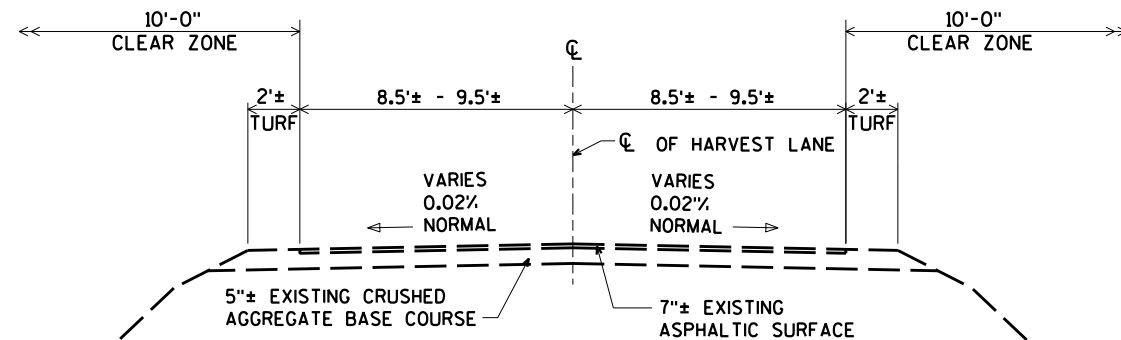
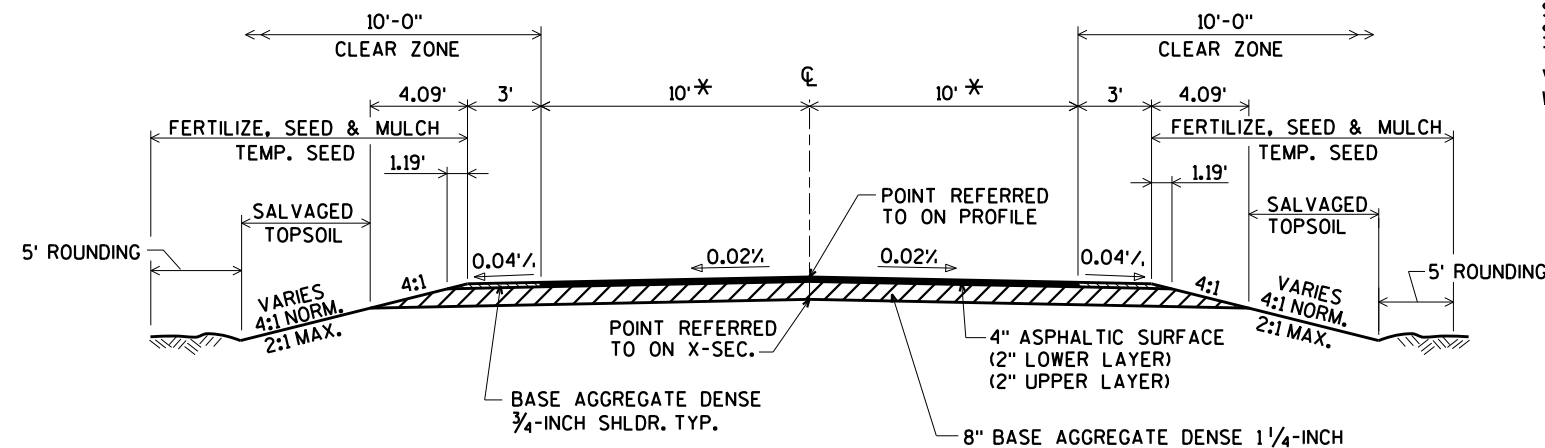


**TYPICAL EXISTING SECTION**

STA 9+00 - STA 11+00

**TYPICAL FINISHED SECTION**

STA 9+00 - STA 11+00

* THE ASPHALT SURFACE SHALL BE PLACED 26.5 FEET WIDE AT THE ENDS OF THE BRIDGE AND TAPER TO 20 FEET WIDE AT 50 FEET FROM END OF THE BRIDGE.

ABBREVIATIONS

AC	ACRES
CHIS	CHISELED
CL	CENTERLINE
COR	CORNER
CWT	COUNT
CY	CUBIC YARD
EL	ELEVATION
GAL	GALLON
H	HOUSE
IP	IRON PIPE
LB	POUND
LF	LINEAR FEET
LS	LUMP SUM
LT	LEFT
MAX	MAXIMUM
MIN	MINIMUM
MON	MONUMENT
NORM	NORMAL
OAL	OVERALL LENGTH
PC	POINT OF CURVATURE
PD	PEDESTAL
PI	POINT OF INTERSECTION
PK	PARKER-KALON
PL	PROPERTY LINE
PLE	PERMANENT LIMITED EASEMENT
PP	POWER POLE
PT	POINT OF TANGENCY
R	RADIUS
REQ'D	REQUIRED
RT	RIGHT
R/W	RIGHT-OF-WAY
SF	SQUARE FEET
SHLDR	SHOULDER
STA	STATION
SY	SQUARE YARD
TLE	TEMPORARY LIMITED EASEMENT
VAR	VARIES
WL	WELL

GENERAL NOTES

EROSION CONTROL ITEMS TO BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.

NO TREES (AND/OR SHRUBS) ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

EXCAVATION FOR STRUCTURES SHALL INCLUDE FURNISHING, PLACEMENT AND COMPACTION OF ANY FILL MATERIAL REQUIRED TO PROVIDE A SUITABLE FOUNDATION FOR SUBSTRUCTURE UNITS.

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

THE DEPARTMENT OF TRANSPORTATION WILL FURNISH THE CONTRACTOR WITH A MONUMENT TO BE INSTALLED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88).

WETLANDS EXIST IN THE PROJECT AREA. NO DISTURBANCE IS ALLOWED OUTSIDE THE SLOPE INTERCEPT.

THE LOCATION AND WIDTH OF THE EXISTING RIGHT-OF-WAY WAS NOT DETERMINED FOR THIS PROJECT. THE INFORMATION SHOWN IS ASSUMED AND AYRES ASSOCIATES DOES NOT WARRANT ITS ACCURACY.

UTILITIES

CENTURYLINK 1825 PIONEER AVE. RICE LAKE, WI 54868 ATTN: KYLE SCHLAMPP 715-234-5573 kyle.schlammpp@centurylink.com	NORTH CENTRAL POWER COMPANY P.O. BOX 68 RADISSON, WI 54867-0068 ATTN: MIKE HEATH 715-945-2630 ncp@bevcmm.net
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* * DENOTES UTILITIES THAT ARE NOT DIGGERS HOTLINE MEMBERS

DIGGERS HOTLINEDial **811** or (800)242-8511

www.DiggersHotline.com

TOWN CONTACT

TOWN OF EDGEWATER, SUPERVISOR
16668 W. ORIOLE LANE
BIRCHWOOD, WI 54817
ATTN: BILL ZIMMER
715-354-3280
william.zimmer@dot.wi.gov
townofedgewater@gmail.com

COUNTY CONTACT

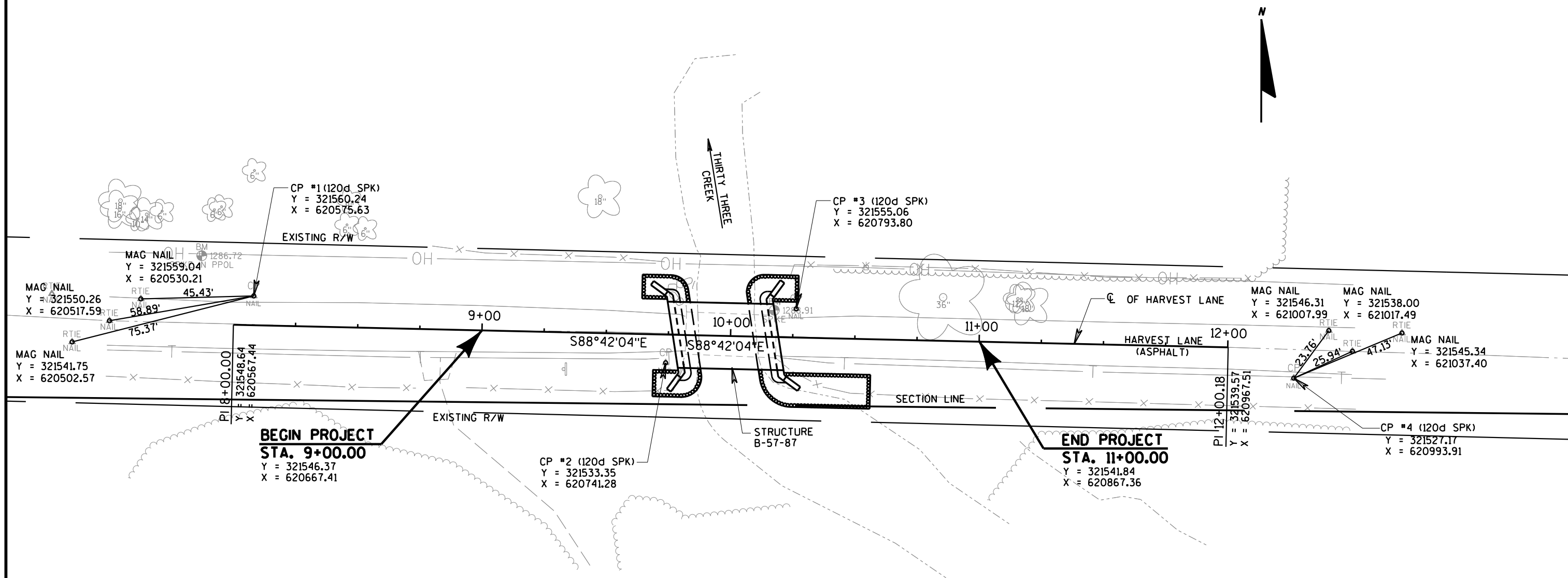
SAWYER COUNTY, COMMISSIONER
14688 W. COUNTY ROAD B
HAYWARD, WI 54843
ATTN: GARY GEDART
715-634-2691
highway@sawyercountygov.org

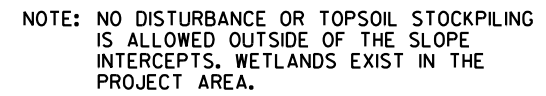
DESIGNER

AYRES ASSOCIATES
3433 OAKWOOD HILLS PARKWAY
EAU CLAIRE, WI 54701
ATTN: CHRIS MCMAHON, PE
715-834-3161
mcmahonc@ayresassociates.com

**WISCONSIN DEPARTMENT OF
NATURAL RESOURCES CONTACT:**

SHAWN HASELEU
810 W. MAPLE STREET
SPOONER, WI 54801
715-635-4228
shawn.haseleu@wisconsin.gov

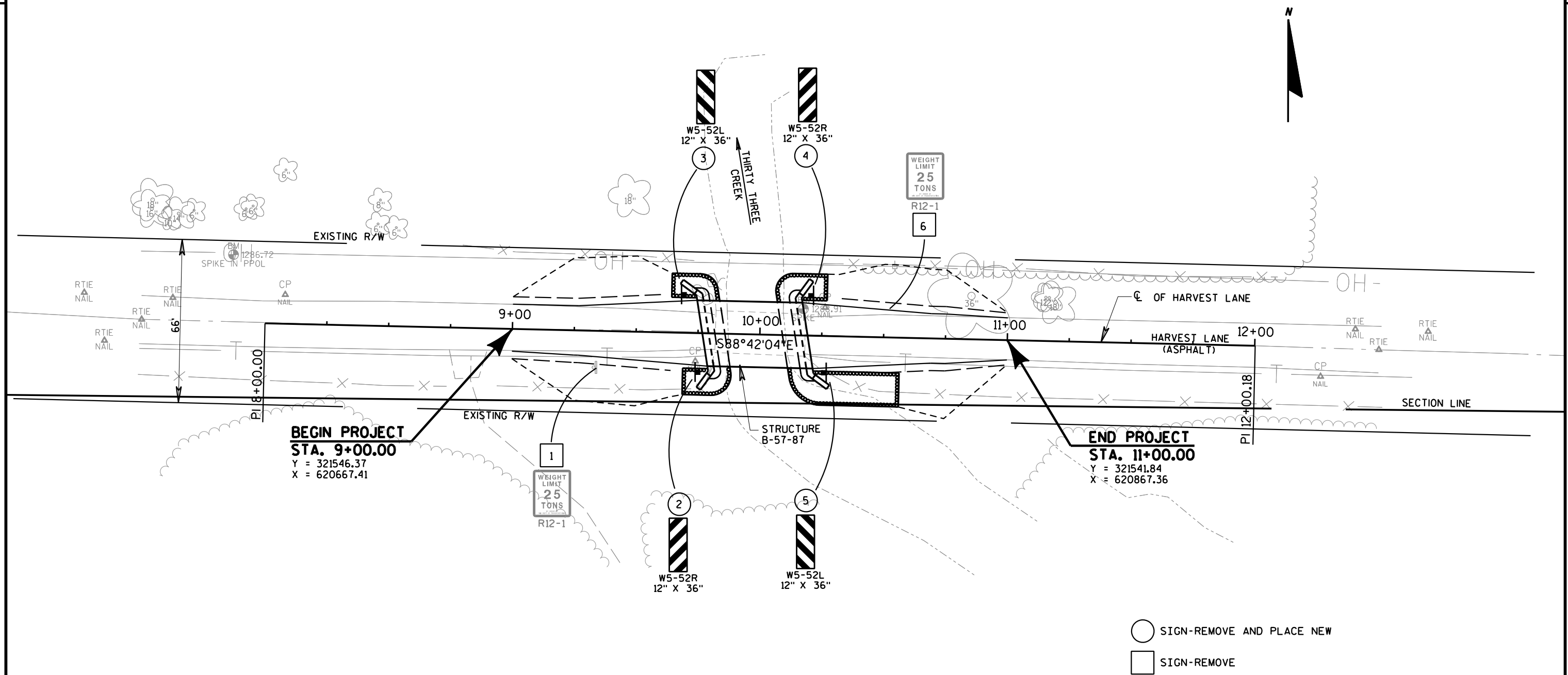




HIGH WATER 2 EL. 1286.0

RIPRAP HEAVY

WISDOT/CADDS SHEET 42



Estimate Of Quantities

8449-00-70					
Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	1.000	1.000
0004	201.0205	Grubbing	STA	1.000	1.000
0006	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 10+00	LS	1.000	1.000
0008	205.0100	Excavation Common	CY	118.000	118.000
0010	206.1000	Excavation for Structures Bridges (structure) 01. B-57-87	LS	1.000	1.000
0012	208.0100	Borrow	CY	55.000	55.000
0014	210.1500	Backfill Structure Type A	TON	240.000	240.000
0016	213.0100	Finishing Roadway (project) 01. 8449-00-70	EACH	1.000	1.000
0018	305.0110	Base Aggregate Dense 3/4-Inch	TON	26.000	26.000
0020	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	235.000	235.000
0022	455.0605	Tack Coat	GAL	25.000	25.000
0024	465.0105	Asphaltic Surface	TON	90.000	90.000
0026	502.0100	Concrete Masonry Bridges	CY	131.000	131.000
0028	502.3200	Protective Surface Treatment	SY	150.000	150.000
0030	505.0400	Bar Steel Reinforcement HS Structures	LB	4,100.000	4,100.000
0032	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	16,340.000	16,340.000
0034	513.4061	Railing Tubular Type M (structure) 01. B-57-87	LF	89.000	89.000
0036	516.0500	Rubberized Membrane Waterproofing	SY	18.000	18.000
0038	550.0500	Pile Points	EACH	10.000	10.000
0040	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	425.000	425.000
0042	606.0300	Riprap Heavy	CY	135.000	135.000
0044	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	140.000	140.000
0046	619.1000	Mobilization	EACH	1.000	1.000
0048	624.0100	Water	MGAL	4.000	4.000
0050	625.0500	Salvaged Topsoil	SY	415.000	415.000
0052	627.0200	Mulching	SY	400.000	400.000
0054	628.1504	Silt Fence	LF	450.000	450.000
0056	628.1520	Silt Fence Maintenance	LF	900.000	900.000
0058	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0060	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0062	628.2027	Erosion Mat Class II Type C	SY	140.000	140.000
0064	628.6005	Turbidity Barriers	SY	90.000	90.000
0066	628.7504	Temporary Ditch Checks	LF	50.000	50.000
0068	628.7570	Rock Bags	EACH	50.000	50.000
0070	629.0210	Fertilizer Type B	CWT	0.500	0.500
0072	630.0120	Seeding Mixture No. 20	LB	15.000	15.000
0074	630.0200	Seeding Temporary	LB	12.000	12.000
0076	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000

Estimate Of Quantities

8449-00-70					
Line	Item	Item Description	Unit	Total	Qty
0078	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0080	638.2602	Removing Signs Type II	EACH	6.000	6.000
0082	638.3000	Removing Small Sign Supports	EACH	6.000	6.000
0084	642.5001	Field Office Type B	EACH	1.000	1.000
0086	643.0100	Traffic Control (project) 01. 8449-00-70	EACH	1.000	1.000
0088	645.0111	Geotextile Type DF Schedule A	SY	80.000	80.000
0090	645.0120	Geotextile Type HR	SY	275.000	275.000
0092	650.4500	Construction Staking Subgrade	LF	158.000	158.000
0094	650.5000	Construction Staking Base	LF	158.000	158.000
0096	650.6500	Construction Staking Structure Layout (structure) 01. B-57-87	LS	1.000	1.000
0098	650.9910	Construction Staking Supplemental Control (project) 01. 8449-00-70	LS	1.000	1.000
0100	650.9920	Construction Staking Slope Stakes	LF	158.000	158.000
0102	690.0150	Sawing Asphalt	LF	36.000	36.000
0104	715.0502	Incentive Strength Concrete Structures	DOL	786.000	786.000
0106	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	1,200.000	1,200.000
0108	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	300.000	300.000

CLEARING AND GRUBBING (CATEGORY 0010)

STATION	TO	STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
9+00	-	11+00	HARVEST LANE	1	1
TOTALS				1	1

FINISHING ROADWAY (CATEGORY 0010)

LOCATION	213.0100 EACH
PROJECT 8449-00-70	1

BASE AGGREGATE DENSE (CATEGORY 0010)

STATION	TO	STATION	LOCATION	305.0110 3/4-INCH TON	305.0120 1 1/4-INCH TON
9+00	-	9+77	HARVEST LANE	13	117
10+19	-	11+00	HARVEST LANE	13	118
TOTALS				26	235

EARTHWORK SUMMARY (CATEGORY 0010)

Division	From/To Station	Location	Common Excavation (1) (item 205.0100)	Available Material (2)	Unexpanded Fill	Expanded Fill (3)	Mass Ordinate +/- (4)	Borrow (item 208.0100)	Comment:
			Cut			Factor 1.30			
1	9+00 - 9+76.73 10+19.27 - 11+00	HARVEST LANE	62	62	82	107	-45	45	
		HARVEST LANE	56	56	51	66	-10	10	
Division 1 Total			118	118	133	173	-55	55	

WATER (CATEGORY 0010)

PURPOSE	LOCATION	624.0100 WATER MGAL
COMPACTION DUST CONTROL	HARVEST LANE HARVEST LANE	3 1

- 1) Excavation common is the sum of the cut column. Item number 205.0100
- 2) Available Material = Cut - Unusable Pavement Material
- 3) Expanded Fill. Factor = 1.3 Expanded Fill = Unexpanded Fill * Fill Factor
- 4) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.
- 5) All quantities show n in CY.

ASPHALTIC SURFACE (CATEGORY 0010)

STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
9+00	-	9+77	HARVEST LANE	12	45
10+19	-	11+00	HARVEST LANE	13	45
TOTALS				25	90

MOBILIZATION

LOCATION	619.1000 EACH
PROJECT 8449-00-70 (CATEGORY 0010)	0.2
PROJECT 8449-00-70 (CATEGORY 0020)	0.8
TOTAL	1

MULCHING (CATEGORY 0010)

STATION	TO	STATION	LOCATION	627.0200 SY
9+00	-	9+76	HARVEST LANE, RT	135
9+00	-	9+76	HARVEST LANE, LT	125
10+19	-	11+00	HARVEST LANE, LT	55
10+19	-	11+00	HARVEST LANE, RT	5
UNDISTRIBUTED				80
TOTAL				400

MOBILIZATION EROSION CONTROL & EMERGENCY EROSION CONTROL (CATEGORY 0010)

LOCATION	628.1905 MOBILIZATION EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
PROJECT 8449-00-70	4	2

SALVAGED TOPSOIL, FERTILIZER AND SEED (CATEGORY 0010)

STATION	TO	STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB
9+00	-	9+77	HARVEST LANE	260	0.3	9	7
10+19	-	11+00	HARVEST LANE	155	0.2	6	5
TOTALS				415	0.5	15	12

TURBIDITY BARRIERS (CATEGORY 0010)

STATION	LOCATION	628.6005 SY
WEST ABUTMENT	HARVEST LANE	23
EAST ABUTMENT	HARVEST LANE	49
	UNDISTRIBUTED	18
TOTAL		90

SIGNS TYPE II REFLECTIVE AND POSTS WOOD (CATEGORY 0010)

STATION	LOCATION	634.0612 POSTS WOOD 4 x 6-INCH x 12-FT. EACH	637.2230 SIGNS TYPE II REFLECTIVE F	
			W5-52L SF	W5-52R SF
9+74	HARVEST LANE, LT	1	3	-
9+79	HARVEST LANE, RT	1	-	3
10+17	HARVEST LANE, LT	1	-	3
10+22	HARVEST LANE, RT	1	3	-
TOTALS		4	12	

REMOVING SIGNS AND SUPPORTS (CATEGORY 0010)

STATION	LOCATION	638.2602 REMOVING SIGNS TYPE II EA	638.3000 REMOVING SMALL SIGN SUPPORTS EA	REMARKS
9+33	HARVEST LANE, RT	1	1	LOAD POSTING SIGN
9+82	HARVEST LANE, RT	1	1	BRIDGE HASH MARKS
9+82	HARVEST LANE, LT	1	1	BRIDGE HASH MARKS
10+18	HARVEST LANE, RT	1	1	BRIDGE HASH MARKS
10+18	HARVEST LANE, LT	1	1	BRIDGE HASH MARKS
10+55	HARVEST LANE, LT	1	1	LOAD POSTING SIGN
TOTALS		6	6	

EROSION MAT CLASS II TYPE C (CATEGORY 0010)

STATION	TO	STATION	LOCATION	628.2027 SY
9+50	-	9+69	HARVEST LANE, RT	25
9+50	-	9+64	HARVEST LANE, LT	20
10+26	-	10+50	HARVEST LANE, LT	30
10+56	-	10+75	HARVEST LANE, RT	35
UNDISTRIBUTED				30
TOTAL				140

SILT FENCE (CATEGORY 0010)

STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 MAINTENANCE LF
9+00	-	9+88	HARVEST LANE , RT & LT	195	390
10+09	-	11+00	HARVEST LANE , RT & LT	155	310
UNDISTRIBUTED				100	200
TOTALS				450	900

TEMPORARY DITCH CHECKS (CATEGORY 0010)

STATION	LOCATION	628.7504 LF
UNDISTRIBUTED	HARVEST LANE	50
TOTAL		50

ROCK BAGS (CATEGORY 0010)

STATION	LOCATION	628.7570 EACH
UNDISTRIBUTED	HARVEST LANE	50
TOTAL		50

FIELD OFFICE TYPE B (CATEGORY 0010)

LOCATION	642.5001 EACH
PROJECT 8449-00-70	1

TRAFFIC CONTROL (CATEGORY 0010)

LOCATION	643.0100 EACH
PROJECT 8449-00-70	1

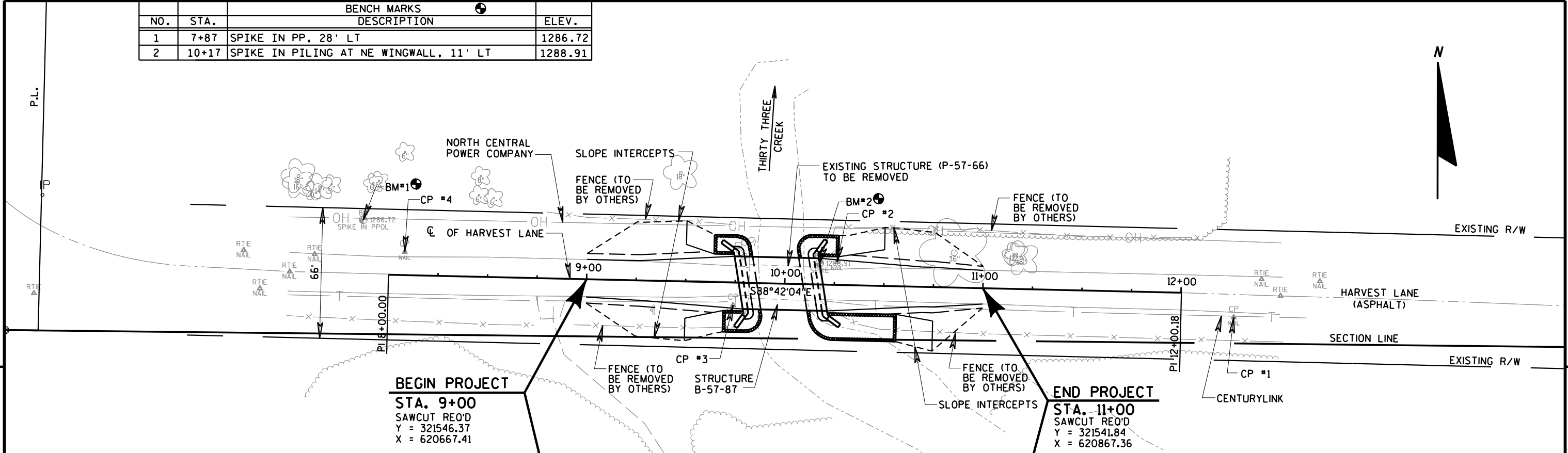
SAWING ASPHALT (CATEGORY 0010)

