

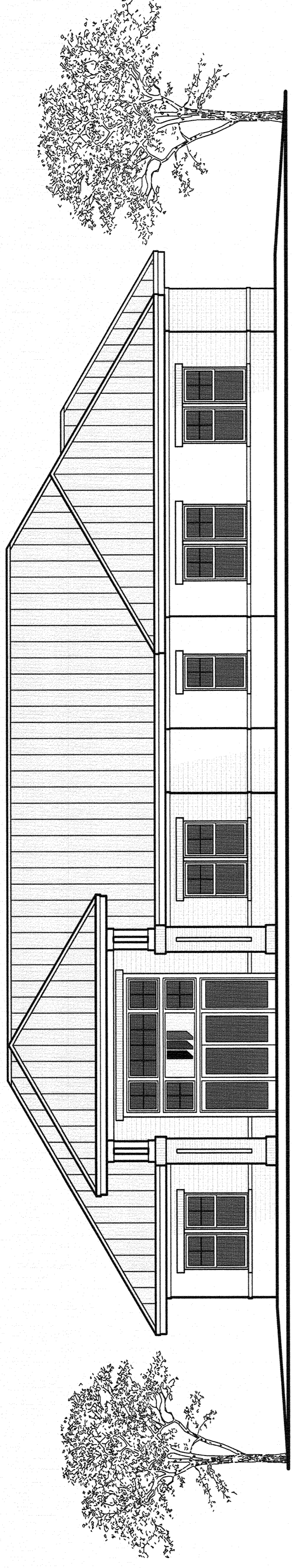
REVISIONS

DRAWN BY
DH

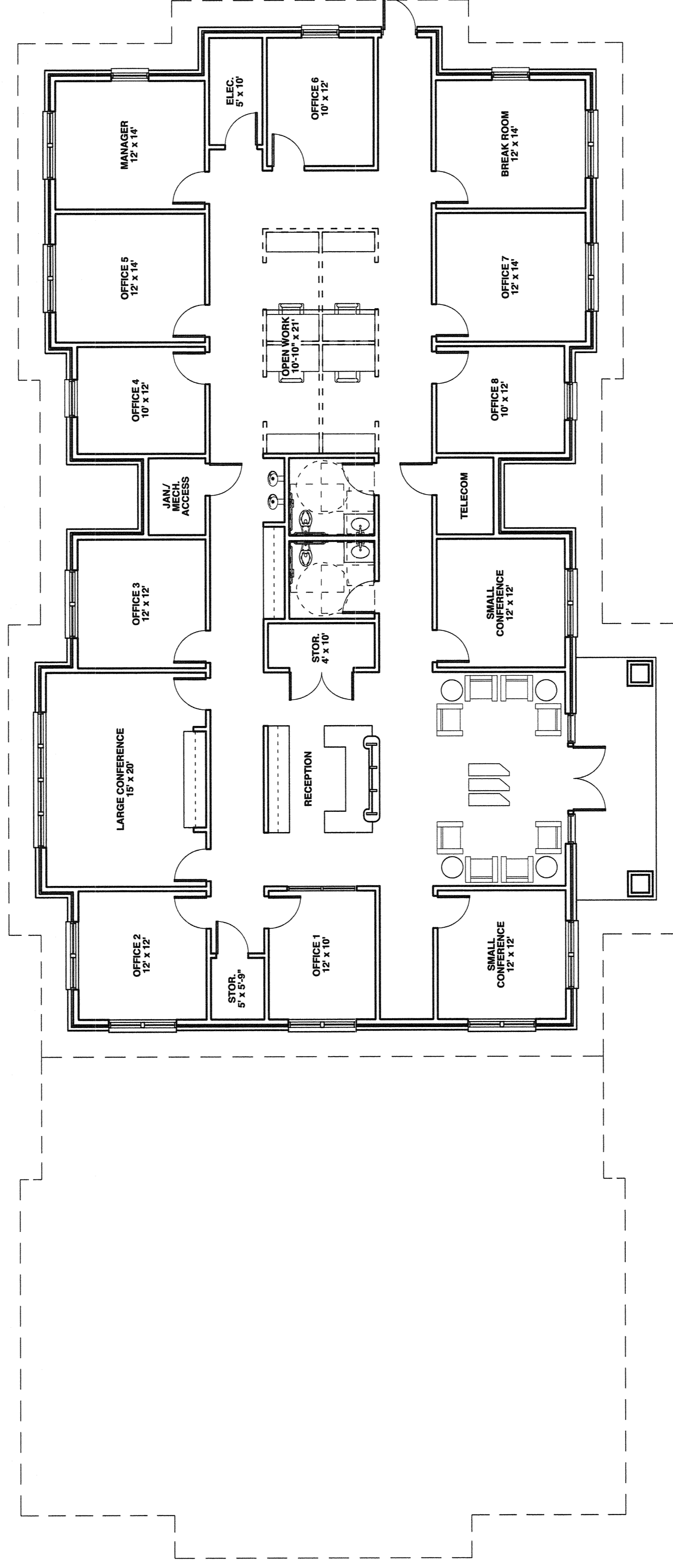
CHECKED BY
JIM

DATE
Mar. 31, 2016

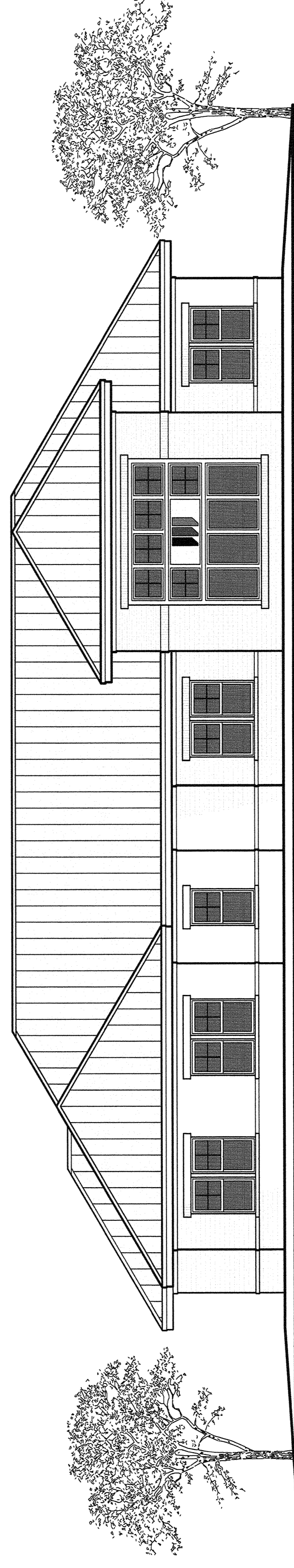
SHEET NUMBER



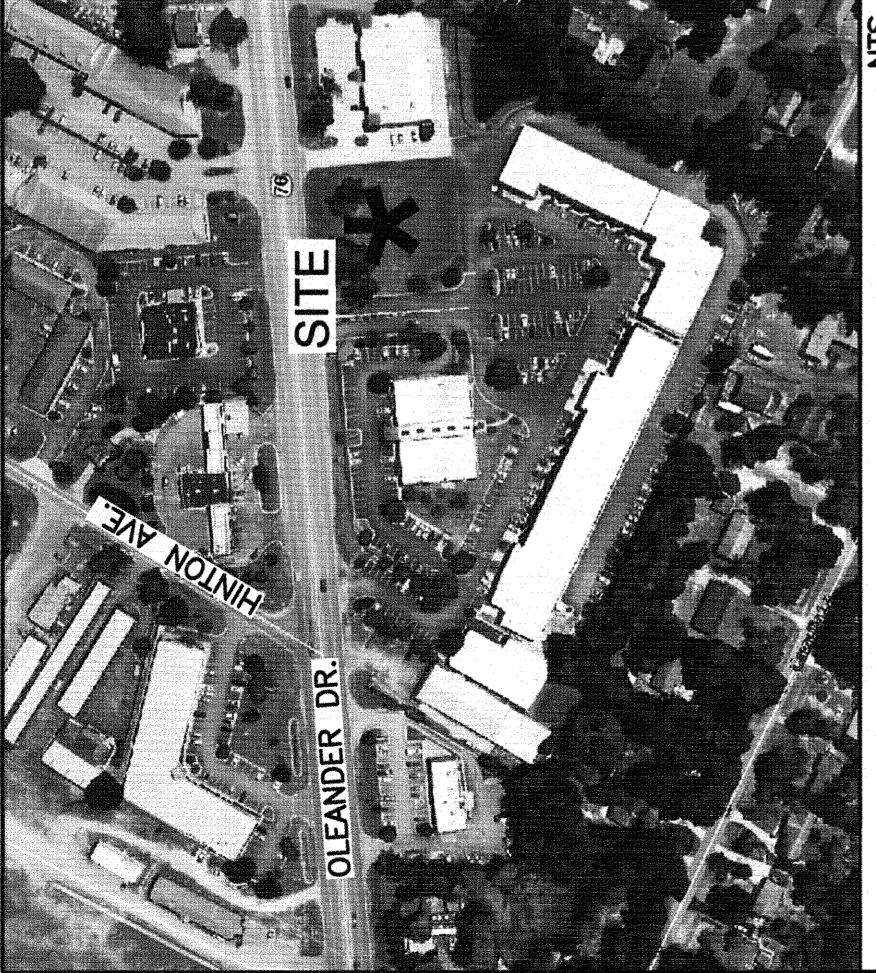
1
South Elevation
 A1.0 scale: 1/8" = 1'-0"



2
Floor Plan
 A1.0 scale: 1/8" = 1'-0"



3
North Elevation
 A1.0 scale: 1/8" = 1'-0"



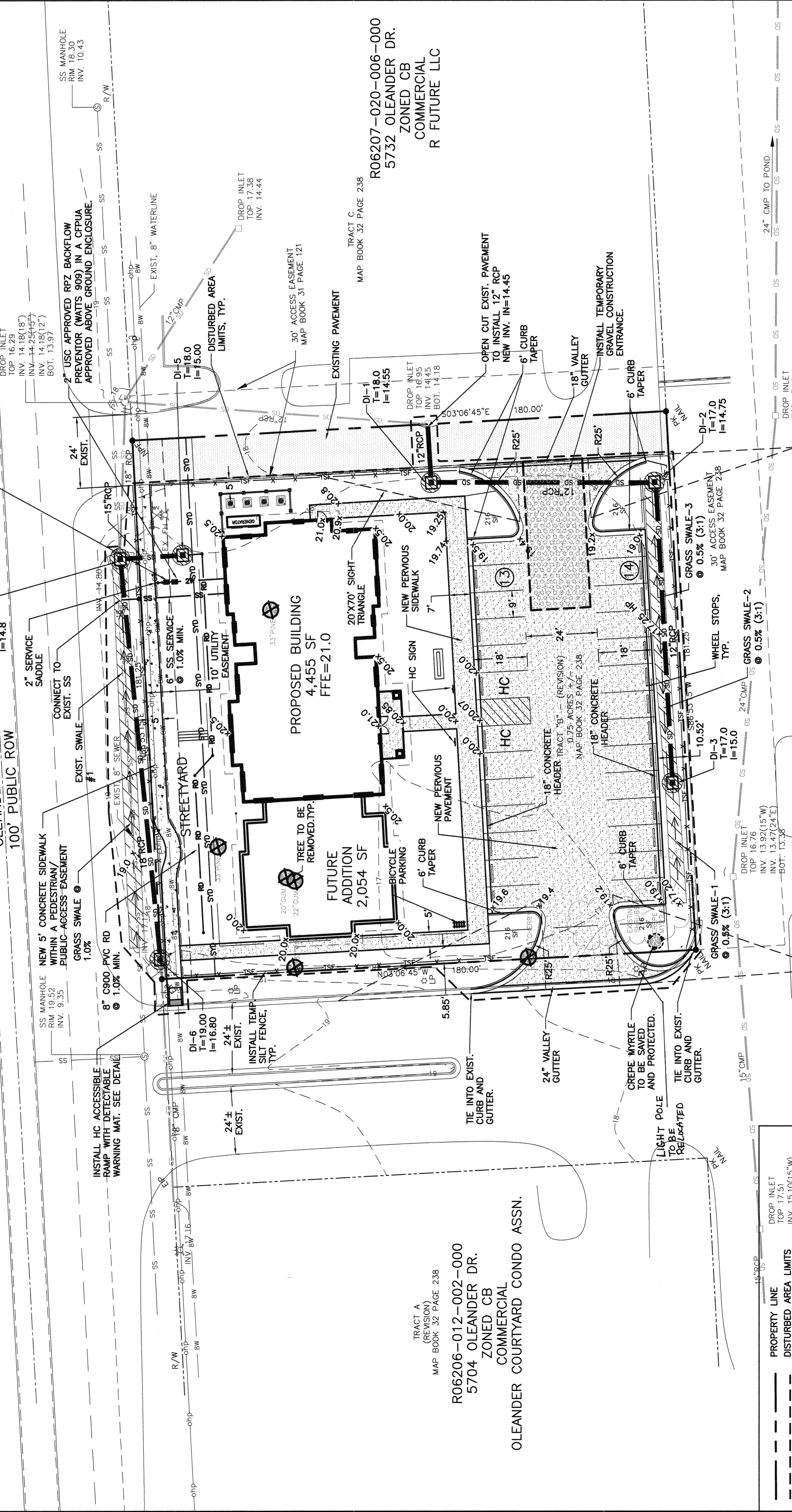
VICINITY MAP

R06206-007-004-000
5709 OLEANDER DR.
ZONED O&I-1
RESTAURANT
MARO ENTERPRISES LLC

R06207-003-018-000
5725 OLEANDER DR.
ZONED CB
CONDOMINIUM COMMON AREA
OLEANDER OAKS CONDOMINIUM

OLEANDER DRIVE
100' PUBLIC ROW

R06207-020-006-000
5732 OLEANDER DR.
ZONED CB
COMMERCIAL
R FUTURE LLC



LEGEND	1. GROUND STABILIZATION	STABILIZATION TIME FRAME	STABILIZATION TIME FRAME EXCEPTIONS
[Pattern]	SITE AREA DESCRIPTION PERIMETER DIKES, ROCKS AND SLOPES	7 DAYS	NONE
[Pattern]	HIGH QUALITY WATER (FROM) ZONES, SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED
[Pattern]	SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50'
[Pattern]	ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE (EXCEPT FOR PERIMETERS AND HOW ZONES)

TREE REMOVAL TABLE

SIGNIFICANT PINES
33" (2)
32" (1)
SIGNIFICANT CHERRY
15" (1)
REGULATED GUMS
20" (1)
22" (1)

SCALE: 1" = 20'

REVISIONS

SYMBOL	DATE	DESCRIPTION	BY

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GRADING, DRAINAGE, EROSION CONTROL AND UTILITIES PLAN
WELLS INSURANCE OLEANDER DR. SITE
WILMINGTON, N. C.

OWNER/DEVELOPER
HAROLD W. WELLS, IV, MANAGER
WELLS REAL ESTATE HOLDINGS, LLC
1 NORTH THIRD STREET
WILMINGTON, NC 28401
910 251-6402

CONSULTING ENGINEERS, P.C.
1429 ASH-LITTLE RIVER RD., NW
WILMINGTON, NC 28401
PHONE (910) 287-5900
FAX (910) 287-5900
LICENSE #C-3641

15005
DES. JUST
CHKD. JPN
DRWN. NKS
DATE 6/6/16

Approved Construction Plan
Name: _____ Date: _____
Planning: _____ Traffic: _____
Site: _____
Permit #: _____
Signature: _____

WILMINGTON
Public Services • Engineering Division
APPROVED DRAINAGE PLAN

FOR EACH OPEN UTILITY CUT OF CITY STREETS, A \$325 PERMIT SHALL BE REQUIRED FROM THE CITY PRIOR TO OCCUPANCY AND TO PROTECT ENCLOSURES.
SEWER CAPACITY: _____ GPD
WATER CAPACITY: _____ GPD
SEWER SHED AND PLANT: YES OR NO (CIRCLE ONE)
SEWER TO FLOW THROUGH: _____

PROPERTY LINE
DISTURBED AREA LIMITS
TEMPORARY SILT FENCE
PROPOSED STORMDRAIN PIPE
PROPOSED WATERLINE
PROPOSED SANITARY SEWER
PROPOSED FINISH GRADE
SPOT ELEVATION
DROP INLET WITH INLET PROTECTION (DI)
EXISTING CONTOUR
EXISTING TREE TO BE SAVED AND PROTECTED
EXISTING TREE TO BE REMOVED
PERVIOUS PAVEMENT
CONCRETE

TRACT A (REVISION)
MAP BOOK 32 PAGE 238
R06206-012-002-000
5704 OLEANDER DR.
ZONED CB
COMMERCIAL
COURTYARD CONDO ASSN.

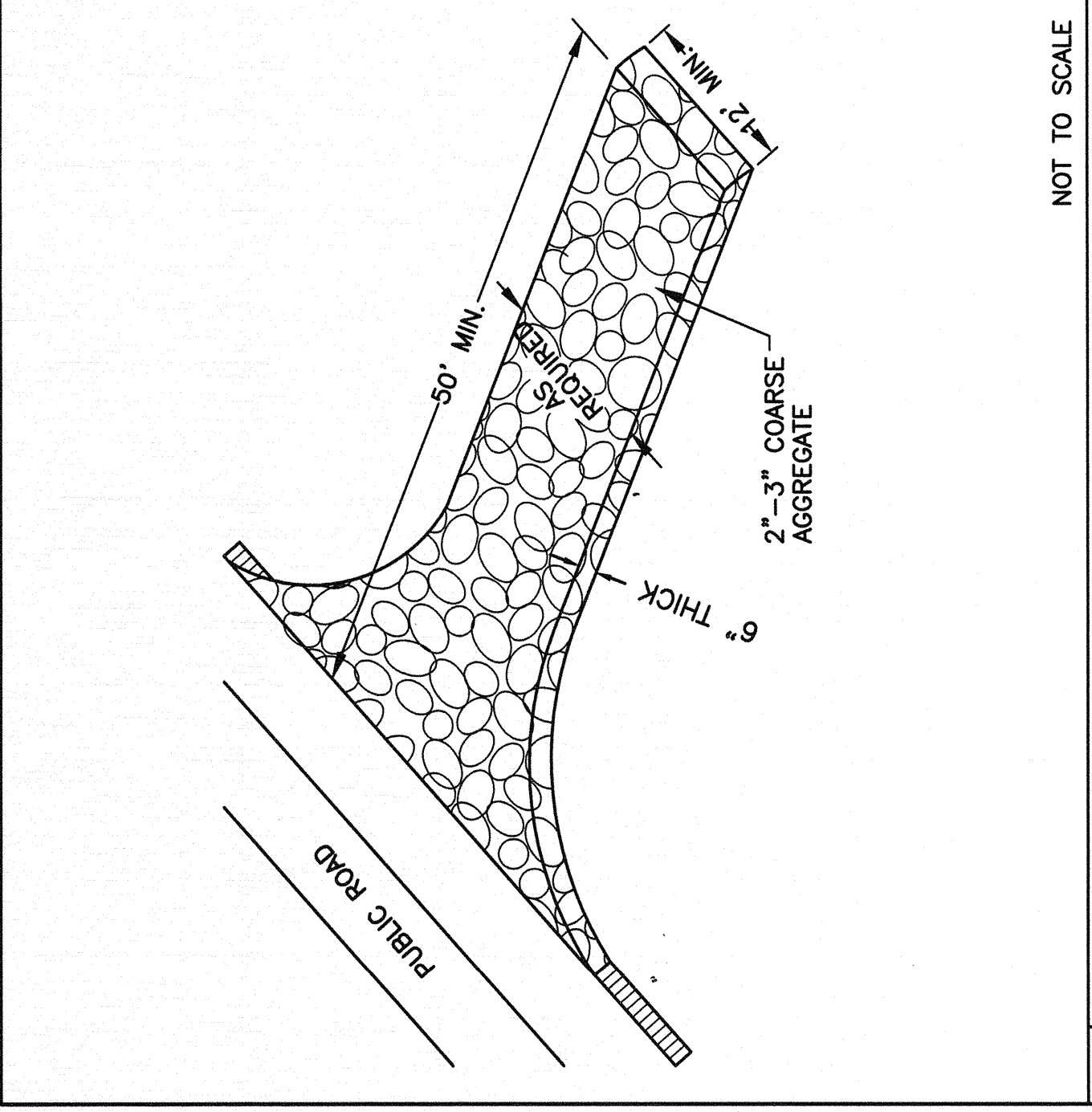
TRACT B (REVISION)
MAP BOOK 32 PAGE 238
R06207-020-006-000
5732 OLEANDER DR.
ZONED CB
COMMERCIAL
R FUTURE LLC

TRACT C (REVISION)
MAP BOOK 32 PAGE 238
R06206-012-013-000
5710 OLEANDER DR.
ZONED CB
OLEANDER BUSINESS COMMON AREA
OBC COA INC

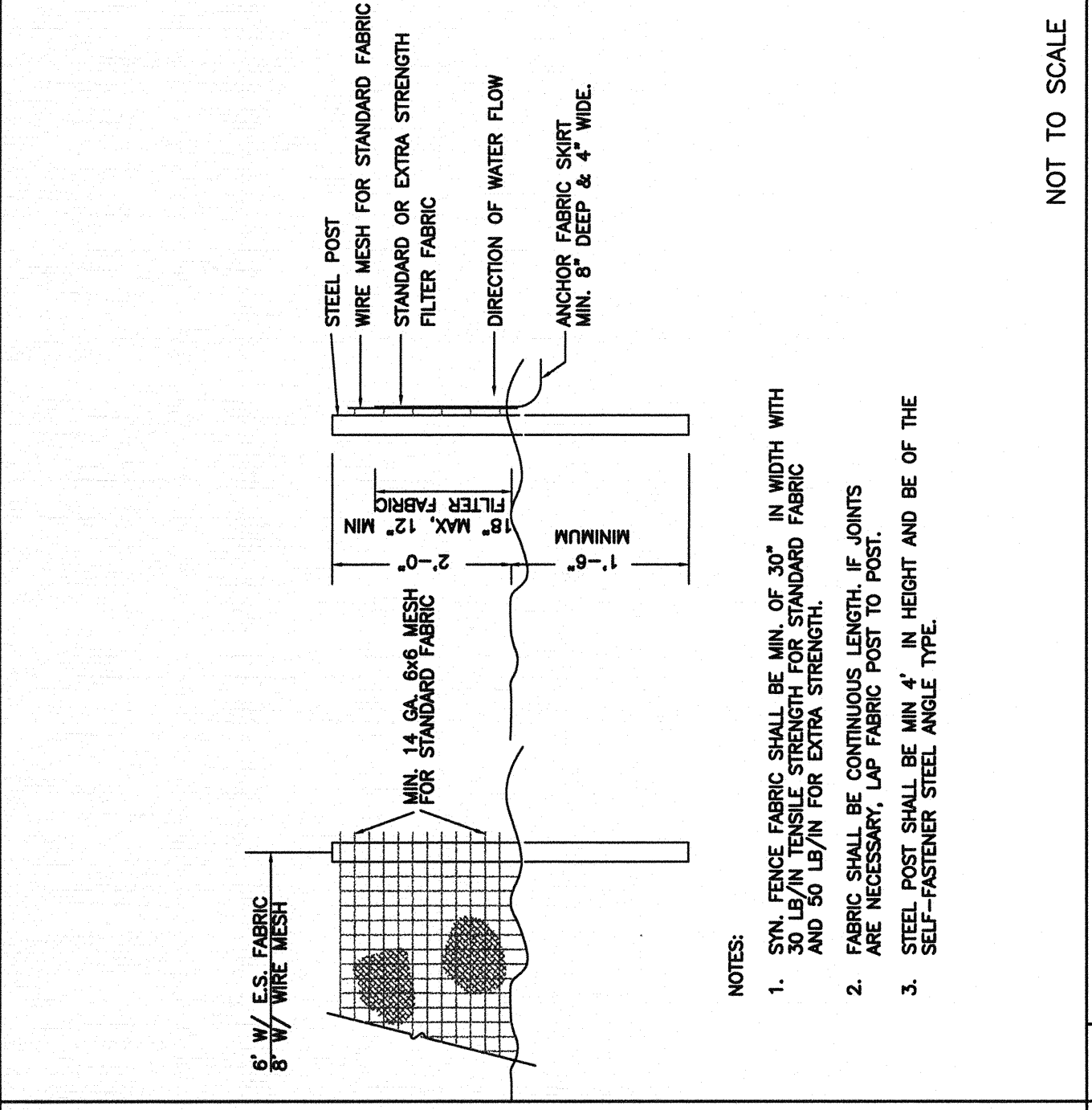
TRACT D (REVISION)
MAP BOOK 32 PAGE 238
R06206-012-013-000
5710 OLEANDER DR.
ZONED CB
OLEANDER BUSINESS COMMON AREA
OBC COA INC

SITE DATA TABLE

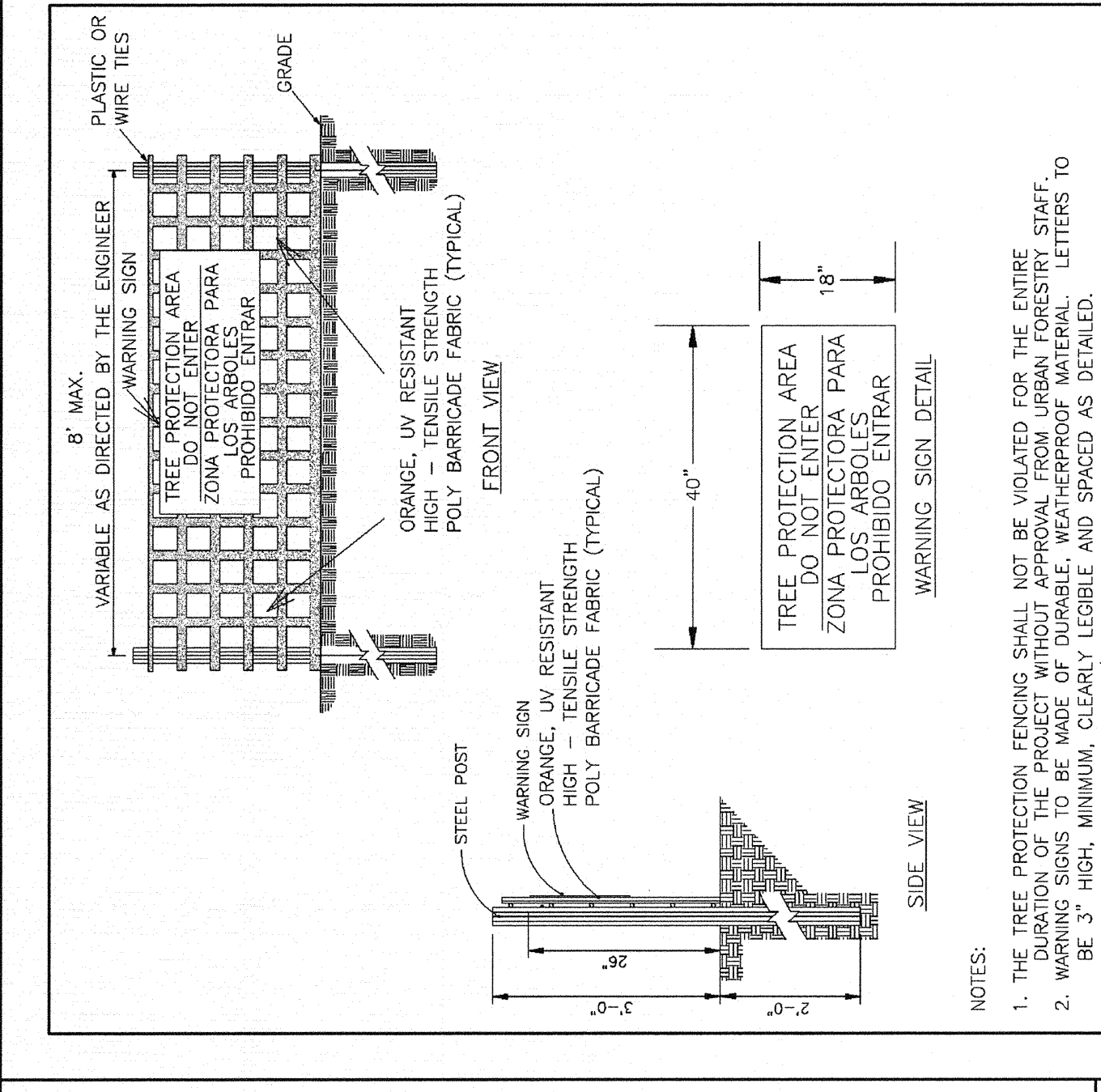
EXISTING PARCEL ID#:	R06206-012-011-000
EXISTING PARCEL PIN#:	31460878.9926.000
EXISTING ADDRESS:	5732 OLEANDER DRIVE
EXISTING PARCEL AREA:	0.75 AC (32,625 SF)
CURRENT ZONING:	CB-COMMUNITY BUSINESS
CAMA LAND CLASSIFICATION:	So (HYDROLOGIC SOIL GROUP "A")
SOIL TYPE:	FRONT SETBACK: 20'
BUILDING SETBACKS CB:	INTERIOR SIDE SETBACK: 20'
	CORNER SIDE SETBACK: 20'
	REAR SETBACK: 27'
BUILDING SETBACKS PROPOSED:	FRONT SETBACK EAST: 30'
	SIDE SETBACK WEST: 11'
	REAR SETBACK: 20'
	NEAR SETBACK: 20'
	4.65 SF FUTURE ADDITION
	2,054 SF FUTURE ADDITION
	6,509 SF TOTAL
MAX. LOT COVERAGE CB:	30%
PROPOSED LOT COVERAGE:	20.00% (INCLUDES FUTURE ADDITION)
BUILDING HEIGHT:	25'±
BUILDING CONSTRUCTION TYPE:	VB
TOTAL IMPERVIOUS AREA:	2,720 SF
EXISTING ASPHALT:	6,509 SF (FOOTPRINT)
PERVIOUS PAVEMENT PARKING:	8,126 SF
AND DRIVE ISLE:	1,850 SF
CONCRETE CURB AND GUTTER:	850 SF
CONCRETE SIDEWALK:	840 SF
TOTAL FOR SITE:	20,995 SF
% IMPERVIOUS:	64.35%
TOTAL NEW ON-SITE IMPERVIOUS AREA (AFTER 75% CREDIT):	6,509 SF (FOOTPRINT)
PROPOSED BUILDING:	2,032 SF
PERVIOUS PAVEMENT PARKING:	488 SF
PERVIOUS PAVEMENT SIDEWALK:	850 SF
CONCRETE CURB AND GUTTER:	840 SF
% IMPERVIOUS:	64.35%
TOTAL FOR SITE:	19,870 SF
% IMPERVIOUS:	30.28%
NOTES: INCLUDE REQUIRED CONCRETE SIDEWALK AND DRIVE ISLE TO BE LOCATED WITHIN A PUBLIC/PEDESTRIAN ACCESS EASEMENT.	
PARKING REQUIREMENT	1/200 MAX. 1/300 MIN.
TOTAL PARKING REQUIRED:	33 MAX. 22 MIN.
PARKING PROPOSED:	27 TOTAL
ACCESSIBLE PARKING REQUIRED:	2
ACCESSIBLE PARKING PROPOSED:	2
BICYCLE PARKING REQUIRED:	5
BICYCLE PARKING PROPOSED:	5
LANDSCAPING REQUIREMENTS (GREENER TO LANDSCAPE PLAN)	
15 TREES PER DISTURBED ACRE REQUIRED	
STREET YARD LANDSCAPING: 18 MULTIPLIER	
181.25-15 (18) = 2,893 SF REQUIRED	
FOUNDATION PLANTINGS: 12% FACE OF BUILDING X LENGTH	
2,983 SF PROPOSED	
TRASH REMOVAL WILL BE BY HANDCART	
WATER AND SEWER CAPACITY NEEDS	
PER 21 RULES: 25 GAL/EMPLOYEE (OFFICE USE)	
25 EMPLOYEES @ 25 GAL/EMPLOYEE/DAY=625 GPD	
DISTURBED AREA: 0.76 AC	



