

Information for File # 2013-00698-MTS

Applicant: Gerald Lorenz

Corps Contact: Michael Setering

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Phone: (651) 290-5396

Primary County: Martin

Section: 14

Township: 114 N.

Range: 33 W.

Information Complete On: September 5, 2013

Posting Expires On: November 3, 2013

Authorization Type: LOP-05-MN

This application is being reviewed in accordance with the practices for documenting Corps jurisdiction under Sections 9 & 10 of the Rivers and Harbor Act of 1899 and Section 404 of the Clean Water Act identified in Regulatory Guidance Letter 07-01. We have made a preliminary determination that the aquatic resources that would be impacted by the proposed project are regulated by the Corps of Engineers under Section 404 of the Clean Water Act.

PROJECT DESCRIPTION AND PURPOSE: In cooperation with the Martin County Highway Department, the applicant proposes to realign a portion of Elm Creek located immediately north of County State Aid Highway (CSAH) 36 for the purpose of water quality and aquatic habitat improvements in conjunction with alleviating public safety concerns along the CSAH 36 right-of-way.

The work would include excavating a new stream channel adjacent to the existing alignment and diverting stream flow into the newly created channel. The new alignment would provide increased sinuosity with rock riffle pools. Tree root wads would be installed at each bend in the channel to stabilize the stream bank and help direct the water flow away from the banks and toward the center of the channel.

Two segments of the existing channel would be filled. The northernmost segment (see enclosures) would be filled to accommodate property access between the newly created channel and oxbow. The southernmost segment would be filled to create a safe slope (as described by the Martin County Highway Dept.) for the CSAH 36 right-of-way.

The applicant anticipates the proposed work will open up the floodplain, thereby increasing water storage capacity and wetland areas. Additionally, the project would provide habitat improvements supporting aquatic and terrestrial life, and protection of public infrastructure. (CSAH 36 right-of-way side-slopes).

NAME, AREA AND TYPES OF WATERS (INCLUDING WETLANDS) SUBJECT TO LOSS: The proposed work would result in permanently impacting approximately 0.59 acre of forested wetlands and approximately 0.29 acre of Elm Creek.

ALTERNATIVES CONSIDERED: The applicant provided two alternatives.

Under the no action alternative, there would be no impacts to aquatic resources; however, the banks of Elm Creek would continue to erode and release sediment into Elm Creek. Concerns for public safety would still exist as the bank erosion would remain and eventually compromise the side slope of the CSAH 36 right-of-way. As such, the no action alternative was rejected.

The second alternative included placement of riprap along the eroding stream bank. This alternative was also dismissed because the channel of Elm Creek would still need to be relocated away from CSAH 36 to create safe side slopes in the right-of-way. Also, the existing channel alignment passing under the CSAH 36 bridge is not at the proper angle for water moving downstream as it would continue to cut into the banks of Elm Creek.

COMPENSATORY MITIGATION: The applicant has not provided a compensatory mitigation proposal. The need for compensatory mitigation will be evaluated further prior to reaching a permit decision.

See enclosures.

①

4
10.05 ac

3
27 ac

Operations Regulatory (2013-00698-MTS)
Elm Creek Realignment Project,
Upstream of CSAH 36 bridge
Section 14, Township 103 N., Range 33 W.,
Martin County, MN

Wetland ends at
streambank berm

NW

0.65 acre oxbow wetland (PFO1A)

40 feet wide

46 feet wide

W

50 feet wide

14

1
8.84 ac

5
6.81 ac

NW

50 feet wide

NW

Wetland narrows
and ends at creek

40 feet wide

Elm Creek

NW

NW

2
7.03 ac

NW

3
2.18 ac

Wetland Delineation Map

Wetlands found within project area

Wetland Delineation completed by:
Rich A. Perrine, Cert. #: 1201

23

4
2.21 ac

1
93.88 ac

10
27.66 ac

3
6.41 ac

②

{ Tree clearing within aquatic resources - 0.59 Ac
 { Excavation within aquatic resources - 0.59 Ac,

