

40840 Sq. Feet
109-004-028-000
MF-1



CONSERVATION EASEMENT (30.67 Acres)
NORTH CAROLINA COASTAL LAND TRUST
BK 3348 PG 985-997
THE OLEANDER COMPANY
BK 631 PG 67
ZONED O&I-1

S&R PROPERTIES, III, LLC
BK 5534 PG 607
R06110-005-000-000
ZONED O&I-1
NURSING/CONVALESCENT

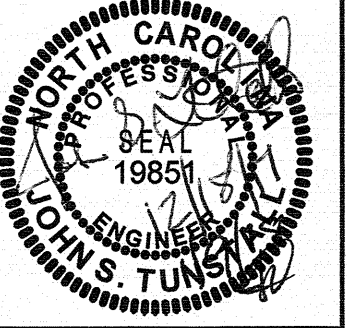
SYMBOL	DATE	DESCRIPTION	REVISIONS	BY
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INVENTORY SITE PLAN
LIVE OAK BANKING COMPANY 3/FITPARK
1741 TIBURON DRIVE
WILMINGTON, NORTH CAROLINA 28403

OWNER/DEVELOPER
W. LEE WILLIAMS
EXECUTIVE VICE PRESIDENT
LIVE OAK BANKING COMPANY
1741 TIBURON DRIVE
WILMINGTON, NC 28403
910-796-1647
866-570-5526

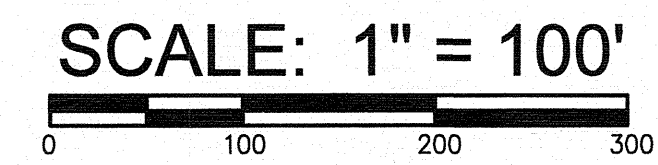
NORRIS & TUNSTALL
CONSULTING ENGINEERS P.C.
1420 ASH-LITTLE RIVER RD, NW
ASH, NC 28420
PHONE (910) 287-5900

16169
DES. JST
CRD. JPN
DRWN. NKS
DATE 12/18/17

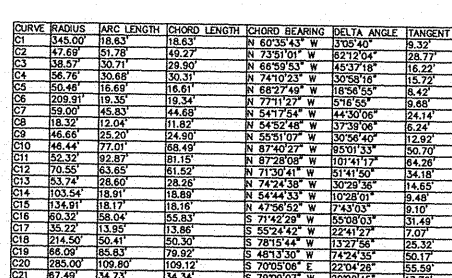


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SITE DATA	
OWNER:	LIVE OAK BANGSHARES, INC.
PARCEL ADDRESS:	1741 TIBURON DR.
PARCEL ID#:	R06109-004-034-000
MAP ID#:	313609.15.2660.000
PARCEL ID#:	R06109-004-032-000
MAP ID#:	313609.16.2484.000
ZONING:	O&I-1 (CD)
PARCEL AREA BR CURRENT:	11.09 AC (483,295 SF)
PARCEL AREA BR PROPOSED:	24.75 AC (1,068,156 SF)
(PARCEL BR+PARCEL D4+POND EXPANSION SEE SURVEY BY HANOVER DESIGN)	
NOT LOCATED WITH 100 YEAR FLOOD ZONE	
SOIL TYPES: Le, Rm, Kr, Mu, Se	
CAMA LAND CLASSIFICATION: URBAN	
PROPERTY LINE FOR PARCEL'S ARE IN PROXIMITY TO A WETLANDS/CONSERVATION RESOURCE AREA AND ARE SUBJECT TO A 50' NON RESIDENTIAL SETBACK PURSUANT TO MUNICOD SECTON 18-341.	
HISTORICAL/ARCHEOLOGICAL SITE:	NONE
CEMETARY:	NONE
FORESTED AREA:	SEE PLAN FOR TREE SURVEY
WETLANDS:	NONE WITHIN SITE AREA
ENDANGERED SPECIES/HABITAT:	NONE REPORTED



SURVEYOR:
TOPOGRAPHIC SURVEY & COMPOSIT MAP BY:
HANOVER DESIGN SERVICES, P.A.
LAND SURVEYORS ENGINEERS LAND PLANNERS



MILWAUKEE MI HOLDINGS, LLC
BK 5265 PG 118
R06113-001-010-000
ZONE RB

S 13°31'13" E 510.26'
TO A C.C.M. (CONTROL)

CAMERON PROPERTIES LTD PTRNSHIP
R06113-001-009-000
BK 2533 PG. 0730
ZONED RB
VACANT

THE CAPER CORP.
BK 4751 PG 785
R06112-001-001-001
ZONED O&I-1

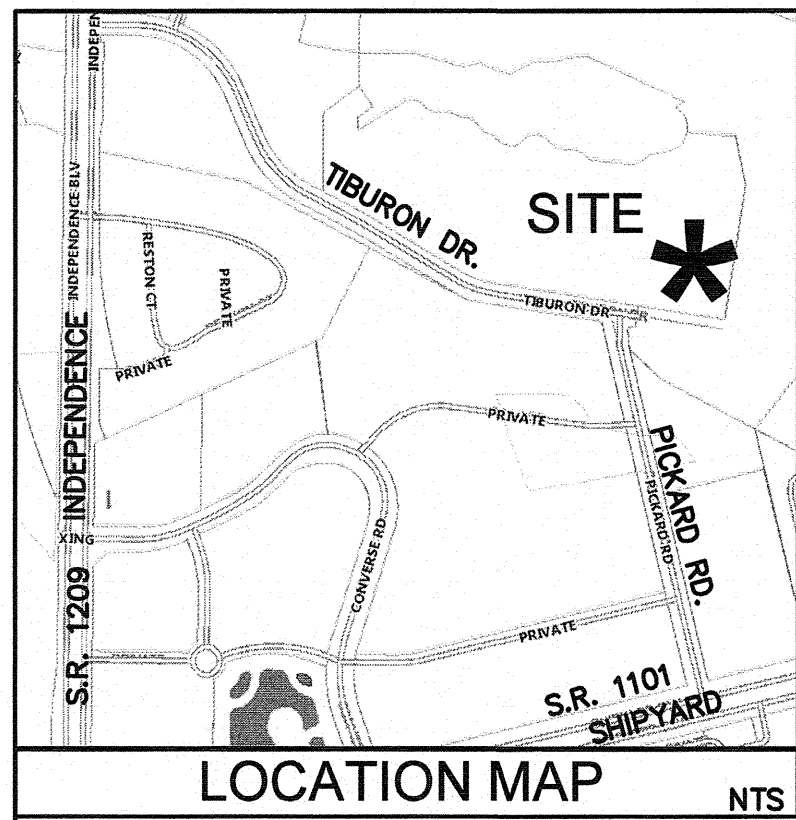
ATOR PROPERTIES, LLC
LOT 7
BK 4235 PG 859
R06113-001-008-000

Approved Construction Plan	
Name	Date
Planning	
Traffic	
Fire	

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

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

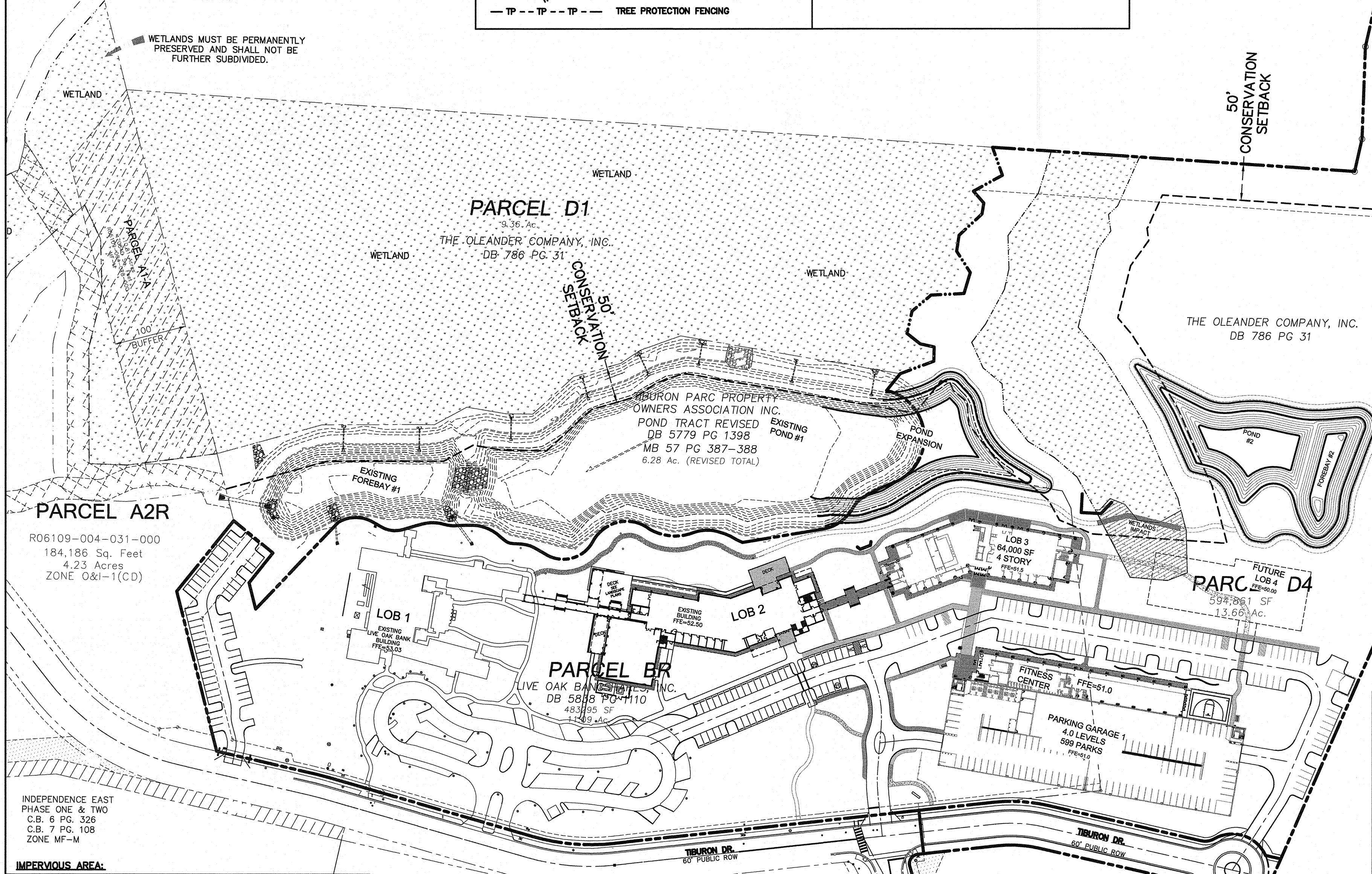
For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.



LEGEND

	PROPERTY LINE		WETLANDS
	DISTURBED AREA LIMITS		WETLANDS FILL
	PROPOSED CONTOUR		ASPHALT PAVING
	TEMPORARY SILT FENCE		COLORLED CONCRETE PAVING
	PROPOSED STORMDRAIN PIPE		COLORLED PERVIOUS CONCRETE PAVING
	PROPOSED FINISH GRADE		MULTI-USE PATH (MUP)
	SPOT ELEVATION		COLORLED HEAVY DUTY CONCRETE
	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		
	PROPOSED WATERLINE		
	PROPOSED SANITARY SEWER		
	EXISTING CONTOUR		
	EXISTING TREE TO BE REMOVED		
	EXISTING TREE TO BE SAVED AND PROTECTED		
	TREE PROTECTION FENCING		

NOTE:
 O1 TOP REFERS TO ELEVATION AT FLOW LINE
 D1 TOP REFERS TO ELEVATION AT GRATE



IMPERVIOUS AREA:

EXISTING SITE AREA:	11.09 AC (483,295 SF)
NEW SITE AREA PROPOSED:	13.68 AC (594,861 SF)
TOTAL SITE AREA PROPOSED:	24.75 AC (1,078,156 SF)
ROW AREA PROPOSED:	0.73 AC (31,831 SF)

EXISTING IMPERVIOUS AREA LOB I:

BUILDING:	25,750 SF
CONCRETE DRIVE ISLE:	29,942 SF
PERVIOUS CONCRETE PAVING:	23,613 SF
CONCRETE SIDEWALK:	9,080 SF
TOTAL:	88,385 SF

EXISTING IMPERVIOUS AREA LOB II:

BUILDING:	26,500 SF
COVERED WALKWAY:	1,170 SF
ASPHALT PAVING:	32,970 SF
CONCRETE PAVING:	22,045 SF
PERVIOUS CONCRETE PAVING:	15,223 SF
BRICK PAVERS:	6,670 SF
TOTAL:	106,578 SF

EXISTING IMPERVIOUS AREA REMOVED LOB II:

ASPHALT PAVING:	32,970 SF
CONCRETE PAVING:	2,973 SF
PERVIOUS CONCRETE PAVING:	5,900 SF
TOTAL IMPERVIOUS REMOVED:	41,843 SF

PROPOSED IMPERVIOUS AREA ADDED LOB 3 FITPARK:

BUILDING LOB III:	17,665 SF (FOOTPRINT)
BUILDING PD I:	50,500 SF (FOOTPRINT)
BUILDING FITNESS CENTER:	11,435 SF (FOOTPRINT)
DRIVE ISLES (CONCRETE):	26,232 SF
PARKING (PERVIOUS CONCRETE):	17,886 SF
WALKWAYS/SIDEWALK:	22,055 SF
MUP (HALF):	2,781 SF
TOTAL:	148,554 SF

PROPOSED SITE TOTAL: 301,654 SF
PROPOSED SITE PERCENT IMPERVIOUS: 28.00%

PROPOSED IMPERVIOUS AREA ADDED ROW EXTENSION:

ASPHALT, CONCRETE CURB AND GUTTER:	20,500 SF
MUP (HALF):	2,781 SF
PROPOSED SITE TOTAL:	23,281 SF
SITE TOTAL INCLUDING ROW:	324,935 SF

MILWAUKEE MI HOLDINGS, LLC
 BK 5265 PG 118
 ROB113-001-010-000
 ZONE RB

THE OLEANDER COMPANY, INC.
 DB 786 PG 31

BOURON PARC PROPERTY OWNERS ASSOCIATION INC.
 POND TRACT REVISED
 DB 5779 PG 1398
 MB 57 PG 387-388
 6.28 AC. (REVISED TOTAL)

EXISTING FOREBAY #1

EXISTING POND #1

EXISTING POND #2

EXISTING POND #3

EXISTING POND #4

EXISTING POND #5

EXISTING POND #6

EXISTING POND #7

EXISTING POND #8

EXISTING POND #9

EXISTING POND #10

EXISTING POND #11

EXISTING POND #12

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EXISTING POND #95

EXISTING POND #96

EXISTING POND #97

EXISTING POND #98

EXISTING POND #99

EXISTING POND #100

Approved Construction Plan

Name	Date
Planning	
Public Utilities	
Traffic	
Fire	

WILMINGTON NORTH CAROLINA

Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

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

PRELIMINARY PLAN APPROVAL CONDITIONS

- The use and development of the subject property shall comply with all regulations and requirements imposed by the Land Development Code, the City of Wilmington Technical Standards and Specifications Manual and any other applicable federal, state or local law, ordinance or regulation, as well as any condition stated below. In the event of a conflict, the more stringent requirement or higher standard shall apply.
- Approval of this preliminary plan does not constitute technical approval of a site plan. Final approval by the Technical Review Committee and the issuance of all required permits must occur prior to release of the project for construction.
- If, for any reason, any condition for approval is found to be illegal or invalid or if the applicant should fail to accept any condition following approval, the approval of the preliminary plan shall be null and void.
- The use and development of the subject property shall be in accordance with the approved preliminary plan as submitted and approved.
- A 5-foot wide public access easement shall be provided for the portion of the multi-use path located on the subject site.
- Utilities shall be placed in appropriate locations relative to the public rights of way and co-location of water and sewer utilities with the required street trees (per the City TSSM) shall be pursued by the applicant and designer.
- A tree preservation plan and tree removal permit shall be required for this project and city staff shall issue these based on acceptable limits of clearing and tree preservation.
- All existing protected trees not located within the building foot print or impacted by essential site improvements, shall be preserved or mitigated.
- Trees designated to be preserved shall be properly protected during construction and tree protection fencing shall be noted on the construction plans. Tree clearing will be limited to essential site improvements within the project limits as shown on the approved site plan.
- If necessary, resource areas, buffers and setbacks per requirements of the LDC shall be shown and labeled on the Preliminary Plan.
- All existing and proposed public and non-municipal easements shall be added as necessary to the Preliminary Plan.
- An acceptable Preliminary Plan which adequately addresses all TRC/SRB comments shall be submitted for signature within thirty (30) calendar days of SRB approval.
- The applicant shall work with TRC to install adequate traffic calming measures within the proposed public right-of-way.
- All conditions and recommendations of the traffic impact analysis (TIA), as reviewed and approved by the Wilmington Metropolitan Planning Organization (WMPO), the NCDOT, and staff shall be implemented accordingly.
- All recommendations of the TIA shall be constructed prior to a Certificate of Occupancy being issued.
- All city, state and federal regulations shall be followed.

SITE DATA LIVE OAK BANK III

USE:	OFFICE/PARKING DECK/FITNESS CENTER
OWNER:	LIVE OAK BANCSHARES, INC.
PARCEL ADDRESS:	1741 TIBURON DR.
PARCEL ID#:	RO6109-004-031-000
MAP ID#:	313609.15.2860.000
PARCEL ID#:	RO6109-004-032-000
MAP ID#:	313609.16.2484.000
ZONING:	O&I-1 (CD)
PARCEL AREA BR CURRENT:	11.09 AC (483,295 SF)
PARCEL AREA BR PROPOSED:	24.75 AC (1,078,156 SF) (PARCEL BR+PARCEL D4 SEE SURVEY BY HANOVER DESIGN)
ROW AREA PROPOSED:	0.73 AC (31,831 SF)
WETLANDS:	1.78 AC
WETLANDS TO BE IMPACTED:	0.20 AC
CAMA LAND USE:	URBAN
BUILDING SETBACKS O&I-1:	FRONT SETBACK: 20' INTERIOR SIDE SETBACK: 10' CORNER SIDE SETBACK: 20' REAR SETBACKS: 20'
BUILDING SETBACKS LOB III: (PROPOSED)	FRONT SETBACK: 290'± SIDE SETBACK EAST: 425'± SIDE SETBACK WEST: 950'± REAR SETBACK: 80'±
BUILDING SETBACKS PARKING DECK I: (PROPOSED)	FRONT SETBACK: 22.87'± SIDE SETBACK EAST: 77'± SIDE SETBACK WEST: 957'± REAR SETBACK: 695'±
MAX. LOT COVERAGE O&I-1:	40%
PROPOSED LOT COVERAGE:	12.37% LOB I: 19,358 SF LOB II: 23,600 SF LOB III: 17,665 SF PD I: 50,500 SF FITNESS: 11,435 SF TOTAL: 122,558 SF
MAX. BUILDING HEIGHT O&I-1:	45' A/P TO 75' WITH SPECIAL USE PERMIT, LOT COVERAGE AND SETBACK CONDITIONS
BUILDING HEIGHT LOB III:	56'
BUILDING HEIGHT PARKING DECK I:	45'
BUILDING HEIGHT FITNESS CENTER:	45'
EXISTING BUILDING:	LIVE OAK BANK I
BUILDING SIZE:	34,059 SF
BUILDING FOOTPRINT:	19,358 SF
NUMBER OF STORIES:	2
SQUARE FOOTAGE PER FLOOR:	FIRST FLOOR: 17,118 SF SECOND FLOOR: 14,608 SF SF
EXISTING BUILDING:	LIVE OAK BANK II
BUILDING SIZE:	55,140 SF (OFFICE 48,941 SF, CAFETERIA 3,912 SF, KITCHEN 2,287)
BUILDING FOOTPRINT:	23,600 SF FOOTPRINT
NUMBER OF STORIES:	3
SQUARE FOOTAGE PER FLOOR:	1ST FLOOR: 17,347 SF OFFICE 3,912 SF CAFETERIA 2,287 SF KITCHEN 2ND FLOOR: 15,923 SF OFFICE 3RD FLOOR: 15,671 SF OFFICE
PROPOSED BUILDING 1:	LIVE OAK BANK III
BUILDING SIZE:	65,985 SF
BUILDING FOOTPRINT:	17,665 SF
NUMBER OF STORIES:	4
SQUARE FOOTAGE PER FLOOR:	FIRST FLOOR: 17,164± SF SECOND FLOOR: 15,993± SF THIRD FLOOR: 16,414± SF FOURTH FLOOR: 16,414± SF
CONSTRUCTION TYPE:	IB
PROPOSED BUILDING 2:	PARKING DECK I (PD I)
BUILDING SIZE:	185,967 SF
BUILDING FOOTPRINT:	50,500 SF
NUMBER OF STORIES:	4
SQUARE FOOTAGE PER FLOOR:	FIRST FLOOR: 37,722± SF SECOND FLOOR: 49,415± SF THIRD FLOOR: 49,415± SF FOURTH FLOOR: 49,415± SF
CONSTRUCTION TYPE:	IB
OCCUPANCY:	599 SPACES (593 REGULAR/6 HC)
PROPOSED BUILDING 3:	FITNESS CENTER
BUILDING SIZE:	17,108 SF
BUILDING FOOTPRINT:	11,435 SF
NUMBER OF STORIES:	2
SQUARE FOOTAGE PER FLOOR:	FIRST FLOOR: 11,151± SF SECOND FLOOR: 5,957± SF
CONSTRUCTION TYPE:	VB
OCCUPANCY:	80-90±
PARKING:	1 PER 200 SF MAX., 1 PER 300 SF MIN. 170 MAX./114 MIN. 261 MAX./173 MIN. 320 MAX./213 MIN. 751 MAX./500 MIN.
PROPOSED PARKING:	70 REG. 2 HC 72 TOTAL
EX. PARKING LOB I FLYTRAP LOT:	42 REG. 0 HC 42 TOTAL
EX. PARKING LOB II:	44 REGULAR 2 HC 46 TOTAL
PROPOSED PARKING LOB III DECK:	587 REGULAR 12 HC 599 TOTAL
PROPOSED PARKING LOB III SURFACE:	99 REGULAR 6 HC 105 TOTAL
PROVIDED TOTAL:	842 REGULAR 22 HC 864 TOTAL
ACCESSIBLE PARKING REQUIRED DECK (2%):	12 SPACES
ACCESSIBLE PARKING REQUIRED SURFACE (2.54 SPACES):	19 SPACES
TOTAL ACCESSIBLE PARKING PROVIDED:	31 SPACES
TOTAL BICYCLE PARKING REQUIRED:	20 SPACES
TOTAL BICYCLE PARKING PROVIDED:	30 SPACES (LOB I: 10/LOB II: 10) 10 SPACES (LOB 3 SEE PLAN)
LANDSCAPING REQUIREMENTS (REFER TO LANDSCAPE PLAN)	
15 TREES PER DISTURBED ACRE REQUIRED	
DISTURBED AREA = AC X 15 = TREES	
INTERIOR LANDSCAPING O&I-1: 30% CANOPY COVER OF INTERIOR AREA OF PARKING FACILITY BASED ON AMOUNT OF PARKING AREA IMPERVIOUS SURFACE.	
STREET/PAVING LANDSCAPING: 18 MULTIPLIER	
595-24X18=10,278 SF REQUIRED 10,278 SF PROVIDED	
FOUNDATION PLANTINGS: FACE OF BUILDING X LENGTH X 12%	
SOLID WASTE DISPOSAL: DUMPSTER AREA PROVIDED	
WATER AND SEWER CAPACITY:	
EMPLOYEES (LOB3): 375 X 25 GPD PER EMPLOYEE=9,375 GPD	
FITNESS CENTER: 50 GPD PER 100 SF=5,554 GPD	
TOTAL: 17,929 GPD	
DISTURBED AREA:	
TOTAL DISTURBED AREA FOR LOB3 PROJECT: 12.94 AC	
TOTAL NEW DISTURBED AREA FOR LOB3 PROJECT: 10.36 AC	

SCALE: 1" = 100'



SYMBOL	DATE	DESCRIPTION	BY
		REVISIONS	
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OVERALL SITE PLAN
 LIVE OAK BANKING COMPANY 3/FITPARK
 1741 TIBURON DRIVE
 WILMINGTON, NORTH CAROLINA 28403

OWNER/DEVELOPER
 W. LEE WILLIAMS
 EXECUTIVE VICE PRESIDENT
 LIVE OAK BANCSHARES, INC.
 1741 TIBURON DRIVE
 WILMINGTON, NC 28403
 910-796-1647
 910-790-5868

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

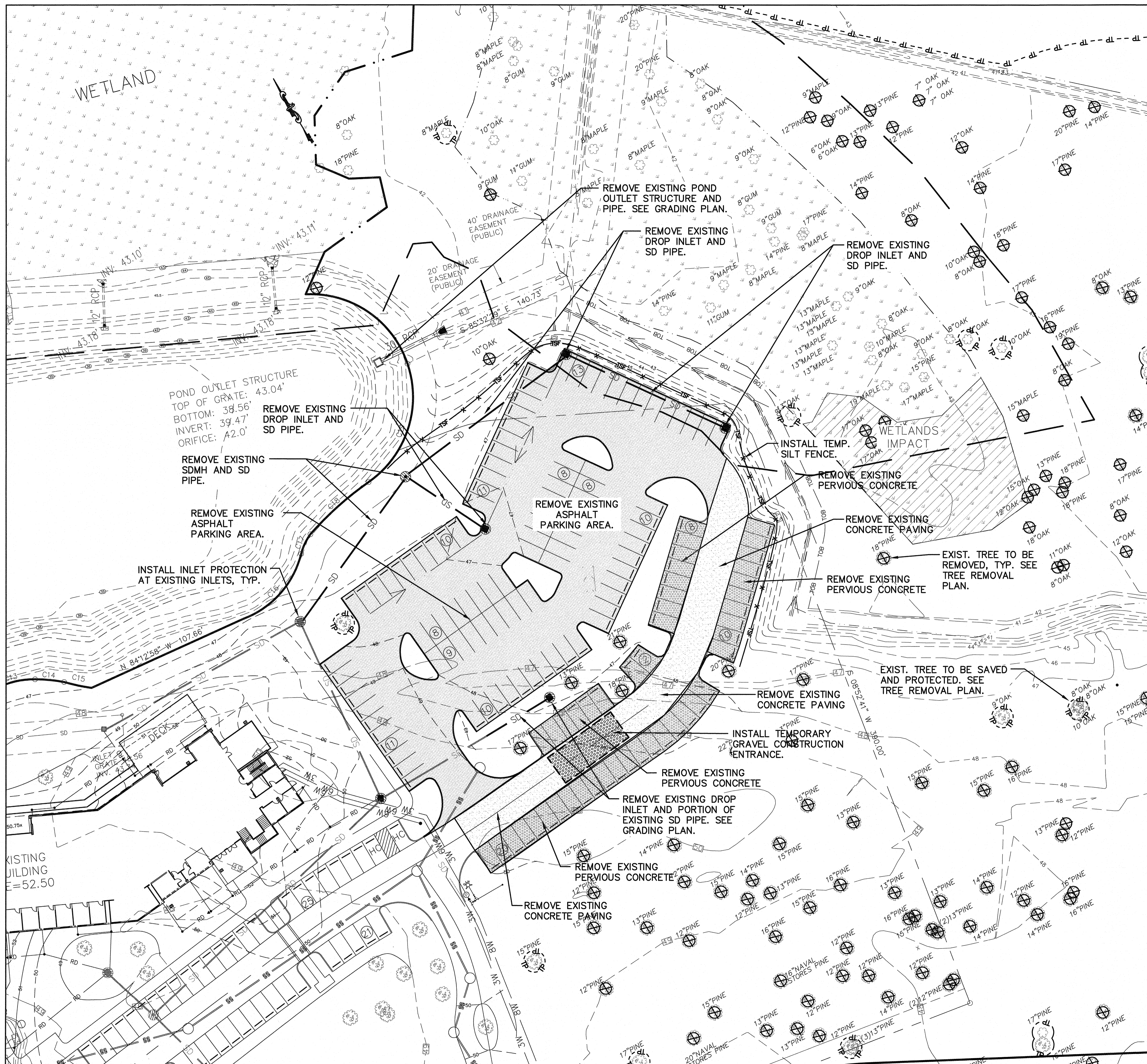
Licence #C-3641

16169

DES. JUST
 CIB. JPN
 DRWL. NKS

DATE: 1/9/18

CO



BY	
SYMBOL	DATE
DESCRIPTION	REVISIONS
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OWNER/DEVELOPER
 W. LEE WILLIAMS
 EXECUTIVE VICE PRESIDENT
 LIVE OAK BANCSHARES, INC.
 1741 TIBURON DRIVE
 WILMINGTON, NC 28403
 910-796-1647
 910-790-5868

DEMOLITION PLAN
 LIVE OAK BANKING COMPANY 3/FITPARK
 1741 TIBURON DRIVE
 WILMINGTON, NORTH CAROLINA 28403

NORRIS & TUNSTALL
 CONSULTING ENGINEERS P.C.
 902 MARKET STREET
 WILMINGTON, NC 28401
 PHONE (910) 343-9653

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

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

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

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

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

SCALE: 1" = 30'
 0 30 60 90

16169
 DES. JST
 ORD. JPN
 DRWN. NKS
 DATE 12/18/17

City of Wilmington Seal
 1985
 NORRIS & TUNSTALL
 ENGINEERS

C1

EASEMENT (39...
 LINA COASTAL LAND
 3348 PG 985-997
 OLEANDER COMPANY
 BK 531 PG 67
 ZONED O&I-1

TREE INVENTORY DATA

REGULATED TREES TO BE REMOVED:

PINE	OAK	MAPLE	GUM
12" = 36	6" = 2	9" = 1	9" = 1
13" = 28	7" = 3	15" = 1	
14" = 25	8" = 6		
15" = 21	9" = 4		
16" = 18	10" = 4		
17" = 9	15" = 1		
18" = 7	17" = 2		
19" = 1			
20" = 5			
21" = 1			
22" = 1			

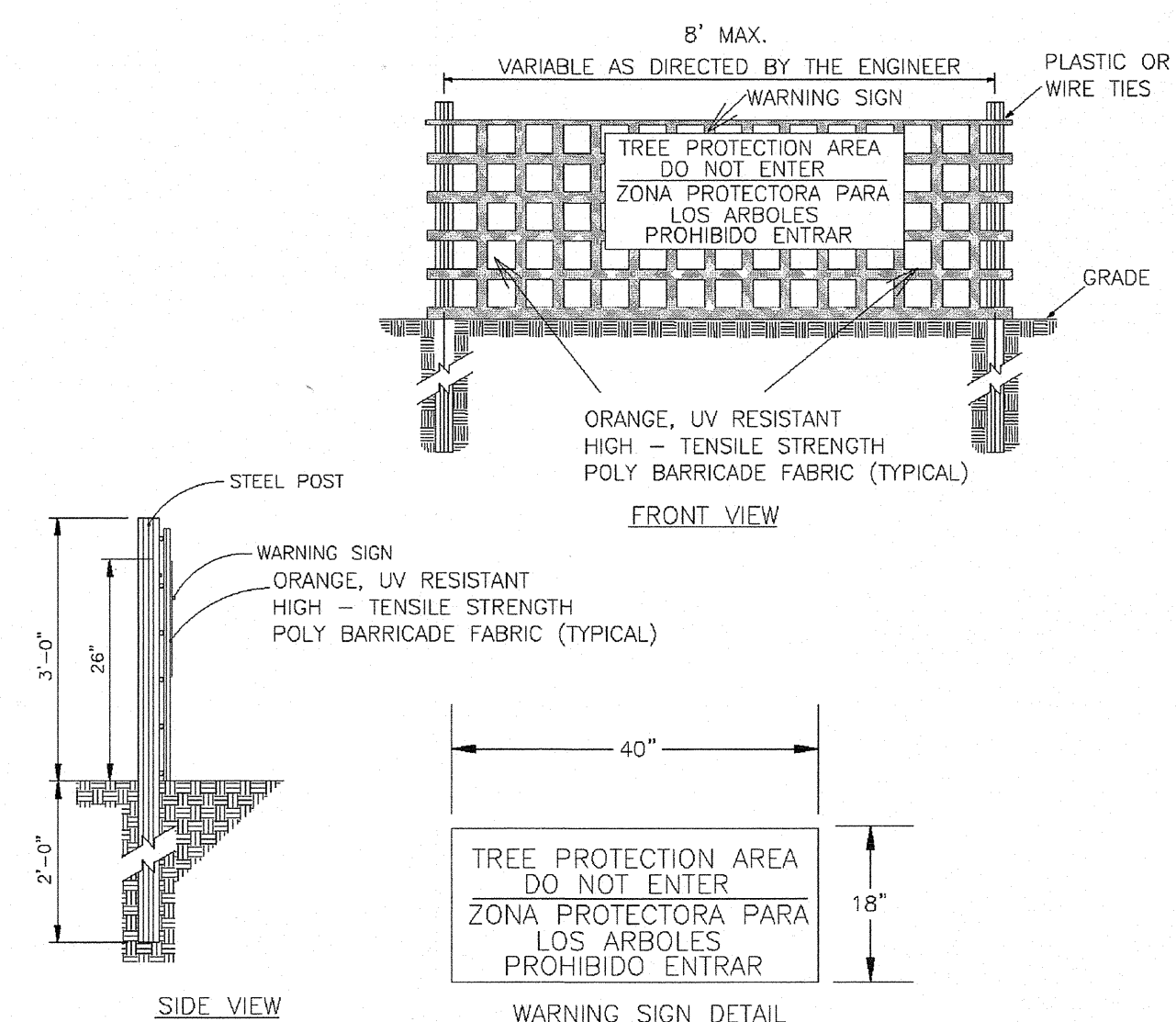
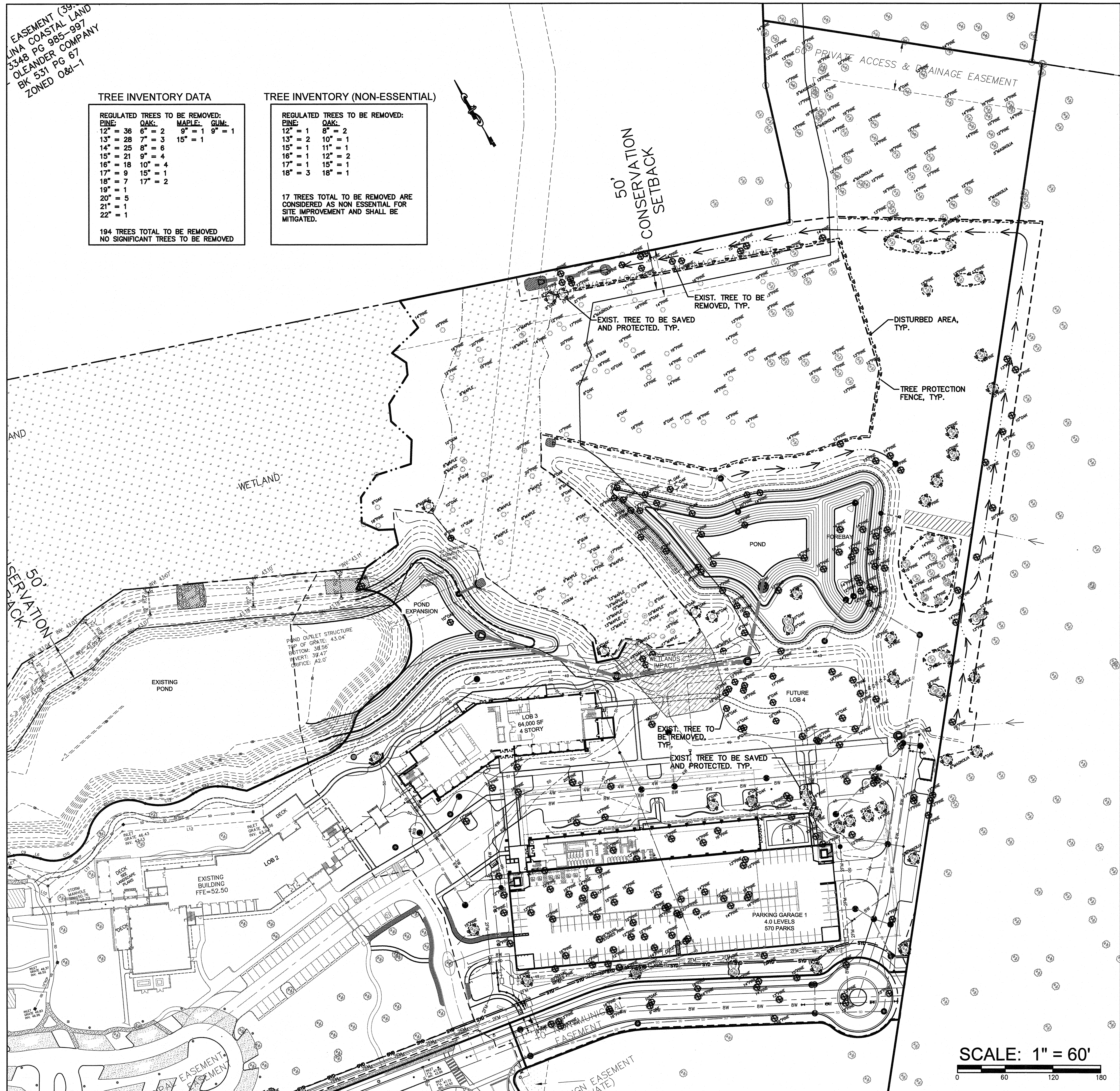
194 TREES TOTAL TO BE REMOVED
 NO SIGNIFICANT TREES TO BE REMOVED

TREE INVENTORY (NON-ESSENTIAL)

REGULATED TREES TO BE REMOVED:

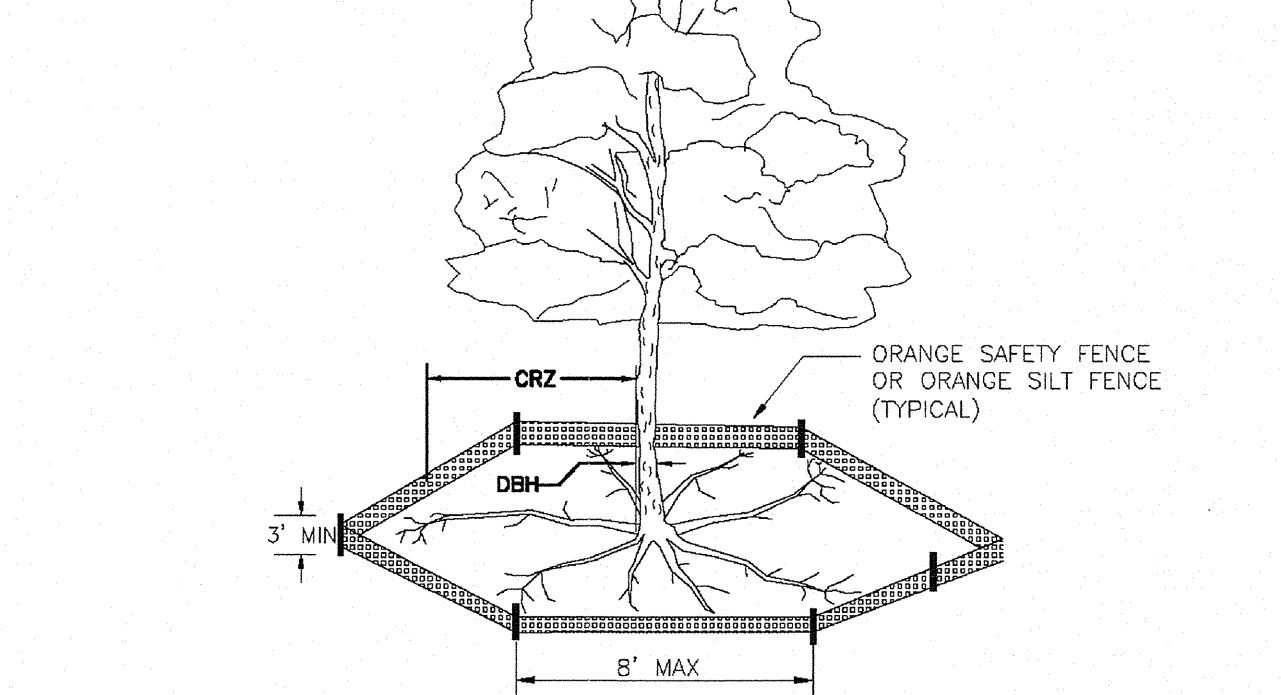
PINE	OAK
12" = 1	8" = 2
13" = 2	10" = 1
15" = 1	11" = 1
16" = 1	12" = 2
17" = 1	15" = 1
18" = 3	18" = 1

17 TREES TOTAL TO BE REMOVED ARE
 CONSIDERED AS NON ESSENTIAL FOR
 SITE IMPROVEMENT AND SHALL BE
 MITIGATED.



- 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.

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.



- 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 MATS 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.

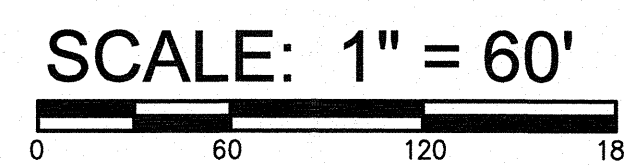
TREE PROTECTION DETAILS

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

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

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

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



BY	DESCRIPTION	REVISIONS
		©2017 NORRIS & TUNSTALL

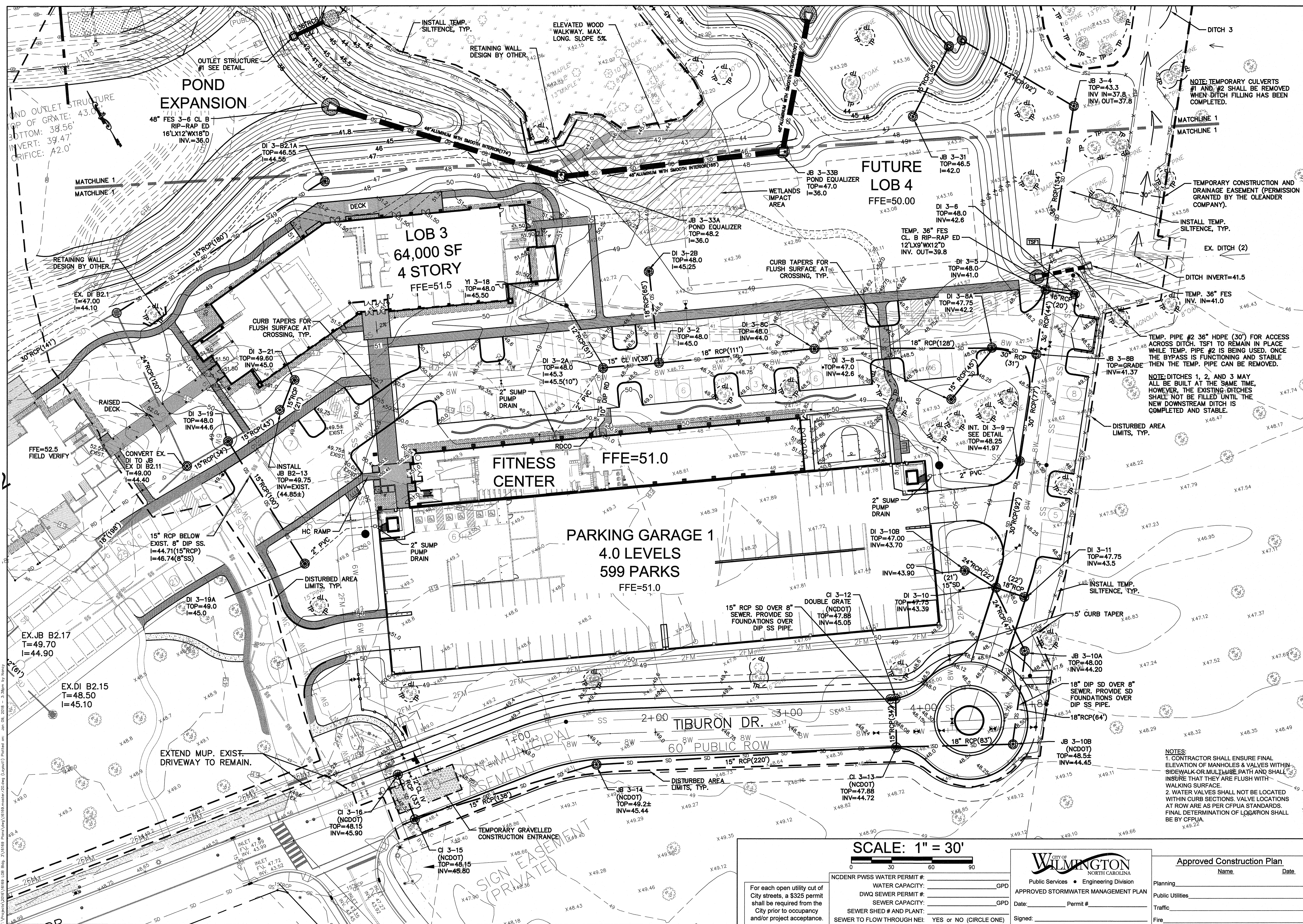
TREE REMOVAL PLAN
LIVE OAK BANKING COMPANY 3/FITPARK
 1741 TIBURON DRIVE
 WILMINGTON, NORTH CAROLINA 28403

OWNER/DEVELOPER
 W. LEE WILLIAMS
 EXECUTIVE VICE PRESIDENT
 LIVE OAK BANKSHARES, INC.
 1741 TIBURON DRIVE
 WILMINGTON, NC 28403
 910-796-1647
 910-790-5688

NORRIS & TUNSTALL
 CONSULTING ENGINEERS P.C.
 1429 ASH-LITTLE RIVER RD. NW
 WILMINGTON, NC 28420
 ASH, NC 28420
 PHONE (910) 343-5653
 PHONE (910) 287-5900

Licence #C-3641
16169
 DR: JST
 CB: JPN
 DRWL: NKS
 DATE: 1/3/18

C1.1



POND EXPANSION

LOB 3
64,000 SF
4 STORY
FFE=51.5

FITNESS CENTER
FFE=51.0

PARKING GARAGE 1
4.0 LEVELS
599 PARKS
FFE=51.0

FUTURE LOB 4
FFE=50.00

SCALE: 1" = 30'

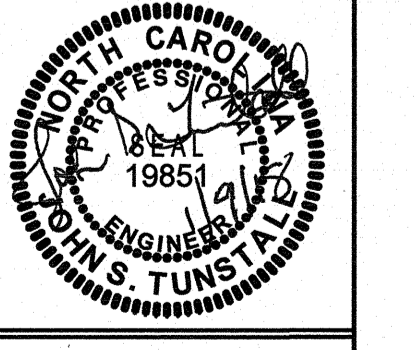
NOTES:
1. CONTRACTOR SHALL ENSURE FINAL ELEVATION OF MANHOLES & VALVES WITHIN SIDEWALK OR MULTIPURPOSE PATH AND SHALL INSURE THAT THEY ARE FLUSH WITH WALKING SURFACE.
2. WATER VALVES SHALL NOT BE LOCATED WITHIN CURB SECTIONS. VALVE LOCATIONS AT ROW ARE AS PER CFPWA STANDARDS. FINAL DETERMINATION OF LOCATION SHALL BE BY CFPWA.