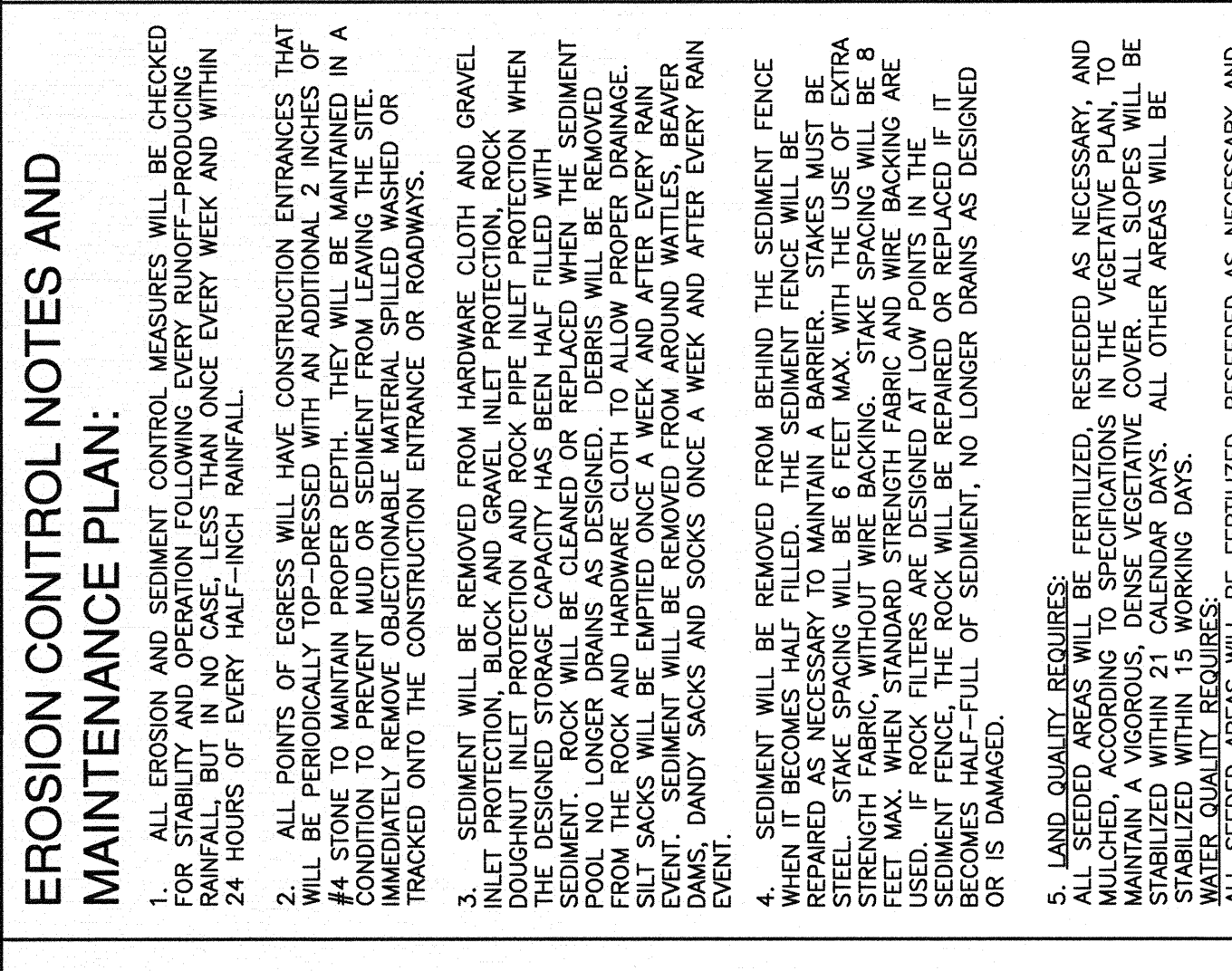
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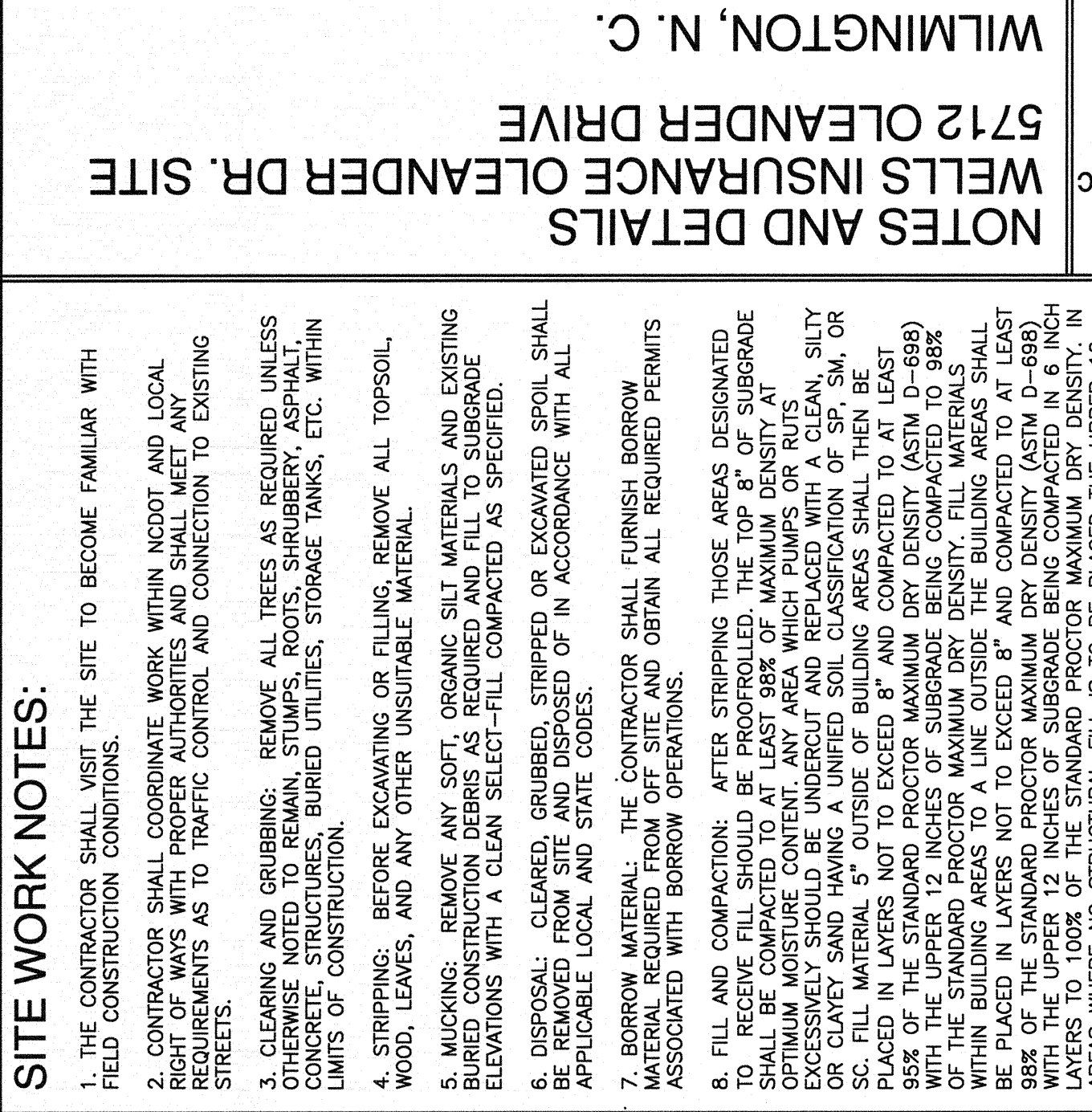
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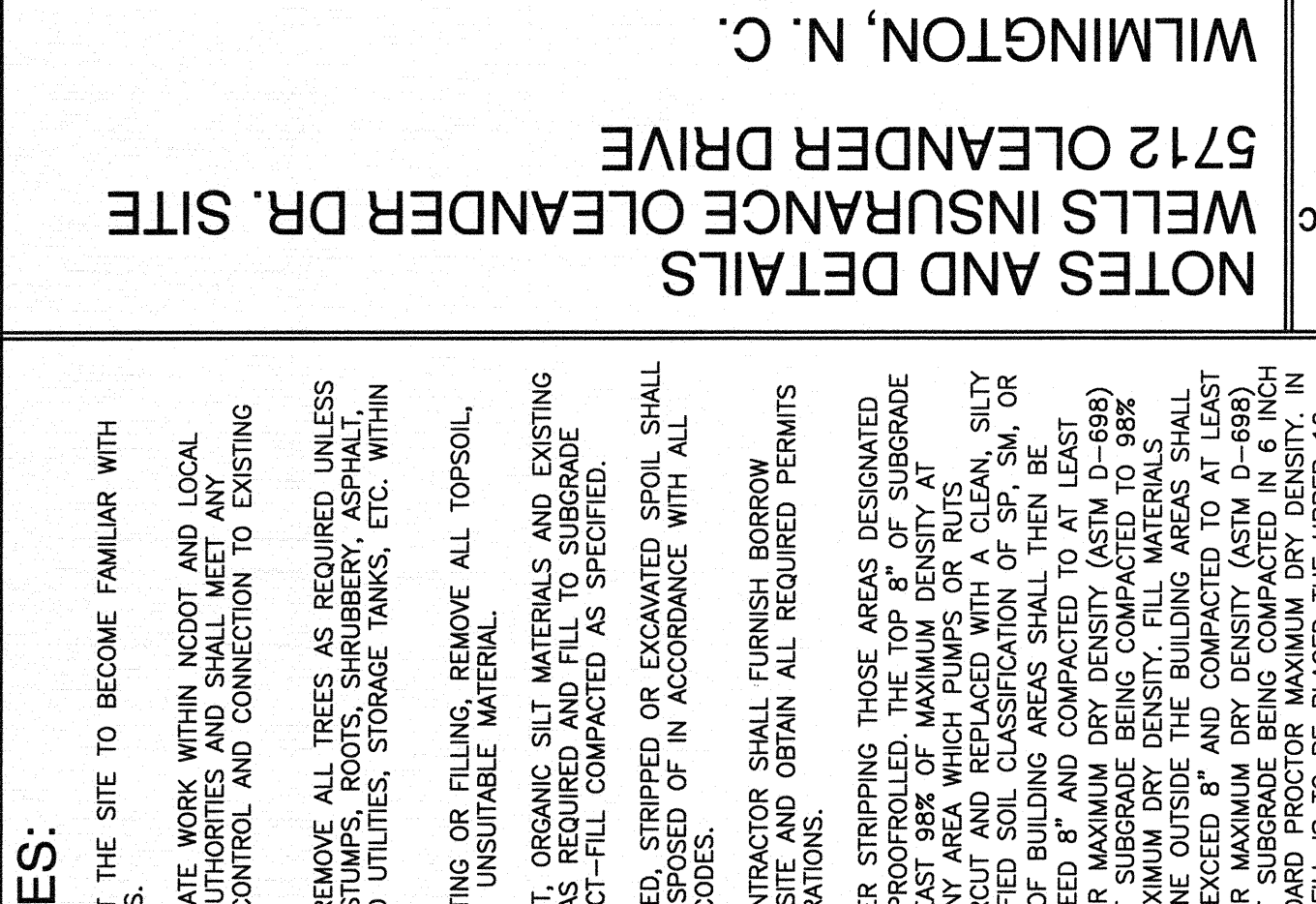
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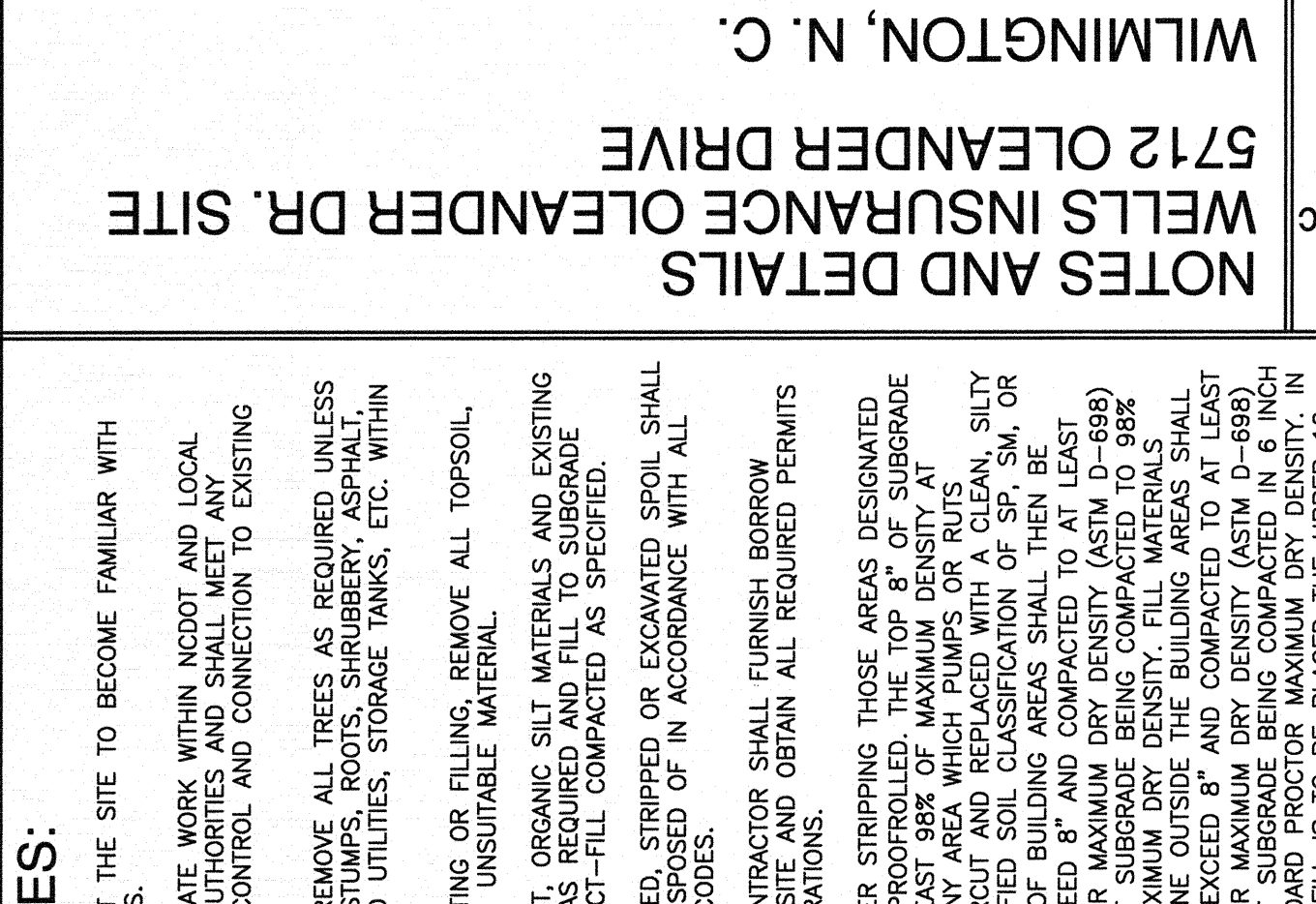
8	TYPICAL GRASS SWALE	VARIES
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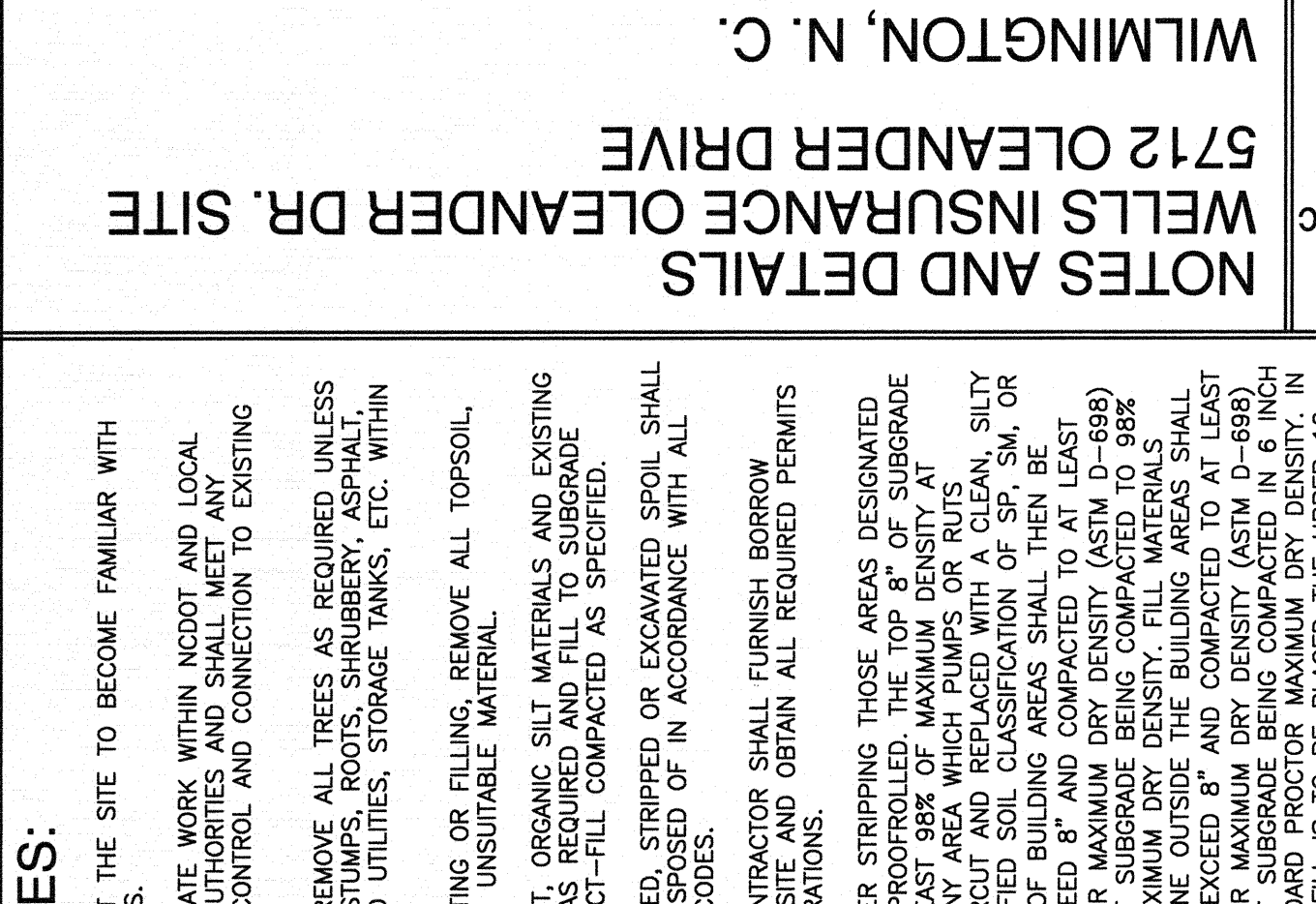
4	PERVIOUS PAVEMENT SECTION	NOT TO SCALE
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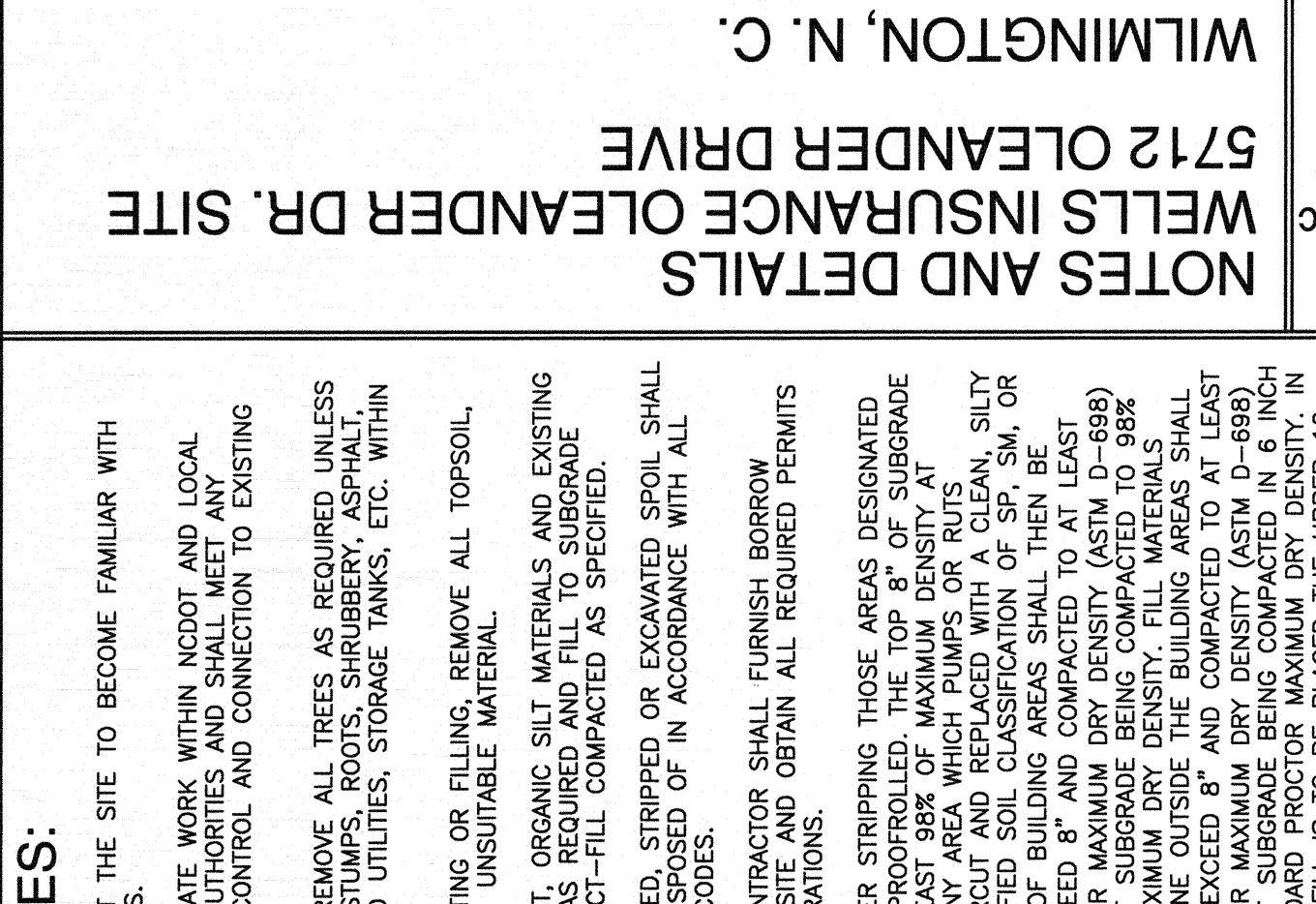
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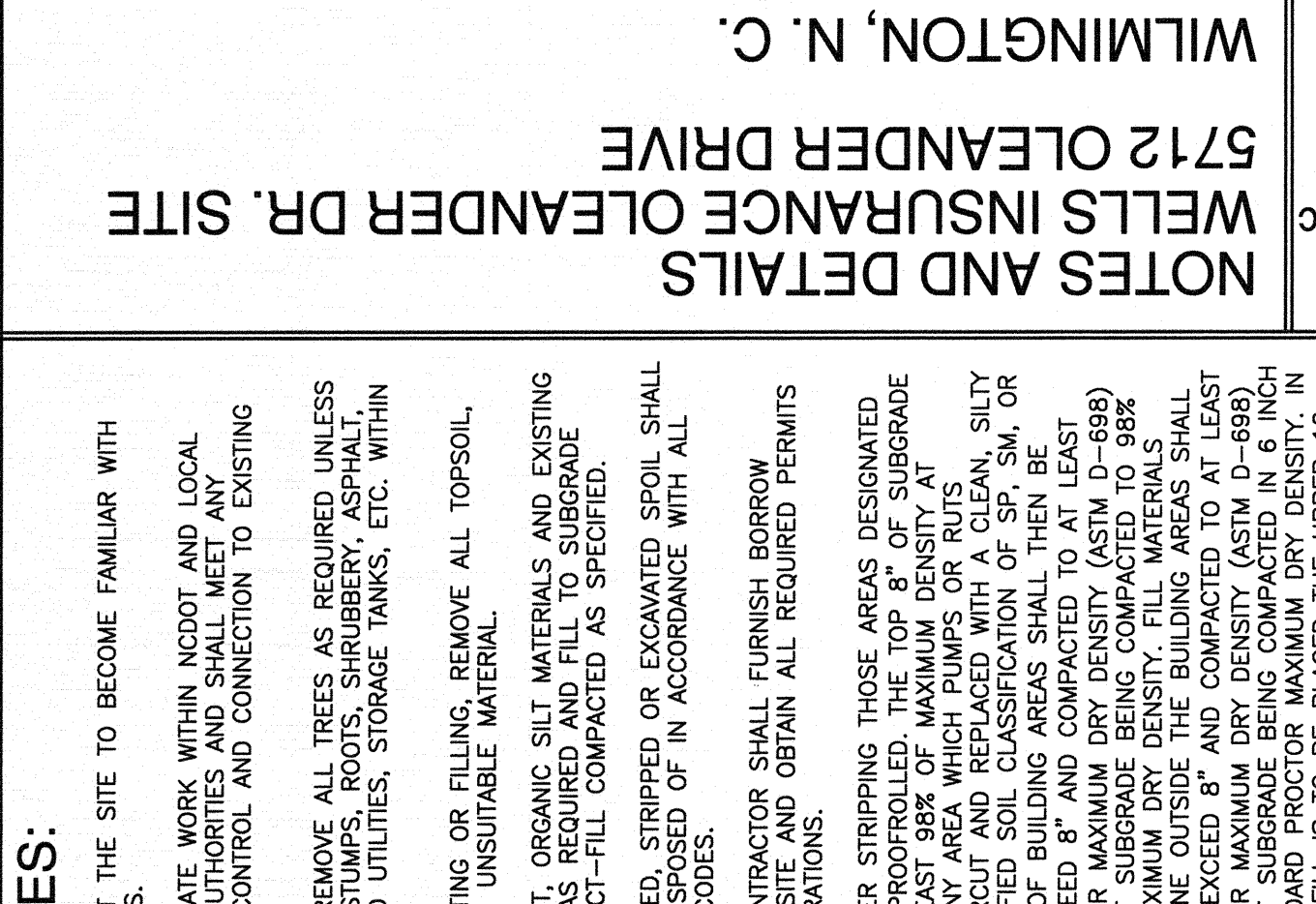
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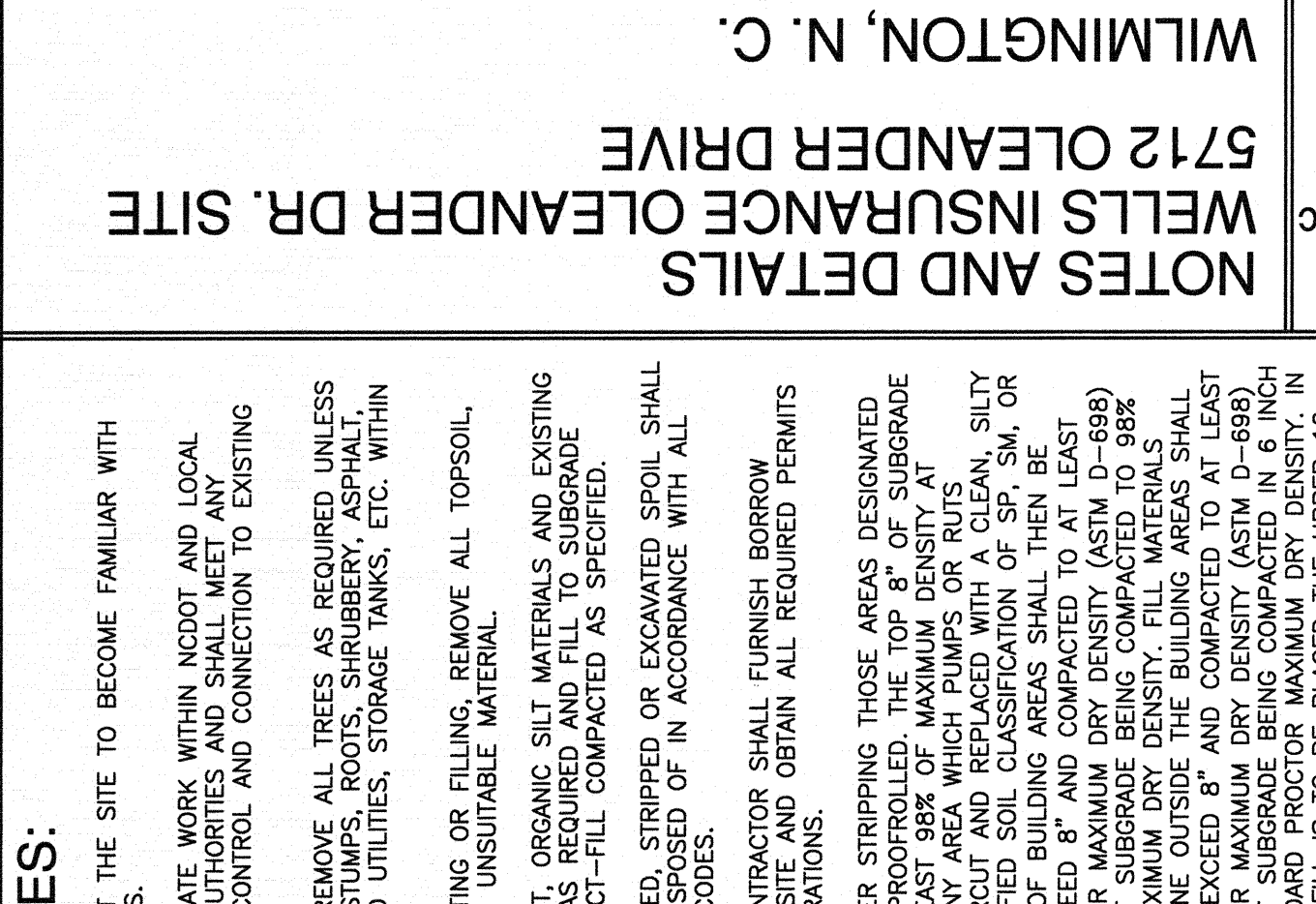
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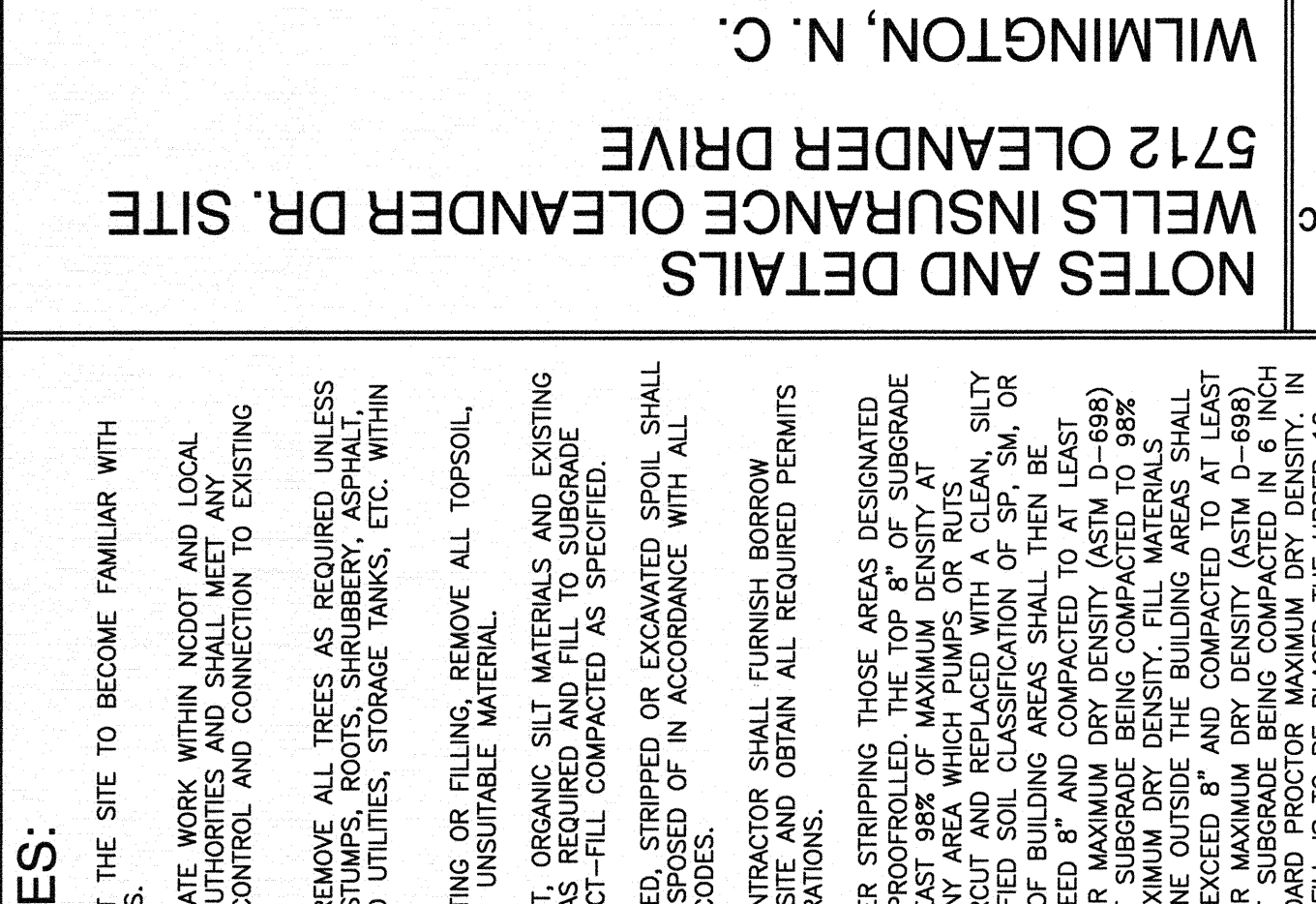
