

SWL

PROJECT ID: 5849-00-74  
WITH: N/A

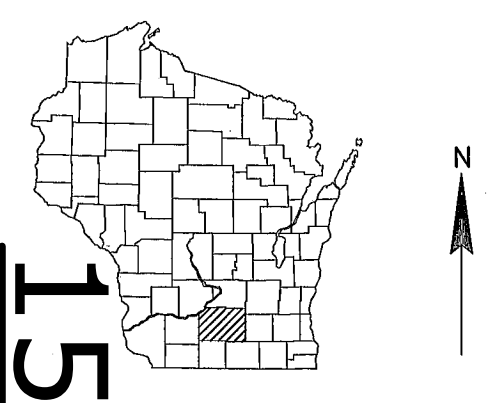
COUNTY: DANE

MAY 2014

ORDER OF SHEETS

- Section No. 1 Title  
Section No. 2 Typical Sections and Details (Includes Erosion Control Plan)  
Section No. 3 Estimate of Quantities  
Section No. 3 Miscellaneous Quantities  
Section No. 4 Right of Way Plat  
Section No. 5 Plan and Profile  
Section No. 6 Standard Detail Drawings  
Section No. 7 Sign Plates  
Section No. 8 Structure Plans  
Section No. 9 Computer Earthwork Data  
Section No. 9 Cross Sections

TOTAL SHEETS = 34



DESIGN DESIGNATION

A.A.D.T. 2014	=	3,100
A.A.D.T. 2034	=	3,400
D.H.V. 2034	=	264
D.D.	=	60/40
T.	=	5.7%
DESIGN SPEED	=	55 M.P.H.
ESALS	=	423,400

CONVENTIONAL SYMBOLS

PLAN	PROFILE
CORPORATE LIMITS	GRADE LINE
PROPERTY LINE	ORIGINAL GROUND
LOT LINE	MARSH OR ROCK PROFILE (To be noted as such)
LIMITED HIGHWAY EASEMENT	SPECIAL DITCH
EXISTING RIGHT OF WAY	GRADE ELEVATION
PROPOSED OR NEW R/W LINE	CULVERT (Profile View)
SLOPE INTERCEPT	UTILITIES
REFERENCE LINE	ELECTRIC
EXISTING CULVERT	FIBER OPTIC
PROPOSED CULVERT (Box or Pipe)	GAS
COMBUSTIBLE FLUIDS	SANITARY SEWER
	STORM SEWER
	TELEPHONE
MARSH AREA	WATER
	UTILITY PEDESTAL
WOODED OR SHRUB AREA	POWER POLE
	TELEPHONE POLE

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

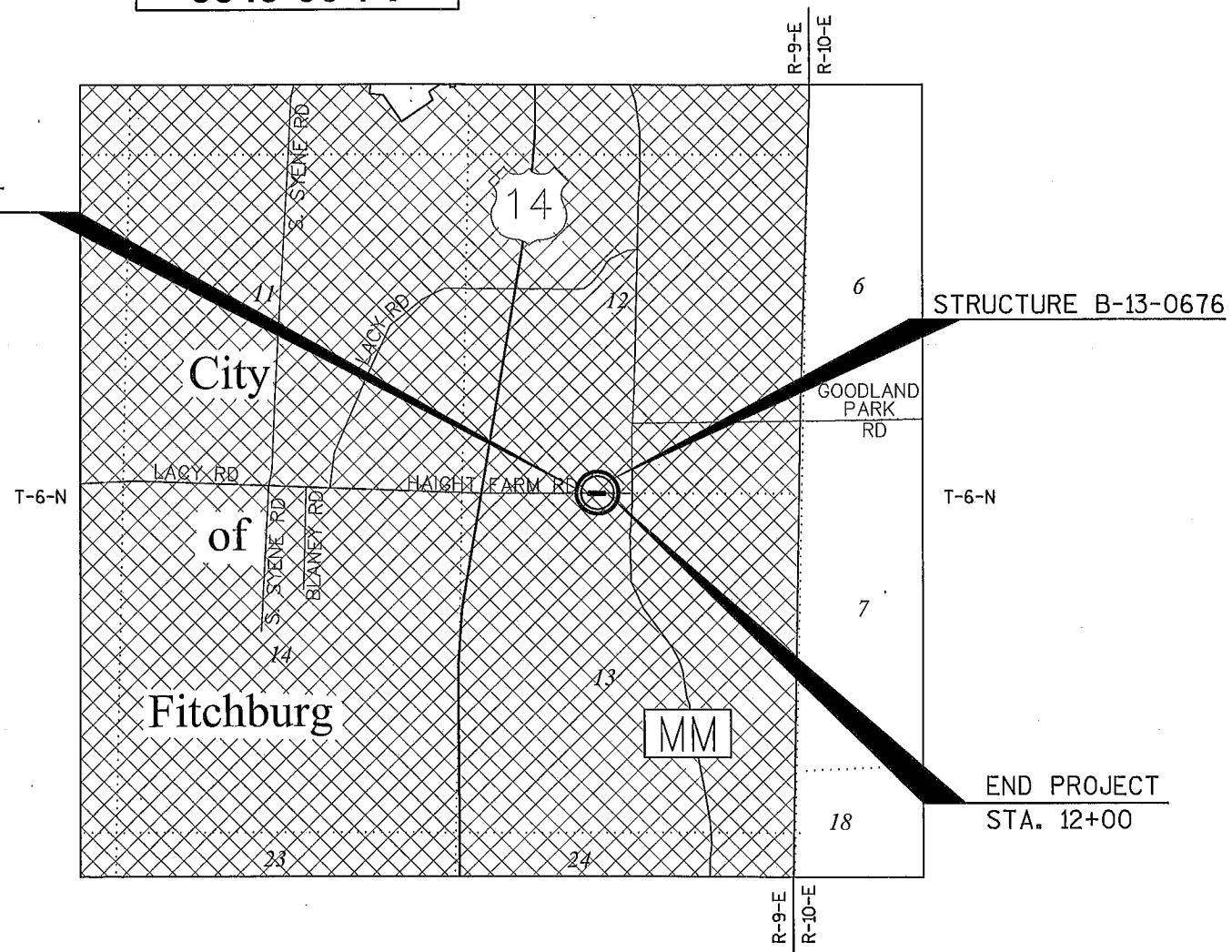
CITY OF FITCHBURG, HAIGHT FARM ROAD

(SWAN CREEK BRIDGE B-13-0676)

LOCAL STREET  
DANE COUNTY

STATE PROJECT NUMBER  
5849-00-74

BEGIN PROJECT  
STA. 9+00  
Y= 456,100.20  
X= 822,459.23



END PROJECT  
STA. 12+00

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5849-00-74	WISC 2014190	1

ACCEPTED FOR  
CITY of FITCHBURG  
1-23-14 (Date) Paul J. Woodman (City Engineer)

ORIGINAL PLANS PREPARED BY

**JEWELL**  
associates engineers, inc.  
Engineers, Planners, Surveyors

WISCONSIN PROFESSIONAL ENGINEER  
ELLERY A. SCHAFER  
E-41742-6  
SPRING GREEN, WI

1/24/2014 (Date) EJA (Signature)

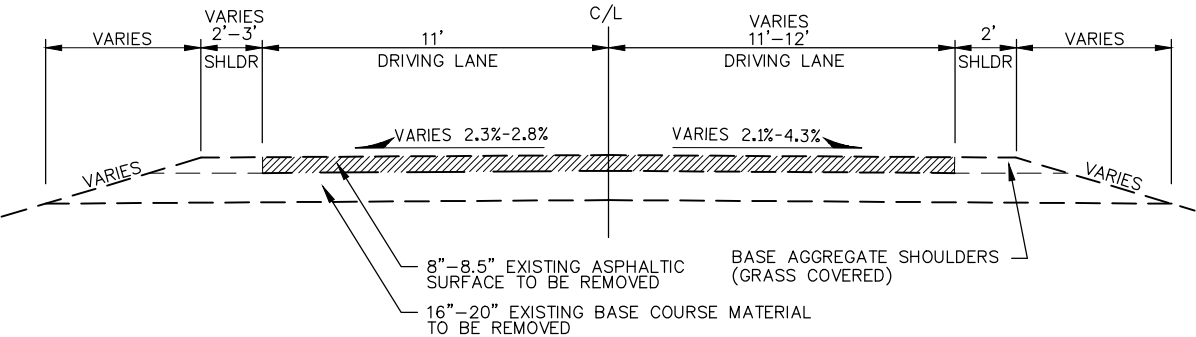
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PREPARED BY  
Surveyor CITY OF FITCHBURG/JEWELL ASSOCIATES ENGINEERS, INC.  
Designer JEWELL ASSOCIATES ENGINEERS, INC.  
Management Consultant KJOHNSON ENGINEERS, INC.

APPROVED FOR THE DEPARTMENT  
DATE: 1/30/14  
Kinsey A. Johnson (Management Consultant Signature)

LIST OF STANDARD ABBREVIATIONS

ABUT	Abutment	LHF	Left—Hand Forward	SEC	Section
ADT	Average Daily Traffic	L	Length of Curve	SHLDR	Shoulder
AADT	Average Annual Daily Traffic	LF	Linear Foot	SW	Sidewalk
BAD	Base Aggregate Dense	MH	Manhole	S	South
BK	Back	MB	Mailbox	SF or SQ FT	Square Feet
BF	Back Face			SY or SQ YD	Square Yard
BM	Bench Mark	ML or M/L	Match Line	STD	Standard
C	Chord Length	N	North	SDD	Standard Detail Drawings
C/L	Center Line	Y	North Grid Coordinate	STH	State Trunk Highways
CC	Center to Center	PLE	Permanent Limited Easement	STA	Station
CTH	County Trunk Highway	PT	Point	SS	Storm Sewer
CY	Cubic Yard	PC	Point of Curvature	SG	Subgrade
CP	Culvert Pipe	PI	Point of Intersection	SE	Superelevation
C & G	Curb and Gutter	PRC	Point of Reverse Curvature	TEL	Telephone
Δ	Delta			TEMP	Temporary
DA	Degree of Arc	PT	Point of Tangency	TI	Temporary Interest
DD	Directional Distribution	POC	Point On Curve	TLE	Temporary Limited Easement
DHV	Design Hourly Volume	POT	Point on Tangent	T	Tangent Length
DIA	Diameter	PVC	Polyvinyl Chloride	T or TN	Town
E	East	PCC	Portland Cement Concrete	TRANS	Transition
X	East Grid Coordinate	LB	Pounds	TL or T/L	Transit Line
EL or ELEV	Elevation	PSI	Pounds Per Square Inch	T	Trucks (percent of)
ESALS	Equivalent Single Axle Loads	PE	Private Entrance	TYP	Typical
EBS	Excavation Below Subgrade	R	Radius	UG	Underground Cable
FF	Face to Face	RR	Railroad	USH	United States Highway
FE	Field Entrance	R	Range	VAR	Variable
FG	Finished Grade	R/L	Reference Line	V	Velocity or Design Speed
FT	Foot	RP	Reference Point	VERT	Vertical
GN	Grid North	RCCP	Reinforced Concrete Culvert Pipe	VC	Vertical Curve
CWT	Hundredweight	REQD	Required	WM	Water Main
HYD	Hydrant	RES	Residence or Residential	WV	Water Valve
INL	Inlet	RT	Right	W	West
ID	Inside Diameter	RHF	Right—Hand Forward	WB	Westbound
INV	Invert	R/W	Right-of—Way		
IP	Iron Pipe or Pin	RD	Road		
IRS	Iron Rod Set	SAN S	Salvaged Sanitary Sewer		
JCT	Junction				



TYPICAL EXISTING SECTION  
(HAIGHT FARM ROAD)

CONTACTS

DESIGN CONSULTANT:

JEWELL ASSOCIATES ENGINEERS, INC.  
560 SUNRISE DR.  
SPRING GREEN, WI 53588  
ATTN: GREG JEWELL, P.E., R.L.S.  
PH: (608) 588-7484  
FAX: (608) 588-9322  
E-MAIL: greg.jewell@jewellassoc.com

DNR LIAISON:

STATE OF WISCONSIN  
DNR SOUTH CENTRAL REGION HEADQUARTERS  
3911 FISH HATCHERY ROAD  
FITCHBURG, WI 53711-5397  
ATTN: ERIC HEGGELUND  
PH: (608) 275-3301  
FAX: (608) 275-3338  
E-MAIL: eric.heggelund@wisconsin.gov

CITY OF FITCHBURG

GUS VANDERWEGEN, P.E. — PROJECT ENGINEER  
5520 LACY ROAD  
FITCHBURG, WI 53711  
PH: (608) 270-4266  
CELL: (608) 576-5665  
EMAIL: Gus.VanderWegen@city.fitchburg.wi.us

UTILITIES

TELEPHONE

AT&T — WISCONSIN  
316 WEST WASHINGTON AVENUE, ROOM 301  
MADISON, WI 53703  
ATTN: CAROL ANASON  
PH: (608) 252-2385  
CELL: (920) 475-2799  
FAX: (608) 252-2238  
EMAIL: ca2624@att.com

CABLE TV

CHARTER COMMUNICATIONS  
2701 DANIELS STREET  
MADISON, WI 53718  
ATTN: BRANDON STORM  
PH: (608) 274-3822 EXT. 6642  
FAX: (608) 274-3198  
E-MAIL: brandon.storm@chartercom.com

ELECTRIC

MADISON GAS & ELECTRIC  
133 SOUTH BLAIR STREET  
MADISON, WI 53788  
ATTN: RICH PARKER  
PH: (608) 252-7379  
CELL: (608) 444-9619  
FAX: (608) 252-5623  
EMAIL: RParker@mge.com

GAS

MADISON GAS & ELECTRIC  
133 SOUTH BLAIR STREET  
MADISON, WI 53788  
ATTN: STEVE BEVERSDORF, P.E.  
PH: (608) 252-1552  
CELL: (608) 444-9620  
EMAIL: SBeversdorf@mge.com



\*\* DENOTES UTILITIES THAT ARE NOT DIGGERS  
HOTLINE MEMBERS

GENERAL NOTES

COORDINATES AND BEARINGS ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), DANE COUNTY.

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.

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE, AND IS NOT SHOWN ON THE CROSS SECTIONS BUT IS MEASURED AND PAID FOR AS EXCAVATION COMMON. EXACT LOCATIONS OF EBS WILL BE DETERMINED BY THE ENGINEER.

UNLESS SHOWN OTHERWISE DISTURBED AREAS SHOWN WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS ARE TO BE FERTILIZED (TYPE B), SEEDED (USE SEED MIX NO. 20), SEEDING TEMPORARY, AND EROSION MAT URBAN CLASS I TYPE B/MULCHED AS DIRECTED BY THE ENGINEER. SEED MIX #60 SHALL BE PLACED ON POST CONSTRUCTION WET AREAS.

WHEN THE QUANTITY OF THE ITEM OF BASE AGGREGATE DENSE OR ASPHALTIC SURFACE IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE COURSE SHOWN ON THE PLANS IS APPROXIMATE, AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER IN THE FIELD.

SILT FENCE AND CULVERT PIPE CHECKS WITH ROCK BAGS SHALL BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER IN THE FIELD. SILT FENCE SHALL BE PLACED PRIOR TO CONSTRUCTION AND IN PLACE PRIOR TO STRUCTURE REMOVAL.

MULCH/EROSION MAT URBAN CLASS I TYPE B ALL MAINLINE SLOPES AS DIRECTED BY THE ENGINEER IN THE FIELD.

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

FILL EXPANSION IS VARIABLE AND IS ESTIMATED AT 25%.

ADJUST DITCH GRADING AS NECESSARY TO FIT FIELD CONDITIONS AND AS DIRECTED BY THE ENGINEER.

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

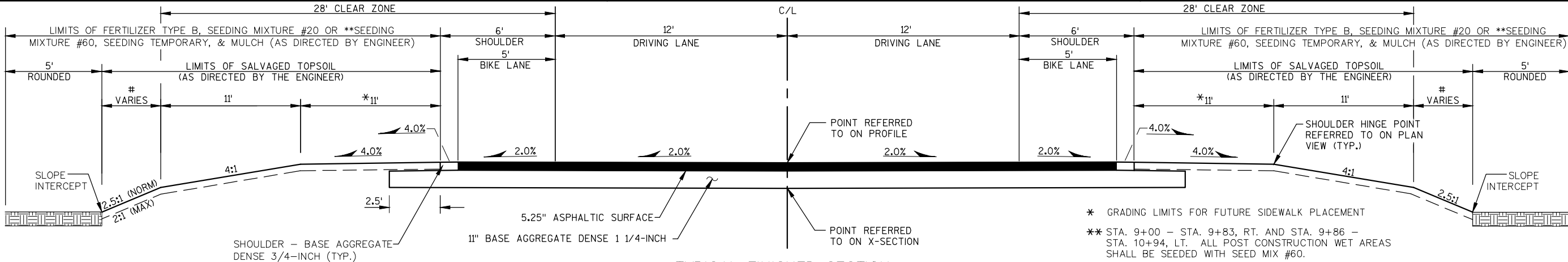
THE EXACT LOCATION OF PRIVATE ENTRANCES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

WETLANDS ARE PRESENT WITHIN THE PROJECT LIMITS. THE CONTRACTOR SHALL NOT OPERATE EQUIPMENT BEYOND THE SLOPE INTERCEPTS FROM STA. 9+00 — STA. 11+08, RT. AND STA. 9+86 — STA. 10+94, LT.

INLET AND OUTLET ELEVATIONS FOR CULVERT PIPES AS SHOWN ON THE PLAN MAY BE ADJUSTED TO FIT EXISTING FIELD CONDITIONS.

REMOVAL OF ASPHALTIC/CONCRETE SURFACES WHERE AN ABUTTING ASPHALTIC SURFACE IS TO REMAIN IN PLACE SHALL REQUIRE A SAWCUT MEETING THE APPROVAL OF THE ENGINEER IN THE FIELD.

5 1/4-INCHES OF ASPHALTIC SURFACE SHALL BE CONSTRUCTED WITH A 2-INCH UPPER LAYER AND A 3 1/4-INCH LOWER LAYER.

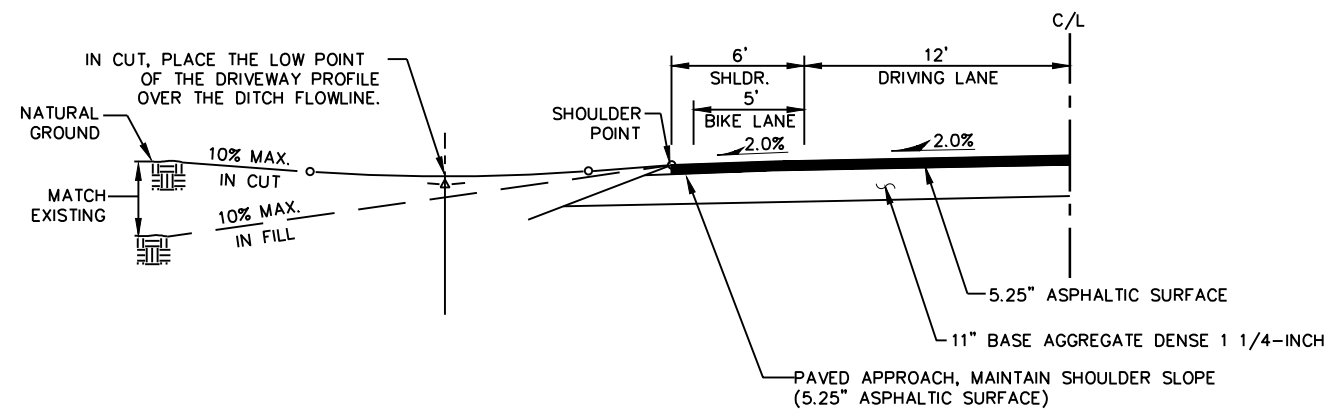


TYPICAL FINISHED SECTION  
(HAIGHT FARM ROAD)

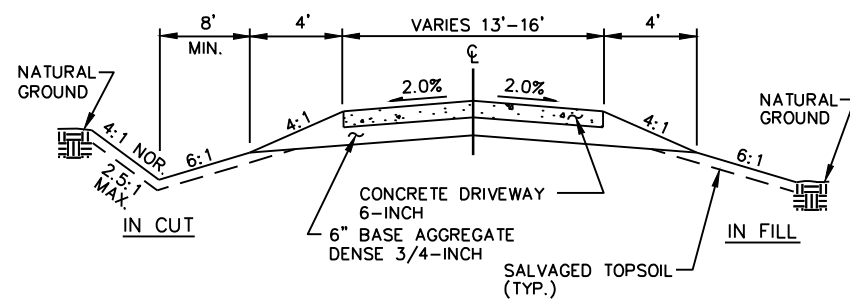
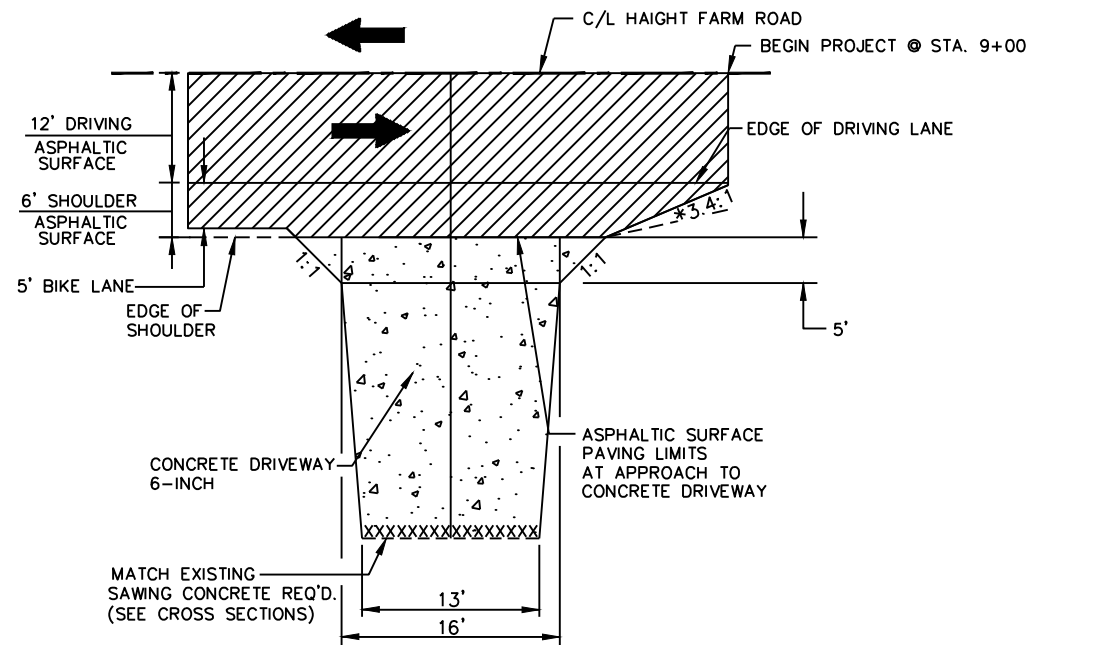
\* GRADING LIMITS FOR FUTURE SIDEWALK PLACEMENT

\*\* STA. 9+00 — STA. 9+83, RT. AND STA. 9+86 — STA. 10+94, LT. ALL POST CONSTRUCTION WET AREAS SHALL BE SEEDED WITH SEED MIX #60.

