

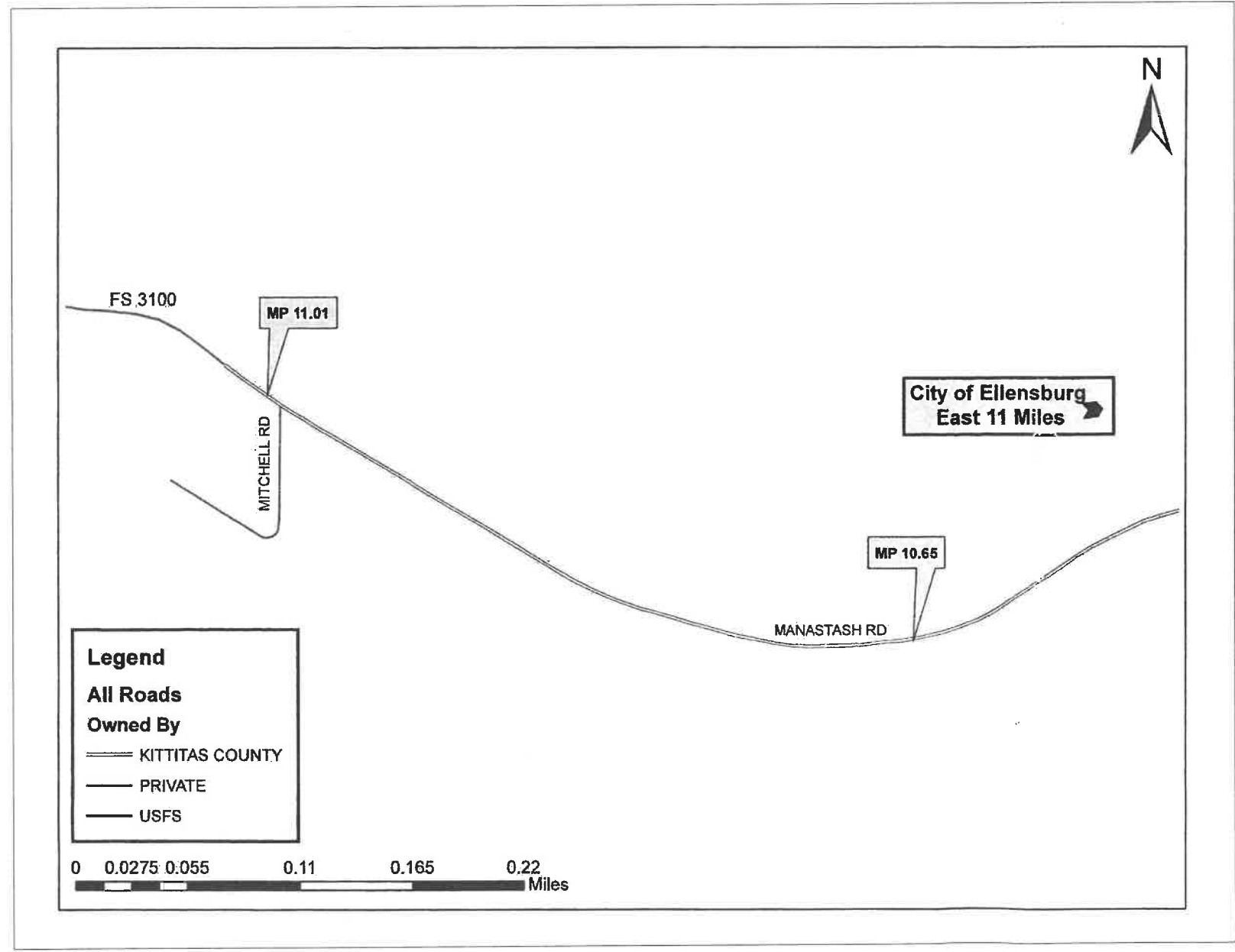
Kittitas County

Washington

Manastash Road

Creek Bank Stabilization and Snow Park Improvement

PT SE ¼ SEC 14. & SW ¼ SEC 15 T17N R16E, W.M.



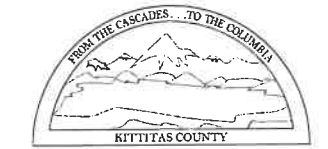


County Officials
 Brett Wachsmith
 Laura Osiadacz
 Cory Wright
 County Commissioners

Mark Cook, P.E.
 Public Works Director
 Josh Fredrickson, P.E.
 County Engineer

Sheet Index

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Manastash Rd		
Manastash Creek Bank Stabilization		
1/26/2023		
Designed By:	C. Curtis	
Entered By:	C. Curtis	
County Engineer:	J. Fredrickson	
P.W. Director:	M. Cook	
Revision	Date	By
 Know what's below. Call before you dig.		
		
		
Federal Aid No. FLAP-19DE(001)		
C.R.P. No. 273-16		

General Notes

The basis for control of work shall be as follows:

- A. It is the responsibility of the contractor to have an approved set of plans and any necessary permits on the job site wherever work is being accomplished.
- B. The county shall have the authority to enforce these plans and specifications, as well as all other referenced or pertinent specifications. The County Engineer will appoint designees, project engineers, assistants, and inspectors as necessary to inspect the work, and they will exercise such authority as the County Engineer may delegate.
- C. It is the responsibility of the contractor to notify the county in advance of beginning work on any project. A pre-construction meeting and/or field review shall be required before the commencement of work.
- D. Failure to comply with the provisions of these plans and specifications may result in stop work orders, removal of work accomplished, or other penalties as established by law.
- E. Provisions of Section 1-05 (Control of Work) of the WSDOT Standard Specifications, current edition, shall apply, with the term "Engineer" therein construed to be the County Engineer.
- F. Unless otherwise approved or directed, all construction work shall be done in accordance with the most current edition of WSDOT Standard Specifications.

Construction Notes

Construction sites shall be maintained for access, accessibility, and safety at all times. Site maintenance activities shall include, but are not limited to the following:

- A. On existing roads, two-way traffic and all existing lanes of traffic shall be maintained at all times unless detour and/or traffic control plans have been approved in advance by the County Engineer. See KCC 12.09.05 for construction traffic control requirements.
- B. Roads shall be kept free of dirt and debris.
- C. Pedestrian and bicycle facilities shall be kept free of obstructions, and in compliance with ADA guidelines.
- D. Drainage facilities shall be maintained to ensure proper function, and stormwater, erosion, and sedimentation control devices shall be maintained and fully functional at all times. See KCC 12.06.040 for stormwater requirements.

Abbreviations

- WSDOT = Washington State Department of Transportation
- KCC = Kittitas County Code
- HMA = Hot Mix Asphalt
- ADA = Americans with Disabilities Act
- ' = Foot/Feet
- " = Inch/Inches

Summary of Quantities

Bid Item Number	Quantity	Unit	Description	Reference
PREPARATION				
1	1	LS	MOBILIZATION	Std. 1-09.7
2	0.55	ACRE	CLEARING AND GRUBBING	Std. 2-01.1; Special 2-01.1
3	1	LS	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	Std. 2-02; Special 2-02.3
GRADING				
4	200	C.Y.	COMMON BORROW INCL. HAUL	Std. 2-03.5
5	1225	C.Y.	ROADWAY EXCAVATION INCL. HAUL	Std. 2-03.5; Special 8-19
DRAINAGE				
6	140	TON	QUARRY ROCK	Std. 8-15.5
7	1	L.S.	TEMPORARY STREAM DIVERSION	Std. 8-31.5
8	1675	C.Y.	ROCK FOR EROSION AND SCOUR PROTECTION CLASS B	Special 8-19
9	250	C.Y.	ROCK FOR EROSION AND SCOUR PROTECTION CLASS C	Special 8-19
10	7	EACH	LARGE WOODY STRUCTURE A	Special 8-26
11	6	EACH	LARGE WOODY STRUCTURE B	Special 8-26
SURFACING				
12	475	TON	CRUSHED SURFACING BASE COURSE	Std. 4-04.5
13	70	TON	PERMEABLE BALAST	Std. 8-15.5
HOT MIX ASPHALT				
14	260	TON	HMA CL. 1/2 IN. PG 64-28	Special 5-04.5
EROSION CONTROL				
15	1	DAY	ESC LEAD	Std. 8-01.5(2)
16	1	EST	EROSION AND WATER POLLUTION PREVENTION	Std. 8-01.5(1)
17	0.55	ACRE	SEEDING AND MULCHING	Std. 8-02.5
18	1400	L.F.	HIGH VISIBILITY SILT FENCE	Std. 8-01.5(2)
TRAFFIC				
19	425	L.F.	PAINT LINE	Std. 8-22.5
20	1	L.S.	TRAFFIC CONTROL	Std. 1-10.5(1)
21	175	L.F.	BEAM GUARDRAIL TYPE 31 - XX FT LONG POST	Std. 8-11.5
22	1	EACH	BEAM GUARDRAIL TYPE 31 NON-FLARED TERMINAL	Std. 8-11.5
23	1	EACH	BEAM GUARDRAIL ANCHOR TYPE 10	Std. 8-11.5
OTHER ITEMS				
24	1	L.S.	ROADWAY SURVEYING	Special 1-05.4
25	1	EST.	ROADSIDE CLEANUP	Std. 2-01.5
26	1	L.S.	TRIMMING AND CLEANUP	Std. 2-11.5
27	1	EST.	MINOR CHANGE	Special 1-04.4(1)
28	1	L.S.	SPCC PLAN	Std. 1-07.15(1)

Manastash Rd

Manastash Creek
Bank Stabilization

1/26/2023

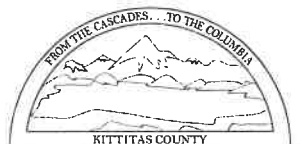
Designed By: C. Curtis

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County Engineer: J. Fredrickson

P.W. Director: M. Cook

Revision	Date	By



Federal Aid No.
FLAP-19DE(001)

