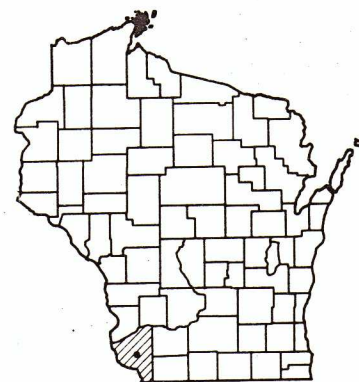




Index of Sheets

Sheet No. 1 Title
 Sheet No. 2-2.2 Typical Sections and Details
 Sheet No. 3 & 3.1 Estimate of Quantities
 Sheet No. 3A & 8.1 Miscellaneous Quantities
 Sheet No. 2.1 Right of Way Plat
 Sheet No. 5 Plan and Profile
 Sheet No. 6-6.14 Standard Detail Drawings
 Sheet No. Sign Plates
 Sheet No. 8-8.8 Structure Plans
 Sheet No. Computer Earthwork Data
 Sheet No. 9-9.3 Cross Sections

TOTAL SHEETS = 36



Design Designation

A.D.T. (1993) = 800
 A.D.T. (2013) = 1000
 D.H.V. (2013) = 115
 D. = 60/40
 T. = 8.4%
 DESIGN SPEED = 50 mph
 ESALS = N/A

Conventional Symbols

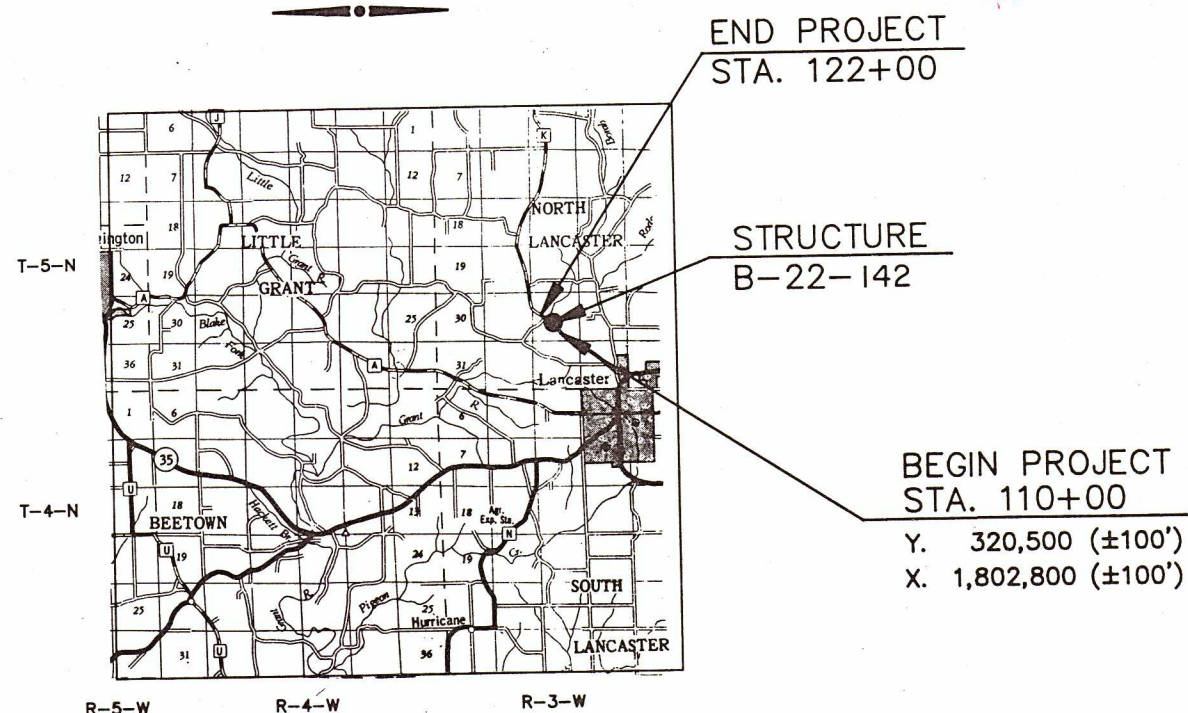
County Line	-----	Combustible Fluids	-----
Town or Range Line	-----	Railroad	-----
Section Line	-----	Fence	-----
Corporate Limits	-----	Culvert (in Place)	-----
Property Line	-----	Culvert (Required)	-----
Lot Line	-----	Power Pole	-----
Existing Right of Way Line	-----	Telephone Pole	-----
New Right of Way Line	-----	Right of Way Monument (Type)	-----
Reference Line	-----	Marsh	-----
Slope Intercept	-----	Wooded or Shrub Area	-----
Existing Roadway or	-----	Grade Line Elevation	-----
Private Entrance	-----	Water	-----
Limited Easement	-----	Gas	-----
Right of Way Point	-----	Telephone	-----
Silt Fence	-----	Electric	-----
Erosion Bales	-----	Cable Television	-----
Sod	-----	Fiber Optic	-----
Ditch Dike	-----	Sanitary Sewer	-----
Reinforced Sod	-----	Storm Sewer	-----
Intercepting Embankment	-----	Guardrail	-----
Riprap	-----		
Erosion Mat	-----		

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

LANCASTER - MT. IDA ROAD

(GRANT RIVER BRIDGE & APPROACHES)

C.T.H. "K"
GRANT COUNTYSTATE PROJECT NUMBER
5805-00-73END PROJECT
STA. 122+00STRUCTURE
B-22-142BEGIN PROJECT
STA. 110+00
Y. 320,500 (±100')
X. 1,802,800 (±100')

Layout
 Scale 0 1 2 Mi.
 Total Net Length of Centerline: 0.227 Mi. (Rural)

COORDINATES ARE SCALED FROM THE U.S.G.S. TOPOGRAPHIC MAP
FENNIMORE, WISCONSIN QUADRANGLE, FOR IDENTIFICATION ONLY.

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5805-00-73	BRF 0215(5)	1

LOCAL UNIT COPY
AS BUILT CONSTRUCTION PLAN

WORK TYPE GRADING, C&G, ASPHALTIC PAVEMENT, STRUCTURE
 CONTRACTOR EDWARD KRAEMER & SONS
 PROJECT MANAGER ANDREW YOUNG - FOTH & VANDYKE
 WORK START-COMPLETED 6-14-93 / 9-29-93

ACCEPTED FOR
COUNTY OF GRANT

DATE 12-18-92 Stanley W. Aling
 COMMISSIONER

ORIGINAL PLANS PREPARED BY:

MSA MID-STATE ASSOCIATES, INC.
 1230 South Blvd, Baraboo, WI 53913



DATE 12-18-92 Daniel H. Wagner
 Signature

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor MID-STATE ASSOCIATES, INC.
 Designer MID-STATE ASSOCIATES, INC.
 District Examiner _____
 District Supervisor _____
 C.O. Examiner N.R. AFFELDT

APPROVED FOR DISTRICT OFFICE

DATE 1-5-93 Jeffrey J. Hansen
 (Signature)

AUTHORIZED FOR DISTRICT OFFICE

DATE 1-11-93 Kevin Chanis
 (Signature)

STATE PROJECT NUMBER	SHEET NO.
5805-00-73	2.0
TYPICAL SECTIONS & DETAILS	

STANDARD ABBREVIATIONS

A.D.T.	AVERAGE DAILY TRAFFIC
B.F.	BACKFACE
D.	DEGREE OF CURVE
D.	DIRECTIONAL DISTRIBUTION
E.R.E.	ESTIMATED ROCK ELEVATION
F.F.	FRONT FACE
H.W.	HIGH WATER
L.	LENGTH OF CURVE
OBS.	OBSERVED

UTILITIES

ELECTRIC:
GRANT-LAFAYETTE ELECTRIC COOP.
231 NORTH SHERIDAN
LANCASTER, WI. 53813
ATTN.: BILL AXTELL
PHONE: 608-723-2121

TELEPHONE
FARMERS TELEPHONE CO.
140 N. MONROE
LANCASTER, WI 53813
ATTN.: CARL MUENCH
PHONE: 608-723-2181

APPLICABLE STANDARD DETAIL DRAWINGS

8E7-1	EROSION MAT
8E9-3	SILT FENCE
8F1-10a	APRON ENDWALLS FOR CULVERT PIPE
9A1-8a	AT-GRADE SIDE ROAD INTERSECTIONS, TYPE "B", "C" & "D"
12A3-4	NAME PLATE-STRUCTURES
14B15-1a	CLASS "A" STEEL PLATE BEAM GUARD, INSTALLATION & ELEMENTS
14B16-1a&b	CLASS "A" STEEL PLATE BEAM GUARD END TREATMENT WITH ANCHORAGE, TYPE 1&2 (TWO SHEETS)
14B18-1a	CLASS "A" STEEL PLATE BEAM GUARD (AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS)
14B20-2a	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-2d	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPES "F" & "W"
15C2-2	BARRICADES AND TRAFFIC CONTROL FOR ROAD CLOSURES
15C6-3	TRAFFIC CONTROL DEVICES FOR TWO LANE BRIDGES
15C8-4a	PAVEMENT MARKING (MAINLINE & INTERSECTIONS)
8E8-1	EROSION BALES

GENERAL NOTES

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS ARE TO BE FERTILIZED, SEEDED AND MULCHED AS DIRECTED BY THE ENGINEER.

THE LOCATIONS OF EXISTING OR PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

NO TREES OR SHRUBS ARE TO BE REMOVED UNLESS SUCH TREES OR SHRUBS HAVE FIRST BEEN INDICATED FOR REMOVAL BY THE ENGINEER IN THE FIELD.

THE CONTROL SURVEY CONDUCTED FOR THIS PROJECT MET THIRD ORDER CONTROL SURVEY SPECIFICATIONS.

SILT FENCE TO BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.

THE WISCONSIN DEPARTMENT OF TRANSPORTATION WILL FURNISH THE CONTRACTOR A MONUMENT WHICH SHALL BE SET IN THE STRUCTURE AS DESIGNATED BY THE ENGINEER.

WHEN THE QUANTITY OF BASE OR SURFACE COURSE IS MEASURED FOR PAYMENT BY THE TON OR CUBIC YARD, THE THICKNESS OF THE COURSE SHOWN ON THE PLAN IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

THE 3" ASPHALTIC SURFACE SHALL CONSIST OF A 1 1/2-INCH UPPER COURSE AND A 1 1/2-INCH LOWER COURSE.

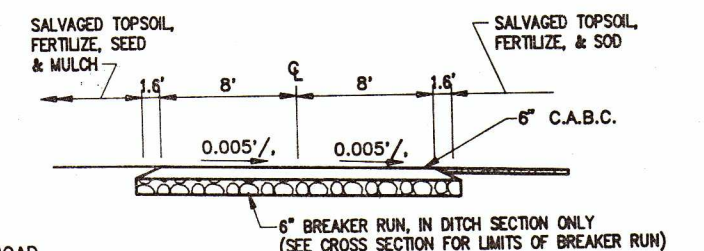
THE ASPHALTIC SURFACE SHALL TAPER IN 100 FEET FROM 32 FEET WIDE AT THE ENDS OF THE BRIDGE TO THE TYPICAL 22 FT. WIDTH.

CULVERT PIPE ELEVATIONS AS SHOWN ON THE PLAN MAY BE ADJUSTED TO FIT EXISTING FIELD CONDITIONS BY THE ENGINEER IN THE FIELD.

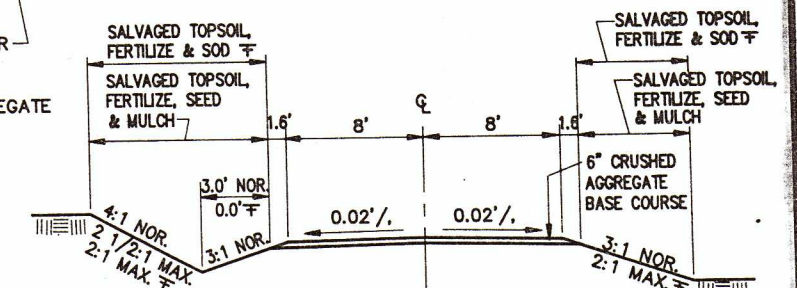
EXACT LOCATION OF FIELD ENTRANCES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO U.S.G.S. DATUM, A STANDARD BRASS CAP IN A CONCRETE POST, A U.S.G.S. BENCH MARK, AT STATION 103+71, 70 FEET LEFT, EL. 839.52

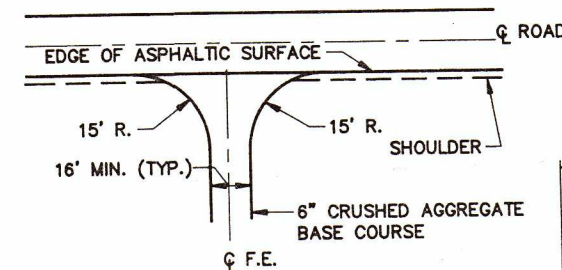
BEARINGS SHOWN ON THIS PLAN ARE REFERENCED TO PROJECT ID. 5805-00-71.



FIELD ENTRANCE TYPICAL SECTION
STA. 115+35, LT.



FIELD ENTRANCE TYPICAL SECTION
STA. 115+67, RT. & STA. 120+00, RT.
* DIMENSIONS FOR F.E. STA 120+00, RT.

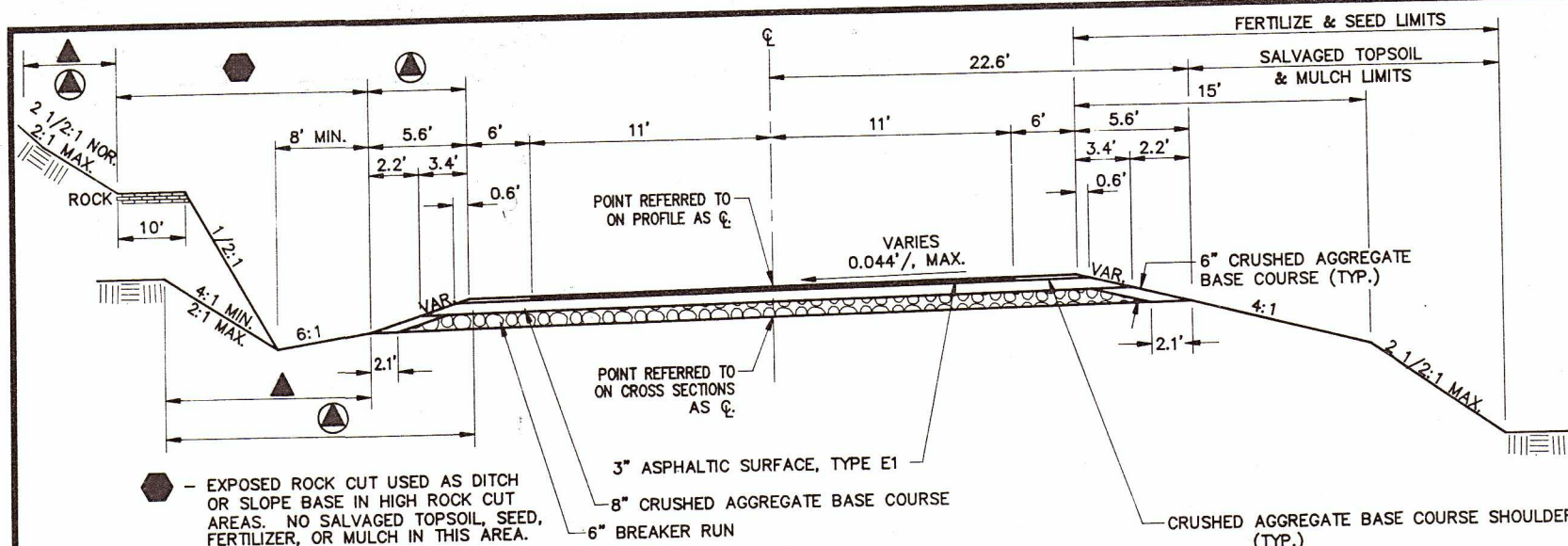


FIELD ENTRANCE PLAN *

STA. 115+35, LT.
STA. 115+67, RT.

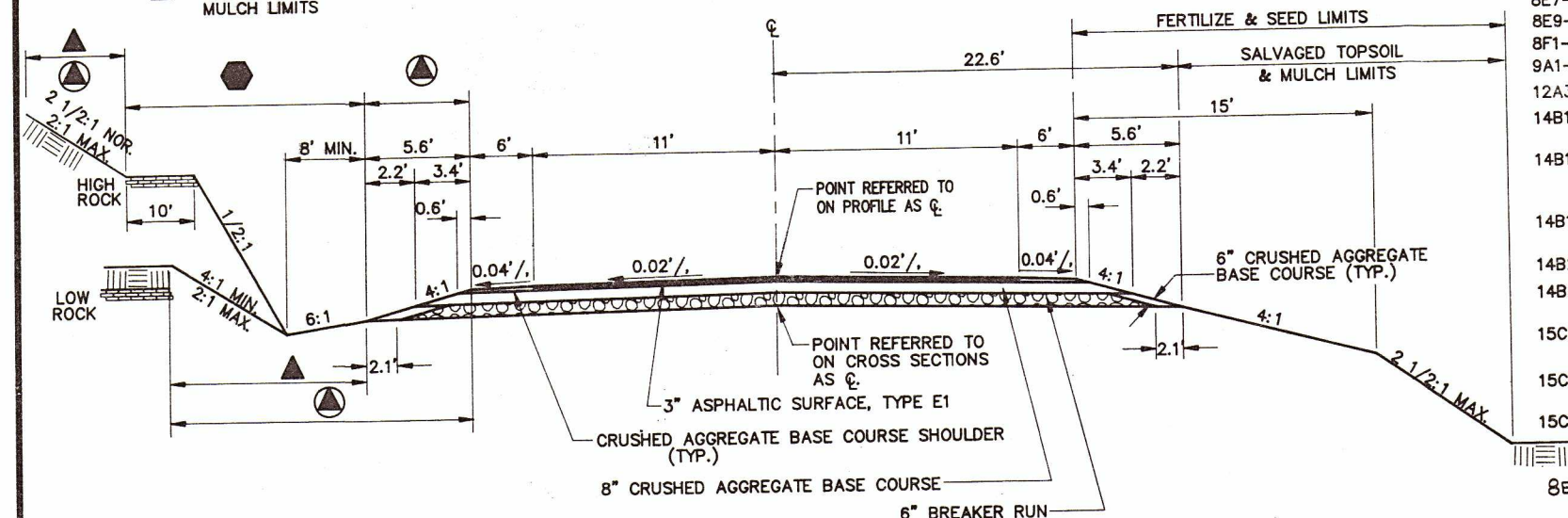
* SEE LAYOUT DETAILS FOR THE F.E. AT
STA. 120+00, RT. ON THE CONTOUR
MAP & EROSION CONTROL PLAN SHEET.

FIELD ENTRANCE DETAILS



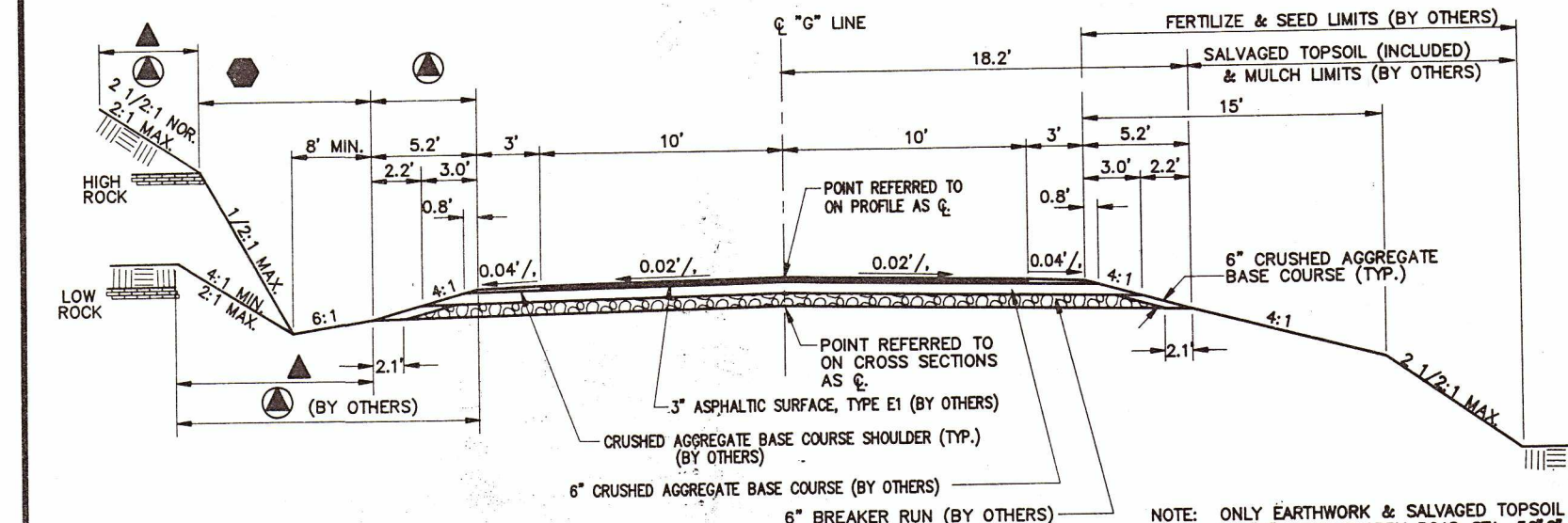
SUPERELEVATED SECTION

STA. 118+57 - STA. 122+00



TYPICAL SECTION

STA. 110+00 - STA. 118+57



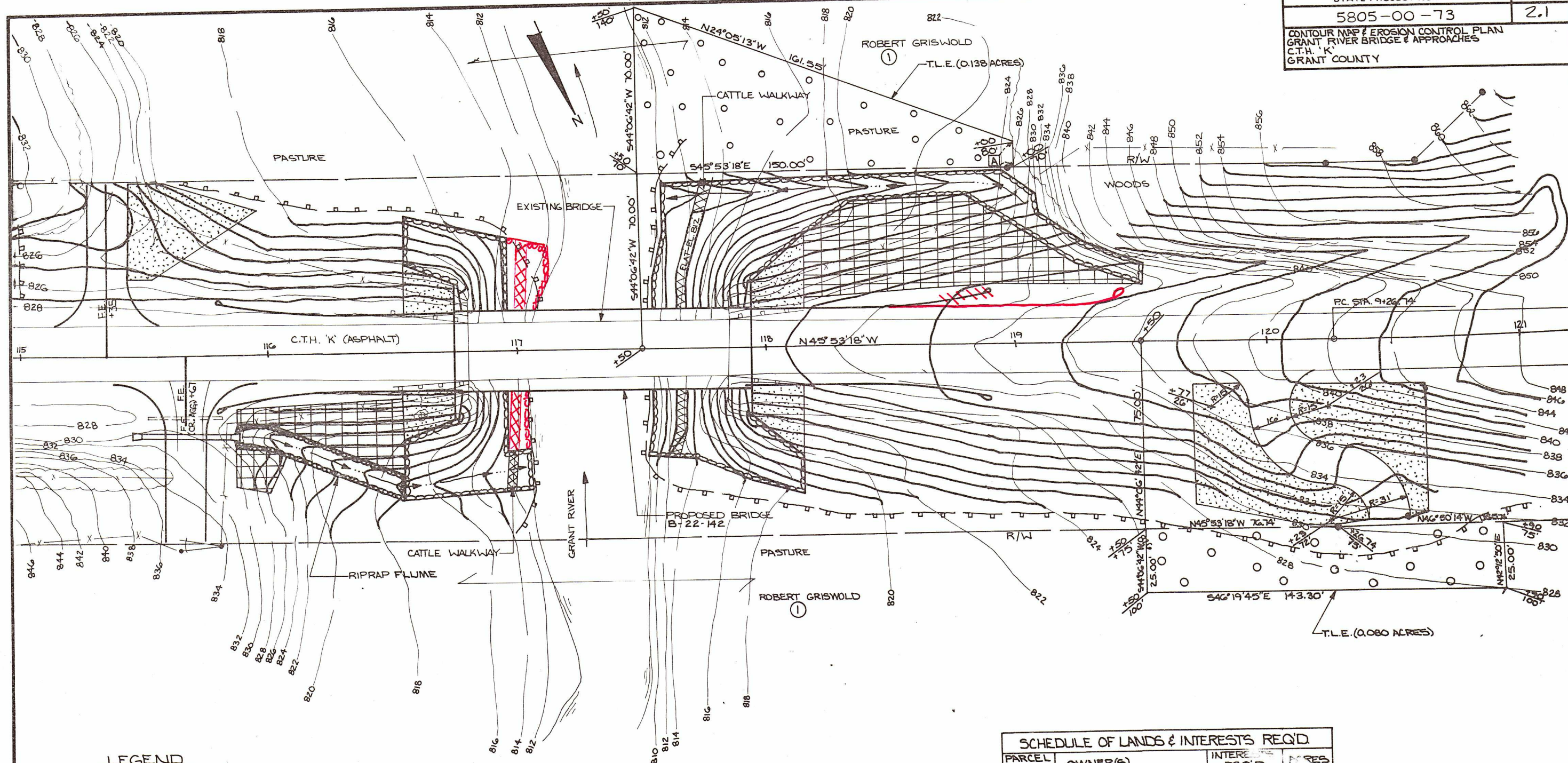
TYPICAL SECTION

QUARRY ROAD STA. 56+50 - STA. 59+19

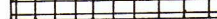
NOTE: ONLY EARTHWORK & SALVAGED TOPSOIL ITEMS
ON "G" LINE, QUARRY ROAD STA. 56+50 TO
STA. 59+19 ARE INCLUDED IN PROJECT.

2.1

CONTOUR MAP & EROSION CONTROL PLAN
GRANT RIVER BRIDGE & APPROACHES
C.T.H. 'K'
GRANT COUNTY



LEGEND

- | | |
|----------------------|---|
| EXISTIN CONTOURS |  |
| FINISHED CONTOURS |  |
| GROUTED HEAVY RIPRAP |  |
| HEAVY RIPRAP |  |
| RIPRAP |  |
| SOD |  |
| SILT FENCE |  |
| EROSION MAT |  |

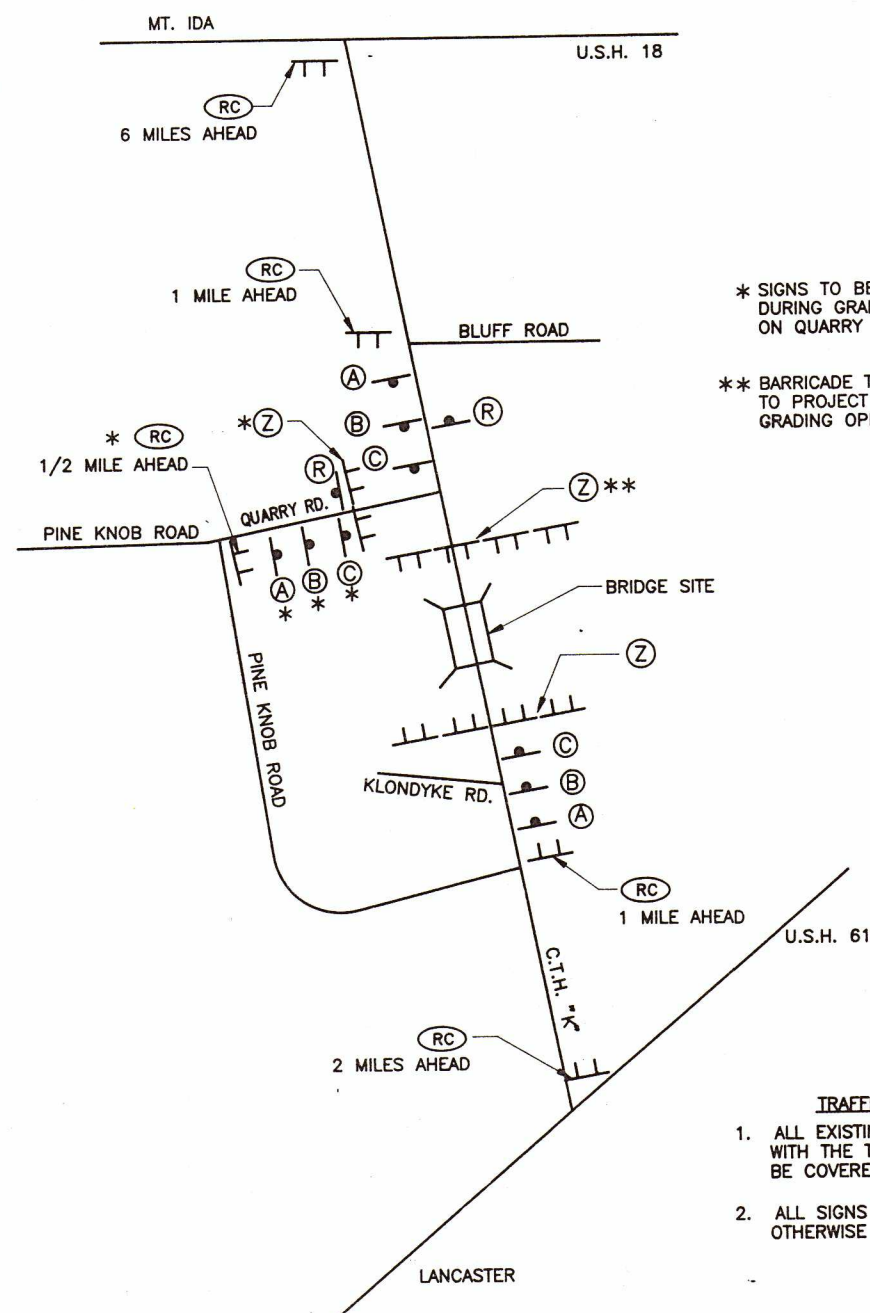
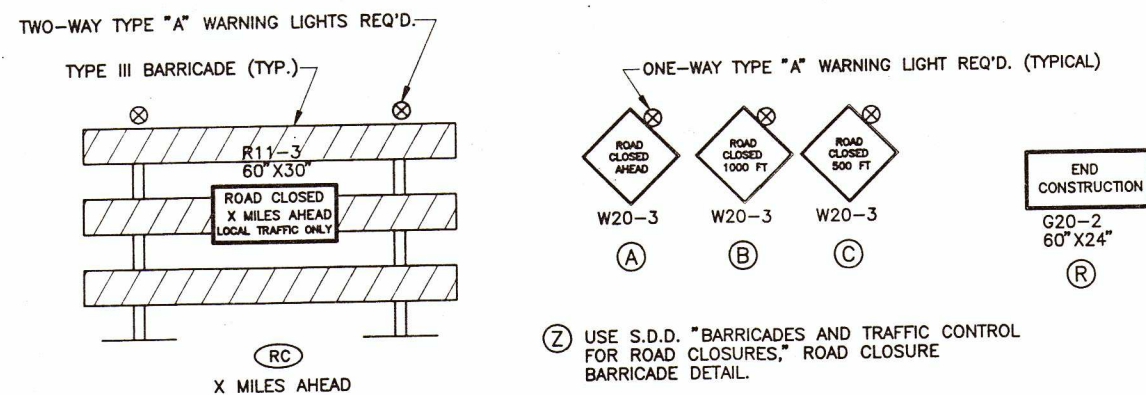
SCHEDULE OF LANDS & INTERESTS REQ'D.

