PLAN SYMBOLS

STATE LINE
COUNTY LINE
TOWNSHIP OR RANGE LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
RIGHT-OF-WAY LINE
PRESENT RIGHT-OF-WAY LINE
CONTROL OF ACCESS LINE
PROPERTY LINE (Except Land Lines)
VACATED PLATTED PROPERTY
CORPORATE OR CITY LIMITS
TRUNK HIGHWAY CENTER LINE
RETAINING WALL
RAILROAD
RAILROAD RIGHT-OF-WAY
RIVER OR CREEK
DRY RUN
DRAINAGE DITCH
DRAIN TILE
CULVERT
DROP INLET
GUARD RAIL
BARBED WIRE FENCE
WOVEN WIRE FENCE
CHAIN LINK FENCE
RAILROAD SNOW FENCE
STONE WALL OR FENCE
HEDGE
RAILROAD CROSSING SIGN
RAILROAD CROSSING BELL
ELECTRIC WARNING SIGN
CROSSING GATE
MEANDER CORNER
SPRINGS
MARSH
TIMBER
ORCHARD
BRUSH
NURSERY
CATCH BASIN
FIRE HYDRANT
CATTLE GUARD
OVERPASS (HIGHWAY OVER)
UNDERPASS (HIGHWAY UNDER)
BRIDGE
BUILDING (ONE STORY FRAME)
F – FRAME C – CONCRETE
S – STONE T – TILE
B – BRICK ST – STUCCO
IRON PIPE OR ROD
MONUMENT (STONE, CONCRETE, OR METAL)
WOODEN HUB
GRAVEL PIT
SAND PIT
BORROW PIT
ROCK QUARRY
SLOPE EASEMENT

UTILITIES SYMBOLS

POWER POLE LINE
TELEPHONE OR TELEGRAPH POLE LINE
JOINT TELEPHONE AND POWER ON POWER POLE
ON TELEPHONE POLES
ANCHOR
STEEL TOWER
STREET LIGHT
PEDESTAL (TELEPHONE CABLE TERMINAL)
GAS MAIN
WATER MAIN
CONDUIT
TELEPHONE CABLE IN CONDUIT
ELECTRICAL CABLE IN CONDUIT
TELEPHONE MANHOLE
ELECTRICAL MANHOLE
BURIED TELEPHONE CABLE
BURIED ELECTRICAL CABLE
AERIAL TELEPHONE CABLE
SEWER (SANITARY OR SEWER)
SEWER MANHOLE

EROSION CONTROL SYMBOLS

TEMPORARY SILT FENCE
RIP RAP DITCH CHECKS

SCALES

PLAN 0 25'
PROFILE 0 25' HORIZ. 0 10' VERT.
CROSS SECTIONS 0 10'
INDEX MAP 0 2640'

MINNESOTA DEPARTMENT OF TRANSPORTATION

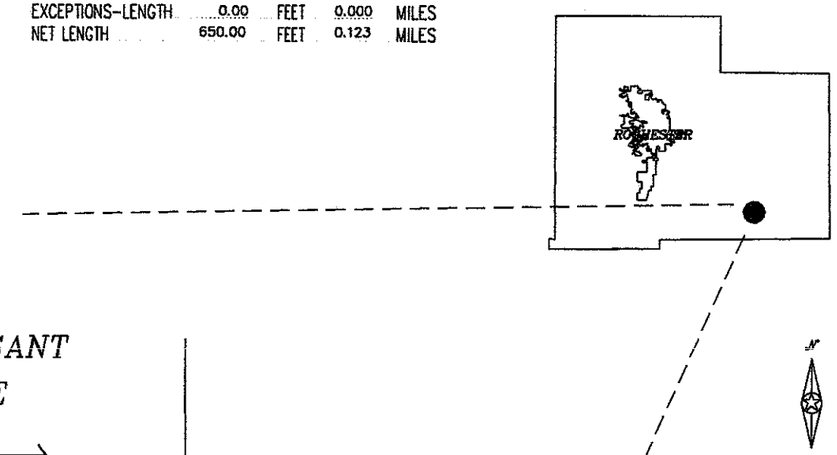
THE COUNTY OF OLMSTED

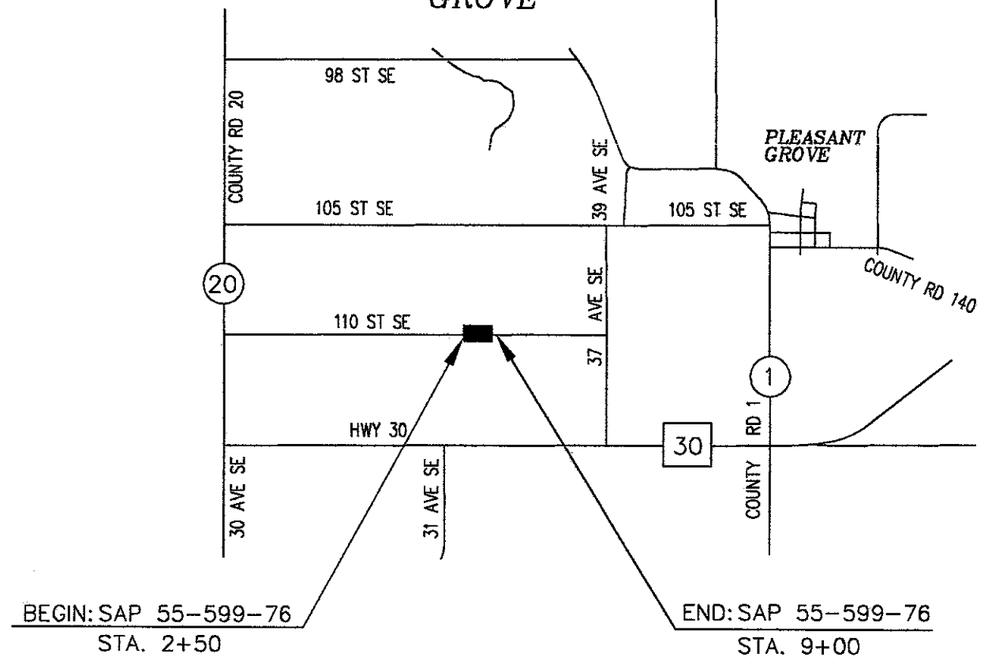
CONSTRUCTION PLAN FOR BRIDGE REPLACEMENT (55J37 NEW)

LOCATED ON 110TH ST SE BETWEEN 6900' EAST OF JCT 110 ST SE & CSAH 20 AND 7550' EAST OF JCT 110 ST SE & CSAH 20 (GEOGRAPHIC DESCRIPTION)

FROM APPROX. 1020 FEET WEST OF THE N 1/4 COR. 32 T 105 N – R 13 W TO APPROX. 370 FEET WEST OF THE N 1/4 COR. 32 T 105 N – R 13 W (LEGAL DESCRIPTION)

S.A.P. NO.	55-599-76			
GROSS LENGTH	650.00	FEET	0.123	MILES
BRIDGE-LENGTH	0.00	FEET	0.000	MILES
EXCEPTIONS-LENGTH	0.00	FEET	0.000	MILES
NET LENGTH	650.00	FEET	0.123	MILES





AS-BUILT
FEB 25 2002
ENGINEERING

MINN. PROJ. NO.

GOVERNING SPECIFICATIONS

THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AS AMENDED BY THE MAY 2, 1994, SUPPLEMENT SPECIFICATION SHALL GOVERN.

INDEX

SHEET NO. 1	TITLE SHEET
SHEET NO. 2	TYPICAL SECTION & ESTIMATE OF QUANTITIES
SHEET NO. 3 –4	BRIDGE SHEETS
SHEET NO. 5	CROSS SECTION SHEETS
SHEET NO. 6–11	EROSION CONTROL SHEETS
SHEET NO. 12	TRAFFIC CONTROL SHEET

THIS PLAN CONTAINS 12 SHEETS.

DESIGN DESIGNATION: S.A.P. 55-599-76

R ΣN18 (20)
ADT (Current Year) = ≤50 (2001) Design Speed 30 MPH
ADT (Future Year) = ≤50 (2021) Based on STOPPING Sight Distance
DHV (Design Hr. Vol.) = Height of eye 3.5 FT. Height of object 0.5 FT
D (Directional Distr.) = Design Speed not achieved at:
T (Heavy Commercial) = STA. TO STA. mph.
SUBGRADE = STA. TO STA. mph.
LANE WIDTH 11 FT.
SHOULDER WIDTH 1 FT.
SOIL FACTOR = 130%

TOWNSHIP APPROVAL:
× [signature] DATE: 3-6-01
APPROVED: TOWNSHIP CHAIRPERSON

DESIGN ENGINEER: 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 3/1/01 LICENSE NUMBER 19917
PRINTED NAME: KAYE M. BIENIEK
SIGNED NAME: Kaye M Bieniek
APPROVED: COUNTY DESIGN ENGINEER

DESIGED BY: Holmes
DATE 3/1/01 LICENSE NUMBER 10397
Michael Thuman
APPROVED: OLMSTED COUNTY ENGINEER

STATE AID APPROVALS:
[signature] DATE: March 8, 2001
DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY
[signature] DATE: 4/6/01
APPROVED FOR STATE AID FUNDING:
STATE AID ENGINEER

S.A.P. NO. 55-599-76 PLEASANT GROVE TWP SHEET NO. 1 OF 12 SHEETS

ESTIMATED QUANTITIES

	SPECIFICATION NO.	ITEM	UNIT	NON PARTICIPATING	PARTICIPATING	TOTAL ESTIMATED QUANTITIES
	2101.502	CLEARING	TREE	3		3
	2101.507	GRUBBING	TREE	3		3
①	2104.501	REMOVE PIPE CULVERTS	LIN. FT.	56		56
②	2105.515	UNCLASSIFIED EXCAVATION	CU. YDS.	289		(P) 289
	2105.523	COMMON BORROW (CV)	CU. YDS.	3472		(P) 3472
	2211.501	AGGREGATE BASE CLASS 5	TON	637		637
	2451.507	GRANULAR BEDDING (CV)	CU. YDS.		43	(P) 43
	2501.521	169" SPAN RC PIPE-ARCH CULV CL IIA	LIN. FT.		48	48
	2501.525	169" SPAN RC PIPE-ARCH APRON	EACH		2	2
③	2511.501	RANDOM RIPRAP CL. IV	CU. YDS.		110	110
④	2573.502	SILT FENCE, TYPE HEAVY DUTY	LIN FT	400		400
	2575.501	SEEDING	ACRE	1		(P) 1
	2575.502	SEED MIXTURE 50A	POUND	50		50
	2575.502	SEED MIXTURE 110A	POUND	80		80
	2575.511	MULCH MATERIAL TYPE 1	TON	2		2
	2575.519	DISC ANCHORING	ACRE	1		(P) 1
	2575.532	COMMERCIAL FERTILIZER ANALYSIS 12-12-12	POUND	200		200

QUANTITY NOTES:

① INCLUDES REMOVAL OF CONCRETE HEADWALLS ON 90" CMP @ STA. 5+12 WHICH SHALL BE CONSIDERED INCIDENTAL AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.

