Exhibit 8

Alpine Engineering Inc., Observations and Comparison of Access Alternatives Memorandum, Oct. 30, 2020

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Berlaimont Estates, LLC
Observations and Comparison of Access Alternatives
MEMORANDUM

TO: Berlaimont Estates, LLC
FROM: Gary L. Brooks and Matthew C. Wadey, P.E., Alpine Engineering, Inc.
DATE: October 30, 2020

Alpine Engineering Inc.(AEI), was asked by Berlaimont Estates LLC to provide observations and comparisons of the two access route alternatives (Alternative 2 and 3) as described in the Draft Record of Decision (ROD) by Scott Fitzwilliams, Forest Supervisor, White River National Forest dated September of 2020.

Access Route Alternative 3 was submitted to Eagle County for review and approval of variances from the roadway design standards in September of 2011. Eagle County approved the variances as designed for this alternative. The USFS identified Alternative 3 as the preferred alignment in the Draft EIS.

Access Route Alternative 2 which runs through the eastern leg of the Berlaimont property, was selected as the preferred alternative by the Forest Service Supervisor in the Draft ROD.

Access Route Alternative 2 in general has greater construction impacts than Alternative 3. Alternative 3 has been designed to follow the existing forest service dirt roads where possible whereas Alternative 2 is proposed to run along the ridge above the Berry Creek Drainage where there are no existing dirt roads.

- Alternative 3 has been designed to work better with the existing terrain compared to Alternative 2
- Alternative 3 follows existing USFS dirt roads for more of its length versus Alternative 2 which has no part of its alignment within existing dirt roads
- Alternative 2 has a higher percentage of its alignment that falls within terrain steeper than 40% when compared to Alternative 3
- Alternative 2 being in steeper terrain, requires higher retaining walls than Alternative 3
- Alternative 2 has 2.4 times more retaining wall square footage than Alternative 3
- Alternative 2 has more lineal footage of retaining walls which requires more guardrail when compared to Alternative 3
- Alternative 2 has 1.4 times more earthwork cut and fill than Alternative 3
- Alternative 3 has three switchback turns compared to Alternative 2 which has seven switchback turns
- The additional length of the retaining walls and switchback turns for Alternative 2 create fewer opportunities to construct pullouts at the required spacing

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Both alignments will require some variances from the current Eagle County Roadway Design Standards as listed in the attached Variance Tables. This memo compares the relative impacts of each alignment which are listed in Table 1. For this effort, AEI prepared conceptual plans for Alternative 2 to be able to reasonably compare the impact to the existing terrain between the two alternatives.

Table 1: Access Route Alternatives 2 & 3 Comparison*

Roadway Design Feature	Alternative 2	Alternative 3
Retaining Wall (SF)	116,777	48,120
Total Length of Retaining Walls (LF)	5,303	4,794
Maximum Retaining Wall Height	59’	27.5’
Earthwork Volume (CY)	248,910 ±	175,396 ±
Total Roadway in >40% Slope (LF)	9,000 ±	6,400 ±
Length of Roadway within Existing USFS Dirt Road Corridor (LF)	0	4,240

* Roadway Design Criteria used for both access alternatives is per Eagle County Land Use Regulations, Article 4, Section 4-620 and specifically Table 4-620-J for Rural Minor Collectors between 100 and 250 vehicles per day in mountainous terrain (attached).

OBSERVATIONS AND COMPARISONS:

The design intent of Alternative 3 was to follow the existing USFS dirt road for the lower portion of the alignment to minimize grading and disturbance to the surrounding area. Alternative 2 deviates from following the existing dirt roadway after crossing Beard Creek where it then continues up the narrow eastern leg of the Berlaimont property. Constraining the road alignment to stay within this narrow corridor of private property to access the upper homesites forces the road into steeper terrain than Alternative 3 and the result is that seven switchback turns are required to meet roadway design criteria. The steepness of the existing terrain combined with a narrow corridor results in a road alignment that is inefficient and more impactful to the landscape.

Table 1 illustrates the relative impact of both alternatives and shows that Alternative 2 will require approximately 2.4 times the square footage of retaining walls as Alternative 3 plus the average and maximum height of retaining walls will be higher due to the steepness of the existing terrain. The result of keeping the Alternative 2 alignment within the confines of the existing property lines, is to create an inefficient, impactful, and expensive access route to serve the project homesites.

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SUMMARY:

The general concept for grading roads in mountainous terrain is to avoid steep slopes and to sculpt the road into the existing topography. Alternative 2 does not follow this concept, but instead forces a roadway into an area that is neither conducive for road design or construction.

Alternative 2, based on the design constraints listed in this memo, is forced onto the existing terrain and confined by the property boundaries which make it more challenging to construct and more impactful to the existing landscape.

Based on AEI's years of experience in designing roadways in mountainous terrain in Eagle County, Alternative 3 as originally designed, permitted and approved by Eagle County, is the preferred alternative to provide access to the Berlaimont Estates homesites.

ATTACHMENTS:

- Roadway Design Alternative 3 Overall Plan
- Roadway Design Alternative 2 Roadway Plans and Profiles
- Eagle County Table 4-620-J (Roadway Design Standards)
- Variance Tables for Alternatives 2 and 3
- Existing Ground Slope Analysis for Alternatives 2 and 3

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Alpine Engineering, Inc., is a Civil Engineering firm located in Edwards Colorado. We have completed numerous road, trail, site, and land development projects throughout Eagle and Summit Counties. Some of the services that Alpine Engineering, Inc. provides includes: road design, recreational path design, parking lot layout, storm drainage study and design, stormwater treatment and water quality BMP design, conceptual engineering to study constructability, Due Diligence Reports, constraints and associated costs, sewer and water system analysis and design, utility layout, road layout and design specializing in mountainous terrain, bid document preparation, project coordination, contract administration, and construction management, project team coordination and preparing various federal, state and local permit applications.

The Principals of AEI, Matt Wadey, PE; Gary Brooks, and Tim Leininger have over 80 years of combined engineering, surveying and project management experience within Colorado. The AEI staff of seven (7) is rounded out with Professional Engineers, Professional Licensed Surveyors, Design Engineers and Technicians with specific expertise in land and site development. AEI has been located in Edwards for 30 years. The Principals and staff have worked in the area since 1979. In this time, Alpine has become familiar with local agency requirements. We have also had the opportunity to perform design services for various world-class developments that have become internationally recognized for their quality and unification with the stunning surroundings that we live in. AEI has become proficient at overcoming the unique challenges that mountain design poses.

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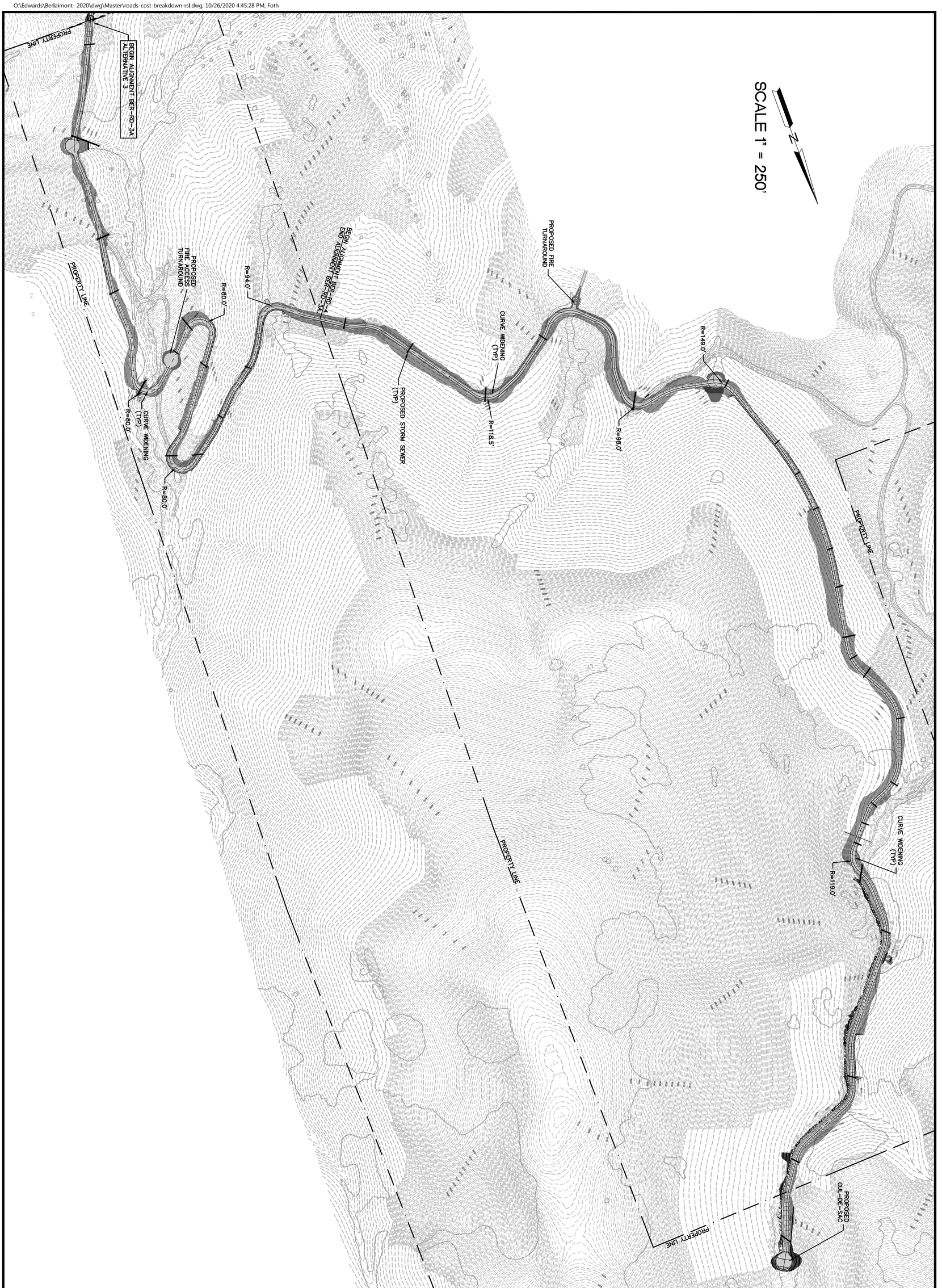