STATION	LOCATION	690.0150 LF
9+00	HARVEST LANE	19
11+00	HARVEST LANE	17
TOTAL		36

CONSTRUCTION STAKING

STATION	TO	STATION	LOCATION	650.4500 SUBGRADE LF	650.5000 BASE LF	650.6500 STRUCTURE LAYOUT LS	650.9910 SUPPLEMENTAL CONTROL LS	650.9920 SLOPE STAKES LF	CATEGORY CODE
9+00	-	9+77	HARVEST LANE	77	77	-	0.5	77	0010
10+19	-	11+00	HARVEST LANE	81	81	-	0.5	81	0010
SUBTOTALS				158	158	0	1	158	0010
B-57-0087				-	-	1	-	-	0020
SUBTOTALS				0	0	1	0	0	0020
TOTALS				158	158	1	1	158	

NO.	STA.	BENCH MARKS DESCRIPTION	ELEV.
1	7+87	SPIKE IN PP, 28' LT	1286.72
2	10+17	SPIKE IN PILING AT NE WINGWALL, 11' LT	1288.91

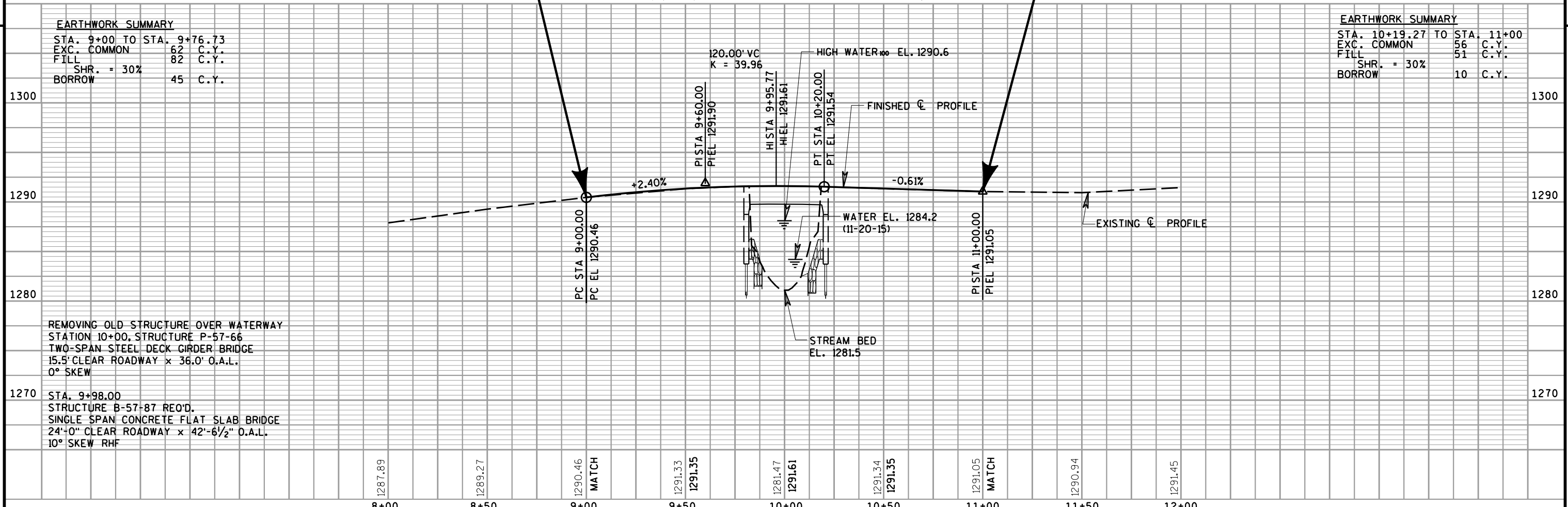


EARTHWORK SUMMARY

STA. 9+00 TO STA. 9+76.73	
EXC. COMMON	62 C.Y.
FILL	82 C.Y.
SHR. = 30%	
BORROW	45 C.Y.

EARTHWORK SUMMARY

STA. 10+19.27 TO STA. 11+00	
EXC. COMMON	56 C.Y.
FILL	51 C.Y.
SHR. = 30%	
BORROW	10 C.Y.

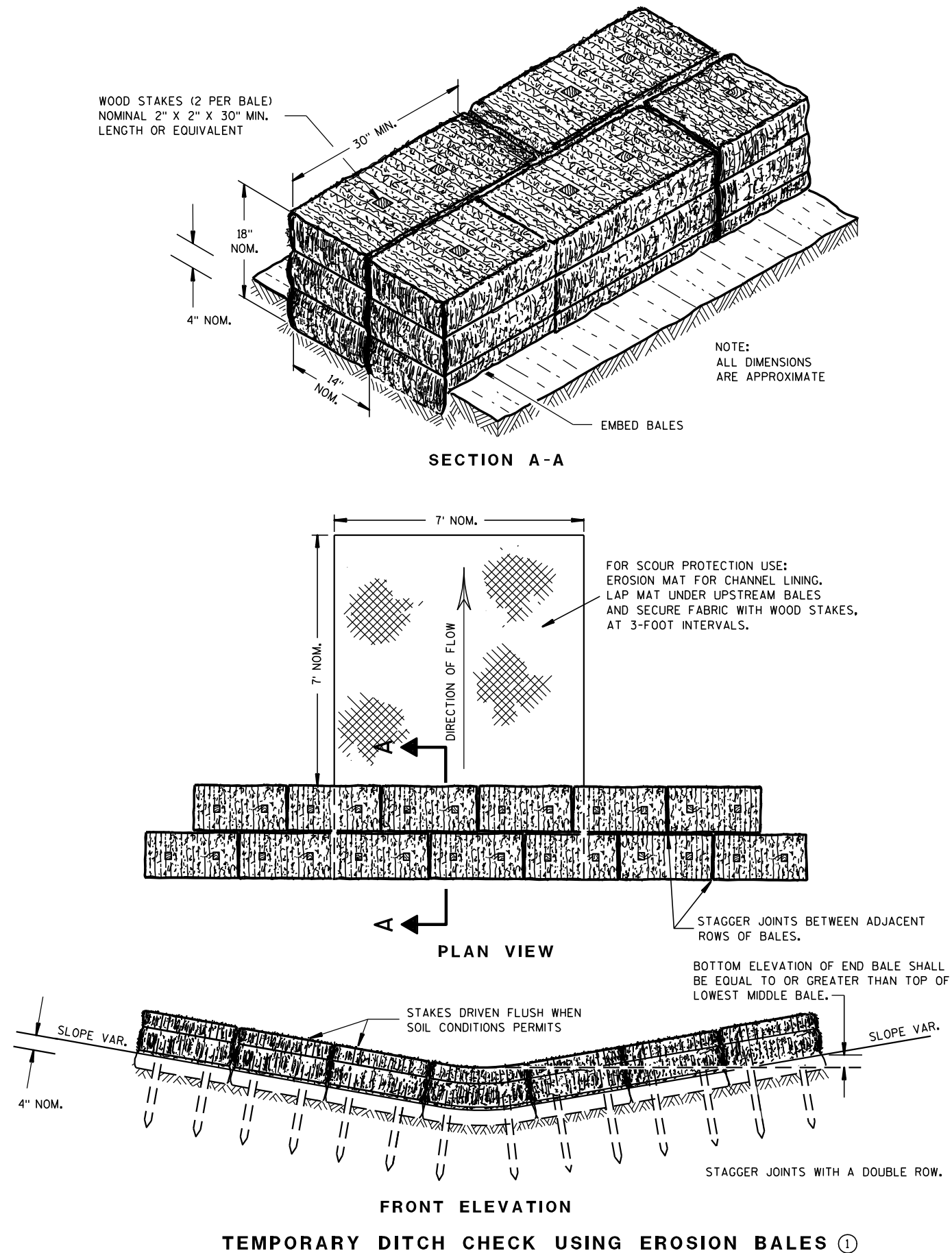


REMOVING OLD STRUCTURE OVER WATERWAY
STATION 10+00. STRUCTURE P-57-66
TWO-SPAN STEEL DECK GIRDER BRIDGE
15.5' CLEAR ROADWAY x 36.0' O.A.L.
0° SKEW

STA. 9+98.00
STRUCTURE B-57-87 REO'D.
SINGLE SPAN CONCRETE FLAT SLAB BRIDGE
24'-0" CLEAR ROADWAY x 42'-6 1/2" O.A.L.
10° SKEW RHF

Standard Detail Drawing List

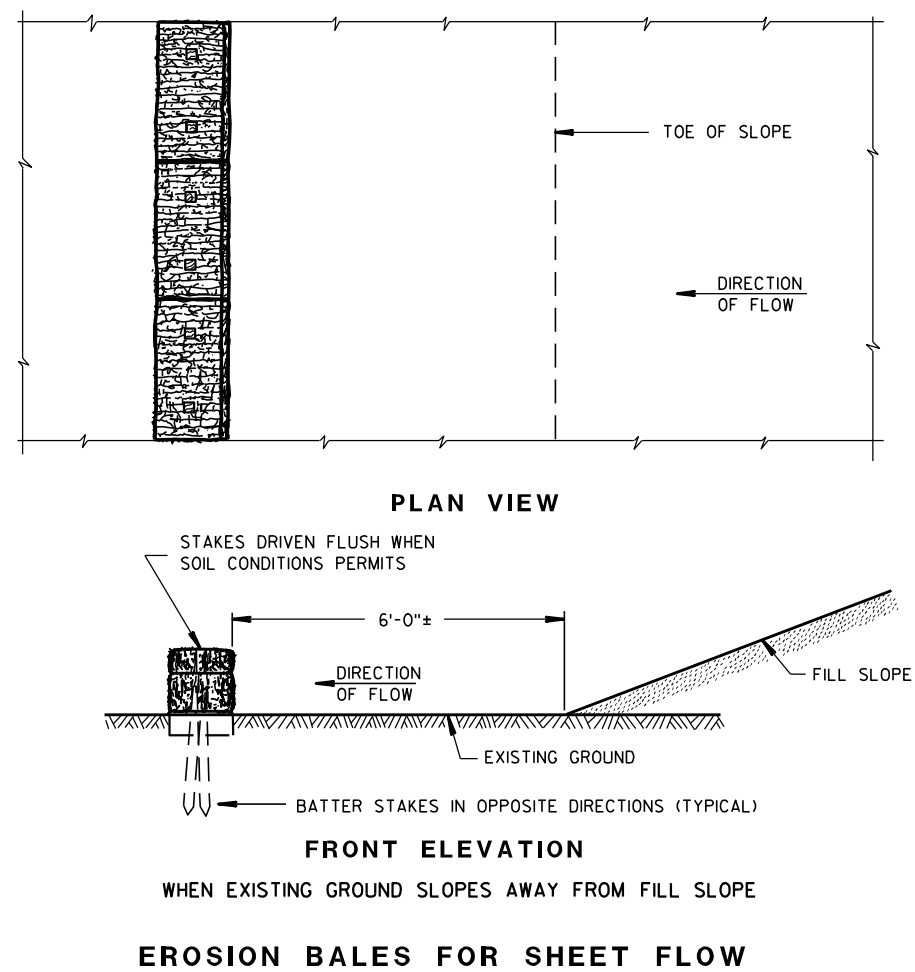
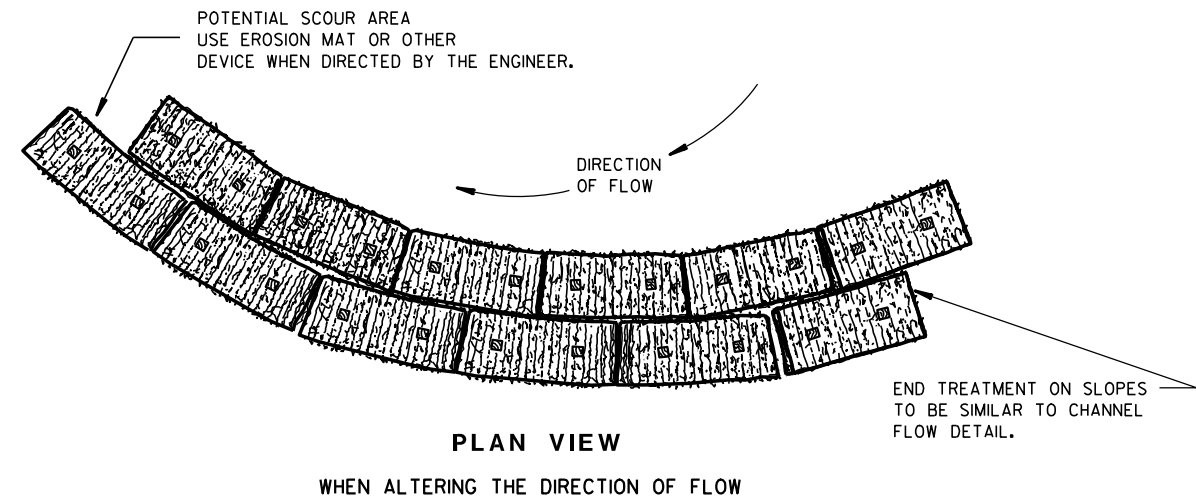
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C06-08	SIGNING & MARKING FOR TWO LANE BRIDGES



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.

- ① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

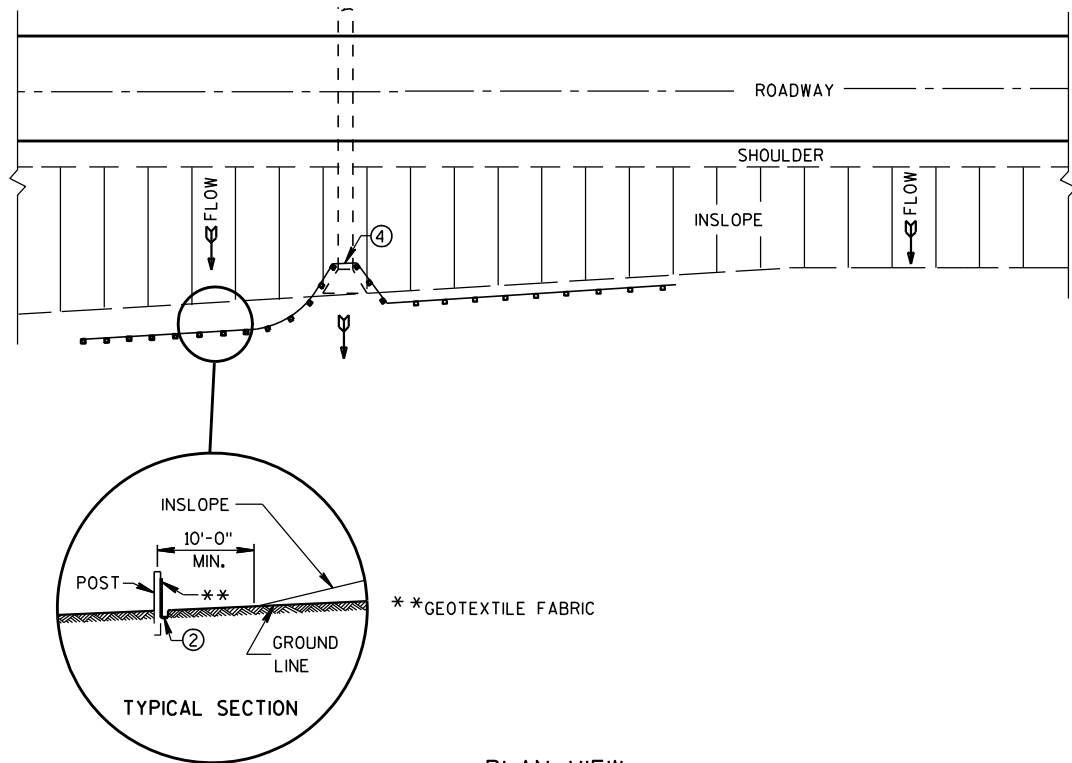
TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

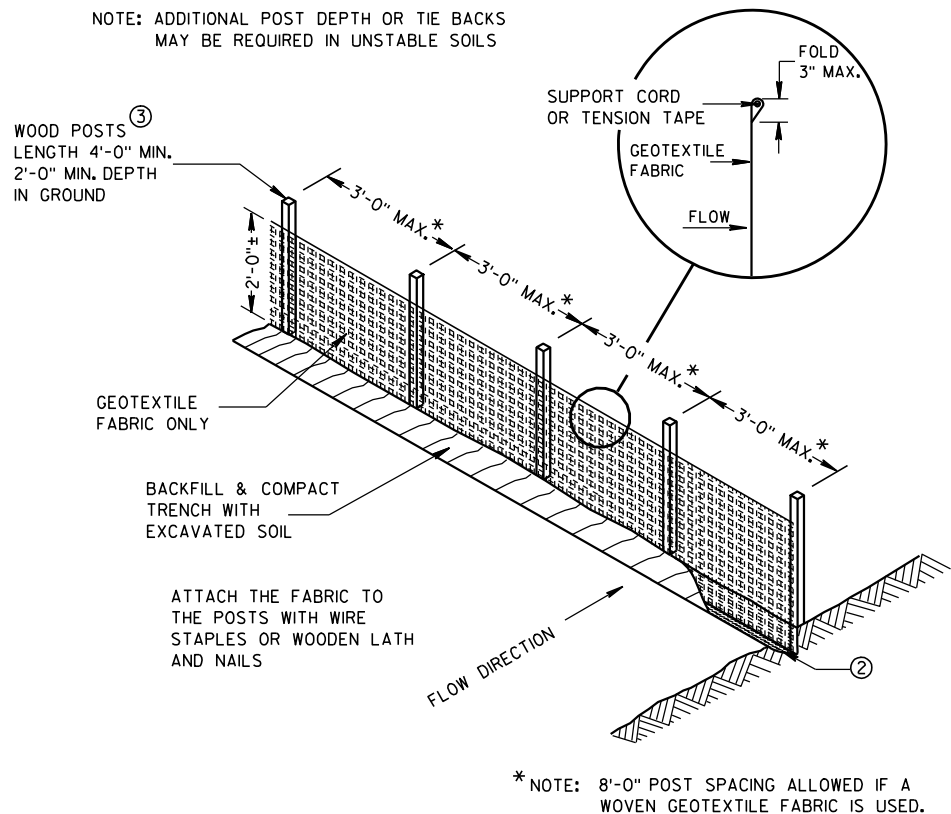
APPROVED

6/04/02
DATE/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

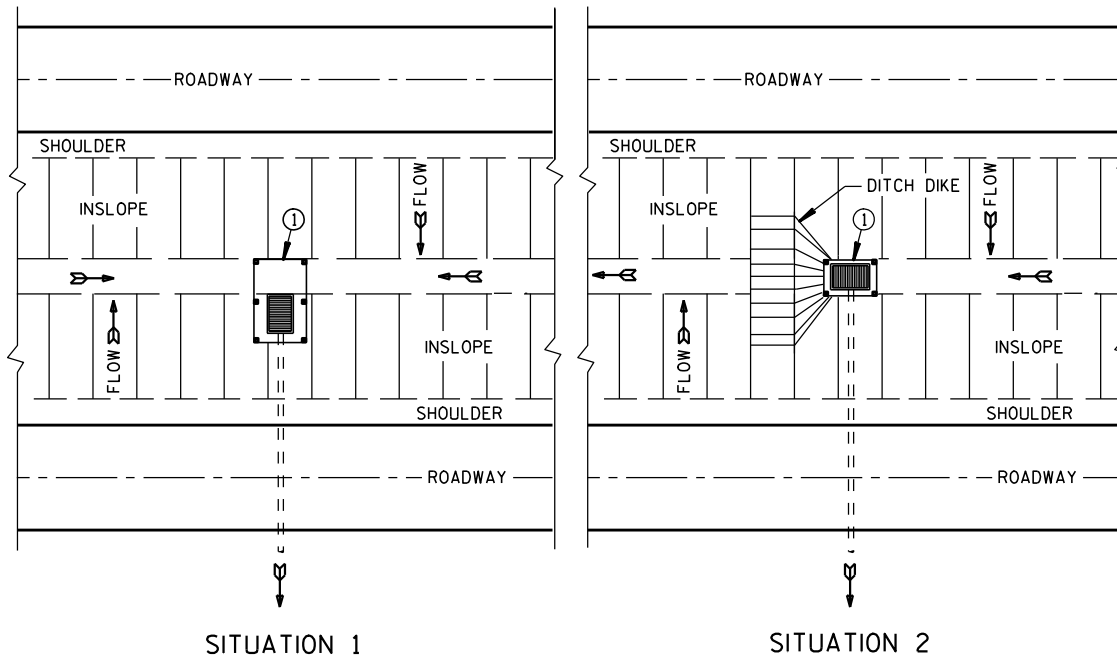
FHWA



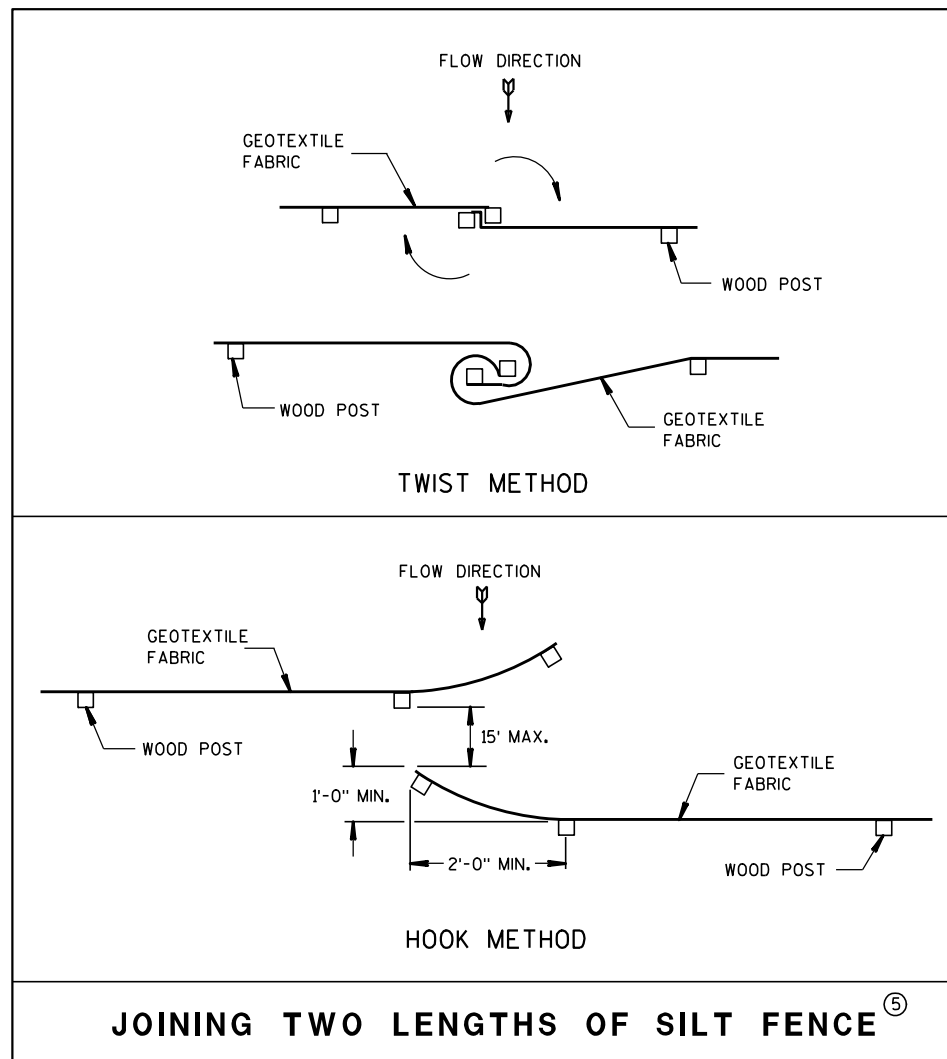
PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

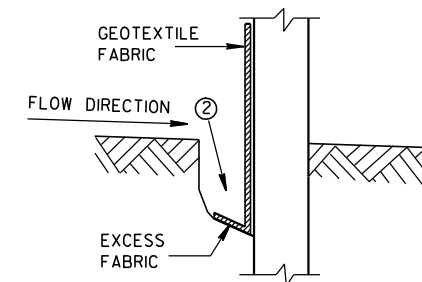


JOINING TWO LENGTHS OF SILT FENCE

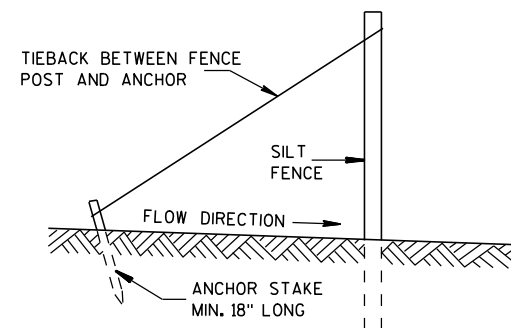
GENERAL NOTES

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

- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE 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.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

