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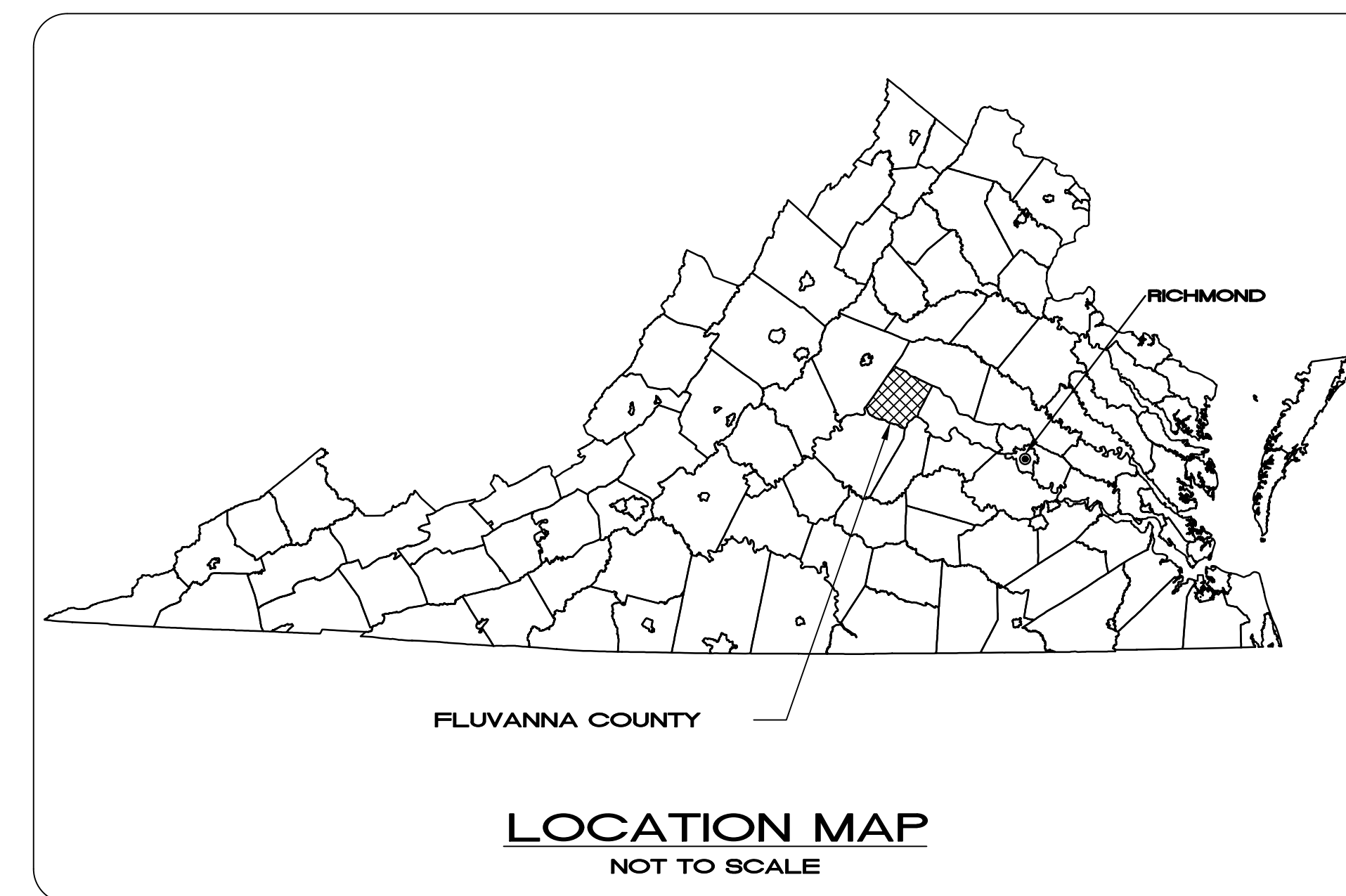
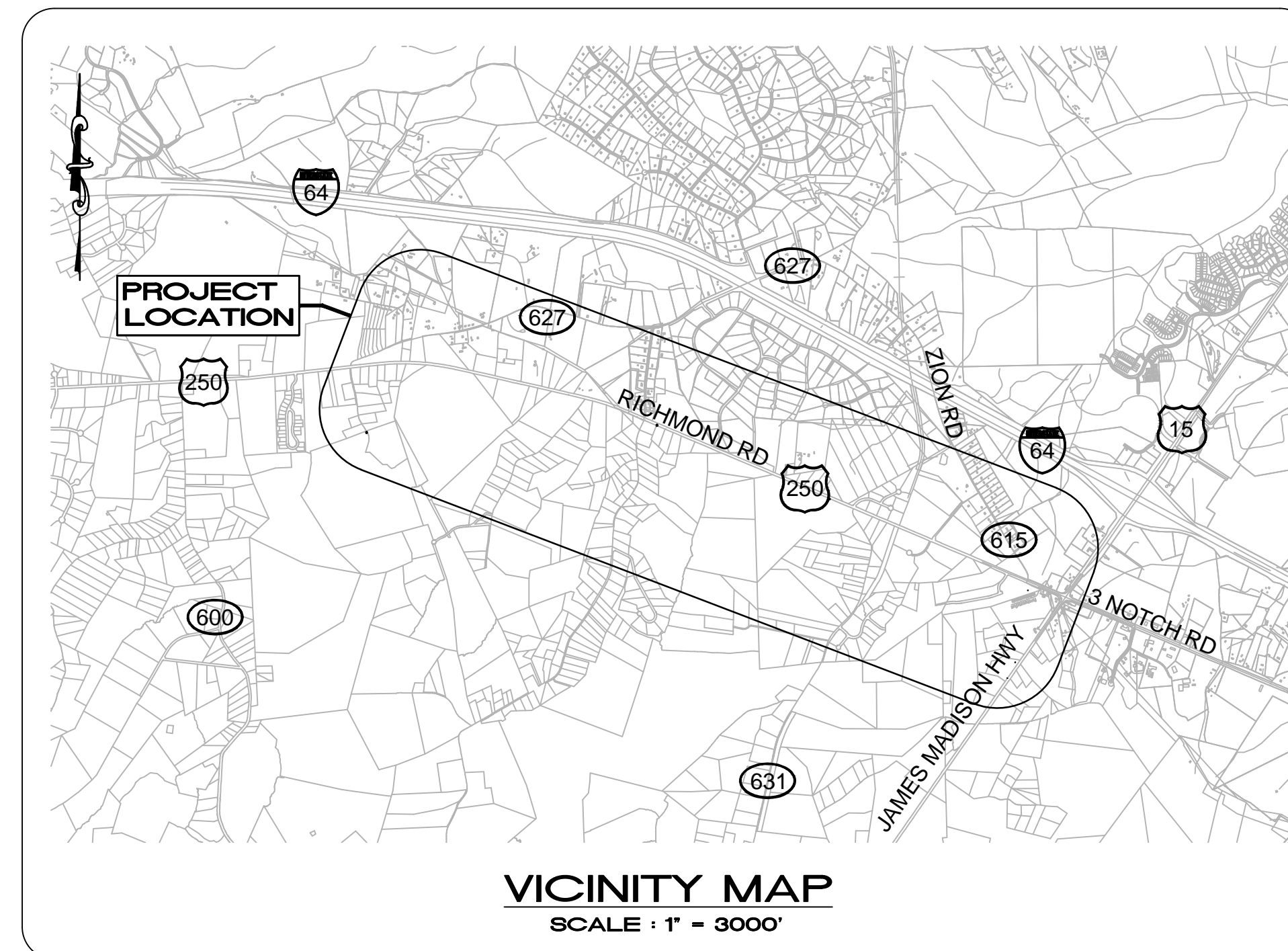
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ZION CROSSROADS WATER AND SEWER SYSTEM

FLUVANNA COUNTY DEPARTMENT OF PUBLIC WORKS



THE DEWBERRY ENGINEERS INC. SEALING ENGINEER SHALL BE THE RESPONSIBLE LAND DISTURBER (RLD) FOR THIS PROJECT FOR APPROVAL PURPOSES ONLY. ONCE THE PROJECT HAS BEEN AWARDED, THE CONTRACTOR SHALL PROVIDE AN RLD. AS NOTED ON PLAN SHEET G2.0

SUBMITTAL		SET NUMBER
<input type="checkbox"/> PRELIMINARY	<input type="checkbox"/> CONSTRUCTION	
<input type="checkbox"/> APPROVAL	<input type="checkbox"/> REVISION	
<input checked="" type="checkbox"/> BIDDING	<input type="checkbox"/> RECORD	

PHASING NOTES:

1. THIS PROJECT SHALL CONSIST OF TWO PHASES. SUBSTANTIAL COMPLETION FOR PHASE 1 SHALL BE 380 DAYS FROM NOTICE TO PROCEED. SUBSTANTIAL COMPLETION FOR PHASE 2 SHALL BE 540 DAYS FROM NOTICE TO PROCEED. FINAL COMPLETION FOR BOTH PHASES WILL BE 600 DAYS FROM NOTICE TO PROCEED.
2. PHASE 1 SHALL CONSIST OF ALL WORK ASSOCIATED WITH THE CONSTRUCTION, INSPECTION, TESTING, COMPLETION, AND ACCEPTANCE OF THE FOLLOWING:
 - 2.1. WATERLINE A FROM STA WA9+87.47 TO STA WA155+28.95
 - 2.2. WATERLINE C FROM STA WC10+00 TO STA WC12+28.10
 - 2.3. WATERLINE D FROM STA WD10+00 TO STA WD55+44.33
3. PHASE 2 SHALL CONSIST OF ALL WORK ASSOCIATED WITH THE CONSTRUCTION, INSPECTION, TESTING, COMPLETION, AND ACCEPTANCE OF THE FOLLOWING:
 - 3.1. WATERLINE A FROM STA WA156+45.31 TO STA WA188+74.44
 - 3.2. WATERLINE B FROM STA WB10+00 TO STA WB13+71.20
 - 3.3. FORCE MAIN FROM STA F10+00 TO STA F233+61.96

DEPARTMENT OF CORRECTIONS COORDINATION NOTE:
 ALL PERSONNEL THAT WILL BE WORKING ON THE DEPARTMENT OF CORRECTIONS (DOC) PROPERTY SHALL BE SUBJECT TO ACCESS REQUIREMENTS AND REGULATIONS AS DEEMED APPROPRIATE BY THE DOC. THESE INCLUDE, BUT ARE NOT LIMITED TO, EACH EMPLOYEE PROVIDING A COPY OF THEIR DRIVER'S LICENSE, COMPLETING BACKGROUND CHECKS, PARTICIPATING IN PREA TRAINING, AND PARTICIPATING IN TOOL ACCOUNTABILITY. ALL PERSONNEL SHALL BE RESTRICTED FROM BRINGING TOBACCO, ALCOHOL, FIREARMS, ETC. ON THE DOC PROPERTY. FAILURE TO COMPLY WITH ANY OF THE AFOREMENTIONED CONDITIONS IS GROUNDS FOR SITE ACCESS RESTRICTIONS. A PRE-CONSTRUCTION MEETING WITH APPROPRIATE DOC PERSONNEL WILL BE REQUIRED PRIOR TO THE START OF CONSTRUCTION ON THE DOC PROPERTY TO DETERMINE EXACT ACCESS REQUIREMENTS AND PROCEDURES.

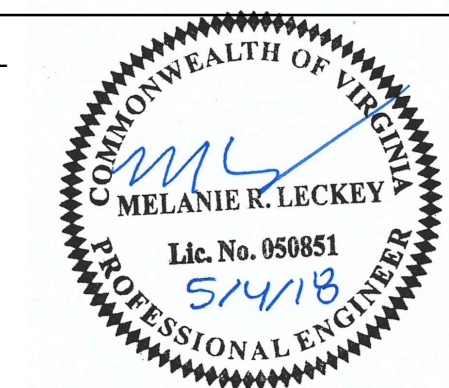


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ZION CROSSROADS
 WATER AND SEWER SYSTEM
 FLUVANNA COUNTY
 DEPARTMENT OF PUBLIC WORKS
 FLUVANNA COUNTY, VA

KEY PLAN

SEAL



SCALE

No.	DATE	BY	Description

REVISIONS

DRAWN BY: JEH
 APPROVED BY: MRL
 CHECKED BY: DAV
 DATE: MAY 2018

TITLE
COVER SHEET

PROJECT NO. 50078861

G1.0

GENERAL NOTES

- CONTRACTOR SHALL IMMEDIATELY REPORT ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND CONTRACT DOCUMENTS TO THE ENGINEER.
- EXISTING CONDITIONS SHOWN ARE A COMBINATION OF AERIAL SURVEY AND SITE SURVEY PROVIDED BY BOWMAN CONSULTING GROUP IN DECEMBER 18, 2016.
- A PERMIT FROM THE VIRGINIA DEPARTMENT OF TRANSPORTATION IS REQUIRED FOR ALL WORK WITHIN THE PUBLIC ROAD RIGHT-OF-WAY.
- THE DEWBERRY ENGINEERS INC. SEALING ENGINEER SHALL BE THE RESPONSIBLE LAND DISTURBER (RLD) FOR THIS PROJECT FOR APPROVAL PURPOSES ONLY. ONCE THE PROJECT HAS BEEN AWARDED, THE CONTRACTOR SHALL PROVIDE AN EMPLOYEE WHO WILL BE RESPONSIBLE IN CHARGE FOR THE EROSION AND SEDIMENT CONTROL PLAN AND REQUIREMENTS FOR THE PROJECT THAT IS CERTIFIED BY THE VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION AS A RESPONSIBLE LAND DISTURBER (RLD). THE NAME OF THE CONTRACTOR'S RLD AND COPY OF HIS CURRENT CERTIFICATION SHALL BE PROVIDED TO THE OWNER, ENGINEER AND THE DEPARTMENT OF PUBLIC WORKS PRIOR TO A LAND DISTURBANCE PERMIT BEING ISSUED.
- CONTRACTOR SHALL CLEAR AND GRUB AS NECESSARY WITHIN LIMITS OF EASEMENTS AS NECESSARY FOR UTILITY INSTALLATION.
- CONTRACTOR SHALL UTILIZE BENDS AND DEFLECT PIPE AS NECESSARY TO MAINTAIN ALIGNMENT. SEE SPECIFICATIONS FOR ALLOWABLE DEFLECTIONS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY. CONSTRUCTION WORK AND MATERIALS SHALL COMPLY WITH LOCAL REGULATIONS, STATE OF VIRGINIA REGULATIONS AND CODES, AND O.S.H.A. STANDARDS.
- AREAS DISTURBED DURING CONSTRUCTION AND NOT STABILIZED WITH NON-ERODABLE SURFACES (BUILDINGS, PAVEMENT, WALKS, ETC.) SHALL FOLLOW DETAILS PROVIDED BY VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK FOR SITE SPECIFIC SEEDING MIXTURES IN ACCORDANCE WITH STANDARD & SPECIFICATION 3.32 UNLESS OTHERWISE STATED IN PROJECT SPECIFICATIONS.
- UPON AWARD OF CONTRACT, CONTRACTOR SHALL MAKE NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN NECESSARY PERMITS, PAY FEES, AND POST BONDS ASSOCIATED WITH THE WORK INDICATED ON THE DRAWINGS, IN THE SPECIFICATIONS, AND IN THE CONTRACT DOCUMENTS.
- AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATION SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
- IN THE EVENT THAT SUSPECTED CONTAMINATED SOIL, GROUNDWATER, AND OTHER MEDIA ARE ENCOUNTERED DURING EXCAVATION AND CONSTRUCTION ACTIVITIES BASED ON VISUAL, OLFACTORY (SMELL), OR OTHER EVIDENCE, THE CONTRACTOR SHALL STOP WORK IN THE VICINITY OF THE SUSPECT MATERIAL TO AVOID FURTHER SPREADING OF THE MATERIAL, AND SHALL NOTIFY THE ENGINEER IMMEDIATELY SO THAT THE APPROPRIATE TESTING AND SUBSEQUENT ACTION CAN BE TAKEN.
- CONTRACTOR SHALL MINIMIZE DUST, SEDIMENT, AND DEBRIS FROM EXITING THE SITE AND SHALL BE RESPONSIBLE FOR CLEANUP, REPAIRS AND CORRECTIVE ACTION IF SUCH OCCURS.
- CONTRACTOR SHALL CONTROL STORMWATER RUNOFF DURING CONSTRUCTION TO PREVENT ADVERSE IMPACTS TO ON-SITE AND OFF-SITE AREAS, AND SHALL BE RESPONSIBLE TO REPAIR RESULTING DAMAGES, IF ANY, AT NO COST TO OWNER.
- WHEN WORKING ADJACENT TO EXISTING STRUCTURES, POLES, ETC., CONTRACTOR SHALL USE WHATEVER METHODS THAT ARE NECESSARY TO PROTECT STRUCTURES FROM DAMAGE. REPLACEMENT OF DAMAGED STRUCTURES SHALL BE AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL REMOVE ALL FENCES, SHRUBS, AND OTHER ENCUMBRANCES DISTURBED DURING CONSTRUCTION AND REPLACE OR RESTORE OUTSIDE OF VDOT RIGHT OF WAY.
- CONTRACTOR SHALL ADJUST ALL PROPOSED APPURTENANCES AS REQUIRED TO MATCH NEW GRADES. THE EXACT LOCATION OF APPURTENANCES SHALL BE COORDINATED WITH THE OWNER.
- CONTRACTOR IS TO MINIMIZE TRIMMING OF MATURE TREES AS MUCH AS PRACTICAL TO ALLOW PIPE INSTALLATION. CONTRACTOR SHALL TAKE THE NECESSARY MEASURES TO AVOID PERMANENTLY IMPACTING OR DAMAGING ESTABLISHED LANDSCAPING.
- CONTRACTOR TO MAINTAIN ACCESS TO ALL RESIDENTS AT ALL TIMES UNLESS APPROVAL IS GRANTED BY THE COUNTY AND ADVANCE NOTICE IS GIVEN TO THE PROPERTY OWNER.
- LIMITS OF DISTURBANCE SHALL BE RESTRICTED TO PUBLIC ROAD RIGHT-OF-WAY AND THE EASEMENTS OBTAINED FOR THE PROJECT.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS, CONDITIONS, EXISTING INVERTS, ELEVATIONS, ETC. AND, NOTIFY ENGINEER IN WRITING OF ANY DISCREPANCIES PRIOR TO CONTINUING CONSTRUCTION OF THE WORK INVOLVED.
- CONTRACTOR SHALL COORDINATE ALL SHUT DOWNS WITH FLUVANNA COUNTY AT LEAST 48 HOURS IN ADVANCE. THE MAXIMUM DURATION OF ANY SHUT DOWN SHALL NOT EXCEED 48 HOURS.

EXISTING CONDITIONS

- HORIZONTAL DATUM IS NAD 83 AND THE VERTICAL DATUM IS NAVD 88 BASED ON A GPS SURVEY BY BOWMAN CONSULTING GROUP, LTD TIED TO NGS AND/OR COUNTY GPS MONUMENTS.
- THE INFORMATION AND DATA SHOWN OR INDICATED WITH RESPECT TO EXISTING UNDERGROUND FACILITIES AT OR CONTIGUOUS TO THE SITE IS BASED ON INFORMATION AND DATA FURNISHED TO THE OWNER OR ENGINEER BY THE OWNERS OF SUCH UNDERGROUND FACILITIES OR BY OTHERS. THE OWNER AND ENGINEER SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ANY SUCH INFORMATION OR DATA. THE CONTRACTOR SHALL HAVE FULL RESPONSIBILITY FOR REVIEWING AND CHECKING ALL SUCH INFORMATION AND DATA, FOR LOCATING ALL UNDERGROUND FACILITIES SHOWN OR INDICATED, FOR COORDINATION OF THE WORK WITH THE OWNERS OF SUCH UNDERGROUND FACILITIES DURING CONSTRUCTION, FOR THE SAFETY AND PROTECTION THEREOF, AND REPAIRING ANY DAMAGE THERETO RESULTING FROM THE WORK, ALL OF WHICH WILL BE AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL CONTACT "MISS UTILITY" OF VIRGINIA AT 1-800-552-7001 PRIOR TO START OF CONSTRUCTION. THE "MISS UTILITY LAW" REQUIRES THE CONTRACTOR TO CALL (1-800-552-7001) AT LEAST 3 WORKING DAYS IN ADVANCE OF THE PLANNED WORK TO ALLOW TIME FOR MARKING, THAT THE MARKS BE RESPECTED AND PROTECTED, AND THAT EXCAVATION BE COMPLETED CAREFULLY.

GRADING

- PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL VERIFY EXISTING SURFACE ELEVATIONS TO ASSURE PROPER TRANSITIONS BETWEEN EXISTING AND PROPOSED FACILITIES.
- EXISTING GRADE CONTOURS SHOWN AT 1 FOOT INTERVALS.
- IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
- CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS AND ON ALL VEGETATION AND PAVED AREAS.
- ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATION SHALL RECEIVE 6 INCHES OF TOPSOIL. CONTRACTOR SHALL STABILIZE DISTURBED AREAS IN ACCORDANCE WITH EROSION AND SEDIMENT CONTROL PLAN UNTIL A HEALTHY STAND OF VEGETATION IS OBTAINED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR RE-ESTABLISHING THE ORIGINAL GRADE FOR ALL DITCHES AND SWALES DISTURBED DURING THE PROJECT.

LAYOUT AND MATERIALS

- ANY PROPERTY MONUMENTS DISTURBED DURING CONSTRUCTION SHALL BE SET OR RESET BY A PROFESSIONAL LICENSED SURVEYOR PAID BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER.
- SYMBOLS AND LEGENDS OF PROJECT FEATURES ARE GRAPHIC REPRESENTATIONS AND ARE NOT NECESSARILY SCALED TO THEIR ACTUAL DIMENSIONS OR LOCATIONS ON THE DRAWINGS. THE CONTRACTOR SHALL REFER TO THE DETAIL SHEET DIMENSIONS, MANUFACTURER'S LITERATURE, SHOP DRAWINGS AND FIELD MEASUREMENTS OF SUPPLIED PRODUCTS FOR LAYOUT OF THE PROJECT FEATURES.
- CONTRACTOR SHALL NOT RELY SOLELY ON ELECTRONIC VERSIONS OF PLANS, SPECIFICATIONS AND DATA FILES THAT ARE OBTAINED FROM THE DESIGNERS, BUT SHALL VERIFY LOCATION OF PROJECT FEATURES IN ACCORDANCE WITH THE PAPER COPIES OF THE PLANS AND SPECIFICATIONS THAT ARE SUPPLIED AS PART OF THE CONTRACT DOCUMENTS.
- PROPOSED EQUIPMENT AND PIPING LAYOUT IS BASED ON EQUIPMENT SPECIFIED. CONTRACTOR SHALL VERIFY ALL

LAYOUT DIMENSIONS AND SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO INSTALLATION.

UTILITIES

- THE CONTRACTOR MUST CALL "MISS UTILITY" (1-800-552-7001) AT LEAST 72 HOURS BEFORE EXCAVATION TO REQUEST FIELD LOCATION OF UTILITIES.
- THE LOCATIONS, SIZE AND TYPES OF EXISTING UTILITIES ARE SHOWN AS AN APPROXIMATE REPRESENTATION ONLY. THE OWNER OR ITS REPRESENTATIVE(S) HAVE NOT INDEPENDENTLY VERIFIED THIS INFORMATION AS SHOWN ON THE PLANS. THE UTILITY INFORMATION SHOWN DOES NOT GUARANTEE THE ACTUAL EXISTENCE, SERVICEABILITY, OR OTHER DATA CONCERNING THE UTILITIES, NOR DOES IT GUARANTEE AGAINST THE POSSIBILITY THAT ADDITIONAL UTILITIES MAY BE PRESENT THAT ARE NOT SHOWN ON THE PLANS. PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY AND DETERMINE THE EXACT LOCATIONS, SIZES AND ELEVATIONS OF THE POINTS OF CONNECTIONS TO EXISTING UTILITIES AND SHALL CONFIRM THAT THERE ARE NO INTERFERENCES WITH EXISTING UTILITIES AND THE PROPOSED UTILITY ROUTES, INCLUDING ROUTES WITHIN PUBLIC RIGHTS OF WAY.
- WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, OR EXISTING CONDITIONS DIFFER FROM THOSE SHOWN SUCH THAT THE WORK CANNOT BE COMPLETED AS INTENDED, THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED IN WRITING TO THE OWNER'S REPRESENTATIVE(S) FOR THE RESOLUTION OF THE CONFLICT. CONTRACTOR'S FAILURE TO NOTIFY PRIOR TO PERFORMING ADDITIONAL WORK RELEASES OWNER FROM OBLIGATIONS FOR ADDITIONAL PAYMENTS WHICH OTHERWISE MAY BE WARRANTED TO RESOLVE THE CONFLICT.
- CONTRACTOR SHALL NOTIFY AND COORDINATE ALL WORK INVOLVING EXISTING UTILITIES WITH UTILITY OWNER'S, 72 HOURS PRIOR TO START OF CONSTRUCTION.
- CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE 72 HOURS PRIOR TO AND RECEIVE APPROVAL BEFORE CONNECTING TO ANY EXISTING LINE.
- LINE UNDERGROUND SHALL BE INSTALLED, INSPECTED AND APPROVED PRIOR TO BACKFILLING.
- ALL PIPE FITTINGS HAVE NOT BEEN SHOWN. CONTRACTOR SHALL PROVIDE/INSTALL ALL FITTINGS, FLEX COUPLINGS, JOINT RESTRAINT, THRUST BLOCKING, ETC. NECESSARY FOR COMPLETE INSTALLATION.
- PROPOSED EQUIPMENT AND PIPING LAYOUT IS BASED ON EQUIPMENT SPECIFIED. CONTRACTOR SHALL VERIFY ALL LAYOUT DIMENSIONS AND SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO INSTALLATION.

VIRGINIA DEPARTMENT OF TRANSPORTATION - SUBDIVISION AND SITE CONSTRUCTION GENERAL NOTES

- ALL MATERIALS AND CONSTRUCTION WITHIN THE PUBLIC RIGHT OF WAY SHALL BE IN ACCORDANCE WITH CURRENT VIRGINIA DEPARTMENT OF TRANSPORTATION'S SPECIFICATIONS AND STANDARDS.
- LAND USE PERMITS (CE-7P) MUST BE OBTAINED FROM THE VIRGINIA DEPARTMENT OF TRANSPORTATION PRIOR TO BEGINNING ANY CONSTRUCTION WITHIN THE EXISTING STATE MAINTAINED RIGHT OF WAY (INCLUDING ACCESS).
- ALL DRIVEWAY ENTRANCE CULVERTS ARE TO BE 15" DIAMETER X 20' LONG PIPE AND SHALL CONFORM TO PE-1 PRIVATE ENTRANCE STANDARDS UNLESS OTHERWISE DIRECTED BY THE RESIDENT ENGINEER. NO ENTRANCE CULVERTS ARE TO BE INSTALLED WITHIN FIVE (5) FEET OF A PROPERTY LINE.
- VDOT STANDARD CG-9D ENTRANCES SHALL BE INSTALLED IN CURB AND GUTTER NEIGHBORHOODS. THE SAWCUTTING REMOVAL OF THE STANDING CURB IS UNACCEPTABLE WHEN INSTALLING AN ENTRANCE ON EXISTING CURB AND GUTTER.
- CONTACT VDOT FOR INSPECTION 48 HOURS PRIOR TO ENTRANCE INSTALLATION.
- THE DEVELOPER IS RESPONSIBLE FOR FURNISHING AND INSTALLING STOP SIGNS AT STREET INTERSECTIONS.
- DESIGN CHANGES, SPECIFIED MATERIALS CHANGES AND/OR FIELD CHANGES FROM THE APPROVED PLANS NEED TO BE RESUBMITTED TO VDOT PRIOR TO PROCEEDING WITH THE WORK. A LETTER OF EXPLANATION SHALL ACCOMPANY THE REVISED PLANS AND/OR DRAINAGE CALCULATIONS, WHICH MUST BE SUBMITTED, TO VDOT FOR REVIEW AND APPROVAL BY THE RESIDENT ENGINEER.
- CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES SHOWN ON PLANS IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT ENGINEER IMMEDIATELY IF LOCATION OR ELEVATION IS DIFFERENT FROM THAT SHOWN ON PLAN. IF THERE APPEARS TO BE A CONFLICT, AND/OR UPON DISCOVERY OF ANY UTILITY NOT SHOWN ON THIS PLAN, CALL MISS UTILITY OF CENTRAL VIRGINIA AT 1-800-552-7001. THE DEVELOPER SHALL BE RESPONSIBLE FOR THE RELOCATION OF ANY UTILITY WITHIN EXISTING AND/OR PROPOSED RIGHT-OF-WAY REQUIRED BY THE DEVELOPMENT.
- ALL STREETLIGHTS SHALL BE LOCATED A MINIMUM OF 9.5' FROM THE EDGE OF PAVEMENT ON CURB AND GUTTER STREETS AND/OR LOCATED A MINIMUM OF 5.5' BEHIND THE DITCH LINE ON OPEN DITCH STREETS.
- CASING SLEEVES SHALL BE PLACED AT ALL ROAD CROSSINGS FOR GAS, POWER, TELEPHONE, AND CABLE TV SERVICE TRUNK LINES.
- THE INSTALLATION OF SEWER, WATER, AND GAS MAINS (INCLUDING SERVICE LATERALS AND SLEEVES) SHALL BE COMPLETED PRIOR TO PLACEMENT OF AGGREGATE BASE COURSE.
- ALL ROADSIDE DITCHES SHOWN AS PAVED ON THE PLANS ARE TO BE PAVED IN ACCORDANCE WITH THE STANDARD TYPICAL SECTION AS SHOWN ON THE PLANS. GENERALLY, ALL DITCHES WITH SLOPES EXCEEDING 5% OR LESS THAN 0.75% SHALL BE PAVED UNLESS OTHERWISE DIRECTED BY THE RESIDENT ENGINEER. ANY ADDITIONAL PAVING OF THE DITCHES, OTHER THAN THOSE SHOWN ON THE ROAD PLANS WILL BE DETERMINED PRIOR TO ACCEPTANCE OF THE ROADS INTO THE VDOT SECONDARY ROAD SYSTEM.
- VDOT APPROVAL OF CONSTRUCTION PLANS DOES NOT PRECLUDE THE RIGHT TO REQUIRE ADDITIONAL FACILITIES AS DEEMED NECESSARY TO INSURE POSITIVE DRAINAGE AND THE SAFETY OF TRAVELING PUBLIC AT THE TIME OF FINAL INSPECTION.
- VDOT APPROVAL OF THESE PLANS WILL EXPIRE THREE (3) YEARS FROM THE DATE OF APPROVAL.
- VDOT SHALL HAVE PERFORMED THE REQUIRED FIELD INSPECTION (PROOF-ROLL) PRIOR TO PLACEMENT OF THE AGGREGATE BASE COURSE(S). CONTACT VDOT FOR SUBGRADE INSPECTION 48 HOURS PRIOR TO SCHEDULING PLACEMENT OF AGGREGATE BASE COURSE(S).
- A PRIME COAT SEAL BETWEEN THE AGGREGATE BASE AND BITUMINOUS CONCRETE WILL BE REQUIRED AT A RATE OF 0.30 GALLONS PER SQUARE YARD (REC-250 PRIME COAT) PER VDOT STANDARDS AND SPECIFICATIONS.
- THE SCHEDULING OF AGGREGATE BASE INSTALLATION AND SUBSEQUENT PAVING ACTIVITIES SHALL ACCOMMODATE FORECAST WEATHER CONDITIONS PER SECTION 315 OF THE ROAD AND BRIDGE SPECIFICATIONS.
- VDOT SHALL HAVE APPROVED THE AGGREGATE BASE COURSE(S) FOR DEPTH, TEMPLATE, AND PERFORMED THE REQUIRED FIELD INSPECTION (PROOF ROLL) PRIOR TO PLACEMENT OF ANY SURFACE COURSE(S). CONTACT VDOT FOR INSPECTION OF THE AGGREGATE BASE COURSE(S) 48 HOURS PRIOR TO APPLICATION OF THE SURFACE COURSE(S).
- AN ACTUAL COPY OF THE COMPLETE CBR REPORT IS TO BE SUBMITTED TO VDOT IN CONJUNCTION WITH FINAL PAVEMENT DESIGNS. ALL PAVEMENT DESIGN RECOMMENDATIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT EDITION OF THE PAVEMENT DESIGN GUIDE FOR SUBDIVISION AND SECONDARY ROADS IN VIRGINIA.
- A GEOTECHNICAL ENGINEER IS TO ASCERTAIN CAUSE AND CERTIFY RECOMMENDED METHOD OF REPAIR FOR ALL PAVEMENT STRUCTURAL FAILURES PRIOR TO STATE ACCEPTANCE.
- ALL VEGETATION AND ORGANIC MATERIAL IS TO BE REMOVED FROM THE RIGHT OF WAY LIMITS PRIOR TO CONDITIONING OF THE SUBGRADE.
- CERTIFICATION AND SOURCE OF MATERIALS ARE TO BE SUBMITTED TO VDOT FOR ALL MATERIALS AND BE IN ACCORDANCE WITH THE ROAD AND BRIDGE SPECIFICATIONS AND ROAD AND BRIDGE STANDARDS.
- DRY GUTTER IS NOT ALLOWED IN VDOT RIGHT OF WAY.
- THE DEVELOPER WILL BE RESPONSIBLE FOR THE DESIGN COSTS OF ANY TRAFFIC SIGNAL INSTALLATION AND/OR MODIFICATION UNDER AN ACCOUNT RECEIVABLE WITH VDOT.
- THE NECESSITY AND LOCATIONS FOR ADDITIONAL VDOT STANDARD UNDERDRAINS TO BE DETERMINED AT TIME OF SUBGRADE INSPECTION.
- APPROVAL OF A DETAILED CONSTRUCTION SEQUENCING/MAINTENANCE OF TRAFFIC NARRATIVE FOR THE WORK ZONE IS A PREREQUISITE FOR ISSUANCE OF A LAND USE PERMIT ALLOWING ACCESS TO AND FROM CONSTRUCTION SITES WITHIN VDOT MAINTAINED RIGHT OF WAY.
- VDOT SHALL BE PROVIDED DOCUMENTATION THAT IN-PLACE PAVEMENTS MEET OR EXCEED THE APPROVED PAVEMENT DESIGN THICKNESS PRIOR TO STATE ACCEPTANCE.

LEGEND

	EXISTING VEGETATION		MULCH (VA E&S STD. 3.35)
	EXISTING TREELINE		TEMPORARY SEEDING (VA E&S STD. 3.31)
	EXISTING UNDERGROUND WATER		PERMANENT SEEDING (VA E&S STD. 3.32)
	EXISTING STORM DRAIN		SOIL STABILIZATION BLANKETS AND MATTING (VA E&S STD. 3.08)
	EXISTING GRAVITY SEWER		BARRICADE TAPE
	EXISTING OVERHEAD ELECTRIC/UTILITY		CONSTRUCTION ENTRANCE (VA E&S STD. 3.02)
	EXISTING OVERHEAD TELEPHONE		SILT FENCE (VA E&S STD. 3.05)
	EXISTING UNDERGROUND TELEPHONE		SUPER SILT FENCE (VA E&S STD. 3.05)
	EXISTING GAS LINE		CULVERT INLET PROTECTION (VA E&S STD. 3.08)
	EXISTING FIBER OPTIC		LIMITS OF DISTURBANCE
	EXISTING UNDERGROUND ELECTRIC LINE		TEMPORARY VEHICULAR STREAM CROSSING (VA E&S STD. 3.24)
	EXISTING UNKNOWN UTILITY		ABOVE GROUND TANK
	EXISTING FENCE		ASSEMBLY
	EXISTING MAJOR CONTOUR		BLOW OFF
	EXISTING MINOR CONTOUR		BOTTOM
	EXISTING EDGE OF GRAVEL/PAVEMENT		BUTTERFLY VALVE
	EXISTING PROPERTY LINE		CENTERLINE
	EXISTING WELL		CLASS
	EXISTING WATER VALVE		CLEANOUT
	EXISTING WATER METER		CORRUGATED METAL PIPE
	EXISTING BUILDING		CONCENTRIC
	EXISTING IRON ROD OR PIPE FOUND		CONCRETE
	PROPOSED WATERLINE		CUBIC YARDS
	PROPOSED FORCE MAIN		DUCTILE IRON
	PROPOSED GRAVITY SEWER		DRIVE
	PROPOSED TEMPORARY CONSTRUCTION EASEMENT		EDGE OF PAVEMENT
	PROPOSED PERMANENT UTILITY EASEMENT		EACH
	PERENNIAL STREAM (R3)		ECCENTRIC ELEVATION
	INTERMITTENT STREAM (R4)		ELEVATION
	PALUSTRINE EMERGENT (PEM)		EASEMENT
	PALUSTRINE SCRUB SHRUB (PSS)		EXISTING GUY WIRE
	PALUSTRINE FORESTED (PFO)		EXISTING POWER POLE
	PROPOSED FIRE HYDRANT		EXISTING COMMUNICATIONS PEDESTAL
	PROPOSED WATER QUALITY MONITORING STATION		EXISTING MAILBOX
	PROPOSED GATE VALVE		EXISTING SIGN
	PROPOSED AIR RELEASE VALVE		EXISTING MAJOR CONTOUR
	PROPOSED SEWER MANHOLE		EXISTING MINOR CONTOUR
	CONSTRUCTION ENTRANCE (VA E&S STD. 3.02)		EXISTING EDGE OF GRAVEL/PAVEMENT
	SILT FENCE (VA E&S STD. 3.05)		EXISTING PROPERTY LINE
	SUPER SILT FENCE (VA E&S STD. 3.05)		EXISTING WELL
	CULVERT INLET PROTECTION (VA E&S STD. 3.08)		EXISTING WATER VALVE
	LIMITS OF DISTURBANCE		EXISTING WATER METER
	TEMPORARY VEHICULAR STREAM CROSSING (VA E&S STD. 3.24)		EXISTING BUILDING
	MULCH (VA E&S STD. 3.35)		EXISTING IRON ROD OR PIPE FOUND
	TEMPORARY SEEDING (VA E&S STD. 3.31)		PROPOSED FIRE HYDRANT
	PERMANENT SEEDING (VA E&S STD. 3.32)		PROPOSED WATER QUALITY MONITORING STATION
	SOIL STABILIZATION BLANKETS AND MATTING (VA E&S STD. 3.08)		PROPOSED GATE VALVE
	BARRICADE TAPE		PROPOSED AIR RELEASE VALVE
	CONSTRUCTION ENTRANCE (VA E&S STD. 3.02)		PROPOSED SEWER MANHOLE
	SILT FENCE (VA E&S STD. 3.05)		PROPOSED SEWER MANHOLE
	SUPER SILT FENCE (VA E&S STD. 3.05)		PROPOSED SEWER MANHOLE
	CULVERT INLET PROTECTION (VA E&S STD. 3.08)		PROPOSED SEWER MANHOLE
	LIMITS OF DISTURBANCE		PROPOSED SEWER MANHOLE
	TEMPORARY VEHICULAR STREAM CROSSING (VA E&S STD. 3.24)		PROPOSED SEWER MANHOLE



Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
PHONE: 804.290.7957
FAX: 804.290.7928
www.dewberry.com

ZION CROSSROADS
WATER AND SEWER SYSTEM
FLUVANNA COUNTY
DEPARTMENT OF PUBLIC WORKS
FLUVANNA COUNTY, VA

KEY PLAN



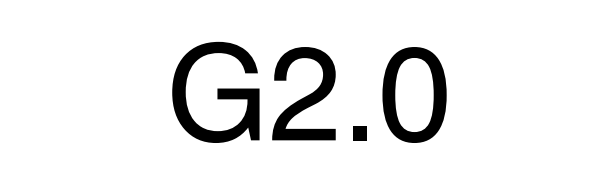
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REVISIONS			

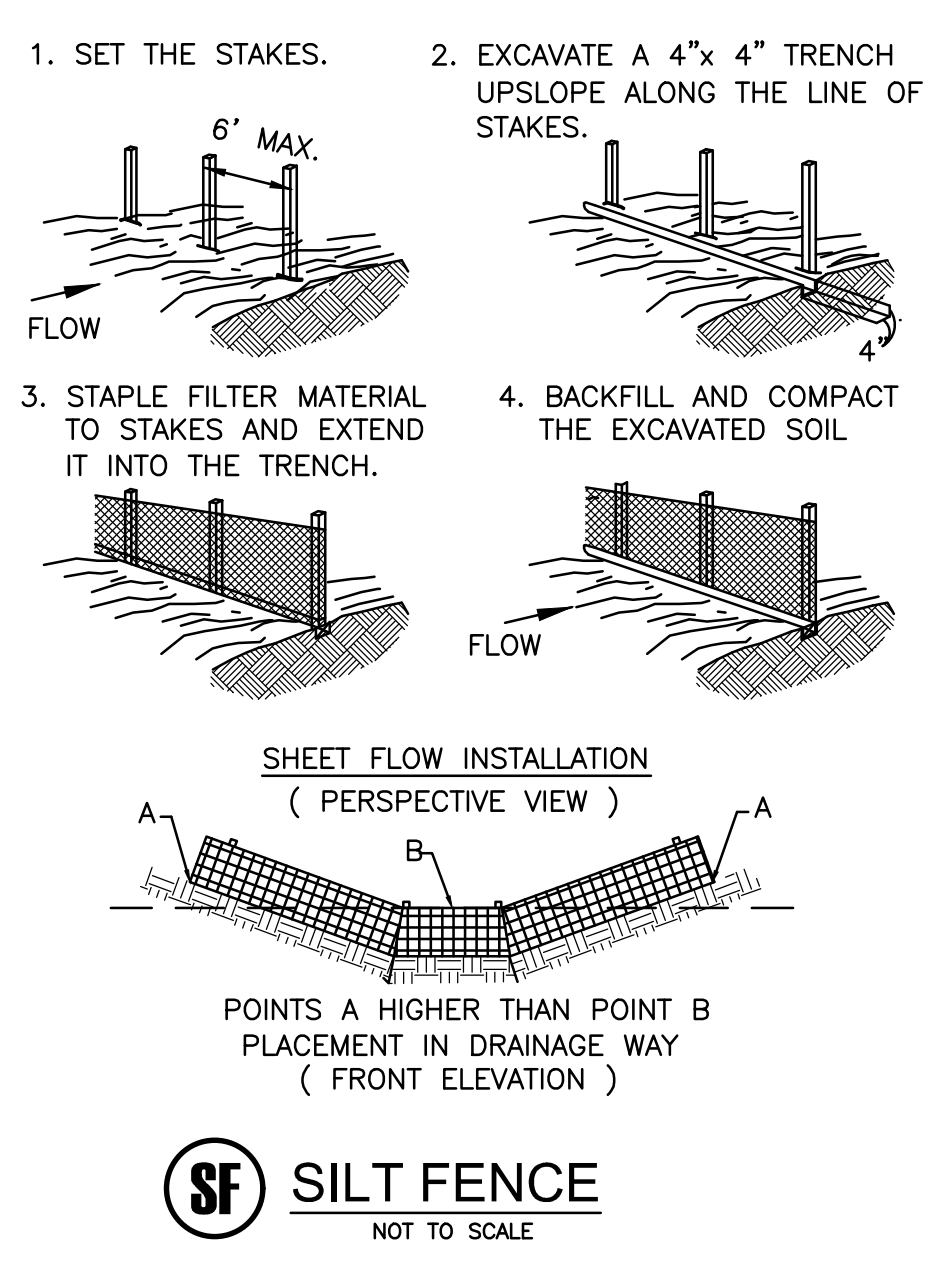
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APPROVED BY: MRL
CHECKED BY: DAV
DATE: MAY 2018

GENERAL NOTES AND LEGEND

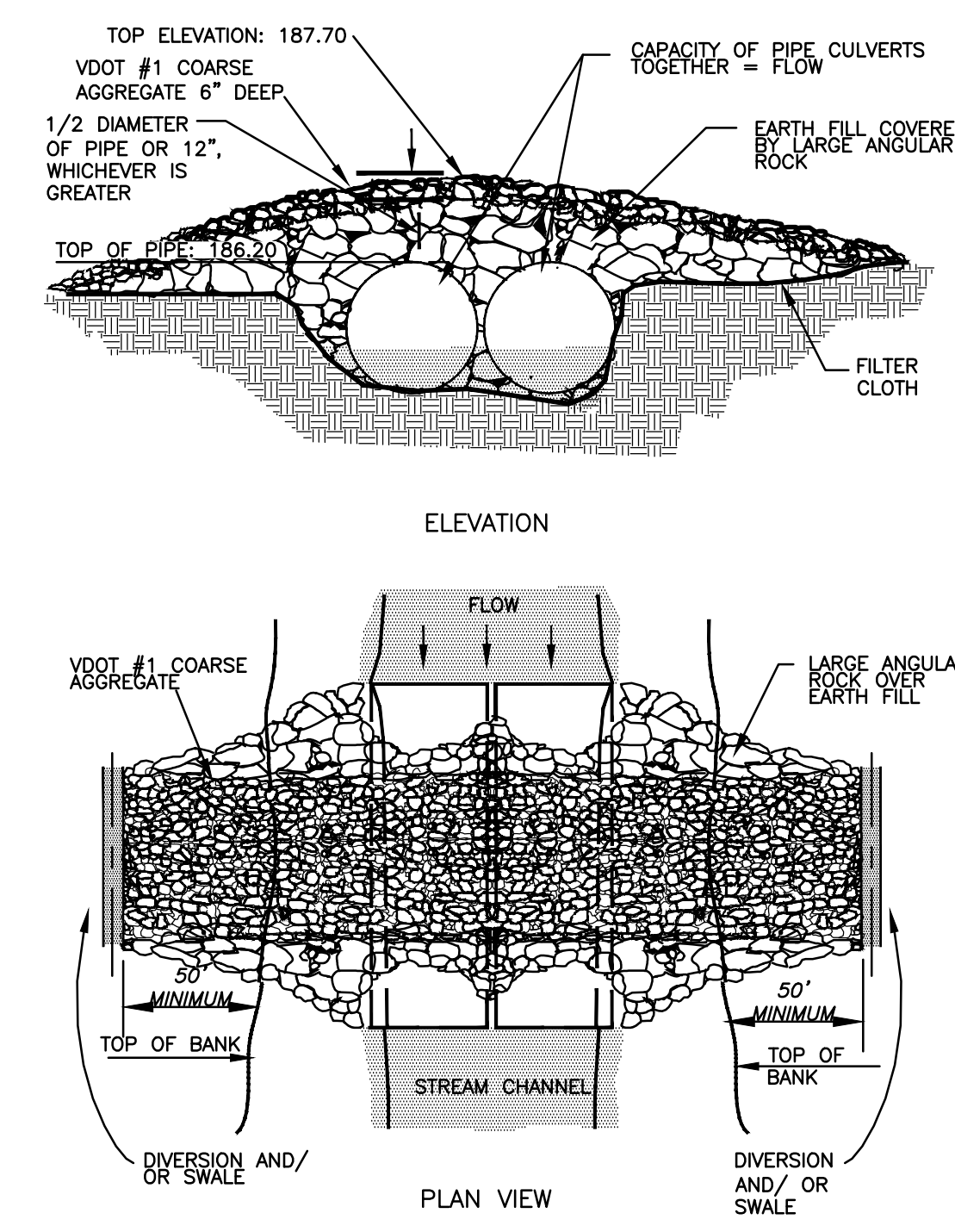
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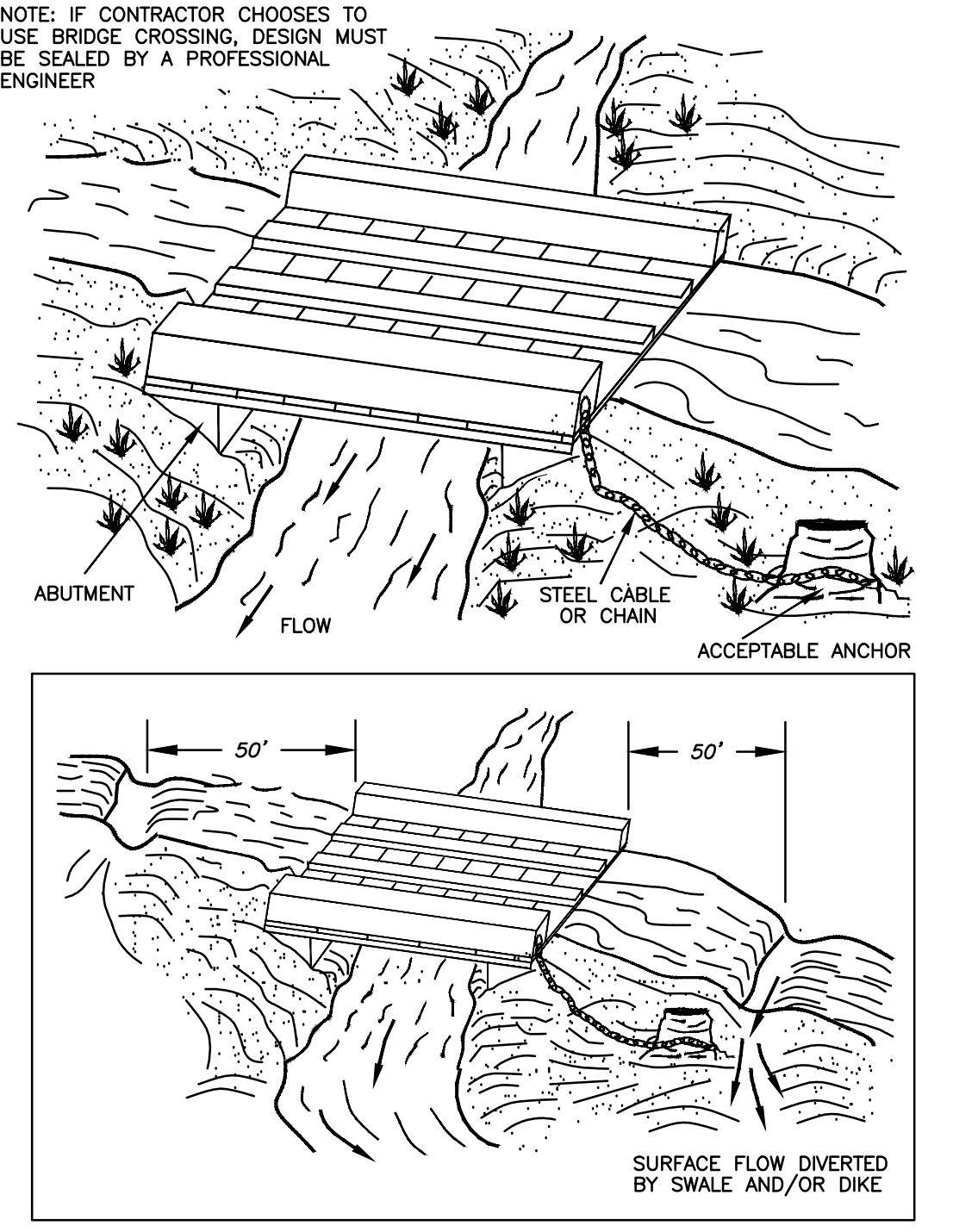
CONSTRUCTION OF A SILT FENCE (WITHOUT WIRE SUPPORT)



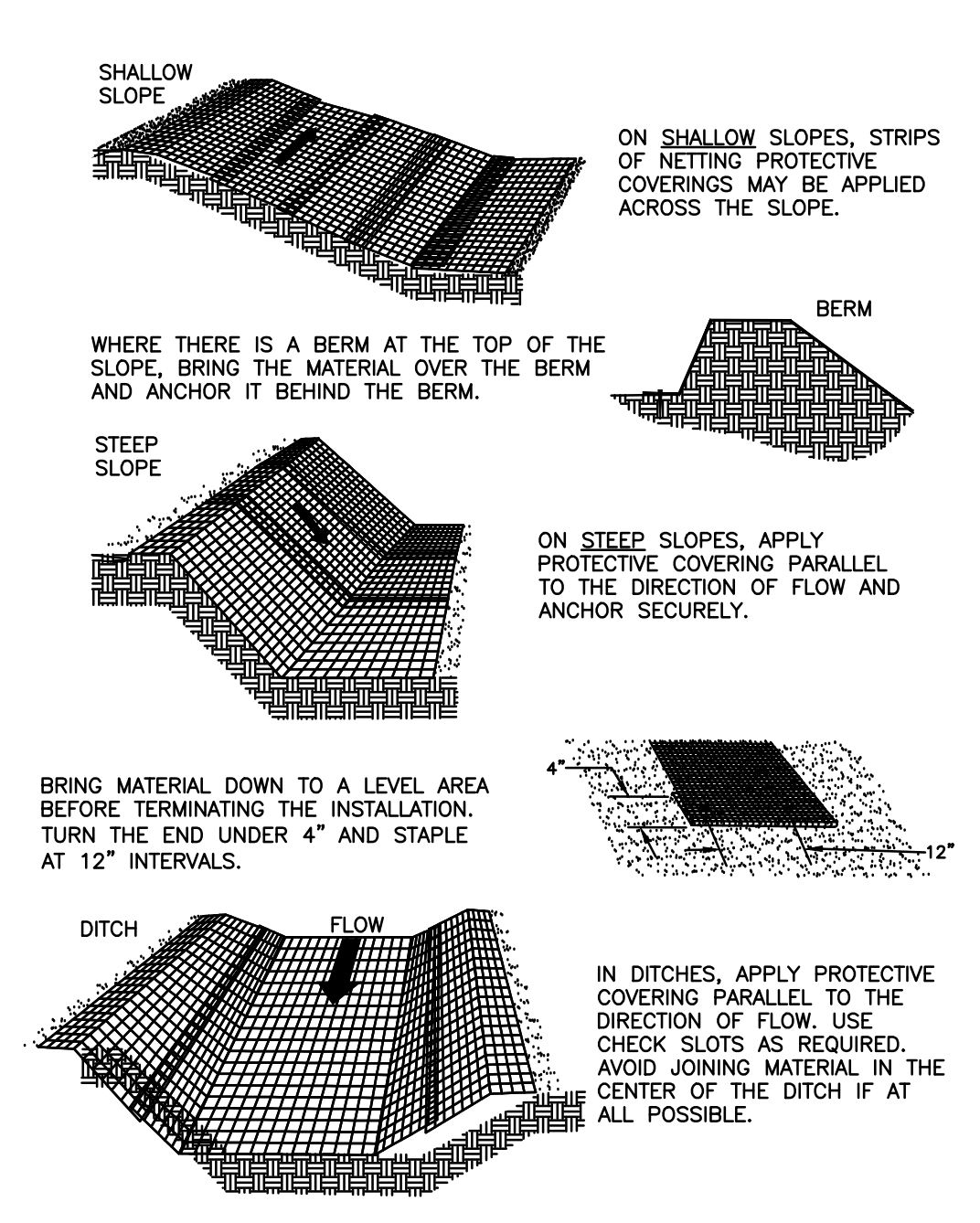
TEMPORARY CULVERT CROSSING



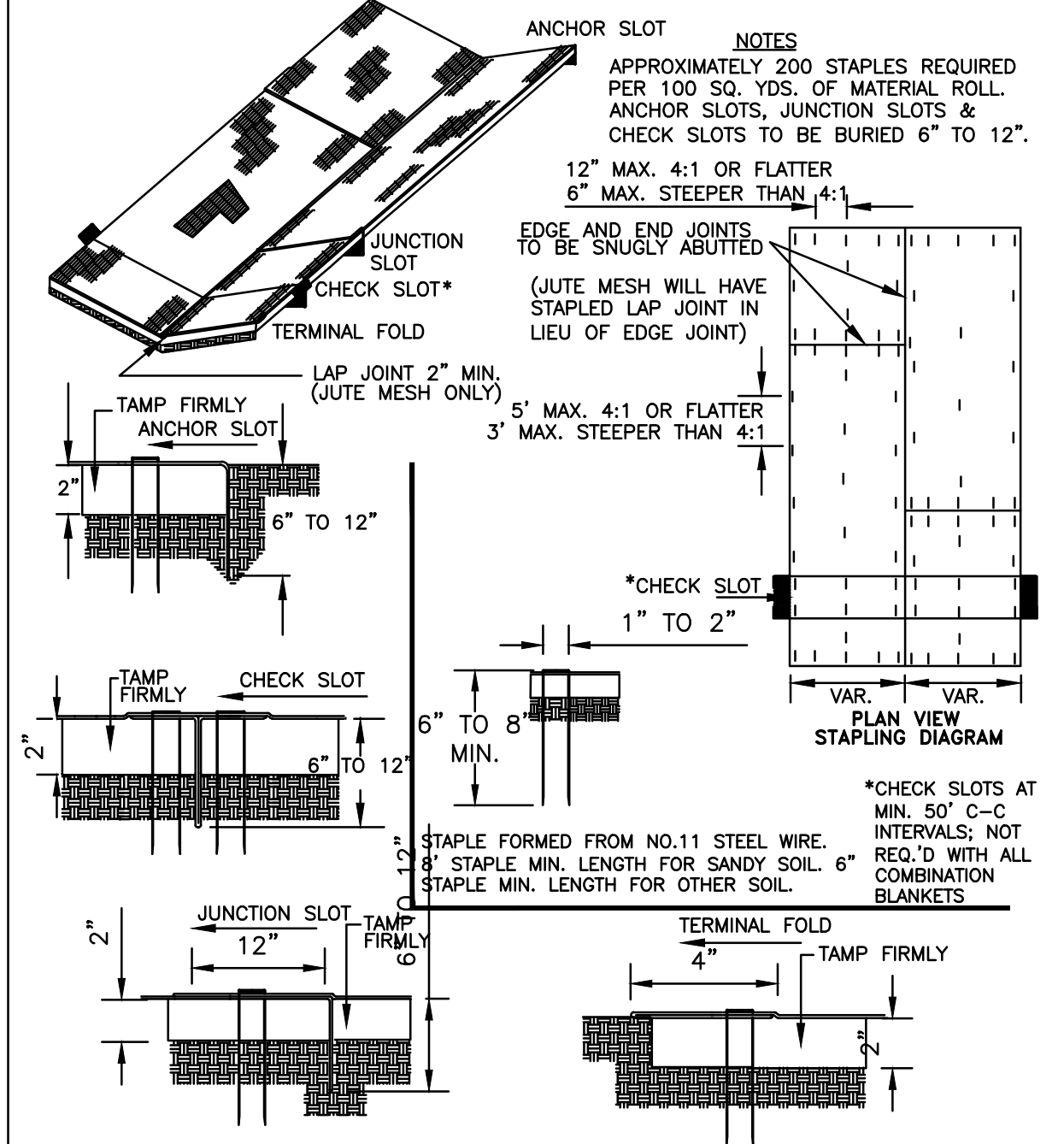
TEMPORARY BRIDGE CROSSING



TYPICAL ORIENTATION OF TREATMENT - 1 (SOIL STABILIZATION BLANKET)

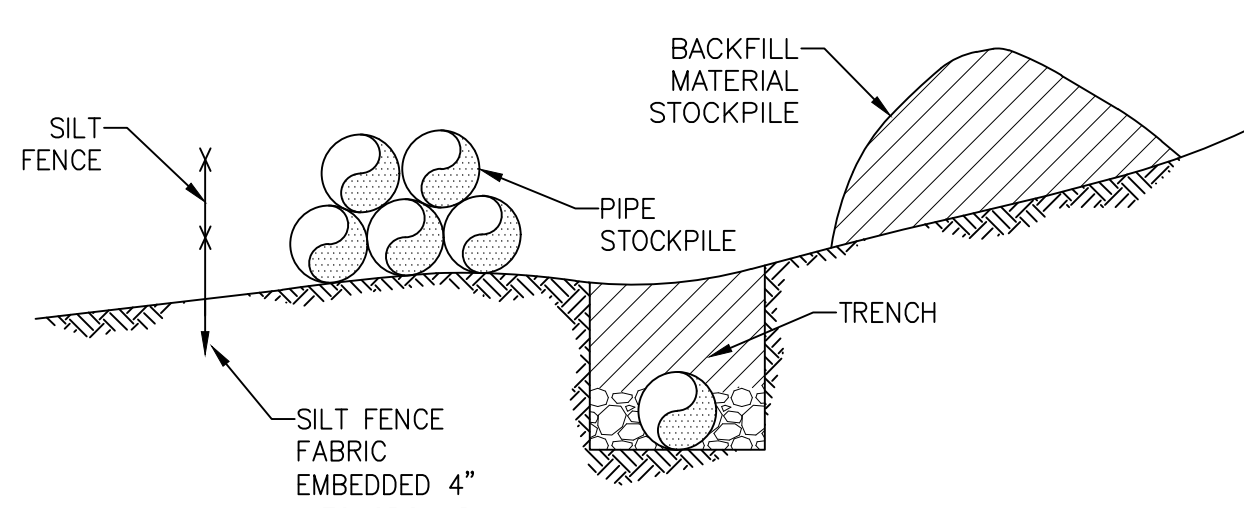


TYPICAL TREATMENT - 1 (SOIL STABILIZATION BLANKET) INSTALLATION CRITERIA



SC TEMPORARY VEHICULAR STREAM CROSSING
NOT TO SCALE

BM SOIL STABILIZATION BLANKETS AND MATTING
NOT TO SCALE



EROSION CONTROL PROTECTION FOR PIPE TRENCHING
NOT TO SCALE

TABLE 3.31-B
ACCEPTABLE TEMPORARY SEEDING PLANT MATERIALS
"QUICK REFERENCE FOR ALL REGIONS"

PLANTING DATES	SPECIES	RATE (LBS./ACRE)
SEPT. 1 - FEB 15	50/50 MIX OF ANNUAL RYEGRASS (LOLIUM MULTI-FLORUM) & CEREAL (WINTER) RYE (SECALE CEREALE)	50-100
FEB. 16 - APR. 30	ANNUAL RYEGRASS (LOLIUM MULTI-FLORUM)	60-100
MAY 1 - AUG 31	GERMAN MILLET (SETARIA ITALICA)	50

- APPLY 10-20-10 FERTILIZER AT A RATE OF 600 lbs./acre (OR 14 lbs./1,000 sq. ft.)
- LIME AND FERTILIZER SHALL BE INCORPORATED INTO THE TOP 2 TO 4 INCHES OF THE SOIL IF POSSIBLE.

TS TEMPORARY SEEDING SPECIFICATIONS FOR ALL REGIONS

TABLE 3.35-A
ORGANIC MULCH MATERIALS AND APPLICATION RATES

MULCHES:	RATES:		NOTES:
	PER ACRE	PER 1000 SQ. FT.	
STRAW OR HAY	1 1/2 - 2 TONS (MINIMUM 2 TONS FOR WINTER COVER)	70-90 LBS.	FREE FROM WEEDS AND COARSE MATTER. MUST BE ANCHORED. SPREAD WITH MULCH BLOWER OR BY HAND.
FIBER MULCH	MINIMUM 1500 LBS.	35 LBS.	DO NOT USE AS MULCH FOR WINTER COVER OR DURING HOT, DRY PERIODS.* APPLY AS SLURRY.
CORN STALKS	4 - 6 TONS	185-275 LBS.	CUT OR SHREDDED IN 4-6" LENGTHS. AIR-DRIED. DO NOT USE IN FINE TURF AREAS. APPLY WITH MULCH BLOWER OF BY HAND.
WOOD CHIPS	4 - 6 TONS	185-275 LBS.	FREE OF COARSE MATTER. AIR-DRIED. TREAT WITH 12 LBS NITROGEN PER TON. DO NOT USE IN FINE TURF AREAS. APPLY WITH MULCH BLOWER, CHIP HANDLER, OR BY HAND.
BARK CHIPS OR SHREDDED BARK	50 - 70 CU. YDS.	1-2 CU. YDS.	FREE COARSE MATTER. AIR-DRIED. DO NOT USE IN FINE TURF AREAS. APPLY WITH MULCH BLOWER, CHIP HANDLER, OR BY HAND.

* WHEN FIBER MULCH IS THE ONLY AVAILABLE MULCH DURING PERIODS WHEN STRAW SHOULD BE USED, APPLY AT A MINIMUM RATE OF 2000 LBS./AC. OR 45 LBS./1000 SQ. FT.

MU MULCHING

ACCEPTABLE WETLANDS SEEDING PLANT MATERIALS
"QUICK REFERENCE FOR ALL REGIONS"

PLANTING DATES	GROUP	SPECIES
APRIL - JUNE	ELYMUS VIRGINICUS (VIRGINIA WILD RYE)	
MAY - JULY	PANICUM VIRGATUM (SWITCHGRASS)	
MAY - JULY	CAREX INTUMESCENS (BLADDER SEDGE)	
JUNE - SEPTEMBER	CAREX LURIDA (SHALLOW SEDGE)	
JUNE - SEPTEMBER	ANDROPOGON GERARDII (BIG BLUE STEM)	
JUNE - SEPTEMBER	SORGHASTRUM NUTANS (INDIANGRASS)	
JUNE - SEPTEMBER	LEERSIA ORYZOIDES (RICE CUT GRASS)	
JULY - SEPTEMBER	SCIRPUS CYPERINUS (WOODGRASS)	
JULY - FROST	POLYGONUM PENNSYLVANICUM (PENNSYLVANIA SMARTWEED)	

LAND USE	SEED ¹ SPECIES	APPLICATION PER ACRE
MINIMUM CARE LAWN (COMMERCIAL OR RESIDENTIAL)	TALL FESCUE ¹	95-100%
	PERENNIAL RYEGRASS	0-5%
	KENTUCKY BLUEGRASS ¹	0-5%
	TOTAL:	175-200 LBS.
HIGH-MAINTENANCE LAWN	TALL FESCUE ¹	TOTAL: 200-250 LBS.
GENERAL SLOPE (3:1 OR LESS)	TALL FESCUE	128 LBS.
	RED TOP GRASS OR CREEPING RED FESCUE	2 LBS.
	SEASONAL NURSE CROP	20 LBS.
	TOTAL:	150 LBS.
LOW MAINTENANCE SLOPE (STEEPER THAN 3:1)	TALL FESCUE	128 LBS.
	RED TOP GRASS OR CREEPING RED FESCUE ²	2 LBS.
	SEASONAL NURSE CROP CROWNVTCH ³	20 LBS.
	TOTAL:	150 LBS.

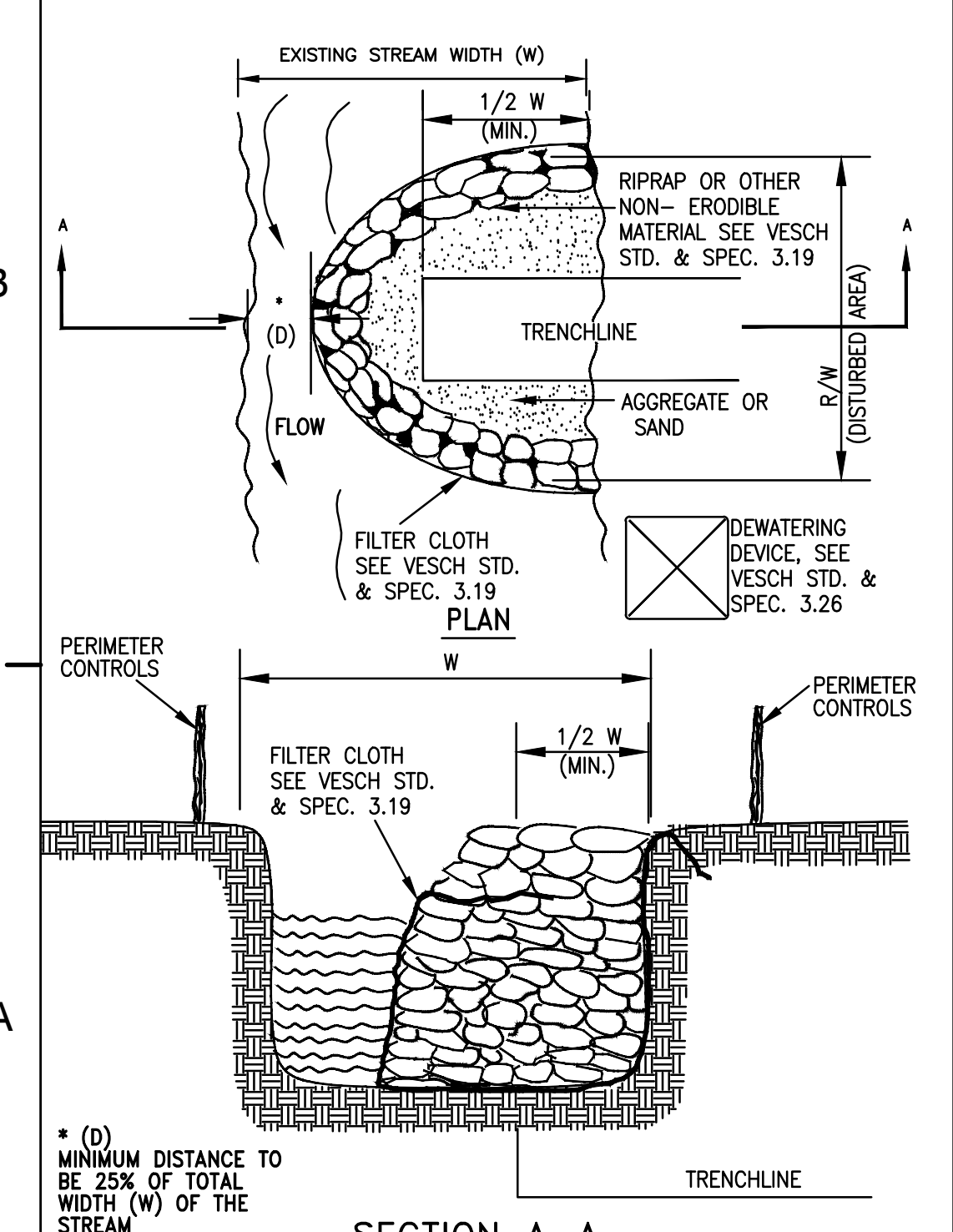
- 1-WHEN SELECTING VARIETIES OF TURFGRASS, USE THE VIRGINIA CROP IMPROVEMENT ASSOCIATION (VCIA) RECOMMENDED TURFGRASS VARIETY LIST. QUALITY SEED WILL BEAR A LABEL INDICATING THAT THEY ARE APPROVED BY VCIA. A CURRENT TURFGRASS VARIETY LIST IS AVAILABLE AT THE LOCAL COUNTY EXTENSION OFFICE OR THROUGH VCIA AT 804.746.4884 OR AT <http://sudan.cses.vt.edu/html/Turf/Turf/publications/publications2.html>
- 2-USE SEASONAL NURSE CROP IN ACCORDANCE WITH SEEDING DATES AS STATED BELOW:
- | PLANTING PERIOD | SEEDING DATE | SPECIES |
|--------------------------|--------------|---------|
| FEBRUARY 16 - APRIL 30 | ANNUAL RYE | |
| MAY 1 - AUGUST 15 | ANNUAL RYE | |
| AUGUST 16 - OCTOBER 31 | ANNUAL RYE | |
| NOVEMBER 1 - FEBRUARY 15 | WINTER RYE | |
- 3-SUBSTITUTE SERICEA LESPEDEZA FOR CROWNVTCH EAST OF FARMVILLE, VA (MAY THROUGH SEPTEMBER USE HULLED SEED, ALL OTHER PERIODS, USE UNHULLED SERICEA). IF FLATPEA IS USED, INCREASE RATE TO 30 LBS./ACRE. IF WEEPING LOVEGRASS IS USED, INCLUDE IN ANY SLOPE OR LOW MAINTENANCE MIXTURE DURING WARMER SEEDING PERIODS, INCREASE TO 30-40.

FERTILIZER & LIME

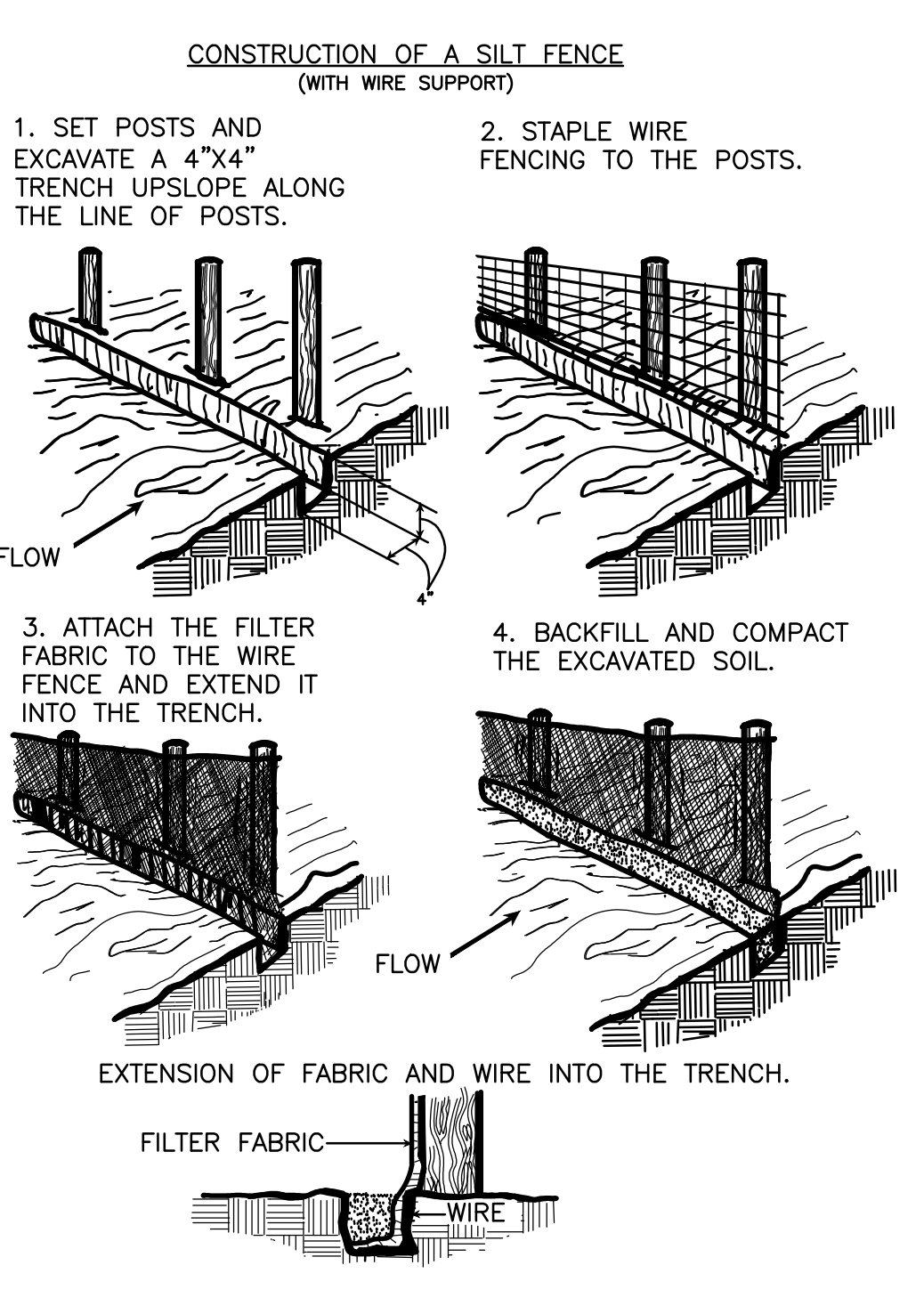
- APPLY 10-20-10 FERTILIZER AT A RATE OF 1000 lbs./acre (OR 23 lbs./1,000 sq. ft.)
- LIME AND FERTILIZER SHALL BE INCORPORATED INTO THE TOP 4 TO 6 INCHES OF THE SOIL BY DISCING OR OTHER MEANS WHENEVER POSSIBLE.

NOTE:
1.) A SOIL TEST IS NECESSARY TO DETERMINE THE ACTUAL AMOUNT OF LIME REQUIRED TO ADJUST THE SOIL PH OF SITE.
2.) WHEN APPLYING SLOWLY AVAILABLE NITROGEN USE RATES AVAILABLE IN EROSION & SEDIMENT CONTROL TECHNICAL BULLETIN #4, 2003 NUTRIENT MANAGEMENT FOR DEVELOPMENT SITES AT: <http://www.dcr.state.va.us/sw/e&s.htm#pubs>

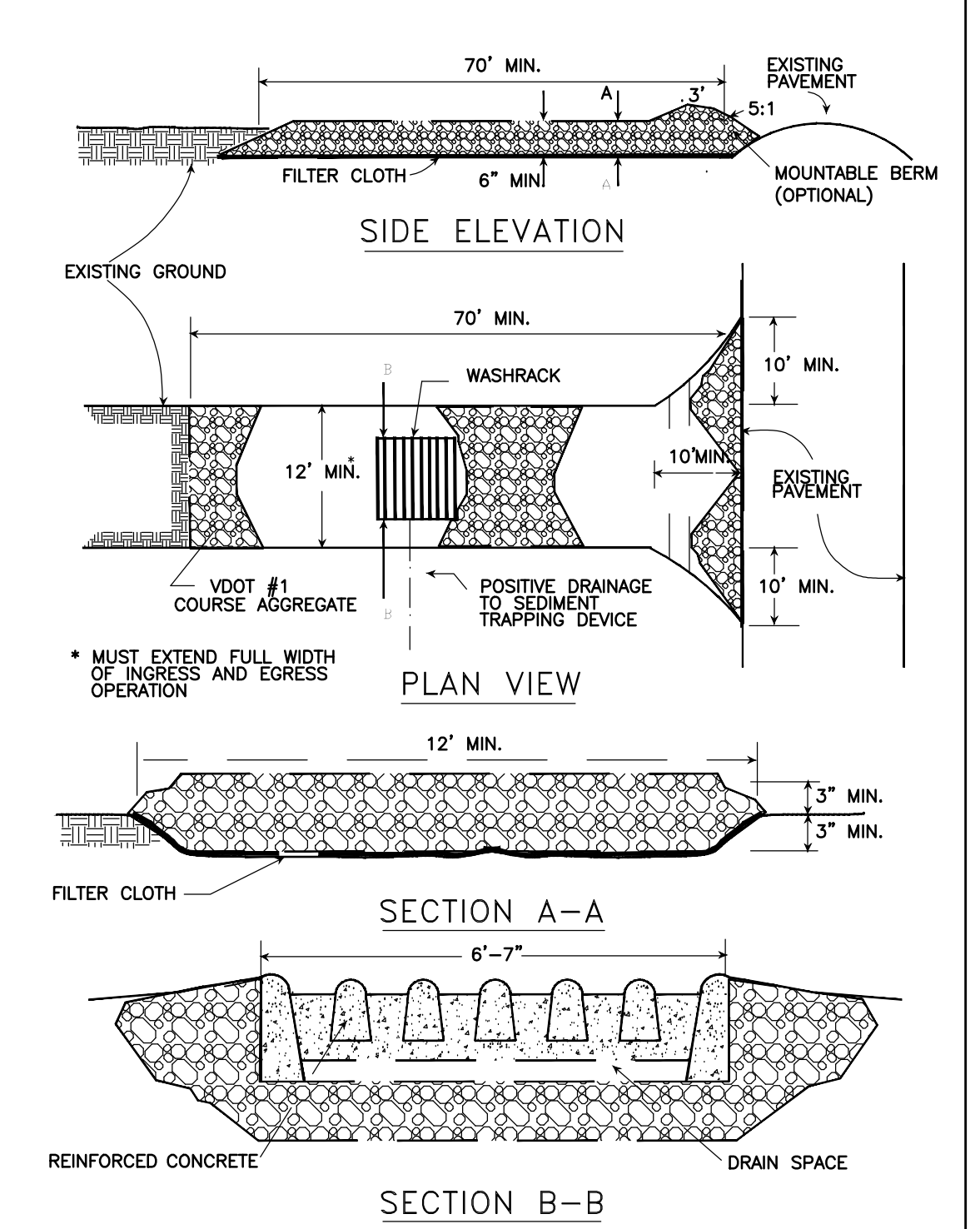
PS PERMANENT SEEDING SPECIFICATIONS FOR PIEDMONT AREA



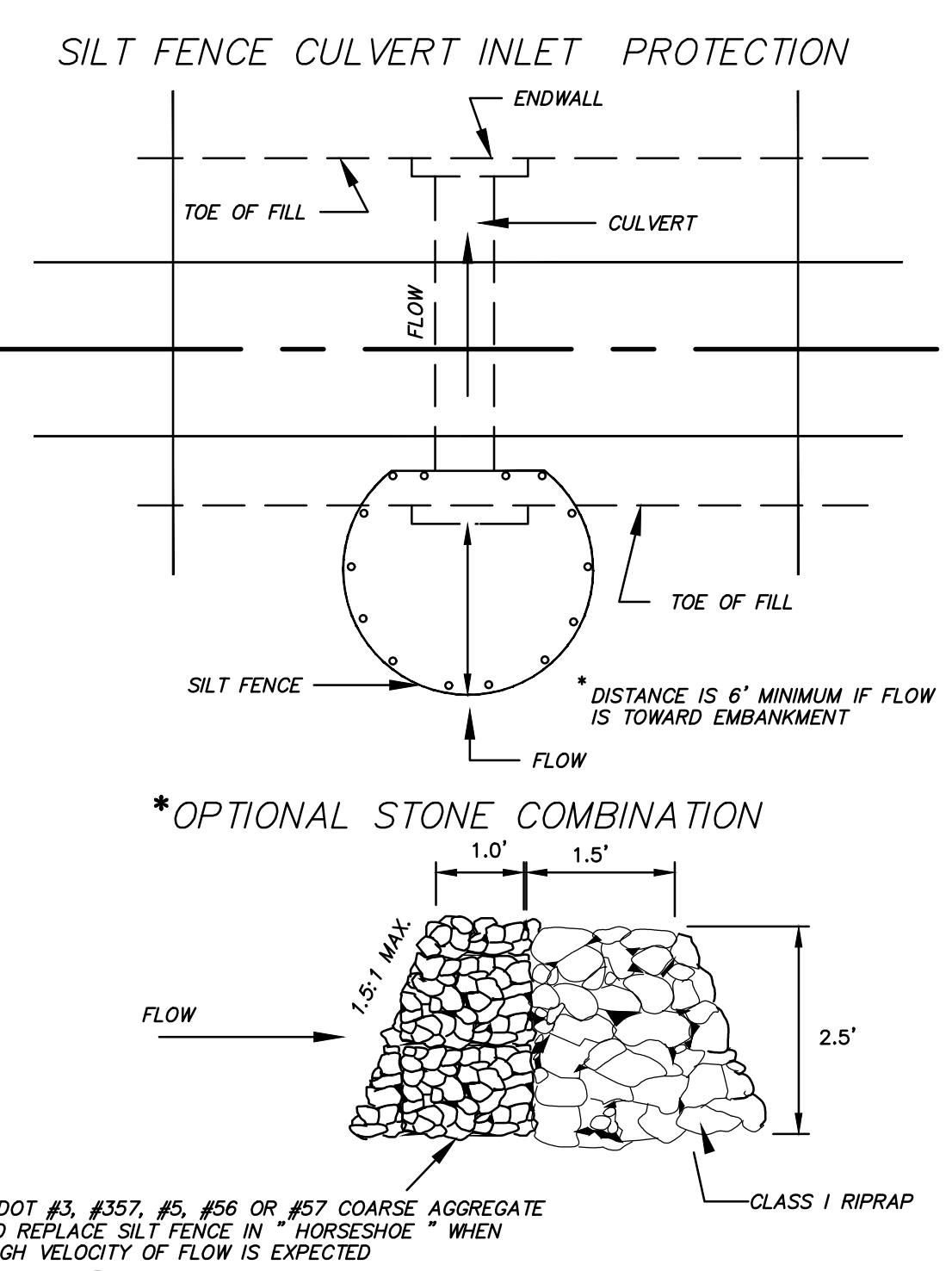
USC COFFERDAM CROSSING
NOT TO SCALE



SSF SUPER SILT FENCE
NOT TO SCALE

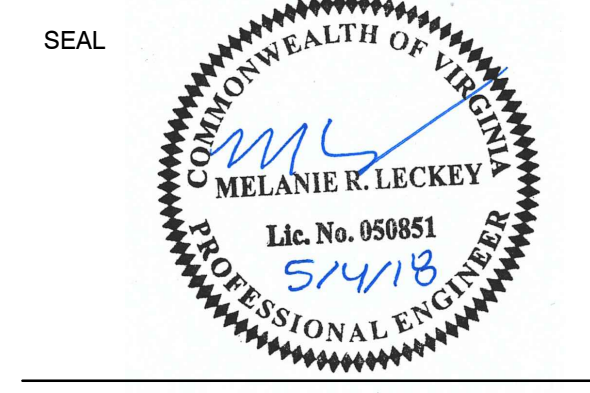


CE STONE CONSTRUCTION ENTRANCE
NOT TO SCALE



CIP CULVERT INLET PROTECTION
NOT TO SCALE

KEY PLAN



SCALE

No.	DATE	BY	Description
REVISIONS			

DRAWN BY: JEH
APPROVED BY: MRL
CHECKED BY: DAV
DATE: MAY 2018

EROSION AND SEDIMENT CONTROL DETAILS

PROJECT NO. 50078861

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- ALL WATER AND SEWER CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE STANDARDS AND REQUIREMENTS OF THE FLUVANNA COUNTY DEPARTMENT OF PUBLIC WORKS.
- THE CONTRACTOR SHALL CONTACT THE FLUVANNA COUNTY DEPARTMENT OF WORKS DIVISION TO SCHEDULE A PRE-CONSTRUCTION CONFERENCE AT LEAST 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY ON WATER OR SEWER IMPROVEMENTS.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS FOR THE WORK.
- A PERMIT FROM THE VIRGINIA DEPARTMENT OF TRANSPORTATION IS REQUIRED FOR ALL WORK WITHIN A PUBLIC ROAD RIGHT-OF-WAY.
- WATERLINES 12" AND SMALLER SHALL BE DUCTILE IRON PIPE MEETING THE REQUIREMENTS OF AWWA C151 THICKNESS CLASS 52, OR PVC PIPE MEETING THE REQUIREMENTS OF AWWA C900, CLASS 150 OR HDPE PIPE MEETING THE REQUIREMENTS OF AWWA C906 FOR WATER MAIN APPLICATIONS.
- METER BOX LIDS SHALL HAVE A 1-3/4" DIAMETER HOLE LOCATED IN ITS CENTER. THE HOLE SHALL EITHER BE CAST IN PLACE AT THE FOUNDRY OR AFTER CASTING BE RETROFITTED VIA A PLASMA ARC TORCH.
- THE LOCATION OF EXISTING UTILITIES ACROSS OR ALONG THE ROUTE OF THE PROPOSED WORK IS NOT NECESSARILY SHOWN ON THE PLANS, AND WHEN SHOWN, IS ONLY APPROXIMATELY CORRECT. THE CONTRACTOR SHALL, ON HIS OWN INITIATIVE, LOCATE ALL EXISTING UNDERGROUND LINES, FACILITIES AND STRUCTURES AS REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY UNDERGROUND LINES, FACILITIES AND STRUCTURES DAMAGED BY HIS ACTIVITIES.
- CONTRACTOR SHALL CALL "MISS-UTILITY" AT (800)552-7001 PRIOR TO THE START OF CONSTRUCTION.
- NO STRUCTURES OR TREES SHALL BE PERMITTED IN UTILITY EASEMENTS.
- FINAL ACCEPTANCE OF WORK BY THE FLUVANNA COUNTY DEPARTMENT OF PUBLIC WORKS SHALL NOT BE MADE UNTIL ALL WORK SHOWN ON THE APPROVED PLANS IS COMPLETED.
- TWO SETS OF PRINTS AND ONE ELECTRONIC COPY OF THE AS-BUILT DRAWINGS MUST BE SUBMITTED TO THE DEPARTMENT OF PUBLIC WORKS PRIOR TO TENTATIVE ACCEPTANCE OF THE WORK BY THE COUNTY.
- WATER CONNECTIONS SHALL NOT BE BACKFILLED PRIOR TO APPROVAL BY THE FLUVANNA COUNTY DEPARTMENT OF PUBLIC WORKS.
- ALL WATERLINES SHALL HAVE A MINIMUM OF 3.5 FEET OF COVER.
- TESTING NOTES:
PRESSURE:
LEAKAGE SHALL NOT EXCEED THE MAXIMUM ALLOWABLE LEAKAGE SPECIFIED IN AWWA C600. MINIMUM TEST PRESSURE SHALL BE 150 PSI.
BACTERIOLOGICAL:
TWO SAMPLES FOR BACTERIOLOGICAL SAMPLING SHALL BE COLLECTED AT LEAST 16 HOURS APART. IF CONTAMINATION IS INDICATED, THEN THE DISINFECTION PROCEDURE AND TESTING SHALL BE REPEATED UNTIL SATISFACTORY RESULTS ARE OBTAINED.
- THE CHLORINE IN HEAVILY CHLORINATED WATER FLUSHED FROM MAINS NEEDS TO BE NEUTRALIZED BEFORE DISCHARGE. CONTRACTORS MUST PROVIDE EQUIPMENT FOR NEUTRALIZING HEAVILY CHLORINATED WATER FLUSHED FROM MAINS DURING CONSTRUCTION PRIOR TO DISCHARGING THE WATER.
- RESTRAINED JOINT PIPE AND FITTINGS SHALL BE UTILIZED AT ALL WATER LINE STUB-OUTS AND DEAD ENDS FOR A MINIMUM OF 90 FT OR BACK TO THE FAR SIDE OF THE NEAREST VALVE, TEE, OR CROSS, WHICHEVER IS SHORTER, UNLESS ANOTHER DISTANCE IS SPECIFICALLY CALLED OUT ON THE PLANS.
- IT SHOULD BE ASSUMED THAT EVERY FITTING WILL BE REQUIRED TO HAVE RESTRAINED JOINTS UNLESS OTHERWISE NOTED ON THE PLANS. WHERE CONDITIONS ALLOW OR WARRANT, CONCRETE THRUST BLOCKING MAY BE USED AS A SUBSTITUTE FOR RESTRAINED JOINTS OR MAY BE REQUIRED IN ADDITION TO THE RESTRAINT

GENERAL UTILITY NOTES - 1
N.T.S.

MINIMUM SPECIFIED TIME REQUIRED FOR A 1.0 PSIG PRESSURE DROP FOR SIZE AND LENGTH OF PIPE INDICATED. PRESSURE DROP FROM 3.5 PSIF TO 2.5 PSIG*

PIPE DIAMETER (IN.)	MINIMUM TIME (MIN: SEC)	TIME FOR LENGTH (L) (SEC)	SPECIFICATION TIME FOR LENGTH (L) SHOWN (MIN:SEC)													
			100 FT.	150 FT.	200 FT.	250 FT.	300 FT.	350 FT.	400 FT.	450 FT.	500 FT.	600 FT.				
6	5:40	.854 L	5:40	5:40	5:40	5:40	5:40	5:40	5:40	5:42	6:24					
8	7:34	1.520 L	7:34	7:34	7:34	7:34	7:36	8:52	10:08	11:24						
10	9:26	2.374 L	9:26	9:26	9:26	9:53	11:52	13:51	15:49	17:48						
12	11:20	3.418 L	11:20	11:20	11:24	14:15	17:05	19:56	22:47	25:38						
15	14:10	5.342 L	14:10	14:10	17:48	22:15	26:42	31:09	35:36	40:04						
18	17:00	7.692 L	17:00	19:13	25:38	32:03	38:27	44:52	51:16	57:41						
21	19:50	10.470 L	19:50	26:10	34:54	43:37	52:21	61:00	69:48	78:31						
24	22:40	13.674 L	22:47	34:11	45:34	56:58	68:22	79:46	91:10	102:33						
27	25:30	17.306 L	28:51	43:16	57:41	72:07	86:32	100:57	115:22	129:48						
30	28:20	21.366 L	35:37	53:25	71:13	89:02	106:50	124:38	142:26	160:15						
33	31:10	25.852 L	43:05	64:38	86:10	107:43	129:16	150:43	172:21	193:53						
36	34:00	30.768 L	51:17	76:55	102:34	128:12	153:50	179:29	205:07	230:46						
42	45:21	41.883 L	69:48	104:47	139:37	174:31	209:25	244:19	279:13	314:07						

* THE 3.5 PSIG TEST PRESSURE SHALL BE INCREASED BY ADDING THE AVERAGE VERTICAL HEIGHT IN FEET OF GROUND WATER ABOVE THE SEWER PIPE INVERT, DIVIDED BY 2.31 BUT THE MAXIMUM STARTING TEST PRESSURE SHALL NOT EXCEED 9 PSIG.

NOTE:
1. BASED ON FORMULAS FROM UNI-B-6-90

PVC PIPE AIR TEST TABLE
N.T.S.