SHEET 1 OF 1

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BERLAIMONT ESTATES

EDWARDS, CO
ALTERNATIVE 3
OVERALL ROAD PLAN

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BERLAIMONT ESTATES

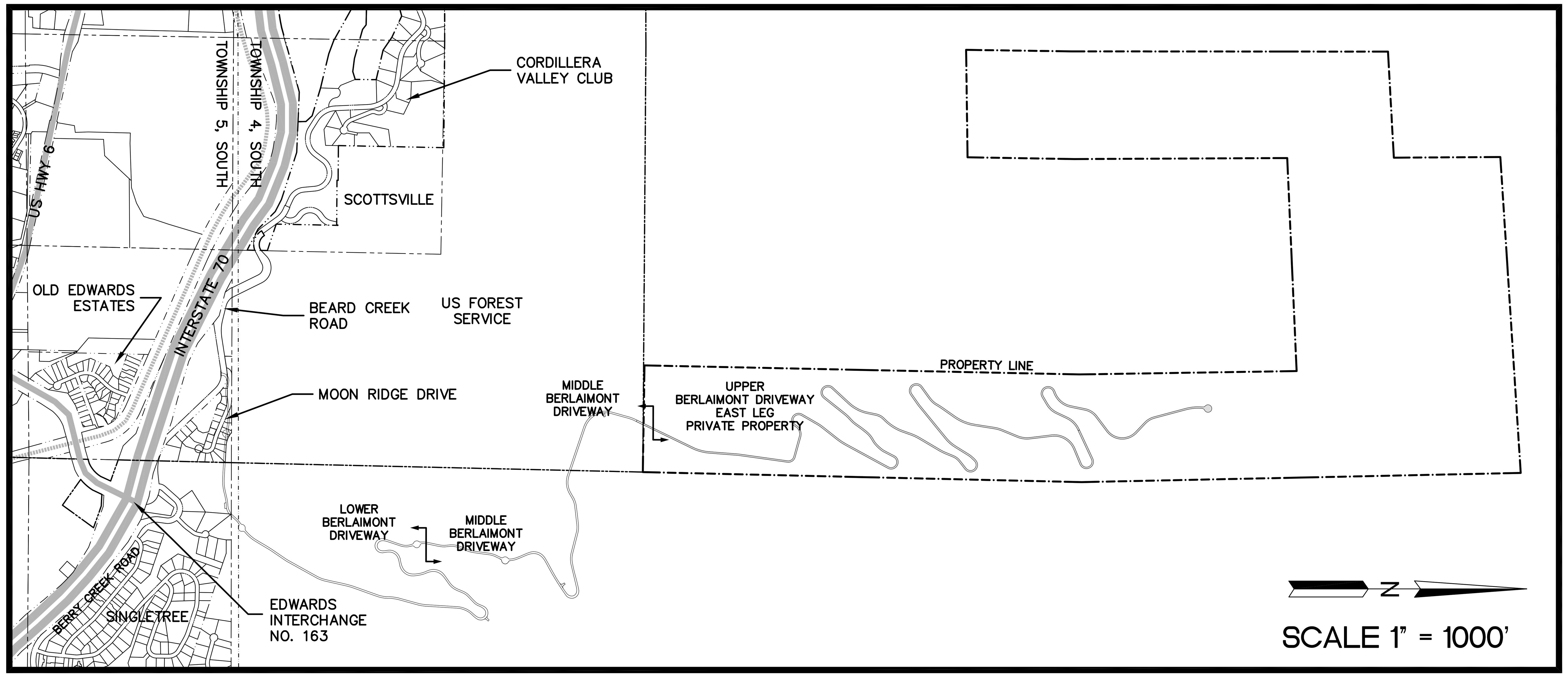
ALTERNATIVE 2 ACCESS ROUTE

EAGLE COUNTY, COLORADO

OCTOBER 2020

GENERAL NOTES:

1. THE CONTRACTOR SHALL CONFORM TO ALL EAGLE COUNTY REGULATIONS AND STIPULATIONS WHILE ACCESSING THROUGH OR WORKING IN THE COUNTY.
2. THE CONTRACTOR SHALL COMPLY WITH ALL TERMS AND CONDITIONS OF AN EAGLE COUNTY GRADING PERMIT.
3. THE CONTRACTOR SHALL CONFORM TO ALL U.S.F.S. REGULATIONS AND STIPULATIONS WHILE ACCESSING THROUGH OR WORKING IN U.S.F.S. PROPERTY.
4. THIS DRIVEWAY DESIGN WAS PREPARED WITHOUT THE BENEFIT OF A FINAL GEOLOGICAL REPORT, GEOLOGIC HAZARD STUDY OR A DEBRIS FLOW/FLOOD STUDY. THE ROAD DESIGN SHOULD BE MODIFIED TO ADHERE TO RECOMMENDATIONS TO BE PROVIDED IN THESE REPORTS WHEN THEY ARE MADE AVAILABLE.
5. ALPINE ENGINEERING, INC., ASSUMES NO RESPONSIBILITY FOR UTILITY LOCATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION.
6. THE CONTRACTOR SHALL TAKE ALL APPROPRIATE PRECAUTIONS TO SIGNIFICANTLY REDUCE ANY POTENTIAL POLLUTION CAUSED BY HIS ACTIVITIES, INCLUDING VEHICLE FUELING, STORAGE OF FERTILIZERS OR CHEMICALS, ETC. THE CONTRACTOR SHALL HAVE IDENTIFIED PROCEDURES FOR HANDLING POTENTIAL POLLUTANTS AND HAVE IDENTIFIED SPILL PREVENTION AND RESPONSE PROCEDURES PRIOR TO ANY ACTIVITIES AT THE PROJECT SITE, AND SHALL COMPLY WITH THE CONDITIONS AND REQUIREMENTS OF THE CDPHE STORMWATER MANAGEMENT PERMIT AND PLAN.
7. THE CONTRACTOR SHALL MINIMIZE ALL OFF SITE SOIL TRACKING. ALL SOIL TRACKED OFF SITE SHALL BE IMMEDIATELY CLEANED UP TO THE SATISFACTION OF THE OWNER AND EAGLE COUNTY. INSTALL STABILIZED CONSTRUCTION ENTRANCE PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES.
8. ALL EXCAVATING FOR DRIVEWAY, RETAINING WALLS, DRAINAGE FACILITIES AND OTHER TRENCHES SHALL MEET OSHA REQUIREMENTS.
9. THE CONTRACTOR SHALL KEEP A SET OF CONTRACT DRAWINGS MARKED UP TO FULLY INDICATE ASBUILT CONDITIONS. THE DRAWINGS SHALL BE PROVIDED TO ALPINE ENGINEERING, INC. UPON COMPLETION OF THIS WORK.
10. SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR. THE ENGINEER IS NOT RESPONSIBLE FOR SAFETY IN, ON OR ABOUT THE PROJECT SITE, NOR FOR COMPLIANCE BY THE APPROPRIATE PARTY WITH ANY REGULATIONS RELATING THERETO.
11. OBSERVATIONS OF THE WORK IN PROGRESS AND ON-SITE VISITS ARE NOT TO BE CONSTRUED AS A GUARANTEE OR WARRANTY BY THE ENGINEER OF THE CONTRACTOR'S CONTRACTUAL OBLIGATIONS.
12. IF ANY GROUNDWATER IS ENCOUNTERED THE CONTRACTOR SHALL CONTACT ALPINE ENGINEERING, INC. AND THE PROJECT GEOTECHNICAL ENGINEER IMMEDIATELY.
13. THE CONTRACTOR SHALL MAINTAIN TRAFFIC AT ALL TIMES TO THE SATISFACTION OF THE OWNER AND EAGLE COUNTY. THE CONTRACTOR SHALL MINIMIZE TRAFFIC DISRUPTIONS AND PROVIDE ADEQUATE SAFETY PRECAUTIONS TO ENSURE PUBLIC SAFETY.
14. THE CONTRACTOR SHALL PROTECT AND PRESERVE ALL TREES, BUSHES, SHRUBS, AND GROUND COVER IN A MANNER ACCEPTABLE TO THE OWNER, AND AS DEFINED WITHIN THE PERTINENT PERMITS.
15. THE CONTRACTOR SHALL MAINTAIN EXISTING DRAINAGE CHANNELS, CULVERTS, AND APPURTENANCES DURING CONSTRUCTION AS NECESSARY TO PROTECT ROADS AND PROPERTY.
16. RETAINING WALLS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF COLORADO.
17. THE GEOTECHNICAL ENGINEER SHALL EVALUATE EXISTING MAN PLACED FILL OF THE EXISTING ROAD PLATFORM TO DETERMINE IF EXISTING MAN PLACED FILL REQUIRES REMOVAL PRIOR TO CONSTRUCTION OF FINAL ROAD.
18. DRAINAGE FACILITIES MUST BE INSPECTED AND MAINTAINED AS REQUIRED TO ASSURE THE FACILITIES ARE FUNCTIONING PROPERLY. THE CONTRACTOR IS RESPONSIBLE TO INSTALL AND MAINTAIN SEDIMENT CONTROL MEASURES TO INSURE SEDIMENT LADEN WATER DOES NOT LEAVE THE SITE. CERTAIN SEDIMENT CONTROL DETAILS HAVE BEEN SHOWN ON THE DETAIL SHEET. THESE DETAILS MAY NOT BE ALL THE MEASURES NECESSARY TO PROVIDE ADEQUATE SEDIMENT AND EROSION CONTROL. CONTRACTOR SHALL PROVIDE ONGOING INSPECTION AND MAINTENANCE OF ALL SEDIMENT CONTROL FEATURES.
19. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL WITH ALL TERMS AND CONDITIONS OF THE COLORADO PERMIT FOR STORMWATER DISCHARGE, THE STORMWATER MANAGEMENT PLAN AND THE EROSION CONTROL PLAN.
20. CONTRACTOR SHALL MAINTAIN DUST CONTROL TO THE SATISFACTION OF THE OWNER THROUGHOUT CONSTRUCTION BY APPLICATION OF WATER AND / OR AN ACCEPTABLE DUST PALLIATIVE.
21. WASTE MATERIAL, INCLUDING UNSUITABLE MATERIAL AND OVERSIZE MATERIAL SHALL BE DISPOSED OF BY CONTRACTOR OFFSITE.
22. ALL DISTURBED AREAS SHALL BE TOPSOILED, SEEDED, MULCHED AND FERTILIZEDIN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS.
23. THE ELEVATION AT THE BOTTOM OF THE M.S.E. RETAINING WALLS REPRESENT BOTTOM OF THE PORTION OF EXPOSED WALL. PORTIONS OF THE WALL AND THE LEVELING PAD WILL BE EMBEDDED TO A LOWER ELEVATION.
24. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN APPROVED EROSION AND SEDIMENT CONTROL "BEST MANAGEMENT PRACTICES" (BMP) FOR THE PROJECT DURATION. CONTRACTOR SHALL INSPECT BMP'S WEEKLY AND AFTER EVERY PRECIPITATION EVENT. CONTRACTOR SHALL DOCUMENT INSPECTION AND MAKE REPORTS AVAILABLE UPON REQUEST. ACCUMULATED SEDIMENT AND DEBRIS SHALL BE REMOVED FROM A BMP WHEN THE SEDIMENT LEVEL REACHES ONE HALF THE BMP HEIGHTS OR, AT ANY TIME THAT THE BMP FUNCTIONALITY IS ADVERSELY IMPACTED. ALL NECESSARY MAINTENANCE AND REPAIR SHALL BE COMPLETED WITHIN 48 HOURS OF IDENTIFICATION, UNLESS OTHERWISE AGREED UPON.



