

WKE
PROJECT ID: 2480-02-71
WITH:
COUNTY: WASHINGTON

JULY 2013

ORDER OF SHEETS

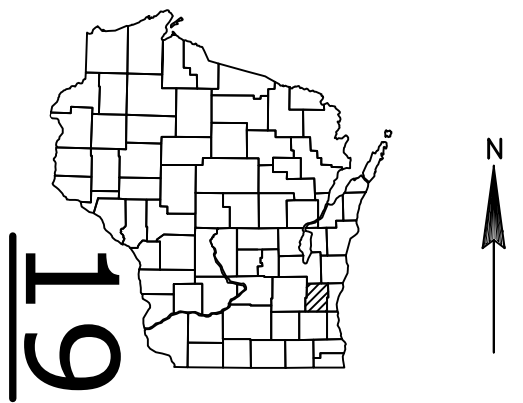
Section No. 1	Title
Section No. 2	Typical Sections and Details
Section No. 3	Estimate of Quantities
Section No. 3	Miscellaneous Quantities
Section No. 4	Right of Way Plat
Section No. 5	Plan and Profile
Section No. 6	Standard Detail Drawings
Section No. 7	Sign Plates
Section No. 8	Structure Plans
Section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

TOTAL SHEETS = 38

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT
WEST BEND TO SHEBOYGAN
BOX CULVERT C-66-0107
STH 144
WASHINGTON COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
2480-02-71	WISC 2013339	1

STATE PROJECT NUMBER
2480-02-71



DESIGN DESIGNATION

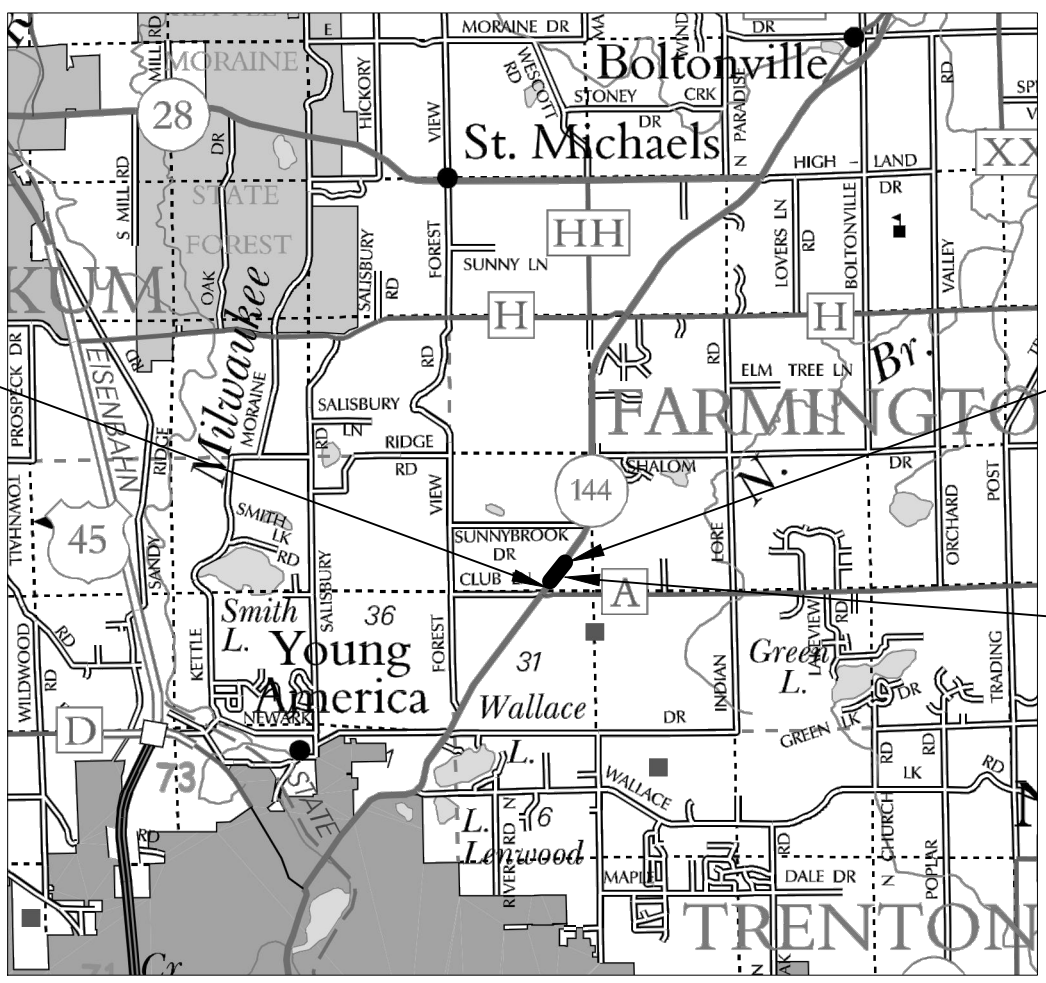
A.A.D.T.	2010	=	4500
A.A.D.T.	2030	=	6500
D.H.V.		=	774
D.D.		=	58/42
T.		=	5.8%
DESIGN SPEED		=	60 MPH
ESALS		=	803,000

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
	WATER
	UTILITY PEDESTAL
	POWER POLE
	TELEPHONE POLE

BEGIN PROJECT 2480-02-71
STA 1013+50
X=372,064.122
Y=201,613.429

END PROJECT 2480-02-71
STA 1015+50

BOX CULVERT C-66-57



LAYOUT
SCALE 0 0.5 Mi.
TOTAL NET LENGTH OF CENTERLINE = .038 MI.

-"COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), WASHINGTON COUNTY, NAD 1983 (1997)"
ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1988 NAVD 88 (91)

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
PREPARED BY	
Surveyor	_____
Designer	BRENT HEIM
Project Manager	JASON DAHLGREN
Regional Examiner	_____
Regional Supervisor	ANITA PUSCH
C.O. Examiner	_____
APPROVED FOR THE DEPARTMENT	
DATE: 3/25/13	
E	

GENERAL NOTES

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

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

NO TREES OR SHRUBS SHALL BE REMOVED UNLESS DESIGNATED FOR REMOVAL BY THE ENGINEER.

TEMPORARY STORAGE OF ANY MATERIAL OR EQUIPMENT SHALL NOT BE PERMITTED IN WETLANDS.

TRAFFIC CONTROL LOCATIONS AS SHOWN IN THE PLAN ARE SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

A SAWED JOINT WILL BE REQUIRED WHERE NEW PAVEMENT IS TO MEET AN EXISTING PAVED SURFACE.

SEE SUBSURFACE EXPLORATION REPORTS FOR SOIL BORING INFORMATION.

DIMENSIONS GIVEN FOR EXISTING FEATURES SHALL BE CONSIDERED AS APPROXIMATE AND MEASURED IN THE FIELD FOR MATCHING PURPOSES.

COMMON EXCAVATION IS MEASURED FROM THE EXISTING SURFACE TO THE PROPOSED SUBGRADE. THE REMAINING EXCAVATION WILL BE PAID UNDER EXCAVATION FOR STRUCTURES.

RESTORE GRADED AREAS, AS DESIGNATED BY THE ENGINEER, IMMEDIATELY AFTER GRADING IS COMPLETED WITHIN THOSE AREAS. SEED AND EROSION MAT TOP-SOILED AREAS, AS DESIGNATED BY THE ENGINEER, WITHIN FIVE (5) CALENDAR DAYS AFTER PLACEMENT OF TOPSOIL. IF GRADED AREAS ARE LEFT EXPOSED FOR MORE THAN (14) CALENDAR DAYS, SEED THOSE AREAS WITH TEMPORARY SEED.

STOCKPILE EXCESS MATERIAL OR SPOILS ON UPLAND AREAS AWAY FROM WETLANDS, FLOODPLAINS AND WATERWAYS. STOCKPILED SOIL SHALL BE PROTECTED AGAINST EROSION. IF STOCKPILED MATERIAL IS LEFT FOR MORE THAN FOURTEEN (14) CALENDAR DAYS, SEED THE STOCKPILE WITH TEMPORARY SEED.

EROSION CONTROL BMP'S ARE SHOWN AT SUGGESTED LOCATIONS. THE ACTUAL LOCATIONS WILL BE DETERMINED BY THE CONTRACTOR'S ECIP AND BY THE ENGINEER IN THE FIELD. EROSION CONTROL BMP'S SHALL BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED OR UNTIL THE ENGINEER DETERMINES THAT THE BMP IS NO LONGER REQUIRED.

ORDER OF SHEETS

- GENERAL NOTES
- PROJECT OVERVIEW
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- EROSION CONTROL
- TRAFFIC CONTROL
- DETOUR

CONSTRUCT HMA PAVEMENT TYPE E-3 WITH THE FOLLOWING ASPHALTIC MATERIAL LAYERS AND GRADATIONS

LOCATION	ASPHALTIC MATERIAL	NOMINAL SIZE	LAYER 1	LAYER 2
5.25-INCH	PG 58-28	19.0 mm	3.25-INCH	
	PG 58-28	12.5 mm		2-INCH



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

UTILITY CONTACTS

WE ENERGIES – ELECTRIC

(SEND ALL CORRESPONDENCE TO)
MR. DAN SANDE , PROJECT MANAGER
WE ENERGIES (ELECTRIC)
333 W. EVERETT ST. A279
MILWAUKEE, WI 53203
PHONE: (414) 221-4578
FAX: (414) 221-2336
dan.sande@we-energies.com

FIELD CONTACT:
MR. AL SCHMITT
WE ENERGIES (ELECTRIC)
245 SAND DR
WEST BEND, WI 53095
PHONE: (262) 338-7662
CELL: (414) 322-1824
al.schmitt@we-energies.com

WISC. GAS CO. D/B/A WE ENERGIES

MR. PAUL OSMANSKI
WE ENERGIES (GAS)
500 S 116TH ST
WEST ALLIS, WI 53214
PHONE: (414) 944-5796
FAX: (414) 221-2336
paul.osmanski@we-energies.com

WE ENERGIES EMERGENCY DISPATCH

ELECTRIC:
1-800-662-4797

GAS:
1-800-261-5325

CHARTER COMMUNICATIONS

MR. TOM HARYCKI
2312 CONTINENTAL DRIVE
WEST BEND, WI 53095
PHONE: (262) 306-8756 ext. 20702
FAX: (920) 306-9021
tharycki@chartercom.com

AT&T WISCONSIN

MR. STEVE UBERT
7721 W. FOND DU LAC AVE
MILWAUKEE, WI 53218
PHONE: (414) 535-7420
FAX: (414) 896-7435
su2438@att.com

WISCONSIN DOT CONTACTS

PROJECT MANAGER

MR. JASON DAHLGREN
WISDOT SOUTHEAST REGION
WAUKESHA OFFICE
141 NW BARSTOW ST
WAUKESHA, WI 53187
PHONE: (262) 521-5349
jason.dahlgren@dot.wi.gov

DESIGN ENGINEER

MR. BRENT HEIM
WISDOT SOUTHEAST REGION
WAUKESHA OFFICE
141 NW BARSTOW ST
WAUKESHA, WI 53187
PHONE: (262) 548-5944
brent.heim@dot.wi.gov

CONSTRUCTION ENGINEER

MR. MARTIN VILLACA
WISDOT SOUTHEAST REGION
WAUKESHA OFFICE
141 NW BARSTOW ST
WAUKESHA, WI 53187
PHONE: (262) 548-6456
martin.villaca@dot.wi.gov

STRUCTURAL ENGINEER

DANIELLE DETENNIS
WISDOT – BUREAU OF STRUCTURES
CENTRAL OFFICE
4802 SHEBOYGAN AVE.
MADISON, WI 53707
PHONE: (608) 266-8689
danielle.detennis@dot.wi.gov

UTILITY COORDINATOR

MS. ABBY SCHMIDT
141 NW BARSTOW ST
WAUKESHA, WI 53187
PHONE: (262) 548-5925
abby.schmidt@dot.wi.gov

KEWASKUM SCHOOL DISTRICT

MR. JAMES SMASAL, SUPERINTENDENT
(262) 626-8427 EXT. 8006
JSmasal@ksd.k12.wi.us

MS. JEANNE JACAK, ADMIN ASSISTANT
(262) 626-8427 EXT. 8005
JJacak@ksd.k12.wi.us

1675 REIGLE DRIVE, SUITE 100
KEWASKUM, WI 53040

WISDNR LIAISON

MS. JULIE WIDHOLM
WIS. DEPT. OF NATURAL RESOURCES
141 NW BARSTOW ST, ROOM 180
WAUKESHA WI 53188
PHONE: (414) 574-2112
CELL: (262) 424-2834
Julie.Widholm@wisconsin.gov

WASHINGTON COUNTY

MR. CHRIS WALTER
ASSISTANT HIGHWAY COMMISSIONER
WASHINGTON CO. HIGHWAY DEPT.
432 EAST WASHINGTON STREET
WEST BEND, WI 53095
PHONE: (262) 335-4436
FAX: (262) 335-4439
chris.walter@co.washington.wi.us

TOWN OF FARMINGTON

MR. CHRIS ELBE, CHAIRPERSON
9422 STATE HIGHWAY 144
KEWASKUM, WI 53040
PHONE: (262) 692-6254

OTHER CONTACTS

WASHINGTON COUNTY SHERIFF’S DEPT

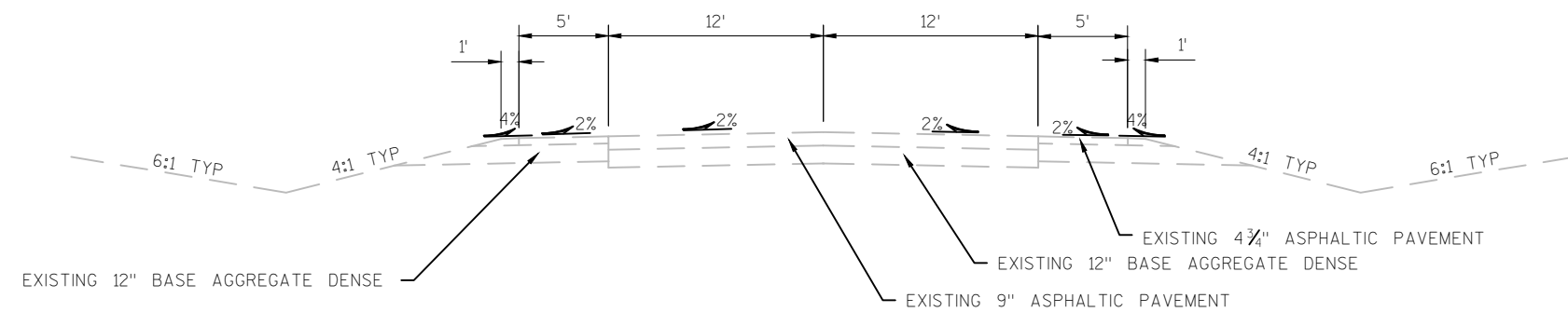
SHERIFF DALE SCHMIDT
500 NORTH SCHMIDT ROAD
WEST BEND, WI 53095
P: (262) 335-4388
dale.schmidt@co.washington.wi.us

FILLMORE FIRE DEPARTMENT

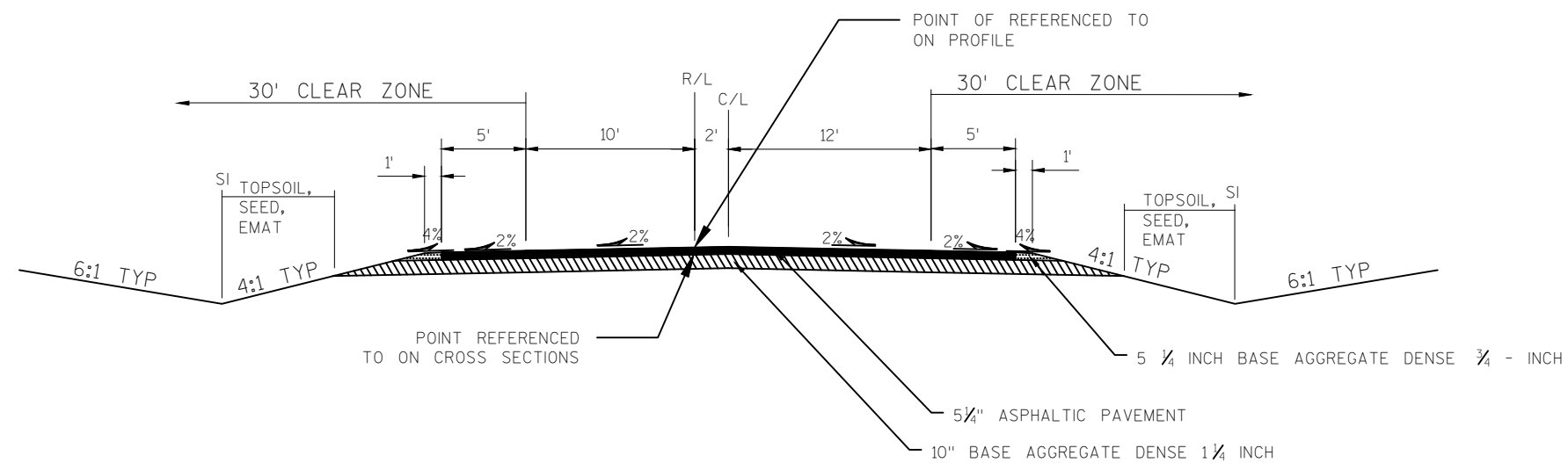
CHIEF JEFF STEINERT
8485 TRADING POST TRAIL
WEST BEND, WI 53090
(262) 689-0277
fillmorefd@nconnect.net

BOLTONVILLE FIRE DEPARTMENT

9336 BOLTON DRIVE
KEWASKUM, WI 53040

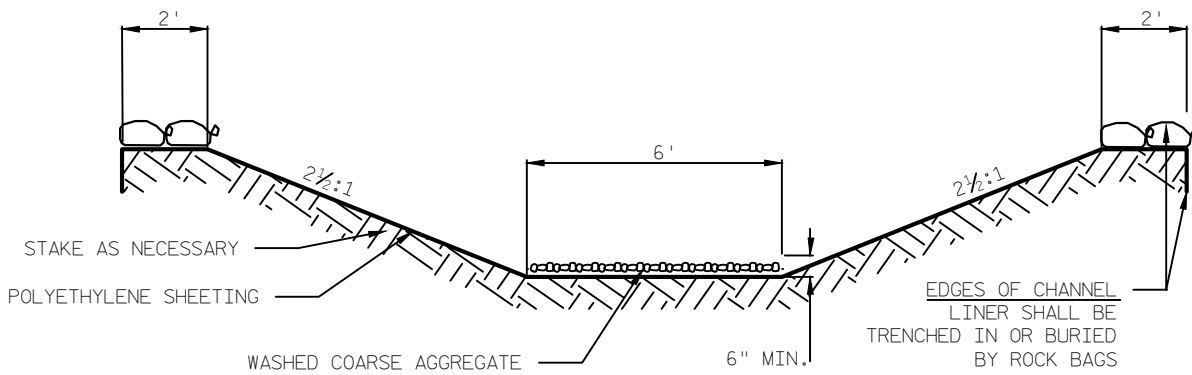


EXISTING TYPICAL SECTION



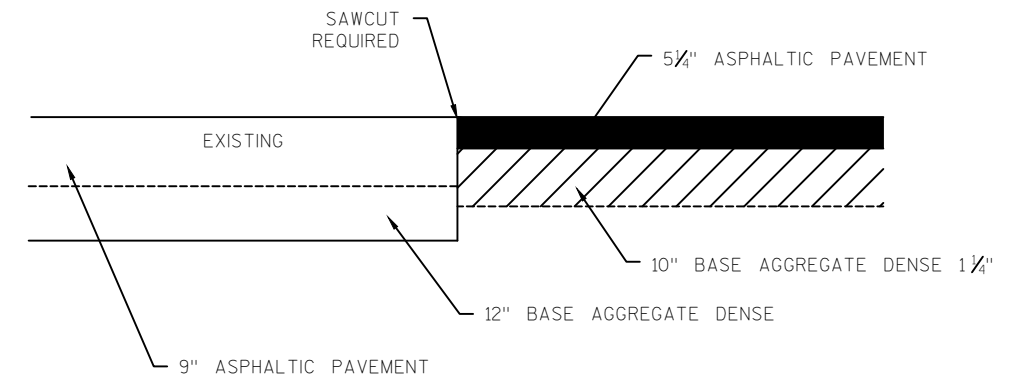
FINISHED TYPICAL SECTION

2



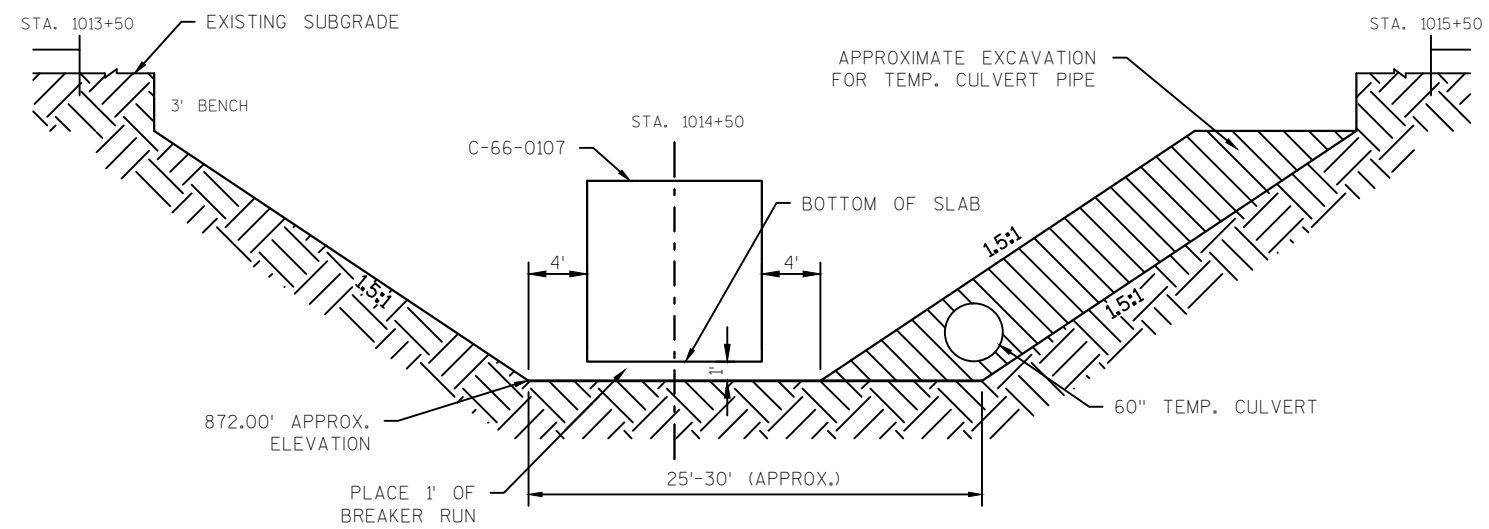
TYPICAL SECTION OF TEMPORARY CHANNEL
TO BE PAID FOR UNDER TEMPORARY
DIVERSION CHANNEL STA. 1015+00