② UNCLASSIFIED EXCAVATION INCLUDES SUBGRADE TREATMENT AS SHOWN IN TYPICAL SECTION AND CROSS SECTIONS. 218 CU. YDS. OF EXCAVATION TO BE USED AS SALVAGED TOPSOIL.

③ PLACE RIPRAP ON GRANULAR FILTER OR GEOTEXTILE MATERIAL WHICH SHALL BE CONSIDERED INCIDENTAL AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.

④ SPECIFICATION 1903 SHALL NOT APPLY FOR THIS ITEM.

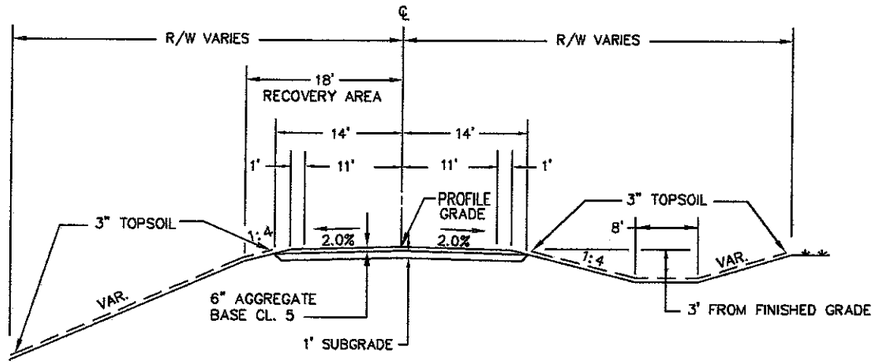
STANDARD PLATES

THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION SHALL APPLY ON THIS PROJECT.

PLATE NO.	DESCRIPTION
	NUMERICAL INDEX OF STANDARD PLATES
3007 C	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
3014 J	REINFORCED CONCRETE PIPE-ARCH
3110 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE-ARCH
3145 E	CONCRETE PIPE TIES
8000 I	STANDARD BARRICADES
9000 C	APPROACHES AND ENTRANCES

TYPICAL SECTION

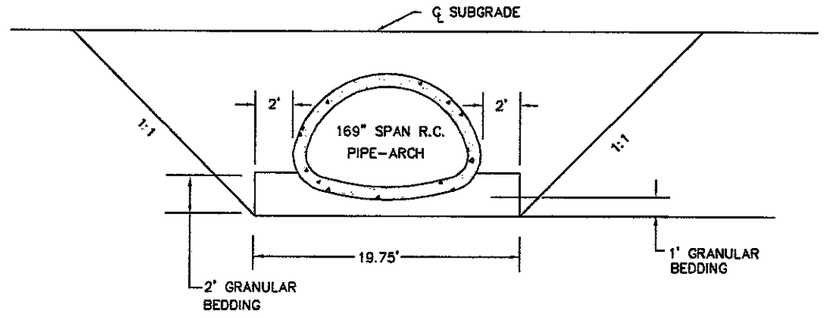
STA. 2+50 TO 9+00



NOTES: ALL UTILITY POLES AND UNYIELDING OBJECTS WILL BE LOCATED OUTSIDE THE 18' RECOVERY AREA BY OTHERS.

BEDDING DETAIL

STA. 5+12



QUANTITY NOTES:

AGGREGATE BASE CLASS 5 – 140LBS./CU.FT. COMPACTED
SEED MIXTURE 50A – 50 LBS/ACRE
SEED MIXTURE 110A – 80 LBS/ACRE
MULCH MATERIAL – 2 TONS/ACRE
DISK ANCHORING – ALL SEEDING AREAS EXCEPT 1:2 SLOPES
COMMERCIAL FERTILIZER – 200 LBS/ACRE

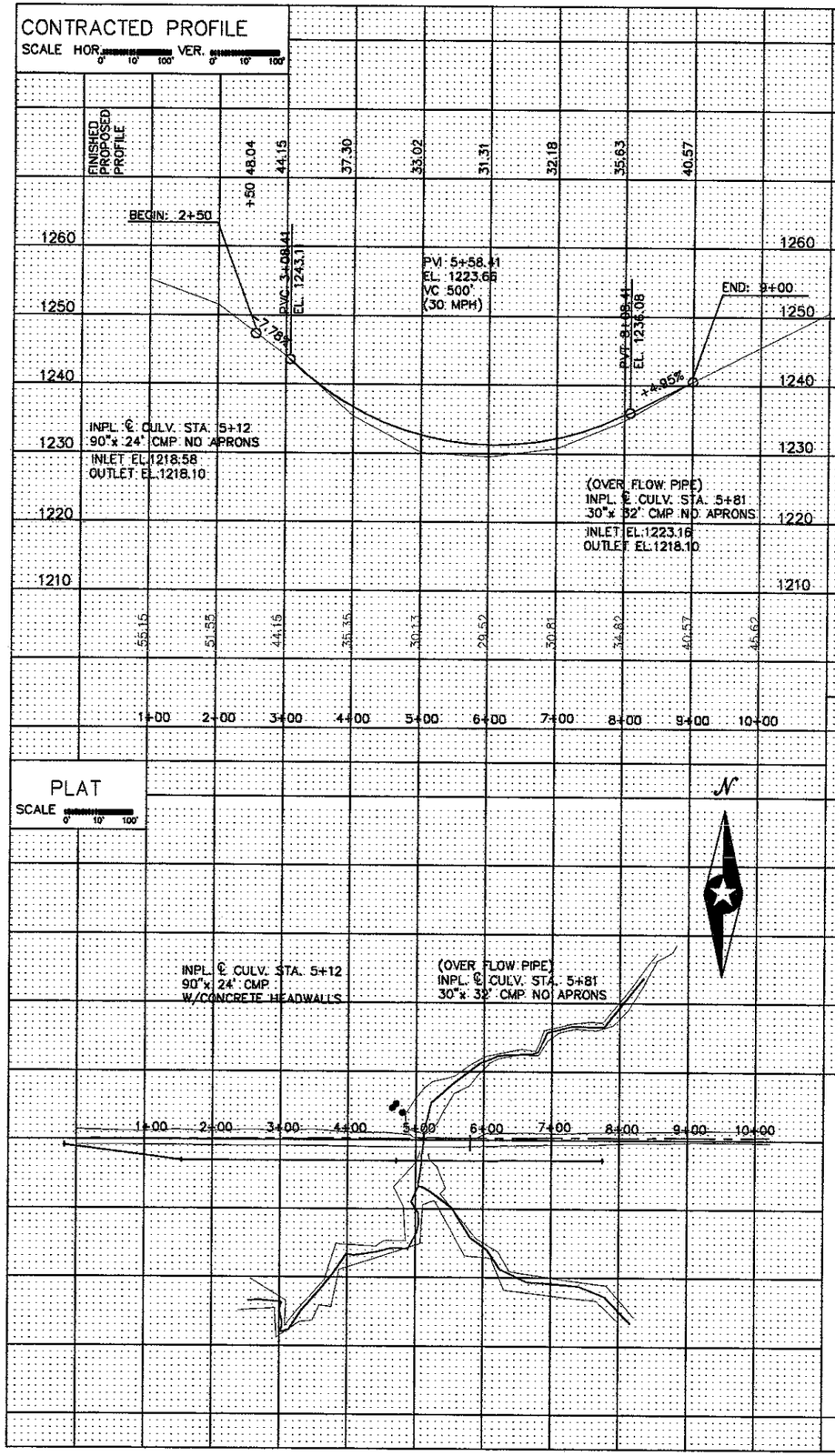
AS-BUILT
FEB 25 2002
ENGINEERING

NOTES:
1. CULVERT EXCAVATION WILL BE CONSIDERED INCIDENTAL AND WILL BE INCLUDED FOR PAYMENT UNDER UNIT PRICE FOR ITEM NO. 2501.521 AND ITEM NO. 2501.525.
2. CULVERT TO BE BACKFILLED WITH EXCAVATION MATERIAL OR COMMON BORROW AND WILL BE CONSIDERED INCIDENTAL TO UNCLASSIFIED EXCAVATION AND NO DIRECT COMPENSATION WILL BE MADE.
3. ALL DIMENSIONS AND SLOPES SHOWN ON TYPICAL SECTION ARE APPROXIMATE.
4. GRANULAR BEDDING TO BE PLACED UNDER BARREL SECTIONS ONLY.

CERTIFIED BY Dave M Baierlein LIC. NO. 19917 3/1 2001
LICENSED PROFESSIONAL ENGINEER

CONTRACTED PROFILE

SCALE HOR. 0' 10' 100' VER. 0' 10' 100'