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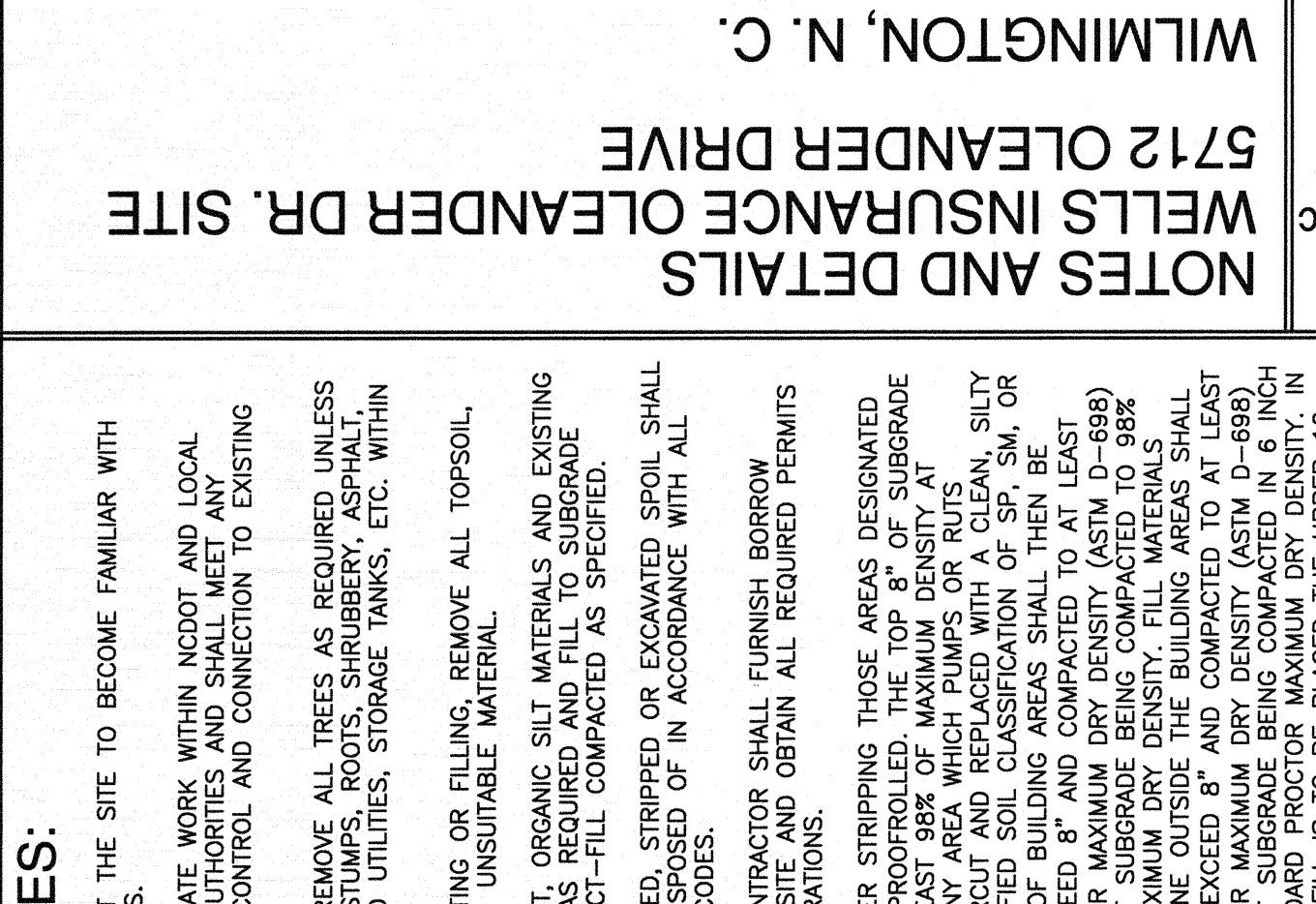
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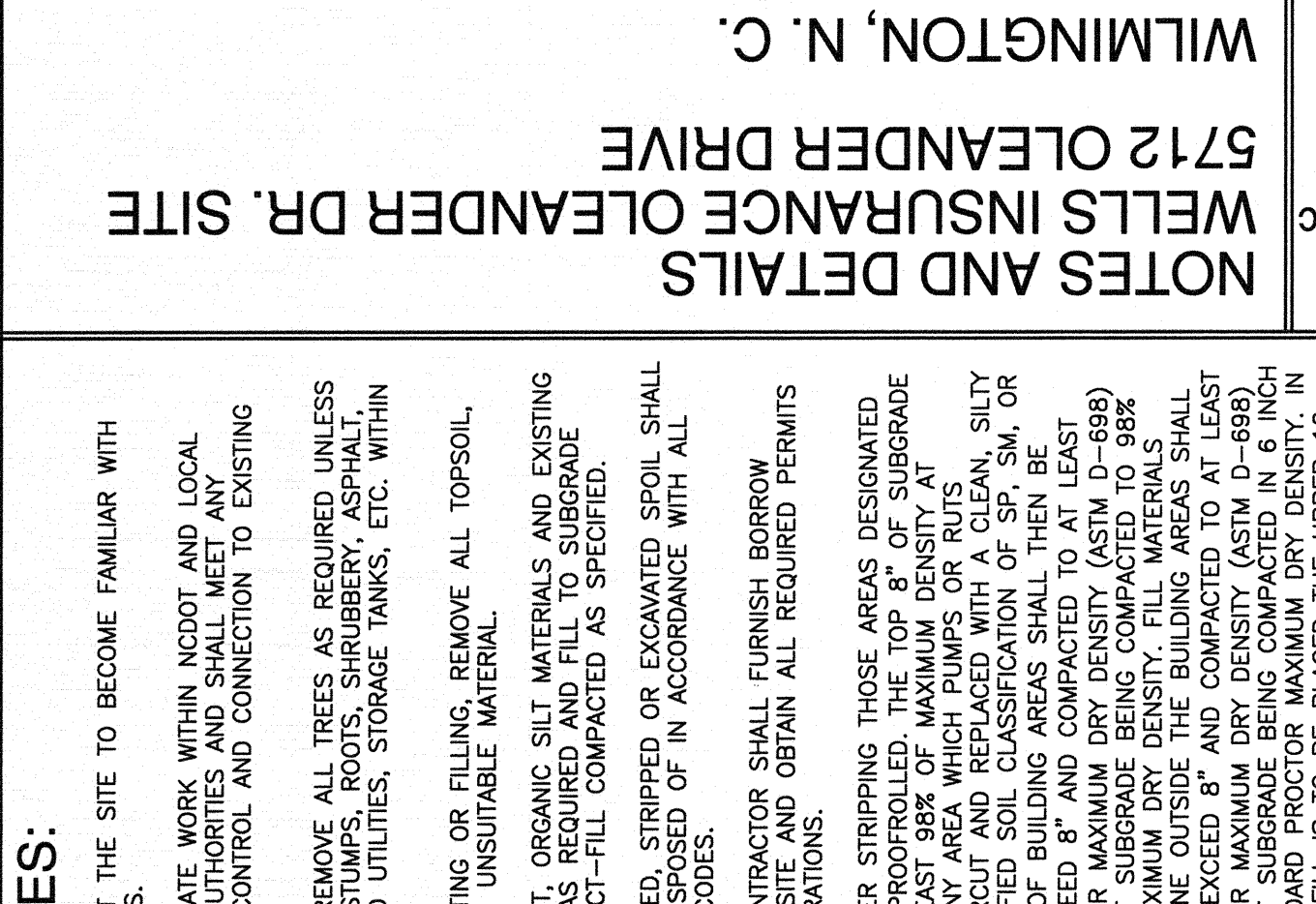
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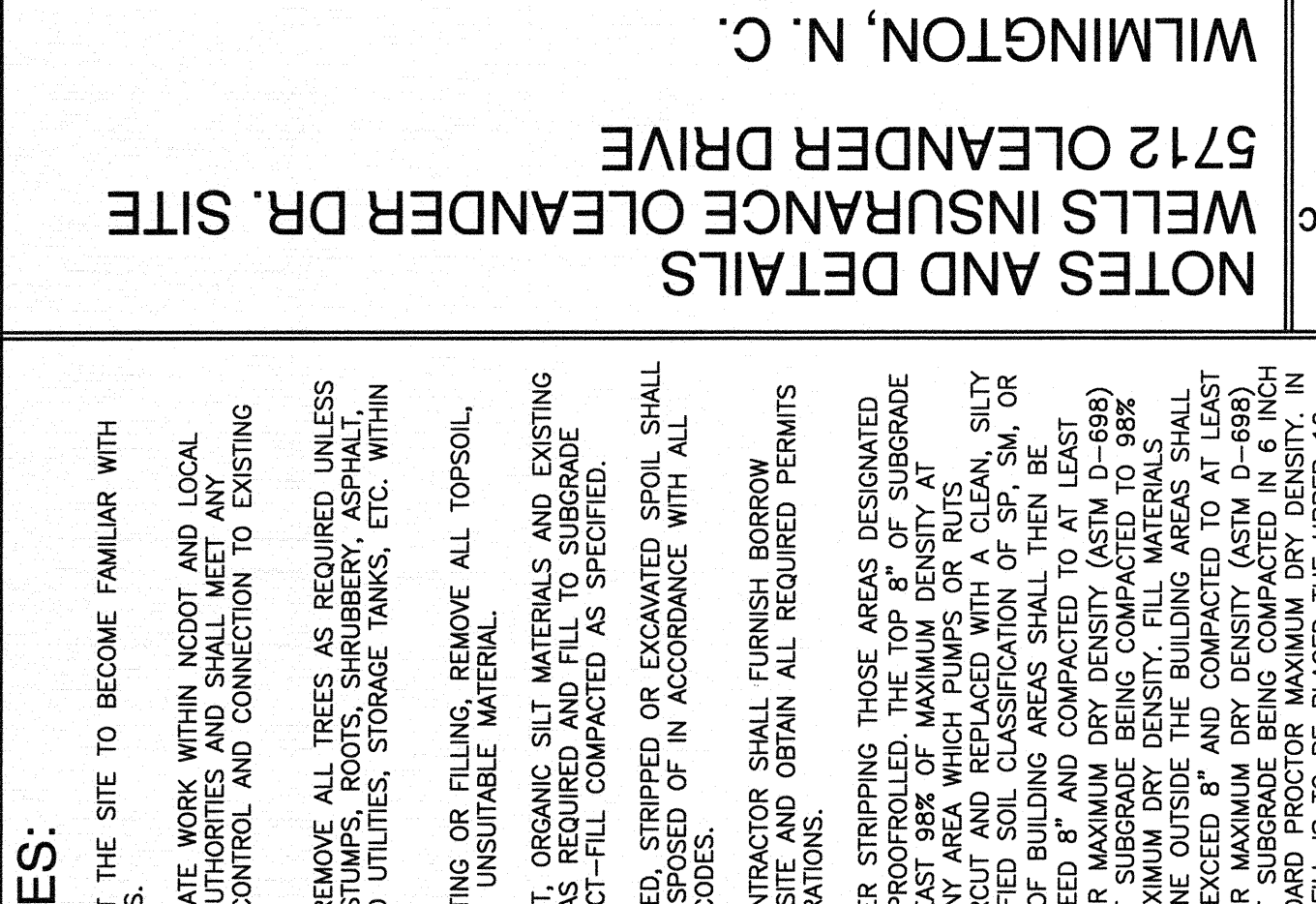
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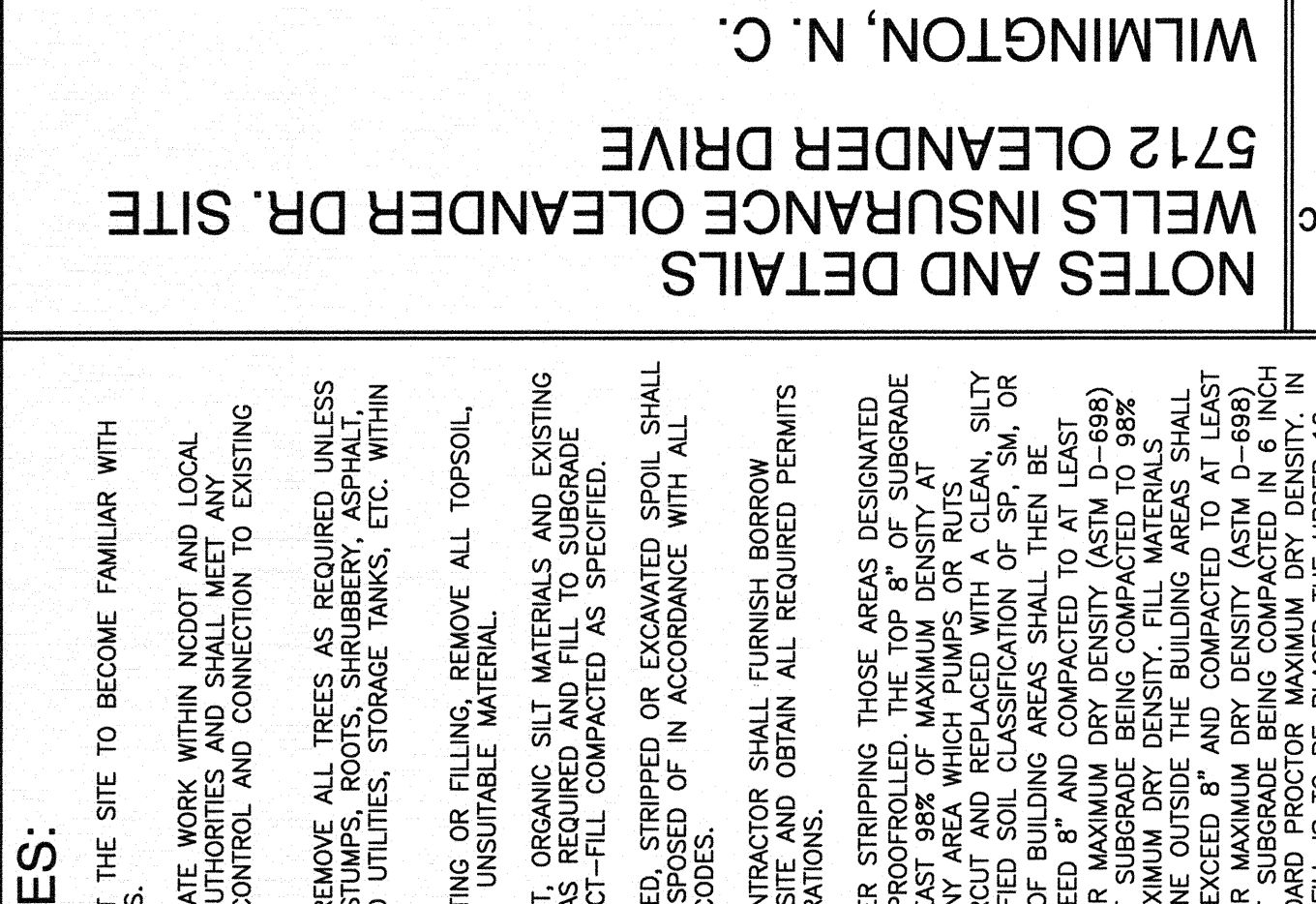
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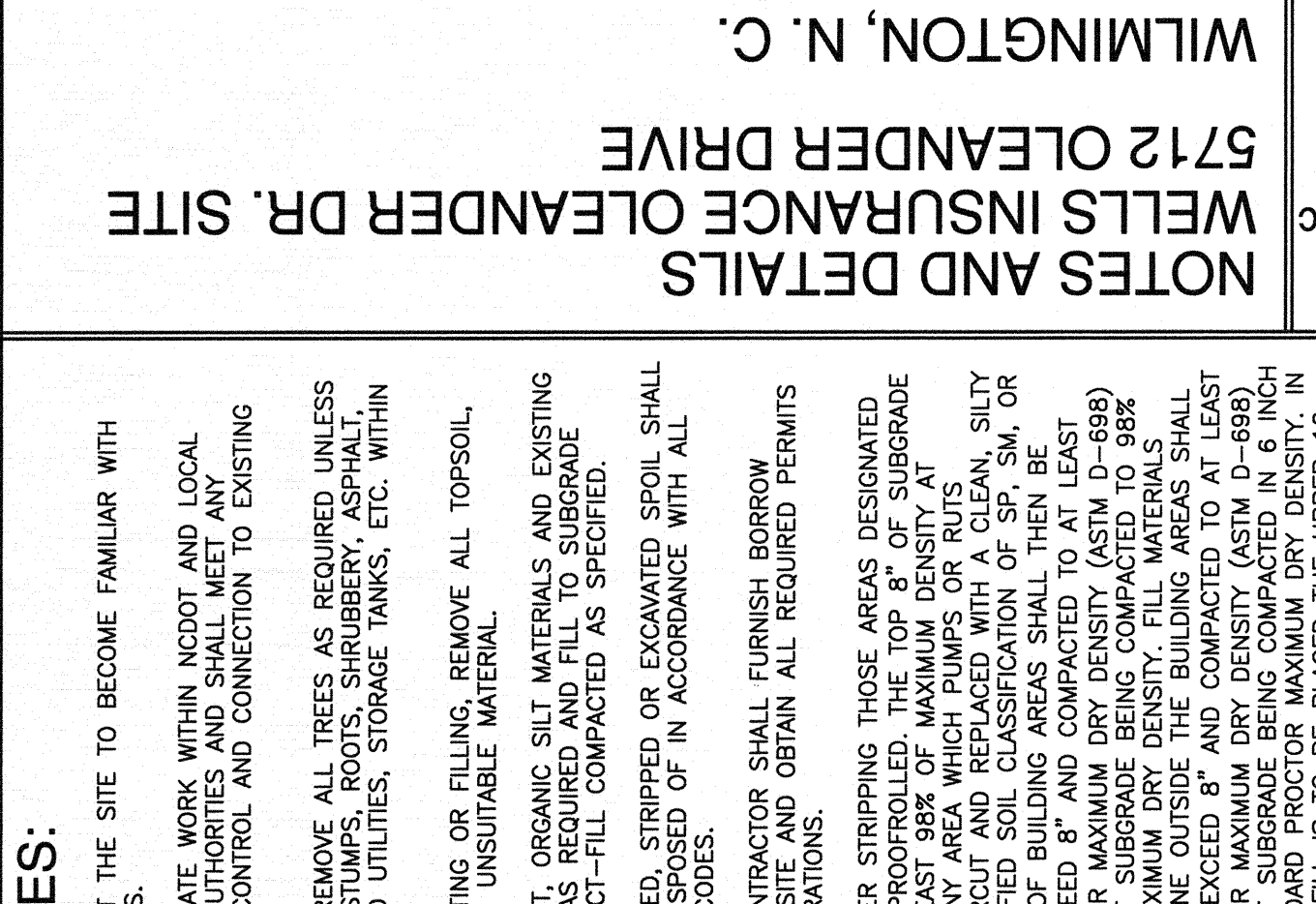
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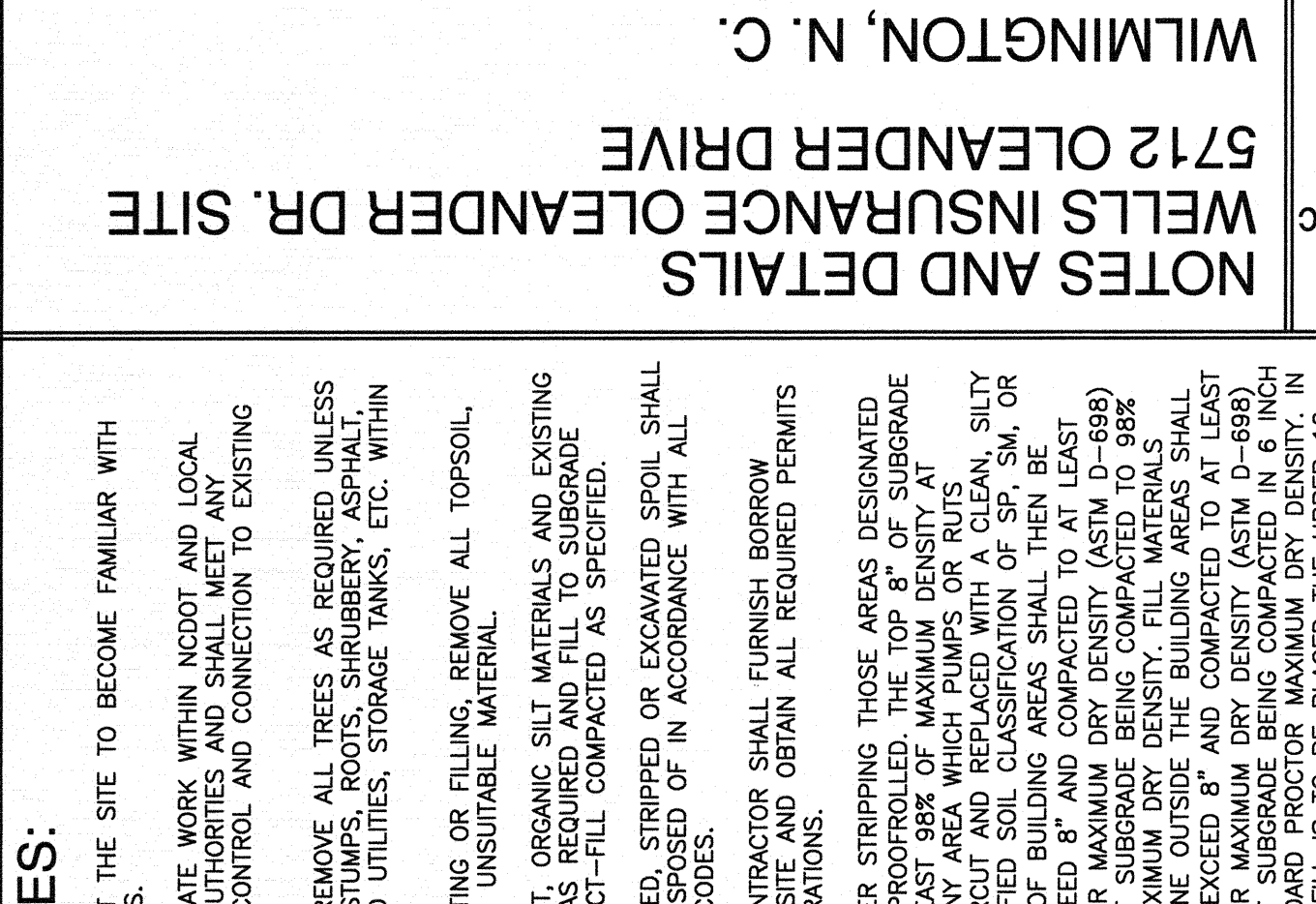
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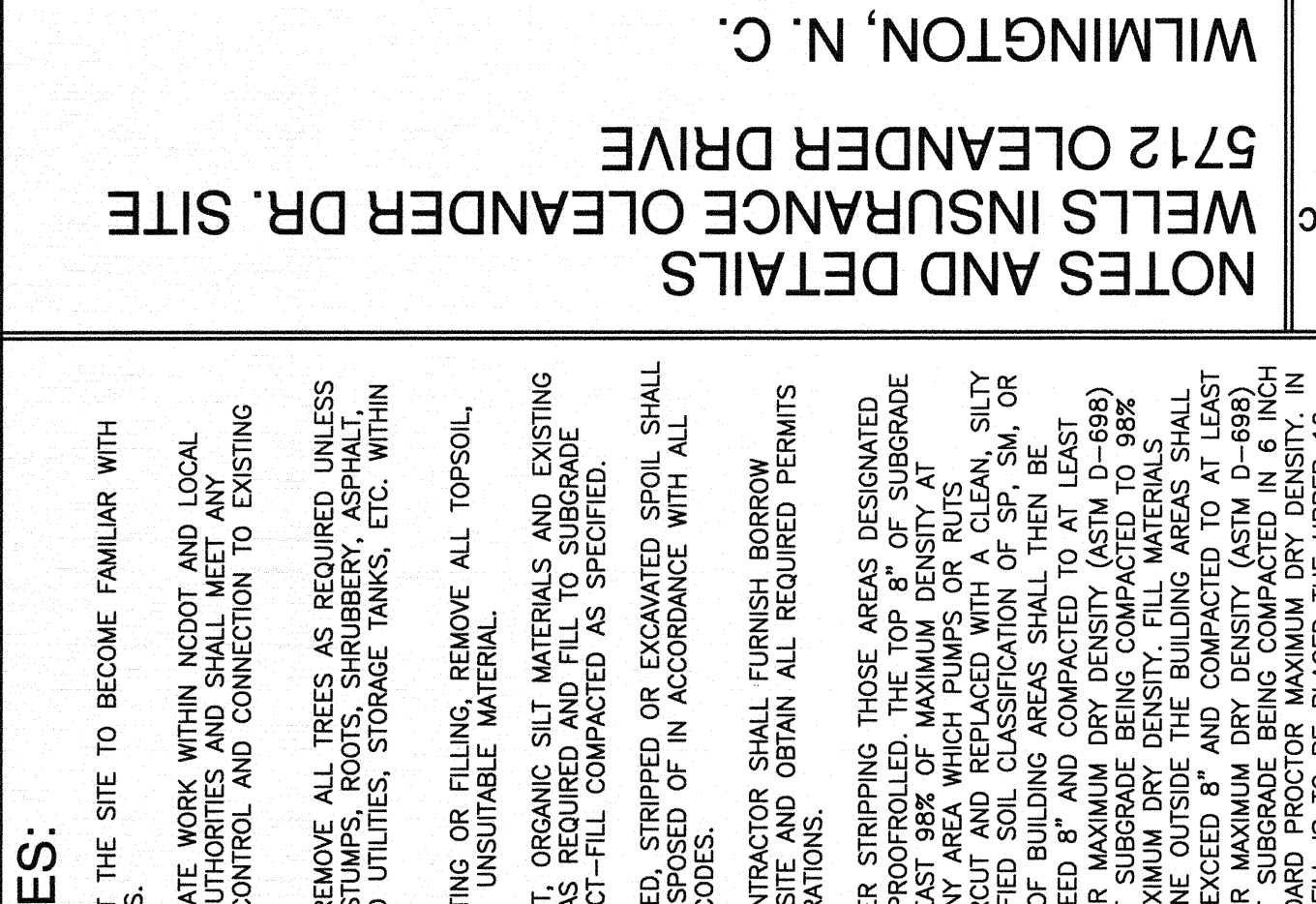
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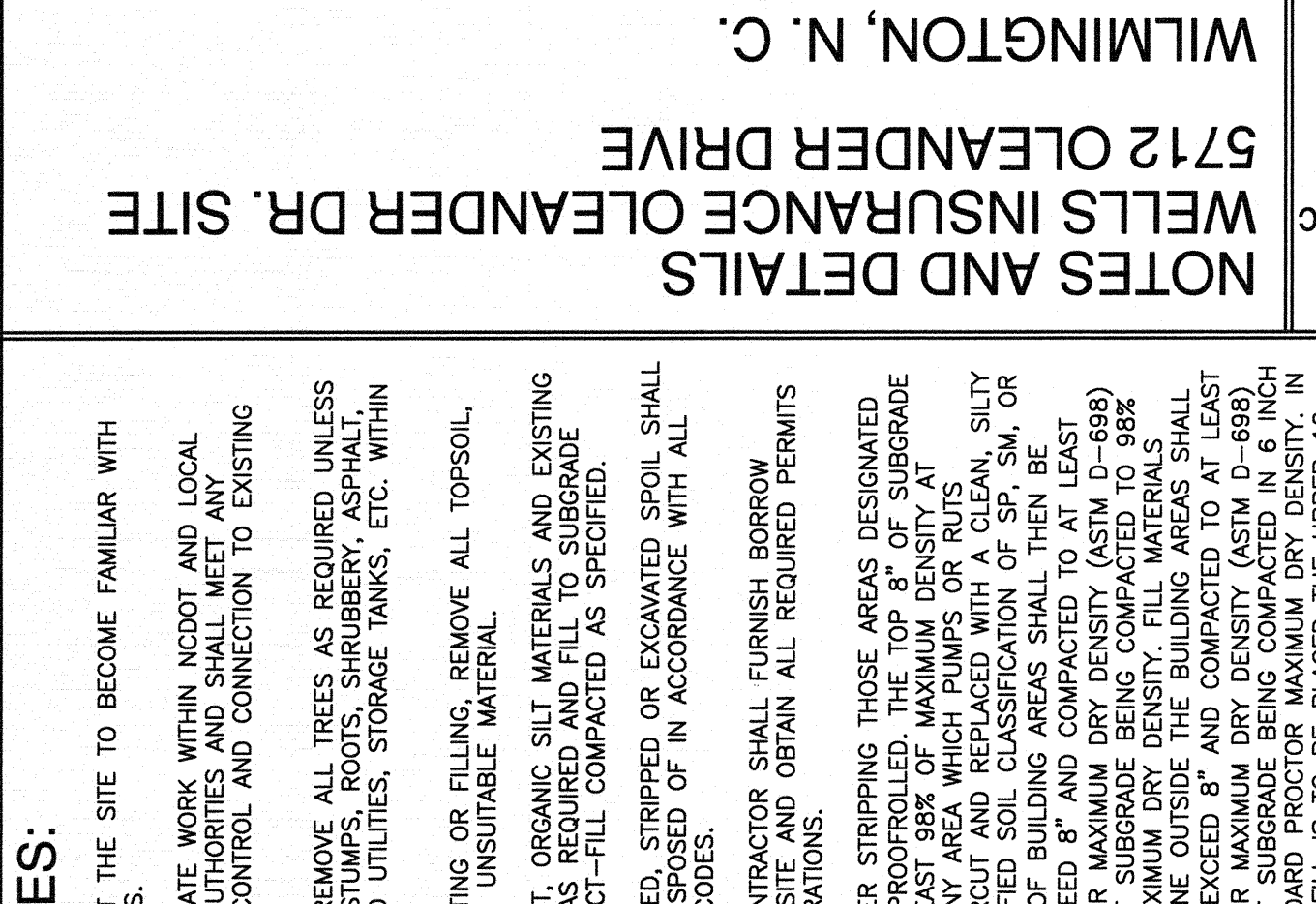
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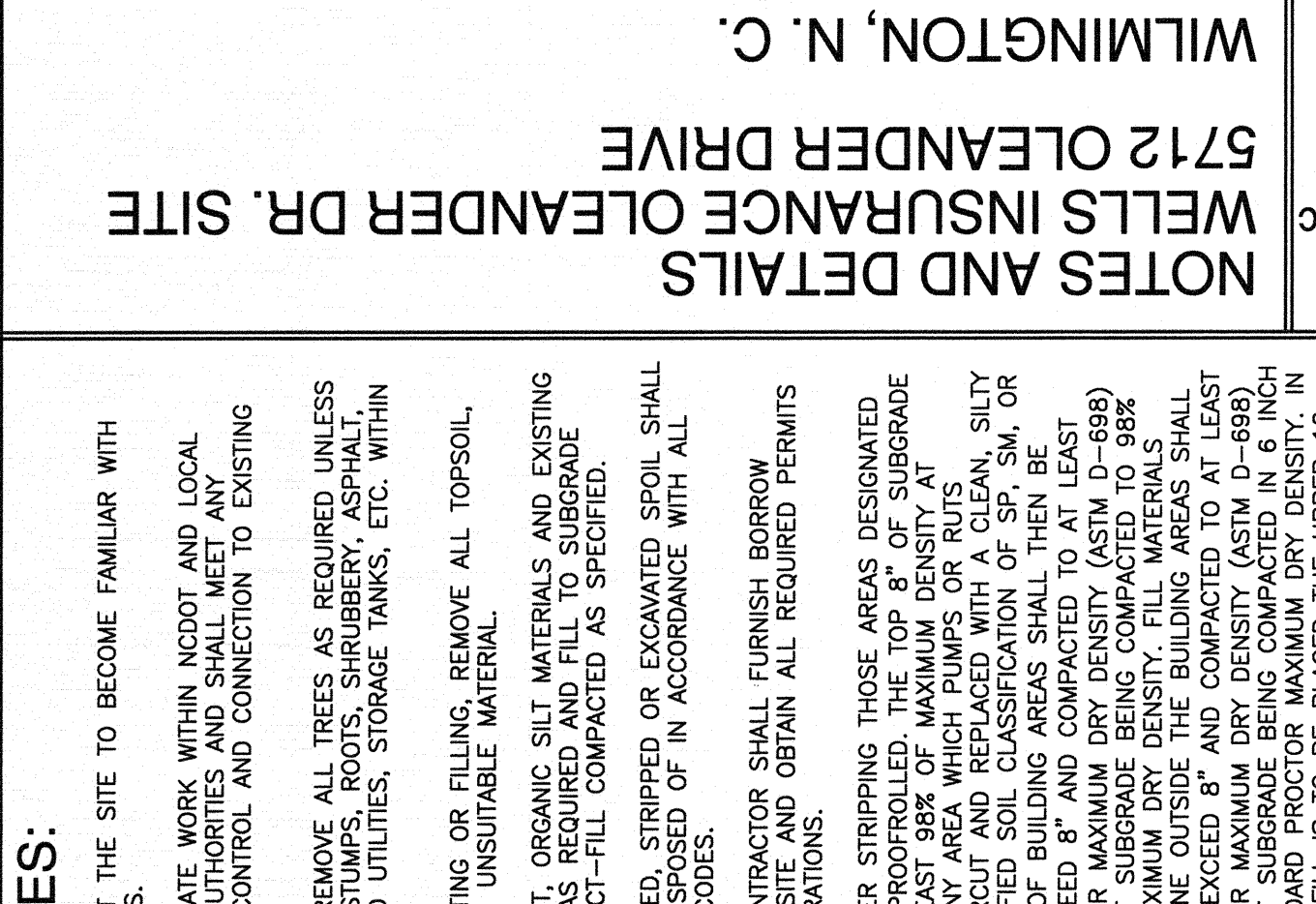
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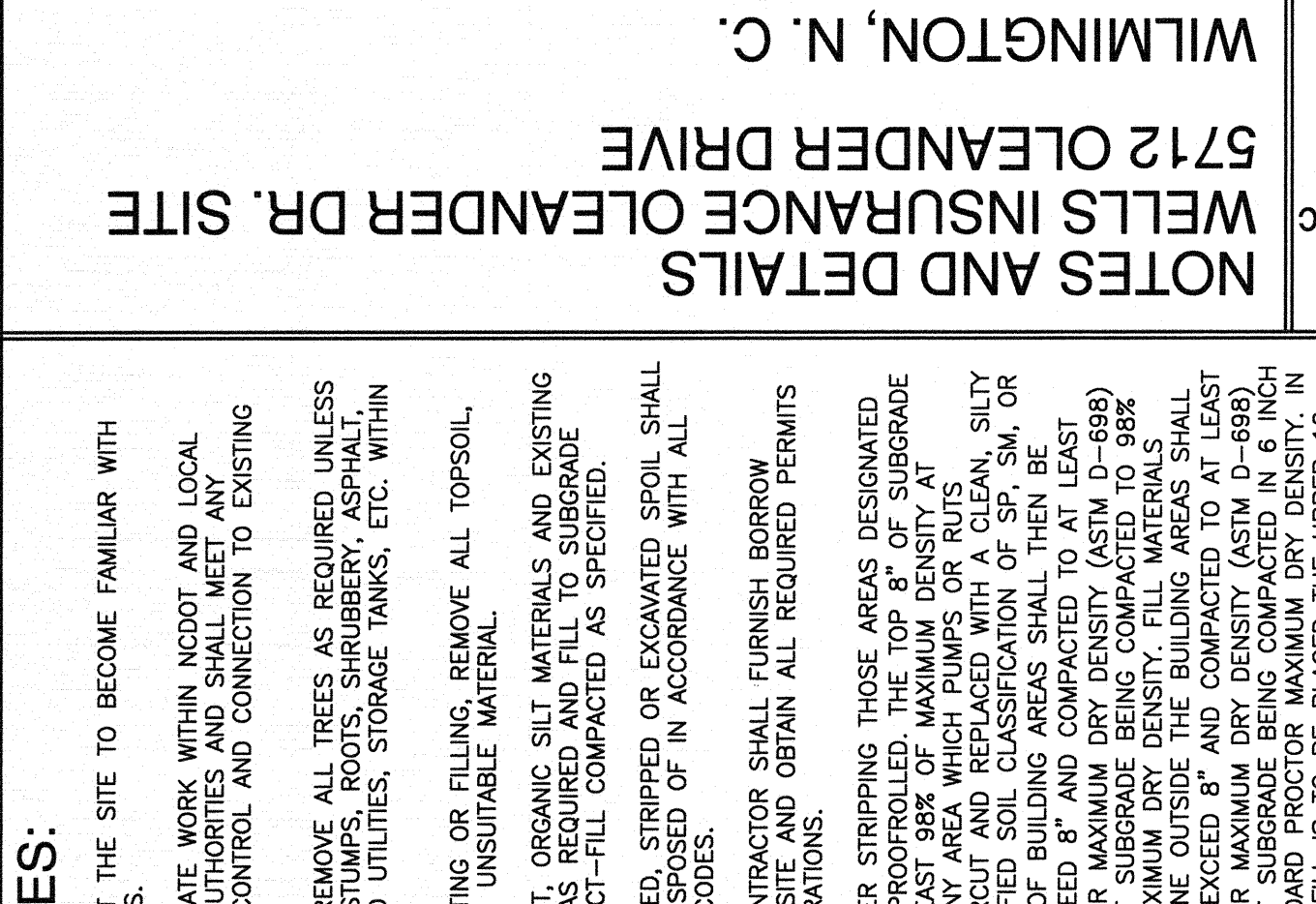