2



JOINT AT MATCHES

STA. 1013+50
STA. 1015+50

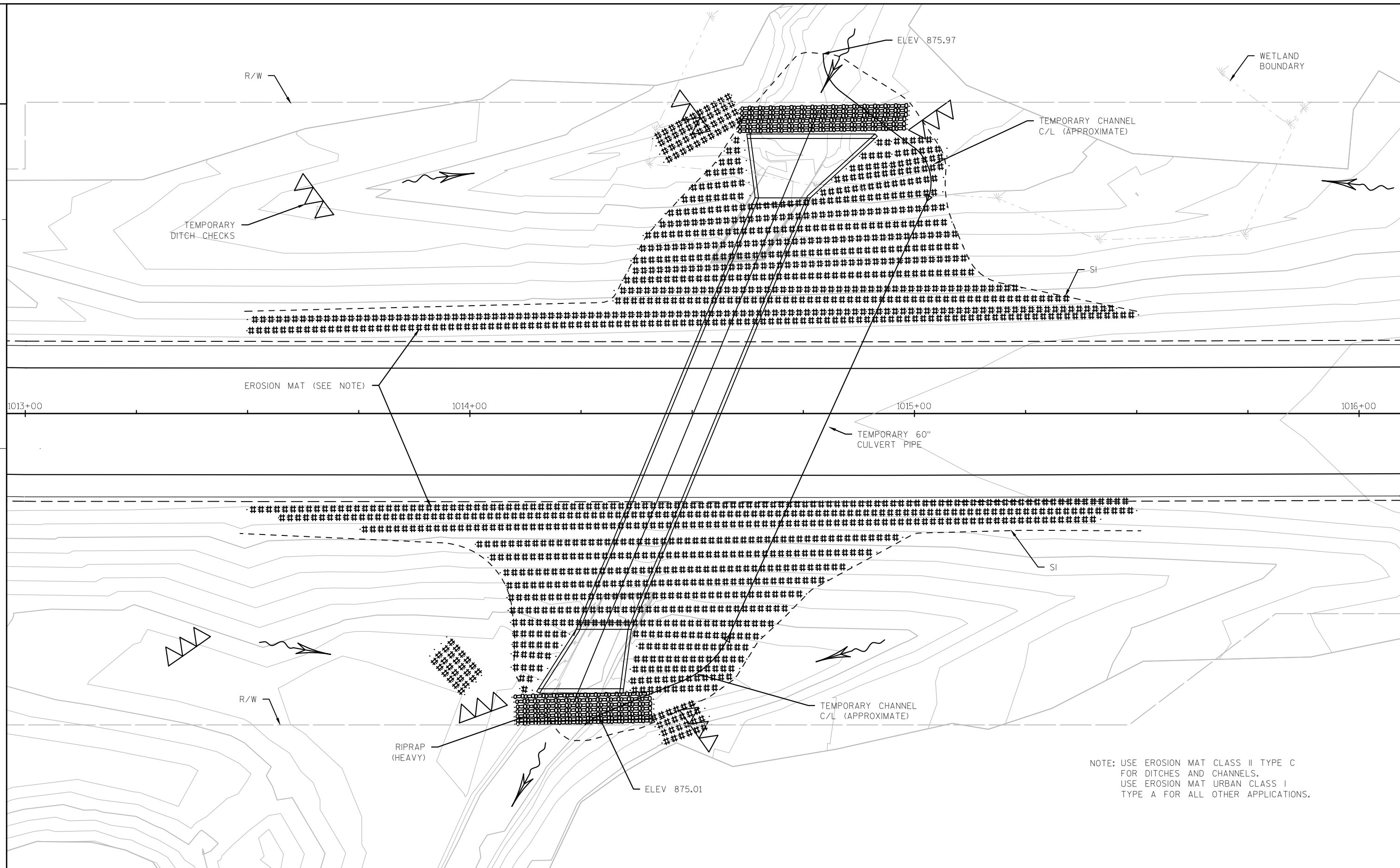


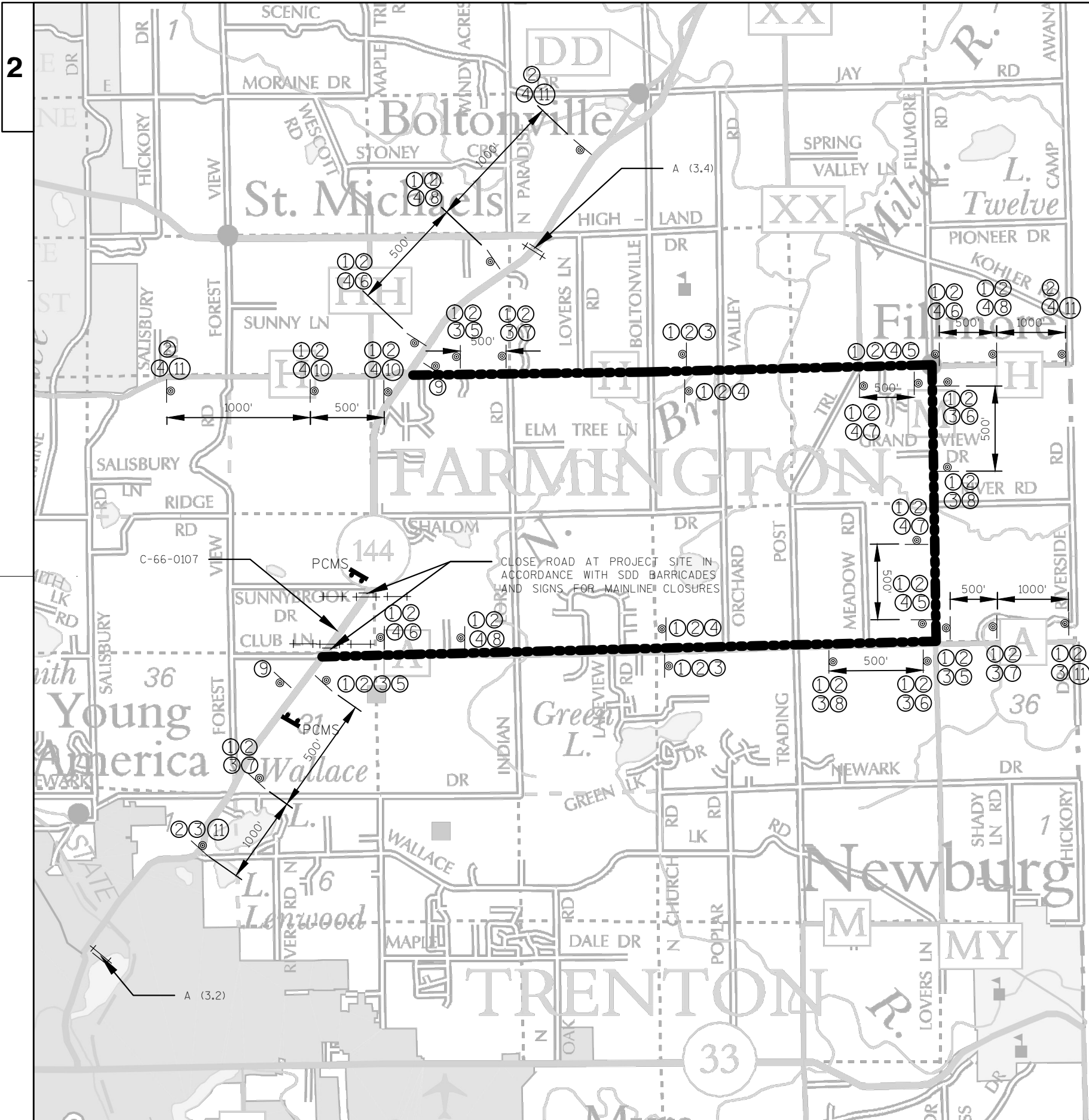
BOX CULVERT APPROXIMATE EXCAVATION CROSS SECTION

2



WISDOT/CADDS SHEET 42





TRAFFIC CONTROL LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- DETOUR ROUTE SIGNED AND MAINTAINED UNDER PROJECT ID: 2480-02-71
- PCMS

A (X) =

BRIDGE OUT
XX MILES AHEAD
LOCAL TRAFFIC ONLY

R11-3B
60" X 30"

B =

BRIDGE OUT

R11-2B
48" X 30"

TRAFFIC CONTROL NOTES

- THE EXACT NUMBER LOCATION AND SPACING OFF ALL TRAFFIC CONTROL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
- TYPE III BARRICADES SHALL HAVE TWO, TWO-WAY TYPE "A" WARNING LIGHTS ON EACH BARRIER.
- ALL SIGNS TO BE PROVIDED BY THE CONTRACTOR.
- PLACE PCMS 10 DAYS PRIOR TO START OF CONSTRUCTION.
- PCMS MESSAGE, "STH 144 WILL BE CLOSED STARTING XX/XX"
- REMOVE PCMS ONCE DETOUR IS IN PLACE.

②

144

M1-6
24"X24"

⑤

→

M06-1R
21"X21"

⑦

↗

M05-1R
21"X21"

⑧

↖

M05-1L
21"X21"

⑩

↑

M06-1
21"X21"

③

NORTH

M3-1
24"X12"

④

SOUTH

M3-3
24"X12"

⑥

←

M06-1L
21"X21"

⑨

END
DETOUR

M4-8A
24" X 18"

⑪

DETOUR
AHEAD

W20-2
48" X 48"

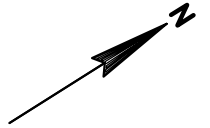
①

DETOUR

M4-8
24" X 12"

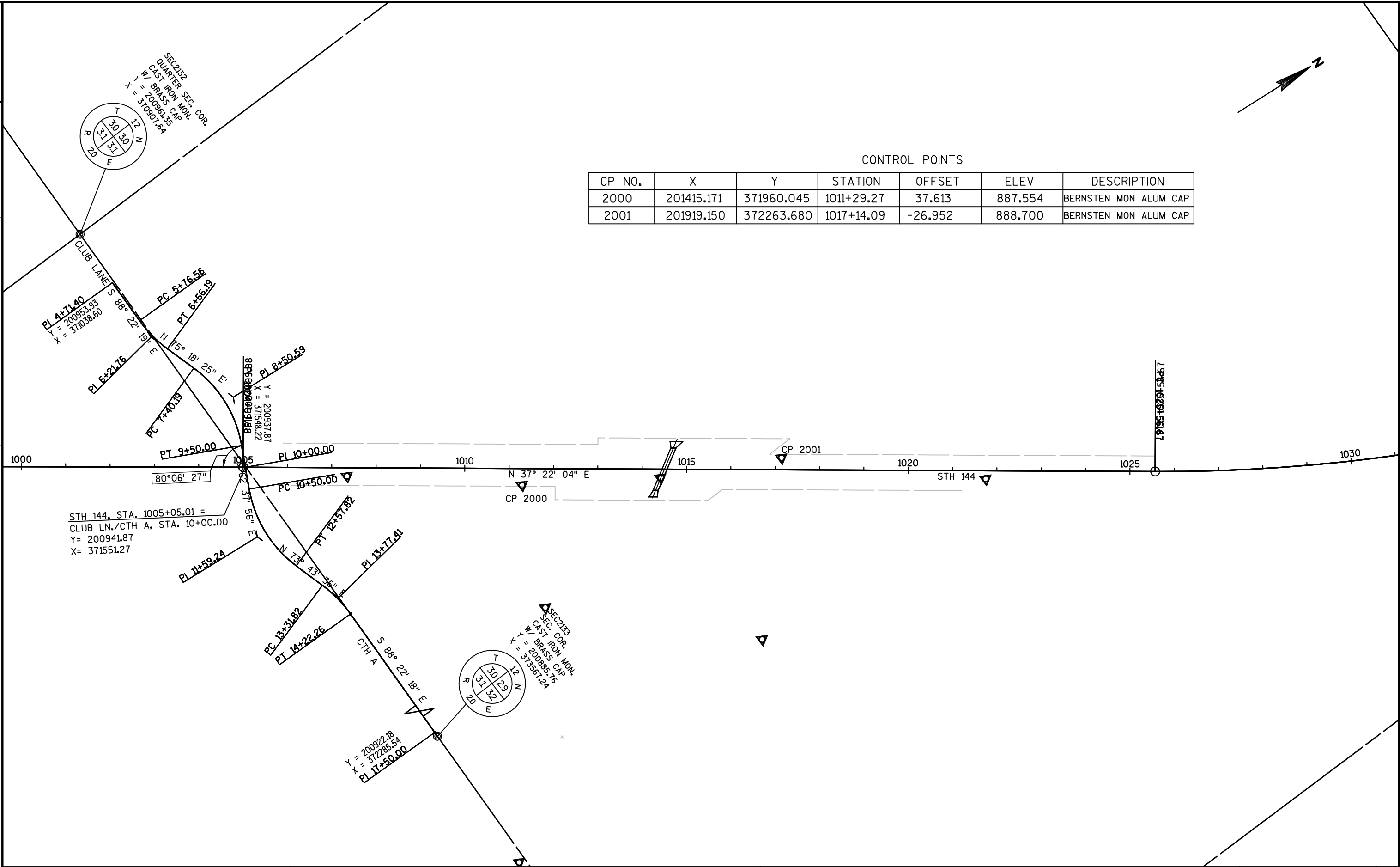
TO

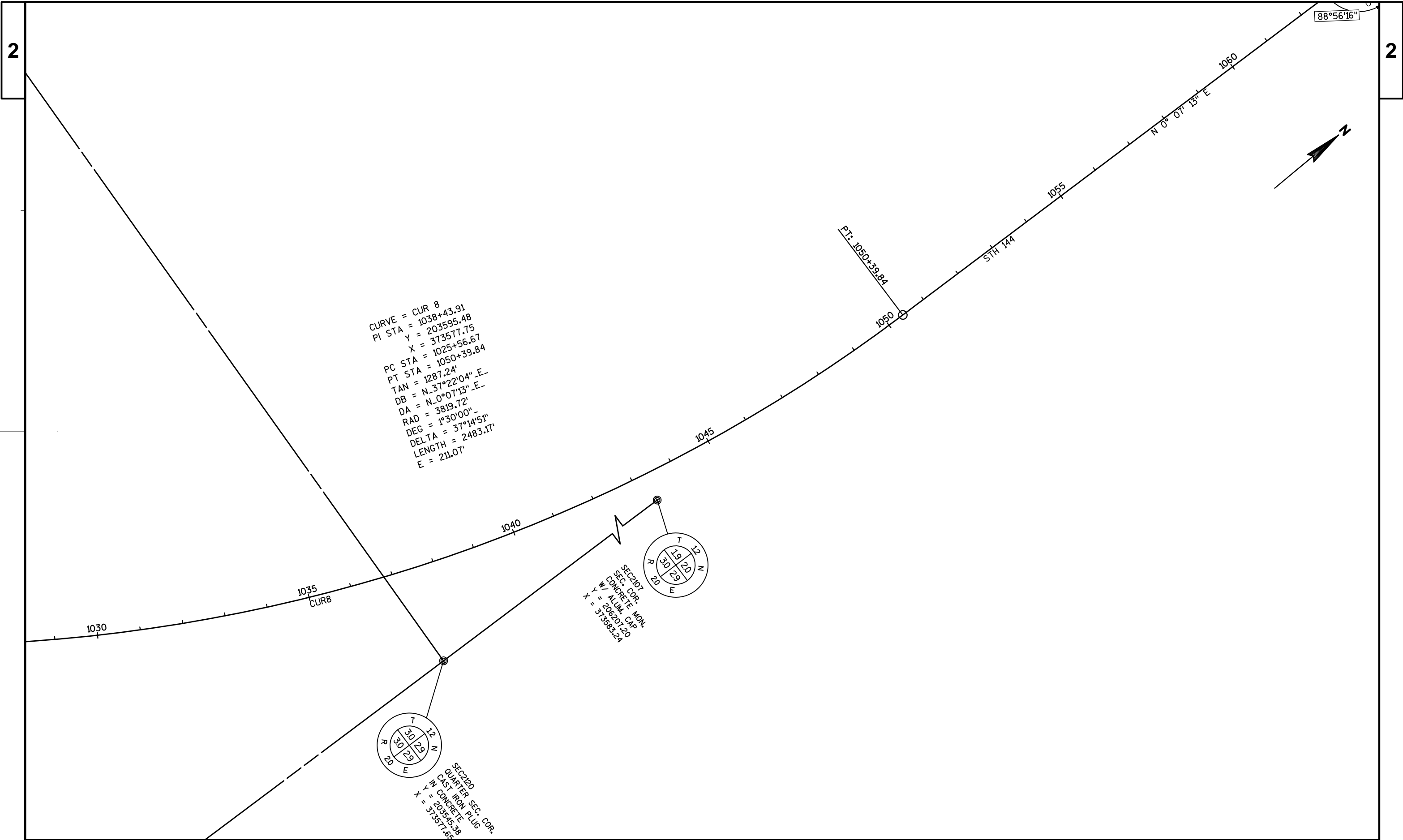
M4-5
24"X12"



CONTROL POINTS

CP NO.	X	Y	STATION	OFFSET	ELEV	DESCRIPTION
2000	201415.171	371960.045	1011+29.27	37.613	887.554	BERNSTEN MON ALUM CAP
2001	201919.150	372263.680	1017+14.09	-26.952	888.700	BERNSTEN MON ALUM CAP





DATE 25APR13		E S T I M A T E O F Q U A N T I T I E S			
LINE					2480-02-71
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	203. 0200	REMOVING OLD STRUCTURE (STATION) 01. 1014+49+00	LS	1. 000	1. 000
0020	205. 0100	EXCAVATION COMMON	CY	300. 000	300. 000
0030	206. 2000	EXCAVATION FOR STRUCTURES CULVERTS (STRUCTURE) 01. C-66-0107	LS	1. 000	1. 000
0040	210. 0100	BACKFILL STRUCTURE	CY	887. 000	887. 000
0050	305. 0110	BASE AGGREGATE DENSE 3/4-INCH	TON	30. 000	30. 000
0060	305. 0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	565. 000	565. 000
0070	311. 0115	BREAKER RUN	CY	94. 000	94. 000
0080	455. 0105	ASPHALTIC MATERIAL PG58-28	TON	13. 000	13. 000
0090	455. 0605	TACK COAT	GAL	20. 000	20. 000
0100	460. 1103	HMA PAVEMENT TYPE E-3	TON	240. 000	240. 000
0110	504. 0100	CONCRETE MASONRY CULVERTS	CY	130. 000	130. 000
0120	505. 0410	BAR STEEL REINFORCEMENT HS CULVERTS	LB	19, 030. 000	19, 030. 000
0130	505. 0610	BAR STEEL REINFORCEMENT HS COATED CULVERTS	LB	1, 810. 000	1, 810. 000
0140	516. 0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	27. 000	27. 000
0150	520. 4060	CULVERT PIPE TEMPORARY 60-INCH	LF	106. 000	106. 000
0160	606. 0300	RIPRAP HEAVY	CY	31. 000	31. 000
0170	616. 0205	FENCE CHAIN LINK 5-FT	LF	90. 000	90. 000
0180	618. 0100	MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 01. 2480-02-71	EACH	1. 000	1. 000
0190	619. 1000	MOBILIZATION	EACH	1. 000	1. 000
0200	625. 0500	SALVAGED TOPSOIL	SY	650. 000	650. 000
0210	628. 1504	SILT FENCE	LF	400. 000	400. 000
0220	628. 1520	SILT FENCE MAINTENANCE	LF	400. 000	400. 000
0230	628. 1905	MOBILIZATIONS EROSION CONTROL	EACH	4. 000	4. 000
0240	628. 1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	2. 000	2. 000
0250	628. 2006	EROSION MAT URBAN CLASS I TYPE A	SY	600. 000	600. 000
0260	628. 2027	EROSION MAT CLASS II TYPE C	SY	50. 000	50. 000
0270	628. 7504	TEMPORARY DITCH CHECKS	LF	85. 000	85. 000
0280	628. 7570	ROCK BAGS	EACH	150. 000	150. 000
0290	630. 0160	SEEDING MIXTURE NO. 60	LB	10. 000	10. 000
0300	630. 0200	SEEDING TEMPORARY	LB	5. 000	5. 000
0310	633. 5200	MARKERS CULVERT END	EACH	4. 000	4. 000
0320	642. 5001	FIELD OFFICE TYPE B	EACH	1. 000	1. 000
0330	643. 0100	TRAFFIC CONTROL (PROJECT) 01. 2480-02-71	EACH	1. 000	1. 000
0340	643. 0300	TRAFFIC CONTROL DRUMS	DAY	300. 000	300. 000
0350	643. 0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	588. 000	588. 000
0360	643. 0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	840. 000	840. 000
0370	643. 0900	TRAFFIC CONTROL SIGNS	DAY	296. 000	296. 000
0380	643. 1050	TRAFFIC CONTROL SIGNS PCMS	DAY	20. 000	20. 000
0390	643. 2000	TRAFFIC CONTROL DETOUR (PROJECT) 01. 2480-02-71	EACH	1. 000	1. 000
0400	643. 3000	TRAFFIC CONTROL DETOUR SIGNS	DAY	8, 732. 000	8, 732. 000
0410	645. 0105	GEOTEXTILE FABRIC TYPE C	SY	310. 000	310. 000
0420	645. 0120	GEOTEXTILE FABRIC TYPE HR	SY	83. 000	83. 000
0430	646. 0106	PAVEMENT MARKING EPOXY 4-INCH	LF	650. 000	650. 000
0440	650. 4500	CONSTRUCTION STAKING SUBGRADE	LF	200. 000	200. 000
0450	650. 6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 01. C-66-0107	LS	1. 000	1. 000
0460	650. 9920	CONSTRUCTION STAKING SLOPE STAKES	LF	400. 000	400. 000
0470	690. 0150	SAWING ASPHALT	LF	70. 000	70. 000
0480	715. 0502	INCENTIVE STRENGTH CONCRETE STRUCTURES	DOL	1, 150. 000	1, 150. 000
0490	SPV. 0035	SPECIAL 01. BACKFILL SLURRY	CY	50. 000	50. 000

DATE 25APR13		E S T I M A T E O F Q U A N T I T I E S			
LINE		2480-02-71			
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0500	SPV. 0060	SPECIAL 01. TEMPORARY DIVERSION CHANNEL	EACH	2.000	2.000
		STA 1015+00			

EXCAVATION ITEMS		
LOCATION		205.0100 EXCAVATION COMMON CY
STA	1013+50 to 1014+25	150
	1014+75 to 1015+50	150
TOTAL		300
* COMMON EXCAVATION IS MEASURED FROM THE EXISTING SURFACE TO THE PROPOSED SUBGRADE. THE REMAINING EXCAVATION WILL BE PAID UNDER EXCAVATION FOR STRUCTURES BID ITEM.		

<u>TEMPORARY DRAINAGE ITEMS</u>			
		520.4060	SPV.0060.01
		CULVERT PIPE	TEMPORARY
		TEMPORARY	DIVERSION
		60-INCH	CHANNEL
		LF	EA
LOCATION	1013+50 to 1015+50	106	--
	INLET END	--	1
	OUTLET END	--	1
	UNDISTRIBUTED	--	--
TOTAL		106	2

BASE AGGREGATES			
LOCATION		305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON
STA	1013+50 to 1015+50	30	565
	TOTAL	30	565

EROSION CONTROL ITEMS						
LOCATION		625.0500 SALVAGED TOPSOIL SY	628.2006 EROSION MAT URBAN CLASS I TYPE A SY	628.2027 EROSION MAT CLASS II TYPE C SY	630.0160 SEEDING MIXTURE NO. 60 LB	630.0200 SEEDING TEMPORARY LB
INLET END	OUTLET END	325	300	25	5	--
	UNDISTRIBUTED	325	300	25	5	--
	UNDISTRIBUTED	--	--	--	--	5
TOTAL		650	600	50	10	5

		ASPHALTIC ITEMS		
		455.0105	455.0605	460.1103
		ASPHALTIC MATERIAL PG 58-28 TON	TACK COAT GAL	HMA PAVEMENT TYPE E-3 TON
LOCATION				
STA	1013+50 to 1015+50	13	20	240
TOTAL		13	20	240

TEMPORARY EROSION CONTROL ITEMS						
	628.7504	628.7570	628.1504	628.1520	628.1905	628.1910
	TEMPORARY DITCH CHECKS	ROCK BAGS	SILT FENCE	SILT FENCE MAINTENANCE	MOBILIZATIONS EROSION CONTROL	MOBILIZATIONS EMERGENCY EROSION CONTROL
	LF	EA	LF	LF	EA	EA
LOCATION						
UNDISTRIBUTED	85	150	400	400	4	2
	85	150	400	400	4	2

*ITEMS SHOWN ON THIS PAGE ARE CAT 0010 UNLESS NOTED.

