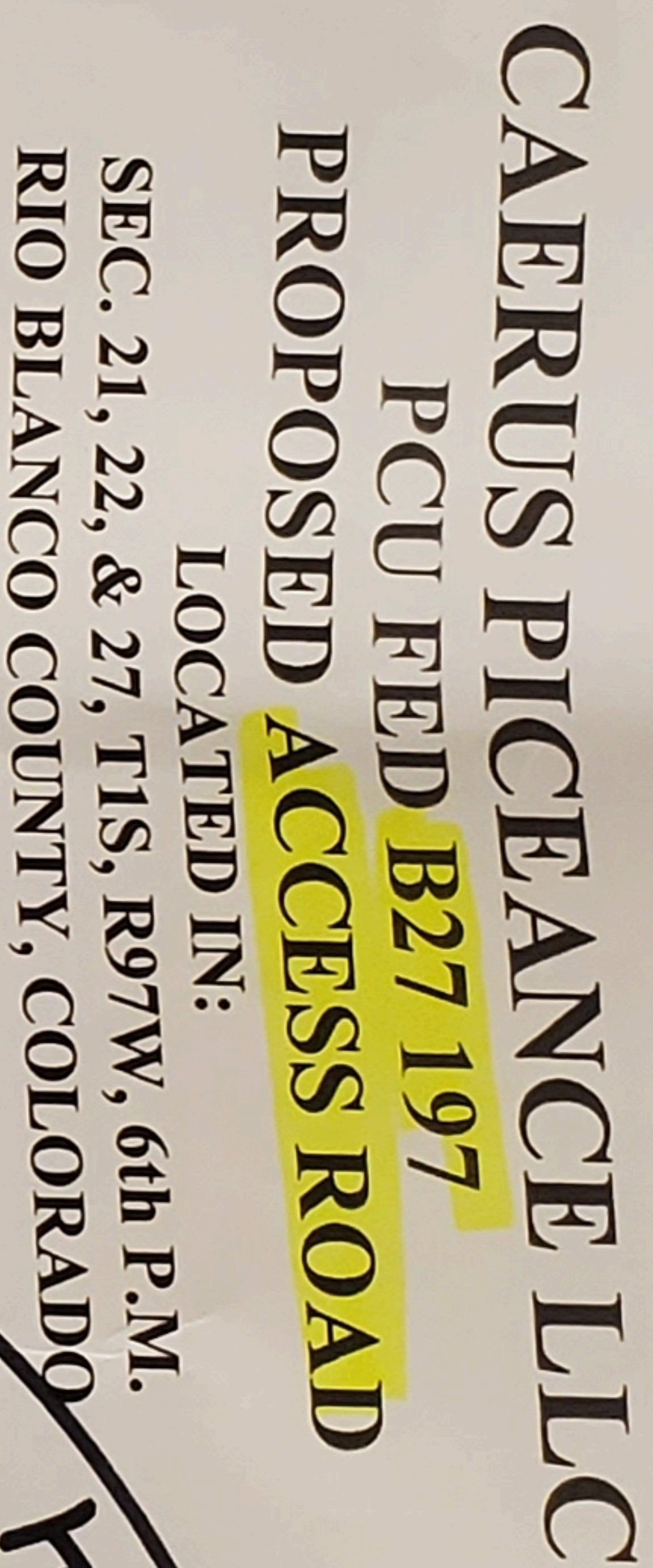


Wing Ditch = Orange / white  
Design Culvert = Blue / white  
New Culvert = Purple

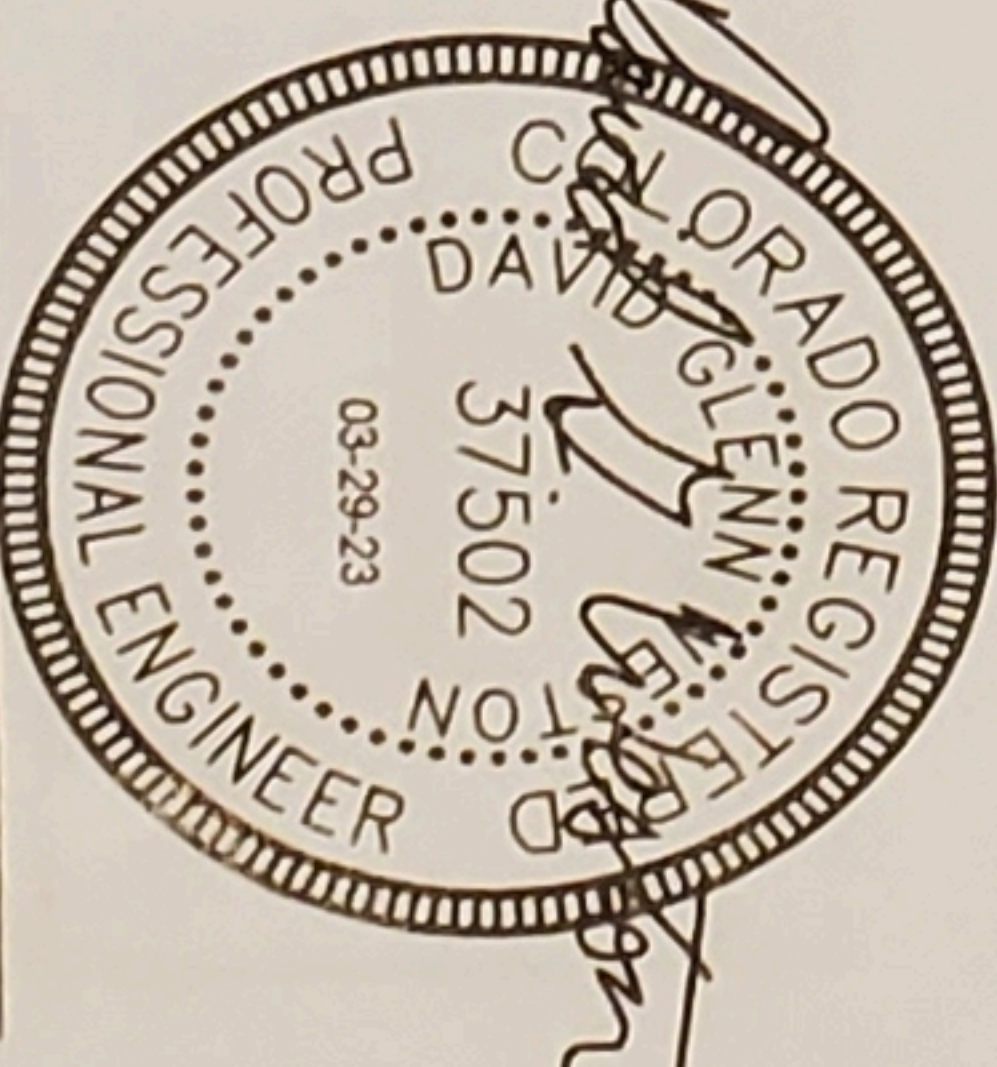


For Review

When constructing and after surveying assumes no liability written or implied as to the location of pipelines or cable lines in the vicinity of this access road. Utility Notification Center of Colorado - 811 (Public lines) and the owner of any transmission lines (Private/corporate lines) must be contacted for identification and location before construction begins. Transmission lines that may be identified on these plans may not be the only transmission lines in the vicinity of the pipeline bore road crossing. These plans are not intended to be used to identify the location of transmission lines. Extreme caution shall be used when constructing the access road near or over transmission lines.

INDEX OF SHEETS	
No.	SHEET DESCRIPTION
1	Title Sheet
2	General Notes / Geometric Standards
3	Culvert Installation Details
4	Fence and Cattle Guard Details
5	Sign Details
6	Stormwater Control Details
7	Traffic Control Plan
8	Quantities / Mass Haul
P1-P6	Plan & Profile
C1-C33	Cross Sections

## RESPONSIBLE ENGINEER



—BASIS OF BEARINGS—

BASIS OF BEARINGS IS THE NORTH LINE OF THE NE 1/4 OF SEC. 21, T1S., R97W., 6th P.M. WHICH WAS ASSUMED TO BEAR N89°05'53"E. FOR 2594.52' FROM THE N 1/4 CORNER OF SEC. 21 (BRASS CAP) TO THE NE CORNER OF SEC. 21 (BRASS CAP).

CAERUS PICEANCE LLC

**UNTAH**  
ENGINEERING & LAND SURVEYING

**UELS, LLC**  
Corporate Office \* 85 South 200 East  
Vernal, UT 84078 \* (435) 789-1017

<b>DATE</b>	<b>BY</b>	<b>REVISIONS</b>	<b>SCALE: As Shown</b>
03-29-22	DGW	Update Disturbance Area	<b>DRAWN BY: DGW</b>
			<b>E-FILE: W27 Road-4.dwg</b>
			<b>PROJECT NO: CAE01-22-0010</b>
			<b>DRAWING DATE: 3-14-23</b>

[illegible]



Materials for construction of the complete project including but not limited to rip-rap, water for dust control and compaction, culverts, bedding materials for culverts, surface course gravel, signs, etc. are to be provided by the contractor at his bid price unless other arrangements are made.

Construction of the access from County Road 5 shall conform to current Rio Blanco County standards. Construction of the road must conform to current AASHTO and BLM standards. During construction, the contractor will follow all signing and flagging requirements as stated in the Manual of Uniform Traffic Control Devices latest edition.

Utah Engineering and Land Surveying assumes no liability written or implied as to the location of pipelines or cable lines in the vicinity of this road design. Utility Notification Center of Colorado - 811 (public lines) and or the owner of the transportation line (Private/Corporate lines) must be contacted for identification and location before construction begins. Transportation lines that may be identified on these plans may not be the only transportation lines in the vicinity of the road. These plans are not intended to be used to identify the location of transportation lines. Extreme caution shall be used when constructing road near or over transportation lines.

EXPLANATIONS:

PLAN & PROFILE SHEETS

Plan & Profile sheets show the horizontal and vertical alignment of the road, sign placement if any, turnout placement if any, estimated culvert placements and sizes, estimated wing ditches, horizontal and vertical curve data, and the percent super for construction of horizontal curves.

CROSS SECTION SHEETS

The cut (C) or fill (F) shown on the cross section sheets show the cut (C) or fill (F) from the preconstruction ground at the C/L - to the C/L at the top of the finished sub-grade.

Finished Cross Section Elevations & Catch Points - The finished sub-grade C/L elevation is shown at the C/L on each Cross Section. Catch points are shown at each side of the Finished Cross Section. They are marked with a distance left or right of the C/L with their elevation. Other elevations such as the bottom of ditch or the edge of fill subgrades are also shown.

SCOPE OF WORK:

SHAPING THE ROADWAY

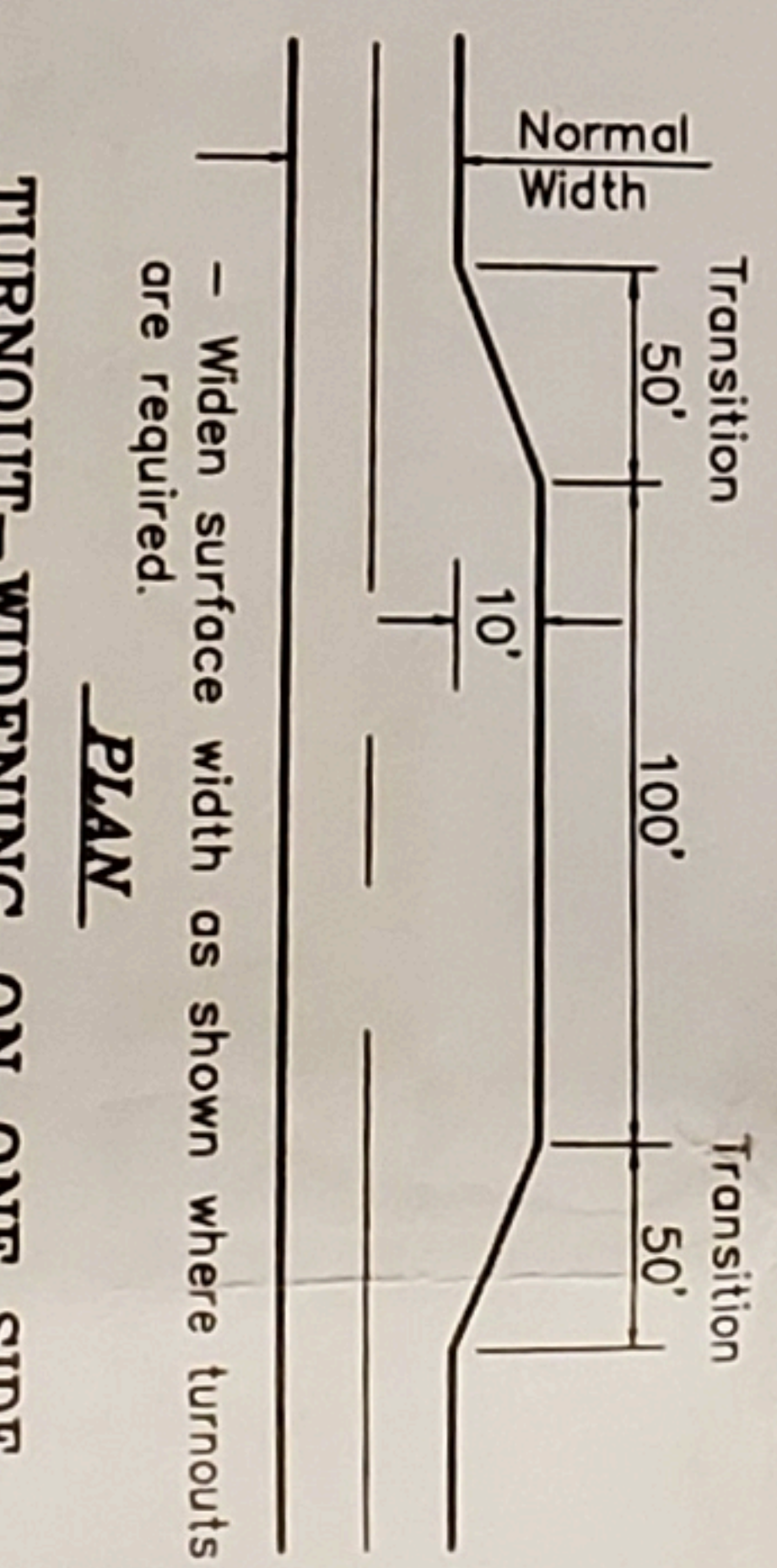
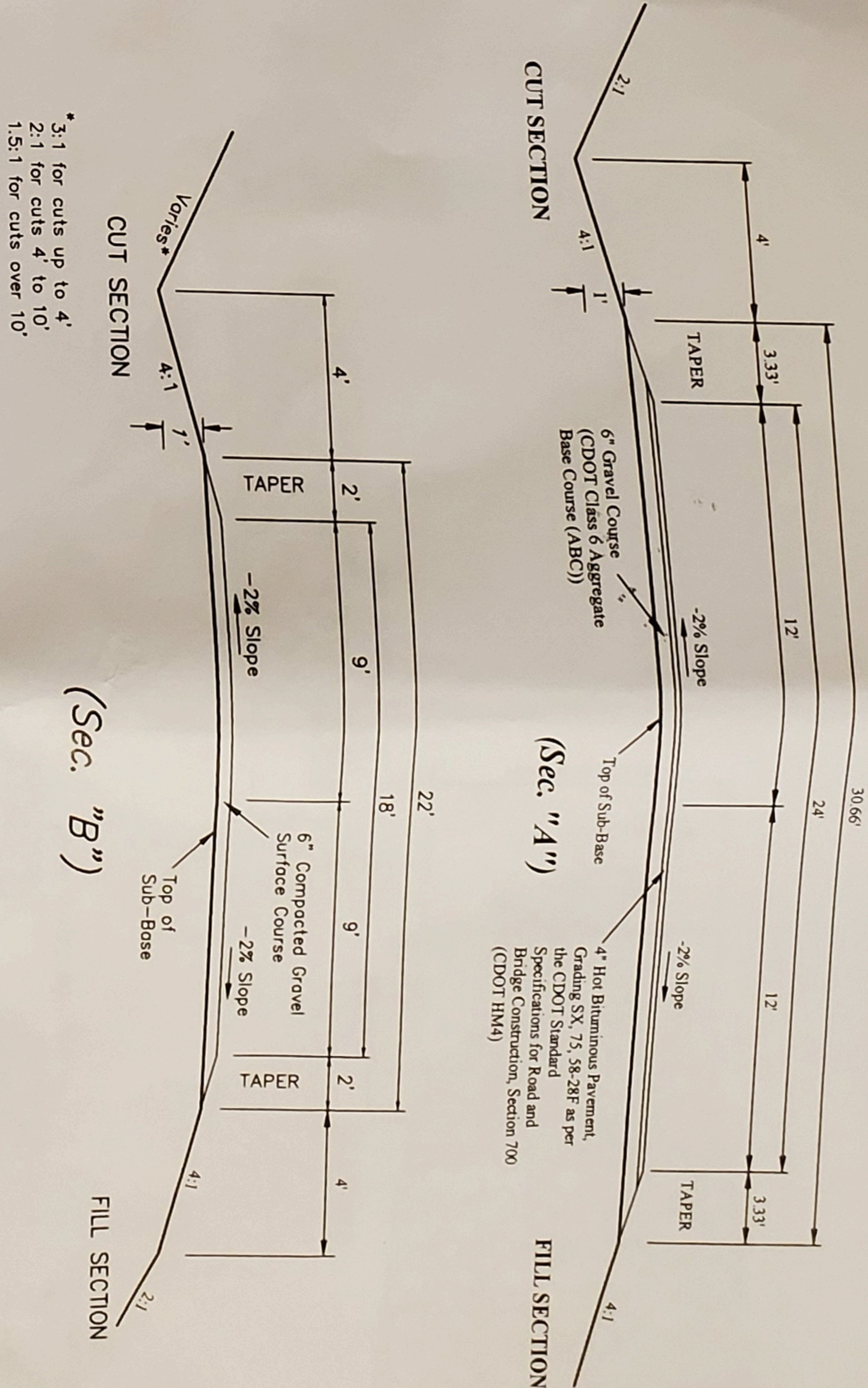
The roadway is to be shaped to the dimensions shown on the typical cross section included in this document. Care shall be given to insure that the travel-way width is not less or significantly more than the dimensions given on the typical cross section. Where turnouts are indicated, the typical section widths shown on the typical cross section will need to be modified by the amounts shown on the typical turn-out. Where there are horizontal curves, super-elevations will be constructed to the percentages shown on the plan and profile sheets. One-third of the super transition occurs on the curve and two-thirds on the tangent.

