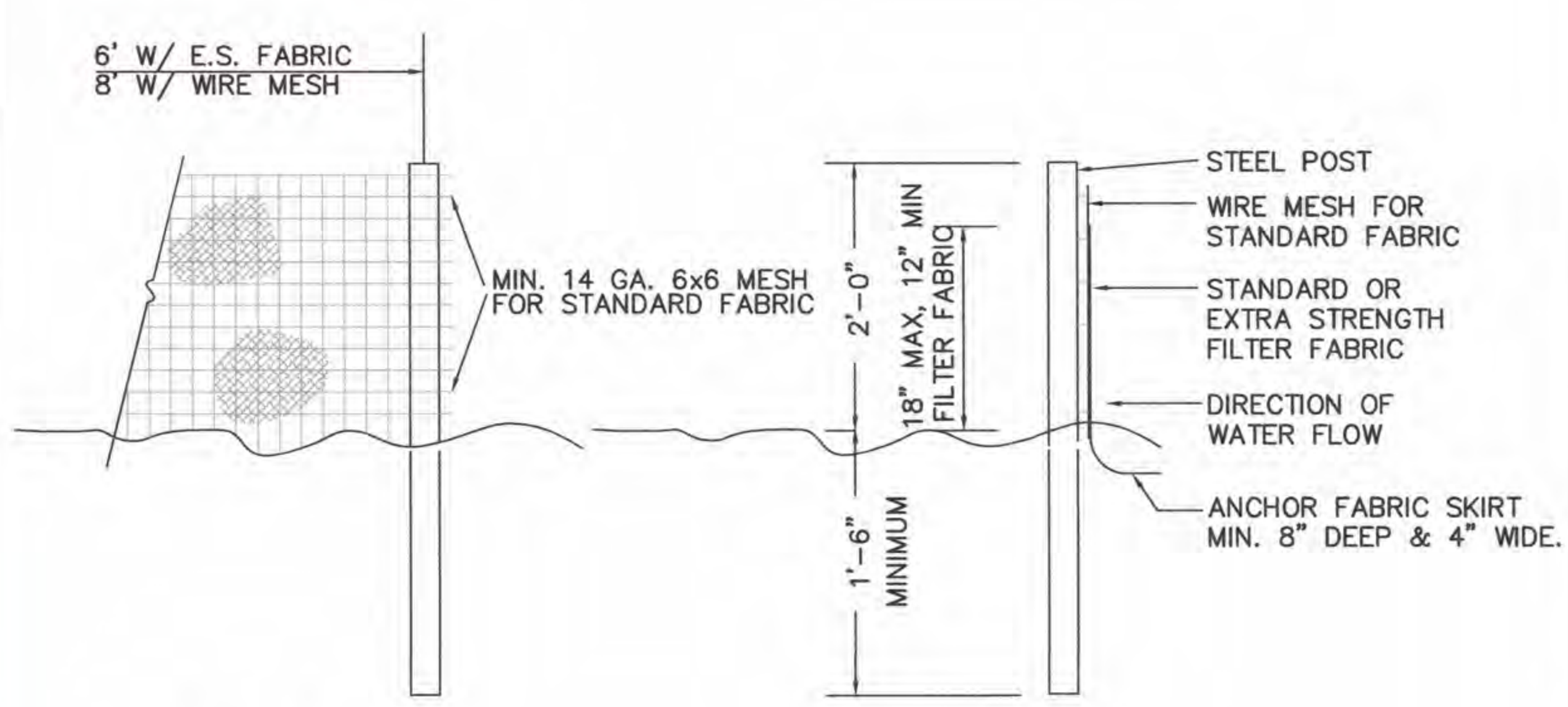
1 TEMPORARY GRAVELLED CONSTRUCTION ENTRANCE



NOTE: FILTER FABRIC AND STONE SHALL BE TOED UNDER FLARED END SECTION

NOT TO SCALE

4 ENERGY DISSIPATOR



NOTES:

1. SYN. FENCE FABRIC SHALL BE MIN. OF 30" IN WIDTH WITH 30 LB/IN TENSILE STRENGTH FOR STANDARD FABRIC AND 50 LB/IN FOR EXTRA STRENGTH.
2. FABRIC SHALL BE CONTINUOUS LENGTH. IF JOINTS ARE NECESSARY, LAP FABRIC POST TO POST.
3. STEEL POST SHALL BE MIN 4' IN HEIGHT AND BE OF THE SELF-FASTENER STEEL ANGLE TYPE.

NOT TO SCALE

2 TEMPORARY SILT FENCE

SKIMMER MAINTENANCE NOTES:

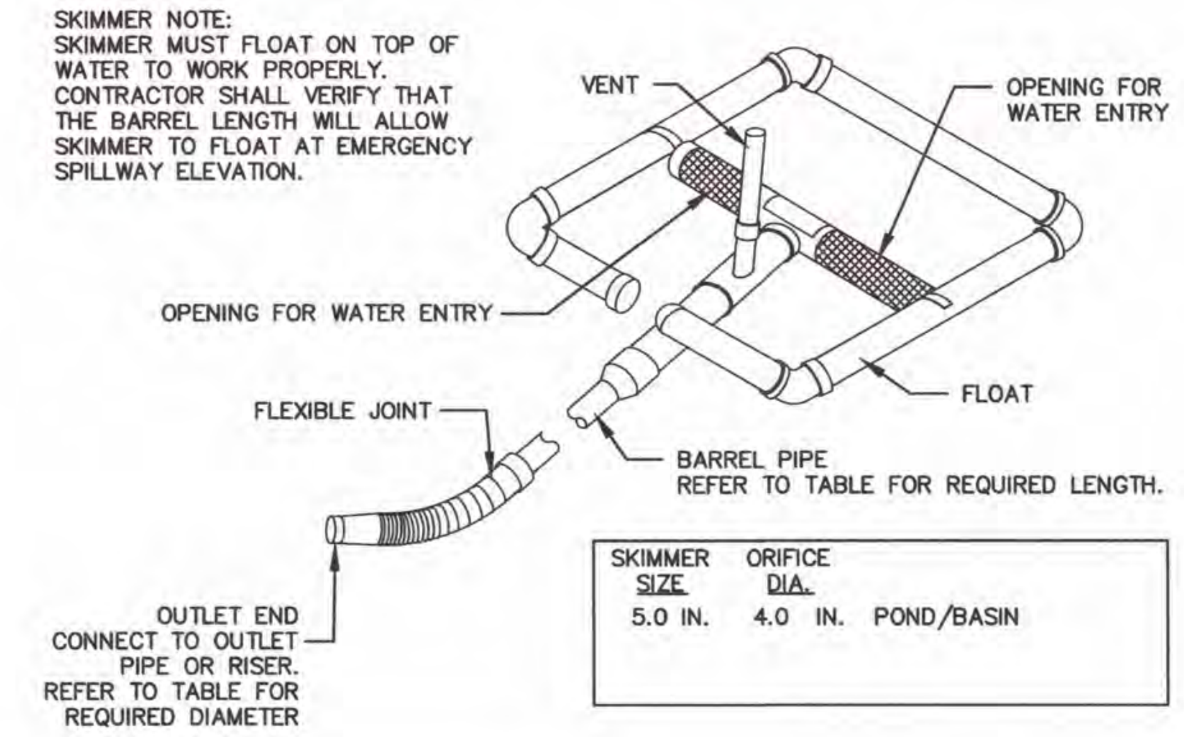
1. INSPECT SKIMMER SEDIMENT BASINS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (ON-HALF INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY.

2. IF THE SKIMMER IS CLOGGED WITH TRASH AND THERE IS WATER IN THE BASIN, USUALLY JERKING ON THE ROPE WILL MAKE THE SKIMMER BOB UP AND DOWN AND DISLODGE THE DEBRIS AND RESTORE FLOW. IF THIS DOES NOT WORK, PULL THE SKIMMER OVER TO THE SIDE OF THE BASIN AND REMOVE THE DEBRIS. ALSO CHECK THE ORIFICE INSIDE THE SKIMMER TO SEE IF IT IS CLOGGED; IF SO REMOVE THE DEBIS.

3. IF THE SKIMMER ARM OR BARREL PIPE IS CLOGGED, THE ORIFICE CAN BE REMOVED AND THE OBSTRUCTION CLEARED WITH A PLUMBER'S SNAKE OR BY FLUSHING WITH WATER. BE SURE AND REPLACE THE ORIFICE BEFORE REPOSITIONING THE SKIMMER.

4. FREEZING WEATHER CAN RESULT IN ICE FORMING IN THE BASIN. SOME SPECIAL PRECAUTIONS SHOULD BE TAKEN IN THE WINTER TO PREVENT THE SKIMMER FROM PLUGGING WITH ICE.

