MAD

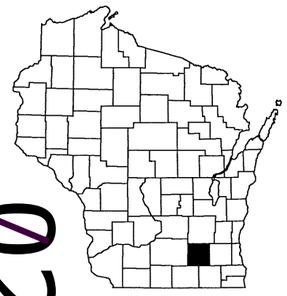
JUNE 2017

PROJECT ID: 3576-02-81

COUNTY: JEFFERSON

ORDER OF SHEETS

TOTAL SHEETS = 116



02

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

FORT ATKINSON - PALMYRA

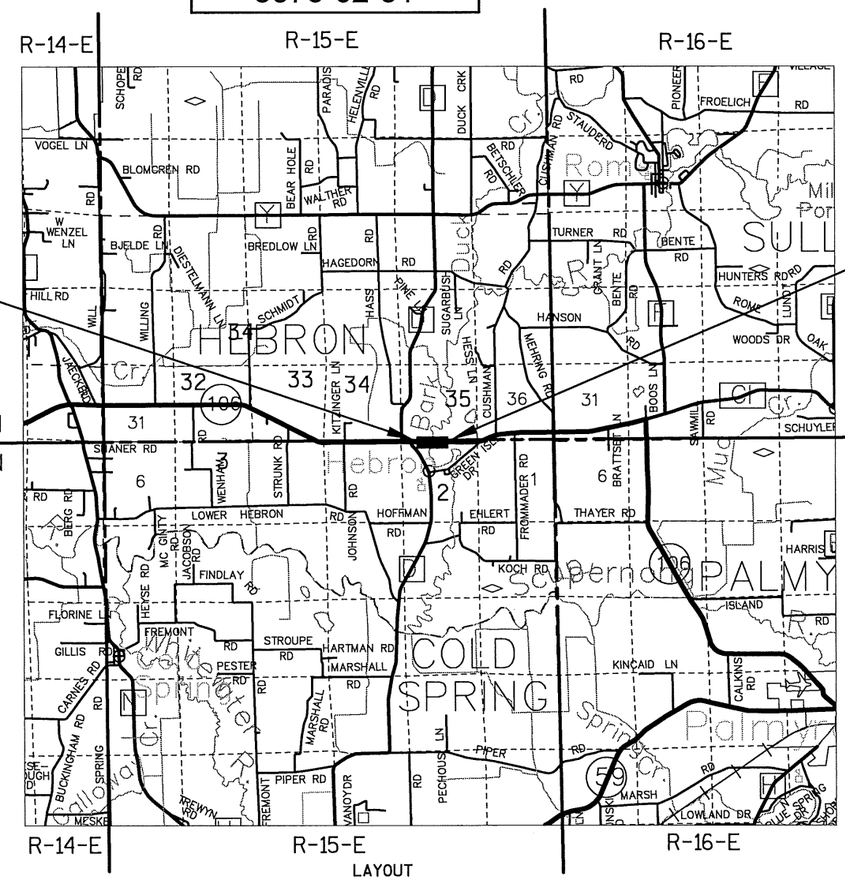
BARK RIVER BRIDGE B-28-183

STH 106

JEFFERSON COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
3576-02-81	WISC 2017314	1

STATE PROJECT NUMBER
3576-02-81



BEGIN PROJECT 3576-02-81
STA 16+73.54
STRUCTURE B-28-183
Y:531692.21
X:885890.31

END PROJECT 3576-02-81
STA 27+75
Y:531671.45
X:886991.52

LAYOUT
SCALE 0 1/2 MILE

TOTAL NET LENGTH OF CENTERLINE = 0.209 MILES

VERTICAL DATUM: NAVD88 (2012) GEOID 12A

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, JEFFERSON COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

DESIGN DESIGNATION

A.A.D.T.	2018	= 1900
A.A.D.T.	2038	= 2300
D.H.V.		= 9.5%
D.D.		= 60/40
T.		= 11.3%
DESIGN SPEED		= 60 MPH
ESALS		= 400,000

CONVENTIONAL SYMBOLS

PLAN
- CORPORATE LIMITS
- PROPERTY LINE
- 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

PREPARED BY

Surveyor	MSA
Designer	MATTHEW KENNEY
Project Manager	BRANDAN HAGER, P.E.
Regional Examiner	REGIONAL EXAMINER
Regional Supervisor	JAMES OETTINGER, P.E.

APPROVED FOR THE DEPARTMENT
DATE: 2-1-17 (Signature)

E

STANDARD ABBREVIATIONS

A.A.D.T.	ANNUAL AVERAGE DAILY TRAFFIC
A.D.T.	AVERAGE DAILY TRAFFIC
AE, AEW	APRON ENDWALL
AGG	AGGREGATE
ASPH.	ASPHALTIC
BM	BENCHMARK
B.F.	BACK FACE
CABC	CRUSHED AGGREGATE BASE COURSE
C.E.	COMMERCIAL ENTRANCE
C/L	CENTER LINE
CMCP	CORRUGATED METAL CULVERT PIPE
CMP	CORRUGATED METAL PIPE
CY	CUBIC YARD
CWT	HUNDRED WEIGHT
D.H.V.	DESIGN HOURLY VOLUME
EL., ELEV.	ELEVATION
ESALS	EQUIVALENT SINGLE AXLE LOADS
EXC.	EXCAVATION
F.E.	FIELD ENTRANCE
F/L, F.L.	FLOW LINE
H.S.	HIGH STRENGTH
INL	INLET
INTER.	INTERSECTION
JT.	JOINT
L.	LENGTH OF CURVE
LS	LUMP SUM
MGAL	1000 GALLONS
M.P.	MARKER POST
NOR	NORMAL
PAV'T	PAVEMENT
PCC	PORTLAND CEMENT CONCRETE
P.E.	PRIVATE ENTRANCE
P.L.	PROPERTY LINE
P.L.E.	PERMANENT LIMITED EASEMENT
R	RADIUS OR RANGE
R/L	REFERENCE LINE
R.C.C.P.	REINFORCED CONCRETE CULVERT PIPE
R/W	RIGHT OF WAY
SDD	STANDARD DETAIL DRAWING(S)
SHLD.	SHOULDER(S)
S/L	SURVEY LINE
SW	SIDEWALK
T.	PERCENT TRUCKS
TEL.	TELEPHONE
TEMP.	TEMPORARY
TER.	TERRACE
T.L.E.	TEMPORARY LIMITED EASEMENT
T.O.C.	TOP OF CURB
TYP	TYPICAL
U.G.	UNDERGROUND (CABLE)
VAR	VARIABLE
V.C.	VERTICAL CURVE
V.P.C.	VERTICAL POINT OF CURVATURE
V.P.I.	VERTICAL POINT OF INTERSECTION
V.P.T.	VERTICAL POINT OF TANGENCY
Wt.	WEIGHT

GENERAL NOTES

- THE CONTRACTOR SHALL PAVE THE FINISH LAYER OF HMA PAVEMENT 4 LT 58-28 S FOR THE ADJOINING DRIVING LANE AND PAVED SHOULDER CONCURRENTLY TO MINIMIZE THE NUMBER OF CONSTRUCTION JOINTS.
- HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LB/SY/IN.
- THE CONTRACTORS PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTION TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN DRIVING, TURNING, BIKE, OR PARKING LANES.
- THE USE OF AN HMA VERTICAL JOINT SHALL BE USED INSTEAD OF A TYPICAL NOTCHED WEDGE LONGITUDINAL JOINT(MICHIGAN JOINT.
- PLACE NEW HMA PAVEMENT MATERIAL IN TWO LIFTS: 2.5" BINDER LAYER & 2" FINISHED LAYER.
- APPLY TACK COAT BETWEEN HMA LIFTS AT A MINIMUM RATE OF 0.05-0.07 GAL/SY.
- PLACE FRENCH DRAINS OR WEEPS AT 250-FT INTERVALS, AT LOW POINTS, OR AS OTHERWISE DIRECTED BY THE ENGINEER TO SUFFICENTLY DRAIN THE SELECT CRUSHED MATERIAL.
- SOIL BORING REPORTS ARE AVAILABLE FROM THE WISDOT SOUTHWEST REGION PROJECT SECTION. CONTACT BRANDAN HAGER, PROJECT MANAGER @ (608) 245-2625.
- EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE AND IS NOT SHOWN ON THE CROSS SECTIONS, BUT IS MEASURED AND PAID FOR AS COMMON EXCAVATION. THE EXACT LOCATIONS FOR EBS WILL BE DETERMINED BY THE FIELD ENGINEER. USE GEOGRID TYPE SR AT EACH EBS LOCATION, OR AS DIRECTED BY THE FIELD ENGINEER.
- SAWCUTS , AS SHOWN ON PLANS, ARE APPROXIMATE LOCATIONS AND MAY BE ADJUSTED BY THE FIELD ENGINEER BASED ON FIELD CONDITIONS.
- THE EXACT LOCATIONS AND LIMITS OF PRIVATE AND COMMERCIAL ENTRANCES SHALL BE DETERMINED BY THE FIELD
- SIGN LOCATIONS ON THE PLAN ARE APPOXIMATE, AND MAY BE ADJUSTED BY THE FIELD ENGINEER AS NEEDED TO FIT FIELD CONDITIONS.
- EROSION CONTROL ITEMS ON THE PLAN ARE APPROXIMATE AND SHALL BE ADJUSTED BY THE FIELD ENGINEER TO FIT FIELD CONDITIONS.
- THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLAN ARE APPROXIMATE THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
- CONTACT THE TOWN OF HEBRON CHAIRPERSON, RONALD KUTZ AT 920-674-2319 OR KUTZRONALD@GMAIL.COM, TO HAVE FOX AND COON HUNTERS CLUB FIRE SIGN REMOVED. THE TOWN OF HEBRON WILL PROVIDE THE TWO (2) FIRE LANE PERMANENT SIGNS, SIGN NO 1-02 AND 1-03. THE TOWN OF HEBRON WILL NEED 6 WEEKS LEAD TIME TO PROVIDE THE SIGNS FOR INSTALLATION.
- PLACE AND COMPACT SELECT CRUSHED MATERIAL AND BASE AGGREGATE DENSE WITHIN 48 HOURS OF EXCAVATION TO SUBGRADE. THE CONTRACTOR SHALL ORDER OPERATIONS TO LIMIT EXPOSURE OF THE SUBGRADE TO A MINIMUM.

DNR LIAISON

LAURA BUB
ENVIRONMENTAL ANALYSIS & SUSTAINABLITY
WDNR - SOUTH CENTRAL REGION
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
608-275-3485

DESIGN CONTACTS

BRANDAN HAGER, P.E.
PROJECT MANAGER
WISDOT SW REGION
2101 WRIGHT ST.
MADISON, WI 53704
608-245-2625
BRANDAN.HAGER@DOT.WI.GOV

MATTHEW KENNEY, P.E.
PROJECT LEADER
WISDOT SW REGION
2101 WRIGHT ST.
MADISON, WI 53704
608-246-7995
MATTHEW.KENNEY@DOT.WI.GOV

MATT KRIPPNER, P.E.
AECOM PROJECT MANAGER
AECOM
1350 DEMING WAY, SUITE 100
MIDDLETON, WI 53562
608-828-8123
MATTHEW.KRIPPNER@AECOM.COM

ORDER OF SECTION 2 SHEETS

UTILITY CONTACTS

CENTURY LINK - COMMUICATION LINE
KEVIN ZICKERT
224 INDUSTRIAL DR
NORTH PRAIRIE, WI 53153
(262) 392-5200
KEVIN.ZICKERT@CENTURYTEL.COM

WE ENERGIES - ELECTRICITY
BRYAN STOEHR
333 W EVERETT ST RM A299
MILWAUKEE, WI 53203
(414) 944-5516
BRYAN.STOEHR@WE-ENERGIES.COM

HORIZONTAL CONTROL POINTS			
HORIZONTAL DATUM: NAD83 (2011)			
JEFFERSON COUNTY COORDINATE SYSTEM			
CP	**N**	**E**	**DESCRIPTION**
906	531686.189	887407.817	CP 3/4-INCH X 24 IB CAPPED
907	531704.683	886547.746	CP 3/4-INCH X 24 IB CAPPED
908	531720.236	885681.678	CP 3/4-INCH X 24 IB CAPPED
912	531661.335	886210.823	CP 3/4-INCH X 24 IB CAPPED
OTHER CP POINTS OUTSIDE OF PROJECT AREA			
909	525888.366	881945.589	NGS DG4885 HEBRON S GPS
910	523164.445	892152.5	NGS DG4885 HEBRON S GPS
911	519214.13	911616.535	NGS DG4885 HEBRON S GPS

VERTICAL DATUM POINTS		
VERTICAL DATUM: NAVD88 (2012) Geoid 12A		
JEFFERSON COUNTY COORDINATE SYSTEM		
BM	**ELEVATION**	**LOCATION**
4022	805.47	STA 22+22 LT - CH SQ@NE CORNER OF BRIDGE

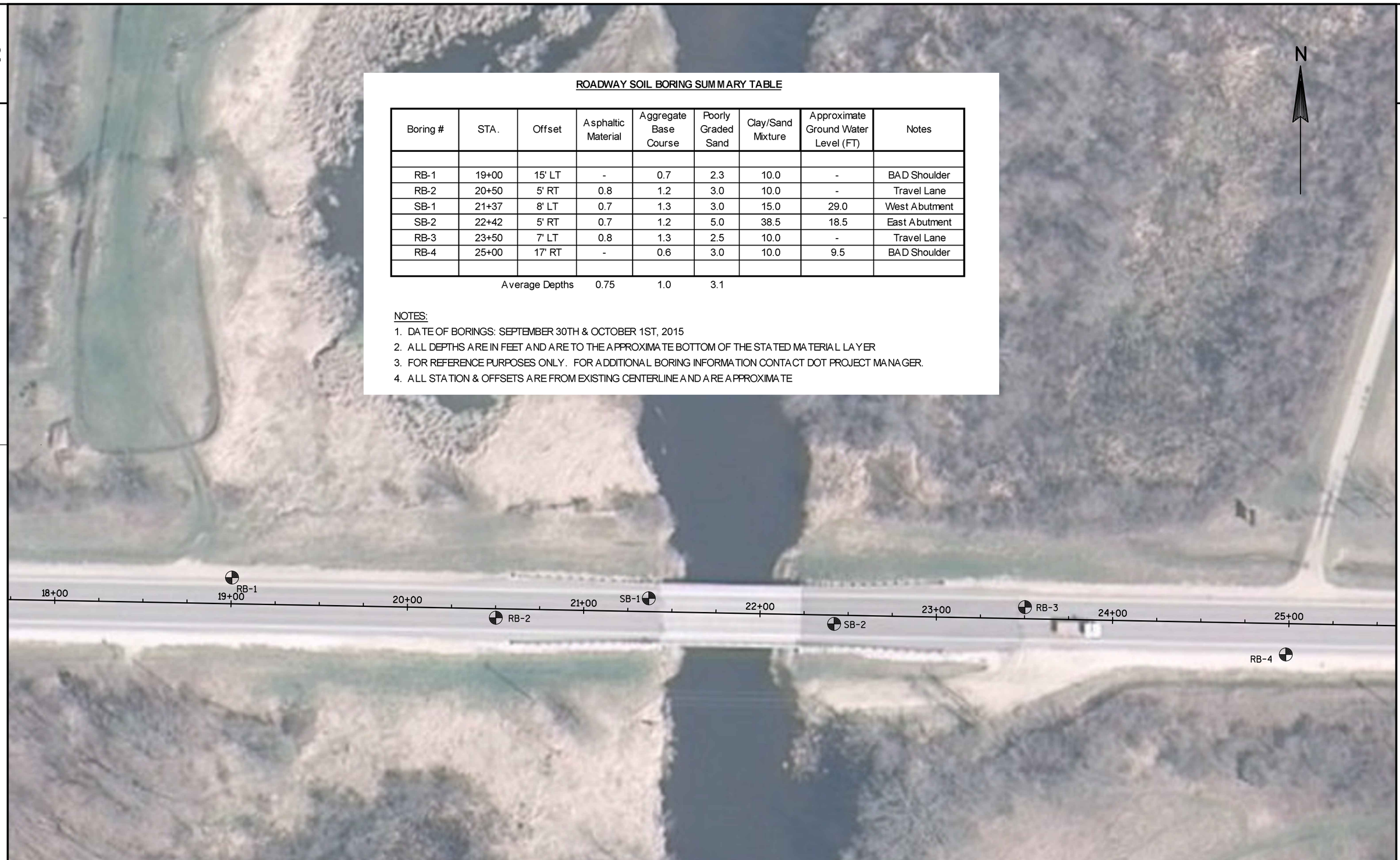
PROJECT NO: 3576-02-81	HWY: STH 106	COUNTY: JEFFERSON	PROJECT HOR & VERT CONTROLS	SHEET 3	E

ROADWAY SOIL BORING SUMMARY TABLE

Boring #	STA.	Offset	Asphaltic Material	Aggregate Base Course	Poorly Graded Sand	Clay/Sand Mixture	Approximate Ground Water Level (FT)	Notes
RB-1	19+00	15' LT	-	0.7	2.3	10.0	-	BAD Shoulder
RB-2	20+50	5' RT	0.8	1.2	3.0	10.0	-	Travel Lane
SB-1	21+37	8' LT	0.7	1.3	3.0	15.0	29.0	West Abutment
SB-2	22+42	5' RT	0.7	1.2	5.0	38.5	18.5	East Abutment
RB-3	23+50	7' LT	0.8	1.3	2.5	10.0	-	Travel Lane
RB-4	25+00	17' RT	-	0.6	3.0	10.0	9.5	BAD Shoulder
		Average Depths	0.75	1.0	3.1			