OWNER/DEVELOPER
W. LEE WILLIAMS
EXECUTIVE VICE PRESIDENT
LIVE OAK BANKSHARES, INC.
1741 TIBURON DRIVE
WILMINGTON, NC 28403
910-796-1647
910-790-5888

GRADING, DRAINAGE AND EROSION CONTROL PLAN
LIVE OAK BANKING COMPANY 3/FITPARK
1741 TIBURON DRIVE
WILMINGTON, NORTH CAROLINA 28403

NORRIS & TUNSTALL
CONSULTING ENGINEERS P.C.
902 MARKET STREET
WILMINGTON, NC 28401
PHONE (910) 345-9633
1429 ASH-LITTLE RIVER RD, N.W.
ASH, NC 28420
PHONE (910) 287-5900

License #C-3641
16169
DES: JUST
CIB: JPN
DRWL: NKS
DATE: 1/9/18



C2

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

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

CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: _____ Permit # _____
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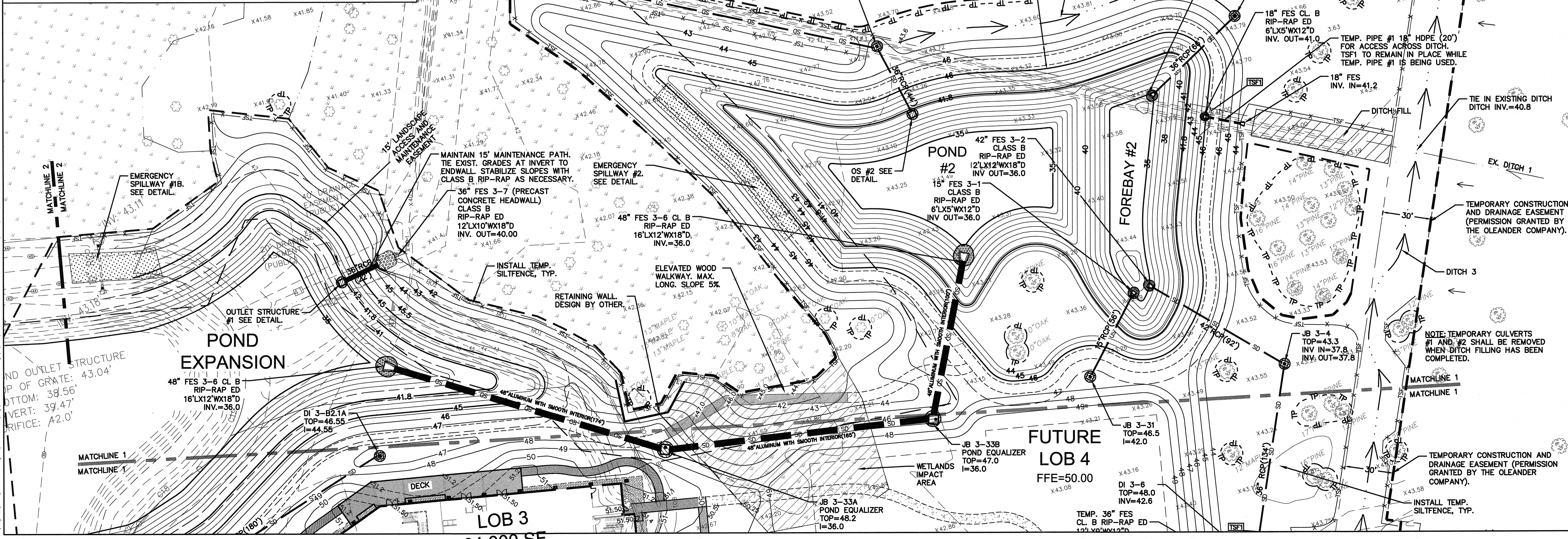
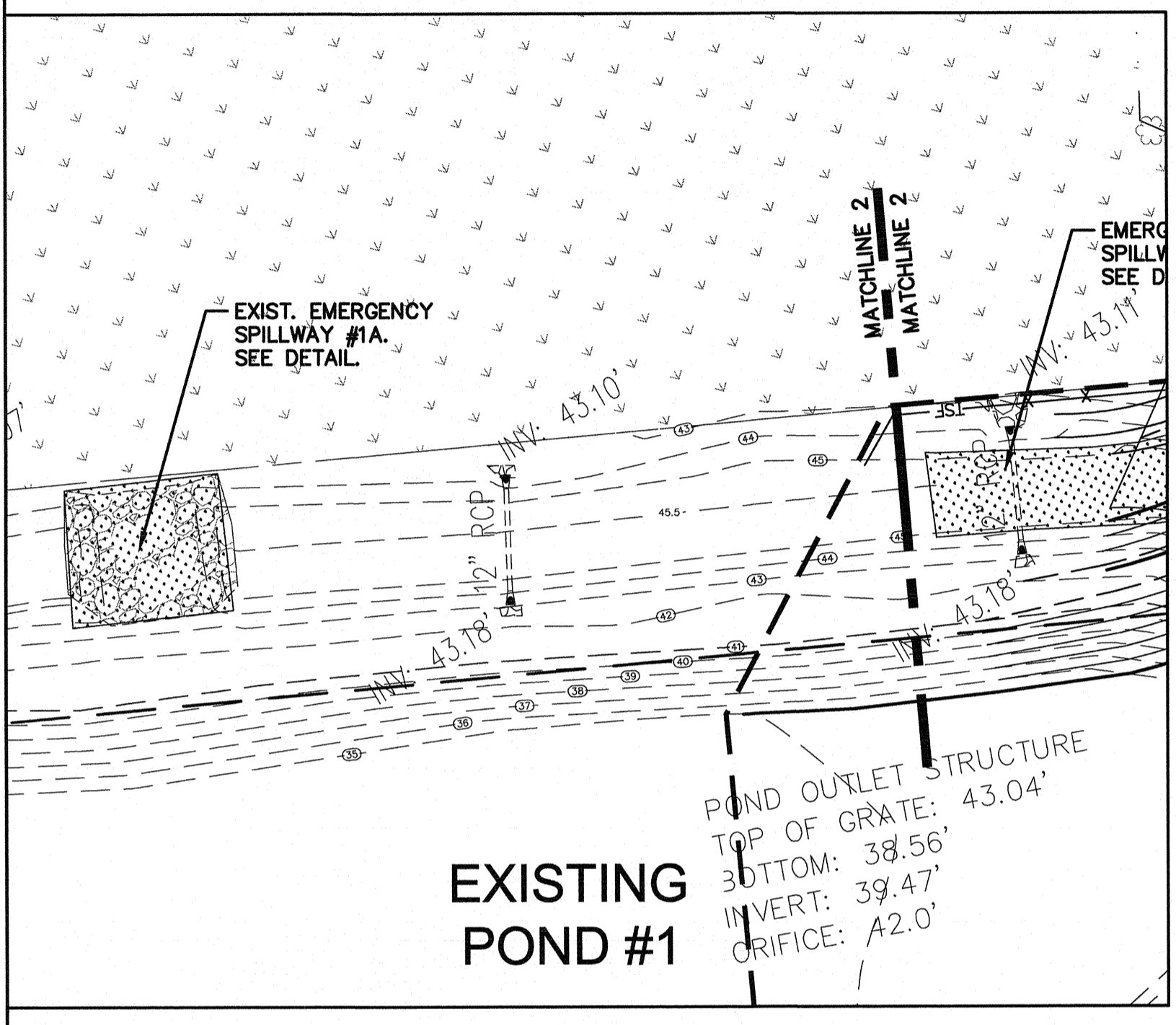
Approved Construction Plan
Name _____ Date _____
Planning _____
Public Utilities _____
Traffic _____
Fire _____

Approved Stormwater Management Plan

Date: _____ Permit # _____
 Signed: _____

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

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



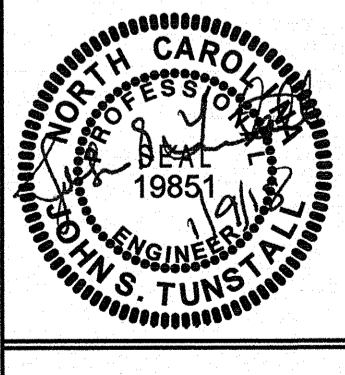
OWNER/DEVELOPER
 W. LEE WILLIAMS
 EXECUTIVE VICE PRESIDENT
 LIVE OAK BANKING COMPANY, INC.
 1741 TIBURON DRIVE
 WILMINGTON, NC 28403
 910-796-1647
 910-790-5868

GRADING, DRAINAGE AND EROSION CONTROL PLAN
 LIVE OAK BANKING COMPANY 3/FITPARK

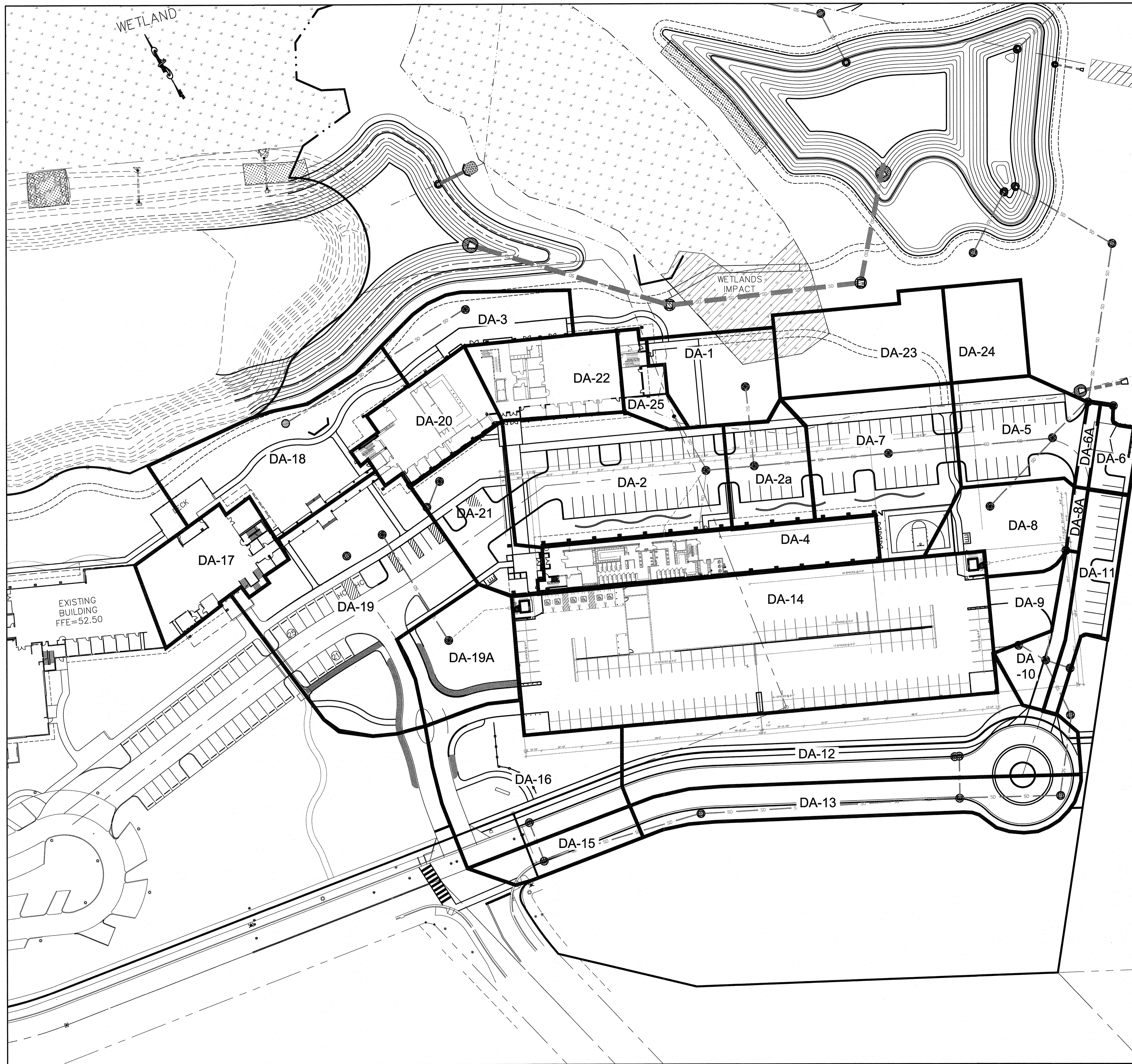
1741 TIBURON DRIVE
 WILMINGTON, NORTH CAROLINA 28403

NORRIS & TUNSTALL
 CONSULTING ENGINEERS P.C.
 902 MARKET STREET
 WILMINGTON, NC 28401
 PHONE (910) 343-9653

Licence #C-3641
 16169
 DES. JST
 CDR. JPN
 DRWN. NKS
 DATE 1/9/18



C2.1



SYMBOL	DATE	DESCRIPTION	BY
		REVISIONS	
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DRAINAGE AREA PLAN
LIVE OAK BANKING COMPANY 3/FITPARK
 1741 TIBURON DRIVE
 WILMINGTON, NORTH CAROLINA 28403

OWNER/DEVELOPER
 W. LEE WILLIAMS
 EXECUTIVE VICE PRESIDENT
 LIVE OAK BANKSHARES, INC.
 1741 TIBURON DRIVE
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 910-796-1647
 910-790-8688

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 PHONE (910) 343-9653
 1429 ASHLITTLE RIVER RD. NW
 ASH, NC 28420
 PHONE (910) 287-5900

Licence #C-3641
16169
 DES. JUST
 C.D. JPN
 DRWN. NKS
 DATE 1/3/18

C2.2

Drainage Areas				
DA #	Imp. Conc.	Sidewalks	Bldg.	Total
1	0	2,004	0	7,631
2	9,410	1,958	0	19,262
2a	3,823	507	0	6,517
3	0	195	0	7,325
4	0	0	11,491	11,491
5	5,552	1,166	0	9,263
6	1,613	0	0	2,244
6a	840	0	0	840
7	8,320	1,757	0	15,851
8	549	0	0	7,408
8a	628	0	0	628
9	1,820	0	0	3,445
10	1,597	0	0	3,262
11	4,248	0	0	5,240
12	8,064	1,790	0	25,211
13	7,561	0	0	12,435
14	50,211	0	0	50,211
15	2,710	0	0	3,920
16	5,167	726	0	16,335
17	0	0	8,707	8,707
18	0	1,874	443	15,581
19	10,462	3,477	813	26,526
19A	2,020	656	0	8,497
20	0	0	8,008	8,008
21	2,530	1,741	0	8,495
22	0	0	8,082	8,082
23	0	0	11,064	11,064
24	0	0	5,534	5,534
25	0	135	1,640	2,781
Totals	127,125	17,986	55,781	311,794

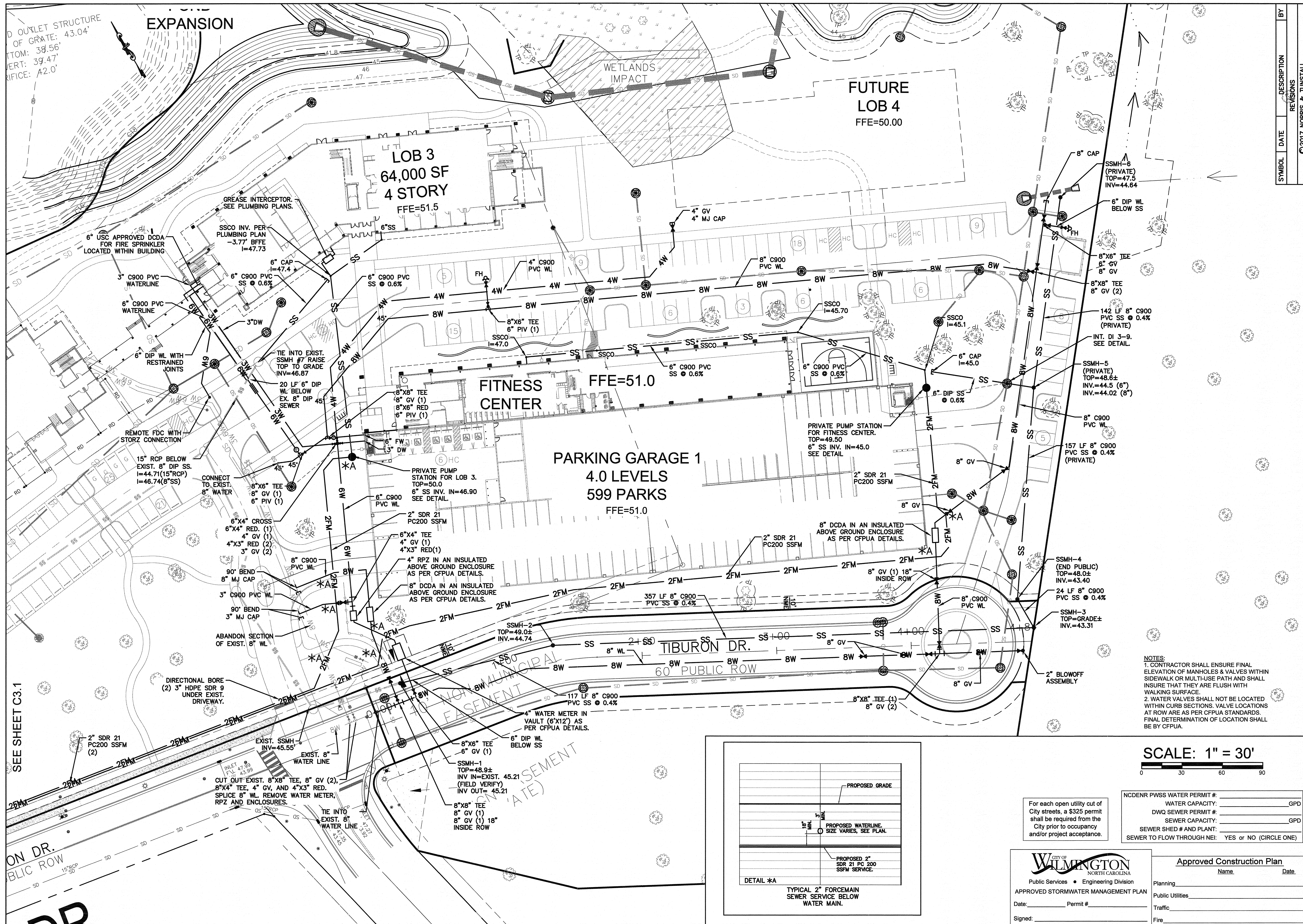
SCALE: 1" = 40'

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

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

City of Wilmington
 NORTH CAROLINA
 Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
 Date: _____ Permit # _____
 Signed: _____

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



OUTLET STRUCTURE OF GRATE: 43.04'
 BOTTOM: 38.56'
 VERT: 39.47'
 RIFICE: 42.0'

EXPANSION

WETLANDS IMPACT

FUTURE LOB 4
 FFE=50.00

LOB 3
 64,000 SF
 4 STORY
 FFE=51.5

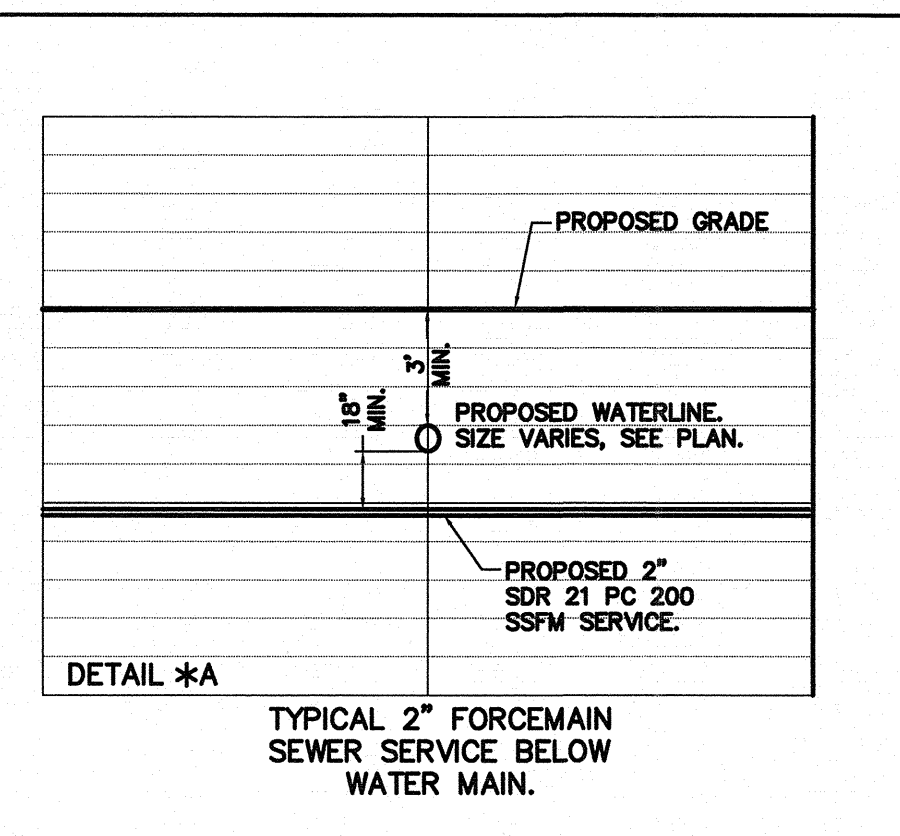
FITNESS CENTER
 FFE=51.0

PARKING GARAGE 1
 4.0 LEVELS
 599 PARKS
 FFE=51.0

TIBURON DR.
 60' PUBLIC ROW

NOTES:
 1. CONTRACTOR SHALL ENSURE FINAL ELEVATION OF MANHOLES & VALVES WITHIN SIDEWALK OR MULTI-USE PATH AND SHALL INSURE THAT THEY ARE FLUSH WITH WALKING SURFACE.
 2. WATER VALVES SHALL NOT BE LOCATED WITHIN CURB SECTIONS. VALVE LOCATIONS AT ROW ARE AS PER CFPUA STANDARDS. FINAL DETERMINATION OF LOCATION SHALL BE BY CFPUA.

SCALE: 1" = 30'



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WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
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SYMBOL	DATE	DESCRIPTION	BY
		REVISIONS	

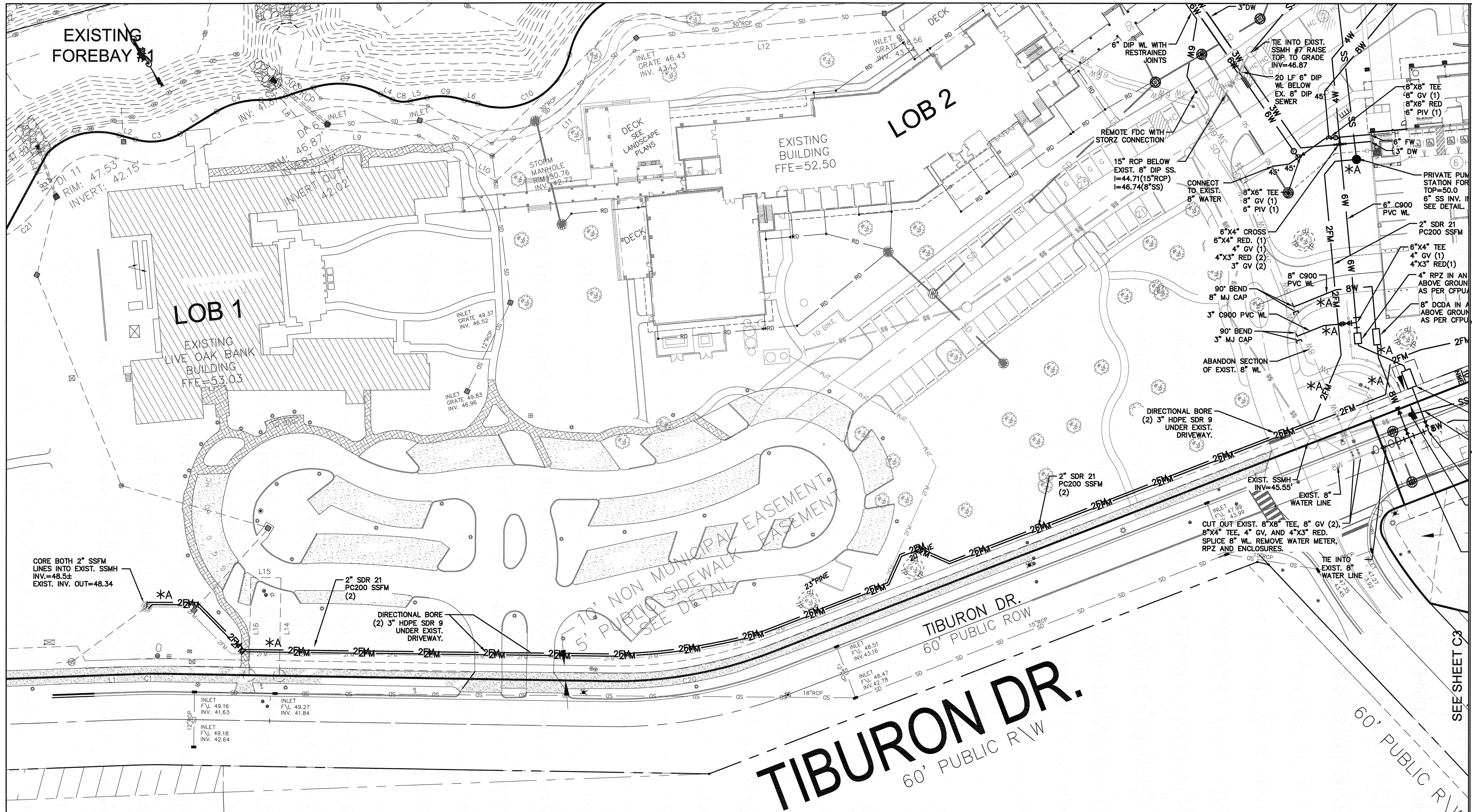
UTILITY PLAN
 LIVE OAK BANKING COMPANY 3/FITPARK
 1741 TIBURON DRIVE
 WILMINGTON, NORTH CAROLINA 28403

OWNER/DEVELOPER
 W. LEE WILLIAMS
 EXECUTIVE VICE PRESIDENT
 LIVE OAK BANKSHARES, INC.
 1741 TIBURON DRIVE
 WILMINGTON, NC 28403
 910-796-1647
 910-796-9868

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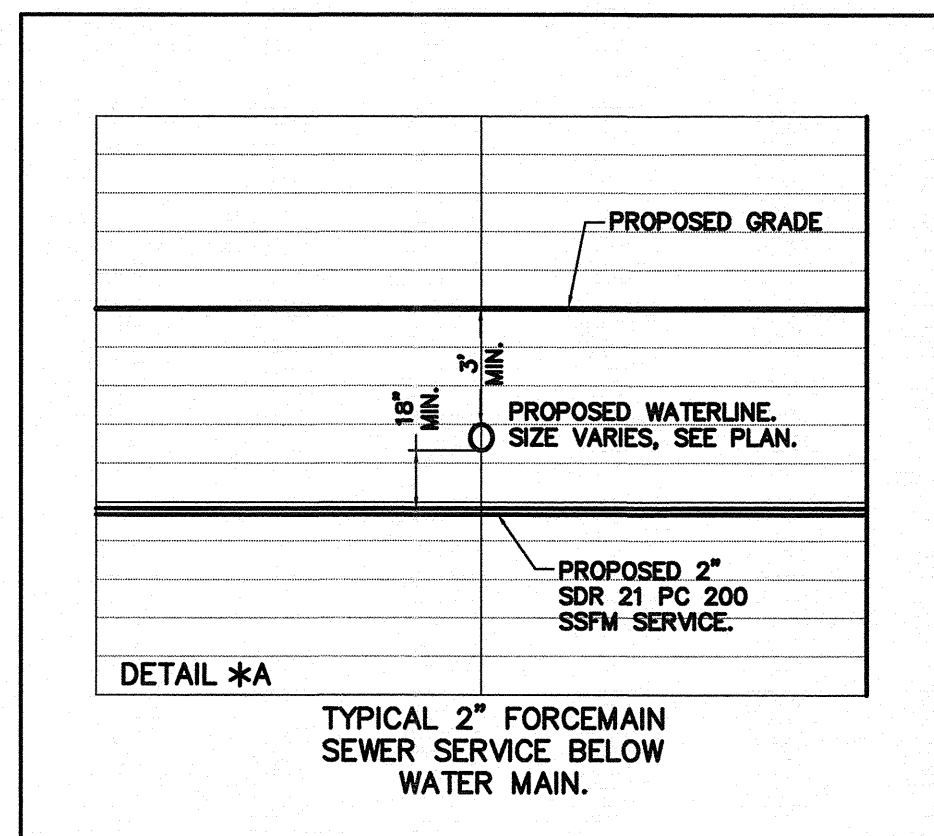
Licence #C-3641
 16169
 DES. JUST
 CIB. JPN
 DRWL. NKS
 DATE 1/9/18

C3



SYMBOL	DATE	DESCRIPTION	BY
REVISIONS			
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NOTES:
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 SEWER SHED # AND PLANT: _____
 SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

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

SCALE: 1" = 30'
 0 30 60 90

UTILITY PLAN
 LIVE OAK BANKING COMPANY 3/FITPARK
 1741 TIBURON DRIVE
 WILMINGTON, NORTH CAROLINA 28403

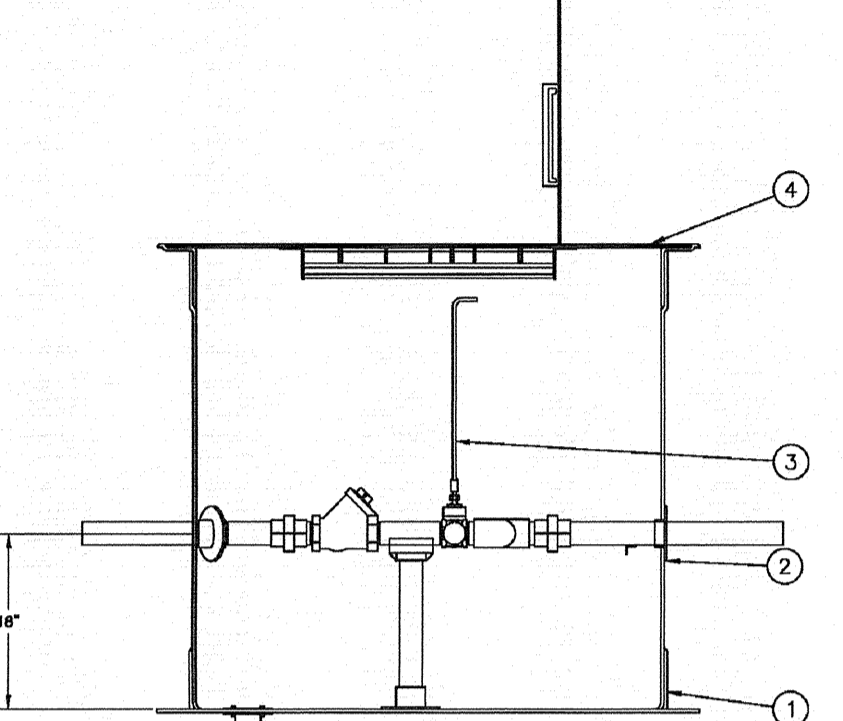
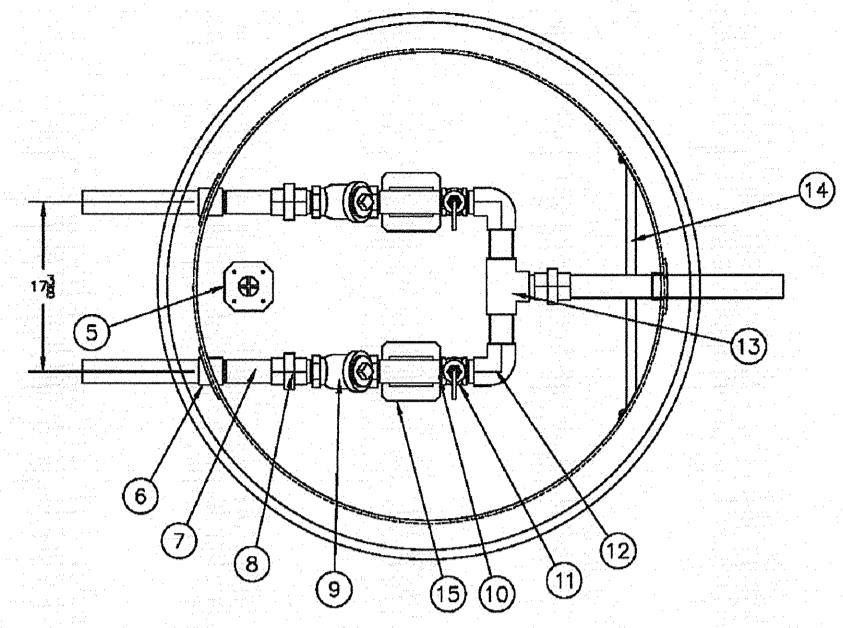
OWNER/DEVELOPER
 W. LEE WILLIAMS
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 LIVE OAK BANKSHARES, INC.
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 910-345-9633
 PHONE (910) 287-5900

License #C-3641
16169
 DES: JST
 CIB: JFN
 DRWN: NKS
 DATE: 1/3/18

C3.1

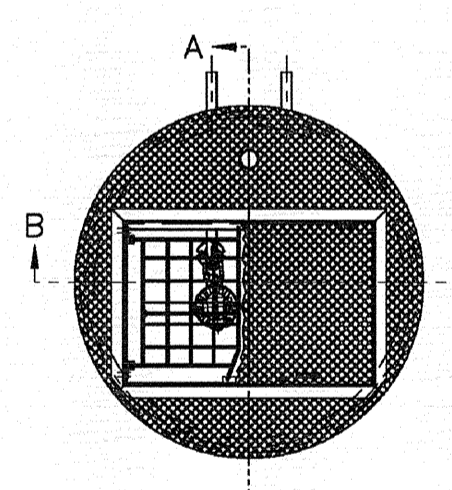
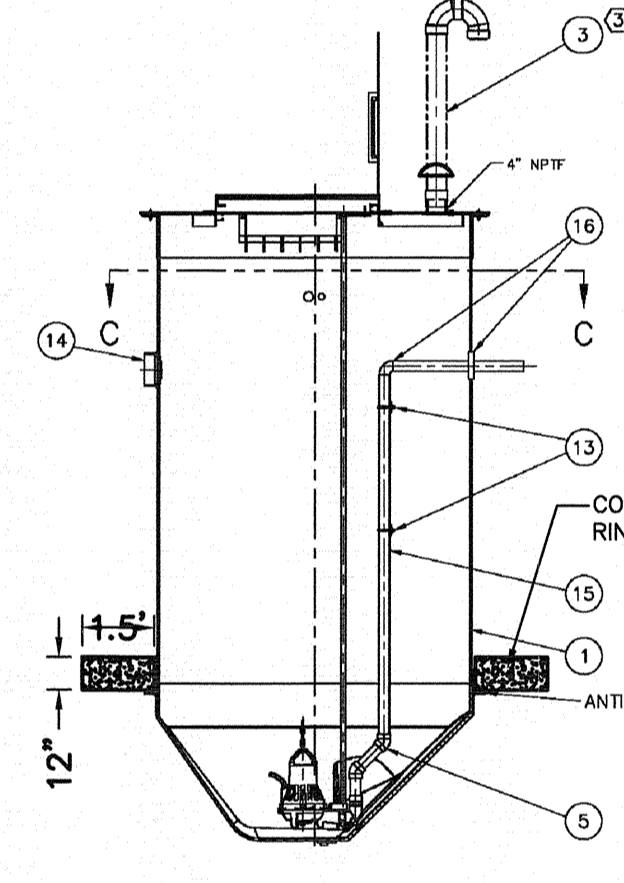
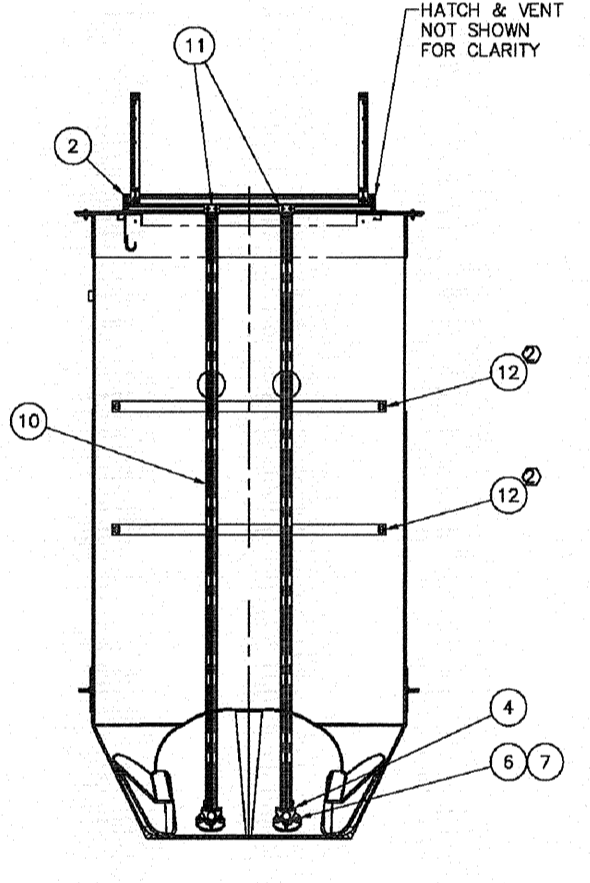
- NOTES:
1. VAULT DEPTH AS ORDERED.
 2. DISCHARGE C/L MUST BE AT LEAST 18" FROM BOTTOM OF VAULT.
 3. DISCHARGE C/L OF VAULT MUST EQUAL DISCHARGE C/L OF ORDERED STATION UNLESS OTHERWISE SPECIFIED.
 4. INLET AND OUTLET PIPES SHALL PROTRUDE 12" OUTSIDE BASIN.
 5. PIPING BETWEEN VALVE VAULT DRAIN AND STATION SUPPLIED BY OTHERS.
 6. TWO GREASER COUPLINGS, STYLE 30, WILL BE PROVIDED WITH VALVE VAULT FOR CONNECTION WITH STATION.
 7. OPTIONAL ALUMINUM COVER W/O SAFE HATCH OPTION IS AVAILABLE UPON REQUEST. PLEASE SPECIFY WHEN ORDER IS PLACED.



FLYGT PUMP STATION DETAIL

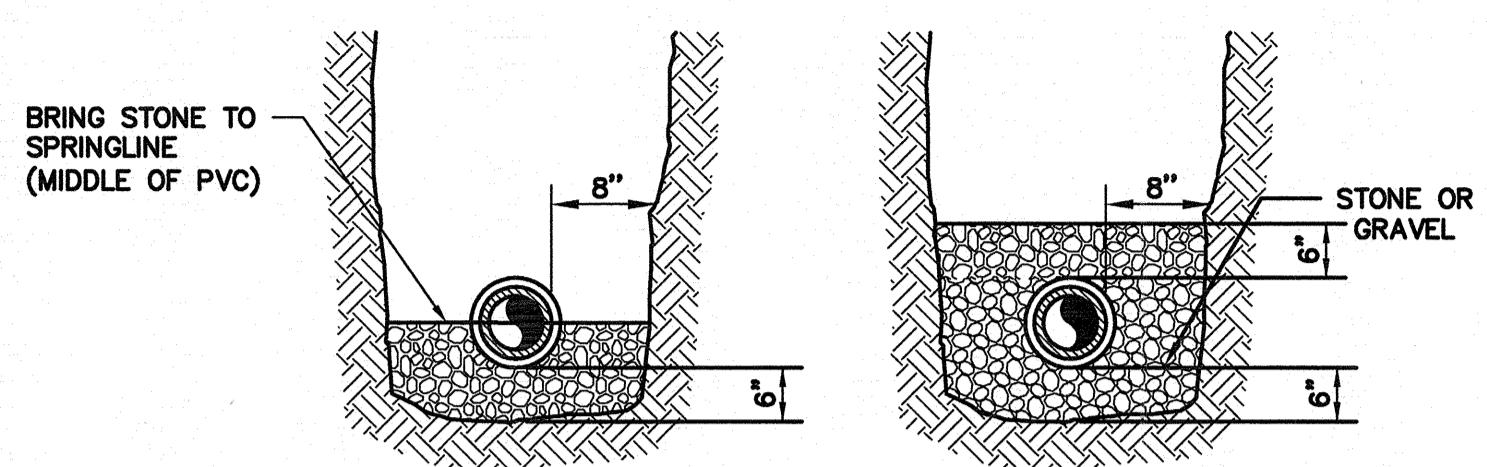
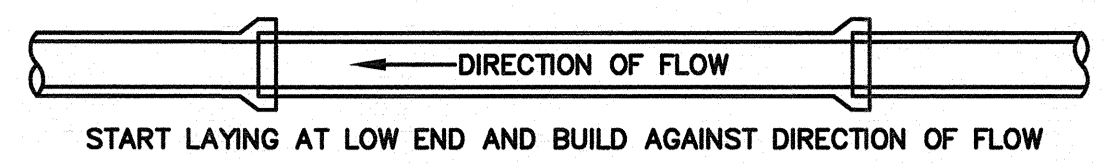
ITEM	DESCRIPTION	PART NUMBER	QTY
13	VERTICAL PIPE SUPPORT BRACE		2
14	PIPE SUPPORT BRACKET		2
15	2" SOCKET WELD PVC TEE		1
16	2" SOCKET WELD PVC 90° EL		1
17	2" THREADED PLUG VALVE		2
18	2" BALL COUPLER		2
19	2" THREADED CAST IRON BALL CHECK VALVE		2
20	2" SOCKET WELD PVC ENDOR		2
21	2" PVC PIPE 1/2" WALL THICKNESS		1
22	2" PARALLEL COUPLING FLANGE		2
23	2" GUT BRASS		1
24	48" ALUMINUM SAFE HATCH COVER		1
25	50" HANDLE EXTENSION		1
26	2" FLEXIBLE ENTRY BOOT		1
27	2" 1/2" FIBER TO LENGTH BY ANTI FLUAT		1

- NOTES:
1. STATION DEPTH: MIN. 6FT., MAX 25 FT. AVAILABLE IN 1 FT. INCREMENTS.
 2. ALL BOLT PENETRATIONS THRU WALLS MUST BE SEALED WITH SILICONE SEALANT.
 3. PROVIDE OPTIONAL MUSHROOM STYLE VENTS.

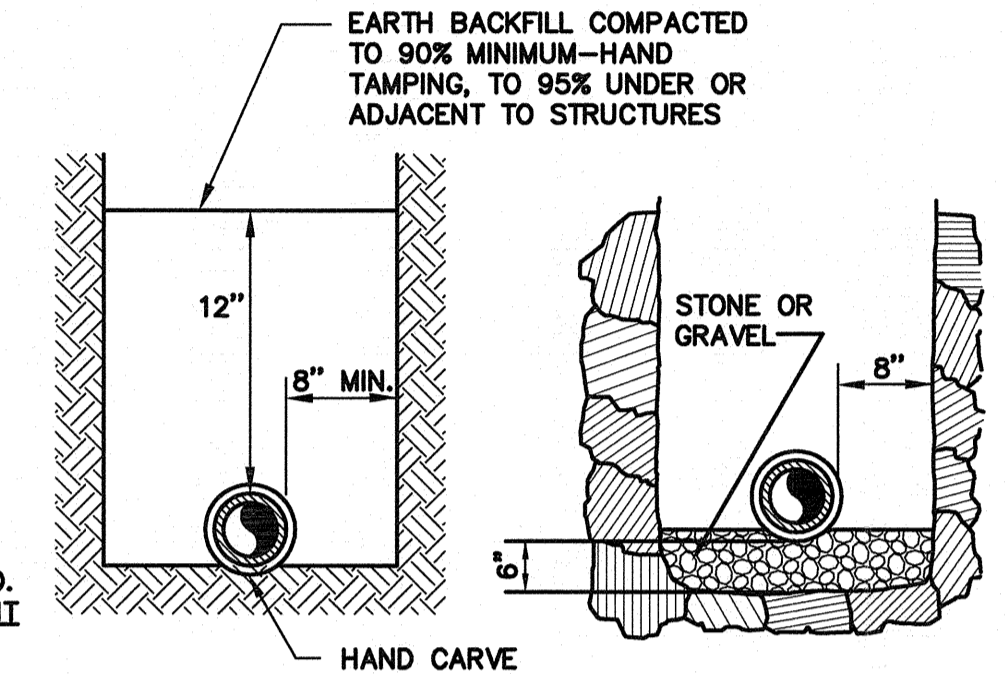


FLYGT PUMP STATION DETAIL

ITEM	DESCRIPTION	PART NUMBER	QTY
16	SPRING WELT 2"		1
17	PIPE 2" SCH 40 PVC		1
18	2" BALL COUPLER		2
19	2" THREADED PLUG VALVE		2
20	2" THREADED CAST IRON BALL CHECK VALVE		2
21	2" SOCKET WELD PVC ENDOR		2
22	2" PVC PIPE 1/2" WALL THICKNESS		1
23	2" PARALLEL COUPLING FLANGE		2
24	2" GUT BRASS		1
25	48" ALUMINUM SAFE HATCH COVER		1
26	50" HANDLE EXTENSION		1
27	2" FLEXIBLE ENTRY BOOT		1
28	2" 1/2" FIBER TO LENGTH BY ANTI FLUAT		1



P.V.C. PIPE—NORMAL CONDITIONS / P.V.C. PIPE—WET CONDITIONS



D.I.P. NORMAL / D.I.P. IN ROCK & WET CONDITIONS

NOTES:

1. STONE OR GRAVEL TO BE WELL TAMPED. SIZE 1/2" TO 1-1/2". INCLUDE IN UNIT PRICE BID FOR PIPE.
2. HAND CARVE BOTTOM AND SHAPE FOR LOWER QUADRANT OF PIPE. EXCAVATE ADDITIONALLY FOR BELLS.
3. TRENCH SHEETING DRIVEN BELOW INVERT MUST NOT BE REMOVED.