# LIMITS OF EROSION MAT URBAN CLASS I TYPE B IN AREAS OF 2:1 — 2.5:1 SIDESLOPES (MULCH NOT APPLIED IN AREAS OF EROSION MAT PLACEMENT)

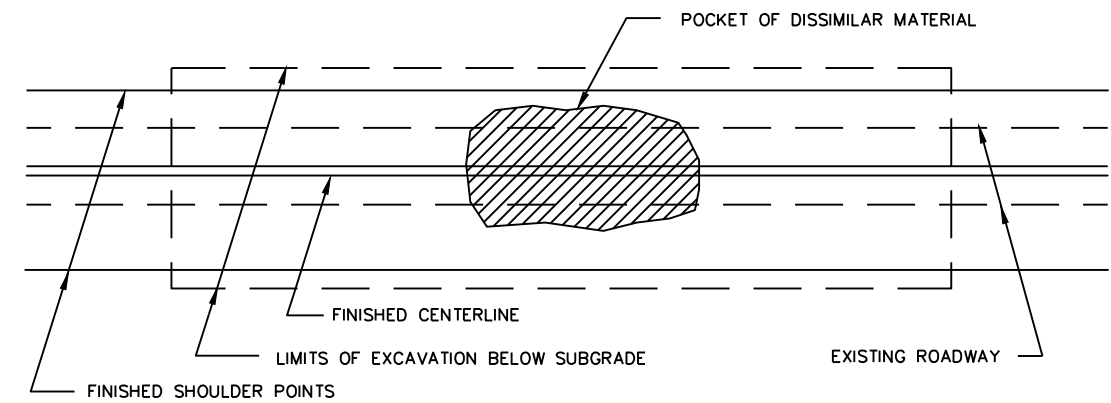


TYPICAL P.E. PROFILE

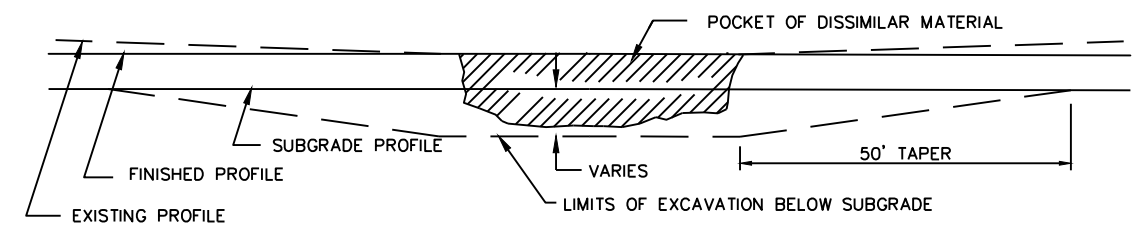
TYPICAL CROSS-SECTION FOR P.E.  
P.E. - STA. 9+36, LT.PLAN VIEW  
APPROACH AT P.E.

TYPICAL FIELD ENTERANCE (P.E.) DETAILS

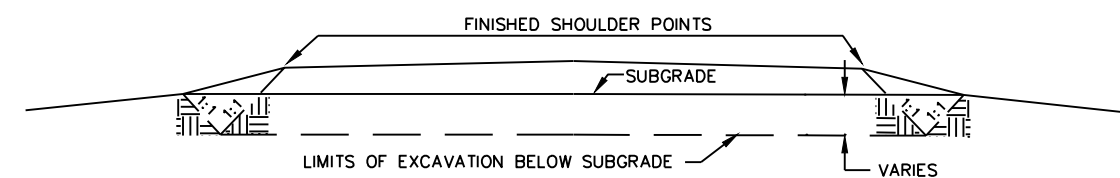
LIMITS OF ASPHALTIC SURFACE  
 LIMITS OF CONCRETE DRIVEWAY 6-INCH



PLAN VIEW



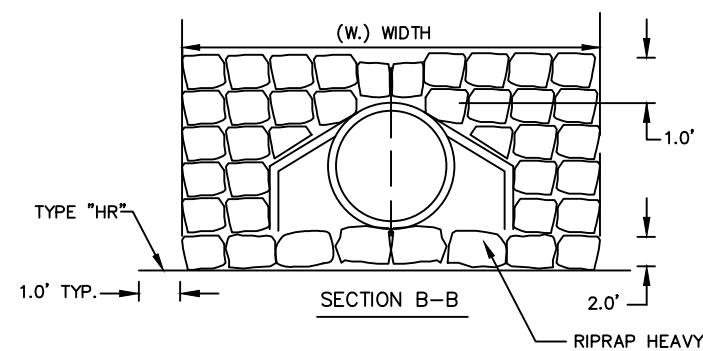
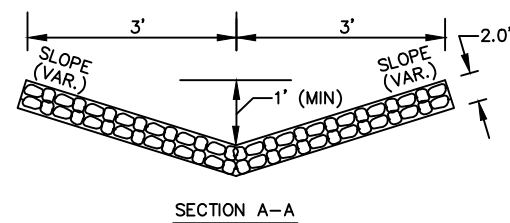
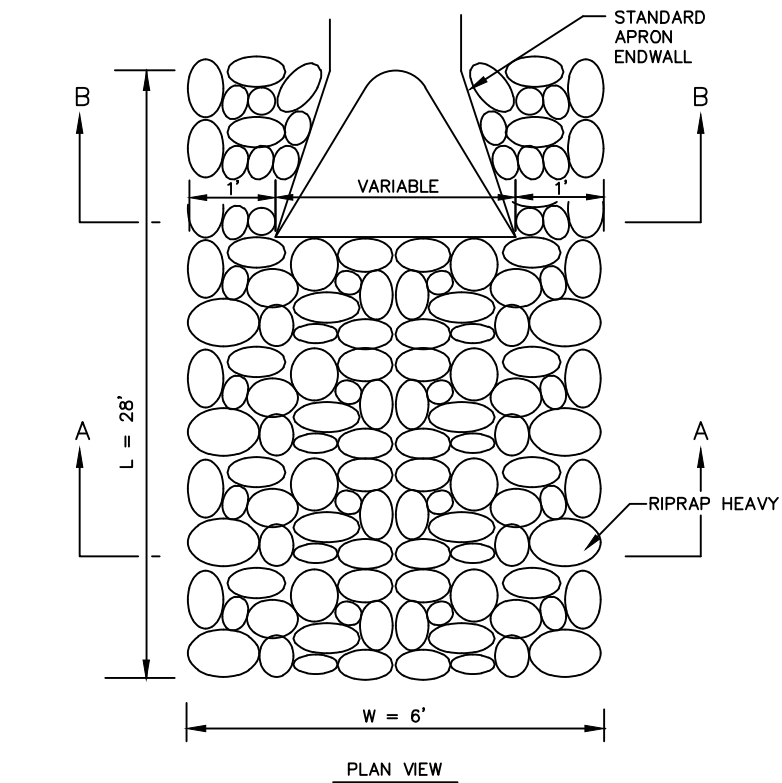
PROFILE VIEW



CROSS SECTION VIEW

1. EXACT LOCATION OF E.B.S. (EXCAVATION BELOW SUBGRADE) SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
2. E.B.S. AREA TO BE BACKFILLED WITH MATERIAL ACCEPTABLE TO THE ENGINEER. BACKFILL MUST BE HOMOGENEOUS WITH ADJOINING FILL MATERIAL.
3. THE FILL SECTION WITHIN 100' OF THE MOUTH OF THE CUT MUST BE KEPT 2' BELOW SUBGRADE UNTIL E.B.S. IS COMPLETED. LATERAL LIMITS OF EXCAVATION SHALL BE THE SUBGRADE SHOULDER POINTS.

## EXCAVATION BELOW SUBGRADE (E.B.S.)

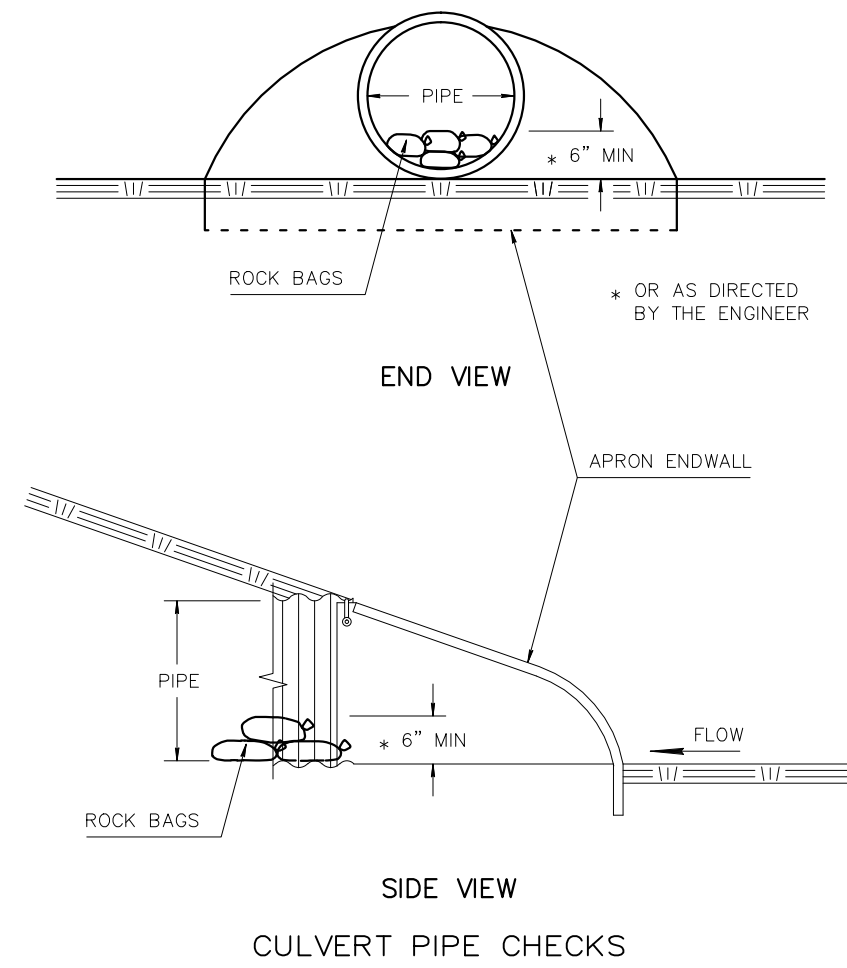


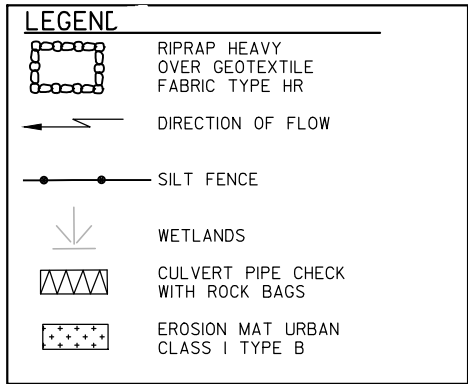
RIPRAP HEAVY DISCHARGE APRON

SEE MISCELLANEOUS QUANTITIES  
AND PLAN & PROFILE SHEET  
FOR LOCATIONS AND DIMENSIONS

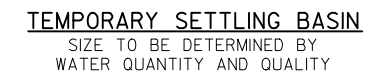
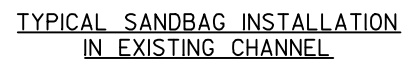
	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.34	.44	.30	.37	.50	.34	.41	.56
MEDIAN STRIP-TURF	.19	.20	.24	.19	.22	.26	.20	.23	.30	.20	.25	.30
	.24	.26	.30	.25	.28	.33	.26	.30	.37	.27	.32	.40
SIDE SLOPE- TURF			.25			.27			.28			.30
			.32			.34			.36			.38
PAVEMENT												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

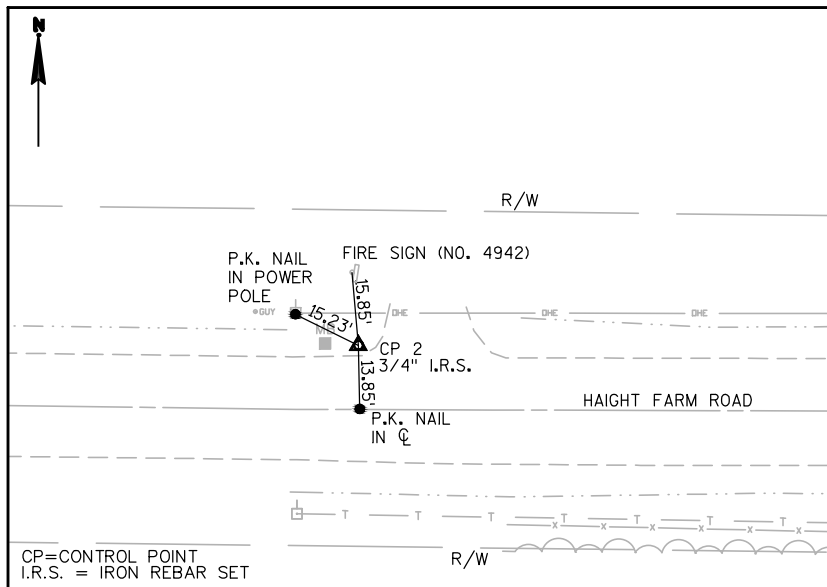
TOTAL PROJECT AREA= 0.69 ACRES  
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.60 ACRES



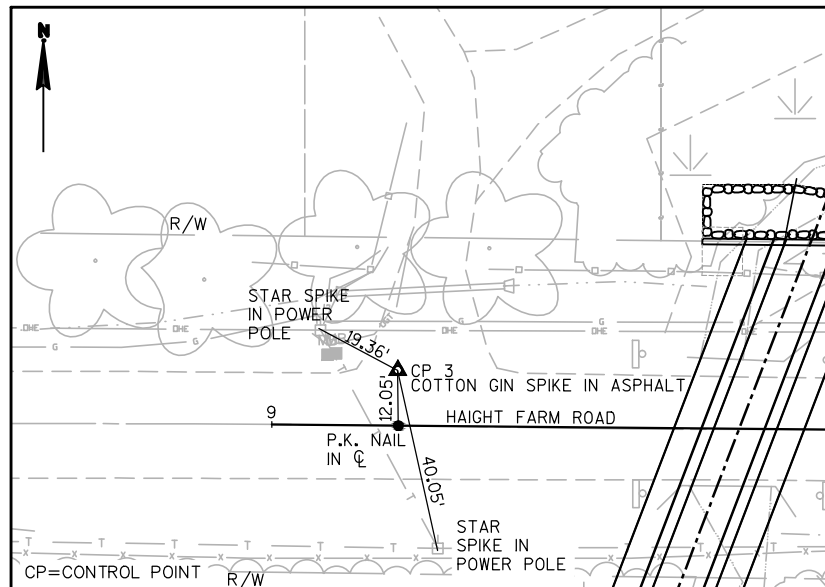


1. TEMPORARY SETTLING BASIN SIZE TO BE DETERMINED BY WATER QUANTITY AND QUALITY.
2. THE TEMPORARY SETTLING BASIN SHALL BE COMPLETED PRIOR TO BEGINNING OF PUMPING OPERATIONS. CONTRACTOR SHALL PUMP WATER FOR STRUCTURE EXCAVATION TO BASIN PRIOR TO DISCHARGE INTO THE STREAM.
3. BASIN SHALL BE KEPT LESS THAN 10% FULL OF SEDIMENT. GEOTEXTILE FABRIC TYPE DF AND SEDIMENTS SHALL BE DISPOSED OF BY THE CONTRACTOR OFF OF THE PROJECT SITE.
4. TEMPORARY SETTLING BASIN IS PAID FOR AS EROSION BALES AND GEOTEXTILE FABRIC TYPE DF.
5. PUMPING DEVICE OR ENGINEER APPROVED EQUAL WILL BE PAID FOR UNDER THE BID ITEM "PIPE ARCH CORRUGATED STEEL 128x83-INCH" AND "CONCRETE MASONRY ENDWALLS".
6. SANDBAGS ARE CONSIDERED INCIDENTAL TO THE BID ITEM "POLYETHYLENE SHEETING".

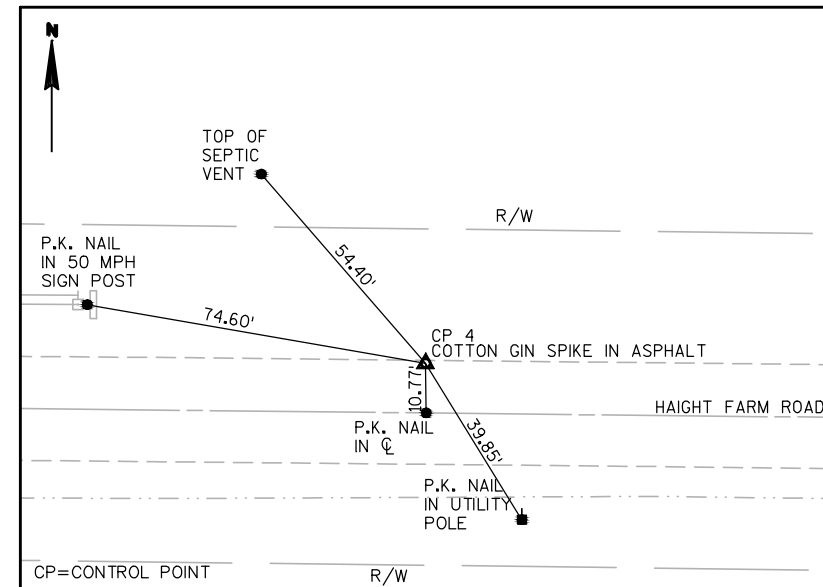


**TIES TO C.P.#2**

STA. 6+55.81; 13.92' LT.  
Y = 456,114.70  
X = 822,215.09

**TIES TO C.P.#3**

STA. 9+27.24; 12.01' LT.  
Y = 456,111.95  
X = 822,486.59

**TIES TO C.P.#4**

STA. 13+82.52; 10.75' LT.  
Y = 456,106.04  
X = 822,941.85

**△ CONTROL POINTS**

No.	STATION	DESCRIPTION	Y	X
2	6+55.81	3/4" IRON REBAR SET IN GRAVEL SHOULDER 335'± WEST OF P-13-0933, 13.92' LT.	456,114.70	822,215.09
3	9+27.24	COTTON GIN SPIKE SET IN ASPHALT 60'± WEST OF P-13-0933, 12.01' LT.	456,111.95	822,486.59
4	13+82.52	COTTON GIN SPIKE SET IN ASPHALT 375'± EAST OF P-13-0933, 10.75' LT.	456,106.04	822,941.85

**HAIGHT FARM ROAD STATION LAYOUT**

STATION	Y	X	COMMENTS
9+00	456100.20	822459.23	BEGIN PROJECT
9+50	456099.72	822509.23	-
9+90.26	456099.32	822549.49	CULVERT 1
10+00	456099.23	822559.23	-
10+01.43	456099.21	822560.66	CULVERT 2
10+12.59	456099.10	822571.82	CULVERT 3
10+50	456098.74	822609.22	-
11+00	456098.25	822659.22	-
11+50	456097.76	822709.22	-
12+00	456097.27	822759.22	END PROJECT

**ROBERT S. & JENNI L.  
HAIGHT**

CHARTER COMMUNICATIONS  
AT&T - WISCONSIN  
(UNDERGROUND TELEPHONE)

**MICHAEL CROFT &  
SONJIA J. SHORT**

**ROBERT F. DEEGAN &  
JOHN H. DEEGAN**

MADISON GAS & ELECTRIC  
(UNDERGROUND GAS)  
MADISON GAS & ELECTRIC  
(OVERHEAD ELECTRIC)

EXISTING C/L HAIGHT FARM ROAD

**BENNET TRUST DATED  
MARCH 31, 1999**

**END PROJECT  
STA. 12+00**  
Y= 456,097.27  
X= 822,759.22

DATE 18MAR14		E S T I M A T E O F Q U A N T I T I E S			
LINE				5849-00-74	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	201.0105	CLEARING	STA	3.000	3.000
0020	201.0205	GRUBBING	STA	3.000	3.000
0030	203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS (STATION) 01. 10+00	LS	1.000	1.000
0040	204.0100	REMOVING PAVEMENT	SY	70.000	70.000
0050	205.0100	EXCAVATION COMMON **P**	CY	270.000	270.000
0060	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 01. B-13-0676	LS	1.000	1.000
0070	208.0100	BORROW	CY	1,675.000	1,675.000
0080	209.0100	BACKFILL GRANULAR	CY	70.000	70.000
0090	210.0100	BACKFILL STRUCTURE	CY	1,270.000	1,270.000
0100	213.0100	FINISHING ROADWAY (PROJECT) 01. 5849-00-74	EACH	1.000	1.000
0110	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	45.000	45.000
0120	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	930.000	930.000
0130	416.0160	CONCRETE DRIVEWAY 6-INCH	SY	40.000	40.000
0140	455.0605	TACK COAT	GAL	30.000	30.000
0150	465.0105	ASPHALTIC SURFACE	TON	350.000	350.000
0160	504.0900	CONCRETE MASONRY ENDWALLS	CY	42.000	42.000
0170	505.0410	BAR STEEL REINFORCEMENT HS CULVERTS	LB	3,950.000	3,950.000
0180	505.0610	BAR STEEL REINFORCEMENT HS COATED CULVERTS	LB	520.000	520.000
0190	520.0124	CULVERT PIPE CLASS III 24-INCH	LF	48.000	48.000
0200	520.1024	APRON ENDWALLS FOR CULVERT PIPE 24-INCH	EACH	2.000	2.000
0210	524.0115	CULVERT PIPE SALVAGED 15-INCH	LF	35.000	35.000
0220	606.0300	RIPRAP HEAVY	CY	120.000	120.000
0230	619.1000	MOBILIZATION	EACH	1.000	1.000
0240	625.0500	SALVAGED TOPSOIL **P**	SY	1,950.000	1,950.000
0250	627.0200	MULCHING **P**	SY	3,350.000	3,350.000
0260	628.1104	EROSION BALES	EACH	35.000	35.000
0270	628.1504	SILT FENCE	LF	740.000	740.000
0280	628.1520	SILT FENCE MAINTENANCE	LF	1,480.000	1,480.000
0290	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	4.000	4.000
0300	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	2.000	2.000
0310	628.2008	EROSION MAT URBAN CLASS I TYPE B	SY	210.000	210.000
0320	628.5505	POLYETHYLENE SHEETING	SY	20.000	20.000
0330	628.7555	CULVERT PIPE CHECKS	EACH	4.000	4.000
0340	629.0210	FERTILIZER TYPE B **P**	CWT	2.000	2.000
0350	630.0120	SEEDING MIXTURE NO. 20 **P**	LB	60.000	60.000
0360	630.0160	SEEDING MIXTURE NO. 60 **P**	LB	2.000	2.000
0370	630.0200	SEEDING TEMPORARY **P**	LB	30.000	30.000
0380	630.0300	SEEDING BORROW PIT **P**	LB	18.000	18.000
0390	633.5100	MARKERS ROW	EACH	13.000	13.000
0400	633.5200	MARKERS CULVERT END	EACH	4.000	4.000
0410	638.2602	REMOVING SIGNS TYPE II	EACH	4.000	4.000
0420	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	4.000	4.000
0430	642.5001	FIELD OFFICE TYPE B	EACH	1.000	1.000
0440	643.0100	TRAFFIC CONTROL (PROJECT) 01. 5849-00-74	EACH	1.000	1.000
0450	645.0105	GEOTEXTILE FABRIC TYPE C	SY	350.000	350.000
0460	645.0111	GEOTEXTILE FABRIC TYPE DF SCHEDULE A	SY	40.000	40.000
0470	645.0120	GEOTEXTILE FABRIC TYPE HR	SY	235.000	235.000
0480	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	1,200.000	1,200.000
0490	650.4500	CONSTRUCTION STAKING SUBGRADE	LF	300.000	300.000
0500	650.5000	CONSTRUCTION STAKING BASE	LF	300.000	300.000

