

RALEIGH WATER

CITY OF RALEIGH, NORTH CAROLINA

SANFORD CREEK SEWER INTERCEPTOR

AUGUST 2024



Black & Veatch International Company
 Business License No. F-0794
 175 Regency Wood Place, Suites 200 & 300
 Cary, North Carolina 27518

Digitally signed
 by D Lee Campbell
 Date: 2024.09.23
 19:08:40 -04'00'



SANFORD CREEK SEWER INTERCEPTOR

PRELIMINARY
 NOT FOR
 CONSTRUCTION

REVISIONS AND RECORD OF ISSUE	
DESIGNED:	JG
DETAILED:	FLL, KTH
CHECKED:	
APPROVED:	
DATE:	JULY 2024
PROJECT NO.:	415285

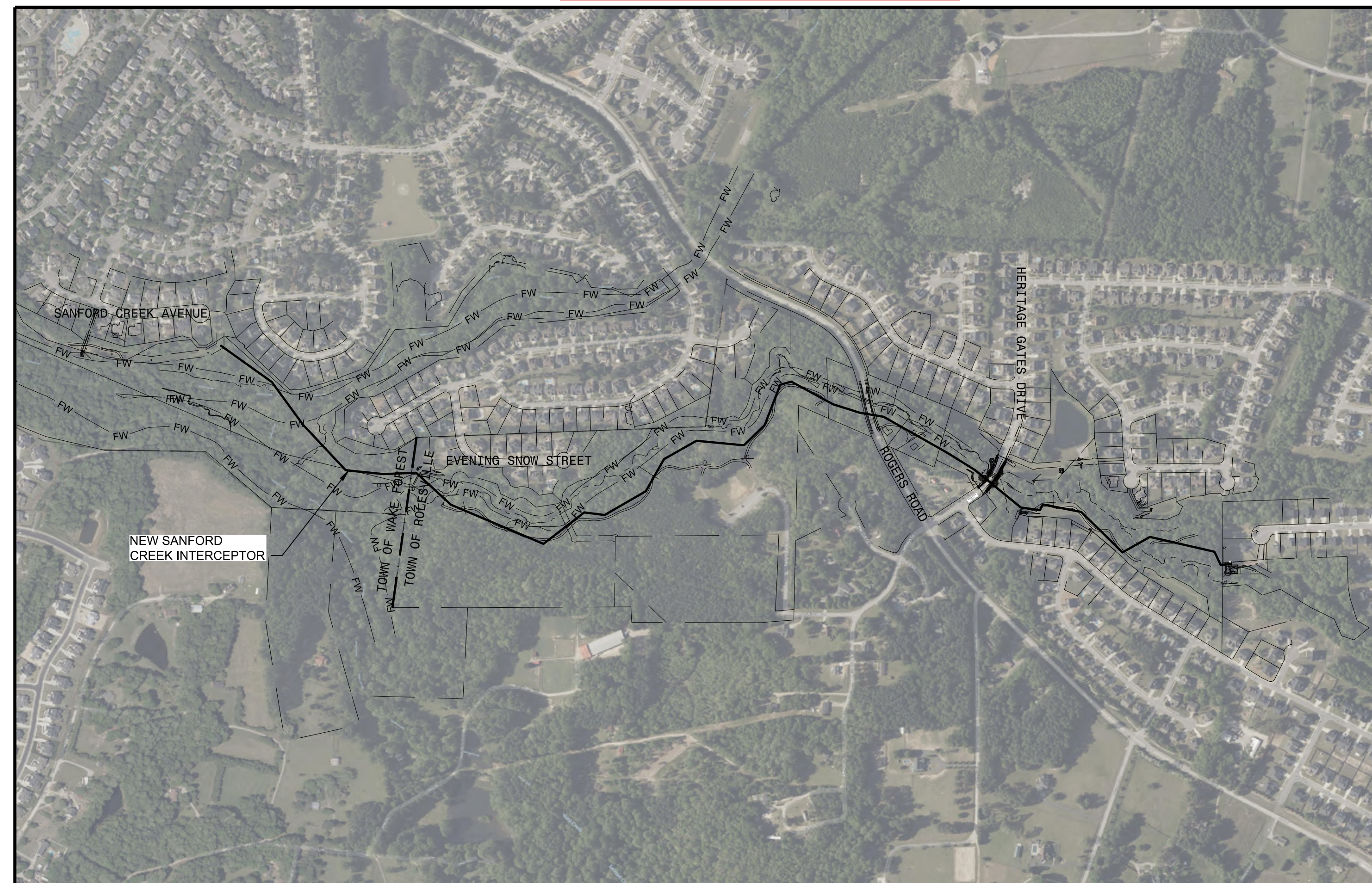
SANFORD CREEK SEWER INTERCEPTOR

GENERAL

COVER SHEET

G-00

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LOCATION MAP

PROJECT CONTACTS:

OWNER/UTILITY
 RALEIGH WATER
 Dan Williams, PE
 One Exchange Plaza, Suite 620
 Raleigh NC, 27601
 (P) 919-996-3473
 Dan.Williams@raleighnc.gov
 www.raleighnc.gov

ENGINEER
 Lee Campbell, PE
 Black & Veatch International Company
 175 Regency Woods Place, Suite 200
 Cary NC, 27518
 (P) 919-462-7423
 campbellld@bv.com
 www.bv.com/markets/water

PUBLIC IMPROVEMENT QUANTITIES		
ITEM	UNIT	QTY
NUMBER OF LOT (S)	EA	0
LOT NUMBER (S) BY PHASE	EA	0
NUMBER OF UNITS	EA	0
LIVABLE BUILDINGS	EA	0
OPEN SPACE?	EA	0
NUMBER OF OPEN SPACE LOTS	EA	0
PUBLIC WATER	LF	0
PUBLIC SEWER	LF	6,966
PUBLIC STREET - FULL	LF	0
PUBLIC STREET - PARTIAL	LF	0
PUBLIC SIDEWALK	LF	0
STREET SIGNS	LF	0
WATER SERVICE STUBS-NEW	EA	0
WATER SERVICE STUBS-ABANDONED	EA	0
SEWER SERVICE STUBS-NEW	EA	0
SEWER SERVICE STUBS-ABANDONED	EA	0

TRAFFIC CONTROL AND PEDESTRIAN PLAN (TCPED) NOTES:

- PRIOR TO ANY WORK THAT IMPACTS THE RIGHT-OF-WAY, CLOSING OR DETOURING OF ANY STREET, LANE, OR SIDEWALK, THE CONTRACTOR MUST APPLY FOR A PERMIT WITH RIGHT-OF-WAY SERVICES. PLEASE DIRECT ANY QUESTIONS TO RIGHTOFWAYSERVICES@RALEIGHNC.GOV.
- THE STREET, LANE, SIDEWALK, CLOSURE PERMIT IS REQUIRED FOR ANY CLOSURE ON CITY STREETS AND ALL NCDOT STREETS WITHIN RALEIGH'S JURISDICTION.
- A PERMIT REQUEST WITH A TCPED PLAN SHALL BE SUBMITTED TO RIGHT-OF-WAY SERVICES THROUGH THE CITY OF RALEIGH PERMIT AND DEVELOPMENT PORTAL.
- PRIOR TO THE START OF WORK, THE CLIENT SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE ENGINEERING INSPECTIONS COORDINATOR TO REVIEW THE SPECIFIC COMPONENTS OF THE APPROVED PLAN, AND ENSURE ALL PERMITS ARE ISSUED.
- ALL TCPED PLANS SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REQUIREMENTS AND STANDARDS, INCLUDING BUT NOT LIMITED TO:
 - MANUAL ON UNIFORM TRAFFIC CONTROL (MUTCD);
 - PUBLIC RIGHTS-OF-WAY ACCESSIBILITY GUIDELINES (PROWAG);
 - AMERICAN DISABILITY ACT (ADA) REQUIREMENTS;
 - RALEIGH STREET DESIGN MANUAL (RSDM).
- ALL PUBLIC SIDEWALKS MUST BE ACCESSIBLE TO PEDESTRIANS WHO ARE VISUALLY IMPAIRED AND/OR PEOPLE WITH MOBILITY CONCERNS. EXISTING AND ALTERNATIVE PEDESTRIAN ROUTES DURING CONSTRUCTION SHALL BE REQUIRED TO BE COMPLIANT WITH THE PUBLIC RIGHTS OF WAY ACCESSIBILITY GUIDELINES (PROWAG), THE ADA STANDARDS FOR ACCESSIBLE DESIGN AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- ALL PERMITS MUST BE AVAILABLE AND VISIBLE ON SITE DURING THE OPERATION.

THESE PLANS HAVE BEEN ELECTRONICALLY APPROVED FOR CONSTRUCTION BY THE TOWN OF WAKE FOREST ENGINEERING DEPARTMENT. THIS APPROVAL MAY NOT BE ALTERED ONCE ISSUED.

ENGINEERING

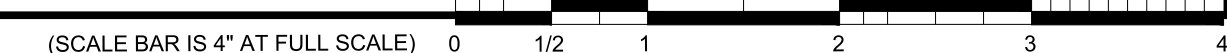
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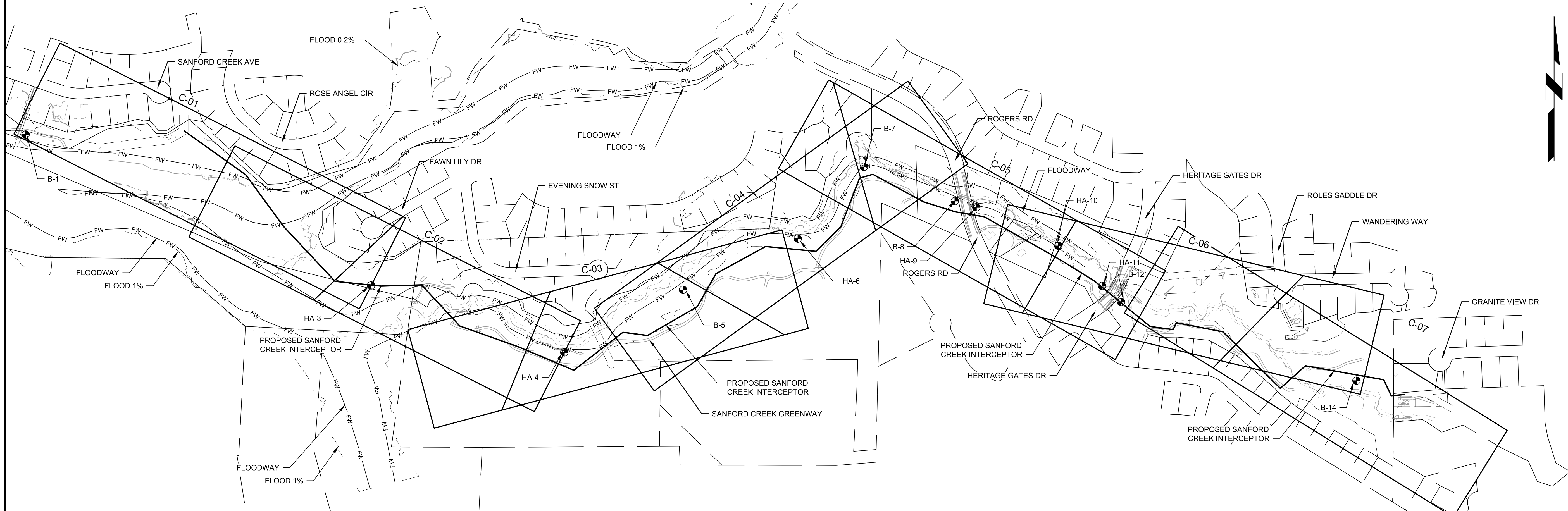
PLANNING

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CITY OF RALEIGH DEVELOPMENT APPROVAL:

RALEIGH WATER REVIEW OFFICER



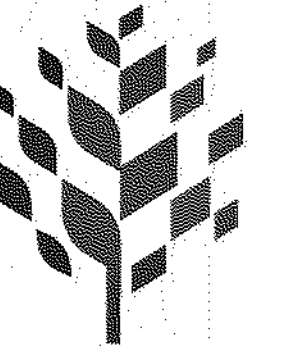


SHEET KEY PLAN
 SCALE: 1" = 250'

SCHEDULE OF SHEETS

SHT NO.	SHEET TITLE
GENERAL SHEETS	
COVER	COVER SHEET
G-01	SHEET KEY MAP AND SCHEDULE OF SHEETS
G-02	LEGEND AND ABBREVIATIONS
G-03	GENERAL NOTES
G-04	GREENWAY TRAFFIC CONTROL
G-05	CONSTRUCTION ACCESS ROADS
CIVIL SHEETS	
C-01	PLAN AND PROFILE STA 10+00 TO STA 20+00
C-02	PLAN AND PROFILE STA 20+00 TO STA 30+00
C-03	PLAN AND PROFILE STA 30+00 TO STA 40+00
C-04	PLAN AND PROFILE STA 40+00 TO STA 50+00
C-05	PLAN AND PROFILE STA 50+00 TO STA 60+00
C-06	PLAN AND PROFILE STA 60+00 TO STA 70+00
C-07	PLAN AND PROFILE STA 70+00 TO STA 79+66.43
C-08	WILLOW CREST PS DEMOLITION PLAN
DETAIL SHEETS	
D-01	CIVIL DETAILS - 1
D-02	CIVIL DETAILS - 2
D-03	CIVIL DETAILS - 3
D-04	EROSION CONTROL NOTES - 1
D-05	EROSION CONTROL NOTES - 2
D-06	EROSION CONTROL NOTES - 3
D-07	EROSION CONTROL NOTES - 4
D-08	TOWN OF WAKE FOREST DETAILS

Digitally signed by Dale Campbell
 Date: 2024.09.23 19:08:40-04'00'



Raleigh

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SHEET KEY MAP AND SCHEDULE OF SHEETS

G-01

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 OF
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ENGINEERING

THESE PLANS HAVE BEEN ELECTRONICALLY APPROVED FOR CONSTRUCTION BY THE TOWN OF WAKE FOREST PLANNING DEPARTMENT. THIS APPROVAL MAY NOT BE ALTERED ONCE ISSUED.

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CITY OF RALEIGH DEVELOPMENT APPROVAL:

RALEIGH WATER REVIEW OFFICER

ABBREVIATIONS

AH	ACCESS HATCH, AHEAD	MJ	MECHANICAL JOINT
AI	AREA INLET	MM	MILE MARKER
ALT	ALTERNATIVE(LY)	N	NORTH
ALUM	ALUMINUM	N/A	NOT APPLICABLE
APPROX	APPROXIMATE(LY)	NC	NORMALLY CLOSED
ASPH	ASPHALT	N/F	NOW OR FORMERLY
AVE	AVENUE	NO	NUMBER, NORMALLY OPEN
		NOM	NOMINAL
BF	BLIND FLANGE	NON-RJ	NON-RESTRAINED JOINT
BFV	BUTTERFLY VALVE	NTS	NOT TO SCALE
BH	BOREHOLE		
BLDG	BUILDING	OC	ON CENTER
BLK	BLOCK(ING)	OD	OUTSIDE DIAMETER
BM	BENCHMARK	OHE	OVERHEAD ELECTRIC
BOL	BEGINNING OF LINE	OPNG	OPENING
BOT	BOTTOM	OS	OFFSET
BOV	BLOW OFF VALVE	OU	OVERHEAD UTILITY
BV	BALL VALVE		
BO	BLOW OFF	PCCP	PRESTRESSED CONCRETE CYLINDER PIPE
		PE	PLAIN END
CATV	CABLE TV	P/E	PERMANENT EASEMENT
CB	CATCH BASIN	PH	PIPE HANGER
CBMH	CATCH BASIN MANHOLE	PI	POINT OF INTERSECTION
C TO C	CENTER TO CENTER	PL	PIPELINE, PLATE
CI	CAST IRON	POT	POINT ON TANGENT
CIP	CAST IRON PIPE	PP	POWER POLE
CIMH	CAST IRON MANHOLE	PRV	PRESSURE REDUCING VALVE
CISP	CAST IRON SOIL PIPE	PS	PIPE SUPPORT
CJ	CONTROL JOINT	PSF	POUNDS PER SQUARE FOOT
C/L	CENTER LINE	PSI	POUNDS PER SQUARE INCH
CMP	CORRUGATED METAL PIPE	PT	POINT, POINT OF TANGENCY
CONC	CONCRETE	PVC	POLYVINYL CHLORIDE
CONT	CONTINUE(ED), (OUS), (ATION)	PVMT	PAVEMENT
CP	CONTROL POINT, CATHODIC PROTECTION	PVT	POINT OF VERTICAL TANGENCY
CPP	CORRUGATED PLASTIC PIPE		
CSJ	CONSTRUCTION JOINT	RCP	REINFORCED CONCRETE PIPE
CTR(S)	CENTER(S)	RD	ROAD
CTRD	CENTERED	RED	REDUCE(R), (ING)
CU FT	CUBIC FEET	REG	REGULATING
CU YD	CUBIC YARD	REINF	REINFORCEMENT
CV	CHECK VALVE	REQD	REQUIRED
		RJ	RESTRAINED JOINT
DEG	DEGREE	RR	RAILROAD
DEFL	DEFLECTION	RT	RIGHT
DI	DROP INLET	R/W	RIGHT OF WAY
DIA	DIAMETER		
DIM	DIMENSION	S	SOUTH
DIP	DUCTILE IRON PIPE	SCGS	STATE COORDINATE GRID SYSTEM
DN	DOWN	SCHED	SCHEDULE
DR	DRAIN	SD	STORM DRAIN
DWL(S)	DOWEL(S)	SF	SQUARE FEET, SILT FENCE
		SH	SHEET
E	EAST, ELECTRIC	SL, SL	SURVEY LINE
EA	EACH	SQ	SQUARE
ECC	ECCENTRIC	SS	SANITARY SEWER, STAINLESS STEEL
ECC RED	ECCENTRIC REDUCER	SSMH	SANITARY SEWER MANHOLE
EF	EACH FACE	ST	STREET
EJ	EXPANSION JOINT	STA	STATION
EL,ELEV	ELEVATION	STD	STANDARD
E/L	EASEMENT LINE	STL	STEEL
ELEC	ELECTRIC(AL)	SW	SIDEWALK
EMH	ELECTRICAL MANHOLE	SY	SQUARE YARD
EOL	END OF LINE		
E/P	EDGE OF PAVEMENT	T,TELE	TELEPHONE
EQ	EQUAL	T&B	TOP AND BOTTOM
EQUIP	EQUIPMENT	TBM	TEMPORARY BENCH MARK
EW	EACH WAY	TEMP	TEMPORARY
EXP JT	EXPANSION JOINT	T/E	TEMPORARY/CONSTRUCTION EASEMENT
EXIST	EXISTING	TOB	TOP OF BANK
EXT	EXTERIOR	TOG	TOP OF GRADE
		TRANS	TRANSITION
FCA	FLANGED COUPLING ADAPTOR	TS&V	TAPPING SLEEVE AND VALVE
FH	FIRE HYDRANT	TYP	TYPICAL
FLG	FLANGE		
FOC	FIBER OPTIC CABLE	UE	UNDERGROUND ELECTRIC
FT	FOOT	UGG	UNDERGROUND NATURAL GAS
		UNK,UNKN	UNKNOWN
G	GAS	UT	UNDERGROUND TELEPHONE
GA	GAUGE		
GR	GRADE	V	VALVE, VENT
GV	GATE VALVE, GAS VALVE	VCP	VITRIFIED CLAY PIPE
		VERT	VERTICAL
HB	HORIZONTAL BEND		
HH	HANDHOLE	W	EXISTING WATER LINE, WEST, WIRE
HMC	HARNESSED MECHANICAL COUPLING	W/	WITH
HMJ	HARNESSED MECHANICAL JOINT	WL	WATERLINE
HORIZ	HORIZONTAL	WM	WATER METER
HWY	HIGHWAY	WV	WATER VALVE
ID	INSIDE DIAMETER	X	BY, TIMES
IE	INVERT ELEVATION	&	AND
IN	INCHES	@	AT
INV	INVERT	<	DEFLECTION ANGLE
IPF	IRON PIN FOUND	#	NUMBER
		%	PERCENT
JB	JUNCTION BOX		
JT(S)	JOINT(S)		
K	KIPS		
L	LEFT		
LA	LINE AHEAD		
LB	LINE BACK		
LB(S)	POUND(S)		
LF	LINEAR FEET		
LP	LIGHT POLE, LOW POINT		
LOD	LIMITS OF DISTURBANCE		
LS	LOW STRINGER		
LT	LINE, LEFT		
MAX	MAXIMUM		
MB	METAL BOX, MAIL BOX		
MC	MECHANICAL COUPLING		
MED	MEDIAN		
MFR	MANUFACTURER		
MH	MANHOLE		
MIN	MINIMUM		
MISC	MISCELLANEOUS		

GENERAL LEGEND

	EXISTING		EXISTING
	SURVEY CONTROL POINT		UNDERGROUND FIBER OPTIC LINE
	SANITARY MANHOLE		TREELINE
	SANITARY CLEANOUT		SHRUB / HEDGE LINE
	SANITARY MANHOLE VENT		MINOR CONTOUR
	CATCH BASIN (CB)		MAJOR CONTOUR
	CURB BASIN (CI)		FENCELINE
	STORM DRAIN MANHOLE (DMH)		100 YEAR FLOODPLAIN
	STORM DRAIN INLET (DI)		FLOODWAY
	WATER VALVE		BOTTOM OF BANK
	WATER METER		TOP OF BANK
	WELL		NEUSE RIPARIAN BUFFER ZONE 1
	HYDRANT		NEUSE RIPARIAN BUFFER ZONE 2
	LIGHT POLE		ASPHALT CONCRETE PAVEMENT
	GUY WIRE		CONCRETE
	UTILITY POLE		WETLANDS
	ELECTRIC MANHOLE		PROPOSED TEMPORARY DIVERSION DITCH
	ELECTRIC PEDESTAL		SANITARY SEWER MANHOLE
	TELEPHONE PEDESTAL		BORE HOLE AND NUMBER
	FIBER OPTIC HAND HOLE		PROPOSED SANITARY SEWER INTERCEPTOR
	TRAFFIC CONTROL BOX		SILT FENCE OUTLET
	COMMUNICATION PEDESTAL		SANITARY SEWER EASEMENT
	SIGN		LIMITS OF DISTURBANCE / TEMPORARY EASEMENT
	GREENWAY MILE MARKER		SANITARY SEWER EASEMENT / LIMITS OF DISTURBANCE
	WARNING POST		TEMPORARY CONSTRUCTION EASEMENT
	CONIFEROUS TREE		LIMITS OF DISTURBANCE
	DECIDUOUS TREE		TEMPORARY CONSTRUCTION EASEMENT
	SHRUB		LIMITS OF DISTURBANCE
	CORRUGATED PLASTIC PIPE		TEMPORARY SILT/TREE PROTECTION FENCE
	CORRUGATED METAL PIPE		TREE PROTECTION FENCE
	REINFORCED CONCRETE PIPE		FENCE
	POLYVINYL CHLORIDE PIPE		EXISTING CITY OF RALEIGH TREE CONSERVATION EASEMENT
	REDUCED PRESSURE ZONE		RIPRAP
	PROPERTY LINE SURVEYED		EROSION CONTROL MATT
	PROPERTY LINE NOT SURVEYED		PROPOSED SOIL
	PROPERTY LINE PER GIS		
	RIGHT-OF-WAY LINES PER GIS		
	EASEMENT LINE		
	SANITARY SEWER INTERCEPTOR		
	SANITARY SEWER LINE		
	OVERHEAD UTILITY LINE		
	UNDERGROUND ELECTRIC LINE		
	UNDERGROUND GAS LINE		
	UNDERGROUND WATER LINE		

NOTES:
 1. THIS IS A GENERAL LEGEND AND ABBREVIATIONS SHEET. SOME SYMBOLS AND ABBREVIATIONS MAY NOT BE UTILIZED ON THIS SPECIFIC PROJECT.

Digitally signed by
 D. Lee Campbell
 Date: 2024.09.23
 19:08:48 -0400



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GENERAL

**LEGEND AND
 ABBREVIATIONS**

G-02

3
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ENGINEERING

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CITY OF RALEIGH DEVELOPMENT APPROVAL:

RALEIGH WATER REVIEW OFFICER

GENERAL NOTES:

- THE PROJECTED 100 YEAR FLOOD ELEVATION IS SHOWN ON THE DRAWINGS.
- EXISTING UTILITIES AND STRUCTURES (UNDERGROUND, SURFACE, OR OVERHEAD) ARE INDICATED ONLY TO THE EXTENT THAT SUCH INFORMATION WAS KNOWN, OR MADE AVAILABLE TO, OR DISCOVERED BY THE ENGINEER IN PREPARING THE DRAWINGS. THE LOCATIONS, CONFIGURATIONS, AND ELEVATIONS OF SUBSURFACE FACILITIES AND UTILITIES ARE APPROXIMATE, AND NOT ALL UTILITIES AND FACILITIES MAY BE INDICATED. OVERHEAD UTILITIES ARE NOT INDICATED IN PROFILE OR SECTION DRAWINGS.
- "SCREENED" (LIGHT) DELINEATION INDICATED ON THE DRAWINGS DENOTES EXISTING FACILITIES. "SCREENED" INFORMATION WAS TAKEN FROM EXISTING CONSTRUCTION DRAWINGS AND DATA AND SURVEYS, IS FOR REFERENCE ONLY, AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO THE ORDERING OF MATERIALS AND BEGINNING OF CONSTRUCTION. "BOLD" DELINEATION IS NEW WORK TO BE CONSTRUCTED UNDER THIS CONTRACT.
- STAGING AND LAYDOWN AREAS ARE SHOWN ON THE DRAWINGS. ANY AREAS USED OUTSIDE OF THOSE SHOWN ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- CALL BEFORE YOU DIG. CONTRACTOR SHALL DETERMINE ACCURATE LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND STRUCTURES, WHETHER INDICATED ON THE DRAWINGS OR NOT, IN THE FIELD IN ADVANCE OF EXCAVATING, BY CONTACTING ALL UTILITIES AND OTHER AGENCIES, AND BY PROSPECTING. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL, DEMOLITION, RECONSTRUCTION, AND RECONNECTION OF EXISTING FACILITIES AS REQUIRED TO COMPLETE THE WORK. IF REQUIRED AFTER FIELD LOCATION AND VERIFICATION, CONTRACTOR SHALL COORDINATE WITH THE ENGINEER TO DETERMINE ANY NECESSARY MODIFICATIONS TO THE DESIGN OF NEW WORK.
- BEFORE CONSTRUCTION IS STARTED, CONTRACTOR SHALL COORDINATE WITH THE OWNER OF EACH UTILITY AND DEFINE THE REQUIREMENTS AND METHODS TO ACCOMMODATE THE PROTECTION, TEMPORARY SUPPORT, ADJUSTMENT, OR RELOCATION OF ANY UTILITIES AFFECTED BY THE PROPOSED NEW WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL PROPERTY CORNERS AND SURVEYING CONTROL MARKERS AND MONUMENTS. MONUMENTS DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE REESTABLISHED BY A PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF NORTH CAROLINA.
- THE LOCATION OF GEOTECHNICAL BORINGS INDICATED ON THE DRAWINGS ARE APPROXIMATE. CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT INCLUDED AS AN APPENDIX IN THE PROJECT SPECIFICATIONS FOR ACTUAL BORINGS AND TEST HOLE LOCATIONS AND THE FINDINGS OF THE GEOTECHNICAL INVESTIGATIONS.
- THE LIMITS OF DISTURBANCE ARE THE ROAD RIGHTS-OF-WAY AND EASEMENTS (EXISTING, PROPOSED AND TEMPORARY). THE CONTRACTOR SHALL NOTIFY THE NCDOT AT LEAST 48 HOURS PRIOR TO BEGINNING ANY WORK WITHIN NCDOT RIGHTS-OF-WAY. IF ADDITIONAL LAND IS REQUIRED FOR BORROW OR WASTE, MATERIAL LAY-DOWN OR STAGING AREAS IN ADDITION TO ANY SHOWN ON THE DRAWINGS, THEN THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING THESE LANDS AND EROSION CONTROL PERMIT.
- CONTRACTOR SHALL CLEAR EVERYTHING WITHIN THE EXISTING, TEMPORARY, AND PERMANENT EASEMENTS.
- CONTRACTOR SHALL INSTALL ALL PIPELINES, PAVING, WALKWAYS, AND CURB AND GUTTER AT A UNIFORM GRADE BETWEEN ELEVATIONS DEPICTED ON THE DRAWINGS.
- FOR ALL SITE GRADING, SMOOTH PARABOLIC TRANSITIONS SHALL BE MADE BETWEEN CHANGES IN SLOPE, UNLESS NOTED OTHERWISE IN THE DRAWINGS. PARABOLIC ROUNDING SHALL APPLY TO ALL CUT AND FILL SECTIONS.
- THE CONTRACTOR'S CONSTRUCTION OPERATIONS SHALL CONFORM TO FEDERAL, STATE, AND LOCAL AGENCY SAFETY AND HEALTH RULES AND REGULATIONS FOR EXCAVATION AND TRENCHING, CONFINED SPACE ENTRY, WORK IN HAZARDOUS LOCATIONS, WORK AT HEIGHTS, AIR QUALITY CONTROL, NOISE CONTROL, TRAFFIC CONTROL, AND ANY OTHER POTENTIALLY HAZARDOUS CONDITIONS.
- STRUCTURES SUCH AS CURBS AND GUTTERS, CONCRETE AND ASPHALT DRIVES AND WALKWAYS, PAVING BRICKS, FENCING, RETAINING WALLS, ETC., CROSSED BY PIPELINES ARE NOT ALL INDICATED IN PROFILE. CONTRACTOR SHALL RESTORE ANY EXISTING STRUCTURES THAT ARE DISTURBED, DAMAGED, OR REMOVED BY CONSTRUCTION.
- CONTRACTOR SHALL REPLACE EXISTING PIPE CULVERTS THAT ARE REMOVED TO INSTALL NEW PIPELINES WITH NEW PIPE CULVERTS OF THE SAME SIZE, MATERIAL AND CONSTRUCTION AT THE SAME LOCATION AND INVERT ELEVATION AS THOSE THAT WERE REMOVED, AND SHAPE THE DITCH TO DRAIN WITH THE REPLACED CULVERT. CONTRACTOR SHALL PROVIDE ANY TEMPORARY CULVERTS THAT MAY BE REQUIRED FOR CONTRACTOR'S OPERATIONS. CONTRACTOR SHALL COORDINATE REMOVAL AND REPLACEMENT OF ANY CULVERTS WITHIN PUBLIC RIGHT-OF-WAY WITH THE REGULATING AGENCY.
- HORIZONTAL STATIONING ALONG PIPELINE ALIGNMENTS IS A HORIZONTAL MEASUREMENT.
- CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY OR PERMANENT SUPPORT AND RELOCATION OF EXISTING OVERHEAD UTILITIES (INCLUDING BUT NOT LIMITED TO, POLES, GUY WIRES, AND WIRES) THAT ARE SHOWN OR NOT SHOWN ON THE DRAWINGS AS PART OF CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE RESPECTIVE UTILITY COMPANIES REGARDING SUPPORT OR RELOCATION OF UTILITIES. ALL COST ASSOCIATED WITH THE FOREMENTIONED ACTIVITIES SHALL BE AT THE CONTRACTOR'S EXPENSE.
- ALL CONSTRUCTION SHALL ADHERE TO THE CITY OF RALEIGH STANDARD SPECIFICATIONS FOR SANITARY SEWER CONSTRUCTION AND AS SHOWN ON THE DRAWINGS AND AS SPECIFIED. IN THE EVENT OF A CONFLICT WITH THE CONTRACT DOCUMENTS, THE MORE STRINGENT REQUIREMENT SHALL PREVAIL.
- CONTRACTOR SHALL USE CAUTION IN OPERATING EQUIPMENT OVER EXISTING SEWERS. ANY DAMAGE TO SEWER SHALL BE REPAIRED BY CONTRACTOR AT NO ADDITIONAL COST TO OWNER. CONTRACTOR IS ENCOURAGED TO KEEP HEAVY EQUIPMENT OFF OF EXISTING LINE AREAS OF SHALLOW COVER (LESS THAN 3' DEEP).
- UPON COMPLETION OF CONSTRUCTION, CONTRACTOR TO RESTORE ALL DISTURBED AREAS TO ORIGINAL GRADE.
- PROVIDE RIPRAP STONE TO STABILIZE STREAM OR CREEK AT SEWER LINE CROSSING AS INDICATED. RIPRAP STONE SHALL BE PLACED FROM TOP OF BANK TO TOP OF BANK TO DEPTH AS DETAILED.
- ALL NEW SEWER MAIN AND MANHOLES SHALL HAVE TRACER WIRE INSTALLED PER THE DETAILS.
- UNDER NCGS 70 29-33 THE UNMARKED HUMAN BURIAL AND HUMAN SKELETAL REMAINS PROTECTION ACT ANY INADVERTENT DISCOVERY OF HUMAN BURIAL OR SKELETAL REMAINS REQUIRES THAT WORK STOP IMMEDIATELY AND PROCEDURE OUTLINED UNDER THE GENERAL STATUTE BE FOLLOWED.