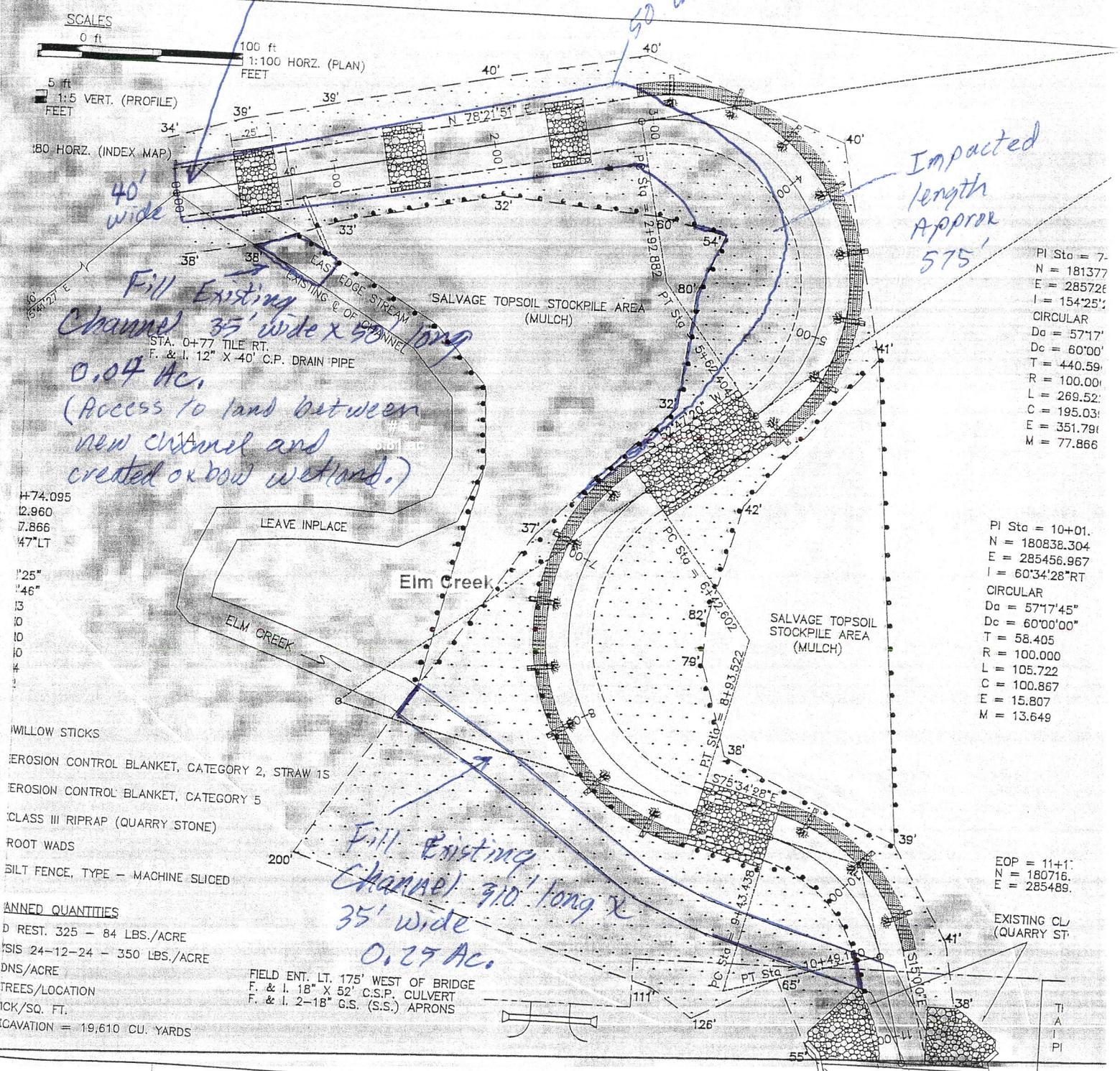
50' wide

Impacted length
 Approx
 575'

40' wide

Fill Existing Channel 35' wide x 50' long
 0.04 Ac.
 (Access to land between new channel and created on-bow wetland.)

Fill Existing Channel 310' long x 35' wide
 0.25 Ac.



PI Sta = 7-
 N = 181377
 E = 28572E
 I = 154°25'
 CIRCULAR
 Da = 5717'
 Dc = 60°00'
 T = 440.59
 R = 100.00
 L = 269.52
 C = 195.03
 E = 351.79
 M = 77.866

PI Sta = 10+01.
 N = 180838.304
 E = 285456.987
 I = 60°34'28"RT
 CIRCULAR
 Da = 5717'45"
 Dc = 60°00'00"
 T = 58.405
 R = 100.000
 L = 105.722
 C = 100.867
 E = 15.807
 M = 13.649

EOP = 11+1'
 N = 180716.
 E = 285489.