DATE 18MAR14		E S T I M A T E O F Q U A N T I T I E S			
LINE					5849-00-74
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0510	650.6000	CONSTRUCTION STAKING PIPE CULVERTS	EACH	4.000	4.000
0520	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT	LS	1.000	1.000
		(STRUCTURE) 01. B-13-0676			
0530	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL	LS	1.000	1.000
		CONTROL (PROJECT) 01. 5849-00-74			
0540	650.9920	CONSTRUCTION STAKING SLOPE STAKES	LF	300.000	300.000
0550	690.0150	SAWING ASPHALT	LF	46.000	46.000
0560	690.0250	SAWING CONCRETE	LF	13.000	13.000
0570	715.0502	INCENTIVE STRENGTH CONCRETE STRUCTURES	DOL	252.000	252.000
0580	SPV.0090	SPECIAL 01. PIPE ARCH CORRUGATED STEEL	LF	100.000	100.000
		128X83 INCH			
0590	SPV.0090	SPECIAL 02. CULVERT PIPE CORRUGATED	LF	200.000	200.000
		STEEL 66 INCH			



3

CLEARING & GRUBBING			
STATION - STATION	LOCATION	201.0105 CLEARING (STA)	201.0205 GRUBBING (STA)
9+00 - 12+00	MAINLINE	3	3
TOTALS =		3	3

REMOVING PAVEMENT		
STATION	LOCATION	204.0100 (SY)
9+36	MAINLINE, LT.	70
TOTALS =		70

3

EARTHWORK SUMMARY																			
CATEGORY	FROM/TO STA	LOCATION	**P** (1) 205.0100 COMMON EXCAVATION		SALVAGED/ UNUSABLE PAVEMENT MATERIAL (CY) (4)	AVAILABLE MATERIAL (CY) (5)	205.0400 MARSH EXCAVATION (CY) (6)	205.0200 ROCK EXCAVATION (CY) (7)	REDUCED MARSH IN FILL (CY) 0.6 (8)	REDUCED EBS IN FILL (CY) 0.8 (9)	EXPANDED MARSH BACKFILL (CY) 1.5 (10)	EXPANDED EBS BACKFILL (CY) 1.5 (11)	EXPANDED ROCK (CY) 1.1 (12)	UNEXPANDED FILL (CY)	EXPANDED FILL (CY) 1.25 (13)	MASS ORDINATE +/- (CY) (14)	WASTE (CY)	208.0100 BORROW (CY)	COMMENT:
			CUT (2) (CY)	EBS (3) (CY)															
010	9+00 - 12+00	MAINLINE	246	-	-	246	-	-	-	-	-	-	-	1555	1945	-1699	-	1699	
	9+36	MAINLINE, LT. - P.E.	24	-	-	24	-	-	-	-	-	-	-	0	0	24	-	-24	
TOTALS =			270			270								1555	1945	-1675		1675	
NOTES:																			
1.) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100																			
2.) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT																			
3.) EBS EXCAVATION TO BE BACKFILLED WITH SELECT CRUSHED MATERIAL.																			
4.) SALVAGED/UNUSABLE PAVEMENT MATERIAL																			
5.) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL																			
6.) MARSH EXCAVATION - TO BE BACKFILLED WITH SELECT CRUSHED MATERIAL. ITEM 205.0400																			
7.) ROCK EXCAVATION, ITEM NUMBER 205.0200																			
8.) REDUCED MARSH IN FILL - EXCAVATED MARSH MATERIAL IS USABLE IN FILLS OUTSIDE THE 1:1 SLOPE. MARSH IN FILL REDUCTION FACTOR = 0.6																			
9.) REDUCED EBS IN FILL - EXCAVATED																			
10.) EXPANDED MARSH BACKFILL - THIS IS TO BE FILLED WITH SELECT CRUSHED MATERIAL. MARSH BACKFILL FACTOR = 1.5. ITEM NUMBER 312.0115																			
11.) EXPANDED EBS BACKFILL - THIS IS TO BE FILLED WITH SELECT CRUSHED MATERIAL. EBS BACKFILL FACTOR = 1.3. ITEM NUMBER 312.0115																			
12.) EXPANDED ROCK FACTOR = 1.1																			
13.) EXPANDED FILL FACTOR 1.25: EXPANDED FILL = (UNEXPANDED FILL - REDUCED MARSH IN FILL)*1.25																			
14.) THE MASS ORDINATE+ OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE CATEGORY. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE CATEGORY.																			
**P** PAY PLAN QUANTITY																			

BASE AGGREGATE DENSE			
STATION - STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH (TON)	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH (TON)
9+00 - 12+00	MAINLINE	21	877
9+36	P.E.-MAINLINE, LT.	19	-
-	UNDISTRIBUTED	5	53
TOTALS =		45	930

CONCRETE DRIVEWAY 6-INCH		
STATION - STATION	LOCATION	416.0160 (SY)
9+36	P.E.-MAINLINE, LT.	40
TOTALS =		40

ASPHALTIC SURFACE			
STATION - STATION	LOCATION	455.0605 TACK COAT (GAL)	465.0105 ASPHALTIC SURFACE (TON)
9+00 - 12+00	MAINLINE	27	328
-	UNDISTRIBUTED	3	22
TOTALS =		30	350

CULVERT PIPE			
STATION	LOCATION	520.0124 CULVERT PIPE CLASS III 24-INCH (LF)	520.1024 APRON ENDWALLS FOR CULVERT PIPE CLASS III 24-INCH (EACH)
9+36	P.E.-MAINLINE, LT.	48	2
TOTALS =		48	2
NOTE: STEEL THICKNESS = 0.064 INCHES ALUMINUM THICKNESS = 0.075 INCHES			

CULVERT PIPE SALVAGED 15-INCH		
STATION	LOCATION	524.0115 (LF)
9+36	MAINLINE, LT.	35
TOTALS =		35

RIPRAP HEAVY			
STATION - STATION	LOCATION	** 606.0300 RIPRAP HEAVY (CY)	** 645.0120 GEOTEXTILE FABRIC TYPE HR (SY)
9+68 - 9+92	MAINLINE, LT.	12	24
-	UNDISTRIBUTED	3	1
TOTALS =		15	25
** MORE SHOWN ELSEWHERE			

PROJECT NO: 5849-00-74	HWY: HAIGHT FARM ROAD	COUNTY: DANE	MISCELLANEOUS QUANTITIES	SHEET	E
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3

3

FINISHING ITEMS										SILT FENCE			
										628.1520 SILT FENCE MAINTENANCE			
										628.1504 SILT FENCE			
										(LF)			
										(LF)			
										636			
										548			
										296			
										TOTALS =			
										740			
										1480			

## CONVENTIONAL ABBREVIATIONS

ACCESS POINT/ DRIVEWAY CONNECTION	AP	PROPERTY LINE	PL (100')
ACCESS RIGHTS	AR	RECORDED AS	R/L
ACRES	AC.	RELEASE OF RIGHTS	ROR
AND OTHERS	ET.AL.	REMAINING	REM.
BARN	B.	RIGHT-OF-WAY	R/W
CENTERLINE	C/L	SECTION	SEC.
CERTIFIED SURVEY MAP	CSM	SHED	S.
CORNER	COR.	STATION	STA.
CONVEYANCE OF RIGHTS	CR	TEMPORARY LIMITED EASEMENT	TLE
DOCUMENT	DOC.	VOLUME	V.
EASEMENT	EASE.		
GARAGE	G.	CURVE DATA	
HIGHWAY EASEMENT	H.E.	LONG CHORD	LCH
HOUSE	H.	LONG CHORD BEARING	LCB
HOUSE TRAILER	H.T.	RADIUS	R
LAND CONTRACT	LC	DEGREE OF CURVE	D
MONUMENT	MON.	CENTRAL ANGLE OR DELTA	DELTA
PAGE	P.	LENGTH OF CURVE	L
PERMANENT LIMITED EASEMENT	PLE	TANGENT	TAN

## CONVENTIONAL SYMBOLS

FOUND SURVEY MONUMENT (WITH POINT NUMBER)	1040	PROPOSED R/W LINE	
R/W MONUMENT	• (SET)	EXISTING H.E. LINE	
R/W STANDARD	▲ (SET)	PROPERTY LINE	
SIGN	SIGN	LOT & TIE LINES	
SECTION CORNER MONUMENT	⊕	SLOPE INTERCEPTS	
SECTION CORNER SYMBOL	⊗	CORPORATE LIMITS	
FEE (HATCH VARIES)		NO ACCESS (BY PREVIOUS ACQUISITION/CONTROL)	
TEMPORARY LIMITED EASEMENT		NO ACCESS (BY ACQUISITION)	
PERMANENT LIMITED EASEMENT		NO ACCESS (BY STATUTORY AUTHORITY)	
R/W BOUNDARY POINT	RWB20	SECTION LINE	
PARCEL NUMBER	8	QUARTER LINE	
UTILITY PARCEL NUMBER	92	SIXTEENTH LINE	
SIGN NUMBER (OFF PREMISE)	21-1	EXISTING CENTERLINE	
BUILDING		PROPOSED REFERENCE LINE	
		PARALLEL OFFSET	
		ENCROACHMENT	

## CONVENTIONAL UTILITY SYMBOLS

WATER	—W—	SANITARY SEWER	—SAN—
GAS	—G—	STORM SEWER	—SS—
TELEPHONE	—T—		
OVERHEAD TRANSMISSION LINES	—OH—	NON COMPENSABLE	COMPENSABLE
ELECTRIC	—E—	POWER POLE	⊕
CABLE TELEVISION	—TV—	TELEPHONE POLE	⊗
FIBER OPTIC	—FO—	TELEPHONE PEDESTAL	⊗
		ELECTRIC TOWER	⊗

## NOTES

COORDINATES AND BEARINGS ON THIS PLAT ARE ORIENTED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, DANE COUNTY ZONE, NAD 83 (2011) ADJUSTMENT. THE COORDINATES SHOWN ARE GRID COORDINATES AND ARE TO BE USED AS GRID OR GROUND VALUES ON THIS PLAT.

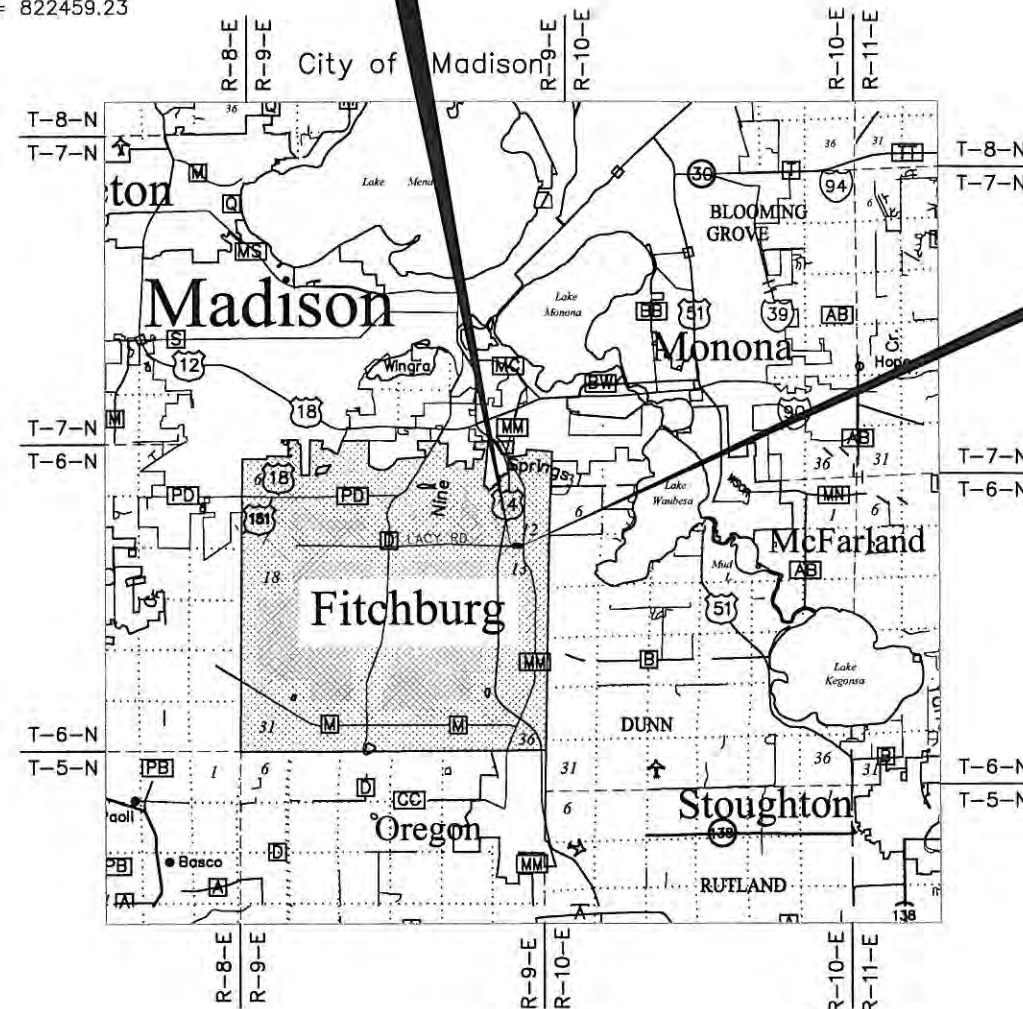
RIGHT-OF-WAY MONUMENTS WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER SURVEYS OF PUBLIC RECORD.

## BEGIN RELOCATION ORDER

## STA. 9+00

23.69 SOUTH AND 1874.14' EAST  
OF THE SW CORNER OF SECTION 12,  
T.6N., R.9E., CITY OF FITCHBURG,  
DANE COUNTY, WI  
Y = 456100.20  
X = 822459.23



## END RELOCATION ORDER

## STA. 12+00

26.62' SOUTH AND 2174.13' EAST  
OF THE SW CORNER OF SECTION 12,  
T.6N., R.9E., CITY OF FITCHBURG,  
DANE COUNTY, WI  
Y = 456097.27  
X = 822759.22

**JEWELL**  
associates engineers, inc.  
Engineers - Surveyors - Architects

560 SUNRISE DRIVE  
SPRING GREEN, WI 53588  
PHONE : 608.588.7484  
FAX : 608.588.9322

I HEREBY CERTIFY THAT THIS PLAT WAS  
MADE FOR THE CITY OF FITCHBURG AND IS  
CORRECT TO THE BEST OF MY KNOWLEDGE  
AND BELIEF.



APPROVED FOR THE CITY OF FITCHBURG

DATE: 11-6-13 Paul J. Woodard  
(NAME/TITLE)  
City Engineer

COORDINATE TABLE - NEW R/W POINTS				
PT.#	STATION	OFFSET	Y	X
10	9+00.00	32.09 R	456068.12	822459.04
11	9+00.00	40.91 L	456141.12	822459.48
12	9+56.00	40.78 L	456140.44	822515.63
13	9+56.00	56.00 L	456155.65	822515.78
14	11+35.00	56.00 L	456153.90	822694.77
15	12+00.00	38.00 L	456135.27	822759.61
16	12+00.00	33.20 L	456130.47	822759.56
17	12+00.00	32.80 R	456064.47	822758.88
18	11+80.00	32.75 R	456064.72	822738.90
19	11+50.00	45.00 R	456052.76	822708.78
20	10+18.00	53.00 R	456046.05	822576.71
21	10+03.00	61.00 R	456038.20	822561.63
22	9+53.00	61.00 R	456038.69	822511.63

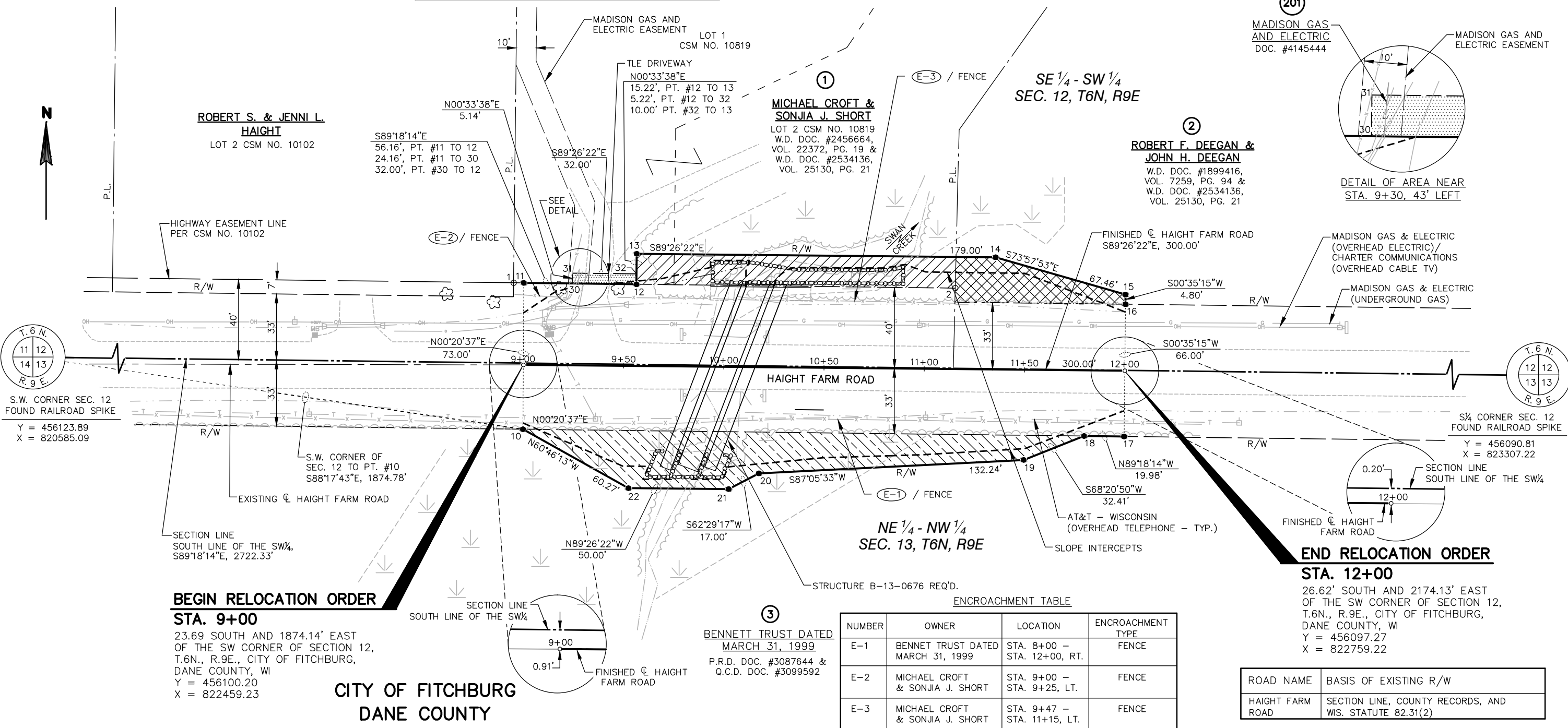
COORDINATE TABLE - FOUND SURVEY MONUMENTS					
PT.#	STATION	OFFSET	Y	X	DESCRIPTION
1	8+95.03	40.96 L	456141.18	822454.35	FOUND 3/4" Ø REBAR
2	11+15.05	40.40 L	456138.50	822674.67	FOUND 3/4" Ø REBAR

COORDINATE TABLE - TLE POINTS				
PT.#	STATION	OFFSET	Y	X
30	9+24.00	40.86 L	456140.82	822483.63
31	9+24.00	46.00 L	456145.97	822483.68
32	9+56.00	46.00 L	456145.65	822515.68

SCHEDULE OF LANDS & INTERESTS REQUIRED								
PARCEL NUMBER	OWNER (S)	INTEREST REQUIRED	TOTAL ACRES	R/W ACRES REQUIRED			TOTAL ACRES REM.	T.L.E. ACRES
				NEW	EXISTING	TOTAL		
1	MICHAEL CROFT & SONJIA J. SHORT	FEE, TLE	56.71	0.06	---	0.06	56.65	0.004
2	ROBERT F. DEEGAN & JOHN H. DEEGAN	FEE	3.46	0.03	0.06	0.09	3.37	---
3	BENNETT TRUST DATED MARCH 31, 1999	FEE	40.00	0.11	0.23	0.34	39.66	---
201	MADISON GAS AND ELECTRIC	RELEASE OF RIGHTS						

NOTE: AREAS SHOWN IN THE TOTAL ACRES COLUMN MAY BE APPROXIMATE AND ARE DERIVED FROM THE TAX ROLLS OR OTHER AVAILABLE SOURCES AND MAY NOT INCLUDE LANDS OF THE OWNER WHICH ARE NOT CONTIGUOUS TO THE AREA TO BE ACQUIRED. OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE CITY OF FITCHBURG.

4



4

REVISION DATE	DATE	SCALE. FEET	HWY: HAIGHT FARM ROAD	STATE R/W PROJECT NUMBER: 5849-00-04	PLAT SHEET 4.02
	GRID FACTOR N/A		COUNTY: DANE	CONSTRUCTION PROJECT NUMBER: 5849-00-74	PS&E SHEET E



# ● BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
2	6+55.8	3/4" IRON REBAR SET, 13.9' LT.	878.43
3	9+27.2	COTTON GIN SPIKE IN ASPHALT, 12.0' LT.	872.44
4	13+82.5	COTTON GIN SPIKE IN ASPHALT, 10.8' LT.	876.16

ROBERT S. & JENNI L. HAIGHT

AT&T WISCONSIN  
(UNDERGROUND TELEPHONE)  
CHARTER COMMUNICATIONS  
(UNDERGROUND CABLE TV)  
STA. 9+36, LT.  
CULVERT PIPE SALVAGED 15-INCH REQ'D.