C.R.P. No.
273-16

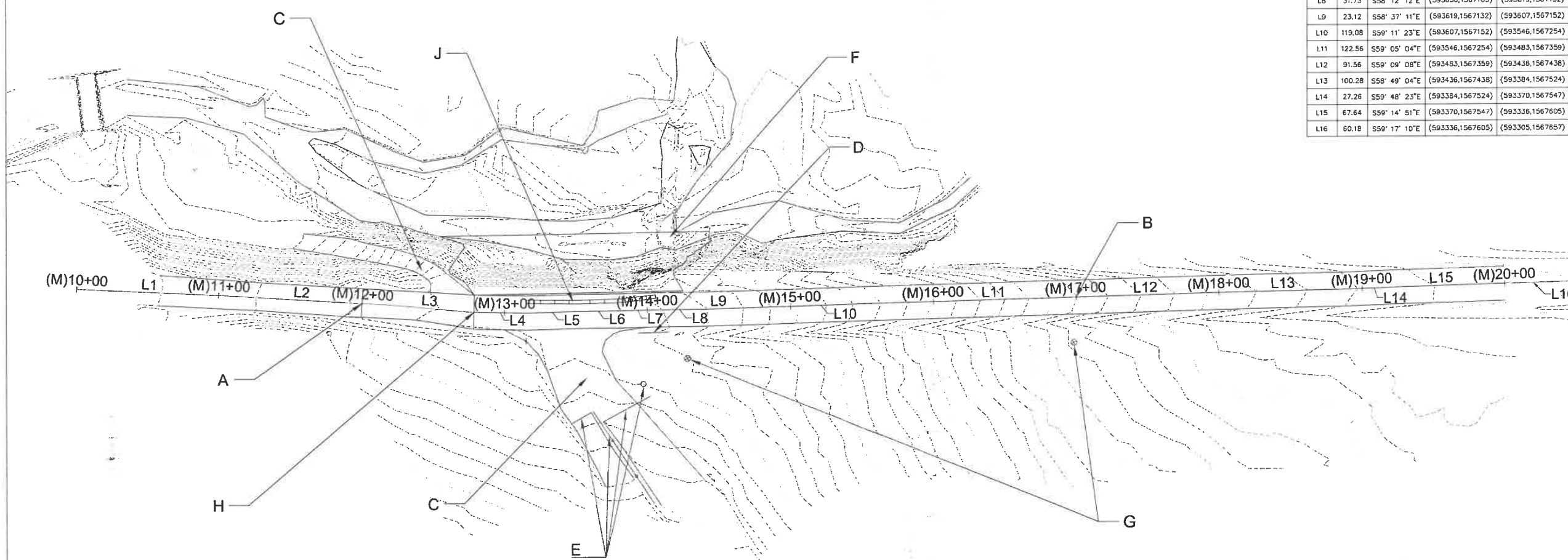
General Notes

GE-01 01 / 15

Manastash Washout

PT. SE ¼ SEC 14. & SW ¼ SEC 15 T17N R16E, W.M.

Line Table: (M) Line				
Line #	Length	Direction	Start Point	End Point
L1	100.56	S54° 47' 06"E	(593868,1566772)	(593810,1566854)
L2	115.17	S53° 52' 31"E	(593810,1566854)	(593742,1566947)
L3	62.74	S52° 26' 03"E	(593742,1566947)	(593703,1566996)
L4	37.29	S56° 24' 29"E	(593703,1566996)	(593683,1567028)
L5	35.76	S58° 58' 23"E	(593683,1567028)	(593664,1567058)
L6	28.64	S58° 04' 08"E	(593664,1567058)	(593649,1567082)
L7	26.42	S58° 55' 15"E	(593649,1567082)	(593636,1567105)
L8	31.73	S58° 12' 12"E	(593636,1567105)	(593619,1567132)
L9	23.12	S58° 37' 11"E	(593619,1567132)	(593607,1567152)
L10	119.08	S59° 11' 23"E	(593607,1567152)	(593546,1567254)
L11	122.56	S59° 05' 04"E	(593546,1567254)	(593483,1567359)
L12	91.56	S59° 08' 08"E	(593483,1567359)	(593438,1567438)
L13	100.28	S58° 49' 04"E	(593438,1567438)	(593384,1567524)
L14	27.26	S59° 48' 23"E	(593384,1567524)	(593370,1567547)
L15	67.64	S59° 14' 51"E	(593370,1567547)	(593336,1567605)
L16	60.18	S59° 17' 10"E	(593336,1567605)	(593305,1567657)

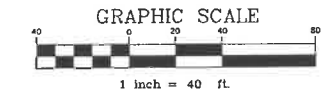


General Notes

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Construction Notes

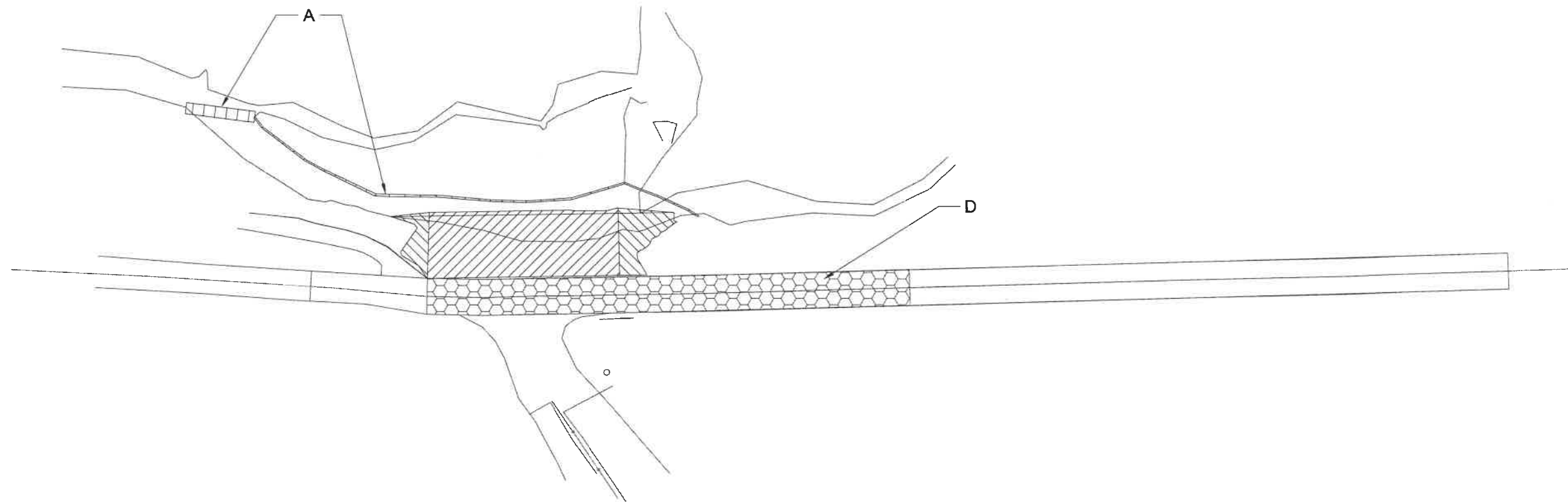
- Start of Project: Sta. (M)12+00 = N593751.03 E1566934.00 (See PP-01 for profile details)
- End of Project: Sta. (M)17+00 = N593484.52 E1567356.58 (See PP-01 for profile details)
- Existing Driveway: Access to driveways shall be maintained throughout the project.
- Existing mailbox to be temporarily moved during project.
- Existing infrastructure to be preserved and protected throughout project.
- Existing Log Jam in creek.
- Existing Over Head Utility Poles to be protected and preserved throughout project.
- End of County Road (end of pavement).
- Existing Signs to be protected and preserved throughout project
- Existing Jersey Barrier to be removed.



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County Engineer:	J. Fredrickson	
P.W. Director:	M. Cook	
Revision	Date	By
Federal Aid No. FLAP-19DE(001)		
C.R.P. No. 273-16		
Existing Conditions		
EX-01	02 / 15	

Manastash Washout

PT. SE 1/4 SEC 14. & SW 1/4 SEC 15 T17N R16E, W.M.

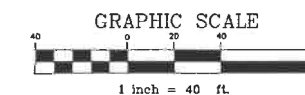


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Construction Notes

- A. Stream Diversion Structure
- Rock Revetment (Sta. (M)12+75 to Sta. (M)14+00)
 - Rock Revetment Transition Area, blend to match existing
 - HMA replacement (Sta. (M)12+75 to Sta. (M)17+00)



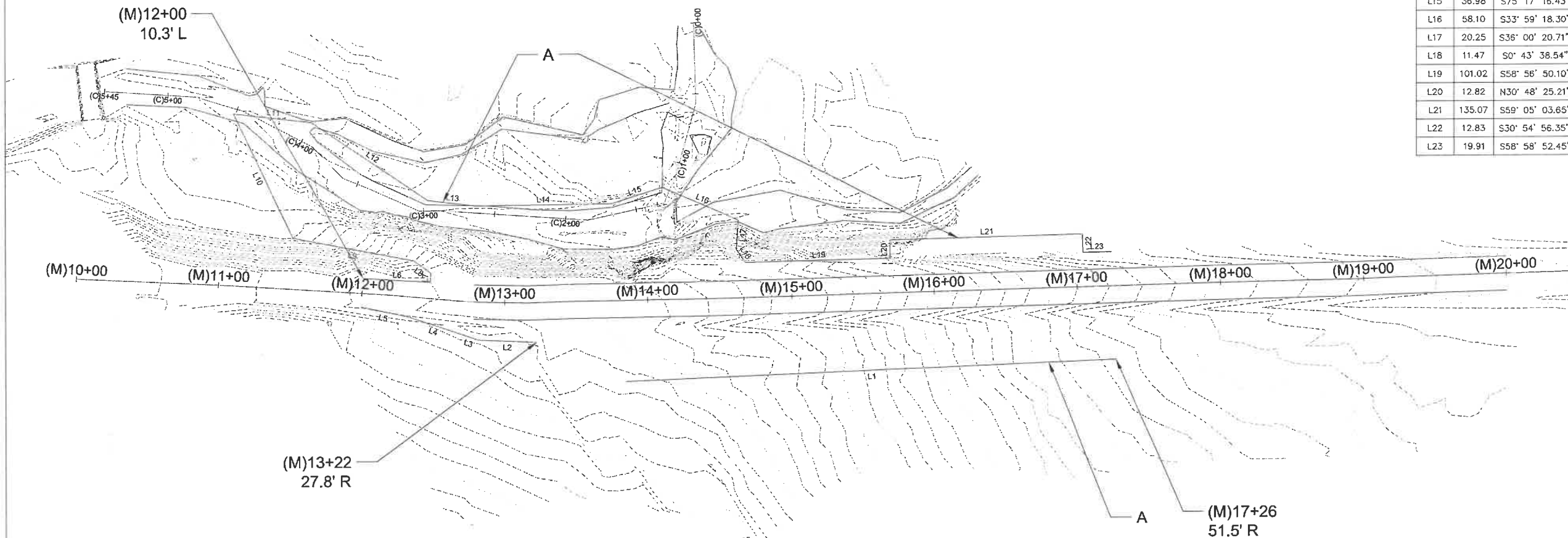
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1/26/2023		
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Revision	Date	By
Know what's below. Call before you dig.		
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C.R.P. No. 273-16		
Project Overview		
PO-01	03 / 15	

Manastash Washout

PT. SE ¼ SEC 14. & SW ¼ SEC 15 T17N R16E, W.M.