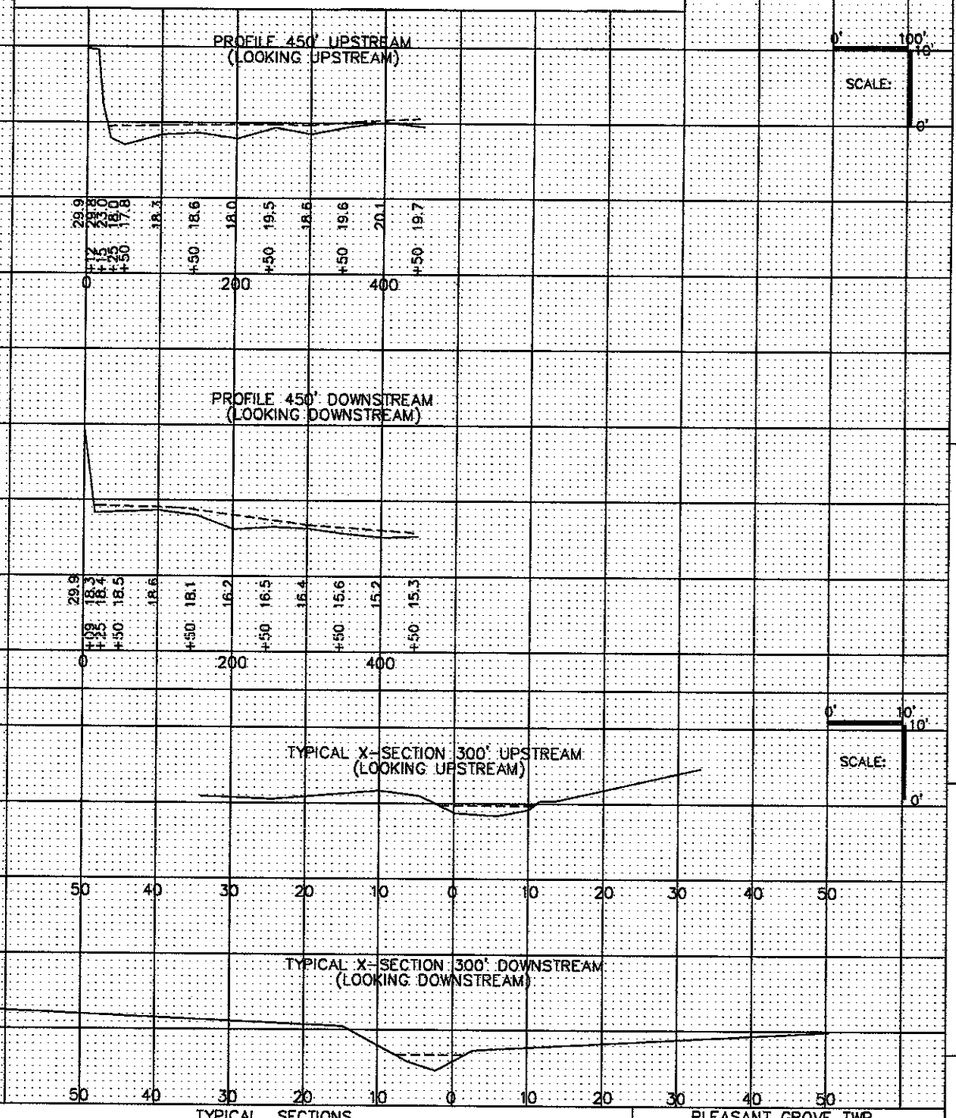


PLAT

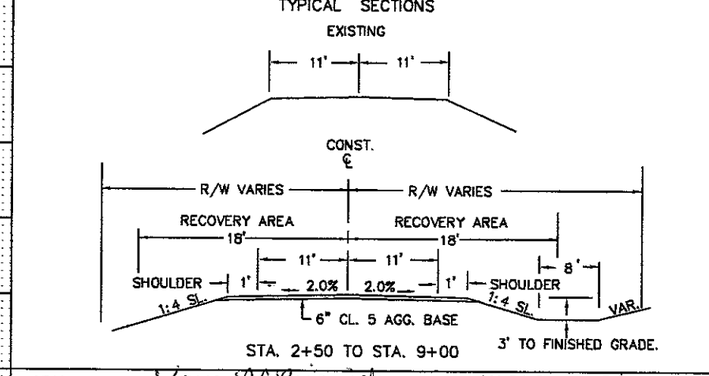
SCALE 0' 10' 100'

TYPICAL SECTIONS & PERTINENT DATA

SCALE AS SHOWN

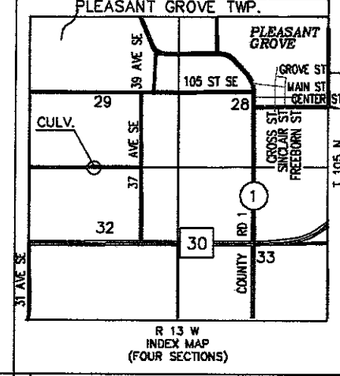


TYPICAL SECTIONS



CERTIFIED BY Kaye M Bienert LIC. NO. 19917 3/1 2001
LICENSED PROFESSIONAL ENGINEER

PLEASANT GROVE TWP.



Fed. Proj. No.

1. Special Features: Waterfalls, dams, floods, ice, debris, sliding banks, recreational boating.

2. Other bridges or culverts over the same stream (particularly structures which carry high water without overflow of roadway) :Given location, type, length, height above high water, cross-sectional area etc.

3. Apparent highwater elevation ..... Obtained from .....

4. Other data: Approx. velocity of water at time of survey .....

HYDRAULIC ENGINEERS RECOMMENDATION

DATE 1-24-2001

Stream or ditch designation UNNAMED

Drainage area 4.1 SQ. MILES

Max. flood on record UNK Design flood (25 yr. freq.) 900 C.F.S.

Max. observed highwater elevation 1231.0 Design highwater elevation 1228.1

Design mean velocity through structure 14.4 F.P.S.

Low superstructure at or above elevation .....

Flowline 1218.3 Skew angle 7 1/2°

Waterway area req'd. below elevation ..... = ... Sq. Ft. at Rt. angles to channel

In the interest of flood plain zoning the regional flood (100 yr. freq.) is 1400 C.F.S. at stage 1231.5 and mean velocity of 14.9 F.P.S. with 7.0 Ft. swellhead. The above recommendation will provide a structure of adequate waterway to pass the regional flood within criteria established by the Dept. of National Resources.

FOUNDATION ENGINEERS RECOMMENDATION

DATE .....

Bridge survey sheets made from: SURVEY CONDUCTED BY OLMSTED COUNTY.

Bench mark elevation ..... (M.S.L. 1929 Adj.)

Location: .....

MINNESOTA
DEPARTMENT OF TRANSPORTATION

BRIDGE SURVEY

AT MILE POINT 0.4 MI. W. OF TWP. RD. 33 ON TWP.RD. 32 (T.H., C.S.A.H., C.R. etc.)

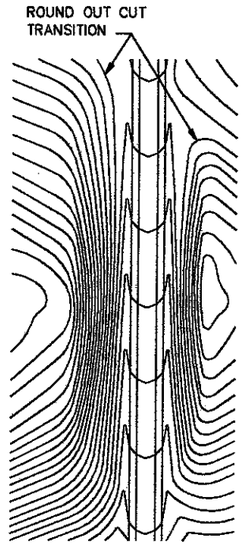
PROPOSED BRIDGE LOCATED 0.4 MILES WEST OF TWP. RD. 33

SEC. 29 TWP. 105 N R 13 W

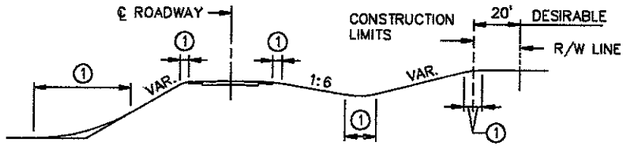
TOWNSHIP PLEASANT GROVE COUNTY OLMSTED

BRIDGE NO. 55J37

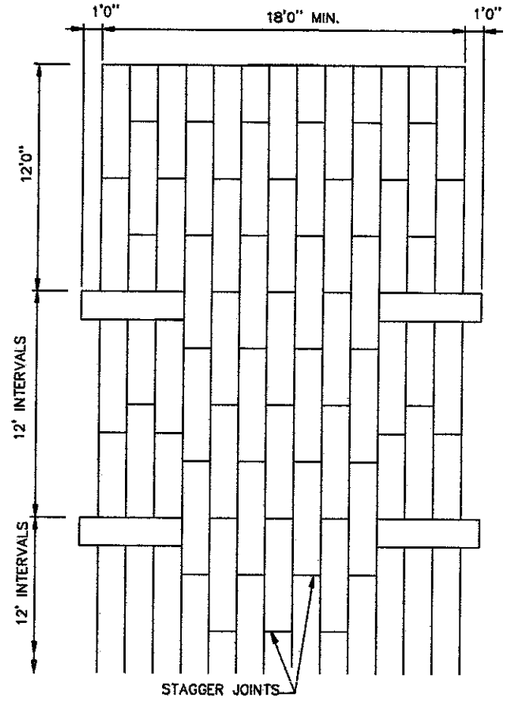
State Aid Proj. No. 55-599-76 Sheet No. 3 of 12 Sheets



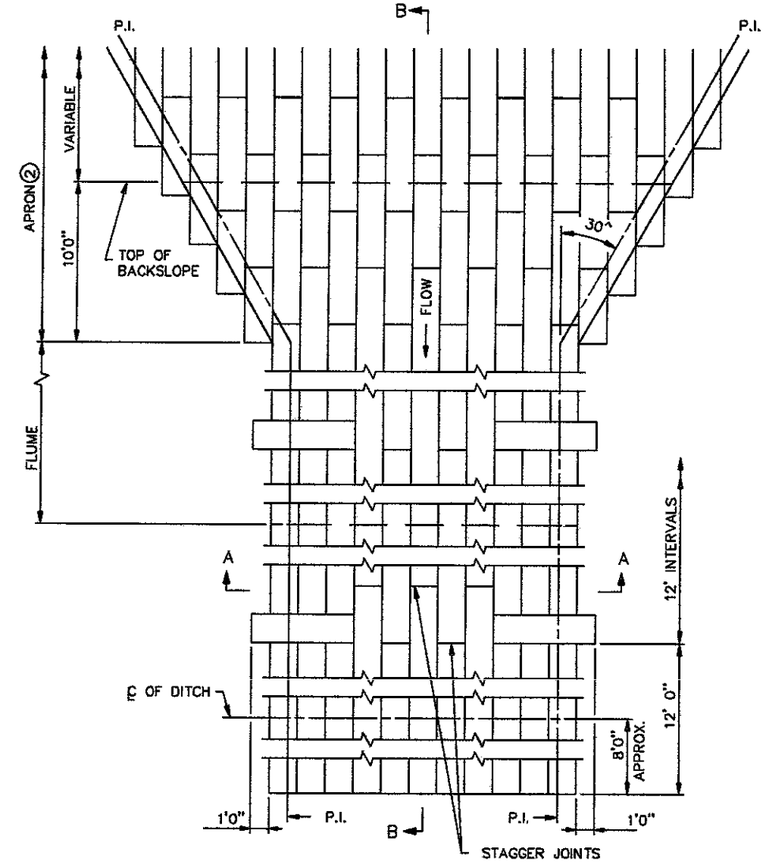
CONTOURING ROAD CUTS



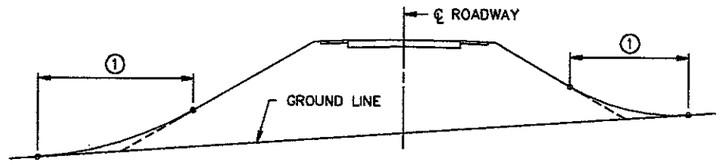
ROUNDING SHOULDERS AND BACKSLOPES



PLAN VIEW



PLAN VIEW

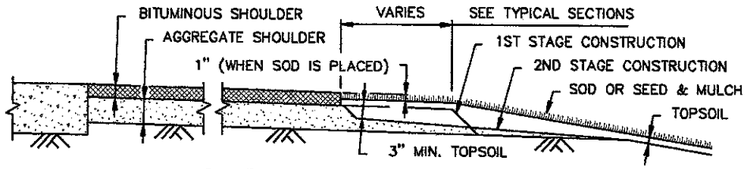


SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES

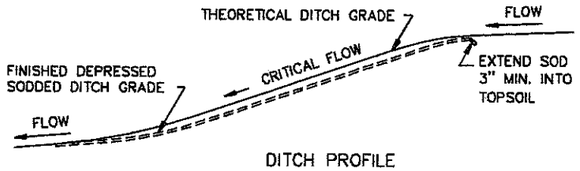
SODDED DITCH CROSS SECTION

WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 1/2"/FT.), FIRST NOTCH DITCH AND THEN PROVIDE ROUNDING.