MICHAEL CROFT & SONJIA J. SHORT

ROBERT F. DEEGAN & JOHN H. DEEGAN

STA. 9+18, LT.  
EXISTING 24" DIAMETER OAK TO REMAIN  
STA. 9+46, LT.  
EXISTING 24" DIAMETER OAK TO BE REMOVED  
(PAID UNDER CLEARING AND GRUBBING BID ITEMS)

STA. 8+00 - STA. 12+00, RT.  
STA. 9+00 - STA. 9+25, LT.  
STA. 9+47 - STA. 11+15, LT.  
EXISTING FENCE TO BE REMOVED  
BY OTHERS

## LEGEND

- RIPRAP HEAVY OVER GEOTEXTILE FABRIC TYPE HR
- DIRECTION OF FLOW
- SAWING ASPHALT OR SAWING CONCRETE (SEE MISCELLANEOUS QUANTITIES)
- EXISTING FENCELINE
- EXISTING FENCELINE
- WETLANDS

BENNET TRUST DATED  
MARCH 31, 1999

BEGIN PROJECT  
STA. 9+00  
Y= 456,100.20  
X= 822,459.23

STA. 9+36, LT.  
CONSTRUCT P.E. (CONCRETE)  
(1) CULVERT PIPE CLASS III, 24-INCH  
(2) APRON ENDWALLS  
W INV. = 869.20  
E INV. = 867.60

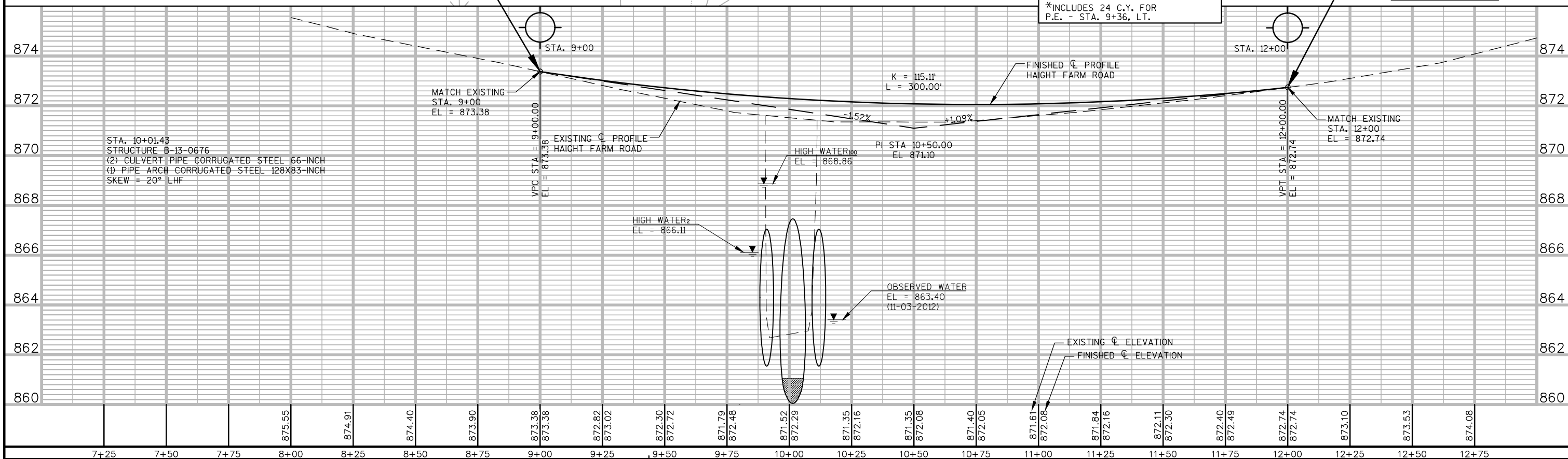
REMOVING OLD STRUCTURE OVER  
WATERWAY WITH MINIMAL DEBRIS  
STA. 10+00 (P-13-0933)  
SINGLE SPAN STEEL GIRDER STRUCTURE  
26.5' CLEAR ROADWAY WIDTH  
22.6' OVERALL LENGTH  
STRUCTURE B-13-0676 REQ'D.

## EARTHWORK SUMMARY

EXCAVATION COMMON = \*270 C.Y.  
FILL = 1555 C.Y.  
FILL EXPANSION (25%) = 1945 C.Y.  
BORROW = 1675 C.Y.  
\*INCLUDES 24 C.Y. FOR  
P.E. - STA. 9+36, LT.

END PROJECT  
STA. 12+00  
Y= 456,097.27  
X= 822,759.22

BENNET TRUST DATED  
MARCH 31, 1999



PROJECT NO: 5849-00-74

HWY: HAIGHT FARM ROAD

COUNTY: DANE

PLAN & PROFILE

SHEET

E

Standard Detail Drawing List

08E09-06	SILT FENCE
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
12A03-10	NAME PLATE (STRUCTURES)
15A01-11	MARKER POST FOR RIGHT-OF-WAY
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C08-16A	PAVEMENT MARKING (MAINLINE)



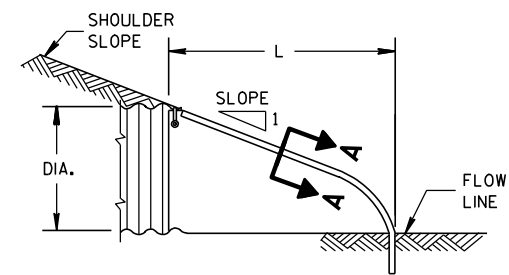
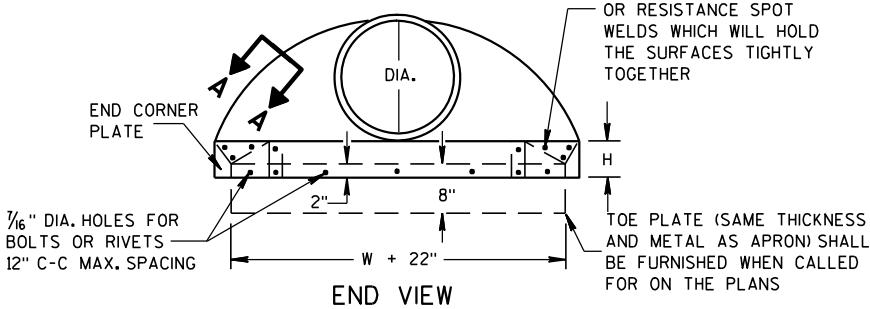
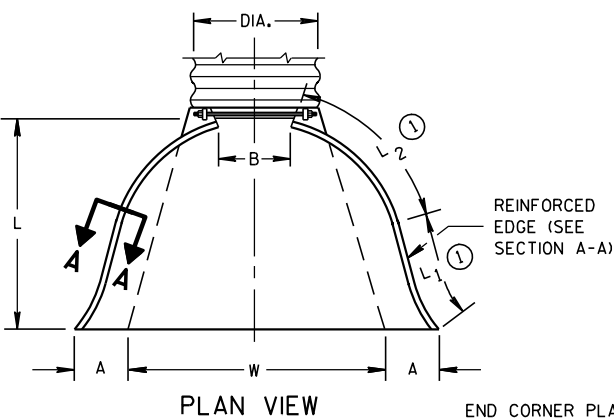
- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS 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.



<p>SILT FENCE</p>	
<p>STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</p>	
<p>APPROVED 4-29-05 DATE</p>	<p>/s/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER</p>

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")	L1 ①	L2 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 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.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	.079	.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 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 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.

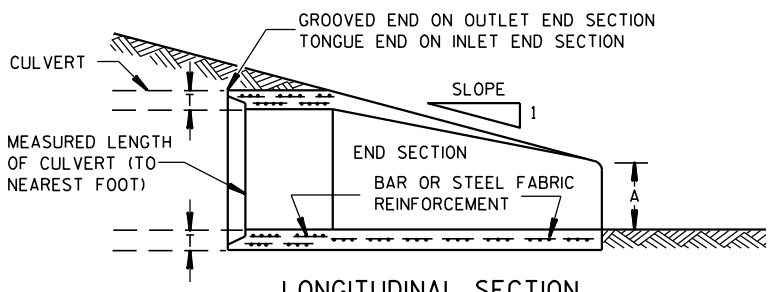
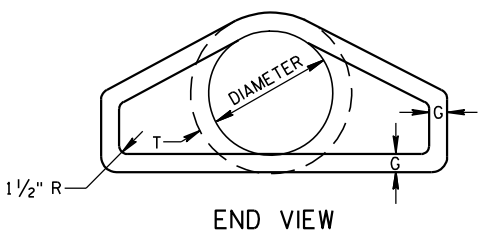
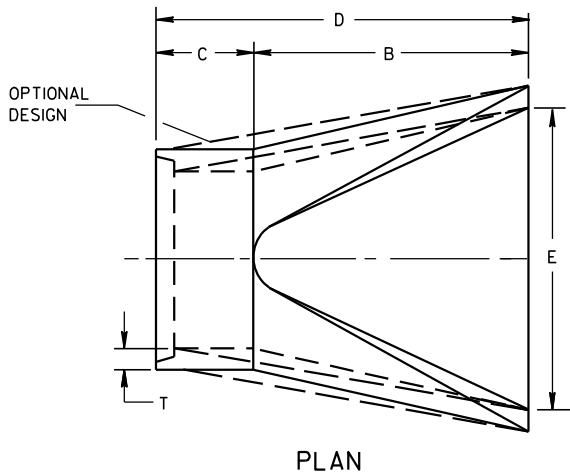
\* EXCEPT CENTER PANEL  
SEE GENERAL NOTES



METAL ENDWALLS

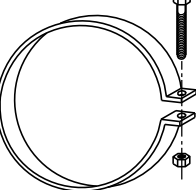
REINFORCED CONCRETE APRON ENDWALLS											
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE			
	T	A	B	C	D	E	G				
12	2	4	24	48 1/8	72 1/8	24	2	3 to 1			
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1			
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1			
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1			
24	3	9 1/2	43 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 3/4	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	98 1/4	90	5 1/2	2 2/5 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

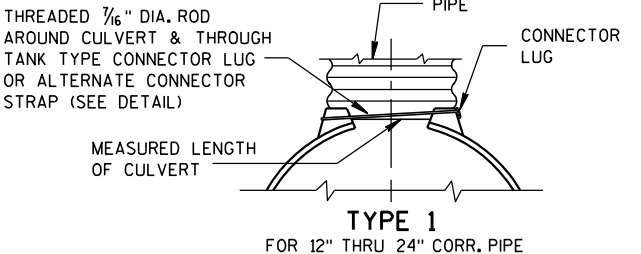


CONCRETE ENDWALLS

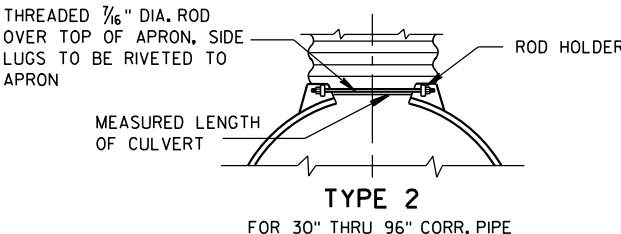
1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



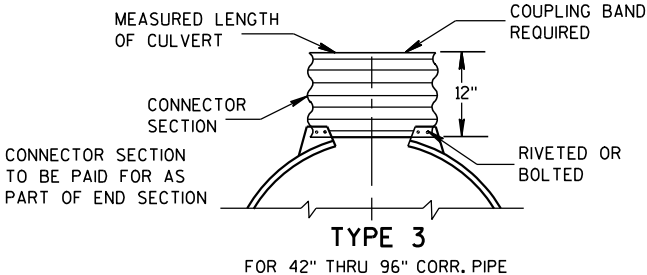
ALTERNATE FOR TYPE 1 CONNECTION  
END SECTION CONNECTOR STRAP



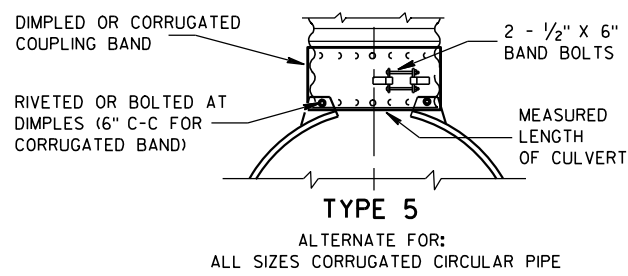
TYPE 1  
FOR 12" THRU 24" CORR. PIPE



TYPE 2  
FOR 30" THRU 96" CORR. PIPE



TYPE 3  
FOR 42" THRU 96" CORR. PIPE



TYPE 5  
ALTERNATE FOR:  
ALL SIZES CORRUGATED CIRCULAR PIPE

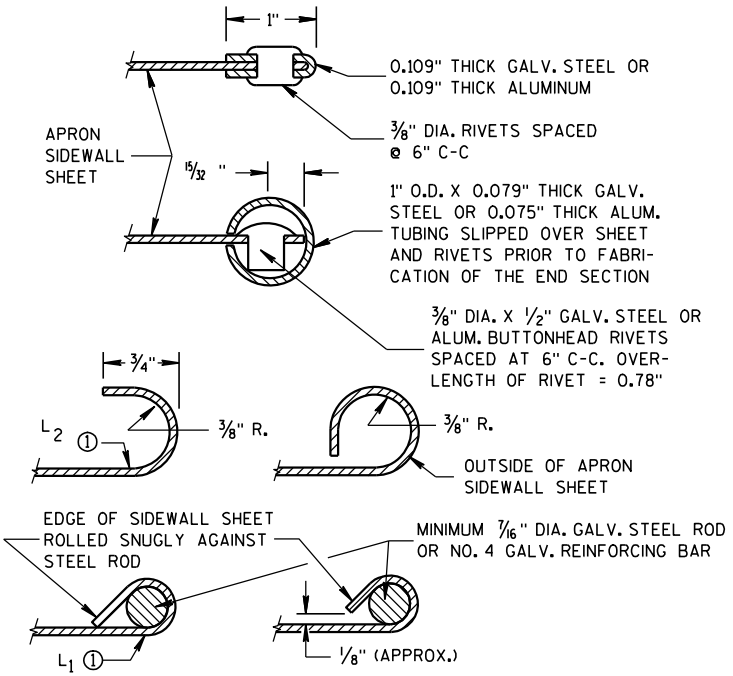
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

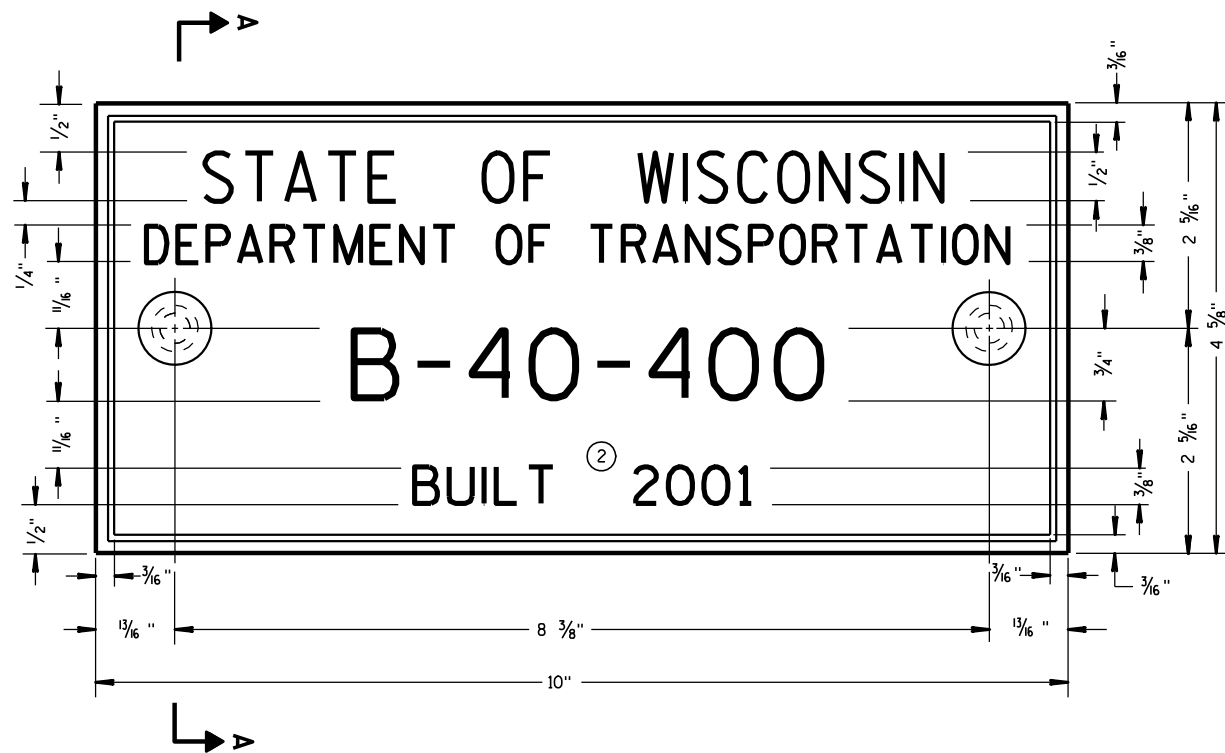
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR  
CULVERT PIPE

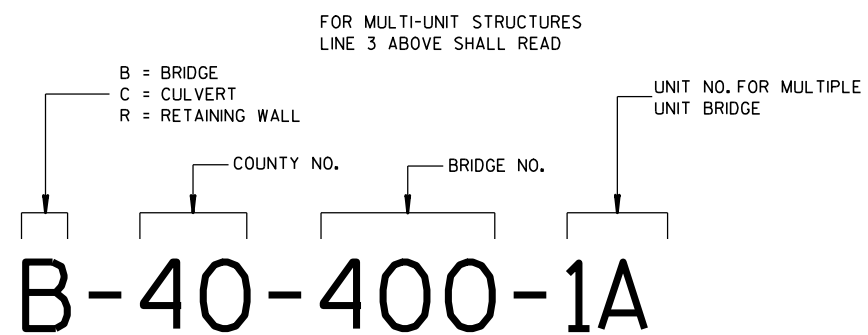
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
11/30/94  
DATE  
/S/ Rory L. Rhinesmith  
CHIEF ROADWAY DEVELOPMENT ENGINEER  
FHWA





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



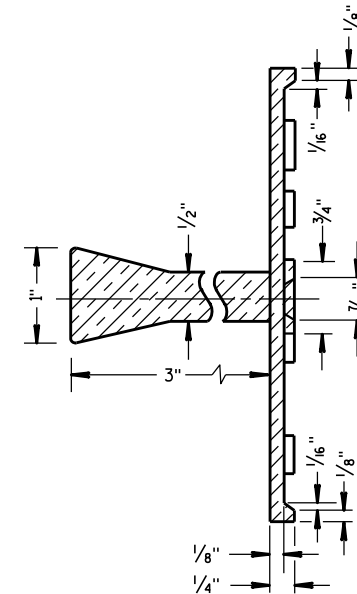
**NUMBERING DESIGNATION  
MULTI-UNIT STRUCTURES**

## GENERAL NOTES

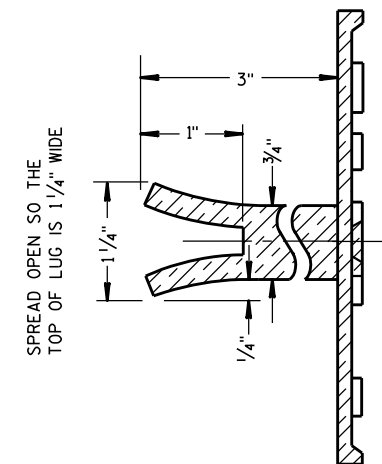
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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.

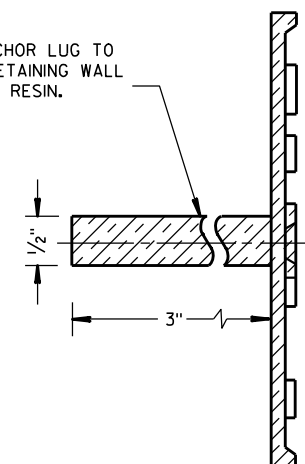


**SECTION A-A**



**ALTERNATE LUG**

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



**ALTERNATE LUG**  
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE  
(STRUCTURES)**

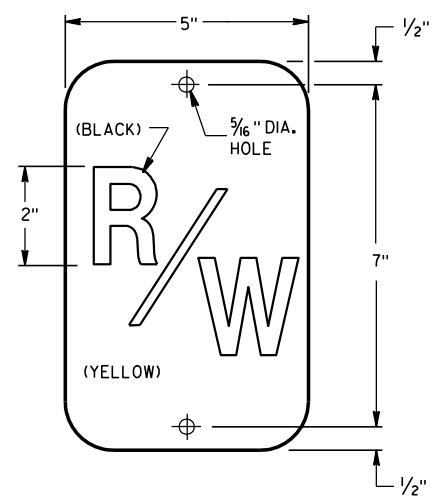
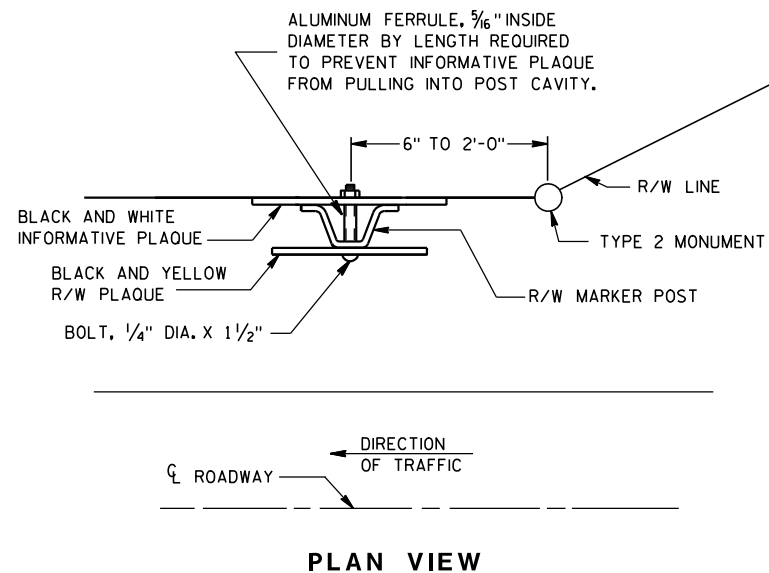
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

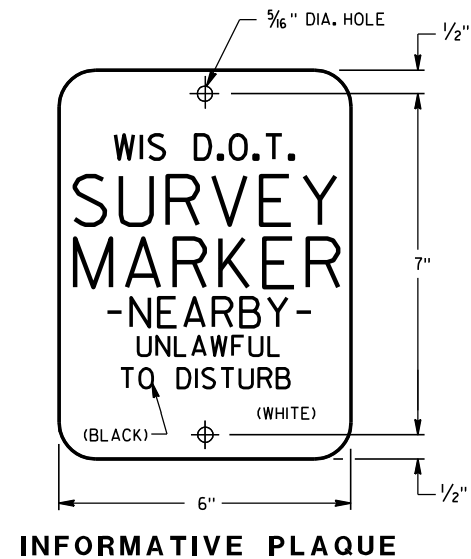
3/26/10  
DATE

FHWA

/S/ Scot Becker  
CHIEF STRUCTURAL DEVELOPMENT ENGINEER



THE RIGHT-OF-WAY PLAQUE AND INFORMATIVE PLAQUE WILL BE FURNISHED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION.



## GENERAL NOTES

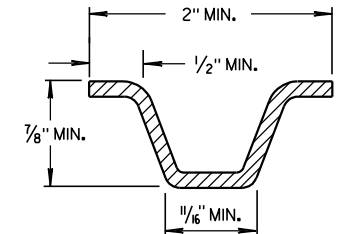
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

A STEEL MARKER POST FOR RIGHT-OF-WAY SHALL BE PLACED IN THE RIGHT-OF-WAY, WITH THE BACK OF THE POST ON THE LONGER RIGHT-OF-WAY TANGENT, 6 INCHES TO 24 INCHES FROM EACH TYPE 2 MONUMENT TO SERVE AS A GUARD POST, AND AT OTHER LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

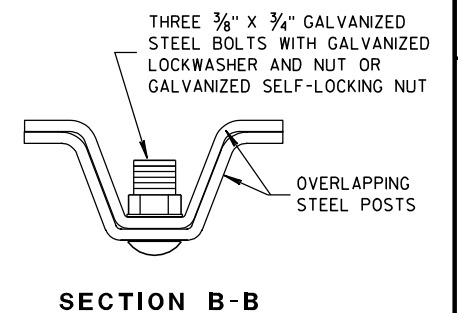
THE "R/W" PLAQUE SHALL FACE THE ROADWAY AND THE INFORMATIVE PLAQUE SHALL FACE AWAY FROM THE ROADWAY. R/W AND INFORMATIVE PLAQUES WILL BE FURNISHED BY THE DEPARTMENT OF TRANSPORTATION.