- SYSTEM AS DECIDED BY THE DPW INSPECTOR.
- MONITORING MANHOLES SHALL BE INSTALLED ON ALL SEWER LATERALS WHERE NON-DOMESTIC OR STRONG WASTE WILL POTENTIALLY BE DISCHARGED TO THE PUBLIC SEWER SYSTEM. IF MONITORING MANHOLES ARE NOT PROVIDED WITH THE INITIAL CONSTRUCTION, THE DEPARTMENT OF PUBLIC WORKS MAY REQUIRE THAT THE OWNER ADD A MONITORING MANHOLE, AT THE OWNERS COST, SHOULD THE USE OF THE FACILITY CHANGE, SHOULD THE CHARACTERISTICS OF THE WASTE DISCHARGED BE CHANGED, SHOULD REGULATIONS CHANGE, OR SHOULD THE DEPARTMENT DETERMINE FOR ANY REASON WHAT SO EVER, IN ITS SOLE JUDGEMENT, THAT A MONITORING MANHOLE IS NECESSARY TO PROTECT THE CENTRAL SEWER SYSTEM OR TREATMENT FACILITIES.
- SEWER LATERALS SHALL BE NO MORE THAN 8 FEET DEEP AT THE EASEMENT OR PROPERTY LINE UNLESS OTHERWISE SPECIFICALLY SHOWN DEEPER THAN 8 FEET ON THE APPROVED PLANS.
- WHENEVER CONNECTING A SEWER LATERAL TO AN EXISTING MANHOLE, CORE DRILLING AND A FLEXIBLE PIPE-TO-MANHOLE CONNECTOR SHALL BE USED. THE CONNECTOR SHALL BE KOR-N-SEAL ASSEMBLY OR APPROVED EQUAL. THE CONNECTOR SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS.
- WHENEVER CONNECTING A SEWER LATERAL TO AN EXISTING SEWER LINE, THE CONTRACTOR MUST USE A MECHANICAL HOLE CUTTER WHEN TAPPING THE EXISTING SEWER LINE AND AN APPROVED SADDLE OR INSERTA-TEE OR KOR-N-TEE SHALL BE USED.
- THE CONTRACTOR SHALL SCHEDULE AND COORDINATE THE SHUT-OFF OF EXISTING WATER LINES AND ANY CORRESPONDING SERVICE INTERRUPTIONS WITH THE FLUVANNA COUNTY DEPARTMENT OF PUBLIC WORKS AND ALL AFFECTED CUSTOMERS AT LEAST 48 HOURS PRIOR TO THE SCHEDULED ACTIVITY. THE CONTRACTOR IS TO NOTIFY ALL AFFECTED CUSTOMERS IN WRITING. THE CONTRACTOR SHALL MAKE PROVISIONS TO PROVIDE REASONABLE ACCOMMODATIONS TO AFFECTED CUSTOMERS AND SHALL TAKE ALL NECESSARY STEPS TO MINIMIZE THE LENGTH OF THE SERVICE INTERRUPTION. IN CASES WHERE SPECIAL OPERATIONAL ISSUES ARISE AS A RESULT OF THE PROPOSED WORK, DPW RESERVES THE RIGHT TO DELAY OR POSTPONE THE WORK SO NOT TO JEOPARDIZE THE INTEGRITY OF ITS UTILITY SYSTEM OR SERVICE TO CUSTOMERS.
- ALL SANITARY SEWERS CONSTRUCTED IN FILL SHALL BE OF DUCTILE IRON SEWER PIPE (CLASS 52 MINIMUM) WITH MANHOLES FOUNDED ON ORIGINAL GROUND UNLESS A LICENSED GEOTECHNICAL ENGINEER FURNISHES A WRITTEN CERTIFICATION THAT THE FILL HAS BEEN SUFFICIENTLY COMPACTED SO THAT SETTLEMENT OF THE SANITARY SEWER MAIN AND/OR MANHOLE WILL NOT OCCUR.
- ALL WATER MAINS CONSTRUCTED IN FILL SHALL BE DUCTILE IRON PIPE WITH RESTRAINED JOINTS UNLESS A LICENSED GEOTECHNICAL ENGINEER FURNISHES A WRITTEN CERTIFICATION THAT THE FILL HAS BEEN SUFFICIENTLY COMPACTED SO THAT SETTLEMENT OF THE WATER MAIN WILL NOT OCCUR.
- VALVE BOXES NOT LOCATED IN PAVEMENT OR CONCRETE SHALL HAVE A 2 FOOT SQUARE BY 4" THICK CONCRETE PAD POURED AROUND THEM PER DETAIL TITLED "SMALL VALVE BOX" AND SECTION 2.4.3. 1. C.2.
- WATER METERS OR OTHER WATER UTILITY APPURTENANCES SHALL NOT BE LOCATED IN DRIVEWAYS, SIDEWALKS, OR OTHER PAVED AREAS IN SUBDIVISION OR TOWNHOUSE DEVELOPMENTS WITHOUT THE PRIOR APPROVAL OF THE DEPARTMENT OF PUBLIC WORKS.

GENERAL UTILITY NOTES - 2
N.T.S.

MINIMUM TEST TIME TWO HOURS

WATER LINE TEST BASED ON 150 PSI		WATER LINE TEST BASED ON 150 PSI	
SIZE	MAX. ALLOWABLE LEAKAGE	SIZE	MAX. ALLOWABLE LEAKAGE
3/4"	.0124 (GAL/2 HRS)/100 L.F.	16"	.2648 (GAL/2 HRS)/100 L.F.
1"	.0166 (GAL/2 HRS)/100 L.F.	20"	.3310 (GAL/2 HRS)/100 L.F.
1-1/2"	.0248 (GAL/2 HRS)/100 L.F.	24"	.3972 (GAL/2 HRS)/100 L.F.
2"	.0331 (GAL/2 HRS)/100 L.F.	30"	.4965 (GAL/2 HRS)/100 L.F.
3"	.0497 (GAL/2 HRS)/100 L.F.	36"	.5958 (GAL/2 HRS)/100 L.F.
4"	.0662 (GAL/2 HRS)/100 L.F.	42"	.6951 (GAL/2 HRS)/100 L.F.
6"	.0993 (GAL/2 HRS)/100 L.F.	48"	.7944 (GAL/2 HRS)/100 L.F.
8"	.1324 (GAL/2 HRS)/100 L.F.	54"	.8937 (GAL/2 HRS)/100 L.F.
12"	.1986 (GAL/2 HRS)/100 L.F.		

MAXIMUM ALLOWABLE LEAKAGE FOR THE WATER MAIN WILL BE CALCULATED USING THE FOLLOWING FORMULA:

$$L = \frac{DS\sqrt{P}}{148,000}$$

WHERE:
L = MAXIMUM ALLOWABLE LEAKAGE, GALLONS/HOUR
S = LENGTH OF PIPE IN TEST SECTION, IN FEET
D = NOMINAL DIAMETER OF TESTED PIPE, IN INCHES
P = TEST PRESSURE, POUNDS PER SQUARE INCH 150 PSI OR 1 1/2 THE WORKING PRESSURE WHICHEVER IS GREATER MEASURED AT THE HIGH POINT OF THE TEST SYSTEM.

NOTE:
1. BASED ON FORMULAS FROM AWWA SPECIFICATIONS

ALLOWABLE LEAKAGE TABLE - WATERLINES
N.T.S.

- LAY NEW WATERLINES AND APPURTENANCES - CONSTRUCTION SHOULD BEGIN IN THE PROXIMITY OF EXISTING WATERLINES TO FACILITATE FUTURE INSTALLATION OF THE DOUBLE CHECK WITH GATE VALVE AND TESTING CORPORATION STOP ASSEMBLY (I.E. JUMPER) AND TIE-IN. CONNECTION TO ANY EXISTING WATERLINE IS NOT ALLOWED UNLESS THE WATERLINE IS READY TO TEST NEW WATERLINES PRIOR TO PLACING THEM IN SERVICE UNLESS JUMPER IS A CERTIFIED BACK FLOW PREVENTER. COORDINATE ACCEPTABLE "BACKFLOW" ASSEMBLY (PER DETAIL TITLED "DOUBLE CHECK VALVE ASSEMBLY") WITH DPW INSPECTOR PRIOR TO COMMENCING WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL LABOR AND EQUIPMENT REQUIRED FOR FLUSHING, DECHLORINATION, EROSION PREVENTION, AND REPAIR OF ANY DAMAGE CAUSED BY ANY AND ALL WATERLINE FLUSHING PRIOR TO ISSUANCE OF TENTATIVE ACCEPTANCE BY DEPARTMENT OF PUBLIC WORKS.
- INITIAL FLUSH - INITIAL FLUSHING OF NEW WATERLINE(S), INCLUDING ALL HYDRANTS AND DEAD-END WATERLINE(S), MAY COMMENCE AFTER JUMPER HAS BEEN INSTALLED AND CONNECTION TO THE EXISTING WATERLINE IS COMPLETE. A SAFE AND STABLE DISCHARGE THAT ALLOWS THE USE OF A PITOT GAUGE FOR FLOW MEASUREMENT MUST BE PROVIDED. DPW PERSONNEL WILL VERIFY THAT INITIAL FLUSHING IS PROPERLY PERFORMED AND ALL AIR AND DEBRIS HAVE BEEN REMOVED FROM THE NEW WATERLINE. ALL WATERLINES SHALL BE INITIALLY FLUSHED AT A MINIMUM RATE OF 3.0 FEET PER SECOND (FPS) AND FOR THE DURATION NECESSARY TO PROVIDE A MINIMUM OF 2 COMPLETE WATER TURN-OVERS WITHIN THE NEW WATERLINE(S). THE FOLLOWING TABLE IS PROVIDED AS A GUIDELINE FOR ACHIEVING THE REQUIRED 3.0 FPS VELOCITY AND WATER TURN-OVER RATES. INITIAL FLUSH REQUIREMENTS FOR PIPE DIAMETERS LARGER THAN 16" WILL BE DETERMINED ON A CASE-BY-CASE BASIS AS APPROVED BY DPW PERSONNEL.

MAIN SIZE	4"	6"	8"	12"	16"
FLOW (GPM)	118	265	470	1060	1900
GALLONS/FOOT	0.65	1.47	2.61	5.87	10.44

- PRESSURE TEST - CONDUCT PRESSURE TEST CONSISTENT WITH FLUVANNA COUNTY DPW STANDARDS AND AS DIRECTED BY DPW INSPECTOR.
- DISINFECTION - LIQUID SODIUM HYPOCHLORITE SHALL BE USED. USE OF CALCIUM HYPOCHLORITE GRANULES OR TABLETS IS PROHIBITED. THE DISINFECTION SOLUTION SHALL BE FED AT A CONTINUOUS RATE AND MIXED WITH THE WATER ENTERING THE PIPE FROM THE EXISTING SYSTEM SO THAT THE CHLORINE CONCENTRATION OF THE WATER AND DISINFECTION SOLUTION IN THE PIPE IS ELEVATED TO AND MAINTAINED AT A MINIMUM CONCENTRATION OF 50 MG/L AVAILABLE CHLORINE.
- LOW FLOW FLUSHING - LOW FLOW FLUSHING SHALL NOT BEGIN UNTIL THE DISINFECTION SOLUTION HAS BEEN IN THE NEW WATERLINE FOR AT LEAST 24 HOURS AND A SATISFACTORY CHLORINE RESIDUAL HAS BEEN VERIFIED BY DPW PERSONNEL. LOW FLOW FLUSHING IS A LOW VELOCITY FLUSH OF APPROXIMATELY 1 FPS AND SHALL BE MAINTAINED LONG ENOUGH FOR THE DISINFECTION SOLUTION TO BE ENTIRELY REMOVED FROM THE NEW WATERLINE AND THE NORMAL DISTRIBUTION SYSTEM CHLORINE CONCENTRATION IS OBSERVED. LOW FLOW FLUSHING SHALL NOT END UNTIL THE WATER IS VISIBLY CLEAR. DPW PERSONNEL WILL VERIFY THAT LOW FLOW FLUSHING IS PROPERLY PERFORMED.
- BACTERIOLOGICAL TESTING - BACTERIOLOGICAL TESTING SHALL BE COMPLETED NO EARLIER THAN TWO WEEKS PRIOR TO THE SCHEDULED ISSUANCE OF TENTATIVE ACCEPTANCE. BACTERIOLOGICAL TEST SAMPLING SHALL BE CONDUCTED IN THE PRESENCE OF DPW PERSONNEL. AT LEAST TWO SAMPLES SHALL BE COLLECTED AND TESTED BY A STATE OF VIRGINIA CERTIFIED LABORATORY. THE TWO SAMPLES SHALL BE COLLECTED AT LEAST 16 HOURS APART AT PIPE INTERVALS DETERMINED BY THE INSPECTOR (NOT EXCEEDING 1,200 FEET APART AND AT THE END OF ALL BRANCH LINES AND CUL-DE-SACS). THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EXPENSE AND COORDINATION OF THE SAMPLE COLLECTION AND TESTING. TWO CONSECUTIVE NEGATIVE TESTS FOR COLIFORM FROM ALL THE SAMPLE LOCATIONS SHALL CONSTITUTE ADEQUATE DISINFECTION OF THE NEW WATERLINE(S). ORIGINALS OF ALL APPLICABLE DOCUMENTATION AND TEST RESULTS MUST BE PROVIDED TO DPW INSPECTOR PRIOR TO ISSUANCE OF TENTATIVE ACCEPTANCE AND PROCEEDING TO STEP #7.
- REMOVAL OF THE JUMPER AND FINAL FLUSH - ONCE DPW APPROVAL HAS BEEN GRANTED, THE CONTRACTOR MAY REMOVE THE JUMPER AND PERFORM NEEDED FLUSHING ON THE NEW WATERLINE TO REMOVE ANY REMAINING AIR AND DEBRIS. DPW PERSONNEL WILL FLUSH EXISTING COUNTY WATERLINES AS NECESSARY AND VERIFY THAT CONTRACTOR'S FLUSHING OF THE NEW WATERLINE(S) IS ADEQUATE.

STANDARD SEWER AND WATER NOTES
N.T.S.

DISCHARGE TABLE FOR HYDRANTS.*+
OUTLET PRESSURE MEASURED BY PITOT GAGE.

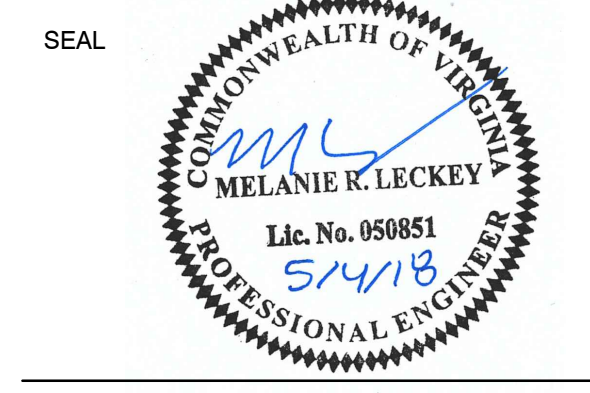
FLOWING PRESSURE IN lb/in ²	OUTLET DIAMETER IN INCHES											
	U.S. GALLONS PER MINUTE											
	2-3/8	2-1/2	2-5/8	2-3/4	2-7/8	3	3-1/8	3-7/8	4	4-3/8	4-1/2	4-5/8
1	150	170	180	200	220	240	260	400	430	510	540	580
2	210	240	260	290	310	340	370	570	610	720	770	810
3	260	290	320	350	380	420	450	700	740	890	940	990
4	300	340	370	410	440	480	530	810	860	1030	1090	1150
5	340	380	410	450	500	540	590	900	960	1150	1220	1290
6	370	410	450	500	540	590	640	980	1050	1260	1340	1410
7	400	440	480	540	590	640	690	1070	1140	1360	1440	1520
8	430	480	520	570	630	680	740	1140	1220	1450	1540	1620
9	450	500	550	610	670	730	790	1210	1290	1540	1640	1720
10	480	530	580	640	700	760	830	1280	1360	1630	1730	1820
11	500	560	610	670	730	800	870	1340	1430	1710	1810	1910
12	520	580	640	700	770	840	910	1400	1490	1780	1890	1990
13	550	610	670	730	800	870	950	1450	1550	1850	1960	2070
14	570	630	690	760	830	900	980	1510	1610	1920	2040	2150
15	590	650	720	790	860	940	1020	1560	1660	1990	2110	2220
16	610	670	740	810	890	970	1050	1620	1720	2060	2180	2300
17	620	690	760	840	910	1000	1080	1680	1770	2120	2240	2370
18	640	710	780	860	940	1030	1110	1710	1820	2180	2310	2440
19	660	730	810	890	980	1070	1160	1780	1890	2260	2390	2520
20	680	750	830	910	990	1080	1170	1800	1920	2290	2430	2570
22	710	790	870	950	1040	1130	1230	1890	2020	2400	2550	2700
24	740	820	910	1000	1090	1180	1290	1970	2110	2500	2660	2810
26	770	860	940	1040	1130	1230	1340	2050	2190	2600	2770	2930
28	800	890	980	1070	1170	1280	1390	2130	2280	2700	2880	3040
30	830	920	1010	1110	1210	1320	1430	2210	2350	2800	2990	3150
32	860	950	1050	1150	1260	1370	1480	2280	2430	2910	3080	3250
34	880	980	1080	1180	1290	1410	1530	2350	2510	3000	3170	3350
36	910	1010	1110	1220	1330	1450	1580	2420	2580	3080	3260	3440
38	930	1040	1140	1250	1370	1490	1620	2480	2650	3170	3350	3540
40	960	1060	1170	1290	1400	1530	1660	2550	2720	3250	3440	3630

*COMPUTED WITH COEFFICIENT, C = 0.90, TO NEAREST 10 GALS. PER MIN.
+FROM NATL. BD. OF FIRE UNDERWRITERS.
EQUIPMENT FOR APPROXIMATING HYDRANT FLOWS (per R.C. Dennett, Engr., Natl. Bd. of Fire Underwriters):
THE EQUIPMENT NECESSARY CONSISTS OF EITHER A STANDARD PITOT TUBE OR A HYDRANT CAP TAPPED TO TAKE A PRESSURE GAGE. IF THE HYDRANTS USED AS A DISCHARGE POINT FOR FLUSHING HAS TWO OR MORE OUTLETS A PRESSURE GAGE ON ONE OUTLET WHILE ANOTHER OUTLET IS FLOWING WILL GIVE APPROXIMATELY THE SAME RESULTS AS THE USE OF A PITOT TUBE.

DISCHARGE FLOW RATES FOR FLUSHING
N.T.S.



Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
PHONE: 804.290.7957
FAX: 804.290.7928
www.dewberry.com



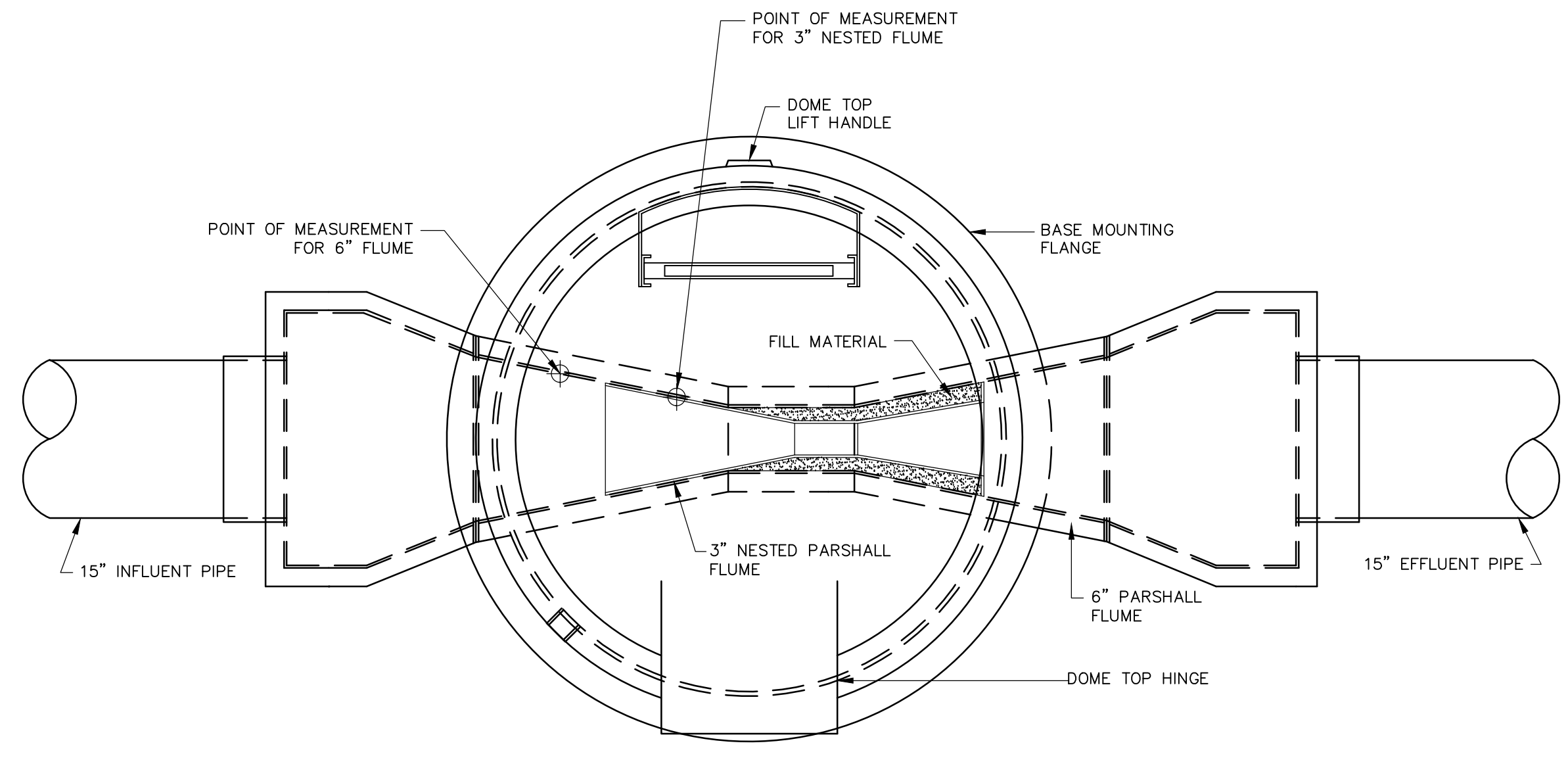
No.	DATE	BY	Description

REVISIONS			
No.	DATE	BY	Description

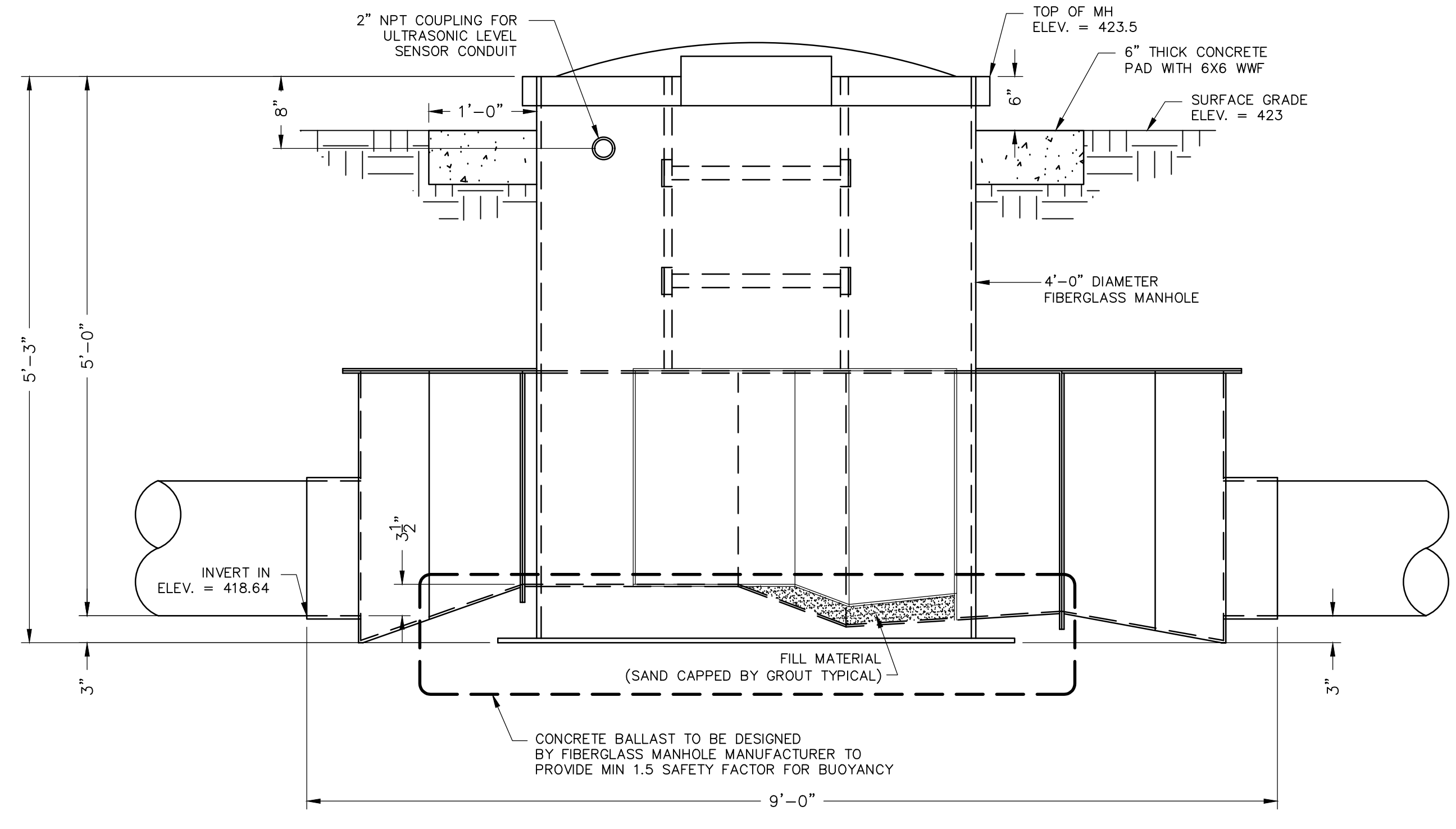
DETAILS

PROJECT NO. 50078861

C2.3

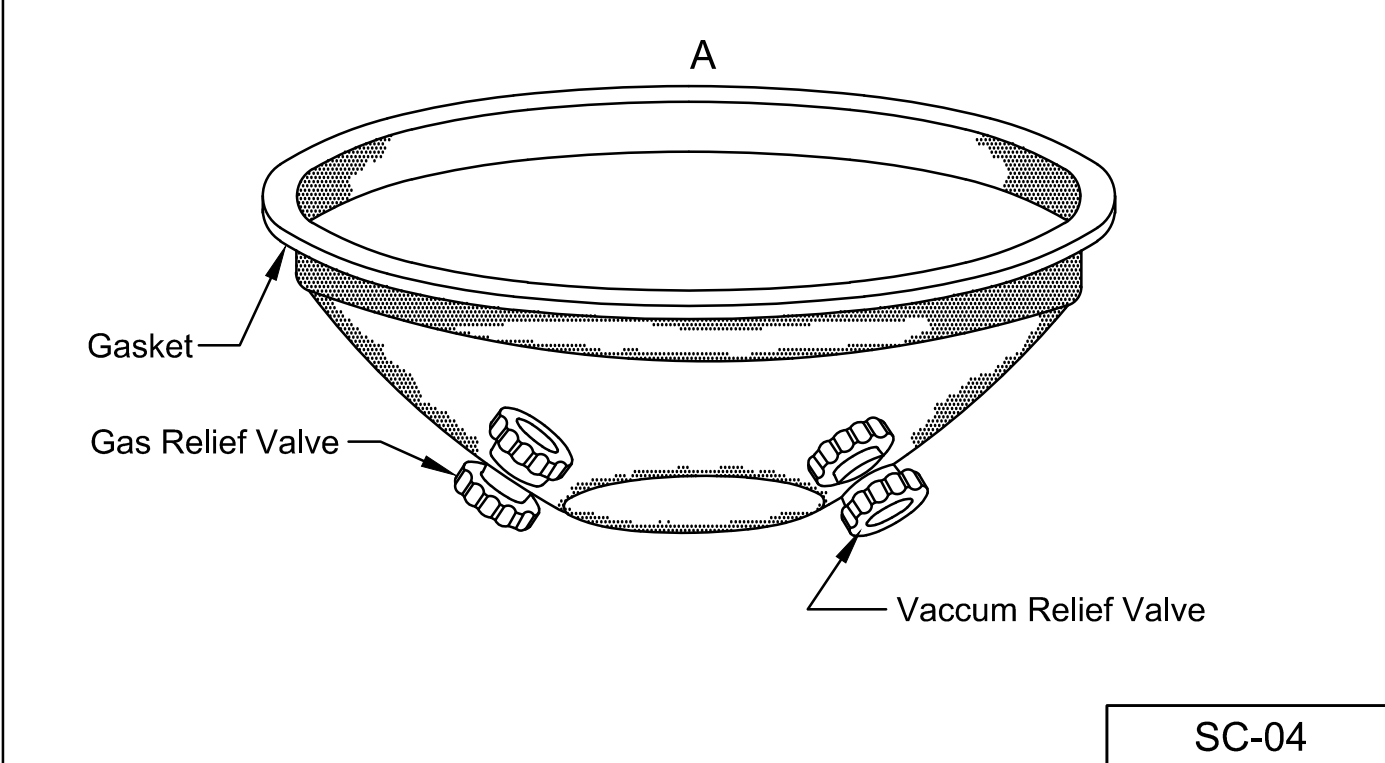
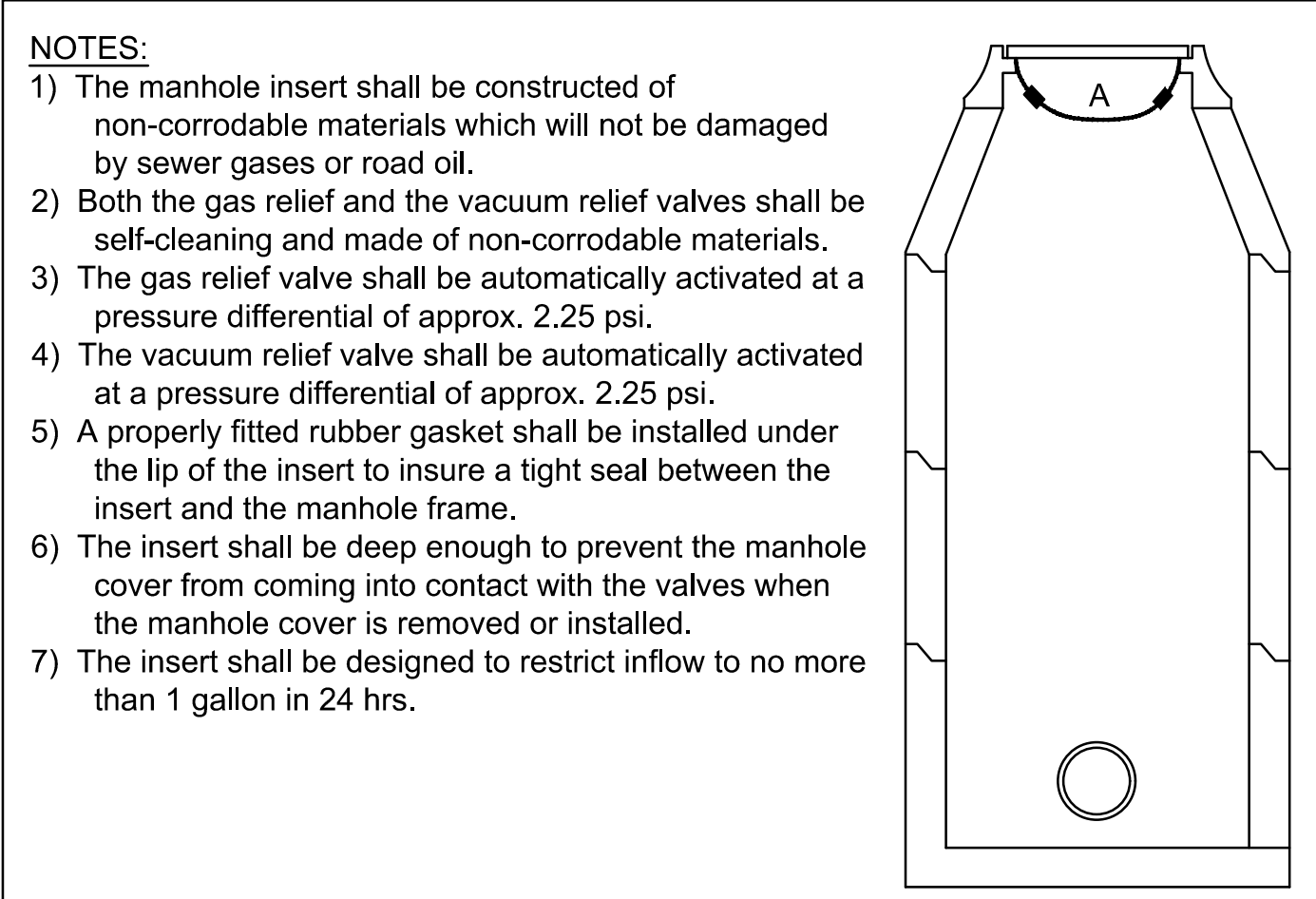


METERING MANHOLE - PLAN VIEW

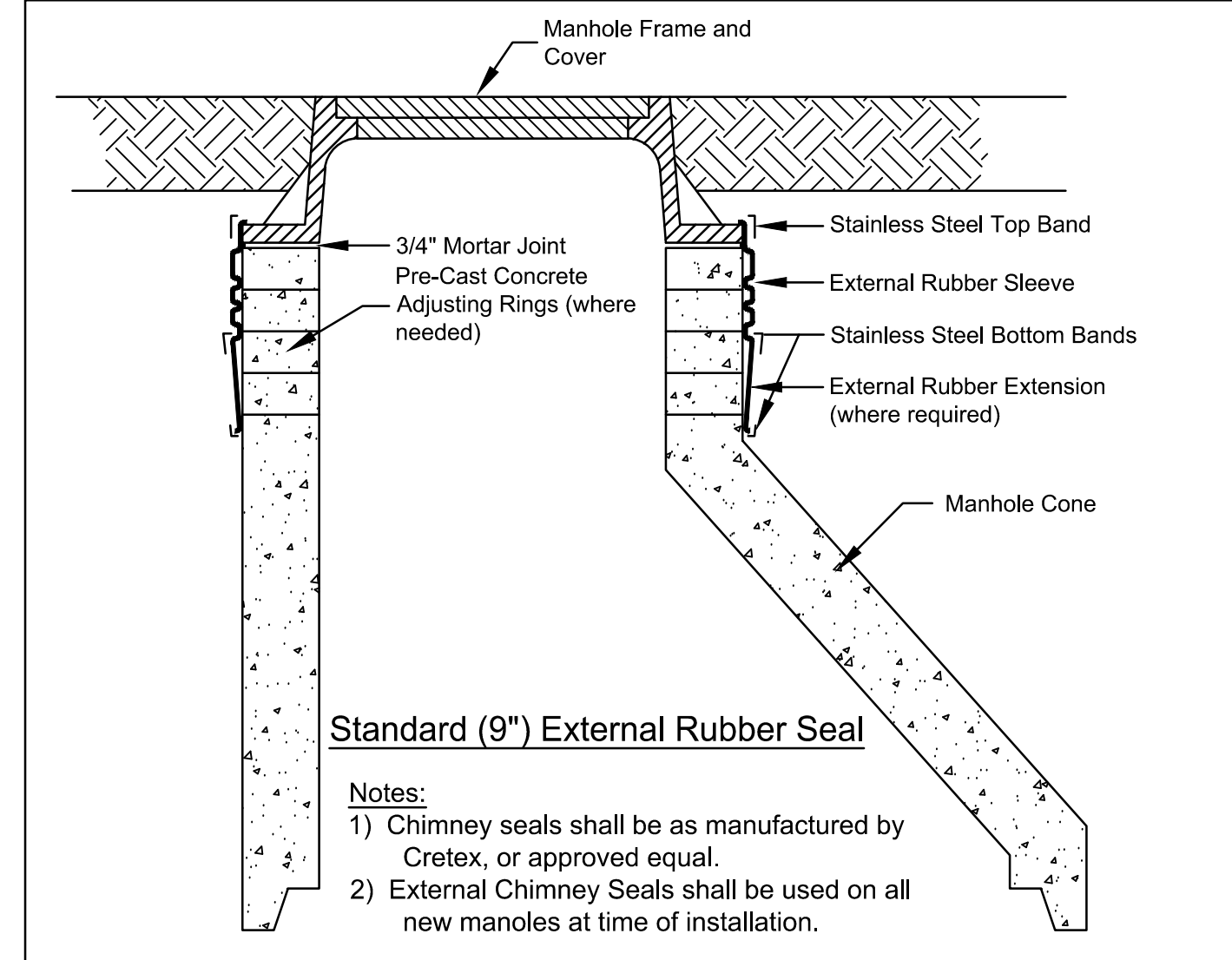


METERING MANHOLE - ELEVATION VIEW

- NOTES:
- FRP angles over flume throats not shown for clarity.
 - Fill spaces between flumes (sides and bottom) with appropriate material (sand capped by grout).



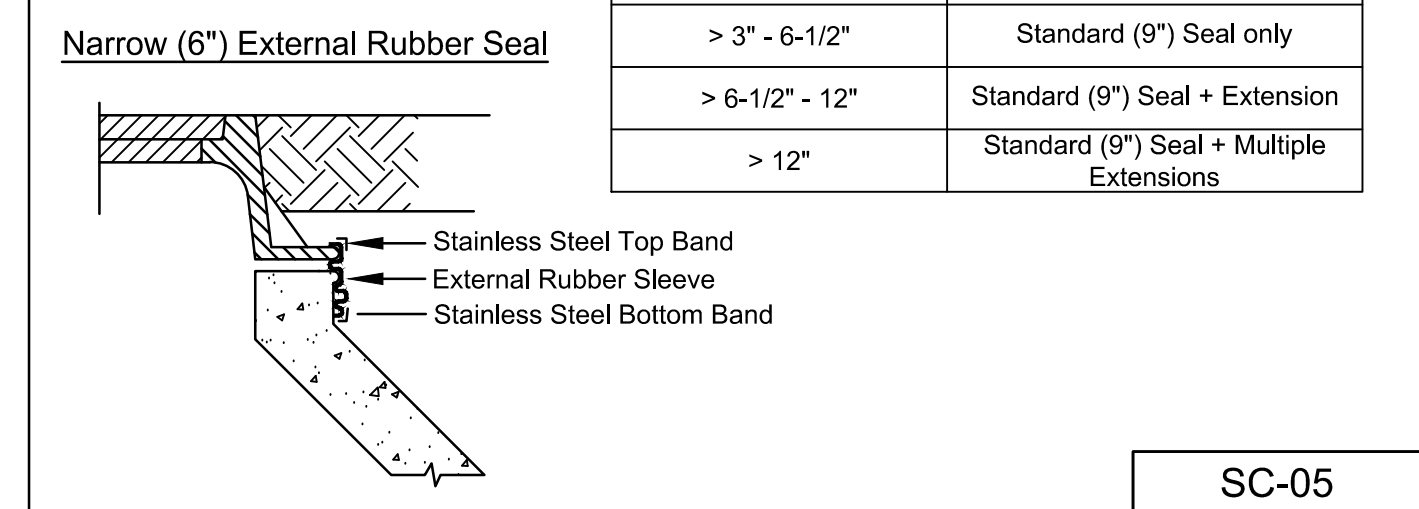
Waterproof Manhole Insert
SC-04
Fluvanna County Virginia Construction Detail
Not to Scale
Revised: 03/17/2014



Standard (9") External Rubber Seal

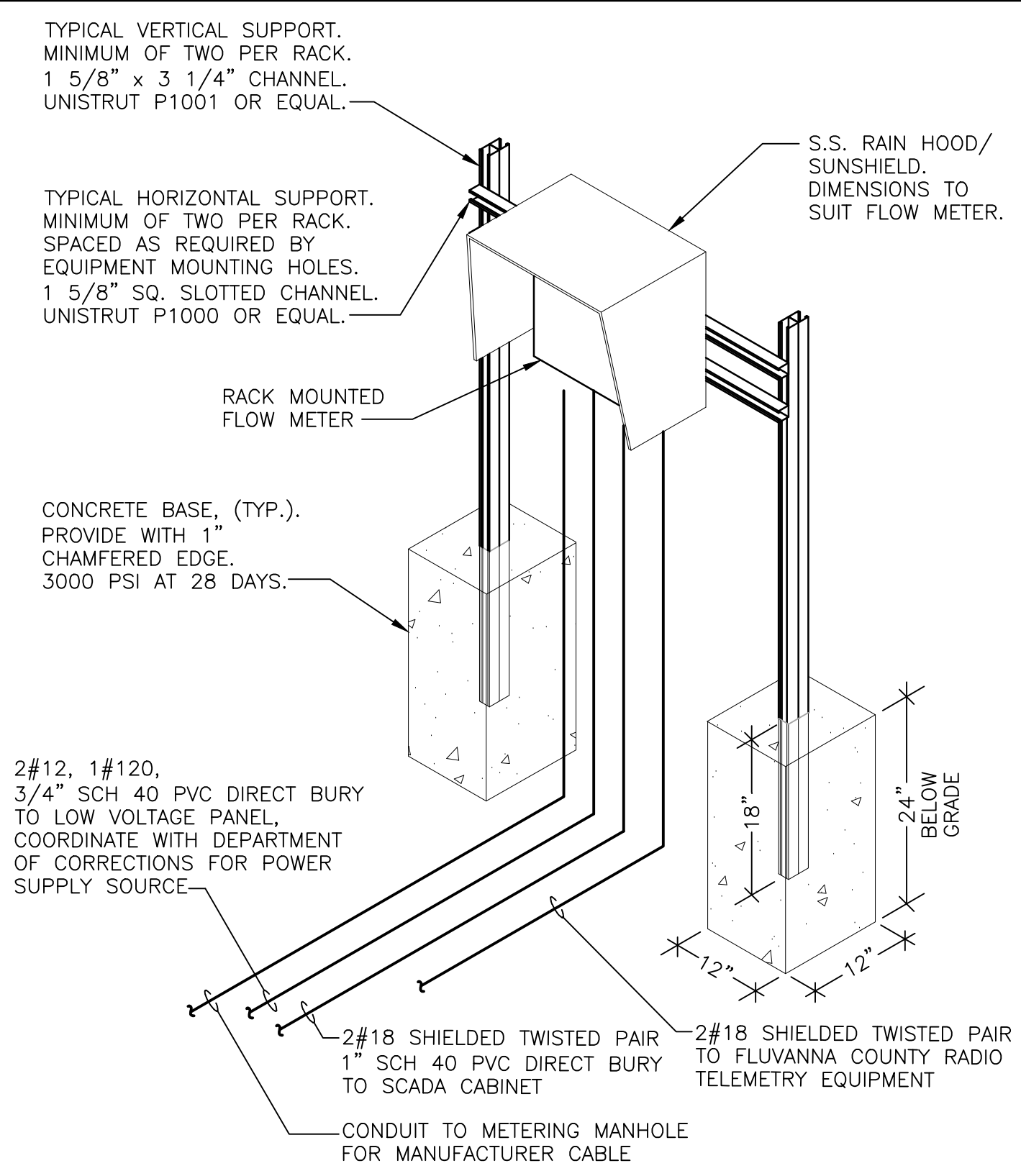
- Notes:
- Chimney seals shall be as manufactured by Cretex, or approved equal.
 - External Chimney Seals shall be used on all new manholes at time of installation.

Chimney Height to be Spanned	Items Required
0" - 3"	Narrow (6") Seal only
> 3" - 6-1/2"	Standard (9") Seal only
> 6-1/2" - 12"	Standard (9") Seal + Extension
> 12"	Standard (9") Seal + Multiple Extensions

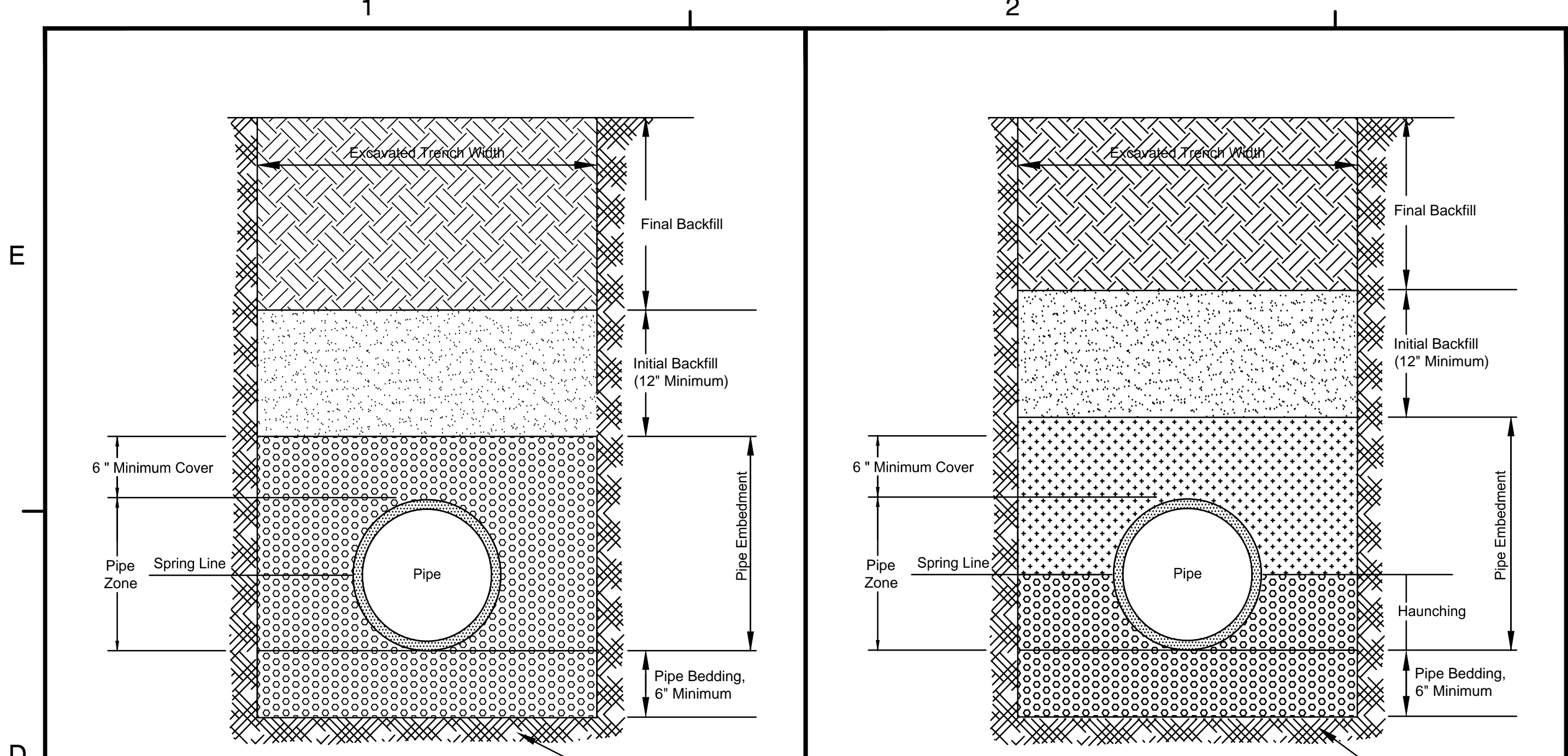


Narrow (6") External Rubber Seal

External Chimney Seal for Sewer Manhole
SC-05
Fluvanna County Virginia Construction Detail
Not to Scale
Revised: 03/17/2014



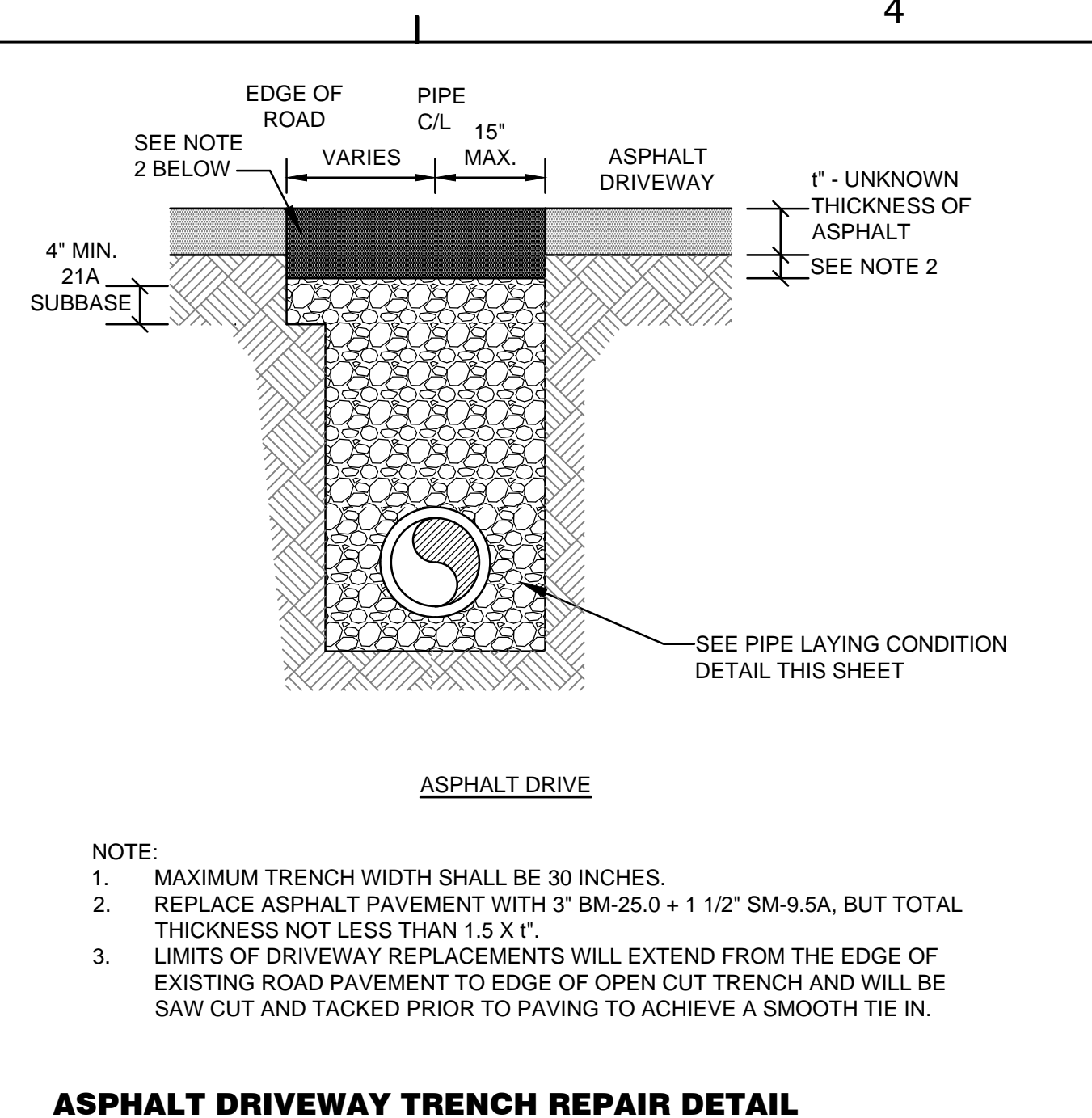
- NOTES:
- Channel connections, nuts, and hardware shall be made by channel manufacturer.
 - Similar for racks on slab. For slab mount use a minimum 12" x 12" base plate with corrosion inhibitor between plate and concrete. Minimum of 4 mounting bolts.
 - Mount rain hood/sunshield between flow meter and mounting bracket. Drill holes in hood/shield as per mounting holes for flow meter.
 - Provide gas seals on all conduits between rack and manhole.
- TYPICAL CONTROL RACK
N.T.S.



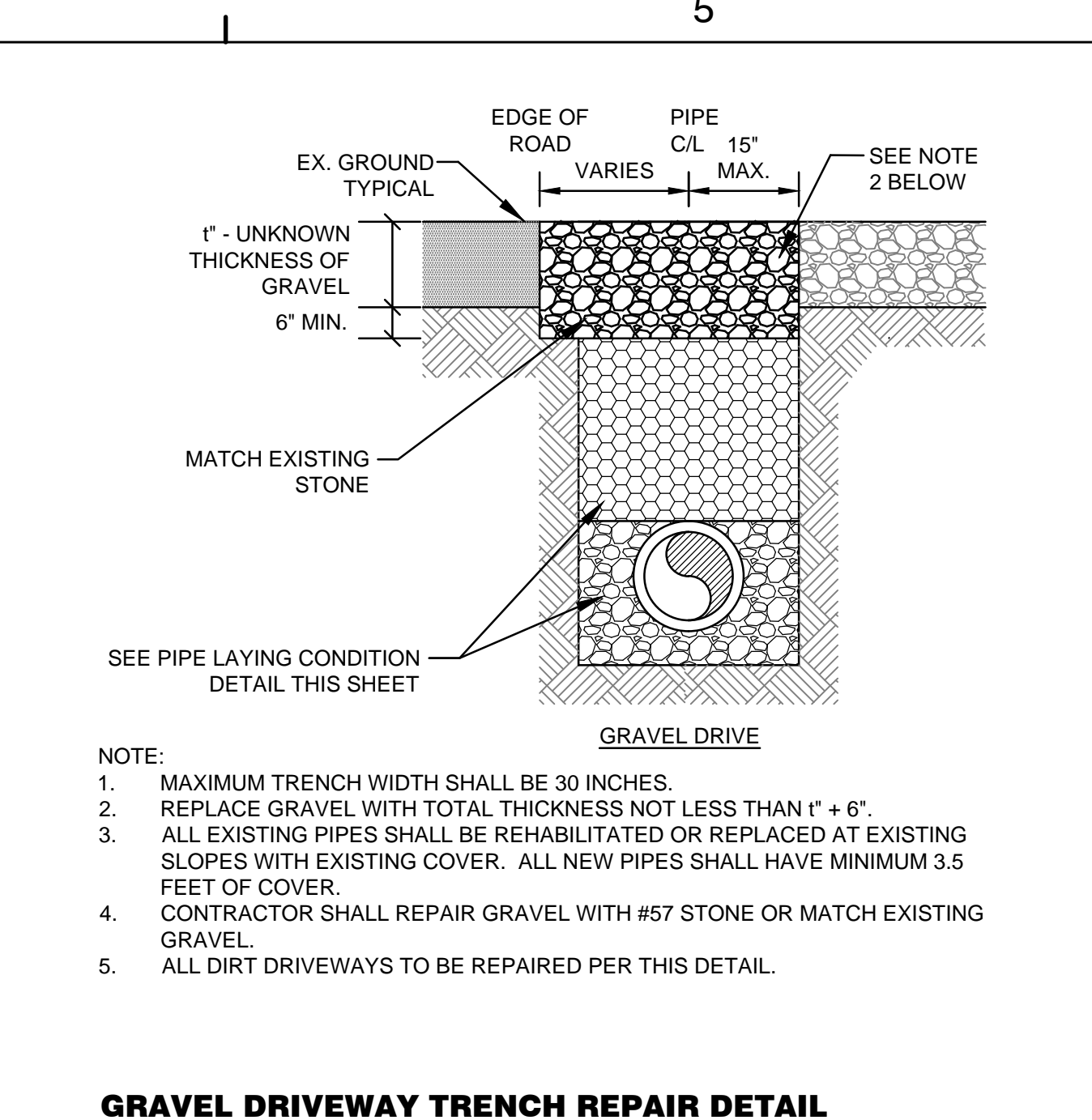
- Notes:**
- 1) Pipe bedding and embedment shall be crushed stone not larger than 3/4 inch.
 - 2) Initial backfill shall be loose soil free of foreign materials, frozen soil and stones larger than 3 inches in their greatest dimension.
 - 3) Final backfill shall be loose soil free of foreign materials, frozen soil, and stones larger than 8 inches in their greatest dimension.
 - 4) The top 6" (to finished grade) of final backfill shall meet the requirements for Initial Backfill.
 - 5) Installation of plastic pipe shall, in addition to the above, conform to ANSI/AWWA C605-94.
- Notes:**
- 1) Pipe bedding and haunching shall be crushed stone not larger than 3/4 inch.
 - 2) Pipe embedment shall be crushed stone not larger than 3/4 inch, or loose soil free of stones larger than 1 inch in their greatest dimension.
 - 3) Initial backfill shall be loose soil free of foreign materials, frozen soil and stones larger than 3 inches in their greatest dimension.
 - 4) Final backfill shall be loose soil free of foreign materials, frozen soil, and stones larger than 8 inches in their greatest dimension.
 - 5) The top 6" (to finished grade) of final backfill shall meet the requirements for Initial Backfill.
 - 6) Installation of DIP shall, in addition to the above, conform to ANSI/AWWA C600-94.

GN-02 Fluvanna County Virginia Construction Detail Pipe Embedment and Backfill for Plastic Pipe Not to Scale Revised: 03/20/2014

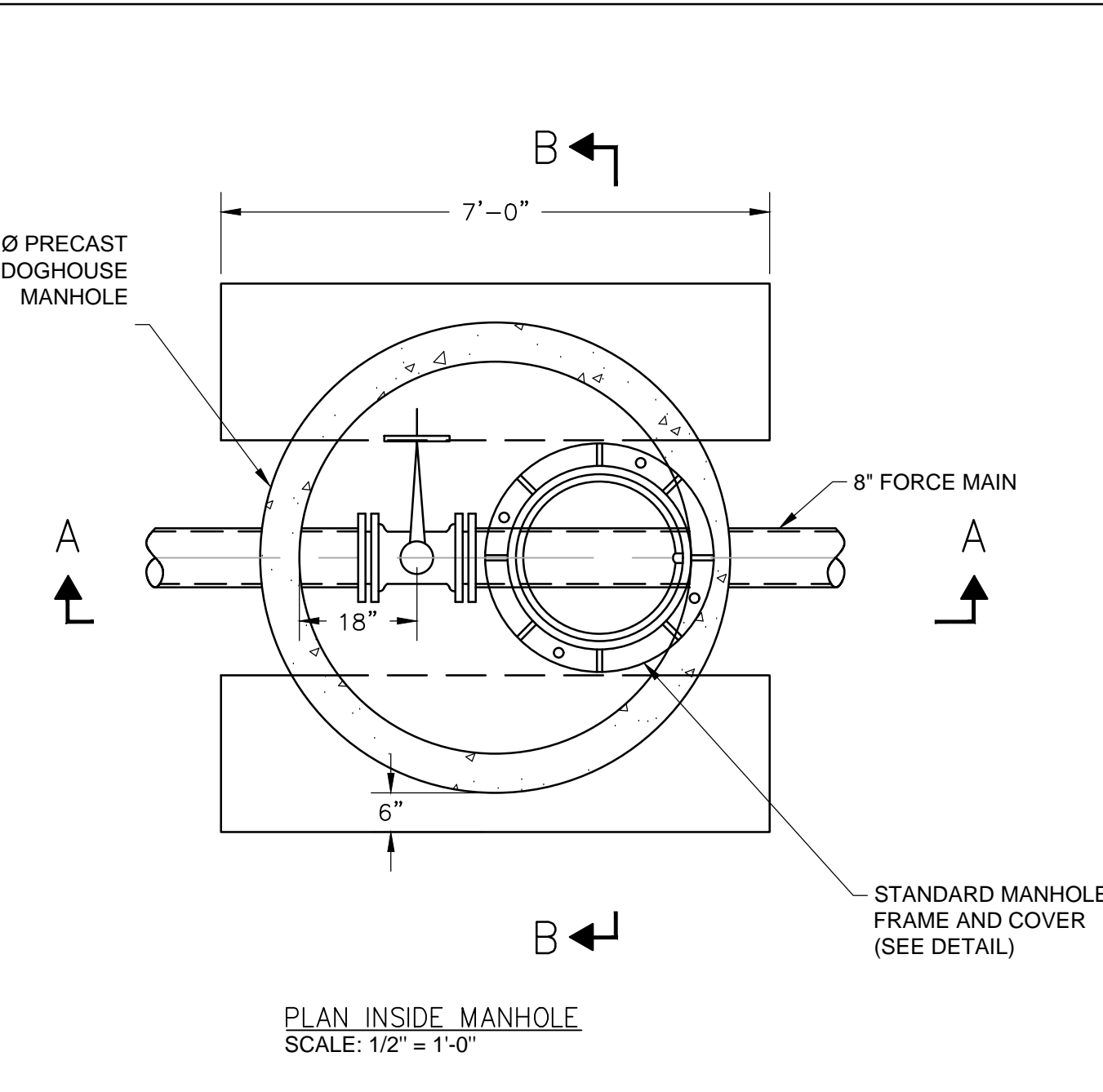
GN-01 Fluvanna County Virginia Construction Detail Pipe Embedment and Backfill for Ductile Iron Pipe Not to Scale Revised: 03/20/2014



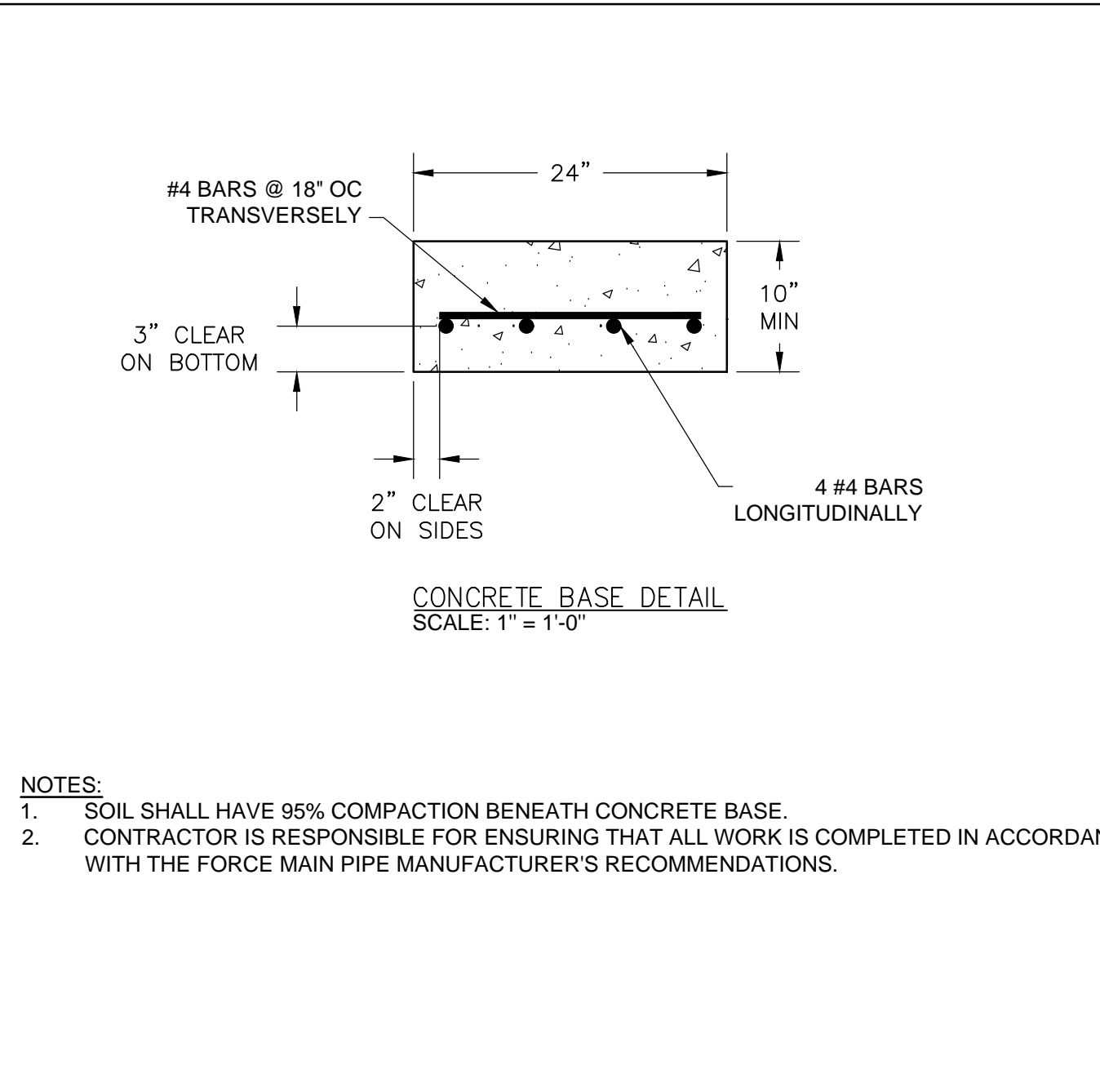
ASPHALT DRIVEWAY TRENCH REPAIR DETAIL
N.T.S.



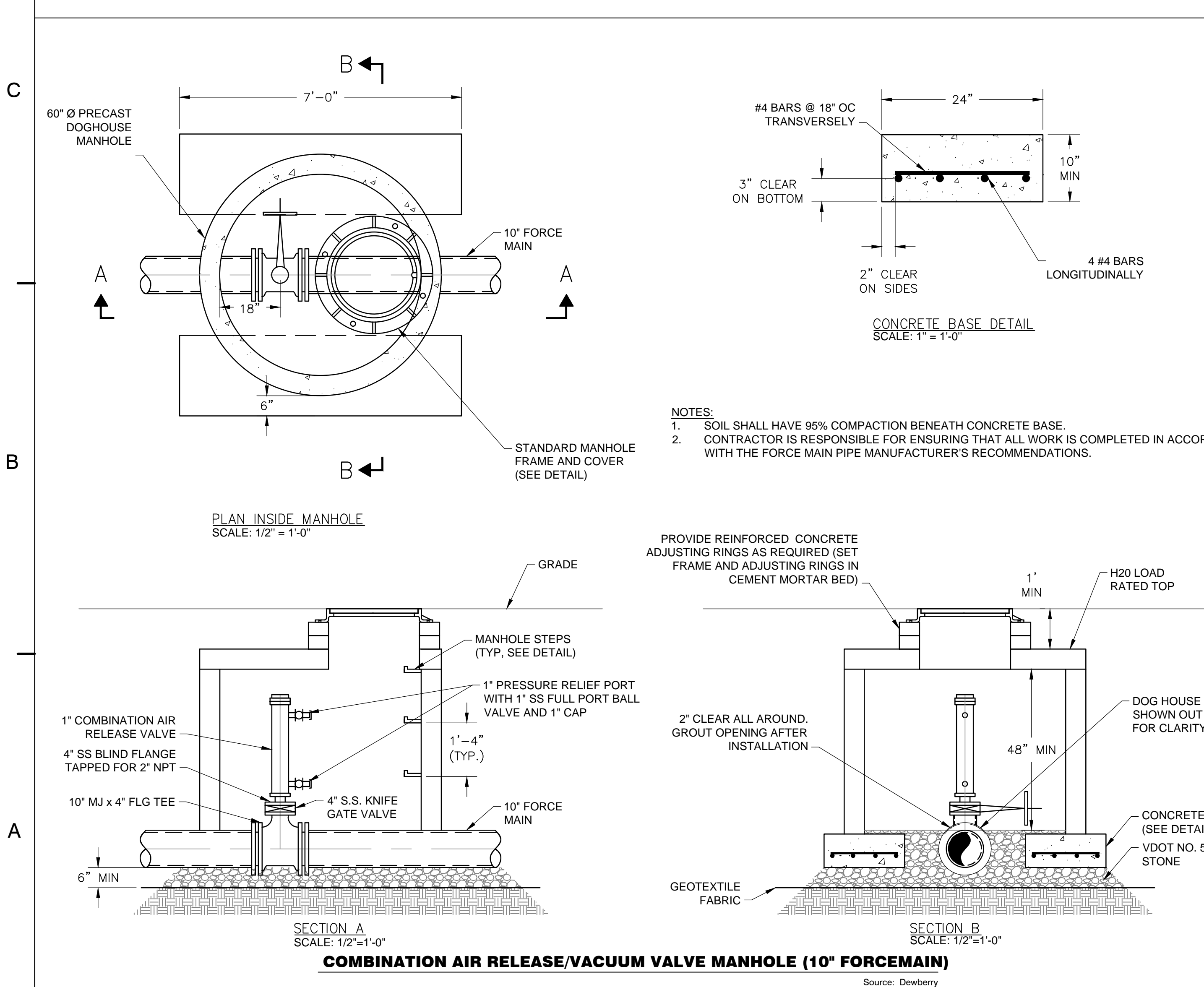
GRAVEL DRIVEWAY TRENCH REPAIR DETAIL
N.T.S.



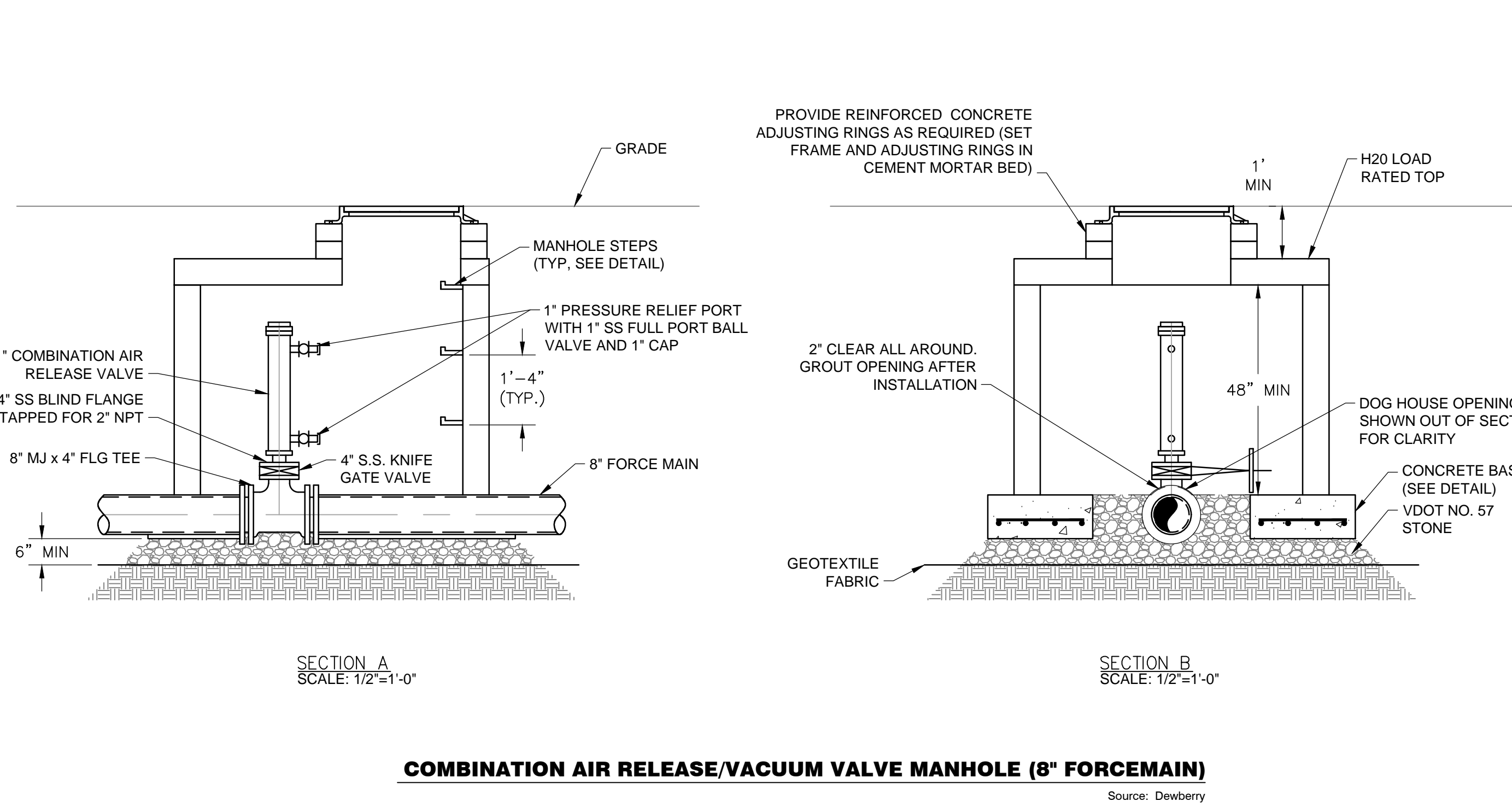
PLAN INSIDE MANHOLE
SCALE: 1/2" = 1'-0"



CONCRETE BASE DETAIL
SCALE: 1" = 1'-0"



COMBINATION AIR RELEASE/VACUUM VALVE MANHOLE (10\"/>



COMBINATION AIR RELEASE/VACUUM VALVE MANHOLE (8\"/>

KEY PLAN

SEAL

 Lic. No. 050851
 5/24/18
 PROFESSIONAL ENGINEER

SCALE

No.	DATE	BY	Description

REVISIONS

DRAWN BY: JEH
 APPROVED BY: MRL
 CHECKED BY: DAV
 DATE: MAY 2018
 TITLE:

DETAILS

PROJECT NO. 50078861

C2.5

VDOT TTC GENERAL NOTES:

1. A VDOT LAND USE PERMIT WILL BE REQUIRED PRIOR TO THE START OF WORK AND CAN BE APPLIED FOR PRIOR TO THE PRE-CONSTRUCTION MEETING SO THAT IT MAY BE PRESENTED AT THAT TIME SO THAT ANY QUESTIONS OR CONCERNS ABOUT THE PERMIT MAY BE ANSWERED.
2. PRE-CONSTRUCTION IS REQUIRED ON SITE TO GO OVER CONSTRUCTION TIME FRAME FOR STARTING AND COMPLETING ROAD IMPROVEMENTS WITHIN THE RIGHT OF WAY.
3. ALL WORK TO BE CONSTRUCTED TO THE LATEST VDOT ROAD AND BRIDGE SPECIFICATIONS AND ROAD AND BRIDGE STANDARDS.
4. ALL MATERIALS TO BE USED IN CURRENT AND FUTURE RIGHT OF WAY WILL BE TESTED AS STATED IN THE VDOT MANUAL OF INSTRUCTIONS AVAILABLE UNDER VDOT MATERIAL DIVISION FOR PLACEMENT AND REQUIRED TESTING AND INTERVALS. ALSO VDOT INSPECTOR WILL ALSO BE AVAILABLE TO ANSWER QUESTIONS OR CONCERNS AND VISIT SITE AS REQUESTED TO REVIEW.
5. ALL TRAFFIC CONTROL WILL BE PER THE LATEST EDITION OF THE VIRGINIA WORK AREA PROTECTION MANUAL OR PER THE APPROVED MAINTENANCE OF TRAFFIC PLAN SHEETS PROVIDED BY THE DEVELOPERS ENGINEER AND APPROVED PRIOR TO JOB GOING TO CONSTRUCTION. THE CONTRACTOR WILL HAVE AVAILABLE AT ALL TIMES A CERTIFIED PERSON AT A MINIMUM WITH BASIC TRAFFIC CONTROL CERTIFICATION AND FOR MORE ADVANCED TRAFFIC CONTROL AN INDIVIDUAL WITH AN INTERMEDIATE TRAFFIC CONTROL CERTIFICATION WOULD BE PREFERRED FOR MORE COMPLEX LAYOUTS. ALLOWABLE WORK HOURS WILL BE REVIEWED WHEN PERMITTED IF NOT REFERRED TO IN THE APPROVED PLAN SET.
6. ALL FILL AREAS SHALL HAVE BACKFILL MATERIAL FROM AN APPROVED SOURCE OR A TESTED ON SITE SOURCE AND ALL TESTING REPORTS FOR THIS MATERIAL WILL NEED TO BE ATTACHED TO THE BACKFILL DENSITY REPORTS AND A PROFILE WILL NEED TO BE AVAILABLE WITH DEPTH AND LOCATION.
7. CBR'S WILL NEED TO BE MADE AVAILABLE FOR REVIEW AND APPROVAL AND AN IN THE FIELD SUB-GRADE INSPECTION BY VDOT INSPECTOR PRIOR TO PLACEMENT OF ANY BASE STONE. SUB-GRADE DENSITY REPORTS WILL ALSO NEED TO BE AVAILABLE OR TEST OCCURRING THE SAME DAY VDOT INSPECTOR IS ON SITE.
8. BASE STONE WILL NEED TO BE INSPECTED AND DEPTH CHECKED PRIOR TO PLACEMENT OF ANY ASPHALT BEING PLACED. ALSO THIRD PARTY INSPECTION REPORTS WILL NEED TO BE AVAILABLE FOR REVIEW AND OR TAKING PLACE THE SAME DAY AS THE VDOT INSPECTOR INSPECTS THE ROAD. REPORTS TO BE AVAILABLE WOULD BE ROLLER PATTERNS AND DENSITY PER THE VDOT MANUAL OF INSTRUCTIONS.
9. CONCRETE TESTING PER VDOT ROAD AND BRIDGE SPECIFICATIONS.
10. SIGNAGE LOCATIONS TO BE MARKED PRIOR TO PERMANENT INSTALLATION. AND PAVEMENT MARKINGS TO BE SKETCHED OUT ON ASPHALT WITH HEAVY CHALK OR LIGHTLY MARKED WITH WHITE PAINT PRIOR TO PLACEMENT OF PERMANENT MARKINGS.
11. WP-2 STANDARD TO BE ON PLAN SET FOR ALL COMMERCIAL ENTRANCES AND WILL ALSO BE PUT IN PERMIT IF NOT ON PLAN SET.
12. REPLACEMENT OF ALL RAISED TRAFFIC MARKERS AND PAVEMENT MARKINGS THAT ARE DISTURBED DURING CONSTRUCTION WILL BE REPLACED OR PAVEMENT MARKINGS REFRESHED FOR TIE IN BACK TO EXISTING ROAD ALIGNMENT FROM ROAD IMPROVEMENTS.
13. ALL EXISTING VDOT SIGNAGE IMPACTED BY ROAD IMPROVEMENTS WILL BE REVIEWED PRIOR TO REMOVAL FOR TEMPORARY STORAGE OR TEMPORARILY LOCATED AS REQUIRED, BUT WILL NOT BE REMOVED BY CONTRACTOR UNTIL VDOT INSPECTOR HAS REVIEWED. CERTAIN STORAGE REQUIREMENTS FOR SIGNAGE ARE REQUIRED DUE TO THE REFLECTIVE SHEETING. DO NOT STORE SIGNS FACE DOWN OR SHEETING TO SHEETING.
14. THIS TRAFFIC MANAGEMENT PLAN WAS PREPARED BY MATT THOMAS WHO SUCCESSFULLY COMPLETED THE ADVANCED WZTC IN 12/05/2014.

PROJECT NOTES:

1. THE PURPOSE OF THIS PROJECT IS THE CONSTRUCTION OF A PROPOSED 8" FORCE MAIN AND 12" WATER LINE IN FLUVANNA COUNTY, VIRGINIA. WORK IN THE RIGHT-OF-WAY TO INCLUDE DEMOLITION OF PAVEMENT, PIPE INSTALLATION, BACKFILL, AND PAVEMENT RESTORATION.
- GENERAL NOTES:**
1. GENERAL WORK HOURS ARE MONDAY THRU FRIDAY FROM 8:30 A.M., TO 4:00 P.M., UNLESS OTHERWISE NOTED IN THE PLANS/OR APPROVED BY FLUVANNA COUNTY TO HAVE EXTENDED OR OVERNIGHT WORK HOURS.
 2. IF WORK IS ANTICIPATED OUTSIDE OF WORKING HOURS NOTED ABOVE, CONTRACTOR SHALL FOLLOW COMPLIANCE OF LOCAL NOISE ORDINANCE, OBTAIN NECESSARY PERMITS, AND APPROVALS.
 3. THE TRAFFIC CONTROL DEVICES AND SAFETY MEASURES SHALL BE IN CONFORMANCE WITH THE MOST CURRENT VERSION OF THE FOLLOWING ADOPTED BY VDOT AND THE MOST RECENT REVISION THERETO:
 - A. THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
 - B. VIRGINIA SUPPLEMENT TO THE MUTCD
 - C. VIRGINIA WORK AREA PROTECTION MANUAL (VAVAPM)
 - D. VIRGINIA ROAD AND BRIDGE STANDARDS
 - E. VIRGINIA ROAD AND BRIDGE SPECIFICATIONS
 4. IT IS NOT THE INTENT OF THE SEQUENCE OF CONSTRUCTION/TEMPORARY TRAFFIC CONTROL PLAN TO ENUMERATE EVERY DETAIL WHICH MUST BE CONSIDERED IN THE COMPLIANCE OF EACH STAGE, BUT ONLY TO SHOW THE GENERAL HANDLING OF TRAFFIC.
 5. THE EXISTING CONDITIONS SHOWN IN THESE TEMPORARY TRAFFIC CONTROL PLANS HAVE BEEN COMPLIED FROM TOPOGRAPHICAL SURVEY AND WEB RESOURCE (GIS).
 6. ALL AREAS EXCAVATED BELOW EXISTING PAVEMENT SURFACE AND WITHIN THE CLEAR ZONE AT THE CONCLUSION OF EACH WORK DAY SHALL BE BACKFILLED TO FORM AN APPROXIMATE 6:1 WEDGE AGAINST THE EXISTING PAVEMENT SURFACE FOR THE SAFETY AND PROTECTION OF VEHICULAR TRAFFIC. THESE AREAS SHALL BE DESIGNATED BY APPROPRIATE DELINEATION DURING PERIODS OF CONSTRUCTION INACTIVITY, INCLUDING, BUT NOT LIMITED TO, NIGHT AND WEEKEND HOURS.
 7. ADVANCE SIGNING AND ANY OTHER TRAFFIC CONTROL DEVICES SHALL BE INSTALLED PRIOR TO BEGINNING EACH STAGE OF CONSTRUCTION AND SHALL BE REMOVED AS NECESSARY BEFORE PRECEDING TO THE NEXT STAGE.
 8. SIDEWALK CLOSURES SHALL BE INSTALLED AS NECESSARY. PEDESTRIAN TRAFFIC SHALL BE DETOURED AROUND THESE CLOSURES AND SHALL BE SIGNED APPROPRIATELY AND IN ACCORDANCE WITH THE AMERICAN WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES.
 9. THE CONTRACTOR SHALL NOTIFY THE PUBLIC AND ALL ADJACENT PROPERTY OWNERS AND BUSINESSES A MINIMUM OF TWO (2) WEEKS PRIOR TO BEGINNING WORK.
 10. THE CONTRACTOR SHALL PROVIDE ACCESS TO ADJACENT PROPERTIES AT ALL TIMES. THE AFFECTED PROPERTY OWNER SHALL BE NOTIFIED A MINIMUM OF 48 HOURS IN ADVANCE OF ANY ACTIVITY WHICH MAY BLOCK THE DRIVEWAYS. ALL DRIVEWAYS MUST BE REOPENED AS SOON AS POSSIBLE, BUT NO LATER THAN THE CONCLUSION OF EACH WORK DAY.
 11. ANY EXISTING DRIVEWAYS, CURB AND GUTTER, SIDEWALKS OR DRAINAGE STRUCTURES THAT ARE DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO THEIR ORIGINAL CONDITION.
 12. ALL TEMPORARY AND FINAL PAVEMENT MARKINGS, REFLECTIVE PAVEMENT MARKINGS AND SIGNAGE ARE THE RESPONSIBILITY OF THE CONTRACTOR. ALL FINAL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC, 90 MIL THICKNESS (MINIMUM) AND SHALL BE INSTALLED WITHIN TWO (2) DAYS OF FINAL OVERLAY. MARKINGS SHALL BE REFLECTORIZED WITH GLASS BEADS. ANY PAVEMENT MARKINGS THAT ARE DAMAGED OR OBLITERATED SHALL BE RESTORED.
 13. IF ONE LINE OF THE DOUBLE YELLOW CENTERLINES IS REPLACED, BOTH LINES SHALL BE REPLACED.
 14. NO PARKING OR MATERIAL STORAGE SHALL BE ALLOWED ALONG THE SHOULDERS OF ANY ROADWAYS.
 15. ANY WORK REQUIRING EQUIPMENT OR PERSONNEL WITHIN 5 FEET OF ANY TRAVEL LANE SHALL REQUIRE A FULL LANE CLOSURE WITH APPROPRIATE TAPERS.
 16. RESET ALL DISTURBED SIGNS IMMEDIATELY AFTER BACKFILL AND NO LATER THAN THE CLOSE OF EACH WEEK DAY.
 17. FLUVANNA COUNTY RESERVES THE RIGHT TO FURTHER LIMIT, RESTRICT, OR SUSPEND OPERATIONS WITHIN THE RIGHT OF WAY IF, IN THE OPINION OF HENRICO COUNTY, SAFETY OR TRAFFIC CONDITIONS WARRANT SUCH ACTION.
 18. FLUVANNA COUNTY SHALL BE NOTIFIED PRIOR TO BEGINNING WORK IN THE RIGHT OF WAY IF THERE ARE EXISTING SIGNS, TRAFFIC SIGNALS, OR SIGNAL EQUIPMENT IN OR NEAR THE PROPOSED WORK ZONE. COSTS TO RELOCATE, REPLACE, OR REPAIR SIGNS, SIGNALS, OR ASSOCIATED EQUIPMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
 19. THE CONTRACTOR SHALL CONTACT FLUVANNA COUNTY TO OBTAIN A PERMIT TO WORK IN COUNTY RIGHT-OF-WAY. THEY SHALL PROVIDE EXACT LOCATION, CROSS STREET, AND DATES FOR WORK AS WELL AS CONTACT PERSON AND FAX NUMBER.

PUBLIC COMMUNICATIONS PLAN:

NOTIFICATION OF CONSTRUCTION START/END DATES AND WORK ZONE INFORMATION SHALL BE PROVIDED FOR ENTRY INTO THE THE VA TRAFFIC SYSTEM.

TRANSPORTATION OPERATIONS PLAN:

1. THE PROCESS TO NOTIFY THE REGIONAL TRAFFIC OPERATION CENTER TO PLAN LANE CLOSURE INFORMATION ON THE 511 AND VA TRAFFIC SYSTEM WILL BE:
 - A. CONTRACTOR IS TO ADVISE THE VDOT PROJECT INSPECTOR AND/OR CONSTRUCTION MANAGER OF PLANNED LANE CLOSURES A MINIMUM OF 24 HOURS IN ADVANCE OF THE PROPOSED LANE CLOSURE.
 - B. CONSTRUCTION MANAGER IS TO ADVISE THE RESIDENCY MAINTENANCE MANAGER OF PROPOSED LANE/ROAD CLOSURE. THE RESIDENCY MAINTENANCE MANAGER IS TO HAVE A VA TRAFFIC OPERATOR ENTER THE DATA INTO THE VA TRAFFIC SYSTEM AND ALSO ADVISE TOC.
2. THE FOLLOWING IS A LIST OF EMERGENCY CONTACT AGENCIES:
 - A. VIRGINIA STATE POLICE: 1-800-572-2260
 - B. HAZ-MAT CENTER (IF SPILL INVOLVED): 911
3. PROCEDURES TO RESPOND TO TRAFFIC INCIDENTS THAT MAY OCCUR IN THE WORK ZONE:
 - A. CONTRACTOR TO NOTIFY VIRGINIA STATE POLICE AND VDOT INSPECTOR IN CHARGE AND REGIONAL TRAFFIC OPERATION CENTER.
 - B. DEPENDING UPON SEVERITY OF INCIDENT, CONTRACTOR MAY HAVE TO SHUT DOWN WORK.
 - C. UPON ARRIVAL ON SCENE, VIRGINIA STATE POLICE WILL DETERMINE RESPONSE NECESSARY TO ALLOW TRAVELING PUBLIC AROUND INCIDENT.
 - D. INSPECTOR TO NOTIFY CONSTRUCTION MANAGER/RESIDENCY ADMINISTRATOR OF INCIDENT AND TAKE PICTURES AS NECESSARY, ESPECIALLY PICTURES OF CONTRACTOR'S WORK ZONE TO VERIFY THE PROPER SETUP.
4. THE VIRGINIA STATE POLICE REPORT OF THE INCIDENT WILL BE REVIEWED BY THE RESIDENCY ADMINISTRATOR TO DETERMINE IF ANY MODIFICATION OF THE TEMPORARY CONTROL PLAN IS NECESSARY. IF IT IS NECESSARY TO ALTER THE PLAN, THEN A MEETING WILL BE CALLED WITH THE CONTRACTOR, VDOT PERSONNEL, VDOT SAFETY REPRESENTATIVES AND THE VIRGINIA STATE POLICE (IF NECESSARY) TO DISCUSS MODIFICATION AND IMPLEMENTATION OF AN APPROVED TRAFFIC CONTROL PLAN.

PROBABLE SEQUENCE OF CONSTRUCTION:

1. IMPLEMENT PROJECT LIMITS SIGNING PER VA WAPM TTC-53.0 "SIGNING FOR PROJECT LIMITS."
2. CLOSE SHOULDER USING TTC-4.1 "STATIONARY OPERATION ON A SHOULDER."
3. INSTALL EROSION AND SEDIMENT CONTROLS.
4. EXCAVATE, INSTALL PROPOSED 8" FORCE MAIN, 12" WATER LINE, AND/OR MISCELLANEOUS EQUIPMENT, AND BACKFILL. (SEE SPECIAL NOTE 1)
5. RECONSTRUCT PAVEMENT AND OTHER ITEMS IN ACCORDANCE WITH THE APPROVED PLANS.
6. REMOVE TEMPORARY TRAFFIC CONTROL.
7. REMOVE EROSION AND SEDIMENT CONTROLS.
8. REMOVE SIGNING FOR PROJECT LIMITS.

SPECIAL NOTES

1. NO EXCAVATION SHALL BE LEFT UNPROTECTED WITHIN THE CLEAR ZONE AS DESCRIBED BELOW AT THE END OF THE WORK DAY.
2. NO EQUIPMENT OR MATERIALS SHALL BE UNPROTECTED WITHIN THE CLEAR ZONE AS DESCRIBED BELOW AT THE END OF THE WORK DAY.
3. THE CLEAR ZONE IS DEFINED LATERALLY FROM THE EDGE OF THE TRAVELED ROADWAY. THE INFORMATION PROVIDED BELOW IS FOR INFORMATION ONLY AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. THE CLEAR ZONES FOR THE ROADS SURROUNDING THE PROJECT ARE AS FOLLOWS:
 - RICHMOND ROAD (US 250) - SPEED LIMIT: 45 MPH/55 MPH - CLEAR ZONE: 15'/25'
 - BLUE RIDGE DRIVE (RTE 708) - SPEED LIMIT: 55 MPH - CLEAR ZONE: 25'
 - DIAMOND ROAD/OLIVER CREEK ROAD (VA 676) - SPEED LIMIT: 40 MPH - CLEAR ZONE: 15'
 - TROY ROAD/ZION STATION ROAD (VA 631) - SPEED LIMIT: 45 MPH/25 MPH - CLEAR ZONE: 15'/4'
 - HUNTERS BRANCH ROAD/EDGECOMB ROAD (VA 689) - SPEED LIMIT: 55 MPH - CLEAR ZONE: 25'
 - ZION ROAD (VA 615) - SPEED LIMIT: 45 MPH - CLEAR ZONE: 15'
 - JAMES MADISON HIGHWAY (US 15) - SPEED LIMIT: 55 MPH - CLEAR ZONE: 25'
 - STARLITE PARK - SPEED LIMIT: 25 MPH - CLEAR ZONE: 4'



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ZION CROSSROADS
WATER AND SEWER SYSTEM

FLUVANNA COUNTY
DEPARTMENT OF PUBLIC WORKS

FLUVANNA COUNTY, VA

KEY PLAN

SEAL



SCALE

No.	DATE	BY	Description

REVISIONS

DRAWN BY: JMS

APPROVED BY: MCT

CHECKED BY: DAV

DATE: MAY 2018

TITLE

TEMPORARY TRAFFIC CONTROL NOTES & DETAILS

PROJECT NO. 50078861

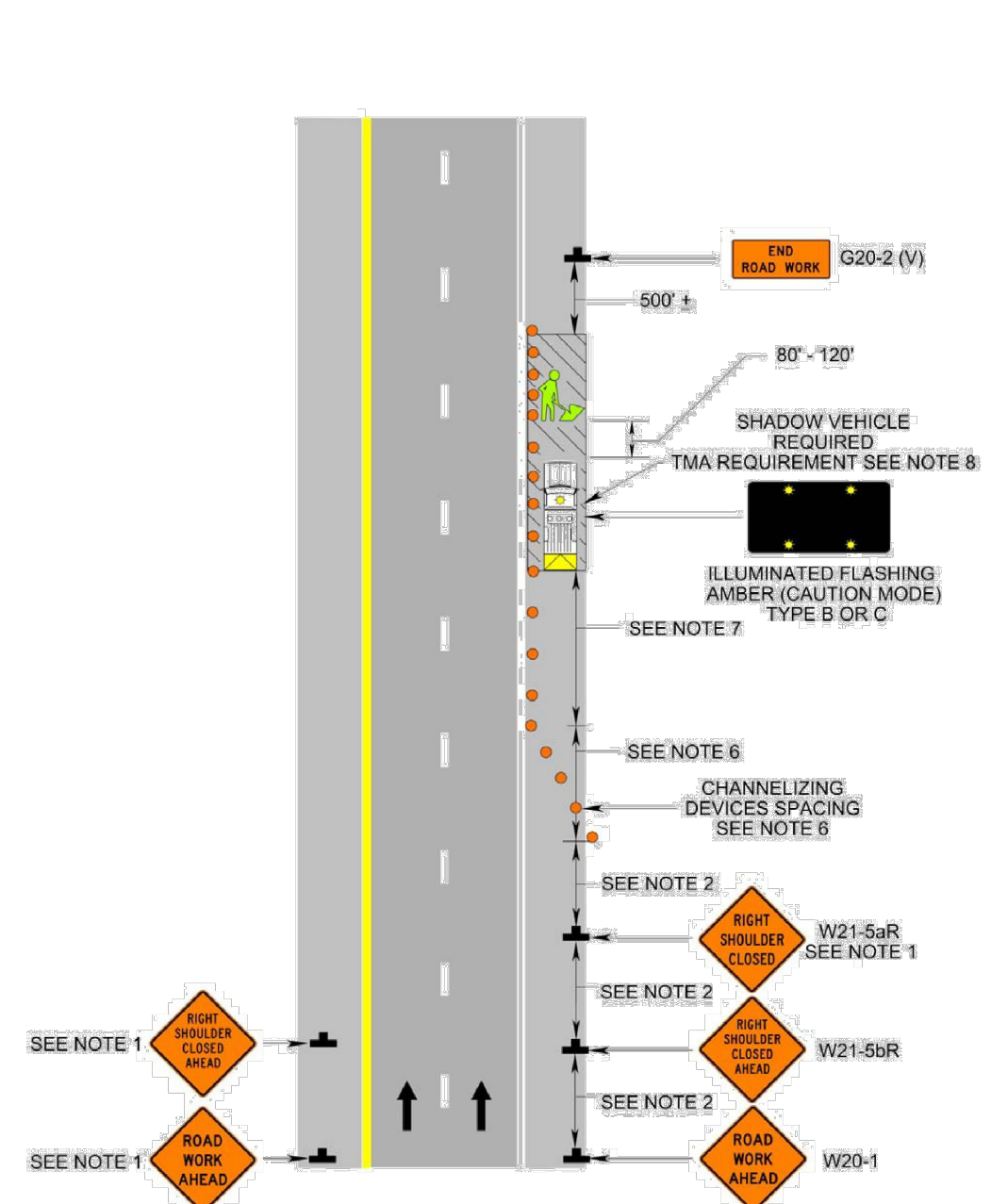
C3.0

SHEET NO.