H-74.095
 12.960
 7.866
 47°LT

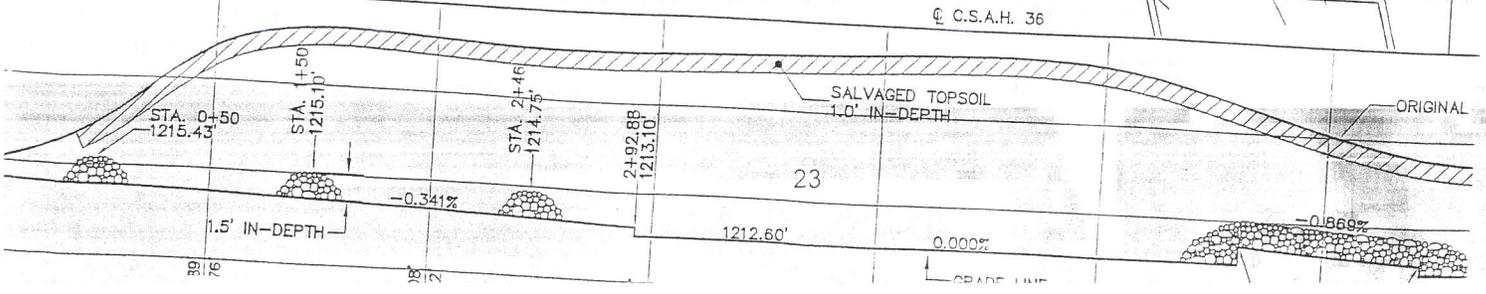
1'25"
 1'46"
 13
 10
 10
 10
 4

- WILLOW STICKS
- EROSION CONTROL BLANKET, CATEGORY 2, STRAW 1S
- EROSION CONTROL BLANKET, CATEGORY 5
- CLASS III RIPRAP (QUARRY STONE)
- ROOT WADS
- SILT FENCE, TYPE - MACHINE SLICED

ANNED QUANTITIES

- D REST. 325 - 84 LBS./ACRE
- SIS 24-12-24 - 350 LBS./ACRE
- DNS/ACRE
- TREES/LOCATION
- ICK/SQ. FT.
- CAVATION = 19,610 CU. YARDS

FIELD ENT. LT. 175' WEST OF BRIDGE
 F. & I. 18" X 52" C.S.P. CULVERT
 F. & I. 2-18" G.S. (S.S.) APRONS



© C.S.A.H. 36

23

TI
 A
 PI

3

10.0

100 ft
1:100 HORZ. (PLAN)
FEET

VERT. (PROFILE)

INDEX MAP

PI Sta = 7-
 N = 181377
 E = 285726
 I = 154°25'
 CIRCULAR
 Da = 57°17'
 Dc = 60°00'
 T = 440.59
 R = 100.00'
 L = 269.52'
 C = 195.03'
 E = 351.79'
 M = 77.866

PI Sta = 10+01.
 N = 180838.304
 E = 285456.967
 I = 60°34'28"RT
 #2 CIRCULAR
 Da = 57°17'45"
 Dc = 60°00'00"
 T = 58.405
 R = 100.000
 L = 105.722
 C = 100.867
 E = 15.807
 M = 13.649

EOP = 11+1.
 N = 180716.
 E = 285489.

STA. 0+77 TILE RT.
 F. & I. 12" X 40" C.P. DRAIN PIPE

SALVAGE TOPSOIL STOCKPILE AREA
 (MULCH)

SALVAGE TOPSOIL
 STOCKPILE AREA
 (MULCH)

Elm Creek

LEAVE IN PLACE

ELM CREEK

WILLOW STICKS

EROSION CONTROL BLANKET, CATEGORY 2, STRAW 1S

EROSION CONTROL BLANKET, CATEGORY 5

CLASS III RIPRAP (QUARRY STONE)

ROOT WADS

SILT FENCE, TYPE - MACHINE SLICED

ANNED QUANTITIES

D REST. 325 - 84 LBS./ACRE

SIS 24-12-24 - 350 LBS./ACRE

DN5/ACRE

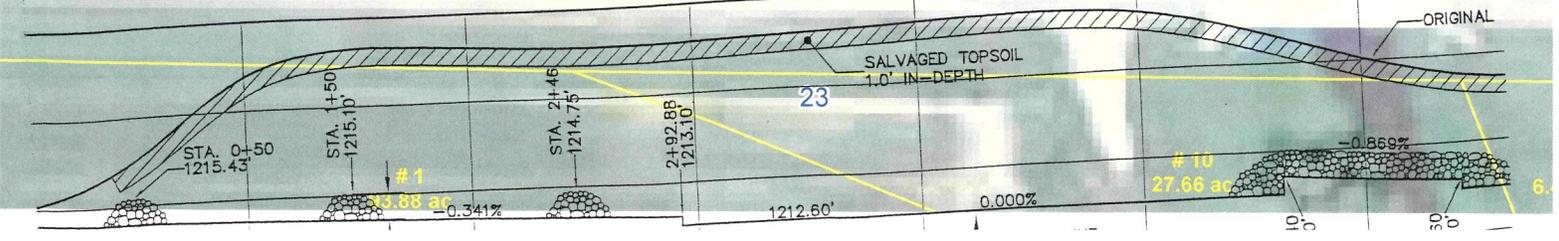
TREES/LOCATION

ICK/SQ. FT.