TESC Line Table		
Line #	Length	Direction
L1	342.33	N59° 53' 56.82"W
L2	40.83	N55° 15' 44.55"W
L3	11.95	N38° 23' 12.54"W
L4	40.39	N39° 06' 49.69"W
L5	33.02	N45° 25' 38.05"W
L6	46.77	S53° 56' 11.89"E
L7	6.39	N36° 05' 36.94"E
L8	14.66	N21° 06' 20.51"W
L9	85.65	N46° 34' 49.12"W
L10	96.85	N7° 22' 18.84"E
L11	54.18	S50° 56' 42.02"E
L12	98.15	S23° 12' 12.36"E
L13	34.02	S50° 52' 51.95"E
L14	94.77	S58° 13' 10.00"E
L15	36.98	S75° 17' 16.43"E
L16	58.10	S33° 59' 18.30"E
L17	20.25	S36° 00' 20.71"W
L18	11.47	S0° 43' 38.54"E
L19	101.02	S58° 56' 50.10"E
L20	12.82	N30° 48' 25.21"E
L21	135.07	S59° 05' 03.65"E
L22	12.83	S30° 54' 56.35"W
L23	19.91	S58° 58' 52.45"E



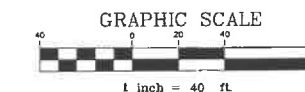
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5. Refer to the 2019 Department of Ecology Stormwater Management Manual for Eastern Washington.

Construction Notes

- A. High visibility silt fence per WSDOT standard plan I-30.17-01.
- B. Additional BMPs to be deployed as necessary

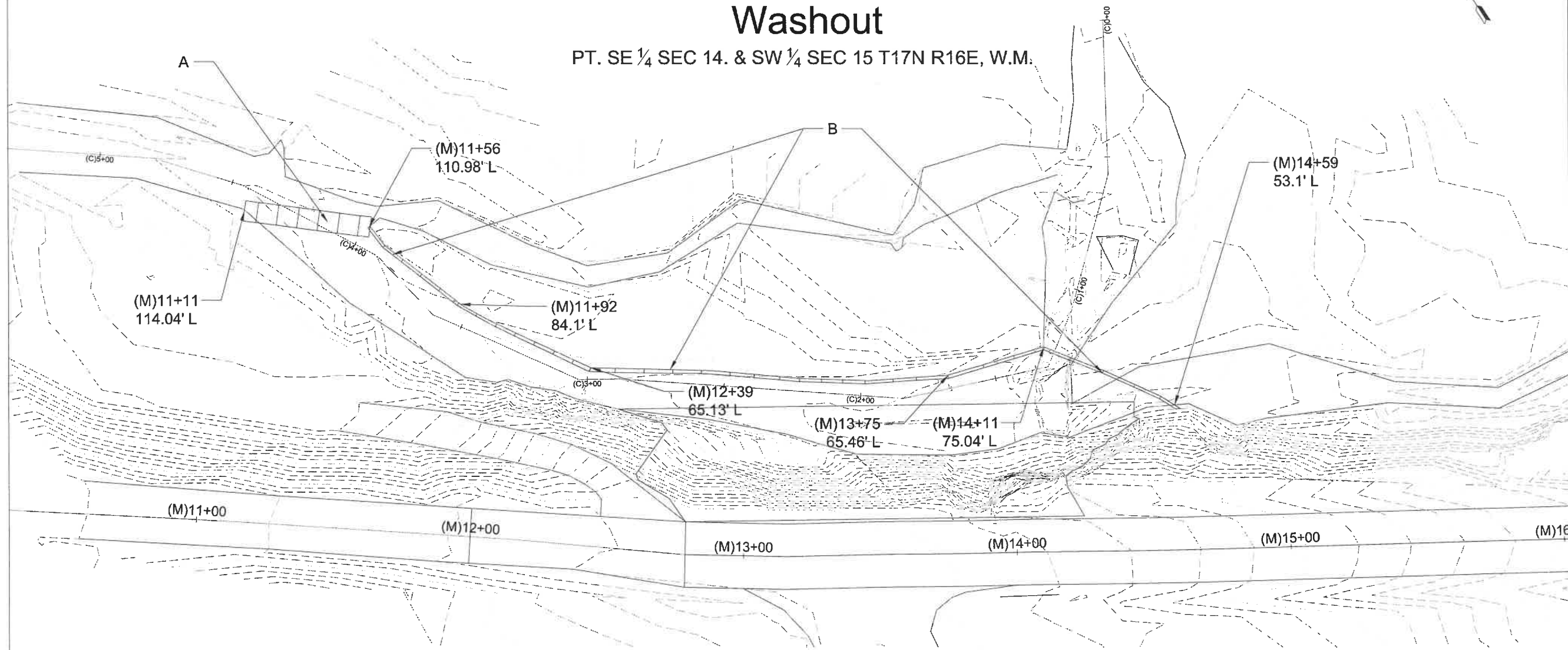
6. All sedimentation and erosion control facilities must be in operation prior to any construction activities to ensure that sediment laden water does not enter the natural drainage system. The implementation, maintenance, replacement and additions to the erosion and sedimentation control systems shall be the responsibility of the contractor.
7. The erosion and sedimentation control system facilities depicted on these plans are intended to be minimum requirements to meet anticipated site conditions. As construction progresses, additional facilities may be needed to ensure complete siltation control. It is the contractor's responsibility to address any conditions that may be created by construction activities or changing weather conditions, and to provide additional facilities as may be needed to protect sensitive areas or storm drainage systems.
8. The High Visibility Silt fence will delineate the clearing limits for this project.



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Revision	Date	By
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C.R.P. No. 273-16		
Temporary Erosion and Sediment Control		
TE-01	04 / 15	

Manastash Washout

PT. SE ¼ SEC 14. & SW ¼ SEC 15 T17N R16E, W.M.



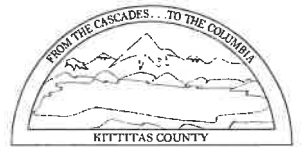
Manastash Rd

Manastash Creek
Bank Stabilization

1/26/2023

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Federal Aid No.
FLAP-19DE(001)

C.R.P. No.
273-16

Stream Bypass

BP-01 05 / 15

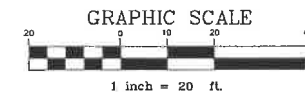
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- Refer to the 2019 Department of Ecology Stormwater Management Manual for Eastern Washington.

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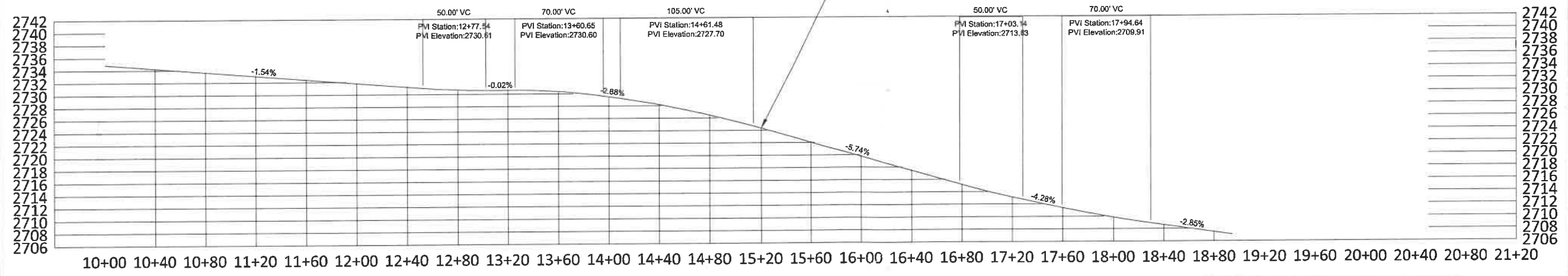
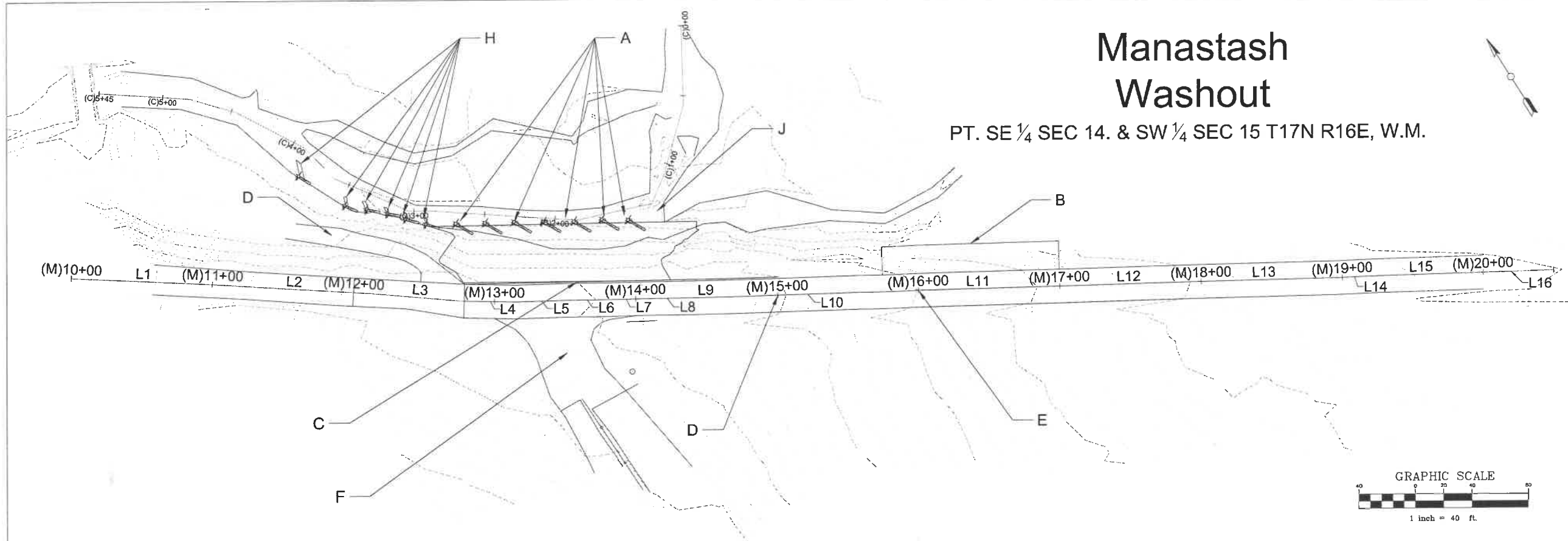
Construction Notes

- Bulk Bags for stream diversion (minimum height 40")
- Sandbag wall for stream diversion (minimum height 28")
- Station and offset data is given from the most recent survey, however the entire area is wetland and the creek boundary likely changes from season to season.



Manastash Washout

PT. SE 1/4 SEC 14. & SW 1/4 SEC 15 T17N R16E, W.M.