Top soil will be handled in the manner agreed upon and stated within the APD and the conditions of approval. If top soil is to be moved, Top soil will be peeled back during construction. Some over-excavation of cut slopes and bar ditches will provide needed material for road construction. Top soil will then be spread back over the cut and fill slopes and bar ditches.

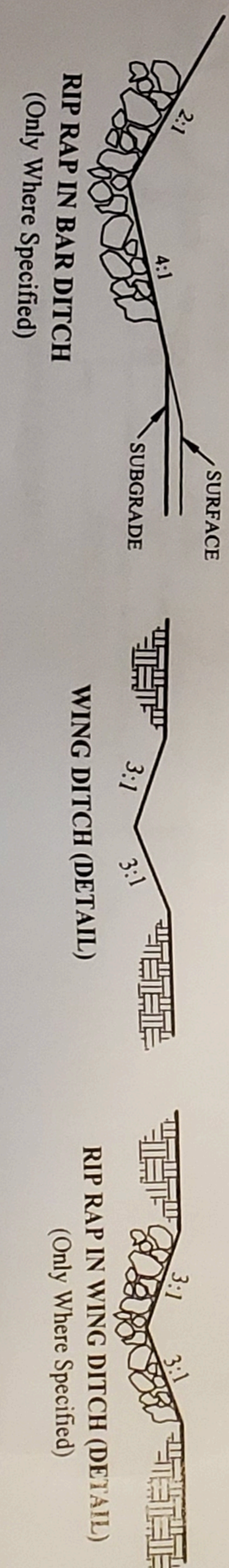
The road shall have a crown as shown on the typical cross section to insure that water will drain off of the travel-way surface.


GEOMETRIC SPECIFICATIONS

TYPICAL CROSS SECTIONS  
(for Proposed Access Road)



GRAVEL SPECIFICATION:	
3" minus pit run gravel (AASHTO M145-49 A-1-a Soil)	
Do not place gravel on road until Inspector/Engineer has approved the sub-grade	
Place gravel to full widened width on turnouts, curve widening, and intersection flares.	





ENGINEERING & LAND SURVEYING

UELS, LLC

Corporate Office \* 85 South 200 East  
Vernal, UT 84078 \* (435) 789-1017

DATE	BY	REVISIONS
03-29-22	DGW	Update Disturbance Area

SCALE: As Shown

DRAWN BY: DGW

E-FILE: \B27 Road-4.dwg

PROJECT NO: CAE01-22-0010

DRAWING DATE: 3-14-23

CAERUS PICEANCE LLC

PCU FED B27 197

PROPOSED ACCESS ROAD

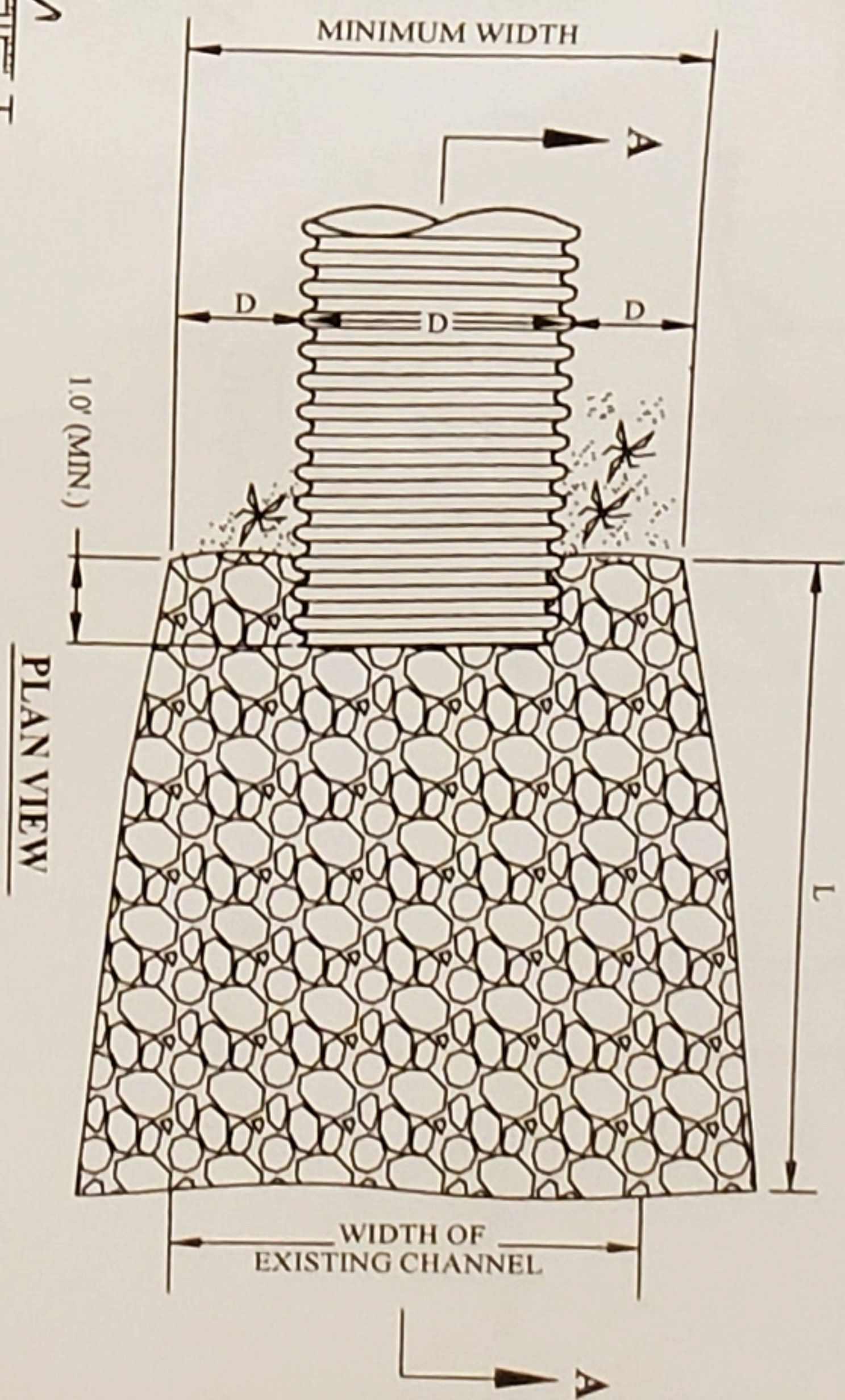
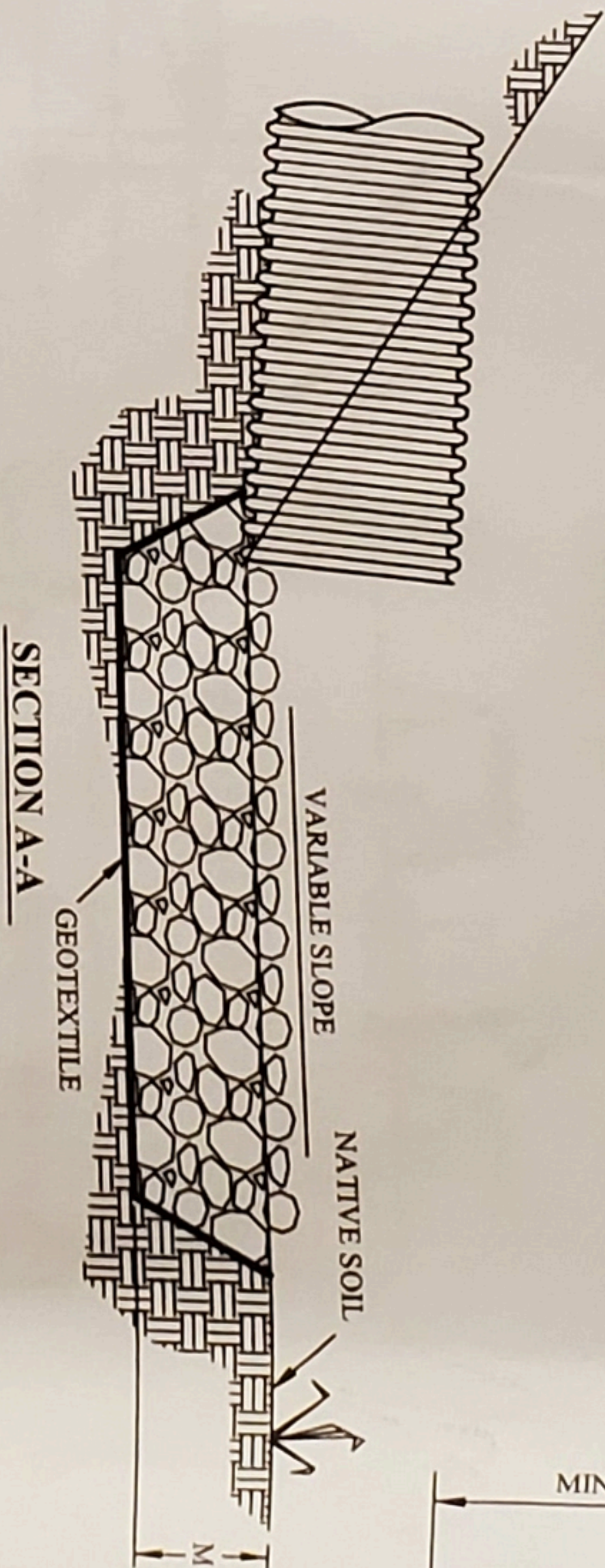
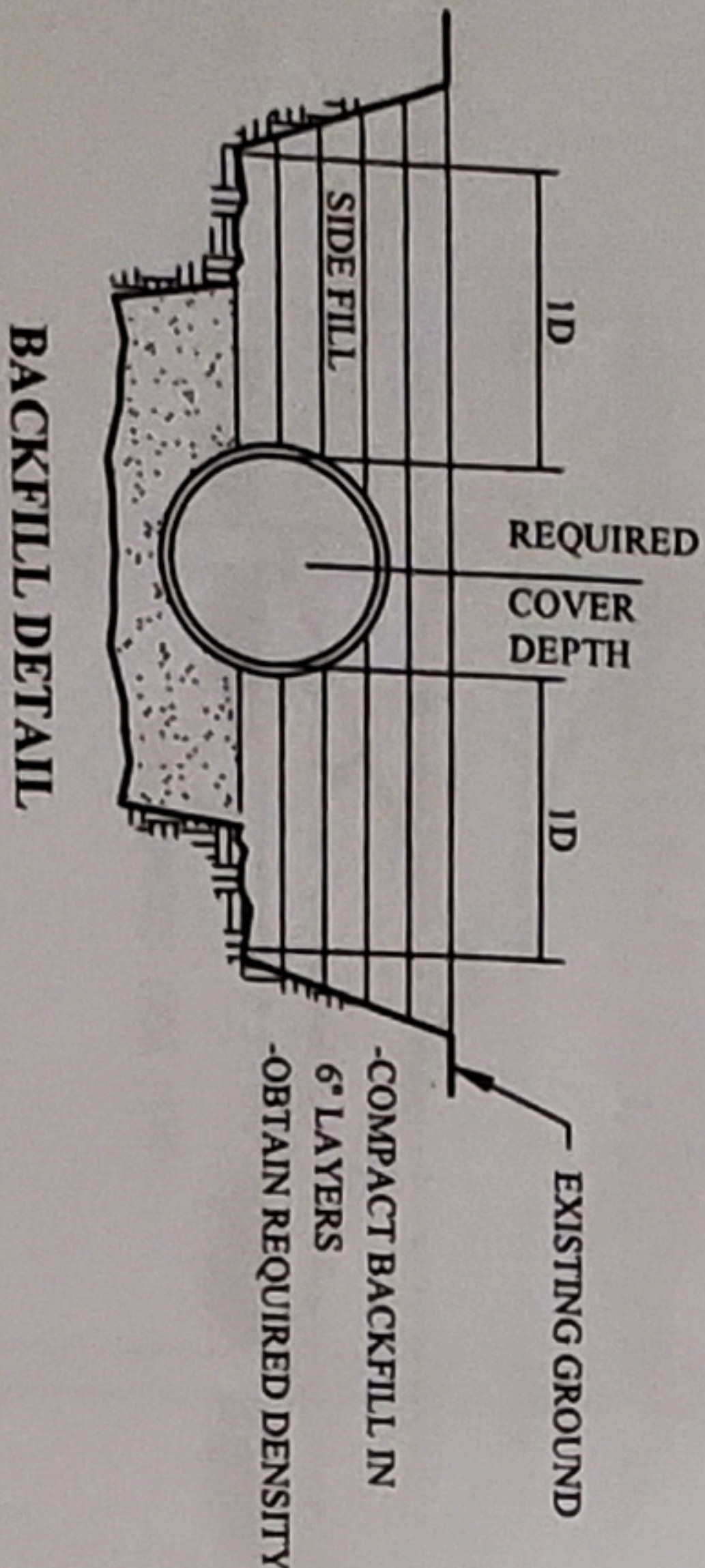
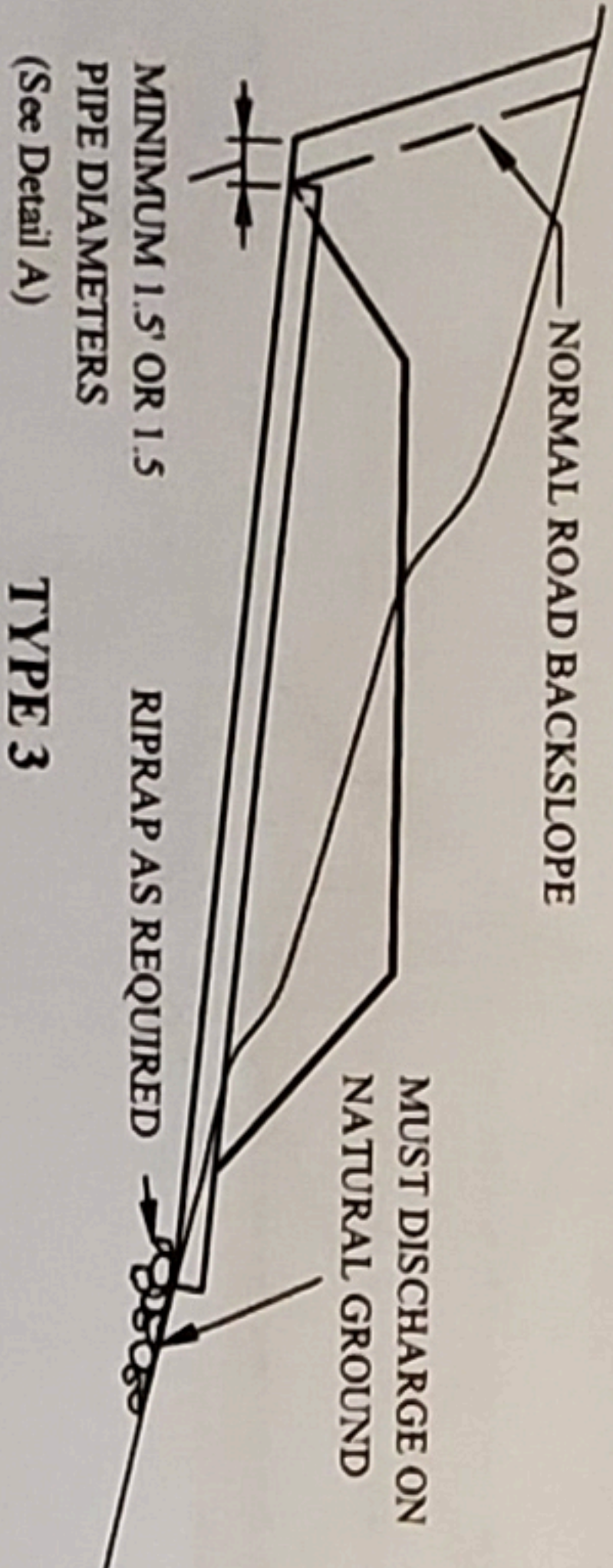
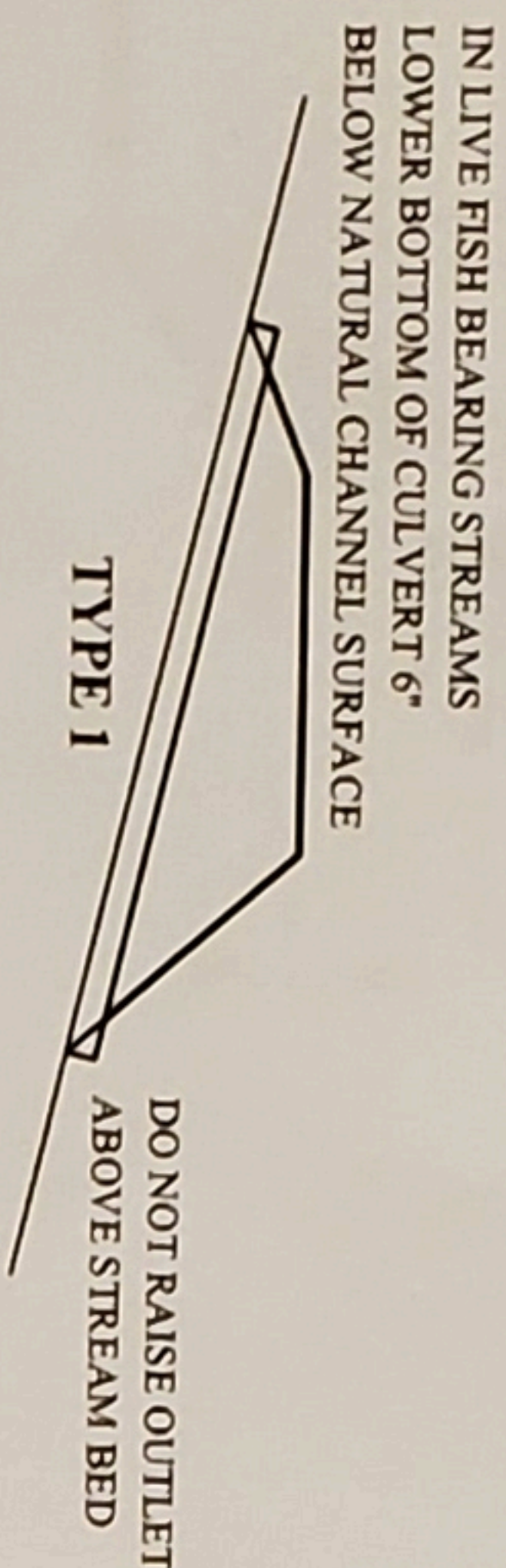
GENERAL NOTES & GEOMETRIC STANDARDS