CAVATION = 19,610 CU. YARDS

FIELD ENT. LT. 175' WEST OF BRIDGE
 F. & I. 18" X 52" C.S.P. CULVERT
 F. & I. 2-18" G.S. (S.S.) APRONS

C.S.A.H. 36

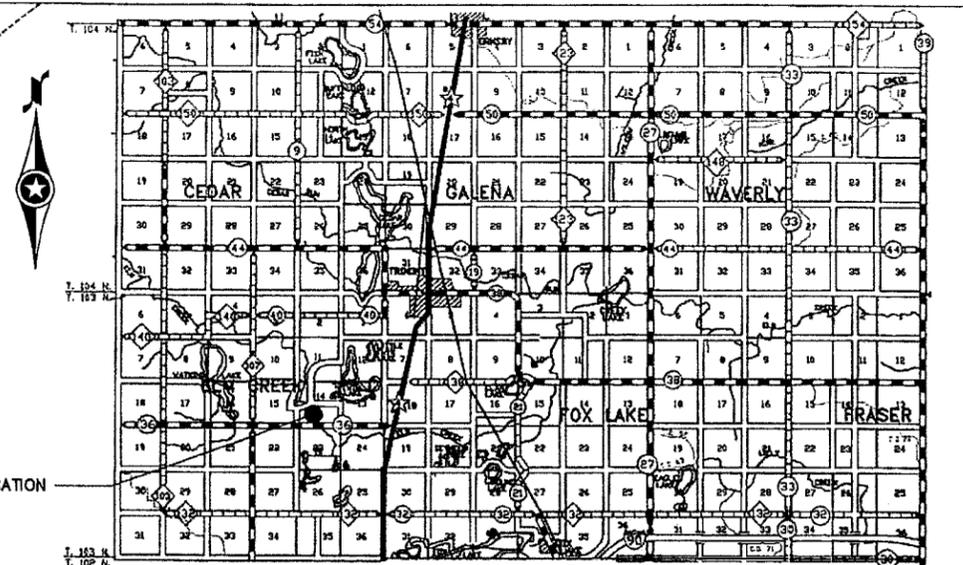
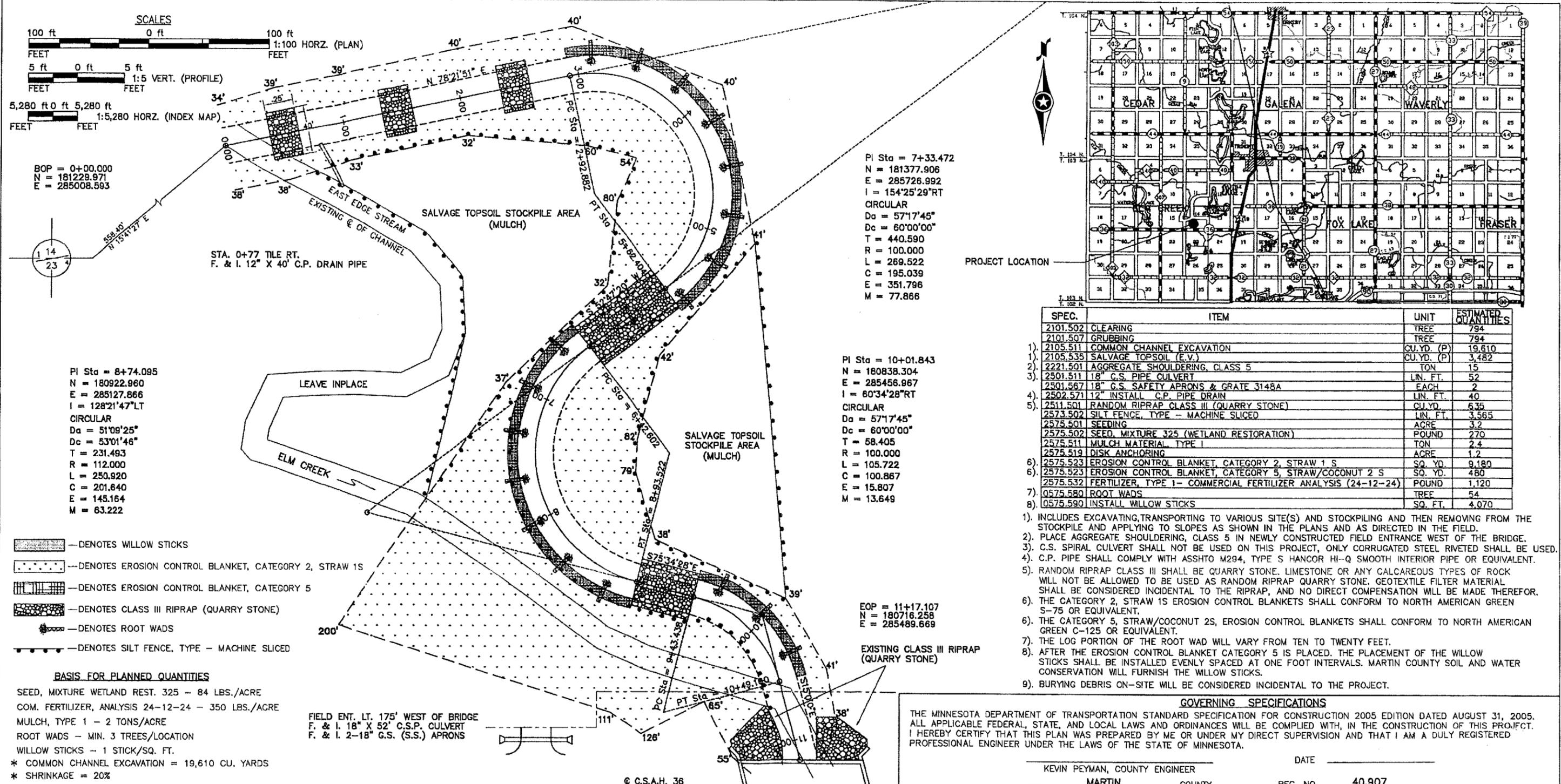