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L4	37.29	S56° 24' 29"E	(593703,1566996)	(593683,1567028)
L5	35.76	S58° 58' 23"E	(593683,1567028)	(593664,1567058)
L6	28.64	S58° 04' 08"E	(593664,1567058)	(593649,1567082)
L7	26.42	S58° 55' 15"E	(593649,1567082)	(593636,1567105)
L8	31.73	S58° 12' 12"E	(593636,1567105)	(593619,1567132)
L9	23.12	S58° 37' 11"E	(593619,1567132)	(593607,1567152)
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L14	27.26	S58° 48' 23"E	(593384,1567524)	(593370,1567547)
L15	67.64	S58° 14' 51"E	(593370,1567547)	(593336,1567605)
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- Where newly constructed paving meets existing paving, the contractor shall provide a butt-joint. Application of a thin tack coat of emulsified asphalt shall be applied to the existing vertical edge to ensure proper bonding.
- The completed surface shall meet the requirements of special provision 5-04.

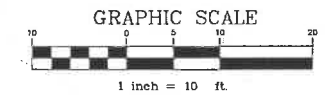
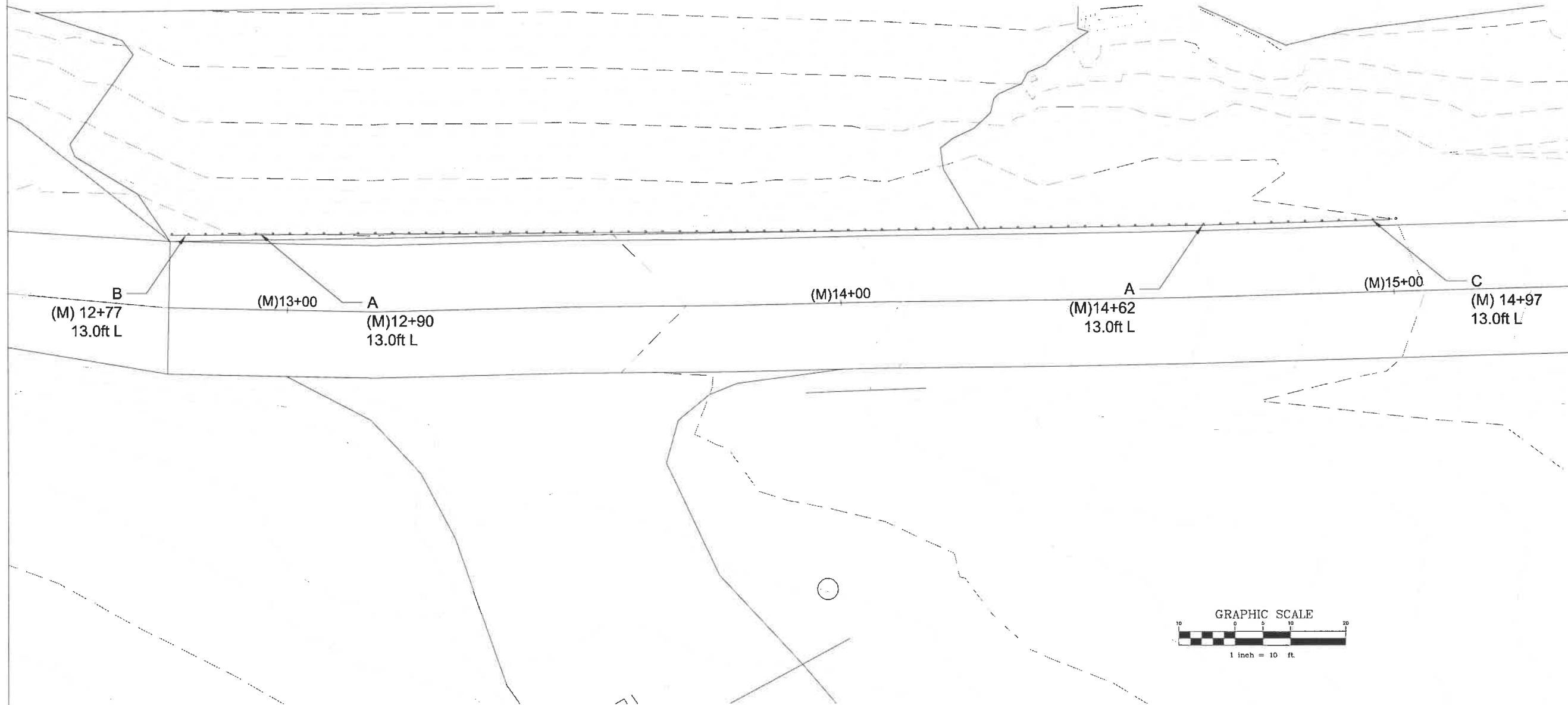
Construction Notes

- Large woody structures Type A. Typical spacing 20ft. See DT-02 for details.
- Area of required fill (minimum 3H:1V). Additional details in Special Provision #####
- Type 31 Beam Guardrail per WSDOT Standard Plan C-20.10-07. Details on GR-01.
- Begin Pavement Transition ((M)15+00).
- Paving Limits ((M)16+00), match existing cross slope
- Restore existing driveway with CSBC or material approved by property owners.
- Existing profile to be maintained.
- Rock barbs and Large Wood Material Type B. Typical spacing 15ft. See DT-03 for details.

Manastash Rd		
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1/26/2023		
Designed By:	C. Curtis	
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County Engineer:	J. Fredrickson	
P.W. Director:	M. Cook	
Revision	Date	By
Federal Aid No. FLAP-19DE(001)		
C.R.P. No. 273-16		
Plan and Profile		
PP-01	06 / 15	

Manastash Washout

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General Notes

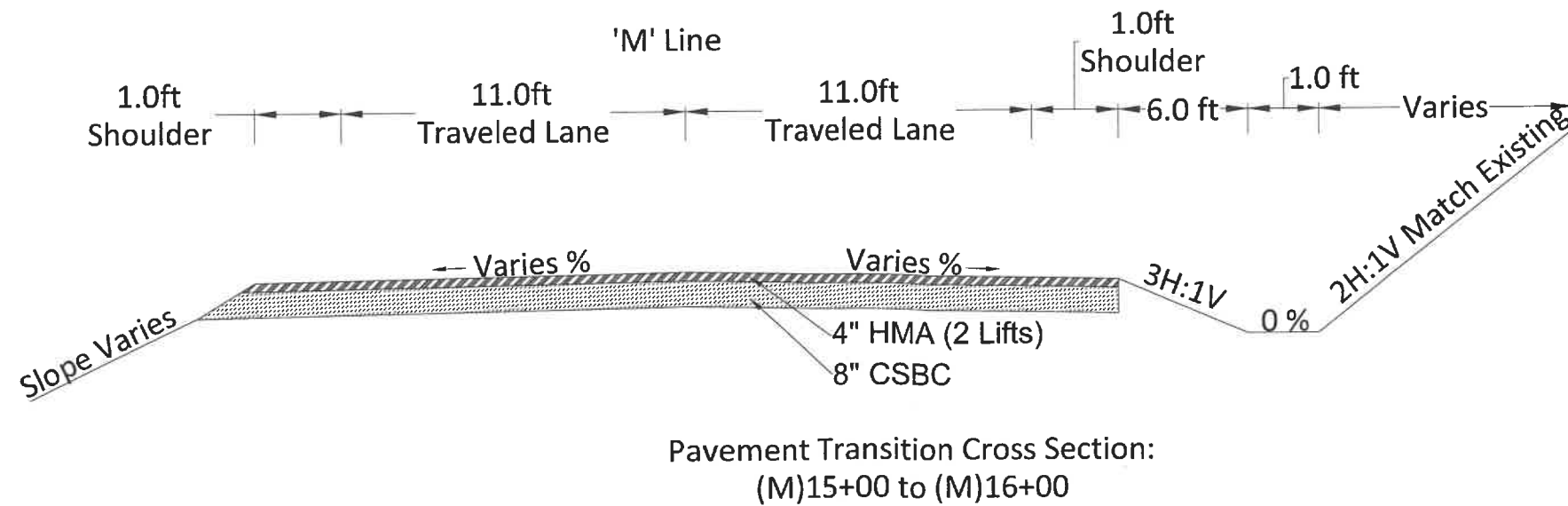
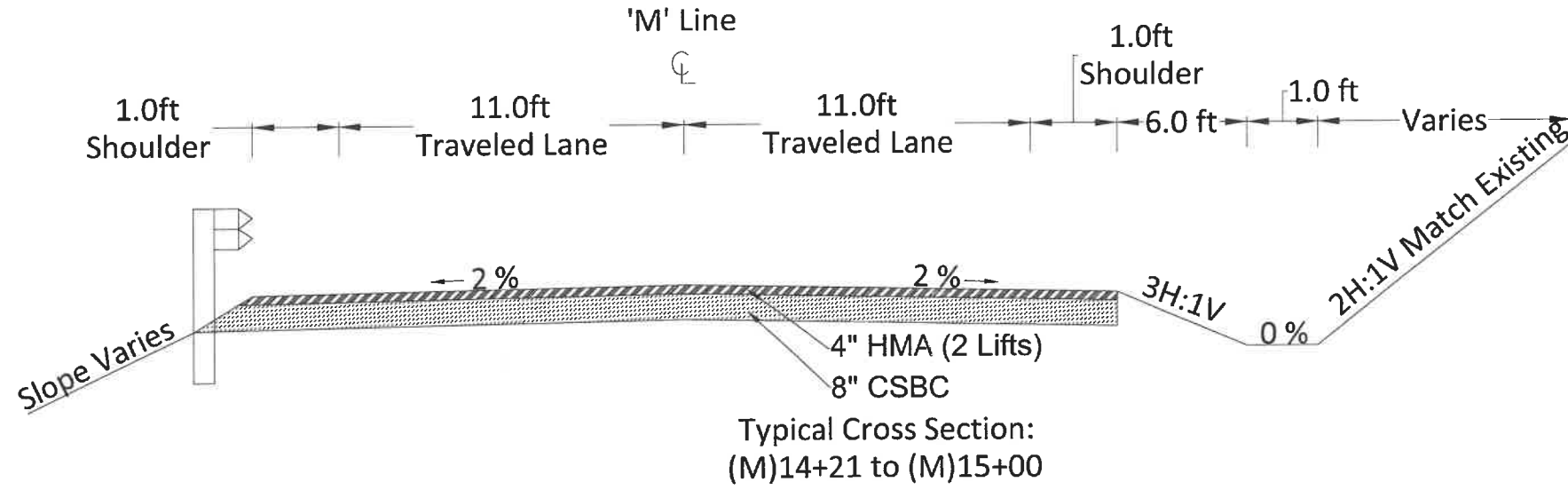
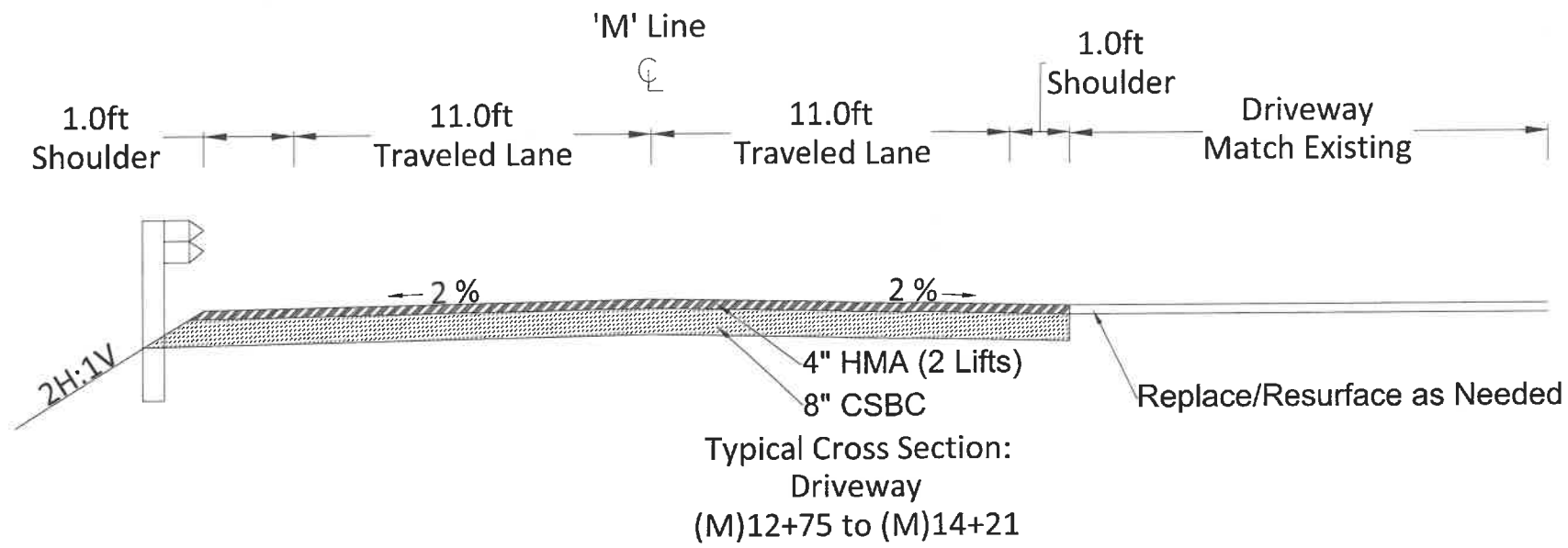
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Construction Notes

