

EROSION & SEDIMENT CONTROL NARRATIVE

1. Project Area

The project area runs generally parallel to the Roanoke River. The trail begins at a proposed overlook near the Niagra Dam, heading towards the trailhead termini at Highland Road. The Highland Road trailhead has parking for 12 vehicles with ADA accessibility.

No off-site areas will be disturbed by this project. If it is necessary to import borrow material or dispose of surplus material, the contractor shall be responsible for providing approved erosion and sediment control plan for the off-site borrow or waste areas.

2. Critical Areas

The proximity of the entire project area to the Roanoke River will require that particular attention is given to controlling sediment laden runoff to the maximum extent practicable.

Through the steep slope sections and other cut/fill areas a 2:1 slope is required to construct the greenway. These areas will require surface roughing and seeding to provide for a stabilized slope. Concentrated water will be directed to an adequate channel.

3. Erosion and Sediment Control Measures

The construction phase erosion and sediment controls shall be designed to retain sediment on site to the maximum extent practicable. All control measures must be properly selected, installed, and maintained in accordance with the manufacturers' specifications and good engineering practices. If periodic inspections or other information indicates a control has been used inappropriately, or incorrectly, the permittee must replace or modify the control for site situations. If sediment escapes the construction site, offsite accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts (e.g. fugitive sediment in street could be washed into storm sewers by the next rain and/or pose a safety hazard to users of public streets). Sediment must be removed from sediment traps or sedimentation ponds when design capacity has been reduced by 50%. Litter, construction debris, and construction chemicals exposed to storm water shall be prevented from becoming a pollutant source for storm water discharges (e.g., screening outfalls, picked up daily).

The following measures will be used to control erosion and sediment-laden runoff on this project. See Appendix A for locations of specific erosion control measures which have been incorporated into the design plans. The Contractor shall be responsible for installation of appropriate soil stabilization measures as required by the construction sequencing.

1. Safety Fence: will prevent the public from entering the construction site. (VESCH Standard and Spec. 3.01)

2. Construction Entrance: will be used to reduce mud/sediment tracking onto public roads. (VESCH Standard and Spec. 3.02) If mud or sediment is transported onto a paved road surface, the road shall be cleaned thoroughly at the end of each day. Sediment and mud shall be removed from the roads by shoveling or sweeping and transported to a sediment control disposal area. Street washing shall be allowed only after sediment and mud are removed in this manner.

3. Silt Fence: will be used to intercept and detain small amounts of sediment from disturbed areas during construction operations and to prevent sediment from leaving the site. (VESCH Standard and Spec. 3.05)

4. Culvert Inlet Protection: will prevent sediment from entering, accumulating in and being transferred by a culvert and associated drainage system prior to permanent stabilization of a disturbed project area. (VESCH Standard and Spec. 3.08)

5. Stormwater Conveyance Channel: will provide for the conveyance of concentrated surface runoff water to a receiving channel or system without damage from erosion. (VESCH Standard and Spec. 3.17)

6. Outlet Protection: will prevent scour at stormwater outlets, protect the outlet structure, and minimize the potential for downstream erosion by reducing the velocity and energy of concentrated stormwater flows. (VESCH Standard and Spec. 3.18)

7. Riprap: will protect the soil from the erosive forces of concentrated runoff and slow the velocity of concentrated runoff while enhancing the potential for infiltration and stabilizing slopes with seepage problems and/or non-cohesive soils. (VESCH Standard and Spec. 3.19)

8. Surface Roughening (All Denuded Surfaces): will aid in establishment of vegetative cover with seed, reduce runoff velocity, and increase infiltration, while reducing erosion and providing for sediment trapping. (VESCH Standard and Spec. 3.29)

9. Topsoiling (All New Fill): will provide a suitable growth medium for final site stabilization with vegetation. (VESCH Standard and Spec. 3.30)

10. Temporary Seeding (As Required): Permanent or temporary soil stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade but will remain dormant (undisturbed) for longer than 30 days. (VESCH Standard and Spec. 3.31)

11. Permanent Seeding (All Denuded Surfaces): will be used to establish vegetative cover and to reduce silt runoff for any areas not paved or roofed. Permanent stabilization shall be applied to areas that are to be left dormant for more than one year. (VESCH Standard and Spec. 3.32)

12. Mulching (All Denuded Surfaces): will prevent erosion by protecting the soil surface from raindrop impact and reducing the velocity of overland flow. Will also foster the growth of vegetation by increasing available moisture and providing insulation against extreme heat and cold. (VESCH Standard and Spec. 3.35)

13. Soil Stabilization Blankets & Matting (As Required): will aid in controlling erosion on critical areas by providing a microclimate, which protects young vegetation and promotes its establishment. (VESCH Standard and Spec. 3.36)

14. Dust Control (As Required): will prevent surface and air movement of dust from exposed soil surfaces and reduce the presence of airborne substances which may present health hazards, traffic safety problems, or harm animal or plant life. (VESCH Standard and Spec. 3.39)

4. Stabilization Practices

No specific schedule other than those guidelines given in the Erosion and Sediment Control Measures descriptions of the vegetative practices (given above) will be used for temporary and permanent seeding measures. Riprap for areas requiring outlet protection shall be placed within two days after the outlet structures are functional.

See Section B.11, SWPPP Support Documents for Record of Grading Activities, a log to be used by the contractor to document all major grading activities, any cessation, temporary or permanent, of construction activity, and when stabilization measures are implemented. This record shall be kept throughout the duration of the project. The permittee shall ensure that these records are updated, maintained, and become a permanent part of this overall plan.

Construction will be sequenced so that grading operations can begin and end as quickly as possible. Stabilization measures shall be implemented on disturbed areas as soon as practicable. Embankment walls, upon reaching final grade, must be immediately seeded and fertilized to ensure proper stabilization. Permanent seeding shall be installed within 7 days of reaching final grade. Denuded areas which are not at final grade but will remain dormant for more than 30 days shall be temporarily seeded. Areas that are not to be disturbed must be clearly marked by flags, signs, etc.

After the construction is completed, the site will be permanently stabilized in accordance with VESCH Standard and Specification 3.32, unless otherwise noted in the plans.

5. Maintenance

All erosion and sediment control structures and systems shall be maintained, inspected, and repaired as needed to ensure continued performance of their intended function. In general, all erosion and sediment control measures shall be

checked at least every 14 days and after each rain event over 0.5 inches of precipitation. The following items shall be checked in particular:

1. The construction entrance shall be checked to ensure that the stone does not become clogged with mud.
2. The seeded areas shall be checked every 2 days to ensure that a good stand of grass is maintained. Grassed areas should be fertilized and reseeded as needed.
3. Silt fence shall be checked for undermining or deterioration (of the fabric) and cleaned when sediment levels have reached half of the silt fence height.
4. Inlet and outlet protection areas around culverts, temporary slope drains, and drop inlets shall be checked for buildup of sediment. If significant clogging is found (the capacity of the structure has been reduced by half), they will either be cleaned out or replaced.

Specific requirements related to inspection and maintenance of each erosion control measure are discussed in the VESCH Standards and Specifications. The contractor shall be responsible for maintenance of all erosion control measures to the satisfaction of local review authorities, as well as the installation of additional measures as needed to ensure that sediment-laden runoff does not leave the site.

6. Inspection

Disturbed areas of the construction site that have not been finally stabilized, areas used for storage of materials that are exposed to precipitation, structural control measures, and locations where vehicles enter or exit the site shall be inspected at least once every 14 calendar days and within 48 hours of the end of a storm event that is 0.5 inches or greater. In those areas that have been finalized, temporarily stabilized, or runoff is unlikely due to winter conditions, inspections shall take place at least once a month.

Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. ESC measures shall be checked to see they are operating correctly. At accessible discharge points, inspection shall take place to ensure these control measures are effective at preventing significant impacts to receiving waters. Nearby downstream locations shall be inspected if discharge points are inaccessible. Sites of vehicle entrance or exit shall be inspected for evidence of offsite sediment tracking.

If existing control measures or Best Management Practices (BMPs) require modification or additional measures, such changes shall be made within 7 calendar days of the inspection or before the next anticipated storm event, as implementation is practicable.

Include inspection reports of all stormwater and erosion & sediment control measures along with any required actions as a result of inspections, with the stormwater pollution prevention plan. These reports shall include the name and qualifications of the inspector, dates of inspection, major observations and actions taken in response to inspections. Major observations include: the location of discharge of sediment or pollutant from the site, locations of BMPs that need to be maintained, locations of BMPs that failed to operate or proved inadequate, and locations where additional BMPs are needed that didn't exist at the time of inspection. These reports shall include incidents of noncompliance. If the report does not include any noncompliance incidents, the report shall contain a certification that the facility is in compliance with the stormwater pollution prevention plan and permit.

1. Other Pollutant Controls

Materials, Garbage, Debris

No solid materials, including building materials, garbage, and debris shall be discharged to surface waters of the State. The permittee shall ensure that these items are not left in a location where they could be transported by stormwater runoff off the site.

Expected Construction and Waste Materials

Construction and waste materials that could potentially be stored on site include topsoil, fill dirt, excavated material, storm drainage and utility piping, timber and block building materials, fertilizer for seeding operations, stone to be placed on gravel areas, stone for riprap, fuel and silt fence material.

Any stockpiles of topsoil, excavated material or fill dirt that are needed shall be surrounded on the down slope side by silt fence. Fertilizer must be kept in watertight containers, preferably in portable storage units and out from exposure to the weather, during storage on site. Care must be taken to minimize spillage of fertilizer if mixing operations are required to prepare the fertilizer for application.

If overnight storage of fuel is required, the fuel storage container must be equipped with a fueling mechanism disable device. To minimize the effect of any potential spills, maintain all on-site fueling operations as far away from surrounding wetlands, surface waters and drainage facilities as is practical. Daily inspections of the fuel storage container must be implemented to detect the presence of leaks. The fueling operator shall have a safe fill, shutdown, and transfer procedure in place to minimize spillage during fueling activities. The operator must maintain a fully equipped spill kit on site at all times with the stored fuel. The kit must at least include absorbent mats or material to cleanup any spilled fuel. For any fuel spill on site equal to or exceeding 25 gallons, immediately create an appropriately-sized berm around the area of spillage to minimize surface movement of the fuel. Contact local hazard authorities, the ENGINEER, and the regional DEQ office in Roanoke as quickly as possible to report the spill and seek further assistance with spill cleanup.