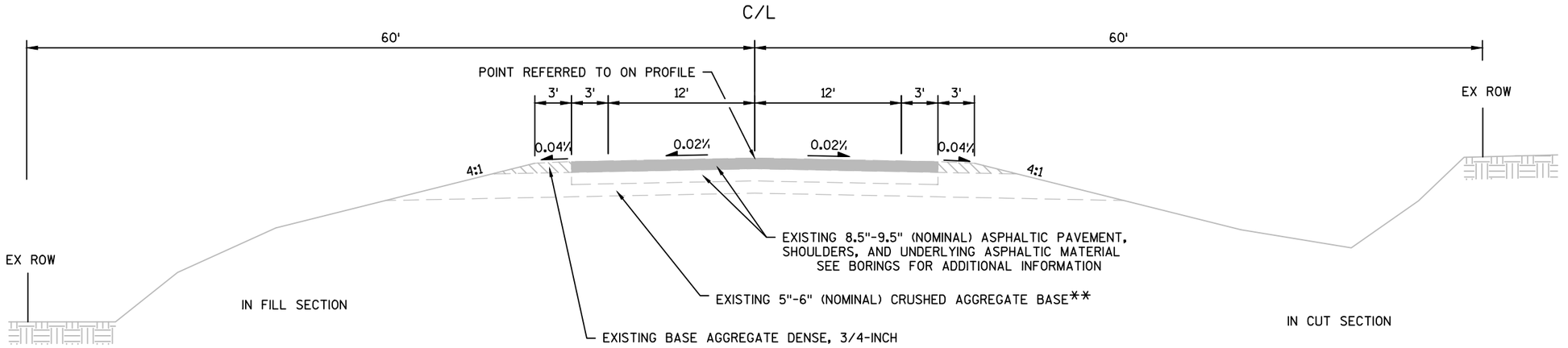
NOTES:

1. DATE OF BORINGS: SEPTEMBER 30TH & OCTOBER 1ST, 2015
2. ALL DEPTHS ARE IN FEET AND ARE TO THE APPROXIMATE BOTTOM OF THE STATED MATERIAL LAYER
3. FOR REFERENCE PURPOSES ONLY. FOR ADDITIONAL BORING INFORMATION CONTACT DOT PROJECT MANAGER.
4. ALL STATION & OFFSETS ARE FROM EXISTING CENTERLINE AND ARE APPROXIMATE



PROJECT NO: 3576-02-81	HWY: STH 106	COUNTY: JEFFERSON	SOIL BORINGS	SHEET 4	E

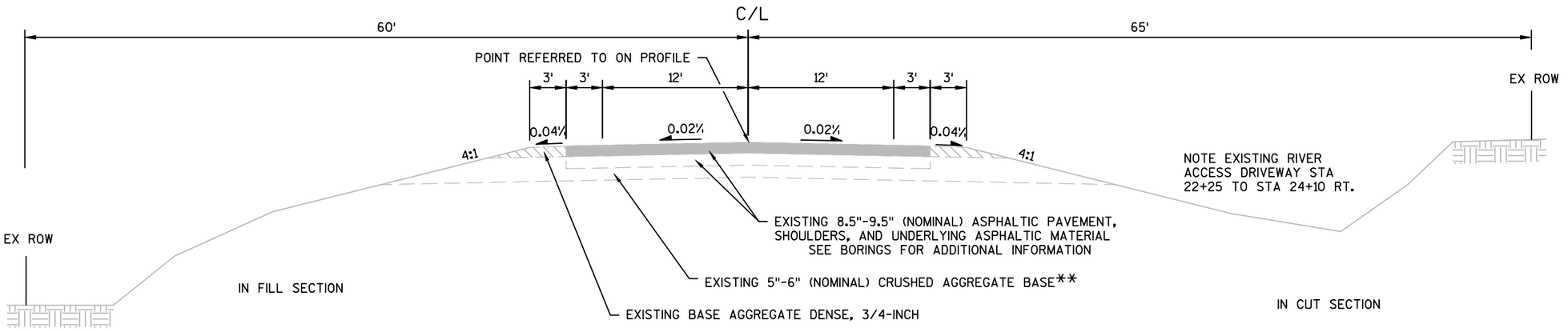
PROJECT NO: 3576-02-81	HWY: STH 106	COUNTY: JEFFERSON	PROJECT OVERVIEW	SHEET 5	E



EXISTING TYPICAL SECTION STH 106

STA 16+73.54 TO B-28-08 (STA 21+49.42)

**
MATERIAL CAN BE USED AS FILL MATERIAL OUTSIDE ROADWAY STRUCTURE 1:1 TO BUILD SLOPES.



EXISTING TYPICAL SECTION STH 106

(STA 22+31.18) B-28-08 TO STA 27+75

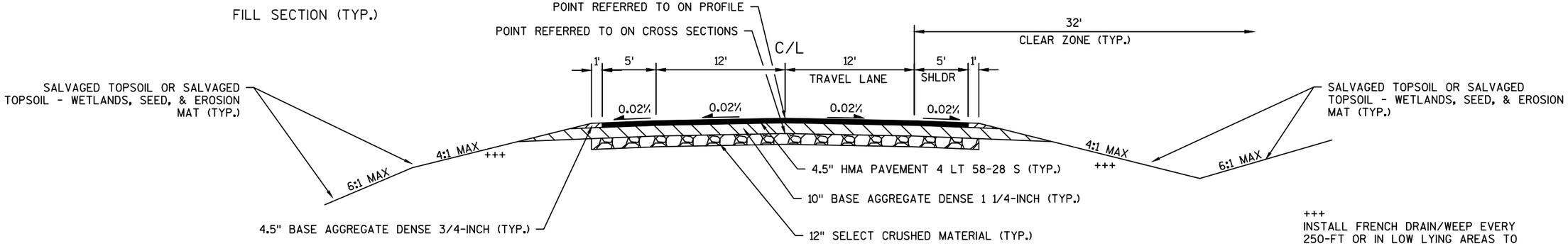
**
MATERIAL CAN BE USED AS FILL MATERIAL OUTSIDE ROADWAY STRUCTURE 1:1 TO BUILD SLOPES.

PROJECT NO: 3576-02-81	HWY: STH 106	COUNTY: JEFFERSON	EXISTING TYPICAL SECTION	SHEET 6	E

2

FILL SECTION (TYP.)

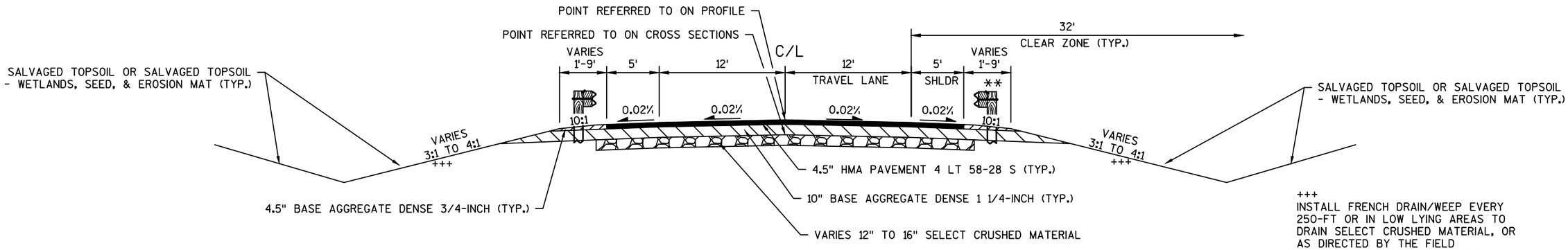
CUT SECTION (TYP.)



+++
INSTALL FRENCH DRAIN/WEEP EVERY 250-FT OR IN LOW LYING AREAS TO DRAIN SELECT CRUSHED MATERIAL, OR AS DIRECTED BY THE FIELD ENGINEER. INCIDENTAL TO SELECT CRUSHED MATERIAL ITEM.

FINISHED TYPICAL SECTION STH 106

STA 16+73.54 TO STA 18+19
STA 26+12 TO STA 27+75



+++
INSTALL FRENCH DRAIN/WEEP EVERY 250-FT OR IN LOW LYING AREAS TO DRAIN SELECT CRUSHED MATERIAL, OR AS DIRECTED BY THE FIELD ENGINEER. INCIDENTAL TO SELECT CRUSHED MATERIAL ITEM.

FINISHED TYPICAL SECTION STH 106

STA 18+19 TO B-28-183 (STA 21+44.30)

** SEE SDDS FOR MGS AND EAT INSTALLATION AND OFFSETS (TYP.). SEE 'CONSTRUCTION DETAILS - MGS EAT LAYOUT' FOR EAT POST LOCATIONS.

PROJECT NO: 3576-02-81	HWY: STH 106	COUNTY: JEFFERSON	FINISHED TYPICAL SECTION	SHEET 7	E

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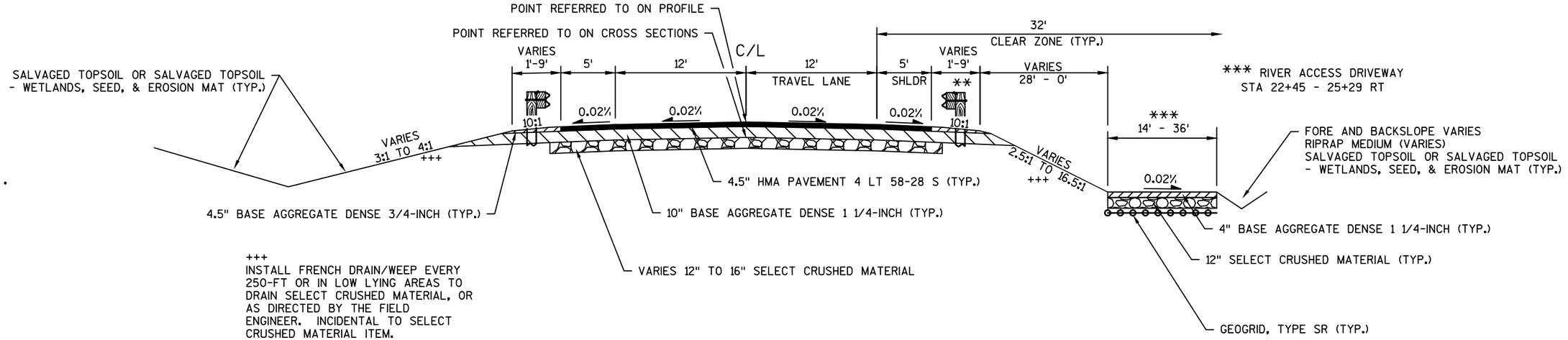
PROJECTSHEETDATA - 020302_TS - TYP SECS
PLOT DATE : 3/20/2017 12:30 PM PLOT BY : KENNEY, MATTHEW D PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42



+++
INSTALL FRENCH DRAIN/WEEP EVERY 250-FT OR IN LOW LYING AREAS TO DRAIN SELECT CRUSHED MATERIAL, OR AS DIRECTED BY THE FIELD ENGINEER. INCIDENTAL TO SELECT CRUSHED MATERIAL ITEM.

FINISHED TYPICAL SECTION STH 106 WITH RIVER ACCESS DRIVEWAY

B-28-183 (STA 22+35.80) TO STA 26+12

** SEE SDDS FOR MGS AND EAT INSTALLATION AND OFFSETS (TYP.). SEE 'CONSTRUCTION DETAILS - MGS EAT LAYOUT' FOR EAT POST LOCATIONS.

PROJECT NO: 3576-02-81	HWY: STH 106	COUNTY: JEFFERSON	FINISHED TYPICAL SECTION	SHEET 8	E

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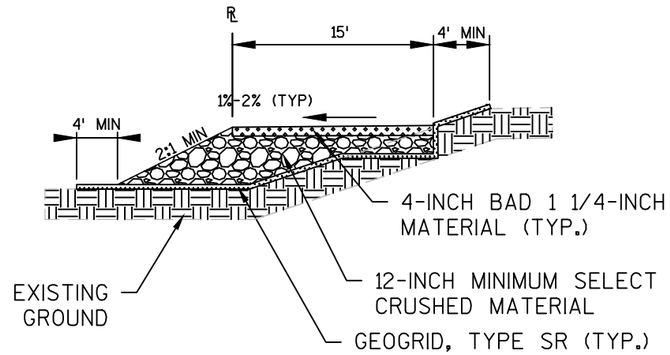
PROJECTSHEETDATA - 020303_TS - TYP SECS
PLOT DATE : 3/20/2017 12:30 PM PLOT BY : KENNEY, MATTHEW D PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42



TYPICAL SECTION
TEMPORARY RIVER ACCESS DRIVEWAY

STA 5+00 TO 6+25 RT

ESTIMATED QUANTITIES FOR
TEMPORARY RIVER ACCESS DRIVEWAY

(FOR INFORMATIONAL PURPOSES ONLY)

540.3 SY - GEOGRID, TYPE SR
453.9 TON - SELECT CRUSHED MAT
58.3 TON - BAD 1 1/4-INCH MATERIAL

NOTES:

1. PROVIDE TEMPORARY ACCESS TO THE WEST SIDE OF THE BARK RIVER DURING CONSTRUCTION ACTIVITIES THAT LIMIT FIRE DEPARTMENT ACCESS TO THE EXISTING DRIVEWAY. MAINTAIN DRIVEWAY ACCESS ON BOTH SIDES OF THE RIVER DURING STRUCTURE OR ANY CONSTRUCTION ACTIVITIES THAT WOULD IMPEDE ACCESS.

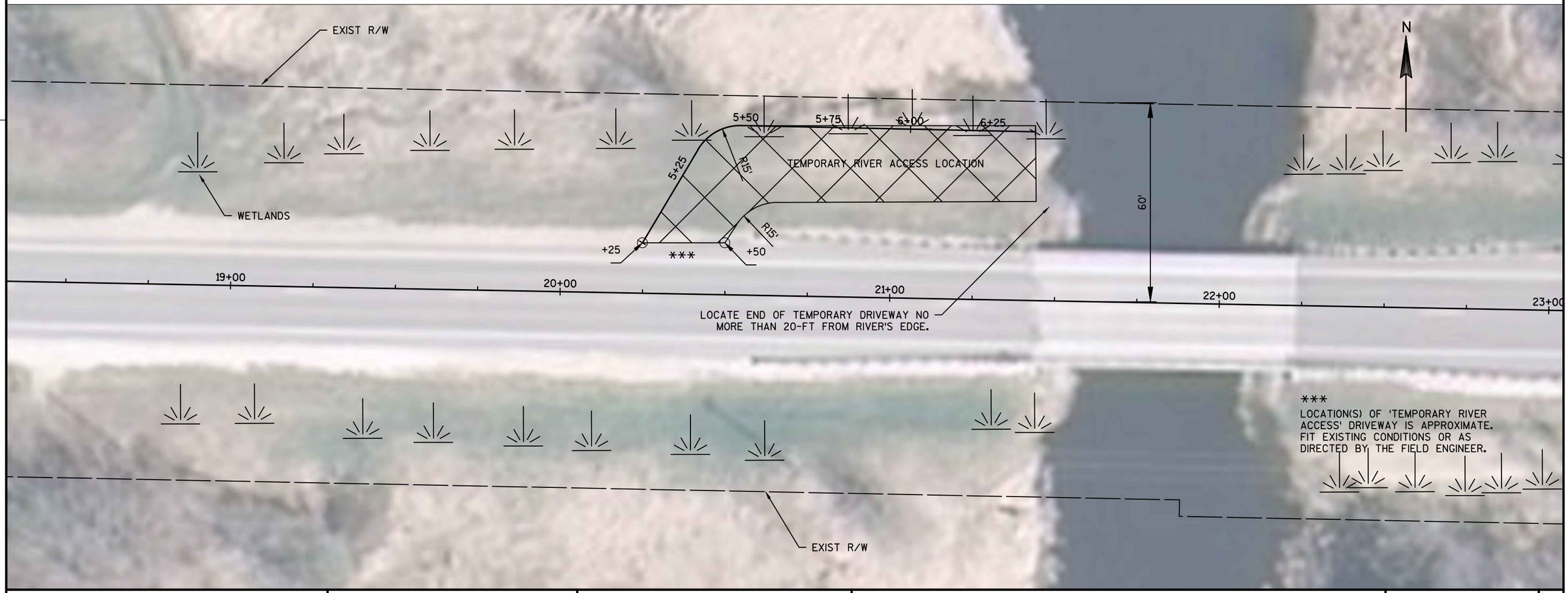
2. REMOVE TOPSOIL FROM 'TEMPORARY RIVER ACCESS' DRIVEWAY FOOTPRINT(S), BEFORE PLACING GEOGRID, TYPE SR TO CREATE A BARRIER BETWEEN TEMPORARY DRIVEWAY SELECT CRUSHED MATERIAL AND EXISTING GROUND. WHEN TEMPORARY DRIVEWAY(S) IS NOT LONGER NEEDED, REMOVE ALL MATERIALS BEFORE RESTORING THE SITE.

3. COMPACT SELECT CRUSHED AND BAD MATERIAL PER STANDARD SPECIFICATIONS SECTION 301.3.4.2 TO PROVIDE A STABLE DRIVEWAY STRUCTURE TO SUPPORT FIRE DEPARTMENT PUMPER TRUCK(S) DURING FILLING OPERATIONS. IF THE TYPICAL SECTION BAD STRUCTURE DOES NOT SUPPORT A FULL PUMPER TRUCK, REMOVE EXISTING BAD MATERIAL, PLACE ADDITIONAL GEOGRID TYPE SR, AND RECONSTRUCT TEMPORARY DRIVEWAY(S).

4. AFTER EACH USE BY THE FIRE DEPARTMENT CHECK FOR AND REPAIR ANY RUTTING OR OTHER DAMAGE THAT MAY HAVE OCCURRED. COMPLETE REPAIR WORK WITHIN THE SAME DAY.