PARCEL NUMBER	OWNER(S)	INTEREST REQ'D	APPROX ACRES
1	ROBERT GRISWOLD	T.L.E.	0.218

R/W COURSE DATA

COURSE	BEARING	DISTANCE
A	N44°06'42"E	10.00'

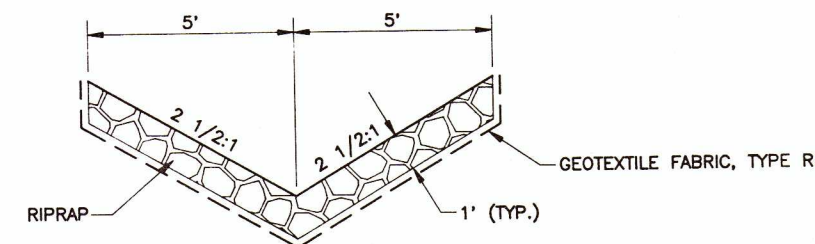
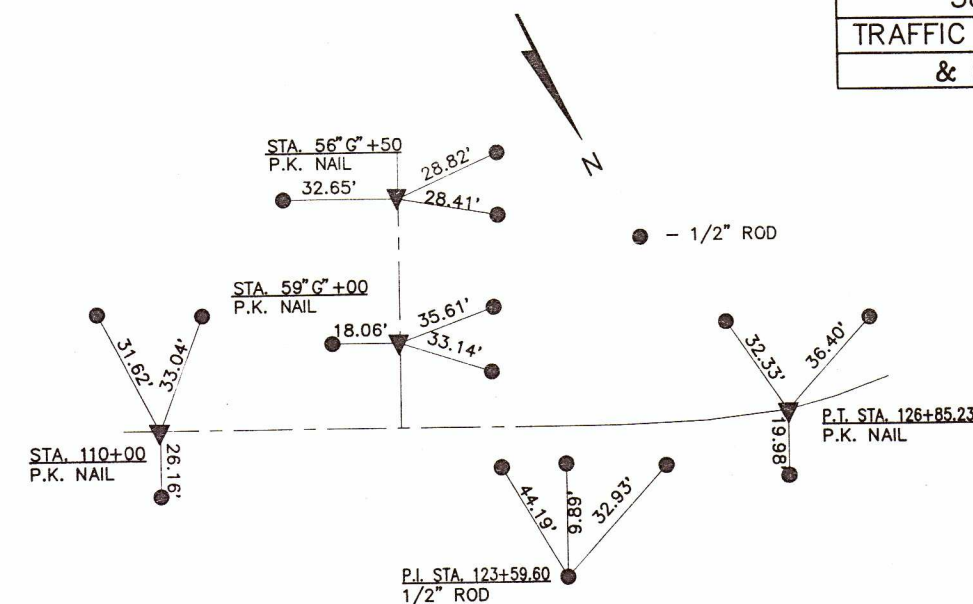
STATE PROJECT NUMBER	SHEET NO.
5805-00-73	2.2
TRAFFIC CONTROL, DETAILS & PROJECT TIES	



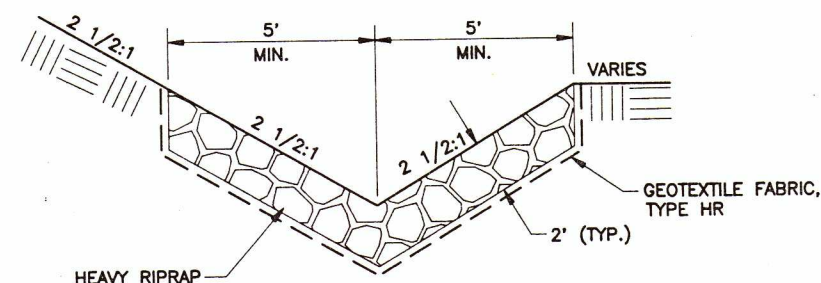
* SIGNS TO BE IN PLACE ONLY DURING GRADING OPERATIONS ON QUARRY ROAD.

** BARRICADE TO BE MOVED TO PROJECT LIMITS ONLY DURING GRADING OPERATIONS ON QUARRY RD.

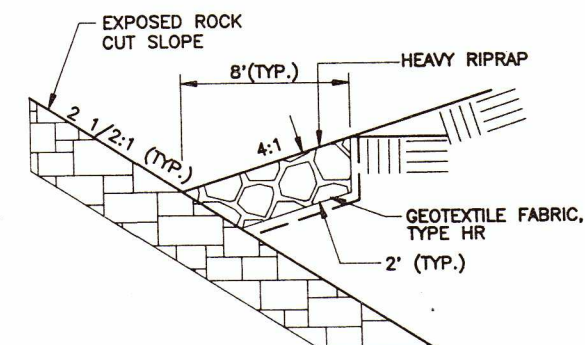
- TRAFFIC CONTROL NOTES**
1. ALL EXISTING SIGN MESSAGES WHICH CONFLICT WITH THE TRAFFIC CONTROL PLAN SHALL BE COVERED.
 2. ALL SIGNS ARE 48-INCH X 48-INCH UNLESS OTHERWISE NOTED.



RIPRAP FLUME DETAIL
STA. 115+85 - STA. 116+55, RT.



STA. 118+35 - STA. 119+10, LT.



STA. 119+10 - STA. 119+50, LT.

NOTE: EXTEND FLUME UNTIL DITCH INSLOPE CAN BE NOTCHED INTO ROCK CUT.

HEAVY RIPRAP FLUME DETAILS

DATE 02/25/93

ESTIMATE OF QUANTITIES

ITEM	ITEM DESCRIPTION	UNIT	TOTAL	5805-00-73 QUANTITY
20101	CLEARING	STA.	9.00	9.00
20104	GRUBBING	STA.	9.00	9.00
20351	REMOVING OLD BRIDGE, L.S. STATION 117+33, ON C/L	L.S.	1.00	1.00
20411	REMOVING GUARDRAIL	L.F.	116.00	116.00
20501	COMMON EXCAVATION	C.Y.	5,859.00	5,859.00
20502	ROCK EXCAVATION	C.Y.	5,617.00	5,617.00
20611	EXCAVATION FOR STRUCTURES, BRIDGES B-22-142	L.S.	1.00	1.00
21302	FINISHING ROADWAY, PROJECT 5805-00-73	L.S.	1.00	1.00
30403	CRUSHED AGGREGATE BASE COURSE	C.Y.	1,770.00	1,770.00
50201	CONCRETE MASONRY, BRIDGES	C.Y.	221.00	221.00
50230	PROTECTIVE SURFACE TREATMENT	GAL.	17.00	17.00
50309	PRESTRESSED GIRDER, I TYPE, 70-INCH	L.F.	464.00	464.00
50504	HIGH-STRENGTH BAR STEEL REINFORCEMENT, BRIDGES	LB.	4,100.00	4,100.00
50511	COATED HIGH-STRENGTH BAR STEEL REINFORCEMENT, BRIDGES	LB.	25,050.00	25,050.00
50626	NON-LAMINATED ELASTOMERIC BEARING PADS	EACH	8.00	8.00
51122	STEEL PILING, DELIVERED AND DRIVEN, HP 12-INCH 53 POUND	L.F.	300.00	300.00
51130	PILE POINTS	EACH	12.00	12.00
51340	TUBULAR RAILING, TYPE F, STRUCTURE B-22-142	L.S.	1.00	1.00
52005	CULVERT PIPE, CLASS III, 24-INCH	L.F.	100.00	100.00
52063	APRON ENDWALLS FOR CULVERT PIPE, 24-INCH	EACH	4.00	4.00
60601	RIPRAP	C.Y.	30.00	30.00
60602	HEAVY RIPRAP	C.Y.	840.00	840.00
61407	STEEL THRIE BEAM STRUCTURE APPROACH	L.F.	108.00	108.00
61408	STEEL PLATE BEAM GUARD, CLASS A	L.F.	284.00	284.00
61412	ANCHORAGES FOR STEEL PLATE BEAM GUARD, TYPE 1	EACH	4.00	4.00

3.0

ITEM	ITEM DESCRIPTION	UNIT	TOTAL	5805-00-73 QUANTITY
61910	MORILIZATION	L.S.	.79	.79
62505	SALVAGED TOPSOIL	S.Y.	9,570.00	9,570.00
62702	MULCHING	S.Y.	6,570.00	6,570.00
62803	EROSION MAT, DELIVERED	S.Y.	630.00	630.00
62804	EROSION MAT, INSTALLED	S.Y.	630.00	630.00

62811	EROSION BALES, DELIVERED	EACH	40.00	40.00
62812	EROSION BALES, INSTALLED	EACH	40.00	40.00
62815	SILT FENCE, DELIVERED	L.F.	1,060.00	1,060.00
62816	SILT FENCE, INSTALLED	L.F.	1,060.00	1,060.00
62817	SILT FENCE MAINTENANCE	L.F.	2,120.00	2,120.00

62819	MOBILIZATIONS, EROSION CONTROL	EACH	2.00	2.00
62905	FERTILIZER, TYPE B	CWT.	7.00	7.00
63002	SEEDING	LB.	230.00	230.00
63101	SODDING	S.Y.	745.00	745.00
63401	WOOD POSTS, 4X4-INCH X 10-FT.	EACH	4.00	4.00

63702	SIGNS, TYPE II, REFLECTIVE	S.F.	12.00	12.00
64202	FIELD OFFICE, TYPE B	L.S.	.70	.70
64302	TRAFFIC CONTROL, PROJECT 5805-00-73	L.S.	1.00	1.00
64313	TRAFFIC CONTROL, DRUMS	DAYS	300.00	300.00
64318	TRAFFIC CONTROL, BARRICADES, TYPE III	DAYS	1,080.00	1,080.00

64321	TRAFFIC CONTROL, WARNING LIGHTS, TYPE A	DAYS	2,200.00	2,200.00
64326	TRAFFIC CONTROL, SIGNS	DAYS	1,120.00	1,120.00
64401	PAVEMENT MARKING, HOT PAINT	L.F.	3,660.00	3,660.00
64505	GEOTEXTILE FABRIC, TYPE R	S.Y.	100.00	100.00
64506	GEOTEXTILE FABRIC, TYPE HR	S.Y.	1,430.00	1,430.00

64601	SAWING EXISTING PAVEMENT	L.F.	44.00	44.00
90001	GROUTED HEAVY RIPRAP	C.Y.	38.00	38.00
90358	BREAKER RUN STONE	C.Y.	1,105.00	1,105.00

ITEM	ITEM DESCRIPTION	UNIT	TOTAL	5805-00-73 QUANTITY
90406	ASPHALTIC SURFACE, TYPE E1	TON	595.00	595.00
90641	TEMPORARY FENCING	L.F.	400.00	400.00

3.1

SUMMARY OF MISCELLANEOUS QUANTITIES

NOTE: ALL QUANTITIES ARE CODE 010 UNLESS OTHERWISE NOTED.

STATE PROJECT NUMBER	SHEET NO.
5805-00-73	3A
MISCELLANEOUS QUANTITIES	

CLEARING & GRUBBING

STATION TO STATION	CLEARING STA.	GRUBBING STA.
110+00 - 117+00	7	7
118+00 - 120+00	2	2
TOTALS	9	9

REMOVING GUARDRAIL

STATION TO STATION	LOCATION	L.F.
116+50 - 116+79	LT. & RT.	58
117+86 - 118+15	LT. & RT.	58
TOTAL		116

EARTHWORK

CODE	STATION TO STATION	COMMON C.Y.	ROCK C.Y.	FILL C.Y.
010	109+00 - 116+75	2574	1742	2129
010	117+94 - 123+00	1675	1411	5905
030	56'G'+50 - 59'G'+19	1330	1472	17
010	59'G'+19 - 59'G'+78	280	992	0
010	TOTALS	4529	4145	8034
030	TOTALS	1330	1472	17
PROJECT TOTALS		5859	5617	8051

30% SHRINKAGE 5% SWELL

COMMON WASTE = 1051 C.Y.

ROCK WASTE = 1472 C.Y.

NOTE: BORROW IS NOT REQ'D. BASED UPON AN ASSUMED DISTRIBUTION ON COMMON AND ROCK EXCAVATION. ESTIMATED WASTE IS 1051 C.Y. (COMMON) AND 1472 C.Y. (ROCK).

BASE COURSE

STATION TO STATION	BREAKER RUN C.Y.	CRUSHED AGGREGATE C.Y.	CRUSHED AGGREGATE SHOULDERS C.Y.
109+00 - 110+00	-	-	25
110+00 - 116+75	630	900	75
117+94 - 123+00	380	530	40
F.E. 115+35, LT.	15	25	-
F.E. 115+67, RT.	-	15	-
F.E. 120+00, RT.	-	35	-
*59'G'+19 - 59'G'+78	80	115	10
TOTALS	1105	1620	150 = 1770

*-INCLUDES INTERSECTION RADII WITH QUARRY ROAD ("G" LINE)

CULVERT PIPES, CLASS III

LOCATION	DIA. (INCHES)	LENGTH (L.F.)	APRONS (EACH)	MIN. THICKNESS (IN.) (STEEL) (ALUM.)
F.E., STA. 115+67, RT.	24	36	2	0.064 0.075
STA. 59'G'+50	24	64	2	0.064 0.075
TOTALS		100	4	

RIPRAP & GEOTEXTILE FABRIC

STATION TO STATION	LOCATION	RIPRAP C.Y.	HEAVY RIPRAP C.Y.	GEOTEXTILE FABRIC TYPE R S.Y.	GEOTEXTILE FABRIC TYPE HR S.Y.
115+85 - 116+55	DITCH, RT.	30	-	100	-
118+34 - 119+50	DITCH, LT.	-	110	-	190
TOTALS		30	110	100	190

STEEL THRIE BEAM STRUCTURE APPROACH

STATION TO STATION	LOCATION	L.F.
116+51 - 116+78	LT.	27
116+51 - 116+78	RT.	27
117+91 - 118+18	LT.	27
117+91 - 118+18	RT.	27
TOTAL		108

STEEL PLATE BEAM GUARD, CLASS A

STATION TO STATION	LOCATION	L.F.
115+80 - 116+51	LT.	71
115+80 - 116+51	RT.	71
118+18 - 118+80 119+51	LT.	71 133
118+18 - 118+89	RT.	71
TOTAL		284

ANCHORAGES FOR STEEL PLATE BEAM GUARD

LOCATION	TYPE 1 EACH
115+82, LT.	1
115+82, RT.	1
118+87, LT.	1
118+87, RT.	1
TOTAL	4

EROSION CONTROL

CODE	STATION TO STATION	SALVAGED TOPSOIL S.Y.	MULCHING S.Y.	TYPE B FERT. CWT.	MIX #20 SEED LB.
010	109+00 - 116+75	3500	3050	3.0	110
010	117+94 - 123+00	4050	3100	3.0	110
030	56'G'+50 - 59'G'+19	1600	-	-	-
010	59'G'+19 - 59'G'+78	420	420	1.0	10
010	TOTALS	7970	6570	7.0	230
030	TOTALS	1600	---	---	---
PROJECT TOTALS		9570	6570	7.0	230

EROSION MAT

STATION TO STATION	LOCATION	DELIVERED/INSTALLED S.Y.
115+85 - 116+55	SIDE SLOPE, RT.	200
118+15 - 119+50	SIDE SLOPE, LT.	430
TOTAL		630

EROSION BALES

LOCATION	DELIVERED/INSTALLED EACH
UNDISTRIBUTED	40

SILT FENCE (SILTY TYPE REQ'D.)

CODE	LOCATION	TYPE	DELIVERED L.F.	INSTALLED L.F.	MAINTENANCE L.F.
010	115+65 - 117+08, LT.	SILTY	200	200	400
010	116+99 - 117+05, RT.	SILTY	75	75	150
010	117+53 - 117+68, LT.	SILTY	85	85	170
010	117+53 - 123+00, RT.	SILTY	600	600	1200
030	57'G'+00 - 58'G'+00, RT.	SILTY	100	100	200
010	TOTALS		960	960	1920
030	TOTALS		100	100	200
PROJECT TOTALS			1060	1060	2120

SODDING

STATION TO STATION	LOCATION	S.Y.
115+44 - 115+95	LT.	140
116+54 - 116+75	LT.	40
116+54 - 116+75	RT.	40
117+94 - 118+15	LT.	55
117+94 - 118+15	RT.	50
119+70 - 120+62	RT.	420
TOTAL		745

WOOD POSTS, 4 X 4 INCH X 10 FT.

LOCATION	EACH
BRIDGE	4

SIGNS, TYPE II, REFLECTIVE

LOCATION	S.F.	REMARKS
BRIDGE	12	W5-52 (4 SIGNS, 2-LT. & 2-RT.)

TRAFFIC CONTROL

LOCATION	DRUM DAYS	BARRICADES TYPE III DAYS	WARNING LIGHTS TYPE A (BARRICADES) DAYS	SIGN DAYS	WARNING LIGHTS TYPE A (SIGNS) DAYS
C.T.H. "K" SOUTH, CLOSURE	-	510	765	510	255
C.T.H. "K" NORTH, CLOSURE	-	510	765	510	255
QUARRY ROAD CLOSURE	-	60	100	100	60
UNDISTRIBUTED	300	-	-	-	-
TOTALS	300	1080	1630	1120	570

PAVEMENT MARKING, HOT PAINT

STATION TO STATION	INTERMITTENT L.F.	CENTERLINE LEFT SOLID L.F.	RIGHT SOLID L.F.	WHITE EDGELINE LEFT L.F.	WHITE EDGELINE RIGHT L.F.
TOTALS	305	-	945	1180	1220
TOTAL MARKING					3660

EDGELINE OMITTED EXCEPT AT BRIDGE

SAWING EXISTING PAVEMENT

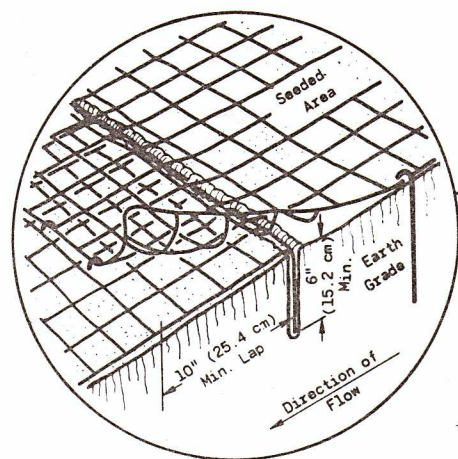
LOCATION	L.F.
STA. 110+00	22
STA. 122+00	22
TOTAL	44

ASPHALTIC SURFACE, TYPE E1

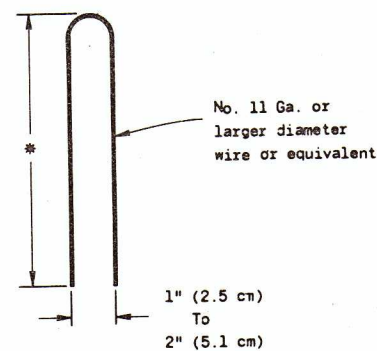
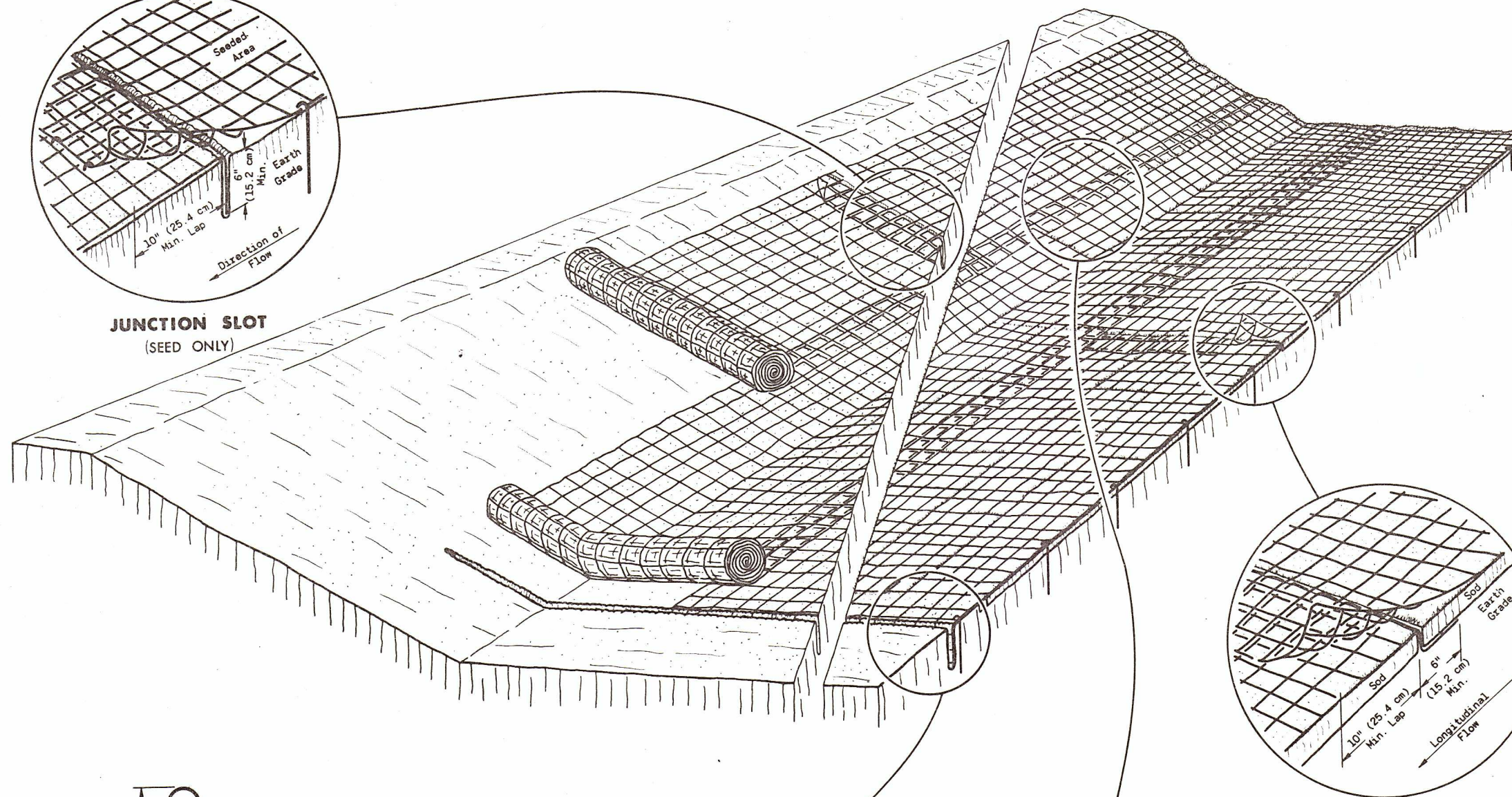
STATION TO STATION	TON	NOTES
110+00 - 116+75	300	INCLUDES TAPERS OFF STRUCTURE
117+94 - 123+00	250	INCLUDES STRUCTURE AND INTERSECTION TAPERS
59'G'+19 - 59'G'+78	45	INCLUDES INTERSECTION RADII
TOTAL	595	

TEMPORARY FENCING

LOCATION	L.F.
STA. 118+80, TEMPORARY CATTLE WALKWAY	400

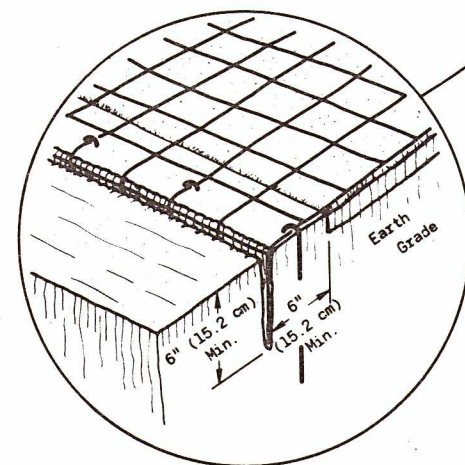


JUNCTION SLOT
(SEED ONLY)

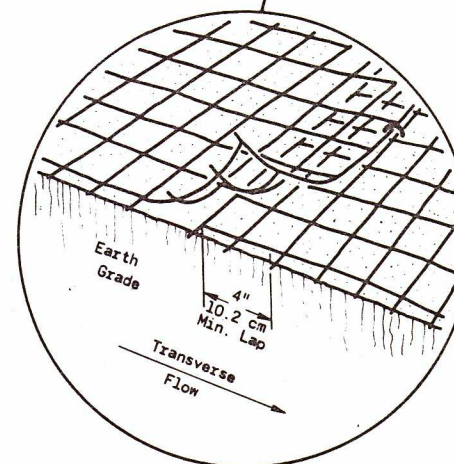


**DETAIL OF
TYPICAL STAPLE**

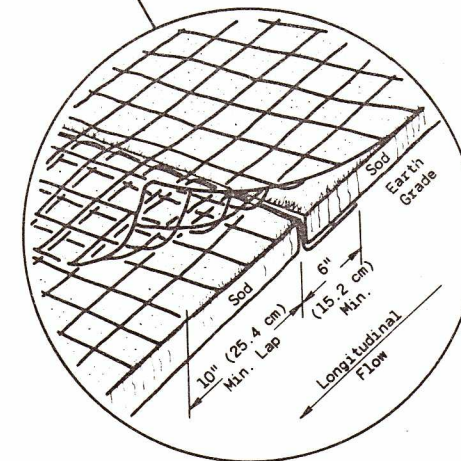
- * 6" (15.2 cm) Min. for firm soils
 12" (30.5 cm) Min. for loose soils
 8" (20.3 cm) Min. where both sod and mats are being used.



ANCHOR SLOT
AT BEGINNING AND END OF EROSION MAT
(SEED AND SOD)



LAP JOINT
(SEED AND SOD)



JUNCTION SLOT
(SOD ONLY)

METHOD OF DIMENSIONING	
1'-0" (30.5 cm)	
1'-0" (30.5 cm)	
BASIS: 1 in. = EXACTLY 25.4 mm	

GENERAL NOTES

Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

Variations in the dimensions or materials shown hereon shall be permitted if they provide equivalent protection and material strength and if prior approval of the Engineer is obtained.

Lap Joints shall not be placed in the bottom of V-shaped ditches.

Junction Slots on adjacent strips of Matting shall be staggered a minimum of 4 feet (1.219 m) apart.

Edges of the Erosion Mat shall be impressed in the soil.

Erosion Mat shall be measured and paid for in accordance with the Standard Specifications.

EROSION MAT OVER SOD

- Only Jute Fabric will be permitted over sod.
- Wood Stakes for Sod may be omitted by the Engineer if the existing slope and soil conditions so warrant.
- The width of Erosion Mat shall always equal the Sod width.
- Sod strips may be placed either longitudinally or transversely to the flow line of the Ditch.

EROSION MAT OVER SEEDING

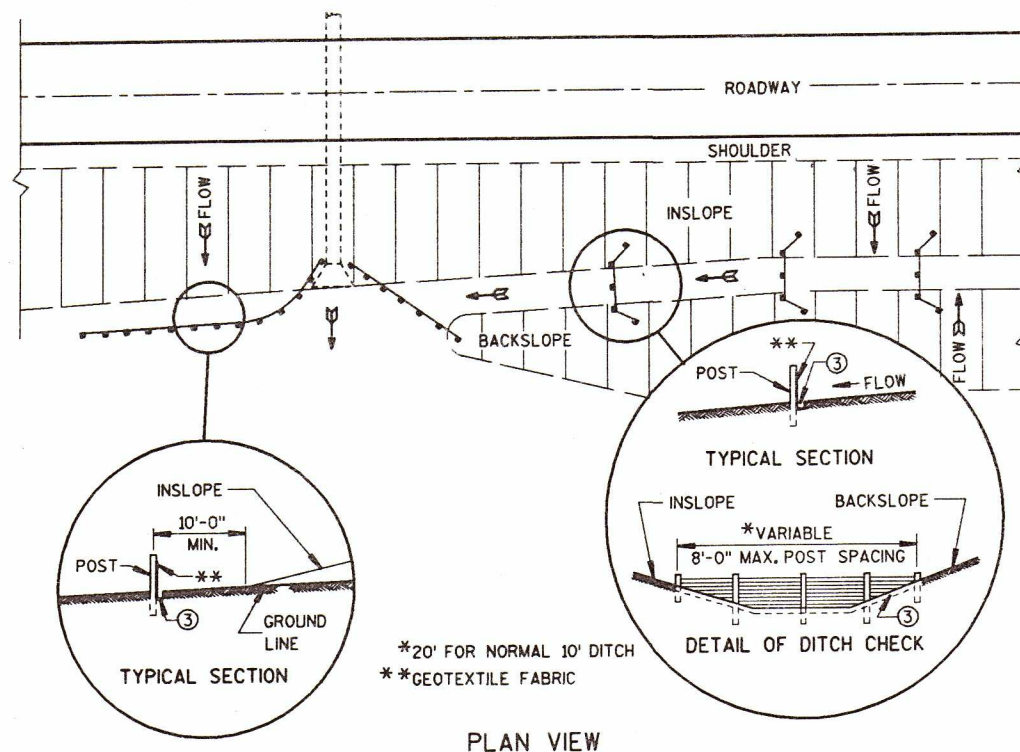
Junction or Anchor Slots shall be at minimum intervals of 100 feet (30.48 m) on grades up to and including 3 percent, and 50 feet (15.24 m) on grades exceeding 3 percent.