Construction materials which could be carried offsite by stormwater (plastics, paper, timber, etc.) shall be picked up daily and placed in appropriate waste disposal containers.

8. Non-Stormwater Discharges

No non-storm water discharges other than those permitted by the VPDES general permit for Stormwater Discharge from Construction Activities are anticipated during this project.

9. Minimum Standards (MS-19)

All applicable Virginia Erosion and Sediment Control Regulations and Minimum Standards shall be adhered to during all phases of construction. If plan details and specifications are more stringent, then they shall supersede the Minimum Standards. The Minimum Standards include, but are not limited to the following:

1. STABILIZATION OF DENUDED AREAS:

Permanent or temporary soil stabilization shall be applied to bare areas within seven days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade but will remain dormant (undisturbed) for longer than 14 days. Permanent stabilization shall be applied at areas that are to be left dormant for more than 1 year.

Applicable: The Contractor shall establish permanent within seven days after final grade. If Contractor elects to rough grade areas of the trail or postpone permanent seeding until other sections of the greenway are complete which will remain dormant or undisturbed for more than 30 days then temporary seeding shall be applied at the Contractor's expense.

2. STABILIZATION OF SOIL STOCKPILES:

During construction of the project, soil stockpiles shall be stabilized or protected with sediment trapping measures. The applicant is responsible for temporary protection and permanent stabilization of all soil stockpiles on site as well as soil intentionally transported from the project site.

Applicable: Due to limited space, existing easements, and floodplain limits, stockpiling off site may be required. With appropriate owner agreements obtained by the contractor, stockpiles will be allowed offsite. The Contractor shall provide the required E&S permit and temporary and permanent stabilization measures for areas offsite and ensure that on site stockpiles include appropriate stabilization measures.

3. PERMANENT VEGETATIVE COVER:

A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized. Permanent vegetation shall not be considered established until a ground cover is achieved that, in the opinion of the local authority (Roanoke County), is uniform and mature enough to survive to inhibit erosion.

Applicable: The Contractor must seed and mulch all denuded areas per the project specifications. Over-seeding may be required at the Contractor's expense until an adequate ground cover is achieved as determined by Roanoke County. ESC measures shall not be removed until approved by the County. Areas of rutting shall be filled in and reseeded at the Contractor's expense.

4. TIMING & STABILIZATION OF SILT TRAPPING MEASURES:

Sediment basins and traps, perimeter dikes, sediment barriers and other measures intended to trap sediment shall be constructed as a first step in any land disturbing activity and shall be made functional before upslope land disturbance takes place.

Applicable: The Contractor shall install construction entrances, perimeter silt fence, and inlet protection on existing structures as denoted on the plans prior to any land disturbance. Once proposed storm pipes are installed, culvert inlet and outlet protection shall be installed immediately after installation.

5. STABILIZATION OF EARTHEN STRUCTURES:

Stabilization measures shall be applied to earthen structures such as dams, dikes and diversions immediately after installation.

Not Applicable: Dams, dikes, and diversions are not proposed.

6. SEDIMENT TRAPS AND BASINS:

A sediment basin shall control surface runoff from disturbed areas that is comprised of flow from drainage areas greater than or equal to three acres. The sediment basin shall be designed and constructed to accommodate the anticipated sediment loading for the land disturbing activity. The outlet device or system device shall take into account the total drainage area flowing through the disturbed area to be served by the basin.

Not Applicable: No sediment traps or basins are proposed since concentrated drainage crosses the trail perpendicularly and there is minor land disturbance per outfall.

7. CUT AND FILL SLOPES:

Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Slopes that are found to be eroding excessively within one year of permanent stabilization shall be provided with additional slope stabilizing measures until the problem is corrected.

Applicable: Prior to final acceptance, there shall be no evidence of excessive erosion and the cut/fill slopes shall be stabilized with permanent stabilization acceptable to the Roanoke County. In the event that excessive erosion is present within one year after project acceptance, the Contractor shall be responsible for remediation.

8. CONCENTRATED RUN-OFF DOWN CUT OR FILL SLOPES:

Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume, or slope drain structure.

Not Applicable: Concentrated runoff is not designed to flow down cut or fill slopes.

9. WATER SEEPs FROM A SLOPE FACE:

Whenever water seeps from a slope face, adequate drainage or other protection shall be provided.

Not Applicable: Based on site investigation, there are no existing water seeps (springs) in proximity to the project corridor.

10. STORM SEWER INLET PROTECTION:

All storm sewer inlets that are made operable during construction shall be protected so that sediment-laden water cannot enter the conveyance system without first being filtered or otherwise treated to remove sediment.

Applicable: The Contractor shall protect the installed storm sewer system with inlet protection as shown on the plans. The Contractor shall protect proposed culverts from sediment laden water with culvert inlet protection as shown on the plans. All inlet protection shall be maintained until final completion.

11. STABILIZATION OF OUTLETS:

Before newly constructed stormwater conveyance channels are made operational, adequate outlet protection and any required temporary or permanent channel lining shall be installed in both the conveyance channel and receiving channel.

Applicable: Concentrated runoff crossing perpendicular to the trail requires a culvert and a riprap lined outlet ditch. In order to comply with this standard, the Contractor will be required to construct or reconstruct the outlet ditch from the end of the culvert and install permanent outlet protection prior to the installation of the culvert. If construction activity allows the installation of the culvert and outlet ditch protection within the same day, this will be an acceptable approach.

12. WORK IN LIVE WATERCOURSES:

When work in a live watercourse is performed, precautions shall be taken to minimize encroachment, control sediment transport and stabilize the work area to the greatest extent possible during construction. Non-erodible material shall be used for the construction of causeways and corduroys. Earthen fill may be used for these structures if armored by non-erodible cover materials.

Not Applicable: No work is proposed within live watercourses.

13. CROSSING A LIVE WATERCOURSE:

When a live watercourse must be crossed by construction vehicles more than twice in any six month period, a temporary stream crossing constructed of non-erodible materials shall be provided.

Not Applicable: No stream crossing are proposed.

14. APPLICABLE REGULATIONS:

All applicable federal, state and local regulations pertaining to working in or crossing live watercourses shall be met.

Applicable: No work is permitted within live watercourses.

15. STABILIZATION OF BED AND BANKS:

The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse is completed.

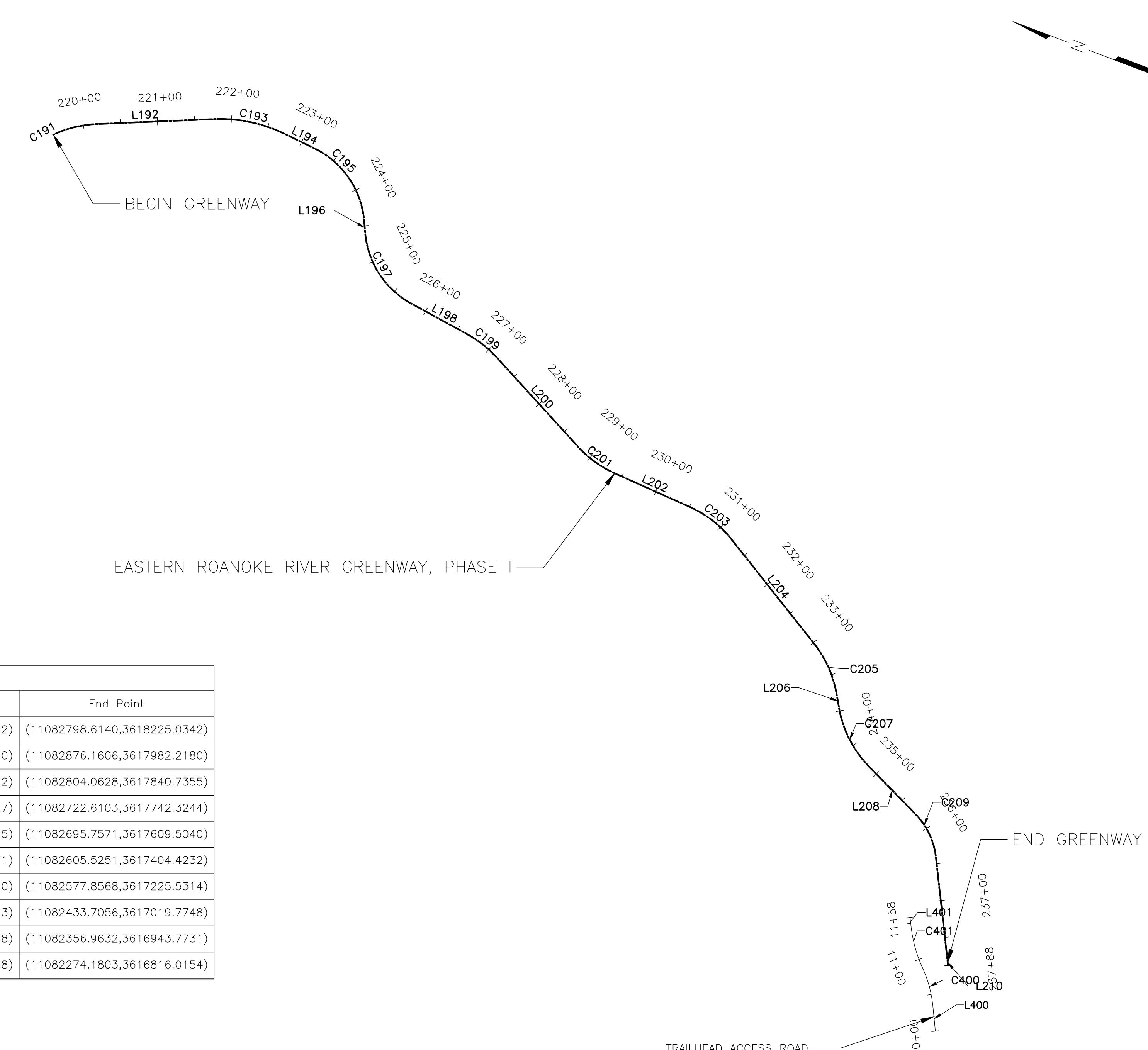
Applicable: No work is permitted within live watercourses.