2



CONTRACTOR, AND/OR INSPECTOR/ENGINEER TO THE PLACEMENT AND LENGTH OF THE CULVERTS AND WING DITCHES. ALL CULVERTS SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT AN HS-20 LOADING OR HEAVIER. CHECK WITH MANUFACTURER FOR INFORMATION ABOUT MINIMUM COVER AND LOAD RATINGS. IN NO CASE SHALL COVER OVER CULVERTS BE LESS THAN 1'. CULVERT LENGTHS ARE ESTIMATED ON THE PLANS BUT THERE MAY NEED TO BE SOME ADJUSTMENTS MADE TO THE LENGTHS OF THE CULVERTS DURING CONSTRUCTION. ALL DITCHES ARE TO BE CONSTRUCTED WITH SUFFICIENT SLOPE SO THAT WATER WILL EXIT THE DOWNSTREAM SIDE AND NOT POND IN THE DITCH.

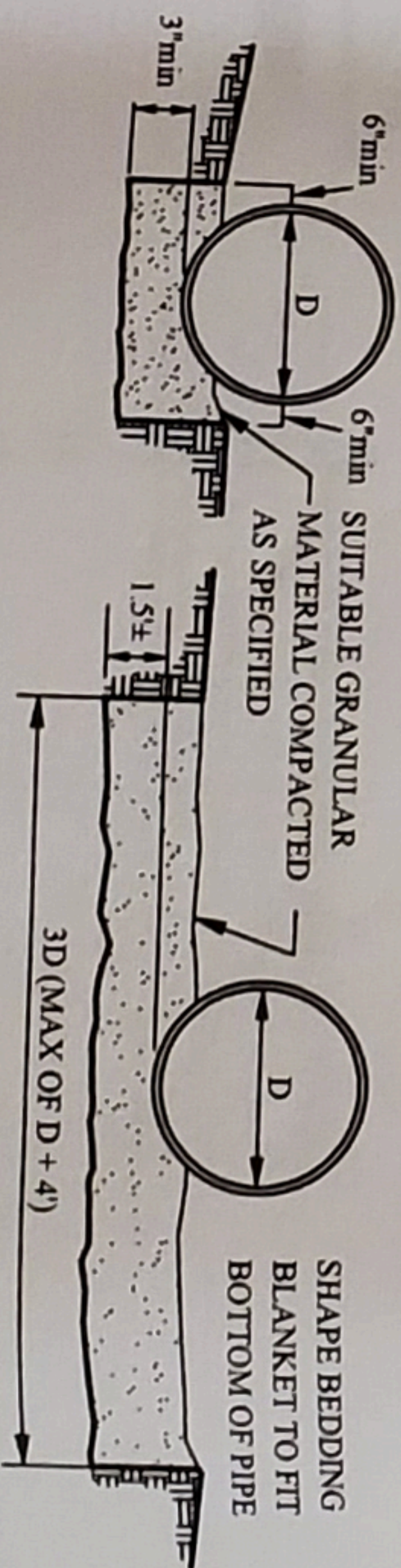
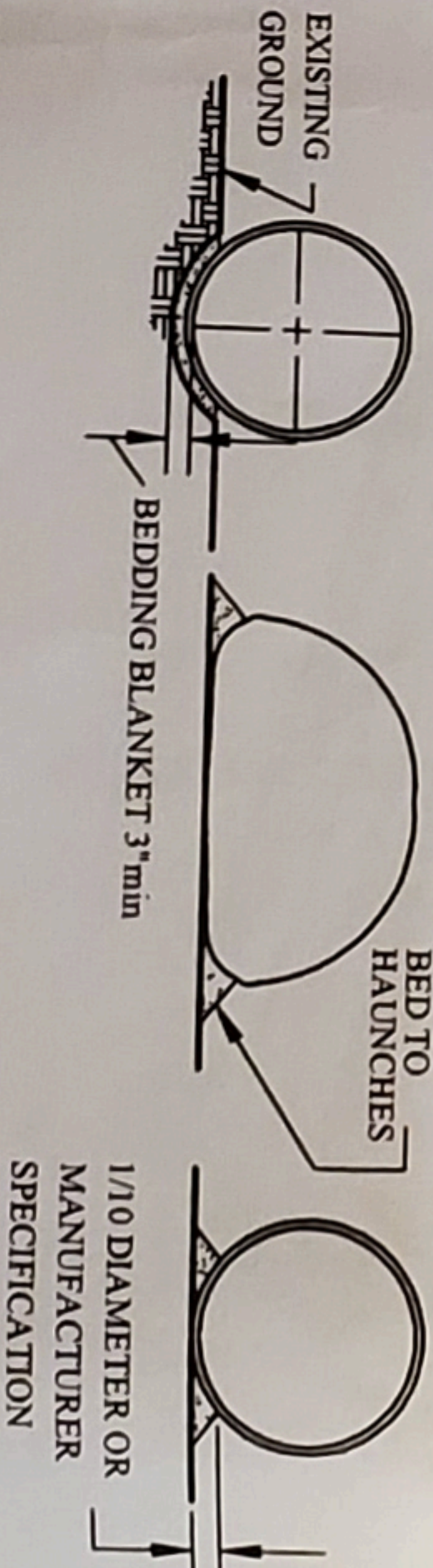
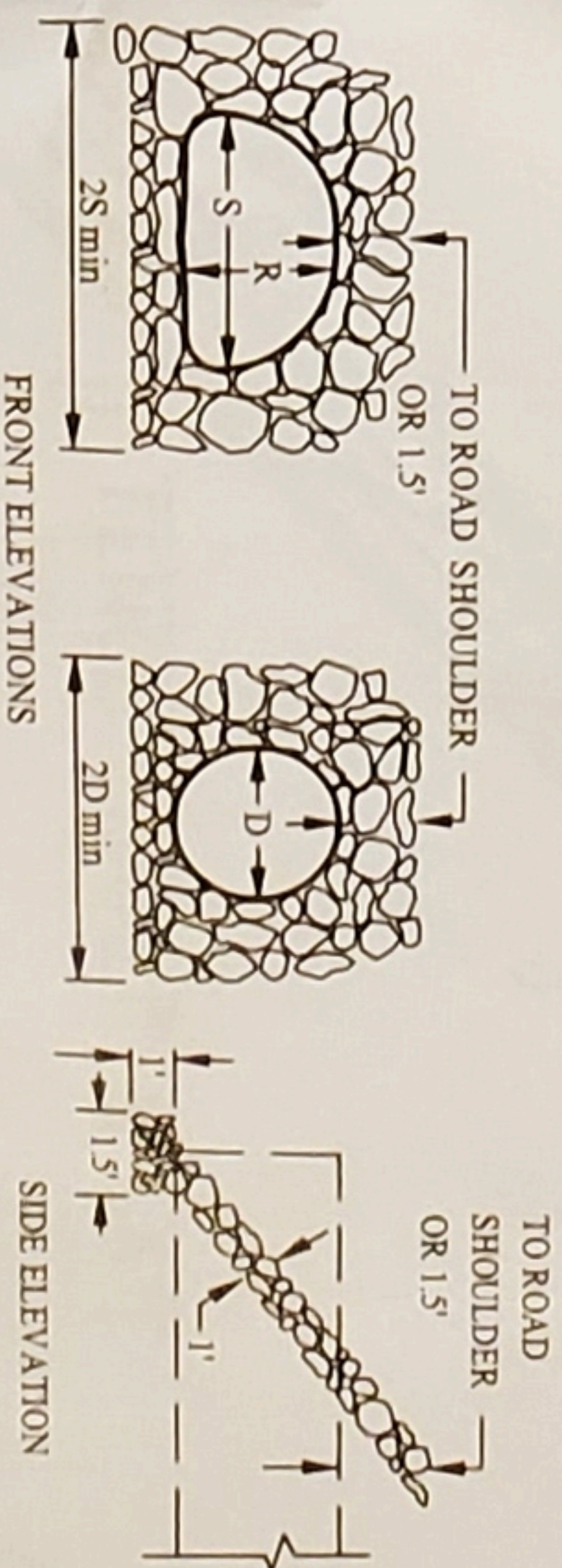
CONTRACTOR, AND/OR INSPECTOR/ENGINEER TO THE PLACEMENT AND LENGTH OF THE CULVERTS AND WING DITCHES. ALL CULVERTS SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT AN HS-20 LOADING OR HEAVIER. CHECK WITH MANUFACTURER FOR INFORMATION ABOUT MINIMUM COVER AND LOAD RATINGS. IN NO CASE SHALL COVER OVER CULVERTS BE LESS THAN 1'. CULVERT LENGTHS ARE ESTIMATED ON THE PLANS BUT THERE MAY NEED TO BE SOME ADJUSTMENTS MADE TO THE LENGTHS OF THE CULVERTS DURING CONSTRUCTION. ALL DITCHES ARE TO BE CONSTRUCTED WITH SUFFICIENT SLOPE SO THAT WATER WILL EXIT THE DOWNSTREAM SIDE AND NOT POND IN THE DITCH.



RIP-RAP WILL BE PLACED AT CULVERT INLETS AND OUTLETS WHERE SPECIFIED ON THE PLAN & PROFILE SHEETS. RIP-RAP WILL BE SIZED DEPENDENT UPON PIPE DIAMETER AS SHOWN. RIP RAP SHALL BE WELL GRADED WITH A SUFFICIENT AMOUNT OF SMALLER STONES UNIFORMLY DISTRIBUTED THROUGHOUT.

PIPE DIAM.-D	RIP-RAP SIZE	L	M	VARIANCE
0'-24"	60% shall be 8" in diameter or larger	5'	12"	±10%ds
25'-48"	60% shall be 12" in diameter or larger	10'	18"	±6%ds
49'-72"	60% shall be 18" in diameter or larger	15'	24"	±10%ds

\*Larger than 72", consult engineer.