ROADWAY DESIGN CRITERIA

PER TABLE 4-620J EAGLE COUNTY ROADWAY STANDARDS
RURAL MINOR COLLECTOR
(100 OR <250 ADT)
DESIGN SPEED=20 MPH

- 10.0' WIDE LANES
- 3.0' WIDE GRAVEL SHOULDERING
- 4.0' TO FACE OF GUARDRAIL (WHERE APPLICABLE)
- MAXIMUM GRADE 8%-10%
- MINIMUM SWITCHBACK RADIUS=80'
- MAXIMUM GRADE THRU SWITCHBACK=6%
- CUT & FILL SLOPE RATIO=1.5:1

SHEET INDEX

PRELIMINARY
October 26, 2020
NOT FOR CONSTRUCTION

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ALTERNATIVE 2
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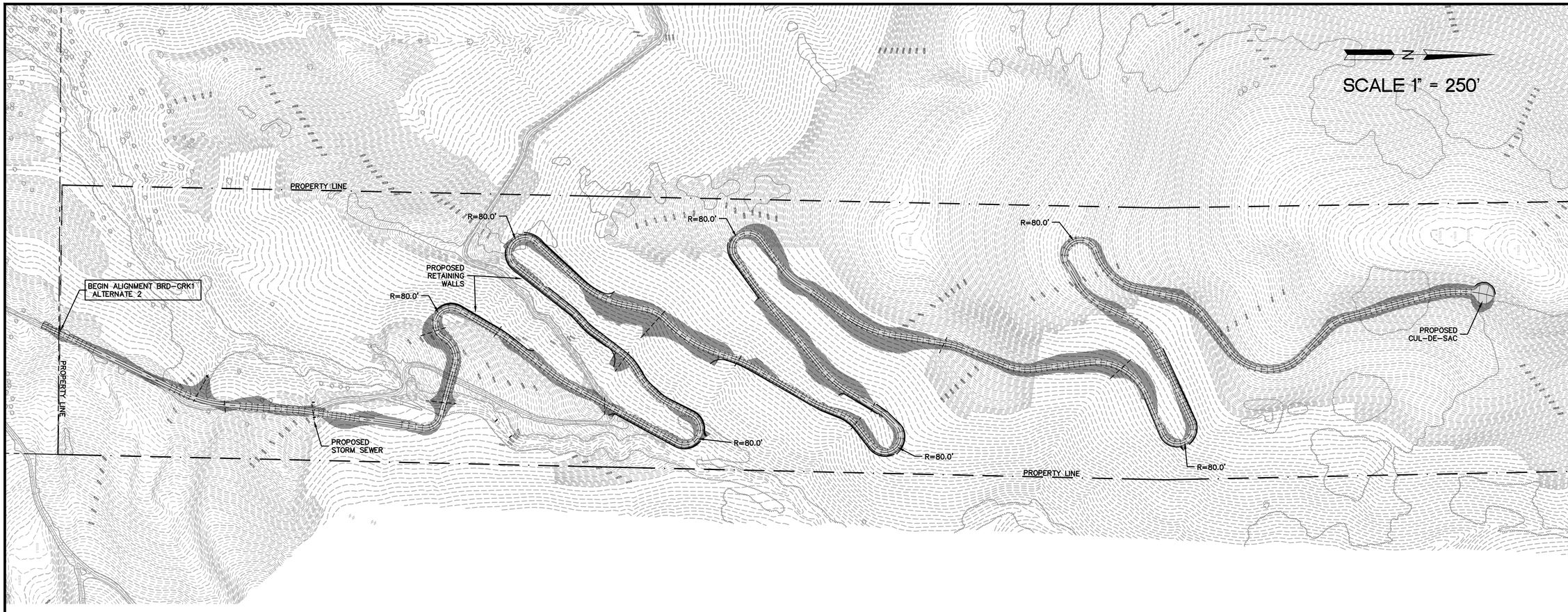
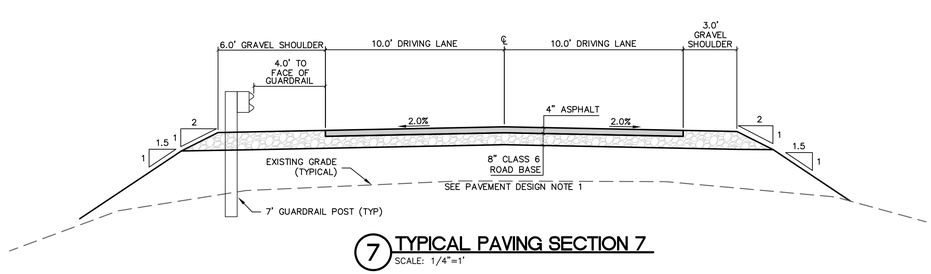




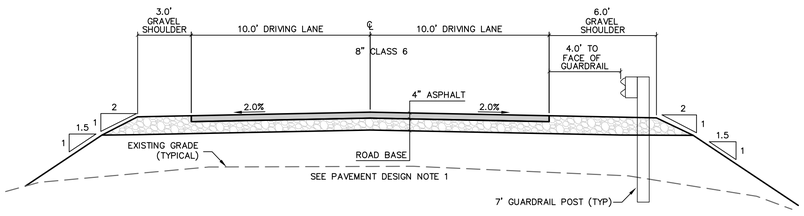
7 TYPICAL PAVING SECTION 7
SCALE: 1/4"=1'

TYPICAL SECTIONS
SCALE: 1"=4'

SLOPE GRADING STANDARDS			
FILL OR CUT HEIGHT	0–4'	4'–8'	8'+
SLOPE GRADE	3:1	2:1	1.5:1

GEOTECHNICAL INVESTIGATIONS SHALL BE PERFORMED PRIOR TO FINAL DESIGN FOR SPECIFIC RETAINING WALL DESIGN CRITERIA

NOTES:
1. FINAL DRIVEWAY SECTION SHALL BE DETERMINED PENDING SPECIFIC PAVEMENT DESIGN.



8 TYPICAL PAVING SECTION 8
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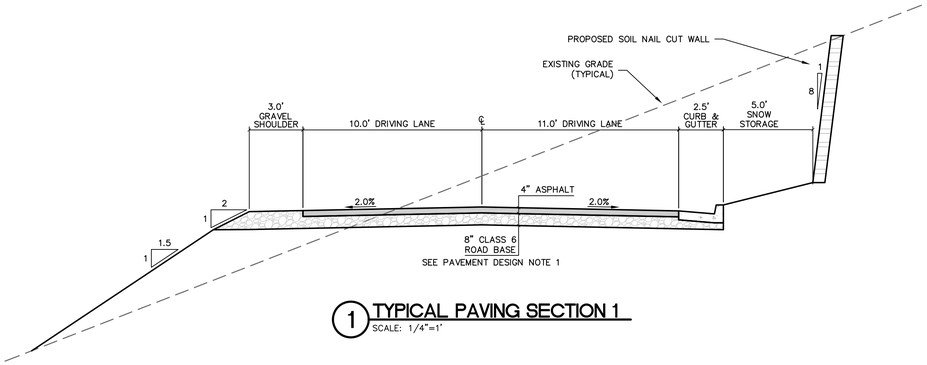

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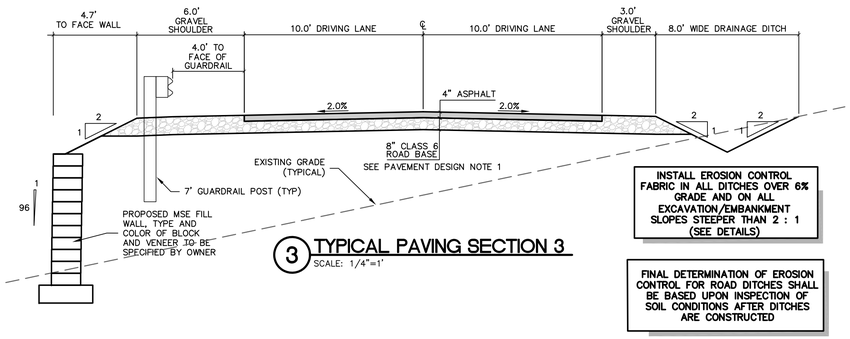

3 TYPICAL PAVING SECTION 3
SCALE: 1/4"=1'

INSTALL EROSION CONTROL FABRIC IN ALL DITCHES OVER 6% GRADE AND ON ALL EXCAVATION/EMBANKMENT SLOPES STEEPER THAN 2 : 1 (SEE DETAILS)

FINAL DETERMINATION OF EROSION CONTROL FOR ROAD DITCHES SHALL BE BASED UPON INSPECTION OF SOIL CONDITIONS AFTER DITCHES ARE CONSTRUCTED