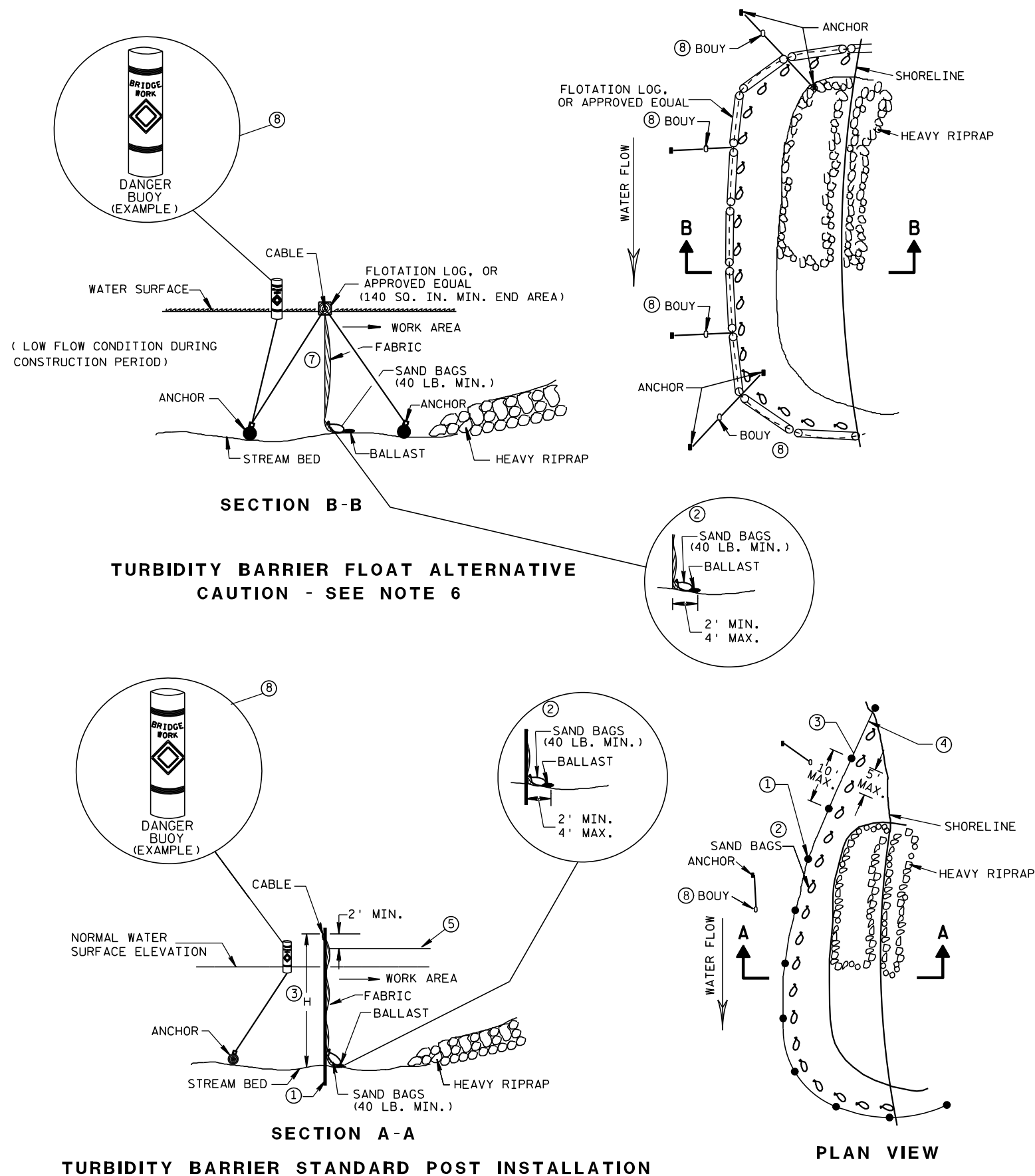


TRENCH DETAIL



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4-29-05 DATE	/S/ Beth Canestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

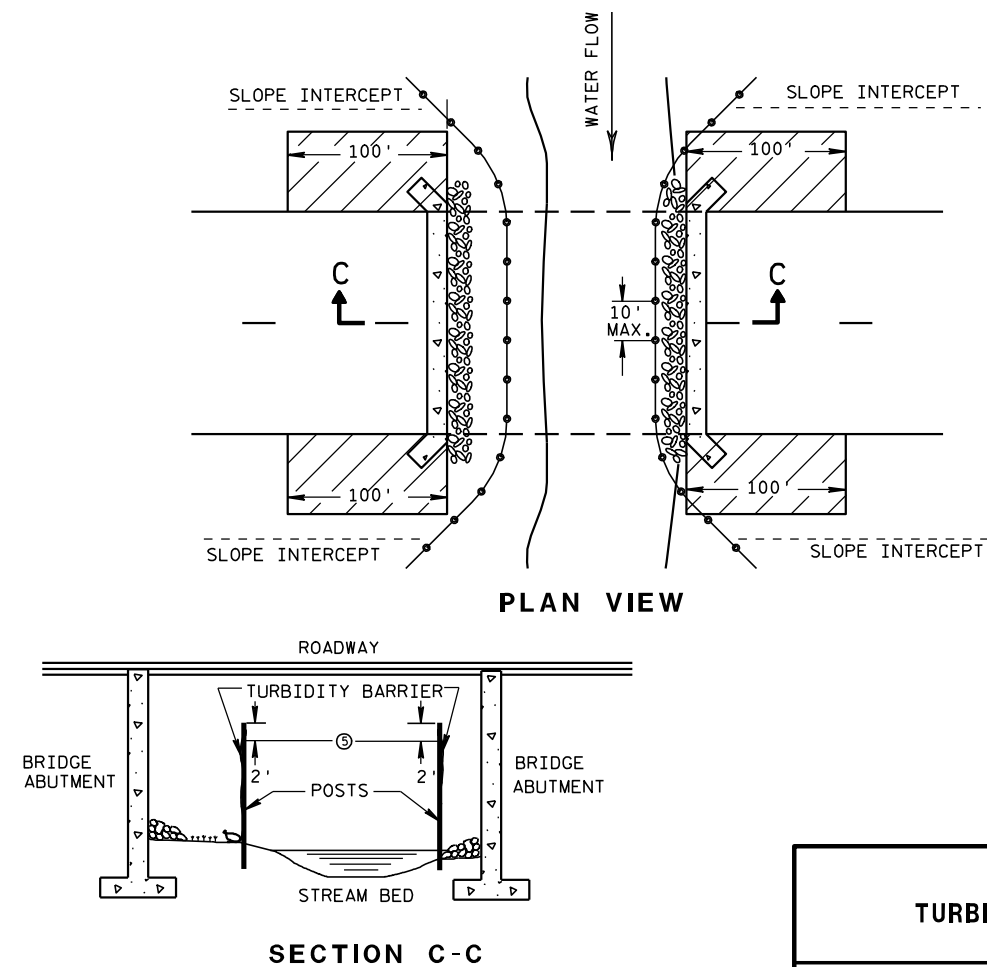


GENERAL NOTES

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.

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

- ① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
- ② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.
- ③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.
- ④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.
- ⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE 02 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.
- ⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.
- ⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.
- ⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

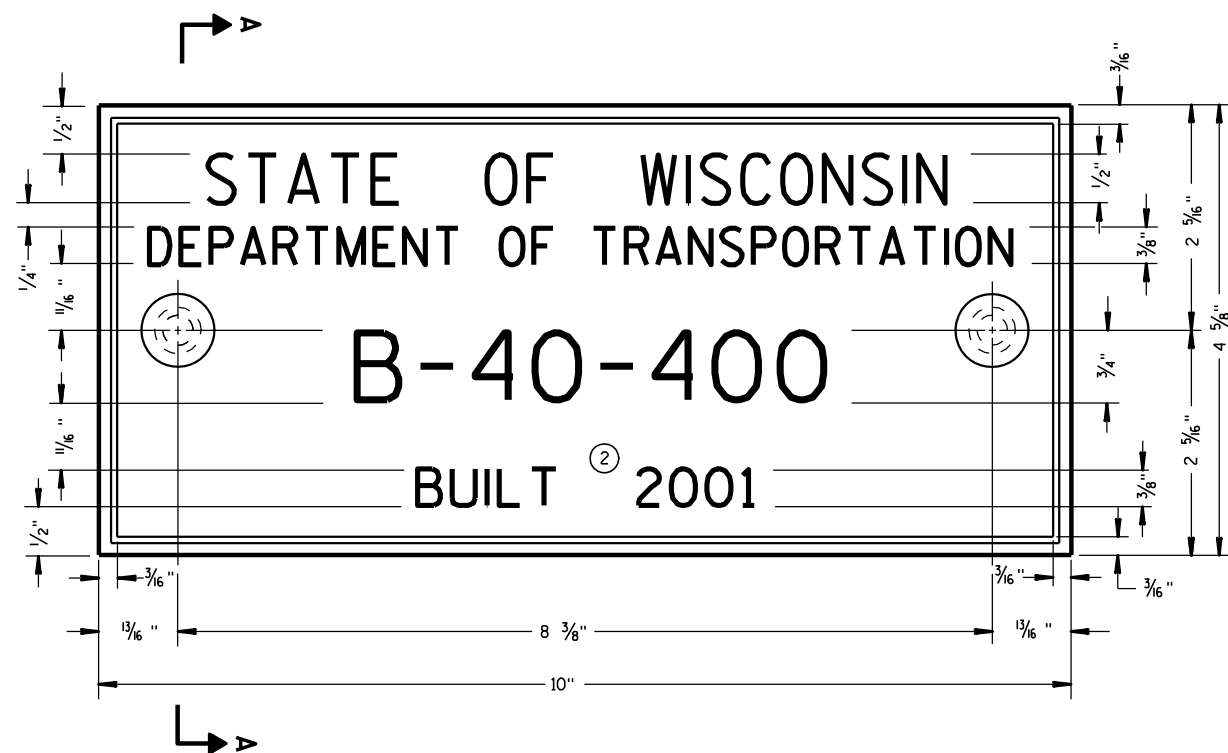
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

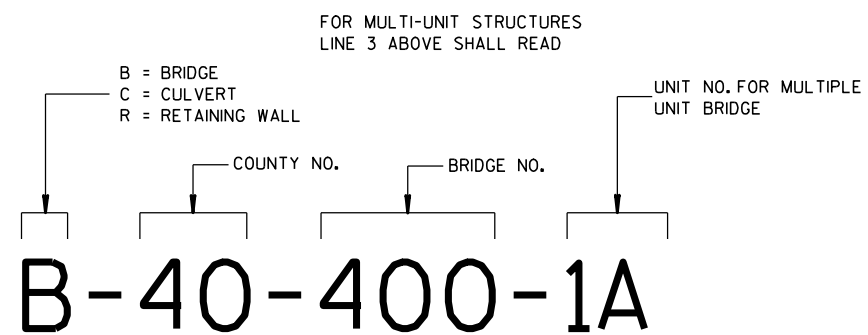
6/04/02
DATE

FHWA

/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



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



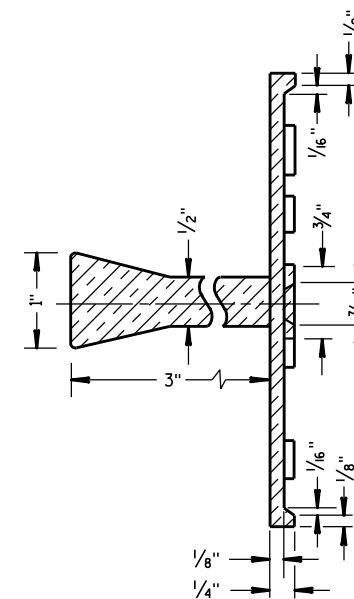
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

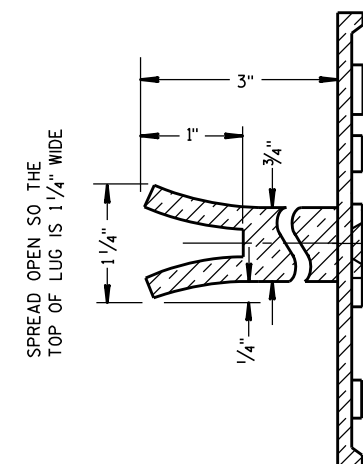
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.

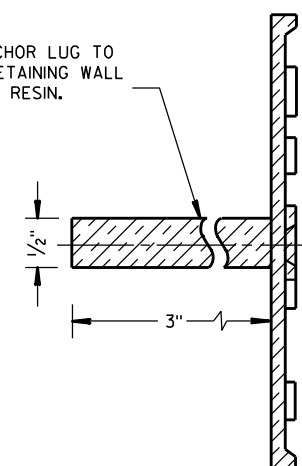


SECTION A-A



ALTERNATE LUG

- ① ADHERE ANCHOR LUG TO PRECAST RETAINING WALL WITH EPOXY RESIN.



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

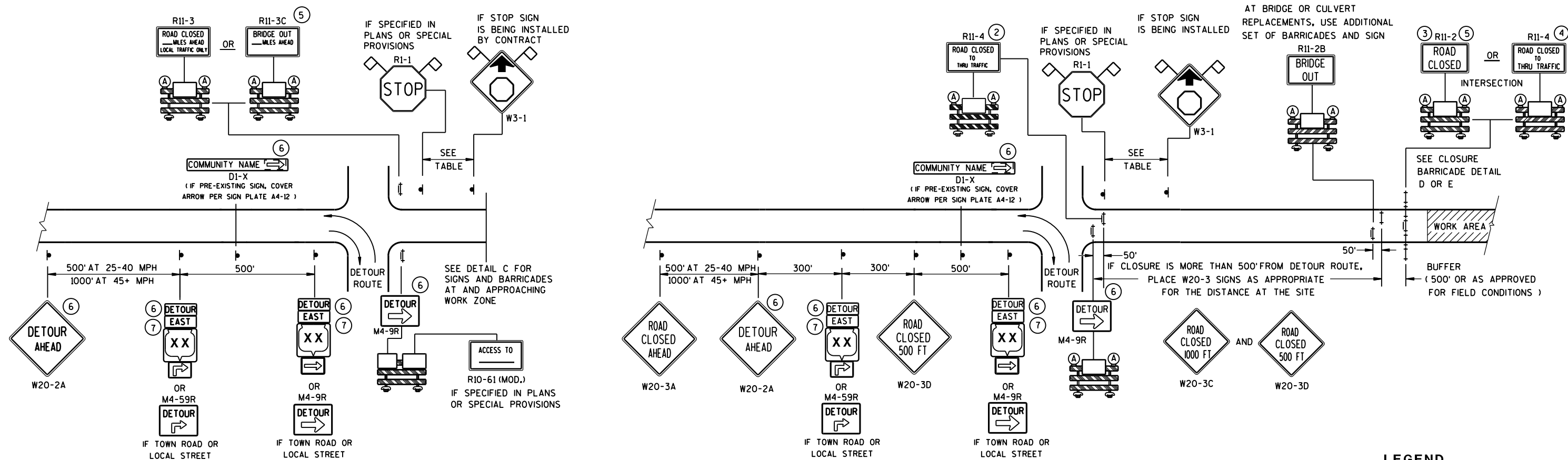
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10
DATE

FHWA

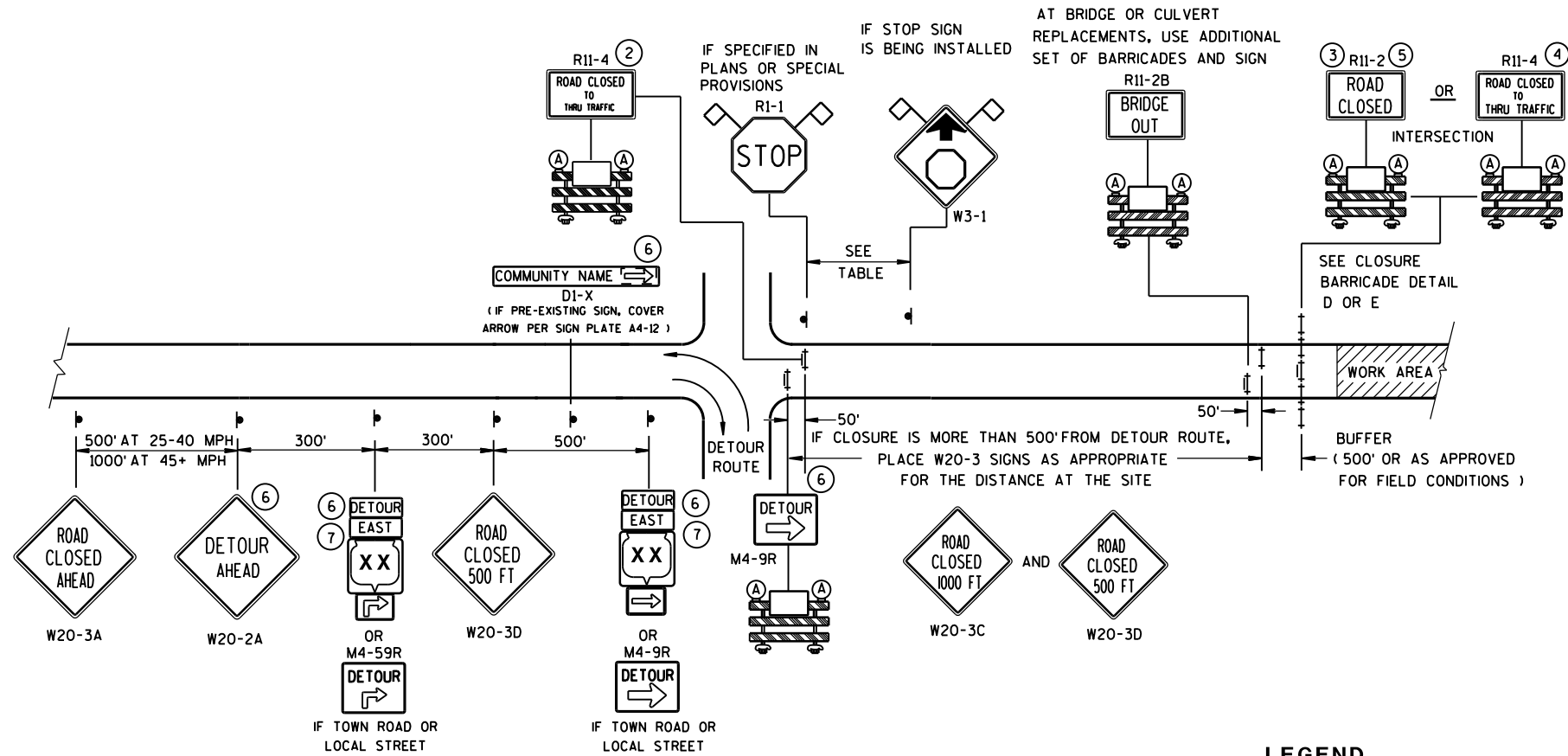
/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER



DETAIL A

MAINLINE CLOSURE WITH POSTED DETOUR

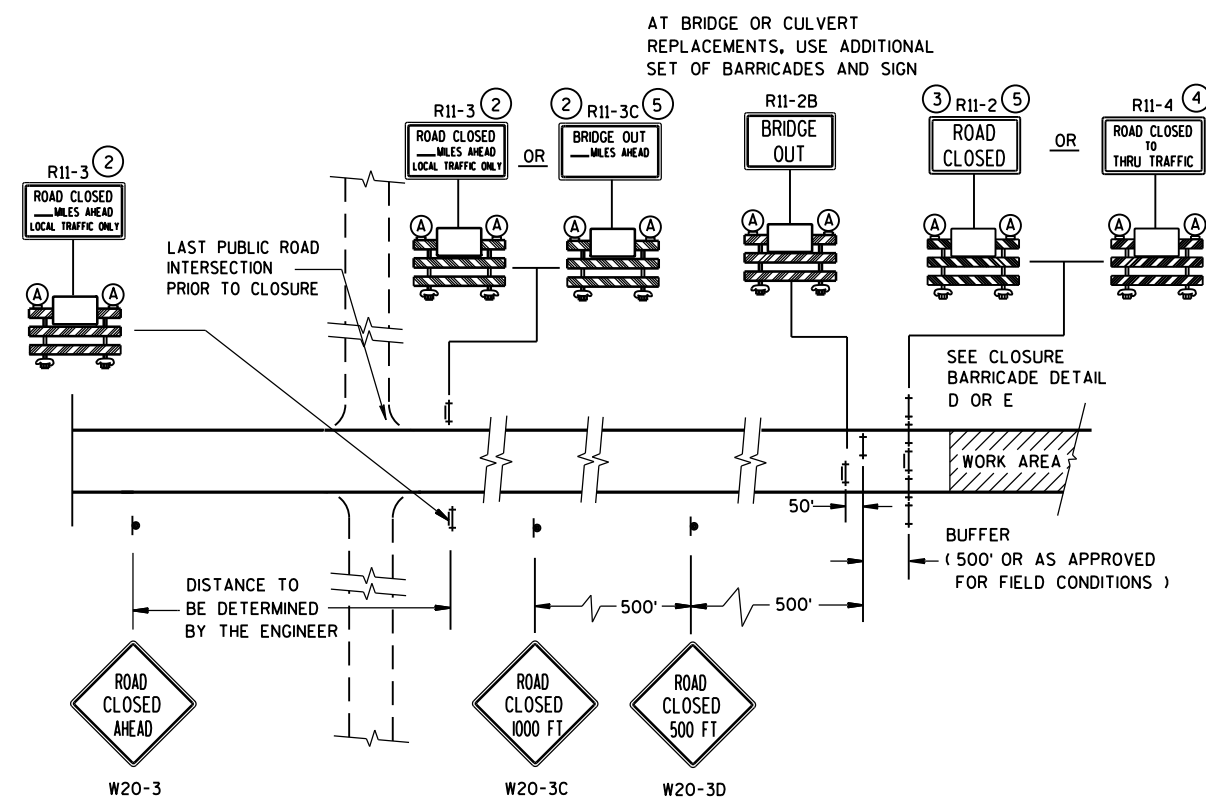
WORK ZONE GREATER THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B

MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



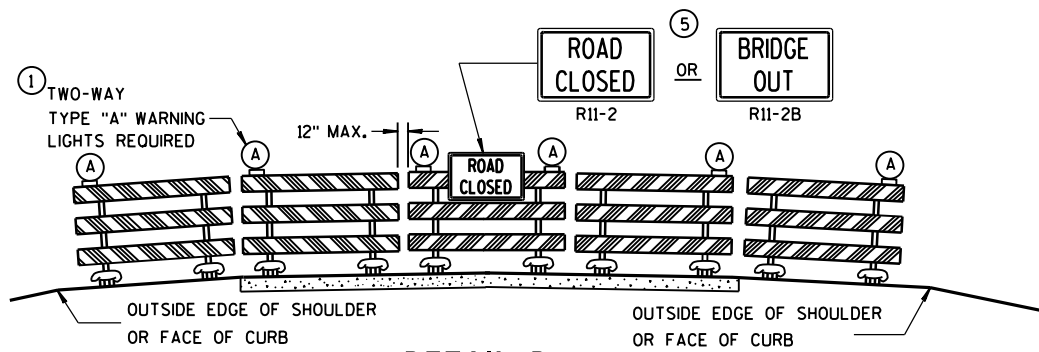
DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

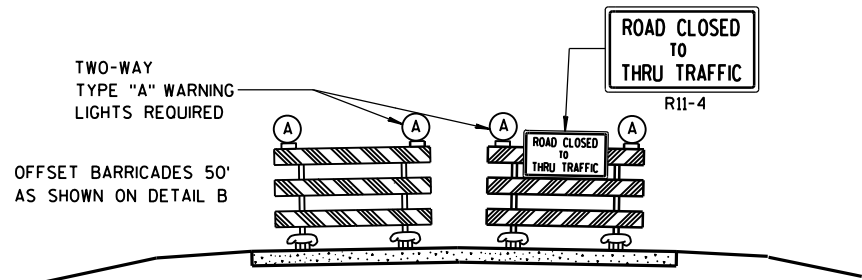
- ## LEGEND
- | | |
|---|---------------------------------------|
|  | SIGN ON PERMANENT SUPPORT |
|  | TYPE III BARRICADE |
|  | TYPE III BARRICADE WITH ATTACHED SIGN |
|  | TYPE "A" WARNING LIGHT (FLASHING) |
|  | WORK AREA |
|  | M4-8
M3-X |
|  | MI-4 |
| OR | |
|  | COUNTY
MI-5A |
| OR | |
|  | MI-6 |
|  | M05-1 |
| OR | |
|  | M06-1 |
|  | FLAGS, 16" X 16" MIN., (ORANGE) |

SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

BARRICADES AND SIGNS FOR MAINLINE CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
<u>Sept. 2015</u> <u>DATE</u>	<u>/S/ Peter Amakobe Atepe</u> <u>STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER</u>
FHWA	



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2-SHEET "a" FOR LEGEND

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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 D FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3, M4-9, R11-4 AND R10-61 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