#1
 34.88 ac

#10
 27.66 ac

23

6.

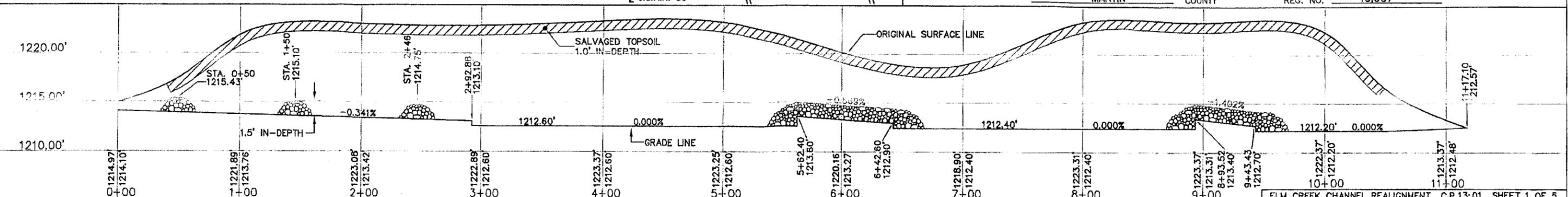


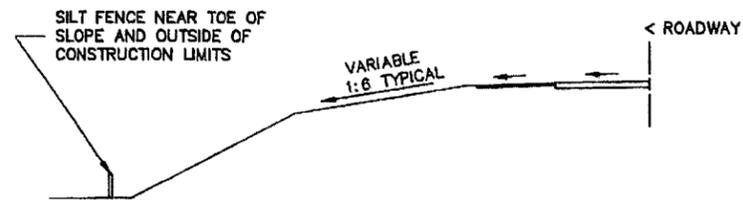
SPEC.	ITEM	UNIT	ESTIMATED QUANTITIES
2101.502	CLEARING	TREE	794
2101.507	GRUBBING	TREE	794
1) 2105.511	COMMON CHANNEL EXCAVATION	CU. YD. (P)	19,610
1) 2105.535	SALVAGE TOPSOIL (E.V.)	CU. YD. (P)	3,482
2) 2221.501	AGGREGATE SHOULDERING, CLASS 5	TON	15
3) 2501.511	18" C.S. PIPE CULVERT	LIN. FT.	52
2501.567	18" C.S. SAFETY APRONS & GRATE 3148A	EACH	2
4) 2502.571	12" INSTALL C.P. PIPE DRAIN	LIN. FT.	40
5) 2511.501	RANDOM RIPRAP CLASS III (QUARRY STONE)	CU. YD.	635
2573.502	SILT FENCE, TYPE - MACHINE SLICED	LIN. FT.	3,565
2575.501	SEEDING	ACRE	3.2
2575.502	SEED, MIXTURE 325 (WETLAND RESTORATION)	POUND	270
2575.511	MULCH MATERIAL, TYPE I	TON	2.4
2575.519	DISK ANCHORING	ACRE	1.2
6) 2575.523	EROSION CONTROL BLANKET, CATEGORY 2, STRAW 1 S	SQ. YD.	9,180
6) 2575.523	EROSION CONTROL BLANKET, CATEGORY 5, STRAW/COCONUT 2 S	SQ. YD.	480
2575.532	FERTILIZER, TYPE 1 - COMMERCIAL FERTILIZER ANALYSIS (24-12-24)	POUND	1,120
7) 0575.580	ROOT WADS	TREE	54
8) 0575.590	INSTALL WILLOW STICKS	SQ. FT.	4,070

