ncl

March 2013

PROJECT ID: 9515-05-70

WITH: N/A

COUNTY: MARATHON

ORDER OF SHEETS

TOTAL SHEETS = 42

33

DESIGN DESIGNATION

A.A.D.T.	2013	= 75
A.A.D.T.	2033	= 100
D.H.V.	2033	= 13
D.D.		= 50/50
T.		= 10%
DESIGN SPEED		= 45 MPH
ESALS		= 14,600

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE (PL + 58.1)
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES

- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

BIG SANDY CREEK BRIDGE

PIT ROAD, TOWN OF HEWITT

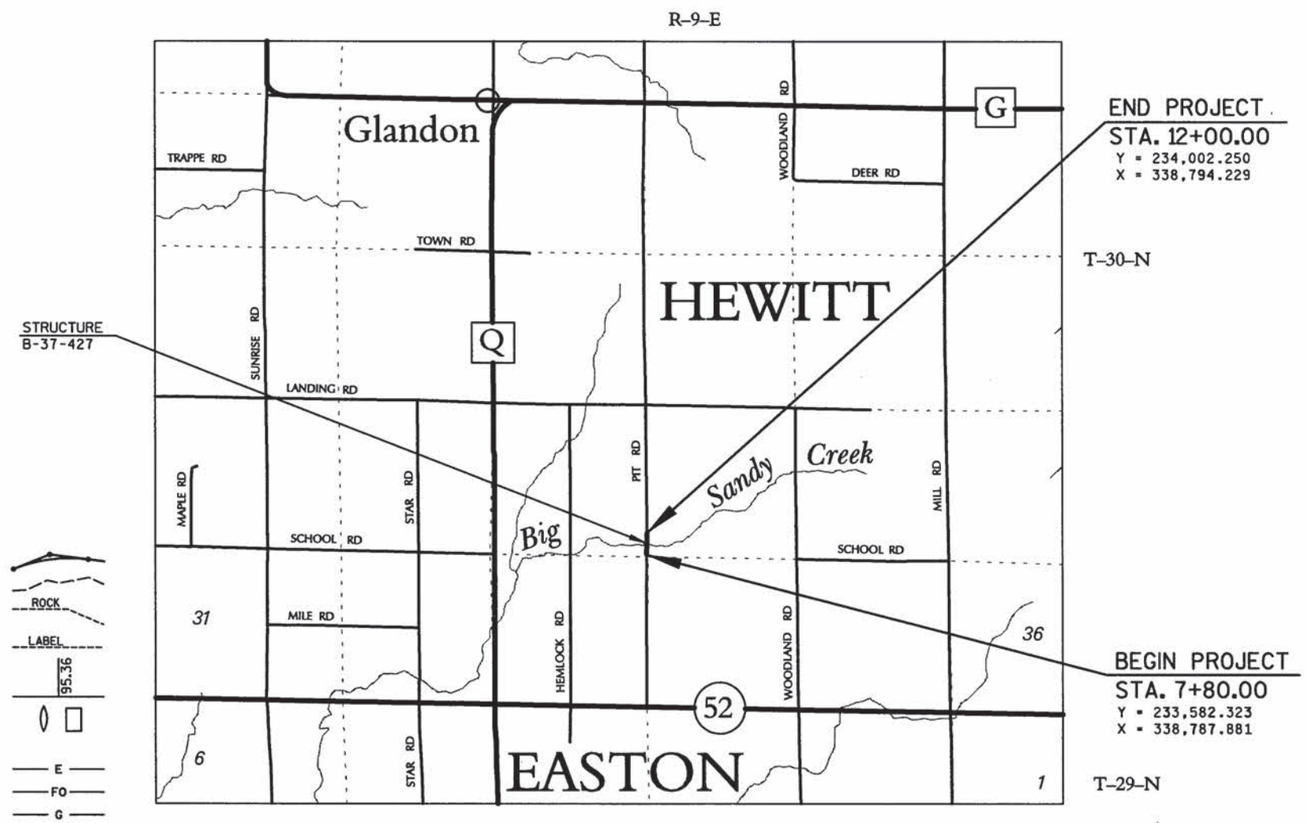
TOWN ROAD

MARATHON COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
9515-05-70		

STATE PROJECT NUMBER

9515-05-70



LAYOUT SCALE 0 0.5 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.080 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), MARATHON COUNTY, HORIZONTAL DATUM NAD 83 (2007). ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

ACCEPTED FOR

MARATHON COUNTY

9-28-12 (Date) (Signature & Title of Official)

ACCEPTED FOR

TOWN OF HEWITT

9-38-12 (Date) Chairman (Signature & Title of Official)

ORIGINAL PLANS PREPARED BY:

STRAND ASSOCIATES®

910 WEST WINGRA DRIVE
MADISON, WISCONSIN 53715
(608) 251-4843

WISCONSIN
DAVID J. WALKER
E-23400
VERONA
WI
PROFESSIONAL ENGINEER
9/26/2012

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	STRAND ASSOCIATES, INC.
Designer	STRAND ASSOCIATES, INC.
Management Consultant	CEDAR CORPORATION
C.O. Examiner	

APPROVED FOR THE DEPARTMENT

DATE: 10-23-12 (Management Consultant Signature)

E

FILE NAME : S:\MAD\3500--3599\3598\001\Micros\Plan\010101_ti.dgn PLOT DATE : 9/26/2012 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 15

GENERAL NOTES

NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.

EROSION CONTROL FEATURES AS SHOWN ON THE PLANS ARE SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE CONTRACTORS ECIP AND APPROVED BY THE ENGINEER IN CONSULTATION WITH THE DNR. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

SILT FENCE SHALL BE PLACED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER AND IN PLACE PRIOR TO CONSTRUCTION.

WETLANDS EXIST IN THE PROJECT AREA. DO NOT DISTURB AREAS OUTSIDE THE SLOPE INTERCEPTS.

ALL SIGN LOCATIONS SHALL BE REVIEWED BY THE ENGINEER PRIOR TO INSTALLATION.

ANY SIGNS THAT CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE COVERED OR REMOVED AS NEEDED AND APPROVED BY THE ENGINEER. COVERING SIGNS SHALL BE PAID FOR AS TRAFFIC CONTROL COVERING SIGNS TYPE II. REMOVING SIGNS SHALL BE PAID FOR AS REMOVING SIGNS TYPE II.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY SHALL BE RESTORED AS DIRECTED BY THE ENGINEER.

FILL QUANTITIES HAVE BEEN EXPANDED BY A FACTOR OF 1.25 ON YARDAGE SHEETS.

3.5-INCH ASPHALTIC SURFACE SHALL BE CONSTRUCTED WITH ONE 1.75-INCH LOWER LAYER AND ONE 1.75-INCH UPPER LAYER. THE LOWER LAYER SHALL USE 12.5 MM NOMINAL SIZE AGGREGATE AND THE ASPHALTIC CEMENT MATERIAL SHALL BE PG58-28. THE UPPER LAYER SHALL USE 12.5 MM NOMINAL SIZE AGGREGATE AND THE ASPHALTIC CEMENT MATERIAL SHALL BE PG58-28.

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

THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.

WHEN THE QUANTITIY OF THE ITEM OF BASE LAYER IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

ABBREVIATIONS

ABUT	ABUTMENT
AADT	ANNUAL AVERAGE DAILY TRAFFIC
BF	BACK FACE
BM	BENCH MARK
BOC	BACK OF CURB
CTR	CENTER
CL	CENTERLINE
D	LANE DISTRIBUTION
DD	DIRECTIONAL DISTRIBUTION
DHV	DESIGN HOURLY VOLUME
DIA	DIAMETER
DIM	DIMENSION
DS	DESIGN SPEED
EAT	ENERGY ABSORBING TERMINAL
EL OR ELEV	ELEVATION
ESALS	EQUIVALENT SINGLE AXLE LOADS
EXC	EXCAVATION
FF	FRONT FACE
MAX	MAXIMUM
MIN	MINIMUM
MPH	MILES PER HOUR
NORM	NORMAL
OH	OVERHEAD POWER LINE
PL	PROPERTY LINE
POL	POINT ON LINE
REQ'D	REQUIRED
RDWY	ROADWAY
RHF	RIGHT HAND FORWARD
SE	SUPERELEVATION
SPA	SPACE
STA	STATION
SYM	SYMMETRICAL
T	PERCENT TRUCKS
TYP	TYPICAL
V	DESIGN SPEED
VAR	VARIES

DIGGERS HOTLINE

Call 811 3 Work Days Before You Dig
or Toll Free (800) 242-8511
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

** DENOTES UTILITIES THAT ARE NOT DIGGERS HOTLINE MEMBERS

DESIGN CONTACT

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WISCONSIN DEPARTMENT OF NATURAL RESOURCES
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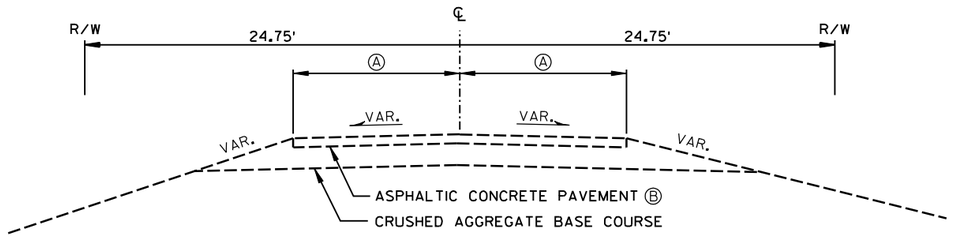
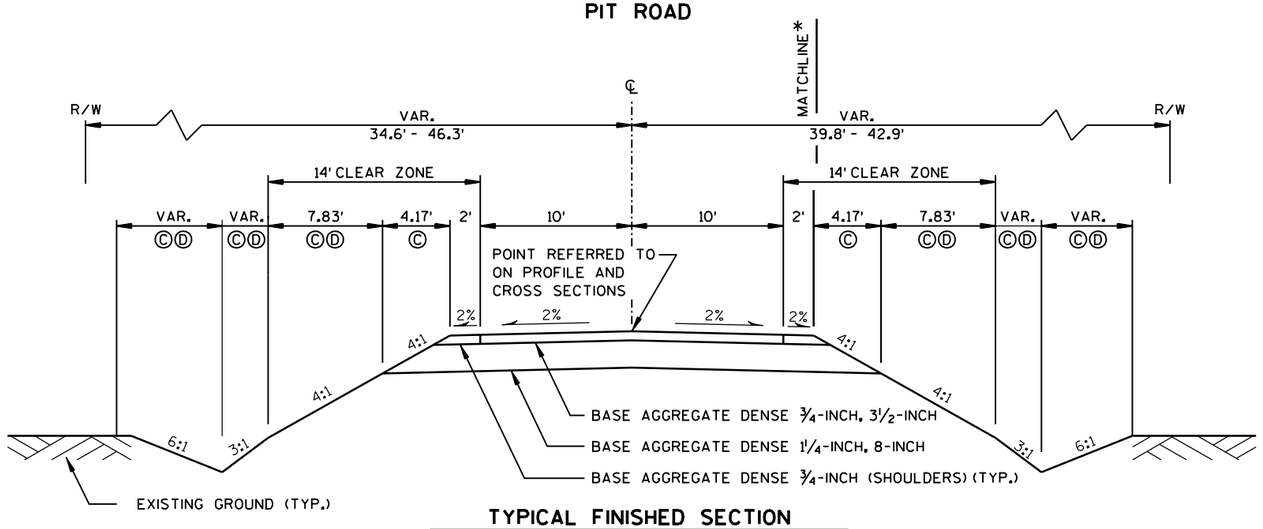
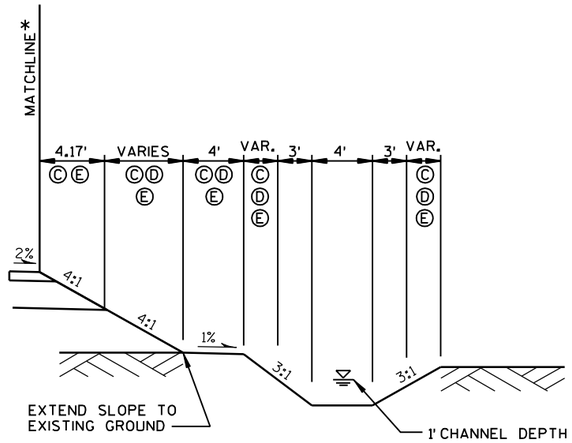
WISCONSIN RAPIDS, WI 54494
PH: (715) 421-7867
EMAIL: marc.hershfield@wisconsin.gov



TYPICAL EXISTING SECTION
PIT ROAD



TYPICAL FINISHED SECTION
PIT ROAD
STATION 7+80.00 - STATION 9+31.50
STATION 10+68.50 - STATION 12+00.00



*STATION 10+68.5 RT - STATION 12+00.0 RT

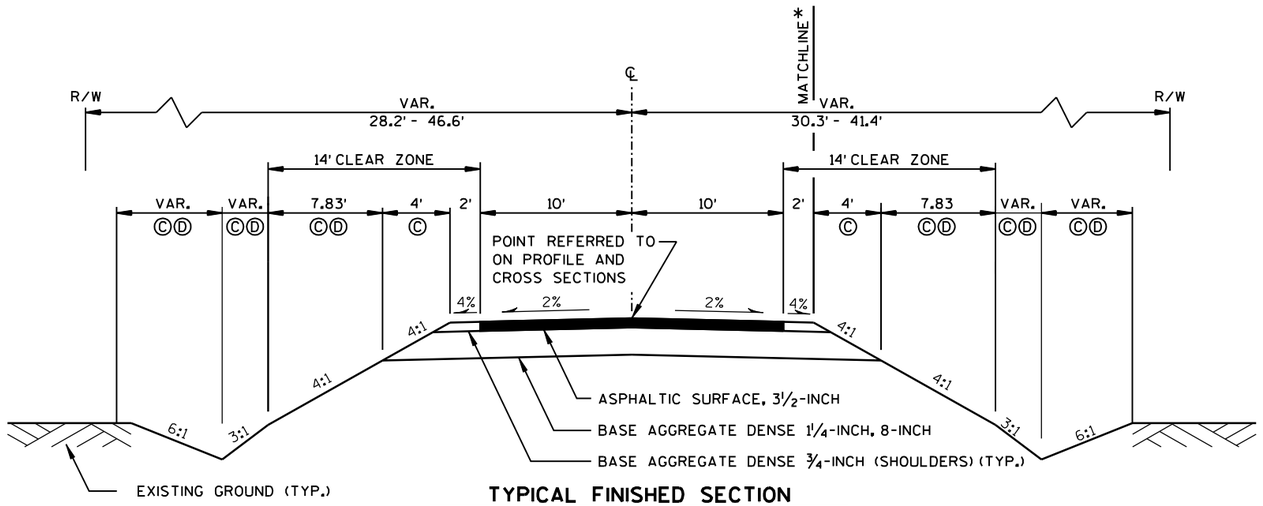
Ⓐ STA. 7+80 - STA. 9+37.1, 12'
STA. 9+37.1 - STA. 9+85.8, 11'
STA. 10+13.5 - STA. 10+64.2, 11'
STA. 10+64.2 - STA. 12+00.0, 12'

Ⓑ STA. 7+80 - STA. 9+37.1, 0"
STA. 9+37.1 - STA. 9+85.8, 3.5"
STA. 10+13.5 - STA. 10+64.2, 2"
STA. 10+64.2 - STA. 12+00.0, 0"

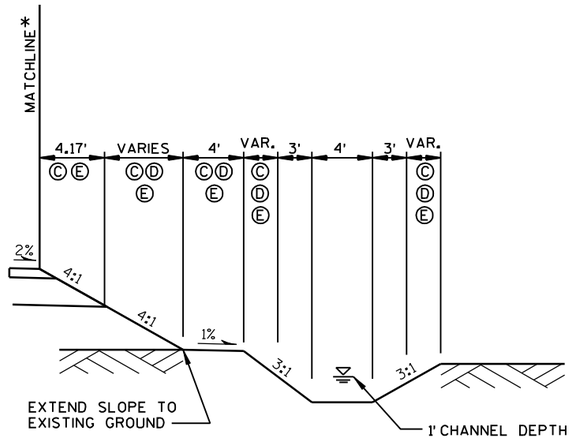
Ⓒ LIMITS OF SEEDING TEMPORARY, SEEDING MIXTURE NO. 20, AND FERTILIZER TYPE B

Ⓓ LIMITS OF SALVAGED TOPSOIL AND MULCHING

Ⓔ LIMITS OF EROSION MAT URBAN CLASS I TYPE A



TYPICAL FINISHED SECTION
PIT ROAD
STATION 9+31.50 - STATION 9+81.49
STATION 10+18.49 - STATION 10+68.50



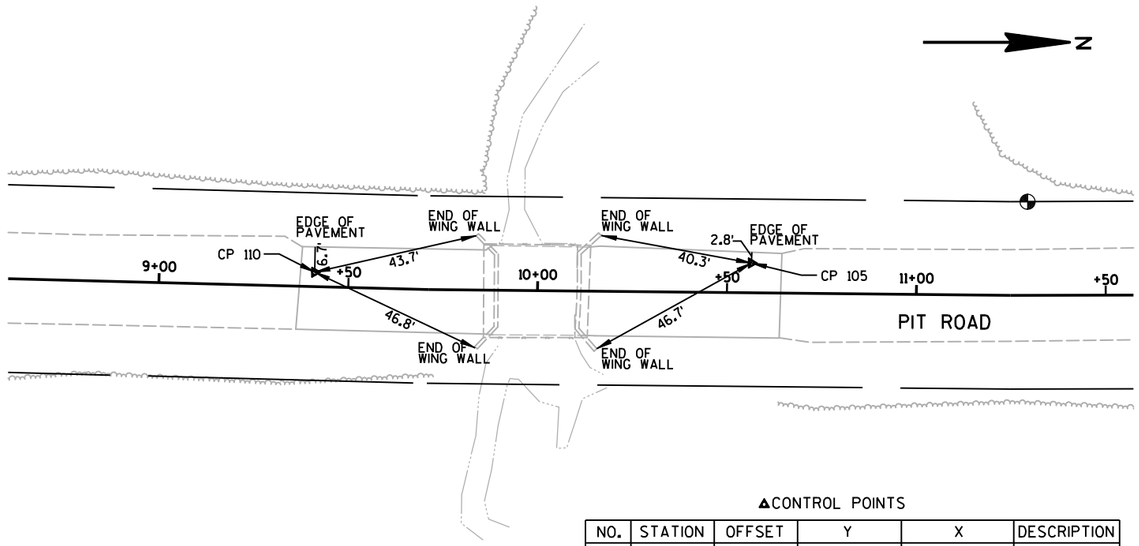
*STATION 10+18.5 RT - STATION 10+68.5 RT

PROJECT NO: 9515-05-70	HWY: TOWN ROAD	COUNTY: MARATHON	TYPICAL SECTIONS	SHEET 3	E

RUNOFF COEFFICIENT TABLE

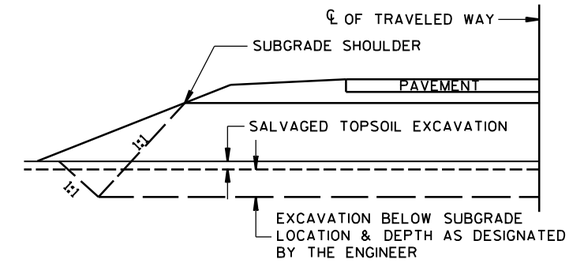
	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIP-TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPE-TURF			.25 .32			.27 .34			.28 .36			.30 .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 = 0.83 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.70 ACRES

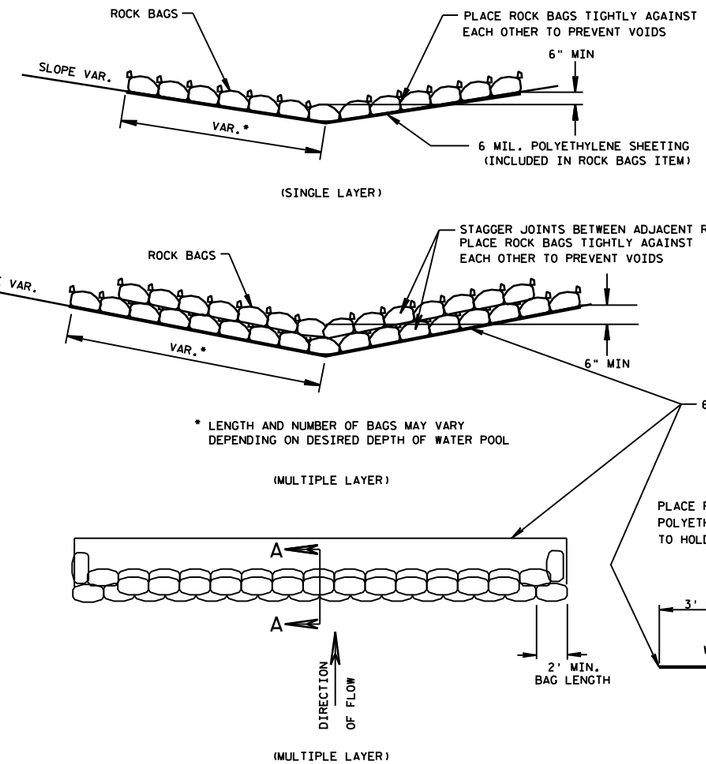


▲CONTROL POINTS

NO.	STATION	OFFSET	Y	X	DESCRIPTION
105	10+56.39	7.87'LT	233,858.719	338,785.849	MAG NAIL
110	9+41.06	3.82'LT	233,743.429	338,788.288	MAG NAIL

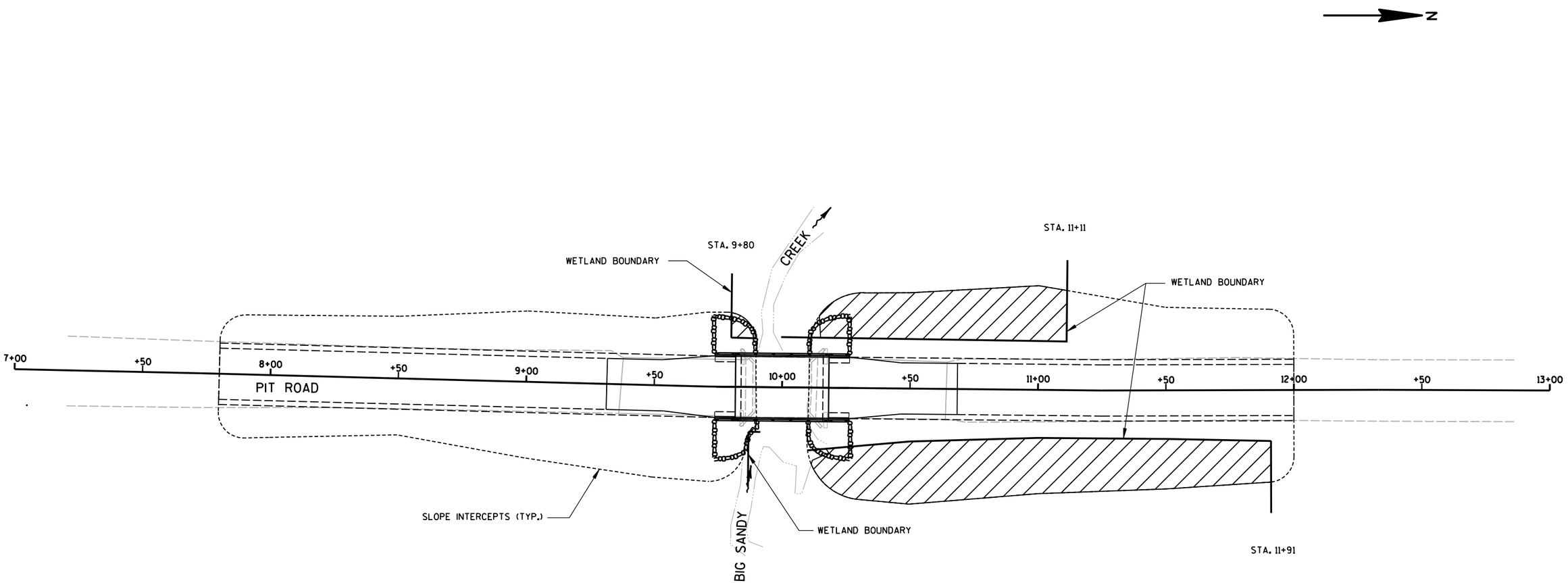


DETAIL FOR EXCAVATION BELOW SUBGRADE



ROCK BAGS (DITCH CHECK)