"WO AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

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

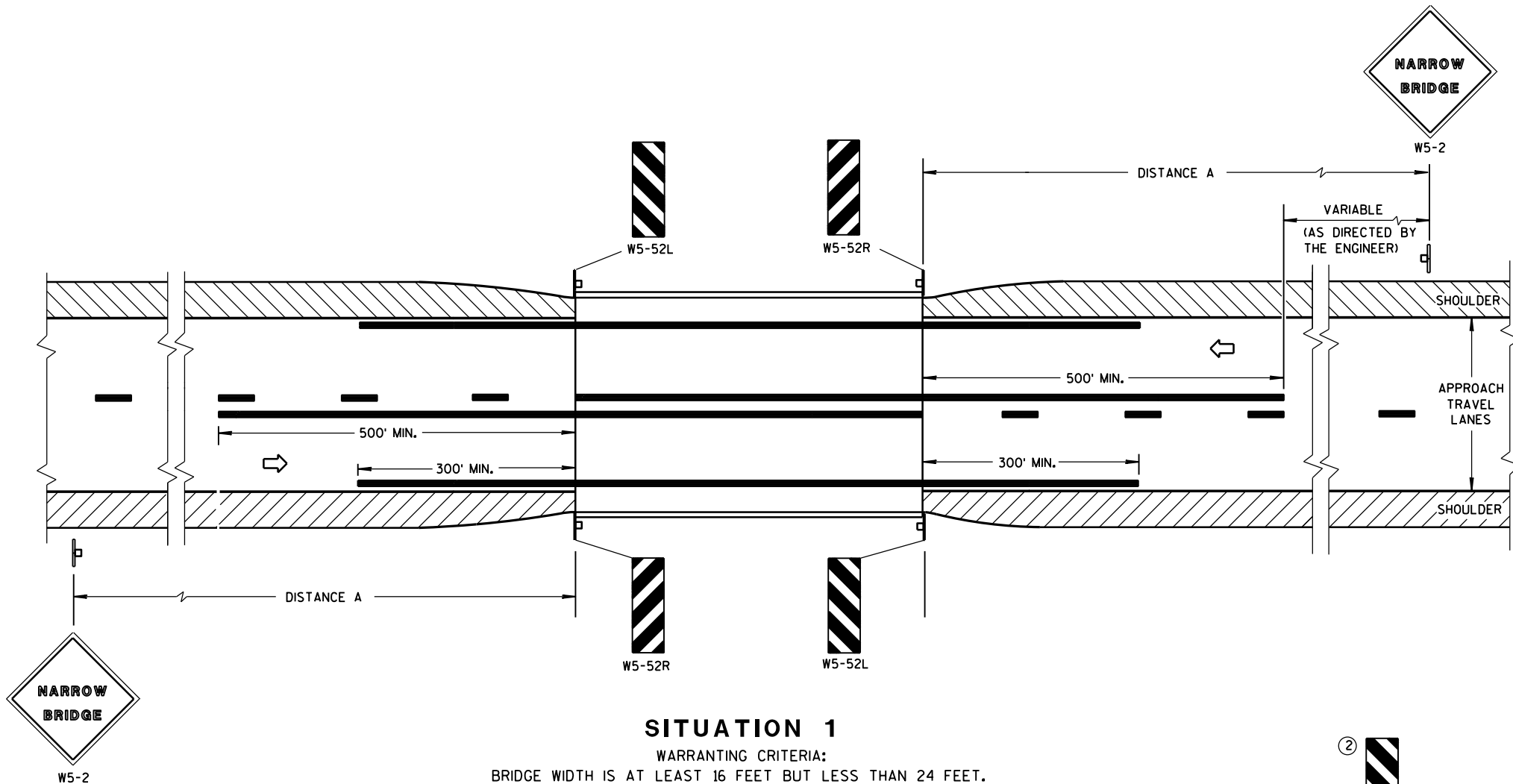
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

- 1 TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF 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 (APPROX. 8-FOOT LIGHT SPACING).
- 2 THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.
- 3 FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.
- 4 FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.
- 5 FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.
- 6 INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- 7 "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS
FOR
MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 /S/ Peter Amokobe Atepe
DATE STATEWIDE WORK ZONE TRAFFIC
FHWA SAFETY ENGINEER



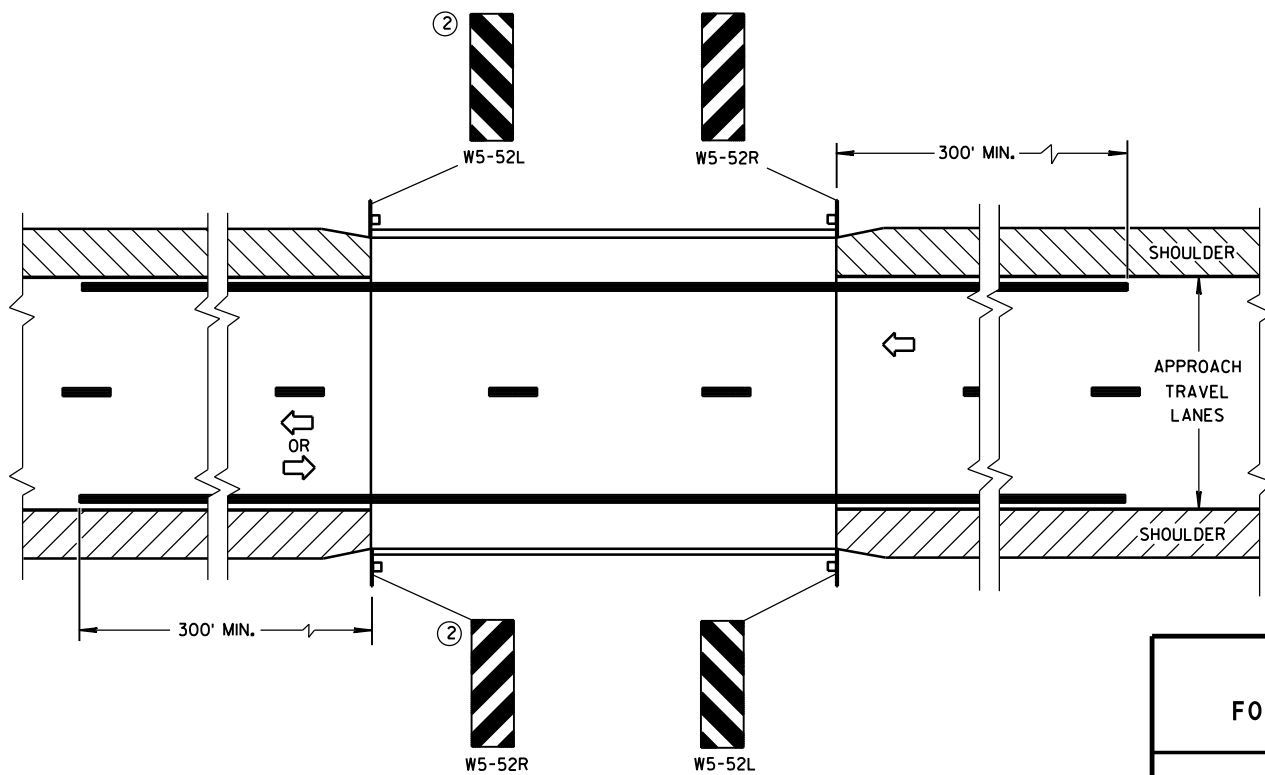
DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	750'

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.

- ① LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.
- ② OMIT ON ONE-WAY TRAVELLED WAYS.
- ③ EDGE OF W5-52 SIGN SHALL BE PLACED IN LINE WITH FACE OF CURB OR PARAPET.

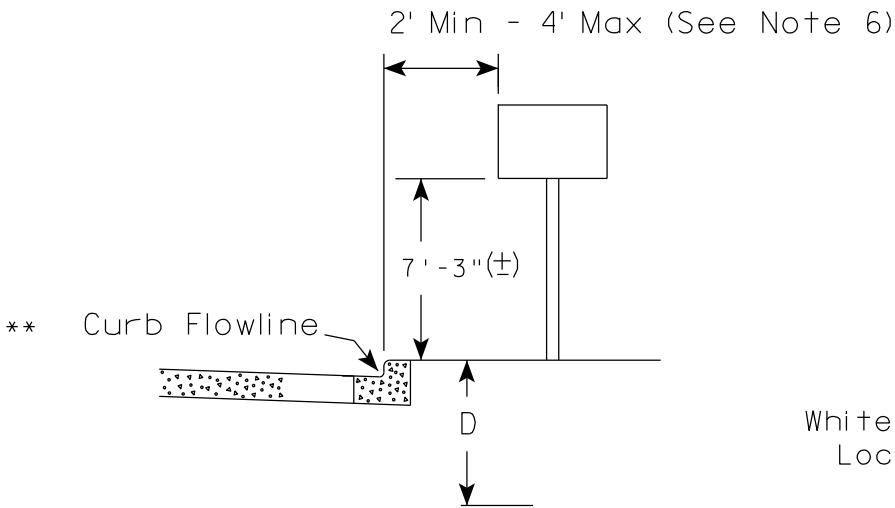


SIGNING & MARKING
FOR TWO LANE BRIDGES

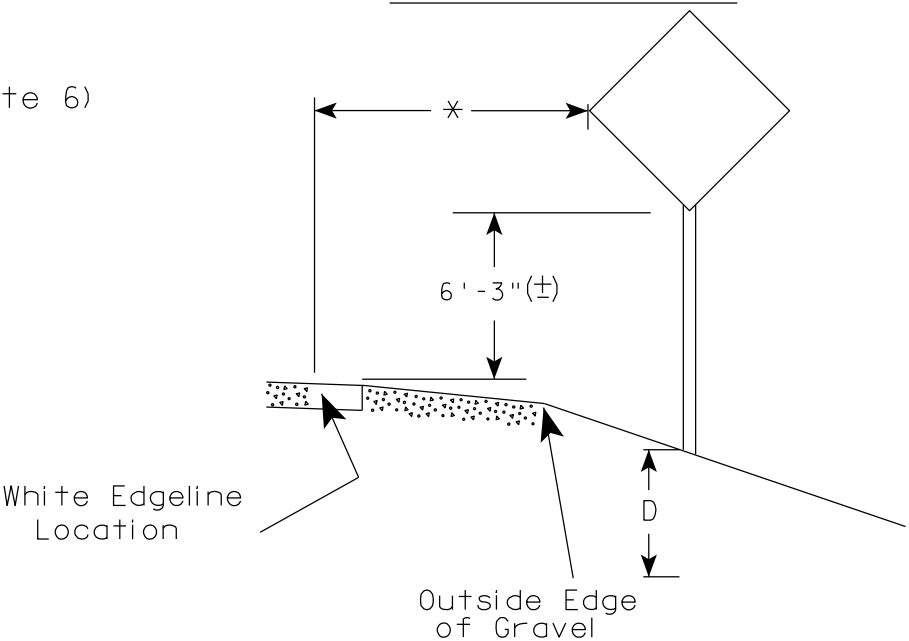
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-18-16 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MARKING ENGINEER
FHWA

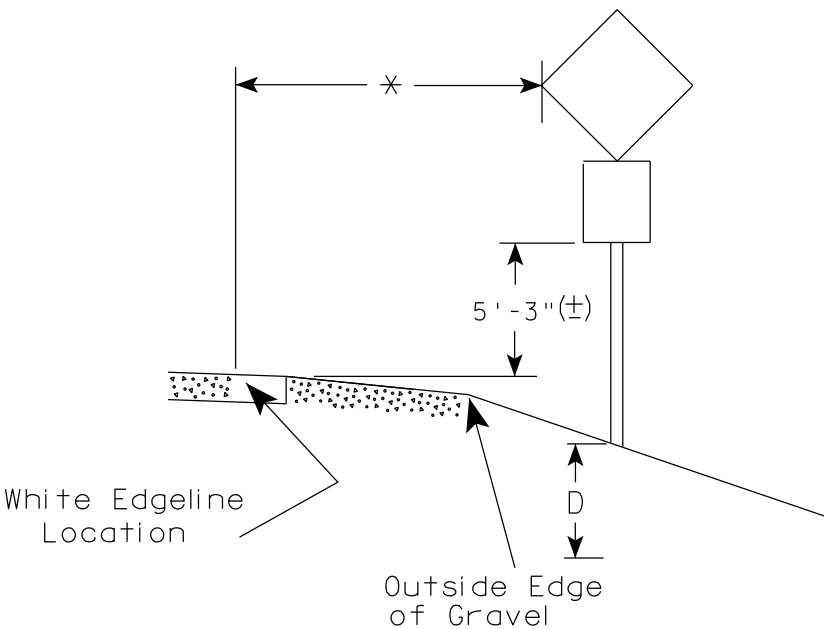
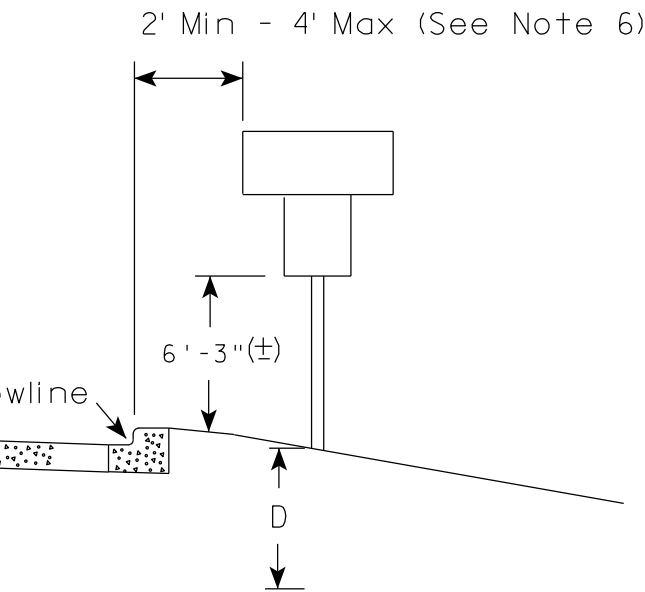
URBAN AREA



RURAL AREA (See Note 2)



- GENERAL NOTES
1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
 2. If signs are mounted on barrier wall, see A4-10 sign plate.
 3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
 4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
 5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
 6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
 7. The (±) tolerance for mounting height is 3 inches.
 8. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
 9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).



POST EMBEDMENT DEPTH

Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

× × The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

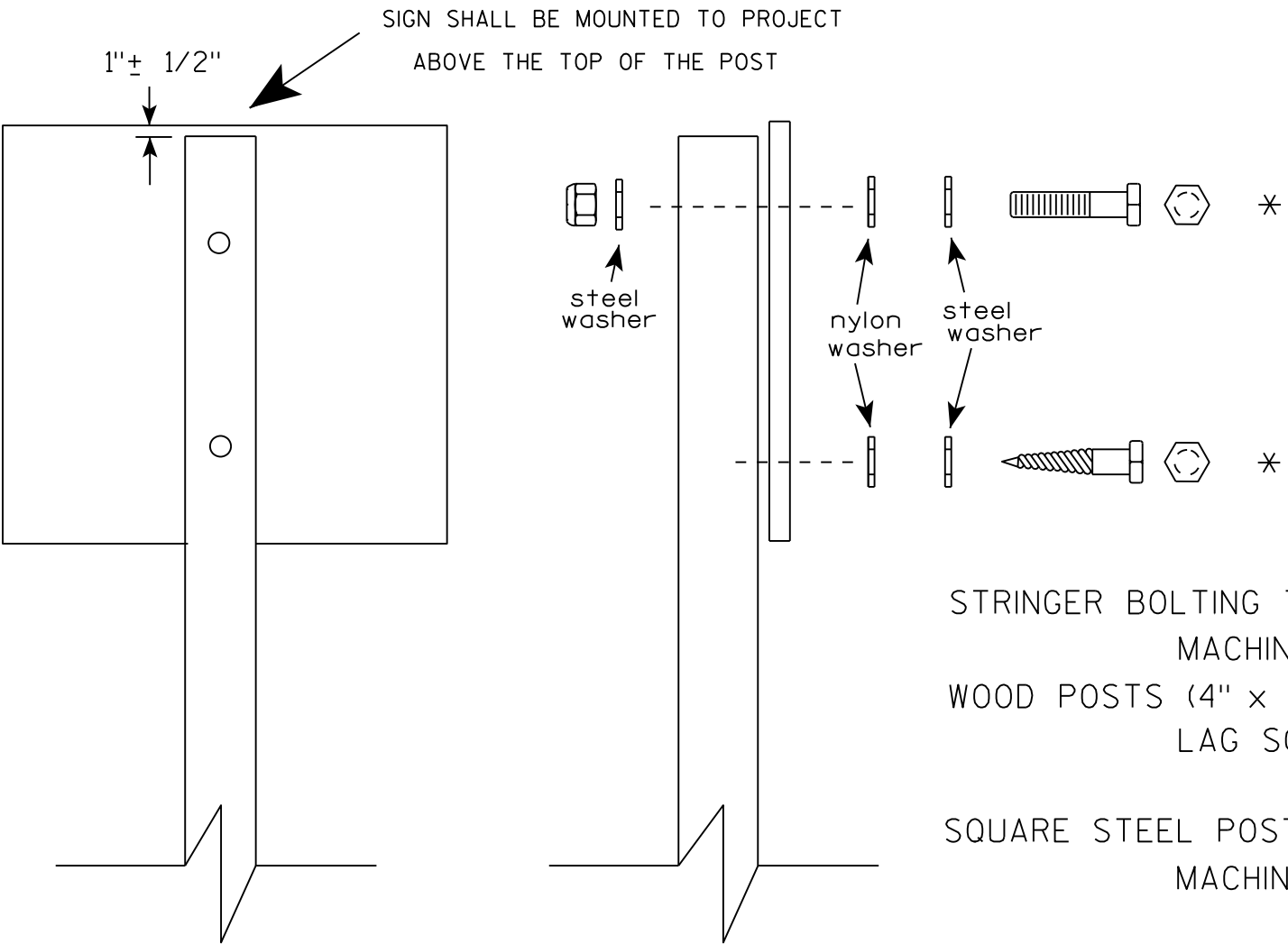
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-3.20



Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 - $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 - $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - $\frac{9}{32}$ " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
- O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
- 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
 - 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON

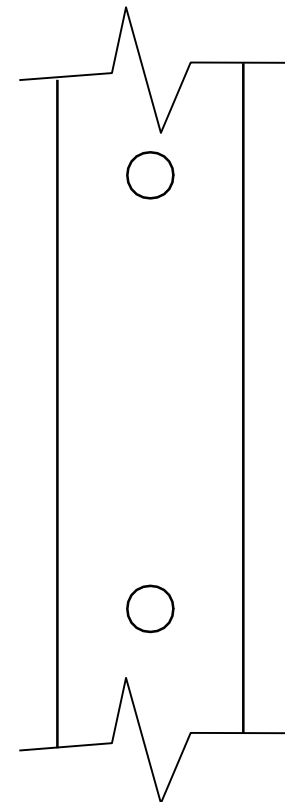
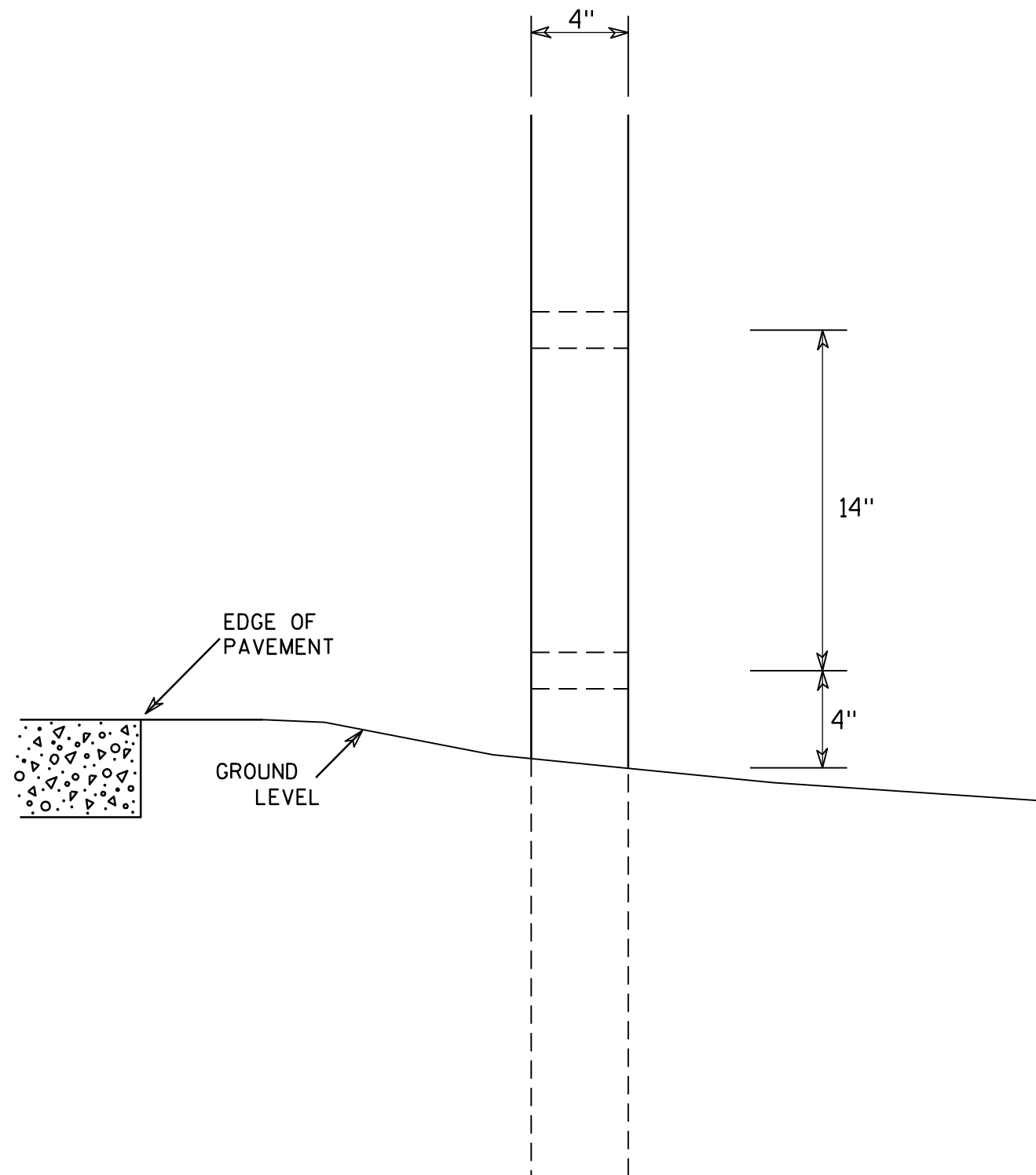
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS
TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 8/11/16 PLATE NO. A4-8.8



SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1 1/2" diameter holes drilled perpendicular to the roadway centerline.

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO: 8449-00-70

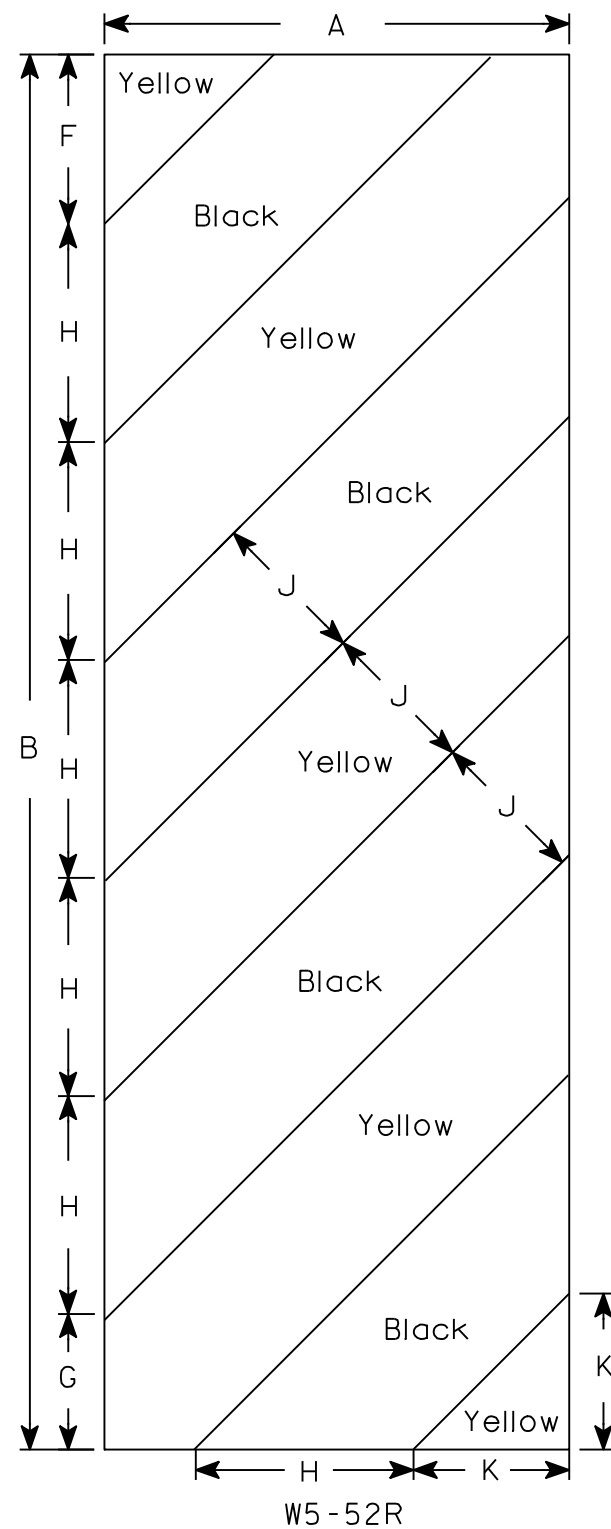
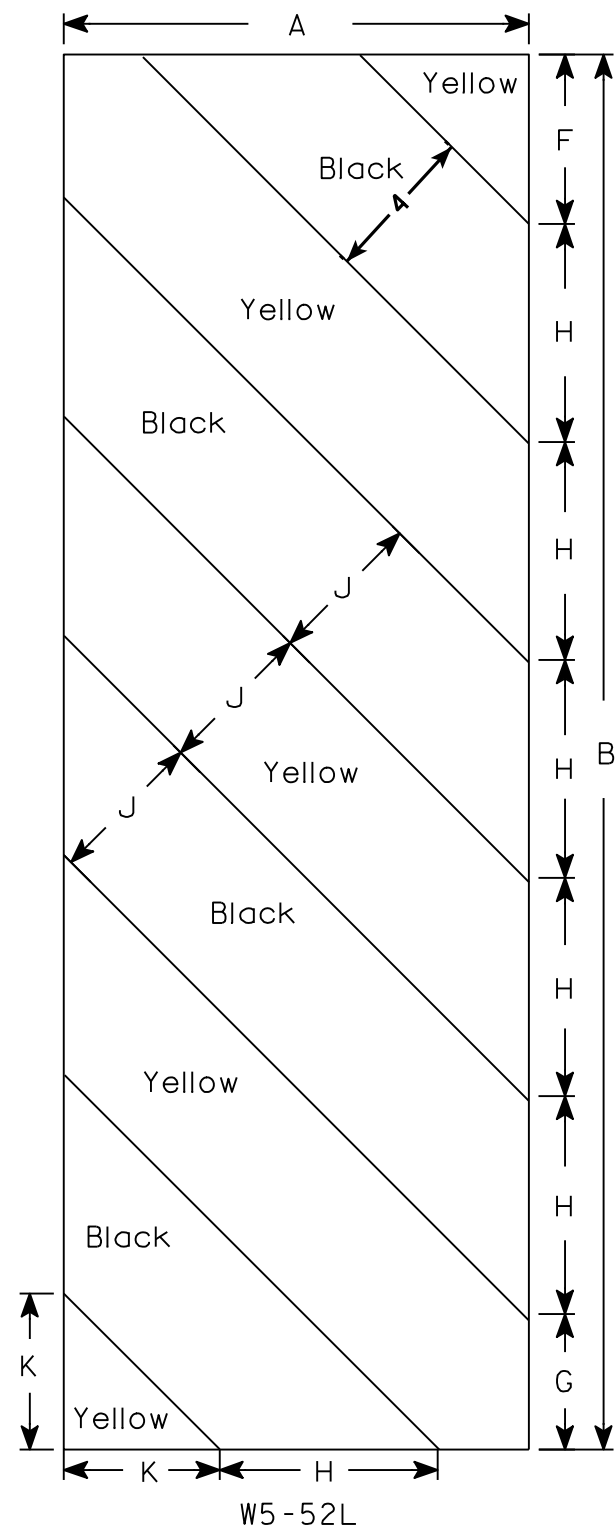
HWY: HARVEST LANE

COUNTY: SAWYER

SHEET NO:

E

7



NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Yellow
Message - Black
- 3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 4. Alternate colors of stripes as shown.