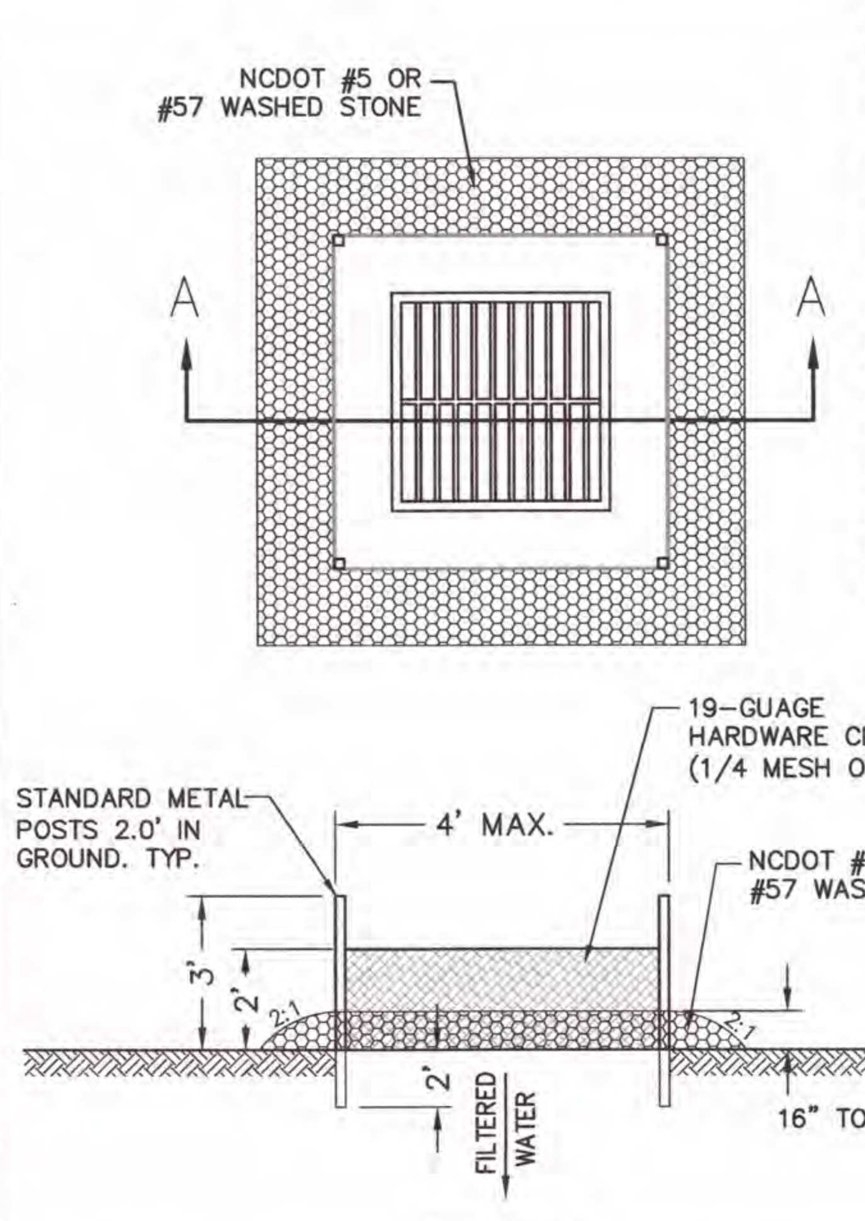
SKIMMER NOTE:
SKIMMER MUST FLOAT ON TOP OF WATER TO WORK PROPERLY. CONTRACTOR SHALL VERIFY THAT THE BARREL LENGTH WILL ALLOW SKIMMER TO FLOAT AT EMERGENCY SPILLWAY ELEVATION.



SKIMMER SIZE	ORIFICE DIA.	
5.0 IN.	4.0 IN.	POND/BASIN

NOT TO SCALE

5 FAIRCLOTH STANDARD SKIMMER DETAIL

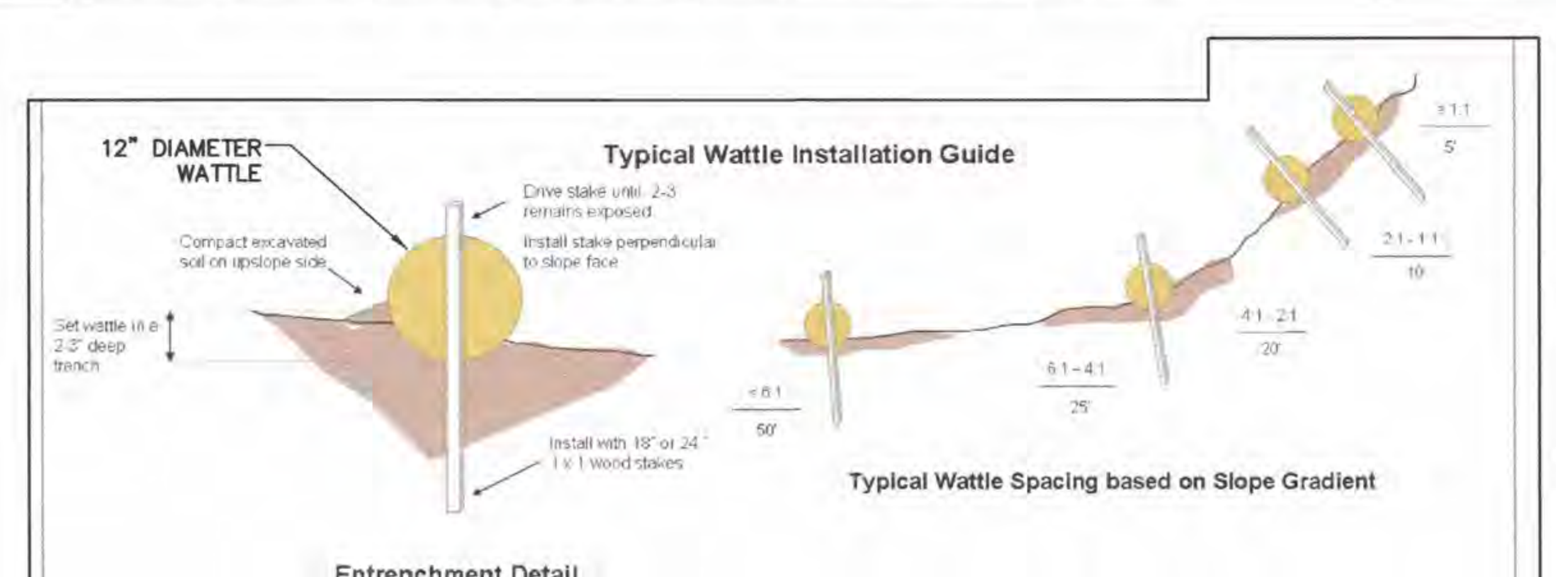


CONSTRUCTION SEQUENCE:
1. UNIFORMLY GRADE A SHALLOW DEPRESSION APPROACHING THE INLET.
2. DRIVE 5' STEEL POST 2' INTO THE GROUND SURROUNDING THE INLET.
SPACE POST EVENLY AROUND THE PERIMETER OF THE INLET, A MAXIMUM OF 4' APART.
3. SURROUND THE POST WITH WIRE MESH HARDWARE CLOTH. SECURE THE WIRE MESH TO THE STEEL POST AT THE TOP, MIDDLE AND BOTTOM. PLACING A 2' FLAP OF THE WIRE MESH UNDER THE GRAVEL FOR ANCHORING IS RECOMMENDED.
4. PLACE CLEAN GRAVEL (NCDOT #5 OR #57 STONE) ON A 2:1 SLOPE WITH A HEIGHT OF 16" TO 18" AROUND THE WIRE, AND SMOOTH TO AN EVEN GRADE.
5. ONCE THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, REMOVE ACCUMULATED SEDIMENT, AND ESTABLISH FINAL GRADING ELEVATIONS.
6. COMPACT THE AREA PROPERLY AND STABILIZE IT WITH GROUNDCOVER.

MAINTENANCE:
INSPECT INLETS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT. CLEAR THE MESH WIRE OF ANY DEBRIS OR OTHER OBJECTS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE WIRE MESH DURING SEDIMENT REMOVAL. REMOVE SEDIMENT WHEN ACCUMULATION REACHES HALF THE DEPTH OF ROCK. REPLACE STONE WHEN IT NO LONGER DRAINS AS DESIGNED.

NOT TO SCALE

3 HARDWARE CLOTH AND GRAVEL INLET PROTECTION



1. BEGIN AT THE LOCATION WHERE THE WATTLE IS TO BE INSTALLED BY EXCAVATING A 2-3" (5-7.5 CM) DEEP X 9" (22.9 CM) WIDE TRENCH ALONG THE CONTOUR OF THE SLOPE. EXCAVATED SOIL SHOULD BE PLACED UP-SLOPE FROM THE ANCHOR TRENCH.
2. PLACE THE WATTLE IN THE TRENCH SO THAT IT CONTOURS TO THE SOIL SURFACE. COMPACT SOIL FROM THE EXCAVATED TRENCH AGAINST THE WATTLE ON THE UPHILL SIDE. ADJACENT WATTLES SHOULD TIGHTLY ABUT.
3. SECURE THE WATTLE WITH 18-24" (45.7-61 CM) STAKES EVERY 3-4' (0.9 - 1.2 M) AND WITH A STAKE ON EACH END. STAKES SHOULD BE DRIVEN THROUGH THE MIDDLE OF THE WATTLE LEAVING AT LEAST 2-3" (5-7.5 CM) OF STAKE EXTENDING ABOVE THE WATTLE. STAKES SHOULD BE DRIVEN PERPENDICULAR TO SLOPE FACE.

MAINTENANCE:
INSPECT WATTLE WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL EVENT (1/2 INCH OR GREATER). REMOVE ACCUMULATED SEDIMENT AND ANY DEBRIS.THE WATTLE MUST BE REPLACED IF CLOGGED OR TORN. IF PONDING BECOMES EXCESSIVE, THE WATTLE MAY NEED TO BE REPLACED WITH A LARGER DIAMETER OR A DIFFERENT MEASURE. THE SOCK NEEDS TO BE REINSTALLED IF UNDERMINED OR DISLODGED.THE WATTLE SHALL BE INSPECTED UNTIL LAND DISTURBANCE IS COMPLETE AND THE AREA ABOVE THE MEASURE HAS BEEN PERMANENTLY STABILIZED.