2

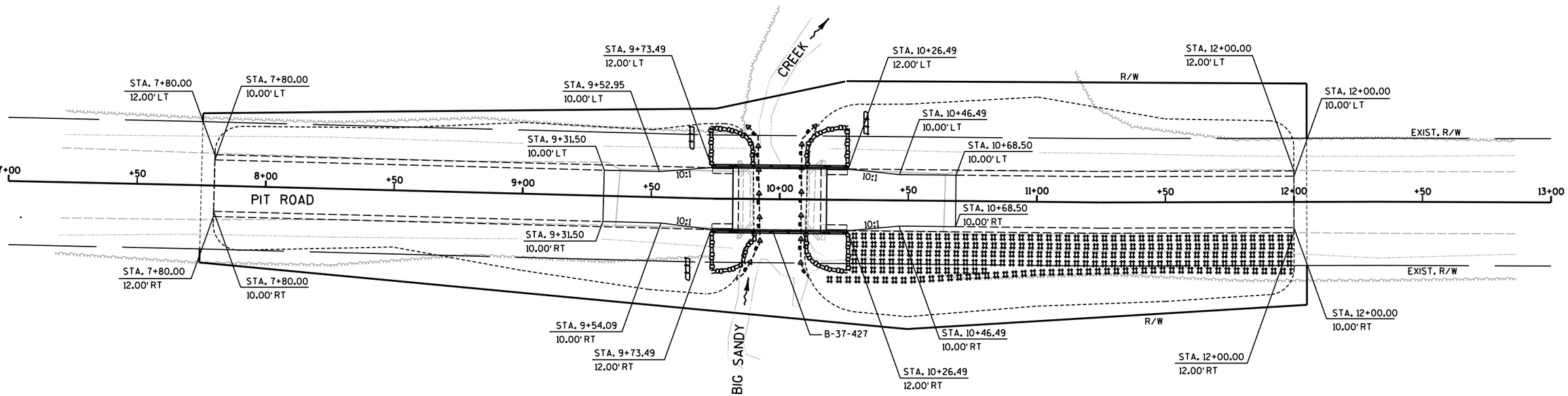


WETLAND IMPACTS

IMPACT LOCATION STATION	IMPACT TYPE	AREA ACRES
9+80 - 9+90 LT	RPE	0.002
10+10 - 11+11 LT	RPE	0.042
10+10 - 11+91 RT	RPE	0.084

PROJECT NO: 9515-05-70	HWY: TOWN ROAD	COUNTY: MARATHON	WETLAND DETAIL	SHEET 5	E

2



LEGEND

- TURBIDITY BARRIER
- SLOPE INTERCEPT
- ROCK BAGS (DITCH CHECK)
- EROSION MAT CLASS I TYPE A

PROJECT NO: 9515-05-70	HWY: TOWN ROAD	COUNTY: MARATHON	LAYOUT AND EROSION CONTROL DETAIL	SHEET 6	E

DATE 09JAN13 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	9515-05-70 QUANTITY
0010	201.0105	CLEARING	STA	5.000	5.000
0020	201.0205	GRUBBING	STA	5.000	5.000
0030	203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS (STATION) 01. 10+00	LS	1.000	1.000
0040	205.0100	EXCAVATION COMMON *P*	CY	450.000	450.000
0050	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 01. B-37-427	LS	1.000	1.000
0060	210.0100	BACKFILL STRUCTURE	CY	124.000	124.000
0070	213.0100	FINISHING ROADWAY (PROJECT) 01. 9515-05-70	EACH	1.000	1.000
0080	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	160.000	160.000
0090	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	720.000	720.000
0100	311.0110	BREAKER RUN	TON	35.000	35.000
0110	455.0605	TACK COAT	GAL	12.000	12.000
0120	465.0105	ASPHALTIC SURFACE	TON	44.000	44.000
0130	502.0100	CONCRETE MASONRY BRIDGES	CY	112.000	112.000
0140	502.3200	PROTECTIVE SURFACE TREATMENT	SY	135.000	135.000
0150	505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	3,060.000	3,060.000
0160	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	14,760.000	14,760.000
0170	513.4060	RAILING TUBULAR TYPE M (STRUCTURE) 01. B-37-427	LS	1.000	1.000
0180	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	16.000	16.000
0190	550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	140.000	140.000
0200	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	130.000	130.000
0210	619.1000	MOBILIZATION	EACH	1.000	1.000
0220	624.0100	WATER	MGAL	2.600	2.600
0230	625.0500	SALVAGED TOPSOIL *P*	SY	1,750.000	1,750.000
0240	627.0200	MULCHING *P*	SY	1,750.000	1,750.000
0250	628.1504	SILT FENCE	LF	200.000	200.000
0260	628.1520	SILT FENCE MAINTENANCE	LF	200.000	200.000
0270	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	2.000	2.000
0280	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	2.000	2.000
0290	628.2006	EROSION MAT URBAN CLASS I TYPE A	SY	375.000	375.000
0300	628.6005	TURBIDITY BARRIERS	SY	130.000	130.000
0310	628.7570	ROCK BAGS	EACH	18.000	18.000
0320	629.0210	FERTILIZER TYPE B *P*	CWT	3.000	3.000
0330	630.0120	SEEDING MIXTURE NO. 20 *P*	LB	70.000	70.000
0340	630.0200	SEEDING TEMPORARY *P*	LB	70.000	70.000
0350	634.0612	POSTS WOOD 4X6-INCH X 12-FT	EACH	4.000	4.000
0360	637.0202	SIGNS REFLECTIVE TYPE II	SF	12.000	12.000
0370	638.2602	REMOVING SIGNS TYPE II	EACH	4.000	4.000
0380	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	4.000	4.000
0390	642.5001	FIELD OFFICE TYPE B	EACH	1.000	1.000
0400	643.0100	TRAFFIC CONTROL (PROJECT) 01. 9515-05-70	EACH	1.000	1.000
0410	643.0920	TRAFFIC CONTROL COVERING SIGNS TYPE II	EACH	5.000	5.000
0420	645.0120	GEOTEXTILE FABRIC TYPE HR	SY	195.000	195.000
0430	650.4500	CONSTRUCTION STAKING SUBGRADE	LF	384.000	384.000
0440	650.5000	CONSTRUCTION STAKING BASE	LF	384.000	384.000
0450	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 01. B-37-427	LS	1.000	1.000
0460	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 9515-05-70	LS	1.000	1.000
0470	650.9920	CONSTRUCTION STAKING SLOPE STAKES	LF	384.000	384.000

DATE 09JAN13 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	9515-05-70 QUANTITY
0480	715.0502	INCENTIVE STRENGTH CONCRETE STRUCTURES	DOL	670.000	670.000
0490	SPV.0035	SPECIAL 01. RIPRAP HEAVY SPECIAL	CY	95.000	95.000

3

CLEARING AND GRUBBING

CATEGORY	STATION - STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
0010	9+00 - 10+00	RT	1	1
	9+00 - 10+00	LT	1	1
	10+00 -12+00	RT	2	2
	11+00 - 12+00	LT	1	1
		TOTALS	5	5

FINISHING ROADWAY

CATEGORY	PROJECT I.D.	213.0100 EACH
0010	9515-05-70	1

BASE AGGREGATE SUMMARY

CATEGORY	STATION - STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	624.0100 WATER MGAL*
0010	7+80.0 - 9+81.5	LT & RT	85	380	0.9
	10+18.5 - 12+00.0	LT & RT	75	340	0.8
		TOTALS	160	720	1.7

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

3

EARTHWORK SUMMARY

CATEGORY	DIVISION	STATION - STATION	LOCATION	EXCAVATION COMMON	(2) SALVAGED/ UNUSABLE PAVEMENT MATERIAL REMOVAL	(3) AVAILABLE MATERIAL	(4) EBS EXCAVATION 5% OF AVAILABLE MATERIAL	(5) 311.0110 BREAKER RUN	(6) 205.0100 TOTAL EXCAVATION COMMON	(7) EBS EXCAVATION REDUCED FACTOR 0.8	UNEXPANDED FILL	(8) EXPANDED FILL FACTOR 1.25	(9) MASS ORDINATE	(10) 208.0100 -BORROW	(10) +WASTE	624.0100 WATER*
				CY	CY	CY	CY	TON	CY	CY	CY	CY		CY		MGAL
0010	1	7+80.00 - 9+81.49	LT & RT	158	14	144	7	12	165	6	86	100	44	-	44	0.3
	2	10+18.49 - 12+00.00	LT & RT	267	10	257	13	23	280	10	155	181	76	-	76	0.6
		TOTALS		425	24	401	20	35	445	16	241	281	120	0	120	0.9
		PAY QUANTITIES		-	-	-	-	35	450		-	-	-	-	-	0.9

1) EXCAVATION COMMON DOES NOT INCLUDE EBS EXCAVATION.
2) SALVAGED/UNUSABLE MATERIALS ARE INCLUDED IN EXCAVATION COMMON COLUMN.
3) AVAILABLE MATERIAL = EXCAVATION COMMON - SALVAGED MATERIALS.
4) EBS EXCAVATION TO BE BACKFILLED WITH BREAKER RUN.
5) BREAKER RUN = EBS EXCAVATION*1.75 TONS/CY.
6) TOTAL EXCAVATION COMMON = EXCAVATION COMMON + EBS EXCAVATION.
7) REDUCED EBS IN FILL: EXCAVATED EBS MATERIAL IS USEABLE IN FILLS OUTSIDE THE 1:1 SLOPE. EBS IN FILL REDUCTION FACTOR = 0.8.
8) (EXPANDED FILL FACTOR = (UNEXPANDED FILL - EBS EXCAVATION REDUCED)*1.25
9) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE CATEGORY.
PLUS QTY INDICATES AN EXCESS OF MATERIAL WITHIN THE CATEGORY.
MINUS QTY INDICATES A SHORTAGE OF MATERIAL WITHIN THE CATEGORY
10) WASTE = POSITIVE MASS ORDINATE, BORROW = NEGATIVE MASS ORDINATE

* ADDITIONAL QUANTITIES LISTED ELSEWHERE

ASPHALTIC ITEMS

CATEGORY	STATION - STATION	LOCATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
0010	9+31.5 - 9+81.5	LT & RT	6	22
	10+18.5 - 10+68.5	LT & RT	6	22
		TOTALS	12	44

MOBILIZATION

CATEGORY	PROJECT I.D.	619.1000 EACH
0010	9515-05-70	0.25
0020	9515-05-70	0.75
	TOTAL	1.00

SILT FENCE

CATEGORY	STATION - STATION	628.1504 SILT FENCE LF	628.1520 SLIT FENCE MAINTENANCE LF
0010	UNDISTRIBUTED	200	200

FINISHING ITEMS

CATEGORY	STATION - STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB
0010	7+80.0 - 9+81.5	LT & RT	760	760	1	25	25
	10+18.5 - 12+00.0	LT & RT	990	990	1	30	30
	UNDISTRIBUTED	---	---	---	1	15	15
		TOTALS	1,750	1,750	3	70	70

MOBILIZATIONS EROSION CONTROL

CATEGORY	628.1905 EACH
0010	2

MOBILIZATIONS EMERGENCY EROSION CONTROL

CATEGORY	628.1910 EACH
0010	2

PROJECT NO: 9515-05-70	HWY: TOWN ROAD	COUNTY: MARATHON	MISCELLANEOUS QUANTITIES	SHEET 9	E

3

3

EROSION MAT URBAN CLASS I TYPE A

CATEGORY	STATION - STATION	LOCATION	628.2006 SY
0010	10+18.5 - 12+00.0	RT	300
	UNDISTRIBUTED	---	75
		TOTAL	375

TURBIDITY BARRIERS

CATEGORY	STATION	LOCATION	628.6005 SY
0010	9+92	LT & RT	65
	10+08	LT & RT	65
		TOTAL	130

ROCK BAGS

CATEGORY	STATION	LOCATION	628.7570 EACH
0010	9+65	LT	6
	9+65	RT	6
	10+33	LT	6
		TOTAL	18

PERMANENT SIGNING QUANTITIES

CATEGORY	STATION	LOCATION	SIGN CODE	SIGN MESSAGE	SIGN SIZE (W x H) IN X IN	637.0202 SIGNS REFLECTIVE TYPE II SF	634.0612 POSTS WOOD 4X6-INCH X12-FT EACH	REMARKS
0010	9+73.5	LT	W5-52L	CLEARANCE STRIPE	12X36	3.00	1	INSTALL AT END OF BRIDGE
	9+73.5	RT	W5-52R	CLEARANCE STRIPE	12X36	3.00	1	INSTALL AT END OF BRIDGE
	10+26.5	LT	W5-52L	CLEARANCE STRIPE	12X36	3.00	1	INSTALL AT END OF BRIDGE
	10+26.5	RT	W5-52R	CLEARANCE STRIPE	12X36	3.00	1	INSTALL AT END OF BRIDGE
					TOTALS	12.00	4	

REMOVING SIGNS SUMMARY

CATEGORY	LOCATION	SIGN MESSAGE	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH
0010	BRIDGE CORNERS	CLEARANCE STRIPE	4	4

TRAFFIC CONTROL COVERING SIGNS TYPE II

CATEGORY	LOCATION	643.0920 EACH
0010	UNDISTRIBUTED	5

FIELD OFFICE TYPE B

CATEGORY	PROJECT I.D.	642.5001 EACH
0010	9515-05-70	1

TRAFFIC CONTROL

CATEGORY	PROJECT I.D.	643.0100 EACH
0010	9515-05-70	1

CONSTRUCTION STAKING SUMMARY

CATEGORY	STATION - STATION	LOCATION	650.4500 SUBGRADE LF	650.5000 BASE LF	650.9920 SLOPE STAKES LF
0010	7+80.0 - 9+81.5	LT & RT	202	202	202
	10+18.5 - 12+00.0	LT & RT	182	182	182
		TOTALS	384	384	384

FILE NAME : S:\MAD\3500--3599\3598\001\Micros\Plan\030202_mq.dgn PLOT DATE : 9/26/2012 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 43

SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTEREST.

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	TOTAL ACRES	R/W ACRES REQUIRED NEW	R/W ACRES REQUIRED EXISTING	R/W ACRES REQUIRED TOTAL	TOTAL ACRES REMAINING	TLE ACRES
1	NATHAN S. WOLFF	FEE	40	0.14	0.15	0.29	39.71	----
2	RONALD L. AND THOMAS J. STEFFENS	FEE	39	0.16	0.34	0.50	38.50	----

NOTE:
THE SW1/4 OF THE SW1/4 OF SEC. 27 IS DESIGNATED AS MANAGED FOREST LAND PER DOCUMENT NO. 1040028

EXISTING R/W ESTABLISHED BY BEST FIT CENTERLINE OF ROAD AFTER CONSULTING WITH THE MARATHON COUNTY HIGHWAY COMMISSIONER, MARATHON COUNTY SURVEYOR, AND THE HEWITT TOWN CHAIR. EXISTING R/W WIDTH IS 3 RODS (49.5') PER TOWN OF HEWITT HIGHWAY RECORDS - JULY 18, 1957.

NO ACCESS RESTRICTIONS FOUND IN TITLE REPORTS

NO EASEMENTS AFFECTED ON ACQUISTION PARCELS

COORDINATES AND BEARINGS SHOWN ON THIS PLAT ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, MARATHON COUNTY ZONE, NAD83 (2007) ADJUSTMENT. THE COORDINATES SHOWN ARE GRID COORDINATES AND ARE TO BE USED AS GRID OR GROUND VALUES ON THIS PLAT.

POT STA. 4+59.72
Y = 233,262.124
X = 338,780.839

POT STA. 7+72.76
Y = 233,575.083
X = 338,787.691
Δ = 0°14'53" (RT)

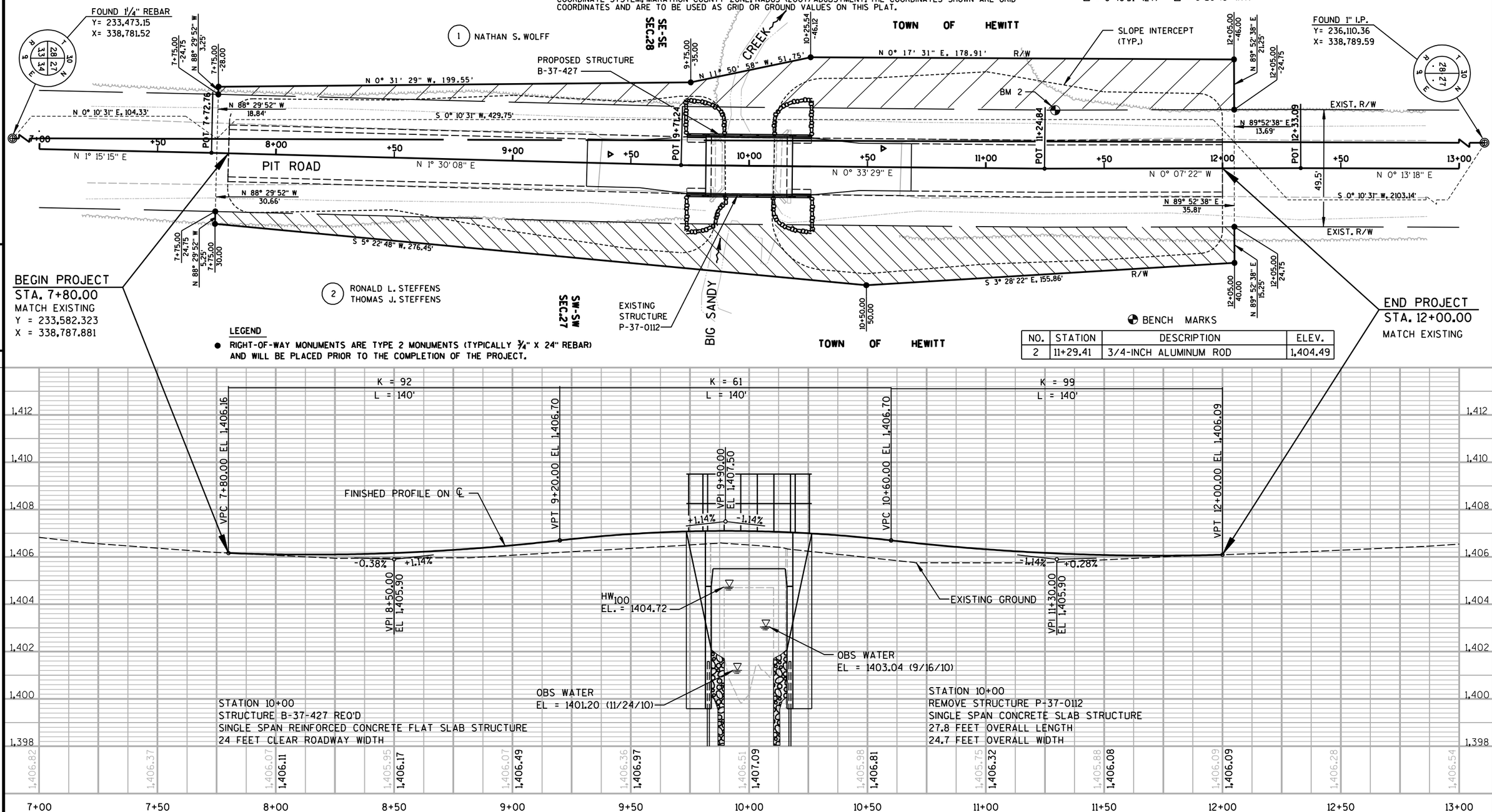
POT STA. 9+71.24
Y = 233,773.499
X = 338,792.894
Δ = 0°56'39" (LT)

POT STA. 11+24.84
Y = 233,927.091
X = 338,794.390
Δ = 0°40'51" (LT)

POT STA. 12+33.09
Y = 234,035.339
X = 338,794.158
Δ = 0°20'40" (RT)

POT STA. 14+43.00
Y = 234,245.249
X = 338,794.970

N



NO.	STATION	DESCRIPTION	ELEV.
2	11+29.41	3/4-INCH ALUMINUM ROD	1,404.49

PROJECT NO: 9515-05-70	HWY: TOWN ROAD	COUNTY: MARATHON	PLAN AND PROFILE	SHEET E

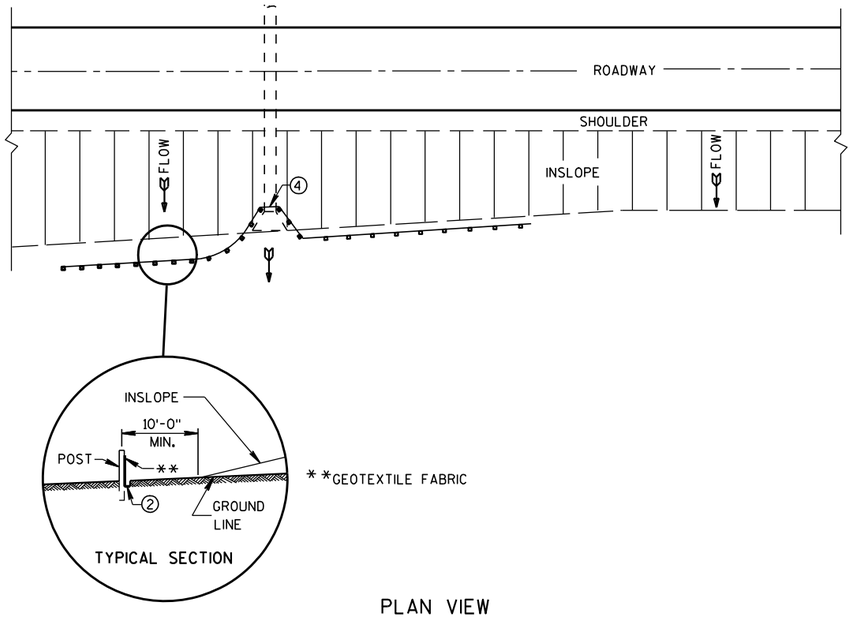
FILE NAME : S:\MAD\3500--3599\3598\001\Micros\Plan\050101_pp.dgn PLOT DATE : 9/26/2012 PLOT BY : _username_ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

Standard Detail Drawing List

08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
15C02-04A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-04B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C06-05	SIGNING & MARKING FOR TWO LANE BRIDGES

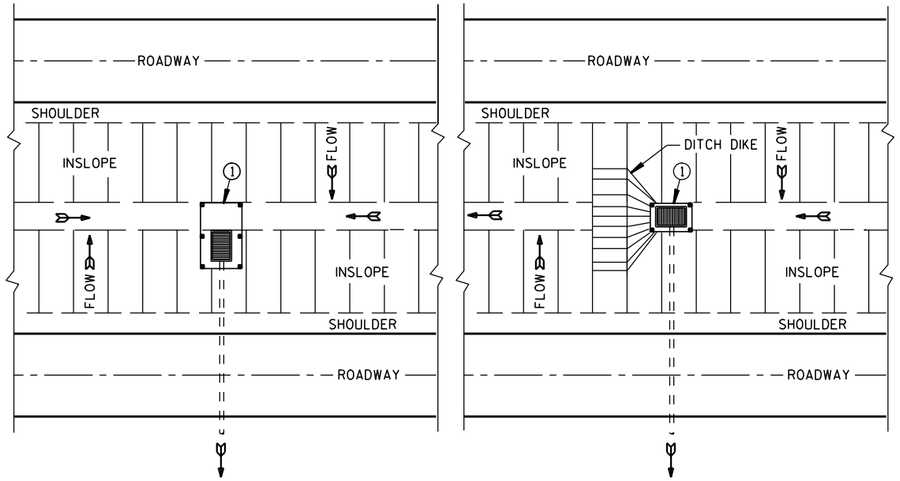
6

6



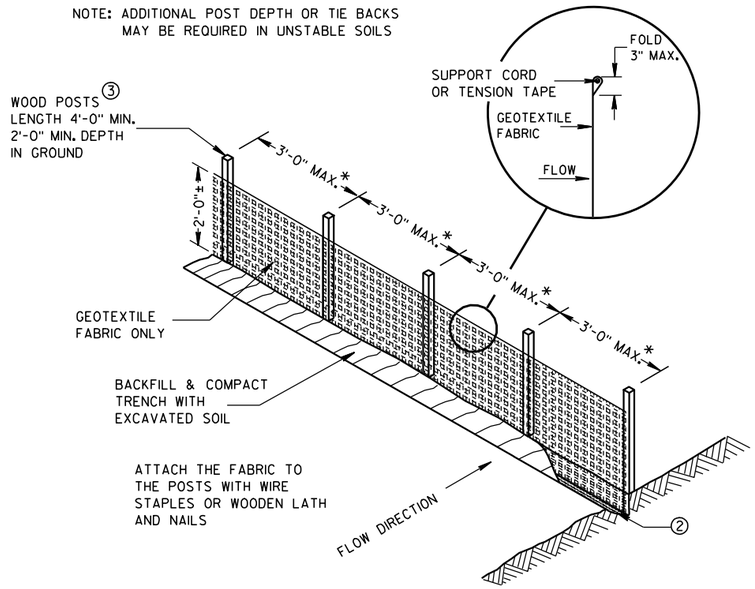
PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE

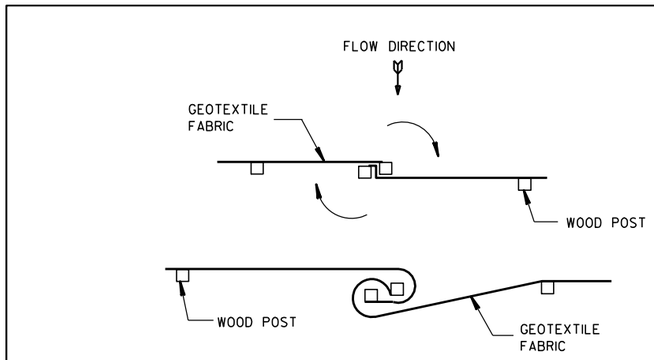


PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS



SILT FENCE

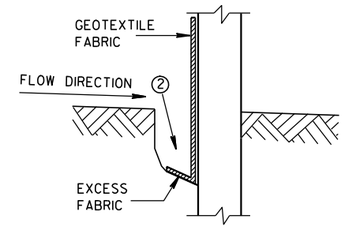


JOINING TWO LENGTHS OF SILT FENCE 5

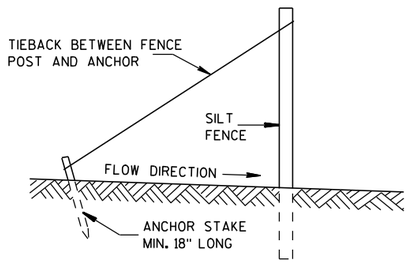
GENERAL NOTES

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 1⅛" X 1⅛" 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)

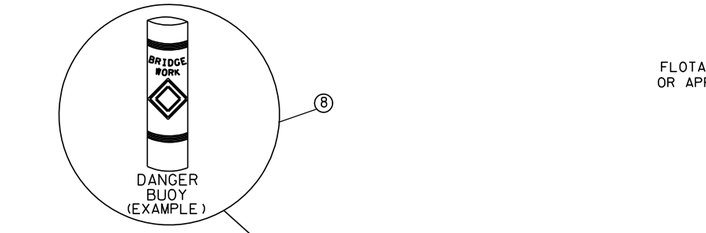
SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

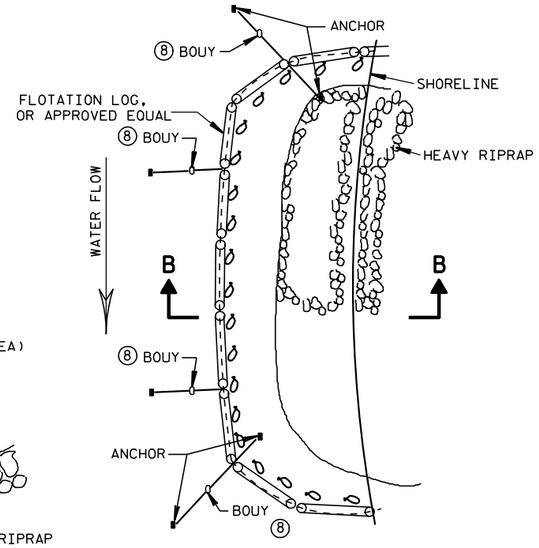
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

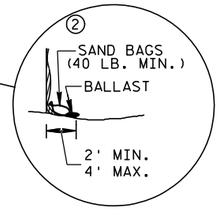
S.D.D. 8 E 9-6

S.D.D. 8 E 9-6

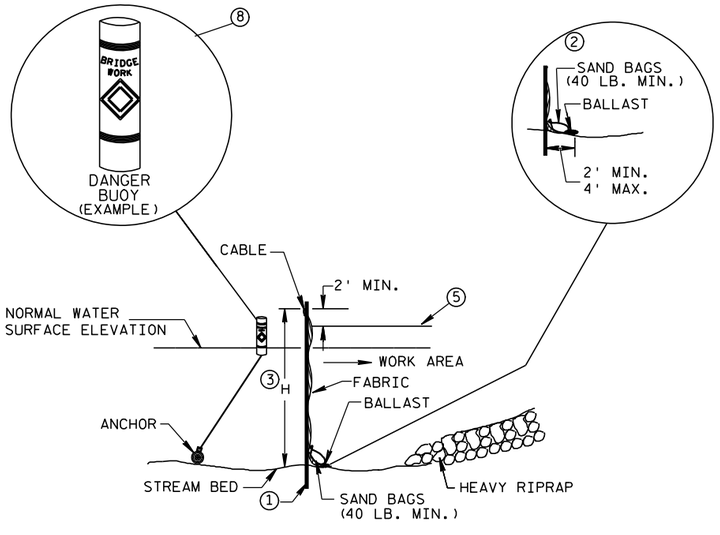


SECTION B-B

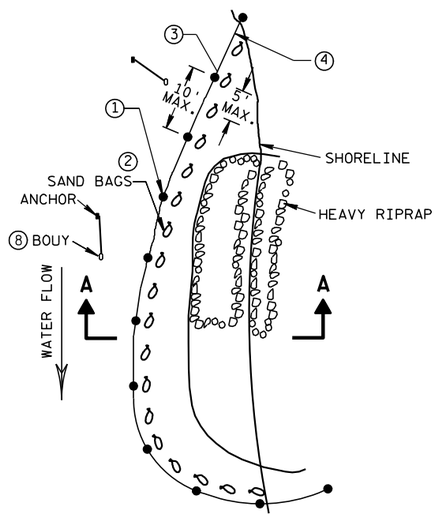




TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A-A



PLAN VIEW

TURBIDITY BARRIER STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

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.

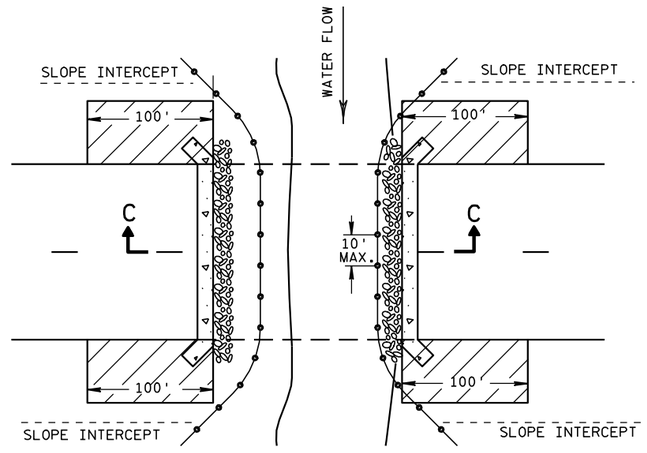
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MIMIMUM BARRIER HEIGHT SHALL BE 2'GREATER THAN EITHER THE O2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WICHEVER IS GREATER.

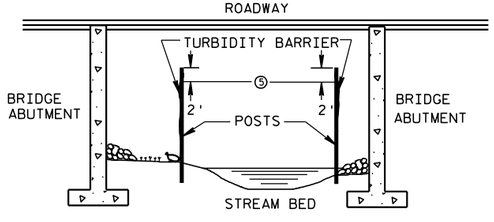
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

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.



PLAN VIEW



SECTION C-C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

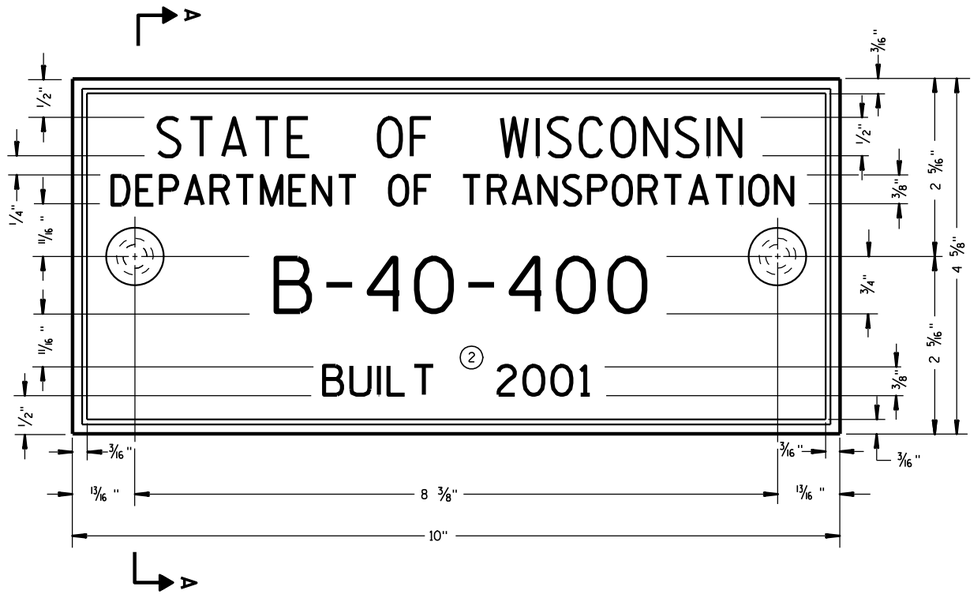
APPROVED
6/04/02 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

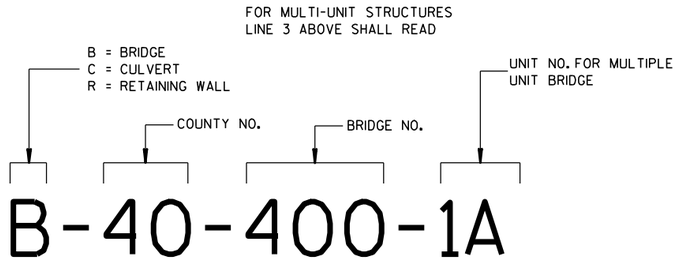
S.D.D. 8 E 11-2

6

S.D.D. 8 E 11-2



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



NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

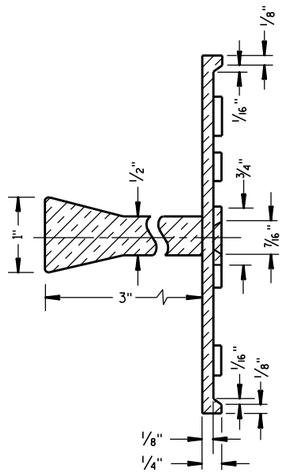
GENERAL NOTES

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.

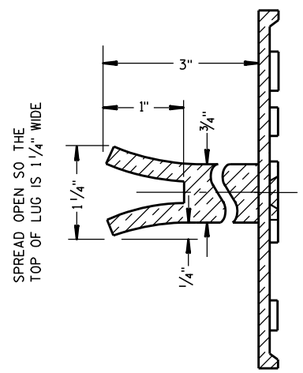
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(1) EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

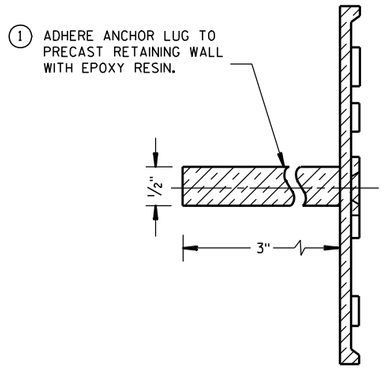
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10 DATE

/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP ENGINEER

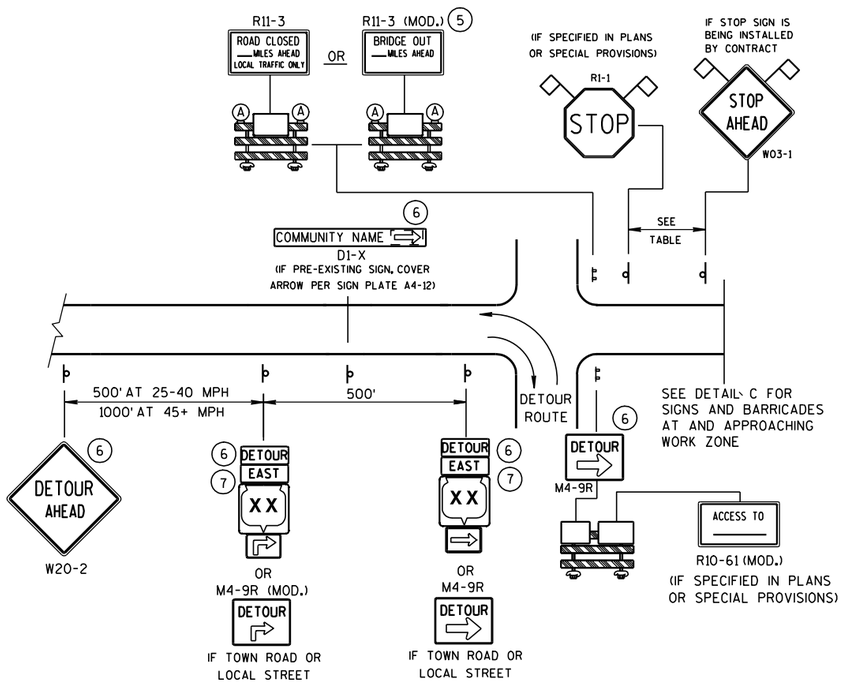
FHWA

6

S.D.D. 12 A 3-10

6

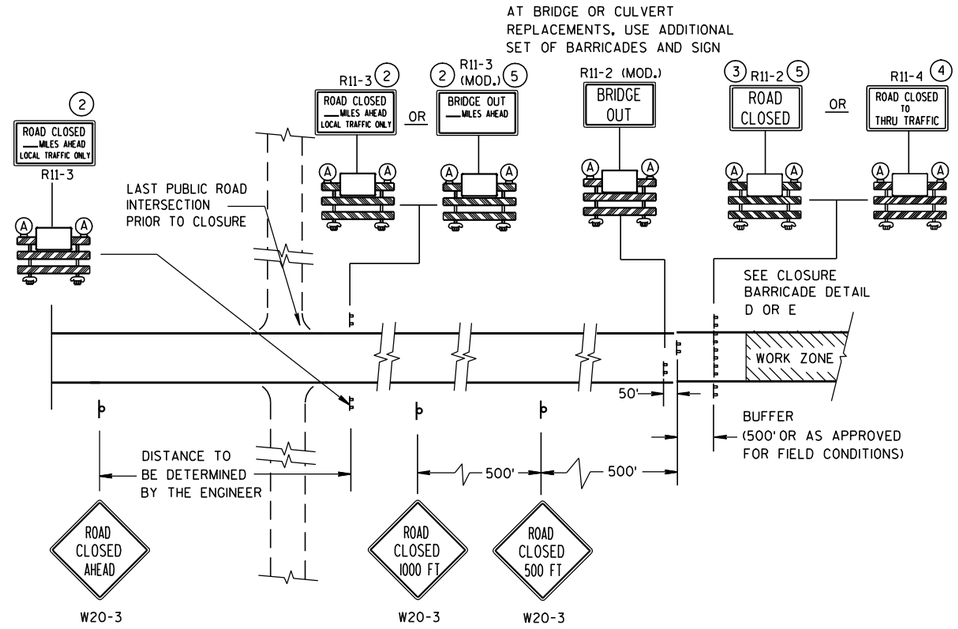
S.D.D. 12 A 3-10



DETAIL A

MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

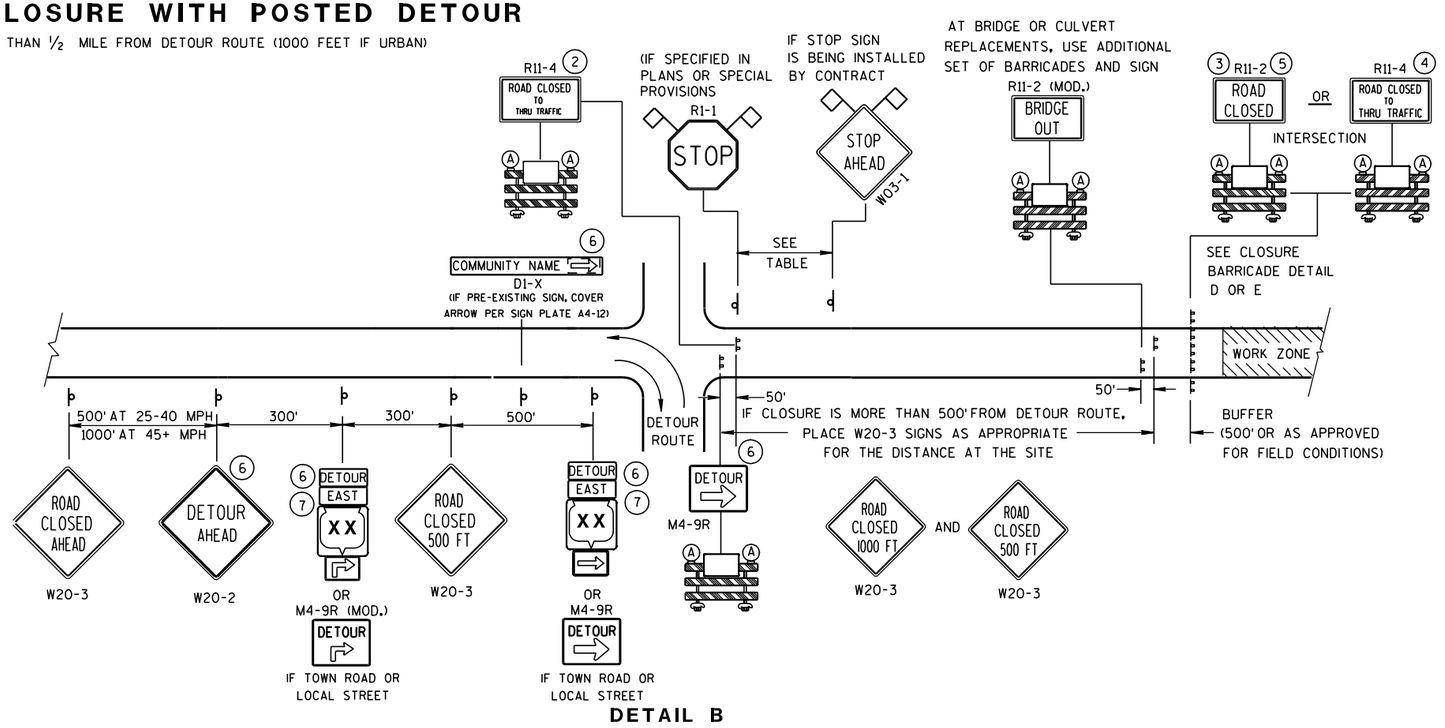


DETAIL C

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

SEE SDD 15C2-4b
FOR GENERAL NOTES
AND FOOTNOTES (1) THROUGH (7)



DETAIL B

MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

LEGEND

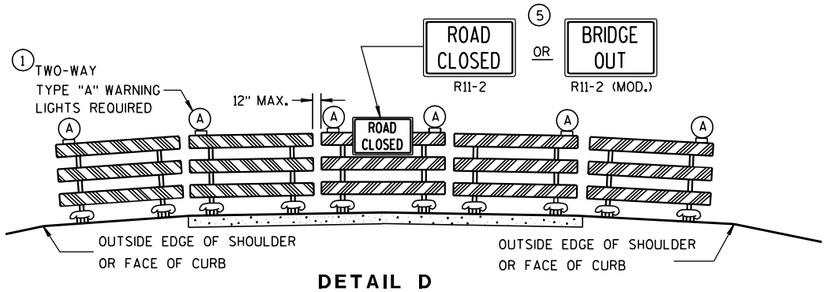
- POST MOUNTED SIGN
- TYPE III BARRICADES
- (A) TYPE "A" LOW INTENSITY FLASHING WARNING LIGHT (FOR NIGHT USE)
- WORK ZONE
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1; M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

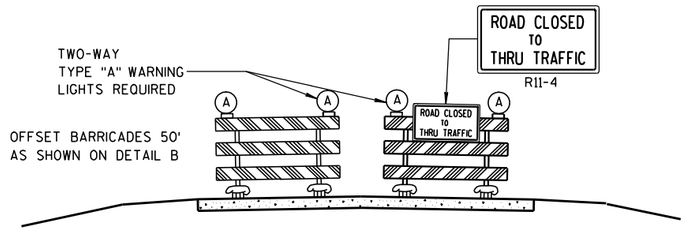
S.D.D. 15 C 2-4a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-4a 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.

THE REFLECTIVE SHEETING USED ON R11-2, R11-3, R11-4, R10-61 AND R1-1 SIGNS SHALL COMPLY WITH SUBSECTION 637.2.2.2 OF THE STANDARD SPECIFICATIONS.

"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 AND 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

APPROVED

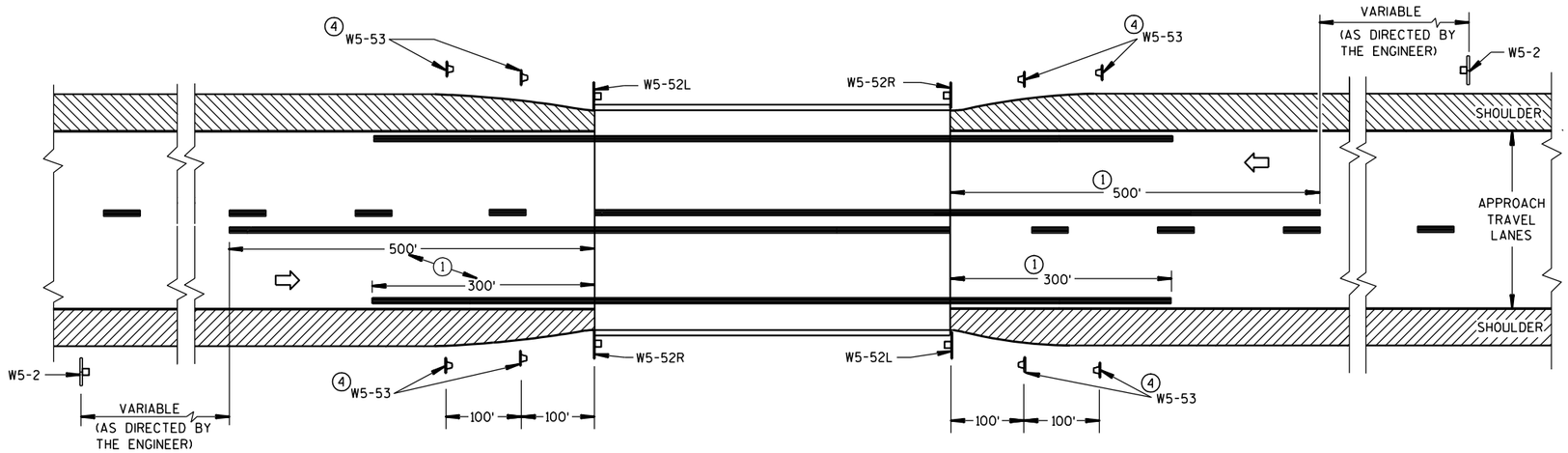
9/16/03
DATE

/S/ Thomas N. N[illegible]
CHIEF SIGNS AND MAR[illegible]INEER

FHWA

6

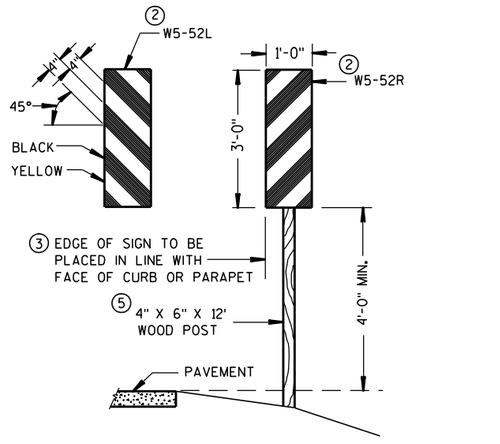
S.D.D. 15 C 2-4b

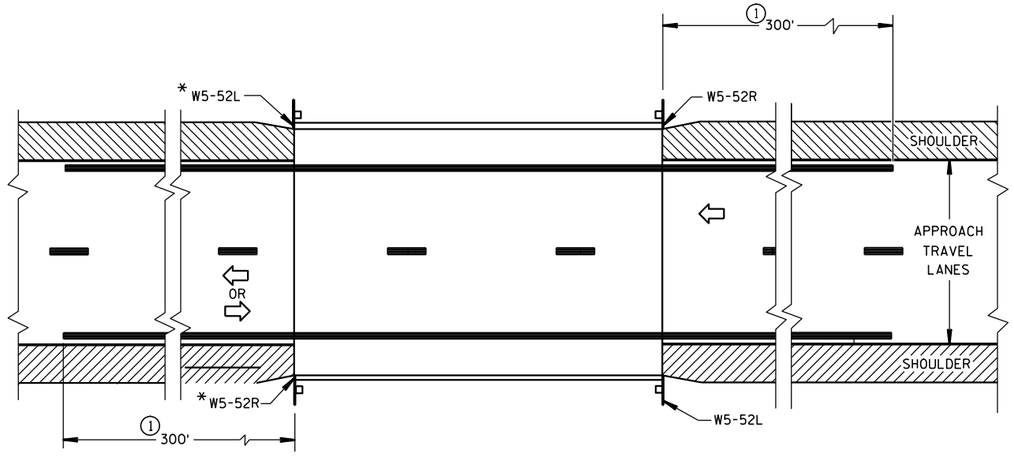


SITUATION 1

WARRANTING CRITERION:

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



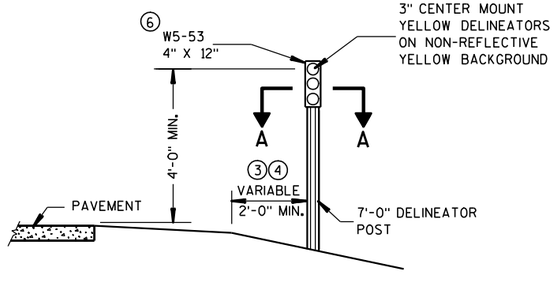


*OMIT ON ONE-WAY TRAVELLED WAYS

SITUATION 2

WARRANTING CRITERIA:

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



OBJECT MARKER PLACEMENT

GENERAL NOTES

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

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

① MINIMUM DISTANCE UNLESS OTHERWISE SHOWN ON THE PLAN.