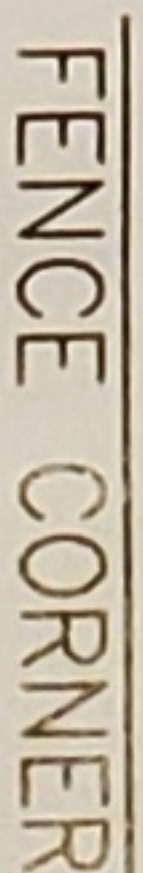
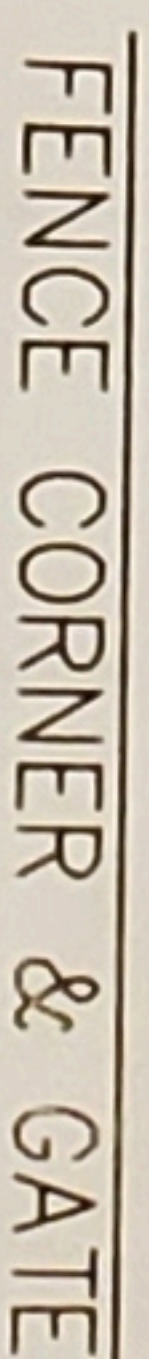
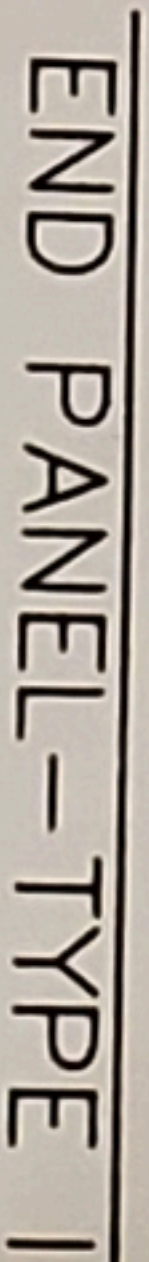
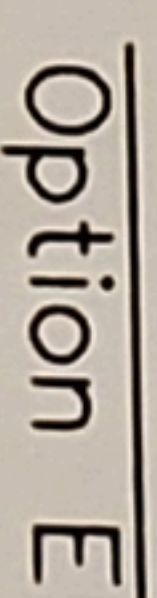
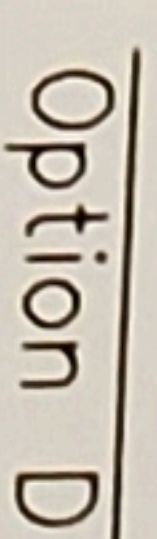
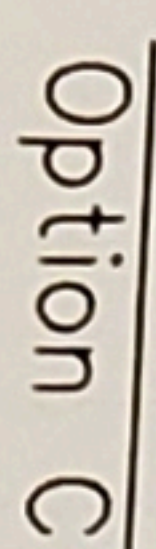
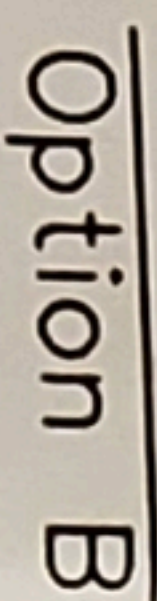
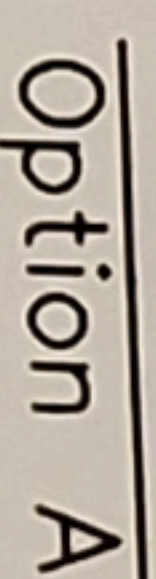
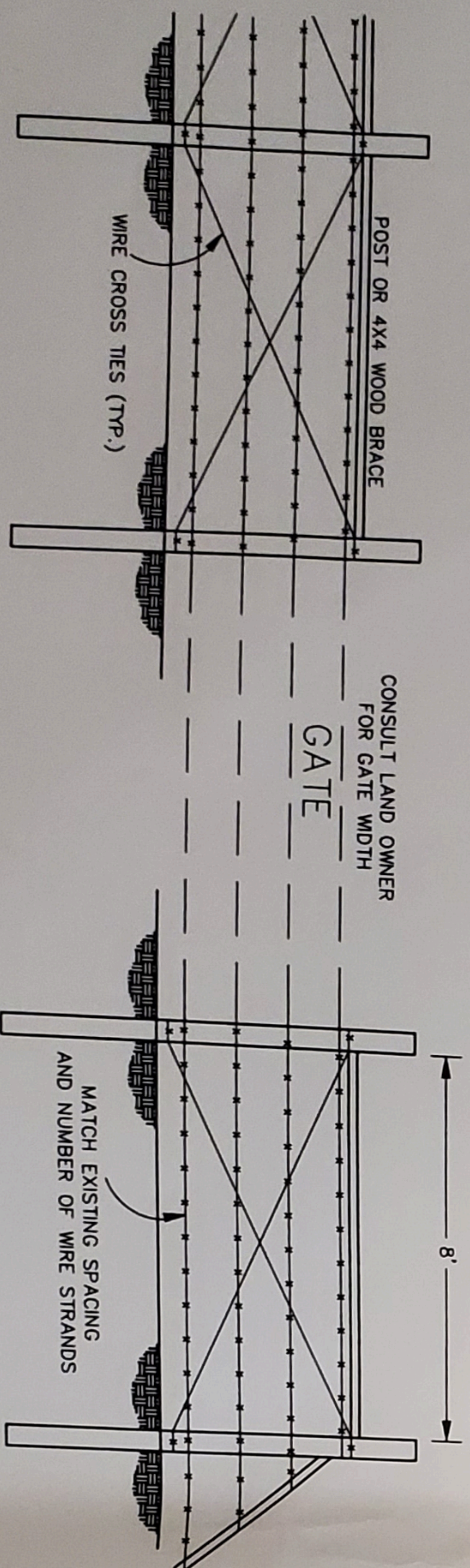
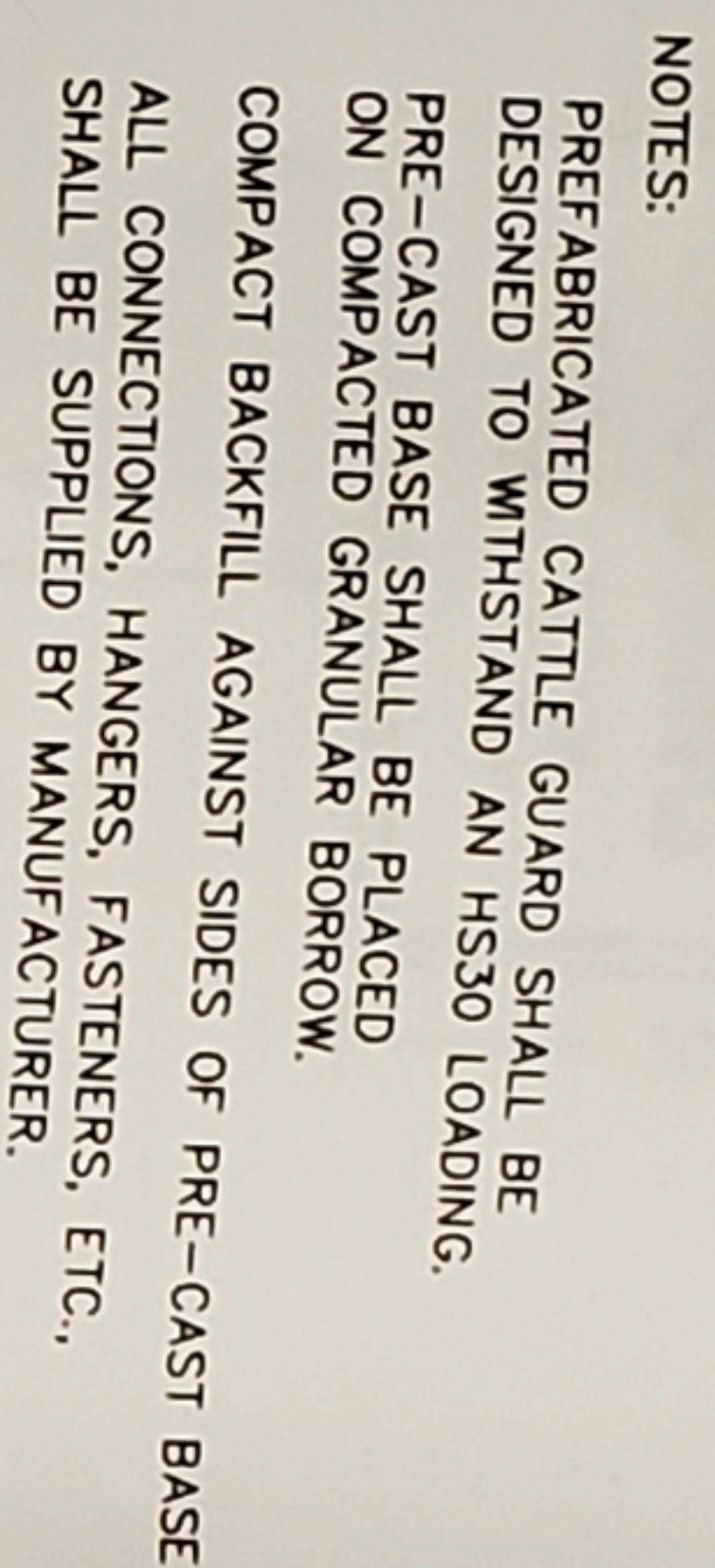
BEDDING DETAILS

RIP RAP DETAILS

DATE	BY	REVISIONS
03-29-22	DCW	Update Disturbance Area

SCALE: As Shown
DRAWN BY: DCW
E-FILE: UB27 Road-4.dwg
PROJECT NO: CAE01-22-0010
DRAWING DATE: 3-14-23



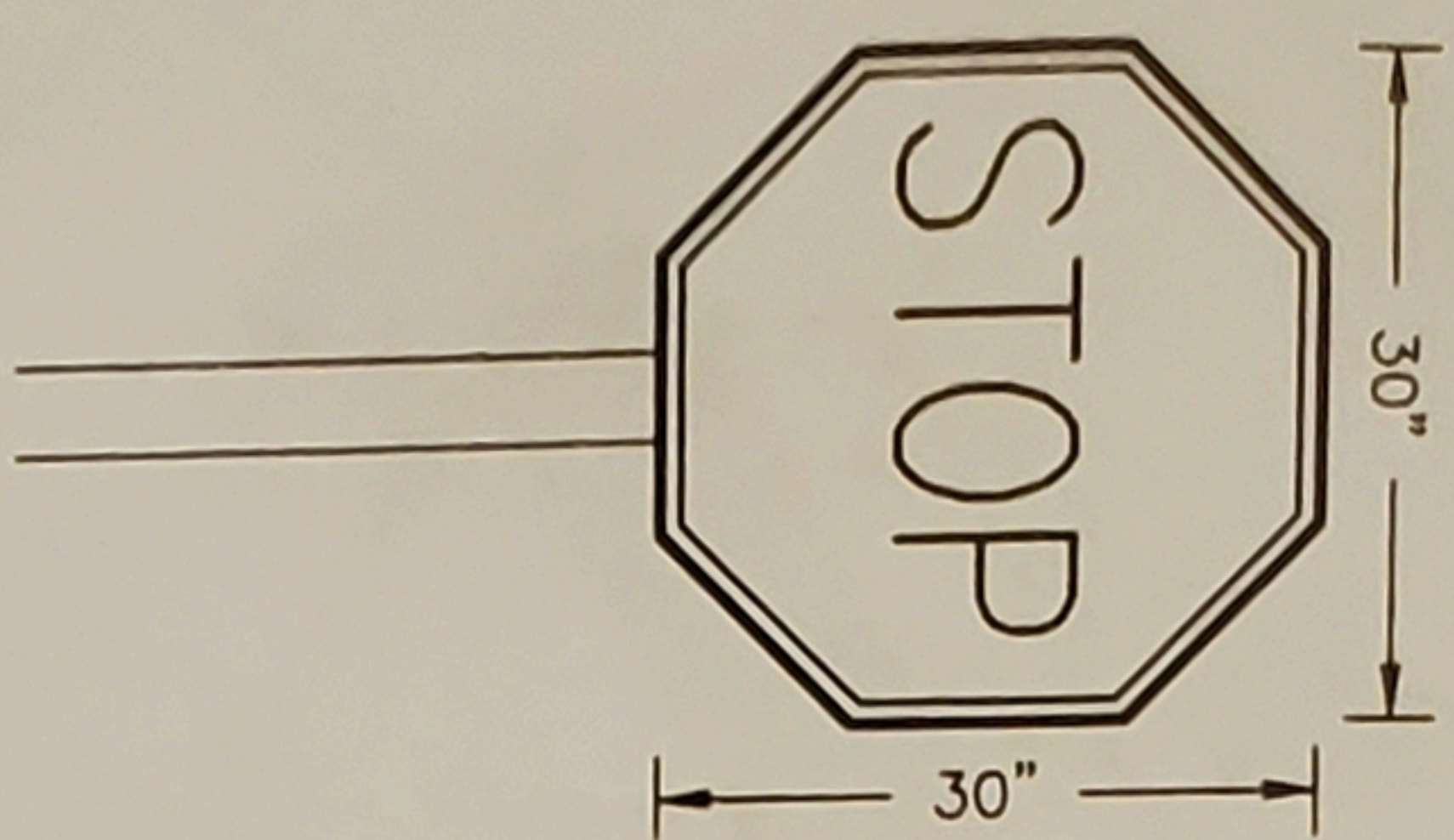


WOOD BRACES TO BE  
4" X 4" SQUARE OR  
5" DIAMETER ROUND

SCALE: As Shown  
DRAWN BY: DGW  
E-FILE: \B27 Road-4.dwg  
PROJECT NO: CAE01-22-0010  
DRAWING DATE: 3-14-23

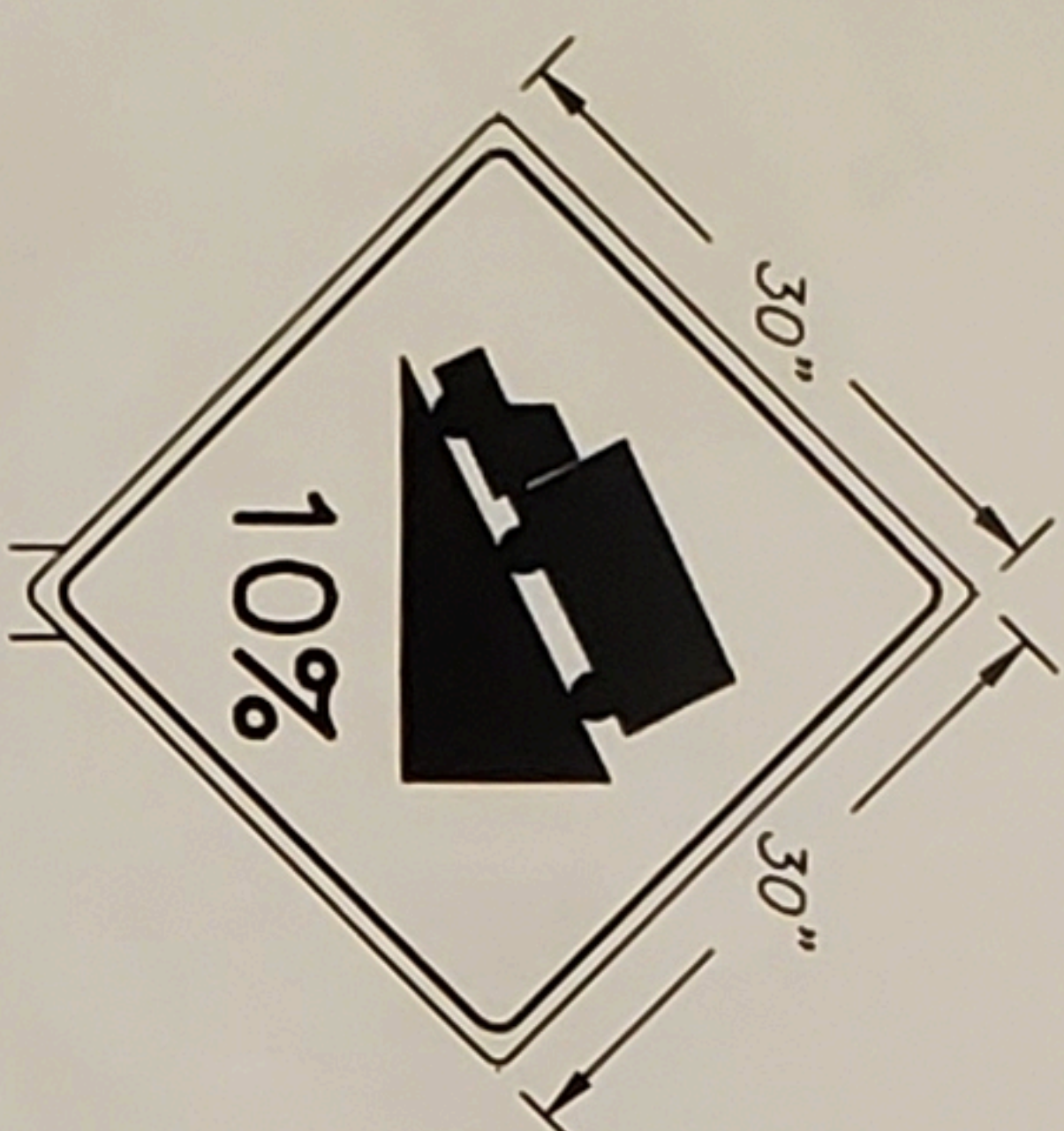


NOTE: ALL SIGNS SHALL BE CONSTRUCTED OF REFLECTIVE SHEETING TYPE III/IV HIGH INTENSITY MATERIAL (ASTM D4956-04)