STEEL MARKER POSTS SHALL MEET THE MINIMUM MATERIAL REQUIREMENTS FOR STEEL DELINEATOR POSTS; EXCEPT POSTS PAINTED WITH FEDERAL YELLOW ENAMEL NEED NOT BE ZINC COATED.

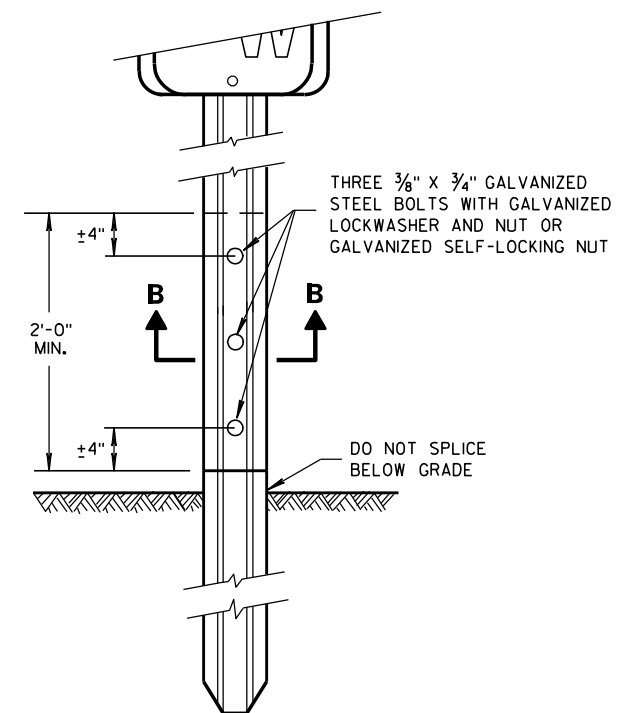
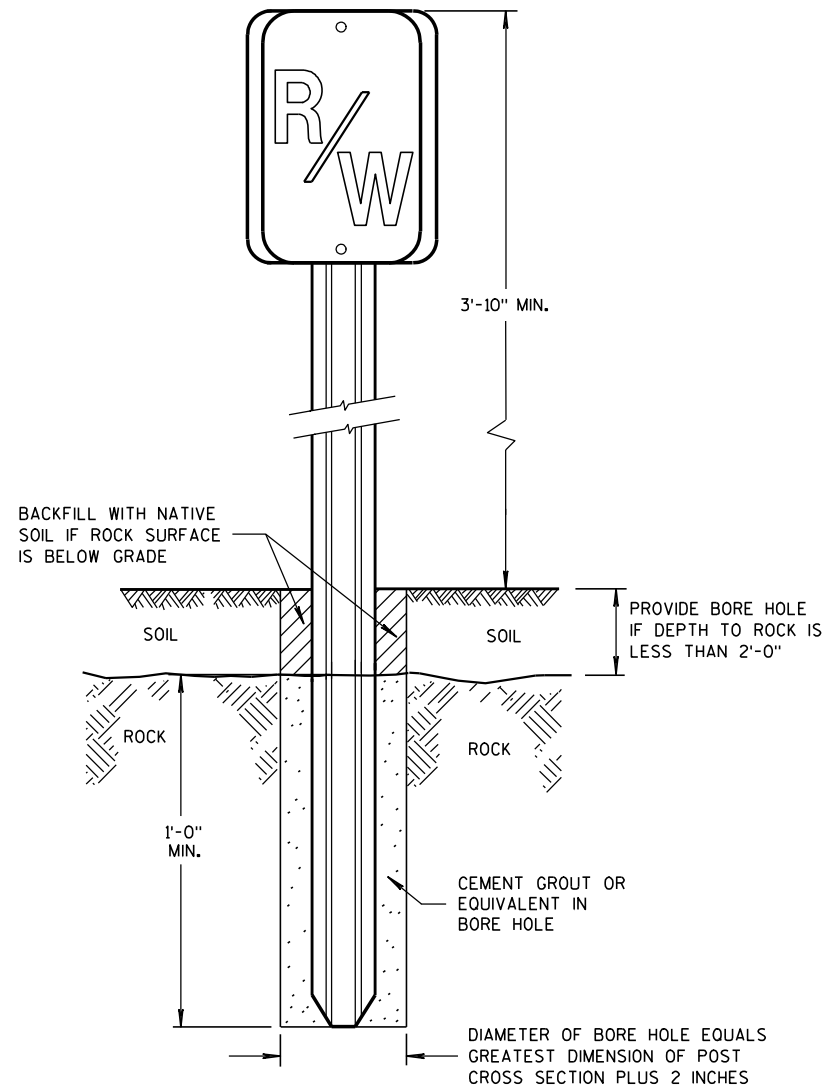
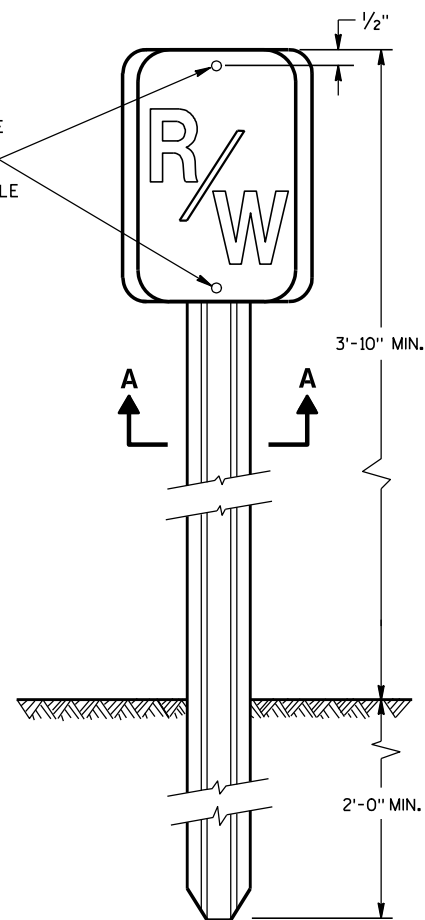
- ① IN AREAS OF SOLID ROCK, DRILL A BORE HOLE 2" GREATER THAN THE WIDEST DIMENSION OF THE POST CROSS SECTION INTO THE ROCK TO A MINIMUM DEPTH OF 12 INCHES. CUT OR SPLICE THE POST SO THAT A MINIMUM LENGTH OF 3'-10" PROTRUDES ABOVE THE GROUND. BLOW OUT THE BORE HOLE IN THE ROCK USING COMPRESSED AIR. FILL THE BORE HOLE WITH CEMENT GROUT, OR EQUIVALENT, DEPENDING ON THE STABILITY OF THE ROCK.



MIN. WEIGHT 1.12 LB./FT.  
**SECTION A-A**



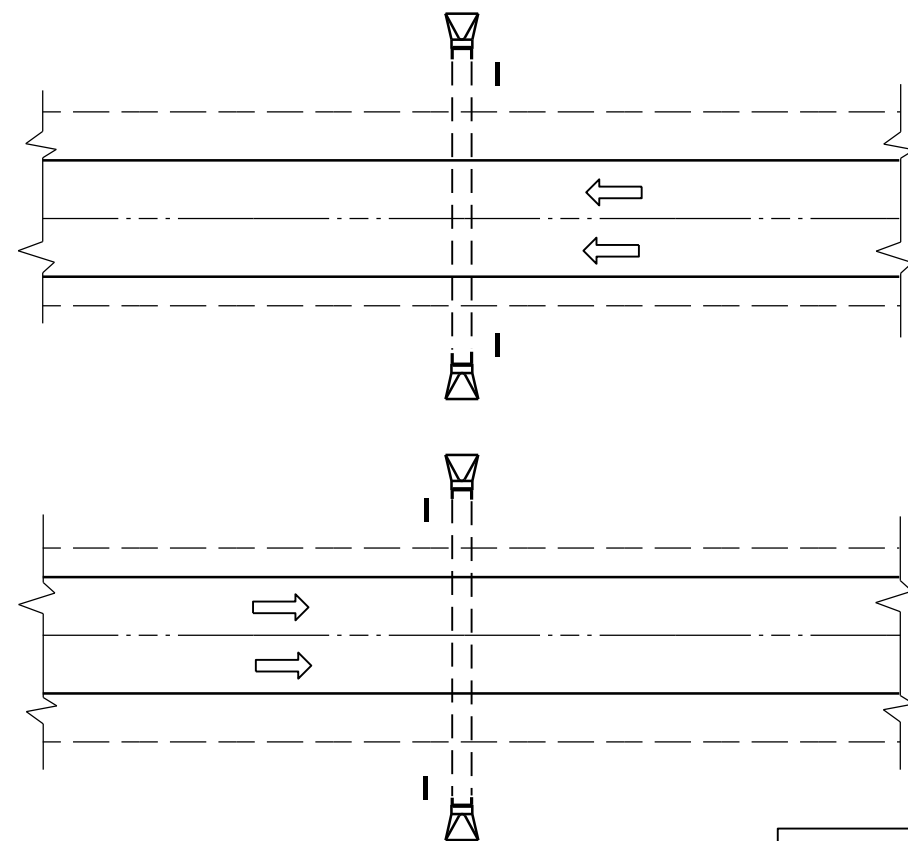
STEEL POSTS SHALL HAVE 2 -  $\frac{3}{8}$ " HOLES 7" APART. POST WITH ADDITIONAL HOLES WILL BE ACCEPTABLE



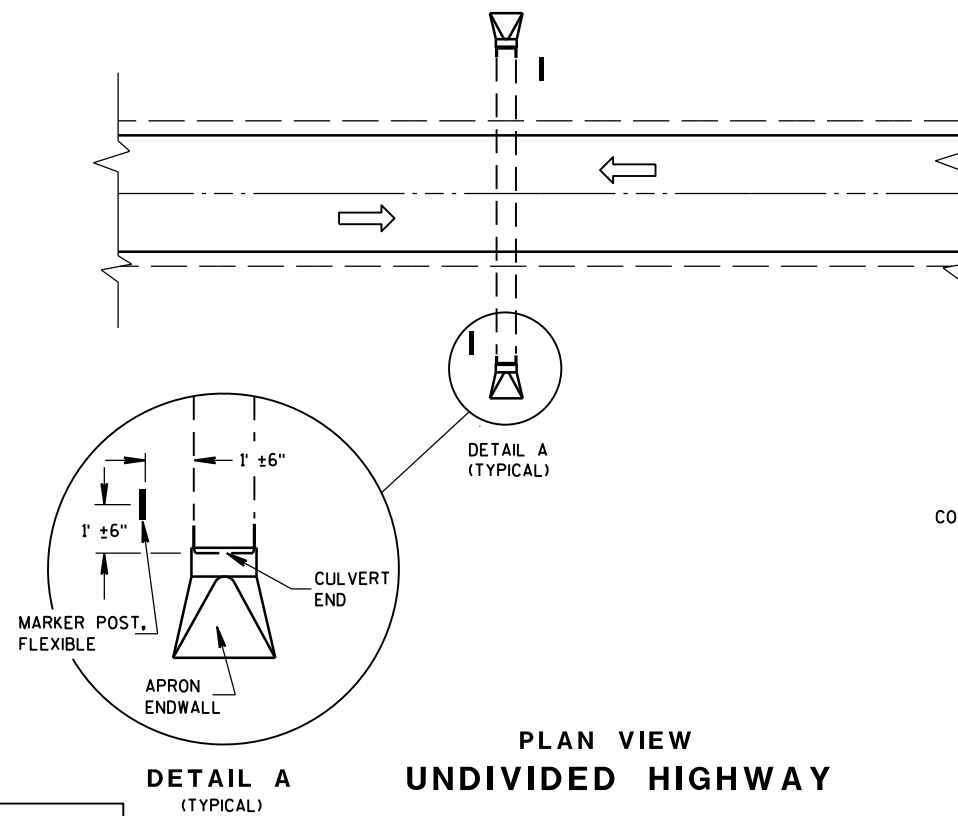
**MARKER POST  
FOR RIGHT-OF-WAY**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

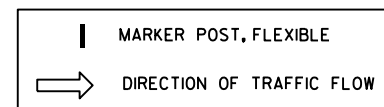
APPROVED  
4/27/09 /S/ Ray Kumapayi  
DATE CHIEF SURVEYING AND MAPPING ENGINEER  
FHWA



PLAN VIEW  
DIVIDED HIGHWAY



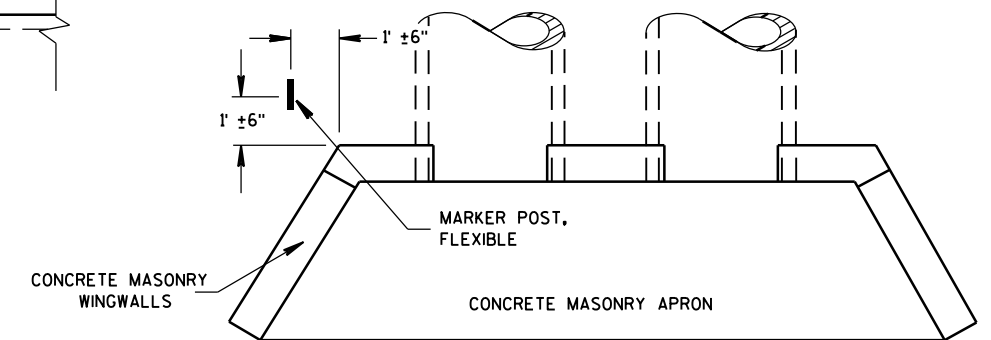
PLAN VIEW  
UNDIVIDED HIGHWAY



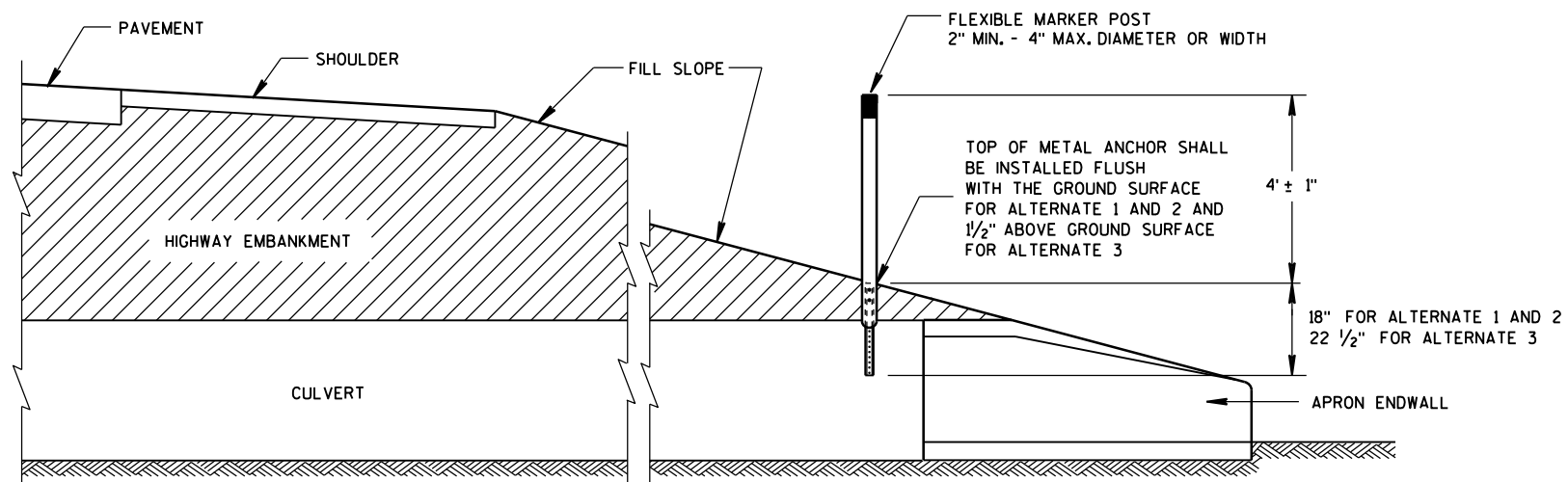
### FLEXIBLE MARKER POST LOCATION

### 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.



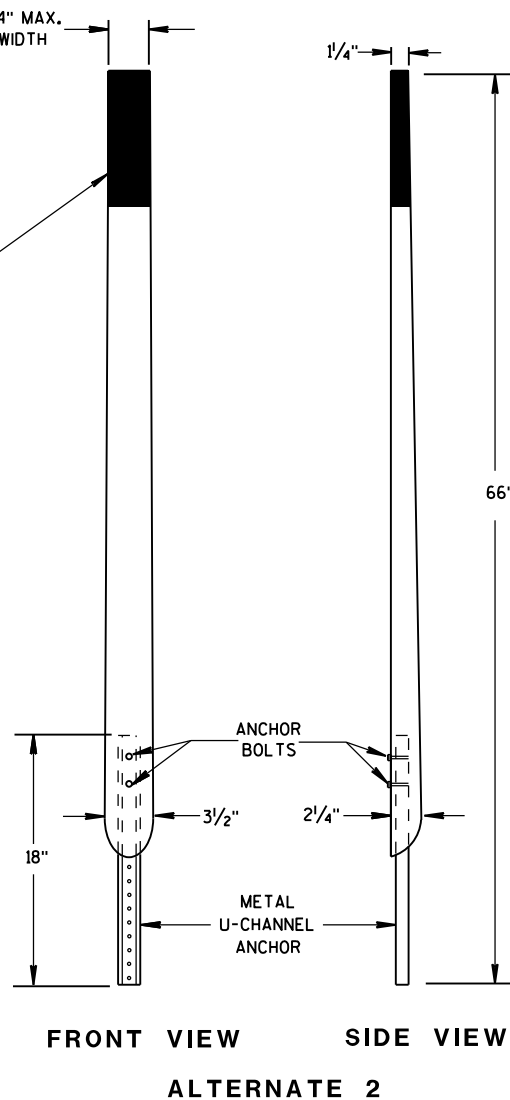
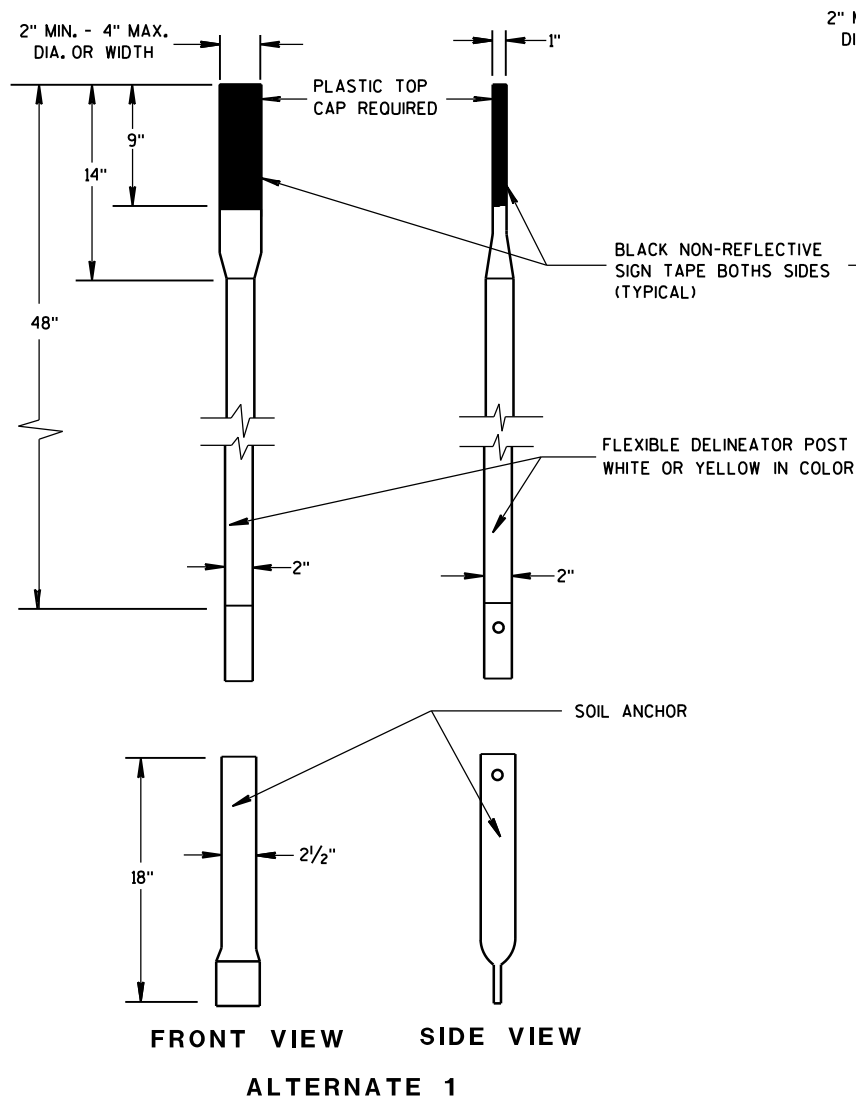
PLAN VIEW  
CONCRETE MASONRY ENDWALLS FOR  
CULVERT PIPE AND PIPE ARCH



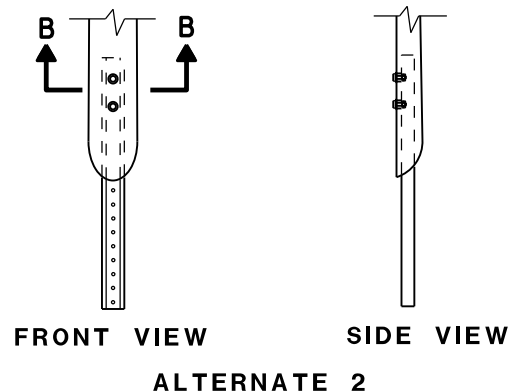
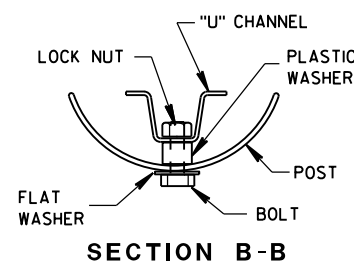
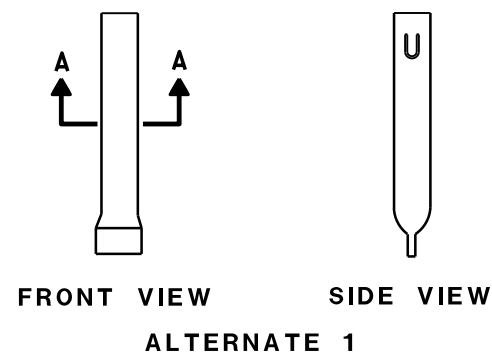
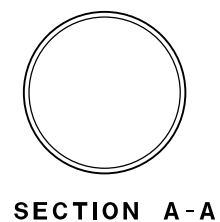
CROSS SECTION  
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST  
FOR CULVERT END