SECTION A–A

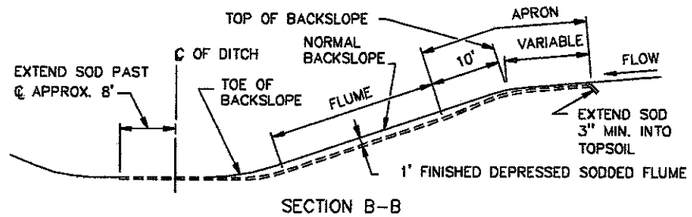


SHAPING AND TOPSOILING INSLOPES



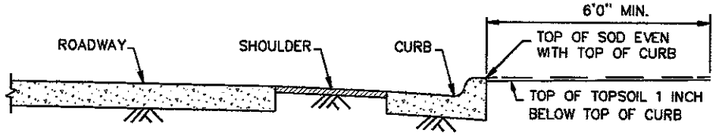
DITCH PROFILE

SODDED DITCH DETAILS



SECTION B–B

SODDED FLUME DETAILS



SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED

NOTES:

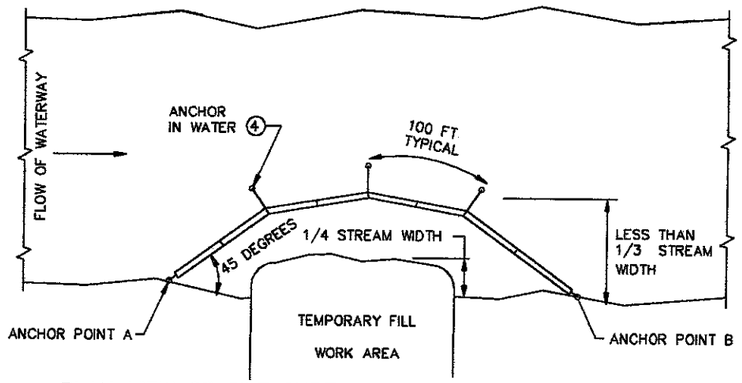
SEE SPEC. 2575.3 FOR ADDITIONAL INFORMATION.

① FOR ROUNDING, SEE ROAD DESIGN MANUAL.

② CONSTRUCT TAPER AS DIRECTED BY THE ENGINEER.

REVISION DATE 10-26-2000

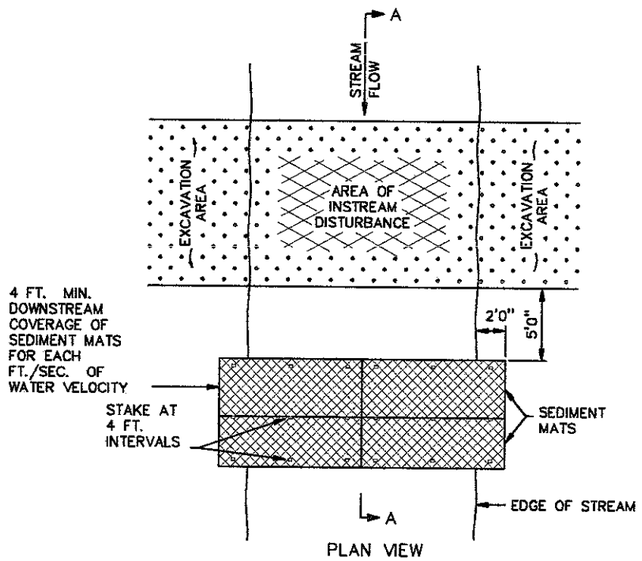
STANDARD SHEET NO. 5-297.404	TITLE: PERMANENT EROSION CONTROL ALONG ROADWAYS, DITCHES AND FLUMES
STANDARD APPROVED: DECEMBER 19, 1990	
~~STATE PROJ. NO.~~ SAP 55-599-76	SHEET NO. 6 OF 12 SHEETS



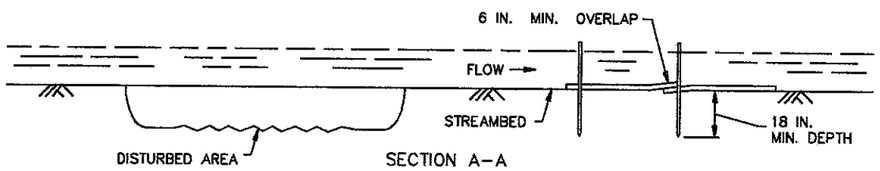
PLAN VIEW OF SILT CURTAIN ENCLOSING A WORK AREA

FOR CONTAINING OVERFLOWS FROM WEIRS, STANDPIPES, SETTLING PONDS

DESIGN GUIDELINES:
WHEN TEMPORARY FILL ENCROACHES LESS THAN 1/4 OF THE WIDTH OF STREAM.
MAXIMUM FLOW VELOCITY: 5 FT./SEC.
MAXIMUM FLOW DEPTH: 4 FT.



PLAN VIEW

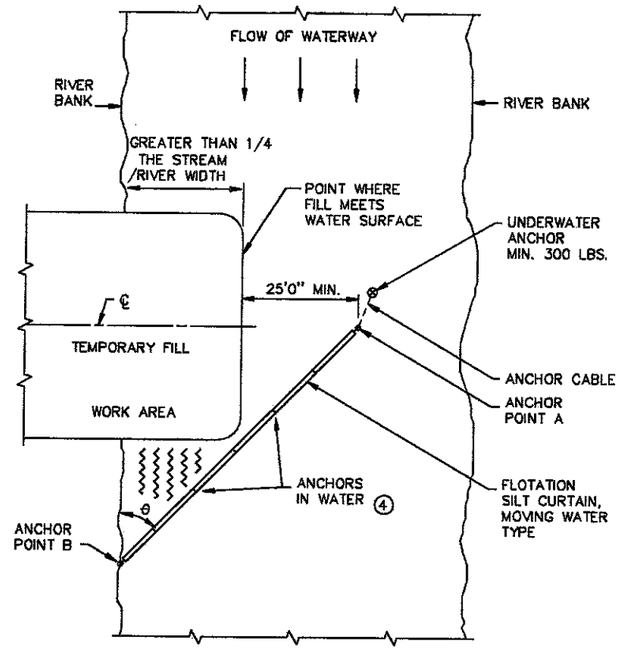


SECTION A–A

SEDIMENT MAT

TYPICAL STREAMBED INSTALLATION

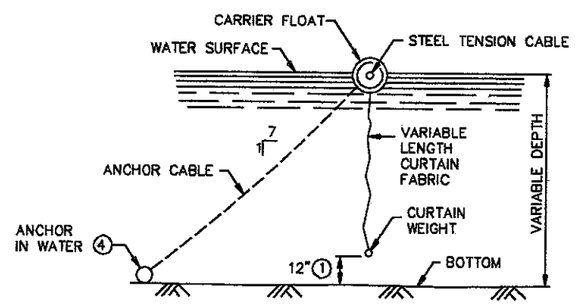
DESIGN GUIDELINES:
MAXIMUM FLOW VELOCITY: 5 FT./SEC.
MAXIMUM FLOW DEPTH: 2 FT.



∠ θ	RIVER VELOCITY
45°	SLOW, LESS THAN 5 FT./SEC.
35°	MODERATE, 5 – 7 FT./SEC.

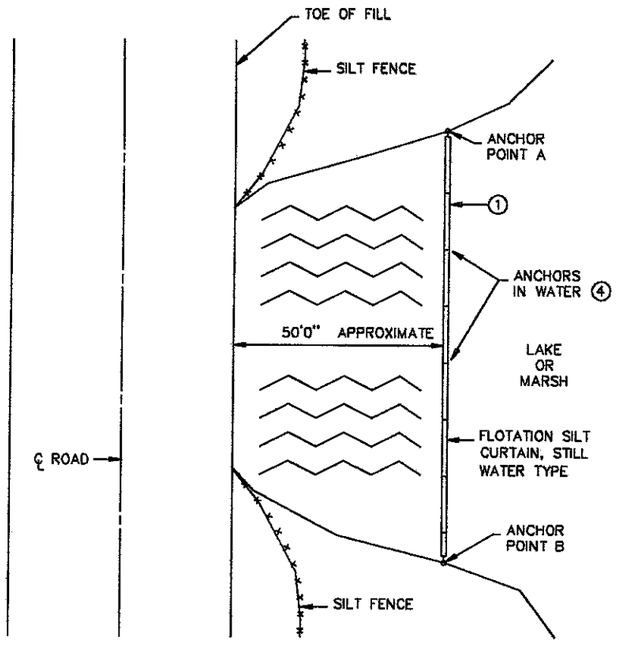
PLAN VIEW OF SILT CURTAIN – MOVING WATER

DESIGN GUIDELINES:
WHEN TEMPORARY FILL ENCROACHES MORE THAN 1/4 BUT LESS THAN 1/3 WIDTH OF THE STREAM.
MAXIMUM WATER DEPTH: 12 FT.
MINIMUM WATER DEPTH: 3 FT.
MAXIMUM WATER VELOCITY: 7 FT./SEC.



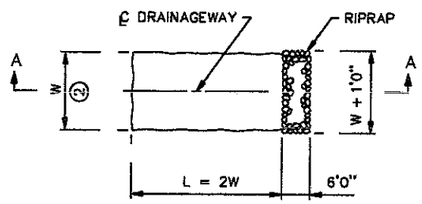
FLOTATION SILT CURTAIN DETAIL

(SEE SPEC. 3887)

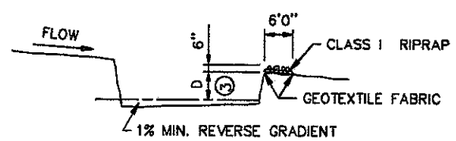


PLAN VIEW OF SILT CURTAIN – STILL WATER

DESIGN GUIDELINES:
MAXIMUM WATER DEPTH: 12 FT.
MINIMUM WATER DEPTH: 3 FT.



