

Administrative Site Review Application

Planning and Development Customer Service Center • One Exchange Plaza, Suite 400 | Raleigh, NC 27601 | 919-996-2500



This form is required when submitting site plans as referenced in Unified Development Ordinance (UDO) Section 10.2.8. Please check the appropriate building types and include the plan checklist document when submitting.

Office Use Only: Case #: _____ Planner (print): _____

Please review UDO Section 10.2.8. to determine the site plan tier. If assistance determining a Site Plan Tier is needed a Site Plan Tier Verification request can be submitted online via the [Permit and Development Portal](#). (Note: There is a fee for this verification service.)

Site Plan Tier: Tier Two Site Plan		Tier Three Site Plan
Building and Development Type (Check all that apply)		Site Transaction History
Detached	General	Subdivision case #: _____
Attached	Mixed use	Scoping/sketch plan case #: _____
Townhouse	Civic	Certificate of Appropriateness #: _____
Apartment	Cottage Court	Board of Adjustment #: _____
Tiny house	Frequent Transit	Zoning Case #: _____
Open lot	Development Option	Design Alternate #: _____
GENERAL INFORMATION		
Development name:		
Inside City limits?	Yes	No
Property address(es):		
Site P.I.N.(s):		
Please describe the scope of work. Include any additions, expansions, and uses (UDO 6.1.4).		
Current Property Owner(s):		
Company:		Title:
Address:		
Phone #:		Email:
Applicant Name (If different from owner. See "who can apply" in instructions):		
Relationship to owner:	Lessee or contract purchaser	Owner's authorized agent
		Easement holder
Company:		Address:

Phone #:	Email:
NOTE: please attach purchase agreement or contract, lease or easement when submitting this form.	
Developer Contact:	
Company:	Title:
Address:	
Phone #:	Email:
Applicant Name:	
Company:	Address:
Phone #:	Email:

DEVELOPMENT TYPE + SITE DATE TABLE (Applicable to all developments)	
SITE DATA	BUILDING DATA
Zoning district(s) (please provide the acreage of each):	Existing gross floor area (not to be demolished):
Gross site acreage:	Existing gross floor area to be demolished:
# of parking spaces proposed:	New gross floor area:
Max # parking permitted (7.1.2.C):	Total sf gross (to remain and new):
Overlay District (if applicable):	Proposed # of buildings:
Existing use (UDO 6.1.4):	Proposed # of stories for each:
Proposed use (UDO 6.1.4):	Proposed # of basement levels (UDO 1.5.7.A.6)

STORMWATER INFORMATION	
Imperious Area on Parcel(s): Existing (sf) _____ Proposed total (sf) _____	Impervious Area for Compliance (includes ROW): Existing (sf) _____ Proposed total (sf) _____

RESIDENTIAL & OVERNIGHT LODGING DEVELOPMENTS			
Total # of dwelling units:	Total # of hotel bedrooms:		
# of bedroom units: 1br <u>28</u> 2br <u>28</u> 3br _____ 4br or more _____			
# of lots:	Is your project a cottage court?	Yes	No
	A frequent transit development?	Yes	No

Continue to Applicant Signature Block on Page Three.

APPLICANT SIGNATURE BLOCK

Pursuant to state law (N.C. Gen. Stat. § 160D-403(a)), applications for development approvals may be made by the landowner, a lessee or person holding an option or contract to purchase or lease land, or an authorized agent of the landowner. An easement holder may also apply for development approval for such development as is authorized by the easement.

By submitting this application, the undersigned applicant acknowledges that they are either the property owner or one of the persons authorized by state law (N.C.G.S. 160D-403(a)) to make this application, as specified in the application. The undersigned also acknowledges that the information and statements made in the application are correct and the undersigned understands that developments approvals are subject to revocation for false statements or misrepresentations made in securing the development approval, pursuant to N.C. Gen. Stat. § 160D-403(f).

The undersigned indicates that the property owner(s) is aware of this application and that the proposed project described in this application will be maintained in all respects in accordance with the plans and specifications submitted herewith, and in accordance with the provisions and regulations of the City of Raleigh Unified Development Ordinance.

The undersigned hereby acknowledges that, pursuant to state law (N.C.G.S. 143-755(b1), if this permit application is placed on hold at the request of the applicant for a period of six consecutive months or more, or if the applicant fails to respond to comments or provide additional information requested by the City for a period of six consecutive months or more, then the application review is discontinued and a new application is required to proceed and the development regulations in effect at the time permit processing is resumed shall apply to the new application.

Signature: 

Date: 2/5/2024

Printed Name: Lyle D. Gardner

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Office Use Only: Case #: _____ Planner (print): _____

Please review UDO Section 10.2.8 to determine the site plan tier. If assistance determining a Site Plan Tier is needed a Site Plan Tier Verification request can be submitted online via the [Permit and Development Portal](#). (Note: There is a fee for this verification service.)

Site Plan Tier: Tier Two Site Plan Tier Three Site Plan

Building and Development Type (Check all that apply)		Site Transaction History
<input type="checkbox"/> Detached	<input type="checkbox"/> General	Subdivision case #: _____
<input type="checkbox"/> Attached	<input type="checkbox"/> Mixed use	Scoping/sketch plan case #: _____
<input type="checkbox"/> Townhouse	<input type="checkbox"/> Civic	Certificate of Appropriateness #: _____
<input checked="" type="checkbox"/> Apartment	<input type="checkbox"/> Cottage Court	Board of Adjustment #: _____
<input type="checkbox"/> Tiny house	<input type="checkbox"/> Frequent Transit Development Option	Zoning Case #: _____
<input type="checkbox"/> Open lot		Design Alternate #: _____

GENERAL INFORMATION

Development name: Lake Haven

Inside City limits? Yes No

Property address(es): 3700 Lake Woodard Drive

Site P.I.N.(s): 1724-46-7740

Please describe the scope of work. Include any additions, expansions, and uses (UDO 6.1.4).

56-unit senior affordable housing project with associated infrastructure.

Current Property Owner(s): Lake Haven Associates LLC

Company: Lake Haven Associates LLC Title: Land Owner

Address: 10501 Charmford Way, Raleigh, NC 27615

Phone #: 919-848-2041 Email: tim@eccmgt.com

Applicant Name (if different from owner. See "who can apply" in instructions):

Relationship to owner: Lessee or contract purchaser Owner's authorized agent Easement holder

Company: Lake Haven Associates LLC Address: _____

Phone #: _____ Email: _____

NOTE: please attach purchase agreement or contract, lease or easement when submitting this form.

Developer Contact: Tim Morgan

Company: EVERGREEN CONSTRUCTION COMP Title: Manager

Address: 5711 SIX FORKS RD; SUITE 300, RALEIGH, NC 27609

Phone #: 919-848-2041 Email: tim@eccmgt.com

Applicant Name: Lake Haven Associates LLC

Company: Lake Haven Associates LLC Address: 10501 Charmford Way, Raleigh, NC 27615

Phone #: 919-848-2041 Email: tim@eccmgt.com

DEVELOPMENT TYPE + SITE DATA TABLE
(Applicable to all developments)

SITE DATA		BUILDING DATA	
Zoning district(s) (please provide the acreage of each): CX-3	Existing gross floor area (not to be demolished): 0	Existing gross floor area to be demolished: 0	
Gross site acreage: 3.46 Acres	# of parking spaces proposed: 81	New gross floor area: 64,639 SF	
Max # parking permitted (7.1.2.C): 105	Overlay District (if applicable): None	Total of gross (to remain and new): 0	
Existing use (UDO 6.1.4): Vacant	Proposed # of buildings: 1	Proposed # of stories for each: 3	
Proposed use (UDO 6.1.4): Affordable Apartments	Proposed # of basement levels (UDO 1.5.7.A.6) 0		

STORMWATER INFORMATION

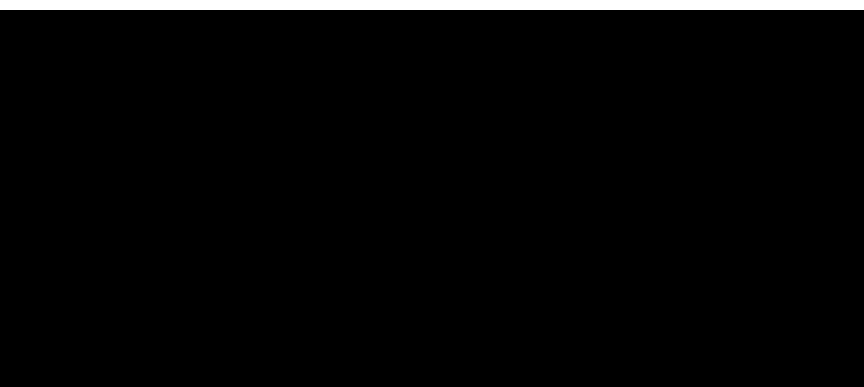
Imperious Area on Parcel(s):	Imperious Area for Compliance (includes ROW):
Existing (sf) 0.42 Proposed total (sf) 2.05	Existing (sf) 0 Proposed total (sf) 1705

RESIDENTIAL & OVERNIGHT LODGING DEVELOPMENTS

Total # of dwelling units: 56	Total # of hotel bedrooms: 0
# of bedroom units: 1br 28 2br 28 3br _____	4br or more _____
# of lots: 1	Is your project a cottage court? <input type="radio"/> Yes <input checked="" type="radio"/> No
	A frequent transit development? <input type="radio"/> Yes <input checked="" type="radio"/> No

Continue to Applicant Signature Block on Page Three.

ASR SUBMITTAL LAKE HAVEN AFFORDABLE HOUSING DEVELOPMENT TIER 3 SITE PLAN 3700 LAKE WOODARD DR RALEIGH, NC 27604 WAKE COUNTY



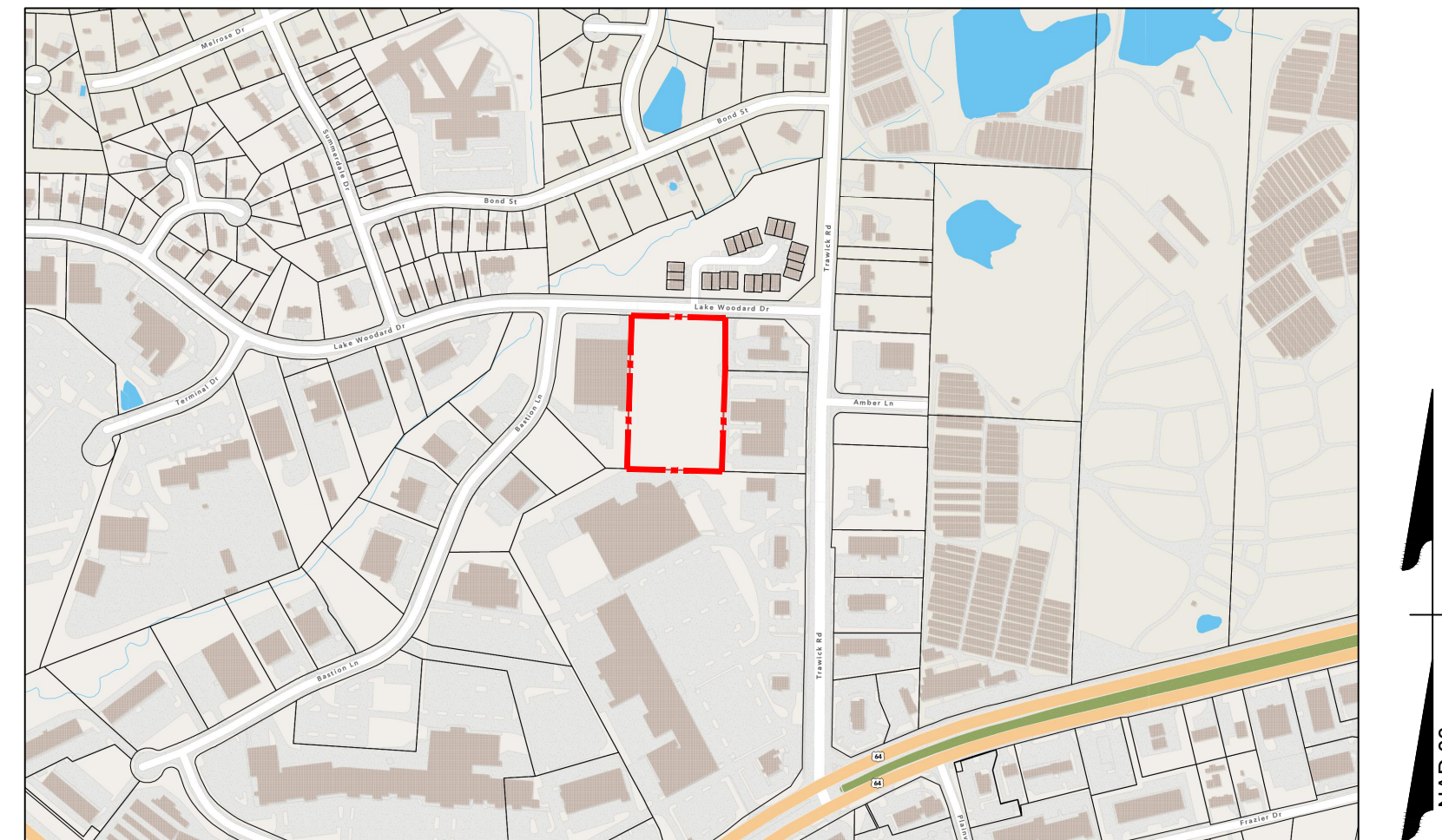
ARCHITECT:
TIGHTLINES DESIGN
19 W HARGETT STREET, SUITE 501
RALEIGH, NC 27601
GABI PURDUE
(919) 834-3600
GABI@TIGHTLINESDESIGNS.COM

CIVIL ENGINEER:
TIMMONS GROUP
5410 TRINITY ROAD, SUITE 102
RALEIGH, NC 27607
PATRICK BARBEAU, PE
(919) 866-4512
PATRICK.BARBEAU@TIMMONS.COM

DEVELOPER:
EVERGREEN CONSTRUCTION COMPANY
5711 SIX FORKS RD; SUITE 300
RALEIGH, NC 27609
TIMOTHY G. MORGAN
(919) 848-2041
TIM@ECCMGT.COM

Sheet List Table

Sheet Number	Sheet Title
C0.0	COVER SHEET
C1.0	EXISTING CONDITIONS AND DEMOLITION PLAN
C2.0	SITE PLAN
C2.1	PAVEMENT PLAN
C2.2	FIRE APPARATUS ROUTING
C2.3	WASTE SERVICE ROUTING
C3.0	GRADING AND DRAINAGE PLAN
C3.1	SCM DETAILS
C3.2	SCM DETAILS
C3.3	SPOT GRADING PLAN
C5.0	UTILITY PLAN
C5.1	LIGHTING PLAN
C6.0	LANDSCAPE PLAN
C6.1	LANDSCAPE DETAIL
C6.2	TREE CONSERVATION AREA
C7.0	NOTES AND DETAILS
C7.1	NOTES AND DETAILS
C7.2	NOTES AND DETAILS
C7.3	NOTES AND DETAILS
C7.4	NOTES AND DETAILS
C7.5	NOTES AND DETAILS
C7.6	NOTES AND DETAILS
C7.7	NOTES AND DETAILS
C7.8	NOTES AND DETAILS
C7.9	NOTES AND DETAILS
A2.1	ARCHITECTURAL ELEVATIONS



VICINITY MAP
NTS

GENERAL NOTE
ALL CONTRACTORS SHALL VISIT THE PROJECT TO FAMILIARIZE THEMSELVES WITH SITE CONDITIONS PRIOR TO BIDDING OR CONSTRUCTION. BY SUBMITTING A BID, THE CONTRACTOR AND HIS SUBCONTRACTORS ARE CONFIRMING THAT THEY HAVE VISITED THE SITE AND HAVE INCLUDED IN THEIR BID ANY ADDITIONAL ITEMS OF CONSTRUCTION THAT MAY BE REQUIRED DUE TO EXISTING SITE CONDITIONS.

EXEMPTIONS
BLOCK PERIMETER 8.3.2.A.2.b

- REQUIRED IN CX-3 ZONING ON SITES OVER 5 AC
- PROPOSED SITE AREA < 5 AC

PER SKETCH PLAN MEETING NOTES 10/03/2023

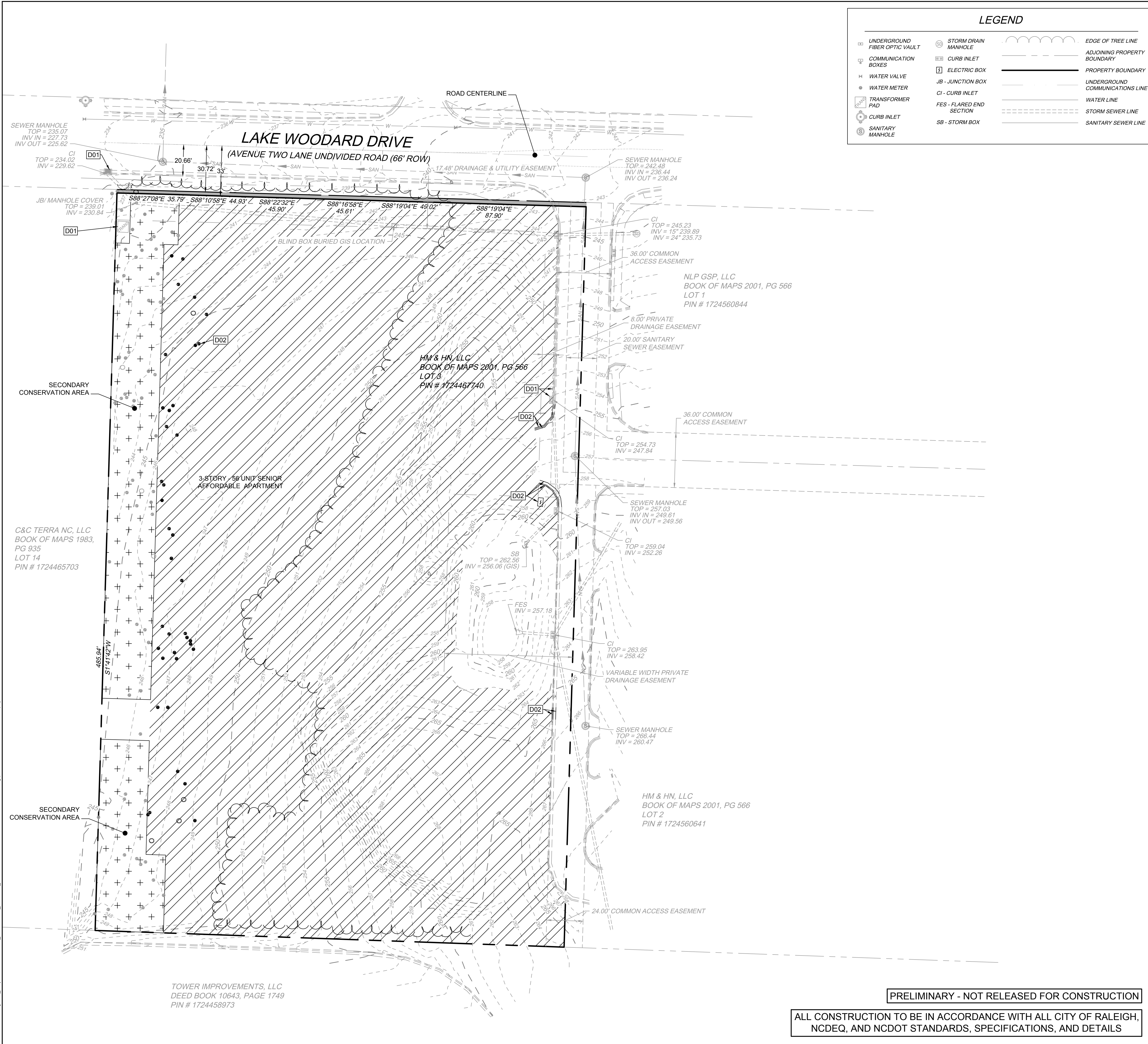
- WOODARD DRIVE IS AN AVENUE 2-LANE DIVIDED ROAD WITH A 66 FOOT REQUIRED ROW.
- AT SKETCH PLAN IT WAS SUGGESTED THAT A FEE-IN-LIEU FOR THE BIKE LANE WOULD BE AN OPTION, SINCE THERE ARE NO BIKE LANES IN THIS AREA OF RALIEGH.
- THE HALF ROW DESIGN WOULD BE A 6' PLANTED SECTION AND A 6' SIDEWALK WITH NO BIKE LANE.
- PROVIDE A 20' SLOPE EASEMENT FOR A FUTURE BIKE LANE

SITE DATA TABLE

PROJECT NAME:	LAKE HAVEN
PROPERTY OWNER:	LAKE HAVEN ASSOCIATES LLC 10501 CHARMFORD WAY RALEIGH, NC 27615-6569
APPLICANT:	LAKE HAVEN ASSOCIATES LLC 10501 CHARMFORD WAY RALEIGH, NC 27615-6569
PIN(S):	1724467740
DEED REFERENCE:	DB 19508 PG 2248
PROPERTY ADDRESS:	3700 LAKE WOODARD DR RALEIGH, NC 27604
TOWNSHIP:	ST. MATTHEWS
EXISTING ZONING:	COMMERCIAL MIXED USE (CX-3)
PROPOSED ZONING:	COMMERCIAL MIXED USE (CX-3)
EXISTING USE:	VACANT
PROPOSED USE:	APARTMENT BUILDING
EXISTING SITE AREA:	151,312 SF (3.47 AC)
RIGHT-OF-WAY DEDICATION:	789 SF (0.018 AC)
PROPOSED SITE AREA:	150,522 SF (3.46 AC)
EXISTING IMPERVIOUS:	10,494 SF (0.42 AC)
PROPOSED IMPERVIOUS:	89,480 SF (2.05 AC) INCLUDES 4,356 SF (0.1 AC) OF FUTURE IMPERVIOUS AREA
TREE CONSERVATION AREA:	
MINIMUM AREA:	CITY OF RALEIGH: 10% OF NET SITE AREA TOTAL: 10% X 3.48 AC = 0.35 AC
PROPOSED AREA:	0.35 AC
OUTDOOR AMENITY AREA:	
REQUIRED:	0.35 ACRES = 10%
PROVIDED:	0.35 ACRES = 10%
SETBACKS AND BUFFERS SUMMARY:	
FRONT STREET:	BUILDING = 5 FT PARKING = 10 FT
SIDE STREET:	BUILDING = 5 FT PARKING = 10 FT
SIDE:	BUILDING = 6 FT
REAR:	BUILDING = 6 FT
PROPOSED BUILDING INFORMATION:	
TOTAL GROSS S.F.:	64,6396 SF
PROPOSED BUILDING HEIGHT:	49'-10" (3 STORY)
PARKING SUMMARY:	
MINIMUM REQUIRED PARKING SPACES:	CITY OF RALEIGH: N/A EVERGREEN: 1 SPACE PER UNIT X 56 UNITS = 56 SPACES
MAXIMUM ALLOWED PARKING SPACES:	CITY OF RALEIGH: 0-1 BEDROOM: 1.5 SPACES PER UNIT X 28 UNITS = 42 SPACES 2 BEDROOMS: 2.25 SPACES PER UNIT X 28 UNITS = 63 SPACES TOTAL: 42 SPACES + 63 SPACES = 105 SPACES
PROVIDED PARKING SPACES:	81 SPACES
MINIMUM REQUIRED HANDICAP SPACES:	EVERGREEN: TYPE A: 1 SPACE PER TYPE A UNIT X 6 TYPE A UNITS = 6 SPACES TYPE B: 1 SPACE PER 2% OF TOTAL TYPE B UNITS X 50 TYPE B UNITS = 1 SPACE TOTAL: 6 SPACES + 1 SPACE = 7 SPACES
PROVIDED HANDICAP SPACES:	8 SPACES (INCLUDING 4 VAN ACCESSIBLE SPACES)
TOTAL PROVIDED PARKING:	81 SPACES (INCLUDING 8 ADA SPACES)
BICYCLE PARKING REQUIRED:	SHORT-TERM: 1 SPACE PER 20 UNITS (4 MIN) X 56 UNITS = 3 SPACES (4 MIN) LONG-TERM: 1 SPACE PER 7 BEDROOMS * 84 BEDROOMS = 12 SPACES TOTAL: 4 SPACES + 12 SPACES = 16 SPACES
BICYCLE PARKING PROVIDED:	SHORT-TERM: 4 SPACES LONG-TERM: 12 SPACES TOTAL: 4 SPACES + 12 SPACES = 16 SPACES



KNOW WHAT'S BELOW.
CALL 811 BEFORE YOU DIG.



LEGEND

<ul style="list-style-type: none"> UNDERGROUND FIBER OPTIC VAULT COMMUNICATION BOXES WATER VALVE WATER METER TRANSFORMER PAD CURB INLET SANITARY MANHOLE 	<ul style="list-style-type: none"> STORM DRAIN MANHOLE CURB INLET ELECTRIC BOX JB - JUNCTION BOX CI - CURB INLET FES - FLARED END SECTION SB - STORM BOX 	<ul style="list-style-type: none"> EDGE OF TREE LINE ADJOINING PROPERTY BOUNDARY PROPERTY BOUNDARY UNDERGROUND COMMUNICATIONS LINE WATER LINE STORM SEWER LINE SANITARY SEWER LINE
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DEMOLITION KEYNOTES

NUMBER	DESCRIPTION
D01	EXISTING FEATURE TO REMAIN.
D02	REMOVE EXISTING FEATURE IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS. CONTRACTOR TO COORDINATE AS NEEDED WITH LOCAL MUNICIPALITY, INSPECTORS, AND/OR UTILITY COMPANIES.
	TREE DEMOLITION AREA
	RESOURCE CONSERVATION AREA

- SURVEY NOTES**
- ON SITE BOUNDARY, TOPOGRAPHY AND PLANIMETRIC INFORMATION IS TAKEN FROM A SURVEY BY ATKINSON LAND SURVEYOR, PLLC DATED 10/31/2023. OFFSITE TOPOGRAPHY AND PLANIMETRIC INFORMATION FROM OTHER SOURCES AND HAS NOT BEEN FIELD VERIFIED BY TIMMONS GROUP.
 - ALL DISTANCES SHOWN ON SURVEY ARE HORIZONTAL GROUND DISTANCES UNLESS OTHERWISE NOTED.
 - THIS SURVEY DOES NOT REPRESENT A TITLE SEARCH BY THIS FIRM.
 - BASIS OF BEARING SHOWN HEREON IS NC GRID NAD 83 (2011).
 - VERTICAL DATUM SHOWN HEREON IS NAVD88.
 - NOT LOCATED IN FLOOD HAZARD AREA PER FEMA MAP #3720172400K (REVISED 09-19-2022).
 - RECORDED PROPERTY DATA: BOOK OF MAPS 2001, PG 566
 - EXISTING IMPERVIOUS AREA = 0.16 ACRES
 - THE UTILITIES ON THESE PLANS ARE APPROXIMATE ONLY, AND ARE NOT ACCURATE FOR CONSTRUCTION PURPOSES. FOR FIELD MARKS CALL 1-800-632-4949.

- DEMOLITION NOTES**
- ALL UTILITIES OR STRUCTURES NOT INDICATED FOR REMOVAL OR MODIFICATION ARE TO REMAIN AND BE PROTECTED FROM DAMAGE. CONTRACTOR TO OBTAIN, REFERENCE, AND UTILIZE ALL AVAILABLE ENVIRONMENTAL REPORTS (PHASE 1 ESA, ASBESTOS, ETC.) FROM DEVELOPER.
 - ALL WASTE MATERIAL GENERATED FROM CLEARING AND DEMOLITION ACTIVITIES SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH ALL APPLICABLE RULES AND REGULATIONS.
 - REMOVE/DEMOLISH/ABANDON AFTER EROSION CONTROL MEASURES ARE IN PLACE AN APPROVAL OF THE INSPECTOR. REFER TO EROSION CONTROL PLAN.
 - REMOVE TOPSOIL AND STOCKPILE APPROPRIATELY ON-SITE. ON-SITE TEMPORARY STOCKPILES SHALL BE LOCATED WITHIN CONSTRUCTION LIMITS.
 - DO NOT INTERRUPT EXISTING UTILITIES SERVICING FACILITIES OCCUPIED BY THE OWNER OR OTHERS EXCEPT WHEN PERMITTED UNDER THE FOLLOWING CONDITIONS AND THEN ONLY AFTER ARRANGING TO PROVIDE ACCEPTABLE TEMPORARY UTILITY SERVICES: (1) NOTIFY OWNER NOT LESS THAN ONE WEEK IN ADVANCE OF PROPOSED UTILITY INTERRUPTIONS; (2) DO NOT PROCEED WITH UTILITY INTERRUPTIONS WITHOUT RECEIVING OWNER WRITTEN PERMISSION; (3) COORDINATE ALL UTILITY RELOCATION WITH APPROPRIATE UTILITY PROVIDER.
 - ALL PAVEMENT OR CONCRETE TO BE REMOVED SHALL BE SAW CUT TO PROVIDE A STRAIGHT AND UNIFORM JOINT WITH NEW CONSTRUCTION. ANY EXISTING PAVEMENT, SIDEWALK, CURB & GUTTER, ETC. THAT MUST BE REMOVED TO ALLOW NEW CONSTRUCTION SHALL BE REMOVED TO ALLOW NEW CONSTRUCTION SHALL BE REMOVED AND REPAIRED PER THE SPECIFICATIONS AND DETAILS OR TO MATCH EXISTING CONDITIONS (WHETHER OR NOT SHOWN ON THE DRAWINGS TO BE REMOVED). UTILITY INSTALLATIONS MAY UTILIZE OPEN CUT OF PAVEMENTS UNLESS INDICATED OTHERWISE. TRENCH IN EXISTING ASPHALT SHALL BE PATCHED PER PAVEMENT REPAIR DETAIL.
 - PROTECT ALL ADJACENT PROPERTIES, THE GENERAL PUBLIC AND ALL OF THE OWNER'S FACILITIES. SHOULD DAMAGE OCCUR, NOTIFY ARCHITECT IMMEDIATELY.
 - SUBSURFACE FEATURES ARE SHOWN IN APPROXIMATE LOCATION. CONTRACTOR IS RESPONSIBLE FOR SUBSURFACE UTILITY EXPLORATION TO DETERMINE UTILITY LOCATIONS AND DEPTHS.
 - THE CONTRACTOR SHALL USE NC ONE CALL (811) TO LOCATE ALL UNDERGROUND UTILITIES.
 - CONTRACTOR TO VERIFY LOCATIONS AND SIZES OF ALL EXISTING FEATURES PRIOR TO COMMENCEMENT OF CONSTRUCTION. REPAIR AND REPLACE ANY DAMAGES TO EXISTING UTILITIES RESULTING FROM CONSTRUCTION.
 - CONTRACTOR IS RESPONSIBLE FOR REMOVING OR ABANDONING ALL EXISTING UTILITIES AND STRUCTURES REQUIRED TO COMPLETE SITE CONSTRUCTION, EITHER ONSITE OR IN PUBLIC ROW, IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
 - WATER AND SEWER ABANDONMENT SHALL BE DONE IN ACCORDANCE WITH CITY OF RALEIGH STANDARDS INCLUDING DISCONNECT FROM THE MAIN AND REMOVAL OF SERVICES FROM THE RIGHT-OF-WAY.
 - ANY EXISTING UNIDENTIFIED SEPTIC SYSTEMS AND WELLS FOUND ON SITE SHALL BE REMOVED OR ABANDONED IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS AT NO CHARGE TO THE OWNER
 - VERIFY ALL ILLUSTRATED KNOWN UNDERGROUND ELEMENTS. EXERCISE REASONABLE EFFORTS TO PROTECT ANY UNKNOWN UNDERGROUND ELEMENTS. NOTIFY THE ARCHITECT IMMEDIATELY IF UNKNOWN ELEMENTS ARE DISCOVERED THAT WOULD NECESSITATE MODIFICATION TO THE PROPOSED DESIGN.
 - CONTRACTOR SHALL COORDINATE ALL CONNECTIONS, RELOCATION AND DEMOLITION WORK WITH THE APPROPRIATE COMPANY OR JURISDICTION HAVING AUTHORITY AND SHALL OBTAIN ANY PERMITS AS REQUIRED.
 - ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, AND OSHA REGULATIONS.
 - EXISTING MANHOLES, VALVE BOXES, VAULTS, CLEANOUTS, UTILITY POLES ETC. TO REMAIN WITHIN THE GRADING LIMITS SHALL BE ADJUSTED AS NEEDED TO FUNCTION PROPERLY WITH THE PROPOSED FINISHED GRADES (WHETHER OR NOT INDICATED TO BE MODIFIED).
 - GENERAL CONTRACTOR TO COORDINATE ALL PEDESTRIAN ACCESS PATHS, LOCATIONS, LIGHTING ETC. WITH THE DEVELOPER.
 - CONTRACTOR SHALL NOTIFY APPROPRIATE DEPARTMENTS PRIOR TO BEGINNING ANY WORK WITHIN PUBLIC RIGHT-OF-WAY.

PRELIMINARY NOT FOR CONSTRUCTION

TIMMONS GROUP

LAKE HAVEN
RALEIGH - WAKE COUNTY - NORTH CAROLINA
EXISTING CONDITIONS AND DEMOLITION PLAN

NORTH CAROLINA LICENSE NO. C-1652

YOUR VISION ACHIEVED THROUGH OURS.	DATE	DATE
		02/02/2024
	DRAWN BY	332
	DESIGNED BY	P. BARBEAU
	CHECKED BY	R. BARBER
	SCALE	AS SHOWN

TIMMONS GROUP

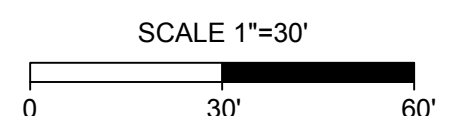
LAKE HAVEN
RALEIGH - WAKE COUNTY - NORTH CAROLINA
EXISTING CONDITIONS AND DEMOLITION PLAN

NORTH CAROLINA LICENSE NO. C-1652

JOB NO. 42601.013
SHEET NO. C1.0

PRELIMINARY - NOT RELEASED FOR CONSTRUCTION

ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL CITY OF RALEIGH, NCDEQ, AND NCDOT STANDARDS, SPECIFICATIONS, AND DETAILS



TOWER IMPROVEMENTS, LLC
DEED BOOK 10643, PAGE 1749
PIN # 1724458973

S:\33242601-Evergreen_Proj\013-332-Lake_Haven-Lake_Woodard_Dr\DWG\Sheet\CD\2401.01\51\CD-EXIS.dwg [Plotted on 2/2/2024 4:50 PM] by Jon Clark

PRELIMINARY
NOT FOR
CONSTRUCTION

THIS DRAWING PREPARED AT THE
RALEIGH OFFICE
5410 Trinity Road, Suite 102, Raleigh, NC 27607
TEL 919.866.9511 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

DATE
02/02/2024

DRAWN BY
332

DESIGNED BY
P. BARBEAU

CHECKED BY
R. BARBER

SCALE
AS SHOWN

TIMMONS GROUP

LAKE HAVEN
RALEIGH - WAKE COUNTY - NORTH CAROLINA

NORTH CAROLINA LICENSE NO. C-1652

SITE PLAN

JOB NO.
42601.013

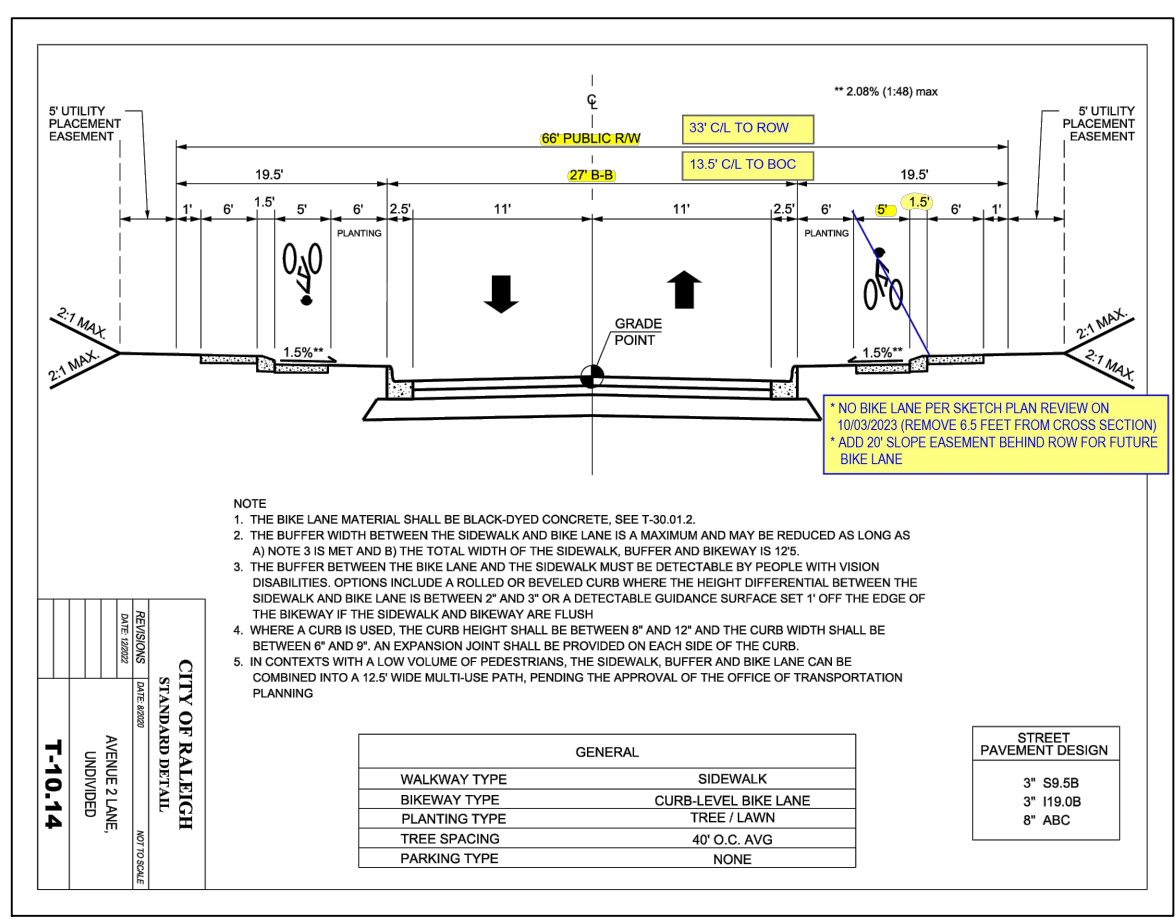
SHEET NO.
C2.0

SITE LAYOUT KEYNOTES	
NUMBER	DESCRIPTION
S01	RIGHT-OF-WAY (TYP.)
S02	PROPERTY BOUNDARY (TYP.)
S03	RIGHT-OF-WAY DEDICATION (VARIABLE WIDTH)
S05	24" CONCRETE CURB & GUTTER (REFER TO DETAIL)
S06	30" CONCRETE CURB & GUTTER (REFER TO NCDOT 846.01)
S07	TAPER 30" CURB TO 24" CURB
S08	FLUSH CURB
S09	SIDEWALK RAMP @ 8.33% MAXIMUM (TYPICAL - PER ADA AND LOCAL CODES)
S11	BUILDING (REFER TO ARCHITECTURAL PLANS)
S12	DUMPSTER ENCLOSURE (REFER TO DETAIL AND ARCH PLANS)
S13	BUILDING PRIMARY ENTRANCE
S14	OVERHEAD CANOPY (DESIGNED BY OTHERS)
S15	HVAC CONCRETE PAD (TYP.)
S16	SHORT-TERM BICYCLE PARKING (100' MAXIMUM FROM BUILDING ENTRANCE PER U.D.O. SECTION 7.1.8.B.2 BICYCLE RACKS TO BE SPACED 3' O.C.)
S17	COVERED LONG-TERM BICYCLE PARKING (300' MAXIMUM FROM BUILDING ENTRANCE PER U.D.O. SECTION 7.1.8.B.2 BICYCLE RACKS TO BE SPACED 3' O.C.)
S20	RETAINING WALL (DESIGNED BY OTHERS) WITH 42" MINIMUM SAFETY RAILING AT ALL AREAS TALLER THAN 30" (DESIGNED BY OTHERS)
S21	CONCRETE SIDEWALK (REFER TO PLANS FOR WIDTH DIMENSIONS)
S22	PEDESTRIAN CROSSWALK STRIPING (PER CITY OF RALEIGH)
S23	ACCESSIBLE PARKING SIGN (TYPICAL - PER ADA AND LOCAL CODES); R7-8A (MUTCD)
S24	VAN ACCESSIBLE PARKING SIGN (TYPICAL - PER ADA AND LOCAL REQUIREMENTS); R7-8A (MUTCD)
S25	ADA ACCESSIBLE PARKING SPACE STRIPING AND SYMBOL OF ACCESSIBILITY (TYPICAL - PER ADA AND LOCAL CODES)
S26	DIRECTIONAL TRAFFIC ARROW (PER LOCAL CODES)
S27	GAZEBO (DESIGNED BY OTHERS)
S28	5' CITY OF RALEIGH WATER METER EASEMENT
S29	MONUMENT SIGN (DESIGNED BY OTHERS)
S30	LIGHT POLE AND BASE (TYPICAL - REFER TO LIGHTING AND ARCHITECTURAL PLANS)
S31	CURB STOP (TYP.)

- SITE LAYOUT NOTES**
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH AND NCDOT STANDARDS AND SPECIFICATIONS.
 - ALL DIMENSIONS ARE TO FACE OF CURB, EDGE OF PAVING, BUILDING WALL FACE OR PROPERTY LINE UNLESS OTHERWISE NOTED.
 - CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, UTILITIES AND GRADES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY EXISTING DISCREPANCIES PRIOR TO COMMENCING ANY RELATED CONSTRUCTION.
 - AT LEAST 72 HOURS PRIOR TO CONSTRUCTION OR EXCAVATION THE CONTRACTOR SHALL NOTIFY "NORTH CAROLINA ONE CALL" (811) OR (1-800-632-4949) TO HAVE EXISTING UTILITIES LOCATED.
 - PARKING SPACES ARE 9' WIDE X 18' LONG MINIMUM EXCEPT HANDICAP SPACES WHICH ARE 8' 0" WIDE MINIMUM WITH 8' 0" VAN ACCESS AND 5' 0" STANDARD ACCESS AISLES.
 - REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS OF THE BUILDING. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DIMENSIONAL CONFLICTS PRIOR TO THE BEGINNING OF CONSTRUCTION.
 - ALL CURB AND GUTTER ON-SITE SHALL BE 24" WIDE. ALL CURB AND GUTTER IN THE PUBLIC RIGHT OF WAY SHALL BE 30" WIDE.
 - TRANSITION FROM 30" TO 24" CURB AND GUTTER IS TO OCCUR ON-SITE. THIS TRANSITION SHALL BE 10' LONG IMMEDIATELY ADJACENT TO PUBLIC RIGHT OF WAY OR AS DIRECTED IN THE PLAN.
 - ALL DISTURBED CURB & GUTTER AND ASPHALT SHALL BE REPLACED PER CITY OF RALEIGH OR NCDOT STANDARDS AND SPECIFICATIONS.
 - ALL DRIVEWAY DESIGN AND CONSTRUCTION MUST COMPLY WITH CITY OF RALEIGH. DRIVEWAYS SHALL BE PERMITTED SEPARATELY.
 - NO SIGHT OBSTRUCTING OR PARTIALLY OBSTRUCTING WALL, FENCE, FOLIAGE, BERMING, PARKED VEHICLES OR SIGN BETWEEN THE HEIGHTS OF TWENTY-FOUR (24) INCHES AND EIGHT (8) FEET ABOVE THE CURB LINE ELEVATION, OR THE NEAREST TRAVELED WAY IF NO CURBING EXISTS, SHALL BE PLACED WITHIN A SIGHT TRIANGLE OF A PUBLIC STREET, PRIVATE STREET OR DRIVEWAY CONTAINED EITHER ON THE PROPERTY OR ON AN ADJOINING PROPERTY.

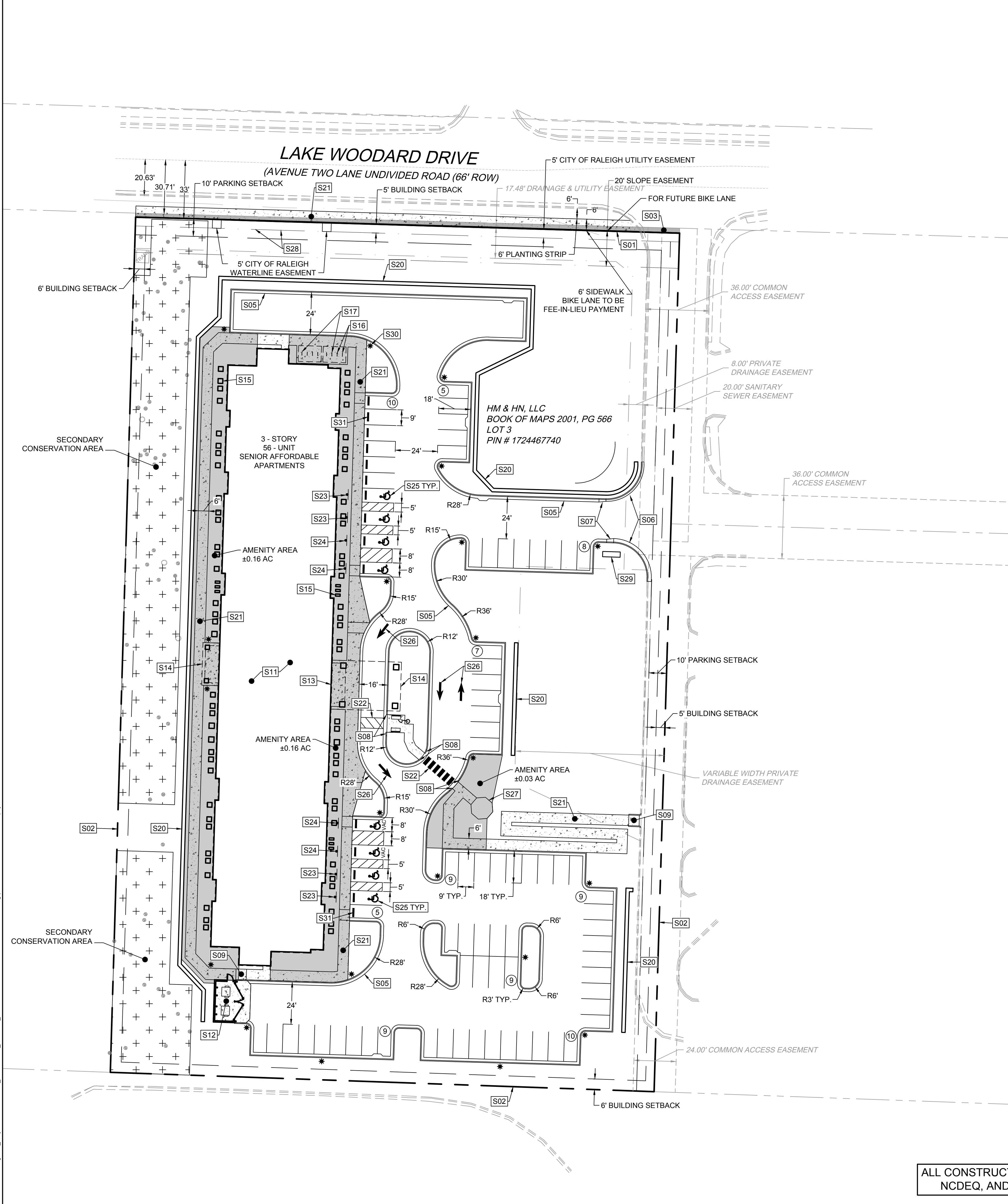
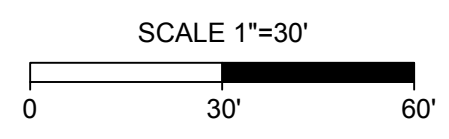
SITE DATA TABLE	
PROJECT NAME:	LAKE HAVEN
PROPERTY OWNER:	LAKE HAVEN ASSOCIATES LLC 10501 CHARMFORD WAY RALEIGH, NC 27615-6569
APPLICANT:	LAKE HAVEN ASSOCIATES LLC 10501 CHARMFORD WAY RALEIGH, NC 27615-6569
PIN(S):	1724467740
DEED REFERENCE:	DB 19508 PG 2248
PROPERTY ADDRESS:	3700 LAKE WOODARD DR RALEIGH, NC 27604
TOWNSHIP:	ST. MATTHEWS
EXISTING ZONING:	COMMERCIAL MIXED USE (CX-3)
PROPOSED ZONING:	COMMERCIAL MIXED USE (CX-3)
EXISTING USE:	VACANT
PROPOSED USE:	APARTMENT BUILDING
EXISTING SITE AREA:	151,312 SF (3.47 AC)
RIGHT-OF-WAY DEDICATION:	789 SF (0.018 AC)
PROPOSED SITE AREA:	150,522 SF (3.46 AC)
EXISTING IMPERVIOUS:	10,494 SF (0.42 AC)
PROPOSED IMPERVIOUS:	89,480 SF (2.05 AC) INCLUDES 4,356 SF (0.1 AC) OF FUTURE IMPERVIOUS AREA
TREE CONSERVATION AREA:	
MINIMUM AREA:	CITY OF RALEIGH: 10% OF NET SITE AREA TOTAL: 10% X 3.48 AC = 0.35 AC
PROPOSED AREA:	0.35 AC
OUTDOOR AMENITY AREA:	REQUIRED: 0.35 ACRES = 10% PROVIDED: 0.35 ACRES = 10%
SETBACKS AND BUFFERS SUMMARY:	
FRONT STREET:	BUILDING = 5 FT PARKING = 10 FT
SIDE STREET:	BUILDING = 5 FT PARKING = 10 FT
SIDE:	BUILDING = 6 FT
REAR:	BUILDING = 6 FT
PROPOSED BUILDING INFORMATION:	
TOTAL GROSS S.F.:	64,6396 SF
PROPOSED BUILDING HEIGHT:	49'-10" (3 STORY)
PARKING SUMMARY:	
MINIMUM REQUIRED PARKING SPACES:	CITY OF RALEIGH: N/A EVERGREEN: 1 SPACE PER UNIT X 56 UNITS = 56 SPACES
MAXIMUM ALLOWED PARKING SPACES:	CITY OF RALEIGH: 1.5 SPACES PER UNIT X 28 UNITS = 42 SPACES 2 BEDROOMS: 2.25 SPACES PER UNIT X 28 UNITS = 63 SPACES TOTAL: 42 SPACES + 63 SPACES = 105 SPACES
PROVIDED PARKING SPACES:	81 SPACES
MINIMUM REQUIRED HANDICAP SPACES:	EVERGREEN: TYPE A: 1 SPACE PER TYPE A UNIT X 6 TYPE A UNITS = 6 SPACES TYPE B: 1 SPACE PER 2% OF TOTAL TYPE B UNITS X 50 TYPE B UNITS = 1 SPACE TOTAL: 6 SPACES + 1 SPACE = 7 SPACES
PROVIDED HANDICAP SPACES:	8 SPACES (INCLUDING 4 VAN ACCESSIBLE SPACES)
TOTAL PROVIDED PARKING:	81 SPACES (INCLUDING 8 ADA SPACES)
BICYCLE PARKING REQUIRED:	SHORT-TERM: 1 SPACE PER 20 UNITS (4 MIN) X 56 UNITS = 3 SPACES (4 MIN) LONG-TERM: 1 SPACE PER 7 BEDROOMS * 84 BEDROOMS = 12 SPACES TOTAL: 4 SPACES + 12 SPACES = 16 SPACES
BICYCLE PARKING PROVIDED:	SHORT-TERM: 4 SPACES LONG-TERM: 12 SPACES TOTAL: 4 SPACES + 12 SPACES = 16 SPACES

SITE LAYOUT KEYNOTES	
S01	RIGHT-OF-WAY (TYP.)
S02	PROPERTY BOUNDARY (TYP.)
S03	RIGHT-OF-WAY DEDICATION (VARIABLE WIDTH)
S05	24" CONCRETE CURB & GUTTER (REFER TO DETAIL)
S06	30" CONCRETE CURB & GUTTER (REFER TO NCDOT 846.01)
S07	TAPER 30" CURB TO 24" CURB
S08	FLUSH CURB
S09	SIDEWALK RAMP @ 8.33% MAXIMUM (TYPICAL - PER ADA AND LOCAL CODES)
S11	BUILDING (REFER TO ARCHITECTURAL PLANS)
S12	DUMPSTER ENCLOSURE (REFER TO DETAIL AND ARCH PLANS)
S13	BUILDING PRIMARY ENTRANCE
S14	OVERHEAD CANOPY (DESIGNED BY OTHERS)
S15	HVAC CONCRETE PAD (TYP.)
S16	SHORT-TERM BICYCLE PARKING (100' MAXIMUM FROM BUILDING ENTRANCE PER U.D.O. SECTION 7.1.8.B.2 BICYCLE RACKS TO BE SPACED 3' O.C.)
S17	COVERED LONG-TERM BICYCLE PARKING (300' MAXIMUM FROM BUILDING ENTRANCE PER U.D.O. SECTION 7.1.8.B.2 BICYCLE RACKS TO BE SPACED 3' O.C.)
S20	RETAINING WALL (DESIGNED BY OTHERS) WITH 42" MINIMUM SAFETY RAILING AT ALL AREAS TALLER THAN 30" (DESIGNED BY OTHERS)
S21	CONCRETE SIDEWALK (REFER TO PLANS FOR WIDTH DIMENSIONS)
S22	PEDESTRIAN CROSSWALK STRIPING (PER CITY OF RALEIGH)
S23	ACCESSIBLE PARKING SIGN (TYPICAL - PER ADA AND LOCAL CODES); R7-8A (MUTCD)
S24	VAN ACCESSIBLE PARKING SIGN (TYPICAL - PER ADA AND LOCAL REQUIREMENTS); R7-8A (MUTCD)
S25	ADA ACCESSIBLE PARKING SPACE STRIPING AND SYMBOL OF ACCESSIBILITY (TYPICAL - PER ADA AND LOCAL CODES)
S26	DIRECTIONAL TRAFFIC ARROW (PER LOCAL CODES)
S27	GAZEBO (DESIGNED BY OTHERS)
S28	5' CITY OF RALEIGH WATER METER EASEMENT
S29	MONUMENT SIGN (DESIGNED BY OTHERS)
S30	LIGHT POLE AND BASE (TYPICAL - REFER TO LIGHTING AND ARCHITECTURAL PLANS)
S31	CURB STOP (TYP.)