SURVEY NOTES:

- SURVEY COMPLETED BY STEWART IN 2023.
- PROPERTY LINES SHOWN ARE BASED ON WAKE COUNTY GIS AND WERE NOT SURVEYED UNLESS OTHERWISE DENOTED BY THE LINETYPE.
- HORIZONTAL DATUM IS NAD 83 (2011) AND VERTICAL DATUM IS NAVD 88, BASED ON GPS OBSERVATIONS AND RTK SOLUTIONS FROM THE NC VRS NETWORK.
- ALL DISTANCES SHOWN ARE HORIZONTAL GRID DISTANCES IN US SURVEY FEET UNLESS NOTED OTHERWISE.
- THE SUBJECT PROPERTIES LIE IN A SPECIAL FLOOD HAZARD AREA PER THE NATIONAL FLOOD INSURANCE RATE MAP 3720174900K & 3720175900K, DATED 7/19/2022. FLOOD HAZARD LINES SHOWN ARE TAKEN FROM THE NORTH CAROLINA FLOOD RISK INFORMATION SYSTEM (FRIS.NC.GOV).
- UNDERGROUND UTILITIES SHOWN HEREON WERE MARKED THROUGH THE NORTH CAROLINA 811 SYSTEM.

STANDARD UTILITY NOTES (AS APPLICABLE):

- ALL MATERIALS & CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH DESIGN STANDARDS, DETAILS & SPECIFICATIONS (REFERENCE: CORPUD HANDBOOK, CURRENT EDITION).
- UTILITY SEPARATION REQUIREMENTS:
 - A DISTANCE OF 100' SHALL BE MAINTAINED BETWEEN SANITARY SEWER & ANY PRIVATE OR PUBLIC WATER SUPPLY SOURCE SUCH AS AN IMPOUNDED RESERVOIR USED AS A SOURCE OF DRINKING WATER. IF ADEQUATE LATERAL SEPARATION CANNOT BE ACHIEVED, FERROUS SANITARY SEWER PIPE SHALL BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS. HOWEVER, THE MINIMUM SEPARATION SHALL NOT BE LESS THAN 25' FROM A PRIVATE WELL OR 50' FROM A PUBLIC WELL.
 - WHEN INSTALLING WATER &/OR SEWER MAINS, THE HORIZONTAL SEPARATION BETWEEN UTILITIES SHALL BE 10'. IF THIS SEPARATION CANNOT BE MAINTAINED DUE TO EXISTING CONDITIONS, THE VARIATION ALLOWED IS THE WATER MAIN IN A SEPARATE TRENCH WITH THE ELEVATION OF THE WATER MAIN AT LEAST 18" ABOVE THE TOP OF THE SEWER & MUST BE APPROVED BY THE PUBLIC UTILITIES DIRECTOR. ALL DISTANCES ARE MEASURED FROM OUTSIDE DIAMETER TO OUTSIDE DIAMETER.
 - WHERE IT IS IMPOSSIBLE TO OBTAIN PROPER SEPARATION, OR ANYTIME A SANITARY SEWER PASSES OVER A WATER MAIN, DIP MATERIALS OR STEEL ENCASUREMENT EXTENDED 10' ON EACH SIDE OF CROSSING MUST BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS.
 - 5.0' MINIMUM HORIZONTAL SEPARATION IS REQUIRED BETWEEN ALL SANITARY SEWER & STORM SEWER FACILITIES, UNLESS DIP MATERIAL IS SPECIFIED FOR SANITARY SEWER.
 - MAINTAIN 18" MIN. VERTICAL SEPARATION AT ALL WATER MAIN & RCP STORM DRAIN CROSSINGS; MAINTAIN 18" MIN. VERTICAL SEPARATION AT ALL SANITARY SEWER & RCP STORM DRAIN CROSSINGS. WHERE ADEQUATE SEPARATIONS CANNOT BE ACHIEVED, SPECIFY DIP MATERIALS & A CONCRETE CRADLE HAVING 6" MIN. CLEARANCE (PER CORPUD DETAILS W- 41 & S-49).
 - ALL OTHER UNDERGROUND UTILITIES SHALL CROSS WATER & SEWER FACILITIES WITH 18" MIN. VERTICAL SEPARATION REQUIRED.
- ANY NECESSARY FIELD REVISIONS ARE SUBJECT TO REVIEW & APPROVAL OF AN AMENDED PLAN &/OR PROFILE BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT PRIOR TO CONSTRUCTION.
- DEVELOPER SHALL PROVIDE 30 DAYS ADVANCE WRITTEN NOTICE TO OWNER FOR ANY WORK REQUIRED WITHIN AN EXISTING CITY OF RALEIGH UTILITY EASEMENT TRAVERSING PRIVATE PROPERTY.
- CONTRACTOR SHALL MAINTAIN CONTINUOUS WATER & SEWER SERVICE TO EXISTING RESIDENCES & BUSINESSES THROUGHOUT CONSTRUCTION OF PROJECT. ANY NECESSARY SERVICE INTERRUPTIONS SHALL BE PRECEDED BY A 24-HOUR ADVANCE NOTICE TO THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT.
- SEWER BYPASS PUMPING – A BYPASS PLAN SEALED BY AN NC PROFESSIONAL ENGINEER SHALL BE PROVIDED TO RALEIGH WATER PRIOR TO PUMPING OPERATIONS FOR APPROVAL. THE OPERATIONS AND EQUIPMENT SHALL COMPLY WITH THE PUBLIC UTILITIES HANDBOOK.
- 3.0' MINIMUM COVER IS REQUIRED ON ALL WATER MAINS & SEWER FORCE MAINS. 4.0' MINIMUM COVER IS REQUIRED ON ALL REUSE MAINS.
- IT IS THE DEVELOPER'S RESPONSIBILITY TO ABANDON OR REMOVE EXISTING WATER & SEWER SERVICES NOT BEING USED IN REDEVELOPMENT OF A SITE UNLESS OTHERWISE DIRECTED BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT. THIS INCLUDES ABANDONING TAP AT MAIN & REMOVAL OF SERVICE FROM ROW OR EASEMENT PER CORPUD HANDBOOK PROCEDURE.
- INSTALL ¾" COPPER* WATER SERVICES WITH METERS LOCATED AT ROW OR WITHIN A 2'X2' WATERLINE EASEMENT IMMEDIATELY ADJACENT. NOTE: IT IS THE APPLICANT'S RESPONSIBILITY TO PROPERLY SIZE THE WATER SERVICE FOR EACH CONNECTION TO PROVIDE ADEQUATE FLOW & PRESSURE.
- INSTALL 4" PVC* SEWER SERVICES @ 1.0% MINIMUM GRADE WITH CLEANOUTS LOCATED AT ROW OR EASEMENT LINE & SPACED EVERY 75 LINEAR FEET MAXIMUM.
- PRESSURE REDUCING VALVES ARE REQUIRED ON ALL WATER SERVICES EXCEEDING 80 PSI; BACKWATER VALVES ARE REQUIRED ON ALL SANITARY SEWER SERVICES HAVING BUILDING DRAINS LOWER THAN 1.0' ABOVE THE NEXT UPSTREAM MANHOLE.
- ALL ENVIRONMENTAL PERMITS APPLICABLE TO THE PROJECT MUST BE OBTAINED FROM NCDWQ, USACE &/OR FEMA FOR ANY RIPARIAN BUFFER, WETLAND &/OR FLOODPLAIN IMPACTS (RESPECTIVELY) PRIOR TO CONSTRUCTION.
- NCDOT / RAILROAD ENCROACHMENT AGREEMENTS ARE REQUIRED FOR ANY UTILITY WORK (INCLUDING MAIN EXTENSIONS & SERVICE TAPS) WITHIN STATE OR RAILROAD ROW PRIOR TO CONSTRUCTION.
- GREASE INTERCEPTOR / OIL WATER SEPARATOR SIZING CALCULATIONS & INSTALLATION SPECIFICATIONS SHALL BE APPROVED BY THE RW FOG PROGRAM COORDINATOR PRIOR TO ISSUANCE OF A UC AND/OR BUILDING PERMIT. CONTACT (919) 996-4516 OR FOG@RALEIGHNC.GOV FOR MORE INFORMATION.
- CROSS-CONNECTION CONTROL PROTECTION DEVICES ARE REQUIRED BASED ON THE DEGREE OF HEALTH HAZARD INVOLVED AS LISTED IN APPENDIX B OF THE RULES GOVERNING PUBLIC WATER SYSTEMS IN NORTH CAROLINA.
- THE DEVICES SHALL MEET THE AMERICAN SOCIETY OF SANITARY ENGINEERING (SAEE) STANDARDS AND BE ON THE UNIVERSITY OF SOUTHERN CALIFORNIA APPROVAL LIST.
- THE DEVICE AND INSTALLATION SHALL MEE THE GUIDELINES OF APPENDIX A – GUIDELINES AND REQUIREMENTS FOR THE CROSS CONNECTION PROGRAM IN RALEIGH'S SERVICE AREA.
- THE DEVICES SHALL BE INSTALLED AND TESTED (BOTH, INITIAL AND PERIODIC TESTING THEREAFTER) IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS OR THE LOCAL CROSS CONNECTION CONTROL PROGRAM, WHICHEVER IS MORE STRINGENT. CONTACT CROSS.CONNECTION@RALEIGHNC.GOV FOR MORE INFORMATION.
- NOTICE FOR PROJECTS THAT INVOLVE AN OVERSIZED MAIN OR URBAN MAIN REPLACEMENT. ANY CITY REIMBURSEMENT GREATER THAN \$250,000.00 MUST UNDERGO THE PUBLIC BIDDING PROCESS.

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ENGINEERING

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PLANNING

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CITY OF RALEIGH DEVELOPMENT APPROVAL:

RALEIGH WATER REVIEW OFFICER



Black & Veatch International Company
Business License No. F-0794
175 Regency Wood Place, Suites 200 & 300
Cary, North Carolina 27518

Digitally signed
by D. Lee
Campbell
Date: 2024.09.23
19:08:44 -0400



Raleigh

SANFORD CREEK SEWER INTERCEPTOR

PRELIMINARY NOT FOR CONSTRUCTION

REVISIONS AND RECORD OF ISSUE

DESIGNED:	JG
DETAILED:	FLL, KTH
CHECKED:	
APPROVED:	
DATE:	JULY 2024
PROJECT NO.:	415285

SANFORD CREEK SEWER INTERCEPTOR

GENERAL

GENERAL NOTES

G-03

4 OF 22

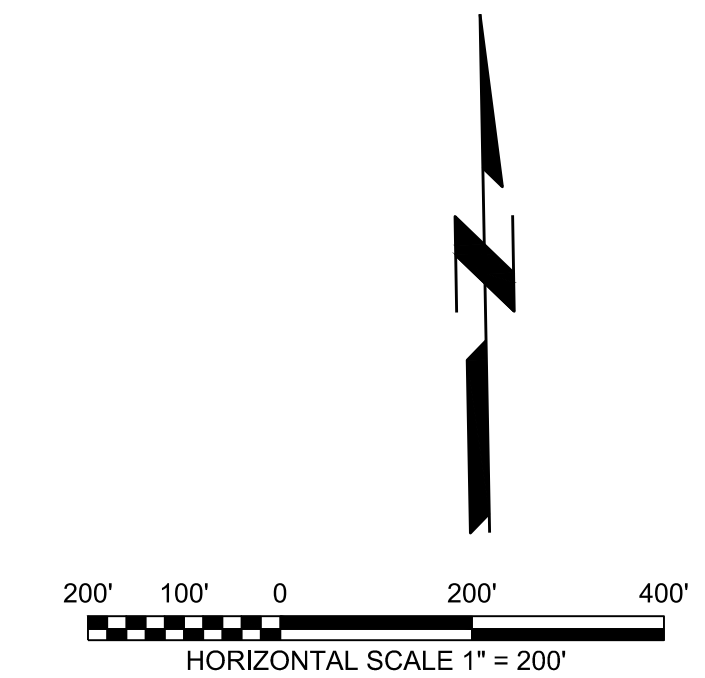


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**PLAN
 GREENWAY TRAFFIC CONTROL**
 SCALE: 1" = 200'



SIGN KEY PLAN	
(A)	
(B)	
(C)	
(D)	
(E)	

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 D. Lee Campbell
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 19:08:41 -0400



Raleigh

SANFORD CREEK SEWER
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SANFORD CREEK SEWER
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GENERAL

**GREENWAY TRAFFIC
 CONTROL**

G-04

5
 OF
 22

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ENGINEERING

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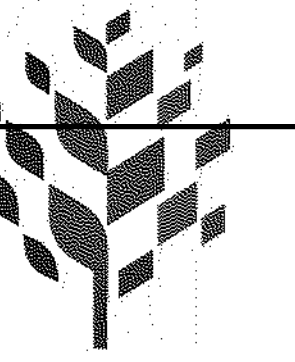
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CITY OF RALEIGH DEVELOPMENT APPROVAL:

RALEIGH WATER REVIEW OFFICER

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 D. Lee Campbell
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Raleigh

SANFORD CREEK SEWER
 INTERCEPTOR

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PROJECT NO.:	415285

SANFORD CREEK SEWER
 INTERCEPTOR

GENERAL

**FREEMAN FARM WAY
 CONSTRUCTION ACCESS**

G-05

6
 OF
 22



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**PLAN
 CONSTRUCTION ACCESS ROADS**
 SCALE: 1"=150'



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ENGINEERING

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PLANNING

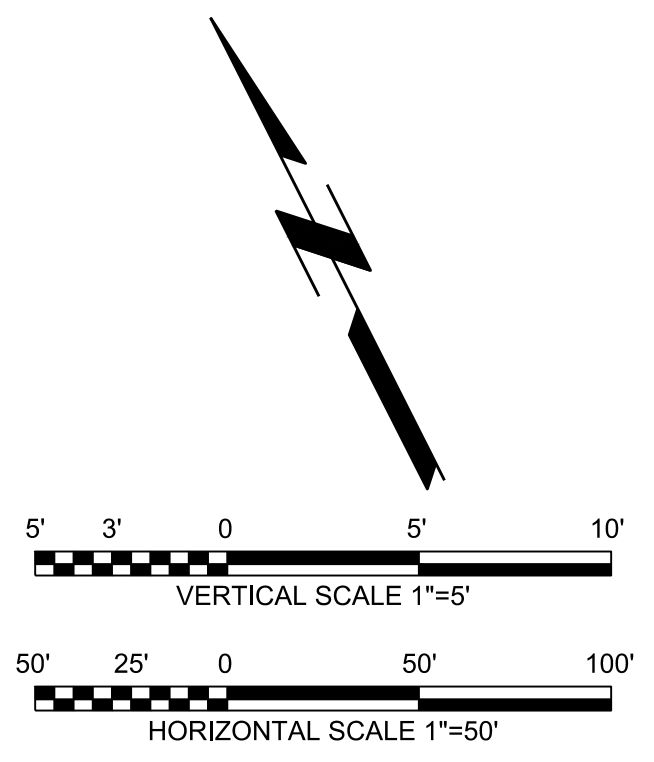
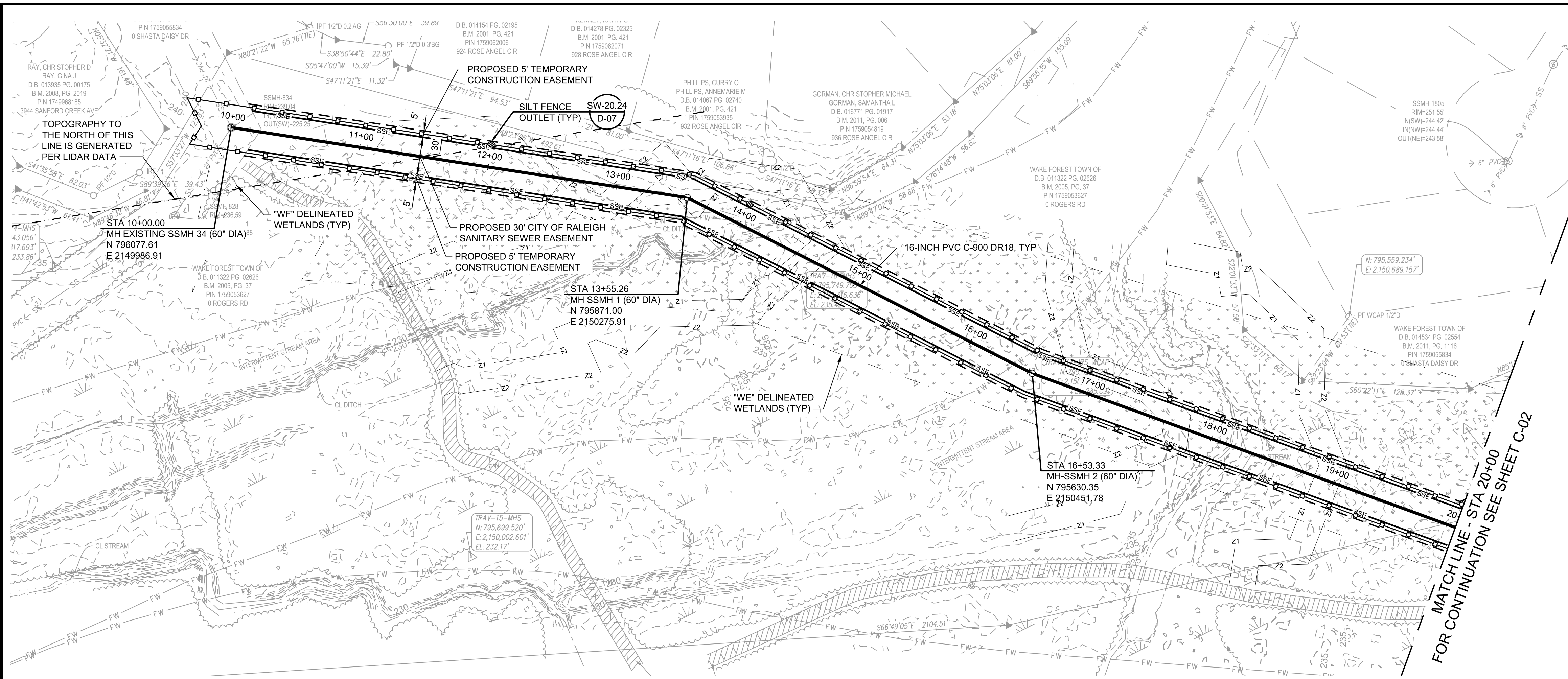
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CITY OF RALEIGH DEVELOPMENT APPROVAL:

RALEIGH WATER REVIEW OFFICER



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- NOTES:**
- TOWN OF WAKE FOREST JURISDICTION ENDS AT STATION 23+75. TOWN ROLESVILLE BEGINS AT 23+75 TO 69+66.
 - ALL NEW MANHOLES FOR THIS PROJECT TO RECEIVE INTERIOR EPOXY COATING IN ACCORDANCE WITH SPECIFICATIONS.

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 by D. Lee Campbell
 Date: 2024.09.23 19:08:41 -0400



SANFORD CREEK SEWER INTERCEPTOR

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APPROVED:	
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PROJECT NO.:	415285

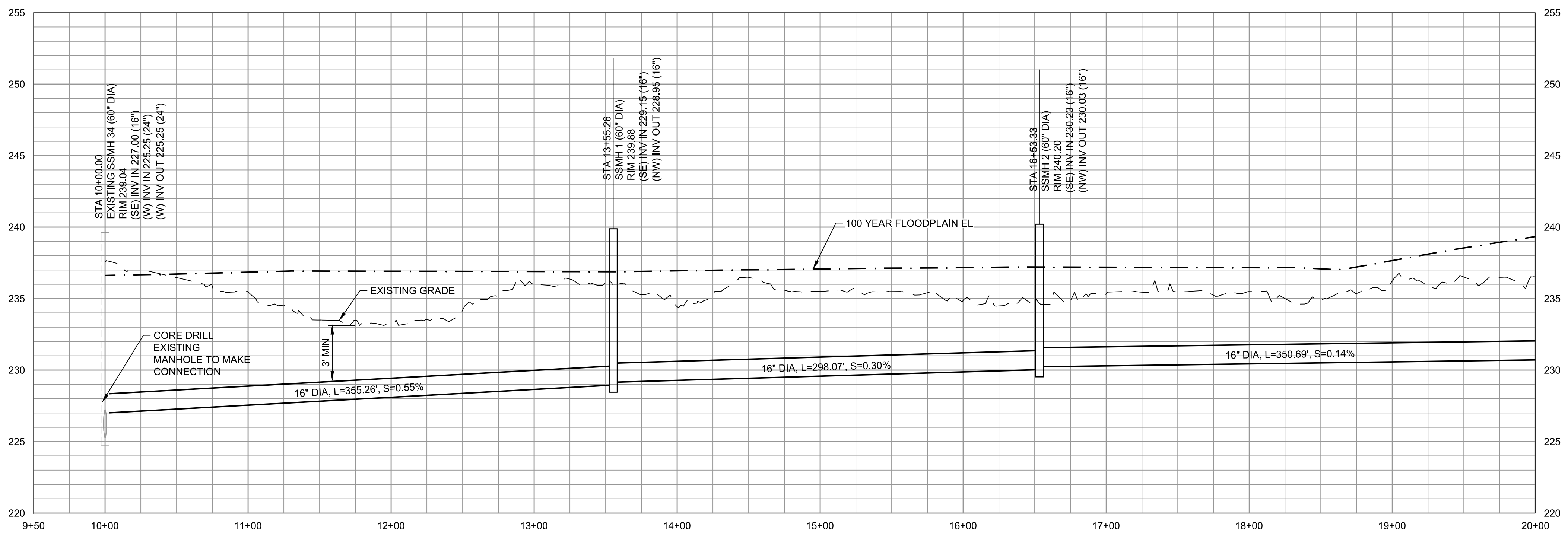
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CIVIL

PLAN AND PROFILE STA 10+00 TO STA 20+00

C-01

7 OF 22



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ENGINEERING _____

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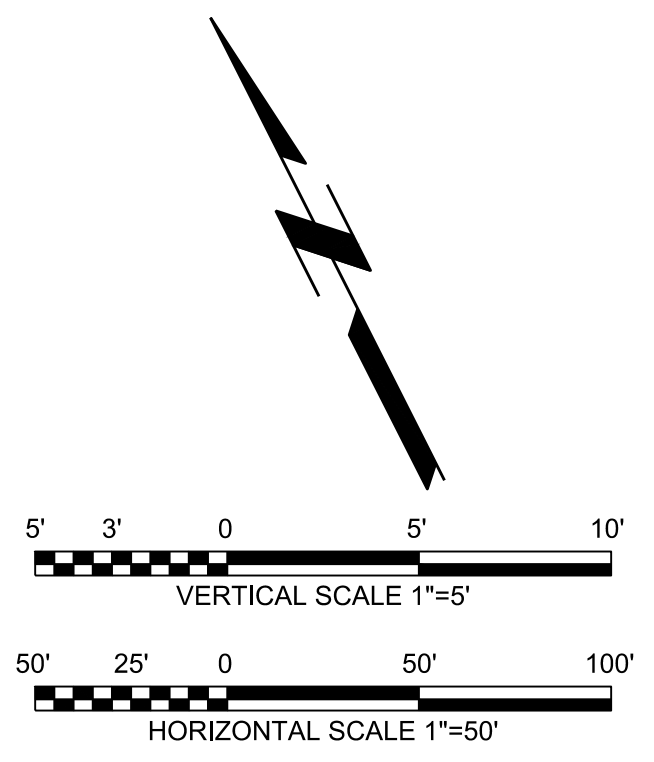
PLANNING _____

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CITY OF RALEIGH DEVELOPMENT APPROVAL: _____

RALEIGH WATER REVIEW OFFICER _____

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NOTES:

- TOWN OF WAKE FOREST JURISDICTION ENDS AT STATION 23+75. TOWN ROLESVILLE BEGINS AT 23+75 TO 69+66.

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Raleigh

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PROJECT NO.:	415285

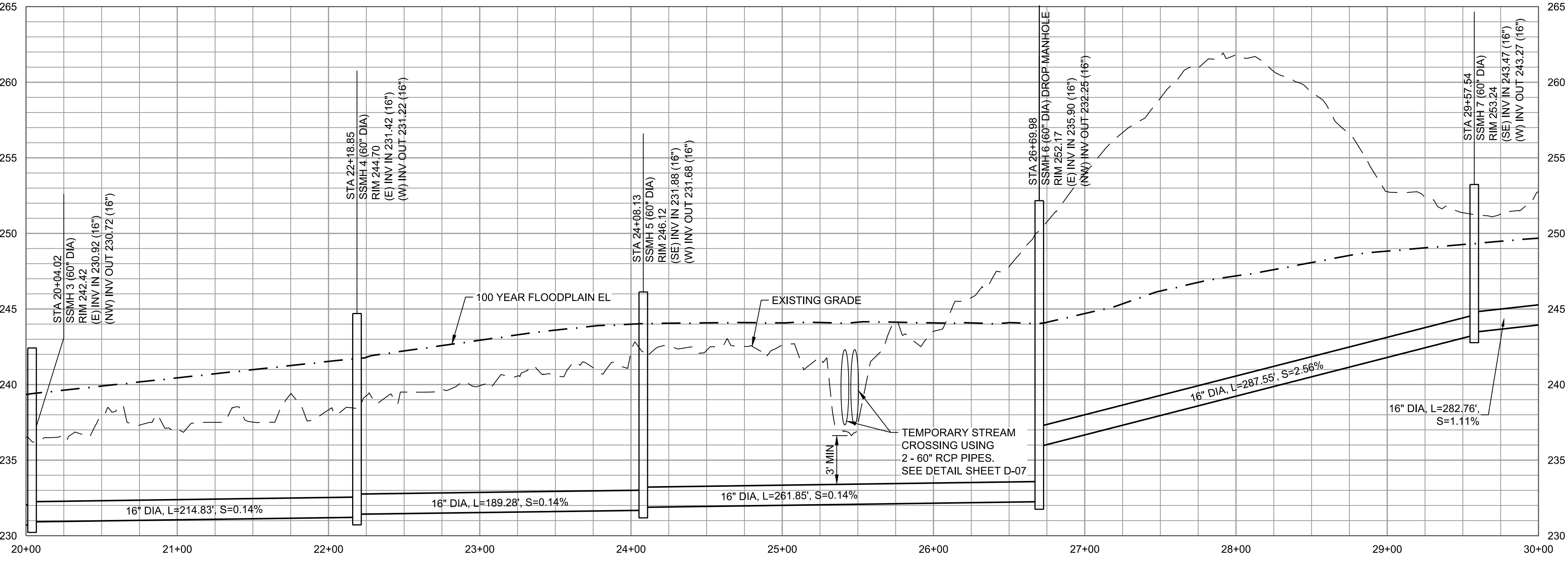
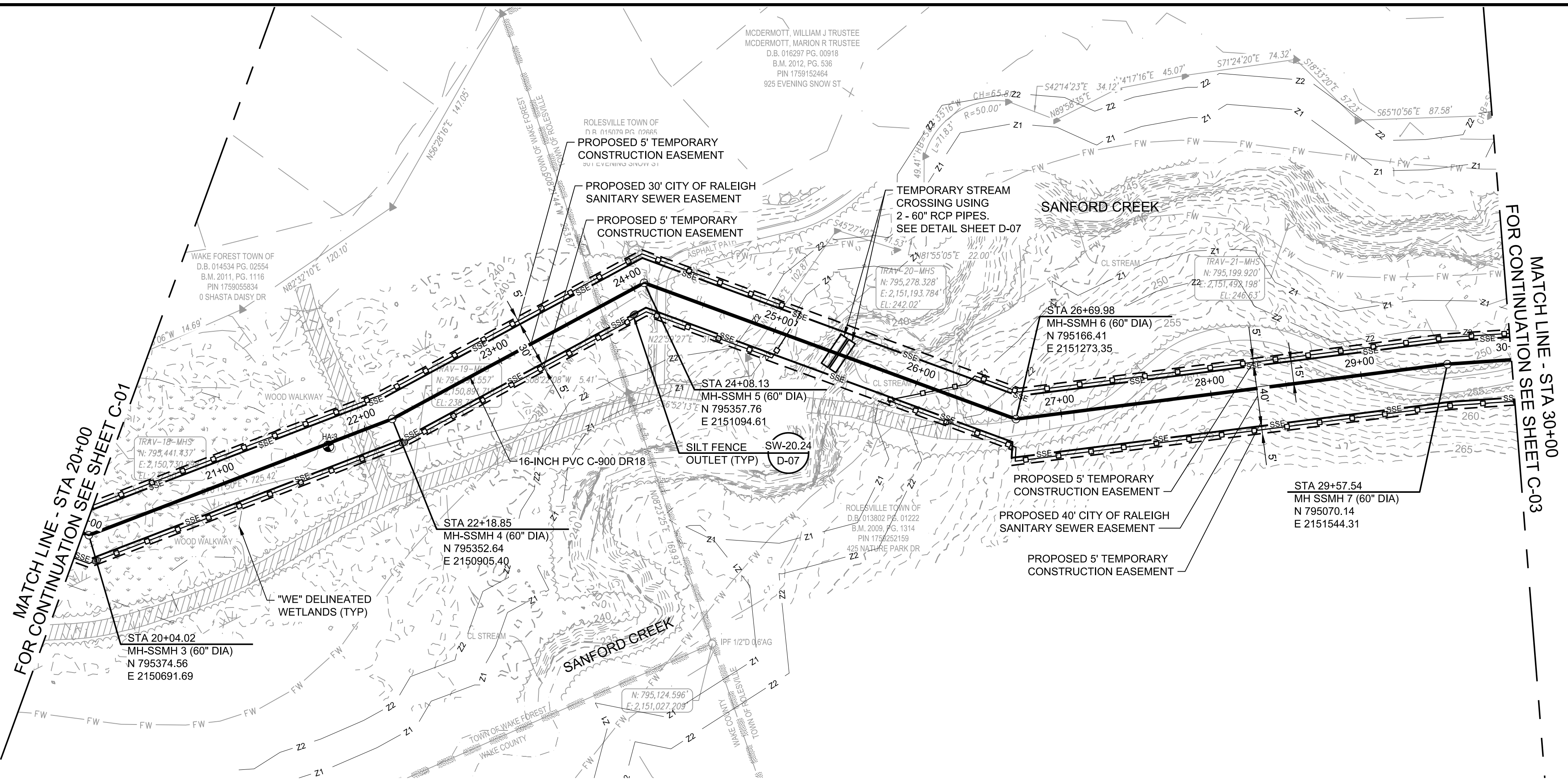
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CIVIL