16. UNDERGROUND UTILITIES:

Underground utilities shall be installed in accordance with the following standards in addition to other criteria:

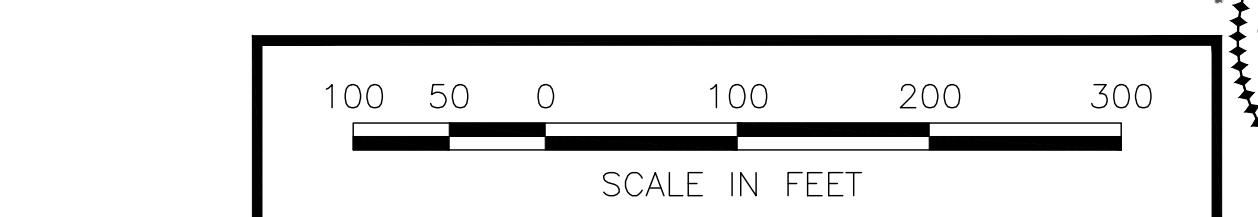
- a. No more than 500 linear feet of trench may be opened at one time.
- b. Excavated material shall be placed on the uphill side of trenches.
- c. Effluent for dewatering operations shall be filtered or passed through approved sediment trapping device, or both, and discharged in a manner that does not adversely affect flowing streams or offsite property.
- d. Material used for backfilling trenches shall be properly compacted in order to minimize erosion and promote stabilization.
- e. Re-stabilization shall be accomplished in accordance with these regulations.
- f. Applicable safety regulations shall be complied with.

Not Applicable: All drainage pipes



Line Table: Alignments				
Line #	Length	Direction	Start Point	End Point
L192	158.351	S23° 09' 47.23"E	(11082798.6140,3618225.0342)	(11082860.9014,3618079.
L194	44.427	S5° 19' 28.92"W	(11082876.1606,3617982.2180)	(11082872.0378,3617937.
L196	15.639	S64° 34' 53.53"W	(11082804.0628,3617840.7355)	(11082789.9375,3617834.
L198	86.568	S7° 59' 33.09"W	(11082722.6103,3617742.3244)	(11082710.5735,3617656.
L200	163.853	S26° 56' 10.91"W	(11082695.7571,3617609.5040)	(11082621.5315,3617463.
L202	110.959	S3° 25' 09.16"W	(11082605.5251,3617404.4232)	(11082598.9074,3617293.
L204	179.456	S30° 55' 13.10"W	(11082577.8568,3617225.5314)	(11082485.6443,3617071.
L206	20.363	S59° 13' 40.34"W	(11082433.7056,3617019.7748)	(11082416.2099,3617009.
L208	89.269	S24° 57' 35.81"W	(11082356.9632,3616943.7731)	(11082319.2931,3616862.
L210	146.480	S62° 54' 16.40"W	(11082274.1803,3616816.0154)	(11082143.7764,3616749.

Curve Table: Alignments					
Curve #	Radius	Length	Chord Direction	Start Point	End Point
C191	150.000	59.888	S41° 43' 00.65"E	(11082735.0914,3618296.2882)	(11082798.6140,3618225.0342)
C193	200.000	99.441	S8° 55' 09.15"E	(11082860.9014,3618079.4480)	(11082876.1606,3617982.2180)
C195	120.000	124.107	S34° 57' 11.23"W	(11082872.0378,3617937.9832)	(11082804.0628,3617840.7355)
C197	120.000	118.520	S36° 17' 13.31"W	(11082789.9375,3617834.0227)	(11082722.6103,3617742.3244)
C199	150.000	49.595	S17° 27' 52.00"W	(11082710.5735,3617656.5975)	(11082695.7571,3617609.5040)
C201	150.000	61.568	S15° 10' 40.03"W	(11082621.5315,3617463.4271)	(11082605.5251,3617404.4232)
C203	150.000	71.998	S17° 10' 11.13"W	(11082598.9074,3617293.6620)	(11082577.8568,3617225.5314)
C205	150.000	74.109	S45° 04' 26.72"W	(11082485.6443,3617071.5793)	(11082433.7056,3617019.7748)
C207	150.000	89.713	S42° 05' 38.07"W	(11082416.2099,3617009.3568)	(11082356.9632,3616943.7731)
C209	100.000	66.226	S43° 55' 56.10"W	(11082319.2931,3616862.8418)	(11082274.1803,3616816.0154)



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EASTERN ROANOKE RIVER GREENWAY, PHASE I

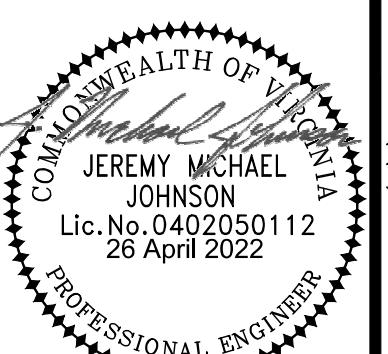
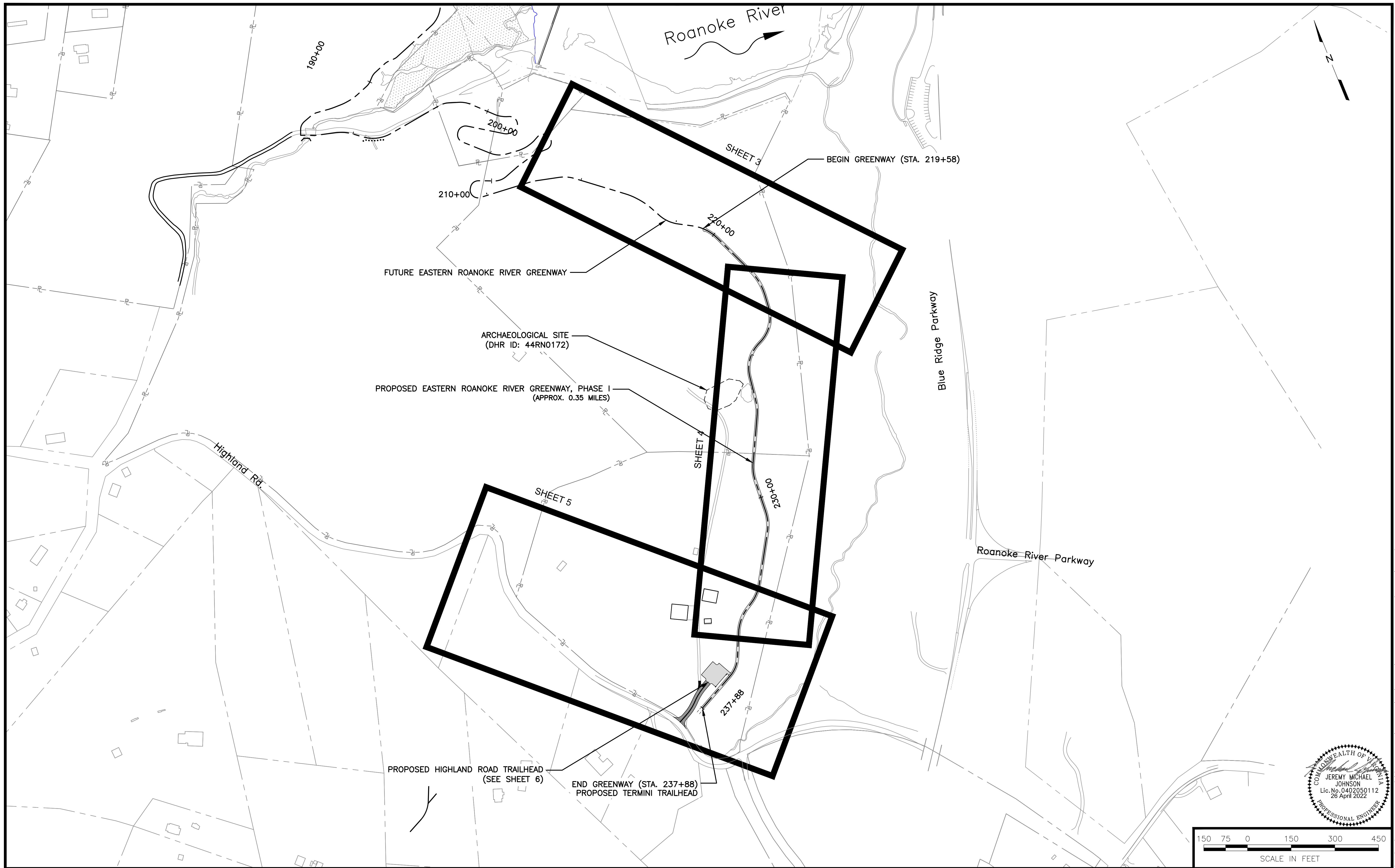
ROANOKE, VIRGINIA