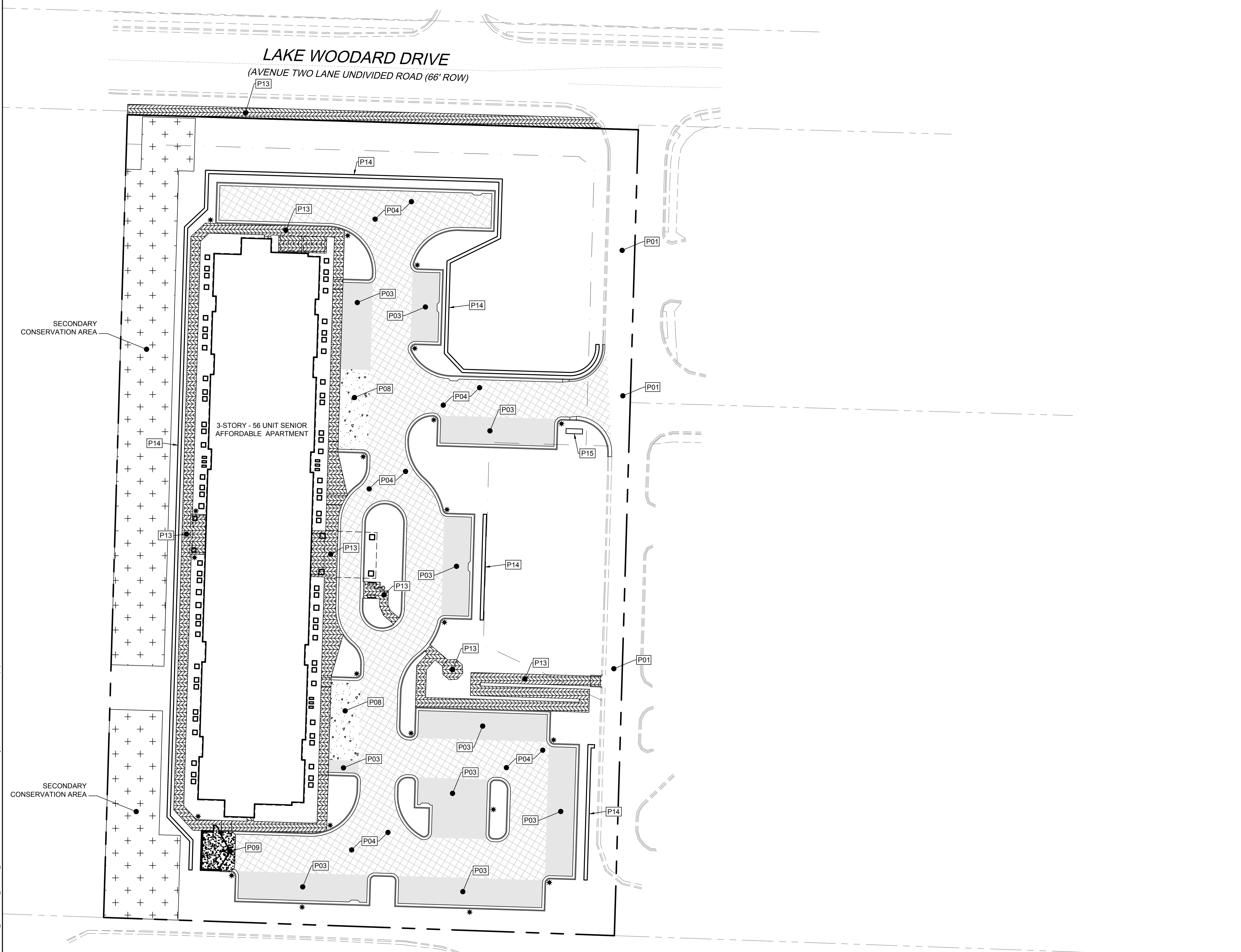
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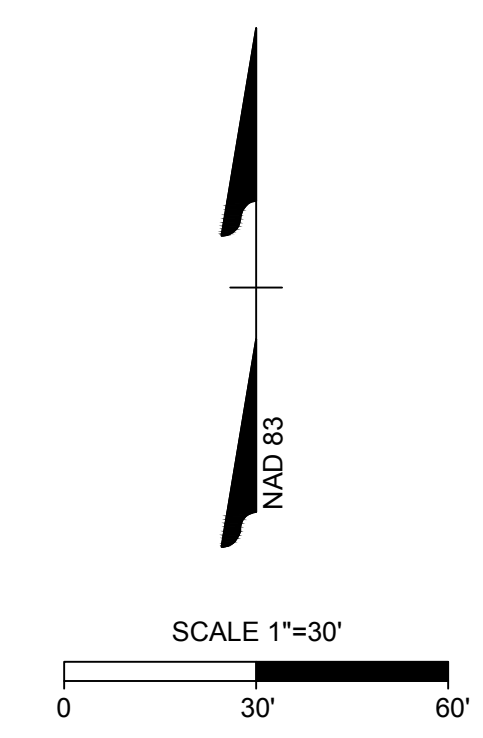
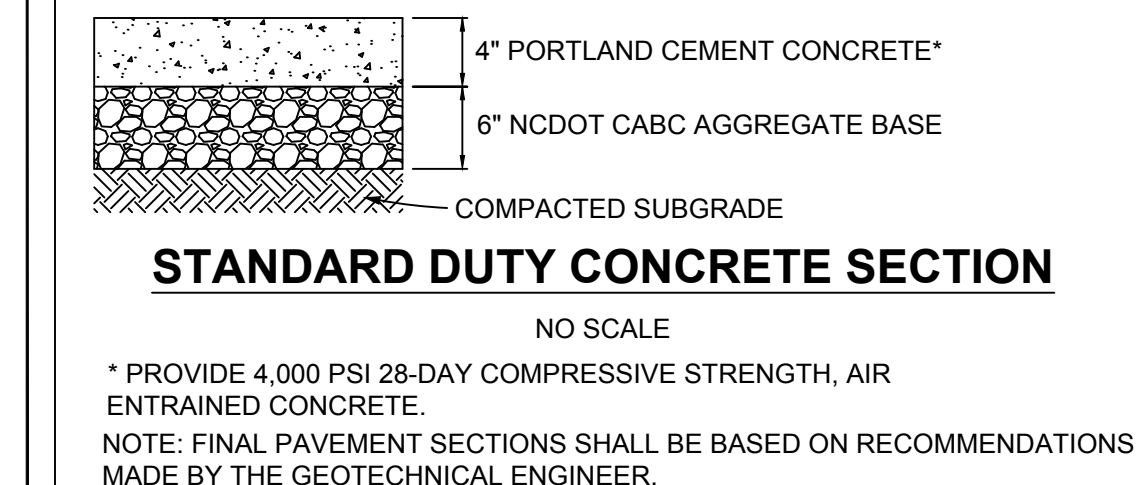
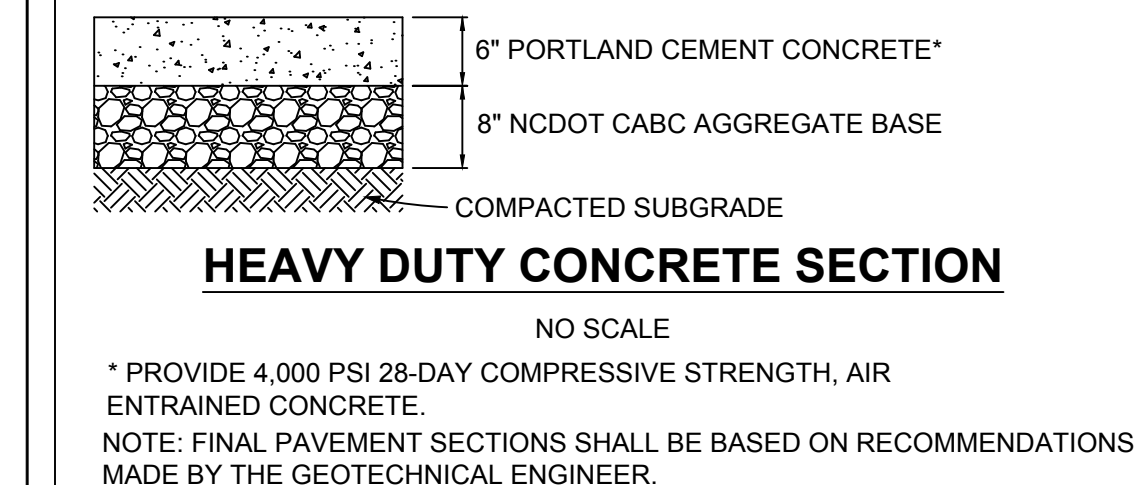
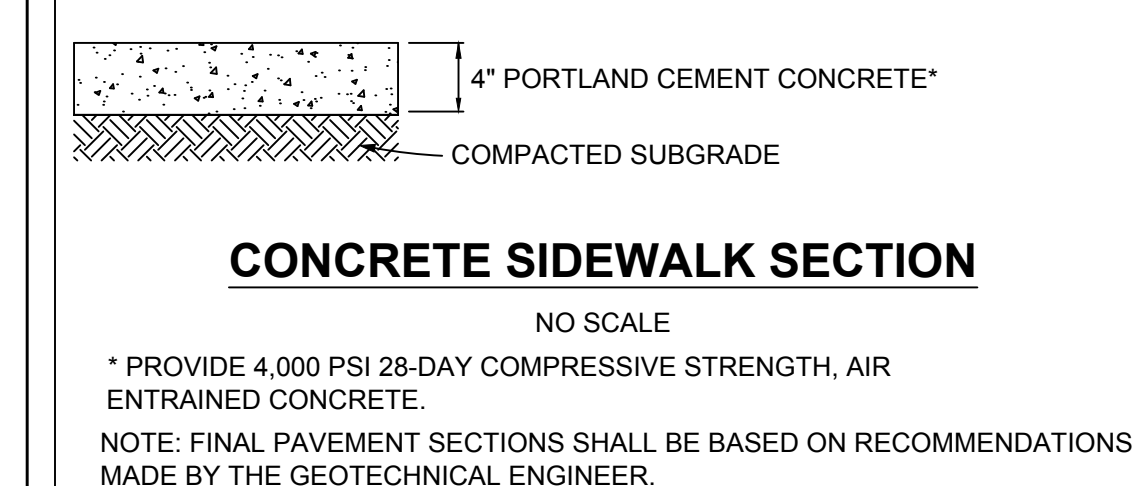
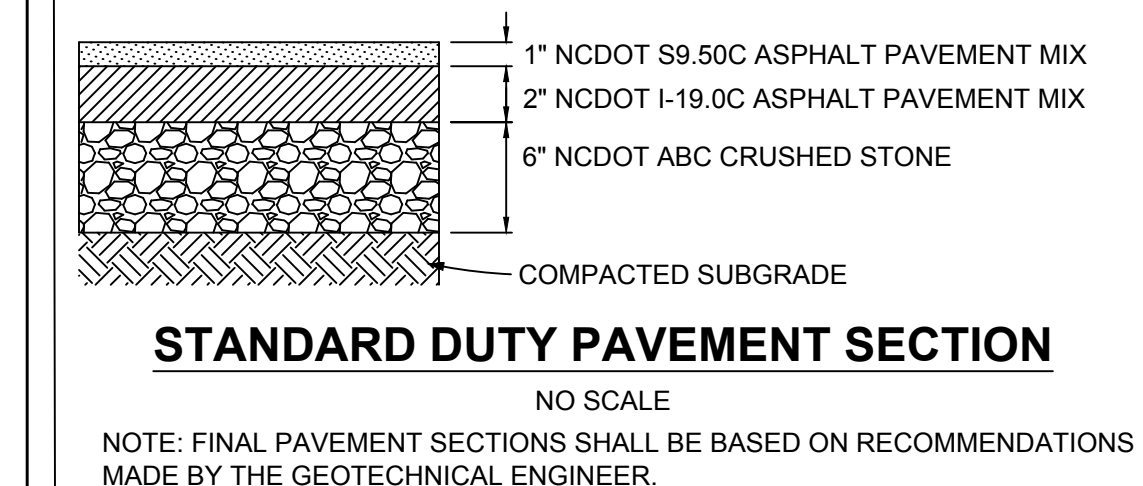
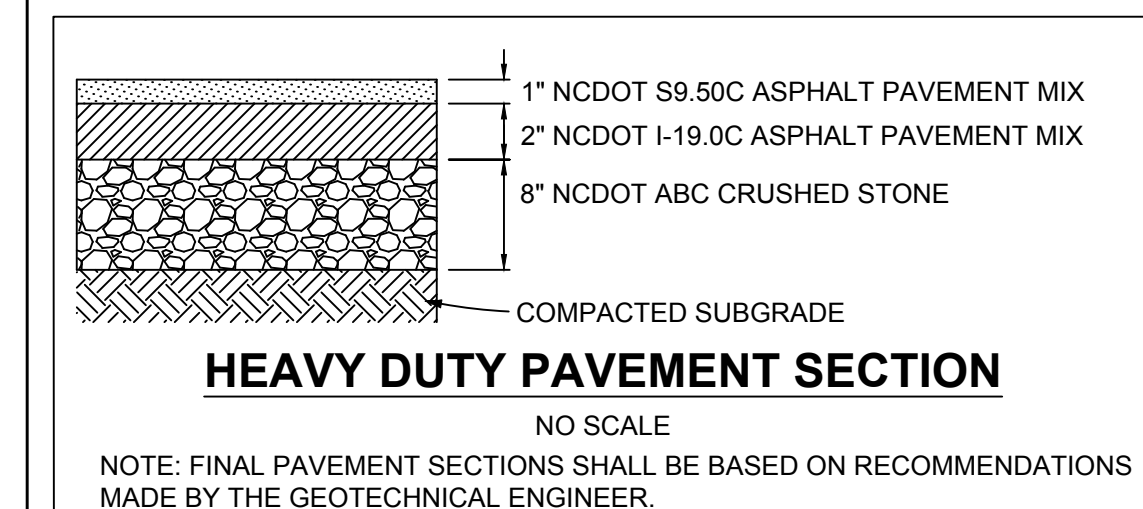


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PAVING KEYNOTES		
NUMBER	HATCH	DESCRIPTION
P01		EXISTING PAVEMENT TO REMAIN UNDISTURBED
P03		STANDARD DUTY ASPHALT PAVING (REFER TO PAVEMENT SECTIONS DETAIL)
P04		HEAVY DUTY ASPHALT PAVING (REFER TO PAVEMENT SECTIONS DETAIL)
P08		STANDARD DUTY CONCRETE PAVING (REFER TO PAVEMENT SECTIONS DETAIL)
P09		HEAVY DUTY CONCRETE PAVING (REFER TO PAVEMENT SECTIONS DETAIL)
P12		EXISTING SIDEWALK TO REMAIN UNDISTURBED
P13		CONCRETE SIDEWALK (REFER TO PAVEMENT SECTIONS DETAIL)
P14		RETAINING WALL (DESIGNED BY OTHERS)
P15		MONUMENT SIGN PAD (DESIGNED BY OTHERS)
P18		TRANSFORMER PAD PER UTILITY PROVIDER SPECIFICATIONS

NOTE: CURB & GUTTER NOT HATCHED. REFER TO SITE LAYOUT PLAN FOR ADDITIONAL INFORMATION.



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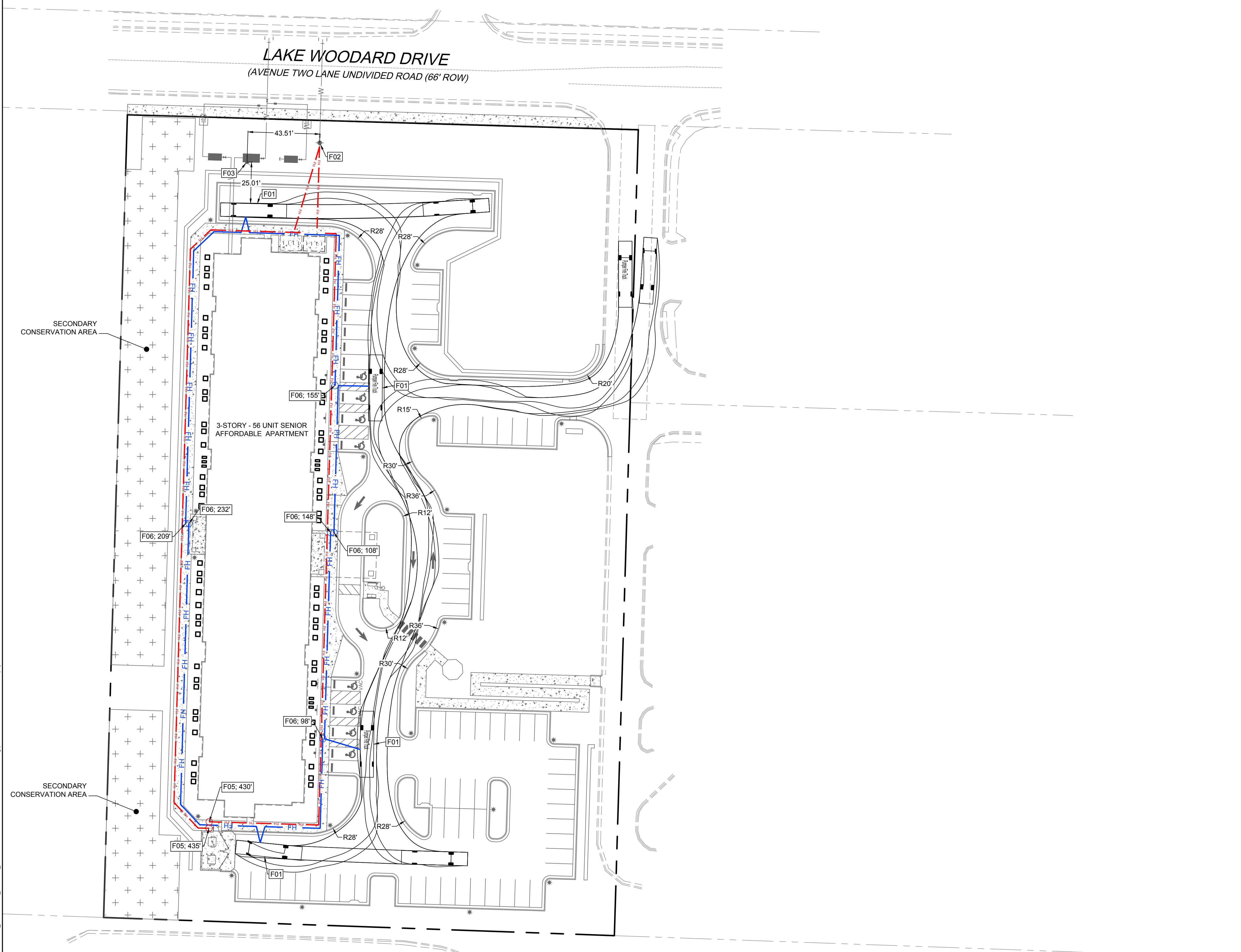
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DESIGNED BY: P. BARBEAU
CHECKED BY: R. BAKER
SCALE: AS SHOWN

TIMMONS GROUP
LAKE HAVEN
PAVEMENT PLAN
NORTH CAROLINA LICENSE NO. C-1652
RALEIGH - WAKE COUNTY - NORTH CAROLINA

JOB NO. 42601.013
SHEET NO. C2.1

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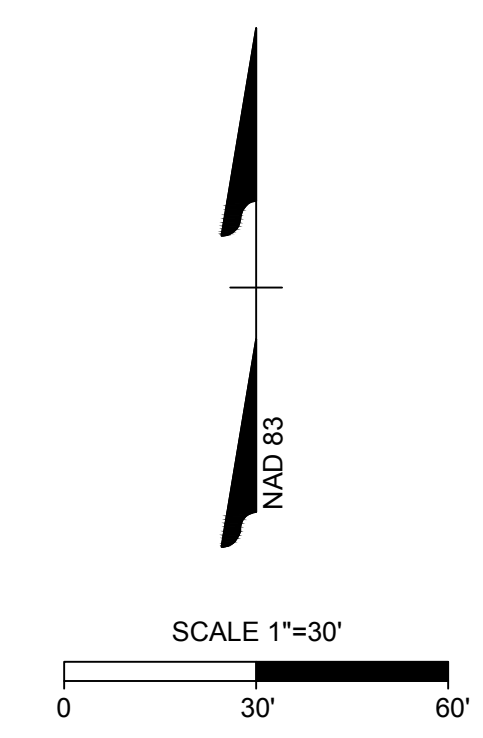
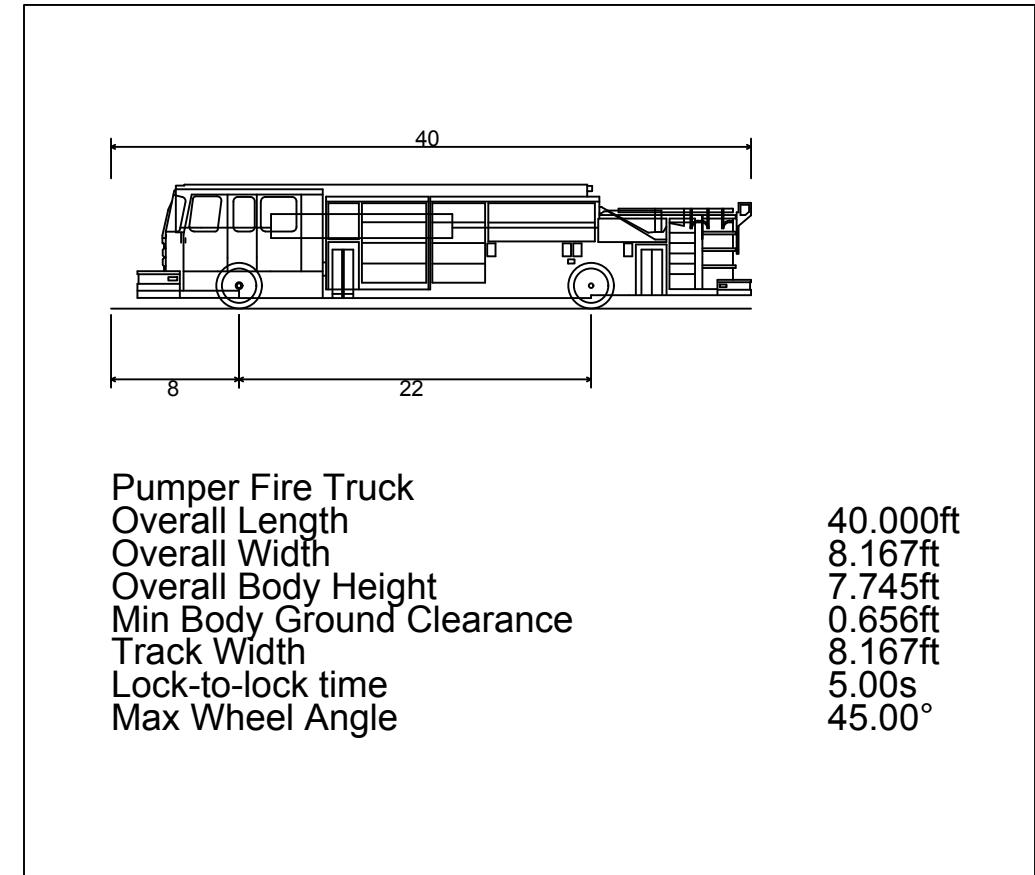
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LEGEND:
 DISTANCE FROM FIRE HYDRANT — FH — (red line)
 DISTANCE FROM FIRE TRUCK ACCESS — FH — (blue line)

FIRE TRUCK EXIT & HYDRANT ACCESS KEYNOTES

NUMBER	DESCRIPTION
F01	FIRE TRUCK (TYP.)
F02	FIRE HYDRANT
F03	FIRE DEPARTMENT CONNECTION
F05	< 600 LF FROM HYDRANT (PULL-THE-HOSE-METHOD)
F06	< 250 LF FROM FIRE TRUCK (PULL-THE-HOSE-METHOD)

NOTE:
 • BUILDING WILL HAVE NFPA 13 SPRINKLER SYSTEM
 • ALLOWED HOSE PULLS FOR FIRE TRUCK = 250 LF
 • ALLOWED HOSE PULLS FOR HYDRANT = 600 LF



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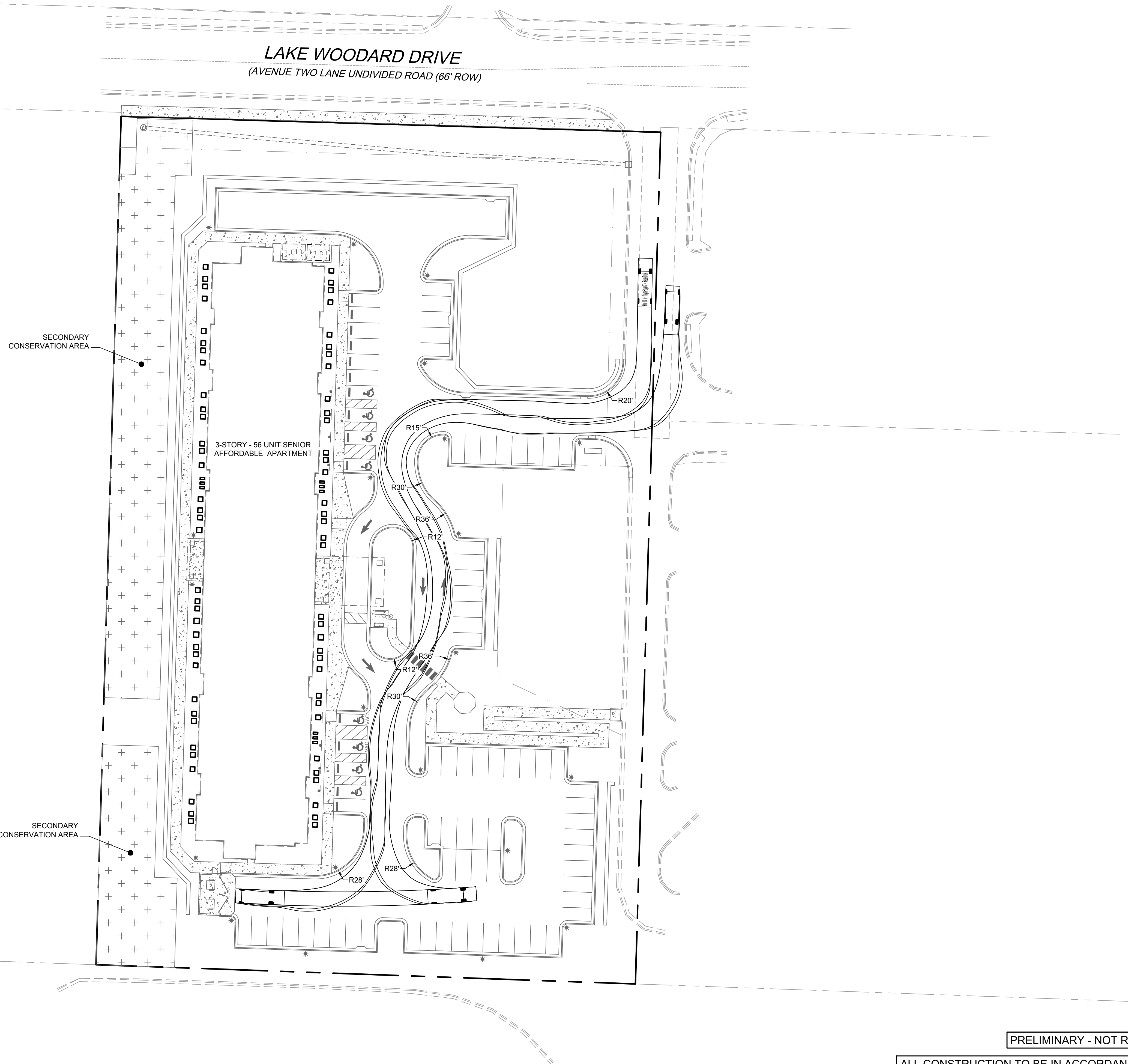
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 RALEIGH - WAKE COUNTY - NORTH CAROLINA
 NORTH CAROLINA LICENSE NO. C-1652
 FIRE APPARATUS ROUTING

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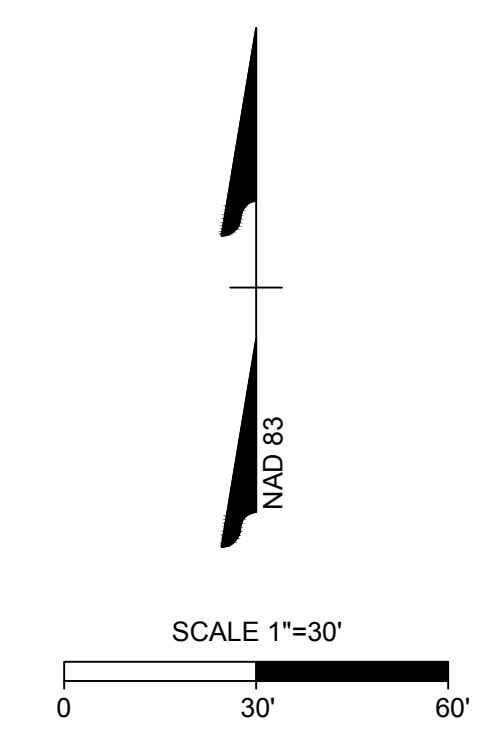
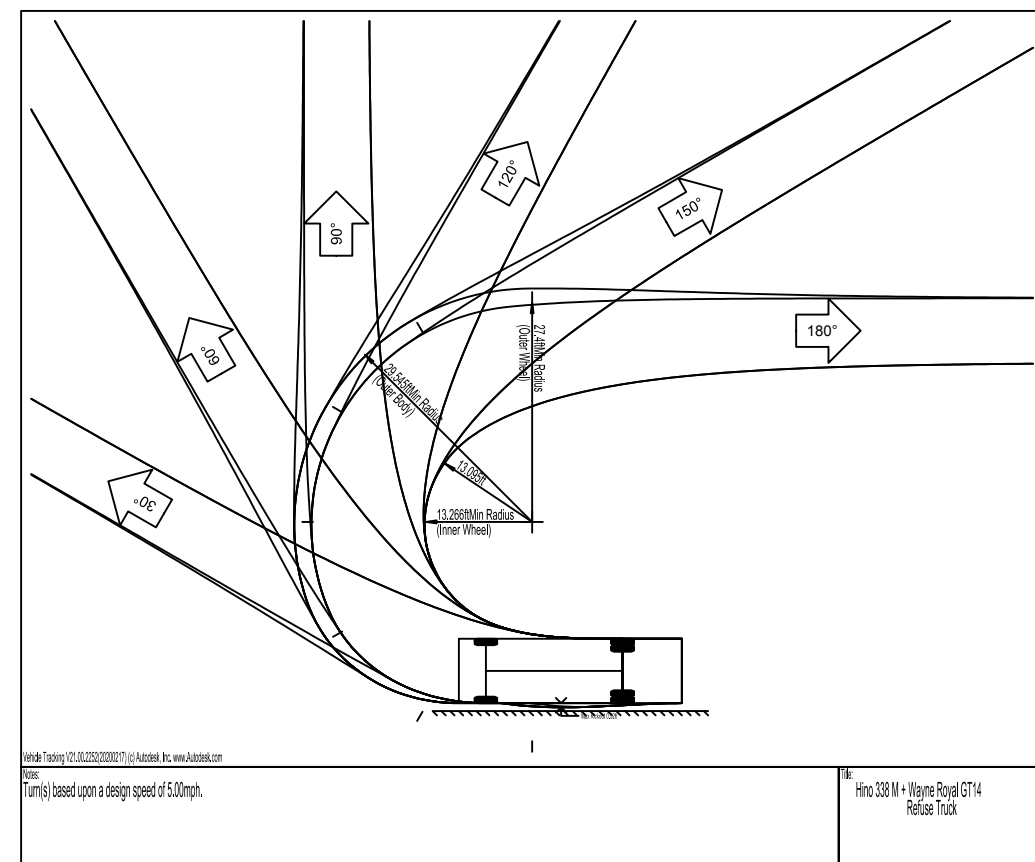
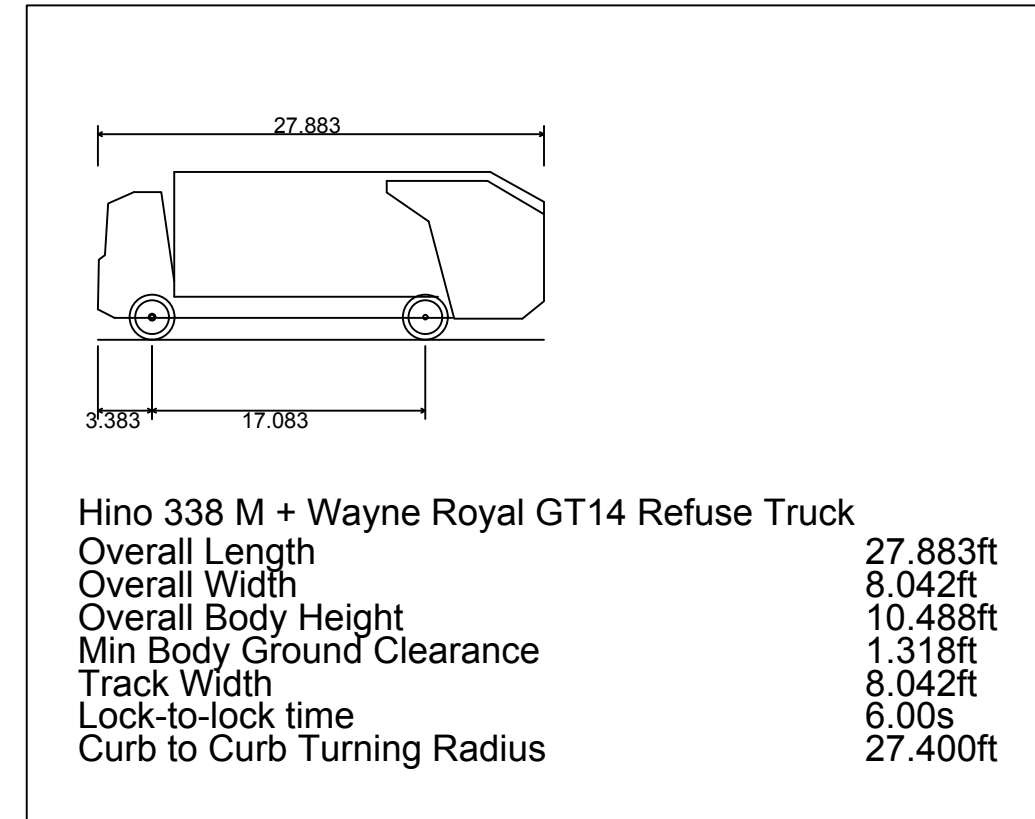


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WASTE SERVICE EXITING SITE KEYNOTES

NUMBER	DESCRIPTION
W01	REAR END LOAD WASTE SERVICE TRUCK (TYP.)
W03	DUMPSTER ENCLOSURE; REFER TO ARCHITECTURAL PLANS



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LAKE HAVEN
 RALEIGH - WAKE COUNTY - NORTH CAROLINA
 WASTE SERVICE ROUTING

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LAKE HAVEN
RALEIGH - WAKE COUNTY - NORTH CAROLINA
GRADING AND DRAINAGE PLAN
NORTH CAROLINA LICENSE NO. C-1652

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SHEET NO.
C3.0

GRADING & STORMWATER KEYNOTES	
NUMBER	DESCRIPTION
G01	EXISTING CURB INLET
G02	EXISTING RCP PIPE
G03	EXISTING STORM STRUCTURE
G04	EXISTING FLARED END SECTION
G05	CONTECH STORMFILTER SYSTEM FOR WATER QUALITY
G06	STORM PIPE (TYP.)
G07	CATCH BASIN (TYP.)
G08	FLARED END SECTION (TYP.)
G09	JUNCTION BOX (TYP.)
G11	NYOPLAST YARD INLET (TYP.)
G12	24" CURB & GUTTER
G13	30" CURB & GUTTER
G15	10' WIDE MAINTENANCE BERM (REFER TO STORMWATER CONTROL MEASURE DESIGN)
G16	30" TOP WIDTH, 20" CREST WIDTH SPILLWAY
G17	TEMPORARY PONDING DEPTH (REFER TO STORMWATER CONTROL MEASURE DESIGN)
G18	BOTTOM OF DETENTION BASIN (REFER TO STORMWATER CONTROL MEASURE DESIGN)
G20	CONTROL RISER STRUCTURE
G22	ADA STALLS (MAX SLOPE 1:50)
G23	INLINE ADA RAMP
G24	SIDEWALK (ADA ACCESS ROUTE MAX CROSS SLOPE 1:50; MAX LONG. SLOPE = 1:20)
G25	ADA ACCESS ROUTE (MAXIMUM CROSS SLOPE = 1:50; MAX LONGITUDINAL SLOPE = 1:20)
G26	MATCH EXISTING PAVEMENT ELEVATION
S20	RETAINING WALL (DESIGNED BY OTHERS) WITH 42" MINIMUM SAFETY RAILING AT ALL AREAS TALLER THAN 30" (DESIGNED BY OTHERS)

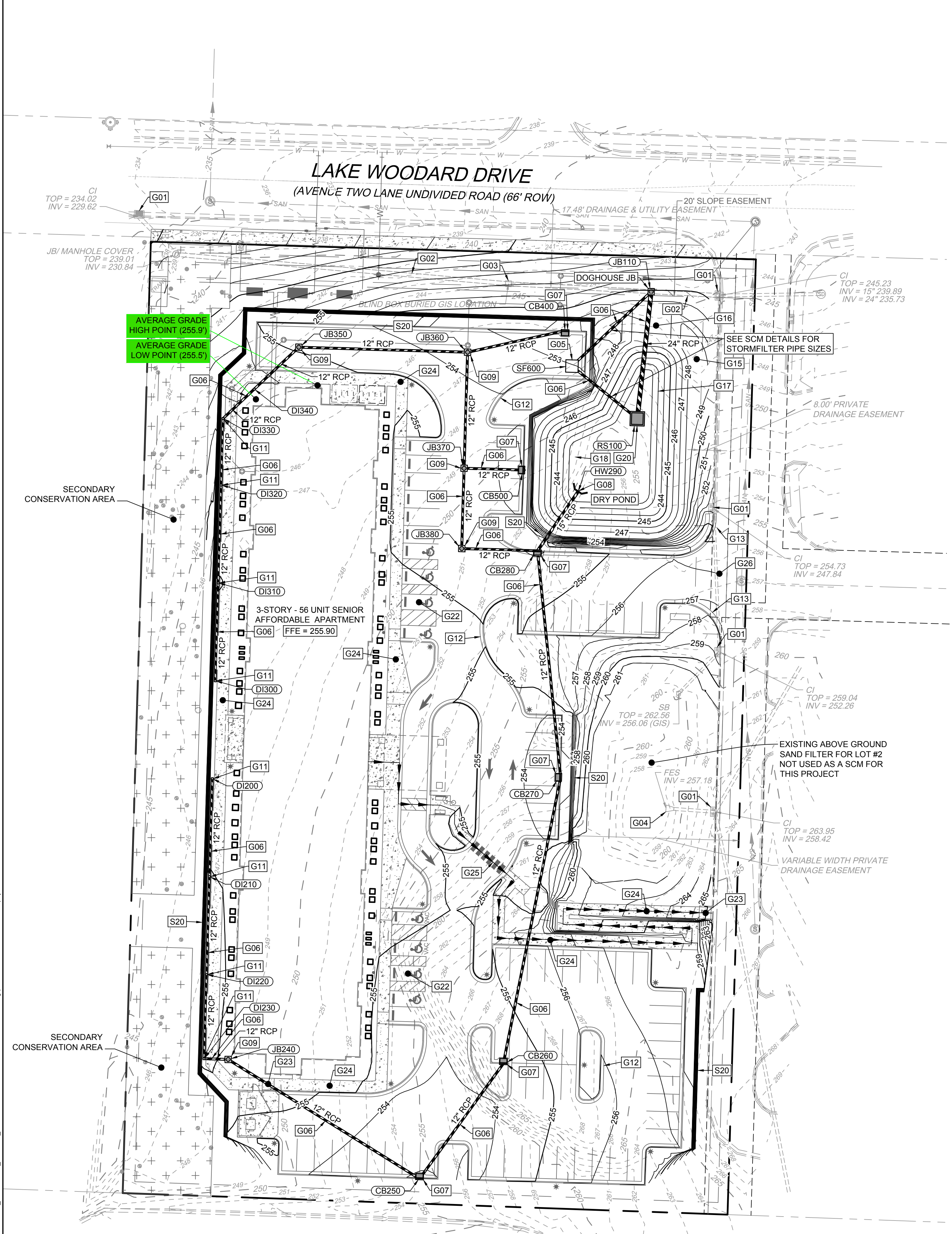
GRADING AND STORM DRAINAGE NOTES

- CONTRACTOR SHALL CALL "NORTH CAROLINA ONE CALL" (811) AT LEAST 3-12 BUSINESS DAYS PRIOR TO DIGGING TO HAVE EXISTING UTILITIES LOCATED. REPORT ANY DISCREPANCIES TO THE ENGINEER. CONTRACTOR TO COORDINATE ACTIVITIES WITH UTILITY COMPANIES INVOLVED IN ANY RELATED RELOCATION (I.E. POWER POLES, TELEPHONE PEDESTALS, WATER METERS, ETC.).
- EXISTING UTILITIES SHOWN ARE BASED ON FIELD SURVEYS AND THE BEST AVAILABLE RECORD DRAWINGS. THE CONTRACTOR SHALL VERIFY CONDITIONS PRIOR TO BEGINNING CONSTRUCTION. ANY DISCREPANCIES BETWEEN ACTUAL FIELD CONDITIONS AND THE PLANS SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY. THE CATCH BASINS AND YARD INLETS SHALL BE CONSTRUCTED IN THE LOCATIONS SHOWN UNLESS OTHERWISE DIRECTED BY THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR REPORTING ANY DISCREPANCIES IN THE CATCH BASIN ELEVATIONS OR THE PROPOSED PIPE SLOPES TO THE ENGINEER. THE CONTRACTOR IS ALSO RESPONSIBLE TO REPORT ANY CONFLICTS BETWEEN ANY UTILITY, STORM DRAIN LINE, WATER LINE, SEWER LINE OR ANY OTHER PROPOSED OR EXISTING STRUCTURE TO THE ENGINEER. A LAND DISTURBING PERMIT WILL BE REQUIRED PRIOR TO THE COMMENCEMENT OF ANY LAND-DISTURBING ACTIVITIES.
- ALL EXISTING VAULTS, MANHOLES, STORM DRAIN STRUCTURES, VALVE BOXES, CLEANOUTS, ETC. SHALL BE ADJUSTED AS NEEDED TO MATCH FINISHED GRADE.
- ALL BACKFILL, COMPACTION, SOILS TESTING, ETC. SHALL BE PERFORMED BY THE OWNER'S INDEPENDENT TESTING LABORATORY. ALL SPOT ELEVATIONS INDICATED ARE AT TOP OF CURB UNLESS NOTED OTHERWISE. ALL ELEVATIONS ARE BASED ON VERTICAL DATUM NAVD83.
- A PRE-CONSTRUCTION MEETING MUST BE SCHEDULED PRIOR TO ANY WORK, GRADING OR INSTALLATION OF EROSION CONTROL MEASURES.
- ALL HANDICAP PARKING SPACES AND STRIPED ACCESSIBILITY AISLES ARE TO HAVE NO MORE THAN A 1:50 (2.0%) SLOPE IN ALL DIRECTIONS. ALL SIDEWALKS ARE TO HAVE NO MORE THAN A 1:20 (5.0%) SLOPE FOR THE LENGTH OF THE SIDEWALK AND NO MORE THAN A 1:50 (2.0%) SLOPE FOR THE WIDTH OF THE SIDEWALK.
- CONTRACTOR TO IDENTIFY ALL NECESSARY SPILL CURB SECTION LOCATIONS AND INSTALL TO ENSURE POSITIVE DRAINAGE TO STORM STRUCTURES.
- IF CONTRACTOR NOTICES ANY DISCREPANCIES IN ANY OF THESE SLOPE REQUIREMENTS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE OWNER PRIOR TO POURING ANY CONCRETE SO THAT A SOLUTION CAN BE FOUND.
- SPOT ELEVATIONS ARE GIVEN AT THE MAJORITY OF THE MAJOR BREAK POINTS BUT IT SHOULD NOT BE ASSUMED THAT ALL NECESSARY SPOT ELEVATIONS ARE SHOWN. DUE TO SPACE LIMITATIONS, THERE MAY BE OTHER CRITICAL SPOTS NOT LABELED THAT SHOULD BE TAKEN INTO CONSIDERATION. THE CONTRACTOR SHALL REVIEW THE GRADING PLAN IN DETAIL AND SHALL ENSURE THAT ALL CRITICAL GRADE POINTS ARE STAKED AND FOLLOWED TO PROVIDE POSITIVE DRAINAGE.
- EXISTING VEGETATION WITHIN TREE PROTECTIVE AREAS SHALL REMAIN UNDISTURBED UNLESS NOTED OTHERWISE. ANY AND ALL LANDSCAPING AND EXISTING TREES AND SHRUBS TO REMAIN WHICH ARE DAMAGED DURING DEMOLITION OR CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR USING A LICENSED LANDSCAPE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- THE GRADING CONTRACTOR SHALL COMPLY WITH ALL STATE CODES IN OBSERVING EROSION CONTROL MEASURES BOTH ON AND OFF-SITE. THE GRADING CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL DEVICES AFTER EACH RAINFALL EVENT OR AS DIRECTED BY THE EROSION CONTROL INSPECTOR OR THE ENGINEER.
- THE GRADING CONTRACTOR SHALL BE RESPONSIBLE FOR OFF-SITE DISPOSAL OF ALL CLEARING AND GRADING WASTE MATERIALS GENERATED DURING CONSTRUCTION AND FOR OBTAINING ALL APPLICABLE PERMITS FOR OFF-SITE STOCKPILES AND/OR WASTE AREAS.
- ALL CATCH BASINS MUST BE MARKED "DUMP NO WASTE DRAINS TO STREAM" OR EQUIVALENT.

STORM STRUCTURE TABLE				
STR. #	TOP	INV. IN	INV. OUT	DESCRIPTION
CB250	253.37'	248.14' (12" RCP FROM JB240)	247.94' (12" RCP TO CB260)	NCDOT 840.02 CONCRETE CATCH BASIN
CB260	254.73'	247.21' (12" RCP FROM CB250)	247.01' (12" RCP TO CB270)	NCDOT 840.02 CONCRETE CATCH BASIN
CB270	253.73'	245.52' (12" RCP FROM CB260)	245.32' (12" RCP TO CB280)	NCDOT 840.02 CONCRETE CATCH BASIN
CB280	254.40'	241.57' (12" RCP FROM CB270) 241.57' (12" RCP FROM JB380)	241.37' (15" RCP TO HW290)	NCDOT 840.02 CONCRETE CATCH BASIN
CB400	252.83'		247.69' (12" RCP TO JB360)	NCDOT 840.02 CONCRETE CATCH BASIN
CB500	253.98'		246.66' (12" RCP TO JB370)	NCDOT 840.02 CONCRETE CATCH BASIN
DI200	255.46'		251.67' (12" RCP TO DI210)	12" Basin - Square Grate
DI210	254.96'	251.17' (12" RCP FROM DI200)	250.97' (12" RCP TO DI220)	12" Basin - Square Grate
DI220	254.46'	250.47' (12" RCP FROM DI210)	250.27' (12" RCP TO DI230)	12" Basin - Square Grate
DI230	254.89'	249.81' (12" RCP FROM DI220)	249.61' (12" RCP TO JB240)	12" Basin - Square Grate
DI300	255.46'		251.29' (12" RCP TO DI310)	12" Basin - Square Grate
DI310	254.96'	248.79' (12" RCP FROM DI300)	248.59' (12" RCP TO DI320)	12" Basin - Square Grate
DI320	255.46'	248.09' (12" RCP FROM DI310)	245.89' (12" RCP TO DI330)	12" Basin - Square Grate
DI330	255.53'	245.55' (12" RCP FROM DI320)	245.35' (12" RCP TO DI340)	12" Basin - Square Grate
DI340	255.30'	245.13' (12" RCP FROM DI330)	244.93' (12" RCP TO JB350)	12" Basin - Square Grate
HW290	242.52'	241.00' (15" RCP FROM CB280)		NCDOT 838.80 CONCRETE ENDWALL
JB110	245.50'	235.50' (12" RCP FROM SF600) 235.50' (24" RCP FROM RS100)		DOGHOUSE MANHOLE
JB240	255.44'	249.49' (12" RCP FROM DI230)	249.29' (12" RCP TO CB250)	NCDOT 840.34 TRAFFIC BEARING JUNCTION BOX
JB350	254.94'	244.62' (12" RCP FROM DI340)	244.42' (12" RCP TO JB360)	NCDOT 840.34 TRAFFIC BEARING JUNCTION BOX
JB360	253.59'	246.67' (12" RCP FROM CB400) 243.56' (12" RCP FROM JB350)	243.36' (12" RCP TO JB370)	NCDOT 840.34 TRAFFIC BEARING JUNCTION BOX
JB370	254.41'	246.05' (12" RCP FROM CB500) 242.77' (12" RCP FROM JB360)	242.57' (12" RCP TO JB380)	NCDOT 840.34 TRAFFIC BEARING JUNCTION BOX
JB380	254.60'	242.16' (12" RCP FROM JB370)	241.96' (12" RCP TO CB280)	NCDOT 840.34 TRAFFIC BEARING JUNCTION BOX
RS100	245.00'		240.00' (24" RCP TO JB110) 240.00' (12" RCP TO SF600)	60 x 60 inch Rectangular Structure
SF600	253.03'	237.92' (12" RCP FROM RS100)	237.72' (12" RCP TO JB110)	CONTECH STORMFILTER

STORM PIPE TABLE							
FROM - TO	UPSTREAM INVERT	DOWNSTREAM INVERT	SLOPE	LENGTH	DIA.	MATERIAL	DESCRIPTION
CB250 - CB260	247.94'	247.21'	1.00%	72.70 LF	12"	RCP	12 inch RCP
CB260 - CB270	247.01'	245.52'	1.00%	149.03 LF	12"	RCP	12 inch RCP
CB270 - CB280	245.32'	241.57'	3.22%	116.29 LF	12"	RCP	12 inch RCP
CB280 - HW290	241.37'	241.00'	1.00%	37.00 LF	15"	RCP	15 inch RCP
CB400 - JB360	247.69'	246.67'	2.00%	51.05 LF	12"	RCP	12 inch RCP
CB500 - JB370	246.66'	246.05'	2.00%	30.50 LF	12"	RCP	12 inch RCP
DI200 - DI210	251.67'	251.17'	1.00%	50.00 LF	12"	RCP	12 inch RCP
DI210 - DI220	250.97'	250.47'	1.00%	50.00 LF	12"	RCP	12 inch RCP
DI220 - DI230	250.27'	249.81'	1.06%	43.00 LF	12"	RCP	12 inch RCP
DI230 - JB240	249.61'	249.49'	1.00%	12.34 LF	12"	RCP	12 inch RCP
DI300 - DI310	251.29'	248.79'	5.00%	50.00 LF	12"	RCP	12 inch RCP
DI310 - DI320	248.59'	246.09'	5.00%	50.00 LF	12"	RCP	12 inch RCP
DI320 - DI330	245.89'	245.55'	1.00%	33.94 LF	12"	RCP	12 inch RCP
DI330 - DI340	245.35'	245.13'	1.00%	21.88 LF	12"	RCP	12 inch RCP
DI340 - JB350	244.93'	244.62'	1.00%	31.25 LF	12"	RCP	12 inch RCP
JB240 - CB250	249.29'	248.14'	1.00%	115.16 LF	12"	RCP	12 inch RCP
JB350 - JB360	244.42'	243.56'	1.00%	86.26 LF	12"	RCP	12 inch RCP
JB360 - JB370	243.36'	242.77'	1.00%	59.28 LF	12"	RCP	12 inch RCP
JB370 - JB380	242.57'	242.16'	1.00%	41.00 LF	12"	RCP	12 inch RCP
JB380 - CB280	241.96'	241.57'	1.00%	38.72 LF	12"	RCP	12 inch RCP
RS100 - JB110	240.00'	235.50'	6.90%	65.26 LF	24"	RCP	24 inch RCP
RS100 - SF600	240.00'	237.92'	4.86%	42.84 LF	12"	RCP	12 inch RCP
SF600 - JB110	237.72'	235.50'	4.00%	55.53 LF	12"	RCP	12 inch RCP

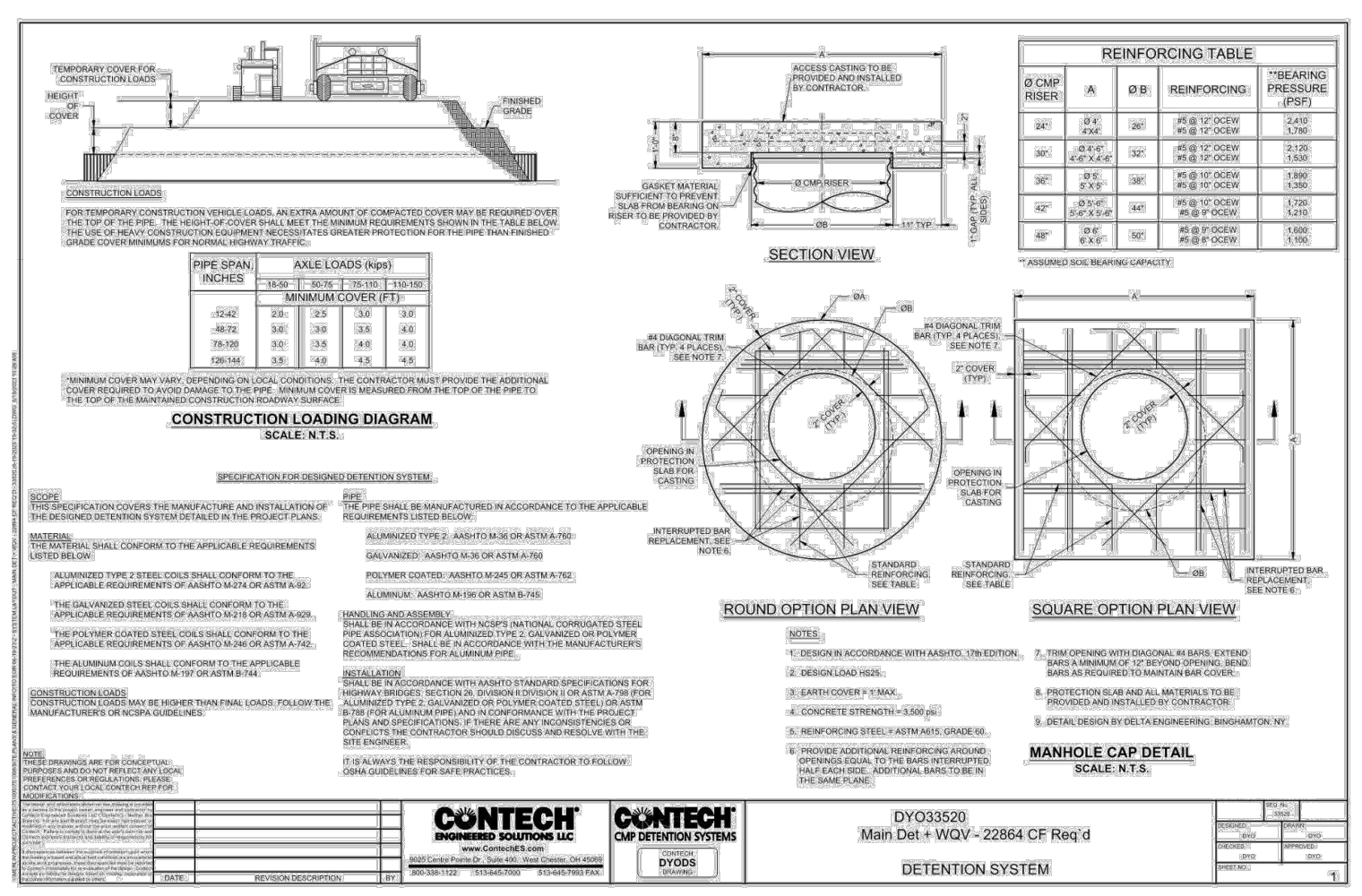
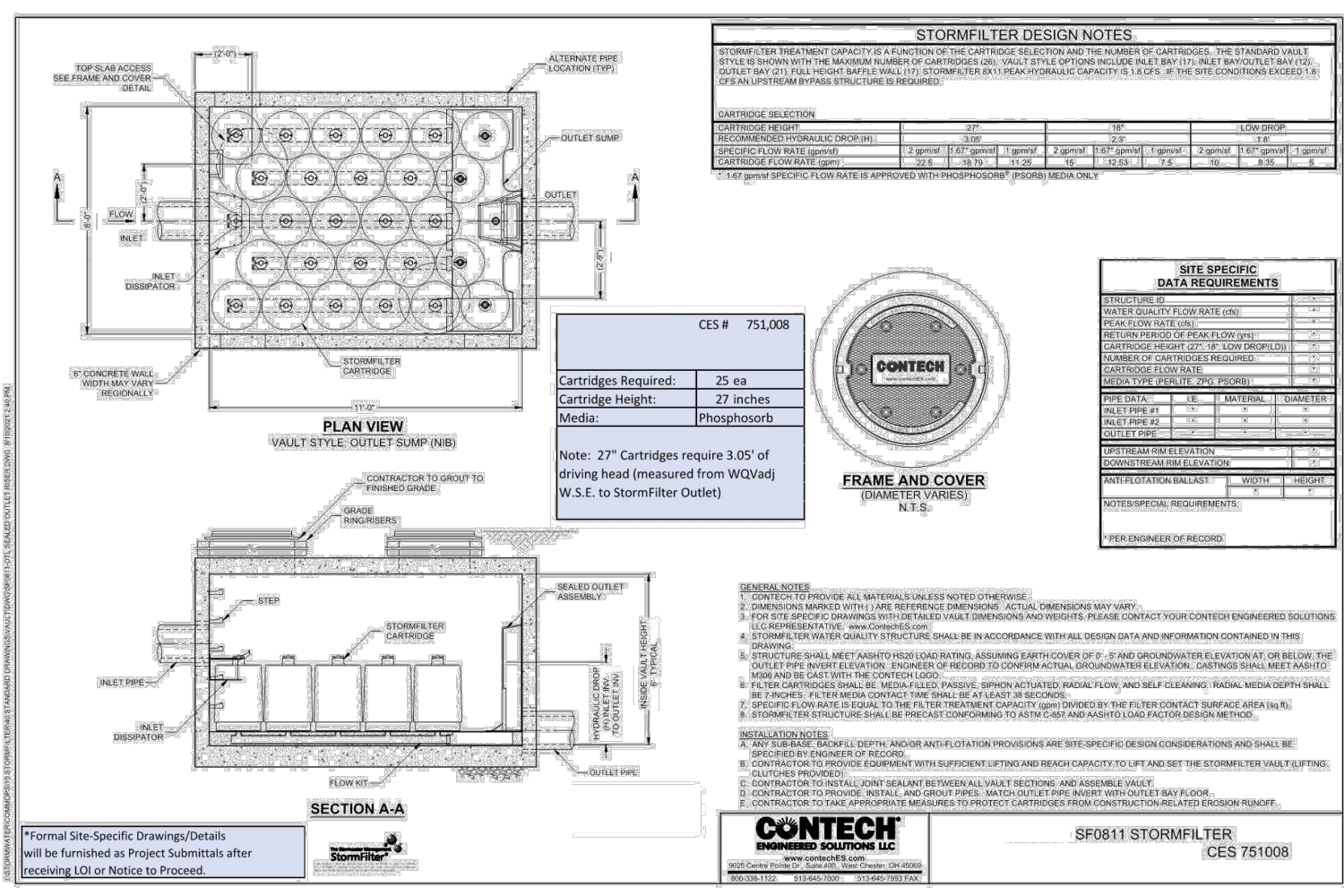
AVERAGE GRADE ANALYSIS UDO SEC. 1.5.7.A.2 (SINGLE BLD HEIGHT METHOD)			
FINISHED GROUND PARALLEL TO PRIMARY STREET			
	HIGH POINT	LOW POINT	FINISHED AVG. GRADE
PRIMARY STREET	255.9	255.5	255.7