Typical Traffic Control Stationary Operation on a Shoulder (Figure TTC-4.1) NOTES

- Standard**
1. For long-term stationary work (more than 3 days) on divided highways having a median wider than 8', sign assemblies on both sides of the roadway shall be required as shown (ROAD WORK AHEAD (W20-1), RIGHT SHOULDER CLOSED AHEAD (W21-5BR), RIGHT SHOULDER CLOSED (W21-5AR)), even though only one shoulder is being closed. For operations less than 3 days in duration, sign assemblies will only be required on the side where the shoulder is being closed and a RIGHT SHOULDER CLOSED (W21-5AR) sign shall be added to that side.
- Guidance**
2. Sign spacing should be 1300'-1500' for Limited Access highways. For all other roadways, the sign spacing should be 500'-800' where the posted speed limit is greater than 45 mph, and 350'-500' where the posted speed limit is 45 mph or less.
- Option:**
3. The SHOULDER WORK (W21-5) sign on an intersecting roadway may be omitted where drivers emerging from that roadway will encounter another advance warning sign prior to this activity area.
 4. For short duration operations of 60 minutes or less, all signs and channelizing devices may be eliminated if a vehicle with activated high-intensity amber rotating, flashing, or oscillating lights is used.
- Standard:**
5. Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity amber rotating, flashing, or oscillating lights. Vehicle hazard warning signals can be used to supplement high-intensity amber rotating, flashing, or oscillating lights.
 6. Taper length (L) and channelizing device spacing shall be at the following:
- | Speed Limit (mph) | Taper Length (L) | | | |
|-------------------|------------------|-----|-----|-----|
| | 9 | 10 | 11 | 12 |
| 25 | 95 | 105 | 115 | 125 |
| 30 | 135 | 150 | 165 | 180 |
| 35 | 185 | 205 | 225 | 245 |
| 40 | 240 | 270 | 295 | 320 |
| 45 | 405 | 450 | 495 | 540 |
| 50 | 450 | 500 | 550 | 600 |
| 55 | 495 | 550 | 605 | 660 |
| 60 | 540 | 600 | 660 | 720 |
| 65 | 585 | 650 | 715 | 780 |
| 70 | 630 | 700 | 770 | 840 |
- Minimum taper lengths for Limited Access highways shall be 1000 feet.
Shoulder Taper = 1/2 L Minimum
- | Location | Channelizing Device Spacing | |
|----------------------|-----------------------------|-------------------|
| | Speed Limit (mph) | Speed Limit (mph) |
| Transition Spacing | 0 - 35 | 36 + |
| Travelway Spacing | 20' | 40' |
| Construction Access* | 40' | 80' |
| | 80' | 120' |
- * Spacing may be increased to this distance, but shall not exceed one access per 1/4 mile.
- On roadways with paved shoulders having a width of 8 feet or more, channelizing devices shall be used to close the shoulder in advance of the merging taper to direct vehicular traffic to remain within the traveled way.
7. The buffer space length shall be as shown in Table 6H-3 on Page 6H-5 for the posted speed limit.
 8. A truck-mounted attenuator (TMA) shall be used on the shadow vehicle on Limited Access highways and multi-lane roadways with posted speed limit equal to or greater than 45 mph for operations with a duration greater than 60 minutes.
 9. When a side road intersects the highway within the temporary traffic control zone, additional traffic control devices shall be placed as needed.
- 1: Revision 1 - 4/1/2015

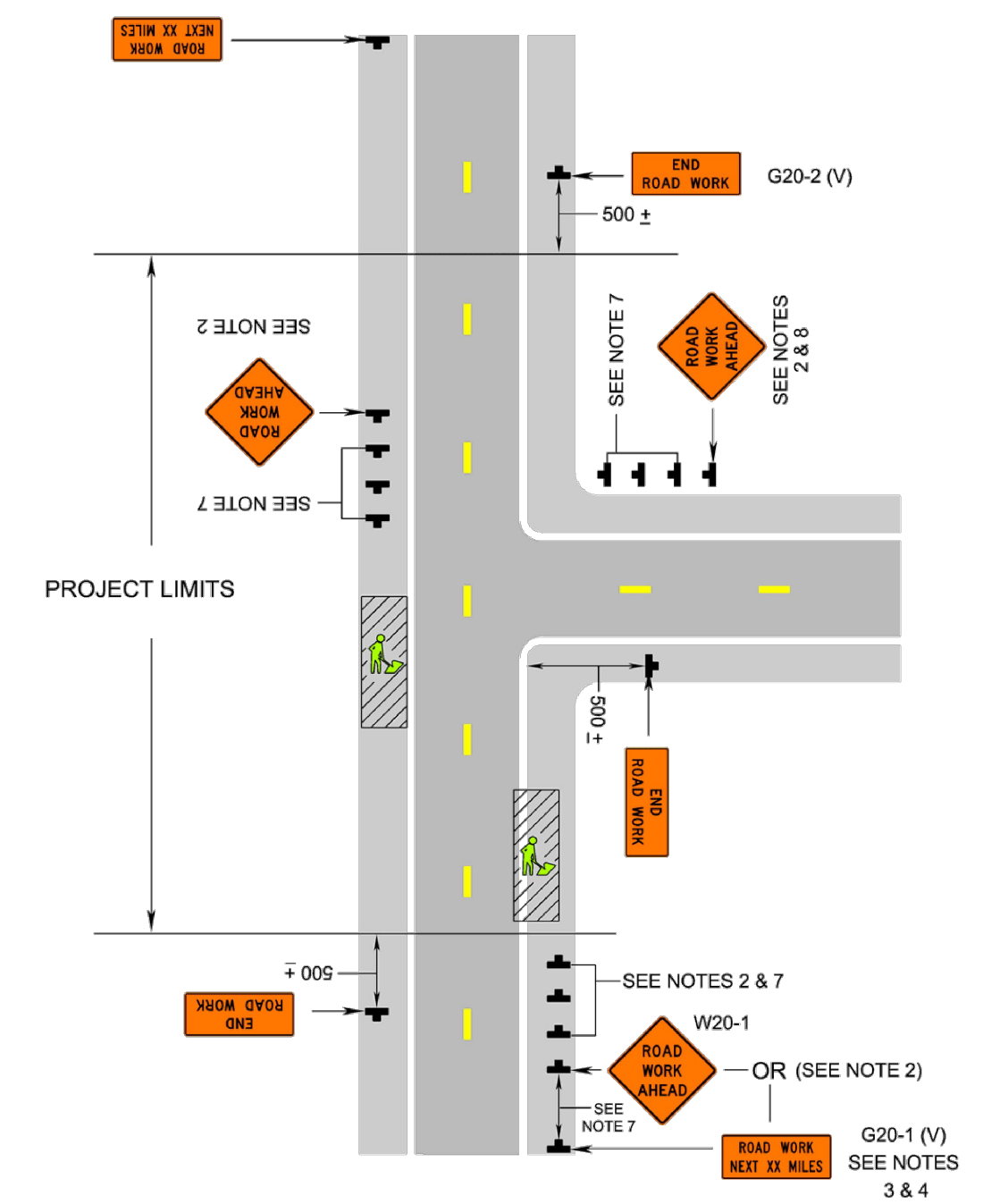
Stationary Operation on a Shoulder (Figure TTC-4.1)



Typical Traffic Control Signing for Project Limits (Figure TTC-53.0) NOTES

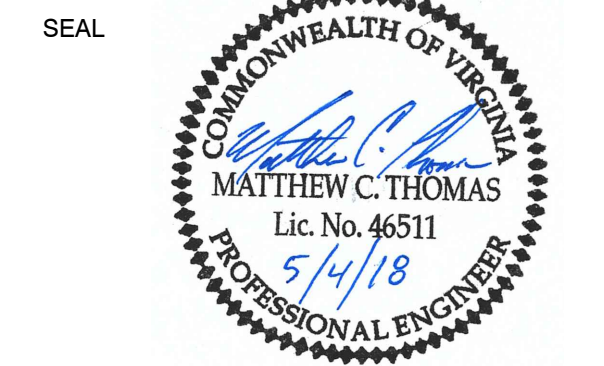
- Support:**
1. This layout depicts signing requirements for notifying motorist when they are entering and exiting a potential construction/maintenance area with a duration equal to or greater than 60 days.
- Standard:**
2. The ROAD WORK AHEAD (W20-1) sign or the ROAD WORK NEXT XX MILES (G20-1 (V)) sign shall be placed far enough in advance of the project limits so that other warning signs in a series may be adequately placed prior to the condition they are warning about.
 3. The ROAD WORK NEXT XX MILES sign shall be used for projects with activity areas greater than 2 miles in length, or when multiple work activities (such as pavement patching, guardrail installations, shoulder restoration, etc) occur along a highway.
 4. The distance displayed on the ROAD WORK NEXT XX MILES sign shall be stated to the nearest whole mile from the point of installation to the END ROAD WORK (G20-2 (V)) sign.
 5. On divided highways having a median wider than 8', right and left sign assemblies shall be required.
- Guidance:**
6. For projects with activity areas 2 miles or less in length, the ROAD WORK AHEAD sign should be the first sign motorist encounter.
 7. Sign spacing should be 1300'-1500' for Limited Access highways. For all other roadways, the sign spacing should be 500'-800' where the posted speed limit is greater than 45 mph, and 350'-500' where the posted speed limit is 45 mph or less.
 8. All connections within the project limits should be identified with signs indicating to motorist they are entering or exiting a potential construction/maintenance area.

Signing for Project Limits (Figure TTC-53.0)



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 WATER AND SEWER SYSTEM**
 FLUVANNA COUNTY
 DEPARTMENT OF PUBLIC WORKS
 FLUVANNA COUNTY, VA

KEY PLAN



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REVISIONS			

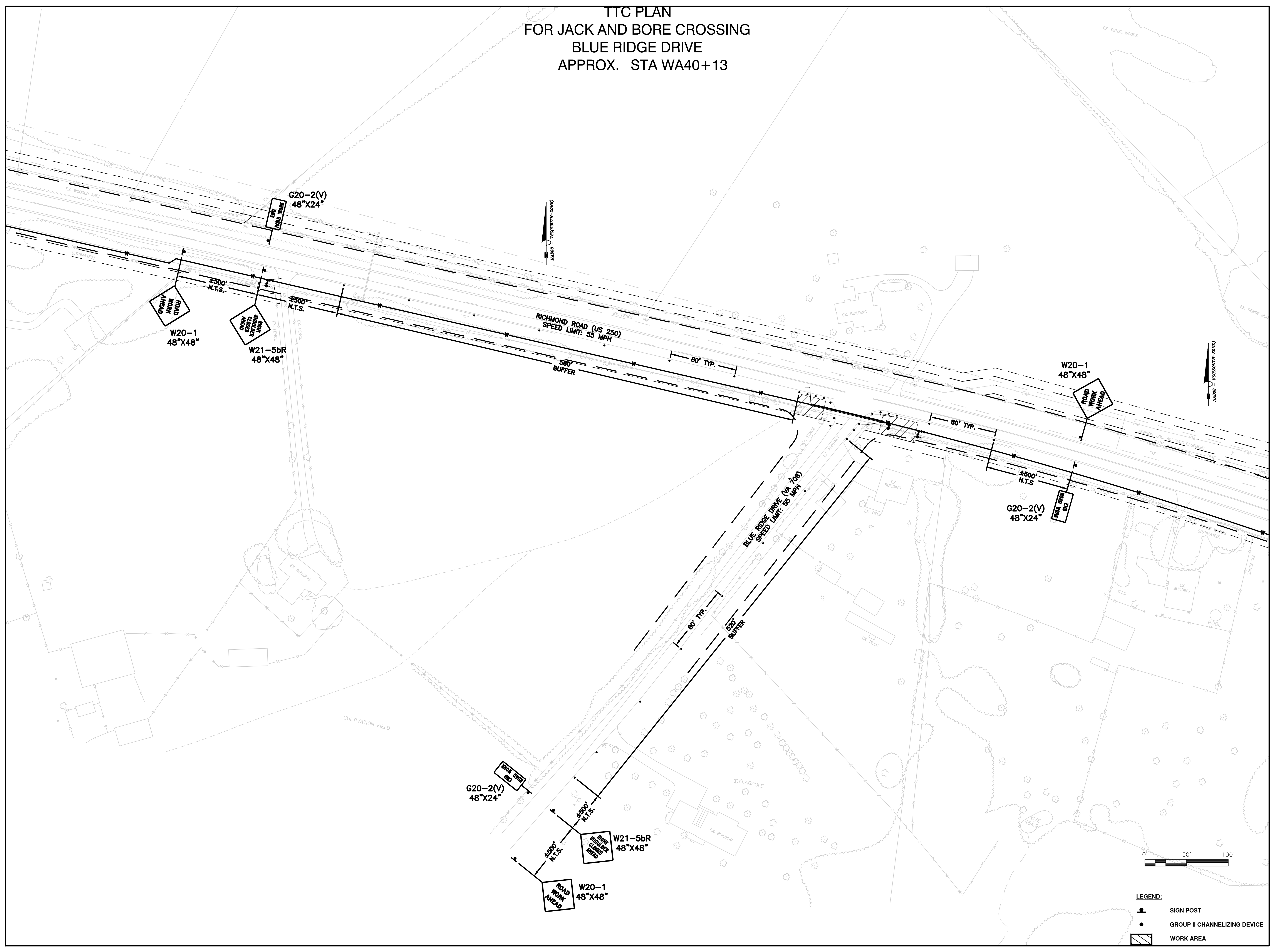
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 TRAFFIC CONTROL
 ROUTE 250 AT
 BLUE RIDGE DR**

PROJECT NO. 50078861

C3.1

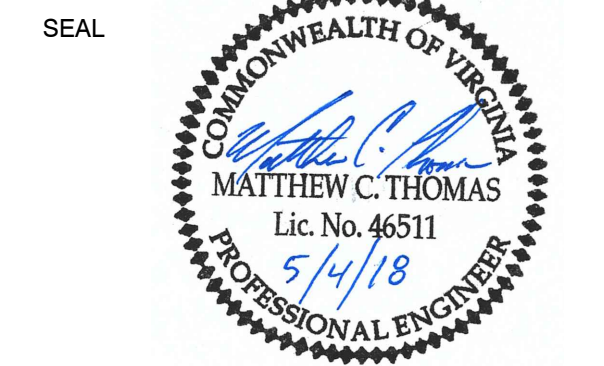
SHEET NO.

**TTC PLAN
 FOR JACK AND BORE CROSSING
 BLUE RIDGE DRIVE
 APPROX. STA WA40+13**



LEGEND:

- SIGN POST
- GROUP II CHANNELIZING DEVICE
- WORK AREA



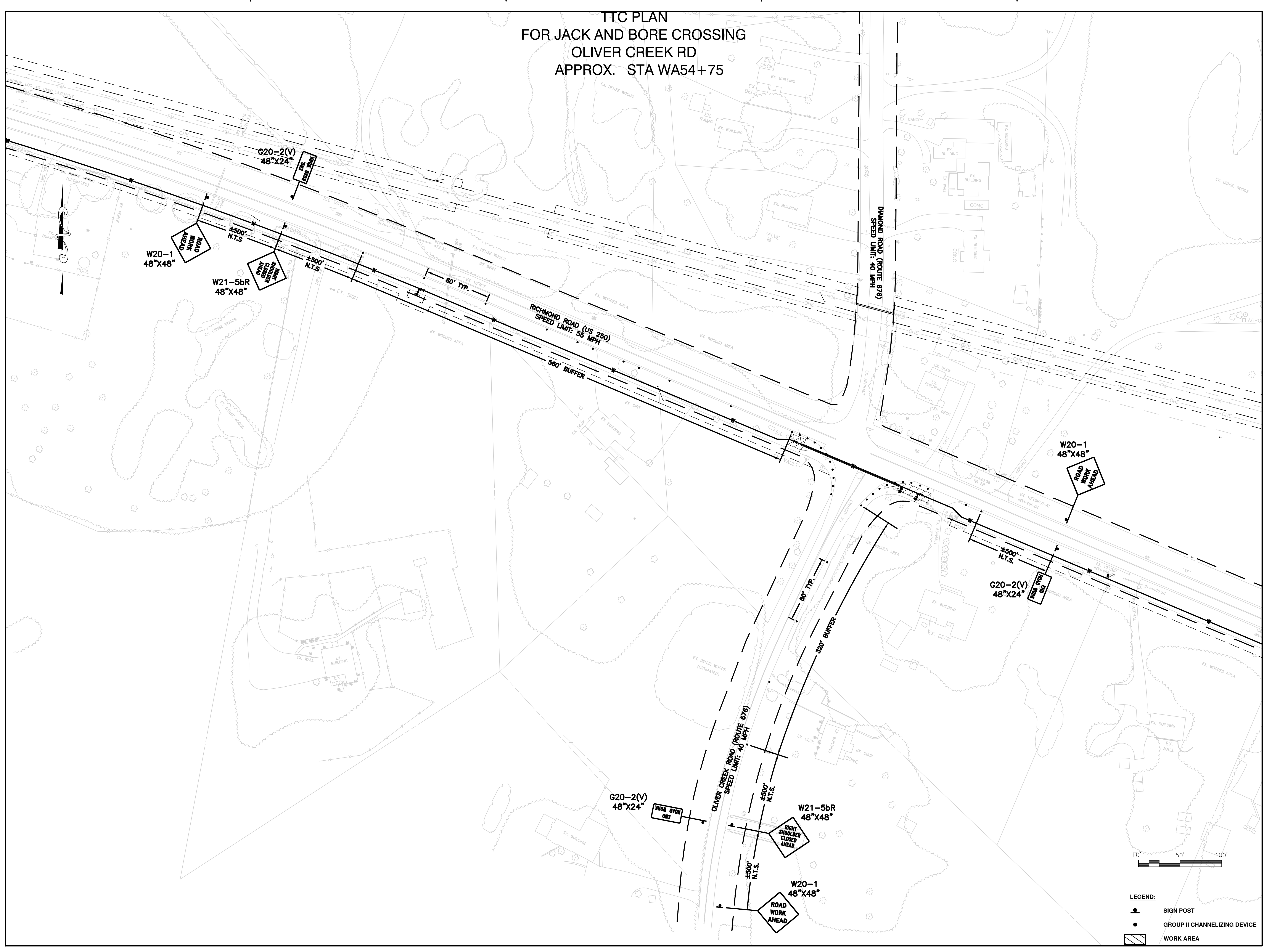
No.	DATE	BY	Description
REVISIONS			

TITLE
**TEMPORARY TRAFFIC CONTROL
 ROUTE 250 AT
 OLIVER CREEK RD**

PROJECT NO. 50078861

C3.2

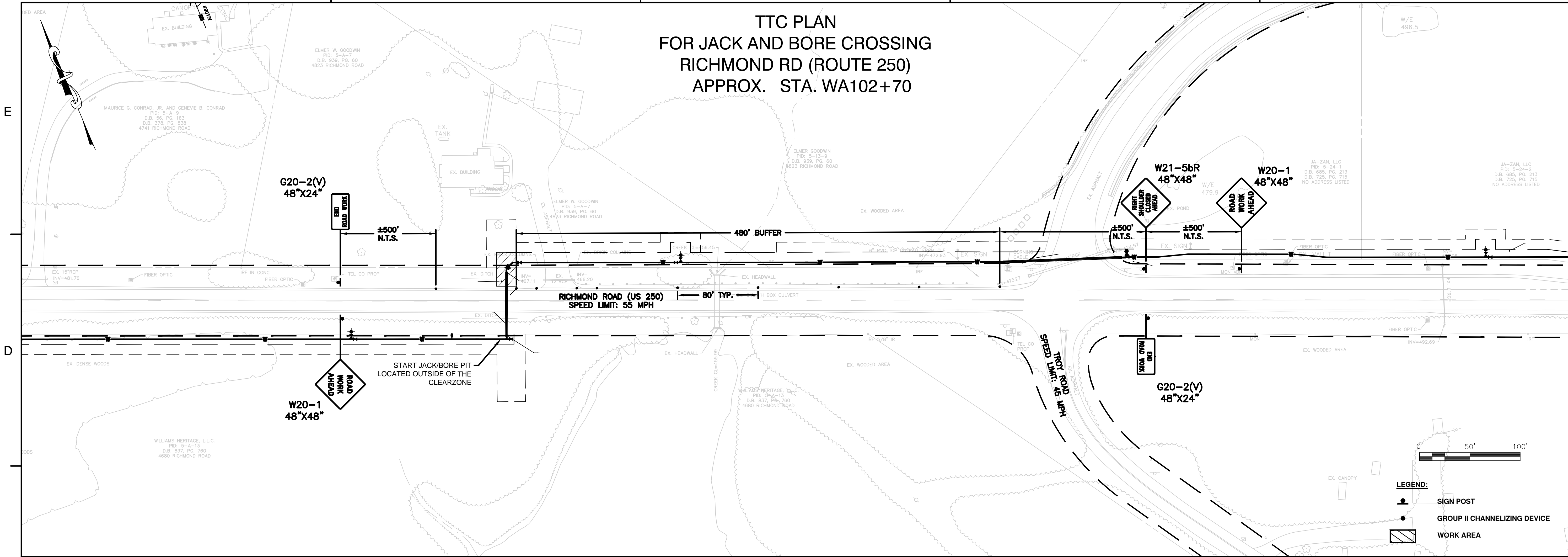
TTC PLAN
 FOR JACK AND BORE CROSSING
 OLIVER CREEK RD
 APPROX. STA WA54+75



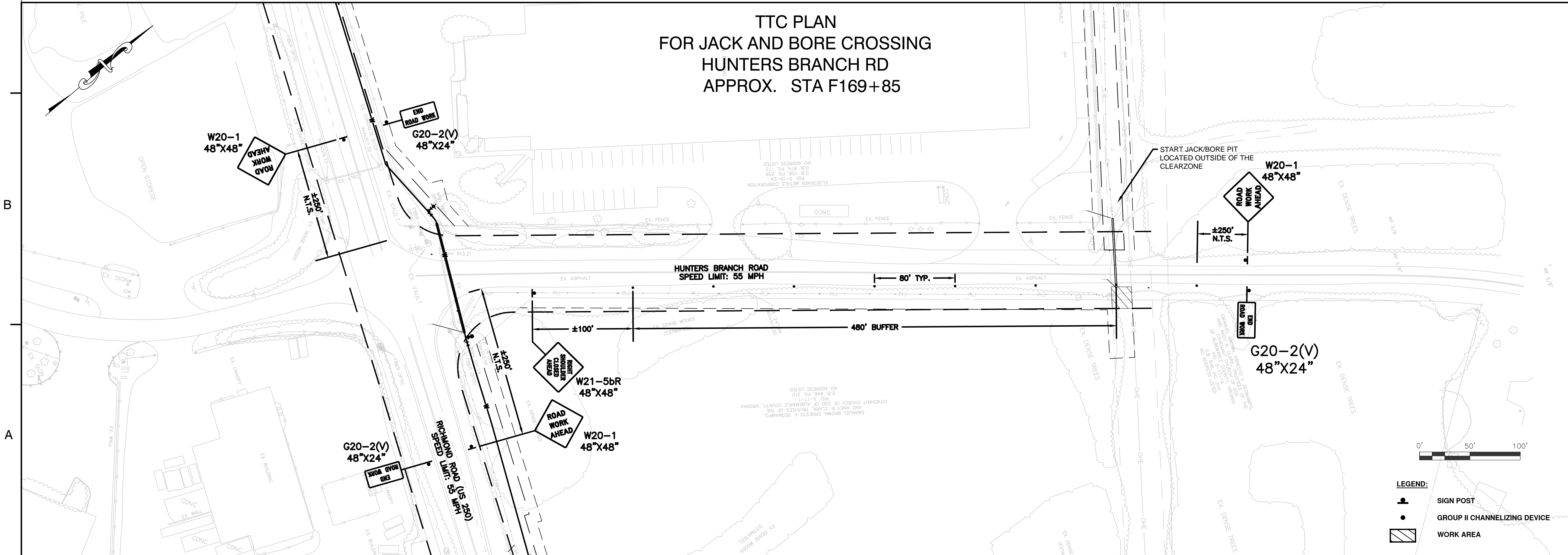
LEGEND:

- SIGN POST
- GROUP II CHANNELIZING DEVICE
- WORK AREA

TTC PLAN
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 APPROX. STA. WA102+70

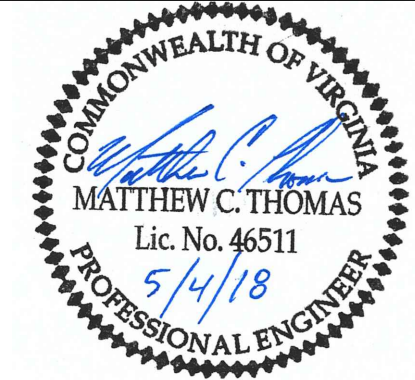


TTC PLAN
 FOR JACK AND BORE CROSSING
 HUNTERS BRANCH RD
 APPROX. STA F169+85



KEY PLAN

SEAL



SCALE

No.	DATE	BY	Description
REVISIONS			

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 APPROVED BY: MCT
 CHECKED BY: DAV
 DATE: MAY 2018

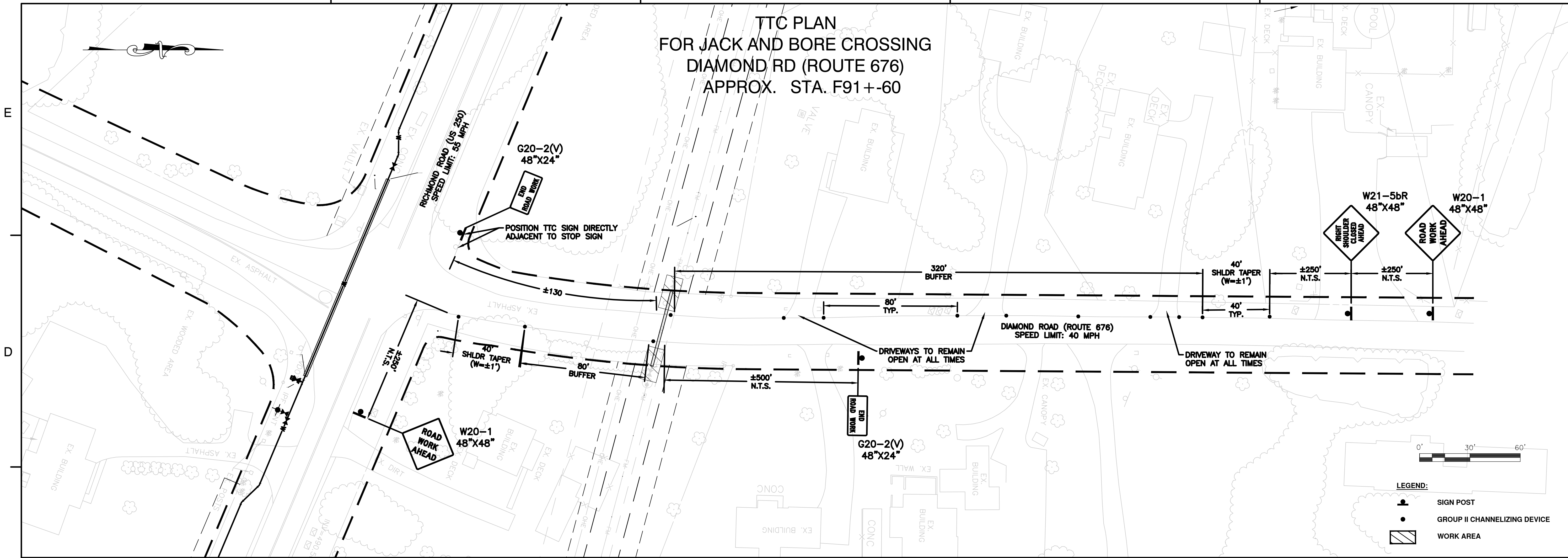
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 TRAFFIC CONTROL
 ROUTE 250/
 HUNTERS BRCH RD

PROJECT NO. 50078861

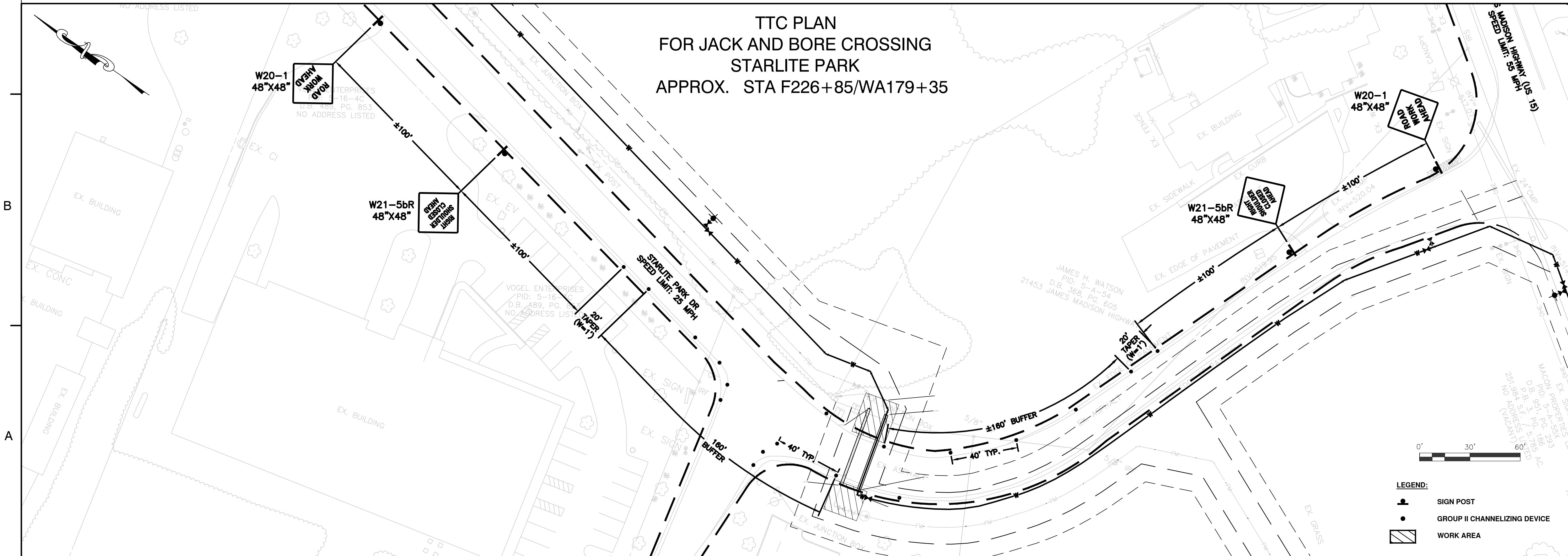
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SHEET NO.

**TTC PLAN
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 DIAMOND RD (ROUTE 676)
 APPROX. STA. F91+60**

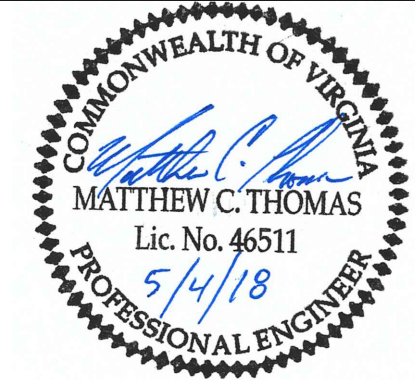


**TTC PLAN
 FOR JACK AND BORE CROSSING
 STARLITE PARK
 APPROX. STA F226+85/WA179+35**



KEY PLAN

SEAL



SCALE

No.	DATE	BY	Description
REVISIONS			

DRAWN BY: JMS
 APPROVED BY: MCT
 CHECKED BY: DAV
 DATE: MAY 2018

TITLE
**TEMPORARY TRAFFIC CONTROL
 DIAMOND RD /
 STARLITE PARK**

PROJECT NO. 50078861

C3.4

SHEET NO.



**ZION CROSSROADS
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 FLUVANNA COUNTY
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 FLUVANNA COUNTY, VA

KEY PLAN



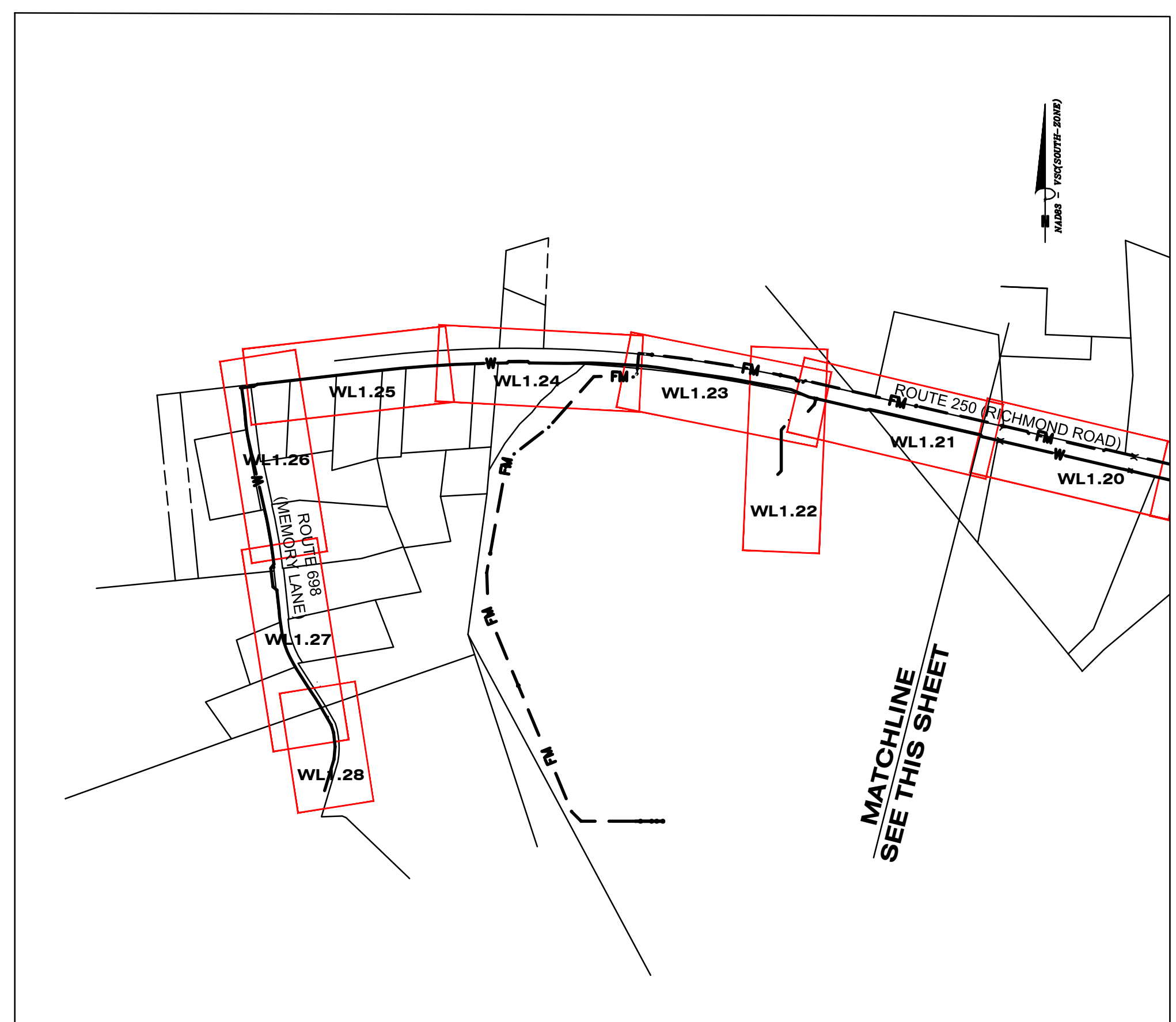
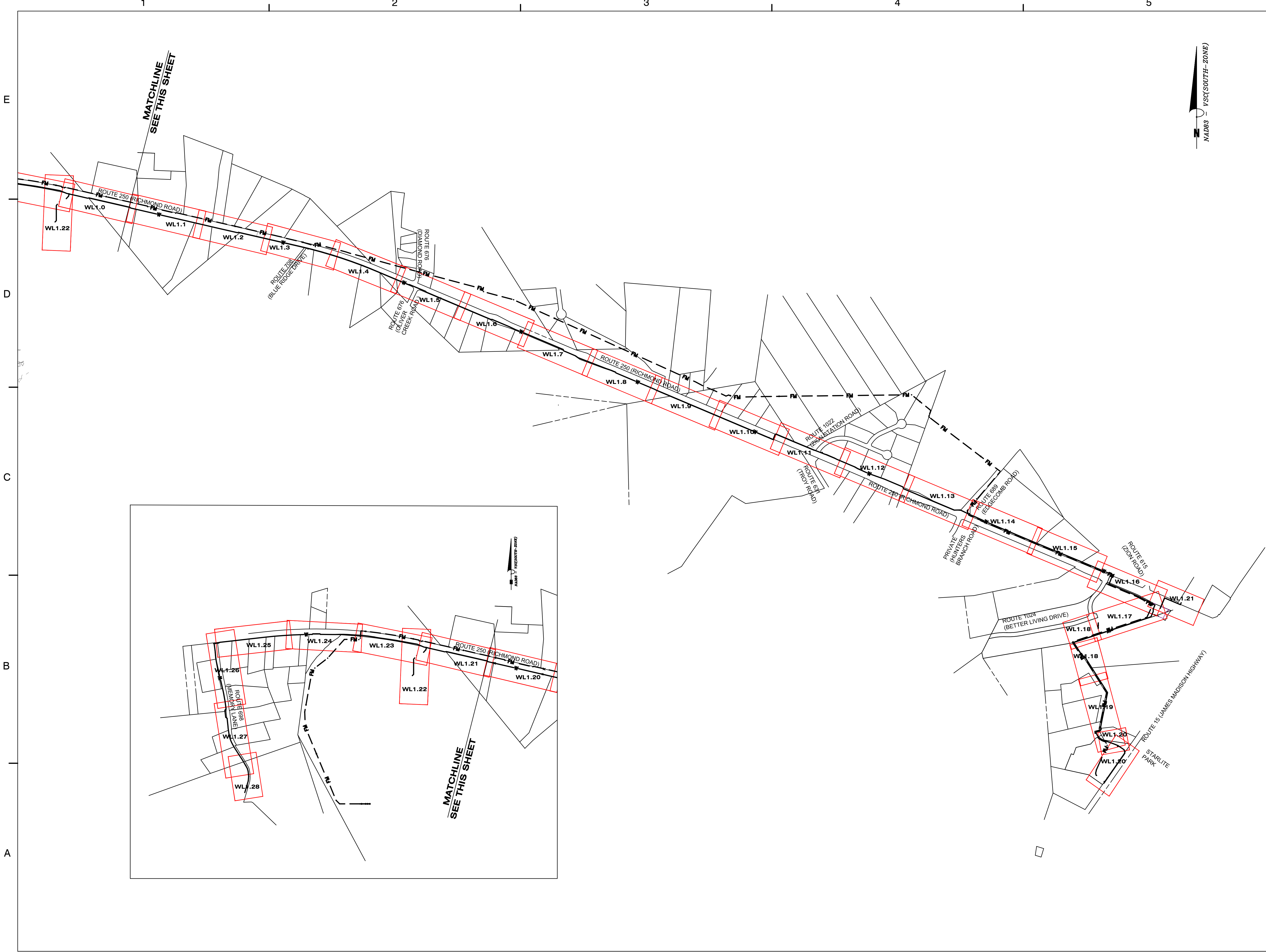
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 0' 500' 1000'
 HORIZONTAL: 1"=500'

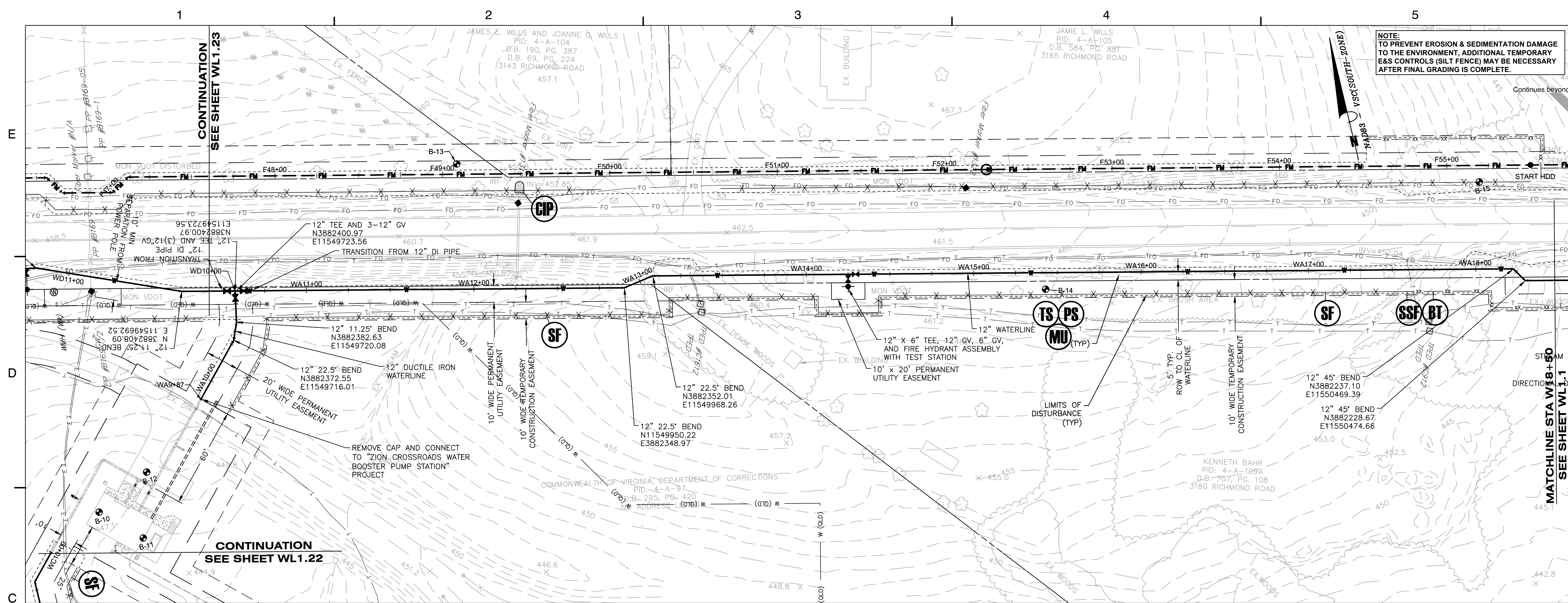
No.	DATE	BY	Description
REVISIONS			

DRAWN BY: JEH
 APPROVED BY: MRL
 CHECKED BY: DAV
 DATE: MAY 2018
 TITLE: **WATERLINE ALIGNMENT KEY PLAN**

PROJECT NO. 50078861

WLO.1

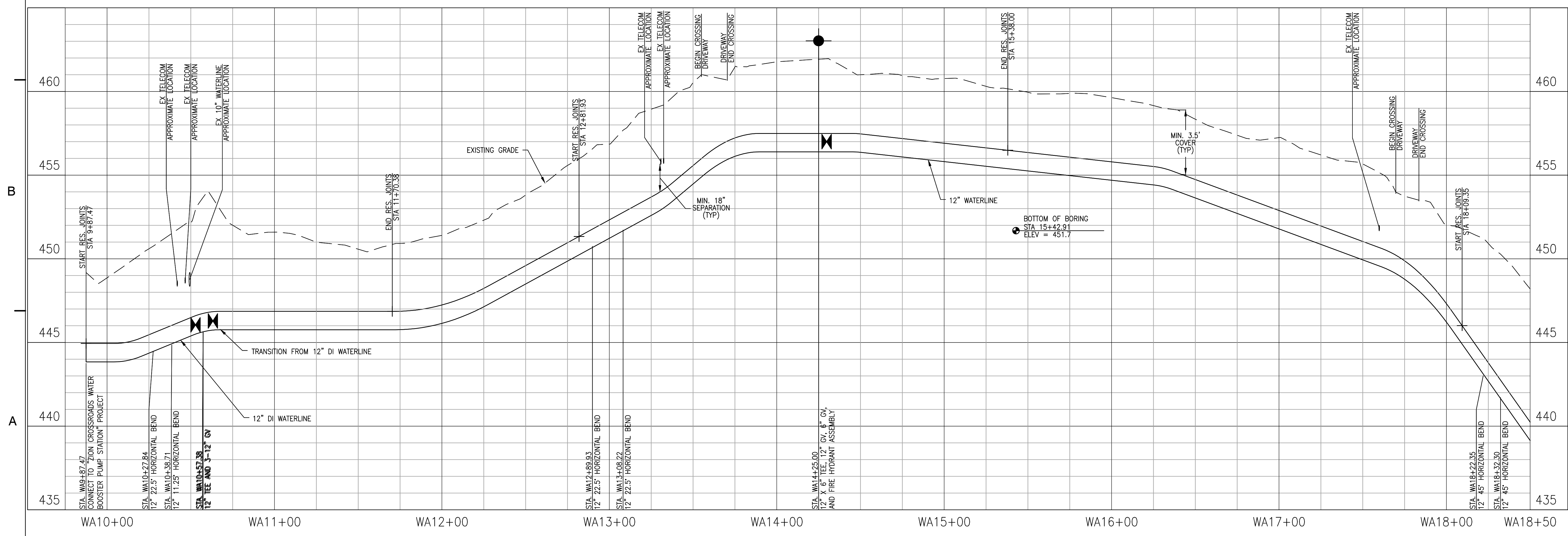




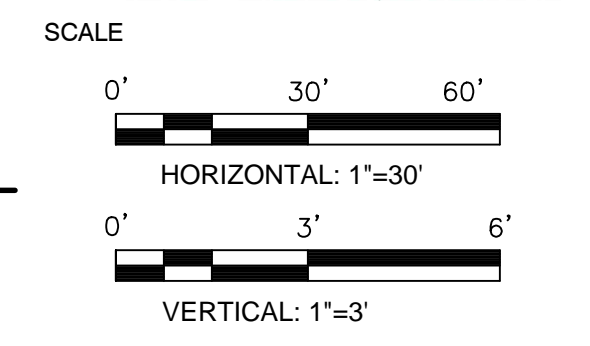
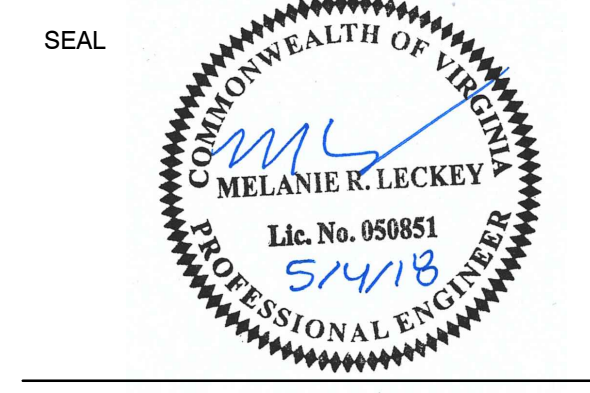
NOTE:
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KEY PLAN



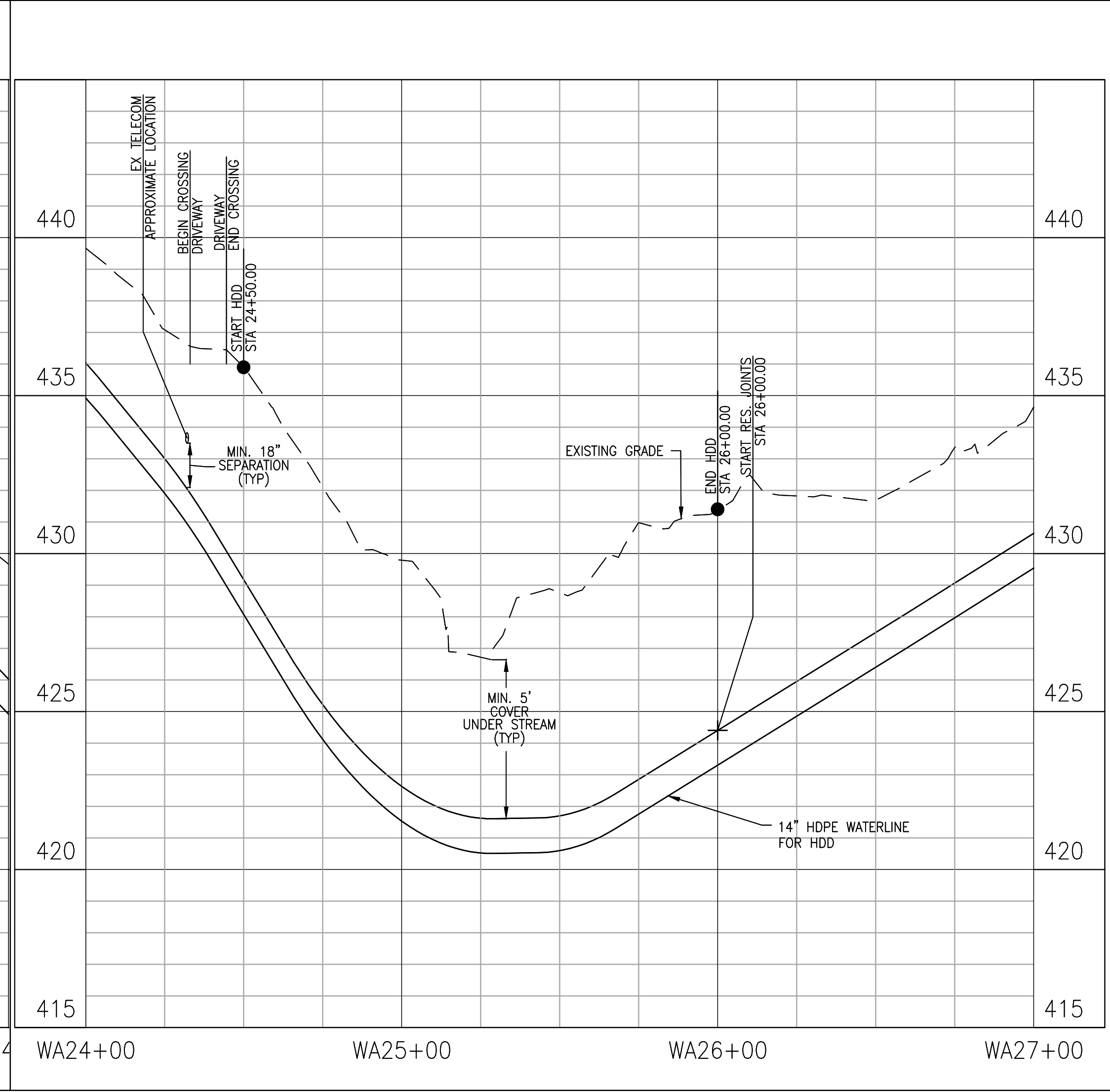
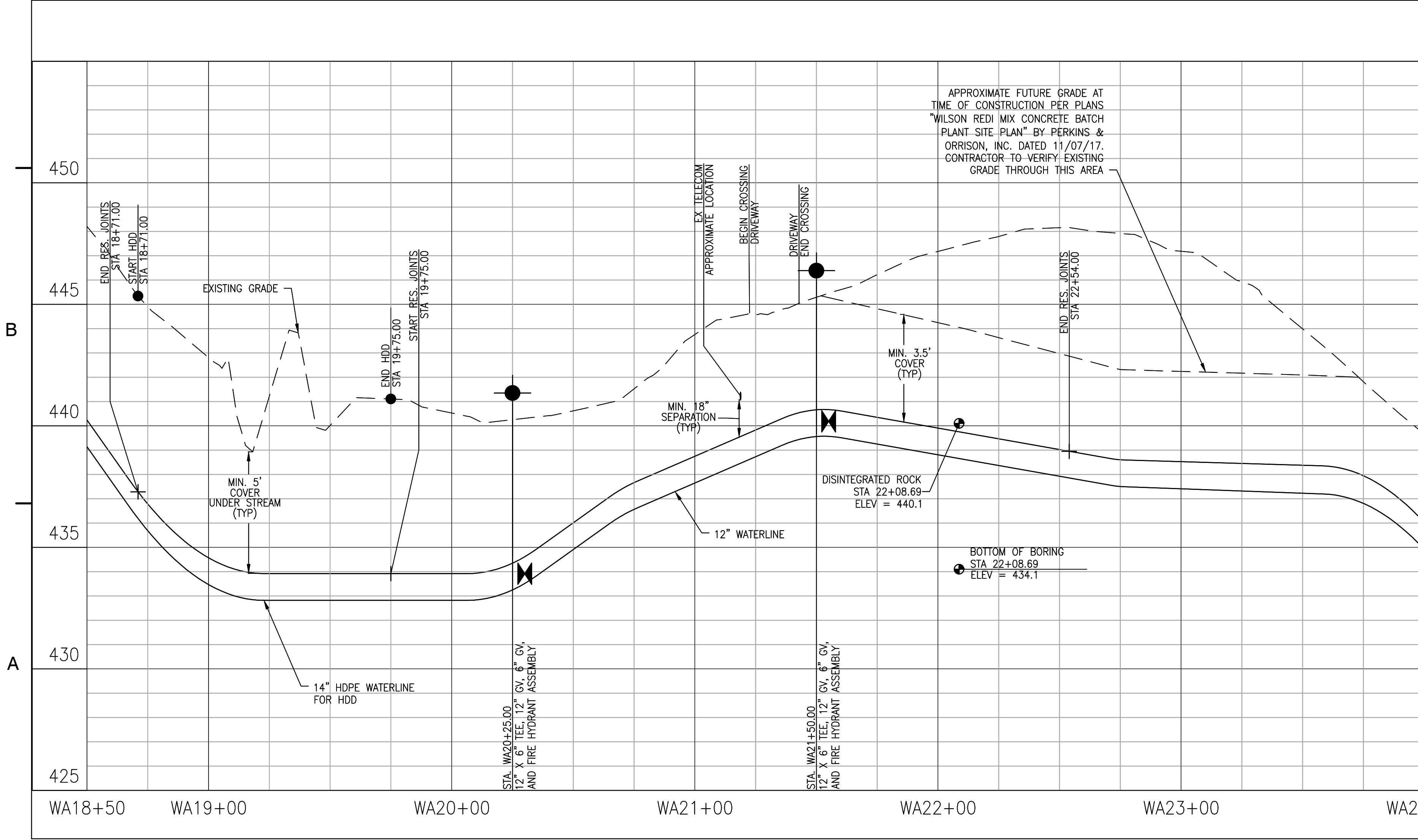
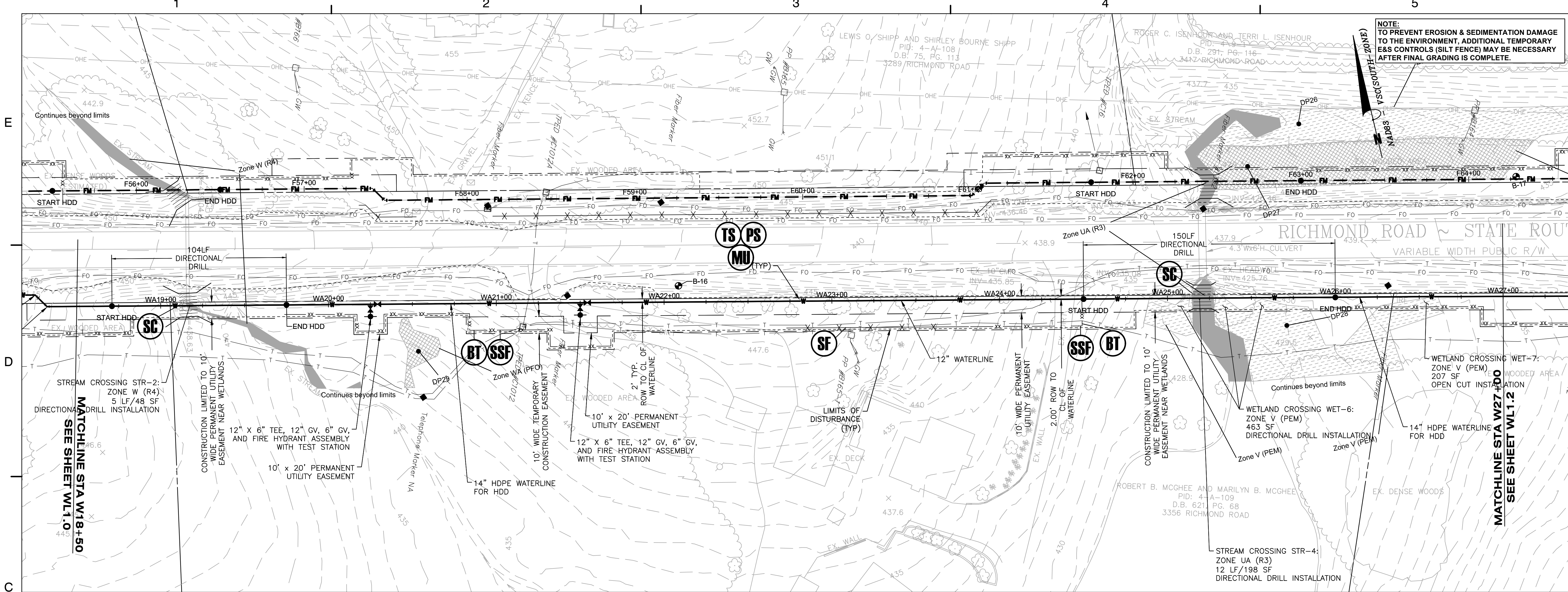
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TITLE
**WATERLINE
PLAN AND
PROFILE**

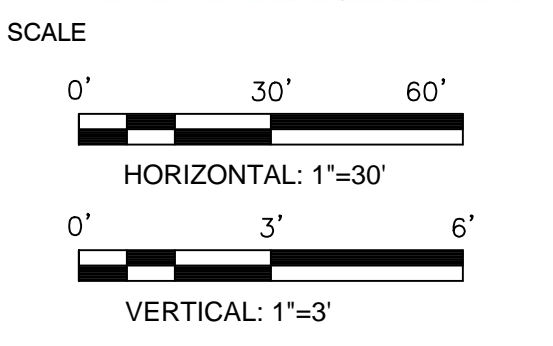
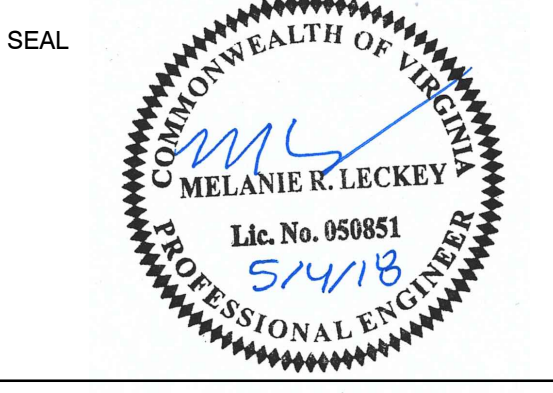
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WL1.0



**ZION CROSSROADS
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 FLUVANNA COUNTY
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 FLUVANNA COUNTY, VA

KEY PLAN



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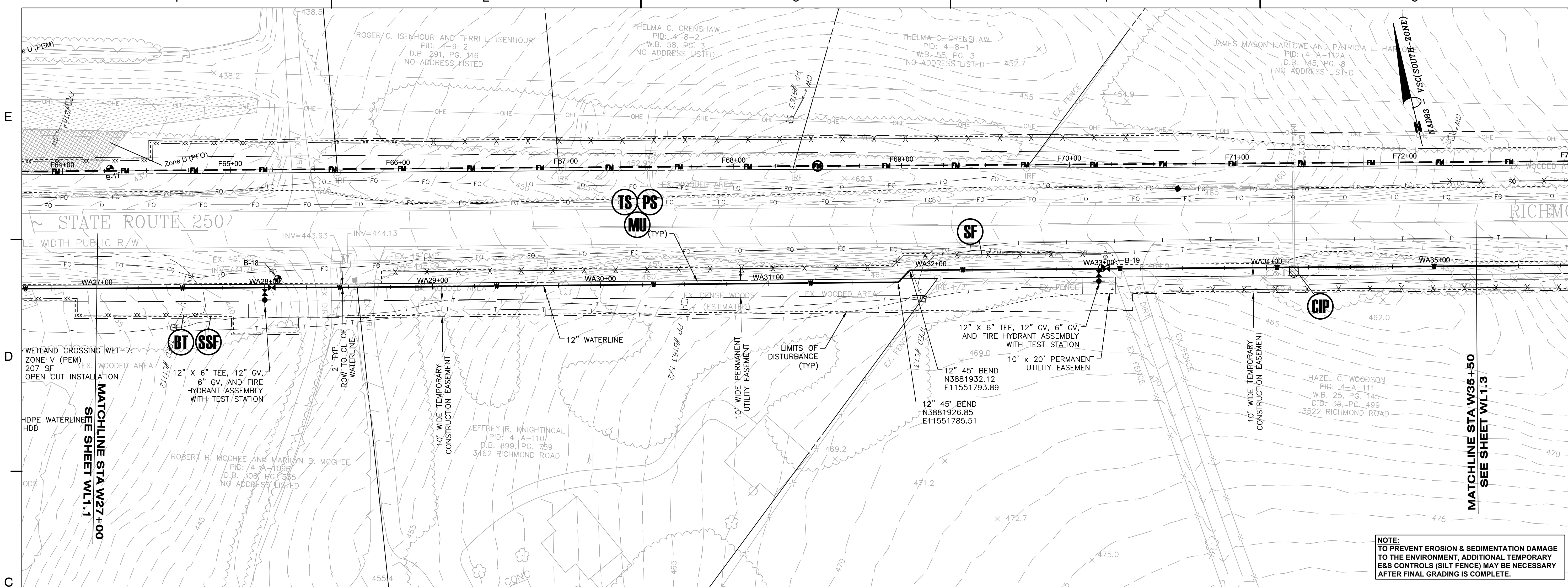
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TITLE
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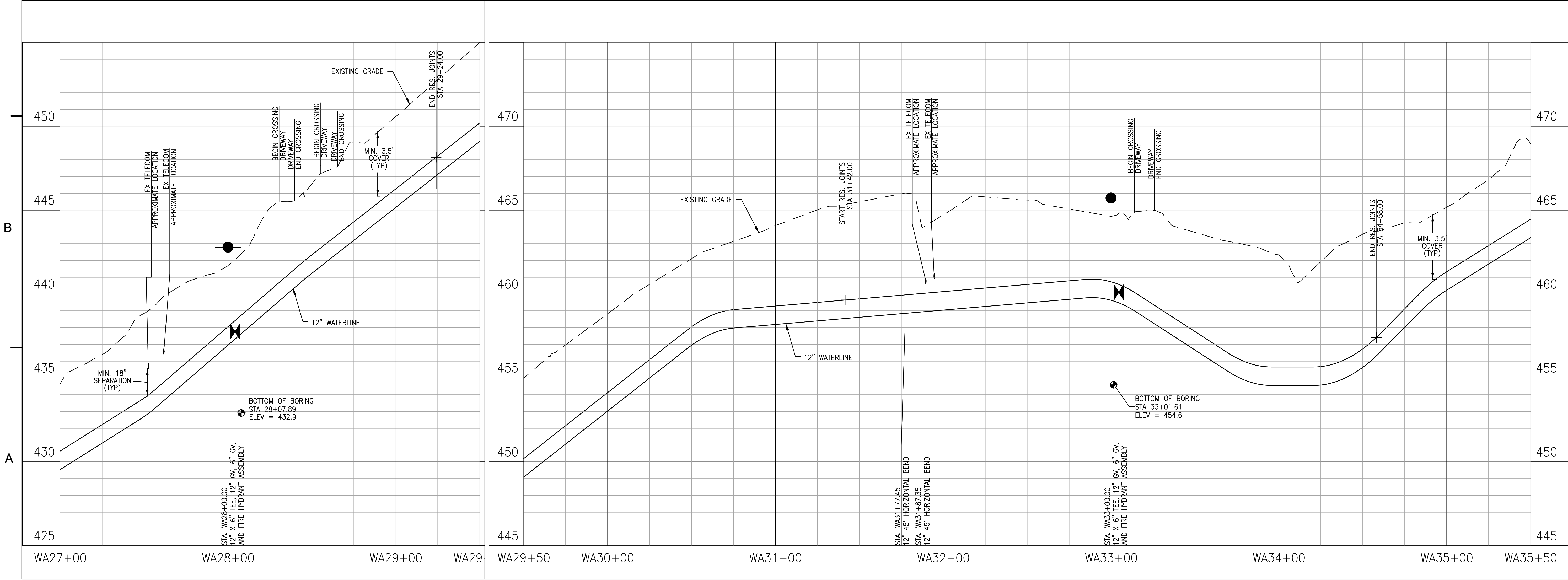
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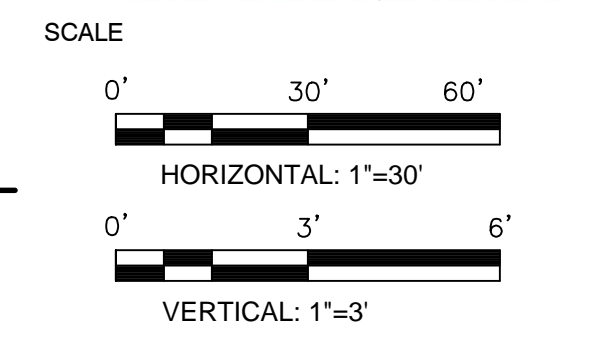
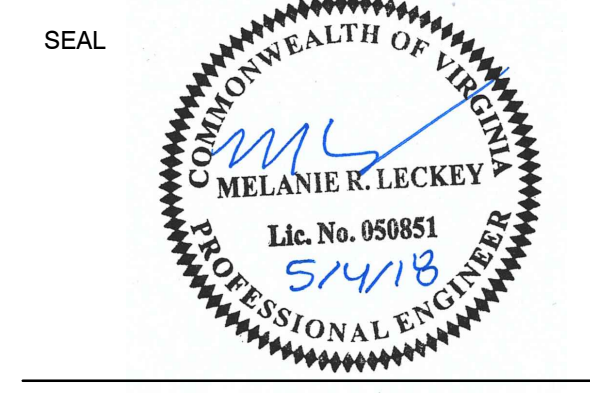
NOTE:
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KEY PLAN



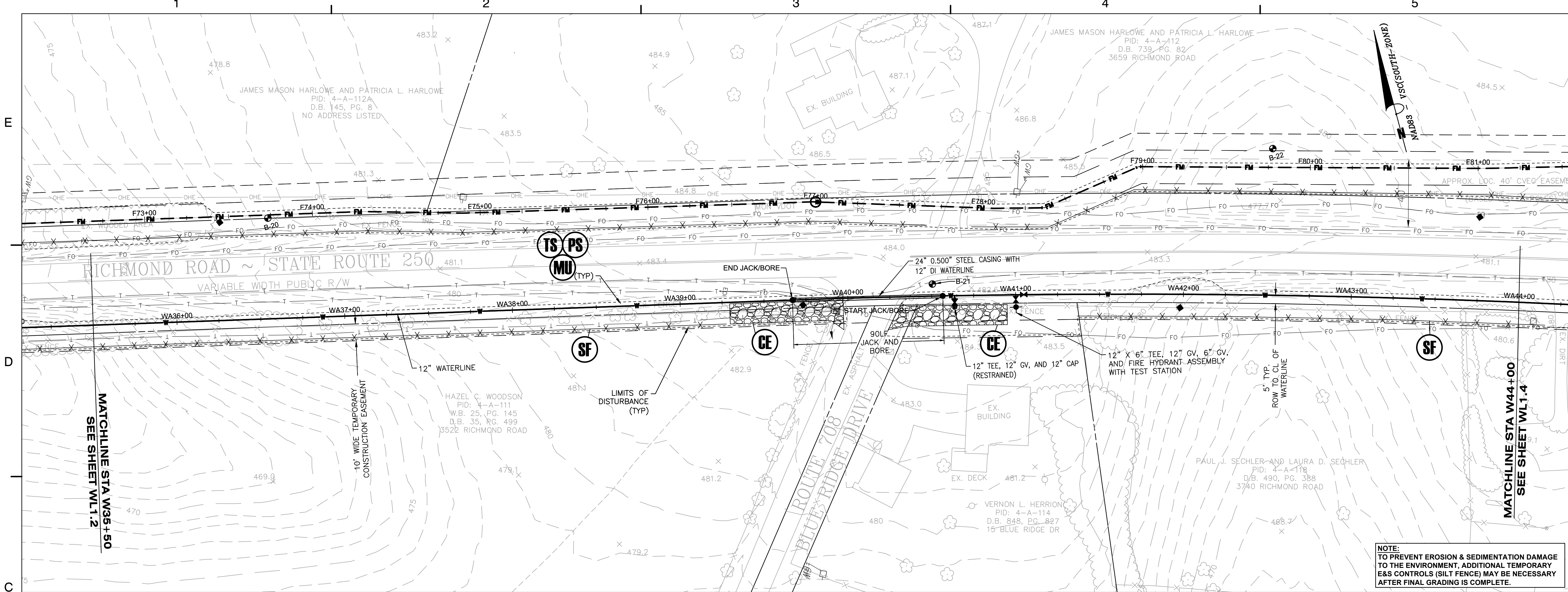
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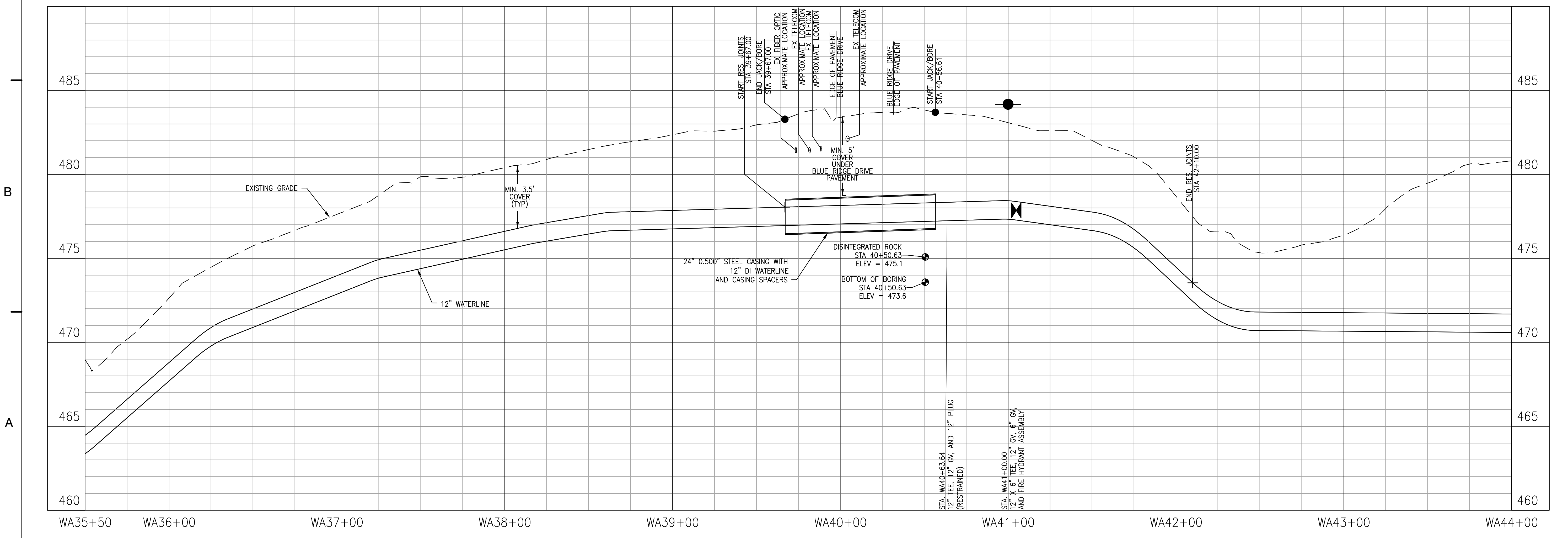
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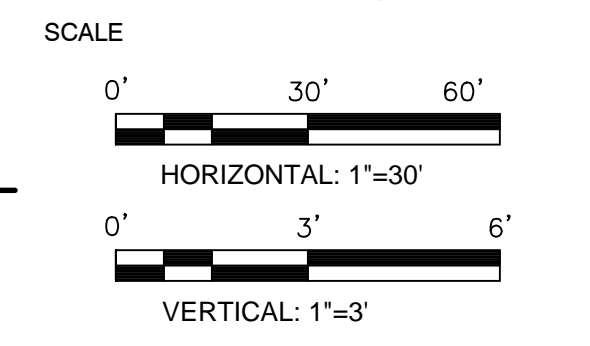
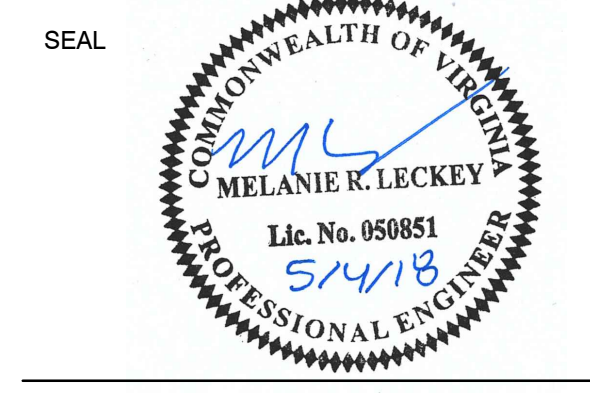
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KEY PLAN



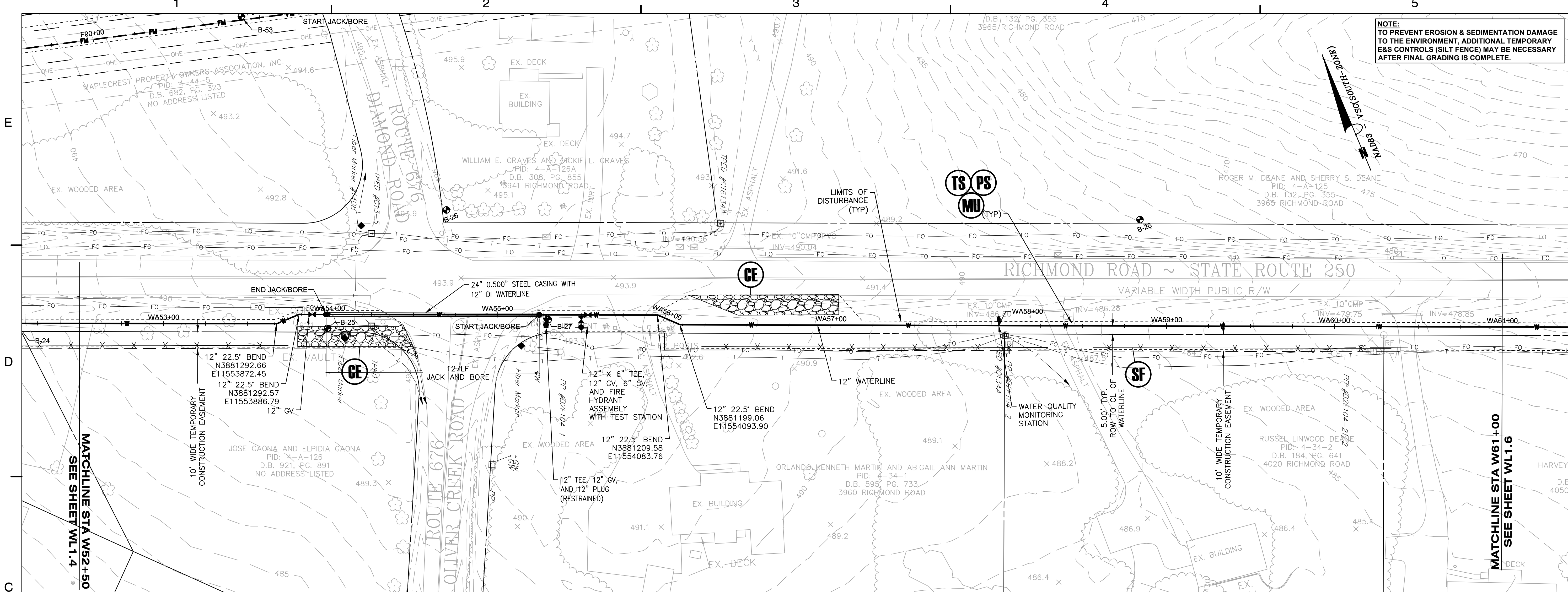
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REVISIONS			

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 DATE: MAY 2018

TITLE: WATERLINE PLAN AND PROFILE

PROJECT NO. 50078861

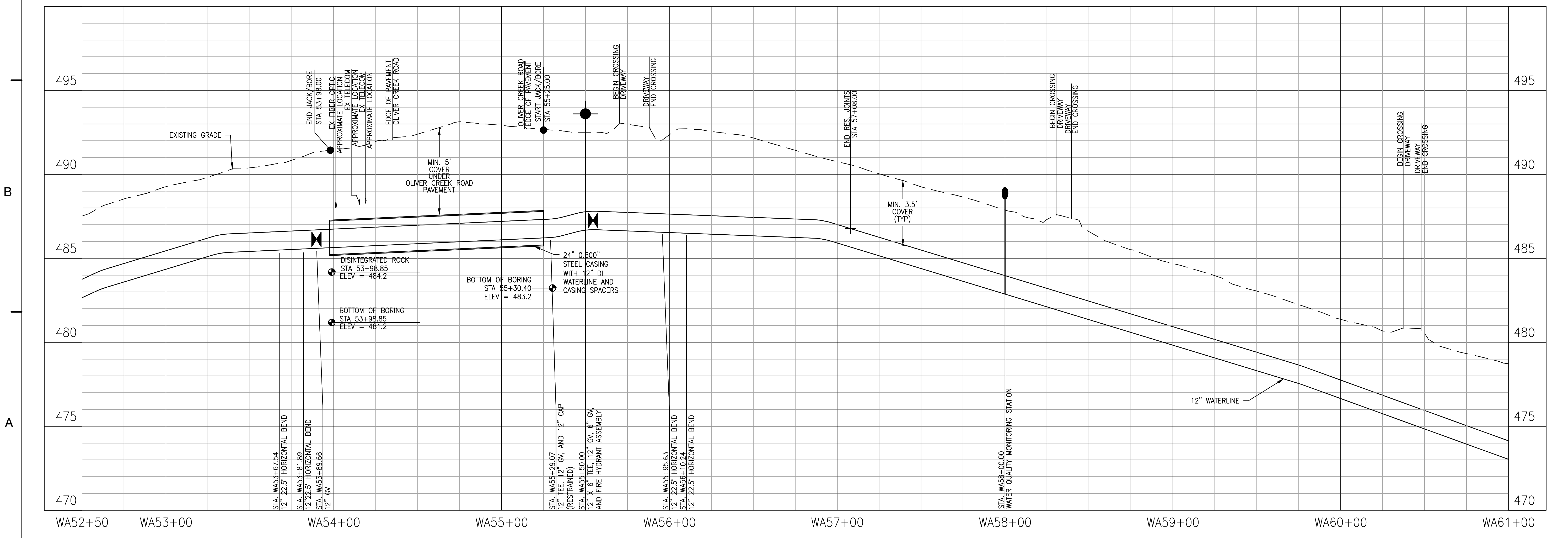
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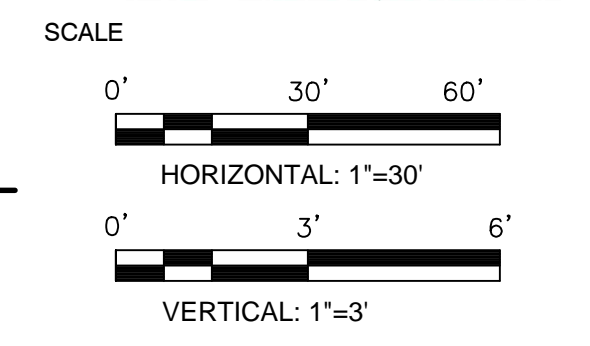
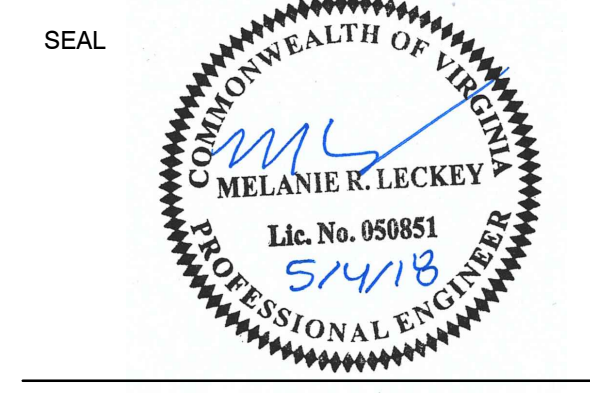
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ZION CROSSROADS
WATER AND SEWER SYSTEM
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FLUVANNA COUNTY, VA



KEY PLAN



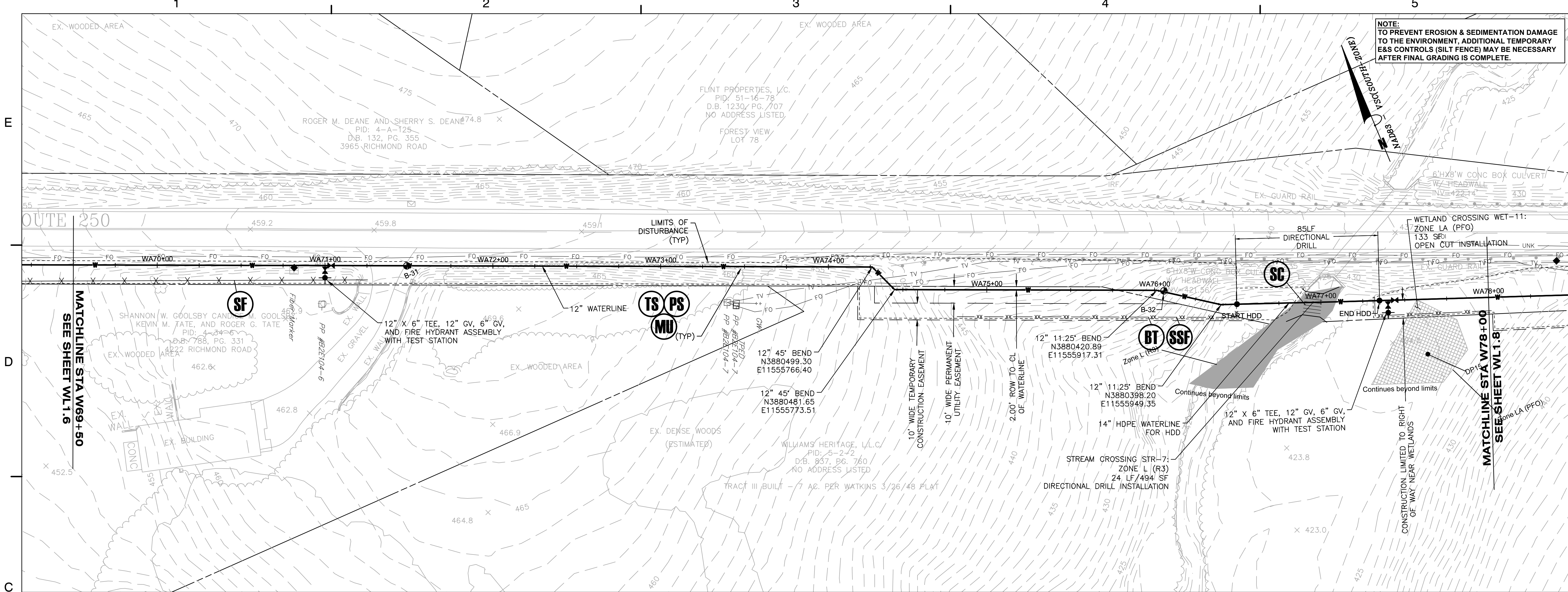
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REVISIONS			

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DATE: MAY 2018

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PROFILE**

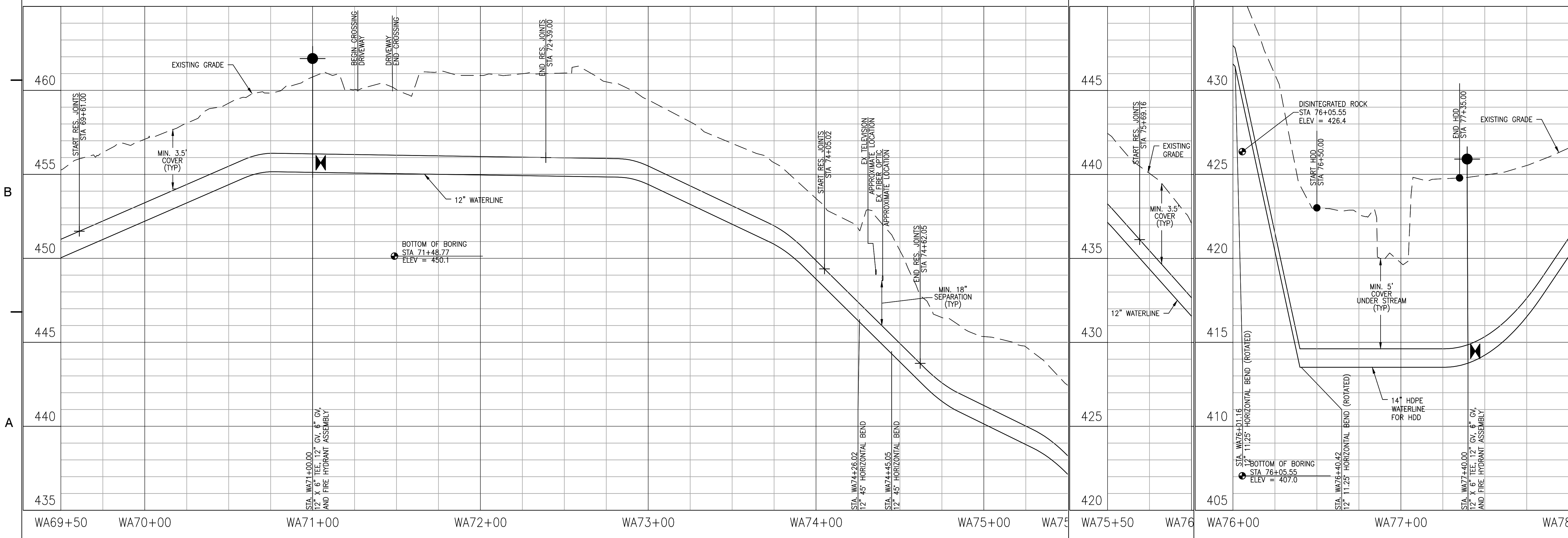
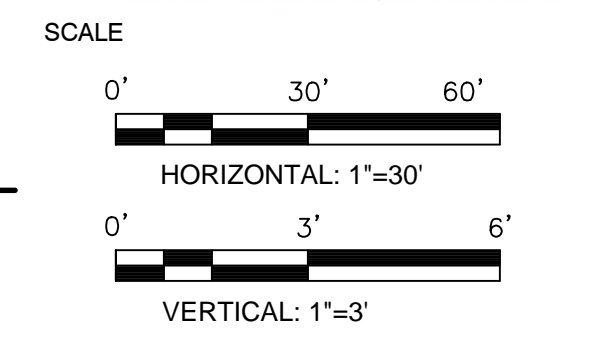
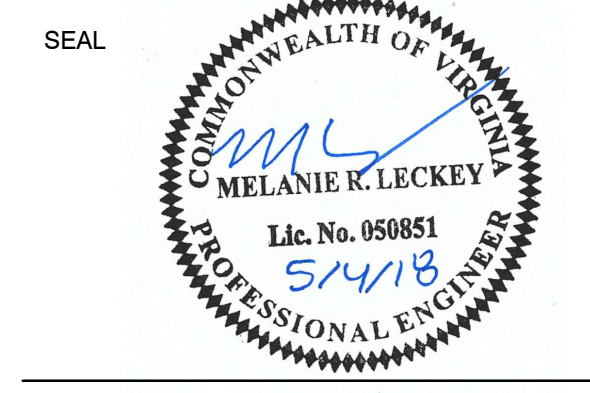
PROJECT NO. 50078861

WL1.5



NOTE:
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KEY PLAN



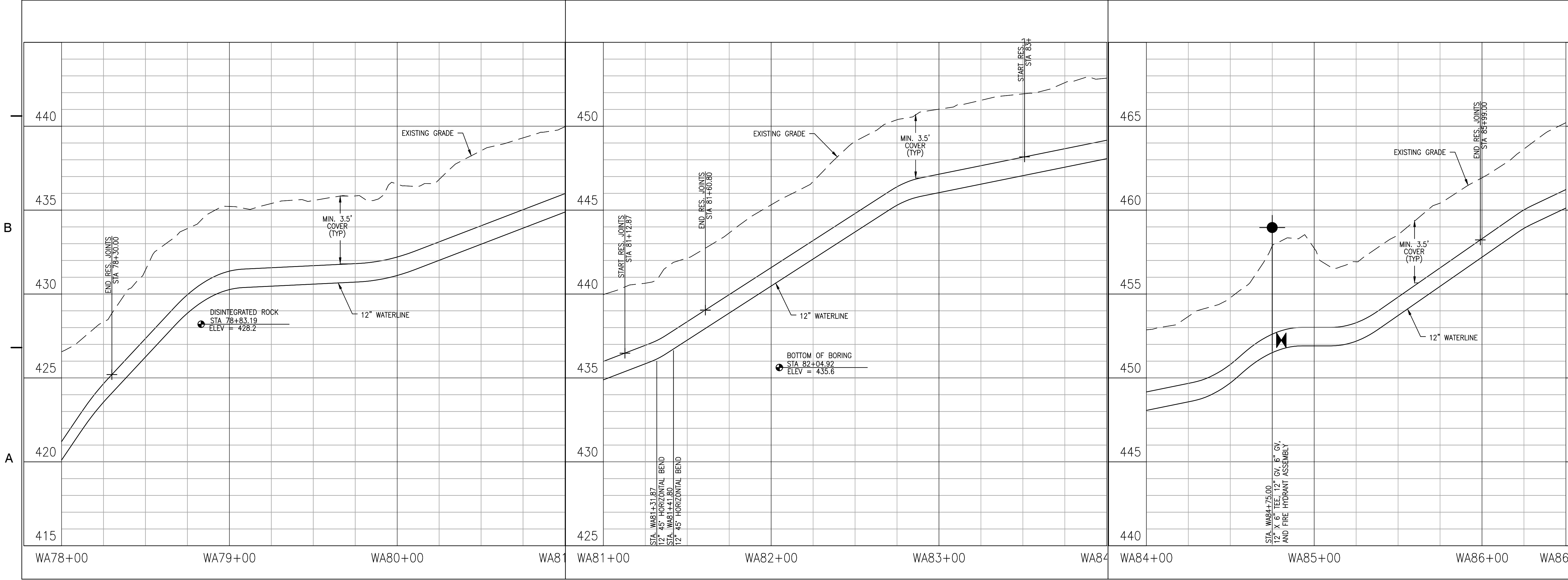
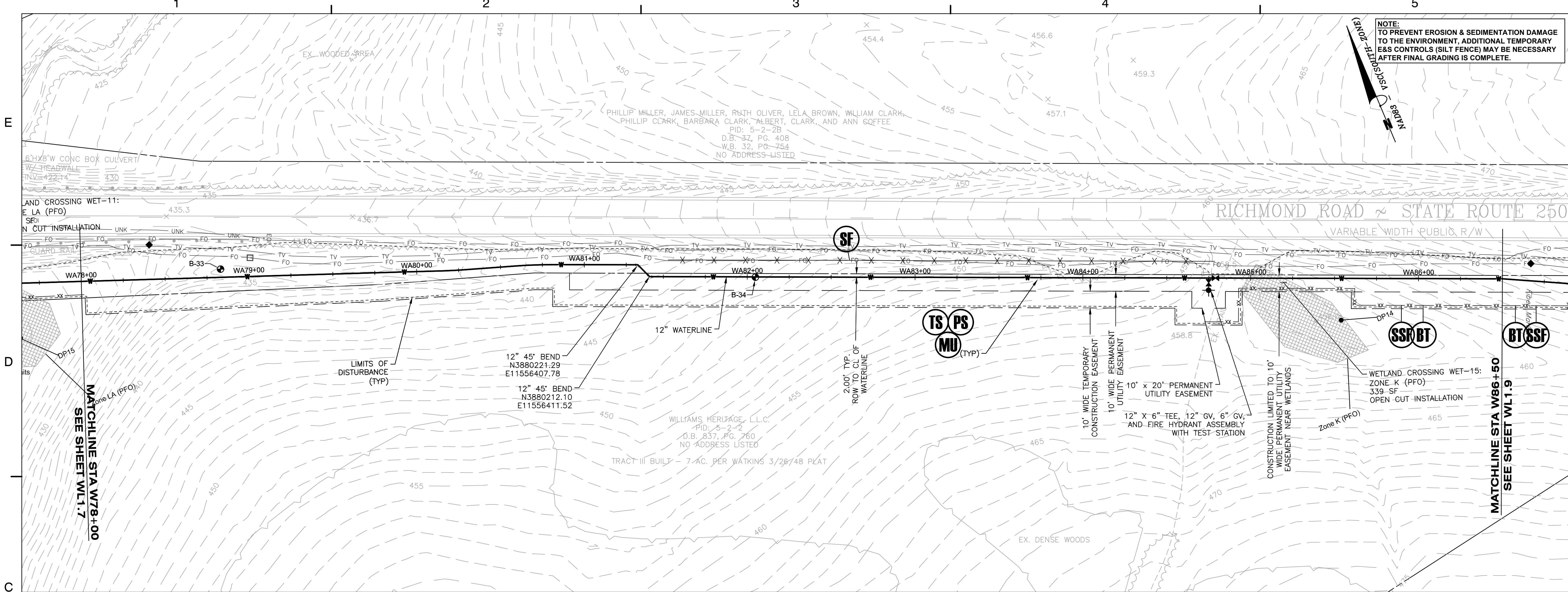
No.	DATE	BY	Description
REVISIONS			

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 DATE: MAY 2018

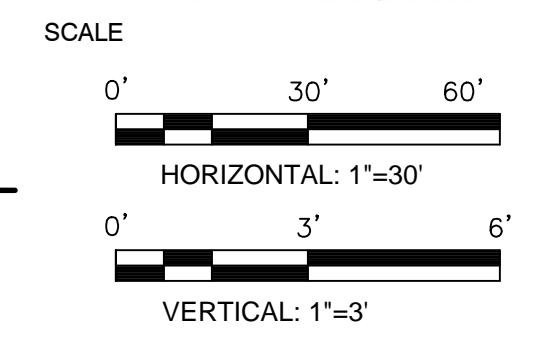
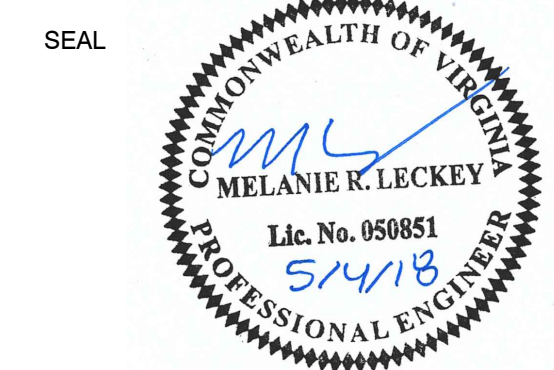
TITLE
**WATERLINE
 PLAN AND
 PROFILE**

PROJECT NO. 50078861

WL1.7



KEY PLAN



No.	DATE	BY	Description
REVISIONS			

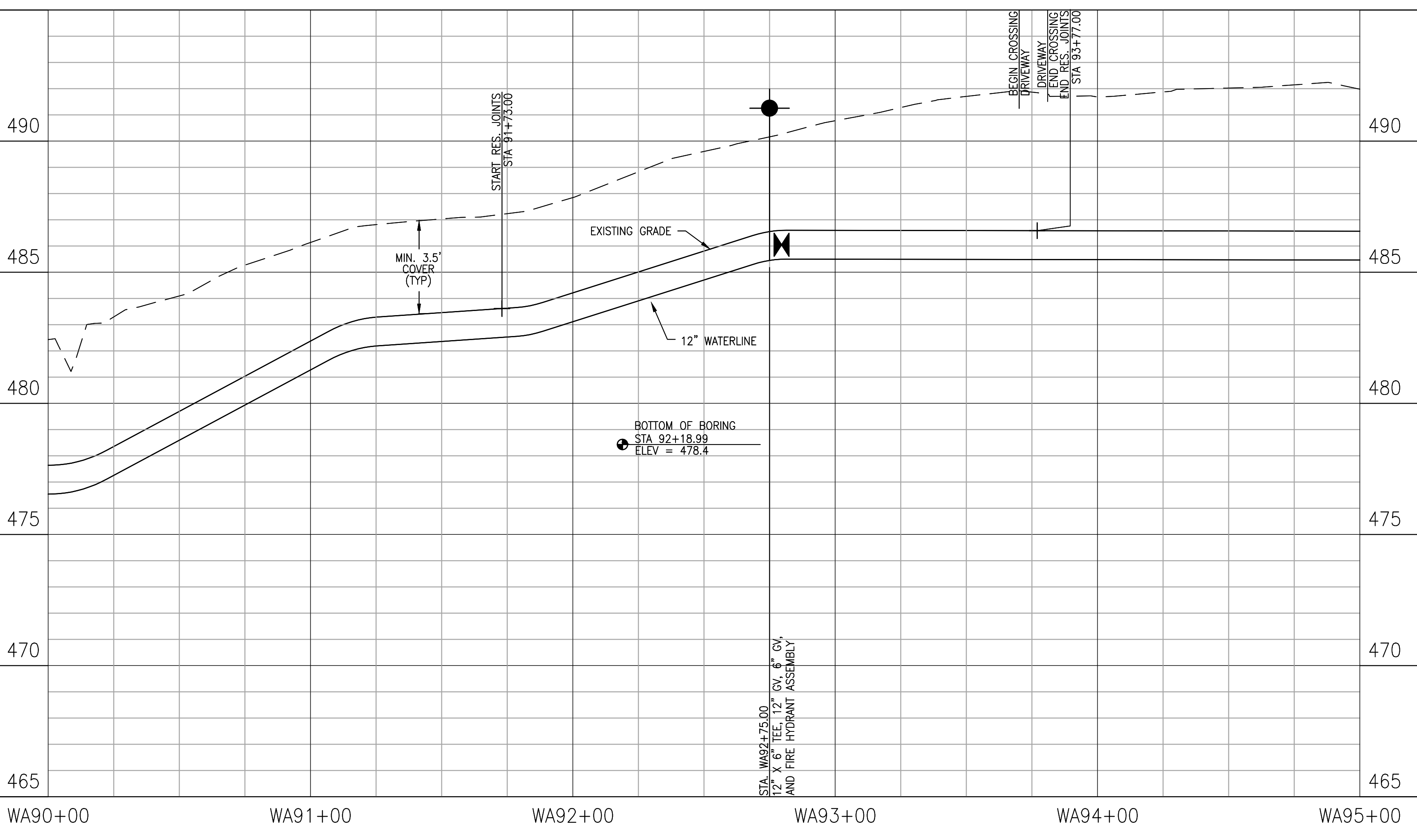
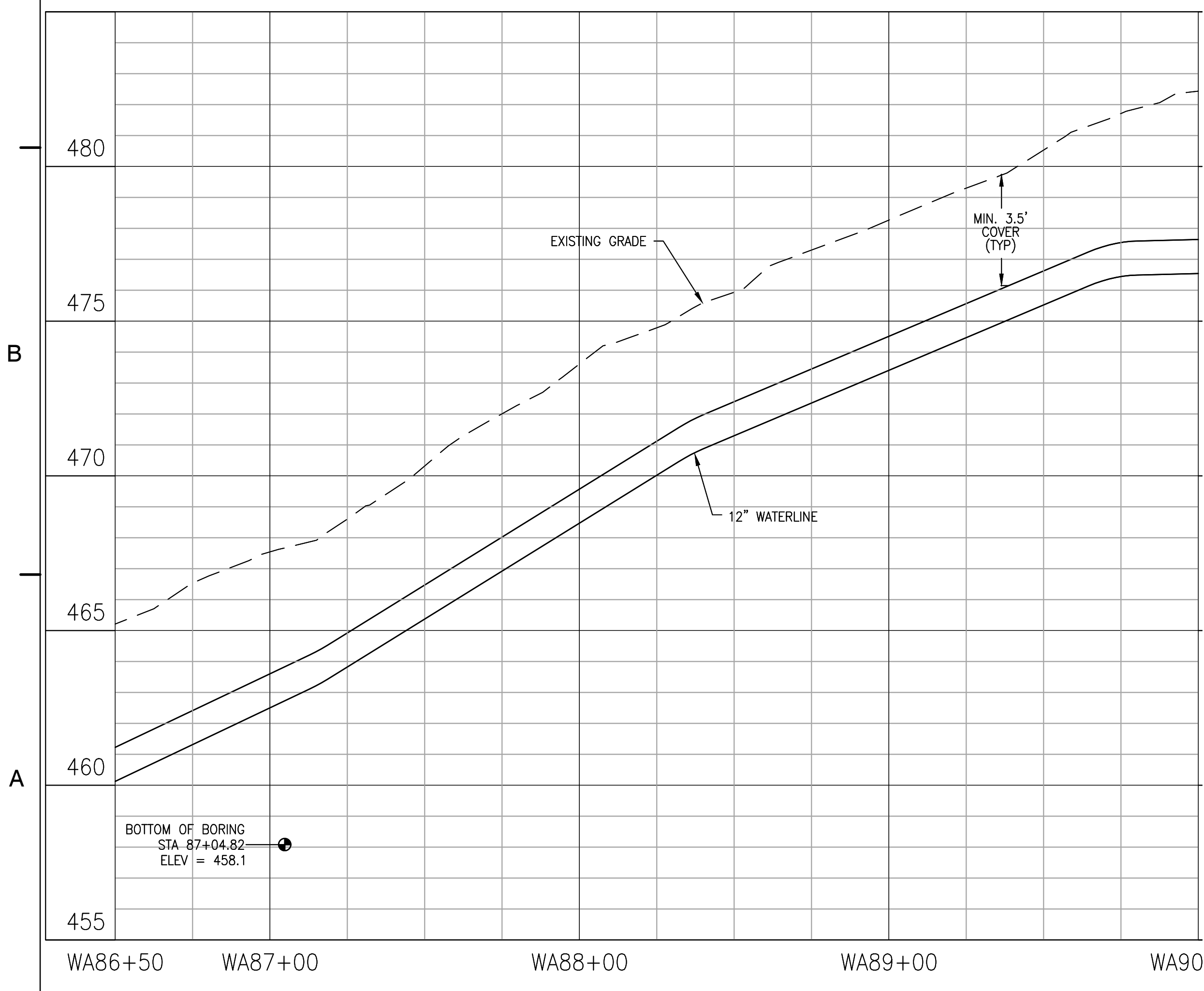
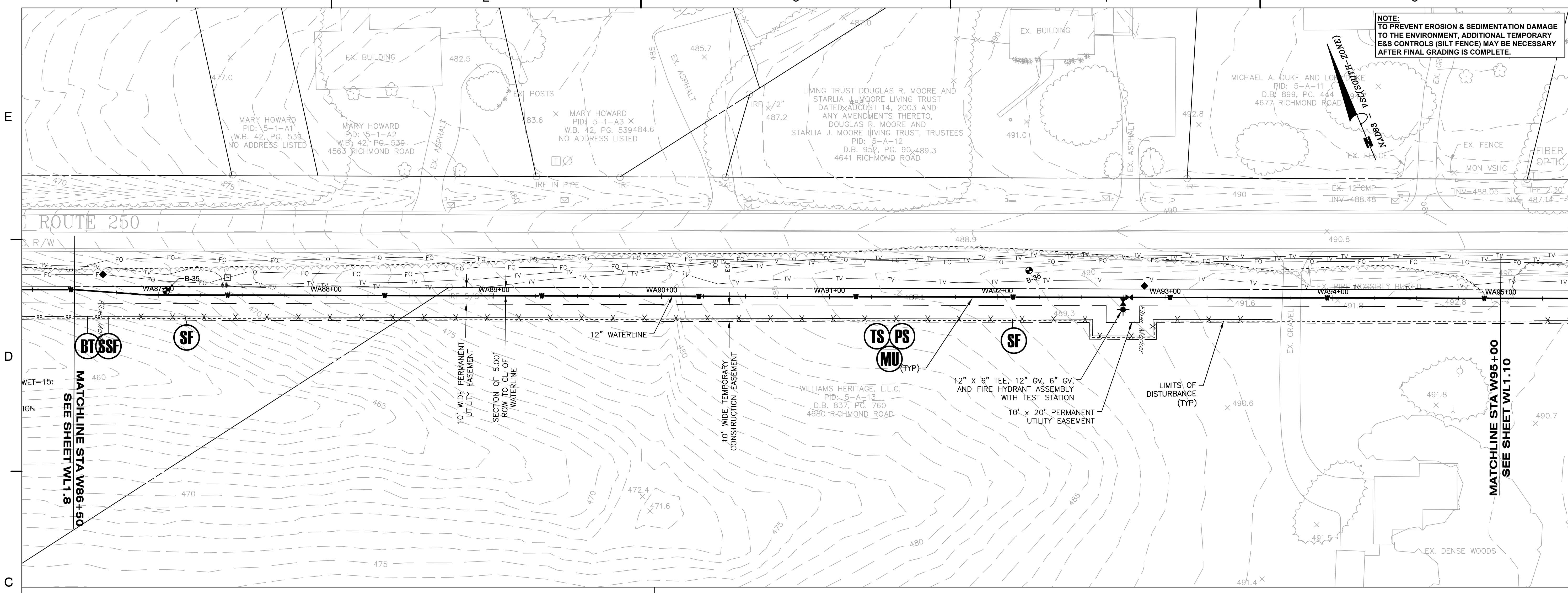
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 DATE: MAY 2018

TITLE
**PROPOSED
 WATERLINE
 ALIGNMENT**

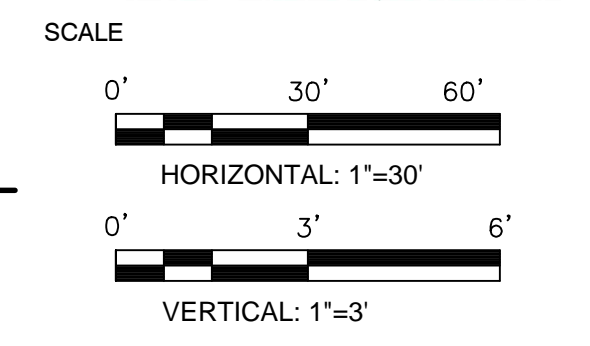
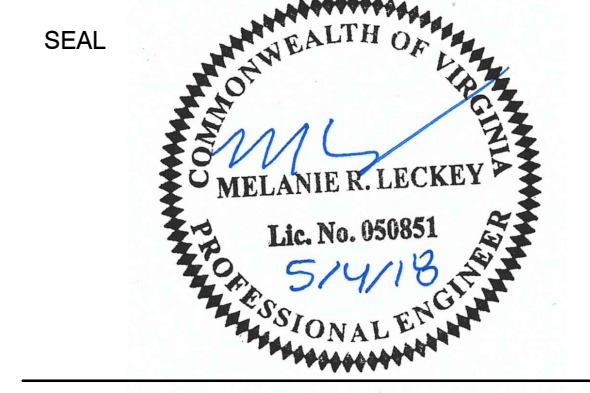
PROJECT NO. 50078861

WL1.8

NOTE:
 TO PREVENT EROSION & SEDIMENTATION DAMAGE
 TO THE ENVIRONMENT, ADDITIONAL TEMPORARY
 E&S CONTROLS (SILT FENCE) MAY BE NECESSARY
 AFTER FINAL GRADING IS COMPLETE.