SIGN #1  
STOP SIGN

COLOR  
- WHITE (Ref)  
LEGEND - RED (Non-Ref)  
BACKGROUND - RED (Non-Ref)  
POST: 4" X 4" TREATED TIMBER

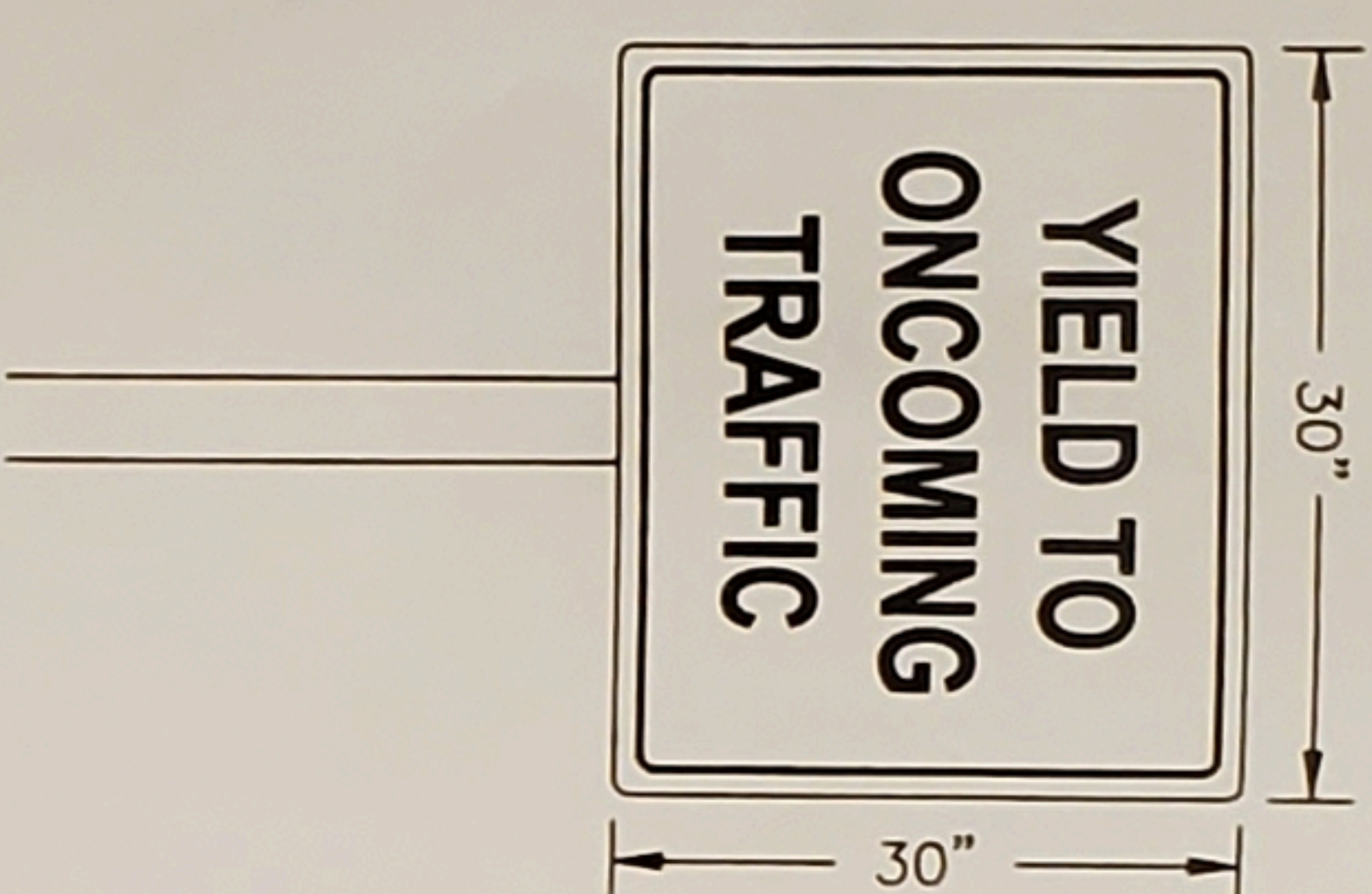


**TRUCKS  
USE LOWER  
GEAR**

MUTCD W7-1b &amp; W7-2b

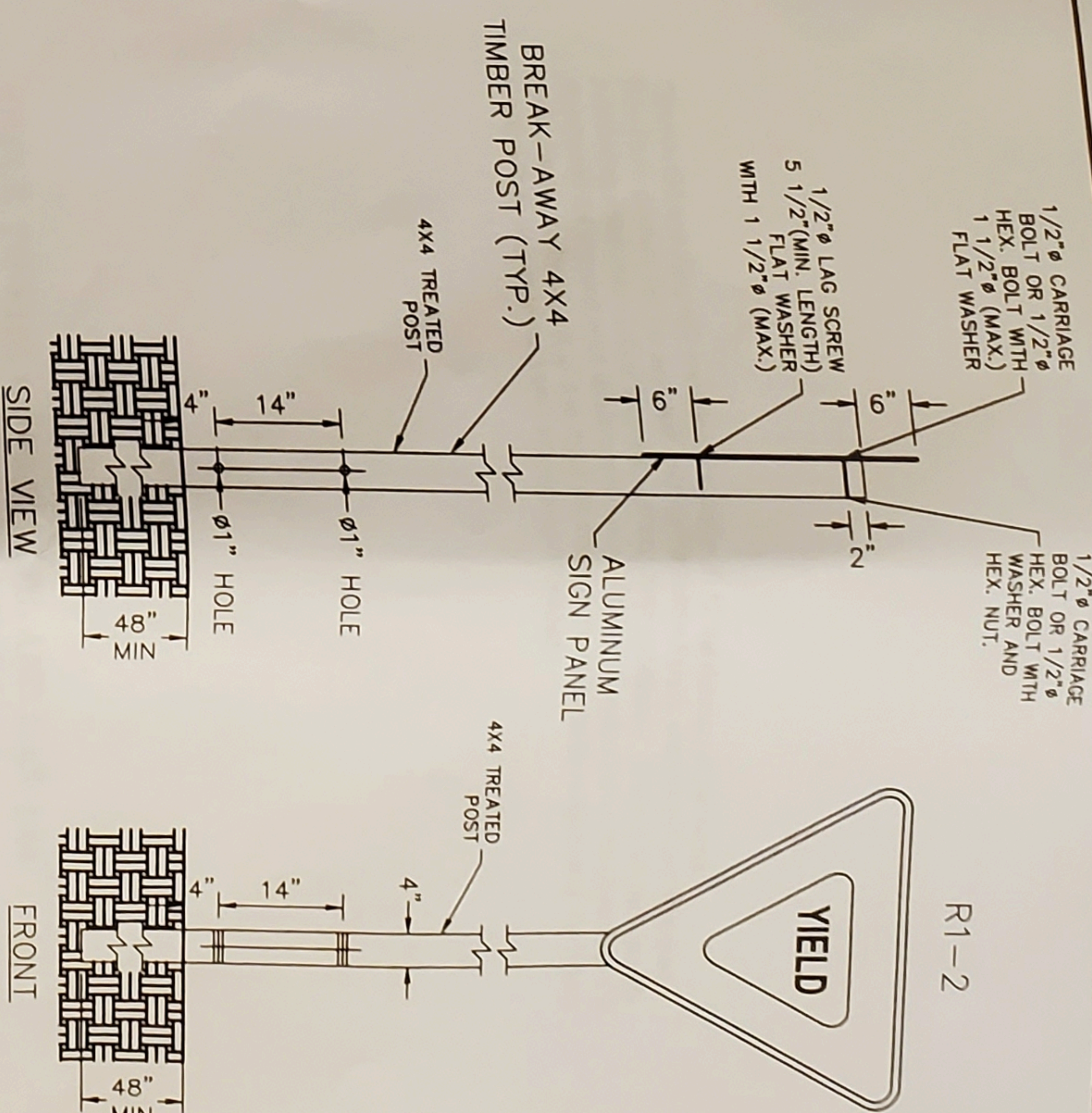
SIGN #2  
HILL SIGN

COLOR  
- BLACK (Non-Ref)  
- YELLOW (Ref)  
LEGEND  
BACKGROUND - YELLOW (Ref)  
POST: 4X4 TREATED WOOD

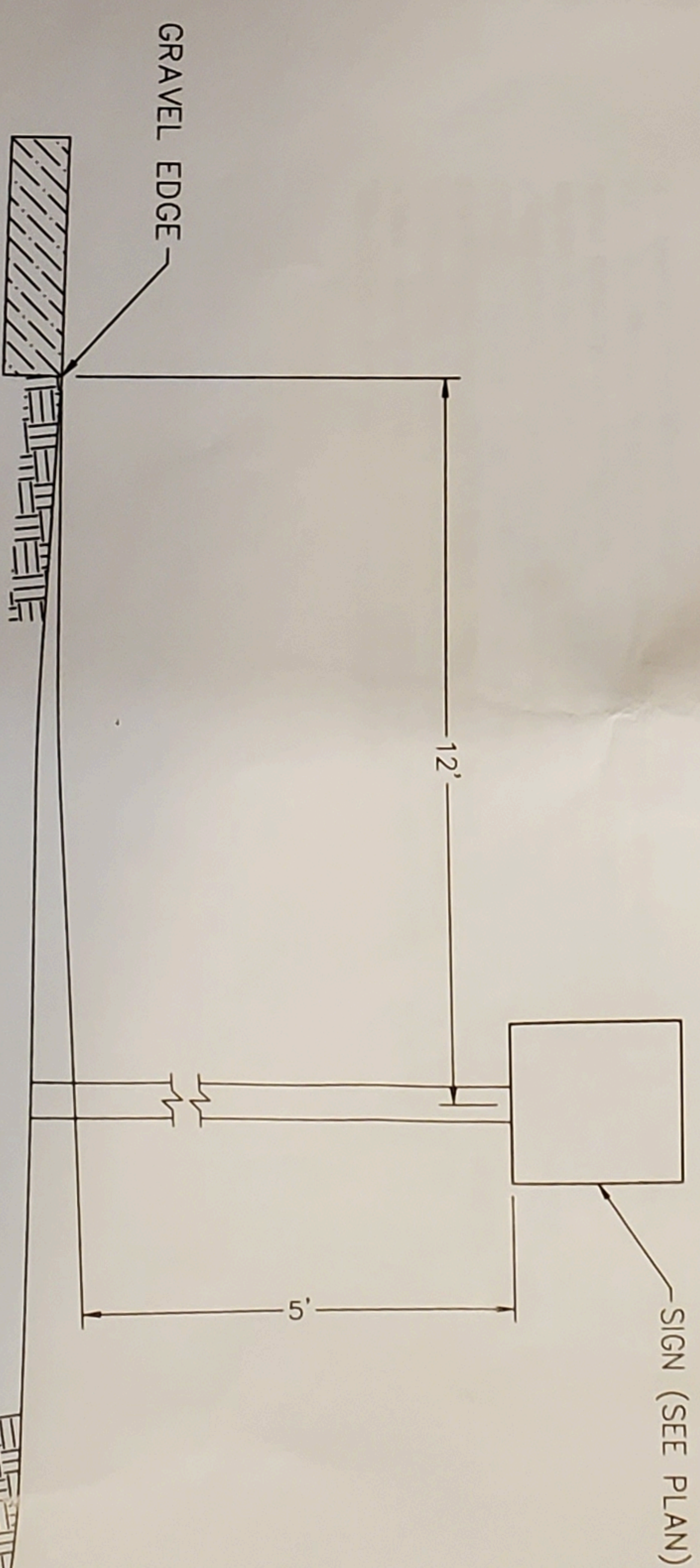


SIGN #3  
YIELD SIGN

COLOR  
 - BLACK (Non-Ret)  
 BACKGROUND - WHITE (Ret)  
 POST: 4X4 TREATED WOOD



1 TYPICAL SIGN MOUNTING AND BREAK-AWAY TIMBER POST DETAIL  
NO SCALE

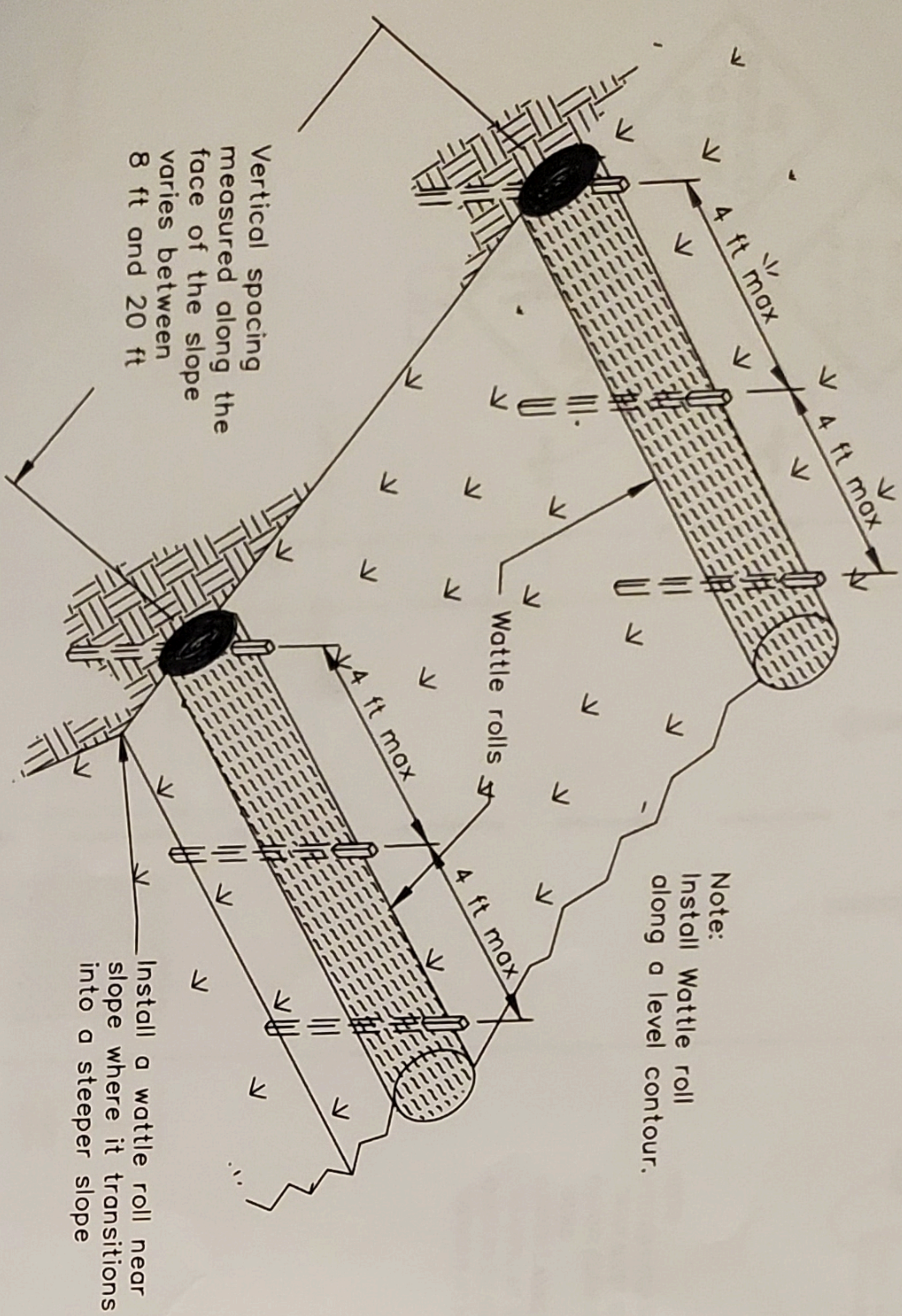


2 TYPICAL SIGN HEIGHT & LATERAL OFFSET INSTALLATION DETAIL  
NO SCALE

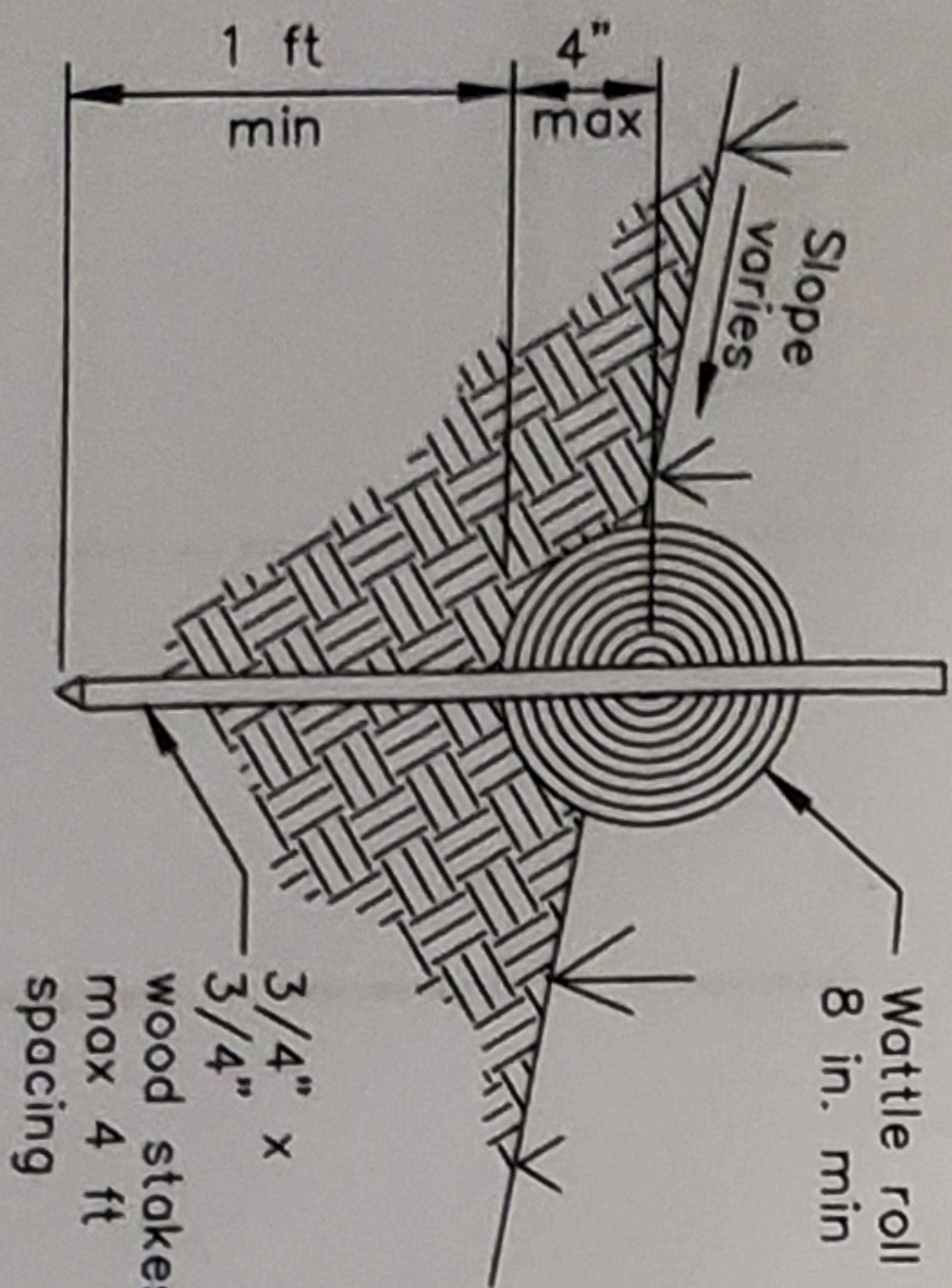
 <b>UELS, LLC</b> Corporate Office • 85 South 200 East Vernal, UT 84078 • (435) 789-1017			
DATE	BY	REVISIONS	
03-29-22	DGW	Update Disturbance Area	
SCALE: As Shown			
DRAWN BY: DGW			
E-FILE: \B27 Road-4.dwg			
PROJECT NO: CAE01-22-0010			
DRAWING DATE: 3-14-23			
CAERUS PICEANCE LLC			
PCU FED B27 197			
PROPOSED ACCESS ROAD			
SIGN DETAILS			
5			



EROSION CONTROL/WATTLE ROLL INSTALLATION DETAIL (W)  
N.T.S.



TYPICAL WATTLE ROLL INSTALLATION



ENTRENCHMENT DETAIL

THE PLANS SHOW AN ESTIMATE OF THE AREA OF THE STORMWATER CONTROL MEASURES TO BE PLACED ON THE ROAD. THERE MAY NEED TO BE SOME FIELD ADJUSTMENTS MADE BY THE CONTRACTOR, AND/OR INSPECTOR/ENGINEER TO THE PLACEMENT AND AREA OF THE STORMWATER CONTROL MEASURES.

Caerus Oil and Gas will maintain the culverts for the duration of the lease. Roadside ditches will be seeded and hydromulched along with the cut and fill slopes, promoting establishment of vegetation/long term stabilization. Ditches will be regularly monitored for erosion and sediment issues. Additional control measures (screened 1.5" rock checks in the invert of the road ditches) to provide velocity mitigation of the storm water will be implemented and monitored if needed.