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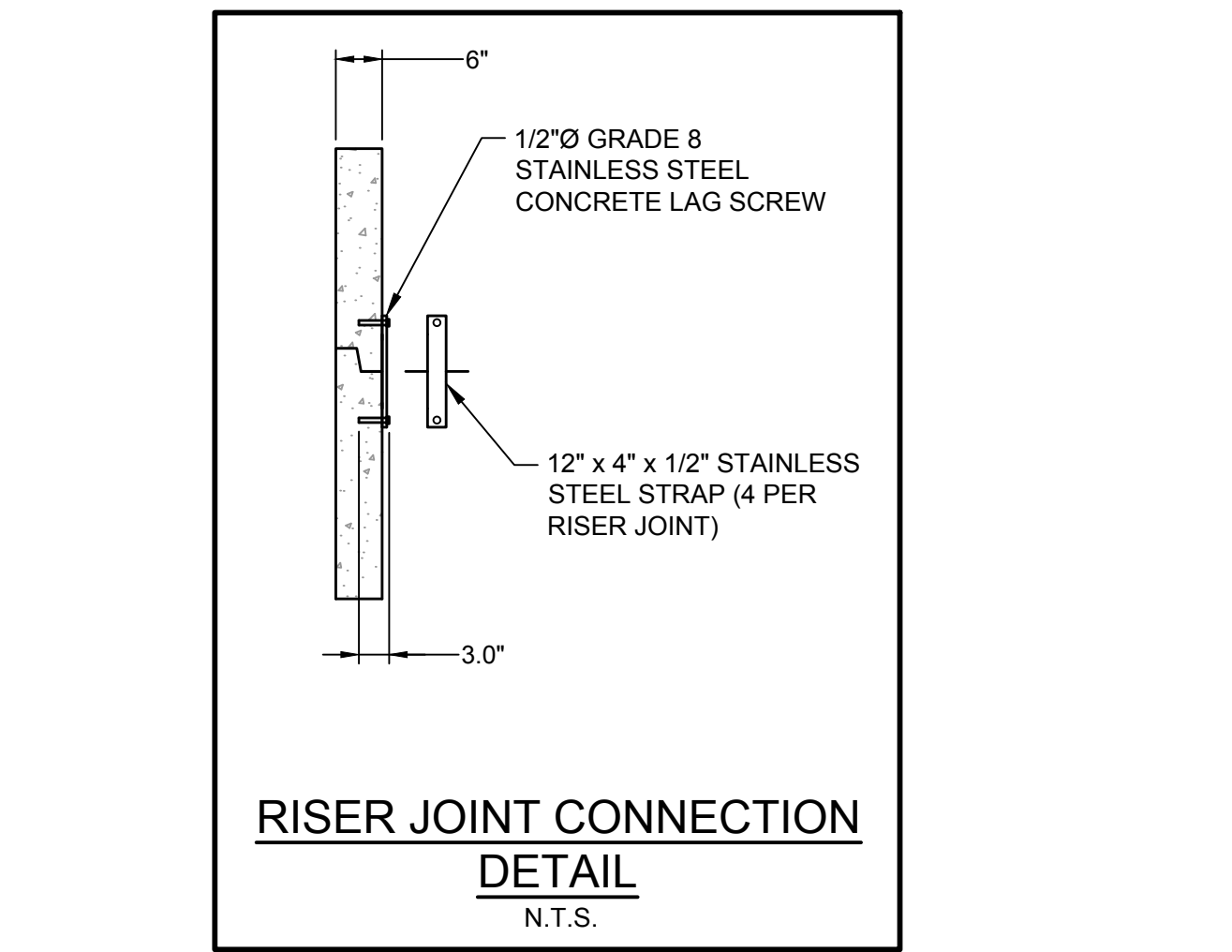
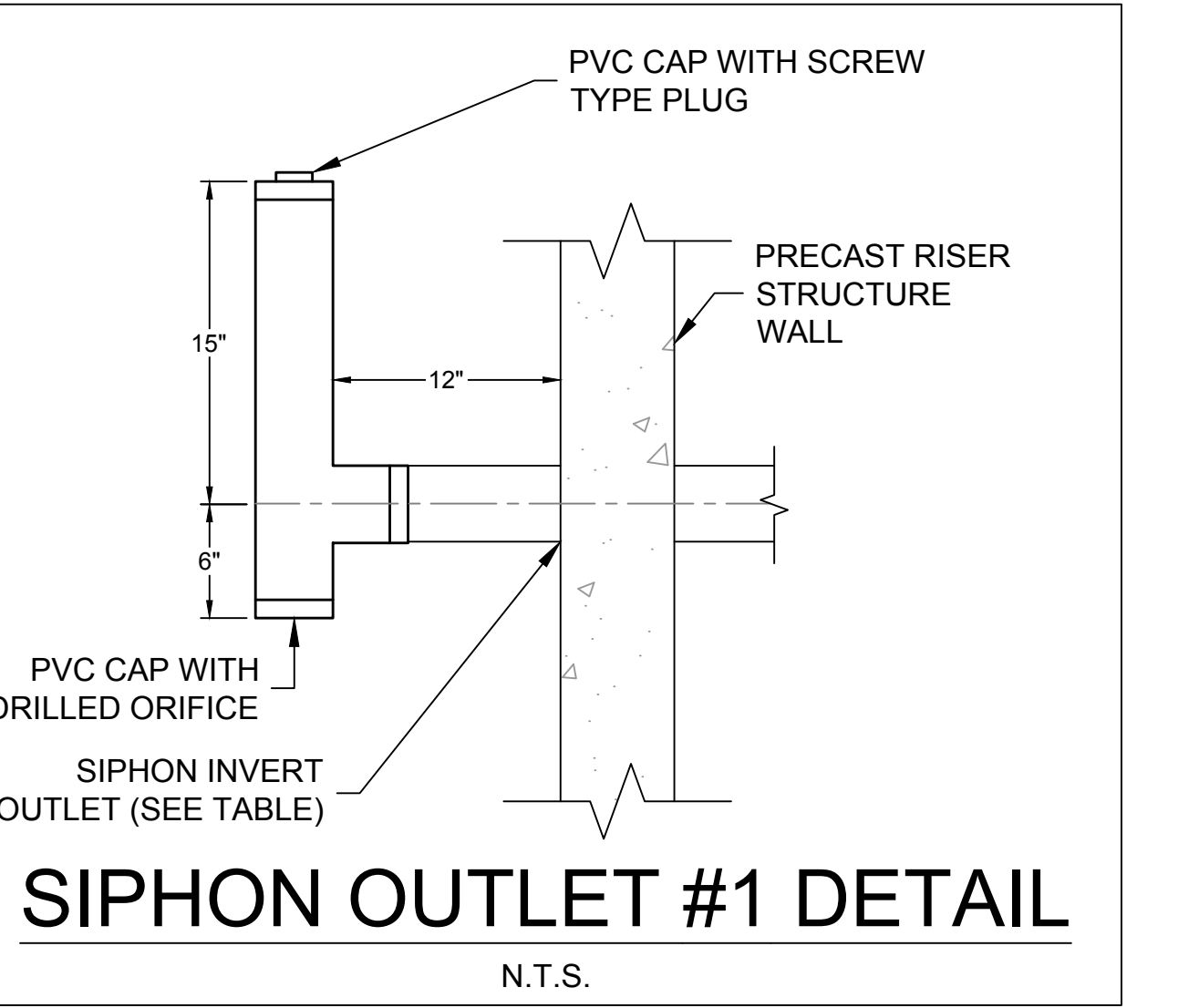
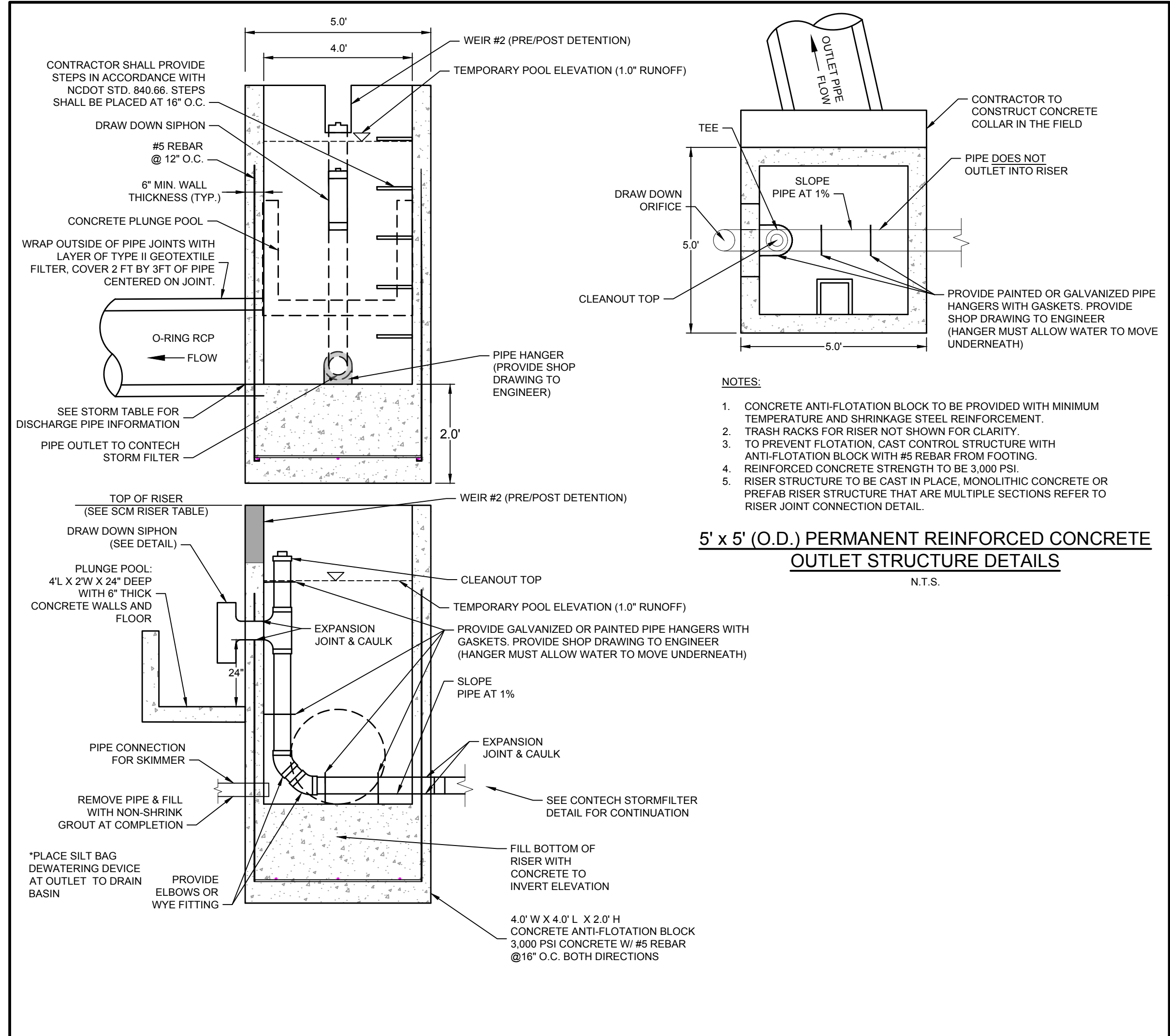
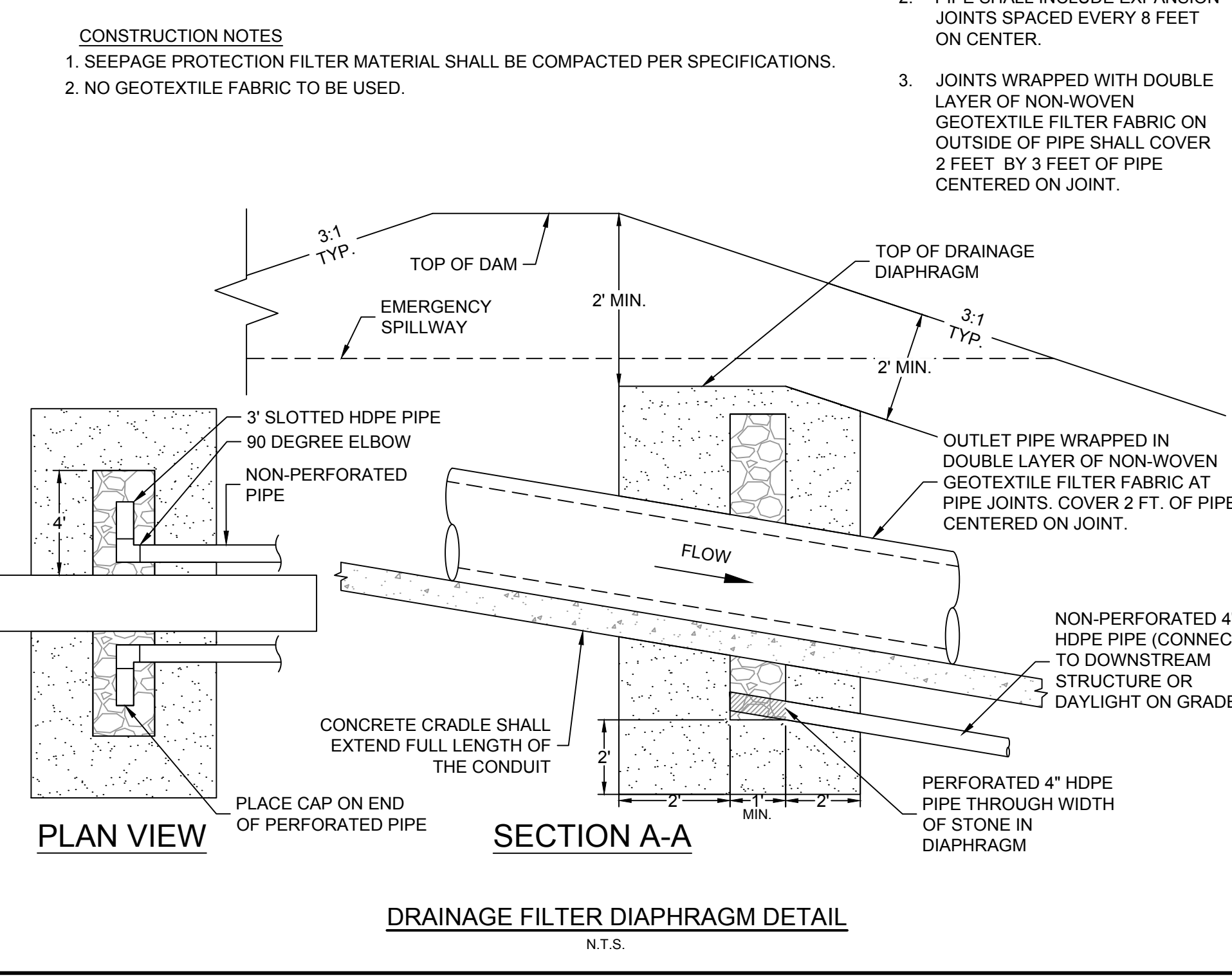
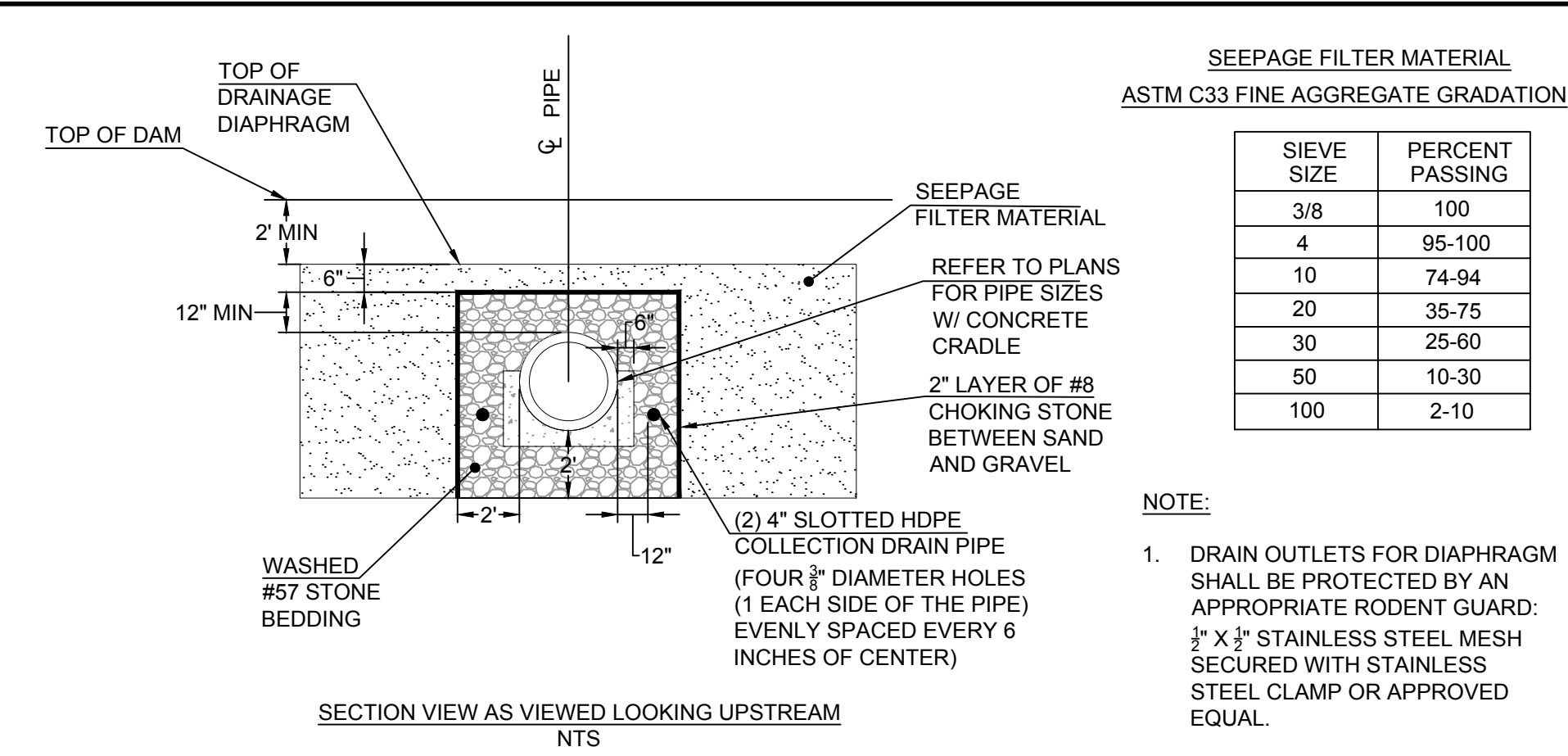
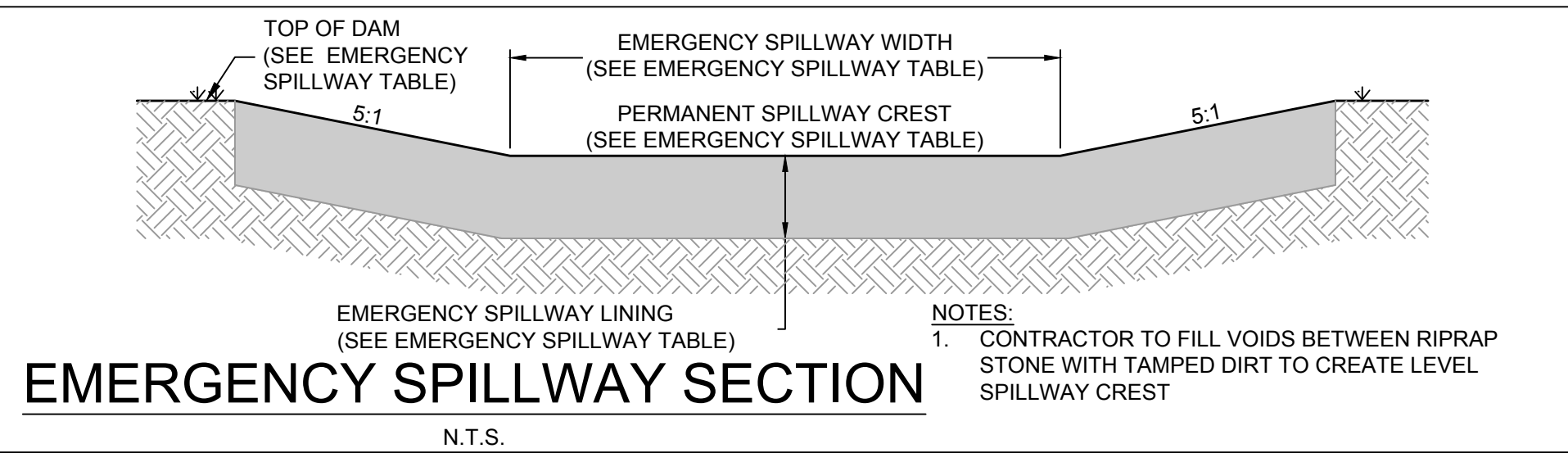
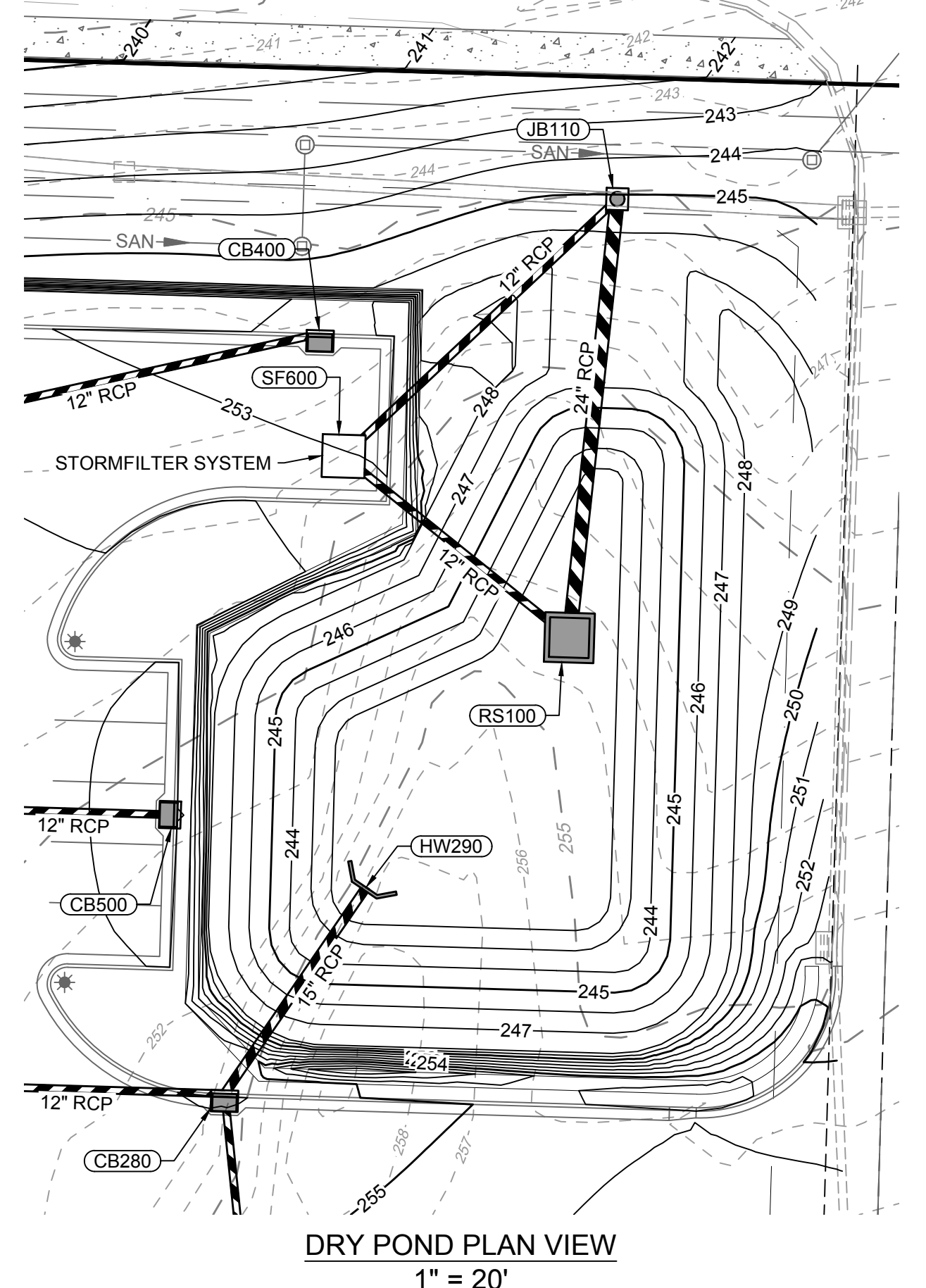


ORIFICE TABLE				
	SIZE	DRILLED ORIFICE SIZE	MATERIAL	INVERT ELEV.
SIPHON #1	6"	1.00"	PVC SCH 40	241.00'
TEMPORARY POOL ELEVATION (1" RUNOFF)				244.10'
WEIR #2	1.0' W X 1.9' H	N/A	N/A	244.60'

RISER TABLE		
	INVERT ELEVATION	INTERIOR DIMENSIONS
TOP OF RISER	246.50'	48" X 48"
TOP OF CONCRETE ANTI-FLOTATION BALLAST	241.00' (TOP)	48" X 48"
BOTTOM OF CONCRETE ANTI-FLOTATION BALLAST	239.00' (TOP)	48" X 48"

EMERGENCY SPILLWAY TABLE	
TOP OF BERM ELEVATION:	248.00'
PERM. SPILLWAY CREST ELEVATION:	247.00'
EMERGENCY SPILLWAY BASE WIDTH:	20.00'
EMERGENCY SPILLWAY TOP WIDTH:	30.00'
EMERGENCY SPILLWAY LINING: NORTH AMERICAN GREEN P300	

SURFACE WATER ELEVATIONS	
ONE YEAR STORM	245.58'
TEN YEAR STORM	246.46'
ONE HUNDRED YEAR STORM	246.90'



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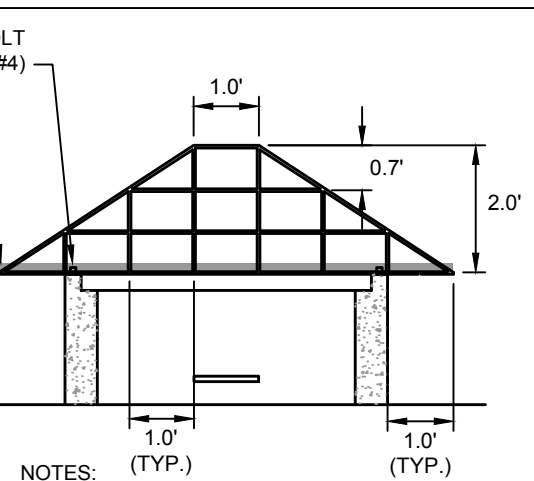
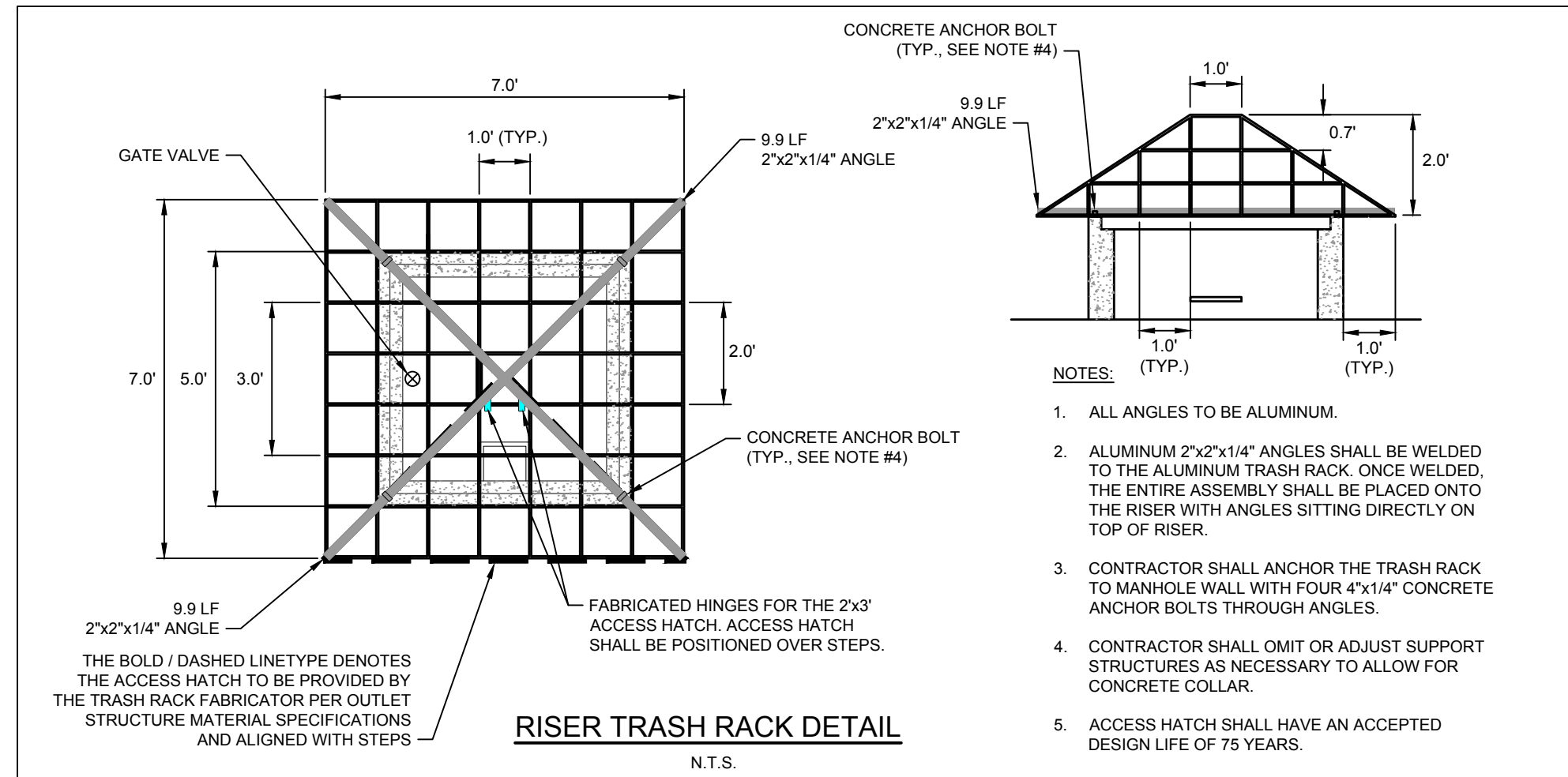
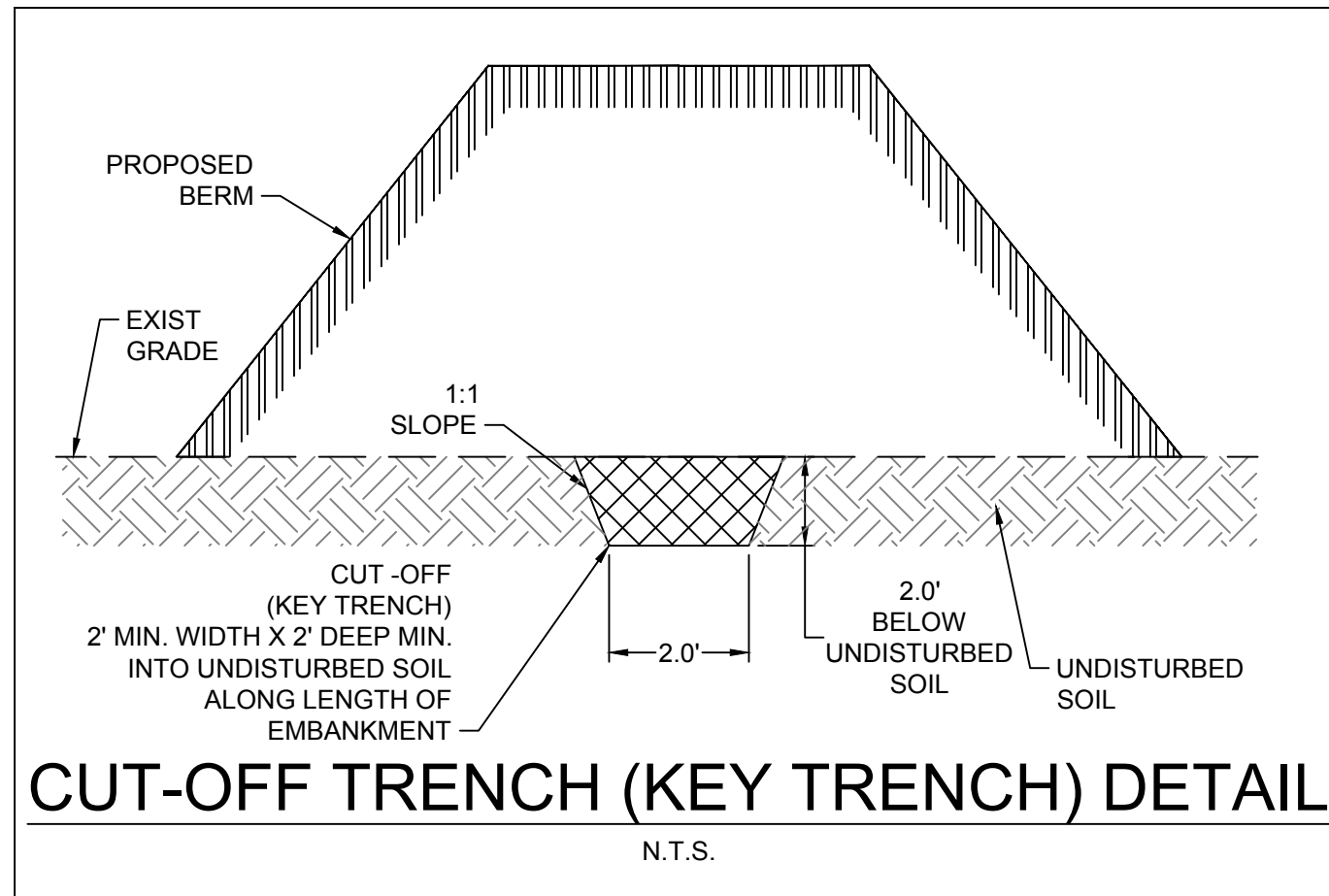
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- NOTES:**
- ALL ANGLES TO BE ALUMINUM.
 - ALUMINUM 2"x2"x1/4" ANGLES SHALL BE WELDED TO THE ALUMINUM TRASH RACK. ONCE WELDED, THE ENTIRE ASSEMBLY SHALL BE PLACED ONTO THE RISER WITH ANGLES SITTING DIRECTLY ON TOP OF RISER.
 - CONTRACTOR SHALL ANCHOR THE TRASH RACK TO MANKOLE WALL WITH FOUR 4"x14" CONCRETE ANCHOR BOLTS THROUGH ANGLES.
 - CONTRACTOR SHALL OMIT OR ADJUST SUPPORT STRUCTURES AS NECESSARY TO ALLOW FOR CONCRETE COLLAR.
 - ACCESS HATCH SHALL HAVE AN ACCEPTED DESIGN LIFE OF 75 YEARS.

KEY TRENCH & CLAY LINER NOTES

- THE ON-SITE GEOTECHNICAL ENGINEER SHALL INSPECT THE KEY TRENCH EXCAVATION PRIOR TO PLACEMENT OF ANY BACKFILL WITHIN THE KEY TRENCH.
- THE CONTRACTOR WILL NEED TO INSTALL A CLAY LINER A MINIMUM OF 1-FOOT BELOW THE LOWEST GRADE. THE CLAY LINER SHALL BE AT LEAST 12" THICK AND MEET THE FOLLOWING SPECIFICATIONS:
 - UNIFIED SOIL CLASSIFICATION SYSTEM DESIGNATION OF CL, CH, ML
 - MINIMUM PLASTICITY INDEX OF 12
 - MINIMUM OF 2 TESTS OF EACH ABOVE PARAMETER SHALL BE COMPLETED BY THE CONTRACTOR ON THE LINER MATERIAL AND PRESENTED TO THE ON-SITE GEOTECHNICAL ENGINEER FOR APPROVAL. SHOULD THESE TESTS NOT MEET THE ABOVE REQUIREMENTS, THE ON-SITE GEOTECHNICAL ENGINEER MAY PROVIDE PERMEABILITY TESTING DEMONSTRATING AN INFILTRATION RATE OF NO MORE THAN 0.01 IN/HR
 - COMPACTION TO A MINIMUM OF 95% PER ASTM D698 AND WITHIN 2% OF THE OPTIMUM MOISTURE CONTENT (1 COMPACTION DENSITY TEST PER 2500 SQ. FT.)
 - MAXIMUM INFILTRATION RATE OF 0.01 IN/HR. IF IT IS DETERMINED BY THE ON-SITE GEOTECHNICAL ENGINEER THAT A LINER IS NOT NEEDED, THEN A LETTER TO THE DESIGN ENGINEER CERTIFYING THE INFILTRATION RATE SHALL BE PROVIDED, WHICH WILL BE USED DURING THE AS-BUILT CERTIFICATION PROCESS.
- THE GRADES SHOWN ON THIS PLAN ARE FINISHED GRADES AND INCLUDE THE CLAY LINER.

DRY POND CONSTRUCTION SEQUENCE:

- DO NOT BEGIN CONSTRUCTION OF DRY POND AREAS UNTIL SITE CONSTRUCTION IS COMPLETE. ALL PARKING SURFACES ARE PAVED, AND THE ENTIRE SITE HAS AN ESTABLISHED WITH A GOOD STAND OF GRASS.
- ALL EROSION SEDIMENT AND EROSION CONTROL PRACTICES SHALL BE IN PLACE AND THE SLOPES DRAINING TO THE DRY POND AREA SHALL BE STABILIZED BEFORE CONSTRUCTION OF THE DRY POND BEGINS.
- INSTALL TEMPORARY SILT FENCE AROUND THE DRY POND AREA AS NEEDED.
- EXCAVATE DRY POND AREA, PER THE GRADES AND DETAILED ELEVATIONS SHOWN ON THE CONSTRUCTION PLANS.
- CONTACT ENGINEER SO AN AS-BUILT SURVEY CAN BE PERFORMED OF THE DRY POND.
- INSTALL ANY REMAINING STORM DRAINAGE PIPES AND INLETS.
- FINE GRADE THE SIDE SLOPES OF THE DRY POND AREA. DRESS UP VELOCITY DISSIPATER AS NEEDED PER THE PLANS.
- INSTALL GRASS PER GRASS SPECIFICATIONS.
- FINE GRADE, SEED AND STABILIZE ANY REMAINING DISTURBED AREAS AROUND THE OUTSIDE OF THE DRY POND AREA. REMOVE SILT FENCE.
- UPON COMPLETION OF WORK, CONTACT THE PROJECT ENGINEER AND LANDSCAPE ARCHITECT FOR AN INSPECTION AND TO BEGIN THE AS-BUILT CERTIFICATION PROCESS. AN AS-BUILT SURVEY OF ALL ASPECTS OF THIS FACILITY WILL BE PERFORMED BY THE ENGINEER. CERTIFICATIONS WILL NOT BE ISSUED IF THE SCM DOES NOT MEET OR EXCEED THE REQUIREMENTS CONTAINED IN THE CONSTRUCTION DOCUMENTS. SHOULD REMEDIAL WORK BE REQUIRED, ALL COSTS ASSOCIATED WITH THE REMEDIAL WORK INCLUDING RE-SURVEY AND RE-INSPECTIONS WILL BE BORNE BY THE CONTRACTOR.

DAM EMBANKMENT AND SOIL COMPACTION SPECIFICATIONS

- CONTROLLED FILL, AS SPECIFIED BY THE GEOTECHNICAL ENGINEER, IN THE DAM EMBANKMENT (KEY TRENCH SHALL BE PLACED IN 6-INCH LOOSE LAYERS (3-INCH LOOSE LAYERS WITHIN 3- FEET OF EITHER SIDE OF THE PRINCIPAL SPILLWAY PIPE TO A DEPTH OF 2- FEET OVER THE PIPE) AND SHALL BE COMPACTED TO A DENSITY OF NO LESS THAN 95% OF THE STANDARD PROCTOR MAXIMUM DENSITY AT A MOISTURE CONTENT OF + OR - TWO PERCENTAGE POINTS OF THE OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D698.
- ALL VISIBLE ORGANIC DEBRIS SUCH AS ROOTS AND LIMBS SHALL BE REMOVED FROM THE FILL MATERIAL PRIOR TO COMPACTION TO THE REQUIRED DENSITY. SOILS WITH ORGANIC MATTER CONTENT EXCEEDING 5% BY WEIGHT SHALL NOT BE USED. STONES GREATER THAN 3-INCH (IN ANY DIRECTION) SHALL BE REMOVED FROM THE FILL PRIOR TO COMPACTION.
- FILL MATERIAL PLACED AT DENSITIES LOWER THAN SPECIFIED MINIMUM DENSITIES OR AT MOISTURE CONTENTS OUTSIDE THE SPECIFIED RANGES OR OTHERWISE NOT CONFORMING TO SPECIFIED REQUIREMENTS SHALL BE REMOVED AND REPLACED WITH ACCEPTABLE MATERIALS.
- ANY FILL LAYER THAT IS SMOOTH DRUM ROLLED TO REDUCE MOISTURE PENETRATION DURING A STORM EVENT SHALL BE PROPERLY SCARIFIED PRIOR TO THE PLACEMENT OF THE NEXT SOIL LIFT.
- SURFACE WATER AND STREAM FLOW SHALL BE CONTINUOUSLY CONTROLLED THROUGHOUT CONSTRUCTION AND THE PLACEMENT OF CONTROLLED FILL.
- FOUNDATION AREAS MAY REQUIRE UNDERCUTTING OF COMPRESSIBLE AND/OR UNSUITABLE SOILS IN ADDITION TO THAT INDICATED ON THE PLANS. ALL SUCH UNDERCUTTING SHALL BE PERFORMED AT THE DISCRETION OF THE GEOTECHNICAL ENGINEER AND SHALL BE MONITORED AND DOCUMENTED. IN NO CASE SHALL THERE BE AN ATTEMPT TO STABILIZE ANY PORTIONS OF THE FOUNDATION SOILS WITH CRUSHED STONE.
- TREATMENT OF SEEPAGE AREAS, SUBGRADE PREPARATION, FOUNDATION DEWATERING AND ROCK FOUNDATION PREPARATION (I.E., TREATMENT WITH SLUSH GROUTING, DENTAL CONCRETE, ETC.) MAY BE REQUIRED AT THE DISCRETION OF THE GEOTECHNICAL ENGINEER. ALL SUCH ACTIVITIES SHALL BE CLOSELY MONITORED AND DOCUMENTED BY THE GEOTECHNICAL ENGINEER.
- FILL ADJACENT TO THE RISER AND PRINCIPAL SPILLWAY PIPE SHALL BE PLACED SO THAT LIFTS ARE AT THE SAME LEVEL ON BOTH SIDES OF THE STRUCTURES.
- EARTHWORK COMPACTION WITHIN 3- FEET OF ANY STRUCTURES SHALL BE ACCOMPLISHED BY MEANS OF HAND TAMPERS, MANUALLY DIRECTED POWER TAMPERS OR PLATE COMPACTORS OR MINIATURE SELF-PROPELLED ROLLERS.

- COMPACTION BY MEANS OF DROP WEIGHTS FROM A CRANE OR HOIST SHALL NOT BE PERMITTED.
- HEAVY EQUIPMENT SHALL NOT BE ALLOWED TO PASS OVER CAST-IN-PLACE STRUCTURES (INCLUDING THE CRADLE) UNTIL ADEQUATE CURING TIME HAS ELAPSED.
- TO RE-ESTABLISH VEGETATION AFTER CONSTRUCTION, A 4-INCH LAYER OF TOPSOIL SHALL BE PLACED ON THE DISTURBED EMBANKMENT SURFACE AND THE AREA SEEDED AND MULCHED OR HYDROSEEDING.

- TESTING, OBSERVATION, AND CERTIFICATION**
- TESTS OF THE DEGREE (%) OF COMPACTION OF THE PLACED FILL IN THE DAM /KEY TRENCH SHALL BE PERFORMED AS A PART OF THE PERMITTEE'S NORMAL QUALITY CONTROL PROGRAM FOR THE CONSTRUCTION OF THE DAM. TESTS SHALL BE CONDUCTED CONCURRENT WITH THE INSTALLATION OF THE COMPACTED FILL AND THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION OF THE DAM SO THAT THE TESTING CAN BE COMPLETED. SHOULD THE RESULTS OF THE TESTS INDICATE THAT THE SPECIFIED DEGREE OF COMPACTION HAS NOT BEEN OBTAINED, THE PORTIONS OF THE DAM REPRESENTED BY SUCH TESTS SHALL BE REWORKED OR REBUILT. ALL PORTIONS OF THE DAM SHALL ACHIEVE THE SPECIFIED MINIMUM DEGREE OF COMPACTION.
 - CONSTRUCTION OF CLASS A, B AND C DAM EMBANKMENTS SHALL BE DONE UNDER THE OBSERVATION OF A QUALIFIED GEOTECHNICAL ENGINEER, WHO IS REGISTERED AS A PROFESSIONAL ENGINEER IN THE STATE OF NORTH CAROLINA. THE GEOTECHNICAL ENGINEER MUST HAVE EXPERIENCE IN THE DESIGN AND CONSTRUCTION MONITORING OF DAMS OF THE SIZE AND SCOPE COVERED BY THESE STANDARDS AND GUIDELINES.
 - ON CLASS A, B, AND C DAMS (WITH THE EXCEPTION OF DETENTION ONLY CLASS C DAMS THAT COLLECT DRAINAGE FROM AN AREA OF 25-ACRES OR LESS), THE GEOTECHNICAL ENGINEER, AS DEFINED ABOVE, SHALL OBSERVE ALL ASPECTS OF THE CONSTRUCTION OF THE DAM (I.E., PREPARATION OF THE FOUNDATION, INSTALLATION OF THE CUT-OFF TRENCH, INSTALLATION OF THE PRINCIPAL SPILLWAY PIPE, INSTALLATION OF THE INTERNAL DRAINAGE, INSTALLATION OF COMPACTED FILL, ETC.). THE FREQUENCY OF OBSERVATION AND TESTING MUST BE SUFFICIENT FOR THE GEOTECHNICAL ENGINEER (OR THE DESIGN ENGINEER ON CLASS D DAMS AND CLASS C, DETENTION ONLY, DAMS) TO STATE, IN HIS/HER PROFESSIONAL OPINION, THAT THE SPECIFIC ITEMS OBSERVED AND TESTED WERE INSTALLED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DRAWINGS AND SPECIFICATIONS. REFERENCE IS MADE TO THE CITY OF DURHAM 'REFERENCE GUIDE FOR DEVELOPMENT' SECTIONS 4.1 TO 4.6 REGARDING GEOTECHNICAL CERTIFICATION OF DAM EMBANKMENTS.

GENERAL NOTES:

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF DURHAM, NCDEQ AND NCDOT STANDARDS, SPECIFICATIONS AND DETAILS.
- SEE GRADING PLAN FOR MORE INFORMATION ON ENTIRE SITE GRADING.

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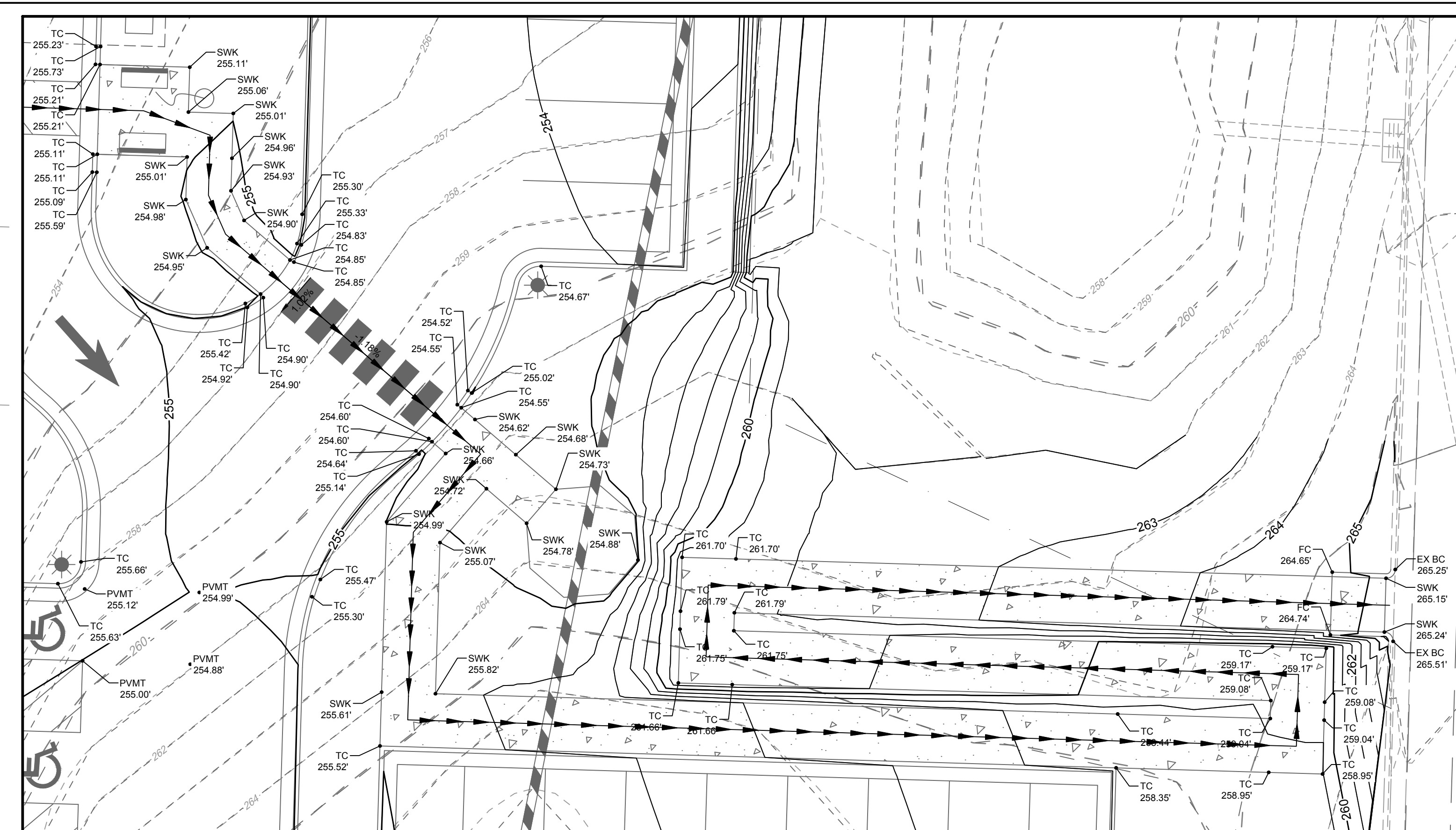
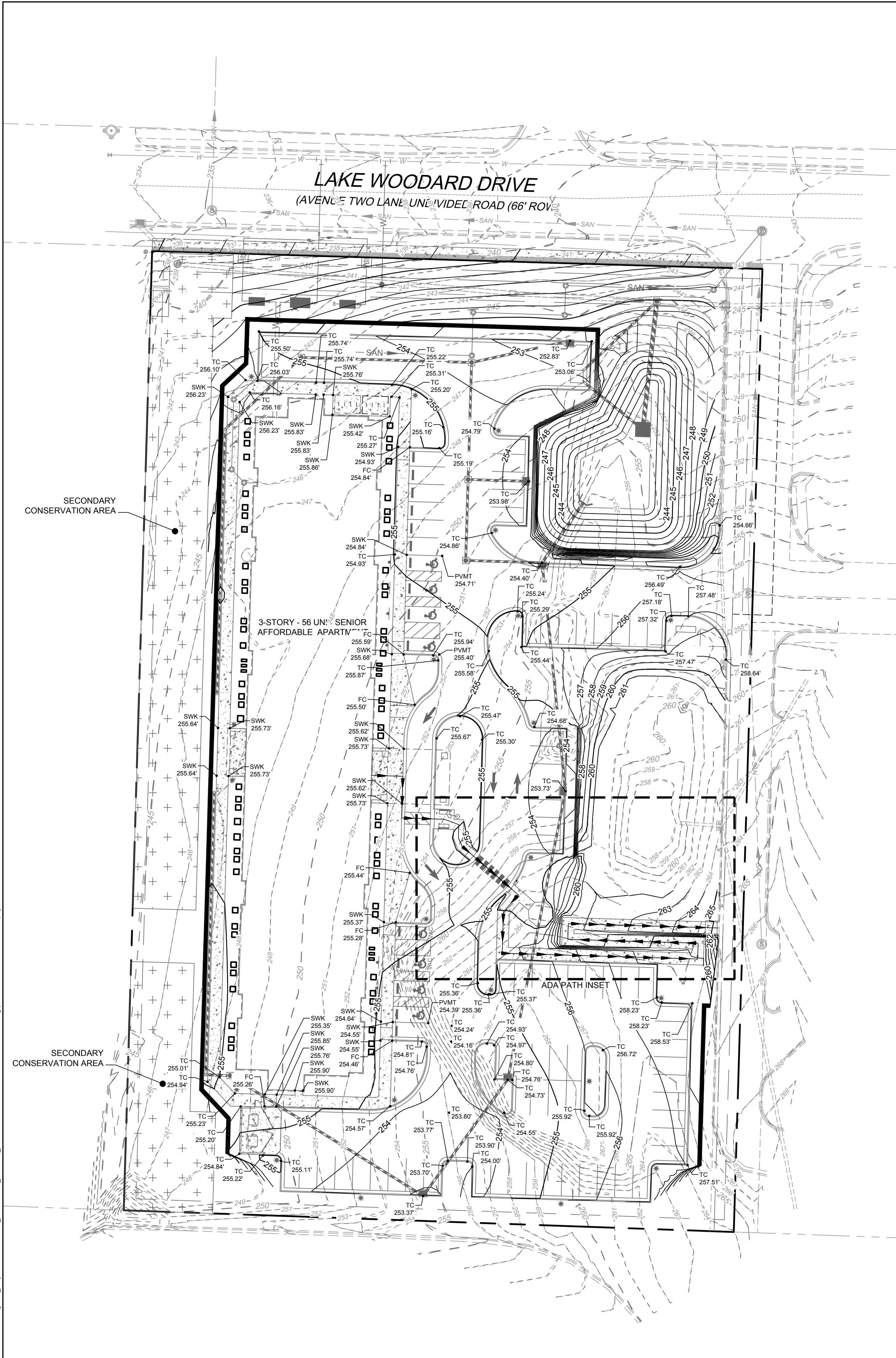
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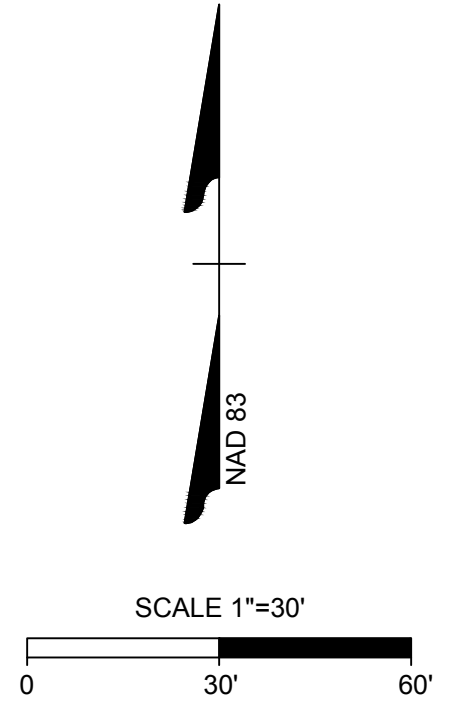
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SPOT ELEVATION LEGEND
 TC = TOP OF CURB
 ME = MATCH EXISTING
 GND = GROUND
 SWK = SIDEWALK
 TW = TOP OF WALL
 BW = BOTTOM OF WALL
 HP = HIGH POINT
 FC = FLUSH CURB
 EP = EDGE OF PAVEMENT
 PVMT = PAVEMENT