PLAN

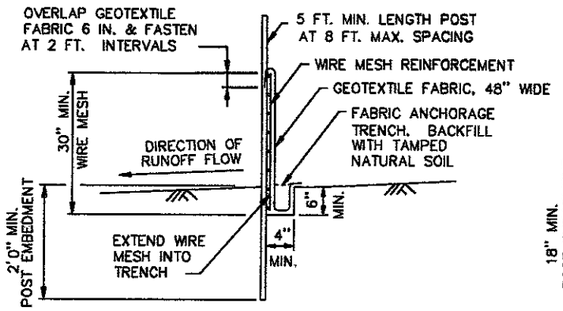


SECTION A–A

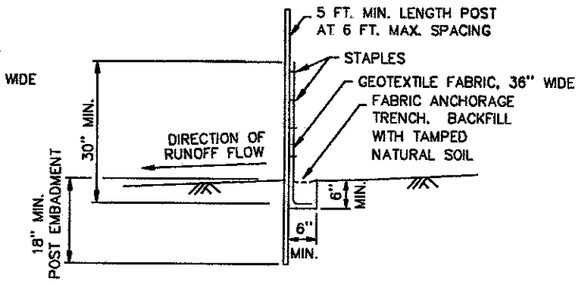
TEMPORARY SEDIMENT TRAP DETAIL

NOTES:
SEE SPECS. 2573, 3887 & 3894.
(1) CURTAIN 1 FT. FROM BOTTOM
(2) W = 10 FT. MIN., 20 FT. MAX.
(3) D = 2 FT.
(4) 100 FT MAXIMUM SPACING BETWEEN ANCHORS, MINIMUM 40 LBS.

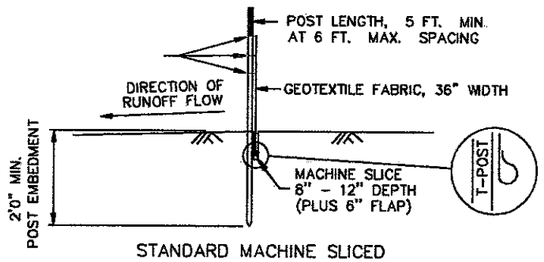
STANDARD SHEET NO. 5-297.405 (1 OF 4)	TITLE: TEMPORARY EROSION CONTROL
STANDARD APPROVED: SEPTEMBER 19, 2000	
~~STATE PROJ. NO.~~ SAP 55-599-76	SHEET NO. 7 OF 12 SHEETS



HEAVY DUTY



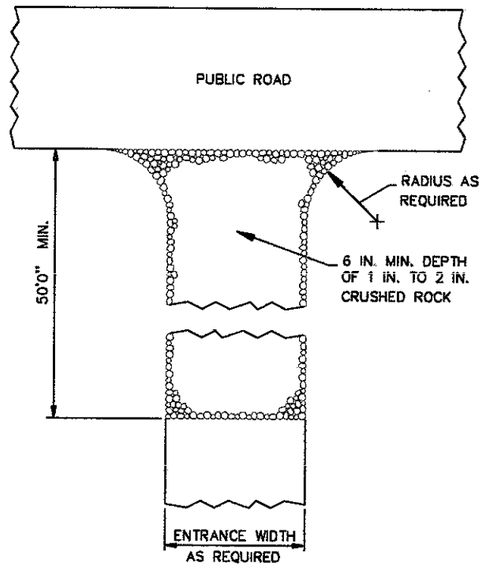
PREASSEMBLED



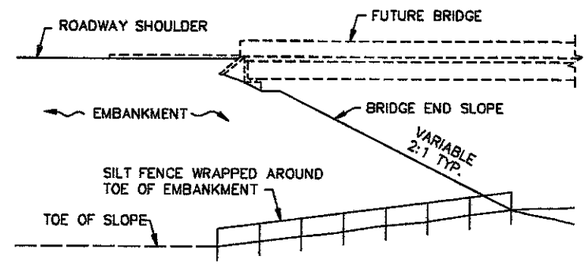
STANDARD MACHINE SLICED

SILT FENCE DETAILS
TO PROTECT AREAS FROM SHEET FLOW
(SEE SPEC. 3886)

DESIGN GUIDELINES:
MAXIMUM CONTRIBUTING AREA: 3 ACRES

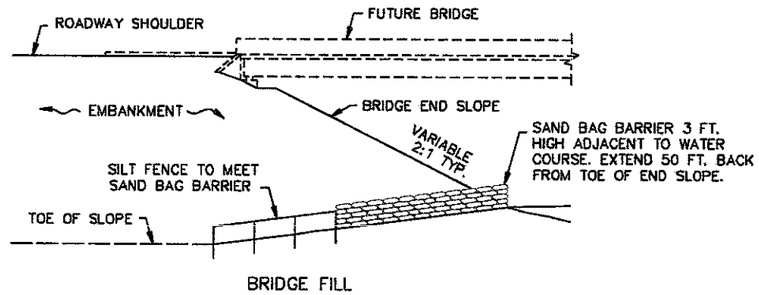


ROCK CONSTRUCTION ENTRANCE ①



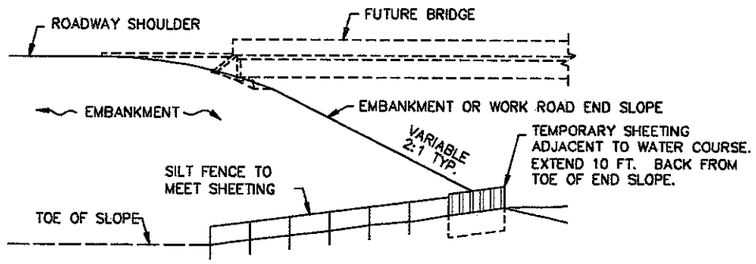
BRIDGE FILL

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



BRIDGE FILL

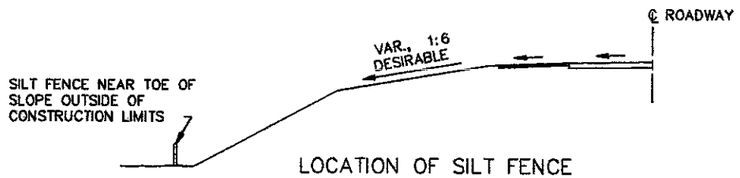
DESIGN GUIDELINES:
MAX. WATER COURSE FLOW VELOCITY: 7 FT./SEC.
CONTRIBUTING SLOPE AREA: 1 ACRE



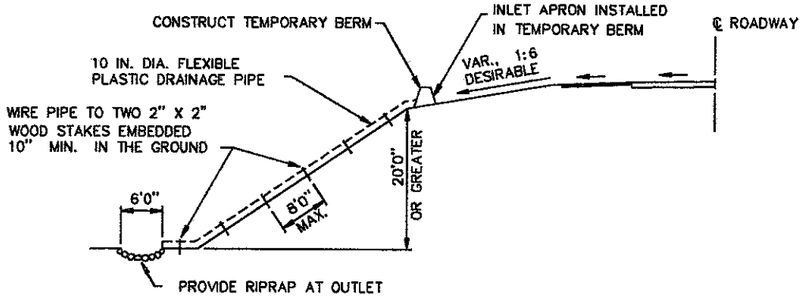
EMBANKMENT OR WORK ROAD FILL

DESIGN GUIDELINES:
MAX. WATER COURSE FLOW VELOCITY: 15 FT./SEC.
CONTRIBUTING SLOPE AREA: 3 ACRES

SILT FENCE AT BRIDGE EMBANKMENT

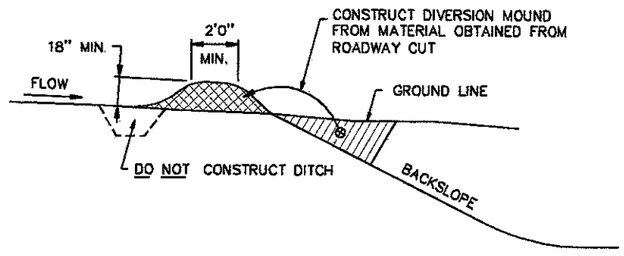


LOCATION OF SILT FENCE AT TOE OF ROADWAY EMBANKMENT



TEMPORARY DRAIN ON FILL SLOPE

DESIGN GUIDELINES:
STORM FREQUENCY: 2 YEAR - 24 HOUR
MAXIMUM DRAINAGE AREA: 3 ACRES



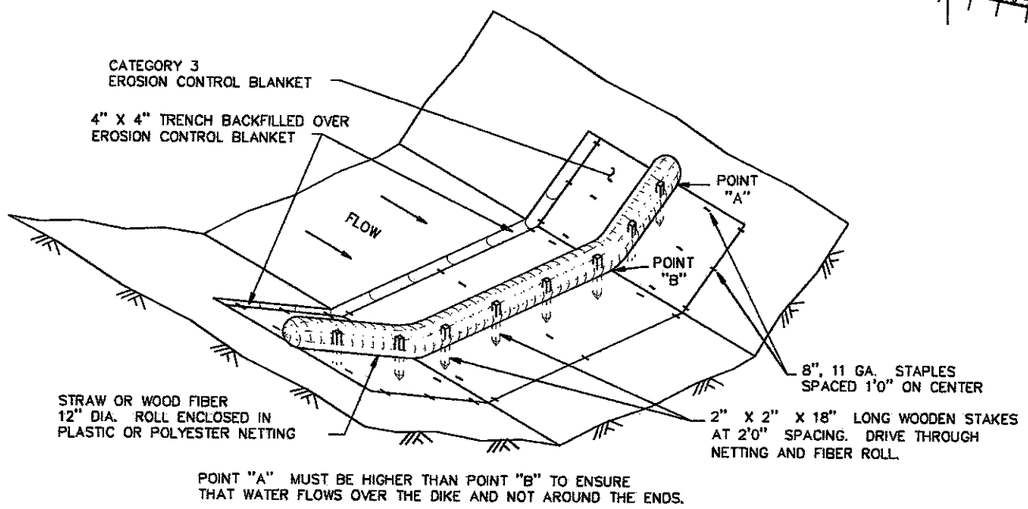
DIVERSION MOUND

DESIGN GUIDELINES:
STORM FREQUENCY: 10 YEAR - 24 HOUR
MAXIMUM DRAINAGE AREA: 5 ACRES
MAXIMUM DIVERSION: GRADE 5%

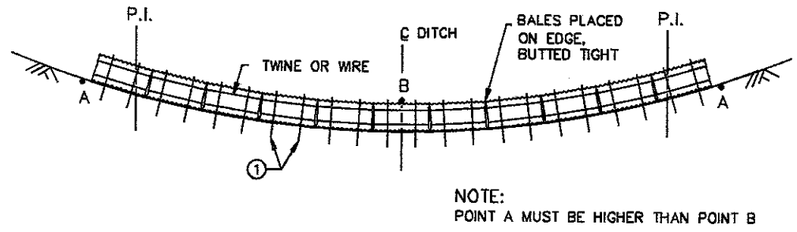
NOTES:
SEE SPECS. 2573 & 3886.