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OVERALL ALTERNATIVE 2

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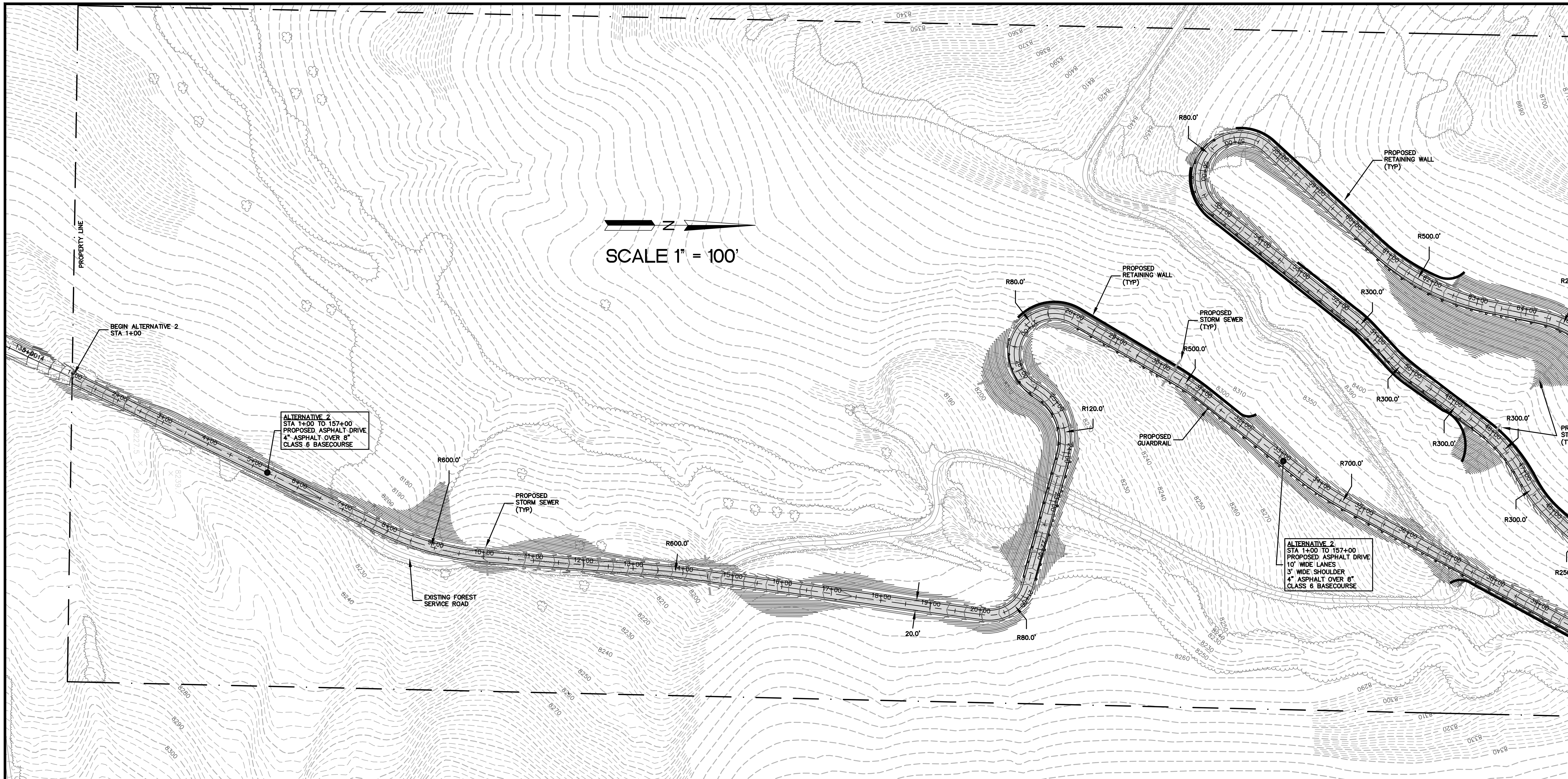

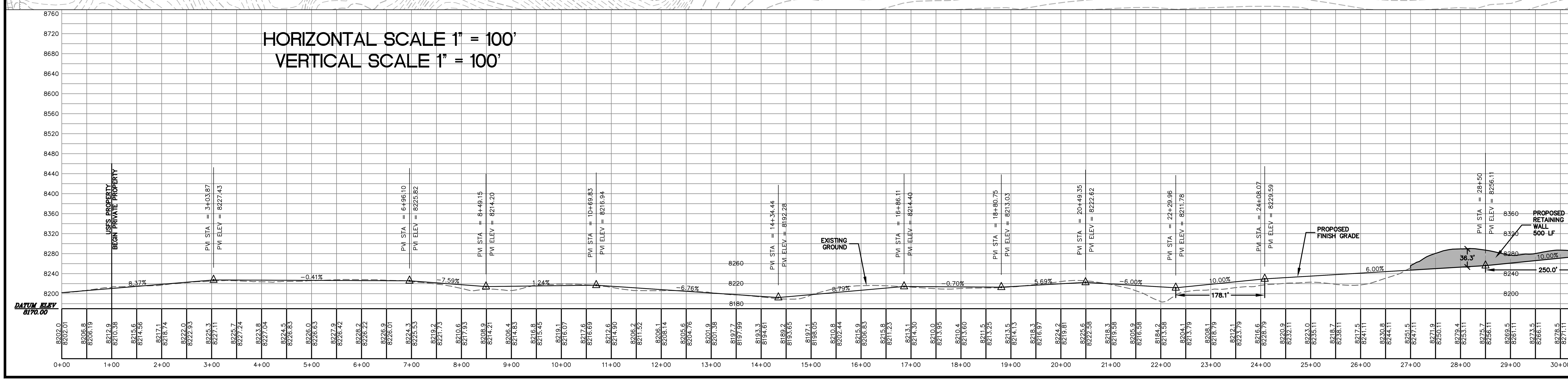

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ALTERNATIVE 2 ROAD PLANS

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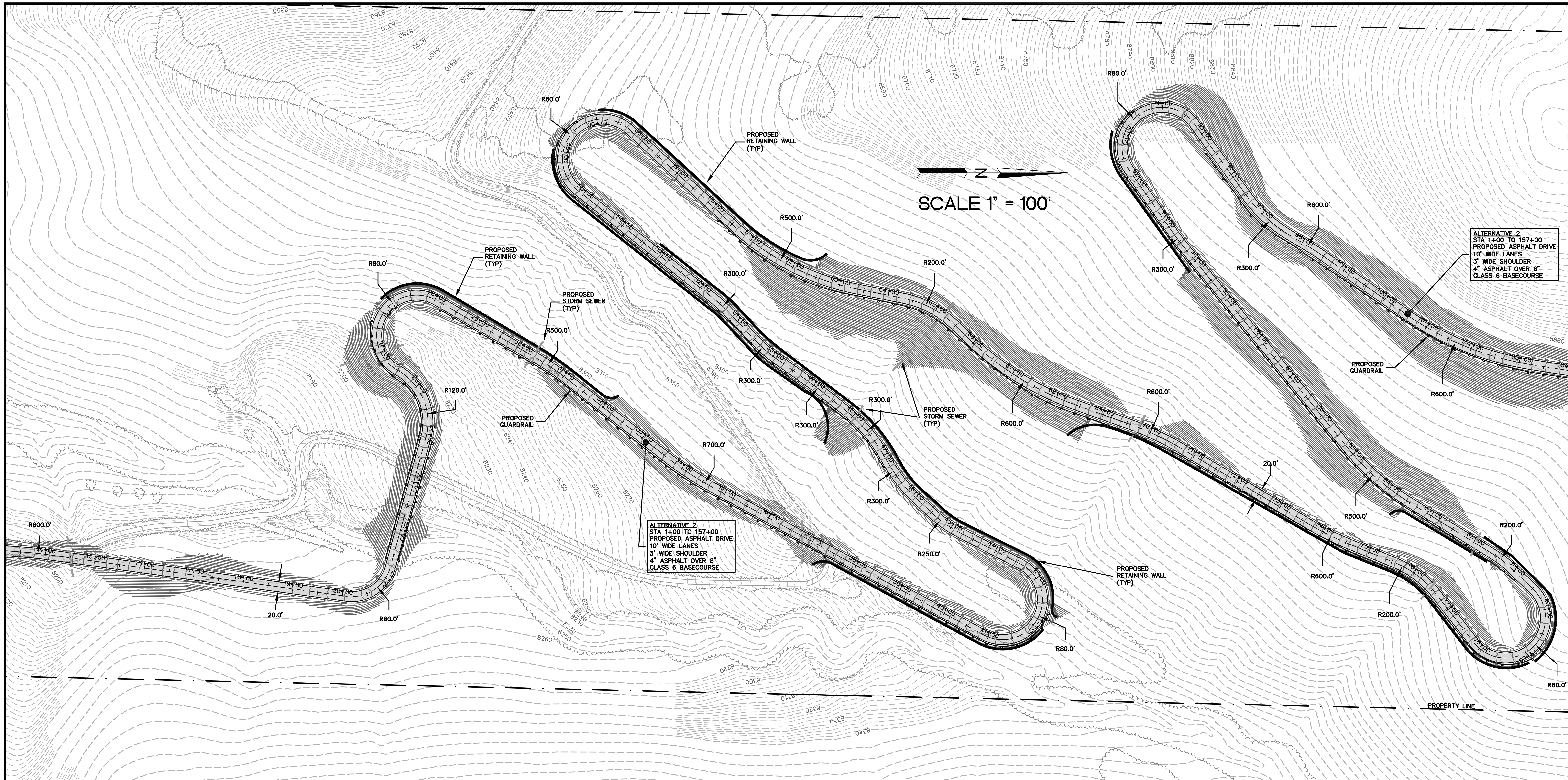