- INCLUDES EXCAVATING, TRANSPORTING TO VARIOUS SITE(S) AND STOCKPILING AND THEN REMOVING FROM THE STOCKPILE AND APPLYING TO SLOPES AS SHOWN IN THE PLANS AND AS DIRECTED IN THE FIELD.
- PLACE AGGREGATE SHOULDERING, CLASS 5 IN NEWLY CONSTRUCTED FIELD ENTRANCE WEST OF THE BRIDGE.
- C.S. SPIRAL CULVERT SHALL NOT BE USED ON THIS PROJECT, ONLY CORRUGATED STEEL RIVETED SHALL BE USED.
- C.P. PIPE SHALL COMPLY WITH ASSHTO M294, TYPE S HANCOR HI-Q SMOOTH INTERIOR TYPE OR EQUIVALENT.
- RANDOM RIPRAP CLASS III SHALL BE QUARRY STONE. LIMESTONE OR ANY CALCAREOUS TYPES OF ROCK WILL NOT BE ALLOWED TO BE USED AS RANDOM RIPRAP QUARRY STONE. GEOTEXTILE FILTER MATERIAL SHALL BE CONSIDERED INCIDENTAL TO THE RIPRAP, AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.
- THE CATEGORY 2, STRAW 1S EROSION CONTROL BLANKETS SHALL CONFORM TO NORTH AMERICAN GREEN S-75 OR EQUIVALENT.
- THE CATEGORY 5, STRAW/COCONUT 2S, EROSION CONTROL BLANKETS SHALL CONFORM TO NORTH AMERICAN GREEN C-125 OR EQUIVALENT.
- THE LOG PORTION OF THE ROOT WAD WILL VARY FROM TEN TO TWENTY FEET.
- AFTER THE EROSION CONTROL BLANKET CATEGORY 5 IS PLACED, THE PLACEMENT OF THE WILLOW STICKS SHALL BE INSTALLED EVENLY SPACED AT ONE FOOT INTERVALS. MARTIN COUNTY SOIL AND WATER CONSERVATION WILL FURNISH THE WILLOW STICKS.
- BURYING DEBRIS ON-SITE WILL BE CONSIDERED INCIDENTAL TO THE PROJECT.

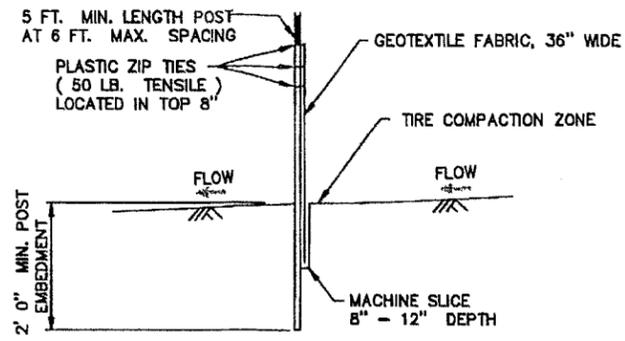
GOVERNING SPECIFICATIONS
 THE MINNESOTA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FOR CONSTRUCTION 2005 EDITION DATED AUGUST 31, 2005. ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND ORDINANCES WILL BE COMPLIED WITH, IN THE CONSTRUCTION OF THIS PROJECT. I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE _____
 KEVIN PEYMAN, COUNTY ENGINEER
 MARTIN COUNTY REG. NO. 40,907