EROSION MAT

State of Wisconsin
 Department of Transportation
 Division of Highways

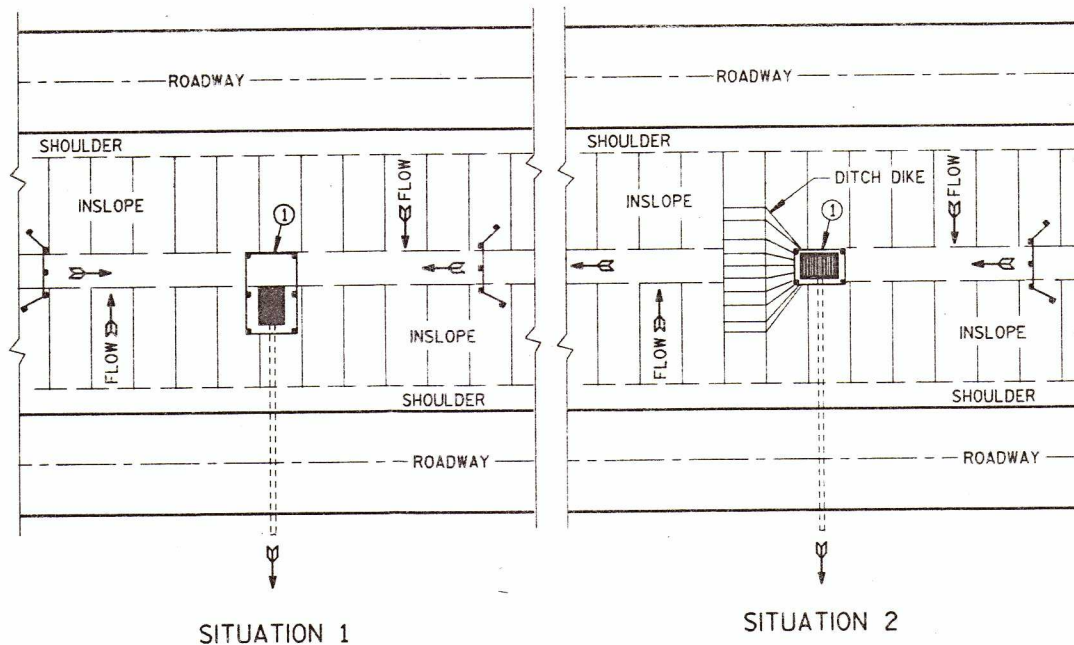
RECOMMENDED FOR APPROVAL:
 12-3-73
 DATE
 APPROVED
 1-15-74
 DATE
 J.C. Hennrich
 CHIEF OF FACILITIES DEVELOPMENT
 J.S. Fisher
 STATE HIGHWAY ENGINEER

S.D.D. 8E7-1



PLAN VIEW

TYPICAL APPLICATIONS OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

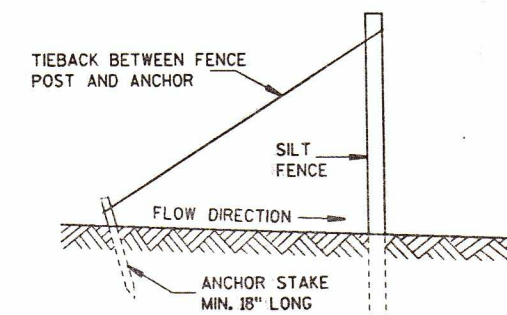
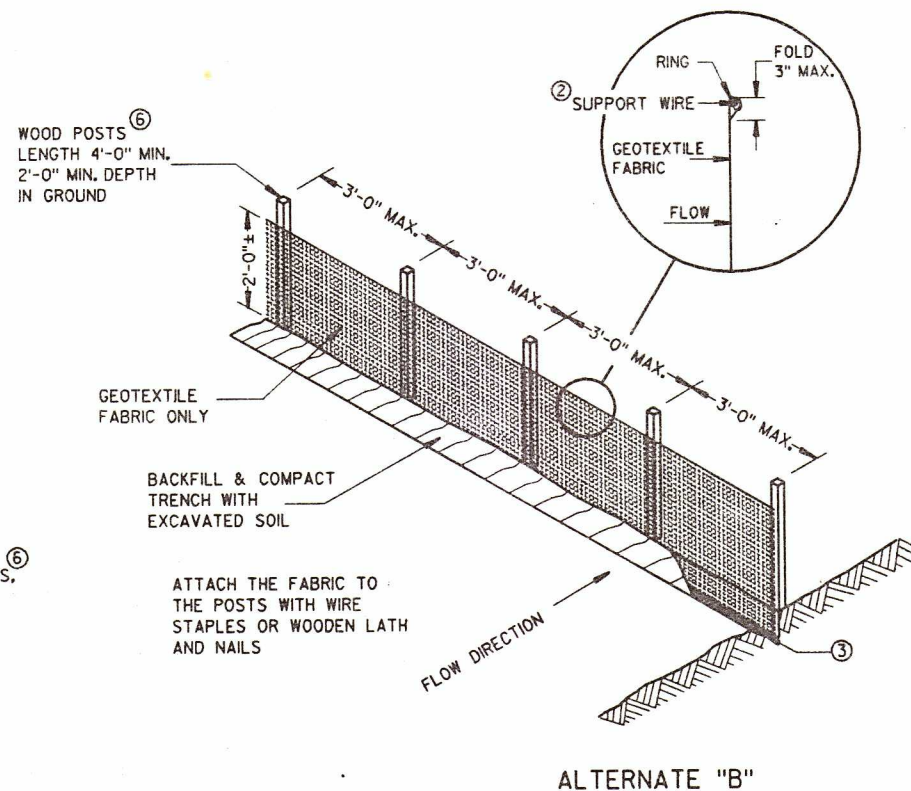
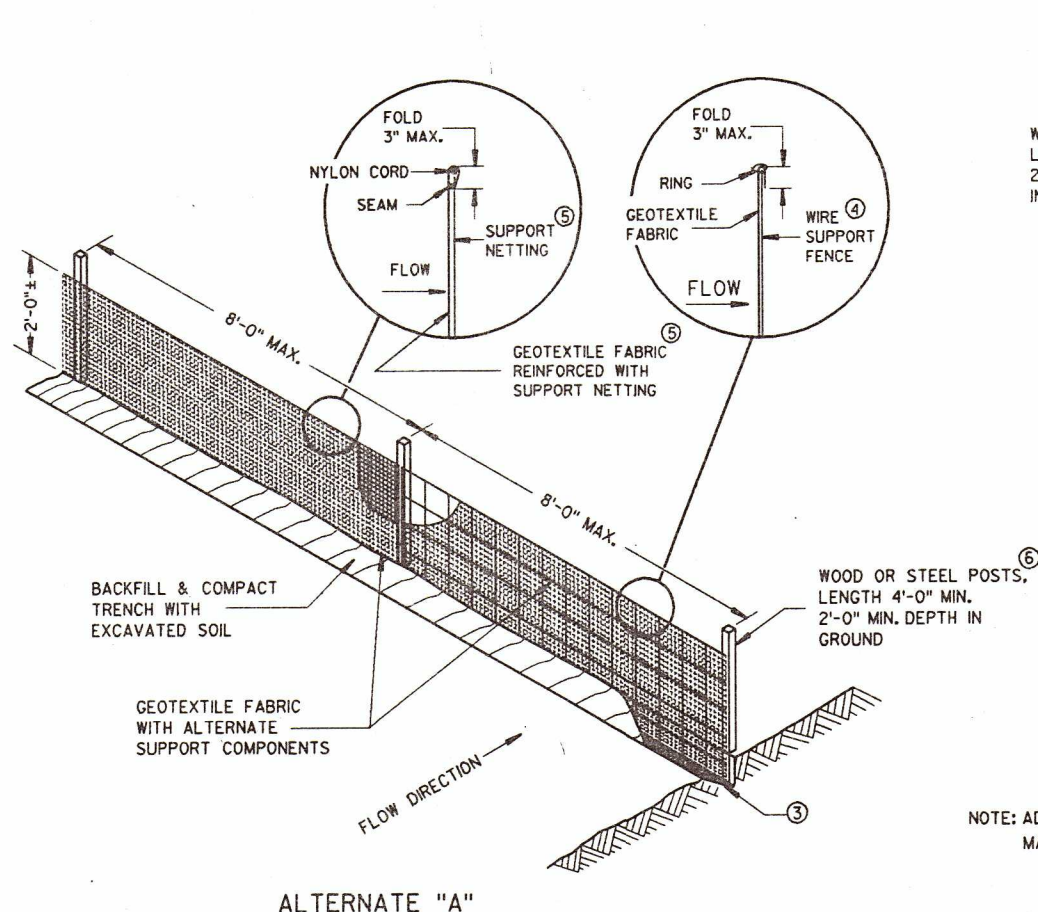
GENERAL NOTES

DETAIL OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

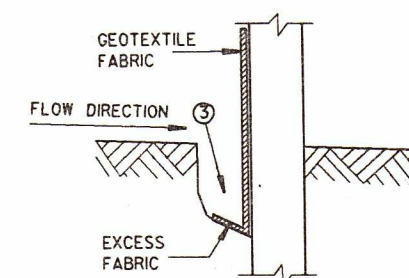
WHEN POSSIBLE THE SILT FENCE SHOULD BE CONSTRUCTED IN AN ARC OR HORSESHOE SHAPE, WITH THE ENDS POINTING UPSLOPE TO MAXIMIZE BOTH STRENGTH AND EFFECTIVENESS.

- CROSS BRACE WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS AS DIRECTED BY THE ENGINEER.
- MINIMUM 14 GAGE WIRE REQUIRED, FOLD FABRIC 3" OVER THE WIRE AND STAPLE OR PLACE WIRE RINGS ON 12" C-C.
- EXCAVATE A TRENCH A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- WIRE SUPPORT FENCE SHALL BE 14 GAGE MINIMUM WOVEN WIRE WITH A MAXIMUM MESH SPACING OF 6". SECURE TOP OF GEOTEXTILE FABRIC TO TOP OF FENCE WITH STAPLES OR WIRE RINGS AT 12" C-C.
- GEOTEXTILE FABRIC SHALL BE REINFORCED WITH AN INDUSTRIAL POLYPROPYLENE NETTING WITH A MAXIMUM MESH SPACING OF $\frac{3}{4}$ " OR EQUAL. A HEAVY DUTY NYLON TOP SUPPORT CORD OR EQUIVALENT IS REQUIRED.
- STEEL POSTS SHALL BE STUDDED "TEE" OR "U" TYPE WITH A MINIMUM WEIGHT OF 128 LBS./LINEAL FOOT (WITHOUT ANCHOR). FIN ANCHORS SUFFICIENT TO RESIST POST MOVEMENT ARE REQUIRED. WOOD POSTS SHALL BE A MINIMUM SIZE OF 4" DIA. OR $\frac{1}{2}$ " X $\frac{3}{4}$ " EXCEPT WOOD POSTS FOR GEOTEXTILE FABRIC REINFORCED WITH NETTING SHALL BE A MINIMUM SIZE OF $\frac{1}{8}$ " X $\frac{1}{8}$ " OAK OR HICKORY.

ALTERNATES A & B ARE EQUAL AND EITHER MAY BE USED.



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)



TRENCH DETAIL

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

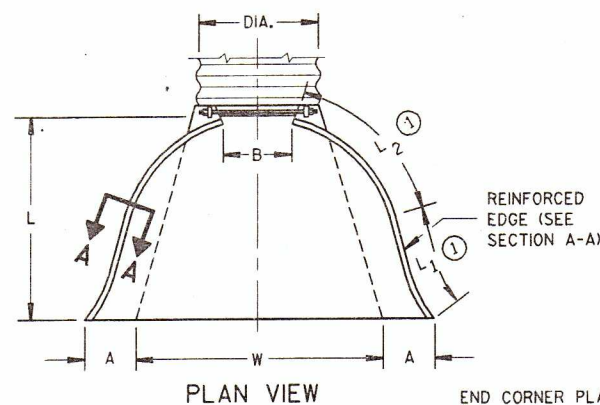
APPROVED
8-31-88
DATE
FHWA

STATE DESIGN ENGINEER FOR HWYS

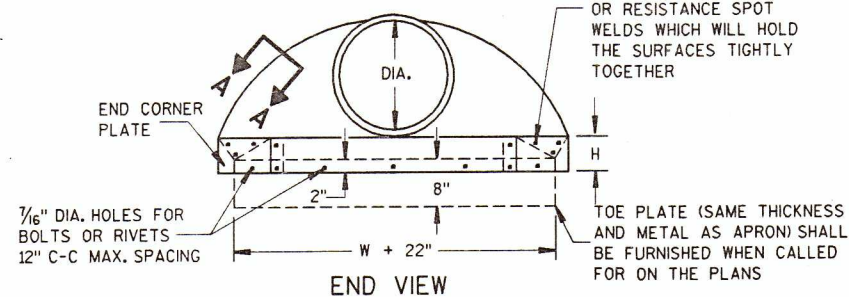
METAL APRON ENDWALLS

PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L ₁ ①	L ₂ ①	W (±2")		
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 3/8	42	2 1/2 to 1	1 Pc.
24	.079	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.109	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/2 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/2 to 1	3 Pc.
60	.109x	.105x	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109x	.105x	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109x	.105x	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109x	.105x	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109x	.105x	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109x	.105x	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109x	.105x	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

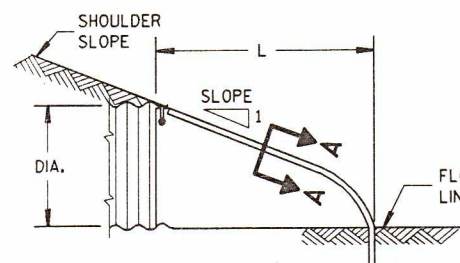
* EXCEPT CENTER PANEL
SEE GENERAL NOTES



PLAN VIEW



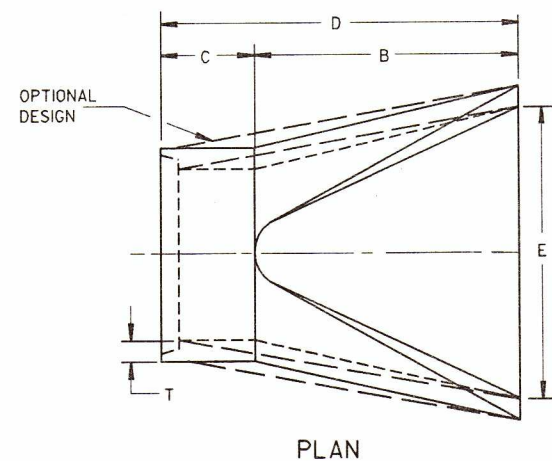
END VIEW

SIDE ELEVATION
METAL ENDWALLS

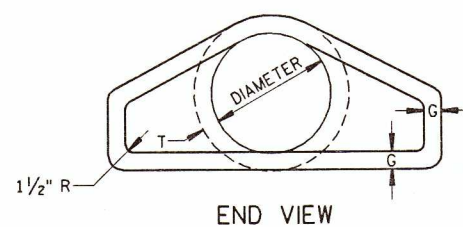
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE
	T	A	B	C	D	E	G	
12	2	4	24	48 ⁷ / ₈	72 ¹ / ₈	24	2	3 to 1
15	2 ¹ / ₄	6	27	46	73	30	2 ¹ / ₄	3 to 1
18	2 ¹ / ₂	9	27	46	73	36	2 ¹ / ₂	3 to 1
21	2 ³ / ₄	9	36	37 ¹ / ₂	73 ¹ / ₂	42	2 ³ / ₄	3 to 1
24	3	9 ¹ / ₂	43 ¹ / ₂	30	73 ¹ / ₂	48	3	3 to 1
27	3 ¹ / ₄	10 ¹ / ₂	49 ¹ / ₂	24	73 ¹ / ₂	54	3 ¹ / ₄	3 to 1
30	3 ¹ / ₂	12	54	19 ¹ / ₄	73 ¹ / ₂	60	3 ¹ / ₂	3 to 1
36	4	15	63	34 ³ / ₄	97 ³ / ₄	72	4	3 to 1
42	4 ¹ / ₂	21	63	35	98	78	4 ¹ / ₂	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	5 ¹ / ₂	27	65	33 ¹ / ₄ -35	98 ¹ / ₄ -100	90	5 ¹ / ₂	2 ¹ / ₂ to 1
60	6	30-35	60	39	99	96	5	2 to 1
66	6 ¹ / ₂	24-30	72-78	21-27	99	102	5 ¹ / ₂	2 to 1
72	7	24-36	78	21	99	108	6	2 to 1
78	7 ¹ / ₂	24-36	78	21	99	114	6 ¹ / ₂	2 to 1
84	8	36	90 ¹ / ₂	21	111 ¹ / ₂	120	6 ¹ / ₂	1 ¹ / ₂ to 1
90	8 ¹ / ₂	41	87 ¹ / ₂	24	111 ¹ / ₂	132	6 ¹ / ₂	1 ¹ / ₂ to 1

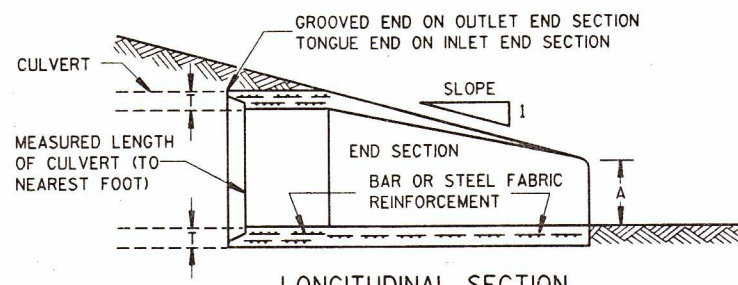
* MINIMUM
** MAXIMUM



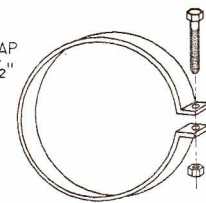
PLAN



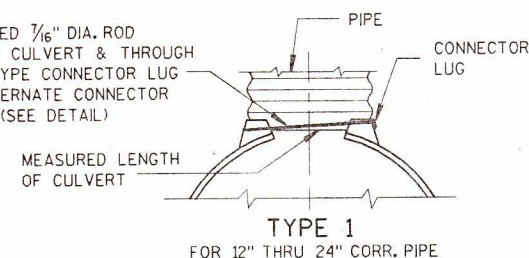
END VIEW

LONGITUDINAL SECTION
CONCRETE ENDWALLS

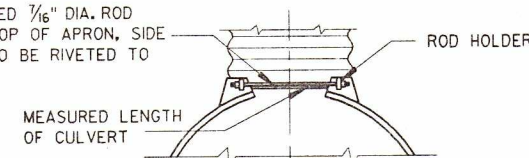
1" WIDE, 12 GA. (0.109"
THICK) GALVANIZED STRAP
WITH STANDARD 6" X 1/2"
BAND BOLT AND NUT

ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP

THREADED 7/16" DIA. ROD
AROUND CULVERT & THROUGH
TANK TYPE CONNECTOR LUG
OR ALTERNATE CONNECTOR
STRAP (SEE DETAIL)

TYPE 1
FOR 12" THRU 24" CORR. PIPE

THREADED 7/16" DIA. ROD
OVER TOP OF APRON, SIDE
LUGS TO BE RIVETED TO
APRON

TYPE 2
FOR 30" THRU 96" CORR. PIPE

MEASURED LENGTH
OF CULVERT

CONNECTOR SECTION
TO BE PAID FOR AS
PART OF END SECTION

COUPLING BAND
REQUIRED

12"

RIVETED OR
BOLTED

TYPE 3
FOR 42" THRU 96" CORR. PIPE

DIMPLED OR CORRUGATED
COUPLING BAND

2 - 1/2" X 6"
BAND BOLTS

RIVETED OR BOLTED AT
DIMPLES (6" C-C FOR
CORRUGATED BAND)

MEASURED
LENGTH
OF CULVERT

TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

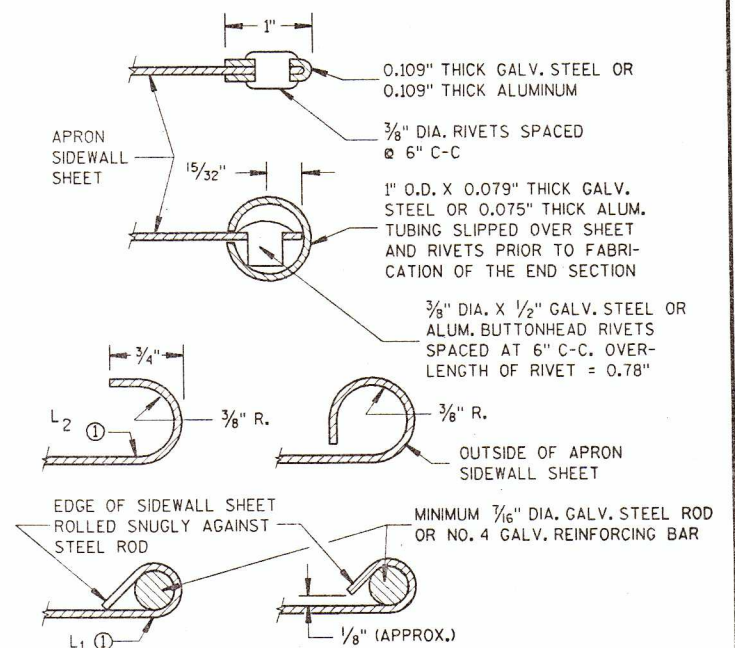
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL,
AND CORRUGATED BAND FITS INSIDE ENDWALL.
DIMPLED BAND MAY BE USED WITH HELICALLY
CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE
ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5
AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL
CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO
CIRCUMFERENTIAL CORRUGATIONS AT EACH END
USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON
THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE
STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL
OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR
ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE
OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND
LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL
THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND
LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH
OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE
PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS
FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS.
FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED
EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH
GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE
ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM
NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT
TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT
TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED
INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

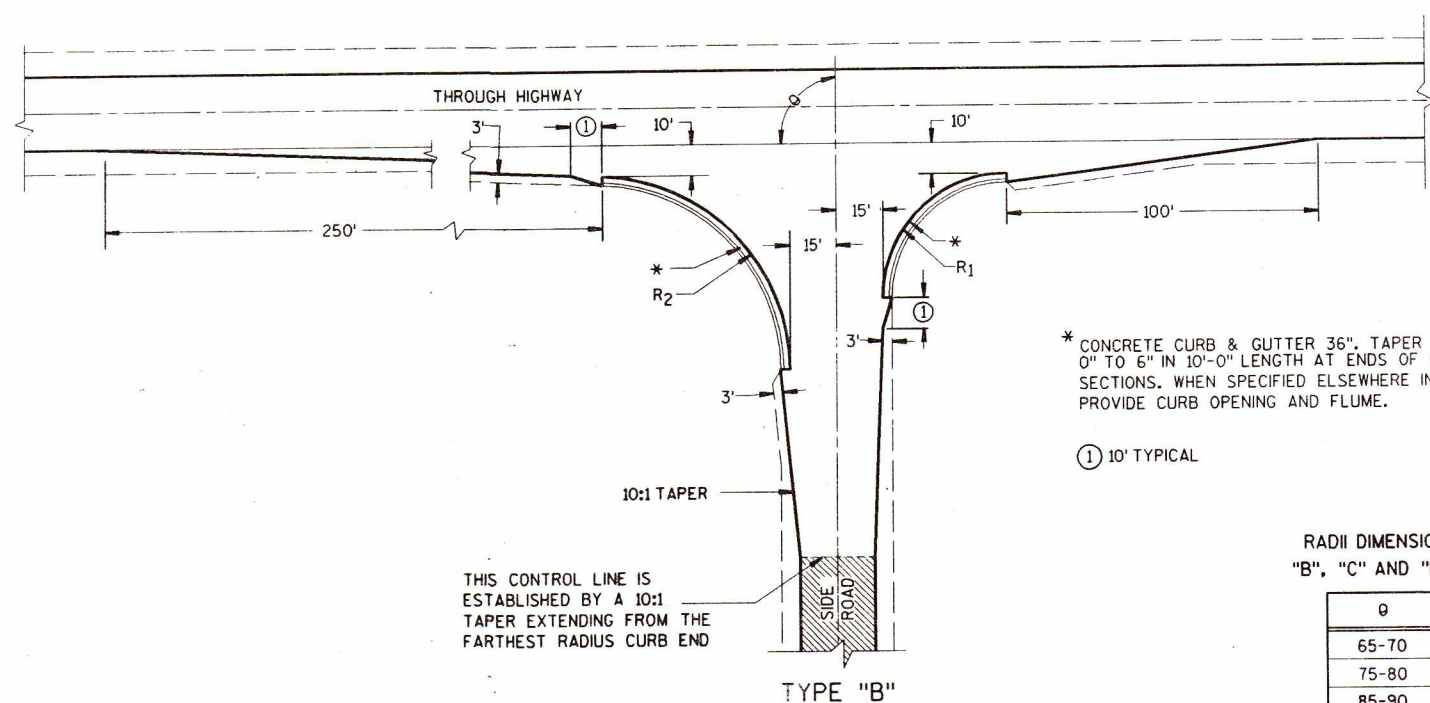
APRON ENDWALLS FOR
CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/17/87
DATE

STATE DESIGN ENGINEER FOR HWYS

FHWA

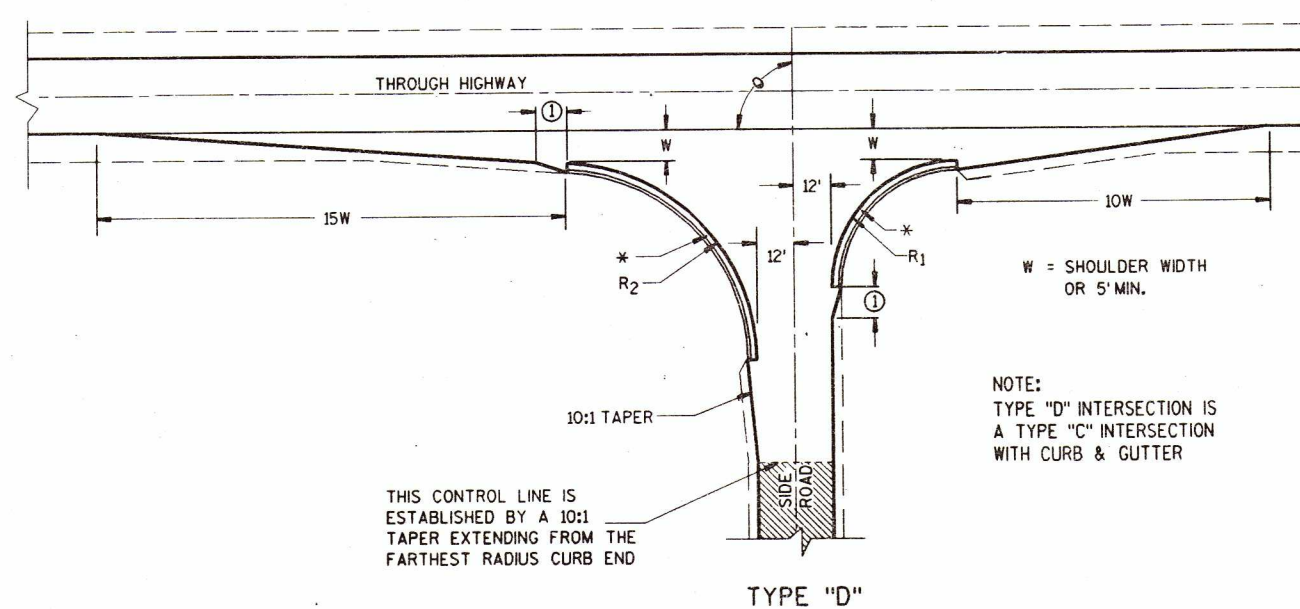
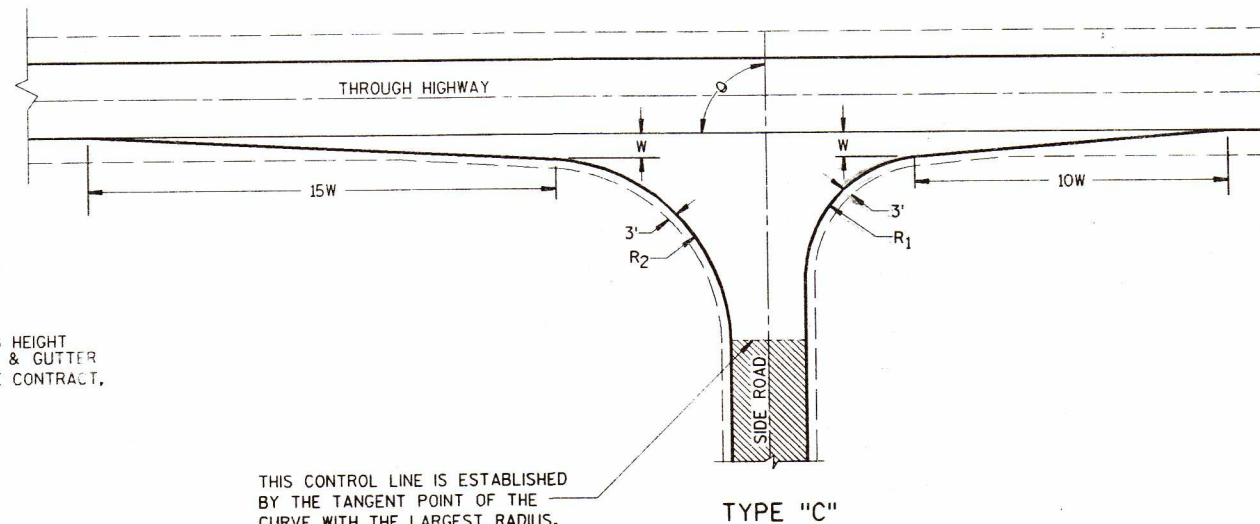


* CONCRETE CURB & GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10'-0" LENGTH AT ENDS OF CURB & GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME.

① 10' TYPICAL

RADI DIMENSIONS FOR TYPES "B", "C" AND "D" INTERSECTIONS

θ	R_1	R_2
65-70	35	70
75-80	40	70
85-90	40	60
100	50	55
105-110	60	45



W = SHOULDER WIDTH OR 5' MIN.

NOTE:
TYPE "D" INTERSECTION IS A TYPE "C" INTERSECTION WITH CURB & GUTTER

GENERAL NOTES

DESIGNS MAY BE USED INTERCHANGEABLY IN COMBINATION OR SEPARATELY FOR ANY ONE COMPLETE INTERSECTION DEPENDING UPON INTERSECTION ANGLE AND SURFACING OF EACH APPROACH ROADWAY.

SIDE ROAD SURFACING NOTE

WHEN THE SIDE ROAD IS NOT PRESENTLY PAVED, PAVEMENT SHALL BE PLACED TO THE LIMITS SHOWN UNLESS OTHERWISE PROVIDED IN THE CONTRACT. WHERE THE CONSTRUCTION LIMITS ARE BEYOND THE PAVING LIMITS, CRUSHED AGGREGATE SURFACING SHALL BE PLACED BETWEEN THE PAVING LIMITS AND CONSTRUCTION LIMITS.

WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

EXISTING SURFACE

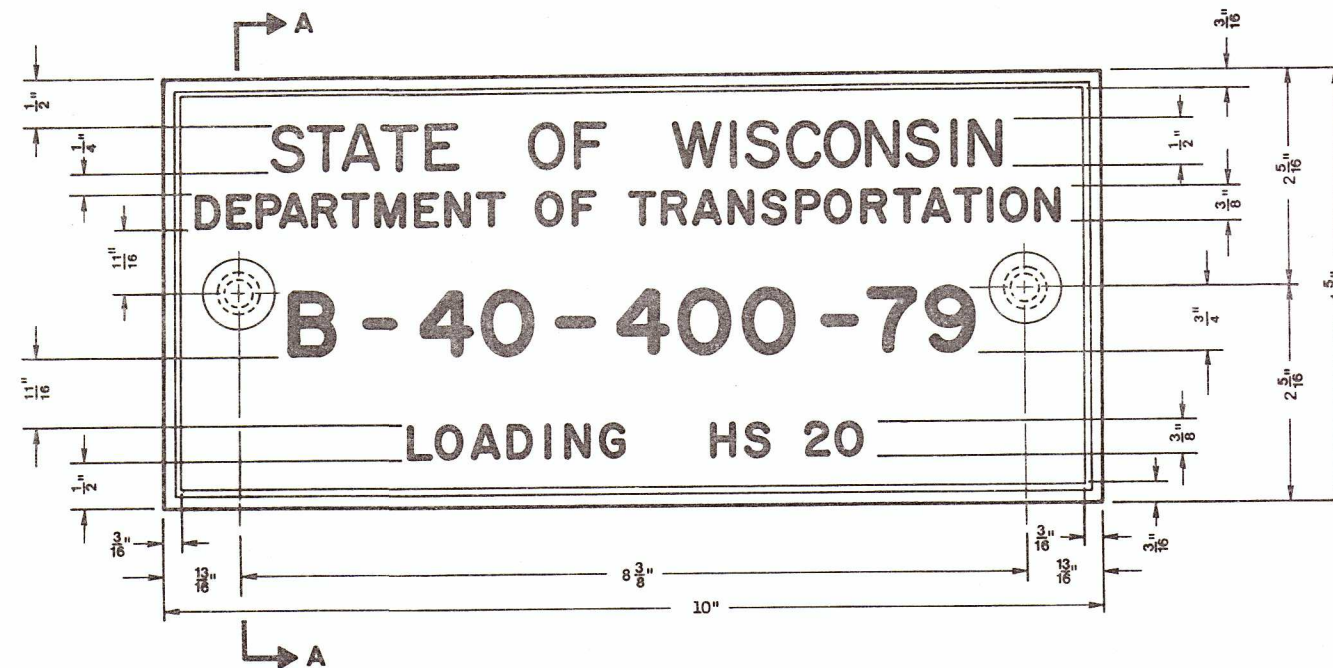
AT-GRADE SIDE ROAD
INTERSECTION, TYPES "B", "C" AND "D"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

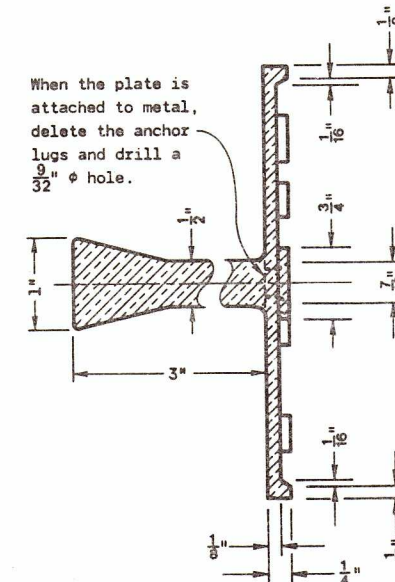
APPROVED
6/27/89
DATE

STATE DESIGN ENGINEER FOR HWYS

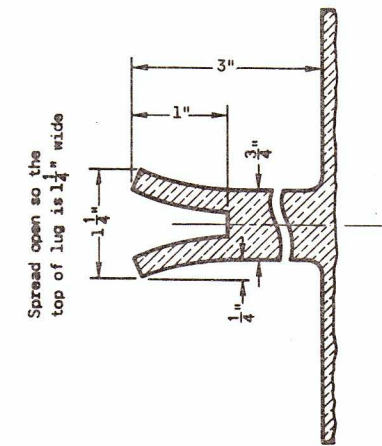
FHWA



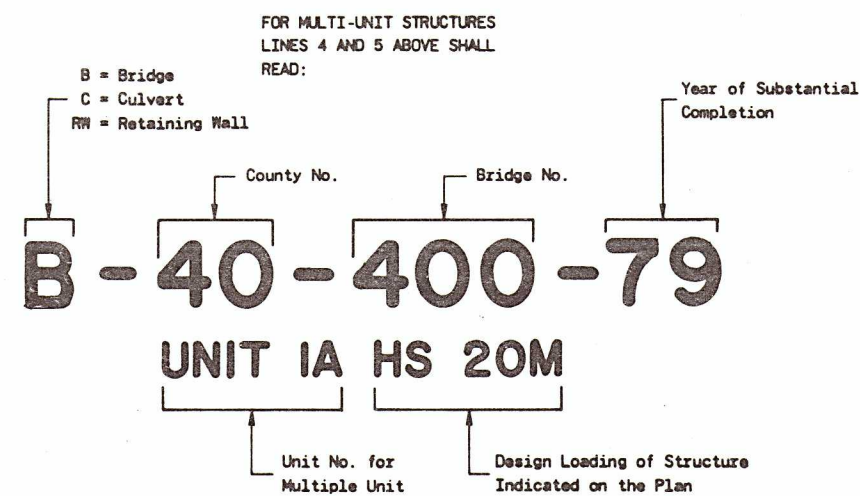
TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)



SECTION A-A



ALTERNATE LUG



NUMBERING AND LOADING DESIGNATION
MULTI-UNIT STRUCTURES

GENERAL NOTES

Name Plates to be installed on Bridges, Culverts, and Retaining Walls shall conform to the requirements of Section 506.2.4 of the Standard Specifications.