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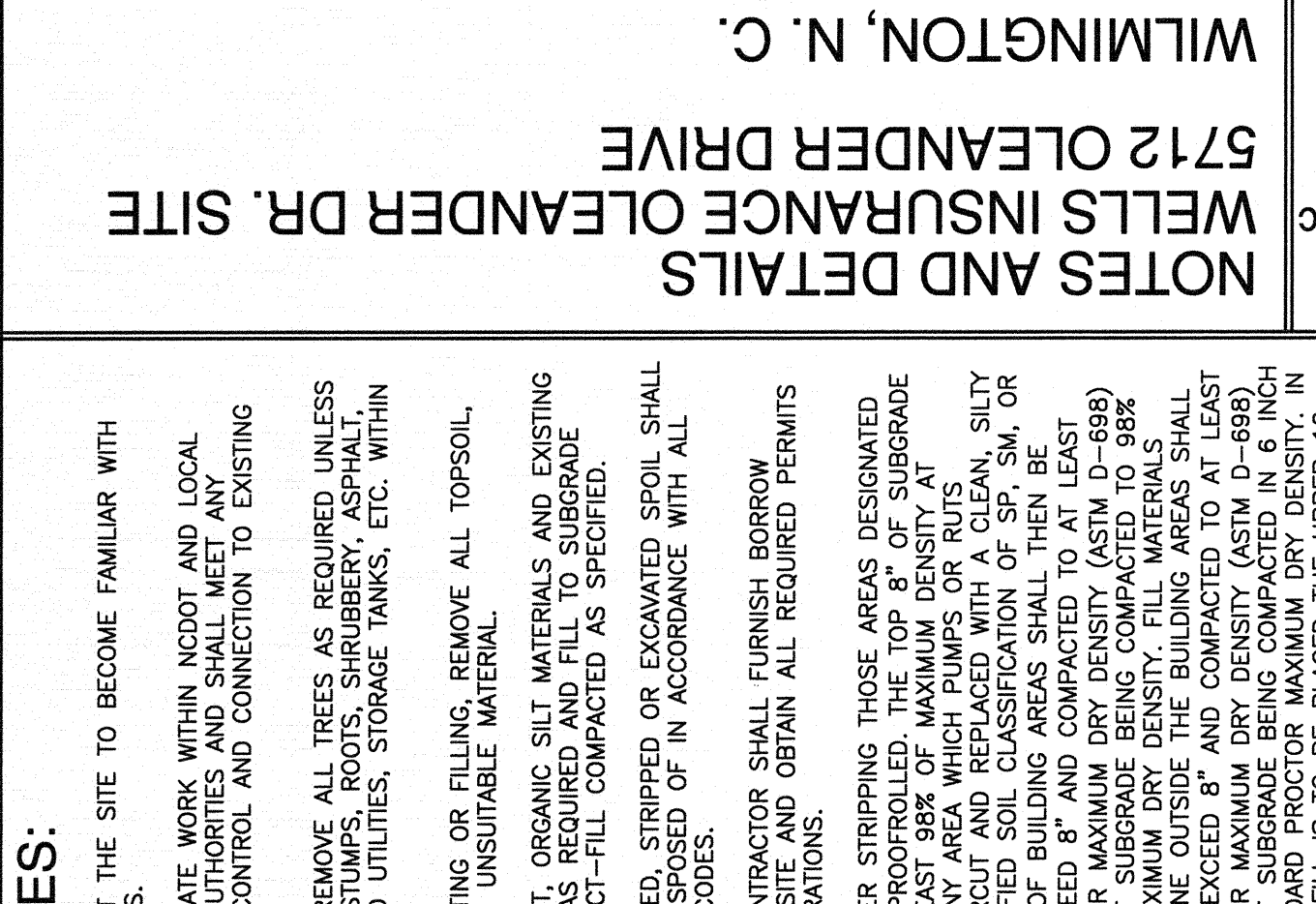
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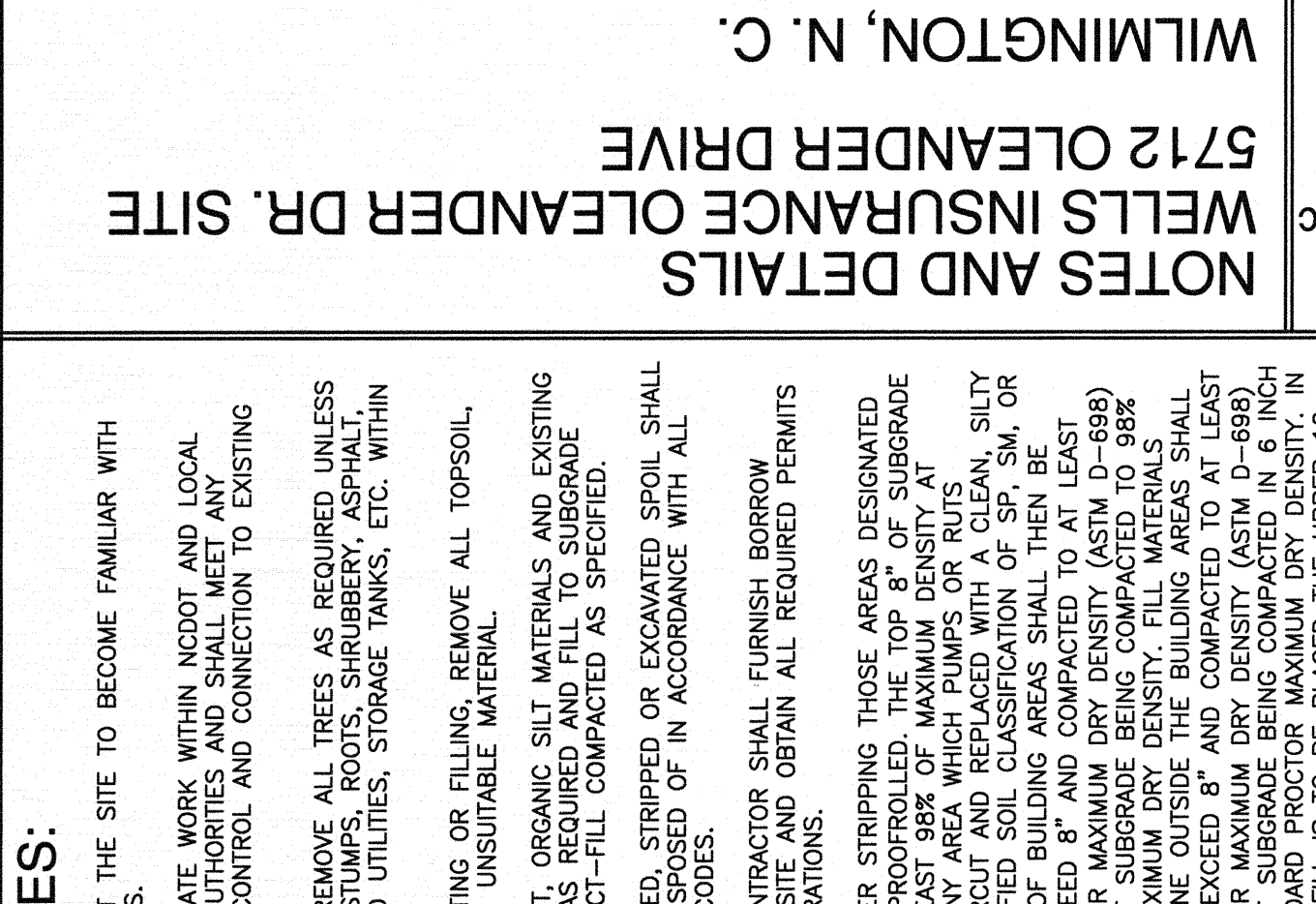
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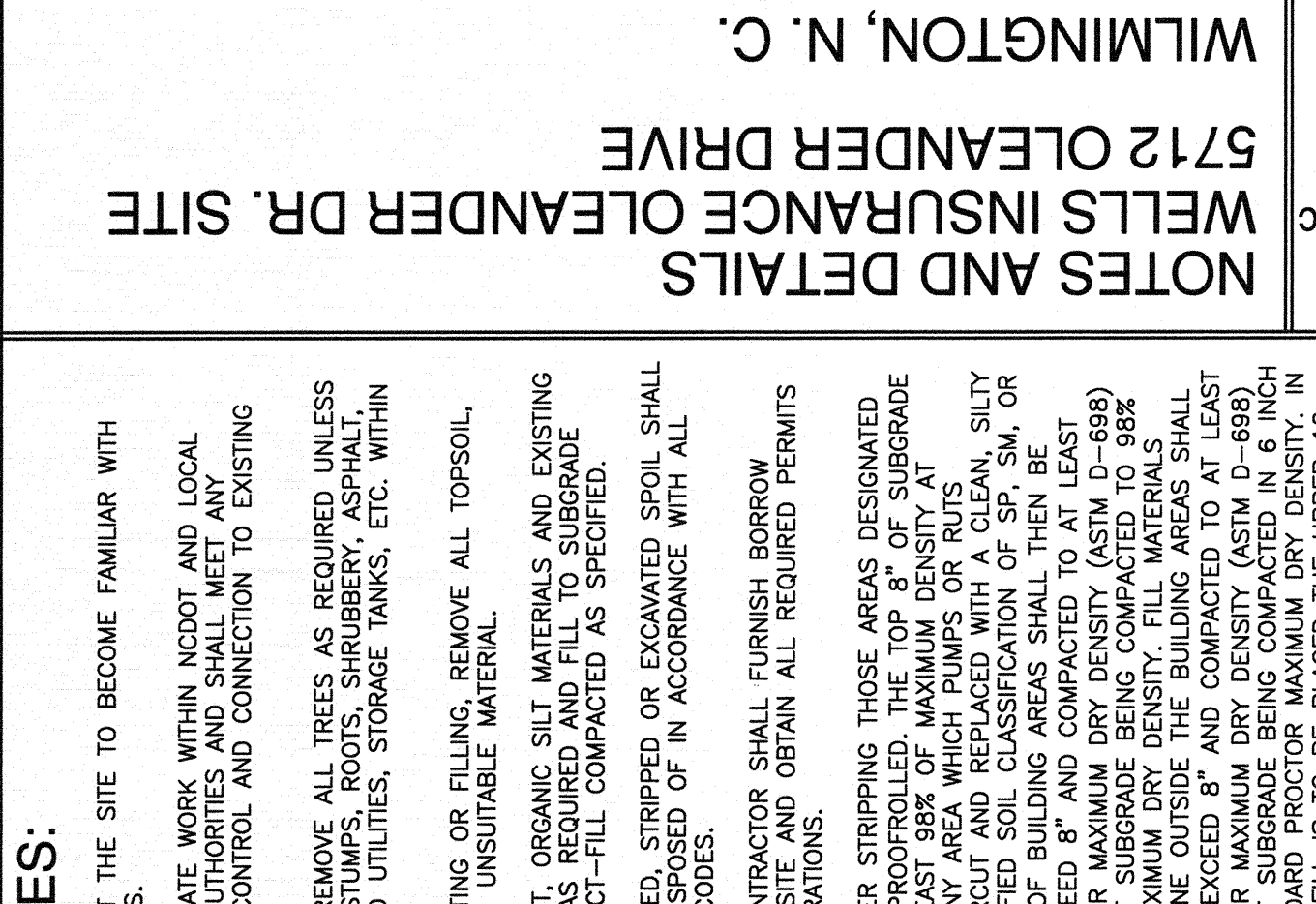
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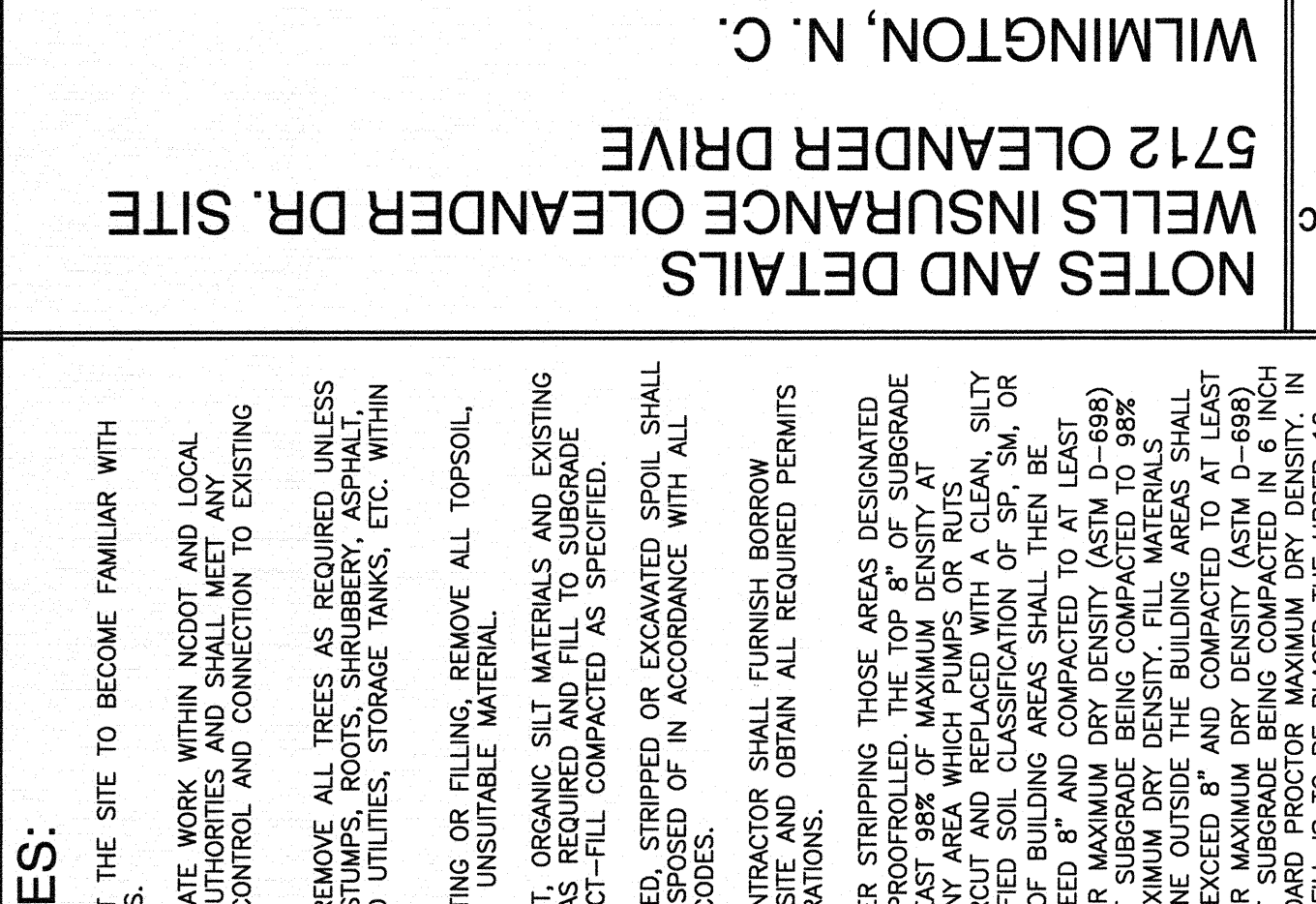
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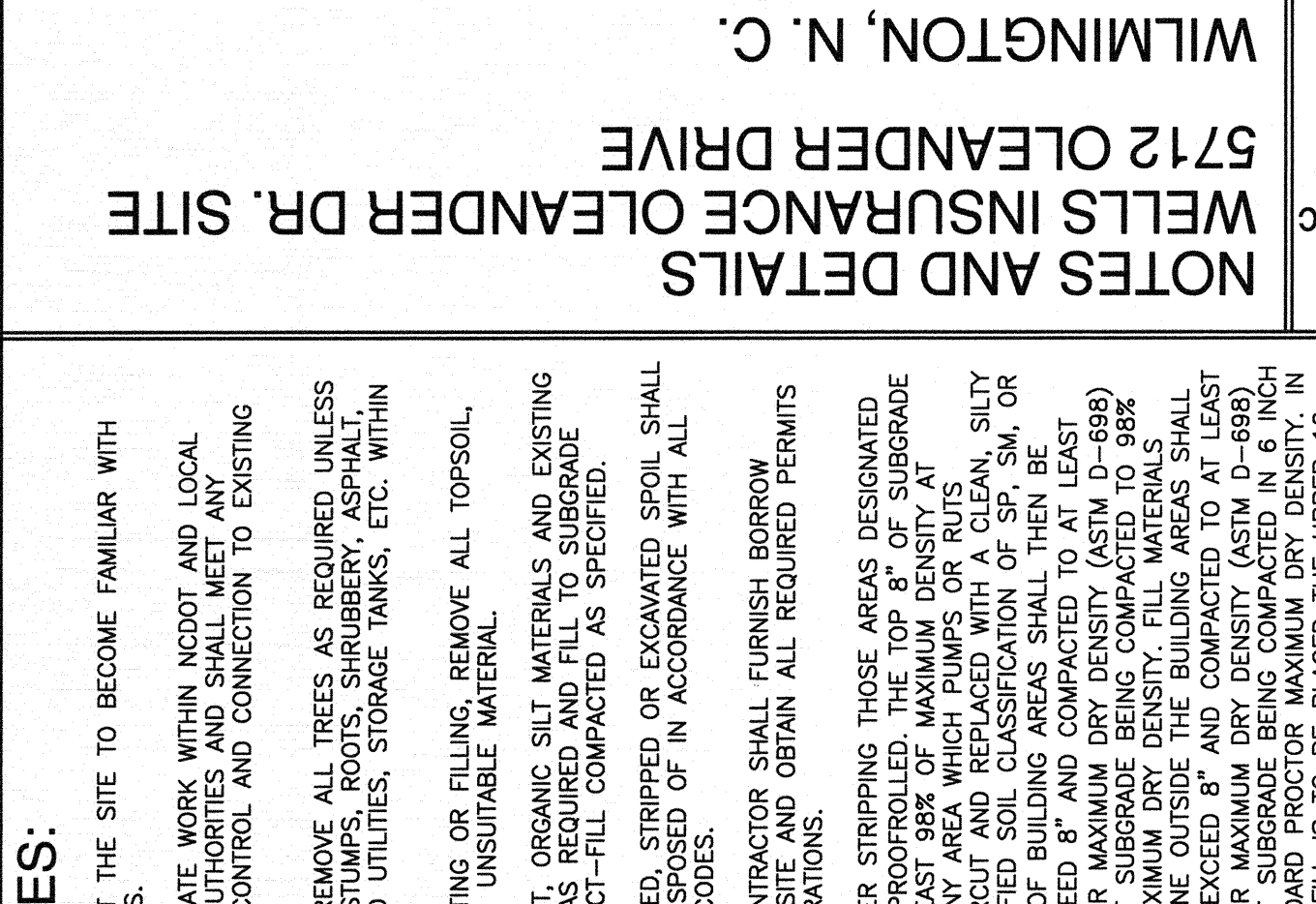
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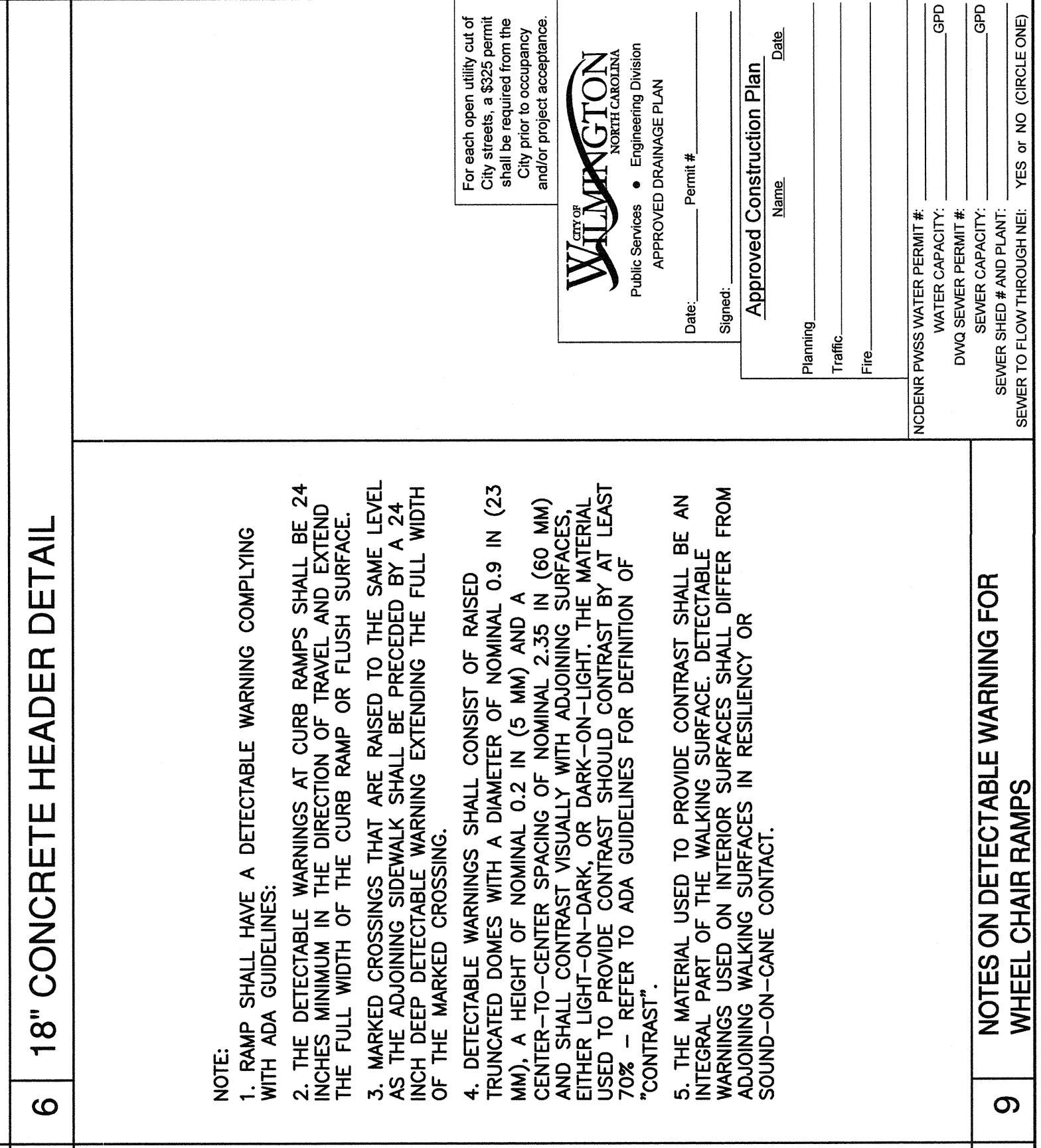
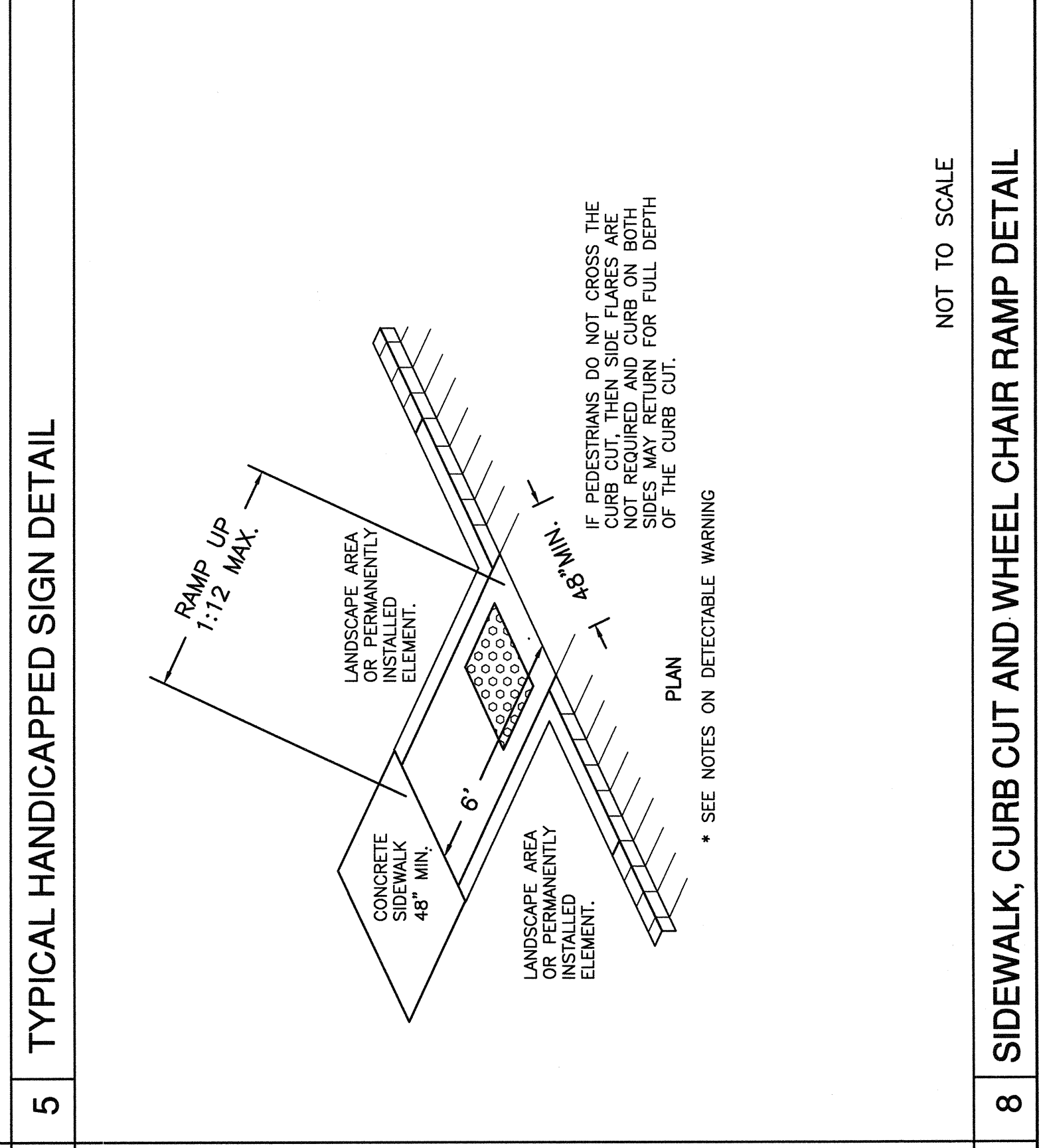
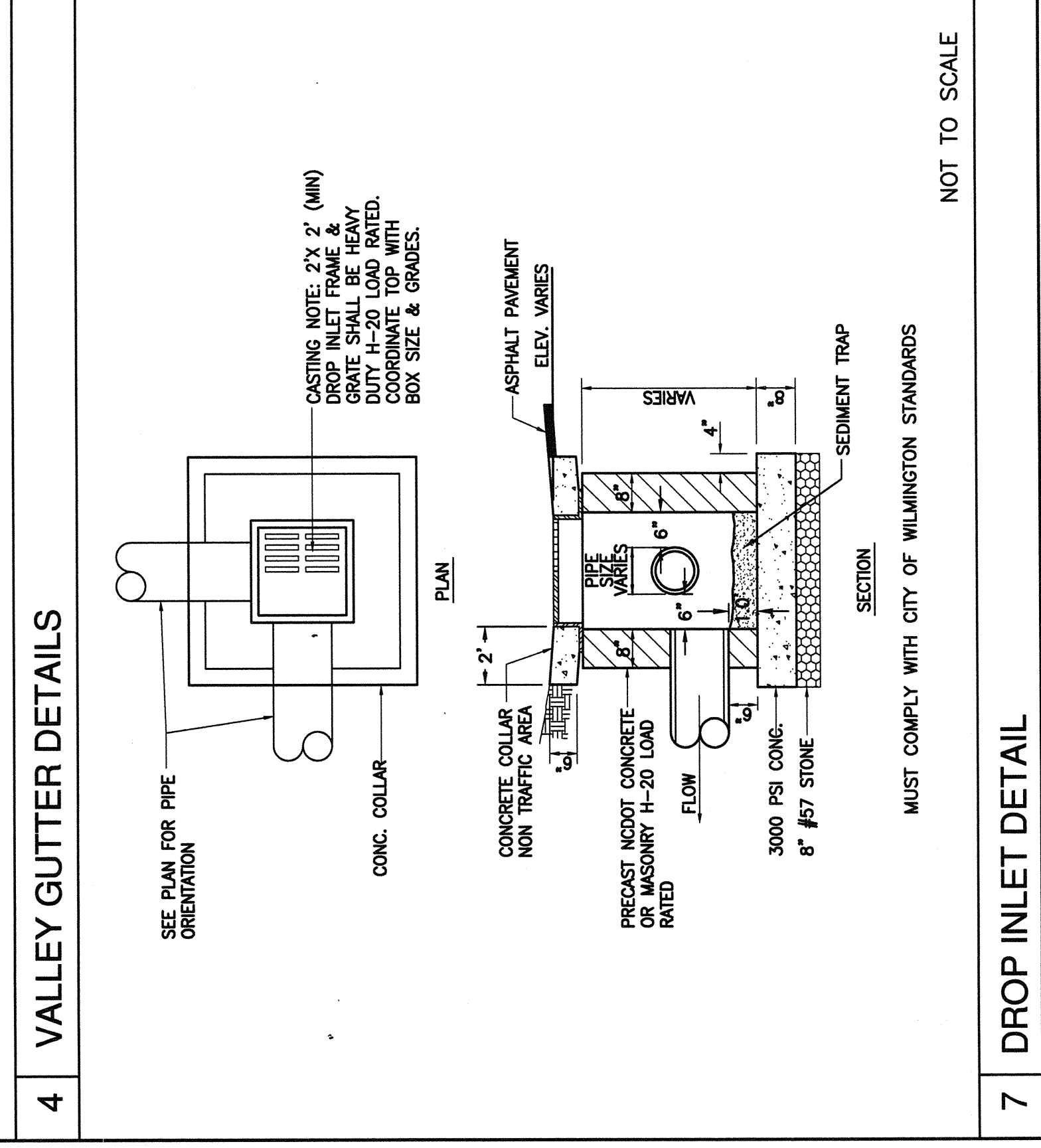
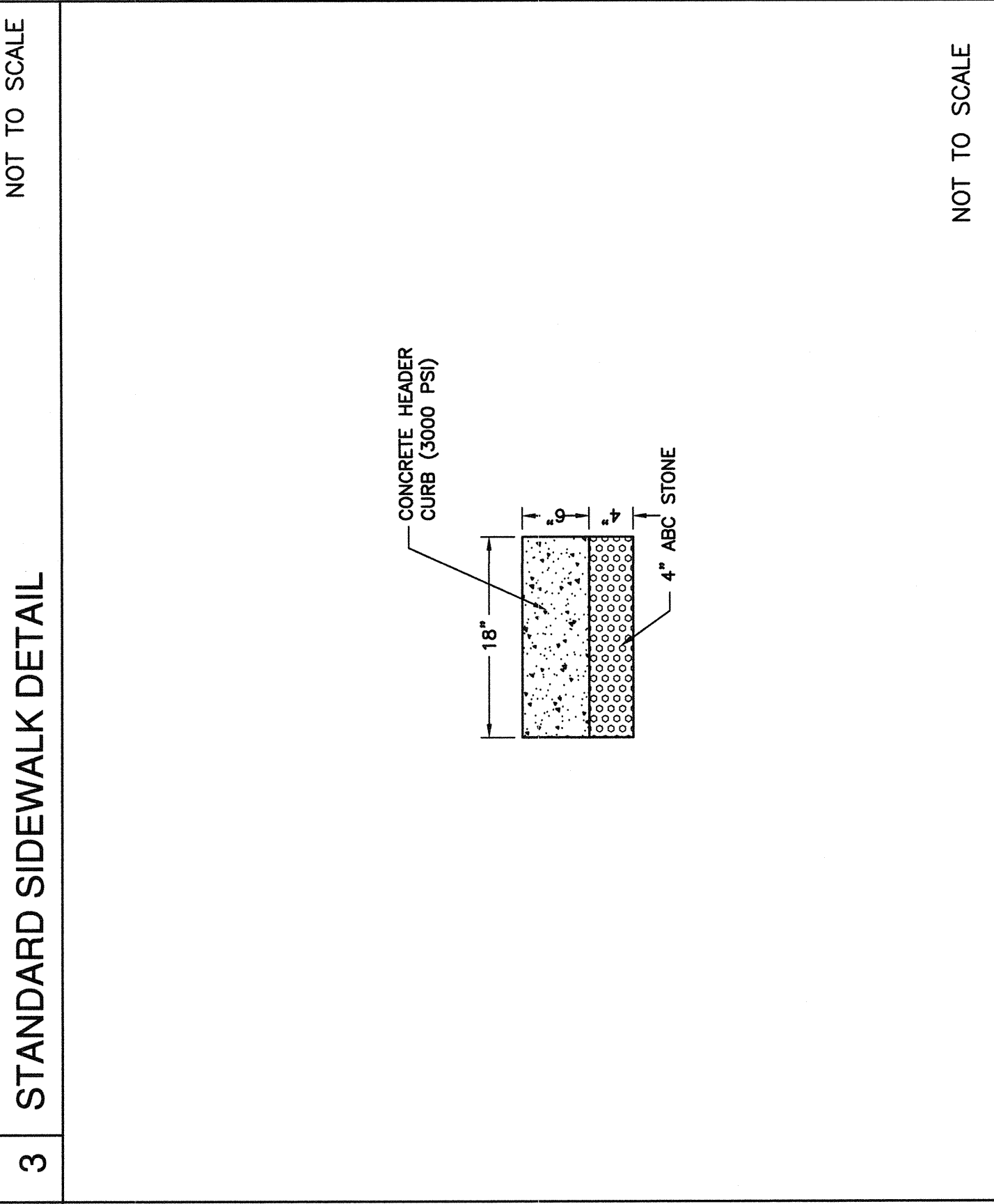
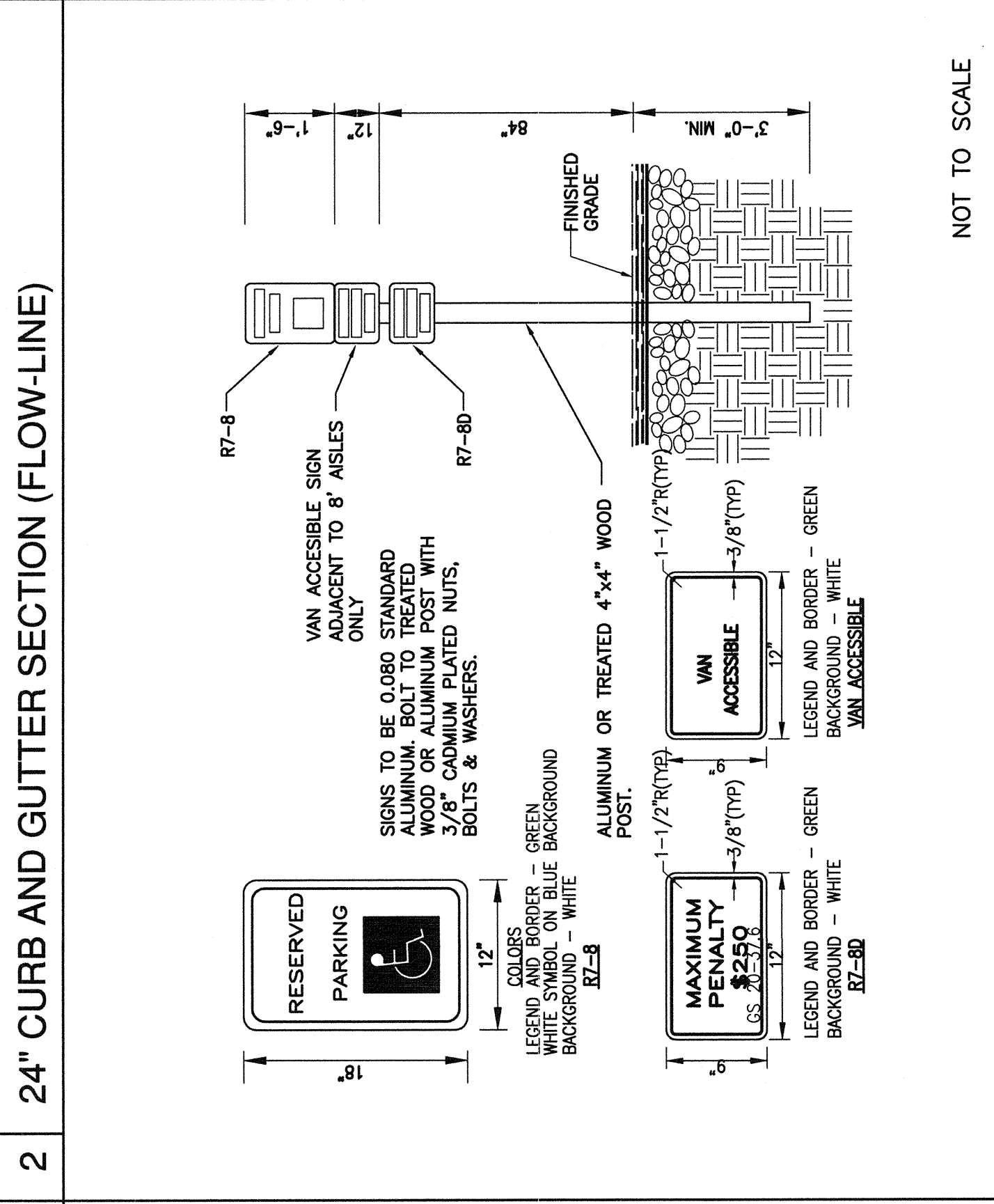
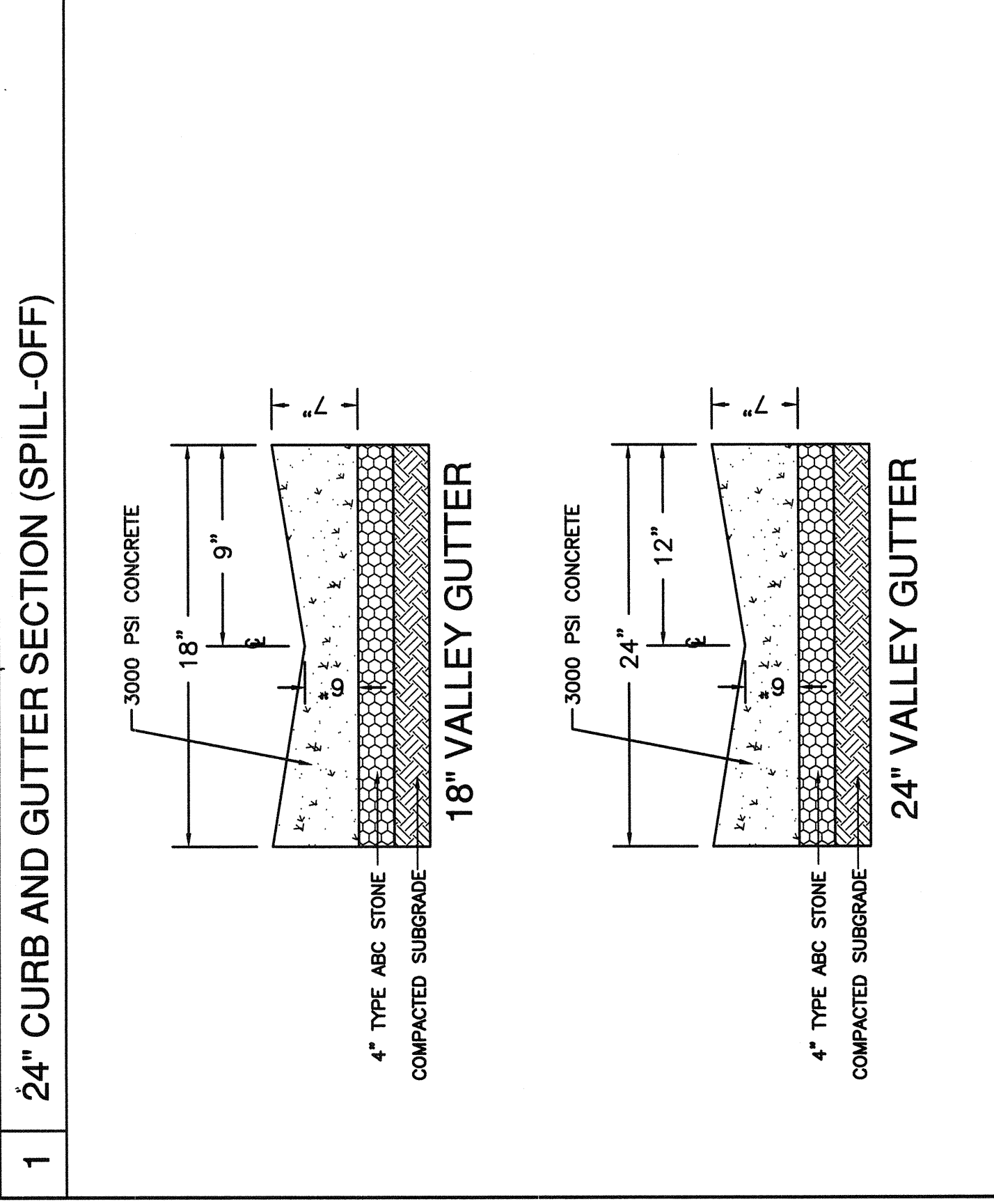
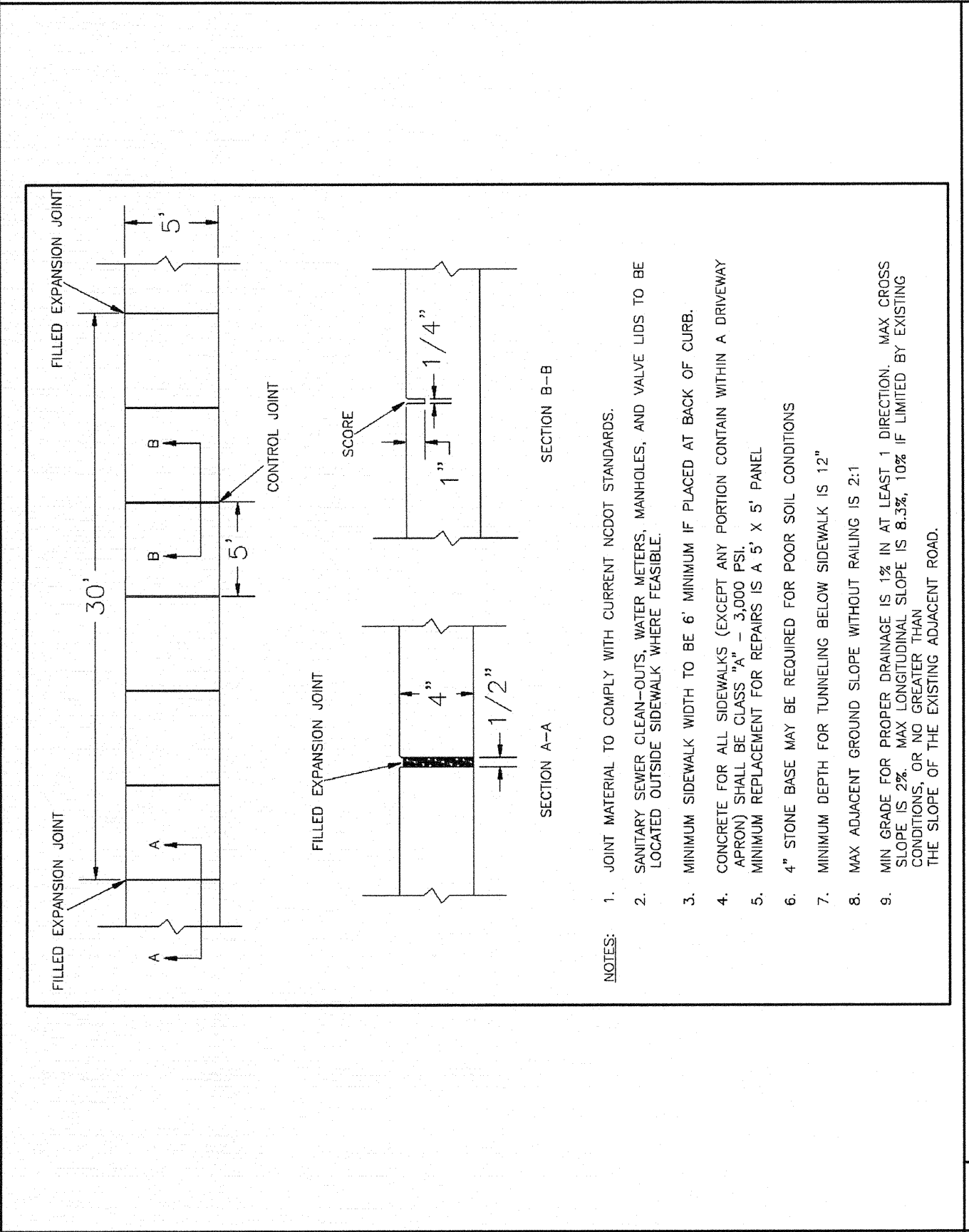
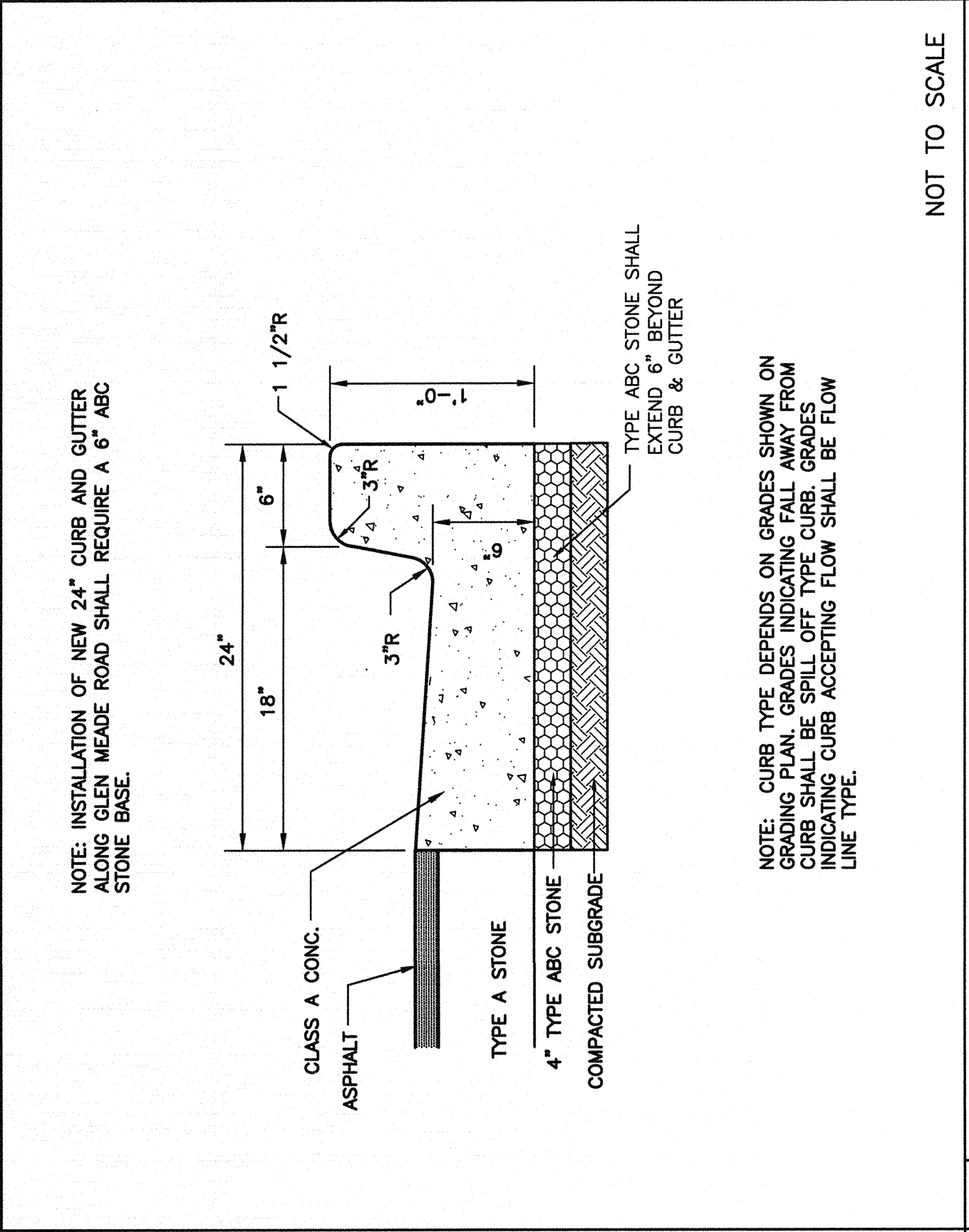
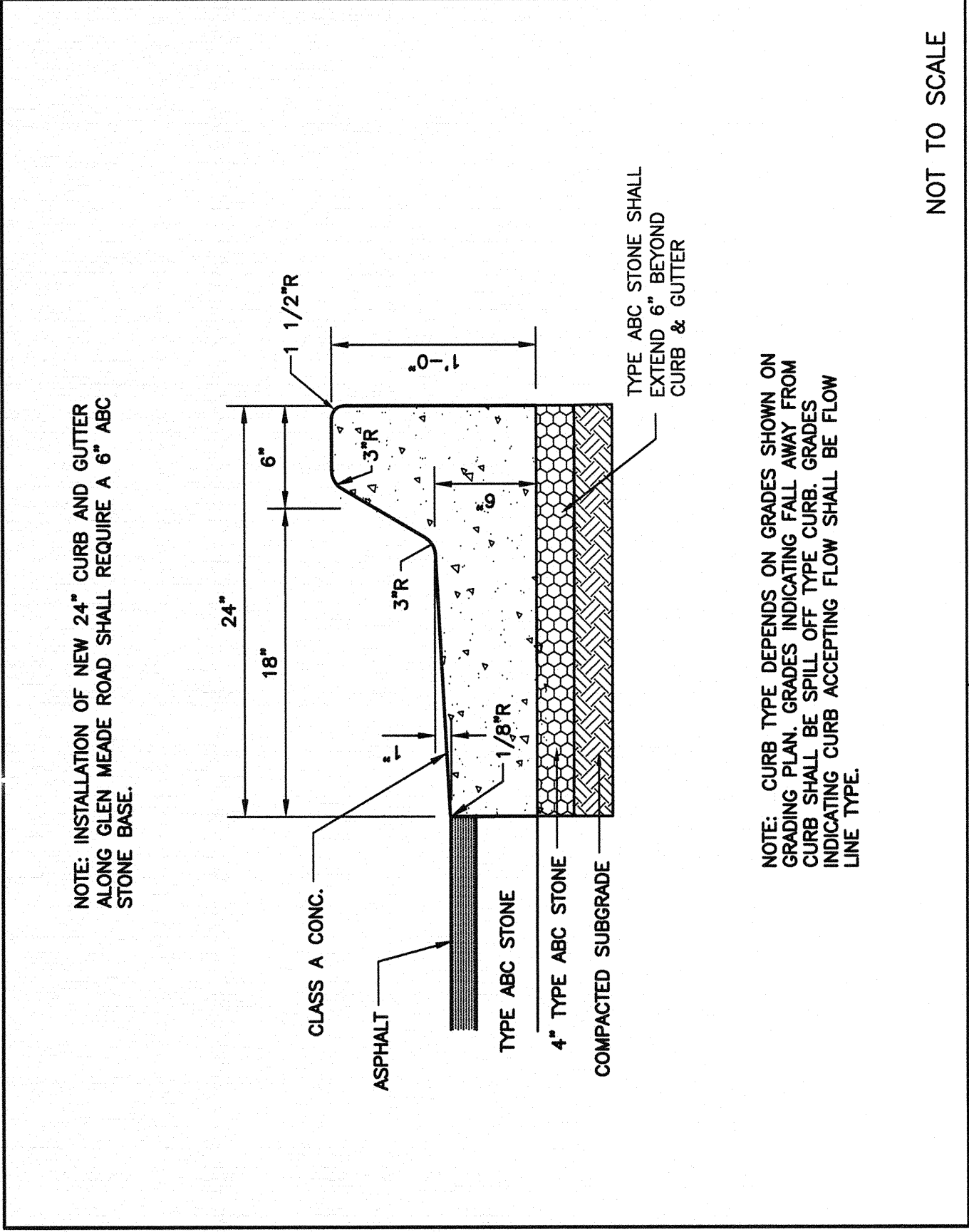