KEY PLAN



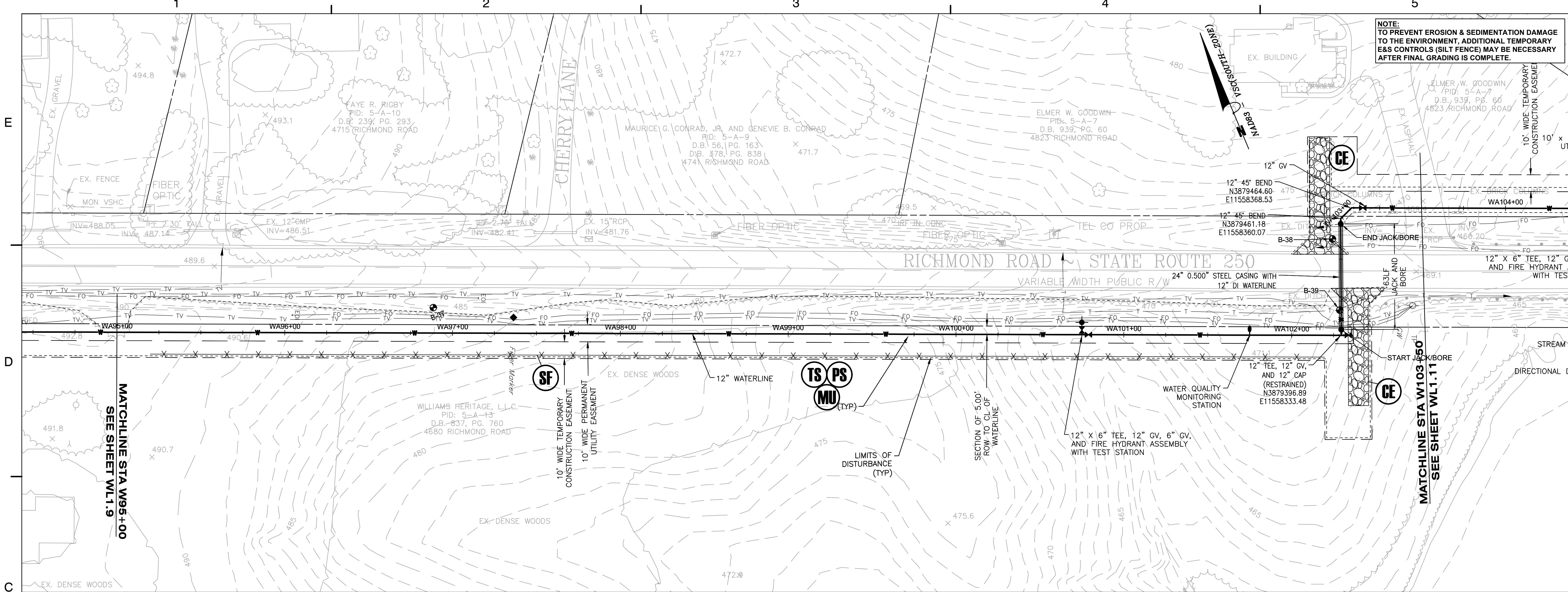
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REVISIONS			

DRAWN BY: JEH
 APPROVED BY: MRL
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 DATE: MAY 2018

TITLE
**WATERLINE
 PLAN AND
 PROFILE**

PROJECT NO. 50078861

WL1.9



Dewberry

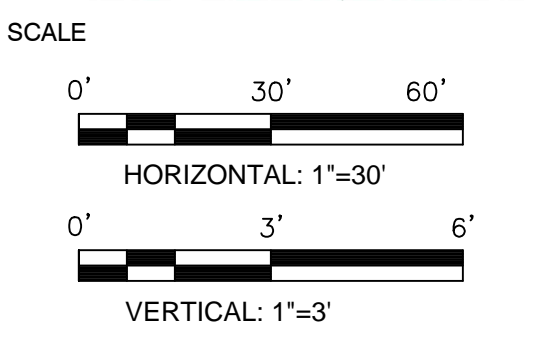
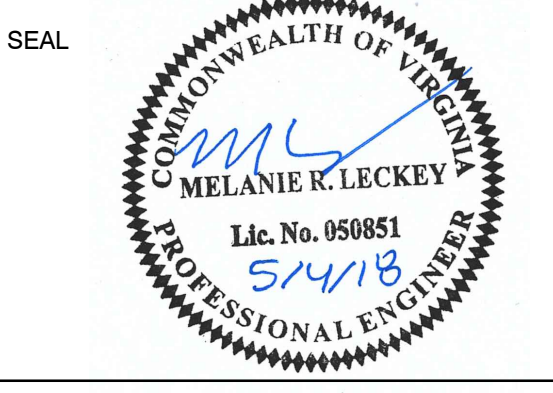
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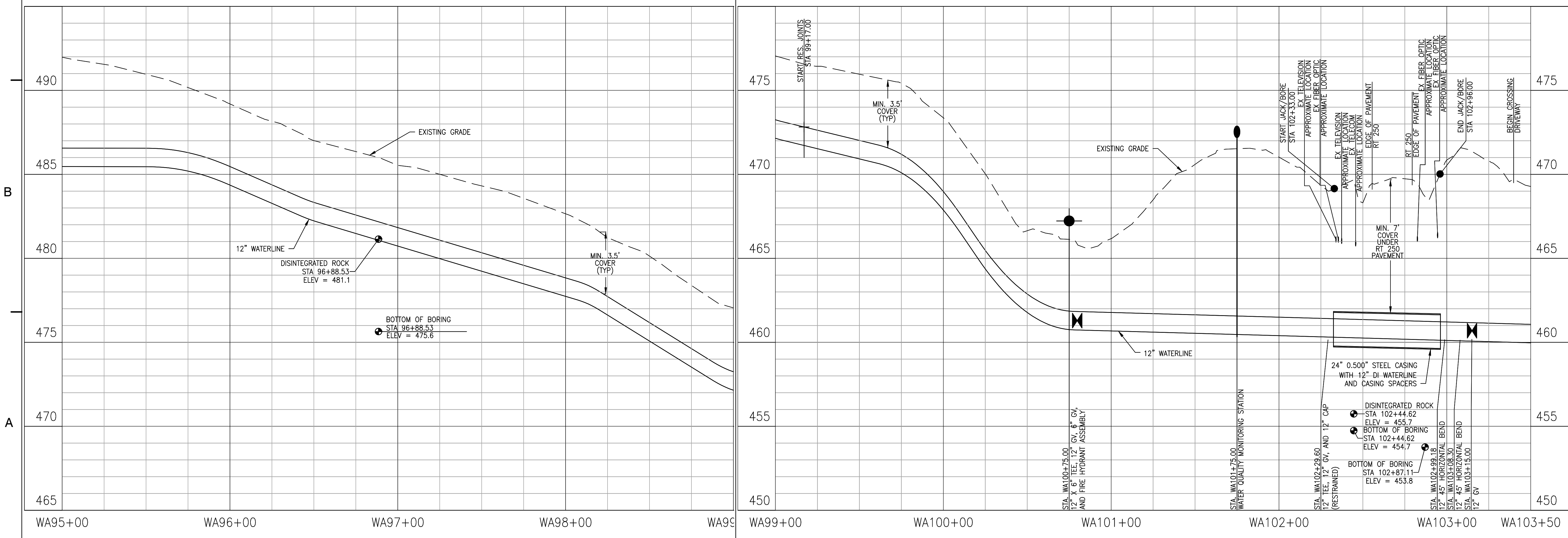
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 DATE: MAY 2018

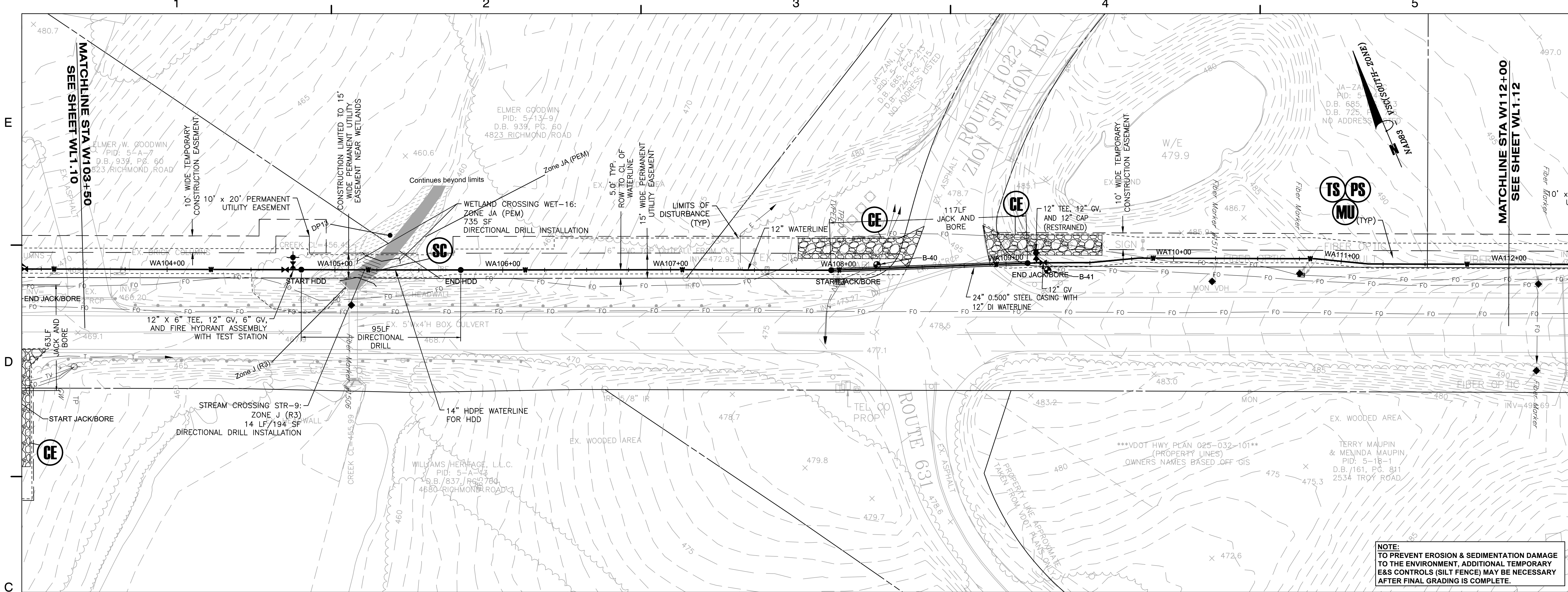
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 PLAN AND
 PROFILE**

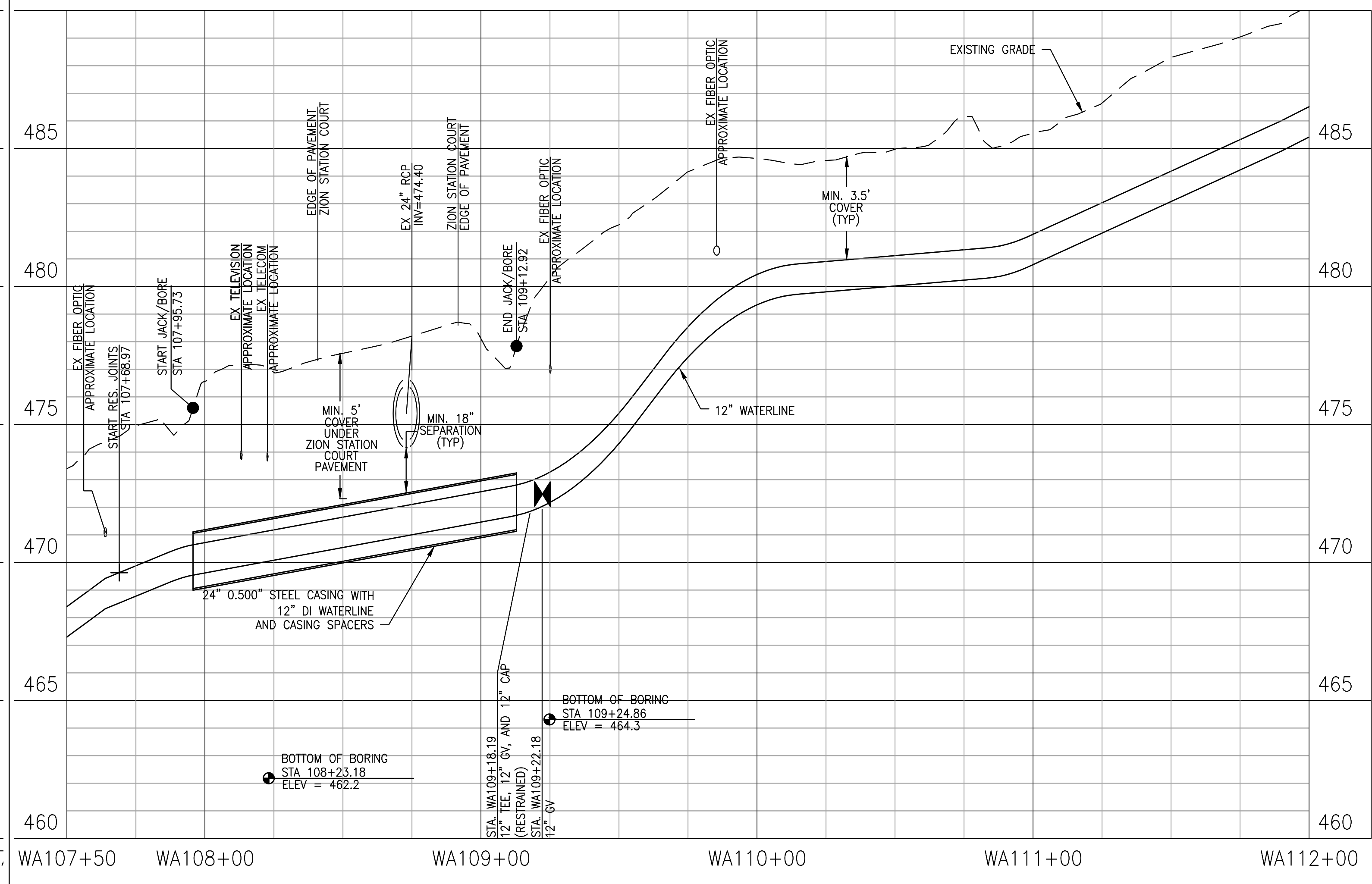
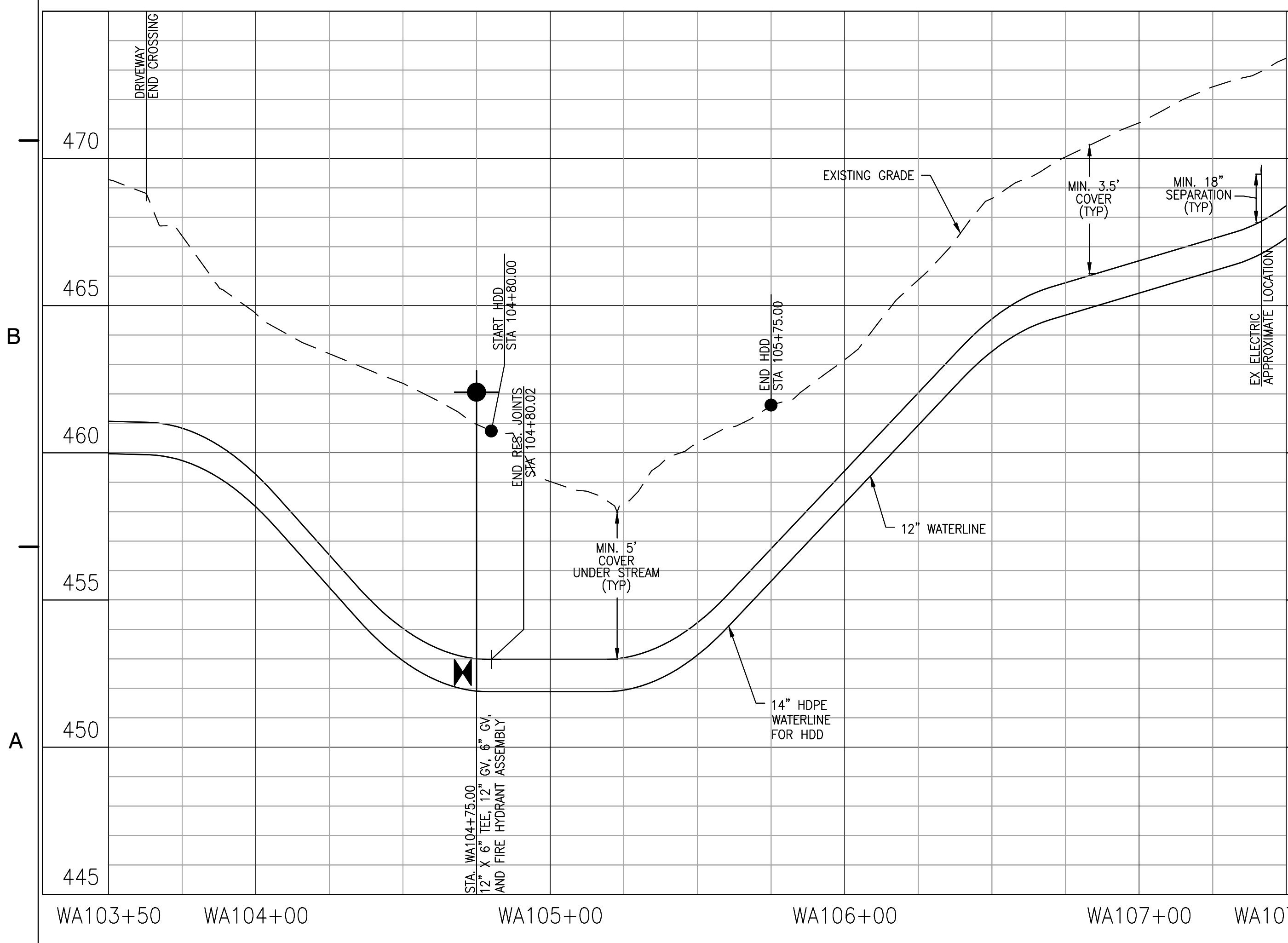
PROJECT NO. 50078861

WL1.10

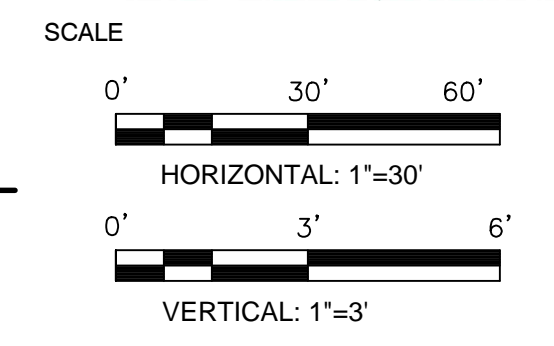
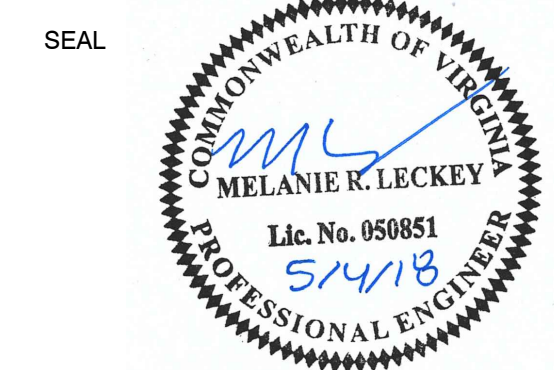




NOTE:
 TO PREVENT EROSION & SEDIMENTATION DAMAGE
 TO THE ENVIRONMENT, ADDITIONAL TEMPORARY
 E&S CONTROLS (SILT FENCE) MAY BE NECESSARY
 AFTER FINAL GRADING IS COMPLETE.



KEY PLAN



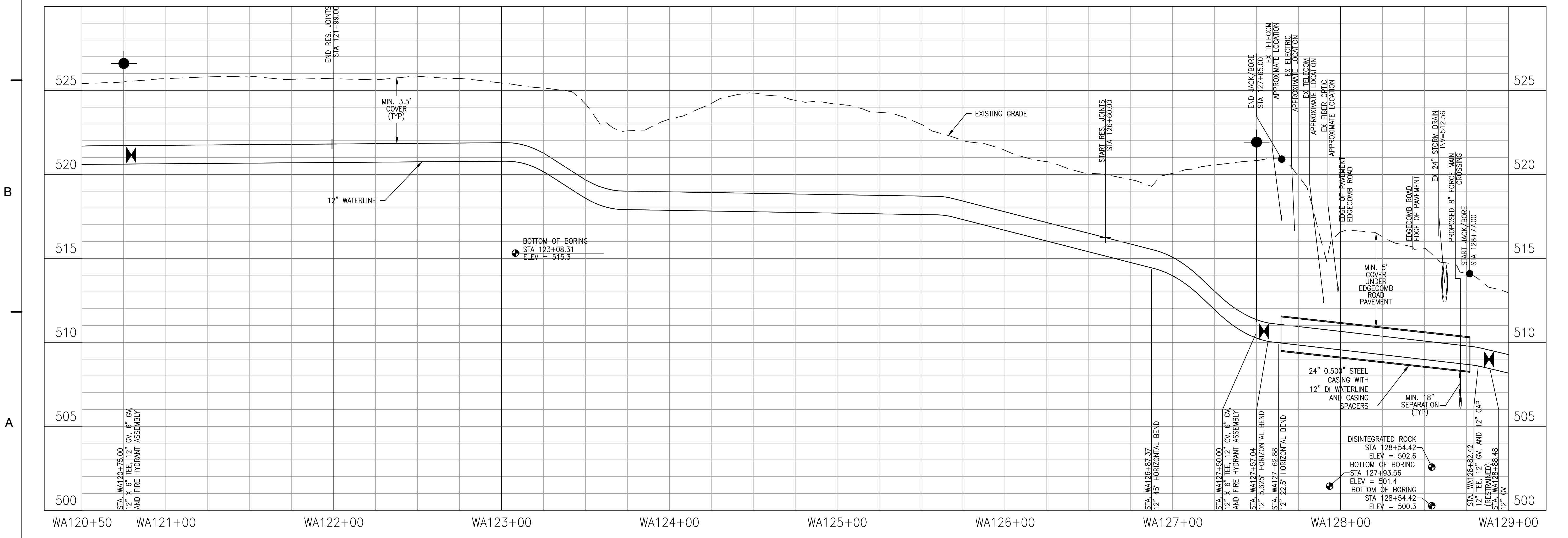
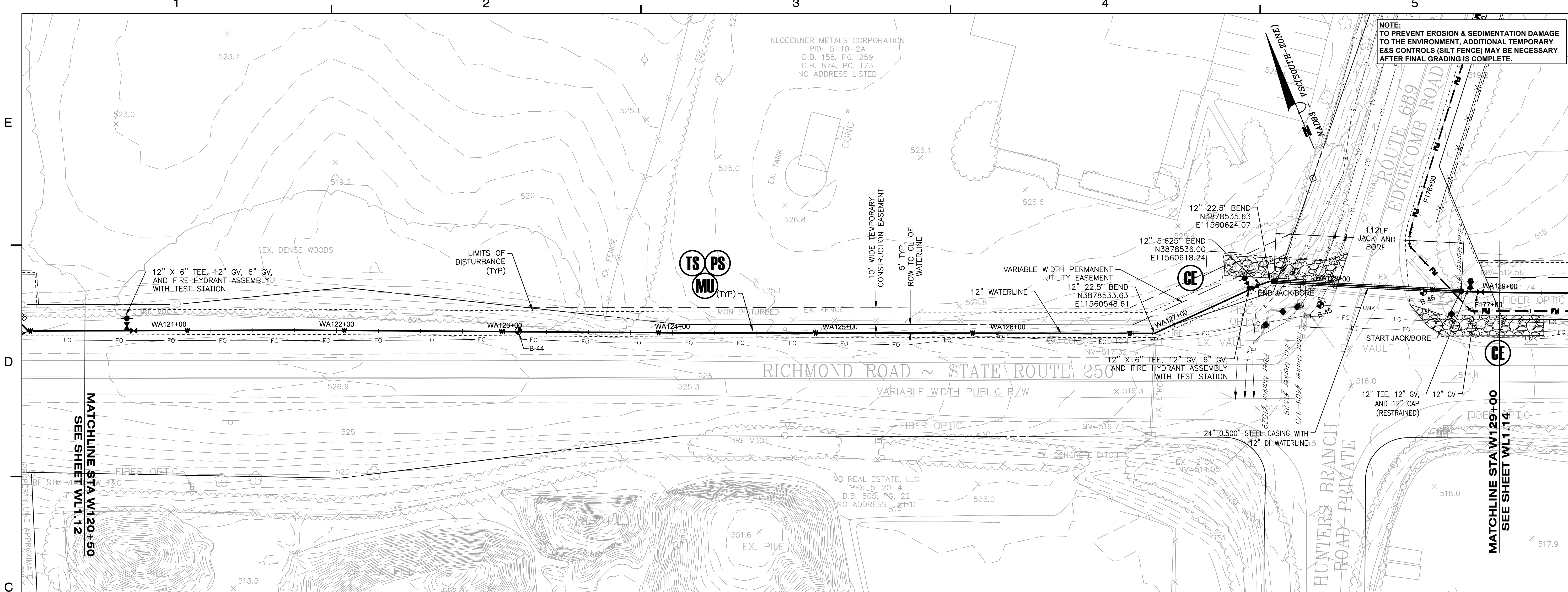
No.	DATE	BY	Description
REVISIONS			

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TITLE
**WATERLINE
 PLAN AND
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PROJECT NO. 50078861

WL1.11



NOTE:
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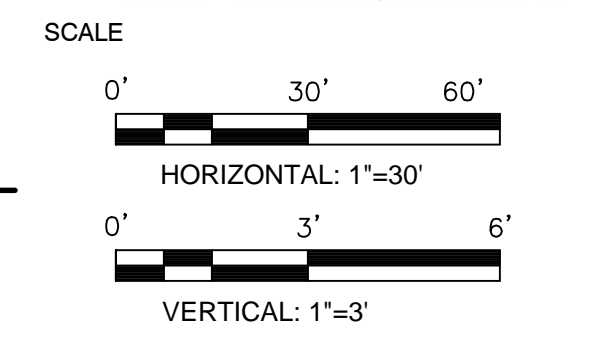
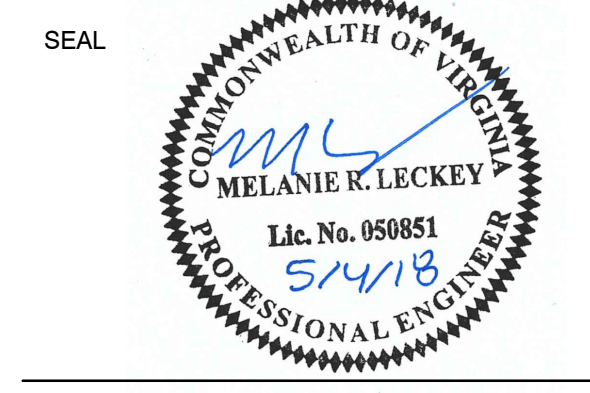
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KEY PLAN



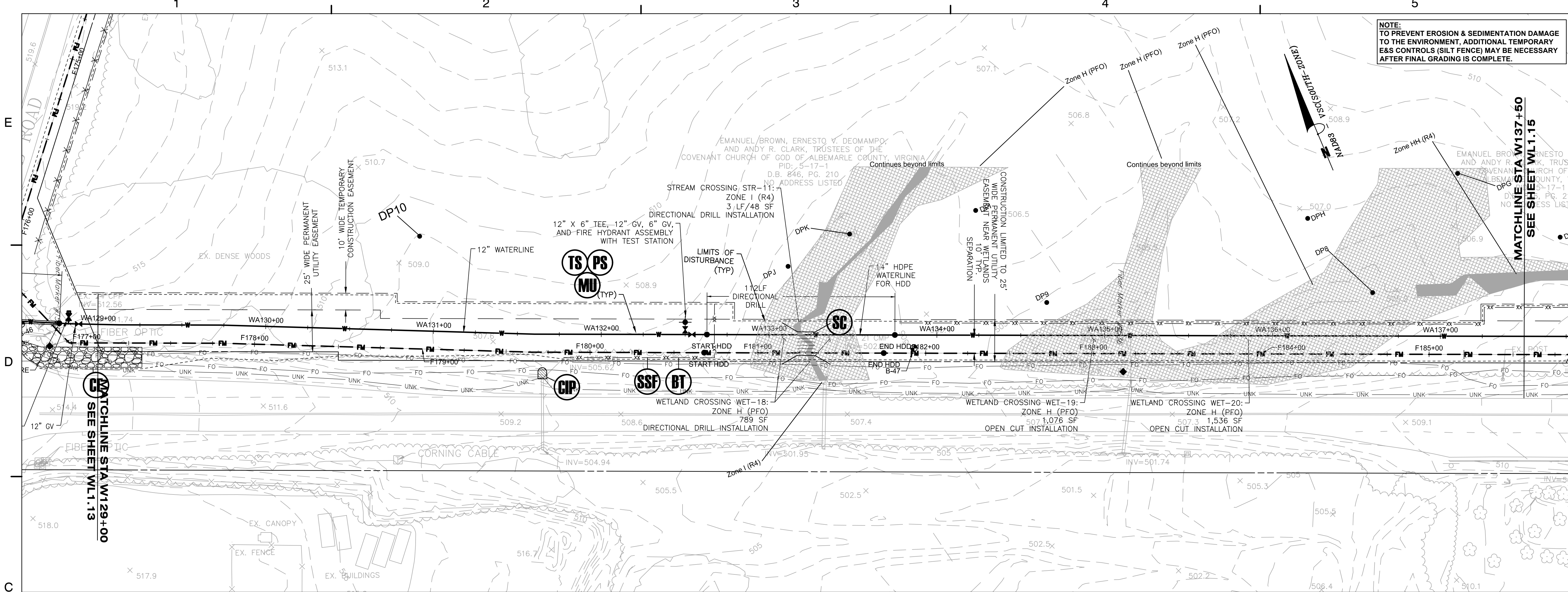
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PROJECT NO. 50078861

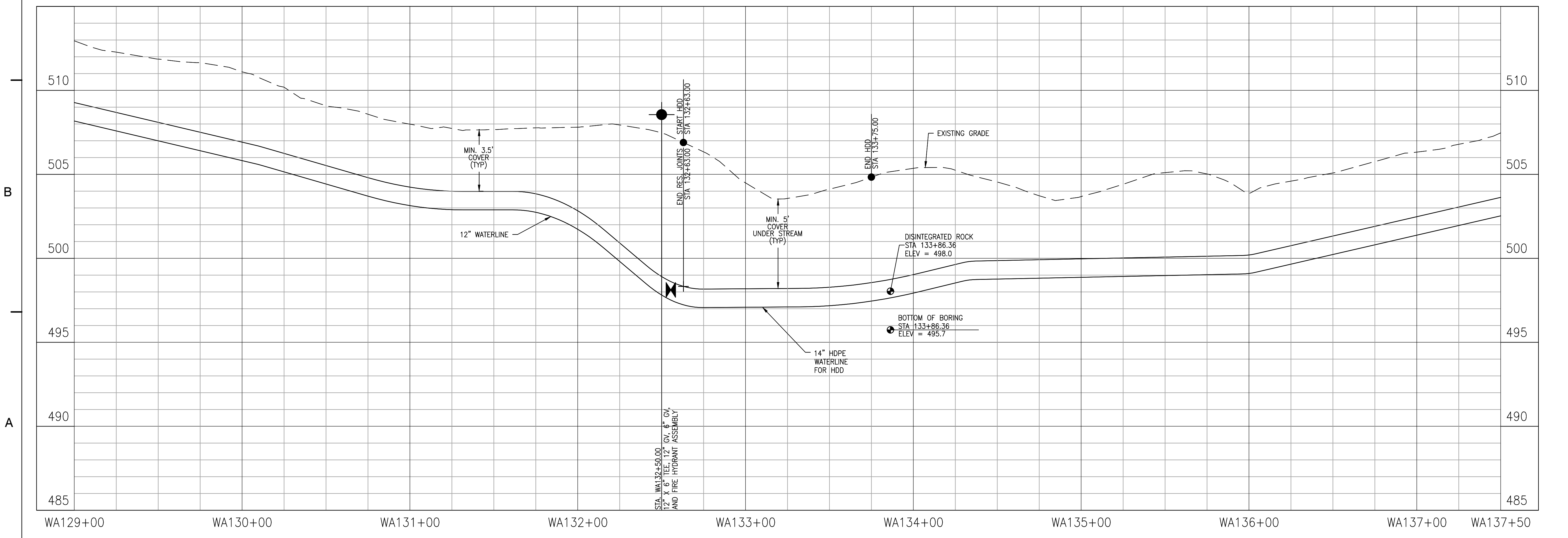
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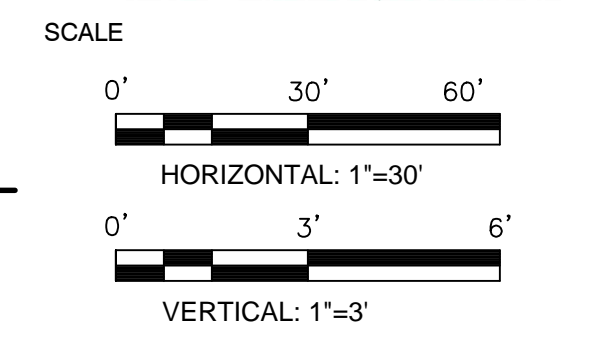
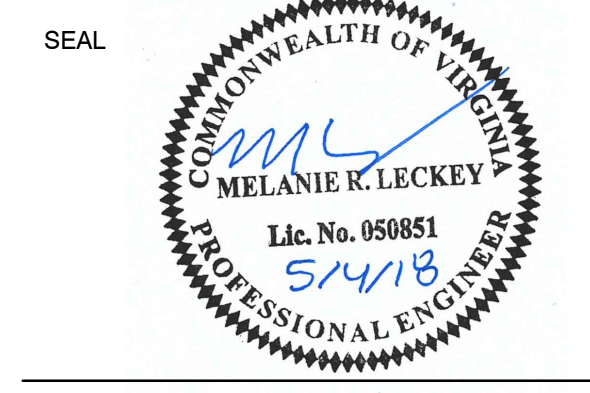
NOTE:
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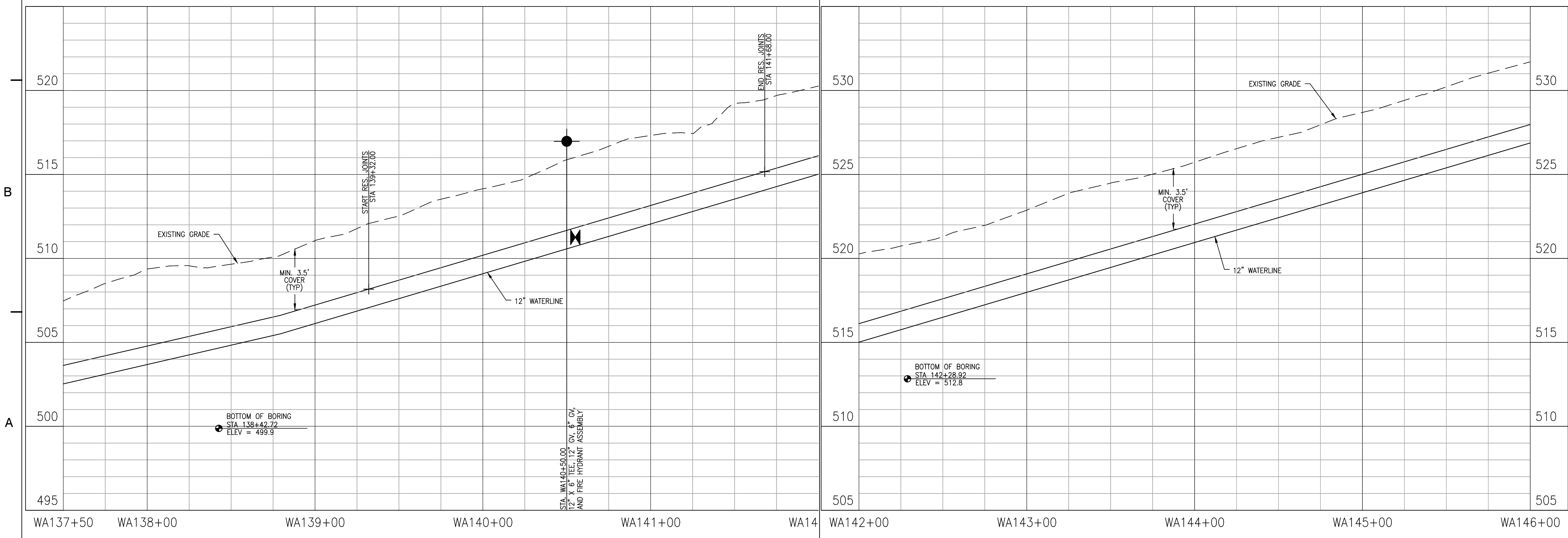
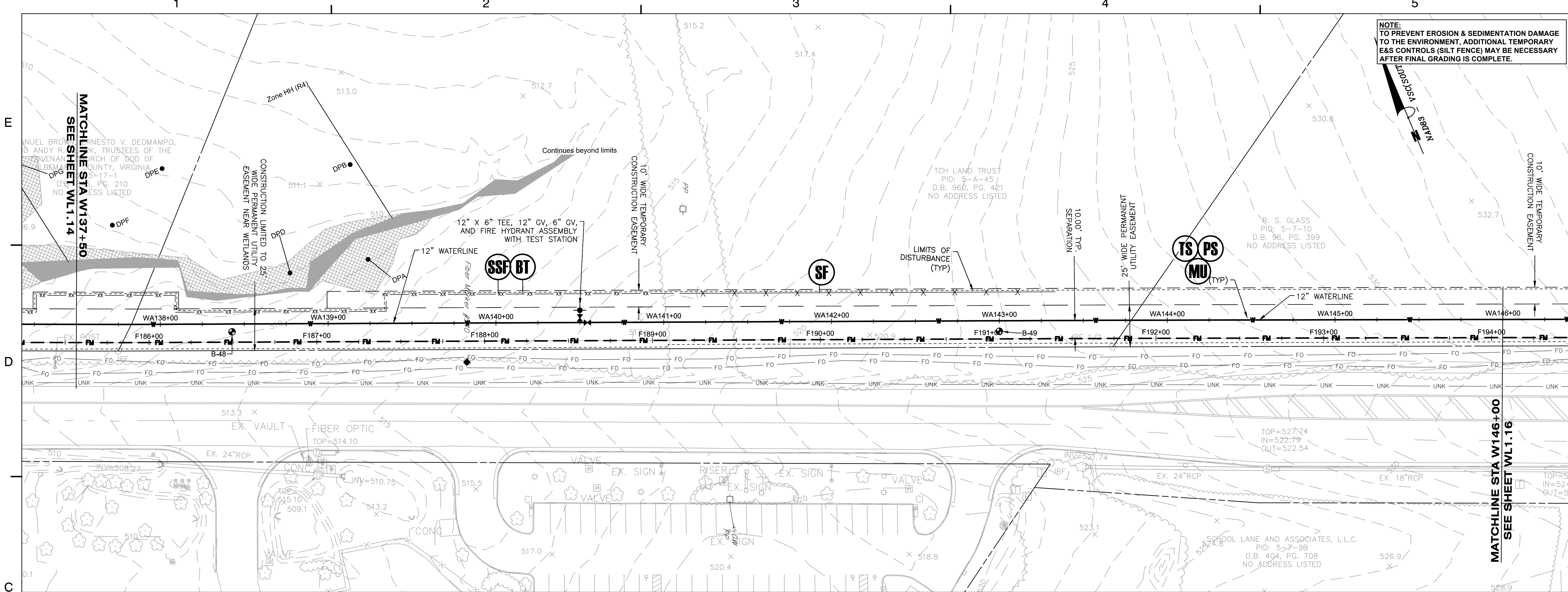
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DATE: MAY 2018

TITLE
**WATERLINE
PLAN AND
PROFILE**

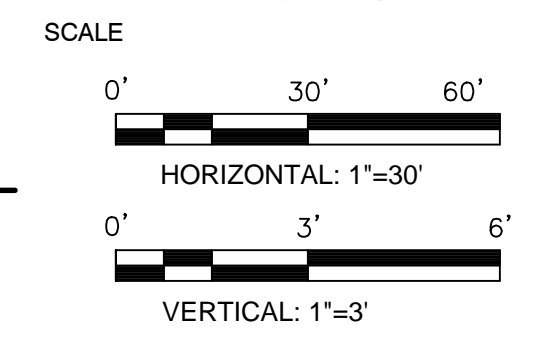
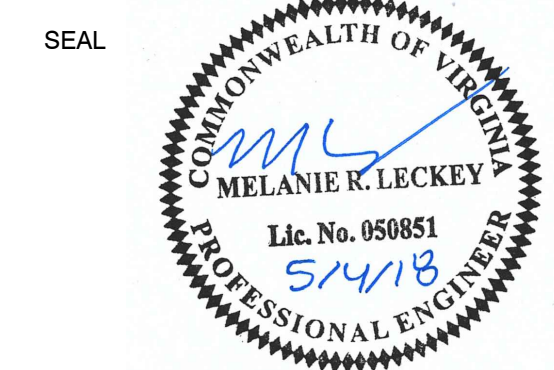
PROJECT NO. 50078861

WL1.14

NOTE:
 TO PREVENT EROSION & SEDIMENTATION DAMAGE
 TO THE ENVIRONMENT, ADDITIONAL TEMPORARY
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KEY PLAN



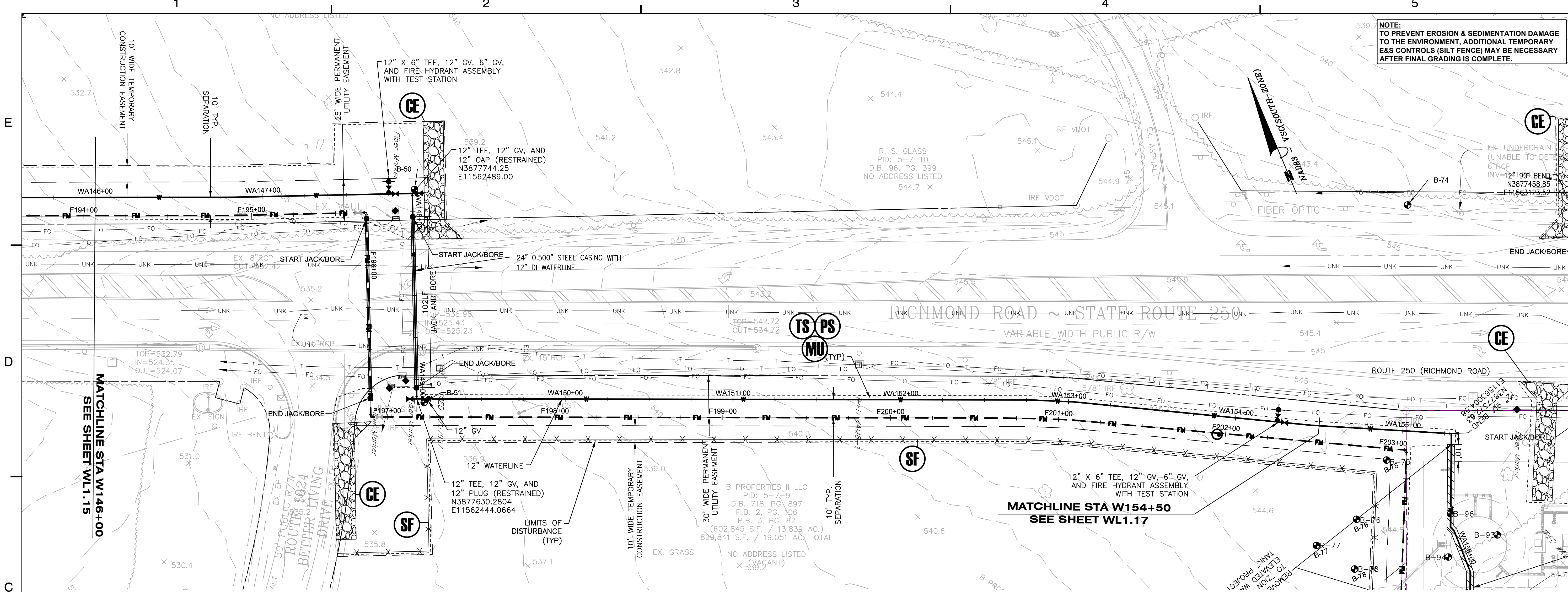
No.	DATE	BY	Description
REVISIONS			

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 APPROVED BY: MRL
 CHECKED BY: DAV
 DATE: MAY 2018

TITLE
**WATERLINE
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 PROFILE**

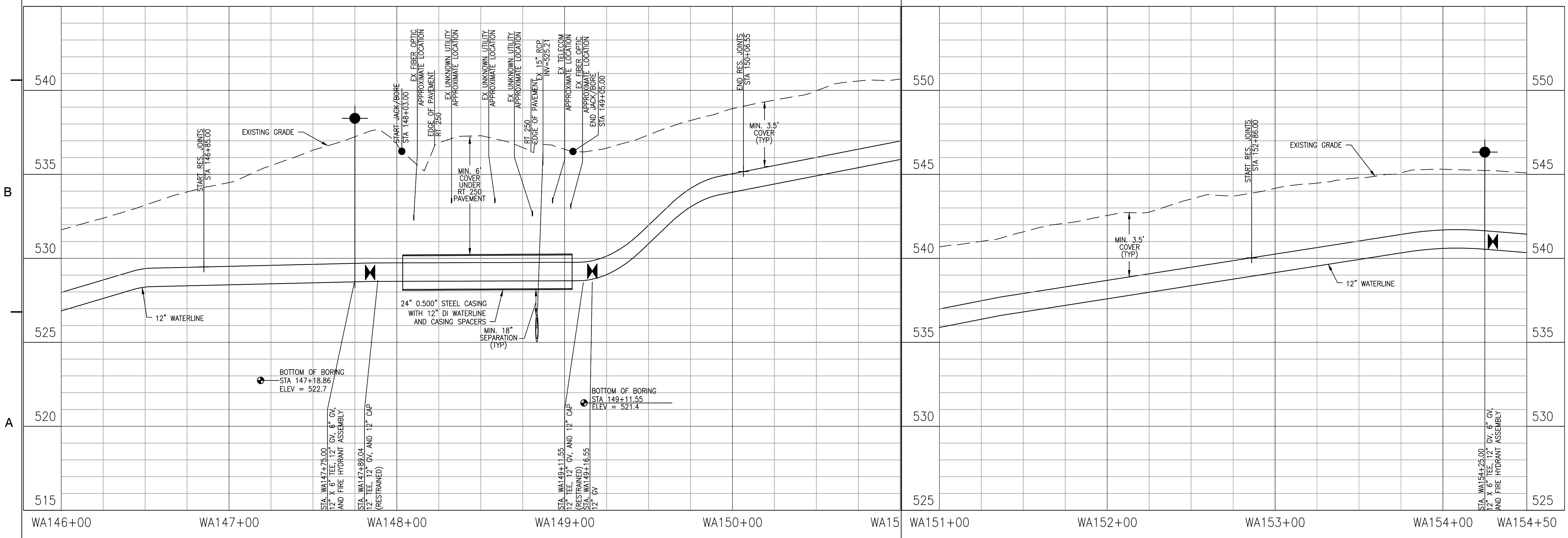
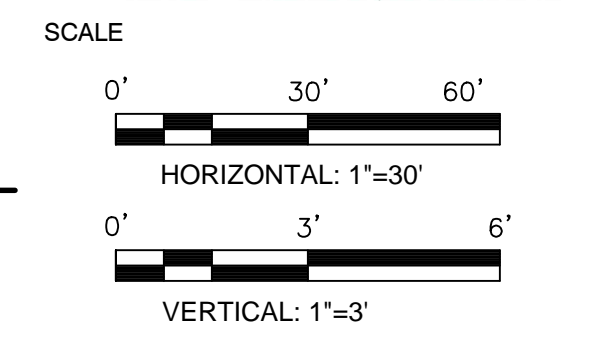
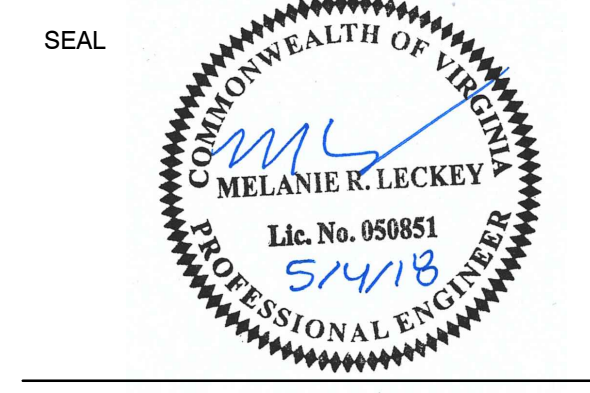
PROJECT NO. 50078861

WL1.15



NOTE:
 TO PREVENT EROSION & SEDIMENTATION DAMAGE
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KEY PLAN



No.	DATE	BY	Description
REVISIONS			

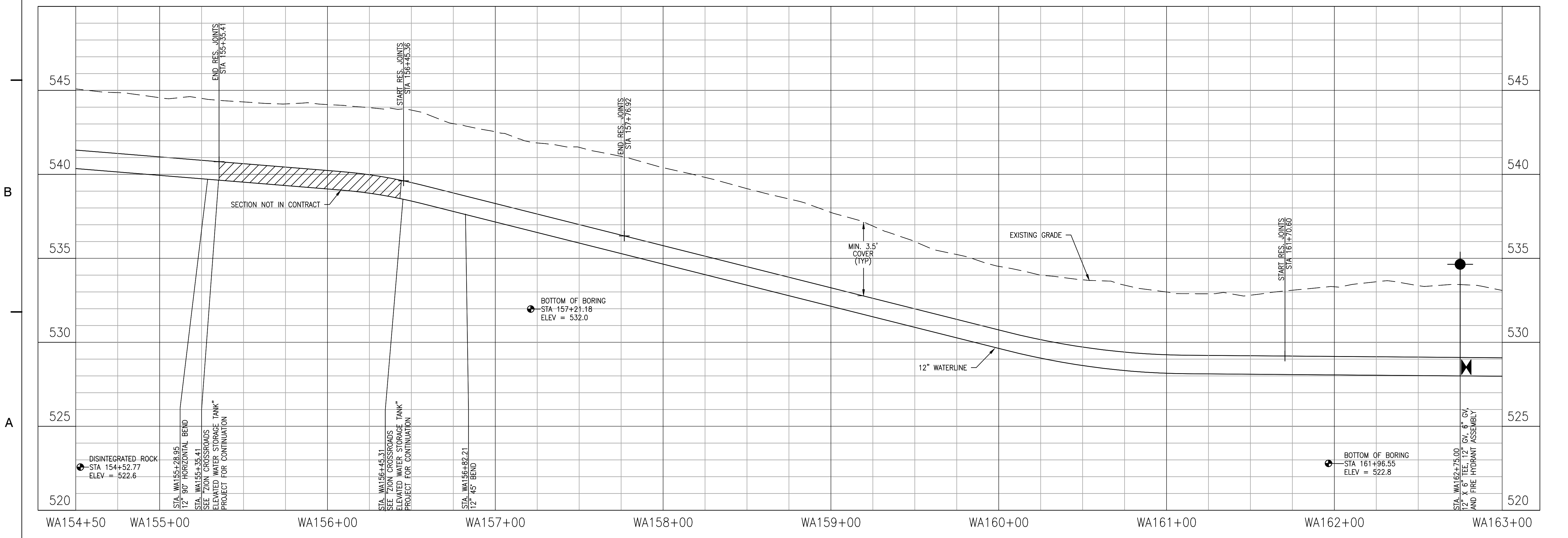
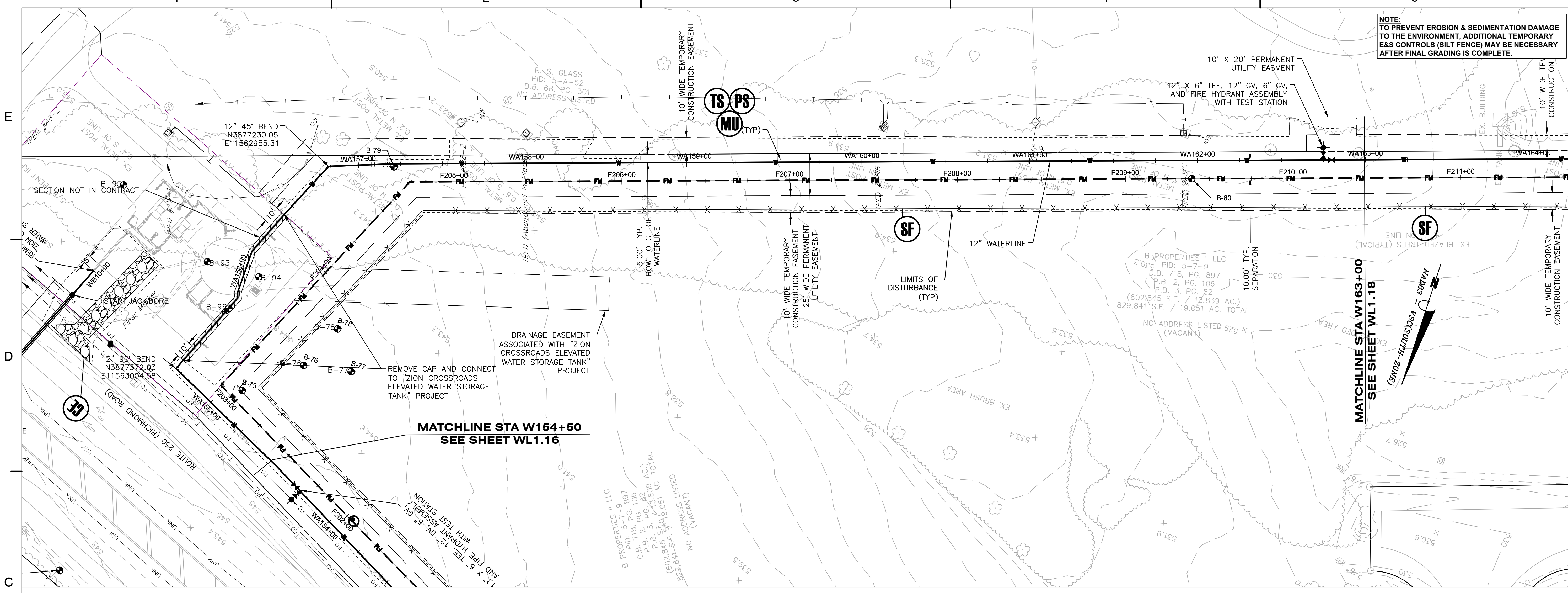
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TITLE
**WATERLINE
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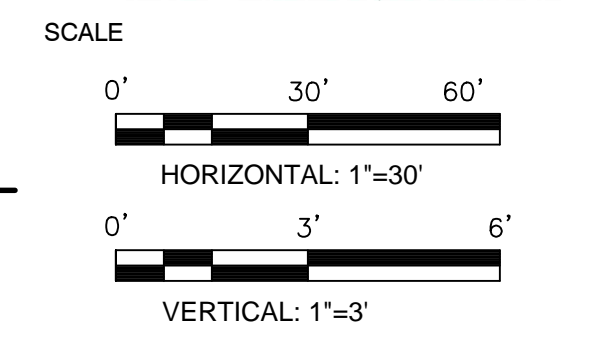
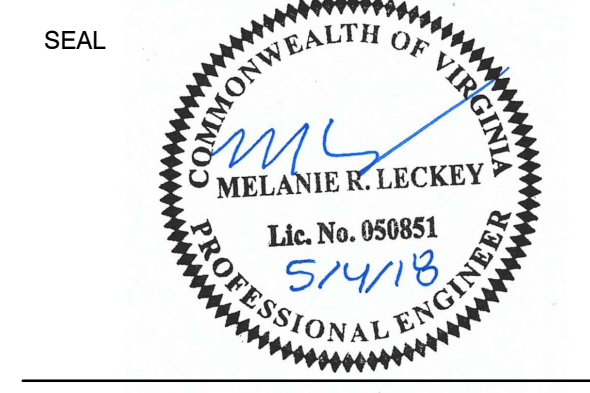
PROJECT NO. 50078861

WL1.16

NOTE:
 TO PREVENT EROSION & SEDIMENTATION DAMAGE
 TO THE ENVIRONMENT, ADDITIONAL TEMPORARY
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KEY PLAN



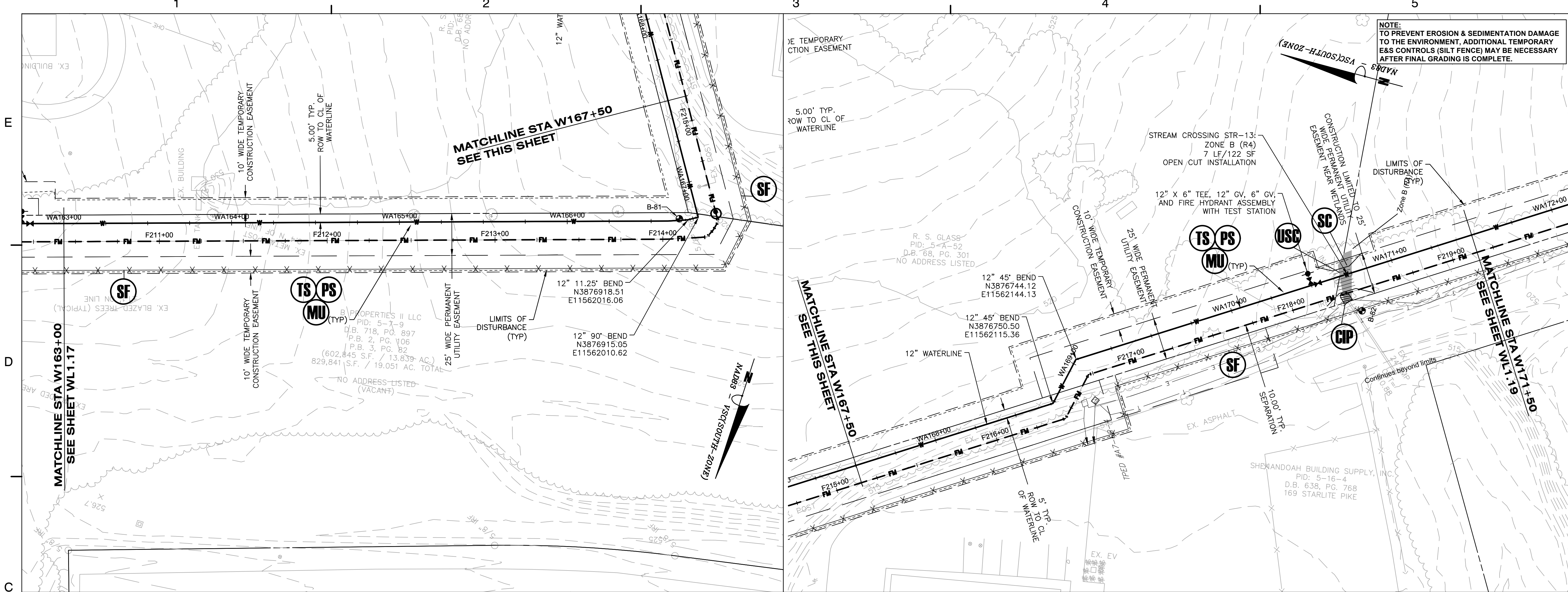
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REVISIONS			

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TITLE
**WATERLINE
 PLAN AND
 PROFILE**

PROJECT NO. 50078861

WL1.17

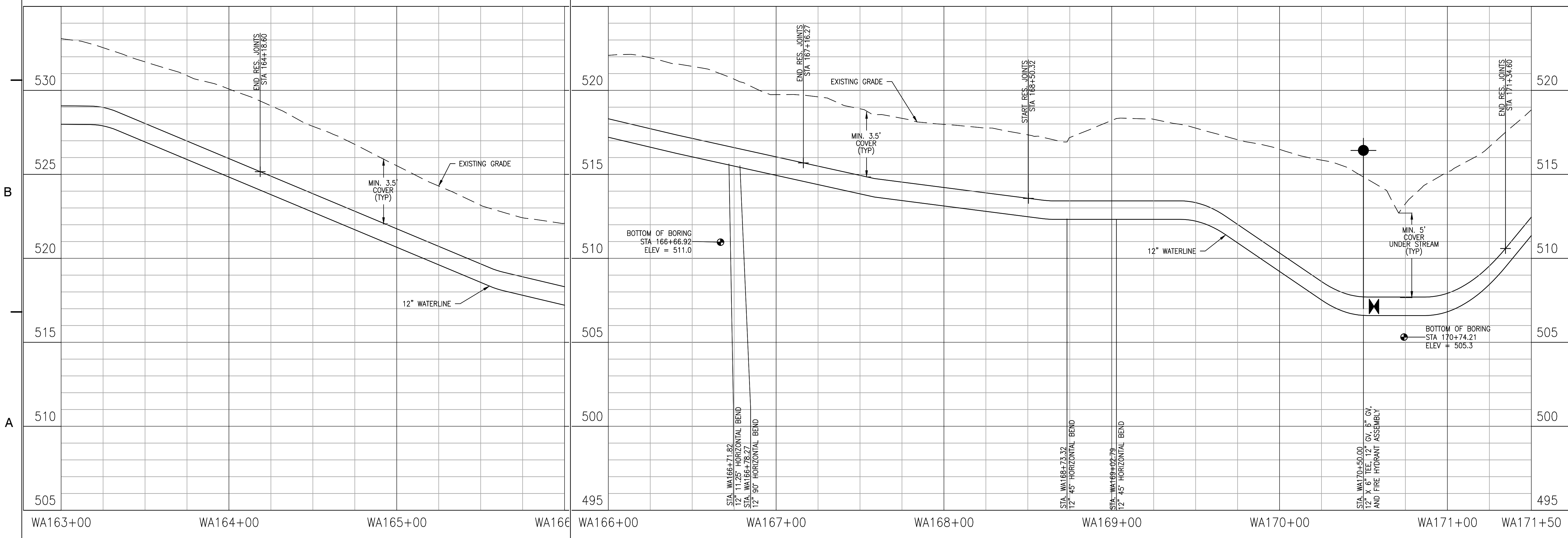
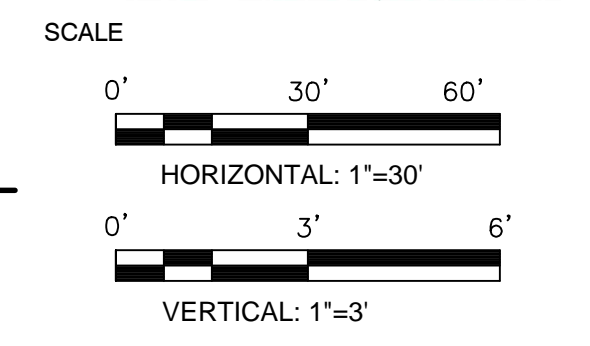
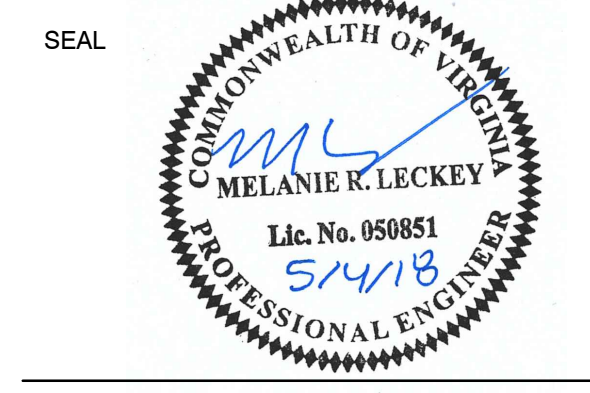


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NOTE:
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KEY PLAN



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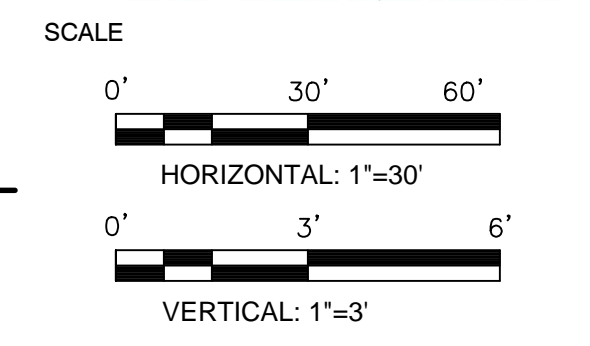
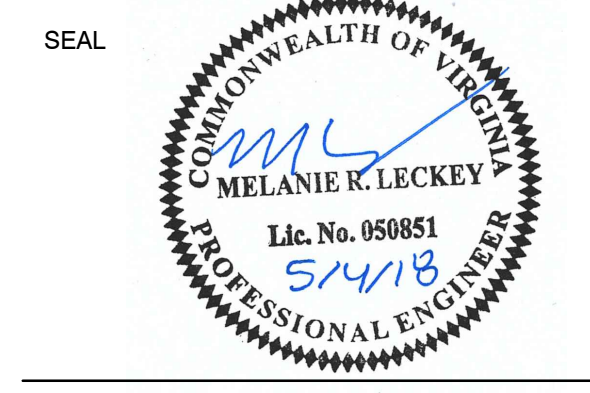
TITLE
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PROJECT NO. 50078861

WL1.18

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KEY PLAN



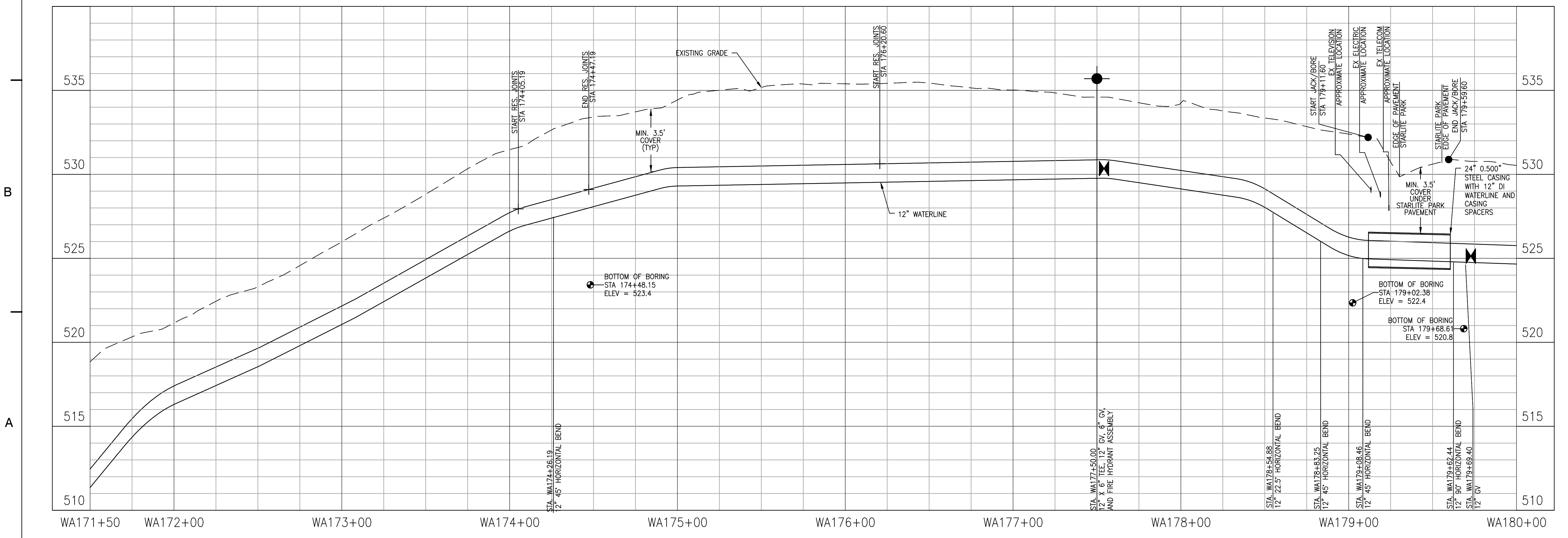
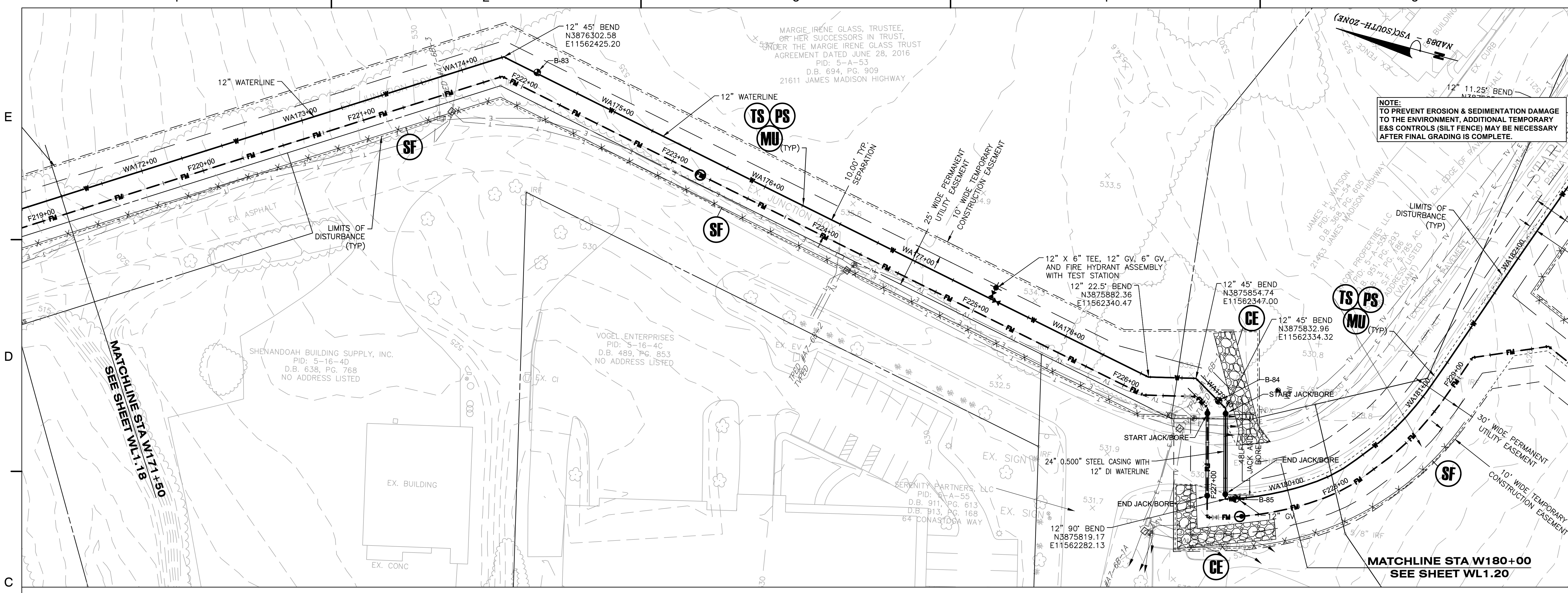
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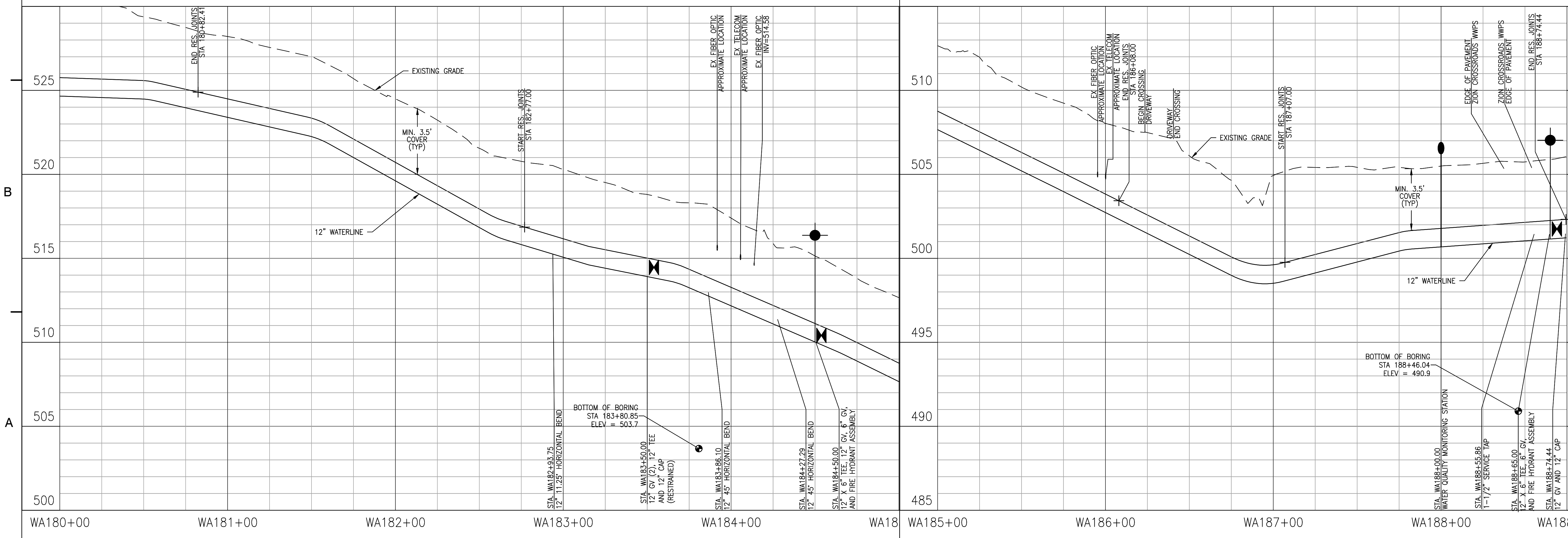
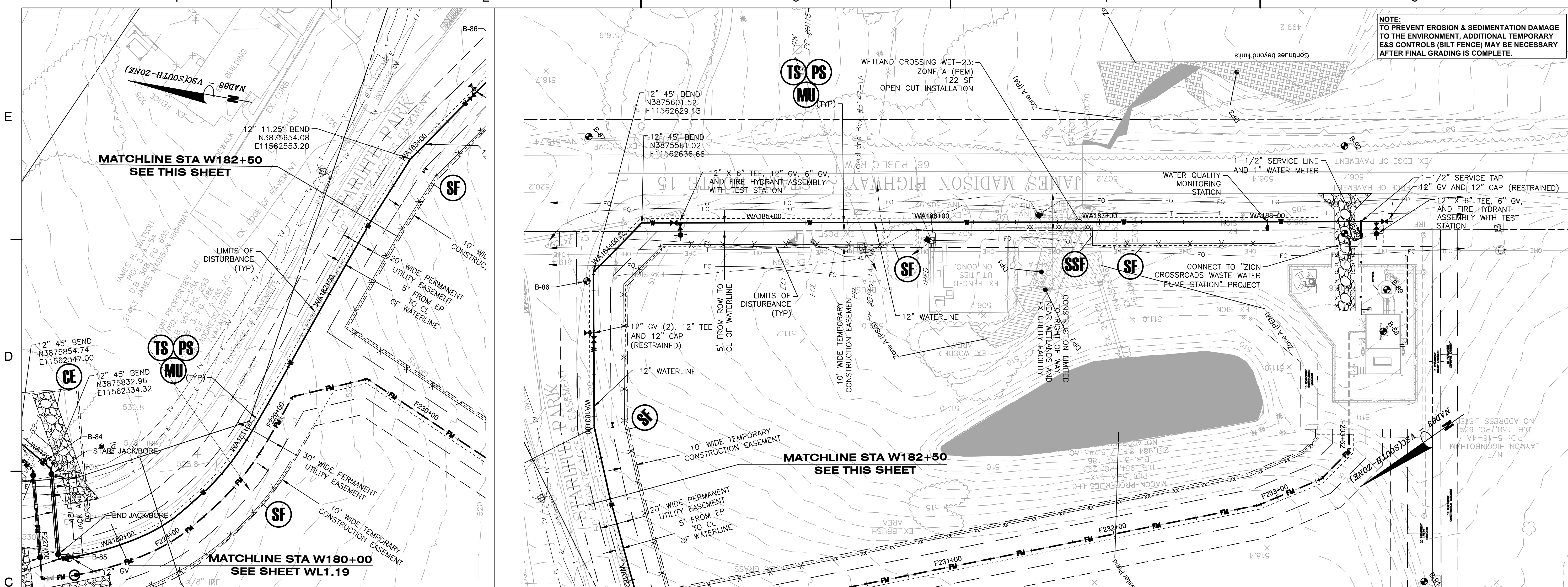
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**WATERLINE
 PLAN AND
 PROFILE**

PROJECT NO. 50078861

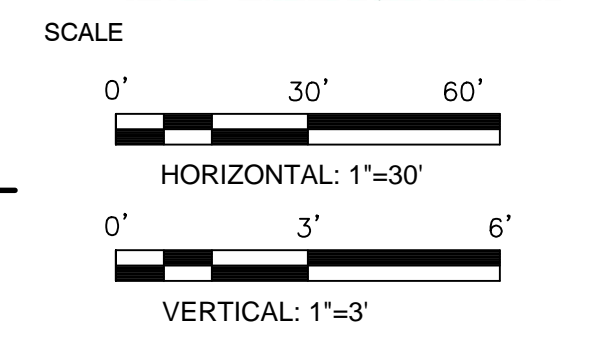
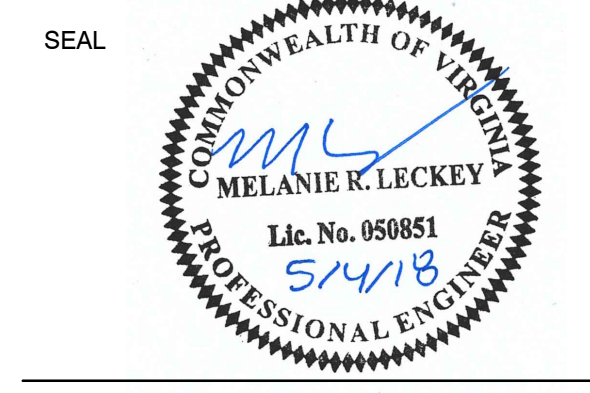
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NOTE:
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 TO THE ENVIRONMENT, ADDITIONAL TEMPORARY
 E&S CONTROLS (SILT FENCE) MAY BE NECESSARY
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KEY PLAN



No.	DATE	BY	Description
REVISIONS			

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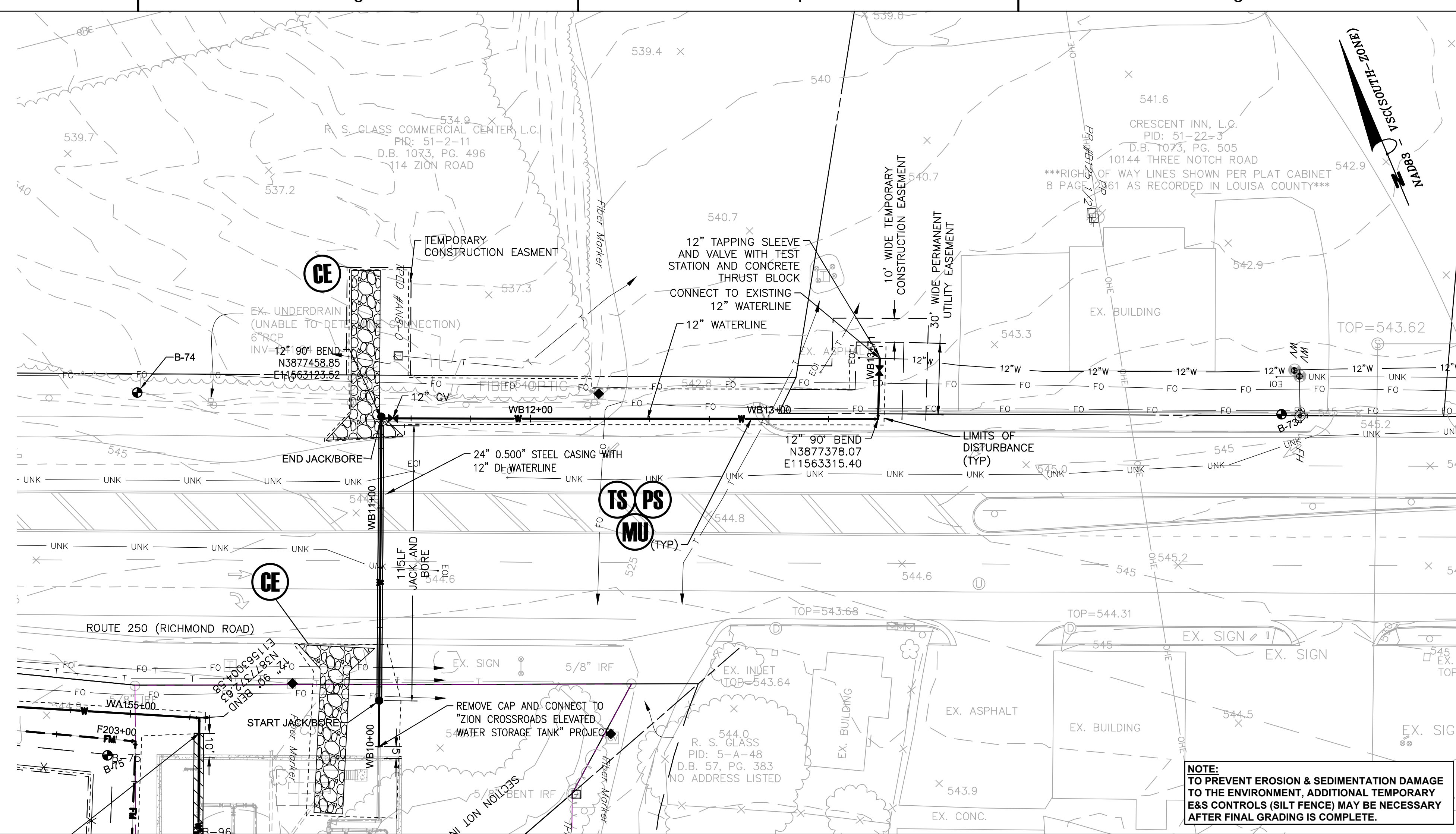
TITLE
**WATERLINE
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PROJECT NO. 50078861