ALIGNMENT DATA SHEET

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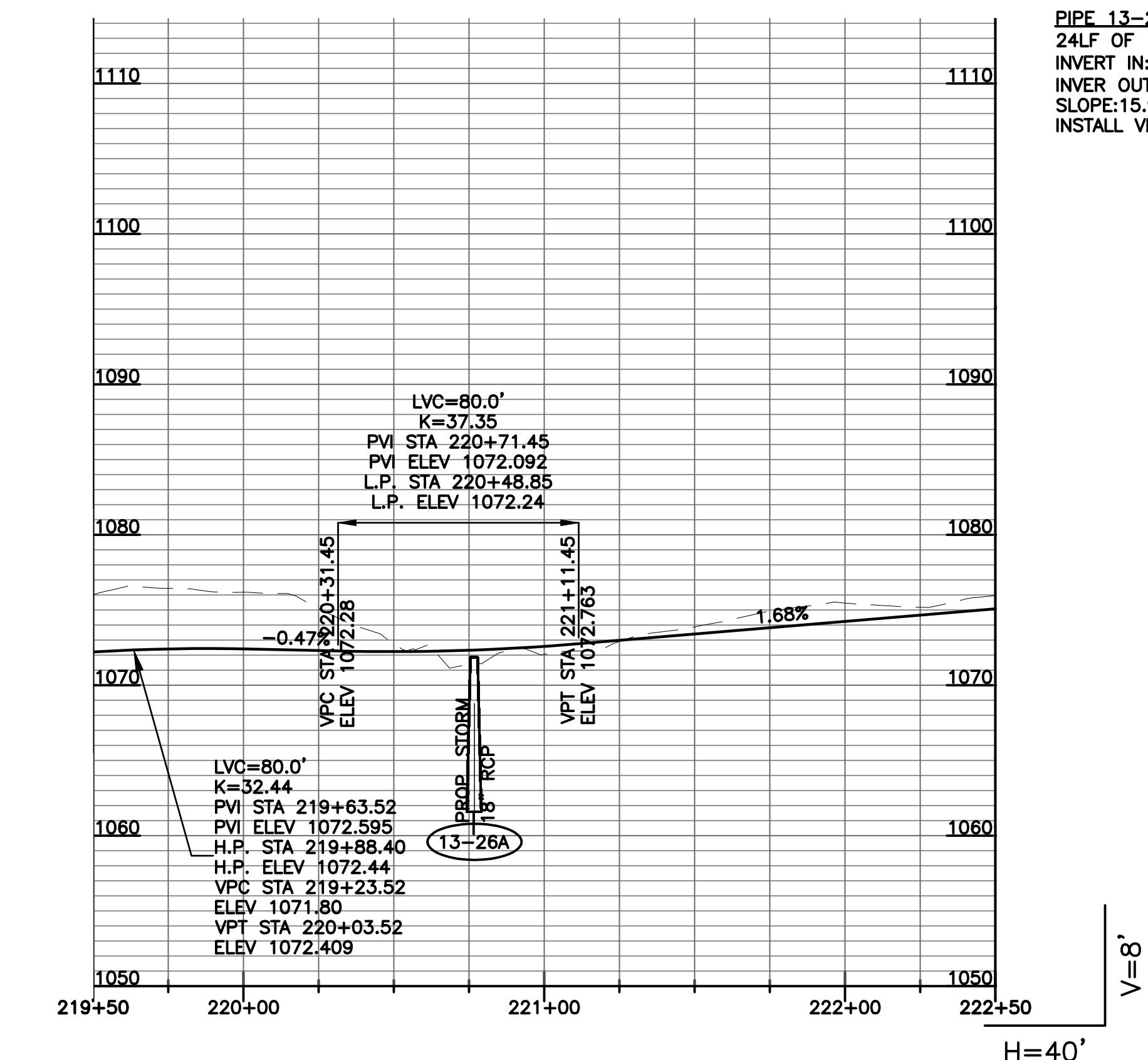
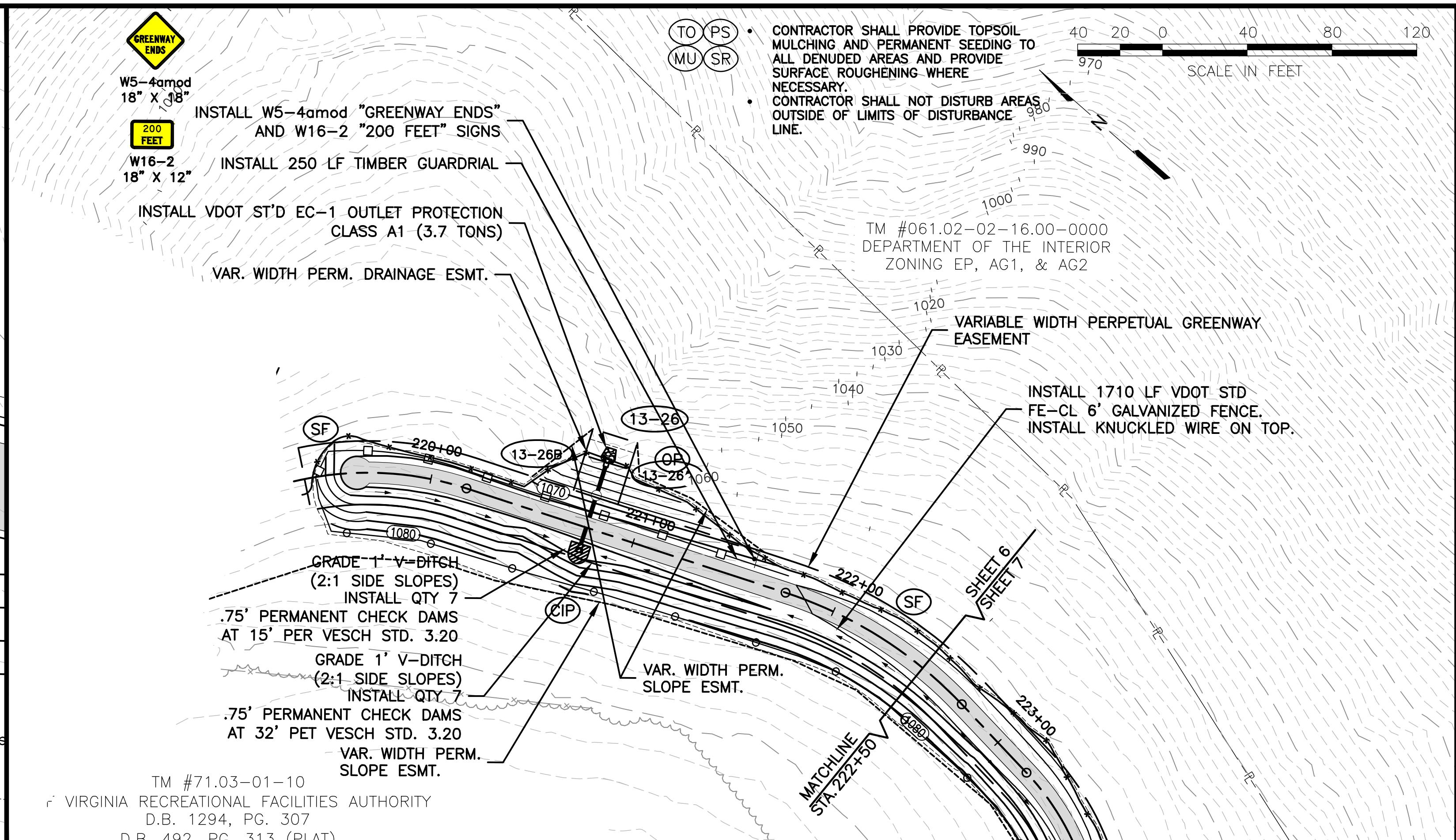
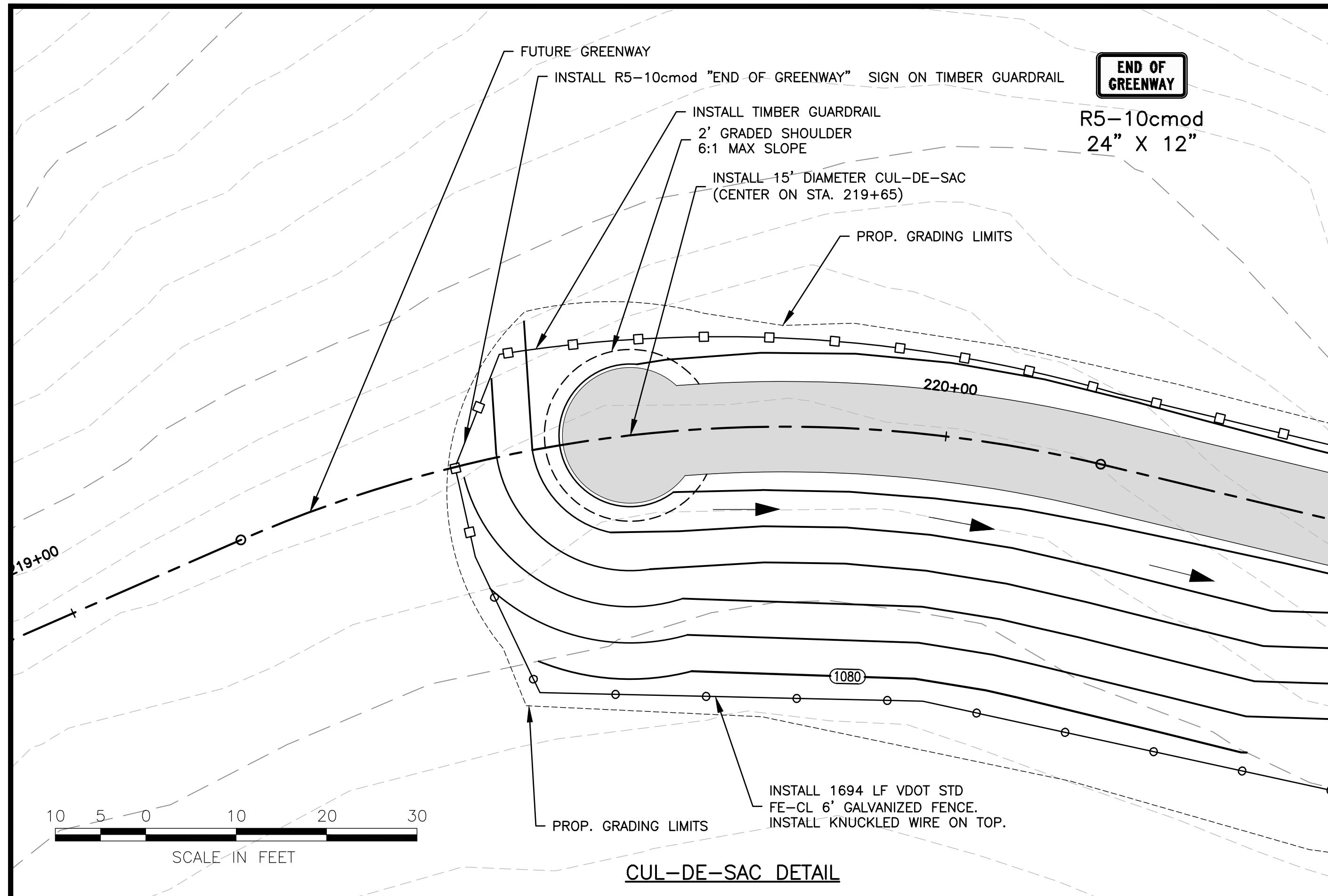
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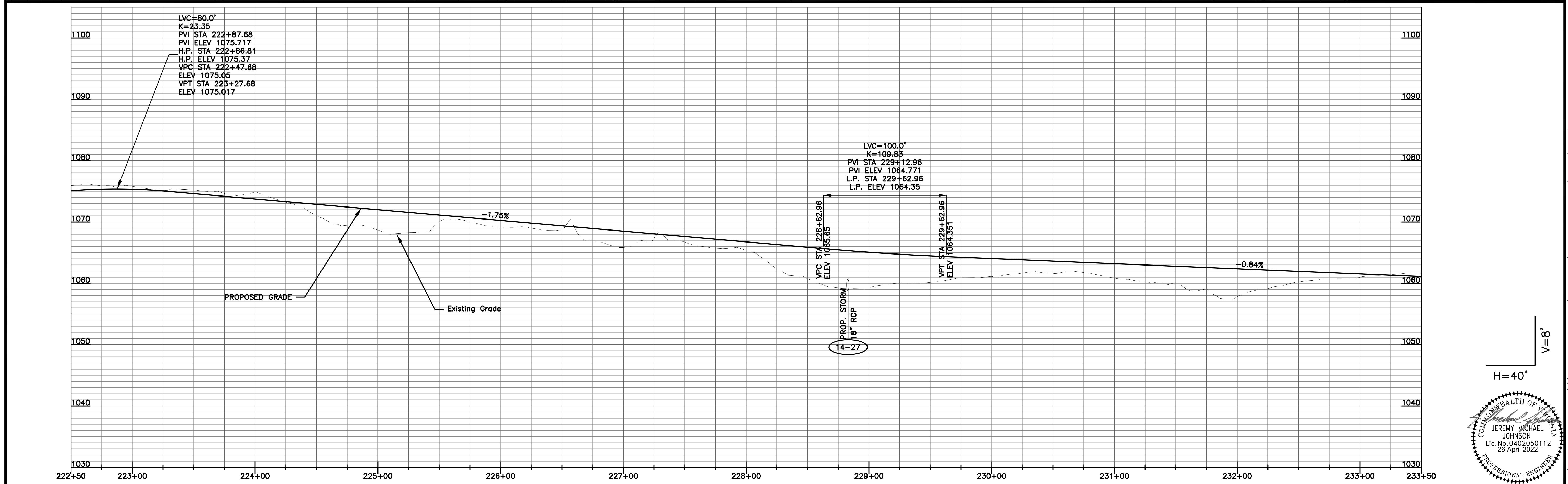
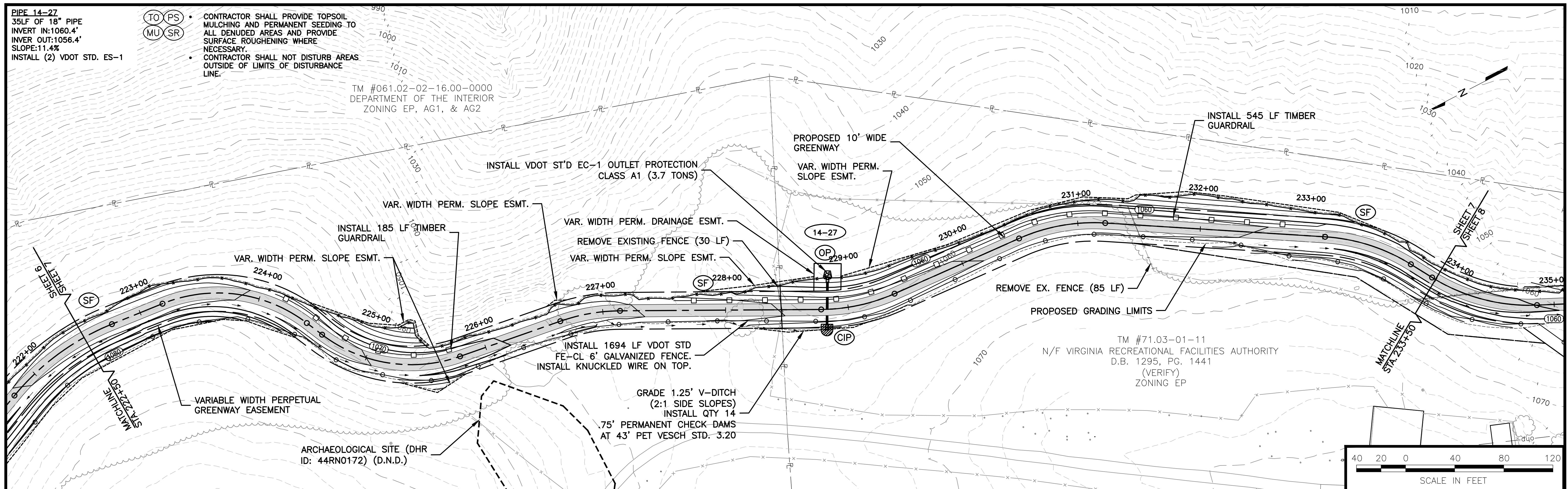
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PLAN SHEET LAYOUT