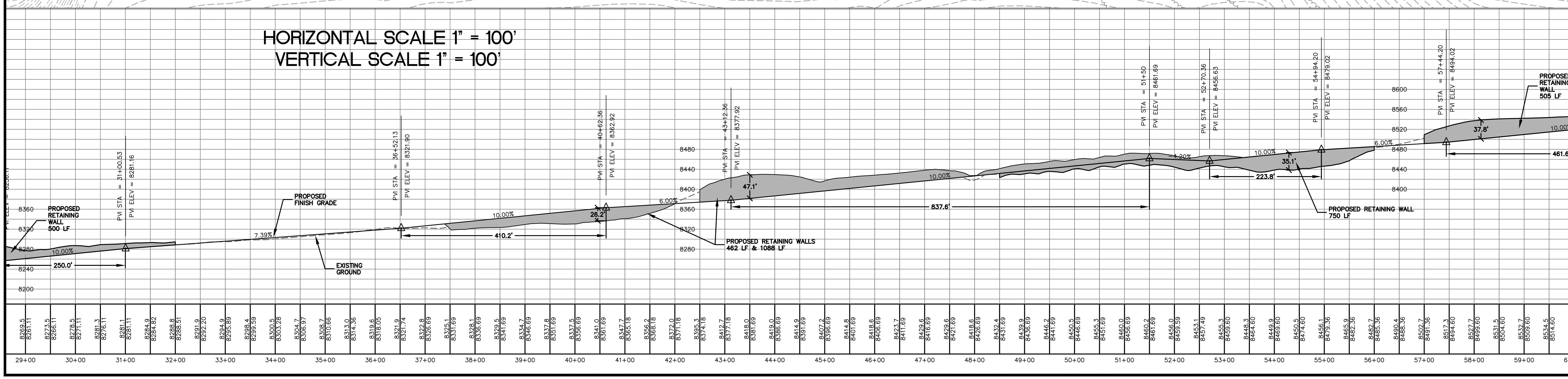

BERLAIMONT ESTATES
EDWARDS, CO
ALTERNATIVE 2 ROAD PLANS

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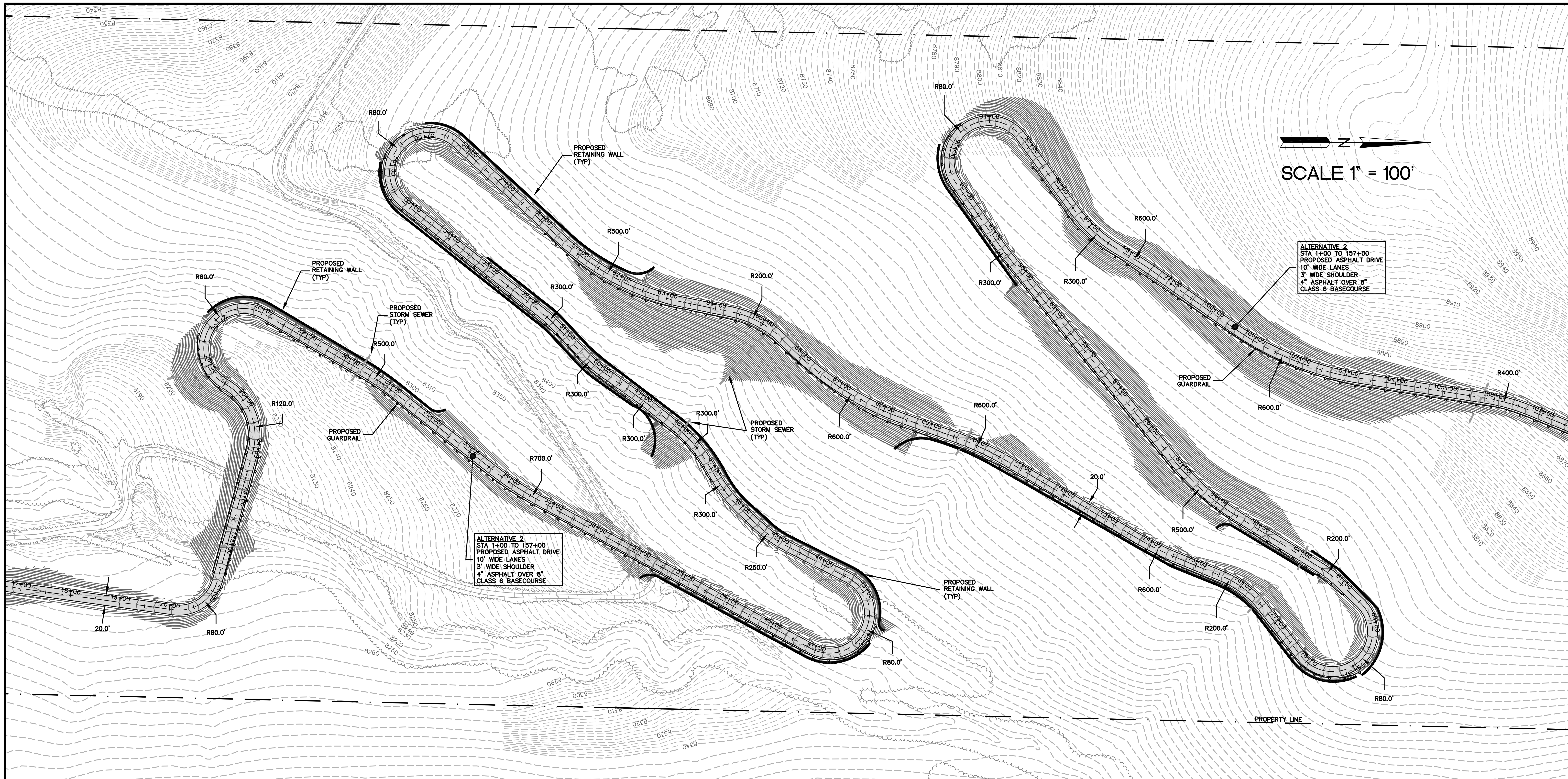

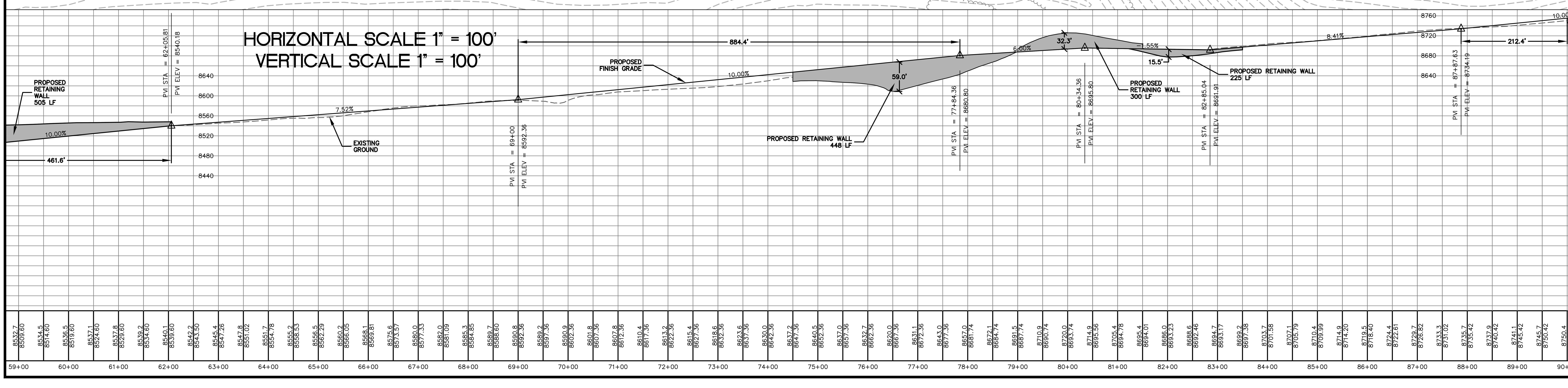

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ALTERNATIVE 2 ROAD PLANS

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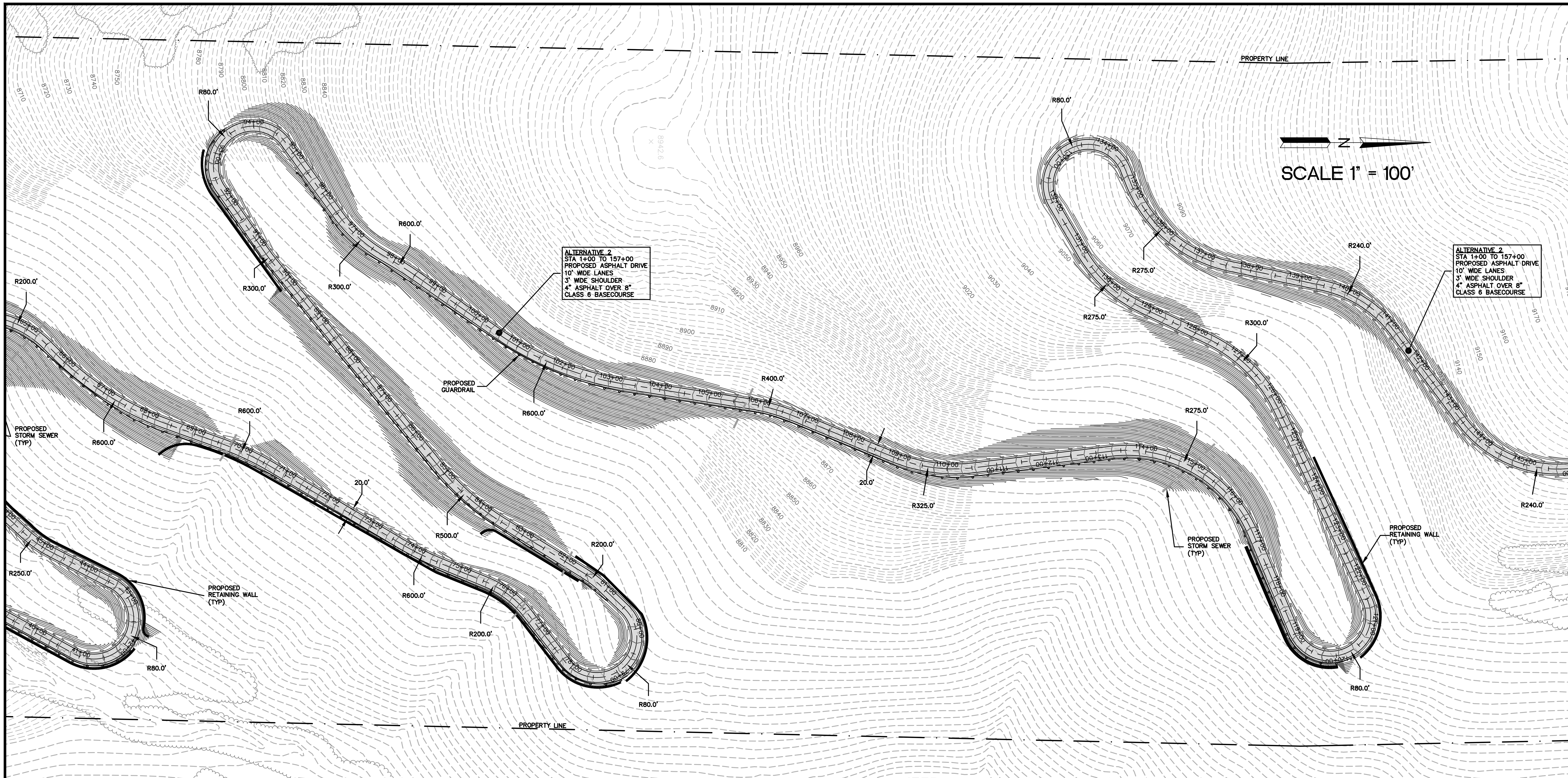