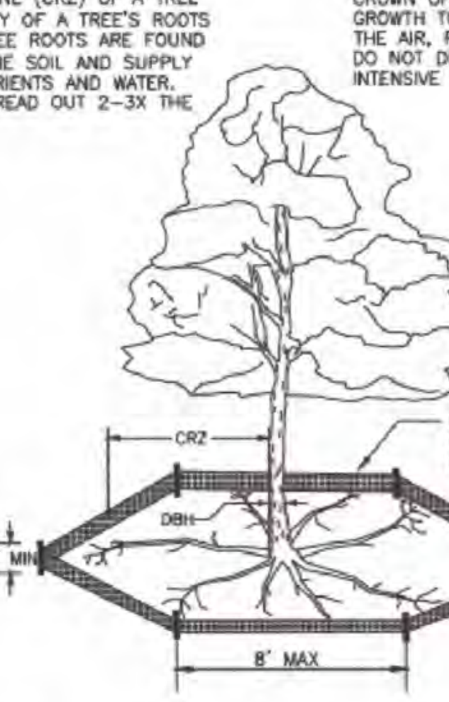
5 WATTLE DETAIL

SITE WORK NOTES:

1. THE CONTRACTOR SHALL VISIT THE SITE TO BECOME FAMILIAR WITH FIELD CONSTRUCTION CONDITIONS.
2. CONTRACTOR SHALL COORDINATE WORK WITHIN NCDOT AND LOCAL RIGHT OF WAYS WITH PROPER AUTHORITIES AND SHALL MEET ANY REQUIREMENTS AS TO TRAFFIC CONTROL AND CONNECTION TO EXISTING STREETS.
3. CLEARING AND GRUBBING: REMOVE ALL TREES AS REQUIRED UNLESS OTHERWISE NOTED TO REMAIN, STUMPS, ROOTS, SHRUBBERY, ASPHALT, CONCRETE, STRUCTURES, BURIED UTILITIES, STORAGE TANKS, ETC. WITHIN LIMITS OF CONSTRUCTION.
4. STRIPPING: BEFORE EXCAVATING OR FILLING, REMOVE ALL TOPSOIL, WOOD, LEAVES, AND ANY OTHER UNSUITABLE MATERIAL.
5. MUCKING: REMOVE ANY SOFT, ORGANIC SILT MATERIALS AND EXISTING BURIED CONSTRUCTION DEBRIS AS REQUIRED AND FILL TO SUBGRADE ELEVATIONS WITH A CLEAN SELECT-FILL COMPACTED AS SPECIFIED.
6. DISPOSAL: CLEARED, GRUBBED, STRIPPED OR EXCAVATED SPOIL SHALL BE REMOVED FROM SITE AND DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE LOCAL AND STATE CODES.
7. BORROW MATERIAL: THE CONTRACTOR SHALL FURNISH BORROW MATERIAL REQUIRED FROM OFF SITE AND OBTAIN ALL REQUIRED PERMITS ASSOCIATED WITH BORROW OPERATIONS.
8. FILL AND COMPACTION: AFTER STRIPPING THOSE AREAS DESIGNATED TO RECEIVE FILL SHOULD BE PROOFROLLED. THE TOP 8" OF SUBGRADE SHALL BE COMPACTED TO AT LEAST 98% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT. ANY AREA WHICH PUMPS OR RUTS EXCESSIVELY SHOULD BE UNDERCUT AND REPLACED WITH A CLEAN, SILTY OR CLAYEY SAND HAVING A UNIFIED SOIL CLASSIFICATION OF SP, SM, OR SC. FILL MATERIAL 5" OUTSIDE OF BUILDING AREAS SHALL THEN BE PLACED IN LAYERS NOT TO EXCEED 8" AND COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D-698) WITH THE UPPER 12 INCHES OF SUBGRADE BEING COMPACTED TO 98% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. FILL MATERIALS WITHIN BUILDING AREAS TO A LINE OUTSIDE THE BUILDING AREAS SHALL BE PLACED IN LAYERS NOT TO EXCEED 8" AND COMPACTED TO AT LEAST 98% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D-698) WITH THE UPPER 12 INCHES OF SUBGRADE BEING COMPACTED IN 6 INCH LAYERS TO 100% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. IN AREAS WHERE NO STRUCTURAL FILL IS TO BE PLACED THE UPPER 12 INCHES OF IN-PLACE SUBGRADE SHOULD BE COMPACTED TO AT LEAST 98% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. IF THE MATERIAL IS TOO DRY TO COMPACT TO THE REQUIRED DENSITY EACH LAYER SHALL BE WETTED IN ACCORDANCE WITH COMPACTION REQUIREMENTS. IF THE MATERIAL IS TOO WET TO SECURE PROPER COMPACTION, IT SHALL BE HARROWED REPEATEDLY OR OTHERWISE AERATED WITH SUITABLE EQUIPMENT UNTIL OPTIMUM MOISTURE CONTENT IS OBTAINED. FILL SHALL BE PLACED IN SUCH A MANNER THAT THE SURFACE WILL DRAIN READILY AT ALL TIMES. SEE STRUCTURAL NOTES AND SOILS REPORT FOR ADDITIONAL REQUIREMENTS.
9. LAYOUT: THE CONTRACTOR SHALL PROVIDE ALL LAYOUT REQUIRED TO CONSTRUCT HIS WORK.
10. THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF EXISTING UTILITIES DURING CONSTRUCTION.
11. EXISTING BOUNDARY AND TOPOGRAPHIC INFORMATION FROM SURVEY BY MICHAEL UNDERWOOD & ASSOCIATES, AND PROVIDED BY OWNER.
12. THE CONTRACTOR SHALL VERIFY DIMENSIONS AT JOBSITE.
13. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF RELOCATION OR DISCONNECTION OF ALL EXISTING UTILITIES WITH APPLICABLE AGENCIES AND AUTHORITIES.
14. ALL PAVEMENT AND BASE MATERIALS AND WORKMANSHIP SHALL CONFORM TO NCDOT STANDARDS.
15. WATER AND SEWER SERVICES SHALL BE INSTALLED TO MEET LOCAL AND STATE PLUMBING CODES. METER AND TAPS SHALL MEET ALL LOCAL REQUIREMENTS.
16. ALL AREAS SHALL BE GRADED FOR POSITIVE DRAINAGE.
17. SEE SOILS REPORT FOR ADDITIONAL REQUIREMENTS.
18. CONTRACTOR SHALL NOTE THAT EARTHWORK QUANTITIES ARE HIS RESPONSIBILITY. PLANS DO NOT REPRESENT A BALANCED EARTHWORK CONDITION.
19. REINF. CONC. PIPE SHALL BE CLASS III W/RUBBER GASKETED JOINT OR "RAM NECK". INSTALL PER MANUFACTURER'S REQUIREMENTS.
20. USE WHITE LANE MARKING PAINT FOR ALL PAVEMENT MARKINGS. PAINT SHALL BE A CHLORINATED RUBBER ALKYD, FS TT-P-115, TYPE III, FACTORY MIXED, QUICK DRYING, NON-BLEEDING.
21. REFER TO THE PLUMBING DRAWINGS FOR LOCATION AND INVERTS OF NEW WASTE, WATER AND ROOF DRAIN LINES.

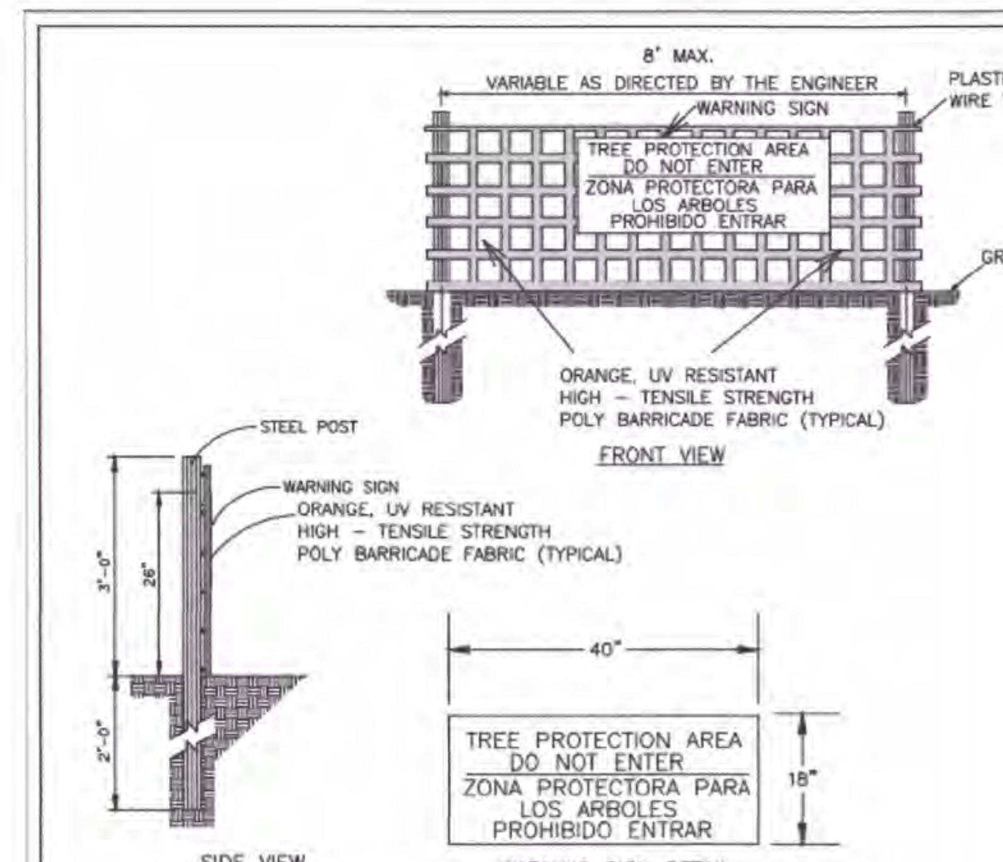
NOTE:
THE CRITICAL ROOT ZONE (CRZ) OF A TREE IS WHERE THE MAJORITY OF A TREE'S ROOTS LAY. 85% OF MOST TREE ROOTS ARE FOUND IN THE TOP 24" OF THE SOIL AND SUPPLY THE MAJORITY OF NUTRIENTS AND WATER. GENERALLY, ROOTS SPREAD OUT 2-3X THE HEIGHT OF THE TREE.