① ROCKS AT ENTRANCE CLEAN WORKSITE MUD OFF OF TRUCK TIRES BEFORE DRIVING ON MAIN ROAD. THIS WILL PREVENT AUTO DAMAGE. WE NEED TO KEEP CONSTRUCTION SEDIMENT OUT OF DRAINAGE SYSTEMS AND WETLANDS.

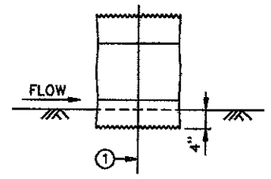
STANDARD SHEET NO. 5-297.405 (2 OF 4)	TITLE: TEMPORARY EROSION CONTROL
STANDARD APPROVED: SEPTEMBER 19, 2000	
~~STATE PROJ. NO.~~ SAP 55-599-76	SHEET NO. 8 OF 12 SHEETS



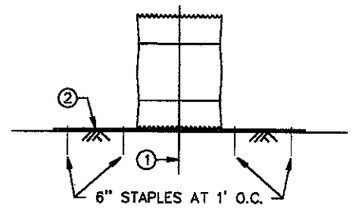
BIOROLL BLANKET SYSTEM DITCH CHECK



BALE DITCH SEDIMENT CHECK



EMBEDMENT METHOD

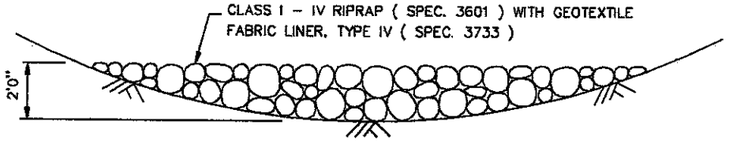


BLANKET METHOD

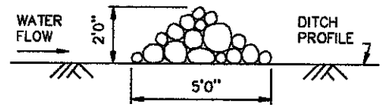
BALE CHECK DETAIL

DESIGN GUIDELINES:

	BALE	ROCK
STORM FREQUENCY:	2 YR. – 24 HR.	10 YR. – 24 HR.
MAX. FLOW VELOCITY:	5 FT./SEC.	12 FT./SEC.
MAX. DITCH GRADE:	5%	—
MAX. DRAINAGE AREA:	2 ACRES	5 ACRES

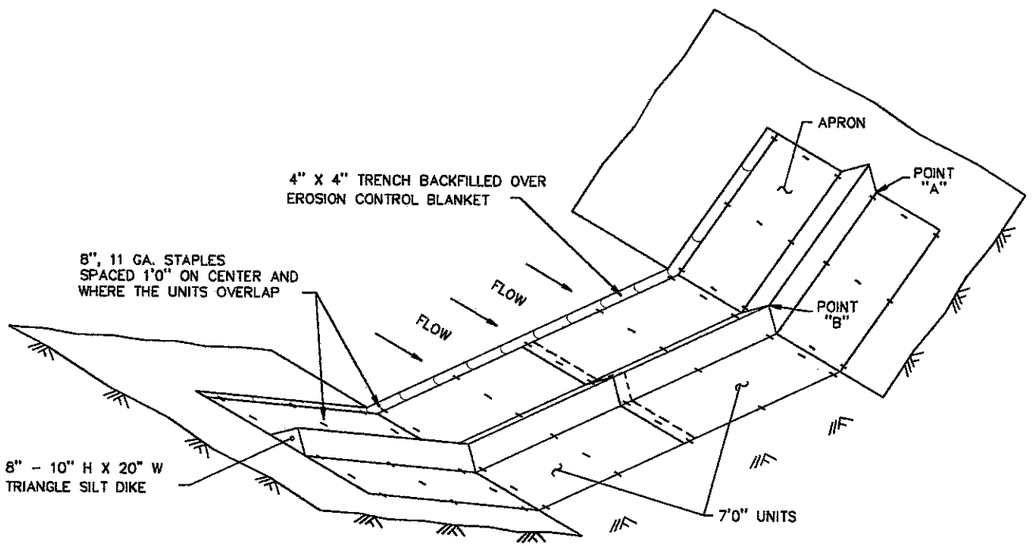


CROSS SECTION

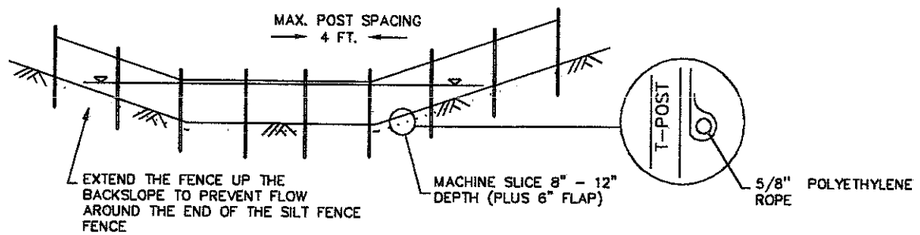


PROFILE VIEW

ROCK DITCH CHECK



GEOTEXTILE TRIANGULAR DIKE DITCH CHECK



SPACING DISTANCE = SILT FENCE HEIGHT / % CHANNEL SLOPE

DESIGN GUIDELINES	
STORM FREQUENCY	2 YR.– 24 HR
MAX. DITCH GRADE	5%
MAX. DRAINAGE AREA	1 ACRE

NOTE:
WHEN SEDIMENT BUILD UP REACHES 1.5 FT.,
THE SILT SHOULD BE REMOVED OR A SECOND
SILT FENCE BUILT UPSTREAM FROM THE
EXISTING ONE AT A SUITABLE DISTANCE.

SILT FENCE DITCH CHECK, TYPE MACHINE SLICED

NOTES:

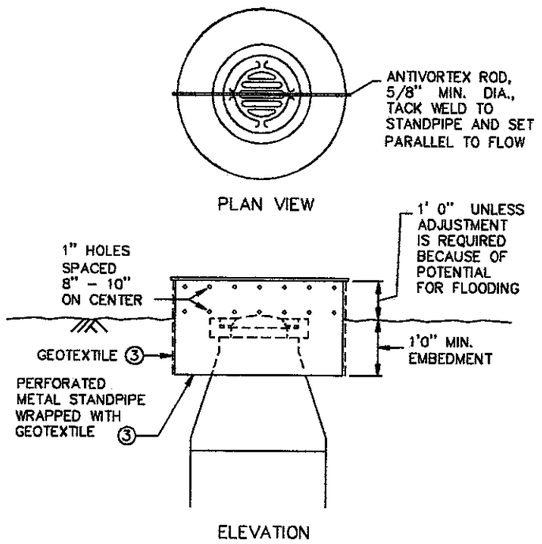
SEE SPECS. 2573, 3885, 3886 & 3889.

SPACING OF DITCH CHECKS IS DEPENDENT ON DRAINAGE AREA AND GRADES. SEE DISTRICT HYDRAULICS ENGINEER FOR RECOMMENDATIONS.

① TWO 2 IN. X 2 IN. WOOD STAKES OR REINFORCING BARS IN EACH BALE. AND EMBEDDED IN THE GROUND 10 IN. MINIMUM.

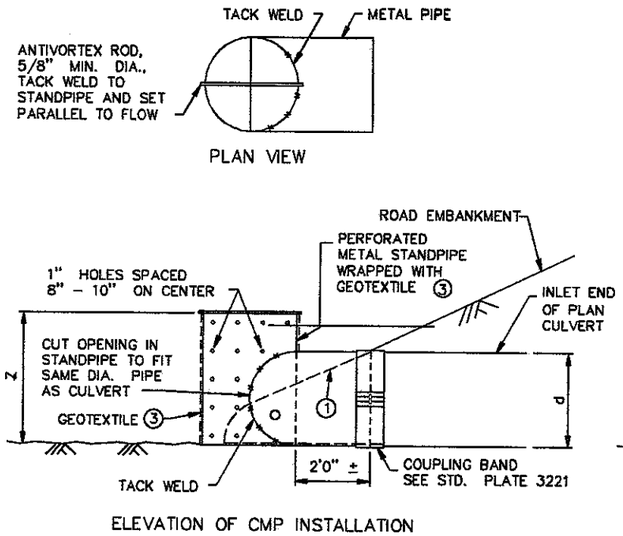
② PLACE A CATEGORY 3 EROSION CONTROL BLANKET, 6 FT WIDE MINIMUM, UNDER THE BALE DITCH CHECK INSTEAD OF TRENCHING.

STANDARD SHEET NO. 5-297.405 (3 OF4)	TITLE: TEMPORARY EROSION CONTROL DITCH CHECKS
STANDARD APPROVED: SEPTEMBER 19, 2000	
~~STATE PROJ. NO.~~ SAP 55-599-76	SHEET NO. 9 OF 12 SHEETS



TEMPORARY STANDPIPE
TO PROTECT DROP INLET
TYPE A SPEC. 3891

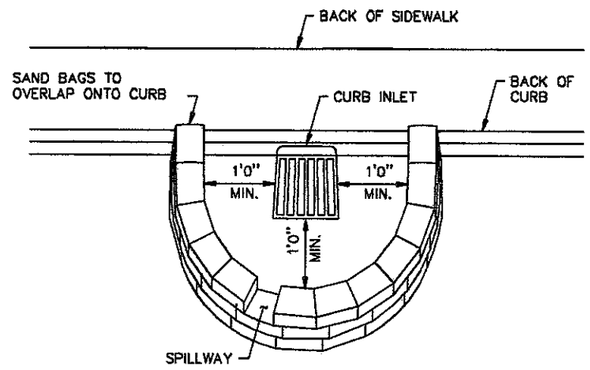
DESIGN GUIDELINES:
STORM FREQUENCY: 10 YEAR. - 24 HOUR.