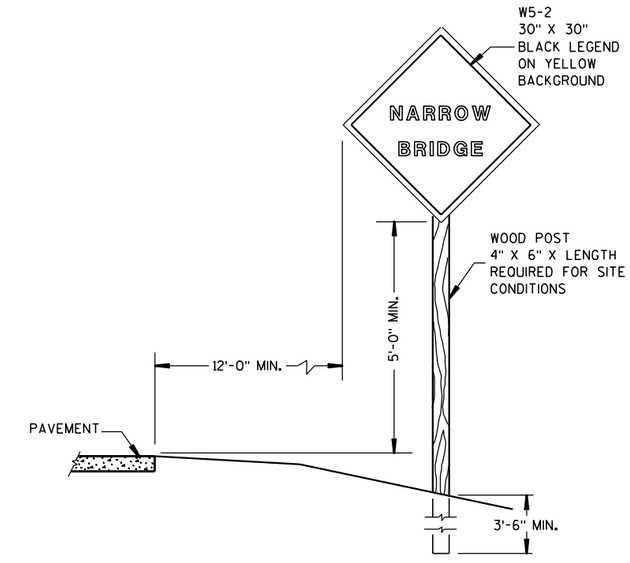
② FACE OF OBJECT MARKERS W5-52R AND W5-52L SHALL BE COVERED WITH TYPE H REFLECTIVE SHEETING.

③ LOCATE OBJECT MARKER POST(S) BEHIND GUARDRAIL WHEN PRESENT.

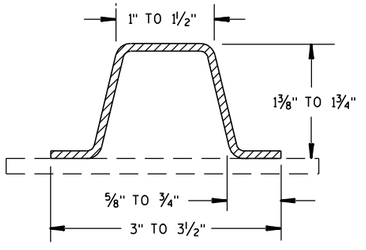
④ OBJECT MARKERS (W5-53) SHALL BE LOCATED ALONG A LINE FLARED AWAY FROM THE BRIDGE CORNER TO DELINEATE THE NARROWING OF THE SHOULDER OR BERM.

⑤ A 12 FOOT DELINEATOR POST MAY BE USED INSTEAD OF A WOOD POST.

⑥ NON-BID ITEM. INCIDENTAL TO OTHER ITEMS.



SIGN PLACEMENT



SECTION A-A

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

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/5/06 — DATE

/S/ Thomas N. [illegible] — STATE TRAFFIC ENGINEER

FHWA

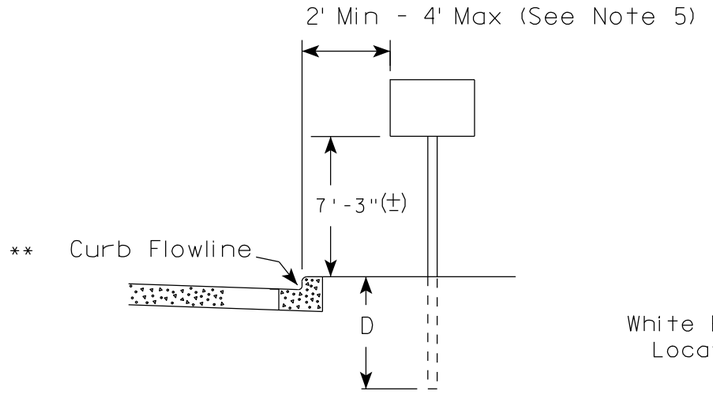
6

S.D.D. 15 C 6-5

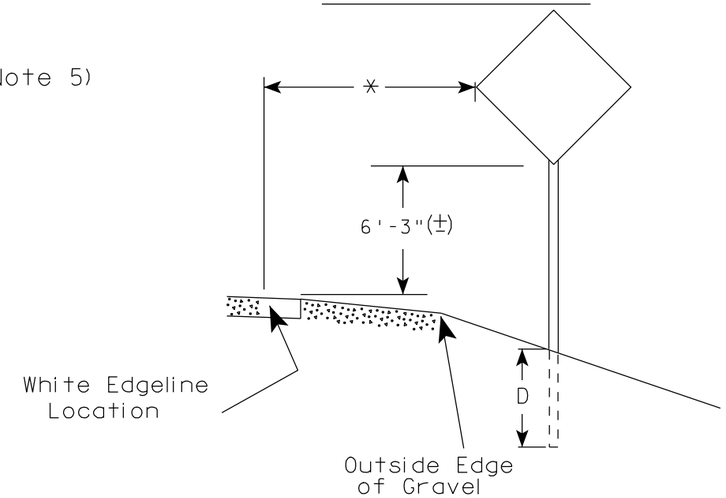
6

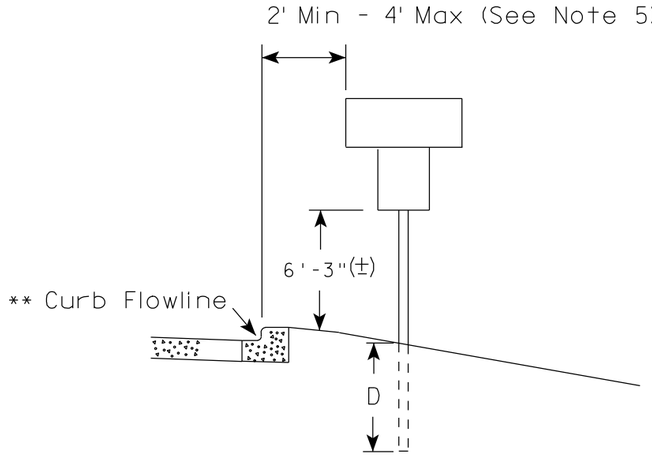
S.D.D. 15 C 6-5

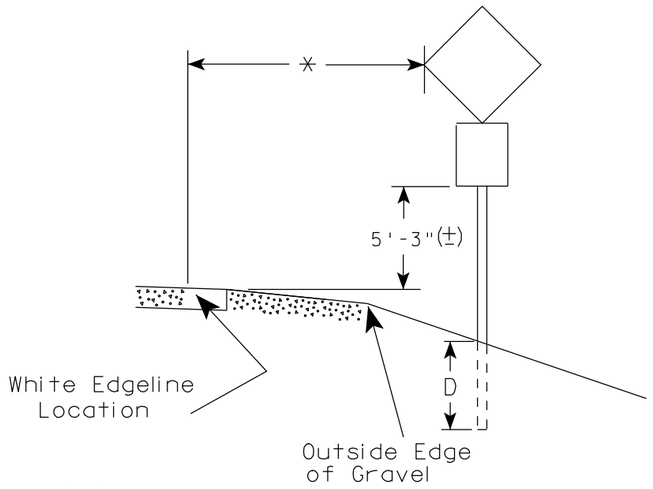
URBAN AREA



RURAL AREA (See Note 2)







** 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.

GENERAL NOTES

1. Signs wider than 4 feet or larger than 20 sq. ft. 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 (A4-5) 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 stop signs (R1-1F) 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), Clearance Markers (W5-52), Mile Markers (D10 series) & End of Road Markers (W5-56 & W5-56A) 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'

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

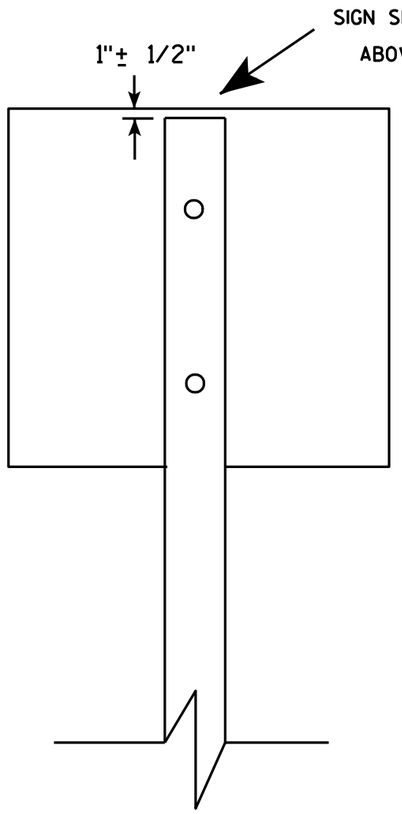
APPROVED Matthew R Rauch
for State Traffic Engineer

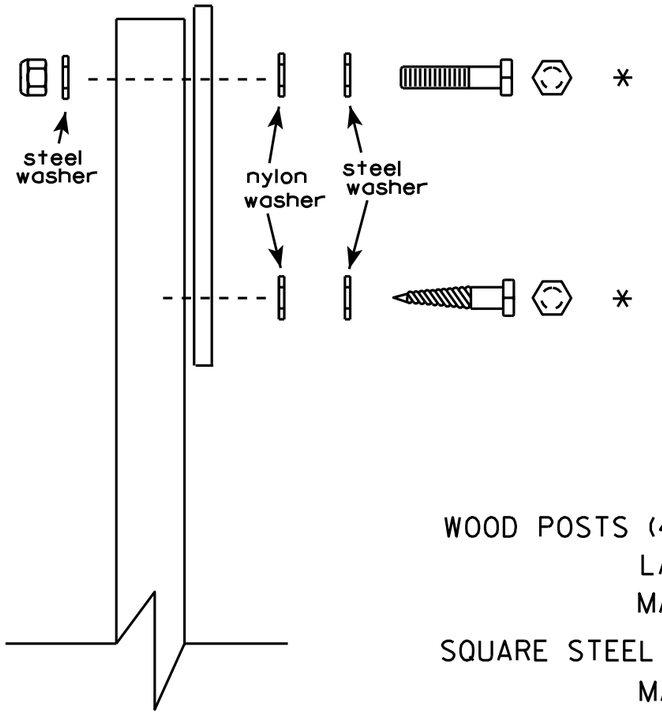
DATE 9/21/2011 PLATE NO. A4-3.16

7

7

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 19	E





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

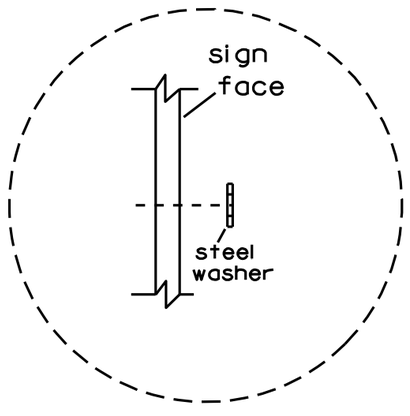
a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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.

WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts

SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 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 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.



Washer Placement when Sign Has Other Than Type H or Type F Face

* 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

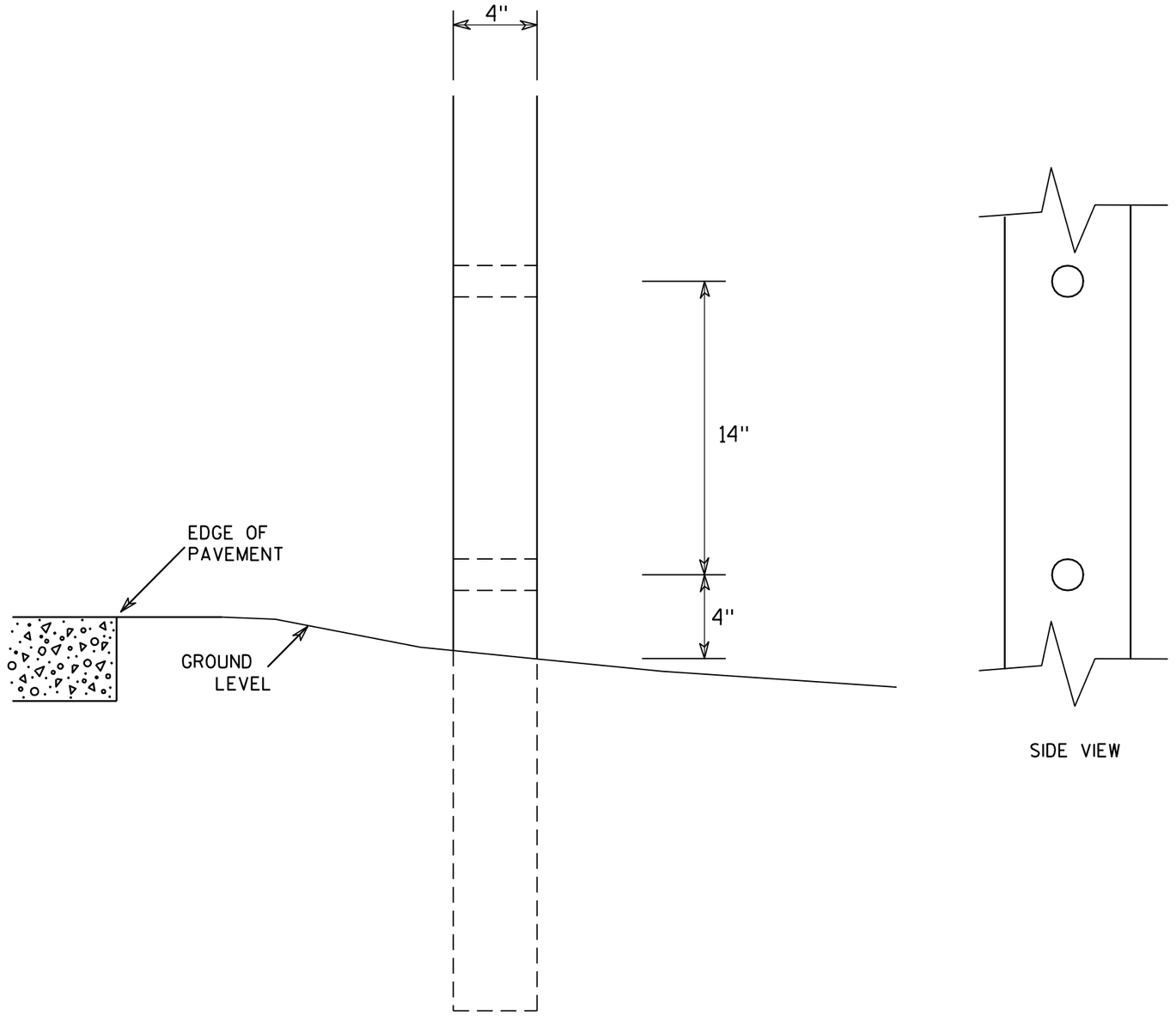
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/23/10 PLATE NO. A4-8.7

7

7

PROJECT NO: | SHEET NO: 20 | E



SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

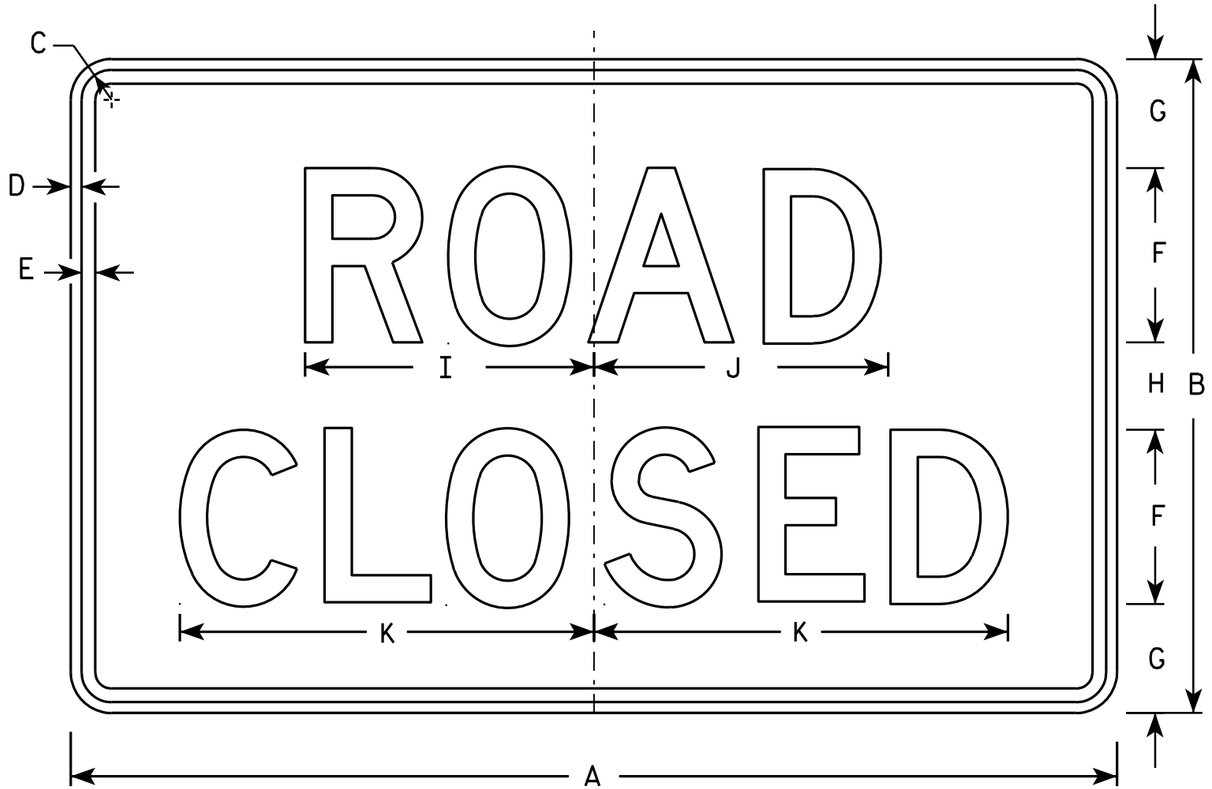
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

DATE 3/27/97 PLATE NO. A4-11.2

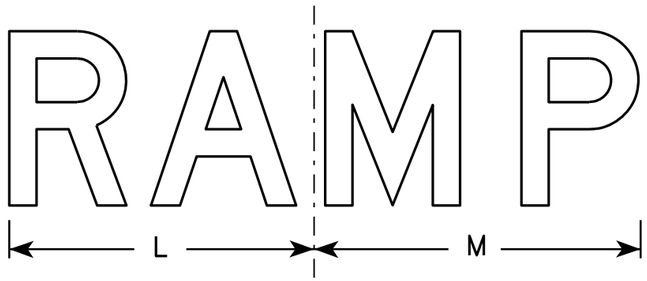
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 21	E



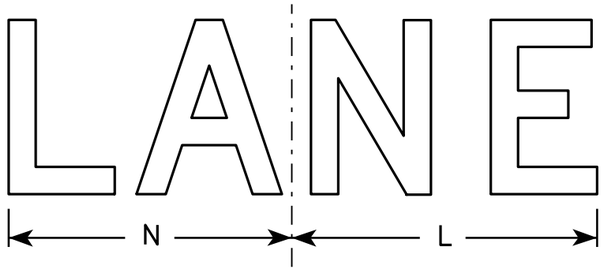
R11-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. 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.
5. Modify the message as required.



R11-2R



R11-2L

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	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0

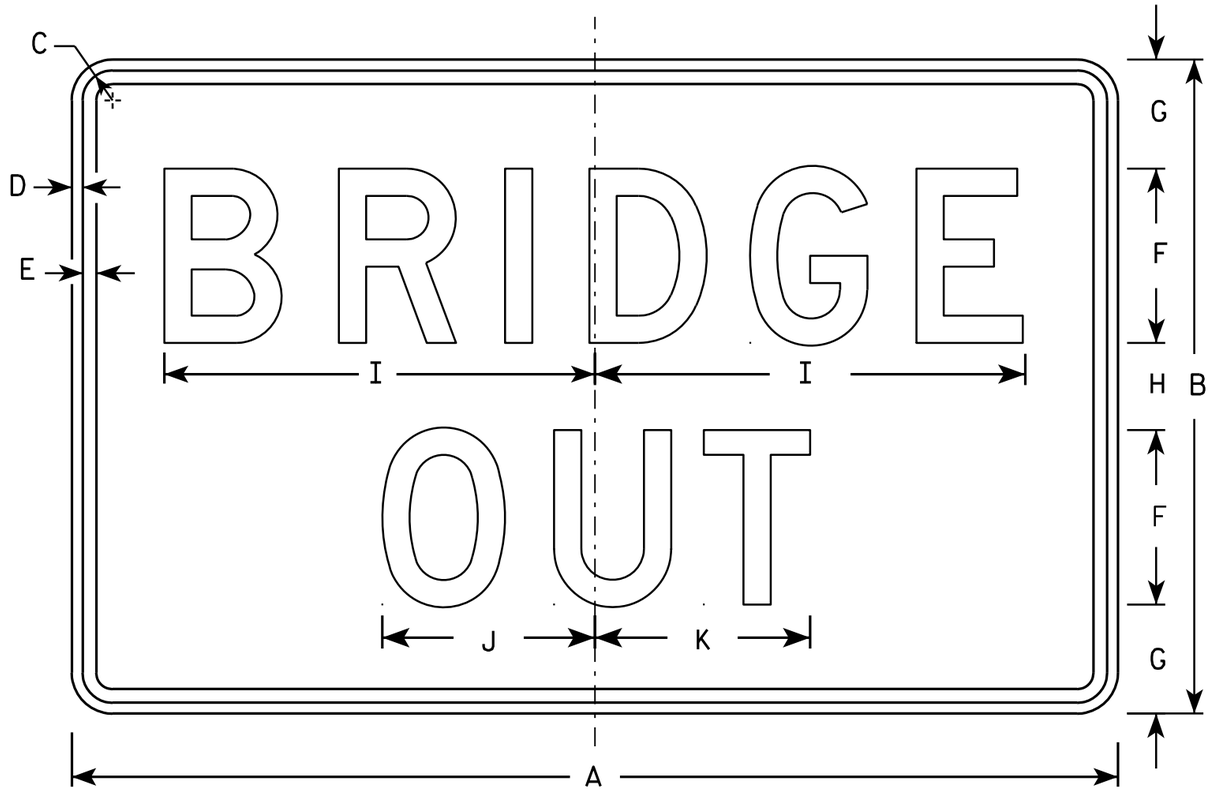
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2.10

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 22	E



R11-2B

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. 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.