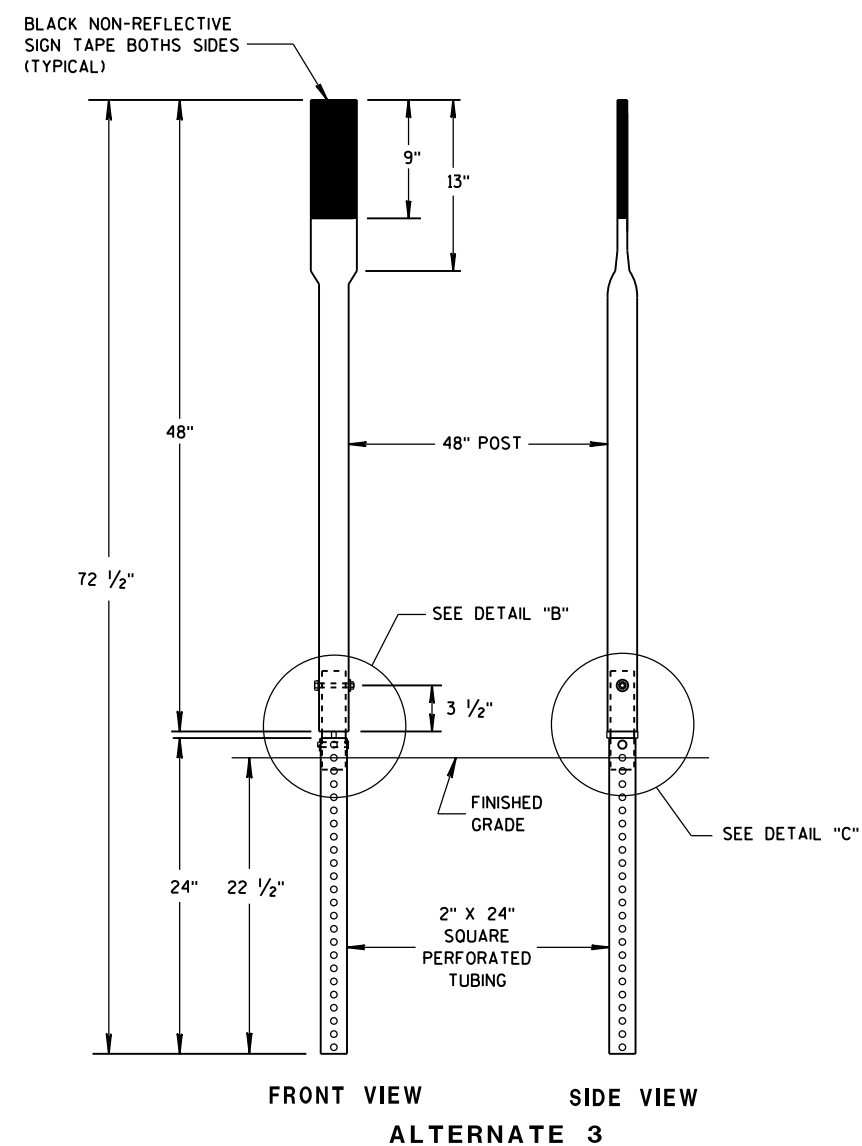
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



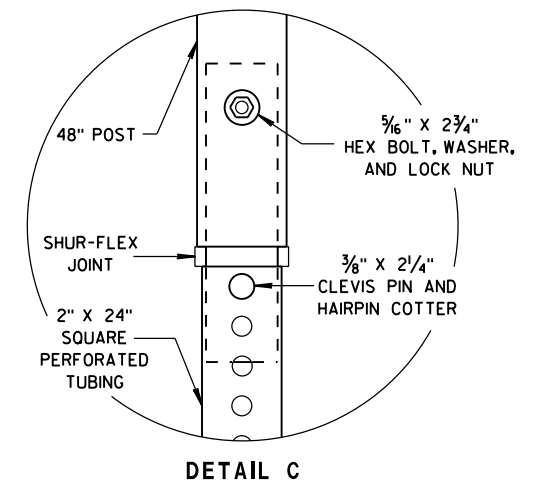
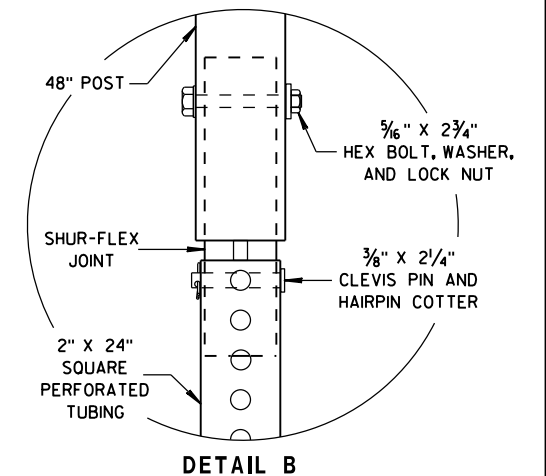
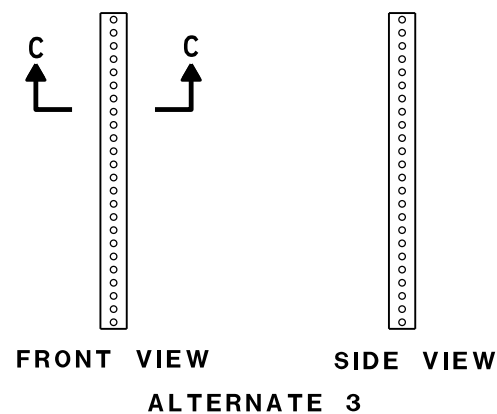
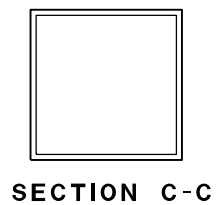
FLEXIBLE MARKER POSTS



FLEXIBLE MARKER POST ANCHORS



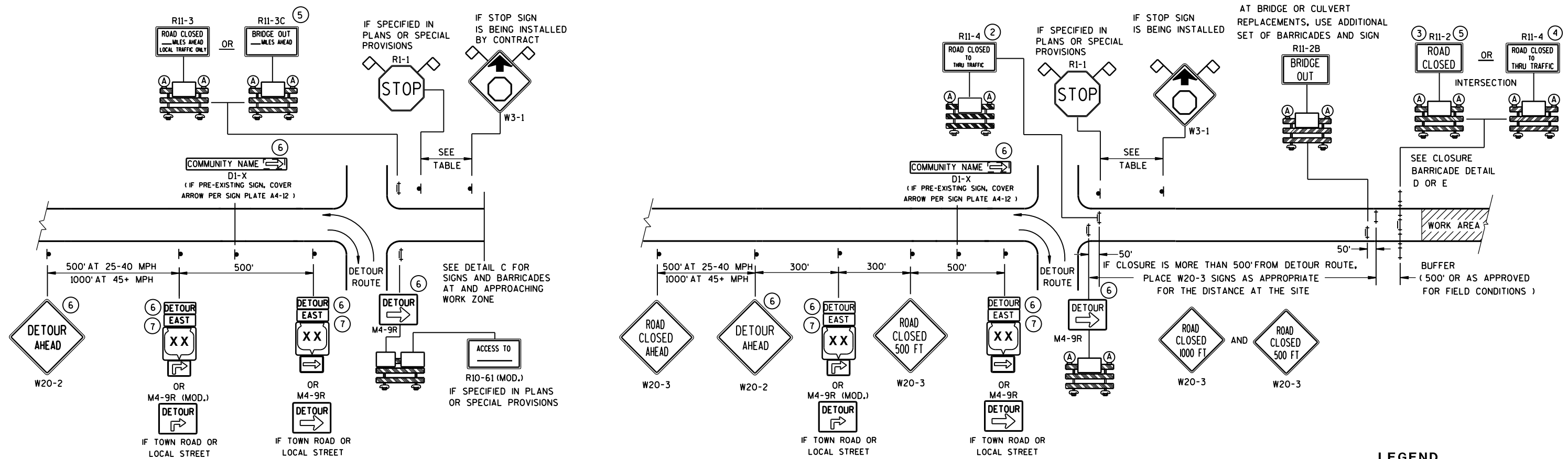
FLEXIBLE MARKER POSTS



FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

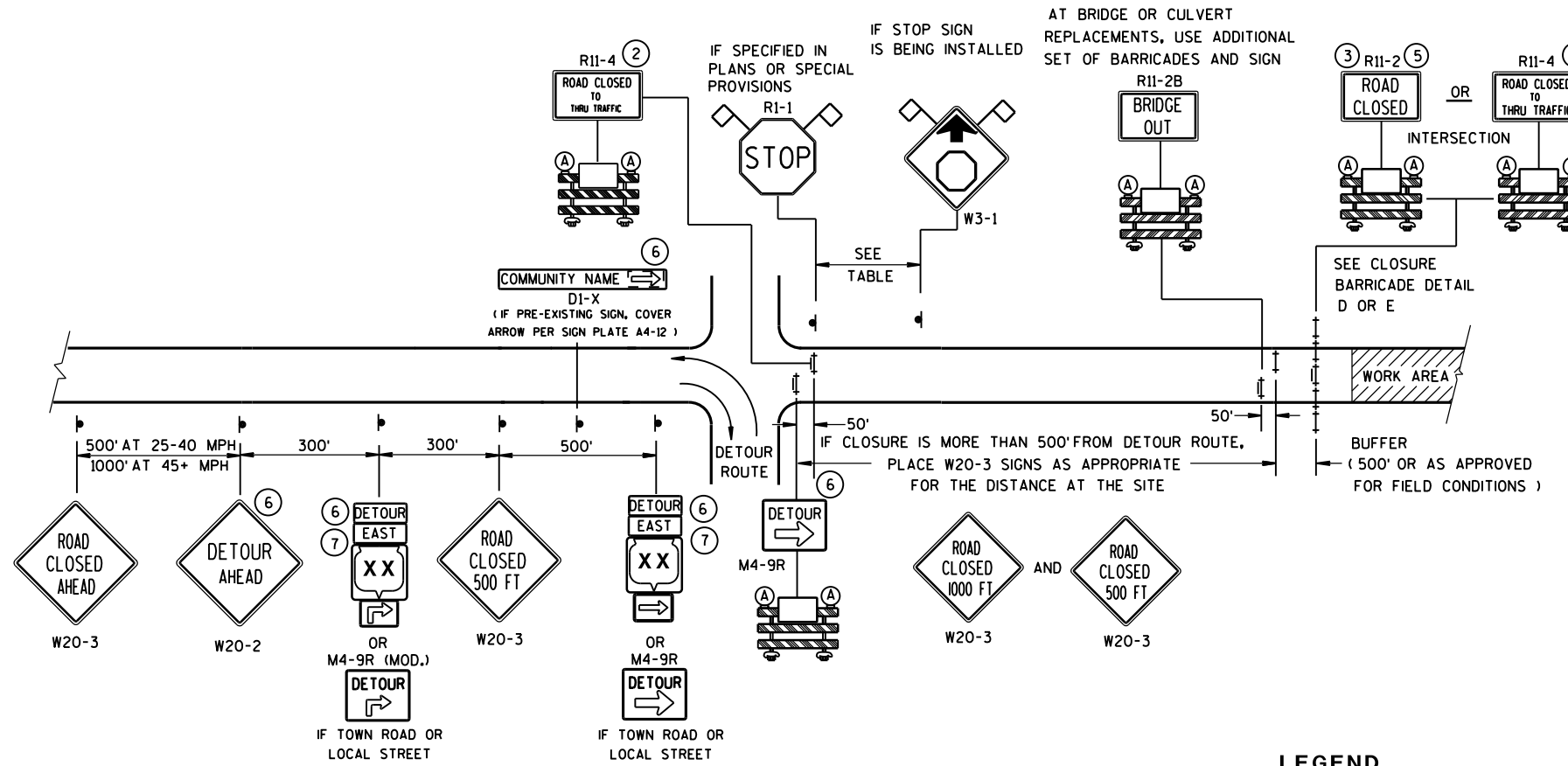
APPROVED  
10/1/2012 /S/ Travis Feltes  
DATE STATE TRAFFIC ENGINEER OF DESIGN  
FHWA



DETAIL A

**MAINLINE CLOSURE WITH POSTED DETOUR**

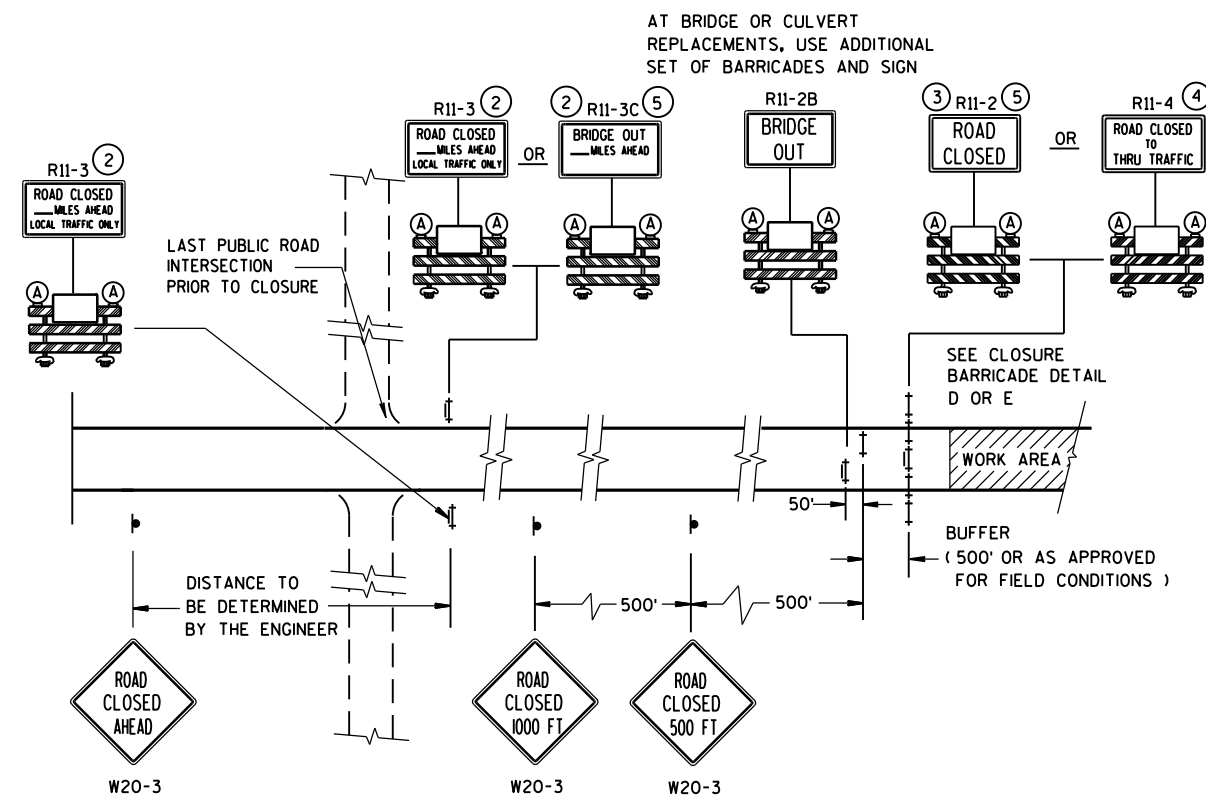
WORK ZONE GREATER THAN 1/2 MILE FROM DETOUR ROUTE ( 1000 FEET IF URBAN )



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**


### LEGEND

- |   |  |
|---|--|
|  | SIGN ON PERMANENT SUPPORT                |
|  | TYPE III BARRICADE                       |
|  | TYPE III BARRICADE WITH<br>ATTACHED SIGN |
|  | TYPE "A" WARNING LIGHT (FLASHING)        |

 WORK AREA

 M4-8  
 M3-X  
 M1-4  
OR  
 M1-5A  
OR  
 M1-6

 OR   
M05-1 M06-1

 FLAGS, 16" X 16" MIN., (ORANGE)

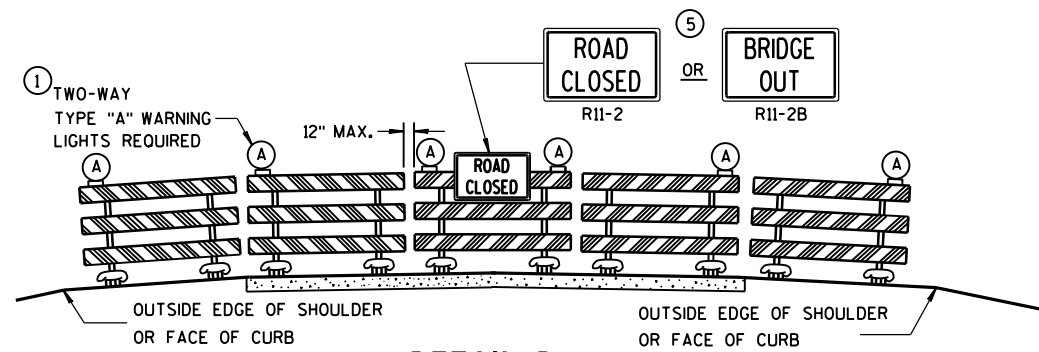
SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

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

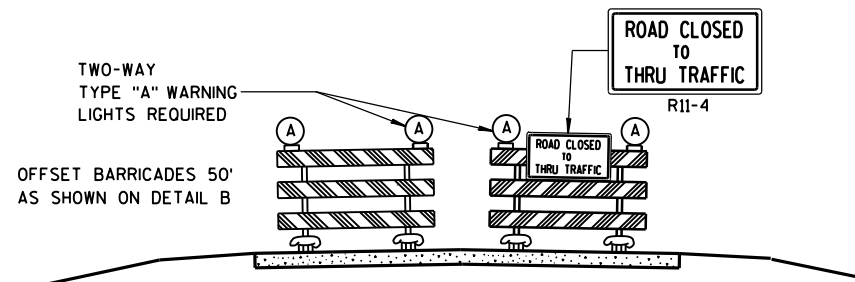
## BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

8/2013 /S/ Travis Feltes  
DATE STATE TRAFFIC ENGINEER OF DESIGN



**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.

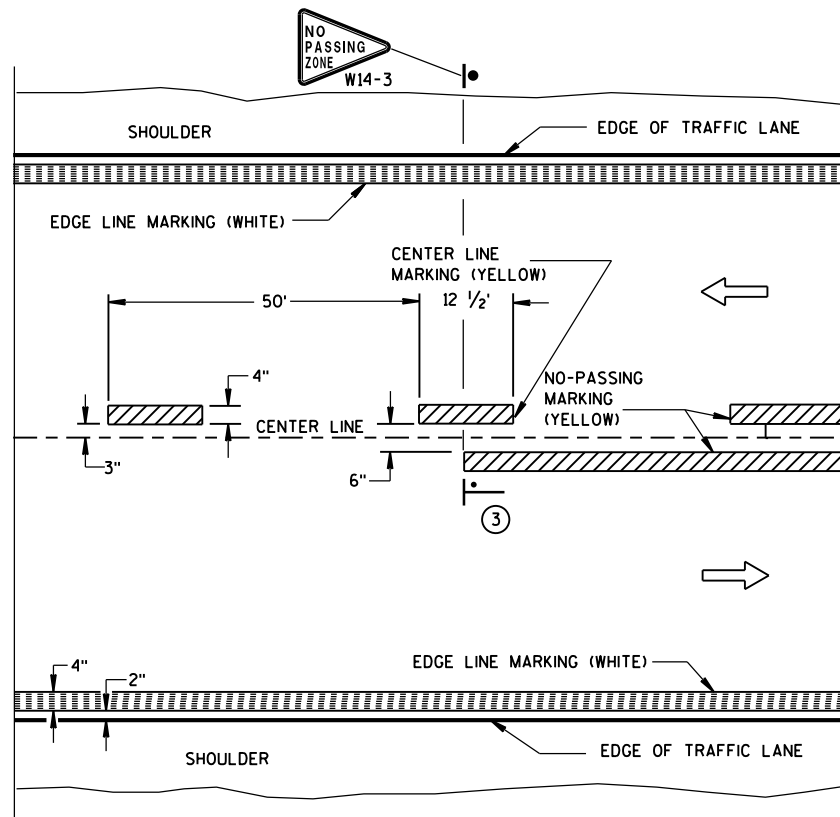
R1-1 SHALL BE 36" X 36".

- 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.

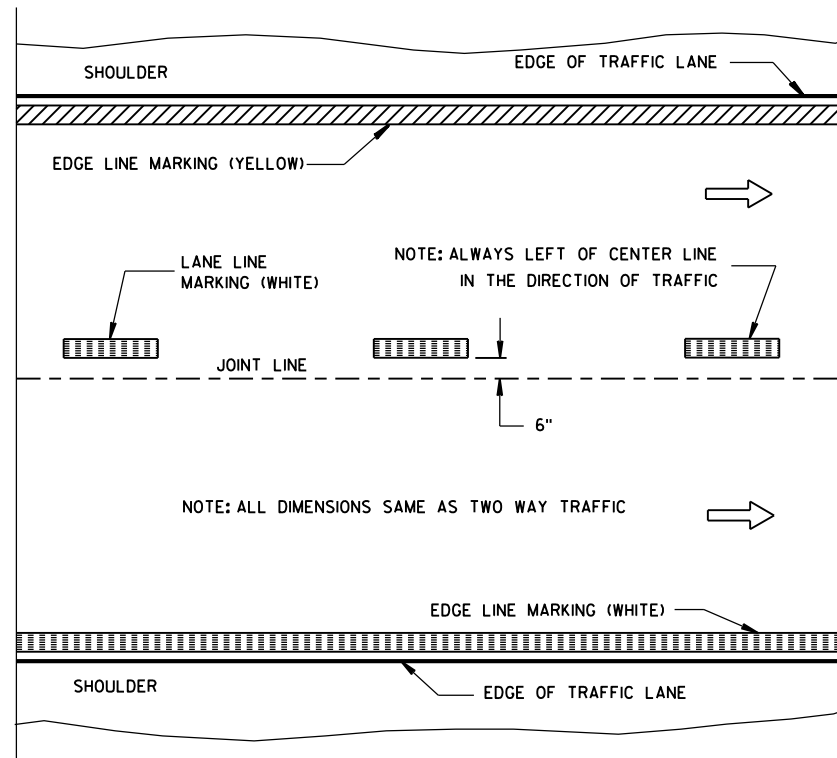
## BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