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



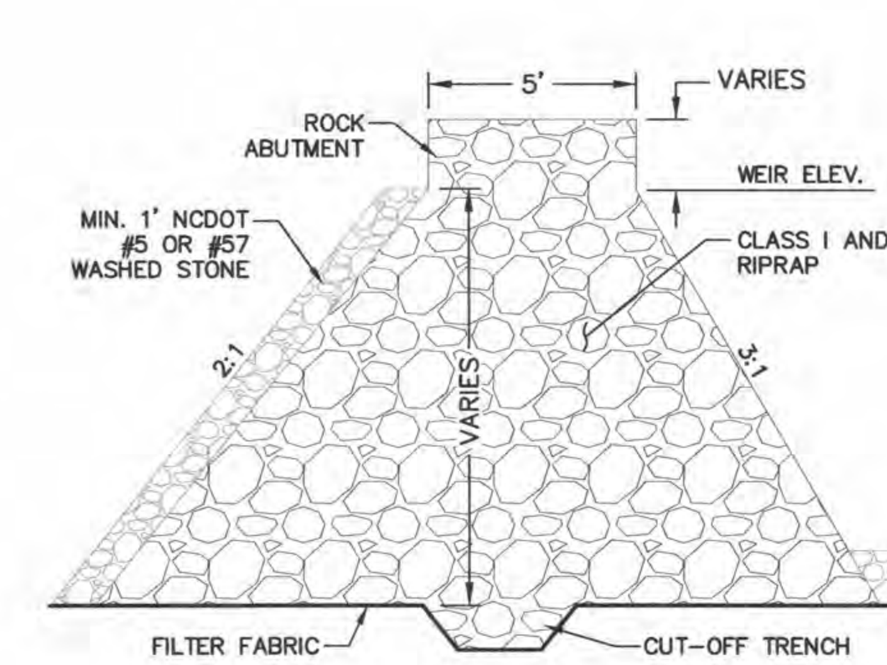
NOTES:
1. PROTECT CRITICAL ROOT ZONE (CRZ) OF TREES PRIOR TO CONSTRUCTION. CLEARLY MARK THE TREES AND ERECT A PROTECTIVE BARRIER AT THE CRZ. BARRIER SHALL BE MAINTAINED UNTIL CONSTRUCTION IS COMPLETE.
2. CRZ RADIUS IS 1 FT PER INCH OF TREE DIAMETER AT BREAST HEIGHT (DBH).
3. IF CONSTRUCTION OCCURS WITHIN THE CRZ, AT LEAST 12" OF MULCH AND/OR LOGGING MATTS SHALL BE PLACED WHERE MACHINERY MANEUVERS TO REDUCE SOIL COMPACTION IN THIS ZONE.
4. WHERE SIDEWALKS AND PATHWAYS PASS WITHIN CRZ, EXTRA CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE ROOTS. ALTERNATE CONSTRUCTION METHODS, SUCH AS A REINFORCED SIDEWALK, SHALL BE IMPLEMENTED AS NECESSARY.
5. FOR ALL TREES, CUTTING OF LARGE STRUCTURAL ROOTS LOCATED NEAR THE BASE OF THE TRUNK IS PROHIBITED. DO NOT COMPACT SOIL BENEATH TREES. NO VEHICLE SHALL BE ALLOWED TO PARK UNDER TREES. NO MATERIALS OR EQUIPMENT SHALL BE STORED BENEATH TREES. DAMAGING THE BARK WITH LAWNMOWERS, CONSTRUCTION EQUIPMENT, OR ANYTHING ELSE IS PROHIBITED. CONTRACTOR SHALL REPAIR DAMAGE TO TREES.
6. FAILING TO INSTALL OR MAINTAIN PROTECTION MEASURES SHALL RESULT IN A STOP WORK ORDER AND FINE OF $500/DAY. DISTURBANCE OTHER THAN THAT ALLOWED ON THE APPROVED PLAN WILL REQUIRE OWNER TO POST A LETTER OF CREDIT FOR 3 YRS FOR TREE MITIGATION.

	STANDARD DETAIL	WILMINGTON NORTH CAROLINA
DATE: JAN. 2015	TREE PROTECTION DURING CONSTRUCTION	CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, NC 28402 (910) 341-7807
DRAWN BY: JSR		
CHECKED BY: RDG, P.E.		
SCALE: NOT TO SCALE	SHEET 1 of 2	SD 15-09



NOTES:
1. THE TREE PROTECTION FENCING SHALL NOT BE VIOLATED FOR THE ENTIRE DURATION OF THE PROJECT WITHOUT APPROVAL FROM URBAN FORESTRY STAFF.
2. WARNING SIGNS TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL. LETTERS TO BE 3" HIGH, MINIMUM, CLEARLY LEGIBLE AND SPACED AS DETAILED.
3. SIGNS SHALL BE PLACED AT 50' MAXIMUM INTERVALS. PLACE A SIGN AT EACH END OF LINEAR TREE PROTECTION AND 50' ON CENTER THEREAFTER. FOR TREE PROTECTION AREAS LESS THAN 100' IN PERIMETER, PROVIDE NO LESS THAN TWO SIGNS PER PROTECTION AREA.
4. ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC. MAINTAIN TREE PROTECTION FENCE AND SIGNS THROUGHOUT DURATION OF PROJECT.
5. TREE PROTECTION FENCING AND SIGNAGE SHALL BE REMOVED AFTER CONSTRUCTION.
6. ADDITIONAL SIGNS MAY BE REQUIRED BY CITY OF WILMINGTON, BASED ON ACTUAL FIELD CONDITIONS.

	STANDARD DETAIL	WILMINGTON NORTH CAROLINA
DATE: JAN. 2015	TREE PROTECTION DURING CONSTRUCTION	CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, NC 28402 (910) 341-7807
DRAWN BY: JSR		
CHECKED BY: RDG, P.E.		
SCALE: NOT TO SCALE	SHEET 2 of 2	SD 15-09



ROCK DAM NOTES:

1. CLEAR THE AREAS UNDER THE EMBANKMENT AND STRIP OF ROOTS AND OTHER OBJECTIONABLE MATERIAL. DELAY CLEANING THE RESEVIOR AREA UNTIL THE DAM IS IN PLACE.

2. COVER THE FOUNDATION AREA INCLUDING THE ABUTMENTS WITH EXTRA-STRENGTH FILTER FABRIC BEFORE BACKFILLING WITH ROCK. IF A CUTOFF TRENCH IS REQUIRED, EXCAVATE AT CENTERLINE OF DAM, EXTENDING ALL THE WAY UP THE EARTH ABUTMENTS. APPLY FILTER FABRIC UNDER THE ROCKFILL EMBANKMENT FROM THE UPSTREAM EDGE OF THE DAM TO THE DOWNSTREAM EDGE OF THE APRON. OVERLAP FILL MATERIAL A MINIMUM OF 1 FOOT AT ALL JOINTS, WITH THE UPSTREAM STRIP LAID OVER THE DOWNSTREAM STRIP.

3. CONSTRUCT THE EMBANKMENT WITH WELL-GRADED ROCK AND GRAVEL TO THE SIZE AND DIMENSIONS SHOWN ON THE DRAWINGS. IT IS IMPORTANT THAT ROCK ABUTMENTS BE AT LEAST 2 FEET HIGHER THAN THE SPILLWAY CREST AND AT LEAST 1 FOOT HIGHER THAN THE DAM, ALL THE WAY TO THE DOWNSTREAM TOE, TO PREVENT SCOUR AND EROSION AT THE ABUTMENTS.

4. SEDIMENT-LADEN WATER FROM THE CONSTRUCTION SITE SHOULD BE DIVERTED INTO THE BASIN RESERVOIR AT THE FURTHEST AREA FROM THE DAM.

5. CONSTRUCT THE ROCK DAM BEFORE THE BASIN AREA IS CLEARED TO MINIMIZE SEDIMENT YIELD FROM CONSTRUCTION OF THE BASIN. IMMEDIATELY STABILIZE ALL AREAS DISTURBED DURING THE CONSTRUCTION OF THE DAM EXCEPT THE SEDIMENT POOL (REFERENCE: SURFACE STABILIZATION).

6. SAFETY - SEDIMENT BASINS SHOULD BE CONSIDERED DANGEROUS BECAUSE THEY ATTRACT CHILDREN. STEEP SIDE SLOPES SHOULD BE AVOIDED. FENCES WITH WARNING SIGNS MAY BE NEEDED IF TRESPASSING IS LIKELY. ALL STATE AND LOCAL REQUIREMENTS MUST BE FOLLOWED.

MAINTENANCE:
CHECK SEDIMENT BASINS AFTER EACH RAINFALL. REMOVE SEDIMENT AND RESTORE ORIGINAL VOLUME WHEN SEDIMENT ACCUMULATES TO ABOUT ONE-HALF THE DESIGN VOLUME. SEDIMENT SHOULD BE PLACED ABOVE THE BASIN AND ADEQUATELY STABILIZED.

CHECK THE STRUCTURE FOR EROSION, PIPING, AND ROCK DISPLACEMENT WEEKLY AND AFTER EACH SIGNIFICANT (1/2" OR GREATER) RAINSTORM AND REPAIR IMMEDIATELY.

REMOVE THE STRUCTURE AND ANY UNSTABLE SEDIMENT IMMEDIATELY AFTER THE CONSTRUCTION SITE HAS BEEN PERMANENTLY STABILIZED. SMOOTH THE BASIN SITE TO BLEND WITH THE SURROUNDING AREA AND STABILIZE. ALL WATER AND SEDIMENT SHOULD BE REMOVED FROM THE BASIN PRIOIR TO DAM REMOVAL. SEDIMENT SHOULD BE PLACED IN DESIGNATED DISPOSAL AREAS AND NOT ALLOWED TO FLOW INTO STREAMS OR DRAINAGE AREAS DURING STRUCTURE REMOVAL.

6 TEMPORARY ROCK DAM DETAIL

CALL 811 (3) WORKING DAYS BEFORE YOU DIG.

SYMBOL	DATE	DESCRIPTION	BY
		REVISIONS	

NOTES & DETAILS
ZIMMER DEVELOPMENT
COMPANY OFFICE - MAYFAIRE
6725 MONUMENT DRIVE
WILMINGTON, N. C.