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	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0

STANDARD SIGN
R11-2B

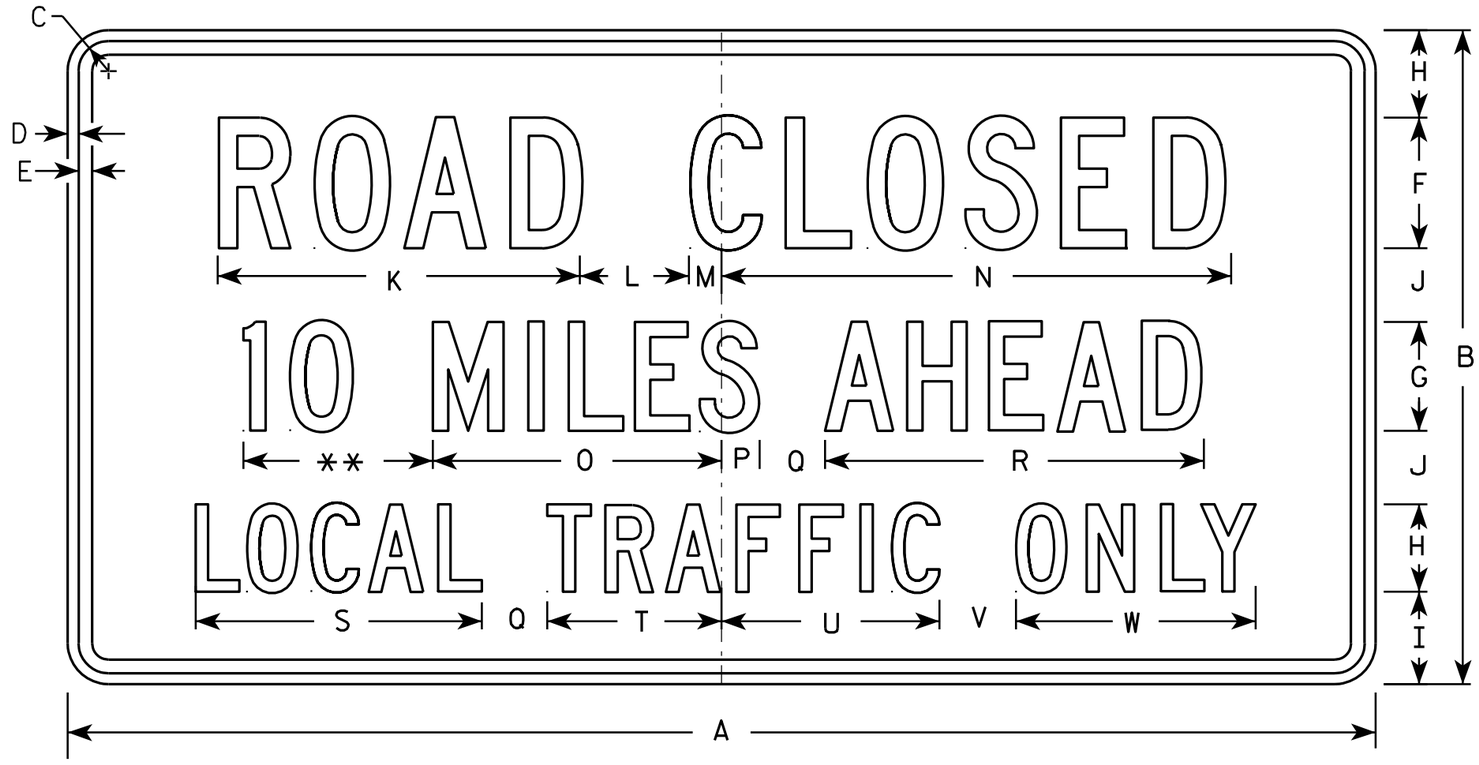
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2B.2

PROJECT NO:

SHEET NO: 23 E



R11-3

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. 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.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

** See Note 5

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	36	18	1 3/8	1/2	5/8	4	3	2 1/2	2	2	11 1/8	3	1 1/8	15 1/4	8	1 1/2	2	10 3/4	8 3/8	4 3/4	6 1/2	2	6 3/4				4.5
2S	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	16 5/8	5	1 1/2	23	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11				12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	16 5/8	5	1 1/2	23	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11				12.5
3																											
4																											
5																											

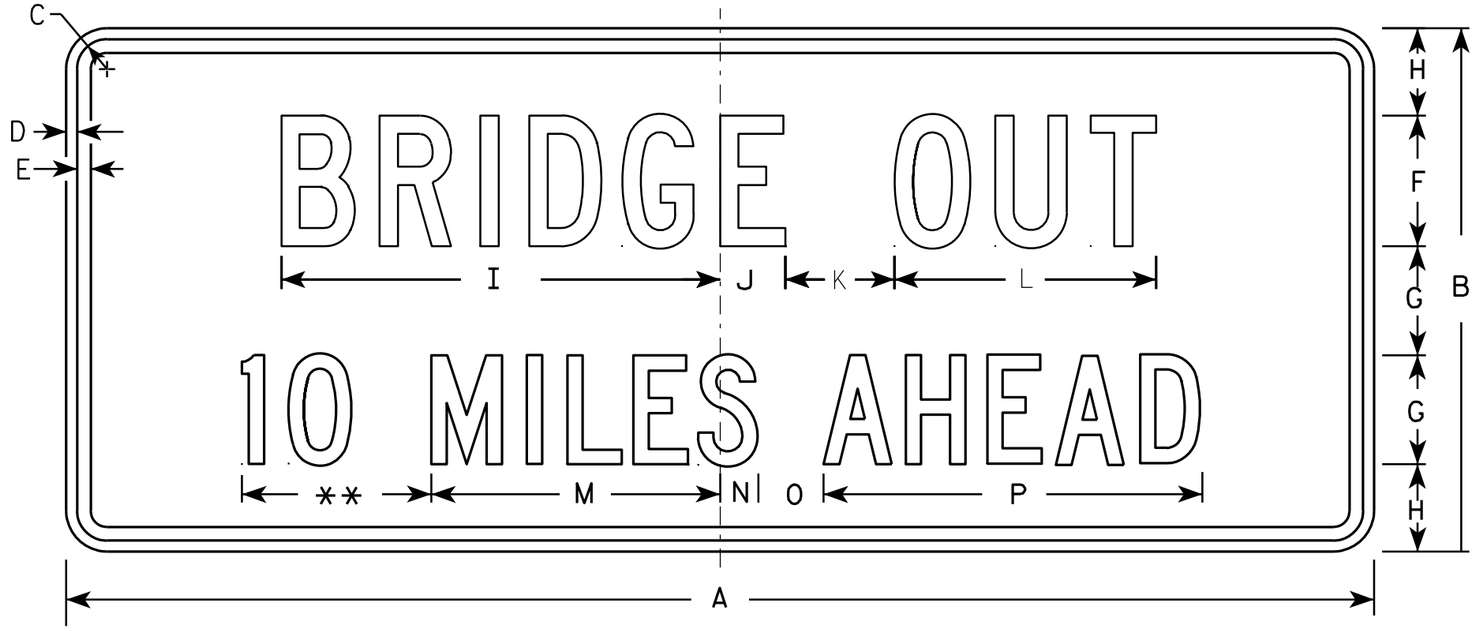
STANDARD SIGN
R11-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-3.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 24 | E



R11-3C

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. 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.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

** See Note 5

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	36	15	1 3/8	1/2	5/8	4	3	2 1/2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4											3.75
2S	60	24	1 3/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8											10.0
2M	60	24	1 3/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8											10.0
3																											
4																											
5																											

STANDARD SIGN
R11-3C

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-3C.2

PROJECT NO:

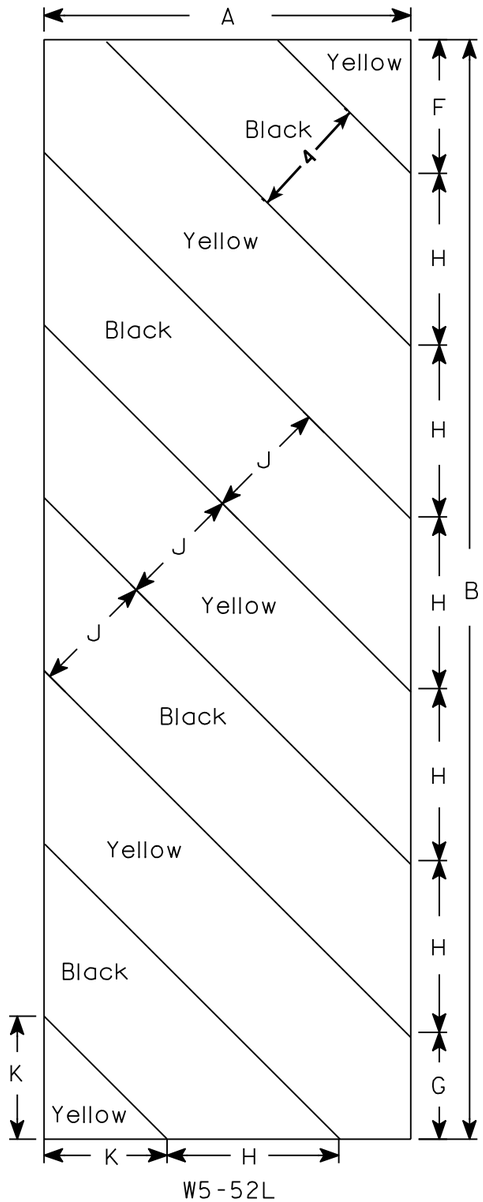
SHEET NO: 25 E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R113C.DGN PLOT DATE : 01-APR-2011 14:15 PLOT BY : mscj9h

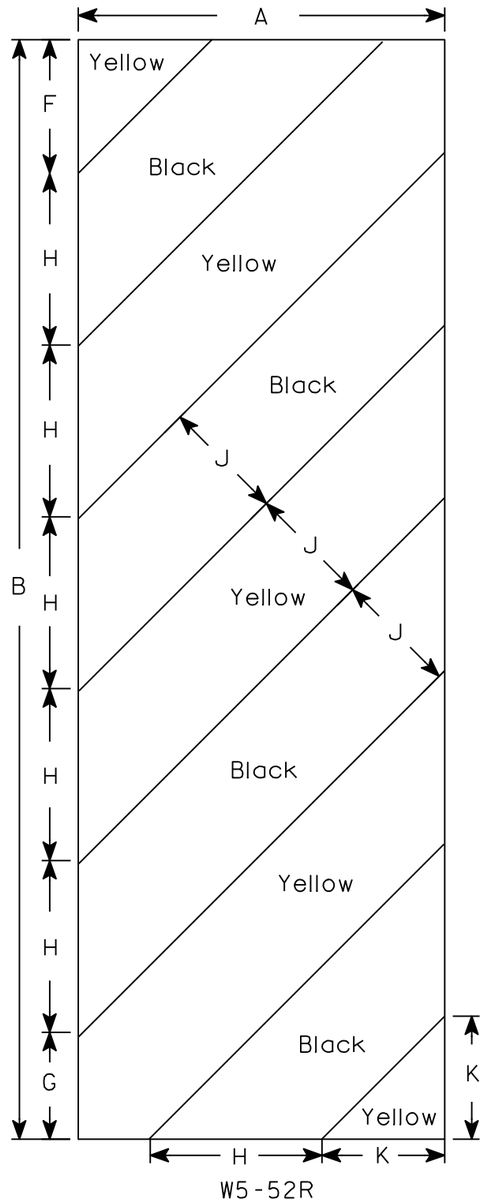
WISDOT/CADDS SHEET 42

7

7



W5-52L



W5-52R

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.

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 9/16																6.75
4																											
5																											

STANDARD SIGN

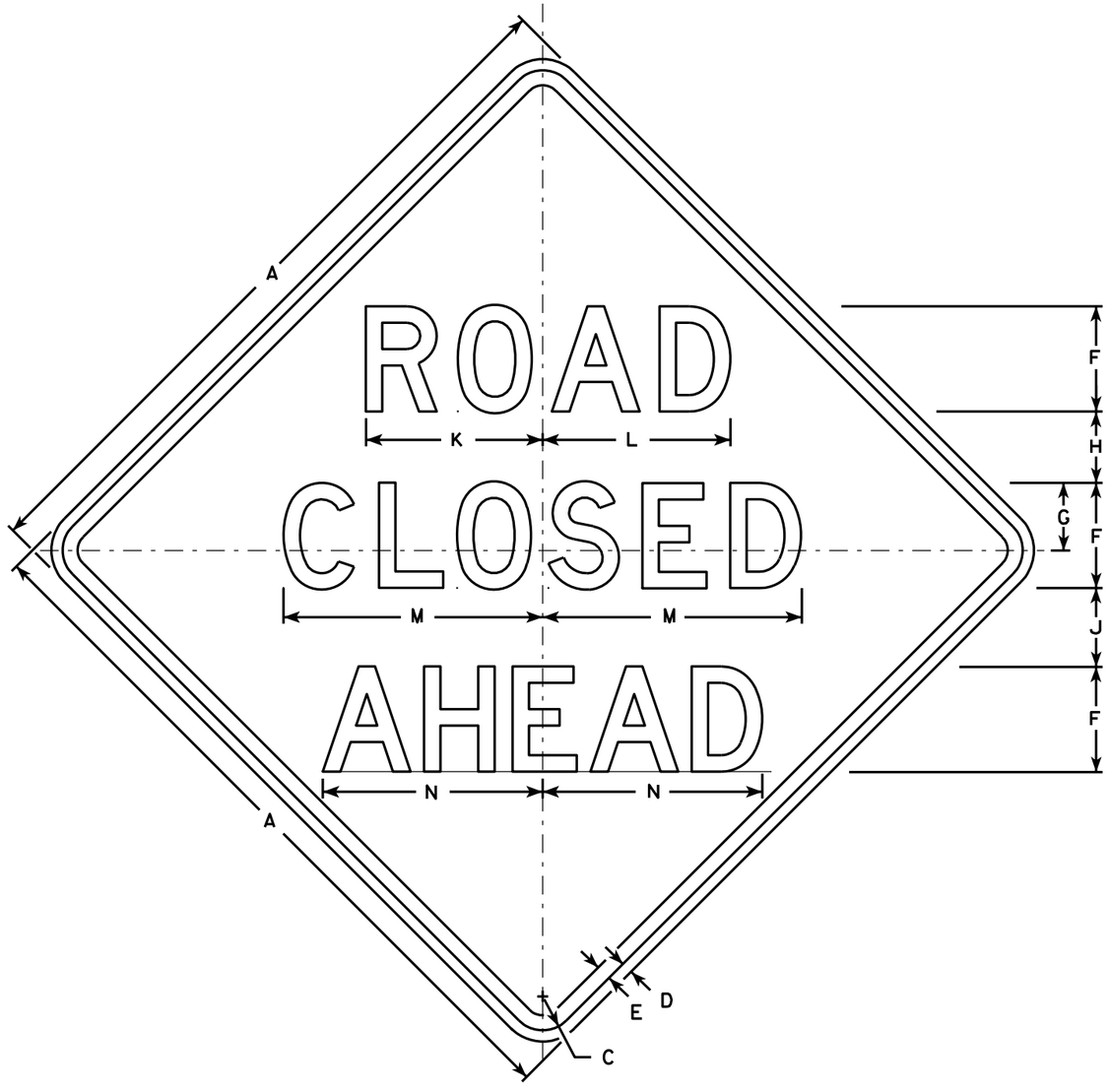
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

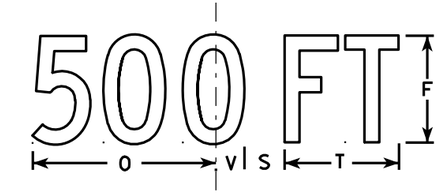
APPROVED Matthew R Rauch
for State Traffic Engineer

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

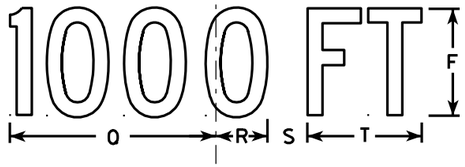
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 26 | E



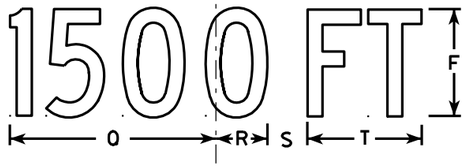
W20-3A



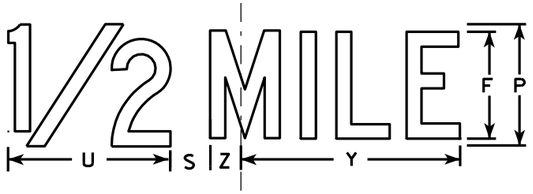
W20-3D



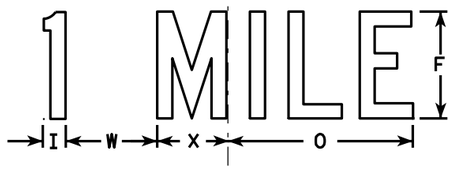
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - see note 5
4. 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.
5. Lines 1 and 2 are Series D.
   Line 3 is Series D for AHEAD and Series C for all other distances.

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	36		1 5/8	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 3/18/11 PLATE NO. W20-3.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 27 | E

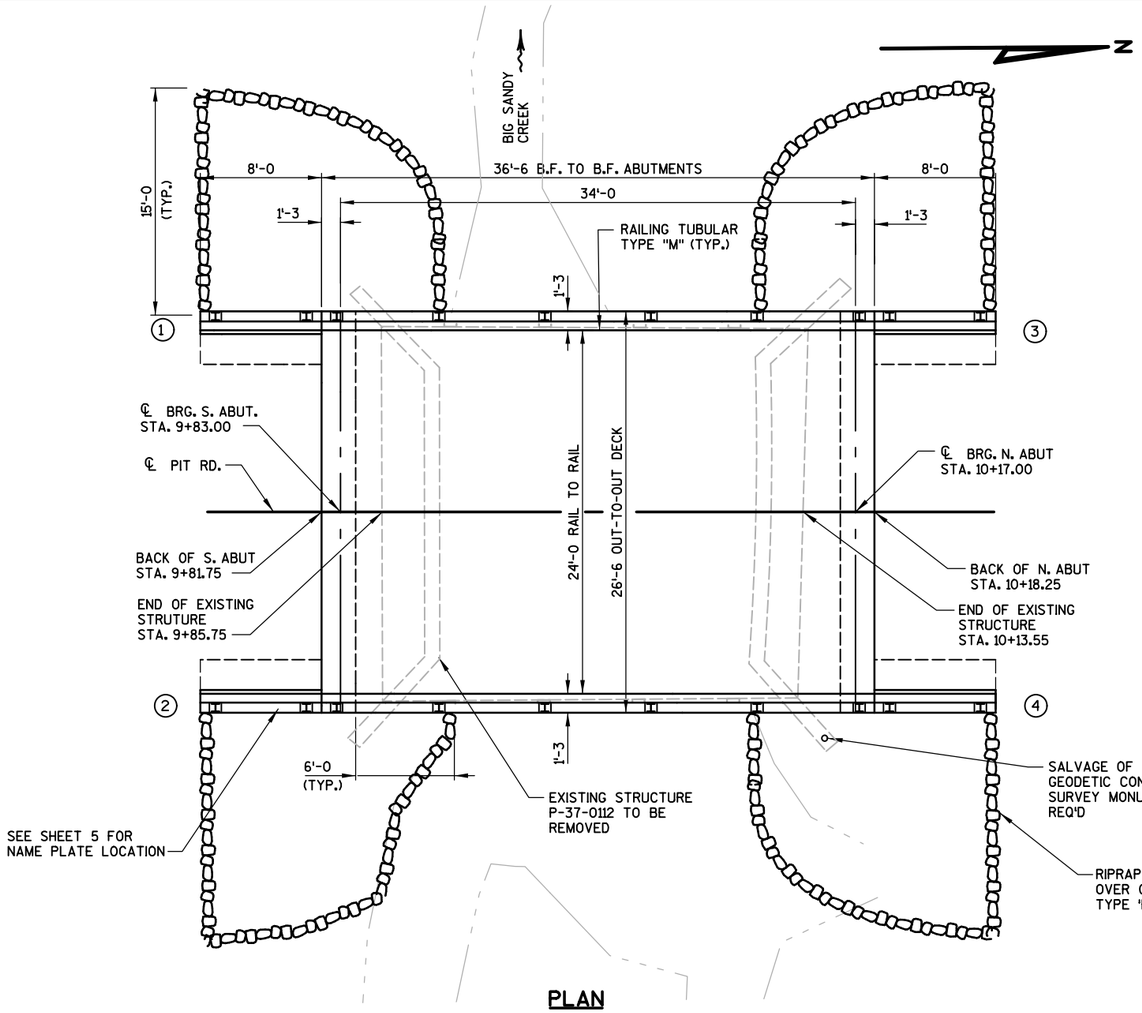
FILE NAME : C:\Users\PROJECTS\tr_stdplate\W203.DGN PLOT DATE : 18-MAR-2011 12:08 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.931739:1.000000

WISDOT/CADDS SHEET 42

7

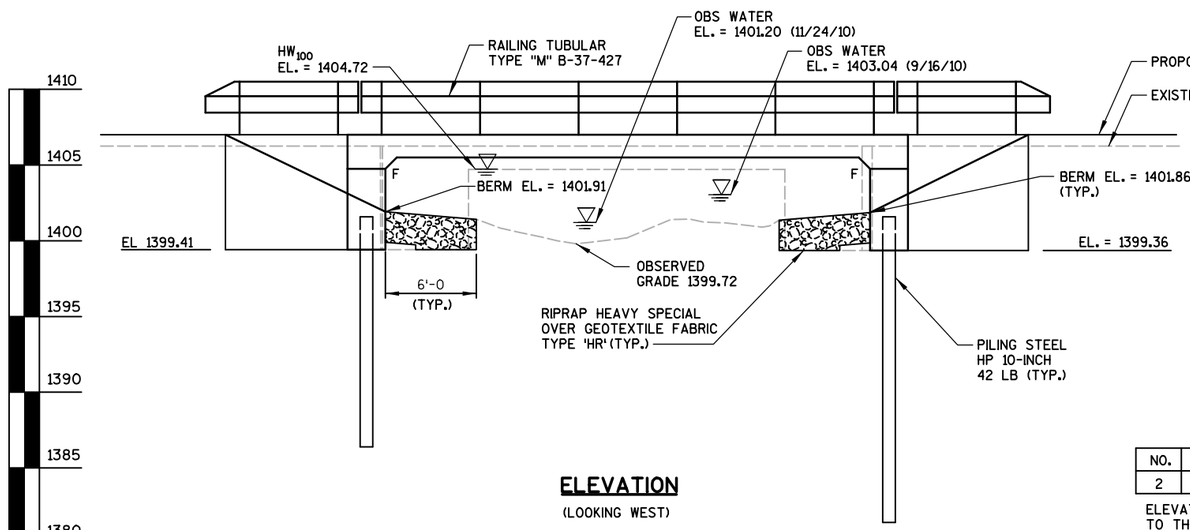
7

STATE PROJECT NUMBER
9515-05-70



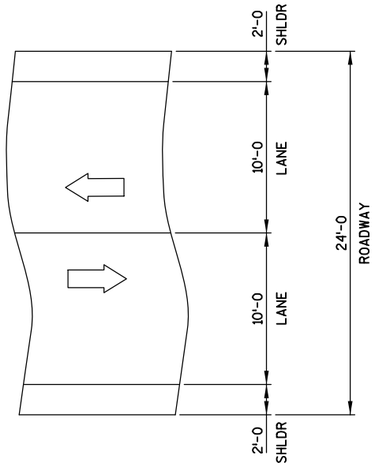
PLAN

(SINGLE SPAN CONCRETE FLAT SLAB)



ELEVATION

(LOOKING WEST)



LEGEND

(#) INDICATES WING NUMBER.

DESIGN DATA

STRUCTURE DESIGNED FOR A FUTURE WEARING SURFACE OF 20 #/S.F.

LIVE LOAD:
- DESIGN LOADING — HL-93
- INVENTORY RATING — RF = 1.06
- OPERATING RATING — RF = 1.38
- WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) — 250 KIPS

ULTIMATE DESIGN STRESSES:
- CONCRETE SUPERSTRUCTURE — f'c = 4,000 psi
- CONCRETE SUBSTRUCTURE — f'c = 3,500 psi
- HIGH STRENGTH BAR STEEL REINFORCEMENT — fy = 60,000 psi

TRAFFIC DATA:
- A.D.T. (2011) : 75
- A.D.T. (2033) : 100
- DESIGN SPEED: 45 MPH

FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON HP 10X42 STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 140 TONS* PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION.
ESTIMATED 15 FEET LONG SOUTH ABUT.
ESTIMATED 20 FEET LONG NORTH 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.

HYDRAULIC DATA

- Q_{100} — 430 C.F.S.
- VELOCITY — 4.1 F.P.S.
- HW_{100} ELEV. — 1404.72 FT.
- WATERWAY AREA (BRIDGE) — 106 S.F.
- DRAINAGE AREA — 2.9 SQ. MI.
- SCOUR CRITICAL CODE — 8
- ROADWAY OVERTOPPING FREQUENCY — N/A
- Q_2 — 109 C.F.S.
- HW_2 — 1403.32 FT.

DESIGN CONTACT: KEITH BEHREND (608) 251-4843
BUREAU OF STRUCTURES CONTACT: WILLIAM DREHER (608) 261-8205

WISCONSIN
KEITH R. BEHREND
E-42073
MADISON
WI
PROFESSIONAL ENGINEER
Keith R. Behrend
11-9-12

LIST OF DRAWINGS

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
2	11+29.41, 25' LT	3/4-INCH ALUMINUM ROD	1404.39

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE NORTH AMERICAN DATUM OF 1988 (NAVD88).