NOTES:
 1. TOP REFERS TO:
 1.1. CATCH BASIN: TOP OF CURB
 1.2. YARD INLET: SILL
 2. SD* - SEE RISER DETAIL



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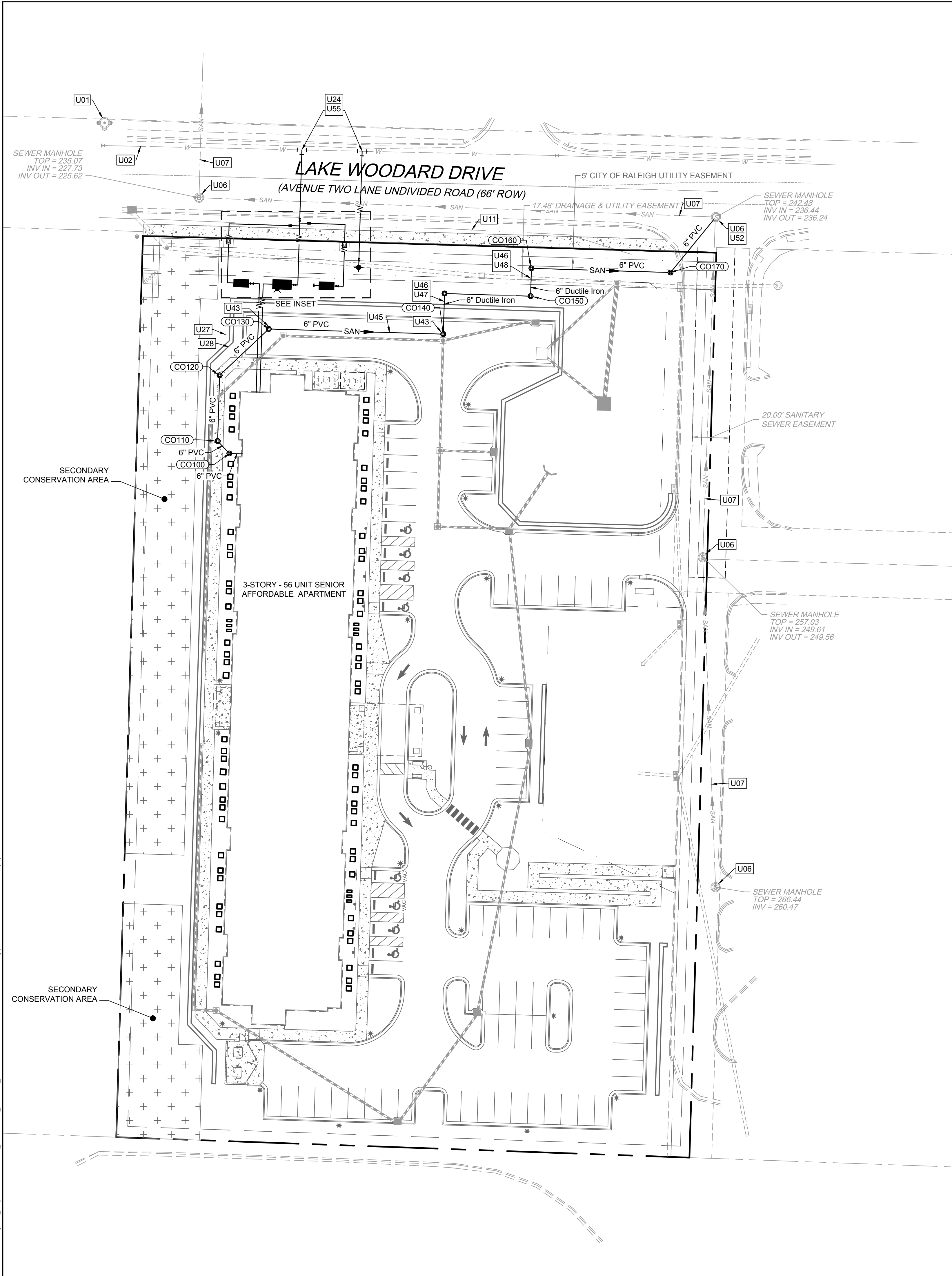
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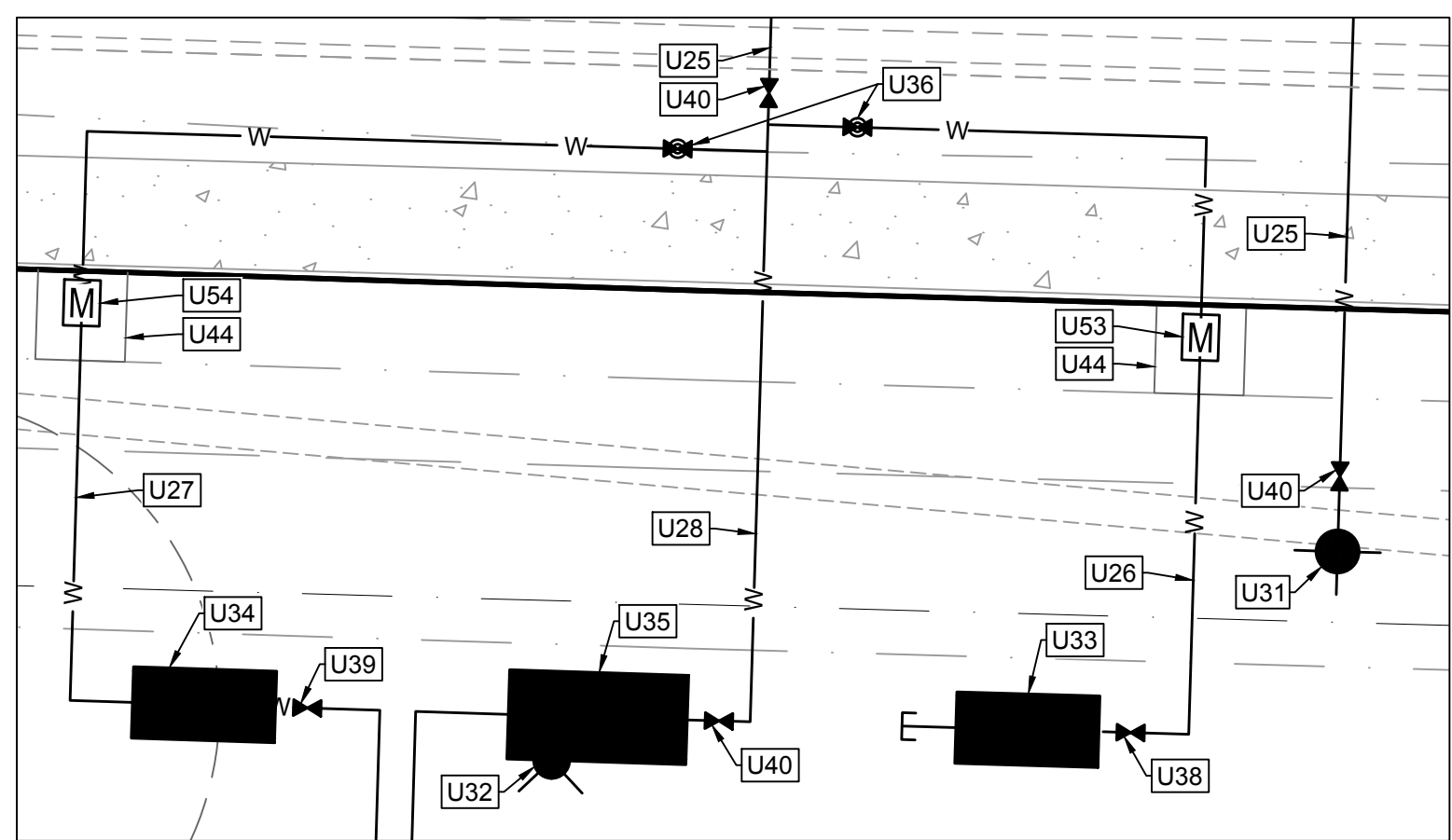
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SANITARY SEWER STRUCTURE TABLE				
STR. #	TOP	INV. IN	INV. OUT	DESCRIPTION
CO100	255.71'	250.90' (6" PVC FROM)	250.90' (6" PVC TO CO110)	6" Cleanout
CO110	255.54'	250.57' (6" PVC FROM CO100)	250.57' (6" PVC TO CO120)	6" Cleanout
CO120	256.18'	248.80' (6" PVC FROM CO110)	248.80' (6" PVC TO CO130)	6" Cleanout
CO130	254.93'	246.98' (6" PVC FROM CO120)	246.98' (6" PVC TO CO140)	6" Cleanout
CO140	253.47'	242.28' (6" PVC FROM CO130)	242.08' (6" Ductile Iron TO STR (37))	6" Cleanout
CO150	244.72'	239.71' (6" Ductile Iron FROM STR (37))	239.71' (6" Ductile Iron TO CO160)	6" Cleanout
CO160	242.46'	238.96' (6" Ductile Iron FROM CO150)	238.96' (6" PVC TO CO170)	6" Cleanout
CO170	244.26'	237.46' (6" PVC FROM CO160)	237.46' (6" PVC TO EXMH100)	6" Cleanout
EXMH100	242.48'	236.69' (6" PVC FROM CO170)		Existing Manhole
STR (37)	245.32'	241.08' (6" Ductile Iron FROM CO140)	241.08' (6" Ductile Iron TO CO150)	6" Cleanout

SANITARY SEWER PIPE TABLE						
FROM - TO	UPSTREAM INVERT	DOWNSTREAM INVERT	SLOPE	LENGTH	DIA.	MATERIAL
- CO100	250.97'	250.90'	1.00%	7.00 LF	6"	PVC
CO100 - CO110	250.90'	250.57'	3.55%	9.19 LF	6"	PVC
CO110 - CO120	250.57'	248.80'	5.00%	35.45 LF	6"	PVC
CO120 - CO130	248.80'	246.98'	5.00%	36.43 LF	6"	PVC
CO130 - CO140	246.98'	242.28'	5.00%	94.08 LF	6"	PVC
CO140 - STR (37)	242.08'	241.08'	4.57%	21.90 LF	6"	Ductile Iron
CO150 - CO160	239.71'	238.96'	5.00%	15.00 LF	6"	Ductile Iron
CO160 - CO170	238.96'	237.46'	2.00%	75.00 LF	6"	PVC
CO170 - EXMH100	237.46'	236.69'	2.00%	38.59 LF	6"	PVC
STR (37) - CO150	241.08'	239.71'	2.95%	46.40 LF	6"	Ductile Iron



WATER SERVICE INSET - 1" = 10'

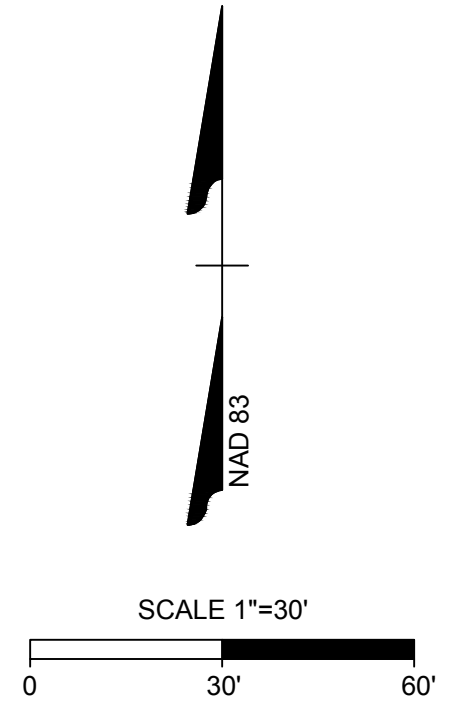
UTILITY KEYNOTES	
NUMBER	DESCRIPTION
U01	EXISTING FIRE HYDRANT
U02	EXISTING WATER LINE; CONFIRM PRIOR TO CONSTRUCTION
U06	EXISTING SANITARY SEWER MANHOLE (TYP.)
U07	EXISTING SANITARY SEWER MAIN (TYP.)
U11	EXISTING UNDERGROUND TELEPHONE (TYP.)
U24	6" TAPPING SLEEVE & VALVE
U25	6" DIP WATERLINE
U26	1" TYPE K COPPER WATER IRRIGATION LINE; COORDINATE IRRIGATION DESIGN
U27	3" TYPE "K" SOFT COPPER DOMESTIC WATER SERVICE (TYP.)
U28	6" DIP FIRE WATERLINE
U31	FIRE HYDRANT ASSEMBLY (TYP.)
U32	BFP MOUNTED FIRE DEPARTMENT CONNECTION (TYP.); REFER TO DETAIL FP-16.
U33	1" RPZ IRRIGATION BACK FLOW PREVENTION ASSEMBLY IN ABOVE GRADE AND INSULATED ENCLOSURE (WILKINS 975XL OR AS APPROVED BY CITY OF RALEIGH).
U34	3" RPZ DOMESTIC BFP IN ABOVE GRADE AND INSULATED ENCLOSURE (WILKINS 375 OR AS APPROVED BY CITY OF RALEIGH); BACKFLOW PREVENTER (REFER TO DETAIL W-36)
U35	6" RPDA FIRE BFP IN ABOVE GRADE AND INSULATED ENCLOSURE (WILKINS 375DA OR AS APPROVED BY CITY OF RALEIGH)
U36	CURB STOP
U38	1" GATE VALVE (TYP.)
U39	3" GATE VALVE (TYP.)
U40	6" GATE VALVE (TYP.)
U43	CLEANOUT (TYP.); TRAFFIC RATED IF LOCATED WITHIN PAVEMENT (REFER TO DETAIL)
U44	5' CITY OF RALEIGH WATERLINE EASEMENT
U45	6" PVC SANITARY SEWER SERVICE (TYP.)
U46	6" DIP SANITARY SEWER SERVICE
U47	MINIMUM 24" CLEARANCE BETWEEN RETAINING WALL FOOTING 1' BELOW FINISHED GRADE ON LOWER SIDE OF THE WALL AND TOP OF SANITARY SEWER SERVICE
U48	MINIMUM 24" CLEARANCE BETWEEN OUTER DIAMETER OF EXISTING STORM PIPE AND OUTER DIAMETER OF SANITARY SEWER SERVICE
U52	CONNECT TO EXISTING SANITARY SEWER MANHOLE. CORE DRILL AND INSTALL FLEXIBLE RUBBER BOOT (CONTRACTOR TO FIELD VERIFY LOCATION AND ELEVATION)
U53	1" IRRIGATION METER
U54	3" DOMESTIC METER
U55	COORDINATE WITH WATER DEPARTMENT TO ENSURE THAT SERVICE IS NOT INTERRUPTED AT ANY TIME.
	CONNECT TO EXISTING SANITARY SERVICE; CONTRACT TO FIELD VERIFY LOCATION, SIZE, CONDITION, AND INVERT PRIOR TO ANY CONSTRUCTION. COORDINATE WITH UTILITY PROVIDER. CONTRACTOR SHALL HAVE EXISTING LINE JETTED AND A CAMERA RUN THROUGH IT TO VERIFY PRIOR TO ANY CONSTRUCTION.

UTILITY NOTES

- CONTRACTOR SHALL HAVE NORTH CAROLINA ONE CALL (811) LOCATE ALL EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION
- ALL UNDERGROUND FEATURES INDICATED ON THE PLANS SHOULD BE CONSIDERED APPROXIMATE IN LOCATION AND SHOULD BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION. NOTIFY THE DESIGN ENGINEER IMMEDIATELY IF ANY CONFLICTS OR DISCREPANCIES ARE NOTED.
- CONTRACTOR SHALL COORDINATE THE LOCATION OR RELOCATION OF ALL OVERHEAD AND UNDERGROUND COMMUNICATION LINES, ELECTRIC AND GAS SERVICE WITH THE APPROPRIATE UTILITY COMPANY AND/OR THE CITY PRIOR TO BEGINNING CONSTRUCTION. CONTRACTOR SHALL PROVIDE CONDUITS AS REQUIRED FOR THESE UTILITIES UNDER PAVED AREAS.
- ALL ILLUSTRATED UTILITY INFRASTRUCTURE IS DIAGRAMMATIC AND MAY NOT REPRESENT THE ACTUAL SIZE OF INFRASTRUCTURE. NOTIFY THE DESIGN ENGINEER IMMEDIATELY IF ANY CONFLICTS OR DISCREPANCIES ARE NOTED.
- ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF RALEIGH AND THE STATE OF NORTH CAROLINA STANDARDS AND SPECIFICATIONS.
- CURB STOPS ARE REQUIRED AND SHALL BE LOCATED 1 FOOT FROM THE METER BOX. CURB STOPS SHALL BE INSTALLED IN A CURB STOP BOX AS MANUFACTURED BY FORD, A.Y. McDONALD, OR TRUMBULL.
- SERVICE SADDLES SHALL BE ALL BRONZE WITH DOUBLE BRONZE STRAPS WITH A NEOPRENE "O" RING GASKET ATTACHED TO THE BODY.
- ALL WATER METERS SHALL BE PROVIDED AND INSTALLED BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT METERS DIVISION.
- METERS WILL BE THE SAME SIZE IN DIAMETER AS THE SERVICE.
- A 3' CLEAR SPACE SHALL BE MAINTAINED AROUND ALL WATER METERS.
- ALL 6" SANITARY SEWER SERVICES CONNECTIONS SHALL BE MADE INTO MANHOLES ONLY.
- UTILITY TRENCHES SHALL BE CUT AND PAVEMENT REPAIRED TO CITY OF RALEIGH STANDARDS.
- ALL DISTURBED HARDSCAPE AND LANDSCAPING (CONCRETE, ASPHALT, BRICK, TREES, SHRUBS, ETC) SHALL BE REPLACED ACCORDING TO CITY OF RALEIGH AND NCDOT STANDARDS AND SPECIFICATIONS.
- BOUNDARY AND SURVEY INFORMATION IS TAKEN FROM A SURVEY BY SURVEYOR INFO.

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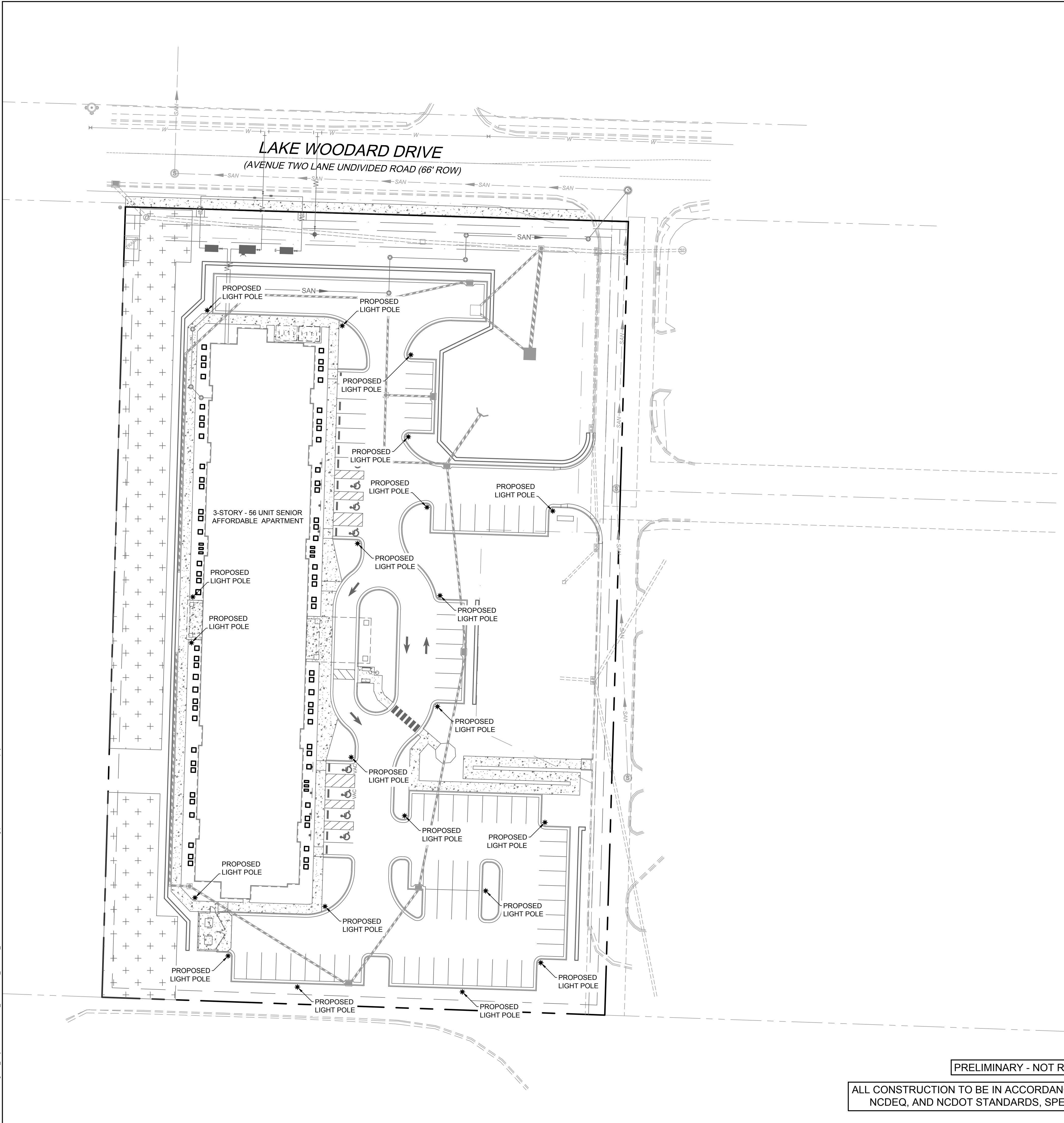
TIMMONS GROUP
 LAKE HAVEN
 NORTH CAROLINA LICENSE NO. C-1652
 RALEIGH - WAKE COUNTY - NORTH CAROLINA
 UTILITY PLAN

JOB NO. 42601.013
 SHEET NO. C5.0

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Outdoor Lighting

SHOEBOX LED
(Meets Dark Sky Criteria)

LED (Light-emitting diode)	150 220 420 530 watts
Mounting height	25', 30', 35'
Color	Black Bronze Gray White
Pole	Fiberglass (1 or 2 fixtures per pole) Decorative tapered metal Decorative square metal
Applications	Neighborhoods Roadways Shopping centers

Light source: LED (white)
Wattage: 150 | 220 | 420 | 530 watts
Light pattern: IES Type V | Type IV (forward throw) | Type III
IESNA cutoff classification: Full-cutoff
BUG rating: 150W Type III = B2U0G3 / Type IV = B3U0G4 / Type V = B5U0G3
 220W Type III = B2U0G4 / Type IV = B3U0G4 / Type V = B4U0G3
 420W Type IV = B3U0G5 / Type V = B5U0G5
 530W Type IV = B3U0G5 / Type V = B5U0G5
Color temperature: 4,000K

POLE AVAILABLE	MOUNTING HEIGHT	COLOR
Round tapered decorative metal*	35'	Black, Bronze
Decorative square metal*	25' and 30'	Black, Bronze, Gray, White
Fiberglass	25' and 30'	Black (1 or 2 fixtures per pole) Gray (1 or 2 fixtures per pole)

FEATURES	BENEFITS
Turnkey operation	Provides hassle-free installation and service
Little or no installation cost	Frees up capital for other projects
Design services by lighting professionals included	Meets industry standards and lighting ordinances
Maintenance, electricity & warranty included	Eliminates high and unexpected repair bills
One low monthly cost on your electric bill	Convenience and savings for you

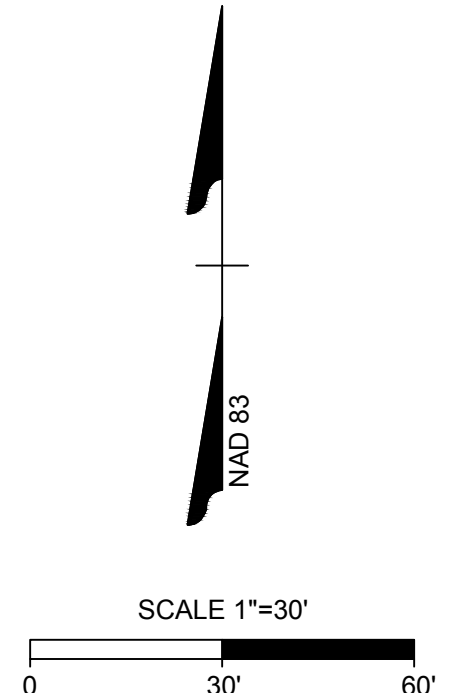
BUILDING A SMARTER ENERGY FUTURE™

For additional information, email us at: ODL.Carolina@duke-energy.com
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150 WATTS
MOUNTING HEIGHT: 25'
COLOR: BLACK
POLE: FIBERGLASS

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LAKE HAVEN

LIGHTING PLAN

NORTH CAROLINA LICENSE NO. C-1652

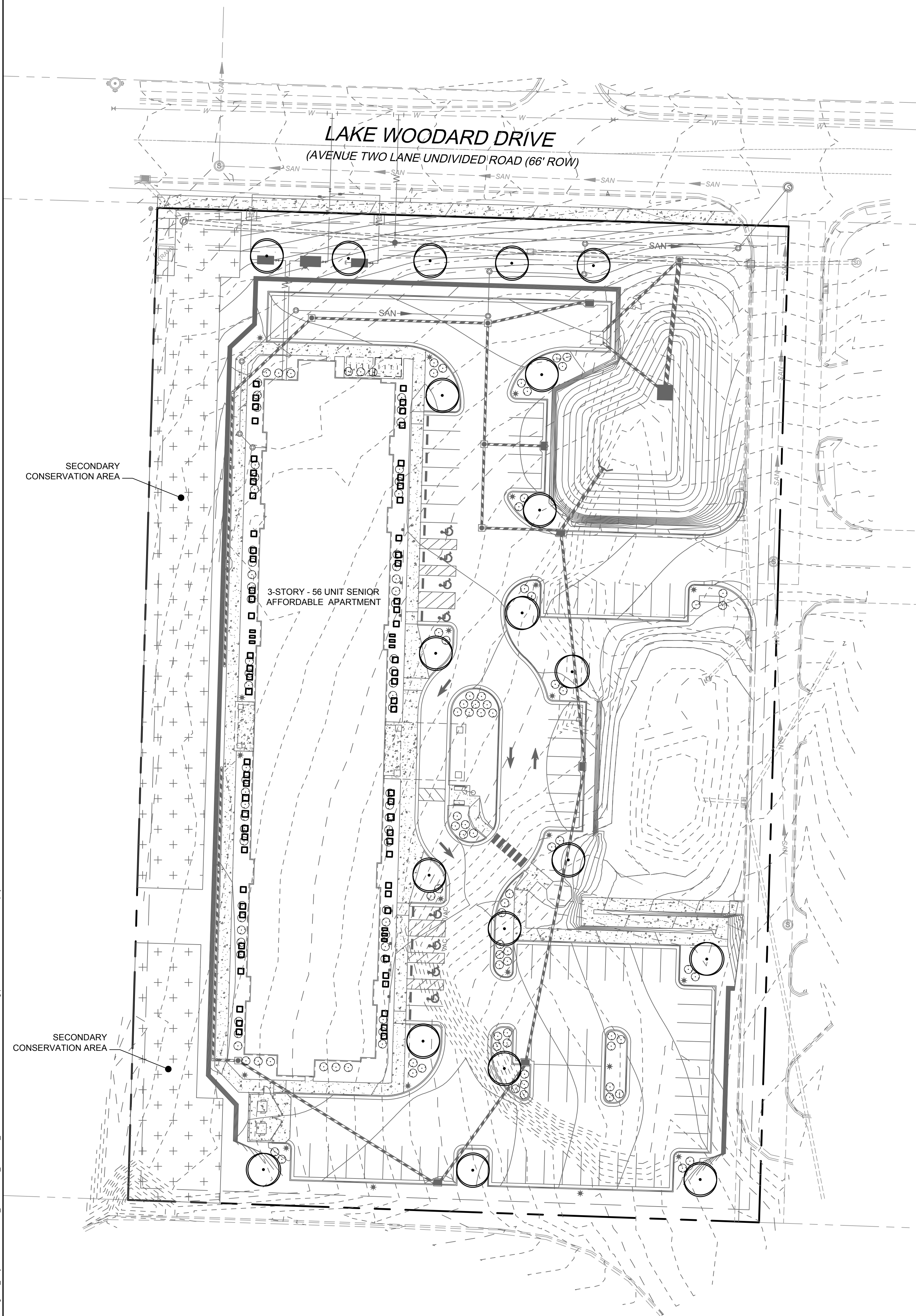
RALEIGH - WAKE COUNTY - NORTH CAROLINA

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LANDSCAPE NOTES:

PRE-CONSTRUCTION

- PRIOR TO CONSTRUCTION LOCATE ALL UNDERGROUND UTILITIES WITHIN AND ADJACENT TO THE WORK AREA. LOCATIONS OF EXISTING BURIED UTILITY LINES SHOWN ON THE PLANS ARE BASED UPON BEST AVAILABLE INFORMATION AND ARE TO BE CONSIDERED APPROXIMATE. PROTECT ALL UTILITIES. REPAIR ALL DAMAGE TO UTILITIES, STRUCTURES, SITE APPURTENANCES, ETC. WHICH OCCURS AS A RESULT OF CONSTRUCTION.
- CONTRACTOR ENGAGED IN LANDSCAPE IMPLEMENTATION SHALL BE A LANDSCAPE CONTRACTOR REGISTERED IN THE STATE OF NORTH CAROLINA.
- VERIFY ALL PLANT MATERIAL QUANTITIES ON PLANS PRIOR TO BIDDING. PLANT LIST TOTALS ARE FOR CONVENIENCE ONLY AND MUST BE VERIFIED.
- PLANT MATERIAL SUBSTITUTIONS CAN ONLY OCCUR WITH PRIOR WRITTEN APPROVAL BY LANDSCAPE ARCHITECT.
- PRIOR TO THE COMMENCEMENT OF ANY ACTIVITIES REQUIRING A BUILDING OR ZONING PERMIT AN ON-SITE PRE-CONSTRUCTION CONFERENCE SHALL TAKE PLACE WITH THE DEVELOPER AND THE ADMINISTRATOR TO REVIEW PROCEDURES FOR THE PROTECTION AND MANAGEMENT OF ALL LANDSCAPE ELEMENTS TO REMAIN.
- ALL PLANT MATERIALS ARE SUBJECT TO LANDSCAPE ARCHITECT APPROVAL BEFORE, DURING, AND AFTER INSTALLATION.
 - ANY PLANT MATERIAL WHICH IS DISEASED, DISTRESSED, DEAD, OR REJECTED (PRIOR TO SUBSTANTIAL COMPLETION) SHALL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH MATERIAL OF THE SAME SPECIES, QUANTITY, AND SIZE.
- ALL PLANT MATERIALS AND INSTALLATION SHALL COMPLY WITH RECOMMENDATIONS AND REQUIREMENTS OF ANSI Z60.1 "AMERICAN STANDARD FOR NURSERY STOCK".
 - ALL PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS, AND FREE OF PESTS AND DISEASE.
 - ALL PLANT MATERIAL SHALL BE CONTAINER GROWN OR BALLED AND BURLAPPED AS INDICATED IN THE PLANT LIST.
 - ALL TREES SHALL HAVE A STRAIGHT TRUNK AND FULL HEAD.

CONSTRUCTION/INSTALLATION

- CONTRACTOR IS ENCOURAGED TO COMPLETE TEMPORARY OR PERMANENT SEEDING IN STAGES FOR SOIL STABILIZATION AND GRADING. THIS PLAN DOES NOT PRESENT ANY TEMPORARY STABILIZATION REQUIRED AS PART OF SWPPP PLAN.
- CONTRACTOR SHALL TAKE 3 REPRESENTATIVE SOIL SAMPLES OF EACH PROPOSED PLANT BED AND SUBMIT COPIES OF THE RESULTS TO THE LANDSCAPE ARCHITECT PRIOR TO BEGINNING WORK.
- STUMPS LABELED FOR REMOVAL SHALL BE EXCAVATED, NOT GROUND, REMOVE ALL DEBRIS FROM THE HOLE. FILL WITH TOP SOIL, COMPACT, AND RAKE SMOOTH PRIOR TO INSTALLING NEW PLANT MATERIAL.
- CONTRACTOR IS RESPONSIBLE FOR DELIVERY SCHEDULE AND PROTECTION BETWEEN DELIVERY AND PLANTING TO MAINTAIN HEALTHY PLANT CONDITIONS.
- ALL LANDSCAPED AND LAWN AREAS ARE TO RECEIVE A MINIMUM OF 4" OF TOPSOIL.
- ALL LANDSCAPE ISLANDS SHALL BE GRADED FOR POSITIVE DRAINAGE WITH NO LOW SPOTS ALLOWING WATER TO BE TRAPPED.
- INSTALL LANDSCAPE PLANTINGS AT ENTRANCES/EXITS AND PARKING AREAS ACCORDING TO PLANS SO MATERIAL WILL NOT INTERFERE WITH SIGHT DISTANCES.
- THE SIZE OF THE PLANTING AREA AND SIZE OF PLANT MATERIAL AT MATURITY SHALL ALLOW FOR A 2.5' BUMPER OVERHANG FROM THE BACK OF CURB.
- ALL TREES MUST BE GUYED OR STAKED AS DETAILED.
- AREAS DAMAGED FROM PLANT RELOCATION OR OTHER ACTIVITIES OF LANDSCAPE CONTRACTOR TO BE RESEEDED AND ESTABLISHED AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR IS RESPONSIBLE FOR WATERING ALL PLANT MATERIAL DURING INSTALLATION AND UNTIL FINAL INSPECTION AND ACCEPTANCE BY OWNER. CONTRACTOR SHALL NOTIFY OWNER OF CONDITIONS WHICH AFFECTS THE GUARANTEE. IT MAY BE NECESSARY TO TRUCK IN NON-CITY WATER TO MEET PLANT NEEDS.
- USE HERBICIDES, PESTICIDES, AND FERTILIZER IN A MANNER CONSISTENT WITH THE FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT AND IN ACCORDANCE WITH LABEL RESTRICTIONS.
- ALL LAWN AREAS TO BE SEEDDED SHALL USE A LOCALLY GROWN COMMERCIAL MIX MEETING LATEST STATE OF NORTH CAROLINA AGRICULTURE STANDARDS FOR SEED AND PLANT CERTIFICATION.
- SEEDING AND STRAW NOTES FOR LAWN AREAS:
 - RIP THE ENTIRE AREA TO DEPTH OF NOT LESS THAN 6".
 - REMOVE ALL LOOSE ROCKS, ROOTS, AND OTHER OBSTRUCTIONS LEAVING SURFACE SMOOTH AND UNIFORM. DISPOSE OF WASTE MATERIAL OFF-SITE.
 - CHISEL COMPACTED AREAS AND SPREAD TOPSOIL TO SPECIFIED DEPTH.
 - APPLY AGRICULTURAL LIME, FERTILIZER, AND SUPER PHOSPHATE UNIFORMLY AND MIX WITH SOIL. APPLY SOIL AMENDMENTS PER REQUIRED SOIL ANALYSIS RECOMMENDATIONS.
 - CONTINUE TILAGE UNTIL A WELL PULVERIZED, FIRM, REASONABLY UNIFORM SEEDBED IS PREPARED.
 - SEED ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK AFTER SEEDING.
 - MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
 - INSPECT ALL SEEDBED AREAS AND IF POSSIBLE, MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON. IF GRANDSTAND SHOULD BE OVER 60% DAMAGED, REESTABLISH FOLLOWING ORIGINAL LIME, FERTILIZER, AND SEEDING RATES.
 - ANCHOR TACK WITH LIQUID ASPHALT AT 400 GAL/ACRE OR EMULSIFIED ASPHALT AT 300 GAL/ACRE.
- BIODEGRADABLE WEED MATTING (ALL-PRO WEED MAT OR APPROVED EQUAL) SHALL BE REQUIRED IN SHRUB BEDS ADJACENT TO BUILDING FACADE.
- PLANTING BEDS TO BE COMPLETELY COVERED WITH A MINIMUM 4" DEPTH OF MATERIAL FROM A LOCAL SOURCE HARVESTED IN A SUSTAINABLE MANNER. REFER TO LANDSCAPE SCHEME FOR MATERIAL SPECIFICATIONS.
- MULCH ALL PLANT BEDS AND TREE RINGS WITH FRESH, CLEAN MATERIAL PER SPECIFICATIONS. ALL MULCH EDGES SHALL BE NEATLY TUCKED. ALL STRING AND/OR BAILING WIRE SHALL BE REMOVED. DUST SHRUBS AND GROUND COVER AFTER MULCHING TO REMOVE LOOSE MATERIAL FROM PLANTS. DO NOT PLACE MULCH IN CONTACT WITH THE TREE TRUNK. KEEP A MINIMUM OF 4" AWAY FROM TREE TRUNK OR BASE OF PLANT.
- MULCH AND NO-MOW MIXES SHALL BE REPLENISHED AS NEEDED, ESPECIALLY AFTER HEAVY RAIN EVENTS. IF NO-MOW MIX GERMINATES AT A RATE OF LESS THAN 90%, THEN REMOVE OTHER SPECIES AND RESEED.

TEMPORARY IRRIGATION

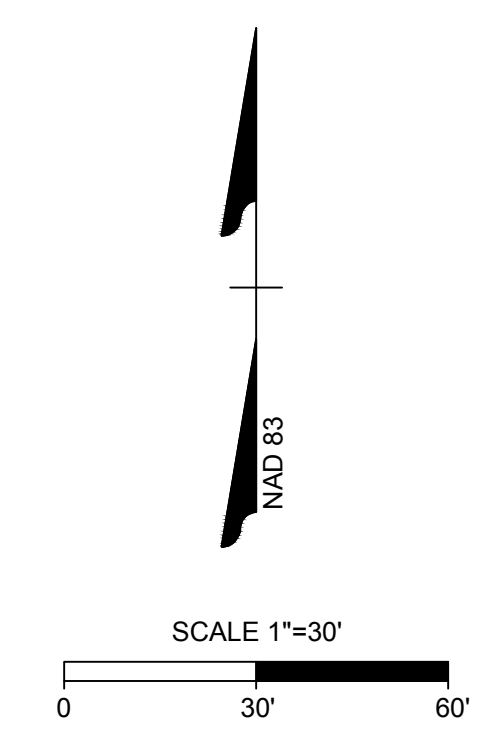
- CONTRACTOR TO PROVIDE AND MAINTAIN TEMPORARY IRRIGATION FOR SOD WITHIN THE STORMWATER CONTROL MEASURE UNTIL SOD BECOMES ESTABLISHED.

INSPECTIONS/GUARANTEE

- LANDSCAPE CONTRACTOR SHALL NOTIFY GENERAL CONTRACTOR UPON COMPLETION OF LANDSCAPE INSTALLATION. CONTRACTOR WILL VERIFY COMPLETENESS INCLUDING THE REPLACEMENT OF ALL DEAD PLANT MATERIAL. CONTRACTOR IS RESPONSIBLE FOR SCHEDULING A FINAL INSPECTION BY LANDSCAPE ARCHITECT.
- PLANT MATERIAL QUANTITIES AND SIZES WILL BE INSPECTED FOR COMPLIANCE WITH APPROVED PLANS BY A SITE PLAN REVIEW AGENT PRIOR TO THE RELEASE OF THE CERTIFICATE OF OCCUPANCY.
- CONTRACTOR TO GUARANTEE ALL PLANT MATERIALS FOR ONE FULL YEAR AGAINST DEFECTS INCLUDING DEATH AND UNSATISFACTORY GROWTH. WARRANTY PERIOD SHALL BEGIN UPON CERTIFICATE OF OCCUPANCY OR WHEN THE OWNER TAKES OVER MAINTENANCE, WHICHEVER COMES FIRST.

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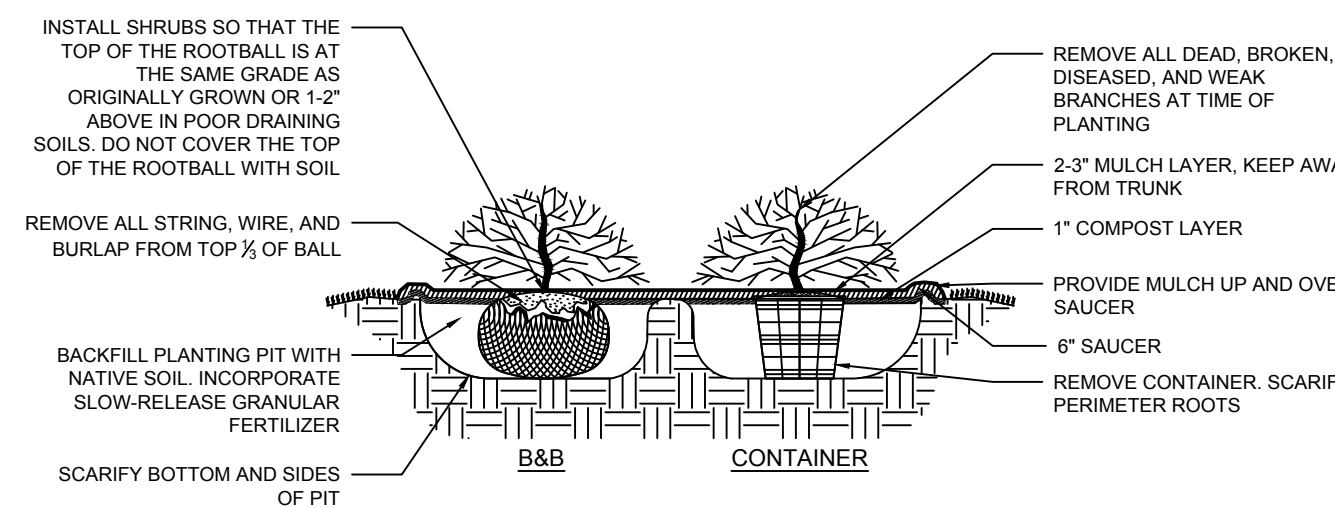
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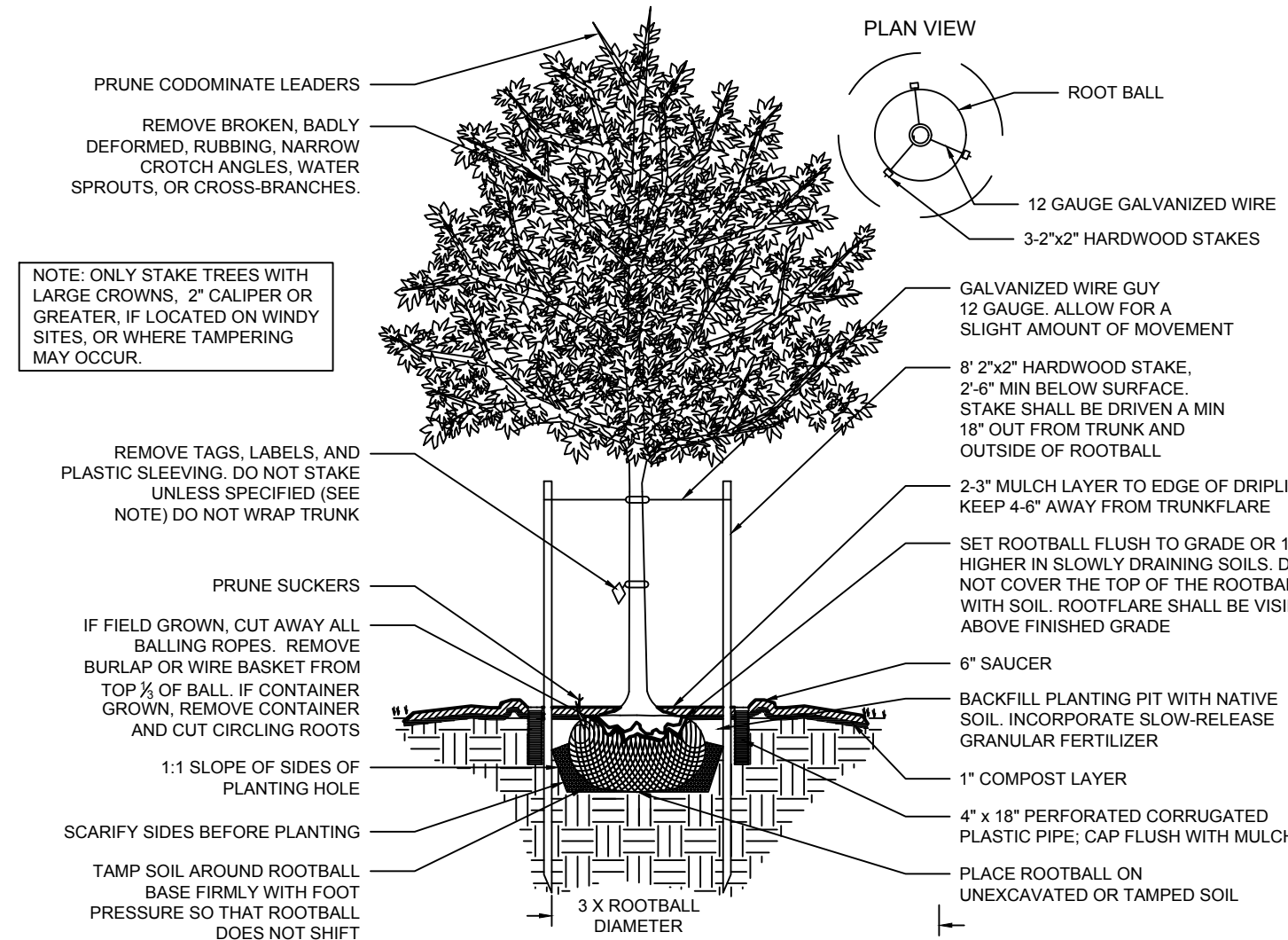
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RALEIGH - WAKE COUNTY - NORTH CAROLINA
LANDSCAPE PLAN
NORTH CAROLINA LICENSE NO. C-1652

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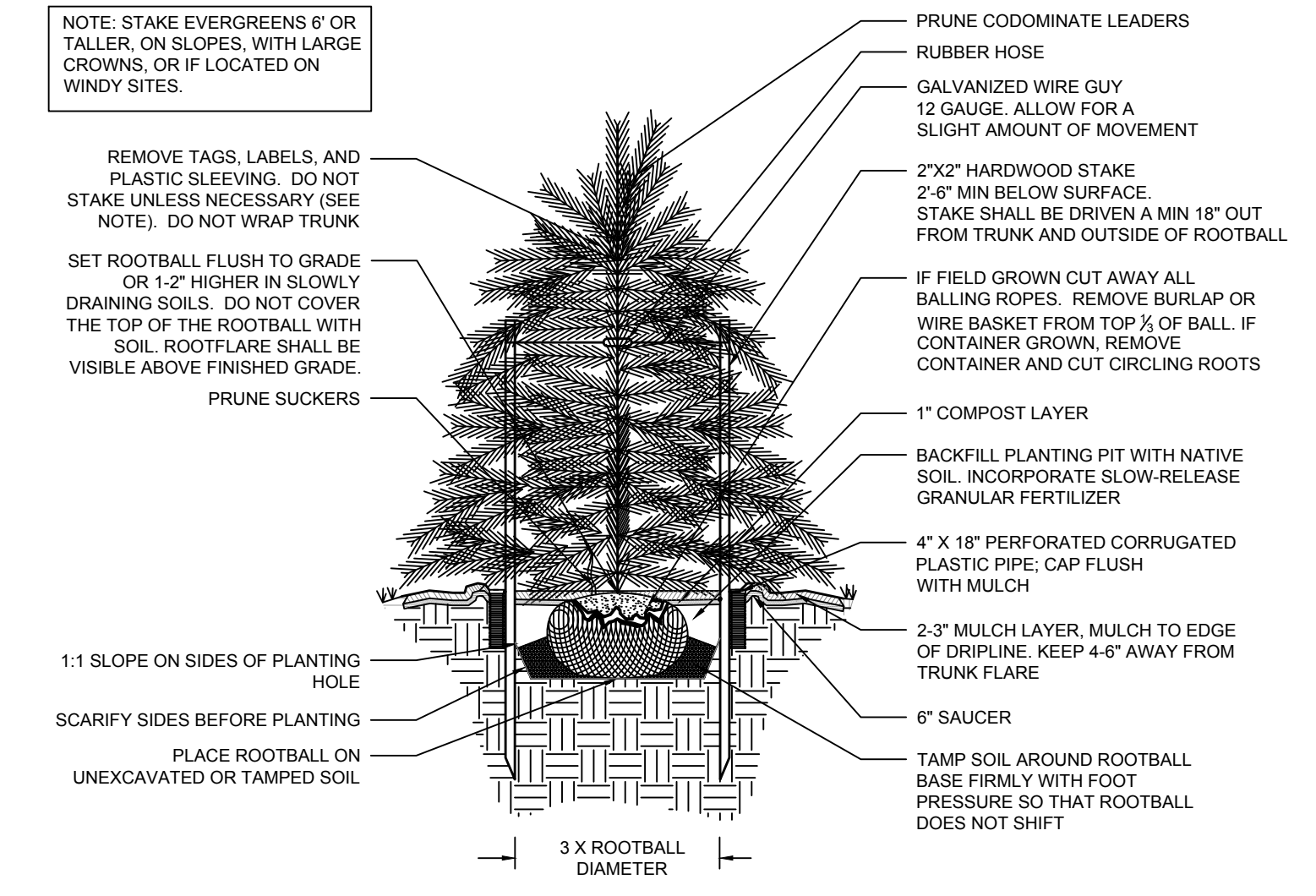
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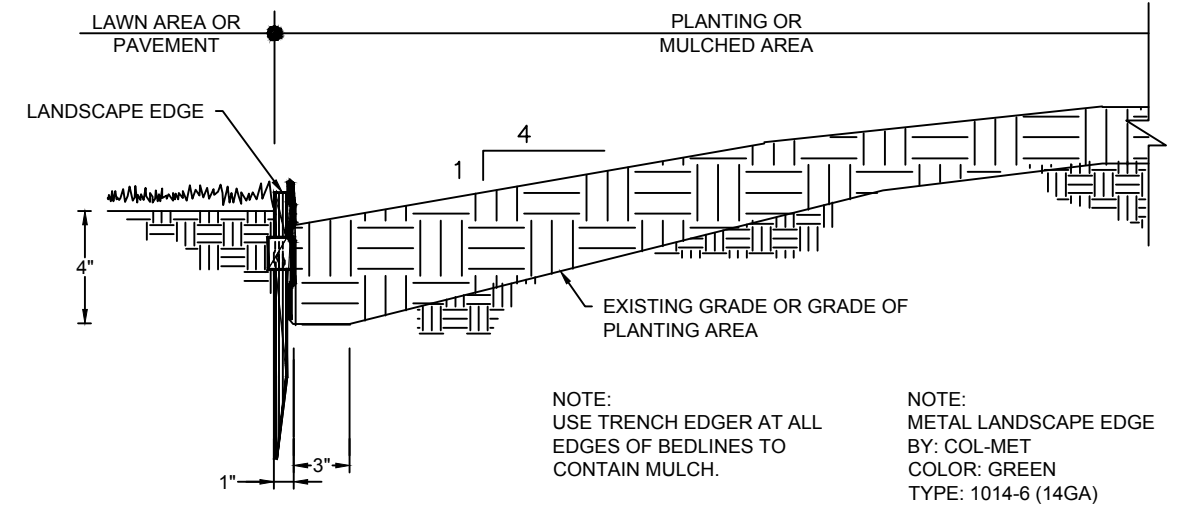
1 SHRUB DETAIL
NOT TO SCALE



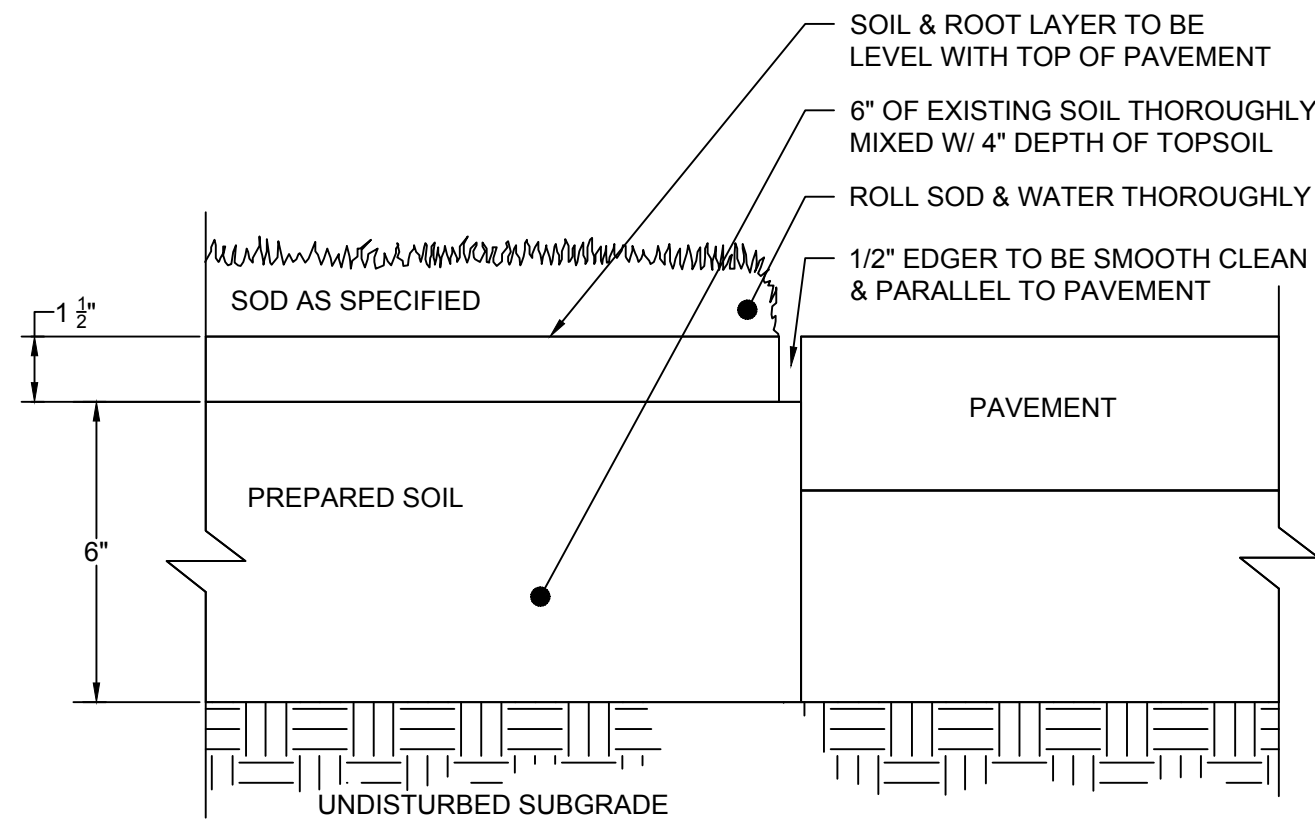
2 DECIDUOUS TREE - STAKING SPECIFIED
NOT TO SCALE



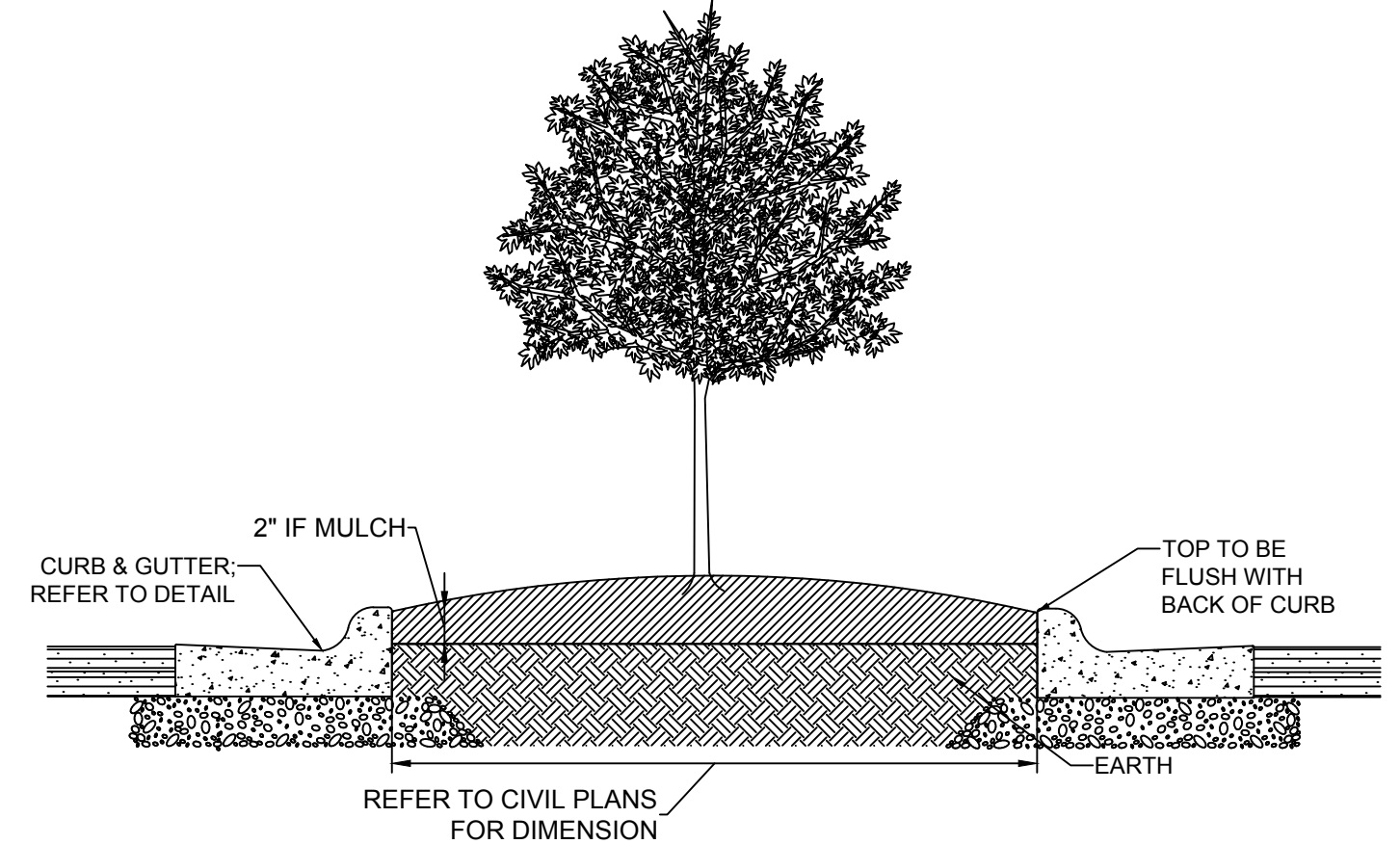
3 EVERGREEN TREE - STAKING SPECIFIED
NOT TO SCALE



4 TRENCH EDGER DETAIL
NOT TO SCALE



5 SOD DETAIL
NOT TO SCALE



6 LANDSCAPE ISLAND DETAIL
NOT TO SCALE

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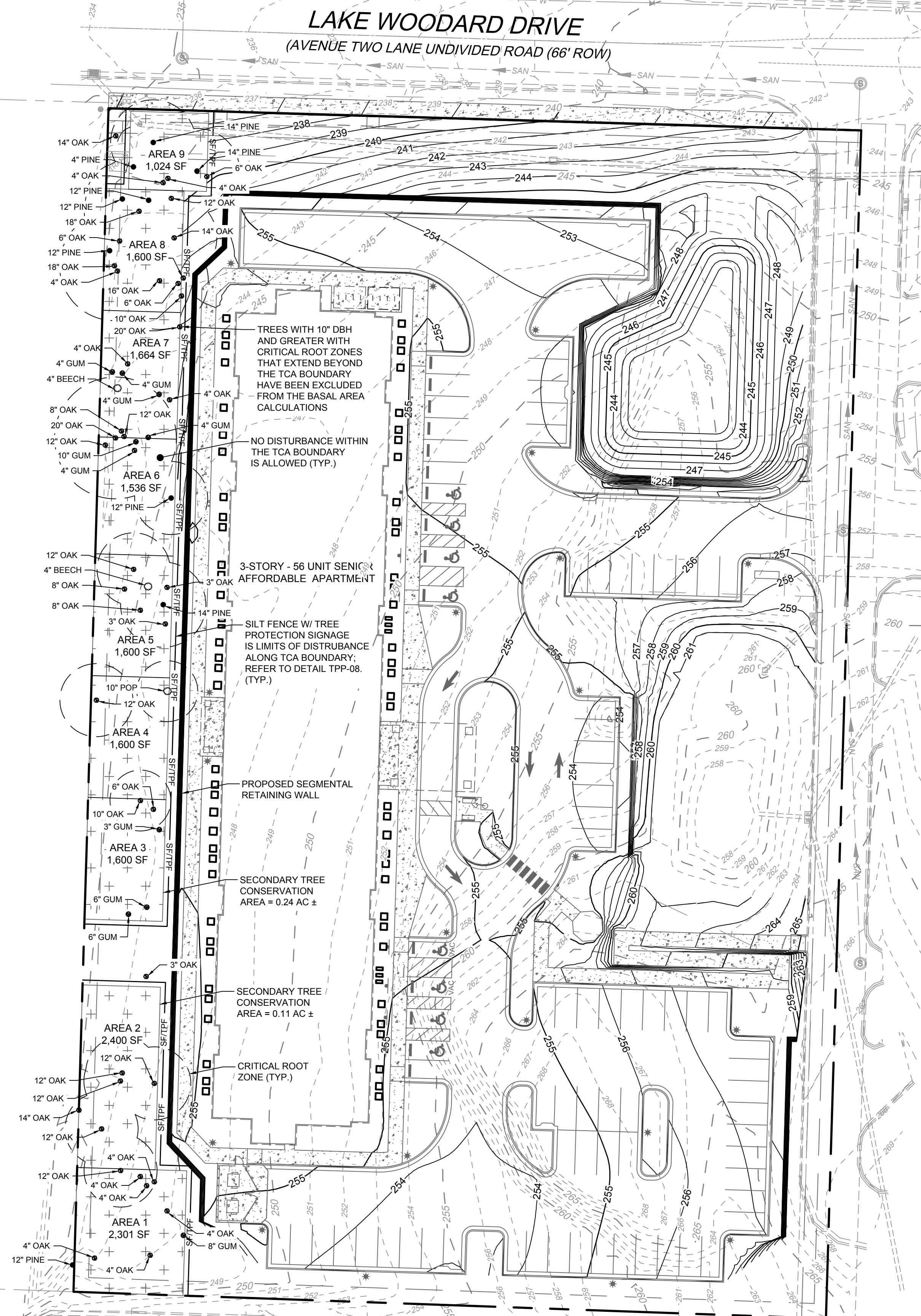
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TREE CONSERVATION AREA CALCULATIONS:
 EXISTING LOT AREA: 3.47 AC
 PROPOSED R/W DEDICATION AREA: 0.01 AC
 PROPOSED LOT AREA: 3.46 AC
 SECONDARY TREE CONSERVATION AREA: 0.35 AC (10%)



LAKE WOODARD DRIVE
 (AVENUE TWO LANE UNDIVIDED ROAD (66' ROW))

TREES WITH 10" DBH AND GREATER WITH CRITICAL ROOT ZONES THAT EXTEND BEYOND THE TCA BOUNDARY HAVE BEEN EXCLUDED FROM THE BASAL AREA CALCULATIONS

NO DISTURBANCE WITHIN THE TCA BOUNDARY IS ALLOWED (TYP.)