- A. Start Beam Guardrail Type 31 Sta. (M) 12+90. End Beam Guardrail Type 31 Sta (M) 14+65. Total length of GR 172.5ft (C-20.10-08). Station and offset to face of rail.
- B. Type 10 Anchor (C-23.60-04)
- C. Beam Guardrail Type 31 Non-Flared Terminal (C-22.45-06)

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Guardrail Plan		
GR-01	07 / 15	



Manastash Rd -

Manastash Creek

Bank Stabilization

1/26/2023

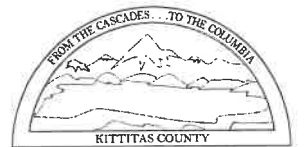
Designed By: C. Curtis

Entered By: C. Curtis

County Engineer: J. Fredrickson

P.W. Director: M. Cook

Revision	Date	By



Federal Aid No.
FLAP-19DE(001)

C.R.P. No.
273-16

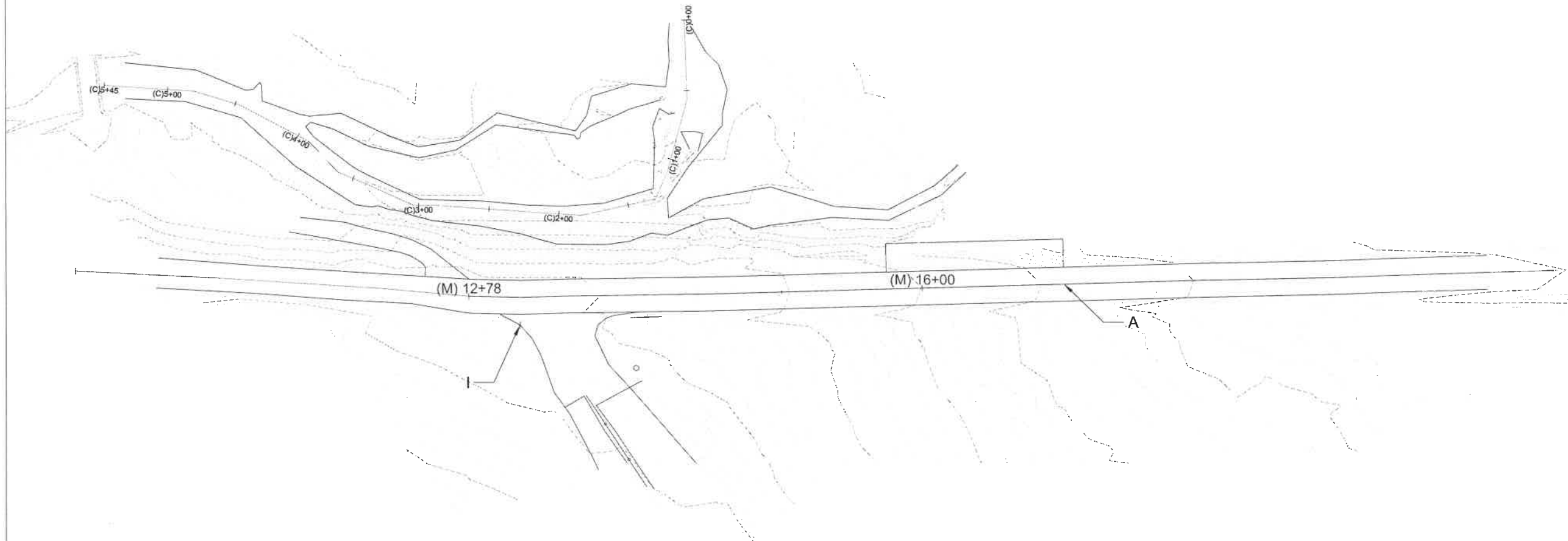
Typical Cross Sections

XS-01

08 / 15

Manastash Washout

PT. SE ¼ SEC 14. & SW ¼ SEC 15 T17N R16E, W.M.

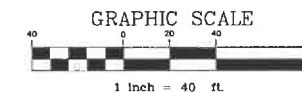


General Notes

1. All stationing is based on centerline of roadways unless otherwise noted.
2. Unless otherwise provided for in these plans and specifications, all materials and workmanship shall be in accordance with the requirements of the current edition of the State of Washington, Department of Transportation Standard Specifications for Road and Bridge Construction and Title 12 of the Kittitas County Code.
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Construction Notes

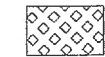
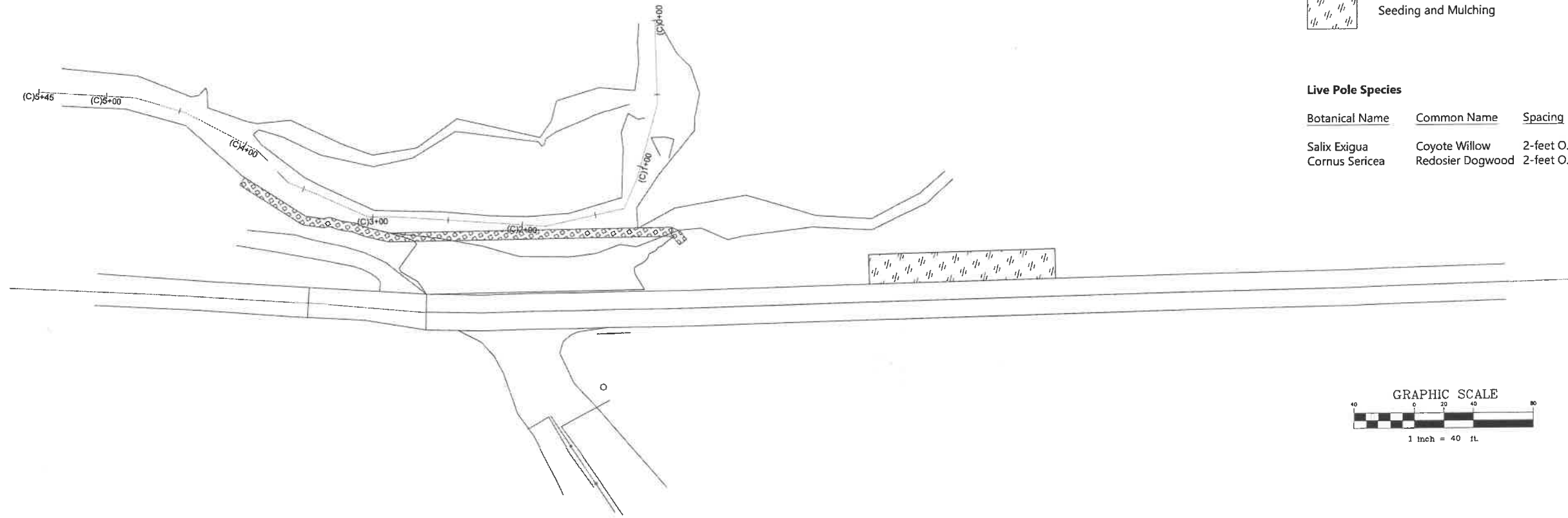
- A. Match existing striping from Sta. (M) 12+78 to Sta. (M) 16+00
- B. Existing 'End of County Road' sign to be reinstalled at same location (Sta. (M) 13+15 Offset: 19.7'R). All other signs to be protected and preserved throughout project.



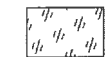
Manastash Rd		
Manastash Creek Bank Stabilization		
1/26/2023		
Designed By:	C. Curtis	
Entered By:	C. Curtis	
County Engineer:	J. Fredrickson	
P.W. Director:	M. Cook	
Revision	Date	By
Federal Aid No. FLAP-19DE(001)		
C.R.P. No. 273-16		
Striping and Sign Details		
SP-01	09 / 15	

Manastash Washout

PT. SE ¼ SEC 14. & SW ¼ SEC 15 T17N R16E, W.M.