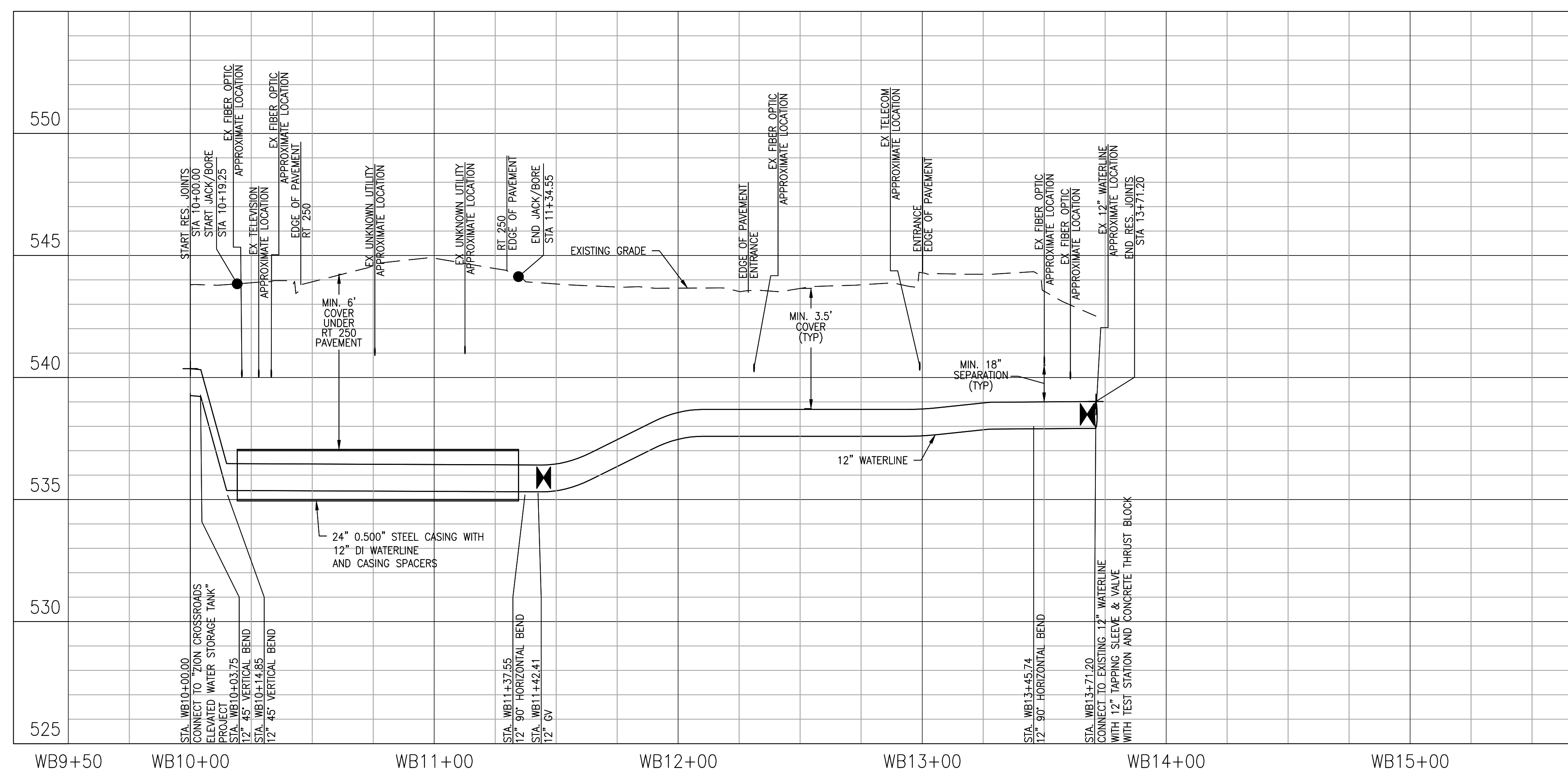
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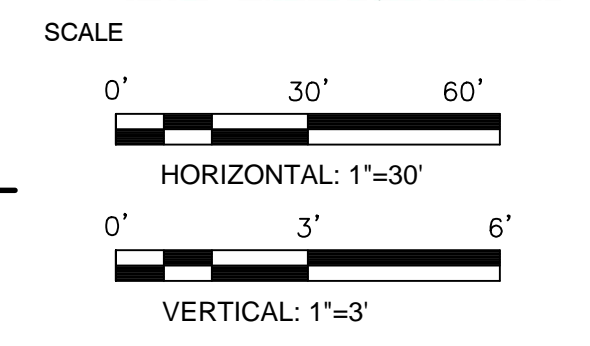
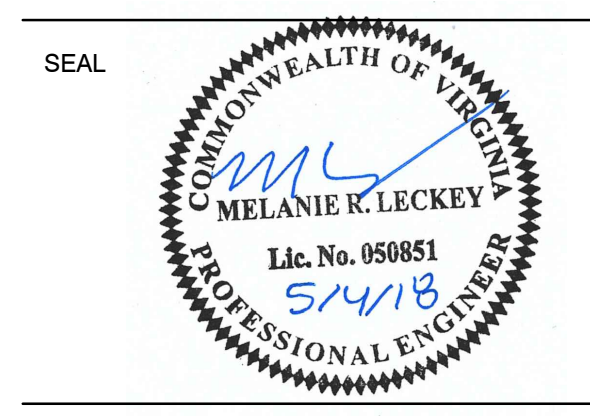


NOTE:
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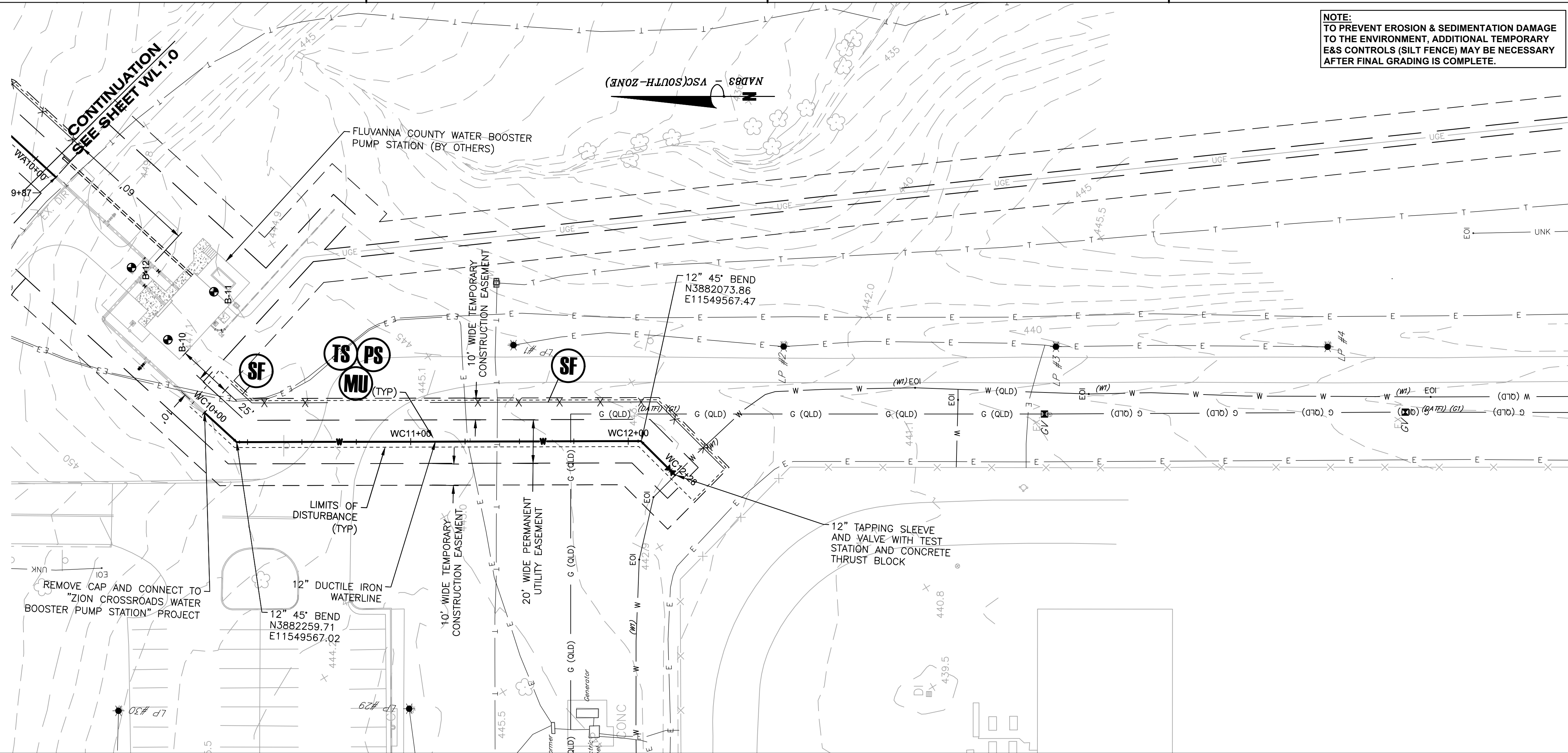
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DATE: MAY 2018

TITLE
**WATERLINE
PLAN AND
PROFILE**

PROJECT NO. 50078861

WL1.21

NOTE:
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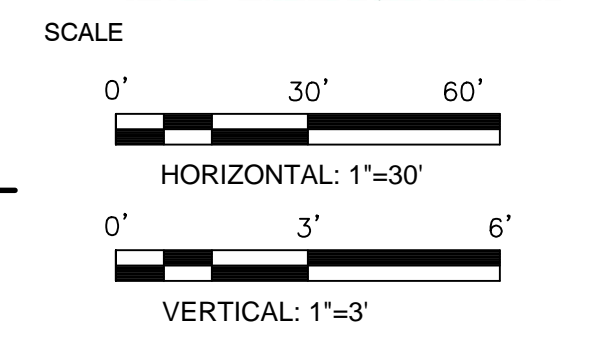
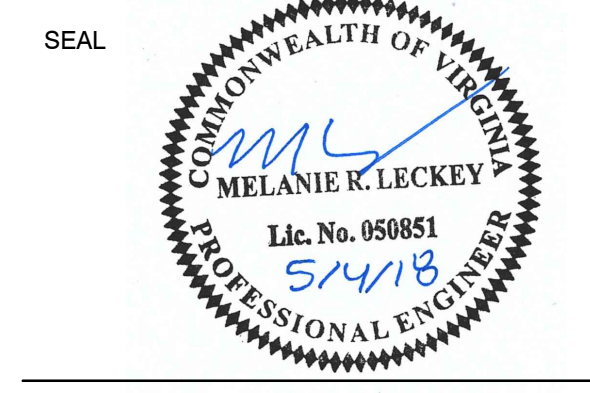
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FLUVANNA COUNTY
DEPARTMENT OF PUBLIC WORKS
FLUVANNA COUNTY, VA

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KEY PLAN



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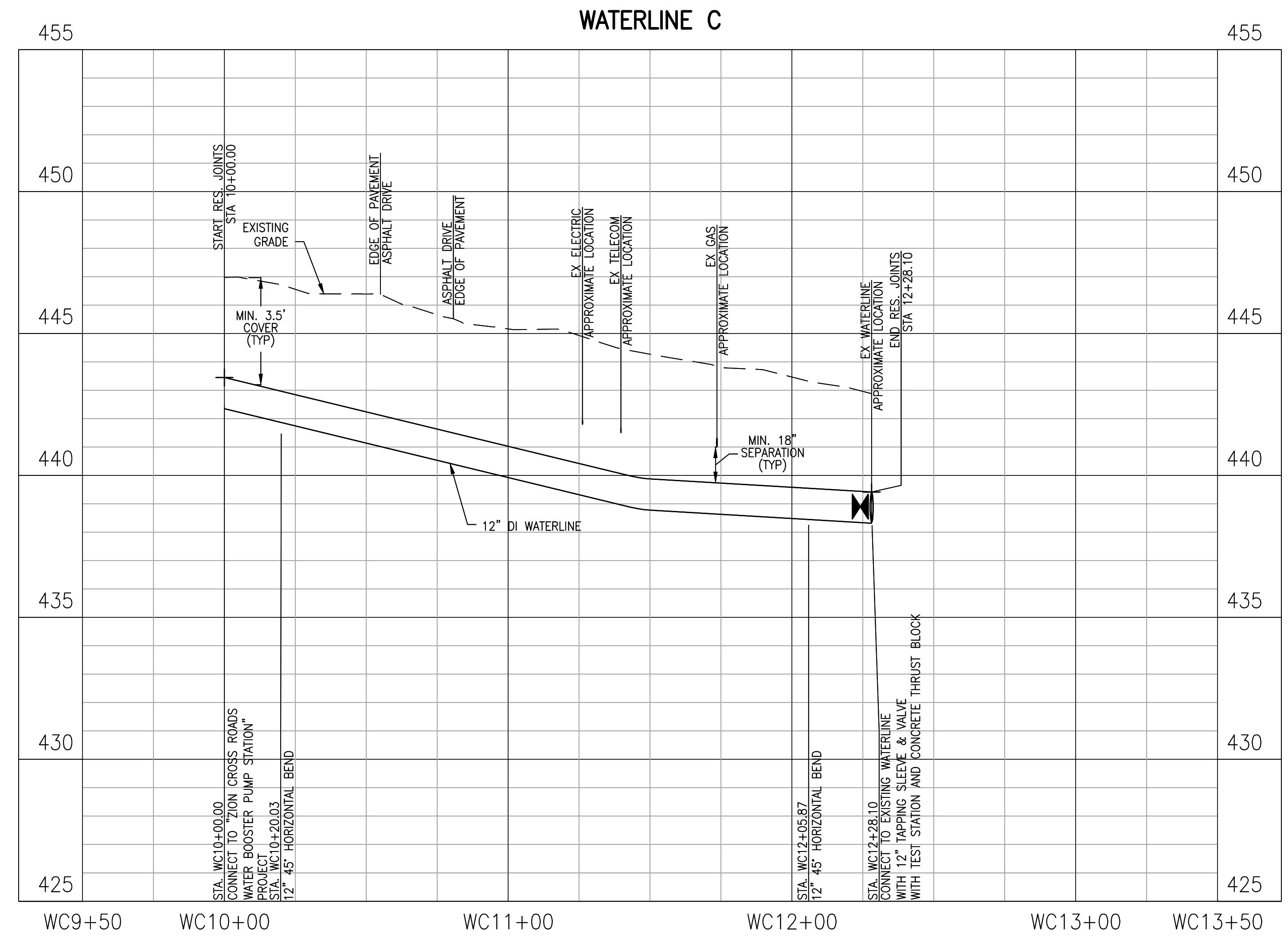


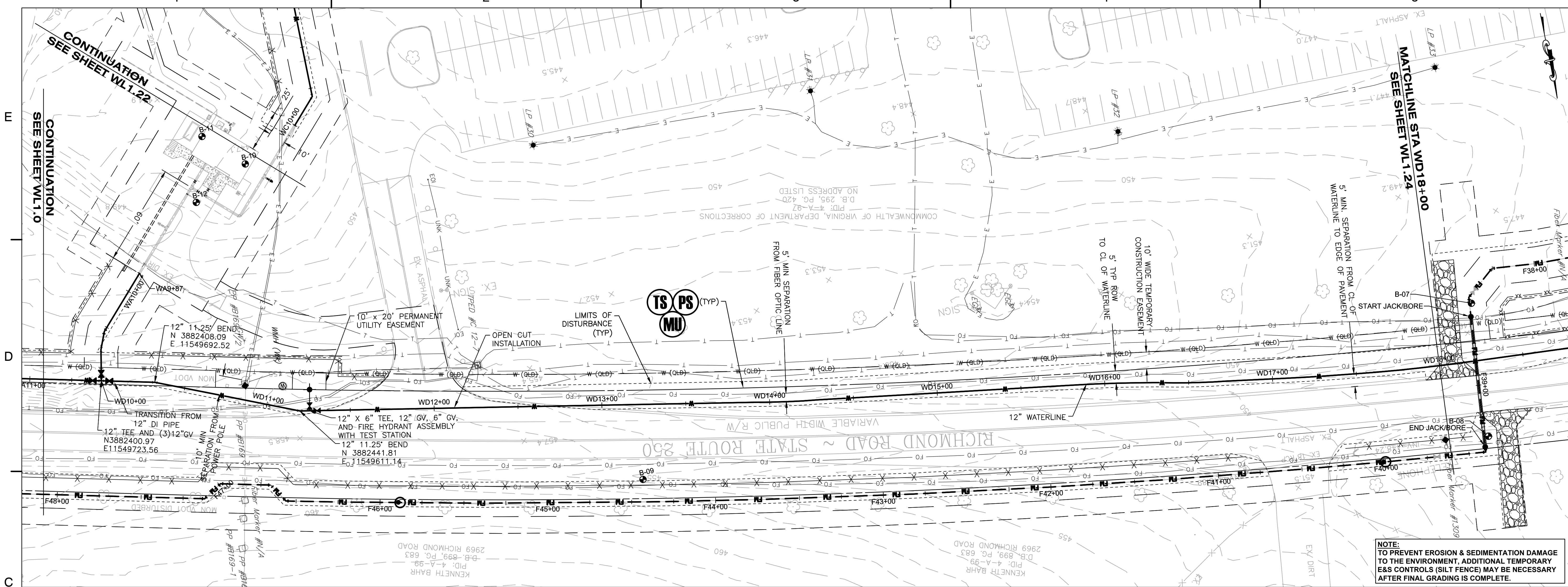
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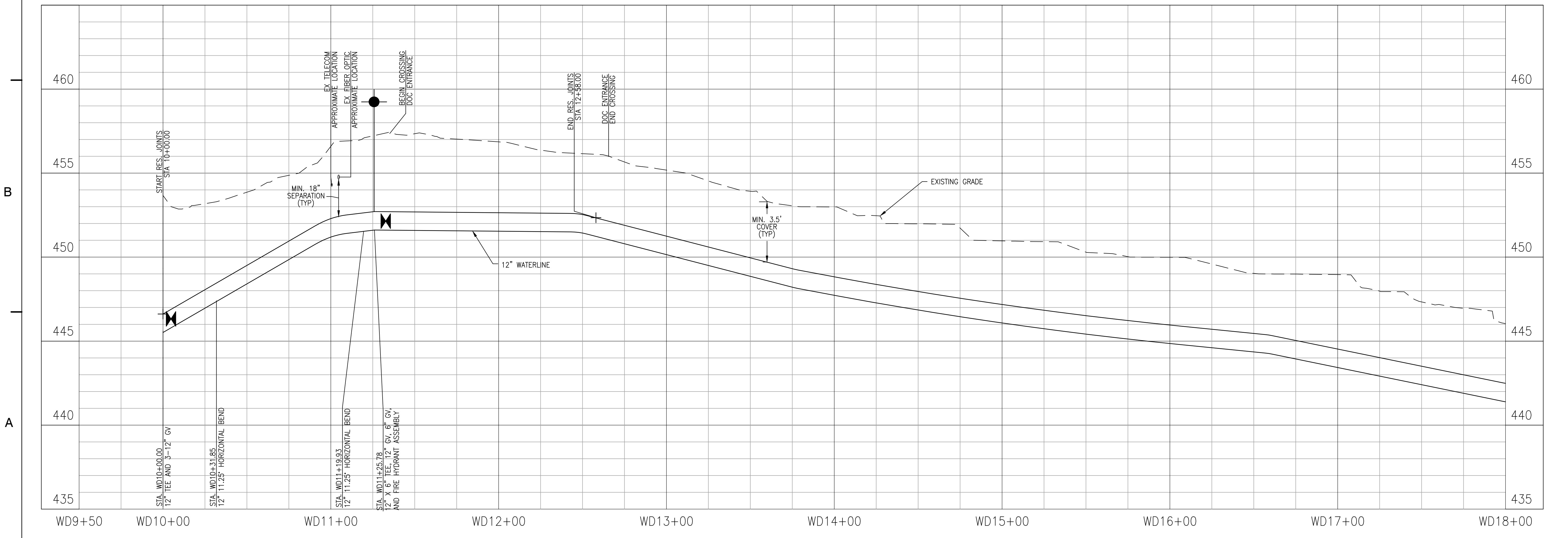
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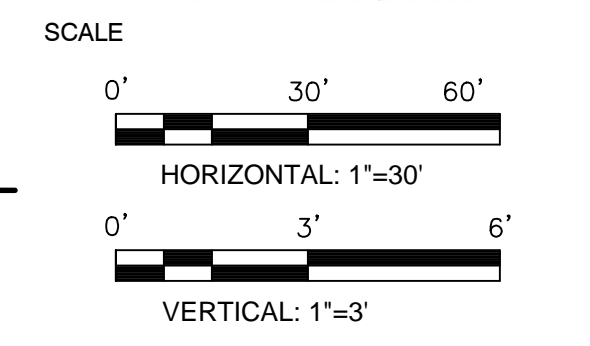
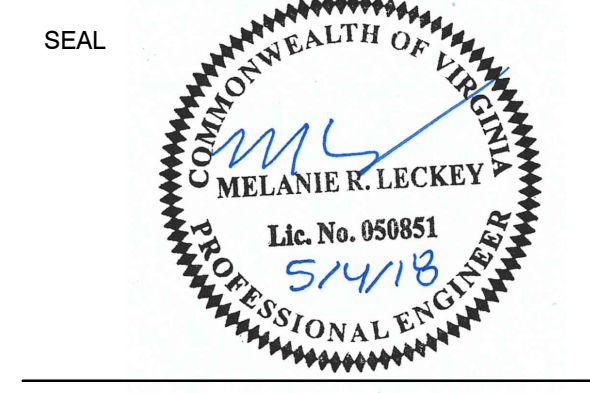
WL1.22



NOTE:
 TO PREVENT EROSION & SEDIMENTATION DAMAGE TO THE ENVIRONMENT, ADDITIONAL TEMPORARY E&S CONTROLS (SILT FENCE) MAY BE NECESSARY AFTER FINAL GRADING IS COMPLETE.



KEY PLAN



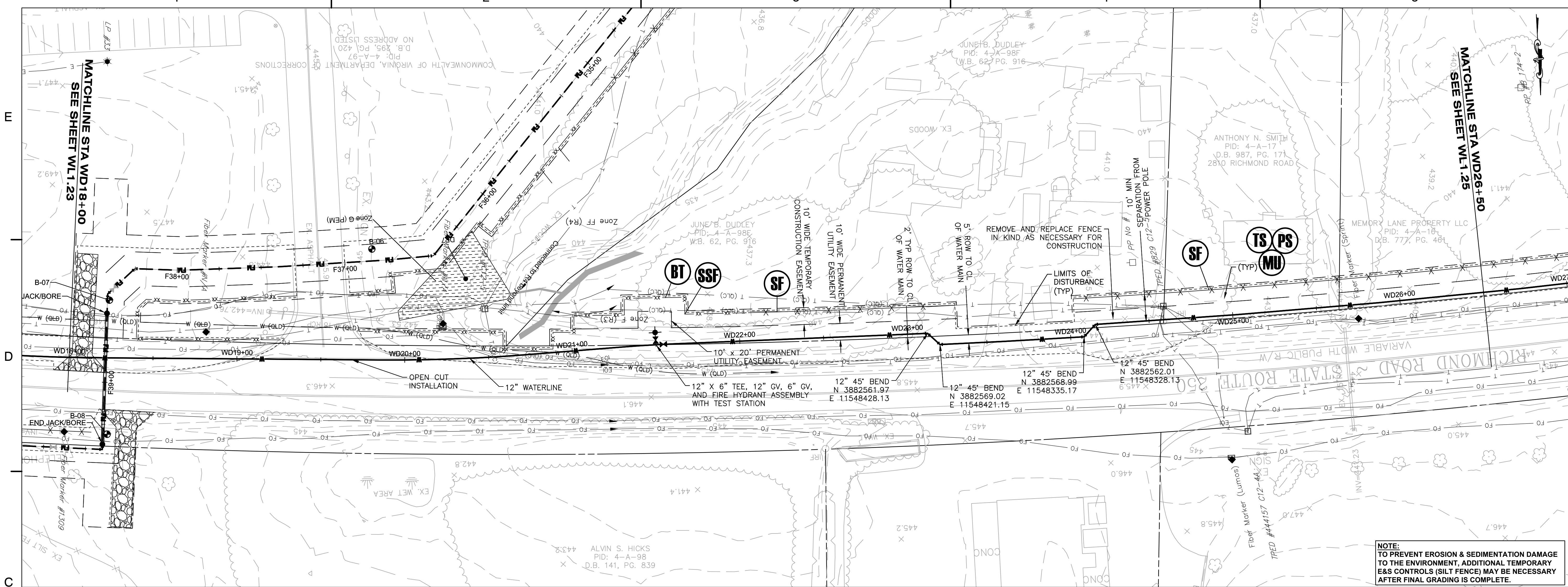
No.	DATE	BY	Description
REVISIONS			

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 CHECKED BY: DAV
 DATE: MAY 2018

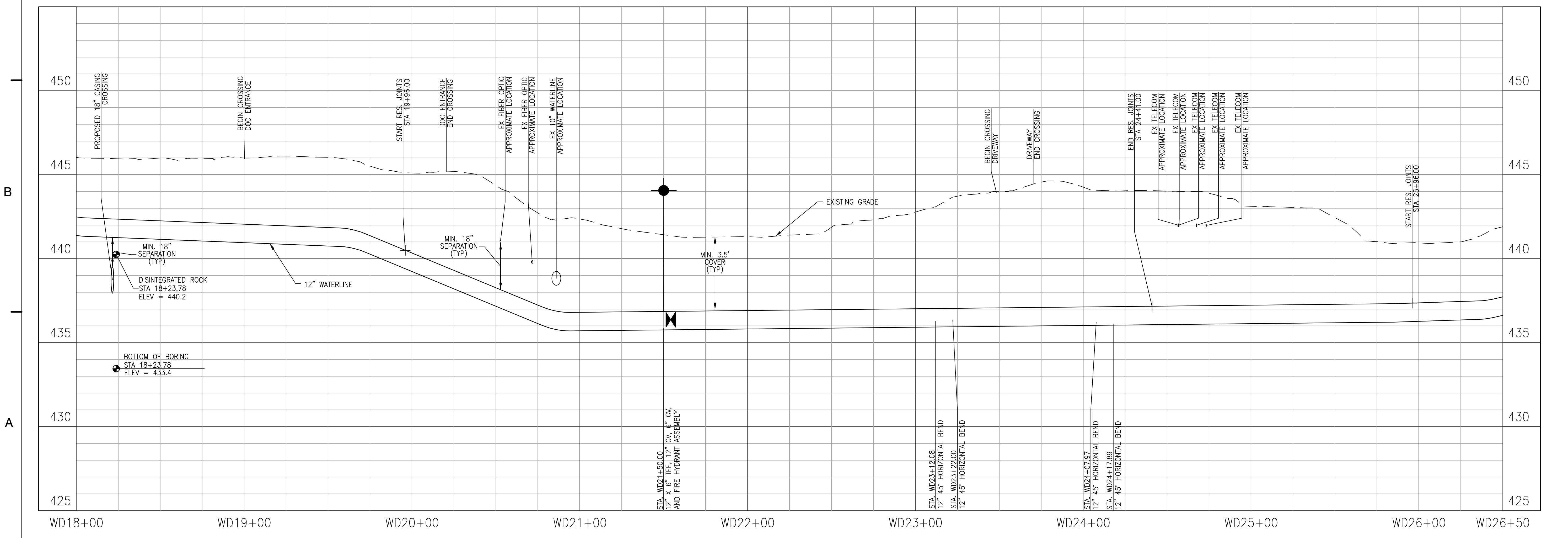
TITLE
**WATERLINE
 PLAN AND
 PROFILE**

PROJECT NO. 50078861

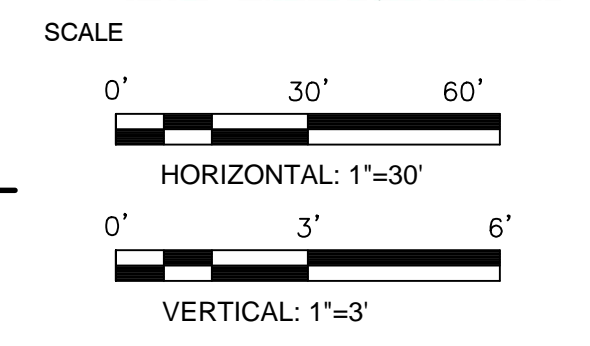
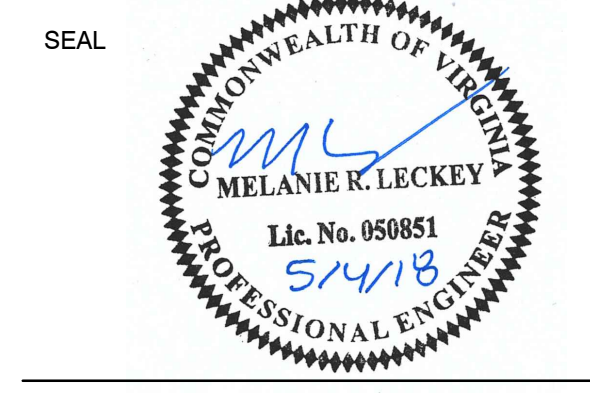
WL1.23



NOTE:
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KEY PLAN



No.	DATE	BY	Description

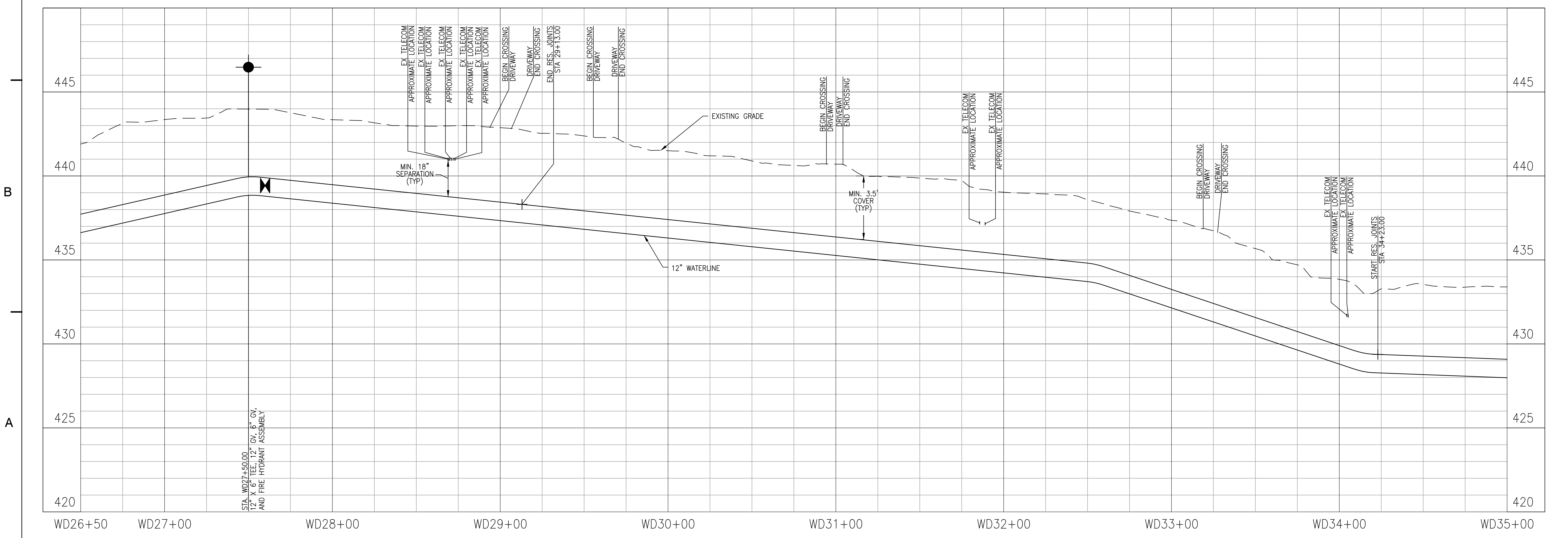
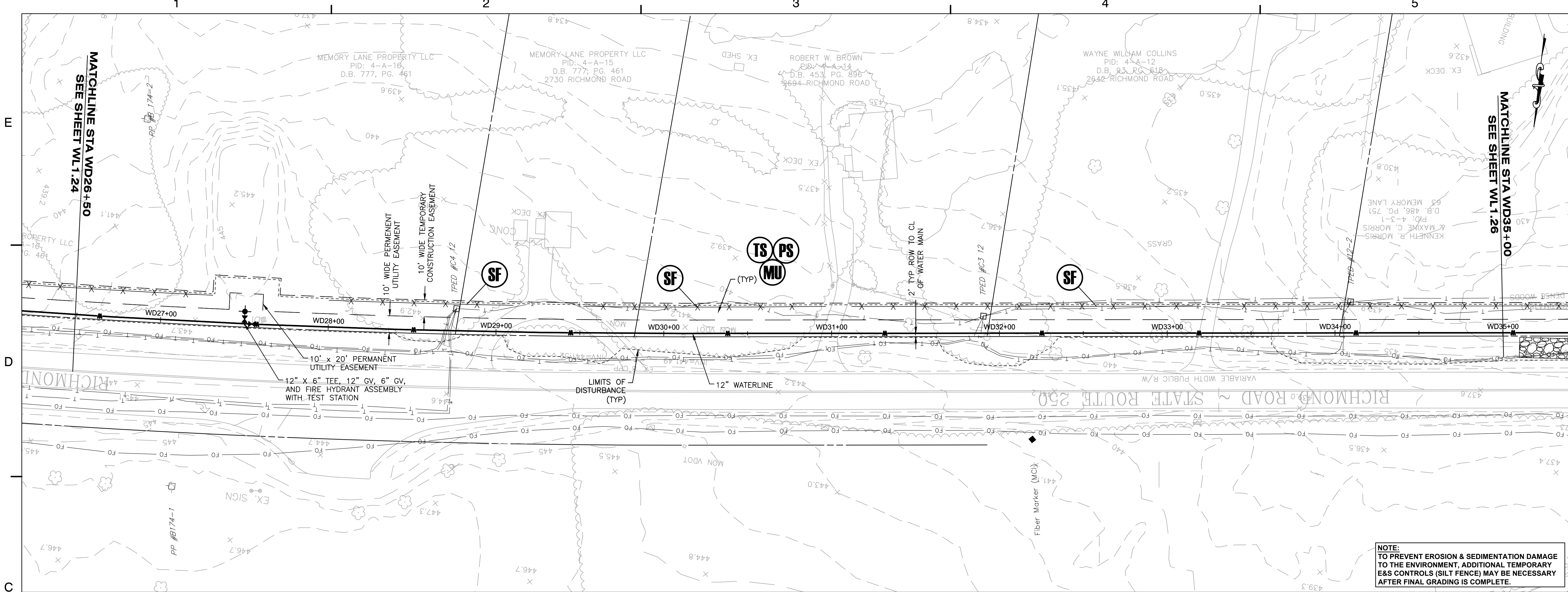
REVISIONS

DRAWN BY: JEH
 APPROVED BY: MRL
 CHECKED BY: DAV
 DATE: MAY 2018

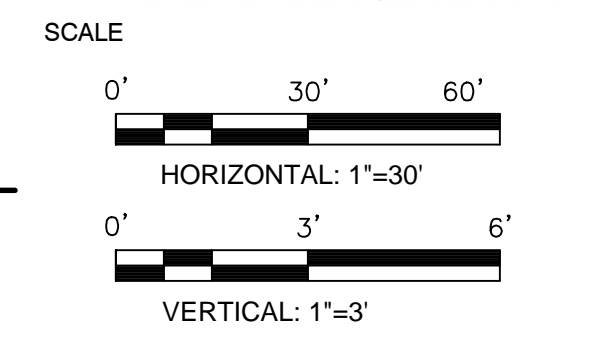
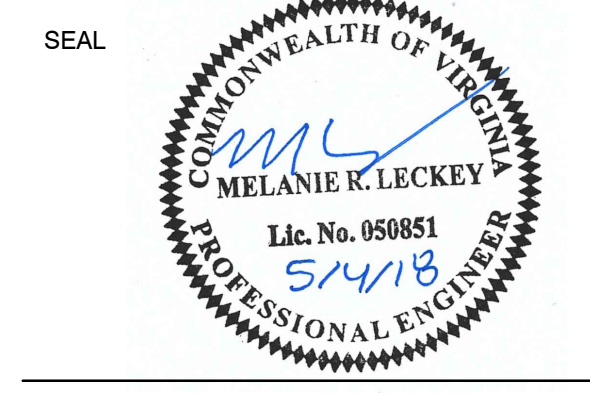
TITLE
**WATERLINE
 PLAN AND
 PROFILE**

PROJECT NO. 50078861

WL1.24



KEY PLAN



No.	DATE	BY	Description
REVISIONS			

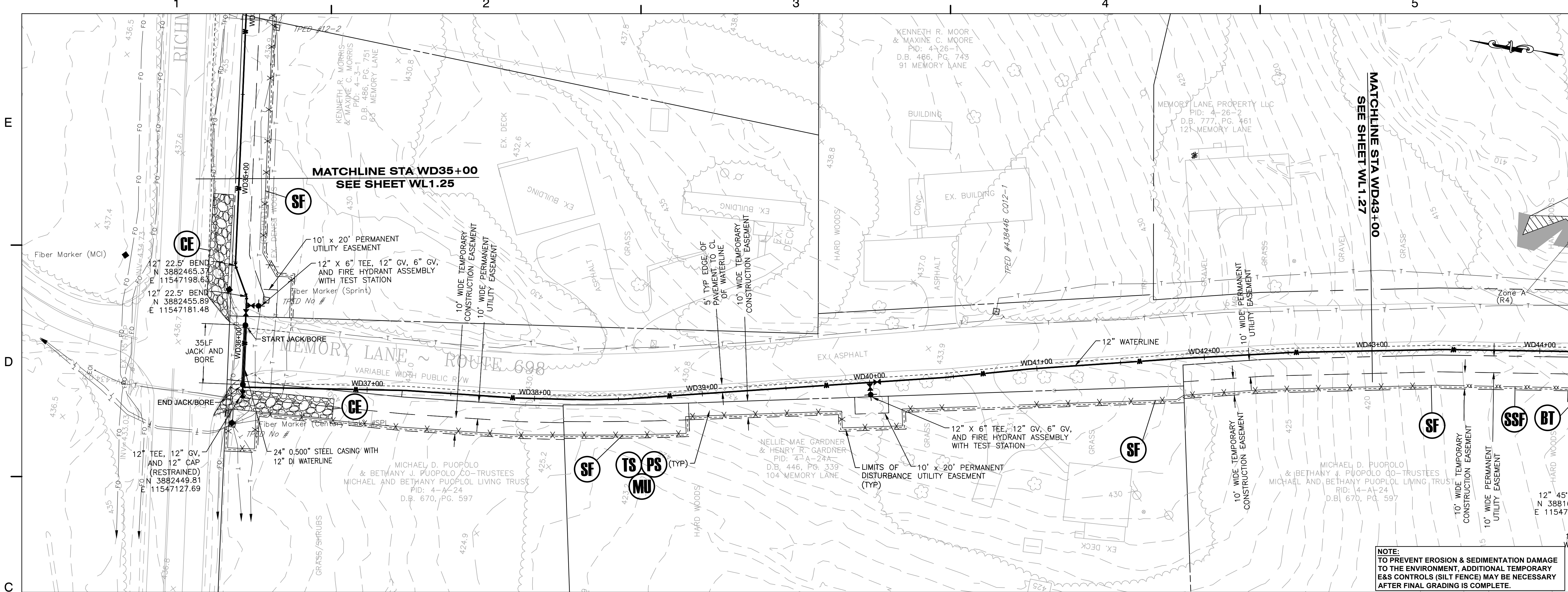
DRAWN BY: JEH
 APPROVED BY: MRL
 CHECKED BY: DAV
 DATE: MAY 2018

TITLE
**WATERLINE
 PLAN AND
 PROFILE**

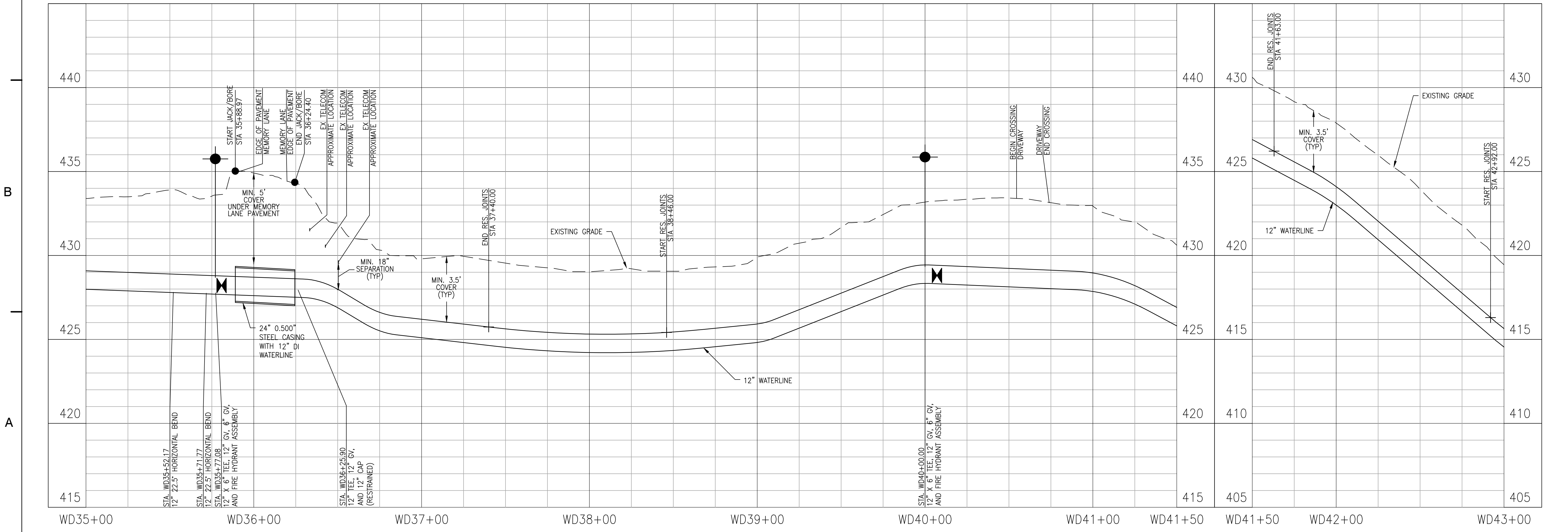
PROJECT NO. 50078861

WL1.25

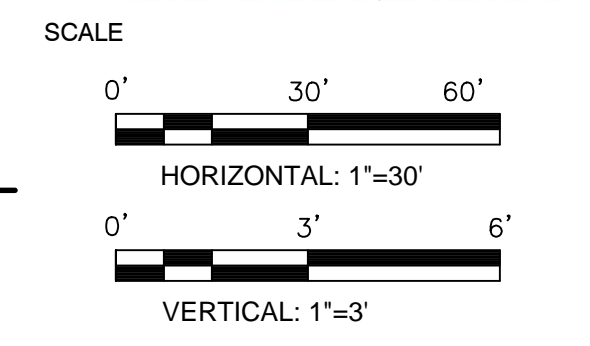
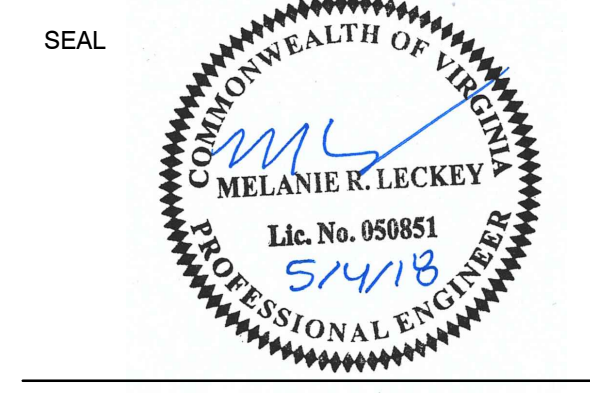
**ZION CROSSROADS
 WATER AND SEWER SYSTEM**
 FLUVANNA COUNTY
 DEPARTMENT OF PUBLIC WORKS
 FLUVANNA COUNTY, VA



NOTE:
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KEY PLAN



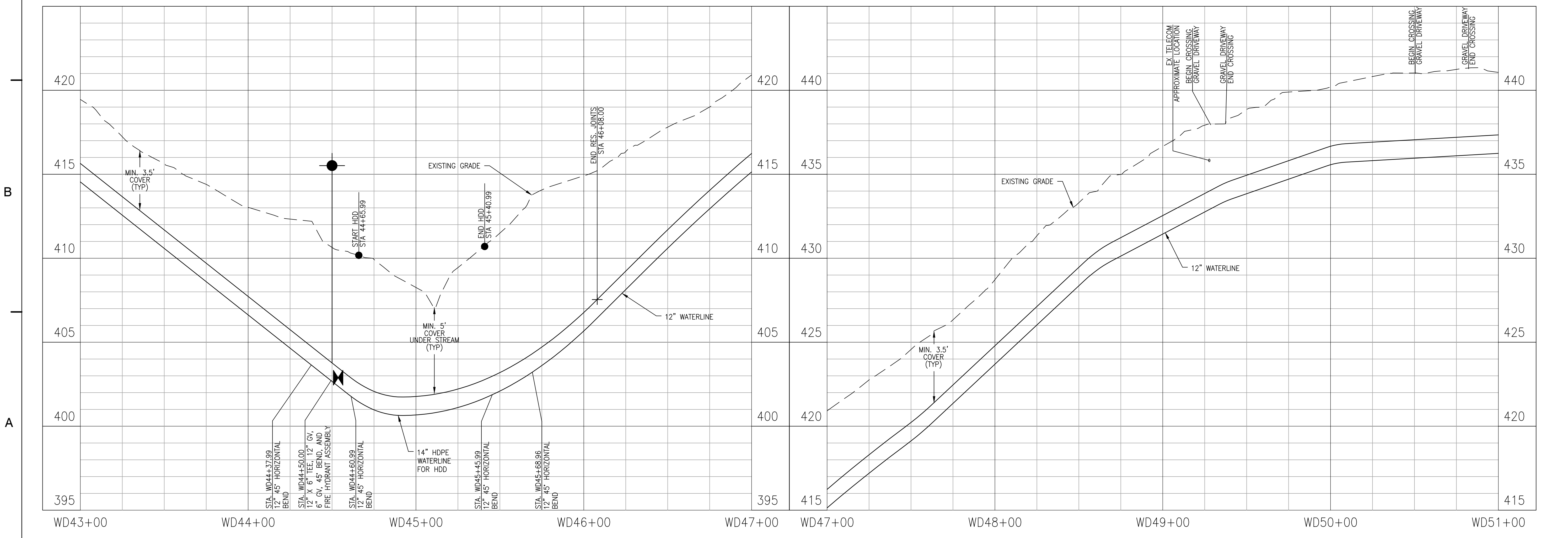
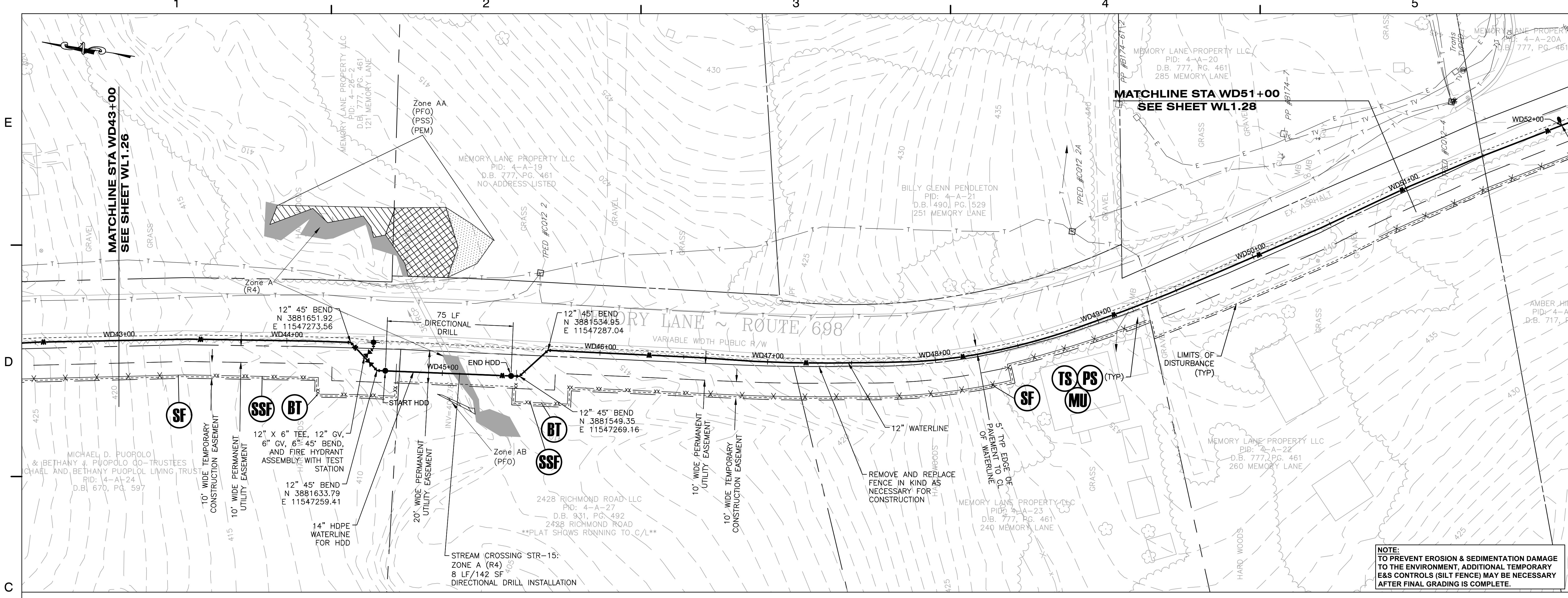
No.	DATE	BY	Description
REVISIONS			

DRAWN BY: JEH
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 DATE: MAY 2018

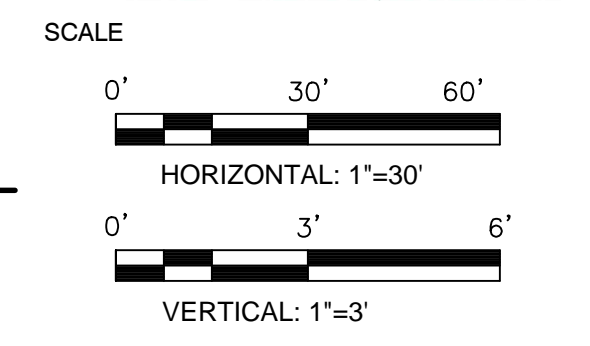
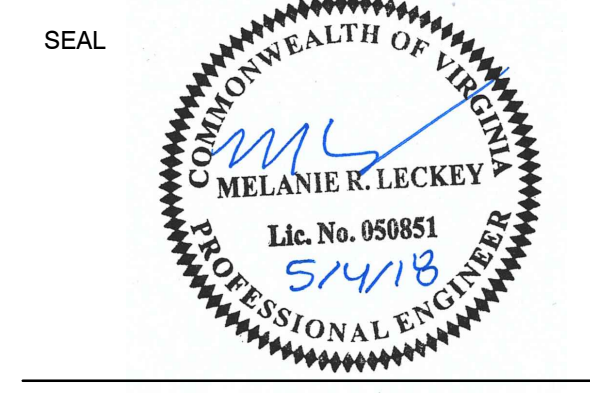
TITLE
**WATERLINE
 PLAN AND
 PROFILE**

PROJECT NO. 50078861

WL1.26



KEY PLAN



No.	DATE	BY	Description
REVISIONS			

DRAWN BY: JEH
 APPROVED BY: MRL
 CHECKED BY: DAV
 DATE: MAY 2018

TITLE: WATERLINE PLAN AND PROFILE

PROJECT NO. 50078861

WL1.27

1

2

3

4

5

E

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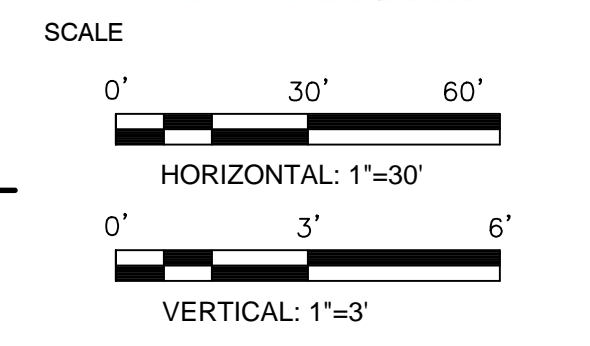
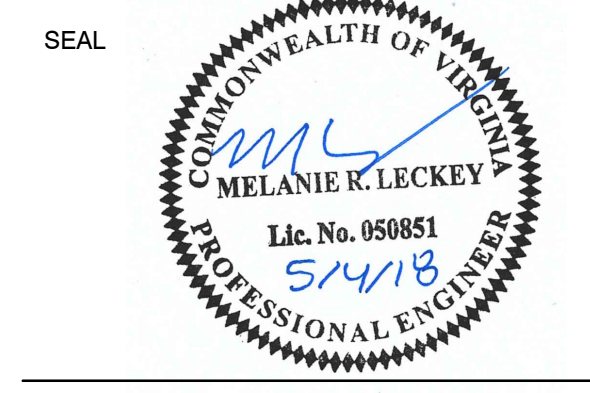
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 4805 Lake Brook Drive, Suite 200
 Glen Allen, Virginia 23060
 PHONE: 804.290.7957
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 www.dewberry.com

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 FLUVANNA COUNTY
 DEPARTMENT OF PUBLIC WORKS
 FLUVANNA COUNTY, VA

KEY PLAN



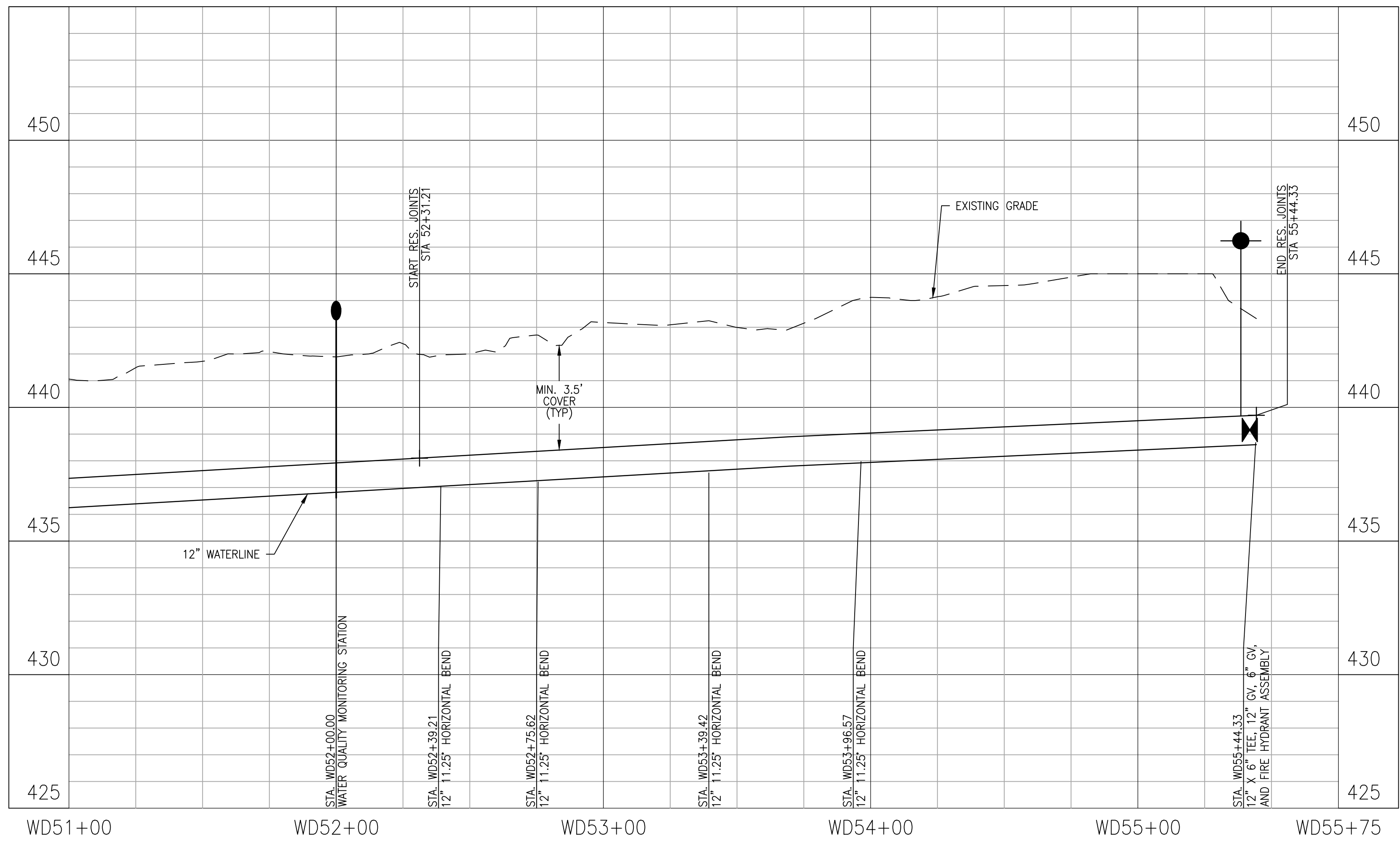
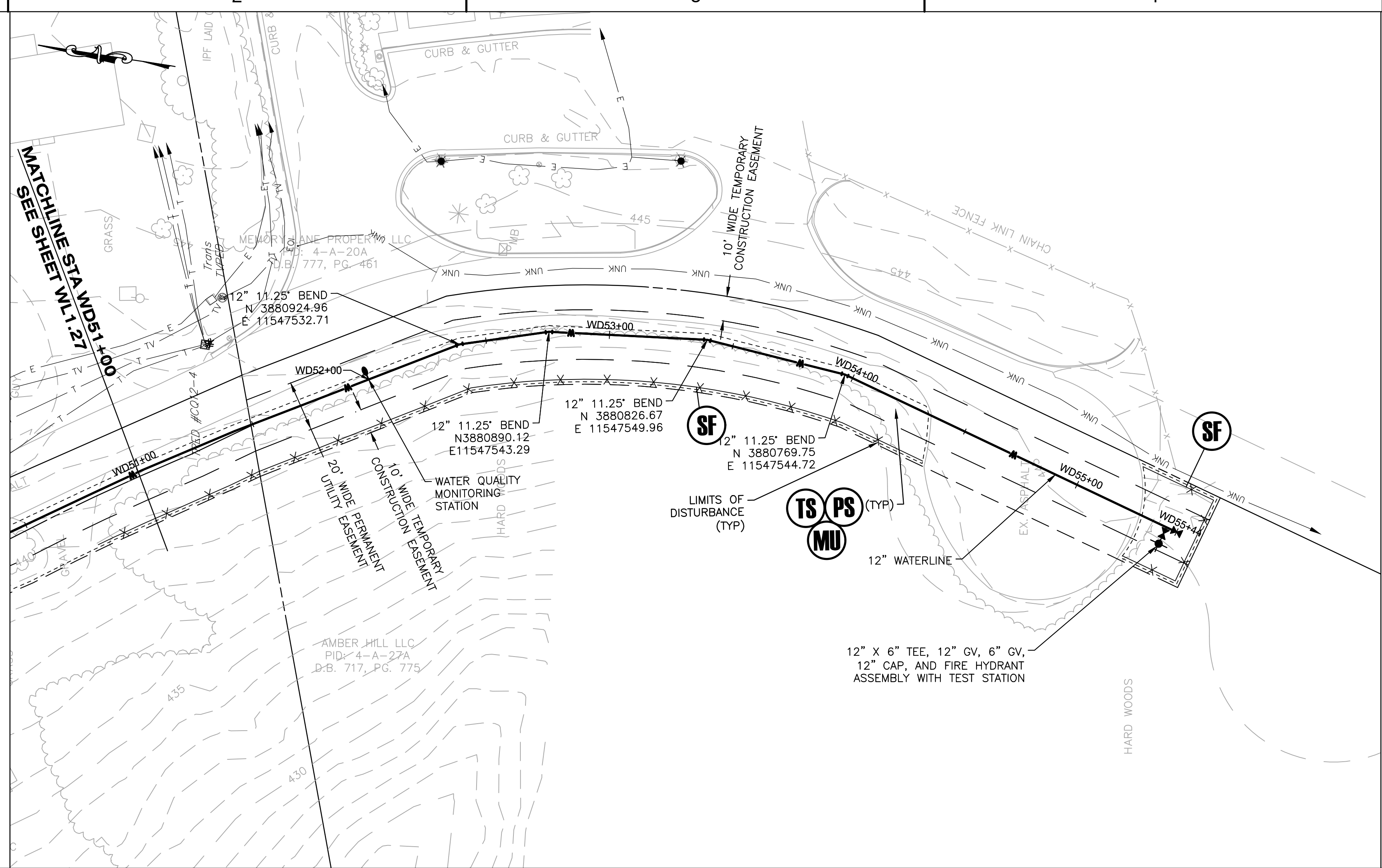
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REVISIONS			

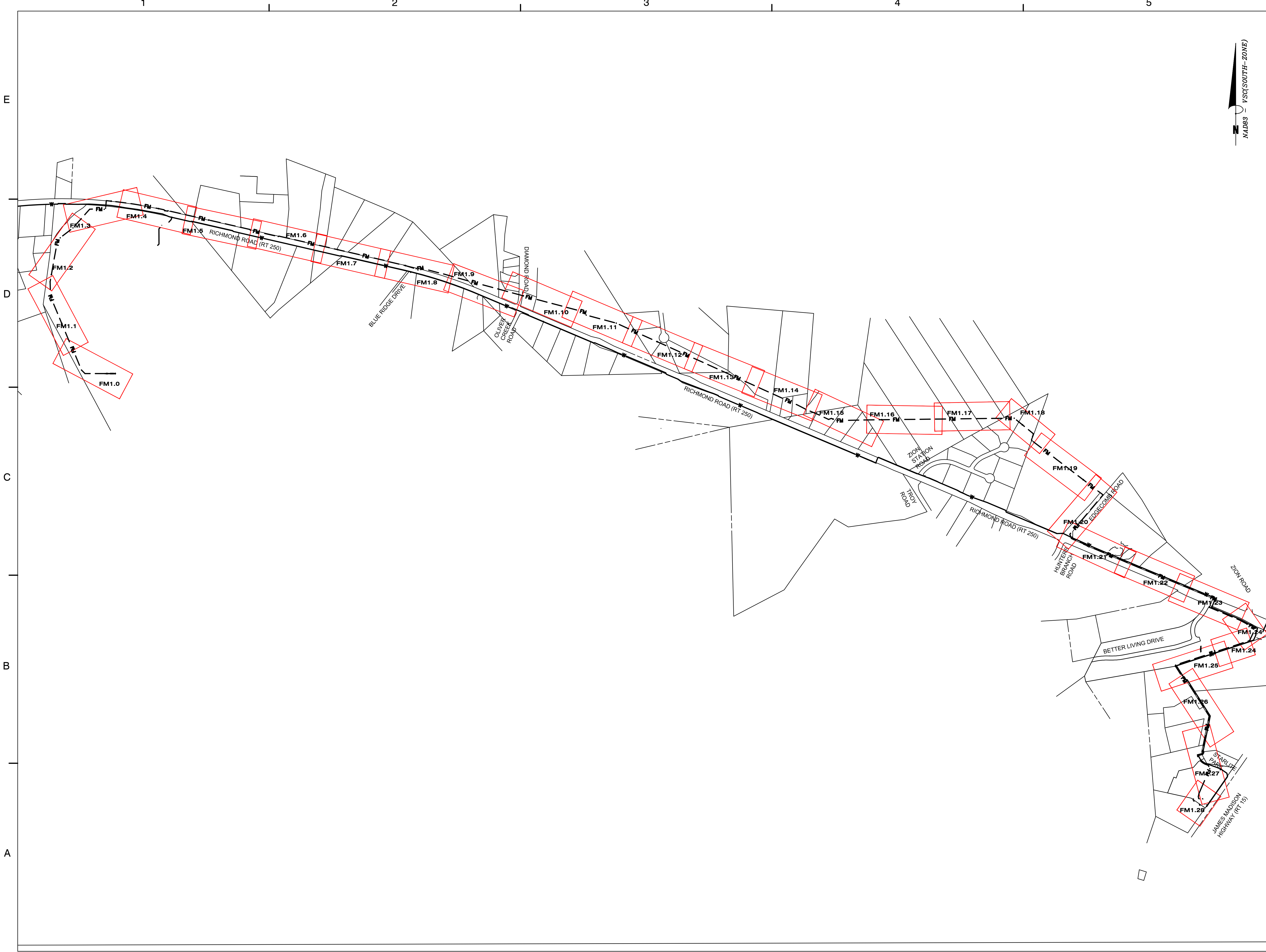
DRAWN BY: JEH
 APPROVED BY: MRL
 CHECKED BY: DAV
 DATE: MAY 2018

TITLE
**WATERLINE
 PLAN AND
 PROFILE**

PROJECT NO. 50078861

WL1.28

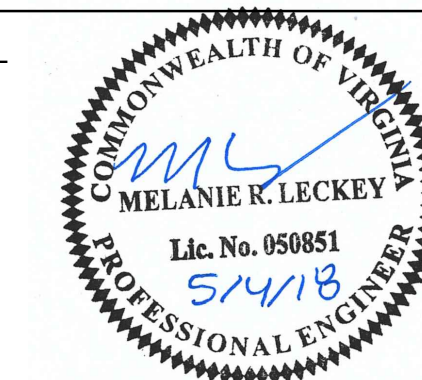




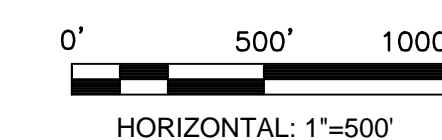
ZION CROSSROADS
 WATER AND SEWER SYSTEM
 FLUVANNA COUNTY
 DEPARTMENT OF PUBLIC WORKS
 FLUVANNA COUNTY, VA

KEY PLAN

SEAL



SCALE



No.	DATE	BY	Description
REVISIONS			

DRAWN BY: JEH
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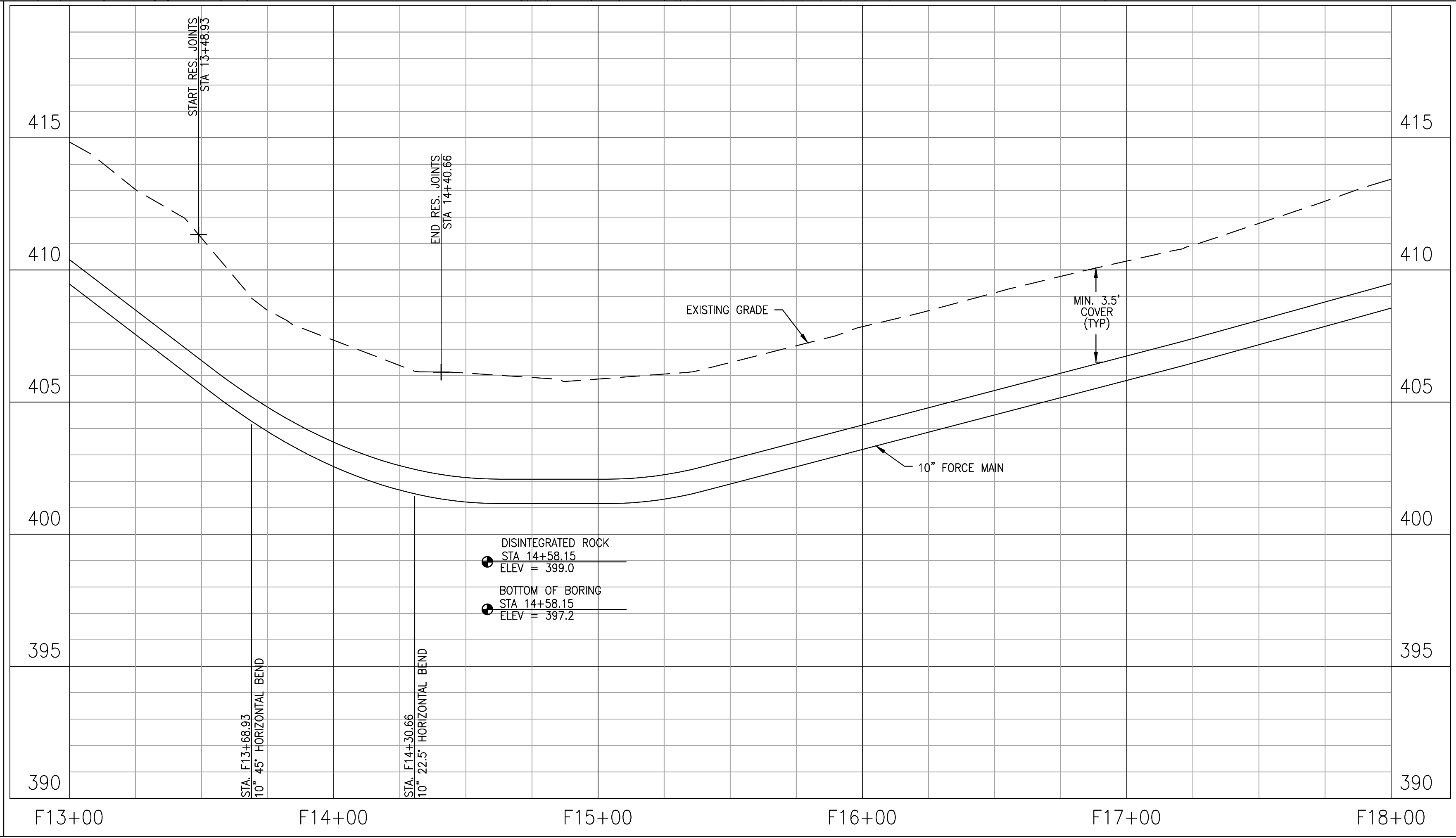
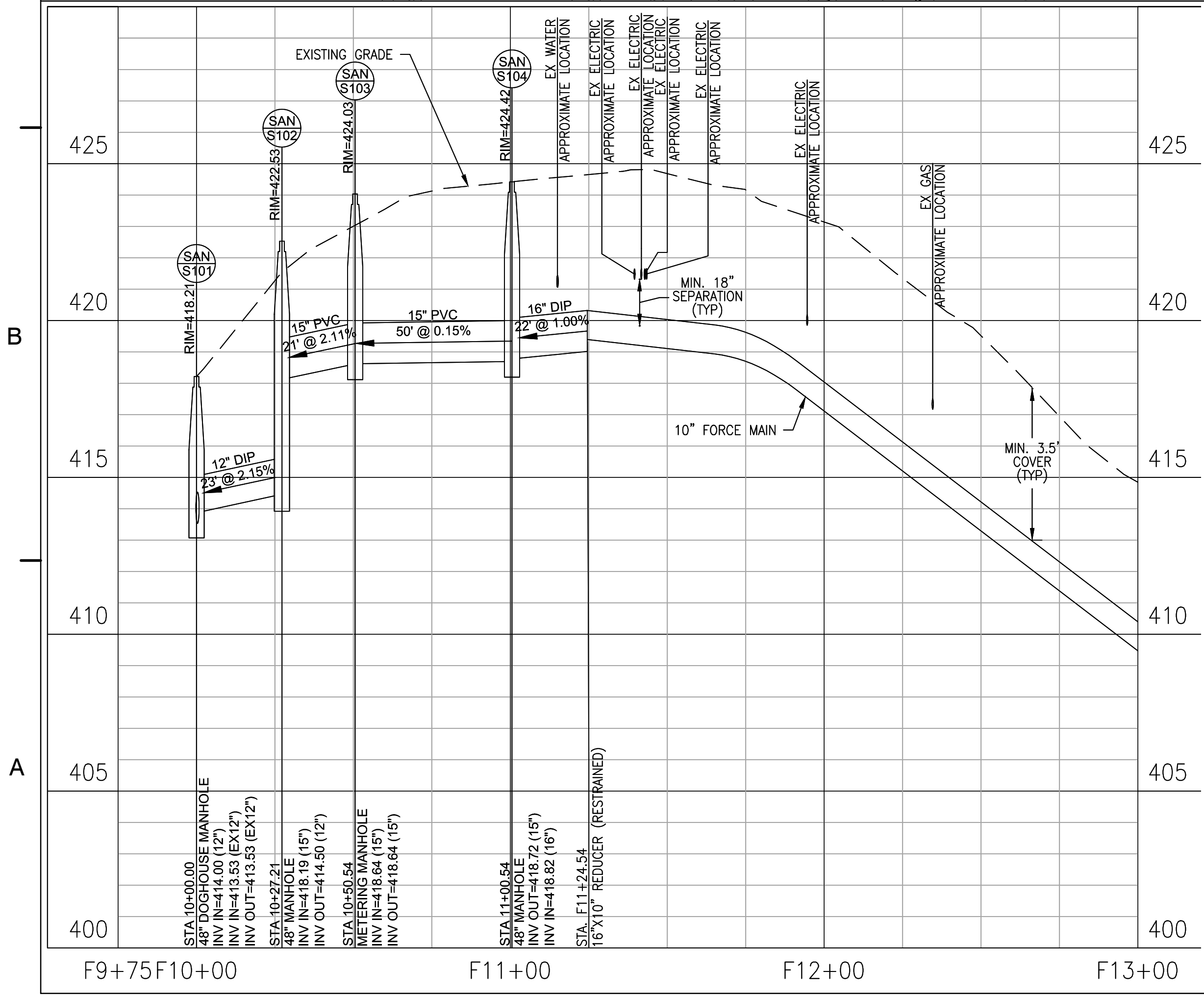
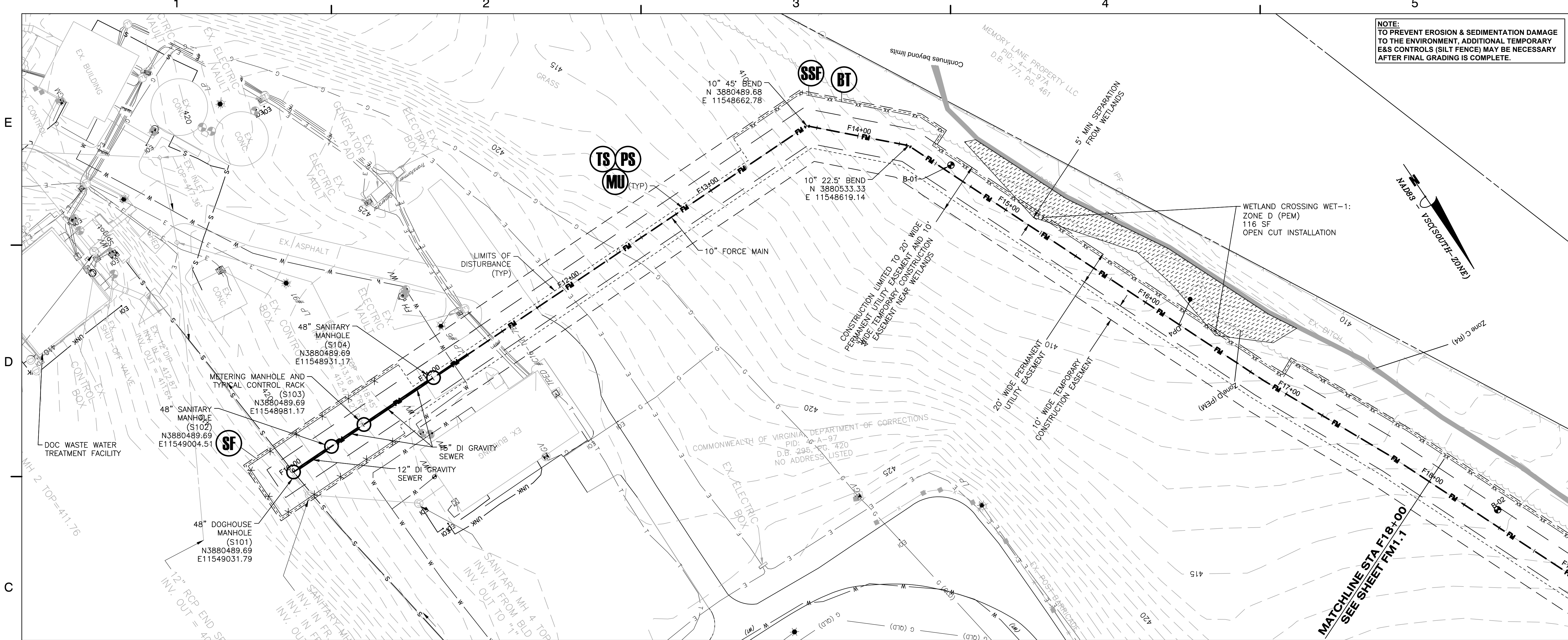
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**FORCE MAIN
 ALIGNMENT
 KEY PLAN**

PROJECT NO. 50078861

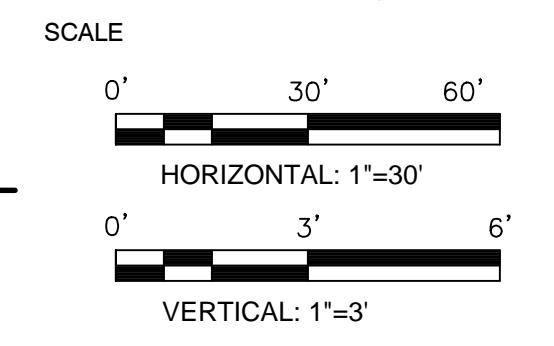
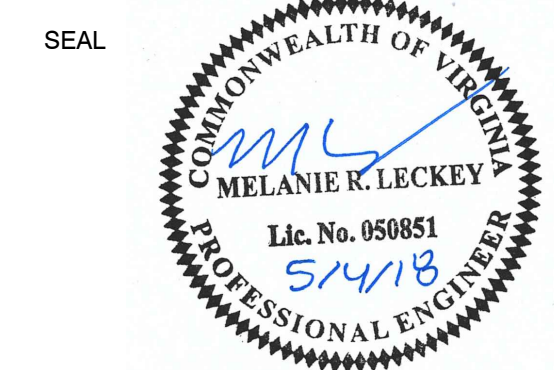
FM0.1

**ZION CROSSROADS
 WATER AND SEWER SYSTEM**
 FLUVANNA COUNTY
 DEPARTMENT OF PUBLIC WORKS
 FLUVANNA COUNTY, VA

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KEY PLAN



No.	DATE	BY	Description
REVISIONS			

DRAWN BY: JEH
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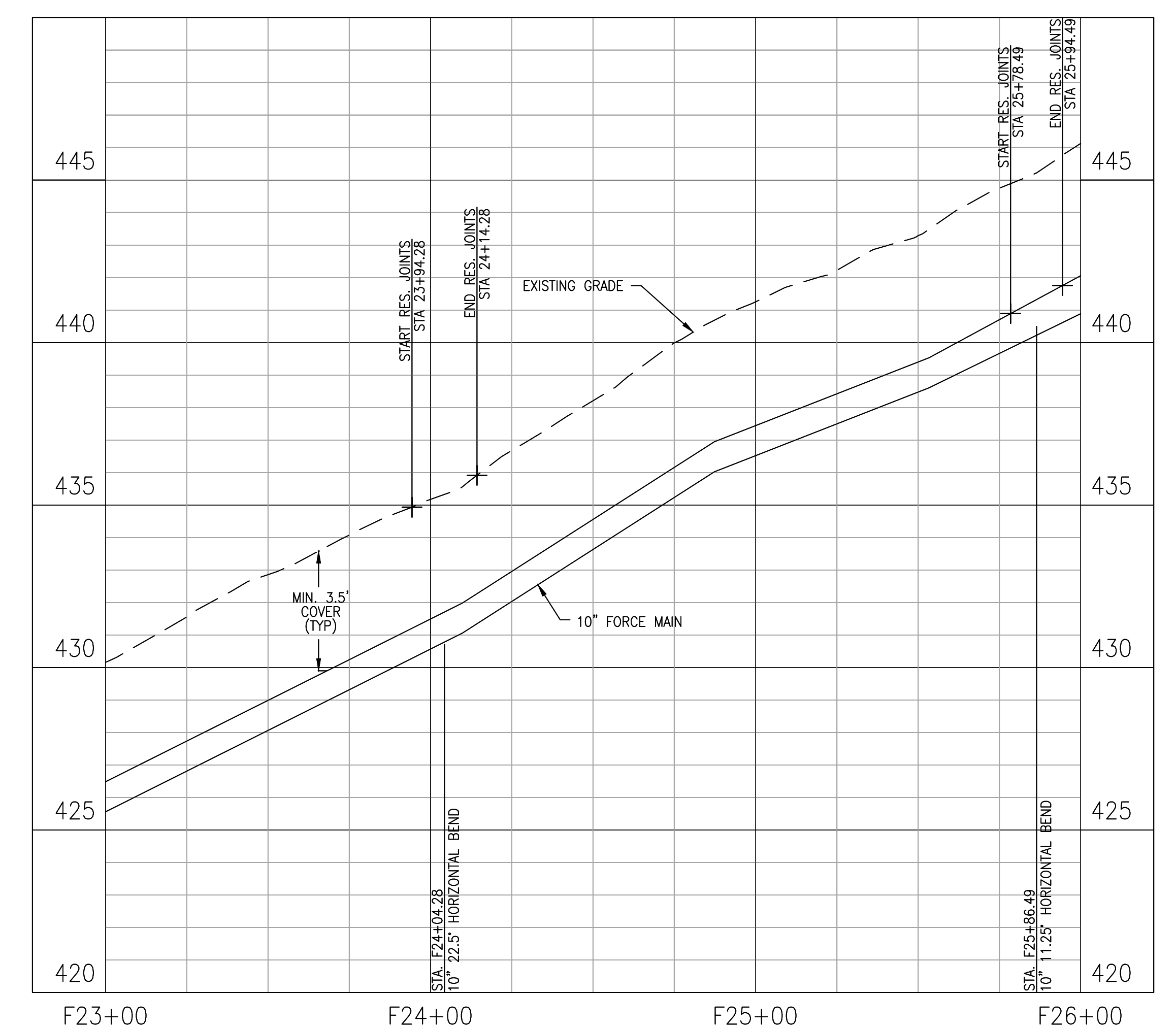
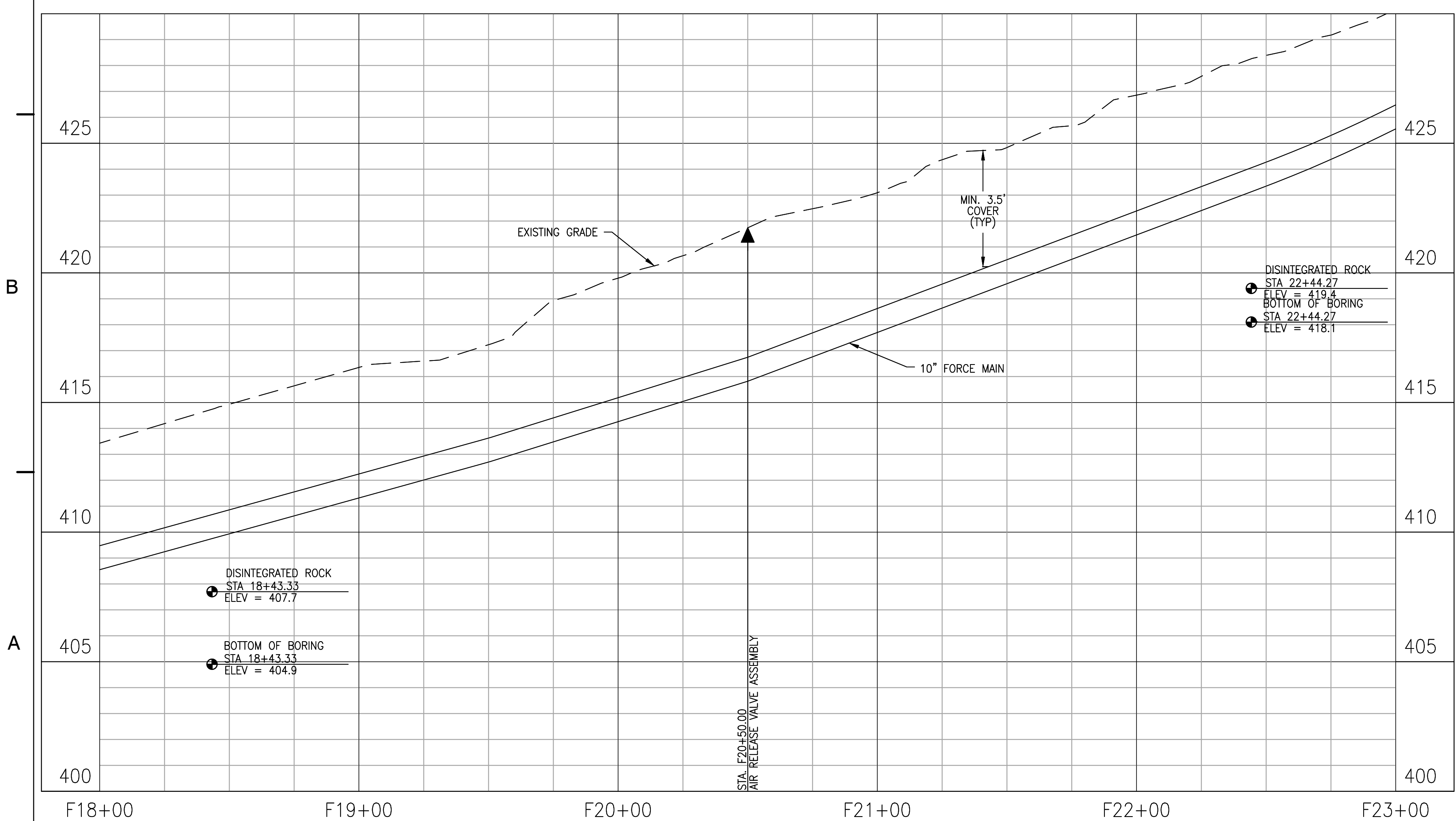
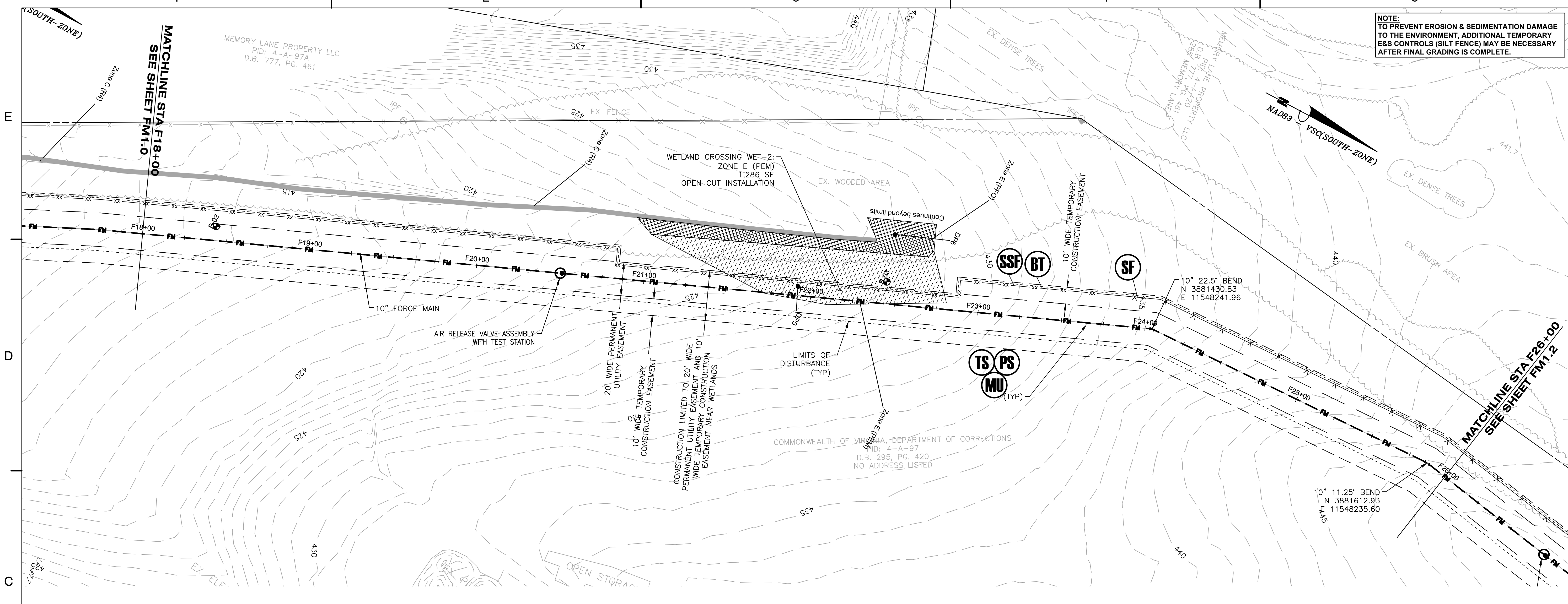
**FORCE MAIN
 PLAN AND
 PROFILE**

PROJECT NO. 50078861

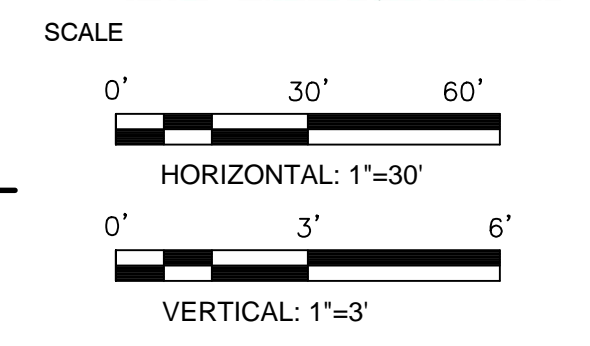
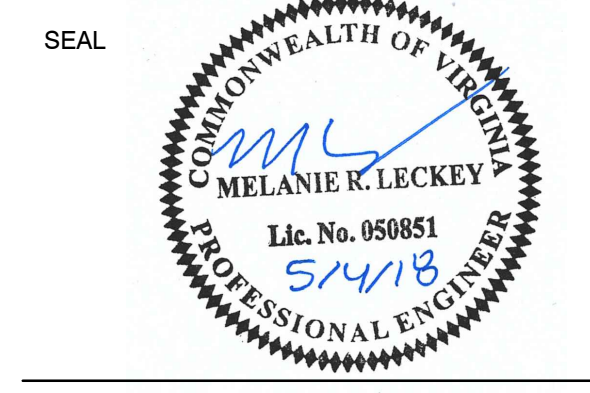
FM1.0

**ZION CROSSROADS
 WATER AND SEWER SYSTEM**
 FLUVANNA COUNTY
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 FLUVANNA COUNTY, VA

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KEY PLAN



No.	DATE	BY	Description
REVISIONS			

DRAWN BY: JEH
 APPROVED BY: MRL
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 DATE: MAY 2018

**FORCE MAIN
 PLAN AND
 PROFILE**

PROJECT NO. 50078861

FM1.1

ZION CROSSROADS
WATER AND SEWER SYSTEM

FLUVANNA COUNTY
DEPARTMENT OF PUBLIC WORKS

FLUVANNA COUNTY, VA

KEY PLAN

SEAL
COMMONWEALTH OF VIRGINIA
MELANIE K. LECKEY
Lic. No. 950851
5/4/18
PROFESSIONAL ENGINEER

SCALE
0' 30' 60'
HORIZONTAL: 1"=30'
0' 3' 6'
VERTICAL: 1"=3'