3-STORY - 56 UNIT SENIOR AFFORDABLE APARTMENT

SILT FENCE W/ TREE PROTECTION SIGNAGE IS LIMITS OF DISTURBANCE ALONG TCA BOUNDARY. REFER TO DETAIL TPP-08. (TYP.)

PROPOSED SEGMENTAL RETAINING WALL

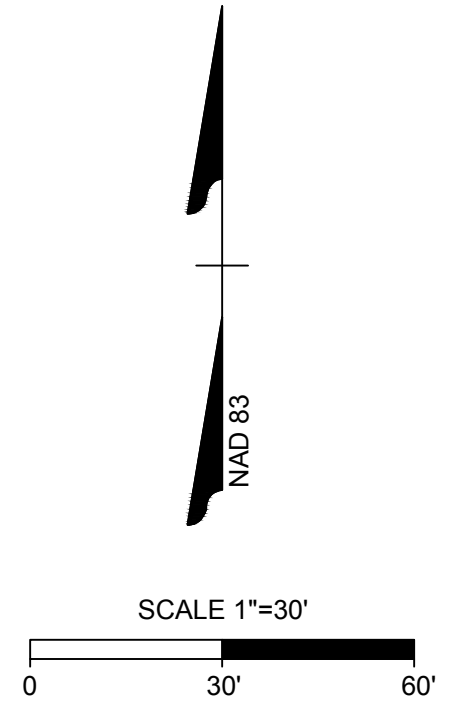
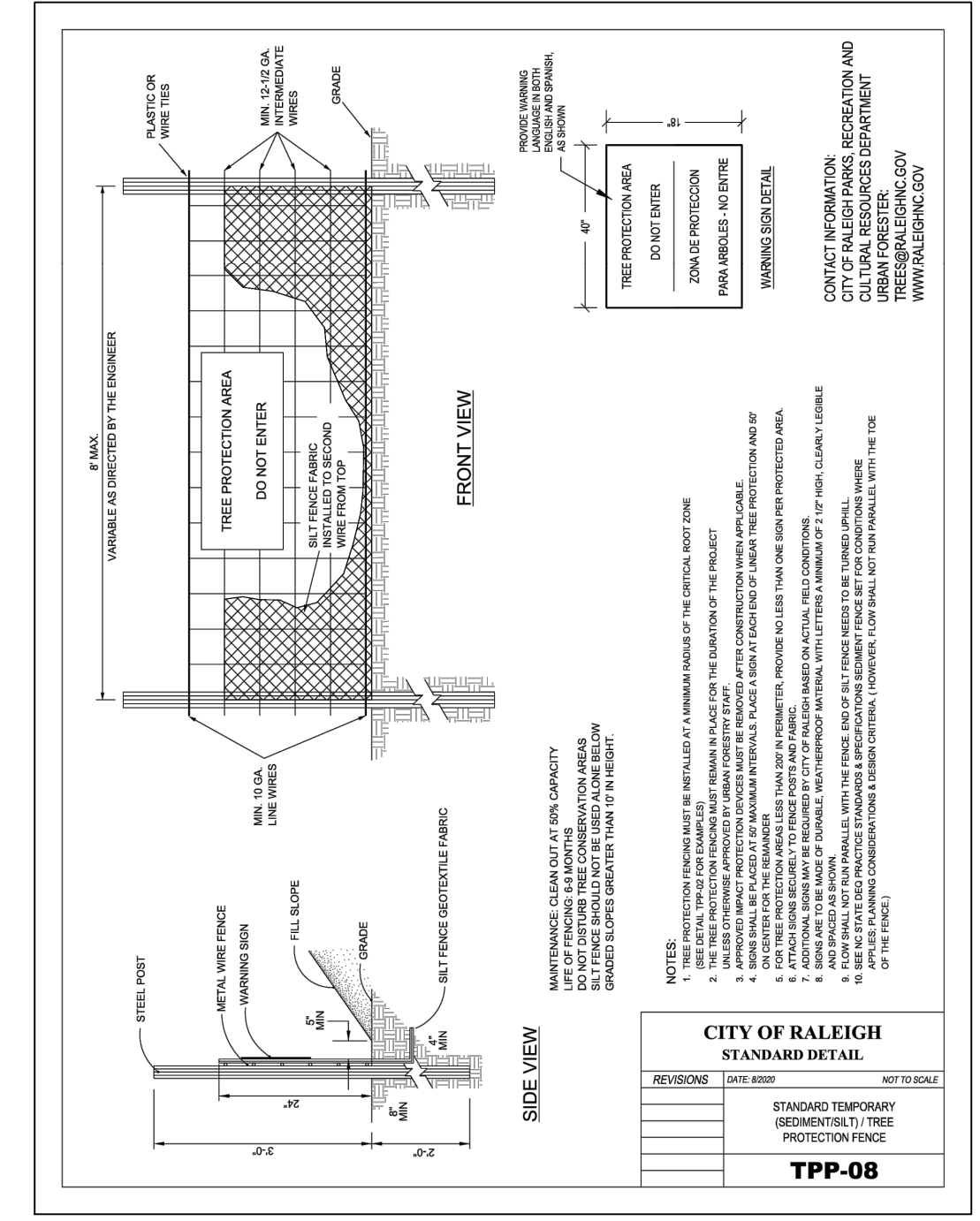
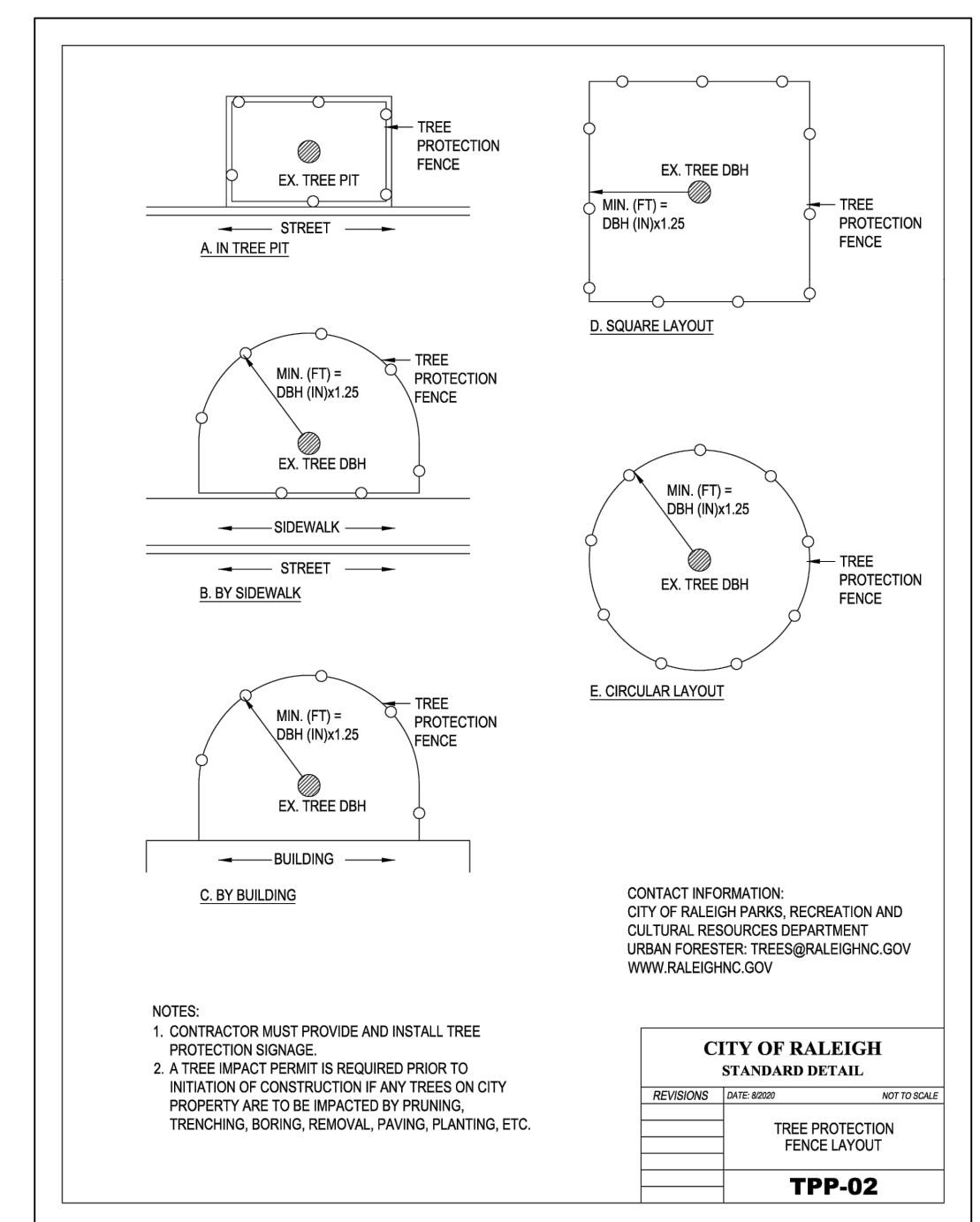
SECONDARY TREE CONSERVATION AREA = 0.24 AC ±

SECONDARY TREE CONSERVATION AREA = 0.11 AC ±

CRITICAL ROOT ZONE (TYP.)

PRELIMINARY - NOT RELEASED FOR CONSTRUCTION

ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL CITY OF RALEIGH, NCDEQ, AND NCDOT STANDARDS, SPECIFICATIONS, AND DETAILS



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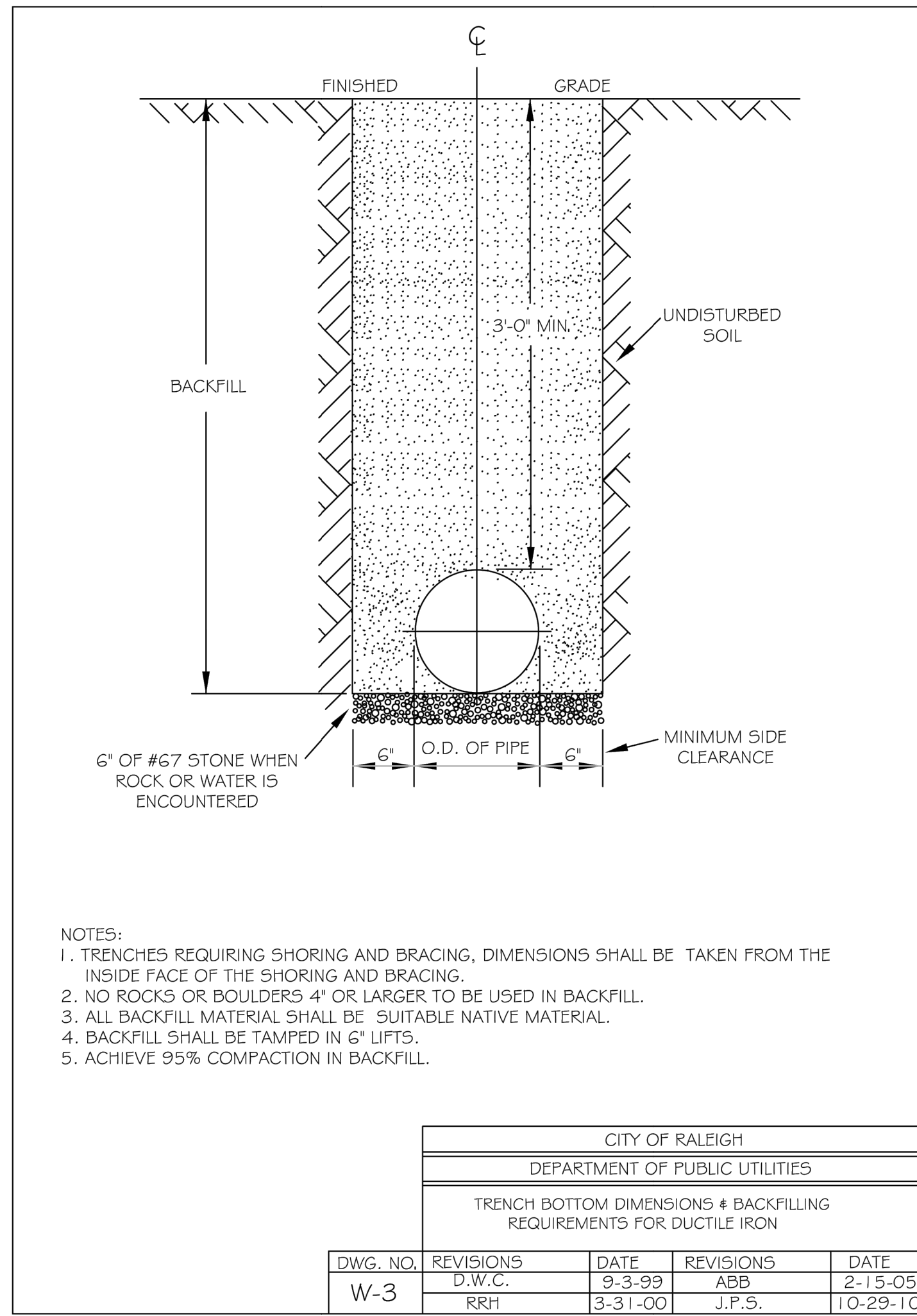
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DATE: 02/02/2024
 DRAWN BY: 332
 DESIGNED BY: P. BARBEAU
 CHECKED BY: R. BAKER
 SCALE: AS SHOWN

TIMMONS GROUP
 LAKE HAVEN
 RALEIGH - WAKE COUNTY - NORTH CAROLINA
 TREE CONSERVATION AREA
 NORTH CAROLINA LICENSE NO. C-1652

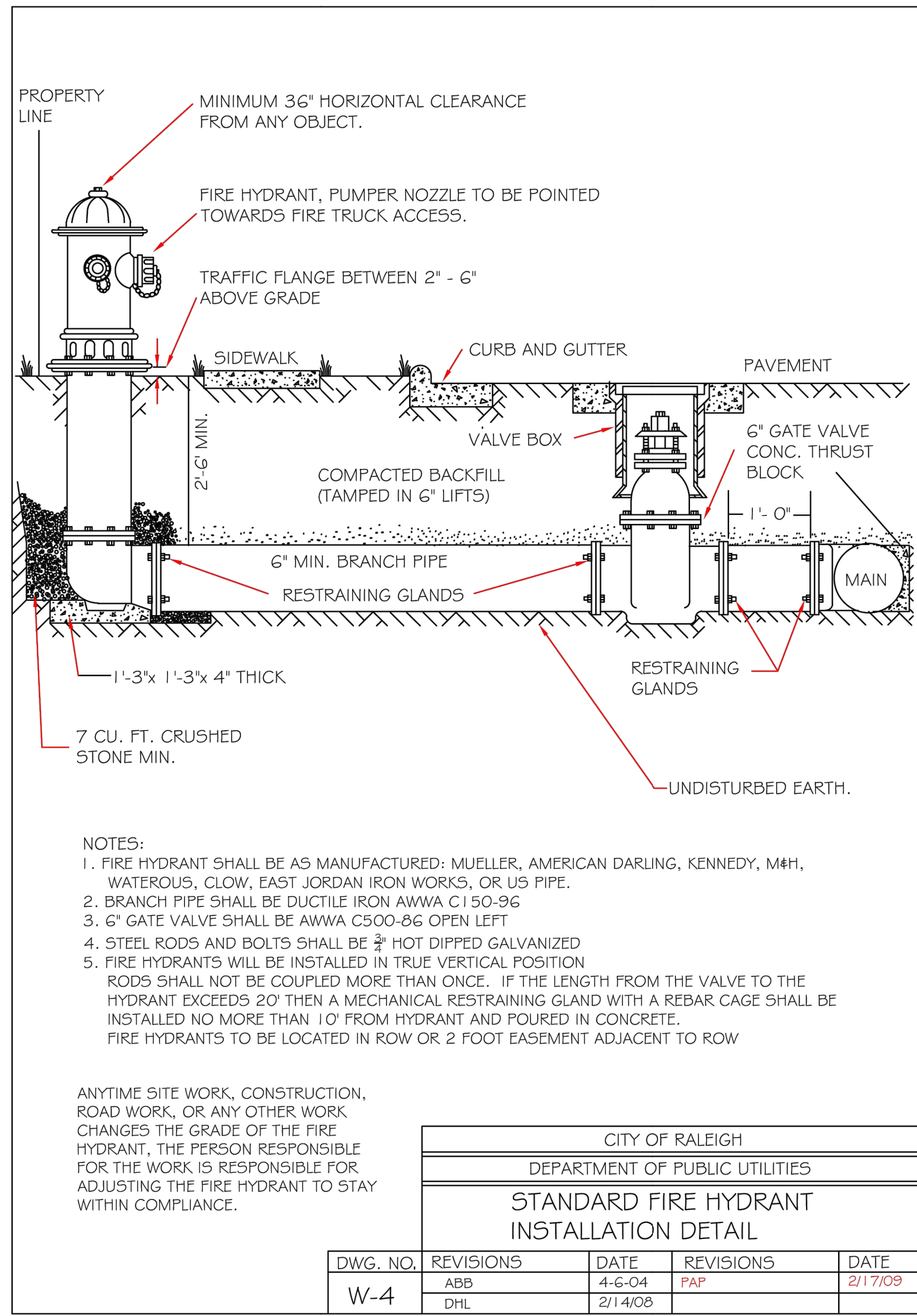
JOB NO. 42601.013
 SHEET NO. C6.2

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- NOTES:
- TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
 - NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN BACKFILL.
 - ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.
 - BACKFILL SHALL BE TAMPED IN 6" LIFTS.
 - ACHIEVE 95% COMPACTION IN BACKFILL.

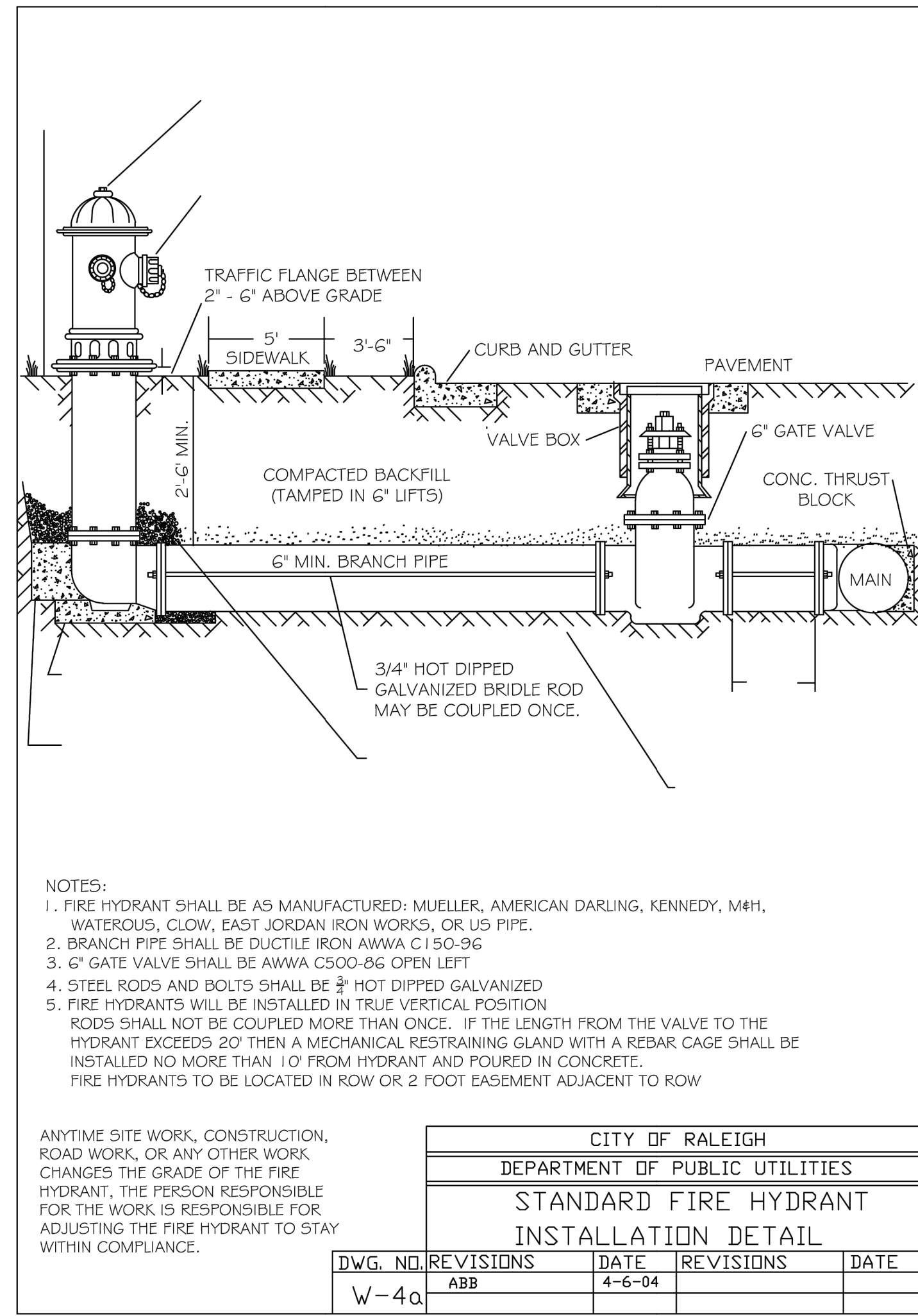
CITY OF RALEIGH					
DEPARTMENT OF PUBLIC UTILITIES					
TRENCH BOTTOM DIMENSIONS & BACKFILL REQUIREMENTS FOR DUCTILE IRON					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
W-3	D.W.C.	9-3-99	ABB	2-15-05	
	RRH	3-31-00	J.P.S.	10-29-10	



- NOTES:
- FIRE HYDRANT SHALL BE AS MANUFACTURED: MUELLER, AMERICAN DARLING, KENNEDY, M4H, WATEROUS, CLOW, EAST JORDAN IRON WORKS, OR US PIPE.
 - BRANCH PIPE SHALL BE DUCTILE IRON AWWA C150-96
 - 6" GATE VALVE SHALL BE AWWA C500-86 OPEN LEFT
 - STEEL RODS AND BOLTS SHALL BE 3/4" HOT DIPPED GALVANIZED
 - FIRE HYDRANTS WILL BE INSTALLED IN TRUE VERTICAL POSITION
- RODS SHALL NOT BE COUPLED MORE THAN ONCE. IF THE LENGTH FROM THE VALVE TO THE HYDRANT EXCEEDS 20' THEN A MECHANICAL RESTRAINING GLAND WITH A REBAR CAGE SHALL BE INSTALLED NO MORE THAN 10' FROM HYDRANT AND POURED IN CONCRETE.
- FIRE HYDRANTS TO BE LOCATED IN ROW OR 2 FOOT EASEMENT ADJACENT TO ROW

ANYTIME SITE WORK, CONSTRUCTION, ROAD WORK, OR ANY OTHER WORK CHANGES THE GRADE OF THE FIRE HYDRANT, THE PERSON RESPONSIBLE FOR THE WORK IS RESPONSIBLE FOR ADJUSTING THE FIRE HYDRANT TO STAY WITHIN COMPLIANCE.

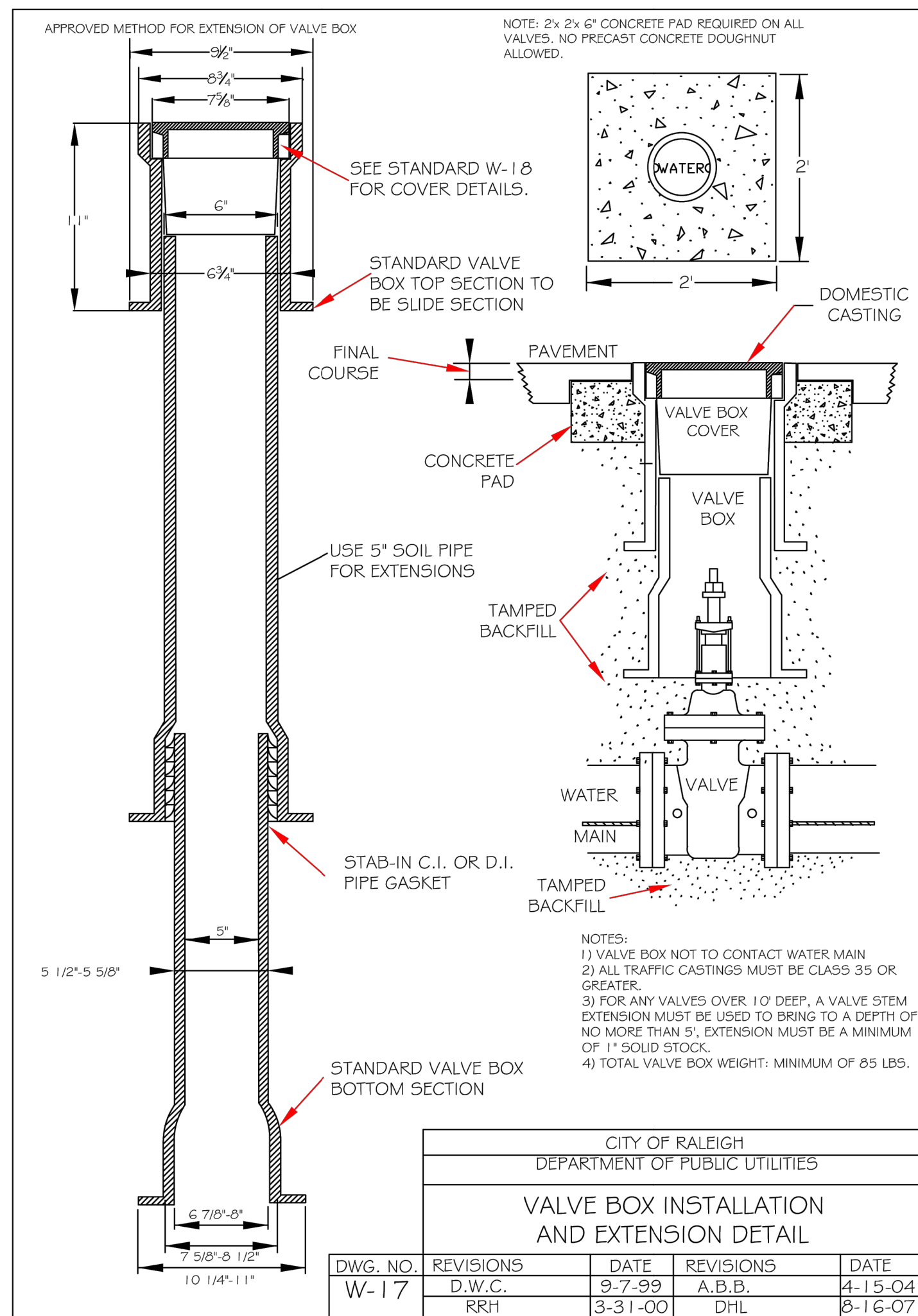
CITY OF RALEIGH					
DEPARTMENT OF PUBLIC UTILITIES					
STANDARD FIRE HYDRANT INSTALLATION DETAIL					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
W-4	ABB	4-6-04	PAP	2/17/09	
	DHL	2/14/08			



- NOTES:
- FIRE HYDRANT SHALL BE AS MANUFACTURED: MUELLER, AMERICAN DARLING, KENNEDY, M4H, WATEROUS, CLOW, EAST JORDAN IRON WORKS, OR US PIPE.
 - BRANCH PIPE SHALL BE DUCTILE IRON AWWA C150-96
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- FIRE HYDRANTS TO BE LOCATED IN ROW OR 2 FOOT EASEMENT ADJACENT TO ROW

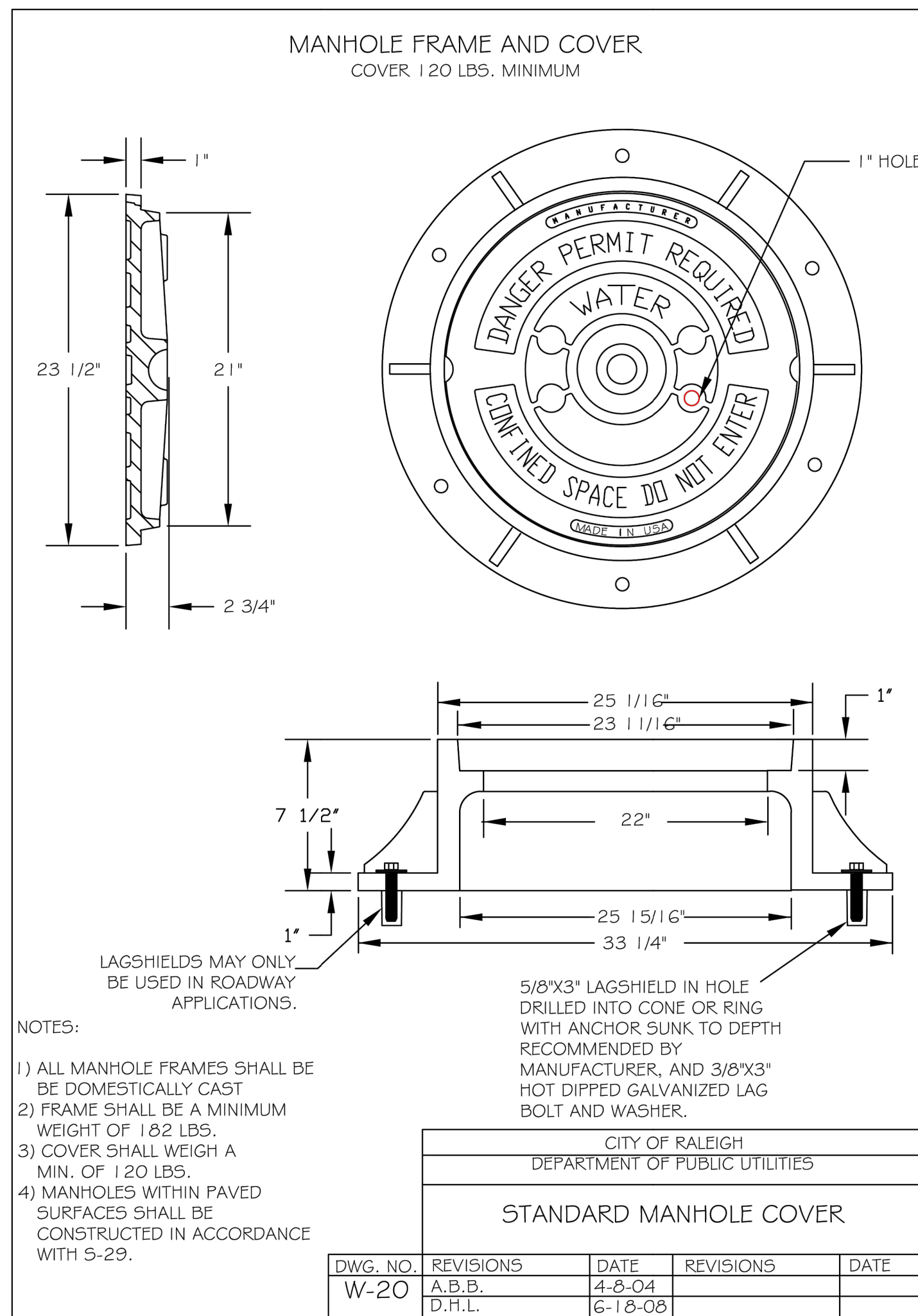
ANYTIME SITE WORK, CONSTRUCTION, ROAD WORK, OR ANY OTHER WORK CHANGES THE GRADE OF THE FIRE HYDRANT, THE PERSON RESPONSIBLE FOR THE WORK IS RESPONSIBLE FOR ADJUSTING THE FIRE HYDRANT TO STAY WITHIN COMPLIANCE.

CITY OF RALEIGH					
DEPARTMENT OF PUBLIC UTILITIES					
STANDARD FIRE HYDRANT INSTALLATION DETAIL					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
W-4a	ABB	4-6-04			



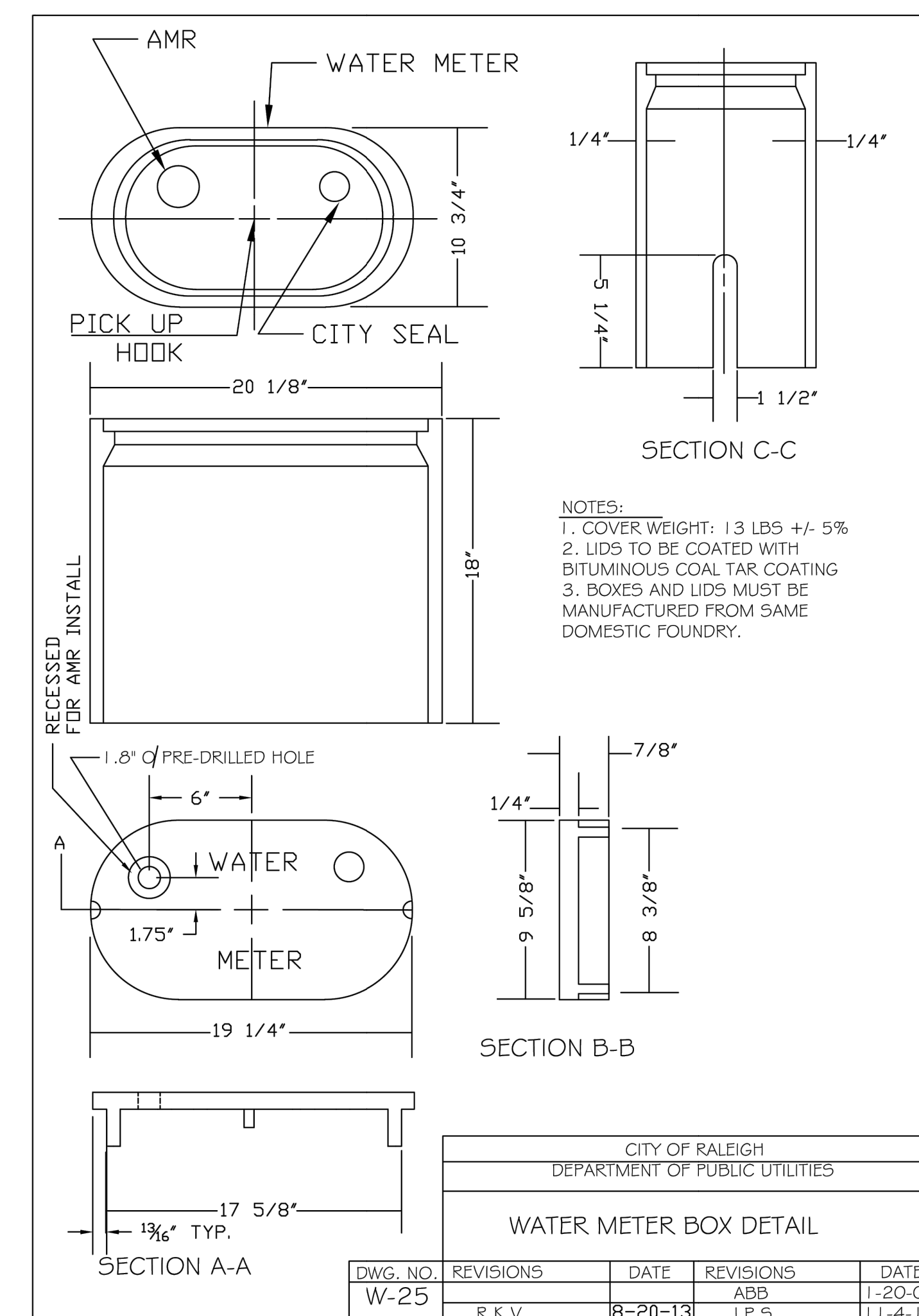
- NOTES:
- VALVE BOX NOT TO CONTACT WATER MAIN
 - ALL TRAFFIC CASTINGS MUST BE CLASS 35 OR GREATER
 - FOR ANY VALVES OVER 10' DEEP, A VALVE STEM EXTENSION MUST BE USED TO BRING TO A DEPTH OF NO MORE THAN 5', EXTENSION MUST BE A MINIMUM OF 1" SOLID STOCK
 - TOTAL VALVE BOX WEIGHT: MINIMUM OF 85 LBS.

CITY OF RALEIGH					
DEPARTMENT OF PUBLIC UTILITIES					
VALVE BOX INSTALLATION AND EXTENSION DETAIL					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
W-17	D.W.C.	9-7-99	A.B.B.	4-15-04	
	RRH	3-31-00	DHL	8-16-07	



- NOTES:
- ALL MANHOLE FRAMES SHALL BE BE DOMESTICALLY CAST
 - FRAME SHALL BE A MINIMUM WEIGHT OF 182 LBS.
 - COVER SHALL WEIGH A MIN. OF 120 LBS.
 - MANHOLES WITHIN PAVED SURFACES SHALL BE CONSTRUCTED IN ACCORDANCE WITH 5-29.

CITY OF RALEIGH					
DEPARTMENT OF PUBLIC UTILITIES					
STANDARD MANHOLE COVER					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
W-20	A.B.B.	4-8-04			
	D.H.L.	6-18-08			



- NOTES:
- COVER WEIGHT: 13 LBS +/- 5%
 - LIDS TO BE COATED WITH BITUMINOUS COAL TAR COATING
 - BOXES AND LIDS MUST BE MANUFACTURED FROM SAME DOMESTIC FOUNDRY.

CITY OF RALEIGH					
DEPARTMENT OF PUBLIC UTILITIES					
WATER METER BOX DETAIL					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
W-25	R.K.V.	8-20-13	J.P.S.	1-20-05	
	ABB			11-4-10	

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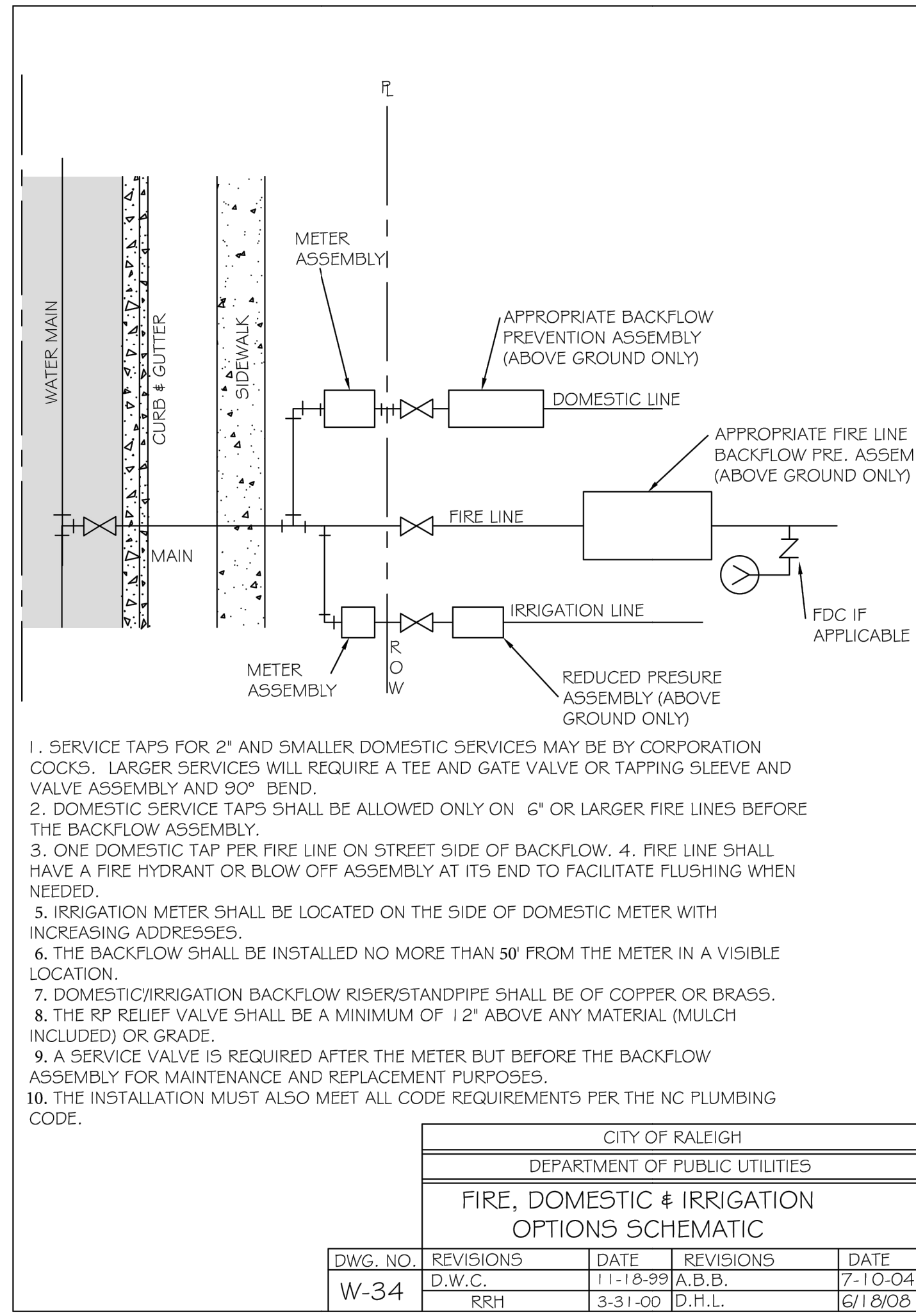
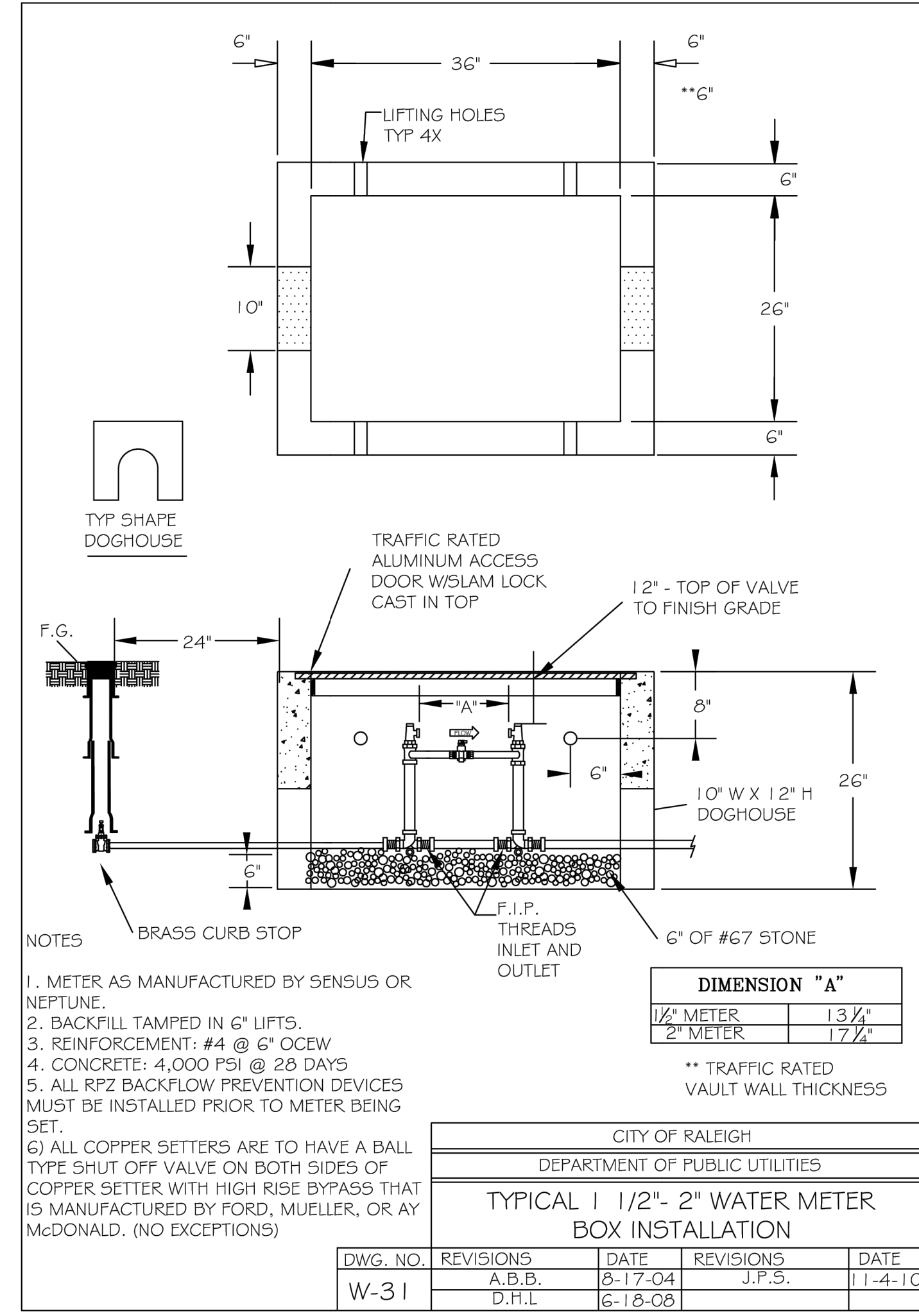
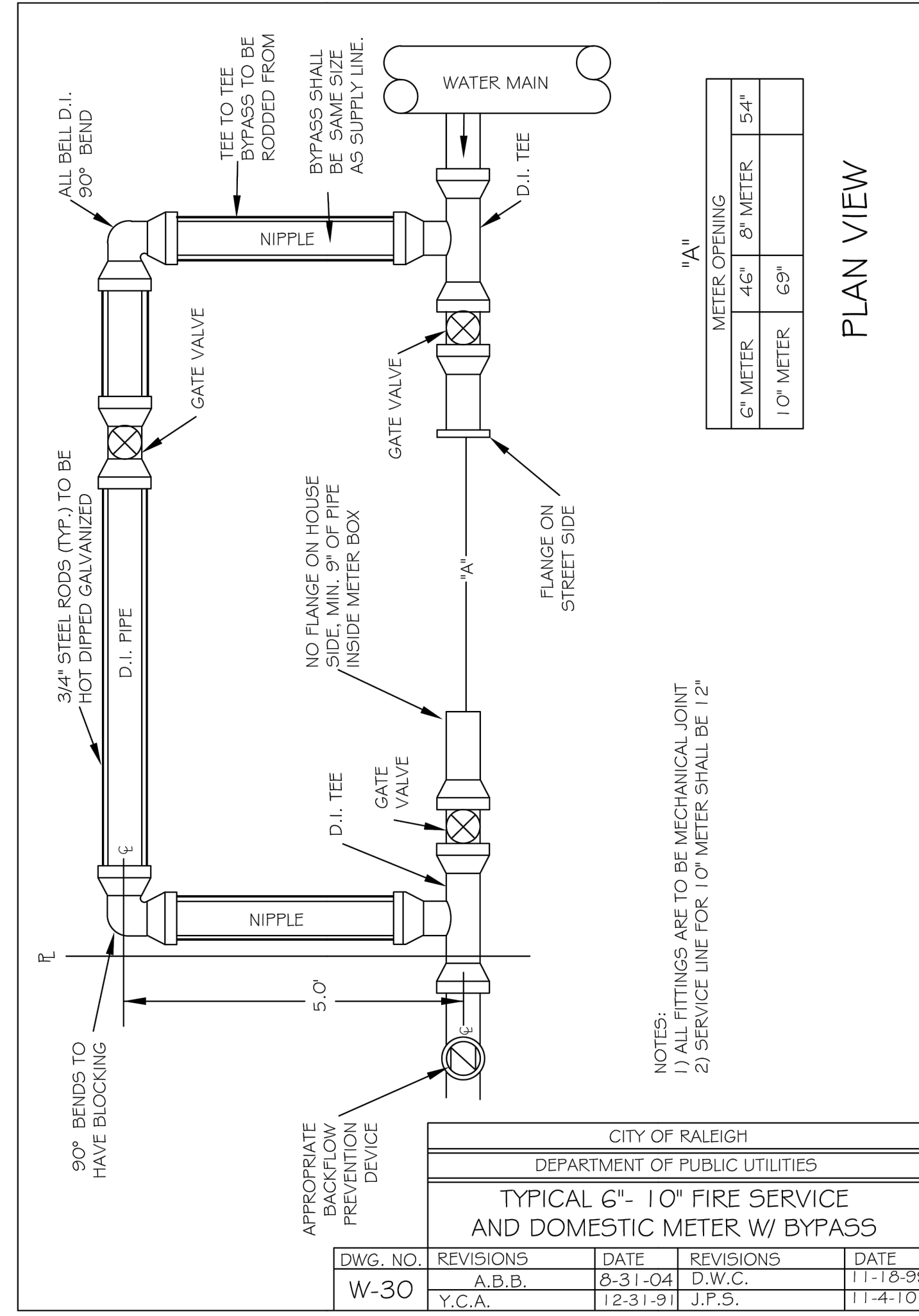
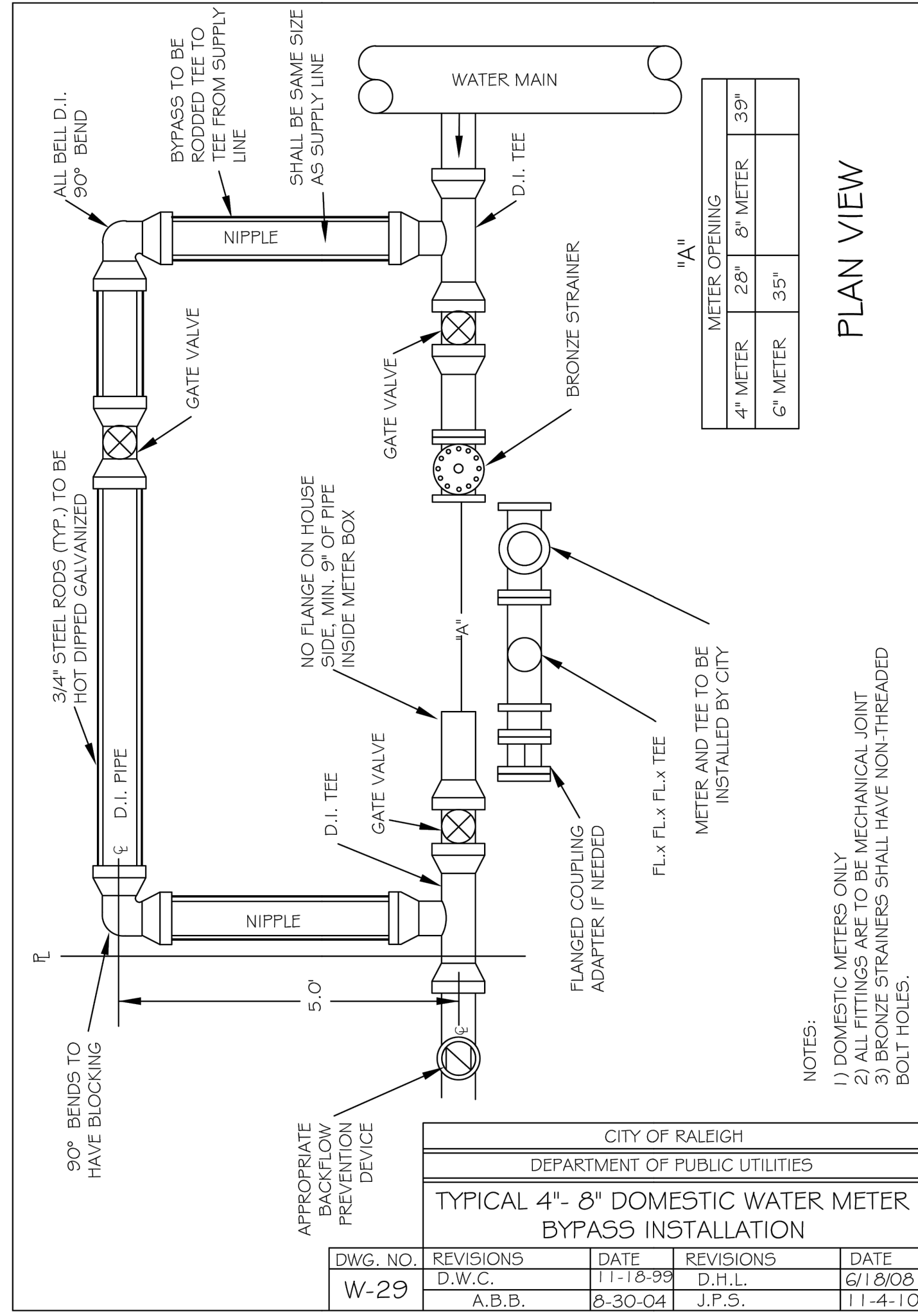
DATE
02/02/2024
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DESIGNED BY
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CHECKED BY
R. BAKER
SCALE
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TIMMONS GROUP
LAKE HAVEN
RALEIGH - WAKE COUNTY - NORTH CAROLINA
NORTH CAROLINA LICENSE NO. C-1652