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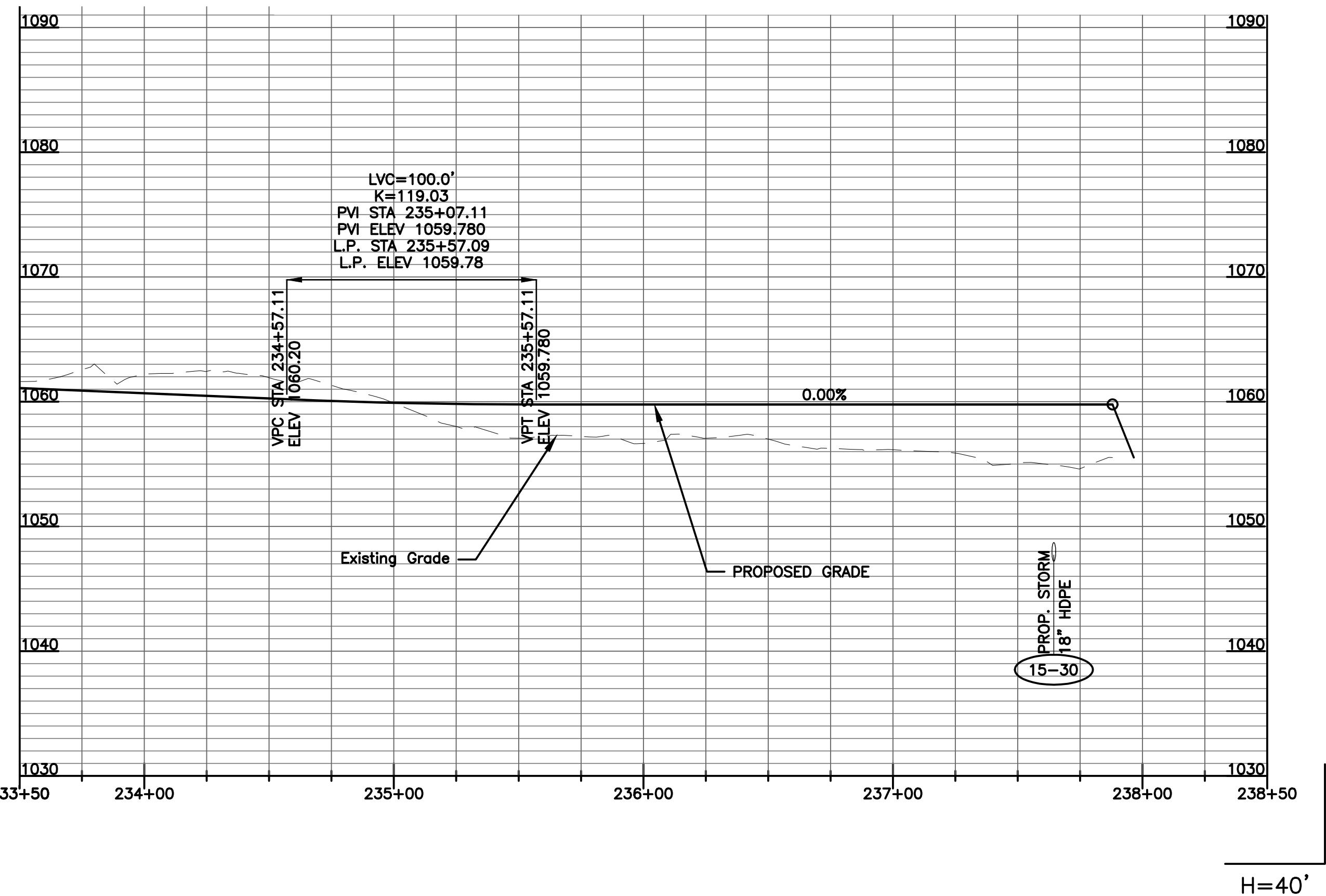
NIAGRA DAM OVERLOOK PLAN & PROFILE
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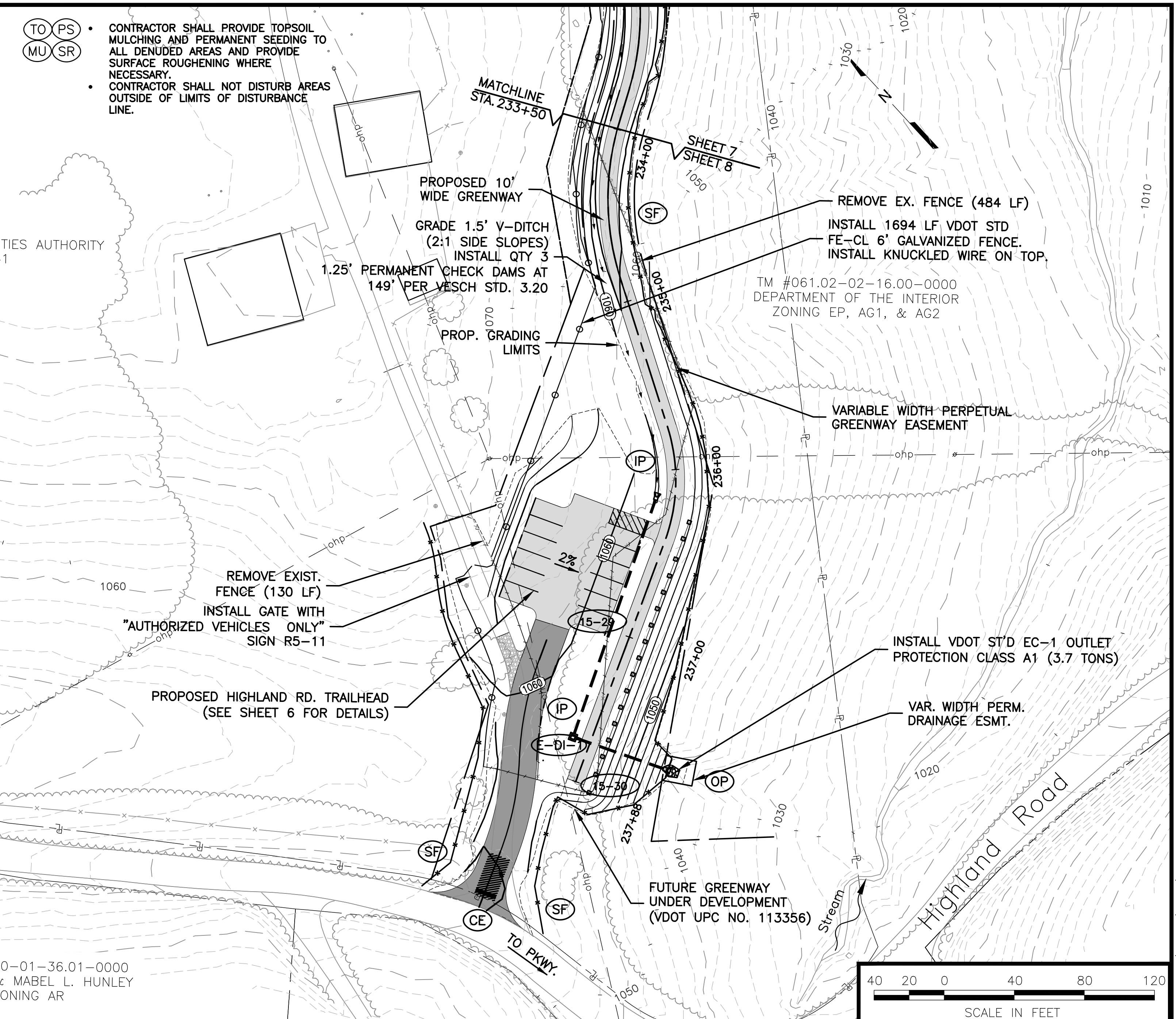
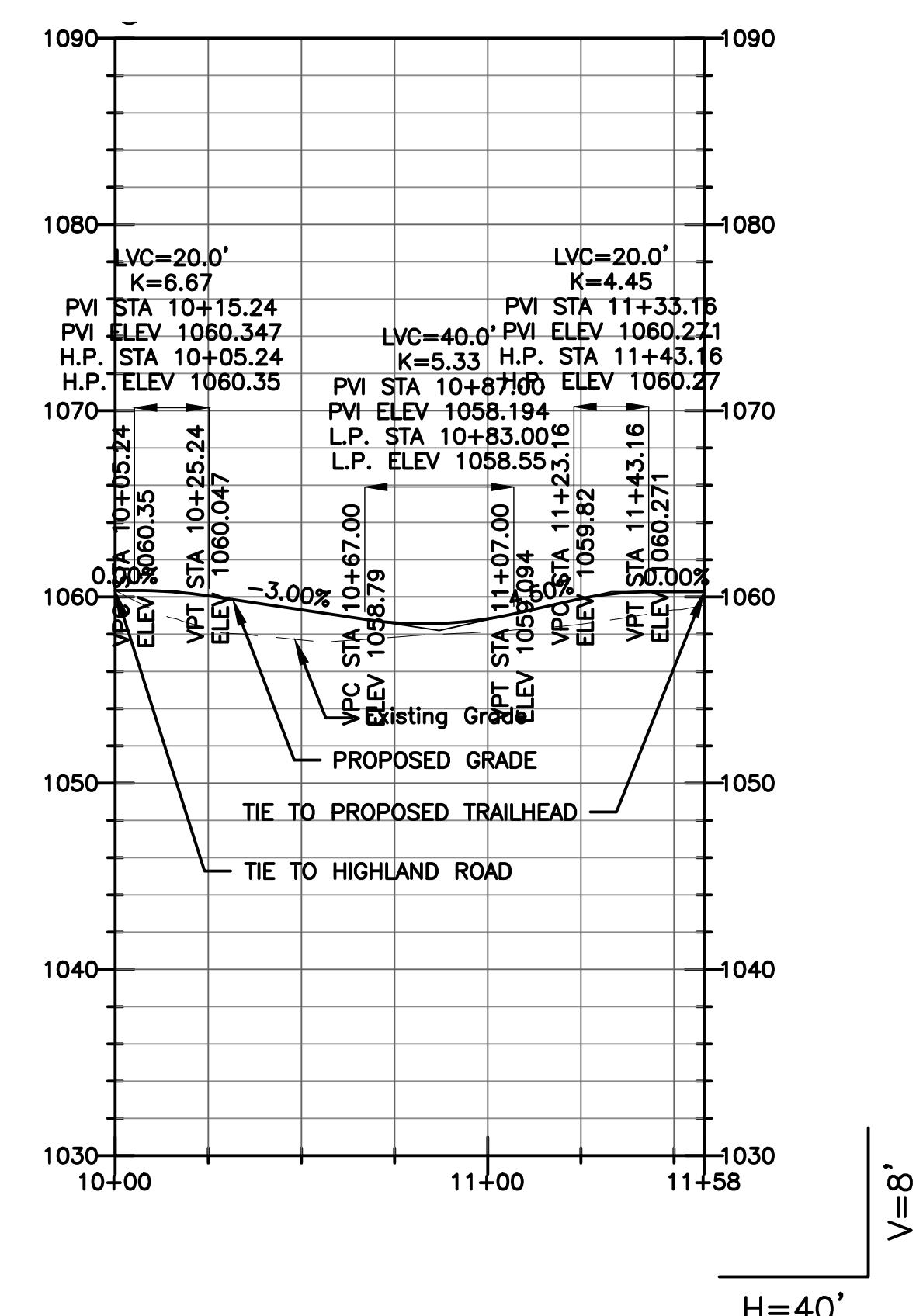
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GREENWAY PROFILE – STA. 229+00 TO 237+38