STANDARD SEWER LINE TRENCH

LIVE OAK BANK 3

FLYGT TOP PRE-ENGINEERED FIBERGLASS PACKAGE LIFT STATION (SEE SPECIFICATIONS)

ITEM	ELEVATION PUMP STA.
TOP ELEV.	50.00
INFLUENT PIPE (INVERT)	46.90
HIGH WATER ALARM	46.25
START LAG PUMP	45.50
START LEAD PUMP	44.75
PUMP OFF	44.00
BOTTOM OF WETWELL	42.00
BOTTOM OF STATION SLAB	PER DETAIL
WET WELL DIAMETER	6.00

ITEM	VALUE PUMP STA.
DESIGN FLOW	25 GPM/MIN.
DESIGN HEAD (FROM PUMP CURVE)	34 FT.
REQUIRED HEAD	25 GPM/MIN.
REQUIRED HEAD (TDH)	34 FT.
VOLTAGE	460
PHASE	3 PHASE
HORSEPOWER	2 HP
RPM	3450 RPM

PREFERRED PUMP IS A FLYGT GRINDER PUMP STATION M-3088

AN AUTO DIALER AND CONNECTION TO ON SITE BACKUP GENERATOR ARE REQUIRED. AN AUTOMATIC TRANSFER SWITCH SHALL BE PROVIDED FOR GENERATOR CONNECTION.

FITPARK

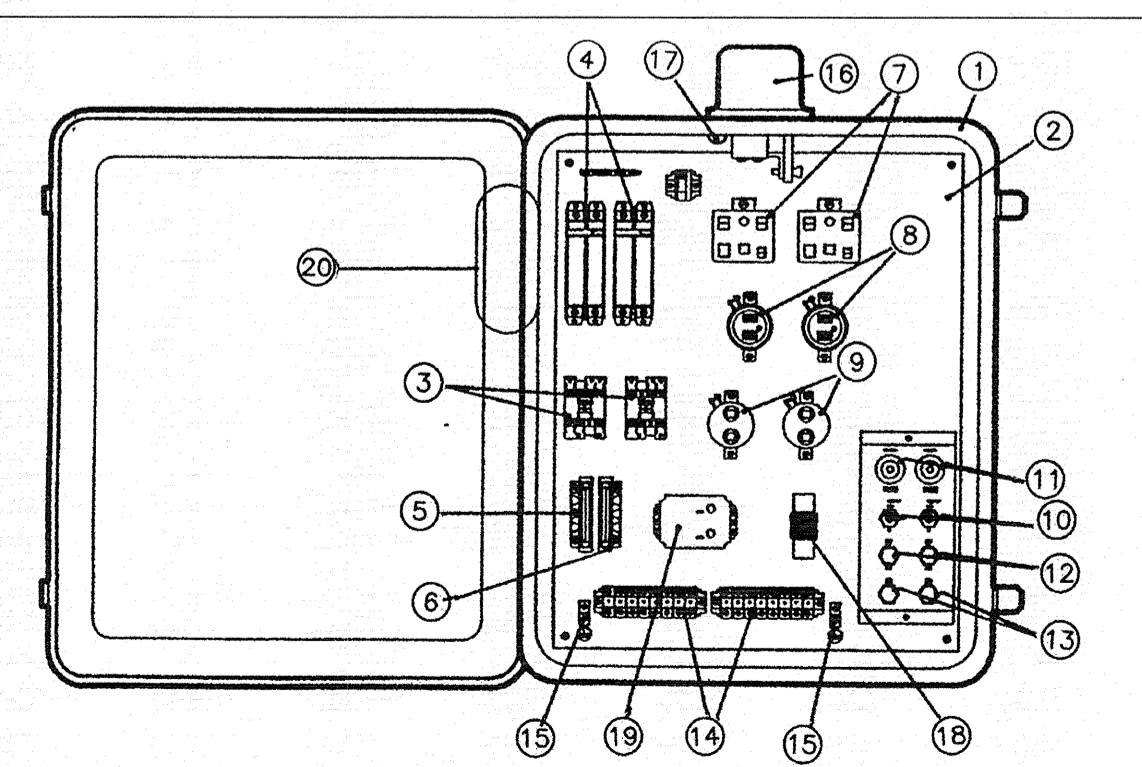
FLYGT TOP PRE-ENGINEERED FIBERGLASS PACKAGE LIFT STATION (SEE SPECIFICATIONS)

ITEM	ELEVATION PUMP STA.
TOP ELEV.	49.50
INFLUENT PIPE (INVERT)	45.00
HIGH WATER ALARM	44.35
START LAG PUMP	43.70
START LEAD PUMP	43.05
PUMP OFF	42.40
BOTTOM OF WETWELL	40.40
BOTTOM OF STATION SLAB	PER DETAIL
WET WELL DIAMETER	6.00

ITEM	VALUE PUMP STA.
DESIGN FLOW	25 GPM/MIN.
DESIGN HEAD (FROM PUMP CURVE)	48 FT.
REQUIRED HEAD	25 GPM/MIN.
REQUIRED HEAD (TDH)	48 FT.
VOLTAGE	460
PHASE	3 PHASE
HORSEPOWER	2 HP
RPM	3450 RPM

PREFERRED PUMP IS A FLYGT GRINDER PUMP STATION M-3088

AN AUTO DIALER AND CONNECTION TO ON SITE BACKUP GENERATOR ARE REQUIRED. AN AUTOMATIC TRANSFER SWITCH SHALL BE PROVIDED FOR GENERATOR CONNECTION.

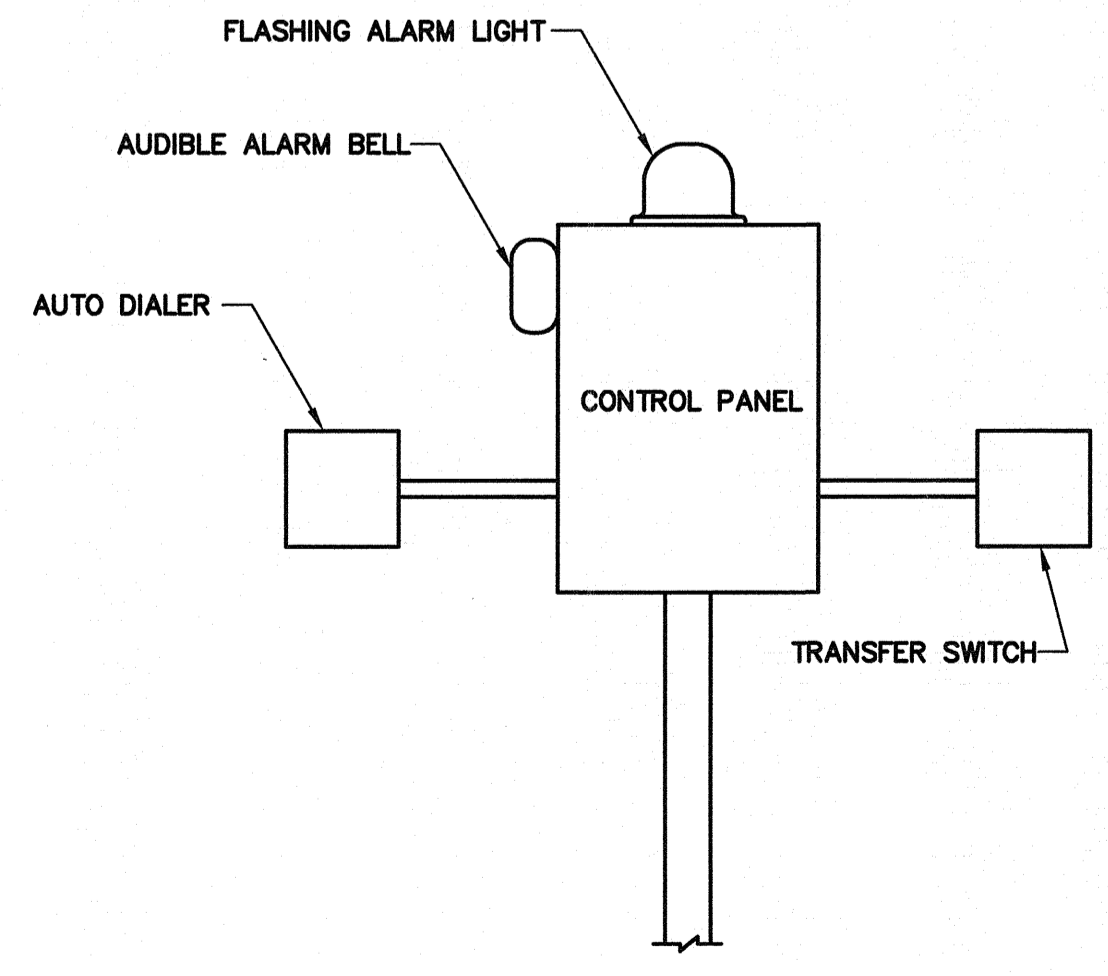


DUPLEX UNIT

- 1 CORROSION-RESISTANT ENCLOSURE (NEMA 4X Fiberglass (outdoor))
- 2 ALUMINUM BACK PANEL
- 3 IEC MOTOR CONTACTOR(S) Silver cadmium oxide contacts
- 4 PUMP CIRCUIT FUSE
- 5 CONTROL CIRCUIT FUSE 1 amp
- 6 ALARM CIRCUIT FUSE 1 amp
- 7 START WINDING RELAY(S)
- 8 STARTING CAPACITOR(S)
- 9 RUNNING CAPACITOR(S)
- 10 HAND-OFF-AUTO SWITCH
- 11 KILNIX OVERLOAD
- 12 PUMP ROAD LIGHT
- 13 SEAL LEAK LIGHT
- 14 TERMINAL BLOCKS
- 15 GROUND LUG(S)
- 16 FLASHING ALARM LIGHT Mounted on top of enclosure (red)
- 17 SOLID STATE FLASHER
- 18 OVERRIDE RELAY In event of first pump failure (duplex only)
- 19 ALTERNATOR RELAY Solid white (duplex only)
- 20 AUDIBLE ALARM BELL

DUPLEX CONTROL PANEL SPECIFICATION FOR 2CS2-OMNI-240-1

1. THE CONTROL PANEL ENCLOSURE IS NEMA 4X FIBERGLASS.
2. A CIRCUIT BREAKER IS PROVIDED FOR EACH PUMP MOTOR.
3. AN IEC MOTOR STARTER IS PROVIDED FOR EACH PUMP MOTOR.
4. A CIRCUIT BREAKER SHALL BE PROVIDED FOR THE 120V CONTROL PANEL.
5. AN ELECTRONIC ALTERNATOR ALTERNATES PUMPS UPON SUCCESSIVE CYCLE.
6. HIGH LEVEL ALARM INDICATION IS PROVIDED BY NEMA 4X ALARM LIGHT WITH A RED POLYCARBONATE GLOBE IS AFFIXED TO THE TOP OF THE CONTROL ENCLOSURE; AND AN ALARM HORN AFFIXED TO THE BOTTOM OF THE ENCLOSURE WITH A SILENCE PUSH BUTTON AFFIXED TO THE ENCLOSURE DOOR.
7. EACH PUMP SHALL HAVE A HAND/OFF/AUTO SELECTOR SWITCH.
8. THE HOA TOGGLE SWITCH AND ALARM HORN SILENCE PUSH BUTTON SHALL BE MOUNTED ON A BRACKET ATTACHED TO THE ENCLOSURE BACK PANEL.
9. THE PUMPS SHALL OPERATE OFF FLOAT SWITCHES. (4) FLOAT SWITCHES SHALL BE PROVIDED.
10. TERMINAL STRIP SHALL BE PROVIDED FOR THE PUMP MOTORS, FLOAT SWITCHES, AND POWER SUPPLY TO THE CONTROL PANEL.
11. THE DUPLEX PANEL PROVIDED WITH AN EMERGENCY POWER AND CONNECTED TO ON SITE BACKUP GENERATOR, 60 AMP, 240/1/60 - 3 WIRE.
12. PANEL PROVIDED WITH A 4-CHANNEL DIALER WITH BATTERY BACK-UP POWER PACK.
13. PROVIDE AN AUTOMATIC TRANSFER SWITCH AND CONNECT TO ON SITE BACKUP GENERATOR.
14. PROVIDE LOCKING ENCLOSURE FOR CONTROL PANEL.



TYPICAL CONTROL PANEL LAYOUT

NOTE: 1. THE PANEL SHALL BE MOUNTED TO ADJACENT STRUCTURE OR MOUNTED FREE STANDING ON PRESSURE TREATED POST.

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

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

APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

Approved Construction Plan

Name _____ Date _____

Planning _____

Public Utilities _____

Traffic _____

Fire _____

UTILITY PLAN
LIVE OAK BANKING COMPANY 3/FITPARK
1741 TIBURON DRIVE
WILMINGTON, NORTH CAROLINA 28403

OWNER/DEVELOPER
W. LEE WILLIAMS
EXECUTIVE VICE PRESIDENT
LIVE OAK BANKSHARES, INC.
1741 TIBURON DRIVE
WILMINGTON, NC 28403
910-798-1647
910-790-5888

NORRIS & TUNSTALL
CONSULTING ENGINEERS P.C.

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

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

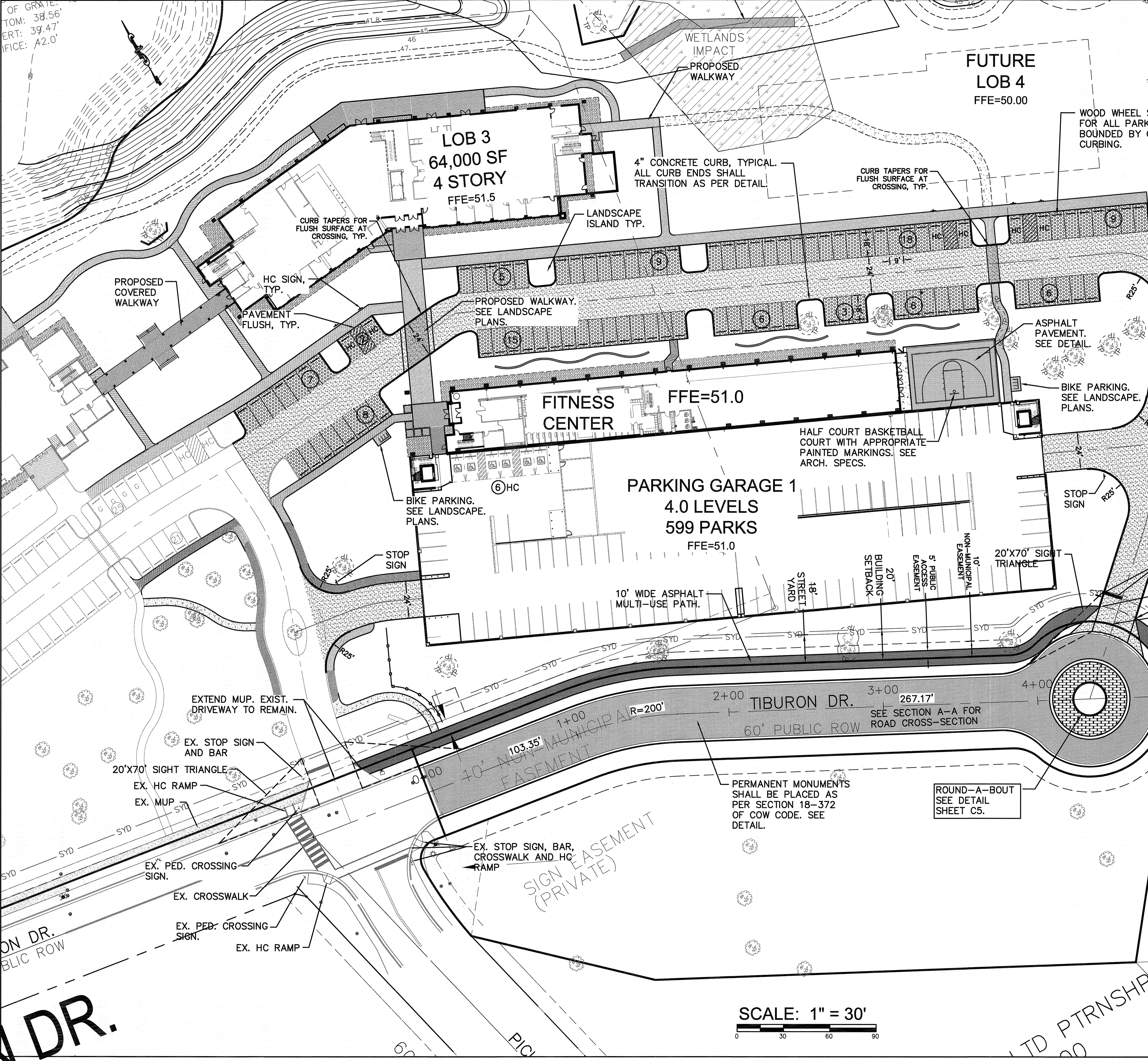
License #C-3641

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DES. JST
ORD. JPN
DRAW. NKS

DATE 12/18/17

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SYMBOL	DATE	DESCRIPTION	BY
		REVISIONS	

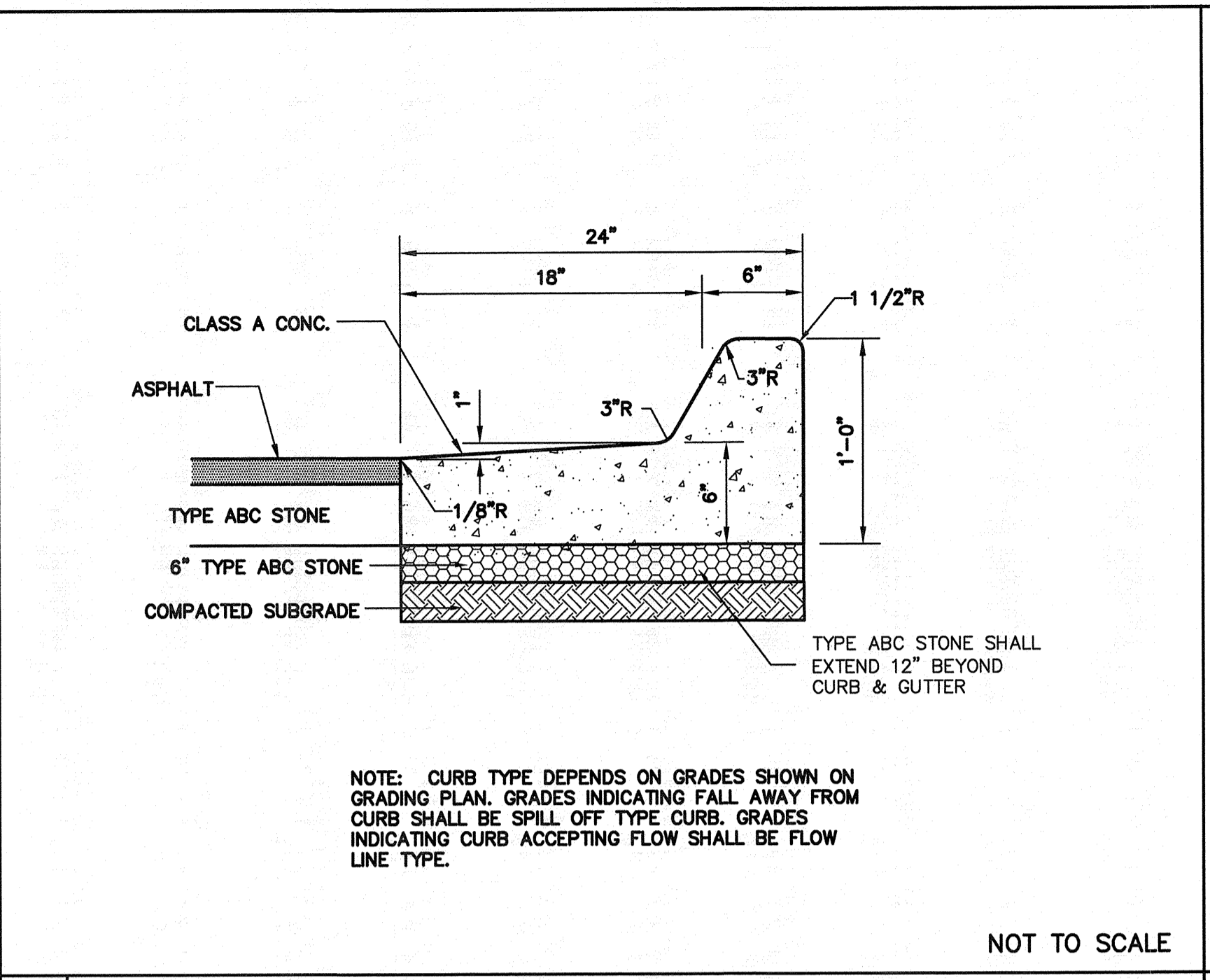
LAYOUT PLAN
LIVE OAK BANKING COMPANY 3/FITPARK
1741 TIBURON DRIVE
WILMINGTON, NORTH CAROLINA 28403

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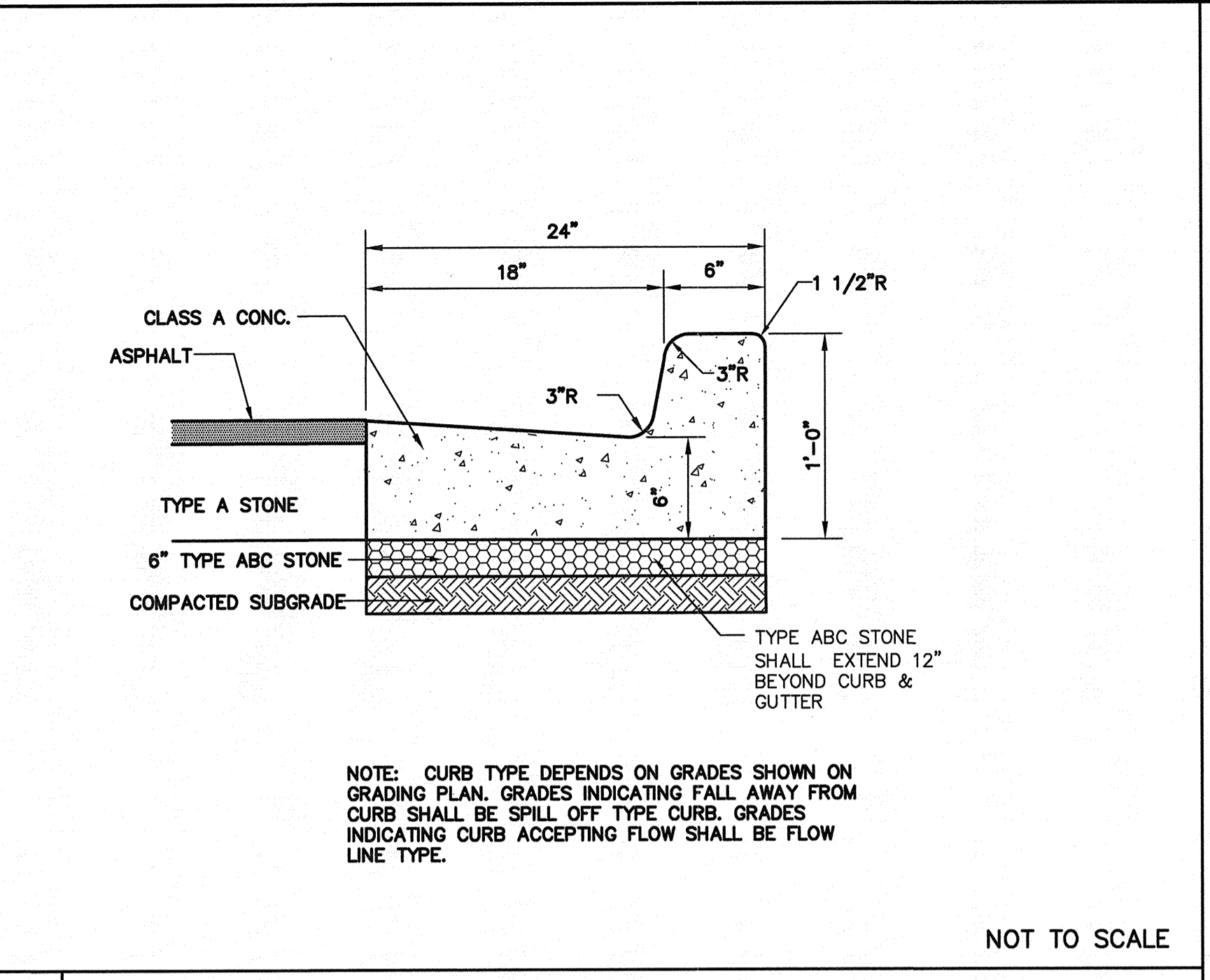
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Licence #C-3641
16169
DES. JST
C.D. JPN
DRWL. NKS
DATE 1/9/18

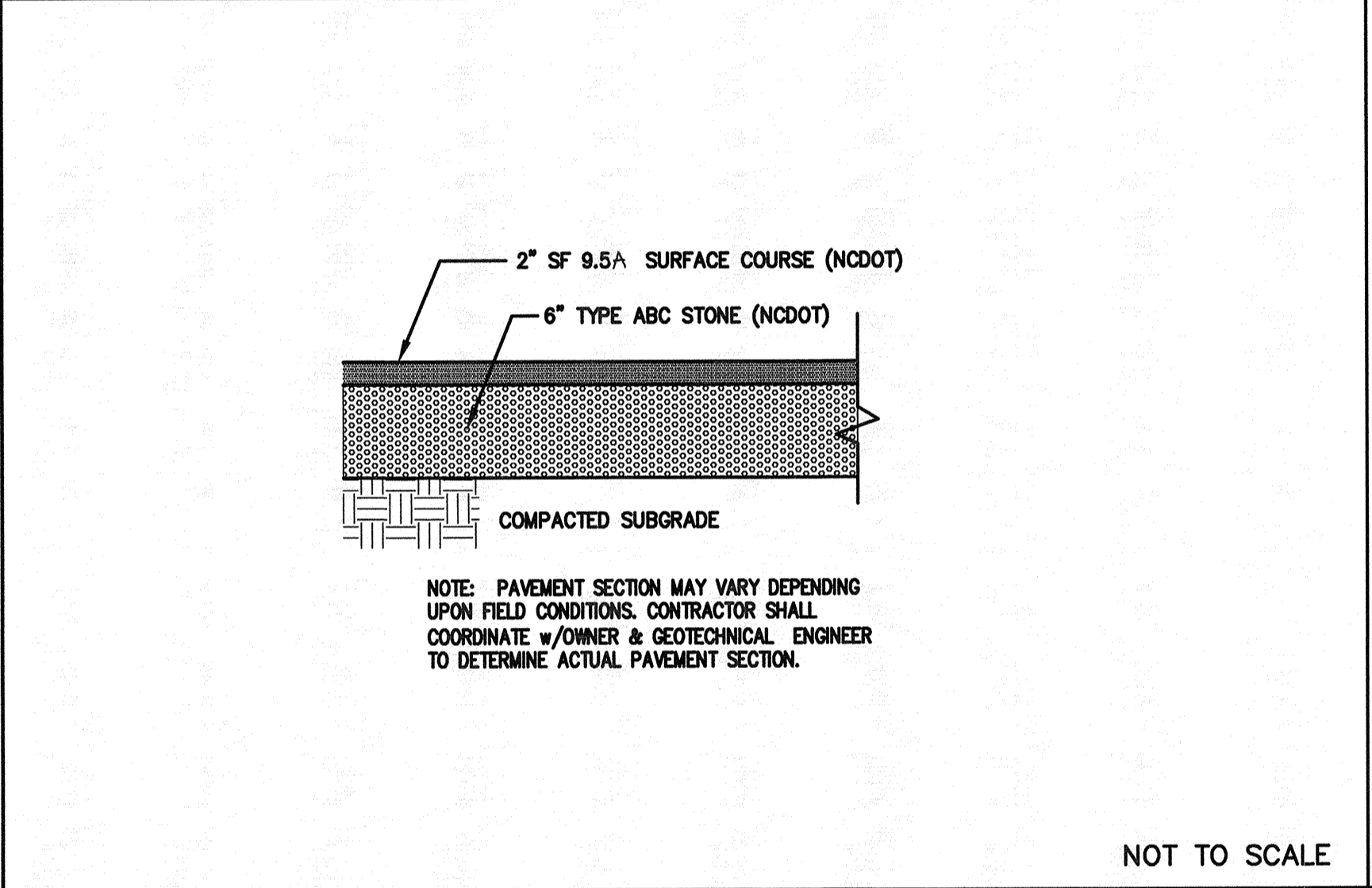
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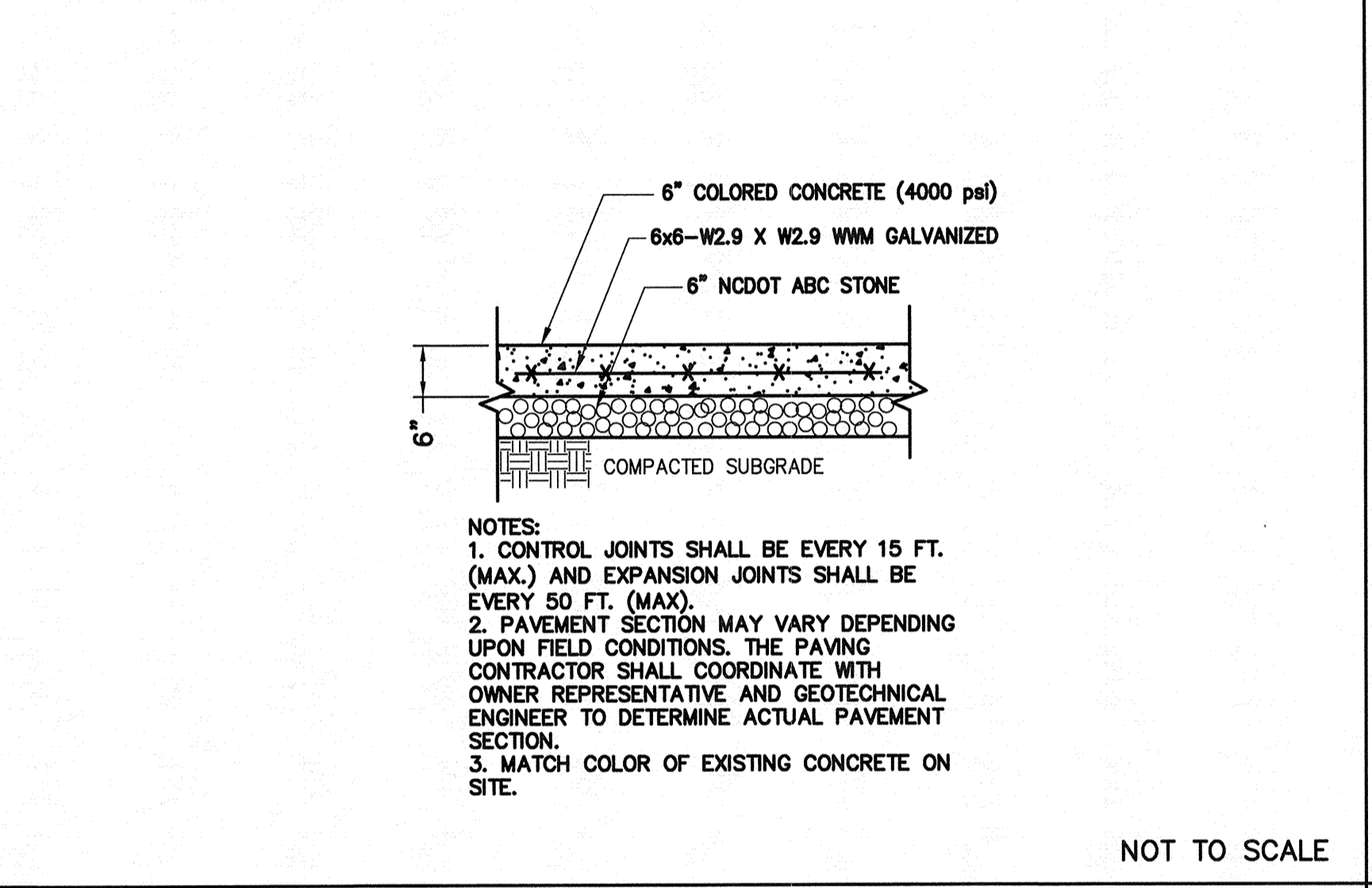
1 24" CURB AND GUTTER SECTION (SPILL-OFF)



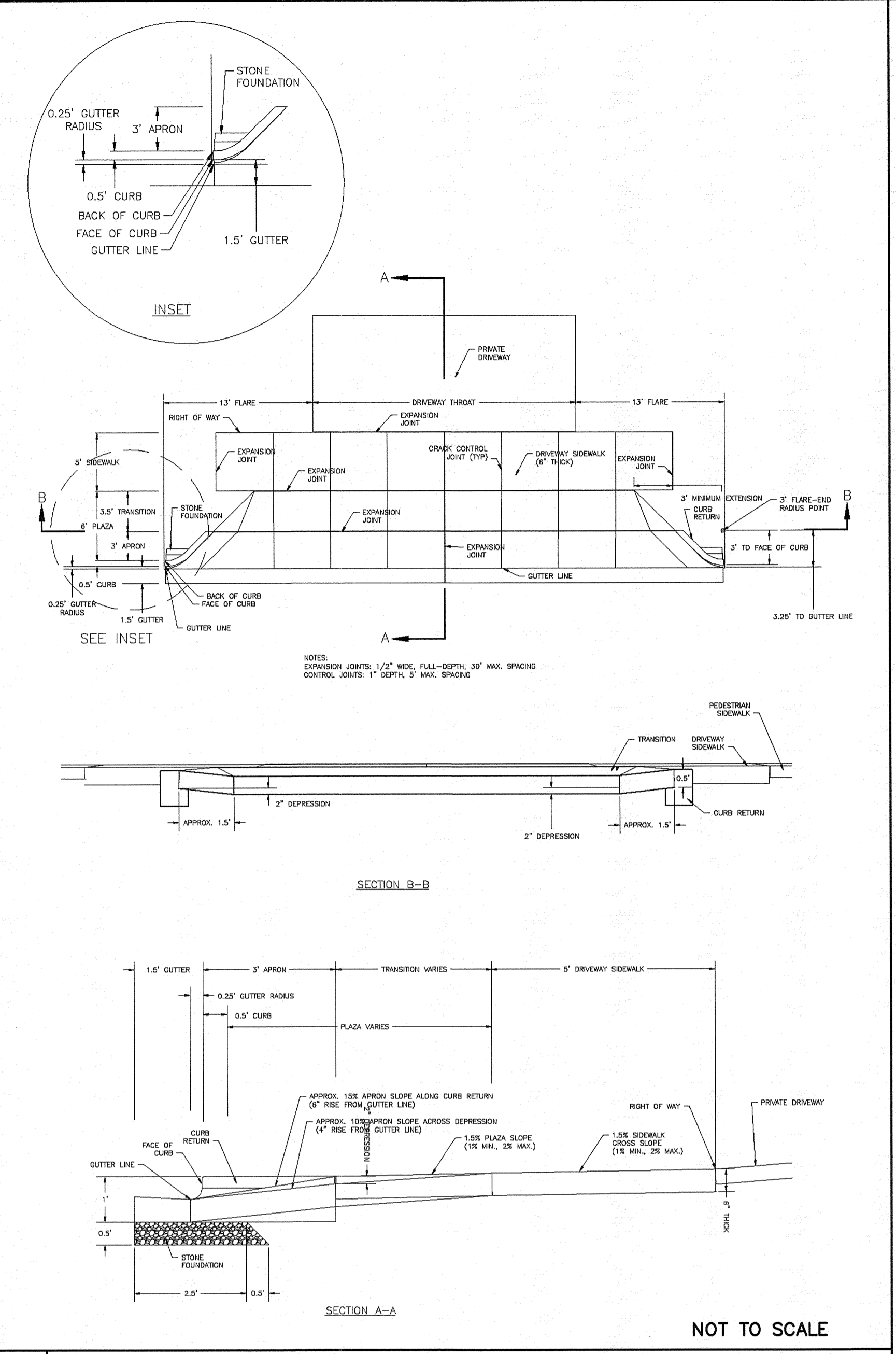
2 24" CURB AND GUTTER SECTION (FLOW-LINE)



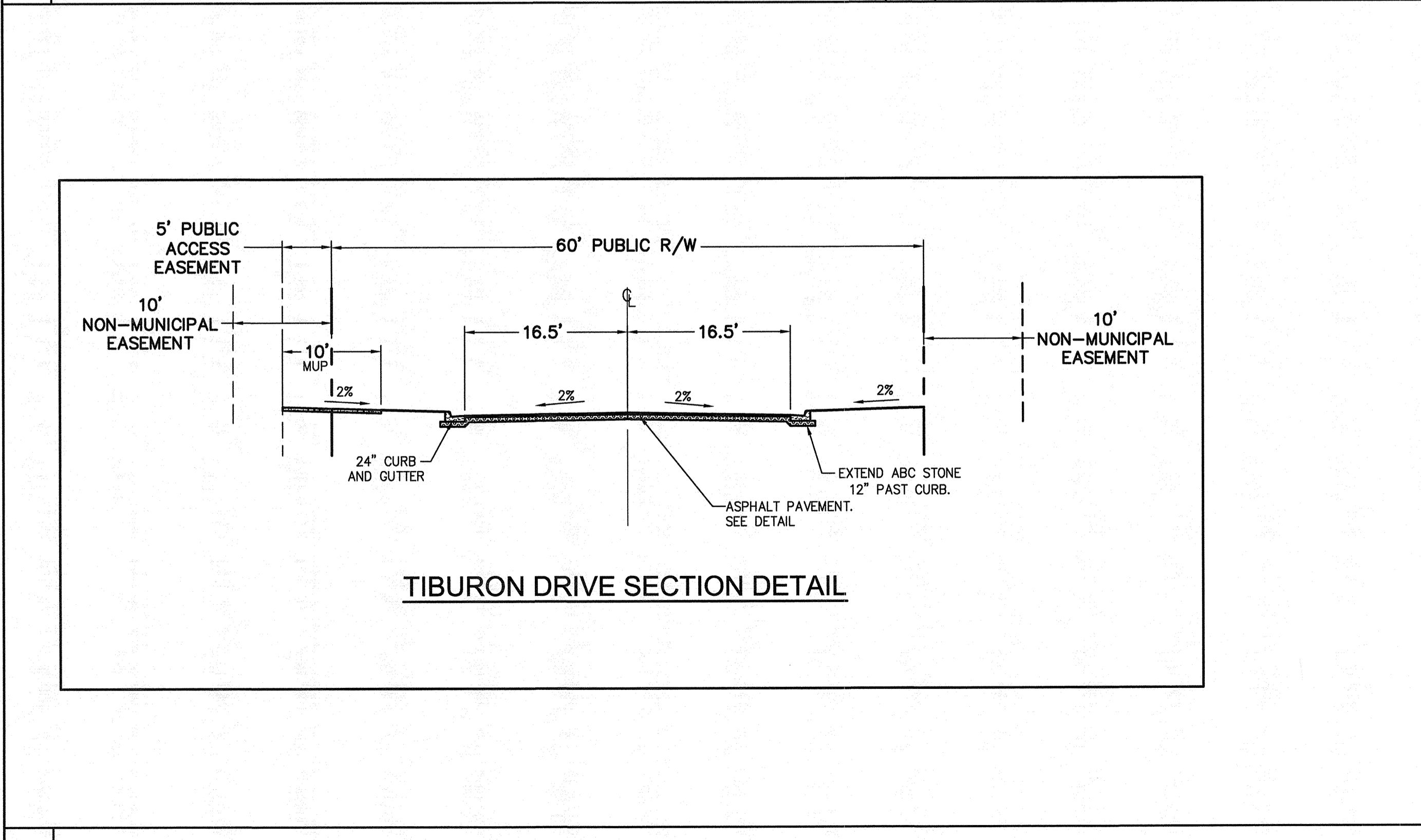
3 ASPHALT PAVEMENT SECTION



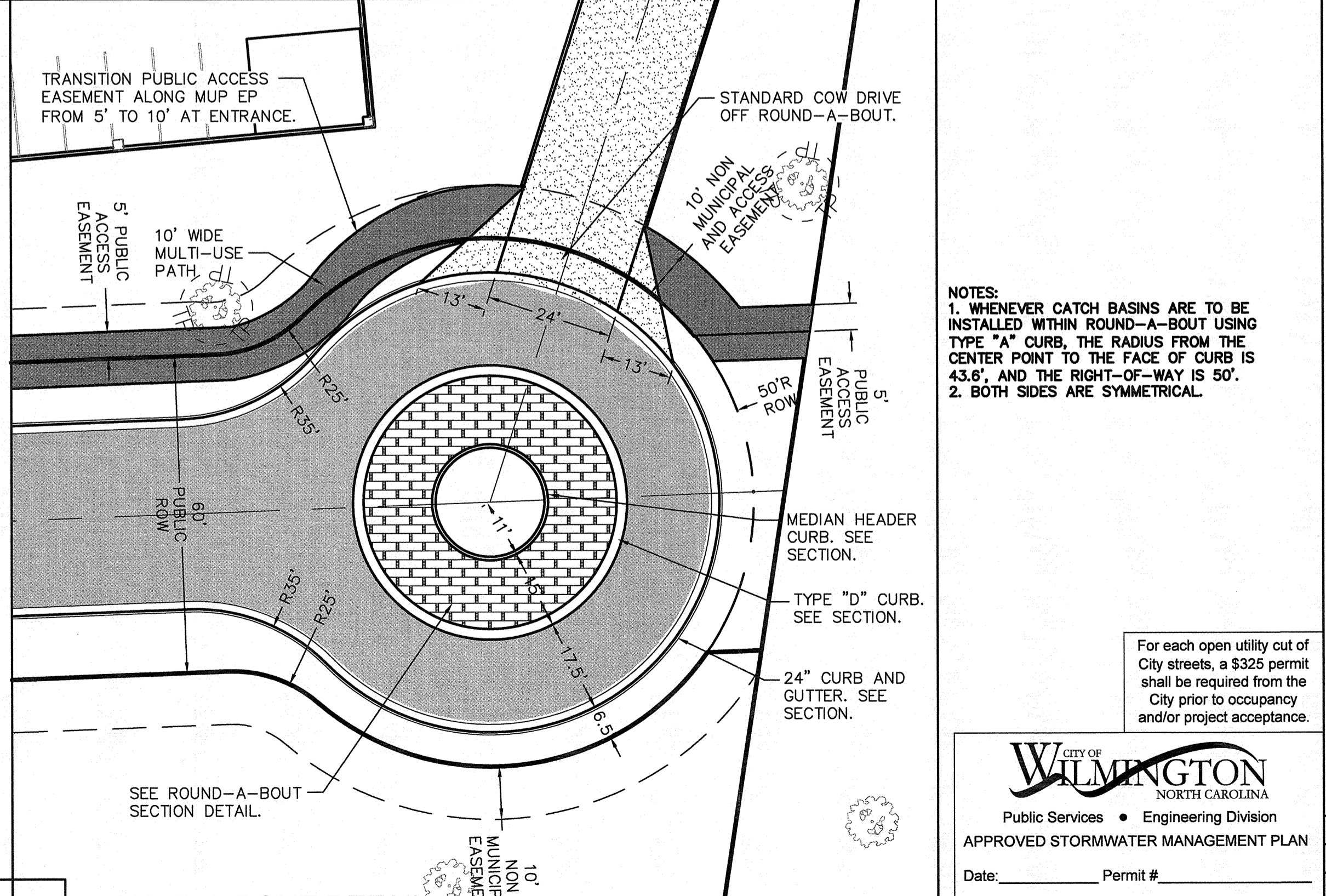
4 HEAVY DUTY CONCRETE PAVEMENT SECTION



5 STANDARD CITY OF WILMINGTON DRIVE WAY DETAIL



6 TIBURON DRIVE SECTION DETAIL



7 ROUND-A-BOUT DETAIL

CITY OF WILMINGTON STANDARD NOTES:

- CONTACT THE NORTH CAROLINA ONE CALL CENTER PRIOR TO DOING ANY DIGGING AT 1-800-632-4949.
- PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES AND NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING;
- ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS.
- ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
- INSTALL REFLECTORS PER CITY AND NCDOT STANDARDS. TRAFFIC ENGINEERING MUST APPROVE OF PAVEMENT MARKING LAYOUT PRIOR TO ACTUAL STRIPING.
- ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
- TRAFFIC CONTROL DEVICES (INCLUDING SIGNS AND PAVEMENT MARKINGS) IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
- IT SHALL BE THE RESPONSIBILITY OF THE SUBDIVIDER TO ERECT OFFICIAL STREET NAME SIGNS AT ALL INTERSECTIONS ASSOCIATED WITH THE SUBDIVISION IN ACCORDANCE WITH THE TECHNICAL STANDARDS AND SPECIFICATIONS MANUAL. THE SUBDIVIDER MAY ACQUIRE AND ERECT OFFICIAL STREET NAME SIGNS OR MAY CHOOSE TO CONTRACT WITH THE CITY TO INSTALL THE STREET SIGNS AND THE SUBDIVIDER SHALL PAY THE COST OF SUCH INSTALLATION. CONTACT TRAFFIC ENGINEERING AT 341-7888 TO DISCUSS INSTALLATION OF TRAFFIC AND STREET NAME SIGNS. POSTED STREET NAMES MUST BE APPROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS.
- CONTACT TRAFFIC ENGINEERING AT 341-7888 FORTY-EIGHT HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT-OF-WAY.
- A UTILITY CUT PERMIT IS REQUIRED FOR EACH OPEN CUT OF A CITY STREET. CONTACT 341-5888 FOR MORE DETAILS. IN CERTAIN CASES AN ENTIRE RESURFACING OF THE AREA BEING OPEN CUT MAY BE REQUIRED.
- ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS, AND CURBING WILL BE REPLACED.
- CONTACT TRAFFIC ENGINEERING AT 341-7888 TO DISCUSS STREET LIGHTING OPTIONS.
- PROJECT SHALL COMPLY WITH CFPWA CROSS CONNECTION CONTROL REQUIREMENTS. WATER METER(S) CANNOT BE RELEASED UNTIL ALL REQUIREMENTS ARE MET AND THE STATE HAS GIVEN THEIR FINAL APPROVAL. CALL 343-3910 FOR INFORMATION.
- IF THE CONTRACTOR DESIRES CFPWA WATER FOR CONSTRUCTION HE SHALL APPLY IN ADVANCE FOR THIS SERVICE AND MUST PROVIDE A REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTION DEVICE ON THE DEVELOPER'S SIDE OF THE WATER METER BOX.
- ANY IRRIGATION SYSTEM SUPPLIED BY CFPWA WATER SHALL COMPLY WITH CFPWA CROSS CONNECTION CONTROL REGULATIONS. CALL 332-6558 FOR INFORMATION.
- ANY BACKFLOW PREVENTION DEVICES REQUIRED BY CFPWA WILL NEED TO BE ON THE LIST OF APPROVED DEVICES BY USFCOCHR OR ASSE.
- WHEN PVC WATER MAINS AND/OR POLYETHYLENE SERVICES ARE PROPOSED, THE PIPES ARE TO BE MARKED WITH NO. 10 INSULATED SINGLE STRAND COPPER WIRE INSTALLED THE ENTIRE LENGTH AND SECURED TO ALL VALVES. THIS WIRE IS TO BE ACCESSIBLE AT ALL FIRE HYDRANTS AND WATER METER BOXES TO AID IN FUTURE LOCATION OF FACILITIES.
- THE NUMBER AND SPACING OF DRIVEWAYS FOR ALL INTERCONNECTED SITES WILL BE DETERMINED BY THE COMBINED FRONTAGE OF THE INTERCONNECTED PROPERTIES.
- UNDERGROUND FIRE LINE MUST BE PERMITTED AND INSPECTED BY THE WILMINGTON FIRE DEPARTMENT FROM THE PUBLIC ROW TO THE BUILDING. CONTACT THE WILMINGTON FIRE DEPARTMENT DIVISION OF FIRE AND LIFE SAFETY AT 910-343-0696 FOR ADDITIONAL INFORMATION.
- A LANDSCAPE PLAN INDICATING THE LOCATION OF REQUIRED STREET TREES SHALL BE SUBMITTED TO THE CITY OF WILMINGTON TRAFFIC ENGINEER DIVISION AND PARKS AND RECREATION DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO THE RECORDING OF THE FINAL PLAT.
- IF AN IRRIGATION SYSTEM IS PLANNED FOR THE SITE, UTILIZE MOISTURE SENSORS.
- ALL PROPOSED VEGETATION WITHIN THE SIGHT TRIANGLES SHALL NOT INTERFERE WITH CLEAR VISUAL SIGHT LINES FROM 30"-10'.