NOTES AND DETAILS

JOB NO.
42601.013
SHEET NO.
C7.0

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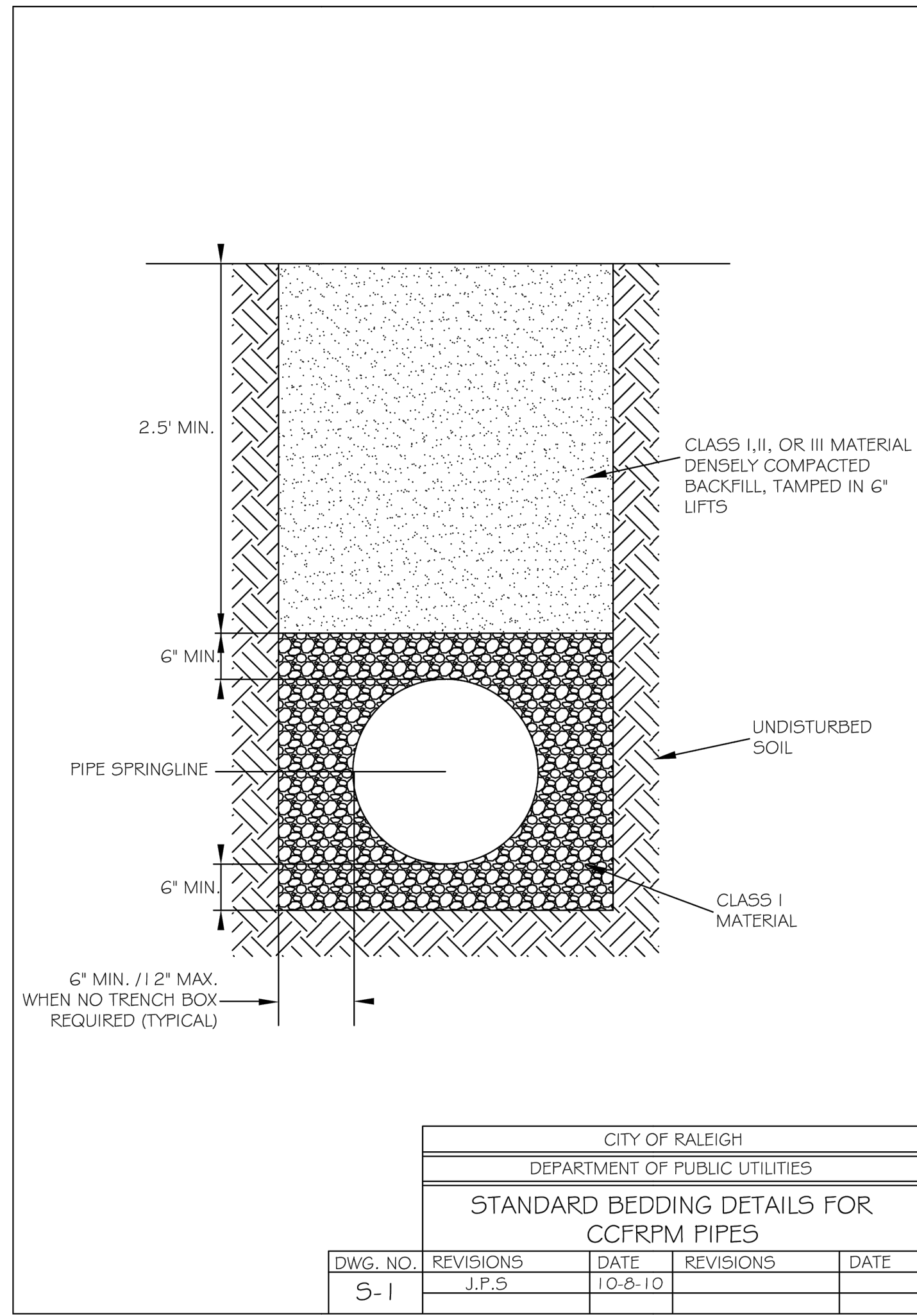
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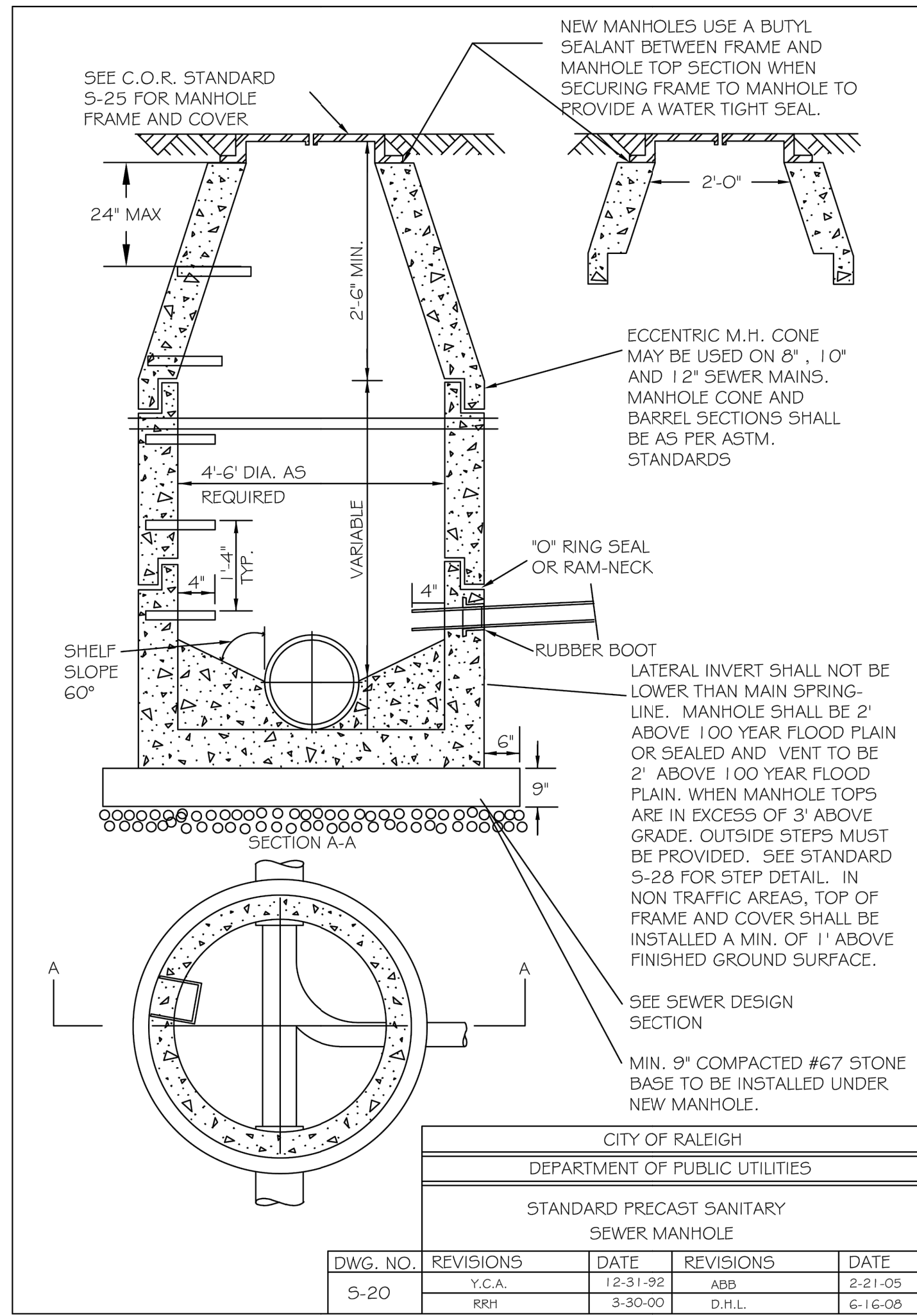
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 SHEET NO. C7.1

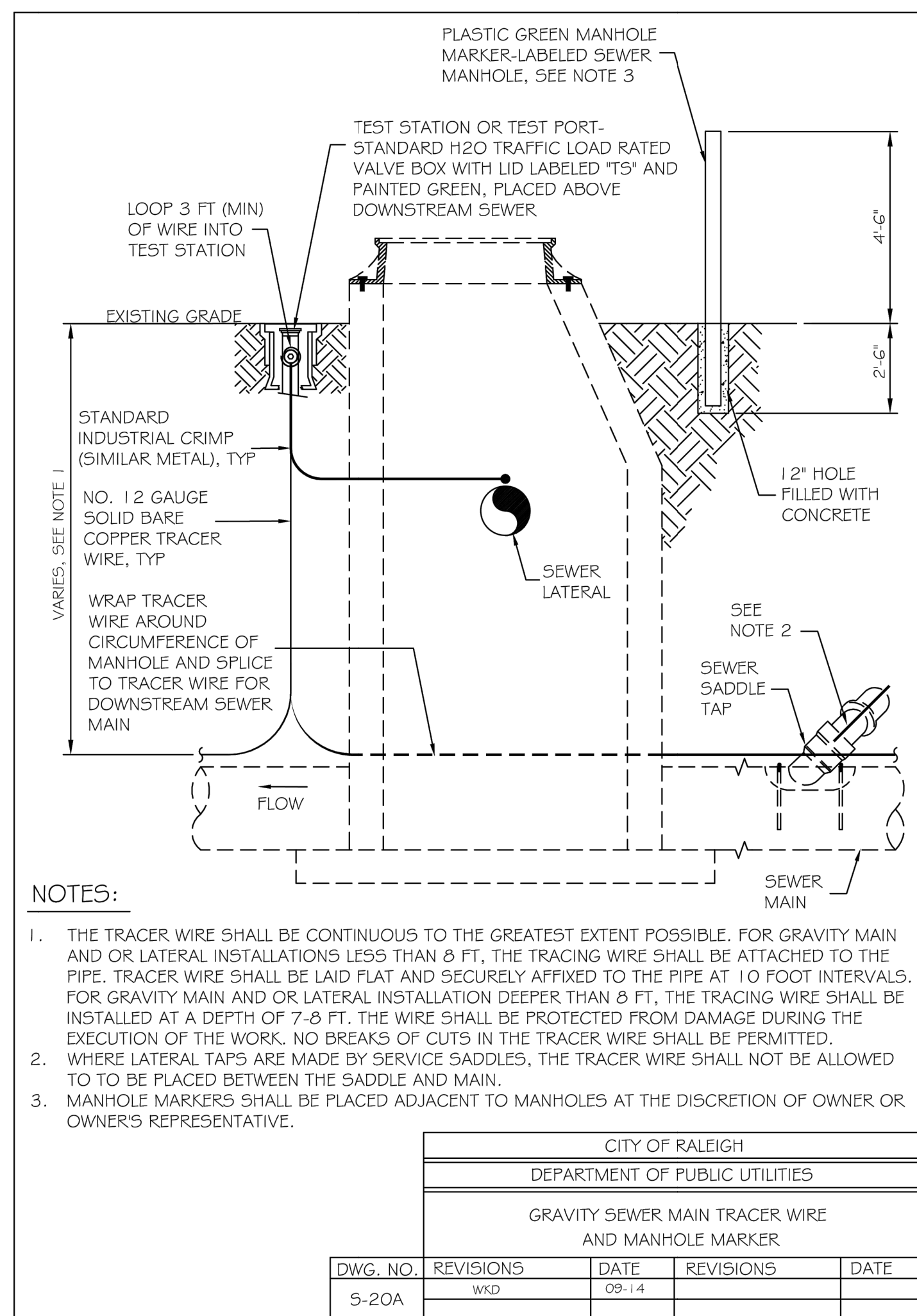
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CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
STANDARD BEDDING DETAILS FOR CCFRPM PIPES				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-1	J.P.S	10-8-10		



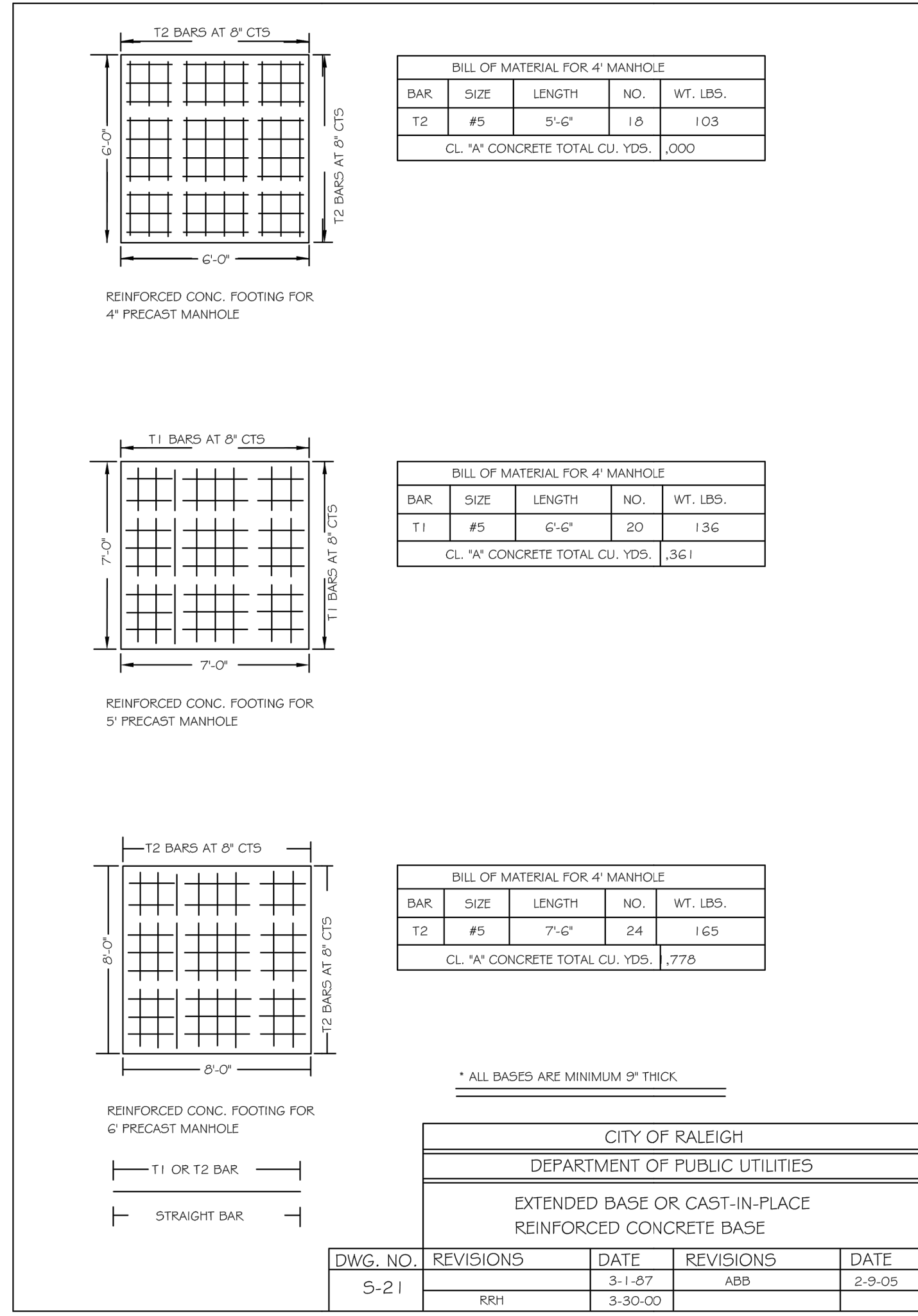
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DEPARTMENT OF PUBLIC UTILITIES				
STANDARD PRECAST SANITARY SEWER MANHOLE				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-20	Y.C.A.	12-31-92	ABB	2-21-05
	RRH	3-30-00	D.H.L.	6-16-08



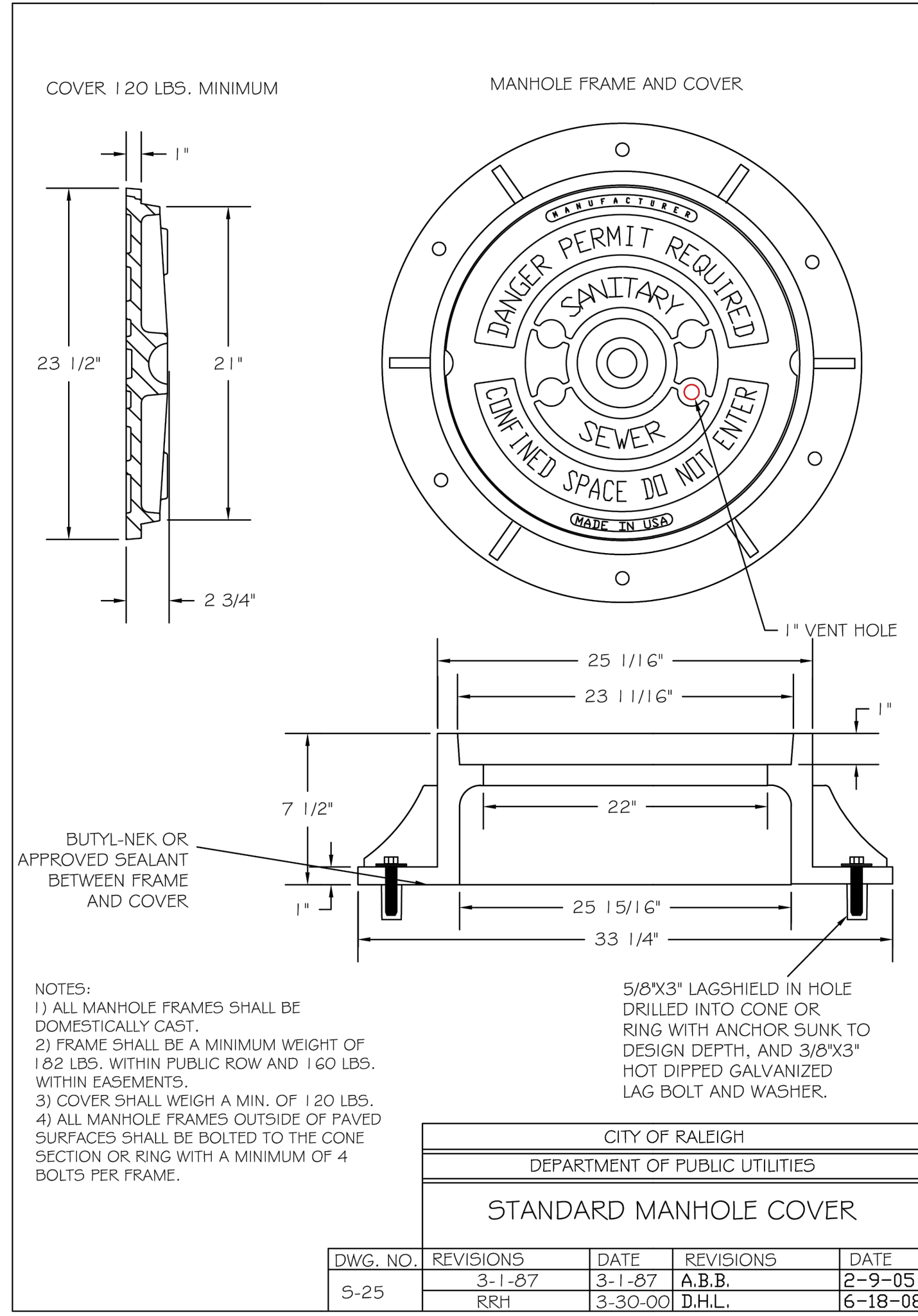
NOTES:

- THE TRACER WIRE SHALL BE CONTINUOUS TO THE GREATEST EXTENT POSSIBLE. FOR GRAVITY MAIN AND OR LATERAL INSTALLATIONS LESS THAN 8 FT, THE TRACING WIRE SHALL BE ATTACHED TO THE PIPE. TRACER WIRE SHALL BE LAID FLAT AND SECURELY AFFIXED TO THE PIPE AT 10 FOOT INTERVALS. FOR GRAVITY MAIN AND OR LATERAL INSTALLATION DEEPER THAN 8 FT, THE TRACING WIRE SHALL BE INSTALLED AT A DEPTH OF 7-8 FT. THE WIRE SHALL BE PROTECTED FROM DAMAGE DURING THE EXECUTION OF THE WORK. NO BREAKS OF CUTS IN THE TRACER WIRE SHALL BE PERMITTED.
- WHERE LATERAL TAPS ARE MADE BY SERVICE SADDLES, THE TRACER WIRE SHALL NOT BE ALLOWED TO BE PLACED BETWEEN THE SADDLE AND MAIN.
- MANHOLE MARKERS SHALL BE PLACED ADJACENT TO MANHOLES AT THE DISCRETION OF OWNER OR OWNER'S REPRESENTATIVE.

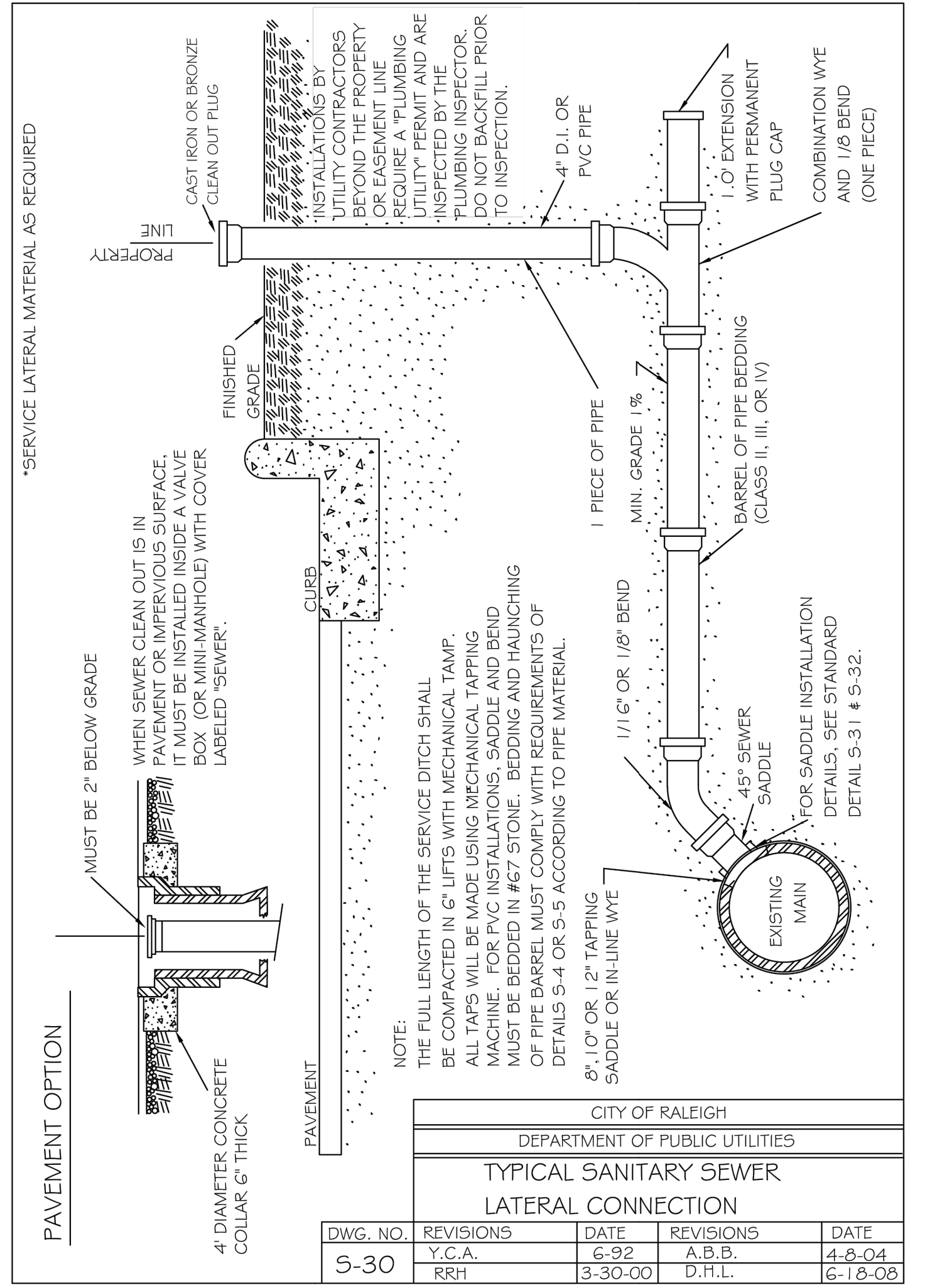
CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
GRAVITY SEWER MAIN TRACER WIRE AND MANHOLE MARKER				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-20A	WLD	09-14		



CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
EXTENDED BASE OR CAST-IN-PLACE REINFORCED CONCRETE BASE				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-21	RRH	3-1-87	ABB	2-9-05
		3-30-00		



CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
STANDARD MANHOLE COVER				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-25	3-1-87	3-1-87	A.B.B.	2-9-05
	RRH	3-30-00	D.H.L.	6-18-08



CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
TYPICAL SANITARY SEWER LATERAL CONNECTION				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-30	Y.C.A.	6-92	A.B.B.	4-8-04
	RRH	3-30-00	D.H.L.	6-18-08

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CHECKED BY
R. BAKER

SCALE
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TIMMONS GROUP

LAKE HAVEN
RALEIGH - WAKE COUNTY - NORTH CAROLINA

NOTES AND DETAILS

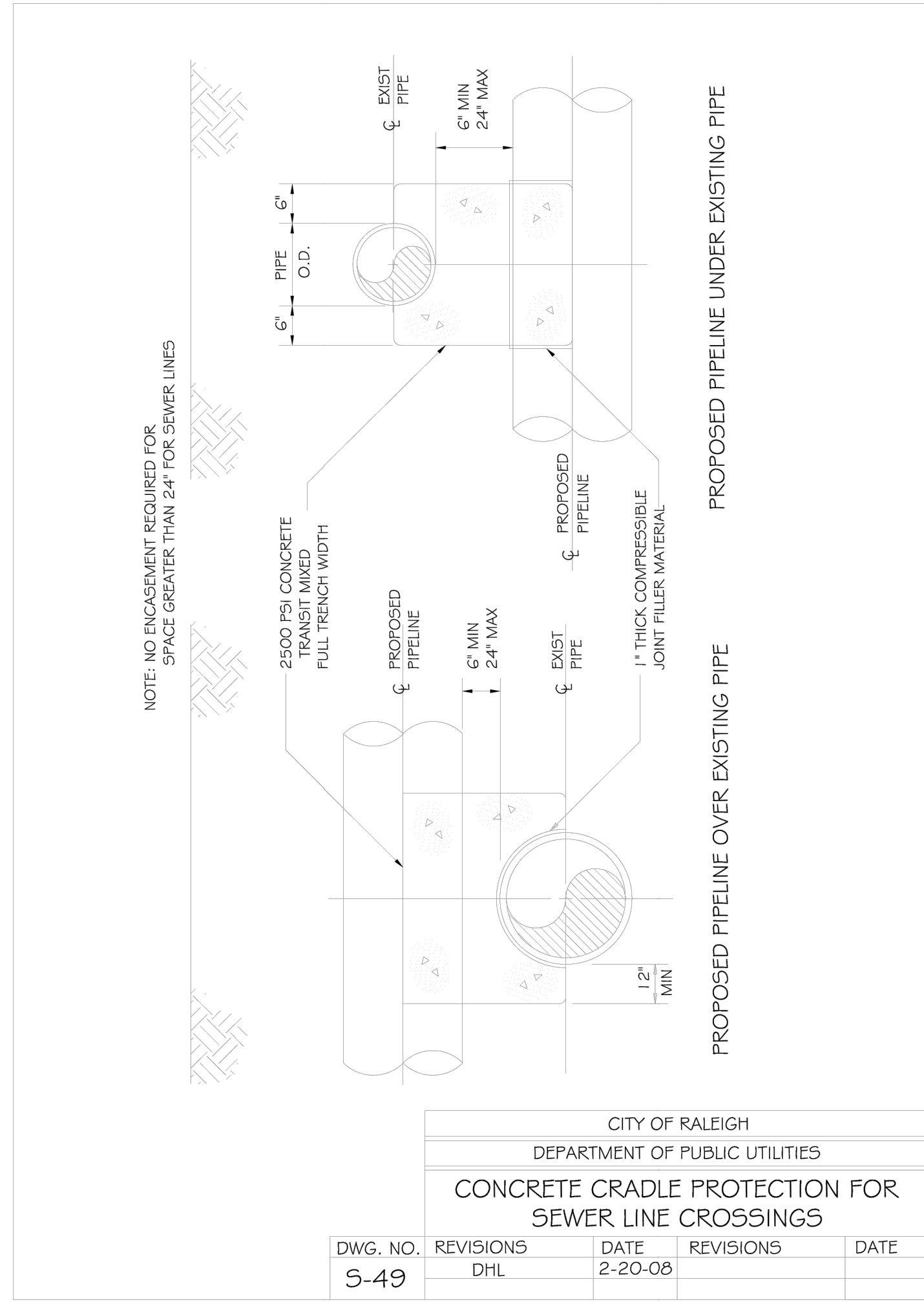
NORTH CAROLINA LICENSE NO. C-1652

JOB NO.
42601.013

SHEET NO.
C7.2

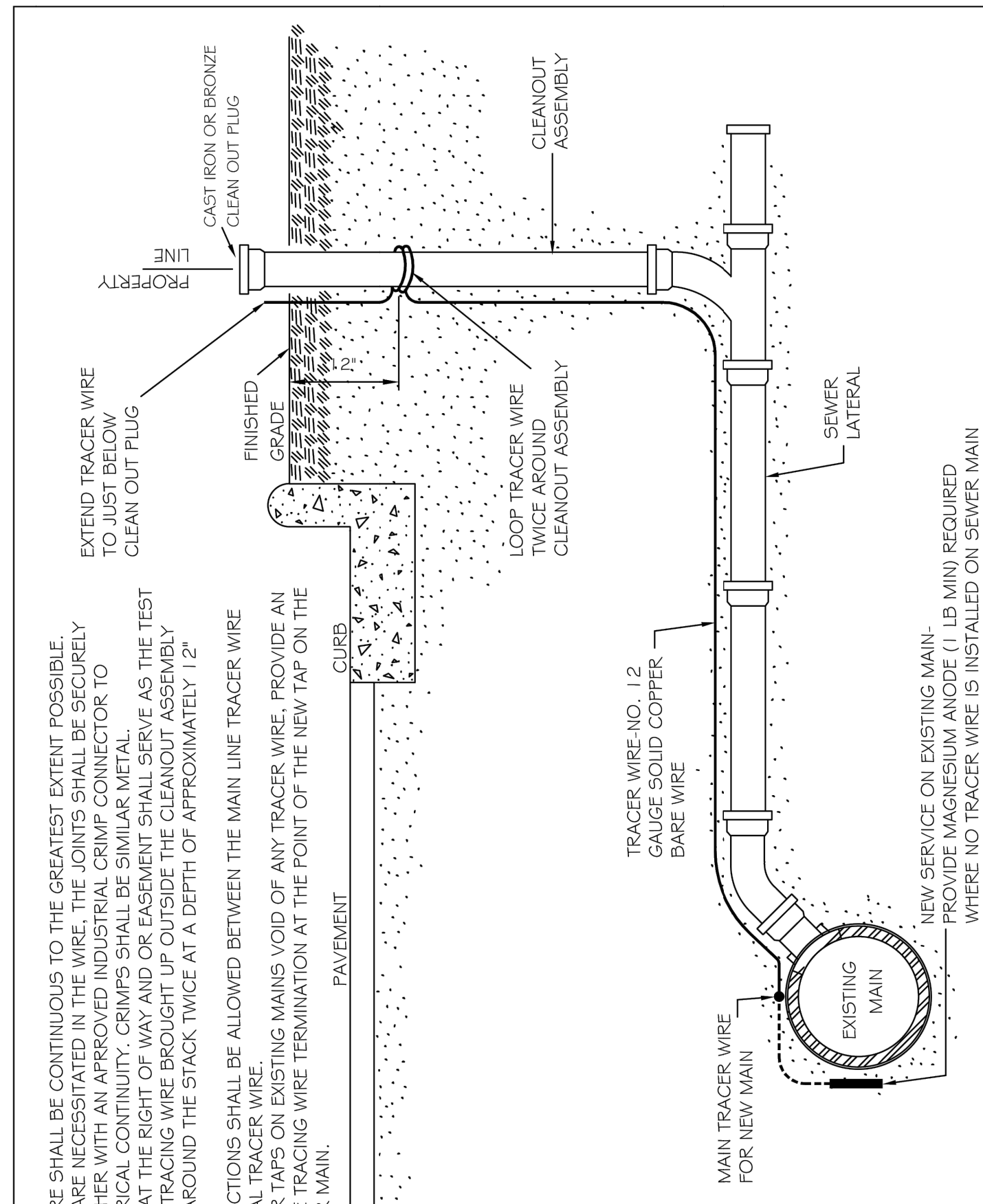
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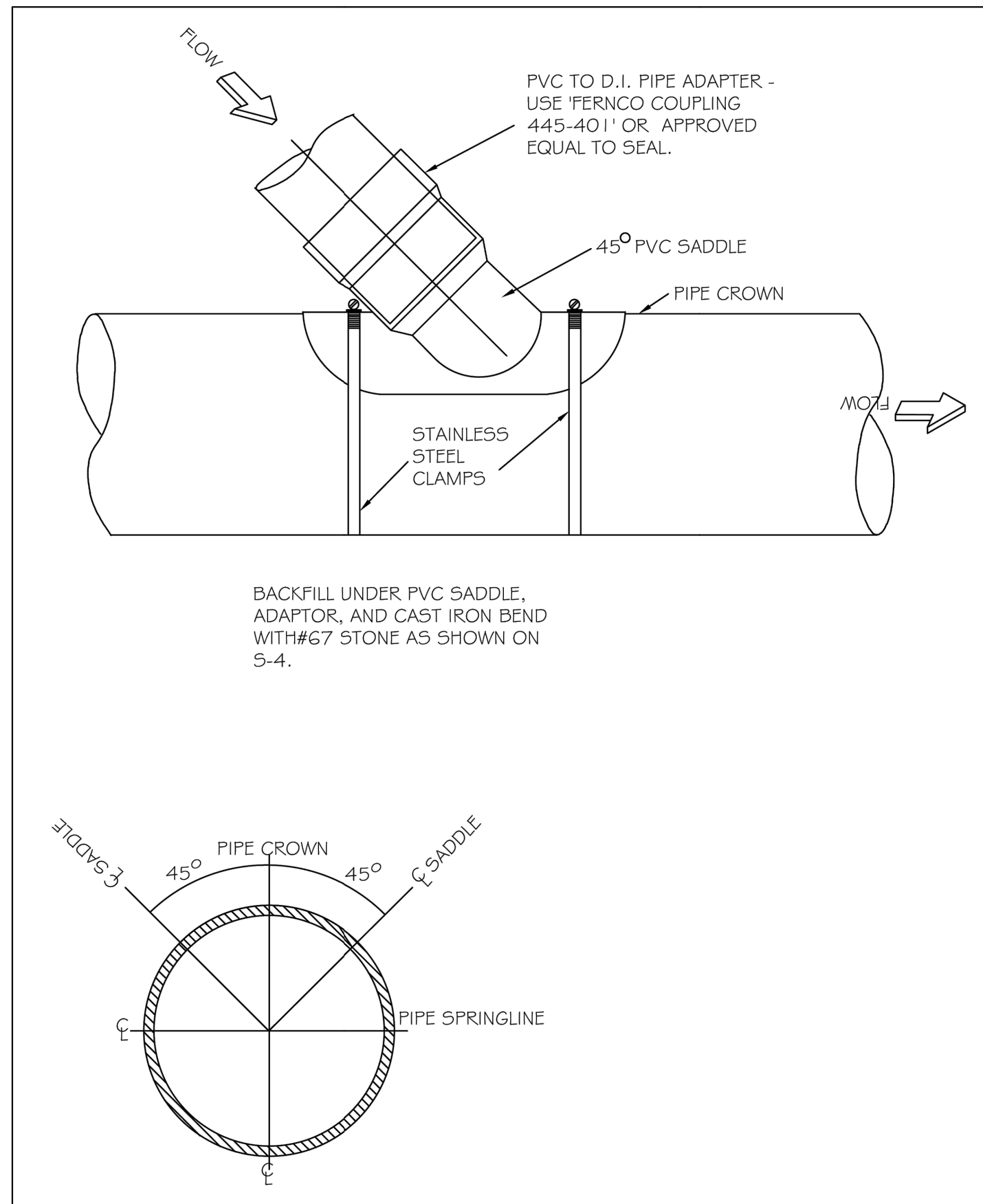


CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES				
CONCRETE CRADLE PROTECTION FOR SEWER LINE CROSSINGS				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-49	DHL	2-20-08		

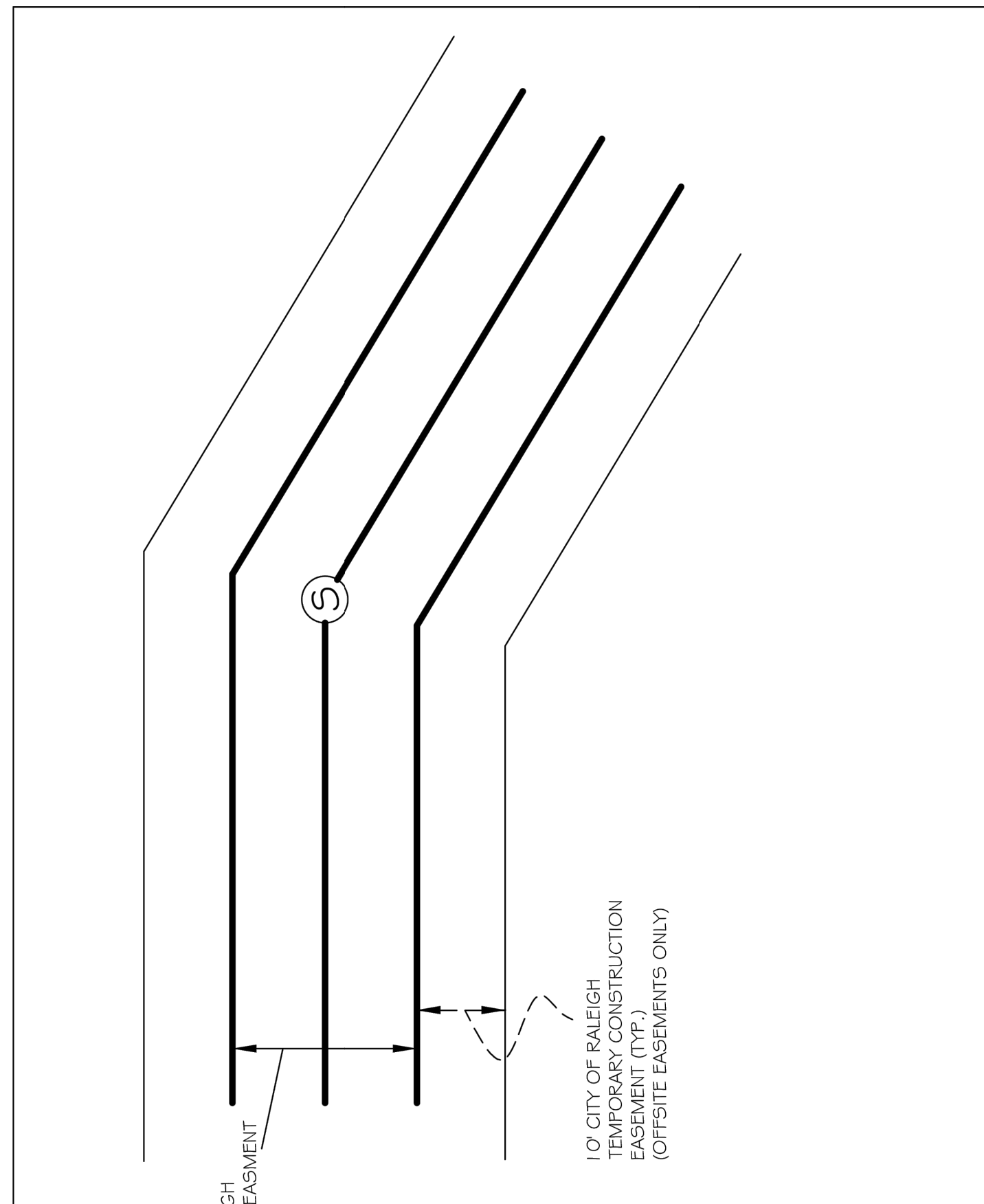
CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES				
TYPICAL SANITARY SEWER LATERAL TRACER WIRE				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-30A	WKD	9-14		



CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES				
LATERAL SADDLE INSTALLATION DETAIL FOR PVC PIPE				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-31	RRH	3-1-87 3-30-00		



CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES				
8" & 10" SANITARY SEWER EASEMENT WIDTHS				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-43	A.B.B. D.H.L.	1-27-05 6-18-08		



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RALEIGH - WAKE COUNTY - NORTH CAROLINA
NOTES AND DETAILS

JOB NO.
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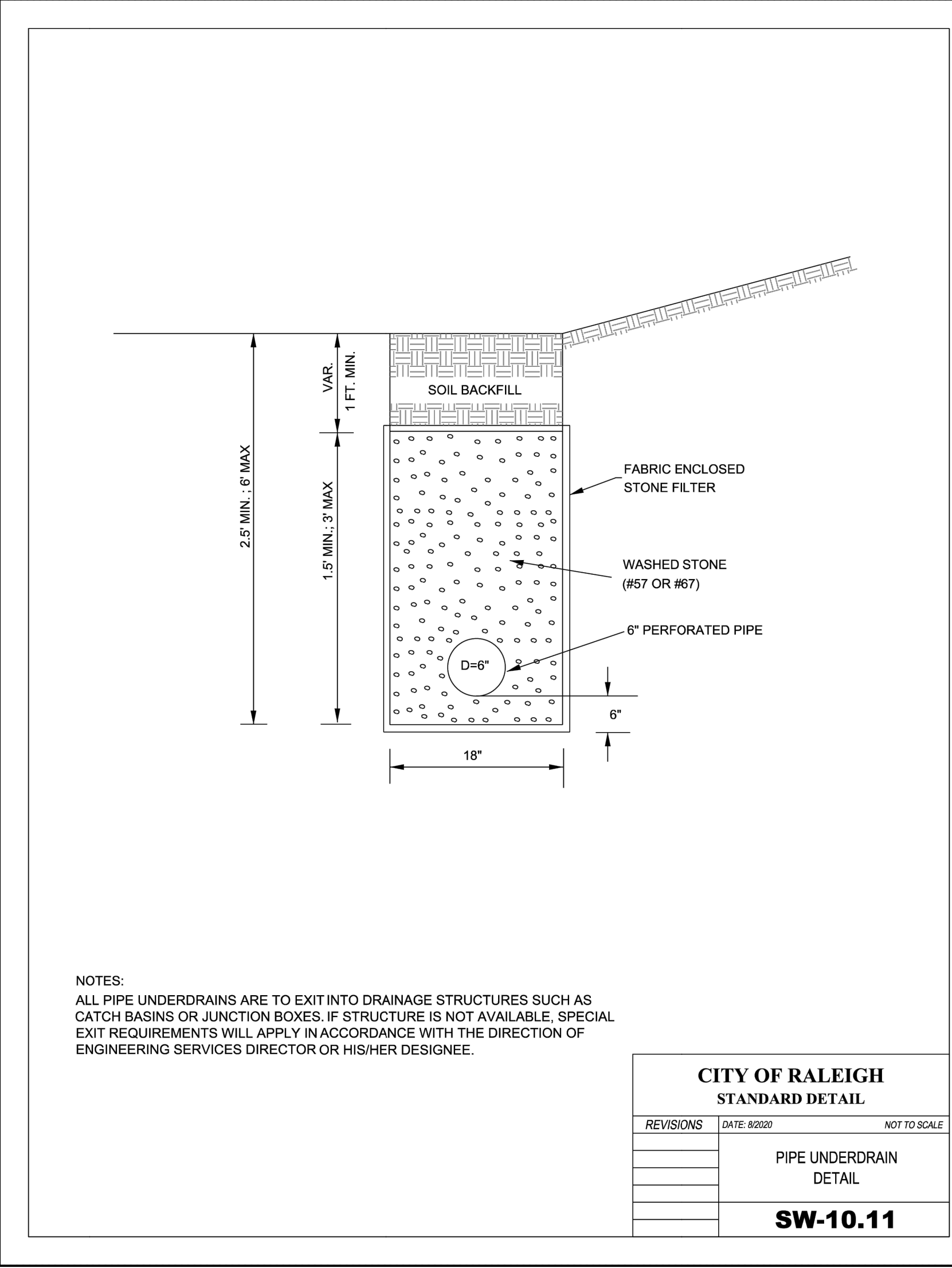
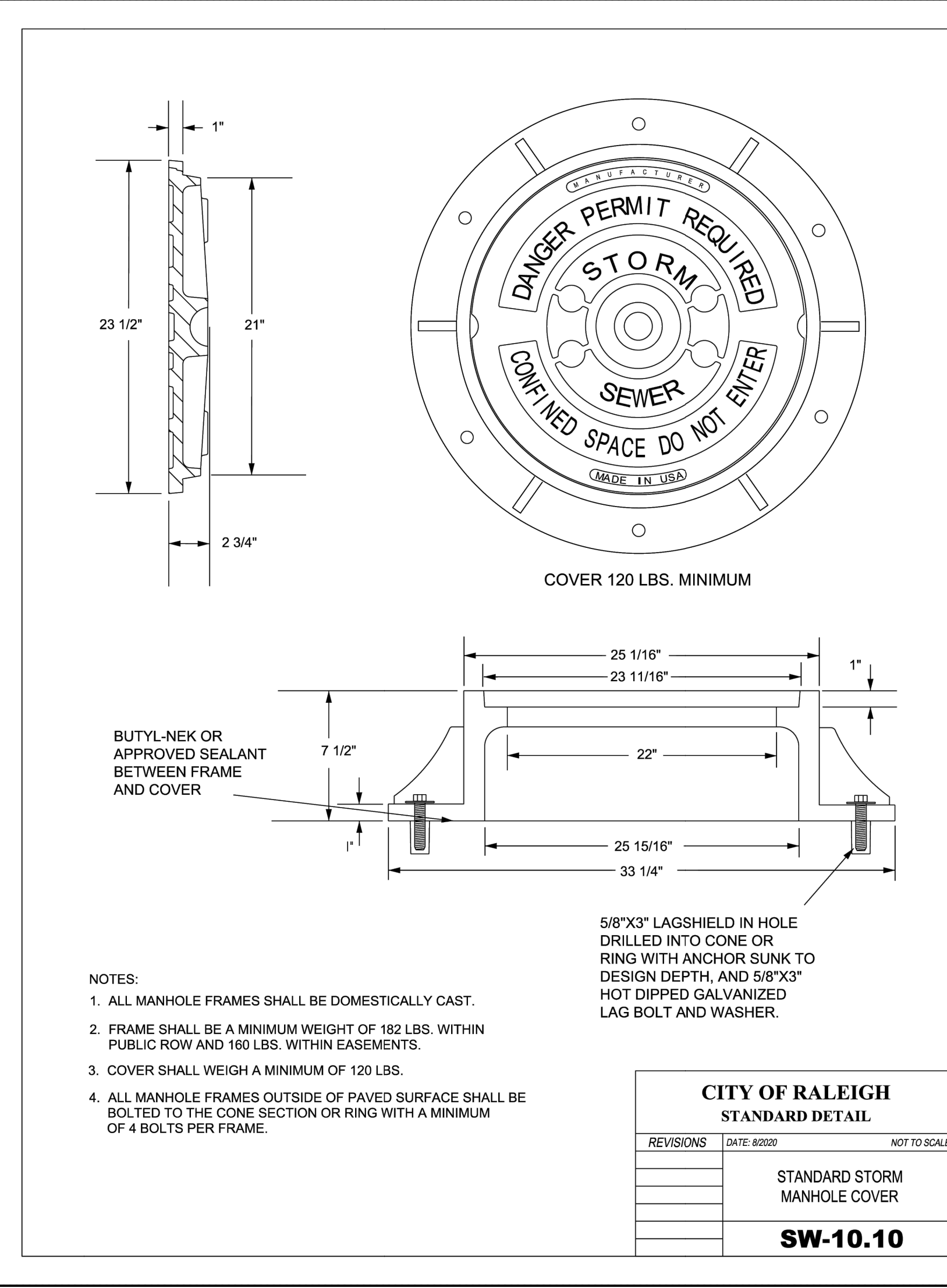
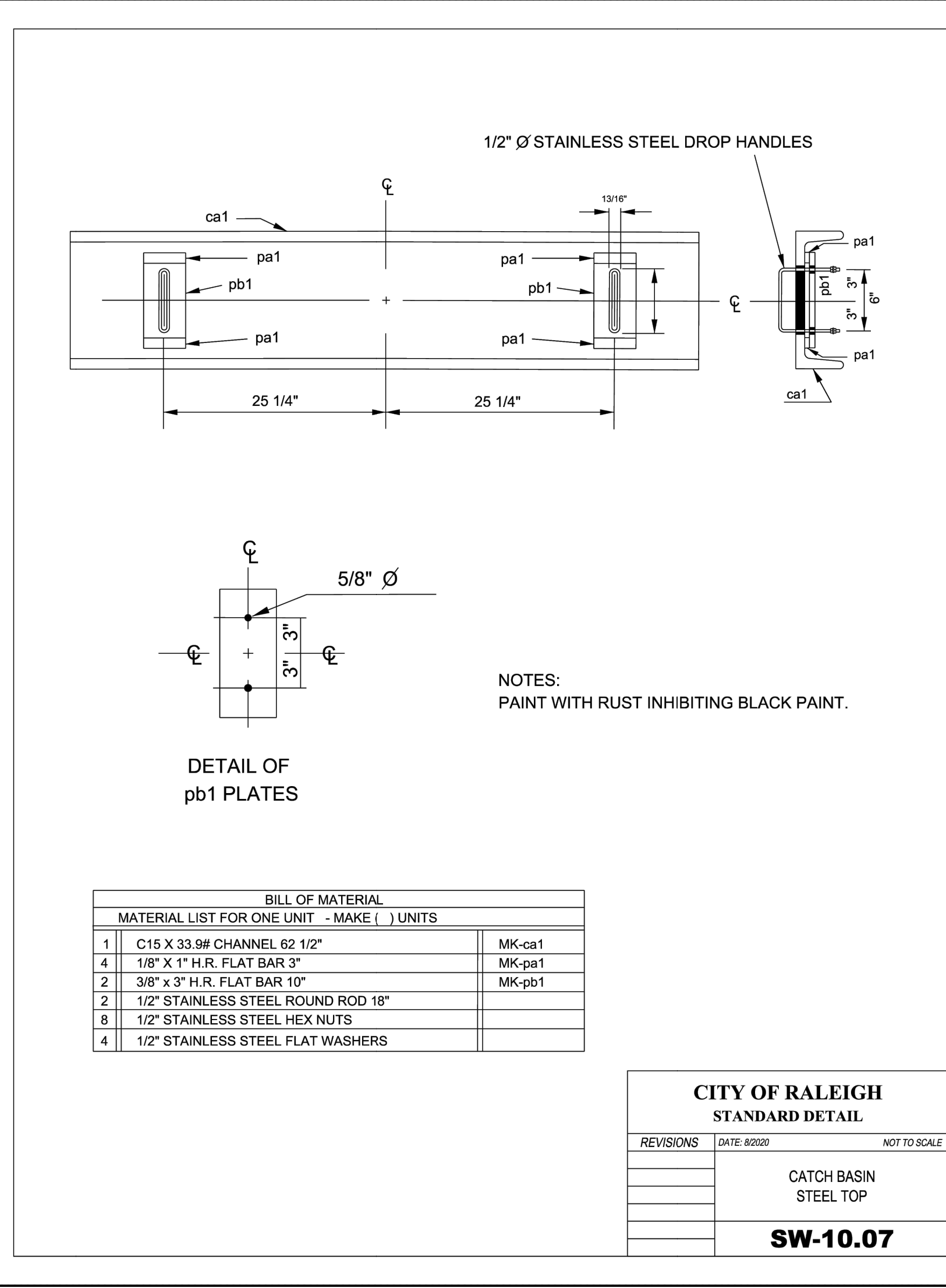
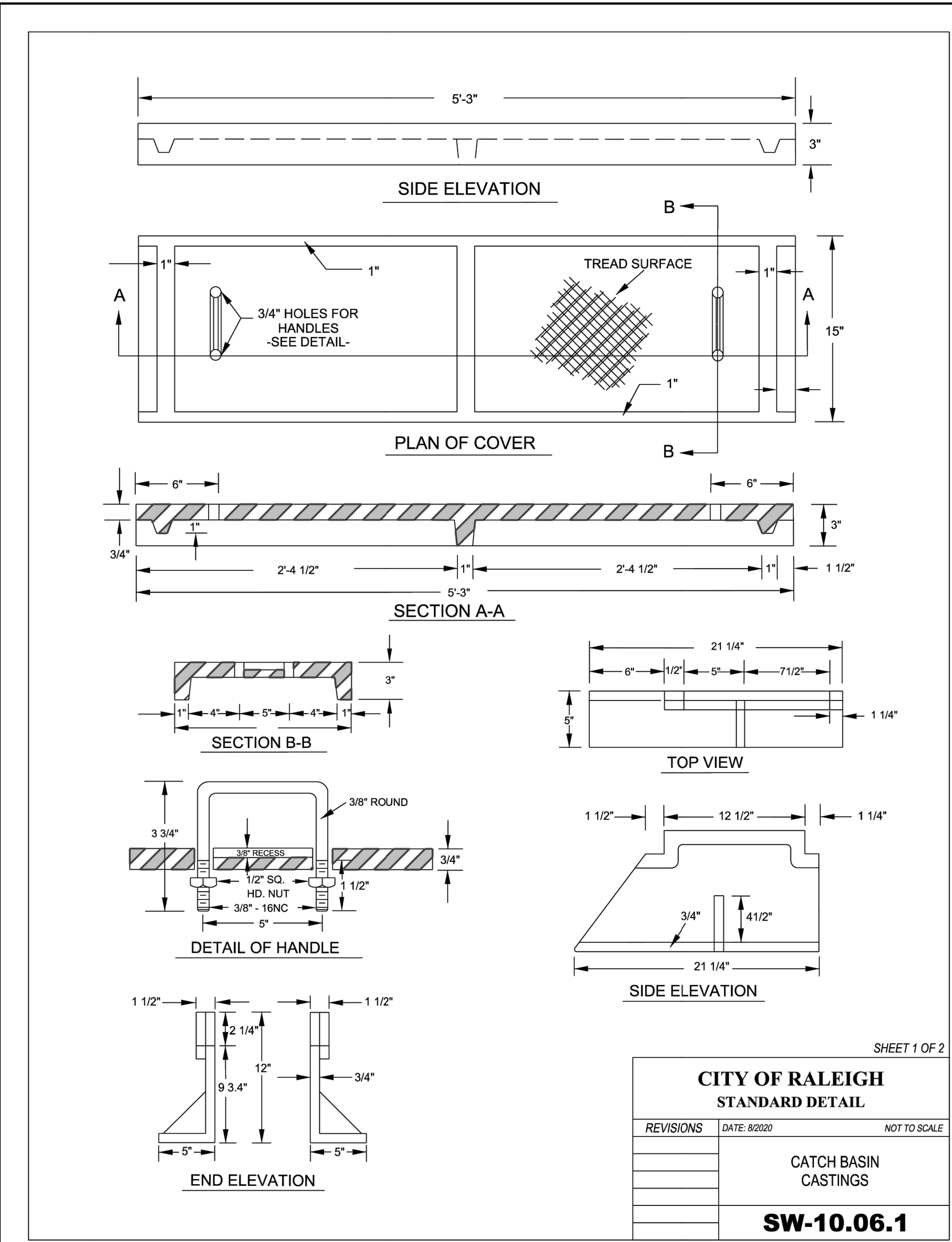
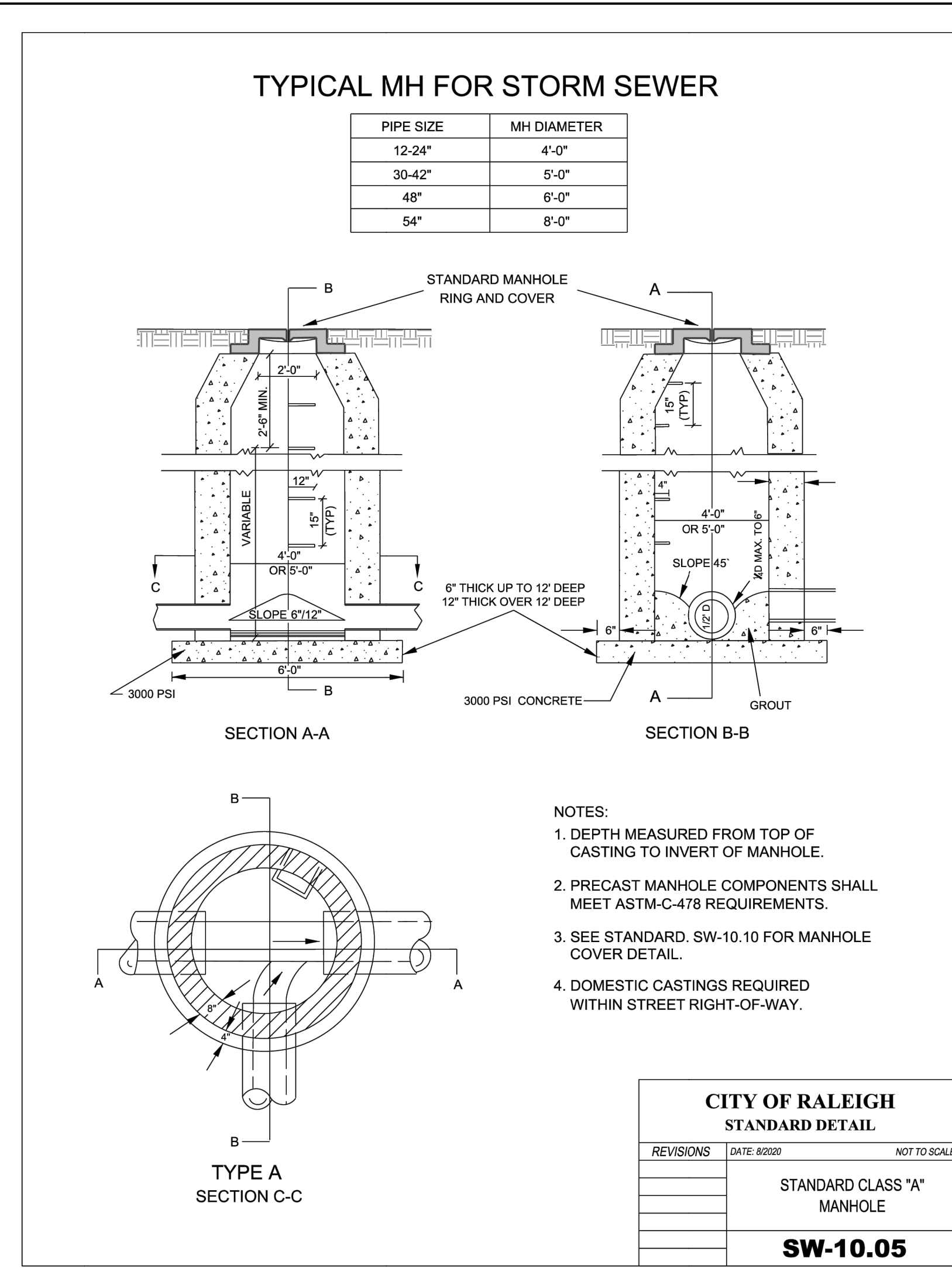
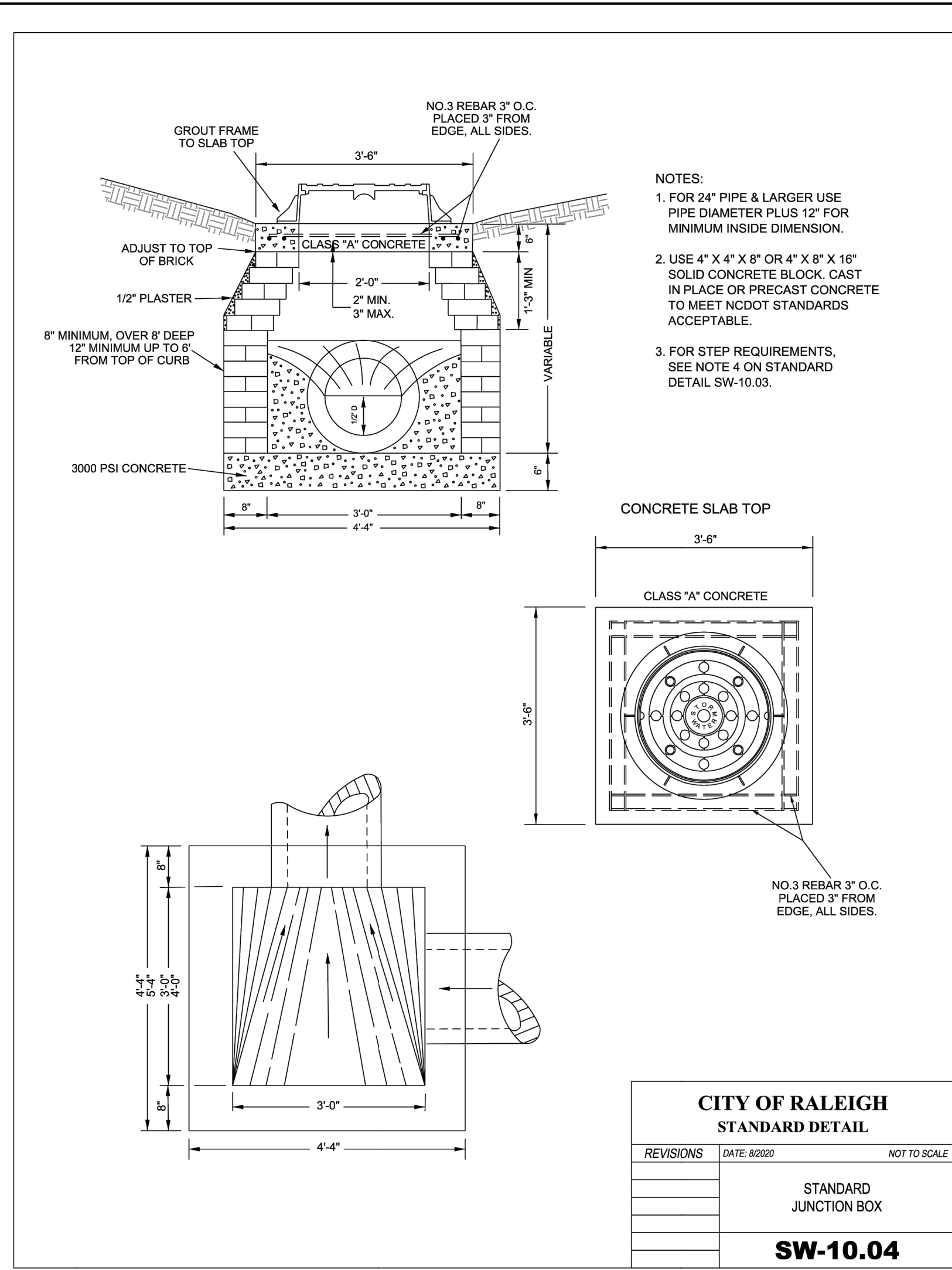
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TIMMONS GROUP