5. DO NOT STORE ANY CONSTRUCTION EQUIPMENT OR MATERIALS ON OR NEAR THE TEMPORARY DRIVEWAY(S) DURING ITS USE OR IN ANY WAY THAT IMPEDES ACCESS TO THE RIVER BY EMERGENCY VEHICLES. WHEN AN EMERGENCY VEHICLE IS SIGHTED WITH FLASHING LIGHTS, ALL CONSTRUCTION WORK WITHIN THE VICINITY WILL COME TO AN IMMEDIATE HALT, AND ALL CONSTRUCTION STAFF WILL VERIFY THAT NO EQUIPMENT IS IMPEDING ACCESS TO THE DRIVEWAY OR THE RIVER.

2



PROJECT NO: 3576-02-81	HWY: STH 106	COUNTY: JEFFERSON	CONSTRUCTION DETAILS - TEMPORARY RIVER ACCESS DRIVEWAY	SHEET 9	E

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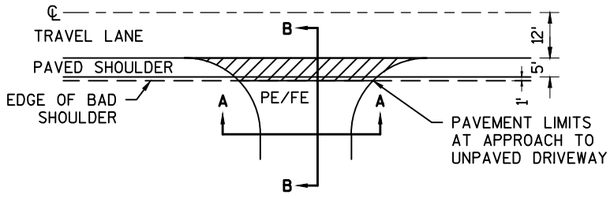
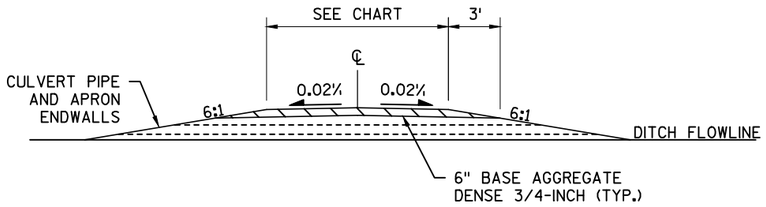
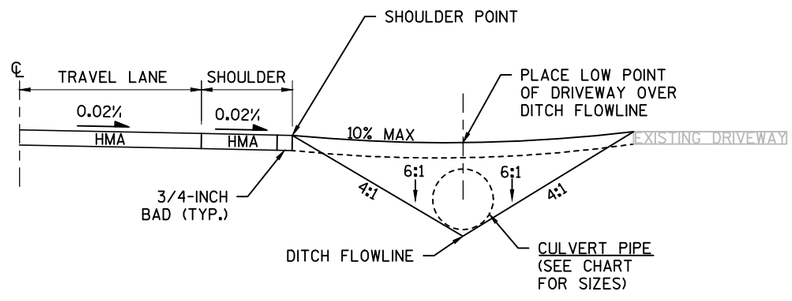
PROJECTSHEETDATA - 021001_CD - RIVER ACCESS CON DETAIL
PLOT DATE : 1/19/2017 8:35 AM PLOT BY : KENNEY, MATTHEW D PLOT NAME : PLOT SCALE : 1 IN:30 FT
WISDOT/CADDS SHEET 42



PE & FE DRIVEWAY DETAILS



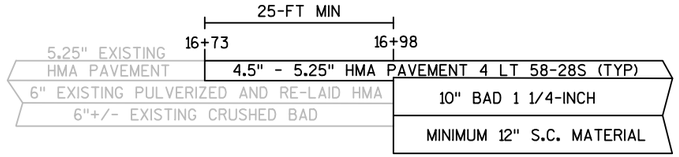
A-A DETAIL



B-B DETAIL

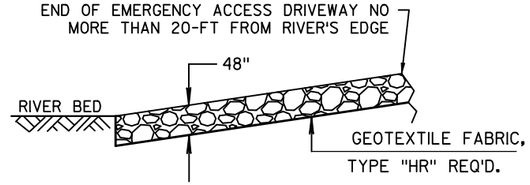
PE & FE DRIVEWAY INFORMATION			
DRIVEWAY	STA/OFF	TYPICAL WIDTH	CULVERT PIPE SIZE
PRIVATE ENTRANCE	17+76 RT	9 - FT	18-INCH
PRIVATE ENTRANCE	25+00 LT	9 - FT	18-INCH

PRIVATE OR FIELD ENTRANCE
DRIVEWAY DETAIL



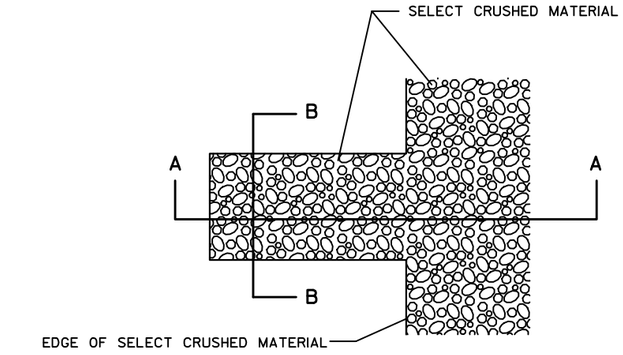
PAVEMENT STRUCTURE TRANSITION
CONSTRUCTION DETAIL

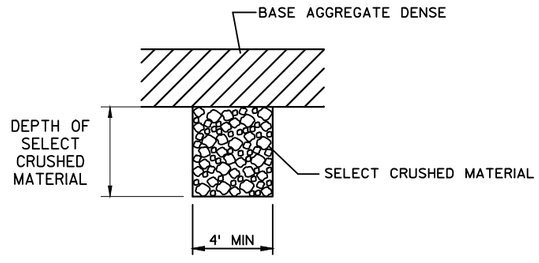
BEGIN CONSTRUCTION - STA 16+73.59 TO 16+98.59
END CONSTRUCTION - STA 27+50 TO STA 27+75



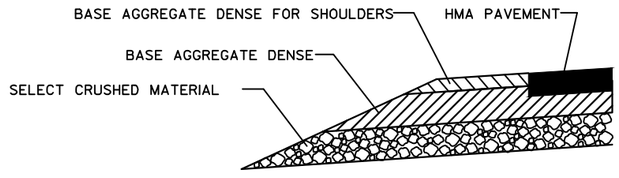
RIPRAP HEAVY ALONG RIVER
AT ACCESS DRIVEWAY

SEE EROSION CONTROL PLANS
FOR DETAILS





SECTION B-B



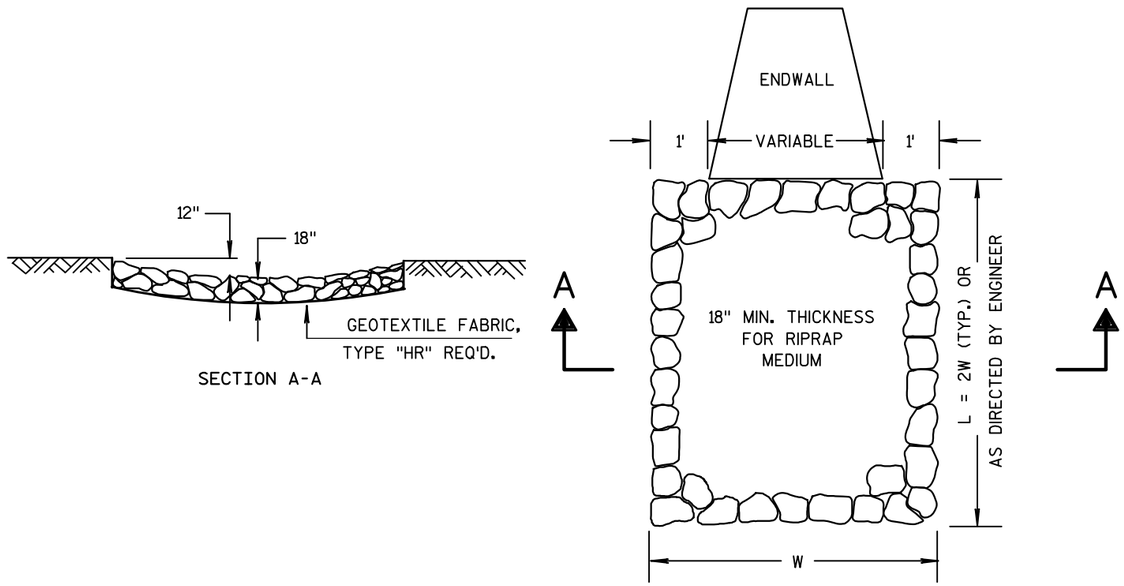
SECTION A-A

DETAIL FOR FRENCH DRAINS/WEEP

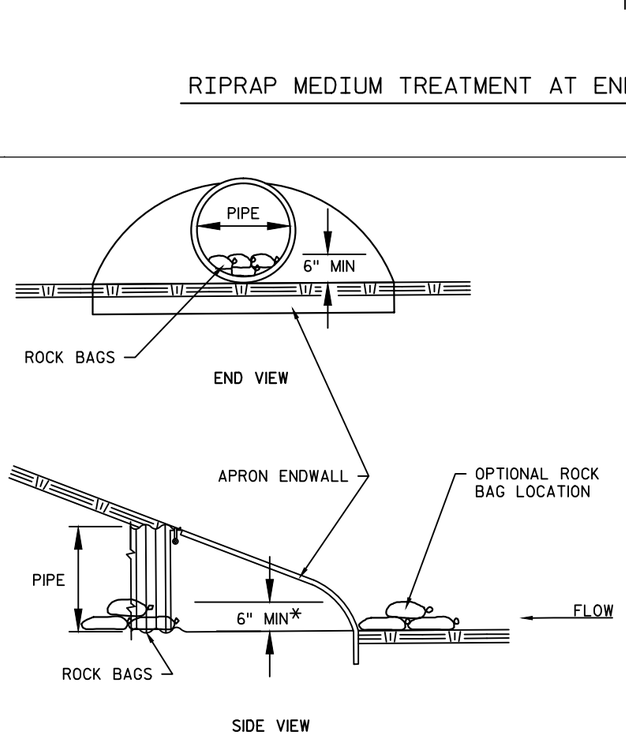
DRAINS ARE TO BE CONSTRUCTED AT LEAST EVERY 250'
OR AT ANY LOW POINT TO SUFFICENTLY DRAIN SELECT CRUSHED MATERIAL
(OR AS OTHERWISE DIRECTED BY THE FIELD ENGINEER)

EXCAVATION REQUIRED TO CONSTRUCT FRENCH DRAINS/WEEPS SHALL
BE CONSIDERED INCIDENTAL TO THE ITEM, SELECT CRUSHED MATERIAL.

DO NOT COVER FORESLOPE SELECT CRUSHED MATERIAL WITH TOPSOIL



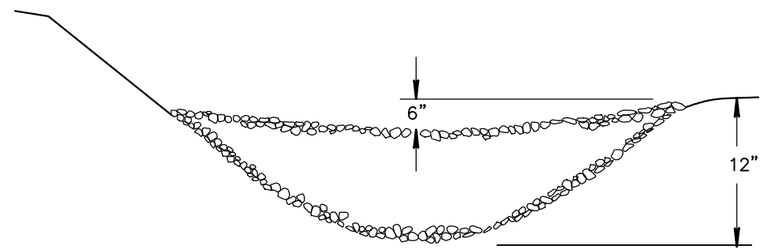
RIPRAP MEDIUM TREATMENT AT ENDWALLS

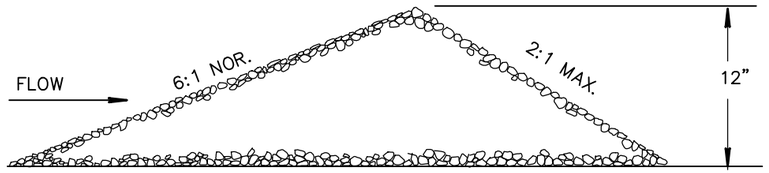


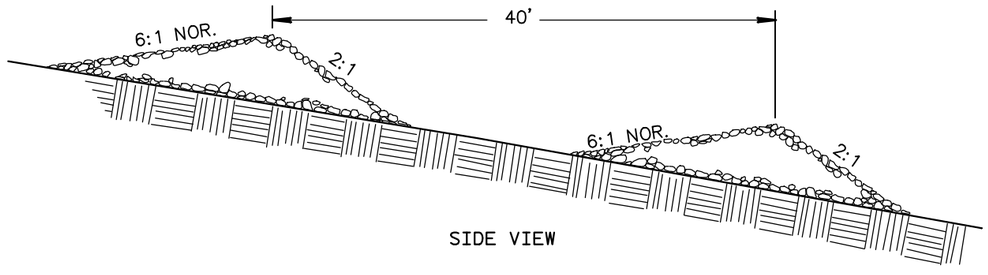
ESTIMATED BAG SIZE = 18" X 12" X 6"	
PIPE SIZE	ESTIMATED NO. OF BAGS
12"	1
15"	2
18"	2
21"	3
14" X 23"	3
24"	3
27"	4
30"	5
19" X 30"	5
36"	7
24" X 38"	8
42"	8
29" X 45"	10
48"	10
34" X 53"	10
38" X 60"	13
60"	13
66"	15
53" X 83"	19

CULVERT PIPE CHECK

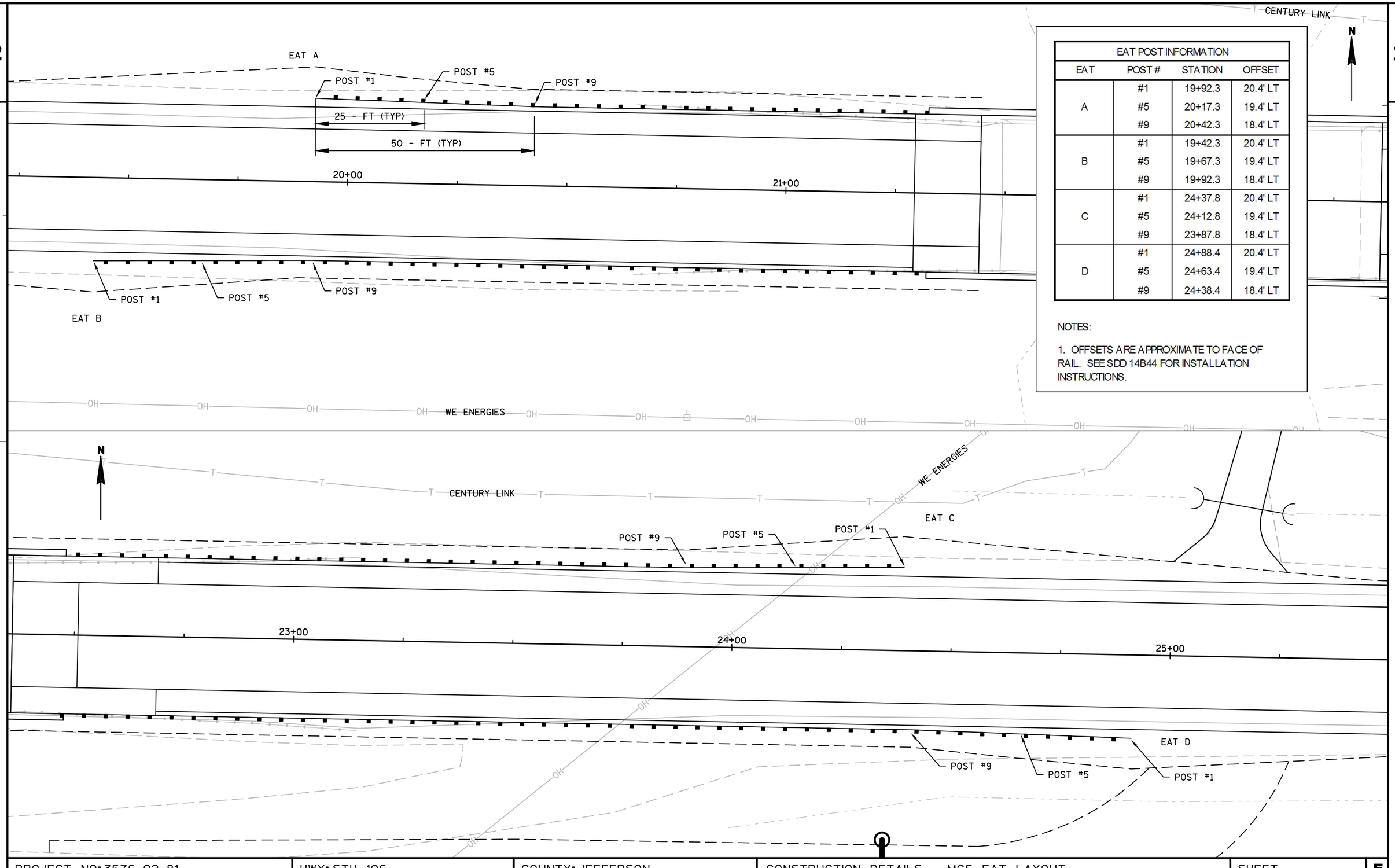
(INSTALL ON INLET END ONLY)