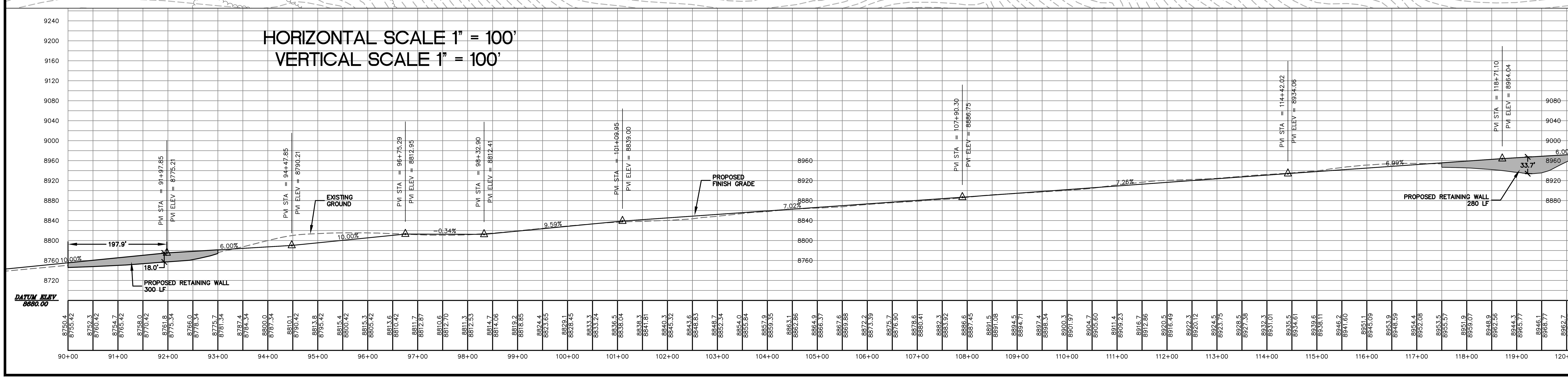

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ALTERNATIVE 2 ROAD PLANS

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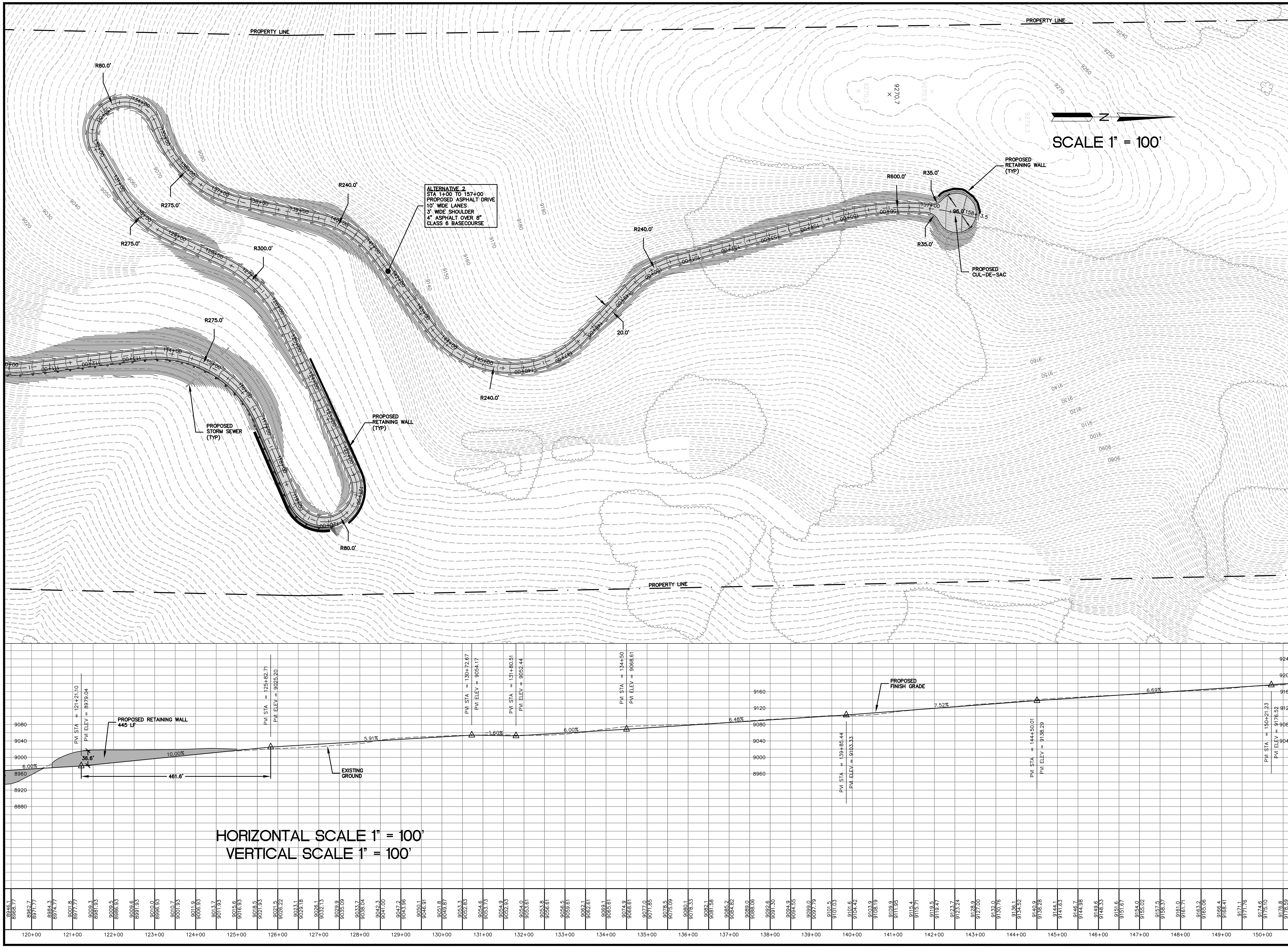

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ALTERNATIVE 2 ROAD PLANS

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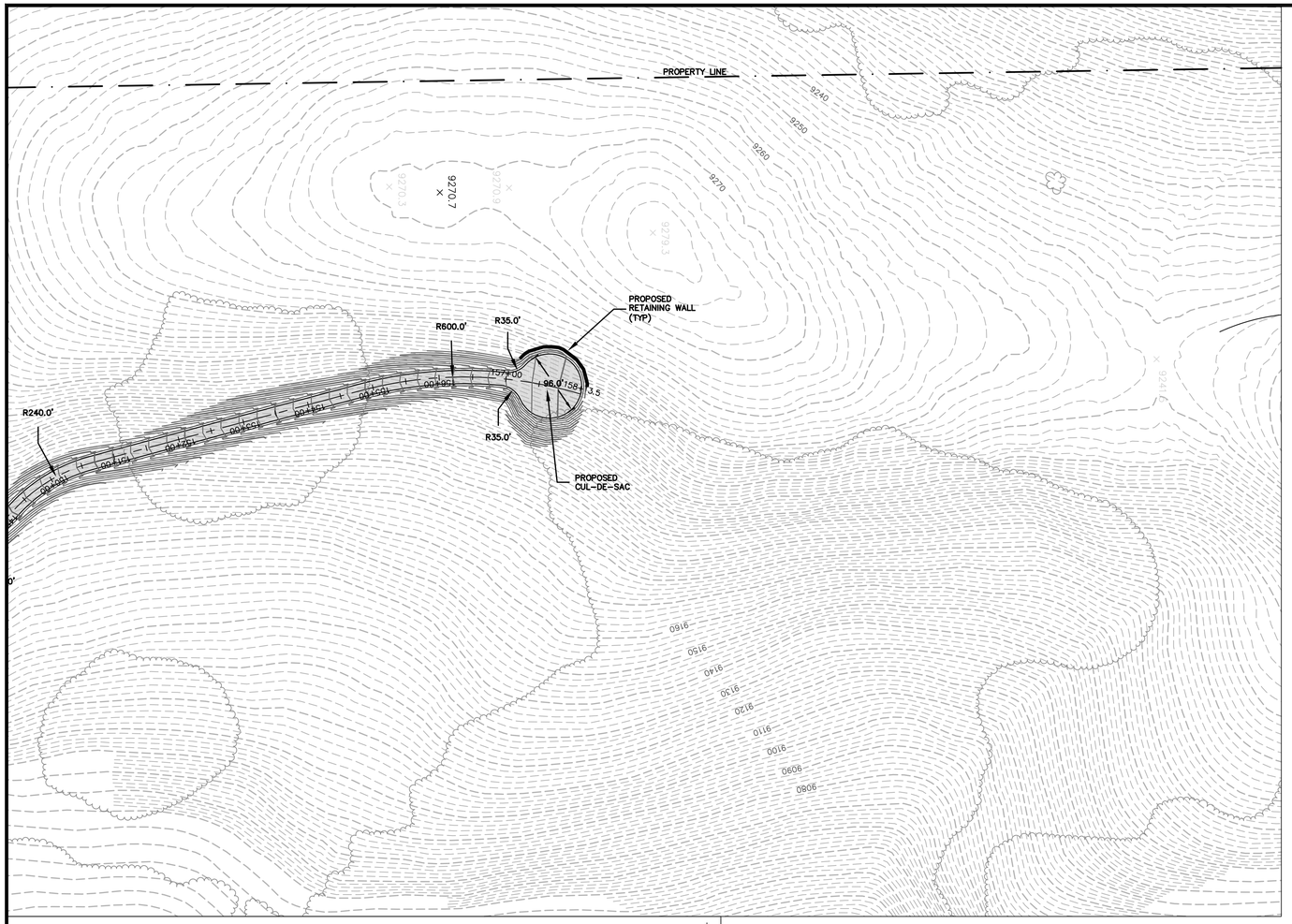
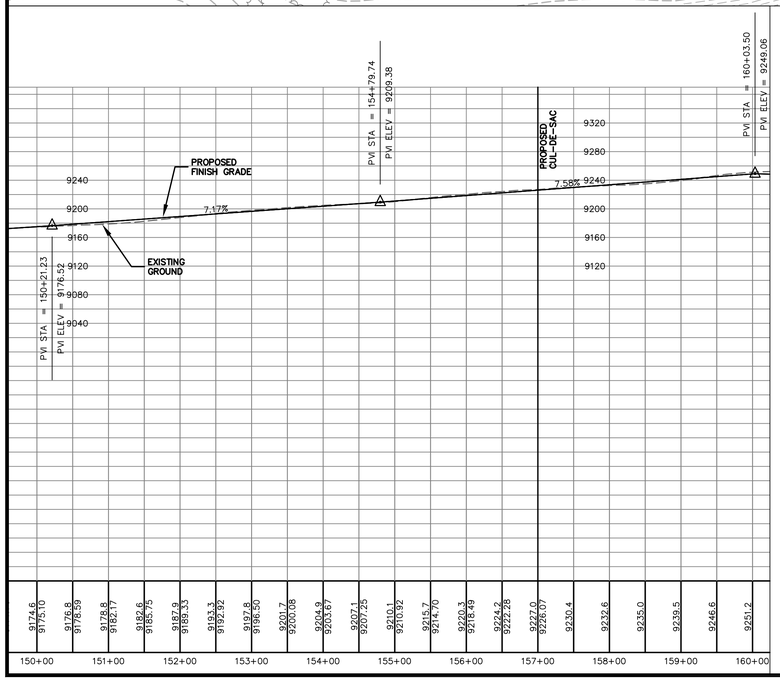