The Bridge Number and Design Loading shown on this drawing are examples only. See Construction Plans for individual numbering and design loading.

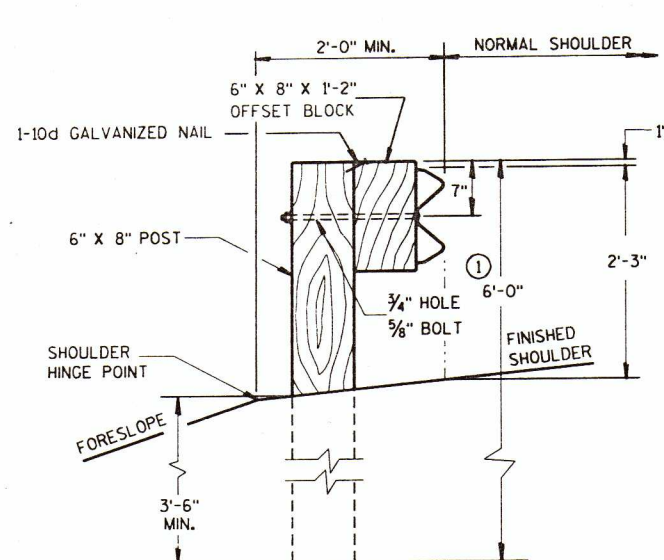
**NAME PLATE
(STRUCTURES)**

State of Wisconsin
Department of Transportation
Division of Transportation Facilities

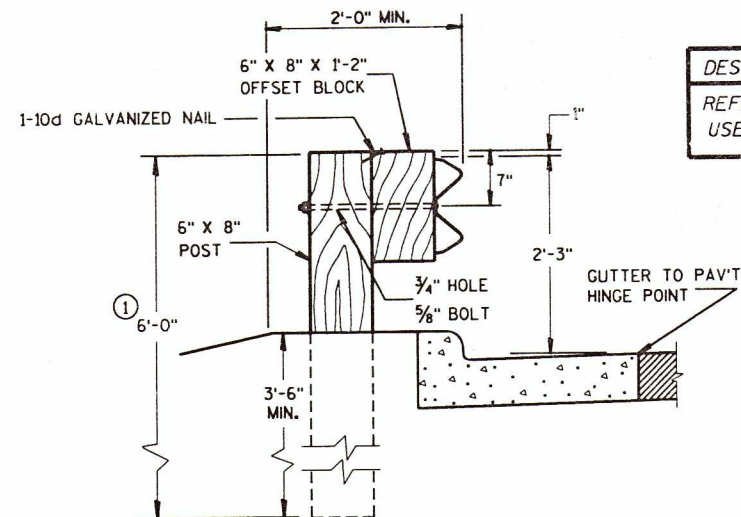
APPROVED
9-27-79
DATE

[Signature]
CHIEF DESIGN ENGINEER

FHWA

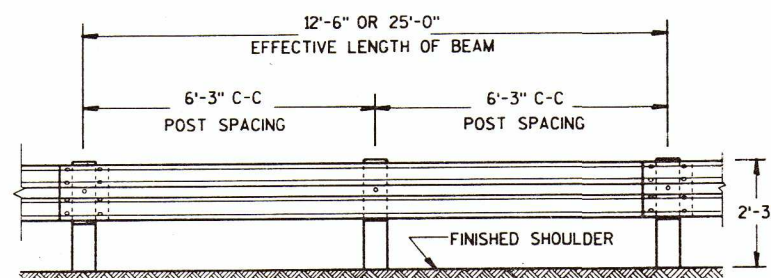


END VIEW
LOCATED ALONG A ROADWAY SHOULDER

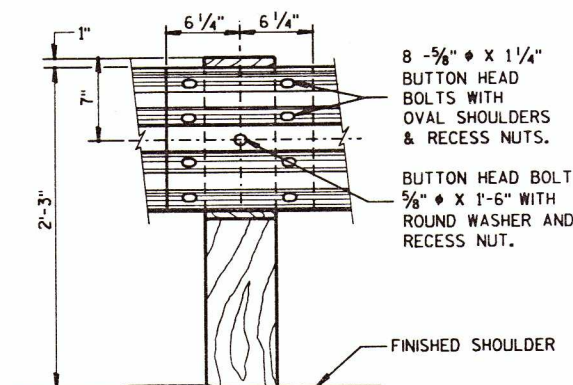


END VIEW
LOCATED ALONG A CURBED ROADWAY

DESIGN NOTE: (WILL NOT APPEAR ON CONTRACT PLANS)
REFER TO PROCEDURE 11-45-1 FOR GUIDANCE ON THE
USE OF BEAM GUARD ON CURBED ROADWAYS.



FRONT VIEW



FRONT VIEW
BEAM SPLICING AND POST MOUNTING DETAIL

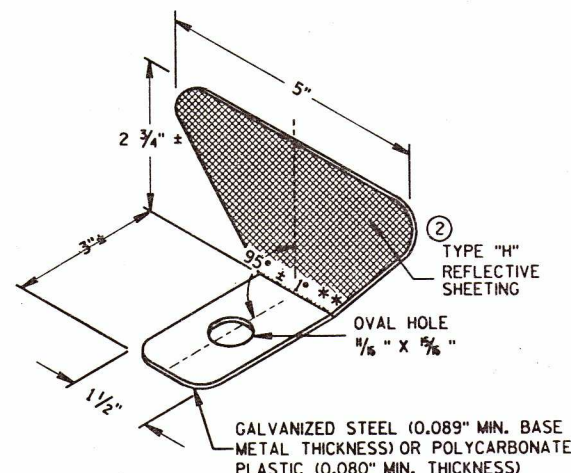
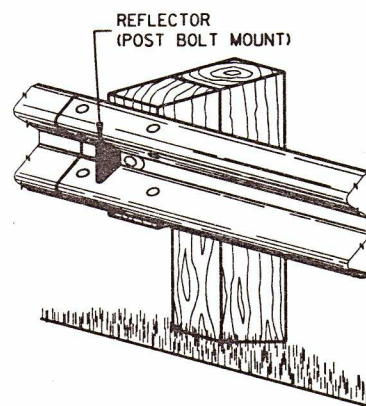
TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD

REFLECTOR SPACING

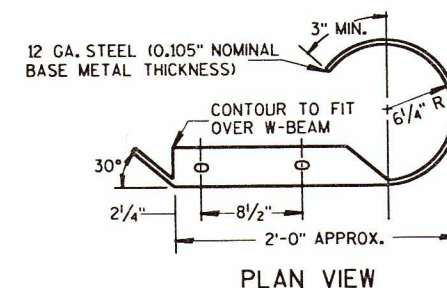
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200' *	25' C-C	1 *	6
	> 200' *	50' C-C	1 *	
TWO WAY TRAFFIC	< 200'	50' C-C	2 **	3
	> 200'	100' C-C	2 **	

* EVERY OTHER REFLECTOR REVERSED FOR 2-WAY VISIBILITY. CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

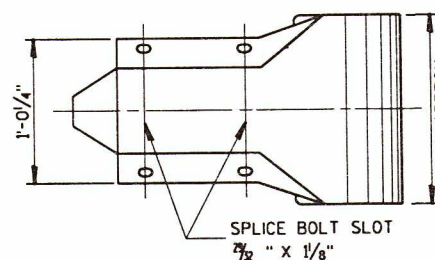
** ANGLE OF BEND TO BE 90° ± 1° FOR TWO-SIDED REFLECTORS.



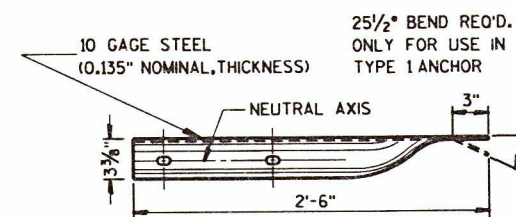
REFLECTOR DETAIL AND TYPICAL INSTALLATION



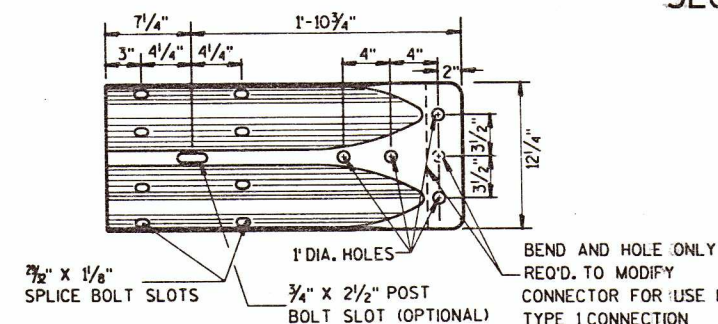
PLAN VIEW



FRONT VIEW
W BEAM END SECTION (ROUNDED)



PLAN VIEW

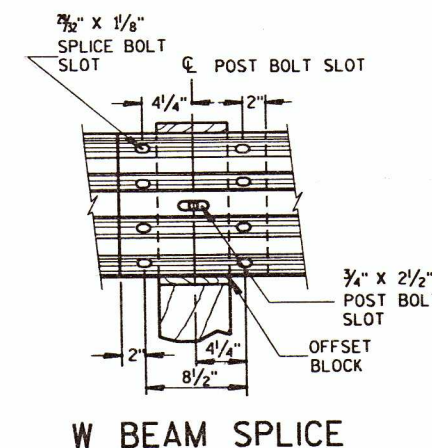


FRONT VIEW
W BEAM TERMINAL CONNECTOR

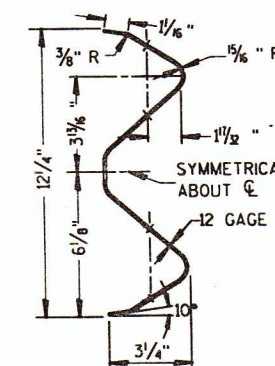
GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, AND THE APPLICABLE SPECIAL PROVISIONS.

- POST LENGTH SHALL BE INCREASED TO PROVIDE A MINIMUM EMBEDMENT OF 3'-6" WHERE THE SHOULDER HINGE POINT IS LOCATED IN FRONT OF THE POST.
- PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.



W BEAM SPLICING



SECTION THRU W BEAM

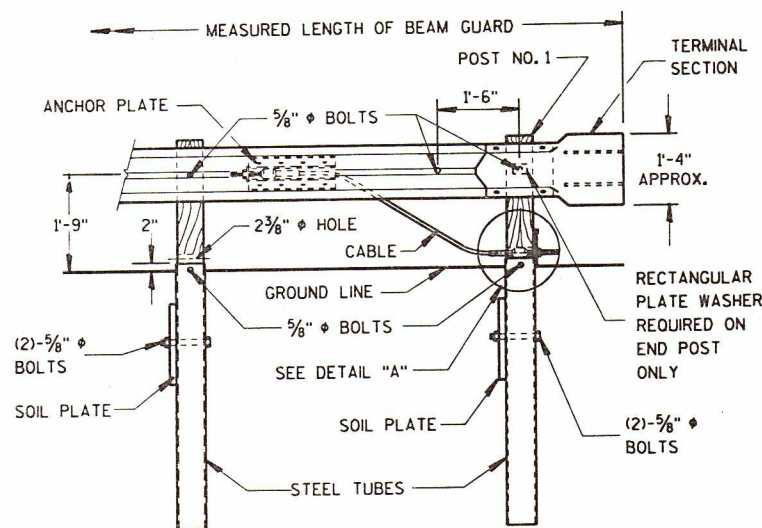
NOTE:
SHEETS 1b IS OPTIONAL FOR INCLUSION
IN PLANS WHEN APPLICABLE.

CLASS "A" STEEL PLATE BEAM GUARD, INSTALLATION & ELEMENTS

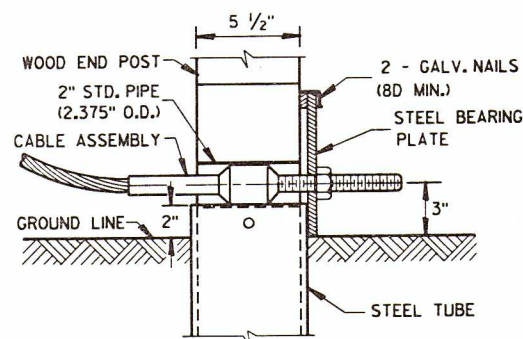
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE
FWHA

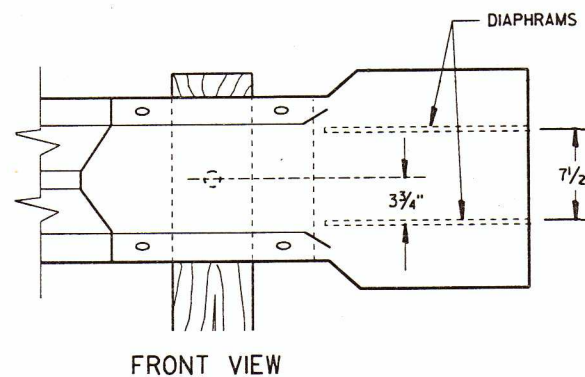
STATE DESIGN ENGINEER FOR HWYS



① FRONT VIEW
TYPE 1 ANCHORAGE



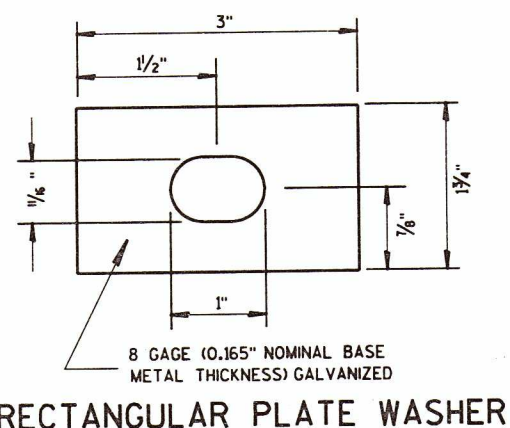
DETAIL "A"
(POST NO. 1)



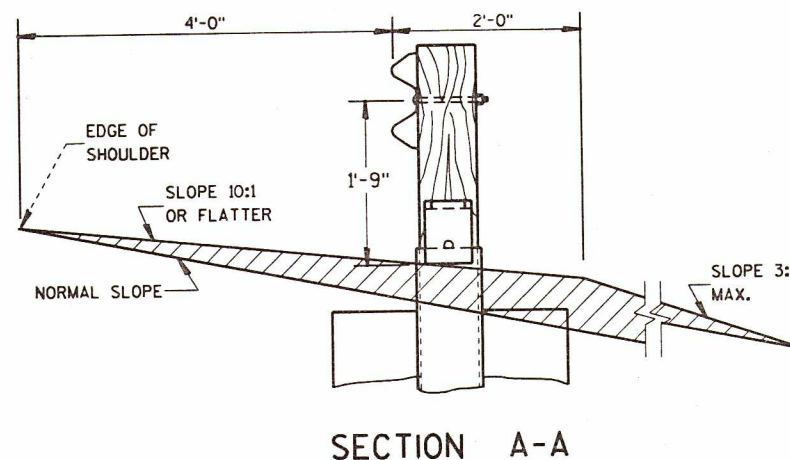
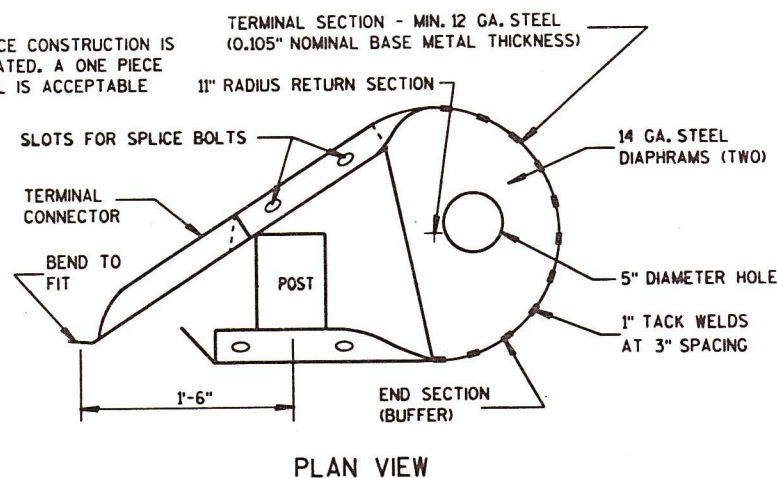
TERMINAL SECTION DETAIL

POST NO.	OFFSET (FEET)
1	4.00
2	2.78
3	1.78
4	1.00
5	0.44
6	0.11
7	0.00

**37'-6" INSTALLATION, 6 SPACES AT 6'-3"
TANGENT OFFSET TABLE



NOTE:
TWO PIECE CONSTRUCTION IS ILLUSTRATED. A ONE PIECE TERMINAL IS ACCEPTABLE

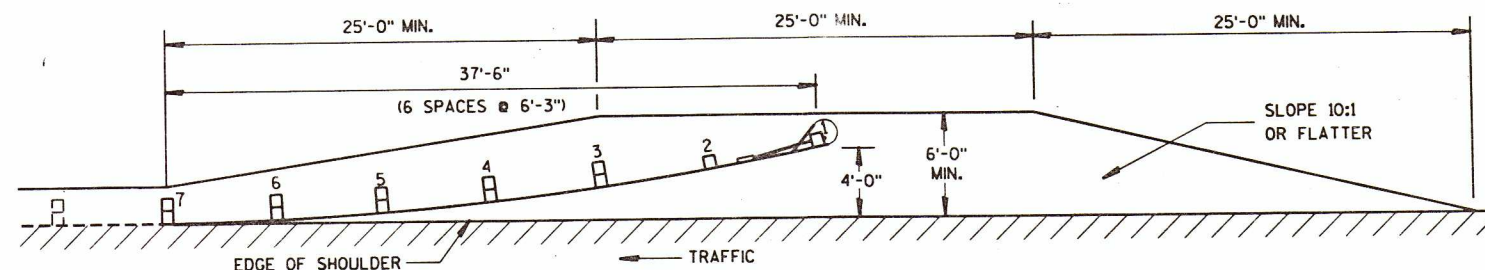


GENERAL NOTES

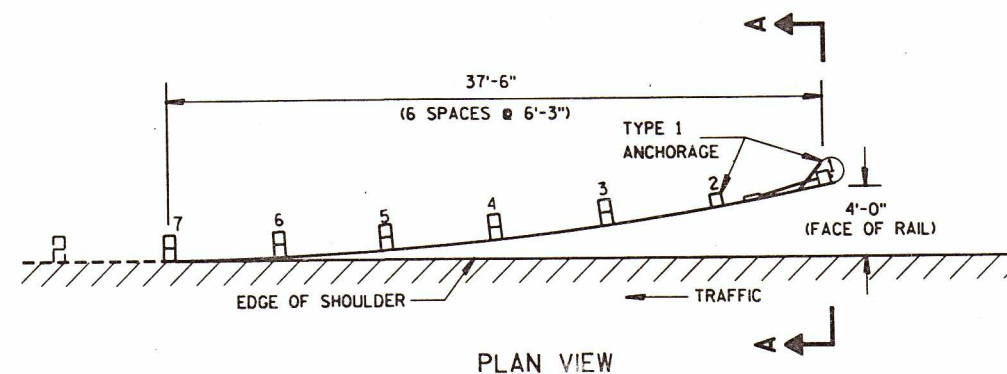
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

POSTS AT LOCATIONS 1 & 2 SHALL BE WOOD BREAKAWAY POSTS INSERTED AND BOLTED INTO STEEL TUBES.

- ① TYPE 1 AND TYPE 2 ANCHORAGES SHALL CONSIST OF STEEL TUBE(S), SOIL PLATE(S), WOOD BREAKAWAY POST(S), BEARING PLATE, ANCHOR PLATE, CABLE ASSEMBLY AND ALL ASSOCIATED HARDWARE, ALL STEEL PARTS SHALL BE GALVANIZED.



PLAN VIEW
ROADWAY WIDENING FOR TYPE 1 ANCHORAGE

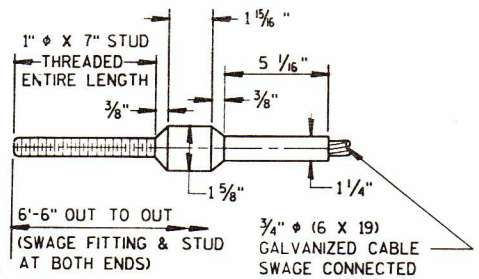


END TREATMENT WITH ANCHORAGE TYPE 1

NOTE:
THIS DRAWING CONSISTS OF TWO SHEETS. BOTH SHEETS ARE REQUIRED WHEN THIS DRAWING IS CALLED FOR IN THE PLANS.

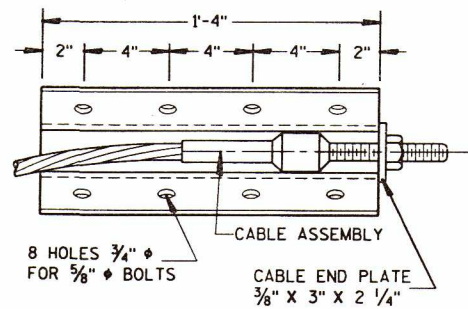
CLASS "A" STEEL PLATE BEAM GUARD
END TREATMENT WITH ANCHORAGE,
TYPE 1 & 2

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



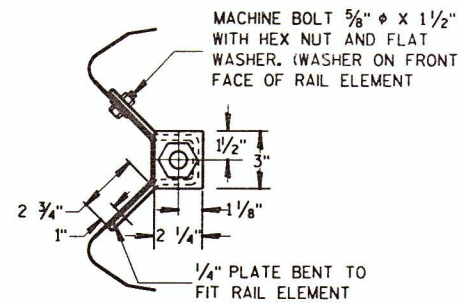
CABLE ASSEMBLY

CABLE, SWAGE FITTING, STUD AND NUT SHALL DEVELOP A MINIMUM BREAKING STRENGTH OF 40,000 LB (TIGHTEN UNTIL TAUT)

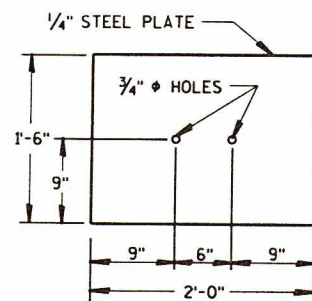


FRONT VIEW

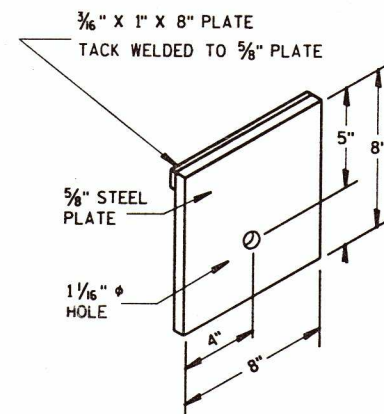
ANCHOR PLATE DETAIL



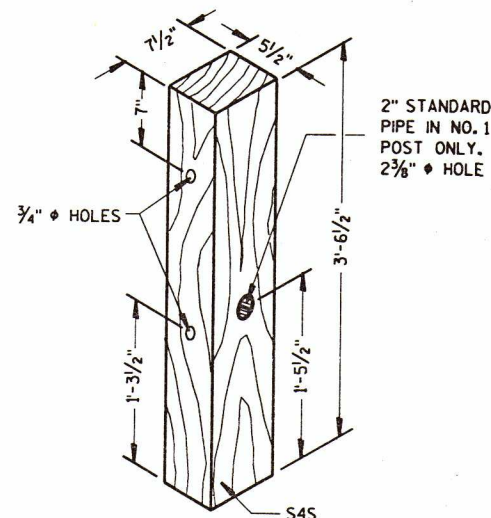
END VIEW



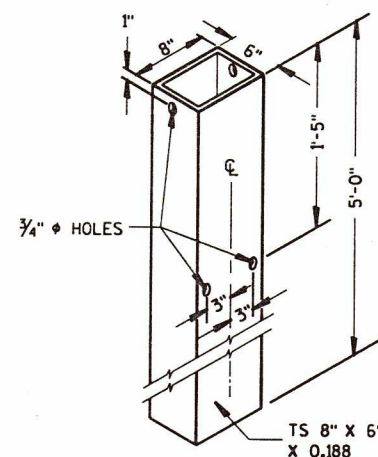
SOIL PLATE



STEEL BEARING PLATE



WOOD BREAKAWAY POST



STEEL TUBE

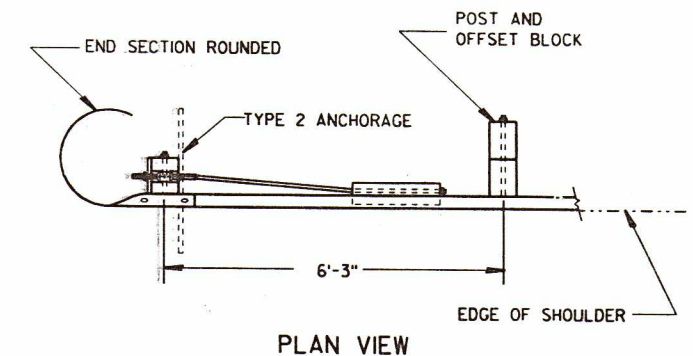
THE STEEL TUBE SHALL CONFORM TO REQUIREMENTS OF ASTM A501

ANCHORAGE COMPONENTS

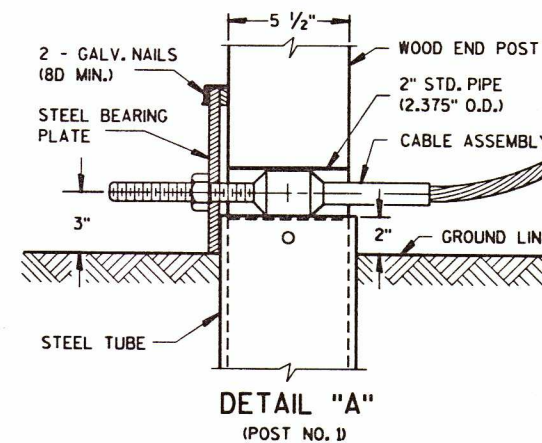
(COMMON TO BOTH TYPE 1 & 2 ANCHORAGES)

NOTE:

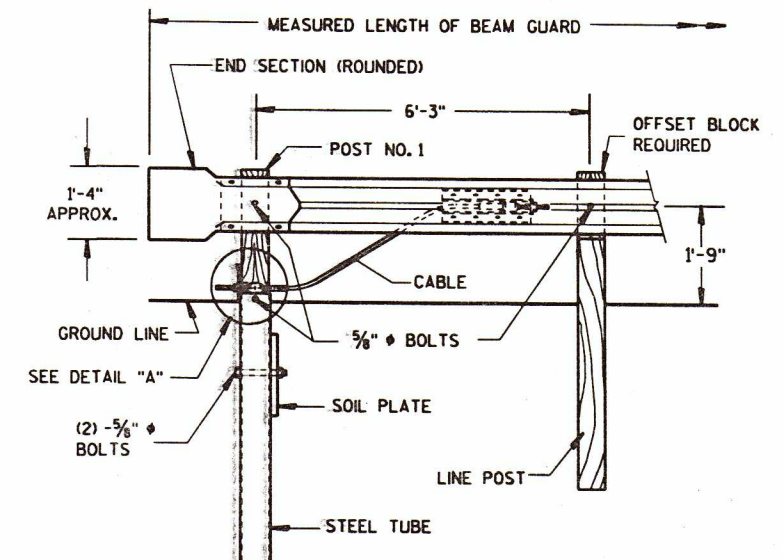
STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-500 GRADE B OR ASTM A-501.



PLAN VIEW



DETAIL "A"
(POST NO. 1)



FRONT VIEW
TYPE 2 ANCHORAGE

END TREATMENT WITH ANCHORAGE TYPE 2
(USE ON ONE-WAY ROADWAYS ONLY - DEPARTING END)

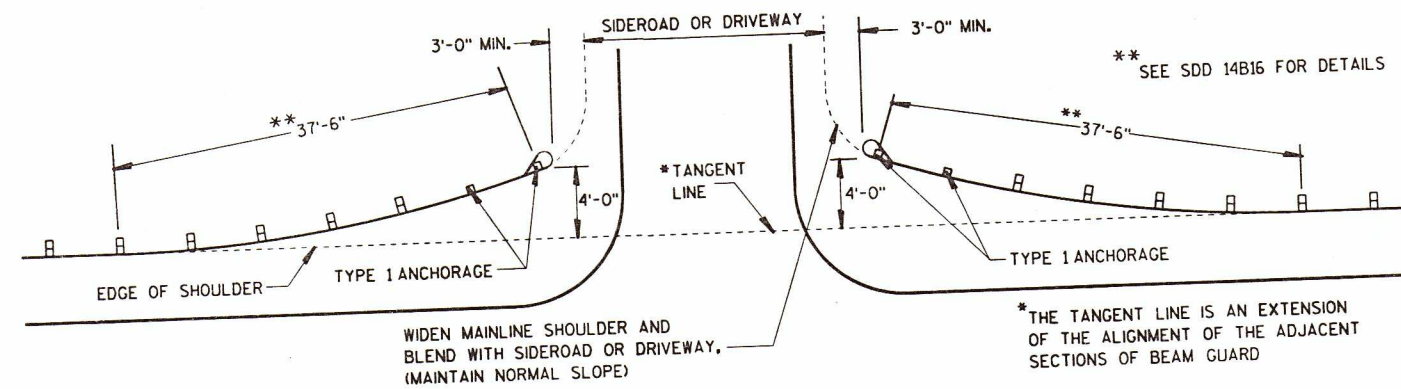
NOTE:
THIS DRAWING CONSISTS OF TWO SHEETS.
BOTH SHEETS ARE REQUIRED WHEN THIS
DRAWING IS CALLED FOR IN THE PLANS.