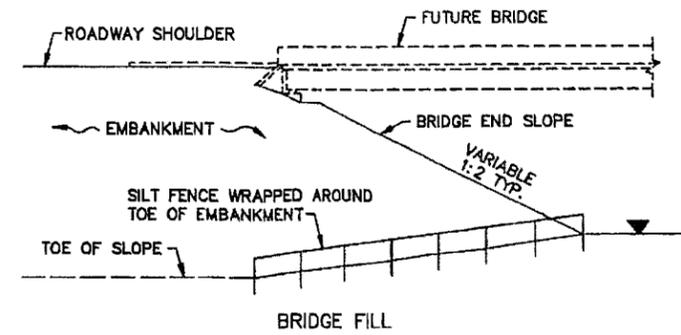




LOCATION OF SILT FENCE AT TOE OF ROADWAY EMBANKMENT

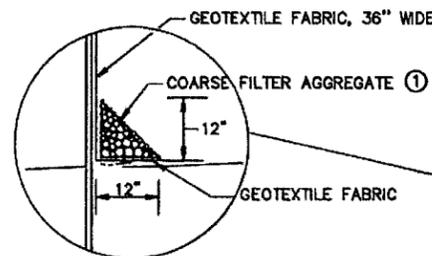


SILT FENCE, MACHINE SLICED
DESIGN GUIDELINES:
TO PROTECT AREAS FROM SHEET FLOW.
MAXIMUM CONTRIBUTING AREA: 1 ACRE.

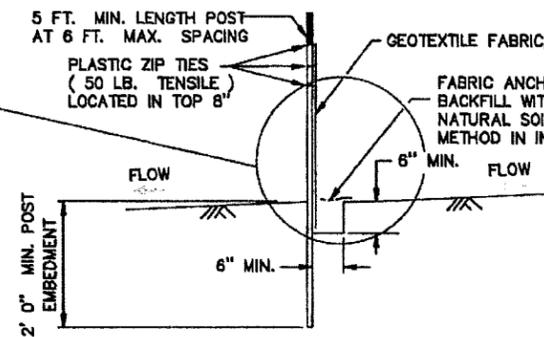


DESIGN GUIDELINES:
WATER COURSE FLOW VELOCITY: STAGNANT
CONTRIBUTING SLOPE AREA: 1/2 ACRE

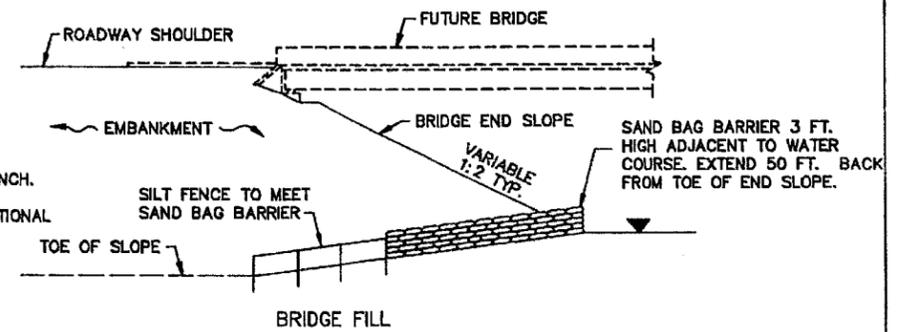
NOTES:
SEE SPECS. 2573, 3149 & 3886.
① COARSE FILTER AGGREGATE (SPEC. 3149) SHALL BE INCIDENTAL.