LAKE HAVEN
RALEIGH - WAKE COUNTY - NORTH CAROLINA

NORTH CAROLINA LICENSE NO. C-1652

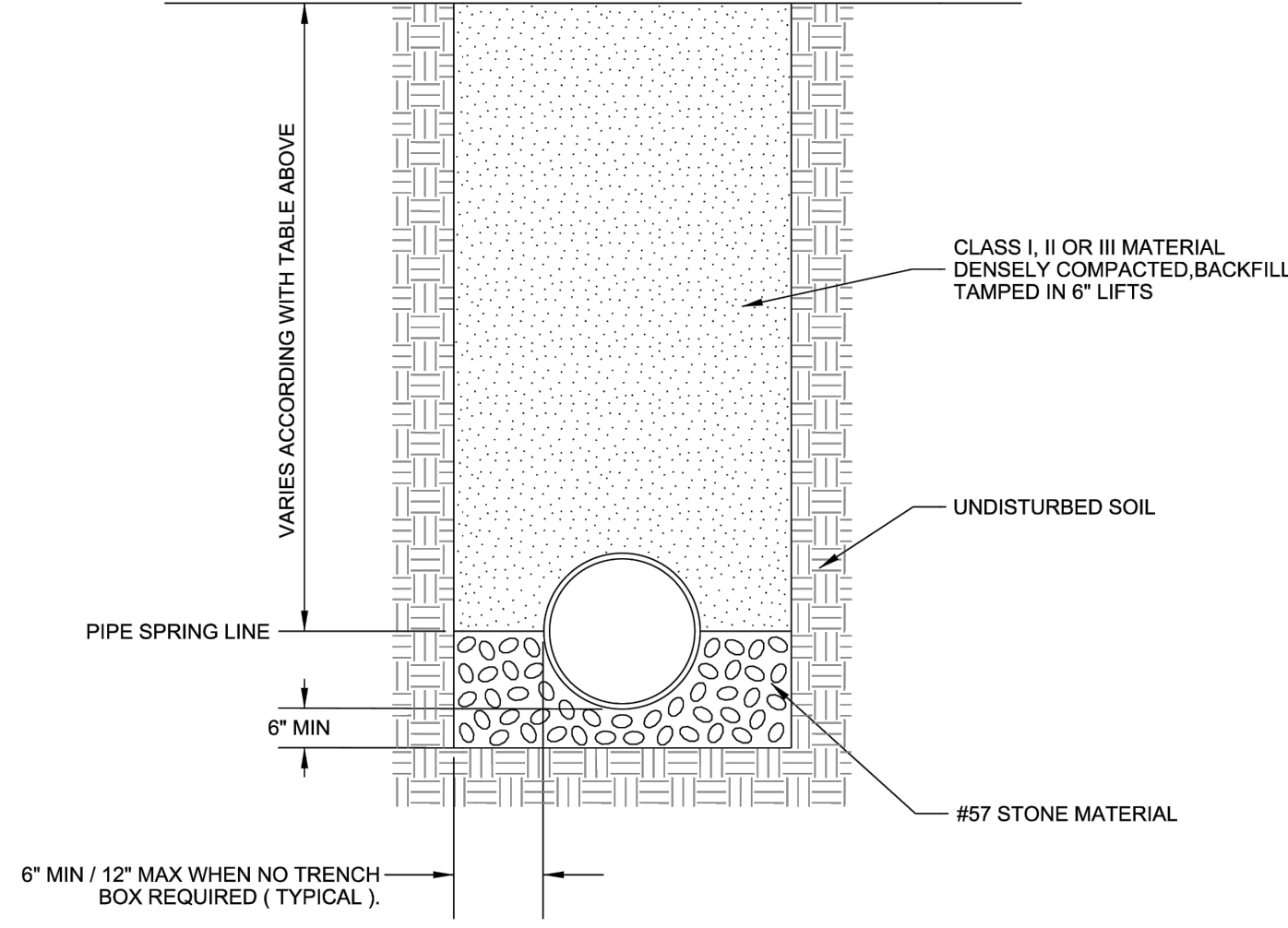
NOTES AND DETAILS

JOB NO.
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SHEET NO.
C7.4

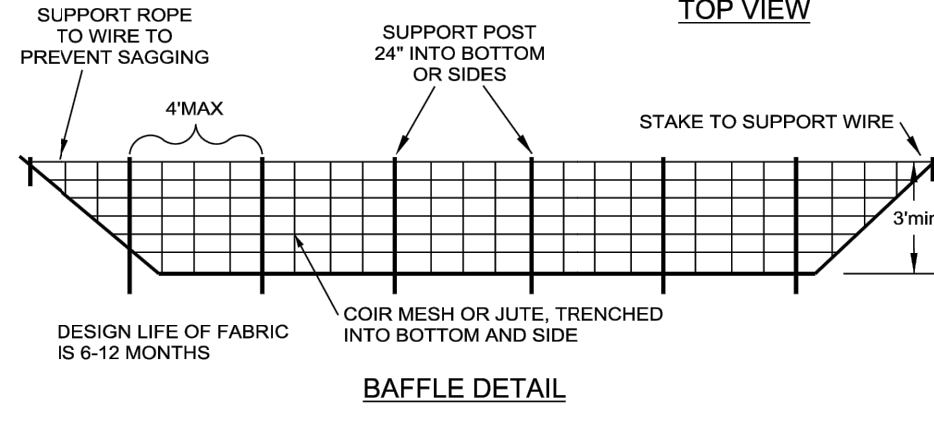
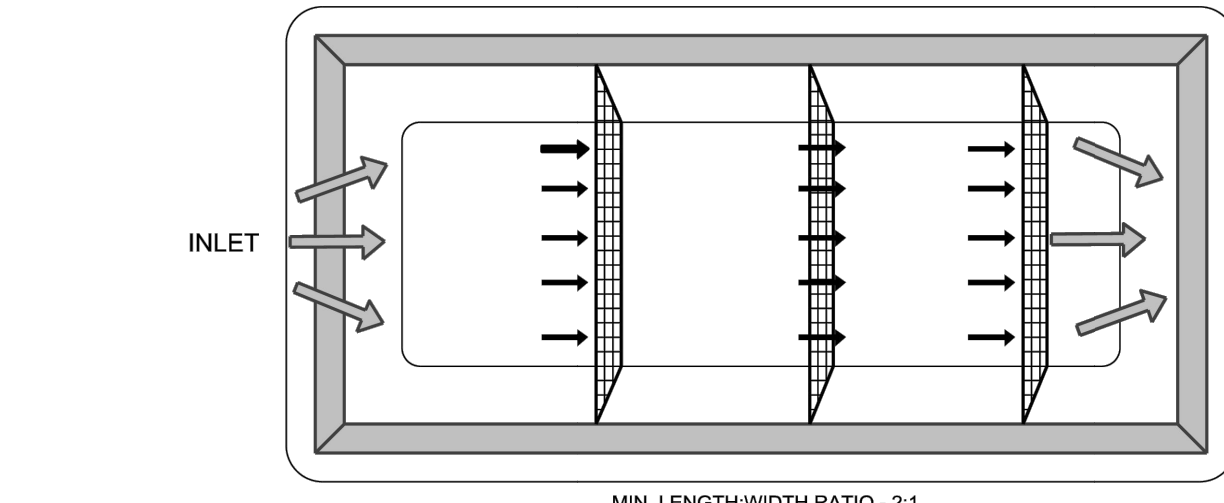
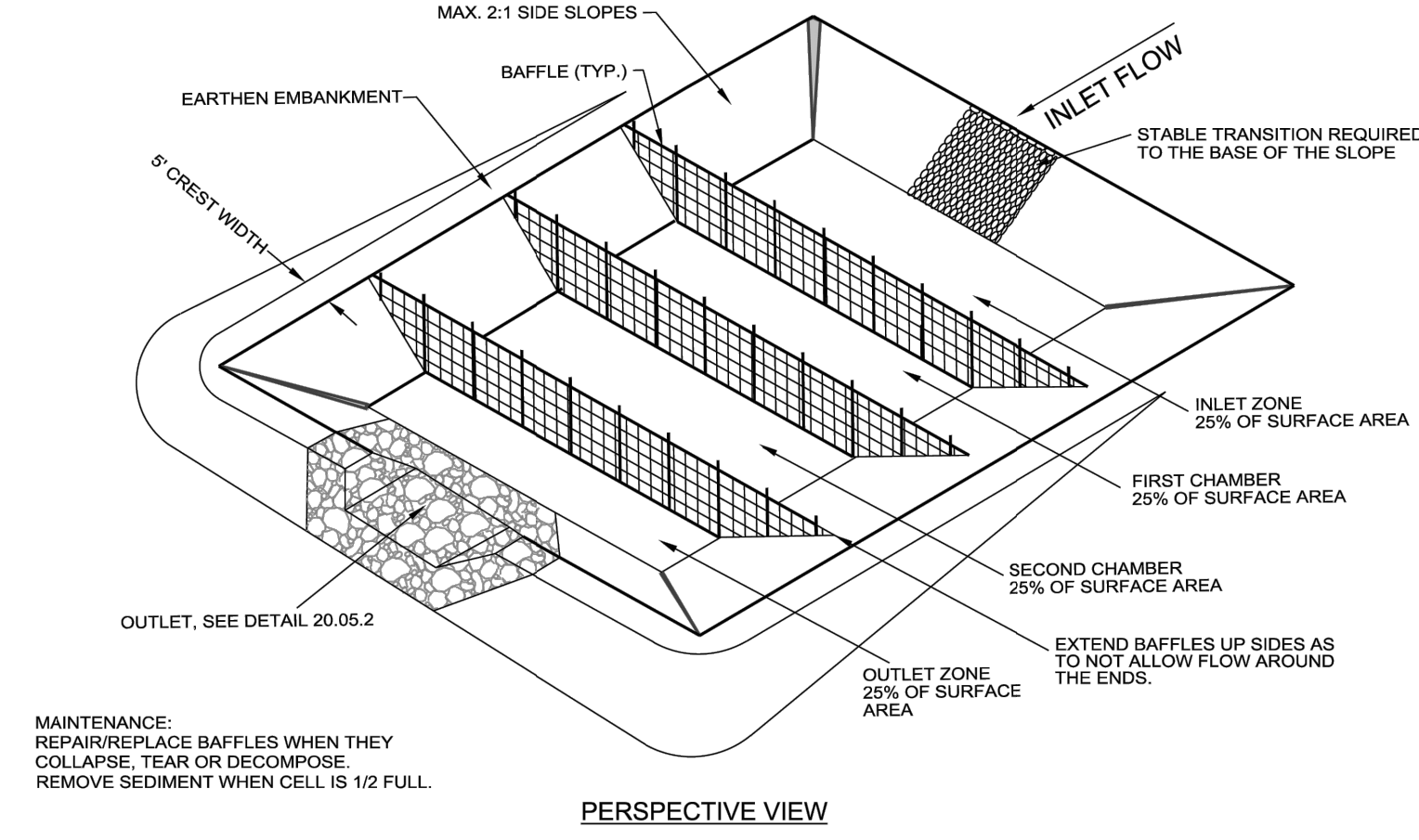
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PIPE SIZE (in)	CLEARANCE DISTANCE (ft)
15	2.4
18	2.7
24	3.3
30	3.6
36	4.4
42	4.9
48	5.4
54	6.0
60	6.5
66	7.0
72	7.6

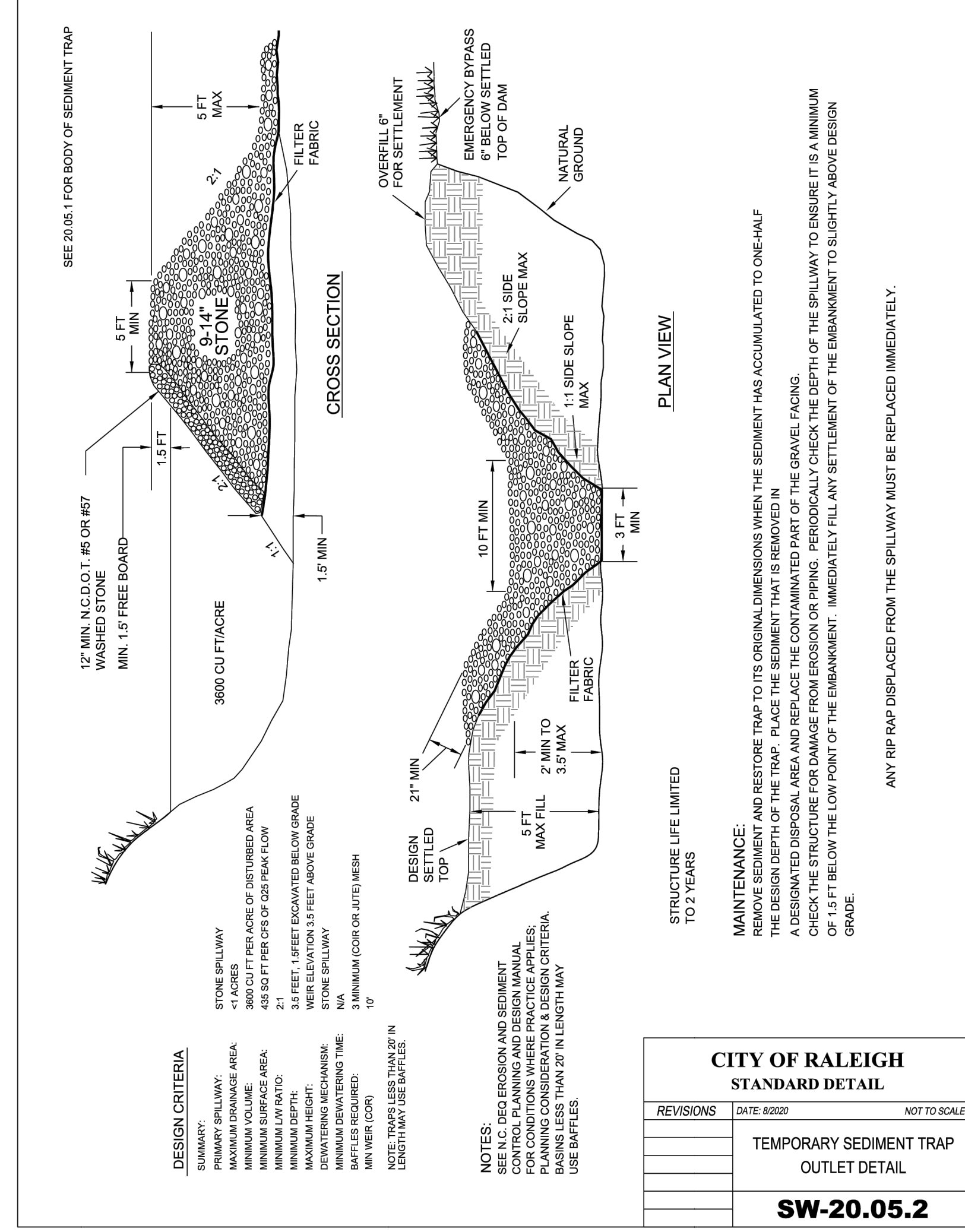


CITY OF RALEIGH STANDARD DETAIL		
REVISIONS	DATE: 8/2020	NOT TO SCALE
BEDDING FOR STORMWATER RCP PIPES		
SW-10.14		

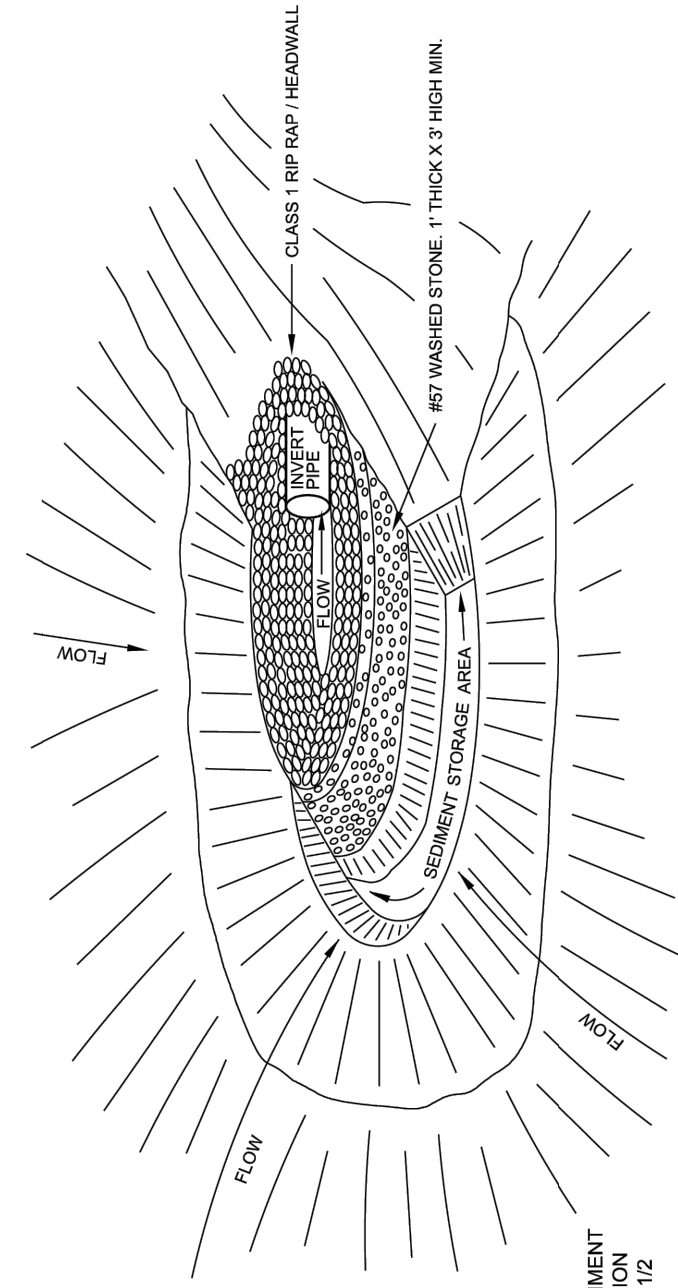


- NOTES:
- 3 BAFFLES (MIN) BETWEEN INLET & OUTLET.
 - SEE N.C. DEQ EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL FOR CONDITIONS WHERE PRACTICE APPLIES.
 - LOCATE SEDIMENT INFLOW TO THE BASIN AWAY FROM THE DAM TO PREVENT SHORT CIRCUITS FROM INLETS TO OUTLETS.
 - AT A MINIMUM, SEED, STRAW & TACK APPLICATION REQUIRED FOR SITE INSPECTION APPROVAL.
 - TRAPS MUST BE STABILIZED IMMEDIATELY UPON CONSTRUCTION AND PRIOR TO SITE INSPECTION APPROVAL.

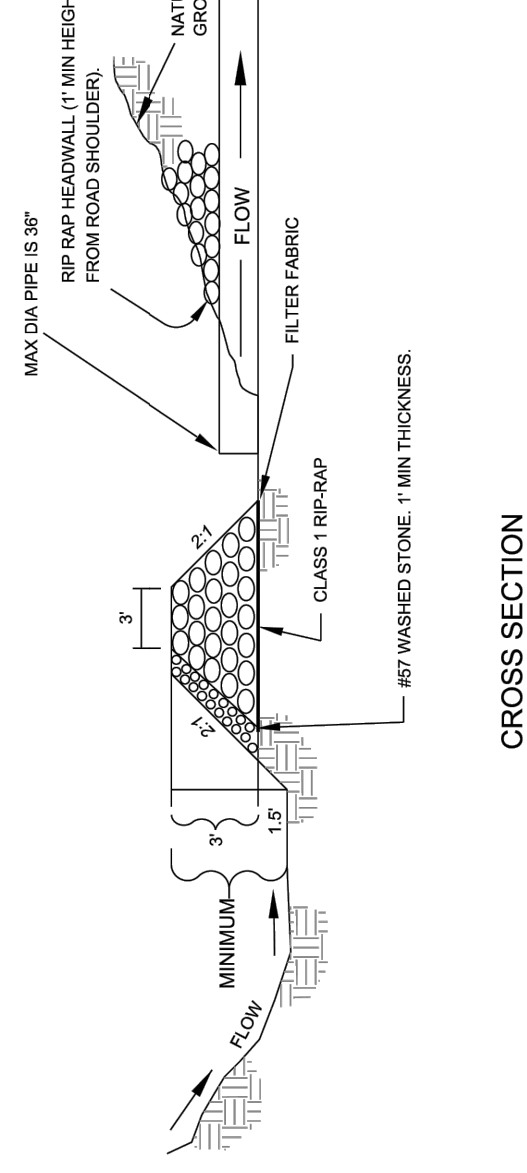
CITY OF RALEIGH STANDARD DETAIL		
REVISIONS	DATE: 8/2020	NOT TO SCALE
TEMPORARY SEDIMENT TRAP		
SW-20.05.1		



CITY OF RALEIGH STANDARD DETAIL		
REVISIONS	DATE: 8/2020	NOT TO SCALE
TEMPORARY SEDIMENT TRAP OUTLET DETAIL		
SW-20.05.2		



PLAN VIEW

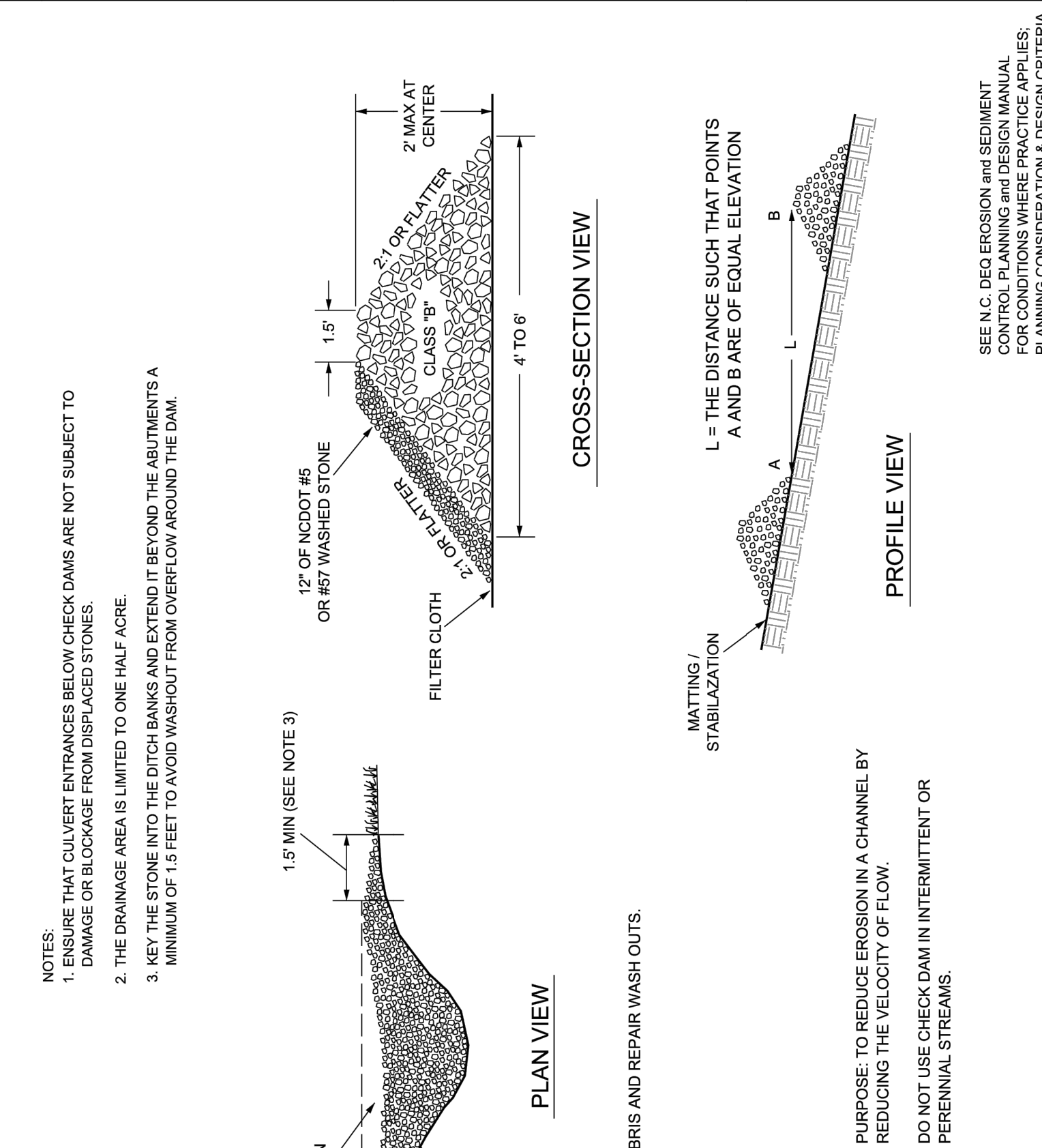


CROSS SECTION

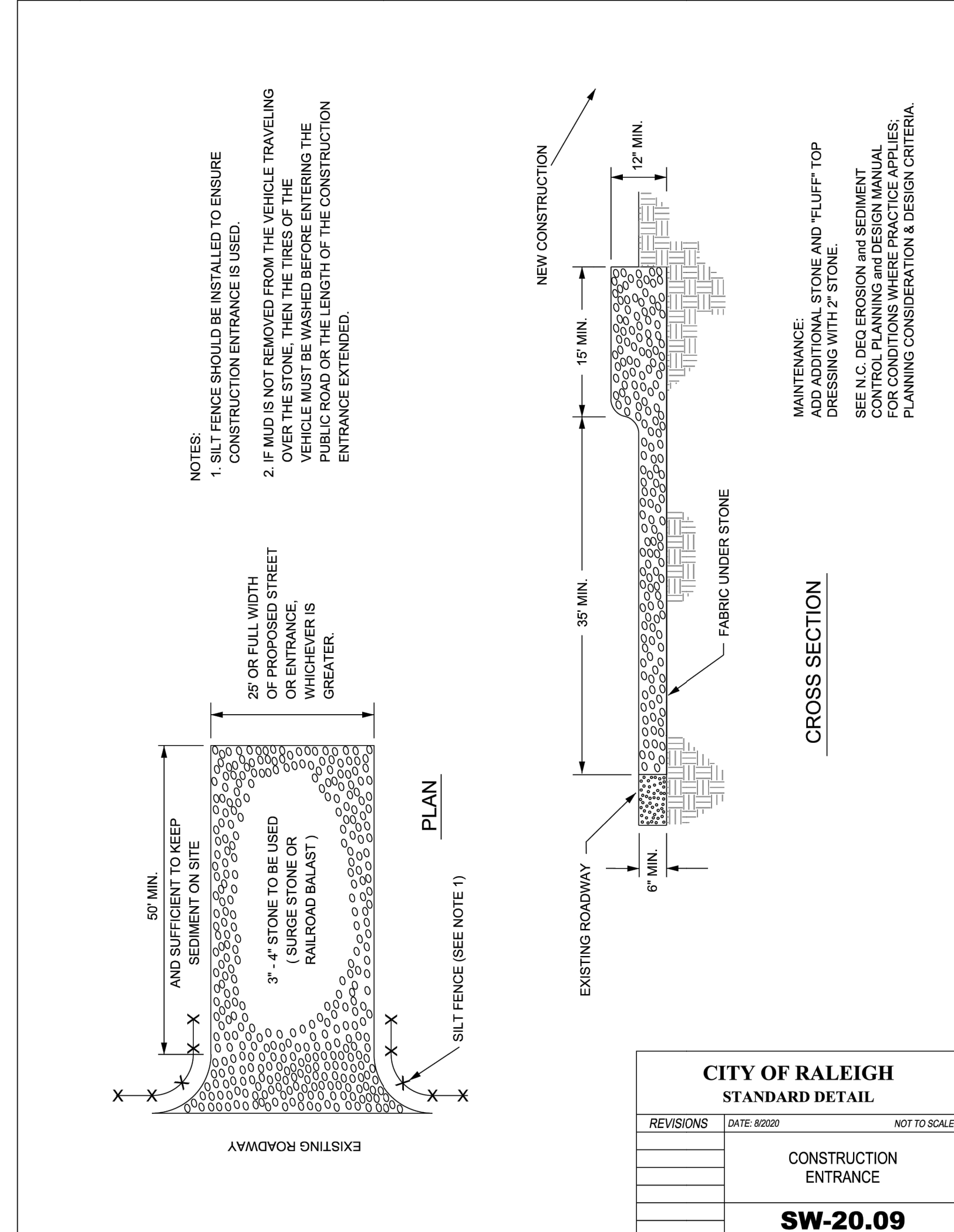
MAINTENANCE: REMOVE SEDIMENT & RESTORE THE STONE HORSESHOE DESIGN WHEN SEDIMENT HAS ACCUMULATED TO 1/2 DESIGN DEPTH OF THE TRAP.

ANY RIP-RAP DISPLACED FROM THE STONE HORSESHOE DESIGN MUST BE REPLACED IMMEDIATELY.

CITY OF RALEIGH STANDARD DETAIL		
REVISIONS	DATE: 8/2020	NOT TO SCALE
ROCK PIPE INLET PROTECTION		
SW-20.06		



CITY OF RALEIGH STANDARD DETAIL		
REVISIONS	DATE: 8/2020	NOT TO SCALE
CHECK DAM		
SW-20.08		



CITY OF RALEIGH STANDARD DETAIL		
REVISIONS	DATE: 8/2020	NOT TO SCALE
CONSTRUCTION ENTRANCE		
SW-20.09		

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DATE

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LAKE HAVEN
RALEIGH - WAKE COUNTY - NORTH CAROLINA

NOTES AND DETAILS

NORTH CAROLINA LICENSE NO. C-1652

JOB NO.
42601.013

SHEET NO.
C7.5

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CROSS SECTION

2' MIN COMPACTED
6' FREEBOARD MIN
2:1 MAX
6' TYPICAL
ORIGINAL GRADE
STEEP CUT OR FILL SLOPE

NOTES:
1. STABILIZE IMMEDIATELY UPON CONSTRUCTION AND PRIOR TO SITE INSPECTION APPROVAL.
2. STABILIZE DIVERSION DITCH BASED ON DESIGN VELOCITY. IF DESIGN VELOCITY IS NOT KNOWN, CONDITIONS EXCEEDS 2 FT/S. A TEMPORARY COVER IS REQUIRED.
3. MAXIMUM 5 ACRE DRAINAGE AREA TO TEMPORARY DIVERSION.

CITY OF RALEIGH STANDARD DETAIL		
REVISIONS	DATE: 8/2020	NOT TO SCALE
DIVERSION DITCH		
SW-20.11		

SECTION VIEW

4' MAX
GALVANIZED HARDWARE WIRE (19 GAUGE, 1/4" MESH OPENINGS)
#57 WASHED STONE PLACED AGAINST HARDWARE WIRE TO A HEIGHT OF 15" MIN. ABOVE TOP OF BOX.
CONCRETE BLOCKS
#67 WASHED STONE
2" BURY IN SOLID GROUND
6" 8"
2" BURY IN SOLID GROUND
HARDWARE WIRE
STANDARD METAL POSTS (MINIMUM 5")
2'-0" IN GROUND

PERSPECTIVE VIEW

SEE N.C. DEQ EROSION AND SEDIMENT CONTROL MANUAL FOR CONDITIONS WHERE PRACTICES APPLIES. PLANNING CONSIDERATION & DESIGN CRITERIA.

DRAINAGE AREA = <1 ACRE (MAXIMUM).

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STANDARD CATCH BASIN YARD INLET PROTECTION		
SW-20.15		

FRONT VIEW

4' MIN
SILT FENCE
BURY WIRE FENCE AND HARDWARE CLOTH IN TRENCH
STEEL POST SET 2" INTO SOLID GROUND

SECTION VIEW

3' FILTER FABRIC APRON ON GROUND
2' FILTER FABRIC APRON IN TRENCH
BURY WIRE FENCE AND HARDWARE CLOTH
STEEL POST
WOVEN WIRE FABRIC
HARDWARE CLOTH
FILTER OF #67 WASHED STONE
4"
6"
2' INTO SOLID GROUND

NOTES:
1. REMOVE SEDIMENT WHEN HALF OF STONE OUTLET IS COVERED.
2. REPLACE STONE AS NEEDED TO ENSURE DEWATERING.

CITY OF RALEIGH STANDARD DETAIL		
REVISIONS	DATE: 8/2020	NOT TO SCALE
STANDARD SILT FENCE OUTLET		
SW-20.24		

TYPE "BELOW GRADE"

10' MINIMUM
10' MINIMUM
10 mil PLASTIC LINING
SANDBAG
BERM
LATH AND FLASHING ON SIDES
VARIES
PLAN NOT TO SCALE

TYPE "ABOVE GROUND" WITH WOOD PLANKS

10 mil PLASTIC LINING
10' MINIMUM
TWO-STACKED 2X12 ROUGH WOOD FRAME
STAKE (TYP)
VARIES
PLAN NOT TO SCALE

CONCRETE WASHOUT SIGN DETAIL (OR EQUIVALENT)

PLYWOOD PAINTED WHITE
BLACK LETTERS 6" HEIGHT
LAG SCREWS
WOOD POST 3.5X3.5X8'
WOOD OR METAL STAKES (2 PER BALES)
STAPLE
1.12" DIA STEEL WIRE
SECTION B-B NOT TO SCALE
STRAW BALE
BINDER WIRE
10 mil PLASTIC LINING (OPTIONAL)
NATIVE MATERIAL (OPTIONAL)
PLAN NOT TO SCALE
TYPE "ABOVE GRADE" WITH STRAW BALES

NOTES:
1. ACTUAL LAYOUT TO BE DETERMINED IN THE FIELD.
2. A CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30' OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
3. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF OR RECYCLED.
4. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE BACKFILLED, REPAIRED, AND STABILIZED TO PREVENT EROSION.
5. MUST BE LOCATED >50 FT AWAY FROM INLETS/WATERWAYS UNLESS THERE IS NO OTHER PRACTICAL ALTERNATIVE.

CITY OF RALEIGH STANDARD DETAIL		
REVISIONS	DATE: 8/2020	NOT TO SCALE
CONCRETE WASHOUT		
SW-20.25		

CROSS SECTION VIEW

2:1 SLOPE
NO. 57 WASHED STONE
OVERFLOW
2"X4" STUD BRACE
CURB INLET
CONCRETE GUTTER
FILTERED WATER
SEDIMENT LAVER RUNOFF
HARDWARE CLOTH (1/4" - 1/2" DEWATERING HOLES)
CONCRETE BLOCK
NO. 57 WASHED STONE

PERSPECTIVE VIEW

HARDWARE CLOTH (1/4" - 1/2" DEWATERING HOLES)
CURB INLET
CONCRETE BLOCK
NO. 57 WASHED STONE

NOTES:
1. TWO CONCRETE BLOCKS SHALL BE PLACED ON THEIR SIDES ABUTTING THE CURB AT EITHER SIDE OF THE INLET OPENING. A 2" X 4" STUD SHALL BE CUT AND PLACED THROUGH THE OUTER HOLES OF THE SPACER BLOCKS TO BRACE THE FRONT BLOCKS. FRONT BLOCKS ARE PLACED ON THEIR SIDES ACROSS THE INLET AND ABUTTING THE SPACER BLOCKS.
2. WIRE MESH OR HARDWARE CLOTH WITH 1/4" - 1/2" OPENINGS SHALL BE PLACED OVER THE OUTSIDE VERTICAL FACE (WEBBING) OF THE BLOCKS. TO PREVENT STONE FROM BEING WASHED THROUGH THE HOLES IN THE BLOCKS.
3. STONE SHALL BE PILED AGAINST THE WIRE TO THE TOP OF THE BLOCK. (NO. 57 WASHED STONE)
4. CHECK DEVICE AFTER EACH RAIN AND REPLACE WASHED STONE IF IT CLOGS WITH SEDIMENT.

CITY OF RALEIGH STANDARD DETAIL		
REVISIONS	DATE: 8/2020	NOT TO SCALE
BLOCK AND GRAVEL INLET PROTECTION FOR CURB INLET		
SW-20.26		

PLYWOOD INLET PROTECTION

UPSTREAM END OF STORM DRAIN
OVERFLOW
1 1/2" PIPE DIAMETER
3/4" EXTERIOR PLYWOOD
BURY BOTTOM OF PLYWOOD

STONE FILTER INLET PROTECTION

UPSTREAM END OF STORM DRAIN
OVERFLOW
1 1/2" PIPE DIAMETER
HARDWARE CLOTH
STEEL FENCE POST (TYPICAL)
WASHED STONE FILTER ACROSS PIPE INLET

NOTES:
ALL PARTIALLY COMPLETED STORM DRAINS SHALL BE PROTECTED AT THE END OF EACH DAY IN ACCORDANCE WITH THESE DETAILS.

CITY OF RALEIGH STANDARD DETAIL		
REVISIONS	DATE: 8/2020	NOT TO SCALE
UNDER CONSTRUCTION PIPE INLET PROTECTION		
SW-20.27		

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02/02/2024 <td></td>	
332	

DESIGNED BY
P. BARBEAU

CHECKED BY
R. BAKER

SCALE
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LAKE HAVEN
RALEIGH - WAKE COUNTY - NORTH CAROLINA

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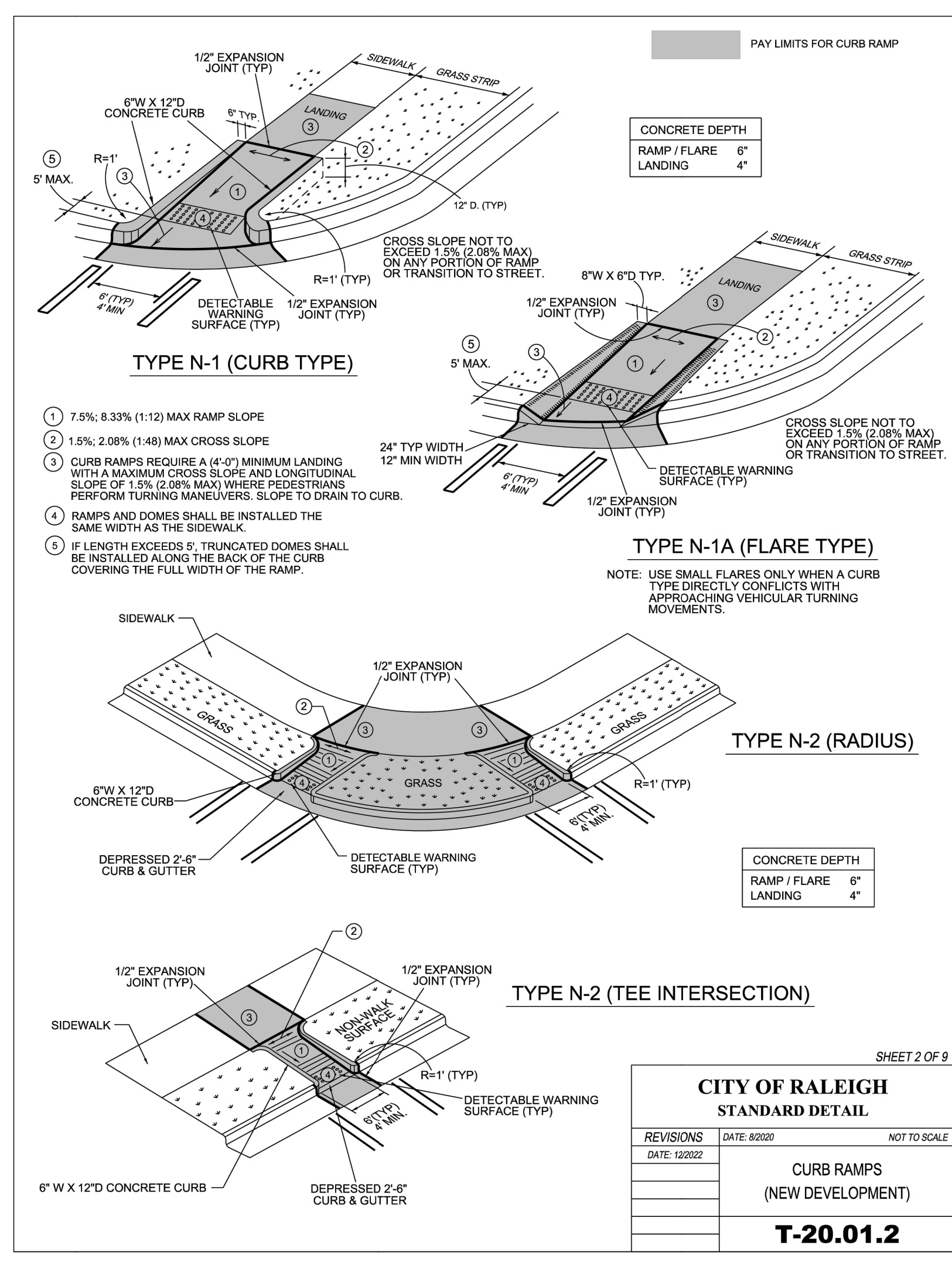
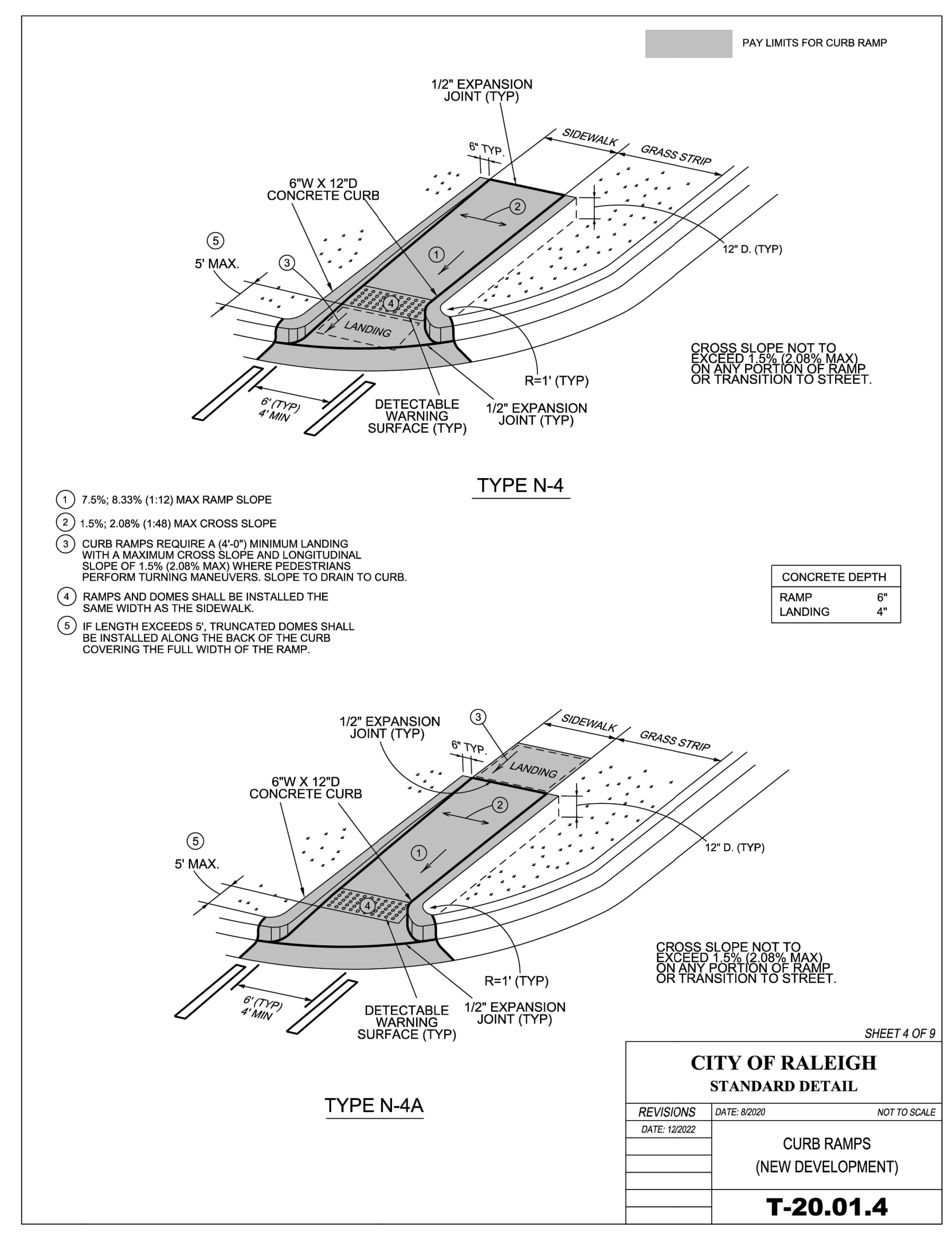
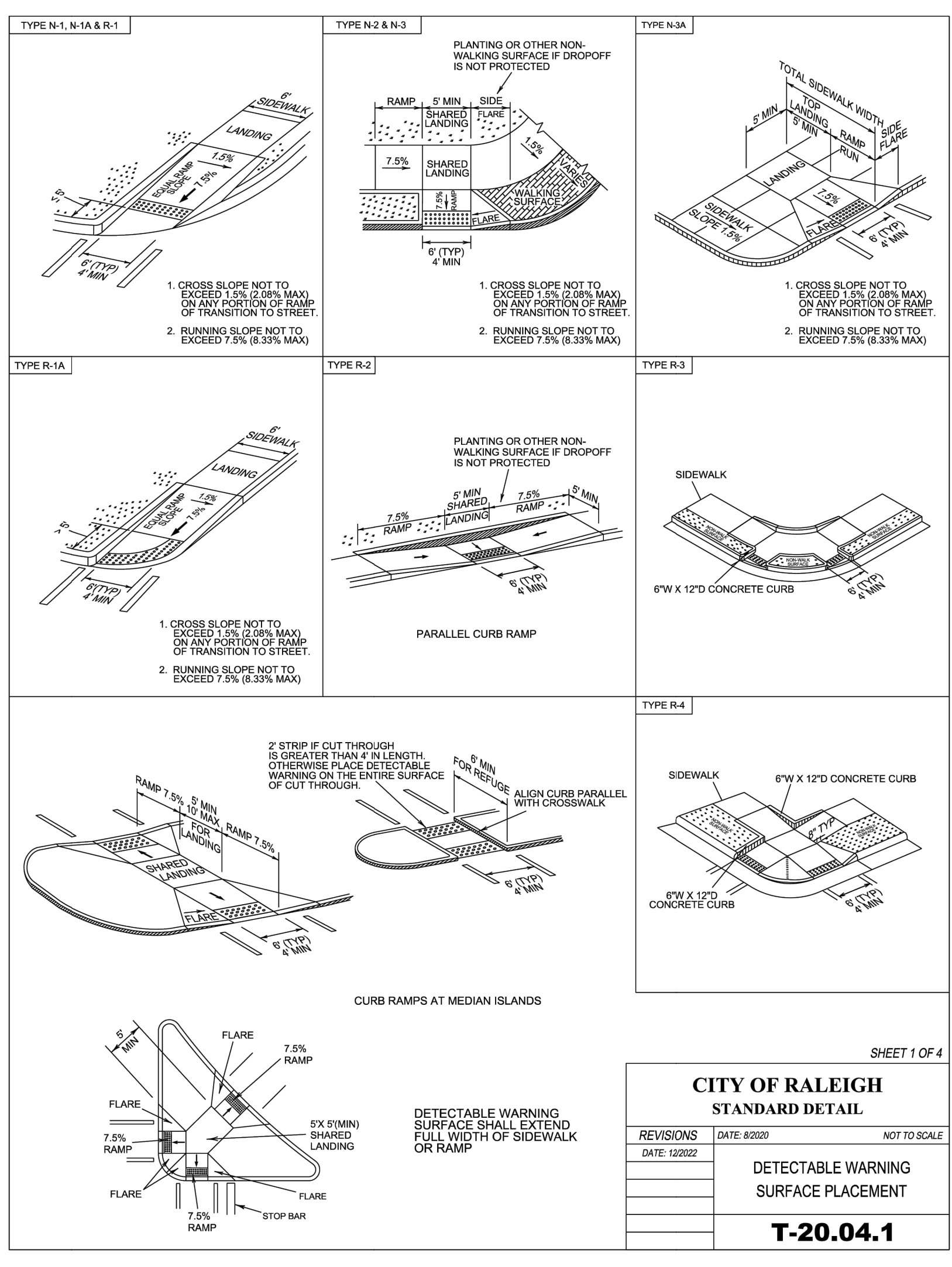
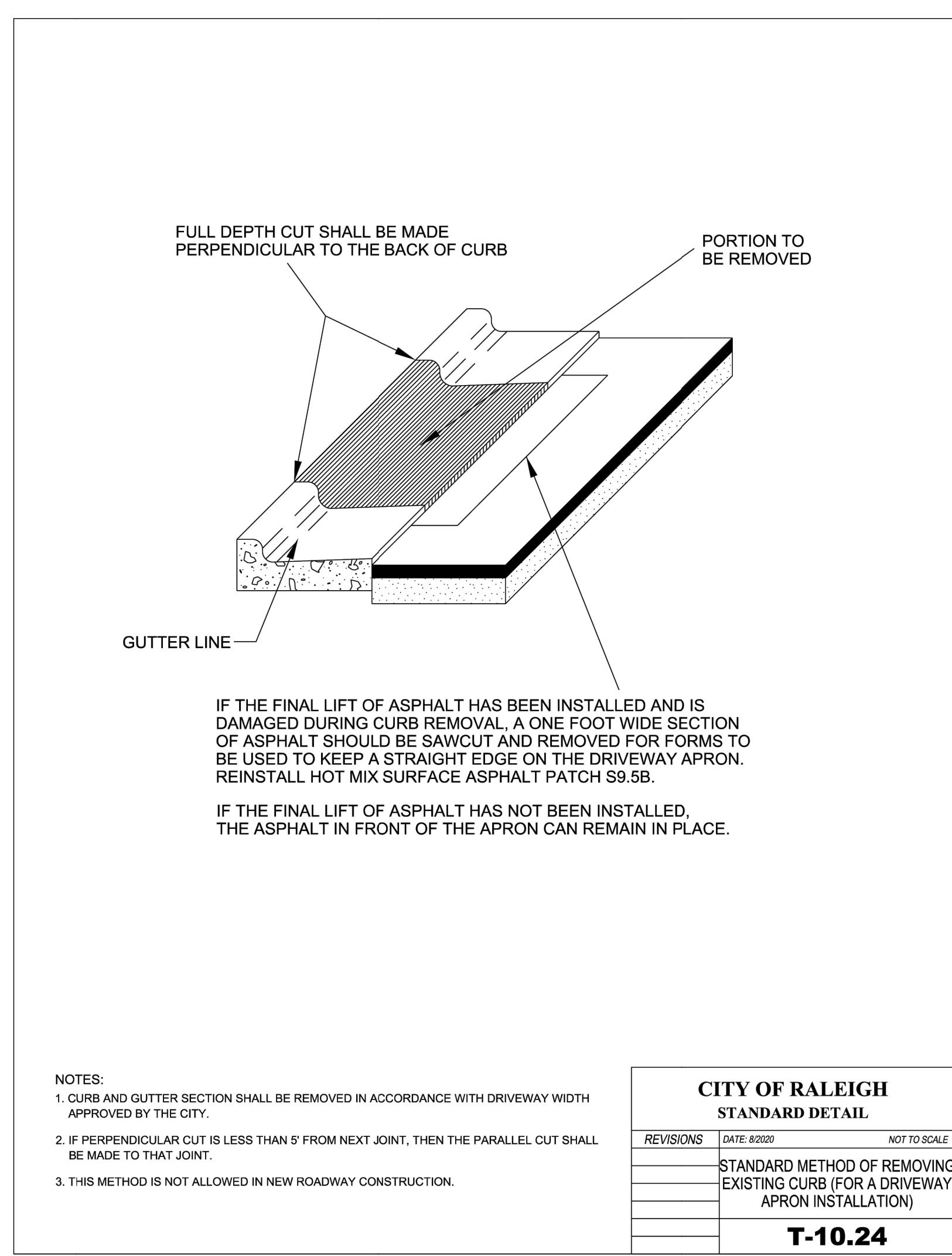
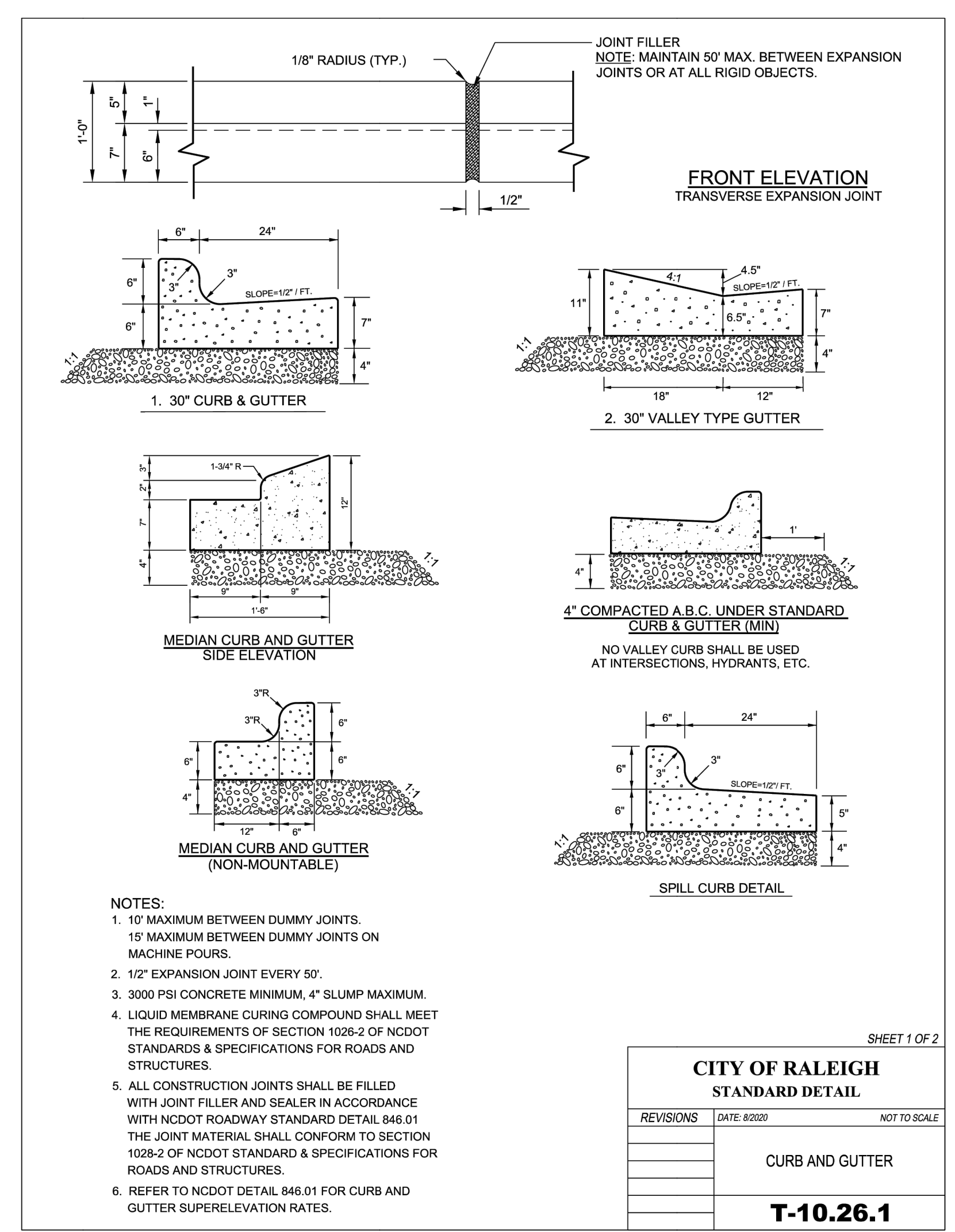
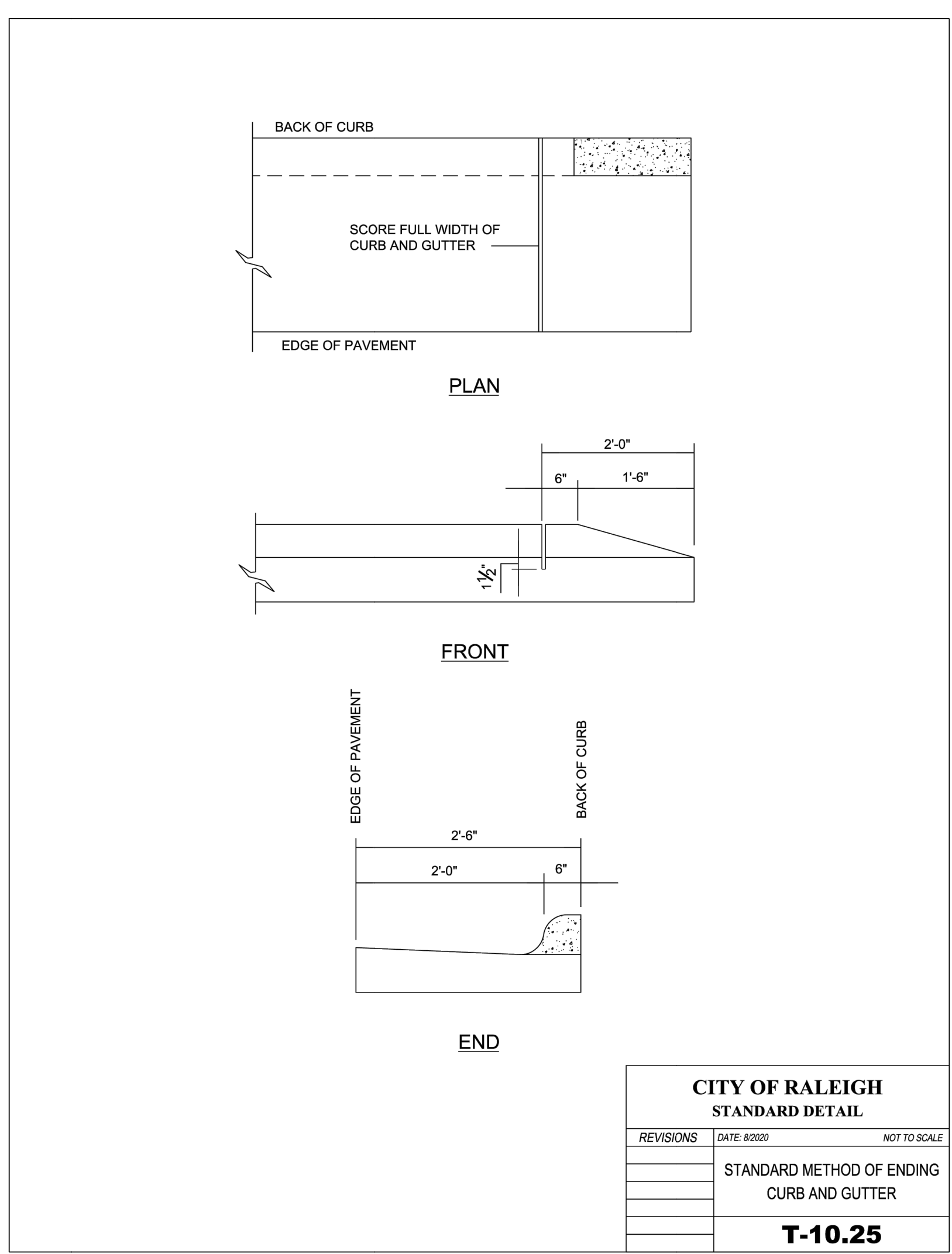
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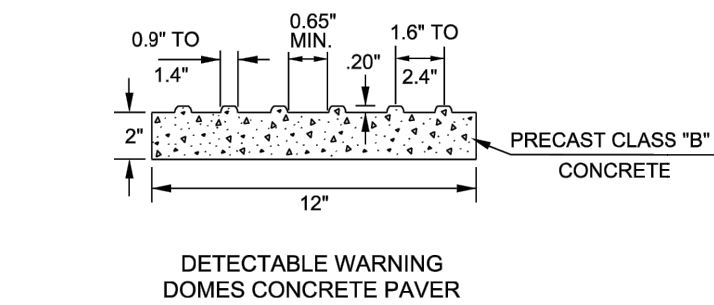
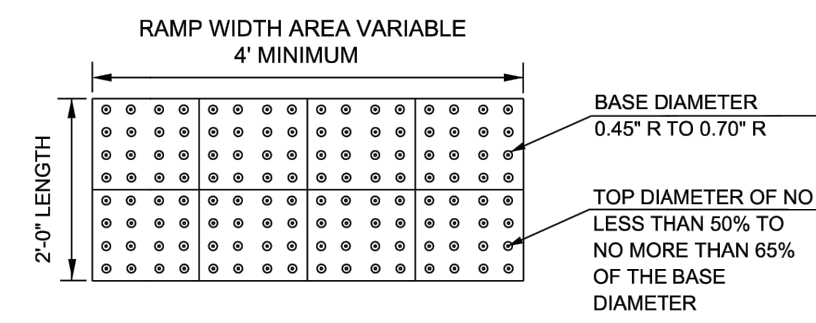
DATE: 02/02/2024
DRAWN BY: 332
DESIGNED BY: P. BARBEAU
CHECKED BY: R. BAKER
SCALE: AS SHOWN