PLAN AND PROFILE STA 20+00 TO STA 30+00

C-02

8
 OF
 22



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PLANNING

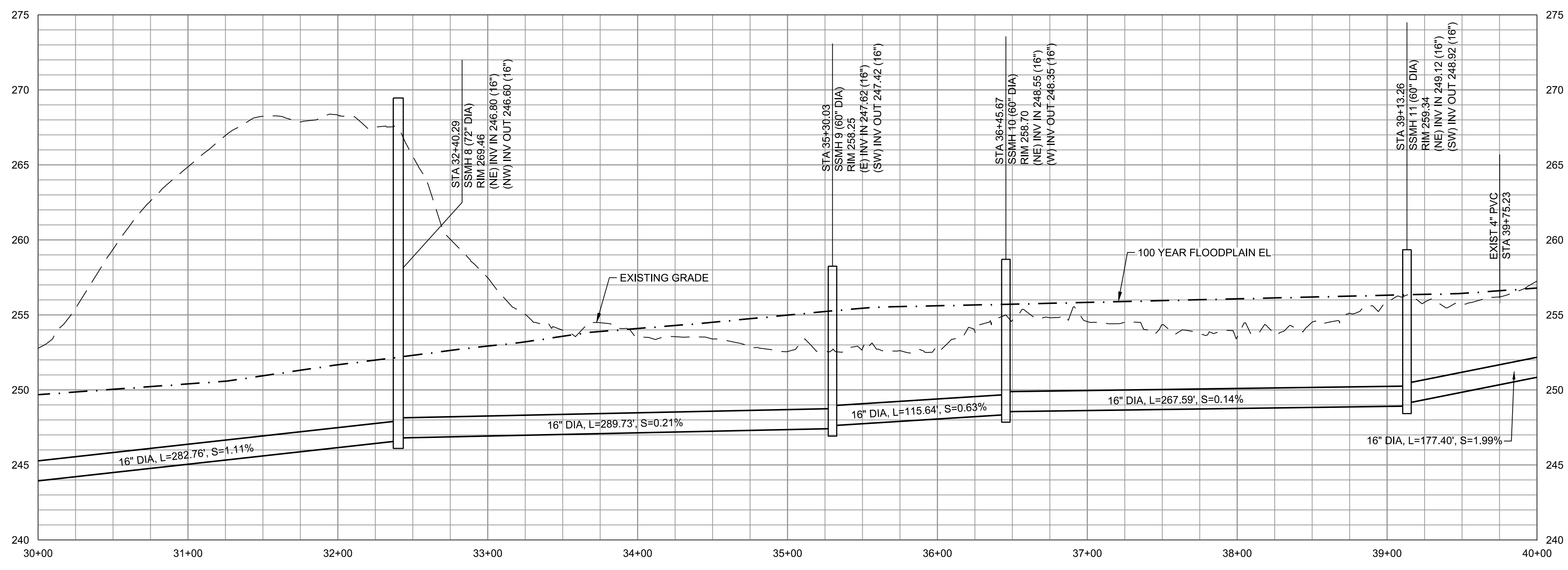
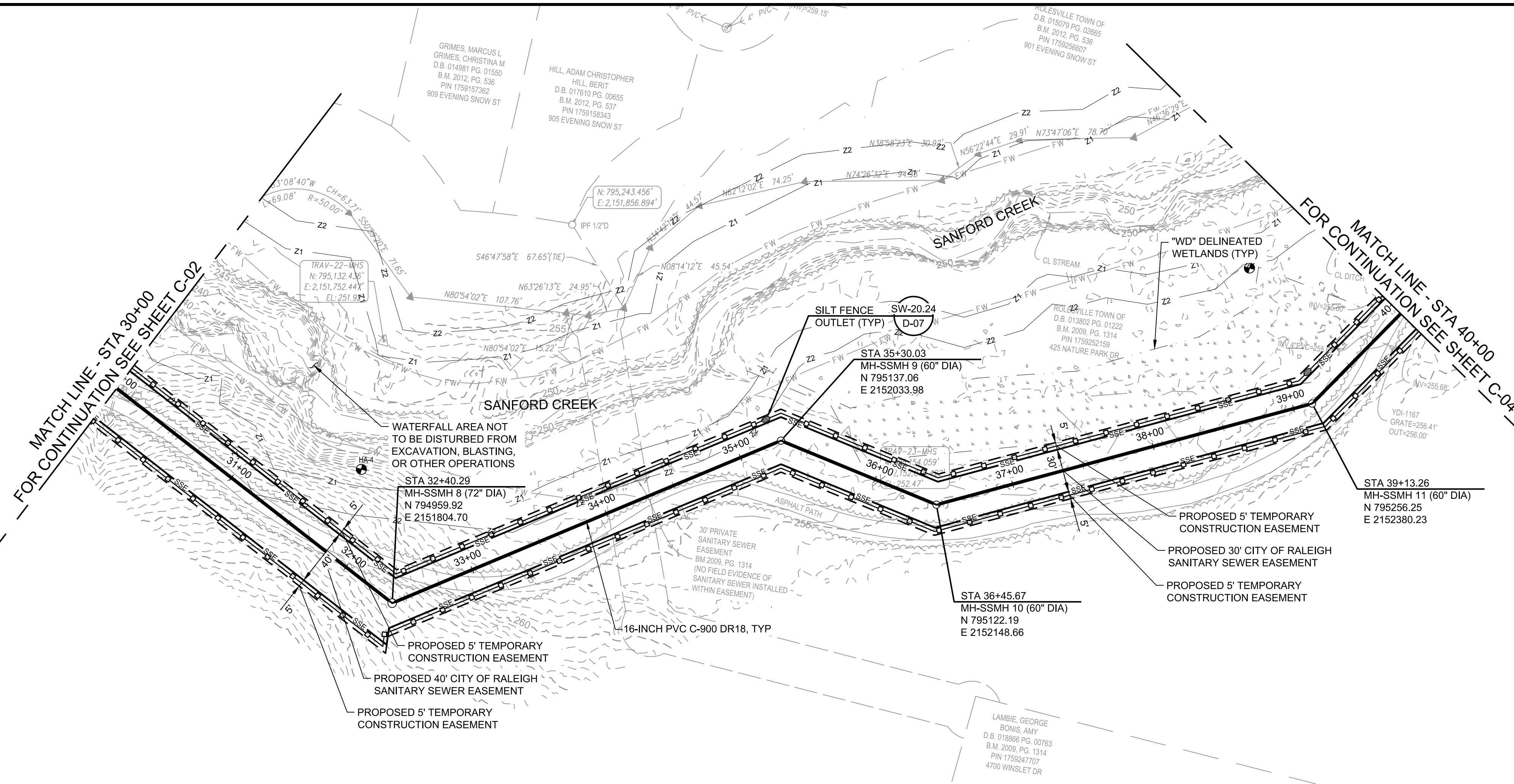
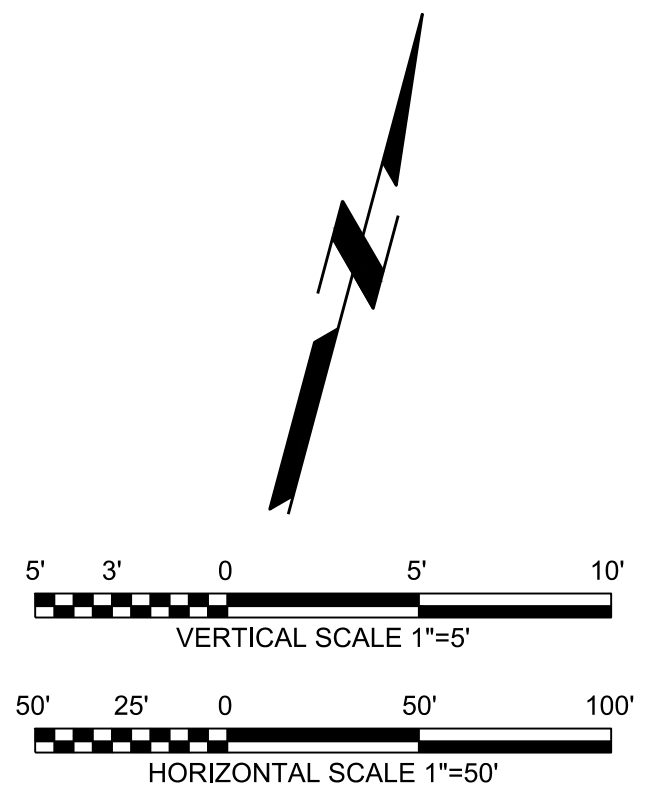
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CITY OF RALEIGH DEVELOPMENT APPROVAL:

RALEIGH WATER REVIEW OFFICER



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DESIGNED:	JG
DETAILED:	FLL, KTH
CHECKED:	
APPROVED:	
DATE:	JULY 2024
PROJECT NO.:	415285

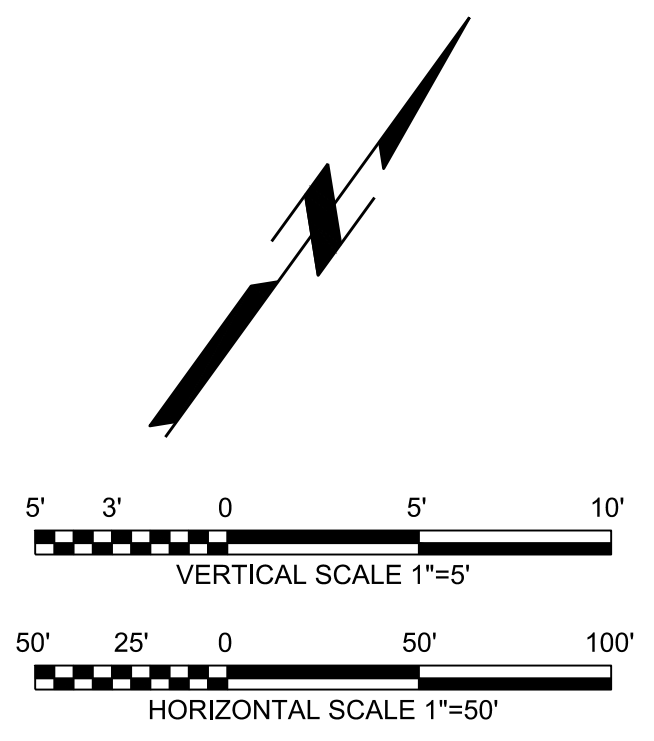
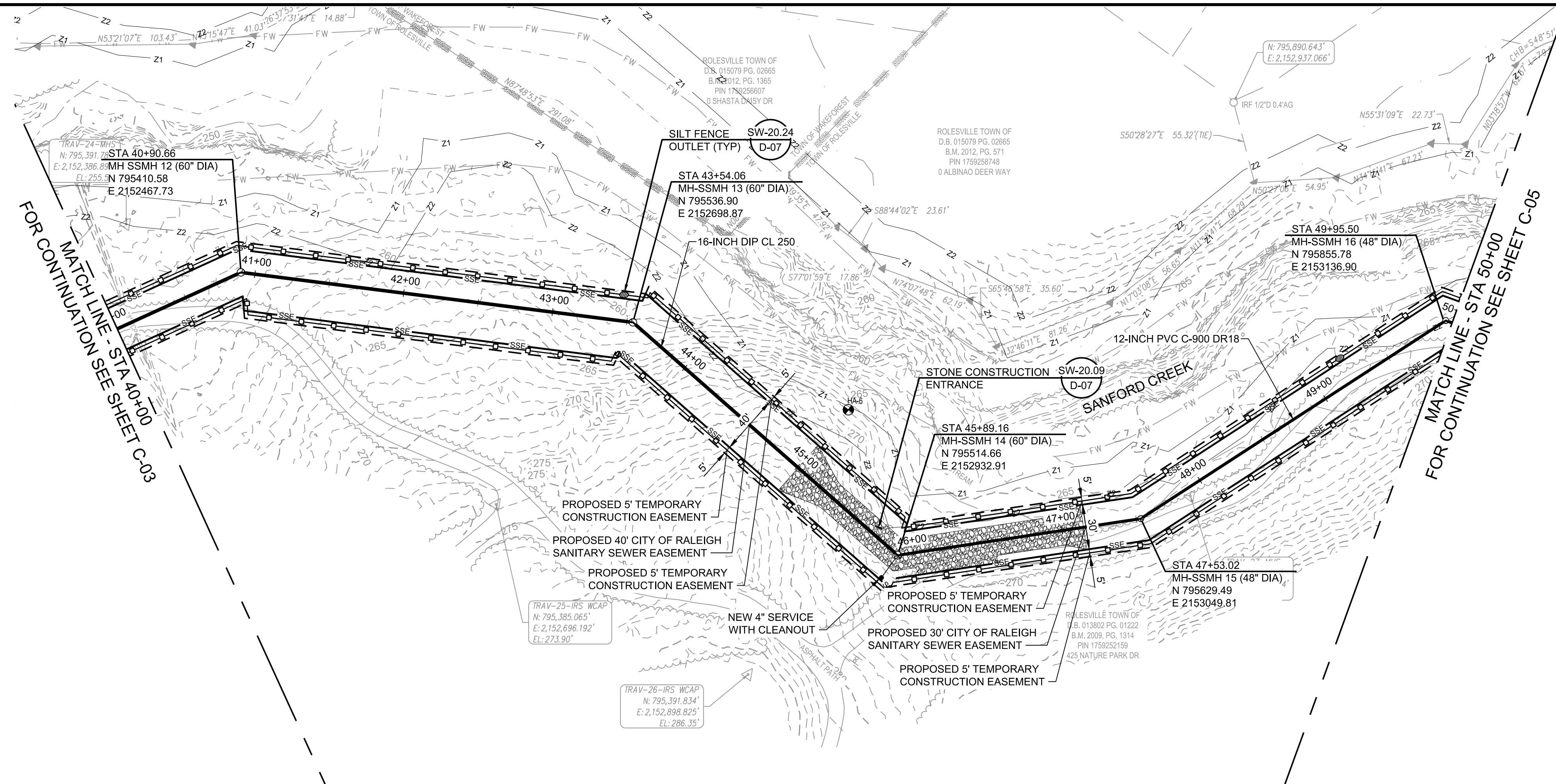
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CIVIL

PLAN AND PROFILE STA 30+00 TO STA 40+00

C-03

9
 OF
 22



BLACK & VEATCH
 Black & Veatch International Company
 Business License No. F-0794
 175 Regency Wood Place, Suites 200 & 300
 Cary, North Carolina 27518

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 D. Lee Campbell
 Date: 2024.09.23
 19:08:42 -0400



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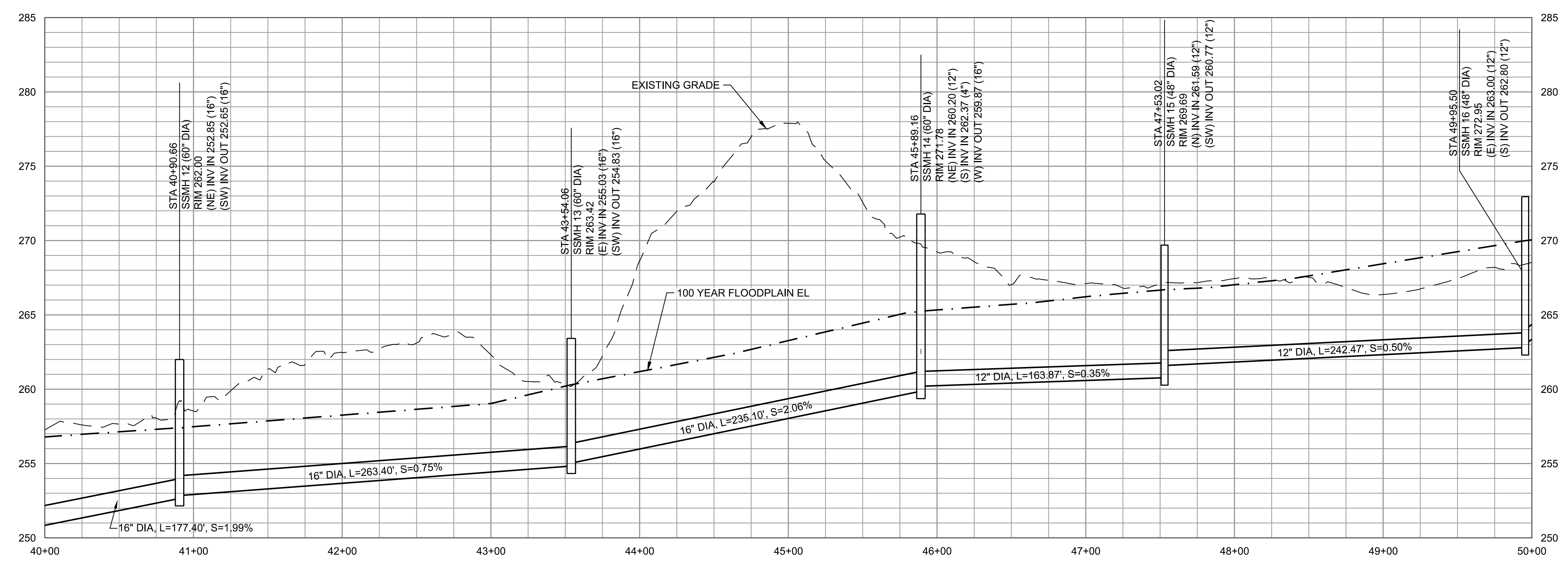
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DATE:	JULY 2024
PROJECT NO.:	415285

SANFORD CREEK SEWER
 INTERCEPTOR

CIVIL

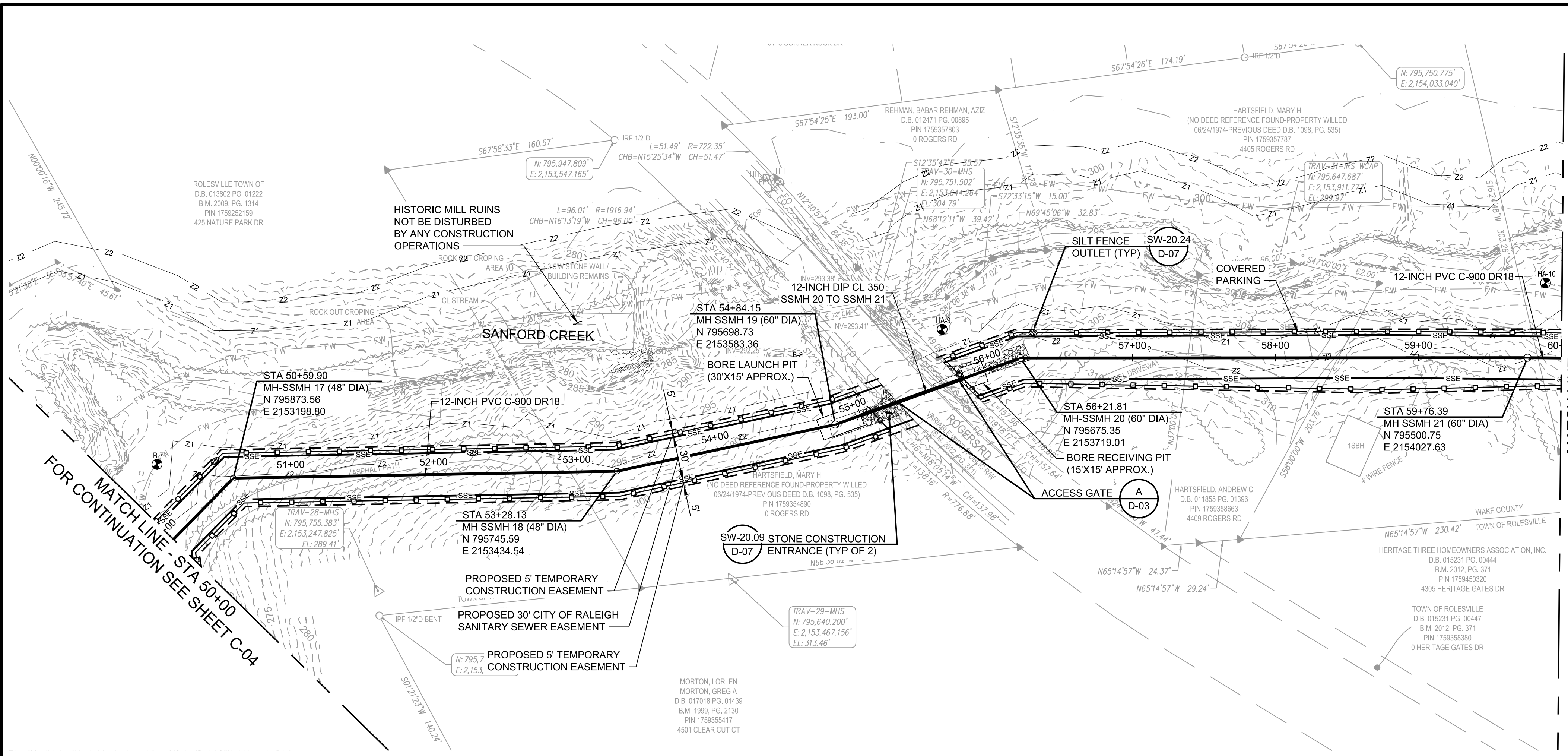
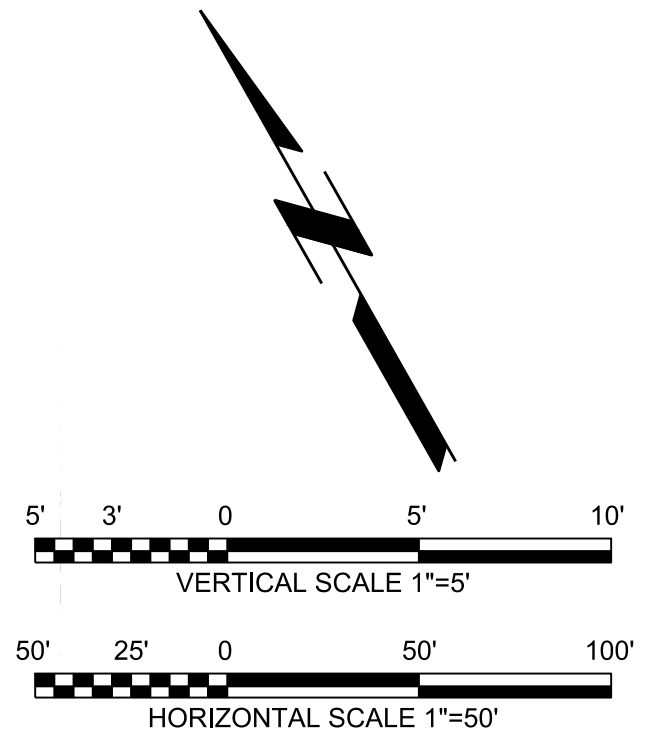
PLAN AND PROFILE STA
 40+00 TO STA 50+00

C-04 10
 OF
 22



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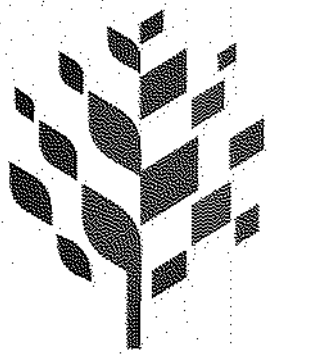
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MATCH LINE - STA 60+00
FOR CONTINUATION SEE SHEET C-06

MATCH LINE - STA 50+00
FOR CONTINUATION SEE SHEET C-04

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 Date: 2024.09.23
 19:08:42 -0400



Raleigh

SANFORD CREEK SEWER INTERCEPTOR

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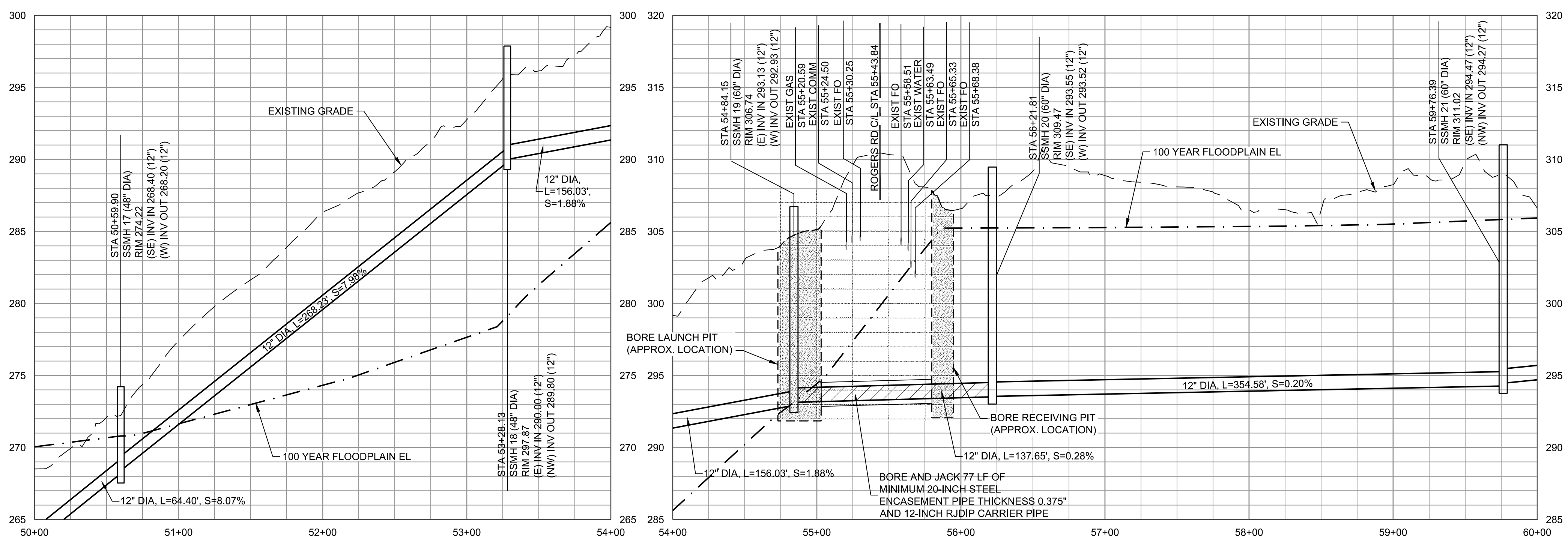
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DATE:	JULY 2024
PROJECT NO.:	415285

SANFORD CREEK SEWER INTERCEPTOR

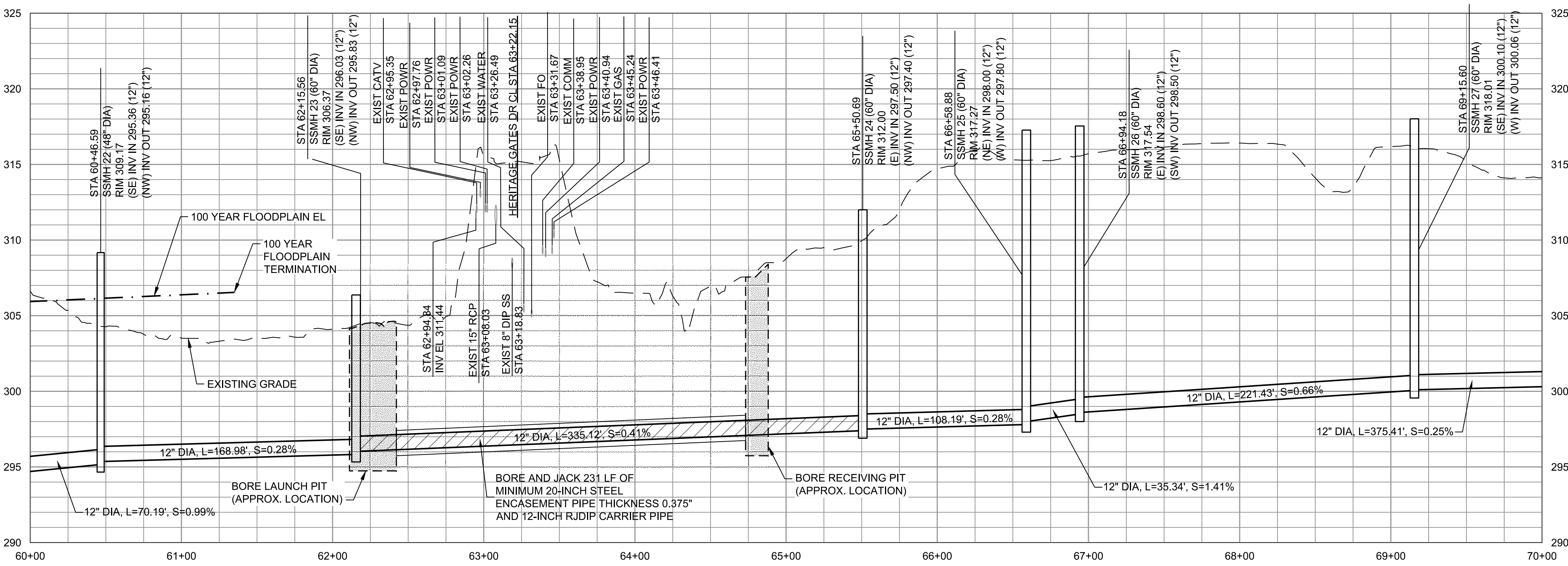
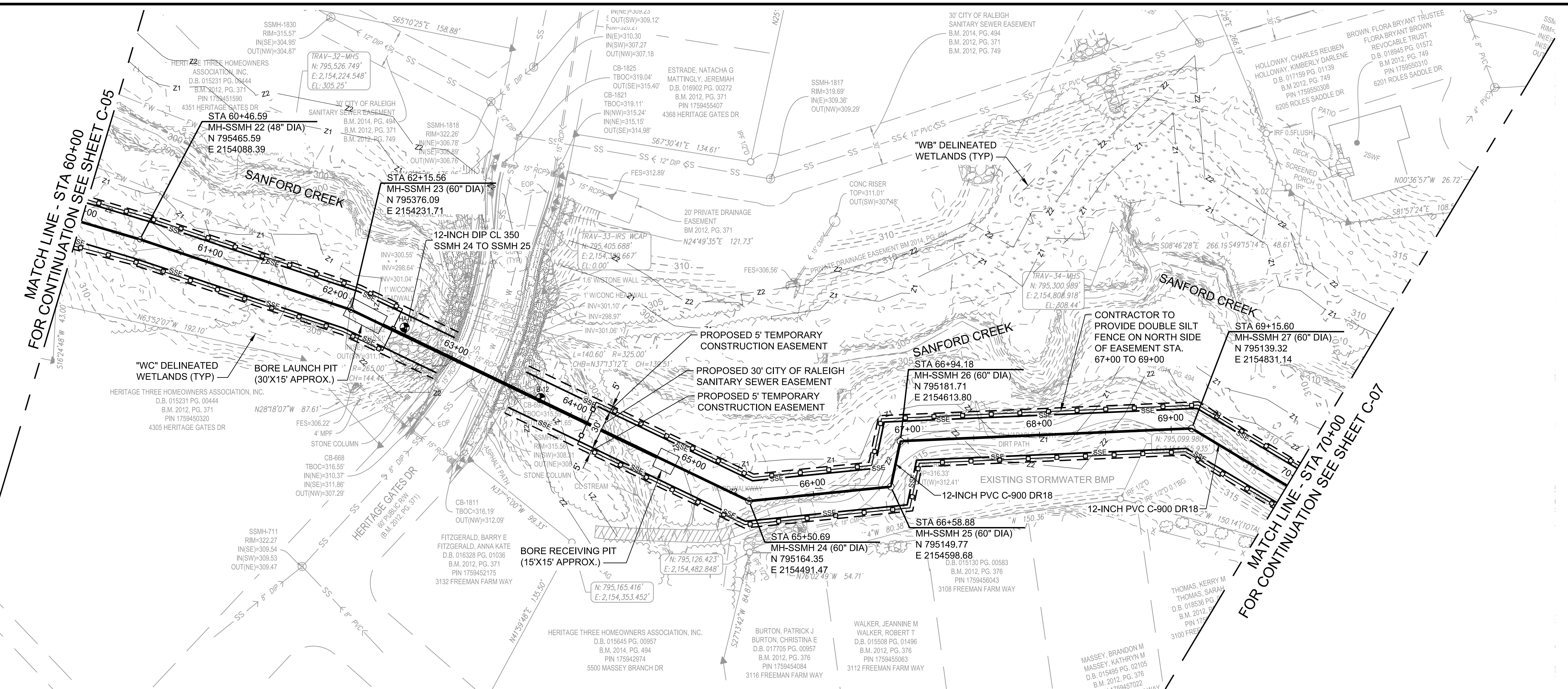
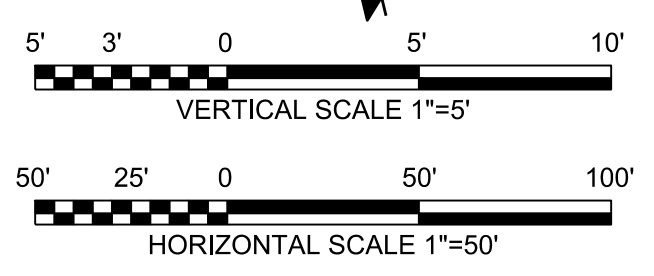
CIVIL

PLAN AND PROFILE STA 50+00 TO STA 60+00

C-05 11 OF 22



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APPROVED:	
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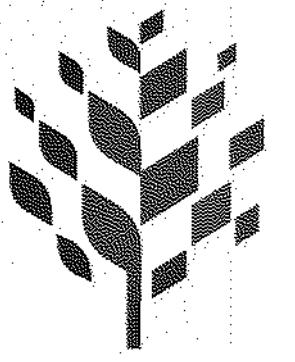
SANFORD CREEK SEWER INTERCEPTOR