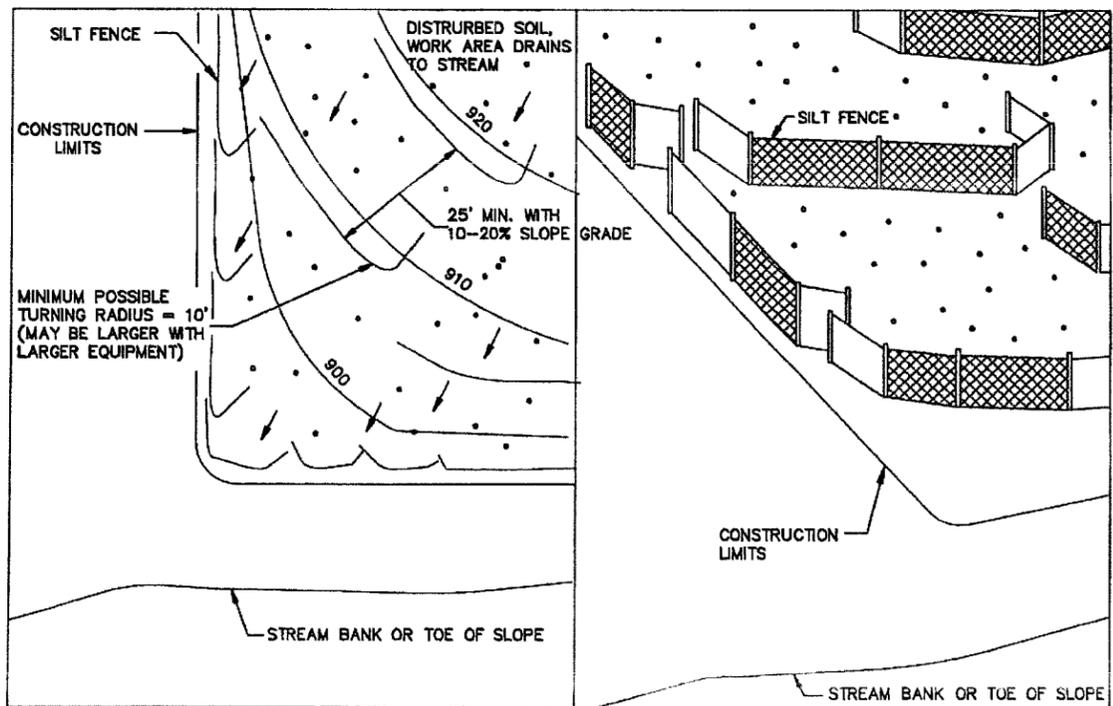
OPTIONAL METHOD FOR SILT FENCE, HEAVY DUTY



*SILT FENCE, HEAVY DUTY (HAND INSTALLED)
DESIGN GUIDELINES:
TO PROTECT AREAS FROM SHEET FLOW.
MAXIMUM CONTRIBUTING AREA: 1 ACRE.



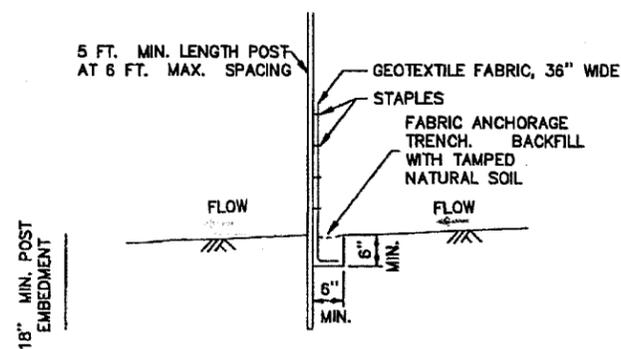
DESIGN GUIDELINES:
WATER COURSE FLOW VELOCITY: 1 TO 7 FT./SEC.
CONTRIBUTING SLOPE AREA: 1 ACRE



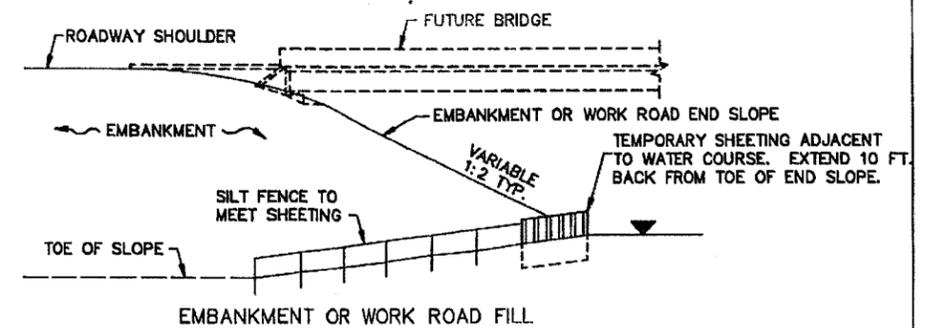
PLAN VIEW

SIDE VIEW

SILT FENCE, J-HOOK INSTALLATION



SILT FENCE, PREASSEMBLED
DESIGN GUIDELINES:
TO PROTECT AREAS FROM SHEET FLOW.
MAXIMUM CONTRIBUTING AREA: 1 ACRE.



DESIGN GUIDELINES:
WATER COURSE FLOW VELOCITY: 8 TO 15 FT./SEC.
CONTRIBUTING SLOPE AREA: 3 ACRES
SILT FENCE AT BRIDGE EMBANKMENT ADJACENT TO WATER

STANDARD SHEET NO. 5-297.408 (1 OF 2)	TITLE TEMPORARY SEDIMENT CONTROL SILT FENCE
STANDARD APPROVED: SEPTEMBER 27, 2008	
ELM CREEK CHANNEL REALIGNMENT C.P.13:01 SHEET 2 OF 5	