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3⁄8	3 1⁄2	5 5⁄8	45°	4	4																3.0
2M	12	36				4 3⁄8	3 1⁄2	5 5⁄8	45°	4	4																3.0
3	18	54				6	5 1⁄2	8 1⁄2	45°	6	6 5⁄6																6.75
4																											
5																											

STANDARD SIGN
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

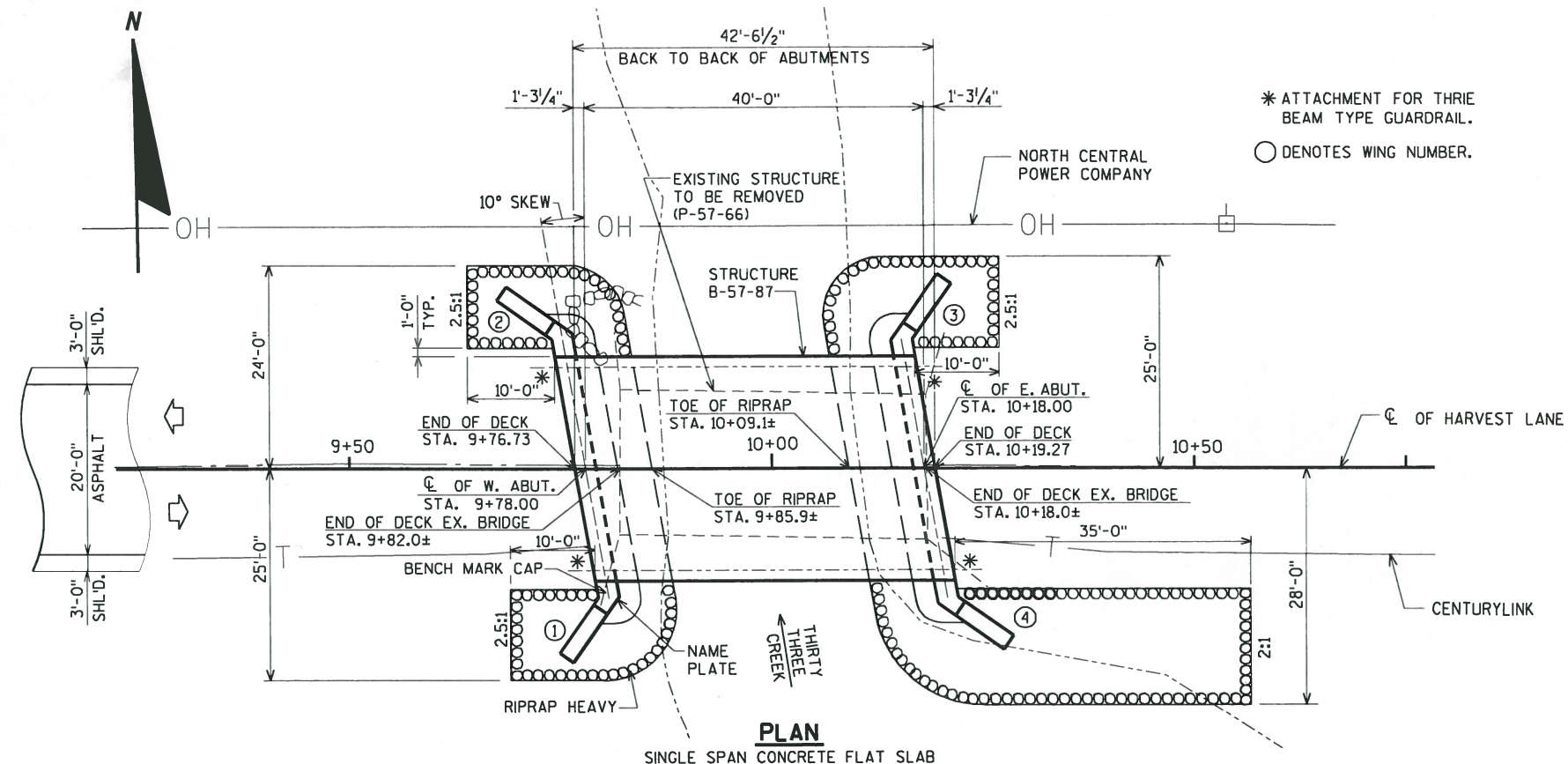
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W5-52.9

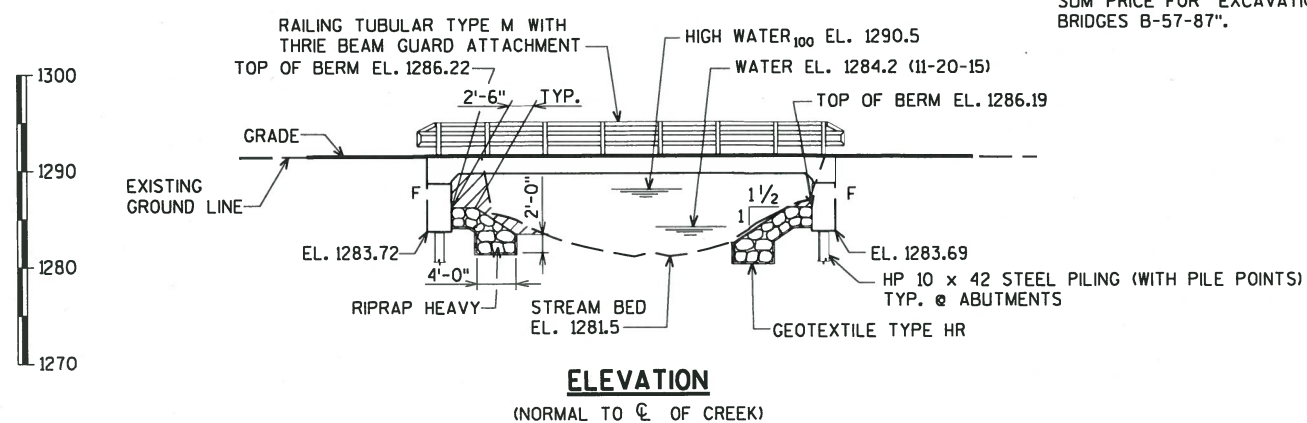
\$PRNAME\$
U:\42-1013.00 - Sawyer Co. Harvest Lane over Thirty-Three Creek\BRIDGE\421013 gp.dgn

CHECKED BY: DATE:
BACK CHECKED BY: DATE:
CORRECTED BY: DATE:

8

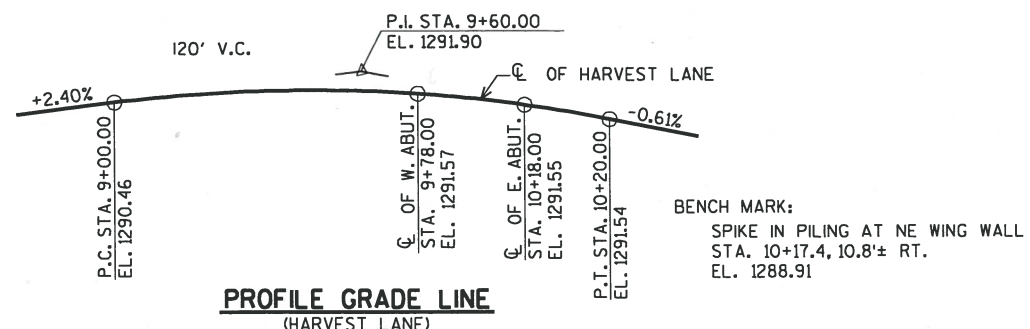


/// COST OF EXCAVATION OR FILL IN THE HATCHED AREAS SHALL BE INCLUDED IN THE CONTRACT LUMP SUM PRICE FOR "EXCAVATION FOR STRUCTURES BRIDGES B-57-87".



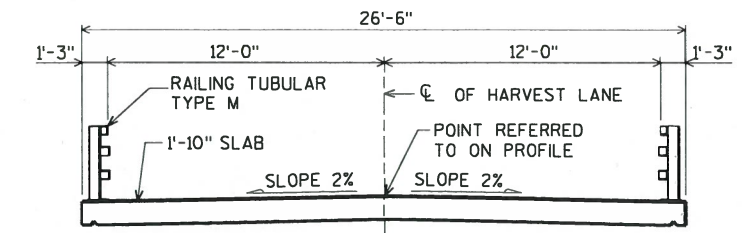
LIST OF DRAWINGS

1. GENERAL PLAN
2. QUANTITIES AND NOTES
3. SUBSURFACE EXPLORATION
4. WEST ABUTMENT
5. WEST ABUTMENT WING 1 DETAILS
6. WEST ABUTMENT WING 2 DETAILS & BILL OF BARS
7. EAST ABUTMENT
8. EAST ABUTMENT WING 3 DETAILS
9. EAST ABUTMENT WING 4 DETAILS & BILL OF BARS
10. SUPERSTRUCTURE
11. SUPERSTRUCTURE DETAILS
12. RAILING TUBULAR TYPE M



STATE PROJECT NUMBER

8449-00-70



DESIGN DATA

LIVE LOAD:
DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: 1.08
OPERATING RATING FACTOR: 1.40
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20" S.F.

MATERIAL PROPERTIES:

CONCRETE MASONRY { SUPERSTRUCTURE f'c = 4,000 p.s.i.
ALL OTHER f'c = 3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60) fy = 60,000 p.s.i.

HYDRAULIC DATA:

100 YEAR FREQUENCY 2 YEAR FREQUENCY
Q₁₀₀ = 1,690 c.f.s. { BRIDGE = 1,652 c.f.s. Q₂ = 360 c.f.s.
OVERFLOW = 38 c.f.s. VEL = 4.2 f.p.s.
VEL = 7.4 f.p.s. HW₂ = EL. 1285.9
HW₁₀₀ = EL. 1290.5

WATERWAY AREA = 223 sq. ft.
DRAINAGE AREA = 10.0 sq. mi.
SCOUR CRITICAL CODE = 8
DATUM = NAVD88 (2012)

ROAD OVERTOPPING FREQUENCY

Q₅₀ = 1,475 c.f.s.
WATER SURFACE EL. 1285.9
FREQUENCY = 50 YEARS

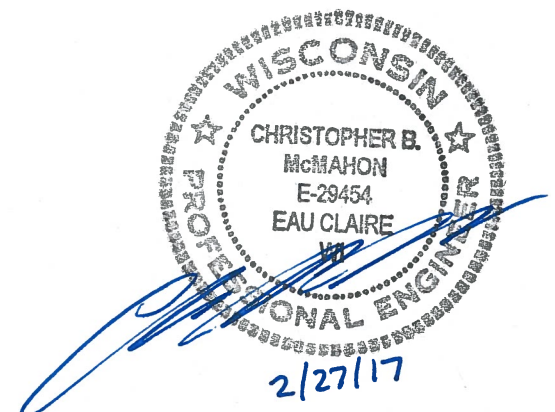
FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON HP 10 x 42 STEEL PILING (WITH PILE POINTS) DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 140 TONS ± PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 45'-0" FOR WEST ABUT. AND 40'-0" FOR EAST ABUT.

*THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

TRAFFIC DATA:

A.A.D.T. = <100 (2018)
A.A.D.T. = <100 (2038)
R.D.S. = 35 M.P.H.



BRIDGE OFFICE CONTACT:
WILLIAM DREHER
(608)-266-8489

CONSULTANT CONTACT:
CHRIS MCMAHON
(715)-834-3161

NO.	DATE	REVISION	BY
ORIGINAL PLANS PREPARED BY AYRES ASSOCIATES 3433 Oakwood Hills Parkway Eau Claire, WI 54701 www.AyresAssociates.com			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED <i>William C. Dreher</i> SDR CHIEF STRUCTURES DESIGN ENGINEER		06/05/17 DATE	
STRUCTURE B-57-87			
HARVEST LANE OVER THIRTY THREE CREEK			
COUNTY	SAWYER	TOWN/CITY/VILLAGE	EDGEWATER
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	CKJ	DESIGN CKD.	CJM
DRAWN BY	CJM	PLANS CKD.	CBM
GENERAL PLAN			SHEET 1 OF 12

\$PRNAME\$
U:\42-1013.00 - Sawyer Co. Harvest Lane over Thirty-Three Creek\BRIDGE\421013 gp.dgn

STATE PROJECT NUMBER

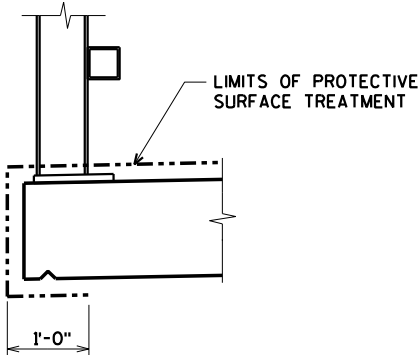
8449-00-70

TOTAL ESTIMATED QUANTITIES

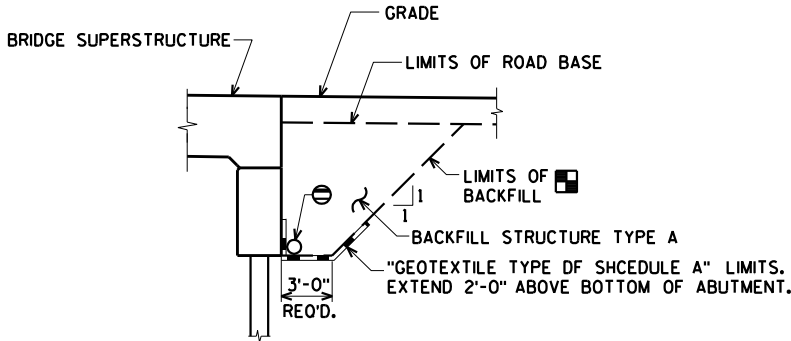
BID ITEM NUMBER	BID ITEMS	UNIT	W. ABUT.	E. ABUT.	SUPER.	TOTAL
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 10+00	LS	-----	-----	-----	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-57-87	LS	-----	-----	-----	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	120	120	-----	240
502.0100	CONCRETE MASONRY BRIDGES	CY	25	25	81	131
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-----	-----	150	150
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2,050	2,050	-----	4,100
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	870	870	14,600	16,340
513.4061	RAILING TUBULAR TYPE M B-57-87	LF	-----	-----	89	89
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	9	9	-----	18
550.0500	PILE POINTS	EACH	5	5	-----	10
550.1100	PILING STEEL HP 10-INCH x 42 LB	LF	225	200	-----	425
606.0300	RIPRAP HEAVY	CY	50	85	-----	135
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	70	70	-----	140
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	40	40	-----	80
645.0120	GEOTEXTILE TYPE HR	SY	105	170	-----	275
	NON-BID ITEMS					
	FILLER	SIZE	-----	-----	-----	1/2" & 3/4"

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 NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.
JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.
THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON THE GENERAL PLAN SHEET AND IN THE ABUTMENT DETAILS.
SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE UNLESS OTHERWISE APPROVED BY THE ENGINEER.
THE EXISTING GROUND LINE SHALL BE THE UPPER LIMIT FOR EXCAVATION FOR STRUCTURES.
THE EXISTING STRUCTURE, P-57-66, TO BE REMOVED, IS A TWO SPAN STEEL DECK GIRDER BRIDGE, 36.0 FT. LONG WITH AN APPROX. 15.5 FT. CLEAR ROADWAY WIDTH WITH TIMBER VERTICAL ABUTMENTS AND TIMBER PILE BENT PIER.
AT BACKFACE OF ABUTMENTS ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE A.
PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED AS SHOWN IN DETAIL ON THIS SHEET.
EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT.

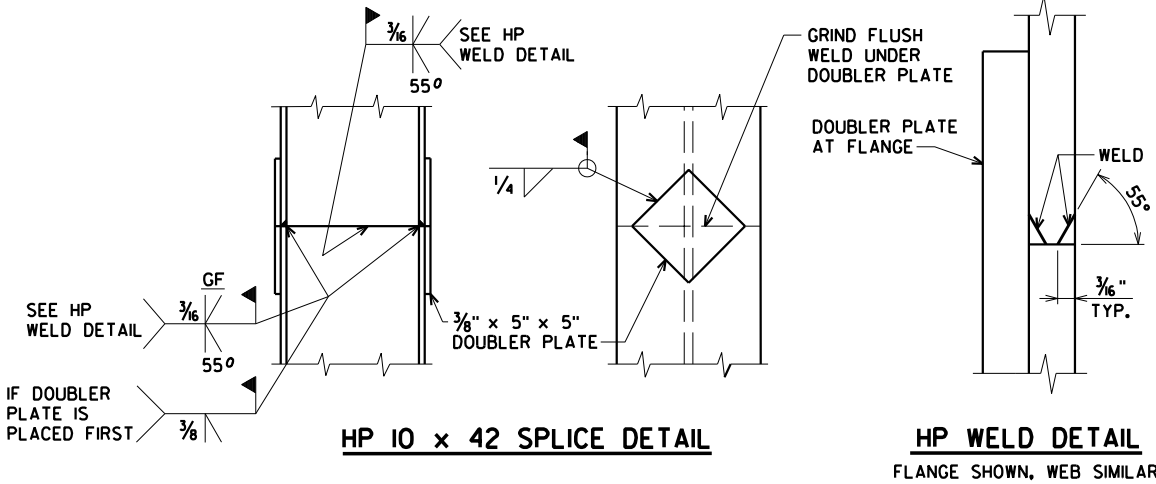


PROTECTIVE SURFACE TREATMENT DETAIL



BACKFILL STRUCTURE LIMITS

- BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 5.



HP WELD DETAIL
FLANGE SHOWN, WEB SIMILAR

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-57-87			
DRAWN BY CJM		PLANS CK'D. JWZ	
QUANTITIES AND NOTES		SHEET 2 OF 12	

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

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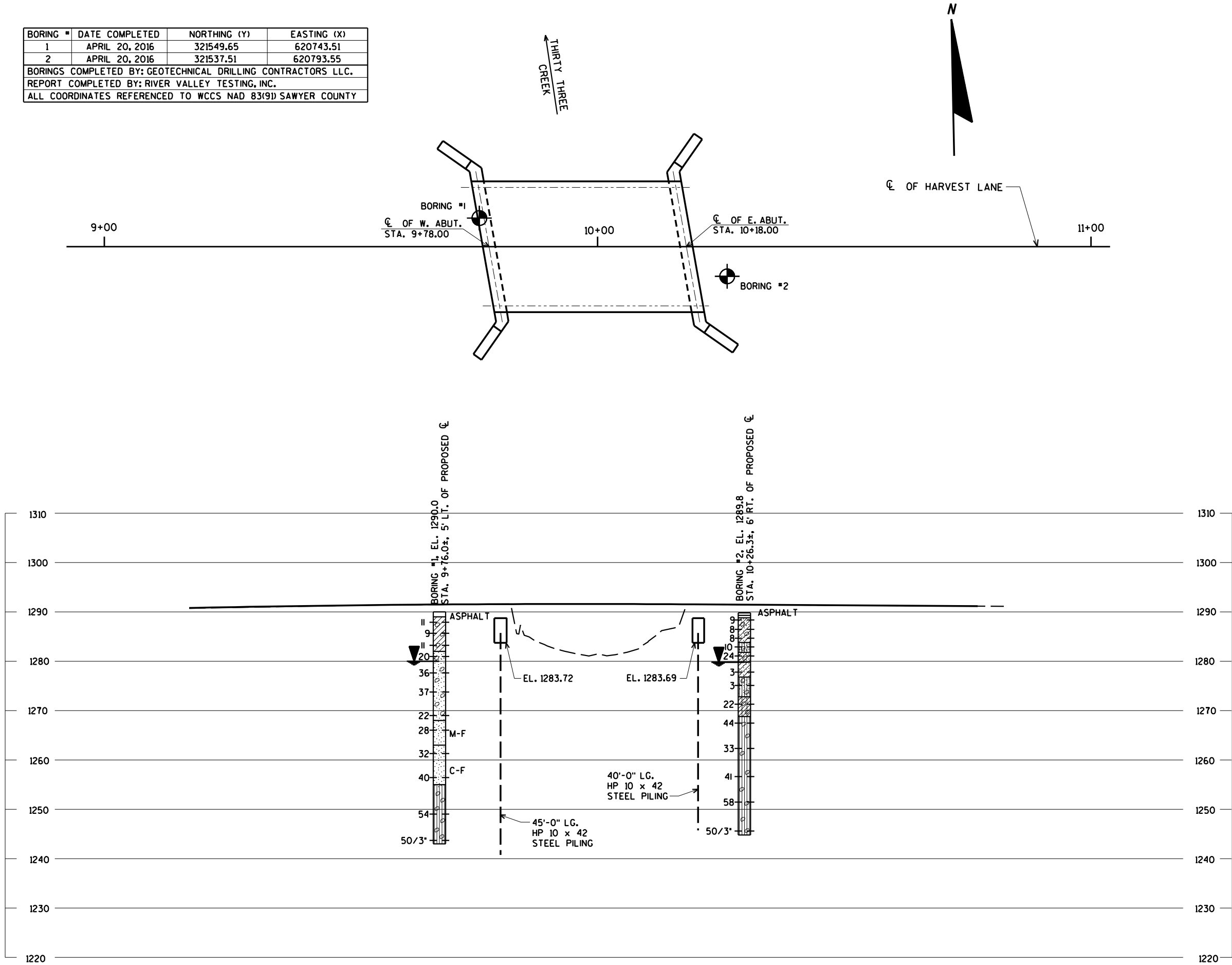
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BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	APRIL 20, 2016	321549.65	620743.51
2	APRIL 20, 2016	321537.51	620793.55

BORINGS COMPLETED BY: GEOTECHNICAL DRILLING CONTRACTORS LLC.

REPORT COMPLETED BY: RIVER VALLEY TESTING, INC.