UTILITY NOTES FOR FIRE HYDRANTS:

- FIRE HYDRANTS MUST BE WITHIN 150' OF THE FIRE DEPARTMENT CONNECTION.
- THE FIRE DEPARTMENT CONNECTION MUST BE WITHIN 40' OF FIRE APPARATUS PLACEMENT.
- 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.
- FIRE HYDRANTS MUST BE LOCATED WITHIN 8' OF THE CURB.
- NEW HYDRANTS MUST BE AVAILABLE FOR USE PRIOR TO CONSTRUCTION OF THE BUILDINGS.
- NEW HYDRANTS MUST BE BROUGHT INTO SERVICE PRIOR TO COMBUSTIBLE MATERIALS BEING DELIVERED TO THE JOB SITE.
- THE CONTRACTOR SHALL MAINTAIN AN ALL WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
- TEMPORARY STREET SIGNS SHALL BE INSTALLED AT EACH STREET INTERSECTION WHEN CONSTRUCTION OF NEW ROADWAYS ALLOWS PASSAGE BY VEHICLES.
- UNDERGROUND FIRE LINE AND PRIVATE WATER MAINS MUST BE PERMITTED AND INSPECTED BY THE WILMINGTON FIRE DEPARTMENT FROM THE PUBLIC RIGHT-OF-WAY TO THE BUILDING. CONTACT THE WILMINGTON FIRE DEPARTMENT DIVISION OF FIRE AND LIFE SAFETY AT 910-343-0696 FOR ADDITIONAL INFORMATION.
- A MINIMUM OF 5' SHALL SEPARATE UNDERGROUND FIRE LINES OR PRIVATE WATER MAINS FROM OTHER UNDERGROUND UTILITIES.
- HYDRANTS SHALL BE OF SUFFICIENT NUMBERS TO ACCOMMODATE BASE FIRE FLOW REQUIREMENTS OF THE STRUCTURE.
- BUILDING CONSTRUCTION TYPE:

Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

Fire _____

SYMBOL	DATE	DESCRIPTION	BY
REVISIONS			
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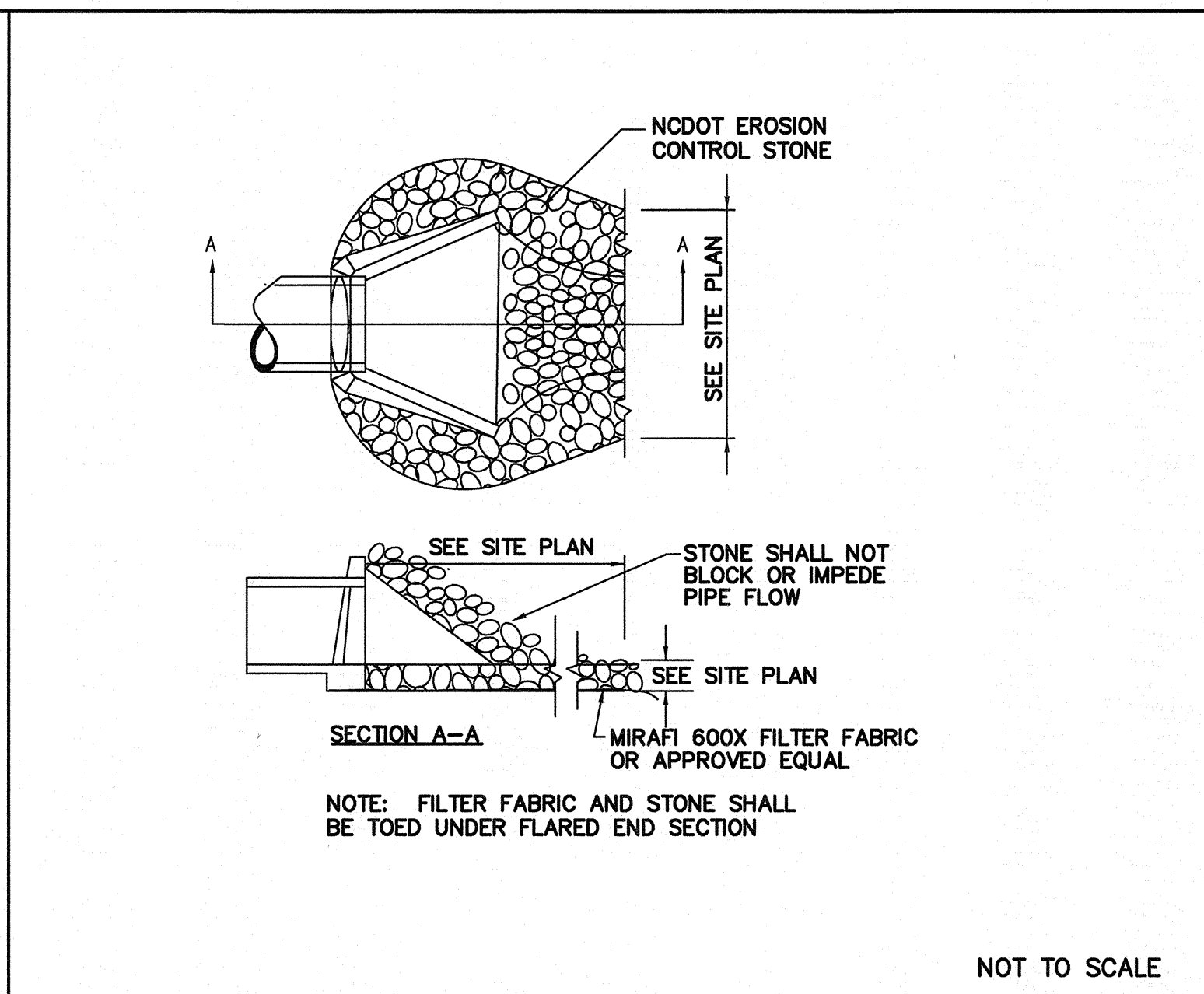
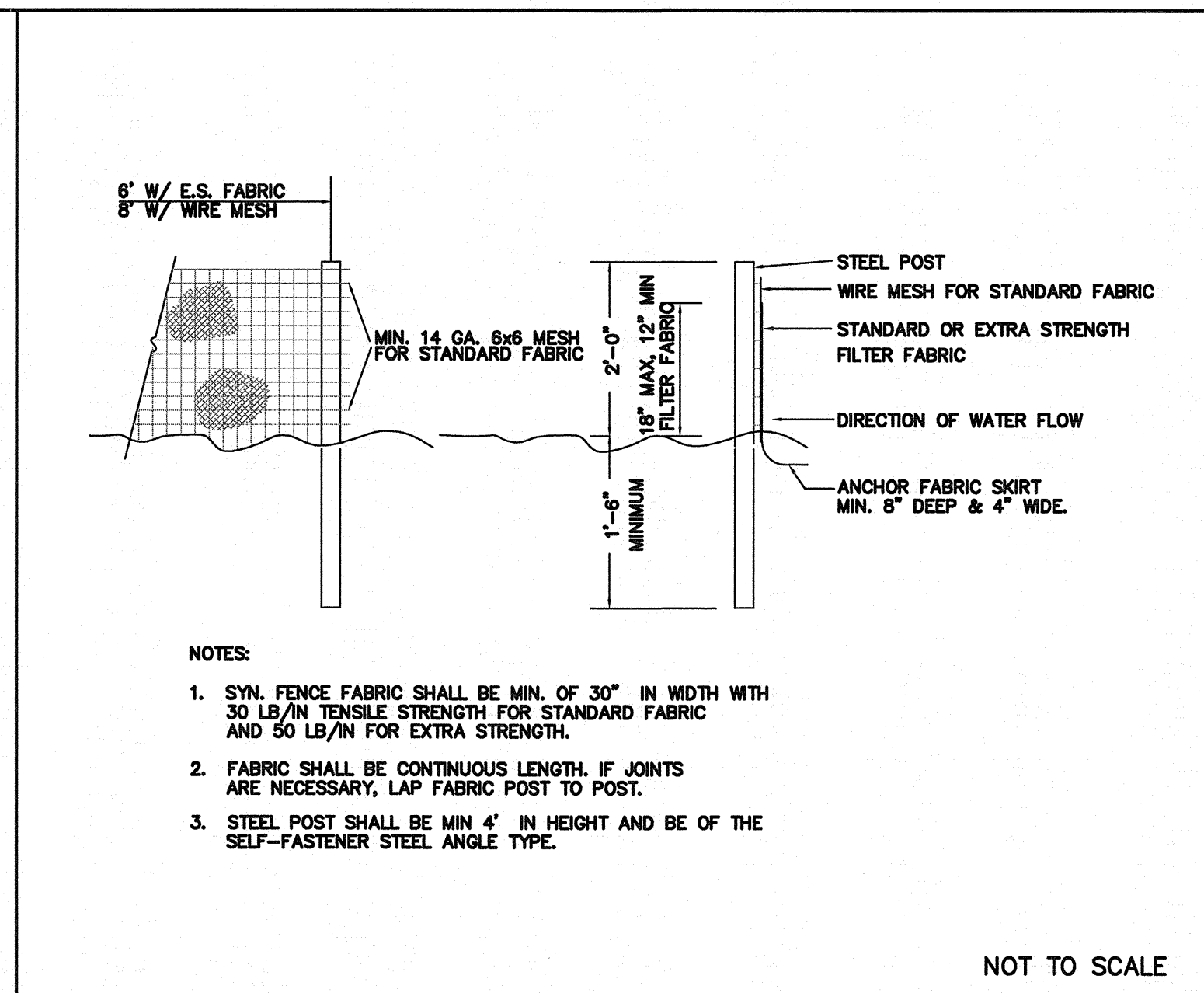
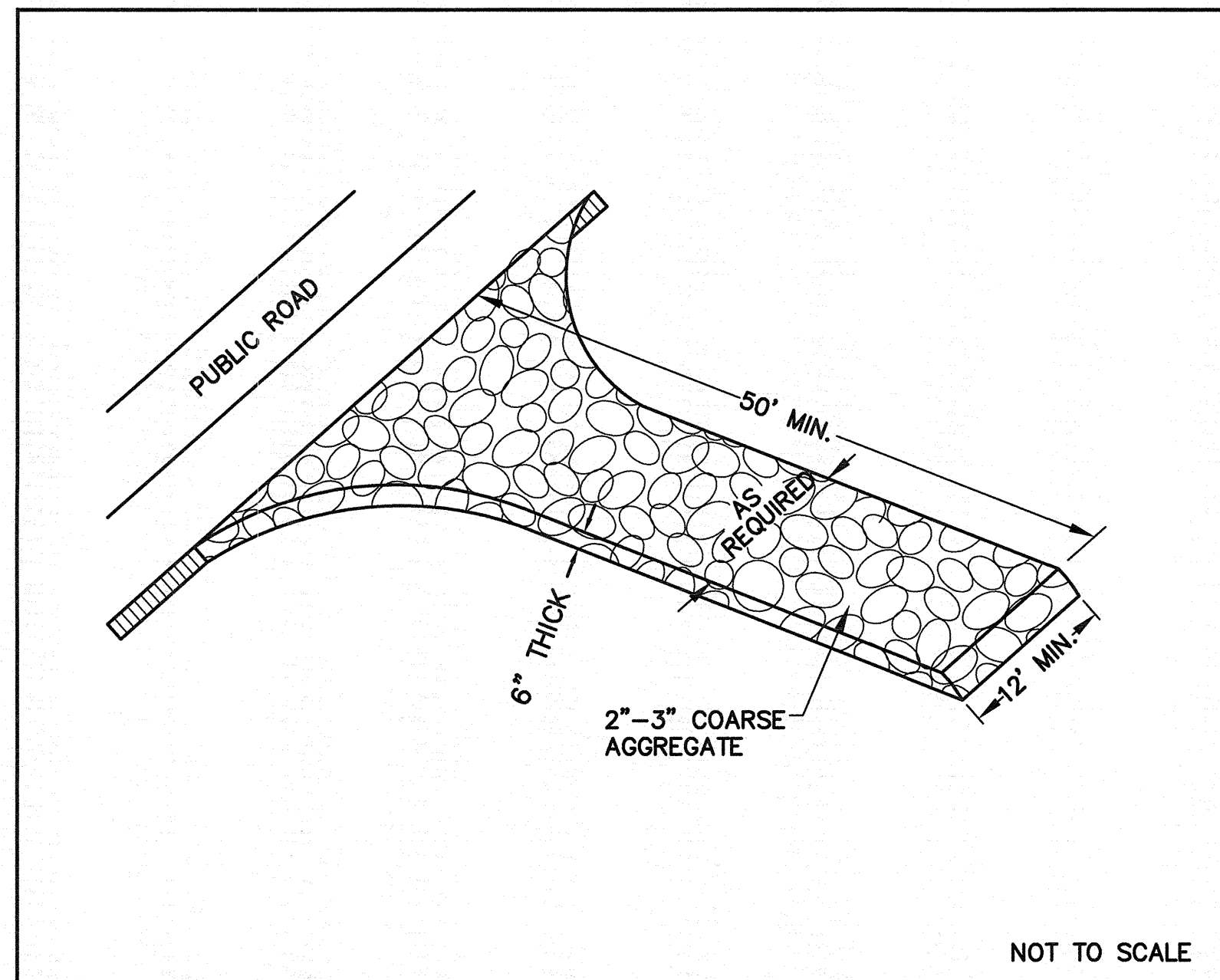
DATE 1/3/18

CITY OF WILMINGTON
NORTH CAROLINA
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

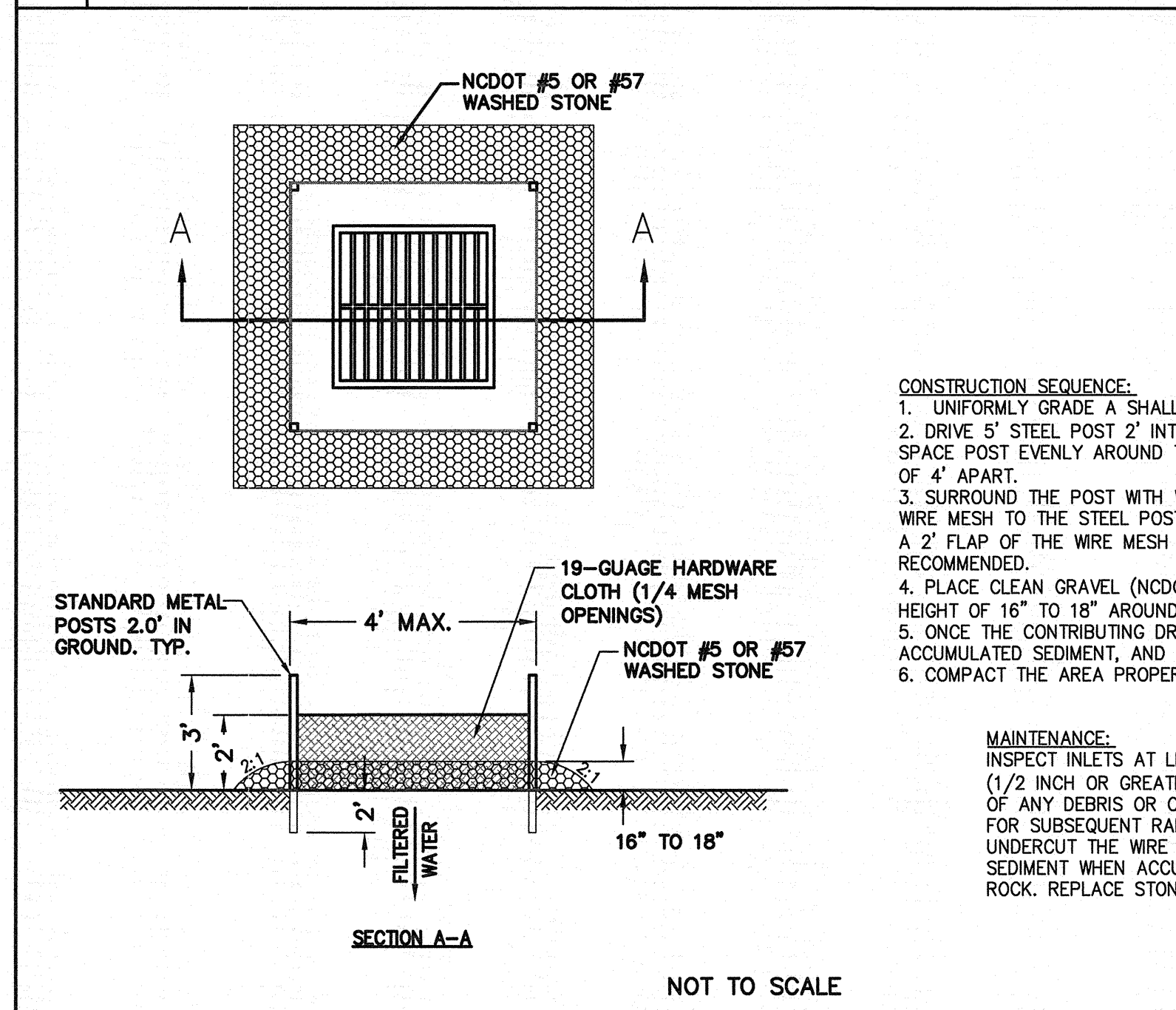
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1 TEMPORARY GRAVELLED CONSTRUCTION ENTRANCE NOT TO SCALE

2 TEMPORARY SILT FENCE NOT TO SCALE

3 ENERGY DISSIPATOR NOT TO SCALE

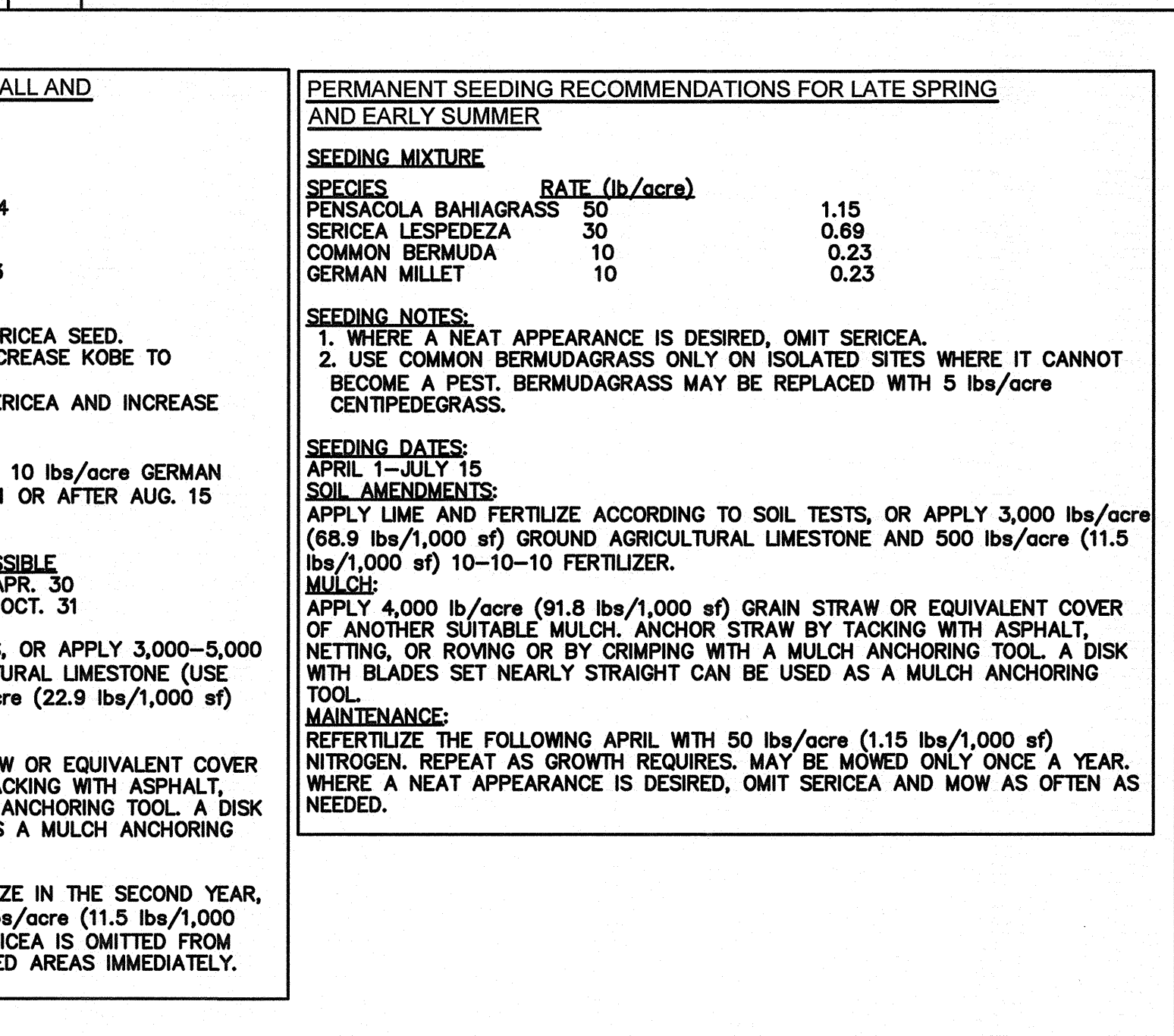


PERMANENT SEEDING RECOMMENDATIONS FOR FALL AND EARLY SPRING

SPECIES	RATE (lb./acre)	
FALL FESQUE	80	1.84
PENSACOLA BAHIAGRASS	50	1.15
SERICEA LESPEDEZA	30	0.69
KOBE LESPEDEZA	10	0.23

PERMANENT SEEDING RECOMMENDATIONS FOR LATE SPRING AND EARLY SUMMER

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



4 HARDWARE CLOTH AND GRAVEL INLET PROTECTION NOT TO SCALE

5 PERMANENT SEEDING SPECS.

9 DITCH #1, #2, #3 CROSS SECTION

TEMPORARY SEEDING RECOMMENDATIONS FOR FALL

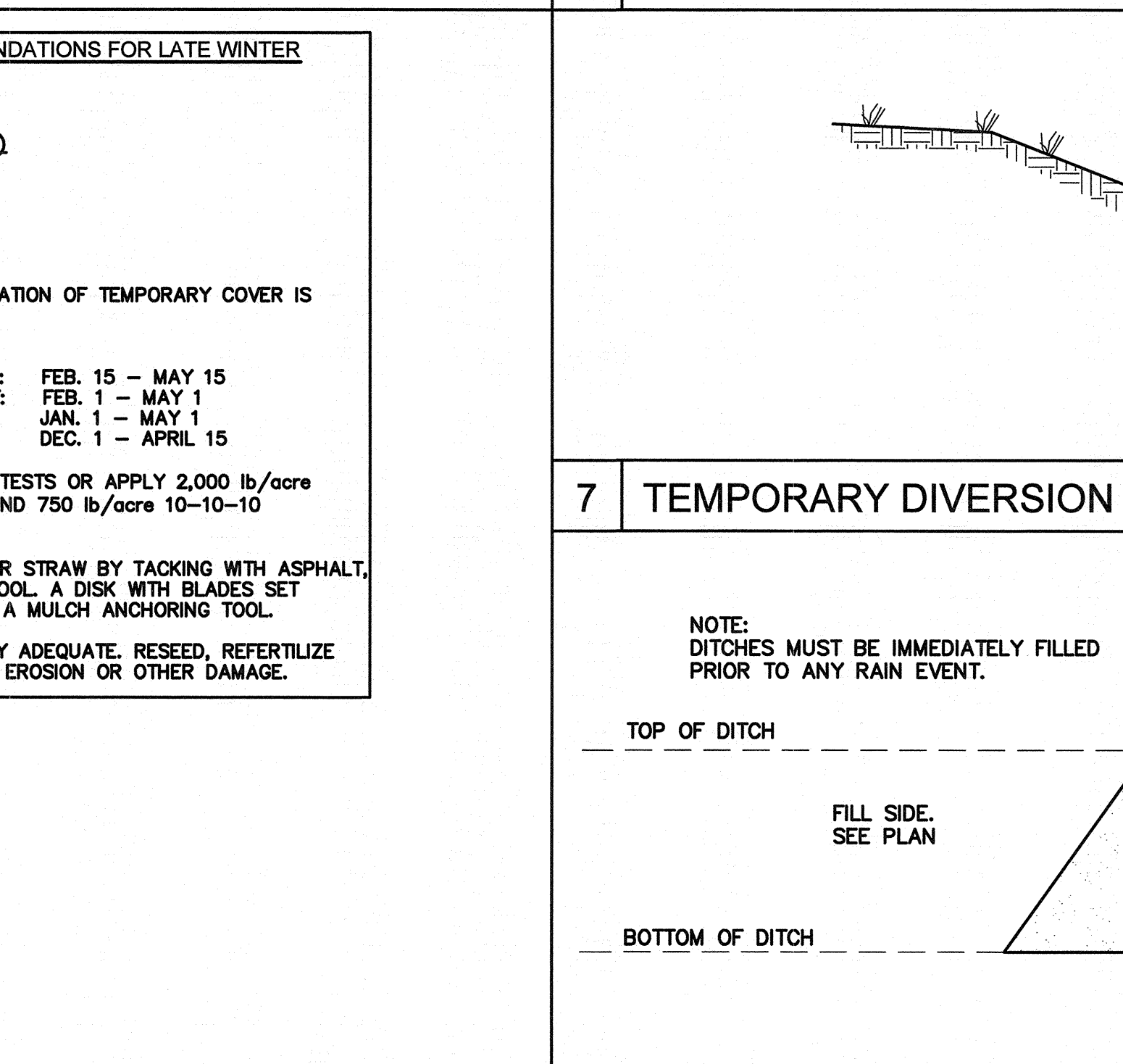
SPECIES	RATE (lb./acre)
RYE (GRAIN)	120

TEMPORARY SEEDING RECOMMENDATIONS FOR LATE WINTER AND EARLY SPRING

SPECIES	RATE (lb./acre)
RYE (GRAIN)	120
ANNUAL LESPEDEZA	50

TEMPORARY SEEDING RECOMMENDATIONS FOR SUMMER

SPECIES	RATE (lb./acre)
GERMAN MILLET	40



TEMPORARY DIVERSION DITCH

NOTE: DITCHES MUST BE IMMEDIATELY FILLED PRIOR TO ANY RAIN EVENT.

TEMP. SILT FENCE

6 TEMPORARY SEEDING SPECS.

8 DITCH PLUG DETAIL NOT TO SCALE

7 TEMPORARY DIVERSION DITCH

EROSION CONTROL NOTES AND MAINTENANCE PLAN:

- 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.
- ALL POINTS OF EGRESS WILL HAVE CONSTRUCTION ENTRANCES THAT WILL BE PERIODICALLY TOP-DRESSED WITH AN ADDITIONAL 2" LAYER 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 OR TRACKED ONTO THE CONSTRUCTION ENTRANCE OR ROADWAYS.
- 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.
- 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.
- 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.
- 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 WEEKLY AND WILL BE KEPT CLEAN.
- SEDIMENT WILL BE REMOVED FROM THE SEDIMENT BASIN WHEN THE DESIGN STORAGE CAPACITY HAS BEEN HALF FILLED WITH SEDIMENT. THE 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.
- LAND QUALITY REQUIRES: ALL SEEDED AREAS WILL BE FERTILIZED, RESEED 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 14 WORKING DAYS. WATER QUALITY REQUIRES: ALL SEEDED AREAS WILL BE FERTILIZED, RESEED 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 3:1 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 FOURTEEN (14) CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY.
- FLOCCULANTS WILL BE USED TO ADDRESS TURBIDITY ISSUES. THE PUMPS, TANKS, HOSES AND INJECT SYSTEMS WILL BE CHECKED FOR PROBLEMS OR TURBID DISCHARGES DAILY.
- BASIN OUTLET STRUCTURES AND SKIMMERS SHALL WITHDRAW WATER FROM THE SURFACE.

SEEDING DATES:

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

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

NCDENR PWSS WATER PERMIT #: _____ GPD

WATER CAPACITY: _____ GPD

DWQ SEWER PERMIT #: _____ GPD

SEWER CAPACITY: _____ GPD

SEWER SHED # AND PLANT: _____

SEWER TO FLOW THROUGH NEI: YES OR NO (CIRCLE ONE)

Approved Construction Plan

Name: _____ Date: _____

Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit #: _____

Signed: _____

Planning: _____

Public Utilities: _____

Traffic: _____

Fire: _____

SYMBOL	DATE	DESCRIPTION	BY

REVISIONS

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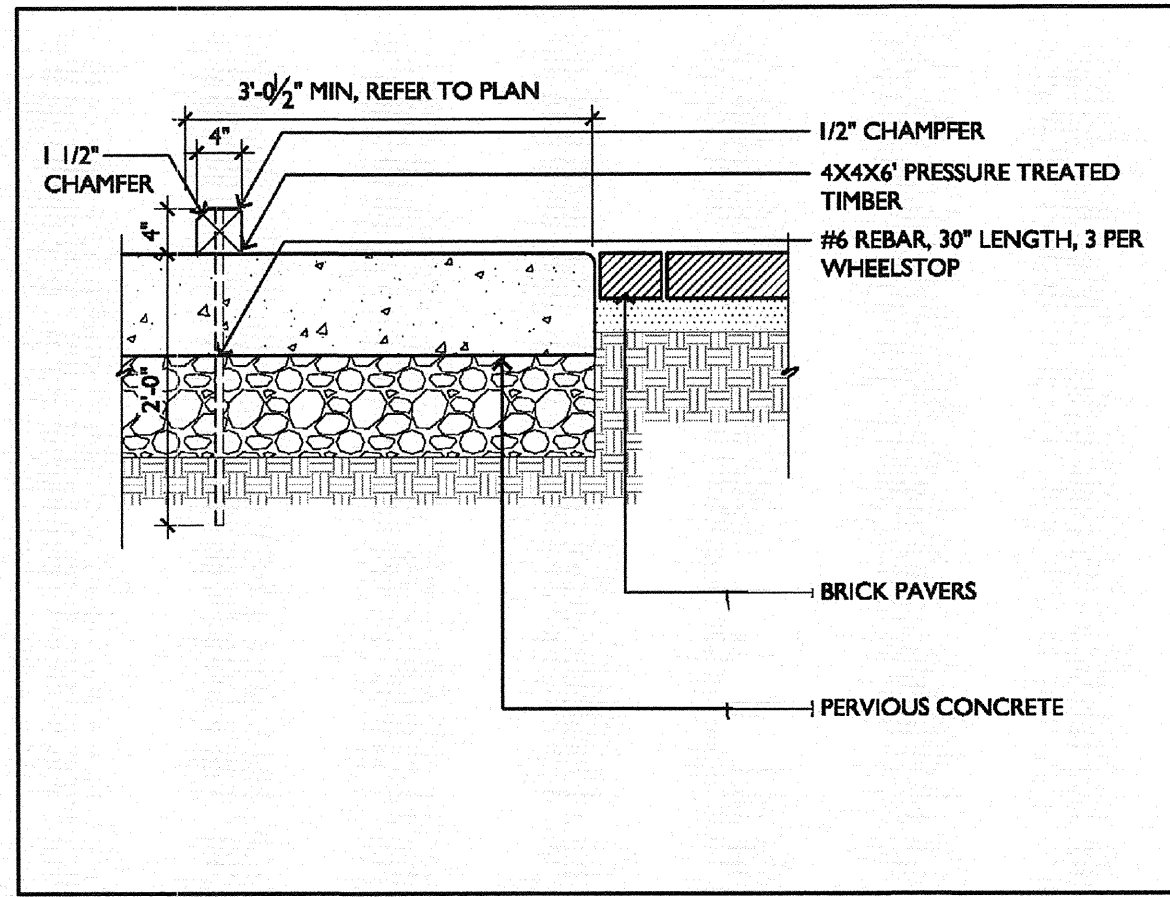
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DES. JST
CHK. JPN
DRWN. NKS

DATE 12/18/17

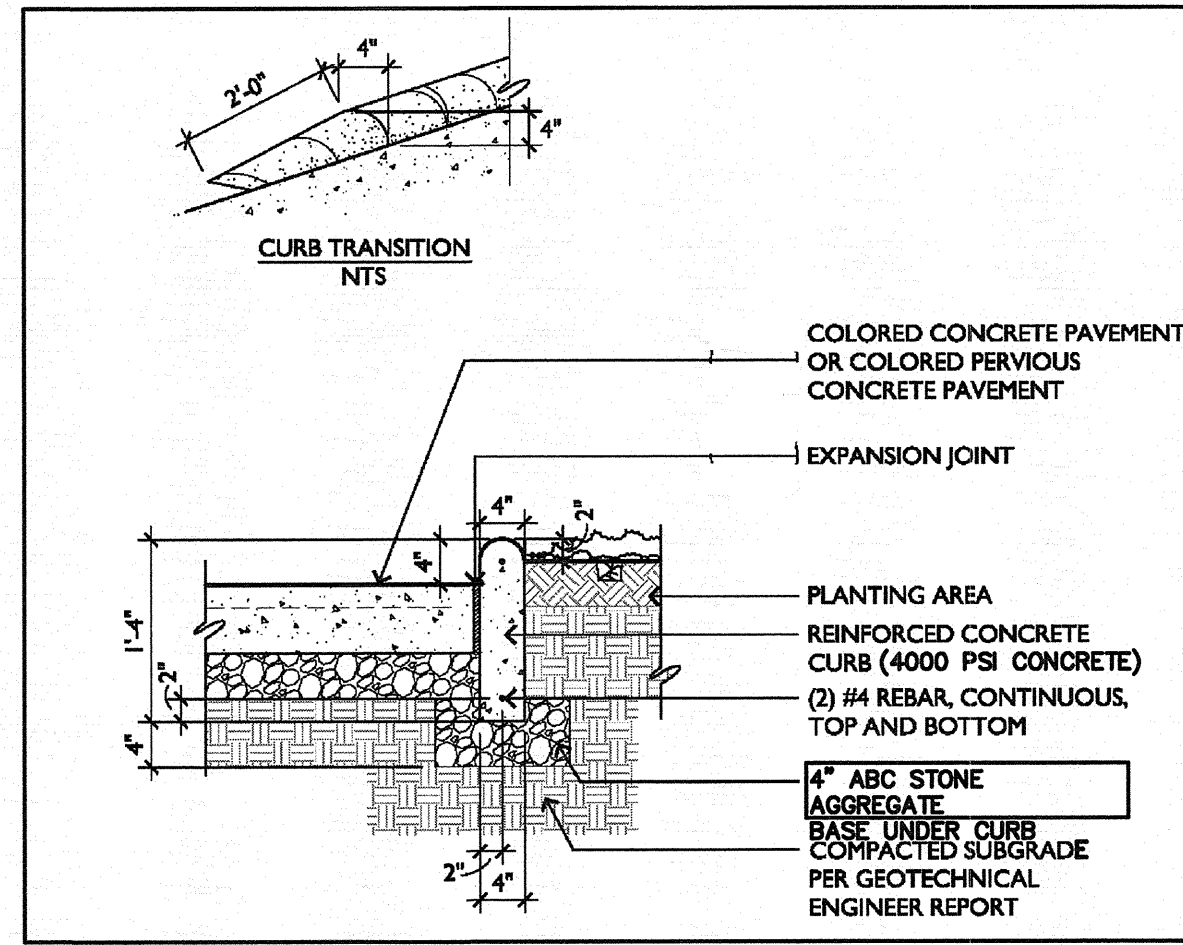
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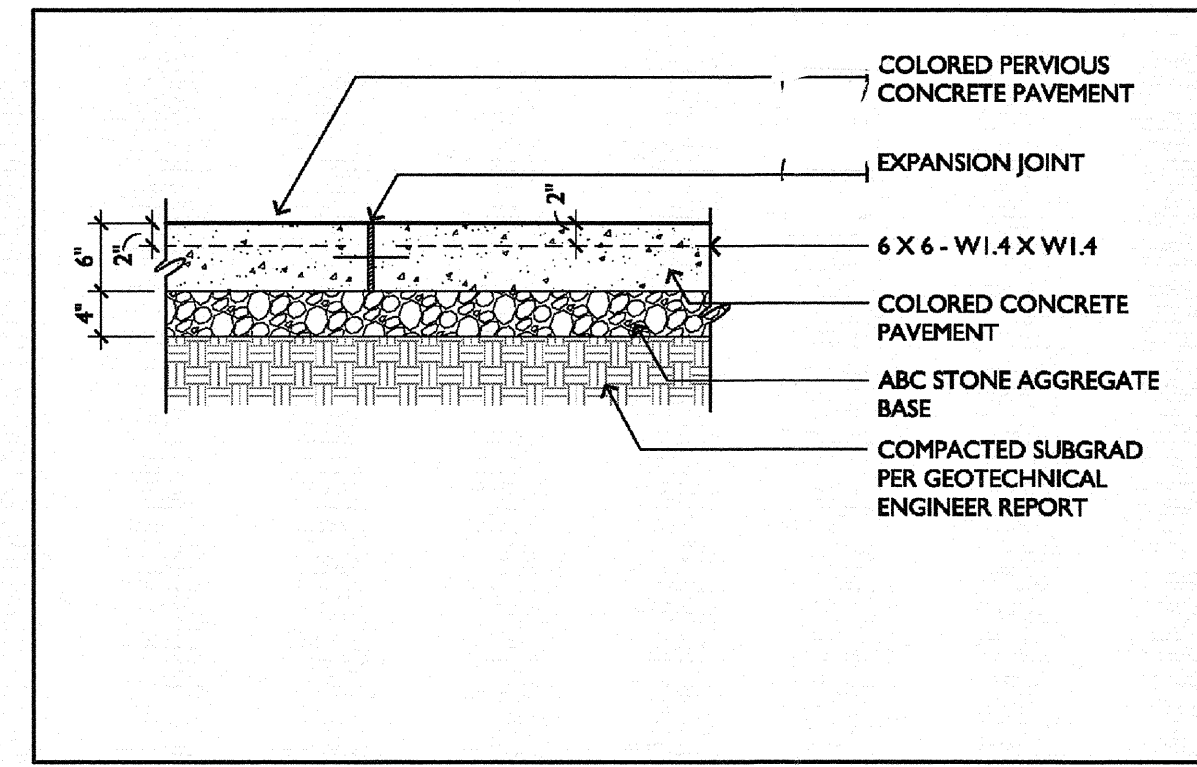
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1 WOOD WHEEL STOP DETAIL



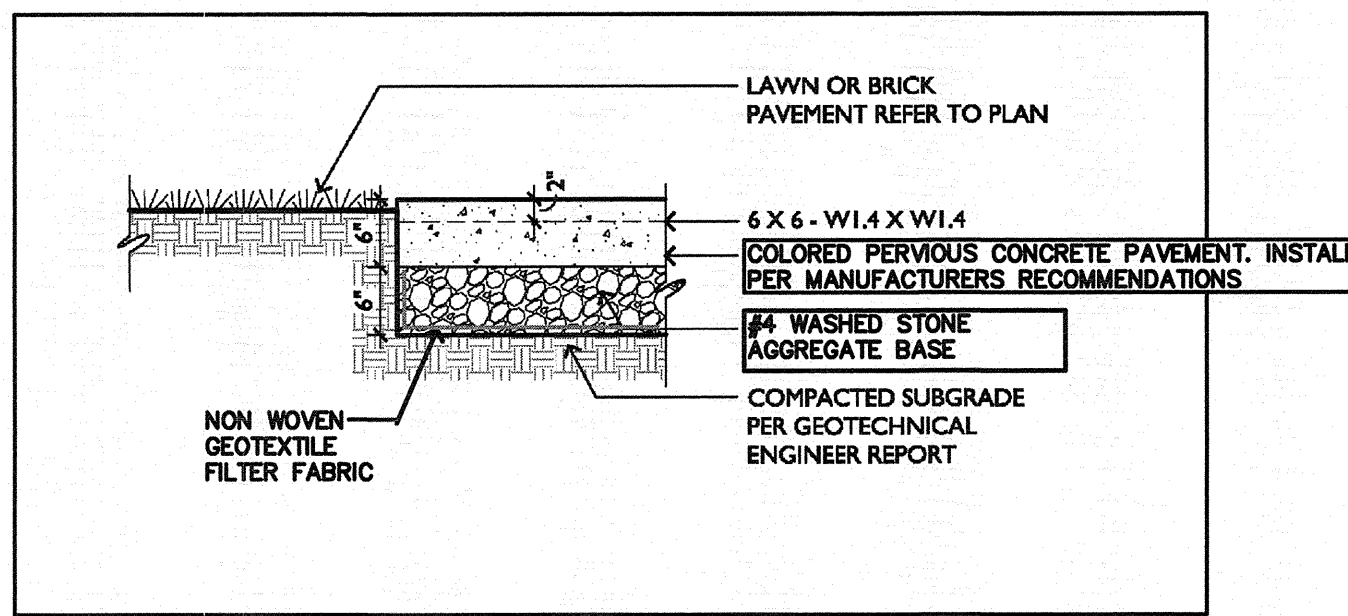
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2 CONCRETE CURB DETAIL



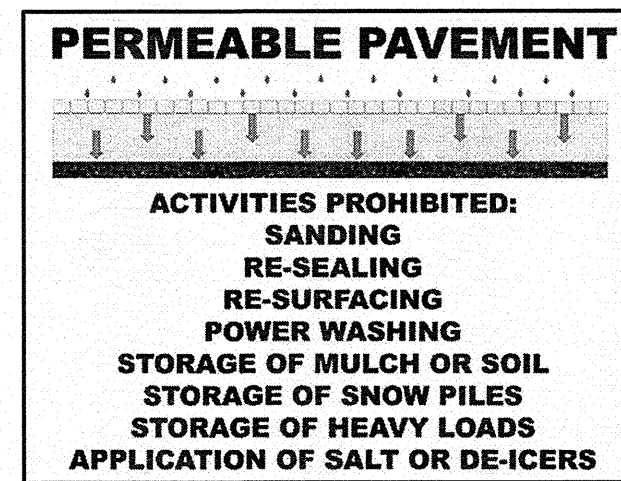
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3 COLORED CONCRETE PAVEMENT DETAIL



NOT TO SCALE

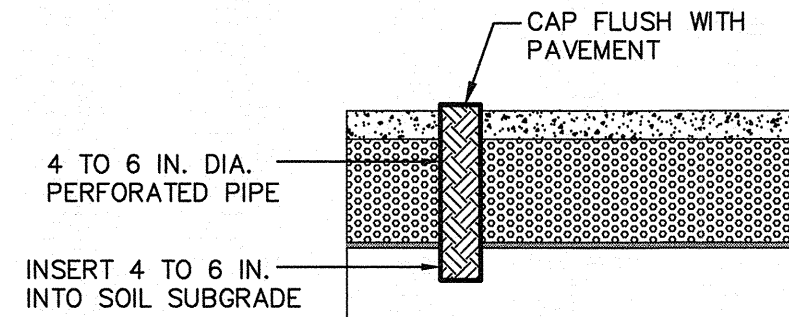
4 COLORED PERVIOUS CONCRETE PAVEMENT DETAIL



NOTES:
1. THE PERMEABLE PAVEMENT SIGN IS BASED ON AN 18" X 24" STANDARD SIZE FOR SIGN PRODUCTION.
2. A HIGH-RESOLUTION IMAGE FILE CAN BE PROVIDED BY THE DWG FOR USE IN FABRICATING THE SIGN. THE GRAPHIC IS IN COLOR BUT COLOR SIGNS ARE NOT REQUIRED.