OWNER/DEVELOPER
MAYFAIRE I, LLC / JEFFREY L. ZIMMER
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PHONE: (910) 763-4669
EMAIL: JEFFREYZIMMER@ZDC.COM

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ASH, NC 28420
PHONE (910) 287-5900

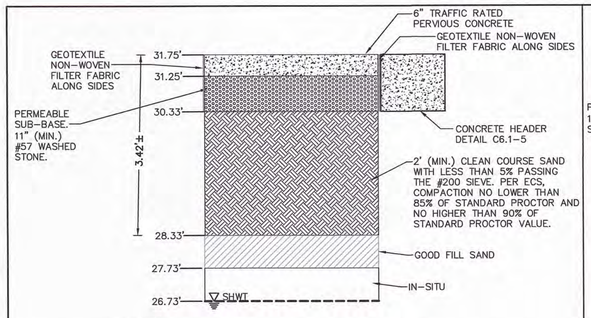
Licence #C-3641

21144

DES.	JST
CKD.	JPN
DRWN.	RPH
DATE	1/24/23

[redacted]

C6.0



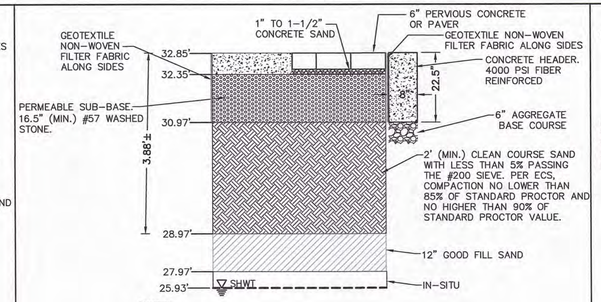
NOTES:

1. PRIOR TO ROCK & PERVIOUS CONCRETE PLACEMENT, IN PLACE INFILTRATION TESTING REQUIRED.
2. TRAFFIC RATED PERVIOUS MATERIALS SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS.
3. PERVIOUS MATERIALS SECTION MAY VARY DEPENDING UPON FIELD CONDITIONS.
4. ALL FILL MATERIAL 2'(MIN.) UNDER PROPOSED PERVIOUS MATERIALS SHALL BE CLEAN COARSE SAND WITH LESS THAN 5% PASSING #200 SIEVE.
5. ADDITIONAL NOTES ON C6.2

PC #1 R1

NOT TO SCALE

1 PERVIOUS PAVEMENT SECTION DRIVEWAY/PARKING



NOTES:

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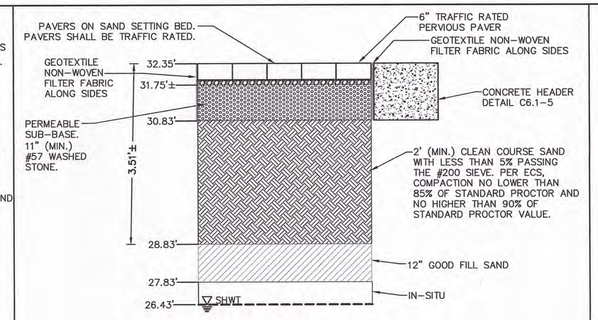
3. PERVIOUS MATERIALS SECTION MAY VARY DEPENDING UPON FIELD CONDITIONS.
4. ALL FILL MATERIAL 2'(MIN.) UNDER PROPOSED PERVIOUS MATERIALS SHALL BE CLEAN COARSE SAND WITH LESS THAN 5% PASSING #200 SIEVE.
5. CONCRETE HEADER MUST EXTEND TO DEPTH OF #57 STONE.
6. ADDITIONAL NOTES ON C6.2

PC #2 R1

NOT TO SCALE

4 PERVIOUS PAVEMENT SECTION WALKWAY



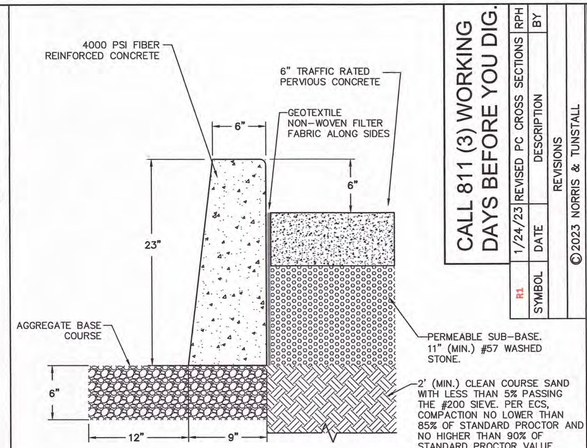
NOTES:

1. PRIOR TO ROCK & PERVIOUS PAVER PLACEMENT, IN PLACE INFILTRATION TESTING REQUIRED.
2. TRAFFIC RATED PERVIOUS MATERIALS SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS.
3. PERVIOUS MATERIALS SECTION MAY VARY DEPENDING UPON FIELD CONDITIONS.
4. ALL FILL MATERIAL 2'(MIN.) UNDER PROPOSED PERVIOUS MATERIALS SHALL BE CLEAN COARSE SAND WITH LESS THAN 5% PASSING #200 SIEVE.
5. ADDITIONAL NOTES ON C6.2

PC #1A R1

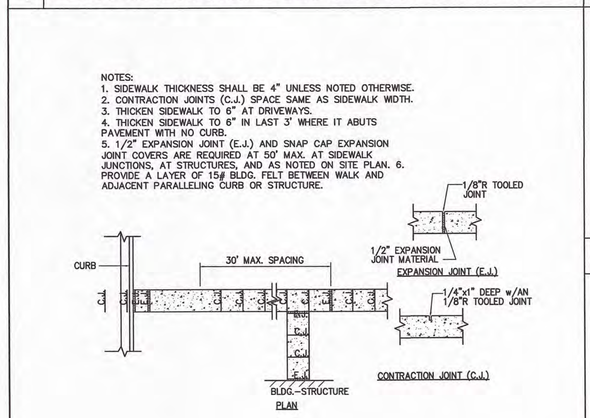
NOT TO SCALE

8 PERVIOUS PAVER SECTION



NOT TO SCALE

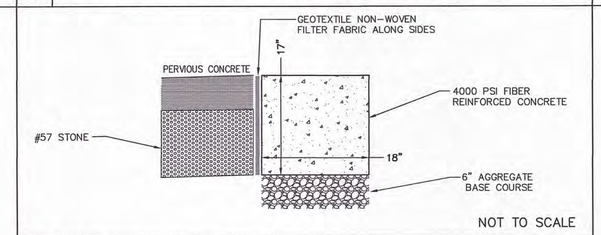
11 VERTICAL CURB



NOTES:
1. SIDEWALK THICKNESS SHALL BE 4" UNLESS NOTED OTHERWISE.
2. CONTRACTION JOINTS (C.J.) SPACE SAME AS SIDEWALK WIDTH.
3. THICKEN SIDEWALK TO 6" AT DRIVEWAYS.
4. THICKEN SIDEWALK TO 6" IN LAST 3' WHERE IT ABUTS PAVEMENT WITH NO CURB.
5. 1/2" EXPANSION JOINT (E.J.) AND SNAP CAP EXPANSION JOINT COVERS ARE REQUIRED AT 50' MAX. AT SIDEWALK JUNCTIONS, AT STRUCTURES, AND AS NOTED ON SITE PLAN. 6. PROVIDE A LAYER OF 15# BLDG. FELT BETWEEN WALK AND ADJACENT PARALLELING CURB OR STRUCTURE.

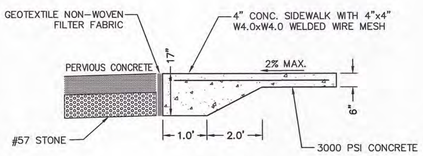
NOT TO SCALE

2 SIDEWALK JOINT DETAIL



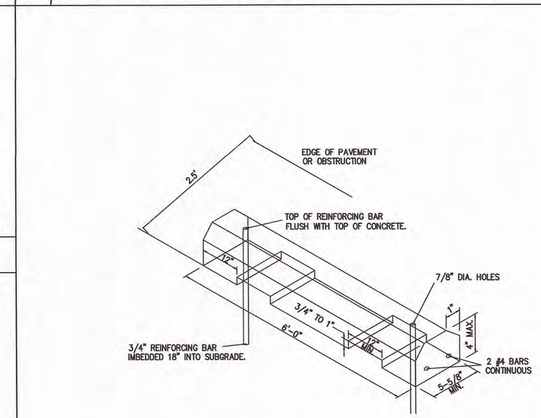
NOT TO SCALE

5 HEADER CURB



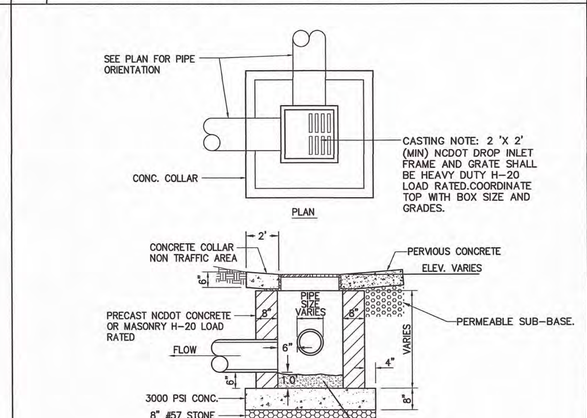
NOT TO SCALE

6 TURN DOWN WALK SECTION



NOT TO SCALE

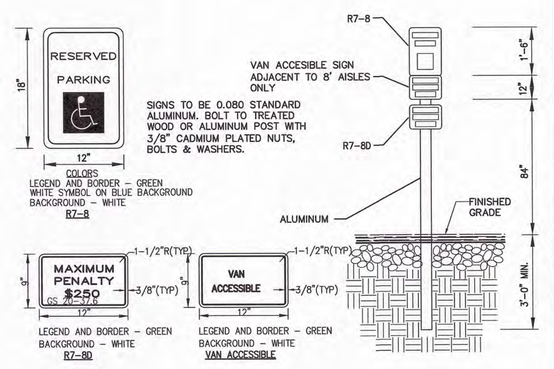
9 CONCRETE WHEELSTOP DETAIL



MUST COMPLY WITH CITY OF WILMINGTON STANDARDS

NOT TO SCALE

12 DROP INLET DETAIL



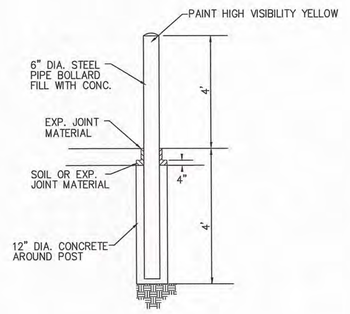
NOT TO SCALE

3 TYPICAL HANDICAPPED SIGN DETAIL

NOTE:
1. RAMP SHALL HAVE A DETECTABLE WARNING COMPLYING WITH ADA GUIDELINES:
2. THE DETECTABLE WARNINGS AT CURB RAMPS SHALL BE 24 INCHES MINIMUM IN THE DIRECTION OF TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE.
3. MARKED CROSSINGS THAT ARE RAISED TO THE SAME LEVEL AS THE ADJOINING SIDEWALK SHALL BE PRECEDED BY A 24 INCH DEEP DETECTABLE WARNING EXTENDING THE FULL WIDTH OF THE MARKED CROSSING.
4. DETECTABLE WARNINGS SHALL CONSIST OF RAISED TRUNCATED DOMES WITH A DIAMETER OF NOMINAL 0.9 IN (23 MM), A HEIGHT OF NOMINAL 0.2 IN (5 MM) AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35 IN (60 MM) AND SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT. THE MATERIAL USED TO PROVIDE CONTRAST SHOULD CONTRAST BY AT LEAST 70% - REFER TO ADA GUIDELINES FOR DEFINITION OF "CONTRAST".
5. THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE. DETECTABLE WARNINGS USED ON INTERIOR SURFACES SHALL DIFFER FROM ADJOINING WALKING SURFACES IN RESILIENCY OR SOUND-ON-CANE CONTACT.