CIVIL

PLAN AND PROFILE STA 60+00 TO STA 70+00

C-06 12 OF 22

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PROJECT NO.:	415285

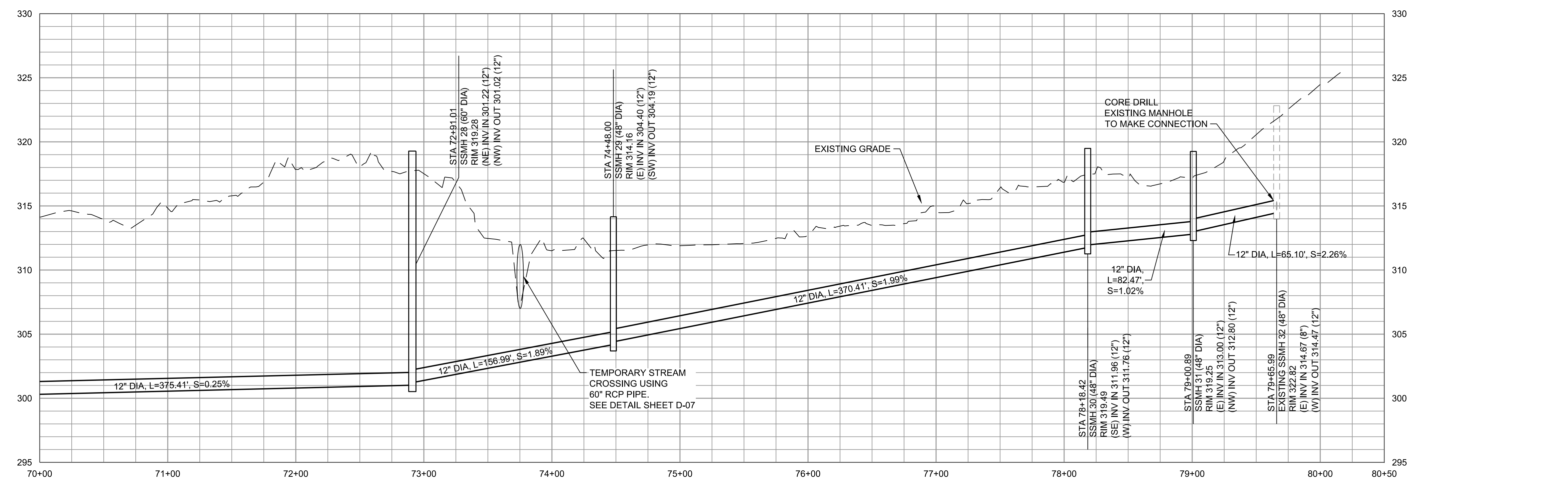
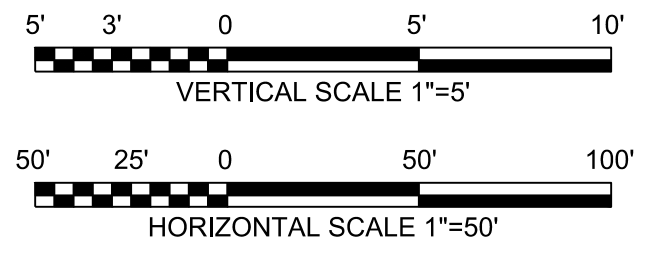
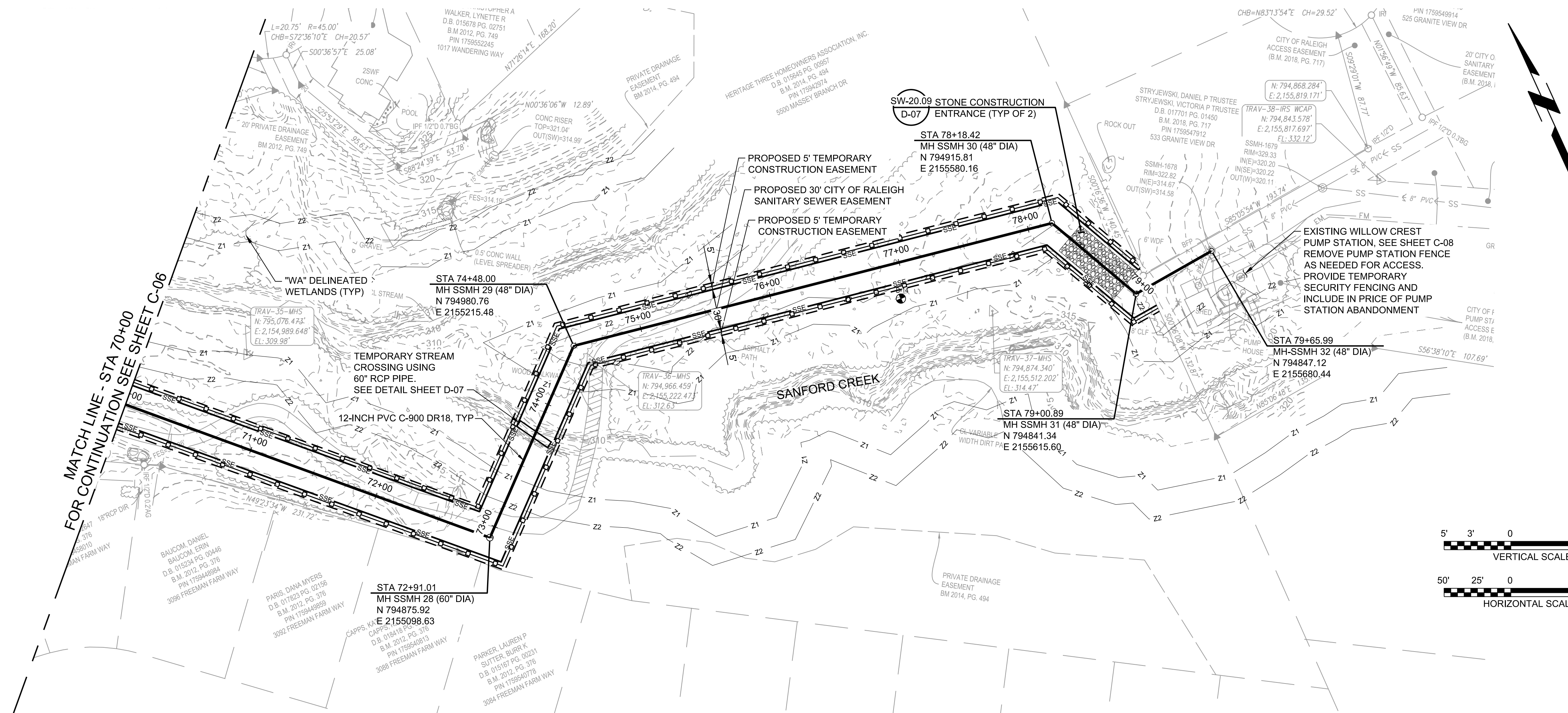
SANFORD CREEK SEWER INTERCEPTOR

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PLAN AND PROFILE STA 70+00 TO STA 79+66.43

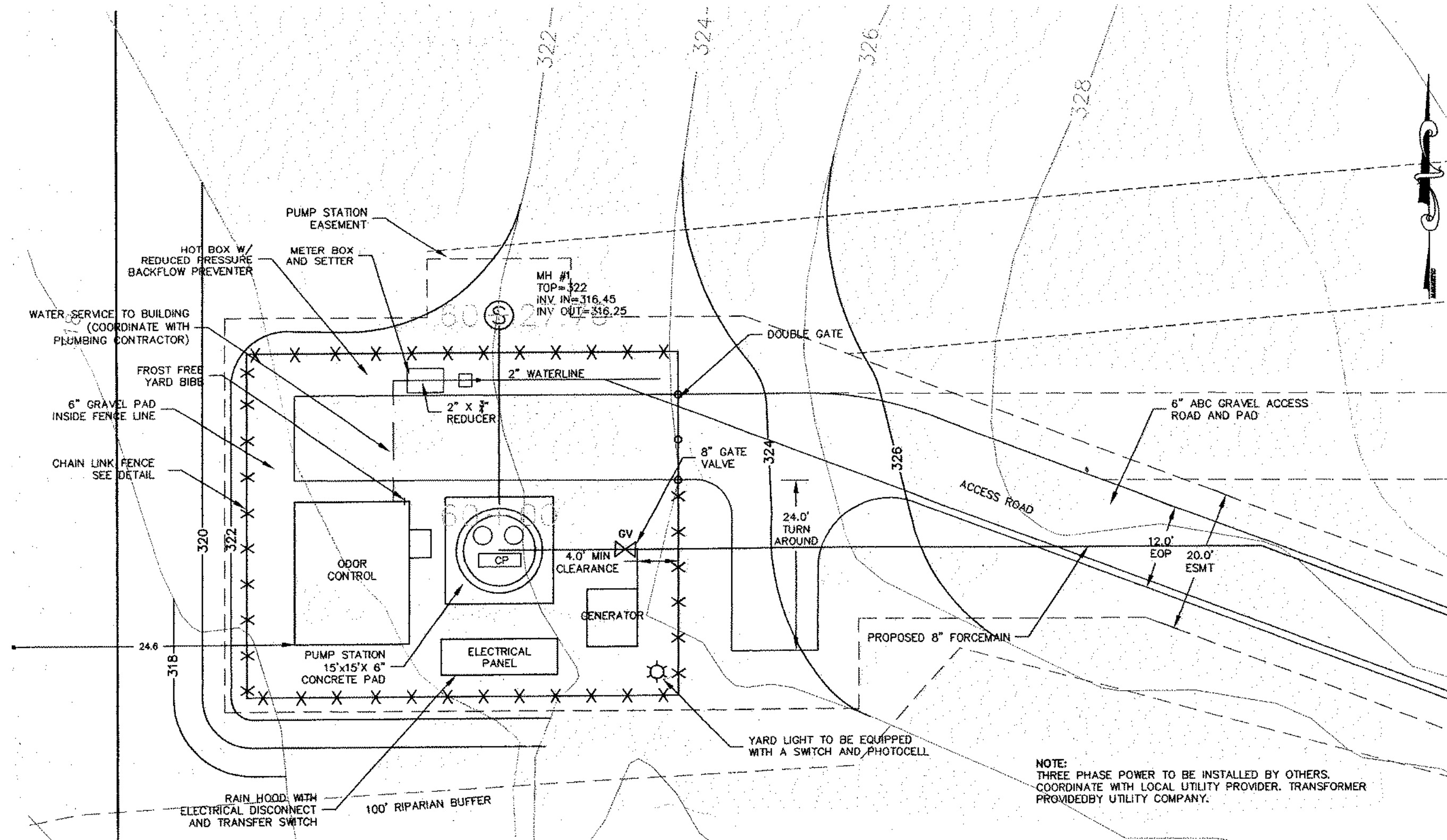
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(SCALE BAR IS 4" AT FULL SCALE) 0 1/2 1 2 3 4



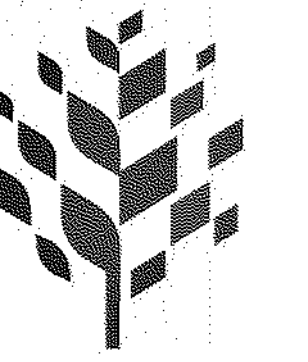
NOTES:

CONTRACTOR SHALL SALVAGE THE FOLLOWING ITEMS FROM THE EXISTING PUMP STATION AND DELIVER TO THE NEUSE RIVER RRF. CONTRACTOR SHALL COORDINATE DELIVERY AND UNLOADING WITH THE OWNER.

1. ELECTRICAL HOOD AND PANELS
2. BACKFLOW PREVENTER
3. SMITH AND LOVELESS PUMPS AND STATION
4. GENERATOR
5. TANK AND 120V CONTROL FEED APPARATUS (INSIDE BUILDING)
6. HEATER INSIDE BUILDING
7. SHOWER/EYEWASH

ALL OTHER ITEMS SHALL BE DEMOLISHED, REMOVED OFFSITE, AND DISPOSED OF PROPERLY BY THE CONTRACTOR. ONCE ALL EQUIPMENT, STRUCTURES, AND FENCING HAVE BEEN REMOVED, CONTRACTOR SHALL CLEAN UP SITE, FILL IN PITS, AND SEED/STRAW ENTIRE SITE.

Digitally signed by
 D. Lee Campbell
 Date: 2024.09.23
 19:08:43 -0400



Raleigh

SANFORD CREEK SEWER INTERCEPTOR

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REVISIONS AND RECORD OF ISSUE	
DESIGNED:	JG
DETAILED:	FLL, KTH
CHECKED:	
APPROVED:	
DATE:	JULY 2024
PROJECT NO.:	415285

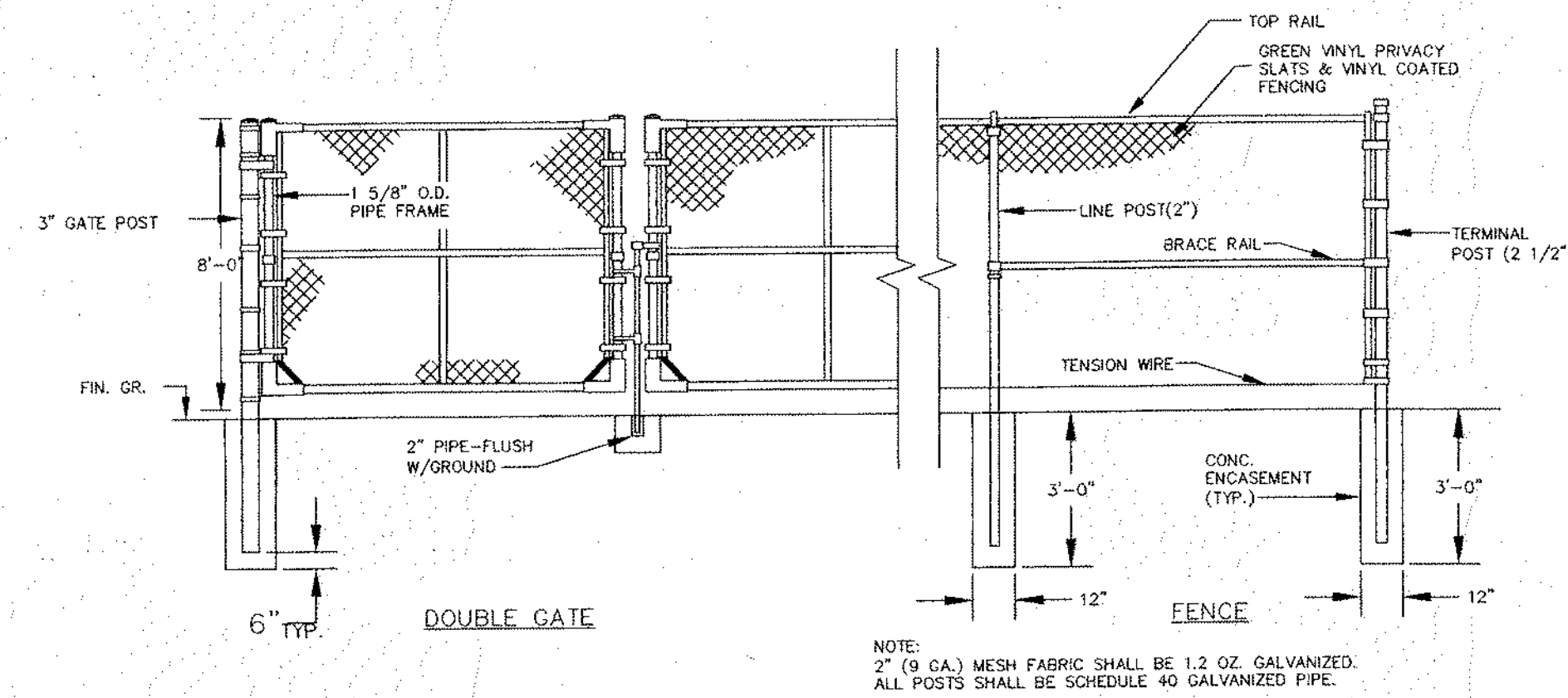
SANFORD CREEK SEWER INTERCEPTOR

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WILLOW CREST PS
 DEMOLITION PLAN

C-08

14
 OF
 22



**CHAIN LINK FENCE
 W/ GREEN PRIVACY SLATS**
 NO SCALE

NOTE:
 2" (9 GA.) MESH FABRIC SHALL BE 1.2 OZ. GALVANIZED.
 ALL POSTS SHALL BE SCHEDULE 40 GALVANIZED PIPE.

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 D. Lee Campbell
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 19:08:44 -0400



Raleigh

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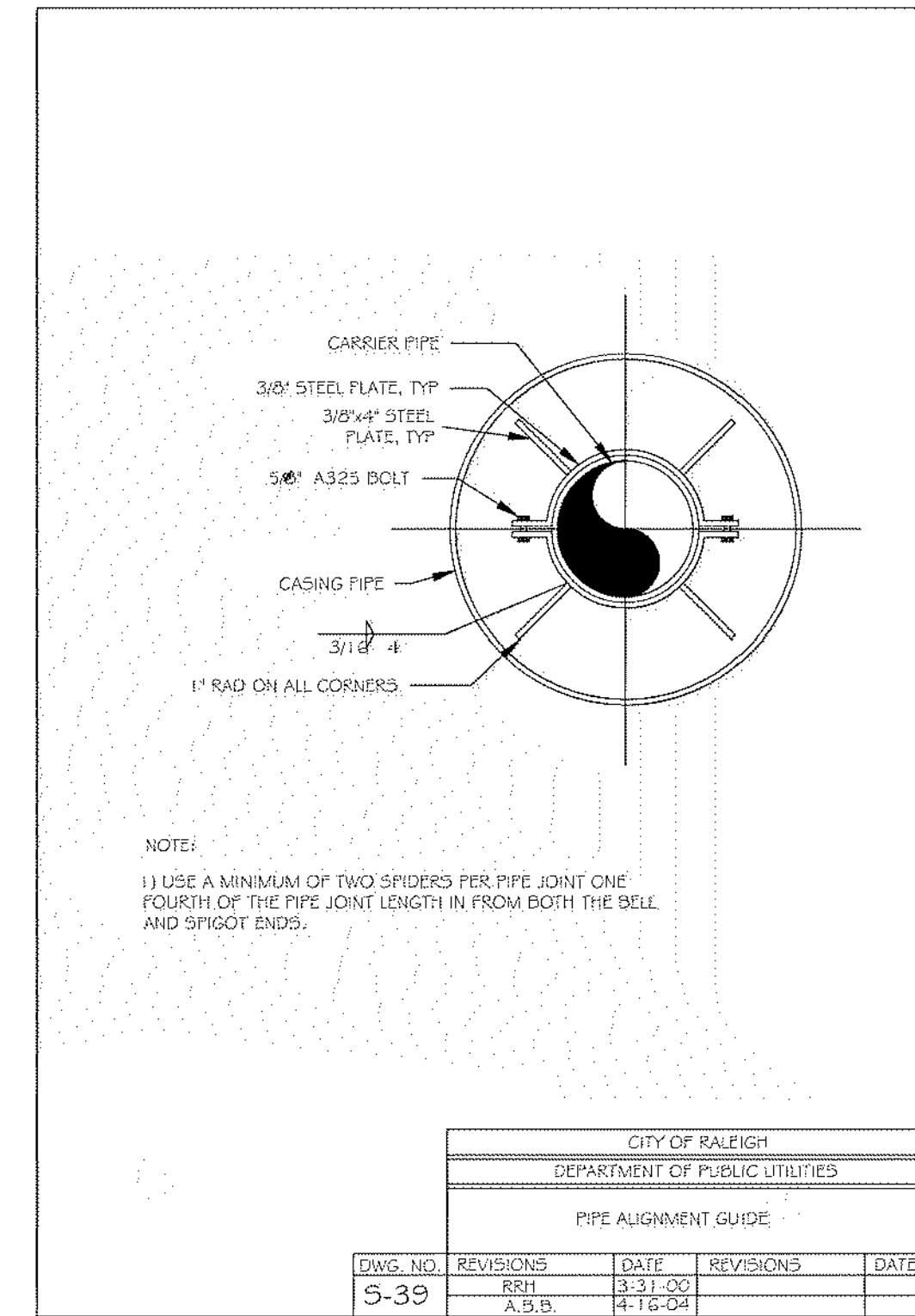
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CIVIL DETAILS - 1

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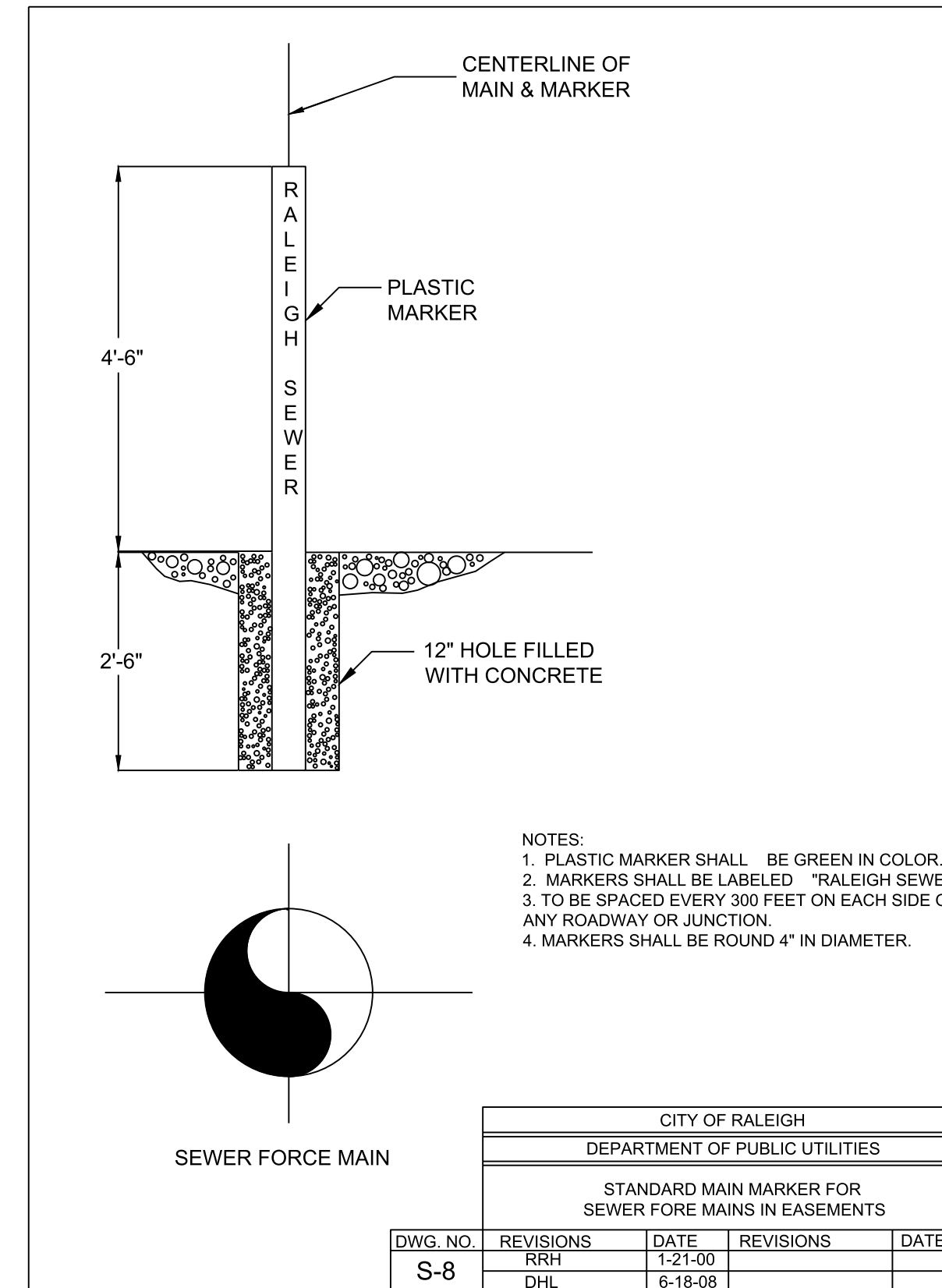
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NOTE:

- 1) USE A MINIMUM OF TWO SPIDERS PER PIPE JOINT ONE FOURTH OF THE PIPE JOINT LENGTH IN FROM BOTH THE BELL AND SPIGOT ENDS.

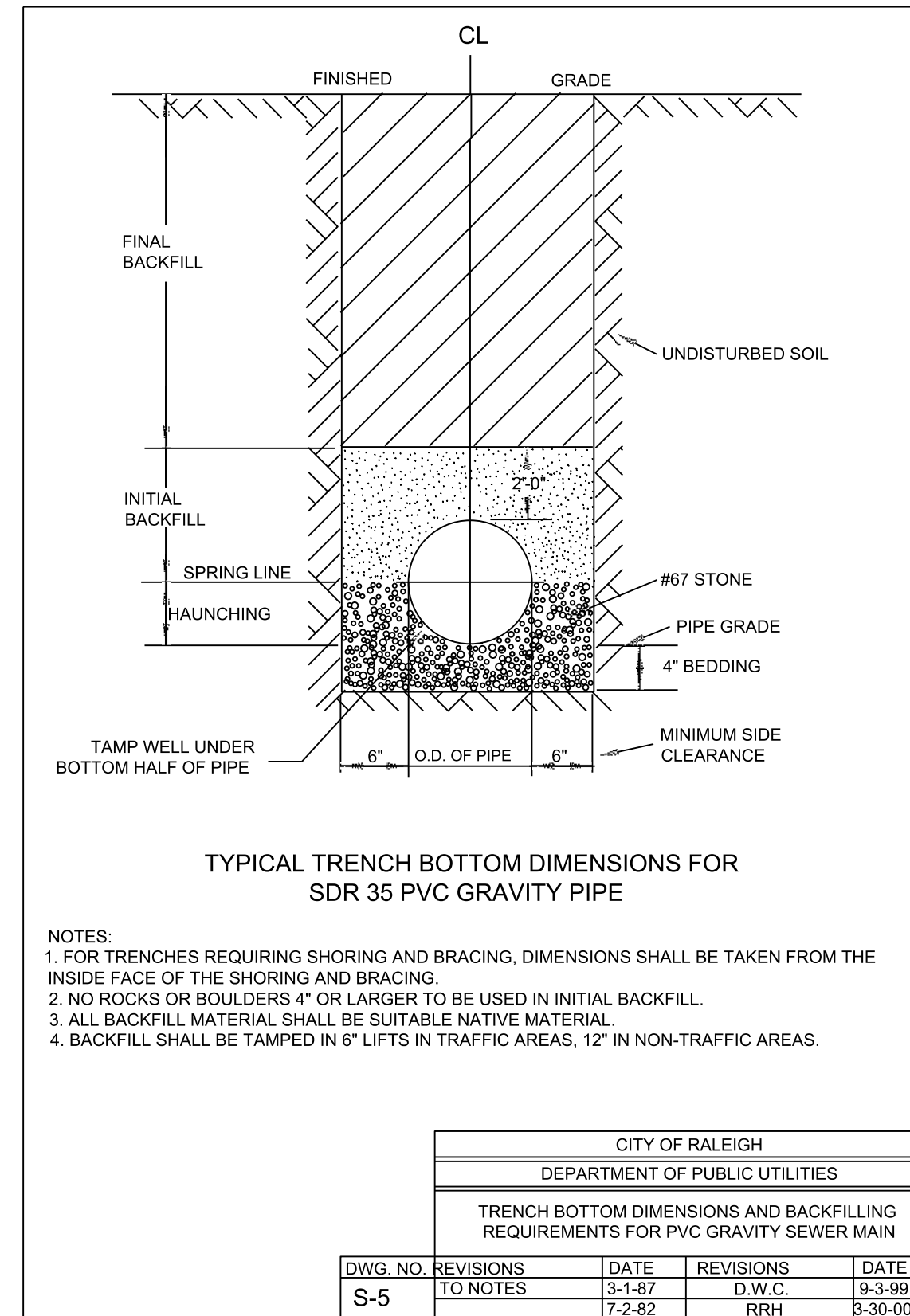
CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES PIPE ALIGNMENT GUIDE				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-39	RRH	3-31-00		
	A, B, B	4-16-04		



NOTES:

1. PLASTIC MARKER SHALL BE GREEN IN COLOR.
2. MARKERS SHALL BE LABELED "RALEIGH SEWER"
3. TO BE SPACED EVERY 300 FEET ON EACH SIDE OF ANY ROADWAY OR JUNCTION.
4. MARKERS SHALL BE ROUND 4" IN DIAMETER.

CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES STANDARD MAIN MARKER FOR SEWER FORCE MAINS IN EASEMENTS				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-8	RRH	1-21-00		
	DHL	6-18-08		

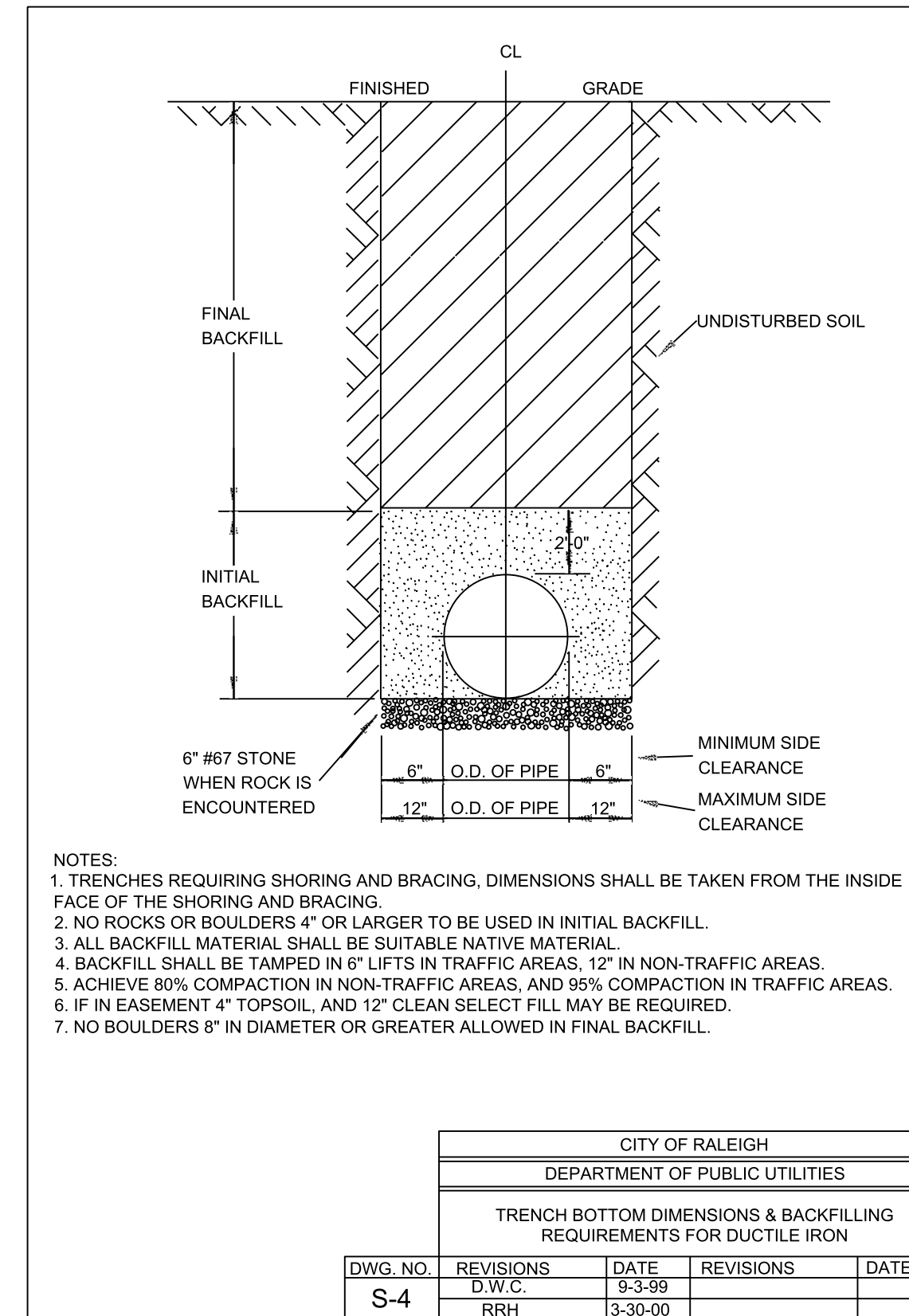


**TYPICAL TRENCH BOTTOM DIMENSIONS FOR
 SDR 35 PVC GRAVITY PIPE**

NOTES:

1. FOR TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
2. NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN INITIAL BACKFILL.
3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.
4. BACKFILL SHALL BE TAMPED IN 6" LIFTS IN TRAFFIC AREAS, 12" IN NON-TRAFFIC AREAS.