REFER TO THE CAERUS OIL AND GAS, LLC  
"CONTROL MEASURE MANUAL"  
FOR ADDITIONAL DETAILS AND METHODS

7.0 Inspection and Maintenance  
All Control Measures will be properly inspected and maintained throughout the life of the entire operation according to the "Maintenance and Corrective Action Specifications" section in each of the following Control Measures. In general, the maintenance program should provide for inspection of Control Measures on a regular basis in accordance with the SWMP or PCSWMP. Inspection of Control Measures should also occur as soon as possible after major rainfall events, particularly at sensitive areas in proximity to a perennial drainage. The inspection should include repair or replacement of the Control Measures, where needed, to ensure effective and efficient operation. (Caerus Oil and Gas, LLC "Control Measure Manual" Revised March 2019)



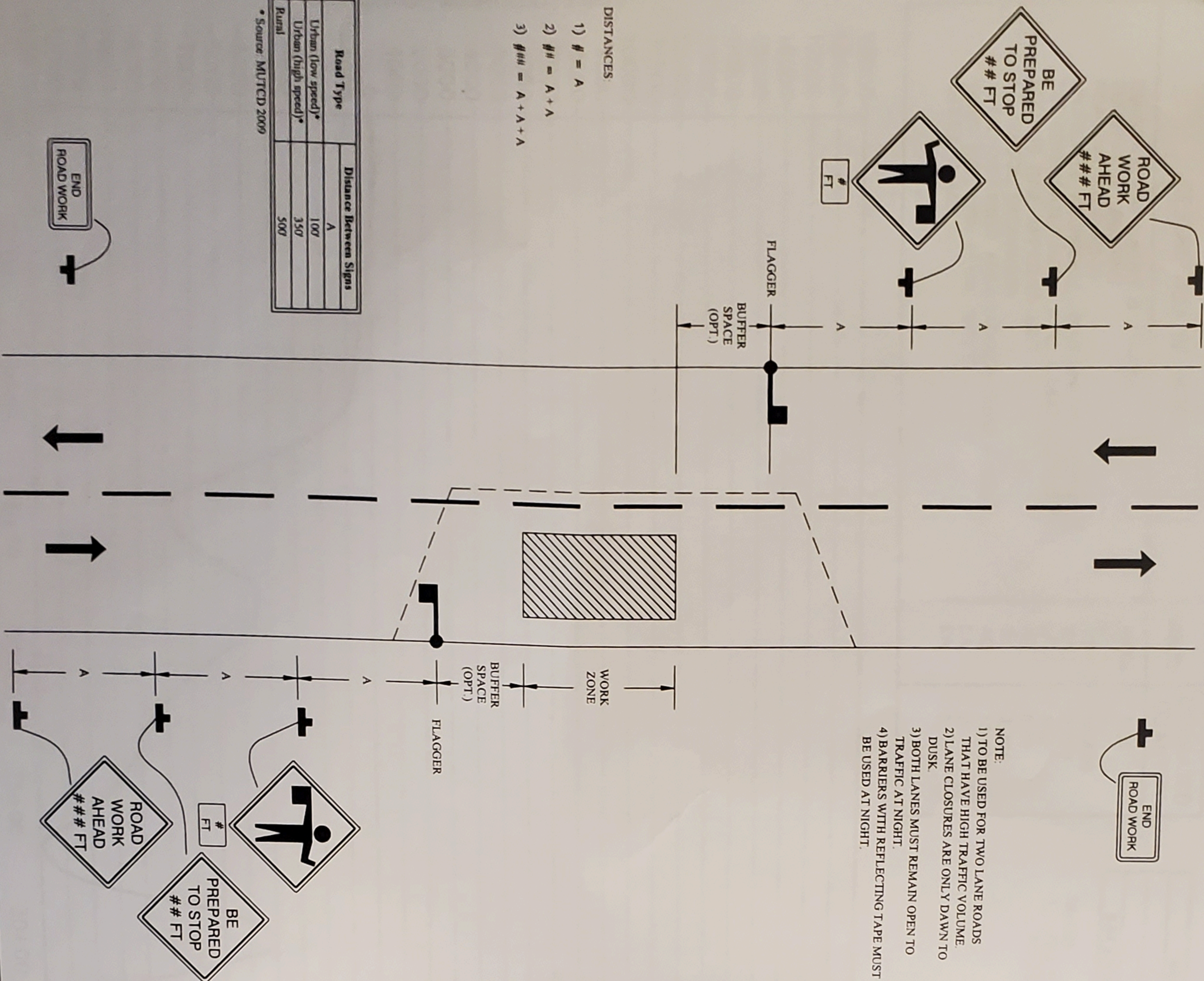
UELS, LLC  
Corporate Office \* 85 South 200 East  
Vernal, UT 84078 \* (435) 789-1017

DATE		BY		REVISIONS	
03-29-22		DCW		Update Disturbance Area	

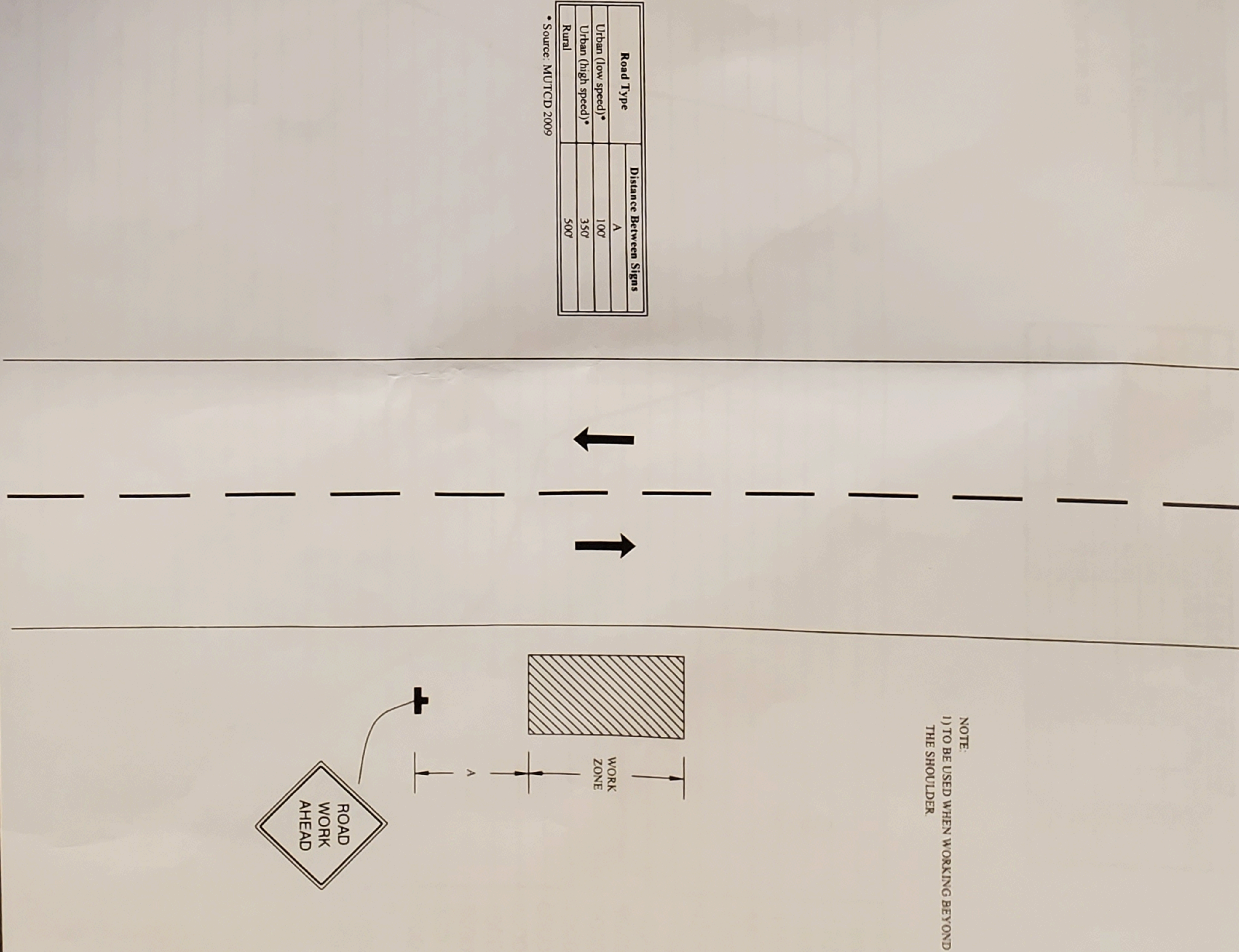
SCALE: As Shown		CAERUS PICEANCE LLC	
DRAWN BY: DCW		PCU FED B27 197	
E-FILE: B27 Road-4.dwg		PROPOSED ACCESS ROAD	
PROJECT NO: CAE01-22-0010		STORMWATER CONTROL DETAILS	
DRAWING DATE: 3-14-23		6	



WORK WITHIN TRAVELWAY - HIGH TRAFFIC VOLUME



WORK BEYOND THE SHOULDER - WITHIN RIGHT-OF-WAY





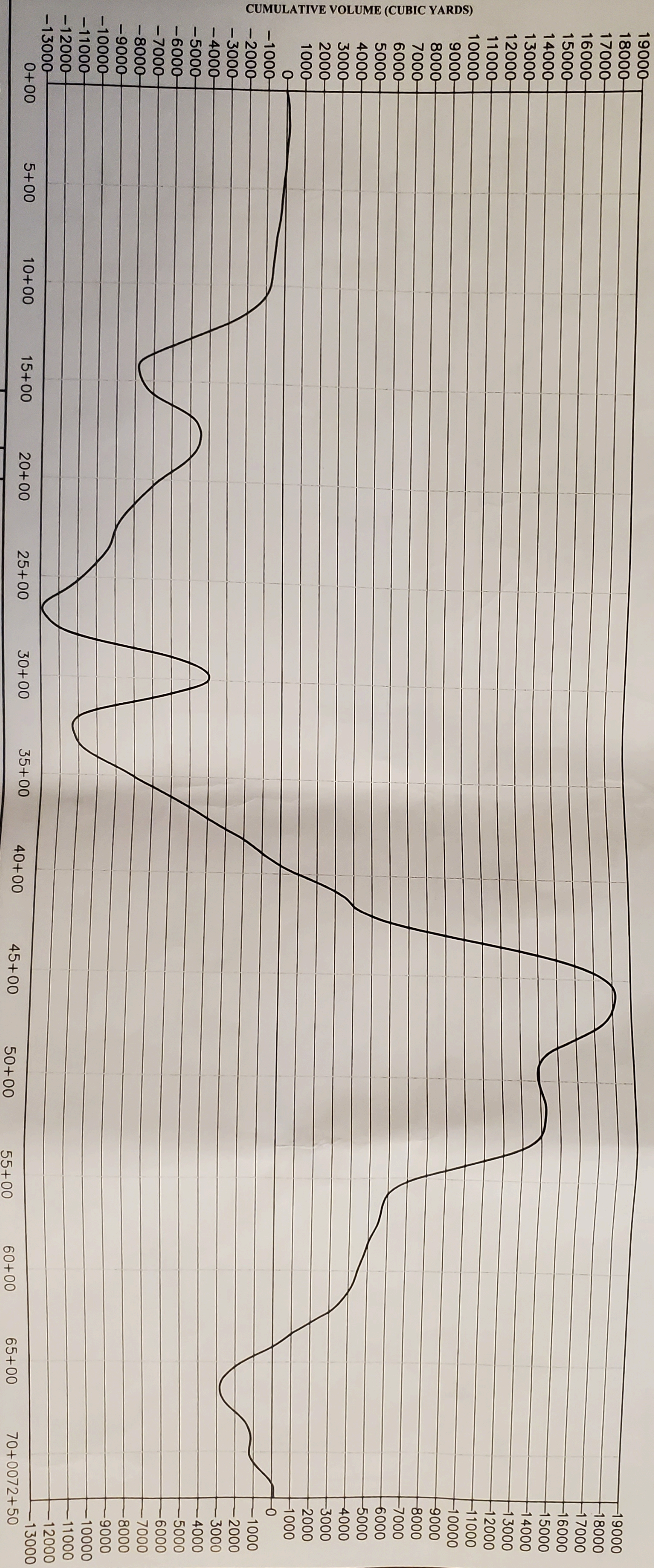
SCHEDULE OF ITEMS:

DESCRIPTION OF WORK	UNITS	ESTIMATED QUANTITY
CONSTRUCTION SURVEY & STAKING	MILES	1.36
CLEARING & GRUBBING	LS	1
ROADWAY EXCAVATION	CY	46,400
UNTREATED AGGREGATE, NEAT LINE 6" THICKNESS	CY	3,170
18" CORRUGATED METAL PIPE, 0.064" THICKNESS	LF	840
SEEDING (USE APPROVED MIX)	AC	6.71
6" TOPSOIL EXCAVATION	CY	2,396
TOTAL DISTURBED AREA (ACCESS ROAD - LOD)	EA	13,483
SIGNS (SEE SIGN DETAIL SHEET)	EA	3
CATTLE GUARD	EA	1

ROAD - APPROX. EARTHWORK QUANTITIES	
TOTAL CUT	46,400 Cu. Yds.
TOTAL FILL	46,400 Cu. Yds.
EXCESS/DEFICIT UNBALANCE	0 Cu. Yds.