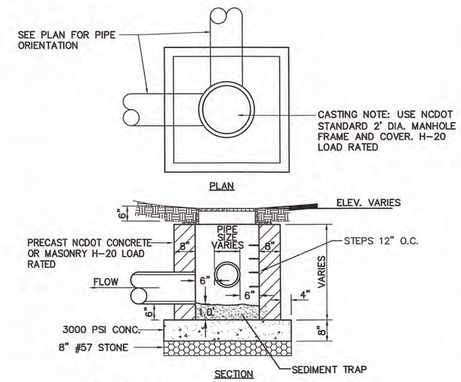
NOT TO SCALE

7 NOTES ON DETECTABLE WARNING FOR WHEEL CHAIR RAMPS



NOT TO SCALE

10 PIPE BOLLARD DETAIL



MUST COMPLY WITH CITY OF WILMINGTON STANDARDS

NOT TO SCALE

13 JUNCTION BOX

CALL 811 (3) WORKING DAYS BEFORE YOU DIG.

SYMBOL	DATE	DESCRIPTION	BY
R1	1/24/23	REVISED PC CROSS SECTIONS	RPH
		REVISIONS	

NOTES & DETAILS
ZIMMER DEVELOPMENT
COMPANY OFFICE - MAYFAIRE
6725 MONUMENT DRIVE
WILMINGTON, N. C.

OWNER/DEVELOPER
MAYFAIRE I, LLC / JEFFREY L. ZIMMER
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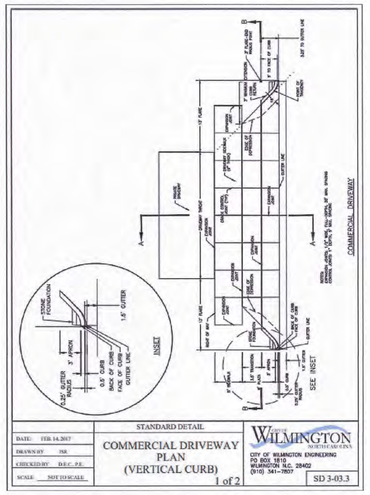
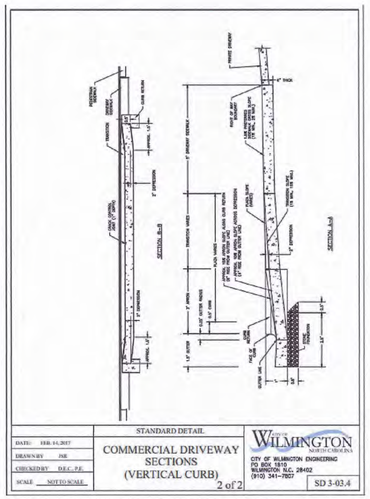
Licence #C-3641

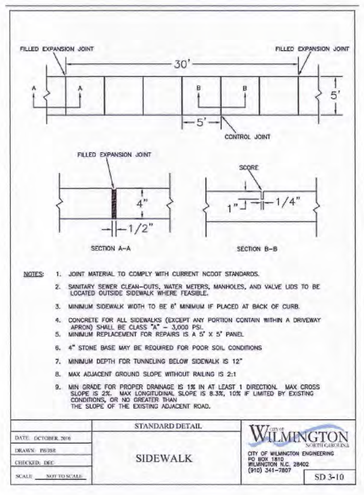
21144

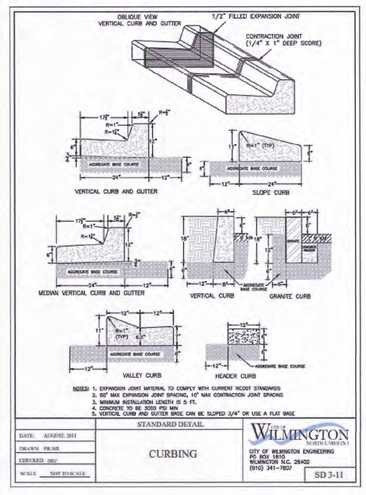
DES.	JST
CKD.	JPN
DRWN.	RPH
DATE	1/24/23

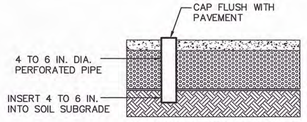
C6.1











PERVIOUS PAVEMENT OBSERVATION WELL NOTES:

1. IF THE SUBGRADE IS NOT TERRACED, THEN THE OBSERVATION WELL SHALL BE PLACED AT THE LOW END OF THE SUBGRADE SLOPE. IF THE SUBGRADE IS TERRACED, THEN ONE OBSERVATION WELL SHALL BE BUILT INTO THE LOW END OF EACH TERRACE.
2. OBSERVATION WELLS SHALL BE FITTED WITH A LOCKABLE CAP INSTALLED PLACED EVEN WITH THE PAVEMENT SURFACE TO FACILITATE QUARTERLY INSPECTION AND MAINTENANCE.
3. THE OBSERVATION WELL SHALL CONSIST OF A RIGID 4 TO 6 IN. DIAMETER PERFORATED PVC PIPE.

NOT TO SCALE

1 PERVIOUS PAVEMENT OBSERVATION WELL

CALL 811 (3) WORKING DAYS BEFORE YOU DIG.

SYMBOL	DATE	DESCRIPTION	BY
		REVISIONS	

NOTES & DETAILS
ZIMMER DEVELOPMENT
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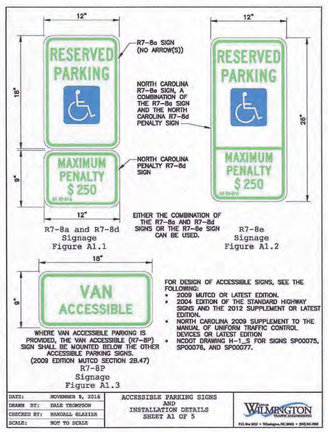
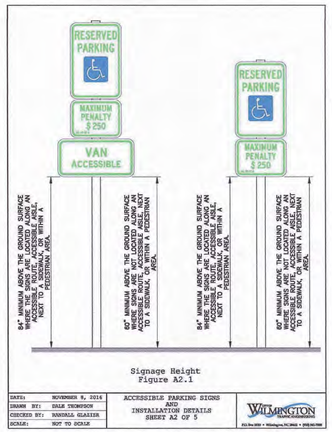
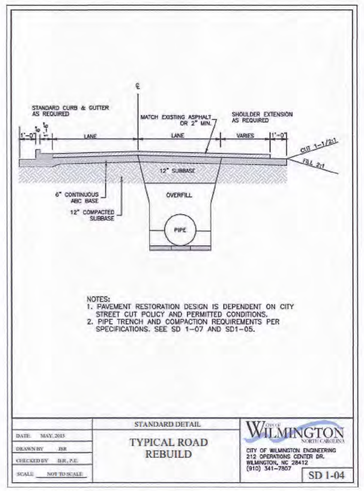
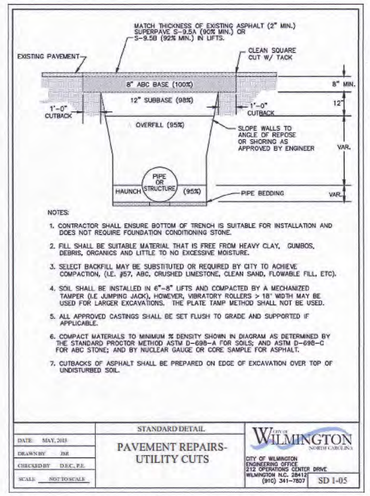








PERMEABLE PAVEMENT CONSTRUCTION SEQUENCE:

The following is a typical construction sequence to properly install pervious concrete. The means and methods of installation shall be determined by the contractor and shall be installed per the manufacturer recommendations, product standards and industry guidelines.

Step 1. Construction of the permeable pavement shall only begin after the entire contributing drainage area has been stabilized. The proposed site should be checked for existing utilities prior to any excavation. Do not install the system in rain or snow.

Step 2. Temporary erosion and sediment (E&S) controls (silt fence) are needed during installation to divert stormwater away from the permeable pavement area until it is completed. The proposed permeable pavement area must be kept free from sediment during the entire construction process. Construction materials that are contaminated by sediments must be removed and replaced with clean materials.

Step 3. Where possible, excavators or backhoes should work from the sides to excavate the aggregate layer to its appropriate design depth and dimensions.

Step 4. In-situ soil testing shall be done after excavation to verify existing infiltration rate. Soils testing shall be conducted by an appropriately qualified professional, the testing can be done by the contractor, the designer, or a third party hired by owner. The results of the testing shall be given to the designer of record for review. If results show a lower infiltration rate than the rate of design the depth of aggregate must be revised.

Step 5. The native soils along the bottom and sides of the permeable pavement system should be scarified or tilled to a depth of 3 to 4 inches prior to the placement of the filter layer or filter fabric.

Step 6. Filter fabric should be installed on the bottom and the sides of the aggregate layer.

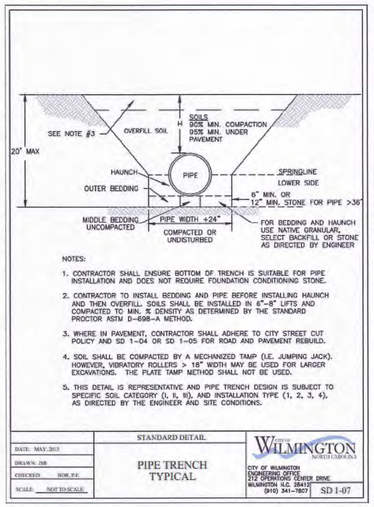
Step 7. Place observation wells as shown on plans.