8/2013 /S/ Travis Feltes  
DATE STATE TRAFFIC ENGINEER OF DESIGN  
FHWA

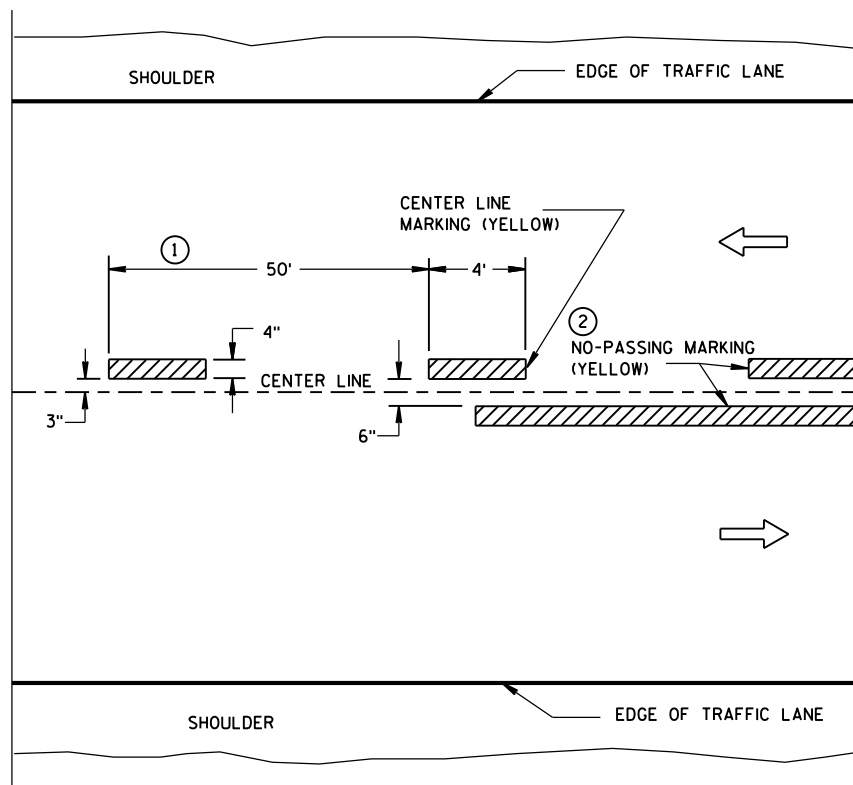


TWO WAY TRAFFIC

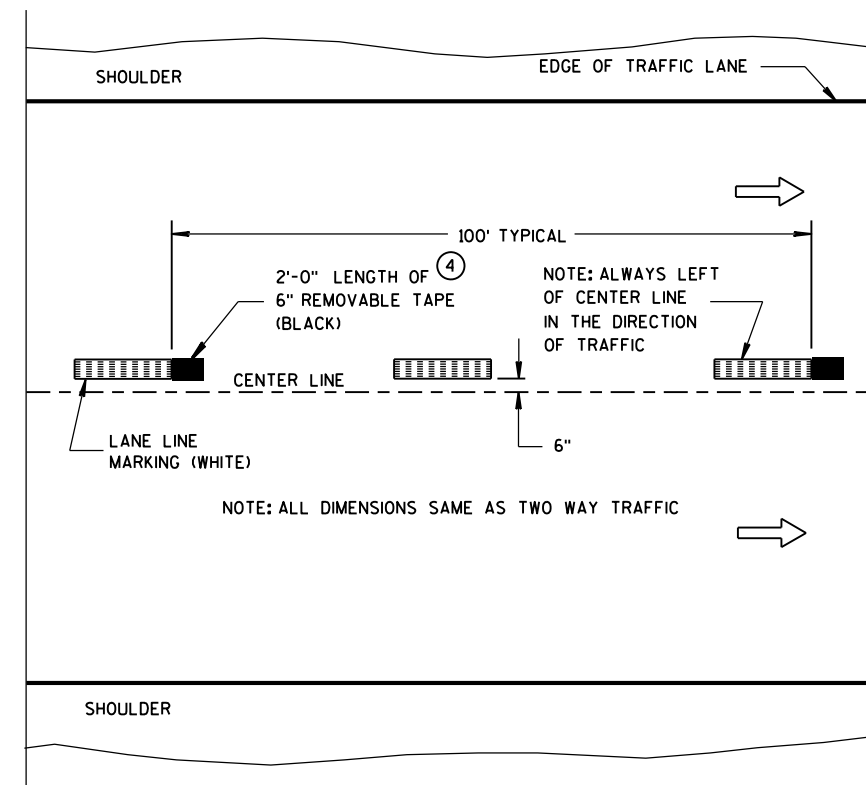


ONE WAY TRAFFIC

## PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING  
(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

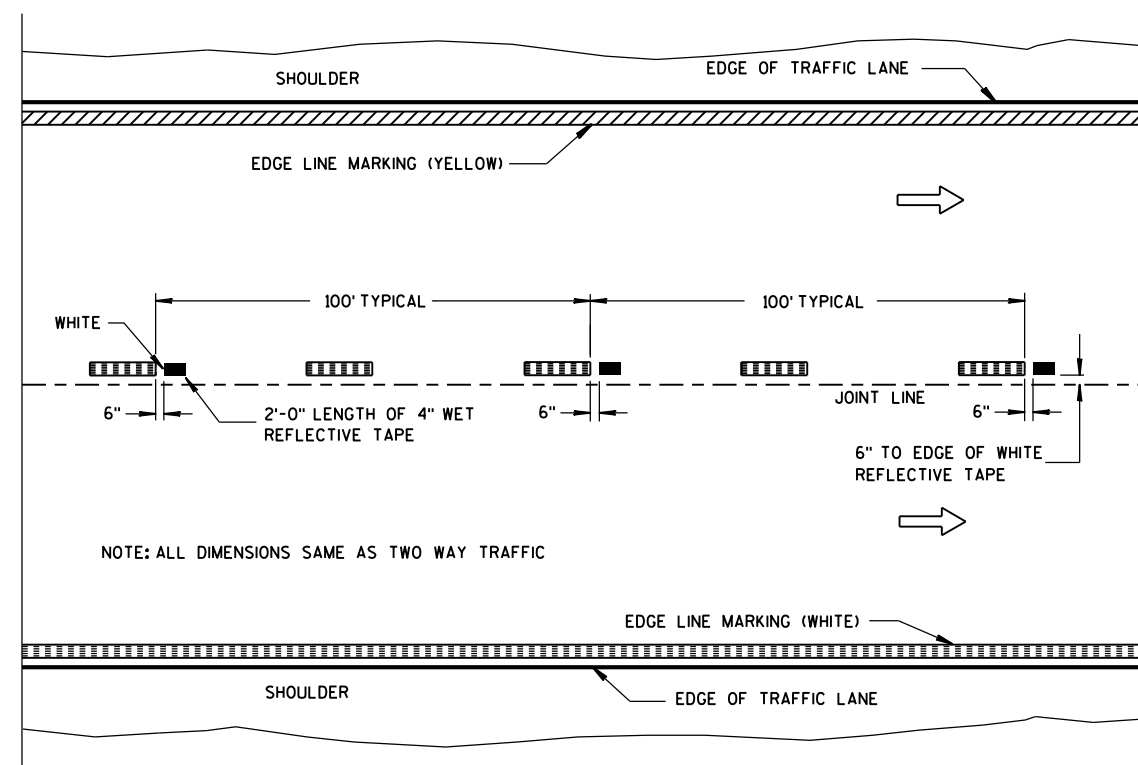
## GENERAL NOTES

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

- ① 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.
- ② NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
- ③ NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
- ④ CONCRETE ONLY.

## NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO  
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

## LEGEND

- "T" MARKING
- POST MOUNTED SIGN

PAVEMENT MARKING  
(MAINLINE)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
5-13-2013  
DATE  
FHWA

/S/ Travis Feltes  
STATE TRAFFIC ENGINEER

\* GRADING REQUIRED FOR PLACEMENT OF FUTURE SIDEWALK. SEE ROADWAY PLANS FOR DETAILS.

STATE PROJECT NUMBER

5849-00-74

DESIGN DATA

LIVE LOAD:

DESIGN LOADING \_\_\_\_\_ HL-93

EARTH LOAD:

DESIGNED FOR 5' OF FILL

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY \_\_\_\_\_ f'c = 3,500 P.S.I.

HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 \_\_\_\_\_ fy = 60,000 P.S.I.

FOUNDATION DATA

CONCRETE MASONRY HEADWALL TO BE SUPPORTED ON SPREAD FOOTING WITH A MINIMUM ALLOWABLE SOIL BEARING CAPACITY OF 3 KSF (ASSUMED).

TRAFFIC DATA

A.D.T. (2014) \_\_\_\_\_ 3100  
A.D.T. (2034) \_\_\_\_\_ 3400  
DESIGN SPEED \_\_\_\_\_ 55 M.P.H.

HYDRAULIC DATA

100 YEAR FREQUENCY \_\_\_\_\_  
DRAINAGE AREA \_\_\_\_\_ 5.3 SQ. MI.  
Q<sub>100</sub> TOTAL \_\_\_\_\_ 650 C.F.S.  
THROUGH STRUCTURE \_\_\_\_\_ 650 C.F.S.  
OVERTOPPING ROADWAY \_\_\_\_\_ N/A  
VELOCITY - THROUGH STRUCTURE \_\_\_\_\_ 6.7 F.P.S.  
WATERWAY AREA - THROUGH STRUCTURE \_\_\_\_\_ 96.6 SQ. FT.  
HIGH WATER<sub>100</sub> ELEVATION \_\_\_\_\_ 868.86  
SCOUR CRITICAL CODE \_\_\_\_\_ N/A

EROSION CONTROL  
O<sub>2</sub> \_\_\_\_\_ 220 C.F.S.  
HIGH WATER<sub>2</sub> ELEVATION \_\_\_\_\_ 866.11

LIST OF DRAWINGS

GENERAL PLAN \_\_\_\_\_ 1.  
CROSS SECTION & QUANTITIES \_\_\_\_\_ 2.  
SUBSURFACE EXPLORATION \_\_\_\_\_ 3.  
HEADWALL DETAILS \_\_\_\_\_ 4.  
HEADWALL BAR DETAILS \_\_\_\_\_ 5.

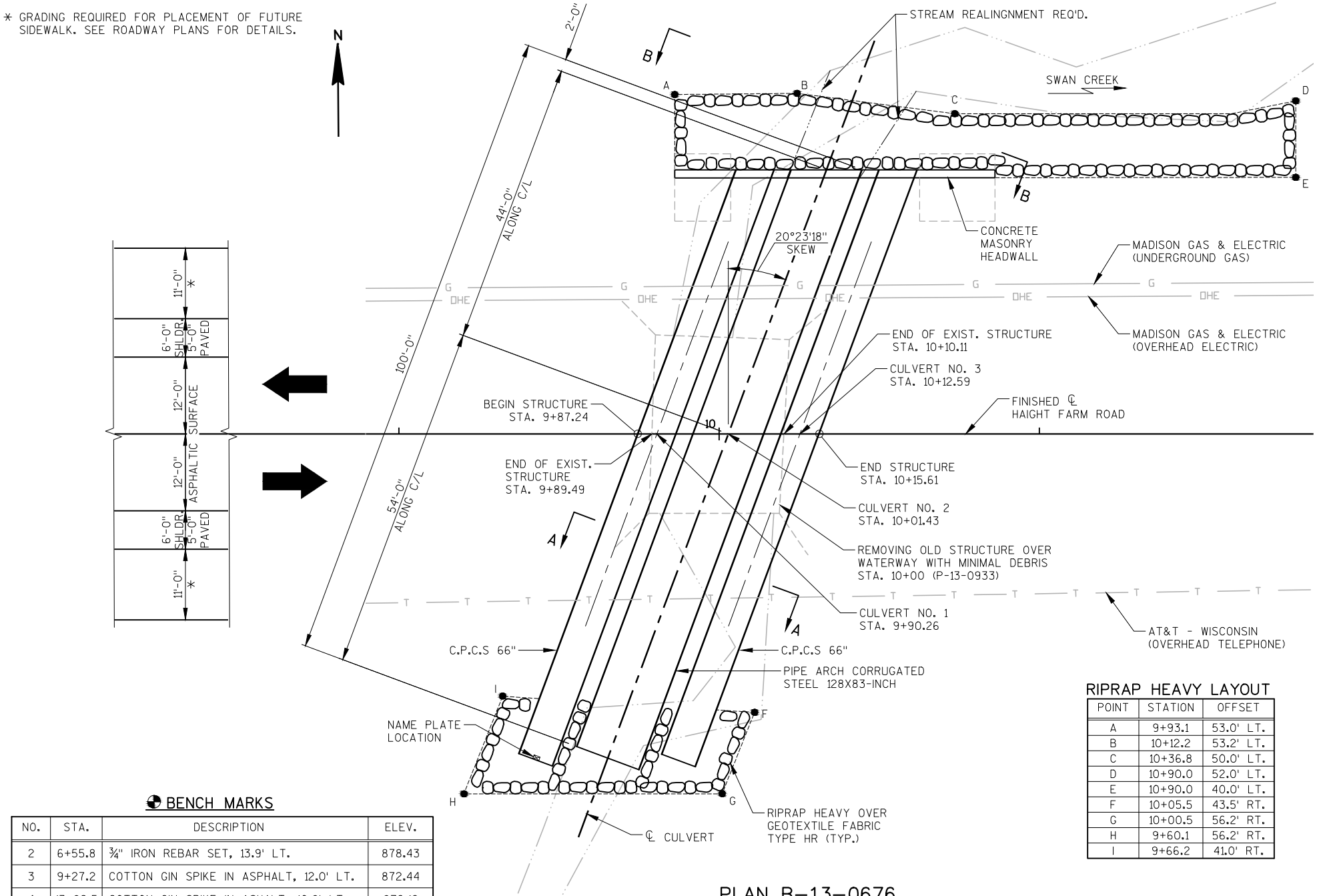
DESIGN CONSULTANT

PATRICK BOLAND, P.E.  
(608) 588-7484

BRIDGE OFFICE CONTACT

WILLIAM DREHER, PE  
(608) 266-8489

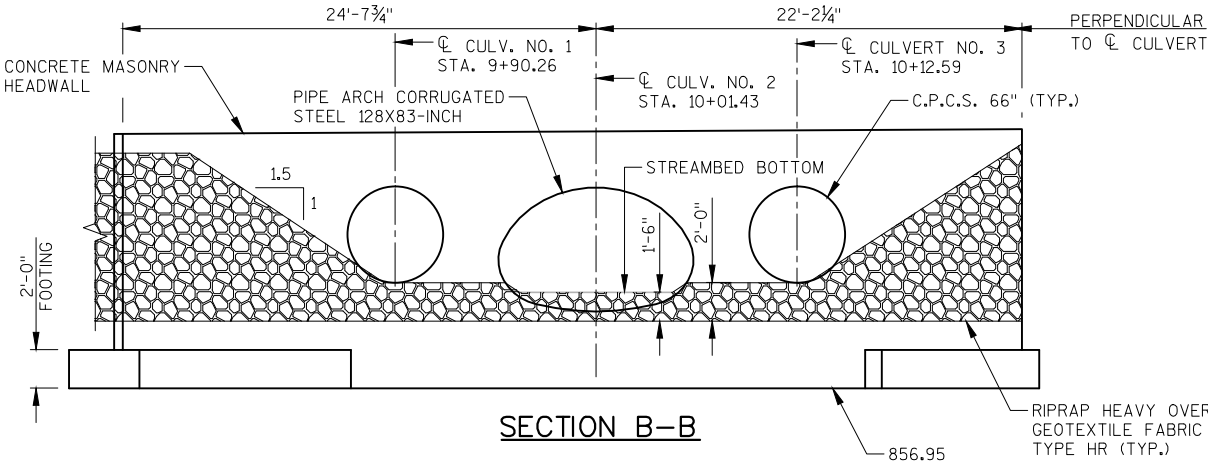
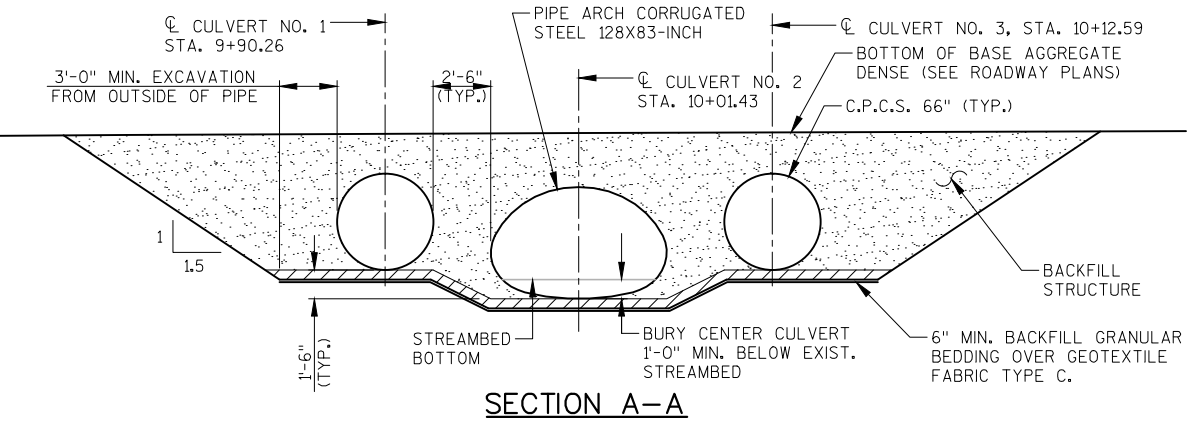
NO.	DATE	REVISION	BY
<b>JEWELL</b> associates engineers, inc. Engineers - Planners - Surveyors			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED <i>William C. Dreher</i> <b>02/18/14</b> CHIEF STRUCTURES DESIGN ENGINEER DATE			
<b>STRUCTURE B-13-0676</b>			
HAIGHT FARM ROAD OVER SWAN CREEK			
COUNTY	DANE	TOWN/CITY/VILLAGE	FITCHBURG
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	AK	DESIGN CK'D.	PTB
DRAWN BY	AK	PLANS CK'D.	PTB
GENERAL PLAN			SHEET 1 OF 5



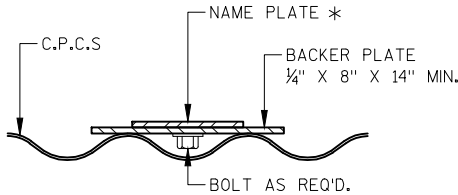
RIPRAP HEAVY LAYOUT

POINT	STATION	OFFSET
A	9+93.1	53.0' LT.
B	10+12.2	53.2' LT.
C	10+36.8	50.0' LT.
D	10+90.0	52.0' LT.
E	10+90.0	40.0' LT.
F	10+05.5	43.5' RT.
G	10+00.5	56.2' RT.
H	9+60.1	56.2' RT.
I	9+66.2	41.0' RT.

NO.	STA.	DESCRIPTION	ELEV.
2	6+55.8	¾" IRON REBAR SET, 13.9' LT.	878.43
3	9+27.2	COTTON GIN SPIKE IN ASPHALT, 12.0' LT.	872.44
4	13+82.5	COTTON GIN SPIKE IN ASHALT, 10.8' LT.	876.16







NOTE:  
\* NAME PLATE SHALL BE RIGIDLY ATTACHED TO BACKER PLATE.

BACKER PLATE SHALL BE ATTACHED TO C.P.C.S BY TACK WELDING OR OTHER MEANS APPROVED BY ENGINEER.

NAME PLATE DETAIL

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

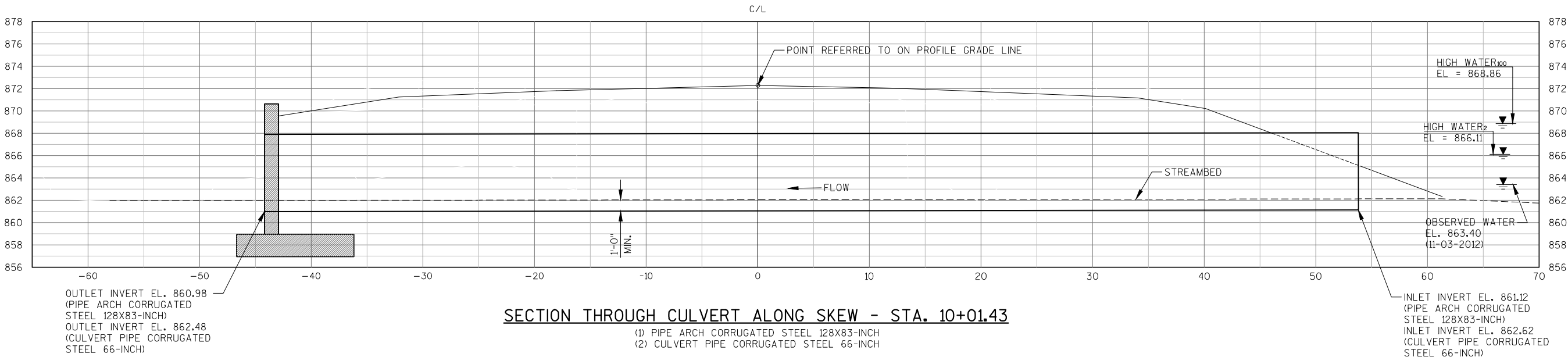
BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES. ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TO THE ELEVATION 2' ABOVE THE TOP OF PIPE WITHIN THE LENGTH OF THE CULVERT.

THE GRADATION OF THE BACKFILL STRUCTURE SHALL MEET THE REQUIREMENTS OF SECTION 209.2.2 OF THE STANDARD SPECIFICATIONS FOR GRADE 1 MATERIAL.

THE EXISTING STRUCTURE (P-13-0933) IS A SINGLE-SPAN STEEL GIRDER STRUCTURE SUPPORTED ON FULL RETAINING CONCRETE ABUTMENTS. THE STRUCTURE IS 27.8' WIDE BY 22.6' LONG AND SHALL BE REMOVED.

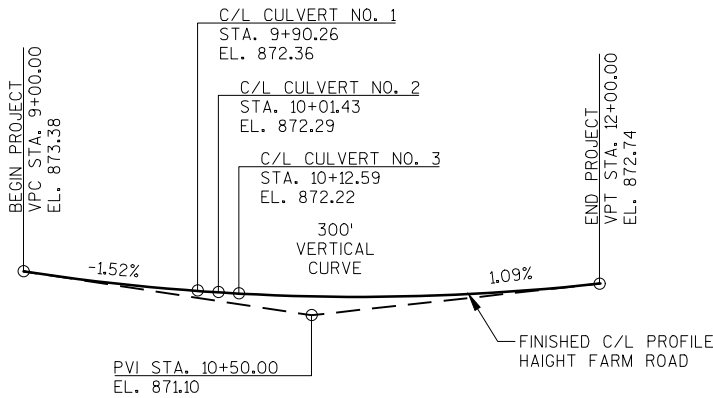
ALL STATIONS AND ELEVATIONS SHOWN ARE IN FEET.



TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	ITEM DESCRIPTION	UNIT	TOTALS
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 10+00	LS	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-13-0676	LS	1
209.0100	BACKFILL GRANULAR	CY	70
210.0100	BACKFILL STRUCTURE	CY	1270
504.0900	CONCRETE MASONRY ENDWALLS	CY	42
505.0410	BAR STEEL REINFORCEMENT HS CULVERTS	LB	3950
505.0610	BAR STEEL REINFORCEMENT HS COATED CULVERTS	LB	520
606.0300	RIPRAP HEAVY	CY	105
645.0105	GEOTEXTILE FABRIC TYPE C	SY	350
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	210
SPV.0090.01	PIPE ARCH CORRUGATED STEEL 128X83-INCH	LF	100
SPV.0090.02	CULVERT PIPE CORRUGATED STEEL 66-INCH	LF	200

3/4"  $\phi$  X 6" GALV. ANCHOR BOLTS REQ'D. AT CONCRETE HEADWALL. COST INCLUDED IN BID ITEMS SPV.0090.01 AND SPV.0090.02. ESTIMATE 18 ANCHOR BOLTS REQ'D. AT EACH OUTER PIPE AND 28 ANCHOR BOLTS REQ'D. AT CENTER PIPE FOR A TOTAL OF 64 ANCHOR BOLTS REQ'D.