633.5200 MARKERS CULVERT END EA	
INLET END	2
OUTLET END	2
TOTAL 4	

TRAFFIC CONTROL ITEMS							
643.0300	643.0420	643.0705	643.0900	643.3000	643.1050	643.2001	
TRAFFIC CONTROL DRUMS DAY	TRAFFIC CONTROL BARRICADES TYPE III DAY	TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	TRAFFIC CONTROL SIGNS DAY	TRAFFIC CONTROL DETOUR SIGNS DAY	TRAFFIC CONTROL SIGNS PCMS DAY	TRAFFIC CONTROL DETOUR (2480-02-71) EA	
PRE-CONSTRUCTION	--	--	--	--	20	--	
DURING CONSTRUCTION	--	588	840	296	8732	--	1
UNDISTRIBUTED	300	--	--	--	--	--	--
TOTAL 300 588 840 296 8732 20 1							

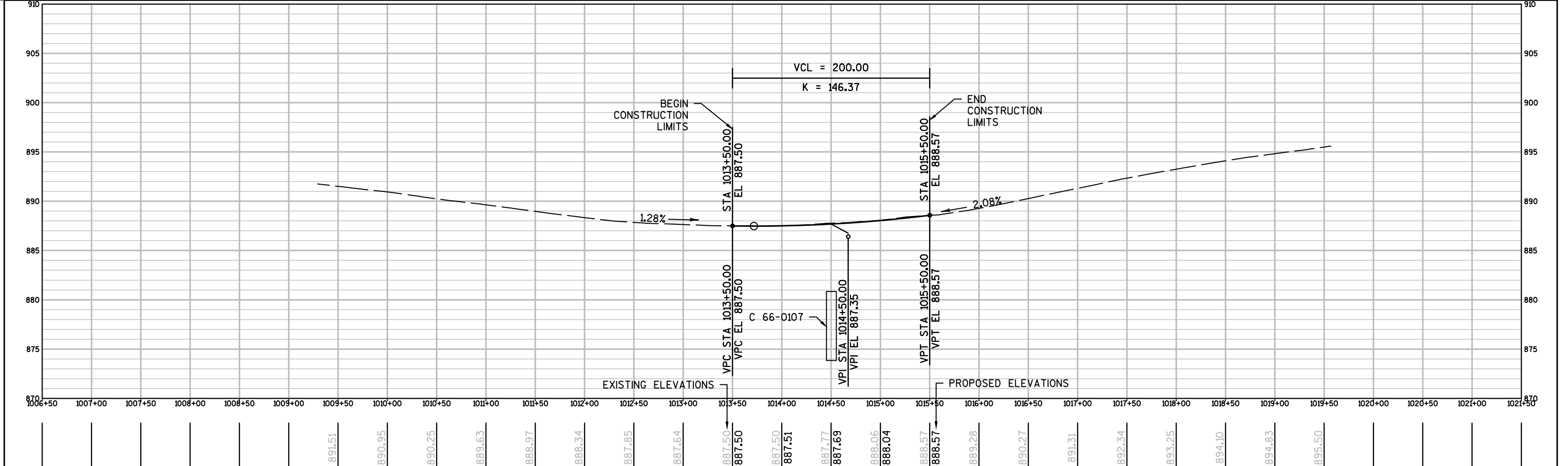
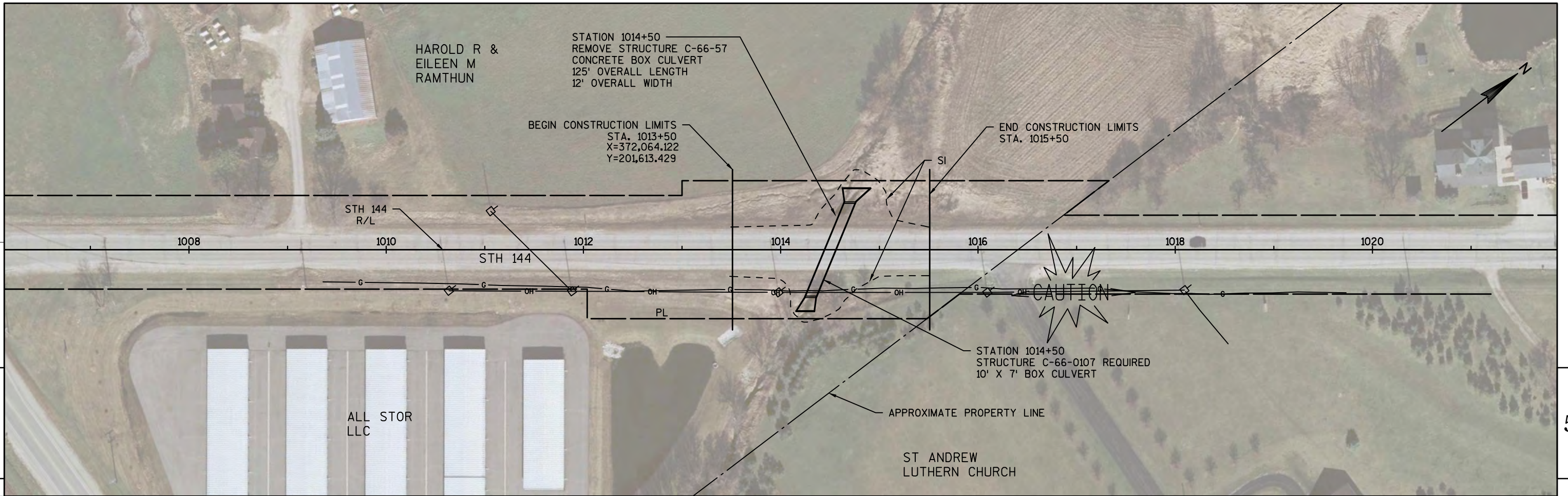
STAKING ITEMS		
650.4500	650.6500	650.9920
CONSTRUCTION STAKING SUBGRADE	CONSTRUCTION STAKING STRUCTURE LAYOUT (C-66-0107)	CONSTRUCTION STAKING SLOPE STAKES
LF	LS	LF
200	1	400
TOTAL 200 1 400		

646.0106 PAVEMENT MARKING EPOXY 4-INCH			
YELLOW		WHITE	
SOLID	12.5' SKIPS	SOLID	
LF	LF	LF	
1013+50 TO 1015+50	200	50	400
TOTAL		650	

SAWING ASPHALT		
LOCATION		690.0150 SAWING ASPHALT LF
STA	1013+50	35
STA	1015+50	35
TOTAL		70

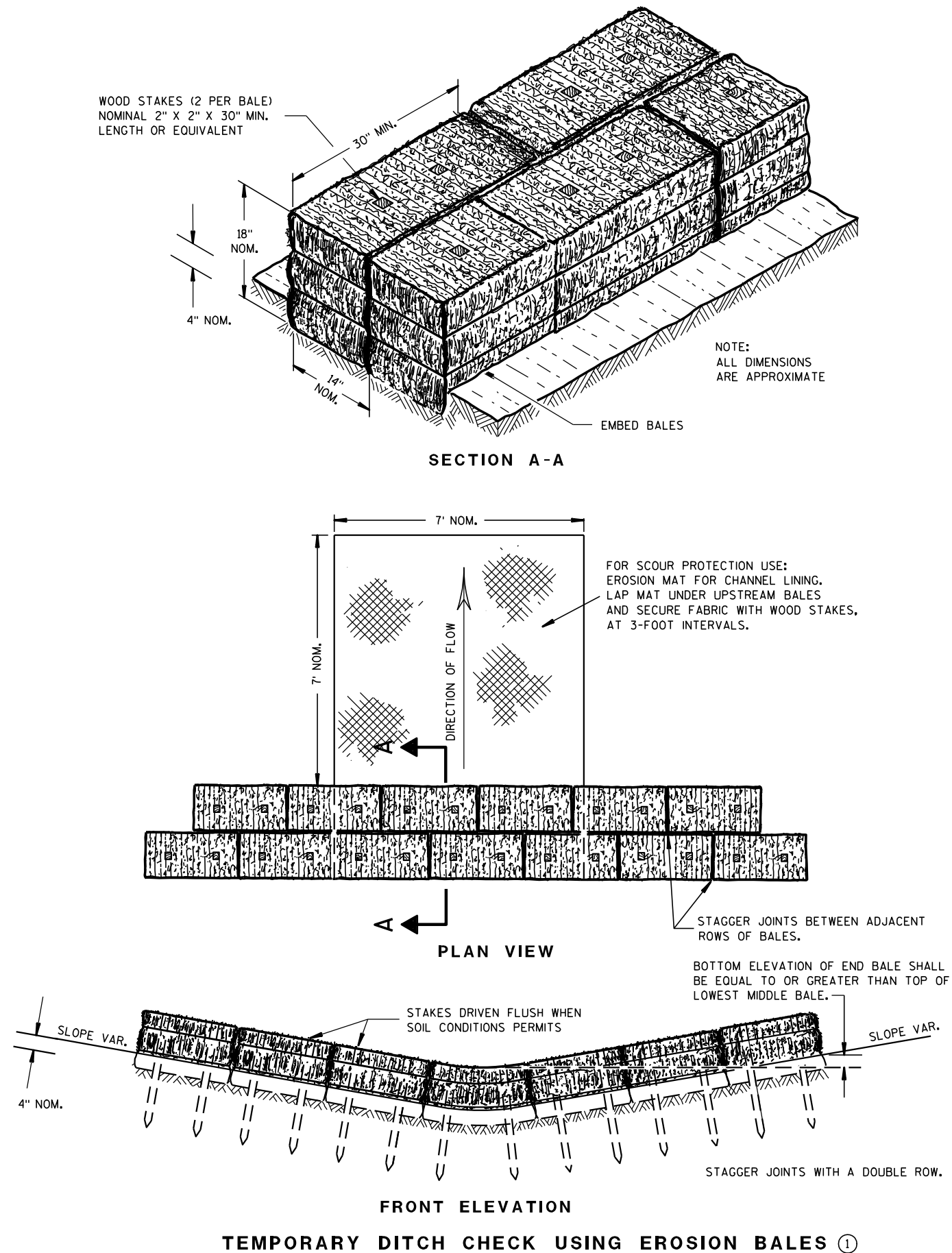
BACKFILL SLURRY		S.0035.01
LOCATION		BACKFILL SLURRY CY
UNDISTRIBUTED		50
TOTAL		50

*ITEMS SHOWN ON THIS PAGE ARE CAT 0010 UNLESS NOTED.



Standard Detail Drawing List

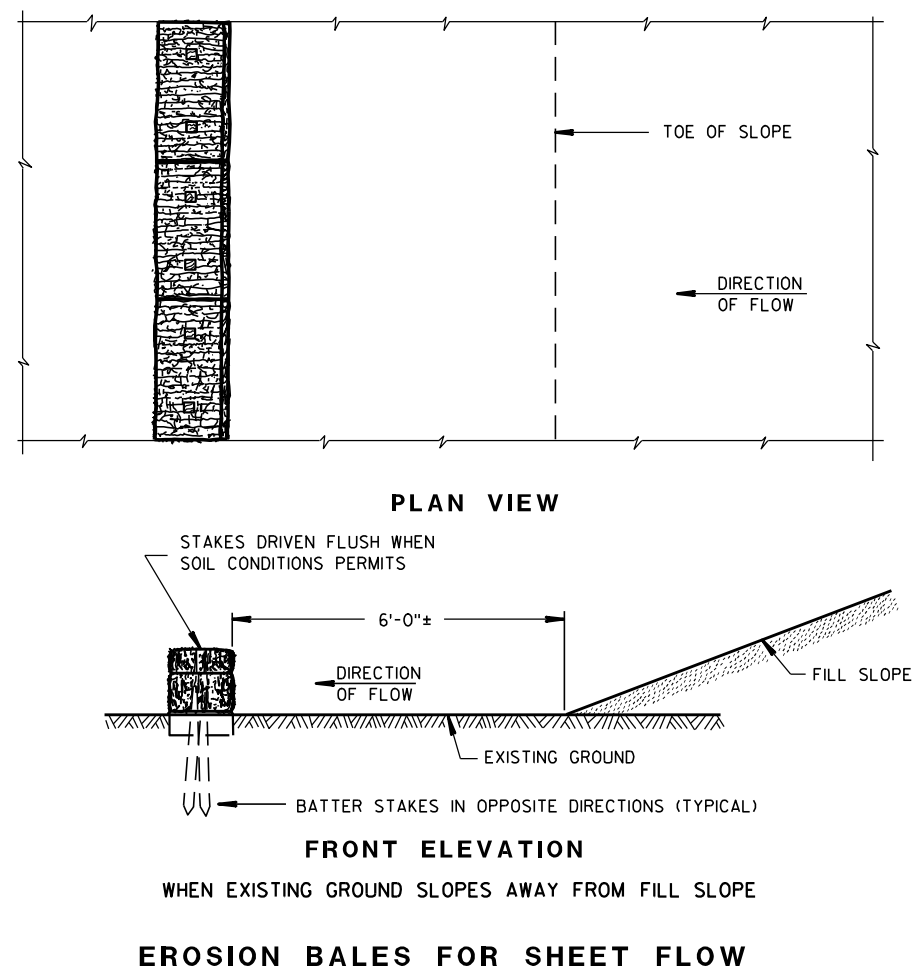
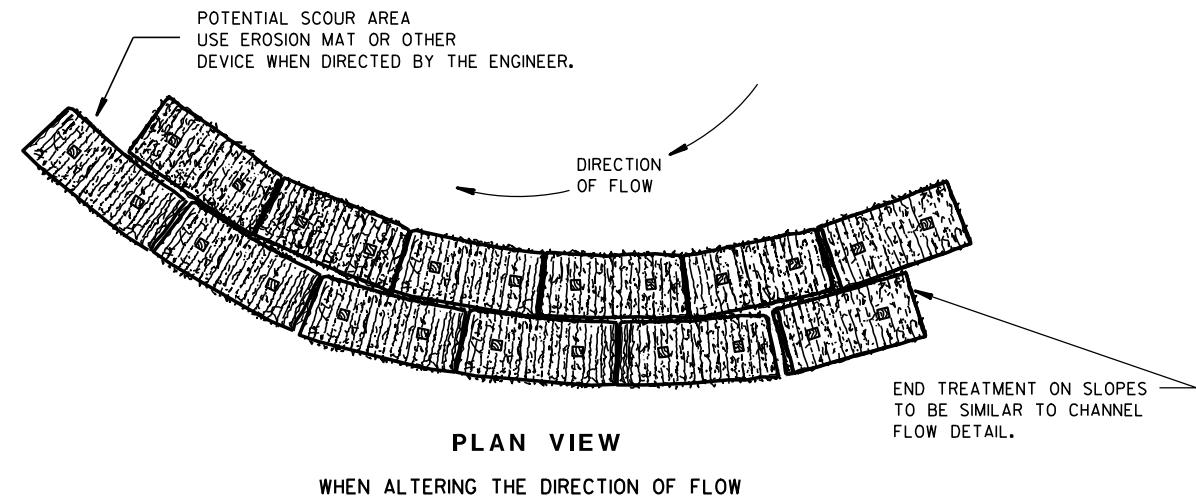
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
12A03-10	NAME PLATE (STRUCTURES)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15B03-12A	CHAIN LINK FENCE
15B03-12B	CHAIN LINK FENCE
15C02-04A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-04B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-04C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C08-15A	PAVEMENT MARKING (MAINLINE)



GENERAL NOTES

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

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

TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

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

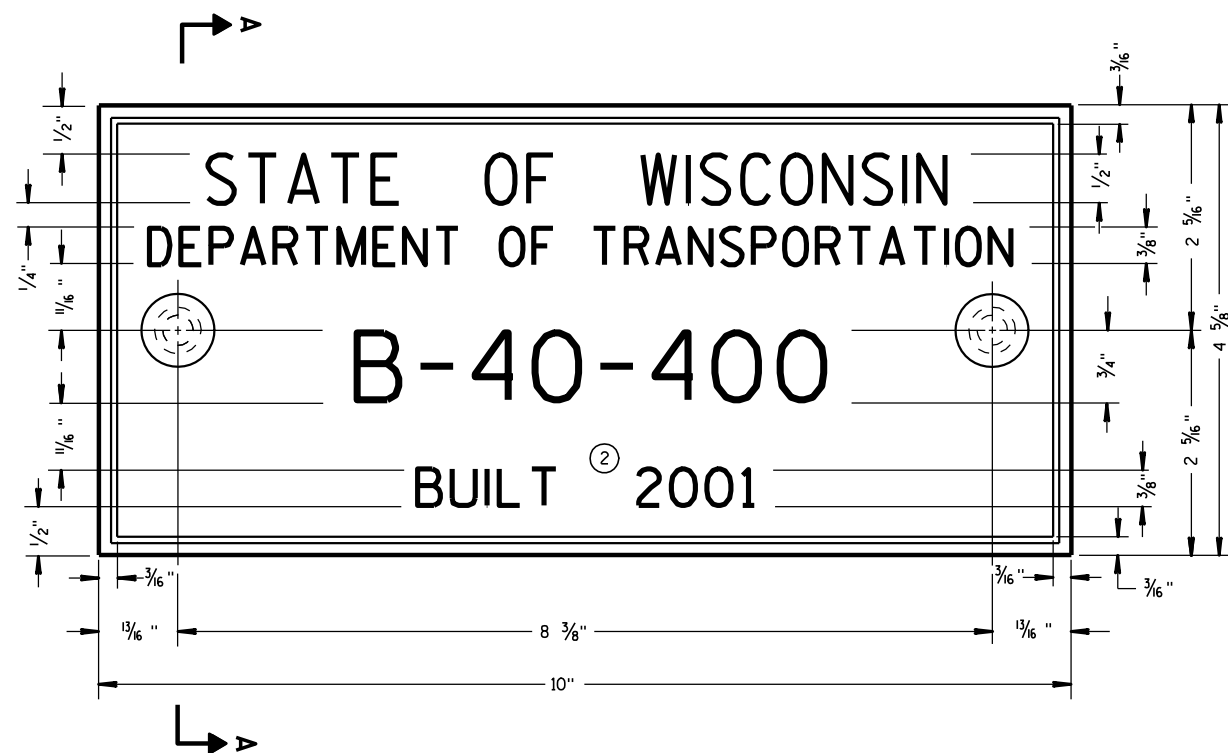
FHWA



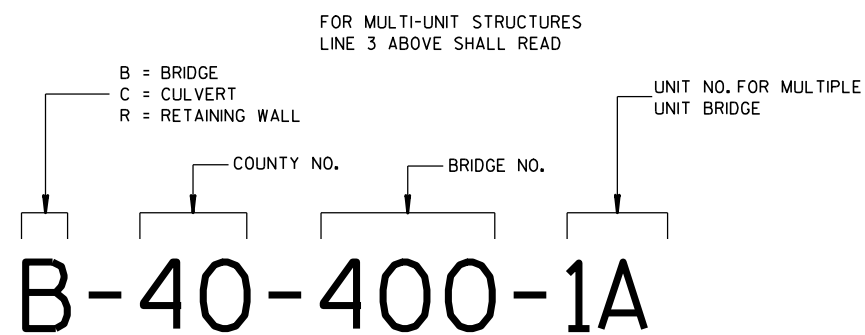
- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1½" X 1½" 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.



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



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



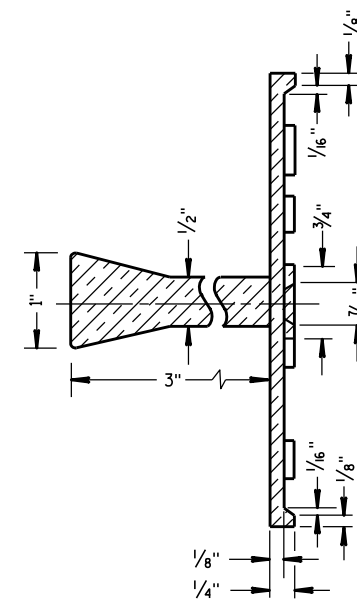
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

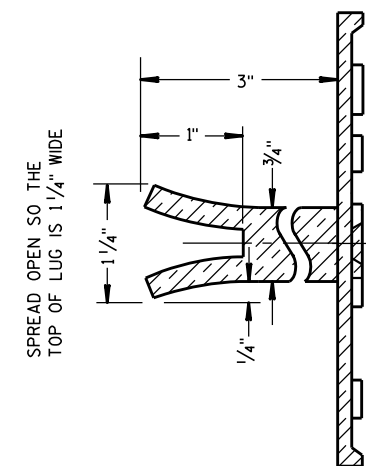
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

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

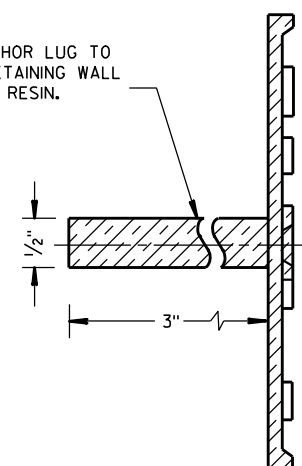


SECTION A-A



ALTERNATE LUG

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



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

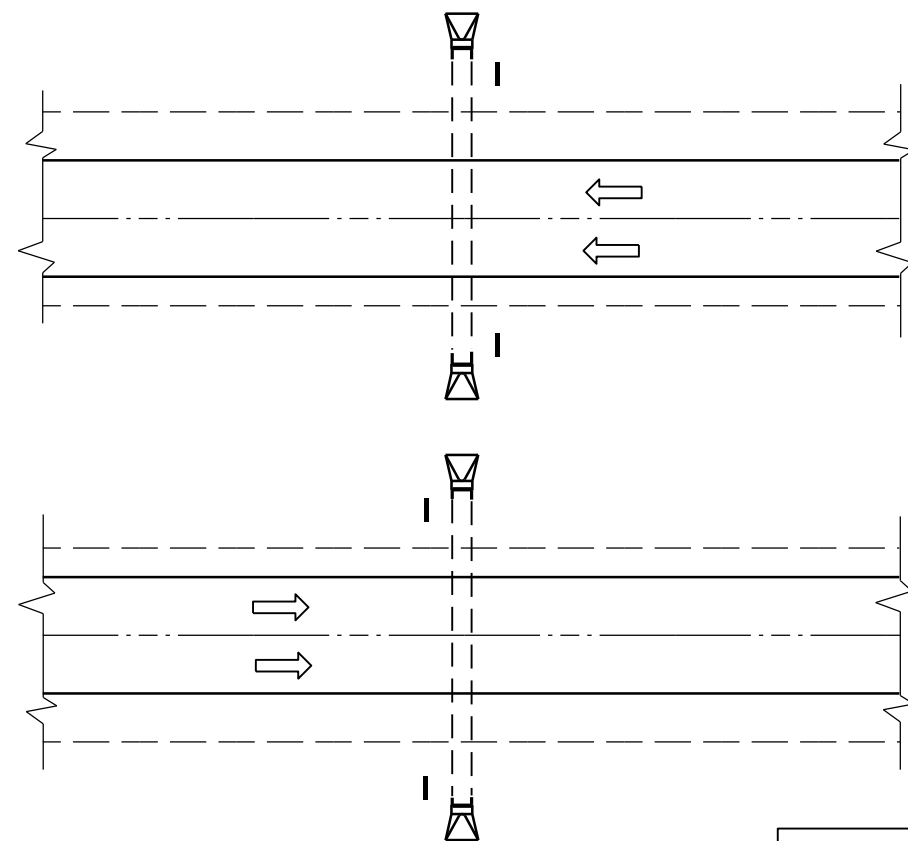
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

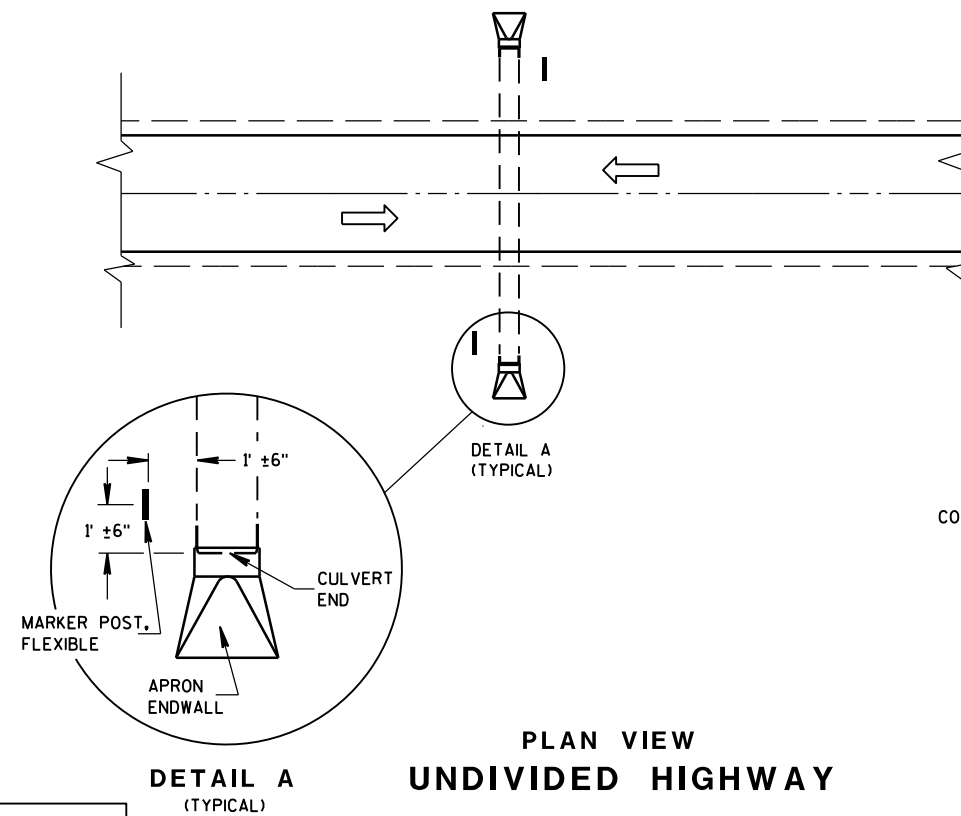
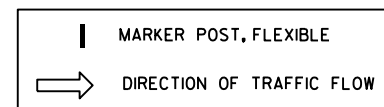
3/26/10
DATE

FHWA

/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER



PLAN VIEW
DIVIDED HIGHWAY

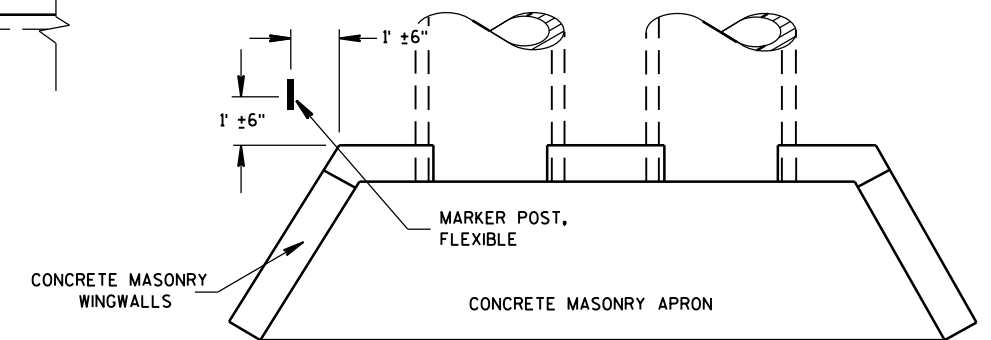


PLAN VIEW
UNDIVIDED HIGHWAY

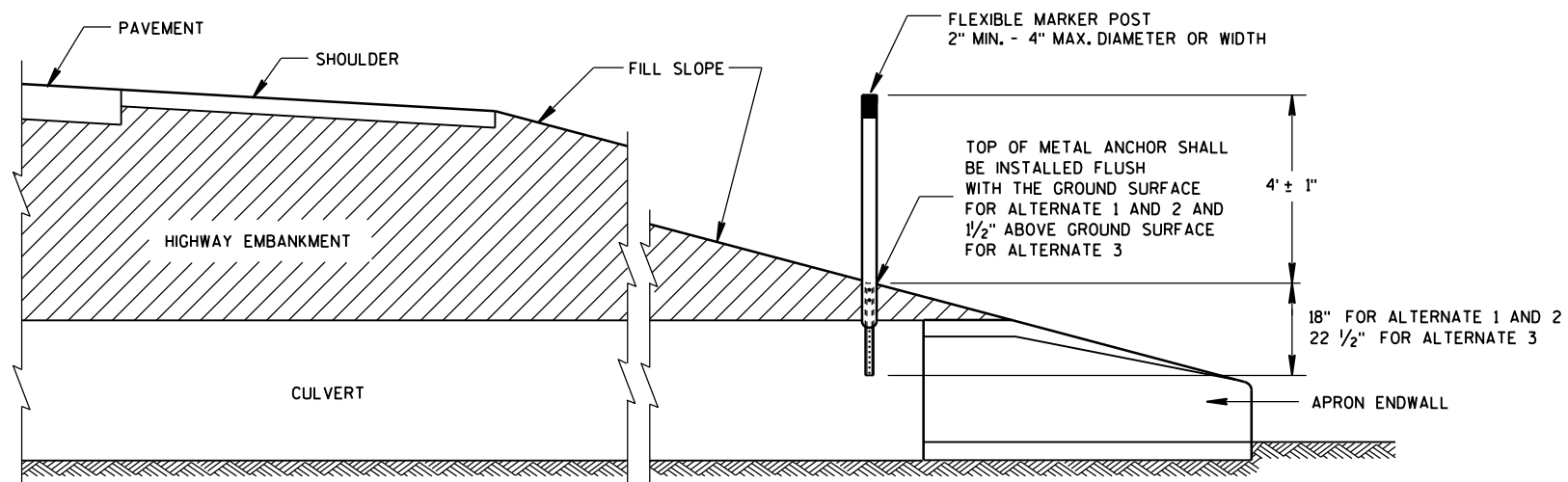
FLEXIBLE MARKER POST LOCATION

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.