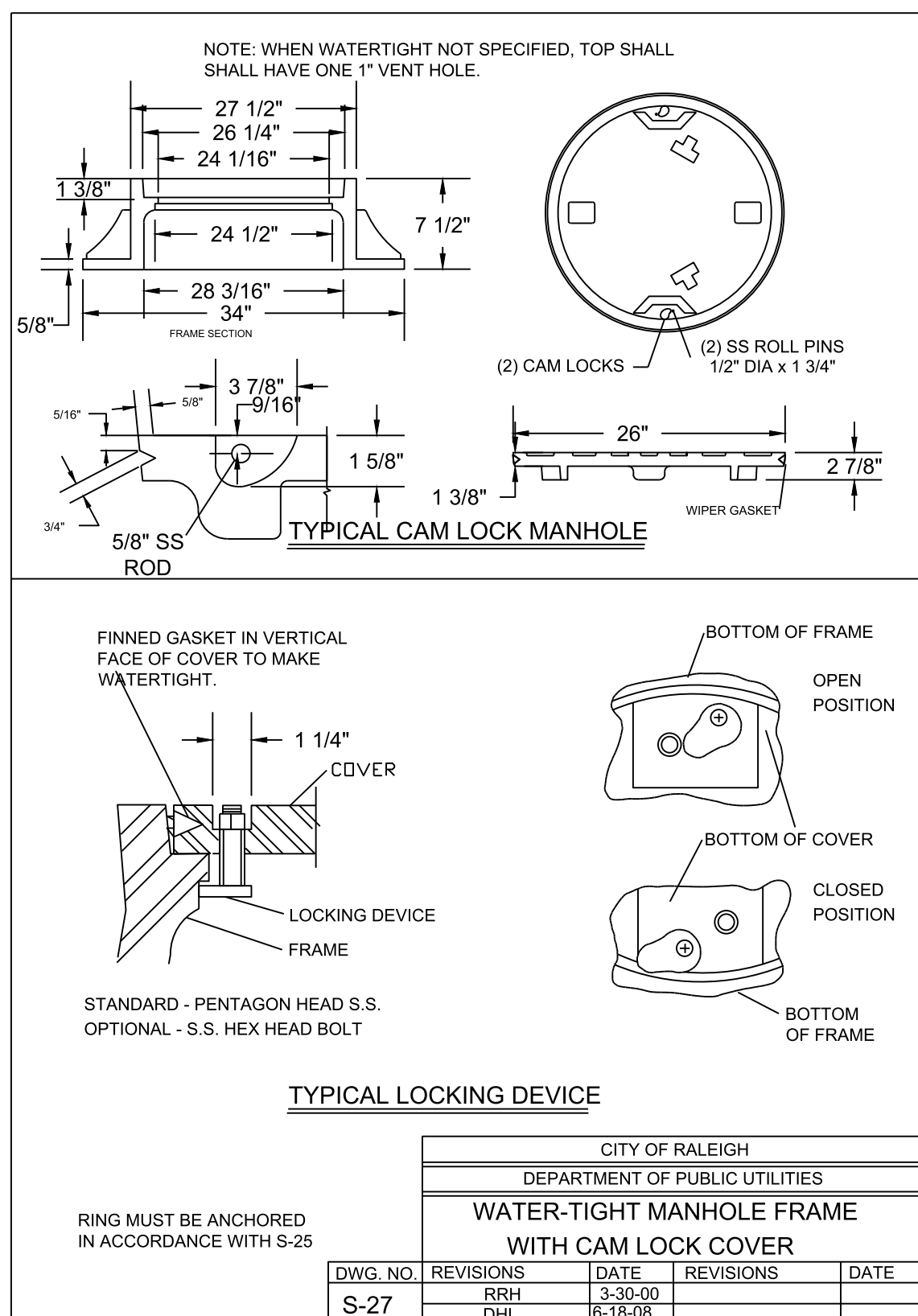
CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES TRENCH BOTTOM DIMENSIONS AND BACKFILLING REQUIREMENTS FOR PVC GRAVITY SEWER MAIN				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-5	TO NOTES	3-1-87	D.W.C.	9-3-99
		7-2-82	RRH	3-30-00



NOTES:

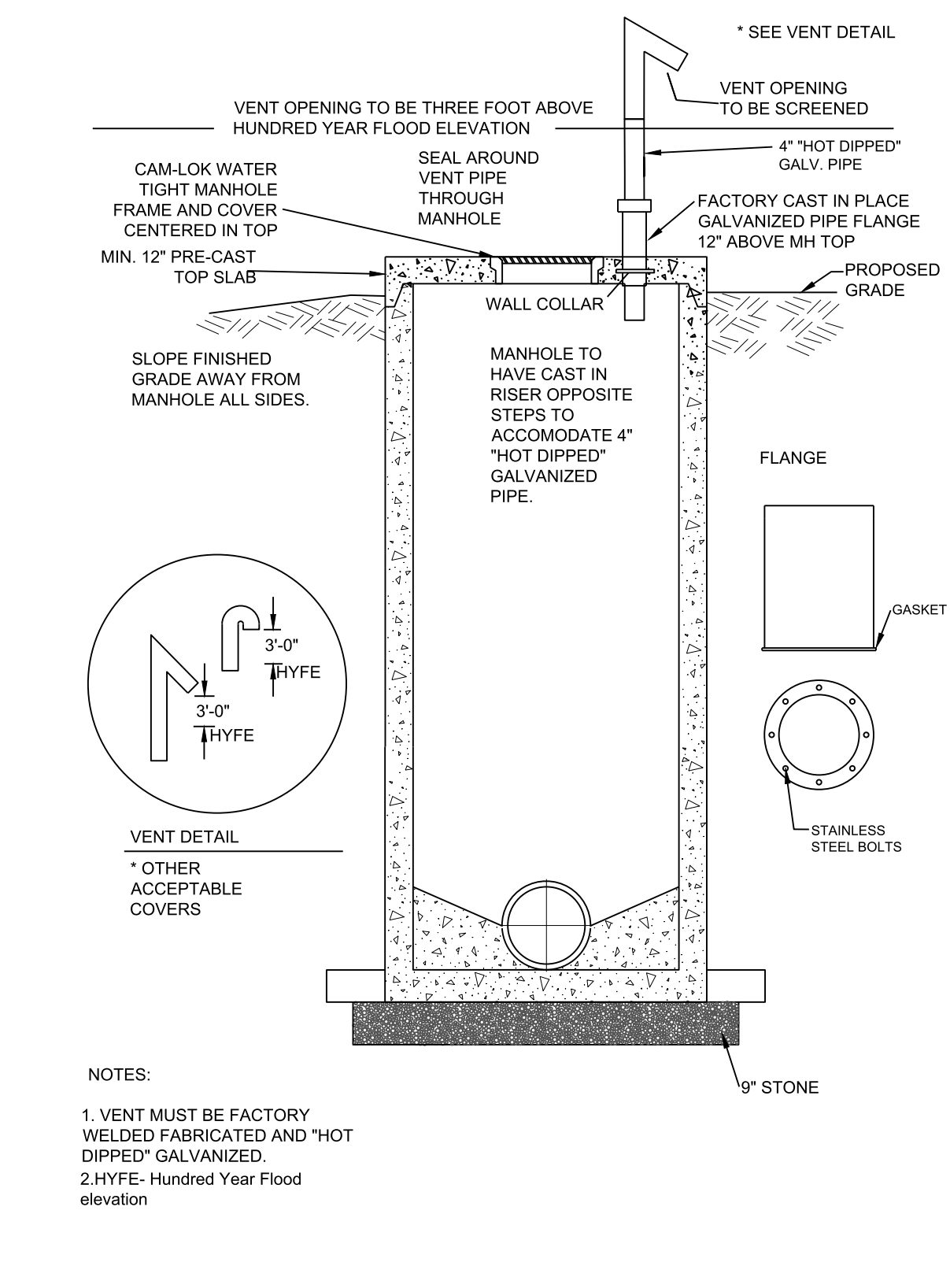
1. TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
2. NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN INITIAL BACKFILL.
3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.
4. BACKFILL SHALL BE TAMPED IN 6" LIFTS IN TRAFFIC AREAS, 12" IN NON-TRAFFIC AREAS.
5. ACHIEVE 80% COMPACTION IN NON-TRAFFIC AREAS, AND 95% COMPACTION IN TRAFFIC AREAS.
6. IF IN EASEMENT 4" TOPSOIL, AND 12" CLEAN SELECT FILL MAY BE REQUIRED.
7. NO BOULDERS 8" IN DIAMETER OR GREATER ALLOWED IN FINAL BACKFILL.

CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES TRENCH BOTTOM DIMENSIONS & BACKFILLING REQUIREMENTS FOR DUCTILE IRON				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-4	RRH	3-30-00		



**A WATER-TIGHT MANHOLE FRAME
 WITH CAM LOCK COVER**
 NTS

CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES WATER-TIGHT MANHOLE FRAME WITH CAM LOCK COVER				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-27	RRH	3-30-00		
	DHL	6-18-08		



**B STANDARD SEAL TIGHT MANHOLE
 WITH VENTED STACK**
 NTS

NOTES:

1. VENT MUST BE FACTORY WELDED FABRICATED AND "HOT DIPPED" GALVANIZED.
2. HYFE- Hundred Year Flood elevation

THESE PLANS HAVE BEEN ELECTRONICALLY APPROVED FOR CONSTRUCTION BY THE TOWN OF WAKE FOREST ENGINEERING DEPARTMENT. THIS APPROVAL MAY NOT BE ALTERED ONCE ISSUED.

ENGINEERING

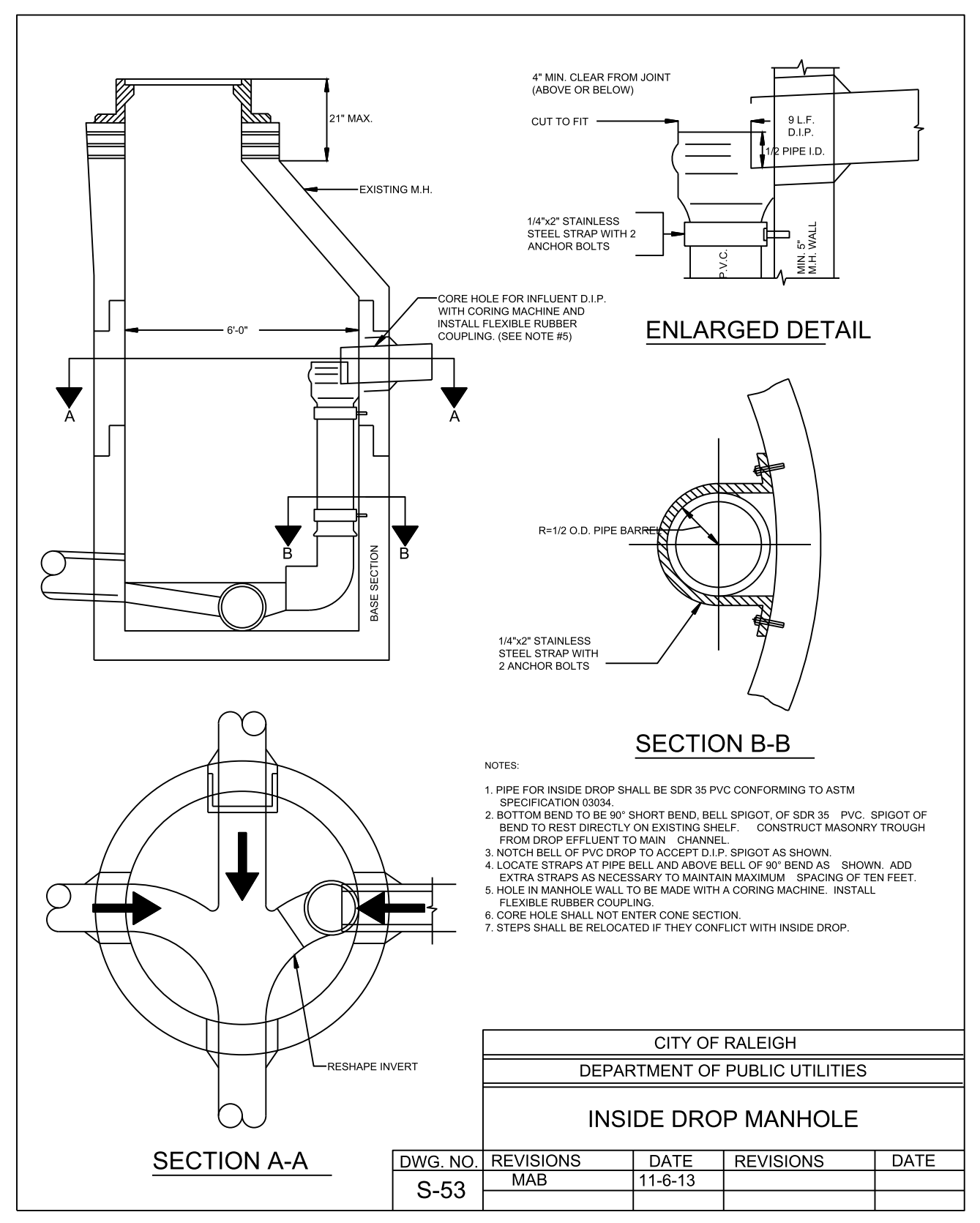
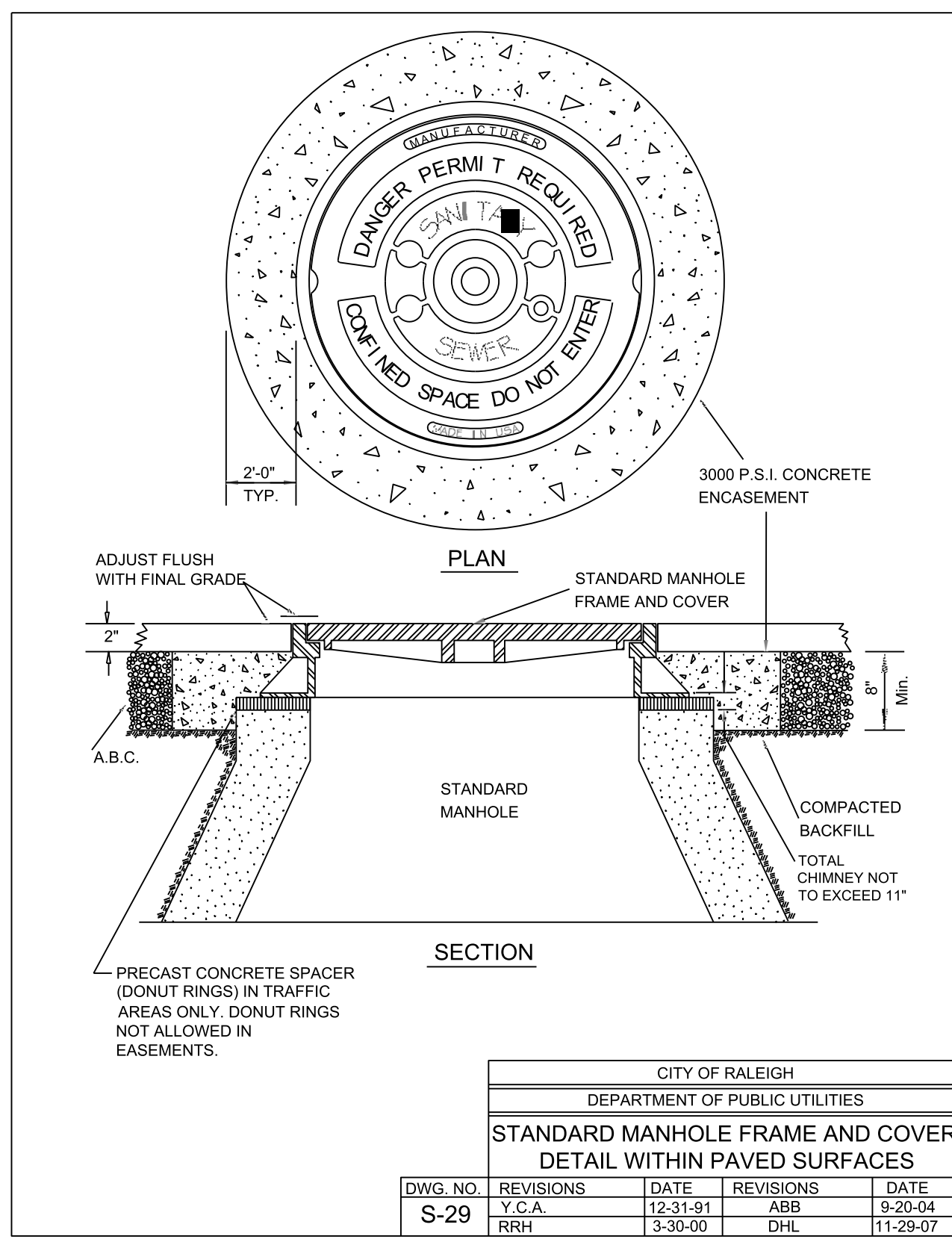
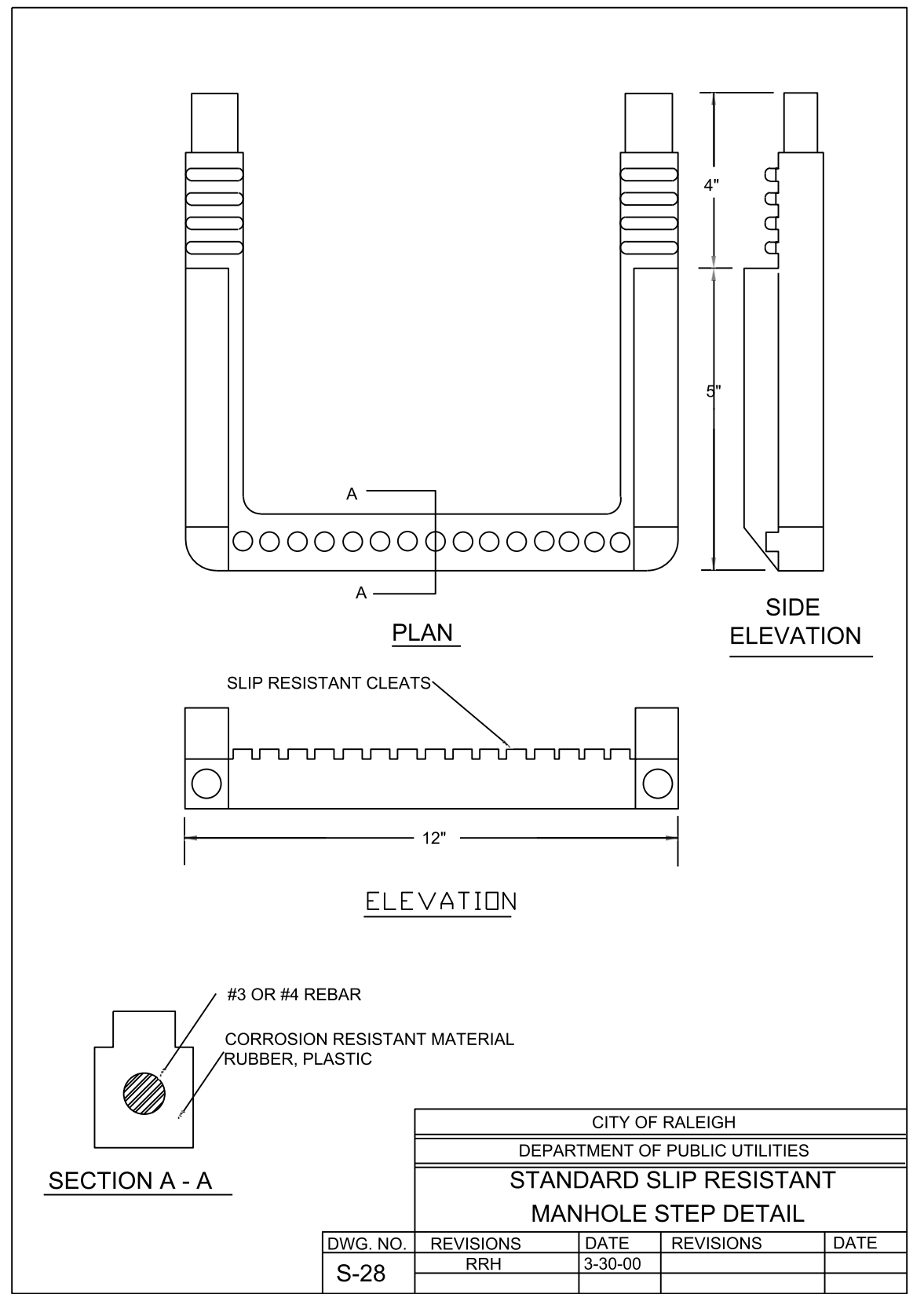
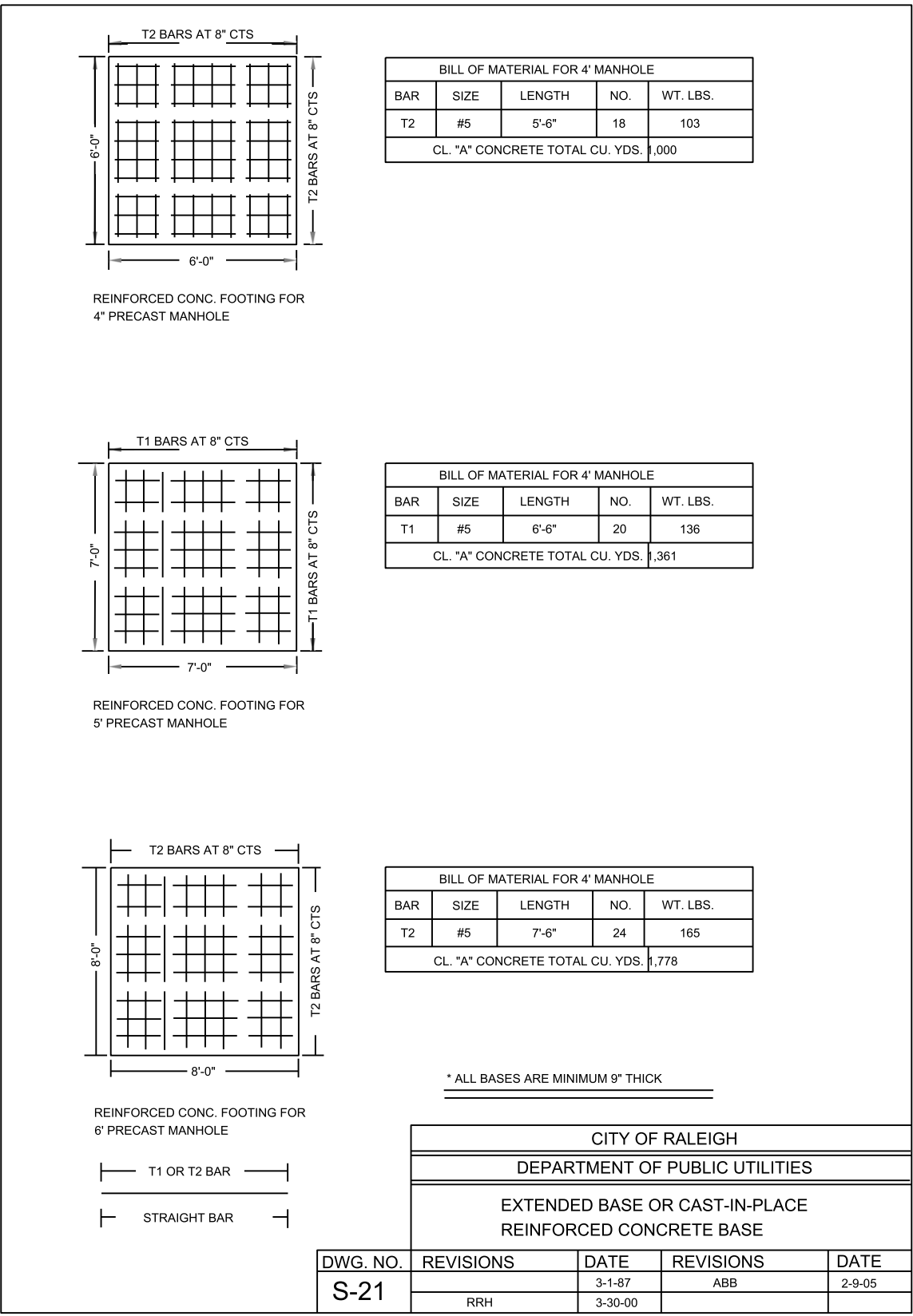
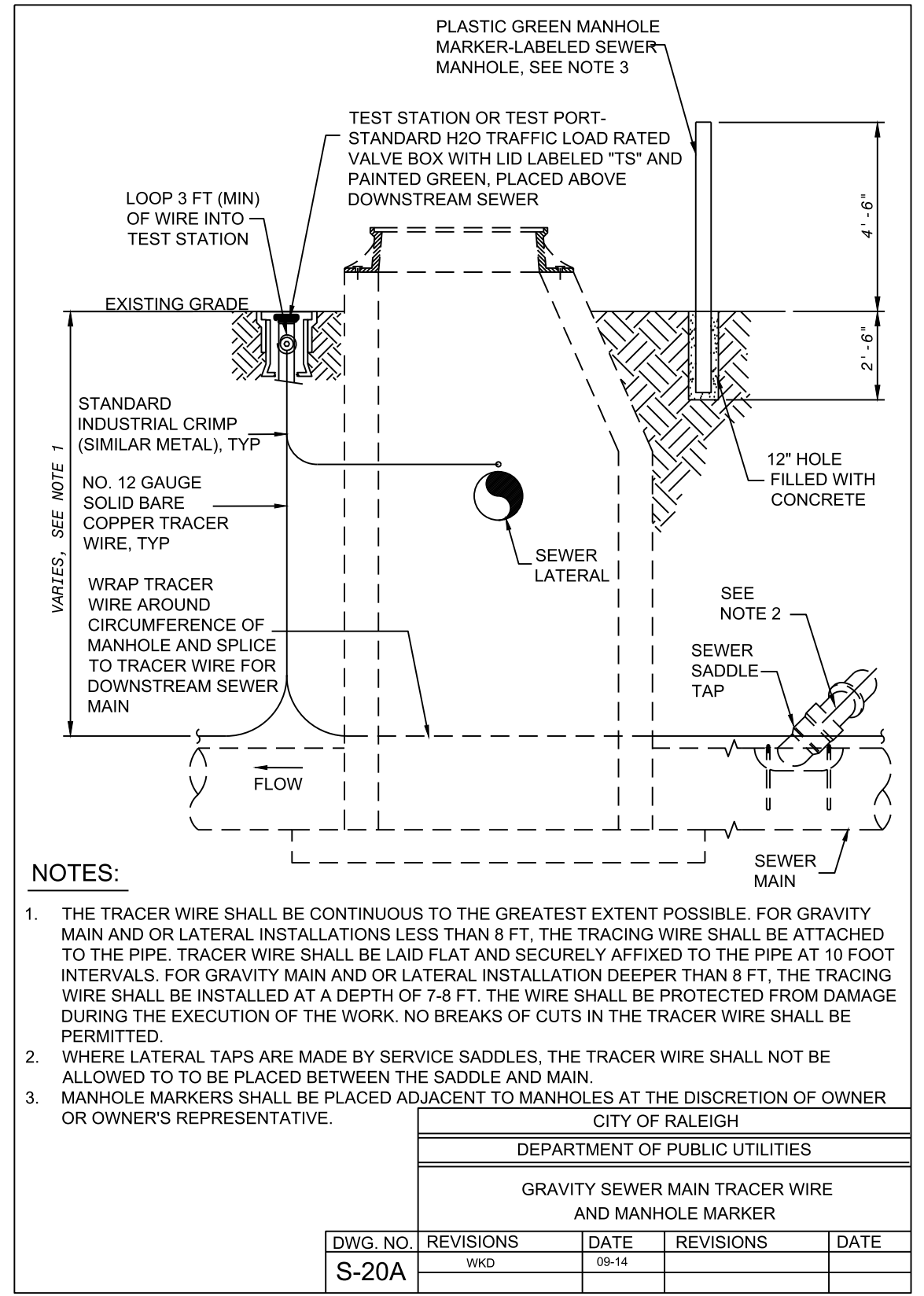
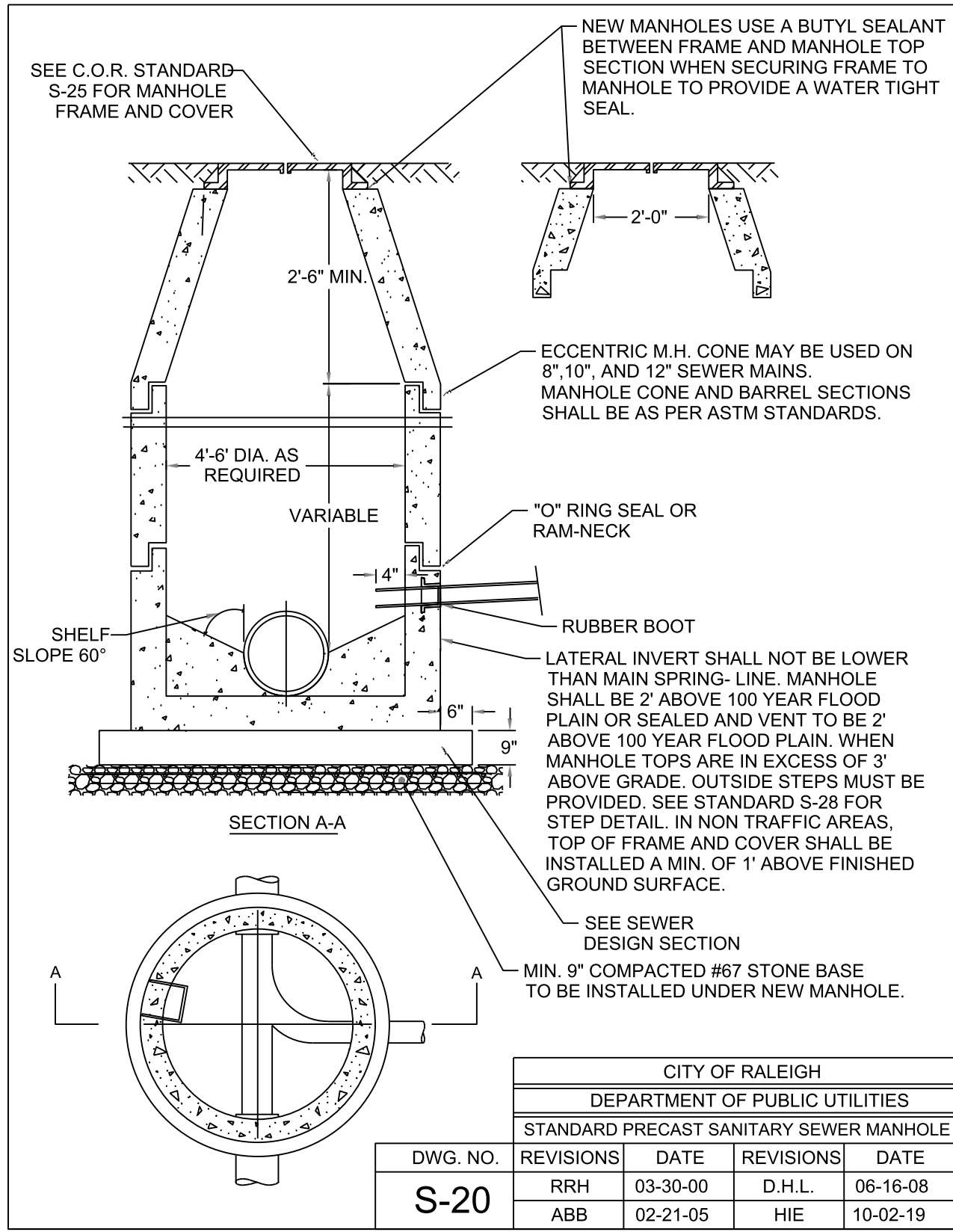
THESE PLANS HAVE BEEN ELECTRONICALLY APPROVED FOR CONSTRUCTION BY THE TOWN OF WAKE FOREST PLANNING DEPARTMENT. THIS APPROVAL MAY NOT BE ALTERED ONCE ISSUED.