STONE OR ROCK DITCH CHECKS

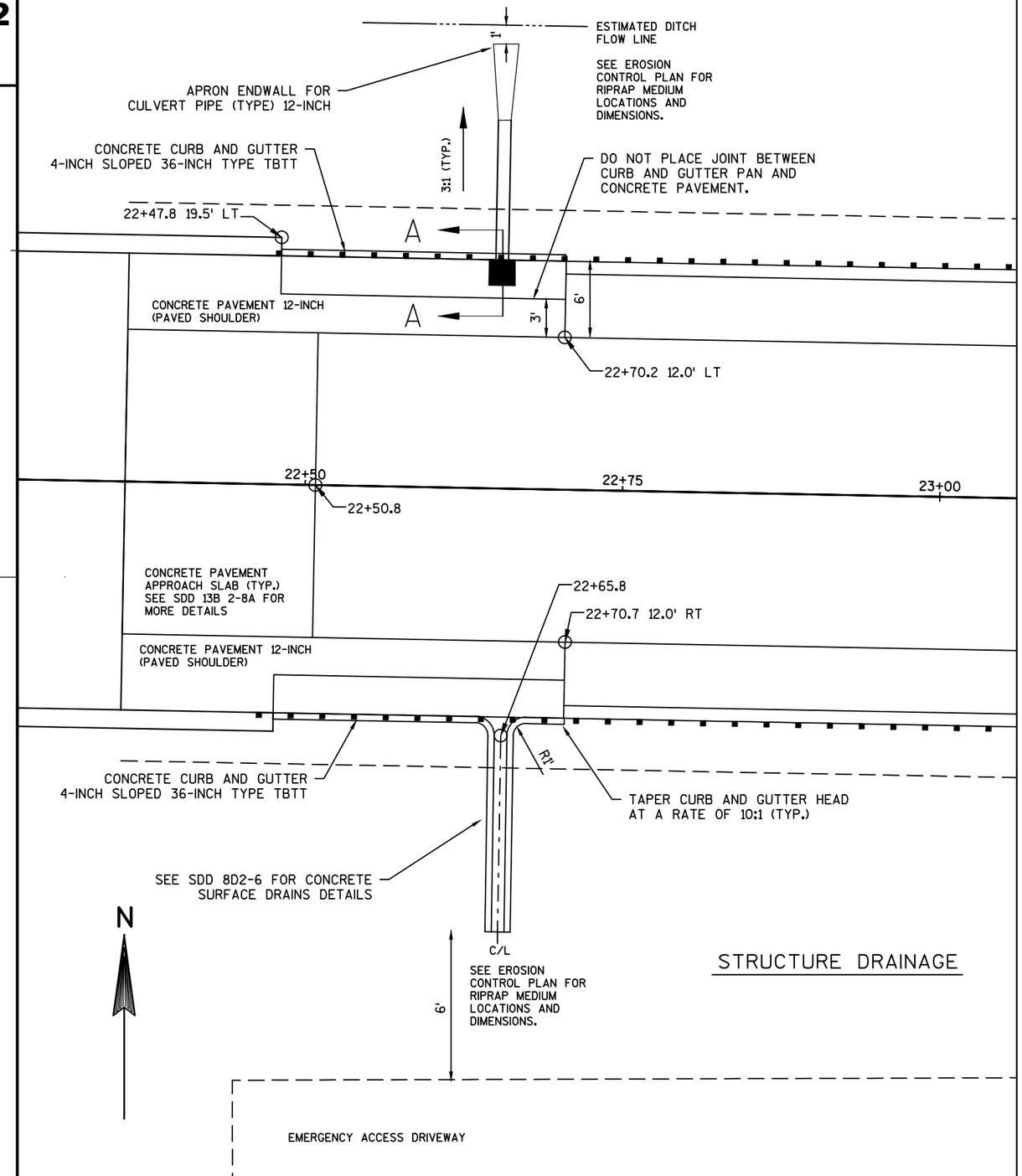


EAT POST INFORMATION			
EAT	POST #	STATION	OFFSET
A	#1	19+92.3	20.4' LT
	#5	20+17.3	19.4' LT
	#9	20+42.3	18.4' LT
B	#1	19+42.3	20.4' LT
	#5	19+67.3	19.4' LT
	#9	19+92.3	18.4' LT
C	#1	24+37.8	20.4' LT
	#5	24+12.8	19.4' LT
	#9	23+87.8	18.4' LT
D	#1	24+88.4	20.4' LT
	#5	24+63.4	19.4' LT
	#9	24+38.4	18.4' LT

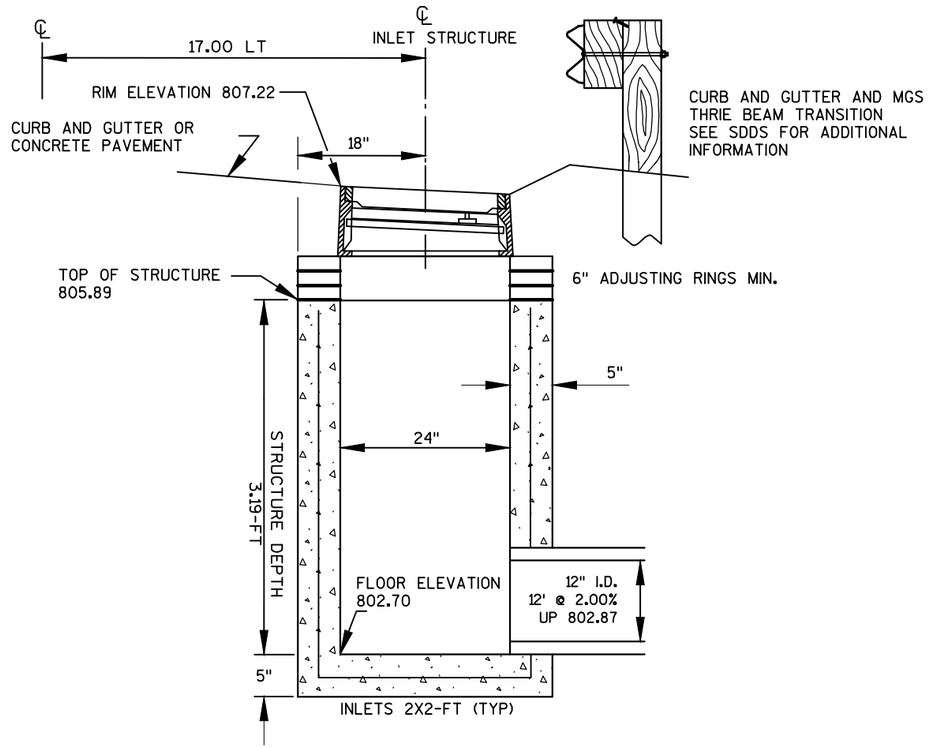
NOTES:

1. OFFSETS ARE APPROXIMATE TO FACE OF RAIL. SEE SDD 14B44 FOR INSTALLATION INSTRUCTIONS.

PROJECT NO: 3576-02-81	HWY: STH 106	COUNTY: JEFFERSON	CONSTRUCTION DETAILS - MGS EAT LAYOUT	SHEET 12	E

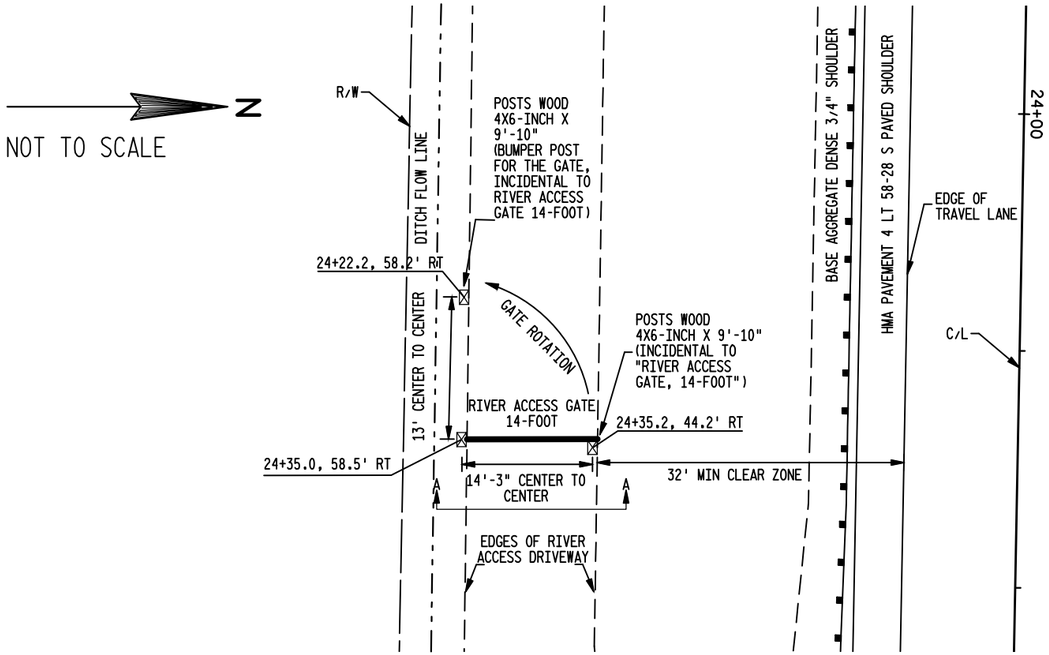


STRUCTURE DRAINAGE

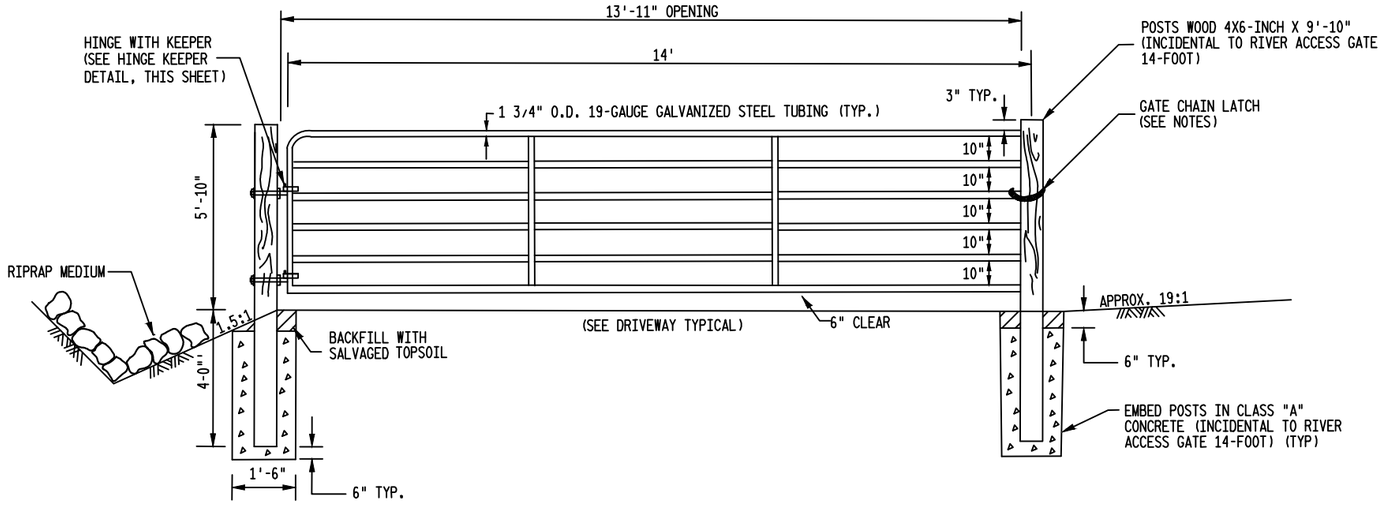


STRUCTURE DRAINAGE DROP STRUCTURE FIGURE A-A

STA 22+65.8 LT
SEE SDD 8C7-2 FOR ADDITIONAL INFORMATION



RIVER ACCESS GATE 14-FOOT (PLAN VIEW)



RIVER ACCESS GATE 14-FOOT (PROFILE VIEW)

A-A

NOTES:

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

SEE THE PLAN FOR APPROXIMATE LOCATIONS. LOCATION MAY BE ADJUSTED TO FIT FIELD CONDITIONS OR AS DIRECTED BY THE ENGINEER IN THE FIELD, BUT THE RIVER ACCESS GATE, WOOD POSTS, CLASS "A" CONCRETE, AND ALL OTHER MATERIALS ASSOCIATED WITH THE RIVER ACCESS GATE MUST REMAIN OUTSIDE THE CLEAR ZONE.

ACCESS GATES SHALL BE SHOP FABRICATED FROM 1-3/4" O.D. 19-GAUGE GALVANIZED STEEL TUBING. ALL WELDS SHALL BE DE-SLAGGED AND CLEANED.

THE COMPLETED GATE ASSEMBLY SHALL BE THOROUGHLY CLEANED AND SPRAY PRIMED WITH A RUSTPROOF PRIMER AND SPRAY FINISHED WITH TWO COATS OF A HIGH QUALITY, DURABLE ENAMEL PAINT. PAINT SHALL BE FLAT GRAY IN COLOR. PAINT SHALL BE USED TO TOUCH UP ANY DAMAGED AREAS WHICH OCCURRED DURING FABRICATION, SHIPMENT, STORAGE, OR INSTALLATION.

KEEPER TO BE ATTACHED TO TOP HINGE OF EACH GATE ONLY.

KEEPER SHALL BE FITTED AFTER THE GATE IS HUNG IN PLACE.

KEEPER TO BE OF SUCH DIMENSIONS TO PROVIDE CLEARANCE FOR LATERAL SWING.

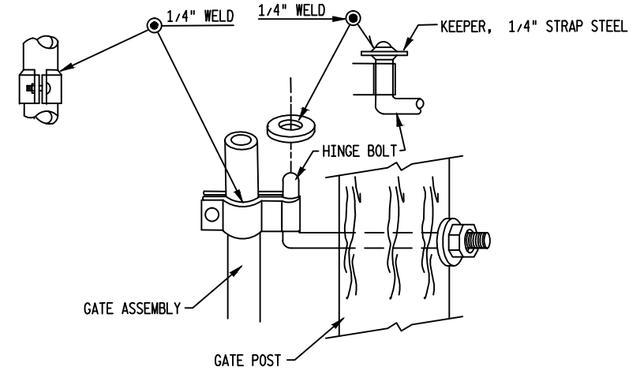
DRILL HOLE IN KEEPER OF SUFFICIENT DIAMETER TO PROVIDE SNUG FIT OVER HINGE BOLT.

ALL FIELD WELDED SURFACES SHALL BE DE-SLAGGED, CLEANED AND PRIMED WITH RUSTPROOF PRIMER AND FINISHED WITH TWO COATS OF PAINT MATCHING THE GATE ASSEMBLY PAINT.

KEYED LOCK FOR THE GATE CHAIN LATCH TO BE SUPPLIED BY THE DEPARTMENT. CONTRACTOR SHALL COORDINATE THE DELIVERY AND INSTALLATION WITH THE REGIONAL STRUCTURES MAINTENANCE MANAGER MIKE WILLIAMS, (608) 246-3250.

ATTACH CHAIN TO POST TO REDUCE CHANCE OF LOSS.

ALL LOCATIONS ARE APPROXIMATE AND TO BE DETERMINED BY THE FIELD ENGINEER BASED ON THE CLEAR ZONE WIDTH.



HINGE KEEPER

PROJECT NO: 3576-02-81	HWY: STH 106	COUNTY: JEFFERSON	CONSTRUCTION DETAILS: RIVER ACCESS GATE 14-FOOT	SHEET 14	E

2

DONALD A & JANICE I FOERSTER
W3464 STATE ROAD 106
FORT ATKINSON, WI 53538

DONALD A & JANICE I FOERSTER
W3464 STATE ROAD 106
FORT ATKINSON, WI 53538

2

N

BARK RIVER

EXIST R/W

PRIVATE FENCE

REMOVE EXISTING
FIELD ENTRANCE
AND CULVERT
PIPE.

EXISTING EAT MARKERS TO BE
PAID AS REMOVAL DELINEATOR
AND MARKERS ITEM.

PAVEMENT STRUCTURE
TRANSITION SEE
CONSTRUCTION DETAIL

SI

CENTURY LINK

STH 106

17+00 18+00 19+00 20+00 21+00 22+00

B-28-183

BEGIN PROJECT
STA 16+73.54
MATCH EXISTING
SAW CUT REQUIRED

END OF DECK
STA 21+44.30

OH OH WE ENERGIES OH OH OH OH OH OH OH OH OH OH WE ENERGIES

SI

KEN R & JENNIE LU WESTPHALL
N2478 COUNTY ROAD D
FORT ATKINSON, WI 53538

KEN R & JENNIE LU WESTPHALL
N2478 COUNTY ROAD D
FORT ATKINSON, WI 53538

CONCRETE PAVEMENT
APPROACH SLAB (TYP.)
SEE SDD 13B 2-8A FOR
MORE DETAILS

EXIST R/W

REMOVE EXISTING
PRIVATE ENTRANCE
AND CULVERT
PIPE.

PRIVATE OR FIELD
ENTRANCE DRIVEWAY

CULVERT PIPE
CORRUGATED
STEEL 18-INCH

BARK RIVER

LEGEND

- EXISTING WETLANDS

- EXISTING EAT MARKER POST OR DELINEATORS FLEXIBLE

PROJECT NO: 3576-02-81	HWY: STH 106	COUNTY: JEFFERSON	PLAN DETAILS	SHEET 15	E

2

2

N

BARK RIVER

JEFFERSON COUNTY RACCOON
& FOX HUNTERS CLUB

PRIVATE OR FIELD
ENTRANCE DRIVEWAY

REMOVE AND
REPLACE
EXISTING
CULVERT PIPE

SHARON J PETERSON TRUST
W3060 STATE ROAD 106
FORT ATKINSON, WI 53538

EXIST R/W

EXISTING EAT MARKERS TO BE
PAID AS REMOVAL DELINEATOR
AND MARKERS ITEM.

EXISTING FIRE NUMBER SIGN (TO
BE REMOVED AND REPLACED BY
THE TOWN OF HEBRON)

GUY

SIGN

SIGN

CAUTION

SI

CENTURY LINK

WE ENERGIES

END PROJECT
STA 27+75
MATCH EXISTING
SAW CUT REQUIRED

END OF DECK
STA 22+35.80

CENTURY LINK

22+00

23+00

24+00

25+00

26+00

27+00

B-28-183

CAUTION

STH 106

CONCRETE PAVEMENT
APPROACH SLAB (TYP.)
SEE SDD 13B 2-8A FOR
MORE DETAILS

PAVEMENT STRUCTURE
TRANSITION SEE
CONSTRUCTION DETAIL

SI

GUY

WE ENERGIES

SEE STRUCTURE
DRAINAGE CONSTRUCTION
DETAIL FOR DROP INLET
AND FLUME DETAILS.