CLASS "A" STEEL PLATE BEAM GUARD
END TREATMENT WITH ANCHORAGE,
TYPE 1 & 2

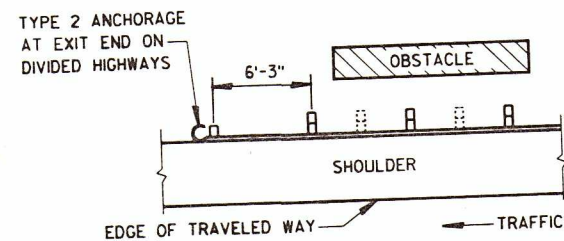
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/13/91
DATE
STATE DESIGN ENGINEER FOR HWYS
FHWA

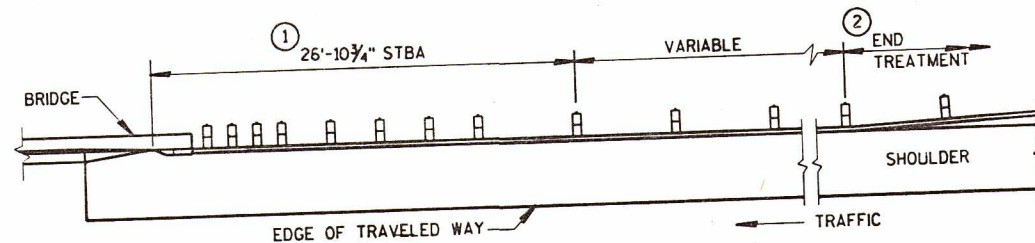
S.D.D. 14 B 16-1b



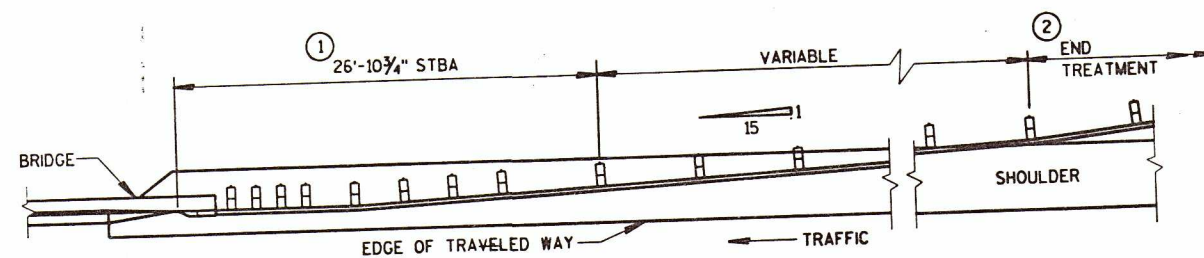
BEAM GUARD AT MINOR SIDEROADS OR DRIVEWAYS



BEAM GUARD AT OBSTACLES
EXIT END - ONE WAY TRAFFIC



BEAM GUARD AT FULL WIDTH BRIDGES



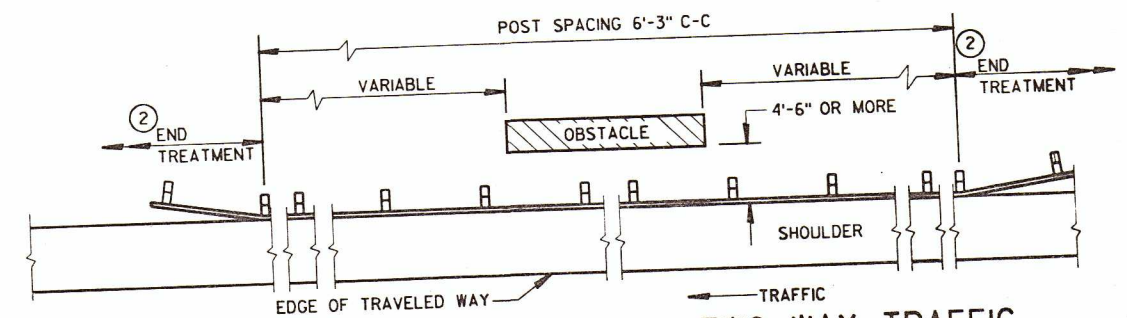
BEAM GUARD AT NARROW BRIDGES

GENERAL NOTES

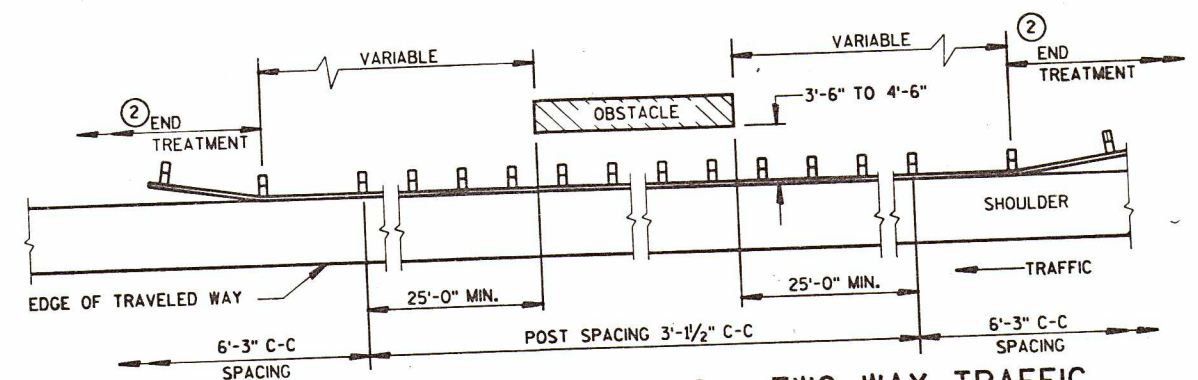
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

BEAM GUARD LOCATIONS AND LENGTHS ARE SHOWN ELSEWHERE IN THE PLAN.

- ① STEEL THRIE BEAM STRUCTURE APPROACH.
- ② UNLESS OTHERWISE INDICATED, THE FLARED END TREATMENT WITH A TYPE 1 ANCHORAGE SHALL BE USED TO TERMINATE BEAM GUARD ON THE TRAFFIC APPROACH SIDE OF BRIDGES/OBSTACLES. TYPE 2 ANCHORAGE SHALL BE USED ONLY AT THE DOWNSTREAM ENDS OF BEAM GUARD LOCATED ALONG ROADWAYS WITH ONE WAY TRAFFIC.



BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC
(RAIL TO OBSTACLE CLEARANCE 4'-6" OR MORE)



BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC
(RAIL TO OBSTACLE CLEARANCE 3'-6" TO 4'-6")

CLASS "A" STEEL PLATE
BEAM GUARD
(AT BRIDGES, OBSTACLES
AND SIDEROADS/DRIVEWAYS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/13/91
DATE

STATE DESIGN ENGINEER FOR HWYS

FHWA

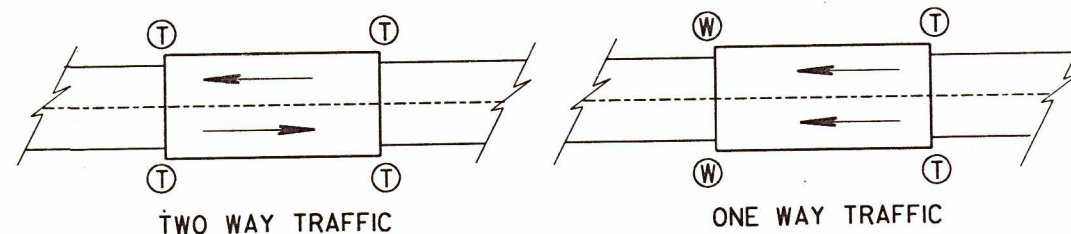
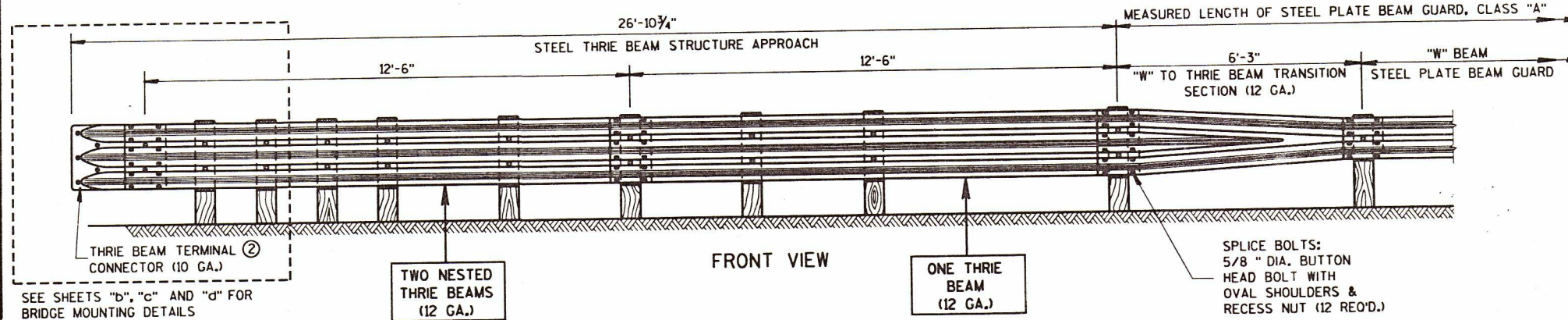
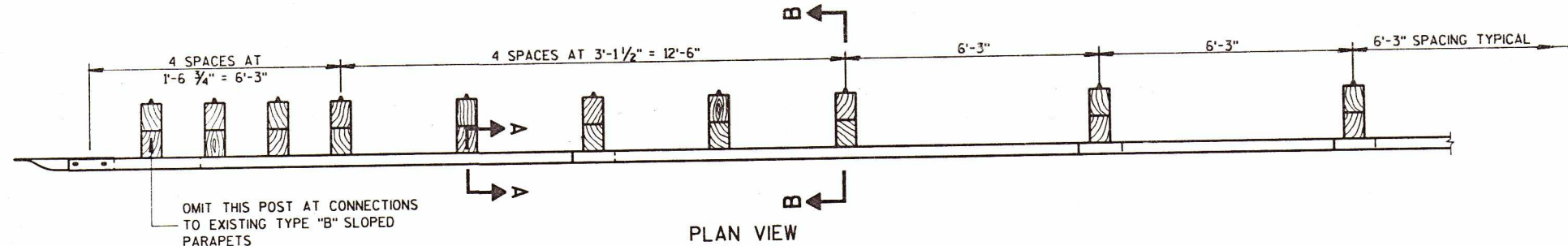
GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

THRIE BEAM STRUCTURE APPROACH SHALL BE FURNISHED AND CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 614 OF THE STANDARD SPECIFICATIONS. THRIE BEAM SECTIONS SHALL CONFORM TO THE REQUIREMENTS FOR CLASS "A", TYPE 2, BEAM AS SPECIFIED IN AASHTO DESIGNATION M180.

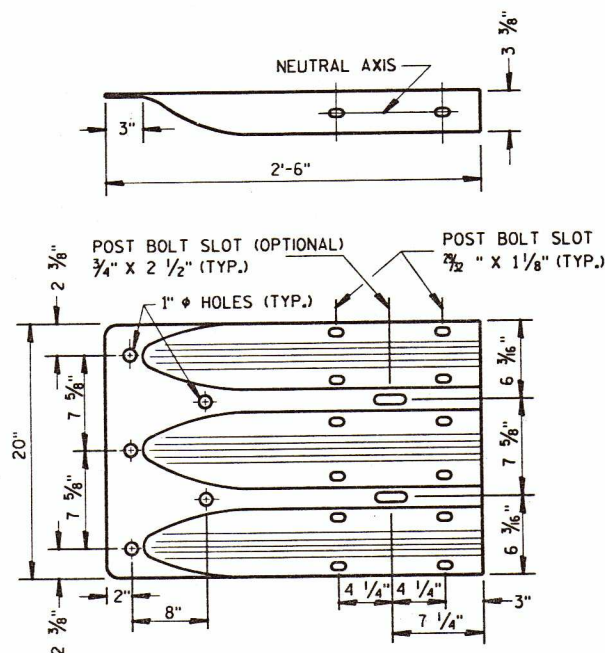
THRIE BEAM SHALL BE BOLTED TO ALL POSTS AND OFFSET BLOCKS. FIELD DRILLING/PUNCHING OF BOLT HOLES IN THE BEAM IS PERMITTED WHERE POST SPACING IS LESS THAN 6'-3".

- ① POST LENGTH SHALL BE INCREASED TO PROVIDE A MINIMUM EMBEDMENT OF 4'-0" WHERE THE SHOULDER HINGE POINT IS LOCATED IN FRONT OF THE POST.
- ② A TERMINAL CONNECTOR IS NOT REQUIRED AT CONNECTIONS TO BRIDGE RAILING TYPE "W".

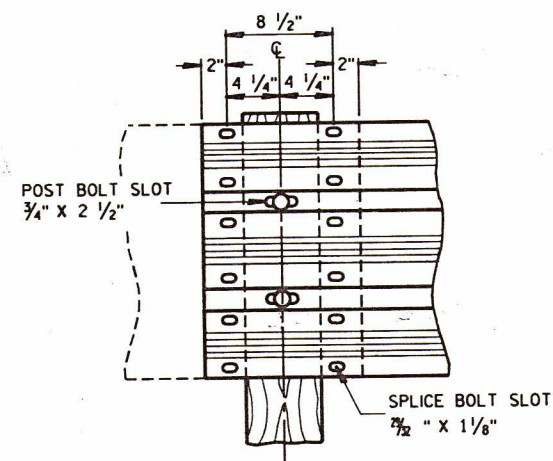


- Ⓣ THRIE BEAM CONNECTION
Ⓦ W-BEAM CONNECTION WHEN REQUIRED

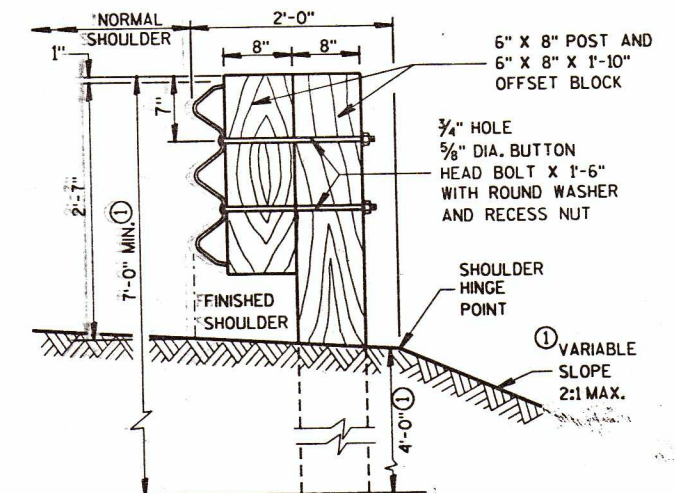
TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE



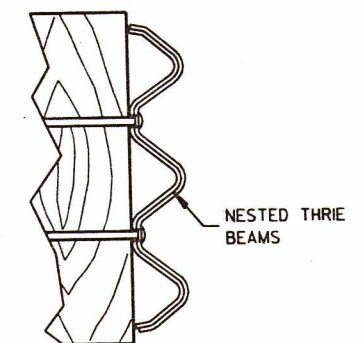
THRIE BEAM TERMINAL CONNECTOR



THRIE BEAM SPLICE



SECTION B-B



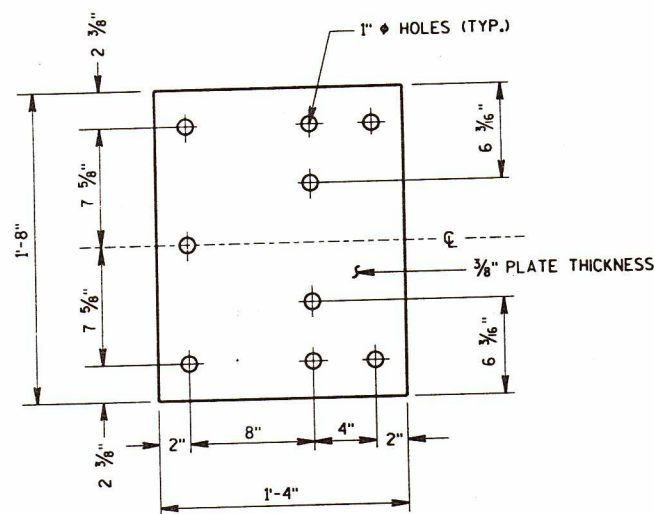
PARTIAL SECTION A-A

NOTE:
THIS DRAWING CONSISTS OF FOUR SHEETS.
SHEET 2a MUST BE SUPPLEMENTED WITH AT
LEAST ONE ADDITIONAL SHEET, 2b, 2c OR 2d
WHEN THIS DRAWING IS CALLED FOR IN PLANS.

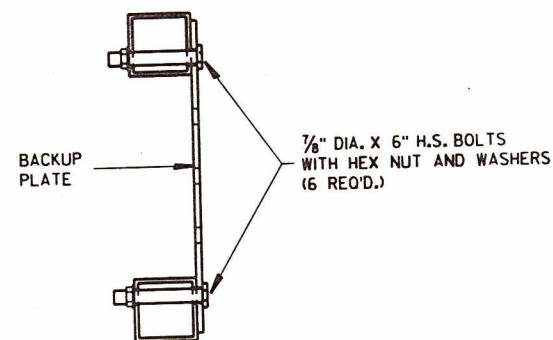
STEEL THRIE BEAM
STRUCTURE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

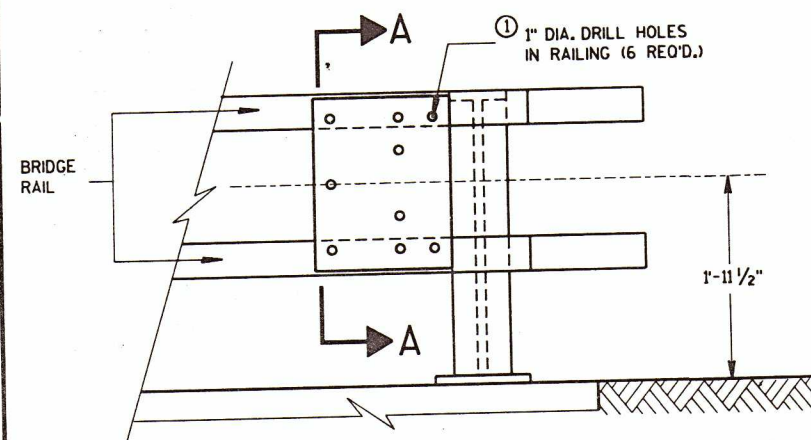
SECTION THRU THRIE
BEAM RAIL ELEMENT



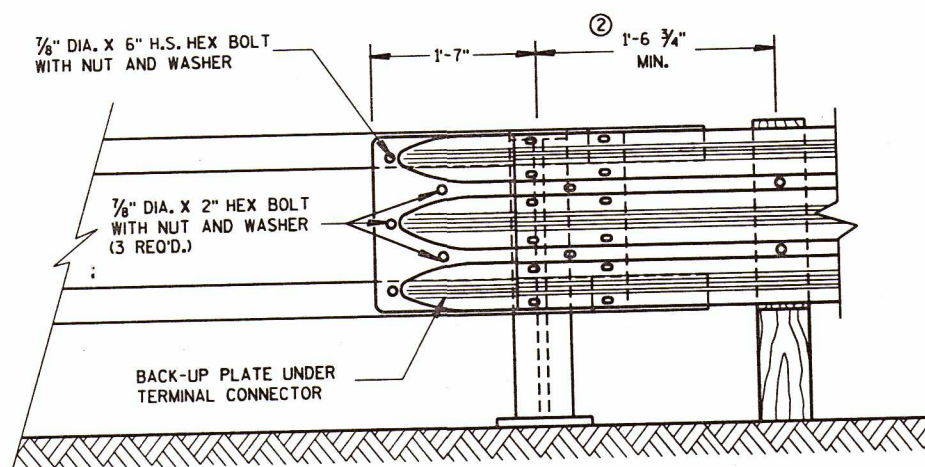
BACK-UP PLATE DETAIL



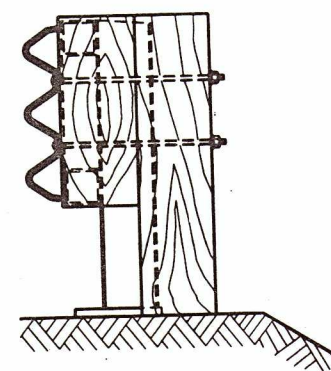
SECTION A-A



BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING



FRONT VIEW



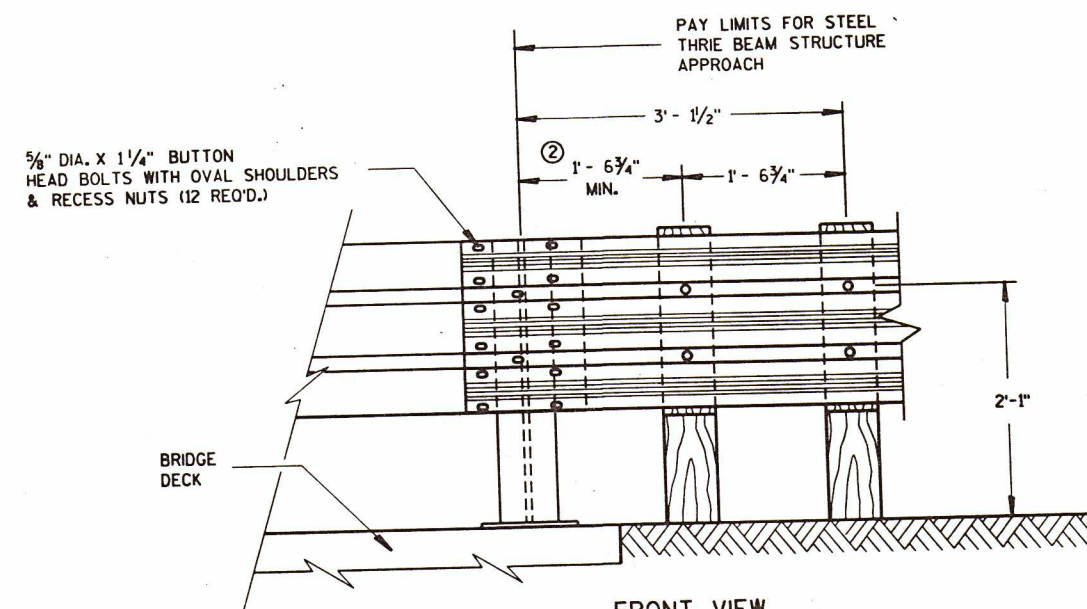
END VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

GENERAL NOTES

BOLTS, PLATES, NUTS AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A 325 AND BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.

- ① PAYMENT FOR DRILLING HOLES IN RAILING SHALL BE INCLUDED IN THE ITEM STEEL THRIE BEAM STRUCTURE APPROACH.
- ② THIS DIMENSION WILL VARY DEPENDING ON ABUTMENT TYPE, WINGWALL DETAILS, AND SKEW ANGLE. THE FIRST WOOD POST OFF THE BRIDGE SHALL BE PLACED AS CLOSE AS FEASIBLE TO THE STEEL END POST.



FRONT VIEW
THRIE BEAM CONNECTION TO
STEEL RAILING TYPE "W"

NOTE:
SDD 14 B 20-2a IS REQUIRED WHEN THIS
DRAWING IS CALLED FOR IN PLANS.

STEEL THRIE BEAM STRUCTURE
APPROACH, CONNECTION TO BRIDGE
RAILING TYPES "F" AND "W"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

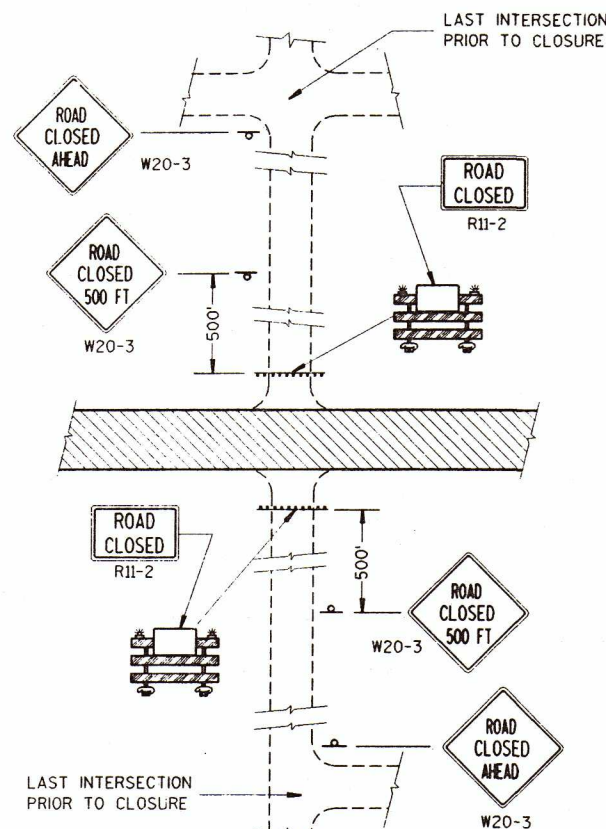
APPROVED

5/6/91
DATE

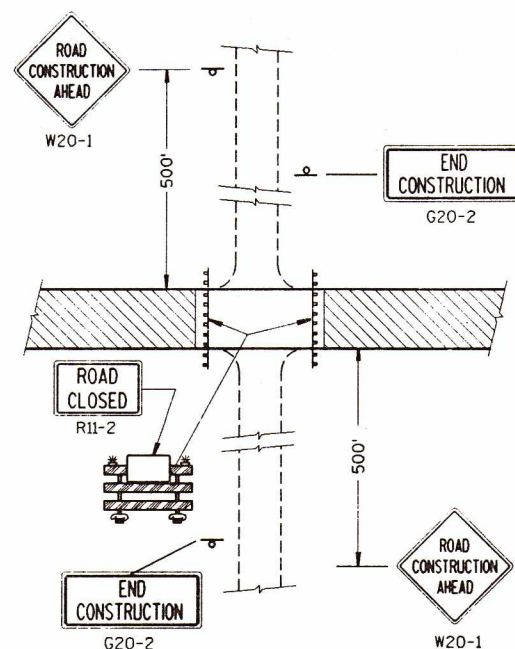
FHWA

STATE DESIGN ENGINEER FOR HWYS

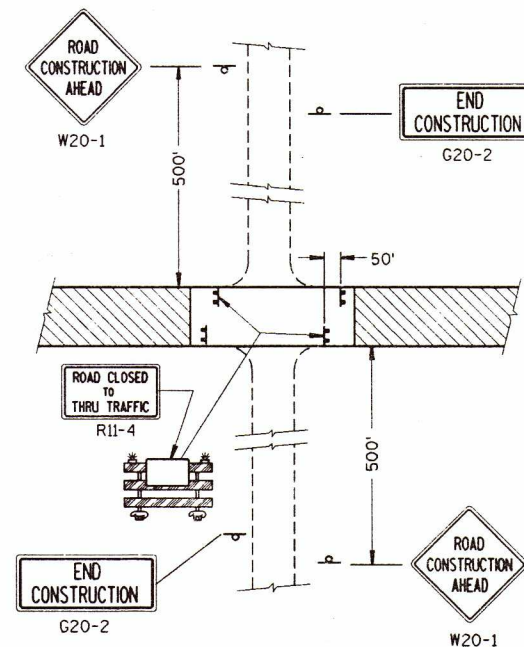
S.D.D. 14 B 20-2d



DETAIL 1
(NO ACCESS TO PROJECT)

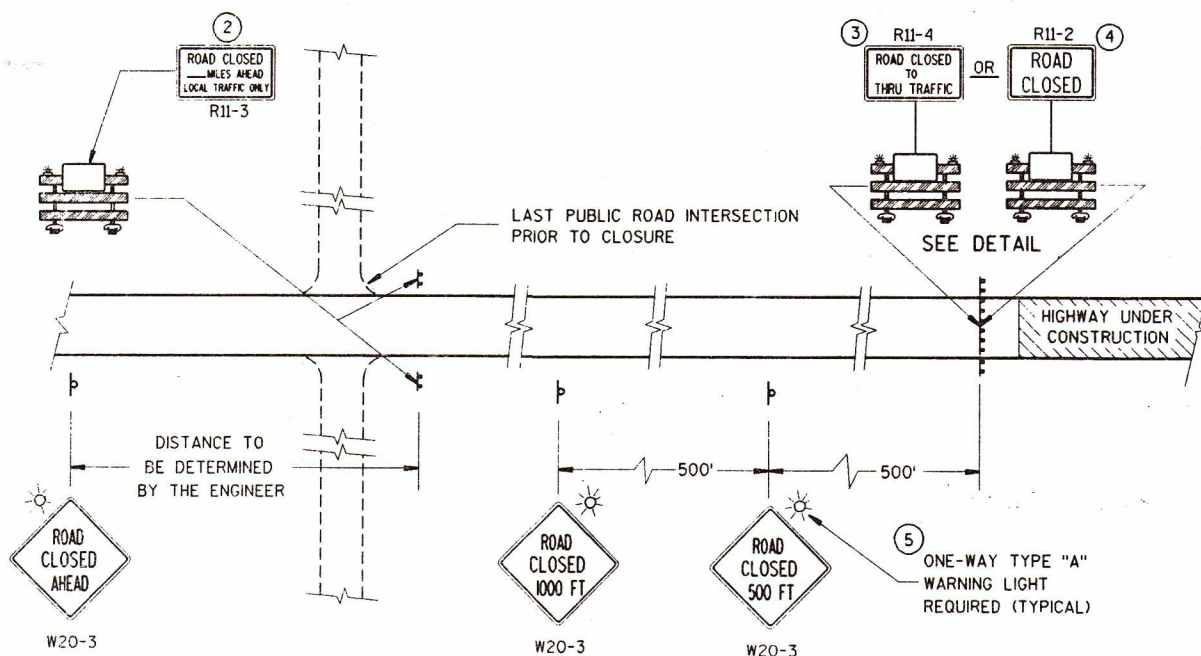


DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED,
NO ACCESS TO PROJECT).

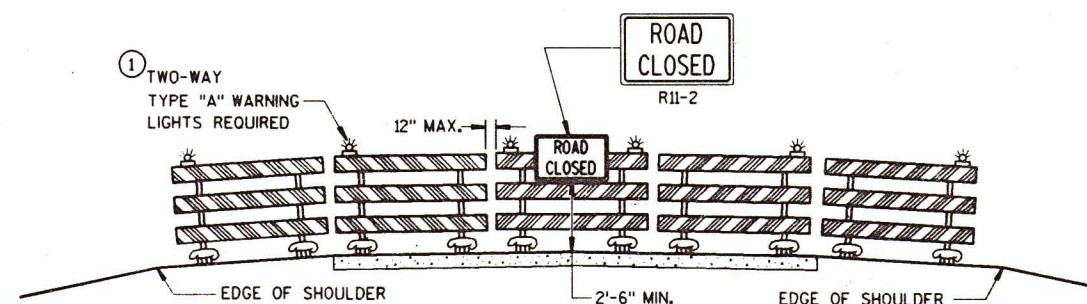


DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED, CONTRACTOR,
LOCAL BUSINESS AND RESIDENT ACCESS).