NO.	DATE	REVISION	BY

STRAND ASSOCIATES®
910 WEST WINGRA DRIVE
MADISON, WISCONSIN 53715
(608)-251-4843
(608) 251-8655 FAX
WWW.STRAND.COM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR — 11/12/12
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-37-427

PIT RD. OVER BIG SANDY CREEK

COUNTY	TOWN/~~CITY/VILLAGE~~
MARATHON	HEWITT

DESIGN SPEC.
AASHTO LRFD DESIGN SPEC. 5th EDITION

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
KRB	DDR	DTH	DJW

GENERAL PLAN

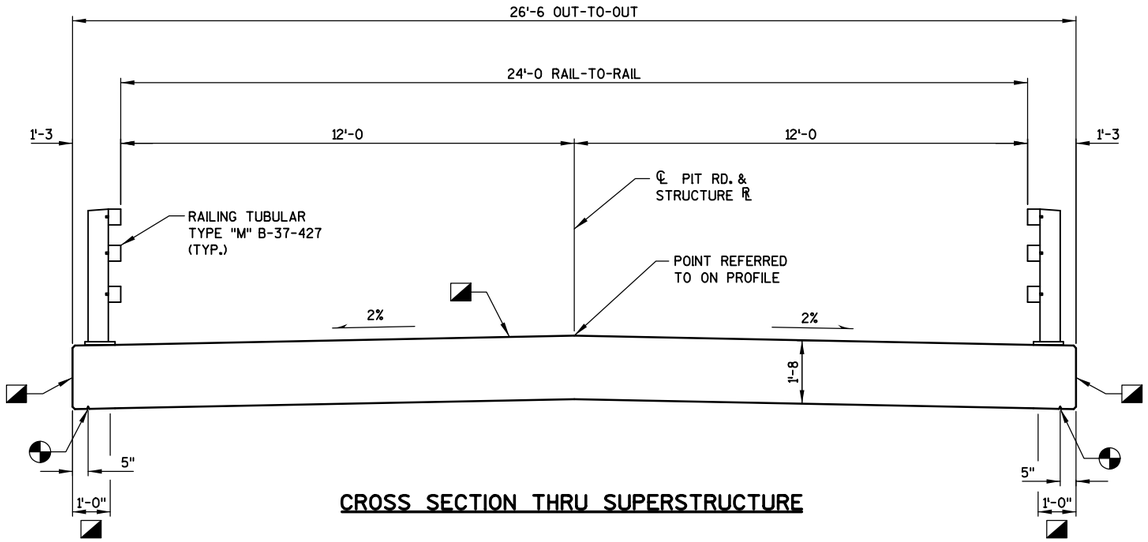
SHEET 1 OF 9

28

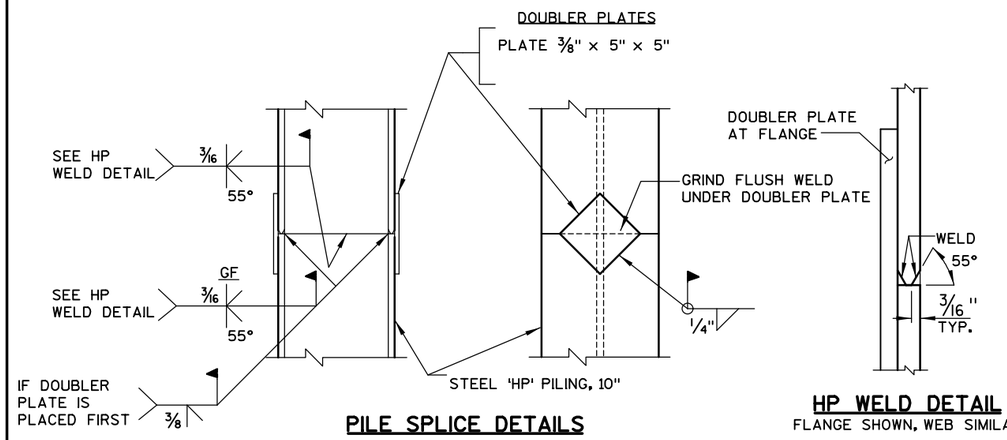
8

8

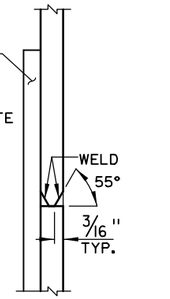
MAD/3598/001/Micros/bridge/01-General Plan.dgn



CROSS SECTION THRU SUPERSTRUCTURE



PILE SPLICE DETAILS

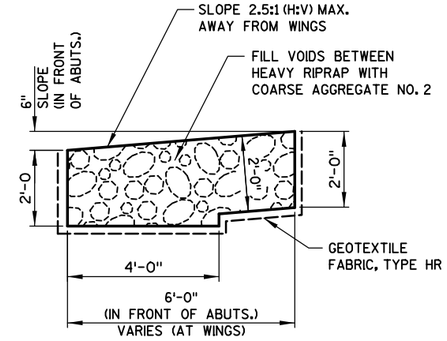


HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

PILE SPLICE NOTES

STEEL 'HP' PILE MATERIAL SHALL BE A.S.T.M. A709 GR. 50.



RIPRAP HEAVY SPECIAL DETAIL

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

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

THE FIRST ONE OR TWO DIGITS OF A REINFORCING BAR MARK SIGNIFIES THE BAR SIZE.

THE EXISTING GROUND LINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE FABRIC TYPE 'HR' TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS.

AT THE BACK FACE 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.

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

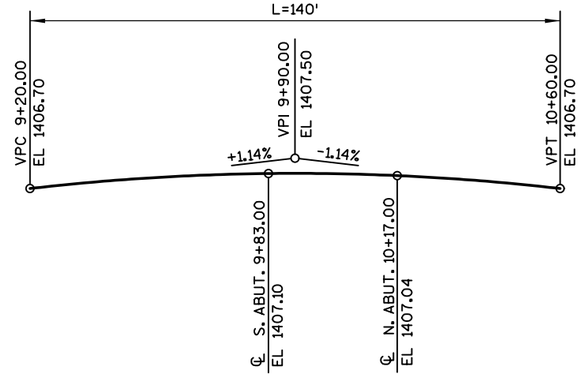
SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBTRUCTURE UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.

THE EXISTING STRUCTURE P-37-0112, A SINGLE-SPAN CONCRETE FLAT SLAB BRIDGE, IS TO BE REMOVED.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153 TYPES I, II, III OR AASHTO DESIGNATION M213.

LEGEND

- ◔ 3/4" V-GROOVE, EXTEND V-GROOVE TO THE FILLET ADJACENT TO THE ABUTMENT
- ◪ COAT WITH "PROTECTIVE SURFACE TREATMENT" AS PER THE STANDARD SPECIFICATIONS.



PROFILE GRADE LINE

TOTAL ESTIMATED QUANTITIES

BID NUMBER	BID ITEM	UNIT	S. ABUT.	SUPER.	N. ABUT.	TOTALS
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MIN. DEBRIS STA. 10+00	L.S.	--	--	--	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGE B-37-427	L.S.	--	--	--	1
210.0100	BACKFILL STRUCTURE	C.Y.	62	--	62	124
502.0100	CONCRETE MASONRY BRIDGES	C.Y.	24	64	24	112
502.3200	PROTECTIVE SURFACE TREATMENT	S.Y.	3	129	3	135
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB.	1,530	--	1,530	3,060
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB.	1,120	12,520	1,120	14,760
513.4060	RAILING TUBULAR TYPE "M" B-37-427	L.S.	--	--	--	1
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	S.Y.	8	--	8	16
550.1100	PILING STEEL HP 10-INCH X 42 LB	L.F.	60	--	80	140
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	L.F.	65	--	65	130
645.0120	GEOTEXTILE FABRIC TYPE HR	S.Y.	96	--	99	195
SPV.0035.01	RIPRAP HEAVY SPECIAL	C.Y.	45	--	50	95
	NON-BID ITEMS					
	FILLER	SIZE	1/2" & 3/4"	--	1/2" & 3/4"	1/2" & 3/4"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-37-427

DRAWN BY DTH | PLANS CK'D. DJW

CROSS SECTION, QUANTITIES, NOTES AND DETAILS

SHEET 2
29

FILE=
SCALE =

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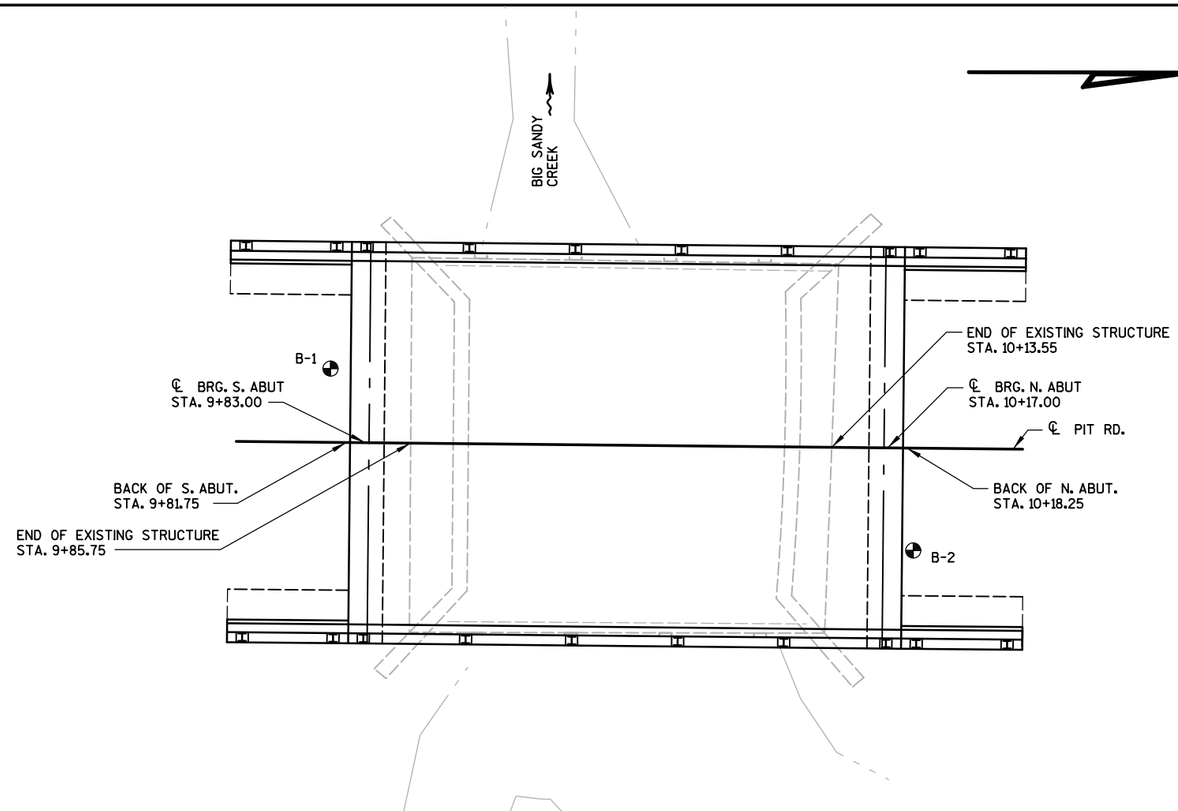
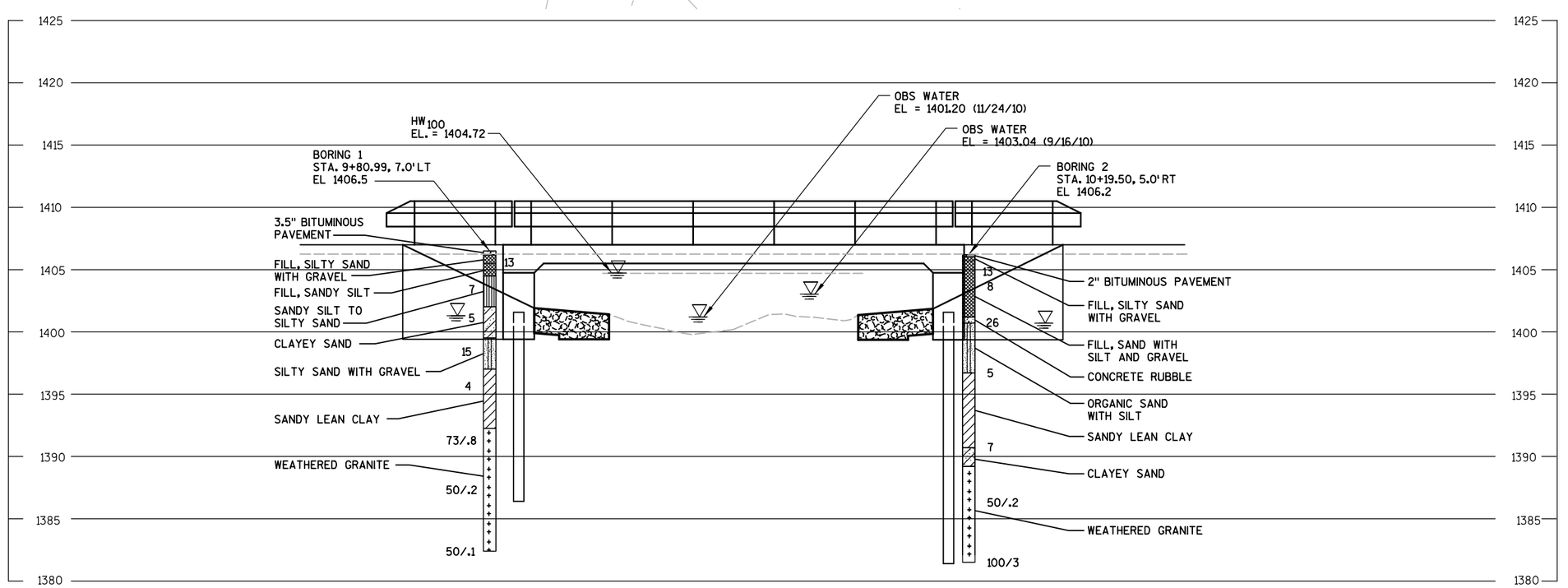




BORINGS PREPARED BY:
AMERICAN ENGINEERING TESTING, INC.
4203 SCHOFIELD AVE, SUITE 1
SCHOFIELD, WI 54476
ON NOVEMBER 19, 2010

STATE PROJECT NUMBER

9515-05-70

ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE, SAND, PEAT, LIMESTONE, GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING

PROBING NO.
STA.
ELEVATION
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6

95/6=95 BLOWS FOR 6" PENETRATION PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

LEGEND OF BORING

BORING NO.
ELEV.
STA.
UNCONFINED STRENGTH → 7.7
7
BLOWS PER FT. USING 140# WT. FALLING 30"
WASH SAMPLE
SHELBY TUBE — S.T.
GROUND WATER ELEVATION
NO GROUND WATER OBSERVED ABOVE THIS ELEVATION
SANDY GRAVEL
F. BOULDERS OR COBBLES
SAND
SILTY CLAY
SO LIMESTONE

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE 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-37-427

DRAWN BY DTH | PLANS CK'D. DJW

SUBSURFACE EXPLORATION

SHEET 3
30

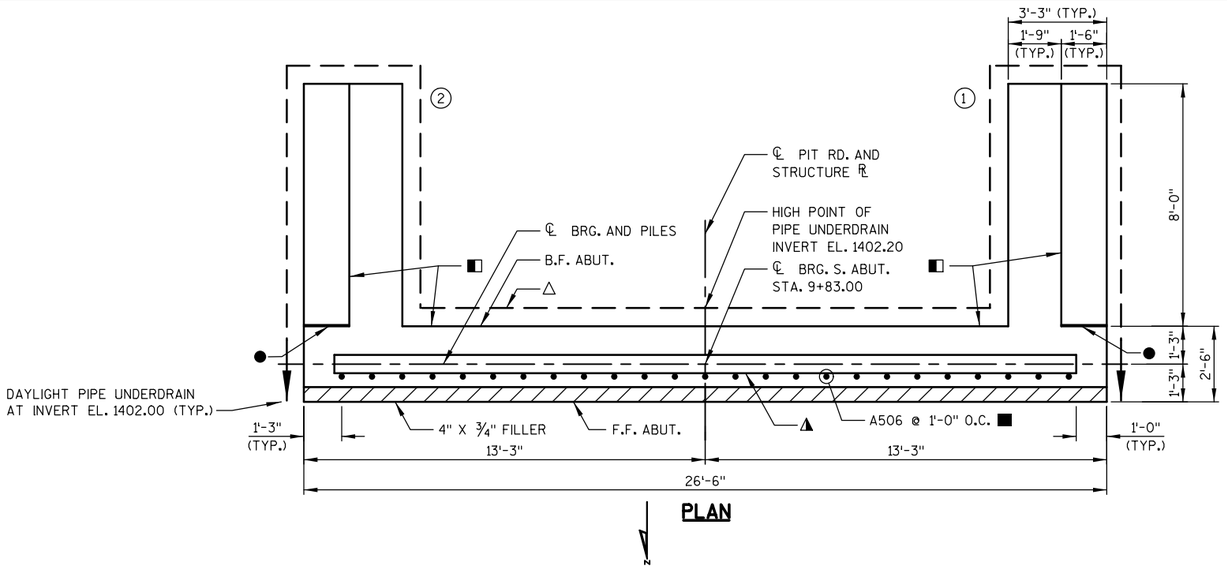
8

8

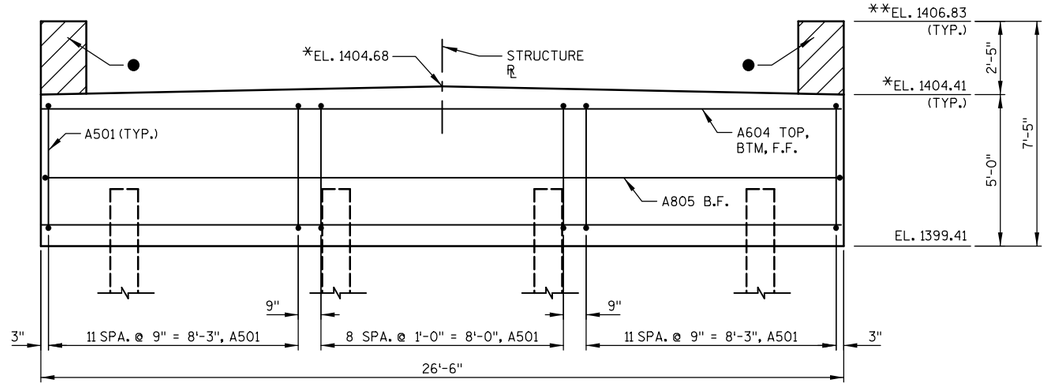
MAD/3598/001/Micros/bridge/03-Subsurface.dgn

FILE=
SCALE =

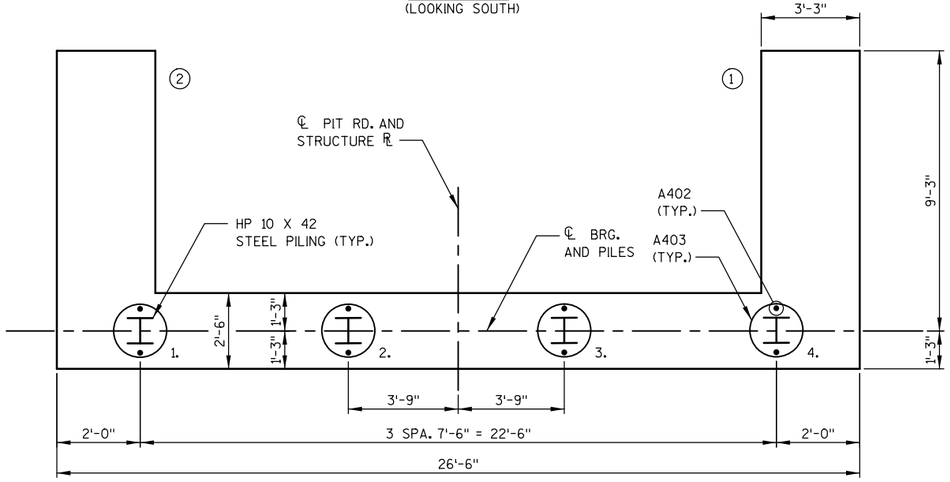
STATE PROJECT NUMBER
9515-05-70



PLAN



ELEVATION
(LOOKING SOUTH)



PILE PLAN

NOTES

SEE SHEET 2 FOR PILE SPLICE DETAILS.

SEE SHEET 5 FOR REINFORCING DETAILS.

ADJUST A501 BARS INTERFERING WITH PILES.

SOUTH ABUTMENT TO BE SUPPORTED ON HP 10 X 42 STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 140 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 15 FEET LONG EACH.

LEGEND

● ½" FILLER. EXTEND FROM ABUT. SEAT TO TOP OF WING. INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE. EXTEND SEALER 3" BELOW TOP OF WING AT INSIDE FACE.

◧ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

* THESE ELEVATIONS GIVEN AT ℄ BRG. ABUT.

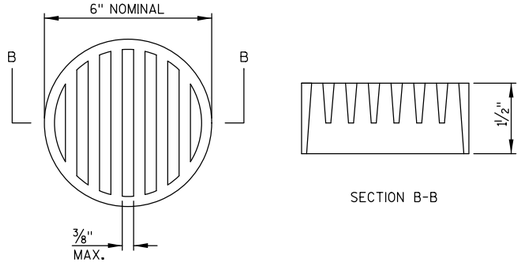
** THESE ELEVATIONS GIVEN AT B.F. ABUT.

△ 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.

(#) INDICATES WING NUMBER.

◮ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6".

■ THESE BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.



NOTES:
DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

ORIENT SHIELD SO SLOTS ARE VERTICAL.

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

RODENT SHIELD

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-37-427

DRAWN BY AJW | PLANS CK'D. DJW

SOUTH ABUTMENT

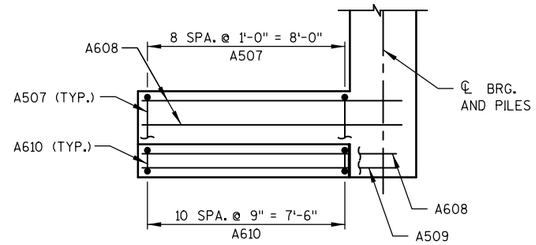
SHEET 4
31

8

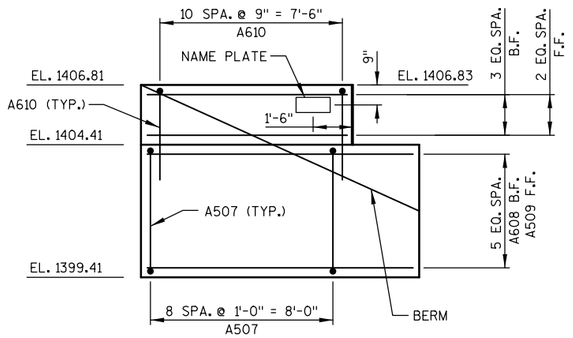
8

STATE PROJECT NUMBER

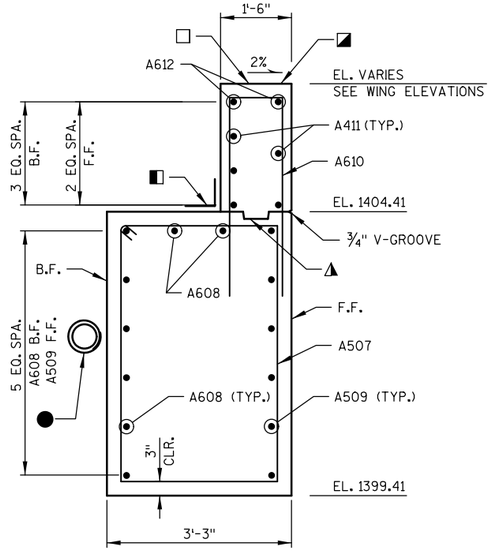
9515-05-70



WING 2 PLAN



WING 2 ELEVATION
(LOOKING WEST)

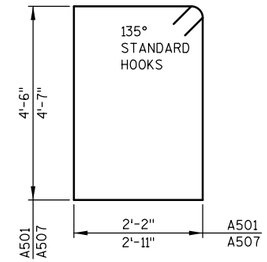


TYPICAL WING SECTION

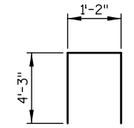
SOUTH ABUTMENT BILL OF BARS

UNCOATED: 1,530 LBS.
COATED: 1,120 LBS.

MARK	NO.	LENGTH	BENT	COAT	LOCATION
A501	33	13'-11"	X		BODY - VERT. - STIRRUPS
A402	8	2'-3"			BODY - PILES - VERT.
A403	4	28'-0"	X		BODY - PILES - SPIRAL
A604	11	26'-2"			BODY - F.F., TOP, BTM. - HORIZ.
A805	7	28'-5"	X		BODY - B.F. - HORIZ.
A506	25	2'-0"		X	BODY - TOP - VERT.
A507	18	15'-7"	X	X	WINGS - VERT. - STIRRUPS
A608	16	10'-2"		X	WINGS - B.F. - HORIZ.
A509	12	10'-2"		X	WINGS - F.F. - HORIZ.
A610	22	9'-4"	X	X	WINGS - UPPER - VERT.
A411	10	7'-8"		X	WINGS - UPPER - B.F., F.F. - HORIZ.
A612	4	7'-8"		X	WINGS - UPPER - TOP - HORIZ.