NOT TO SCALE

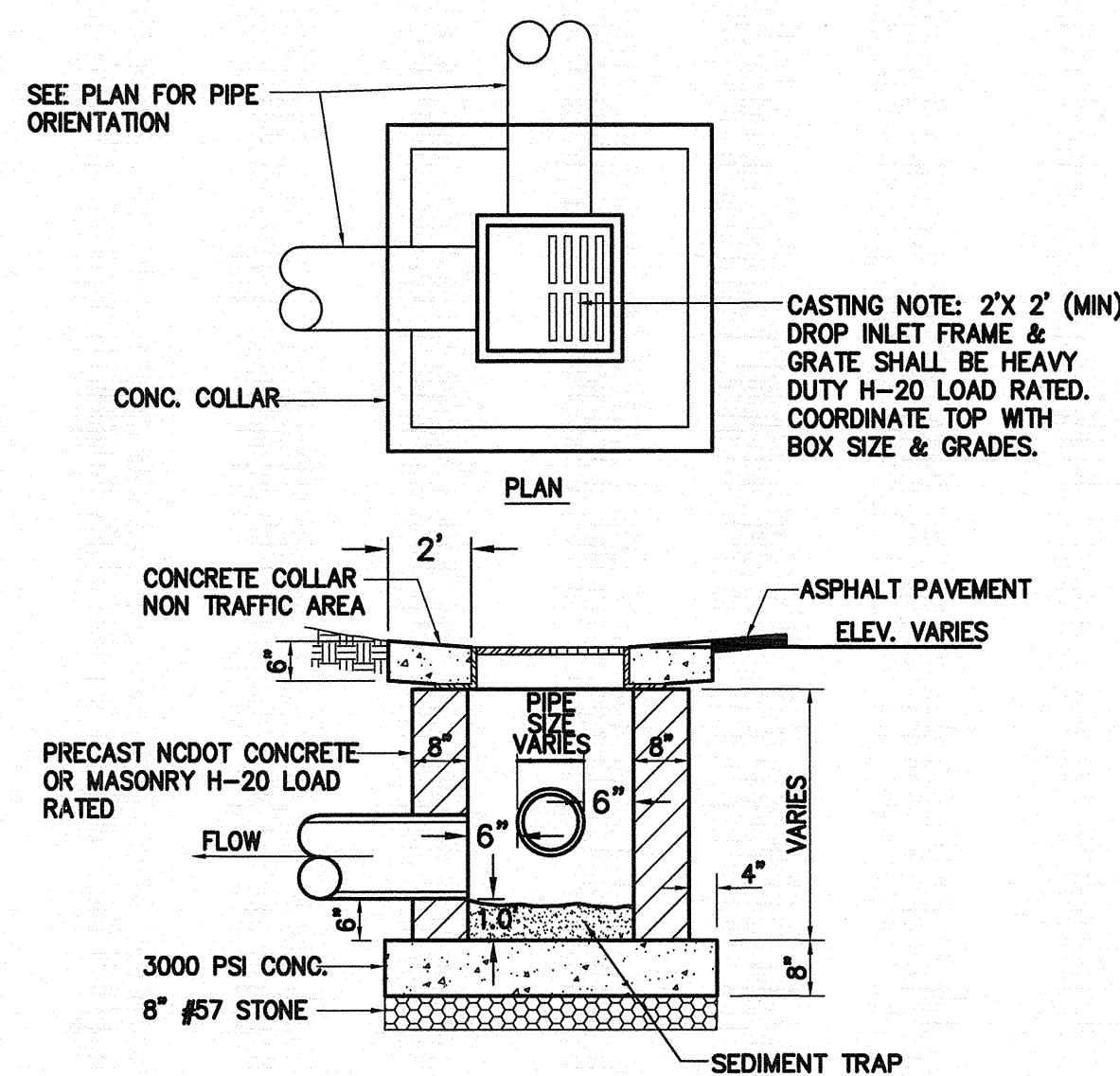
5 PERMEABLE PAVEMENT SIGNAGE DETAIL



PERVIOUS PAVEMENT OBSERVATION WELL NOTES:
1. THE OBSERVATION WELL SHALL BE PLACED AT THE LOW END OF THE SUBGRADE SLOPE.
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.

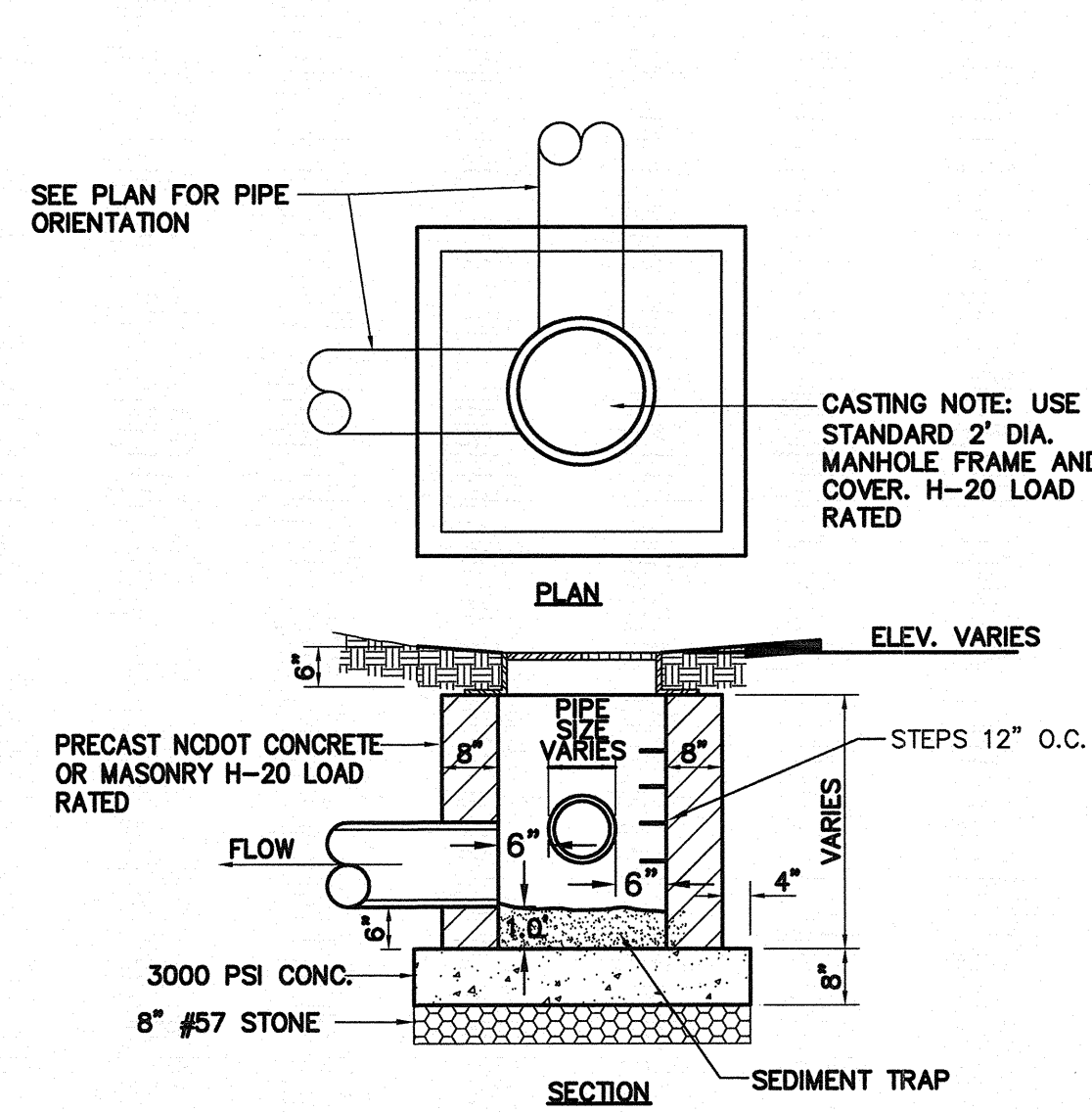
NOT TO SCALE

6 PERVIOUS PAVEMENT OBSERVATION WELL DETAIL



MUST COMPLY WITH CITY OF WILMINGTON STANDARDS NOT TO SCALE

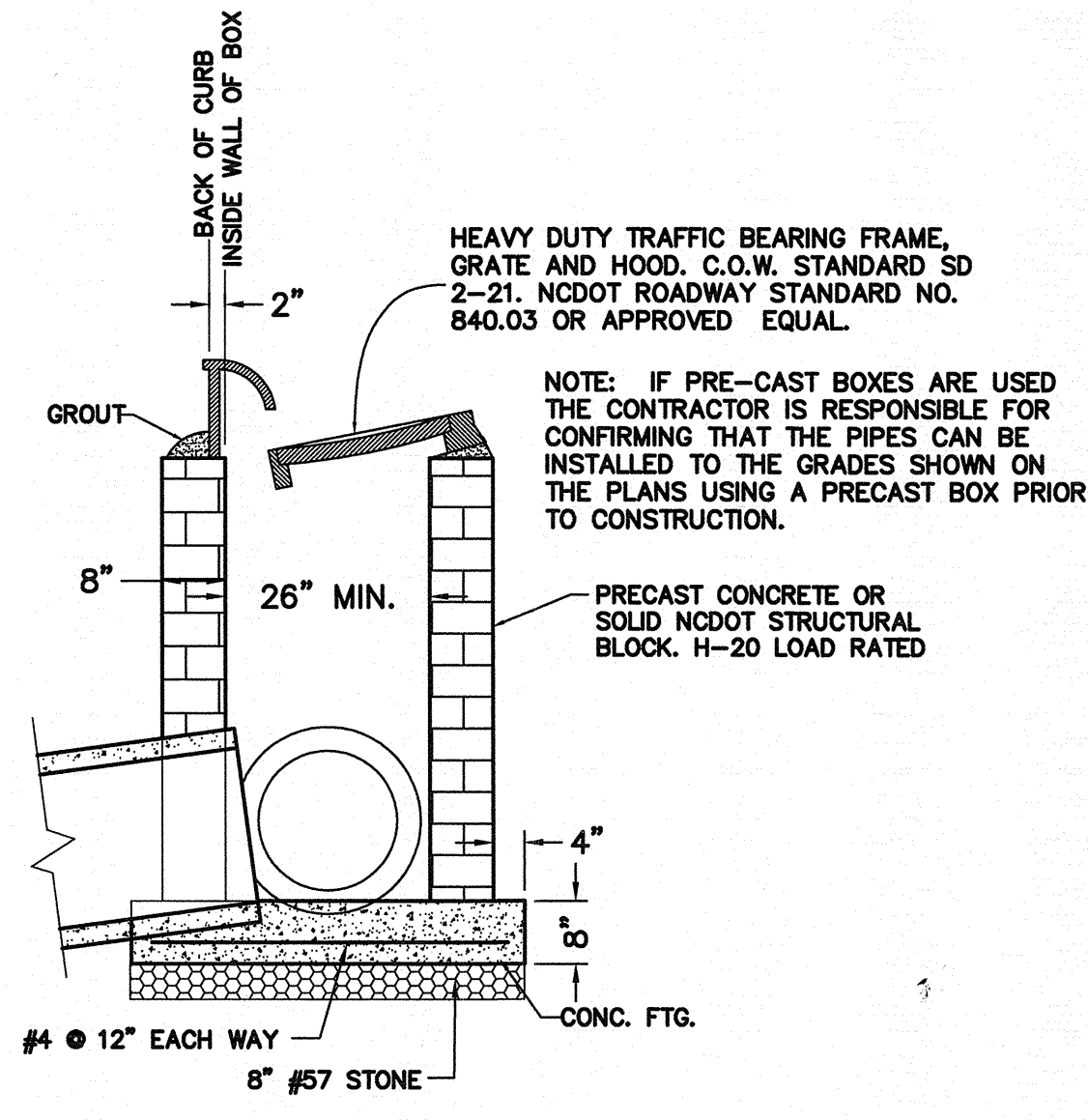
7 DROP INLET DETAIL



MUST COMPLY WITH CITY OF WILMINGTON STANDARDS

NOT TO SCALE

8 JUNCTION BOX DETAIL



MUST COMPLY WITH CITY OF WILMINGTON STANDARDS

NOT TO SCALE

9 CATCH BASIN 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 TRAFFIC OF WAYS WITH PROPER AUTHORITIES AND SHALL MEET ANY REQUIREMENTS AS TO RIGHT OF 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 PROFILES. 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 HANOVER DESIGN SERVICES, P.A. 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 ALKYL, 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.

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 for 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.

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

Date: _____ Permit #: _____
Signed: _____

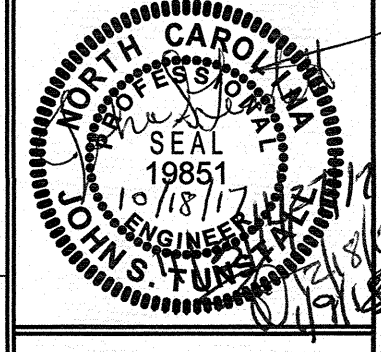
Approved Construction Plan
Name: _____ Date: _____
Planning: _____
Traffic: _____
Fire: _____

NOTES AND DETAILS
LIVE OAK BANKING COMPANY 3/FITPARK
1741 TIBURON DRIVE
WILMINGTON, NORTH CAROLINA 28403

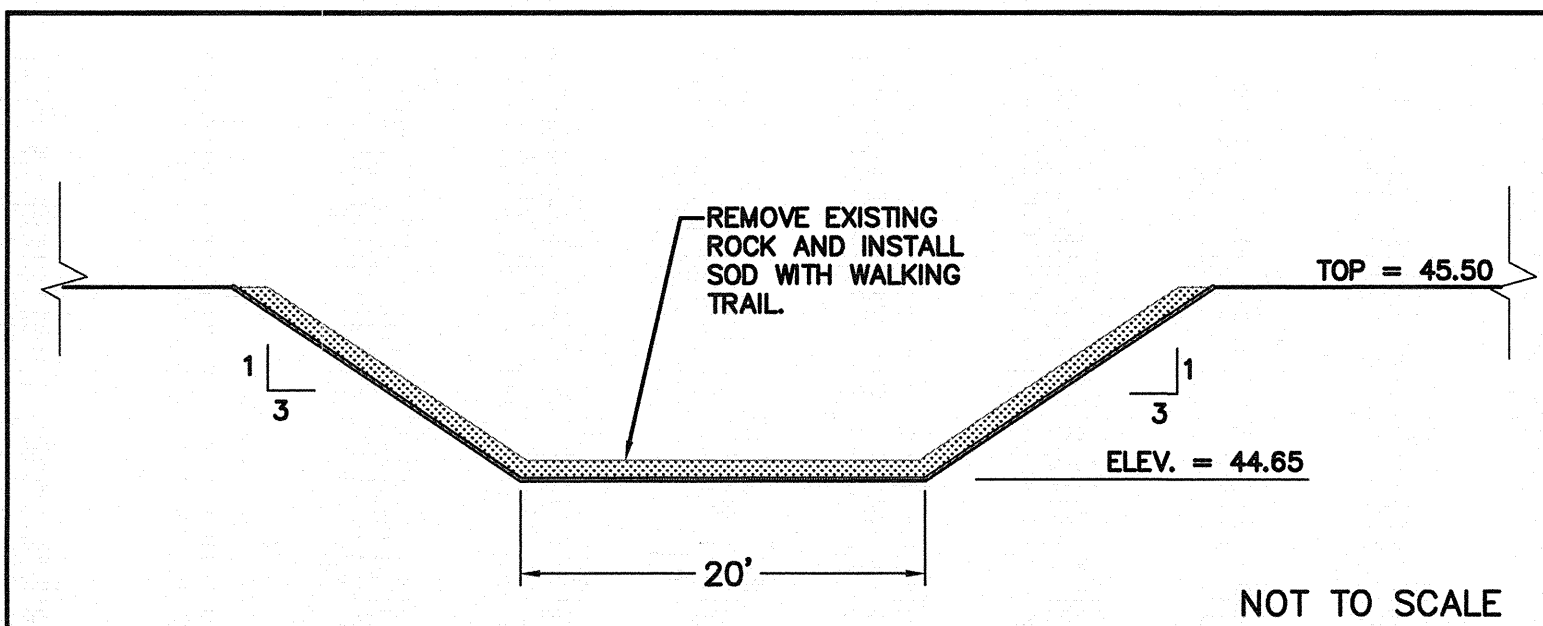
OWNER/DEVELOPER
W. LEE WILLIAMS
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CONSULTING ENGINEERS P.C.
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PHONE (910) 281-5900

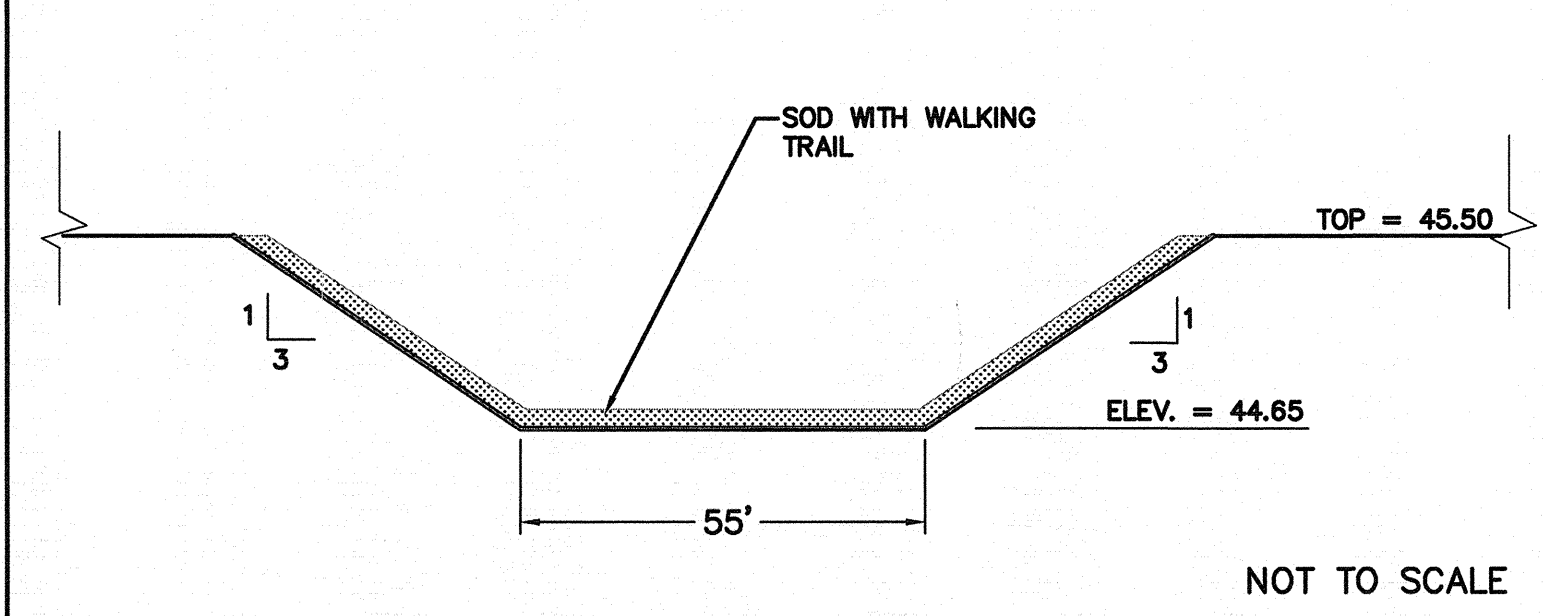
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16169
DES. JST
CHK. JPN
DRWN. NKS
DATE 10/13/17



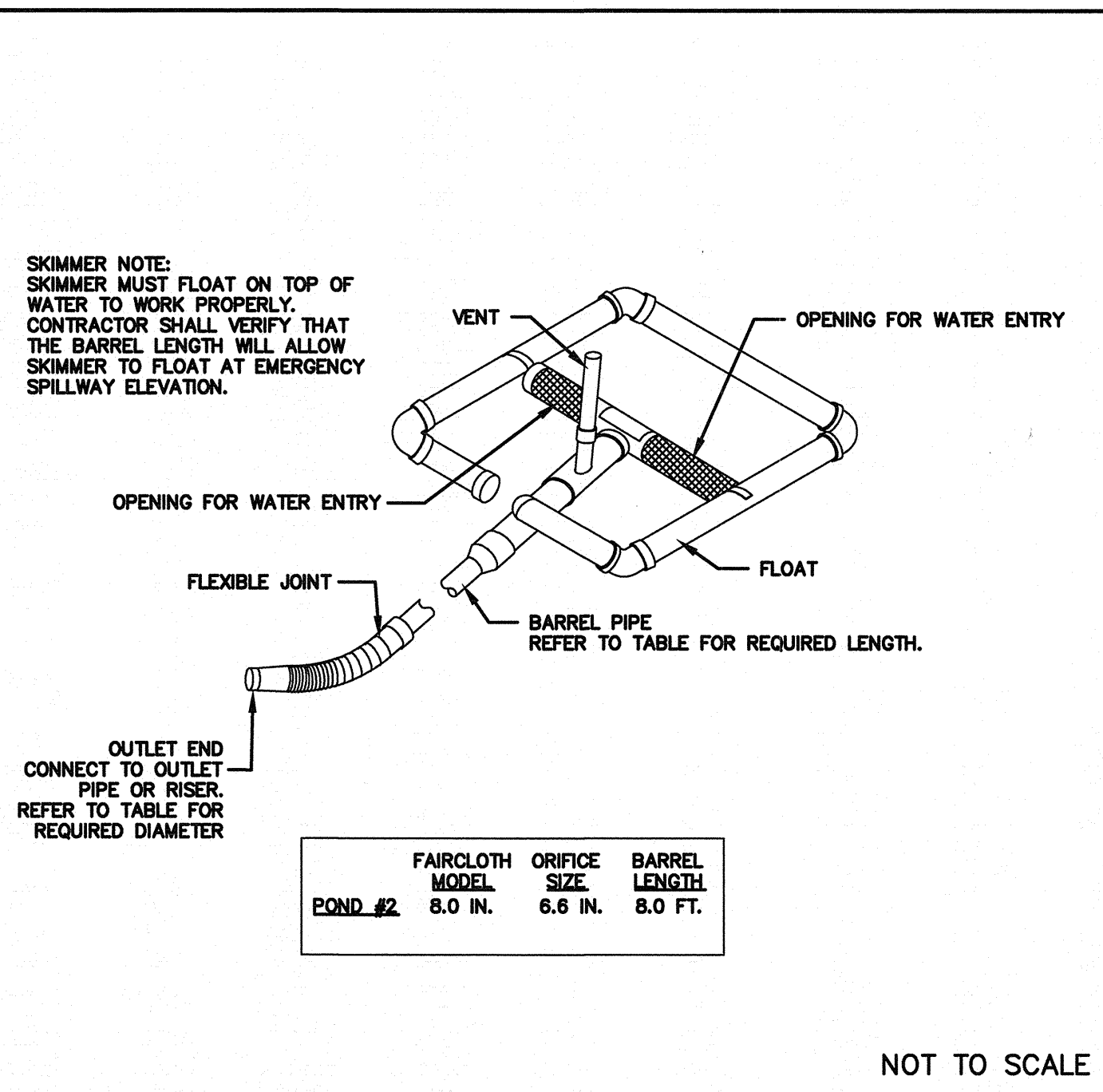
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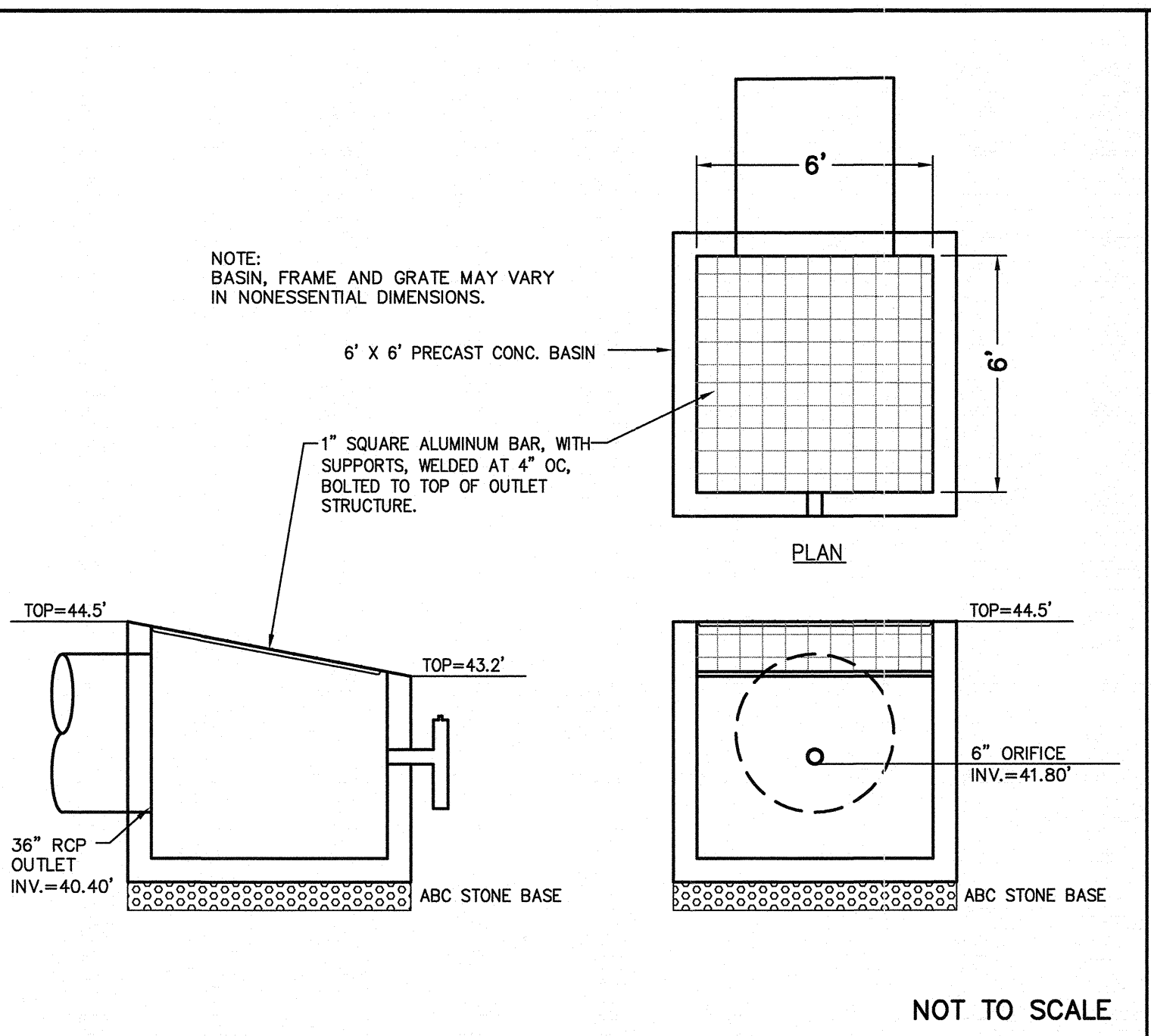
1a EXISTING EMERGENCY SPILLWAY #1A DETAIL



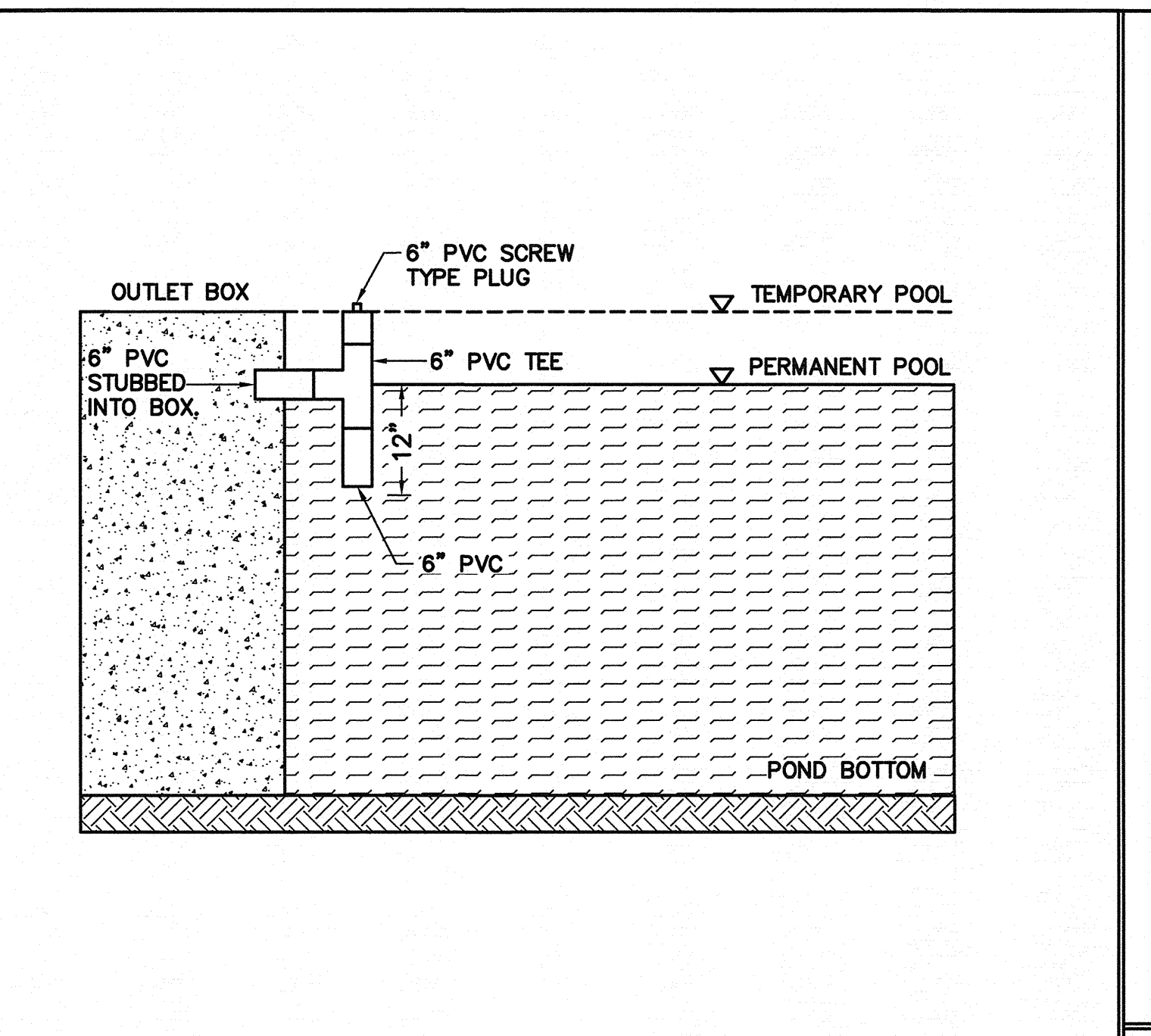
1b EMERGENCY SPILLWAY #1B DETAIL



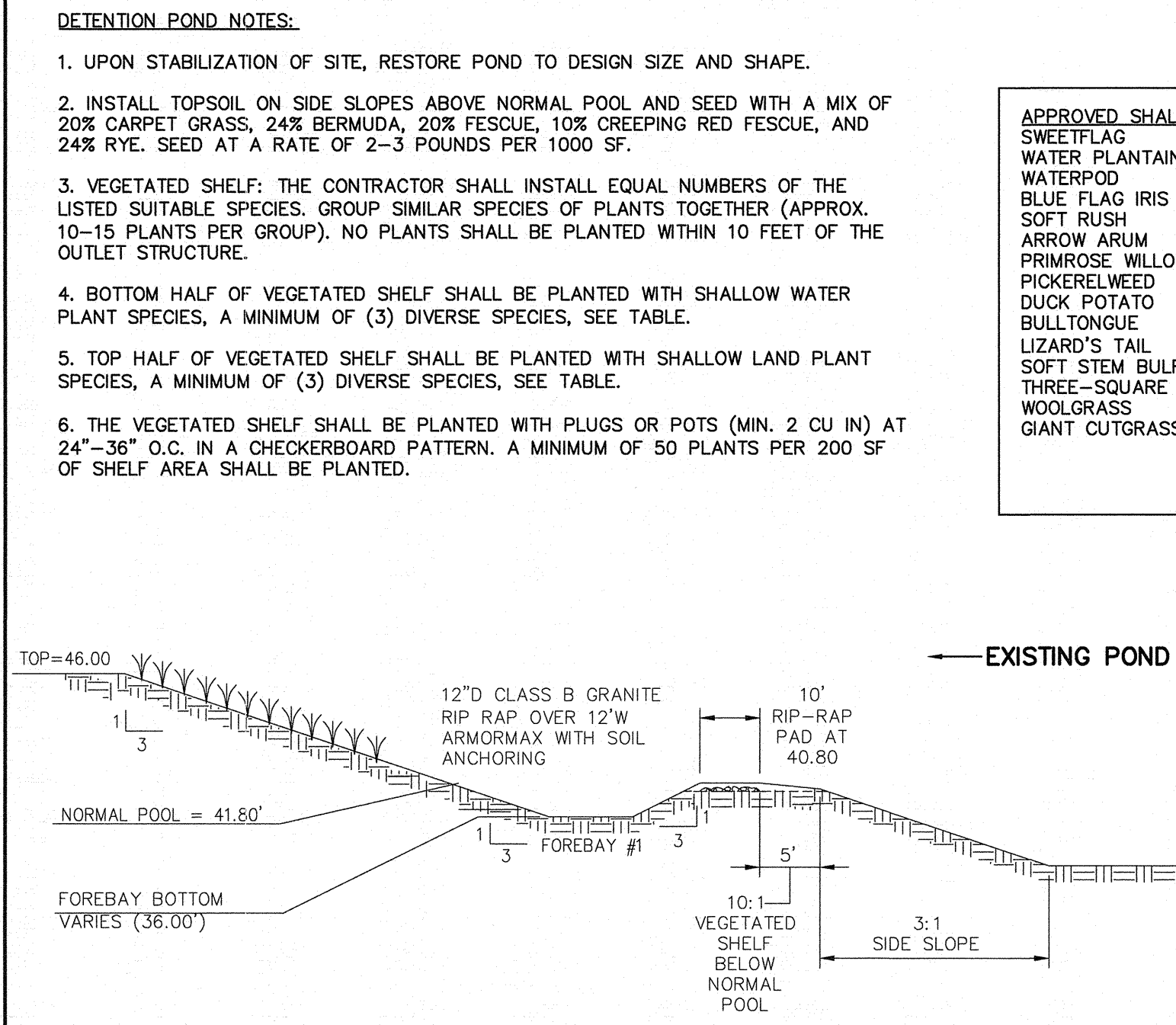
2 STANDARD SKIMMER DETAIL



3 DETENTION POND #1 OUTLET STRUCTURE



4 SUBMERGED ORIFICE OUTLET CONFIGURATION



5 POND #1 CROSS SECTION

DETENTION POND NOTES:

- UPON STABILIZATION OF SITE, RESTORE POND TO DESIGN SIZE AND SHAPE.
- INSTALL TOPSOIL ON SIDE SLOPES ABOVE NORMAL POOL AND SEED WITH A MIX OF 20% CARPET GRASS, 24% BERMUDA, 20% FESCUE, 10% CREEPING RED FESCUE, AND 24% RYE. SEED AT A RATE OF 2-3 POUNDS PER 1000 SF.
- VEGETATED SHELF: THE CONTRACTOR SHALL INSTALL EQUAL NUMBERS OF THE LISTED SUITABLE SPECIES. GROUP SIMILAR SPECIES OF PLANTS TOGETHER (APPROX. 10-15 PLANTS PER GROUP). NO PLANTS SHALL BE PLANTED WITHIN 10 FEET OF THE OUTLET STRUCTURE.
- BOTTOM HALF OF VEGETATED SHELF SHALL BE PLANTED WITH SHALLOW WATER PLANT SPECIES, A MINIMUM OF (3) DIVERSE SPECIES, SEE TABLE.
- TOP HALF OF VEGETATED SHELF SHALL BE PLANTED WITH SHALLOW LAND PLANT SPECIES, A MINIMUM OF (3) DIVERSE SPECIES, SEE TABLE.
- THE VEGETATED SHELF SHALL BE PLANTED WITH PLUGS OR POTS (MIN. 2 CU IN) AT 24\"/>

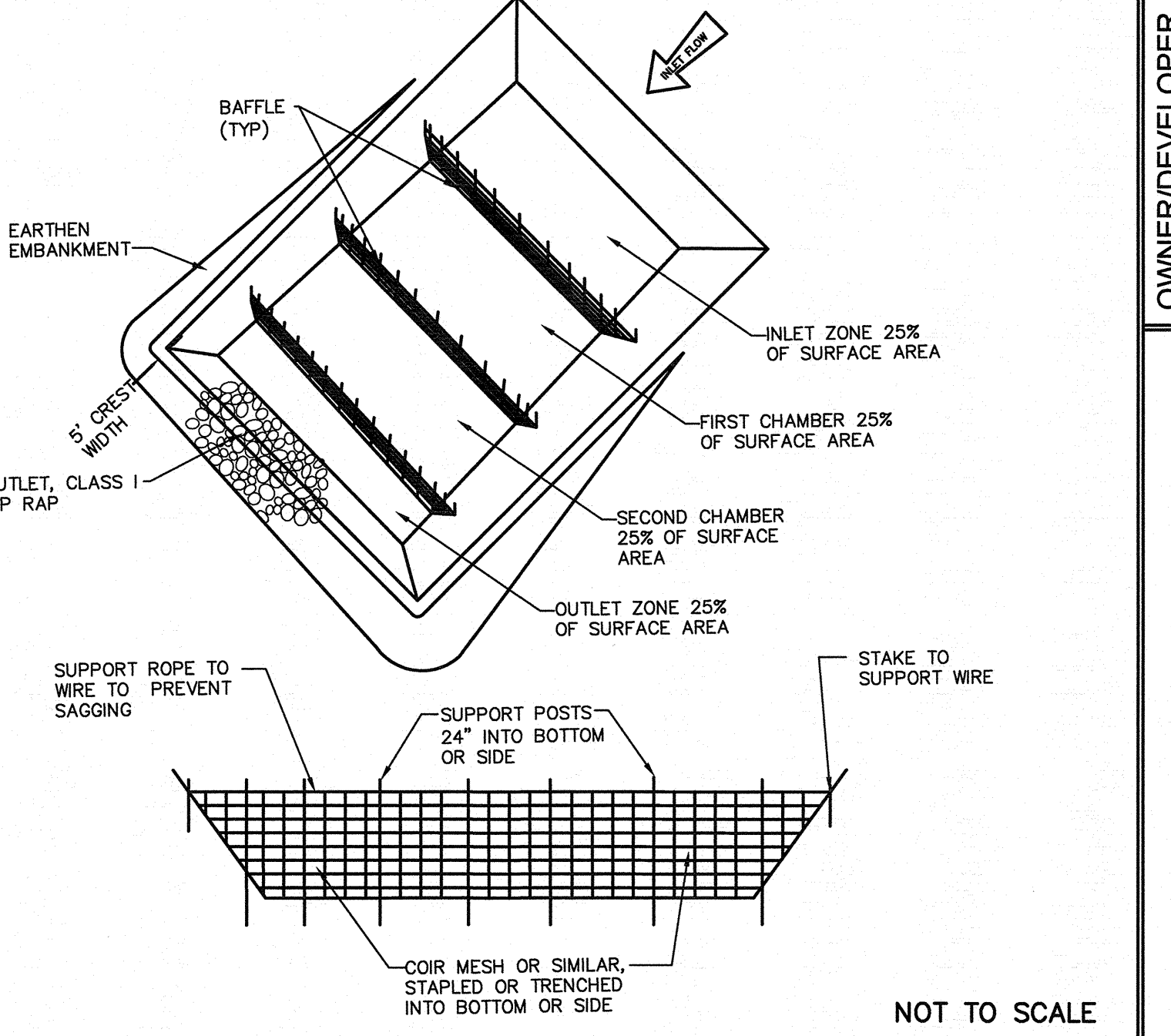
APPROVED SHALLOW WATER PLANTS	APPROVED SHALLOW LAND PLANTS
SWEETFLAG	SWAMP MILKWEED
WATER PLANTAIN	QUILL SEDGE
WATERPOD	WHITE TURTLEHEAD
BLUE FLAG IRIS	DWARF JOE PYE WEED
SOFT RUSH	JOE PYE WEED
ARROW ARUM	SPOTTED TRUMPETWEED
PRIMROSE WILLOW	SCARLET ROSE MALLOW
PICKERELWEED	HALBERDLEAF ROSE MALLOW
DUCK POTATO	SEASHORE MALLOW
BULLTONGUE	CARDINAL FLOWER
LIZARD'S TAIL	LONGLEAF LOBELIA
SOFT STEM BULRUSH	GREAT BLUE LOBELIA
THREE-SQUARE BULRUSH	STARRUSH WHITETOP
WOOLGRASS	NARROW PLUMEGRASS
GIANT CUTGRASS	

EXIST. FOREBAY 1 SURFACE AREAS

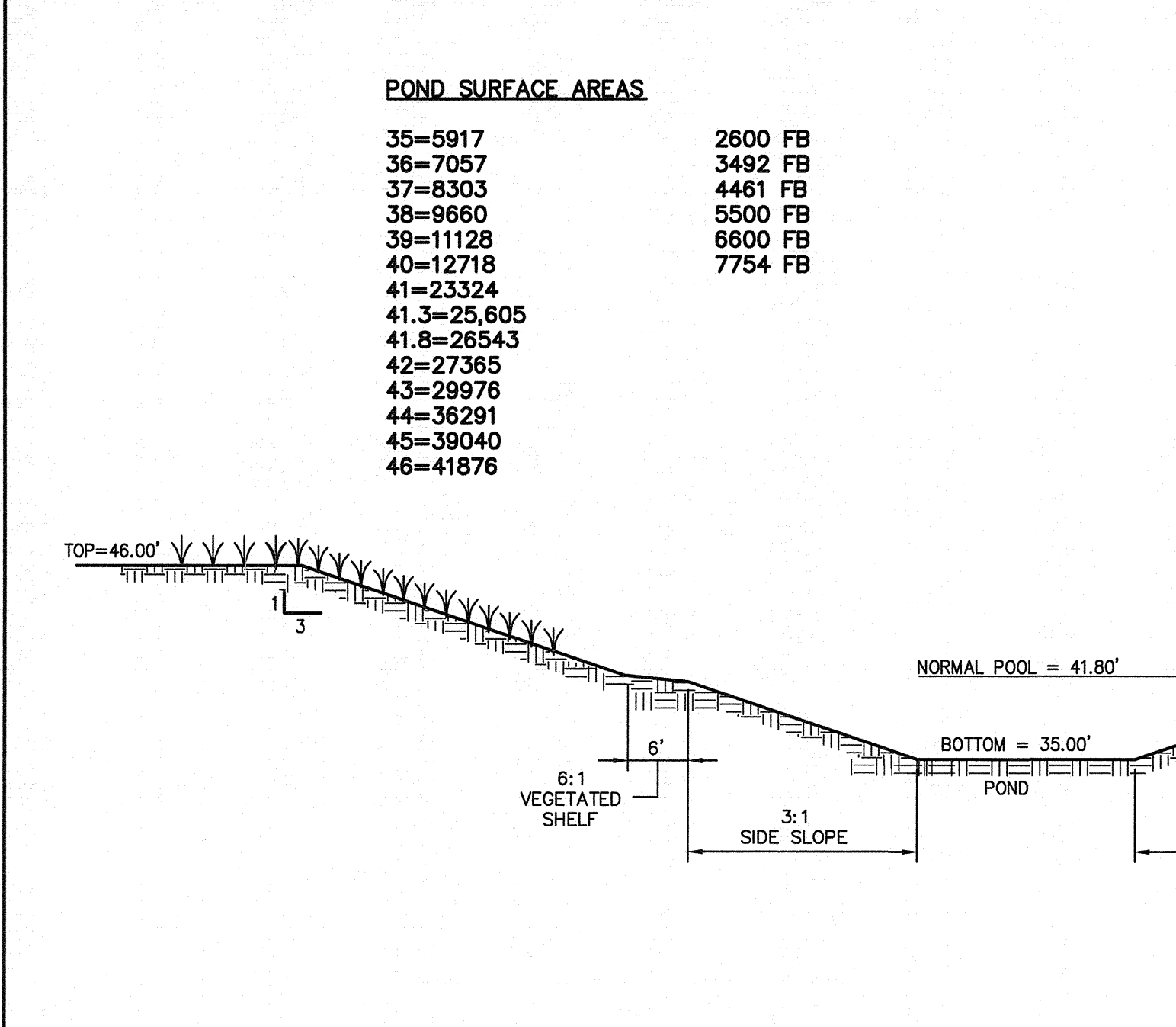
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40=17,787	36=79,036
41=19,520	37=83,367
42=21,436	38=87,841
43=23,435	39=92,467
44=25,457	40=97,217
45=27,550	41=102,127
	41.8=112,224
	42=114,350
	43=121,558
	44=127,540
	45=133,560
	45.5=166,000