Live Pole

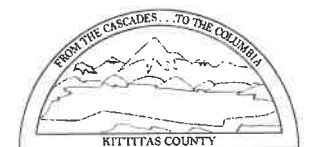


Seeding and Mulching

Live Pole Species

Botanical Name	Common Name	Spacing
Salix Exigua	Coyote Willow	2-feet O.C.
Cornus Sericea	Redosier Dogwood	2-feet O.C.

Revision	Date	By



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FLAP-19DE(001)

C.R.P. No.
273-16

Planting Schedule

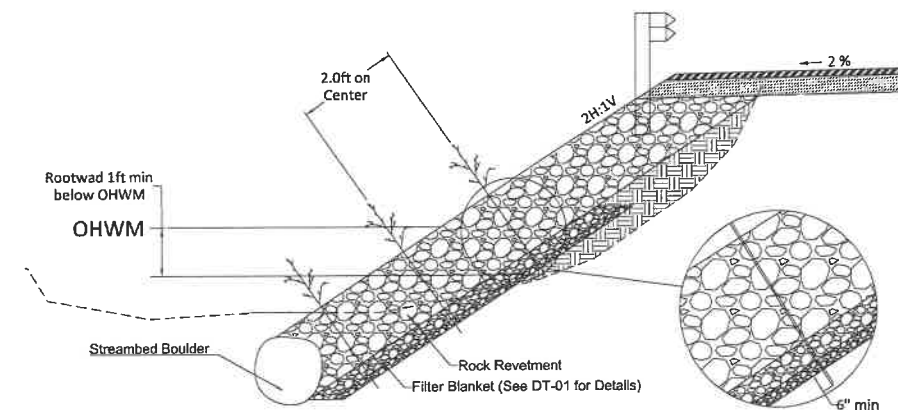
PS-01 10 / 15

General Notes

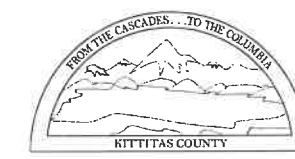
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Construction Notes

- Planting per schedule on this page. Additional Details in Special Provision #####
- Live poles shall be placed on the south bank of Manastash Creek from the toe of the slope to the ordinary high water mark. Seeding and mulching shall be placed on all areas of disturbed soil. Additional Details in Special Provision #####



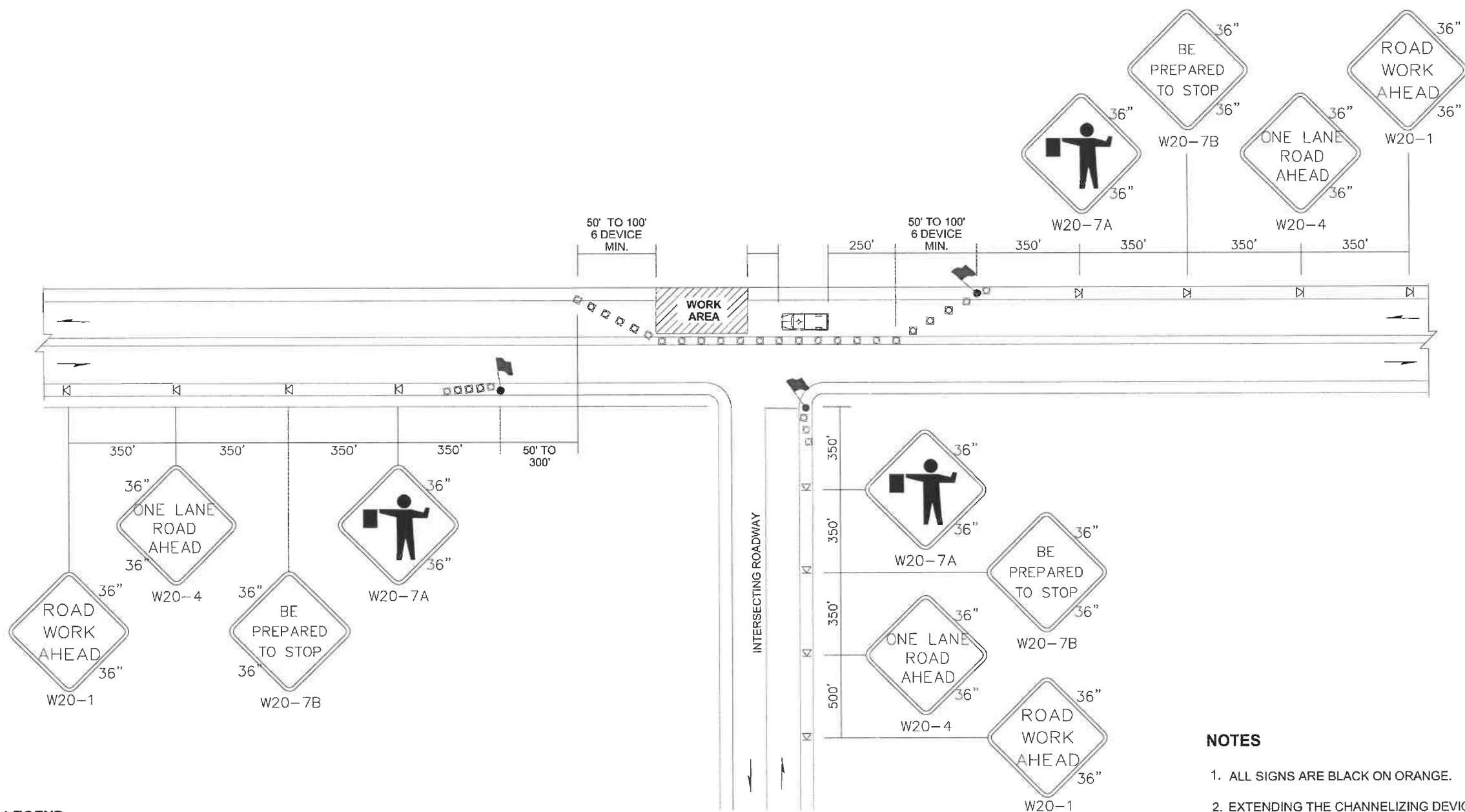
Revision	Date	By



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273-16

Cross Section



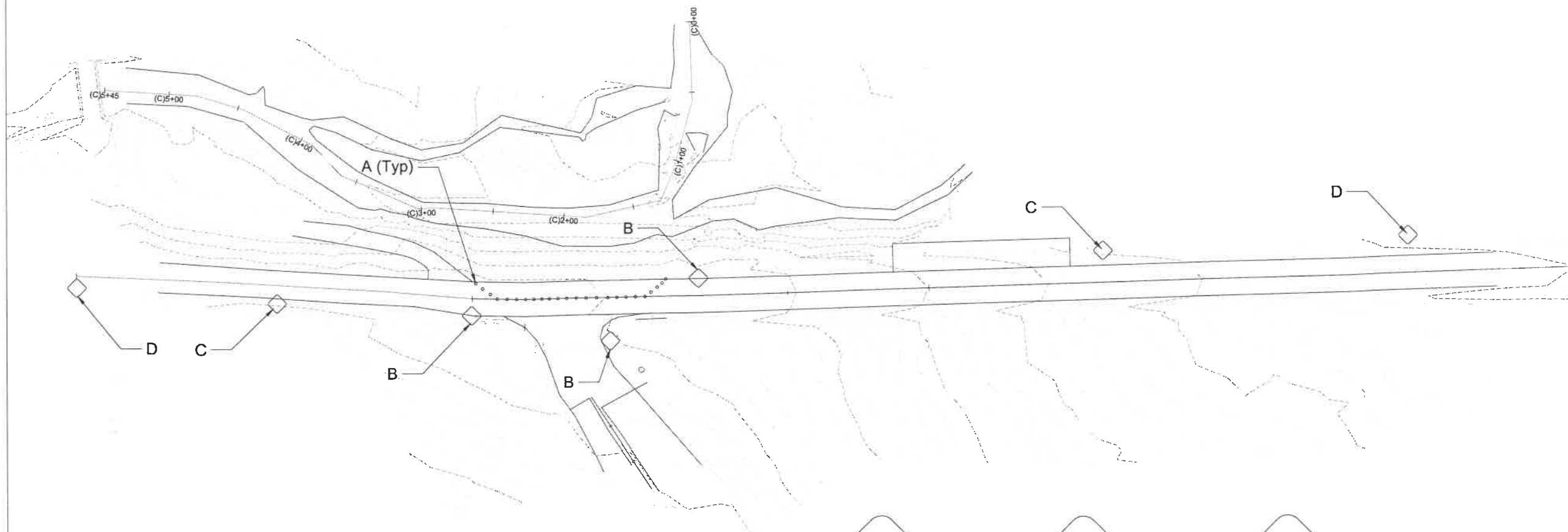
ONE-LANE, TWO-WAY TRAFFIC CONTROL WITH FLAGGERS
NOT TO SCALE

- LEGEND**
- FLAGGING STATION
 - TEMPORARY SIGN LOCATION
 - CHANNELIZING DEVICES
 - PROTECTIVE VEHICLE

- NOTES**
- ALL SIGNS ARE BLACK ON ORANGE.
 - EXTENDING THE CHANNELIZING DEVICE TAPER ACROSS SHOULDER IS RECOMMENDED.
 - SIGN W20-4 IS OPTIONAL ON 35 MPH ROADS.
 - NIGHT WORK REQUIRES ADDITIONAL ROADWAY LIGHTING AT FLAGGING STATIONS. SEE THE **STANDARD SPECIFICATIONS** FOR ADDITIONAL DETAILS.
 - SEE **SPECIAL PROVISIONS** FOR WORK HOUR RESTRICTIONS.

Manastash Washout

PT. SE ¼ SEC 14. & SW ¼ SEC 15 T17N R16E, W.M.