REMOVE EXISTING
RIVER ACCESS
DRIVEWAY

EXIST R/W

RIVER ACCESS GATE 14-FT
SEE CONSTRUCTION DETAIL

MARK A MACK TRUST
W3077 STATE ROAD 106
FORT ATKINSON, WI 53538

BARK RIVER

RALPH G JONAS
C/O ADAM JONAS

LEGEND

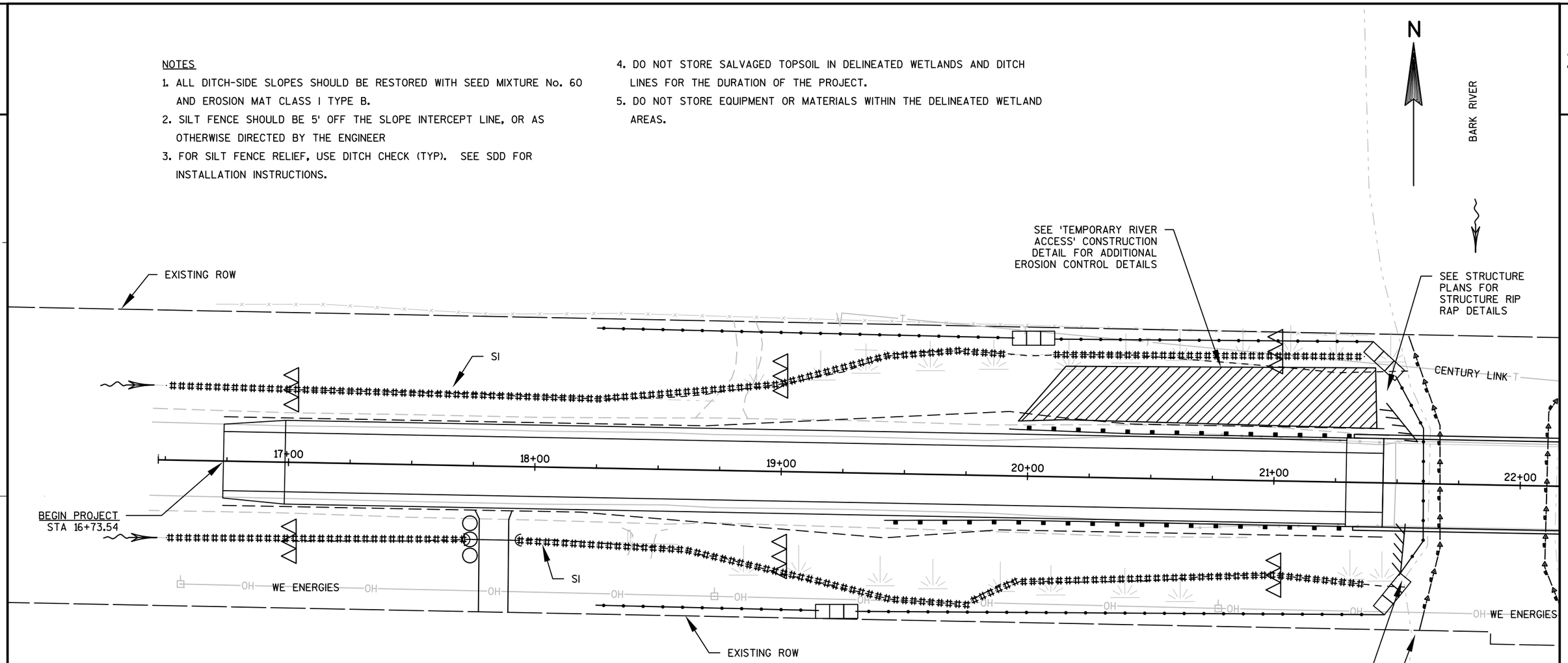
- EXISTING WETLANDS

- EXISTING EAT MARKER
POST OR DELINEATORS
FLEXIBLE

PROJECT NO: 3576-02-81	HWY: STH 106	COUNTY: JEFFERSON	PLAN DETAILS	SHEET 16	E

NOTES

1. ALL DITCH-SIDE SLOPES SHOULD BE RESTORED WITH SEED MIXTURE No. 60 AND EROSION MAT CLASS I TYPE B.
2. SILT FENCE SHOULD BE 5' OFF THE SLOPE INTERCEPT LINE, OR AS OTHERWISE DIRECTED BY THE ENGINEER
3. FOR SILT FENCE RELIEF, USE DITCH CHECK (TYP). SEE SDD FOR INSTALLATION INSTRUCTIONS.
4. DO NOT STORE SALVAGED TOPSOIL IN DELINEATED WETLANDS AND DITCH LINES FOR THE DURATION OF THE PROJECT.
5. DO NOT STORE EQUIPMENT OR MATERIALS WITHIN THE DELINEATED WETLAND AREAS.



LEGEND

- TEMPORARY DITCH CHECK
- EROSION MAT URBAN CLASS I TYPE A
- CULVERT PIPE CHECKS
- ROCK CHECKS
- SILT FENCE
- EROSION BALES
- SURFACE AND RIVER WATER FLOW
- TEMPORARY RIVER ACCESS
- TURBIDITY BARRIERS
- EXISTING WETLANDS
- RIP RAP (SIZE)

PROJECT NO: 3576-02-81	HWY: STH 106	COUNTY: JEFFERSON	EROSION CONTROL	SHEET 17 E

NOTES

1. ALL DITCH-SIDE SLOPES SHOULD BE RESTORED WITH SEED MIXTURE No. 60 AND EROSION MAT CLASS I TYPE B.
2. SILT FENCE SHOULD BE 5' OFF THE SLOPE INTERCEPT LINE, OR AS OTHERWISE DIRECTED BY THE ENGINEER
3. FOR SILT FENCE RELIEF, USE DITCH CHECK (TYP). SEE SDD FOR INSTALLATION INSTRUCTIONS.
4. DO NOT STORE SALVAGED TOPSOIL IN DELINEATED WETLANDS AND DITCH LINES FOR THE DURATION OF THE PROJECT.
5. DO NOT STORE EQUIPMENT OR MATERIALS WITHIN THE DELINEATED WETLAND AREAS.

N

BARK RIVER

ESTIMATED TURBIDITY BARRIER TOP ELEVATION AT 799.10' FOR BOTH EAST AND WEST ABUTMENTS. SEE SDD 8E 11-2 FOR ADDITIONAL INFORMATION. INSTALL PER SDD TO FIT FIELD CONDITIONS OR AS OTHERWISE DIRECTED BY THE FIELD ENGINEER.

SEE STRUCTURE PLANS FOR STRUCTURE RIP RAP DETAILS

RIP RAP MEDIUM

EXISTING ROW

CENTURY LINK

6'

9'

SI

CENTURY LINK

22+00 23+00 24+00 25+00 26+00 27+00

INLET PROTECTION TYPE B

14.5'

9'

END PROJECT STA 27+75

SI

WE ENERGIES

RIP RAP HEAVY

RIP RAP MEDIUM

SILT FENCE

EXISTING ROW

RIP RAP MEDIUM

USE ROCK CHECKS DURING STRUCTURE CONSTRUCTION TO MITIGATE WATER FROM BEHIND ABUTMENTS AND WING WALLS SCOURING FILL, BREAKING THROUGH SILT FENCE, AND CAUSING A RELEASE. INCIDENTAL TO SELECT CRUSHED MATERIAL.

BARK RIVER

LEGEND

- TEMPORARY DITCH CHECK
- EROSION MAT URBAN CLASS I TYPE A
- CULVERT PIPE CHECKS
- ROCK CHECKS
- SILT FENCE
- EROSION BALES
- SURFACE AND RIVER WATER FLOW
- TEMPORARY RIVER ACCESS
- TURBIDITY BARRIERS
- EXISTING WETLANDS
- RIP RAP (SIZE)

PROJECT NO: 3576-02-81	HWY: STH 106	COUNTY: JEFFERSON	EROSION CONTROL	SHEET 18	E

2

2

N

EXISTING ROW

ESTIMATED LOCATION OF CHANGE FROM PAVEMENT MARKING EPOXY, 4-INCH SKIPS TO NO PASSING DOUBLE YELLOW LINES, STA 16+50 CL TO STA 18+40 CL.

CENTURY LINK

REMOVE

1R-02

SW

+50

17+00

18+00

YS

19+00

20+00

21+00

22+00

+40

1-01

1R-01

NO PASSING ZONE

REMOVE

W14-3
48"X36"

+51

WE ENERGIES

1R-03

1R-04

1R-05

1R-06

1M-01

GUY

SIGN

EXISTING FIRE NUMBER SIGN (TO BE REMOVED AND REPLACED BY THE TOWN OF HEBRON). CONTACT TOWN OF HEBRON FOR REMOVAL COORDINATION.

23+00

24+00

25+00

26+00

27+00

28+00

+31

+24

+46

+00

+89

+78

+82

+88

+18

+36

GLACIAL HERITAGE AREA WATERTRAIL

SPONSORED BY: HEBRON HELPING HANDS 4-H CLUB

FIRE TRUCK SERVICE LANE

PARKING STRICTLY PROHIBITED

TOWN OF HEBRON

1-02

1-03

SIGNS 1-02 AND 1-03 TO BE PROVIDED BY THE TOWN OF HEBRON

LEGEND

YS - PAVEMENT MARKING EPOXY, 4-INCH (YELLOW SKIPS)

SW - PAVEMENT MARKING EPOXY, 4-INCH (SOLID WHITE)

- EXISTING SIGN TO BE REMOVED

- PROPOSED SIGNS TYPE II MOUNTED ON POST(S)

- DELINEATORS FLEXIBLE

PROJECT NO: 3576-02-81	HWY: STH 106	COUNTY: JEFFERSON	PAVEMENT MARKING & PERMANENT SIGNS	SHEET 19	E

2

2

N

MESSAGE

BRIDGE CLOSED

STARTING (DATE)

PCMS

PCMS

PCMS

PROJECT NO: 3576-02-81	HWY: STH 106	COUNTY: JEFFERSON	TRAFFIC CONTROL PCMS	SHEET 20	E

FILE NAME : N:\PDS\C3D\35760201\SHEETSPLAN\0270_DT - DETOUR\027001_DT - STH DETOUR.DWG PLOT DATE : 1/13/2017 10:07 AM PLOT BY : KENNEY, MATTHEW D PLOT NAME :

WISDOT/CADDS SHEET 42

2

2

R11-2B
48" X 30"

BRIDGE OUT

TYPE III BARRICADE
(TYP)

<--OR-->

TYPE III BARRICADE
(TYP)

SEE SDD 15C 2-5A FOR TRAFFIC CONTROL SIGNS AND BARRICADE TYPE III SPACING.

STAGGER TYPE III BARRICADES TO ALLOW ACCESS TO TEMPORARY RIVER ACCESS DRIVEWAY FOR THE TOWN OF ROME FIRE DEPARTMENT AS WELL AS PATRONS TO THE FOX AND COON HUNTERS CLUB.

HEBRON/JEFFERSON COUNTY RACCOON AND FOX HUNTER'S CLUB - PRIVATE DRIVEWAY

N

ROAD CLOSED 500 FT
W20-3-D

<--AND-->

ROAD CLOSED 1000 FT
W20-3-C

PRIVATE FIELD ENTRANCE

STH 106

B-28-183

STH 106

ROAD CLOSED 1000 FT
W20-3-C

<--AND-->

ROAD CLOSED 500 FT
W20-3-D

EXISTING RIVER ACCESS

SEE CONSTRUCTION DETAIL 'TEMPORARY RIVER ACCESS' AND PROJECT SPECIALS FOR INFORMATION ABOUT PROVIDING ACCESS TO THE RIVER FOR THE TOWN OF ROME FIRE DEPARTMENT DURING CONSTRUCTION OPERATIONS.

NOTE: ALL SIGNS ON THIS PAGE ARE PAID AS TRAFFIC CONTROL SIGNS.

LEGEND

- Ⓐ - TC TYPE A WARNING LIGHT (FLASHING)
- TC BARRICADE TYPE III
- TC BARRICADE TYPE III WITH MOUNTED TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL SIGN
- WORK ZONE

PROJECT NO: 3576-02-81	HWY: STH 106	COUNTY: JEFFERSON	TRAFFIC CONTROL AT BRIDGE	SHEET 21	E

FORT ATKINSON

BEGIN DETOUR ROUTE

SEE BLOWUP #1

SEE BLOWUP #6

STH 106

CTH N

SEE BLOWUP #5

CTH D

PROJECT LOCATION

SEE BLOWUP #4

HEBRON

STH 106

NOTE: ALL SIGNS ON THIS PAGE ARE PAID AS DETOUR SIGNS.

END DETOUR ROUTE

SEE BLOWUP #3

PALMYRA

SEE BLOWUP #2

WHITEWATER

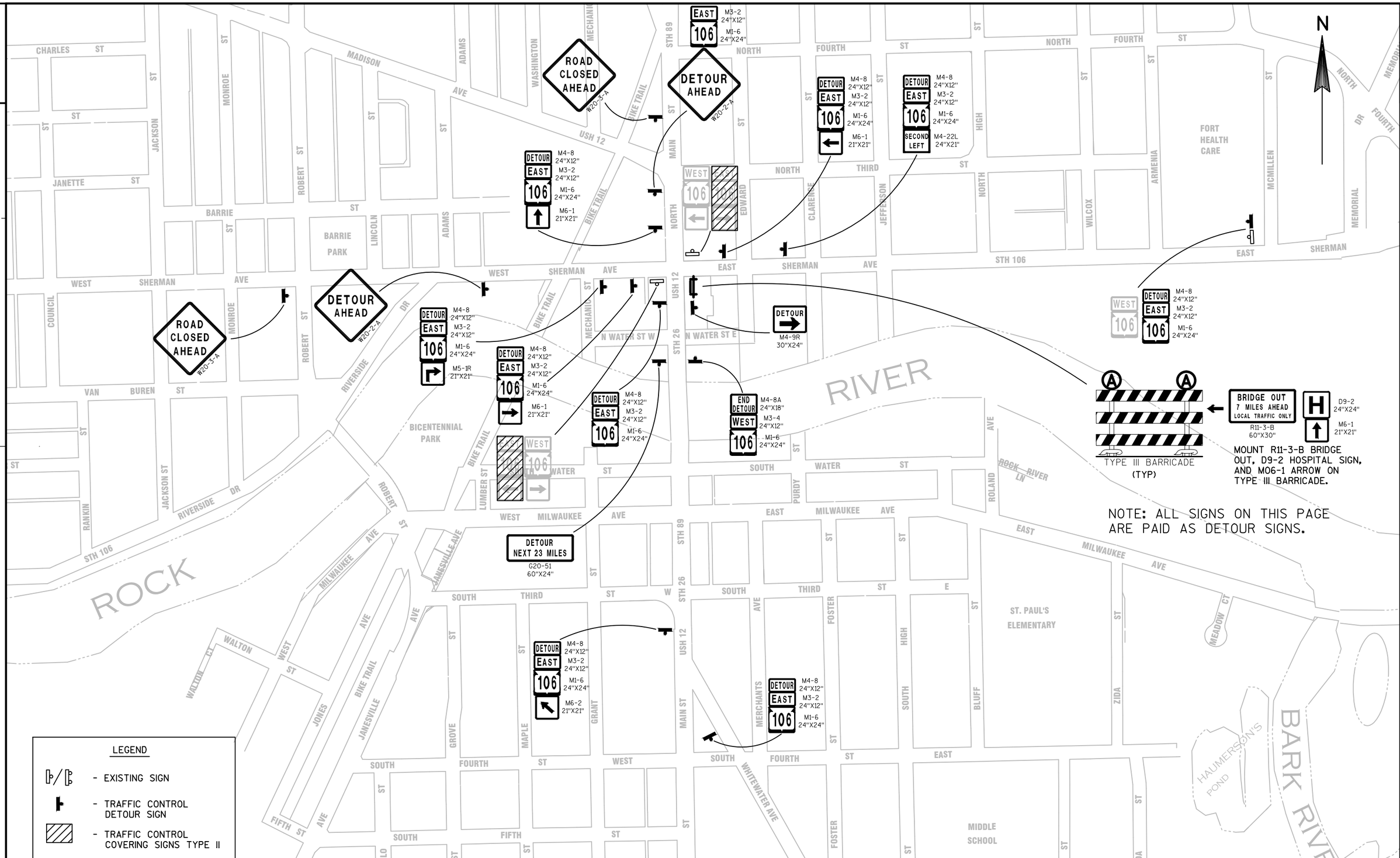
DETOUR EAST 106 M4-8 24"X12" M3-2 24"X12" M1-6 24"X24"

DETOUR WEST 106 M4-8 24"X12" M3-4 24"X12" M1-6 24"X24"