EXPANDED POND SURFACE AREAS

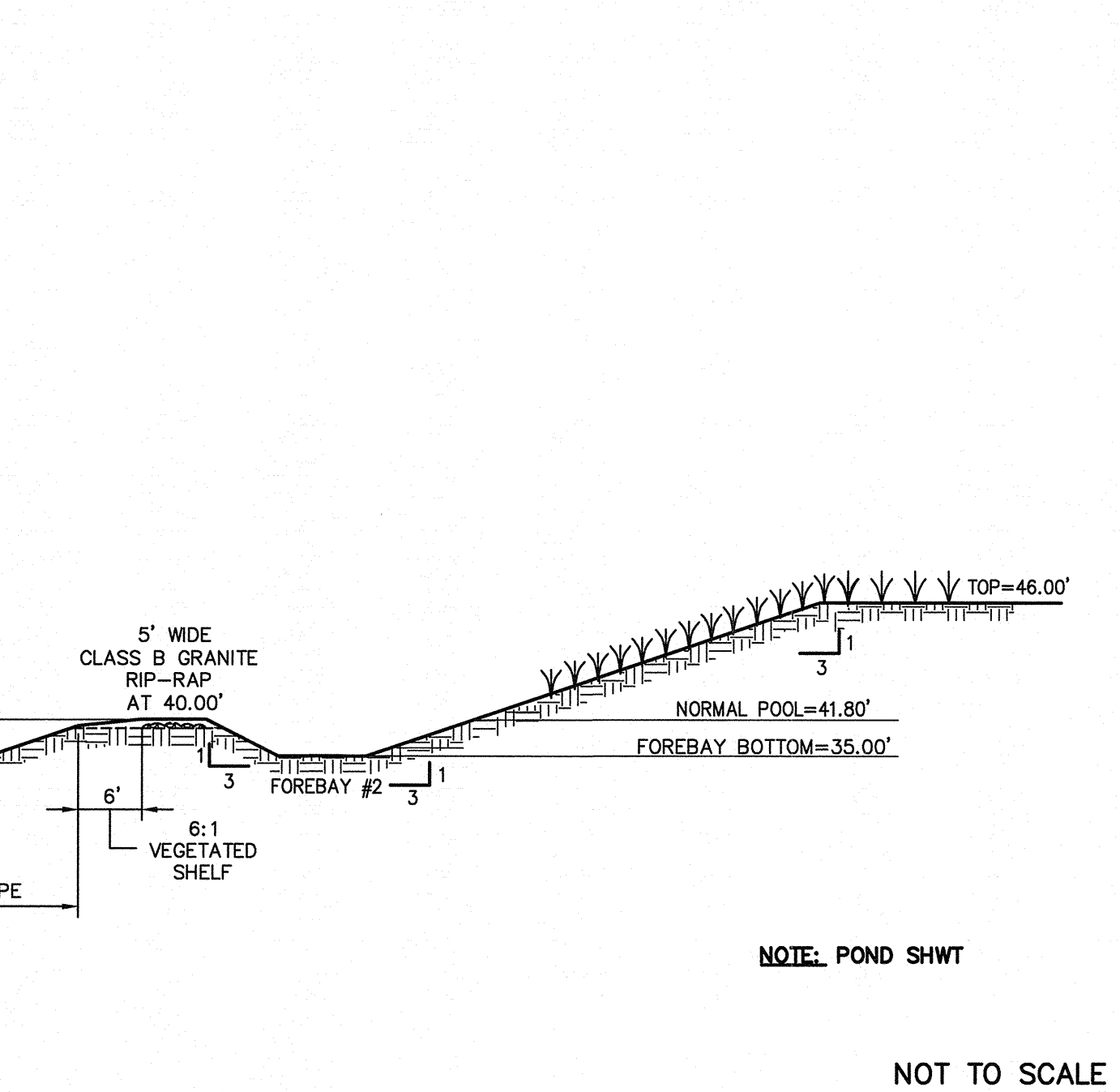
6 DETENTION POND #2 OUTLET STRUCTURE



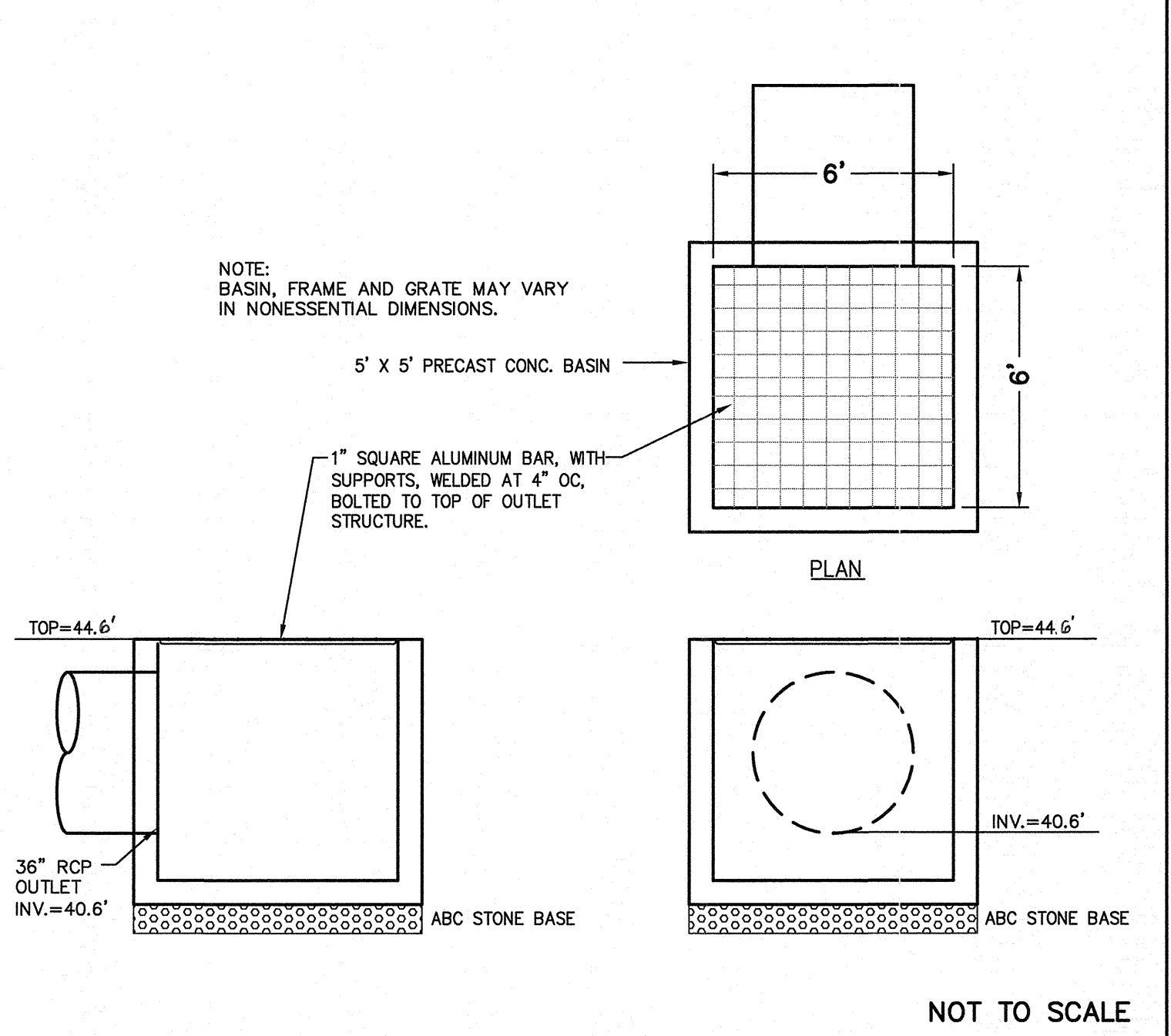
7 BAFFLE DETAIL



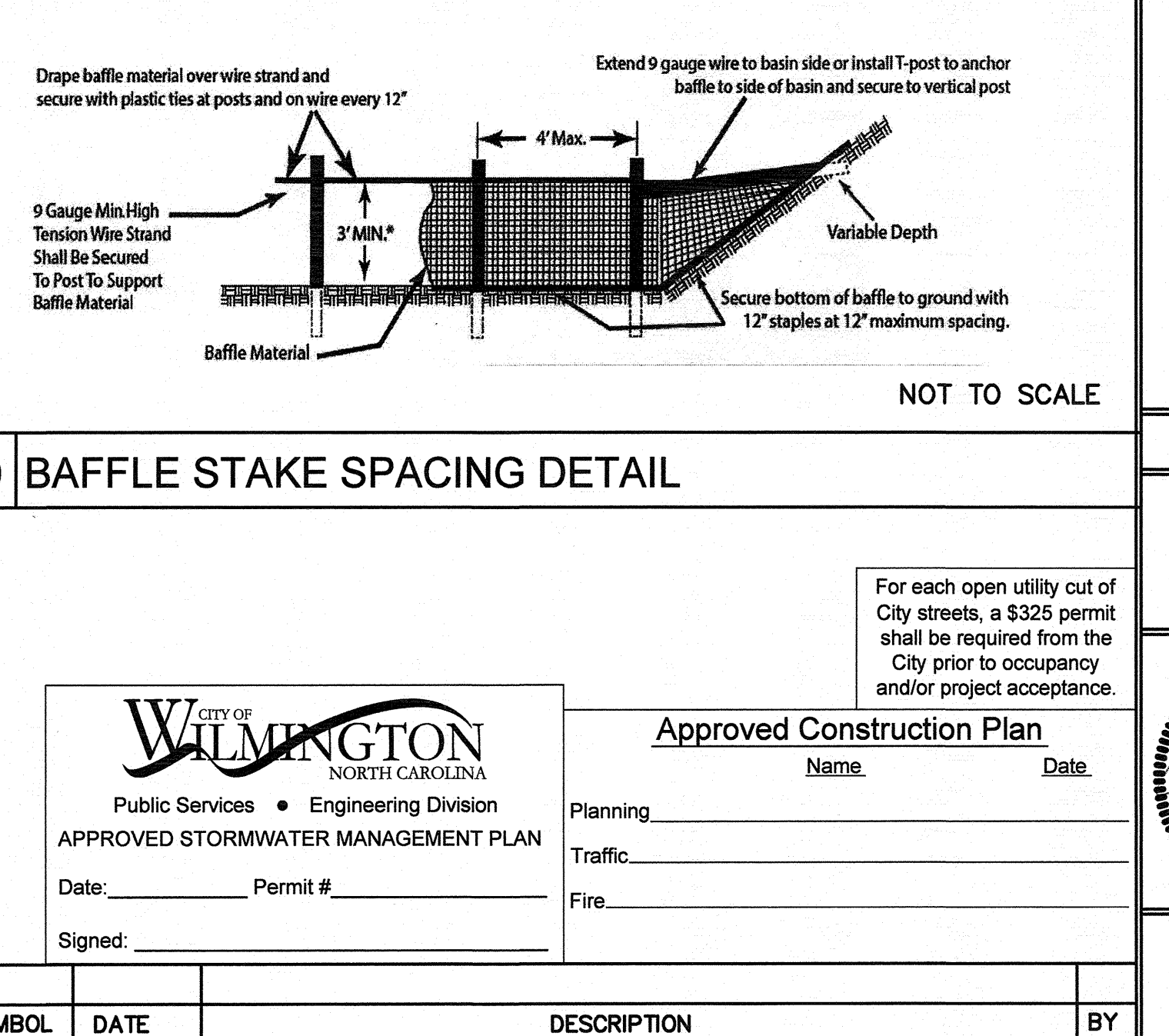
8 POND #2 CROSS SECTION



9 EMERGENCY SPILLWAY #2 DETAIL



10 BAFFLE STAKE SPACING DETAIL



10 BAFFLE STAKE SPACING DETAIL

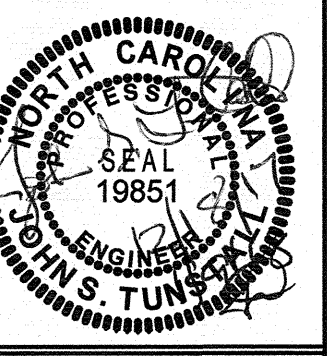
NOTES AND DETAILS
LIVE OAK BANKING COMPANY 3/FITPARK
1741 TIBURON DRIVE
WILMINGTON, NORTH CAROLINA 28403

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

License #C-3641
16169
DES. JST
CHK. JPN
ORNL. NKS
DATE 12/18/17



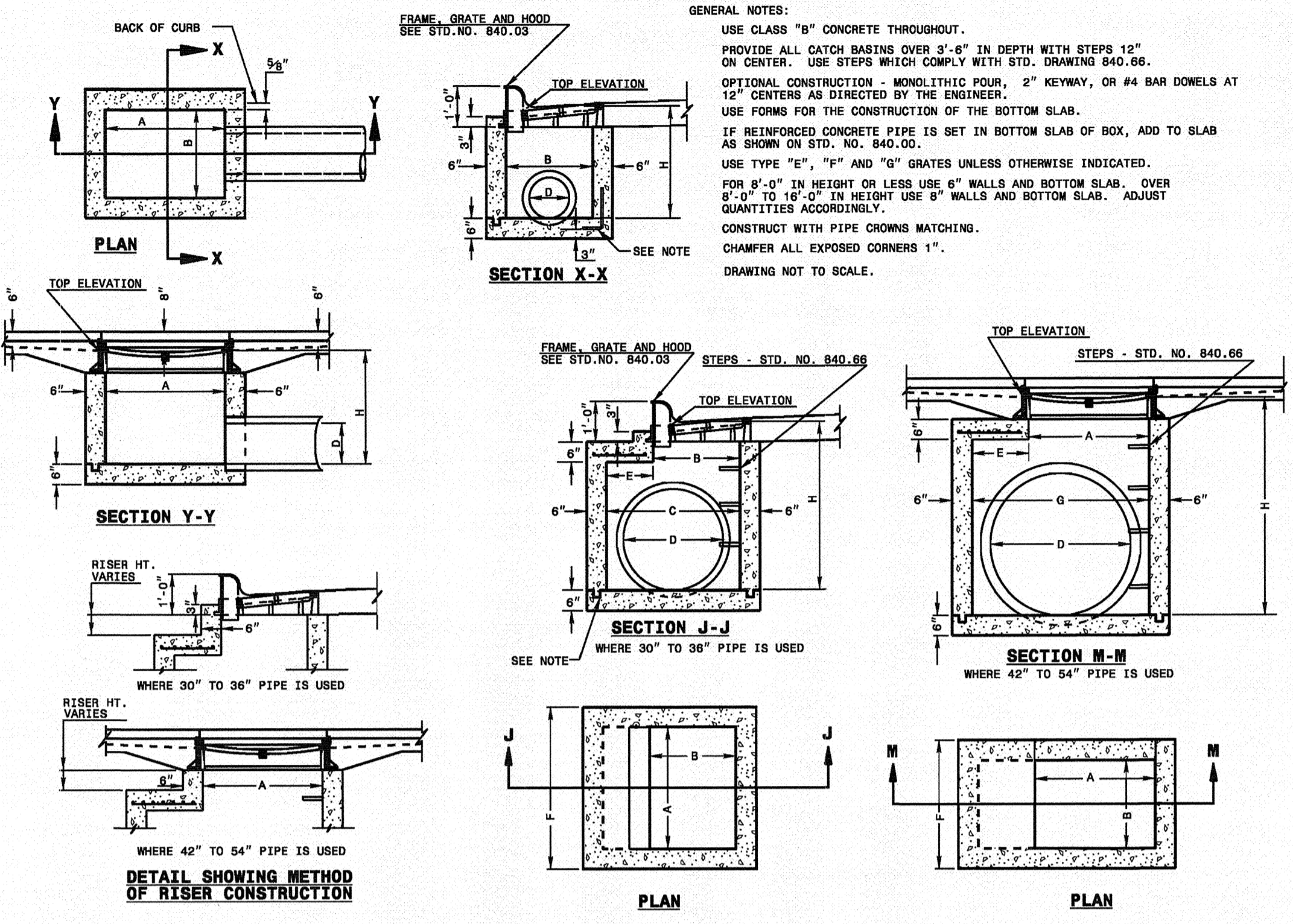
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STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR CONCRETE CATCH BASIN 12" THRU 54" PIPE

SHEET 1 OF 2 840.02



GENERAL NOTES:
 USE CLASS "B" CONCRETE THROUGHOUT.
 PROVIDE ALL CATCH BASINS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.86.
 OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.
 USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.
 IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.
 USE TYPE "E", "F", "G" AND "H" GRATES UNLESS OTHERWISE INDICATED.
 FOR 8'-0" IN HEIGHT OR LESS USE 6" WALLS AND BOTTOM SLAB. OVER 8'-0" TO 16'-0" IN HEIGHT USE 8" WALLS AND BOTTOM SLAB. ADJUST QUANTITIES ACCORDINGLY.
 CONSTRUCT WITH PIPE CROWNS MATCHING.
 CHAMFER ALL EXPOSED CORNERS 1".
 DRAWING NOT TO SCALE.

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

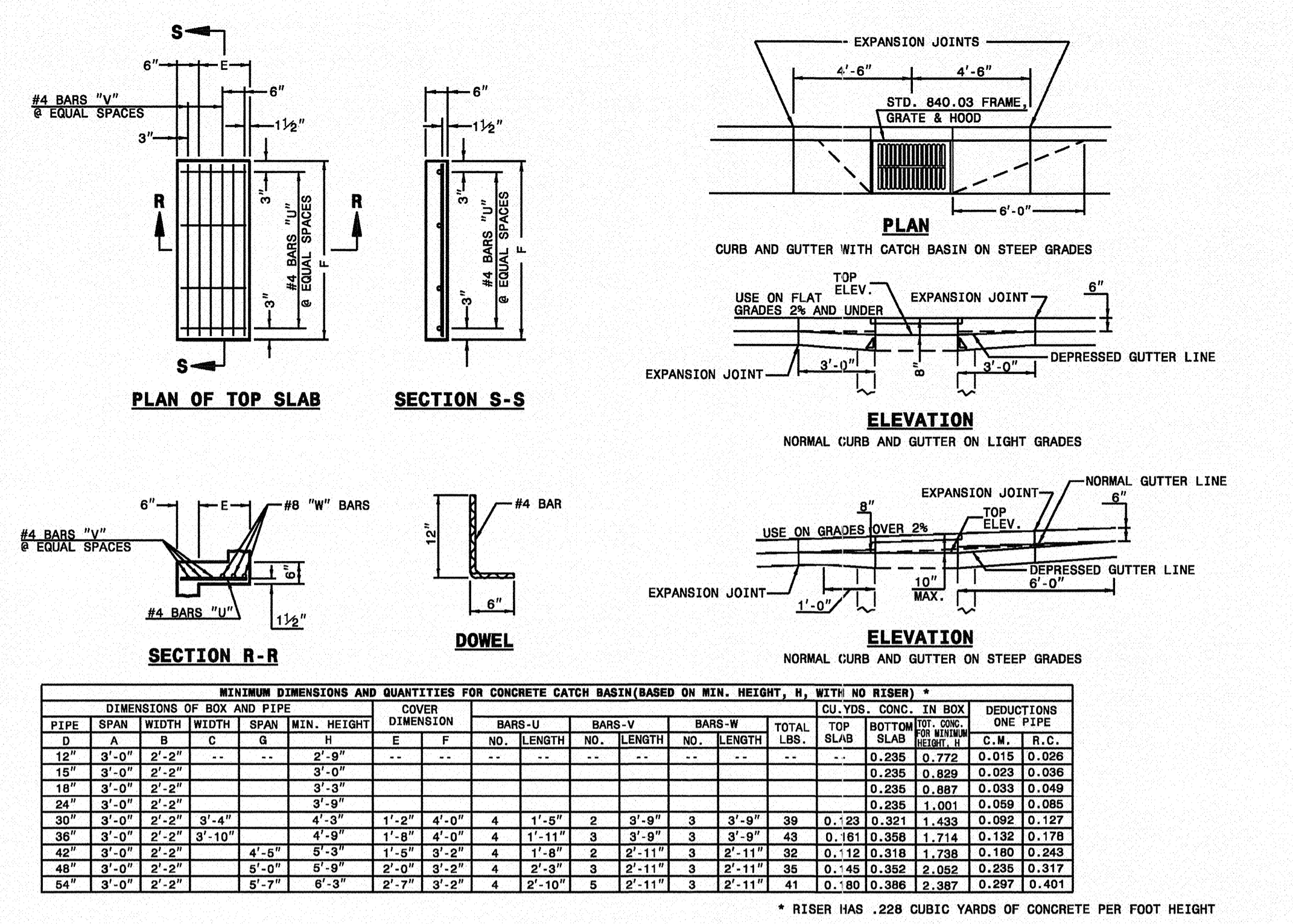
ENGLISH STANDARD DRAWING FOR CONCRETE CATCH BASIN 12" THRU 54" PIPE

SHEET 1 OF 2 840.02

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

ENGLISH STANDARD DRAWING FOR CONCRETE CATCH BASIN 12" THRU 54" PIPE

SHEET 2 OF 2 840.02



MINIMUM DIMENSIONS AND QUANTITIES FOR CONCRETE CATCH BASIN (BASED ON MIN. HEIGHT, H, WITH NO RISER) *																	
PIPE D	DIMENSIONS OF BOX AND PIPE				COVER DIMENSION	BARS-U			BARS-V			TOTAL LBS.	CU. YDS. CONC. IN BOX		DEDUCTIONS ONE PIPE		
	SPAN	WIDTH	HEIGHT	DEPTH		NO.	LENGTH	NO.	LENGTH	NO.	LENGTH		TOP SLAB	BOTTOM SLAB	C.M.	R.C.	
12"	3'-0"	2'-2"	2'-2"	2'-2"	2'-2"	4	1'-5"	2	9'-9"	3	3'-9"	39	0.235	0.772	0.015	0.026	
15"	3'-0"	2'-2"	2'-2"	2'-2"	2'-2"	4	1'-5"	2	9'-9"	3	3'-9"	39	0.235	0.829	0.023	0.036	
18"	3'-0"	2'-2"	2'-2"	2'-2"	2'-2"	4	1'-5"	2	9'-9"	3	3'-9"	39	0.235	0.887	0.033	0.049	
24"	3'-0"	2'-2"	2'-2"	2'-2"	2'-2"	4	1'-5"	2	9'-9"	3	3'-9"	39	0.235	1.001	0.059	0.085	
30"	3'-0"	2'-2"	3'-4"	3'-4"	4'-3"	4	1'-2"	4	4'-0"	4	1'-5"	2	0.233	0.321	1.433	0.092	0.127
36"	3'-0"	2'-2"	3'-10"	3'-10"	4'-9"	4	1'-8"	4	4'-0"	4	1'-11"	3	0.161	0.356	1.714	0.132	0.176
42"	3'-0"	2'-2"	3'-10"	3'-10"	4'-5"	4	1'-5"	3	3'-2"	4	1'-8"	2	0.112	0.318	1.738	0.180	0.243
48"	3'-0"	2'-2"	3'-10"	3'-10"	4'-5"	4	1'-5"	3	3'-2"	4	1'-8"	2	0.143	0.352	2.052	0.235	0.317
54"	3'-0"	2'-2"	3'-10"	3'-10"	4'-5"	4	1'-5"	3	3'-2"	4	1'-8"	2	0.160	0.356	2.387	0.297	0.401

* RISER HAS .228 CUBIC YARDS OF CONCRETE PER FOOT HEIGHT

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

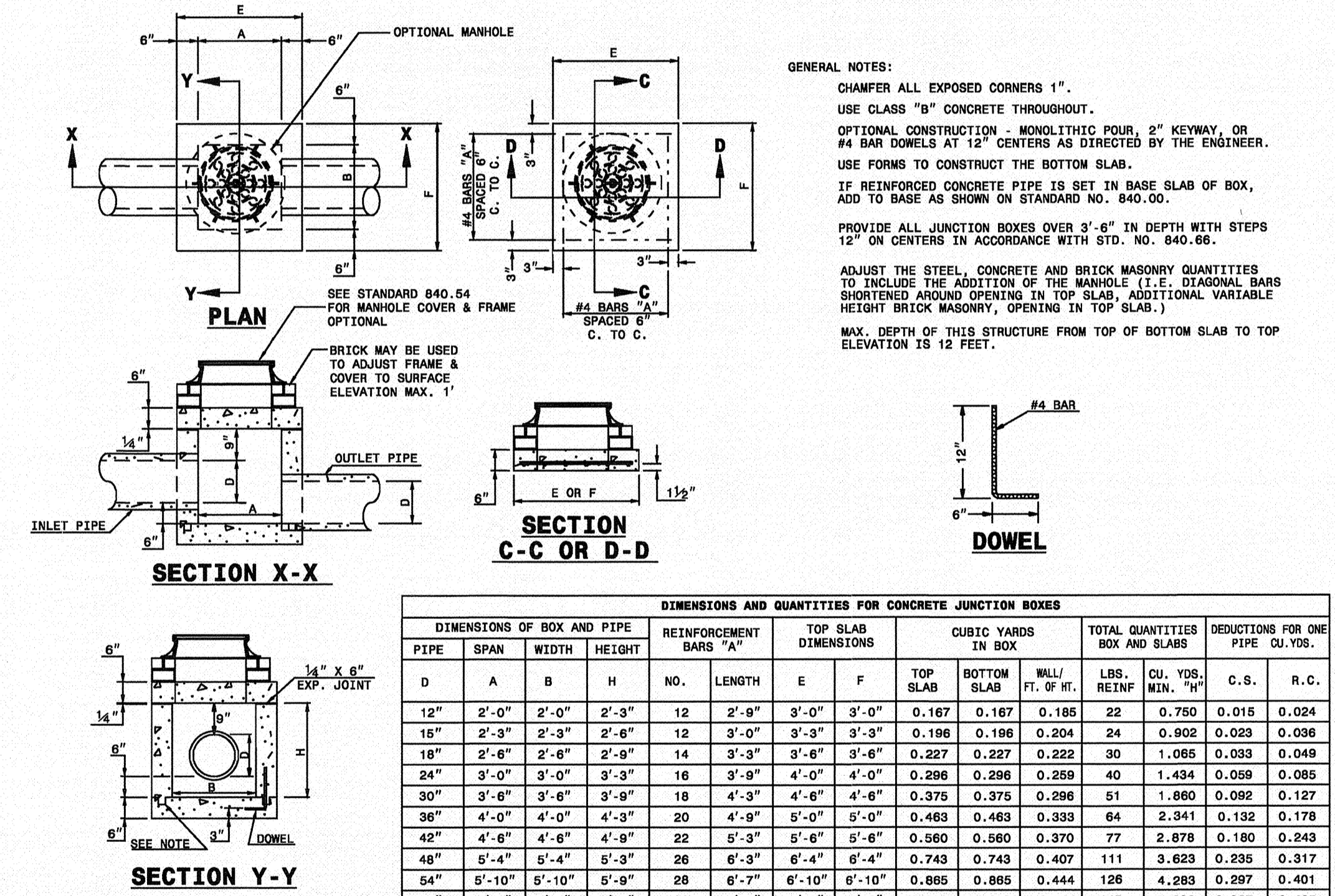
ENGLISH STANDARD DRAWING FOR CONCRETE CATCH BASIN 12" THRU 54" PIPE

SHEET 2 OF 2 840.02

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

ENGLISH STANDARD DRAWING FOR CONCRETE JUNCTION BOX (WITH OPTIONAL MANHOLE) 12" THRU 66" PIPE

SHEET 1 OF 1 840.31



GENERAL NOTES:
 CHAMFER ALL EXPOSED CORNERS 1".
 USE CLASS "B" CONCRETE THROUGHOUT.
 OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.
 USE FORMS TO CONSTRUCT THE BOTTOM SLAB.
 IF REINFORCED CONCRETE PIPE IS SET IN BASE SLAB OF BOX, ADD TO BASE AS SHOWN ON STANDARD NO. 840.00.
 PROVIDE ALL JUNCTION BOXES OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTERS IN ACCORDANCE WITH STD. NO. 840.86.
 ADJUST THE STEEL, CONCRETE AND BRICK MASONRY QUANTITIES TO INCLUDE THE ADDITION OF THE MANHOLE (I.E. DIAGONAL BARS SHORTENED AROUND OPENING IN TOP SLAB, ADDITIONAL VARIABLE HEIGHT BRICK MASONRY, OPENING IN TOP SLAB.)
 MAX. DEPTH OF THIS STRUCTURE FROM TOP OF BOTTOM SLAB TO TOP ELEVATION IS 12 FEET.

DIMENSIONS AND QUANTITIES FOR CONCRETE JUNCTION BOXES															
PIPE D	DIMENSIONS OF BOX AND PIPE				REINFORCEMENT BARS "A"	TOP SLAB DIMENSIONS		CUBIC YARDS IN BOX		TOTAL QUANTITIES BOX AND SLABS		DEDUCTIONS FOR ONE PIPE CU. YDS.			
	SPAN	WIDTH	HEIGHT	DEPTH		NO.	LENGTH	E	F	TOP SLAB	BOTTOM SLAB		WALL/ REINF. FT. 9" HT.	LBS. REINF. MIN. "W"	CU. YDS.
12"	2'-0"	2'-0"	2'-3"	2'-3"	12	2'-9"	3'-0"	3'-0"	0.187	0.187	0.185	22	0.750	0.015	0.024
18"	2'-3"	2'-3"	2'-6"	2'-6"	12	3'-0"	3'-3"	3'-3"	0.198	0.198	0.204	24	0.802	0.023	0.036
18"	2'-6"	2'-6"	2'-9"	2'-9"	14	3'-3"	3'-6"	3'-6"	0.227	0.227	0.230	30	1.055	0.033	0.049
24"	3'-0"	3'-0"	3'-3"	3'-3"	16	3'-9"	4'-0"	4'-0"	0.256	0.256	0.259	40	1.434	0.059	0.085
30"	3'-6"	3'-6"	3'-9"	3'-9"	18	4'-3"	4'-6"	4'-6"	0.375	0.375	0.296	51	1.860	0.092	0.127
36"	4'-0"	4'-0"	4'-3"	4'-3"	20	4'-9"	5'-0"	5'-0"	0.463	0.463	0.333	64	2.941	0.132	0.176
42"	4'-6"	4'-6"	4'-9"	4'-9"	22	5'-3"	5'-6"	5'-6"	0.560	0.560	0.370	77	2.878	0.180	0.243
48"	5'-4"	5'-4"	5'-3"	5'-3"	26	6'-3"	6'-4"	6'-4"	0.743	0.743	0.407	111	3.623	0.235	0.317
54"	5'-10"	5'-10"	5'-9"	5'-9"	28	6'-7"	6'-10"	6'-10"	0.865	0.865	0.444	126	4.283	0.297	0.401
60"	6'-6"	6'-6"	6'-3"	6'-3"	30	7'-3"	7'-6"	7'-6"	1.042	1.042	0.481	145	5.090	0.367	0.465
66"	7'-1"	7'-1"	6'-9"	6'-9"	32	7'-10"	8'-1"	8'-1"	1.210	1.210	0.518	169	5.817	0.444	0.589

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

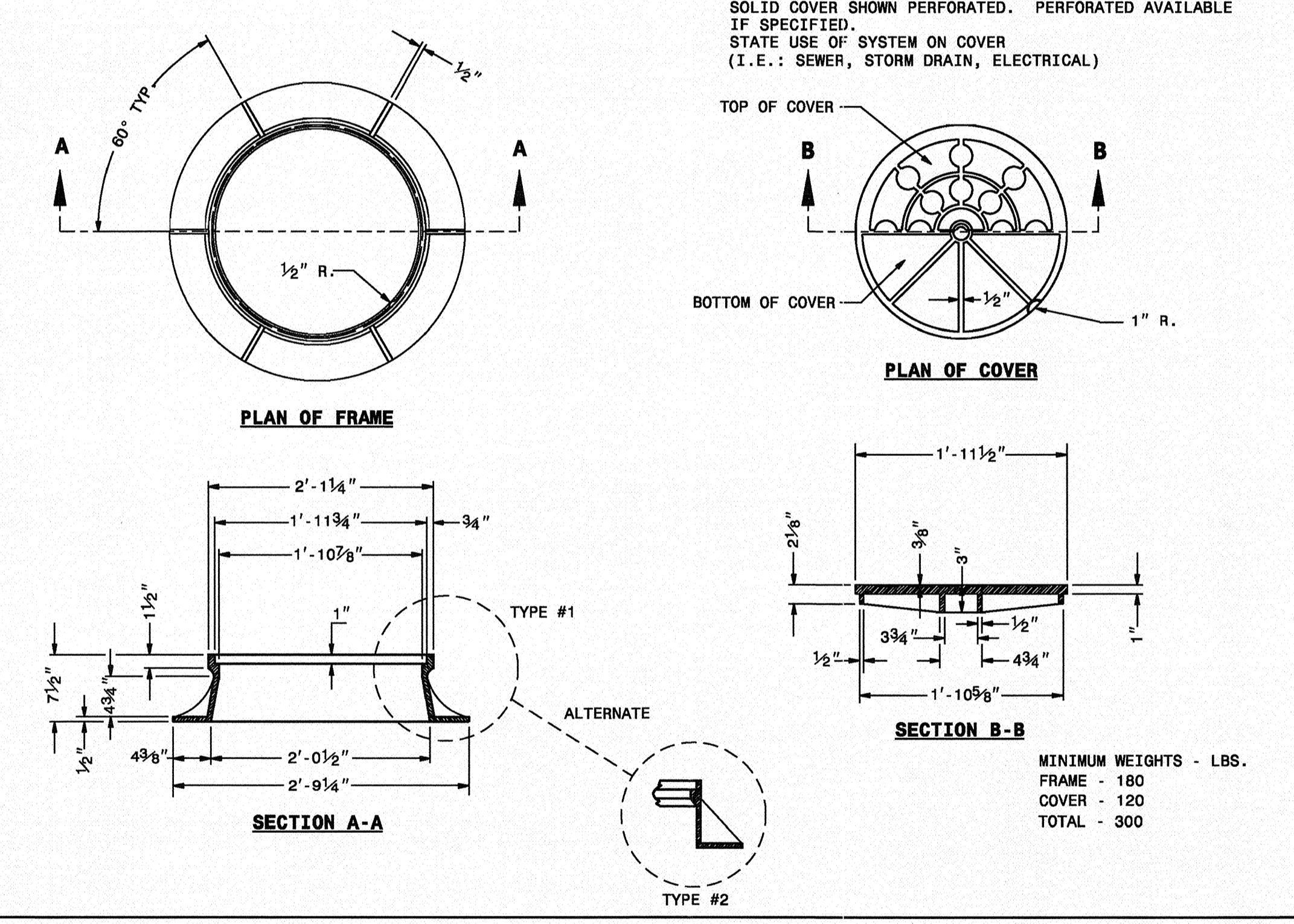
ENGLISH STANDARD DRAWING FOR CONCRETE JUNCTION BOX (WITH OPTIONAL MANHOLE) 12" THRU 66" PIPE

SHEET 1 OF 1 840.31

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

ENGLISH STANDARD DRAWING FOR MANHOLE FRAME AND COVER

SHEET 1 OF 1 840.54



SOLID COVER SHOWN PERFORMED. PERFORATED AVAILABLE IF SPECIFIED.
 STATE USE OF SYSTEM ON COVER (I.E.: SEWER, STORM DRAIN, ELECTRICAL)

MINIMUM WEIGHTS - LBS.
 FRAME - 180
 COVER - 120
 TOTAL - 300

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

ENGLISH STANDARD DRAWING FOR MANHOLE FRAME AND COVER

SHEET 1 OF 1 840.54

NOTES AND DETAILS (WITHIN PUBLIC ROW)
 LIVE OAK BANKING COMPANY 3/FITPARK
 1741 TIBURON DRIVE
 WILMINGTON, NORTH CAROLINA 28403

OWNER/DEVELOPER
 W. LEE WILLIAMS
 EXECUTIVE VICE PRESIDENT
 LIVE OAK BANKSHARES, INC.
 1741 TIBURON DRIVE
 WILMINGTON, NC 28403
 910-798-1647
 910-790-5666

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

License #C-3641
 16169
 DES. JUST
 CKD. JPN
 DRWN. NKS
 DATE 1/3/18

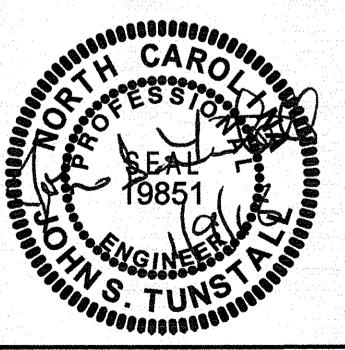
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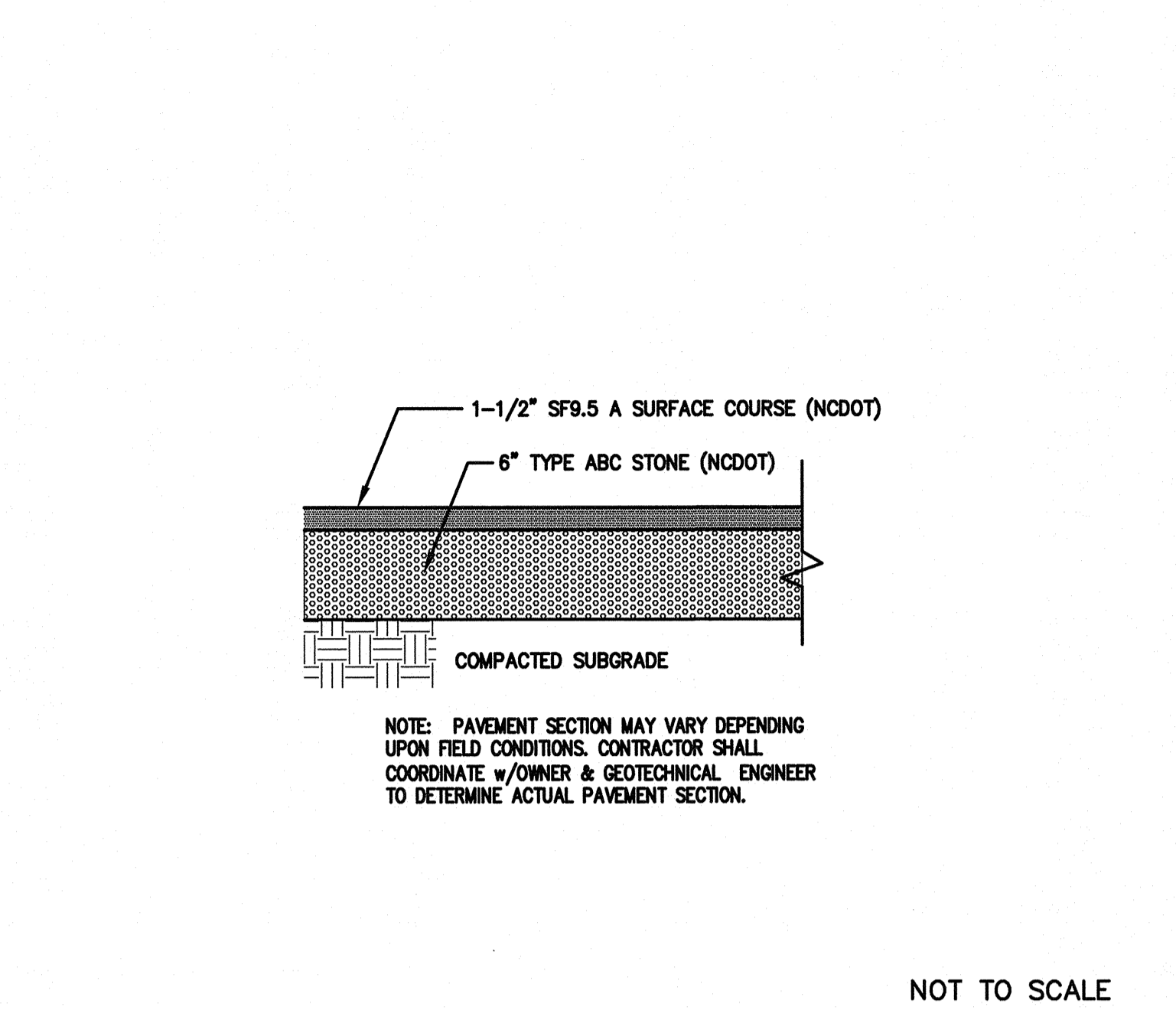
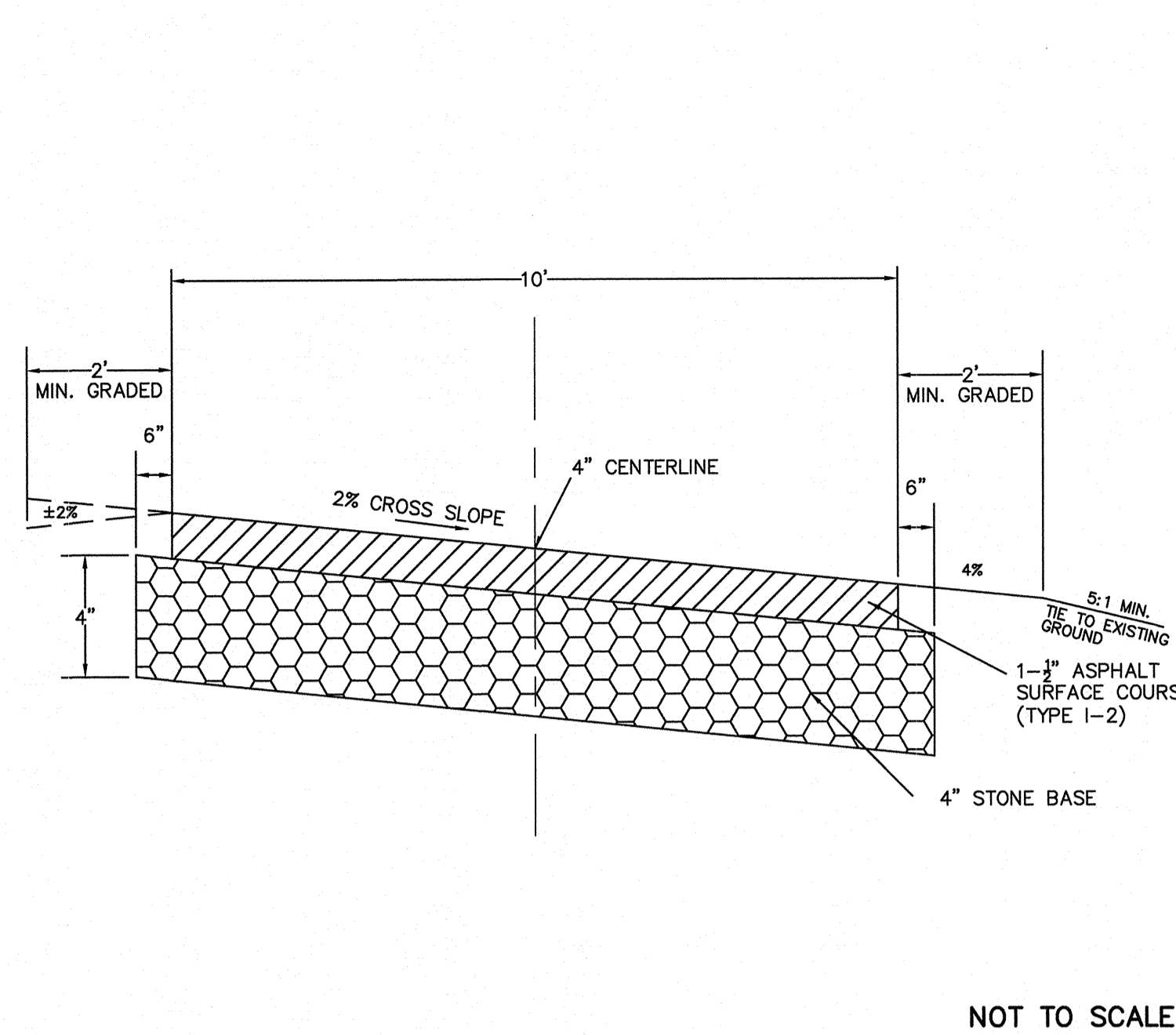
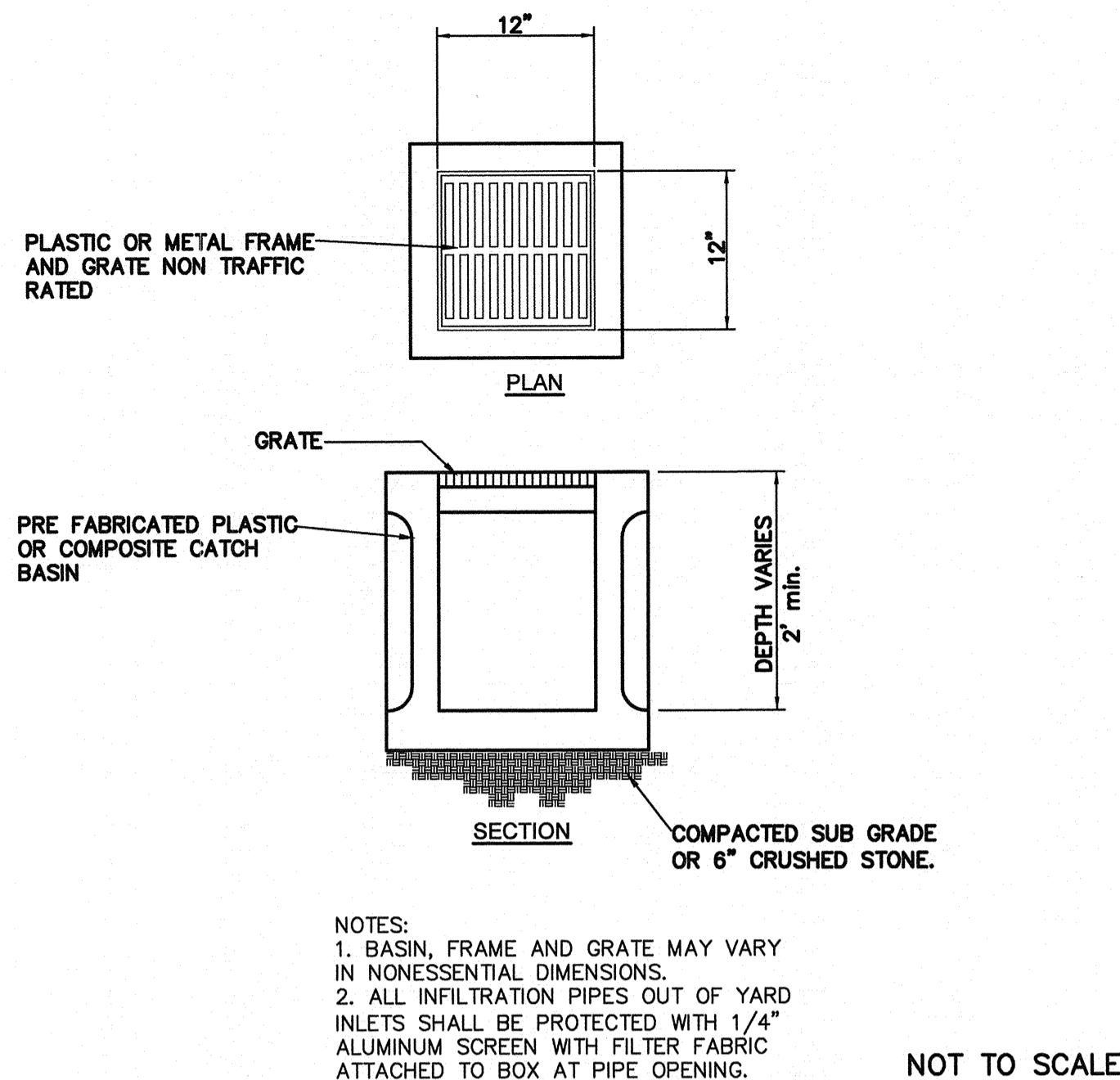
WILMINGTON NORTH CAROLINA
 Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN
 Date: _____ Permit # _____
 Signed: _____