PLANNING

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION
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CITY OF RALEIGH DEVELOPMENT APPROVAL:

RALEIGH WATER REVIEW OFFICER



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ENGINEERING

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PLANNING

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CITY OF RALEIGH DEVELOPMENT APPROVAL:

RALEIGH WATER REVIEW OFFICER

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SANFORD CREEK SEWER INTERCEPTOR

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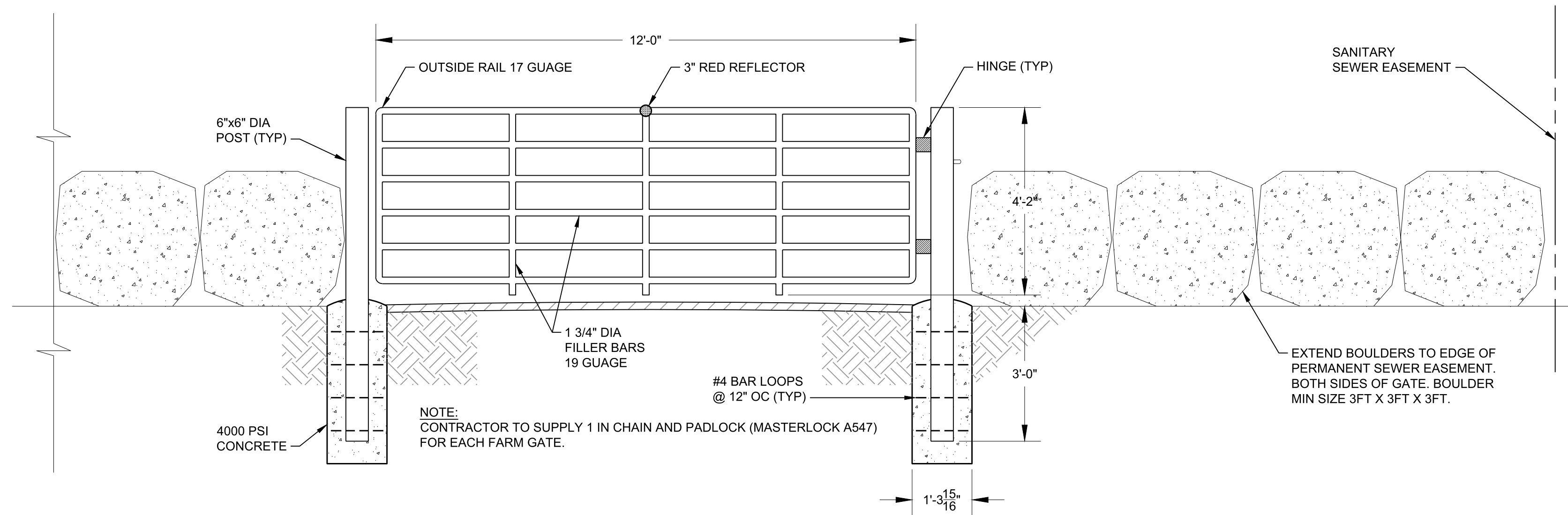
DESIGNED:	JG
DETAILED:	KTH
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APPROVED:	
DATE:	JULY 2024
PROJECT NO.:	415285

SANFORD CREEK SEWER INTERCEPTOR

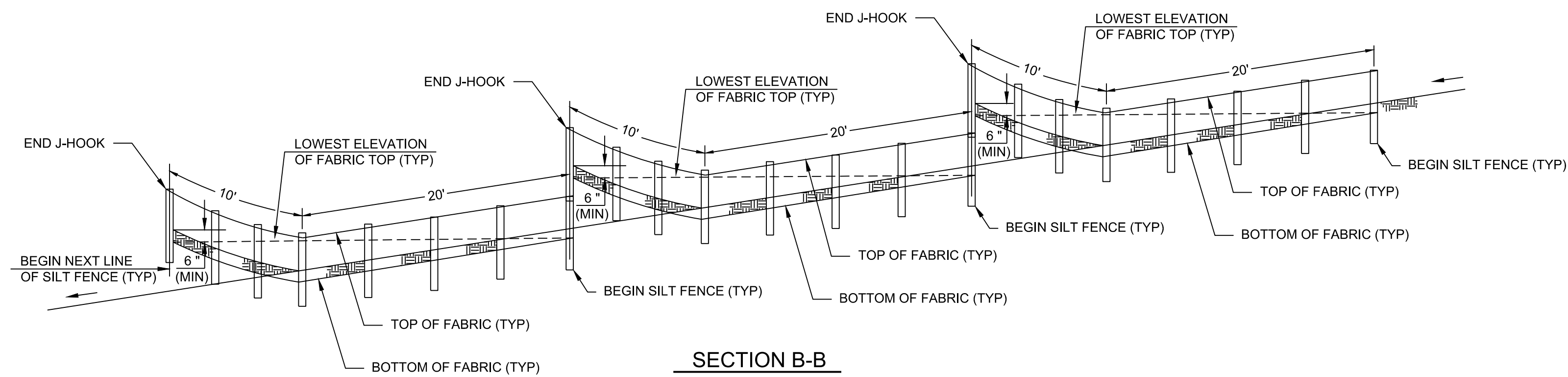
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CIVIL DETAILS - 2

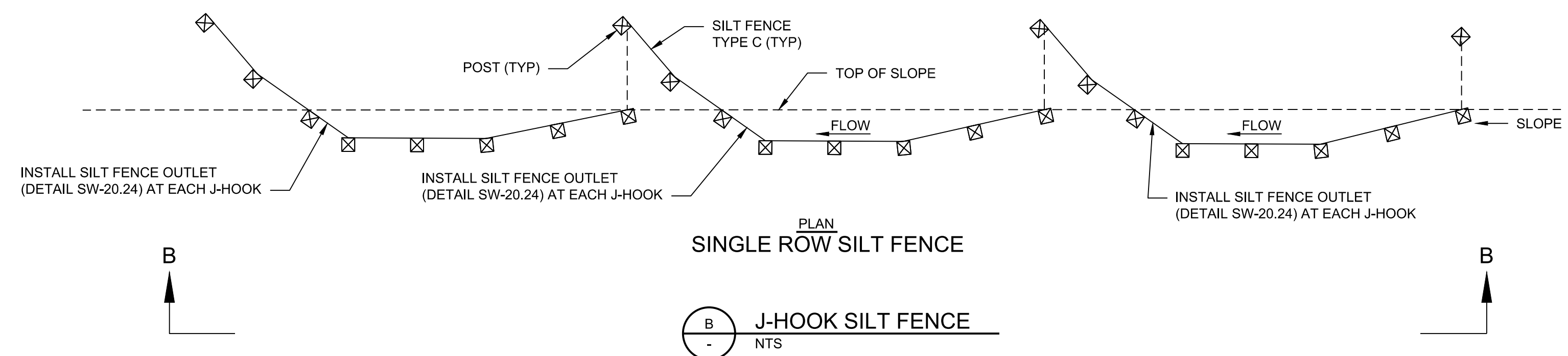
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ACCESS GATE DETAIL
NTS



SECTION B-B



J-HOOK SILT FENCE
NTS

NOTES:

- J-HOOKS SHALL BE USED WHEN THE SILT FENCE IS INSTALLED AT AN ANGLE OF 30 DEGREES OR PARALLEL TO THE CONTOURS.
- TEMPORARY SILT FENCE SHALL NO BE PLACED WITHIN STATE WATERS.

MAINTENANCE: INSPECT SEDIMENT FENCES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY. SHOULD THE FABRIC OF A SEDIMENT FENCE COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE. CLEAN OUT AT 50% CAPACITY. TAKE CARE TO AVOID UNDERMINING THE FENCE DURING CLEANOUT. REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS AND BRING THE AREA TO GRADE AND STABILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED. LIFE OF FENCING: 6-9 MONTHS

THESE PLANS HAVE BEEN ELECTRONICALLY APPROVED FOR CONSTRUCTION BY THE TOWN OF WAKE FOREST ENGINEERING DEPARTMENT. THIS APPROVAL MAY NOT BE ALTERED ONCE ISSUED.

ENGINEERING

THESE PLANS HAVE BEEN ELECTRONICALLY APPROVED FOR CONSTRUCTION BY THE TOWN OF WAKE FOREST PLANNING DEPARTMENT. THIS APPROVAL MAY NOT BE ALTERED ONCE ISSUED.

PLANNING

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CITY OF RALEIGH DEVELOPMENT APPROVAL:

RALEIGH WATER REVIEW OFFICER

Digitally signed by
 D. Lee Campbell
 Date: 2024.09.23
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SANFORD CREEK SEWER INTERCEPTOR

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SANFORD CREEK SEWER INTERCEPTOR

CIVIL

CIVIL DETAILS - 3

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SEEDING & SEEDBED PREPARATION REQUIREMENTS

DURING CONSTRUCTION THE CONTRACTOR SHALL BE REQUIRED TO CONTROL EROSION ON ALL DISTURBED SLOPES BEFORE THE ESTABLISHMENT OF PERMANENT VEGETATION. TEMPORARY AND PERMANENT SEEDING SHALL BE AS SPECIFIED IN SECTION 02920 OF THE CONTRACT DOCUMENTS AND AS INDICATED BELOW. THE CONTRACTOR SHALL PERFORM MAINTENANCE AS NECESSARY TO KEEP PERMANENT SEEDING AREAS IN A SATISFACTORY CONDITION UNTIL TURNED OVER TO THE CARE OF THE OWNER'S PERSONNEL.

PREPARATION OF SUBSOIL

- A. COMPLETE OPERATIONS IN THE AREA TO BE SEEDING AND PREPARE SUBSOIL TO ELIMINATE UNEVEN AREAS AND LOW SPOTS. BRING SURFACE TO THE APPROXIMATE DESIGN CONTOURS.
- B. SCARIFY SUBSOIL TO A DEPTH OF 3 INCHES. REMOVE WEEDS, ROOTS, STONES AND FOREIGN MATERIALS 1-1/2 INCHES IN DIAMETER AND LARGER.

PLACING TOPSOIL

MATERIALS: FERTILE, AGRICULTURAL SOIL, TYPICAL FOR LOCALITY, CAPABLE OF SUSTAINING VIGOROUS PLANT GROWTH, TAKEN FROM DRAINED SITE; FREE OF SUBSOIL, CLAY OR IMPURITIES, PLANTS, WEEDS, AND ROOTS; PH VALUE OF MINIMUM 5.4 AND MAXIMUM OF 7.0.

- A. PLACE TOPSOIL DURING DRY WEATHER AND ON DRY UNFROZEN SUBSOIL WHERE INDICATED ON DRAWINGS.
- B. SPREAD TOPSOIL TO A MINIMUM DEPTH OF 4 INCHES. REMOVE VEGETABLE MATTER AND FOREIGN NON-ORGANIC MATERIAL FROM TOPSOIL WHILE SPREADING. GRADE SURFACE TO PROVIDE POSITIVE DRAINAGE AND PREVENT WATER PONDING. LIGHTLY COMPACT TOPSOIL WITH AT LEAST ONE PASS OF A CULTIPACKER OR SIMILAR EQUIPMENT
- C. MAINTAIN THE FINISHED SURFACES BY PROTECTING, AND REPLACING TOPSOIL AND SUBSOIL AS NECESSARY UNTIL THE AREA IS ACCEPTED UNDER THE CONTRACT.

APPLICATION OF LIME

MATERIALS: GROUND DOLOMITIC AGRICULTURAL LIMESTONE, NOT LESS THAN 85 PERCENT TOTAL CARBONATES, GROUND SO THAT 50 PERCENT PASSES 100 MESH SIEVE AND 90 PERCENT PASSES 30 MESH SIEVE. COARSER MATERIAL WILL BE ACCEPTABLE, PROVIDED THE SPECIFIED RATES OF APPLICATION ARE INCREASED PROPORTIONATELY ON THE BASIS OF QUANTITIES PASSING NO. 100 MESH SIEVE.

- A. LIMING SHALL BE DONE IMMEDIATELY AFTER GRADING HAS REACHED THE FINE GRADING STAGE, EVEN THOUGH ACTUAL SEEDING MAY NOT BE DONE UNTIL SEVERAL MONTHS LATER.
- B. SPREAD LIME EVENLY BY MEANS OF A MECHANICAL DISTRIBUTOR.
- C. WHEN LIME IS DISTRIBUTED BY COMMERCIAL LIMING DEALERS, SALES SLIPS SHOWING THE TONNAGE DELIVERED SHALL BE FILED WITH THE ENGINEER AND SHALL SHOW THE FULL TONNAGE REQUIRED FOR THE ACRES TREATED.
- D. INCORPORATE LIME IN THE TOP 2 TO 3 INCHES OF SOIL BY HARROWING, DISKING, OR OTHER APPROVED MEANS. LIME SHALL BE APPLIED AT A MINIMUM OF 2 TONS PER ACRE WITH 3 TONS PER ACRE IN CLAY SOILS OR PER SOILS TEST.

APPLICATION OF FERTILIZER

MATERIALS: FERTILIZER: MIXED, COMMERCIAL, FERTILIZER CONTAINING 10-10-10 PERCENTAGES OF AVAILABLE NITROGEN, PHOSPHORIC ACID, AND POTASH RESPECTIVELY, PLUS SUPERPHOSPHATE WITH 20 PERCENT P2O5 CONTENT. FERTILIZER SHALL BE DRY, IN GRANULAR (PELLET) FORM, SHALL BE DELIVERED TO THE SITE IN THE MANUFACTURER'S ORIGINAL BAG OR CONTAINER WHICH SHALL BE PLAINLY MARKED AS TO FORMULA.

- A. SPREAD FERTILIZER NOT MORE THAN 2 WEEKS IN ADVANCE OF SEEDING.
- B. TO VERIFY APPLICATION RATE, DETERMINE ACREAGE TO BE FERTILIZED AND PROVIDE ENGINEER WITH TOTAL WEIGHT OF FERTILIZER APPLIED TO THE AREA.
- C. PROVIDE MECHANICAL SPREADER FOR EVEN DISTRIBUTION AND SPREAD HALF OF THE RATE IN ONE DIRECTION, AND THE OTHER HALF AT RIGHT ANGLES TO THE FIRST. MIX THOROUGHLY INTO UPPER 2 TO 3 INCHES OF SOIL BY DISKING, HARROWING OR OTHER APPROVED METHODS.

SEEDING

MATERIALS:

SEED: FRESH SEED GUARANTEED 95 PERCENT PURE WITH A MINIMUM GERMINATION RATE OF 85 PERCENT WITHIN ONE YEAR OF TESTS. PROVIDE THE FOLLOWING SEED MIXTURES WITH LIME AND FERTILIZER IN DISTURBED AREAS INCLUDING NCDOT RIGHTS-OF-WAY:

1. TEMPORARY SEEDING

PLANTING DATES	GRASS TYPE	POUNDS/ACRE
JAN 1 - MAY 1	RYE (GRAIN)	120
MAY 1 - AUG 15	GERMAN MILLET	50
AUG 15 - DEC 30	RYE (GRAIN)	120
LIME		2,000
FERTILIZER (JAN 1 - AUG 15)	10-10-10	750
FERTILIZER (AUG 15 - DEC 30)	10-10-10	1,000
MULCH	STRAW	4,000

SEEDING & SEEDBED PREPARATION REQUIREMENTS (CON'T)

2. PERMANENT SEEDING (MAXIMUM SLOPE 3:1)

PLANTING DATES	GRASS TYPE	POUNDS/ACRE
AUG. 15 - NOV. 1	TALL FESCUE	300
NOV. 1 - MAR. 1	TALL FESCUE	300
&	ABRUZZI RYE	25
MAR. 1 - APR 15	TALL FESCUE	300
APR. 15 - JUN. 30	HULLED COMMON	25
	BERMUDAGRASS	
JUL. 1 - AUG. 15	TALL FESCUE	120
&	BROWNTOP MILLET	35
&	SORGHUM-SUDAN HYBRIDS	30
LIME		4,000
FERTILIZER	10-10-10	1,000
MULCH	STRAW	4,000

3. PERMANENT SEEDING (MAXIMUM SLOPE 3:1 TO 2:1)

PLANTING DATES	GRASS TYPE	POUNDS/ACRE
MAR. 1 - JUN. 1	SERICEA LESPEDEZA	50
&		
MAR. 1 - APR. 15	ADD TALL FESCUE	120
MAR. 1 - JUN 30 OR	ADD HULLED COMMON	25
	BERMUDAGRASS	
JUL. 1 - SEPT. 1	TALL FESCUE	120
&	BROWNTOP MILLET	35
&	SORGHUM-SUDAN HYBRIDS	30
SEPT. 1 - MAR. 1	SERICEA LESPEDEZA	70
	UNHULLED-UNSCARIFIED	
&	TALL FESCUE	120
NOV. 1 - MAR. 1	ADD ABRUZZI RYE	25
LIME		4,000
FERTILIZER	10-10-10	1,000
MULCH	STRAW	4,000

4. THE CONTRACTOR SHALL PROVIDE SEEDING AND FOLLOW FERTILIZING METHODS AS REQUIRED BY THE U.S. ARMY CORPS OF ENGINEERS TO REESTABLISH DISTURBED AREAS IN DESIGNATED WETLANDS.

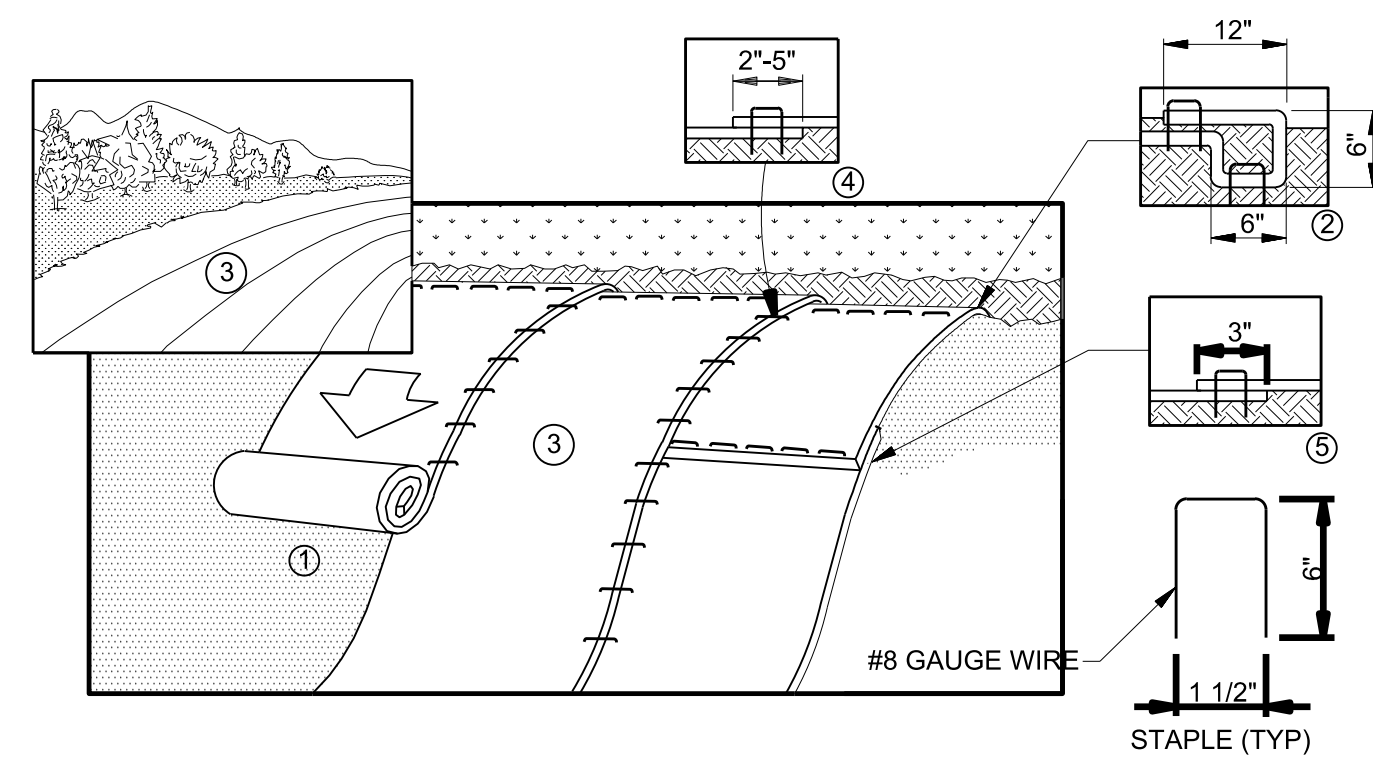
- A. ACCOMPLISH SEEDING BY MEANS OF AN APPROVED POWER-DRAWN SEED DRILL, COMBINATION CORRUGATED ROLLER-SEEDER, APPROVED HAND OPERATED MECHANICAL SEEDER, OR OTHER APPROVED METHODS TO PROVIDE EVEN DISTRIBUTION OF SEED.
- B. DO NOT SEED WHEN GROUND IS EXCESSIVELY WET OR EXCESSIVELY DRY. AFTER SEEDING, ROLL AREA
- C. WITH A ROLLER, NOT LESS THAN 18 INCHES IN DIAMETER AND WEIGHING NOT MORE THAN 210 POUNDS PER FOOT OF WIDTH. UPON COMPLETION OF ROLLING, WATER AREA WITH A FINE SPRAY.
- D. IMMEDIATELY FOLLOWING SEEDING APPLY MULCH OR MATTING AS LISTED BELOW. DO NOT SEED AREAS IN EXCESS OF THAT WHICH CAN BE MULCHED ON SAME DAY.
- E. APPLY WATER WITH A FINE SPRAY IMMEDIATELY AFTER EACH AREA HAS BEEN MULCHED. SATURATE TO 4 INCHES OF SOIL DEPTH.

MULCHING AND MATTING

MATERIALS: MATTING / EROSION CONTROL FABRIC (ECF); MATTING AND ECF SHALL BE A 100% STRAW MULCH. DOUBLE NET BLANKET ENCASED IN A MEDIUM WEIGHT PLASTIC NETTING (BOTH SIDES) WITH A MINIMUM PERMISSIBLE SHEAR STRESS OF 1.75 LBS/FT2. MATTING SHALL BE FULLY DEGRADABLE BUT SUITABLE UNTIL VEGETATION HAS BEEN ESTABLISHED.

MATERIALS: MULCH: THRESHED STRAW OF OATS, WHEAT, OR RYE; FREE FROM SEED OF OBNOXIOUS WEEDS; OR CLEAN SALT HAY. STRAW WHICH IS FRESH AND EXCESSIVELY BRITTLE OR STRAW WHICH IS IN SUCH AN ADVANCED STAGE OF DECOMPOSITION AS TO SMOOTH OR RETARD GROWTH OF GRASS WILL NOT BE ACCEPTABLE.

- A. APPLY MULCH OR MATTING AS REQUIRED TO RETAIN SOIL AND GRASS, BUT NO LESS THEN THE FOLLOWING:
 - 1. SLOPES FROM 0 TO 20 PERCENT BY SPREADING A LIGHT COVER OF MULCH OVER SEEDING AREA AT THE RATE OF NOT LESS THAN 85 LBS. PER 1000 SQ. FT. USE TACK TO PREVENT DISRUPTION OF MULCH.
 - 2. SLOPES GREATER THAN 20 PERCENT MULCH WITH MATTING. PIN MATTING TO THE GROUND WITH WIRE STAPLES AT 5 FOOT INTERVALS, IMMEDIATELY AFTER SEEDING.
- B. FOR TACK USE AN ASPHALT TIE-DOWN OF EMULSIFIED ASPHALT GRADE AE-3 OR CUT-BACK ASPHALT GRADE RC-2 OR OTHER APPROVED EQUAL. THE APPLICATION RATE SHALL BE 0.10 GAL/SY (11 GAL / 1000 SQ FT). AN APPROVED JUTE MESH OR NET MAY BE USED IN LIEU OF TACKING STRAW MULCH.
- C. OTHER TYPES OF MULCH AND ANCHORING METHODS MAY BE USED UPON APPROVAL BY THE ENGINEER.



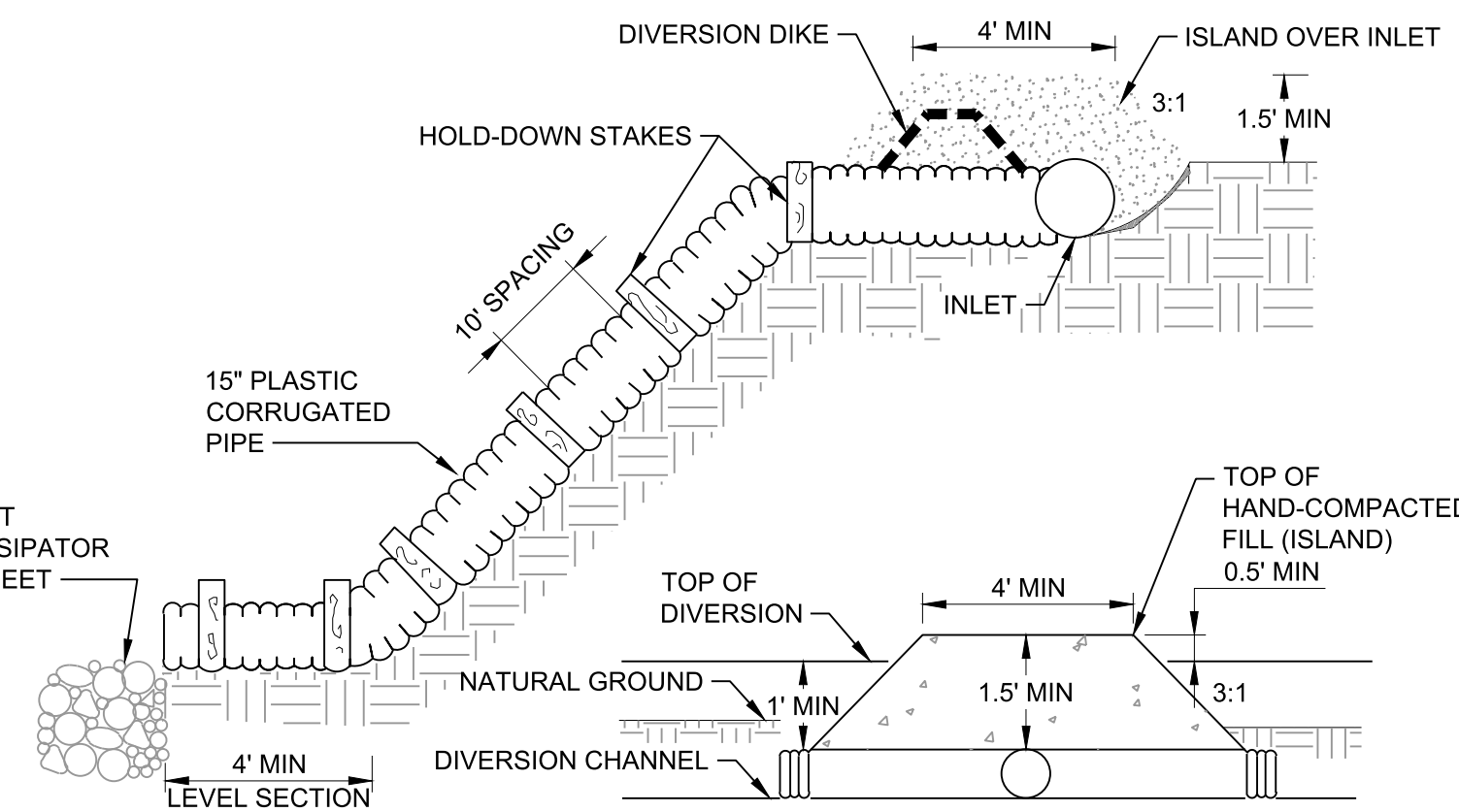
SEQUENCE:

- 1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
- 2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP x 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
- 3. ROLL THE BLANKETS DOWN THE SLOPE WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.
- 4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"-5" OVERLAP DEPENDING ON THE BLANKET TYPE.
- 5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (APART ACROSS ENTIRE BLANKET WIDTH).

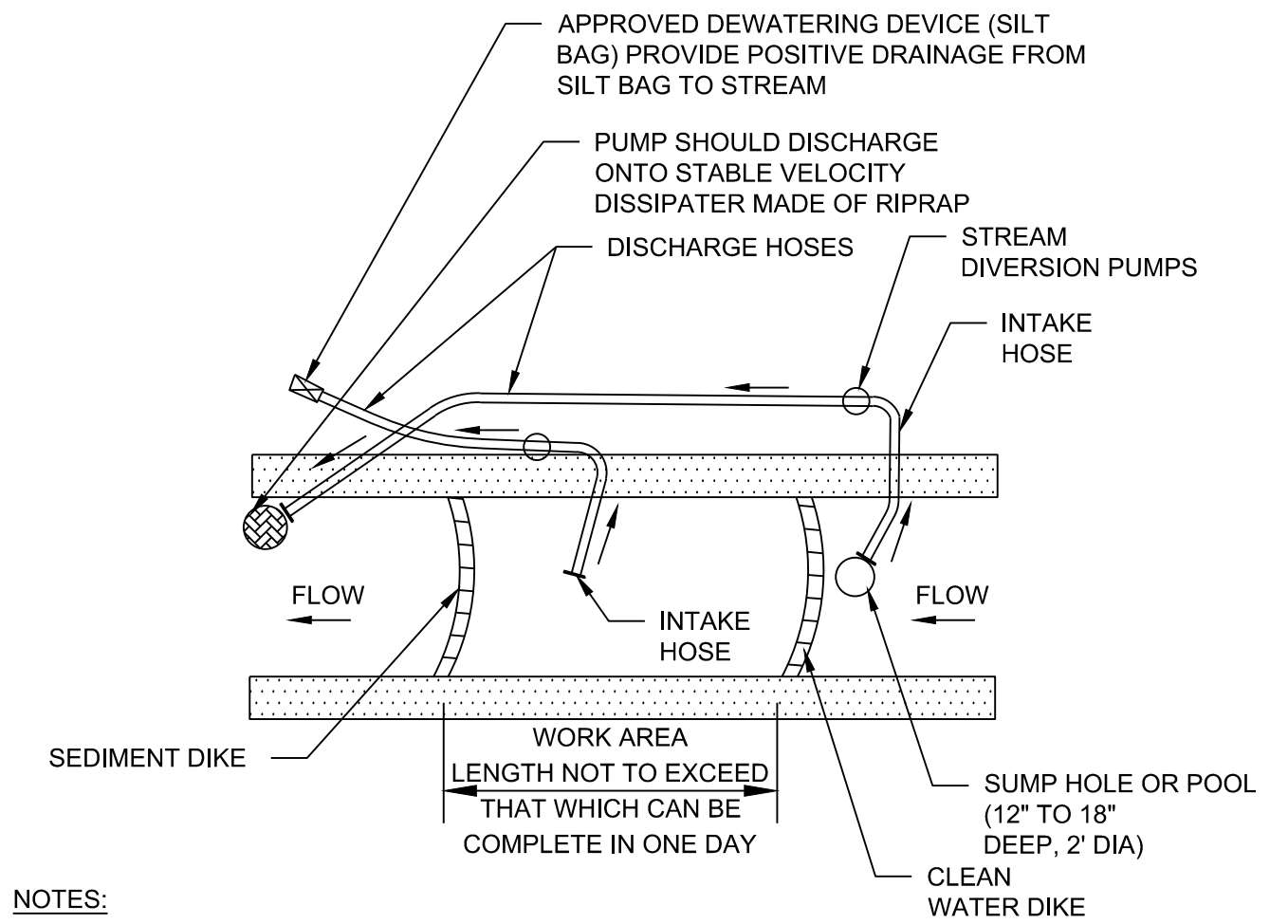
NOTES:

- 1. MATTING SHALL BE INSTALLED WHERE REQUIRED TO STABILIZE CHANNELS AND SLOPES.
- 2. MATTING FOR EROSION CONTROL SHALL BE JUTE MATTING OR EXCELSIOR MATTING DEGRADABLE, DOUBLE NET BLANKET.
- 3. CONTRACTOR SHALL INSTALL EROSION CONTROL MATTING WHERE INDICATED ON PIPING PROFILES.