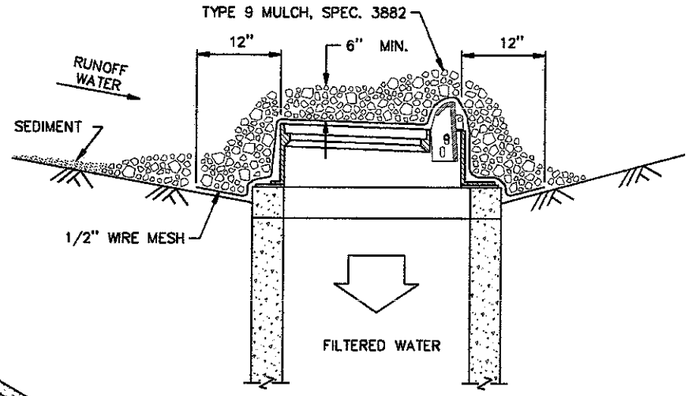
TEMPORARY STANDPIPE
FOR SEDIMENT CONTROL ON CULVERT INLET
TYPE D SPEC. 3891

d = DIA. OF STANDPIPE EQUAL TO DIA. OF PLAN CULVERT
Z = LENGTH OF PERFORATED STANDPIPE (d + 12")

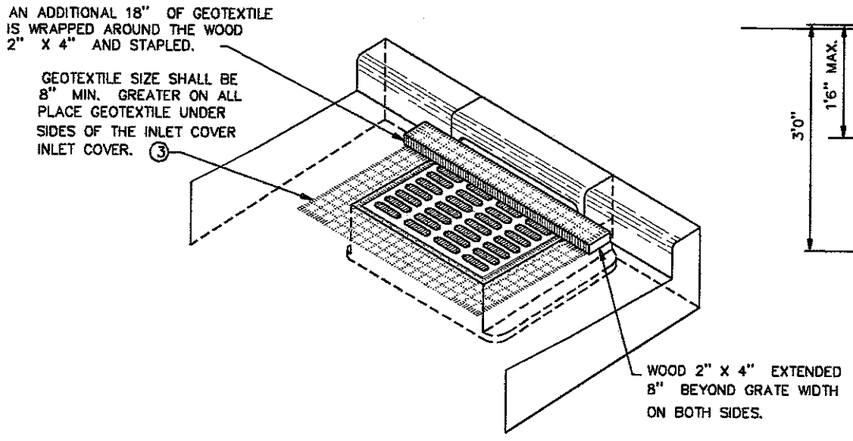
DESIGN GUIDELINES:
CULVERT SIZE: 12" - 36"
STORM FREQUENCY: 10 YR. - 24 HR.



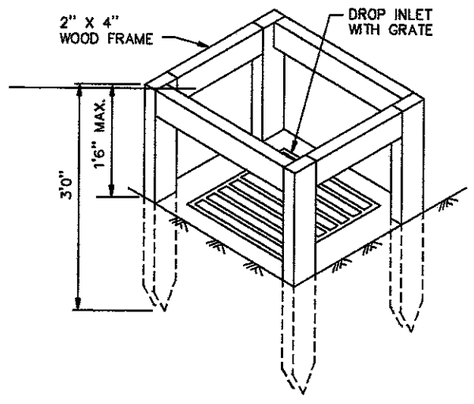
CURB INLET SAND BAG BARRIER
THIS INLET PROTECTION IS USED BEFORE THE ROAD IS PAVED
TYPE B OR C SPEC. 3891

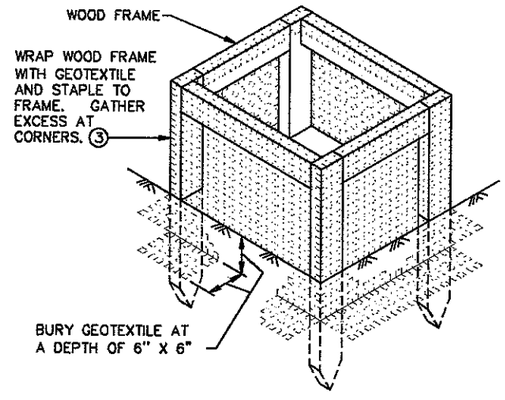


AGGREGATE FILTER AT CURB INLET
TYPE B OR C SPEC. 3891



SILT FENCE BOX TO PROTECT DROP INLETS
TYPE A SPEC. 3891





SILT FENCE BOX TO PROTECT DROP INLETS
USE WHERE INLET DRAINS AN AREA WITH SLOPES AT 1:3 or LESS
TYPE A SPEC. 3891

NOTES:
SEE SPECS. 2573, 3891 & 3893.

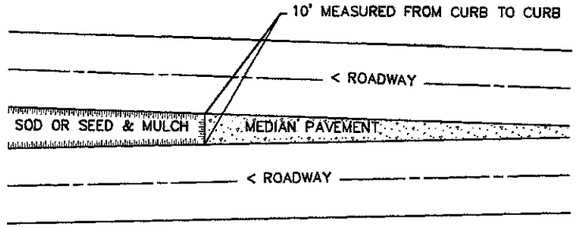
MANUFACTURED ALTERNATIVES LISTED ON Mn/DOT'S APPROVED PRODUCTS LIST MAY BE SUBSTITUTED.

(1) FOR CMP, REMOVE TEMPORARY STANDPIPE AND INSTALL CULVERT APRON AFTER VEGETATION IS ESTABLISHED.

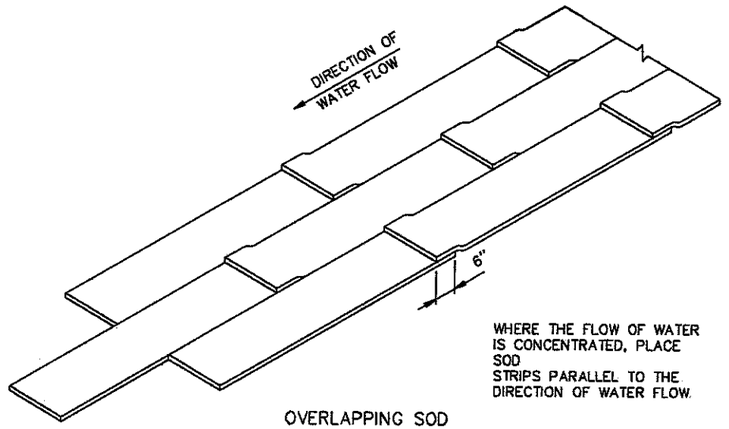
(2) FOR RCP, INSTALL CULVERT APRON AND SLIDE ESTABLISHED, TEMPORARY STANDPIPE INTO RCP. AFTER VEGETATION IS ESTABLISHED REMOVE TEMPORARY STANDPIPE.

(3) ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONO/MONO, MEETING SPEC. 3886 FOR MACHINE SLICED.

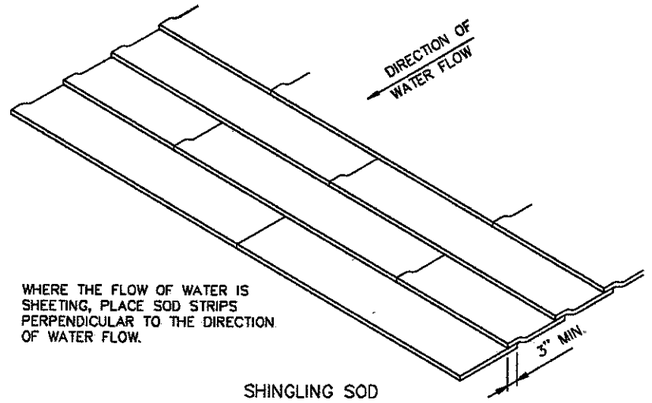
STANDARD SHEET NO. 5-297.405 (4 OF 4)	TITLE: TEMPORARY EROSION CONTROL TEMPORARY INLET PROTECTION
STANDARD APPROVED: SEPTEMBER 19, 2000	
~~STATE PROJ. NO.~~ SAP 55-599-76	SHEET NO. 10 OF 12 SHEETS



SODDING LIMITS AT GORE AREA

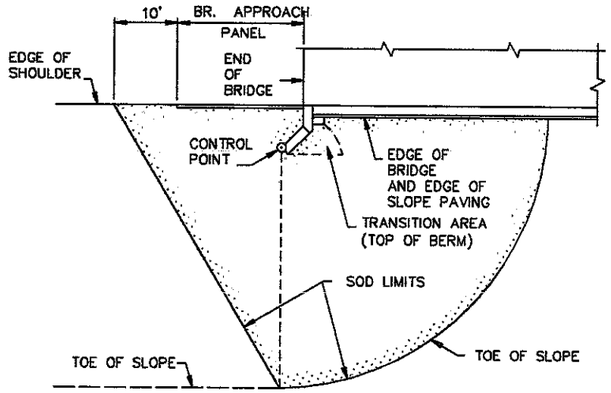


OVERLAPPING SOD

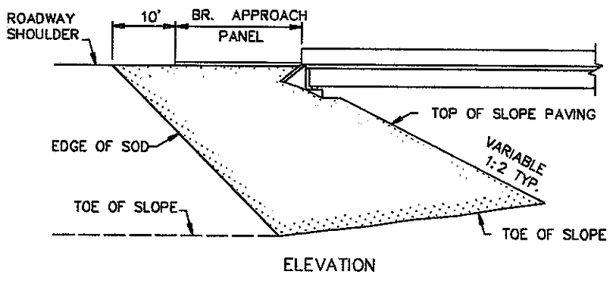


SHINGLING SOD

SPECIAL SOD PLACEMENT TECHNIQUES

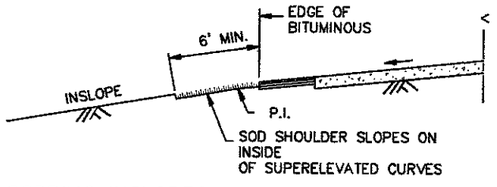


PLAN

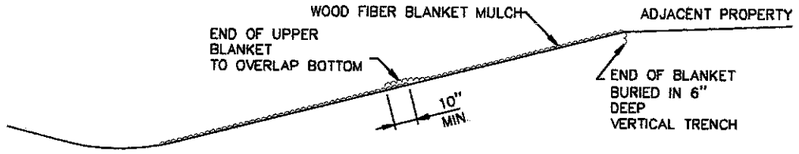


ELEVATION

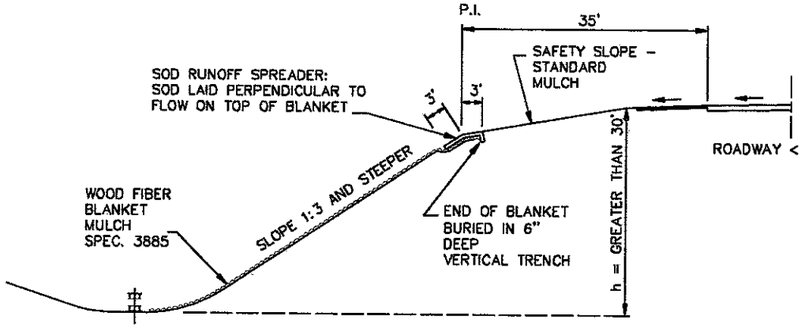
SODDING LIMITS AT BRIDGE APPROACH FILLS



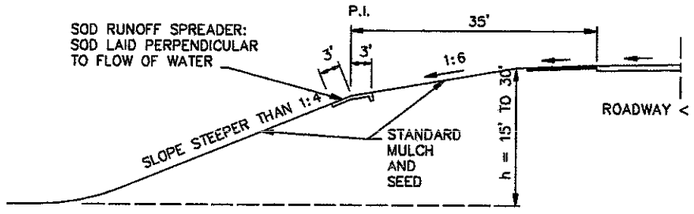
SODDING INSLOPES OF SUPERELEVATED CURVES