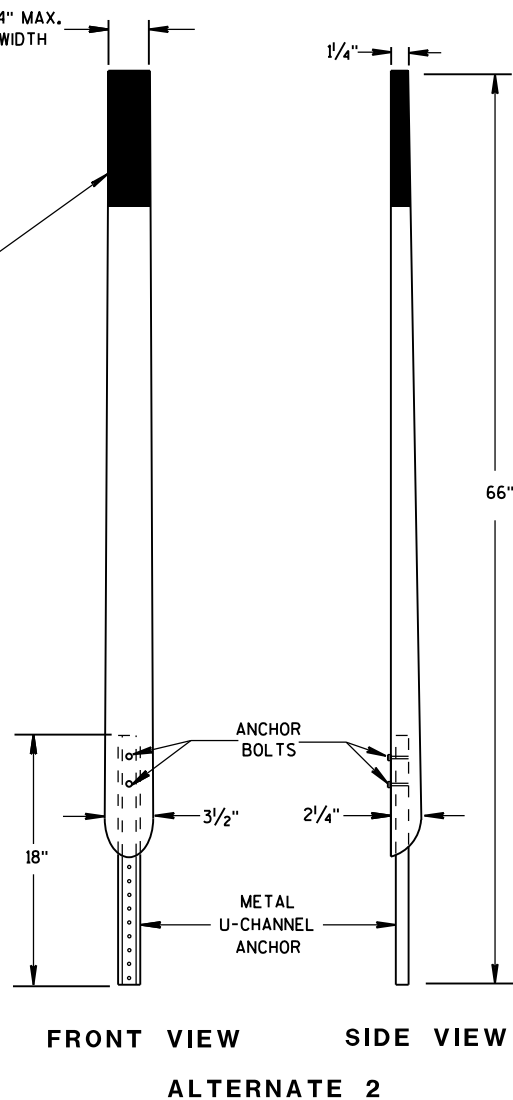
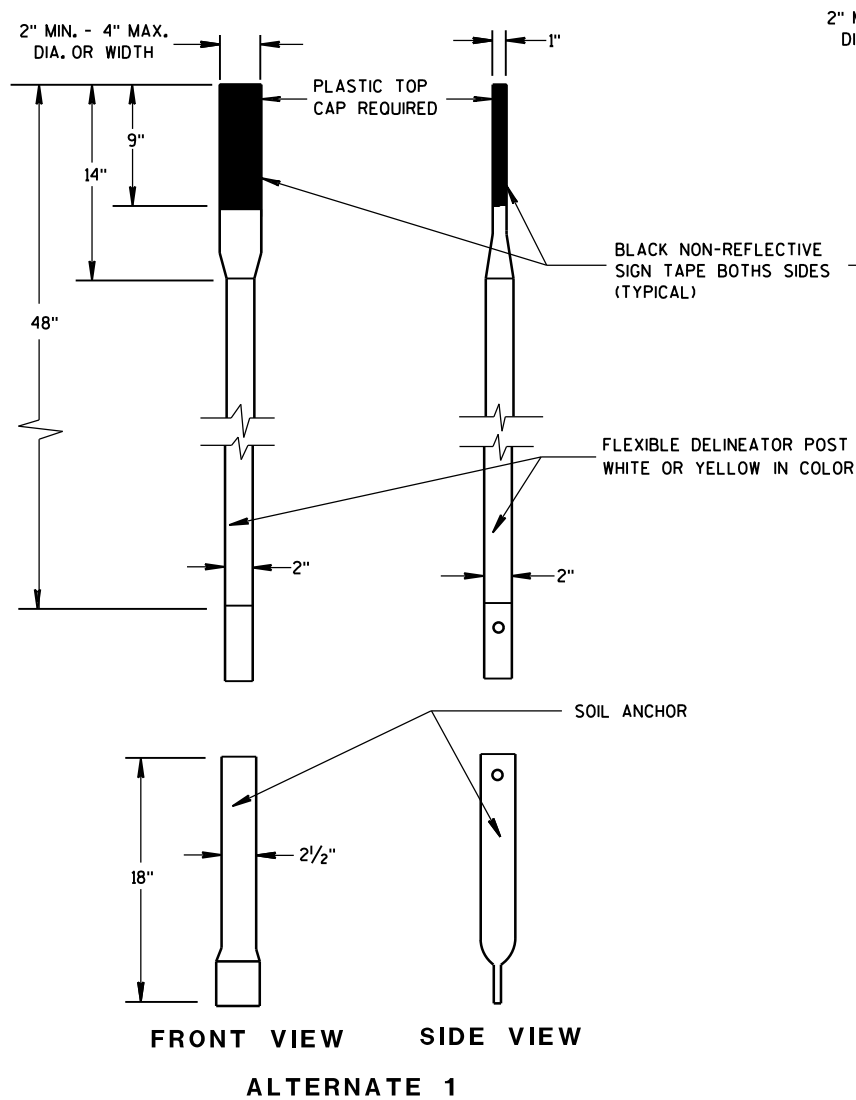
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



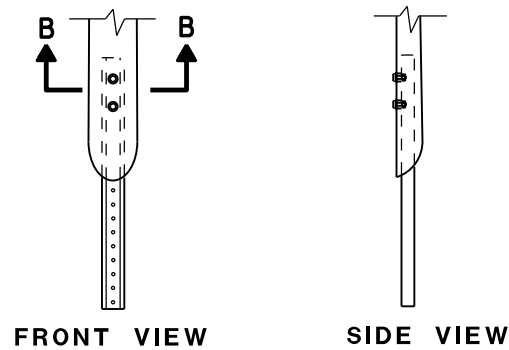
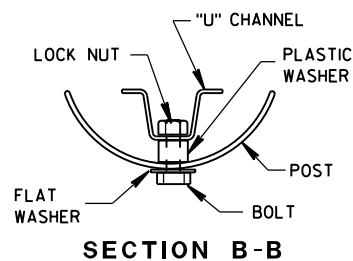
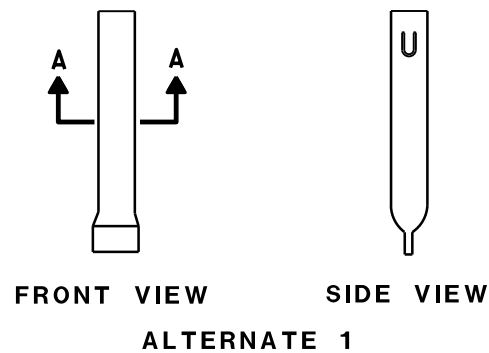
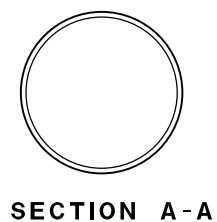
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

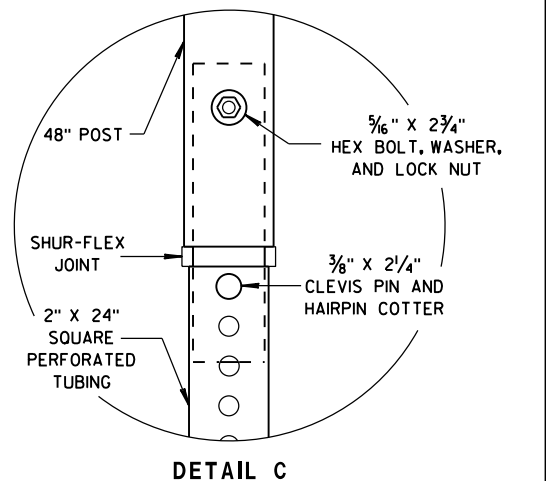
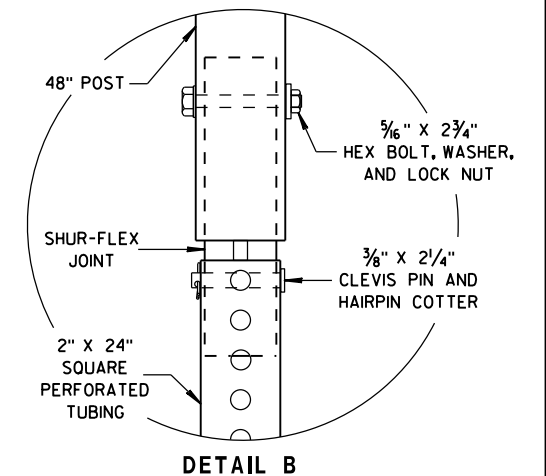
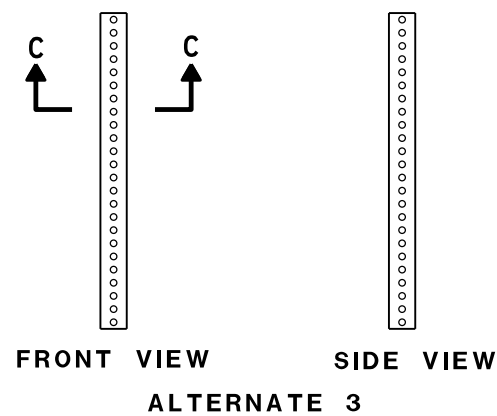
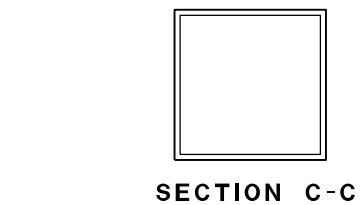
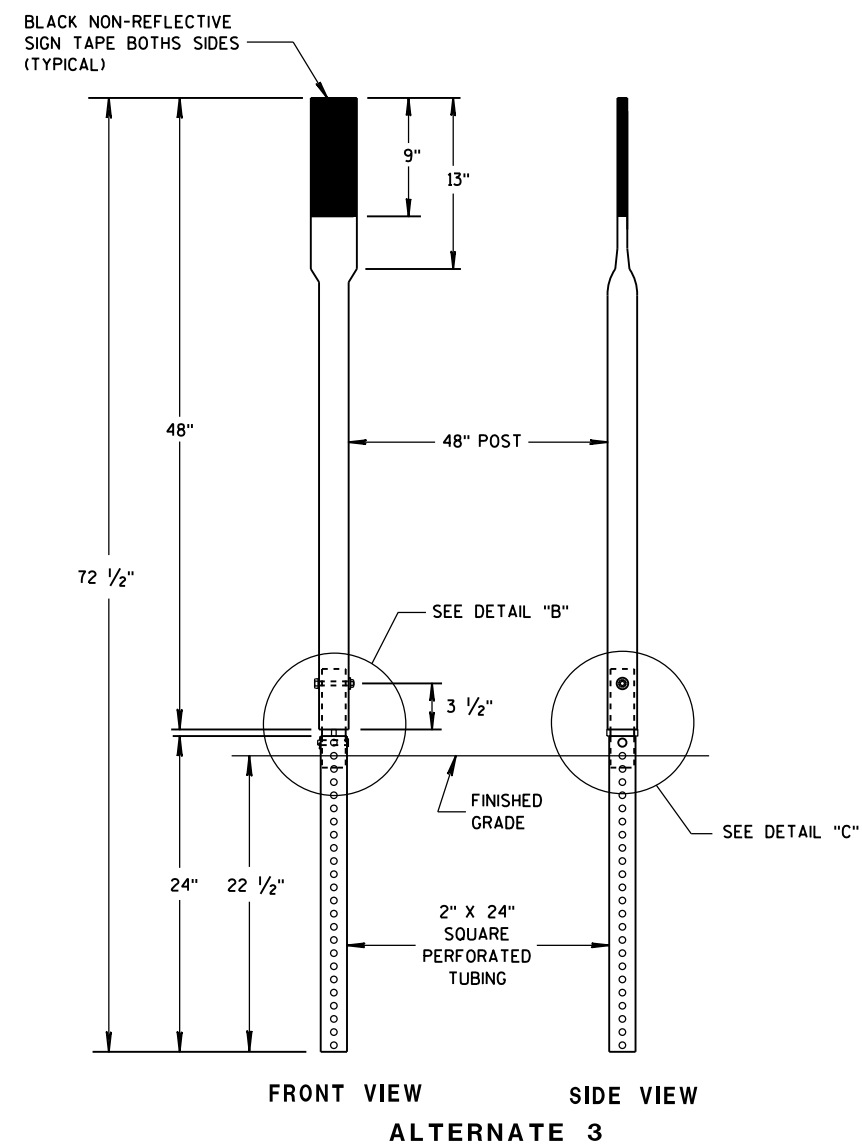
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



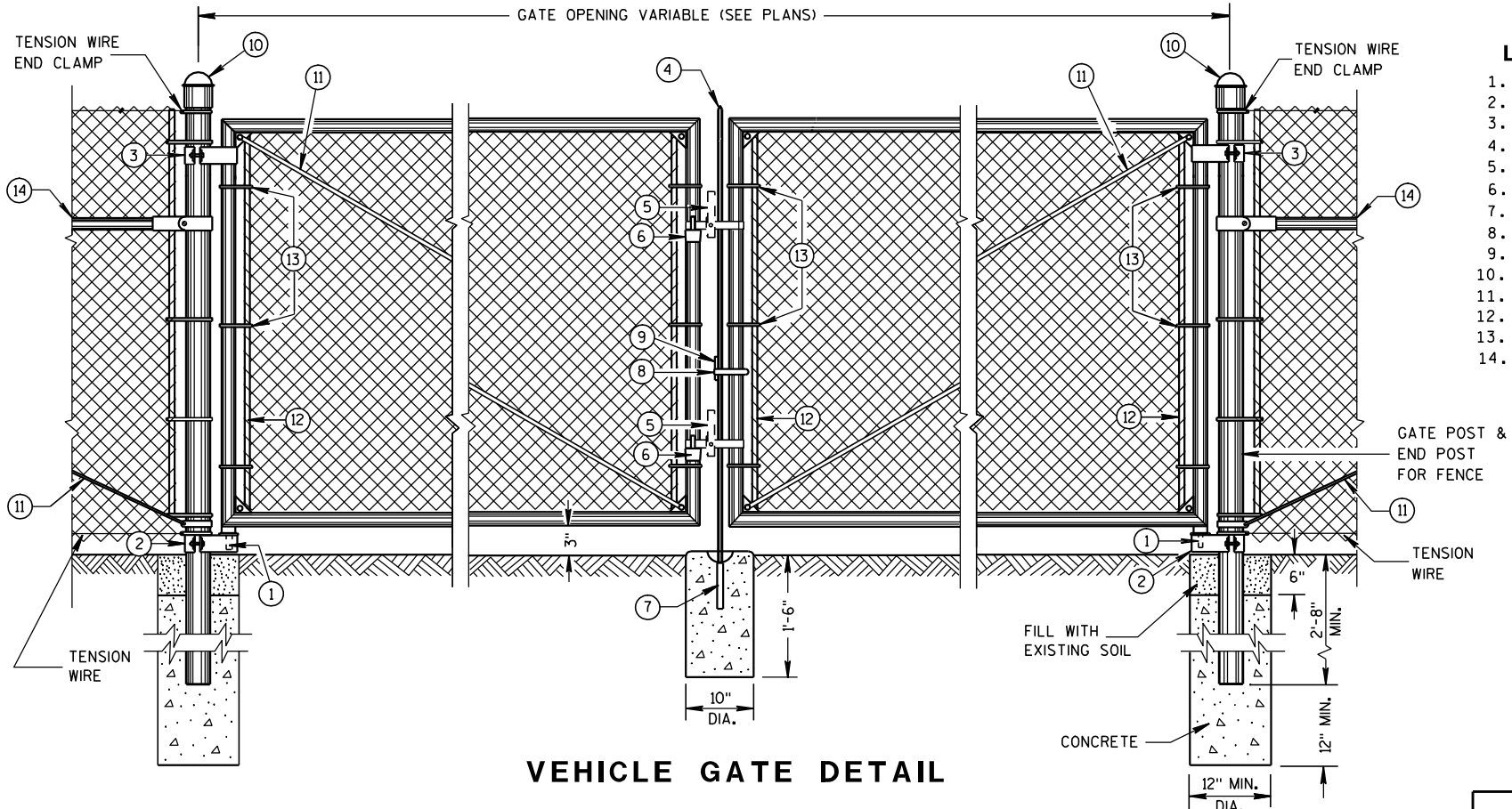
FLEXIBLE MARKER POSTS



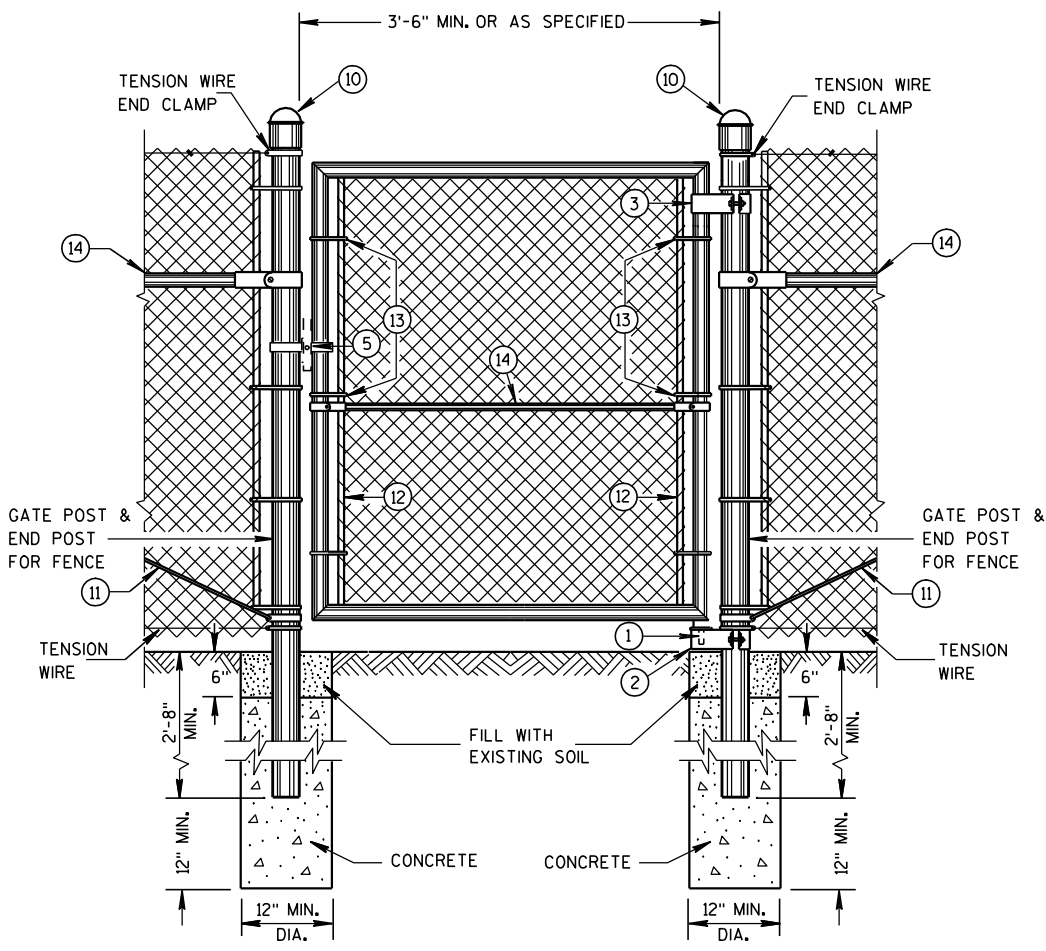
FLEXIBLE MARKER POST ANCHORS



FLEXIBLE MARKER POST FOR CULVERT END	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/1/2012 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	



VEHICLE GATE DETAIL



PEDESTRIAN GATE DETAIL

REQUIRED FENCE POST SIZES

USE	FABRIC HEIGHTS FEET	POST TYPE
TERMINAL POSTS **	LESS THAN OR EQUAL TO 6 FT.	SP3
	GREATER THAN OR EQUAL TO 6 FT.	SP4
LINE POSTS	LESS THAN OR EQUAL TO 6 FT.	SP2
	LESS THAN OR EQUAL TO 8 FT.	SP3
	GREATER THAN OR EQUAL TO 8 FT.	SP4
	LESS THAN OR EQUAL TO 8 FT.	FS2 OR FS2+
	GREATER THAN OR EQUAL TO 8 FT.	FS3

BRACE RAIL TYPES

USE	TYPE
BRACE RAIL	SP1 OR FS1

** INCLUDES END, CORNER, ANGLE, INTERSECTION AND INTERMEDIATE BRACED POSTS

LEGEND

1. STRAIGHT PLUG
 2. BOTTOM HINGE
 3. TOP HINGE
 4. PLUNGER ROD
 5. FULCRUM LATCH
 6. FORK CATCH *
 7. PLUNGER ROD CATCH
 8. LOCK KEEPER GUIDE
 9. LOCK KEEPER
 10. DOME TOPS
 11. TRUSS RODS
 12. TENSION BAR
 13. TENSION BANDS
 14. BRACE RAIL
- *NOT REQUIRED ON SINGLE SWING PEDESTRIAN GATE

GENERAL NOTES

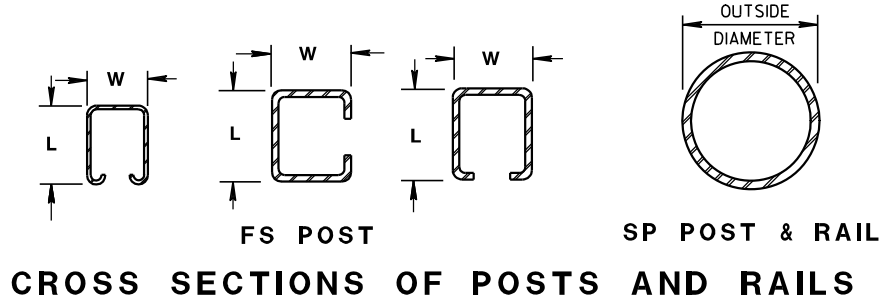
FENCE POSTS INSTALLED ON CONCRETE WALLS SHALL BE ANCHORED INTO EMBEDDED METAL SLEEVES OR CORED HOLE BY FILLING THE ANNULAR SPACE WITH PEA GRAVEL FOLLOWED BY AN EPOXY RESIN ADHESIVE. THE EPOXY RESIN ADHESIVE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 235, CLASS A, B OR C.