NOTES:  
1. FILL QUANTITY INCLUDES A 10% FILL FACTOR TO ACCOUNT FOR COMPACTION.

STEEP SLOPE SCHEDULE (8.0% AND GREATER)			
GRADE	BEGIN STATION	END STATION	DISTANCE
8.0%	11+00	30+05	1905
8.0%	35+50	40+85	535
8% to 10% Transition	40+85	42+35	150
10.0%	42+35	43+85	150
10% to 8% Transition	43+85	45+35	150
8.0%	45+35	46+18	83
8.0%	64+00	69+90.57	590.57



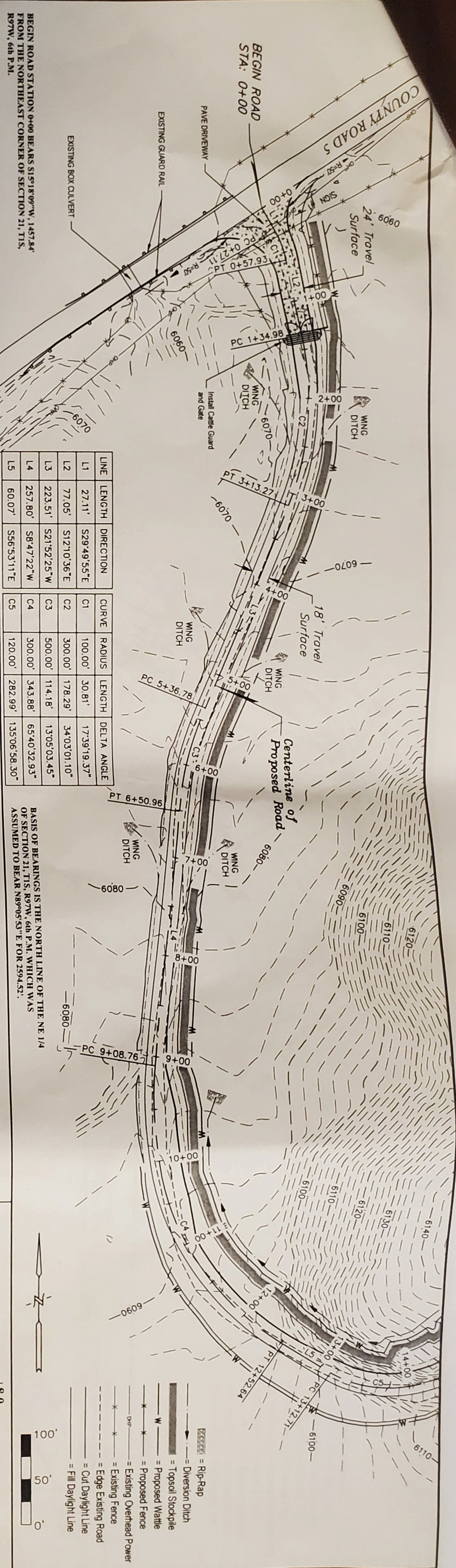
UEL, LLC  
Corporate Office \* 85 South 200 East  
Vernal, UT 84078 \* (435) 789-1017

DATE	BY	REVISIONS
03-29-22	DGW	Update Disturbance Area
09-28-23	A.T.	Add Topsoil Quantities

SCALE: As Shown
DRAWN BY: DGW
E-FILE: \B27 Road-4.dwg
PROJECT NO: CAE01-22-0010
DRAWING DATE: 3-14-23

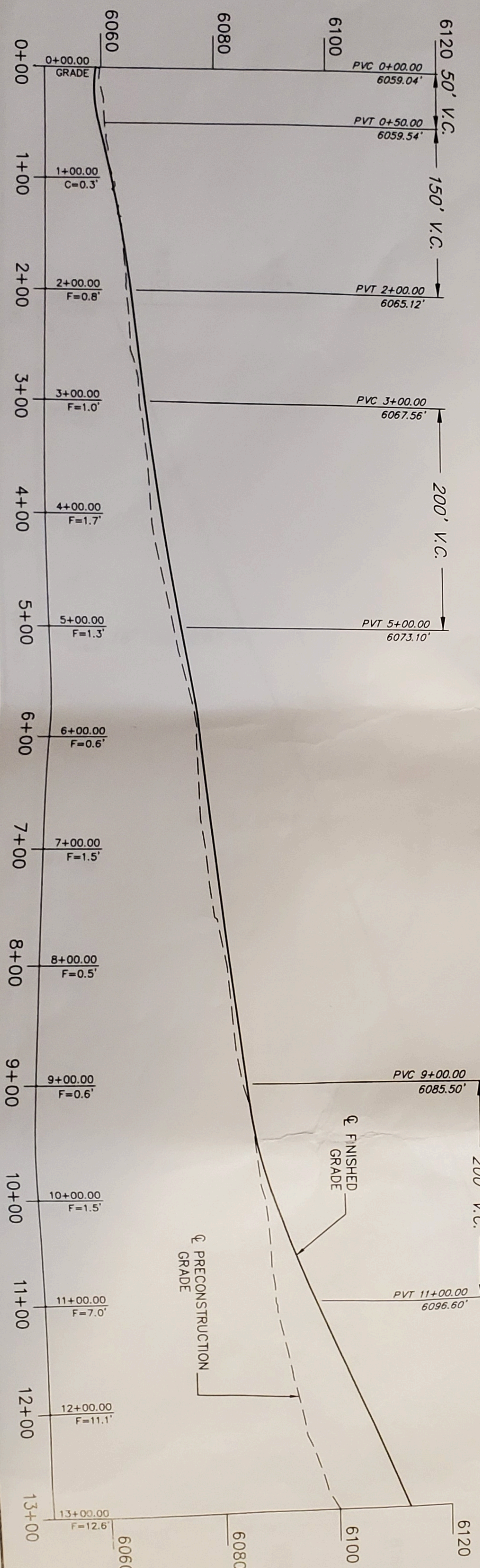
CAERUS PICEANCE LLC  
PCU FED B27 197  
PROPOSED ACCESS ROAD





LINE	LENGTH	DIRECTION	CURVE	RADIUS	LENGTH	DELTA ANGLE
L1	27.11'	S29°49'55"E	C1	100.00'	30.81'	17°39'19.37"
L2	77.05'	S12°10'36"E	C2	300.00'	178.29'	34°03'01.10"
L3	223.51'	S21°52'25"W	C3	500.00'	114.18'	13°05'03.45"
L4	257.80'	S8°47'22"W	C4	300.00'	343.88'	65°40'32.93"
L5	60.07'	S56°53'11"E	C5	120.00'	282.99'	135°06'58.30"

GRADE	TYE	SECTION	TRANSITION	TURNOUT	WIDEN CURVE 2'	WIDEN CURVE 7'
-3.0		"A"				
+5.0						
+2.4						
+3.1						
+8.0						



ENGINEERING & LAND SURVEYING

UELS, LLC

Corporate Office \* 85 South 200 East

Vernal, UT 84078 \* (435) 789-1017

DATE	BY	REVISIONS
03-29-22	DCW	Update Disturbance Area

SCALE: 1" = 100'

DRAWN BY: DCW

E-FILE: W27 Road-4.dwg

PROJECT NO: CAE01-22-0010

DRAWING DATE: 3-14-23

CAERUS PICEANCE LLC

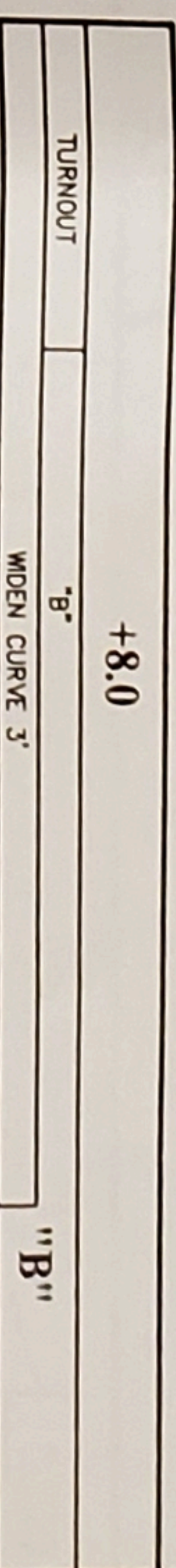
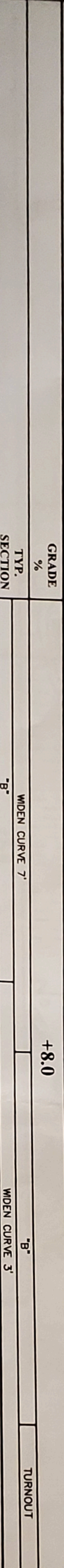
PCU FED B27 197

PROPOSED ACCESS ROAD

PLAN & PROFILE

P1





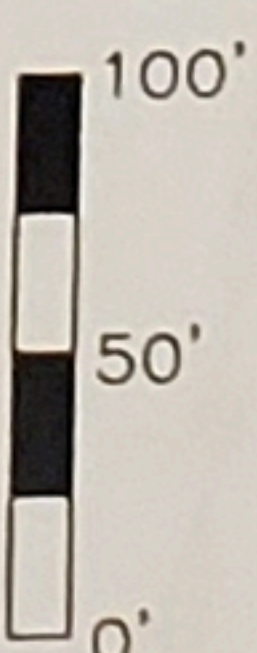


BASIS OF BEARINGS IS THE NORTH LINE OF THE NE 1/4 OF SECTION 21, T1S, R97N, 6th P.M., WHICH WAS ASSUMED TO BEAR N89°05'53"E FOR 2594.52'.

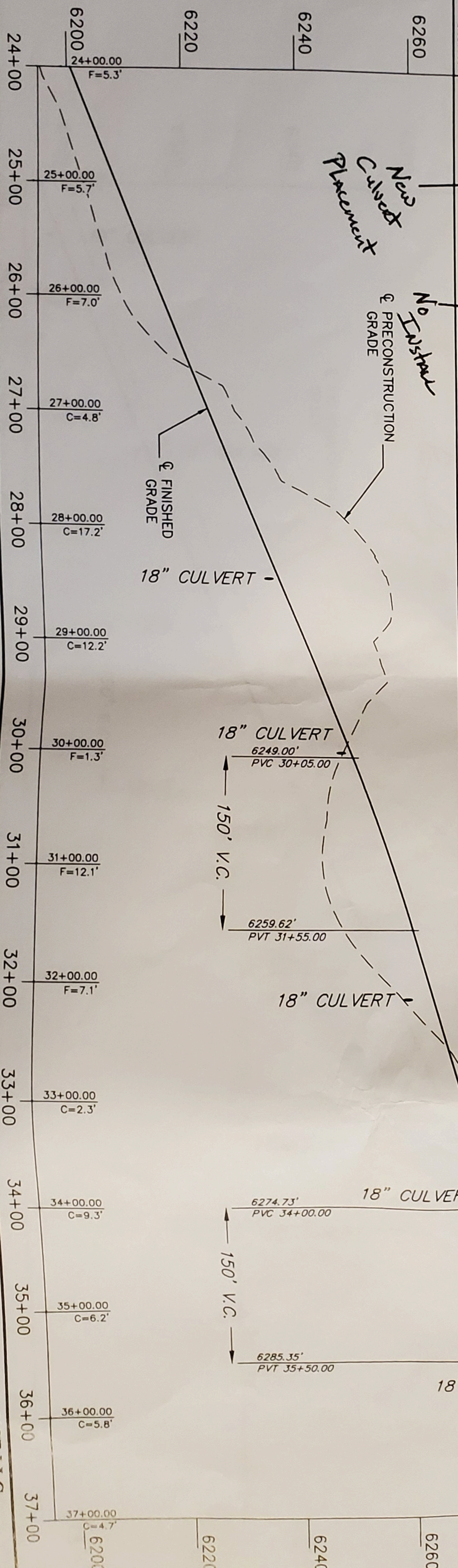
LINE	LENGTH	DIRECTION
L6	221.71'	S23°24'19"W
L7	131.91'	N27°01'32"E
L8	86.53'	S19°53'21"E
L9	178.94'	S11°40'53"E

CURVE	RADIUS	LENGTH	DELTA ANGLE
C6	200.00'	751.91'	215°24'27.71"
C7	100.00'	307.84'	176°22'46.99"
C8	135.00'	313.58'	133°05'07.32"
C9	1000.00'	143.25'	8°12'27.67"

- = Rip-Rap
- = Diversion Ditch
- = Topsoil Stockpile
- = Proposed Wall
- = Existing Fence
- = Existing Overhead Power
- = Existing Fence
- = Edge Existing Road
- = Cut Daylight Line
- = Fill Daylight Line



GRADE	%	TYP. SECTION
+8.0		"B"
+6.2		"B"



UELS, LLC  
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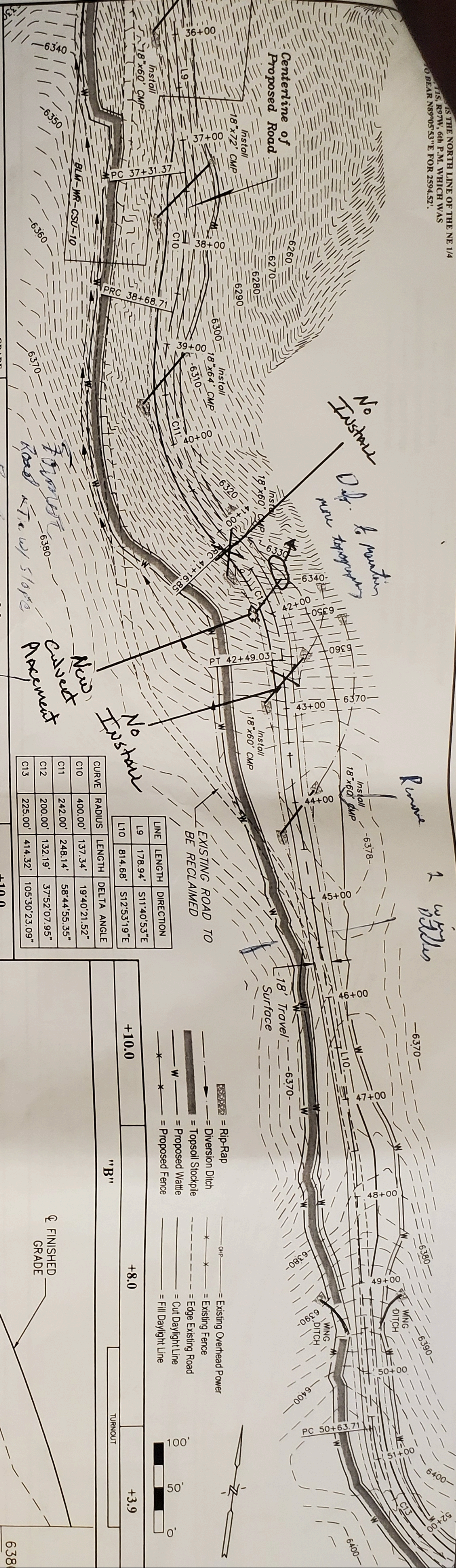
DATE	BY	REVISIONS
03-29-22	DCW	Update Disturbance Area