PROFILE: HIGHLAND ROAD TRAILHEAD ACCESS ROAD



PIPE 15-29
143LF OF 18" PIPE
INVERT IN:1057.5'
INVERT OUT:1055.7'
SLOPE:1.2%
INSTALL VDOT STD. ES-1

PIPE 15-30
54LF OF 18" PIPE
INVERT IN:1048.8'
INVERT OUT:1040.1'
SLOPE:16.0%
INSTALL VDOT STD. ES-1



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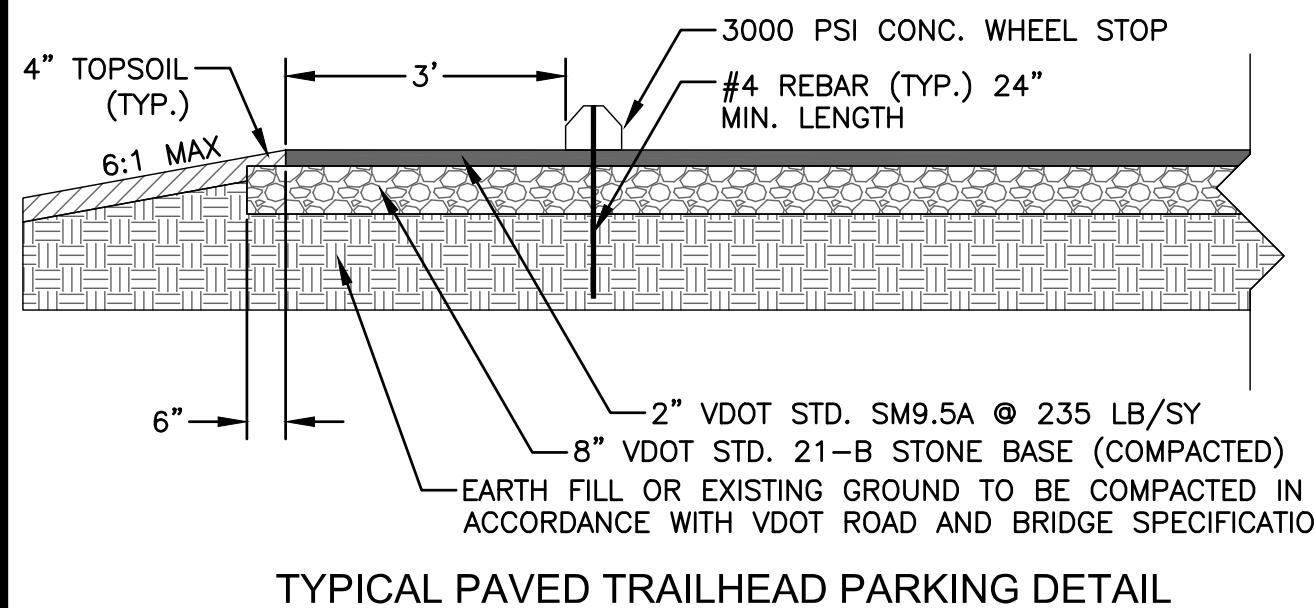
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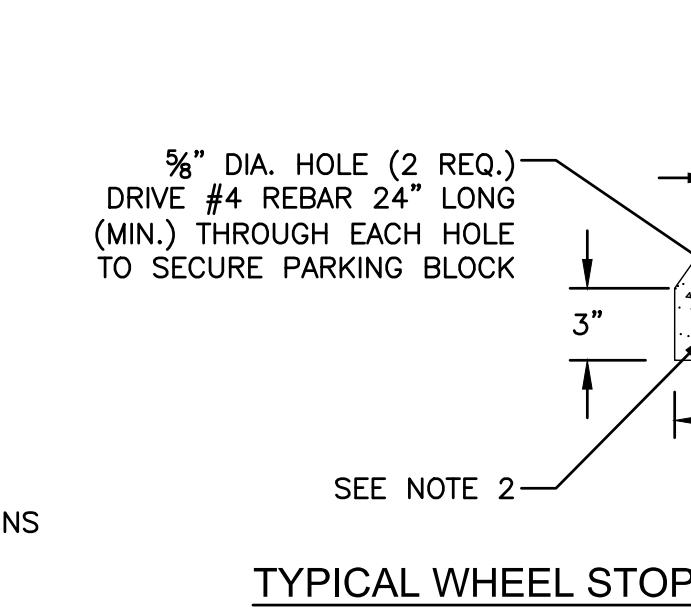
NOTES:

1. CONCRETE SHALL BE 3,000 PSI AT 28 DAYS.
2. CONCRETE SHALL BE REINFORCED 2-#4 REINFORCING BARS.
3. WHEEL STOPS SHALL 6'-0" LONG AND BE POSITIONED AS SHOWN ON THE PARKING DETAILS (CENTERED IN THE PARKING SPACE) ALLOWING A 10' WIDTH (MIN.) PARKING SPACE AND THEN ANCHORED ACCORDING TO DETAIL