USE FENCE FABRIC KNUCKLED AT BOTH SELVAGES.

FOR LEAF GATES GREATER THAN 8 FEET WIDE, INSTALL INTERIOR VERTICAL BRACE RAIL AT 8 FOOT INTERVALS.

FOR FABRIC HEIGHTS GREATER THAN 8 FEET, INSTALL INTERIOR HORIZONTAL BRACE RAILS TO LEAF GATE.

MAXIMUM SAG FOR OUTER GATE MEMBER SHALL NOT EXCEED THE GREATER OF 1% OF THE LEAF GATE WIDTH OR 2 INCHES.



SHAPE, SIZE AND WEIGHT REQUIREMENTS FOR FORMED STEEL FENCE POST

POST TYPE	LENGTH (L) INCH	WIDTH (W) INCH	WEIGHT LBS/FT
FS1	1.625	1.25	1.35
FS2+	1.875	1.625	1.850
FS2	1.875	1.625	2.400
FS3	2.250	1.700	2.780

SHAPE, SIZE AND WEIGHT REQUIREMENTS FOR ROUND STEEL FENCE POST

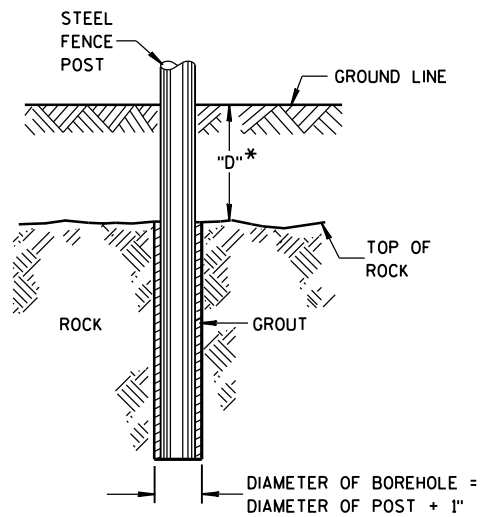
POST TYPE	OUTSIDE DIMENSION INCH	WALL THICKNESS INCH	WEIGHT LBS/FT
SP1	1.660	0.140	2.270
SP2	1.900	0.145	2.720
SP3	2.375	0.154	3.650
SP4	2.875	0.203	5.800
SP5	4.000	0.226	9.120
SP6	6.625	0.280	18.990
SP7	8.625	0.322	28.580

REQUIRED POST SIZE FOR GATES

USE	LEAF WIDTHS FEET	POST TYPE
GATES	LESS THAN OR EQUAL TO 6 FT.	SP4
	LESS THAN OR EQUAL TO 13 FT.	SP5
	LESS THAN OR EQUAL TO 18 FT.	SP6
	LESS THAN OR EQUAL TO 23 FT.	SP7

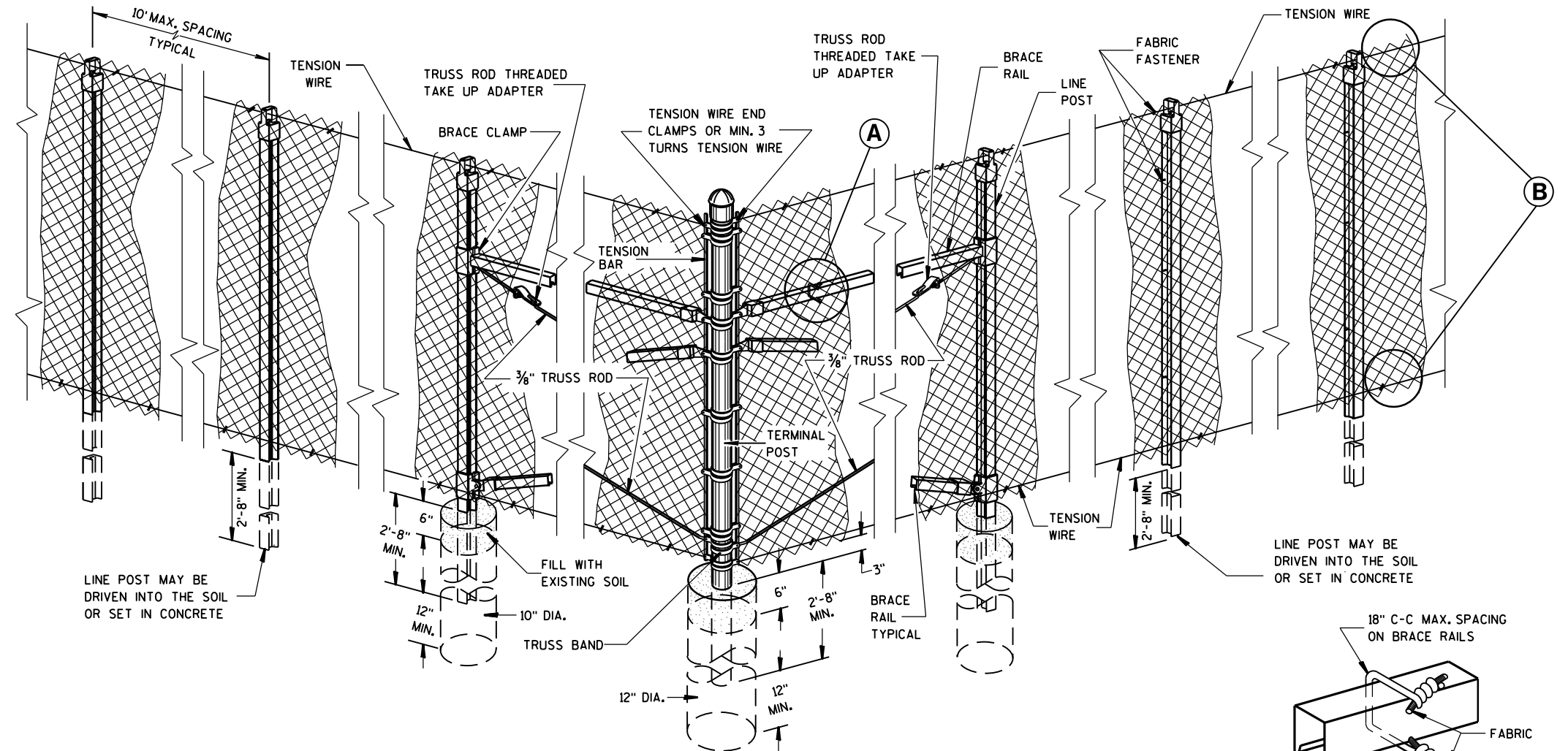
FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

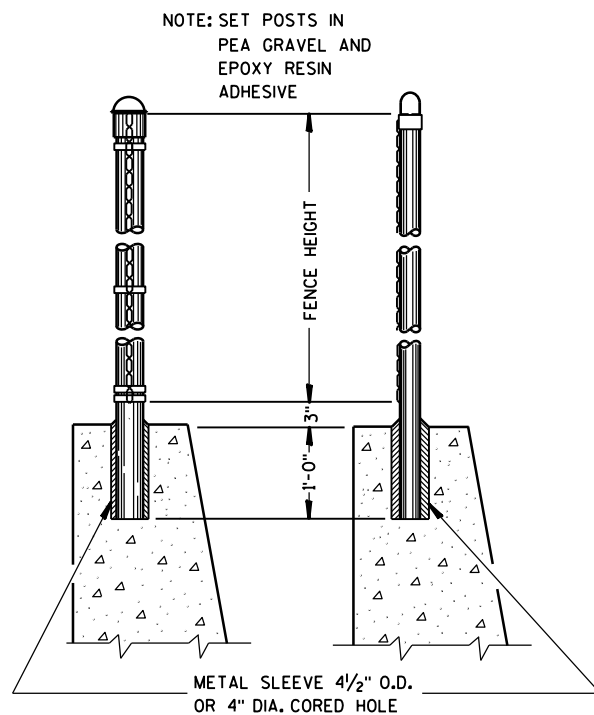
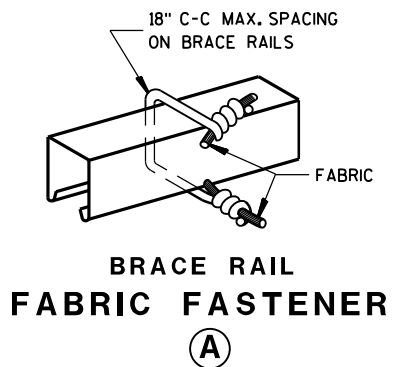


* IF "D" IS LESS THAN 2'-6",
DRILL ROCK AND INSTALL GROUT

**ROCK INSTALLATION
OF LINE POST**



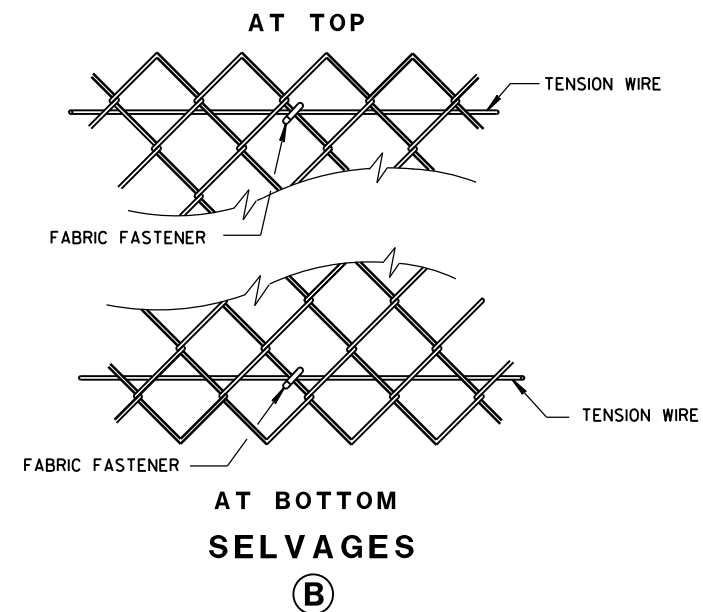
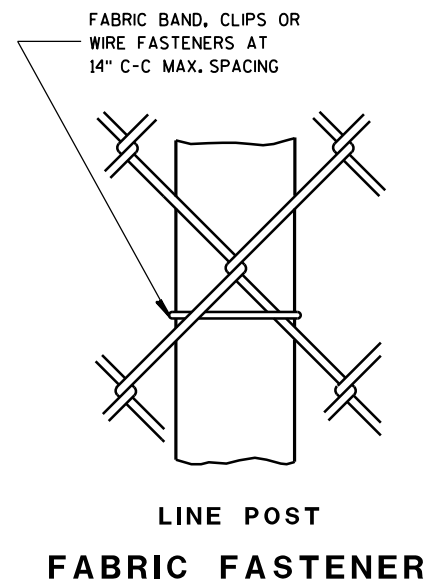
**END, CORNER, ANGLE
INTERSECTION & INTERMEDIATE
BRACED POSTS**



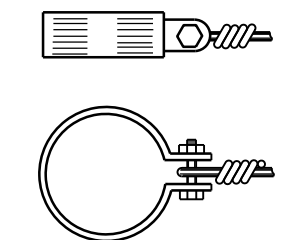
**END POST &
CORNER POST**

LINE POST

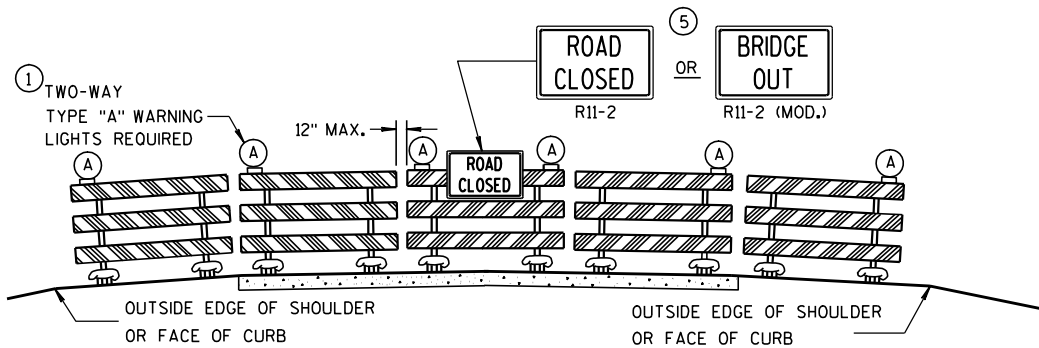
DETAILS OF FENCE ON WALL



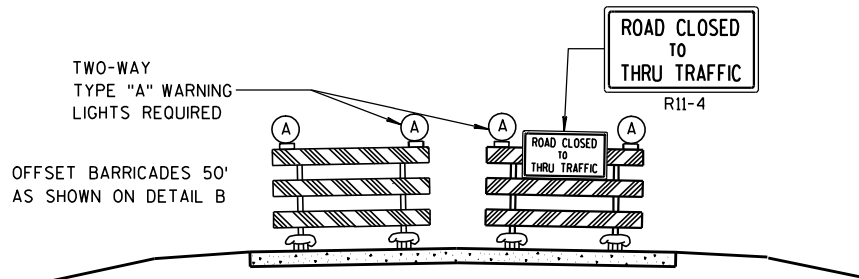
TENSION WIRE END CLAMP



FENCE CHAIN LINK	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 3/19/2010 DATE	/S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



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.

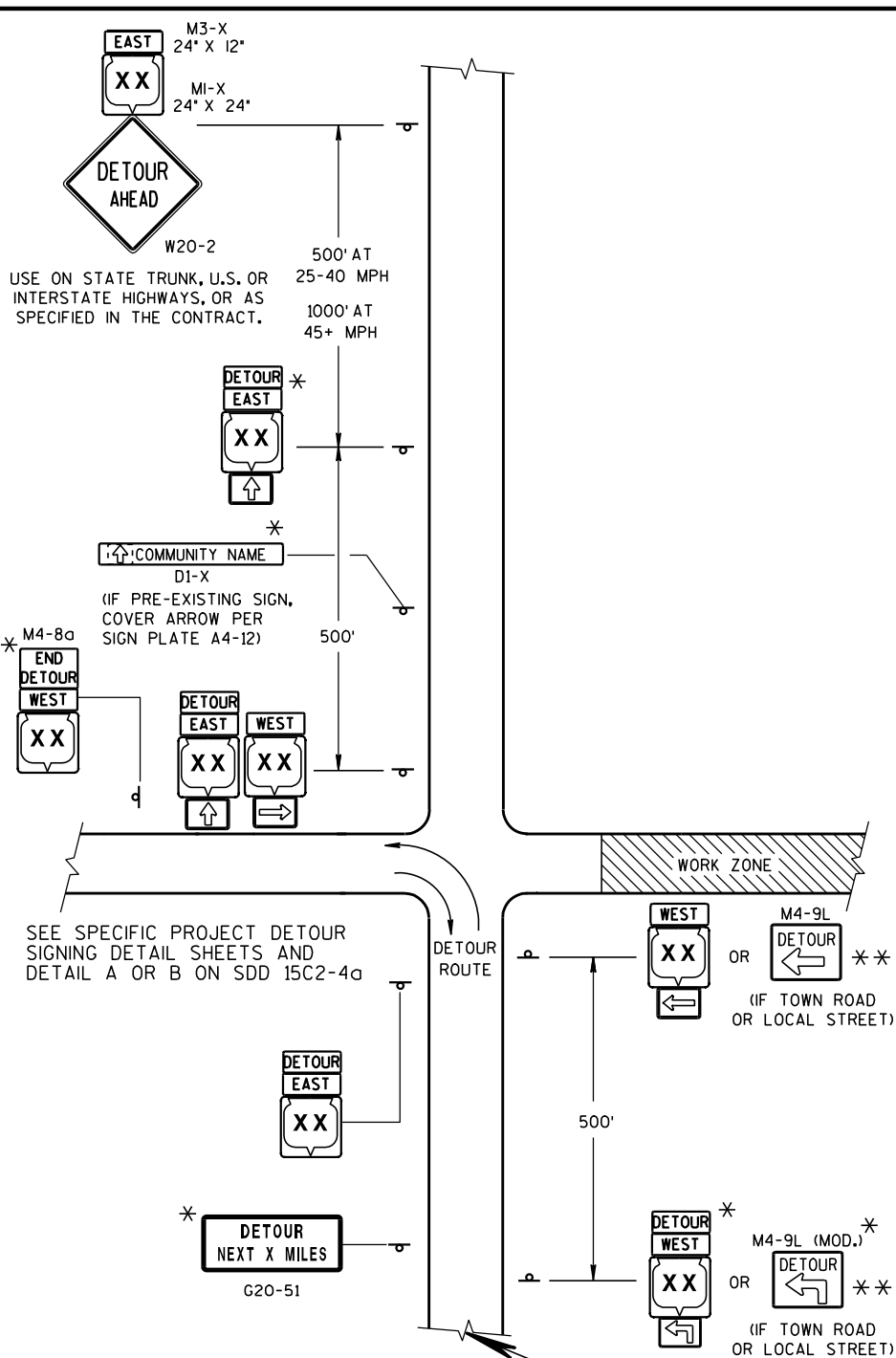
"WO AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

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. Notbohm CHIEF SIGNS AND MARKING ENGINEER
FHWA	



**THIS DRAWING PROVIDES GENERAL GUIDANCE
ON TYPICAL DETOUR SIGN LAYOUT AND SPACING.
SEE PROJECT DETOUR SIGNING SHEETS FOR
SPECIFIC DETAILS FOR EACH PROJECT.**

GENERAL NOTES

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

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. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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.

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

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

SIGN SIZES SHALL BE AS FOLLOWS:

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.)

M4-9 SHALL BE 30" X 24".

M4-8a SHALL BE 24" X 18".

G20-51 SHALL BE 60" X 24".

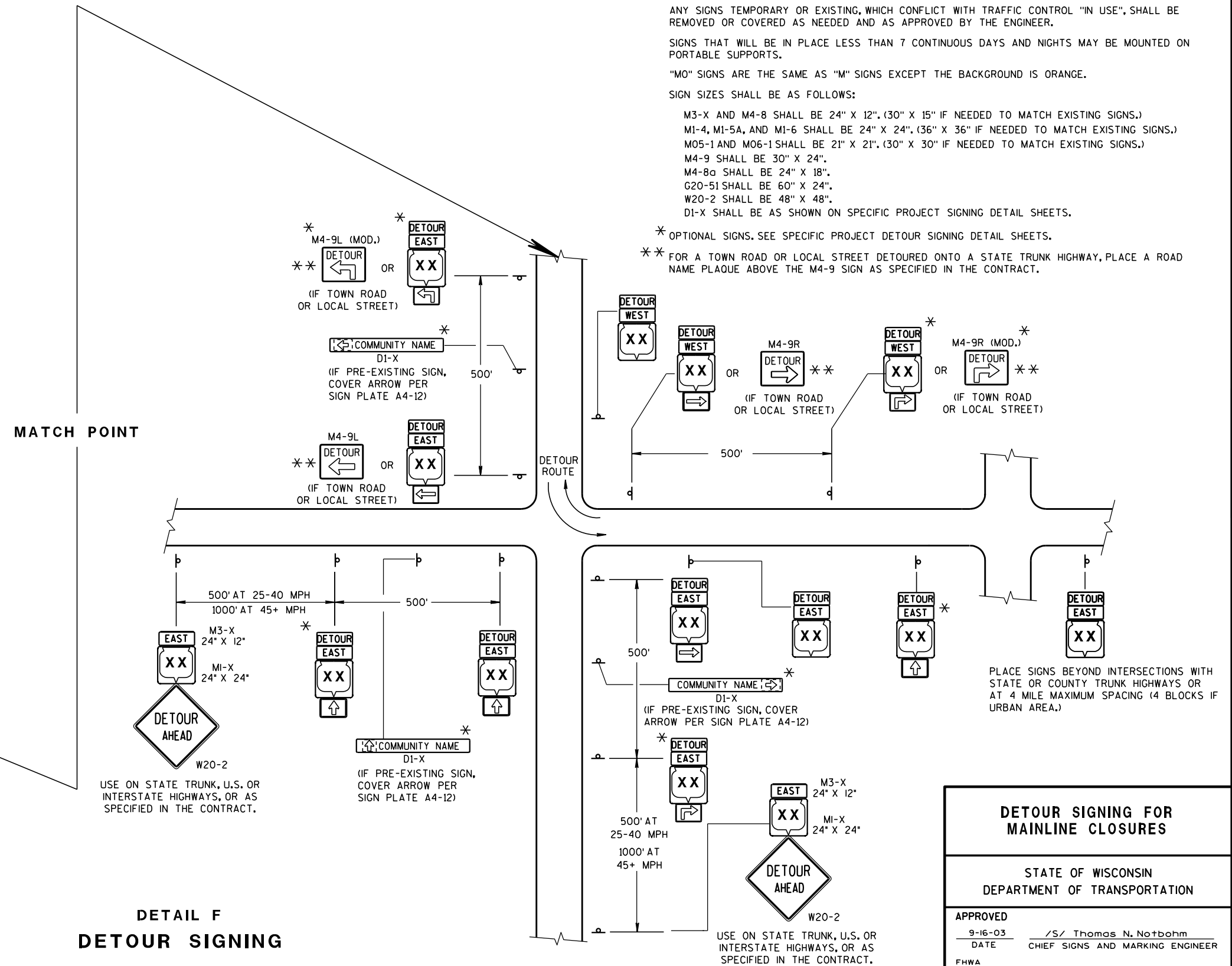
W20-2 SHALL BE 48" X 48".

D1-X SHALL BE AS SHOWN O

OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

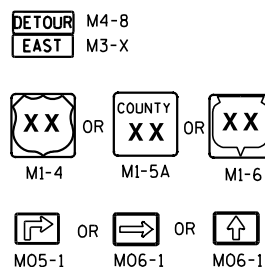
FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK H

NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.