SCALE 1" = 100'



HORIZONTAL SCALE 1" = 100'
VERTICAL SCALE 1" = 100'

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ALTERNATIVE 2 ROAD PLANS

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TABLE 4-620 J. – SUMMARY OF ENVIRONMENTAL, GEOMETRIC AND DESIGN STANDARDS

FUNCTIONAL CLASSIFICATIONS

ENVIRONMENTAL, GEOMETRIC OR DESIGN FEATURE	RURAL ROADS – RURAL MAJOR COLLECTOR									RURAL ROADS – RURAL MINOR COLLECTOR									RURAL ROADS – RURAL ACCESS					
	I			II			III			IV			V			VI			VII			VIII		
ASSOCIATED AVERAGE DAILY TRAFFIC	1350 TO 3000			650 TO 1349			400 TO 649			250 TO 399			100 TO < 250			50 TO < 100			25 TO < 50			< 25		
LANE SURFACE TYPE	PAVEMENT															GRAVEL WITH DUST PALLIATIVE						GRAVEL OR NATIVE		
MINIMUM STRUCTURAL SECTION	4" HBP ON 12" ABC						3" HBP ON 12" ABC									6" ABC						N/A		
SHOULDER TYPE	GRAVEL																					NATIVE		
TERRAIN CLASSIFICATION	L	R	M	L	R	M	L	R	M	L	R	M	L	R	M	L	R	M	L	R	M	L	R	M
RIGHT-OF-WAY WIDTH – MINIMUM	120'			70'						70'						50'			40'			40'		
LANE WIDTH	12	12	11	11	11	11	11	11	11	11	11	11	10	10	10	9	9	9	8	8	8	7	7	7
SHOULDER WIDTH	6	5	4	5	4	3	5	4	3	4	4	3	4	3	3	3	2	2	2	2	2	1	1	1
INSIDE LANE PAVEMENT WIDENING ON CURVES	YES CASE III-B															YES CASE III-C								
CENTERLINE OF ROAD TO CENTERLINE OF DITCH	25'	23'	20'	22'	20'	18'	22'	20'	18'	20'	18'	16'	19'	17'	15'	16'	14'	14	12	12	12	10	10	10
DESIGN SPEED (M.P.H.)	60	50	40	50	40	30	40	35	30	40	30	20	40	30	20	30	30	20	30	25	20	25	20	20
MAXIMUM SUPERELEVATION RATE – e MAX (%)	0.06																							
MAXIMUM GRADE (%)	8%						8% (DESIRABLE) TO 10%												8% TO 12%					
MINIMUM VERTICAL CURVE K FACTORS FOR ABOVE DESIGN SPEED – SAG VERTICAL CURVE	110	90	70	90	70	50	90	70	50	70	50	40	70	50	40	50	40	30	40	30	20	30	20	20
CREST VERTICAL CURVE	160	120	80	120	80	50	120	80	50	80	50	30	80	50	30	50	30	20	30	20	10	20	10	10
MINIMUM CENTERLINE RADIUS FOR ABOVE DESIGN SPEED AND e MAX OR FOR NATURE OF ROAD	849	659	509	659	509	380	659	509	380	509	380	273	509	380	273	380	273	185	273	185	116	185	116	100
MINIMUM SWITCHBACK RADIUS	80'															60'								
MAXIMUM GRADE THROUGH SWITCHBACK (%)	6%																							
STANDARD LENGTH FOR STATED DESIGN SPEED AND MINIMUM CENTERLINE RADIUS	150	138	125	138	125	115	138	125	115	125	115	110	125	115	110	115	110	100	110	100	90	100	90	90
MINIMUM LENGTH FOR STATED DESIGN SPEED AND MINIMUM CENTERLINE RADIUS	132	123	114	123	114	108	123	114	108	114	108	99	114	108	99	108	99	93	99	93	88	93	88	88
SIMPLE CURVES ACCEPTABLE	NO																							
STANDARD TANGENT SEPARATION	N.A.																							
MINIMUM TANGENT SEPARATION	N.A.																							
STRUCTURE CLEAR WIDTH FROM CENTERLINE	18	17	15	16	15	14	16	15	14	15	14	13	14	13	12	12	11	10	8	8	8	7	7	7
CENTERLINE OF ROAD TO FACE OF GUARDRAIL	20	19	17	18	17	16	18	17	16	17	16	15	16	15	14	14	13	12	10	10	10	9	9	9
OBSTRUCTION FREE AREA FROM CENTERLINE	29	27	24	26	24	22	26	24	22	24	22	20	23	21	19	20	18	17	15	15	15	13	13	13
DITCH DEPTH BELOW FINISHED SHOULDER	≥ 1.5' (BASED ON 12" DIAMETER CULVERTS AT DRIVEWAYS)																							
FORESLOPE (RUN OVER RISE)	3.5	3	2.5	3	2.5	2	3	2.5	2	2.5	2	1.5	2.5	2	1.5	2	1.5	1.5	1.5	1.5	1.5	1	1	1
REQUIRED SIGHT DISTANCE FROM INTERSECTING STREET AND DRIVEWAYS [33]	BASED ON SINGLE UNIT TRUCK															BASED ON PASSENGER CAR								
	650'	585'	520'	585'	520	455'	585'	520'	455'	520'	455'	390'	520'	455'	390'	350'	300'	250'	300'	250'	200'	250'	200'	150'
INTERSECTION RADII FOR 90° CONNECTION TO SIMILAR OR HIGHER TYPE ROAD	50'															30'								
PATHS	NONE UNLESS CALLED FOR BY EAGLE COUNTY TRAILS PLAN															N.A.-VEHICLES, BIKERS AND PEDESTRIANS SHARE ROAD								
BIKE LANES	NONE UNLESS CALLED FOR BY EAGLE COUNTY TRAILS PLAN															N.A.-VEHICLES, BIKERS AND PEDESTRIANS SHARE ROAD								
SHOULDER WIDTH BEYOND ATTACHED BIKEWAY	2'															N.A.								
ON STREET PARKING	NO																							
TRANSIT PULL OUT STOPS	N.A.																							
MINIMUM DRIVEWAY CULVERT SIZE [33]	12" DIAMETER																							
MINIMUM CROSS CULVERT SIZE [33]	18" DIAMETER																							
FIRE HYDRANT LOCATIONS	N.A.																							
POWER SERVICE BOX, TELEPHONE SERVICE BOX, CABLE TV SERVICE BOX, GAS SERVICE BOX, AND WATER SERVICE BOX OR SHUT OFF LOCATIONS	PROPERTY LINE																							
DITCH AND SLOPE EROSION PROTECTION	PER CDOT ROADWAY DESIGN MANUAL, 1990, SECTION 804.3, OPEN CHANNELS AND SECTION 805, EROSION CONTROL																							
SLOPE RECLAMATION TECHNIQUES IN ADDITION TO TOPSOIL, SEED, FERTILIZER AND MULCH	STAPLED NETTING OR JUTE NETTING OVER STRAW MULCH, OR EQUAL, ON SLOPES STEEPER THAN 2:1																							
USE REINFORCED EARTH AND RETAINING STRUCTURES TO REDUCE CUTS AND FILLS	OPTIONAL																							