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CITY OF WILMINGTON STANDARD NOTES:

- CONTACT THE NORTH CAROLINA ONE CALL CENTER PRIOR TO DOING ANY DIGGING AT 1-800-652-4949.
- PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING MUST BE INSTALLED AROUND PROTECTED TREES AND SHRUBS. PROTECTION FENCING SHALL BE PERMITTED WITHIN THE TREE PROTECTION FENCING; 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 PROPERTY OWNER IN 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 AND MAINTAIN ALL SIGNS AND MARKINGS AS SPECIFIED AND COORDINATED 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 MARKINGS. THE SUBDIVIDER SHALL BE RESPONSIBLE FOR THE COST OF SUCH INSTALLATION.
- TRAFFIC CONTROL DEVICES SHALL BE MAINTAINED THROUGHOUT THE 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 USFC/CCOHR OR ASSE.
- WHEN PVC WATER MAINS AND/OR POLYETHYLENE SERVICES ARE PROPOSED, THE PIPES ARE TO BE MARKED WITH NO. 10 INSULATED FLEXIBLE MARKING TAPE. THIS TAPE 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.
- ALL DRIVEWAYS SHALL BE CONCRETE 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 910-343-0686 FOR ADDITIONAL INFORMATION.
- A LANDSCAPE PLAN INDICATING THE LOCATION OF REQUIRED 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 PLAN.
- IF AN IRRIGATION SYSTEM IS PLANNED FOR THE SITE, UTILIZE MOISTURE SENSORS.
- ALL PLANTED VEGETATION WITHIN THE SIGIT TRIANGLES SHALL MEET THE CITY'S LANDSCAPE REQUIREMENTS. CONTACT THE CITY OF WILMINGTON PLANTING DIVISION AT 910-343-0686 FOR MORE INFORMATION.
- PLEASE CONSIDER INCORPORATING XERIC LANDSCAPING FOR ALL NEW LANDSCAPING.