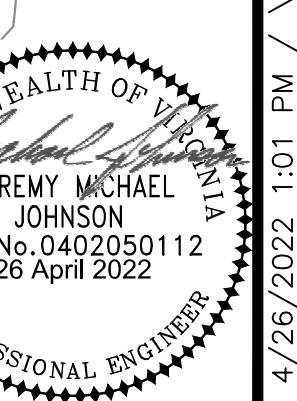
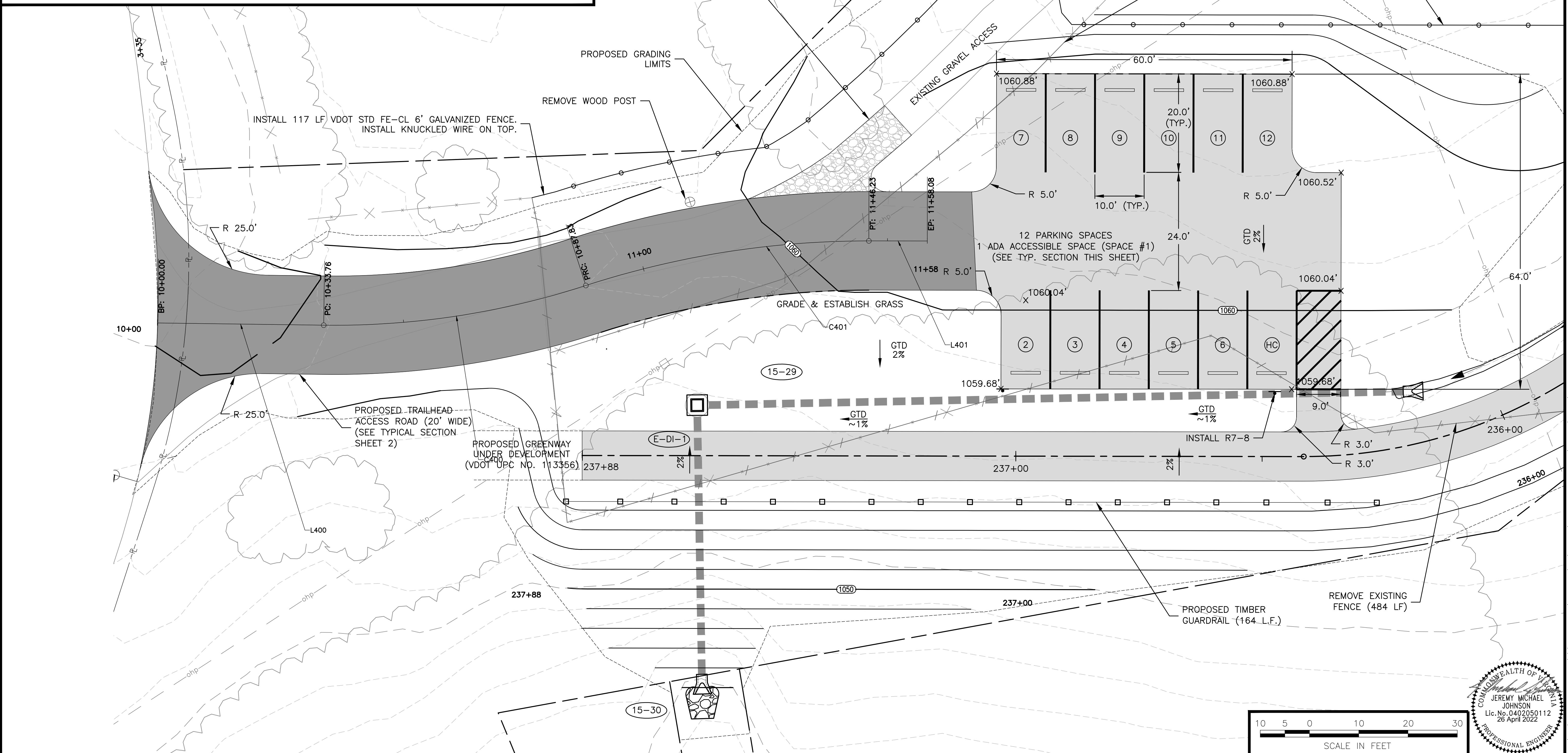
TYPICAL PAVED TRAILHEAD PARKING DETAIL

Not To Scale



TYPICAL WHEEL STOP DETAIL

Not T





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T
1861 Pratt Dr. Suite 1100
Blacksburg, Va. 24060
540-552-5592

DATE	:	07 MAR 22	REV. #	COMMENTS
DESIGNED:	:	JMM		
DRAWN	:	MDA		
CHECKED	:	JMJ		
QA / QC	:	JDW		

EASTERN ROANOKE RIVER GREENWAY, PHASE I

ROANOKE, VIRGINIA

HIGHLAND ROAD TRAILHEAD PLAN

DOCUMENT NO.
29681 — 017

SHEET
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ROADWAY CLASSIFICATION

- Highland Road Rte 618 - MINOR ARTERIAL (30 MPH)*
- *Speed study performed by Anderson & Associates, dated 22 December 2014
- PROJECT NUMBERS**
- FEDERAL PROJECT NUMBER: TEA-5128(477)
- VDOT PROJECT NUMBER: EN08-080-105, P101, R201, C501
- UPC: 91191

TEMPORARY TRAFFIC CONTROL REFERENCES

- TTC-1.1: WORK BEYOND THE SHOULDER OPERATION
- TTC-5.2: SHOULDER OPERATION WITH MINOR ENCROACHMENT
- TTC-23.2: LANE CLOSURE ON A TWO-LANE ROADWAY USING FLAGGERS
- TTC-53.0: SIGNING FOR PROJECT LIMITS

LOCAL EMERGENCY RESPONSE AGENCY CONTACT LIST (911)

- ROANOKE COUNTY (POLICE) 540-562-3265
- ROANOKE COUNTY (FIRE & RESCUE) 540-777-8701
- VDOT TRAFFIC OPERATIONS CENTER 540-375-0170
- VIRGINIA STATE POLICE (DIV. 6 AREA 40) 540-375-9518 & 540-375-9538
- SMART TRAFFIC 1-866-378-7743

PROPOSED CONSTRUCTION SEQUENCE

EACH STAGE OF CONSTRUCTION WILL INCLUDE THE FOLLOWING GENERAL STEPS:

1. INSTALLATION OF PROJECT LIMITS SIGNING.
2. INSTALLATION OF APPROVED TEMPORARY TRAFFIC CONTROL MEASURES.
3. PERFORM DEMOLITION ACTIVITIES.
4. INSTALLATION OF PROPOSED IMPROVEMENTS.
5. RESTORATION OF PROPERTY.
6. REMOVAL OF TEMPORARY TRAFFIC CONTROL MEASURES.
7. REMOVAL OF PROJECT LIMITS SIGNING.

PROPOSED CONSTRUCTION PHASES INCLUDE (AS DETERMINED BY THE CONTRACTOR):

CONSTRUCTION OF TRAILHEAD ENTRANCE ON THE NORTH SIDE OF HIGHLAND ROAD (RT. 618)

CONSTRUCTION OF THE TRAILHEAD ACCESS ROAD ADJACENT TO HIGHLAND ROAD WILL BEGIN WITH INSTALLATION OF TEMPORARY TRAFFIC CONTROL AND E&S MEASURES FOLLOWED BY CLEARING AND GRUBBING WITHIN THE SHOULDER. CONSTRUCTION OPERATIONS WITHIN THE CLEAR ZONE WILL BE COMPLETED USING TTC 1.1. ONCE THE ACCESS ROAD IS ESTABLISHED, THE NORTHBOUND LANE OF HIGHLAND ROAD WILL BE CLOSED USING TTC 5.2 TO COMPLETE CONSTRUCTION OF THE ENTRANCE AND ROADWAY TIE IN. RESTORATION OF PROPERTY AND PERMANENT SEEDING WILL BE INSTALLED. FINALLY E&S MEASURES WILL BE REMOVED, AND TEMPORARY TRAFFIC CONTROL REMOVED.

NOTES

1. PROJECT CATEGORY: TYPE A, CATEGORY I.
2. THIS PLAN DEPICTS A SUGGESTED SEQUENCE OF CONSTRUCTION FOR THIS PROJECT. THE CONTRACTOR SHALL SUBMIT A CONSTRUCTION SEQUENCE PLAN TO GAIN APPROVAL FROM VDOT PRIOR TO BEGINNING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF LANE CLOSURES WITH VDOT.
3. TWO-LANE TRAFFIC SHALL BE MAINTAINED AT ALL TIMES UNLESS APPROVED BY THE ENGINEER. LANE WIDTHS SHALL BE A MINIMUM OF 10 FEET. FLAGGING OPERATIONS MAY BE REQUIRED FOR CERTAIN TASKS. THE USE OF FLAGGING OPERATIONS SHALL BE CARRIED OUT AS APPROVED AND DIRECTED BY THE ENGINEER.
4. VEHICULAR ACCESS TO ADJOINING PROPERTIES SHALL BE MAINTAINED AT ALL TIMES.
5. ALL TEMPORARY TRAFFIC CONTROL PLANS AND MEASURES SHALL BE COMPLETED PER THE 2011 VDOT WORK AREA PROTECTION MANUAL (LATEST REVISION) AND AT NO ADDITIONAL COST TO THE OWNER.