DETAIL FOR BANK STABILIZATION STABILIZING SLOPES WITH EROSION CONTROL MATTING



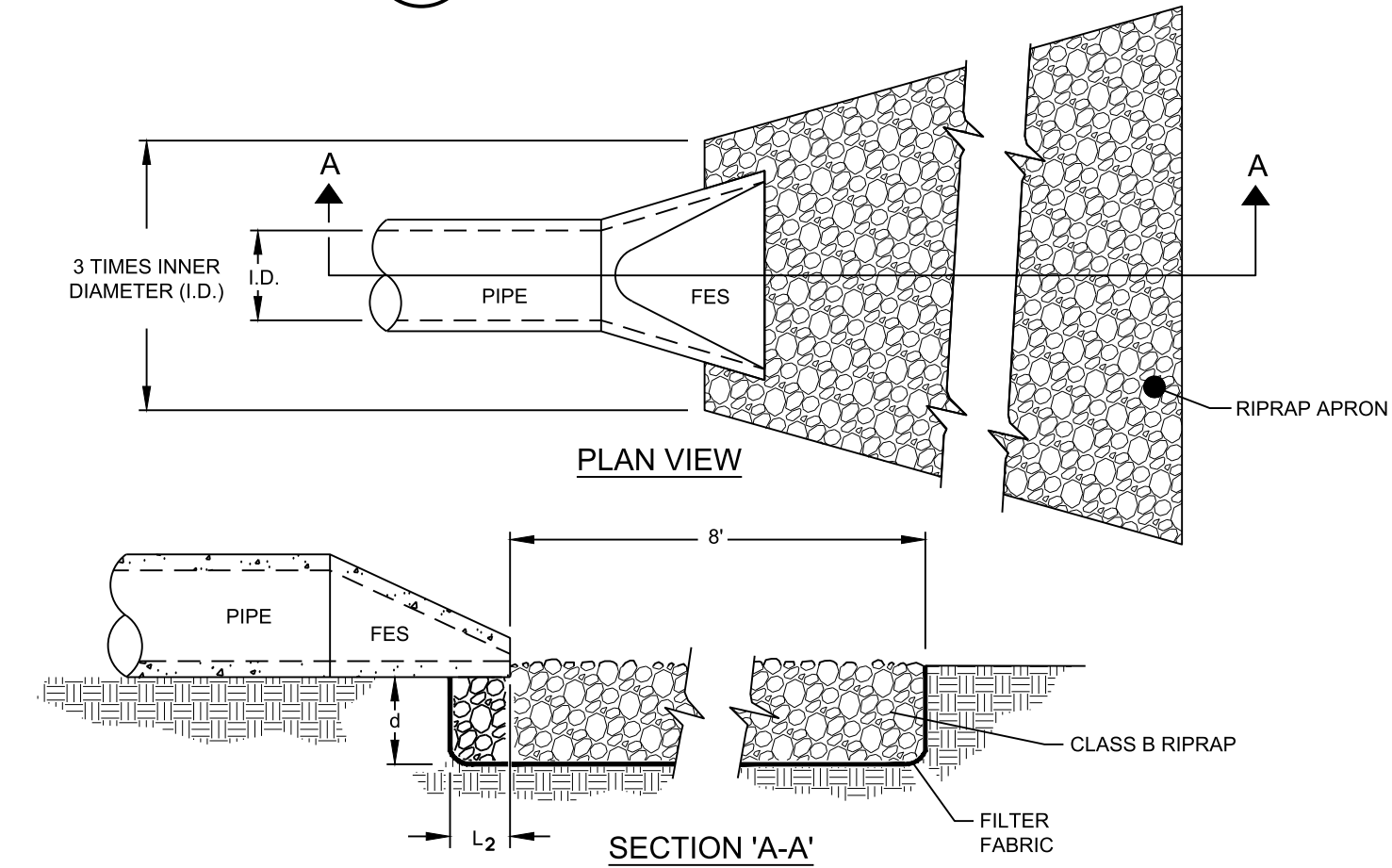
TEMPORARY SLOPE DRAIN



NOTES:

- 1. SANDBAG DIKES SHALL BE SITUATED AT THE UPSTREAM AND DOWNSTREAM ENDS OF THE WORK AREA AND STREAM FLOW SHALL BE PUMPED AROUND THE WORK AREA. THE PUMP SHOULD DISCHARGE ONTO A STABLE VELOCITY DISSIPATER CONSTRUCTED OF RIP RAP OR SANDBAGS.
- 2. WATER FROM THE WORK AREA SHALL BE PUMPED TO A SEDIMENT FILTERING MEASURE SUCH AS A SEDIMENT BAG OR OTHER APPROVED DEVICE. THE MEASURE SHALL BE LOCATED SUCH THAT THE WATER DRAINS BACK INTO THE CHANNEL BELOW THE DOWNSTREAM SANDBAG DIKE WITHOUT CAUSING FURTHER EROSION BETWEEN THE SILT BAG AND STREAM. CONTRACTOR SHALL KEEP AN EXTRA SILT BAG ON SITE AT ALL TIMES DURING CONSTRUCTION.
- 3. CONTRACTOR SHALL MINIMIZE CREEK BANK DISTURBANCE. CLEARING AND GRUBBING WITHIN CREEK BANKS SHALL BE LIMITED TO THAT REQUIRED BY CONTRACTOR FOR INSTALLATION OF THE PIPELINE.

TEMPORARY PUMP AROUND



- 1) L = LENGTH OF THE RIPRAP APRON.
- 2) L2 = RIPRAP TO BE INSTALLED UNDERNEATH 1/3 THE LENGTH OF FLARED END SECTION (FES).
- 3) d = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6 INCHES.
- 4) A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND SOIL FOUNDATION.

PIPE OUTLET RIPRAP APRON



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CITY OF RALEIGH DEVELOPMENT APPROVAL:

RALEIGH WATER REVIEW OFFICER



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Business License No. F-0794
175 Regency Wood Place, Suites 200 & 300
Cary, North Carolina 27518

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D. Lee Campbell
Date: 2024.09.23
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SANFORD CREEK
SEWER
INTERCEPTOR

REVISIONS AND RECORD OF ISSUE

DESIGNED:	JG
DETAILED:	KTH
CHECKED:	
APPROVED:	
DATE:	JULY 2024
PROJECT NO.:	415285

SANFORD CREEK SEWER
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EROSION CONTROL
NOTES AND DETAILS - 1

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

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

SECTION E: GROUND STABILIZATION

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

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

GROUND STABILIZATION SPECIFICATION

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

Temporary Stabilization	Permanent Stabilization
<ul style="list-style-type: none"> Temporary grass seed covered with straw or other mulches and tackifiers Hydroseeding Rolled erosion control products with or without temporary grass seed Appropriately applied straw or other mulch Plastic sheeting 	<ul style="list-style-type: none"> Permanent grass seed covered with straw or other mulches and tackifiers Geotextile fabrics such as permanent soil reinforcement matting Hydroseeding Shrubs or other permanent plantings covered with mulch Uniform and evenly distributed ground cover sufficient to restrain erosion Structural methods such as concrete, asphalt or retaining walls Rolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

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

EQUIPMENT AND VEHICLE MAINTENANCE

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

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

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

PAINT AND OTHER LIQUID WASTE

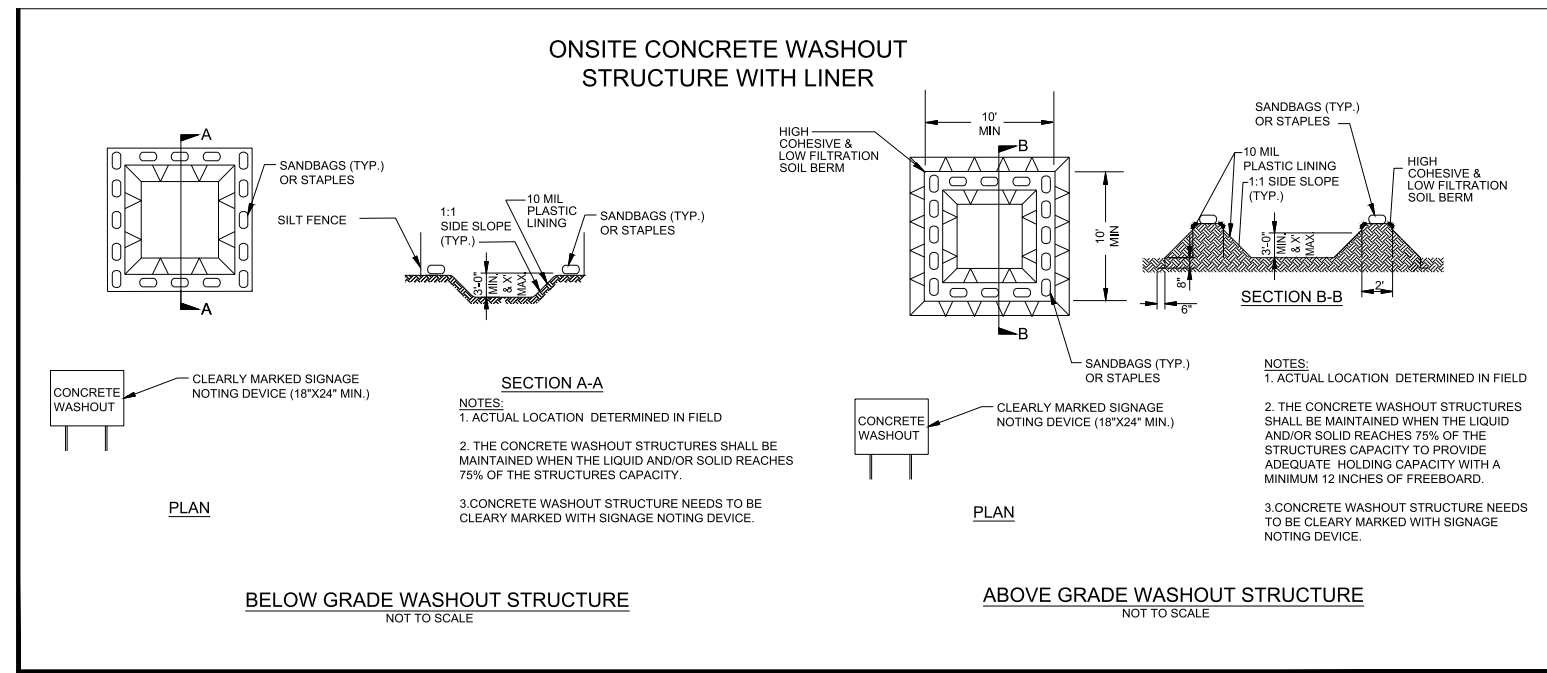
- Do not dump paint and other liquid waste into storm drains, streams or wetlands.
- Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Contain liquid wastes in a controlled area.
- Containment must be labeled,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

PORTABLE TOILETS

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

EARTHEN STOCKPILE MANAGEMENT

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



CONCRETE WASHOUTS

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

HERBICIDES, PESTICIDES AND RODENTICIDES

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

HAZARDOUS AND TOXIC WASTE

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

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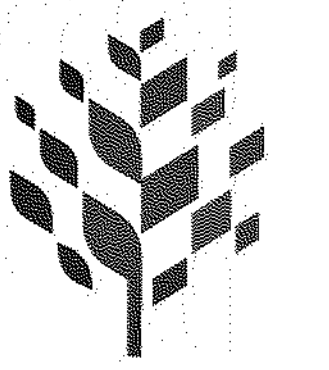
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Cary, North Carolina 27518

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SANFORD CREEK
SEWER
INTERCEPTOR

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DESIGNED:	JG
DETAILED:	KTH
CHECKED:	
APPROVED:	
DATE:	JULY 2024
PROJECT NO.:	415285

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NOTES AND DETAILS - 2

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NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

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SANFORD CREEK SEWER INTERCEPTOR

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EROSION CONTROL NOTES AND DETAILS - 3

D-06 19 OF 22

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that Must be Reported

- Permittees shall report the following occurrences:
(a) Visible sediment deposition in a stream or wetland.
(b) Oil spills if:
- They are 25 gallons or more,
- They are less than 25 gallons but cannot be cleaned up within 24 hours,
- They cause sheen on surface waters (regardless of volume), or
- They are within 100 feet of surface waters (regardless of volume).
(c) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act...
(d) Anticipated bypasses and unanticipated bypasses.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below.

Table with 2 columns: Occurrence and Reporting Timeframes (After Discovery) and Other Requirements. Rows include sediment deposition, oil spills, anticipated bypasses, unanticipated bypasses, and noncompliance.

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PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be kept on site and available for inspection at all times during normal business hours.

Table with 2 columns: Item to Document and Documentation Requirements. Rows include E&SC measure installation, grading completion, ground cover, maintenance/repair, and corrective actions.

2. Additional Documentation to be Kept on Site

In addition to the E&SC plan documents above, the following items shall be kept on the site and available for inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

- (a) This General Permit as well as the Certificate of Coverage, after it is received.
(b) Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements.

3. Documentation to be Retained for Three Years

All data used to complete the e-NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection.

Table with 3 columns: Inspect, Frequency (during normal business hours), and Inspection records must include. Rows include rain gauge, E&SC Measures, stormwater outfalls, perimeter of site, streams/wetlands, and ground stabilization measures.

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

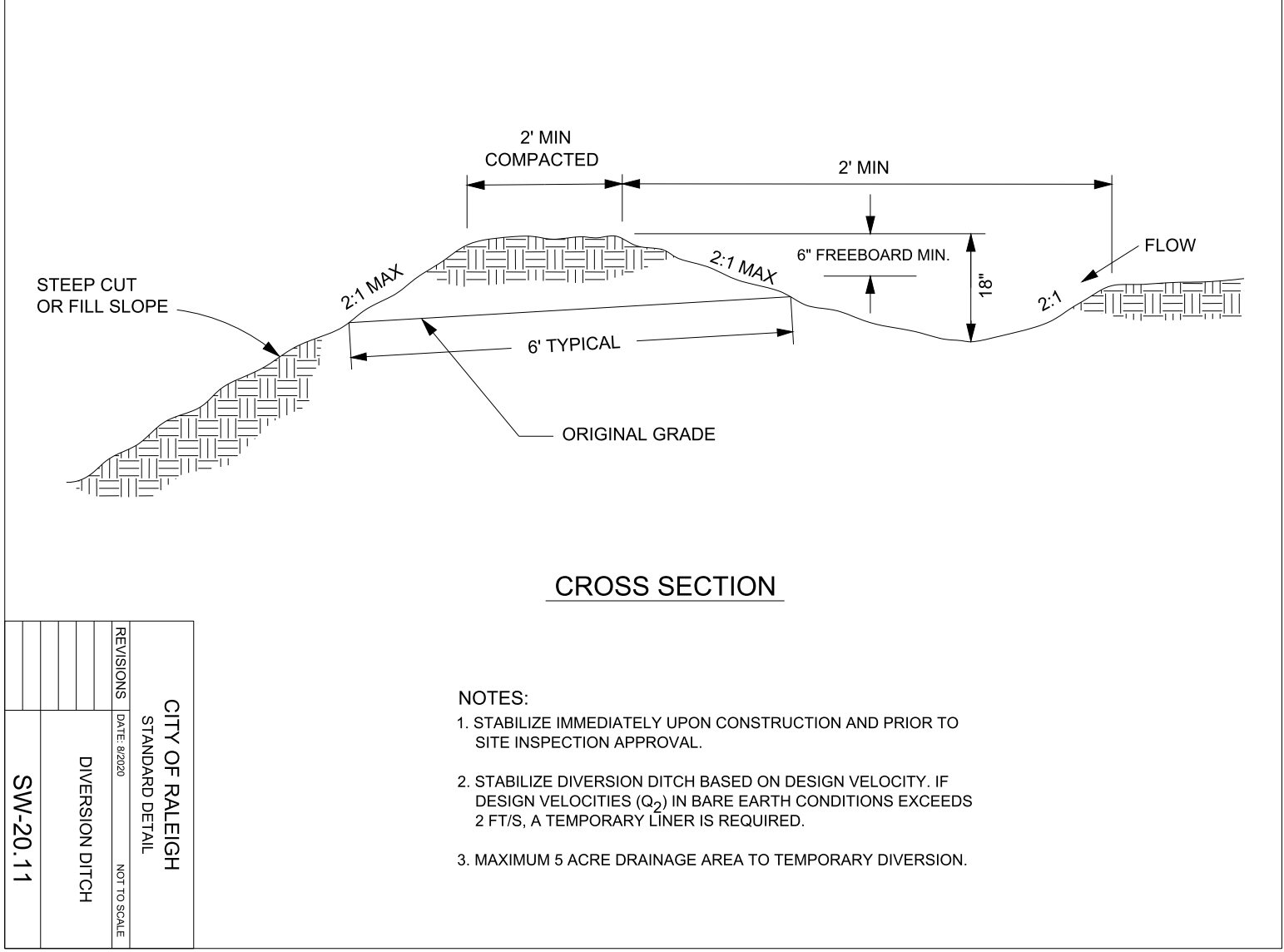
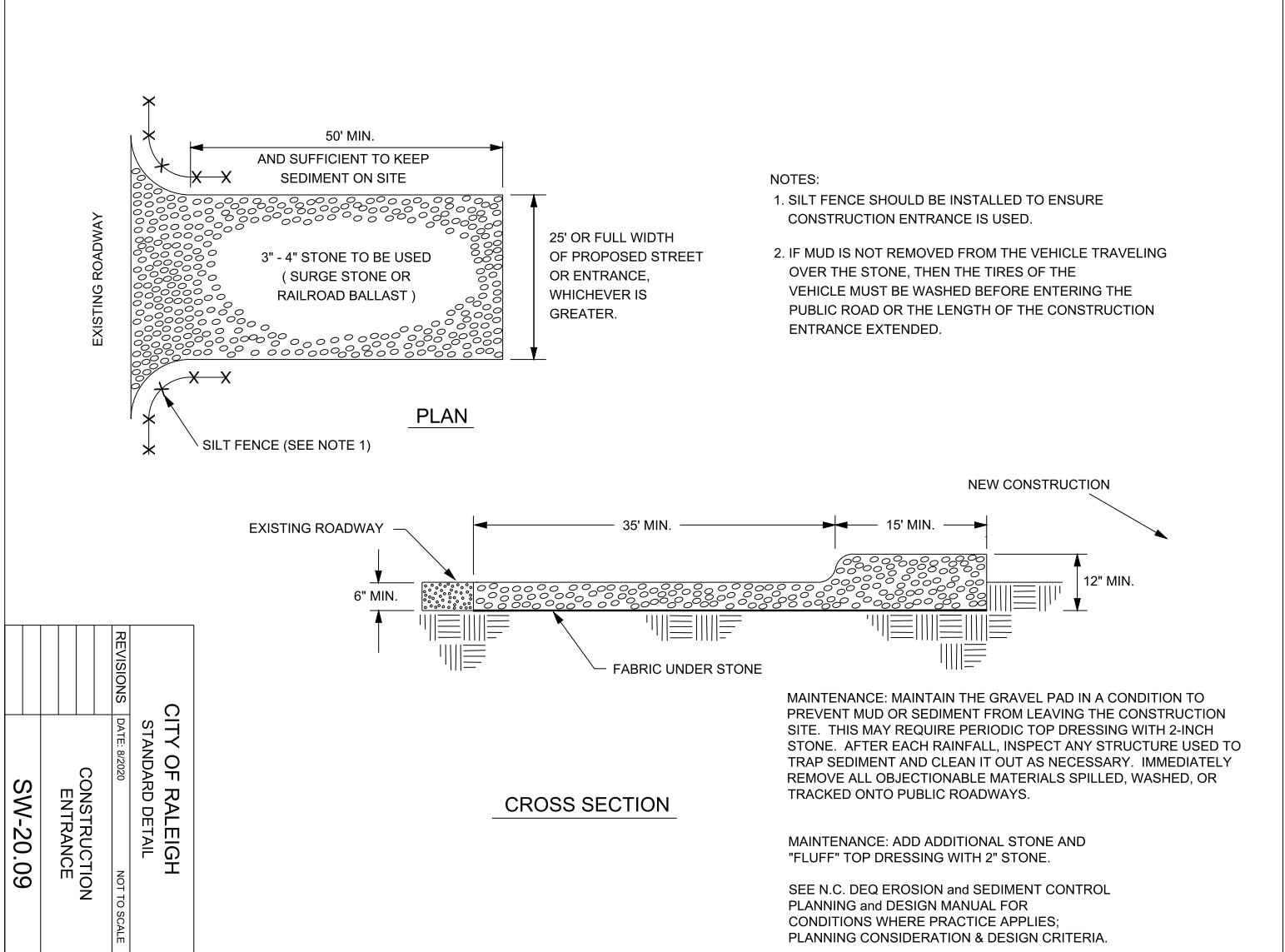
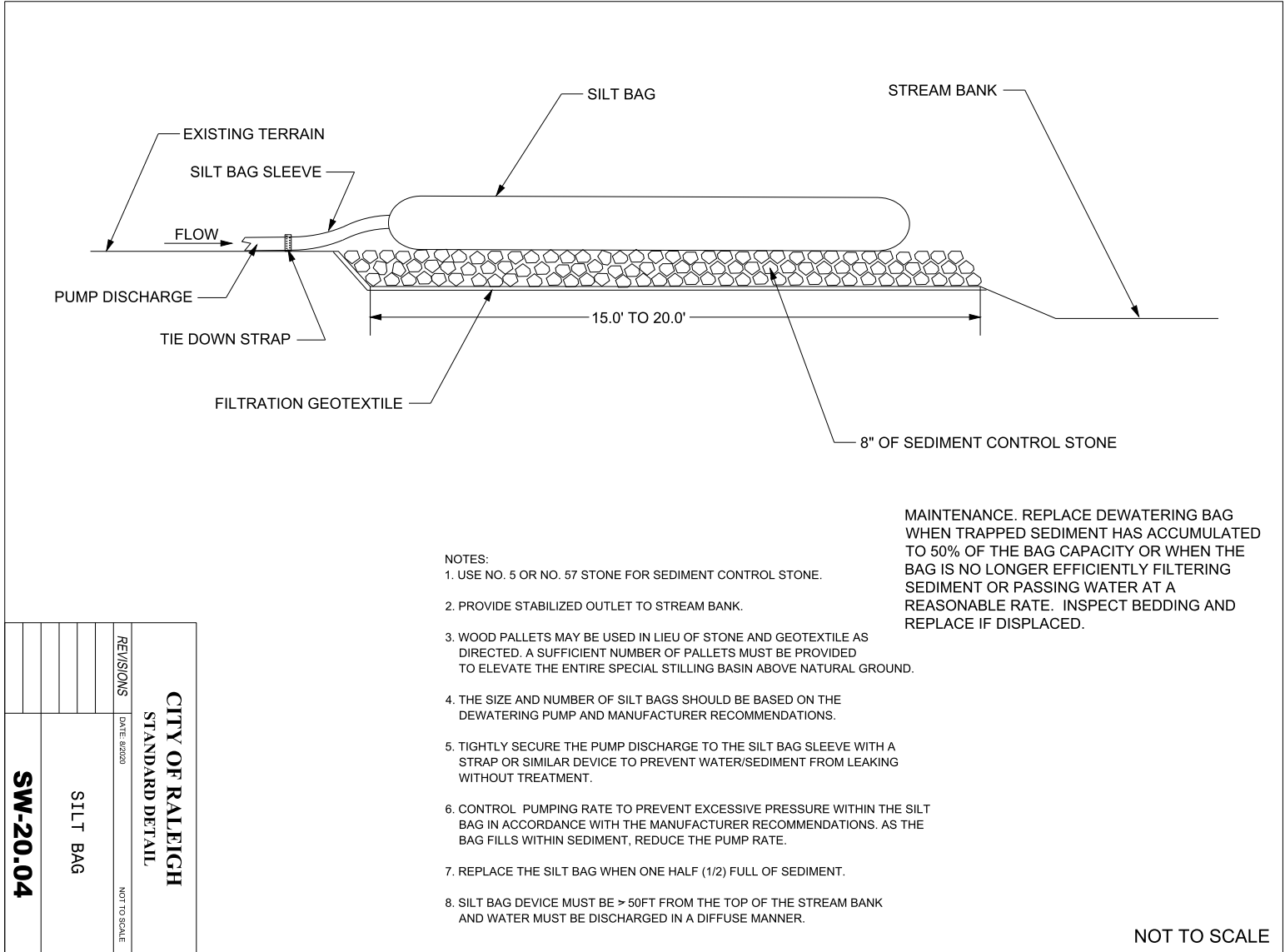
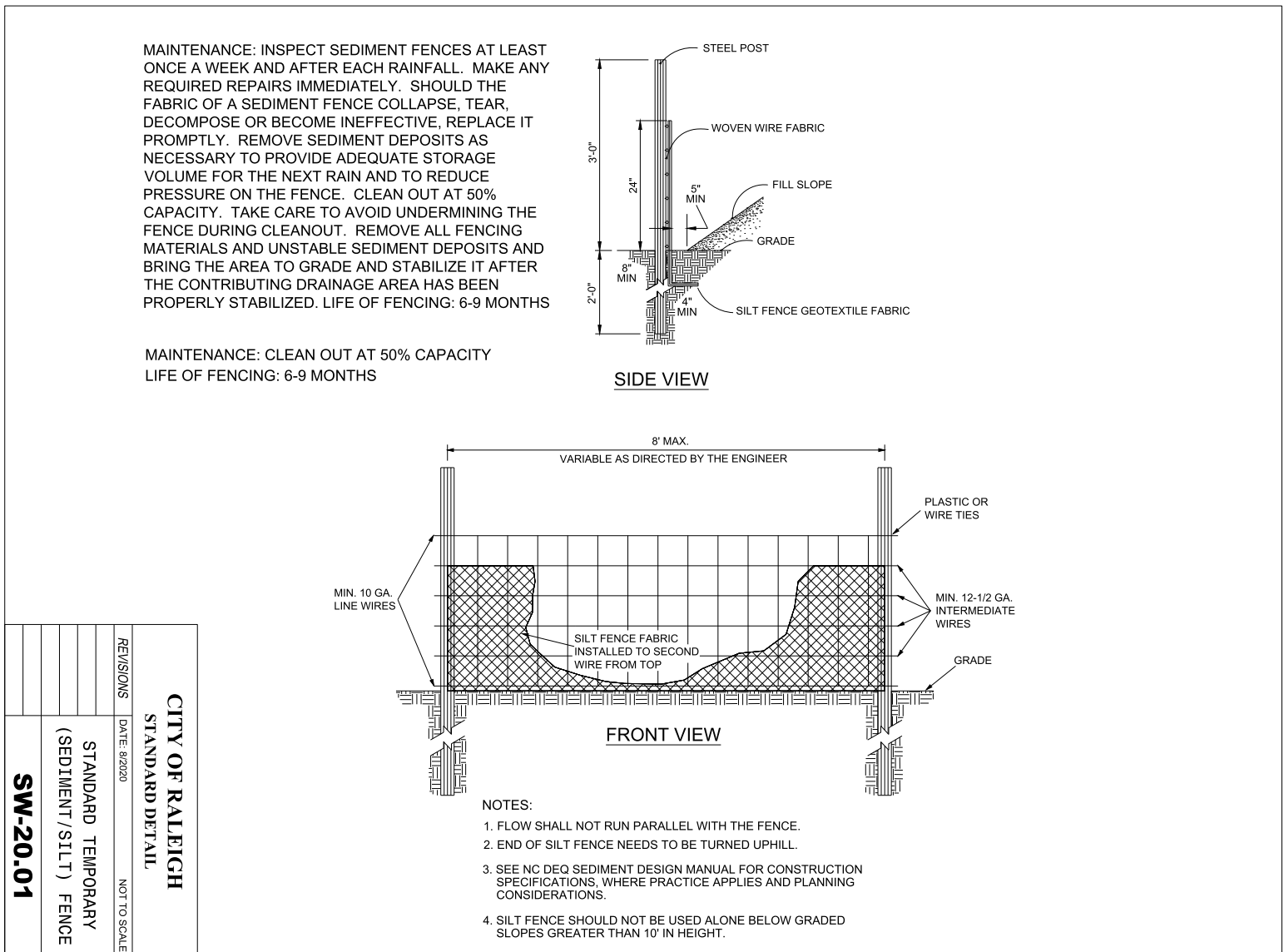
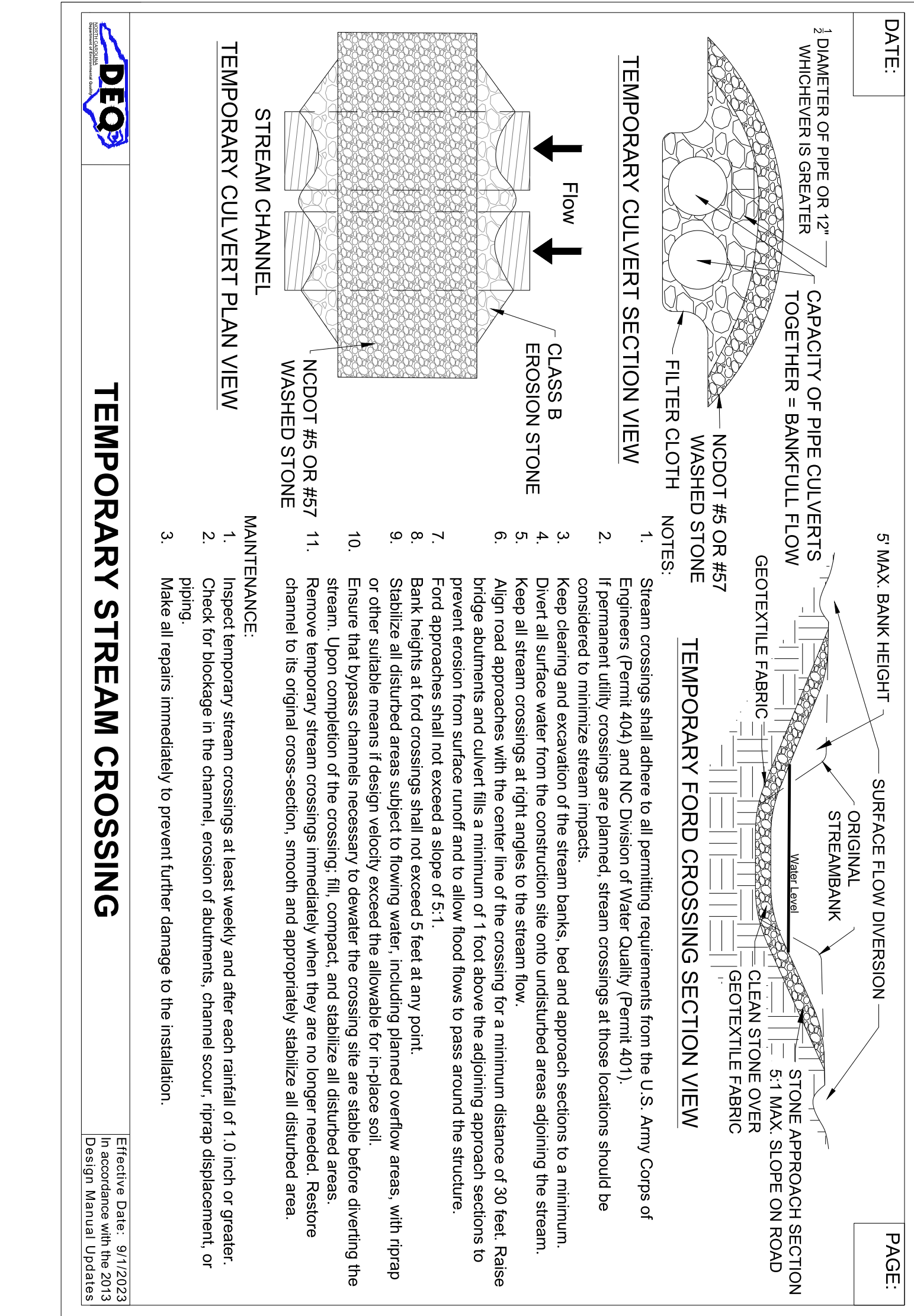
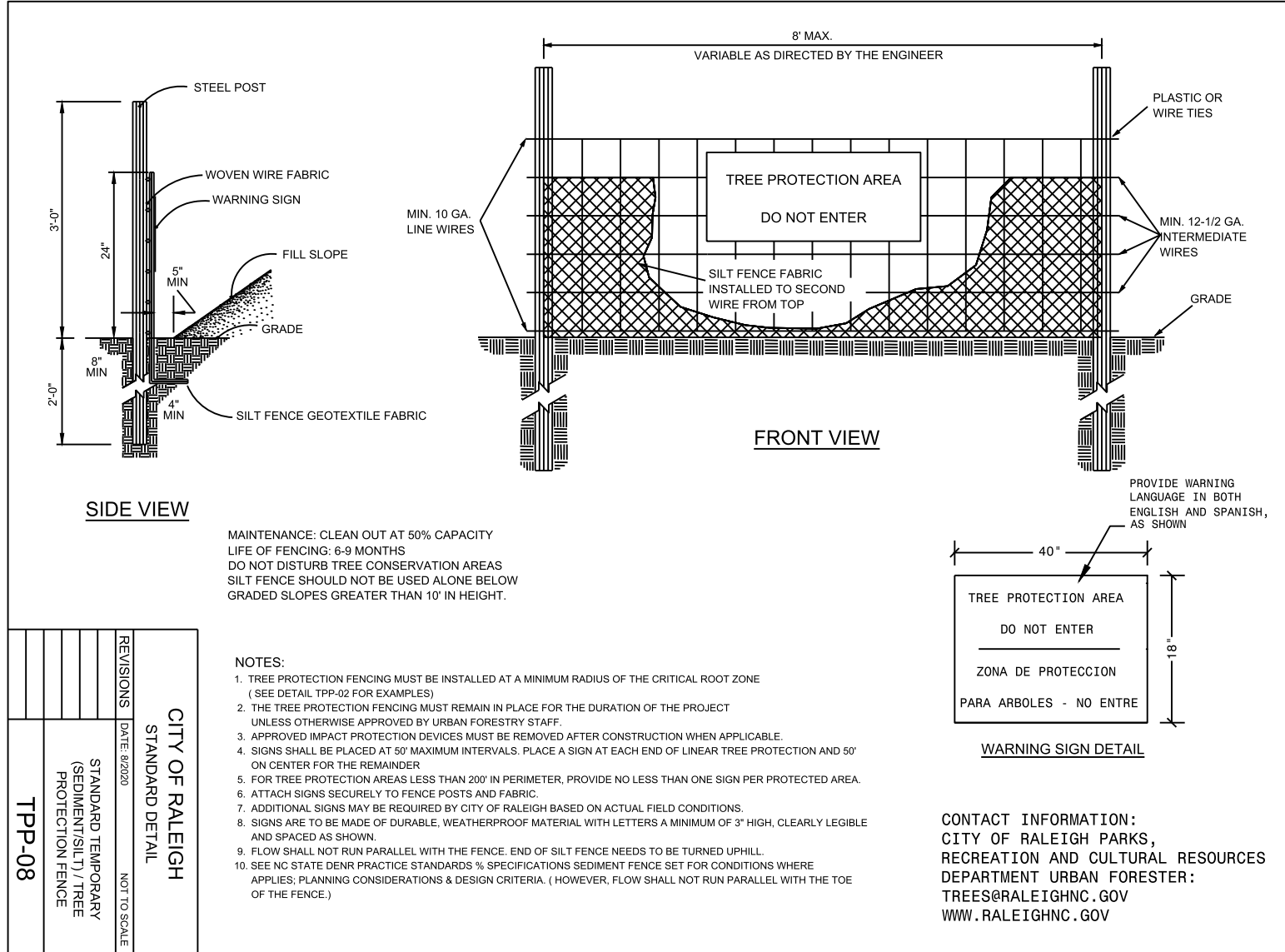
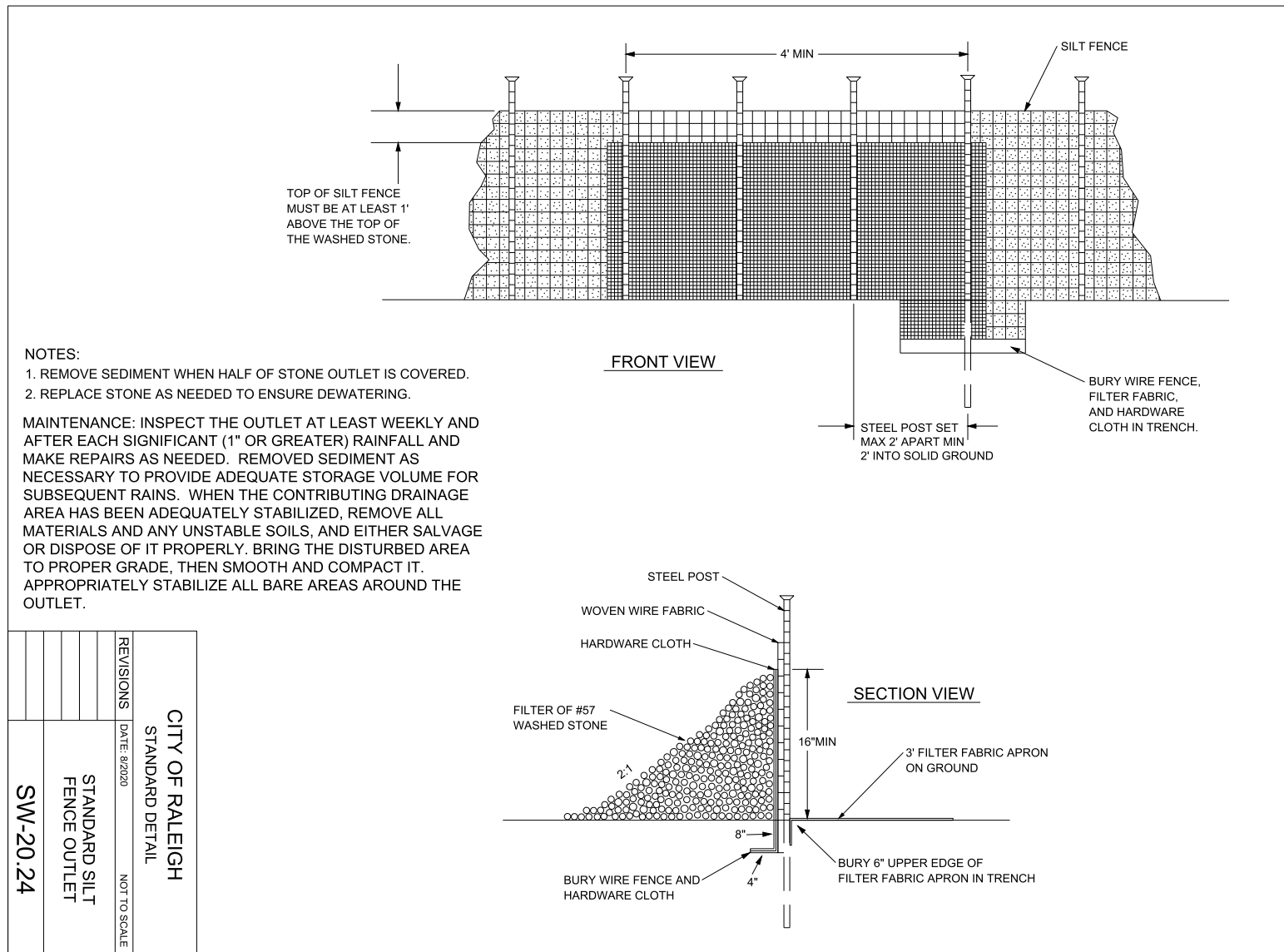
PART II, SECTION G, ITEM (4)
DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible.