A501, A507



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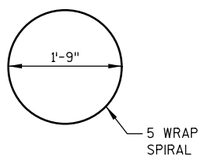

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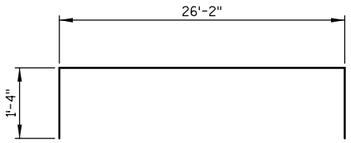

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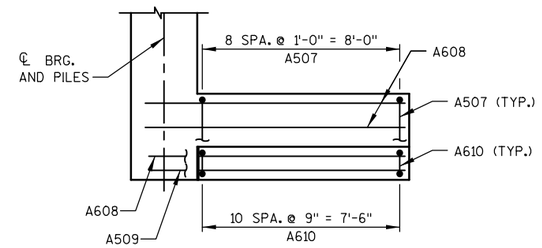
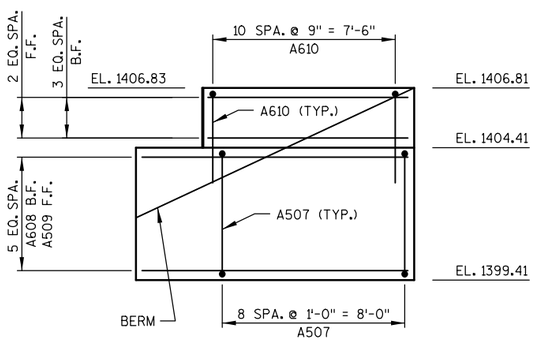
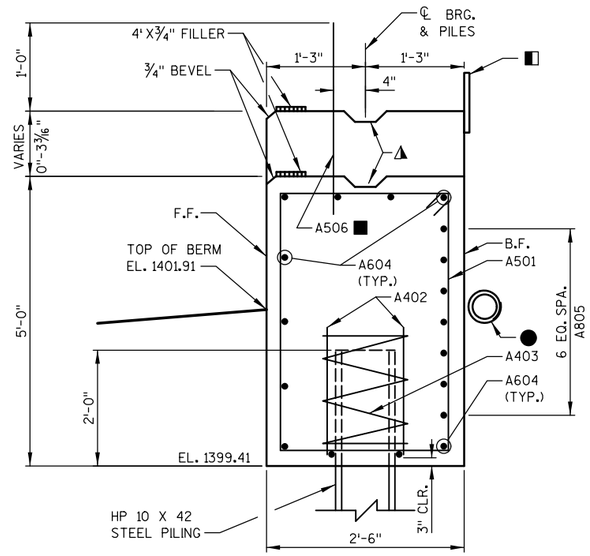


WING 1 PLAN



WING 1 ELEVATION
(LOOKING EAST)



TYPICAL ABUTMENT SECTION

LEGEND

- ◭ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6".
- ◧ 18" RUBBERIZED MEMBRANE WATERPROOFING.
- ■ THESE BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.
- □ SLOPE TOP OF WING SAME AS SUPERSTRUCTURE.
- ● PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 4.
- ◪ COAT WITH "PROTECTIVE SURFACE TREATMENT" AS PER THE STANDARD SPECIFICATIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-37-427

DRAWN BY AJW | PLANS CK'D. DJW

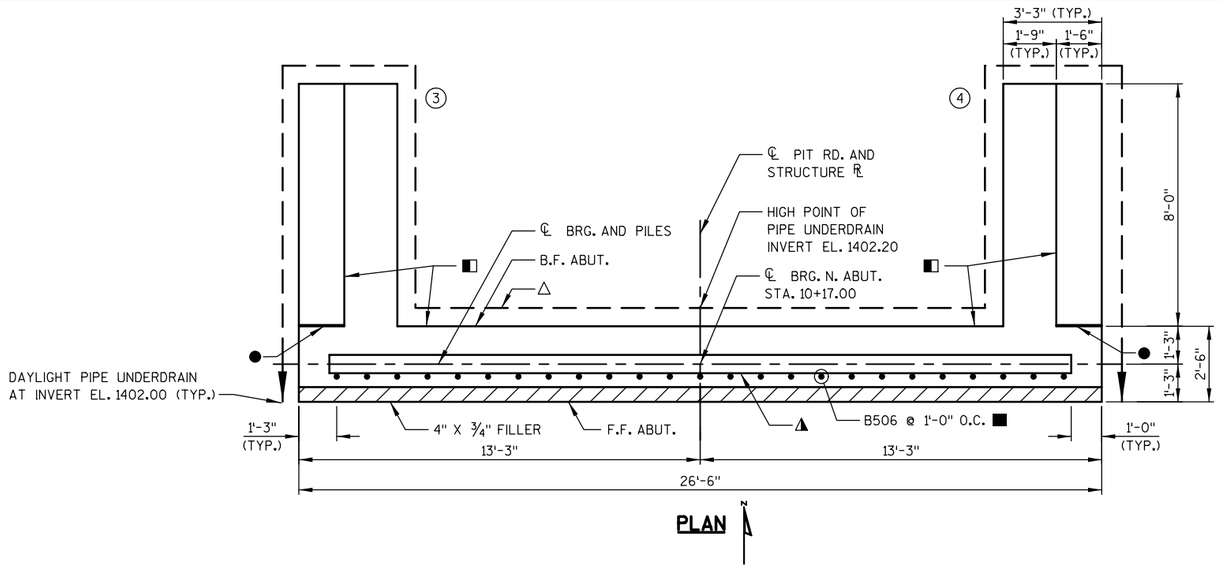
SOUTH ABUTMENT DETAILS

SHEET 5
32

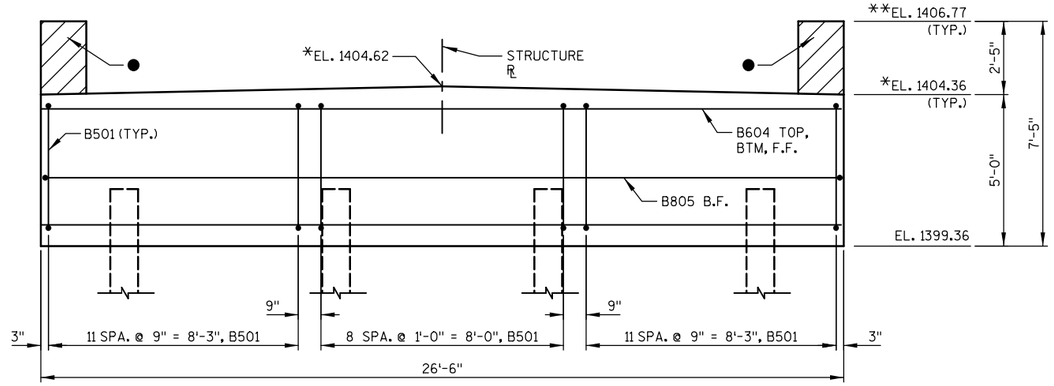
8

8

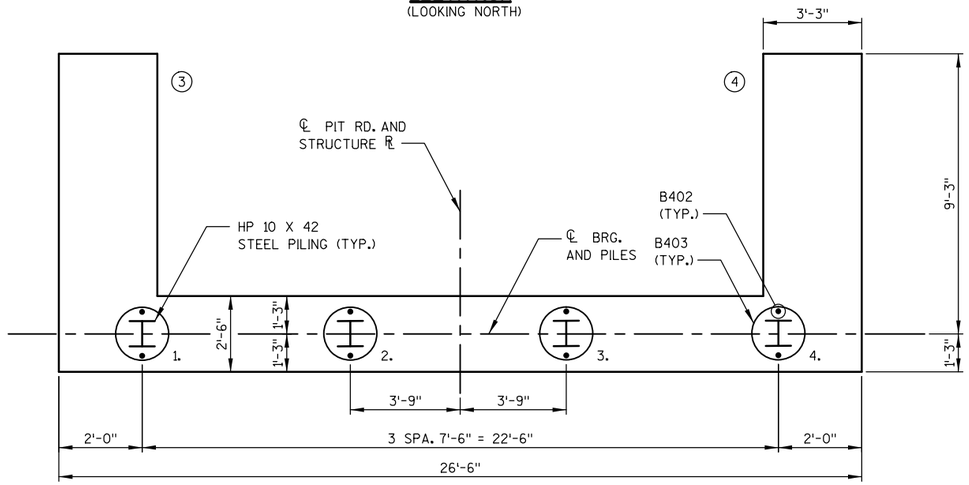
STATE PROJECT NUMBER
9515-05-70



PLAN



ELEVATION
(LOOKING NORTH)



PILE PLAN

NOTES

SEE SHEET 2 FOR PILE SPLICE DETAILS.

SEE SHEET 7 FOR REINFORCING DETAILS.

ADJUST B501 BARS INTERFERING WITH PILES.

NORTH ABUTMENT TO BE SUPPORTED ON HP 10 X 42 STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 140 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 20 FEET LONG EACH.

LEGEND

● ½" FILLER. EXTEND FROM ABUT. SEAT TO TOP OF WING. INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE. EXTEND SEALER 3" BELOW TOP OF WING AT INSIDE FACE.

◧ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

* THESE ELEVATIONS GIVEN AT ℄ BRG. ABUT.

** THESE ELEVATIONS GIVEN AT B.F. ABUT.

△ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 4.

(#) INDICATES WING NUMBER.

◮ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6".

■ THESE BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-37-427

DRAWN BY AJW | PLANS CK'D. DJW

NORTH ABUTMENT

SHEET 6
33

STATE PROJECT NUMBER

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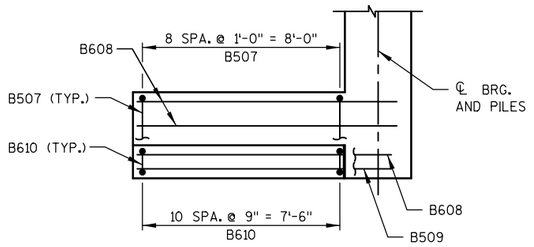
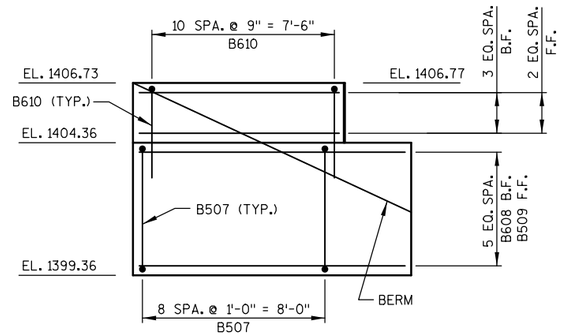
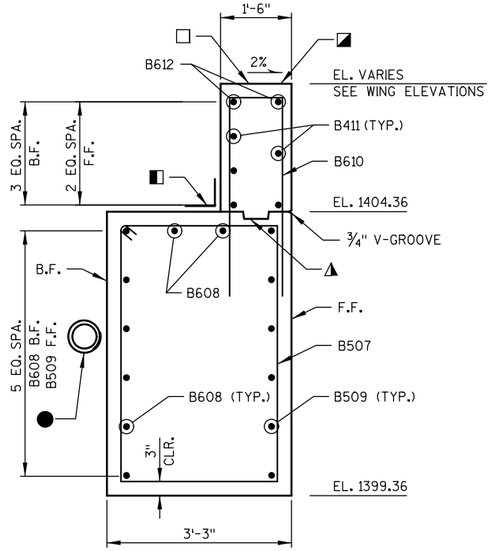


WING 3 PLAN



WING 3 ELEVATION
(LOOKING EAST)

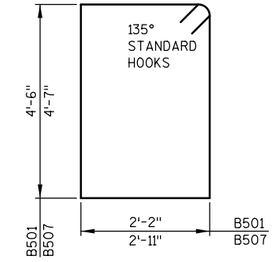


TYPICAL WING SECTION

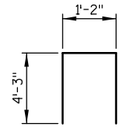
NORTH ABUTMENT BILL OF BARS

UNCOATED: 1,530 LBS.
COATED: 1,120 LBS.

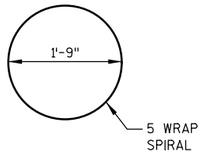
MARK	NO.	LENGTH	BENT	COAT	LOCATION
B501	33	13'-11"	X		BODY - VERT. - STIRRUPS
B402	8	2'-3"			BODY - PILES - VERT.
B403	4	28'-0"	X		BODY - PILES - SPIRAL
B604	11	26'-2"			BODY - F.F., TOP, BTM. - HORIZ.
B805	7	28'-5"	X		BODY - B.F. - HORIZ.
B506	25	2'-0"		X	BODY - TOP - VERT.
B507	18	15'-7"	X	X	WINGS - VERT. - STIRRUPS
B608	16	10'-2"		X	WINGS - B.F. - HORIZ.
B509	12	10'-2"		X	WINGS - F.F. - HORIZ.
B610	22	9'-4"	X	X	WINGS - UPPER - VERT.
B411	10	7'-8"		X	WINGS - UPPER - B.F., F.F. - HORIZ.
B612	4	7'-8"		X	WINGS - UPPER - TOP - HORIZ.



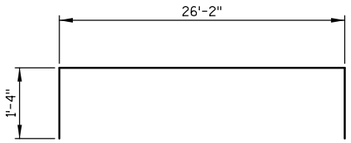
B501, B507



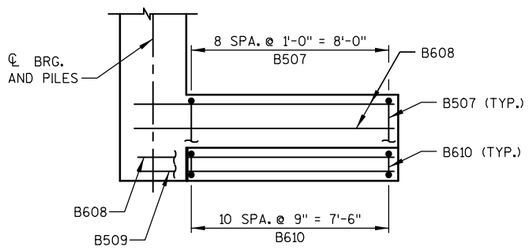
B610



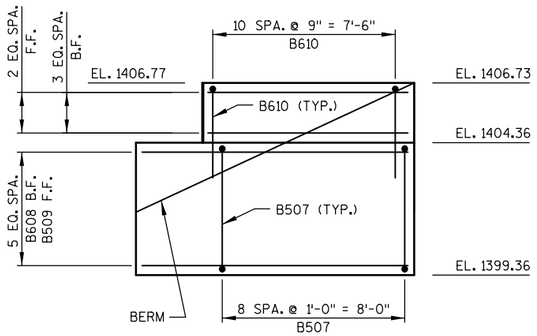
B403



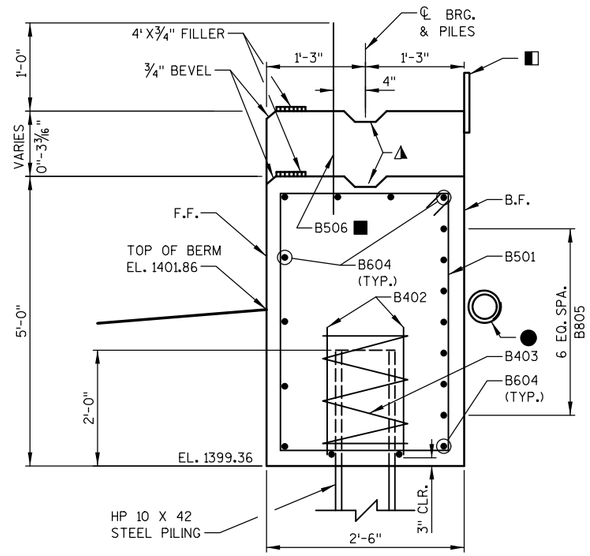
B805



WING 4 PLAN



WING 4 ELEVATION
(LOOKING WEST)



TYPICAL ABUTMENT SECTION

LEGEND

- ◭ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6".
- ◧ 18" RUBBERIZED MEMBRANE WATERPROOFING.
- ■ THESE BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.
- □ SLOPE TOP OF WING SAME AS SUPERSTRUCTURE.
- ● PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 4.
- ◪ COAT WITH "PROTECTIVE SURFACE TREATMENT" AS PER THE STANDARD SPECIFICATIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-37-427

DRAWN BY AJW | PLANS CK'D. DJW

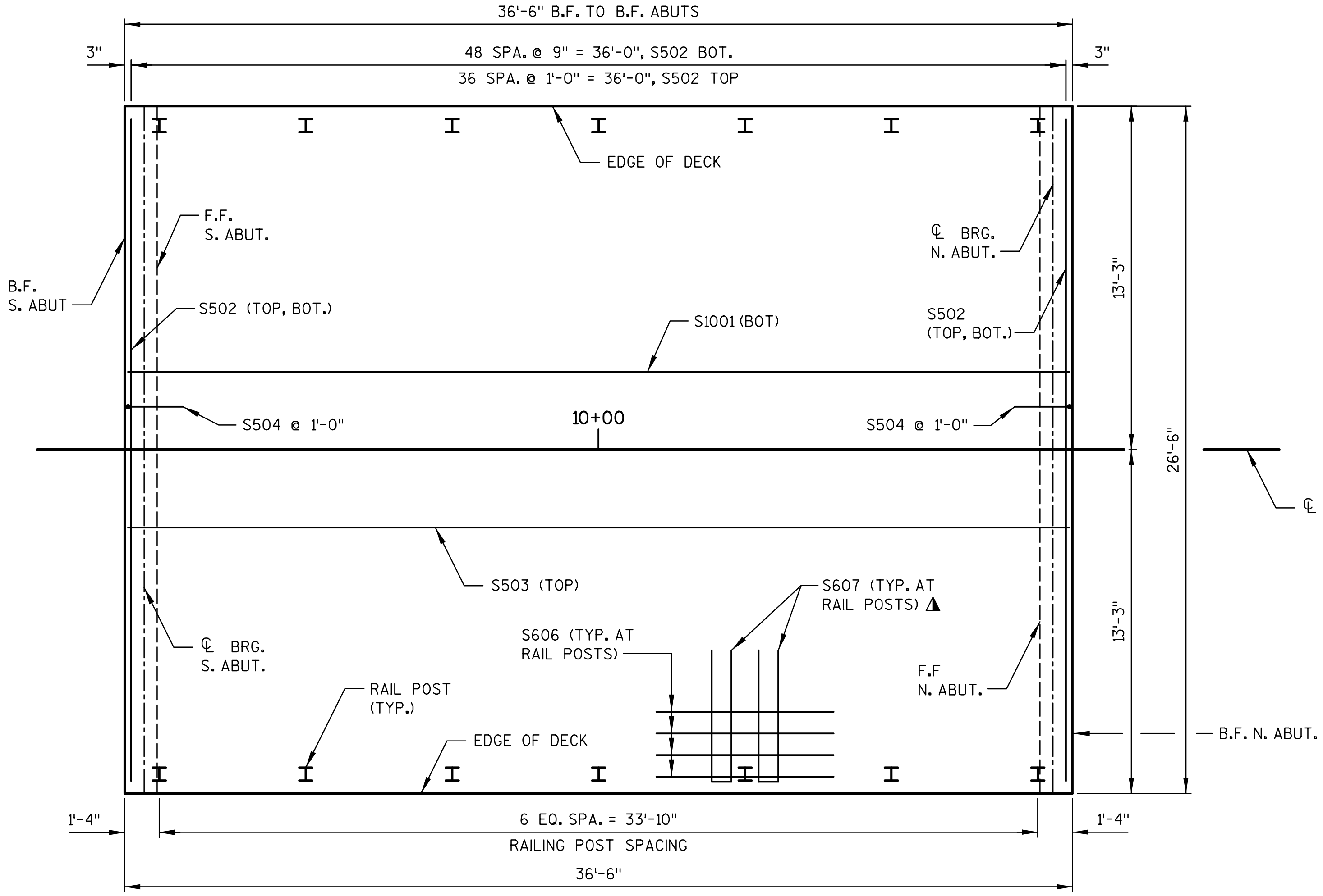
NORTH ABUTMENT DETAILS

SHEET 7
34

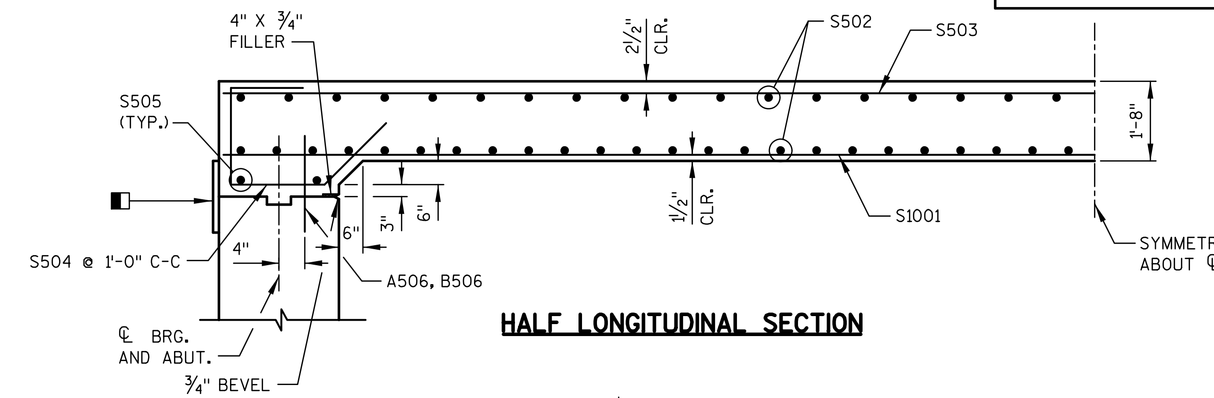
8

8

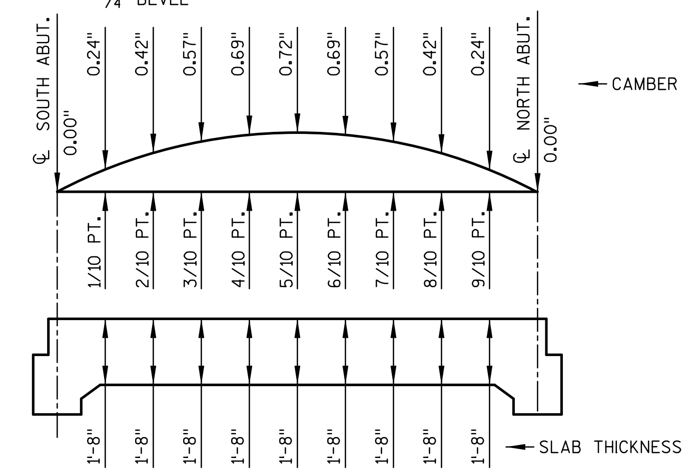
STATE PROJECT NUMBER
9515-05-70



PLAN



HALF LONGITUDINAL SECTION



CAMBER AND SLAB THICKNESS DIAGRAM

CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS. CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT. RAILINGS PLACED ON TOP OF THE SLAB SHALL BE PLACED AFTER FALSEWORK HAS BEEN RELEASED.

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB, CROWN OR CENTERLINE FOLLOW THIS PROCEDURE:

	TOP OF SLAB ELEVATION AT FINAL GRADE
LESS	SLAB THICKNESS
PLUS	CAMBER
PLUS	FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR)
EQUALS	TOP OF SLAB FALSEWORK ELEVATION.

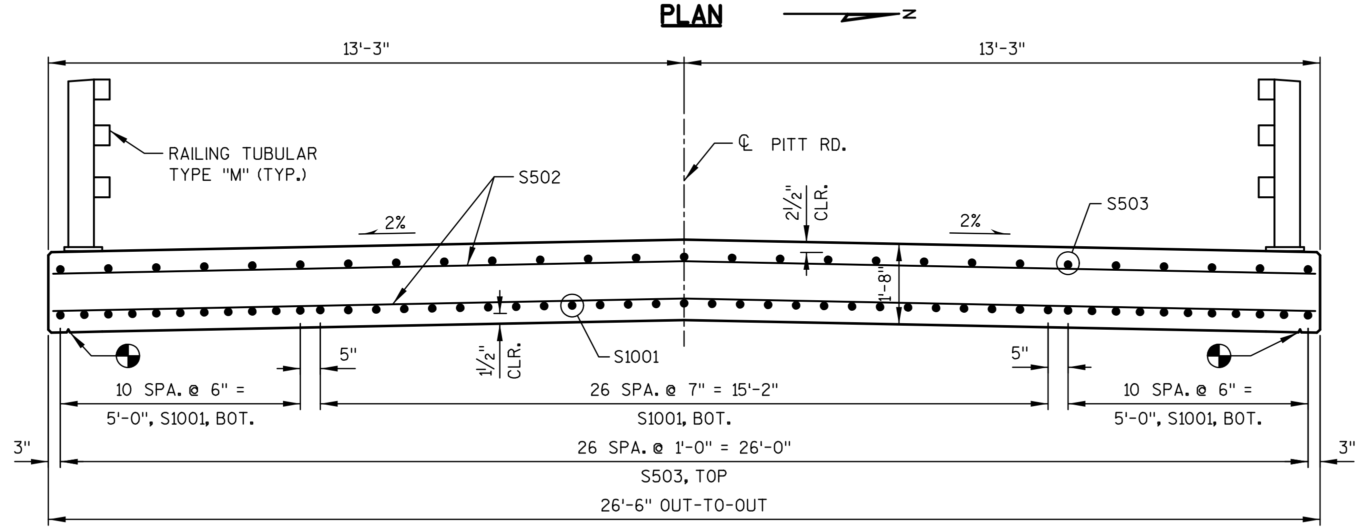
PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE ℄ OF ABUTMENTS, THE ℄ OF PIERS AND AT 5/10 PTS. TO VERIFY CAMBER.