LEGEND

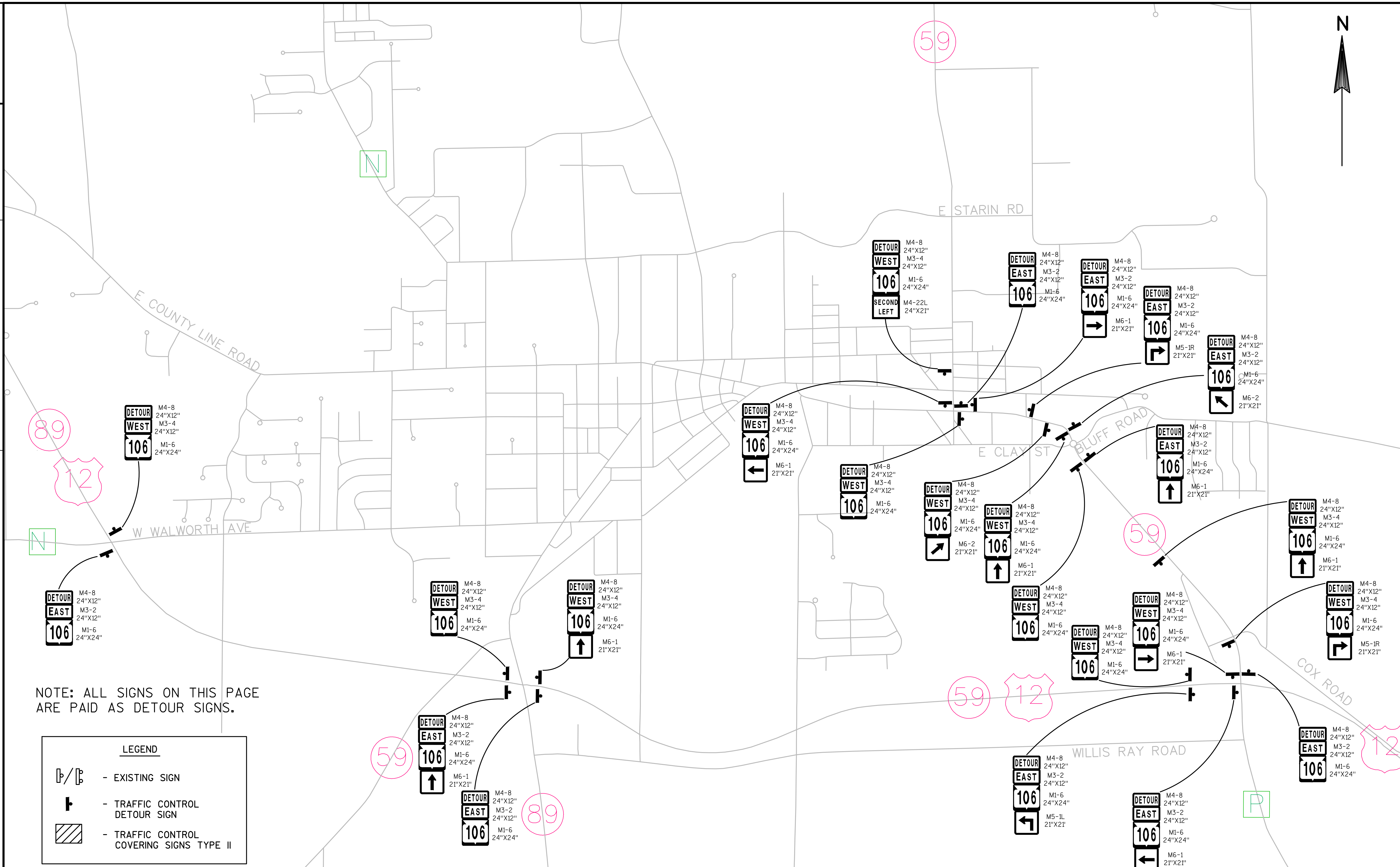
- DETOUR ROUTE
- EXISTING SIGN
- TRAFFIC CONTROL DETOUR SIGN

PROJECT NO: 3576-02-81	HWY: STH 106	COUNTY: JEFFERSON	DETOUR ROUTE - OVERVIEW	SHEET 22	E



PROJECT NO: 3576-02-81	HWY: STH 106	COUNTY: JEFFERSON	DETOUR ROUTE - BLOW UP #1	SHEET 23	E

FILE NAME : N:\PDS\C3D\35760201\SHEETSPLAN\0270_DT - DETOUR\027001_DT - STH DETOUR.DWG PLOT DATE : 2/10/2016 8:30 AM PLOT BY : KENNEY, MATTHEW D PLOT NAME : PLOT SCALE : 1 IN:400 FT



PROJECT NO: 3576-02-81	HWY: STH 106	COUNTY: JEFFERSON	DETOUR ROUTE - BLOW UP #2	SHEET 24	E

FILE NAME : N:\PDS\C3D\35760201\SHEETSPLAN\0270_DT - DETOUR\027001_DT - STH DETOUR.DWG PLOT DATE : 2/10/2016 8:30 AM PLOT BY : KENNEY, MATTHEW D PLOT NAME : PLOT SCALE : 1 IN:1500 FT

2

N

106

59

DETOUR
WEST
106
M4-8 24"X12"
M3-4 24"X12"
M1-6 24"X24"
M5-1R 21"X21"

DETOUR
WEST
106
M4-8 24"X12"
M3-4 24"X12"
M1-6 24"X24"
M6-1 21"X21"

BRIDGE OUT
8 MILES AHEAD
LOCAL TRAFFIC ONLY
R11-3-B 60"X30"

DETOUR
WEST WEST
59 106
M4-8 24"X12"
M6-1 21"X21"

DETOUR
WEST
106
M4-8 24"X12"
M3-4 24"X12"
M1-6 24"X24"

DETOUR
NEXT 23 MILES
G20-51 60"X24"

DETOUR
WEST
106
NEXT
LEFT
M4-8 24"X12"
M3-4 24"X12"
M1-6 24"X24"
M4-21L 24"X21"

WEST
106
M3-4 24"X12"
M1-6 24"X24"

DETOUR AHEAD
W20-2-A

ROAD CLOSED AHEAD
W20-3-A

M4-8A 24"X18"
END DETOUR
M3-2 24"X12"
EAST
JCT
106

WEST EAST
106 59

WEST EAST
59

NOTE: ALL SIGNS ON THIS PAGE ARE PAID AS DETOUR SIGNS.

LEGEND

- EXISTING SIGN
- TRAFFIC CONTROL DETOUR SIGN
- TC BARRICADE TYPE III WITH MOUNTED TC DETOUR SIGN
- TRAFFIC CONTROL COVERING SIGNS TYPE II

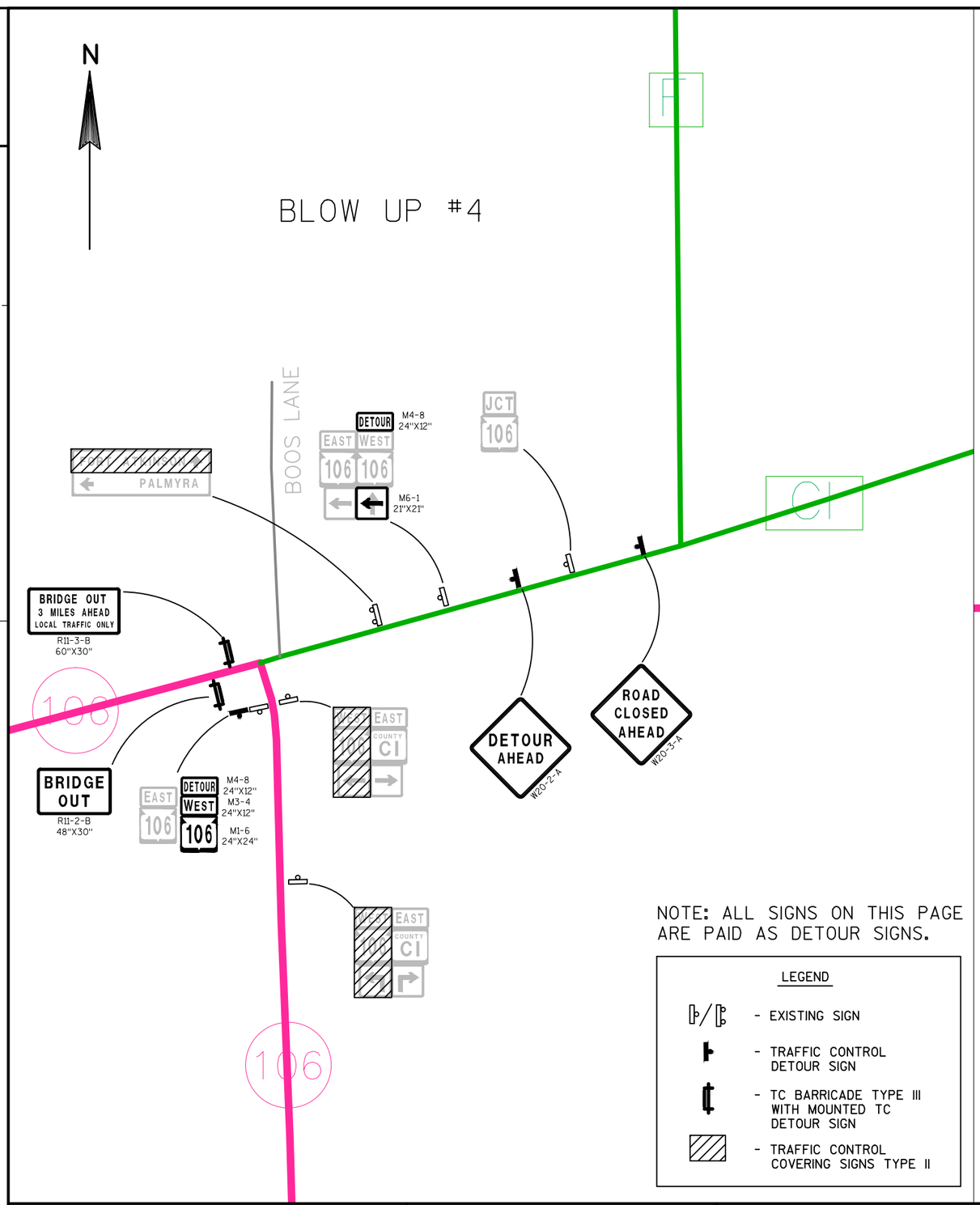
TROTTERS LANE
"E" CTH
LITTLE STREET
STREET
FIRST STREET
POWERS STREET
DRIVE
W
LINCOLN STREET
WASHINGTON AVENUE
NORTHWEST
STREET
SECOND STREET
WISCONSIN STREET
JEFFERSON STREET
MILL ROAD
SPRING LAKE
ANEMONE AVENUE
DRIVE
MAPLE STREET
FOURTH STREET
TAFT STREET
THIRD STREET
MAIN STREET
FIFTH STREET
SECOND STREET
CHESTNUT STREET
BEECH STREET
BURR OAK STREET
GROVE AVENUE
HILLCREST DRIVE
SHORE ROAD
LOCUST STREET
SPRING VALLEY CT
RIDGE
VIOLET AVENUE
SOUTHERN RAILROAD
EAST BLUFF STREET

PROJECT NO: 3576-02-81	HWY: STH 106	COUNTY: JEFFERSON	DETOUR ROUTE - BLOW UP #3	SHEET 25	E

2

N

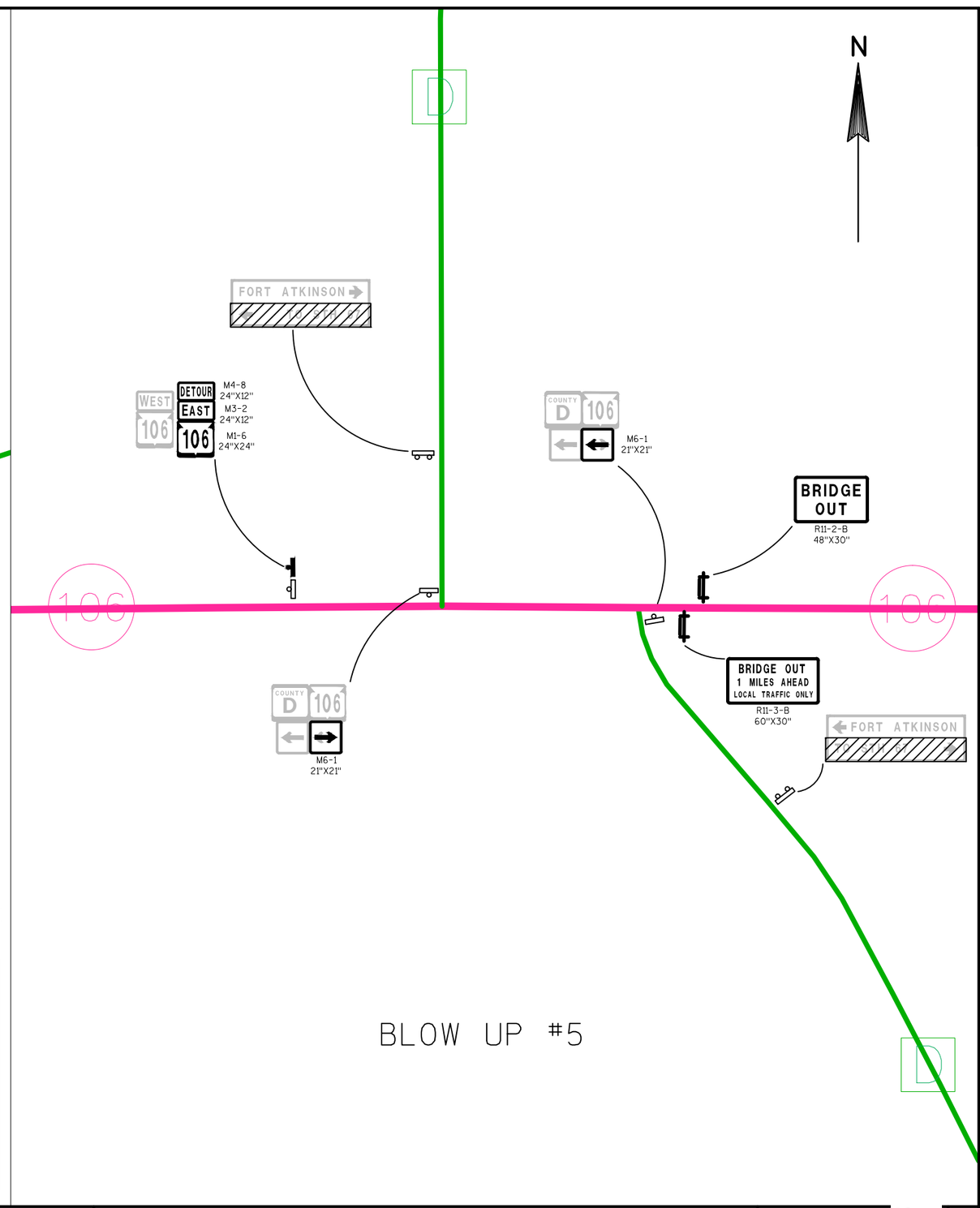
BLOW UP #4



NOTE: ALL SIGNS ON THIS PAGE ARE PAID AS DETOUR SIGNS.

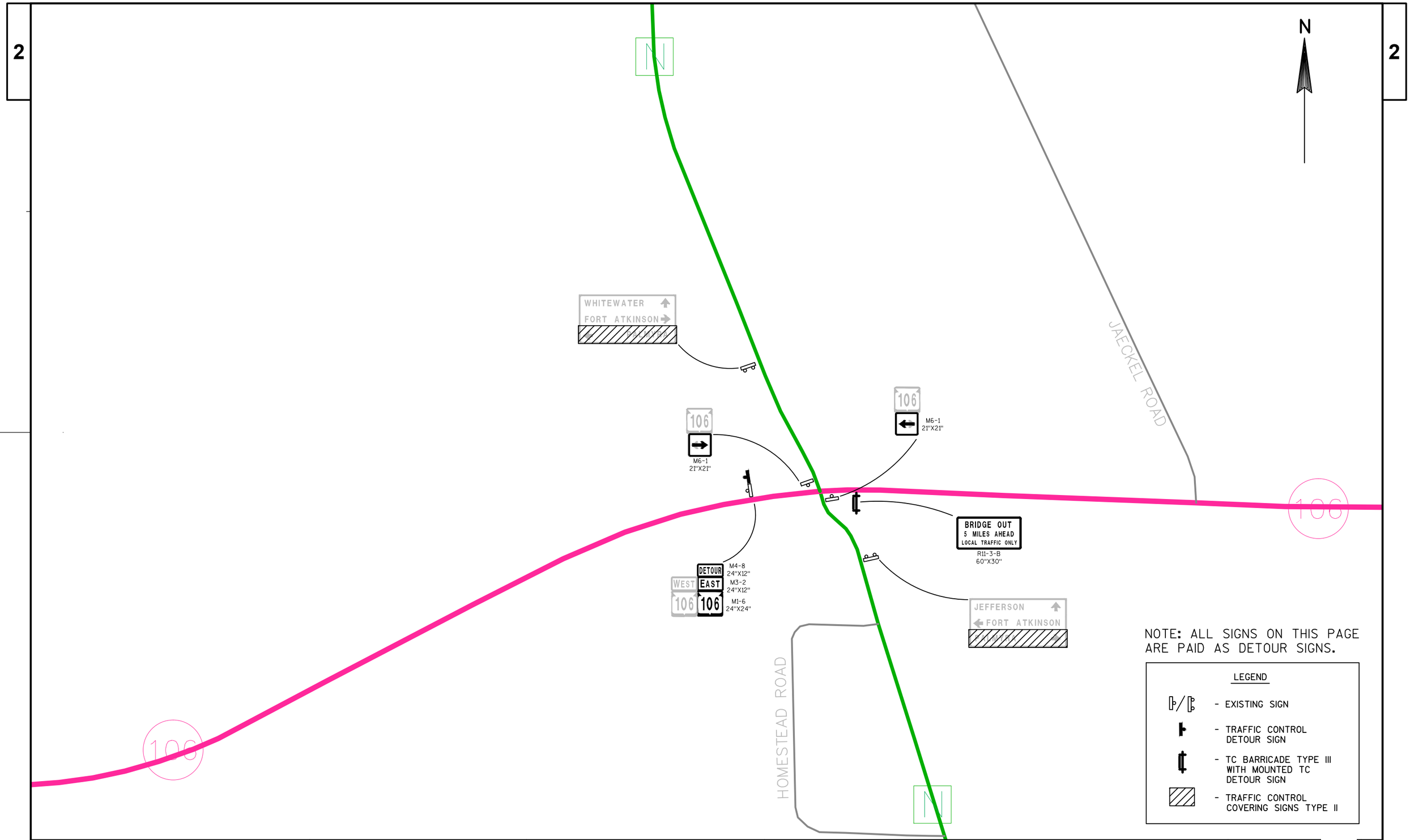
LEGEND

- EXISTING SIGN
- TRAFFIC CONTROL DETOUR SIGN
- TC BARRICADE TYPE III WITH MOUNTED TC DETOUR SIGN
- TRAFFIC CONTROL COVERING SIGNS TYPE II