ALL COORDINATES REFERENCED TO WCCS NAD 83(91) SAWYER COUNTY



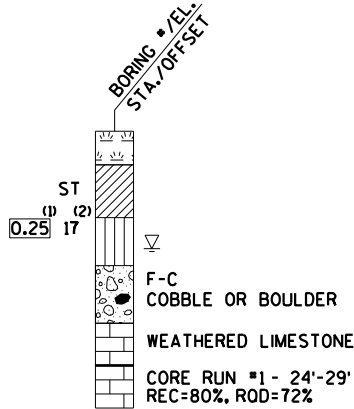
STATE PROJECT NUMBER

8449-00-70

MATERIAL SYMBOLS

	ASPHALT		TOPSOIL		PEAT
	CONCRETE		FILL		GRAVEL
	SAND		CLAY		SILT
	BOULDERS OR COBBLES		LIMESTONE		BEDROCK (UNKNOWN)
	SHALE		SANDSTONE		IGNEOUS/META

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

- ▽ AT TIME OF DRILLING
- ▼ END OF DRILLING
- ▼ AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

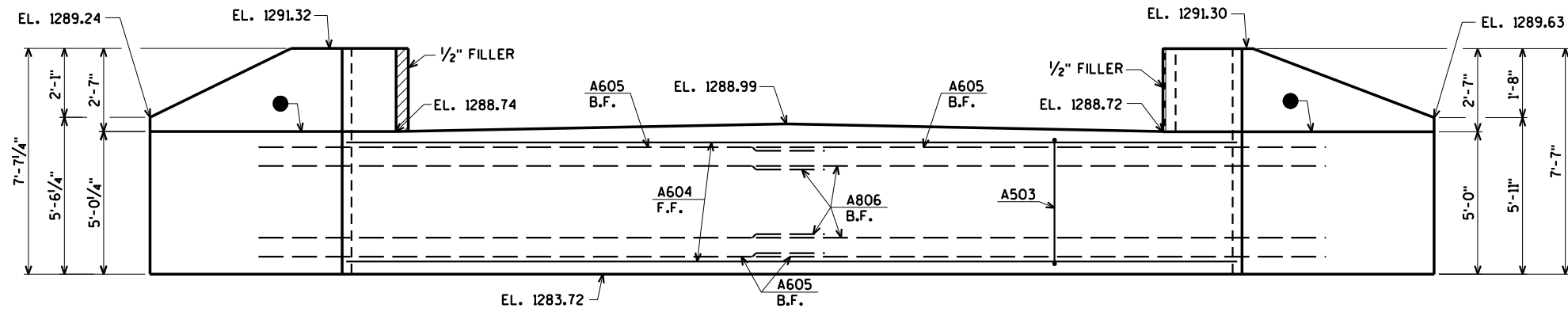
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-57-87			
DRAWN BY CJM/CLS		PLANS CK'D. JWZ	
SUBSURFACE EXPLORATION			SHEET 3 OF 12

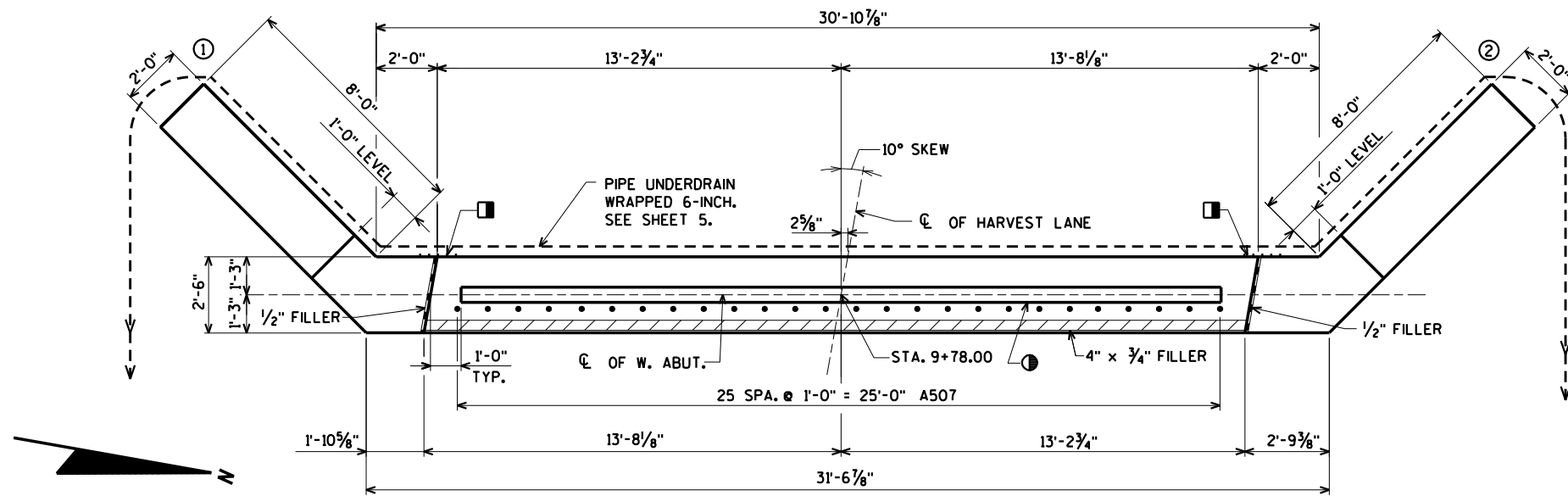
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STATE PROJECT NUMBER

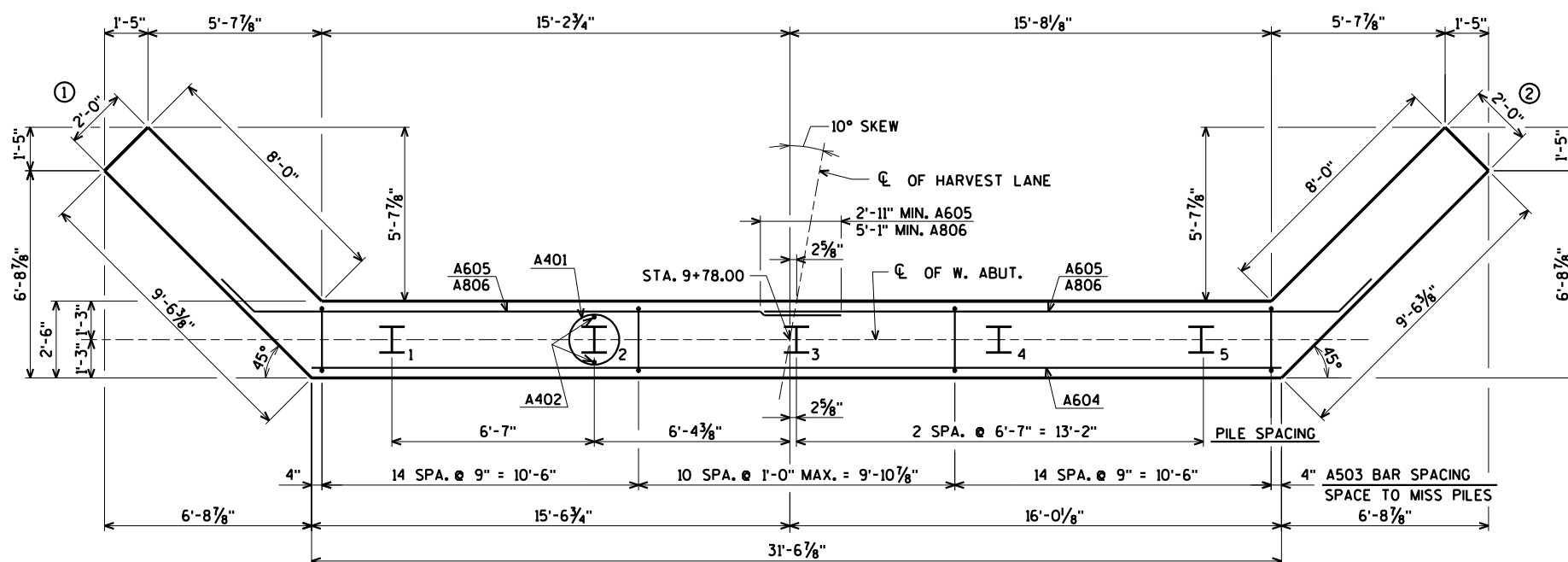
8449-00-70



ELEVATION
(LOOKING WEST)



PLAN



PILE LAYOUT

NOTE: SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.)

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

① KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

■ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL.

FOR PILE SPlice DETAIL SEE SHEET 2.

B.F. DENOTES BACK FACE

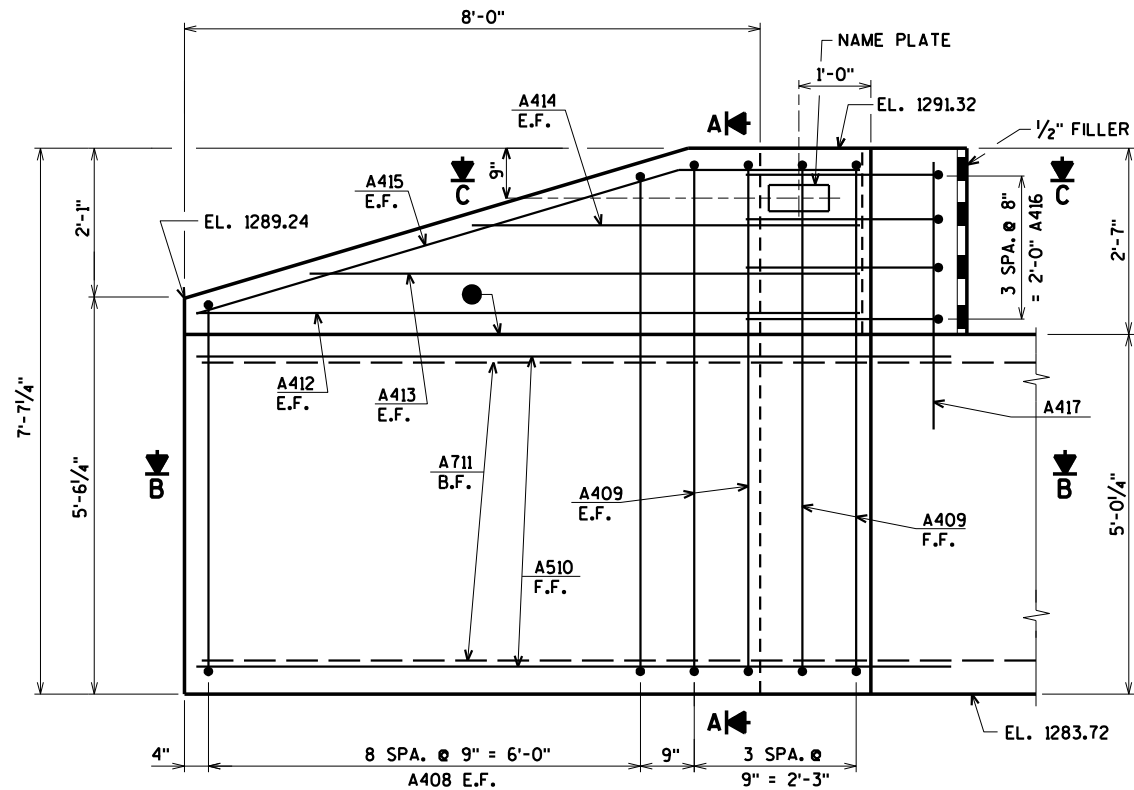
F.F. DENOTES FRONT FACE

E.F. DENOTES EACH FACE

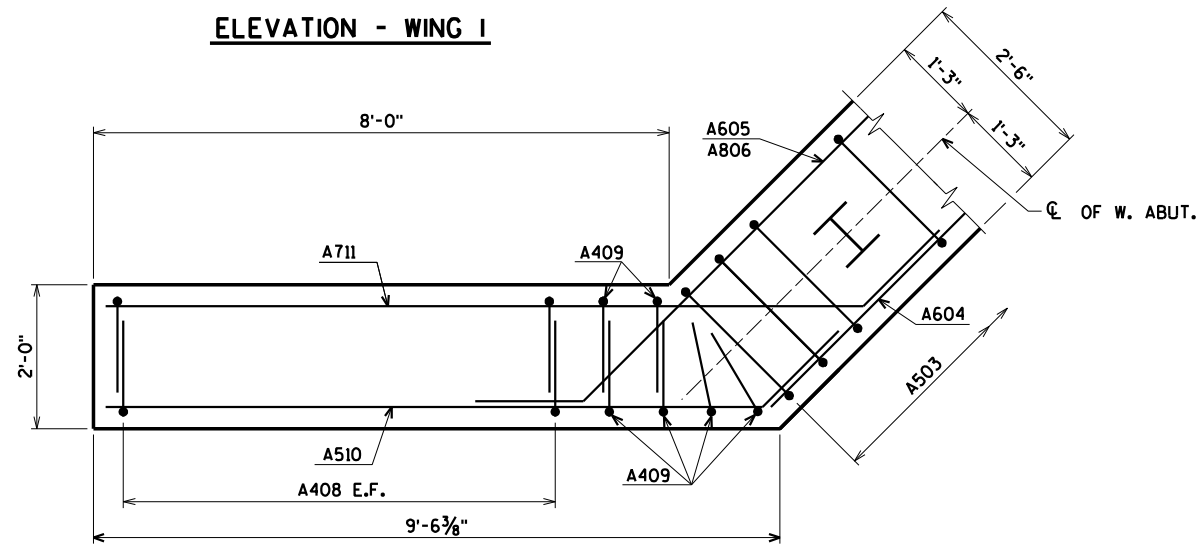
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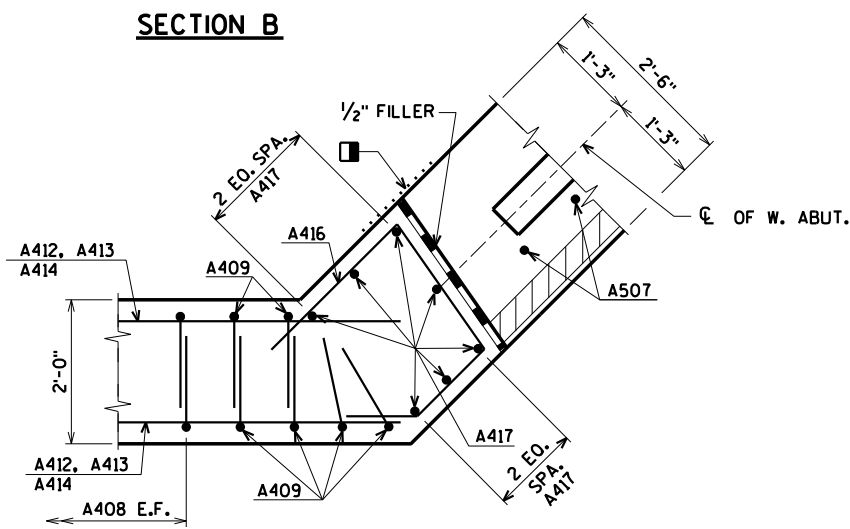
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-57-87			
DRAWN BY		CLS	PLANS CK'D. JWZ
WEST ABUTMENT		SHEET 4 OF 12	



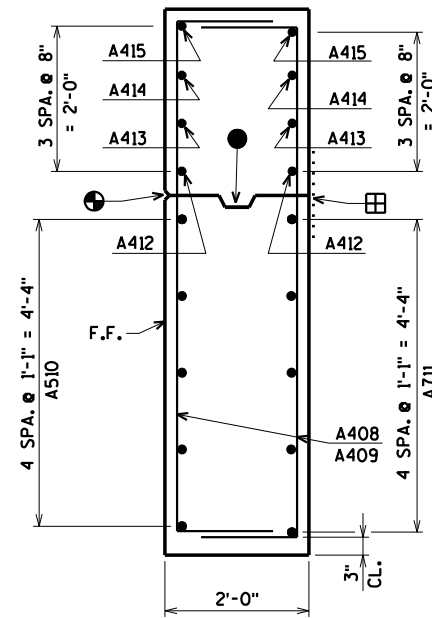
ELEVATION - WING 1



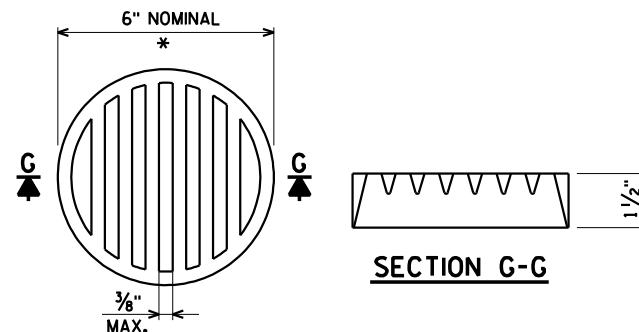
SECTION B



SECTION C



SECTION A

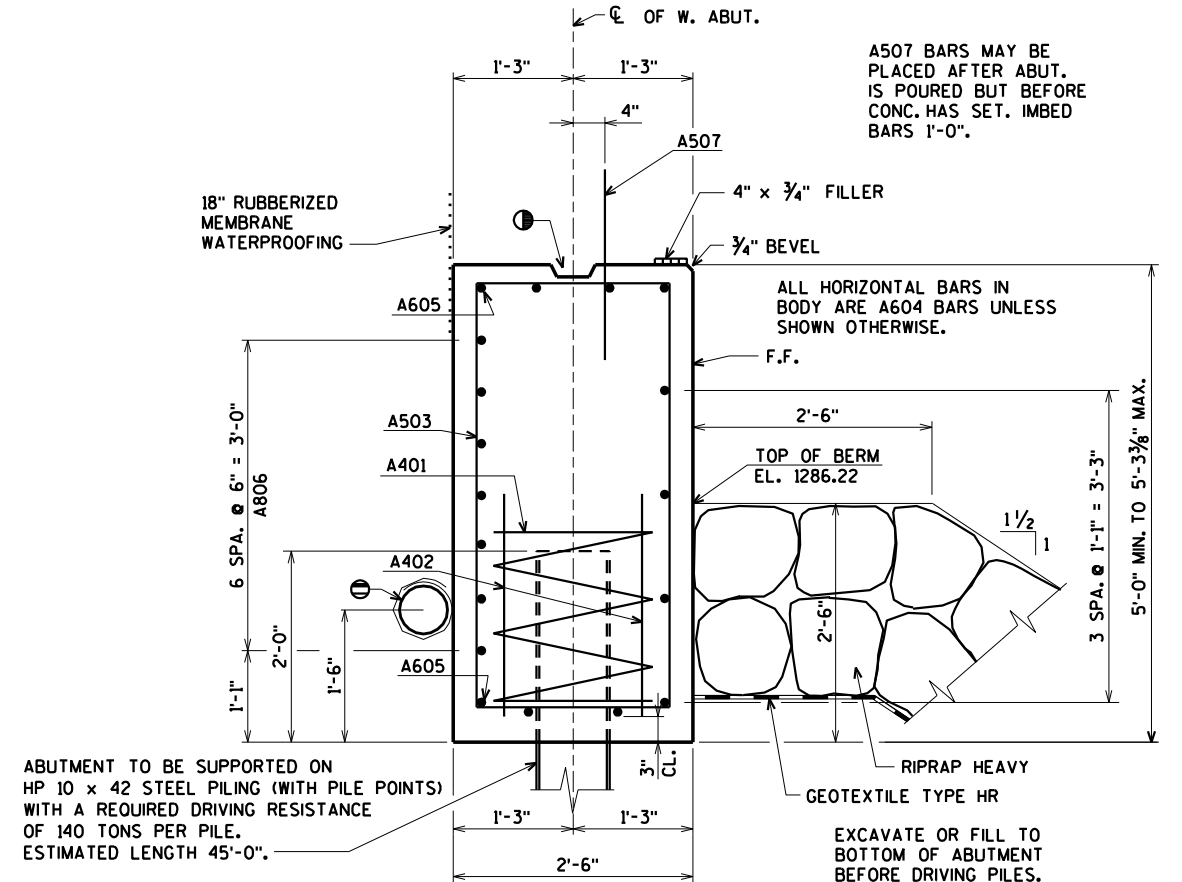


* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SCREEN TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 $\times$ 1-INCH SHEET METAL SCREWS.

RODENT SHIELD DETAIL



TYPICAL SECTION THRU BODY

PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON THIS SHEET.

KEYED CONST. JOINT - FORMED BY A BEVELED 2" $\times$ 6".

18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.

OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" $\times$ 6".

3/4" V-GROOVE ON F.F. OF WING WALL - NOT REQUIRED IF CONST. JT. IS NOT USED.

VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL.

FOR PILE SPLICE DETAIL SEE SHEET 2.

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

F.F. DENOTES FRONT FACE

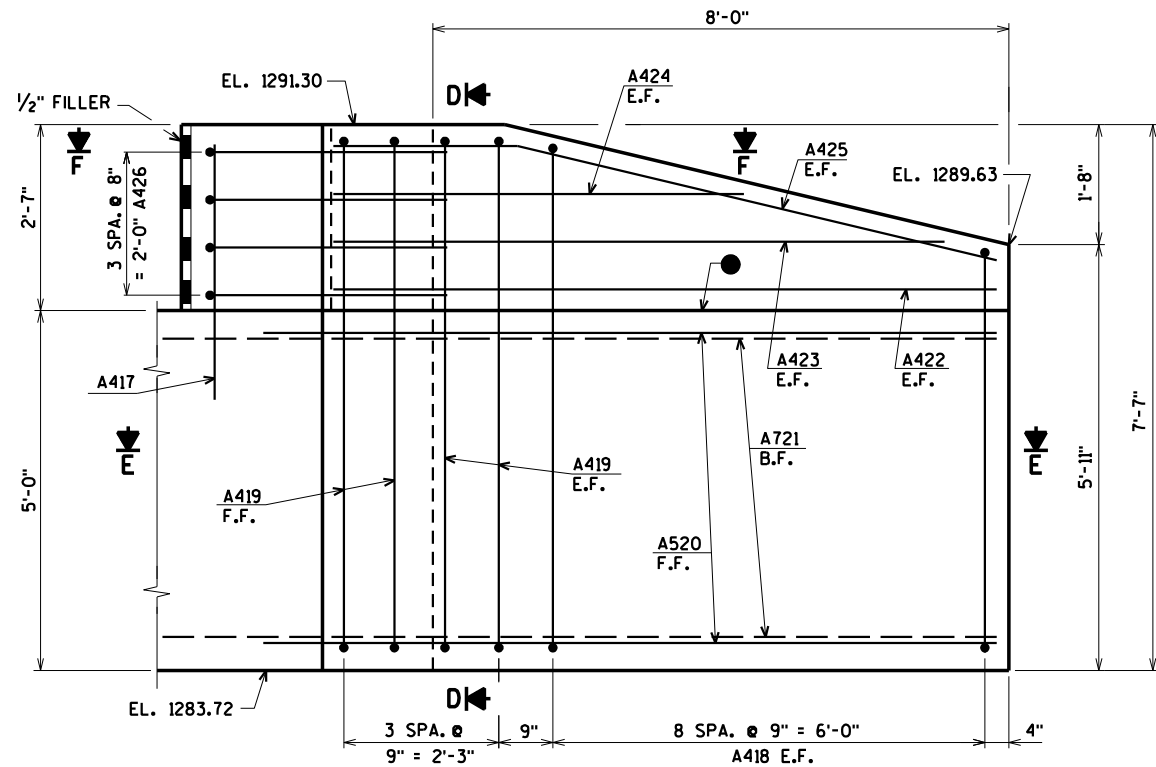
ORIGINAL PLANS PREPARED BY
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NO.	DATE	REVISION	BY
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STRUCTURE B-57-87			
DRAWN BY		CLS	PLANS CK'D. JWZ
WEST ABUTMENT WING 1 DETAILS			SHEET 5 OF 12

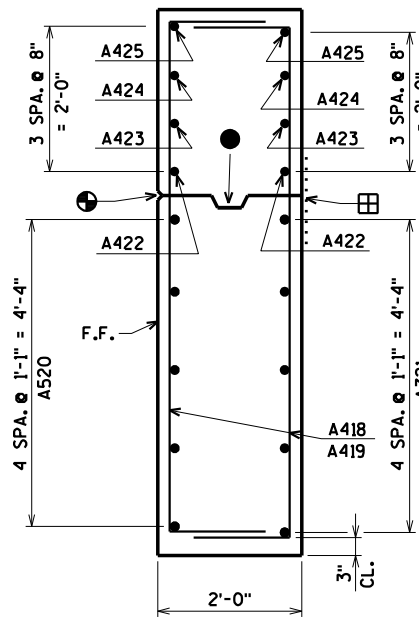
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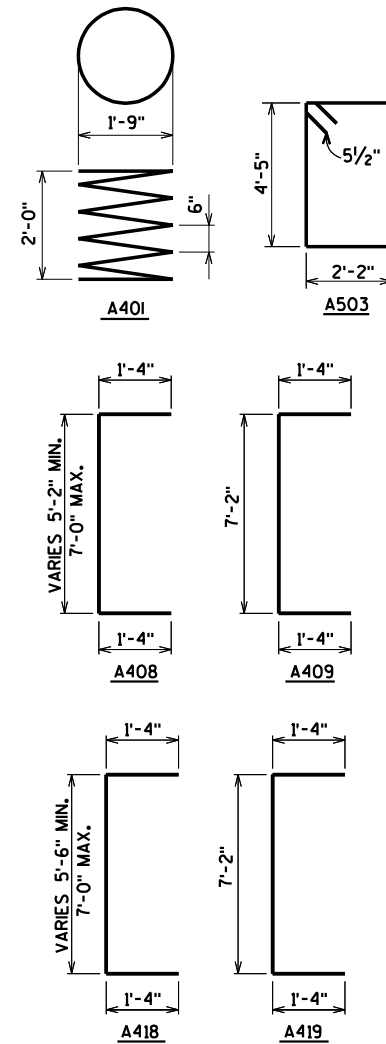
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ELEVATION - WING 2



SECTION D

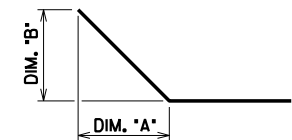


BILL OF BARS

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	870# COATED 2,050# UNCOATED
							LOCATION
A401		5	28-0	X			BODY @ PILES
A402		10	2-3				BODY @ PILES
A503		39	13-10	X			BODY VERT.
A604		9	31-4				BODY HORIZ. F.F.
A605		4	21-1	X			BODY HORIZ. B.F.
A806		14	22-2	X			BODY HORIZ. B.F.
A507	X	26	2-0				BODY DOWELS
A408	X	18	8-7	X			WING 1 VERT. E.F.
A409	X	6	9-8	X			WING 1 VERT. E.F.
A510	X	5	10-9	X			WING 1 HORIZ. F.F.
A711	X	5	12-7	X			WING 1 HORIZ. B.F.
A412	X	2	9-3				WING 1 HORIZ. E.F.
A413	X	2	7-2				WING 1 HORIZ. E.F.
A414	X	2	4-11				WING 1 HORIZ. E.F.
A415	X	2	9-7	X			WING 1 DIAG. E.F.
A416	X	4	7-6	X			WING 1 HORIZ.
A417	X	14	3-11				WINGS 1 & 2 VERT.
A418	X	18	8-9	X			WING 2 VERT. E.F.
A419	X	6	9-8	X			WING 2 VERT. E.F.
A520	X	5	10-9	X			WING 2 HORIZ. F.F.
A721	X	5	12-7	X			WING 2 HORIZ. B.F.
A422	X	2	9-3				WING 2 HORIZ. E.F.
A423	X	2	8-10				WING 2 HORIZ. E.F.
A424	X	2	6-1				WING 2 HORIZ. E.F.
A425	X	2	9-5	X			WING 2 DIAG. E.F.
A426	X	4	8-3	X			WING 2 HORIZ.