NOTES AND DETAILS
WELLS INSURANCE OLEANDER DR. SITE
5712 OLEANDER DRIVE
WILMINGTON, N. C.

HAROLD W. WELLS IV, MANAGER
WELLS REAL ESTATE HOLDINGS, LLC
 1 NORTH THIRD STREET
 WILMINGTON, NC 28401
 910 251-5402

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

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.
- UNLESS OTHERWISE NOTED, PARKING CANNOT BLOCK OR IMPEDE THE FIRE DEPARTMENT CONNECTIONS OR FIRE HYDRANTS. 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.
- EMERGENCY STREET SIGNS SHALL BE INSTALLED AT EACH STREET 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 910-343-0686 FOR ADDITIONAL INFORMATION.
- MINIMUM SPACING BETWEEN UNDERGROUND FIRE LINES SHALL BE 10 FEET.
- UNDERGROUND FIRE LINES SHALL BE MARKED WITH UNDERGROUND UTILITY MARKERS AND SHALL BE OF SUFFICIENT NUMBER TO ACCOMMODATE BASE FIRE FLOW REQUIREMENTS OF THE STRUCTURE.
- BUILDING CONSTRUCTION TYPE: VB

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

CITY OF WILMINGTON
 Public Services • Engineering Division
 APPROVED DRAINAGE PLAN

Date: _____ Permit #: _____
 Signed: _____

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

NCDOT PERMITS WATER PERMIT # _____
 WATER PERMIT # _____
 DWD SEWER CAPACITY # _____
 SEWER CAPACITY # _____
 SEWER PERMIT # _____
 SEWER PERMIT # _____
 SEWER TO FLOW THROUGH (FEI) - YES (Y) NO (N) (CIRCLE ONE)



VICINITY MAP

NIS

R06206-007-004-000
5709 OLEANDER DR.
ZONED O&I-1
RESTAURANT
MARO ENTERPRISES LLC

R06207-003-018-000
5725 OLEANDER DR.
ZONED CB
CONDOMINIUM COMMON AREA
OLEANDER OAKS CONDOMINIUM

TRACT A
(REVISION)
MAP BOOK 32 PAGE 238
R06206-012-002-000
5704 OLEANDER DR.
ZONED CB
COMMERCIAL
OLEANDER COURTYARD CONDO ASSN.

TRACT C
MAP BOOK 32 PAGE 238
R06207-020-006-000
5732 OLEANDER DR.
ZONED CB
COMMERCIAL
R FUTURE LLC

TRACT D
(REVISION)
MAP BOOK 32 PAGE 238
R06206-012-013-000
5710 OLEANDER DR.
ZONED CB
OLEANDER BUSINESS COMMON AREA
OBC COA INC

INVENTORY SITE DATA
EXISTING PARCEL ID#: R06206-012-011-000
EXISTING PARCEL AREA: 0.75 AC (32,625 SF)
PARCEL ADDRESS: 5712 OLEANDER DRIVE
PARCEL OWNER: WELLS REAL ESTATE HOLDINGS LLC
PROPOSED PARCEL USE: OFFICE
CURRENT ZONING: CB-COMMUNITY BUSINESS
CAMA LAND CLASSIFICATION: WATERSHED RESOURCE PROTECTION
SOIL TYPE: S₆ (HYDROLOGIC SOIL GROUP "A")
SITE DOES NOT LIE WITHIN 100 YEAR FLOOD PLAIN
NO CAMA AREAS OF CONCERN OR ASSOCIATED SETBACKS
HISTORICAL/ARCHAEOLOGICAL SITE: NONE
CEMETERY: NONE
FORESTED AREA: NONE
WETLANDS: NONE EXIST WITHIN SITE AREA
ENDANGERED SPECIES/HABITAT: NONE REPORTED

15005
DES. JUST
CDD. JPN
DRWL. NKS
DATE 6/1/16

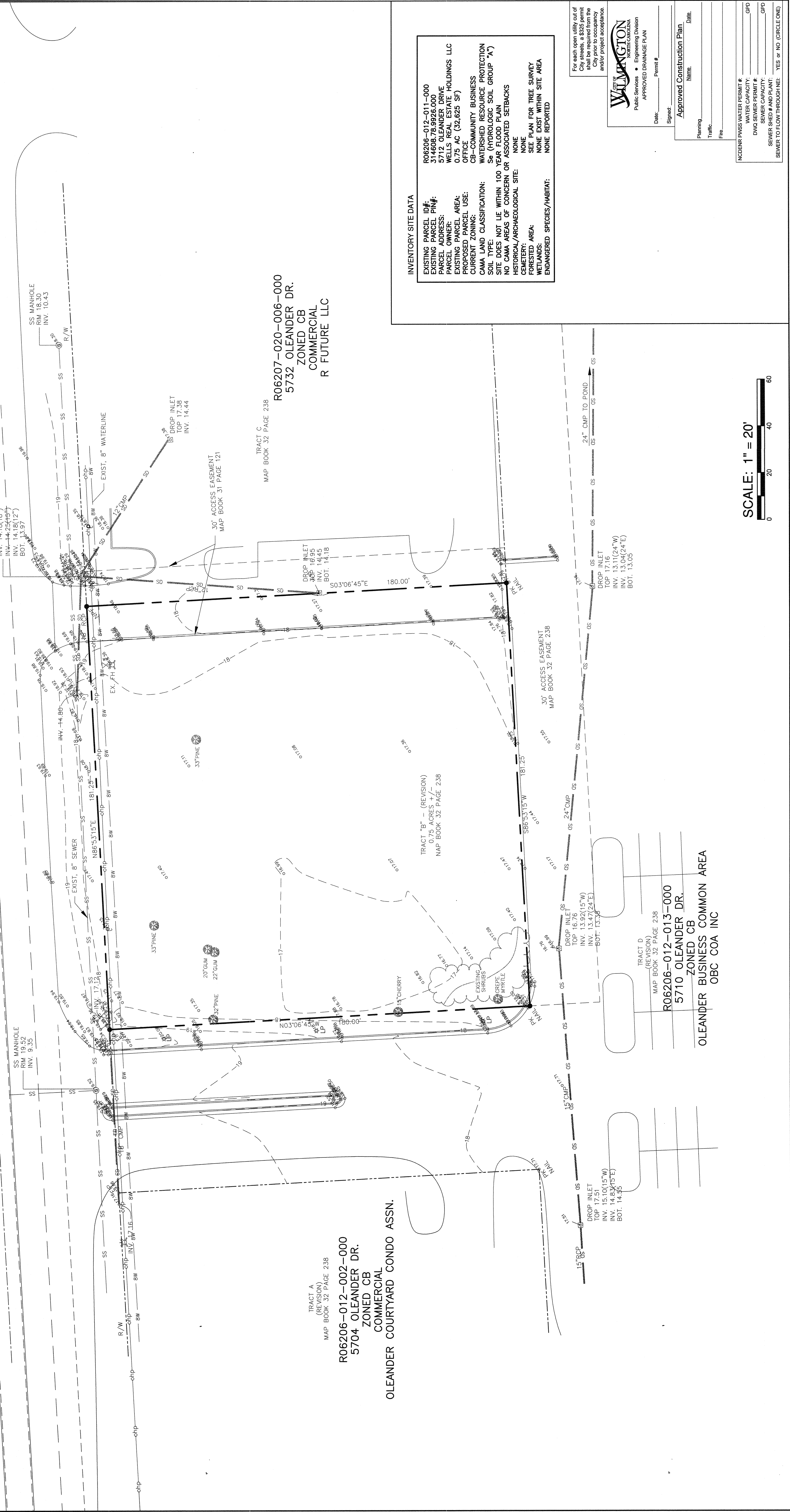
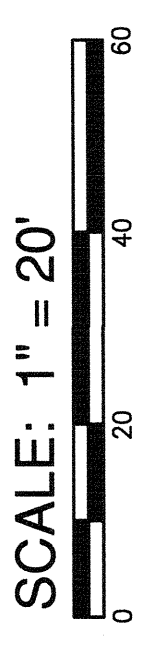
For each open utility out of the City of Wilmington, the City shall be required from the City prior to occupancy and/or project acceptance.

City of WILMINGTON
Public Services - Engineering Division
APPROVED DRAINAGE PLAN

Signature: _____
Name: _____
Title: _____

Approved Construction Plan:
Name: _____
Title: _____

NOCCING PANS/WATER PERMIT # _____
WATER CAPACITY: _____ GPD
DWO SEWER PERMIT # _____
SEWER CAPACITY: _____ GPD
SEWER SHED # AND PLANT: _____
SEWER TO FLOW THROUGH: YES or NO (CIRCLE ONE)



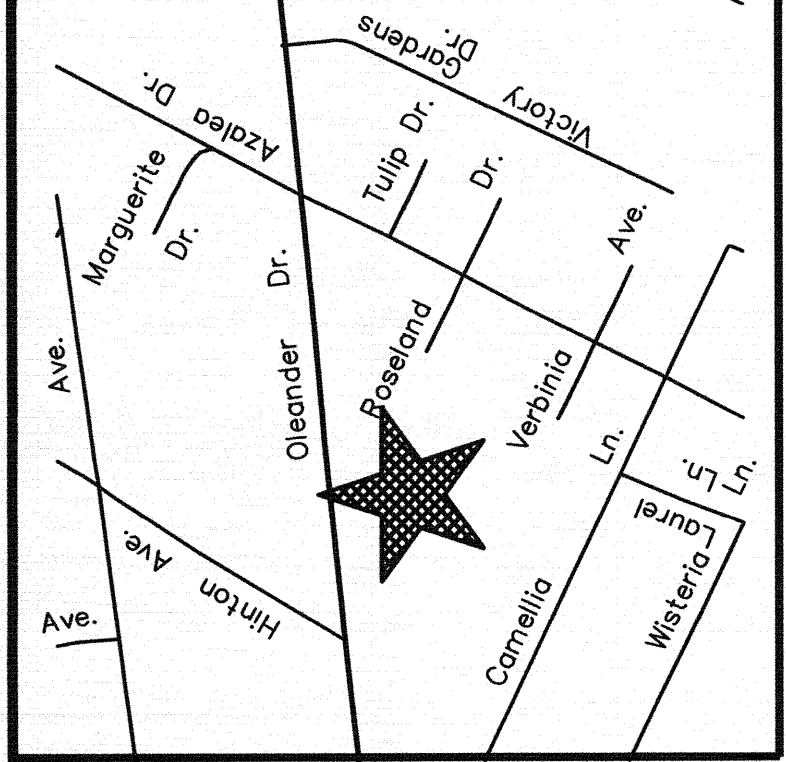
SITE INVENTORY PLAN
WELLS INSURANCE OLEANDER DR. SITE
5712 OLEANDER DRIVE
WILMINGTON, N. C.