BLOW UP #5

PROJECT NO: 3576-02-81	HWY: STH 106	COUNTY: JEFFERSON	DETOUR ROUTE - BLOW UP #4 & BLOW UP #5	SHEET 26	E



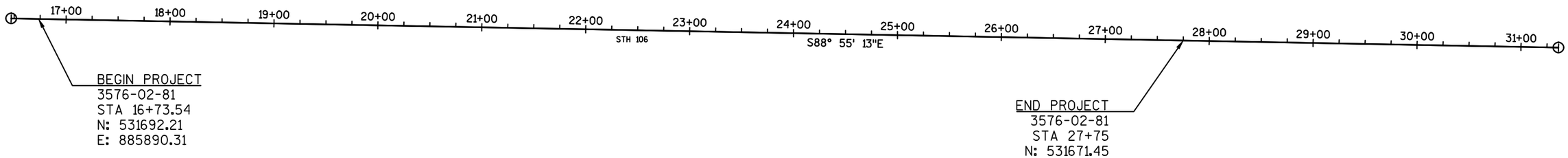
PROJECT NO: 3576-02-81	HWY: STH 106	COUNTY: JEFFERSON	DETOUR ROUTE - BLOW UP #6	SHEET 27	E

2

N

BP: 16+47.14
N: 531692.60
E: 885863.97

EP: 31+36.21
N: 531664.84
E: 887352.65



PROJECT NO: 3576-02-81	HWY: STH 106	COUNTY: JEFFERSON	ALIGNMENT OVERVIEW	SHEET 28	E

Estimate Of Quantities

3576-02-81

Line	Item	Item Description	Unit	Total	Qty
0010	201.0110	Clearing	SY	687.000	687.000
0020	201.0210	Grubbing	SY	687.000	687.000
0030	203.0100	Removing Small Pipe Culverts	EACH	3.000	3.000
0040	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 21+90	LS	1.000	1.000
0050	204.0165	Removing Guardrail	LF	344.000	344.000
0060	204.0180	Removing Delineators and Markers	EACH	8.000	8.000
0070	205.0100	Excavation Common	CY	2,332.000	2,332.000
0080	206.1000	Excavation for Structures Bridges (structure) 01. B-28-183	LS	1.000	1.000
0090	210.1500	Backfill Structure Type A	TON	400.000	400.000
0100	213.0100	Finishing Roadway (project) 01. 3756-02-81	EACH	1.000	1.000
0110	305.0110	Base Aggregate Dense 3/4-Inch	TON	280.000	280.000
0120	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	2,712.000	2,712.000
0130	312.0110	Select Crushed Material	TON	3,757.000	3,757.000
0140	415.0120	Concrete Pavement 12-Inch	SY	50.000	50.000
0150	415.0410	Concrete Pavement Approach Slab	SY	80.000	80.000
0160	416.1010	Concrete Surface Drains	CY	1.000	1.000
0170	455.0605	Tack Coat	GAL	92.000	92.000
0180	460.2000	Incentive Density HMA Pavement	DOL	740.000	740.000
0190	460.5224	HMA Pavement 4 LT 58-28 S	TON	925.000	925.000
0200	502.0100	Concrete Masonry Bridges	CY	260.000	260.000
0210	502.3200	Protective Surface Treatment	SY	370.000	370.000
0220	502.3210	Pigmented Surface Sealer	SY	100.000	100.000
0230	503.0146	Prestressed Girder Type I 45W-Inch	LF	360.000	360.000
0240	505.0400	Bar Steel Reinforcement HS Structures	LB	4,260.000	4,260.000
0250	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	31,830.000	31,830.000
0260	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	8.000	8.000
0270	506.4000	Steel Diaphragms (structure) 01. B-28-183	EACH	6.000	6.000
0280	516.0500	Rubberized Membrane Waterproofing	SY	24.000	24.000
0290	521.0118	Culvert Pipe Corrugated Steel 18-Inch	LF	80.000	80.000
0300	521.1018	Apron Endwalls for Culvert Pipe Steel 18-Inch	EACH	4.000	4.000
0310	522.0312	Culvert Pipe Reinforced Concrete Class IV 12-Inch	LF	12.000	12.000
0320	522.1012	Apron Endwalls for Culvert Pipe Reinforced Concrete 12-Inch	EACH	1.000	1.000
0330	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	900.000	900.000
0340	601.0590	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBTT	LF	42.000	42.000
0350	606.0200	Riprap Medium	CY	41.000	41.000
0360	606.0300	Riprap Heavy	CY	376.000	376.000
0370	611.0654	Inlet Covers Type V	EACH	1.000	1.000

Line	Item	Item Description	Unit	Total	Qty
0380	611.3220	Inlets 2x2-FT	EACH	1.000	1.000
0390	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	160.000	160.000
0400	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0410	614.2300	MGS Guardrail 3	LF	400.000	400.000
0420	614.2500	MGS Thrie Beam Transition	LF	158.000	158.000
0430	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0440	618.0100	Maintenance And Repair of Haul Roads (project) 01. 3576-02-81	EACH	1.000	1.000
0450	619.1000	Mobilization	EACH	1.000	1.000
0460	624.0100	Water	MGAL	26.000	26.000
0470	625.0500	Salvaged Topsoil	SY	2,031.000	2,031.000
0480	628.1104	Erosion Bales	EACH	90.000	90.000
0490	628.1504	Silt Fence	LF	2,163.000	2,163.000
0500	628.1520	Silt Fence Maintenance	LF	2,163.000	2,163.000
0510	628.1905	Mobilizations Erosion Control	EACH	6.000	6.000
0520	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0530	628.2006	Erosion Mat Urban Class I Type A	SY	3,848.000	3,848.000
0540	628.6005	Turbidity Barriers	SY	171.000	171.000
0550	628.7010	Inlet Protection Type B	EACH	1.000	1.000
0560	628.7504	Temporary Ditch Checks	LF	162.000	162.000
0570	628.7515.S	Stone or Rock Ditch Checks	CY	84.000	84.000
0580	628.7555	Culvert Pipe Checks	EACH	8.000	8.000
0590	630.0160	Seeding Mixture No. 60	LB	51.000	51.000
0600	633.0200	Delineators Flexible	EACH	9.000	9.000
0610	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	3.000	3.000
0620	637.2210	Signs Type II Reflective H	SF	6.000	6.000
0630	638.2102	Moving Signs Type II	EACH	1.000	1.000
0640	638.2602	Removing Signs Type II	EACH	6.000	6.000
0650	638.3000	Removing Small Sign Supports	EACH	7.000	7.000
0660	642.5401	Field Office Type D	EACH	1.000	1.000
0670	643.0100	Traffic Control (project) 01. 3576-02-81	EACH	1.000	1.000
0680	643.0300	Traffic Control Drums	DAY	1,010.000	1,010.000
0690	643.0420	Traffic Control Barricades Type III	DAY	1,717.000	1,717.000
0700	643.0705	Traffic Control Warning Lights Type A	DAY	2,828.000	2,828.000
0710	643.0900	Traffic Control Signs	DAY	808.000	808.000
0720	643.0920	Traffic Control Covering Signs Type II	EACH	10.000	10.000
0730	643.1050	Traffic Control Signs PCMS	DAY	28.000	28.000
0740	643.2000	Traffic Control Detour (project) 01. 3576-02-81	EACH	1.000	1.000
0750	643.3000	Traffic Control Detour Signs	DAY	22,220.000	22,220.000
0760	645.0120	Geotextile Type HR	SY	820.000	820.000

Line	Item	Item Description	Unit	Total	Qty
0770	645.0220	Geogrid Type SR	SY	671.000	671.000
0780	646.0106	Pavement Marking Epoxy 4-Inch	LF	2,778.000	2,778.000
0790	650.4500	Construction Staking Subgrade	LF	986.000	986.000
0800	650.5000	Construction Staking Base	LF	986.000	986.000
0810	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	42.000	42.000
0820	650.6000	Construction Staking Pipe Culverts	EACH	3.000	3.000
0830	650.9910	Construction Staking Supplemental Control (project) 01. 3576-02-81	LS	1.000	1.000
0840	650.9920	Construction Staking Slope Stakes	LF	986.000	986.000
0850	690.0150	Sawing Asphalt	LF	60.000	60.000
0860	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
0870	715.0502	Incentive Strength Concrete Structures	DOL	1,563.000	1,563.000
0880	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	300.000	300.000
0890	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	225.000	225.000
0900	SPV.0045	Special 01. Temporary River Access Driveway	DAY	65.000	65.000
0910	SPV.0105	Special 01. River Access Gate 14-FOOT	LS	1.000	1.000
0920	SPV.0180	Special 01. Salvaged Topsoil - Wetlands	SY	2,528.000	2,528.000

CLEARING AND GRUBBING

CATEGORY	STATION	TO	STATION	LOCATION	201.0110 CLEARING SY	201.0210 GRUBBING SY
0010	22+45	-	25+35	RT	687	687
				TOTAL 0010	687	687

REMOVING SMALL PIPE CULVERTS

CATEGORY	STATION	TO	STATION	LOCATION	203.0100 REMOVING SMALL PIPE CULVERTS (STEEL) EACH	REMARKS
0010	18+37	-	18+52	RT	1	PRIVATE DRIVEWAY
0010	18+67	-	18+88	LT	1	PRIVATE DRIVEWAY
0010	25+06	-	25+25	LT	1	PRIVATE DRIVEWAY
				TOTAL 0010	3	

3

REMOVALS

CATEGORY	STATION	TO	STATION	LOCATION	204.0165 REMOVING GUARDRAIL LF	204.0180 REMOVING DELINEATORS AND MARKERS EACH	REMARKS
0010	20+65	-	21+51	LT	86	1	EAT MARKER
0010	20+65	-	21+51	RT	86	1	EAT MARKER
0010	22+29	-	23+15	LT	86	1	EAT MARKER
0010	22+29	-	24+06	RT	86	5	EAT & DRIVEWAY MARKERS
				TOTAL 0010	344	8	

From/To Station	Location	205.0100 (CY) Common Excavation (1)		Salvaged/Unusable Pavement Material (4)	Available Material (5)	Reduced EBS in Fill (6)	Expanded EBS Backfill (7)	Unexpanded Fill	Expanded Fill (8)	Mass Ordinate +/- (9)	Waste	Remarks
		Cut (2)	EBS Excavation (3)			Factor 0.80	Factor 1.30		Factor 1.25			
16+73 - 21+49	STH 106	860	0	473	387	0	0	447	559	-172	-172	Existing Asphaltic Material considered Available Material
22+32 - 27+75	STH 106	981	0	538	443	0	0	426	532	-89	-89	Existing Asphaltic Material considered Available Material
16+99 - 19+25	STH 106	0	0	-108	108	0	0	0	0	108	100	Existing Crushed Aggregate Base to be used outside the 1:1
23+75 - 27+50	STH 106	0	0	-181	181	0	0	0	0	181	169	Existing Crushed Aggregate Base to be used outside the 1:1
22+45 - 25+15	River Access Drivew ay	380	0	380	0	0	0	0	0	0	0	
EBS	Undistributed	0	111	0	0	89	144	0	0	0	0	
Subtotal		2221	111	1102	1119	89	144	872	1091	28	9	
Total Common Excavation		2332										

1. Common Excavation is the sum of the Cut and EBS Excavation Columns. Item number 205.0100.
2. Salvaged/Unusable Pavement Material is included in Cut.
3. EBS Excavation to be backfilled w ith Select Crushed Material or other material approved by the field engineer.
4. Salvaged/Unusable Pavement Material
5. Available Material = Cut - Salvaged/Unusable Pavement Material
6. Reduced EBS in Fill - Excavated EBS material is usuable in Fills outside the 1:1 slope. EBS in Fill Reduction factor is 0.80.
7. Expanded EBS Backfill is to be filled w ith Select Crushed Material. EBS Backfill Factor = 1.30.
8. Expanded Fill Factor = 1.25.
9. Mass ordinate +/- quantity calculated for the entire project. + Quantity = excess material, and - Quantity = shortage of material.

BASE ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	312.0110 SELECT CRUSHED MATERIAL TON	624.0100 WATER MGAL	645.0220 GEOGRID TYPE SR SY	REMARKS
0010	16+73	-	21+44	MAINLINE	113	1209	1476	-	-	
0010	22+35	-	27+75	MAINLINE	127	1391	1640	-	-	
0010	22+45	-	25+33	RT	-	112	375	-	479	RIVER ACCESS DRIVEWAY
0010	17+76	-	25+27	LT/RT	40	-	-	-	-	PRIVATE DRIVEWAYS
0010	16+73	-	27+75	UNDISTRIBUTED	-	-	-	2	-	
0010	16+73	-	27+75	UNDISTRIBUTED	-	-	156	-	192	EBS
0010	16+73	-	27+75	UNDISTRIBUTED	-	-	47	-	-	FRENCH DRAINS
0010	16+73	-	27+75	UNDISTRIBUTED	-	-	63	-	-	ROCK CHECKS
0010	16+73	-	27+75	PROJECT LIMITS	-	-	-	12	-	FOR COMPACTION
0010	16+73	-	27+75	PROJECT LIMITS	-	-	-	12	-	FOR DUST CONTROL
				TOTAL 0010	280	2712	3757	26	671	

CONCRETE PAVEMENT

CATEGORY	STATION	TO	STATION	LOCATION	415.0120 CONCRETE PAVEMENT 12-INCH SY	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY	416.1010 CONCRETE SURFACE DRAINS CY
0010	21+29	-	21+44	LT	10	-	-
0010	21+29	-	21+44	MAINLINE	-	40	-
0010	21+29	-	21+44	RT	10	-	-
0010	22+35	-	22+71	LT	15	-	-
0010	22+35	-	22+51	MAINLINE	-	40	-
0010	22+35	-	22+71	RT	15	-	-
0010	22+65.8			RT	-	-	1
				TOTAL 0010	50	80	1

3

ASHALTIC PAVING

CATEGORY	STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	460.5224 HMA PAVEMENT 4 LT 58-28 S TON
0010	16+73	-	21+29	MAINLINE	43	432
0010	22+49	-	27+75	MAINLINE	49	493
				TOTAL 0010	92	925

STRUCTURE DRAINAGE

CATEGORY	STATION	TO	STATION	LOCATION	601.0590 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBTT LF	611.0654 INLET COVERS TYPE V EACH	611.3220 INLETS 2X2 FT EACH	628.7010 INLET PROTECTION TYPE B EACH	650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF
0010	22+47	-	22+69	LT	21	-	-	-	21
0010	22+47	-	22+69	RT	21	-	-	-	21
0010	22+65.8			LT	-	1	1	1	-
				TOTAL 0010	42	1	1	1	42

3

CULVERT PIPE

CATEGORY	STATION	TO	STATION	LOCATION	521.0118 CULVERT PIPE CORRUGATED STEEL 18-INCH (0.064 THICK) LF	521.1018 APRON ENDWALLS FOR CULVERT PIPE STEEL 18-INCH EACH	522.0312 CULVERT PIPE REINFORCED CONCRETE CLASS IV 12-INCH LF	522.1012 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH EACH	650.6000 CONSTRUCTION STAKING PIPE CULVERTS EACH	REMARKS
0010	17+76	-	17+91	RT	40	2	-	-	1	PRIVATE DRIVEWAY
0010	22+65.8			LT	-	-	12	1	1	INLET STRUCTURE
0010	25+00	-	25+27	LT	40	2	-	-	1	PRIVATE DRIVEWAY
				TOTAL 0010	80	4	12	1	3	

MGS GUARDRAIL ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
0010	19+92	-	21+32	LT	50.0	39.4	1
0010	22+48	-	24+38	LT	100.0	39.4	1
0010	19+42	-	21+32	RT	100.0	39.4	1
0010	22+48	-	24+88	RT	50.0	39.4	1
				TOTAL 0010	400	158	4

EROSION CONTROL AND RESTORATION ITEMS

CAT	STATION	TO	STATION	LOCATION	606.0200 RIPRAP MEDIUM CY	* 606.0300 RIPRAP HEAVY CY	625.0500 SALVAGED TOPSOIL SY	628.1104 EROSION BALES EACH	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.2006 EROSION MAT URBAN CLASS I TYPE A SY	628.6005 TURBIDITY BARRIERS SY	628.7504 TEMPORARY DITCH CHECKS LF	628.7515.S STONE OR ROCK DITCH CHECKS CY	628.7555 CULVERT PIPE CHECKS EACH	630.0160 SEEDING MIXTURE NO. 60 LB	* 645.0120 GEOTEXTILE TYPE HR SY	SPV.0180.01 SALVAGED TOPSOIL - WETLANDS SY	REMARKS
0010	16+98	-	21+68	LT/RT	-	-	502	36	690	690	1815	82	90	42	2	25	-	1462	
0010	22+10	-	27+75	LT/RT	10	46	1529	18	490	490	2033	89	45	42	2	26	90	1066	
0010	23+50	-	25+15	RT	31	-	-	-	-	-	-	-	-	-	-	-	110	-	DRIVEWAY OUTSIDE DITCH
0010	16+98	-	27+75	UNDISTRIBUTED	-	-	-	9	393	393	-	-	-	-	-	-	-	-	TOPSOIL STOCKPILE
0010	16+98	-	27+75	UNDISTRIBUTED	-	-	-	9	393	393	-	-	-	-	-	-	-	-	WETLANDS STOCKPILE
0010	16+98	-	27+75	UNDISTRIBUTED	-	-	-	18	197	197	-	-	27	-	4	-	-	-	
				TOTAL 0010	41	46	2031	90	2163	2163	3848	171	162	84	8	51	200	2528	