LEGEND

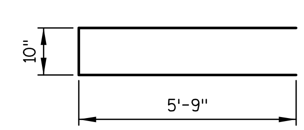
18" RUBBERIZED MEMBRANE WATERPROOFING.

3/4" V-GROOVE. EXTEND V-GROOVE TO THE FILLET ADJACENT TO THE ABUTMENT. LOCATE 5" FROM EDGE OF DECK.

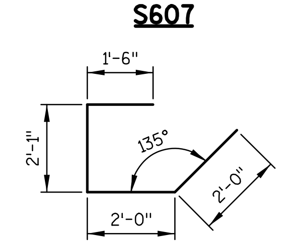
TIE TO TOP MAT OF BAR STEEL. SEE SHEET 9.



CROSS SECTION THRU SUPERSTRUCTURE



S607



S504

SUPERSTRUCTURE BILL OF BARS

COATED: 12,520 LBS.

MARK	NO.	LENGTH	BENT	COAT	LOCATION
S1001	49	36'-2"		X	SLAB - LONGITUDINAL - BOT.
S502	86	26'-2"		X	SLAB - TRANSVERSE - TOP, BOT.
S503	27	36'-2"		X	SLAB - LONGITUDINAL - TOP
S504	54	7'-4"	X	X	END OF DECK - VERT.
S505	4	26'-2"		X	END OF DECK - HORIZ.
S606	56	6'-0"		X	EDGE OF DECK - RAILING
S607	28	12'-0"	X	X	EDGE OF DECK - RAILING

TOP OF DECK ELEVATIONS

LOCATION	WEST EDGE OF DECK		C/L BRIDGE		EAST EDGE OF DECK	
	13.25' LT		-		13.25' RT	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
C/L SOUTH ABUT.	9+83.00	1406.83	9+83.00	1407.10	9+83.00	1406.83
0.1L POINT	9+86.40	1406.83	9+86.40	1407.10	9+86.40	1406.83
0.2L POINT	9+89.80	1406.83	9+89.80	1407.10	9+89.80	1406.83
0.3L POINT	9+93.20	1406.83	9+93.20	1407.10	9+93.20	1406.83
0.4L POINT	9+96.60	1406.83	9+96.60	1407.10	9+96.60	1406.83
0.5L POINT	10+00.00	1406.83	10+00.00	1407.09	10+00.00	1406.83
0.6L POINT	10+03.40	1406.82	10+03.40	1407.08	10+03.40	1406.82
0.7L POINT	10+06.80	1406.81	10+06.80	1407.08	10+06.80	1406.81
0.8L POINT	10+10.20	1406.80	10+10.20	1407.07	10+10.20	1406.80
0.9L POINT	10+13.60	1406.79	10+13.60	1407.05	10+13.60	1406.79
C/L NORTH ABUT.	10+17.00	1406.77	10+17.00	1407.04	10+17.00	1406.77

ELEVATIONS SHOWN ARE FINISHED GRADE ELEVATIONS.

NOTES

TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

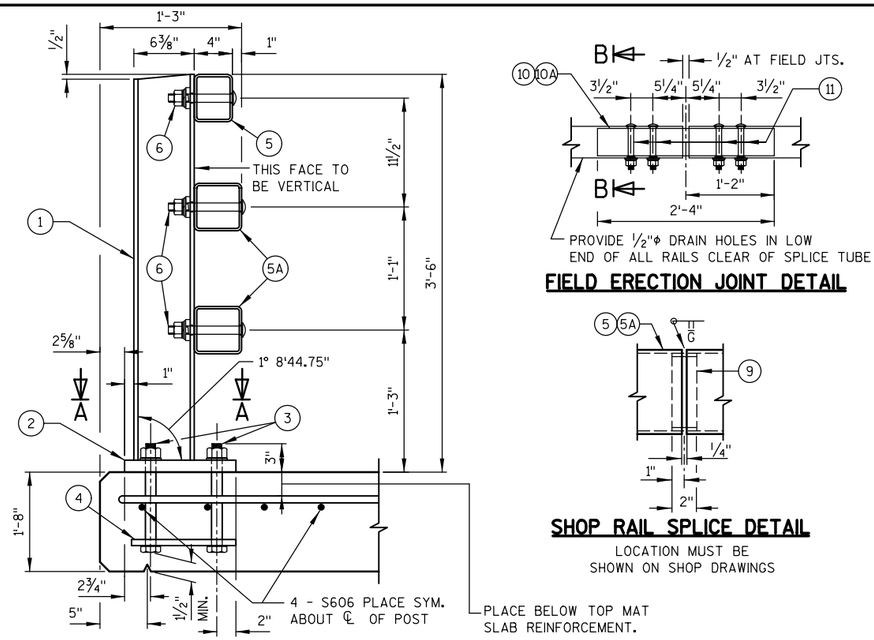
STRUCTURE B-37-427

DRAWN BY AJW | PLANS CK'D. DJW

SUPERSTRUCTURE PLAN & DETAILS

SHEET 8

8

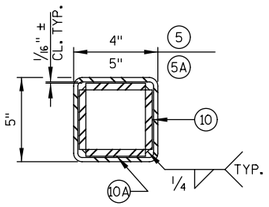


SECTION THRU RAILING ON DECK

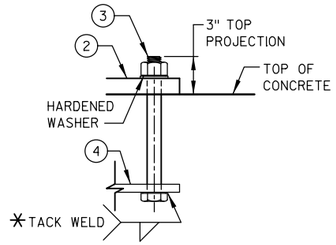
FIELD ERECTION JOINT DETAIL

SHOP RAIL SPLICE DETAIL

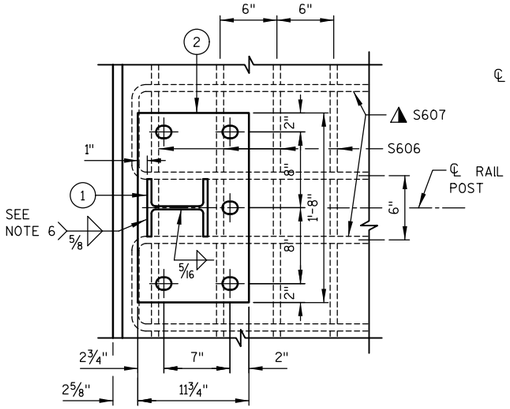
LOCATION MUST BE SHOWN ON SHOP DRAWINGS



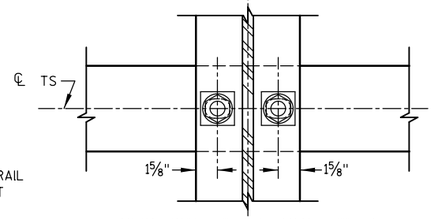
SECTION B-B



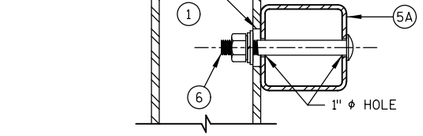
ANCHOR BOLTS



SECTION A-A



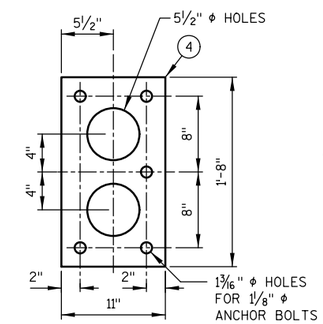
SECTION THRU POST WEB



SECTION THRU RAIL

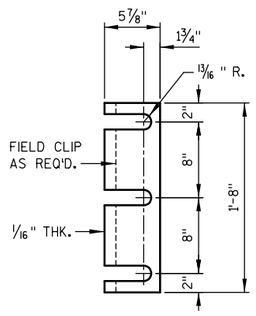
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS

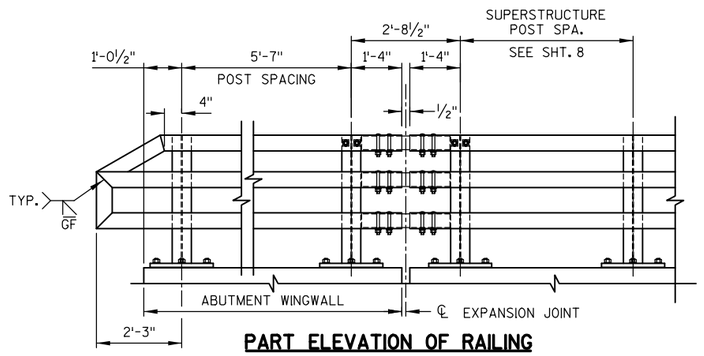


ANCHOR PLATE

AT RAIL TO DECK CONNECTION



POST SHIM DETAIL



PART ELEVATION OF RAILING

LEGEND

(1) W6 x 25 WITH 1⅛" X 1½" 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 1¼" × 11¾" × 1'-8" WITH 1⅝" X 1⅝" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.

(3) ASTM A449 - 1⅛" 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 SUPERSTRUCTURE USE 1'-3" LONG. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTIBILITY.)

(4) ⅝" × 11" × 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1⅜" DIA. HOLES FOR ANCHOR BOLTS NO. 3

(5) TS 5 × 4 × 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.

(5A) TS 5 × 5 × 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.

(6) ⅞" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3⁄16" X 1⅝" X 1⅝" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)

(9) SPLICE SLEEVE FABRICATED FROM ¼" PLATE. PROVIDE "SLIDING FIT".

(10) ⅜" X 3⅝" X 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.

(10A) ⅜" X 2⅝" X 2'-4" PLATE USED IN NO. 5, ⅜" X 3⅝" X 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.

(11) ⅞" ϕ A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 15⁄16 " X 1¼" LONGIT. SLOTTED HOLES AT FIELD JOINTS AND 15⁄16 " X 2¼" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A.

GENERAL NOTES

1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-37-427" WHICH INCLUDES ALL ITEMS SHOWN.
2. 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.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ⅛ TURN.
4. 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.
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
7. 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.
8. 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.
9. 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 SSPC SPECIFICATIONS.
10. WHEN PAINTING IS REQUIRED, ALL MATERIAL EXCEPT ANCHORAGE DETAIL (NO. 3 & 4) SHALL BE PAINTED OVER GALVANIZING WITH APPROVED TIE COAT AND TOP COAT.
11. THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).
12. PLACE FIRST BOTTOM LONGITUDINAL BAR CLEAR OF DRIP GROOVE.

▲ TIE TO TOP MAT OF STEEL.

✳ FOR ANCHOR BOLTS IN WINGS, TACK WELD MAY BE USED IN FIELD AFTER ANCHOR PLATE IS IN POSITION IF REQ'D. FOR CONSTRUCTIBILITY.

STATE PROJECT NUMBER

9515-05-70

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-37-427

DRAWN BY AJW | PLANS CK'D. DJW

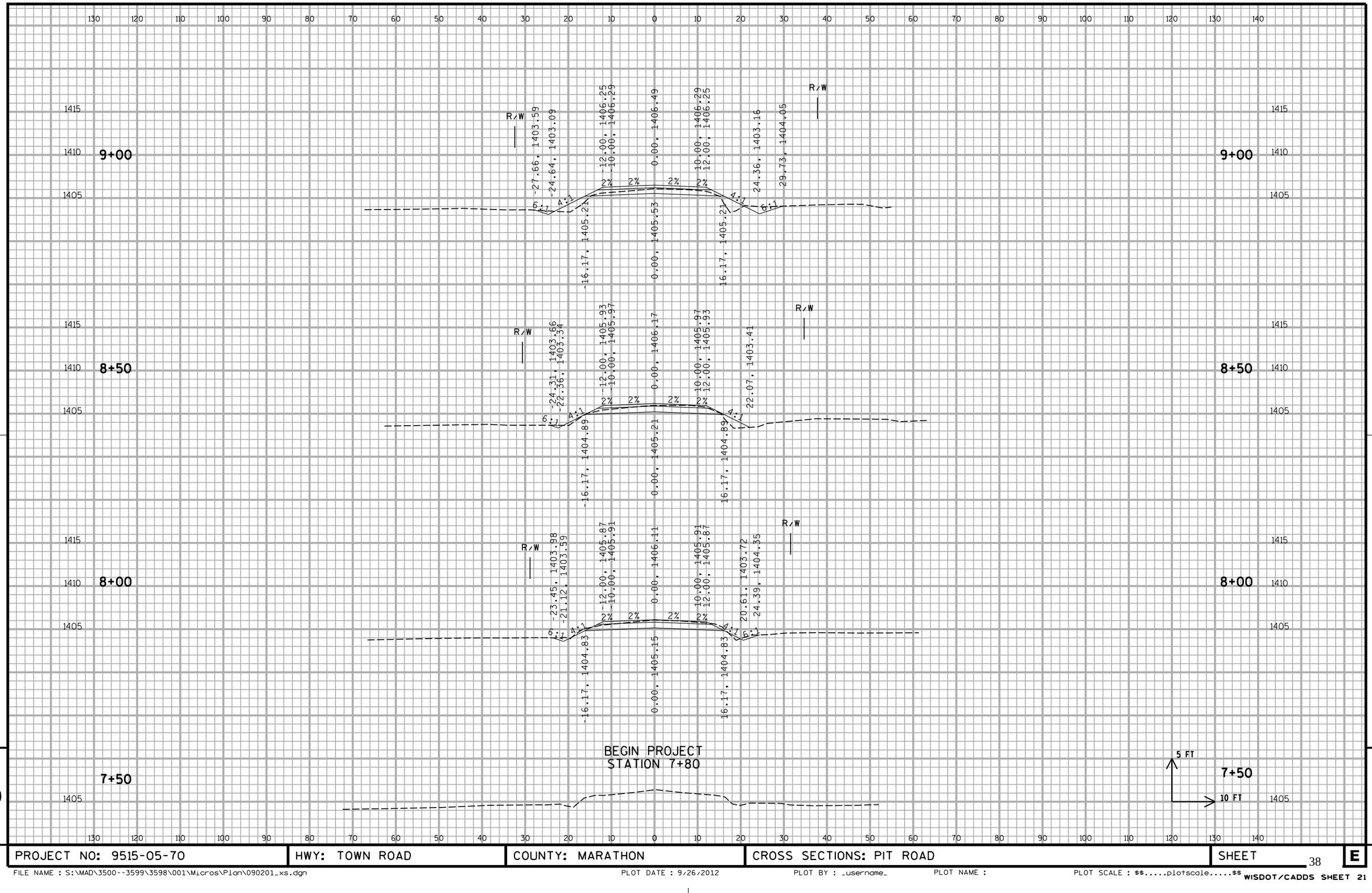
TUBULAR STEEL RAILING TYPE "M"

SHEET 9
36

8

8

EARTHWORK SUMMARY											
			AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOLUME (CY)		
STATION	REAL STATION	DISTANCE	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	UNEXPANDED FILL	CUT 1.00	FILL 1.25	MASS ORDINATE
7+80.00	780.00		25	0	1						
8+00.00	800.00	20.00	25	0	1	19	0	1	19	1	18
8+50.00	850.00	50.00	20	0	5	42	0	6	61	9	52
9+00.00	900.00	50.00	20	0	10	37	0	14	98	26	72
9+37.10	937.10	37.10	20	6	25	27	4	24	125	56	65
9+50.00	950.00	12.90	20	6	25	10	3	12	135	71	57
9+81.49	981.49	31.49	20	6	25	23	7	29	158	108	36
B-37-427									158	108	36
10+18.49	1018.49		30	4	40				158	108	36
10+50.00	1050.00	31.51	30	4	40	35	5	47	193	167	7
10+64.20	1064.20	14.20	30	4	40	16	2	21	209	193	-5
11+00.00	1100.00	35.80	45	0	20	50	3	40	259	243	-8
11+50.00	1150.00	50.00	45	0	10	83	0	28	342	278	40
12+00.00	1200.00	50.00	45	0	10	83	0	19	425	302	99



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PROJECT NO: 9515-05-70	HWY: TOWN ROAD	COUNTY: MARATHON	CROSS SECTIONS: PIT ROAD	SHEET	E

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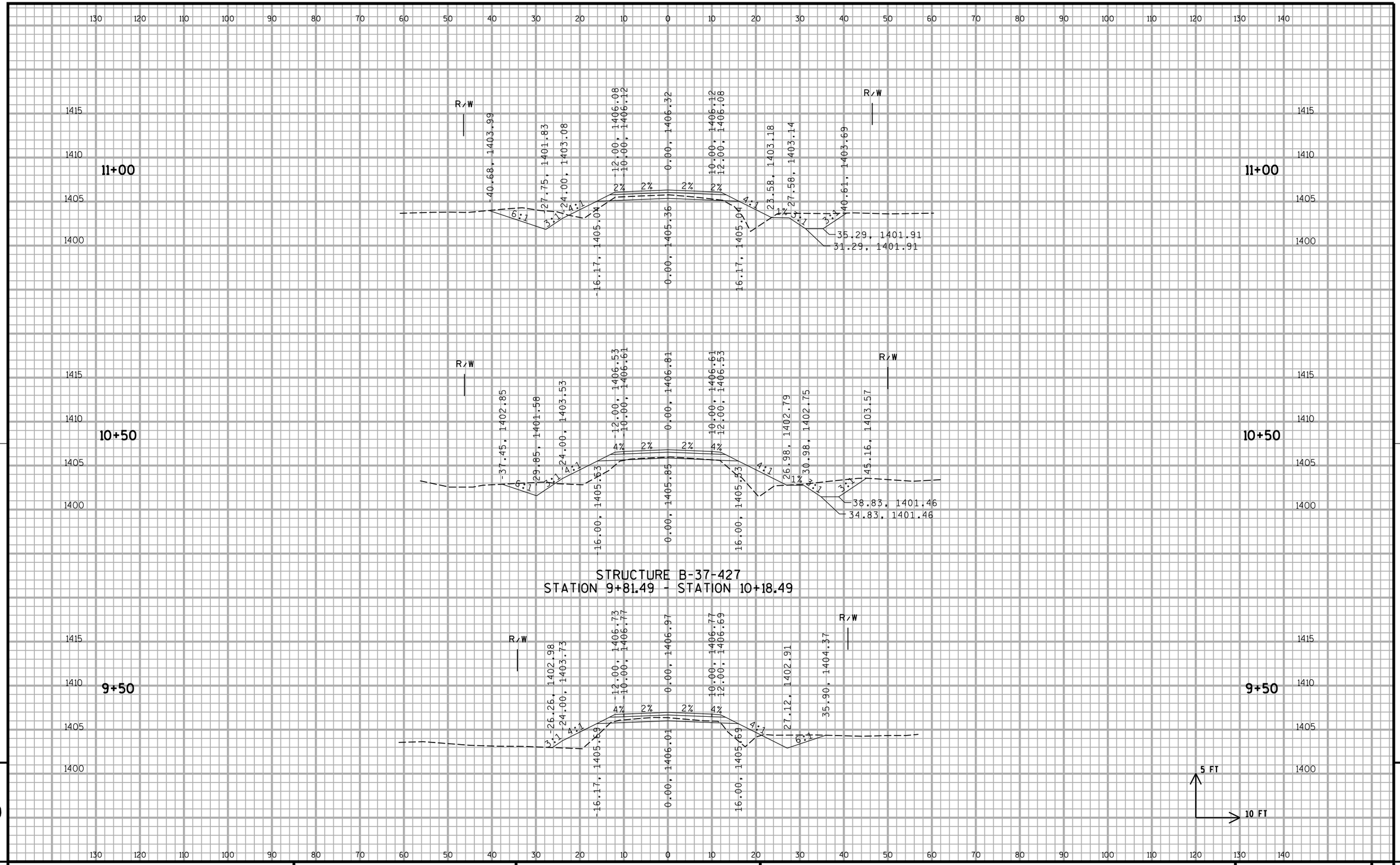

PROJECT NO: 9515-05-70	HWY: TOWN ROAD	COUNTY: MARATHON	CROSS SECTIONS: PIT ROAD	SHEET 39	E

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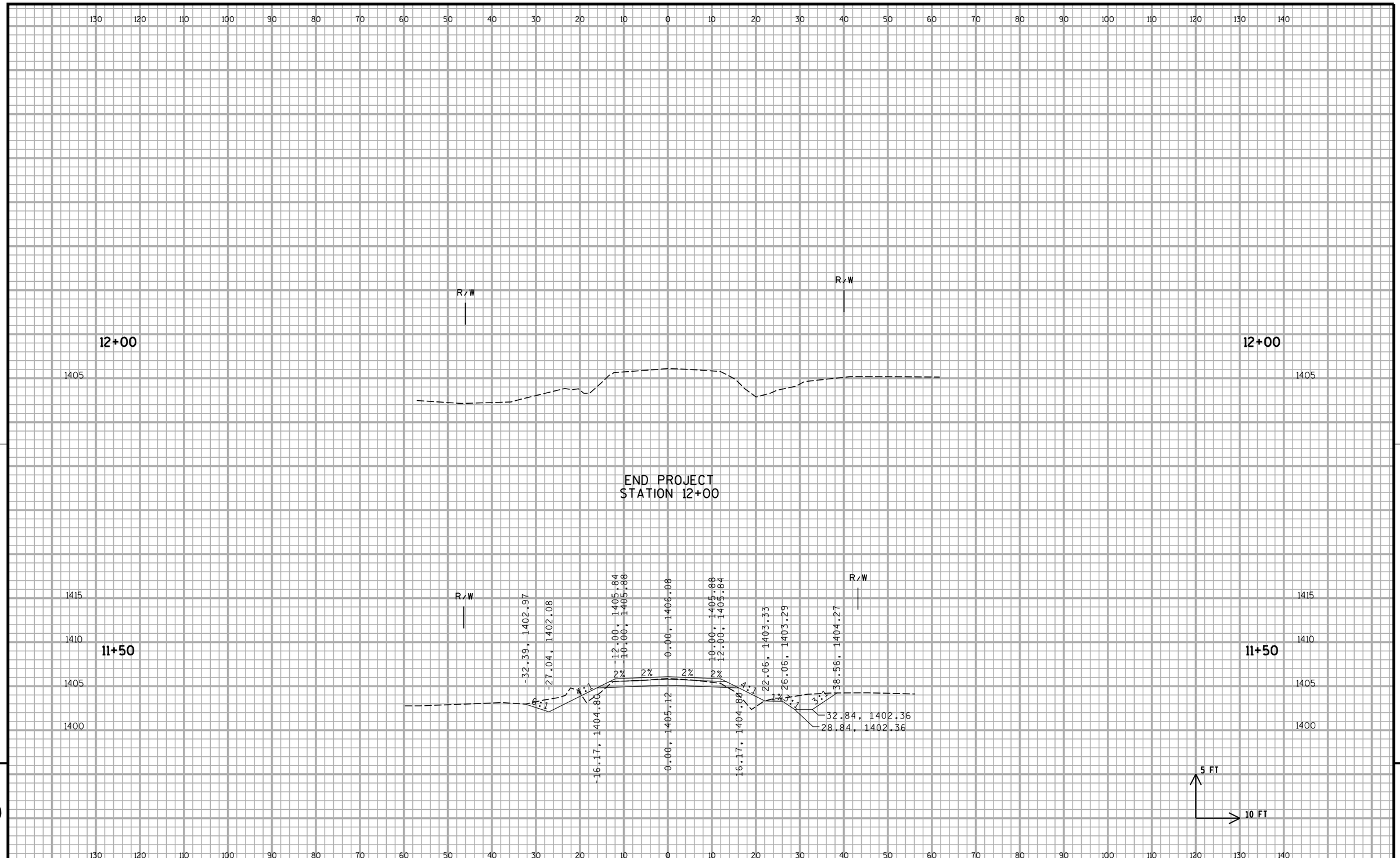

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9

PROJECT NO: 9515-05-70	HWY: TOWN ROAD	COUNTY: MARATHON	CROSS SECTIONS: PIT ROAD	SHEET 40	E

Notes

Wisconsin Department of Transportation

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