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

SYMBOL	DATE	DESCRIPTION	BY
REVISIONS			
©2014 NORRIS & TUNSTALL			

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

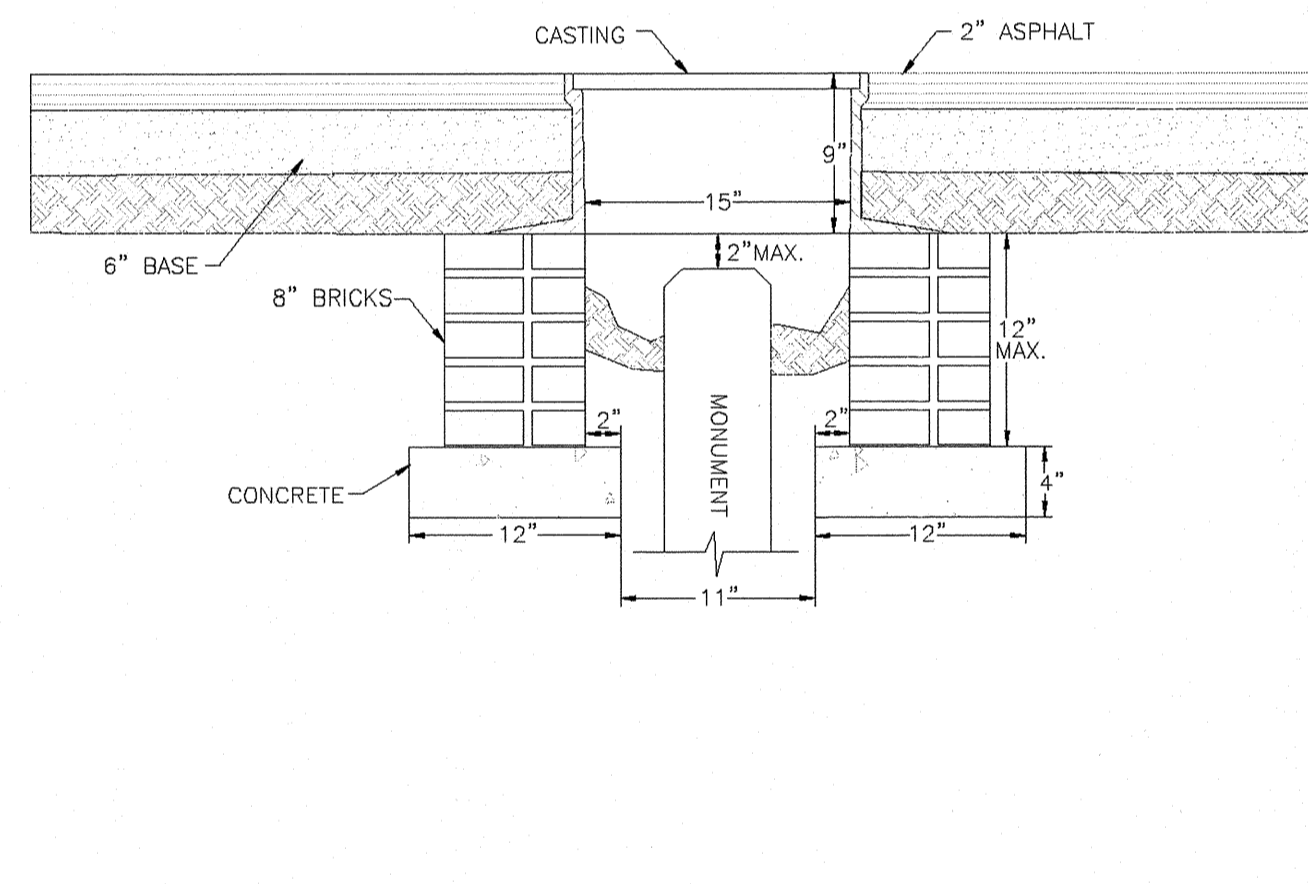
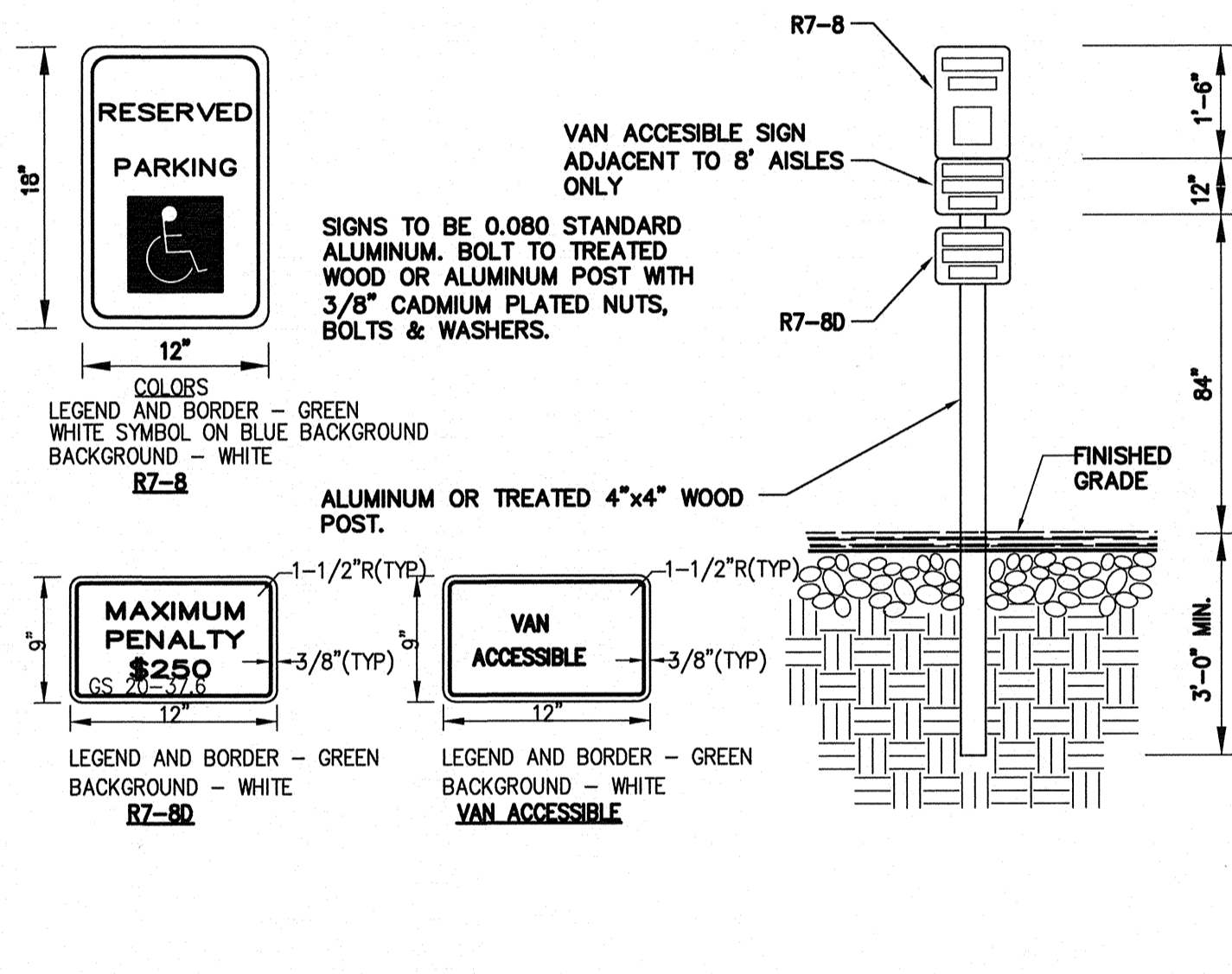
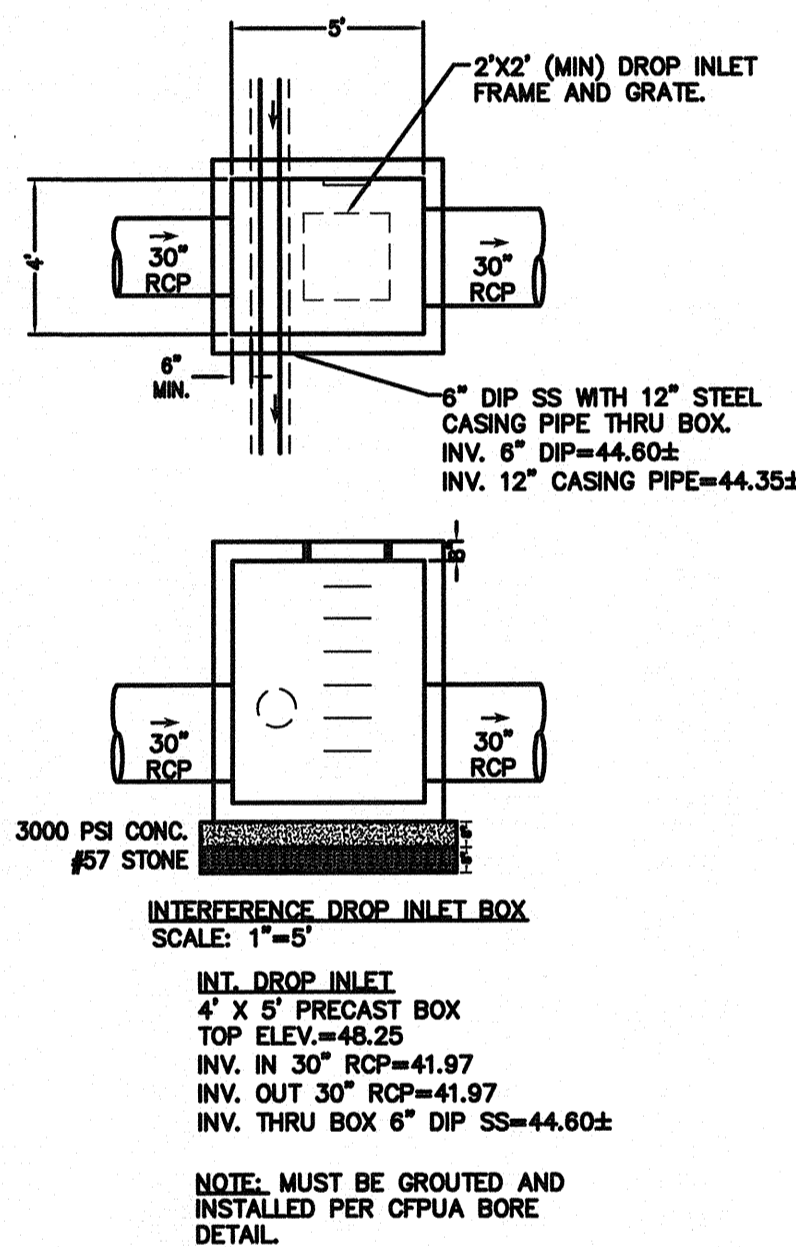




1 YARD INLET DETAIL

2 MULTI-USE PATH (MUP) TYPICAL SECTION

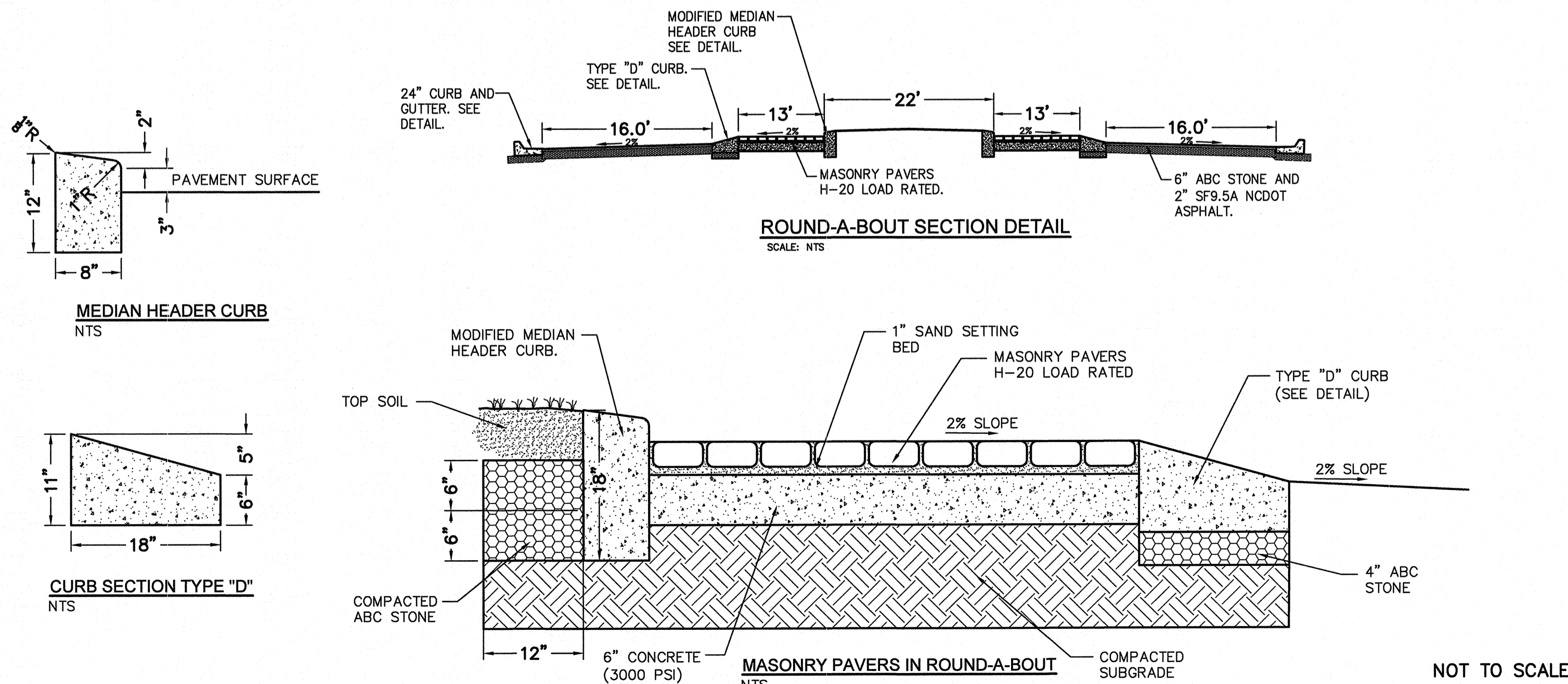
3 ASPHALT PAVEMENT SECTION FOR BASKETBALL COURT



4 INTERFERENCE DROP INLET DETAIL

5 TYPICAL HANDICAPPED SIGN DETAIL

6 COW MONUMENT BASE DETAIL



7 ROUND-A-BOUT DETAIL

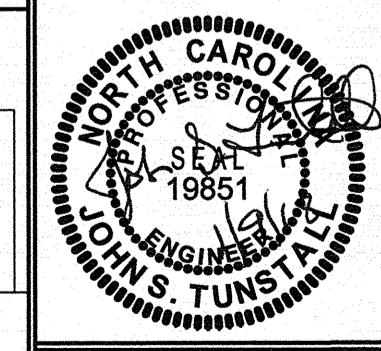
8

NOTES AND DETAILS
LIVE OAK BANKING COMPANY 3/FITPARK
1741 TIBURON DRIVE
WILMINGTON, NORTH CAROLINA 28403

OWNER/DEVELOPER
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LIVE OAK BANKSHARES, INC.
1741 TIBURON DRIVE
WILMINGTON, NC 28403
910-796-1647
910-790-8688

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CONSULTING ENGINEERS P.C.
1429 ASHLITTLE RIVER RD. NW
ASH, NC 28420
PHONE (910) 287-5900

License #C-3641
16169
DES. JUST
C.D. JPN
DRAW. NKS
DATE 1/3/18



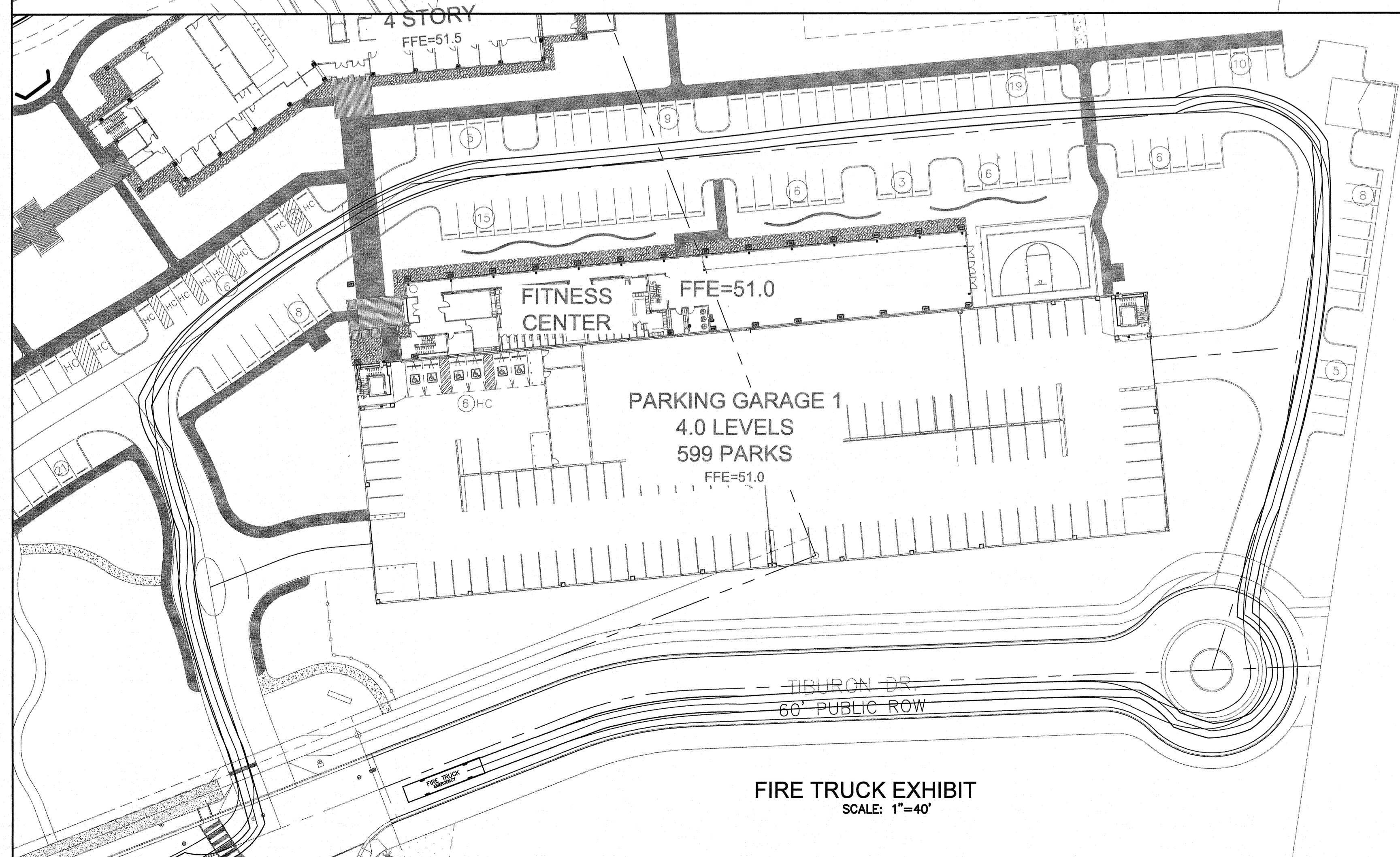
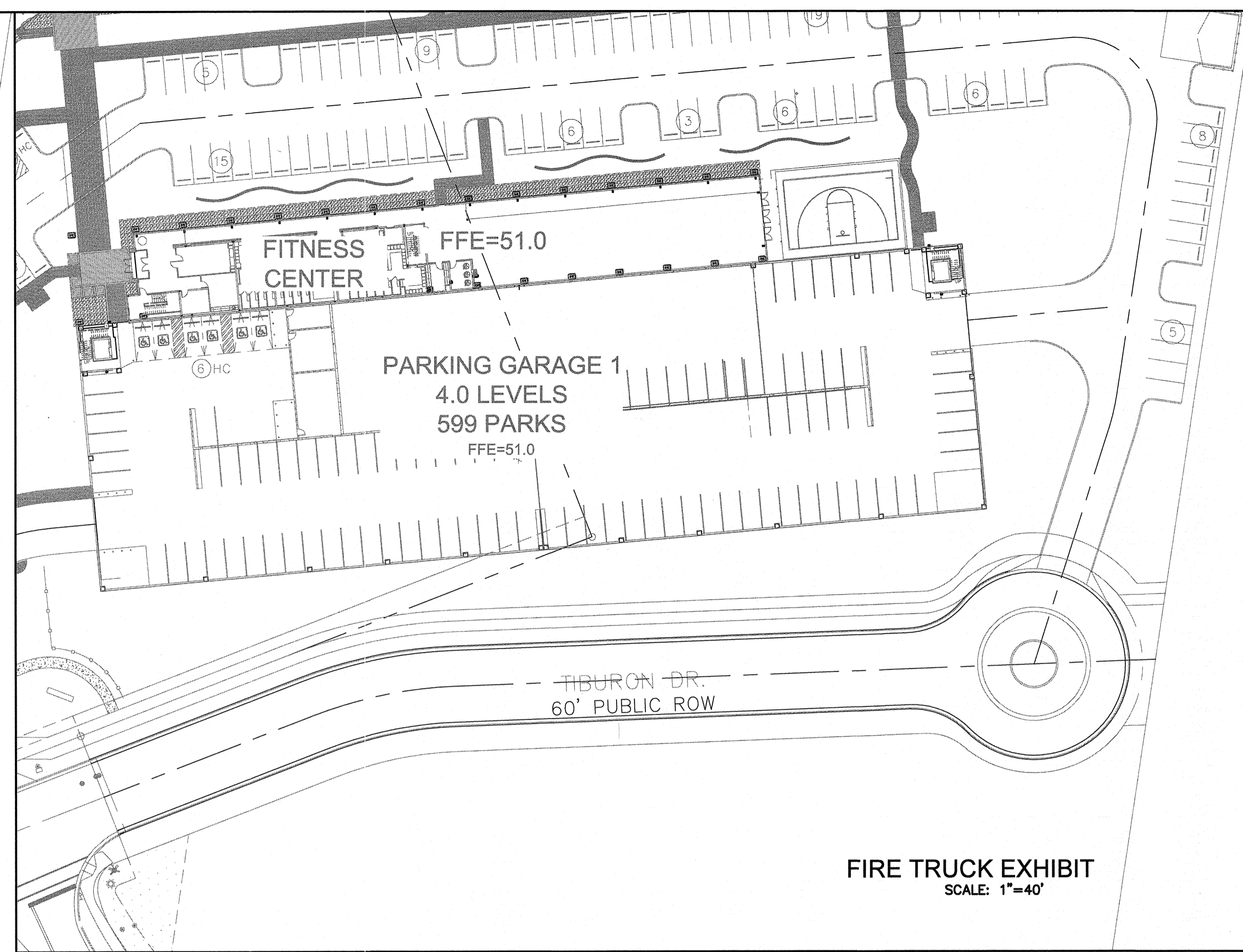
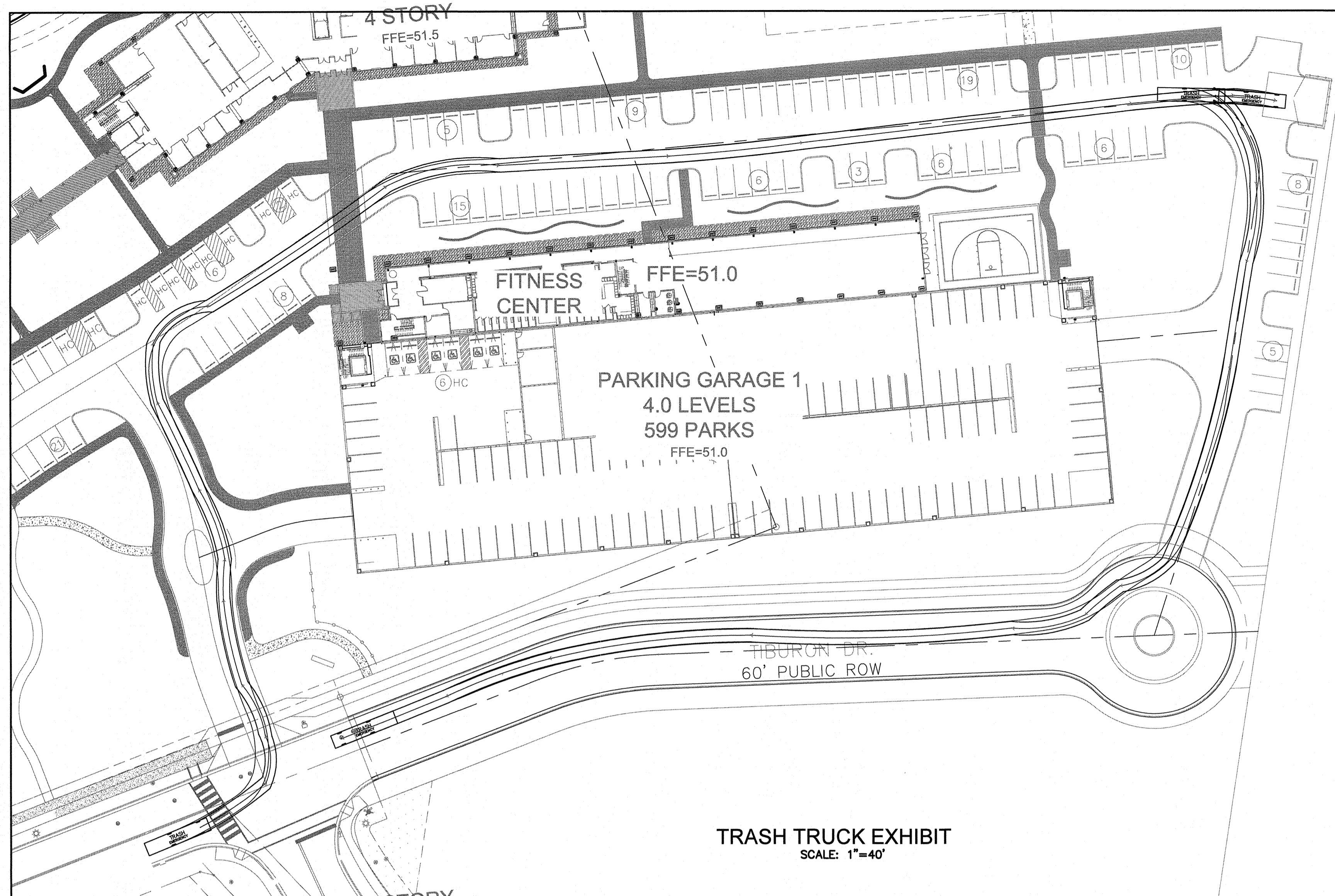
CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: _____ Permit # _____
Signed: _____

Approved Construction Plan
Name _____ Date _____

Planning _____
Traffic _____
Fire _____

C9

F:\Projects\2016\16169_LDB_Bldg_3\16169_Plan\16169_masthead.dwg (Landscape) Printed on: Jan 03, 2018 - 3:35pm by Henry

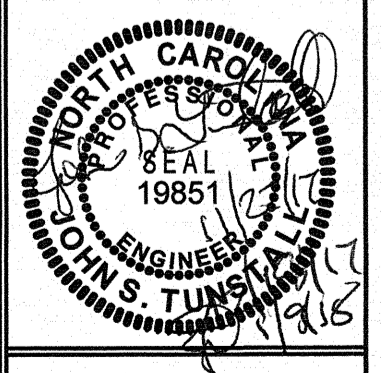


VEHICLE EXHIBIT
LIVE OAK BANKING COMPANY 3/FITPARK
1741 TIBURON DRIVE
WILMINGTON, NORTH CAROLINA 28403

OWNER/DEVELOPER
W. LEE WILLIAMS
EXECUTIVE VICE PRESIDENT
LIVE OAK BANKSHARES, INC.
1741 TIBURON DRIVE
WILMINGTON, NC 28403
910-796-1647
910-790-5688

NORRIS & TUNSTALL
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1429 ASH-LITTLE RIVER RD. NW
ASH, NC 28420
PHONE (910) 287-5900
902 MARKET STREET
WILMINGTON, NC 28401
PHONE (910) 343-9653

Licence #C-3641
16169
DES. JST
CDR. JPN
DRWN. NKS
DATE 11/27/17



C10

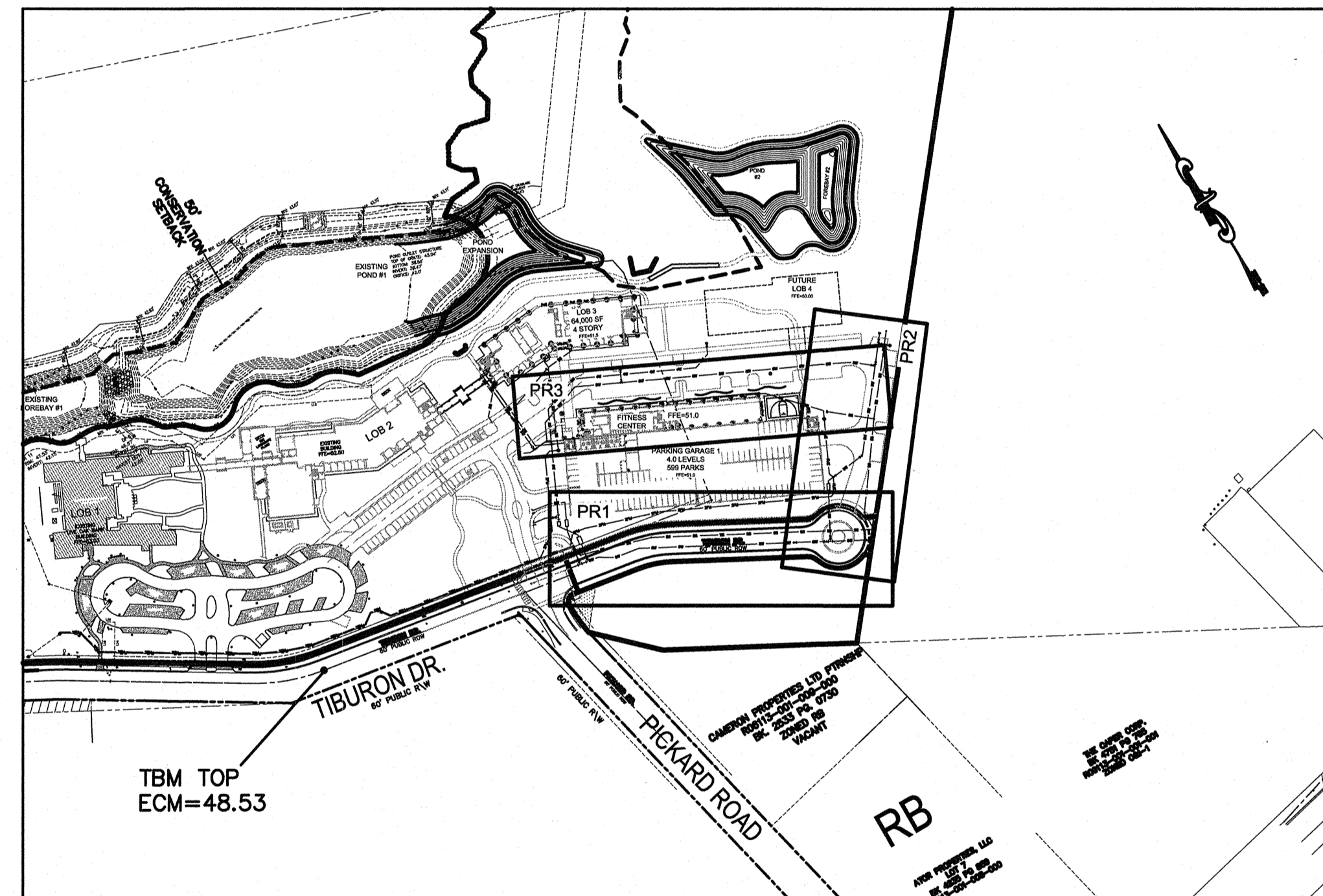
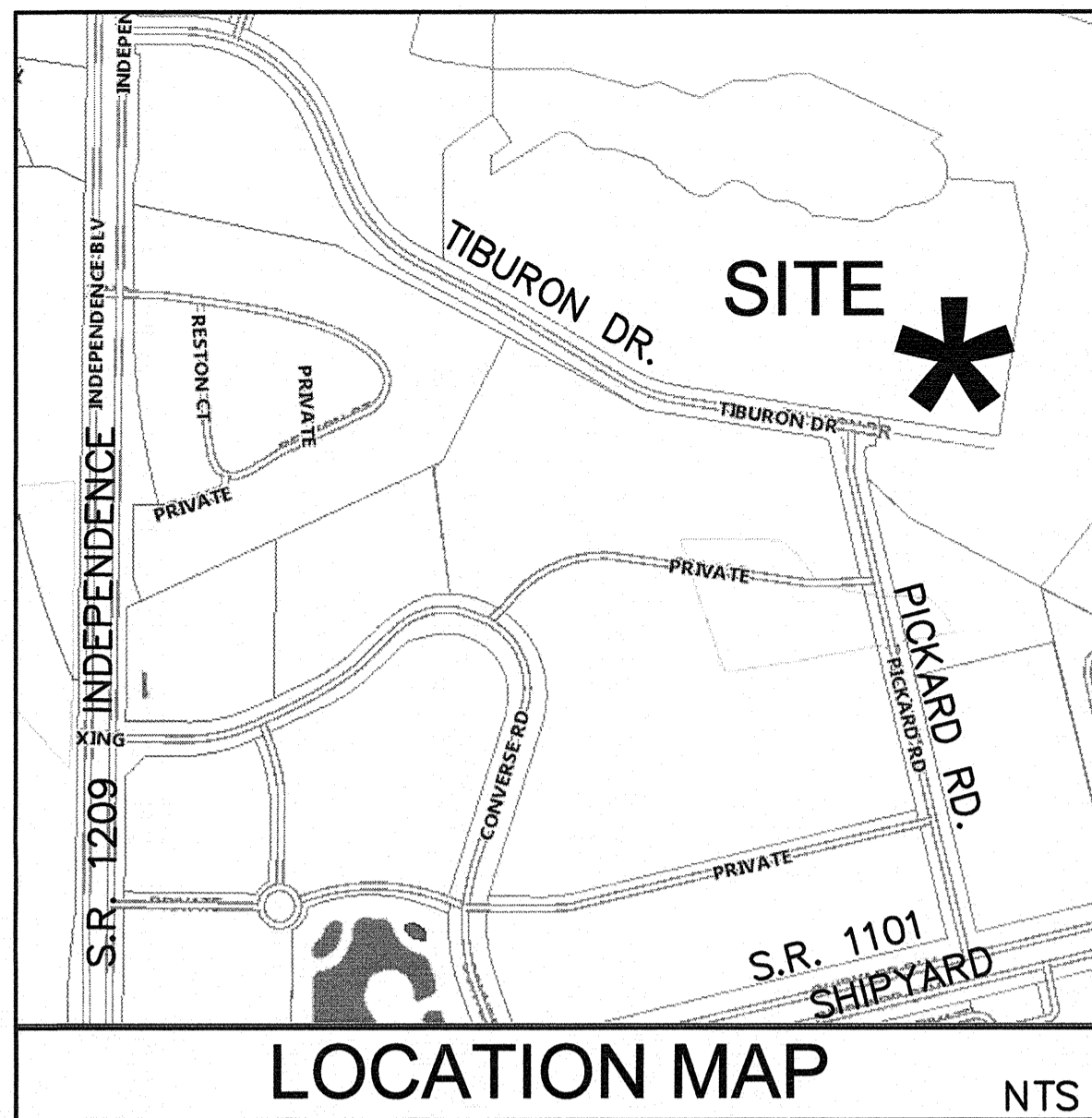
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CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: _____ Permit # _____
Signed: _____

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

LIVE OAK BANKING COMPANY 3/FITPARK

WILMINGTON, NC
NEW HANOVER COUNTY



SCALE: 1" = 200'

INDEX OF SHEETS

COVER SHEET	
PR1:	WATER/SEWER/ROAD PLAN AND PROFILE LINE 1
PR2:	WATER/SEWER PLAN AND PROFILE LINE 2
PR3:	WATER PLAN AND PROFILE LINE 3
WSD-1	CFPUA WATER DISTRIBUTION SYSTEM STANDARD DETAILS
WSD-2	CFPUA WATER DISTRIBUTION SYSTEM STANDARD DETAILS
SSD-1:	SANITARY SEWER STANDARD DETAILS
SSD-2:	SANITARY SEWER STANDARD DETAILS
SSD-3:	SANITARY SEWER STANDARD DETAILS

PUBLIC WATER:
546 LF 8" WATER LINE
30 LF 6" WATER LINE

PUBLIC SEWER:
505 LF 8" SEWER LINE

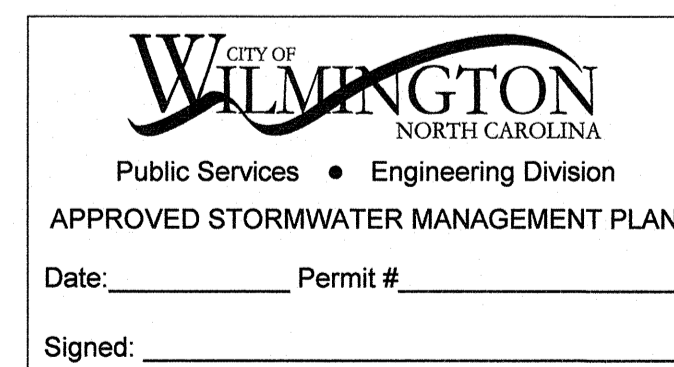
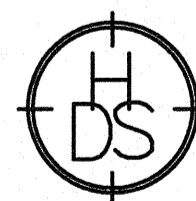
PRIVATE WATER:
1,078 LF 8" WATER LINE
490 LF 6" WATER LINE SERVICES
365 LF 4" WATER LINE SERVICES
241 LF 3" WATER LINE SERVICES

PRIVATE SEWER:
293 LF 8" SANITARY SEWER
652 LF 6" SANITARY SEWER SERVICES
2,463 LF 2" SEWER FORCEMAIN SERVICES

OWNER/DEVELOPER
W. LEE WILLIAMS
EXECUTIVE VICE PRESIDENT
LIVE OAK BANCSHARES, INC.
1741 TIBURON DRIVE
WILMINGTON, NC 28403
910-796-1647
910-790-5868