LEGEND

POST MOUNTED SIGN

 WORK ZONE

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

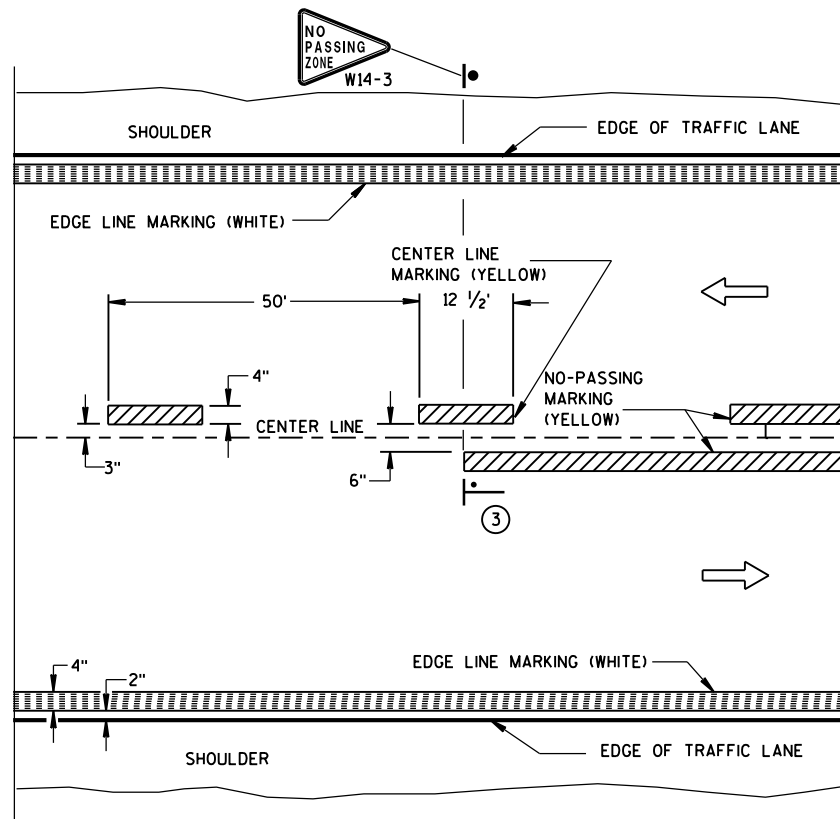
9-16-03
DATE

/S/ Thomas N. Notbohm
CHIEF SIGNS AND MARKING ENGINEER

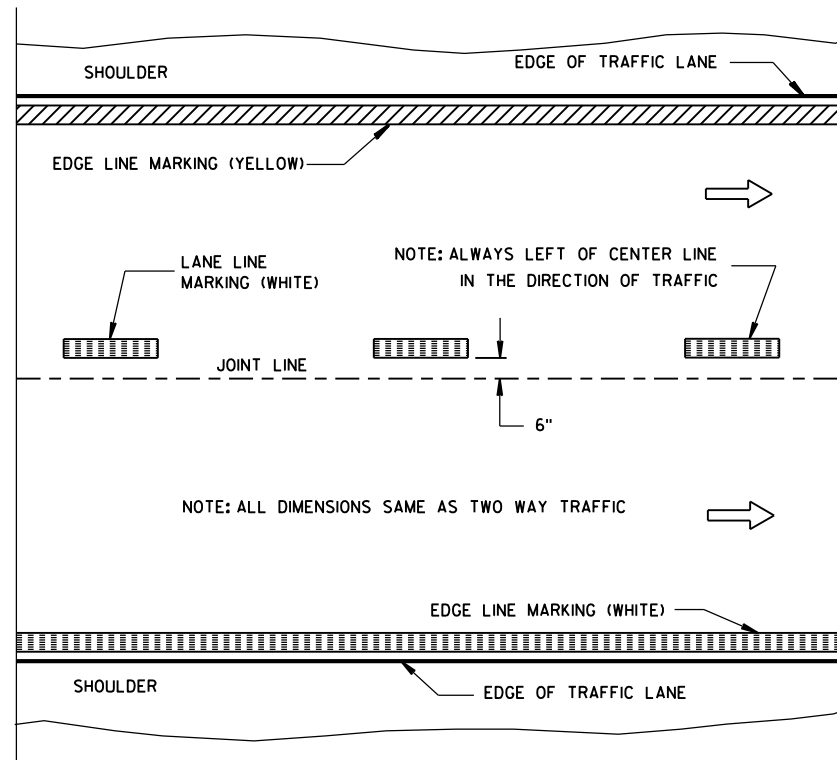
FHWA

DETAIL F

DETOUR SIGNING

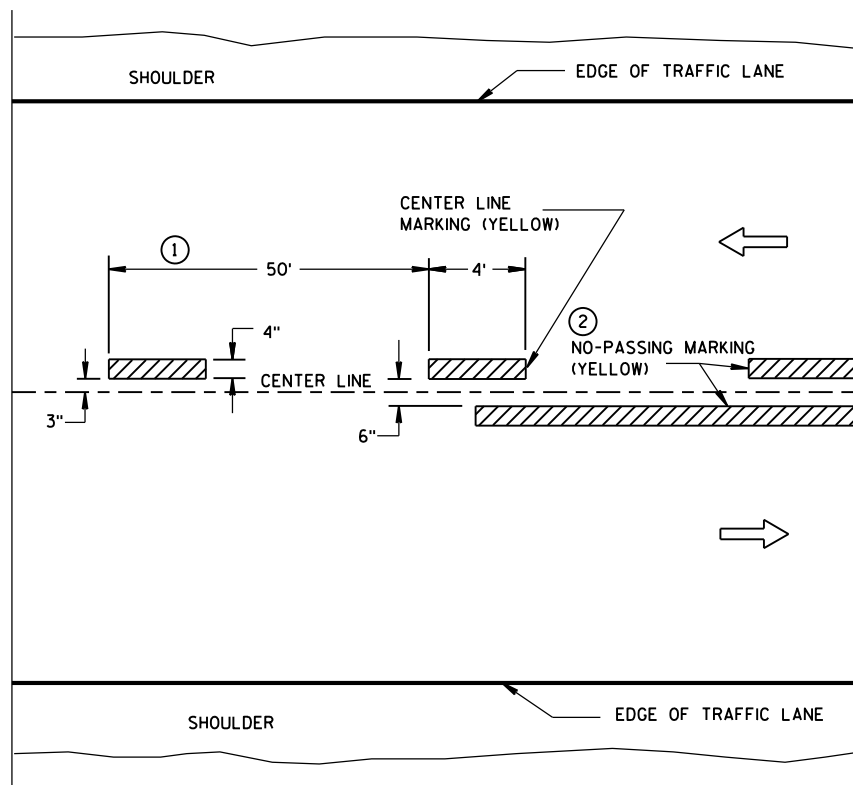


TWO WAY TRAFFIC

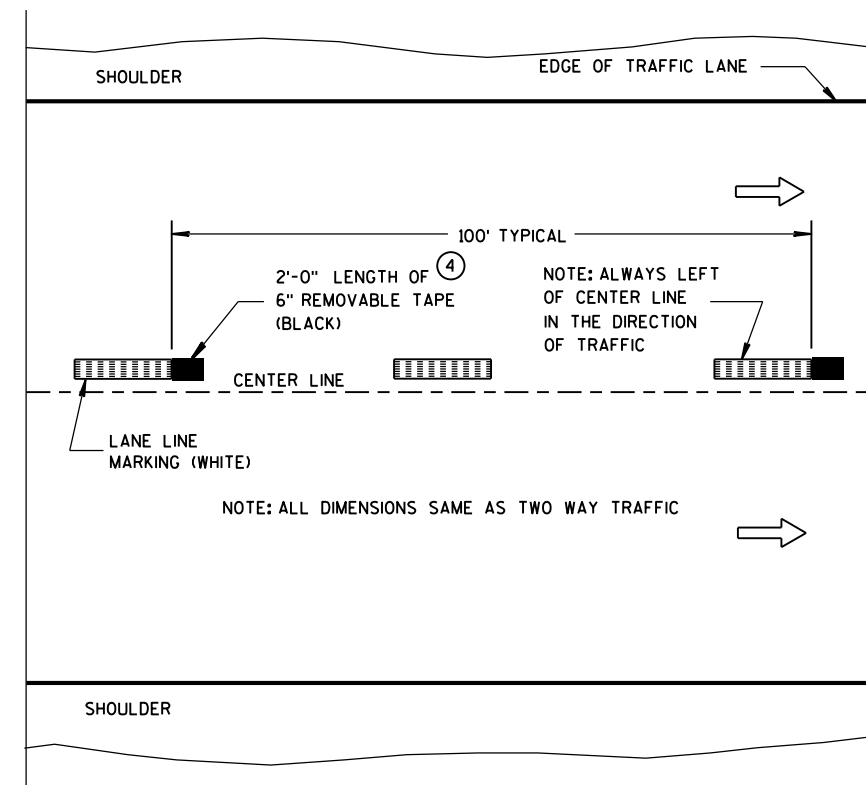


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

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

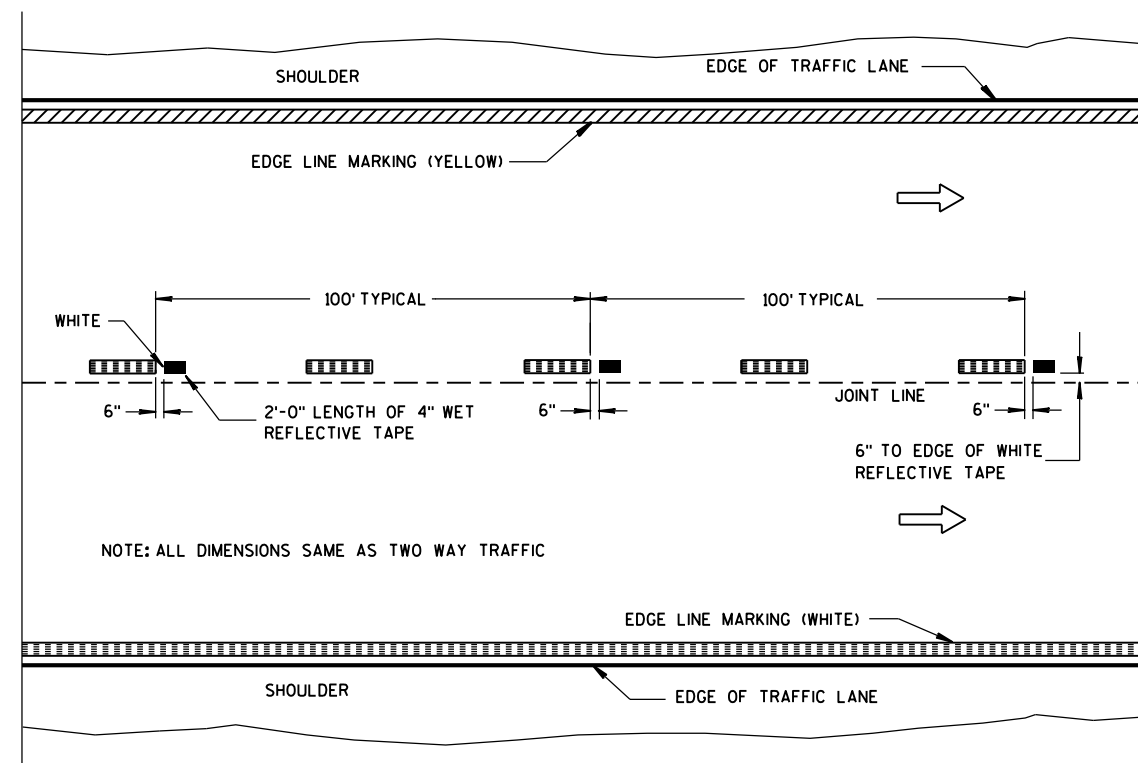
GENERAL NOTES

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

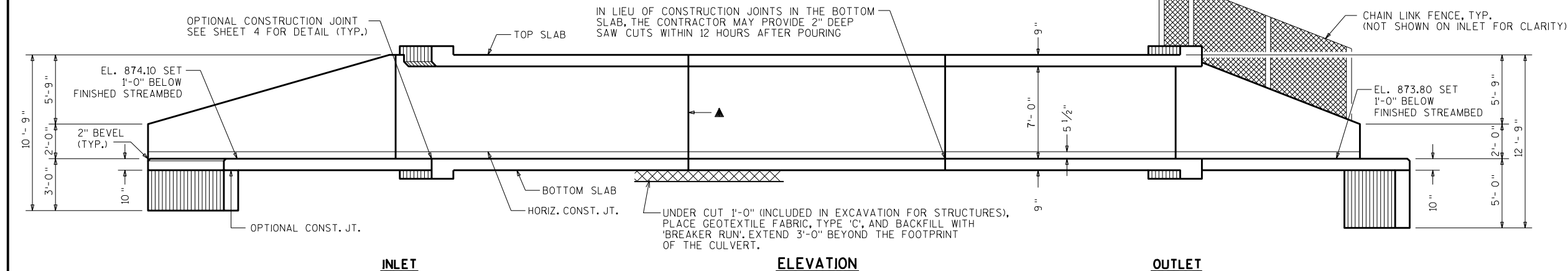
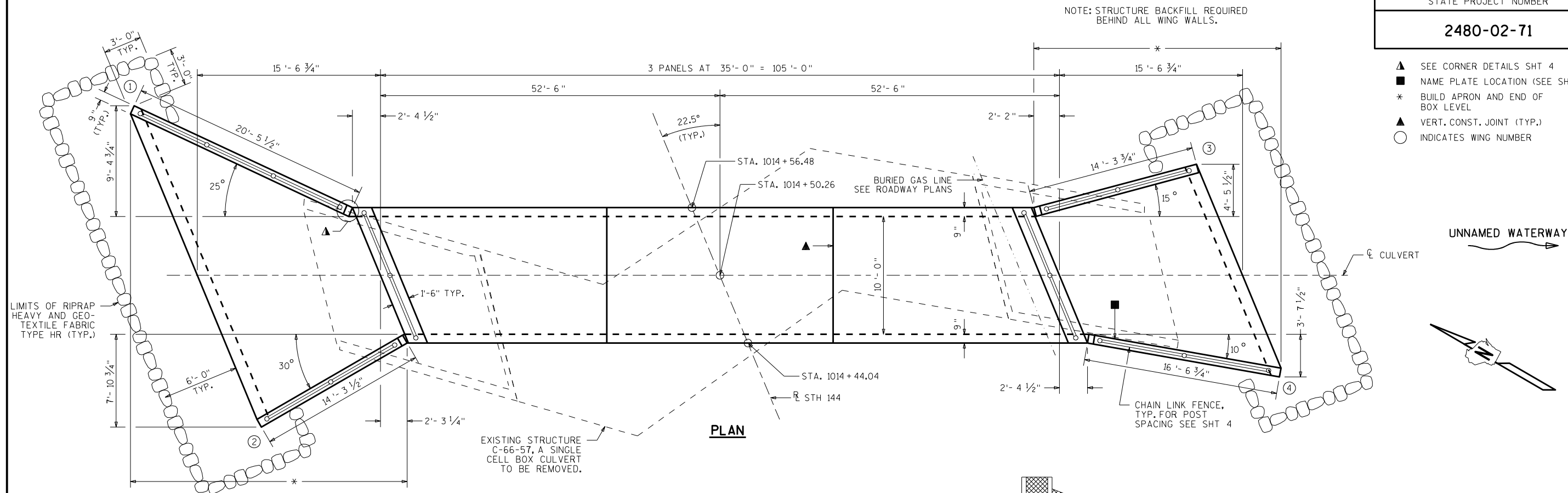
- "T" MARKING
- POST MOUNTED SIGN

PAVEMENT MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

- ▲ SEE CORNER DETAILS SHT 4
■ NAME PLATE LOCATION (SEE SHT 4)
* BUILD APRON AND END OF BOX LEVEL
▲ VERT. CONST. JOINT (TYP.)
○ INDICATES WING NUMBER



LIST OF DRAWINGS

1. LAYOUT
2. BOX DETAILS
3. APRON DETAILS
4. DETAILS
5. FENCE DETAILS
6. SUBSURFACE EXPLORATION

STRUCTURE DESIGN CONTACT:

DANIELLE DE TENNIS (608) 266-8689
LAURA SHADEWALD (608) 267-9592

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: RF=1.05
OPERATING RATING FACTOR: RF=1.35
WISCONSIN STANDARD PERMIT VEHICLE (WIS.-SPV): 225 (KIPS)

EARTHLOAD: DESIGNED FOR 6.0 FT. OF FILL.

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY, GRADE A-FA $f'_c = 3500$ P.S.I.
HIGH STRENGTH BAR STEEL REINFORCEMENT $f_y = 60000$ P.S.I.

TRAFFIC VOLUME

HYDRAULIC DATA

STH 144
A.D.T. = 6500 (2030)
R.D.S. = 60 M.P.H.
100 YEAR FREQUENCY
 $Q_{100} = 310$ C.F.S.
VEL. = 6.5 F.P.S.
HW. = EL. 880.8
DRAINAGE AREA = 3.3 SQ. MI.
OVERTOPPING RDWY. = N.A.
SCOUR CRITICAL CODE = 8
2 YEAR FREQUENCY
 $Q_{100} = 77$ C.F.S.
HW. = EL. 877.8

TOTAL ESTIMATED QUANTITIES

BID ITEMS

203.0200	REMOVING OLD STRUCTURE C-66-57 STA. 1014+49.00	1	LS
206.2000	EXCAVATION FOR STRUCTURES CULVERTS C-66-107	1	LS
210.0100	BACKFILL STRUCTURE	887	CY
311.0115	BREAKER RUN	94	CY
504.0100	CONCRETE MASONRY CULVERTS	141	CY
505.0410	BAR STEEL REINFORCEMENT HS CULVERTS	19,030	LB
505.0610	BAR STEEL REINFORCEMENT HS COATED CULVERTS	1,810	LB
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	27	SY
606.0300	RIPRAP HEAVY	31	CY
616.0205	FENCE CHAIN LINK 5-FT.	90	LF
645.0105	GEOTEXTILE FABRIC TYPE C	310	SY
645.0120	GEOTEXTILE FABRIC TYPE HR	83	SY

NON-BID ITEMS

FILLER 3/4" SIZE

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

THE CONCRETE IN THE CUTOFF WALLS MAY BE PLACED UNDERWATER IF THE EXCAVATION CANNOT BE DEWATERED.

PLACE A 18" (MIN.) WIDE SHEET OF 'RUBBERIZED MEMBRANE WATERPROOFING' ON TOP SLAB OVER ALL CONSTRUCTION JOINTS AND EXTEND DOWN TO BOTTOM OF OUTSIDE WALLS.

THE CONTRACTOR MAY FURNISH A PRECAST CONCRETE BOX CULVERT IN LIEU OF THE CAST-IN-PLACE BOX CULVERT WITH THE ACCEPTANCE OF THE SHOP DRAWINGS BY THE STRUCTURES DEVELOPMENT SECTION. THE PRECAST CONCRETE BOX CULVERT SHALL CONFORM TO PRECAST DETAILS ON CHAPTER 36 STANDARDS OF THE CURRENT WISC. DOT BRIDGE MANUAL. PAYMENT FOR THE PRECAST CULVERT SHALL BE BASED ON THE QUANTITIES AND PRICES BID FOR THE ITEMS LISTED IN THE "TOTAL ESTIMATED QUANTITIES".

CONTRACTOR MAY ELECT TO SUBSTITUTE #1 OR #2 CONCRETE COARSE AGGREGATE, SELECT CRUSHED MATERIAL OR OTHER GRANULAR MATERIAL AS APPROVED BY THE FIELD ENGINEER, IN LIEU OF THE BREAKER RUN, TO BE UTILIZED AS A CONSTRUCTION PLATFORM FOR THE BOX. THE CONTRACTOR IS RESPONSIBLE FOR BASE STABILITY WITH ANY SUBSTITUTED MATERIAL.

NO.	DATE	REVISION	BY
Plans Prepared By WISDOT BUREAU OF STRUCTURES ACCEPTED <i>William C. Decker</i> 4/9/13 CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE C-66-107			
STH 144 OVER UNNAMED WATERWAY			
COUNTY	WASHINGTON	TOWN/CITY/VILLAGE	FARMINGTON
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	DFD	DESIGN CKD.	NAR
DRAWN BY	DFD	PLANS CKD.	NAR
LAYOUT			SHEET 1 OF 6

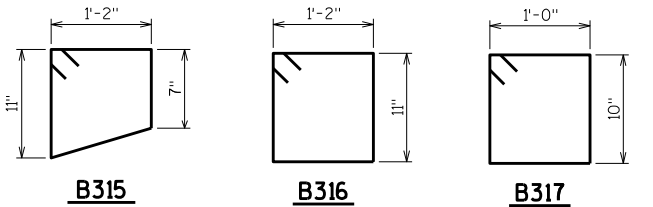
THE FIRST OR FIRST AND SECOND DIGIT OF THE MARK SIGNIFIES THE BAR SIZE. THE DIMENSION IN THE BENT COLUMN IS THE OUT TO OUT HORIZONTAL LEG OF A "L" SHAPED BAR. LONGER BARS OF THE SAME SIZE MAY BE SUBSTITUTED FOR SHORTER BARS. PAYMENT BASED ON BAR LENGTHS AS DETAILED.

MARK	NUMBER REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B501	836	7-6	2-8		CORNERS
B602	200	11-2	NO		BOTTOM SLAB TRANS.
B403	210	2-1	NO		WALLS-DOWELS VERT.
B404	34	34-6	NO		TOP&BOTTOM SLAB & WALL
B405	210	7-1	NO		WALLS VERT.
B506	200	11-2	NO		TOP SLAB TRANS.
B607	16	6-4	NO	*	BOT. SLAB TRANS
B408	24	34-6	NO	*	TOP&BOTTOM SLAB LONGIT.
B409	18	32-2	NO		EXT. WALL LONGIT.
B410	18	36-7	NO		EXT. WALL LONGIT.
B511	16	6-4	NO	*	TOP SLAB TRANS
B412	4	33-3	NO		TOP&BOTTOM SLAB LONGIT.
B413	4	35-8	NO		TOP&BOTTOM SLAB LONGIT.
B814	24	12-1	NO		HEADERS HORIZ.
B315	17	4-3	YES		HEADER STIRRUPS VERT.
B316	17	4-7	YES		HEADER STIRRUPS VERT.
B317	34	4-1	YES		HEADER STIRRUPS VERT.
B518	76	4-0	NO		VERT.CONST.JOINT

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

--- BUNDLE AND TAG EACH SERIES SEPARATELY

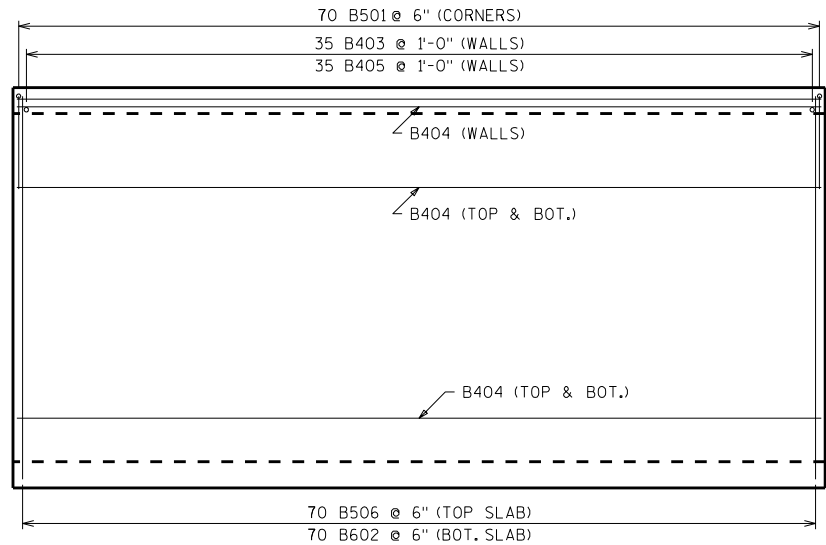
BAR MARK	NO. REQ'D.	LENGTHS FOR EACH SERIES
B607	2 SERIES OF 8	2 - 1 TO 10 - 6
B408	4 SERIES OF 6	33 - 0 TO 36 - 0
B511	2 SERIES OF 8	2 - 1 TO 10 - 6



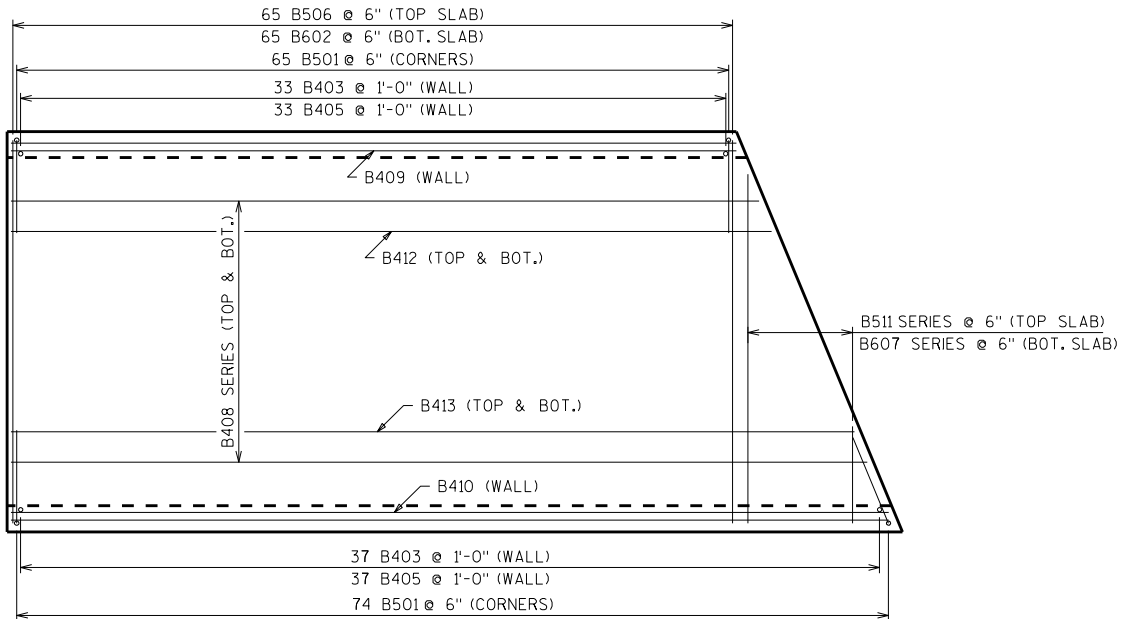
2" DEEP SAW CUT WITHIN 12 HOURS AFTER POURING MAY
BE USED IN LIEU OF CONST. JT. IN BOTTOM SLAB.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE		C-66-107	
DRAWN BY		DFD	PLANS CK'D. NAR
BOX DETAILS		SHEET 2	

SCALE = 4.0

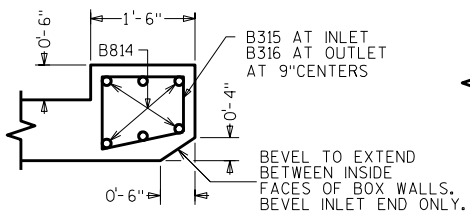


PLAN VIEW OF INTERIOR PANEL

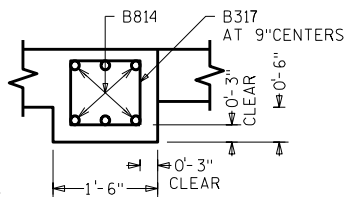


PLAN VIEW OF EXTERIOR PANEL

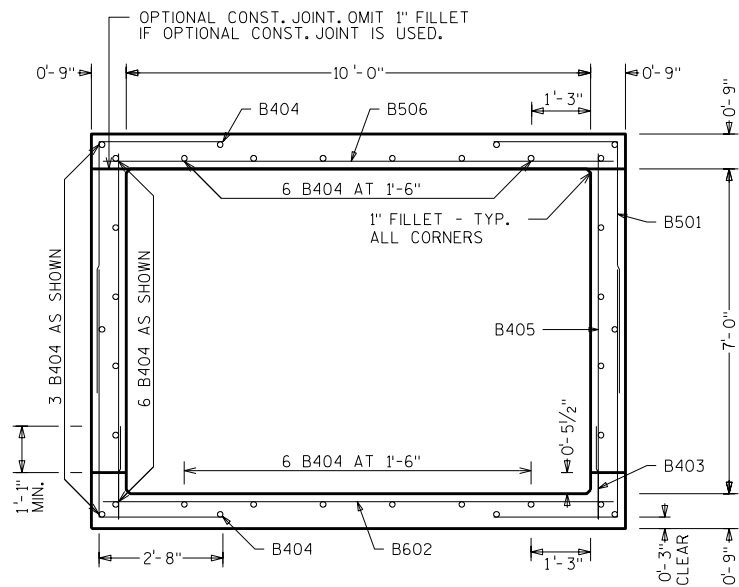
APRON AND HEADER ARE NOT SHOWN.