- (a) The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur.
(b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit.
(c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin.
(d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above.
(e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
(f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

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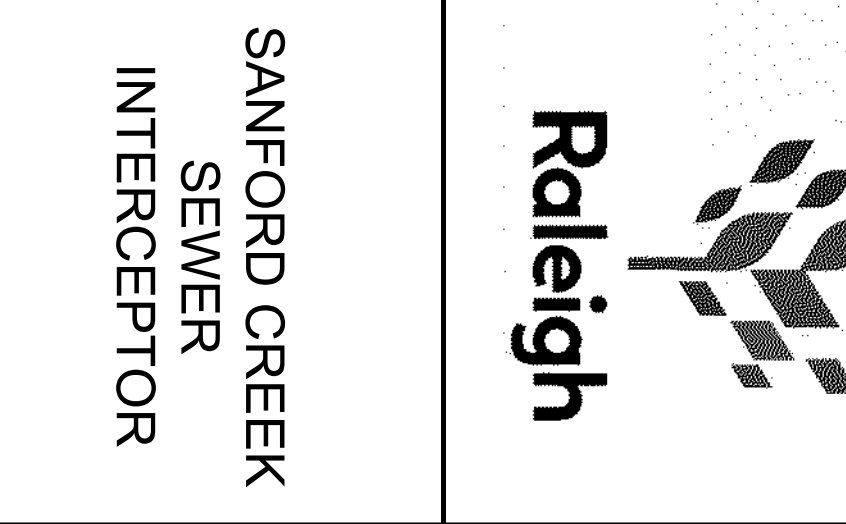
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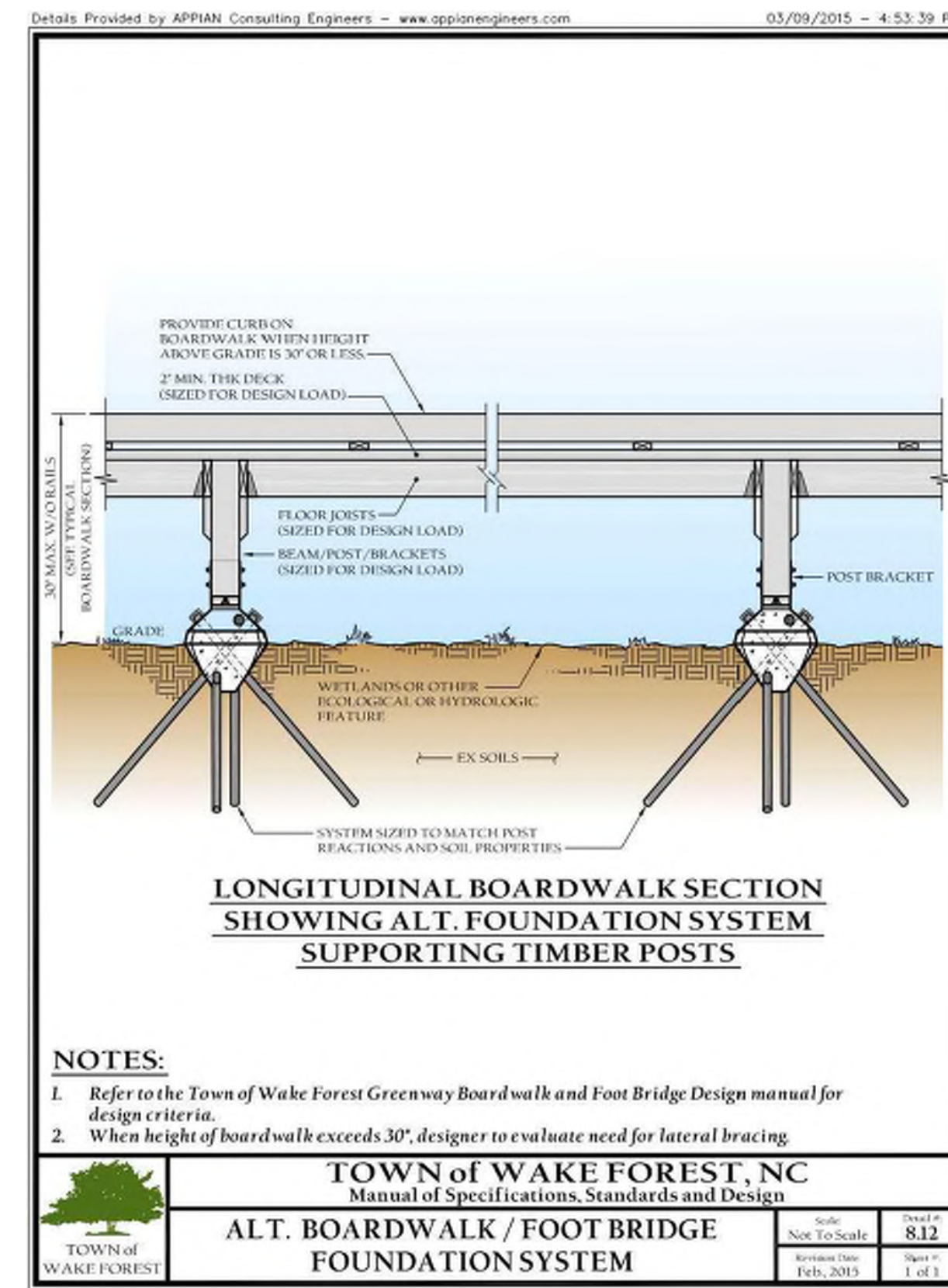
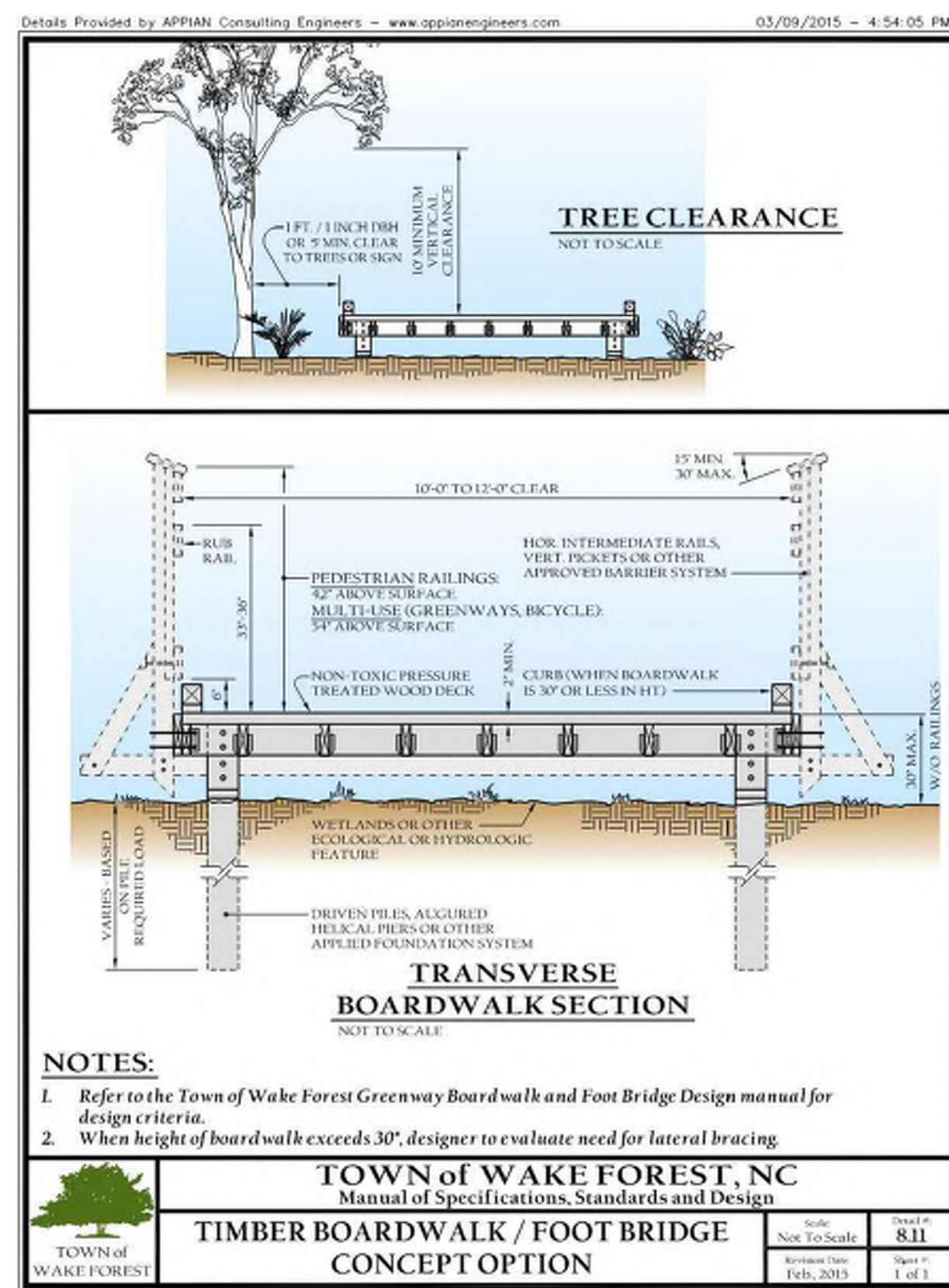
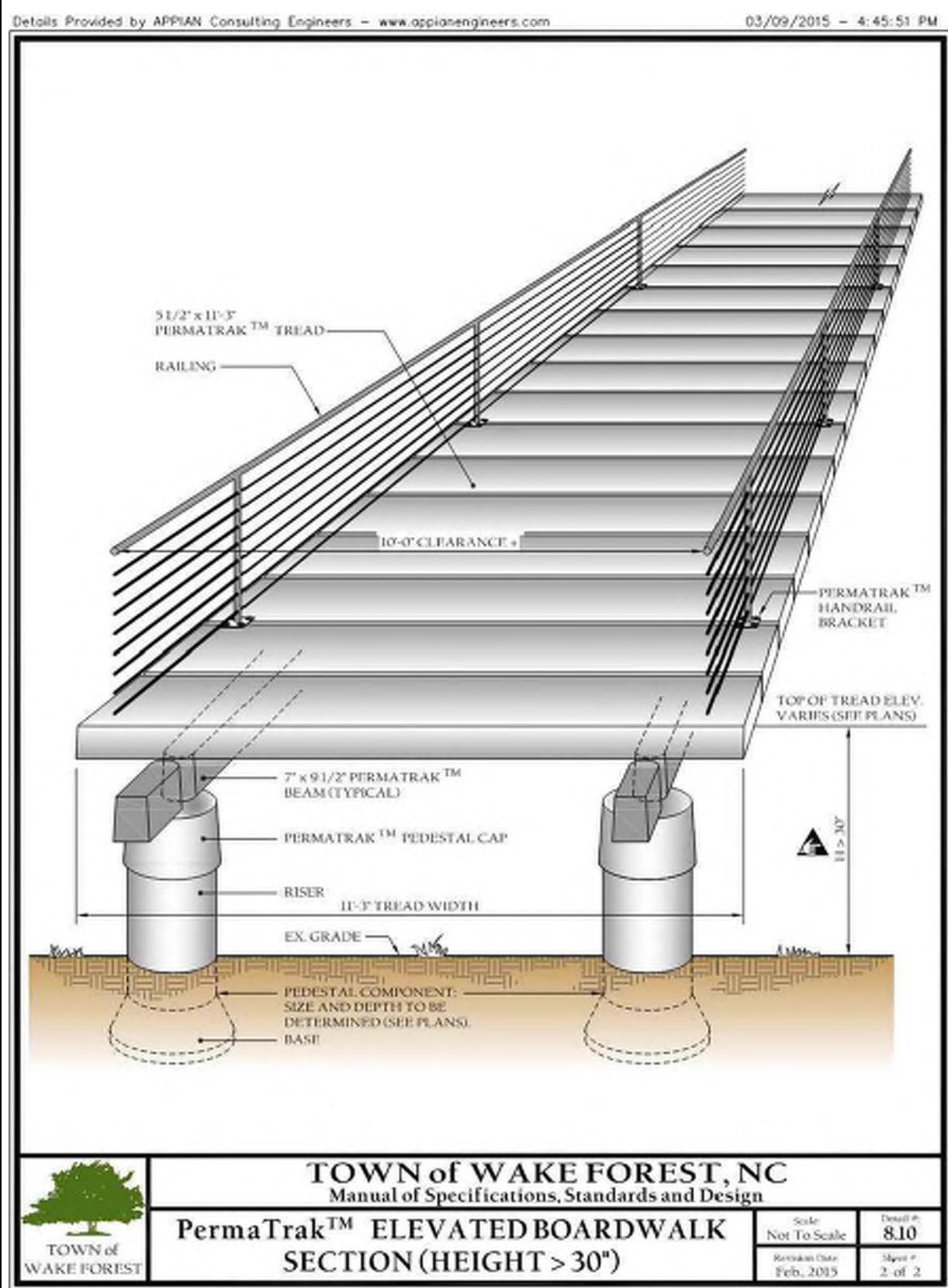
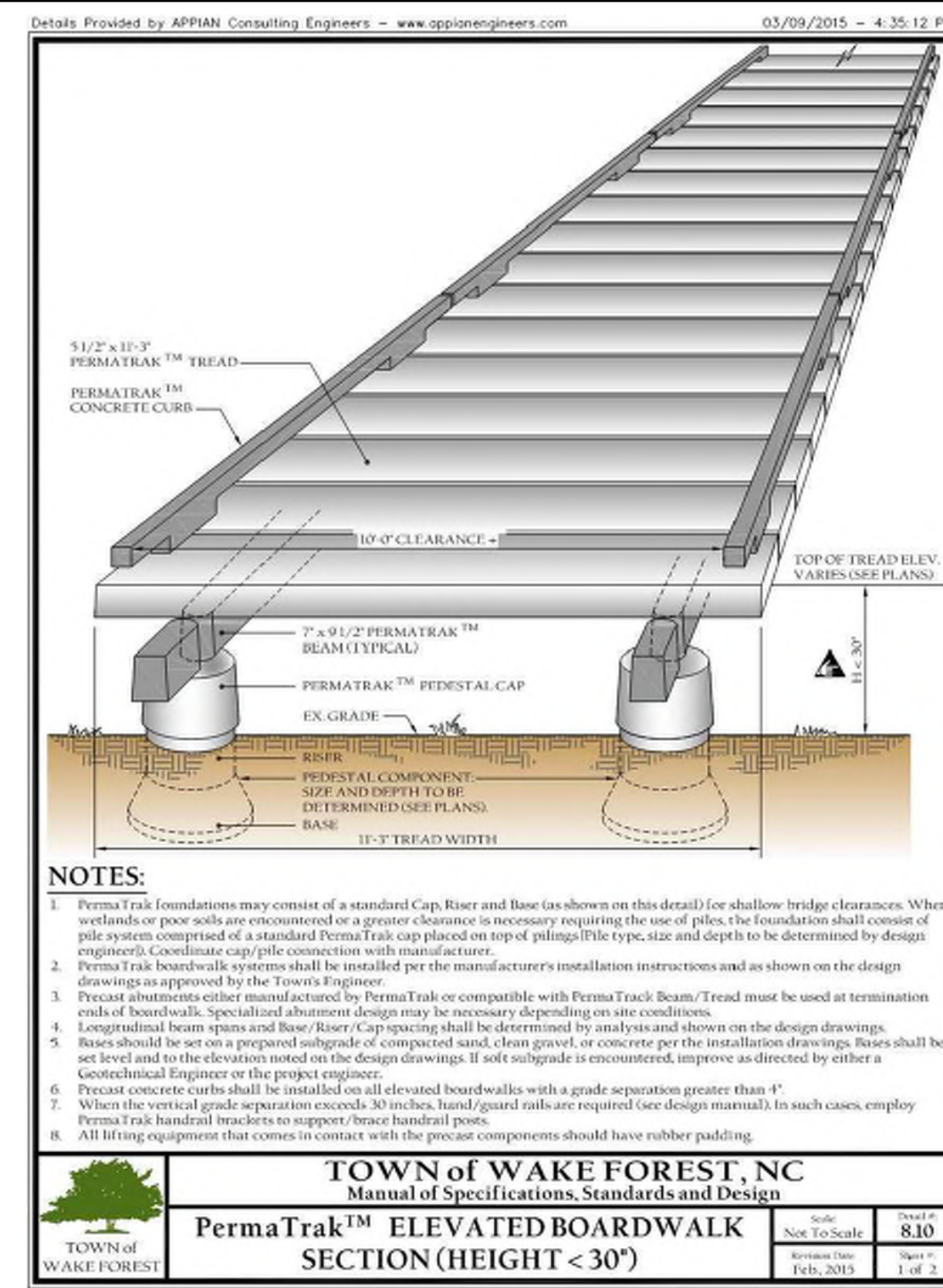
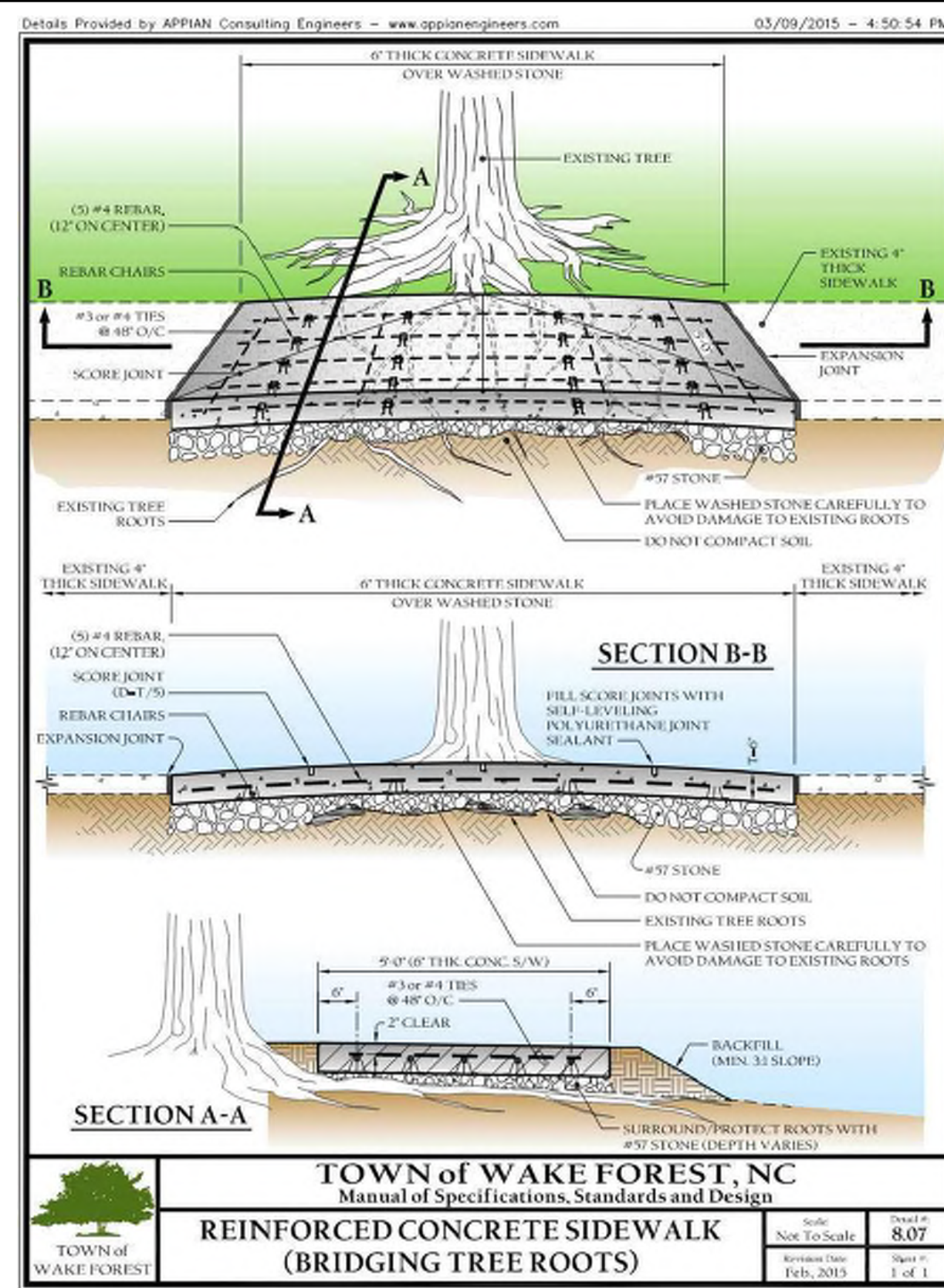
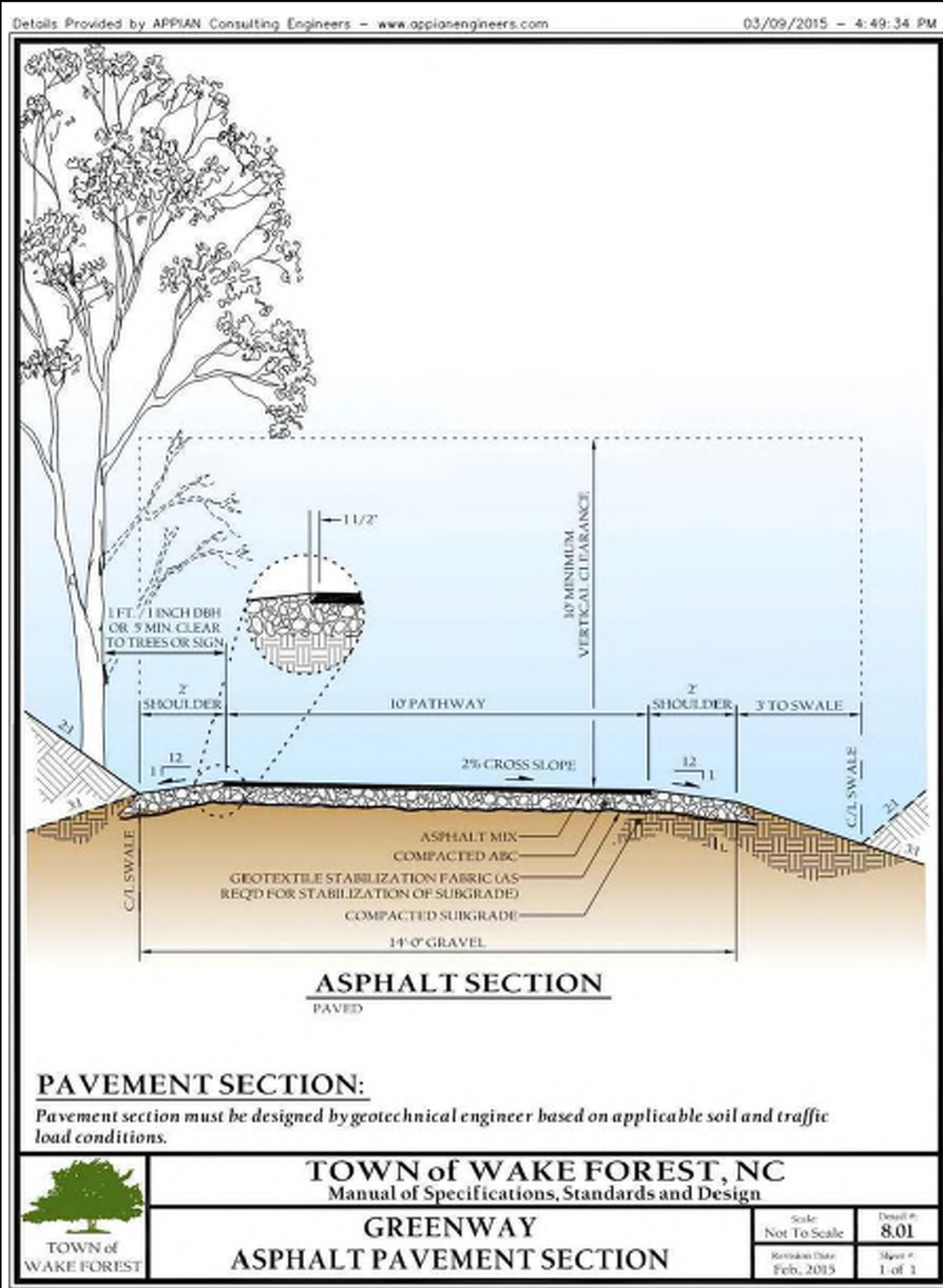
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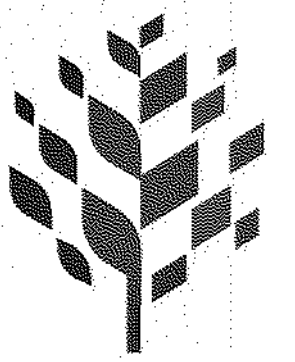


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 Business License No. F-0709 & 300
 175 Raging Branch, Suite 200
 Cary, North Carolina 27513



Digitally signed by
D. Lee Campbell
Date: 2024.09.23
19:08:46 -0400



Raleigh

SANFORD CREEK SEWER INTERCEPTOR

PRELIMINARY
NOT FOR
CONSTRUCTION

REVISIONS AND RECORD OF ISSUE	
DESIGNED:	JG
DETAILED:	KTH
CHECKED:	
APPROVED:	
DATE:	JULY 2024
PROJECT NO.:	415285

SANFORD CREEK SEWER INTERCEPTOR

CIVIL

TOWN OF WAKE FOREST DETAILS

D-08

22
OF
22

THESE PLANS HAVE BEEN ELECTRONICALLY APPROVED FOR CONSTRUCTION BY THE TOWN OF WAKE FOREST ENGINEERING DEPARTMENT. THIS APPROVAL MAY NOT BE ALTERED ONCE ISSUED.

ENGINEERING

THESE PLANS HAVE BEEN ELECTRONICALLY APPROVED FOR CONSTRUCTION BY THE TOWN OF WAKE FOREST PLANNING DEPARTMENT. THIS APPROVAL MAY NOT BE ALTERED ONCE ISSUED.

PLANNING

CITY OF RALEIGH – PLANS AUTHORIZED FOR CONSTRUCTION ELECTRONIC APPROVAL: THIS APPROVAL IS BEING ISSUED ELECTRONICALLY. THIS APPROVAL IS VALID UPON THE SIGNATURE OF A CITY OF RALEIGH REVIEW OFFICER BELOW. THE CITY WILL RETAIN A COPY OF THE APPROVED PLANS. ANY WORK AUTHORIZED BY THIS APPROVAL MUST PROCEED IN ACCORDANCE WITH THE PLANS KEPT ON FILE WITH THE CITY. THIS ELECTRONIC APPROVAL MAY NOT BE EDITED ONCE ISSUED. ANY MODIFICATION OF THIS APPROVAL ONCE ISSUED WILL INVALIDATE THIS APPROVAL.

CITY OF RALEIGH DEVELOPMENT APPROVAL:

RALEIGH WATER REVIEW OFFICER