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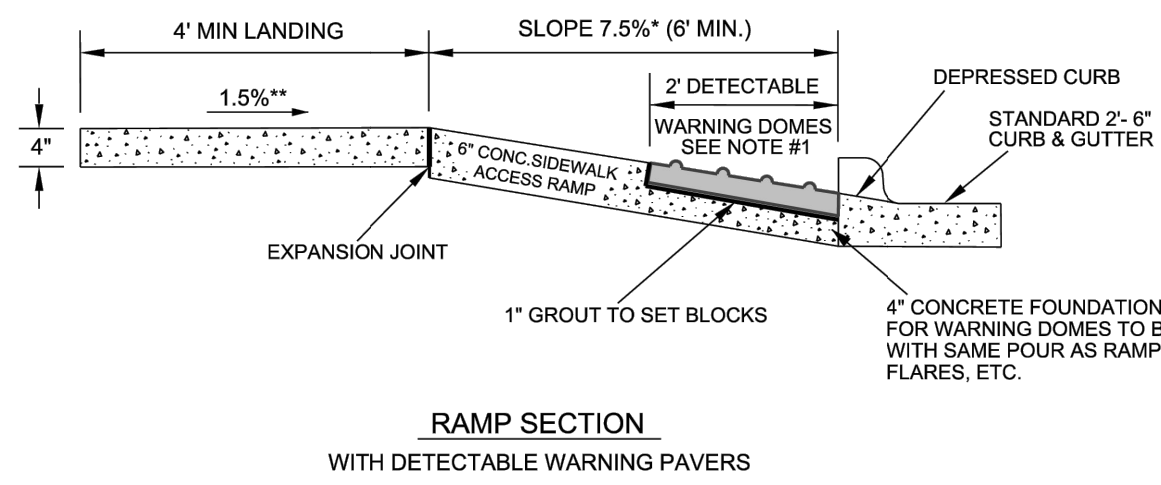
JOB NO. 42601.013
SHEET NO. C7.7



S:\33242601\Evergreen_Projects\013-332-Lake_Haven-Lake_Woodard_Dr\DWG\Sheet\CD\2001.013.C7.D-NT.DTD.dwg | Printed on 2/9/2024 4:54 PM | by Jon Clark



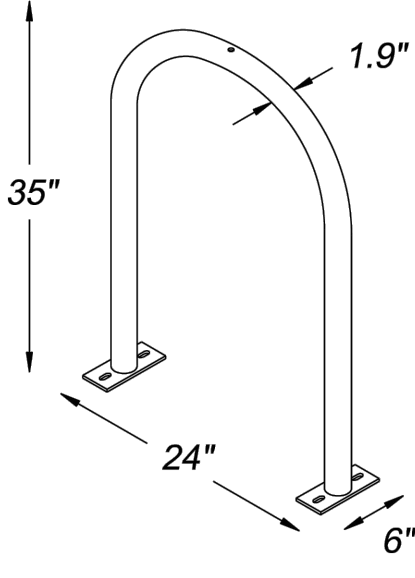
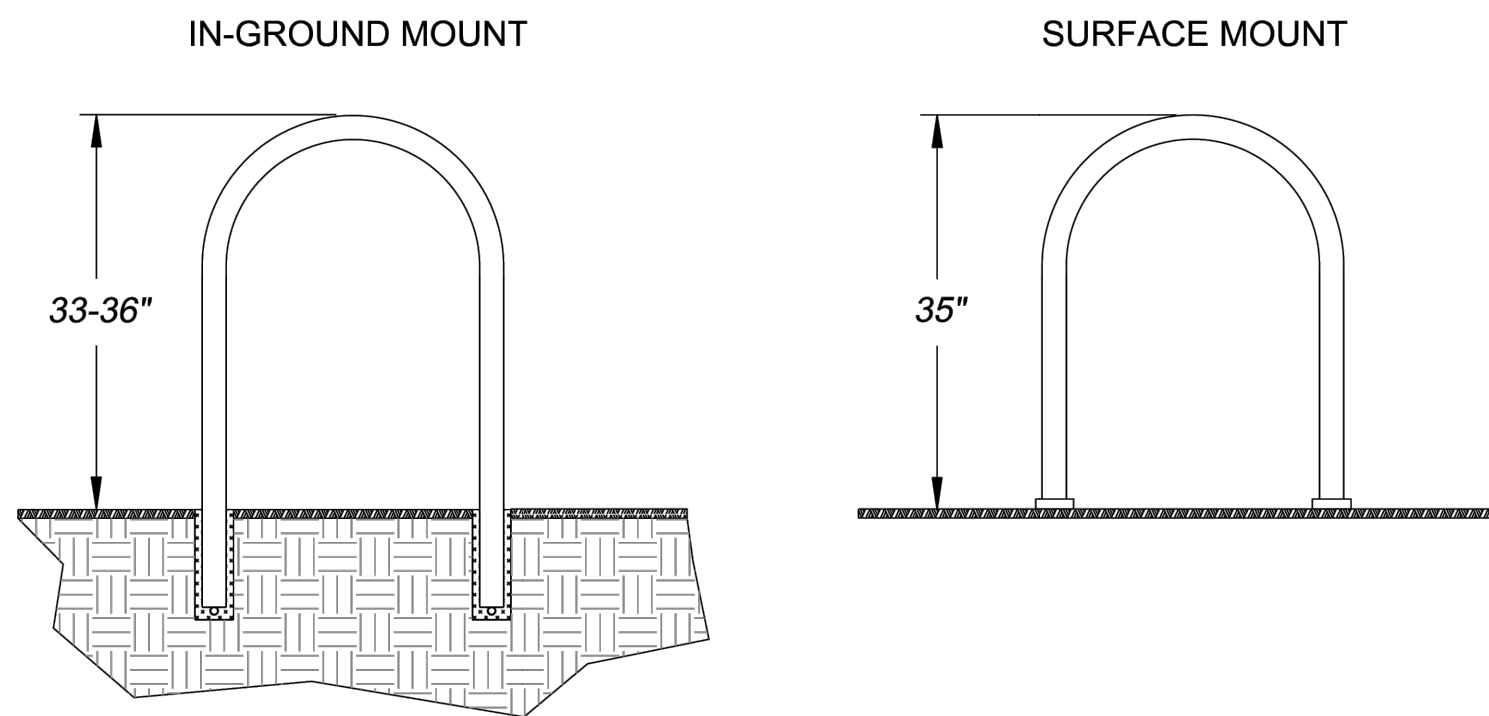
* 8.33% (1:12) max
 ** 2.08% (1:48) max



NOTES:
 1. DETECTABLE WARNING DOMES SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON DETAIL. SIZE OF PAVER SHALL BE 1' X 1'.
 2. THE COLOR FOR THE DETECTABLE WARNING AREA SHALL BE YELLOW FOR CONTRAST.

SHEET 2 OF 4

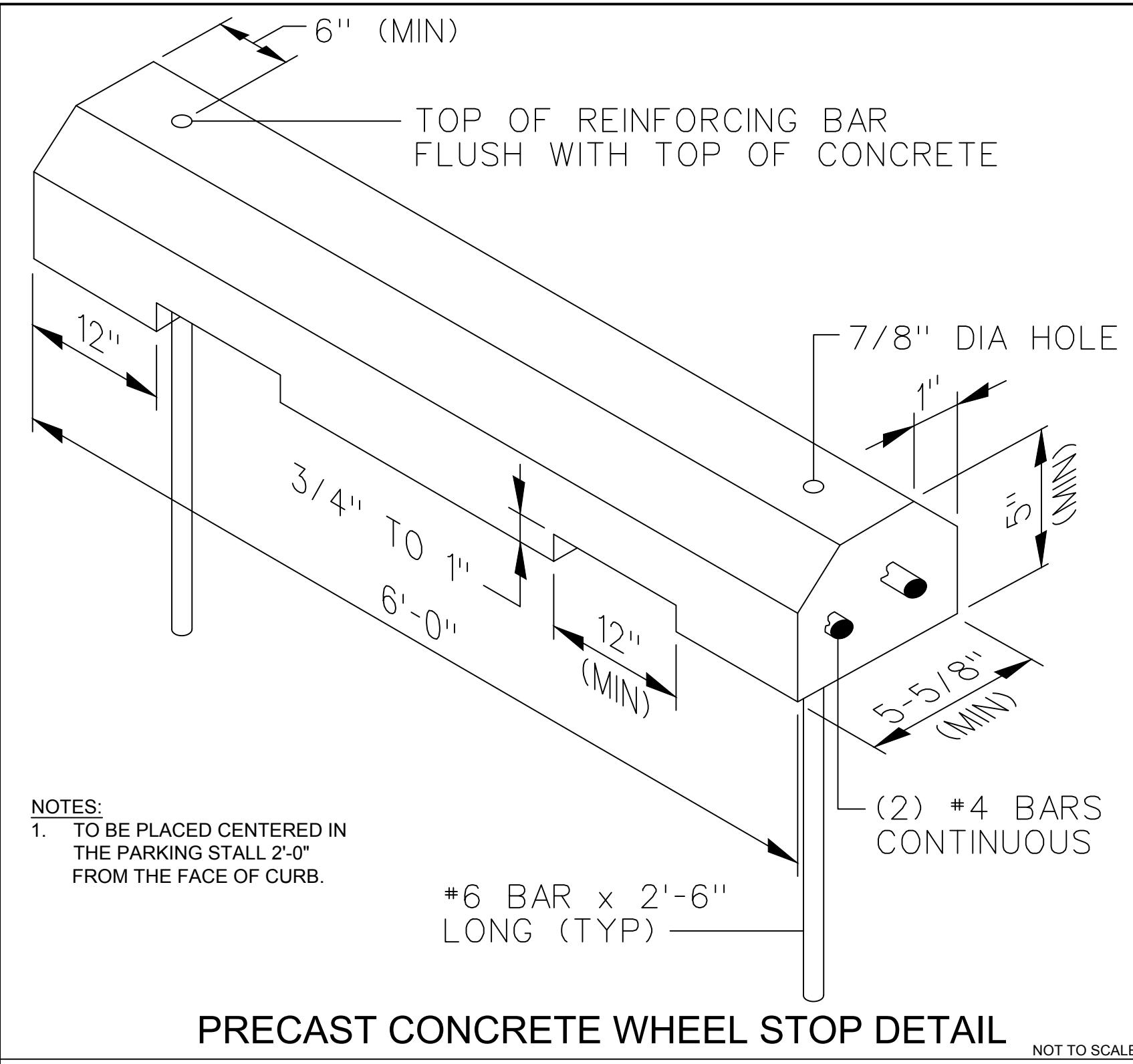
CITY OF RALEIGH STANDARD DETAIL		
REVISIONS	DATE: 8/20/20	NOT TO SCALE
DATE: 12/20/22	DETECTABLE WARNING SURFACE PAVERS	
	T-20.04.2	



STANDARD BIKE RACK

BIKE RACK INSTALLATION:
 SURFACE MOUNT - WHEN INSTALLED ON CONCRETE SURFACE, USE 3/8" ANCHORS TO PLATE MOUNT. SHIM AS NECESSARY TO ENSURE VERTICAL PLACEMENT.
 IN-GROUND MOUNT - WHEN INSTALLED ON PAVERS OR OTHER NON-STABLE SURFACES, EMBED INTO BASE. CORE HOLES NO LESS THAN 3" IN DIAMETER AND 10" DEEP.

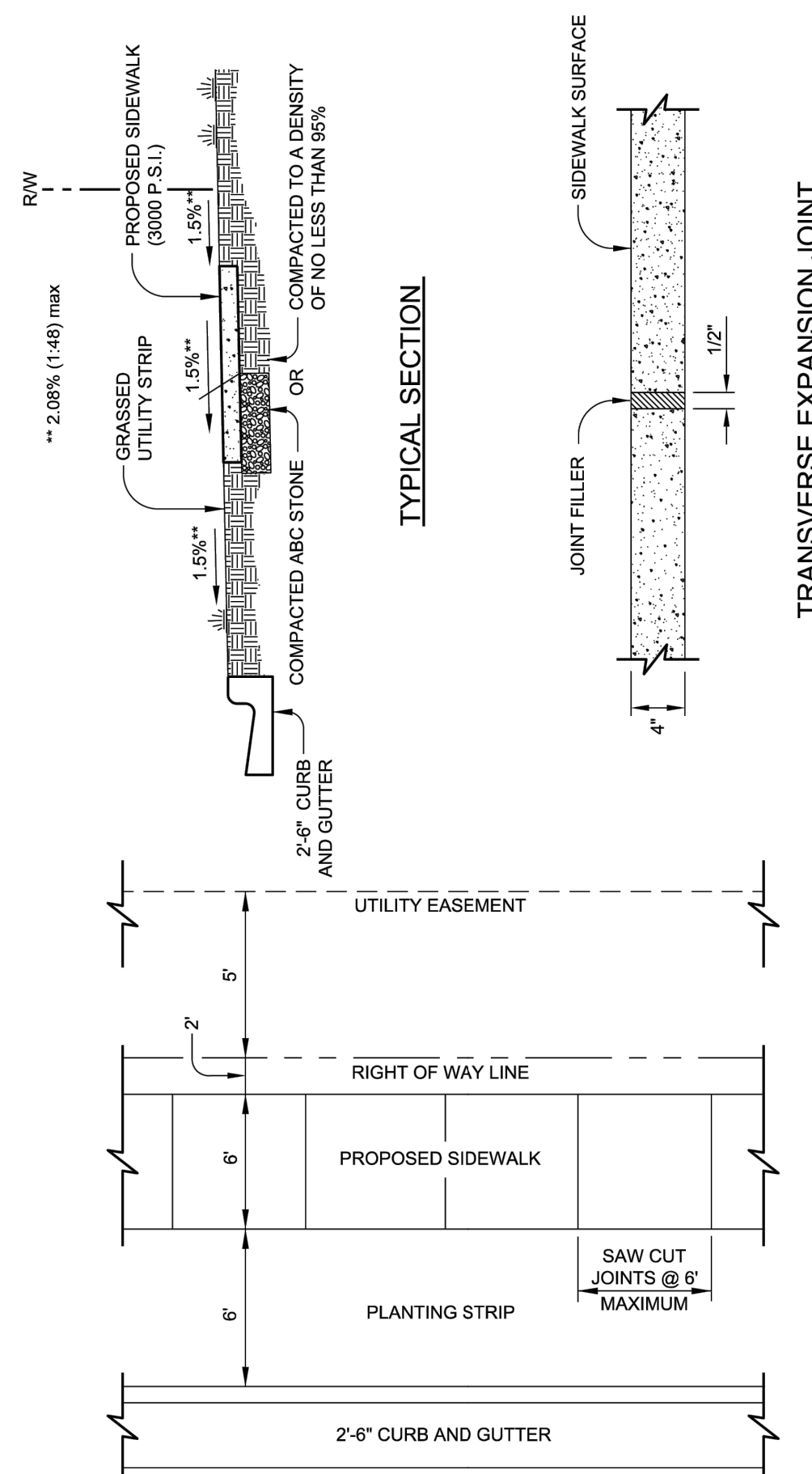
CITY OF RALEIGH STANDARD DETAIL		
REVISIONS	DATE: 8/20/20	NOT TO SCALE
	BIKE RACK DETAILS	
	B-20.03	



NOTES:
 1. TO BE PLACED CENTERED IN THE PARKING STALL 2'-0" FROM THE FACE OF CURB.

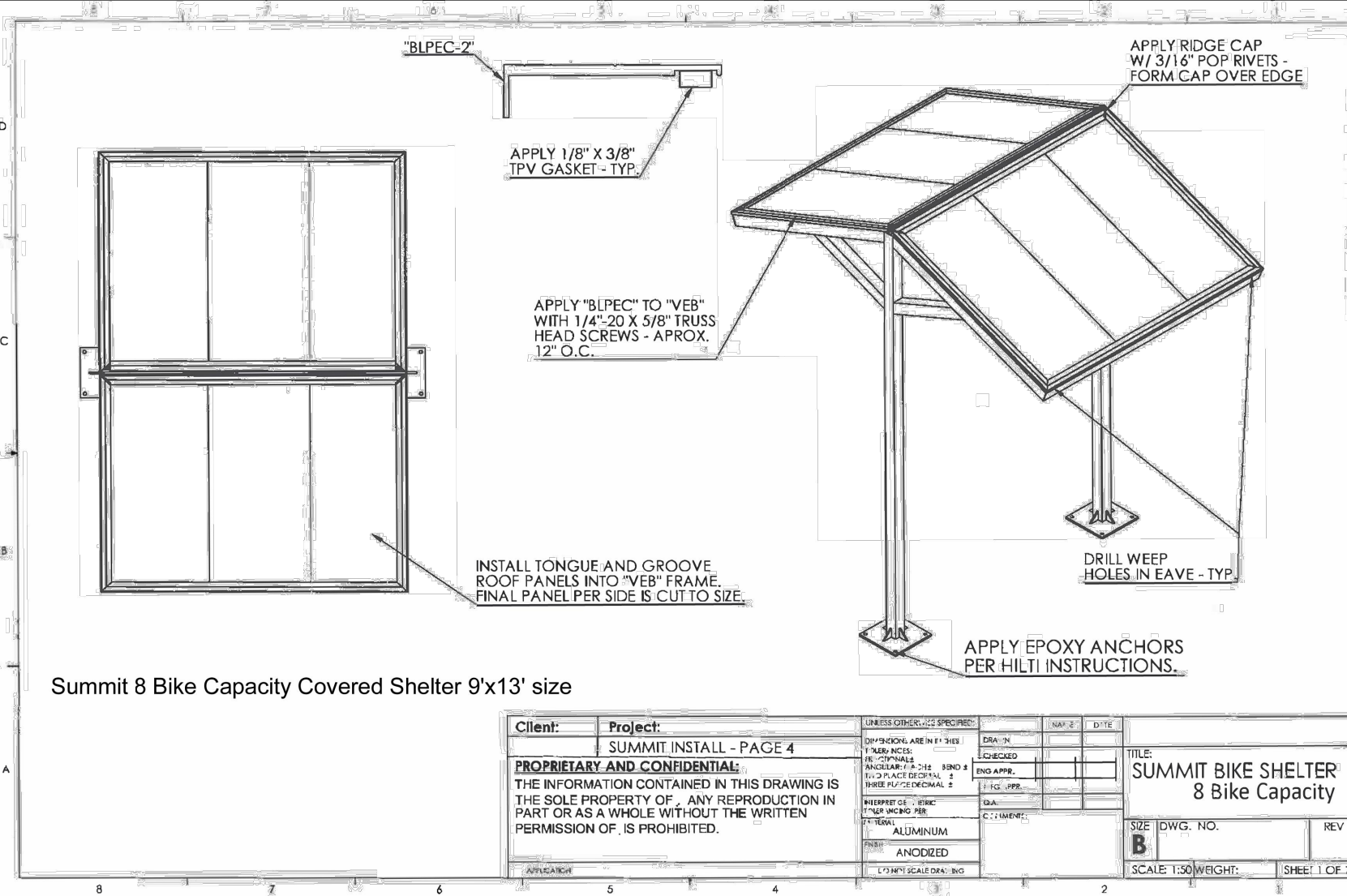
PRECAST CONCRETE WHEEL STOP DETAIL

NOT TO SCALE



NOTES:
 1. TRANSVERSE EXPANSION JOINTS TO BE A MAXIMUM OF 50 FEET.
 2. ALL CONCRETE TO BE 3000 PSI AND FINISHED WITH CURING COMPOUND.
 3. A 6 INCH DEPTH IS REQUIRED AT LOCATIONS OF DRIVEWAY CROSSINGS.
 4. 1/2 INCH DEPTH IS REQUIRED AT LOCATIONS OF DRIVEWAY RETURNS.
 5. ALL STRIP FINISHES SHALL BE ALONG THE LENGTH OF CURB RETURNS.
 6. COMPACTED ABC STONE MAY BE REQUIRED AS SUBGRADE AT THE DISCRETION OF THE INSPECTOR.
 7. SURFACE SHALL BE FINISHED TO GRADE AND CROSS SECTION WITH A FLOAT.
 8. TROWEL SMOOTH AND FINISH WITH A BROOM.
 9. ALL JOINTS TO BE FINISHED WITH A BROOM.
 10. ALL JOINTS TO BE FINISHED WITH A BROOM.
 11. SHALL HAVE A MINIMUM 3" WIDE FRAME OF CONCRETE AROUND THEM.

CITY OF RALEIGH STANDARD DETAIL		
REVISIONS	DATE: 8/20/20	NOT TO SCALE
DATE: 12/20/22	CONCRETE SIDEWALK	
	T-30.01.1	



Summit 8 Bike Capacity Covered Shelter 9'x13' size

Client:	Project:	DATE:	REV:
Summit	SUMMIT INSTALL - PAGE 4	12/20/22	1
PROPRIETARY AND CONFIDENTIAL			
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DATE:	BY:	SCALE:	REV:
12/20/22	ANON	1/32" = 1'-0"	1

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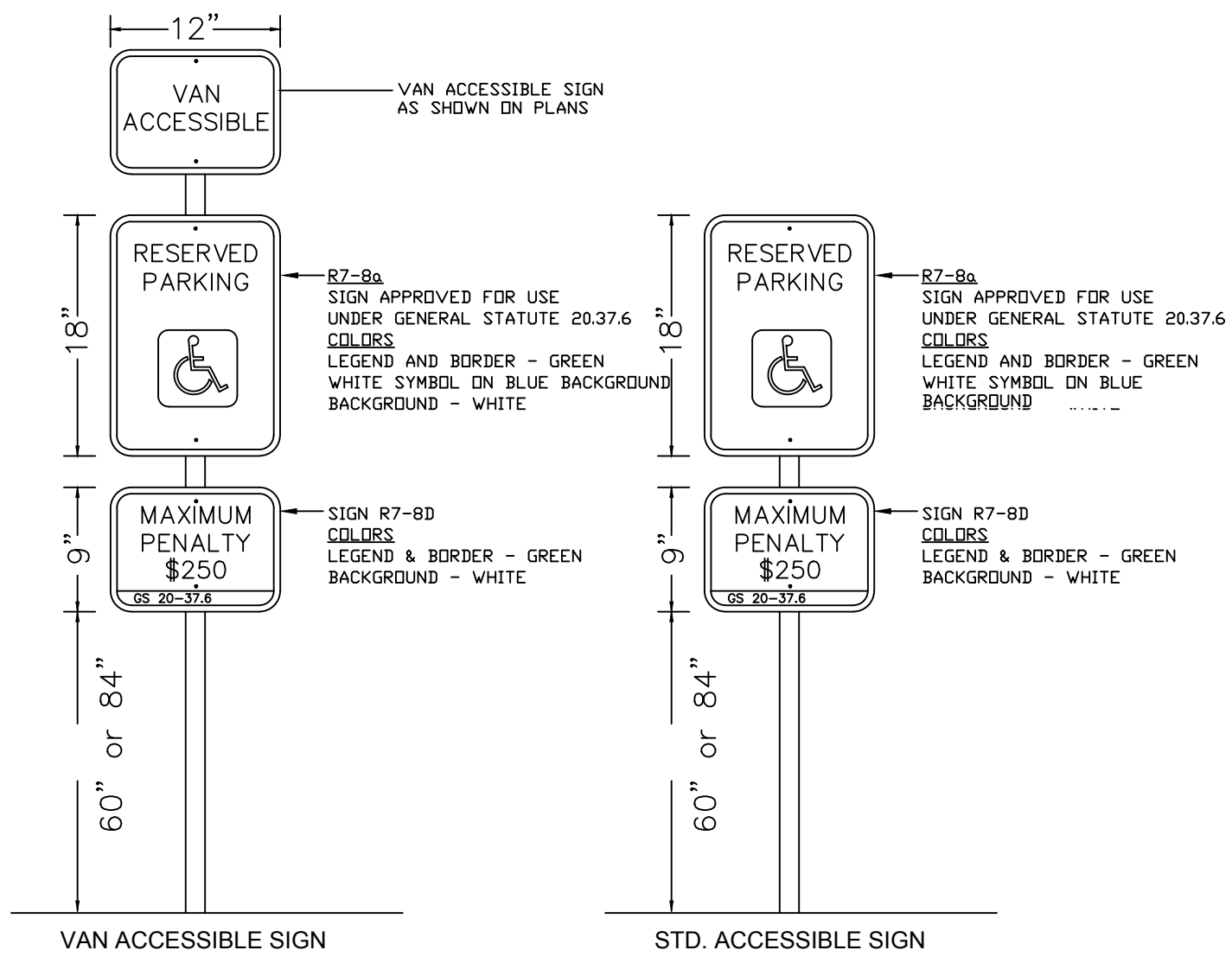
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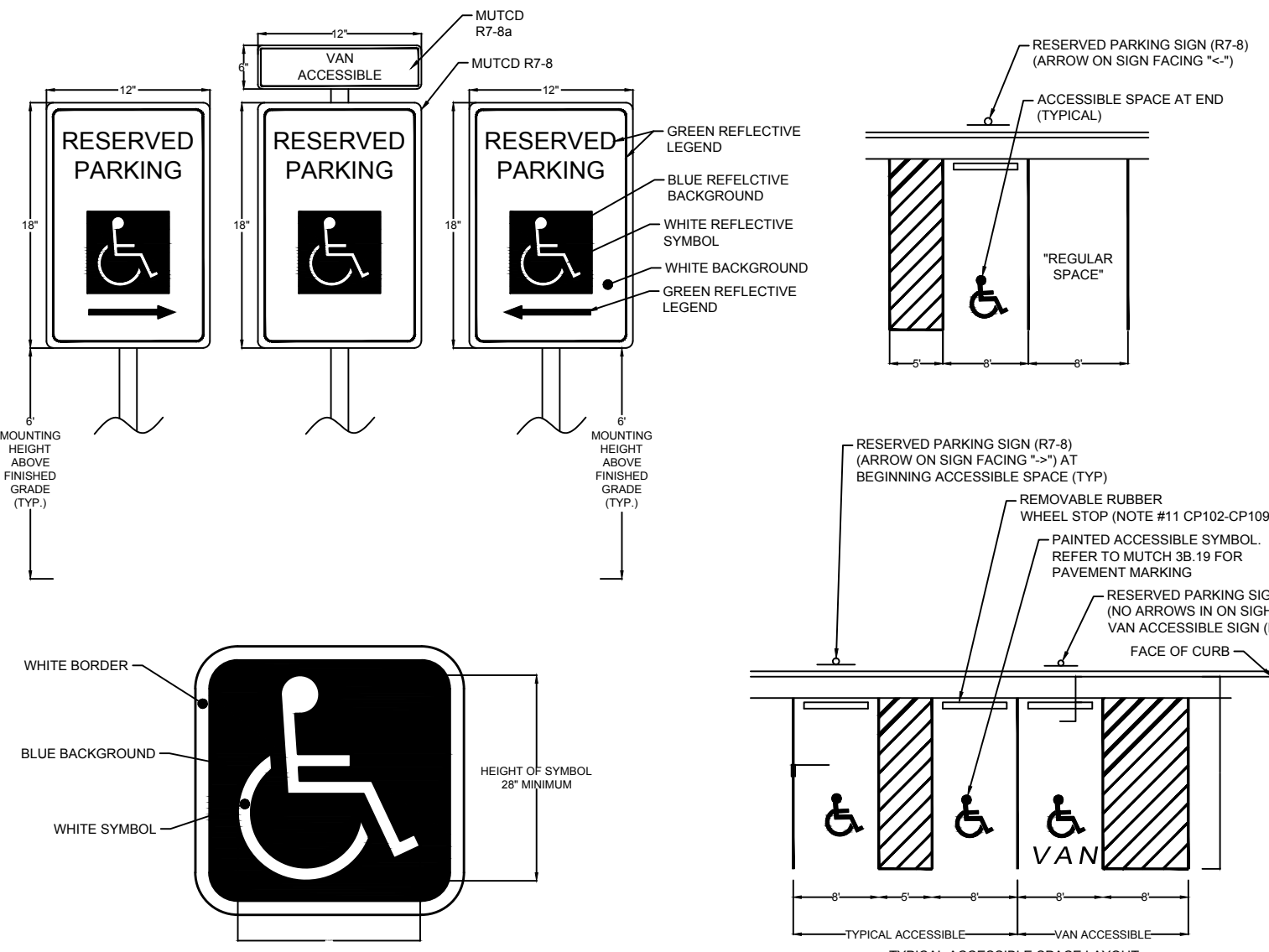
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JOB NO. 42601.013
 SHEET NO. C7.8



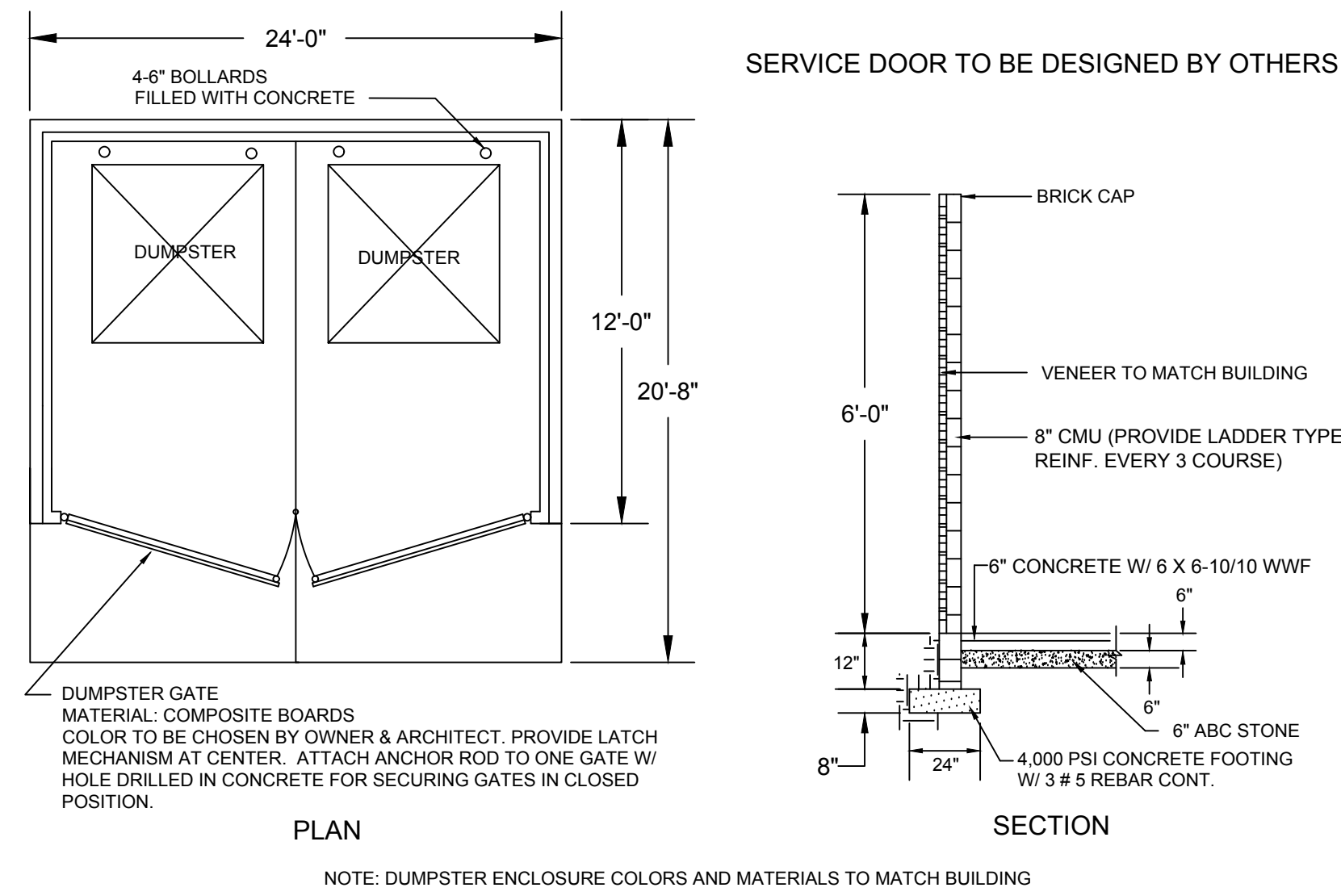
NOTES: HANDICAP ACCESSIBILITY SIGNS
N.T.S.

- ALL SITE SIGNAGE AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND NCDOT STANDARDS.
- ALL SIGNS SHALL BE MOUNTED WITH 5-FT MIN. VERTICAL CLEARANCE TO THE BOTTOM OF THE SIGN ON BLACK ROUND POST SET IN 18-IN DEEP x 8-IN DIA. CONCRETE FOOTING. SIGNS MOUNTED ADJACENT TO SIDEWALKS MUST BE MOUNTED WITH 7-FT MIN. VERTICAL CLEARANCE TO THE BOTTOM OF SIGN.
- ALL SIGN POSTS TO BE INSTALLED ARE TO BE ROUND POSTS PAINTED BLACK AND APPROVED BY FLOWERS.



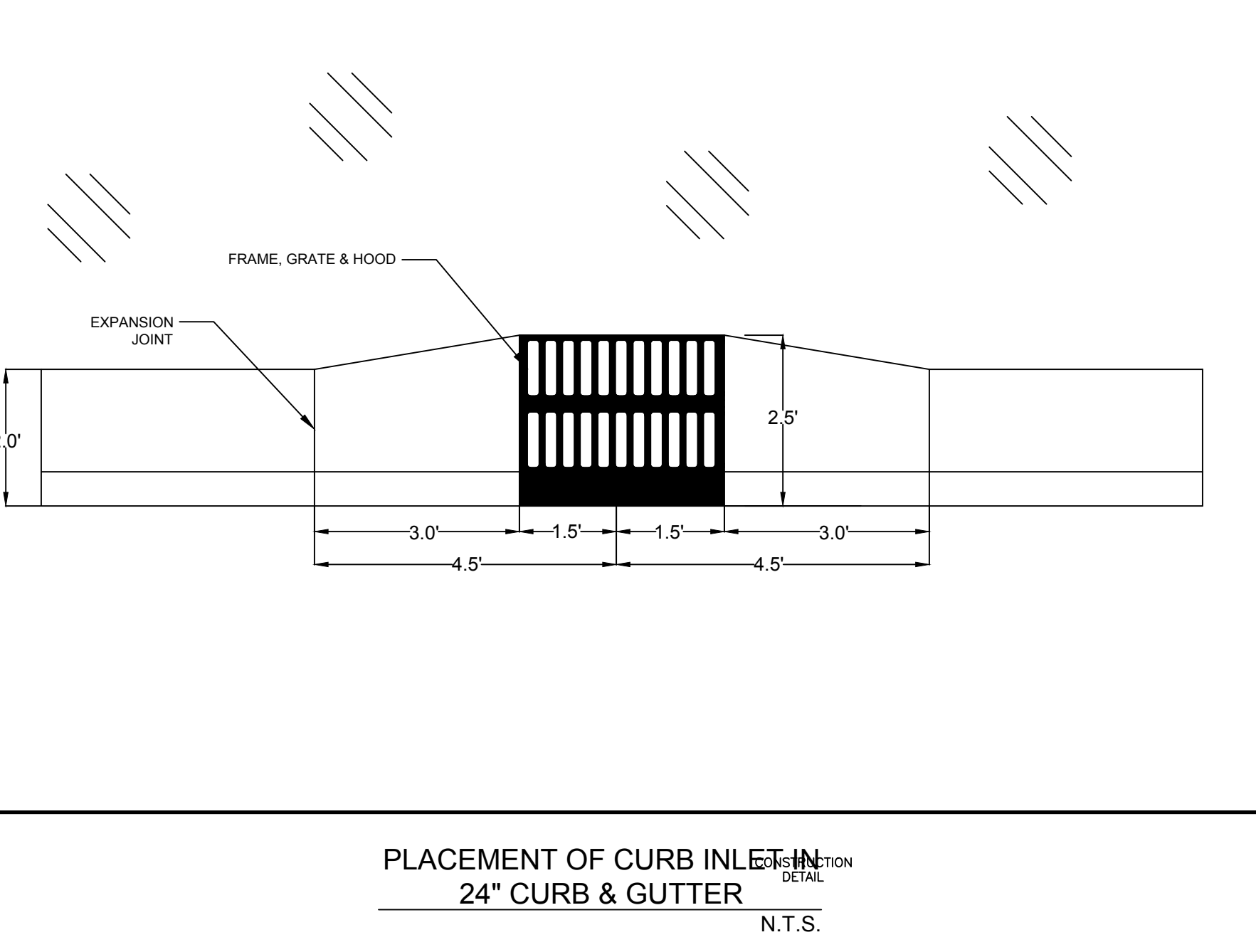
ACCESSIBLE SPACE PAVEMENT MARKING SYMBOL
REFER TO MUTCD 3B-10
N.T.S.
ACCESSIBLE SPACE MARKING AND SIGNAGE
N.T.S.

- NOTE:
- VERIFY WITH SITE PLANS FOR NON-TYPICAL ACCESSIBLE SPACES.
 - FOR SPACES LABELED 'VAN' PROVIDE MUTCD R7-8 SIGN AND ADDITIONAL R7-8a.
 - ALL STRIPING IS TO BE THERMOPLASTIC.



- DUMPSTER NOTES:**
- ENCLOSURE TO BE CONSTRUCTED WITH SIMILAR BRICK TO BUILDING.
- HOLCIM WHITE MORTAR
- WHITE SAND (SUPPLIED BY CAUDLE SAND IN RALEIGH, NC)
- SLOPPY JOINT
 - DUMPSTER GATE DOORS, POSTS AND COPING TO BE BLACK METAL COPING

WASTE/RECYCLING DUMPSTER DETAIL
NOT TO SCALE



PLACEMENT OF CURB INLET
24" CURB & GUTTER
N.T.S.

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	02/02/2024	332	P. BARBEAU	R. BAKER	

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ELEVATION NOTES

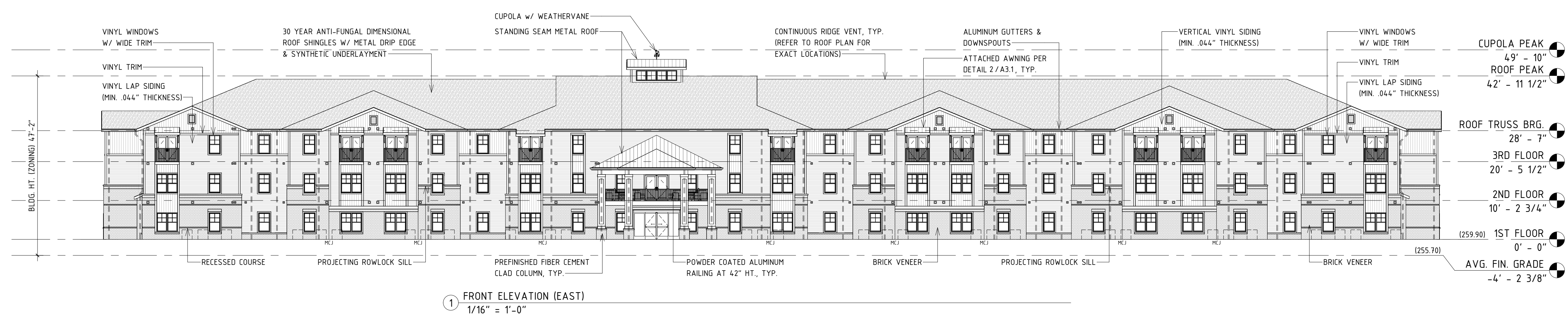
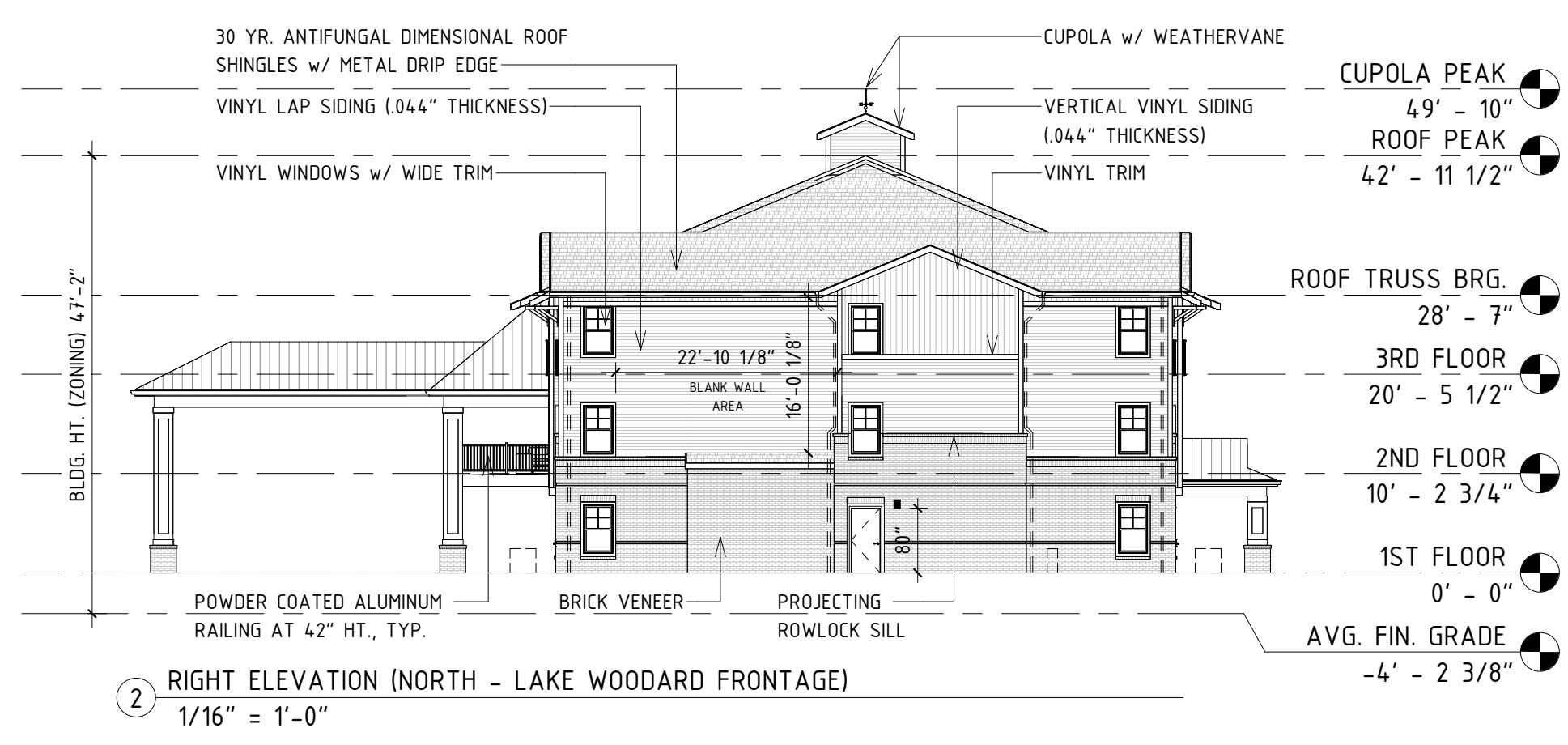
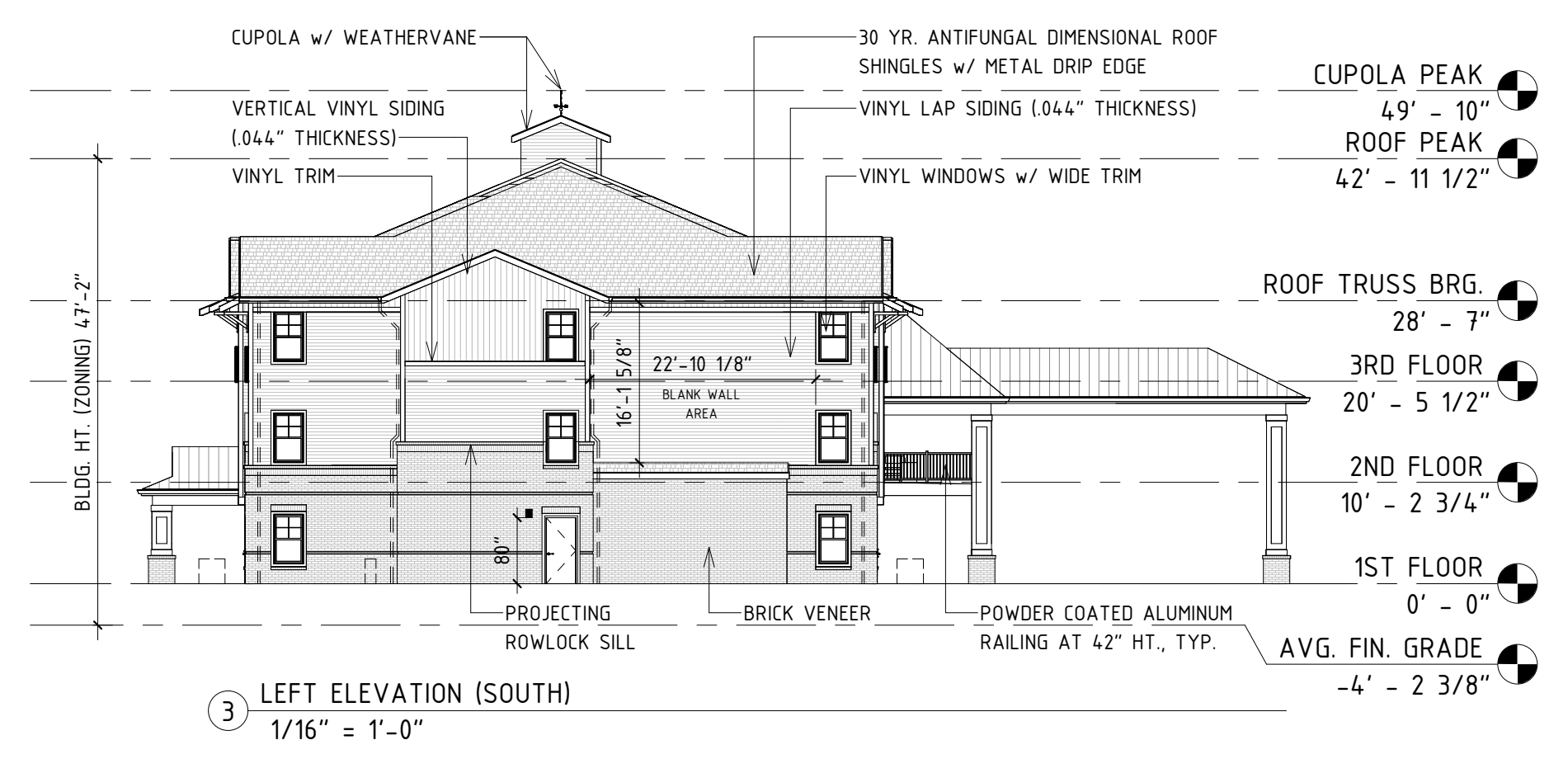
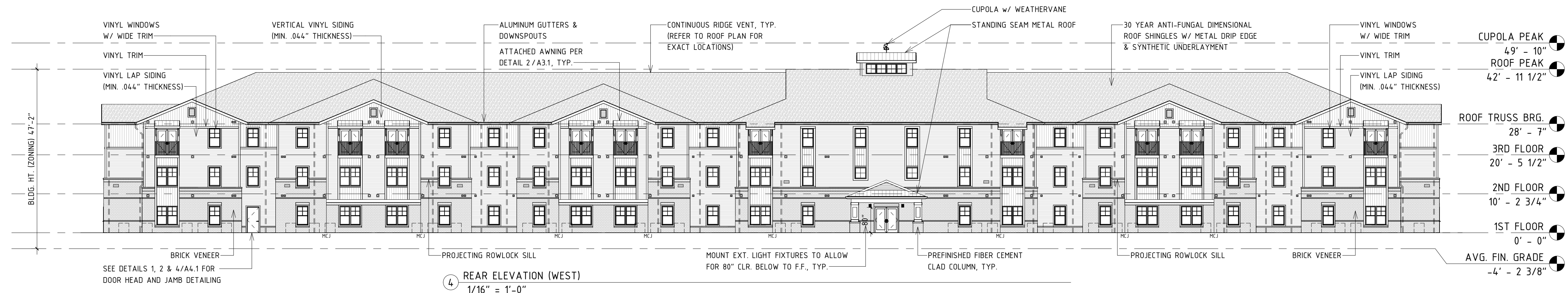
- MASONRY CONTROL JOINTS TO BE PROVIDED AT ALL INSIDE CORNERS AS WELL AS WHERE INDICATED ON ELEVATIONS (MAX 25' APART).
- INSTALL MOUNTING BLOCK FOR BUILDING SIGNAGE AND EXTERIOR LIGHTING FIXTURES; G.C. TO VERIFY EXACT LOCATION IN THE FIELD.
- SEE ROOF PLAN FOR DOWNSPOUT LOCATIONS.
- MINIMUM THICKNESS OF ALL VINYL SIDING TO BE .044".
- ALL VINYL SIDING TO HAVE A FLAME SPREAD OF 20 OR LESS.
- ALL TRIM TO BE WHITE. ALL CORNER TRIM TO BE VINYL WITH INTEGRAL J. ALL OTHER TRIM TO BE PVC (FIBER CEMENT OR MIRATEC CAN BE USED AS AN ALTERNATIVE TO PVC). SEE A4.1 FOR JAMB DETAILS.
- J-CHANNELS AT THE BOTTOM HORIZONTAL EDGE OF AN AREA OF VINYL SIDING SHALL BE PERFORATED J-CHANNELS AND SHALL HAVE ALUMINUM Z-FLASHING INSTALLED BEHIND/BELow, AS SHOWN IN DETAILS ON SHEET A4-1.
- ALL MECH VENT COVERS TO BE PRE-FINISHED. PROVIDE OWNER AND ARCHITECT SAMPLES OF FULL RANGE OF COVER COLOR OPTIONS FROM MANUFACTURER.
- STREET NUMBERS SHALL BE POSTED ON THE BUILDING AND VISIBLE FROM THE ROADWAY. NUMBERS SHALL CONTRAST WITH THEIR BACKGROUNDS. NUMBERS SHALL BE A MINIMUM STROKE WIDTH OF 0.75 INCHES. CONFIRM REQUIREMENTS WITH LOCAL A.H.J.
- GUTTERS TO BE MIN. 6" SEAMLESS ALUMINUM GUTTERS, AND DOWNSPOUTS TO BE MIN. 3X4 ALUMINUM.
- ALL EXTERIOR LINE SET PENETRATIONS SHALL BE HOODED.

NOTATION LEGEND

- = MECHANICAL DUCT COVER
- = OUTDOOR CONDENSING UNIT
- = LED WALL PACK/EXTERIOR BLDG MOUNTED LIGHT FIXTURE
- = MASONRY CONTROL JOINT

BUILDING MATERIALS

- ROOF SHINGLES: 30 YEAR ANTI-FUNGAL DIMENSIONAL ROOF SHINGLES (TYP.)
- GUTTERS & DOWNSPOUTS: ALUMINUM (WHITE)
- SIDING: VINYL LAP SIDING (TYP.)
- ACCENT SIDING: VERTICAL VINYL SIDING
- TRIM: PVC TRIM (WHITE) & VINYL CORNER TRIM (WHITE)
- WINDOWS: VINYL W/ WIDE TRIM
- MASONRY: BRICK VENEER W/ CONTINUOUS ROWLOCK CAP
- COLUMNS: FIBER CEMENT BOARD & TRIM (WHITE) OVER BRICK



date	02/07/2024
drafter	G.P.L.
checked by	R.L.M.
project number	T-22010.1
#	Revision Date