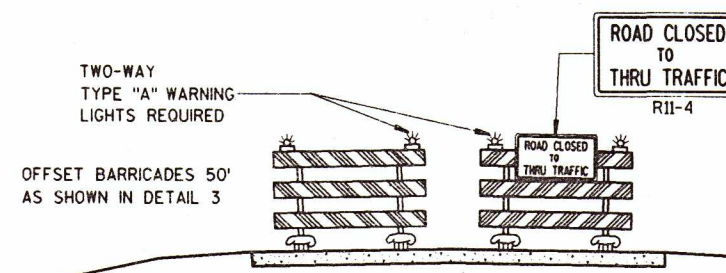
SIDEROAD CLOSURES



MAINLINE CLOSURE



ROAD CLOSURE BARRICADE DETAIL



LANE CLOSURE BARRICADE DETAIL

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND THEIR LOCATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE WISCONSIN MANUAL OF TRAFFIC CONTROL DEVICES, THE PLANS, SPECIFICATIONS AND CONTRACT.

SIGN AND BARRICADE LOCATIONS MAY BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER. ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS WORK SHALL BE COVERED AS DIRECTED BY THE ENGINEER. ALL "STOP" OR OTHER REGULATORY SIGNS ON THE SIDE ROADS SHALL NOT BE DISTURBED, EXCEPT WHEN NECESSARY TO COMPLETE THE WORK. THE SIGNS MUST THEN BE IMMEDIATELY REESTABLISHED.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL FOR FULL ROAD CLOSURES. TYPE "A" LOW INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE ROAD CLOSED SIGN (R11-2), ROAD CLOSED _____ MILES AHEAD SIGN (R11-3) AND THE ROAD CLOSED TO THRU TRAFFIC SIGN (R11-4) SHALL BE ATTACHED ONLY TO THE TOP RAIL OF THE TYPE III BARRICADE. THE SIGNS SHALL NOT COVER MIDDLE RAIL.

TYPE "H" REFLECTIVE SHEETING SHALL BE USED ON ALL BARRICADES, TYPE I, II AND III, AND ON ALL R11-2, R11-3 AND R11-4 SIGNS.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

R11-2, "ROAD CLOSED" SIGNS SHALL BE 48" X 30".

R11-3, AND R11-4 SIGNS SHALL BE 60" X 30".

G20-2 SIGNS SHALL BE 60" X 24".

- 1 TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND AT LEAST ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN.
- 2 THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.
- 3 FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT. SEE LANE CLOSURE BARRICADE DETAIL.
- 4 FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT. SEE ROAD CLOSURE BARRICADE DETAIL.
- 5 ONE-WAY LIGHTS SHALL BE PROVIDED ON ALL ADVANCE WARNING SIGNS. THE UNIT SHALL BE POSITIONED SUCH THAT THE LIGHT SOURCE IS OUTSIDE THE SIGN FACE AND AT THE TOP OF THE SIGN.

LEGEND

- POST MOUNTED WARNING SIGN
- TYPE III BARRICADES WITH TYPE "H" REFLECTIVE SHEETING
- TYPE "A" LOW INTENSITY FLASHING WARNING LIGHT (FOR NIGHT USE)
- WORK AREA

**BARRICADES AND TRAFFIC
CONTROL FOR
ROAD CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10-31-89
DATE

STATE TRAFFIC ENGINEER FOR HWYS

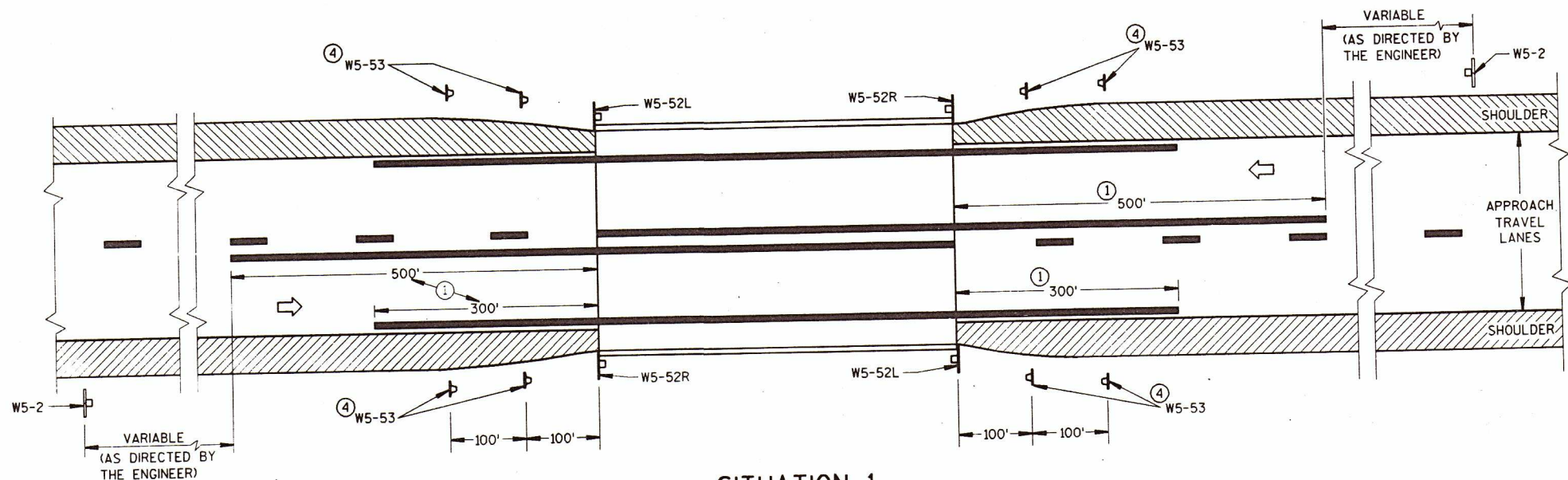
FHWA

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

PAVEMENT MARKING SHOWN ON THIS DRAWING IS NOT REQUIRED UNLESS OTHERWISE SPECIFIED IN THE CONTRACT. WHEN SPECIFIED, PAVEMENT MARKING SHALL CONFORM TO THIS DRAWING AND OTHER CONTRACT REQUIREMENTS.

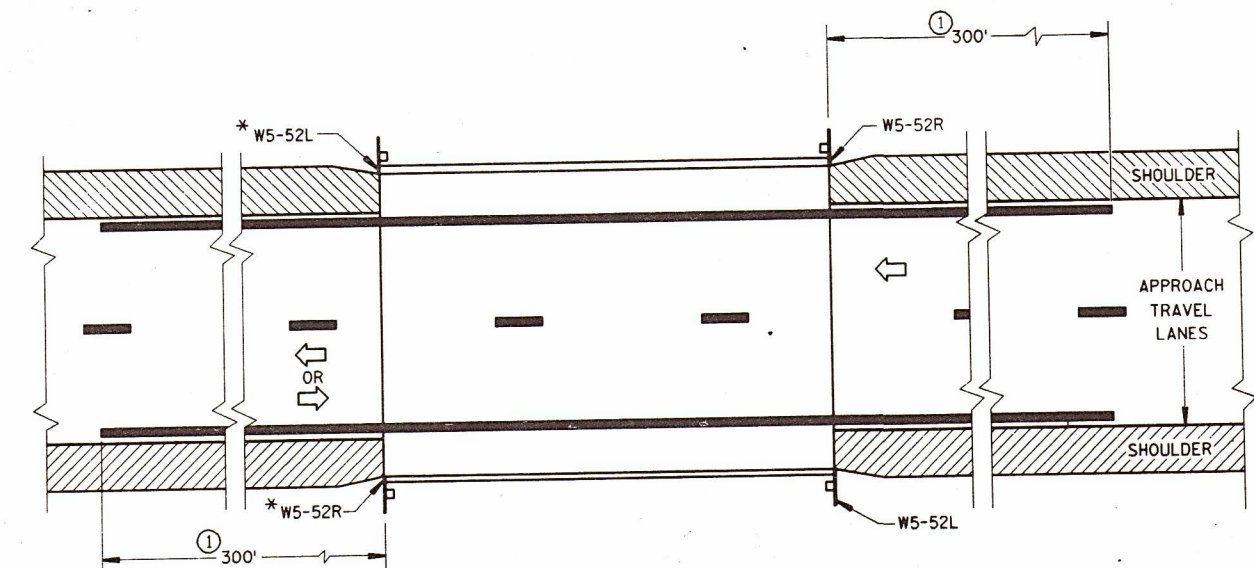
- MINIMUM DISTANCE UNLESS OTHERWISE SHOWN ON THE PLAN.
- FACE OF OBJECT MARKERS W5-52R AND W5-52L SHALL BE COVERED WITH TYPE H REFLECTIVE SHEETING.
- LOCATE OBJECT MARKER POST(S) BEHIND GUARDRAIL WHEN PRESENT.
- OBJECT MARKERS (W5-53) SHALL BE LOCATED ALONG A LINE FLARED AWAY FROM THE BRIDGE CORNER TO DELINEATE THE NARROWING OF THE SHOULDER OR BERM.
- A 10 FOOT DELINEATOR POST MAY BE USED INSTEAD OF A WOOD POST.
- NON-BID ITEM. INCIDENTAL TO OTHER ITEMS.



SITUATION 1

WARRANTING CRITERION:

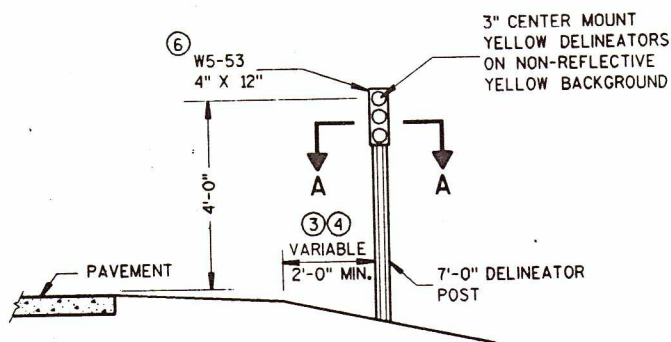
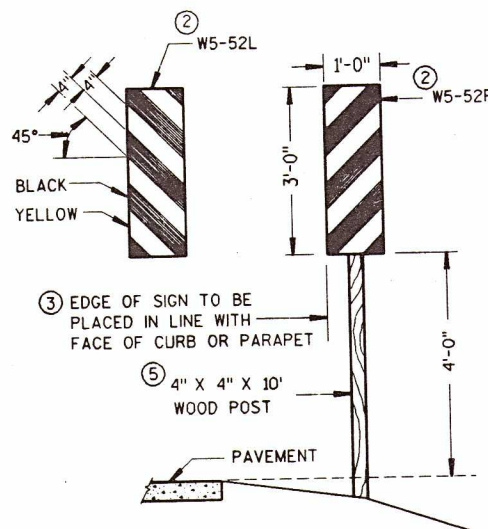
BRIDGE WIDTH IS AT LEAST 18 FEET BUT LESS THAN 24 FEET



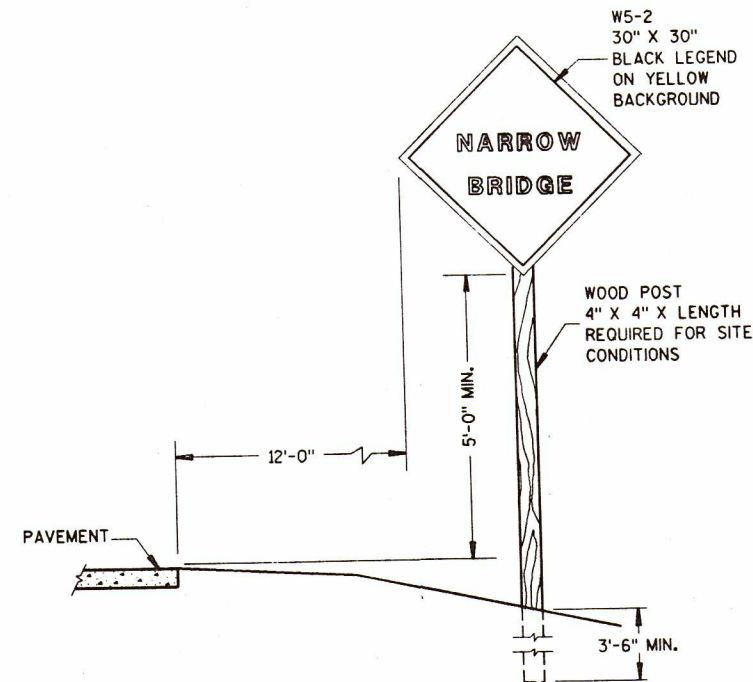
SITUATION 2

WARRANTING CRITERIA:

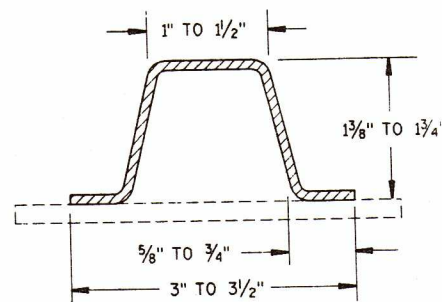
- BRIDGE WIDTH IS AT LEAST 24 FEET AND
- BRIDGE IS LESS THAN 6 FEET WIDER (ON EACH SIDE) THAN APPROACH TRAVEL LANES.



OBJECT MARKER PLACEMENT



SIGN PLACEMENT



SECTION A-A

(MINIMUM WEIGHT 1.9 LBS. PER FT. AFTER GALVANIZING)

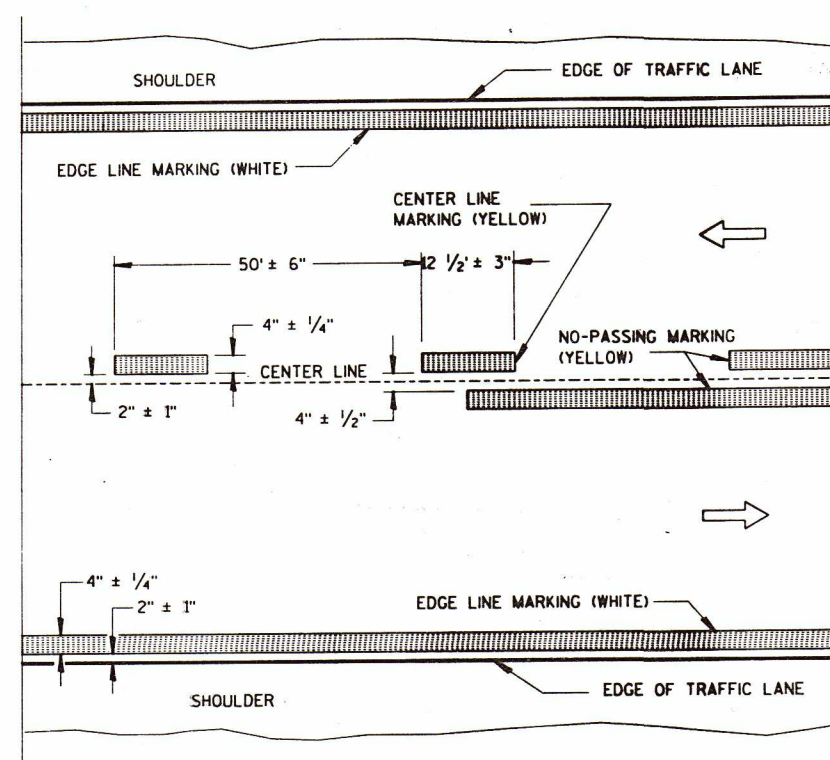
TRAFFIC CONTROL DEVICES FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

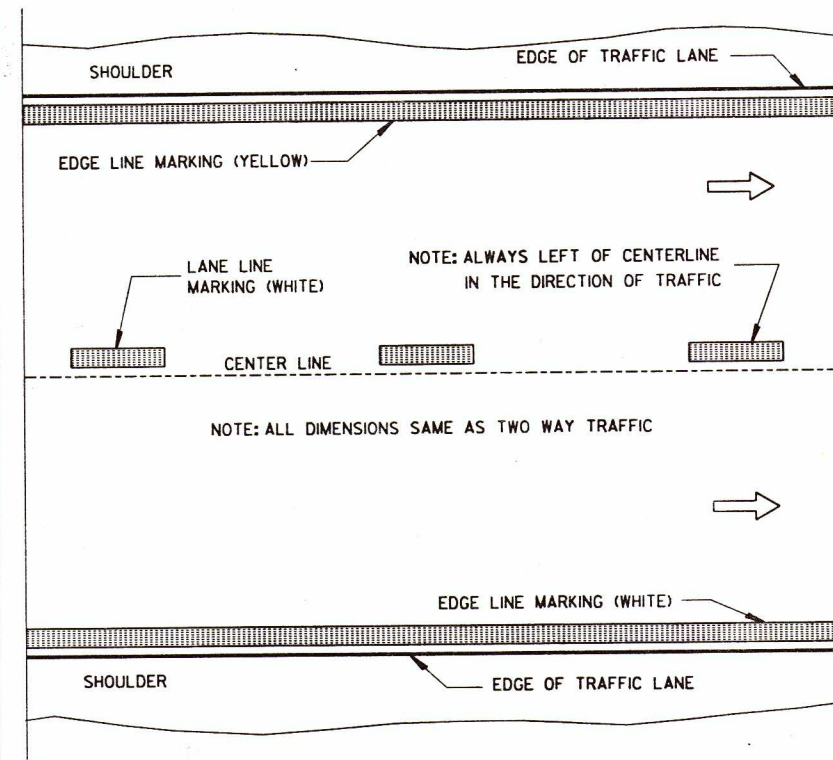
APPROVED
8-10-90
DATE

STATE TRAFFIC ENGINEER FOR HWYS

FHWA

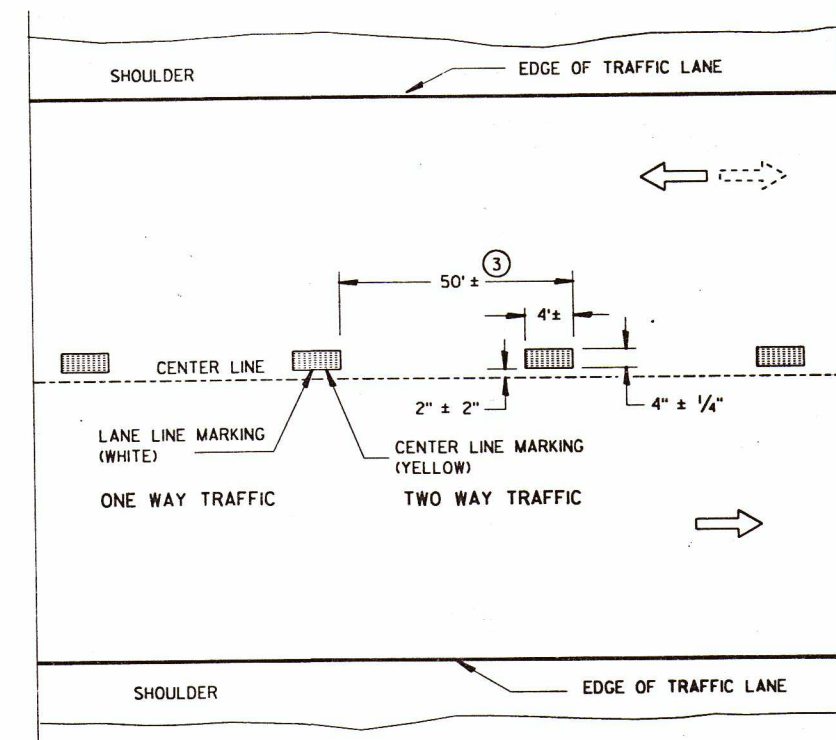


TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



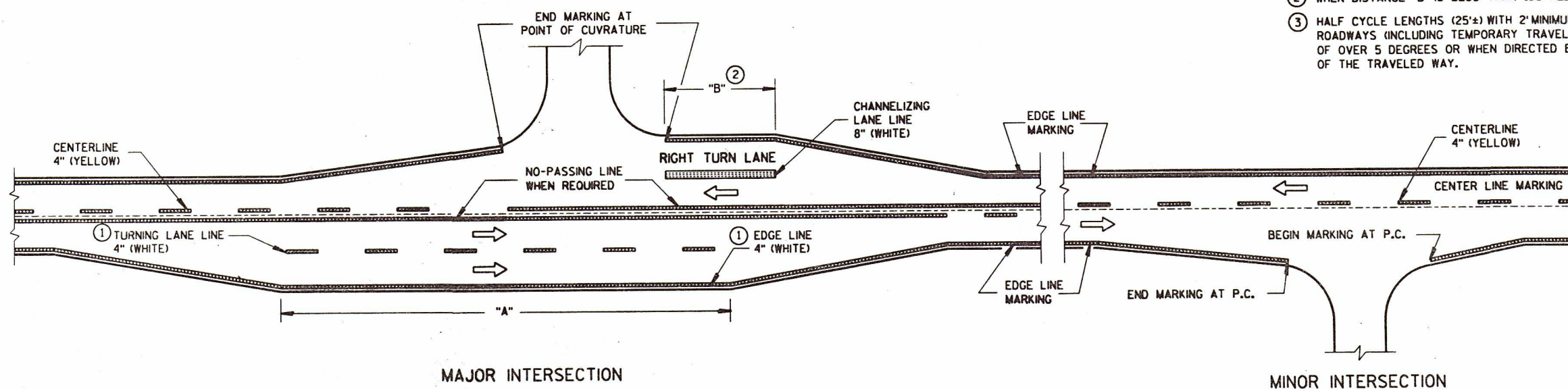
TEMPORARY PAVEMENT MARKING

GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.

- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT TURNING LANE MARKING.
- ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
- ③ HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.



TYPICAL PAVEMENT MARKING FOR RURAL INTERSECTIONS

NOTE: WHEN APPLICABLE, INCLUDE SDD 15C8-4b WITH THIS DRAWING IN PLANS.

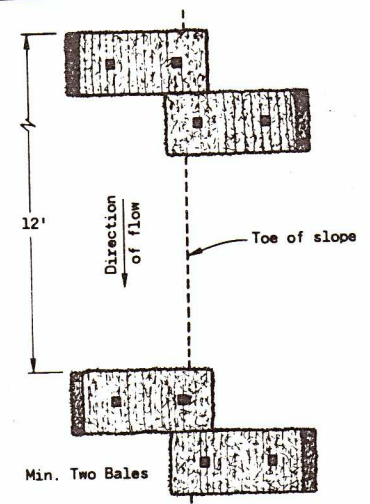
PAVEMENT MARKING
(MAINLINE & INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

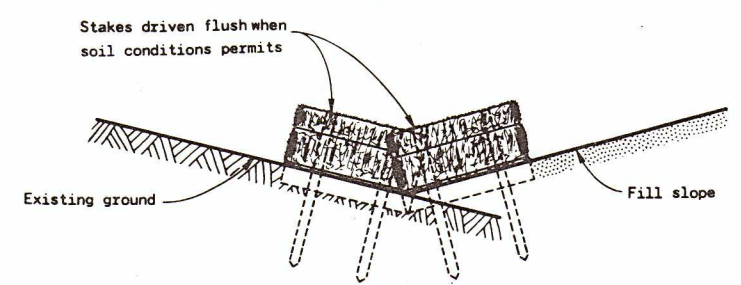
APPROVED
3/17/92
DATE

STATE TRAFFIC ENGINEER FOR HWYS

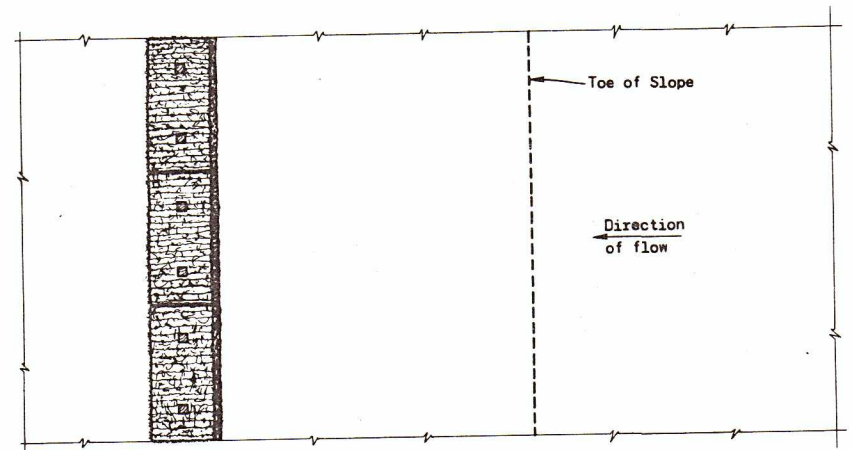
FHWA



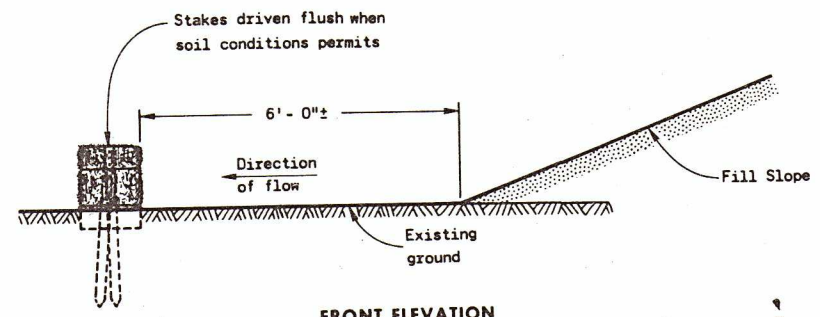
PLAN VIEW



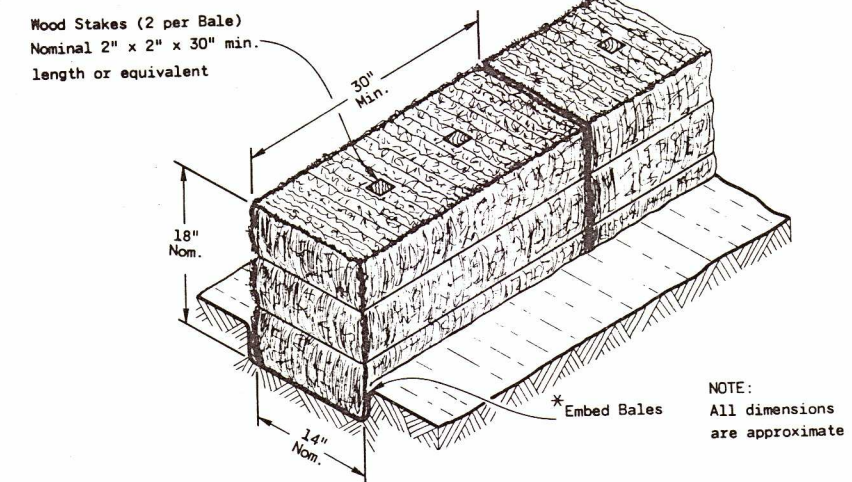
FRONT ELEVATION
WHEN EXISTING GROUND
SLOPES TOWARD FILL SLOPE



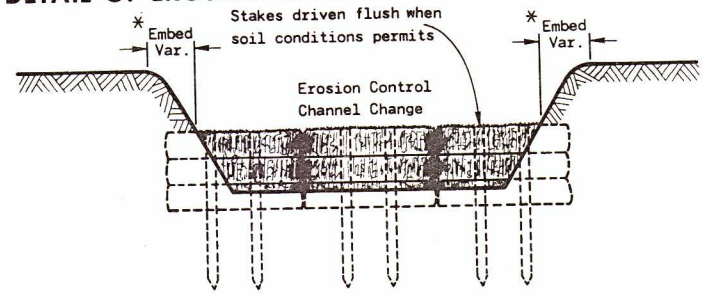
PLAN VIEW



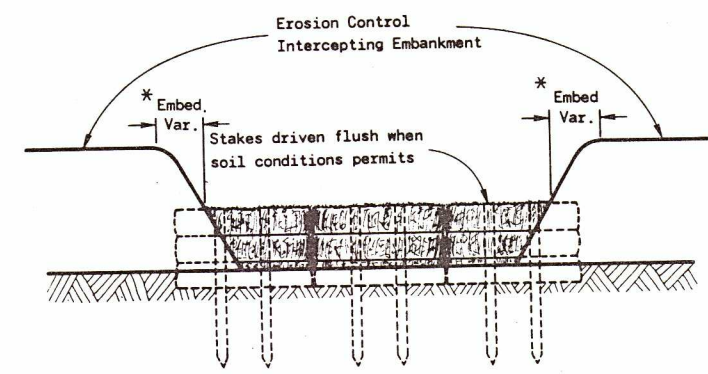
FRONT ELEVATION
EROSION BALES AT TOE OF SLOPE
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE



DETAIL OF EROSION BALE INSTALLATION



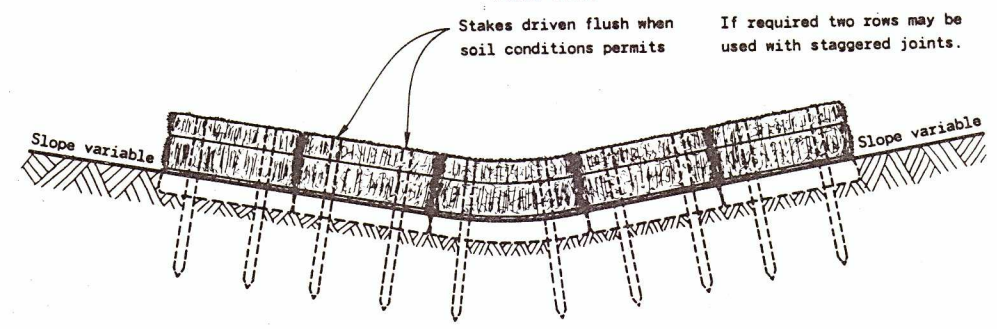
EROSION CONTROL CHANNEL CHANGE



EROSION CONTROL INTERCEPTING EMBANKMENT



PLAN VIEW



FRONT ELEVATION
EROSION BALES ACROSS DITCH BOTTOM

GENERAL NOTES

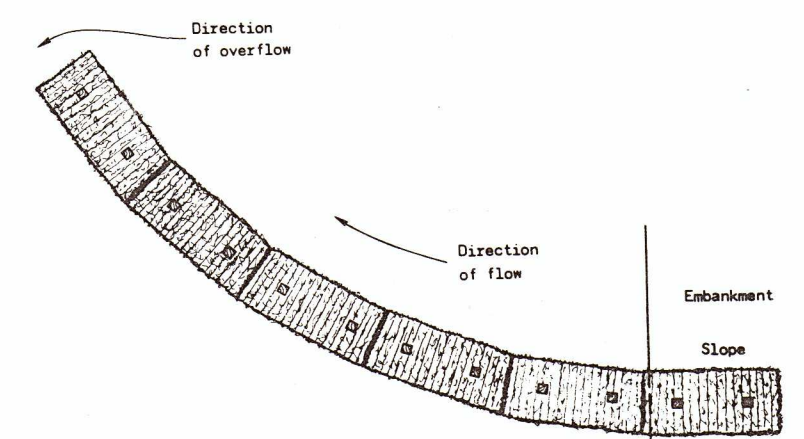
Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

Bales shall be placed end to end or overlapping at right angles to the direction of flow and far enough up the sides of the ditch to prevent eroding around ends.

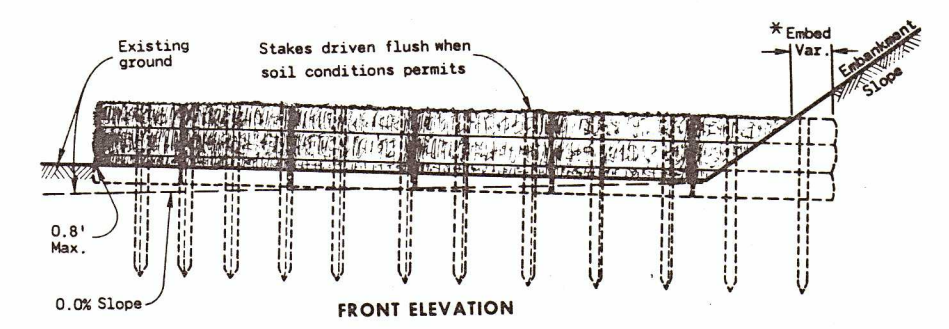
Bales shall be placed with twine or tie wires parallel to the ground.