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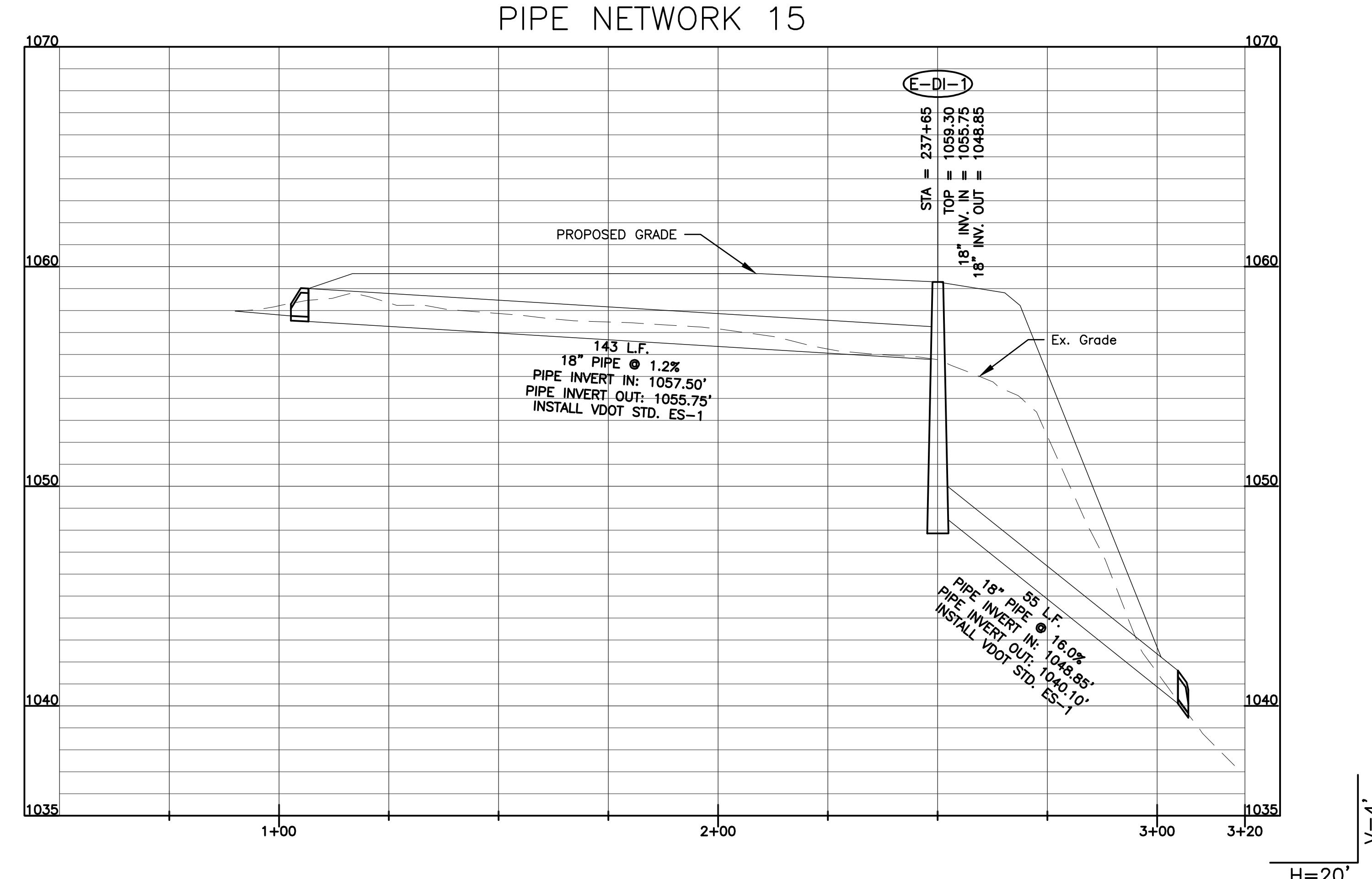
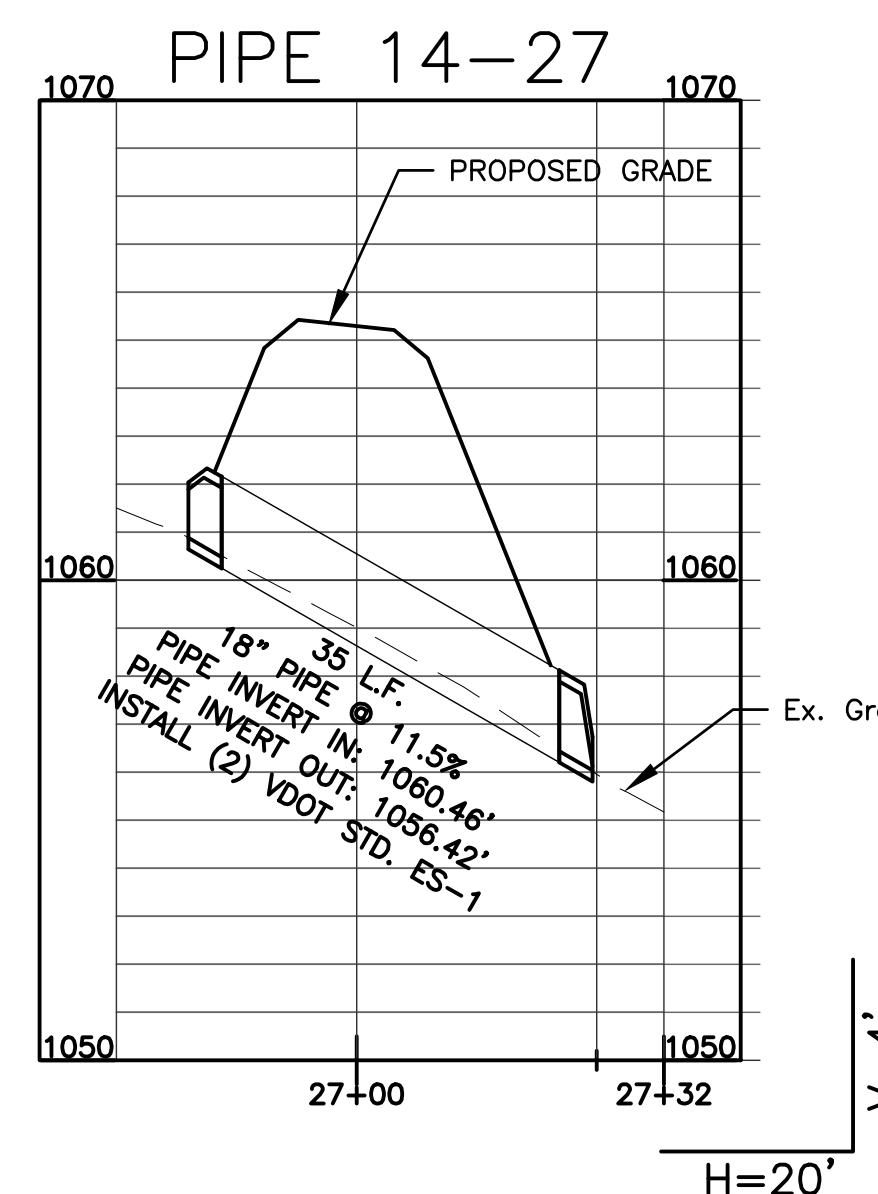
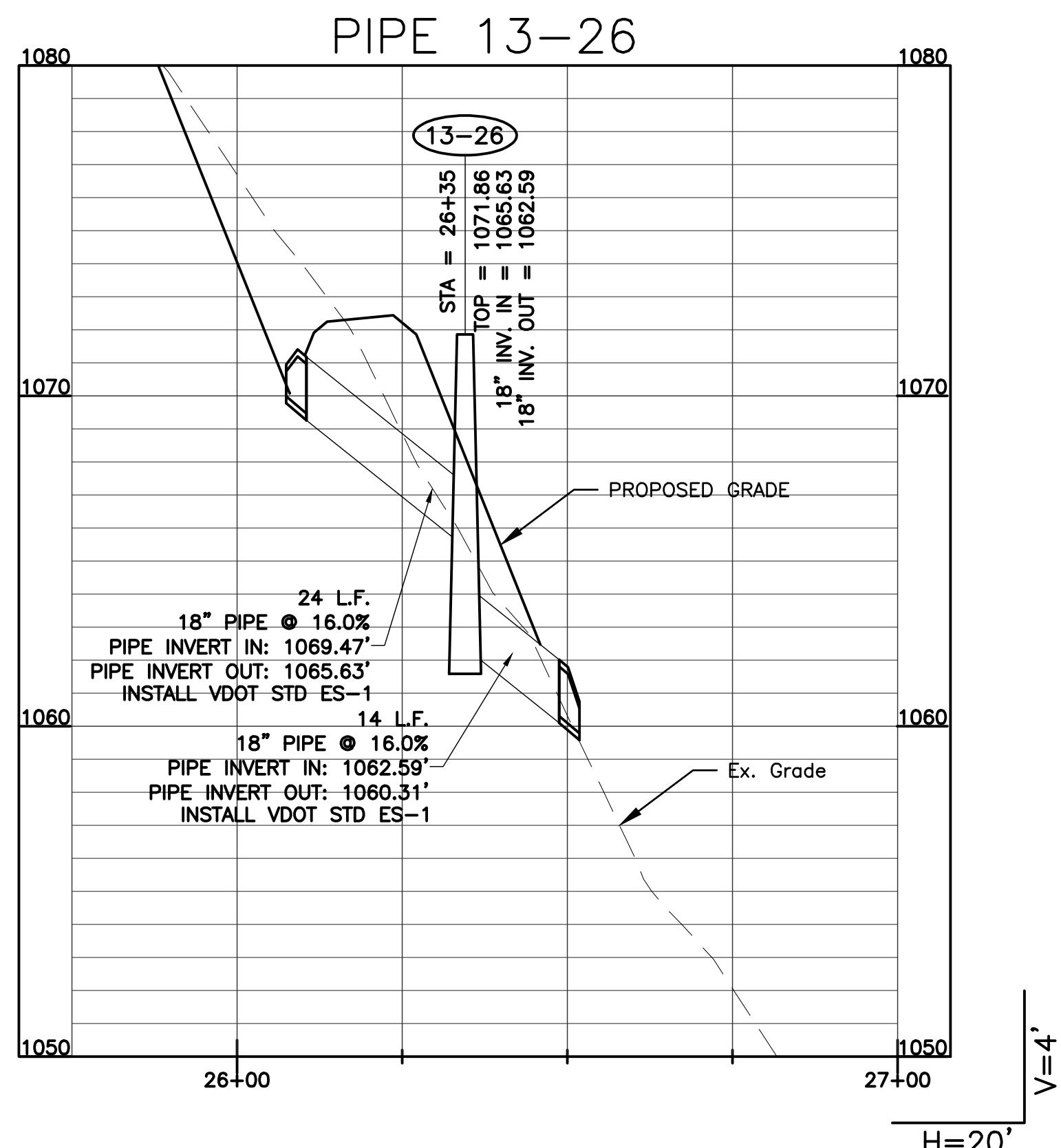
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DATE : 07 MAR 22 REV. # COMMENTS DATE
DESIGNED: JMM DRAWN: MDA
CHECKED: JMJ QA / QC : JDW

EASTERN ROANOKE RIVER GREENWAY, PHASE I
ROANOKE, VIRGINIA

TRANSPORTATION MANAGEMENT PLAN

DOCUMENT NO.
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LEGEND

Existing Grade -----
PROPOSED GRADE -----



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EASTERN ROANOKE RIVER GREENWAY, PHASE I
ROANOKE, VIRGINIA

PIPE PROFILES

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