SCALE: 1" = 100'
DRAWN BY: DCW
E-FILE: 1827 Road-4.dwg
PROJECT NO: CAE01-22-0010
DRAWING DATE: 3-14-23

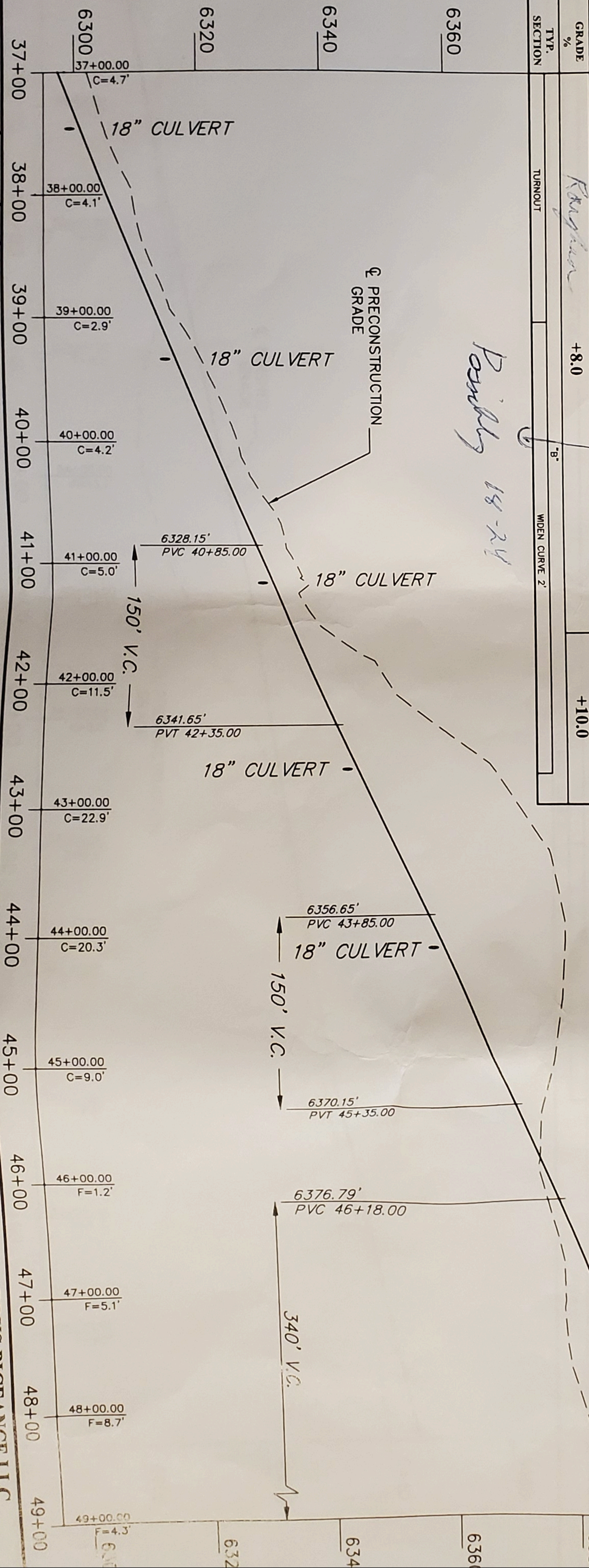
CAERUS PICEANCE LLC  
PCU FED B27 197  
PROPOSED ACCESS ROAD

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CURVE	RADIUS	LENGTH	DELTA	ANGLE
C10	400.00'	137.34'	19.40'	21.52"
C11	242.00'	248.14'	58.44'	55.35"
C12	200.00'	132.19'	37.52'	07.95"
C13	225.00'	414.32'	105.30'	23.09"



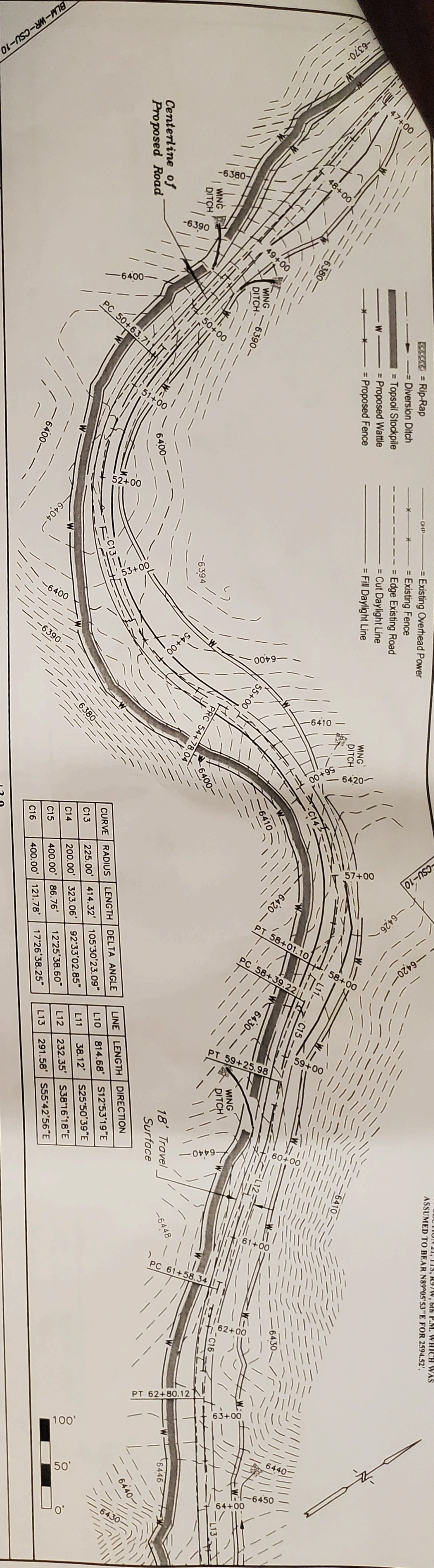


BASIS OF BEARINGS IS THE NORTH LINE OF THE NE 1/4  
OF SECTION 21, T1S, R97W, 6th P.M. WHICH WAS  
ASSUMED TO BEAR N89°05'53"E FOR 2594.52'.

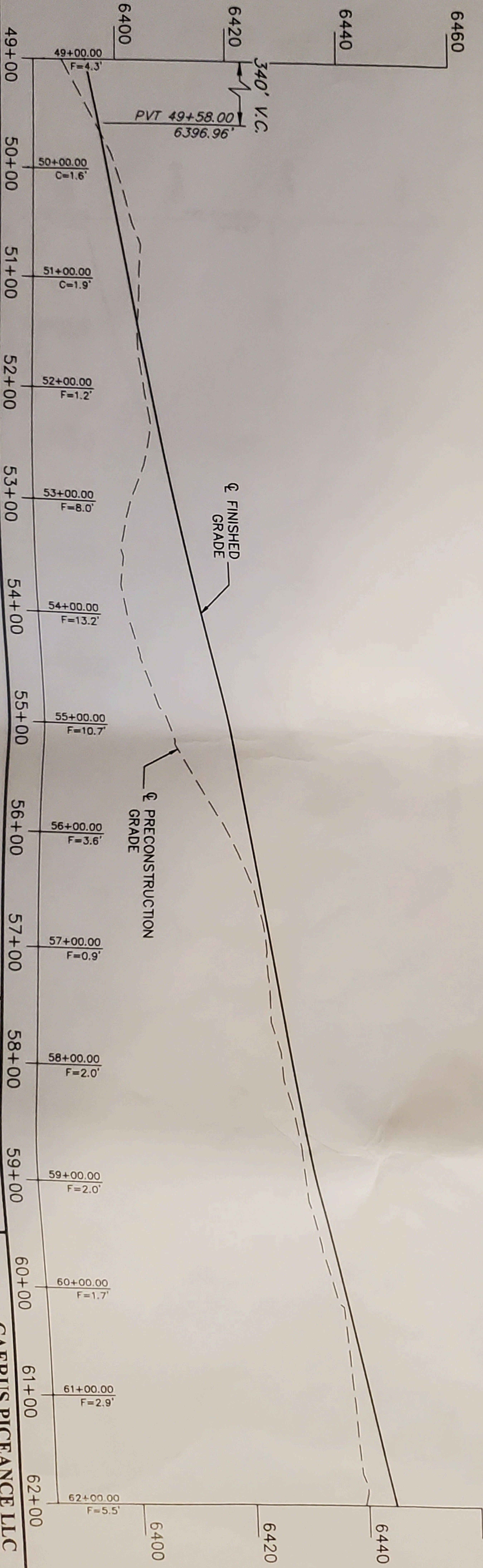
- Legend:
- = Rip-Rap
  - - - = Diversion Ditch
  - = Existing Fence
  - = Existing Overhead Power
  - = Topsoil Stockpile
  - = Edge Existing Road
  - = Proposed Watline
  - = Cut Daylight Line
  - = Proposed Fence
  - = Fill Daylight Line

CURVE	RADIUS	LENGTH	DELTA ANGLE
C13	225.00'	414.32'	105.30'23.09"
C14	200.00'	323.06'	92.33'02.85"
C15	400.00'	86.76'	12.25'38.60"
C16	400.00'	121.78'	17.26'38.25"

LINE	LENGTH	DIRECTION
L10	814.68'	S12.53'19"E
L11	38.12'	S25.50'39"E
L12	232.35'	S38'16"18"E
L13	291.58'	S55'42'56"E

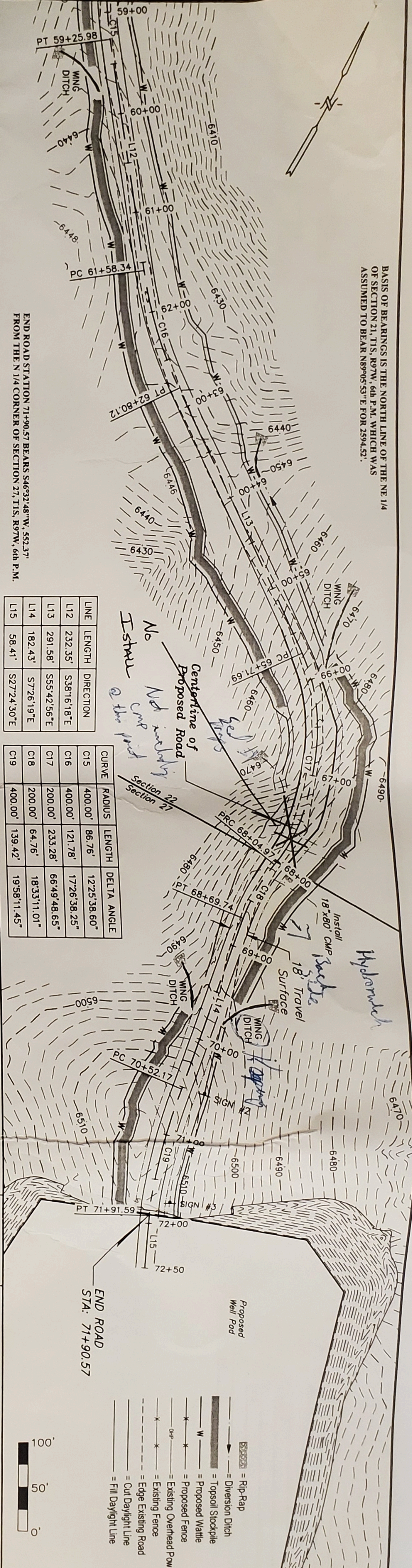


GRADE %	SECTION	WIDEN CURVE 2'	TURNOUT
6460	"B"		
6440	"B"		
6420	"B"		
6400	"B"		



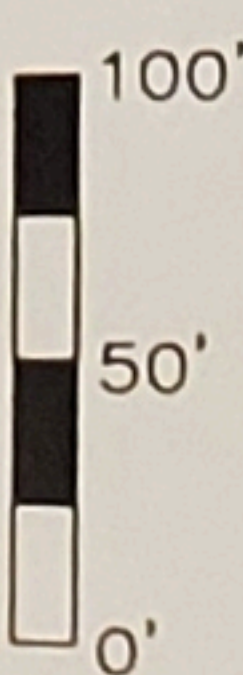


BASIS OF BEARINGS IS THE NORTH LINE OF THE NE 1/4 OF SECTION 21, T1S, R97W, 6th P.M. WHICH WAS ASSUMED TO BEAR N89°05'53"E FOR 2594.52'.



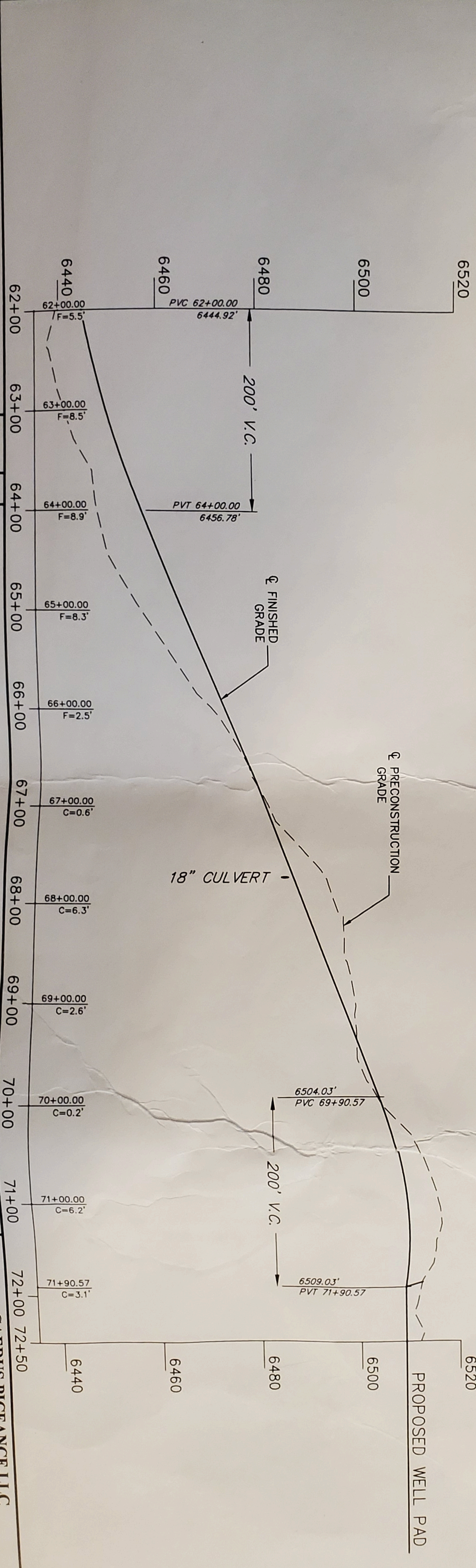
LINE	LENGTH	DIRECTION
L12	232.35'	S3816°18'E
L13	291.58'	S55°42'56"E
L14	182.43'	S726°19'E
L15	58.41'	S27°24'30"E

CURVE	RADIUS	LENGTH	DELTA ANGLE
C15	400.00'	86.76'	12°25'38.60"
C16	400.00'	121.78'	17°26'38.25"
C17	200.00'	233.28'	66°49'48.65"
C18	200.00'	64.76'	18°33'11.01"
C19	400.00'	139.42'	19°58'11.45"



- = Rip-Rap
- = Diversion Ditch
- = Topsoil Stockpile
- = Proposed Wall
- = Proposed Fence
- = Existing Overhead Power
- = Existing Fence
- = Edge Existing Road
- = Cut Daylight Line
- = Fill Daylight Line

GRADE %	+3.9	+8.0	-3.0
TYP. SECTION	"B"	"B"	"B"
TURNOUT		TURNOUT	
HIDDEN CURVE	3'	3'	



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DATE	BY	REVISIONS
03-29-22	DGW	Update Disturbance Area

SCALE: 1" = 100'  
DRAWN BY: DGW  
E-FILE: WB27 Road-4.dwg  
PROJECT NO: CAE01-22-0010  
DRAWING DATE: 3-14-23

CAERUS PICEANCE LLC  
PCU FED B27 197  
PROPOSED ACCESS ROAD  
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