ENVIRONMENTAL, GEOMETRIC OR DESIGN FEATURE	RURAL RESIDENTIAL ROADS						SUBURBAN RESIDENTIAL ROADS						URBAN RESIDENTIAL ROADS						COMMERCIAL ROADS			INDUSTRIAL ROADS		
	COLLECTOR			RESIDENTIAL			COLLECTOR			RESIDENTIAL			COLLECTOR			RESIDENTIAL								
ASSOCIATED AVERAGE DAILY TRAFFIC	< 3000			< 250			< 3000			< 750			< 3000			< 750			< 3000			< 3000		
LANE SURFACE TYPE	PAVEMENT																							
MINIMUM STRUCTURAL SECTION	4" HBP ON 12" ABC			3" HBP ON 8" ABC			4" HBP ON 12" ABC			3" HBP ON 8" ABC			4" HBP ON 12" ABC			3" HBP ON 8" ABC			4" HBP ON 12" ABC					
SHOULDER TYPE	GRAVEL						CURB AND GUTTER																	
TERRAIN CLASSIFICATION	L	R	M	L	R	M	L	R	M	L	R	M	L	R	M	L	R	M	L	R	M	L	R	M
RIGHT-OF-WAY WIDTH – MINIMUM	60'			50'			60'			50'			60'			50'			70'			70'		
LANE WIDTH	11	11	11	10	10	10	15	15	15	10	10	10	15	15	15	10	10	10	17	17	17	17	17	17
SHOULDER WIDTH	4	3	2	2	2	2	24" BARRIER C & G			24" MOUNTABLE C & G			24" BARRIER C & G			24" MOUNTABLE C & G			24" BARRIER C & G			24" BARRIER C & G		
INSIDE LANE PAVEMENT WIDENING ON CURVES	YES CASE III-B			YES CASE III-A			YES CASE III-B												YES CASE III-C					
CENTERLINE OF ROAD TO CENTERLINE OF DITCH	20'	18'	16'	16'	15'	15'	N.A.																	
DESIGN SPEED (M.P.H.)	35	30	25	30	25	20	30	25	20	30	25	20	30	25	20	20	20	20	25	25	25	25	25	25
MAXIMUM SUPERELEVATION RATE – e MAX (%)	0.06			REVERSE CROWN			NORMAL CROWN, EXCEPT SUBSTANDARD RADIUS CURVES APPROVED BY THE COUNTY ENGINEER																	
MAXIMUM GRADE (%)	8%						6% TO 8%												6%					
MINIMUM VERTICAL CURVE K FACTORS FOR ABOVE DESIGN SPEED – SAG VERTICAL CURVE	50	40	30	20	20	20	40	30	20	20	20	20	40	30	20	20	20	20	20	30	30	30	30	30
CREST VERTICAL CURVE	50	30	20	10	10	10	30	20	10	10	10	10	30	20	10	10	10	10	20	20	20	20	20	20
MINIMUM CENTERLINE RADIUS FOR ABOVE DESIGN SPEED AND e MAX OR FOR NATURE OF ROAD	380	273	185	100	100	100	300	200	100	100	100	100	300	200	100	100	100	100	300	250	200	300	250	200
MINIMUM SWITCHBACK RADIUS	80'						80'																	
MAXIMUM GRADE THROUGH SWITCHBACK (%)	6%						4%																	
STANDARD LENGTH FOR STATED DESIGN SPEED AND MINIMUM CENTERLINE RADIUS	115	110	100	50	50	50	N.A.																	
MINIMUM LENGTH FOR STATED DESIGN SPEED AND MINIMUM CENTERLINE RADIUS	108	99	93	30	30	30	N.A.																	
SIMPLE CURVES ACCEPTABLE	NO						YES																	
STANDARD TANGENT SEPARATION	N.A.						150	140	130	130	130	130	150	140	130	130	130	130	140	140	140	140	140	140
MINIMUM TANGENT SEPARATION	N.A.						100	95	85	85	85	85	100	95	85	85	85	85	95	95	95	95	95	95
STRUCTURE CLEAR WIDTH FROM CENTERLINE	15	14	13	12	12	12	16.5'			11.5'			16.5'			11.5'			18.5'			18.5'		
CENTERLINE OF ROAD TO FACE OF GUARDRAIL	17	16	15	14	14	14	16.5'			11.5'			16.5'			11.5'			18.5'			18.5'		
OBSTRUCTION FREE AREA FROM CENTERLINE	24	22	20	20	19	19	20'			15'			20'			15'			22'			22'		
DITCH DEPTH BELOW FINISHED SHOULDER	≥ 1.5' (BASED ON 12" DIAMETER CULVERTS AT DRIVEWAYS)						N.A.																	
FORESLOPE (RUN OVER RISE)	2.5	2	1.5	2	1.5	1.5	N.A.																	
REQUIRED SIGHT DISTANCE FROM INTERSECTING STREET AND DRIVEWAYS [33]	BASED ON PASSENGER CAR						BASED ON PASSENGER CAR												BASED ON MULTI-UNIT TRUCK					
	350'	300'	250'	200'			300'	250'	200'	200'			250'	200'	200'	200'			425'			425'		
INTERSECTION RADII FOR 90° CONNECTION TO SIMILAR OR HIGHER TYPE ROAD	50'			30'			30'			20'			30'			30'			50' + OFFSET AND TAPERS CONFORMING TO AASHTO					
PATHS	NONE UNLESS REQ'D BY TRAILS PLAN						DETACHED SIDEWALKS OR EXTENSIVE PATHS						DETACHED SIDEWALKS						ATTACHED OR DETACHED SIDEWALKS					
BIKE LANES	NONE UNLESS REQ'D BY TRAILS PLAN						ATTACHED 4' BIKE LANE			BIKERS SHARE MOTOR VEHICLE LANE			ATTACHED 4' BIKE LANE			BIKERS SHARE MOTOR VEHICLE LANE			ATTACHED 4' BIKE LANE					
SHOULDER WIDTH BEYOND ATTACHED BIKEWAY	N.A. OR 2'						N.A.																	
ON STREET PARKING	NO												MAYBE						MAYBE			NO		
TRANSIT PULL OUT STOPS	N.A.						AS APPROPRIATE																	
MINIMUM DRIVEWAY CULVERT SIZE [33]	12" DIAMETER						N.A.																	
MINIMUM CROSS CULVERT SIZE [33]	18" DIAMETER																							
FIRE HYDRANT LOCATIONS	UPSLOPE ON BACKSLOPE OF DITCH 4' BEHIND DITCH CENTERLINE						4' BEHIND BACK OF CURB TO CENTER OF HYDRANT																	
POWER SERVICE BOX, TELEPHONE SERVICE BOX, CABLE TV SERVICE BOX, GAS SERVICE BOX, AND WATER SERVICE BOX OR SHUT OFF LOCATIONS	PROPERTY LINE																							
DITCH AND SLOPE EROSION PROTECTION	PER CDOT ROADWAY DESIGN MANUAL, 1990, SECTION 804.3, OPEN CHANNELS AND SECTION 805, EROSION CONTROL																							
SLOPE RECLAMATION TECHNIQUES IN ADDITION TO TOPSOIL, SEED, FERTILIZER AND MULCH	STAPLED NETTING OR JUTE NETTING OVER STRAW MULCH, OR EQUAL, ON SLOPES STEEPER THAN 2:1																							
USE REINFORCED EARTH AND RETAINING STRUCTURES TO REDUCE CUTS AND FILLS	VERY DESIREABLE, POSSIBLY REQUIRED																							

Legend

Color	Range Beg.	Range End	Percent	Area
(NO HATCH)	0.00	40.00	57.0	2,124,217.58
	40.00	100.00	43.0	1,601,551.12
				3,725,769

(FROM PROPERTY LINE TO DASHED LINE)

Legend

Color	Range Beg.	Range End	Percent	Area (SF)
(NO HATCH)	0.00	40.00	61.8	3,800,562.30
	40.00	100.00	38.2	2,350,555.01
			TOTAL=	6,151,117

(WITHIN PROPERTY LINE – FROM DASHED LINE TO CUL-DE-SAC)

N

SCALE 1" = 500'

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ALPINE ENGINEERING INC.
34510 HWY 6 / UNIT A9 / PO BOX 97
EDWARDS, COLORADO 81632 / (970) 926-3373
WWW.ALPINECIVIL.COM

BERLAIMONT ESTATES

EDWARDS, COLORADO

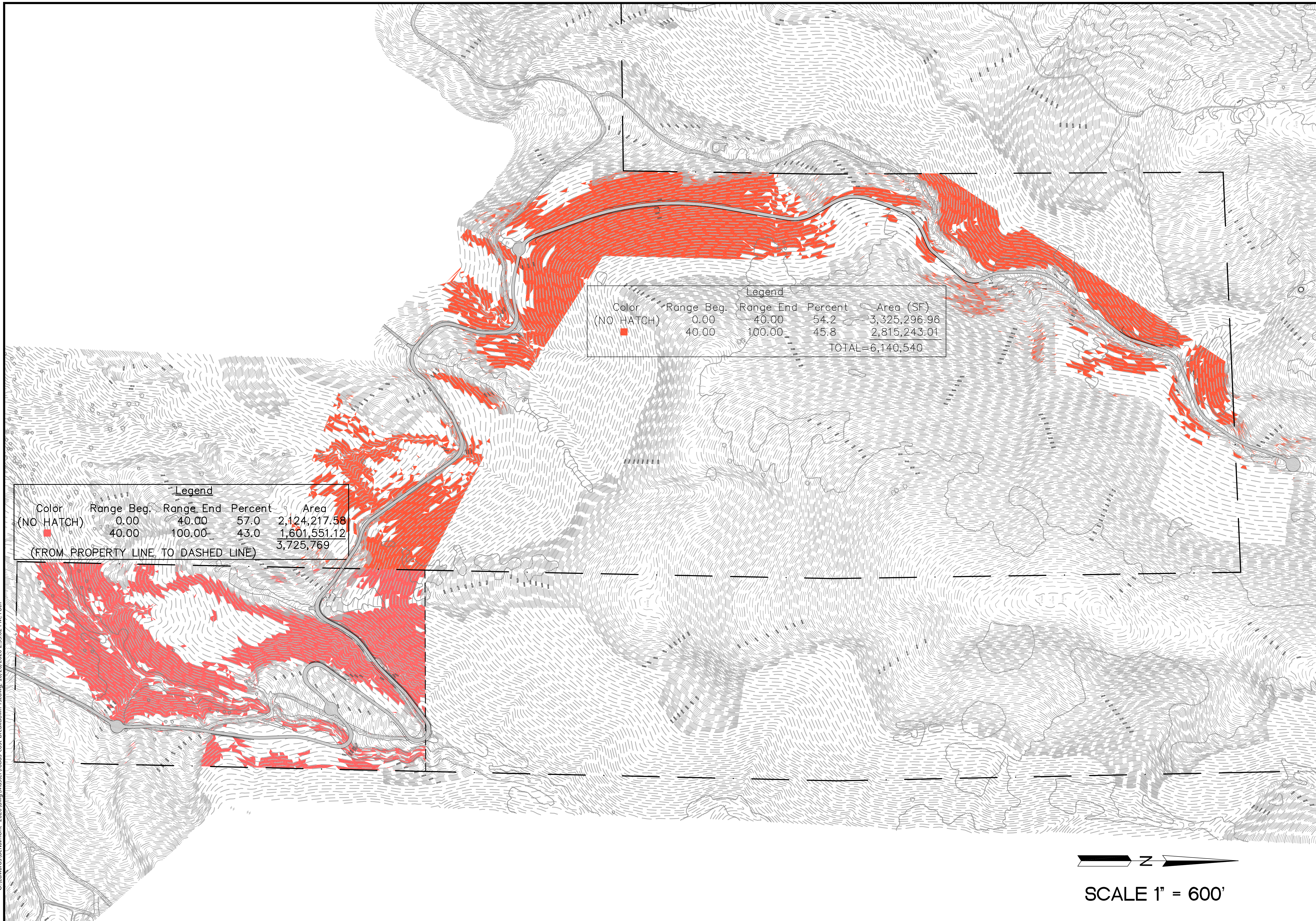
ALTERNATIVE 2

>40% SLOPE EXHIBIT

NO.	DATE	REVISIONS	BY

DESIGNED RSL
DRAWN RSL, RIF
CHECKED MCW
JOB NO. —
DATE 10/08/2020

SHEET 1



Legend

Color	Range Beg.	Range End	Percent	Area (SF)
(NO HATCH)	0.00	40.00	54.2	3,325,296.96
■	40.00	100.00	45.8	2,815,243.01
				TOTAL=6,140,540

Legend

Color	Range Beg.	Range End	Percent	Area
(NO HATCH)	0.00	40.00	57.0	2,124,217.58
■	40.00	100.00	43.0	1,601,551.12
				3,725,769

(FROM PROPERTY LINE TO DASHED LINE)

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ALPINE ENGINEERING INC.
34510 HWY 6 / UNIT A9 / PO BOX 97
EDWARDS CO 81632 / 970.926.3373
WWW.ALPINECIVIL.COM

BERLAIMONT ESTATES
EDWARDS, COLORADO
ALTERNATIVE 3
>40% SLOPE EXHIBIT

NO.	DATE	REVISIONS	BY

DESIGNED RSL
DRAWN RSL, RIF
CHECKED MCW
JOB NO. –
DATE 10/08/2020

SHEET
2