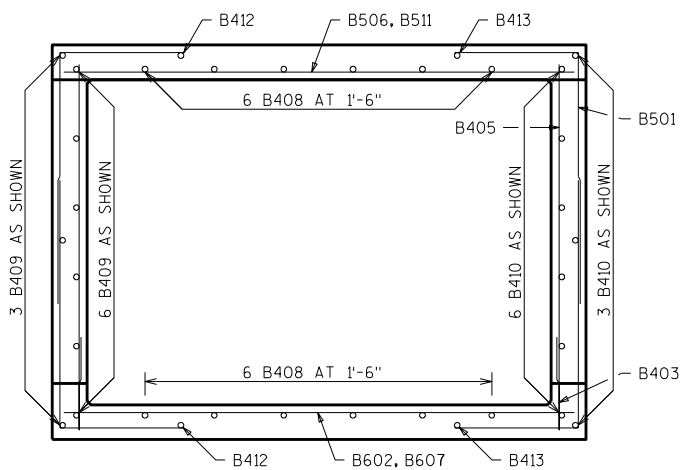
SECTION THRU
TOP HEADER



SECTION THRU
BOTTOM HEADER

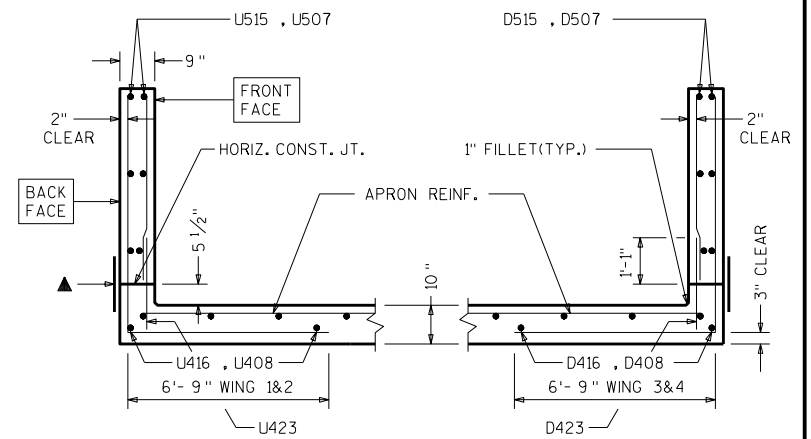


TYPICAL SECTION
THRU INTERIOR PANEL

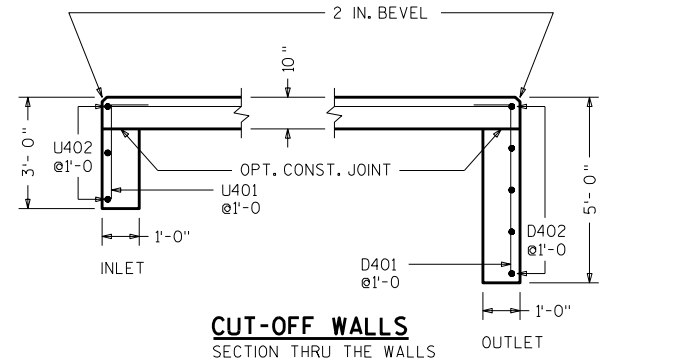


TYPICAL SECTION
THRU EXTERIOR PANEL

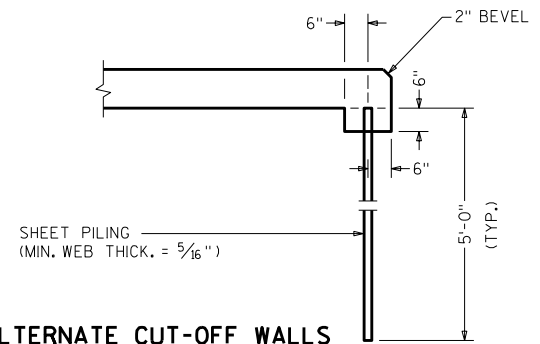
▲ 18" RUBBERIZED
MEMBRANE WATER-
PROOFING, PLACE
ALONG HORIZ. CONST.
JT. FOR ENTIRE WING
LENGTH (TYP.).



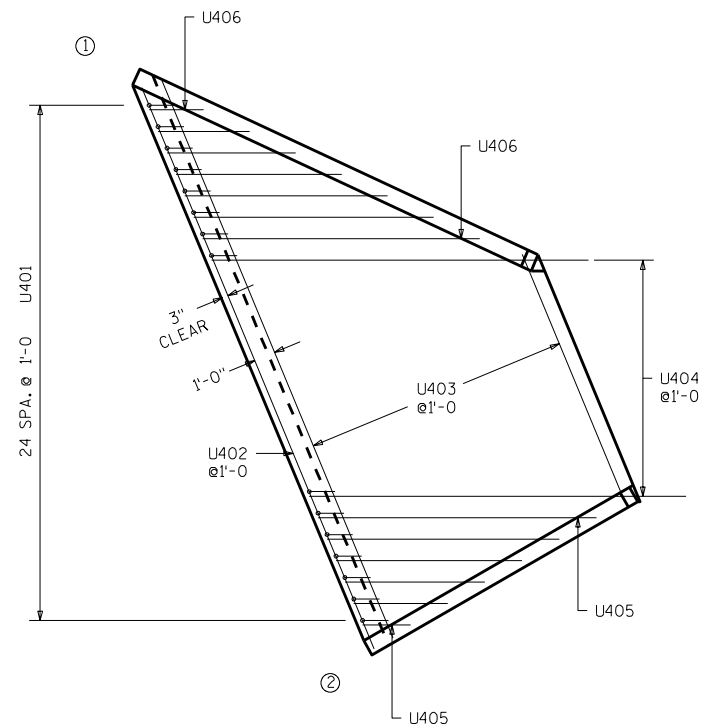
SECTION THRU WINGS
AT RIGHT ANGLES TO WING WALLS



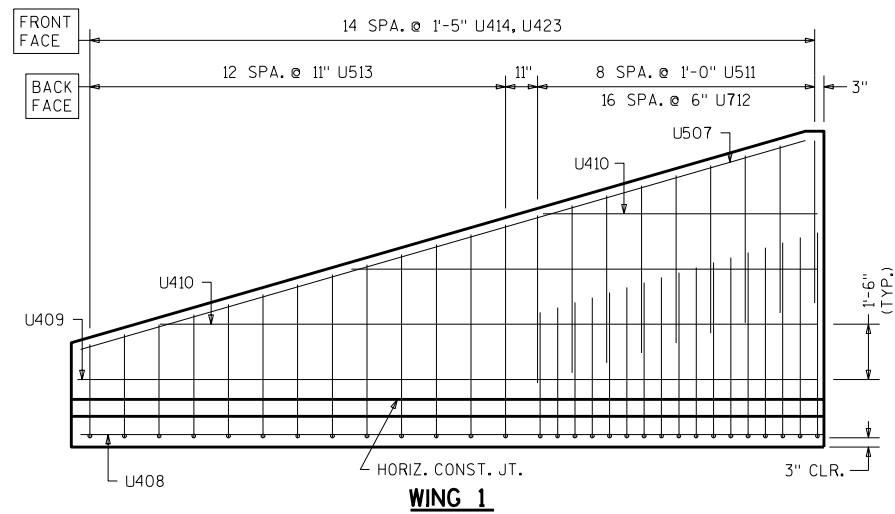
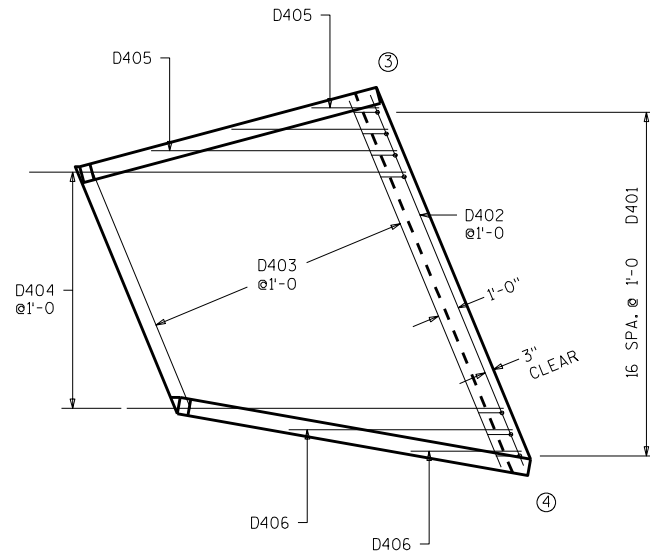
CUT-OFF WALLS
SECTION THRU THE WALLS



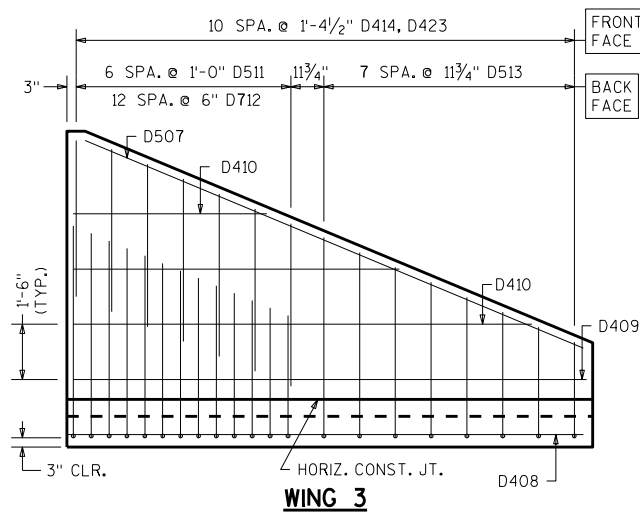
ALTERNATE CUT-OFF WALLS
THE ABOVE ALT. MAY BE USED IN LIEU OF THE
CAST-IN-PLACE CONC. CUT-OFF WALLS. PAYMENT
WILL BE BASED ON THE CONC. CUT-OFF WALLS.



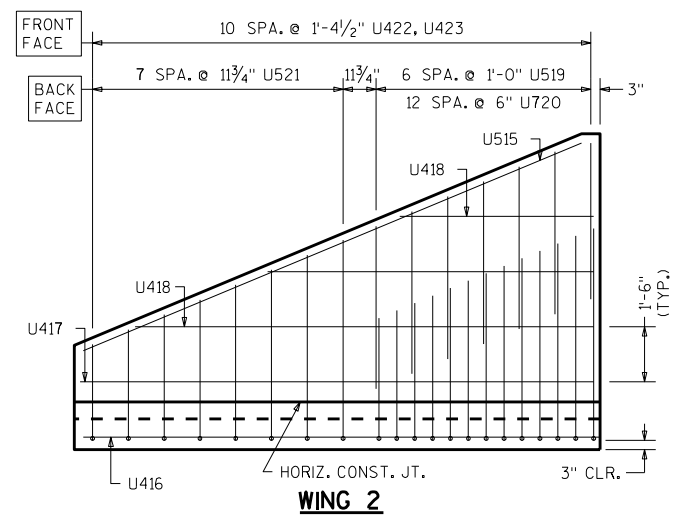
APRON REINF.



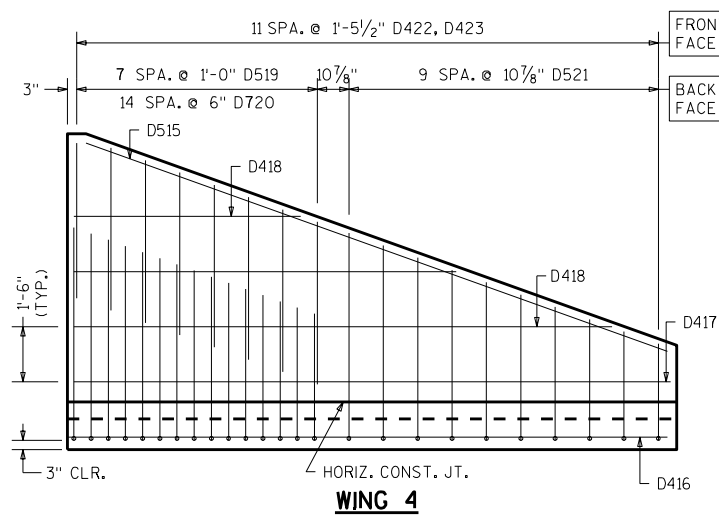
WING 1



WING 3



WING 2



WING 4

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE C-66-107			
DRAWN BY		DFD	PLANS CK'D. NAR
APRON DETAILS		SHEET 3	

BILL OF BARS

THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.
THE DIMENSION IN THE BENT COLUMN IS THE OUT TO OUT HORIZONTAL LEG OF AN L - SHAPED BAR.

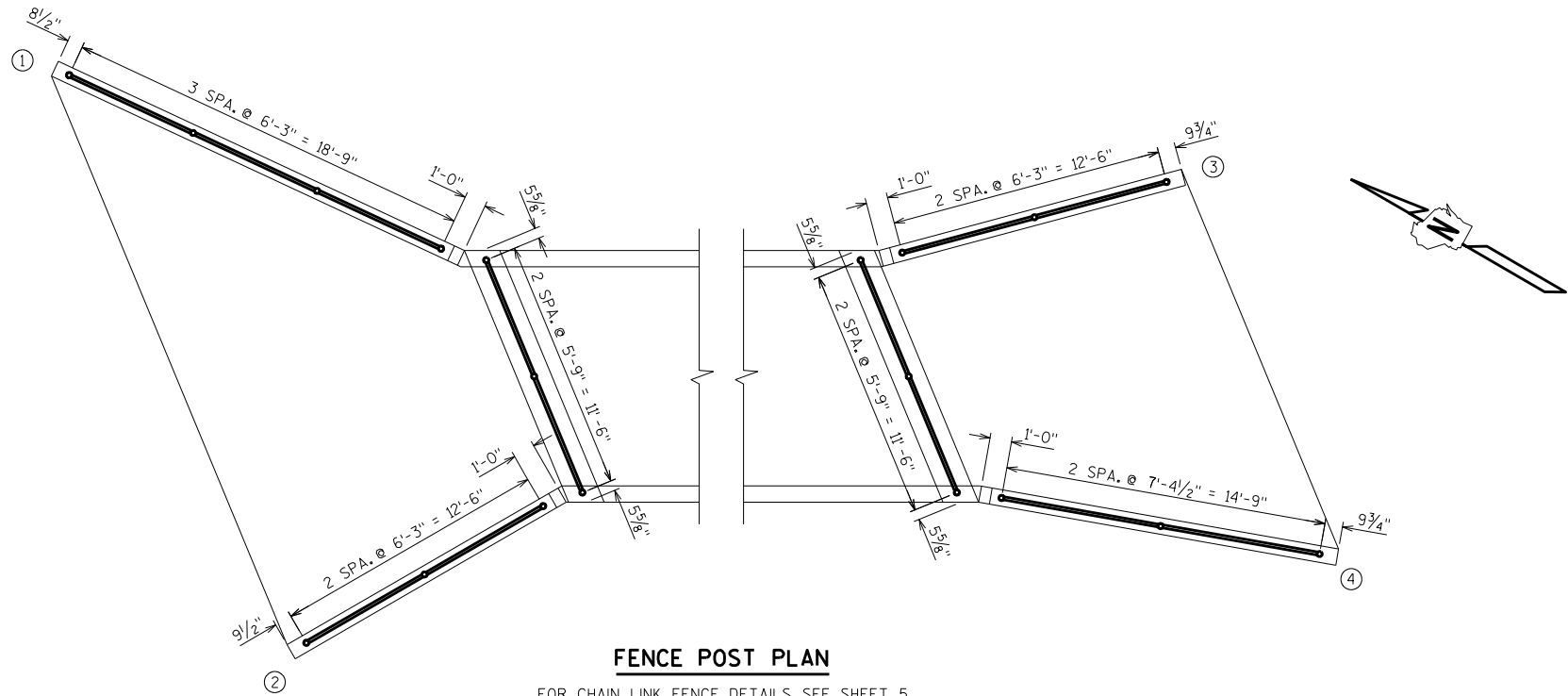
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
U401		25	3 - 6	1 - 0		INLET APRON AND CUTOFF WALL
U402		3	28 - 1			INLET APRON AND CUTOFF WALL
U403		14	20 - 1		*	" APRON
U404		12	17 - 7			" APRON
U405		6	7 - 10		*	" APRON
U406		7	8 - 5		*	" APRON
U507		2	20 - 7			WING 1 -HORIZONTAL - BOTH FACES
U408		2	20 - 0			WING "-HORIZONTAL -APRON BOTT. SLAB
U409		2	20 - 0			WING "-HORIZONTAL - BOTH FACES
U410		6	13 - 0		*	WING "-HORIZONTAL - BOTH FACES
U511		9	4 - 6			WING "-VERTICAL - BACK FACE
U712	X	17	11 - 1	6 - 9	*	WING "-VERTICAL - BACK FACE
U513	X	13	10 - 7	6 - 9	*	WING "-VERTICAL - BACK FACE
U414		15	4 - 3		*	WING "-VERTICAL - FRONT FACE
U515		2	14 - 9			WING 2 -HORIZONTAL - BOTH FACES
U416		2	13 - 10			WING "-HORIZONTAL -APRON BOTT. SLAB
U417		2	13 - 10			WING "-HORIZONTAL - BOTH FACES
U418		6	9 - 1		*	WING "-HORIZONTAL - BOTH FACES
U519		7	4 - 6			WING "-VERTICAL - BACK FACE
U720	X	13	11 - 0	6 - 9	*	WING "-VERTICAL - BACK FACE
U521	X	8	10 - 6	6 - 9	*	WING "-VERTICAL - BACK FACE
U422		11	4 - 3		*	WING "-VERTICAL - FRONT FACE
U423	X	26	2 - 2			WINGS 1 AND 2 - DOWELS - FRONT FACE
D401		17	5 - 6	1 - 0		OUTLET APRON AND CUTOFF WALL
D402		5	18 - 7			OUTLET APRON AND CUTOFF WALL
D403		14	15 - 5		*	" APRON
D404		12	17 - 7			" APRON
D405		3	7 - 2		*	" APRON
D406		2	7 - 9		*	" APRON
D507		2	14 - 9			WING 3 -HORIZONTAL - BOTH FACES
D408		2	13 - 10			WING "-HORIZONTAL -APRON BOTT. SLAB
D409		2	13 - 10			WING "-HORIZONTAL - BOTH FACES
D410		6	9 - 1		*	WING "-HORIZONTAL - BOTH FACES
D511		7	4 - 6			WING "-VERTICAL - BACK FACE
D712	X	13	11 - 0	6 - 9	*	WING "-VERTICAL - BACK FACE
D513	X	8	10 - 6	6 - 9	*	WING "-VERTICAL - BACK FACE
D414		11	4 - 3		*	WING "-VERTICAL - FRONT FACE
D515		2	16 - 11			WING 4 -HORIZONTAL - BOTH FACES
D416		2	16 - 1			WING "-HORIZONTAL -APRON BOTT. SLAB
D417		2	16 - 1			WING "-HORIZONTAL - BOTH FACES
D418		6	10 - 6		*	WING "-HORIZONTAL - BOTH FACES
D519		8	4 - 6			WING "-VERTICAL - BACK FACE
D720	X	15	11 - 0	6 - 9	*	WING "-VERTICAL - BACK FACE
D521	X	10	10 - 7	6 - 9	*	WING "-VERTICAL - BACK FACE
D422		12	4 - 3		*	WING "-VERTICAL - FRONT FACE
D423	X	23	2 - 2			WINGS 3 AND 4 - DOWELS - FRONT FACE

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

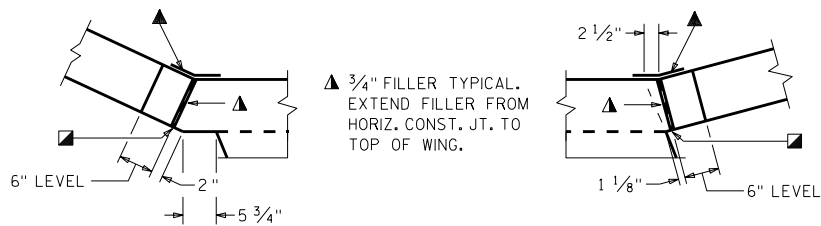
BAR SERIES TABLE

--- BUNDLE AND TAG EACH SERIES SEPARATELY

BAR MARK	NO. REQ'D.	LENGTHS FOR EACH SERIES
U403	1 SERIES OF 14	12 - 2 TO 28 - 0
U405	1 SERIES OF 6	2 - 6 TO 13 - 2
U406	1 SERIES OF 7	3 - 2 TO 13 - 7
U410	2 SERIES OF 3	7 - 9 TO 18 - 2
U712	1 SERIES OF 17	10 - 1 TO 12 - 0
U513	1 SERIES OF 13	9 - 0 TO 12 - 2
U414	1 SERIES OF 15	1 - 5 TO 7 - 1
U418	2 SERIES OF 3	5 - 5 TO 12 - 8
U720	1 SERIES OF 13	10 - 0 TO 12 - 0
U521	1 SERIES OF 8	9 - 0 TO 11 - 11
U422	1 SERIES OF 11	1 - 5 TO 7 - 1
D403	1 SERIES OF 14	12 - 1 TO 18 - 8
D405	1 SERIES OF 3	3 - 0 TO 11 - 3
D406	1 SERIES OF 2	5 - 1 TO 10 - 4
D410	2 SERIES OF 3	5 - 6 TO 12 - 8
D712	1 SERIES OF 13	10 - 0 TO 12 - 0
D513	1 SERIES OF 8	9 - 0 TO 11 - 11
D414	1 SERIES OF 11	1 - 5 TO 7 - 1
D418	2 SERIES OF 3	6 - 4 TO 14 - 8
D720	1 SERIES OF 15	10 - 0 TO 12 - 0
D521	1 SERIES OF 10	9 - 1 TO 12 - 0
D422	1 SERIES OF 12	1 - 5 TO 7 - 1

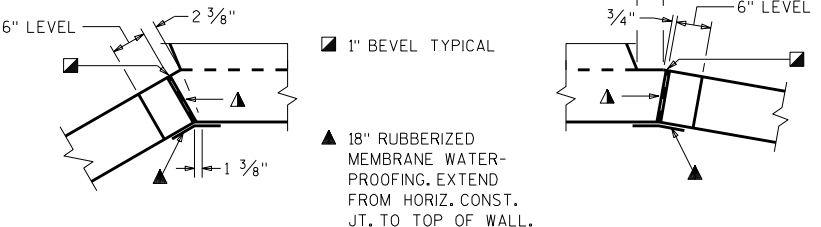


FENCE POST PLAN
FOR CHAIN LINK FENCE DETAILS, SEE SHEET 5



CORNER 1

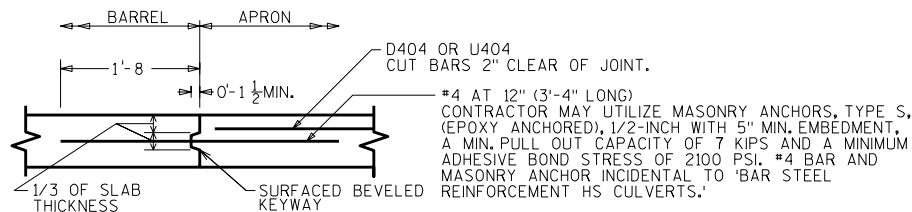
CORNER 3



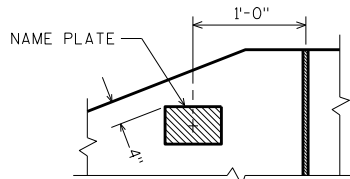
CORNER 2

CORNER 4

CORNER DETAILS



OPTIONAL CONSTRUCTION JOINT
2" DEEP SAW CUT WITHIN 12 HOURS AFTER POURING MAY BE USED IN LIEU OF CONST. JT. IN BOTTOM SLAB.