Stakes to be battered in opposite directions.

* As determined by the Engineer.



PLAN VIEW



FRONT ELEVATION

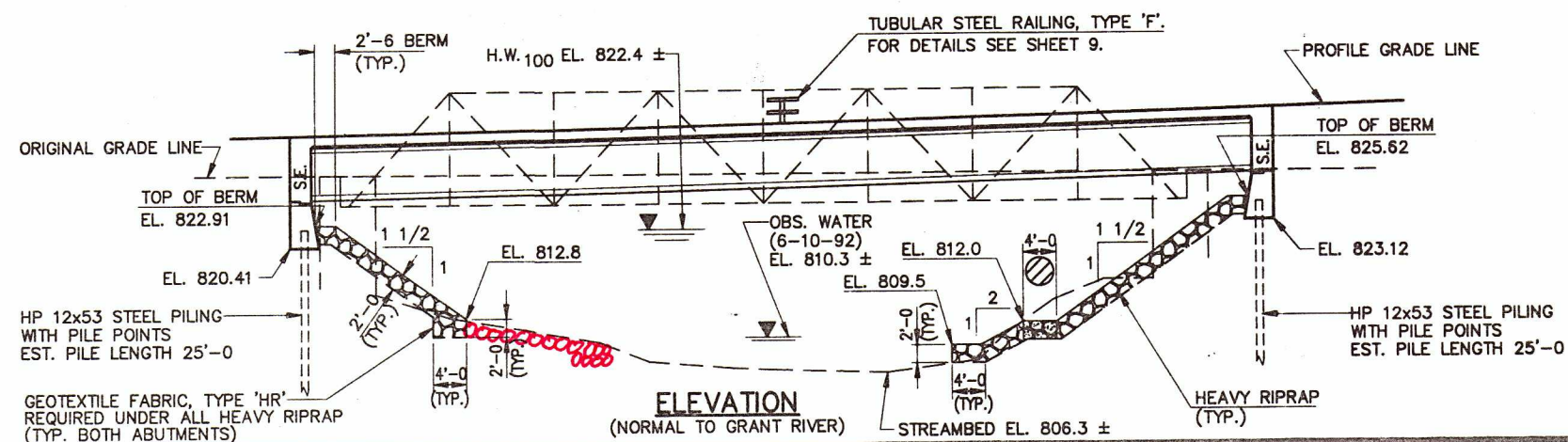
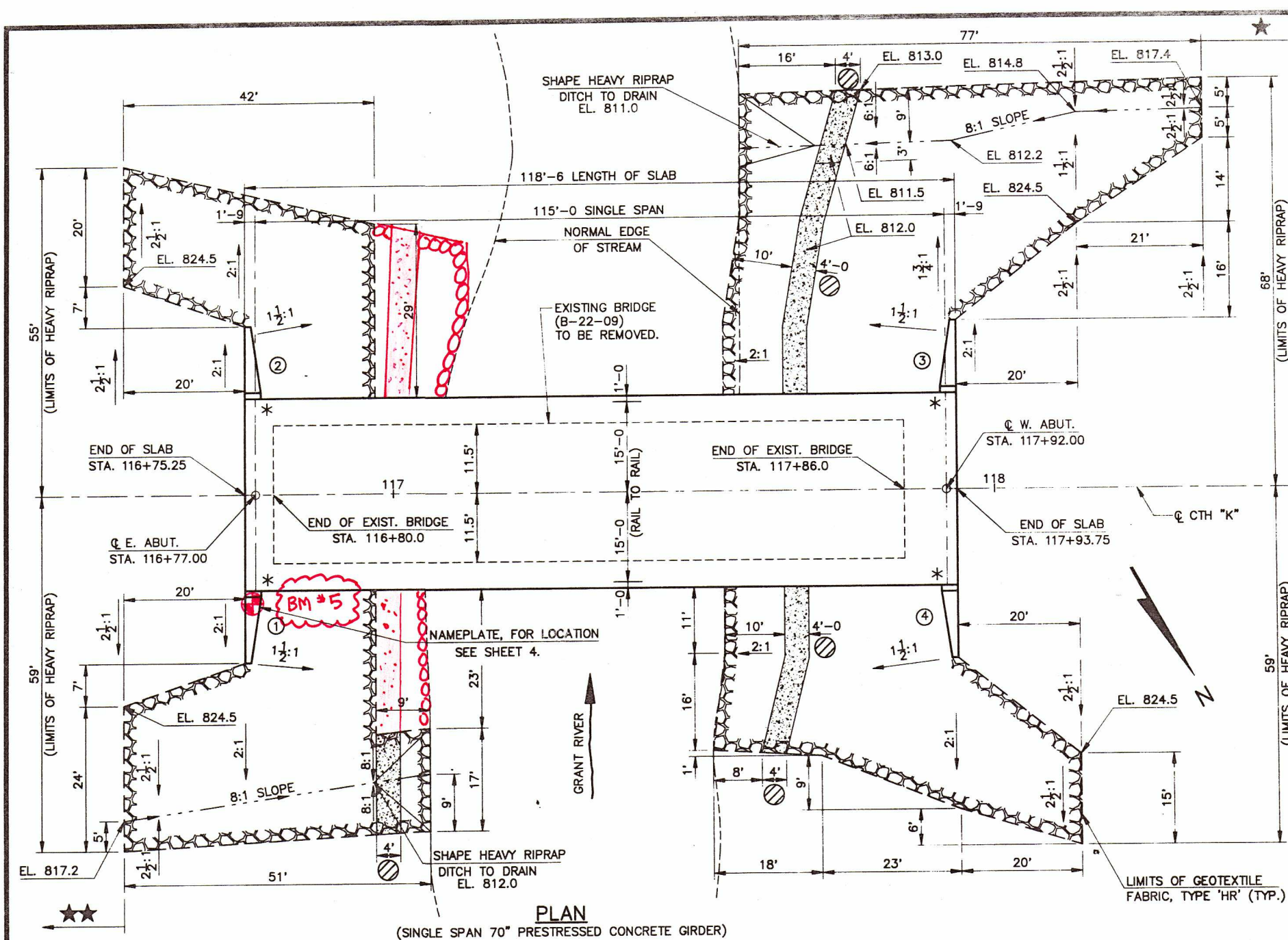
EROSION BALES AT TOE OF SLOPE

TYPICAL INSTALLATIONS OF EROSION BALES

State of Wisconsin
Department of Transportation
Division of Highways

RECOMMENDED FOR APPROVAL:
DATE 10/14/75
APPROVED: 10/16/75
DATE

CHIEF OF FACILITIES DEVELOPMENT
STATE HIGHWAY ENGINEER



BENCHMARKS				STATE PROJECT NUMBER	SHEET NO.
NO.	STA.	DESCRIPTION	ELEV.	5805-00-73	8.0

1	111+04	DBL. 20d. NAIL IN E. FACE OF 10" ELM.	832.04
2	114+56	CHISELED CROSS IN 28' RT. ROCK OUTCROP	831.00
3	117+85	CHISELED CROSS ON W. ABUT., SOUTH WING WALL	828.74
4	120+74	DBL. 20d. NAIL IN S. FACE OF 6" ELM.	838.13

5 116+77 DOT MONUMENT IN WIN #1 **DESIGN DATA 832.52**

TRAFFIC DATA:
 A.D.T. (1993) = 800
 A.D.T. (2013) = 1000

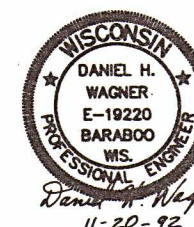
DESIGN RATING : HS-20
 INVENTORY RATING : HS-25
 OPERATIONAL RATING : HS-35
 MAX. STANDARD PERMIT VEHICLE LOAD = 215 KIPS
 STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

ULTIMATE DESIGN STRESSES:
 CONCRETE MASONRY - SLAB $f_c' = 4,000$ P.S.I.
 - ALL OTHER $f_c' = 3,500$ P.S.I.
 HIGH STRENGTH AND COATED HIGH STRENGTH
 BAR STEEL REINFORCEMENT, GRADE 60 $f_y = 60,000$ P.S.I.
 70" PRESTRESSED GIRDER CONCRETE MASONRY $f_c' = 6,000$ P.S.I.
 1 1/2" DIA. STRANDS WITH ULTIMATE TENSILE STRENGTH OF 270,000 P.S.I.

FOUNDATION DATA:
 ABUTMENTS SHALL BE SUPPORTED ON HP 12x53 STEEL PILING WITH PILE POINTS. PILES SHALL BE DRIVEN TO A MINIMUM BEARING VALUE OF 70 TONS PER PILE. ESTIMATED PILE LENGTHS ARE 25'-0" AT BOTH ABUTMENTS.

HYDRAULIC DATA:
 100 YEAR FREQUENCY
 DRAINAGE AREA 44.0 SQ. MI.
 Q₁₀₀ 8500 C.F.S.
 VELOCITY 7.85 F.P.S.
 WATERWAY AREA 1083 SQ. FT.
 SCOUR CRITICAL CODE 8
 HIGH WATER₁₀₀ ELEVATION 822.4 ±
 ROADWAY OVERFLOW DESIGN FREQUENCY N/A

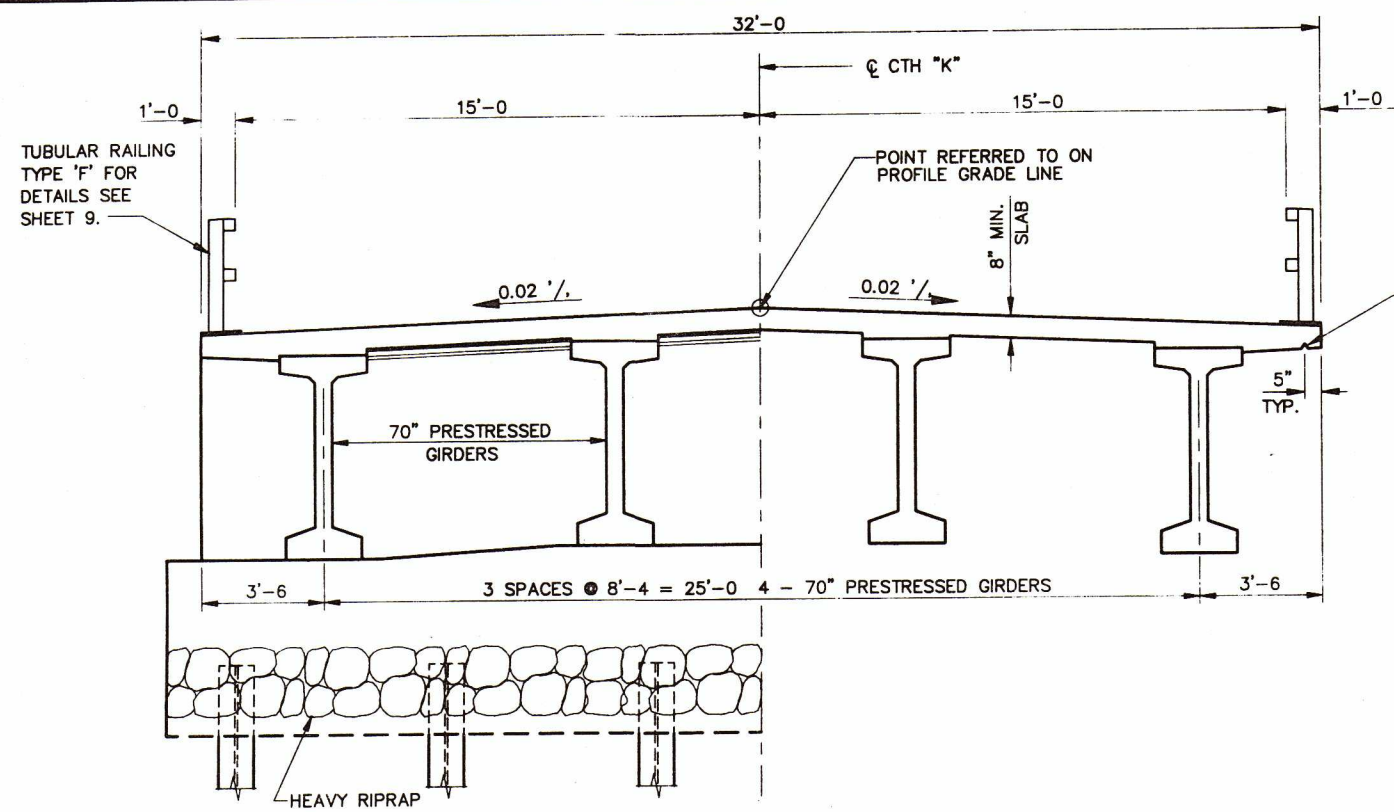
LIST OF DRAWINGS
 1. GENERAL PLAN
 2. CROSS SECTION & QUANTITIES
 3. SUBSURFACE EXPLORATION
 4. ABUTMENTS
 5. ABUTMENT DETAILS
 6. 70" PRESTRESSED GIRDER DETAILS
 7. SUPERSTRUCTURE
 8. SUPERSTRUCTURE DETAILS
 9. TUBULAR STEEL RAILING TYPE "F"



- - INDICATES WING NUMBER
- * - INDICATES LOCATION OF PROVISION FOR THRIE BEAM GUARD ATTACHMENT.
- ★ - EXTENDED HEAVY RIPRAP, SEE DETAILS & LIMITS ON ROAD PLANS.
- ★★ - RIPRAP DITCH TO MATCH STRUCTURE HEAVY RIPRAP. SEE DETAILS & LIMITS ON ROAD PLANS.
- ⊗ - 2 FT. THICK GROUTED HEAVY RIPRAP CATTLE WALKWAY.

BRIDGE OFFICE CONTACT:
 (608) 264-9425, DAVE BABLER

No.	Date	Revision	By
PLANS PREPARED BY			
MID-STATE ASSOCIATES, INC. 1230 S. BLVD., BARABOO, WI. 53913			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-22-142			
CTH "K" OVER GRANT RIVER			
County	GRANT	Town/City/Village	NORTH LANCASTER
Design Spec.	AASHTO 1992	Load	HS-20
Designed By	DHW	Const. Spec.	WI "89"
Checked	MLH	Drawn By	RLR
Planned		Checked	DHW
Approved <i>Stanley W. Woods</i> State Bridge Engineer			Date 1-25-93
GENERAL PLAN			SHEET 1 OF 9



CROSS SECTION THRU BRIDGE
(LOOKING WEST)

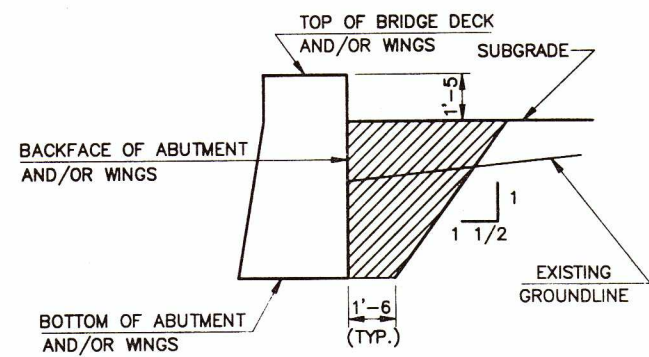
TOTAL ESTIMATED QUANTITIES

BID ITEMS	UNIT	EAST ABUT.	WEST ABUT.	SUPER	TOTAL
REMOVING OLD BRIDGE, STATION 117+33, ON C/L	L.S.				1
EXCAVATION FOR STRUCTURES, BRIDGES B-22-142	L.S.				1
CONCRETE MASONRY, BRIDGES	C.Y.	36.2	36.2	148.6	221
PROTECTIVE SURFACE TREATMENT	GAL.			17	17
PRESTRESSED GIRDER, I TYPE, 70 INCH	L.F.			464	464
HIGH-STRENGTH BAR STEEL REINFORCEMENT, BRIDGES	LB.	2050	2050		4100
COATED HIGH-STRENGTH BAR STEEL REINFORCEMENT, BRIDGES	LB.			25050	25050
NON-LAMINATED ELASTOMERIC BEARING PADS	E.A.			8	8
STEEL PILING, DELIVERED AND DRIVEN, HP 12 INCH, 53 POUND	L.F.	150	150		300
PILE POINTS	E.A.	6	6		12
TUBULAR RAILING, TYPE "F", STRUCTURE B-22-142	L.S.				1
HEAVY RIPRAP	C.Y.	280	450		730
GEOTEXTILE FABRIC, TYPE 'HR'	S.Y.	470	770		1240
GROUTED HEAVY RIPRAP	C.Y.	5	33		38
NON-BID ITEMS					
FILLER	SIZE				1/2" & 3/4"
POLYVINYL CHLORIDE WATERSTOP	L.F.	46	46		92
GRANULAR BACKFILL	C.Y.	200	200		400

GENERAL NOTES

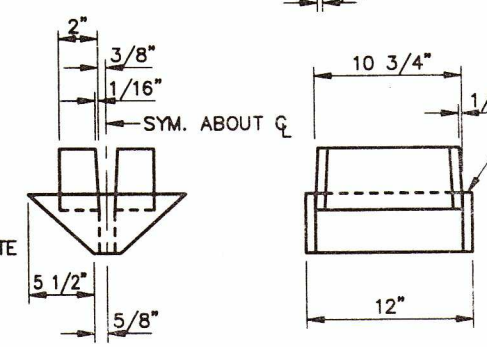
DRAWINGS SHALL NOT BE SCALED.
 BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.
 THE FIRST DIGIT OF A THREE DIGIT BAR MARK SIGNIFIES THE BAR SIZE.
 FILLER SHALL CONFORM TO AASHTO DESIGNATIONS M153, TYPE I, II, OR III, OR AASHTO DESIGNATION M213.
 THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP TO THE LIMITS SHOWN ON SHEET 1 AND ON THE ABUTMENT SHEETS OR AS DIRECTED BY THE ENGINEER.
 ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOULDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.
 THIS STRUCTURE WILL REPLACE EXISTING STRUCTURE B-22-09, A SINGLE SPAN, 106' LONG STEEL LOW TRUSS SET ON FULL RETAINING CONCRETE SILL ABUTMENTS SUPPORTED ON TIMBER PILING.
 ALTERNATE STEEL INTERMEDIATE DIAPHRAGMS WILL NOT BE PERMITTED ON THIS STRUCTURE.
 AT THE ABUTMENTS ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH GRANULAR BACKFILL. PAYMENT WILL BE INCLUDED IN THE ITEM OF "EXCAVATION FOR STRUCTURES".
 THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES" SHALL BE THE EXISTING GROUNDLINE BETWEEN THE NEW ABUTMENTS AND THE DESIGN SUBGRADE BEHIND THE NEW ABUTMENTS.

3/4" CONTINUOUS 'V' DRIP GROOVE
 TERMINATE 2'-0" FROM F.F. OF ABUTMENTS (TYP.)

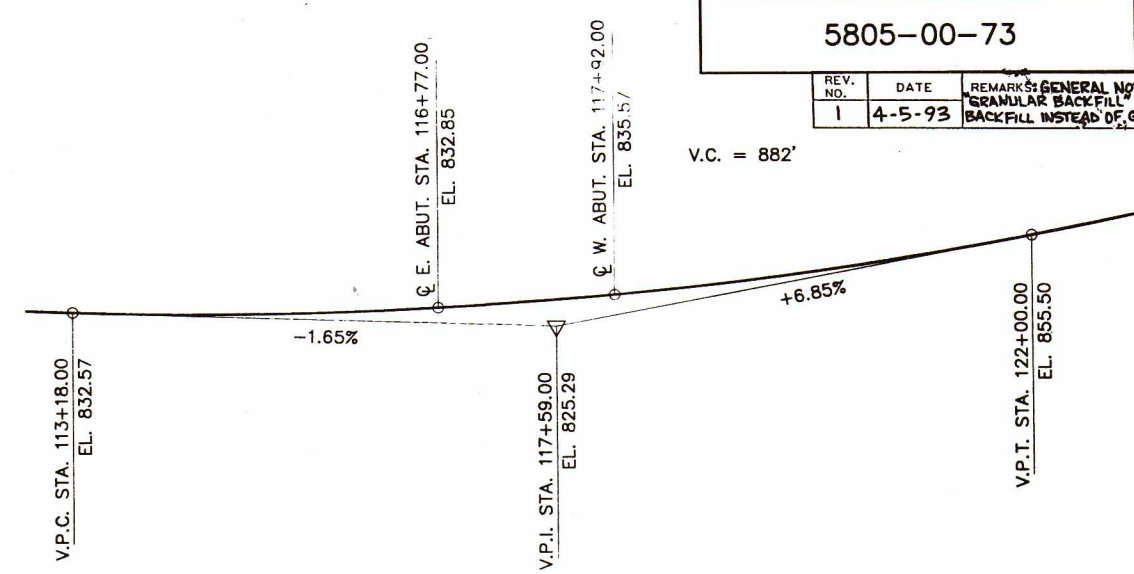


GRANULAR BACKFILL DETAIL

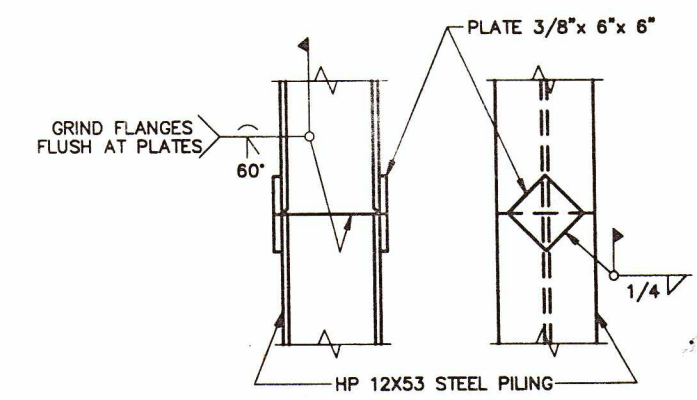
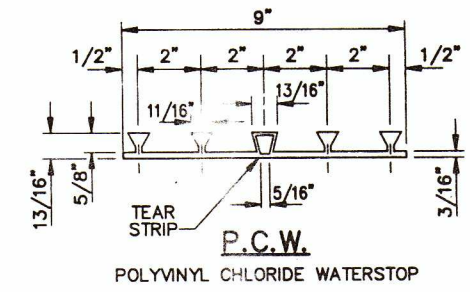
- POINT NOTES**
1. MATERIAL - CAST STEEL (ASTM A-27-84-65-35)
 2. ALL FILLETS = 3/8"
 3. ALL WELDS BETWEEN PILE & POINT TO BE IN ACCORDANCE WITH AWS SPEC'S. WELD FLANGES TO FITTING ON OUTSIDE FACES.
 4. CONTRACTOR MAY USE AN ALTERNATE DESIGN UPON APPROVAL OF THE ENGINEER.



PILE POINT DETAIL

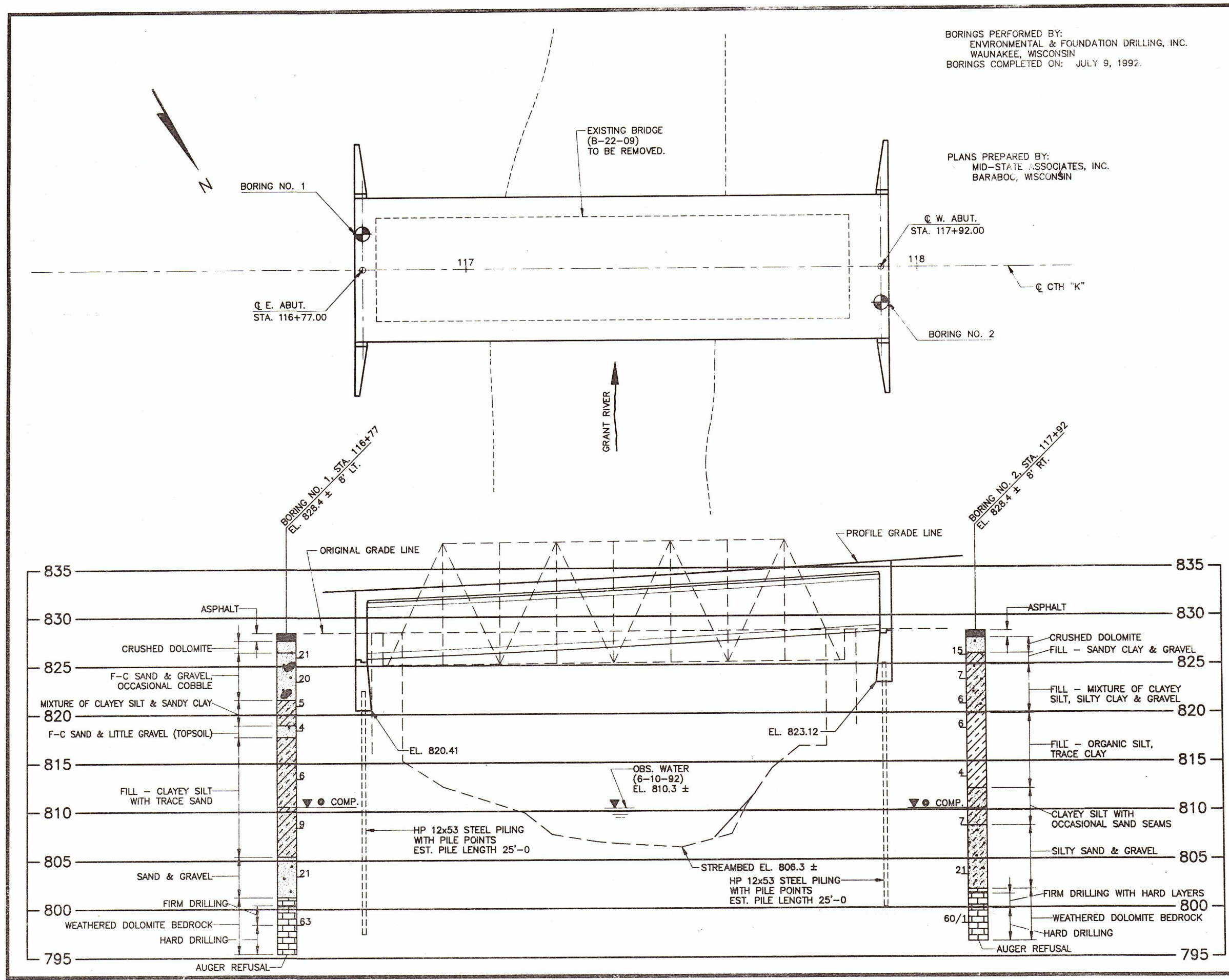


PROFILE GRADE LINE - CTH "K"



PILE SPLICE DETAILS

No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-22-142			
Const. Spec.	WI "89"	Drawn By	RLR
		Plans Checked	DHW
CROSS SECTION & QUANTITIES			SHEET 2 OF 9



BORINGS PERFORMED BY:
ENVIRONMENTAL & FOUNDATION DRILLING, INC.
WAUNAKEE, WISCONSIN
BORINGS COMPLETED ON: JULY 9, 1992.