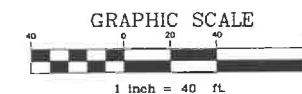


General Notes

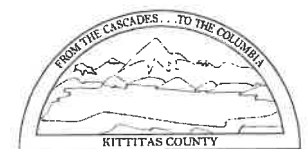
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Construction Notes

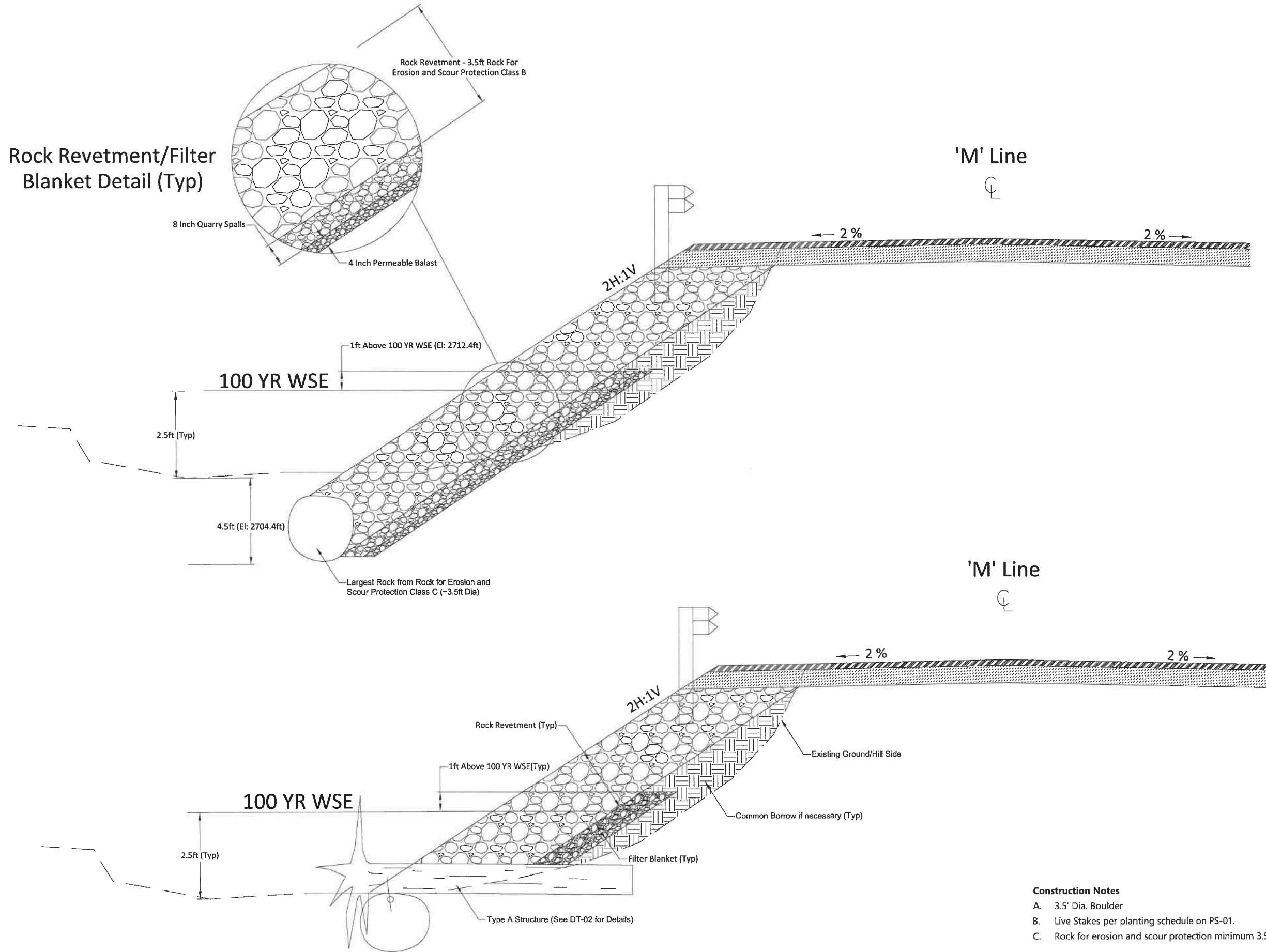
- A. Traffic Barrel
- B. "Yield to Oncoming Traffic" Class A Sign
- C. "One Lane Road Ahead" Class A Sign
- D. "Traffic Revision Ahead" Class A Sign



Manastash Rd		
Manastash Creek Bank Stabilization		
1/26/2023		
Designed By:	C. Curtis	
Entered By:	C. Curtis	
County Engineer:	J. Fredrickson	
P.W. Director:	M. Cook	
Revision	Date	By



Federal Aid No. FLAP-19DE(001)	
C.R.P. No. 273-16	
After Hours Traffic Control	
TC-02	12 / 15



- Construction Notes**
- A. 3.5' Dia. Boulder
 - B. Live Stakes per planting schedule on PS-01.
 - C. Rock for erosion and scour protection minimum 3.5' deep.

Manastash Rd

Manastash Creek
Bank Stabilization

1/26/2023

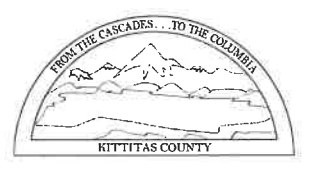
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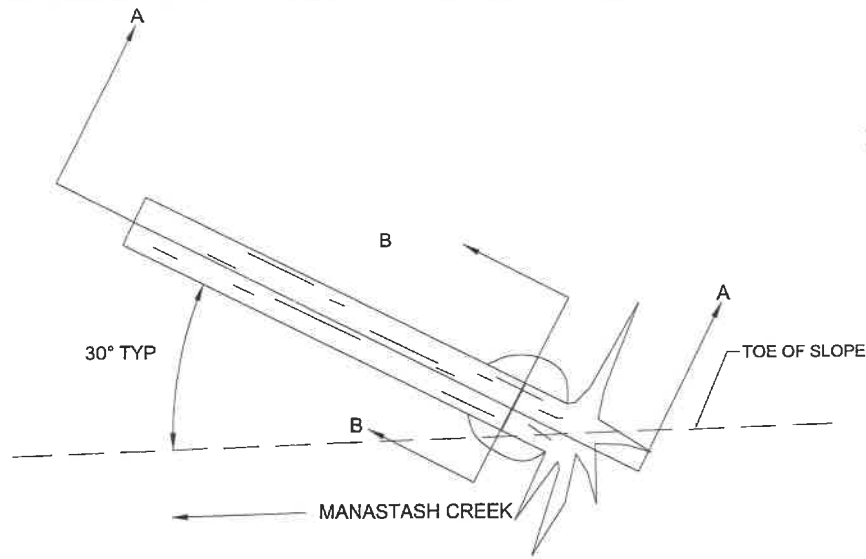
Revision	Date	By



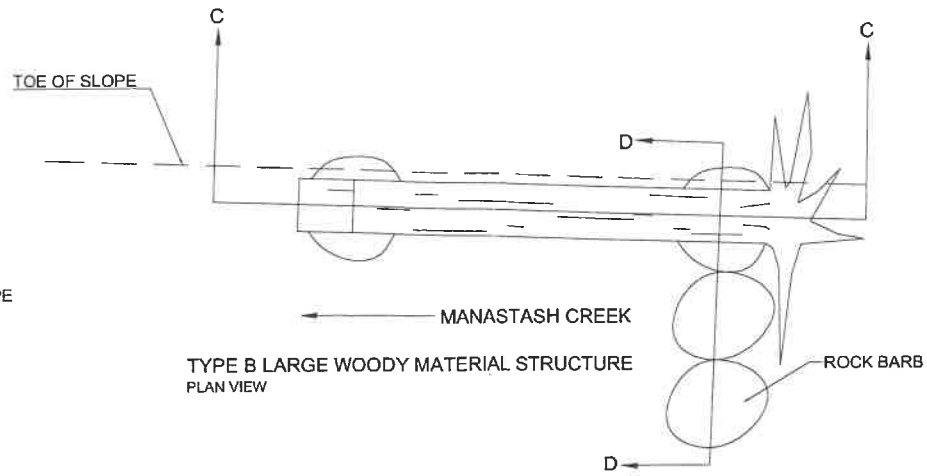
Federal Aid No.
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273-16

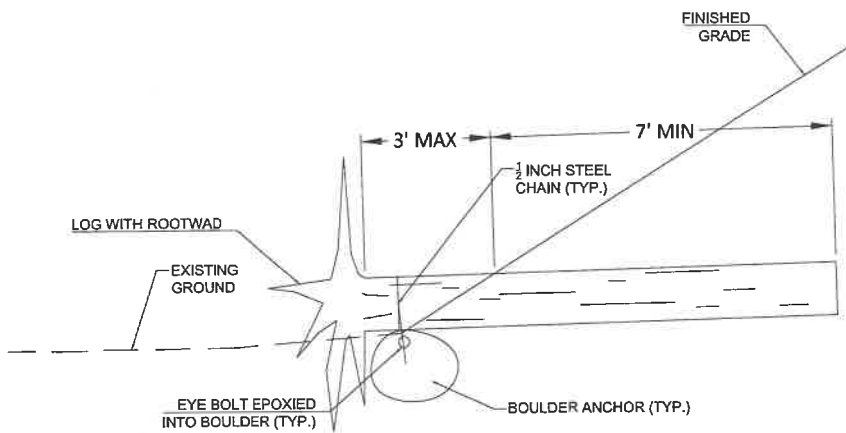
Hydraulic Structures



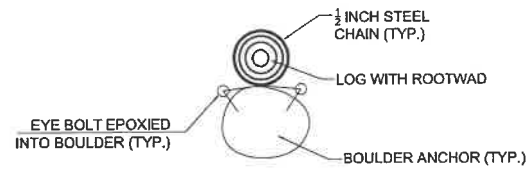
TYPE A LARGE WOODY MATERIAL STRUCTURE
PLAN VIEW



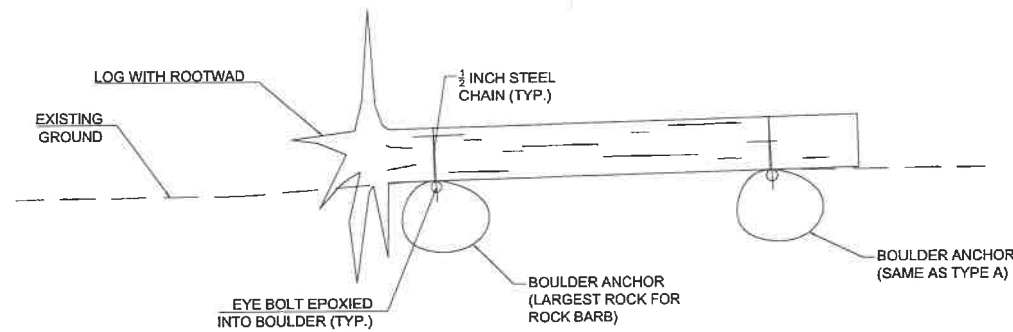
TYPE B LARGE WOODY MATERIAL STRUCTURE
PLAN VIEW