Step 8. Inspect all aggregate prior to placement. Ensure aggregate is clean, free of fines and conform to the plans and specifications. All aggregate shall be spread (not dumped). Moisten and spread the washed stone without driving on the soil subgrade, being careful not to damage the observation wells. Follow compaction recommendations by the permeable pavement manufacturer or that from industry guidelines.

Step 9. Ensure edge restraints and barriers between permeable pavement are installed per design.

Step 10. Contractor is to follow standard installation procedures for the specific type of pervious pavement that is being installed. For this project pervious concrete will be installed. Only certified and experienced contractors shall install the pervious concrete and installation shall be per the manufacturer recommendations, product standards and industry guidelines. Pervious concrete shall be constructed in accordance with the latest version of ACI 522.1, Specifications for Pervious Concrete.

Step 11. After installation, protect the installed pervious concrete until project completion, including routing construction traffic away from the installed pervious concrete. Contractor shall provide protection techniques including mats, plastic sheeting and barriers to ensure the pervious concrete remains protected until project completion.



NOT TO SCALE

1 TYPICAL GRASS SWALE

FIRE AND LIFE SAFETY NOTES:

1. FIRE HYDRANTS MUST BE WITHIN 150' OF THE FIRE DEPARTMENT CONNECTION.
2. THE FIRE DEPARTMENT CONNECTION MUST BE WITHIN 40' OF FIRE APPARATUS PLACEMENT.
3. LANDSCAPING AND PARKING CANNOT BLOCK OR IMPEDE THE FIRE DEPARTMENT CONNECTIONS OR FIRE HYDRANTS. A 3' CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE FIRE HYDRANT CONNECTION AND THE FIRE HYDRANT.
4. FIRE HYDRANTS MUST BE LOCATED WITHIN 8' OF THE CURB.
5. NEW HYDRANTS MUST BE AVAILABLE FOR USE PRIOR TO CONSTRUCTION OF THE BUILDINGS.
6. NEW HYDRANTS MUST BE BROUGHT INTO SERVICE PRIOR TO COMBUSTIBLE MATERIALS BEING DELIVERED TO THE JOB SITE.
7. THE CONTRACTOR WILL MAINTAIN ALL-WEATHER EMERGENCY ACCESS TO CONSTRUCTION SITE AT ALL TIMES.
8. TEMPORARY STREET SIGNS SHALL BE INSTALLED AT EACH STREET INTERSECTION WHEN CONSTRUCTION OF NEW ROADWAYS ALLOWS PASSAGE BY VEHICLES.
9. 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.
10. A MINIMUM OF 5' SHALL SEPARATE UNDERGROUND FIRE LINES OR PRIVATE WATER MAINS FROM OTHER UNDERGROUND UTILITIES.
11. HYDRANTS SHALL BE OF SUFFICIENT NUMBERS TO ACCOMODATE BASE FIRE FLOW REQUIREMENTS OF THE STRUCTURE.
12. ADDITIONAL FIRE PROTECTION AND/OR ACCESSIBILITY REQUIREMENTS MAY BE REQUIRED DUE TO ANY SPECIAL CIRCUMSTANCES CONCERNING THE PROJECT.
13. THE CONTRACTOR SHALL SUBMIT A RADIO SIGNAL STRENGTH STUDY THAT DEMONSTRATES THAT EXISTING EMERGENCY RESPONDER RADIO SIGNAL LEVELS MEET THE REQUIREMENTS OF SEC. 510 OF THE 2018 FIRE CODE.
14. BUILDING CONSTRUCTION TYPE: II-B
15. PRIVATE UNDERGROUND FIRE LINES REQUIRE A SEPARATE UNDERGROUND FIRE LINE PERMIT FROM THE WILMINGTON FIRE AND LIFE SAFETY DIVISION 910-343-0696
16. ALL ISOLATION VALVES WITHIN THE "HOT BOX" AND BETWEEN THE "HOT BOX" AND THE RISER ROOM MUST BE ELECTRICALLY SUPERVISED.

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DATE	1/24/23

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C6.2

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

Required Ground Stabilization Timeframes

Site Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
• Temporary grass seed covered with straw or other mulches and tackifiers • Hydroseeding • Rolled erosion control products with or without temporary grass seed • Appropriately applied straw or other mulch • Plastic sheeting	• Permanent grass seed covered with straw or other mulches and tackifiers • Geotextile fabrics such as permanent soil reinforcement matting • Hydroseeding • Shrubs or other permanent plantings covered with mulch • Uniform and evenly distributed ground cover sufficient to restrain erosion • Structural methods such as concrete, asphalt or retaining walls • Rolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

1. Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
2. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
3. Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
4. Provide ponding area for containment of treated Stormwater before discharging offsite.
5. Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

1. Maintain vehicles and equipment to prevent discharge of fluids.
2. Provide drip pans under any stored equipment.
3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
4. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
5. Remove leaking vehicles and construction equipment from service until the problem has been corrected.
6. Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
4. Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
6. Anchor all lightweight items in waste containers during times of high winds.
7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
8. Dispose waste off-site at an approved disposal facility.
9. On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. Contain liquid wastes in a controlled area.
4. Containment must be labeled, sized and placed appropriately for the needs of site.
5. Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

PORTABLE TOILETS

1. Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
3. Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
3. Provide stable stone access point when feasible.
4. Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.

NORTH CAROLINA Environmental Quality

CONCRETE WASHOUTS

1. Do not discharge concrete or cement slurry from the site.
2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
3. Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
4. Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
5. Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
6. Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
7. Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
8. Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
9. Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
10. At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

HERBICIDES, PESTICIDES AND RODENTICIDES

1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
3. Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
4. Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

1. Create designated hazardous waste collection areas on-site.
2. Place hazardous waste containers under cover or in secondary containment.
3. Do not store hazardous chemicals, drums or bagged materials directly on the ground.

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those un-attended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description of maintenance needs for the measure, 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDOs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, 5. Indication of visible sediment leaving the site, 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits, 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be documented in the manner described:

Item to Document	Documentation Requirements
(a) Each E&SC Measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC Plan.	Initial and date each E&SC Measure on a copy of the approved E&SC Plan or complete, date and sign an inspection report that lists each E&SC Measure shown on the approved E&SC Plan. This documentation is required upon the initial installation of the E&SC Measures or if the E&SC Measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&SC Plan.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&SC Measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC Measures.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation

In addition to the E&SC Plan documents above, the following items shall be kept on the site

and available for agency inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

(a) This general permit as well as the certificate of coverage, after it is received.

(b) Records of inspections made during the previous 30 days. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

(c) All data used to complete the Notice of Intent and older inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that must be reported

Permittees shall report the following occurrences:

(a) Visible sediment deposition in a stream or wetland.

(b) Oil spills if:
- They are 25 gallons or more,
- They are less than 25 gallons but cannot be cleaned up within 24 hours,
- They cause sheen on surface waters (regardless of volume), or
- They are within 100 feet of surface waters (regardless of volume).

(a) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.

(b) Anticipated bypasses and unanticipated bypasses.

(c) Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Division's Emergency Response personnel at (800) 662-7956, (800) 858-0368 or (919) 733-3300.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. • If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	• ***Within 24 hours***, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	• ***A report at least ten days before the date of the bypass, if possible***. The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment[40 CFR 122.41(l)(7)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6). • Division staff may waive the requirement for a written report on a case-by-case basis.

NORTH CAROLINA Environmental Quality

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19

EROSION CONTROL NOTES AND MAINTENANCE PLAN:

1. ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED FOR STABILITY AND OPERATION 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 THAT WILL BE PERIODICALLY TOP-DRESSED WITH AN ADDITIONAL 2 INCHES OF #4 STONE TO MAINTAIN PROPER DEPTH. THEY 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 OR ROADWAYS.

3. SEDIMENT WILL BE REMOVED FROM HARDWARE CLOTH AND GRAVEL INLET PROTECTION, BLOCK AND GRAVEL INLET PROTECTION, ROCK DOUGHNUT INLET PROTECTION AND ROCK PIPE INLET PROTECTION WHEN THE DESIGNED STORAGE CAPACITY HAS BEEN HALF FILLED WITH SEDIMENT. ROCK WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS AS DESIGNED. DEBRIS WILL BE REMOVED FROM THE ROCK AND HARDWARE CLOTH TO ALLOW PROPER DRAINAGE. SILT SACKS WILL BE EMPTIED ONCE A WEEK AND AFTER EVERY RAIN EVENT. SEDIMENT WILL BE REMOVED FROM AROUND WATTLES, BEAVER DAMS, DANDY SACKS AND SOCKS ONCE A WEEK AND AFTER EVERY RAIN EVENT.

4. DIVERSION DITCHES WILL BE CLEANED OUT IMMEDIATELY TO REMOVE SEDIMENT OR OBSTRUCTIONS FROM THE FLOW AREA. THE DIVERSION RIDGES WILL ALSO BE REPAIRED. SWALES MUST BE TEMPORARILY STABILIZED WITHIN 21 CALENDAR DAYS OF CEASE OF ANY PHASE OF ACTIVITY ASSOCIATED WITH A SWALE.

5. 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.

6. SEDIMENT WILL BE REMOVED FROM SEDIMENT TRAPS WHEN THE DESIGNED STORAGE CAPACITY HAS BEEN HALF FILLED WITH SEDIMENT. THE ROCK WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS OR WHEN THE ROCK IS DISLODGED. 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 1ST BAFFLE. FLOATING SKIMMERS WILL BE INSPECTED AND KEPT CLEAN WEEKLY.

7. SEDIMENT WILL BE REMOVED FROM THE SEDIMENT BASIN WHEN THE DESIGN STORAGE CAPACITY HAS BEEN HALF FILLED WITH SEDIMENT. ROCK WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS OR IF THE ROCK IS DISLODGED. BAFFLES WILL BE REPAIRED OR REPLACED IF THEY COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE. THEY WILL BE REPLACED PROMPTLY. SEDIMENT WILL BE REMOVED FROM BAFFLES WHEN DEPOSITS REACH HALF THE HEIGHT OF THE 1ST BAFFLE. FLOATING SKIMMERS WILL BE INSPECTED WEEKLY AND WILL BE KEPT CLEAN.