OWNER/DEVELOPER
HAROLD W. WELLS, IV, MANAGER
WELLS REAL ESTATE HOLDINGS, LLC
1 NORTH THIRD STREET
WILMINGTON, NC 28401
910 281-5402

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

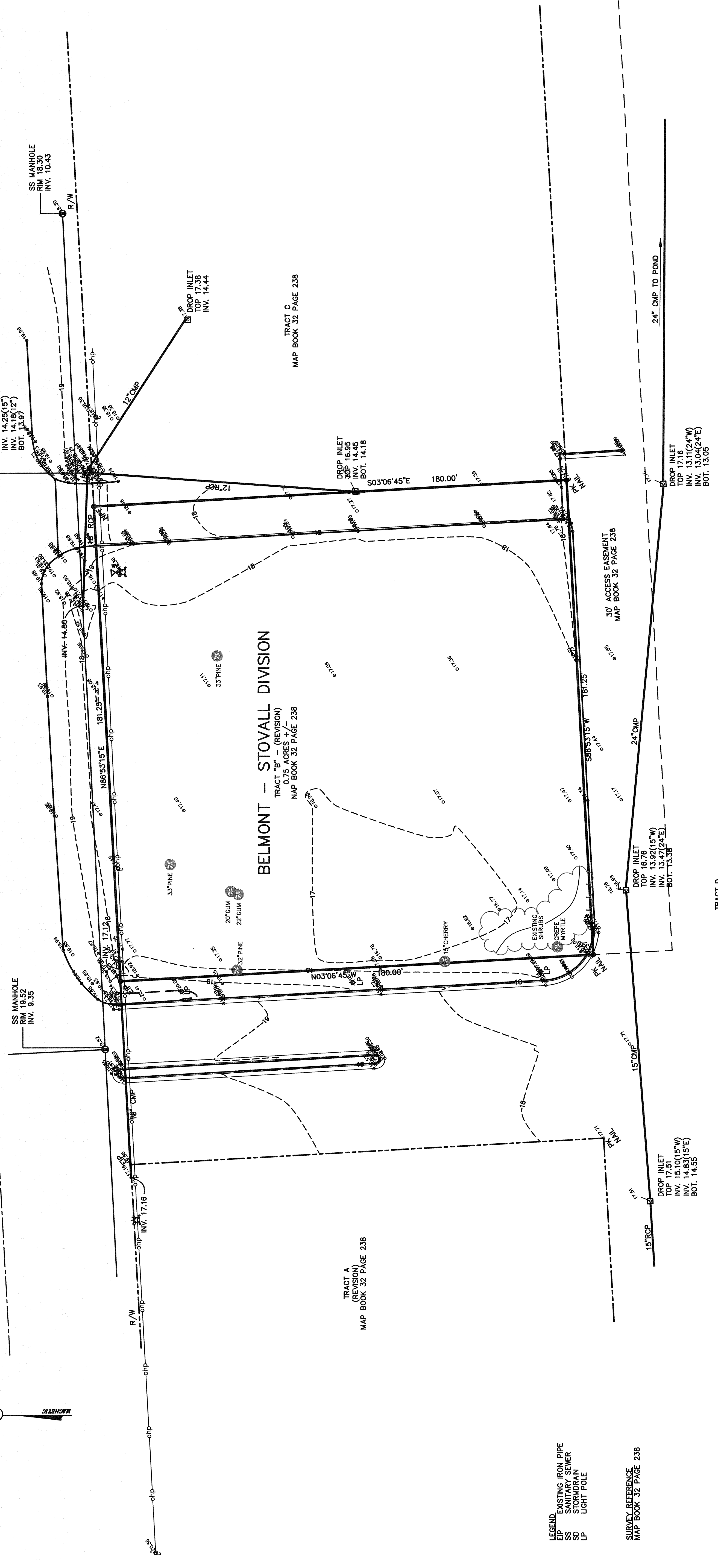
11
NORTH CAROLINA
SEAL
050889
6/1/2016
WILMINGTON

SYMBOL	DATE	DESCRIPTION	BY
		REVISIONS	
		© 2016 NORRIS & TUNSTALL	



VICINITY MAP
NO SCALE

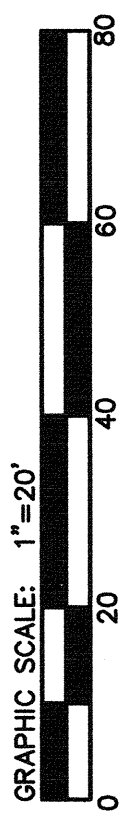
OLEANDER DRIVE
(PUBLIC)



BELMONT - STOVALL DIVISION
TRACT "B" - (REVISION)
0.75 ACRES
MAP BOOK 32 PAGE 238

- LEGEND
 EIP EXISTING IRON PIPE
 SS SANITARY SEWER
 SD STORMDRAIN
 LP LIGHT POLE

SURVEY REFERENCE
MAP BOOK 32 PAGE 238



BOUNDARY AND TOPOGRAPHIC SURVEY:

BELMONT - STOVALL DIVISION
TRACT "B" - (REVISION)
0.75 ACRES +/-
MAP BOOK 32 PAGE 238
CITY OF WILMINGTON, NEW HANOVER COUNTY
NORTH CAROLINA

CLIENT:
NORRIS AND TUNSTALL CONSULTING ENGINEERS
902 MARKET STREET
WILMINGTON, NC 28401

MICHAEL UNDERWOOD and ASSOCIATES, P.A. 102 CINEMA DRIVE, SUITE A WILMINGTON, NC 28403 PHONE: 910-815-0300 FAX: 910-815-0309 E-MAIL: munder@uazr.com	SURVEYED: CG/DC	APPROVED: MNU
DRAWN BY: TBM	DATE: JAN. 15	
CHECKED BY: MNU	SCALE: 1"=20'	

UTILITY STATEMENT
 THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED UNDERGROUND UTILITIES.

NORTH CAROLINA
NEW HANOVER COUNTY

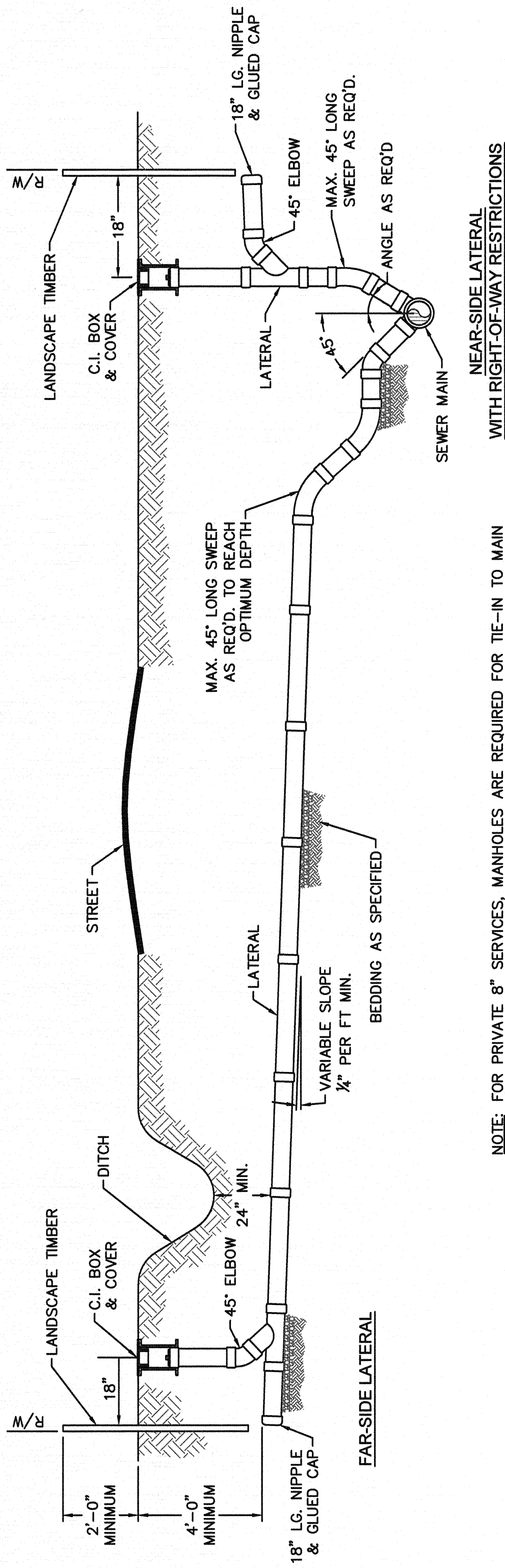
I, MICHAEL N. UNDERWOOD, CERTIFY THAT THIS PLAT WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION AND THAT THE INFORMATION CONTAINED IN THIS PLAT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I AM NOT PROVIDING ANY GUARANTEE OR WARRANTY, EITHER EXPRESS OR IMPLIED, FOR THE ACCURACY OF THE INFORMATION CONTAINED IN THIS PLAT. ANY AND ALL INFORMATION CONTAINED HEREIN IS PROVIDED AS IS, WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NONINFRINGEMENT. ANY USER OF THIS INFORMATION SHALL BE RESPONSIBLE FOR OBTAINING NECESSARY PERMITS AND LICENSES FROM THE APPROPRIATE AGENCIES.

CERTIFICATE:
 THIS SURVEY IS OF AN EXISTING PARCEL OF LAND AND DOES NOT CREATE A NEW STREET OR CHANGE AN EXISTING STREET.

MICHAEL N. UNDERWOOD, P.L.S. L-2962
 SEAL OR STAMP

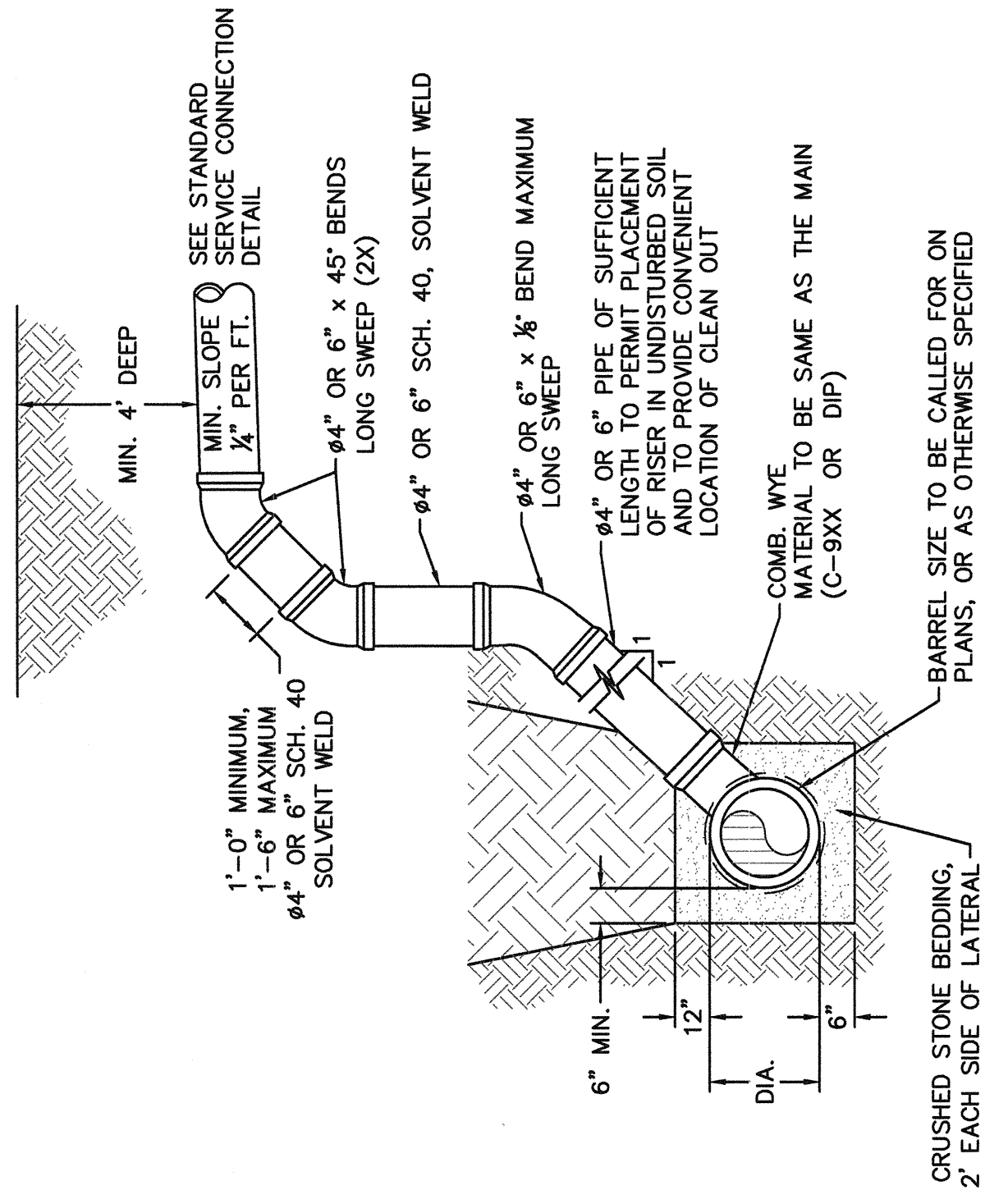
CITY AND SEAL THIS 22ND DAY OF JANUARY, A.D., 2015.

MICHAEL N. UNDERWOOD and ASSOCIATES, P.A.
 © 2015



SD-19
NOT TO SCALE
STANDARD SERVICE CONNECTION TO SANITARY SEWER

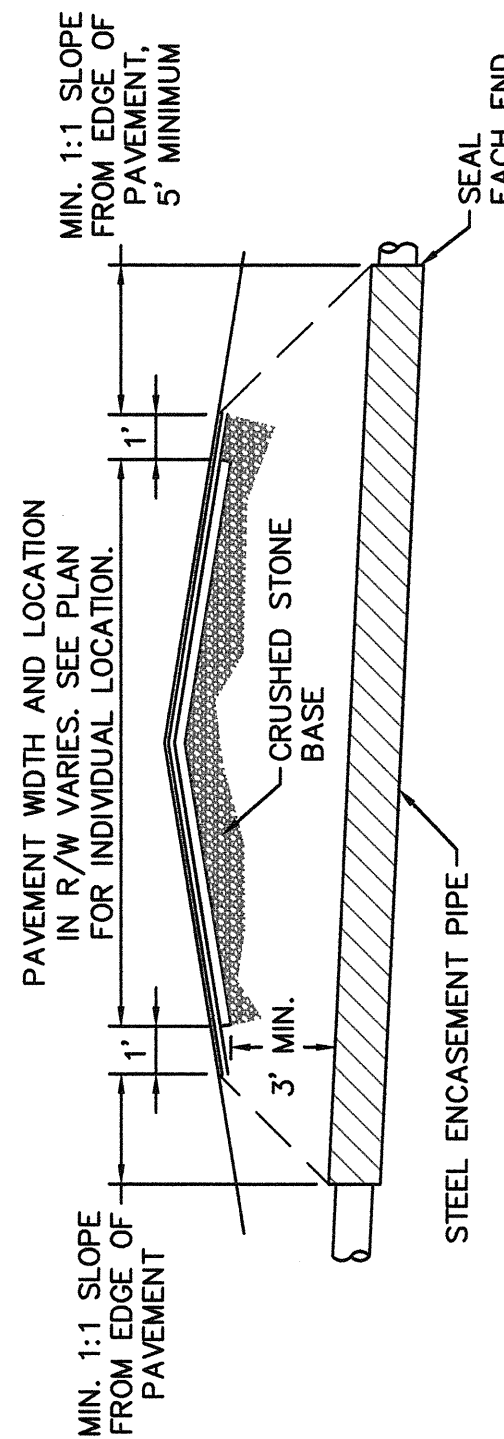
NOTE: FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR TIE-IN TO MAIN WITH RIGHT-OF-WAY RESTRICTIONS



SD-12
NOT TO SCALE
DEEP SERVICE LATERAL

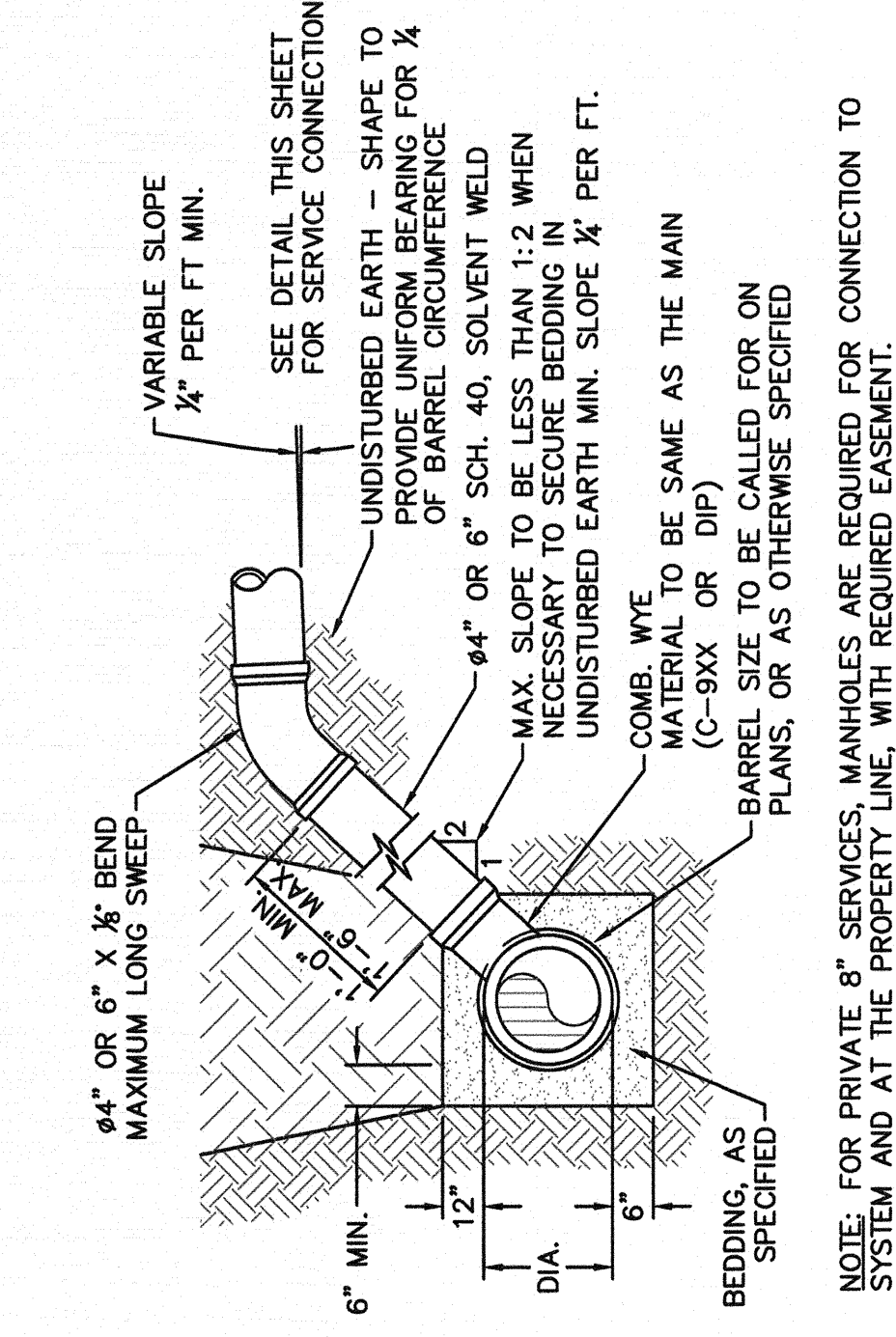
NOTES:
1. SPECIAL CARE SHALL BE TAKEN DURING BACKFILL OPERATIONS. THE RISER SHALL BE PLUMB AND TRUE AT ALL TIMES, AND REST ON FIRM, STABLE FOUNDATION.
2. FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR CONNECTION TO SYSTEM AND AT THE PROPERTY LINE, WITH REQUIRED EASEMENT.

MAIN DEPTH GREATER THAN 8 FT



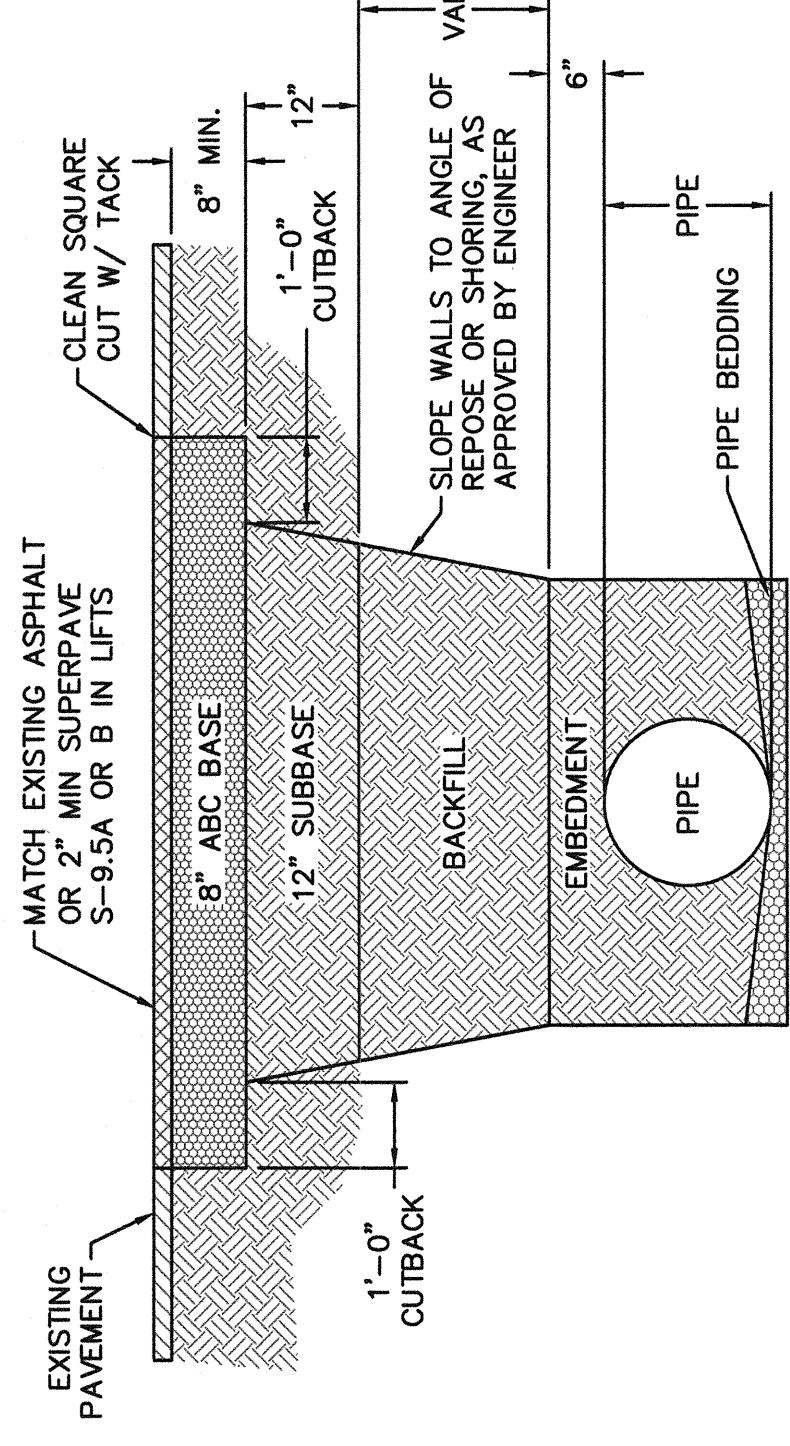
SD-16
NOT TO SCALE
TYPICAL BORING/JACKING DETAIL

NOTES:
1. CASING WILL BE INSTALLED AT LINE AND GRADE SHOWN ON INDIVIDUAL PROFILE
2. TRACER WIRE SHALL BE CONTINUED THROUGH CASING.



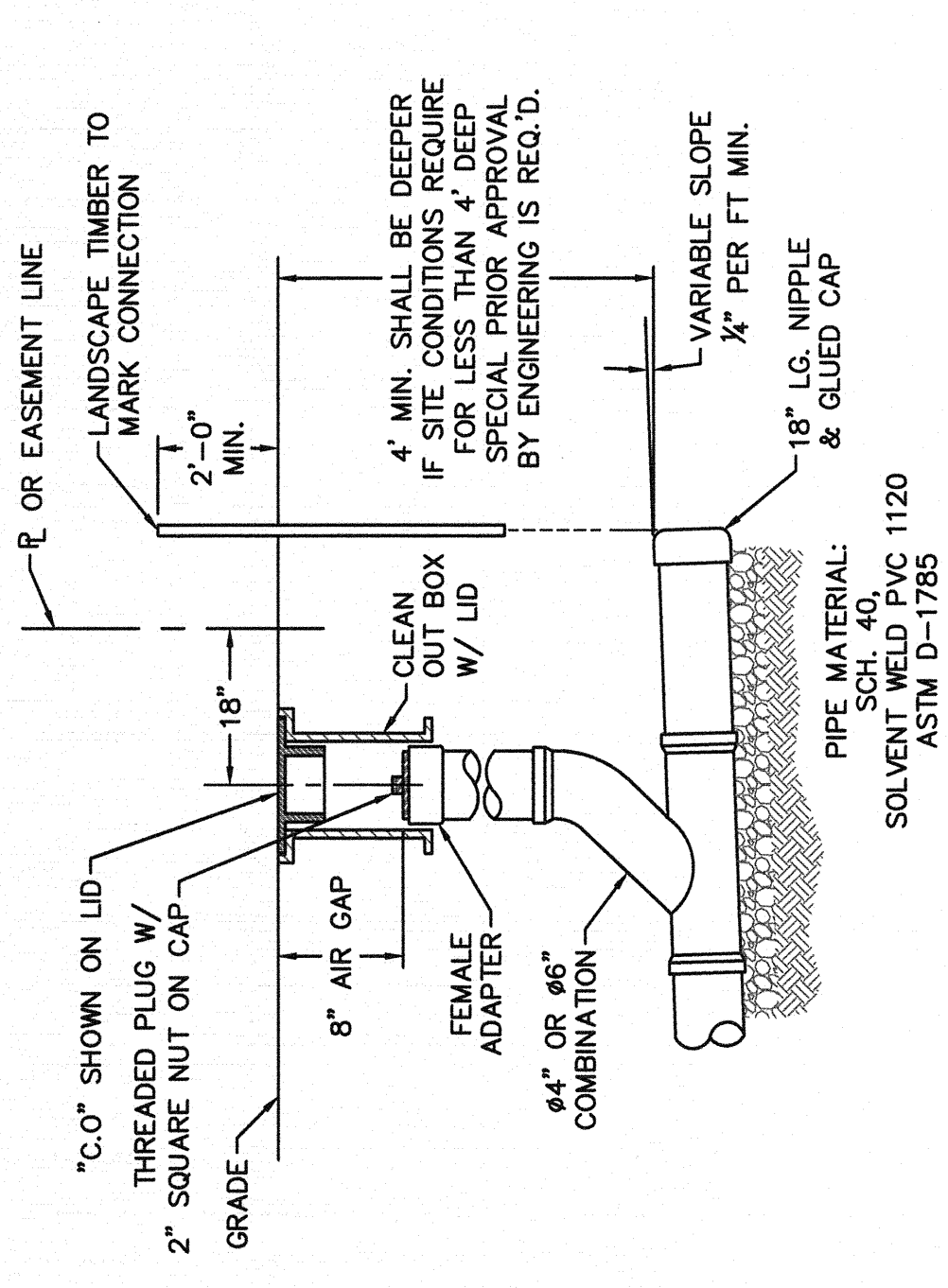
SD-10
NOT TO SCALE
STANDARD SERVICE LATERAL

NOTE: FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR CONNECTION TO SYSTEM AND AT THE PROPERTY LINE, WITH REQUIRED EASEMENT.



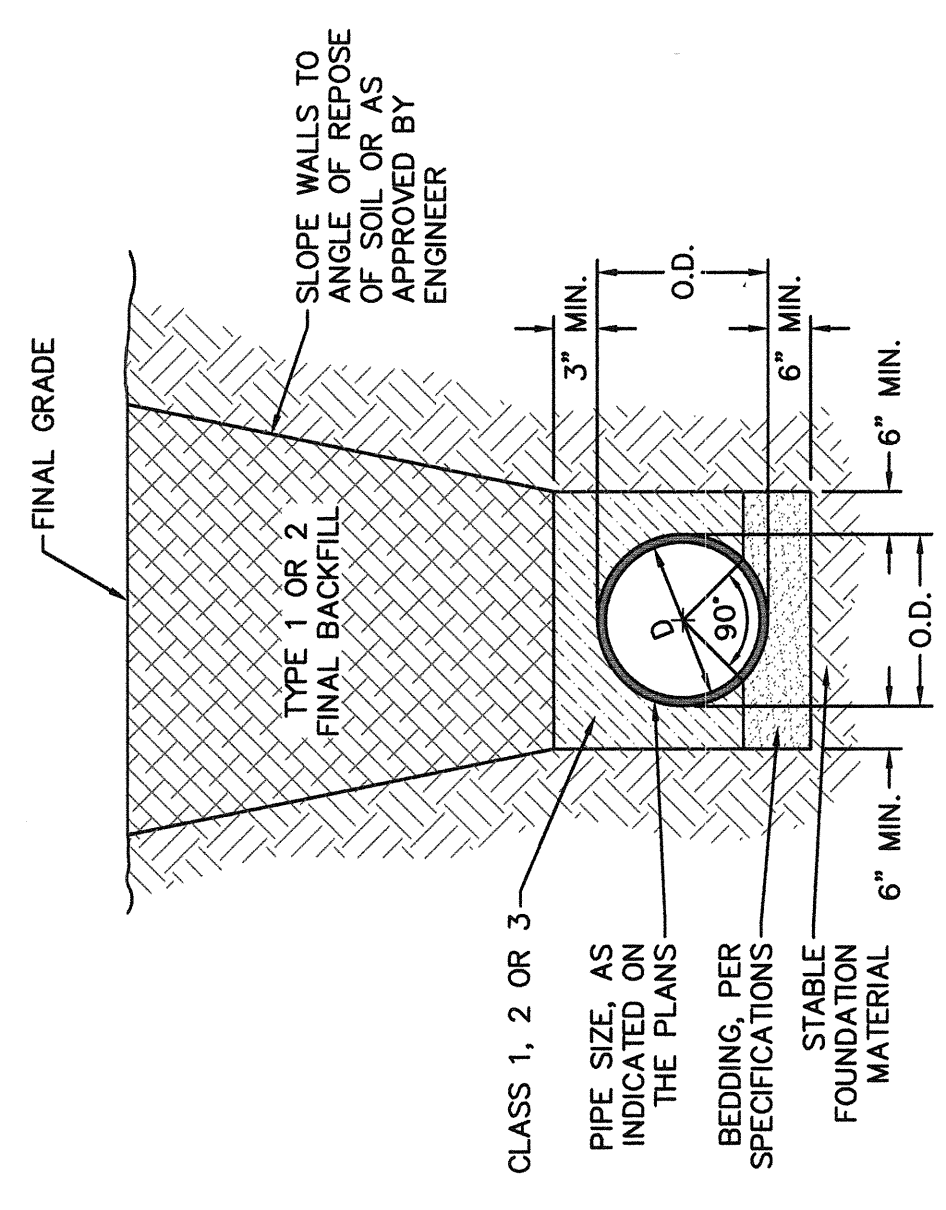
SD-14
NOT TO SCALE
PAVEMENT REPAIR WHERE PIPE INSTALLED

NOTES:
1. BACKFILL SHALL BE SUITABLE MATERIAL THAT IS FREE FROM HEAVY CLAY, GUMBO, DEBRIS, ORGANICS AND LITTLE TO NO EXCESSIVE MOISTURE.
2. SELECT BACKFILL MAY BE SUBSTITUTED OR REQUIRED BY CITY TO ACHIEVE COMPACTION, (I.E. #57, ABC, CRUSHED LIMESTONE, CLEAN SAND, FLOWABLE FILL, ETC).
3. BACKFILL AND BASE MATERIALS SHALL BE COMPACTED TO 12" MINIMUM LIFTS.
4. SOIL SHALL BE COMPACTED BY A MECHANIZED TAMPER (I.E. JUMPING JACK). HOWEVER, VIBRATORY ROLLERS > 18" WIDTH MAY BE USED FOR LARGER EXCAVATIONS. THE PLATE TAMP METHOD SHALL NOT BE USED.
5. ALL APPROVED CASTINGS SHALL BE SET FLUSH TO GRADE AND SUPPORTED IF APPLICABLE.
6. ABC BASE AND SUBBASE COMPACTED TO 98% AND BACKFILL AND EMBEDMENT COMPACTED TO 90% AS DETERMINED BY THE MODIFIED PROCTOR AASHTO METHOD T-99.
7. 1-FOOT CUTBACKS OF ASPHALT SHALL BE PREPARED ON UNDISTURBED SOIL. MINIMUM ASPHALT DENSITY IS 90%.
(FOR PRIVATE ROADS AND PAVED AREAS, CONTRACTOR TO MEET MIN. REQUIREMENTS AS DEFINED BY RIGHT-OF-WAY OWNER FOR PUBLIC ROAD REPAIRS)



SD-11
NOT TO SCALE
SERVICE CONNECTION AND CLEAN-OUT

NOTE: FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR CONNECTION TO SYSTEM AND AT THE PROPERTY LINE, WITH REQUIRED EASEMENT.