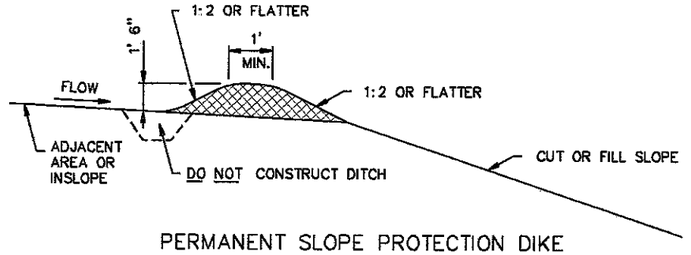
WOOD FIBER BLANKET INSTALLATION ON A CUT SLOPE



WOOD FIBER BLANKET INSTALLATION ON AN INSLOPE
(WHEN REQUIRED)

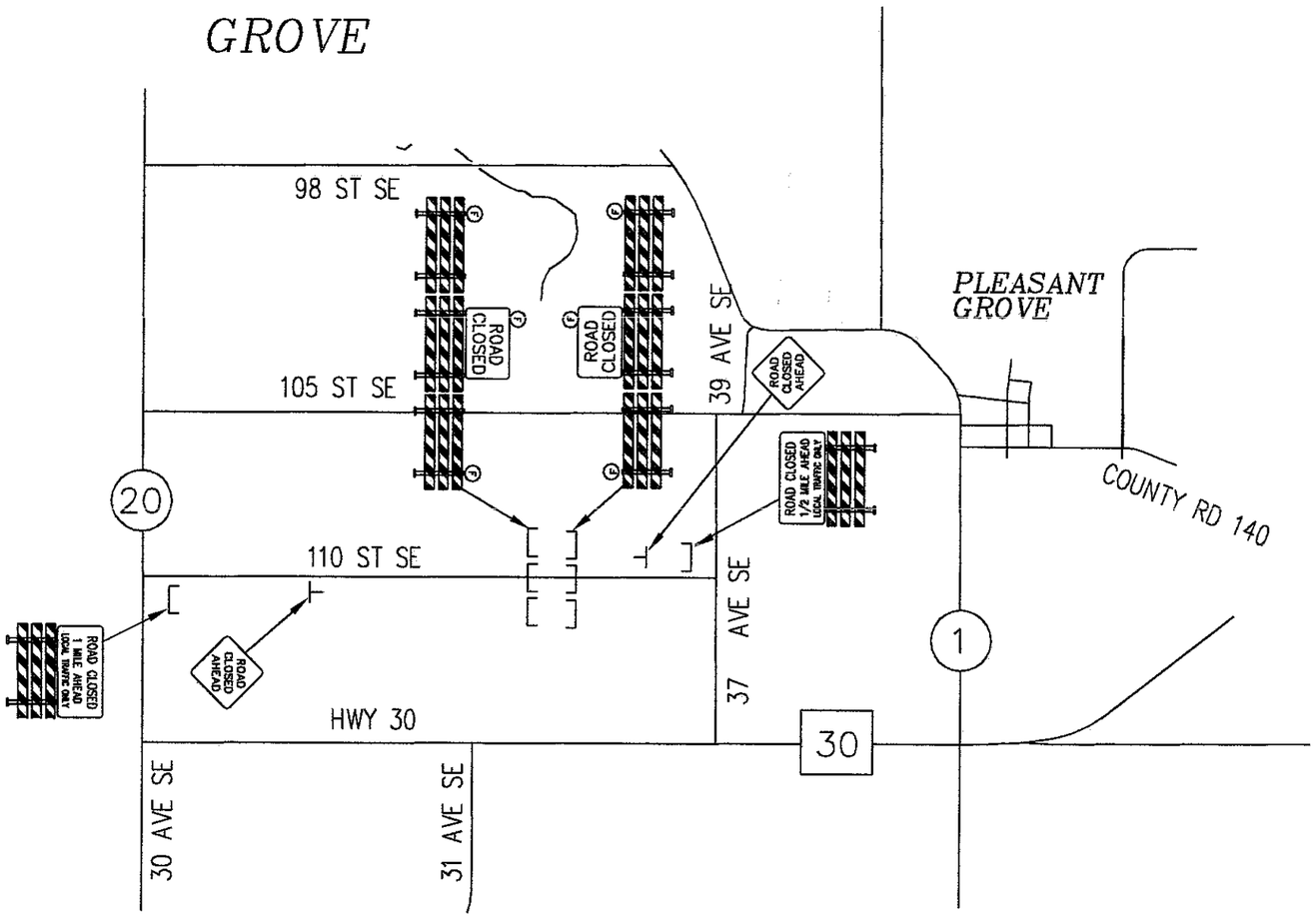


BROKEN-BACK SAFETY FILL SLOPE



PERMANENT SLOPE PROTECTION DIKE

STANDARD SHEET NO. 5-297.406	TITLE: PERMANENT EROSION CONTROL ALONG ROADWAYS AND AT GORE AREAS & BRIDGE APPROACH FILLS
STANDARD APPROVED: JANUARY 31, 1985	
REVISION DATE 10-26-2000	~~STATE PROJ. NO.~~ SAP 55-599-76 SHEET NO. 11 OF 12 SHEETS



ESTIMATE OF TRAFFIC CONTROL DEVICES									
DEVICE	NUMBER	SIZE	COLOR	QUANTITY	DEVICE	NUMBER	SIZE	COLOR	QUANTITY
ROAD CLOSED	R11-2	48 x 30	BLK/WH	2		TYPE III	MIN. 6'	OR & WHT	8
ROAD CLOSED MILE AHEAD LOCAL TRAFFIC ONLY	R11-3	60 x 30	BLK/WH	2	(F)	TYPE A	FLASHING LAMP	AMBER	6
ROAD CLOSED AHEAD	W20-3	48 x 48	BLK/OR	2					

ALL COSTS INCURRED FOR MATERIALS, INSTALLATION, AND MAINTENANCE OF TRAFFIC CONTROL AS SHOWN ON THIS SHEET, AND RELATED WORK DURING CONSTRUCTION SHALL BE CONSIDERED AN INCIDENTIAL EXPENSE.

N

TRAFFIC CONTROL LEGEND

- ⊥ POST OR STAND MOUNTED SIGN
- ⊔ TYPE III BARRICADE
- (F) TYPE "A" AMBER FLASHING LAMP

TRAFFIC CONTROL NOTES

1. THE LOCATION OF SIGNS AND DEVICES WILL BE STAKED BY THE ENGINEER IN THE FIELD.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRAFFIC CONTROL ON THIS PROJECT.
3. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING THE TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS FIELD MANUAL DATED JANUARY 2001.
4. CONSTRUCTION ZONE SIGNING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND WILL INCLUDE, BUT NOT BE LIMITED TO SIGNS FOR LANE CLOSURE, MACHINERY AHEAD, BUMP, DIP, LOOSE GRAVEL, ETC.. THE NUMBER AND LOCATION WILL BE DETERMINED BY THE CONTRACTORS OPERATION.
5. ALL BARRICADES ON THIS PROJECT SHALL BE REFLECTORIZED ON BOTH SIDES.

INPL. ℄ CULV. STA. 5+12
90" x 24' CMP W/CONC. HEADWALLS
REMOVE 24 LIN. FT.

CONST. ℄ CULVERT STA. 5+12 SKEWED 7 1/2°
169" x 48' SPAN R.C. PIPE-ARCH CULVERT
2-169" SPAN R.C. PIPE-ARCH APRONS
PLACE BARREL SECTION ON 43 CU. YDS. GRANULAR BEDDING

PLACE 100 CU. YDS. CLASS IV RIPRAP AT OUTLET

see Revised R.O.W.

BEGIN PROJECT:
STA 2+50

END PROJECT:
STA 9+00

PLACE 10 CU.YDS. CLASS IV RIPRAP AT INLET

INPL. ℄ CULV. STA 5+81
30" x 32' CMP NO APRONS
REMOVE 32 LIN. FT.

NEW BRIDGE NO. 55J37

FINISHED PROFILE GRADE

ORIG. PROFILE GRADE

VPC STA = 3+08.41
VPC EL = 1243.48

VPT STA = 8+08.41
VPT EL = 1236.04

-7.78%

4.95%

VPI STA = 5+58.41
VPI EL = 1223.66
500' V.C.
(30 MPH)

INLET EL. 1218.3
STA 5+06.26

OUTLET EL. 1218.1
STA 5+17.74

CERTIFIED BY Kaye M Brenner LICENSED PROFESSIONAL ENGINEER LIC. NO. 19917 3/1 2001

S.A.P. 55-599-76

SHEET 4 OF 12 SHEETS

INPL. ℄ CULV. STA. 5+12
90" x 24' CMP W/CONC. HEADWALLS
REMOVE 24 LIN. FT

CONST. ℄ CULVERT STA. 5+12 SKEWED 7 1/2°
169" x 48' SPAN R.C. PIPE-ARCH CULVERT
2-169" SPAN R.C. PIPE-ARCH [illegible]ONS
PLACE BARREL SECTION ON 43[illegible] YDS ℄ [illegible]ULAR BEDDING

PLACE 100 CU. YDS. CLASS IV RIPRAP AT OUTLET

BEGIN PROJECT:
STA 2+50

END PROJECT:
STA 9+00

+20
44'
+70
20'
+80
15'
50'
75'
33'
33'
33'
33'
50'
+75
+75
+25
+25

2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00

PLACE 10 CU.YDS CLASS IV RIPRAP AT INLET

INPL. ℄ CULV. STA. 5+81
30" x 32' CMP NO APRONS
REMOVE 32 LIN. FT

NEW BRIDGE NO 55J37

FINISHED PROFILE GRADE
ORIG. PROFILE GRADE

1248.04 1244.15 1240.41 1237.30 1234.84 1233.02 1231.84 1231.31 1231.43 1232.18 1233.58 1235.63 1240.57

VPC STA = 3+08.41
VPC EL = 1243.48
-7.78%
VPI STA = 5+58.41
VPI EL = 1223.66
500' V.C.
(30 MPH)
VPT STA = 8+08.41
VPT EL = 1236.04
4.95%

1251.55 1244.15 1233.35 1230.13 1229.52 1230.81 1234.20 1240.87

INLET EL. 1218.3
STA 5+06.26
OUTLET EL. 1218.1
STA [illegible]17.74

1270 1260 1250 1240 1230 1220 1210 1200

2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00

+50 +00

AS-BUILT
FEB 25 2002
ENGINEERING

CERTIFIED BY _____ LIC NO _____ 20__
LICENSED PROFESSIONAL ENGINEER

S.A.P. 55-599-76

SHEET 4A OF 12 SHEETS