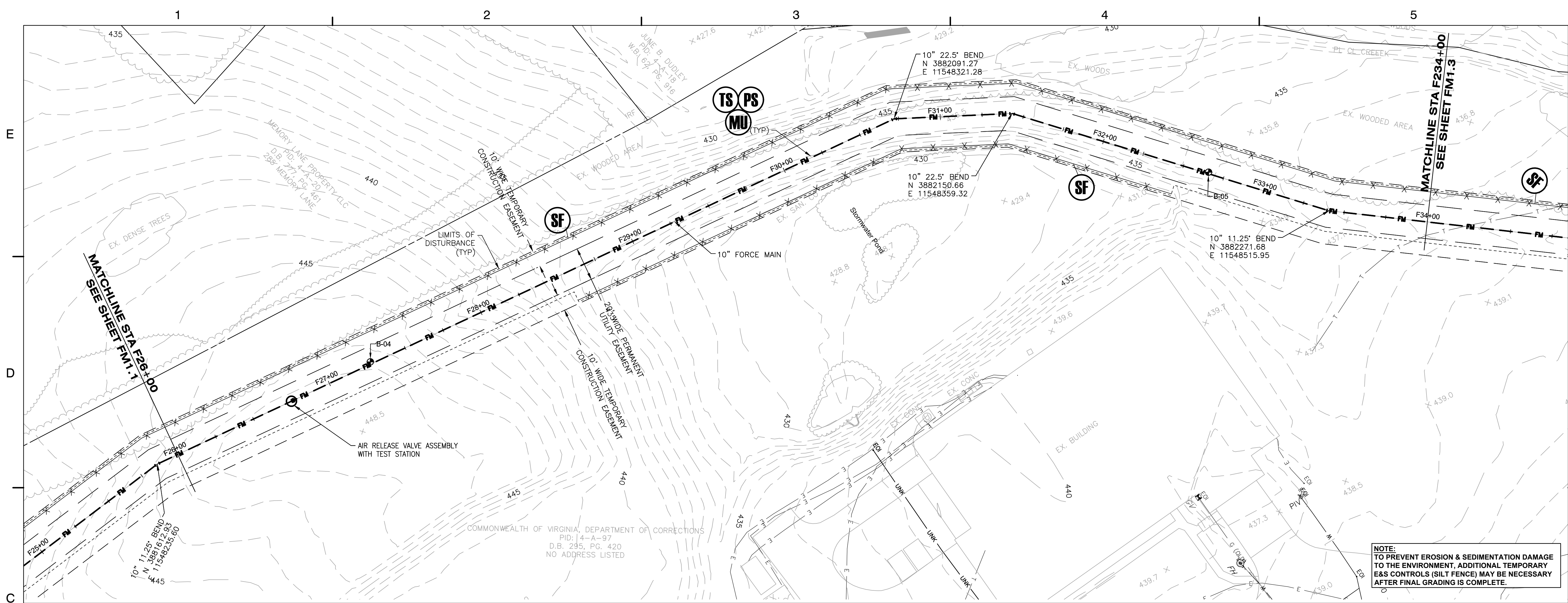
No.	DATE	BY	Description
REVISIONS			

DRAWN BY JEH
APPROVED BY MRL
CHECKED BY DAV
DATE MAY 2018

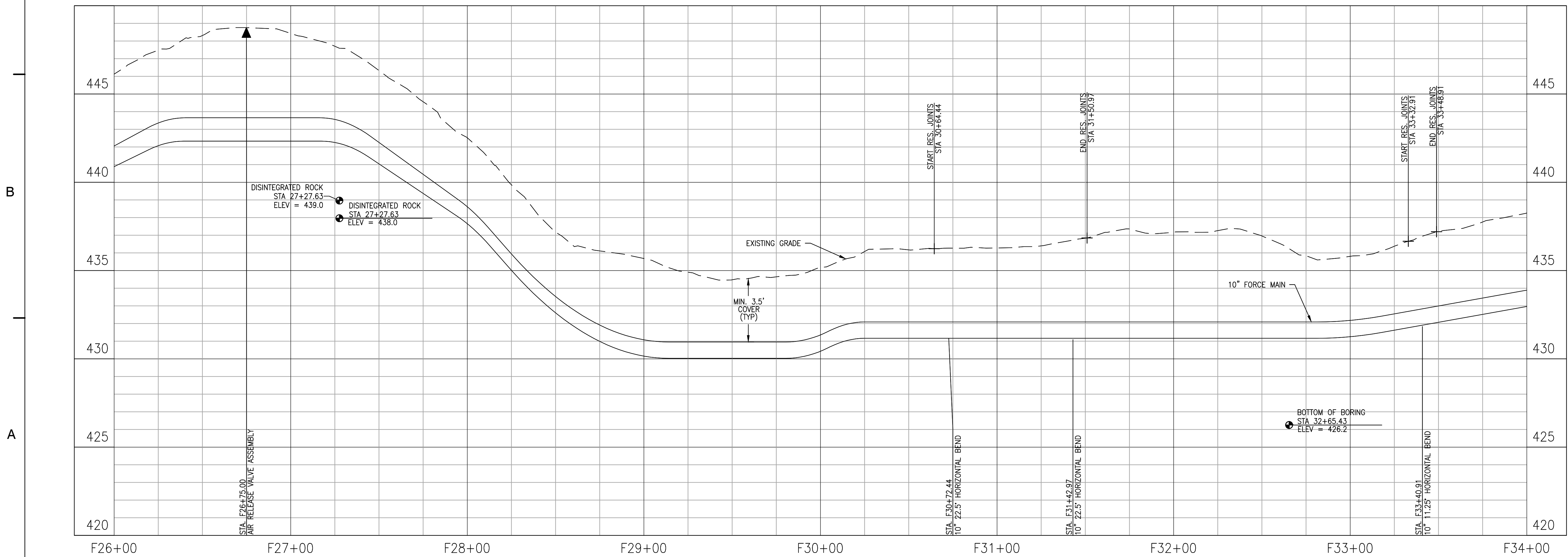
TITLE
**FORCE MAIN
PLAN AND
PROFILE**

PROJECT NO. 50078861

FM1.2



NOTE:
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**ZION CROSSROADS
 WATER AND SEWER SYSTEM**
 FLUVANNA COUNTY
 DEPARTMENT OF PUBLIC WORKS
 FLUVANNA COUNTY, VA

KEY PLAN

SEAL



SCALE

No.	DATE	BY	Description

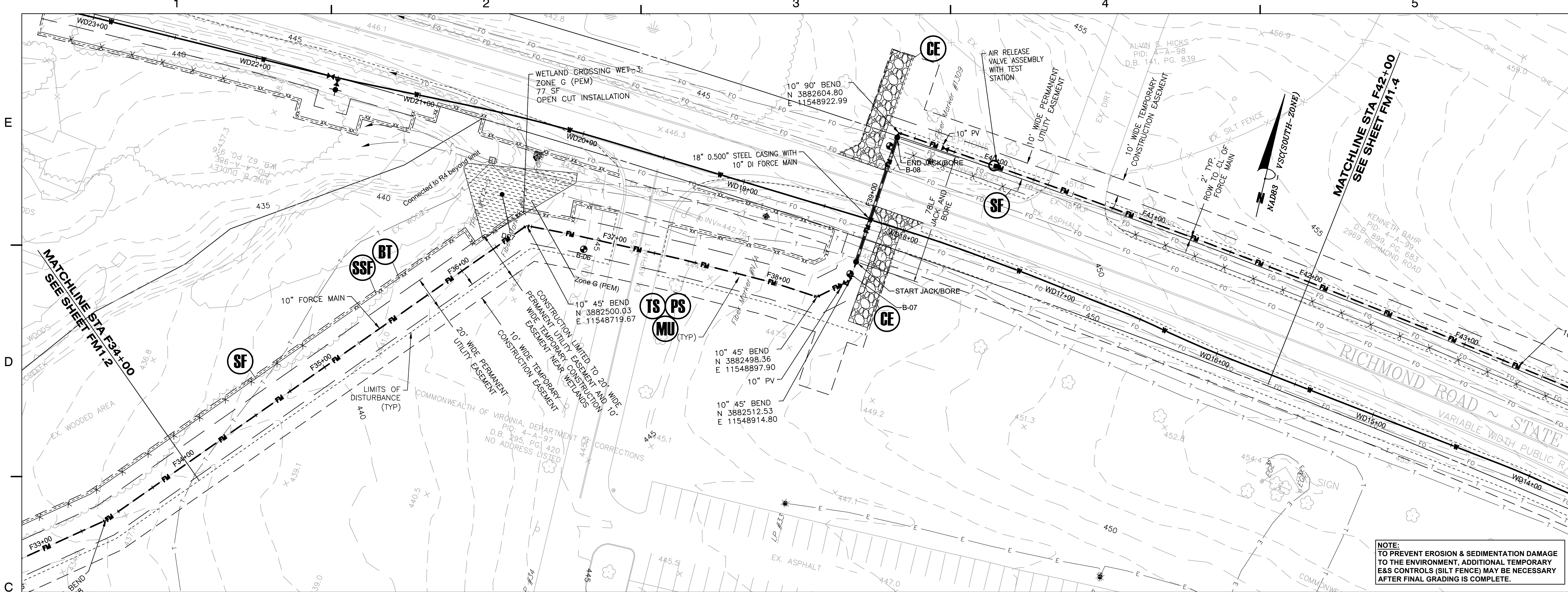
REVISIONS

DRAWN BY: JEH
 APPROVED BY: MRL
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 DATE: MAY 2018

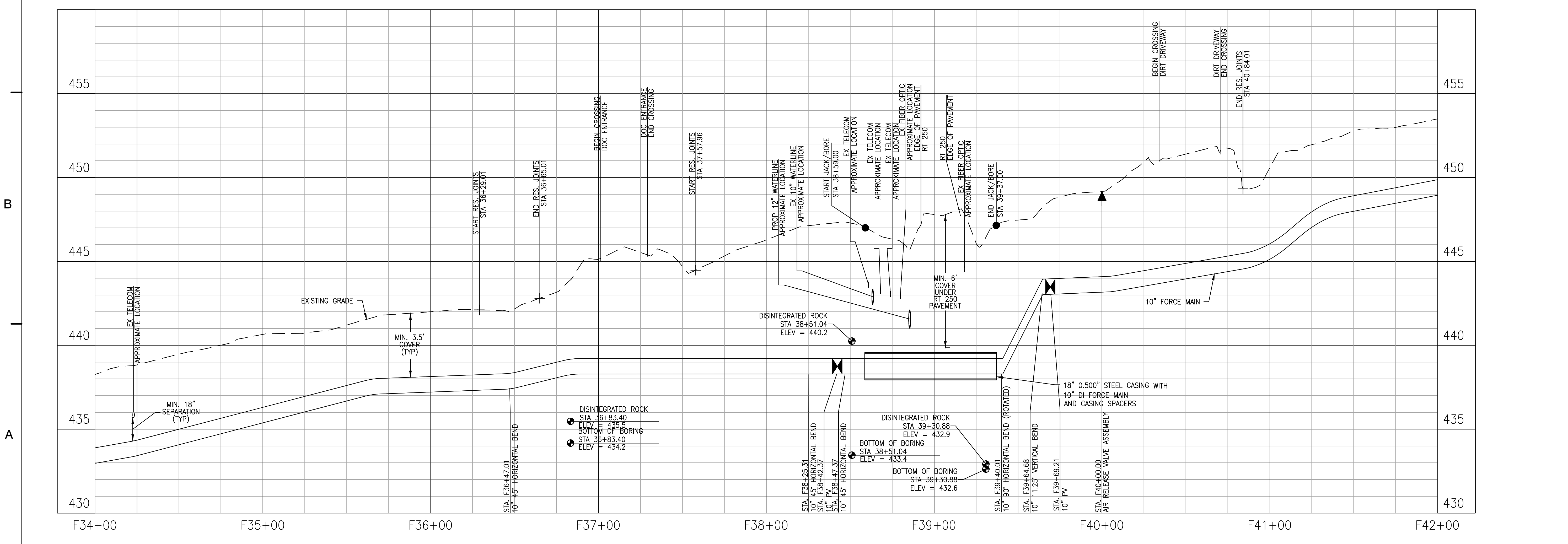
TITLE
**FORCE MAIN
 PLAN AND
 PROFILE**

PROJECT NO. 50078861

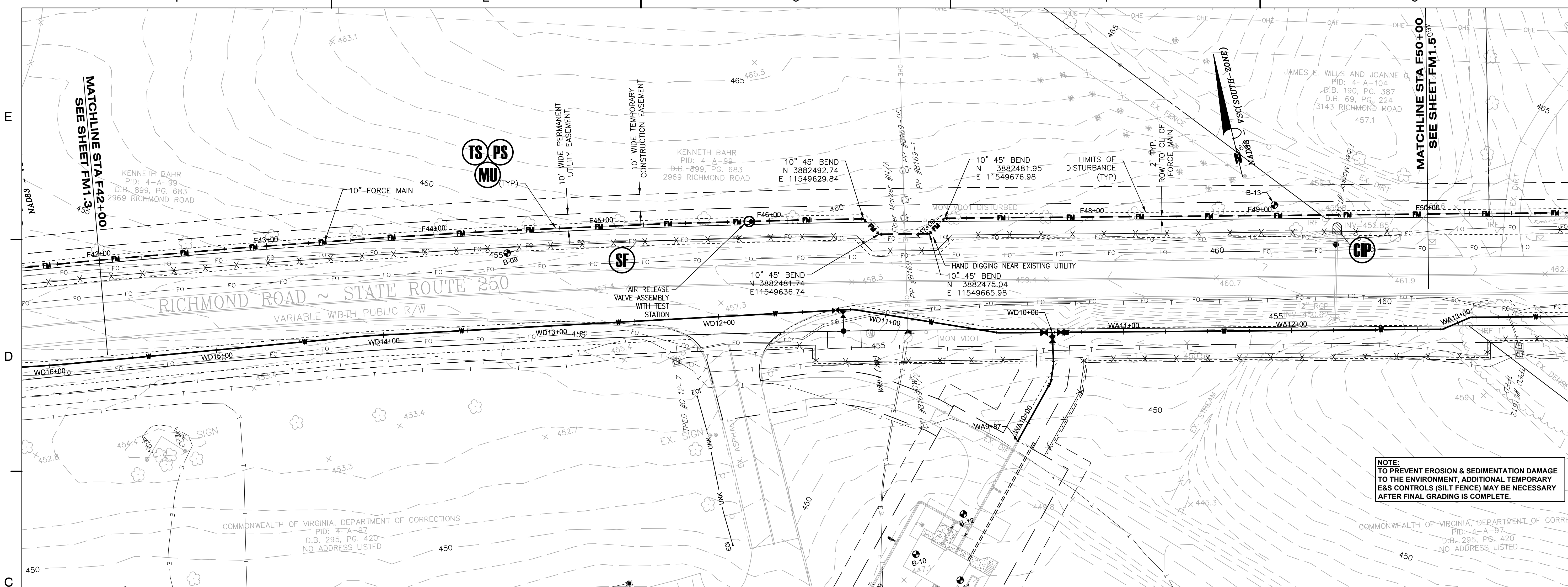
FM1.3



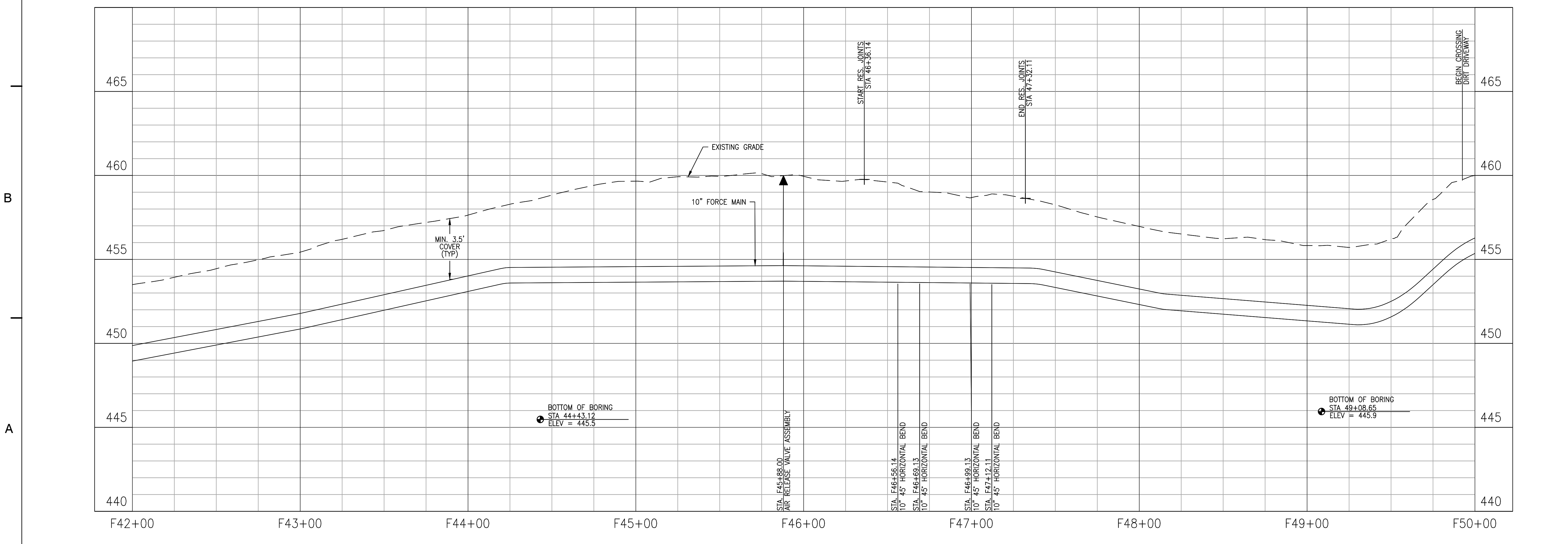
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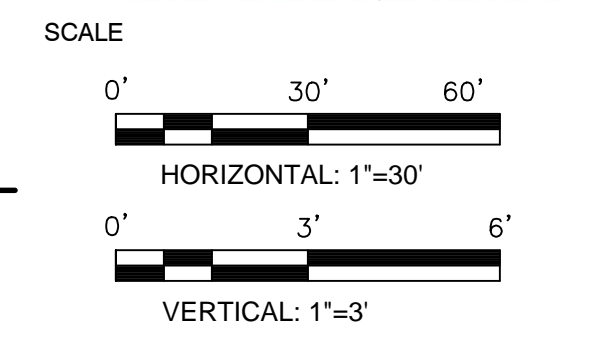
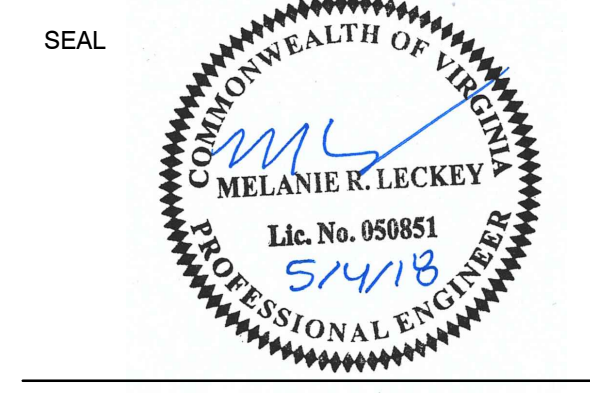
**ZION CROSSROADS
 WATER AND SEWER SYSTEM**
 FLUVANNA COUNTY
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 FLUVANNA COUNTY, VA



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KEY PLAN



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REVISIONS			

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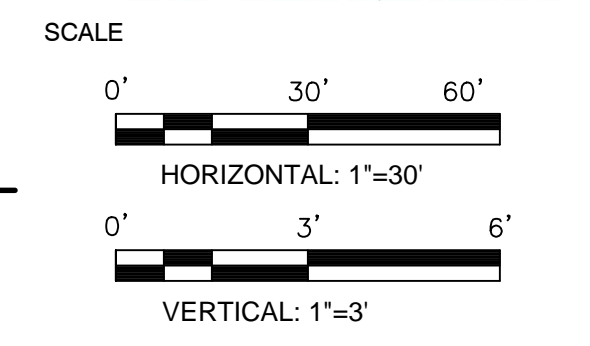
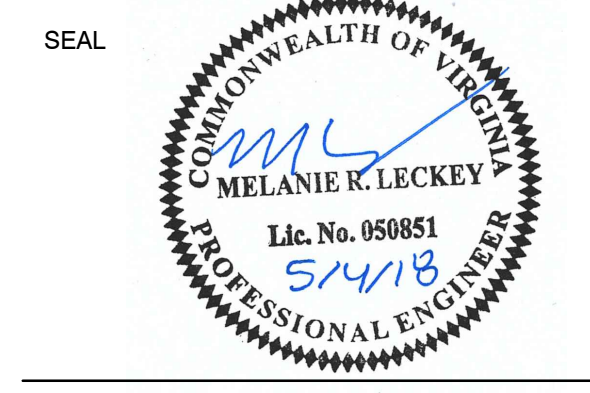
**FORCE MAIN
 PLAN AND
 PROFILE**

PROJECT NO. 50078861

FM1.4

**ZION CROSSROADS
 WATER AND SEWER SYSTEM**
 FLUVANNA COUNTY
 DEPARTMENT OF PUBLIC WORKS
 FLUVANNA COUNTY, VA

KEY PLAN



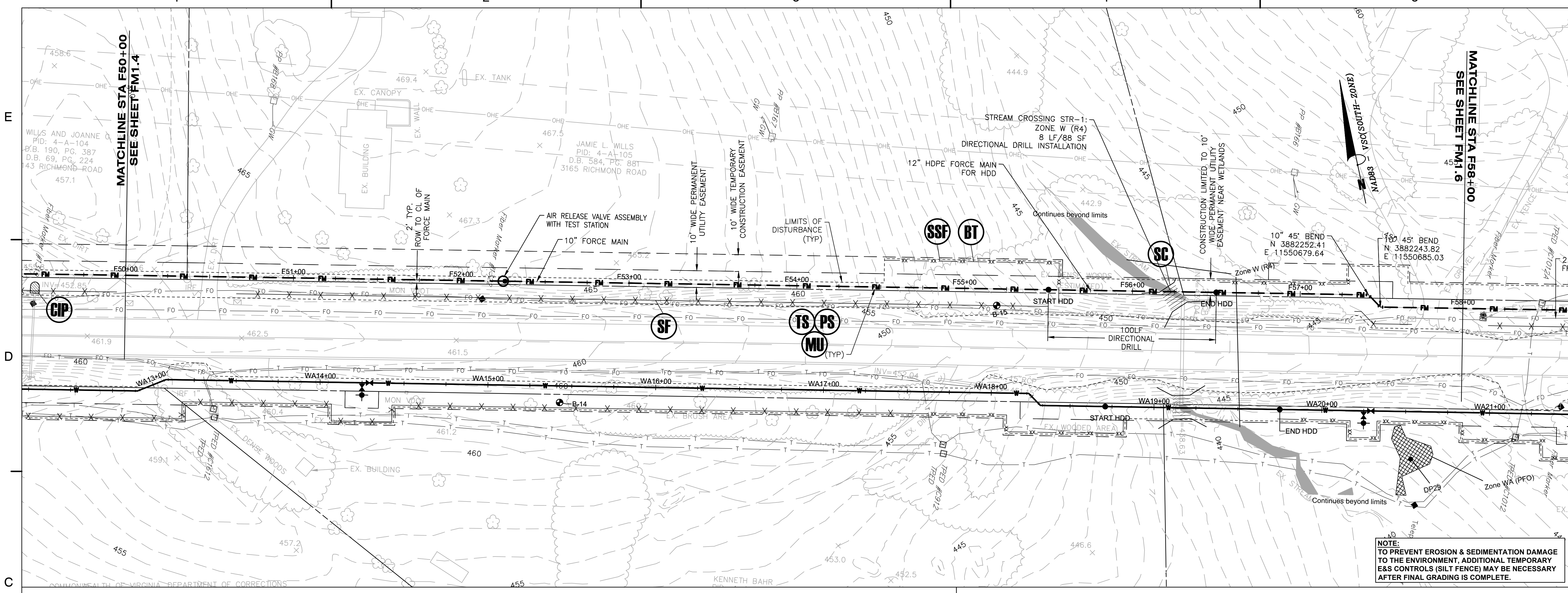
No.	DATE	BY	Description
REVISIONS			

DRAWN BY: JEH
 APPROVED BY: MRL
 CHECKED BY: DAV
 DATE: MAY 2018

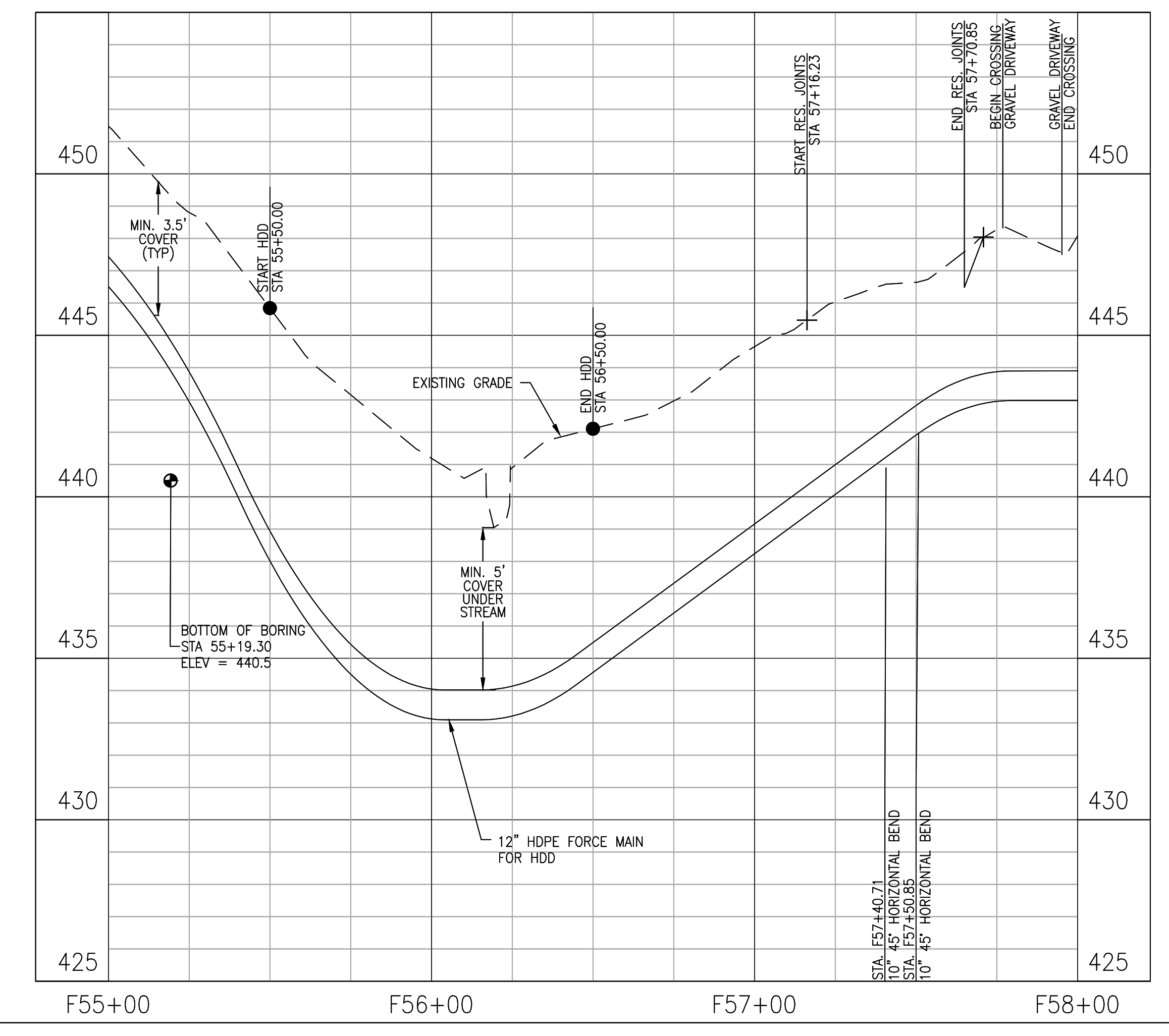
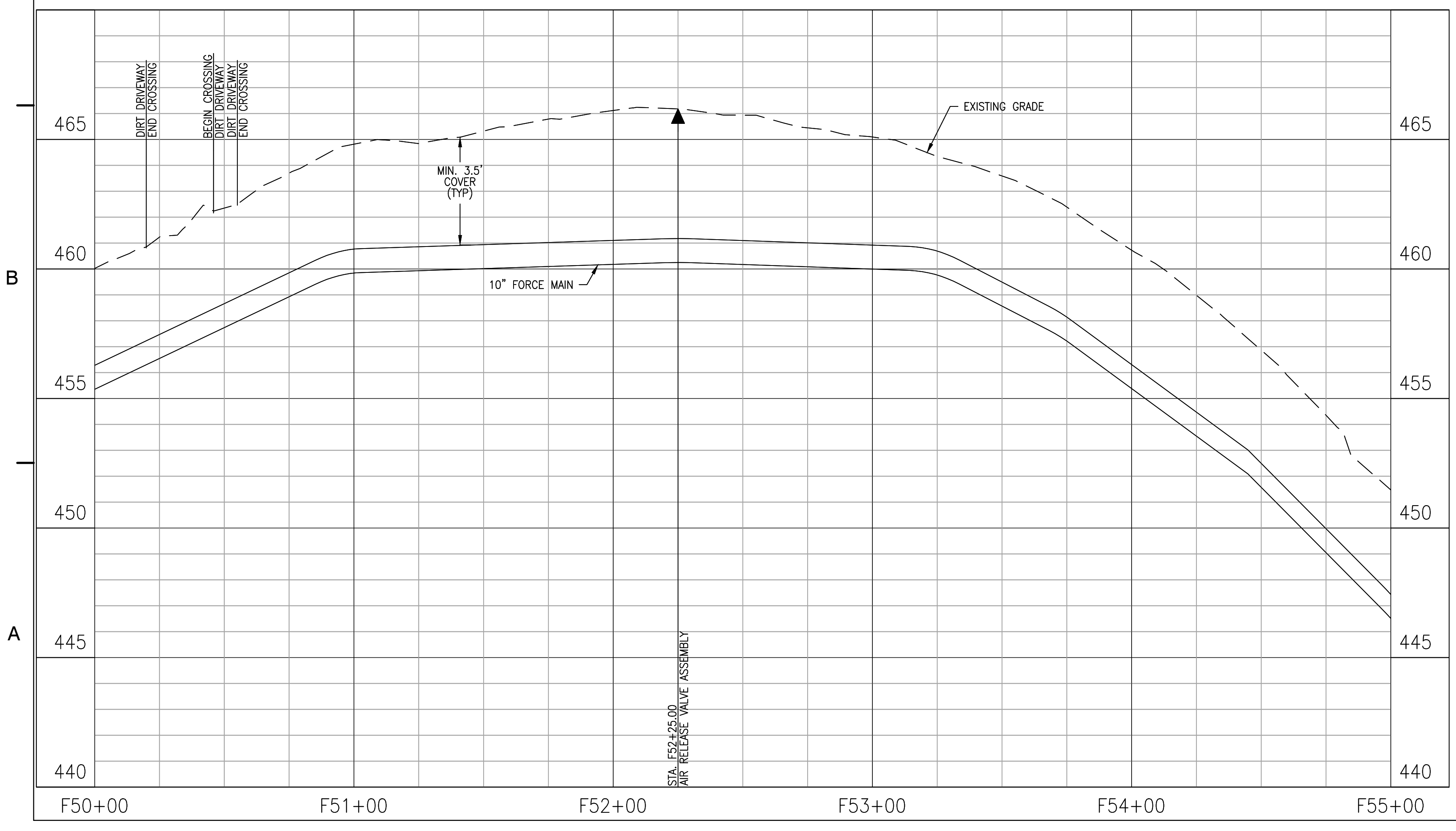
**FORCE MAIN
 PLAN AND
 PROFILE**

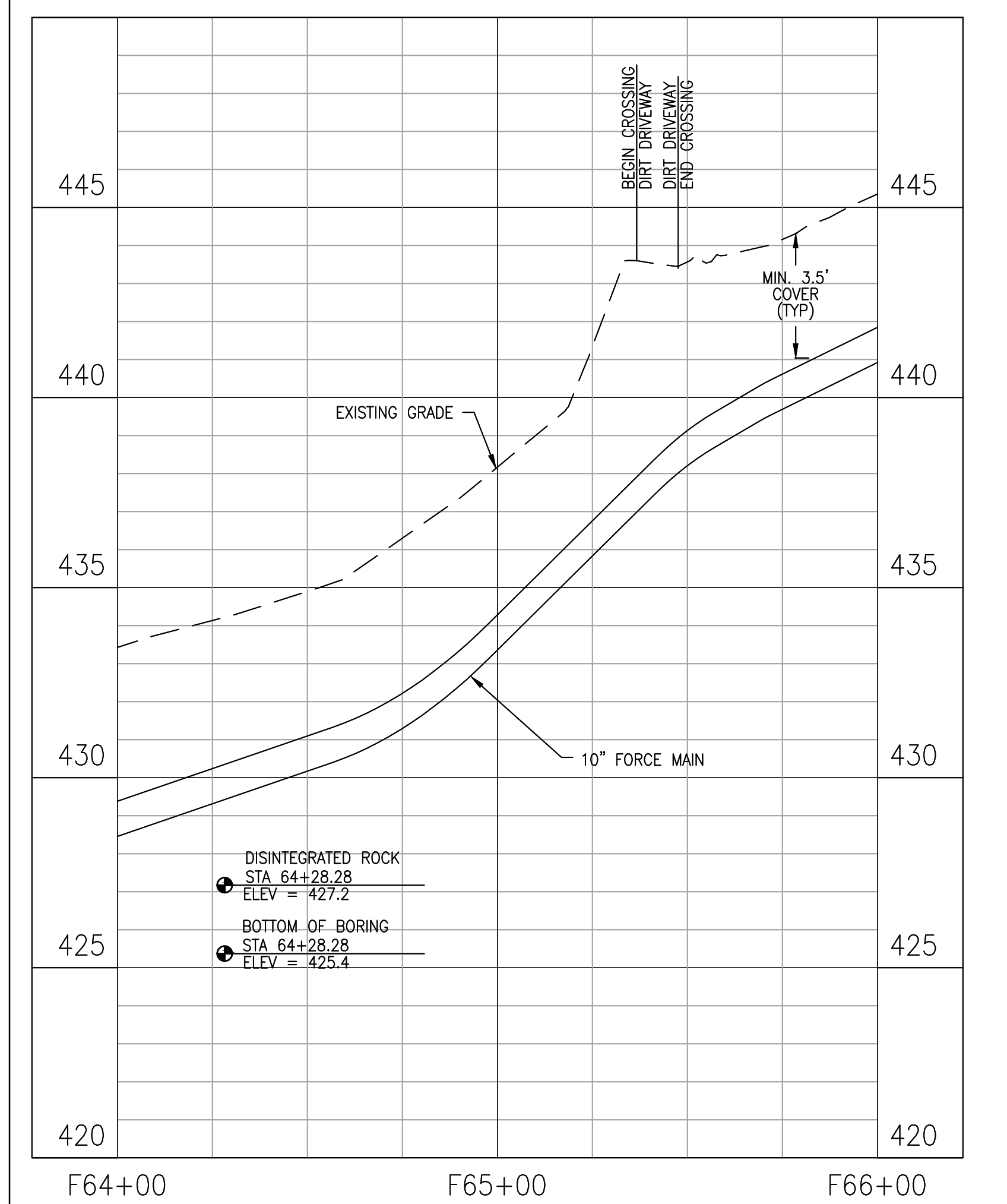
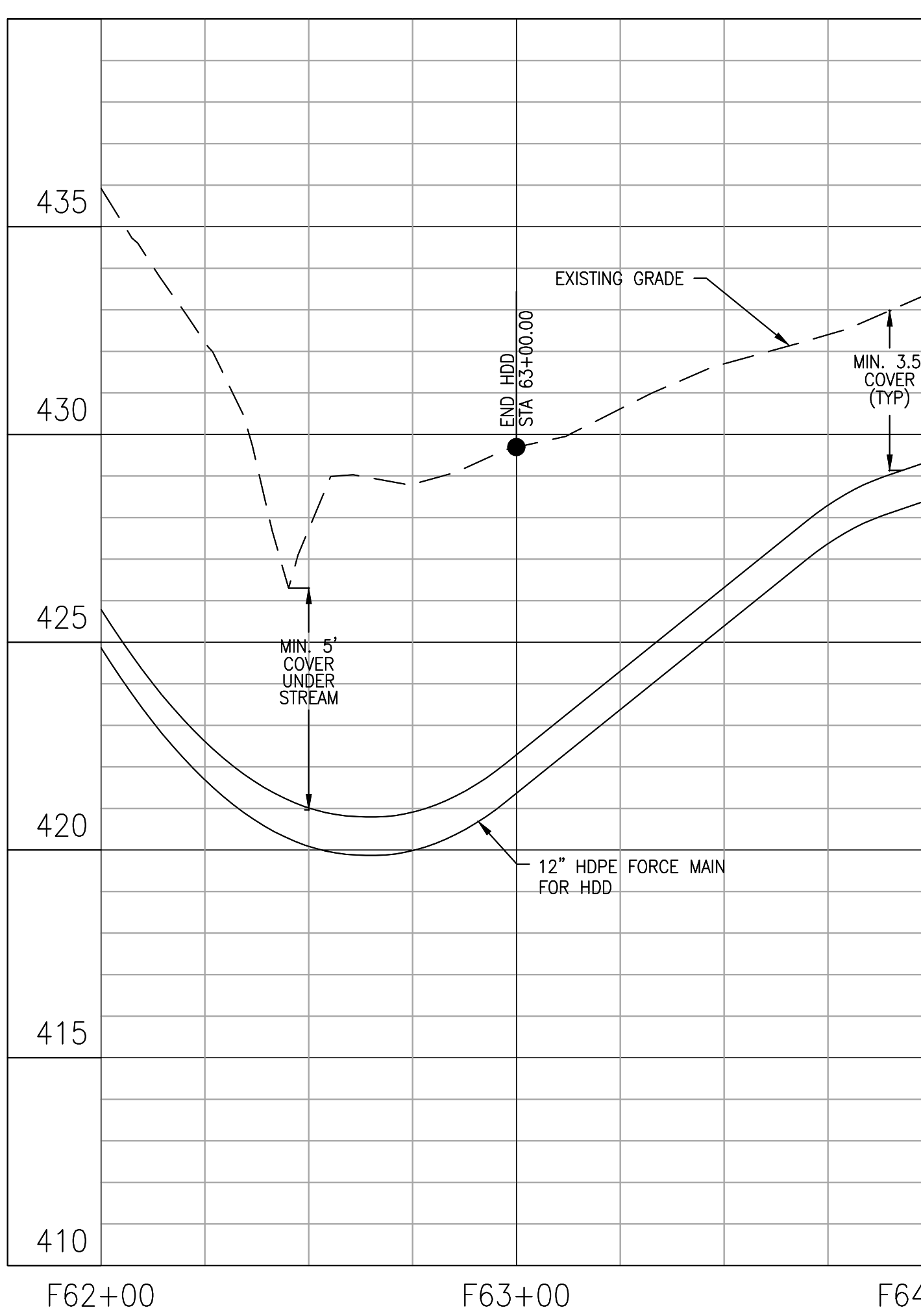
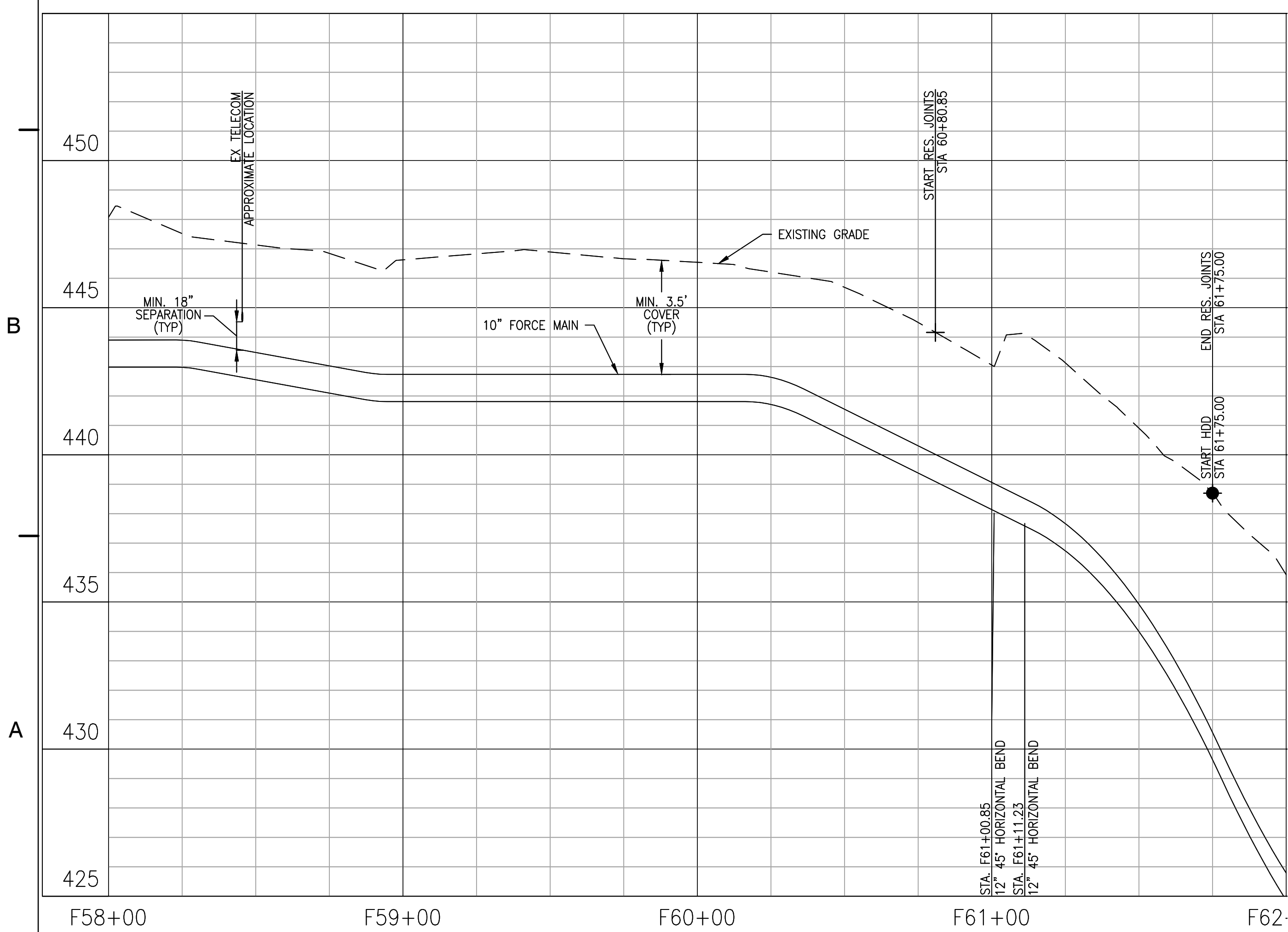
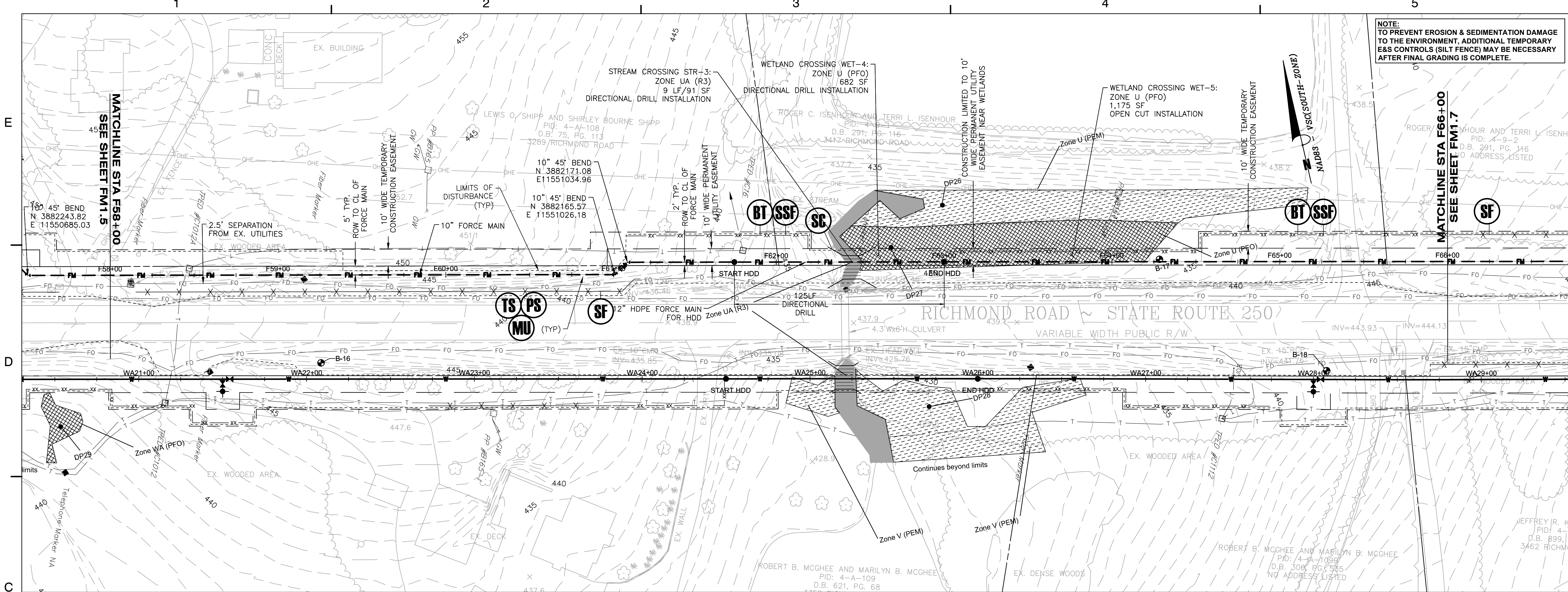
PROJECT NO. 50078861

FM1.5



NOTE:
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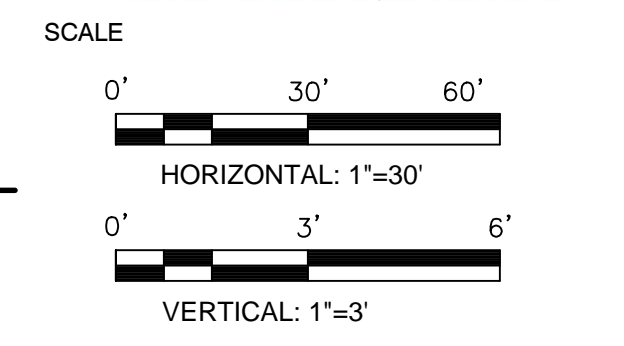
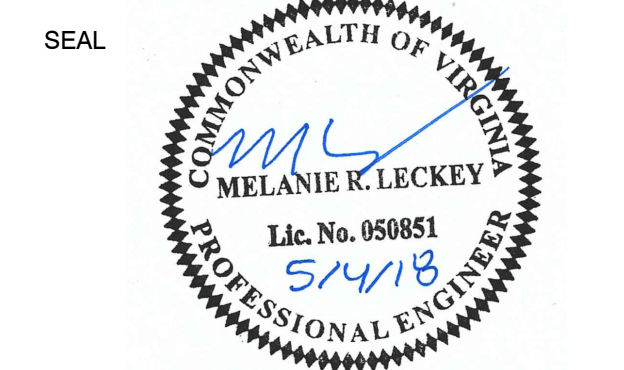




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**ZION CROSSROADS
 WATER AND SEWER SYSTEM**
 FLUVANNA COUNTY
 DEPARTMENT OF PUBLIC WORKS
 FLUVANNA COUNTY, VA

KEY PLAN



No.	DATE	BY	Description
REVISIONS			

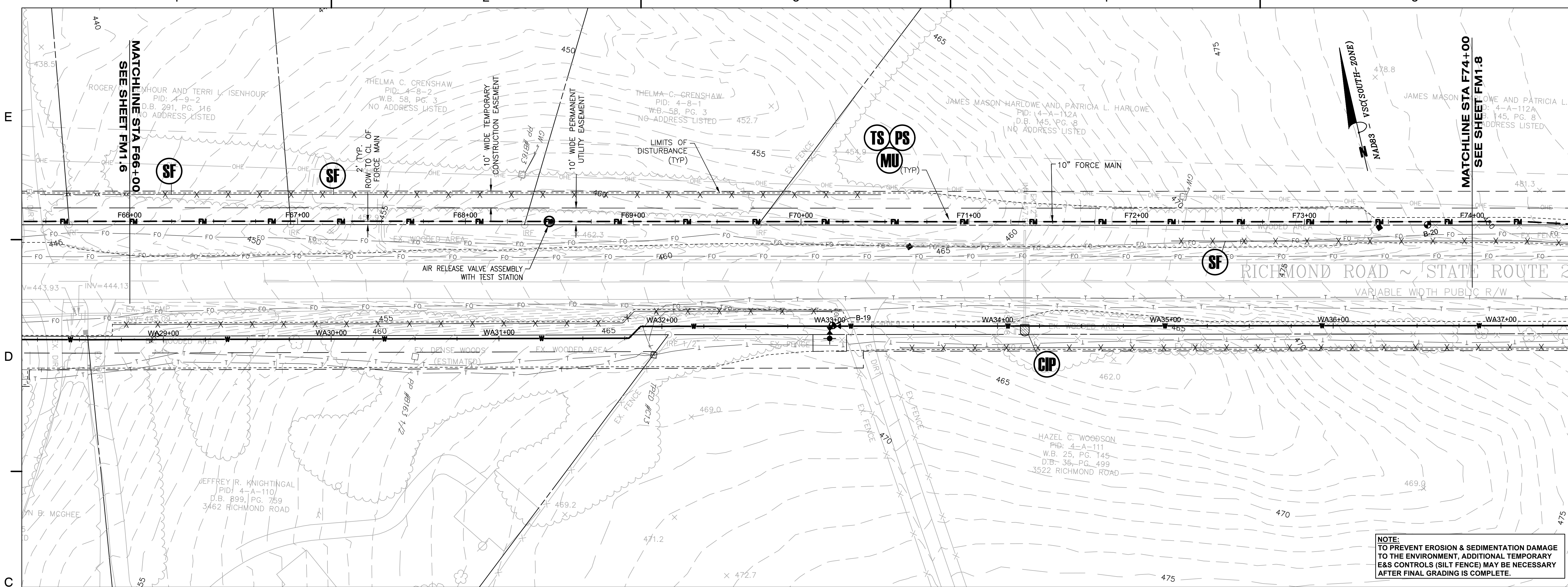
DRAWN BY: JEH
 APPROVED BY: MRL
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 DATE: MAY 2018

TITLE
**FORCE MAIN
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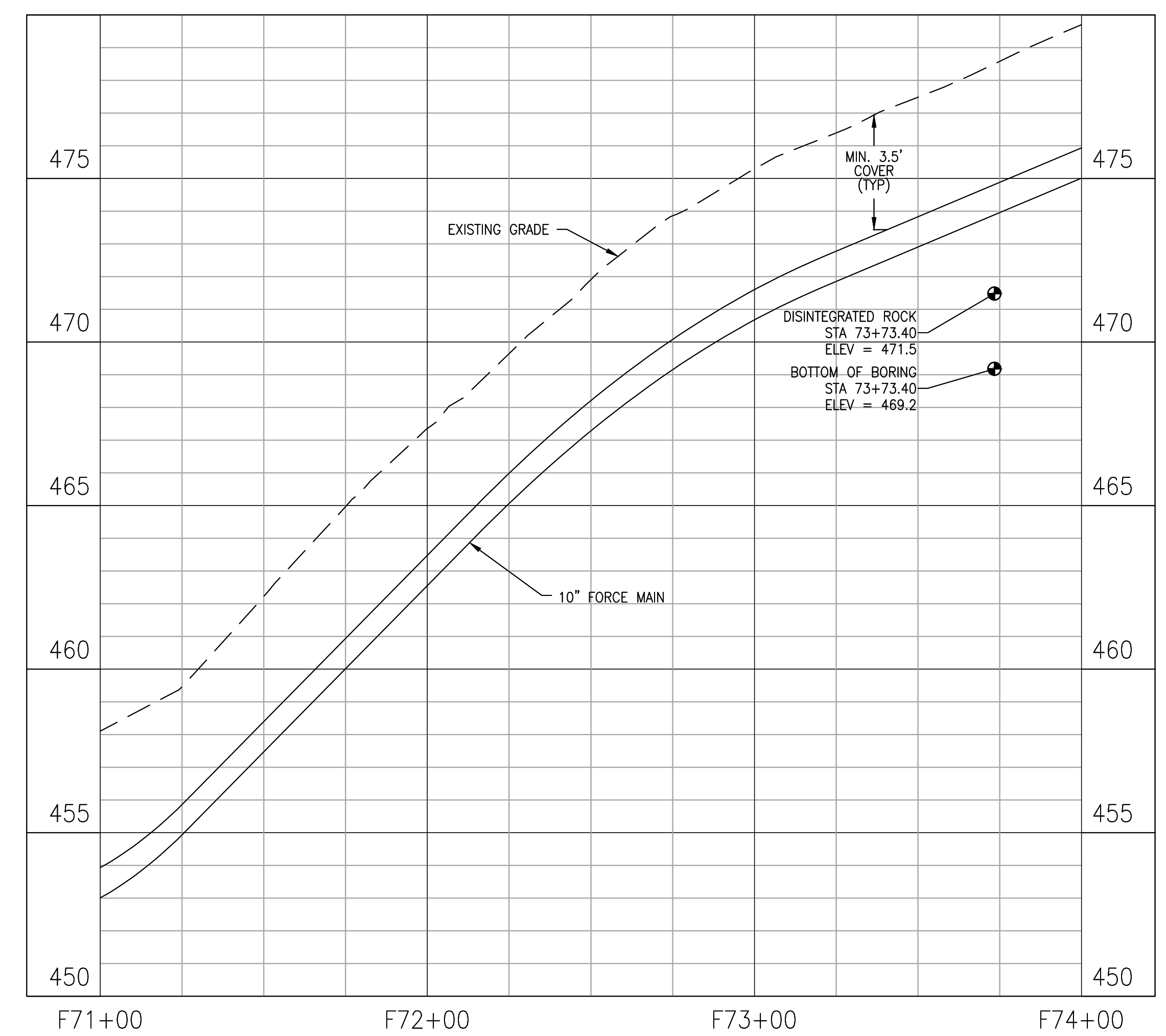
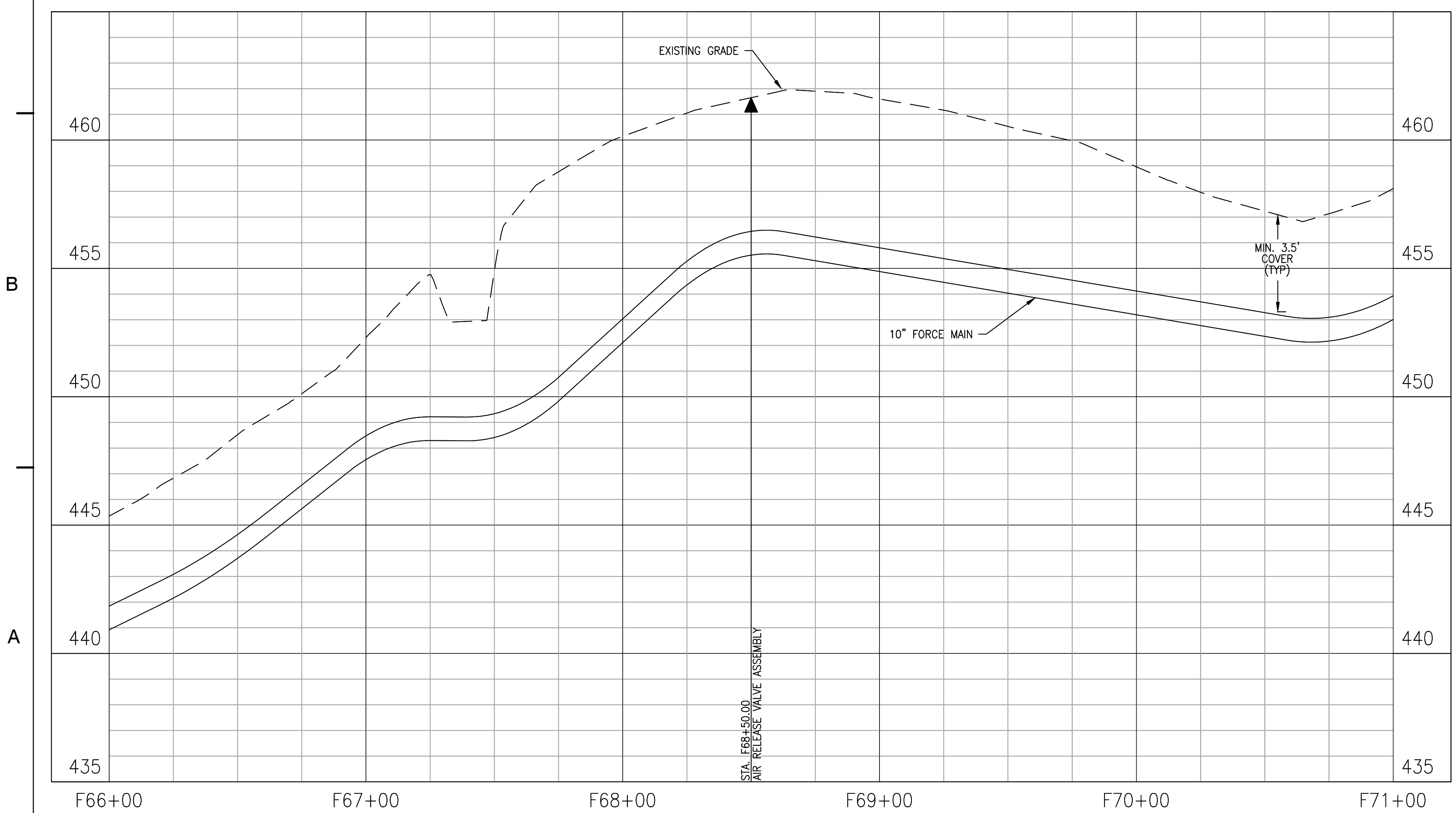
PROJECT NO. 50078861

FM1.6

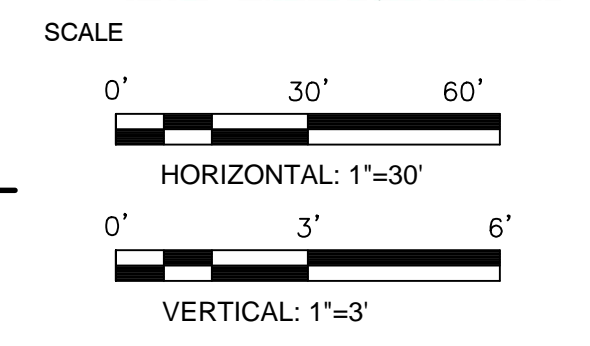
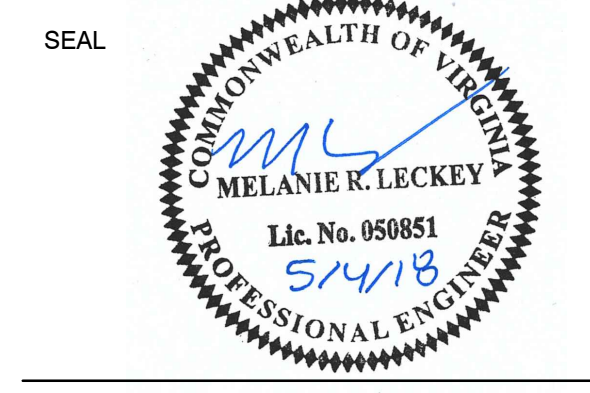
**ZION CROSSROADS
 WATER AND SEWER SYSTEM**
 FLUVANNA COUNTY
 DEPARTMENT OF PUBLIC WORKS
 FLUVANNA COUNTY, VA



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KEY PLAN



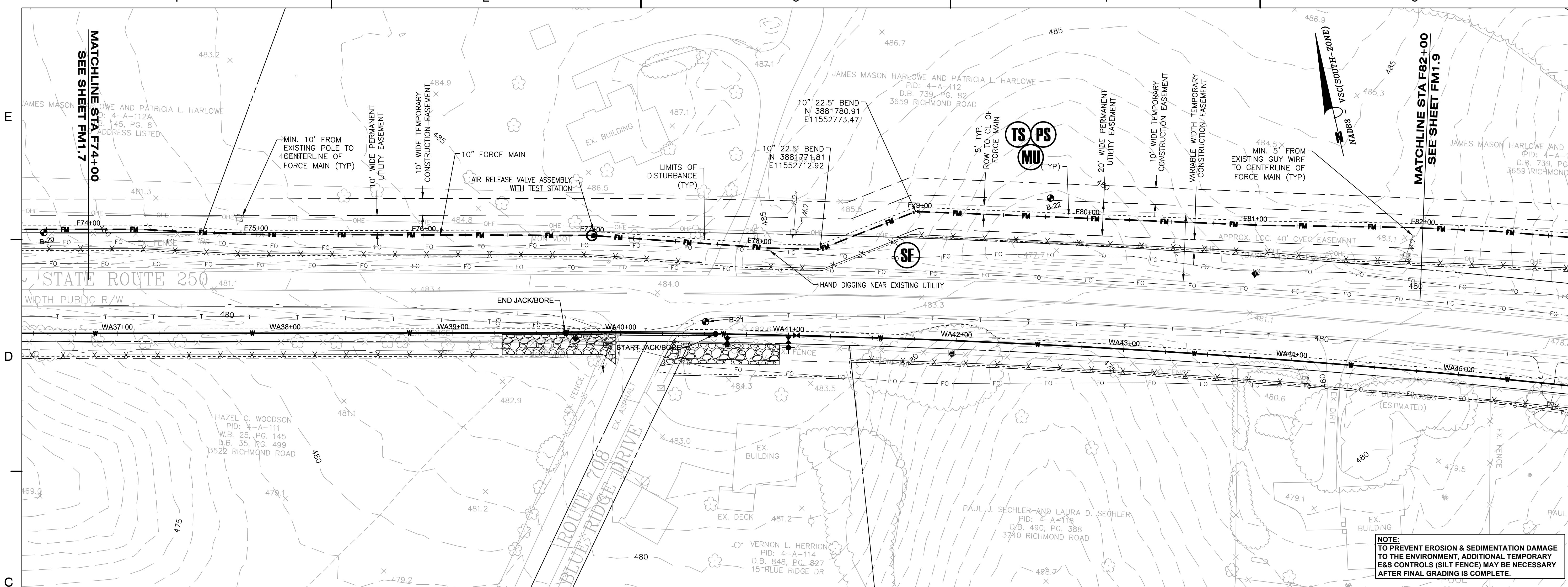
No.	DATE	BY	Description
REVISIONS			

DRAWN BY: JEH
 APPROVED BY: MRL
 CHECKED BY: DAV
 DATE: MAY 2018

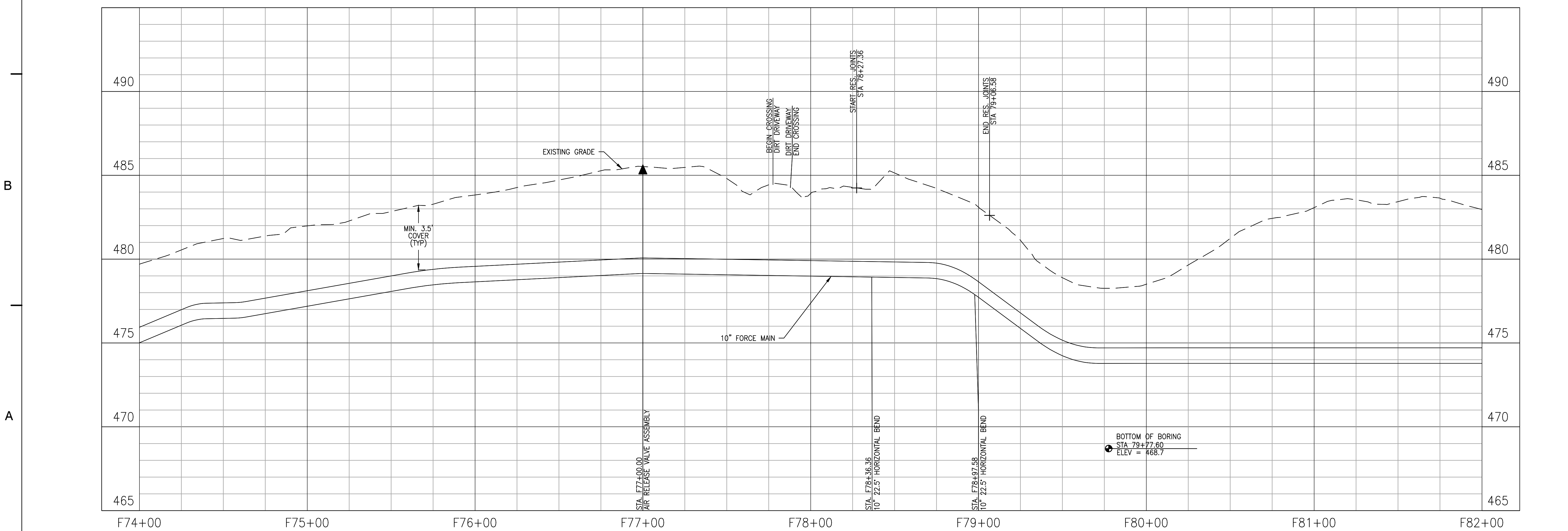
**FORCE MAIN
 PLAN AND
 PROFILE**

PROJECT NO. 50078861

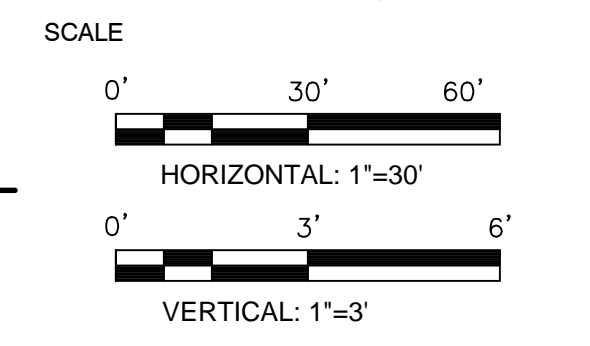
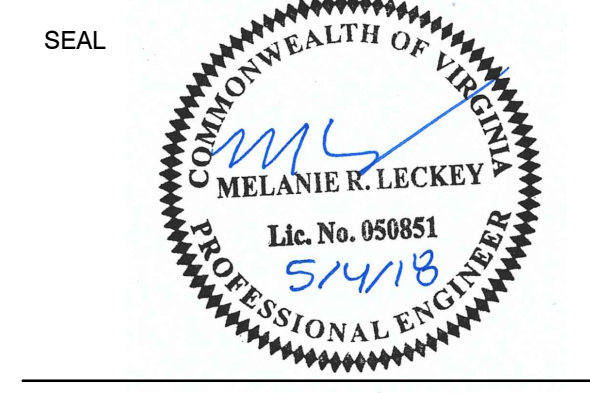
FM1.7



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KEY PLAN



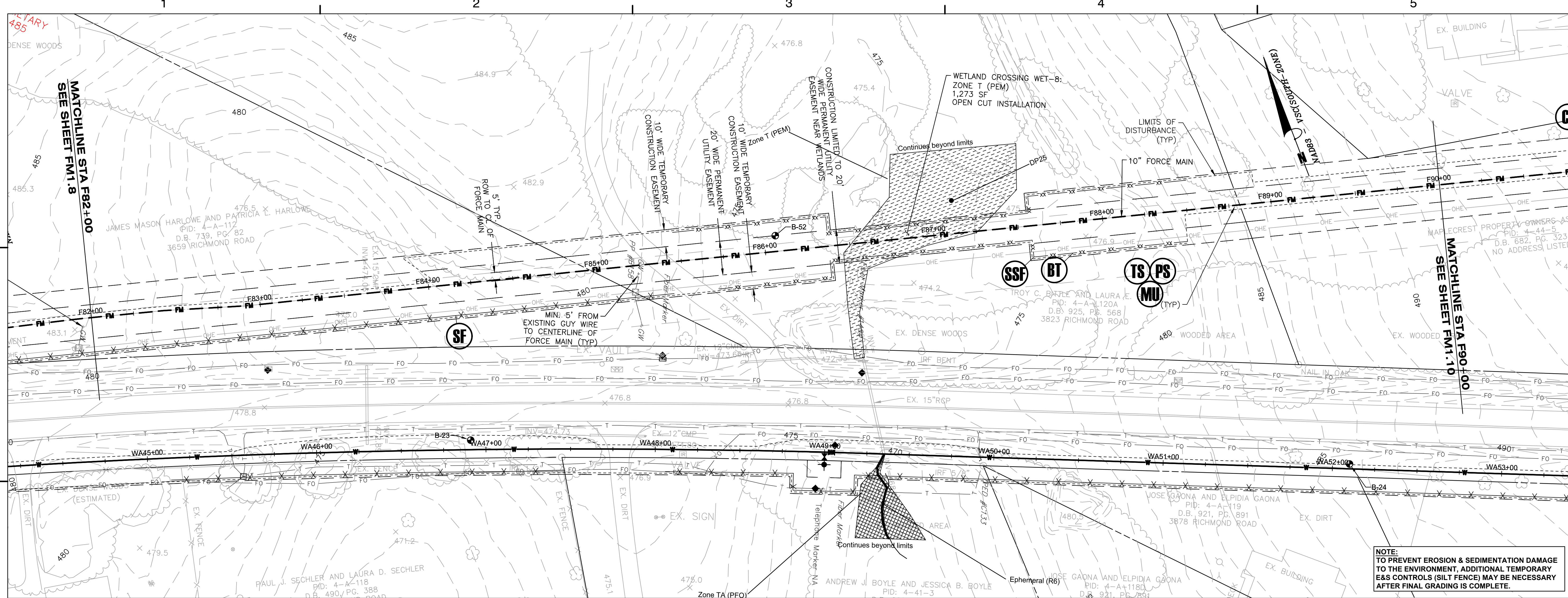
No.	DATE	BY	Description
REVISIONS			

DRAWN BY: JEH
 APPROVED BY: MRL
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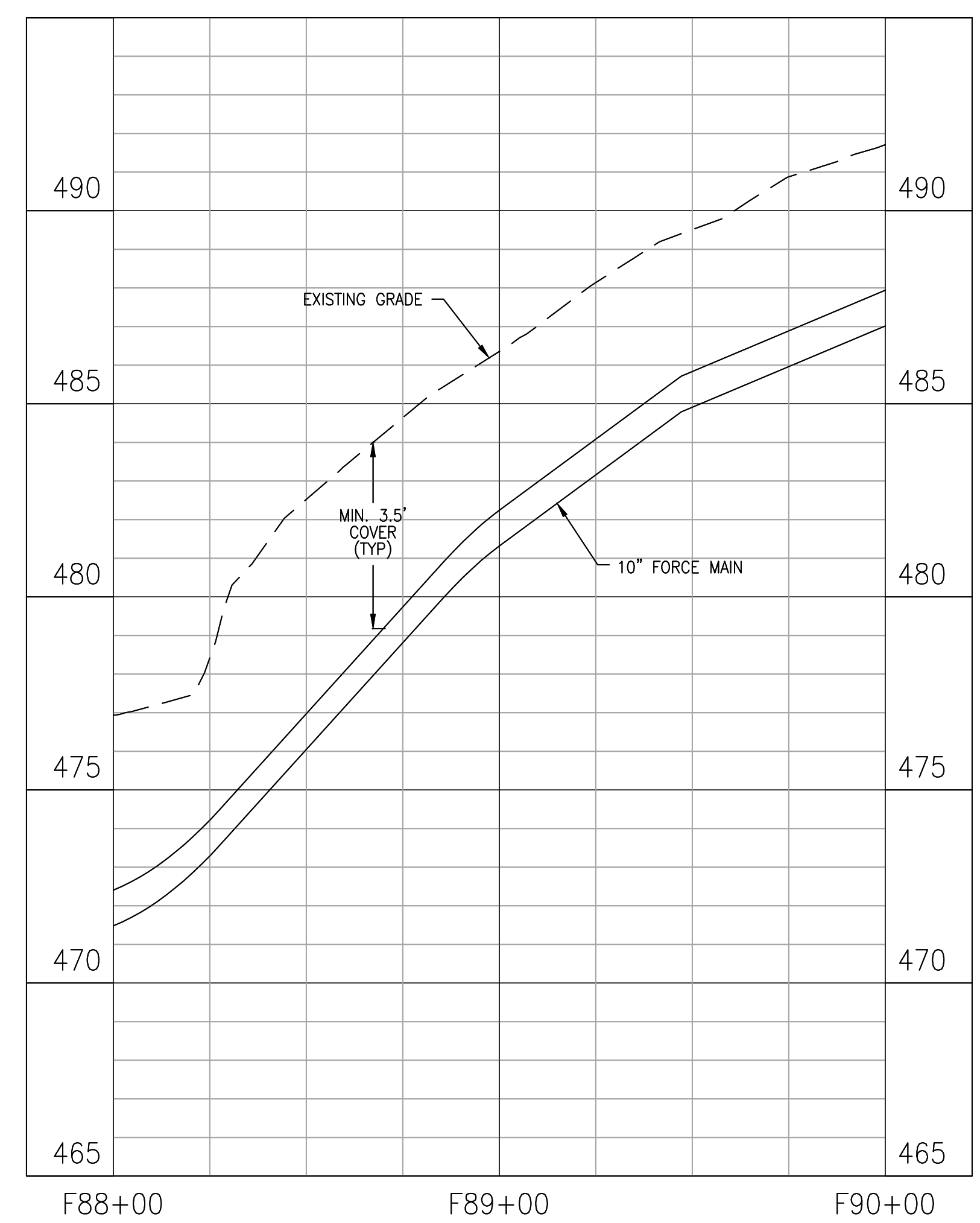
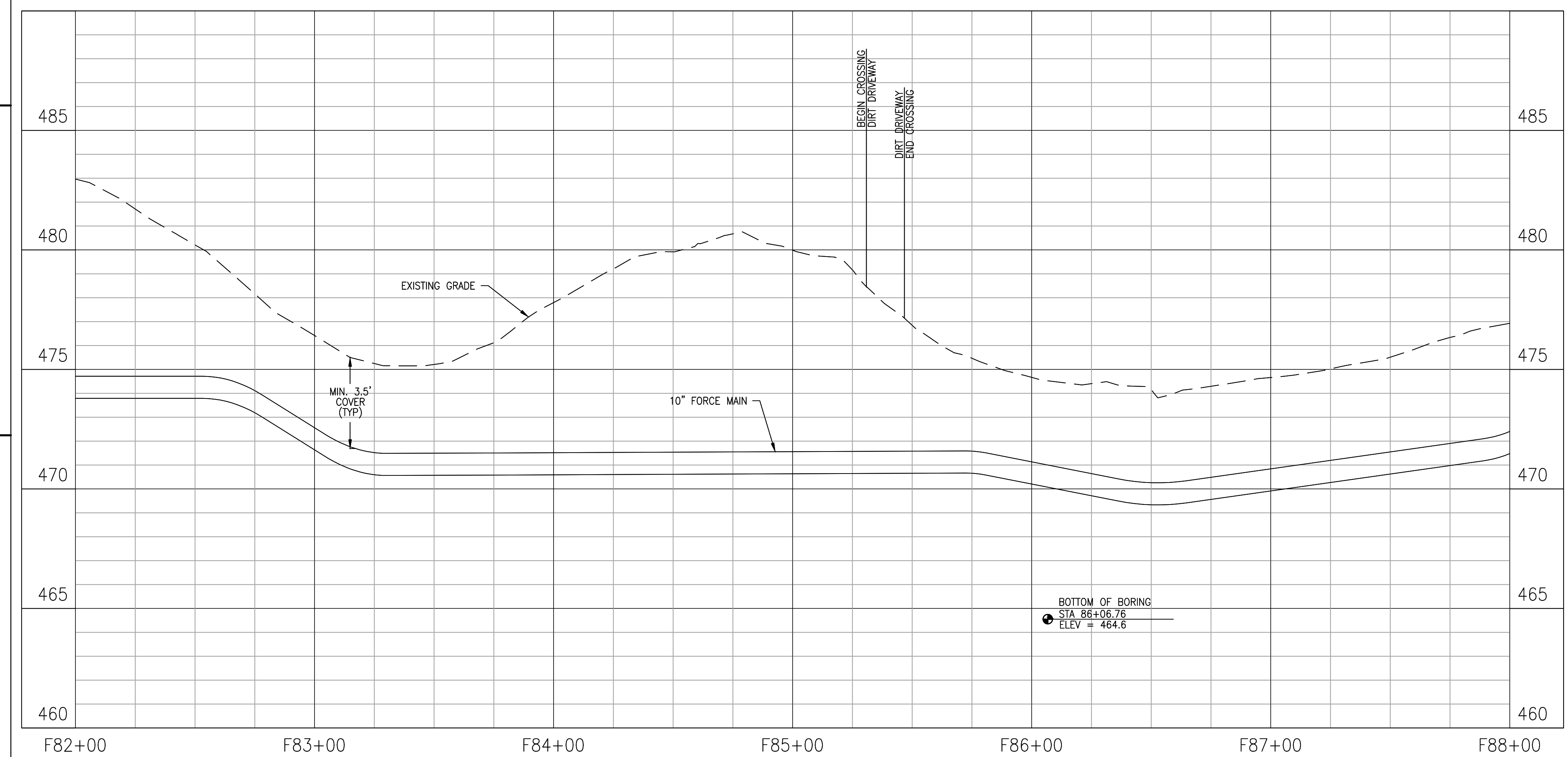
**FORCE MAIN
 PLAN AND
 PROFILE**

PROJECT NO. 50078861

FM1.8

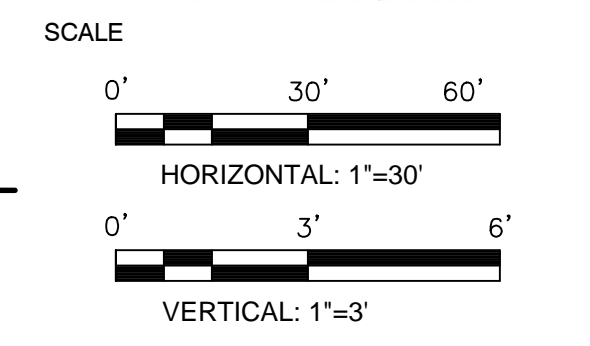
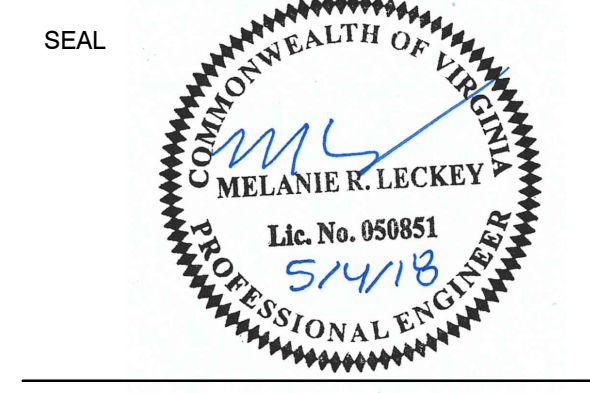


NOTE:
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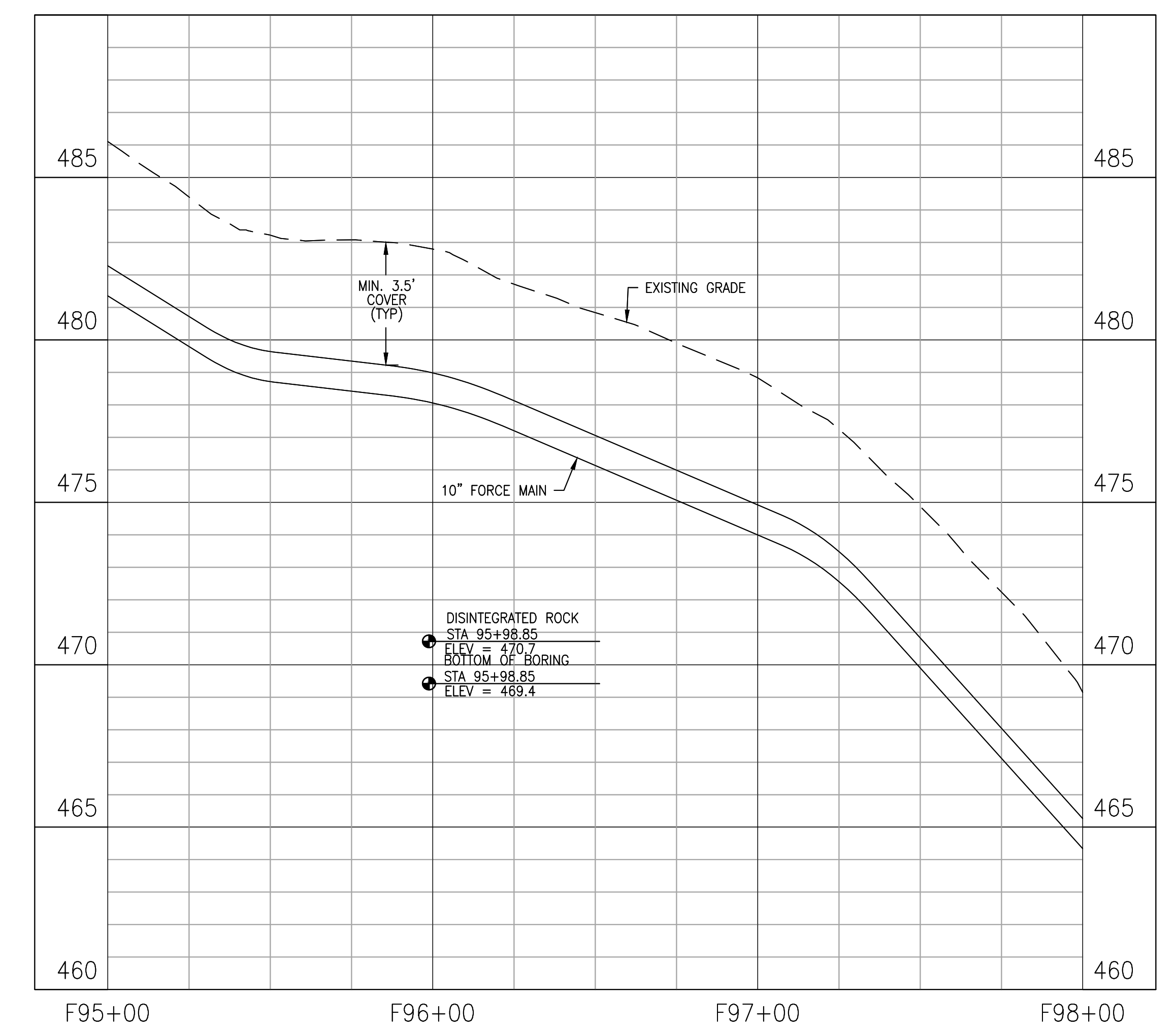
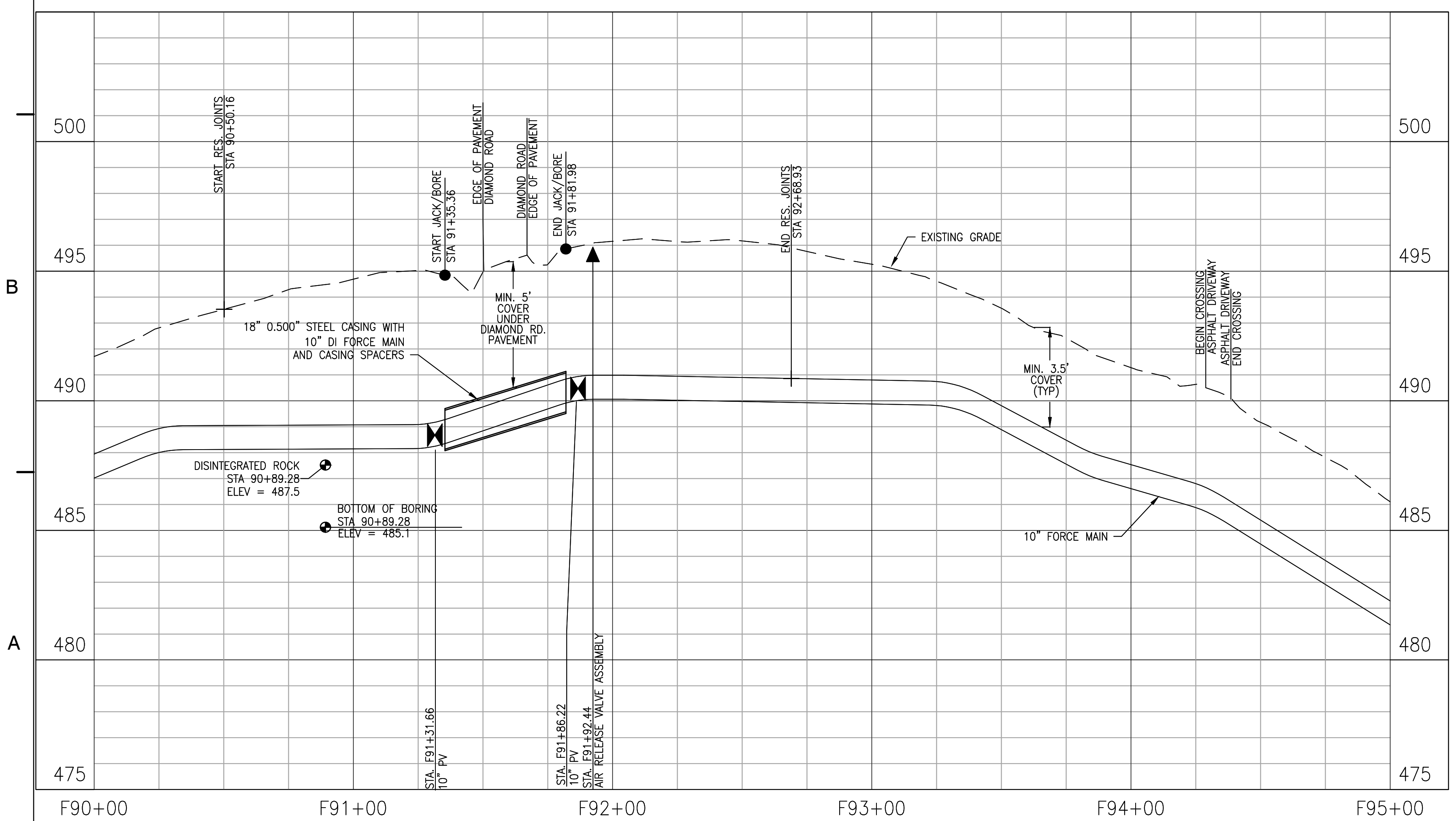
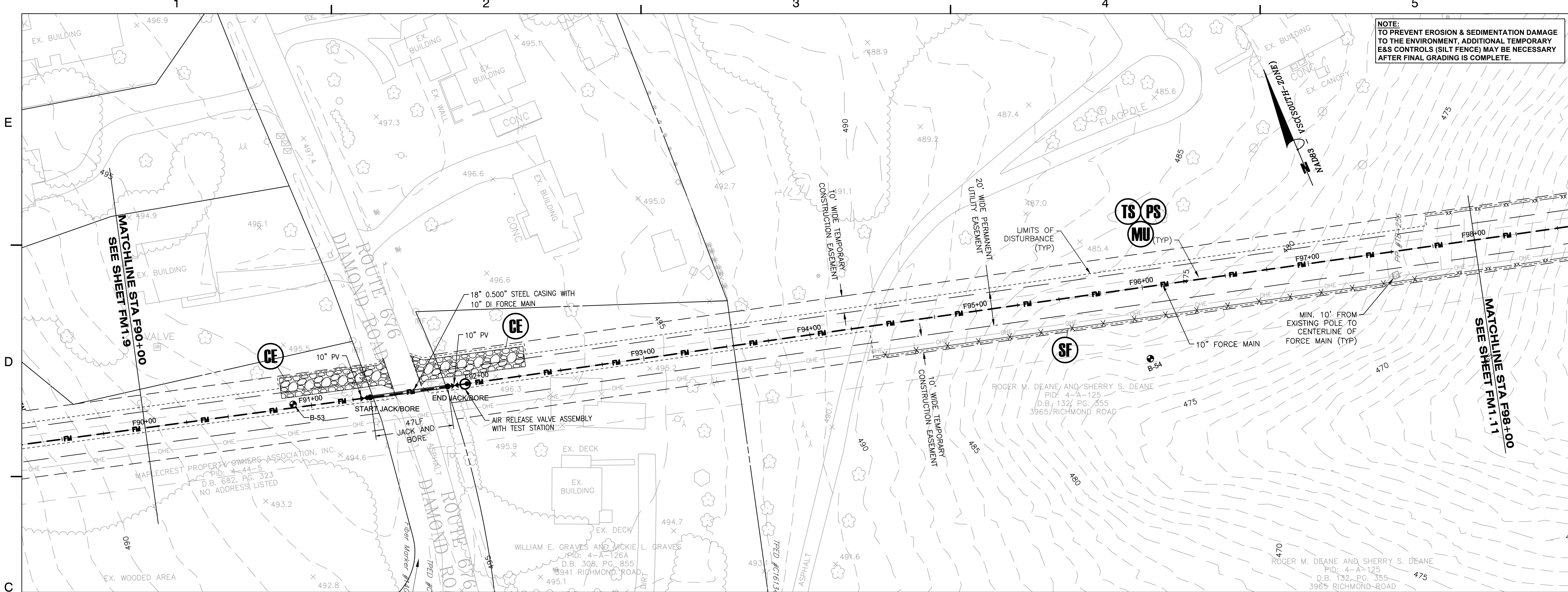
DRAWN BY: JEH
APPROVED BY: MRL
CHECKED BY: DAV
DATE: MAY 2018

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PROFILE**

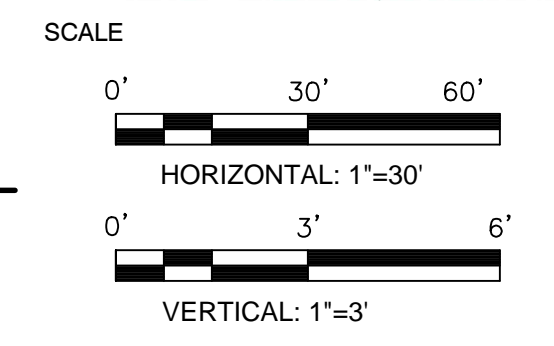
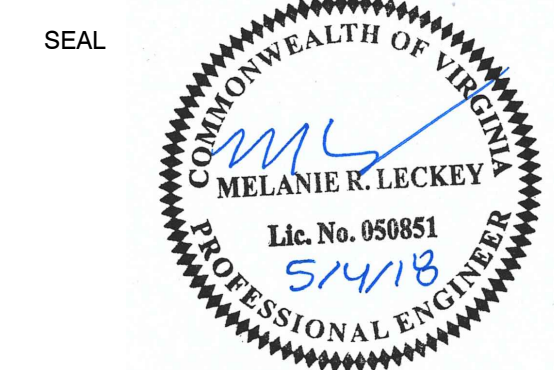
PROJECT NO. 50078861