SD-15
NOT TO SCALE
TYPICAL TRENCH DETAIL

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

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

REV.	DESCRIPTION:	DATE:
1	SAMPLING CHAMBER REVISED	10/28/12
2	Revised Multiple Details	02/15/16

THESE DETAILS ARE A WORK PRODUCT OF CFPUA FOR SEWER SYSTEM DESIGN AND CONSTRUCTION AND HAVE BEEN REVIEWED AND APPROVED FOR CONTENT AND GENERAL CONFORMANCE WITH THE SEWER DESIGN FOR THIS PROJECT.

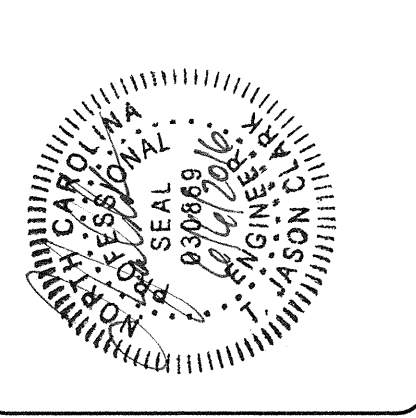
CFPUA SANITARY SEWER

STANDARD DETAILS

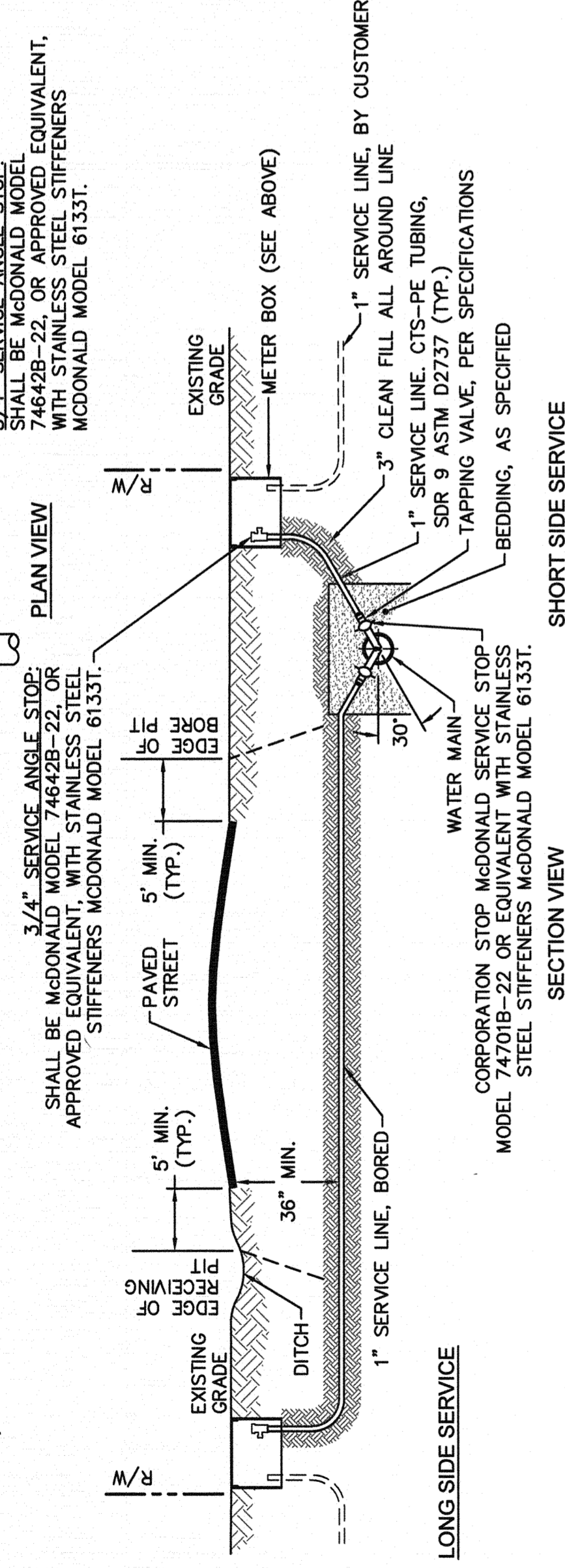
CAPE FEAR PUBLIC UTILITY AUTHORITY
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
OFFICE: (910)832-8560

SHEET NO:
SSD-2

DATE: 1/9/12
SCALE: N/A
DRAWN BY: CFPUA
CHECKED BY: CFPUA
PROJECT NO.: 15005



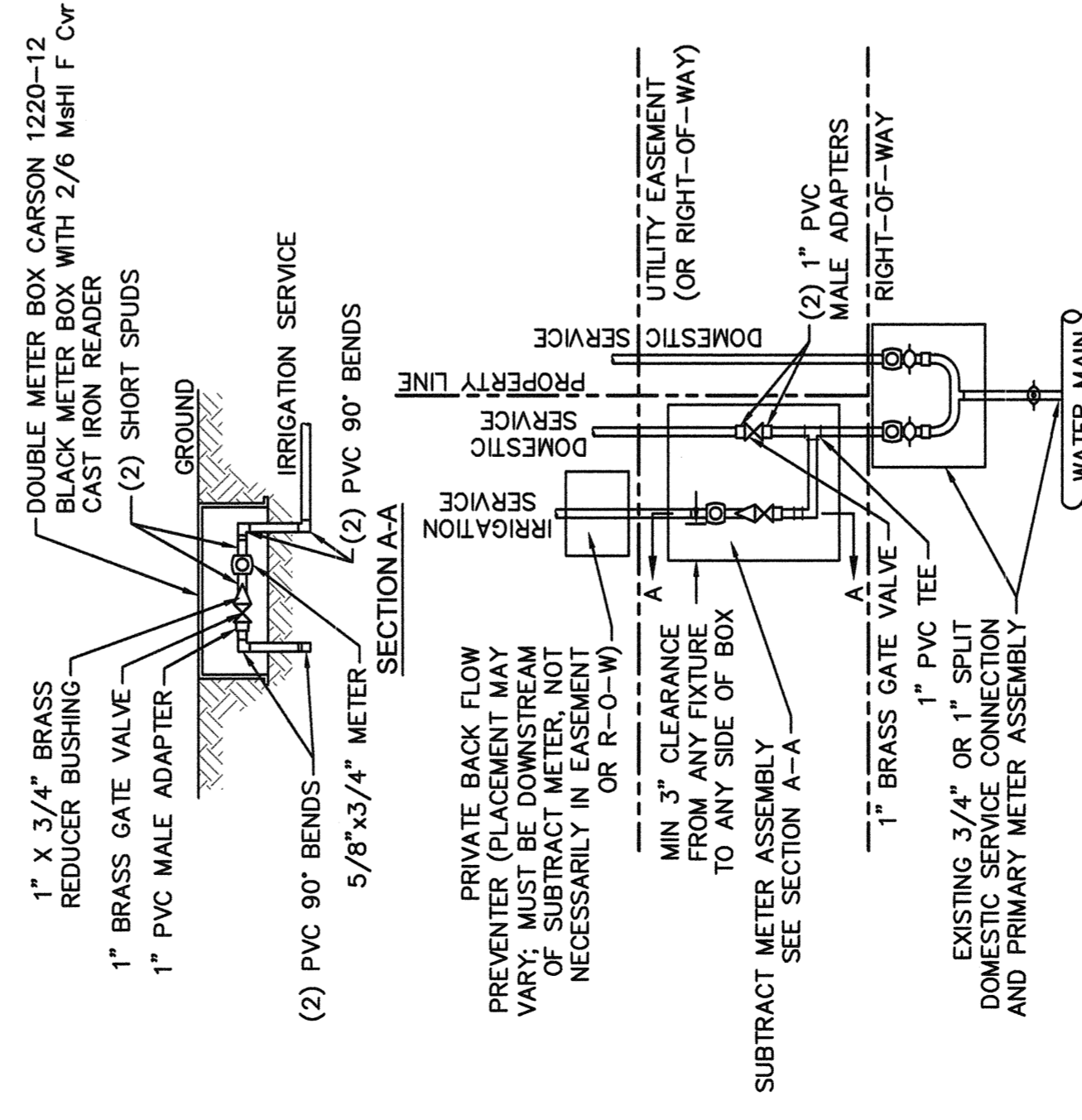
- NOTES:**
- NO JOINT SHALL BE INSTALLED BETWEEN THE MAIN SERVICE TAP AND THE METER STOP. ALL SERVICES SHALL BE INSTALLED PERPENDICULAR TO MAIN.
 - SERVICE SADDLES ON PVC MAINS SHALL BE WIDE BAND BRASS BODY; SADDLE MCDONALD 3801 OR EQUIVALENT.
 - METER BOXES SUSCEPTIBLE TO TRAFFIC SHALL CONFORM TO ASTM A48, CLASS 30B AND AASHTO H20 LOAD RATING STANDARDS (SIP MODEL 4242, OR APPROVED EQUIVALENT).



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

SINGLE SERVICE CONNECTION

WD-18
NOT TO SCALE

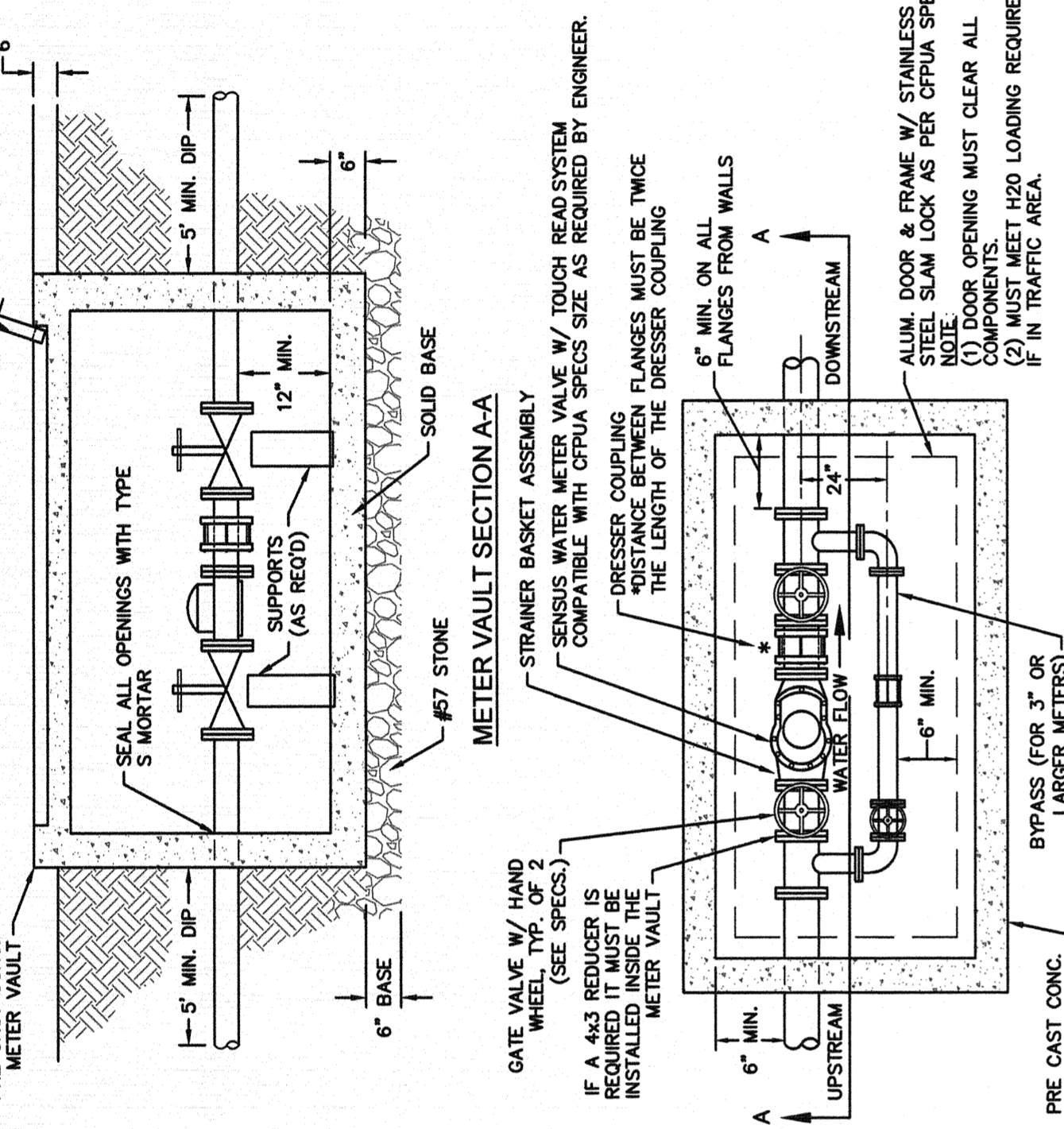


- NOTES:**
- BEYOND THE PRIMARY DOMESTIC METER ASSEMBLY, CFPWA IS ONLY RESPONSIBLE FOR METER AND WASHERS OF SUBTRACT METER ASSEMBLY.
 - ALL PIPE AND FITTINGS UP TO FINAL SERVICE LINE TO BE 1\"/>

(MULTIPLE DOMESTIC SERVICES PER TAP)

DOUBLE SERVICE CONNECTION USING SUBTRACT METER

WD-8
NOT TO SCALE

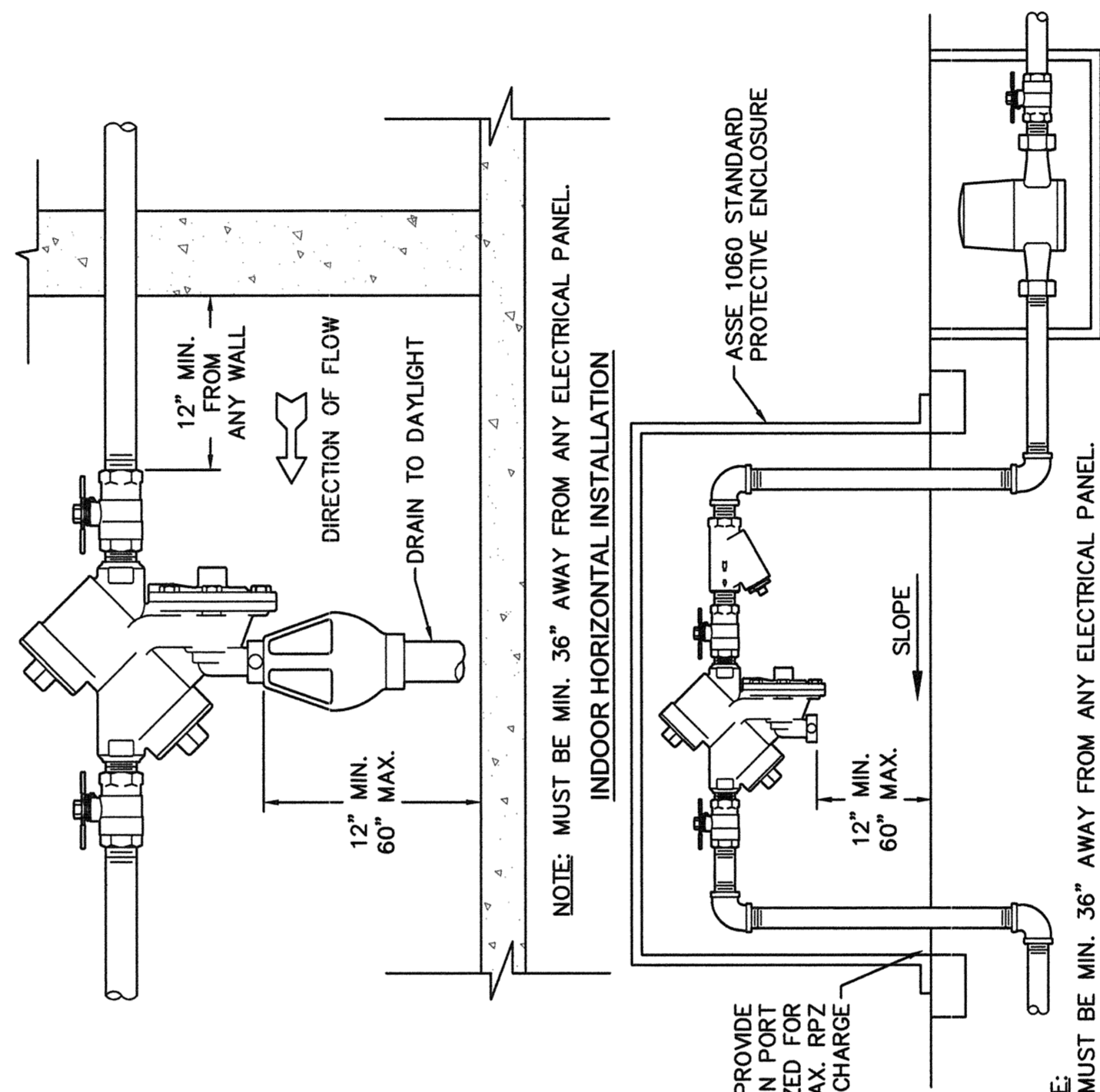


METER VAULT PLAN

FOR WATER METERS LARGER THAN 2"

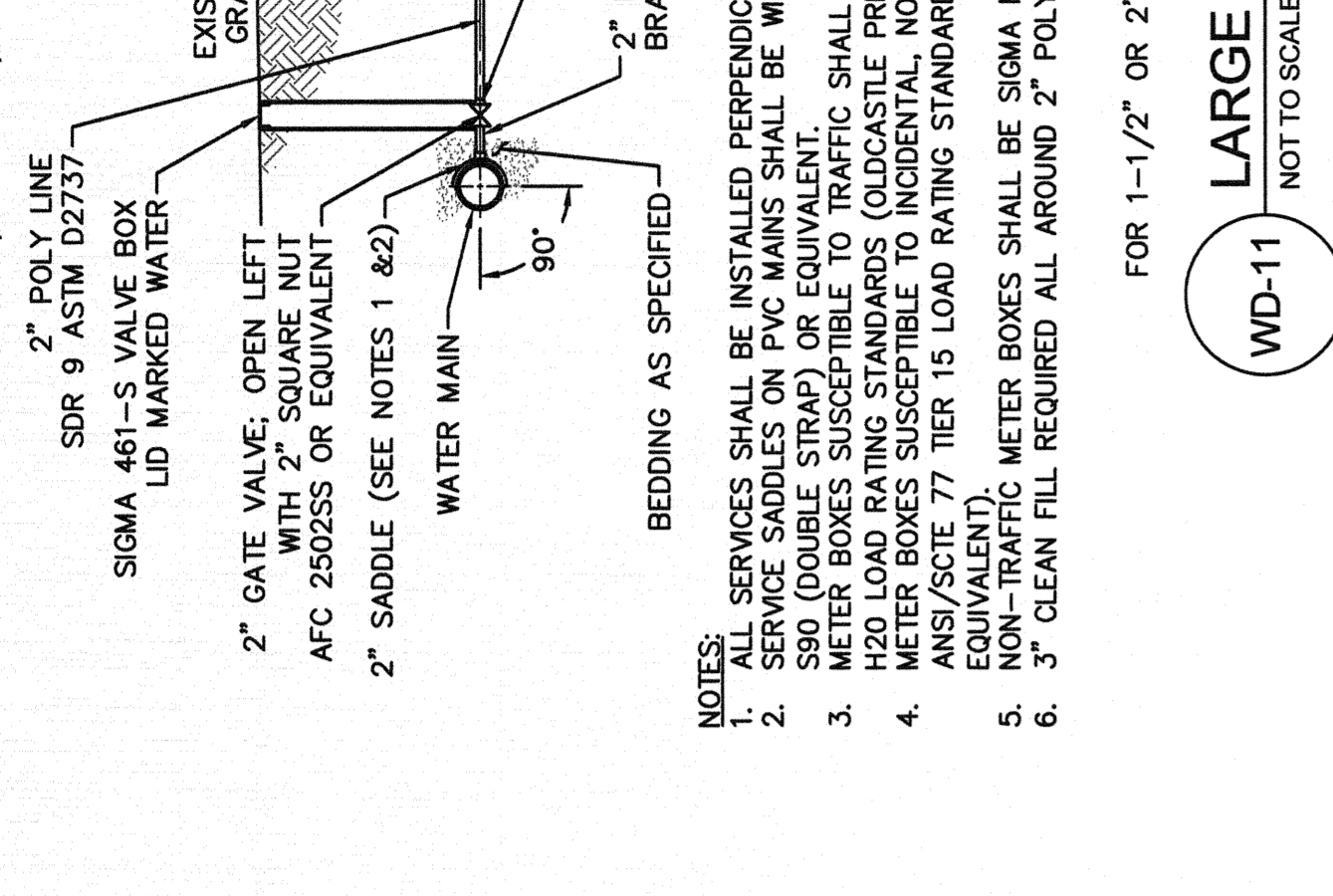
WATER METER VAULT

WD-1
NOT TO SCALE



REDUCED PRESSURE PRINCIPLE ASSEMBLY

WD-12
NOT TO SCALE

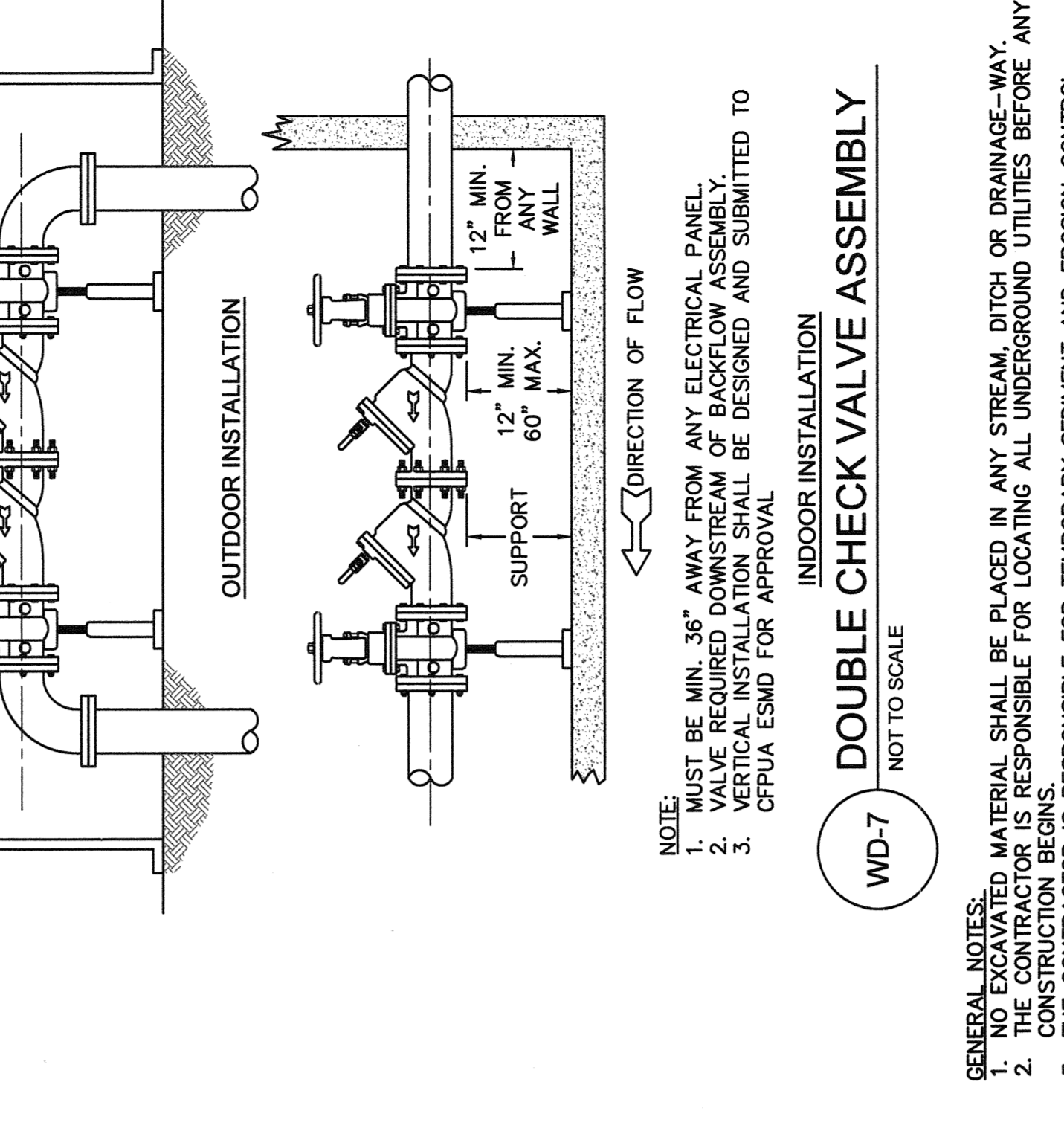


LARGE METER

FOR 1-1/2\"/>

LARGE METER

WD-11
NOT TO SCALE



DOUBLE CHECK VALVE ASSEMBLY

WD-7
NOT TO SCALE

- NOTE:**
- MUST BE MIN. 36\"/>

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

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

THESE DETAILS ARE A WORK PRODUCT OF CFPWA FOR SEWER SYSTEM DESIGN AND CONSTRUCTION AND HAVE BEEN REVIEWED AND APPROVED FOR CONTENT AND GENERAL CONFORMANCE WITH THE SEWER DESIGN FOR THIS PROJECT.

REV.	DESCRIPTION	DATE
1	Single Service Connection, Double Service Connection, and Large Meter Revised	10/26/12
2	Single Service Connection and Fire Hydrant Details Revised	7/23/13
3	Fire Hydrant Detail Revised	01/09/14
4	Revised Fire Hydrant Assembly To Show 5\"/>	04/10/15
5	Revised Fire Hydrant Assembly To Show Full Dip Hydrant Leg	01/19/16
6	Revised Water Meter Vault and Large Meter Details, Added Standard Notes	02/15/16

CFPUA WATER DISTRIBUTION SYSTEM

STANDARD DETAILS

CAPE FEAR PUBLIC UTILITY AUTHORITY
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
OFFICE: (910)832-6560

SHEET NO. WSD-1

DATE	1/9/12
SCALE	N/A
DRAWN BY:	CFPUA
CHECKED BY:	CFPUA
PROJECT NO.:	15005