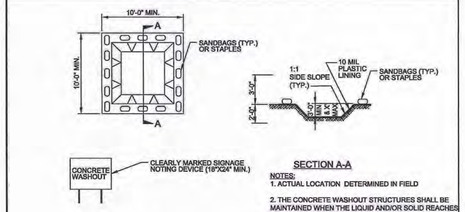
8. LAND QUALITY REQUIRES:
ALL SEEDED AREAS WILL BE FERTILIZED, RESEEDED AS NECESSARY, AND MULCHED, ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER. ALL SLOPES WILL BE STABILIZED WITHIN 21 CALENDAR DAYS. ALL OTHER AREAS WILL BE STABILIZED WITHIN 15 WORKING DAYS.
WATER QUALITY REQUIRES:
ALL SEEDED AREAS WILL BE FERTILIZED, RESEEDED AS NECESSARY AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER. ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, ALL SLOPES STEEPER THAN 3' HORIZONTAL TO 1' VERTICAL (3:1) AND ALL HIGH QUALITY WATER (HQW) ZONES SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN SEVEN (7) CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY. ALL OTHER DISTURBED AREAS SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 14 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY.

9. FLOCCULANTS WILL BE USED TO ADDRESS TURBIDITY ISSUES. THE PUMPS, TANKS, HOSES AND INJECT SYSTEMS WILL BE CHECKED FOR PROBLEMS OR TURBID DISCHARGES DAILY.

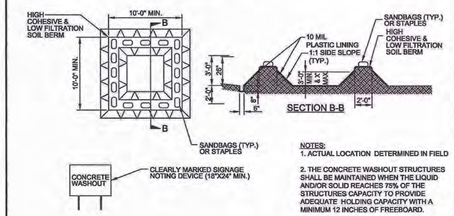
10. BASIN OUTLET STRUCTURES AND SKIMMERS SHALL WITHDRAW WATER FROM THE SURFACE.

11. CONCRETE WASHOUTS SHOULD BE INSPECTED DAILY AND AFTER HEAVY RAINS. DAMAGES SHOULD BE REPAIRED PROMPTLY. IF FILLED TO OVER 75% CAPACITY WITH RAIN WATER IT SHOULD BE VACUUMED OR ALLOWED TO EVAPORATE TO AVOID OVERFLOWS. BEFORE HEAVY RAINS THE CONTAINERS LIQUID LEVEL SHOULD BE LOWERED OR THE CONTAINER COVERED TO AVOID AN OVER FLOW DURING RAIN. WHEN SOLIDS HAVE HARDENED THEY SHOULD BE REMOVED AND RECYCLED.

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



BELOW GRADE WASHOUT STRUCTURE
NOT TO SCALE



ABOVE GRADE WASHOUT STRUCTURE
NOT TO SCALE

PERMANENT SEEDING RECOMMENDATIONS FOR FALL AND EARLY SPRING

SEEDING MIXTURE

SPECIES	RATE (lb/acre)	(lb/1000 sf)
TALL FESCUE	80	1.84
PENSACOLA BAHIAGRASS	50	1.15
SERICEA LESPEDEZA	30	0.69
KOBE LESPEDEZA	10	0.23

SEEDING NOTES:
1. FROM SEPT. 1 THRU MAR. 1, USE UNSCARIFIED SERICEA SEED.
2. ON POORLY DRAINED SITES OMIT SERICEA AND INCREASE KOBE TO 30 lbs/acre.
3. WHERE A NEAT APPEARANCE IS DESIRED, OMIT SERICEA AND INCREASE KOBE TO 40 lbs/acre.

NURSE PLANTS: BETWEEN APR. 15 AND AUG. 15, ADD 10 lbs/acre GERMAN MILLET OR 15 lbs/acre SUDANGRASS. PRIOR TO MAY 1 OR AFTER AUG. 15 ADD 25 lbs/acre RYE (GRAIN).

SEEDING DATES:	BEST	POSSIBLE
EARLY SPRING:	FEB 15—MAR. 20	FEB.15—APR. 30
FALL:	SEPT. 1—SEPT. 30	SEPT. 1—OCT. 31

SOIL AMENDMENTS:
APPLY LIME AND FERTILIZE ACCORDING TO SOIL TESTS, OR APPLY 3,000—5,000 lbs/acre (68.9—114.8 lbs/1,000 sf) GROUND AGRICULTURAL LIMESTONE (USE THE LOWER RATE ON SANDY SOILS) AND 1,000 lbs/acre (22.9 lbs/1,000 sf) 10—10—10 FERTILIZER.
MULCH:
APPLY 4,000 lb/acre (91.8 lbs/1,000 sf) GRAIN STRAW OR EQUIVALENT COVER OF ANOTHER SUITABLE MULCH. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR ROVING OR BY CRIMPING WITH A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.
MAINTENANCE:
IF GROWTH IS LESS THAN FULLY ADEQUATE, REFERTILIZE IN THE SECOND YEAR, ACCORDING TO SOIL TESTS OR TOPDRESS WITH 500 lbs/acre (11.5 lbs/1,000 sf) 10—10—10 FERTILIZER. MOW AS NEEDED WHEN SERICEA IS OMITTED FROM THE MIXTURE. RESEED, FERTILIZE, AND MULCH DAMAGED AREAS IMMEDIATELY.

PERMANENT SEEDING RECOMMENDATIONS FOR LATE SPRING AND EARLY SUMMER

SEEDING MIXTURE

SPECIES	RATE (lb/acre)	(lb/1000 sf)
PENSACOLA BAHIAGRASS	50	1.15
SERICEA LESPEDEZA	30	0.69
COMMON BERMUDA	10	0.23
GERMAN MILLET	10	0.23

SEEDING NOTES:
1. WHERE A NEAT APPEARANCE IS DESIRED, OMIT SERICEA.
2. USE COMMON BERMUDAGRASS ONLY ON ISOLATED SITES WHERE IT CANNOT BECOME A PEST. BERMUDAGRASS MAY BE REPLACED WITH 5 lbs/acre CENTIPEDEGRASS.

SEEDING DATES:
APRIL 1—JULY 15
SOIL AMENDMENTS:
APPLY LIME AND FERTILIZE ACCORDING TO SOIL TESTS, OR APPLY 3,000 lbs/acre (68.9 lbs/1,000 sf) GROUND AGRICULTURAL LIMESTONE AND 500 lbs/acre (11.5 lbs/1,000 sf) 10—10—10 FERTILIZER.
MULCH:
APPLY 4,000 lb/acre (91.8 lbs/1,000 sf) GRAIN STRAW OR EQUIVALENT COVER OF ANOTHER SUITABLE MULCH. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR ROVING OR BY CRIMPING WITH A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.
MAINTENANCE:
REFERTILIZE THE FOLLOWING APRIL WITH 50 lbs/acre (1.15 lbs/1,000 sf) NITROGEN. REPEAT AS GROWTH REQUIRES. MAY BE MOWED ONLY ONCE A YEAR. WHERE A NEAT APPEARANCE IS DESIRED, OMIT SERICEA AND MOW AS OFTEN AS NEEDED.

TEMPORARY SEEDING RECOMMENDATIONS FOR SUMMER

SEEDING MIXTURE

SPECIES	RATE (lb/acre)	(lb/1000 sf)
GERMAN MILLET	40	0.92

IN THE PIEDMONT AND MOUNTAINS, A SMALL-STEMMED SUDANGRASS MAY BE SUBSTITUTED AT A RATE OF 50 lb/acre.

SEEDING DATES:
MOUNTAINS — MAY 15 — AUG. 15
PIEDMONT — MAY 1 — AUG. 15
COASTAL PLAIN — APR. 15 — AUG. 15
SOIL AMENDMENTS:
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 lb/acre GROUND AGRICULTURAL LIMESTONE AND 750 lb/acre 10—10—10 FERTILIZER.
MULCH:
APPLY 4,000 lb/acre STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.
MAINTENANCE:
REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

TEMPORARY SEEDING RECOMMENDATIONS FOR FALL

SEEDING MIXTURE

SPECIES	RATE (lb/acre)	(lb/1000 sf)
RYE (GRAIN)	120	2.75

SEEDING DATES:
MOUNTAINS — AUG. 15 — DEC. 15
COASTAL PLAIN AND PIEDMONT — AUG. 15 — DEC. 15
SOIL AMENDMENTS:
FOLLOW SOIL TEST OR APPLY 2,000 lb/acre GROUND AGRICULTURAL LIMESTONE AND 1,000 lb/acre 10—10—10 FERTILIZER.
MULCH:
APPLY 4,000 lb/acre STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.
MAINTENANCE:
REPAIR AND REFERTILIZE DAMAGE AREAS IMMEDIATELY. TOP DRESS WITH 50 lb/acre OF NITROGEN IN MARCH, IF IT IS NECESSARY TO EXTEND TEMPORARY COVER BEYOND JUNE 15, OVERSEED WITH 50 lb/acre KOBE (PIEDMONT AND COASTAL PLAIN) OR KOREAN (MOUNTAINS) LESPEDEZA IN LATE FEBRUARY OR EARLY MARCH.

TEMPORARY SEEDING RECOMMENDATIONS FOR LATE WINTER AND EARLY SPRING

SEEDING MIXTURE

SPECIES	RATE (lb/acre)	(lb/1000 sf)
RYE (GRAIN)	120	2.75
ANNUAL LESPEDEZA (KOBE IN PIEDMONT AND COASTAL PLAIN, KOREAN IN MOUNTAINS)	50	1.15

OMIT ANNUAL LESPEDEZA WHEN DURATION OF TEMPORARY COVER IS NOT TO EXTEND BEYOND JUNE.

SEEDING DATES:

MOUNTAINS —	ABOVE 2,500 FEET:	FEB. 15 — MAY 15
	BELOW 2,500 FEET:	FEB. 1 — MAY 1
PIEDMONT —		JAN. 1 — MAY 1
COASTAL PLAIN —		DEC. 1 — APRIL 15

SOIL AMENDMENTS:
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 lb/acre GROUND AGRICULTURAL LIMESTONE AND 750 lb/acre 10—10—10 FERTILIZER.
MULCH:
APPLY 4,000 lb/acre STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.
MAINTENANCE:
REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

CALL 811 (3) WORKING DAYS BEFORE YOU DIG.

SYMBOL	DATE	DESCRIPTION	BY
		REVISIONS	

NOTES & DETAILS
ZIMMER DEVELOPMENT
COMPANY OFFICE - MAYFAIRE
6725 MONUMENT DRIVE
WILMINGTON, N. C.

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