PROFILE GRADE LINE - HAIGHT FARM ROAD

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-0676			
DRAWN BY		AK	PTB
CROSS SECTION & QUANTITIES		SHEET 2 OF 5	



REMOVING OLD STRUCTURE OVER  
WATERWAY WITH MINIMAL DEBRIS  
STA. 10+00 (P-13-0933)

BORING NO. 1

BEGIN STRUCTURE  
STA. 9+87.24

PROPOSED  
STRUCTURE  
B-13-0676

C/L CULVERT

CULVERT NO. 3  
STA. 10+12.59

C/L HAIGHT FARM ROAD

END STRUCTURE  
STA. 10+15.61

BORING NO. 2

CULVERT NO. 2  
STA. 10+01.43

CULVERT NO. 1  
STA. 9+90.26

SWAN  
CREEK

### PLAN B-13-0676

- (1) PIPE ARCH CORRUGATED STEEL 128X83-INCH  
(2) CULVERT PIPE CORRUGATED STEEL 66-INCH

BORINGS TAKEN BY:  
BADGER STATE DRILLING, INC.  
STOUGHTON, WI  
SEPTEMBER 19, 2012

GEOTECHNICAL REPORT BY:  
CGC, INC.  
MADISON, WI  
OCTOBER 1, 2012

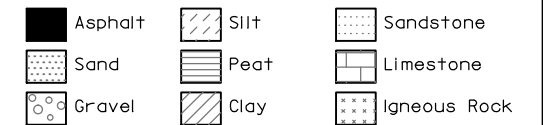
STATE PROJECT NUMBER

5849-00-74

#### ABBREVIATIONS

F—Fine M—Medium C—Course  
Ws—Weathered So—Sound

#### MATERIAL SYMBOLS



#### LEGEND OF PROBING

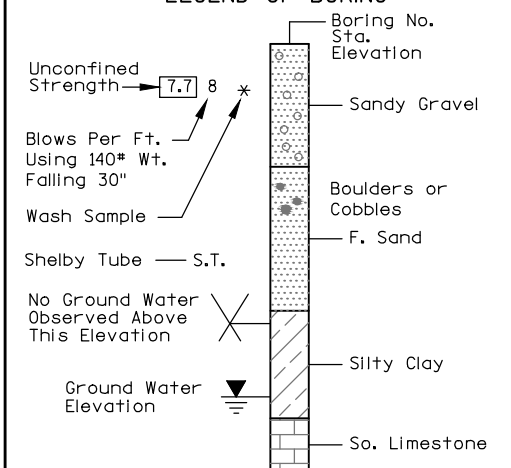
Probing No.  
Sta.  
Elevation

95/6 = 96 Blows  
for 6" Penetration.  
Probing Taken with  
a 350# Weight  
Falling 18" on a 2"  
O.D. Point.

7 Average Blows Per Foot

Refusal 95/6

#### LEGEND OF BORING

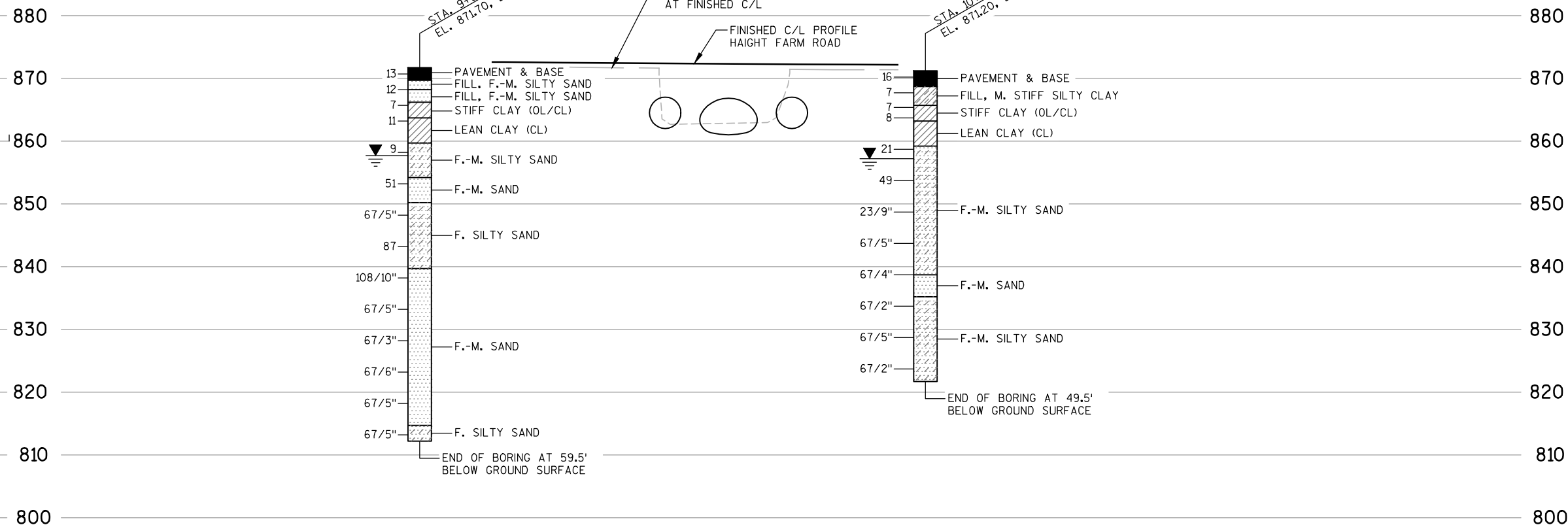


UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE 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 WISCONSIN DEPARTMENT OF TRANSPORTATION 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 STRUCTURES DESIGN SECTION			
STRUCTURE B-13-0676			
Drawn By		AK	Plans Checked PTB
SUBSURFACE EXPLORATION		SHEET 3 OF 5	





BARS SHOWN ARE LOCATED ON EACH FACE OF  
HEADWALL UNLESS SHOWN OR NOTED OTHERWISE.

① 3/4"  $\phi$  X 6' GALV. ANCHOR BOLTS (2 PER ROW) ATTACHED TO OUTSIDE OF CULVERT PIPES. SPACE @ 1'-6" CTRS. ESTIMATE 18 ANCHOR BOLTS REQ'D. AT EACH OUTER PIPE AND 28 ANCHOR BOLTS REQ'D. AT CENTER PIPE FOR A TOTAL OF 64 ANCHOR BOLTS REQ'D. COST INCLUDED IN BID ITEMS SPV.0090.01 AND SPV.0090.02

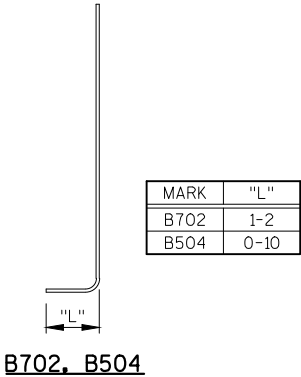
☒ HORIZ. CONST. JT.

NO.	DATE	REVISION			BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION <b>STRUCTURES DESIGN SECTION</b>					
<b>STRUCTURE B-13-0676</b>					
DRAWN BY			PTB	PLANS CK'D.	RB
HEADWALL DETAILS			SHEET 4 OF 5		

BILL OF BARS  
HEADWALL

520 LB (COATED)  
3,950 (UNCOATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
B701	28	11-4			WALL - VERT. - B.F.
B702	28	7-1	X	X	WALL - VERT. - B.F. AT FOOTING
B503	21	11-4			WALL - VERT. - F.F.
B504	21	5-3	X	X	WALL - VERT. - F.F. AT FOOTING
B805	28	10-2			FOOTING - HORIZ. - TOP
B406	21	10-2			FOOTING - HORIZ. - BOTTOM
B407	24	26-10			WALL - HORIZ. - F.F. & B.F.
B408	14	11-6			WALL - HORIZ. - F.F. & B.F.
B409	4	4-0			WALL - HORIZ. - F.F. & B.F.
B410	8	3-0			WALL - HORIZ. - F.F. & B.F.
B411	2	12-6			WALL - HORIZ. - F.F. & B.F.
B412	4	6-2			WALL - HORIZ. - F.F. & B.F.
B413	4	4-0			WALL - HORIZ. - F.F. & B.F.
B414	4	2-10			WALL - HORIZ. - F.F. & B.F.
B415	4	2-5			WALL - HORIZ. - F.F. & B.F.
B416	4	2-8			WALL - HORIZ. - F.F. & B.F.
B417	4	4-0			WALL - HORIZ. - F.F. & B.F.
B418	14	8-6			WALL - HORIZ. - F.F. & B.F.
B419	4	4-2			WALL - HORIZ. - F.F. & B.F.
B420	8	3-0			WALL - HORIZ. - F.F. & B.F.
B421	2	12-4			WALL - HORIZ. - F.F. & B.F.
B422	22	11-5			FOOTING - TRANS. - TOP & BOTTOM
B423	4	33-8			WALL - HORIZ. - F.F. & B.F. AT BOTTOM
B424	22	8-5			FOOTING - TRANS. - TOP & BOTTOM
B525	4	4-1			WALL - VERT. - F.F. & B.F.
B526	8	2-9			WALL - VERT. - F.F. & B.F.
B527	8	2-3			WALL - VERT. - F.F. & B.F.
B528	8	2-1			WALL - VERT. - F.F. & B.F.
B529	12	13-3			WALL - VERT. - F.F. & B.F.
B530	4	4-9			WALL - VERT. - F.F. & B.F.
B531	4	3-5			WALL - VERT. - F.F. & B.F.
B532	4	2-8			WALL - VERT. - F.F. & B.F.
B533	4	2-2			WALL - VERT. - F.F. & B.F.
B534	8	1-8			WALL - VERT. - F.F. & B.F.
B535	4	7-0			WALL - VERT. - F.F. & B.F.
B536	8	5-9			WALL - VERT. - F.F. & B.F.
B537	8	5-3			WALL - VERT. - F.F. & B.F.
B538	8	5-1			WALL - VERT. - F.F. & B.F.
B539	4	5-3			WALL - VERT. - F.F. & B.F.
B540	4	4-4			WALL - VERT. - F.F. & B.F.
B541	8	3-9			WALL - VERT. - F.F. & B.F.
B542	8	3-7			WALL - VERT. - F.F. & B.F.
B643	32	6-0			WALL - AT CULVERT - F.F. & B.F.
B644	8	6-8			WALL - AT CULVERT - F.F. & B.F.
B645	8	5-0			WALL - AT CULVERT - F.F. & B.F.



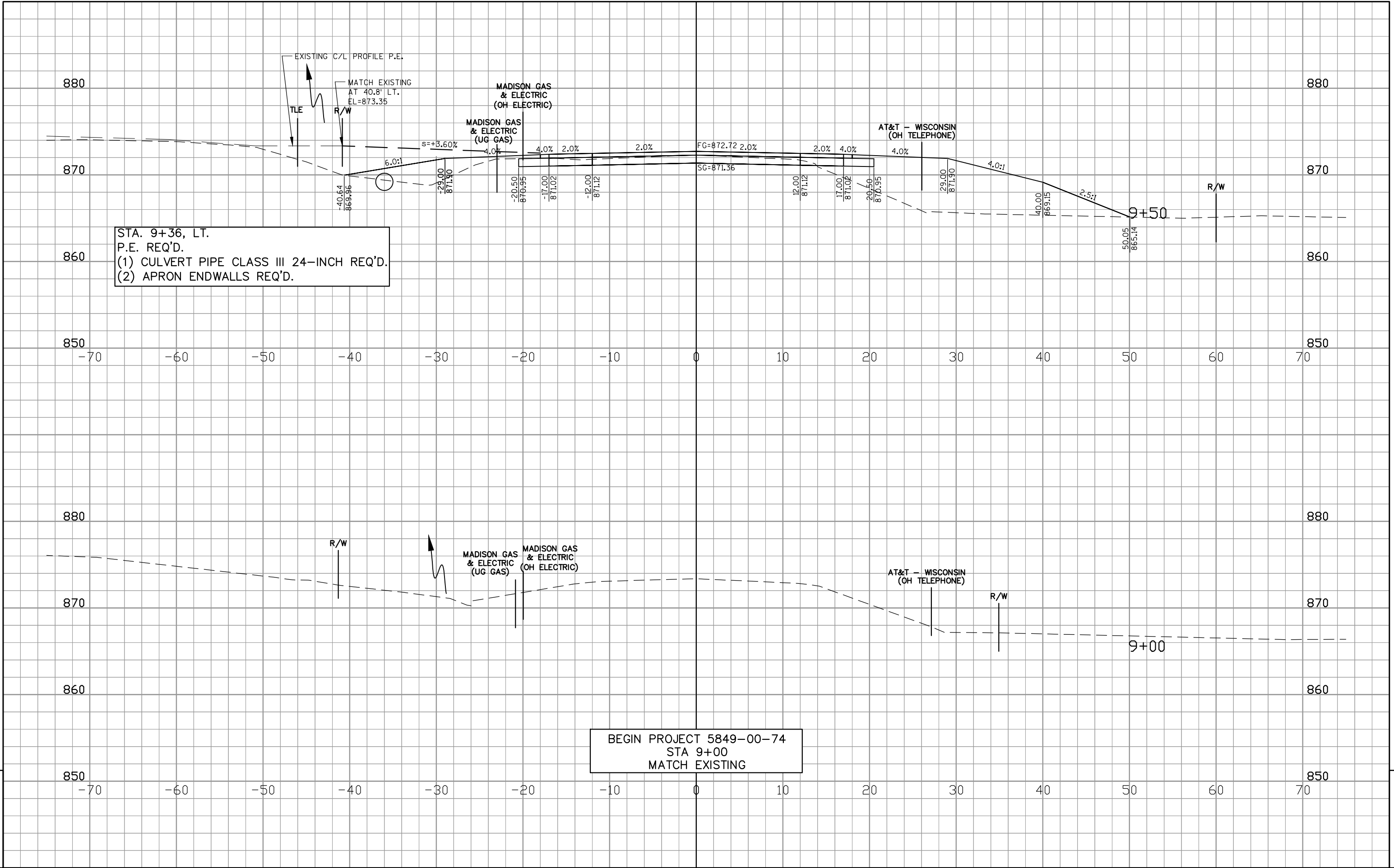
NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.  
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

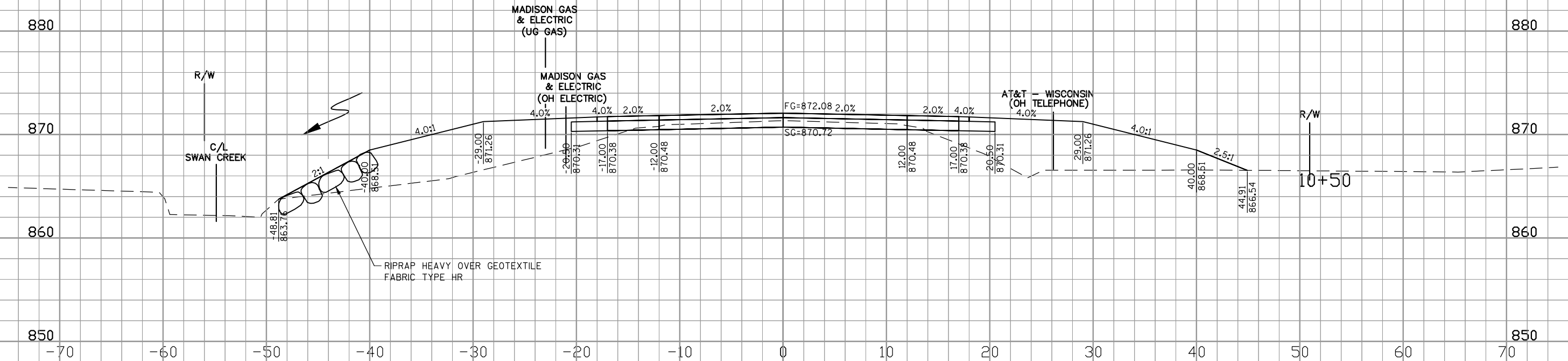
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-0676			
DRAWN BY		PTB	PLANS CK'D. RBH
HEADWALL BAR DETAILS		SHEET 5 OF 5	

EARTHWORK-MAINLINE

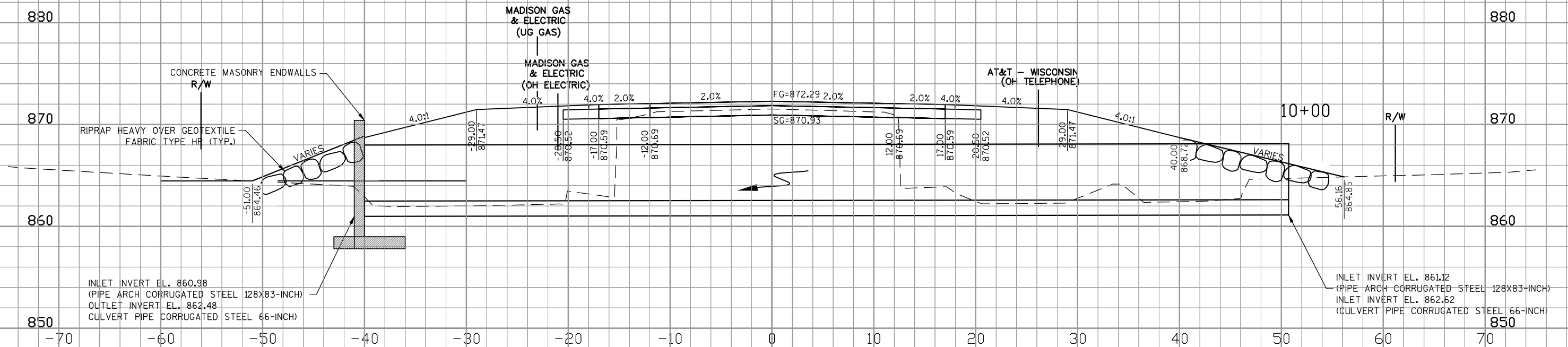
AREA (SF)						INCREMENTAL VOL (CY)								CUMMULATIVE VOLUME (CY)										
STATION	CUT	SALVAGED/ UNUSABLE		MARSH EX	EBS	SALVAGED/ UNUSABLE		FILL	MARSH EX	REDUCED MARSH IN FILL		FILL	SELECT CRUSHED MATERIAL		EBS	CUT 1.00		MARSH	REDUCED MARSH IN FILL		FILL (25%)	SELECT CRUSHED MATERIAL		MASS ORDINATE
		PAV'T MATERIAL	FILL			CUT NOTE 1	PAV'T MATERIAL NOTE 2			(0.6) NOTE 4	(25%)		(1.5)	NOTE 1		FILL	EX		(0.6) NOTE 4	(25%) NOTE 5		(1.5)	EBS	
9+00	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9+50	26	0	161	0	0	50	0	149	0	0	0	186	0	0	0	50	149	0	0	186	0	0	0	-136
9+89	26	0	161	0	0	38	0	232	0	0	0	290	0	0	0	88	381	0	0	476	0	0	0	-388
9+89	0	0	161	0	0	0	0	0	0	0	0	0	0	0	0	88	381	0	0	476	0	0	0	-388
10+00	0	0	178	0	0	0	0	69	0	0	0	87	0	0	0	88	450	0	0	563	0	0	0	-475
10+10	0	0	196	0	0	0	0	69	0	0	0	87	0	0	0	88	519	0	0	650	0	0	0	-562
10+10	14	0	196	0	0	0	0	0	0	0	0	0	0	0	0	88	519	0	0	650	0	0	0	-562
10+50	14	0	196	0	0	21	0	291	0	0	0	364	0	0	0	109	810	0	0	1014	0	0	0	-905
11+00	23	0	167	0	0	34	0	336	0	0	0	420	0	0	0	143	1146	0	0	1434	0	0	0	-1291
11+50	30	0	137	0	0	49	0	282	0	0	0	353	0	0	0	192	1428	0	0	1786	0	0	0	-1594
12+00	28	0	0	0	0	54	0	127	0	0	0	159	0	0	0	246	1555	0	0	1945	0	0	0	-1699
COLUMN TOTALS =						246	0	1555	0	0	0	1945	0	0										
(P.E.), STA. 9+36, LT.						24																		
						270																		

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
4 - REDUCED MARSH IN FILL	REDUCED MARSH THAT CAN BE USED IN FILL
5 - FILL (25%)	FILL 25%: (FILL -REDUCED MARSH IN FILL)*1.25
6 - MASS ORDINATE	(CUT - FILL (25%))



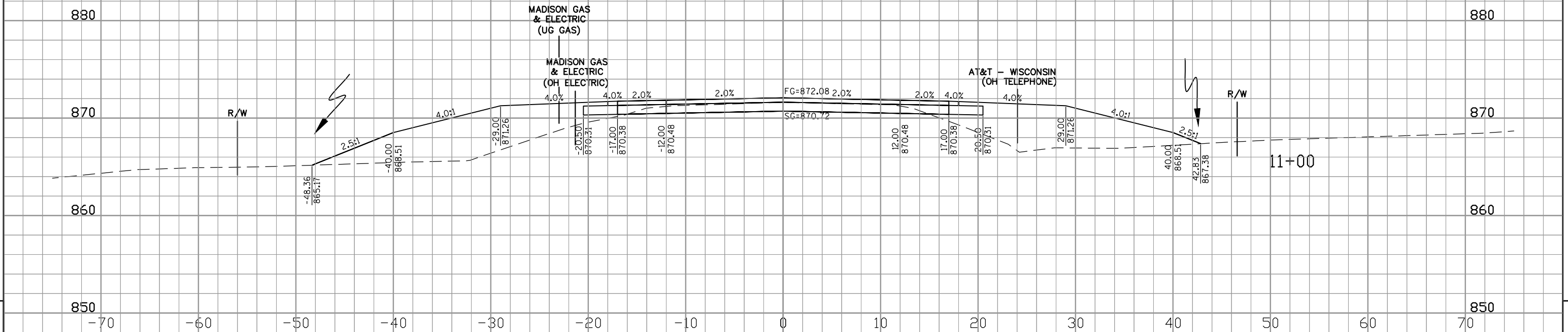
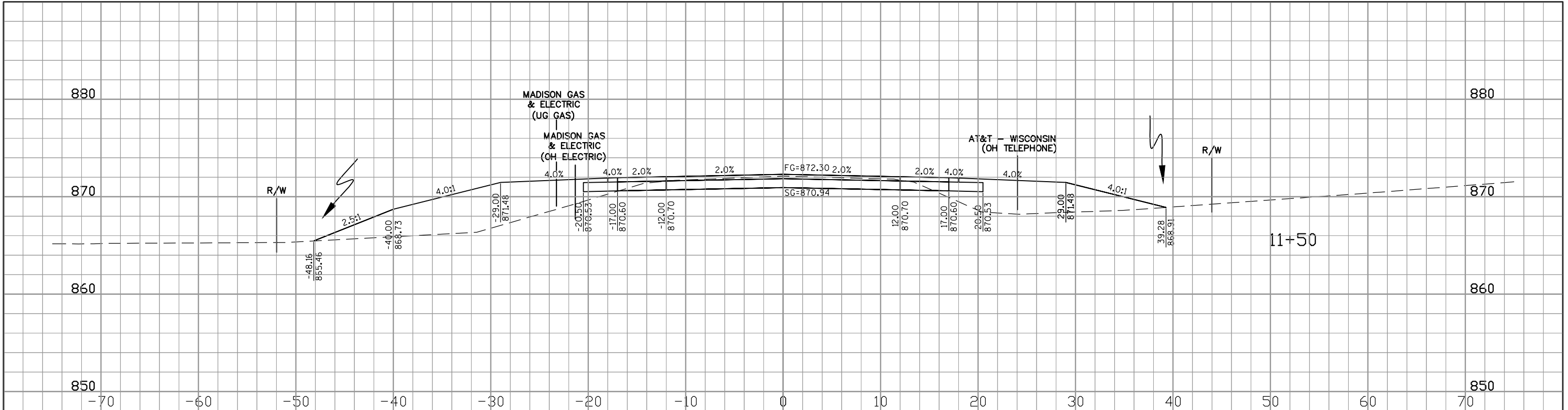


STRUCTURE B-13-0676  
REQ'D.



INLET INVERT EL. 860.98  
(PIPE ARCH CORRUGATED STEEL 128X83-INCH)  
OUTLET INVERT EL. 862.48  
CULVERT PIPE CORRUGATED STEEL 66-INCH

INLET INVERT EL. 861.12  
(PIPE ARCH CORRUGATED STEEL 128X83-INCH)  
INLET INVERT EL. 862.62  
(CULVERT PIPE CORRUGATED STEEL 66-INCH)









## *Wisconsin Department of Transportation*

Dedicated people creating transportation solutions  
through innovation and exceptional service.

<http://www.dot.wisconsin.gov>