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

⊗ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

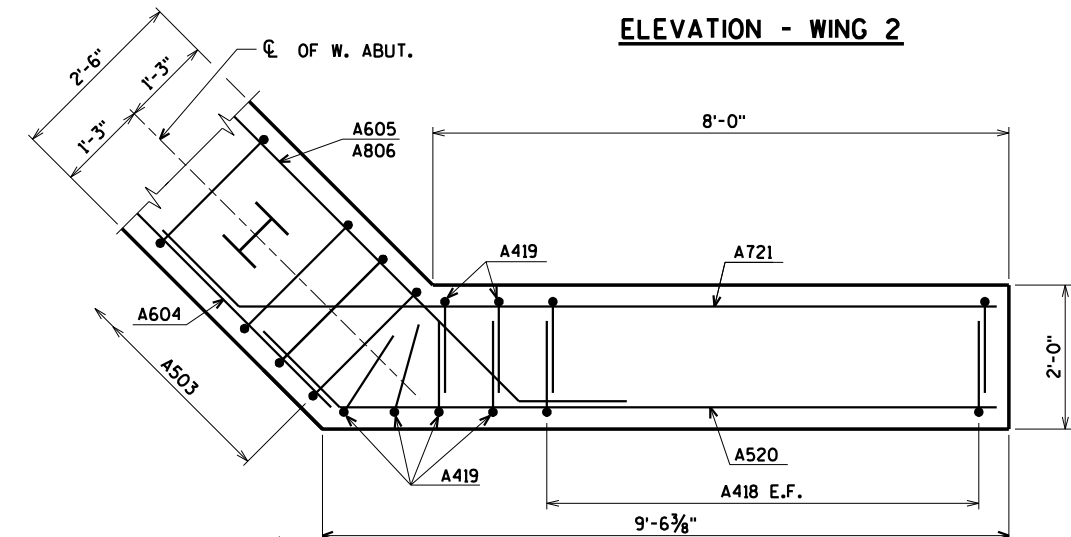


BAR NO.	DIM. 'A'	DIM. 'B'
A605	1'-0 3/4"	1'-0 3/4"
A806	1'-0 3/4"	1'-0 3/4"
A510	1'-0 3/4"	1'-0 3/4"
A711	1'-0 3/4"	1'-0 3/4"
A415	6'-9"	2'-0"
A520	1'-0 3/4"	1'-0 3/4"
A721	1'-0 3/4"	1'-0 3/4"
A425	6'-9"	1'-7"

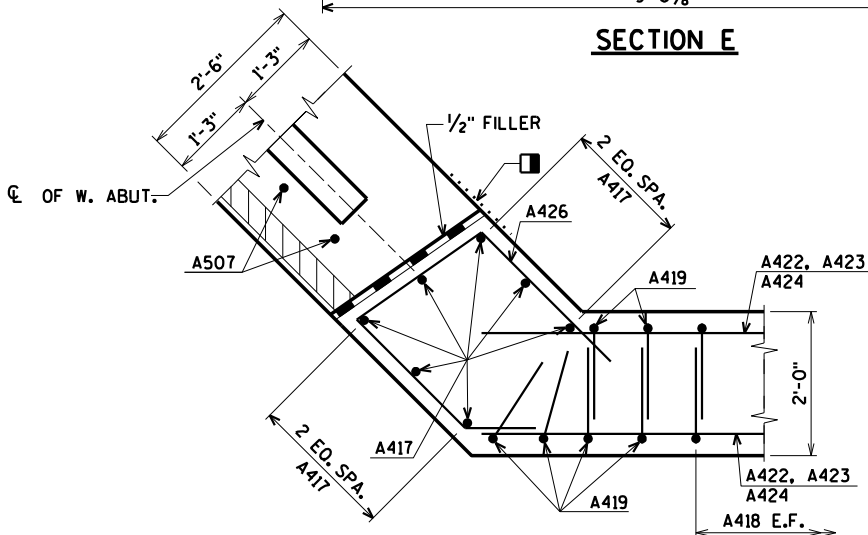
BAR SERIES TABLE

BAR MARK	NO REQ'D.	LENGTH
A408	2 SERIES OF 9	7'-8" TO 9'-6"
A418	2 SERIES OF 9	8'-0" TO 9'-6"

BUNDLE AND TAG EACH SERIES SEPARATELY.



SECTION E



SECTION F

18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.

OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

3/4" 'V' GROOVE ON F.F. OF WING WALL - NOT REQUIRED IF CONST. JT. IS NOT USED.

VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL.

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

F.F. DENOTES FRONT FACE

ORIGINAL PLANS PREPARED BY
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-57-87			
DRAWN BY		CLS	PLANS CK'D. JWZ
WEST ABUTMENT WING 2 DETAILS & BILL OF BARS			SHEET 6 OF 12

The diagram illustrates a cross-section of a bridge deck. Key features include:

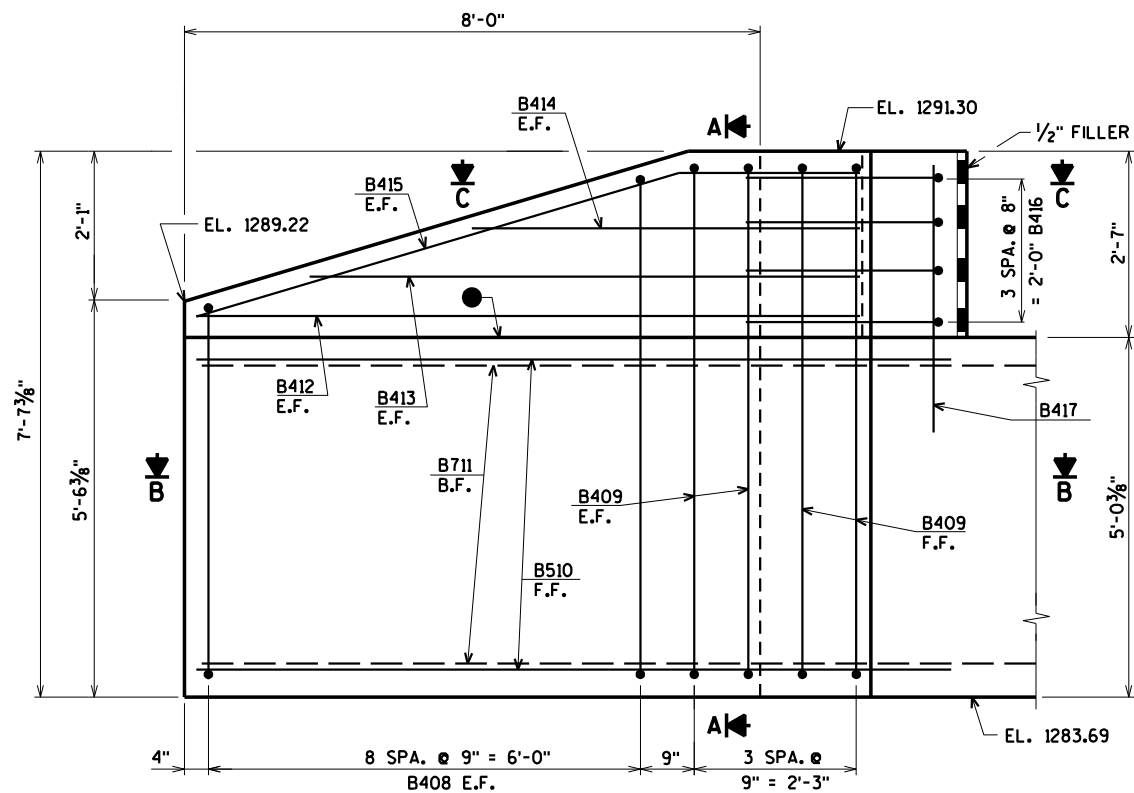
- Elevations:**
 - Top left: EL. 1289.22
 - Top left corner: EL. 1291.30
 - Top right corner: EL. 1291.27
 - Top right: EL. 1289.60
 - Bottom center: EL. 1283.69
 - Internal points: EL. 1288.72, EL. 1288.97, EL. 1288.69
- Dimensions:**
 - Left side: 7'-7 3/4" (total), 2'-1" (top), 5'-6 3/8" (middle), 5'-0 3/8" (bottom).
 - Right side: 7'-7" (total), 2'-7" (top), 5'-0" (middle), 5'-11" (bottom), 1'-8" (top right).
- Structural Components:**
 - B605 B.F.:** Reinforcing bars at the top and bottom.
 - B604 F.F.:** Reinforcing bars in the middle.
 - B806 B.F.:** Reinforcing bars in the middle.
 - B503:** Reinforcing bars in the middle.
 - 1/2" FILLER:** Material between the top and middle sections.

[illegible][illegible]

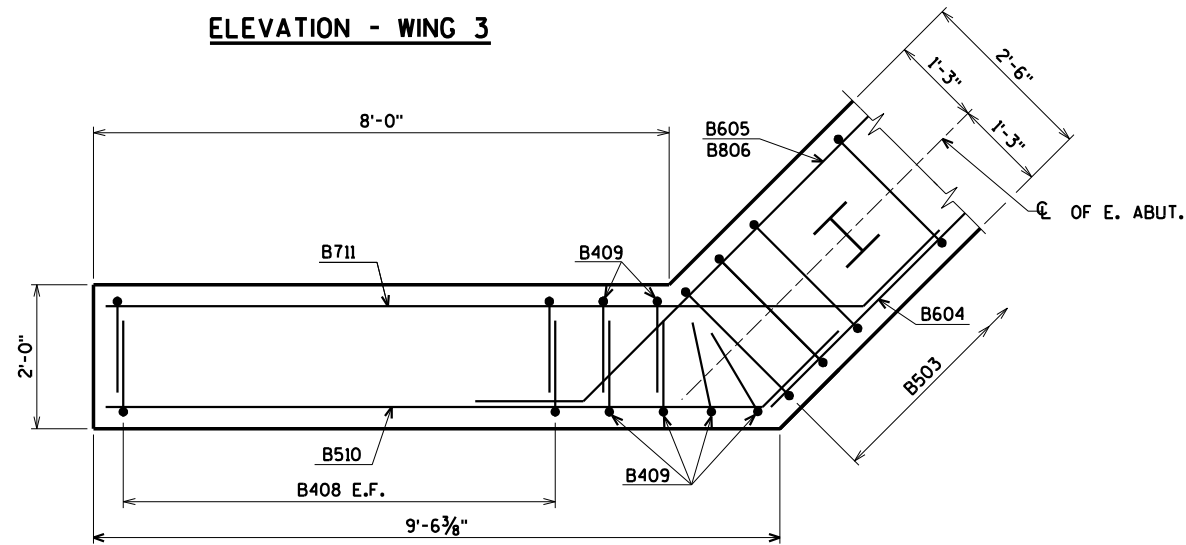
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STRUCTURE B-57-87					
		DRAWN BY	CLS	PLANS CK'D.	JWZ
EAST ABUTMENT			SHEET 7 OF 12		

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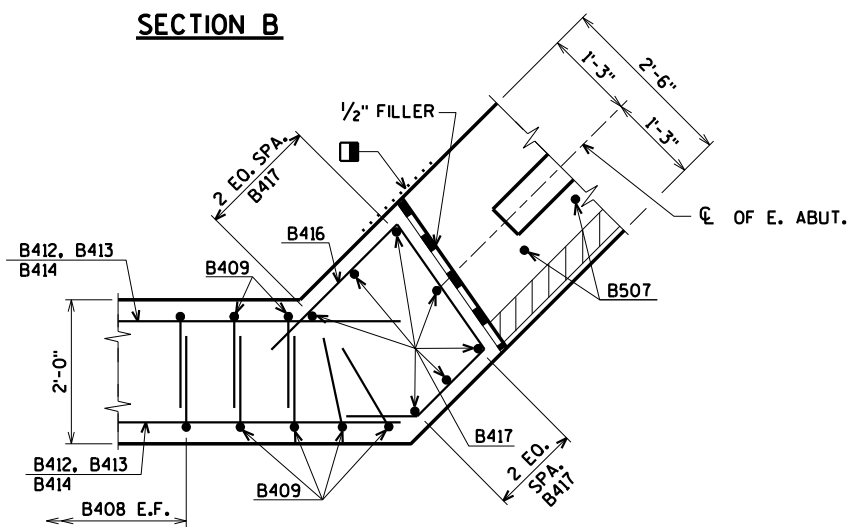
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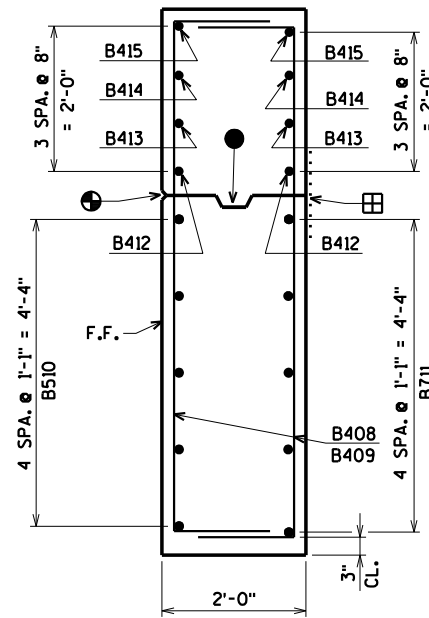
ELEVATION - WING 3



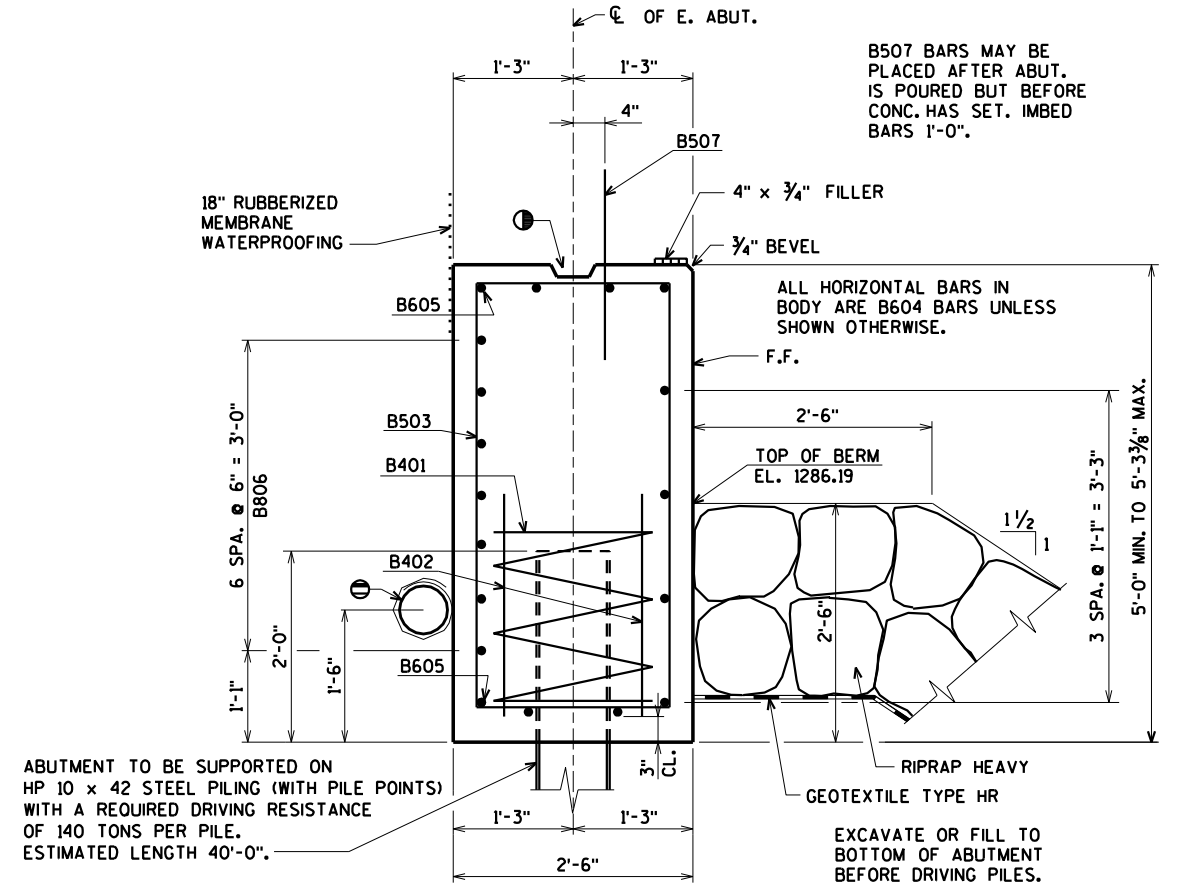
SECTION B



SECTION C



SECTION A



TYPICAL SECTION THRU BODY

PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 5.

KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.

OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

3/4" V-GROOVE ON F.F. OF WING WALL - NOT REQUIRED IF CONST. JT. IS NOT USED.

VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL.

FOR PILE SPLICE DETAIL SEE SHEET 2.

B.F. DENOTES BACK FACE

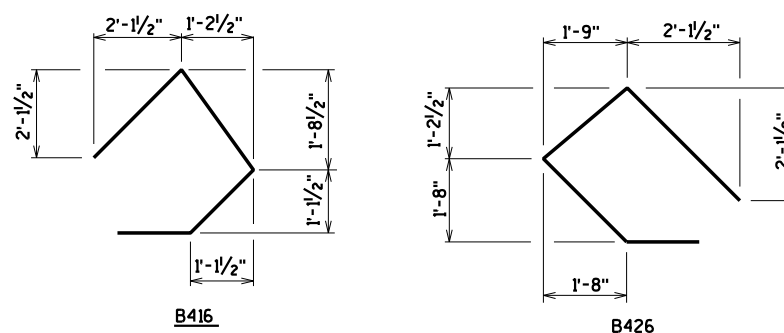
E.F. DENOTES EACH FACE

F.F. DENOTES FRONT FACE

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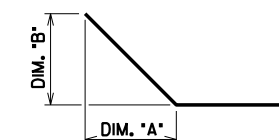
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-57-87			
DRAWN BY	CLS	PLANS CK'D.	JWZ
EAST ABUTMENT WING 3 DETAILS			SHEET 8 OF 12

8



BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	870# COATED 2,050# UNCOATED
							LOCATION
B401		5	28-0	X			BODY @ PILES
B402		10	2-3				BODY @ PILES
B503		39	13-10	X			BODY VERT.
B604		9	31-4				BODY HORIZ. F.F.
B605		4	21-1	X			BODY HORIZ. B.F.
B806		14	22-2	X			BODY HORIZ. B.F.
B507	X	26	2-0				BODY DOWELS
B408	X	18	8-7	X		⊗	WING 3 VERT. E.F.
B409	X	6	9-8	X			WING 3 VERT. E.F.
B510	X	5	10-9	X			WING 3 HORIZ. F.F.
B711	X	5	12-7	X			WING 3 HORIZ. B.F.
B412	X	2	9-3				WING 3 HORIZ. E.F.
B413	X	2	7-2				WING 3 HORIZ. E.F.
B414	X	2	4-11				WING 3 HORIZ. E.F.
B415	X	2	9-7	X			WING 3 DIAG. E.F.
B416	X	4	7-6	X			WING 3 HORIZ.
B417	X	14	3-11				WINGS 3 & 4 VERT.
B418	X	18	8-9	X		⊗	WING 4 VERT. E.F.
B419	X	6	9-8	X			WING 4 VERT. E.F.
B520	X	5	10-9	X			WING 4 HORIZ. F.F.
B721	X	5	12-7	X			WING 4 HORIZ. B.F.
B422	X	2	9-3				WING 4 HORIZ. E.F.
B423	X	2	8-10				WING 4 HORIZ. E.F.
B424	X	2	6-1				WING 4 HORIZ. E.F.
B425	X	2	9-5	X			WING 4 DIAG. E.F.
B426	X	4	8-3	X			WING 4 HORIZ.

⊗ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



BAR NO.	DIM. "A"	DIM. "B"
B605	1'-0 $\frac{3}{4}$ "	1'-0 $\frac{3}{4}$ "
B806	1'-0 $\frac{3}{4}$ "	1'-0 $\frac{3}{4}$ "
B510	1'-0 $\frac{3}{4}$ "	1'-0 $\frac{3}{4}$ "
B711	1'-0 $\frac{3}{4}$ "	1'-0 $\frac{3}{4}$ "
B415	6'-9"	2'-0"
B520	1'-0 $\frac{3}{4}$ "	1'-0 $\frac{3}{4}$ "
B721	1'-0 $\frac{3}{4}$ "	1'-0 $\frac{3}{4}$ "
B425	6'-9"	1'-7"

BAR MARK	NO REQ'D.	LENGTH
B408	2 SERIES OF 9	7'-8" TO 9'-6"
B418	2 SERIES OF 9	8'-0" TO 9'-6"

BUNDLE AND TAG EACH SERIES SEPARATELY.



- B.F. DENOTES BACK FACE
E.F. DENOTES EACH FACE
F.F. DENOTES FRONT FACE

AVRES
ASSOCIATES

**3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com**

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-57-87			
		DRAWN BY	CLS
		PLANS CK'D.	JW
EAST ABUTMENT WING 4 DETAILS & BILL OF BARS		SHEET 9 OF	



ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM.
ANY TOLERANCES NECESSARY TO CORRECT
CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

[illegible]

Technical drawings of four profiles:

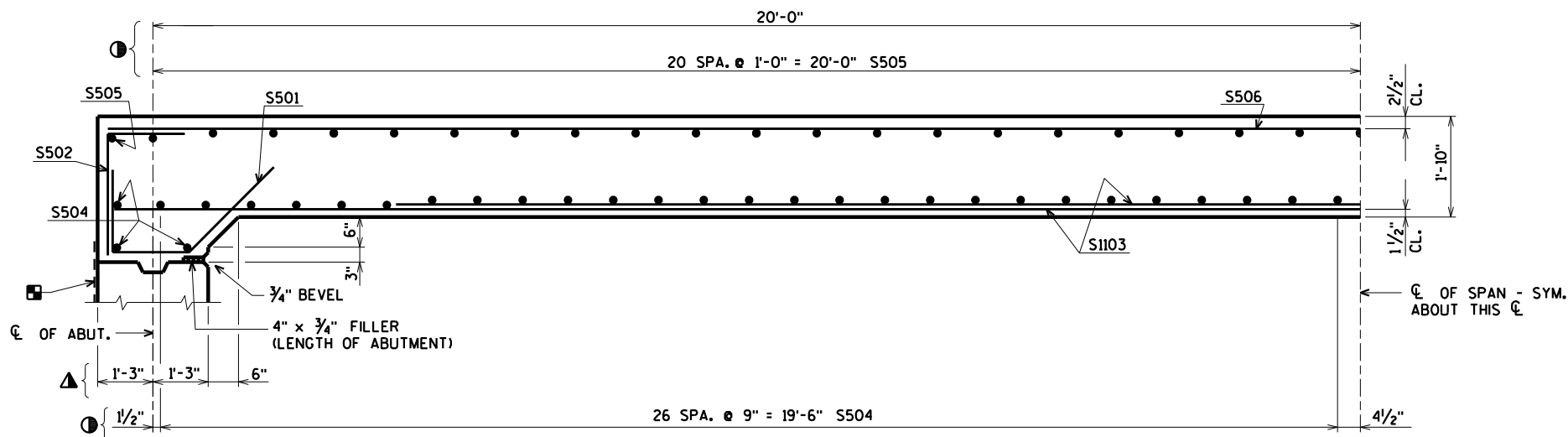
- S501:** A profile with a vertical leg on the left, a horizontal base of 2'-1", a sloped leg of 1'-6", and a total height of 1'-6".
- S502:** A profile with a vertical leg on the left, a horizontal base of 1'-6", and a total height of 5'-0". The vertical leg is labeled "VERT. LEG".
- S607:** A U-shaped profile with a height of 5'-9" and a width of 10".
- S610:** A profile with a vertical leg on the left, a horizontal base of 10", a sloped leg of 4'-10", and a total height of 10".



\$PRNAME\$
U:\42-1013.00 - Sawyer Co. Harvest Lane over Thirty-Three Creek\BRIDGE#421013 sup.dgn

STATE PROJECT NUMBER

8449-00-70

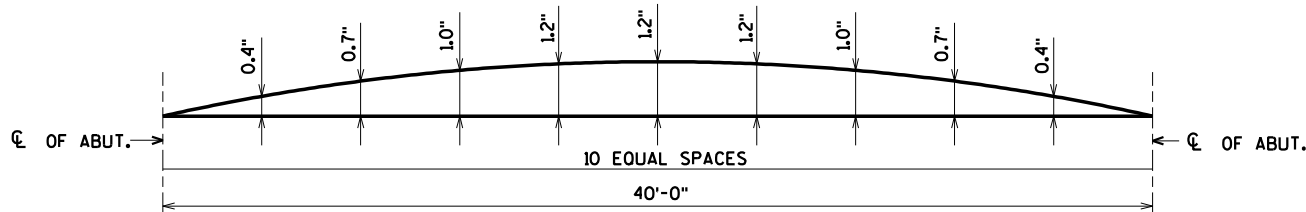


PART LONGITUDINAL SECTION

■ 18" RUBBERIZED MEMBRANE WATERPROOFING

① DIMENSIONS MEASURED ALONG CL. OF HARVEST LANE.

▲ DIMENSIONS MEASURED NORMAL TO CL. OF SUBSTRUCTURE.



CAMBER DIAGRAM

CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION & FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE CL. OF ABUTMENTS AND 5/10 POINTS TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE OF SLAB AND CROWN OR CL.