PLANS PREPARED BY:
MID-STATE ASSOCIATES, INC.
BARABOO, WISCONSIN

STATE PROJECT NUMBER		SHEET NO.	
5805-00-73		8.2	
ABBREVIATIONS			
F - Fine	M - Medium	C - Coarse	
Ws - Weathered	So - Sound		
MATERIAL SYMBOLS			
Topsoil	Silt	Sandstone	
Sand	Peat	Limestone	
Gravel	Clay	Igneous Rock	
LEGEND OF PROBING			
95/6=95 Blows for 6" Penetration Probing taken with a 350# wt. Falling 18" on a 2" O.D. Point.			
Probing No. Sta. Elevation 7 Average Blows Per Foot Refusal 95/6			
LEGEND OF BORING			
Unconfined Strength → 7.7 Blows Per Ft. Using 140# Wt. Falling 30" Wash Sample Shelby Tube — S.T. Ground Water Elevation No Ground Water Observed Above This Elevation			
Boring No. Sta. Elev. Sandy Gravel F. Boulders or Cobbles Sand Silty Clay So. Limestone			
Unless otherwise specified, the blows per foot at the locations indicated are based on driving a 2" O.D. x 1.4" I.D. split spoon sampler with a 140# hammer having a free fall of 30". The blow count is taken in undisturbed soil immediately below a cased or open hole eliminating side friction on the drive pipe.			
SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION			
To obtain relative data concerning the character of material in and upon which the foundation might be built, borings and/or soundings were made at points approximately as indicated on this drawing. The data presented herein represents the findings of the subsurface explorations made. However, because the depths investigated are limited and the area of the borings and/or soundings is very small in relation to the entire area, the Division of Highways does not warrant conditions below the depths investigated or that the classification of material encountered in these investigations is necessarily typical of the entire site.			
No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-22-142			
Const. Spec. WI "89"	Drawn By RLR	Plans Checked DHW	
SUBSURFACE EXPLORATION			SHEET 3 OF 9

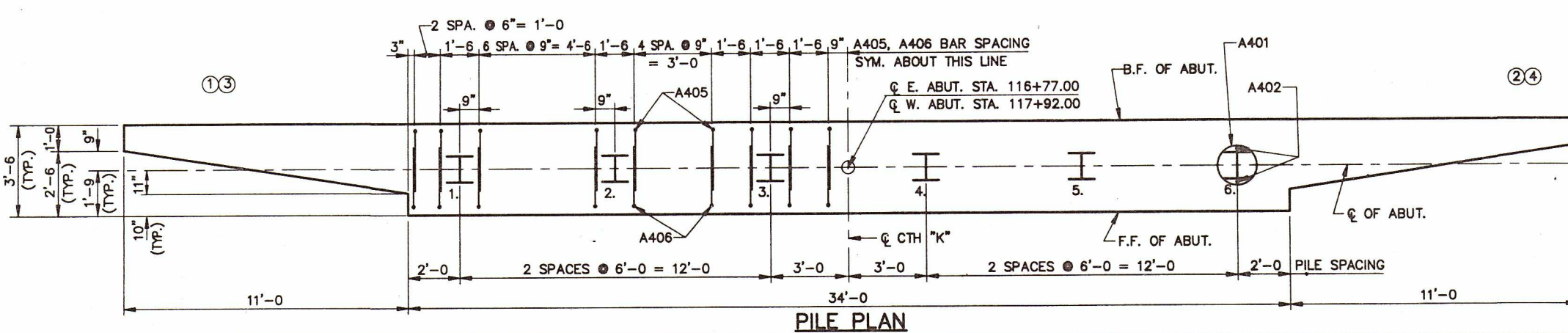
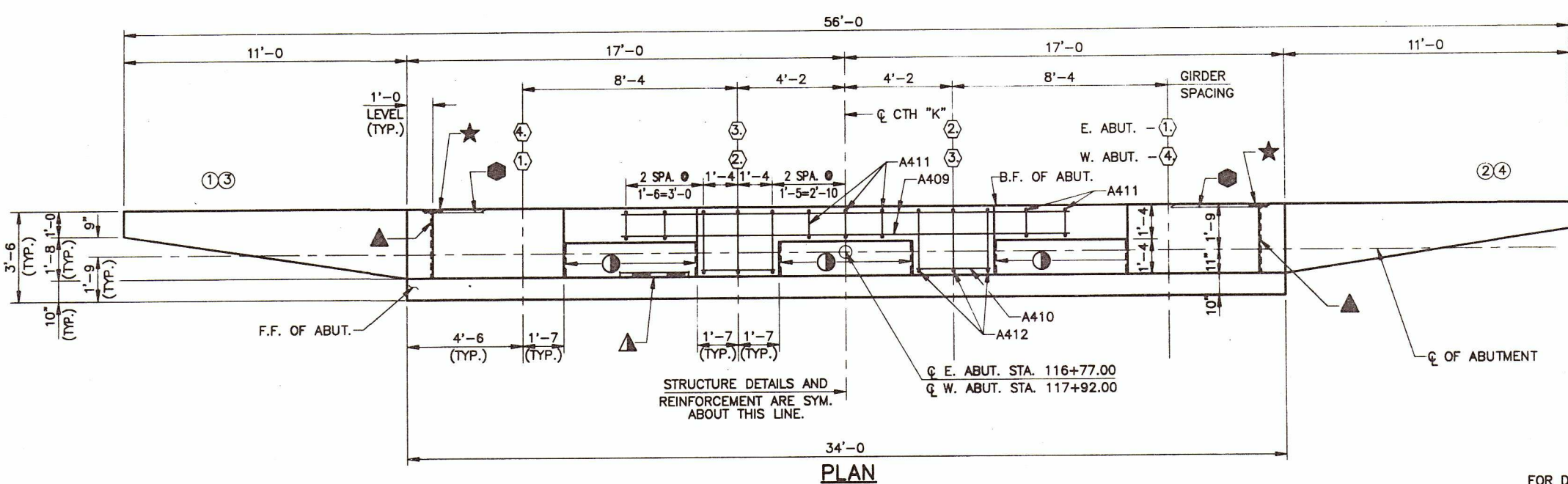
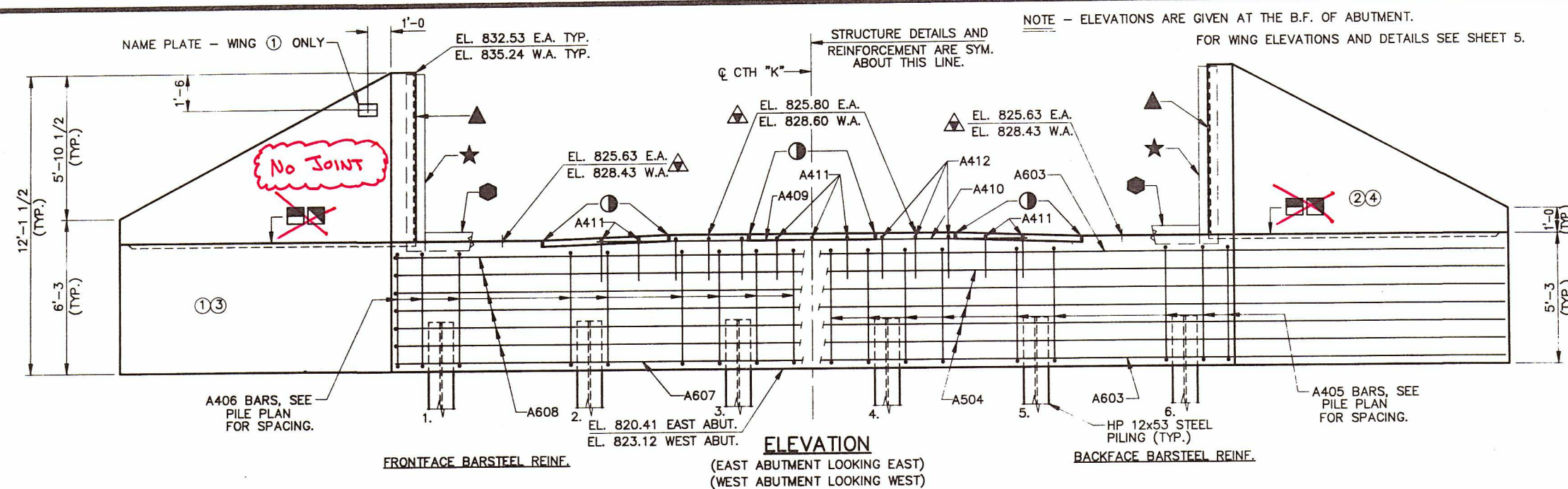
GIRDER BEARING ELEVATIONS AT C OF BEARING

EAST ABUTMENT	ELEV.
GIRDERS 1. & 4.	825.67
GIRDERS 2. & 3.	825.84
WEST ABUTMENT	ELEV.
GIRDERS 1. & 4.	828.39
GIRDERS 2. & 3.	828.56

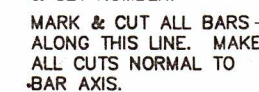
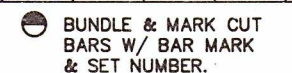
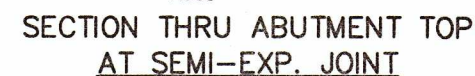
LEGEND

- OPTIONAL KEYED CONST. JOINT FORMED BY SURFACED AND BEVELED 2" X 6."
 - 3/4" V-GROOVE ON FRONT FACE OF WING WALL, REQUIRED ONLY IF CONST. JOINT IS USED.
 - 3/4" CORK FILLER (VERTICAL FACE ONLY). CORK FILLER MUST BE COMPRESSIBLE TO 50% OF ITS ORIGINAL THICKNESS WITHOUT EXTRUSION.
 - 4" x 3/4" FILLER, EXTEND FULL LENGTH OF ABUTMENT BETWEEN EDGES OF SLAB. SEE SHEET 7 FOR ADDITIONAL 3/4" FILLER UNDER GIRDERS.
 - 1/2" FILLER WITH MULTIPLE LAYERS OF POLYETHYLENE BOND BREAKER SHEETS PLACED ON THE EDGE OF SLAB SIDE ONLY. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03 INCHES. EXTEND AS SHOWN. EXTEND BOND BREAKER 3" PAST F.F. OF ABUTMENT DIAPHRAGM. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER, (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE). TRIM BOND BREAKER FLUSH WITH SEALER AFTER SEALER APPLICATION. SECURE FILLER TO WING CONCRETE WITH 9 (SPACED UNIFORMLY IN 3 VERTICAL ROWS) 4" LONG GALVANIZED ROOFING NAILS (OR EQUAL) WITH 1/2" LONG 90° BEND AT NAIL TIP.
 - ELEVATIONS ARE SHOWN AT THE BACK FACE OF ABUTMENT. SLOPE TOP OF EAST ABUTMENT BODY WITH A TOTAL RISE OF 3/4" FROM B.F. TO F.F. ALONG C OF CTH "K". SLOPE TOP OF EAST ABUT. SEMI-EXPANSION POCKETS WITH A TOTAL DROP OF 3/8" FROM F.F. HOLD POCKETS 3" DEEP (TYP.). SLOPE TOP OF WEST ABUTMENT BODY WITH A TOTAL DROP OF 3/4" FROM B.F. TO F.F. SLOPE WEST ABUT. SEMI-EXPANSION POCKETS WITH A TOTAL RISE OF 3/8" FROM F.F.
 - VERTICAL P.C.W. EXTEND FROM 5" BELOW BRIDGE SEAT TO 1" BELOW TOP OF WINGS. BUTT-SPlice AT ALL INTERSECTIONS WITH HORIZ. P.C.W. BY USING A HEATED SPLICING IRON. HOLD FLUSH WITH FACE OF CONCRETE.
 - HORIZONTAL P.C.W. EXTEND BETWEEN VERT. P.C.W. AT WINGS, HOLD FLUSH WITH FACE OF CONCRETE.
 - DENOTES GIRDER NUMBER.
- NOTE: FASTEN PCW TO FORMS BY NAILING OUTSIDE OF THE OUTSIDE TABS.

FOR DETAILS OF P.C.W. SEE SHEET 2.



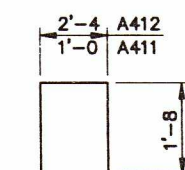
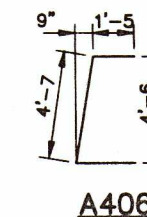
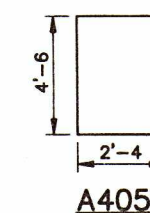
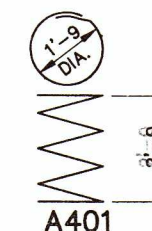
No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-22-142			
Const. Spec.	Wl. '89	Drawn By RLR	Plans Checked DHW
ABUTMENTS			SHEET 4 OF 9



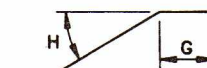
4100 LBS.

MARK	NO. REQ'D	LENGTH	BENT	CUT DIAGR.	LOCATION
A401	12	28-0	X		BODY @ PILES - 1 PER PILE 5 SPIRAL WRAPS
A402	24	2-3			" " " " 2 " " - VERT.
A603	4	55-8			" & WING BASE - TOP & BOTTOM - B.F. - HORIZ
A504	10	55-8			" " " " - B.F.
A405	72	9-0	X		" - STIRRUP - VERT.
A406	72	8-3	X		" " - F.F.
A607	6	33-8			" - BOTTOM " - HORIZ
A608	12	35-0	X		" - F.F. & TOP
A409	4	17-4			" - TOP & B.F.
A410	4	2-10			" - " - F.F. AT BEAM SEAT
A411	14	4-2	X		" - " - B.F.
A412	12	5-6	X		" - " - " AT BEAM SEAT
A513	20	12-6			WINGS - F.F. - BASE - HORIZ
A614	4	14-3	X		" - " - "
A415	8	11-8			" - " & B.F. - TOP
A416	8	9-3			" - " " " " "
A417	8	6-6			" - " " " " "
A418	8	3-8			" - " " " " "
A419	8	13-1	X		" - " " " " "
A420	8	11-8			" - " " " " - VERT.
A421	32	17-5		X	" - " " " "

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



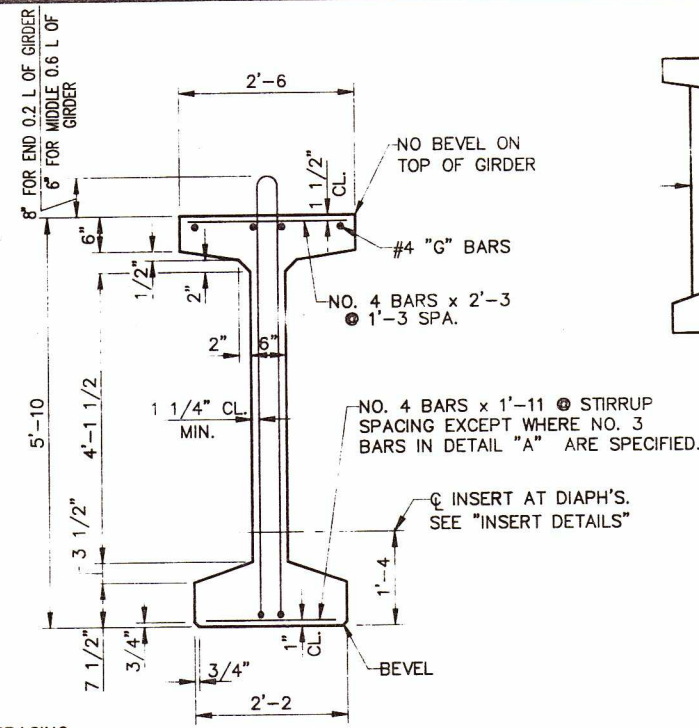
A411, A412



MARK	G	H
A614	3'-3	8'
A419	10"	29

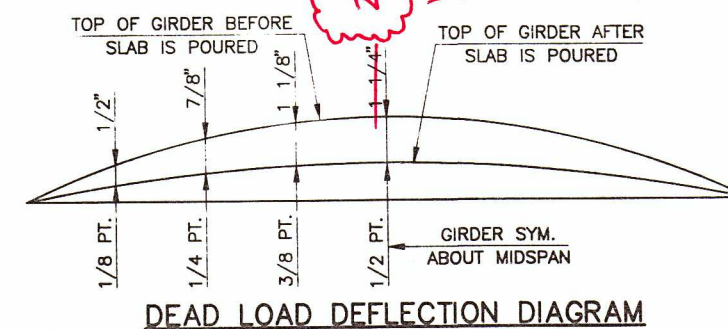
MARK		A	B	C	D	NO. OF BARS/SET	SET REQ
A421	SET 1	5'-11	11'-6	5'-11	11'-6	8	8

No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE		B-22-142	
Const. Spec.	Wl. "89"	Drawn By	Plans Checked <i>DHW</i>
ABUTMENT DETAILS		SHEET 5 OF 9	



SECTION A-A

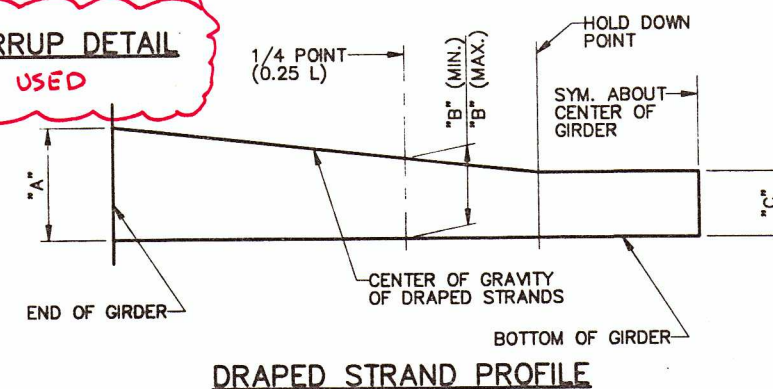
SECTION THRU GIRDER



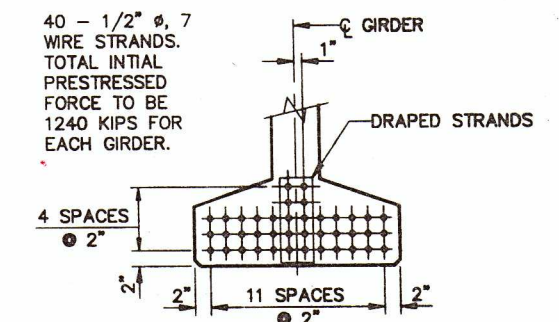
DETAIL "A"



DEAD LOAD DEFLECTION DIAGRAM



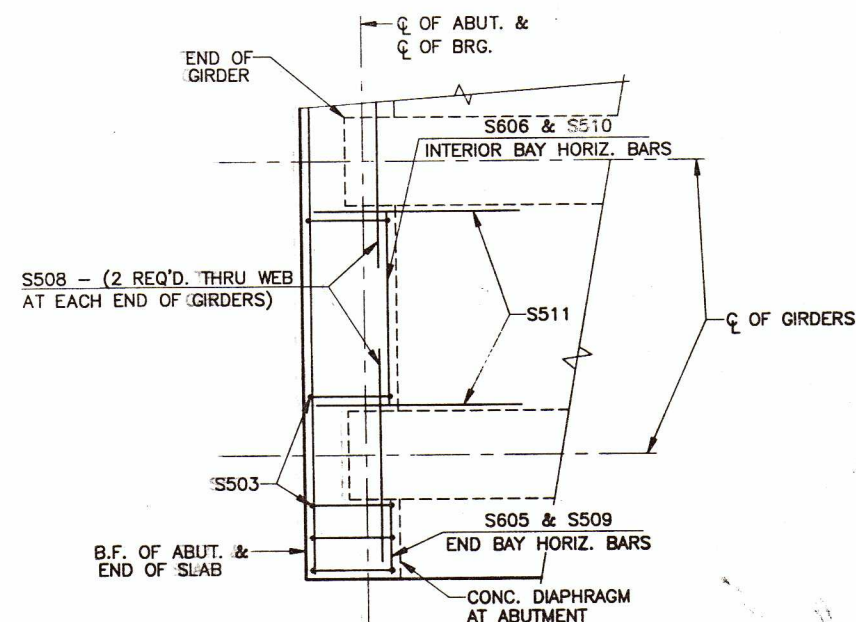
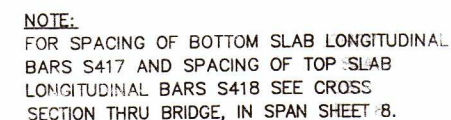
DRAPED STRAND PROFILE

SECTION THRU GIRDER AT $\frac{1}{2}$ SPAN

GIRDER DATA		LOW RELAXATION
GIRDER LENGTH "L" REQUIRED		116'-0
f'ci (PSI) *	DRAPED PATTERN	4800
	SPREAD PATTERN	
DRAPED STRANDS	DIMENSION "A"	52"
	DIMENSION "B" (MINIMUM)	1'-4
	DIMENSION "B" (MAXIMUM)	1'-7
	DIMENSION "C"	6"

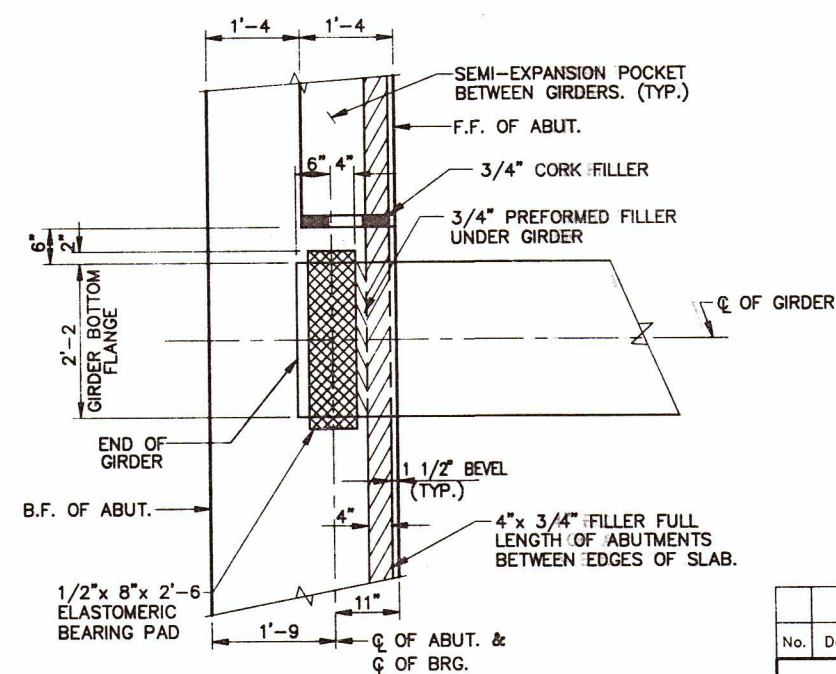
* MINIMUM CYLINDER STRENGTH OF CONCRETE AT TIME OF TRANSFER OF PRESTRESS FORCE.

No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE		B-22-142	
Const. Spec.	WI "89"	Drawn By	RLR
		Plans Checked	DHW
70" PRESTRESSED		SHEET 6 OF 9	
GIRDER DETAILS			

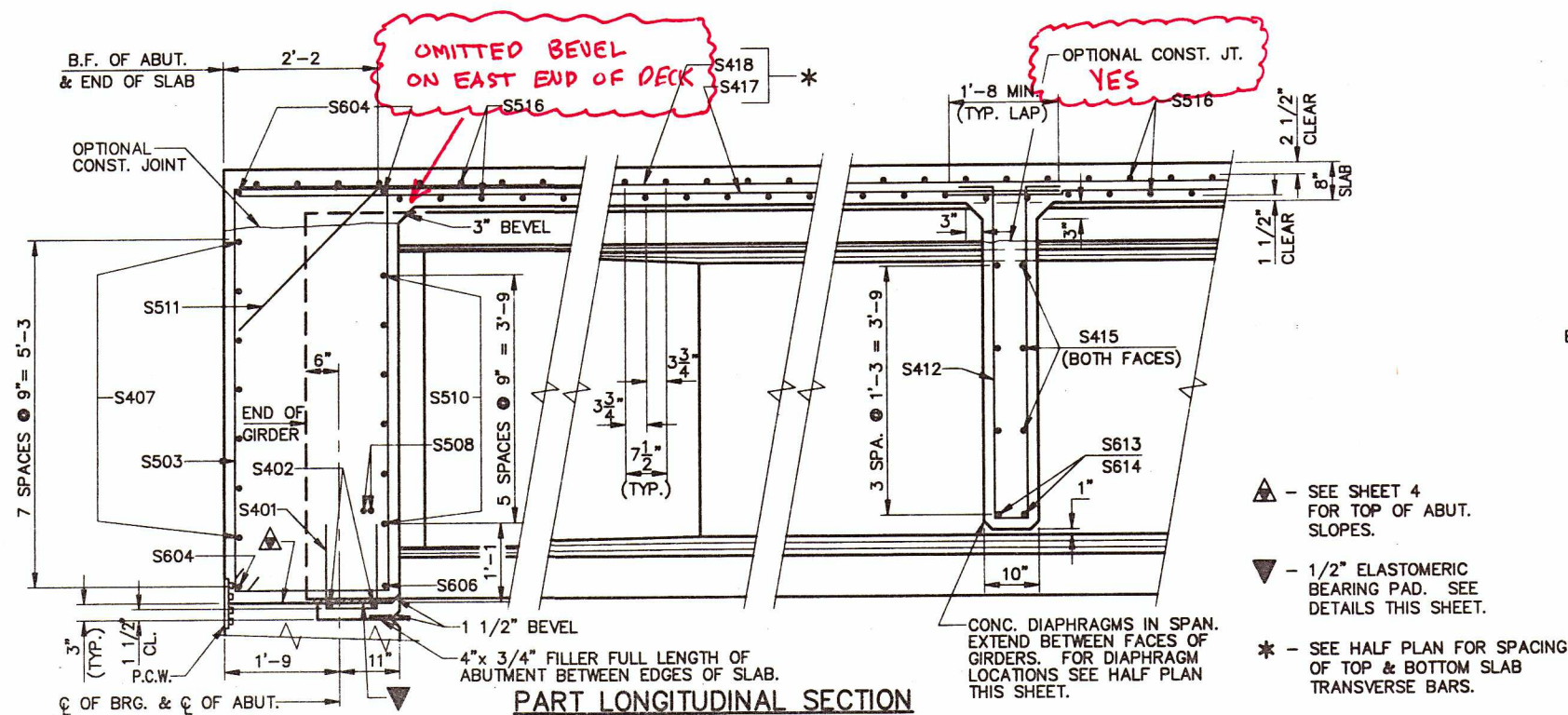


PART PLAN AT ABUTMENT

HALF PLAN



BEARING PAD DETAIL



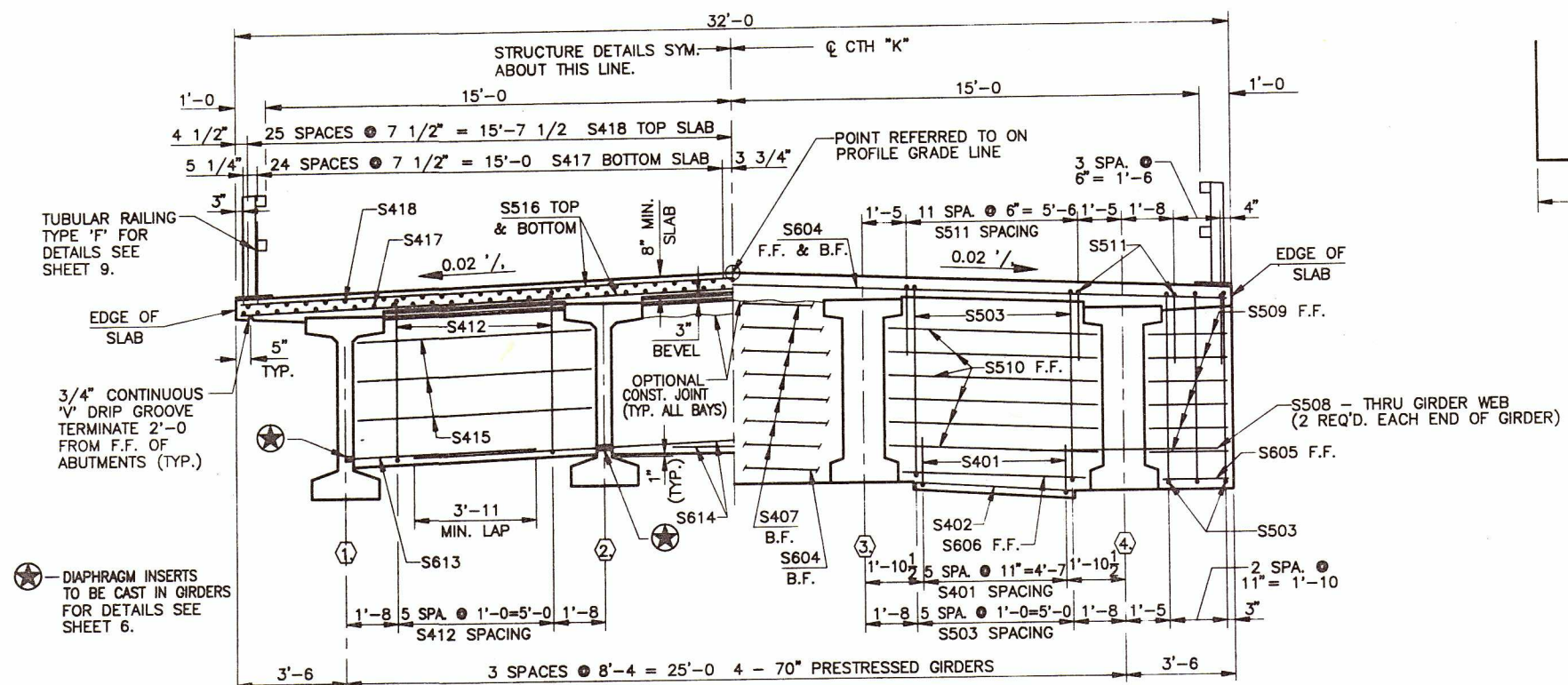
-  - SEE SHEET 4
FOR TOP OF ABUT.
SLOPES.
-  - 1/2" ELASTOMERIC
BEARING PAD. SEE
DETAILS THIS SHEET.
-  - SEE HALF PLAN FOR SPACING
OF TOP & BOTTOM SLAB
TRANSVERSE BARS.

No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE		B-22-142	
Const. Spec.	WI "89"	Drawn By	RLR
		Plans Checked	DHW
SUPERSTRUCTURE		SHEET 7 OF 9	

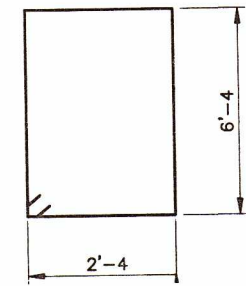
BILL OF BARS (COATED) 25050 LBS.

MARK	NO. REQ'D.	LENGTH	BENT	LOCATION
S401	36	3-10	X	DIAPHRAGM @ ABUT. - KEYWAY - STIRRUP - VERT.
S402	12	4-10		" " " " - HORIZ.
S503	48	18-0	X	" " " " - STIRRUP - VERT.
S604	6	31-8		" " " " - B.F. TOP & BOT. - HORIZ.
S605	4	2-1		" " " " - F.F. - ENDS
S606	6	5-10		" " " " - INT. BAYS
S407	14	31-8		" " " " - B.F.
S508	16	6-0		" " " " - THRU GIRDERS
S509	24	2-6		" " " " - F.F. - ENDS
S510	36	6-8		" " " " - INT. BAYS
S511	88	7-0	X	" " " " - BETWEEN GIRDERS - LONGIT.
S412	36	11-6	X	" " " " - IN SPAN - STIRRUP - VERT.
S613	8	6-2		" " " " - EXTERIOR GIRDS - BOT. - HORIZ.
S614	8	12-3		" " " " - INTERIOR " " "
S415	36	7-6		" " " " - BETWEEN " " "
S516	371	31-8		SLAB TOP & BOTTOM - TRANS.
S417	156	40-6		" " " " - LONGIT.
S418	204	30-10		" " " " - TOP
S619	56	4-0		" " " " - RAIL POST, TWO PER POST
S620	32	12-0	X	" " " " - ONE " " "
S621	8	4-0	X	" " " " - CORNER POSTS AS NOTED

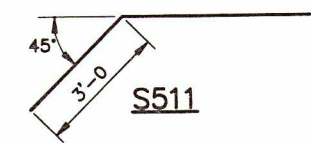
ALL SUPERSTRUCTURE BARSTEEL SHALL BE EPOXY COATED.
 DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
 XX - S613 DEFORMED BAR, THREAD ONE END 3"



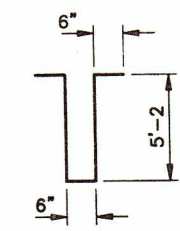
S401



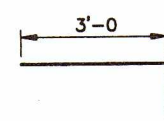
S503



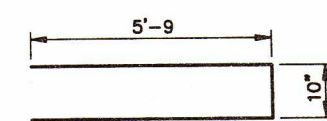
S511



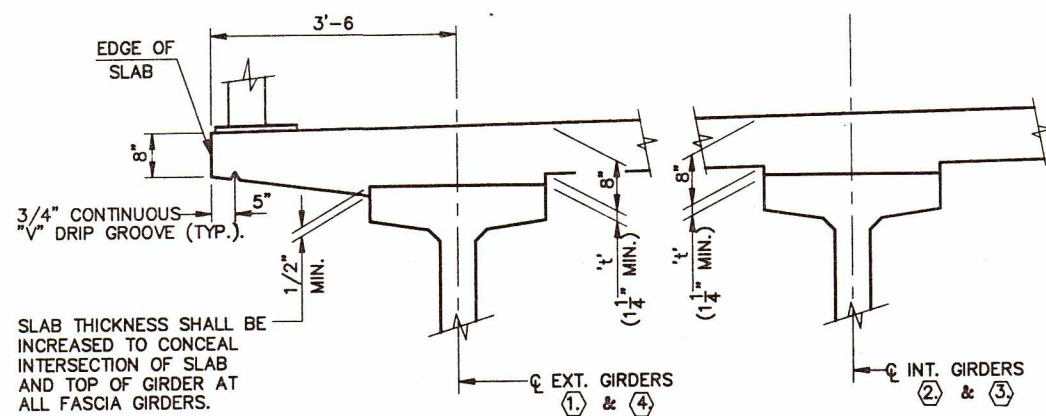
S412



S621



S620

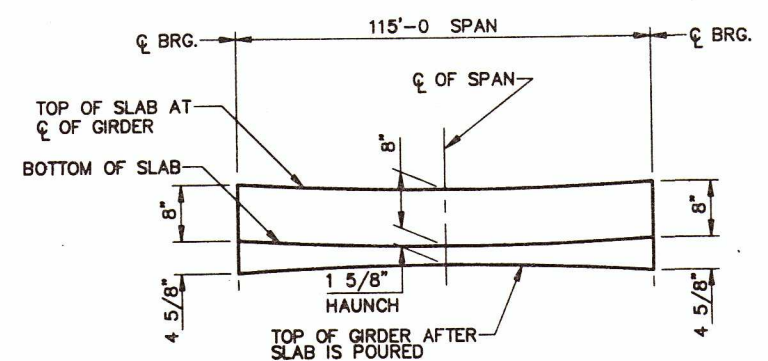


SLAB HAUNCH DETAIL

IF 1 1/4" MINIMUM HAUNCH HEIGHT 't' CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. MAXIMUM HAUNCH HEIGHT EQUALS "STIRRUP PROJECTION" MINUS 3 INCHES (OR 2 INCHES IF ALTERNATE GIRDER STIRRUP DETAIL IS USED).

TO DETERMINE 't', ELEV. OF TOP OF GIRDERS AT Q OF SUBSTRUCTURE UNITS & AT 1/8 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

- TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
- + DEADLOAD DEFLECTION (SEE SHEET 6)
- SLAB THICKNESS (8")
-
- = HAUNCH HEIGHT 't'



HAUNCH HEIGHTS FOR GIRDER STIRRUP PROJECTION

NOTE: HAUNCH HEIGHTS ARE BASED ON THE TIME DEPENDENT VARIABLE "PRESTRESSED CAMBER" ASSUMING NORMAL CONSTRUCTION SCHEDULING.

No.	Date	Revision	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-22-142			
Const. Spec. WI "89"	Drawn By RLR	Plans Checked DHW	
SUPERSTRUCTURE DETAILS			SHEET 8 OF 9