FM1.9

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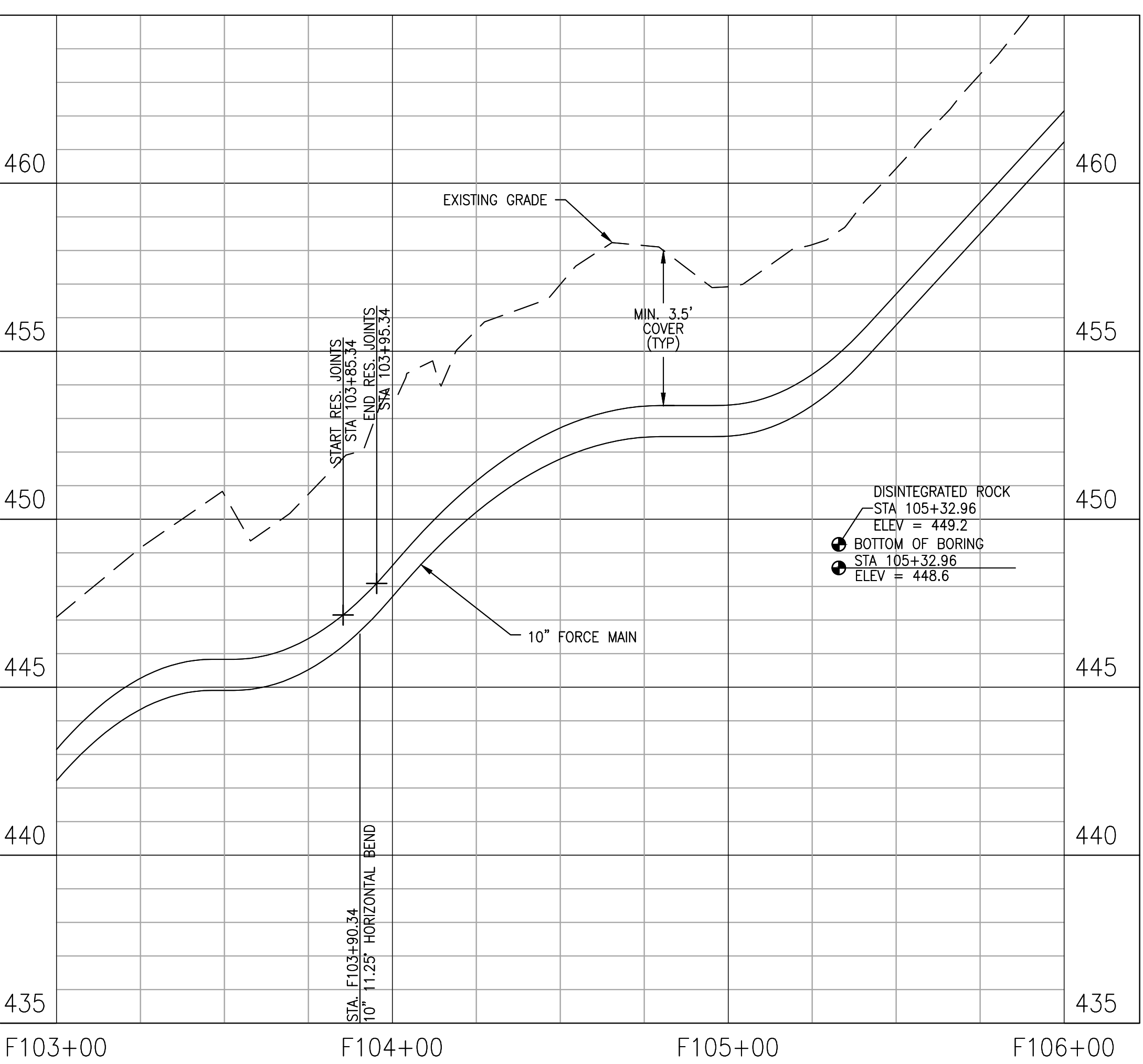
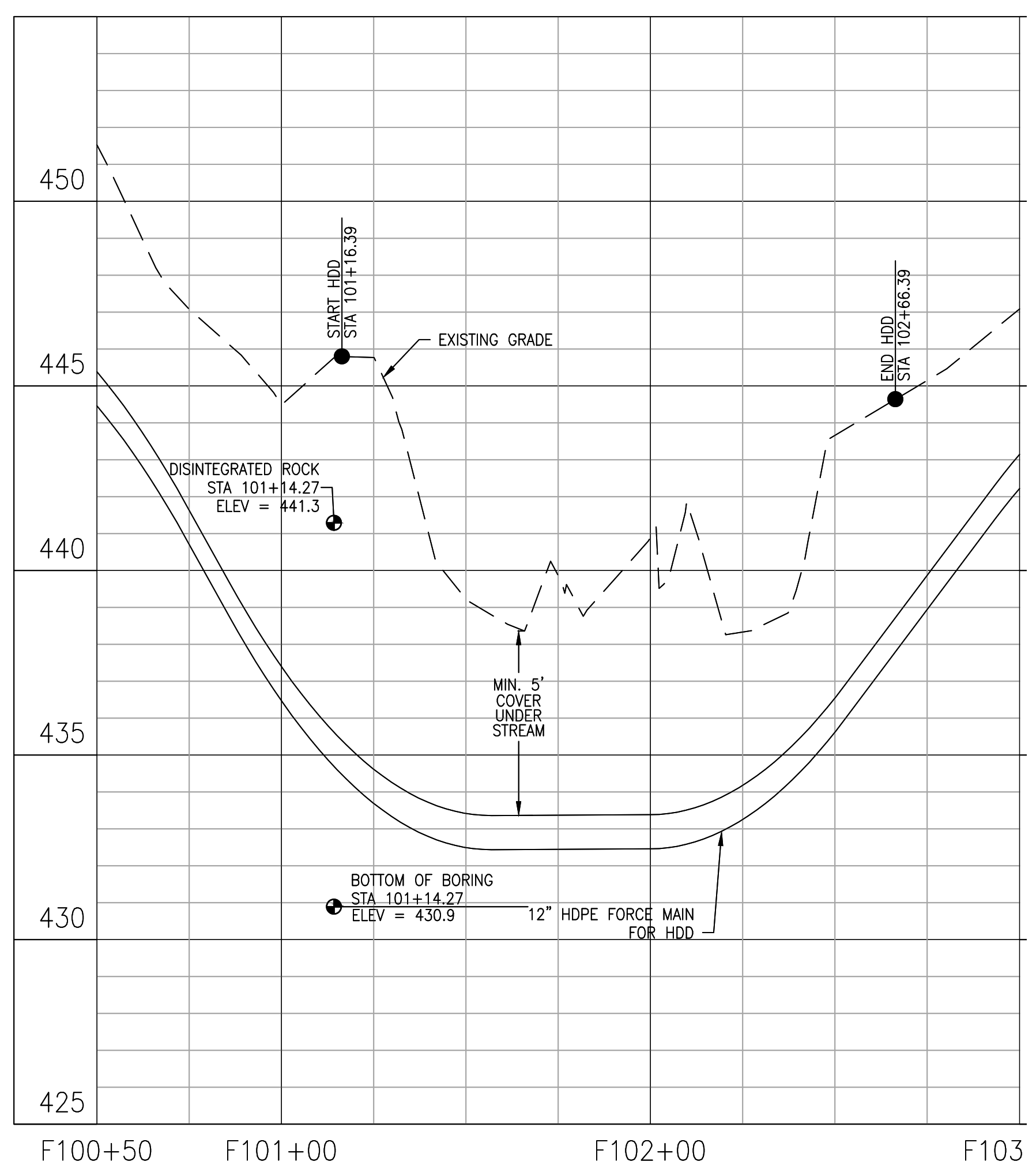
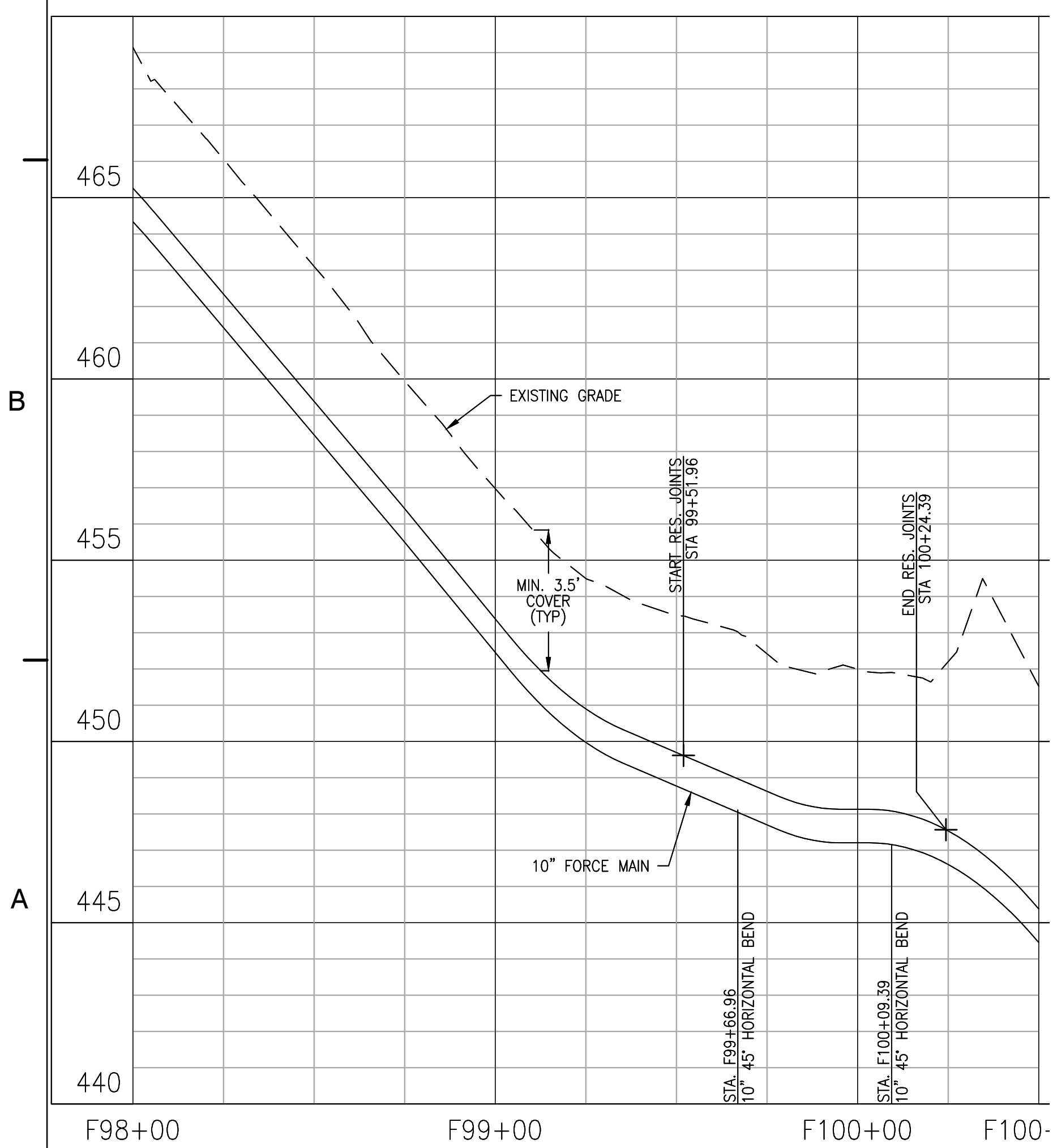
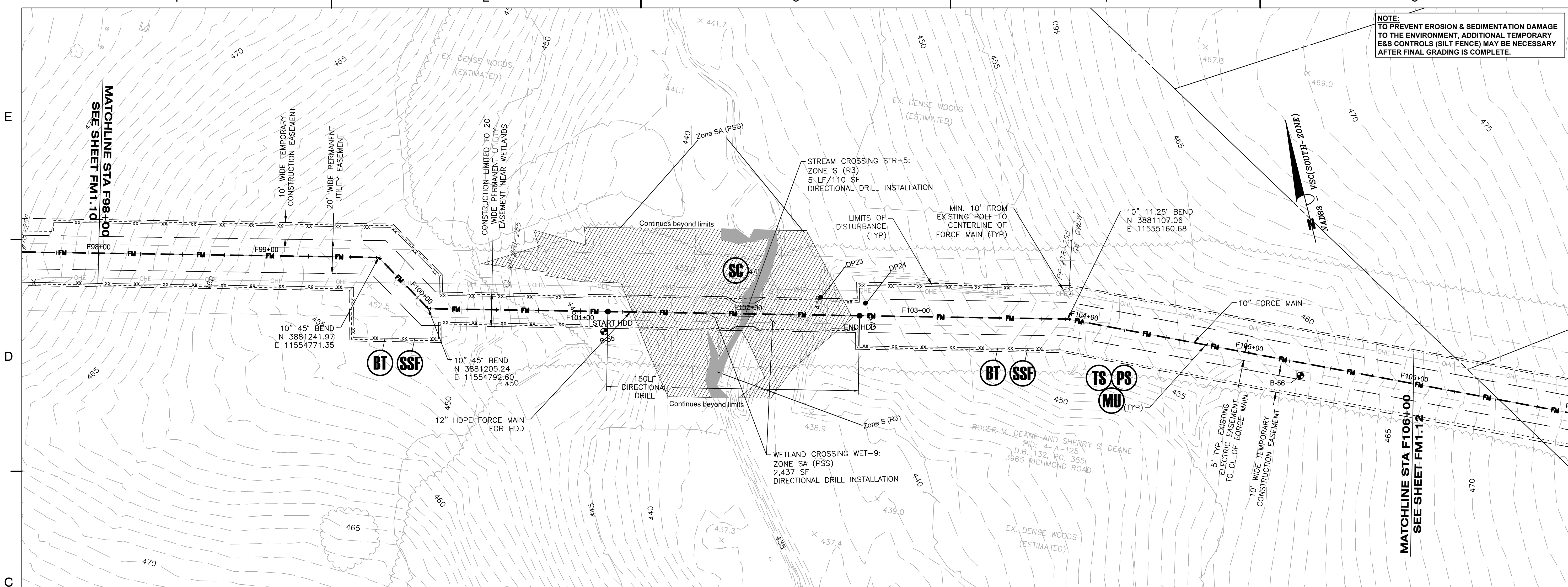
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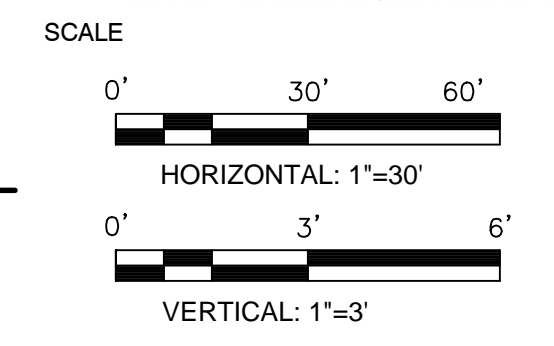
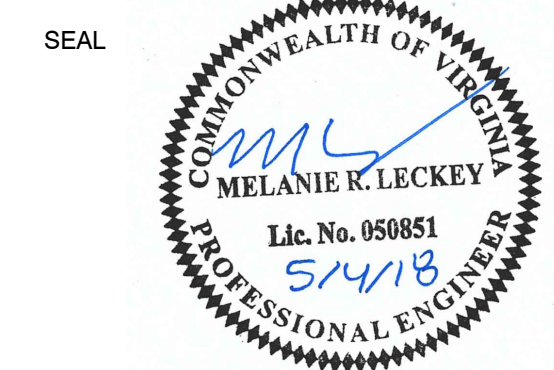
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**ZION CROSSROADS
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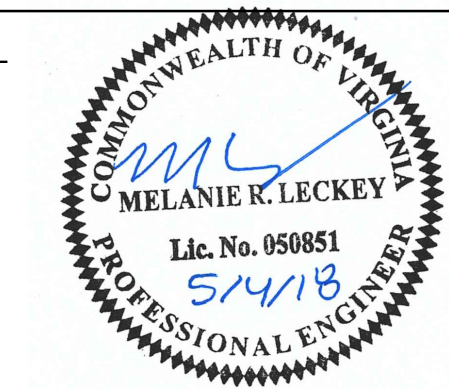
PROJECT NO. 50078861

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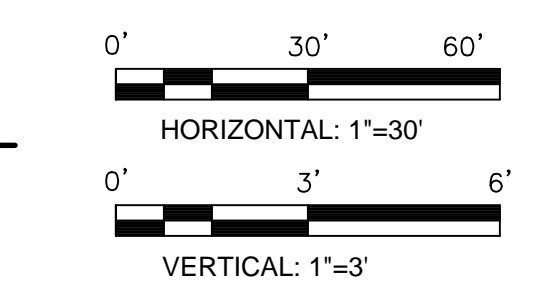
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 FLUVANNA COUNTY
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KEY PLAN

SEAL



SCALE



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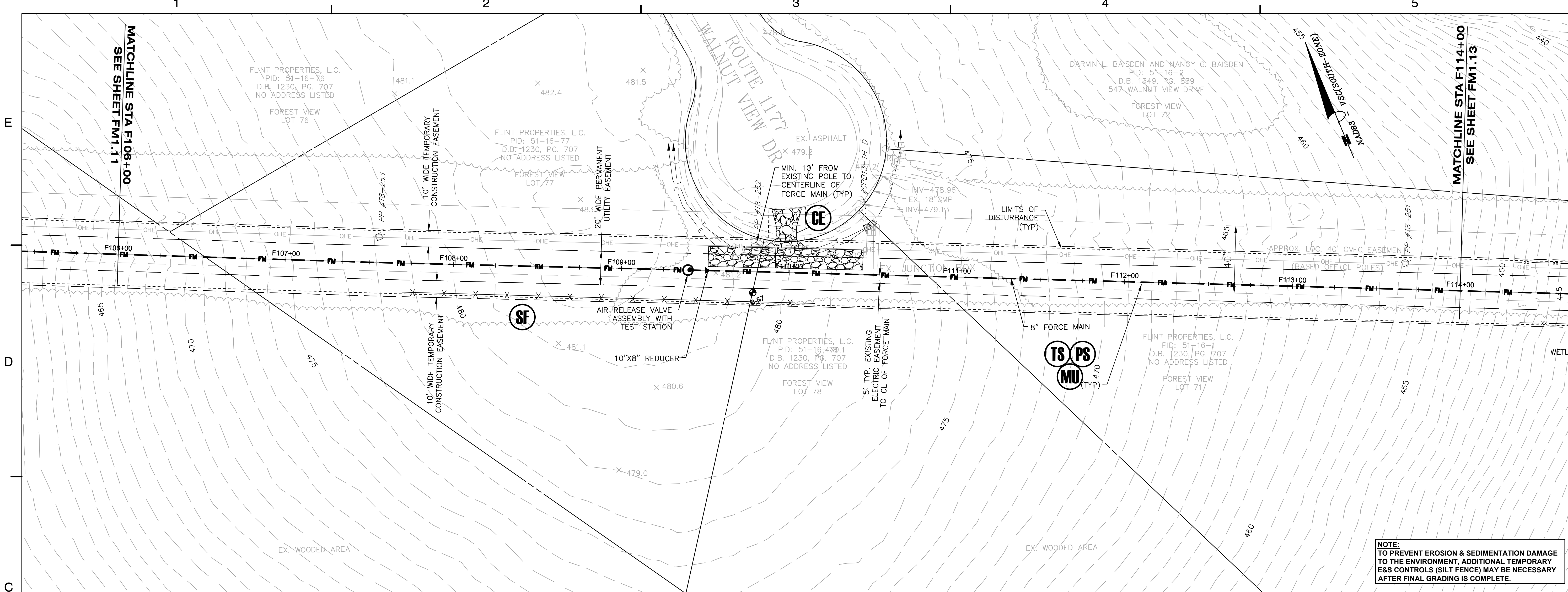
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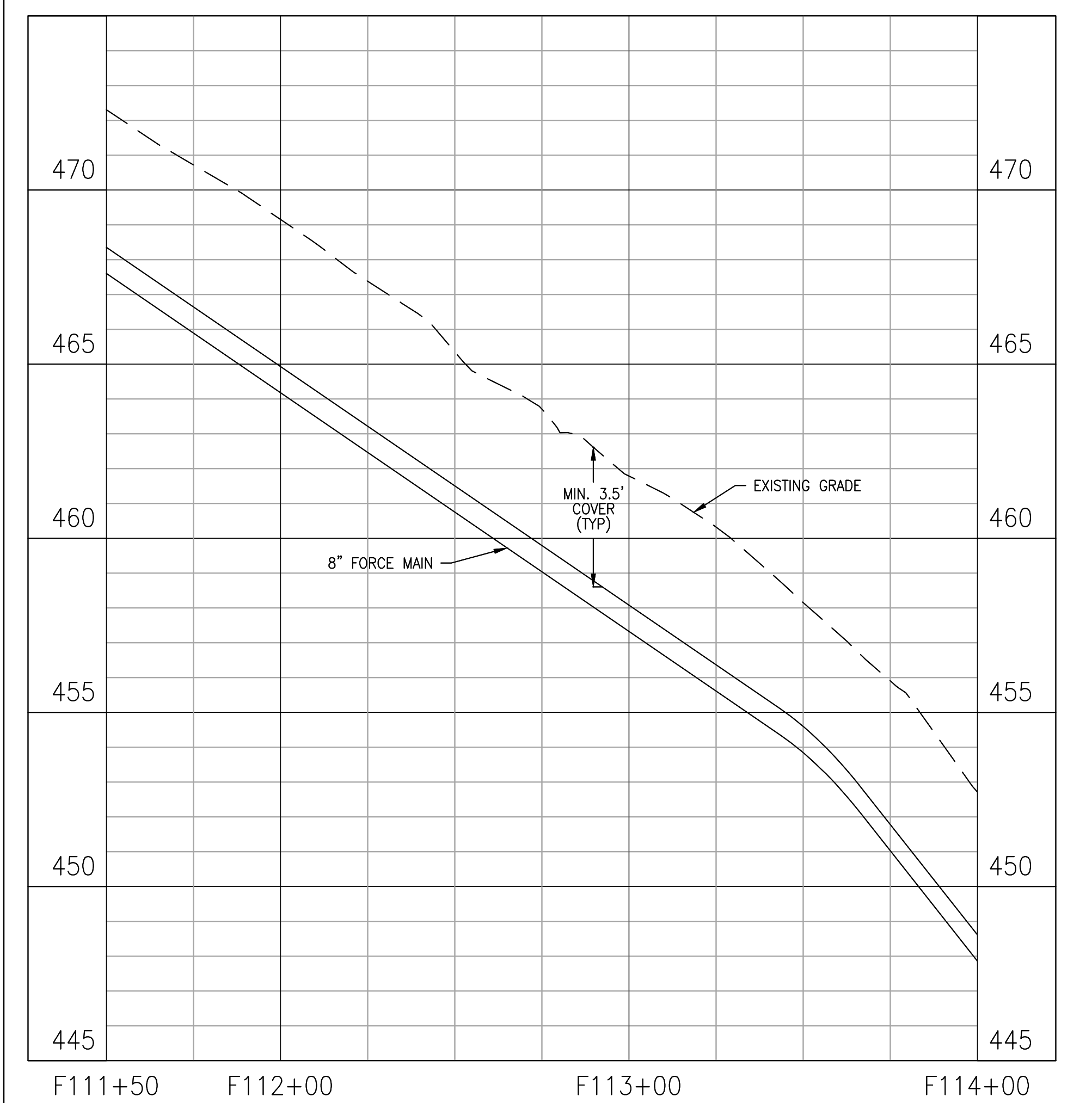
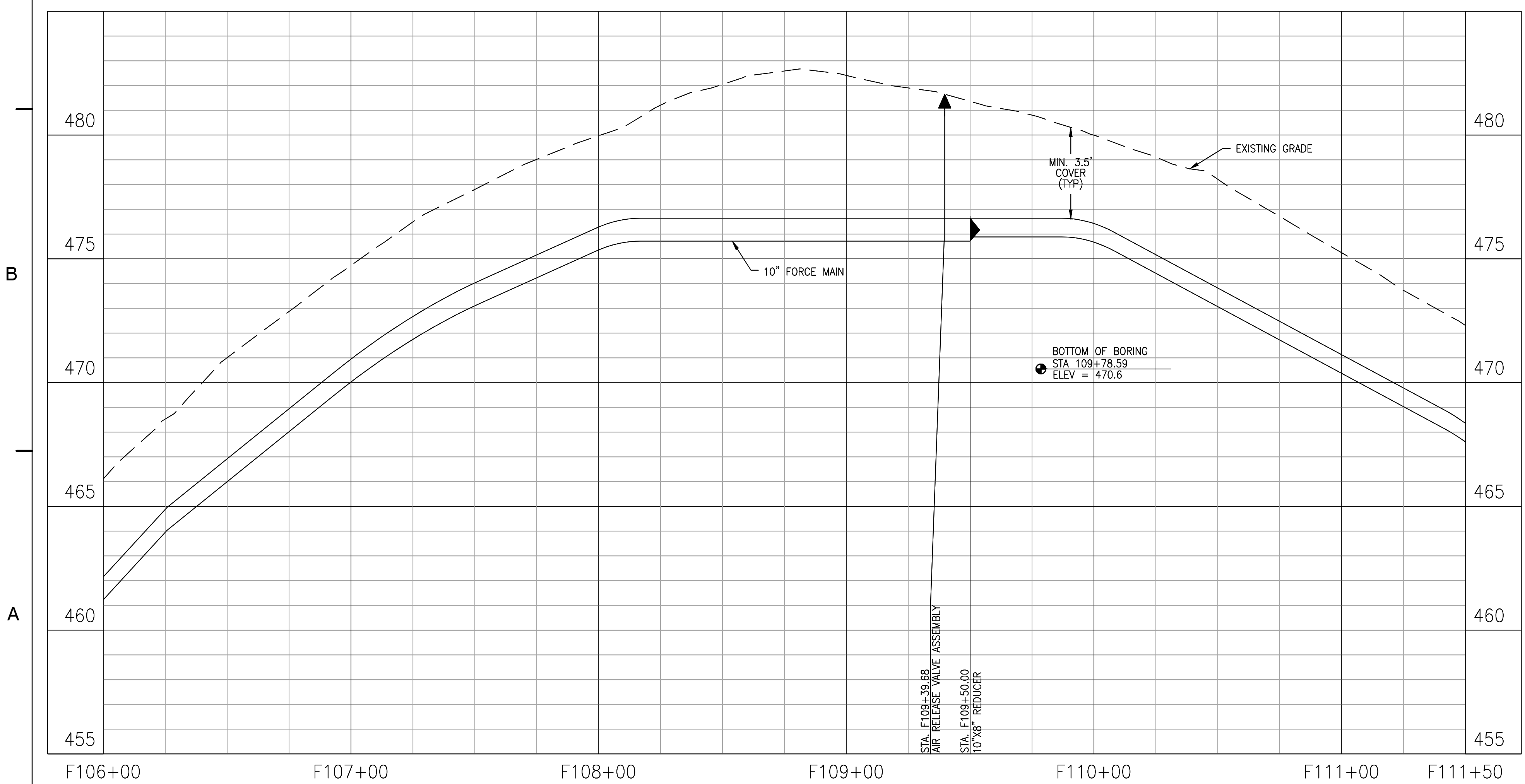
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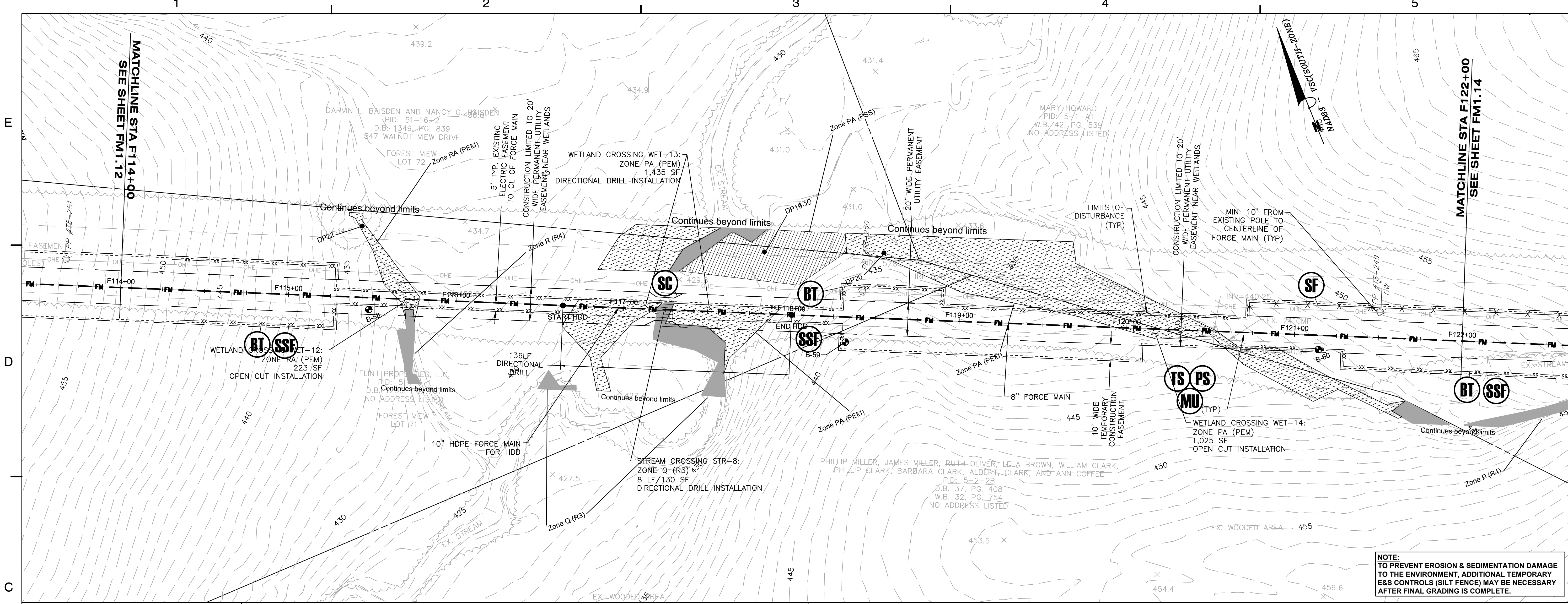
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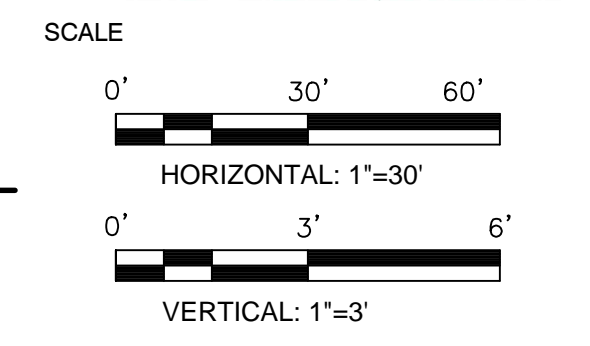
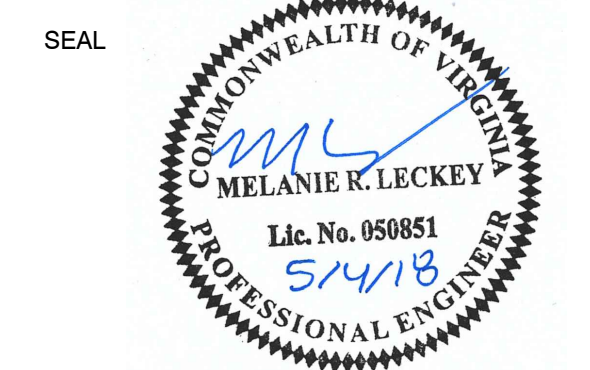


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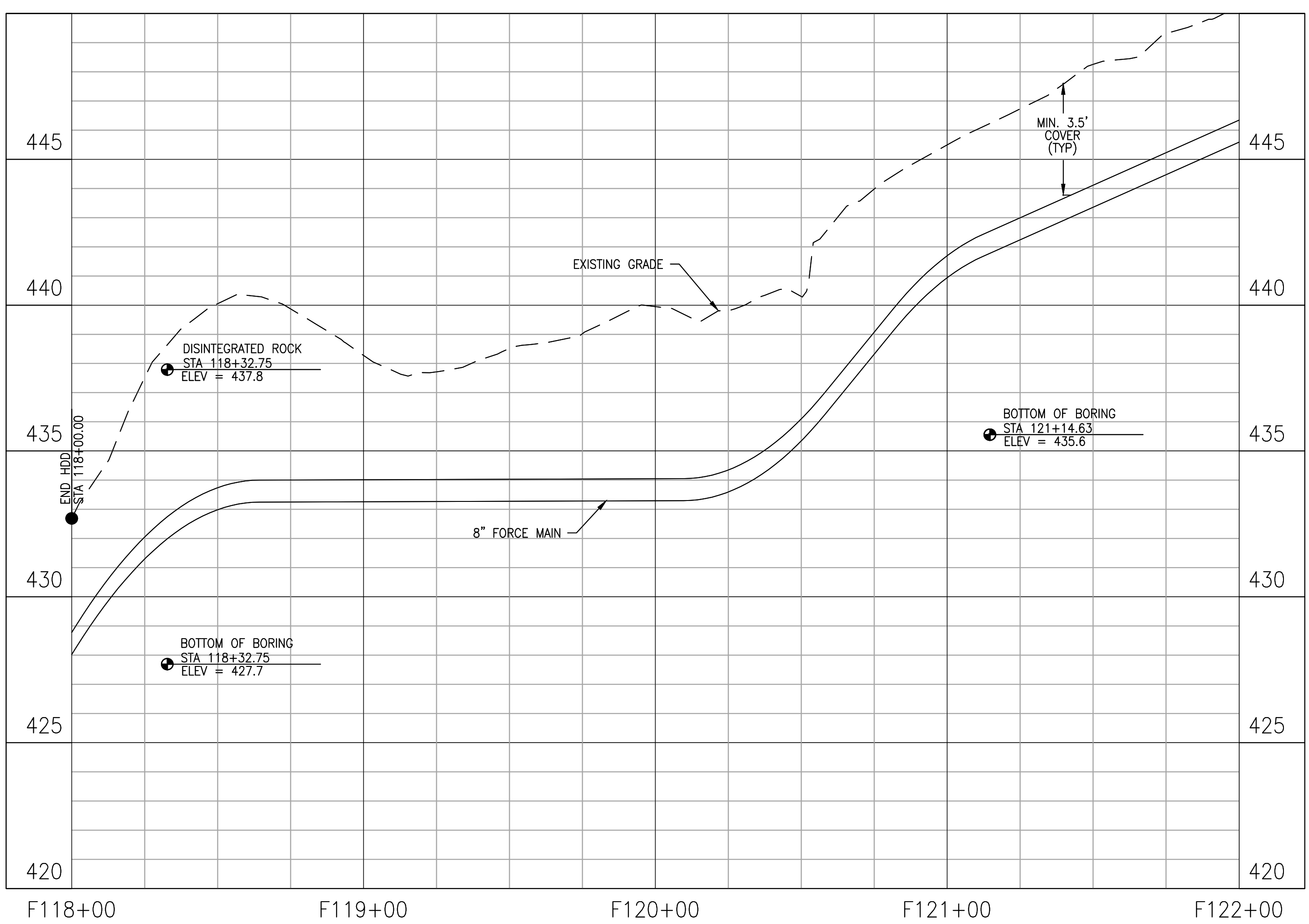
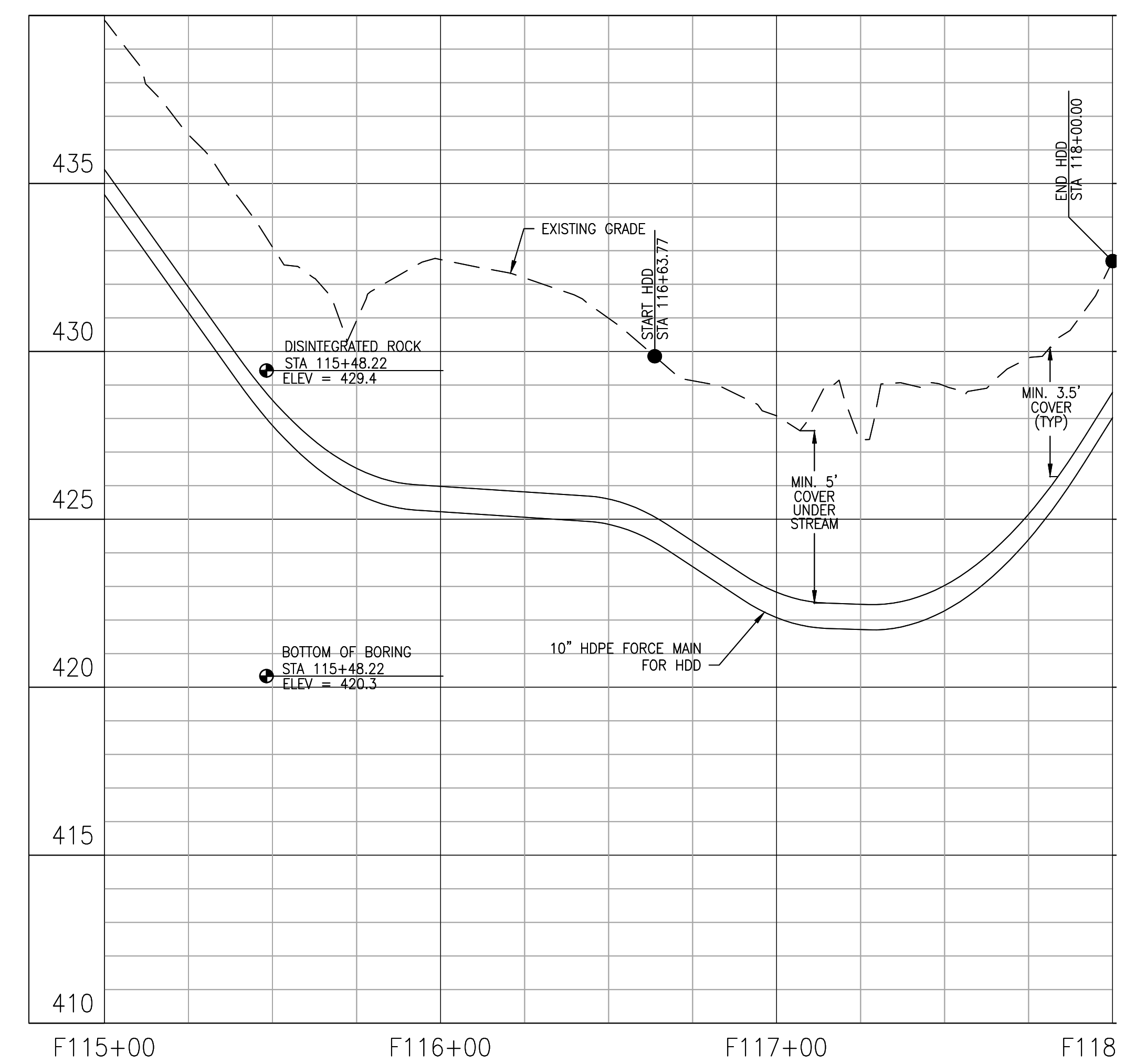
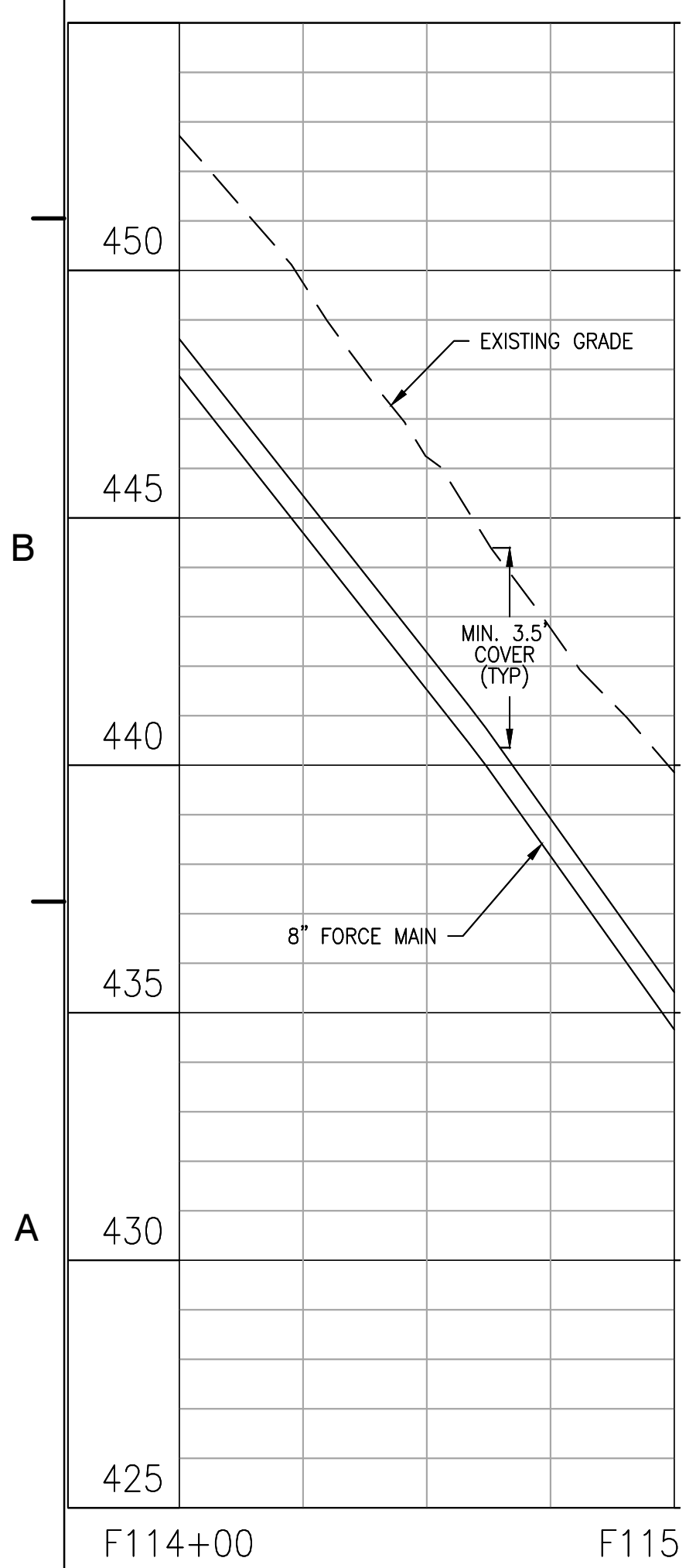


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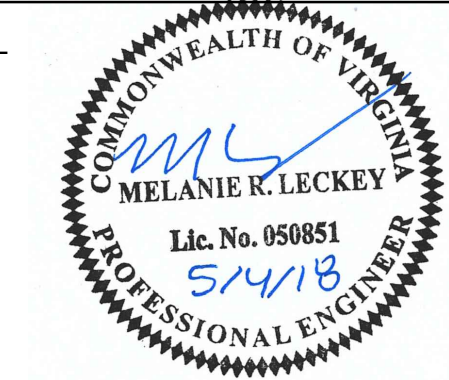
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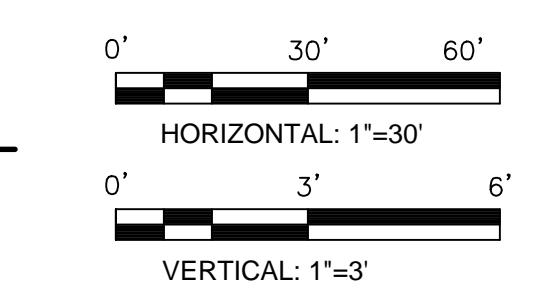
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SEAL



SCALE



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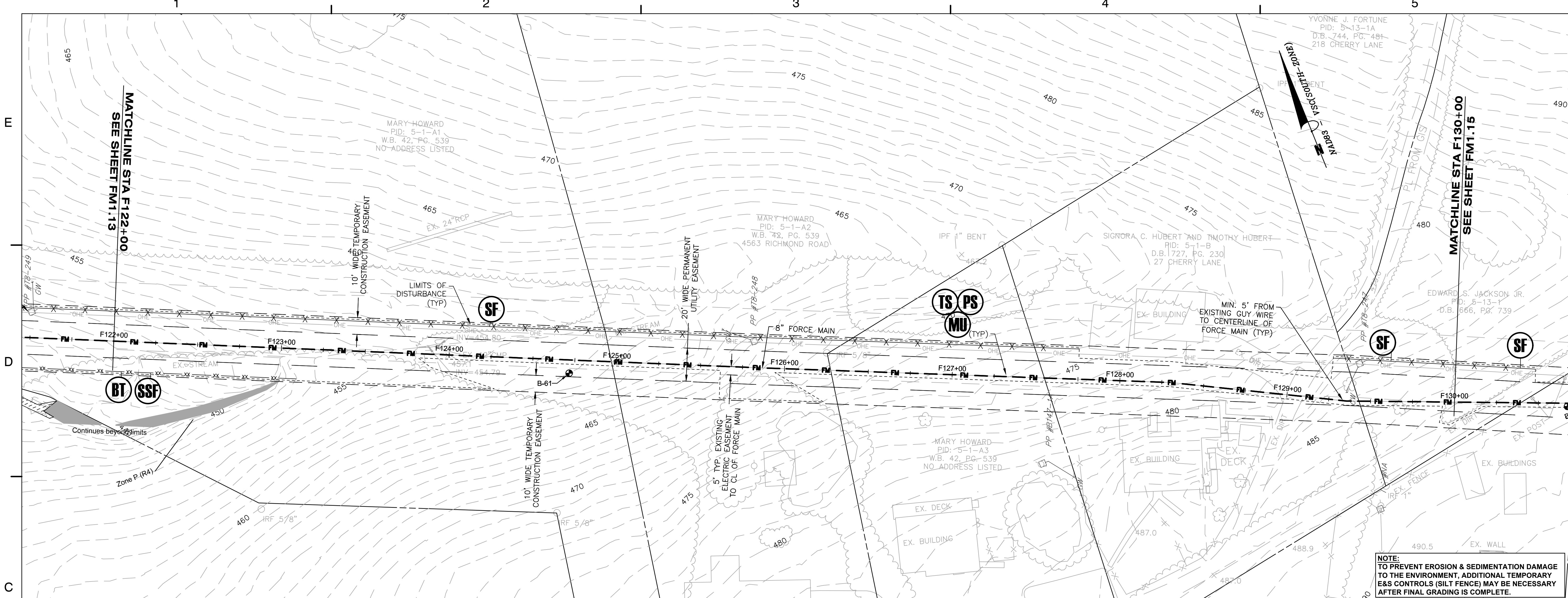
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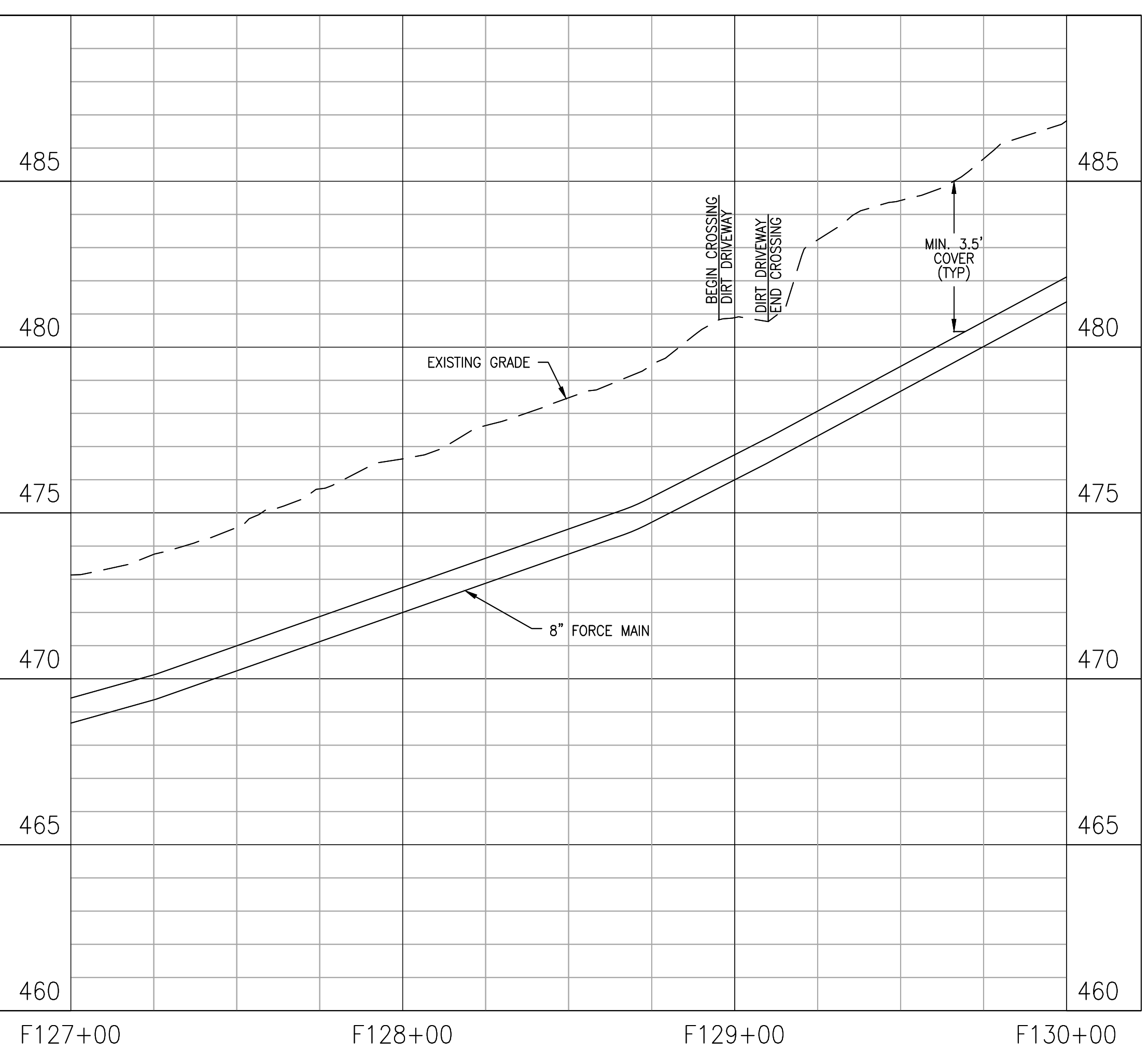
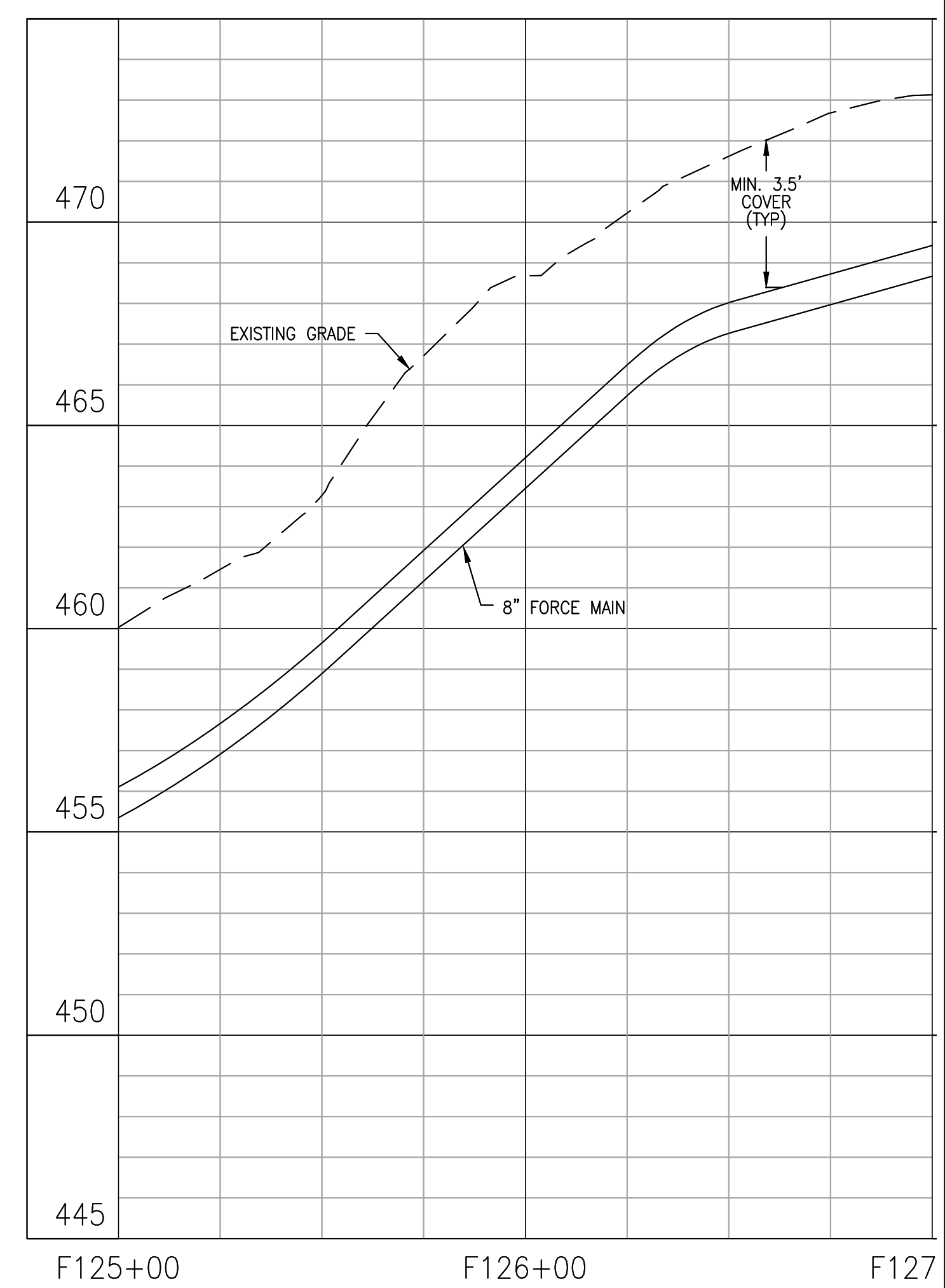
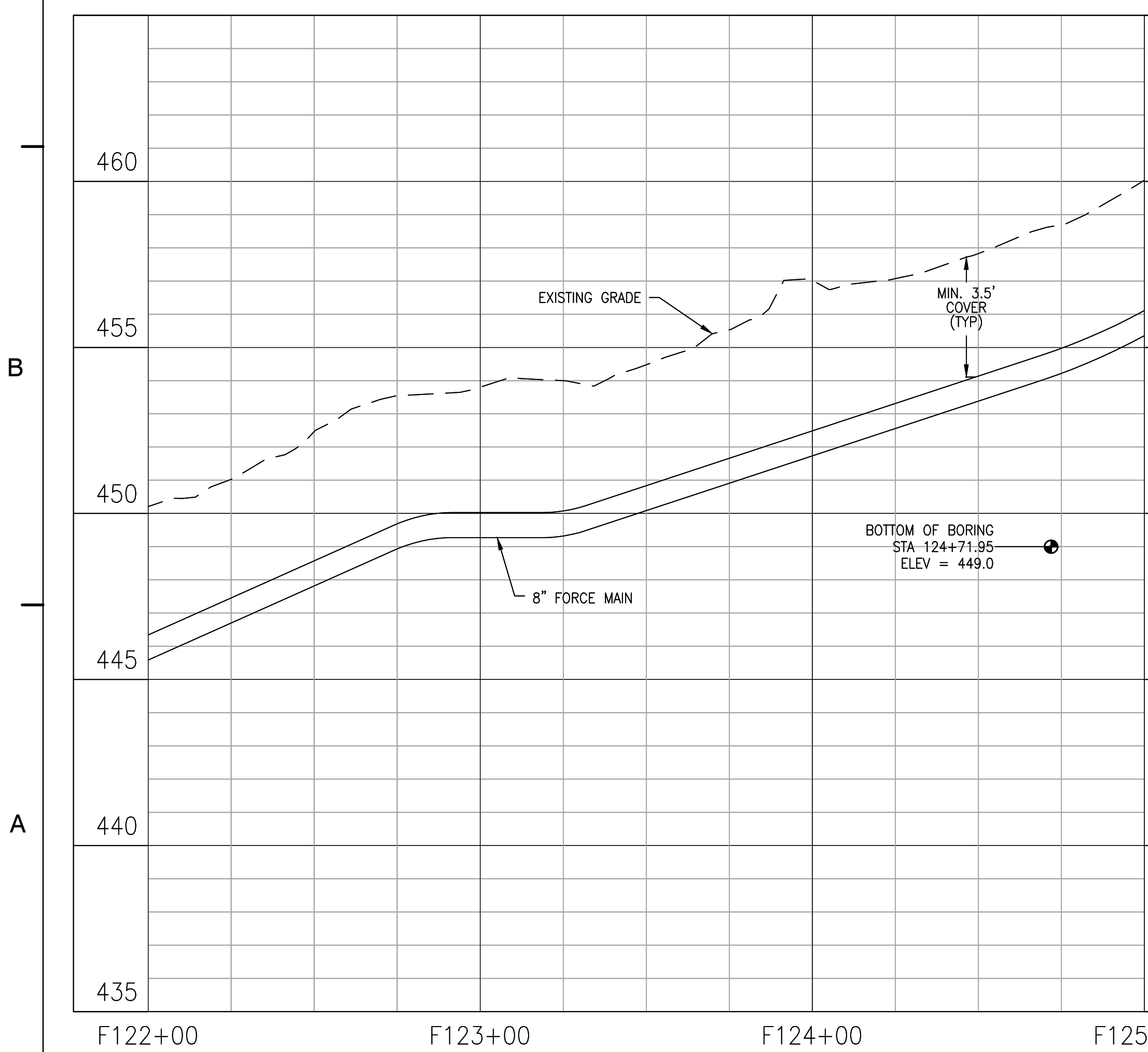
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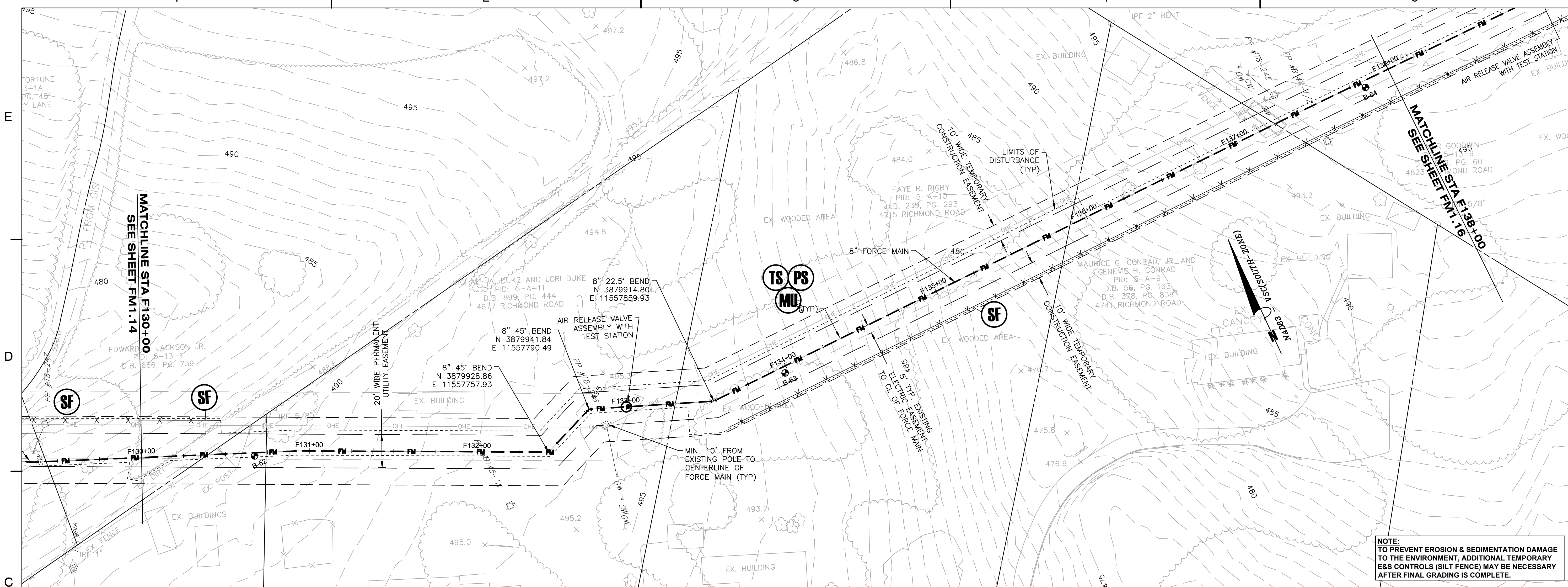
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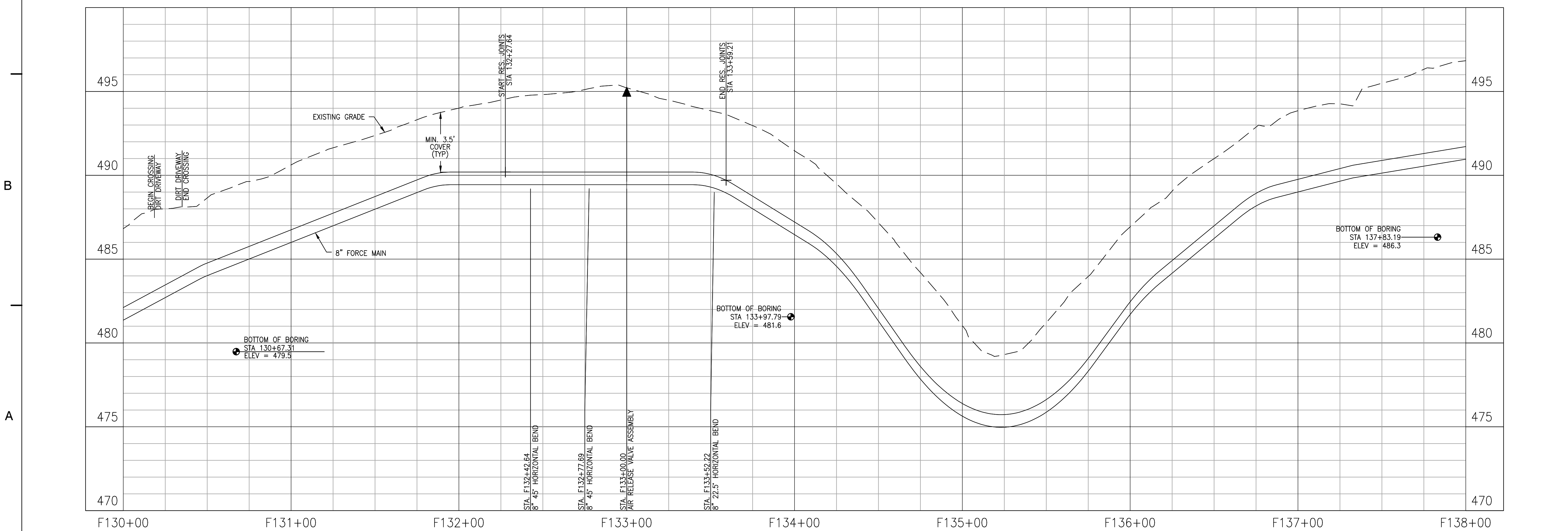
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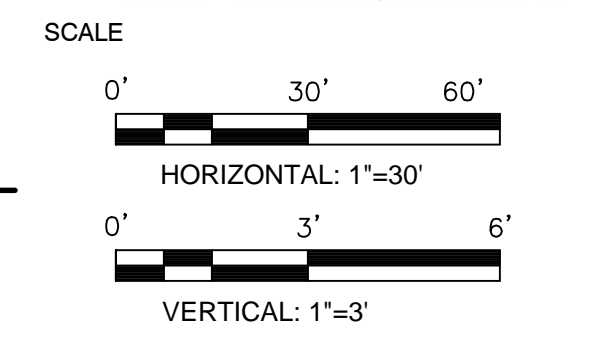
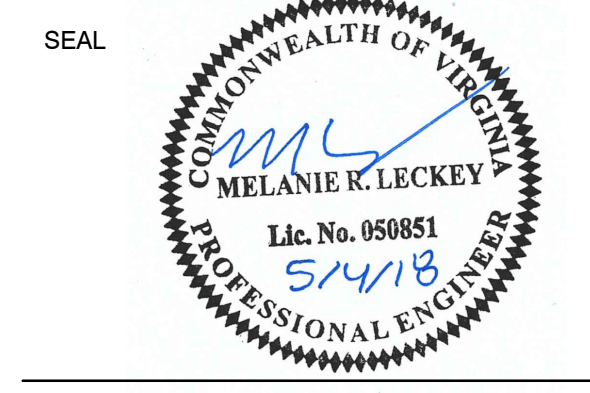
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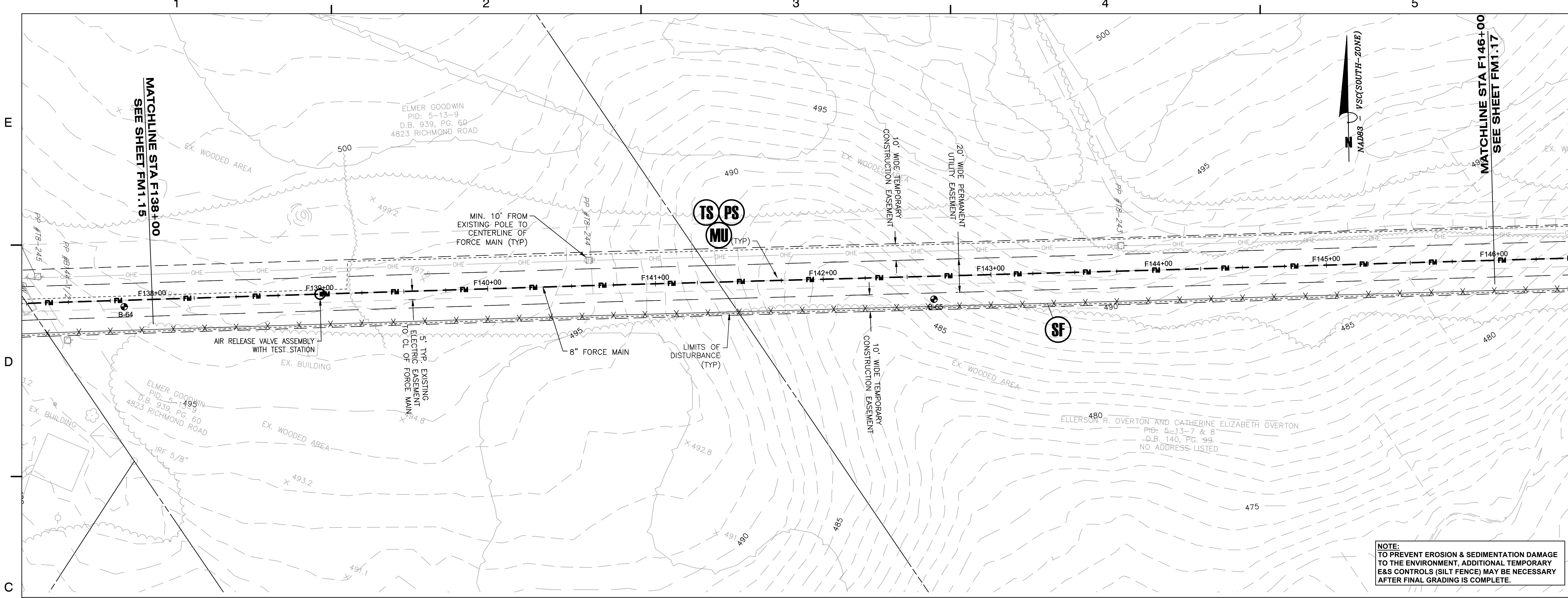
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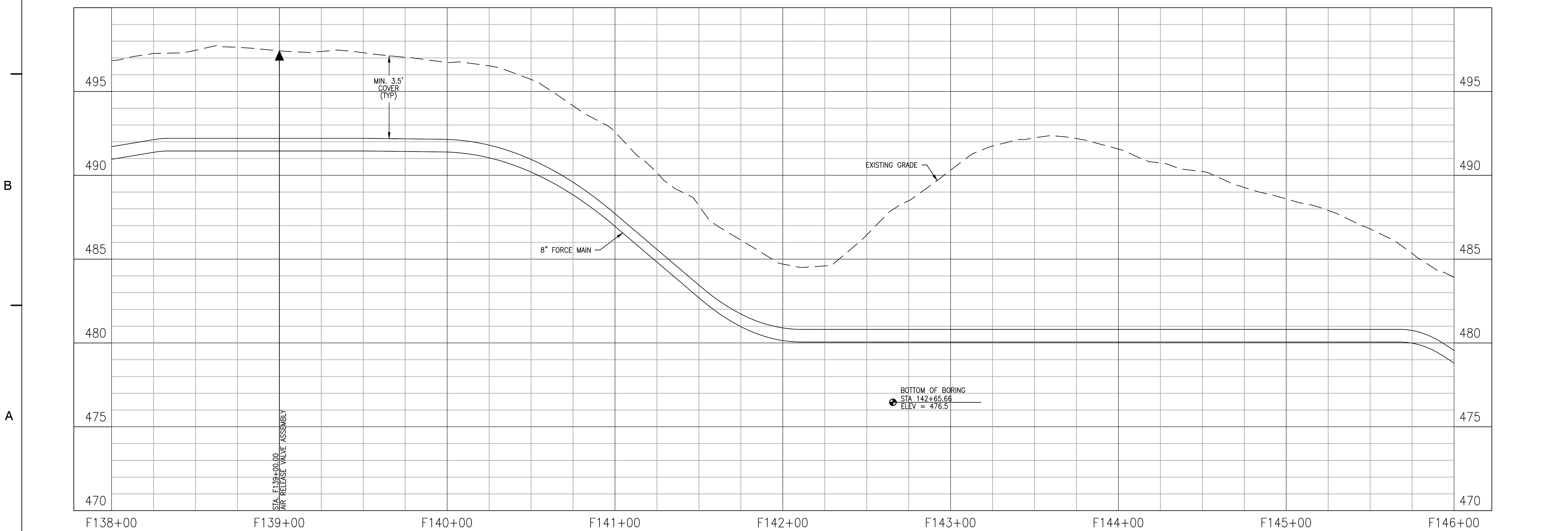
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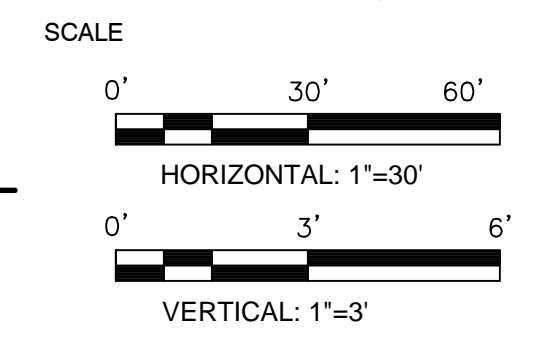
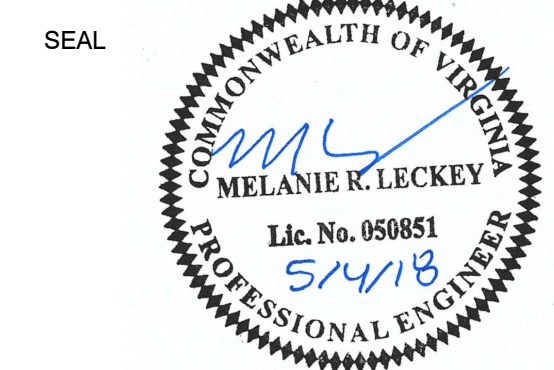
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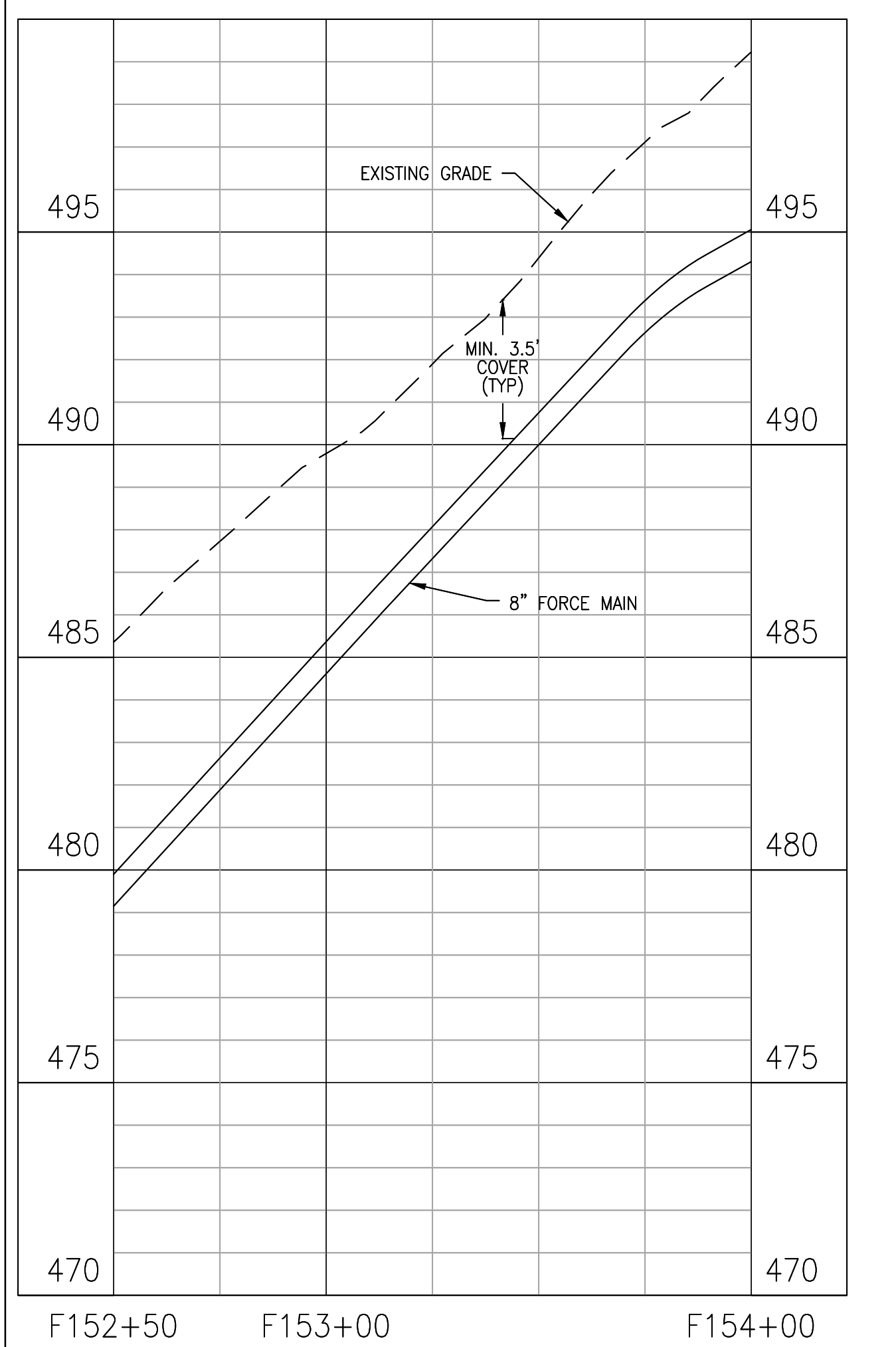
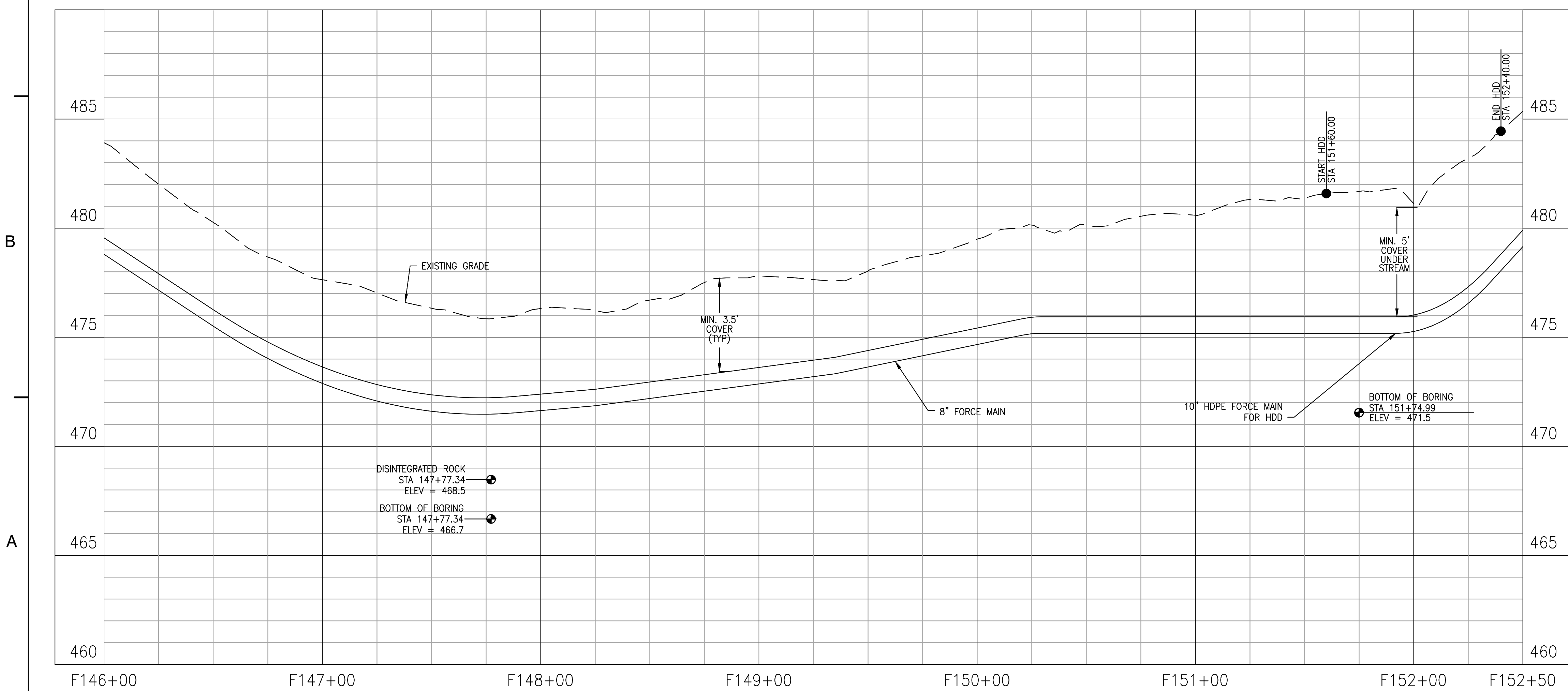
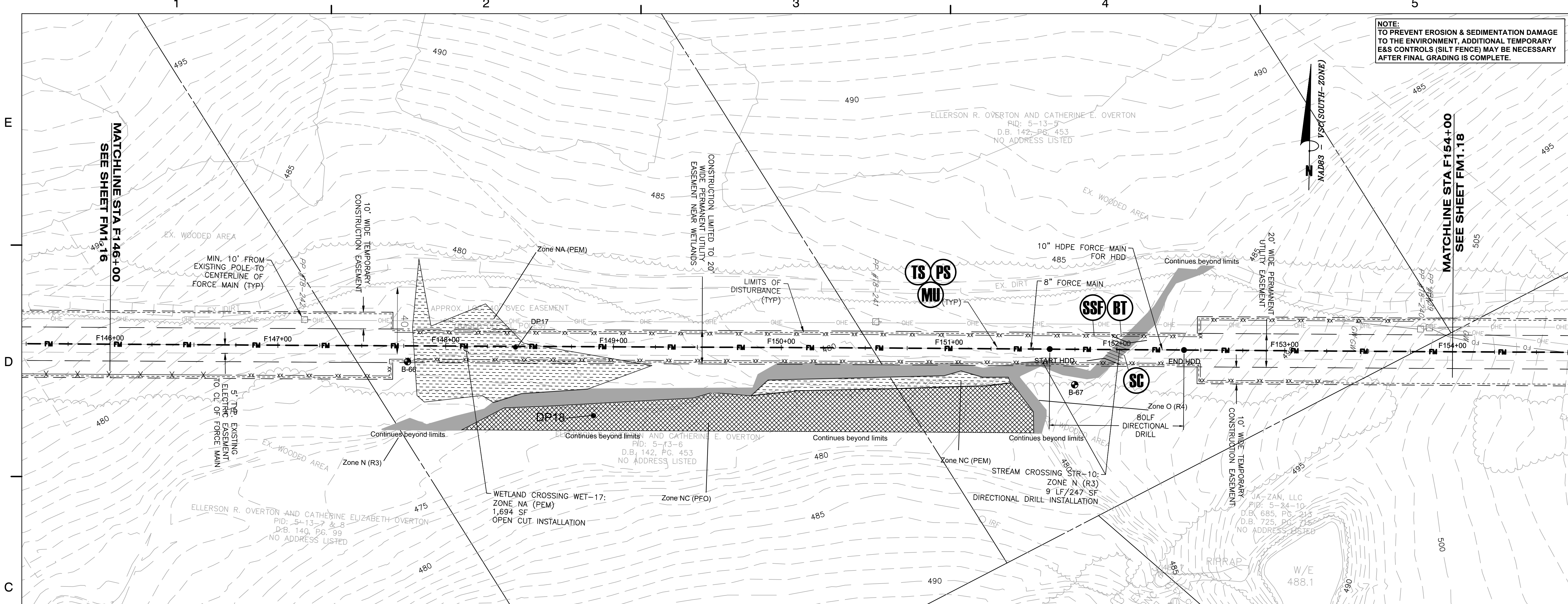
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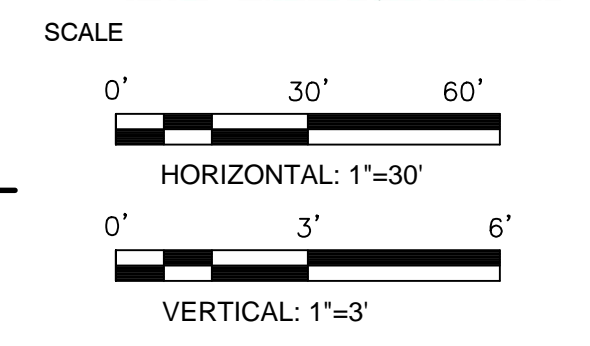
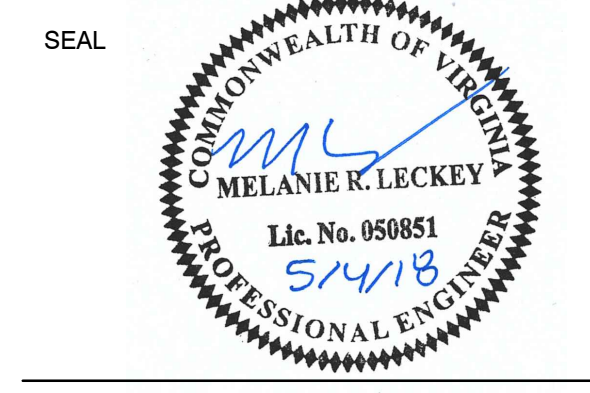
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**ZION CROSSROADS
 WATER AND SEWER SYSTEM**
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FM1.17

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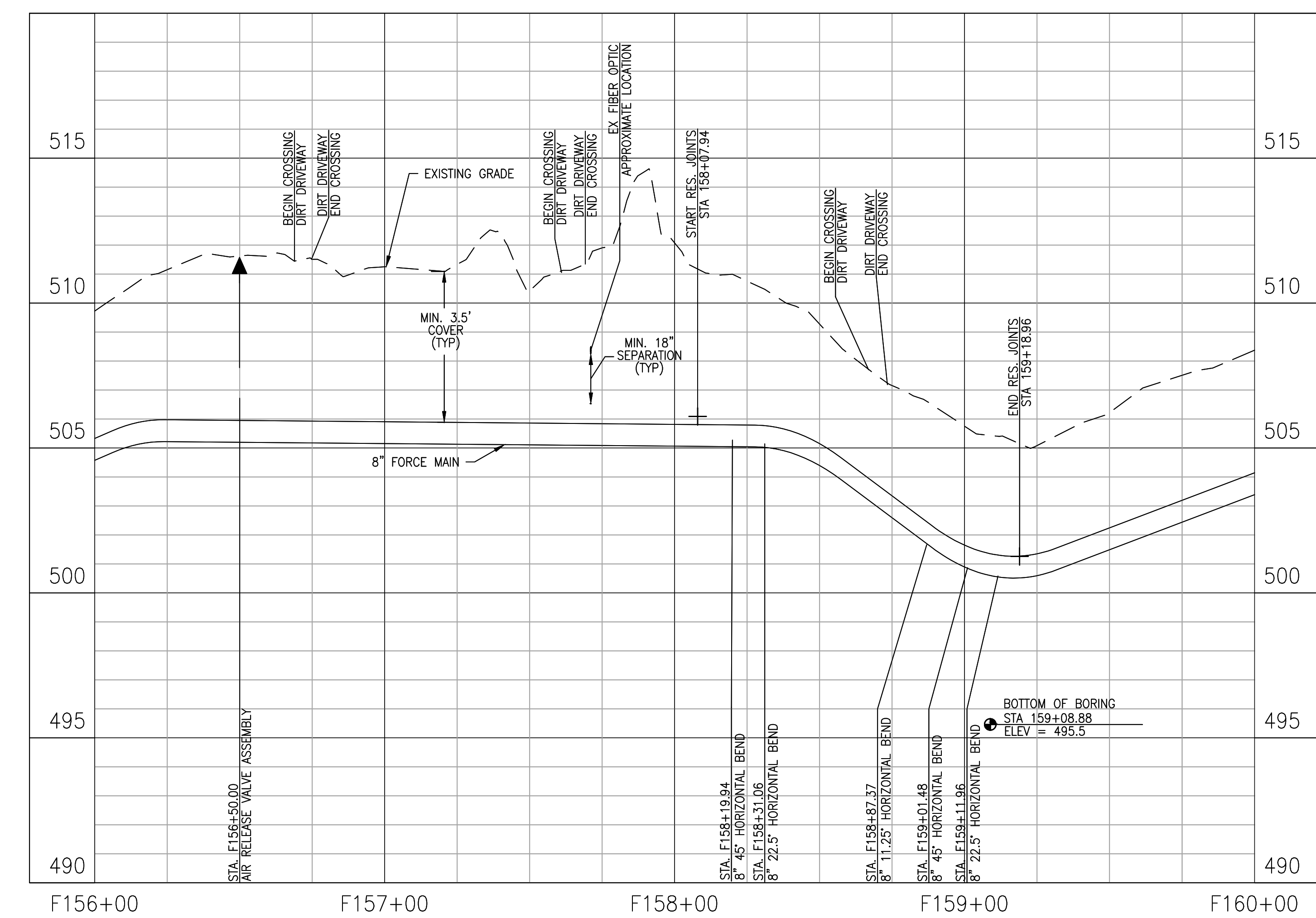
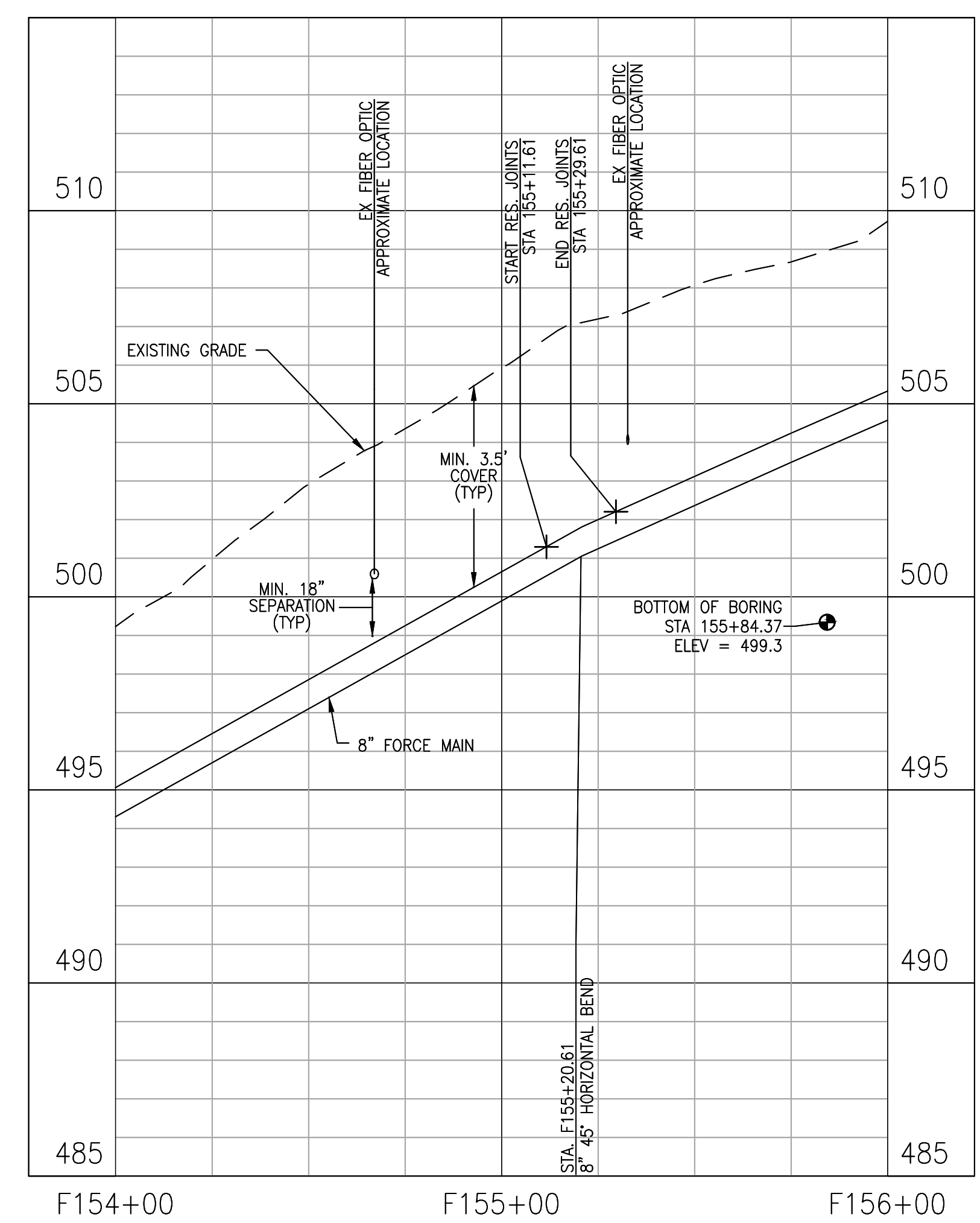
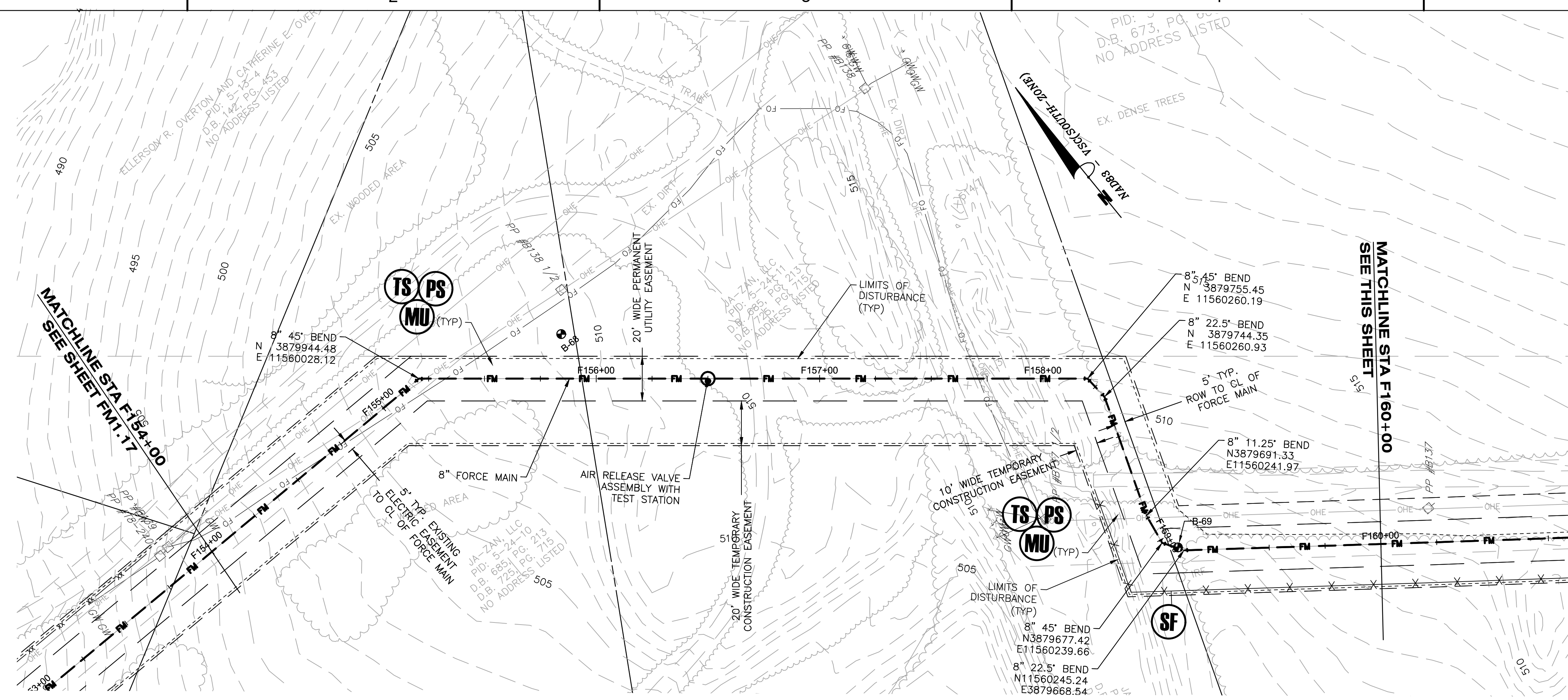
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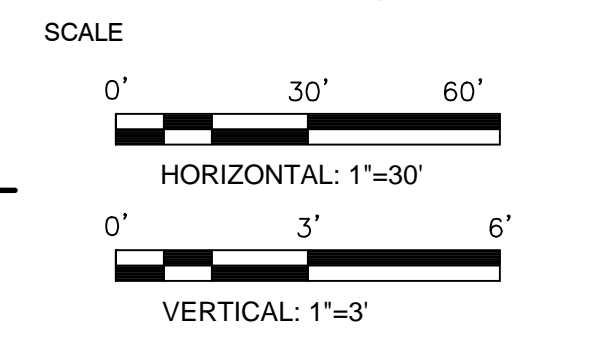
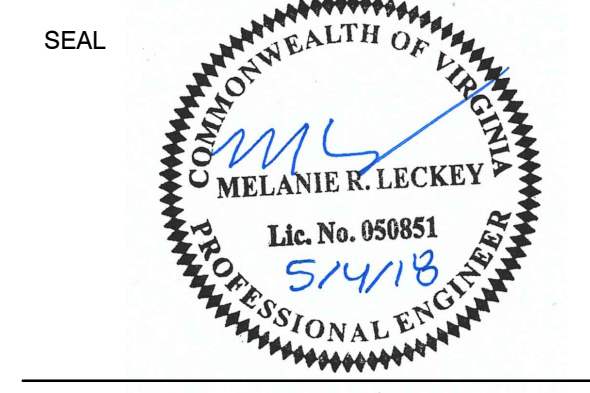
Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
PHONE: 804.290.7957
FAX: 804.290.7928
www.dewberry.com