TOP OF DECK ELEVATIONS

LOCATION	CL. OF W. ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	CL. OF E. ABUT.
N. EDGE OF SLAB	1291.30	1291.31	1291.33	1291.34	1291.34	1291.35	1291.35	1291.34	1291.33	1291.32	1291.30
CL. OF STRUCTURE	1291.57	1291.59	1291.60	1291.61	1291.61	1291.61	1291.61	1291.60	1291.59	1291.57	1291.55
S. EDGE OF SLAB	1291.32	1291.33	1291.34	1291.35	1291.35	1291.34	1291.34	1291.33	1291.31	1291.30	1291.27

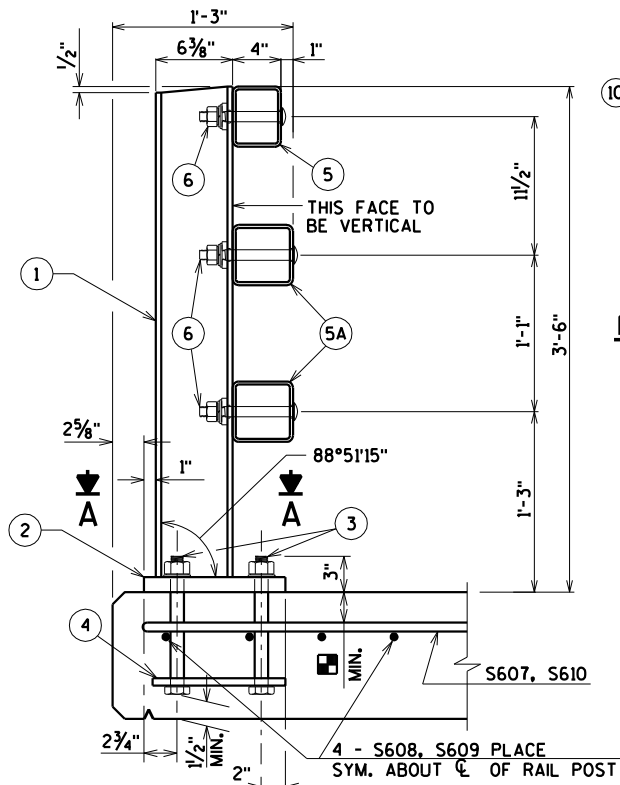
ELEVATIONS SHOWN ARE FINISHED DECK AND DO NOT INCLUDE ALLOWANCES OF DEAD LOAD DEFLECTION AND FUTURE CREEP.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-57-87			
DRAWN BY	CLS	PLANS CK'D.	JWZ
SUPERSTRUCTURE DETAILS			SHEET 11 OF 12

ORIGINAL PLANS PREPARED BY
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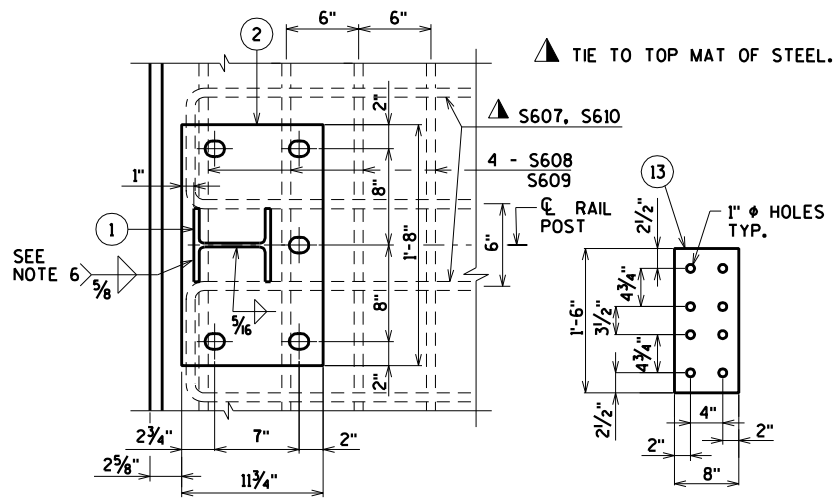
LEGEND

- ① W6 x 25 WITH 1/8" x 1/2" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- ② PLATE 1/4" x 11 3/4" x 1'-8" WITH 1 5/8" x 1 5/8" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.
- ③ ASTM A449 - 1/6" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. ~~USE 1'-9" LONG IN ABUTMENT WINGS. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG. USE 10 3/4" LONG AT ALL OTHER LOCATIONS. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTIBILITY.)~~
- ④ 5/8" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 5/8" DIA. HOLES FOR ANCHOR BOLTS NO. 3
- ⑤ TS 5 x 4 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- ⑤A TS 5 x 5 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- ⑥ 7/8" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/8" x 1 5/8" x 1 5/8" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
- ⑦ 1/2" THK. BACK-UP PLATE WITH 2 - 7/8" x 1/2" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.
- ⑧ 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR 7/8" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.
- ⑨ SPLICE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT".
- ⑩ 3/8" x 3 5/8" x 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
- ⑩A 3/8" x 2 5/8" x 2'-4" PLATE USED IN NO. 5. 3/8" x 3 5/8" x 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
- ⑪ 7/8" A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 1 5/8" x 1/4" LONGIT. SLOTTED HOLES AT FIELD JOINTS ~~AND 5/8" x 2 1/4" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A.~~
- ⑫ 7/8" DIA. x 1/2" LONG THREADED SHOP WELDED STUDS (2 REQ'D).
- ⑬ 3/8" x 8" x 1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.
- ⑭ 7/8" DIA. x 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).
- ⑮ 1" HOLES IN TUBES NO. 5A FOR 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

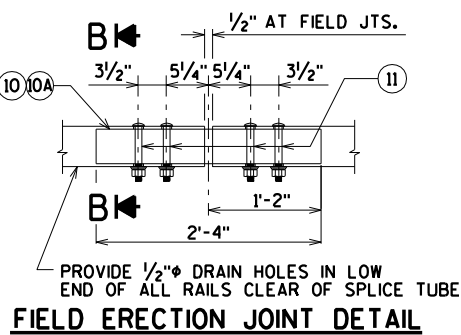


SECTION THRU RAILING ON DECK

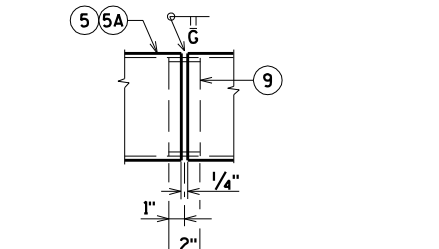
PLACE BELOW TOP MAT SLAB REINFORCEMENT.



SECTION A

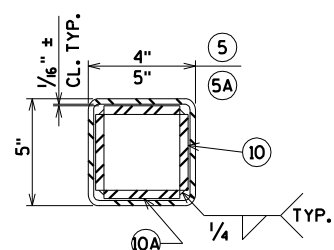


FIELD ERECTION JOINT DETAIL

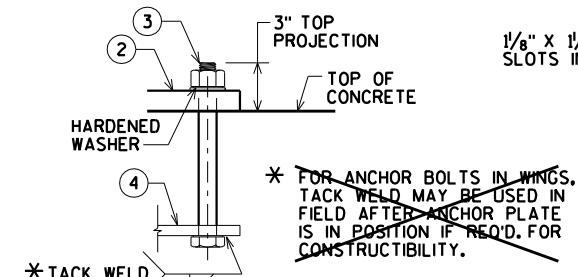


SHOP RAIL SPICE DETAIL

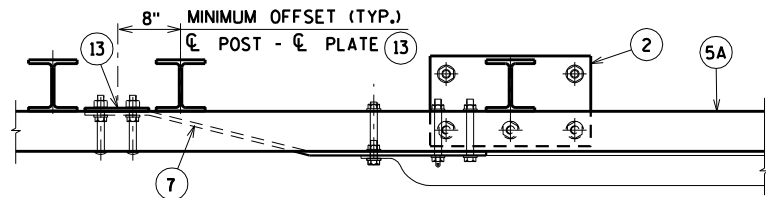
(LOCATION MUST BE SHOWN ON THE SHOP DRAWINGS)



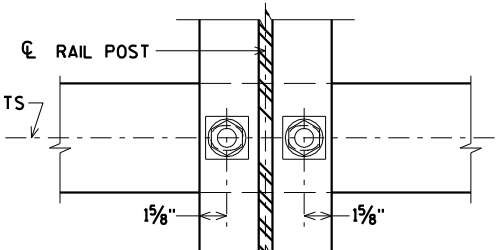
SECTION B



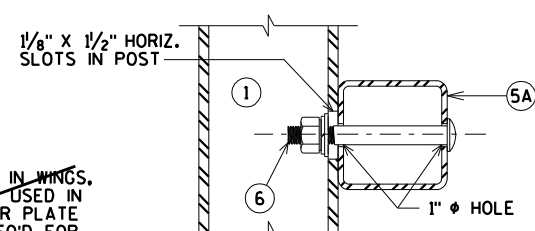
ANCHOR BOLTS



TOP VIEW AT END POST
(THRIE BEAM RAIL ATTACHMENT)



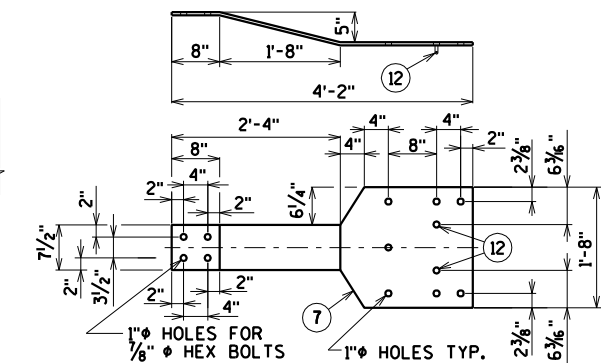
SECTION THRU POST WEB



SECTION THRU RAIL

NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

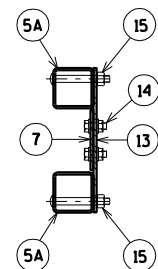
TYPICAL RAIL TO POST CONNECTIONS



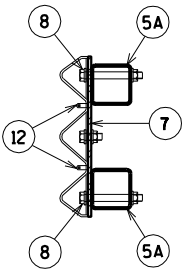
BACK-UP PLATE DETAIL
(AT BEAM GUARD ATTACHMENT)

GENERAL NOTES

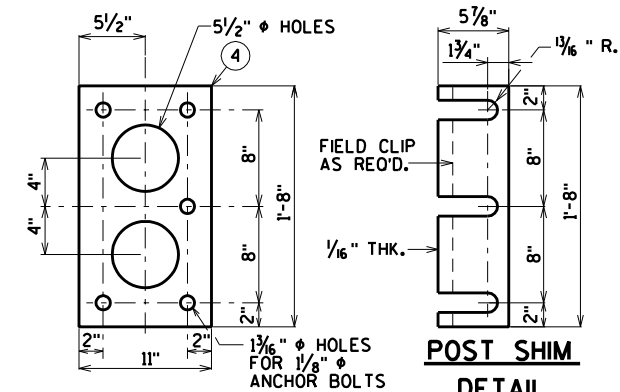
- BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-57-87" WHICH INCLUDES ALL ITEMS SHOWN.
- RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
- THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.
- RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE. RAILS SHALL BE SPLICED IN A PANEL OVER EXPANSION JOINTS.
- ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
- WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
- FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
- POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
- ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.
- WHEN PAINTING IS REQUIRED, ALL MATERIAL EXCEPT ANCHORAGE DETAIL (NO. 3 & 4) SHALL BE PAINTED OVER GALVANIZING WITH APPROVED TIE COAT AND TOP COAT.
- THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).
- PLACE FIRST BOTTOM LONGITUDINAL BAR CLEAR OF DRIP GROOVE.



SECTION C

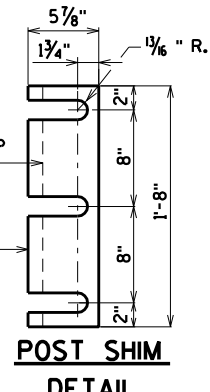


SECTION D

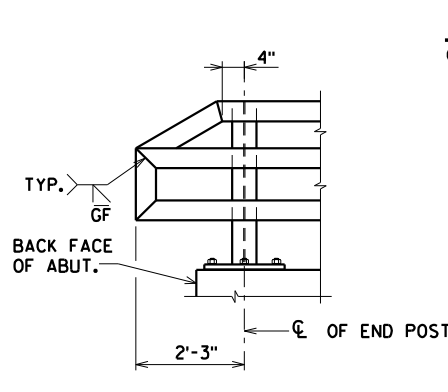


ANCHOR PLATE

(AT RAIL TO DECK CONNECTION)



POST SHIM DETAIL



PART ELEVATION OF RAILING

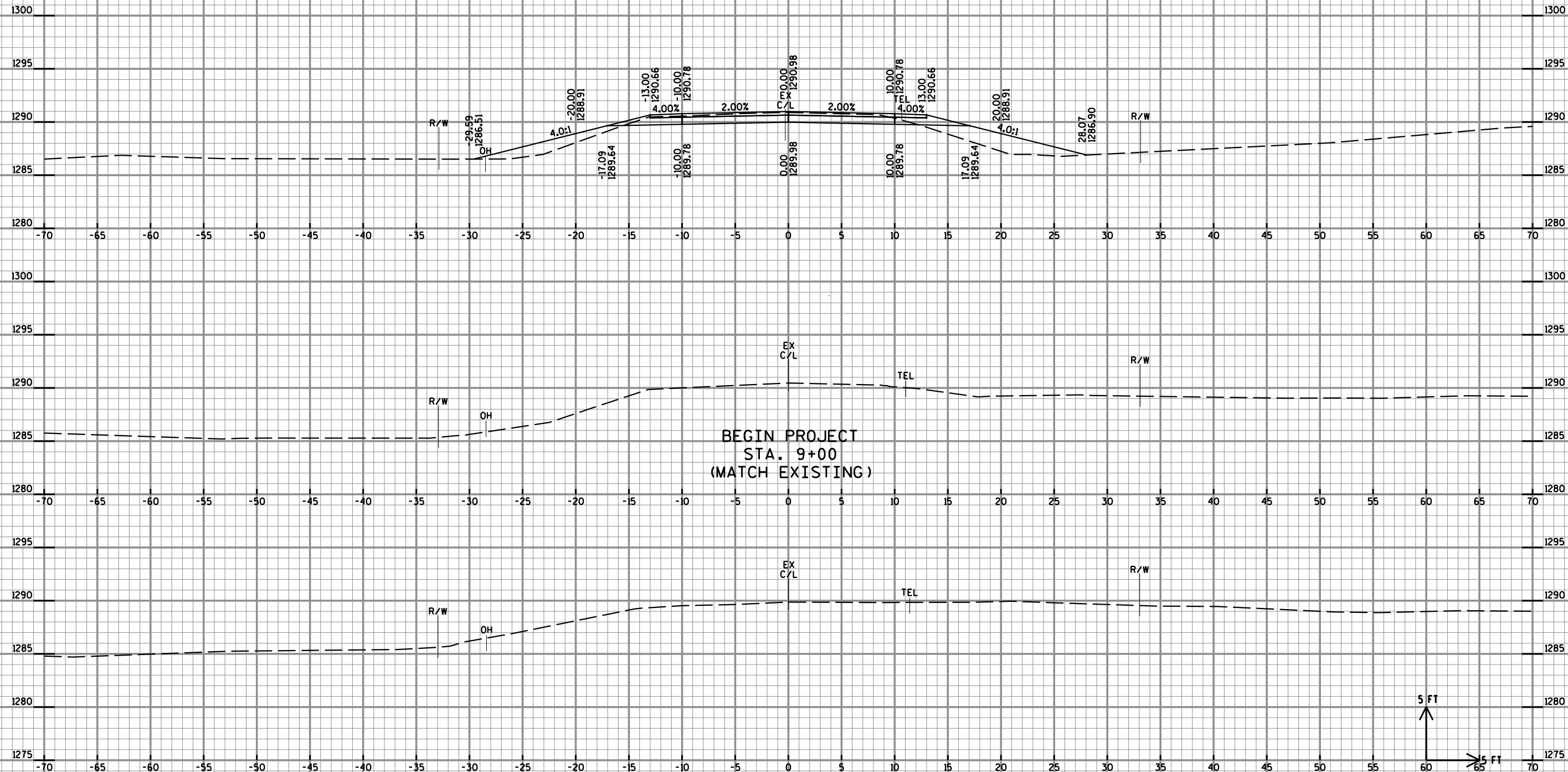
ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-57-87			
DRAWN BY CLS		PLANS CK'D. JWZ	
RAILING TUBULAR TYPE M			SHEET 12 OF 12

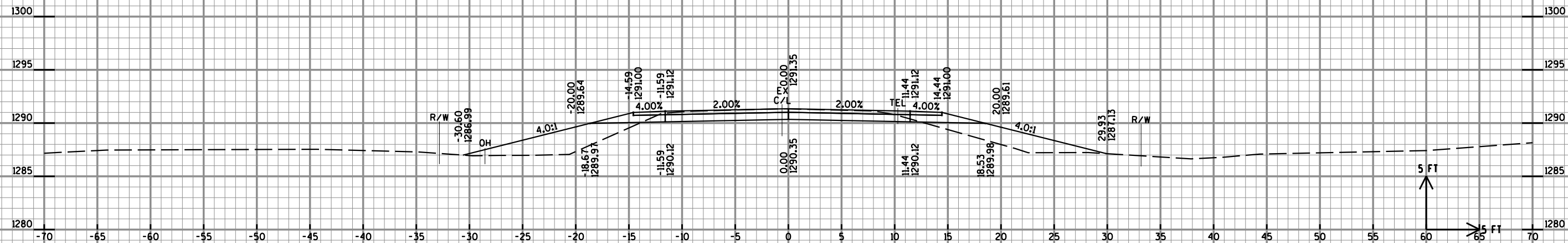
EARTHWORK SUMMARY (CATEGORY 0010)										
DIVISION	STATION	AREA			INCREMENTAL VOLUME			CUMULATIVE VOLUME		
		CUT SF	SALVAGED/ UNUSABLE PAVEMENT MATERIAL SF	FILL SF	CUT (1) CY	SALVAGED/ UNUSABLE PAVEMENT MATERIAL (2) CY	FILL (3) CY	CUT (1) 1.00 CY	EXPANDED FILL (4) 1.30 CY	MASS ORDINATE ±(5) CY
1 HARVEST LANE	9+00.00	21	0	0	20	0	12	20	16	4
	9+25.00	21	0	26	20	0	31	40	56	-16
	9+50.00	22	0	40	22	0	39	62	107	-45
	9+76.73	22	0	40	0	0	0	62	107	-45
	STRUCTURE (B-57-0087)									
	10+19.27	10	0	2	2	0	0	64	107	-43
	10+25.00	10	0	2	14	0	11	78	121	-43
	10+50.00	21	0	23	20	0	25	98	153	-55
	10+75.00	22	0	32	20	0	15	118	173	-55
	11+00.00	22	0	0	0	0	0	118	173	-55
TOTALS					118	0	133			-55
					205.0100 EXCAVATION COMMON = SAY 118			208.0100 BORROW = SAY 55		

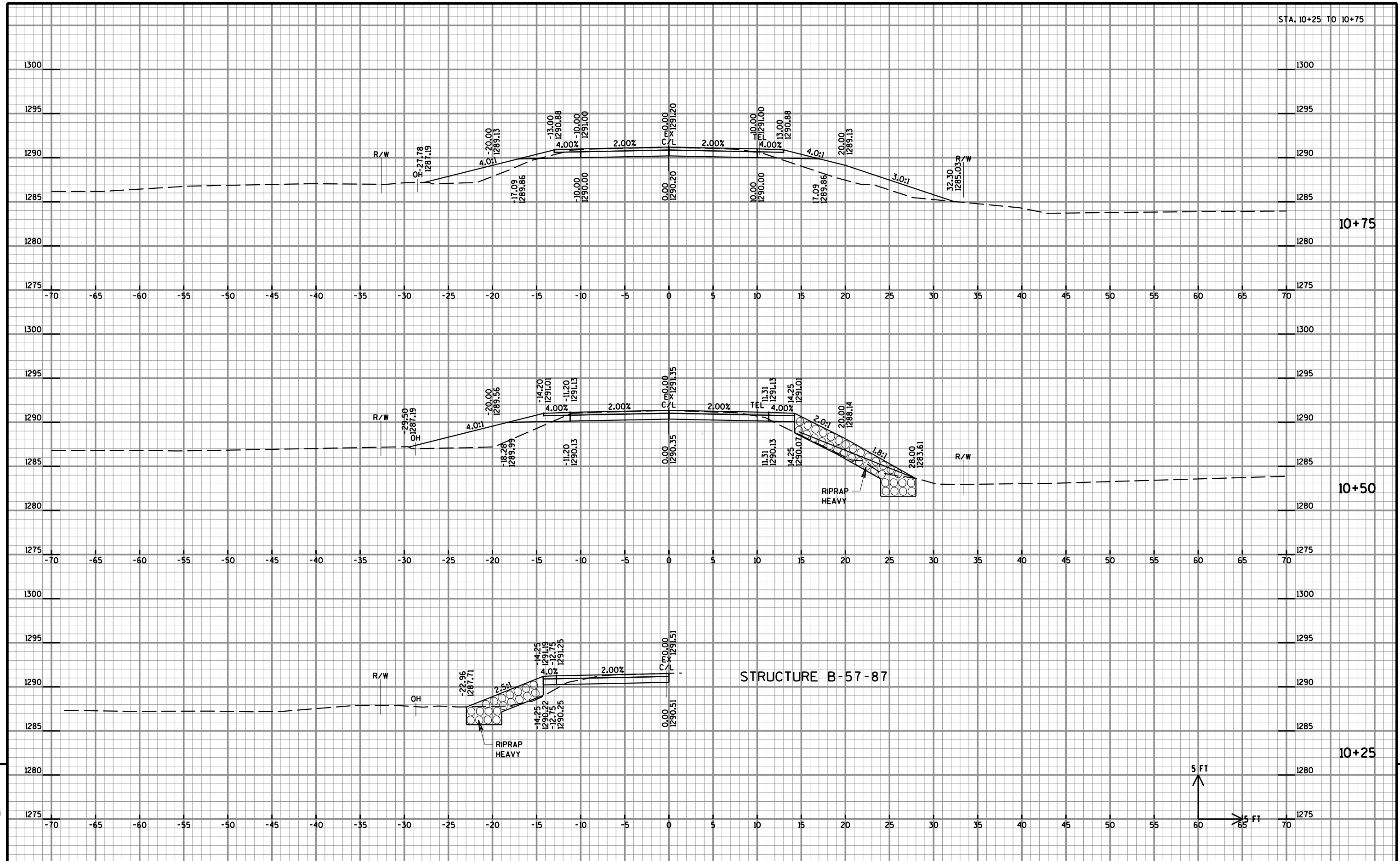
NOTES:
1) EXCAVATION COMMON IS THE SUM OF THE CUT COLUMN. ITEM NUMBER 205.0100
2) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
3) DOES NOT INCLUDE UNUSABLE PAVEMENT EXCAVATION VOLUME.
4) EXPANDED FILL FACTOR = 1.30 EXPANDED FILL = UNEXPANDED FILL * FILL FACTOR
5) THE MASS ORDINATE ± QTY CALCULATED FOR THE DIVISION.

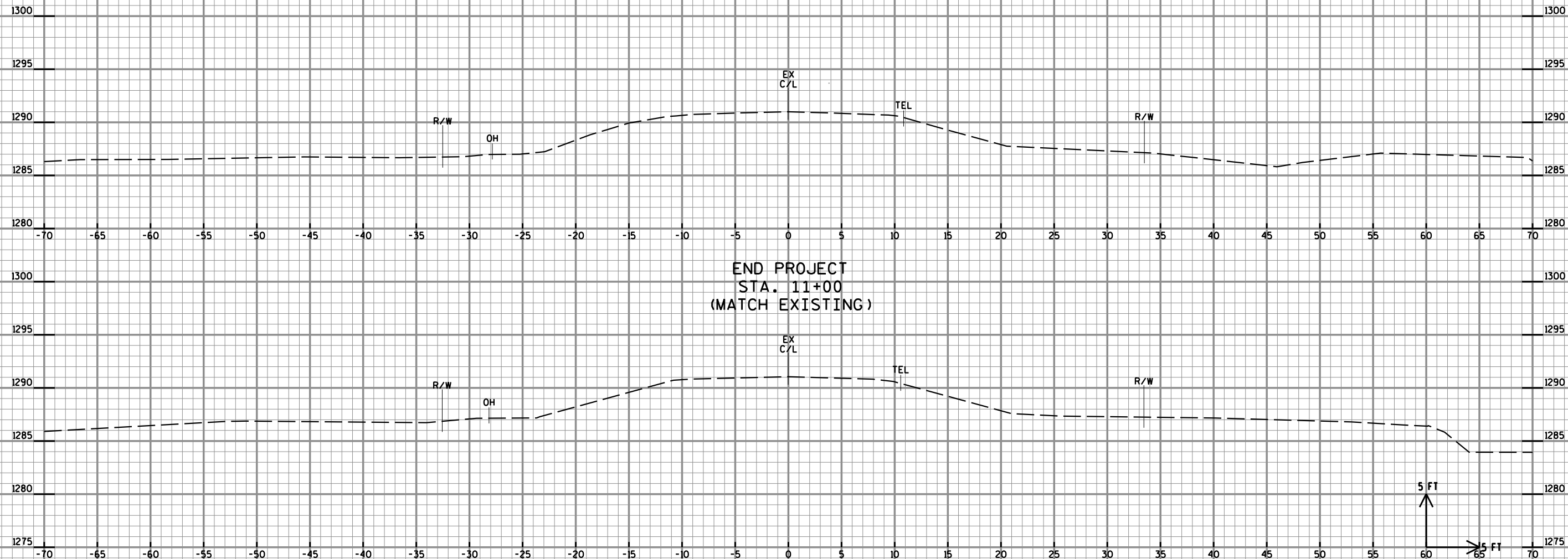
PLUS (+) QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION.
MINUS (-) QUANTITY INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.



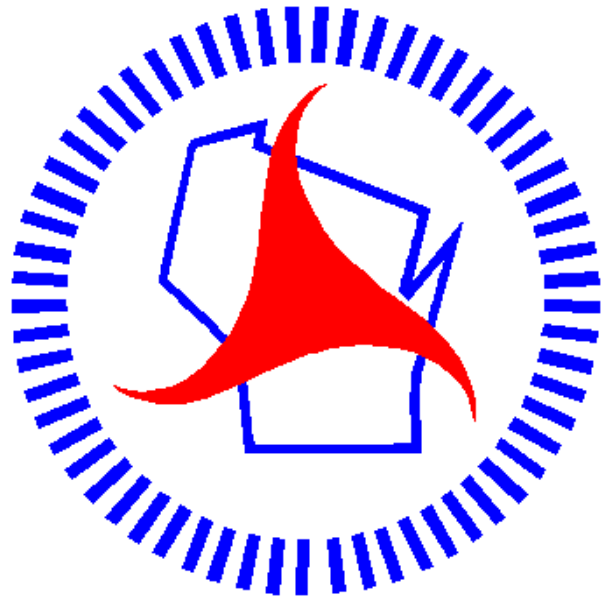
STRUCTURE B-57-87







Notes



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