TYPE A LARGE WOODY MATERIAL STRUCTURE
SECTION A-A

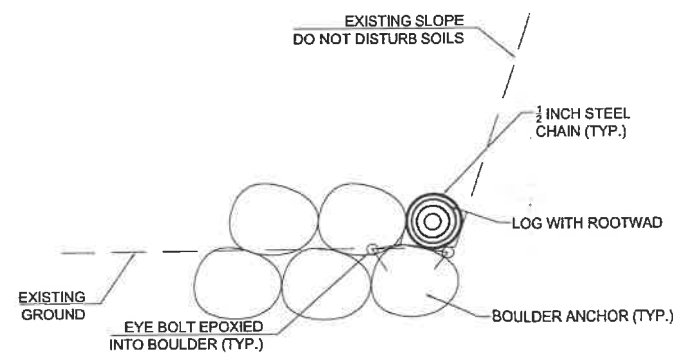
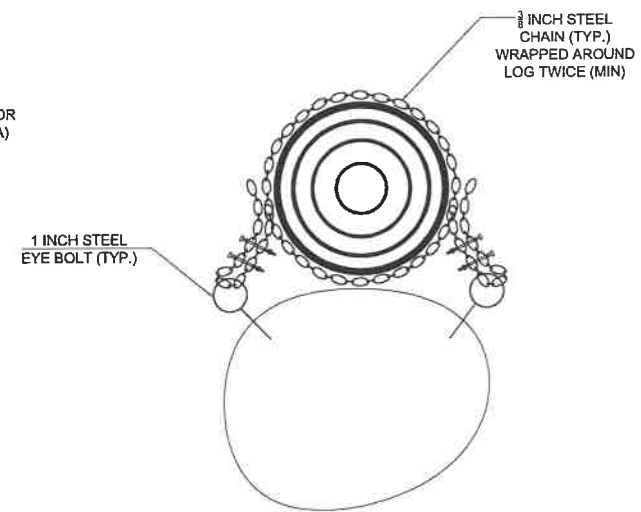


TYPE A LARGE WOODY MATERIAL STRUCTURE
SECTION B-B

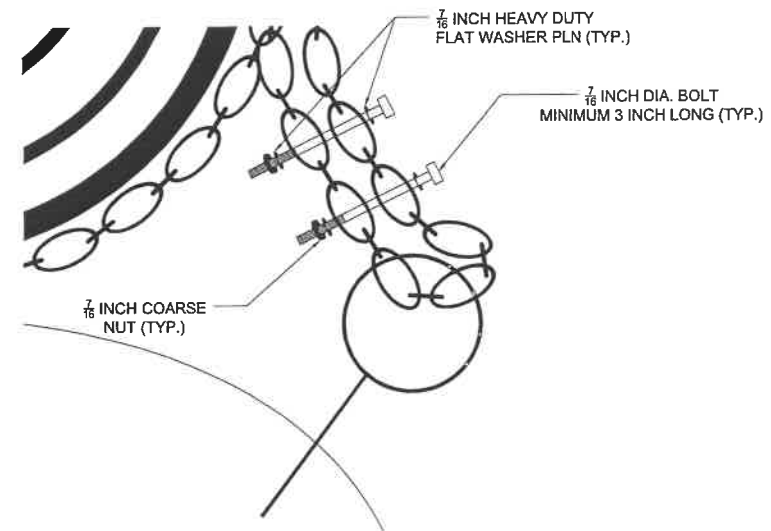


TYPE B LARGE WOODY MATERIAL STRUCTURE
SECTION C-C

ANCHOR BOULDER DETAIL



TYPE B LARGE WOODY MATERIAL STRUCTURE
SECTION D-D



**Additional details in Special Provision 8-26

Manastash Rd

Manastash

Washout

1/26/2023

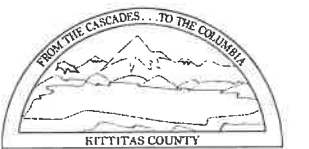
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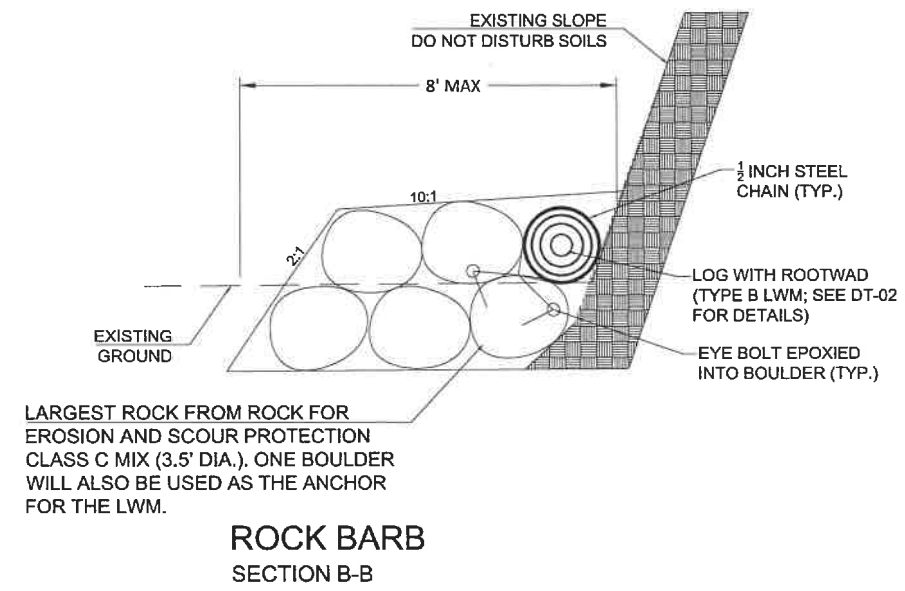
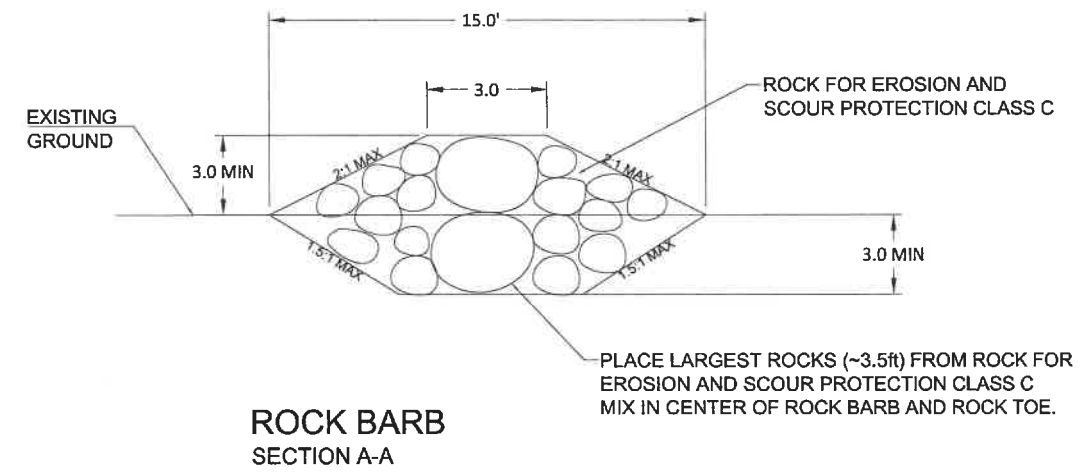
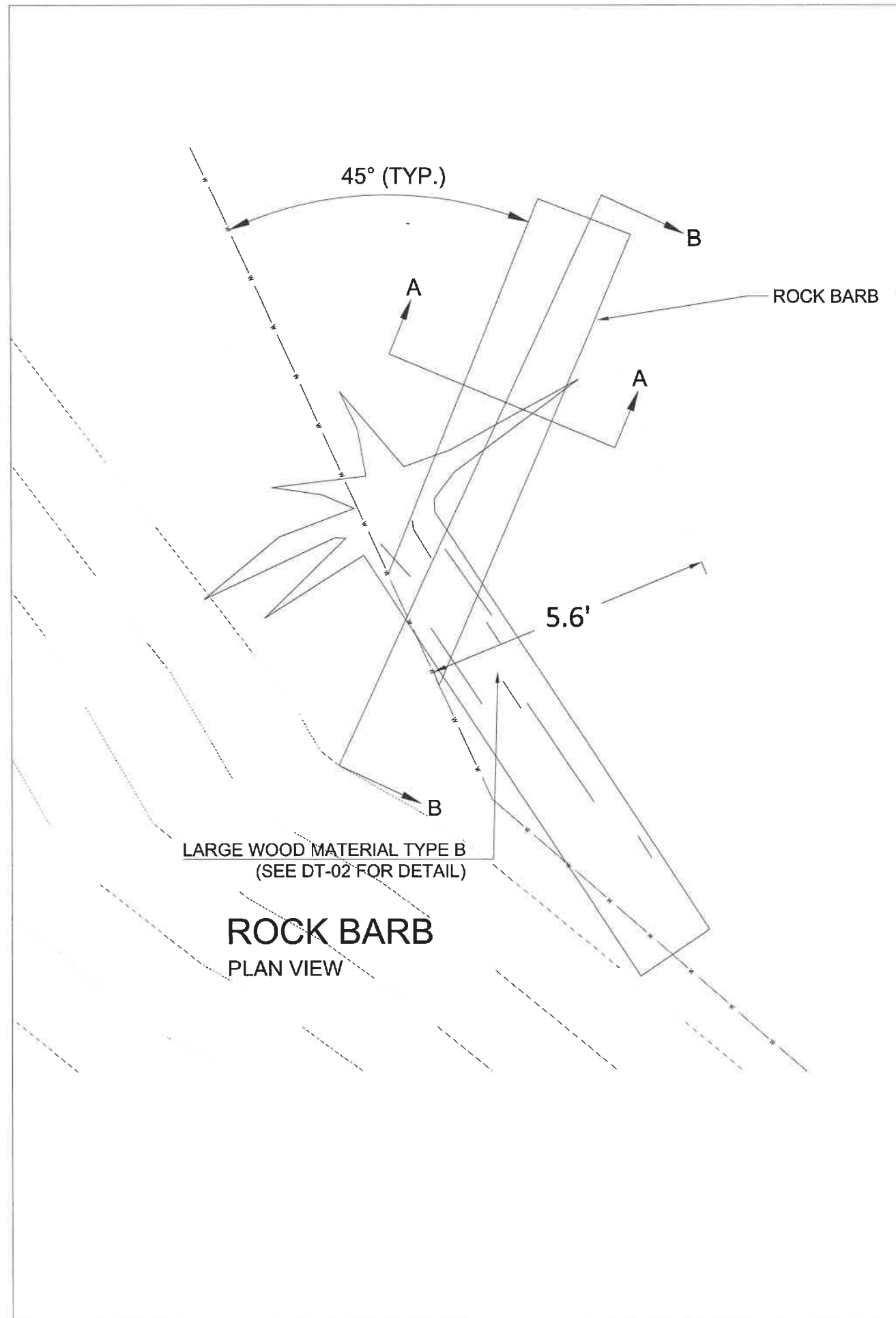
Federal Aid No.

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Hydraulic Structures

DT-02

14 / 15



Manastash Rd

Manastash Creek
Bank Stabilization

1/26/2023

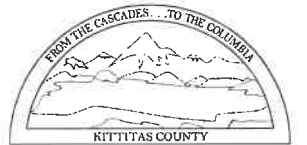
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Federal Aid No.
FLAP-19DE(001)

C.R.P. No.
273-16

OPTION A

DT-03

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