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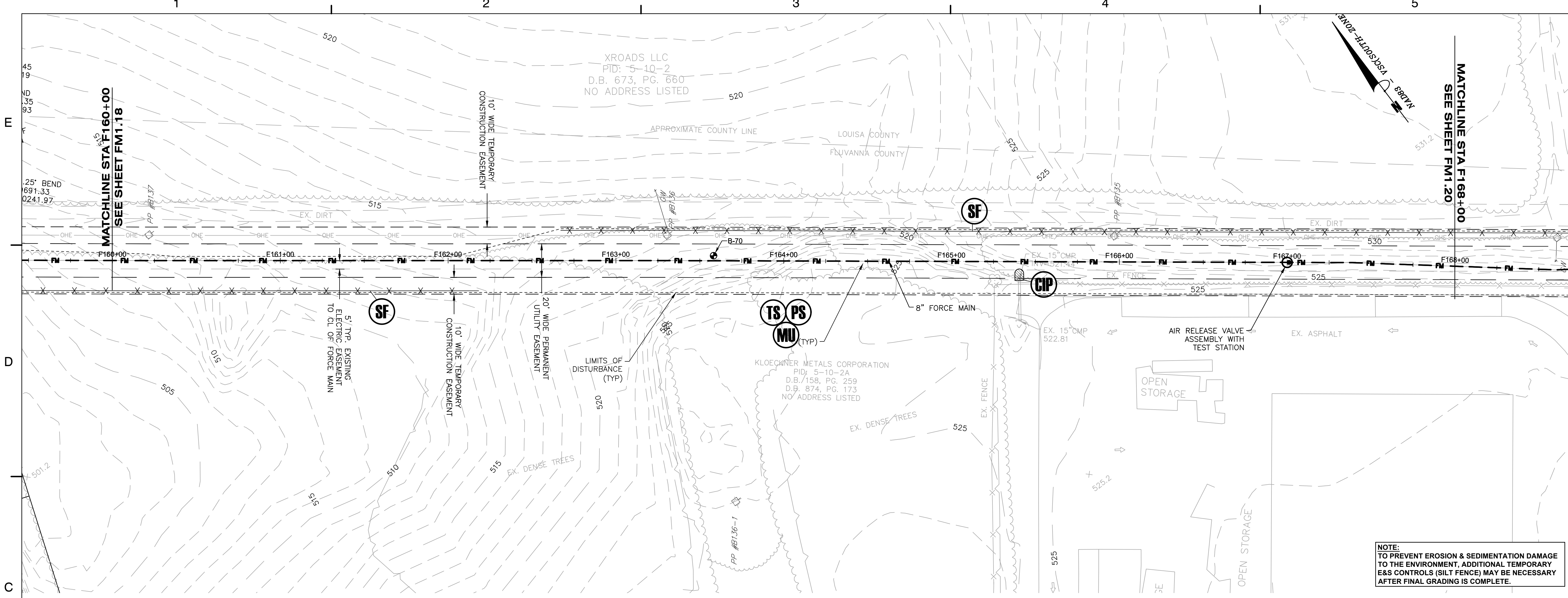
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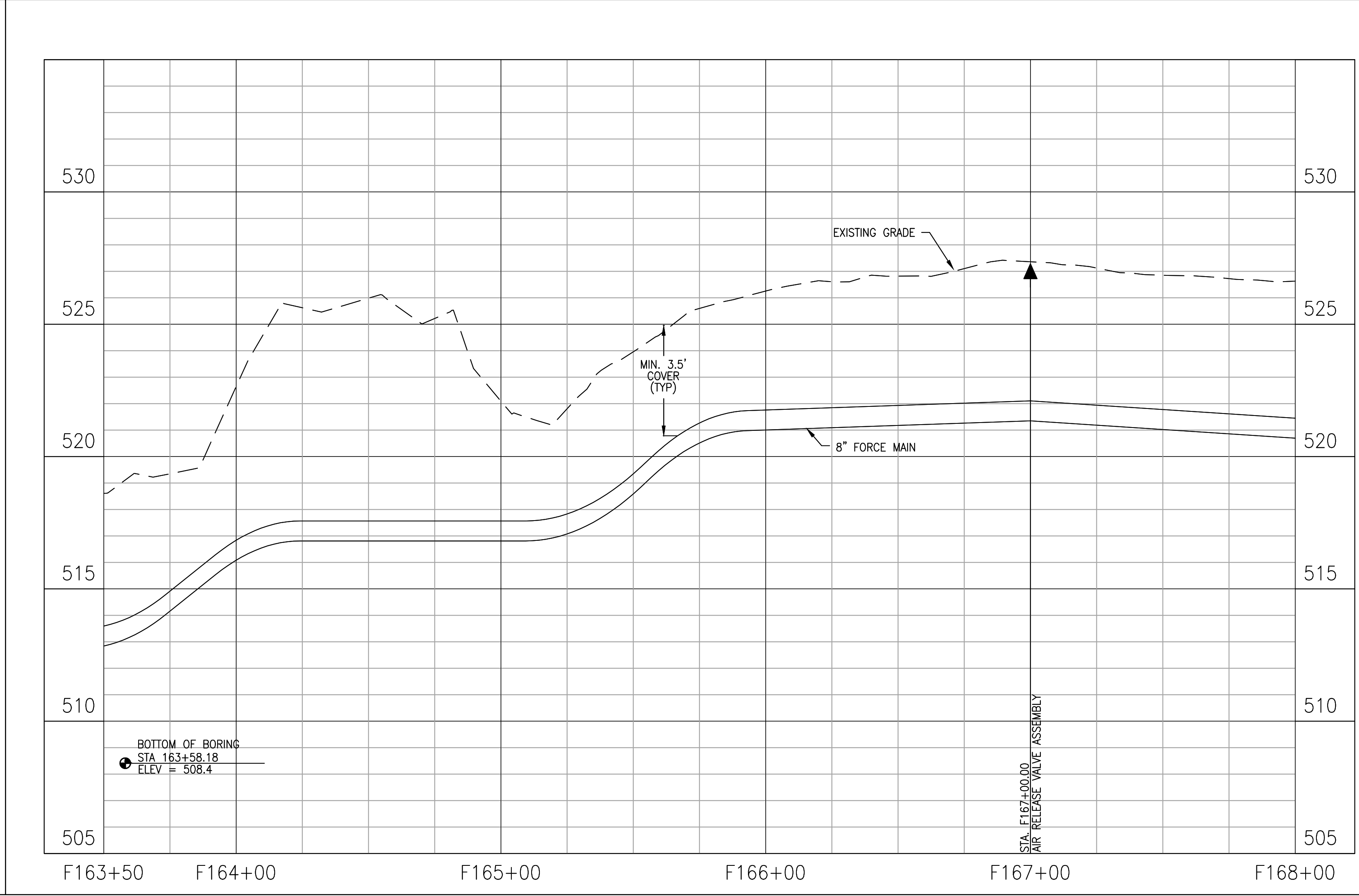
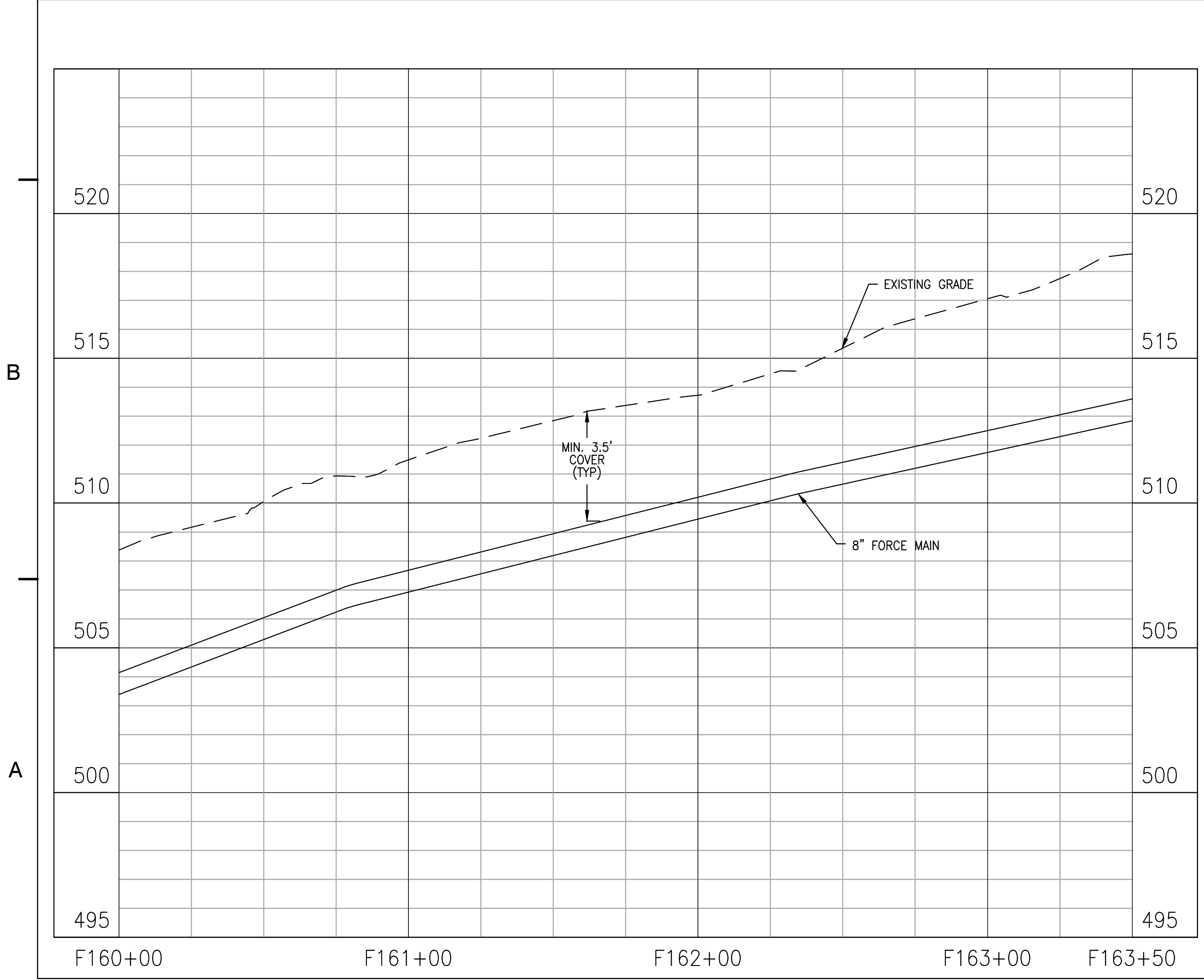
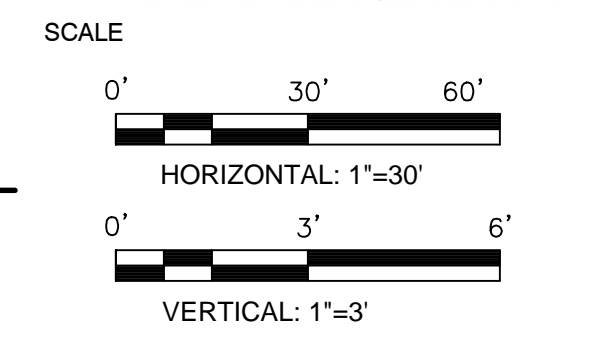
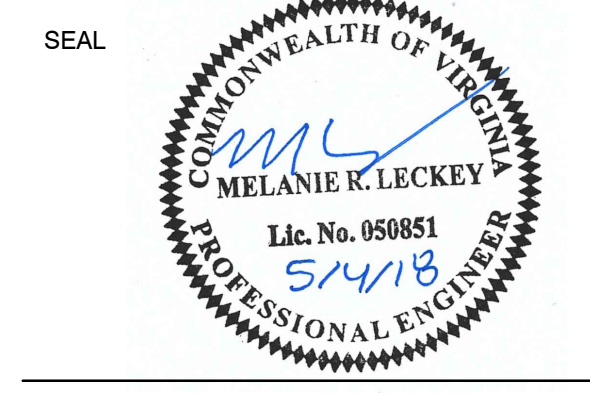
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**ZION CROSSROADS
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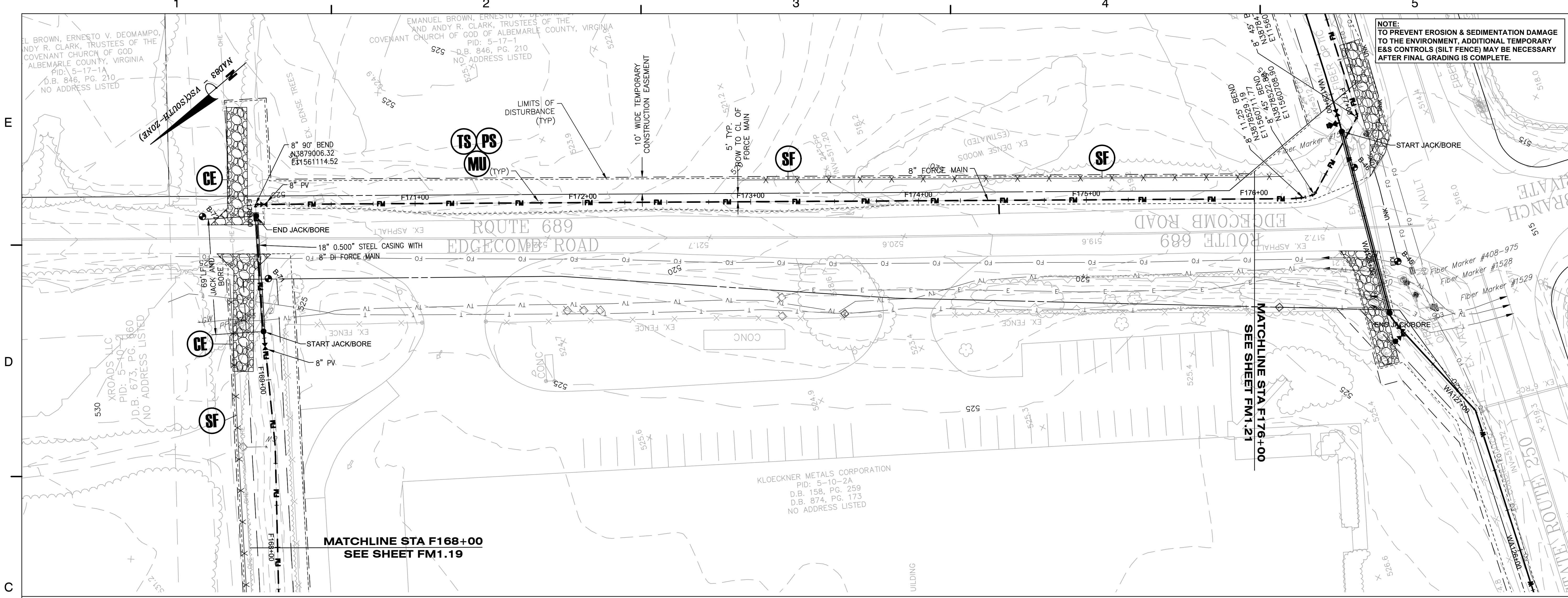


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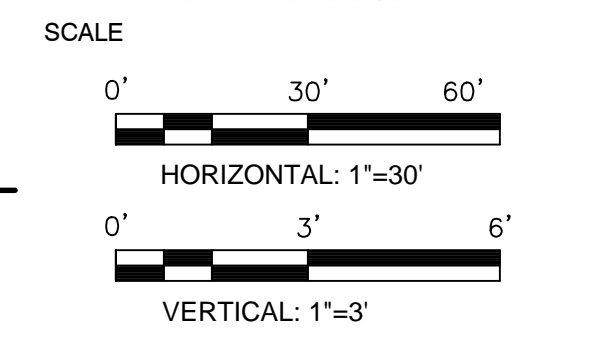
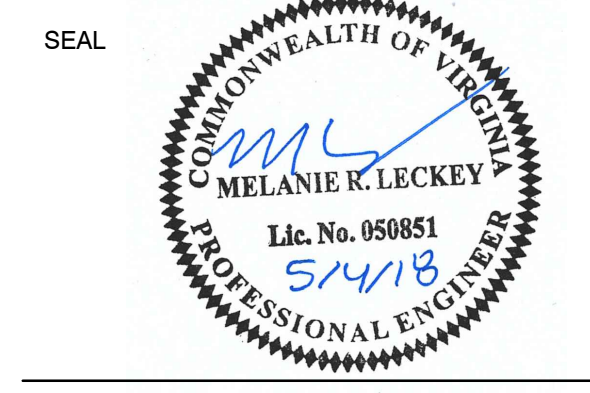
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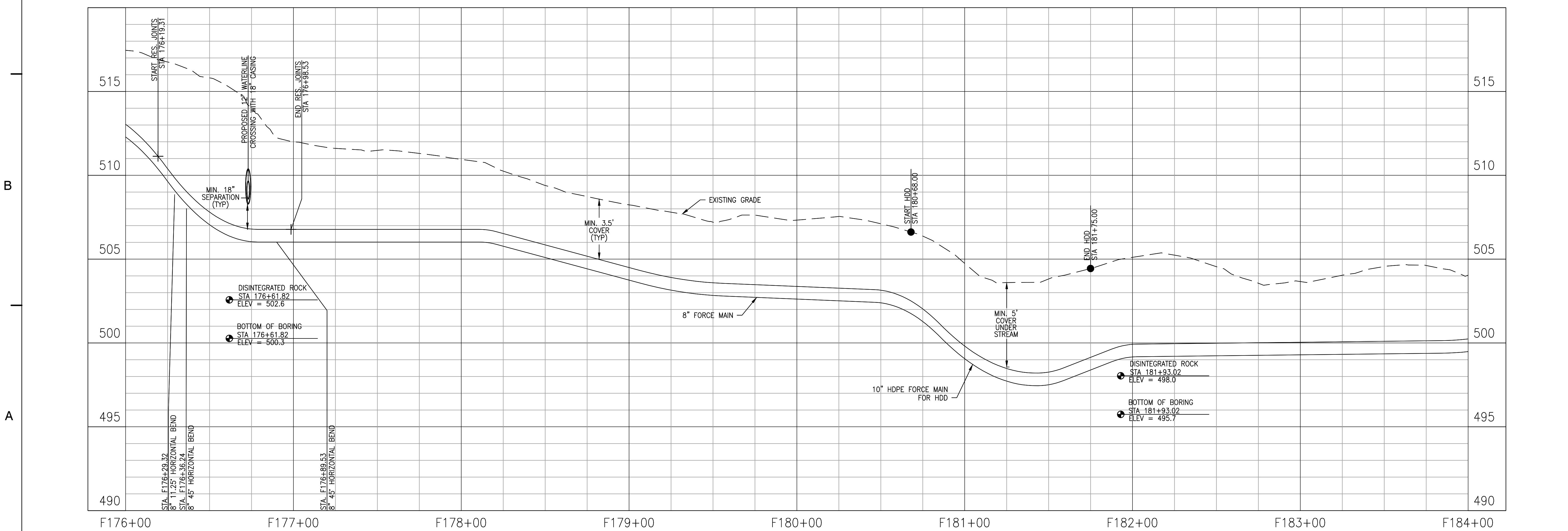
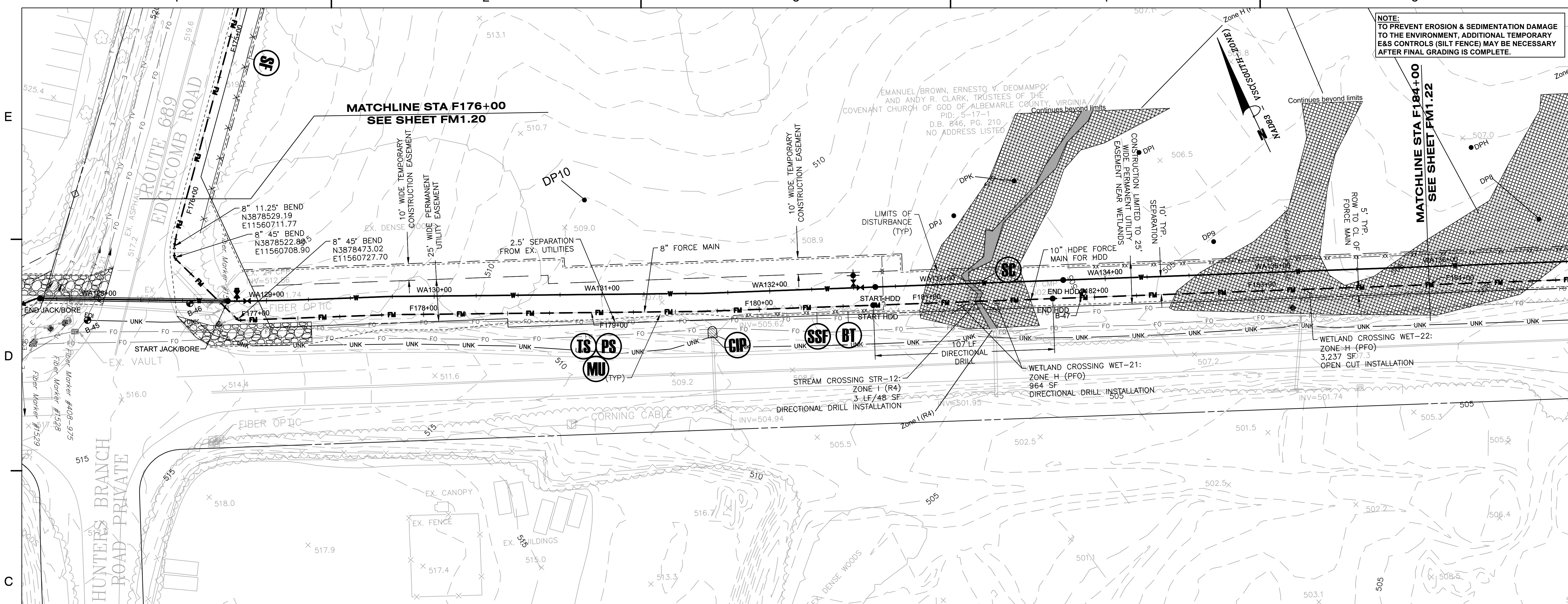
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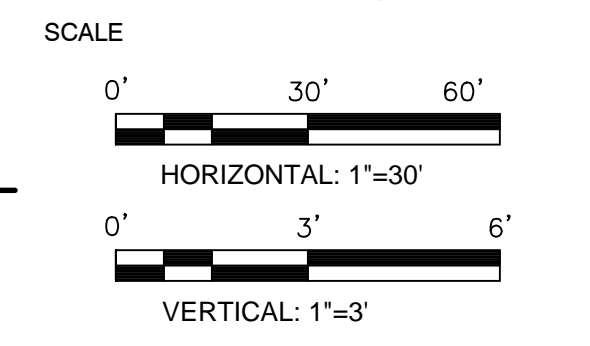
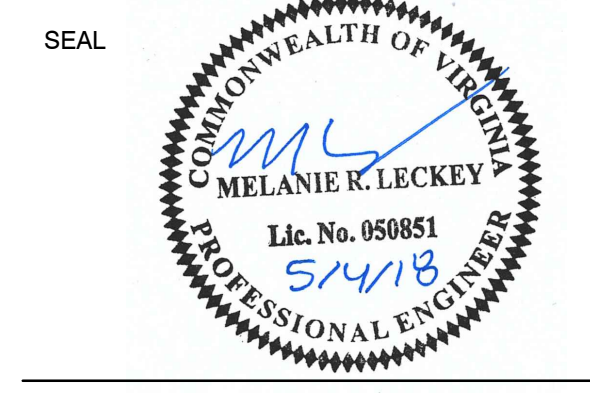
PROJECT NO. 50078861

FM1.20

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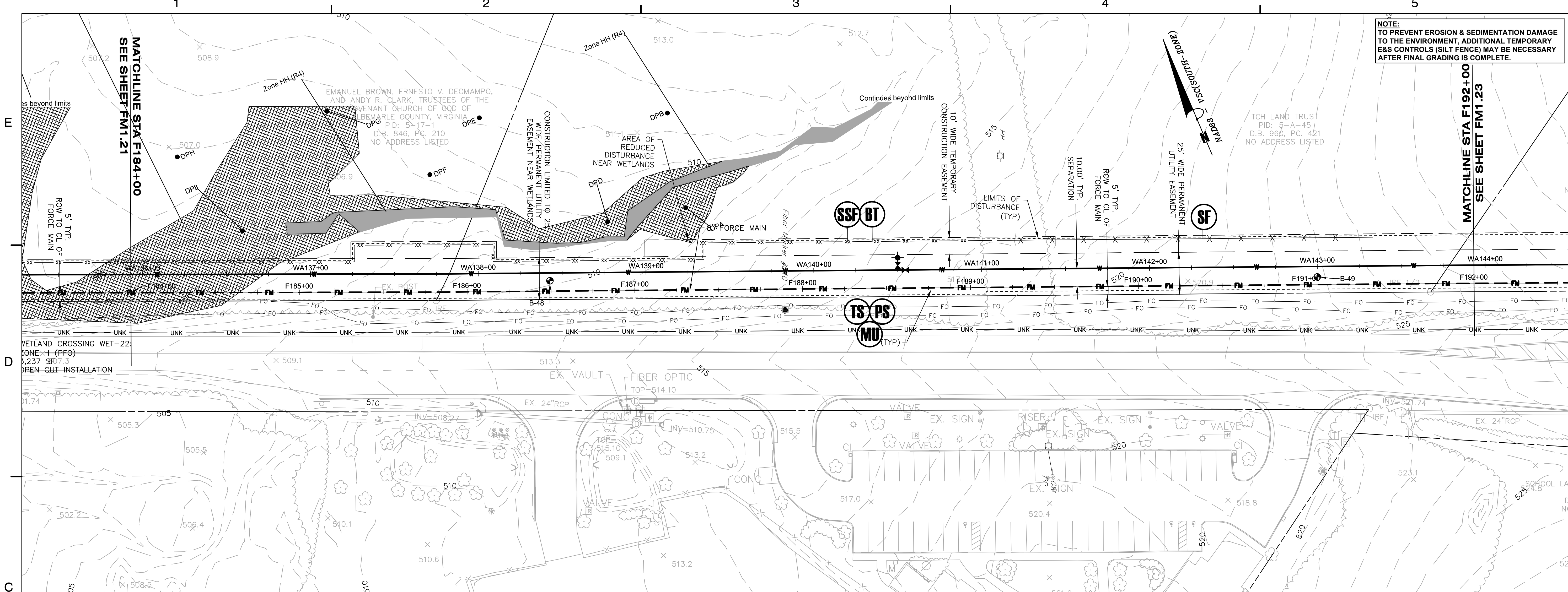
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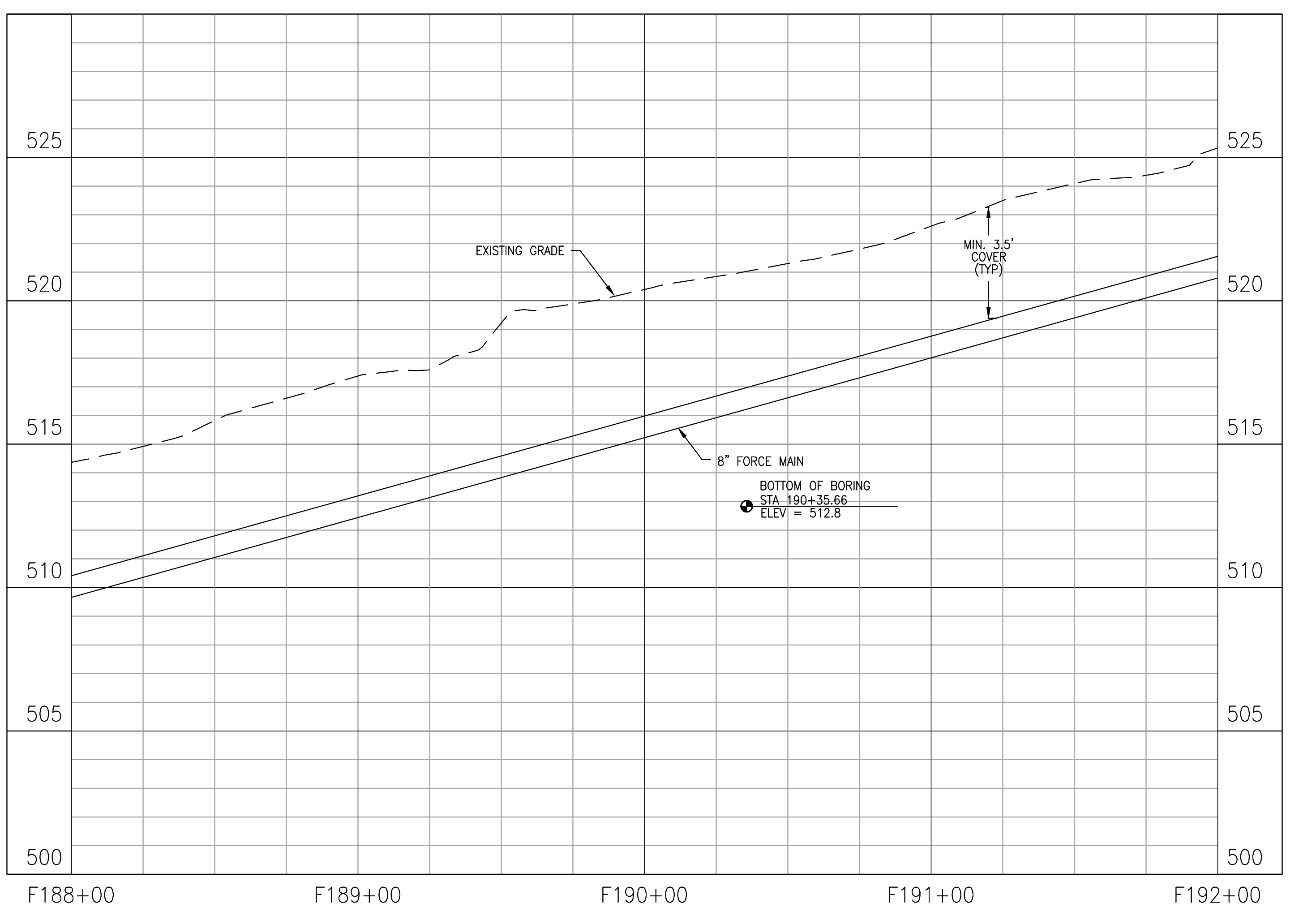
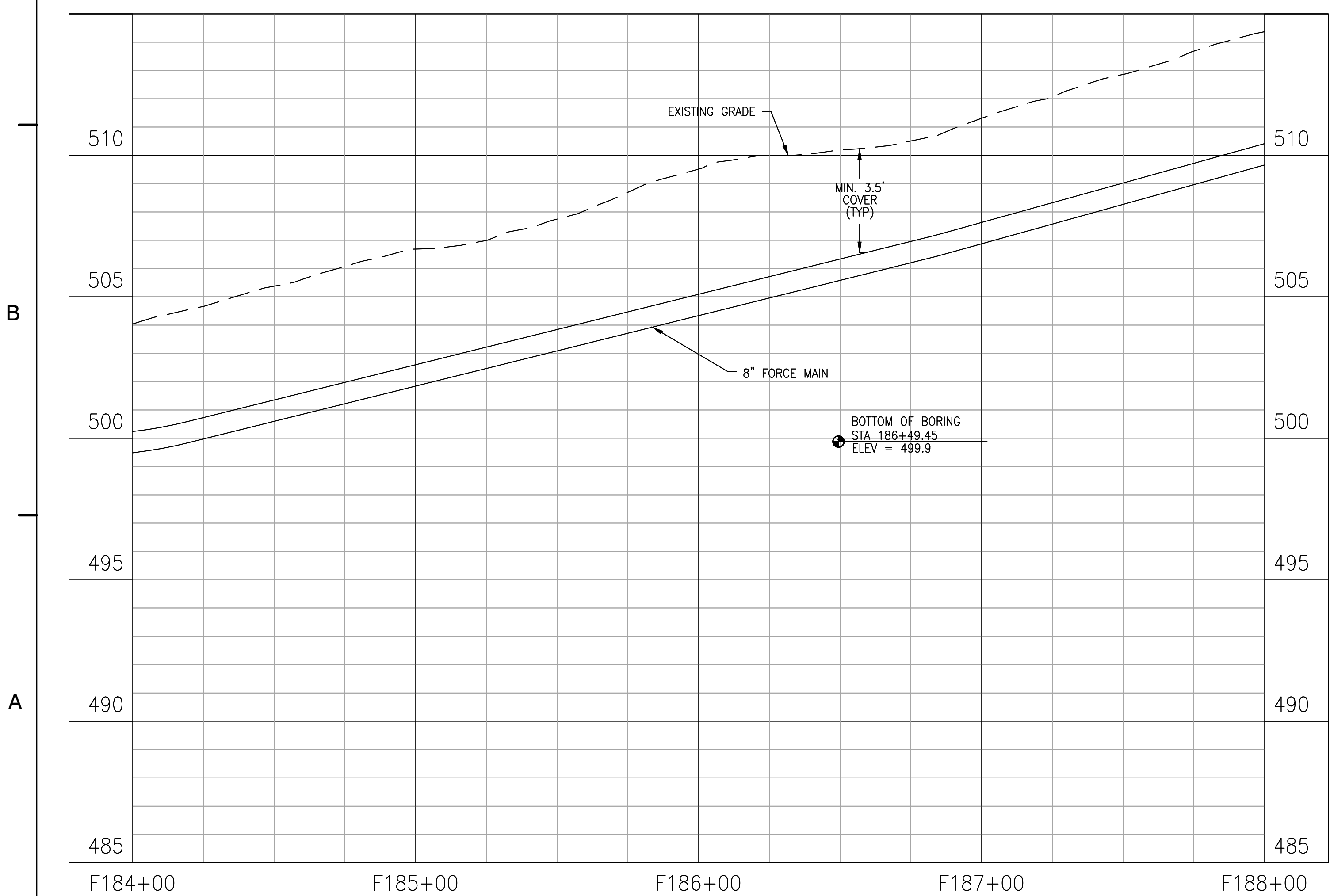
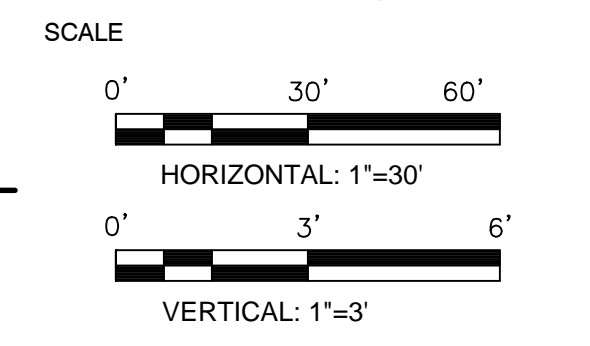
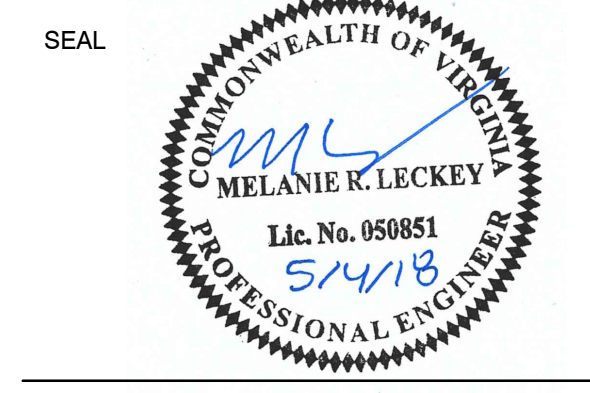
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ZION CROSSROADS
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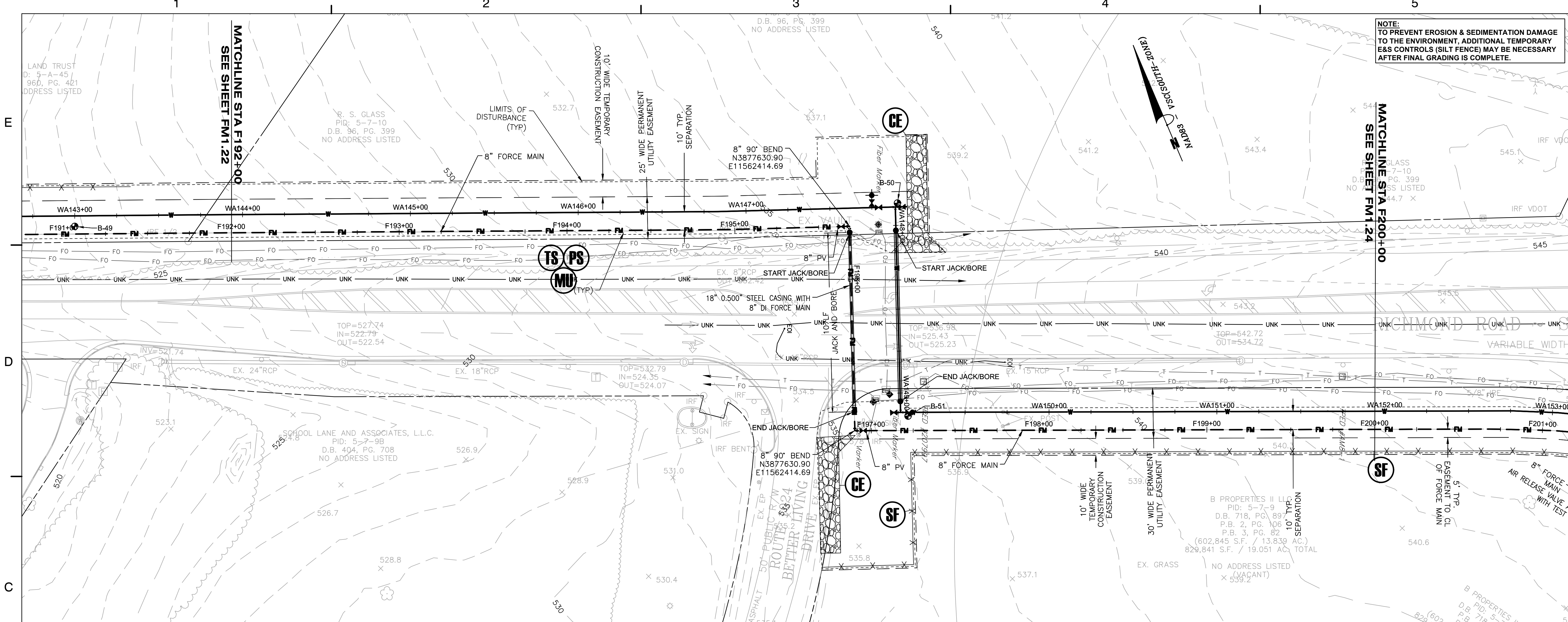
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REVISIONS			

DRAWN BY: JEH
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 CHECKED BY: DAV
 DATE: MAY 2018

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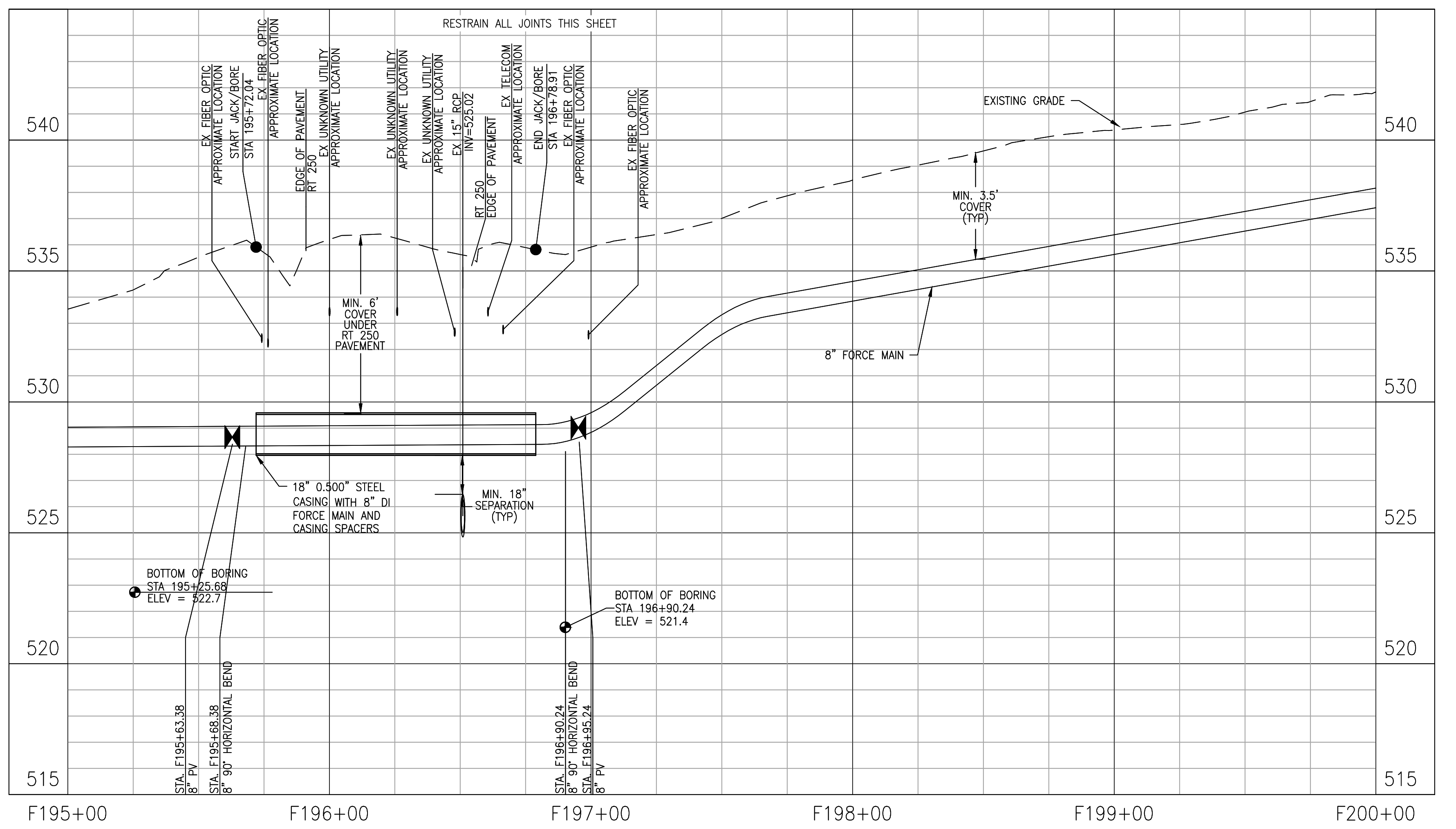
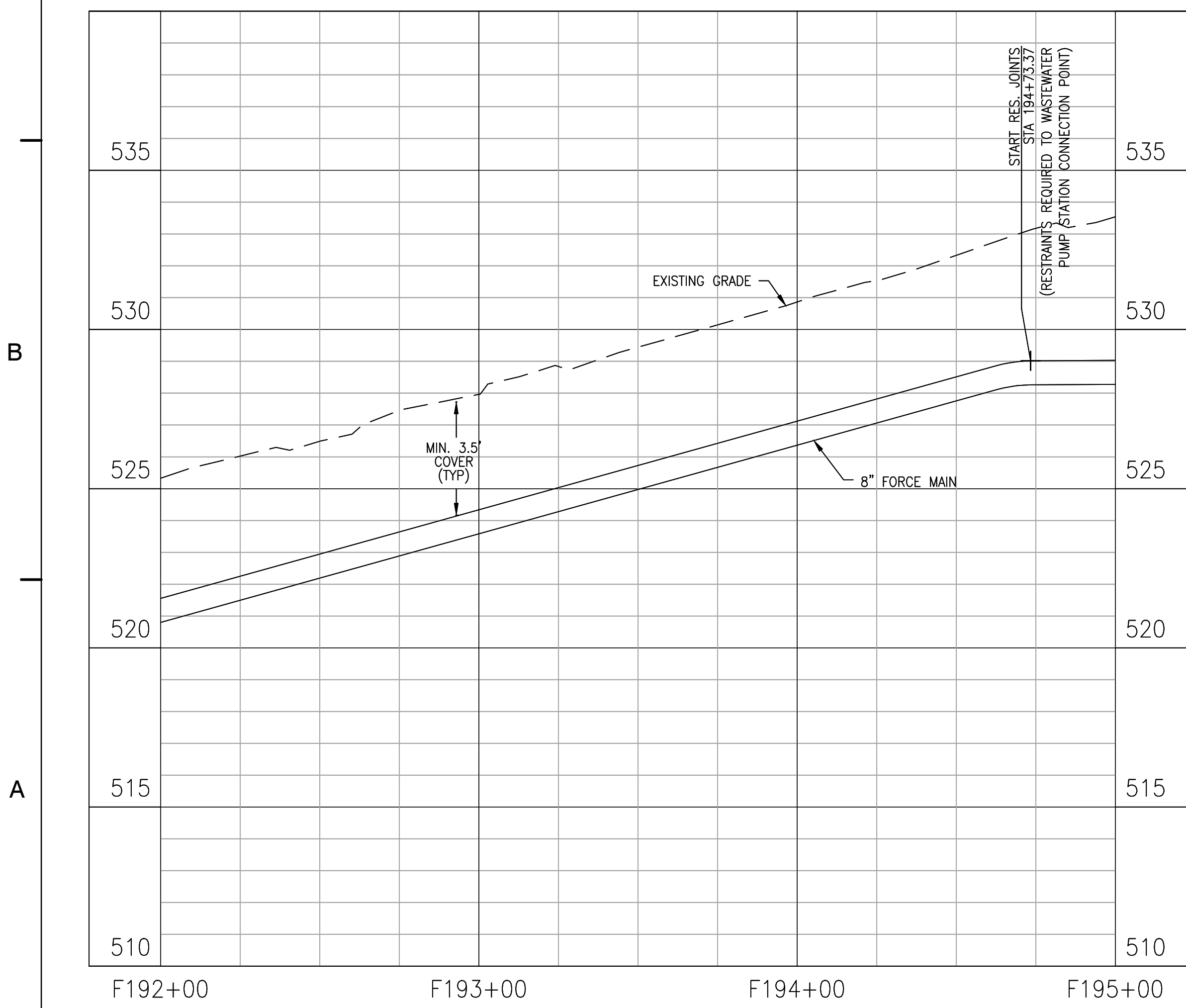
FM1.22



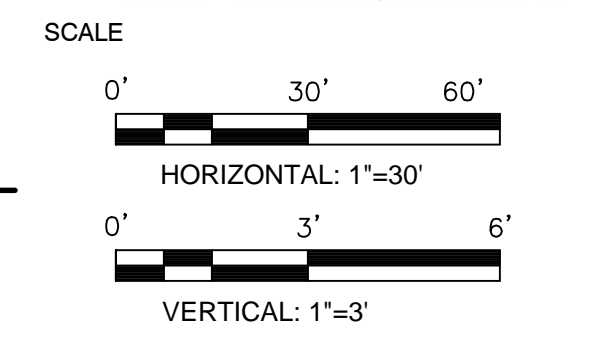
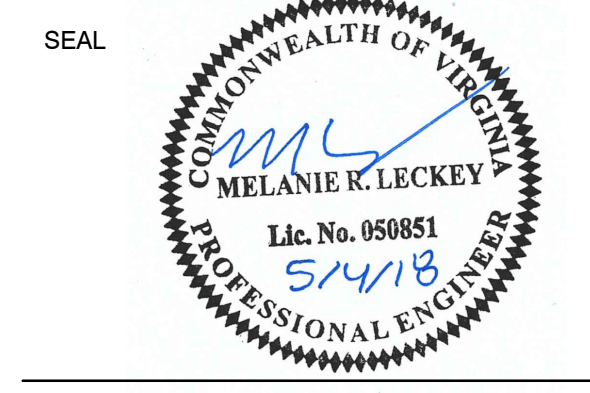
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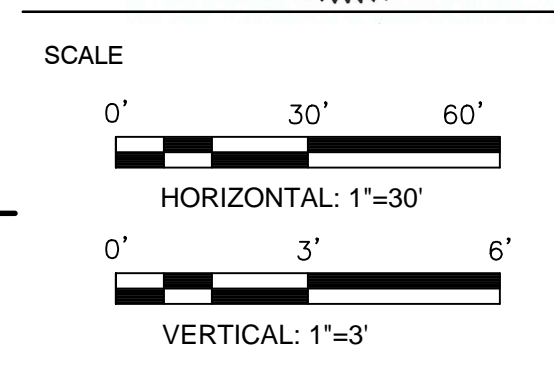
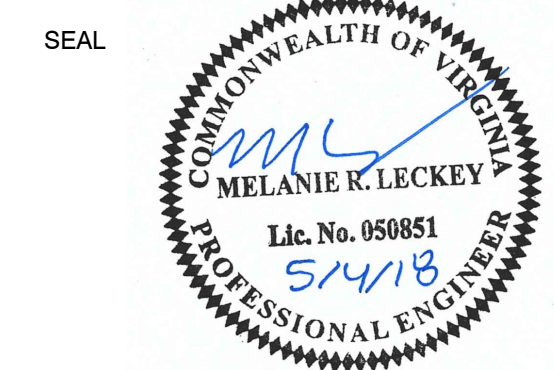
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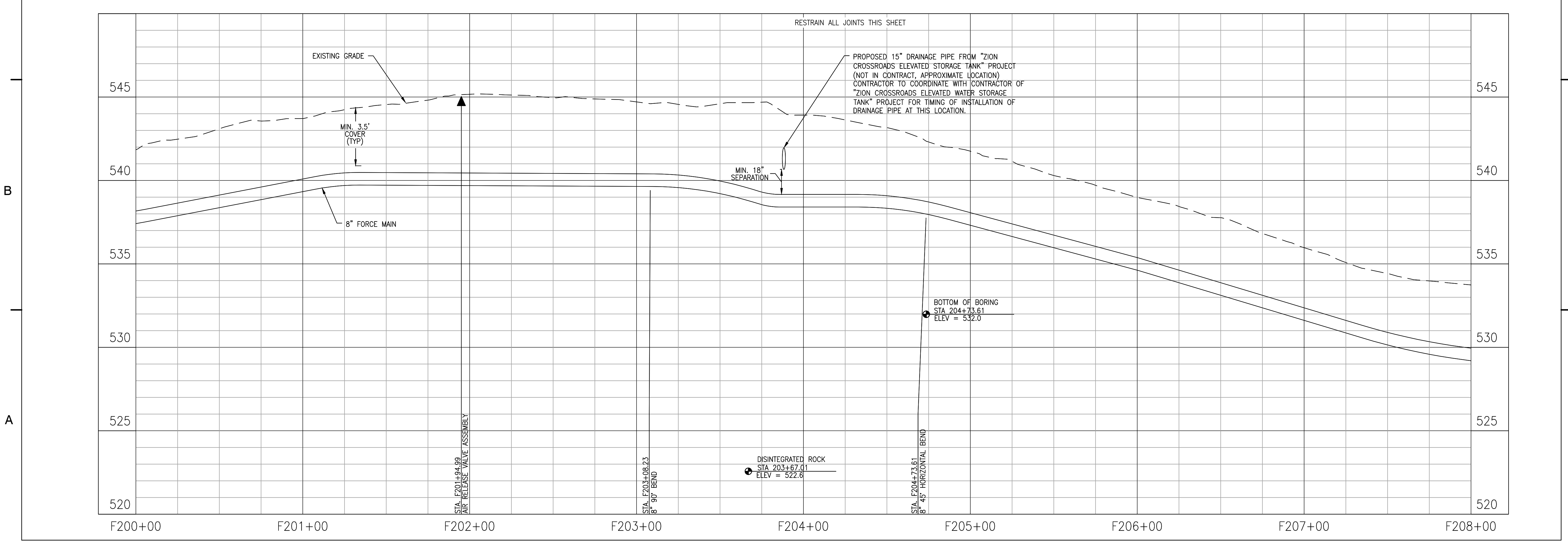
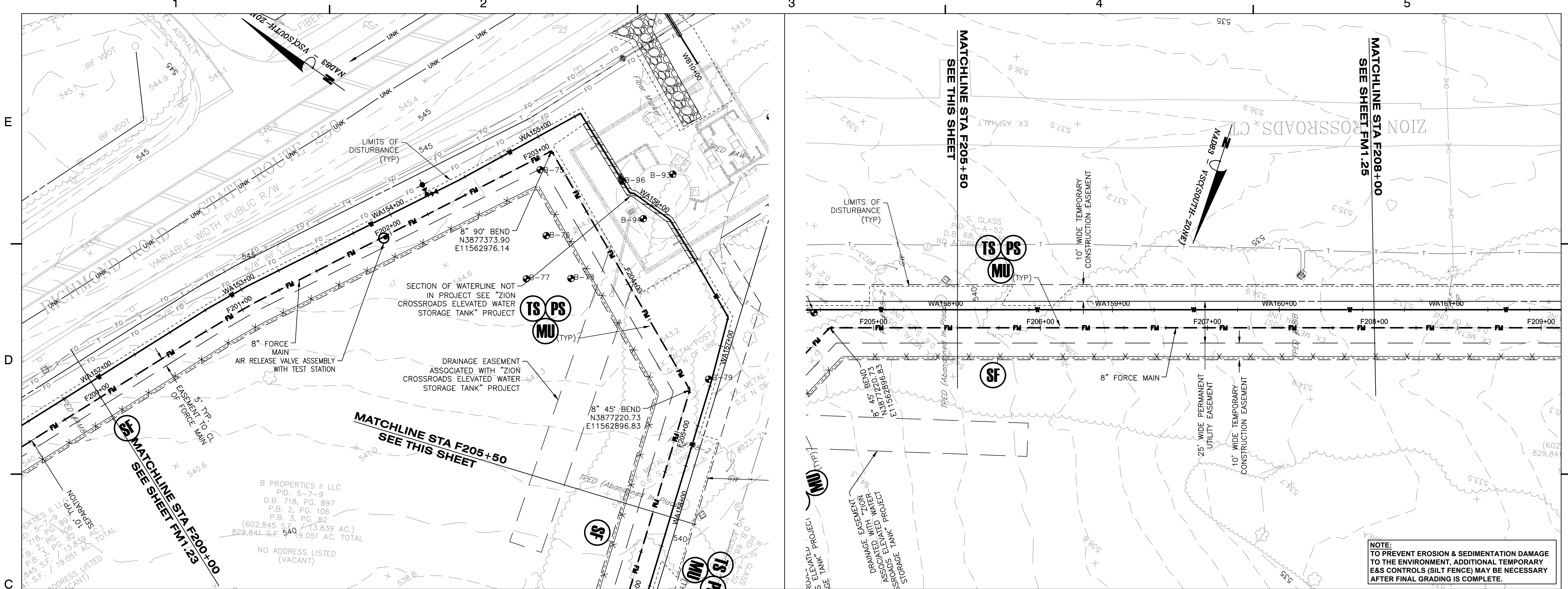
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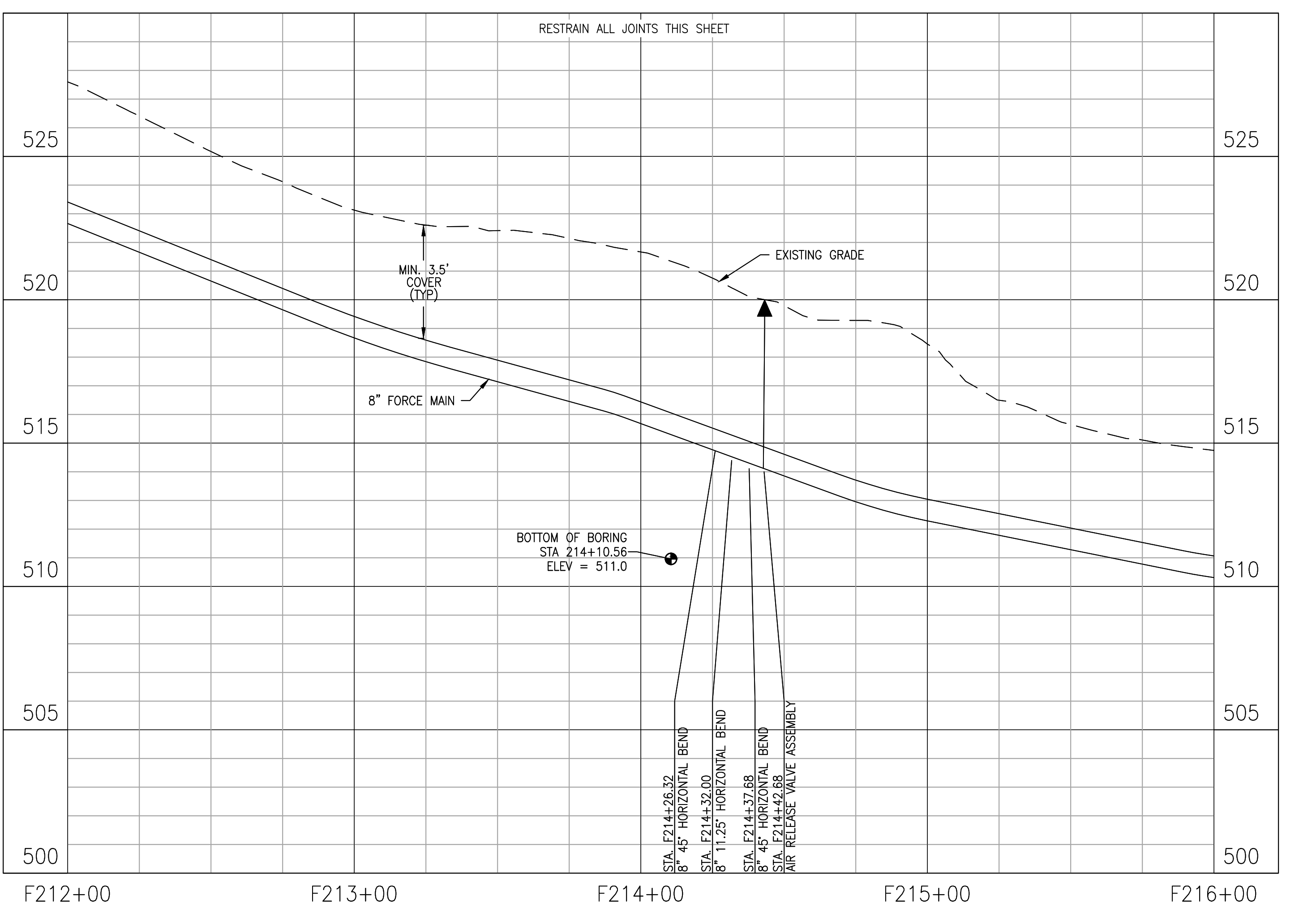
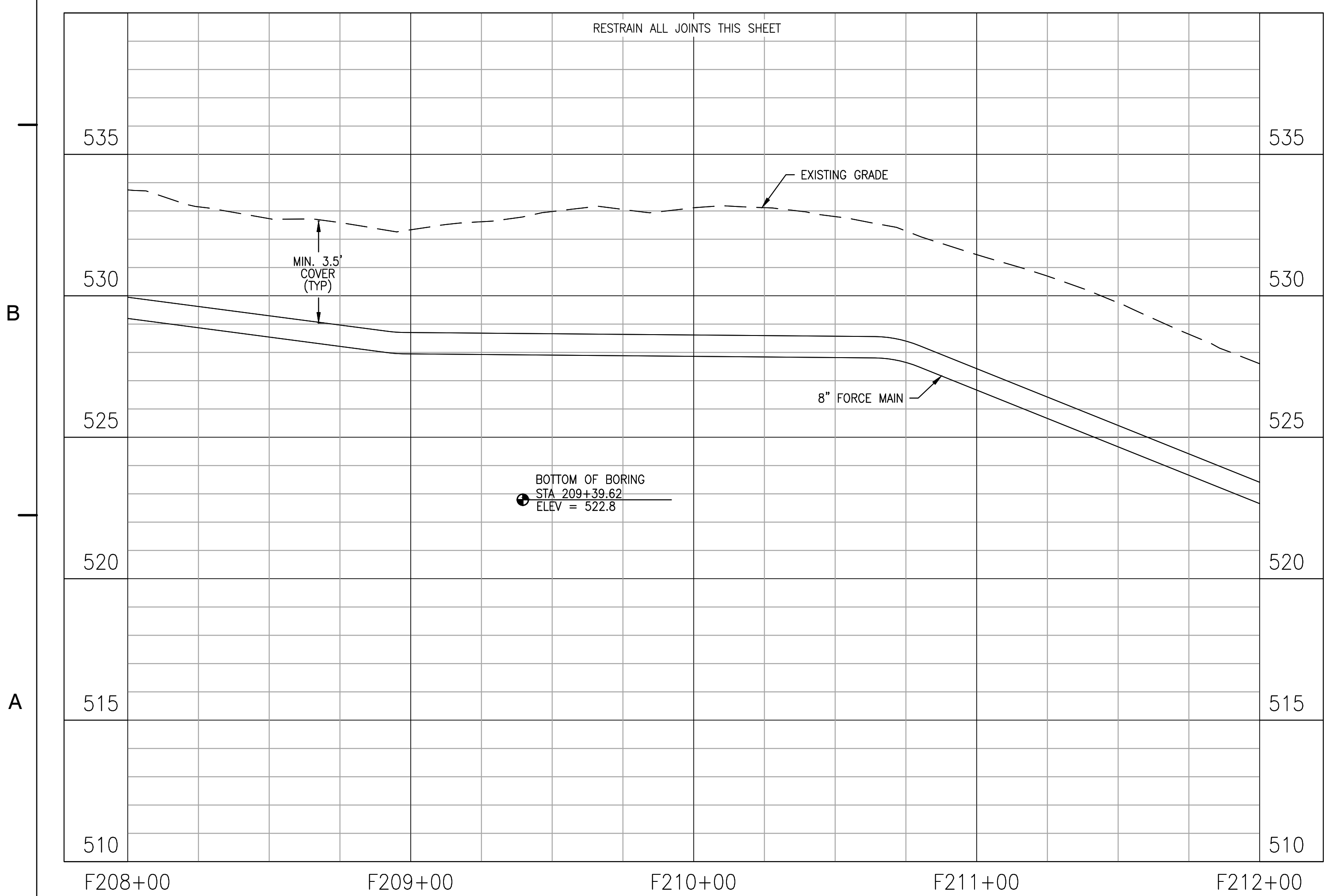
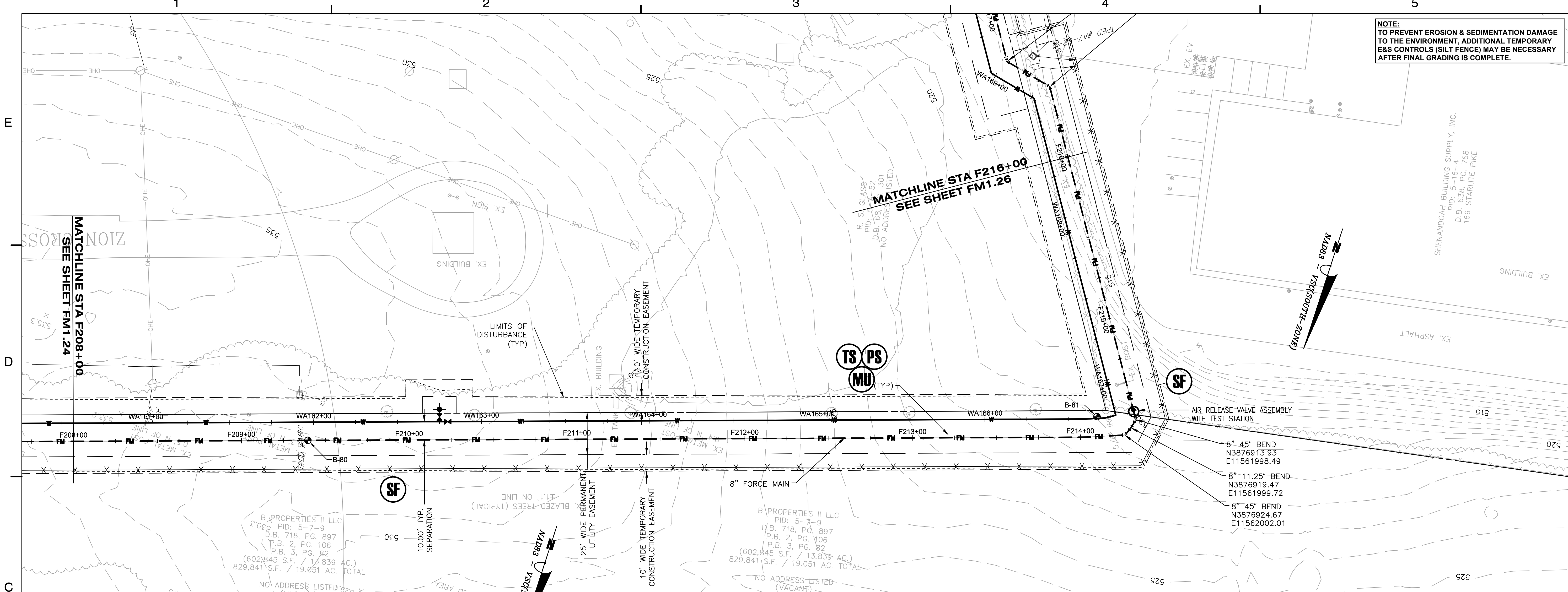
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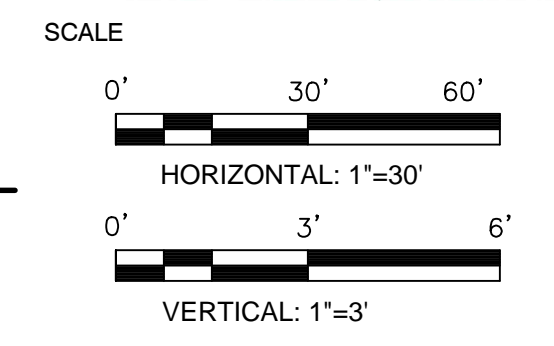
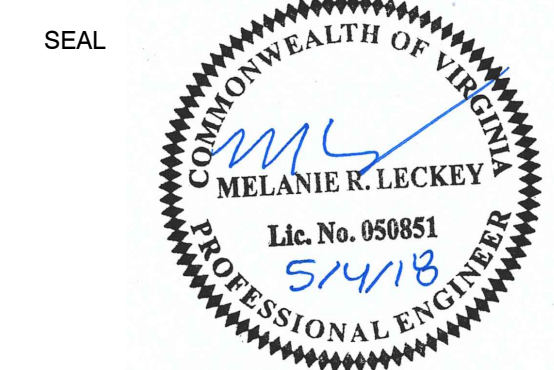
FM1.24



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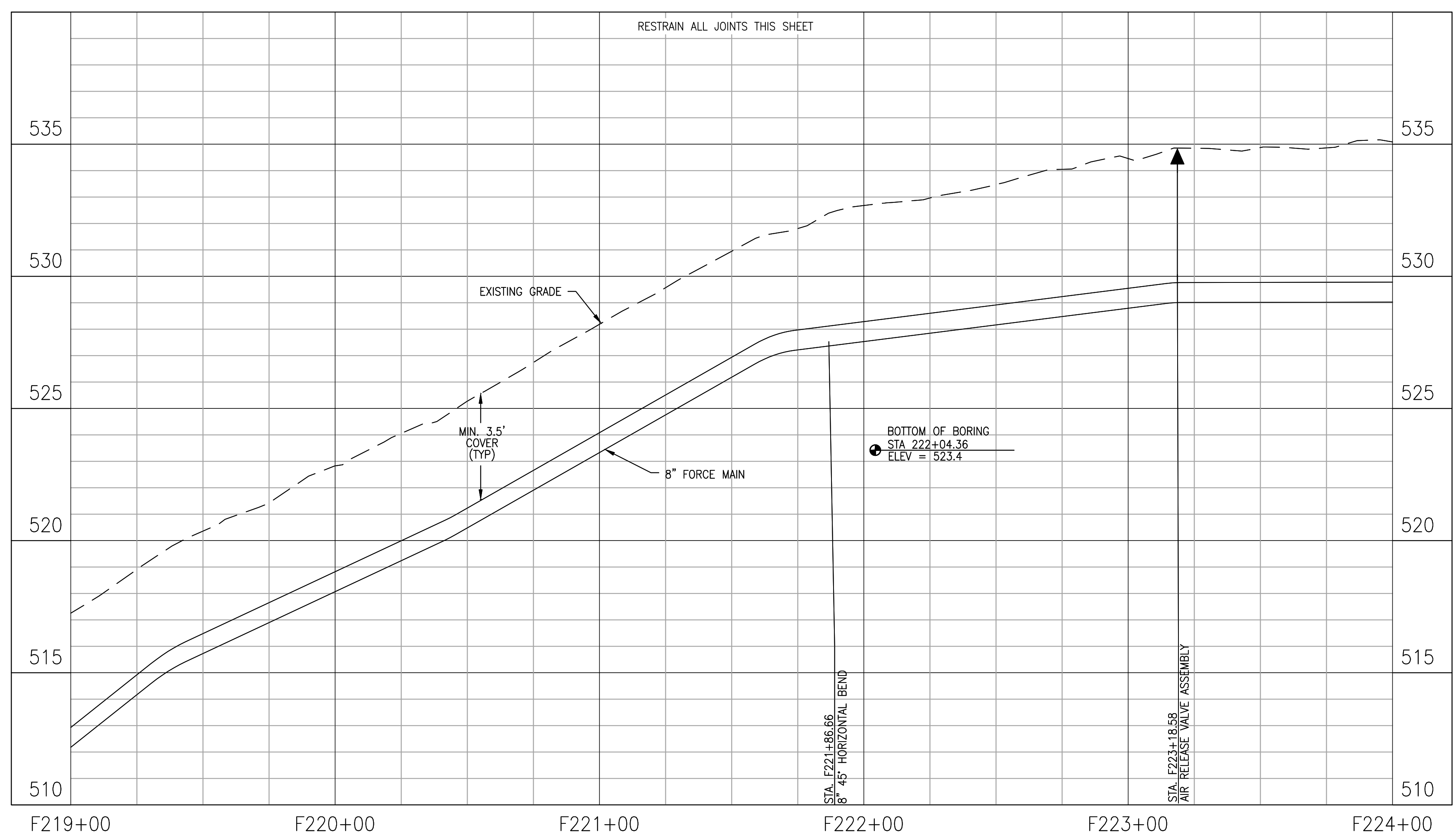
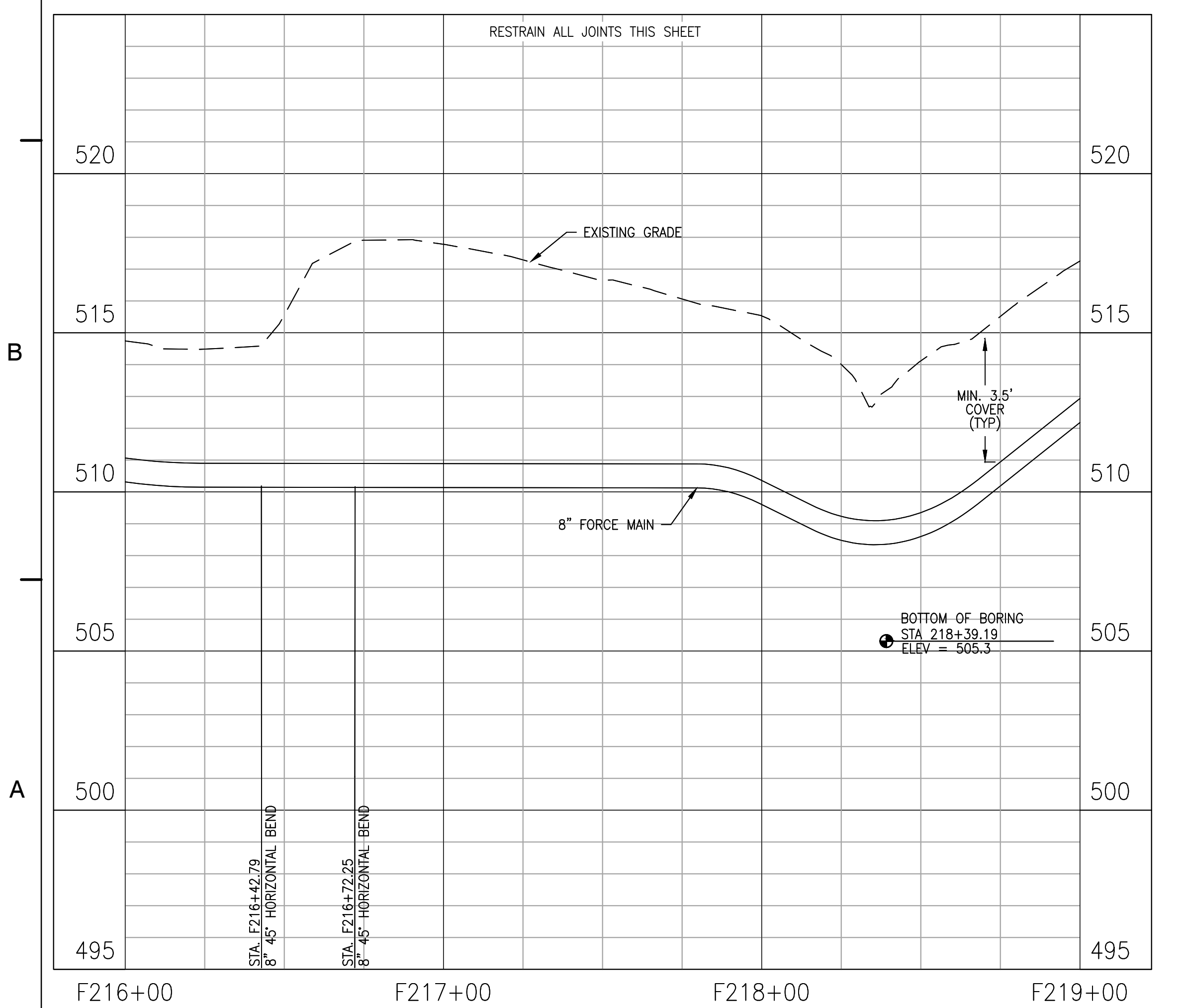
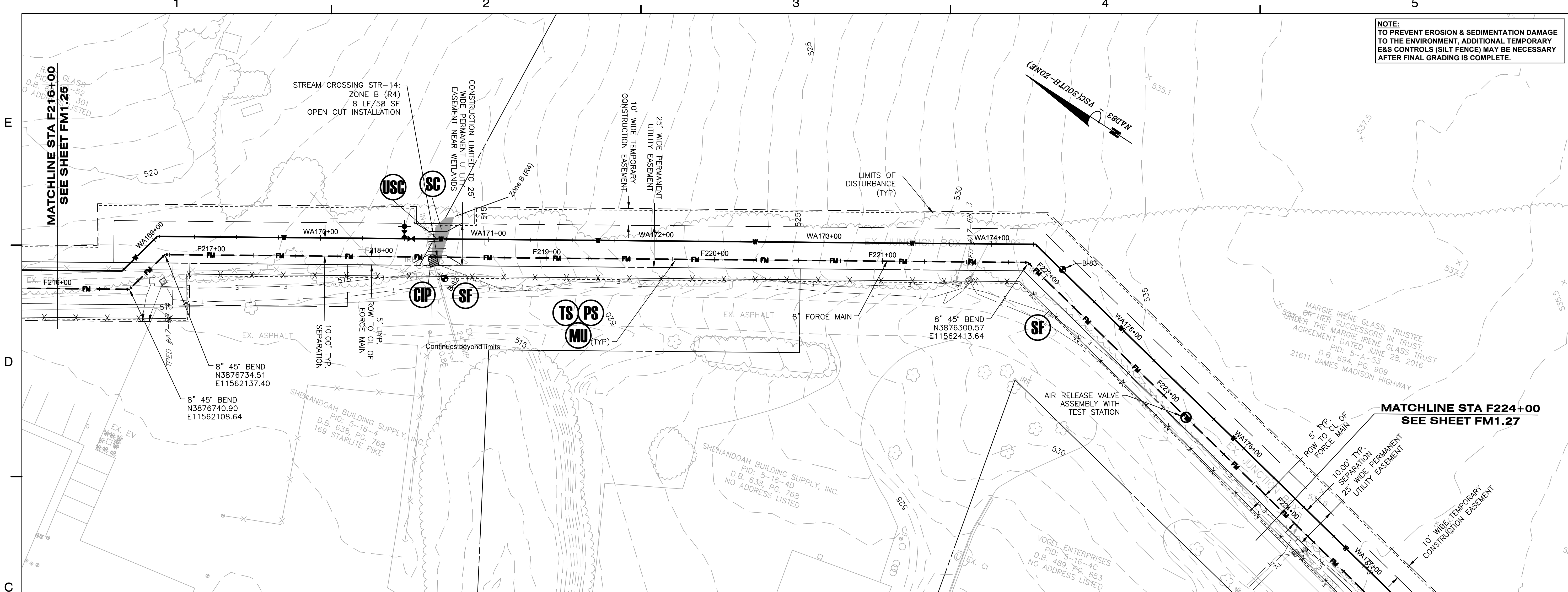
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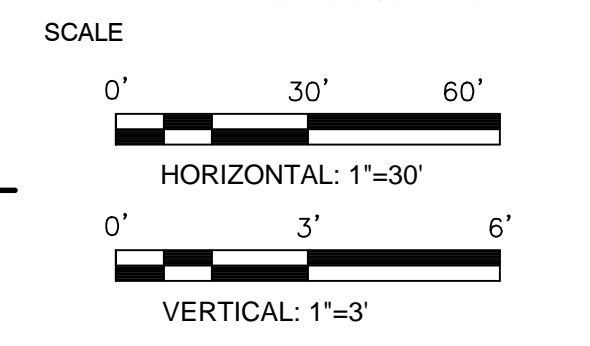
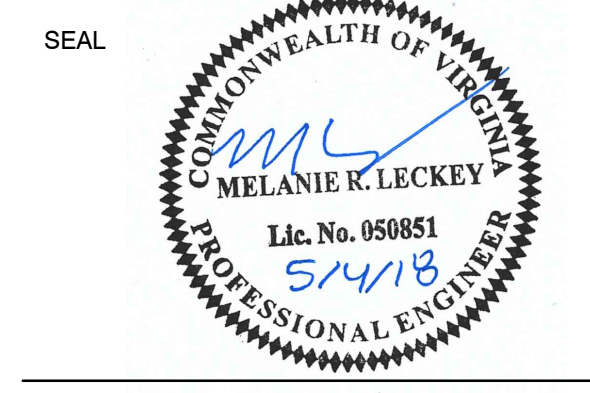
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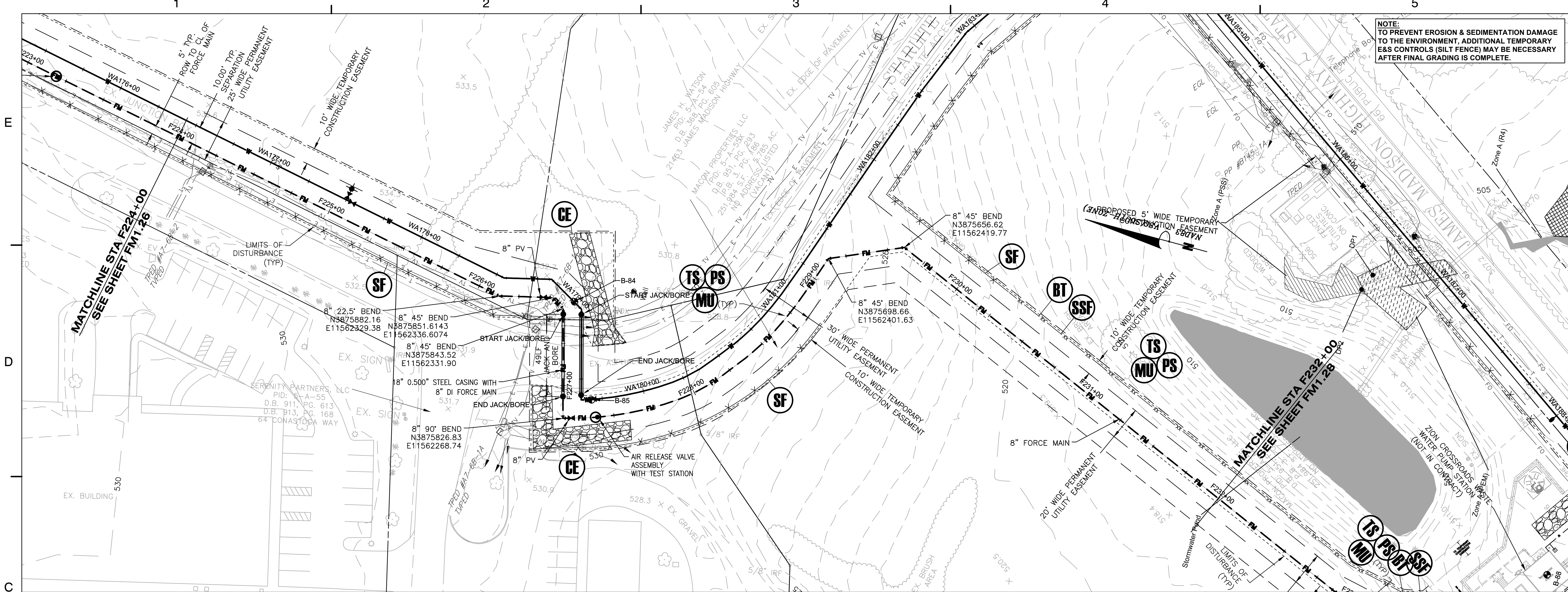
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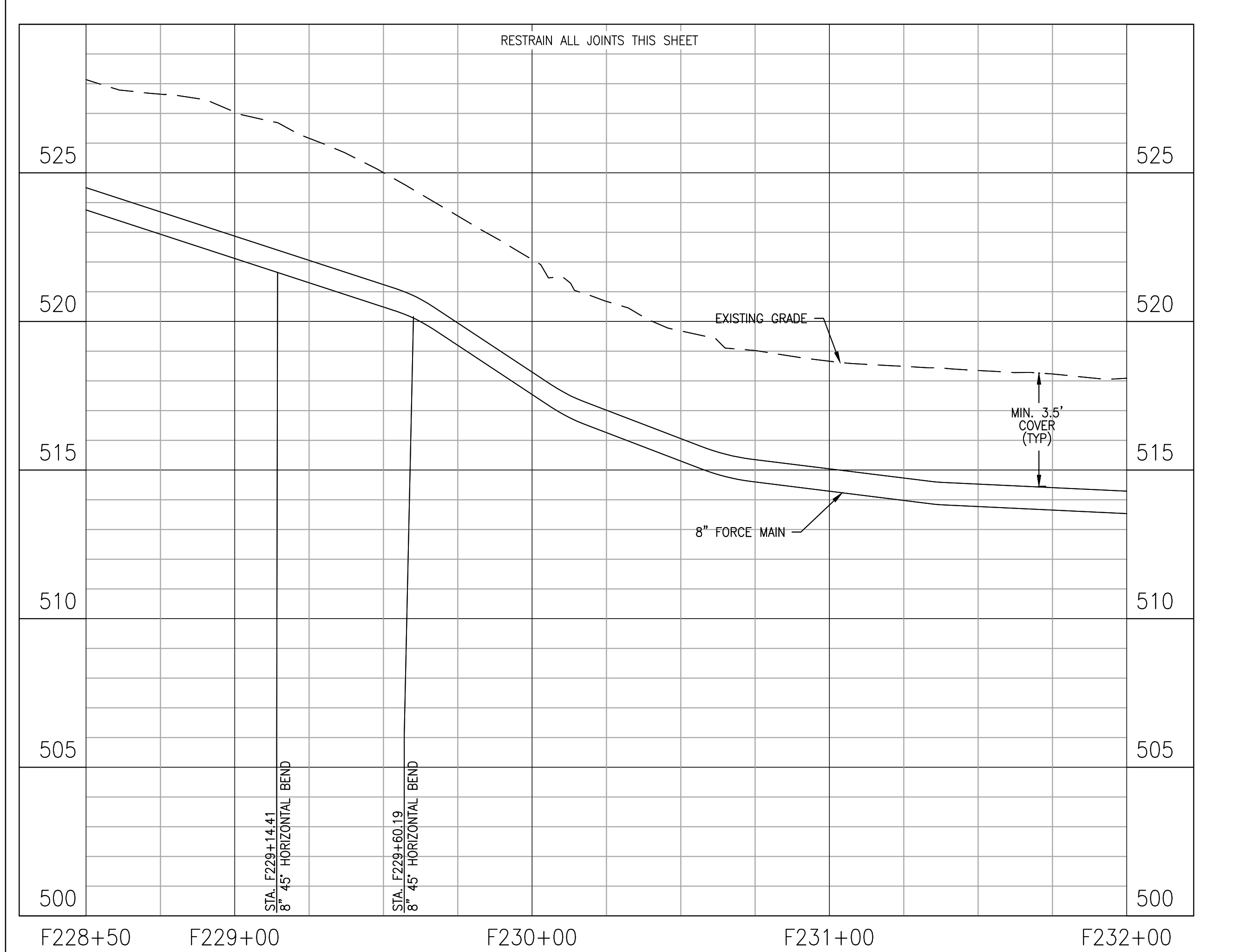
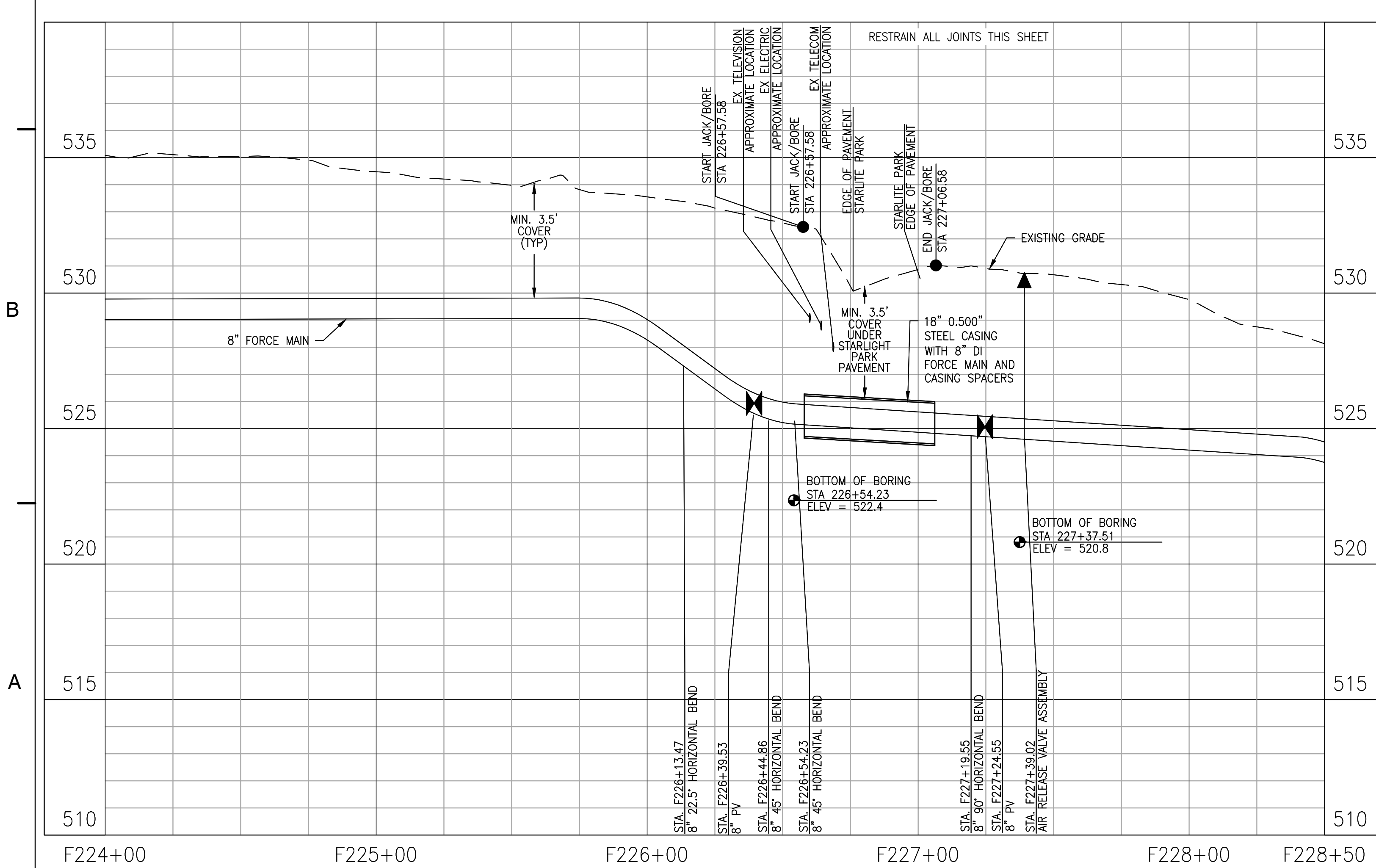
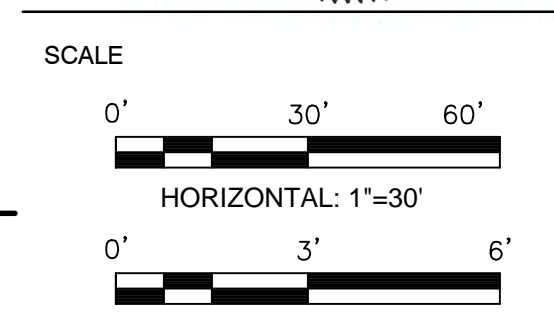
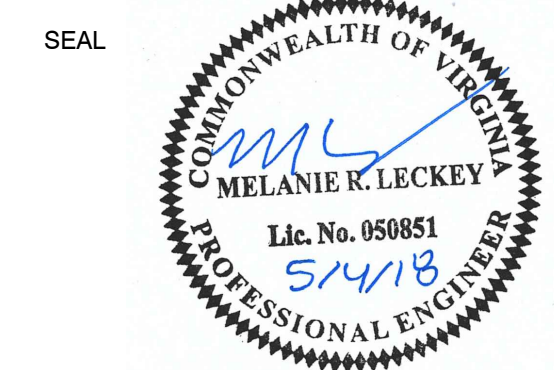
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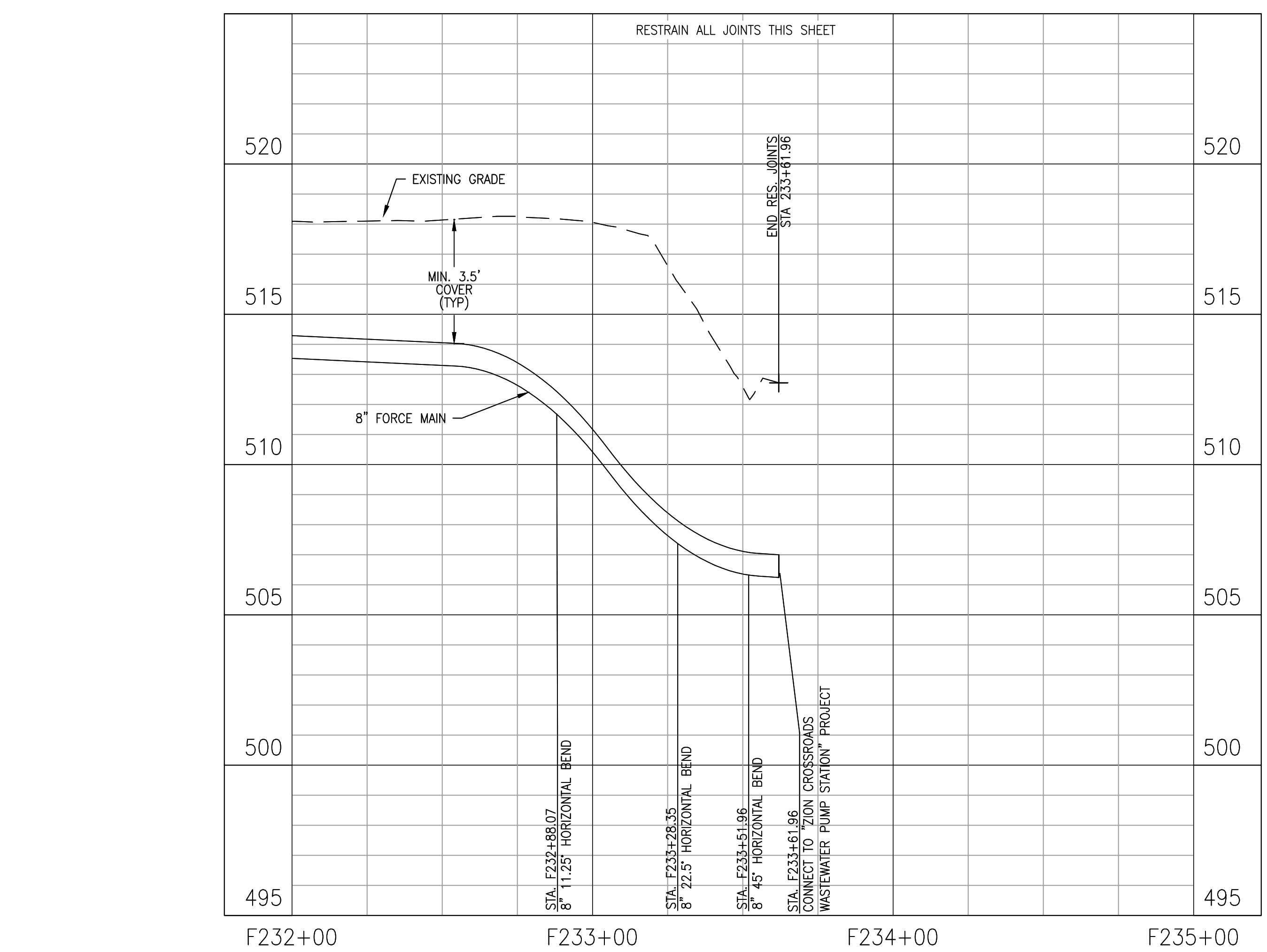
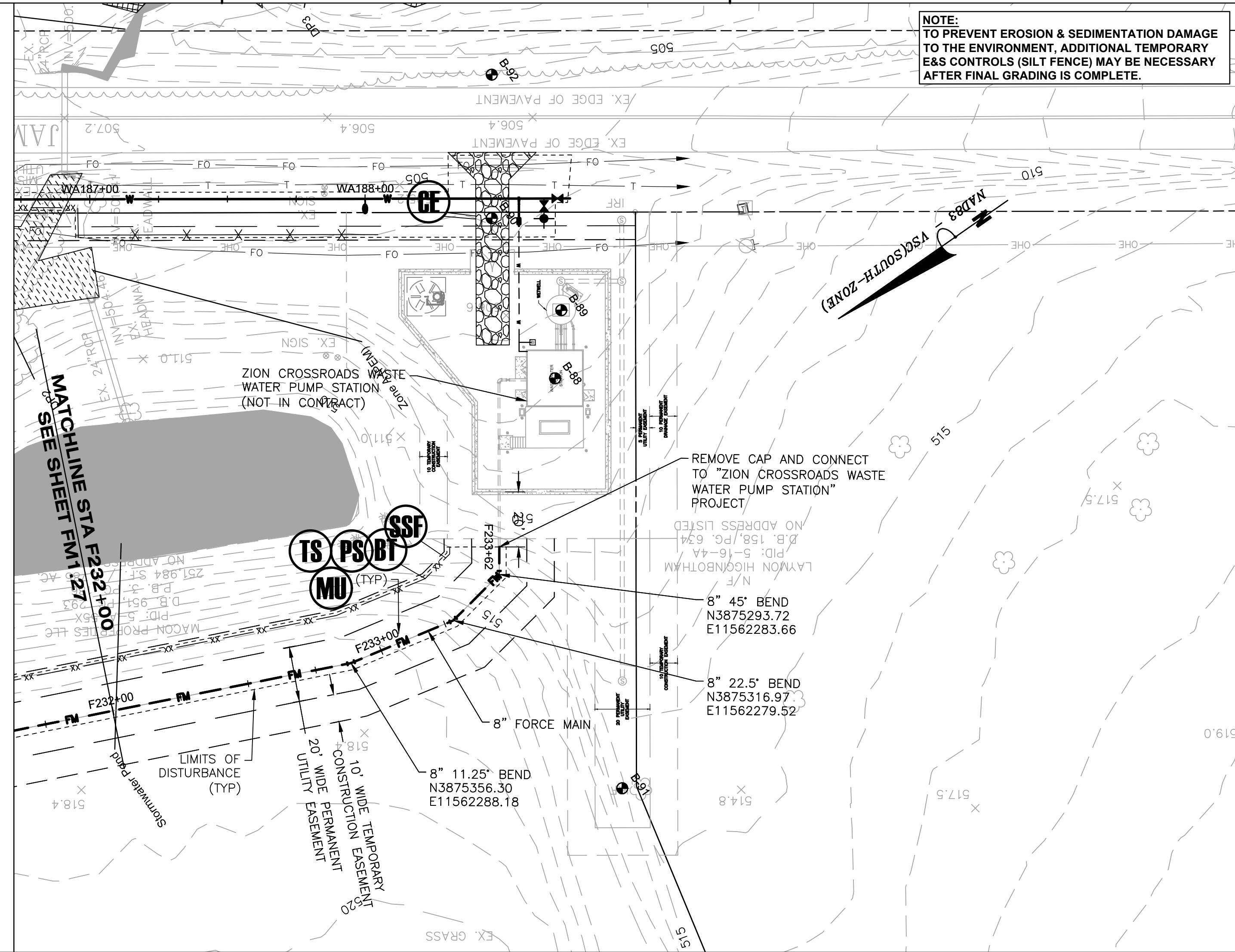
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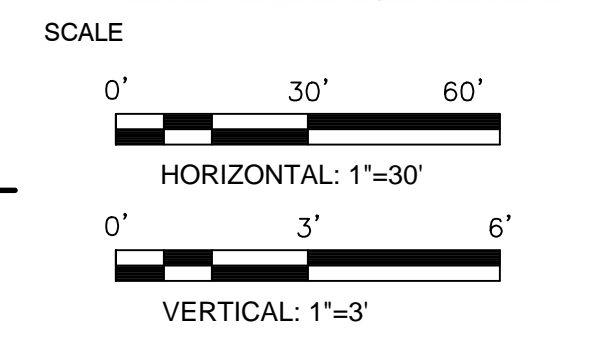
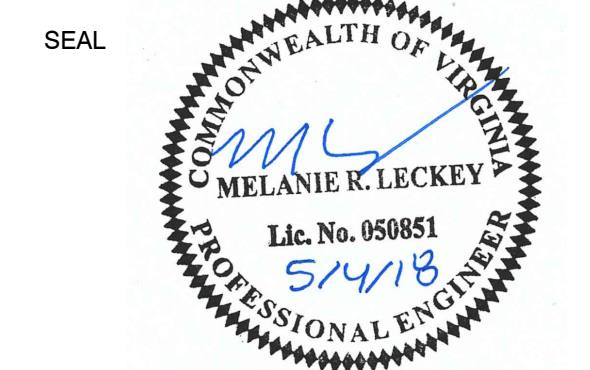
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