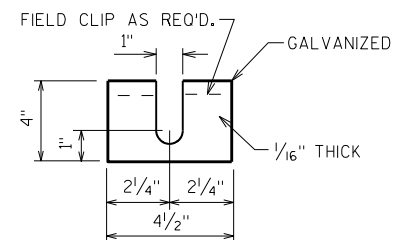
NAME PLATE LOCATION
WING 4

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE C-66-107			
DRAWN BY		DFD	PLANS CK'D. NAR
DETAILS		SHEET 4	

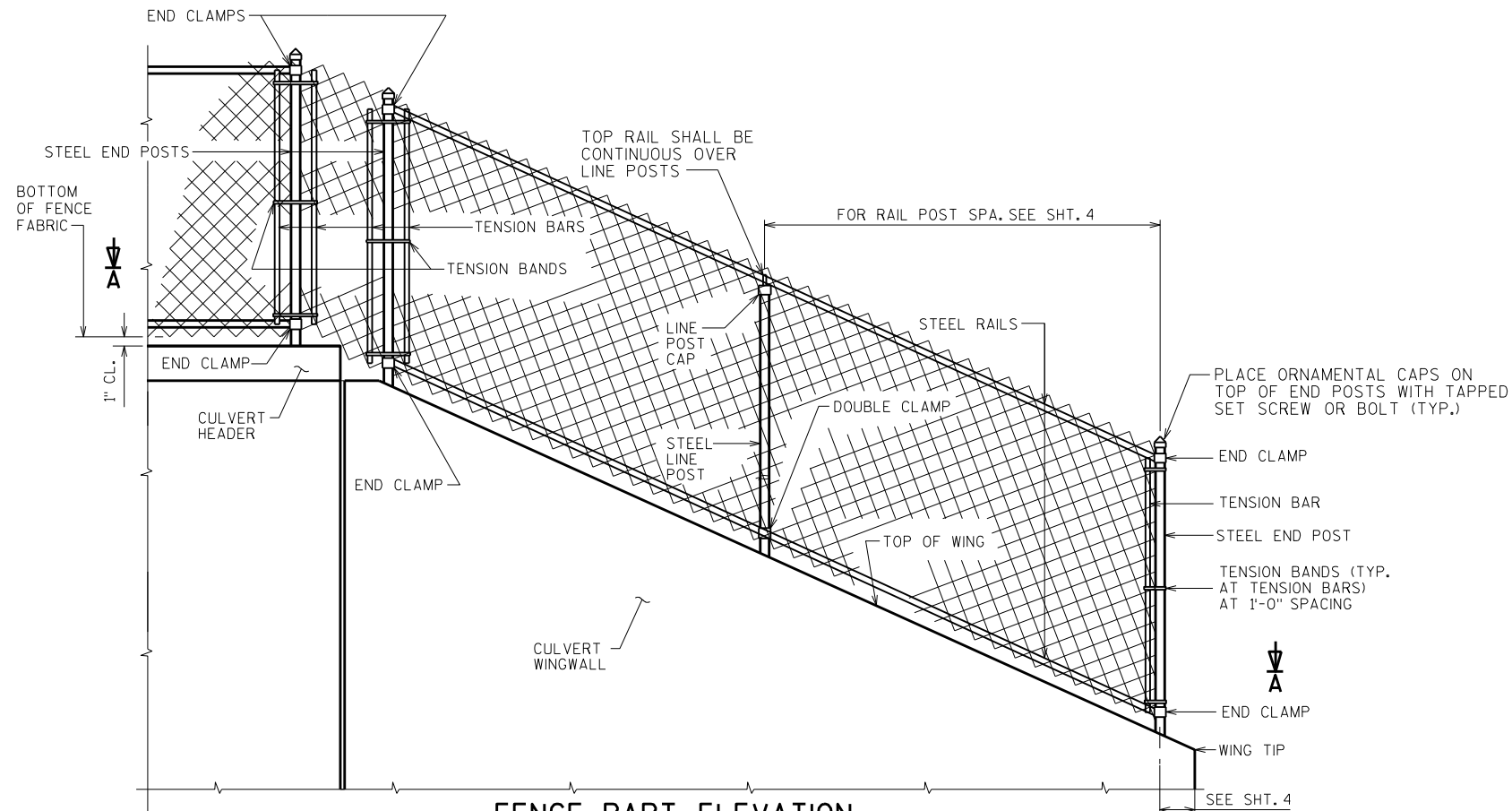
SCALE = 4:0

**FENCE MEMBER
SIZE & WEIGHT**

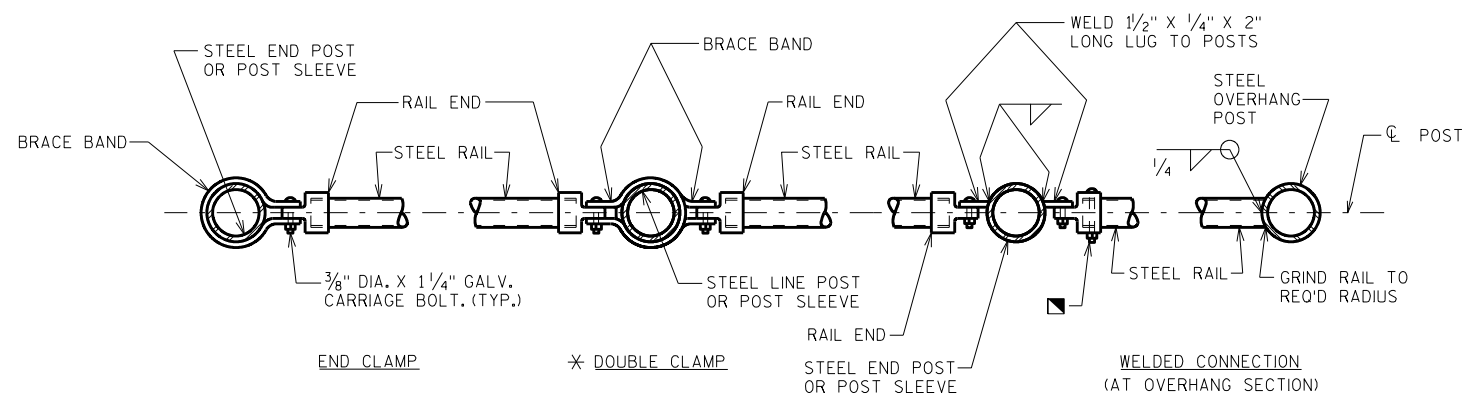
STEEL FENCE MEMBER	OUTSIDE DIAMETER (INCHES)	WEIGHT (LB/FT)
RAILS	1.660	2.27
END POST	2.875	5.80
OVERHANG POST	2.875	5.80
LINE POST	2.375	3.65
POST SLEEVE	4.000	9.12

**POST SHIM DETAILS**

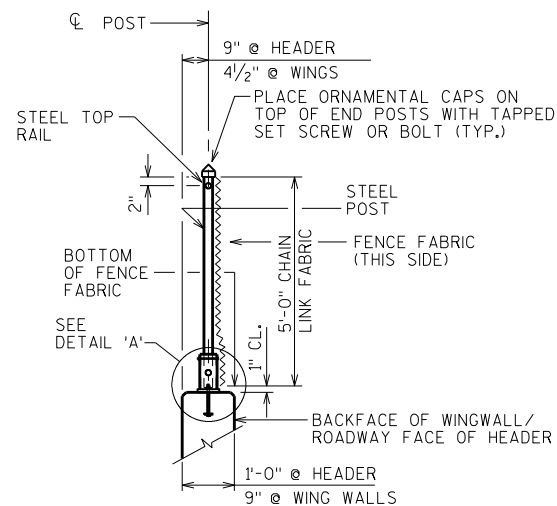
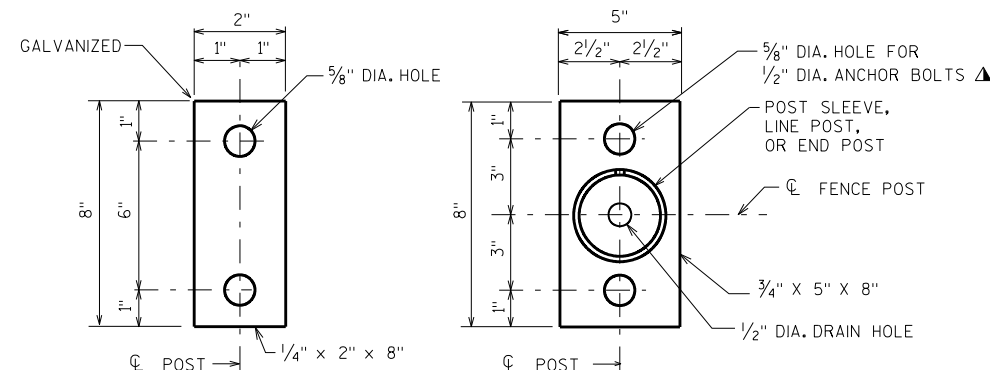
SHIMS REQUIRED ONLY WHEN END POSTS AND LINE POSTS ARE WELDED TO BASE PLATES. PROVIDE 4 SHIMS PER POST. USE WHERE REQUIRED FOR ALIGNMENT.

**FENCE PART ELEVATION**

VIEWING FABRIC SIDE

**SECTION A-A**

NOTE: PLACE ALL BOLT HEADS ON SIDE OF FENCE ADJACENT TO PEDESTRIANS

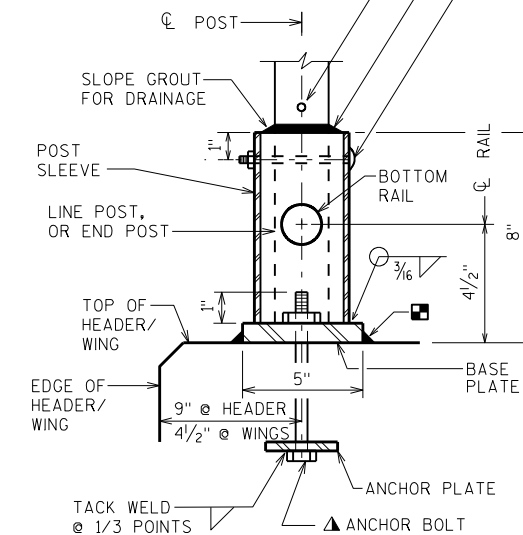
**SECTION THRU FENCE****ANCHOR PLATE****BASE PLATE**

3/8" DIA. GALV. CARRIAGE BOLT WITH LOCKING NUT. (TO BE SUPPLIED WITH ASSEMBLY)

FILL SLEEVE AND BEVEL AWAY FROM POST WITH NON-SHRINK GROUT AFTER SETTING POST. (LEAVE NO VOIDS)

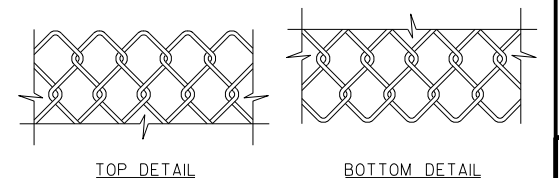
DRILL 3/16" DIA. DRAIN HOLE PARALLEL TO ROADWAY IMMEDIATELY ABOVE GROUT IN POST. SLEEVE LOCATIONS ONLY.

GRIND RAIL TO REQ'D RADIUS

**DETAIL 'A'**

UNIT SHALL BE GALVANIZED AFTER FABRICATION

NOTE: IN LIEU OF USING THE POST SLEEVE, THE FENCE POST MAY BE WELDED TO THE BASE PLATE.

**FENCE FABRIC**

FENCE FABRIC WOVEN OF 9-GAGE WIRE IN 2" DIAMOND PATTERN MESH WITH BOTH THE TOP AND BOTTOM SELVAGES KNUCKLED.

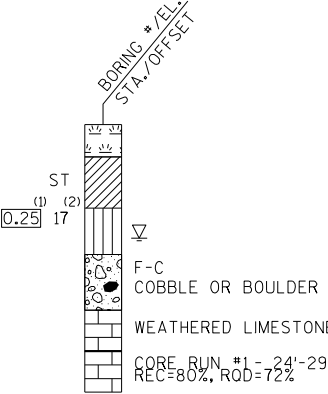
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE C-66-107			
DRAWN BY DFD		PLANS CKD. NAR	
FENCE DETAILS		SHEET 5	

2480-02-71

MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

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

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

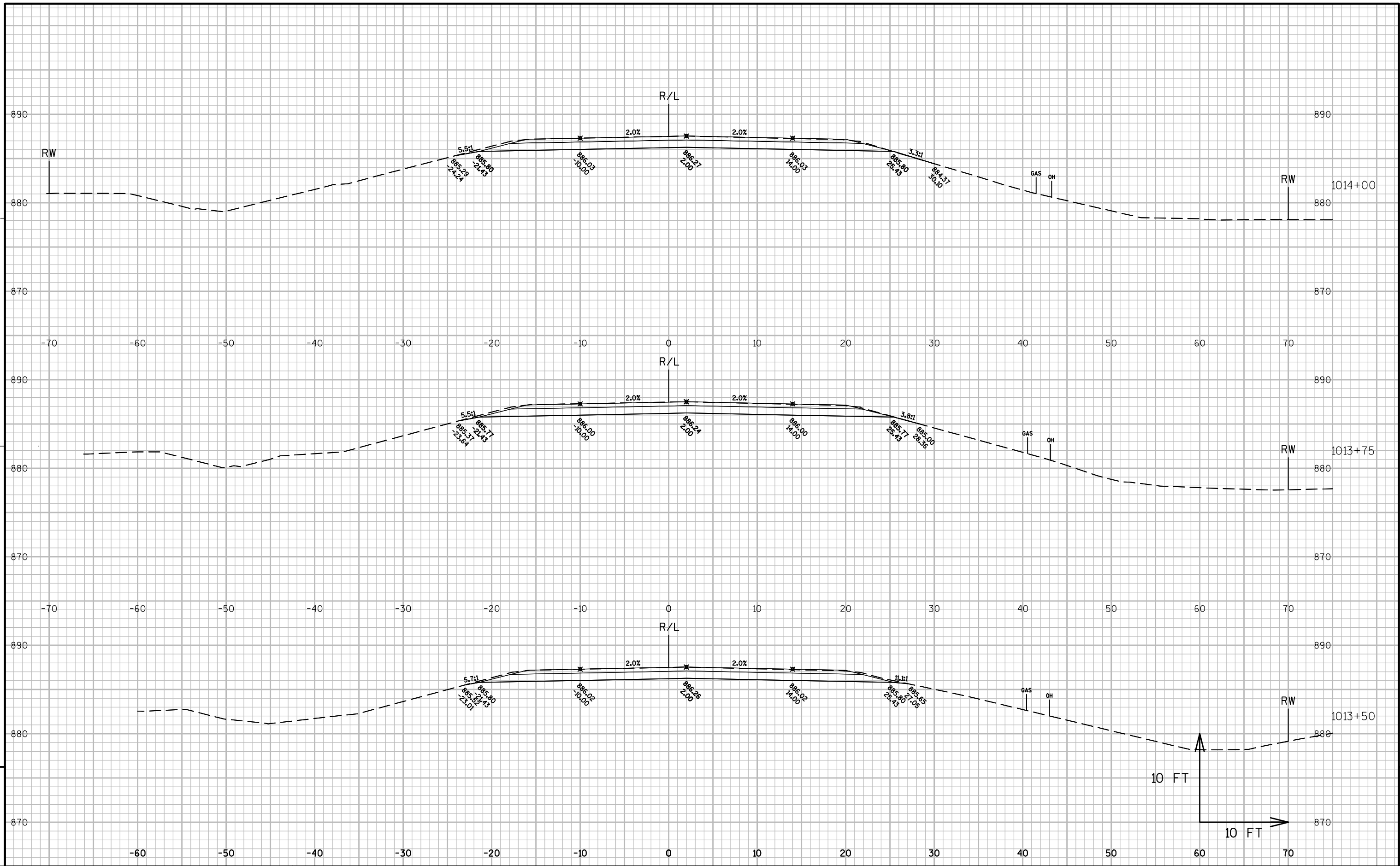
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE C-66-107			
DRAWN BY PR		PLANS CKD. NAR	
SUBSURFACE EXPLORATION		SHEET 6	

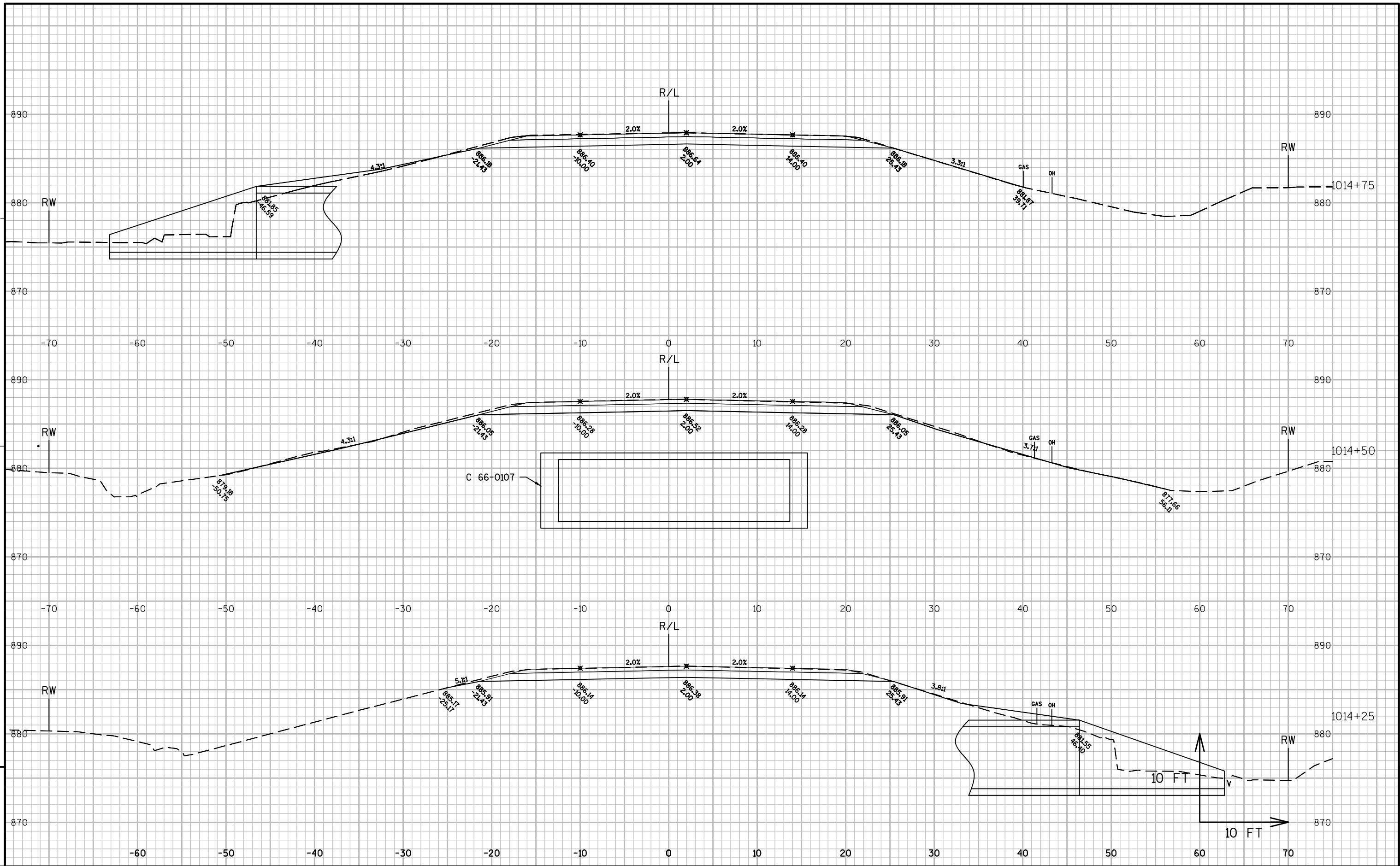
* THE GROUND WATER ELEVATION WAS DETERMINED FROM WHERE THE SOIL SAMPLE WAS DESCRIBED AS WET.

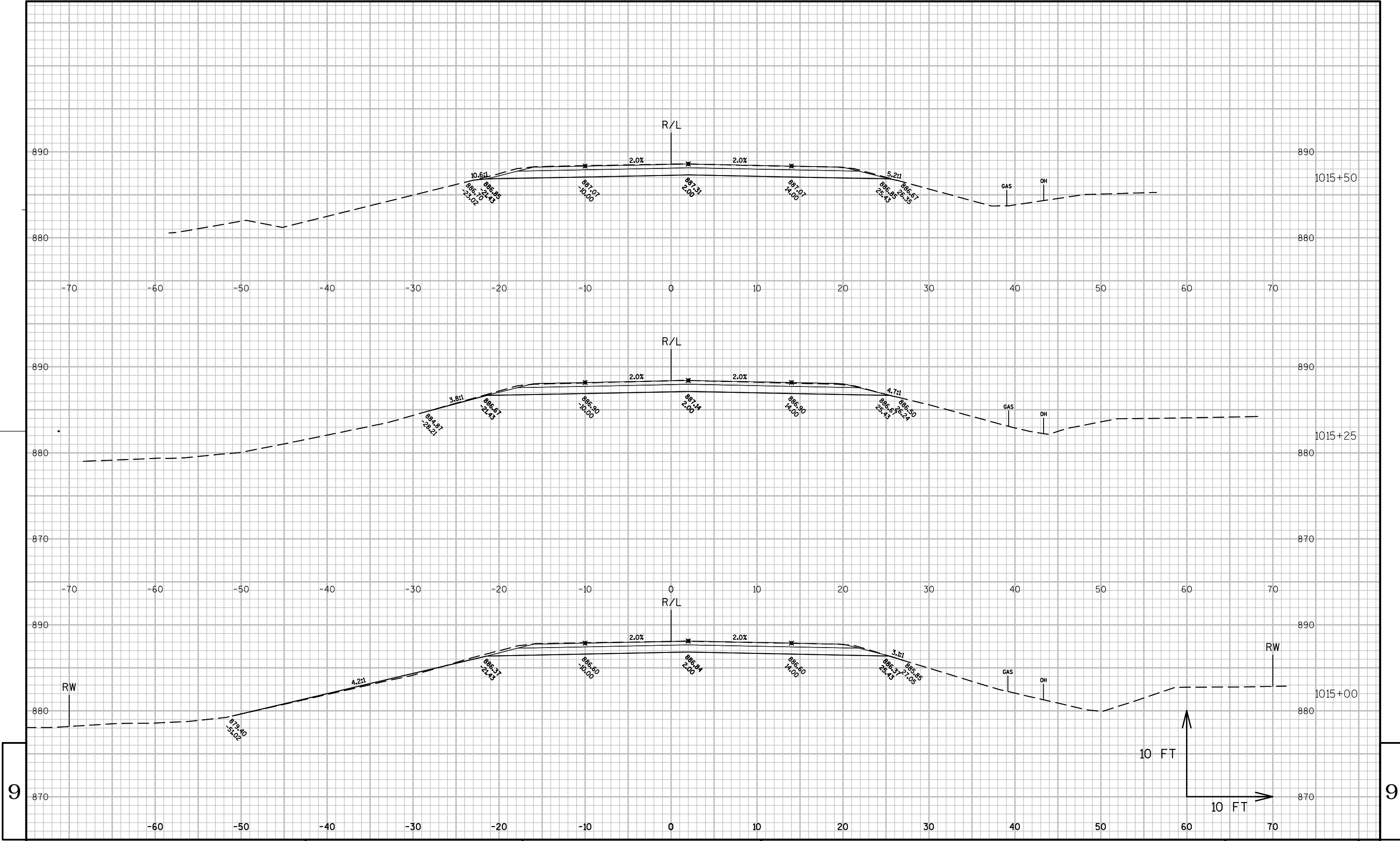
8

8

SCALE =







9

9

PROJECT NO:2480-02-71

HWY: STH 144

COUNTY: WASHINGTON

CROSS SECTIONS: STH 144

SHEET

E

FILE NAME : N:\PDS\C3D\24800201\SHEETSPLAN\090201_XS.DWG

PLOT DATE : 2/27/2013 8:51 AM

PLOT BY : HEIM, BRENT P

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49

Notes



Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

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