SITE SURVEYOR:
HANOVER DESIGN SERVICES, P.A.
LAND SURVEYORS ENGINEERS LAND PLANNERS

1123 FLORAL PARKWAY
WILMINGTON, N.C. 28403
PHONE: 910 343-8002
FAX: 910 343-9941



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

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

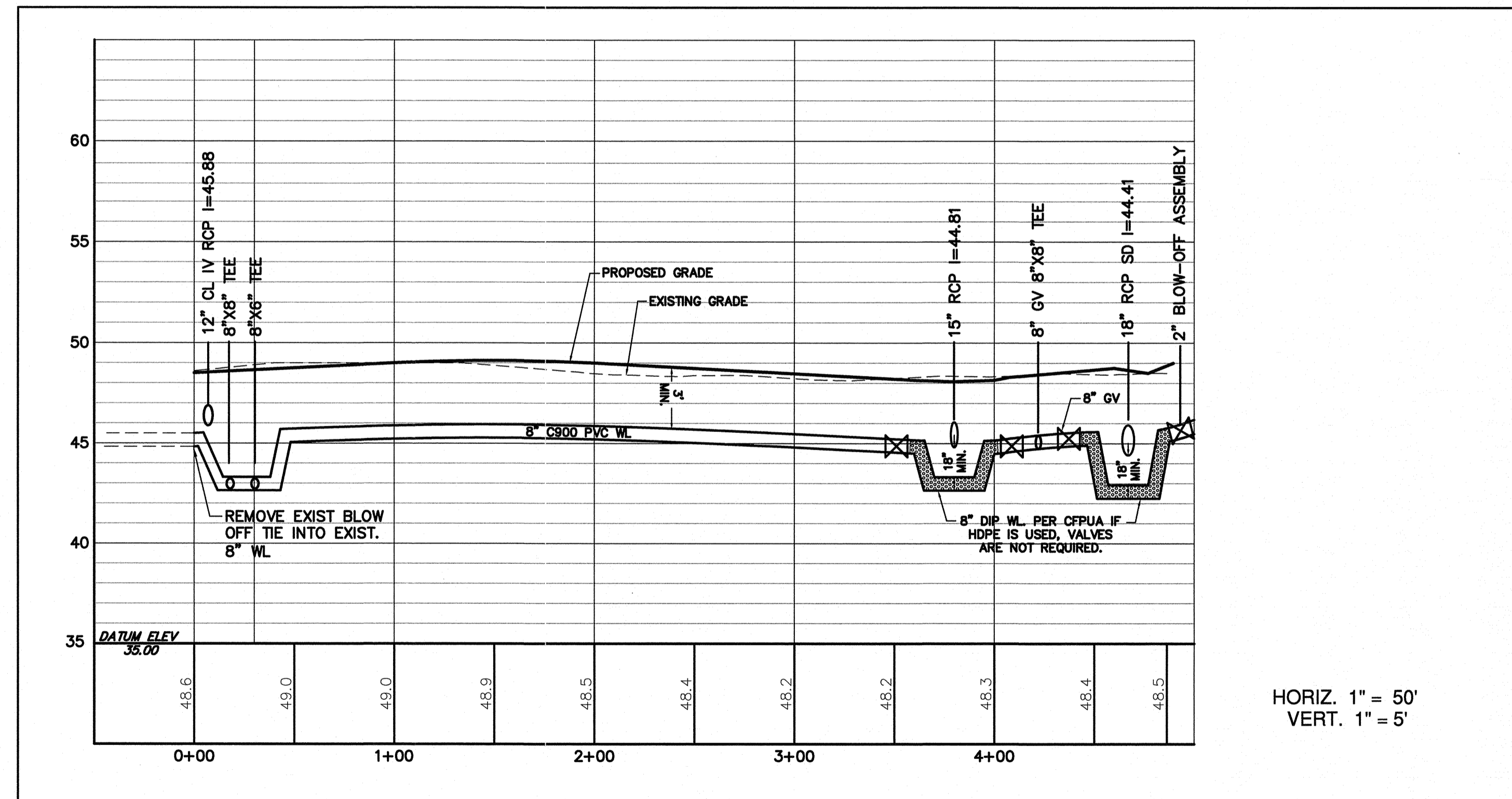
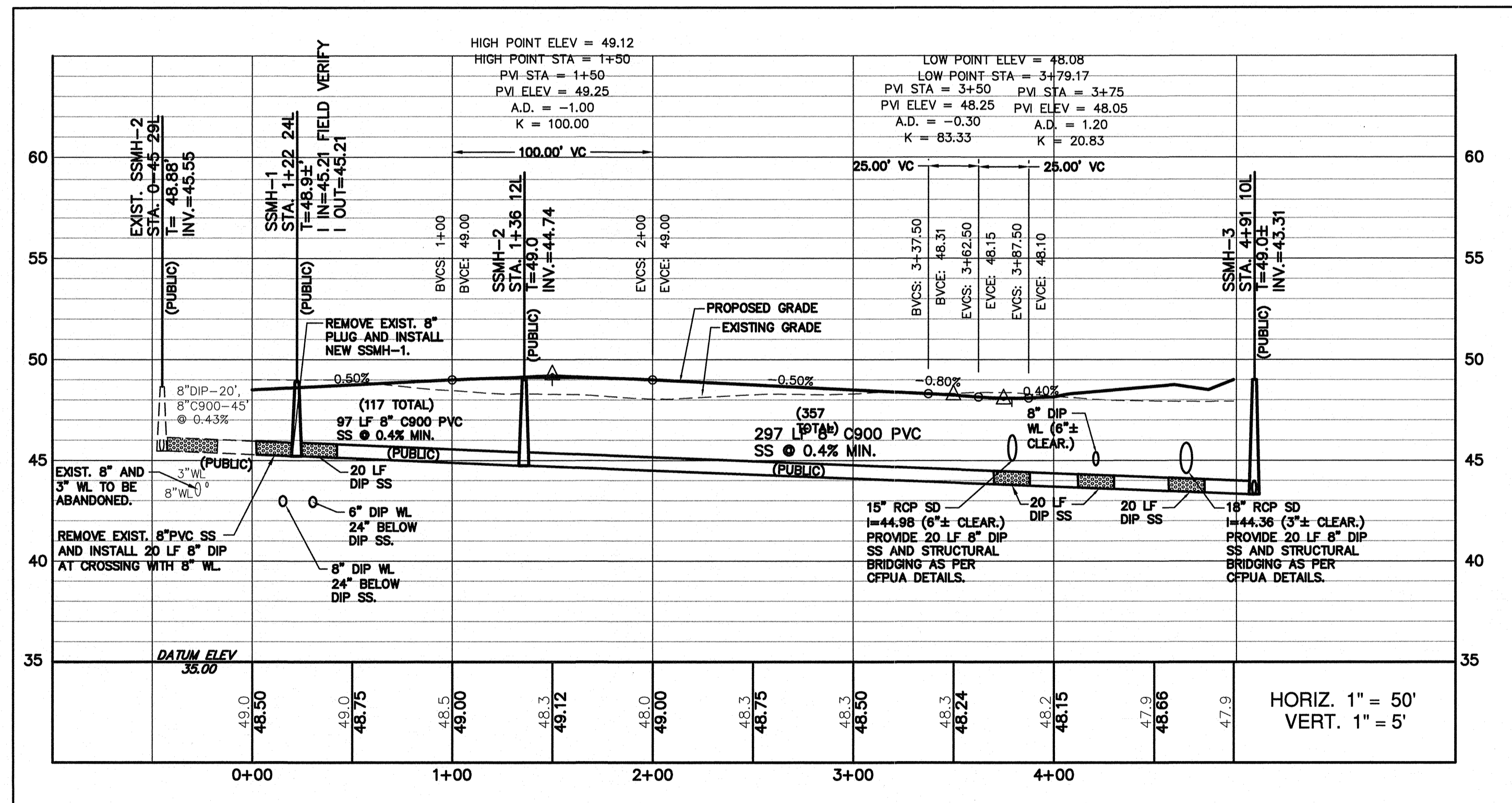
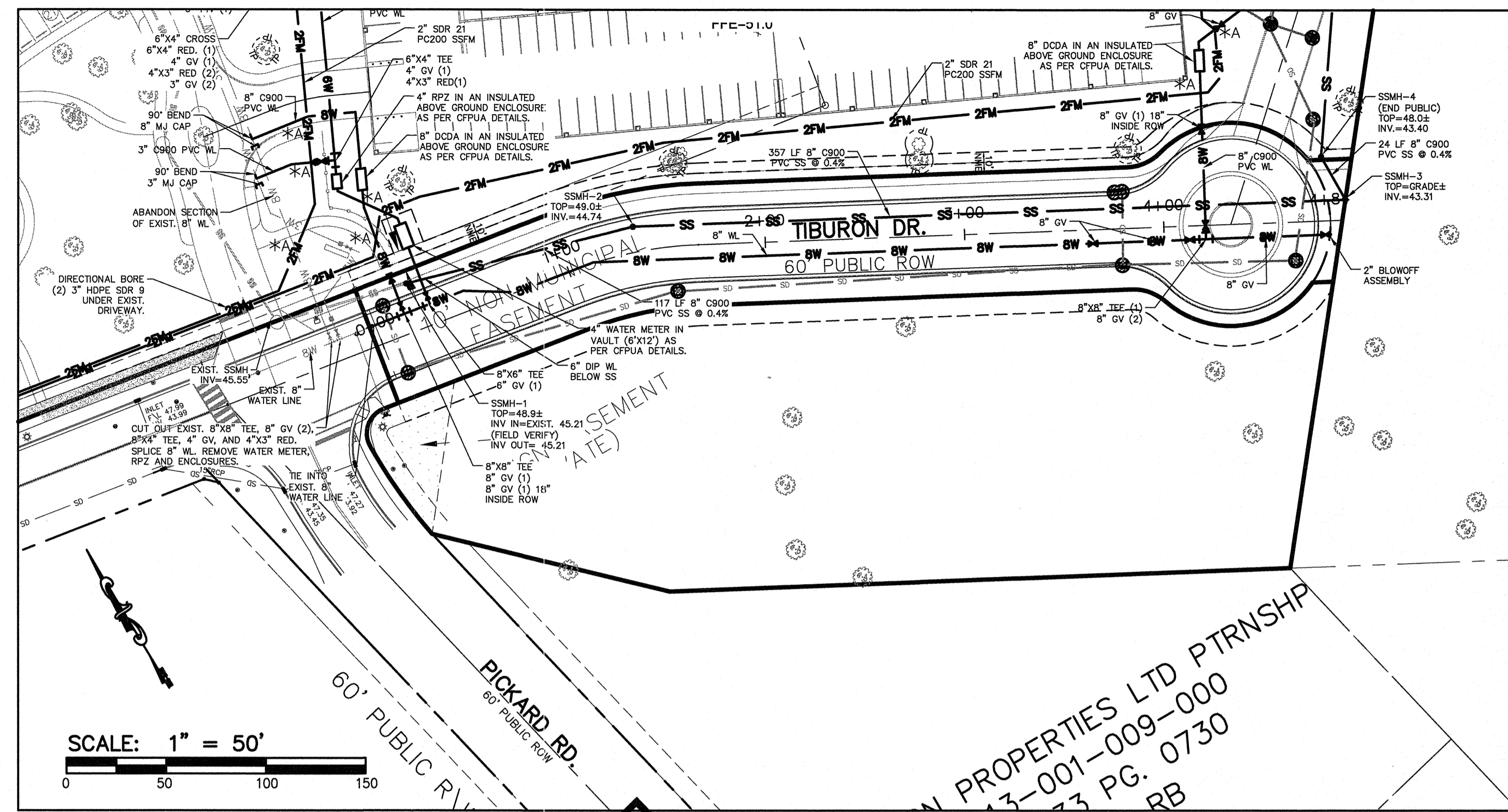
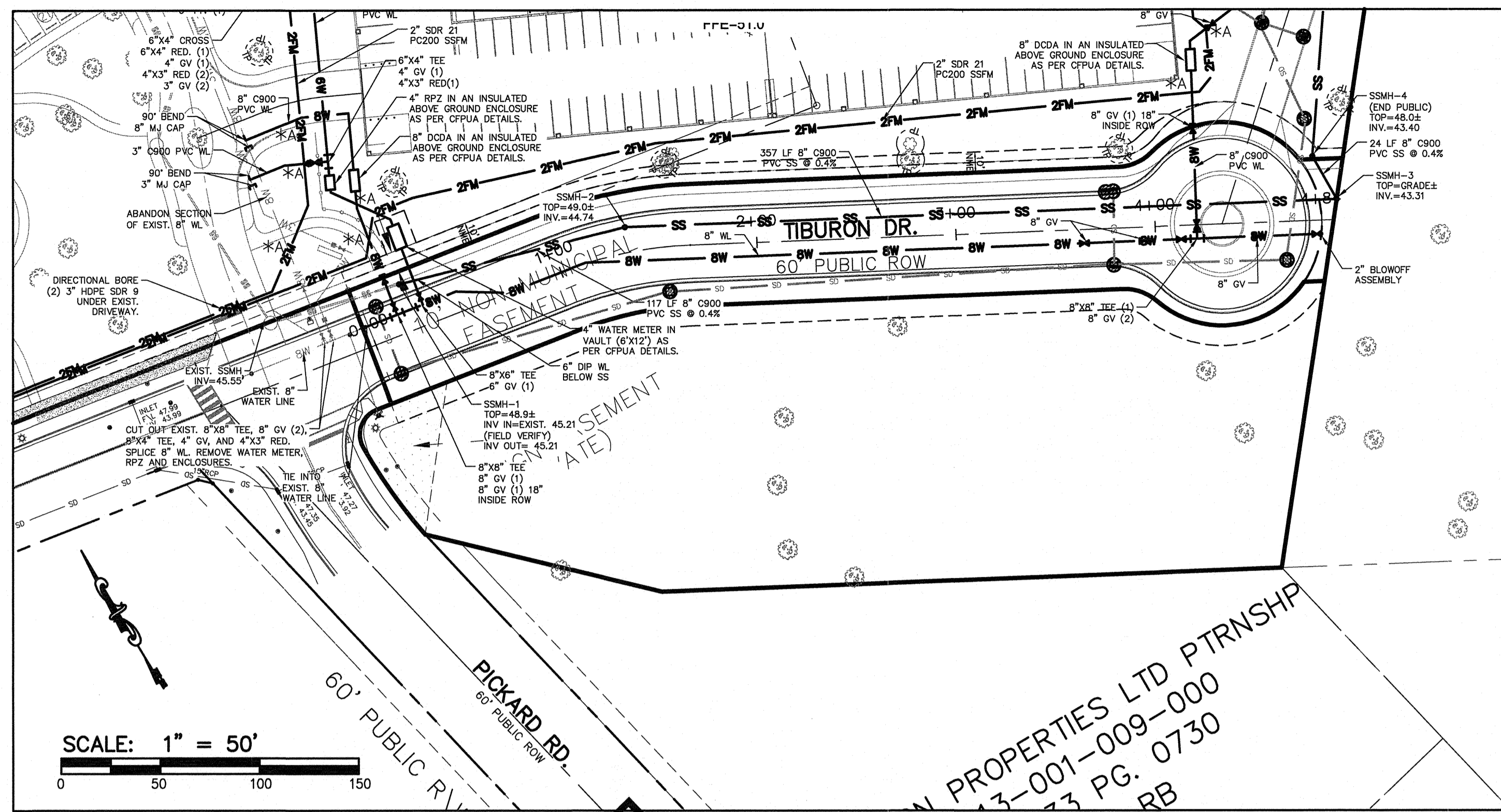
Approved Construction Plan

Name	Date
Planning	_____
Traffic	_____
Fire	_____

NORRIS & TUNSTALL CONSULTING ENGINEERS P.C.

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

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



SANITARY SEWER AND ROAD PROFILE LINE 1

WATER LINE PROFILE LINE 1

- CFPUA STANDARD SEWER NOTES:**
- SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
 - WATER AND SEWER SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE AT RIGHT-OF-WAY LINE. SEWER SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN END OF LINE MANHOLE AND TERMINATE AT RIGHT-OF-WAY LINE.
 - ALL SERVICES TYING INTO DUCTILE IRON MAINS SHALL BE CONSTRUCTED OF CLASS 50 DIP WITH PROTECTO 401 CERAMIC EPOXY LINING.
 - MINIMUM 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN FOR NEW DEVELOPMENTS.
 - NO FLEXIBLE COUPLINGS SHALL BE USED.
 - ALL STAINLESS STEEL FASTENERS SHALL BE 316.
 - CLEANOUTS SHALL BE LOCATED A MINIMUM OF 12 FEET FROM ALL PROPERTY CORNERS. WATER METER BOXES ARE TO BE A MINIMUM OF 5 FEET FROM THE PROPERTY CORNER.

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

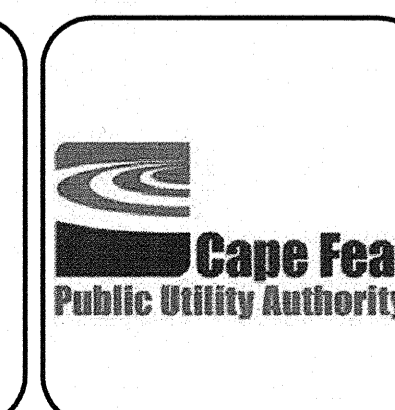
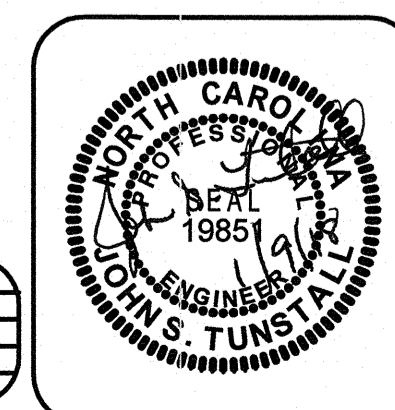
CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: _____ Permit # _____
Signed: _____

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

Approved Construction Plan

Name	Date
Planning	_____
Traffic	_____
Fire	_____

REV NO.	DESCRIPTION	DATE

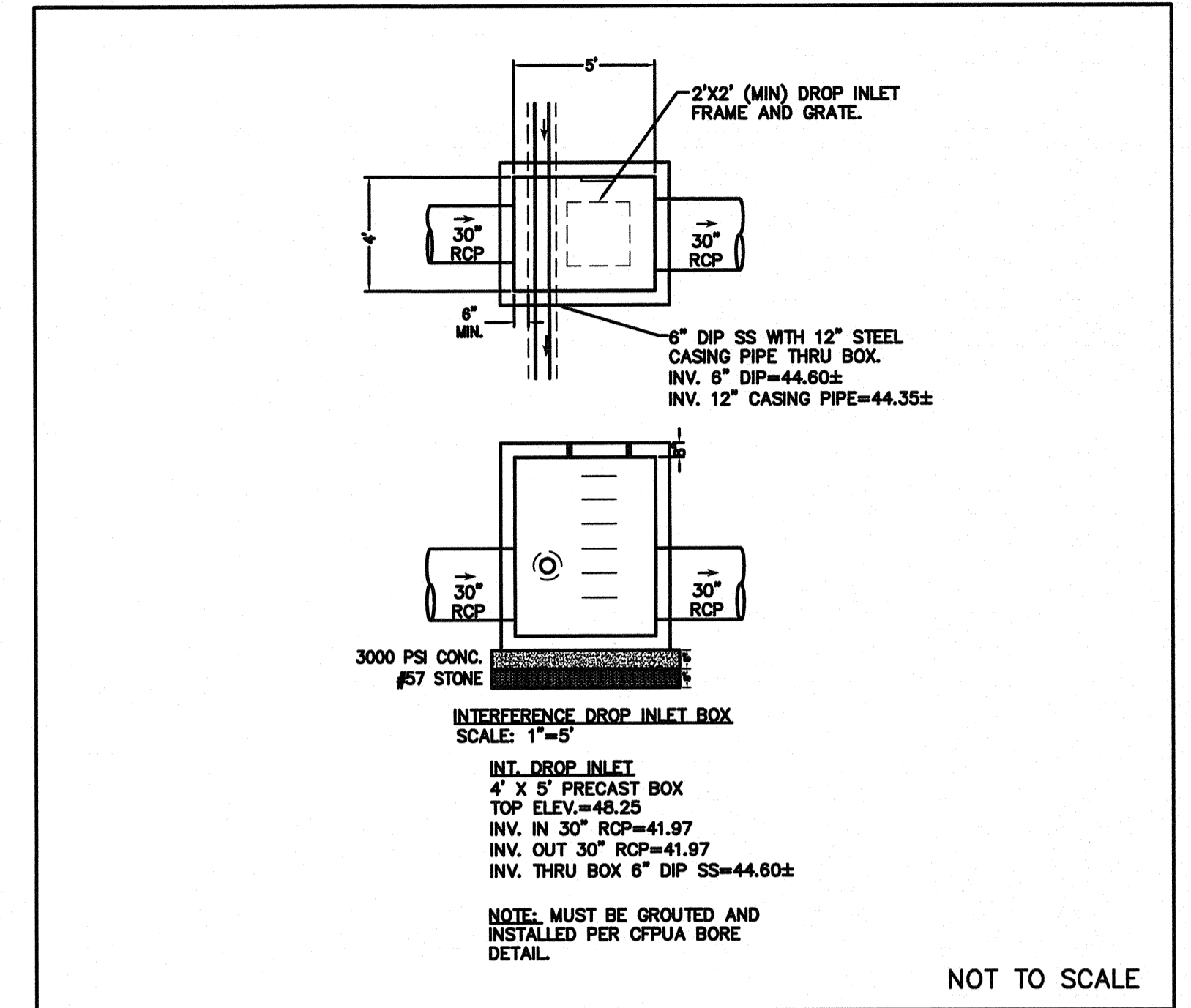
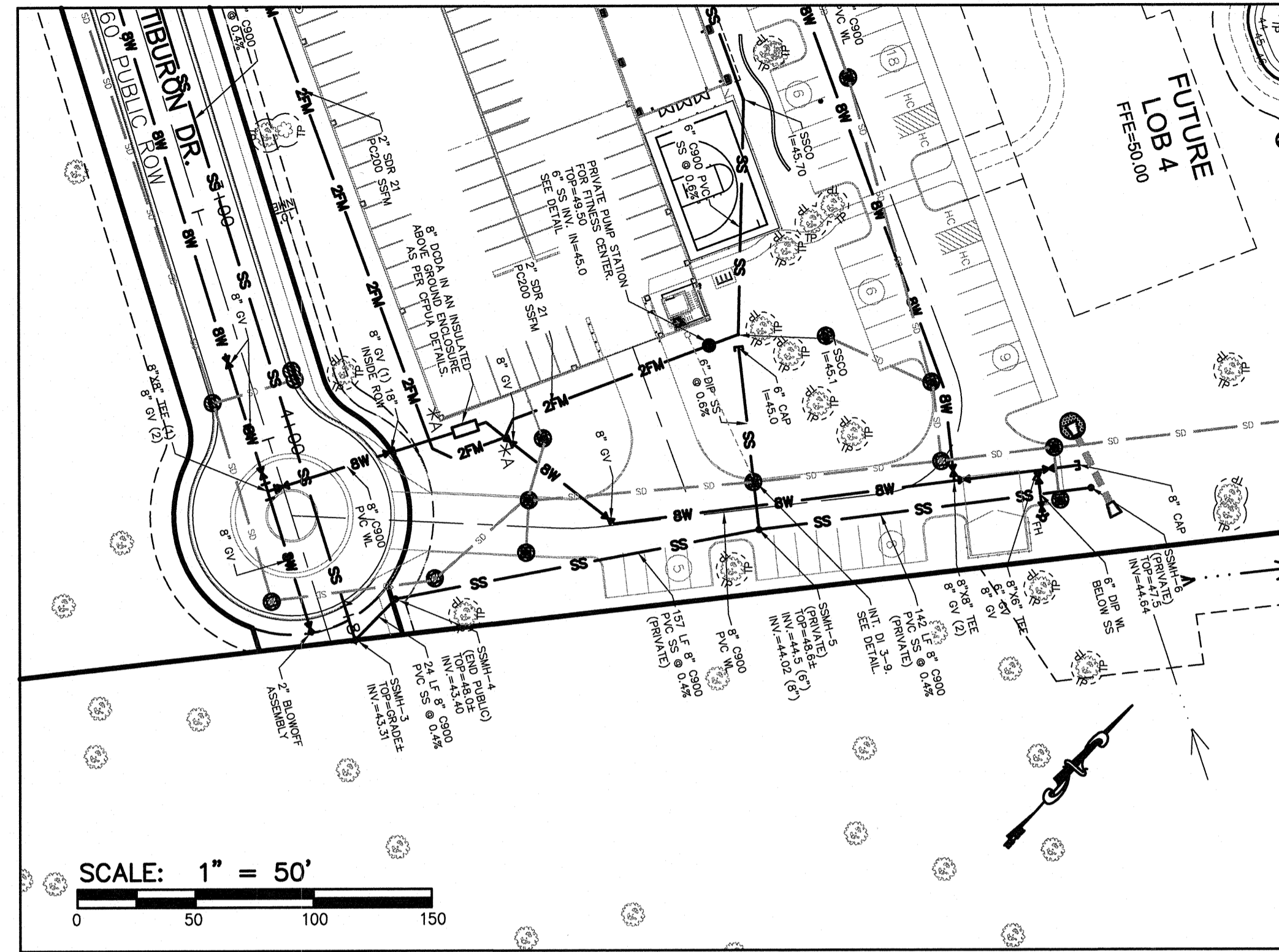
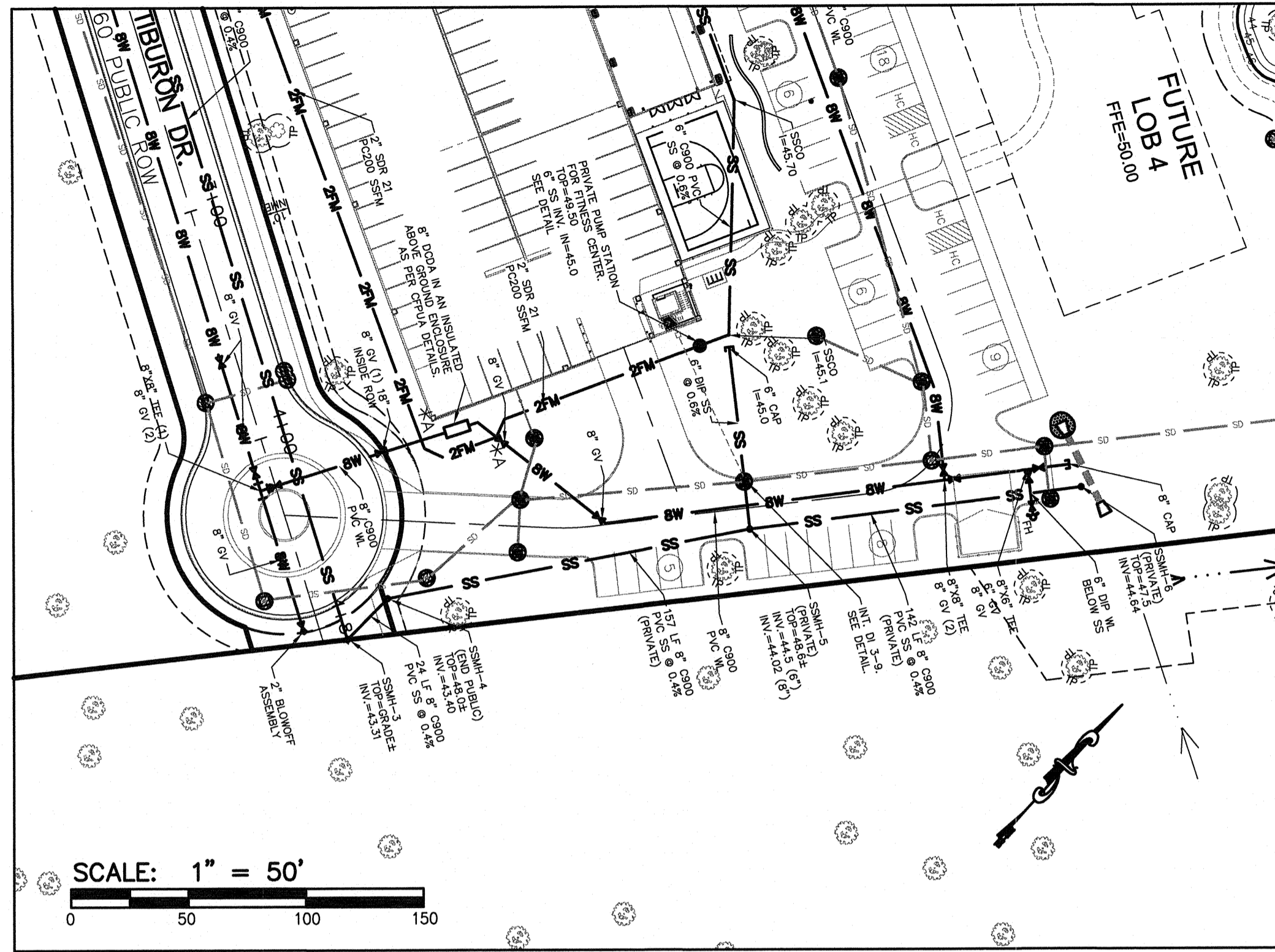


NORRIS & TUNSTALL
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WILMINGTON, NC 28401
PHONE (910) 343-9653 License #C-3641 PHONE (910) 287-9900

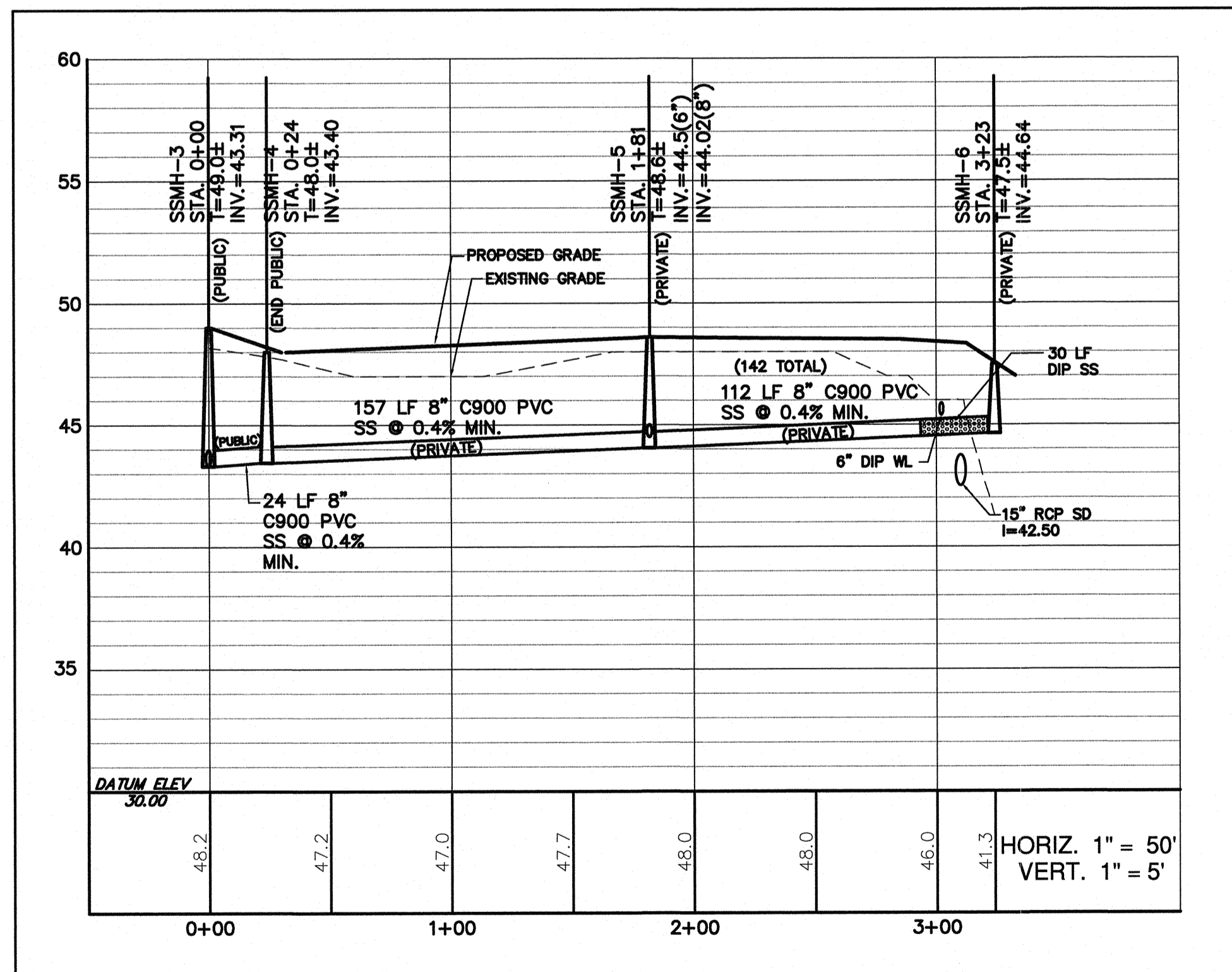
LIVE OAK BANKING COMPANY 3/FITPARK
SANITARY SEWER AND ROAD
PLAN & PROFILE

DATE: 1/3/18
SCALE: 1" = 50'
DRAWN: NKS
CHECKED: JST
PROJECT NO: 16169

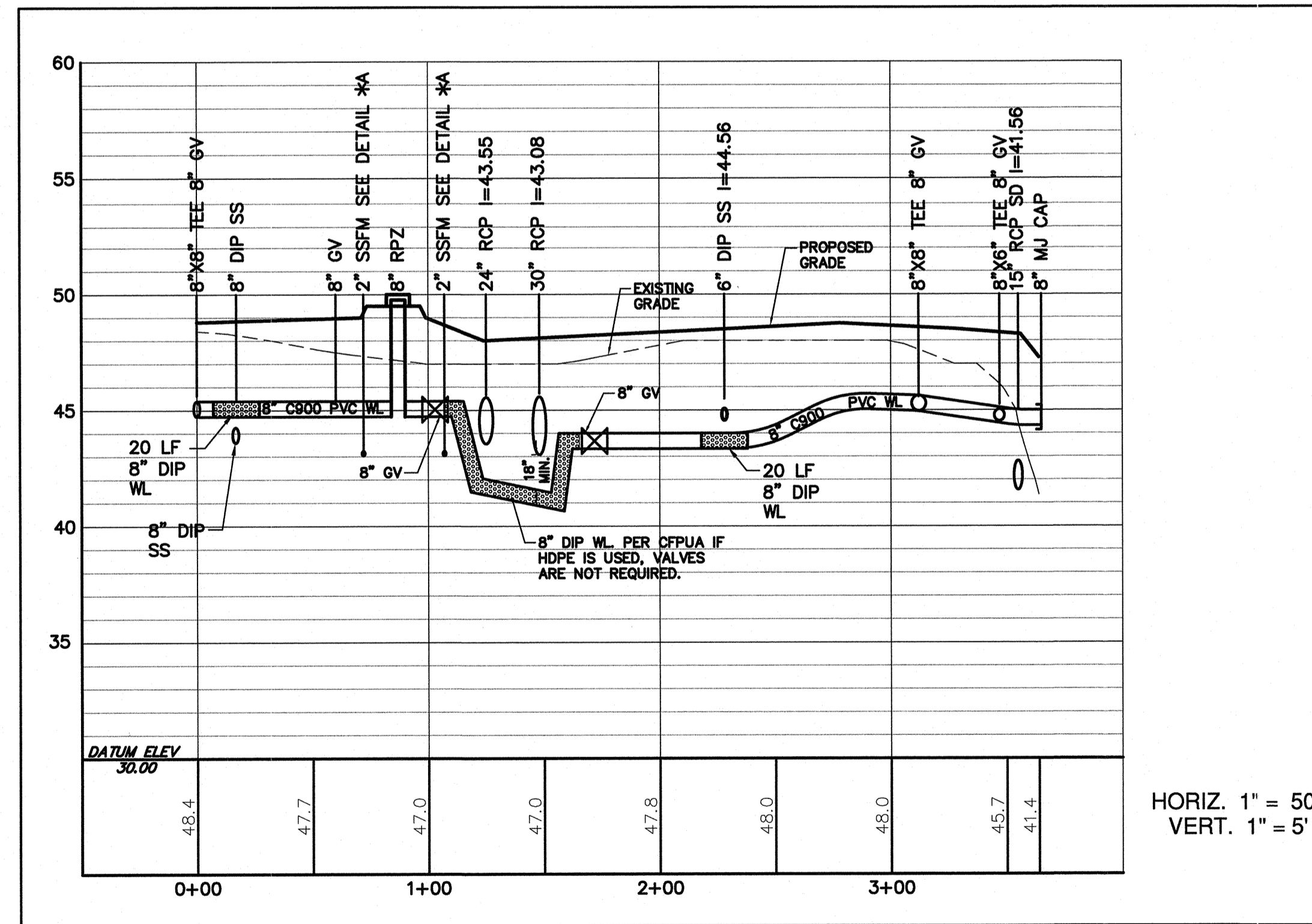
SHEET NO:
PR1



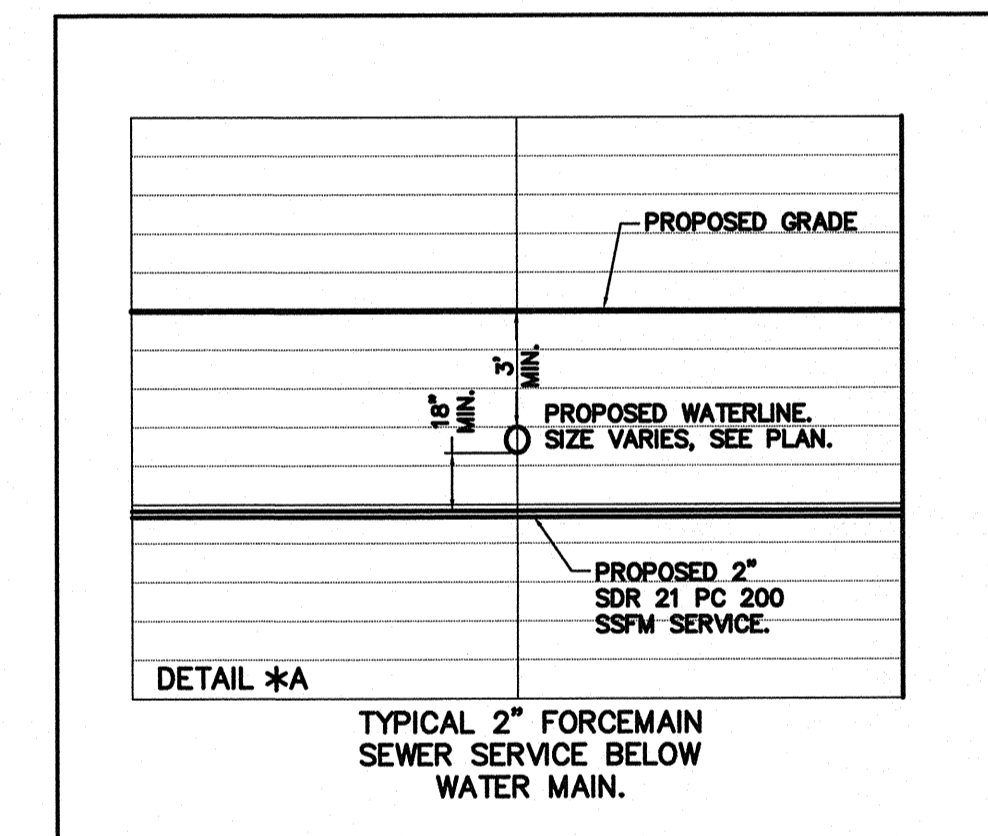
INTERFERENCE DROP INLET DETAIL



SANITARY SEWER PROFILE LINE 2



WATER LINE PROFILE LINE 2



- CFPWA STANDARD SEWER NOTES:
- SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
 - WATER AND SEWER SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE AT RIGHT-OF-WAY LINE. SEWER SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN END OF LINE MANHOLE AND TERMINATE AT RIGHT-OF-WAY LINE.
 - ALL SERVICES TYING INTO DUCTILE IRON MAINS SHALL BE CONSTRUCTED OF CLASS 50 DIP WITH PROTECTO 401 CERAMIC EPOXY LINING.
 - MINIMUM 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN FOR NEW DEVELOPMENTS.
 - NO FLEXIBLE COUPLINGS SHALL BE USED.
 - ALL STAINLESS STEEL FASTENERS SHALL BE 316.
 - CLEANOUTS SHALL BE LOCATED A MINIMUM OF 12 FEET FROM ALL PROPERTY CORNERS. WATER METER BOXES ARE TO BE A MINIMUM OF 5 FEET FROM THE PROPERTY CORNER.

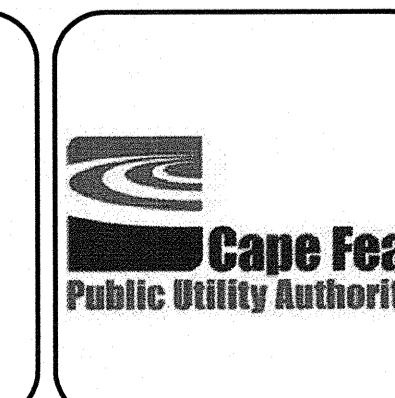
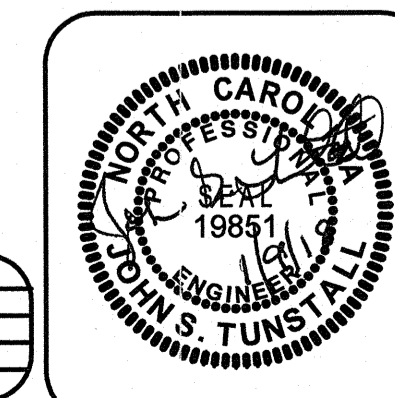
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SEWER CAPACITY: _____ GPD
SEWER SHED # AND PLANT: _____
SEWER TO FLOW THROUGH NEI: YES OR NO (CIRCLE ONE)

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

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

REV NO.	DESCRIPTION	DATE

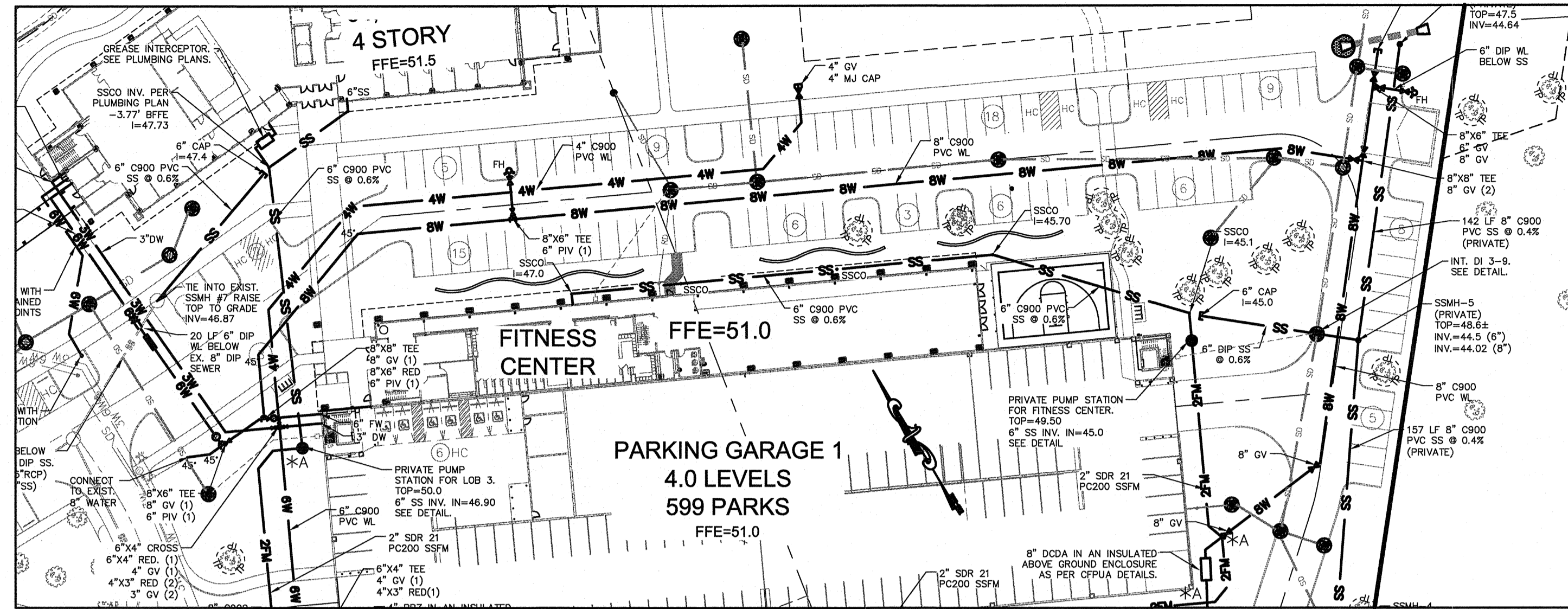


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PHONE (910) 343-9653 License #C-3641 PHONE (910) 287-5900
1429 ASH-LITTLE RIVER RD, NW
ASHE, NC 28420

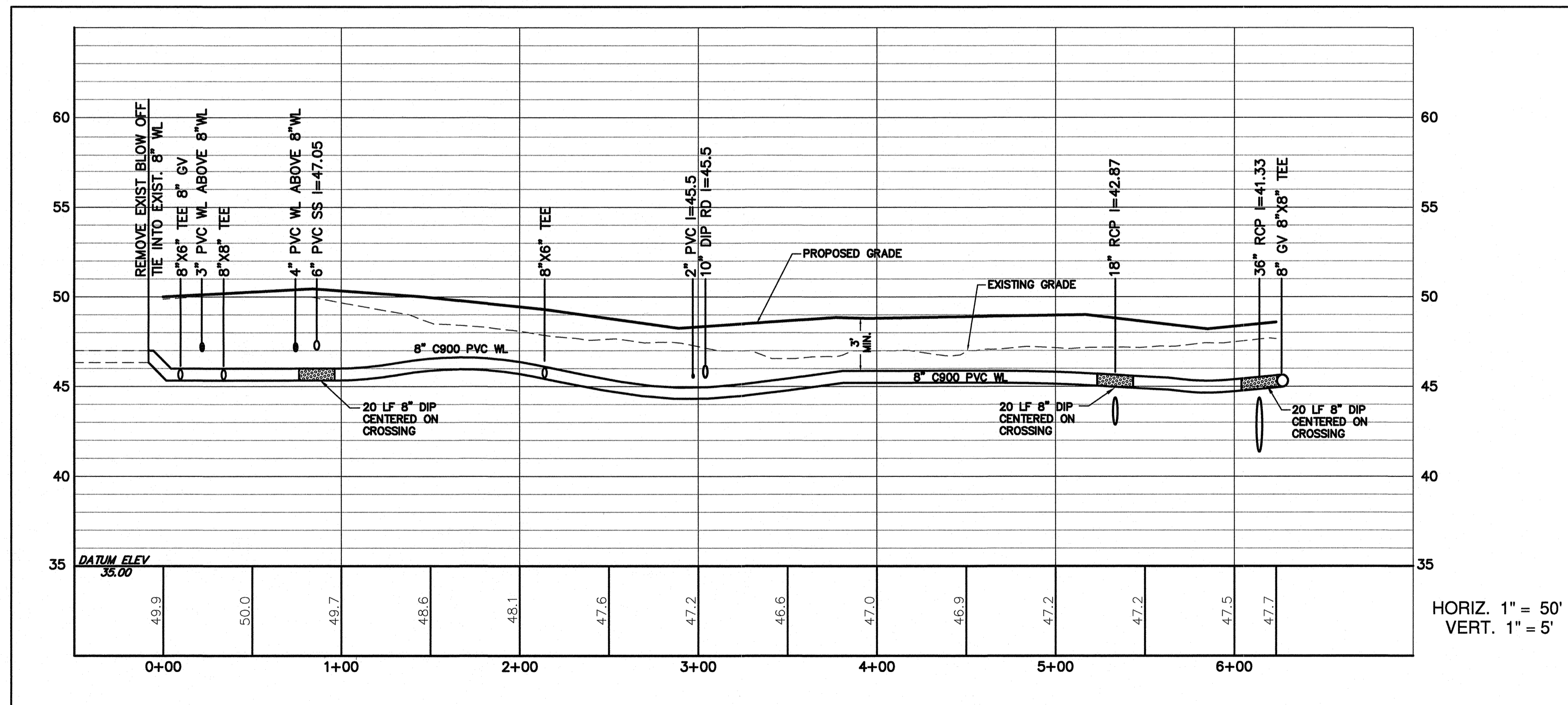
LIVE OAK BANKING COMPANY 3/FITPARK
WATER LINE
PLAN & PROFILE

DATE: 1/9/18
SCALE: 1" = 50'
1" = 5'
DRAWN: NKS
CHECKED: JST
PROJECT NO: 16169

SHEET NO:
PR2



SCALE: 1" = 50'



WATER LINE PROFILE LINE 3

- CFPUA STANDARD SEWER NOTES:
- SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
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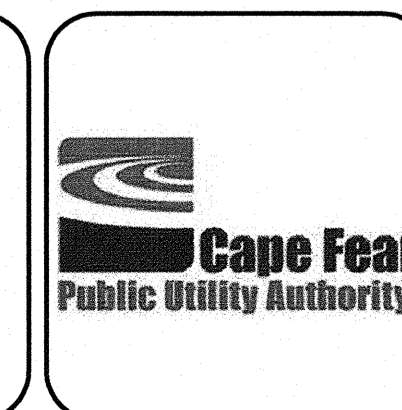
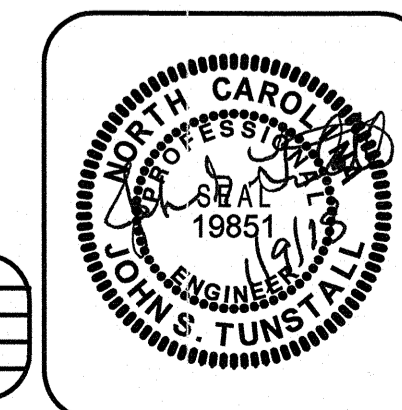
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 SEWER CAPACITY: _____ GPD
 SEWER SHED # AND PLANT: _____
 SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
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REV NO.	DESCRIPTION	DATE



NORRIS & TUNSTALL
 CONSULTING ENGINEERS P.C.
 902 MARKET STREET
 WILMINGTON, NC 28401
 PHONE: (910) 343-5653 License #C-3641

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

LIVE OAK BANKING COMPANY 3/FITPARK
 WATER LINE
 PLAN & PROFILE

DATE: 1/9/18
 SCALE: 1" = 50'
 1" = 5'
 DRAWN: NKS
 CHECKED: JST
 PROJECT NO: 16169

SHEET NO:
PR3