* NOTE: ADDITIONAL QUANTITIES SHOWN IN STRUCTURAL PLANS, "STRUCTURE B-28-183"

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MOBILIZATIONS

CATEGORY	STATION	TO	STATION	LOCATION	619.1 MOBILIZATION EACH	628.1905 MOBILIZATION EROSION CONTROL EACH	628.191 MOBILIZATION EMERGENCY EROSION CONTROL EACH
0010	16+98	-	27+75	PROJECT LIMITS	1	6	4
				TOTAL 0010	1	6	4

DELINEATORS FLEXIBLE

CATEGORY	STATION	TO	STATION	LOCATION	633.0200 DELINEATORS FLEXIBLE EACH	REMARKS
0010	22+46	-	25+18	RT	7	RIVER ACCESS DRIVEWAY
0010	17+76	-	25+26	UNDISTRIBUTED	2	PRIVATE ENTRANCES
				TOTAL 0010	9	

TRAFFIC CONTROL AND DETOUR

CATEGORY	LOCATION	643.0300 TRAFFIC CONTROL DRUMS NO. DEVICES	DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III NO. DEVICES	DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A NO. DEVICES	DAY	643.0900 TRAFFIC CONTROL SIGNS NO. DEVICES	DAY	** 643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II EACH	643.1050 TRAFFIC CONTROL SIGNS PCMS NO. DEVICES	DAY	643.3000 TRAFFIC CONTROL DETOUR SIGNS NO. DEVICES	DAY
0010	AT BRIDGE	-	-	10	1010	14	1414	8	808	-	2	28	-	-
0010	DETOUR ROUTE	-	-	-	-	-	-	-	-	-	-	-	39	3939
0010	BLOW UP #1	-	-	1	101	2	202	-	-	2	-	-	47	4747
0010	BLOW UP #2	-	-	-	-	-	-	-	-	-	-	-	87	8787
0010	BLOW UP #3	-	-	1	101	2	202	-	-	1	-	-	25	2525
0010	BLOW UP #4	-	-	2	202	4	404	-	-	3	-	-	9	909
0010	BLOW UP # 5	-	-	2	202	4	404	-	-	2	-	-	7	707
0010	BLOW UP # 6	-	-	1	101	2	202	-	-	2	-	-	6	606
0010	UNDISTRIBUTED	10	1010	-	-	-	-	-	-	-	-	-	-	-
	TOTAL 0010	-	1010	-	1717	-	2828	-	808	10	-	28	-	22220

** 1 CYCLE FOR ALL TRAFFIC CONTROL COVERING SIGNS TYPE II

PERMANENT SIGNING

CATEGORY	SIGN NO.	SIGN CODE	SIGN SIZE W	X	H	MESSAGE	634.0614 POSTS WOOD 4X6-INCH X 14-FT EACH	637.2210 SIGNS TYPE II REFLECTIVE H SF	REMARKS
0010	1-01	W14-3	48	X	36	NO PASSING ZONE	1	6	
0010	1M-01					SERVICE LANE	1	-	MOVE EXISTING SIGN
0010	1-02					SERVICE LANE	1	-	SIGN PROVIDED BY TOWN OF HEBRON
0010	1-03					SERVICE LANE	-	-	SIGN PROVIDED BY TOWN OF HEBRON, ON SAME POST AS 1-02
						TOTAL 0010	3	6	

REMOVING AND MOVING SIGNS

CATEGORY	SIGN NO.	SIGN CODE	MESSAGE	638.2102 MOVING SIGNS TYPE II EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH
0010	1R-01	W14-3	NO PASSING ZONG	-	1	1
0010	1R-02	W5-52L		-	1	1
0010	1R-03	W5-52R		-	1	1
0010	1R-04	W5-52R		-	1	1
0010	1R-05	W5-52L		-	1	1
0010	1R-06		SERVICE LANE	-	1	1
0010	1M-01		SERVICE LANE	1	-	1
			TOTAL 0010	1	6	7

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PAVEMENT MARKING

CATEGORY	STATION	TO	STATION	LOCATION	646.0106 PAVEMENT MARKING EPOXY 4-INCH LF	REMARKS
0010	16+50	-	28+00	LT	1150	WHITE EDGELINE
0010	16+50	-	28+00	RT	1150	WHITE EDGELINE
0010	16+50	-	28+00	CL	478	YELLOW CENTERLINE
				TOTAL 0010	2778	

CONSTRUCTION STAKING

CATEGORY	STATION	TO	STATION	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.9910 CONSTRUCTION STAKING SUPPLEMENT CONTROL (01. 3576-02-81) LS	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
0010	16+98	-	21+44	MAINLINE	446	446	-	446
0010	22+35	-	27+75	MAINLINE	540	540	-	540
0010	16+98	-	27+75	PROJECT LIMITS	-	-	1	-
				TOTAL 0010	986	986	1	986

SAWING ASPHALT

CATEGORY	STATION	LOCATION	690.0150 SAWING ASPHALT LF
0010	16+73	Project Begin	30
0010	27+75	Project End	30
		TOTAL 0010	60

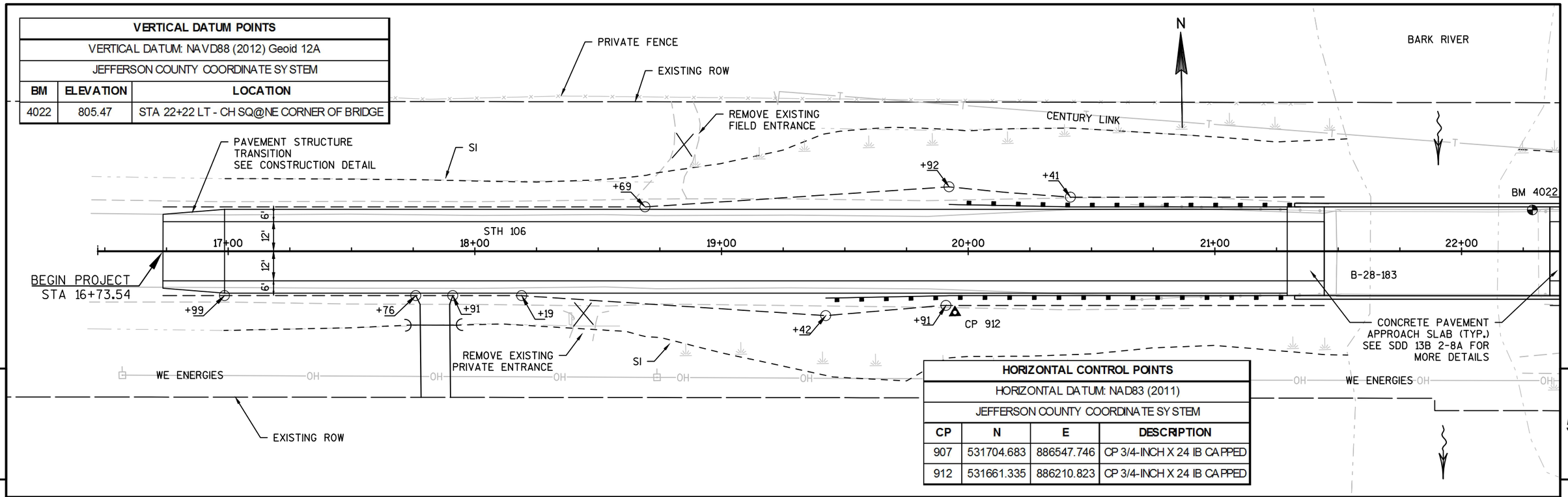
TEMPORARY RIVER ACCESS DRIVEWAY

CATEGORY	STATION	TO	STATION	LOCATION	SPV.0045.01 TEMPORARY RIVER ACCESS DRIVEWAY DAY
0010	20+25	-	21+50	LT	65
				TOTAL 0010	65

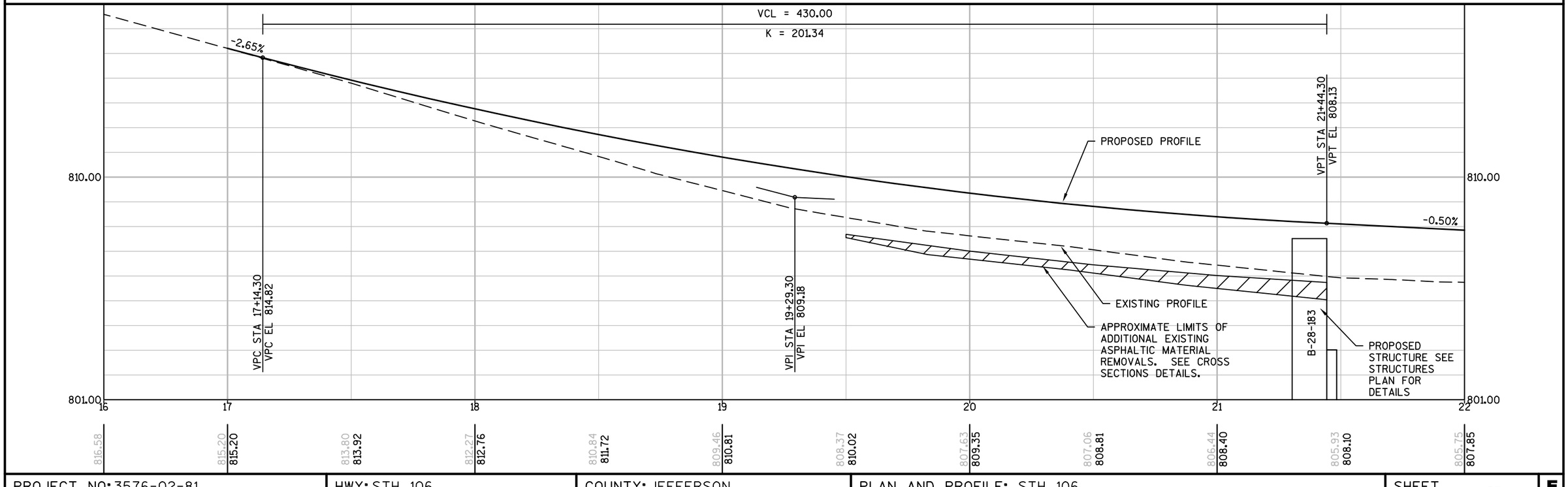
RIVER ACCESS GATE 14-FOOT

CATEGORY	STATION	TO	STATION	LOCATION	SPV.0105.01 RIVER ACCESS GATE 14-FOOT LS
0010	24+20	-	24+35	RT	1
				TOTAL 0010	1

VERTICAL DATUM POINTS		
VERTICAL DATUM: NAVD88 (2012) Geoid 12A		
JEFFERSON COUNTY COORDINATE SYSTEM		
BM	**ELEVATION**	**LOCATION**
4022	805.47	STA 22+22 LT - CH SQ@NE CORNER OF BRIDGE



HORIZONTAL CONTROL POINTS			
HORIZONTAL DATUM: NAD83 (2011)			
JEFFERSON COUNTY COORDINATE SYSTEM			
CP	**N**	**E**	**DESCRIPTION**
907	531704.683	886547.746	CP 3/4-INCH X 24 IB CAPPED
912	531661.335	886210.823	CP 3/4-INCH X 24 IB CAPPED



PROJECT NO: 3576-02-81	HWY: STH 106	COUNTY: JEFFERSON	PLAN AND PROFILE: STH 106	SHEET 37	E

VERTICAL DATUM POINTS		
VERTICAL DATUM: NAVD88 (2012) Geoid 12A		
JEFFERSON COUNTY COORDINATE SYSTEM		
BM	**ELEVATION**	**LOCATION**
4022	805.47	STA 22+22 LT - CH SQ@NE CORNER OF BRIDGE

BARK RIVER

CENTURY LINK

BM 4022

CP 907

+89

+39

+00

+27

+47

24+51.3, 16.9 LT

22+00 23+00 24+00 25+00 26+00 27+00 28+00

B-28-183

24+77.5, 4.4 RT

CONCRETE PAVEMENT APPROACH SLAB (TYP.) SEE SDD 13B 2-8A FOR MORE DETAILS

22+45.1, 47.0 RT

23+52.1, 44.7 RT

+38

+35

R62

+88

+96

R54

24+57.0, 44.3 RT

14'

14'

TOWN OF ROME EMERGENCY ACCESS DRIVEWAY

RIVER ACCESS GATE 14-FT SEE CONSTRUCTION DETAIL

WE ENERGIES

GUY

SIGN

SIGN

REMOVE AND REPLACE EXISTING PRIVATE ENTRANCE

EXISTING ROW

SI

END PROJECT STA 27+75

CENTURY LINK

STH 106

+12

+28

PAVEMENT STRUCTURE TRANSITION SEE CONSTRUCTION DETAIL

6:1 MIN WITHIN CLEAR ZONE

SI

EXISTING ROW

N

HORIZONTAL CONTROL POINTS			
HORIZONTAL DATUM: NAD83 (2011)			
JEFFERSON COUNTY COORDINATE SYSTEM			
CP	**N**	**E**	**DESCRIPTION**
907	531704.683	886547.746	CP 3/4-INCH X 24 IB CAPPED
912	531661.335	886210.823	CP 3/4-INCH X 24 IB CAPPED

VCL = 464.20

K = 500.09

VPC STA 22+35.80
VPC EL 807.67

810.00

PROPOSED PROFILE

0.43%

B-28-183

PROPOSED STRUCTURE SEE STRUCTURES PLAN FOR DETAILS

APPROXIMATE LIMITS OF ADDITIONAL EXISTING ASPHALTIC MATERIAL REMOVALS. SEE CROSS SECTIONS DETAILS.

EXISTING PROFILE

VPI STA 24+67.90
VPI EL 806.51

VPT STA 27+00.00
VPT EL 807.49

800.00

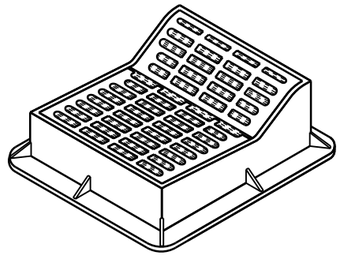
22 23 24 25 26 27

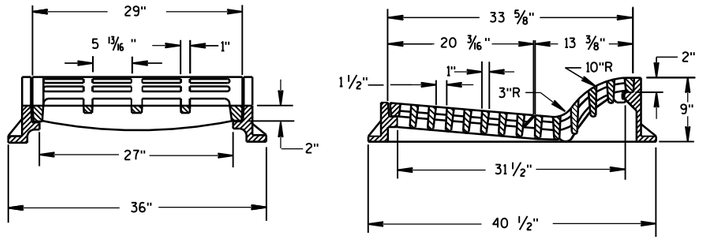
805.75 807.85 | 805.65 807.60 | 805.71 807.39 | 805.76 807.23 | 805.87 807.12 | 806.02 807.05 | 806.26 807.04 | 806.62 807.08 | 806.95 807.17 | 807.22 807.31 | 807.46 807.49 | 807.71 807.71 | 807.90

PROJECT NO: 3576-02-81	HWY: STH 106	COUNTY: JEFFERSON	PLAN AND PROFILE: STH 106	SHEET 38 E

Standard Detail Drawing List

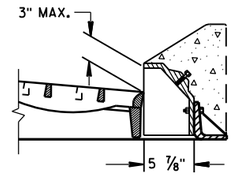
08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08C07-02	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-19	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D02-06	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D03-06	CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E11-02	TURBIDITY BARRIER
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
12A03-10	NAME PLATE (STRUCTURES)
13A03-06	CONCRETE PAVEMENT SHOULDERS
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
14B42-03A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-04A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES





TYPE "F"

USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.



ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

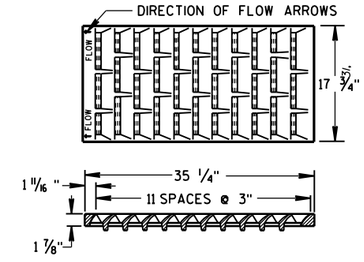
USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLE

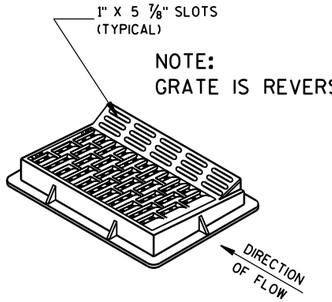
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

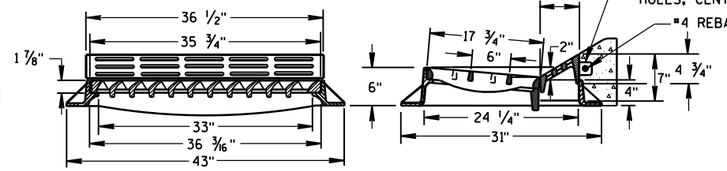
GENERAL NOTES

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.

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.



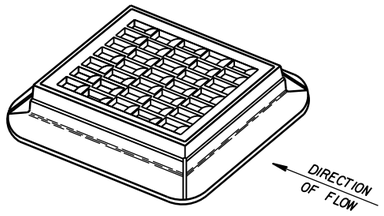


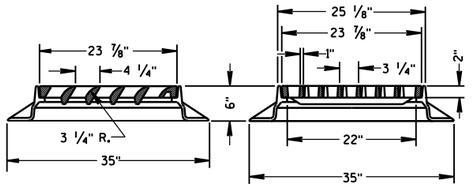


TYPE "HM"

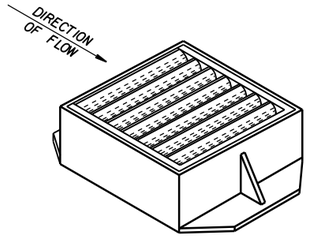
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

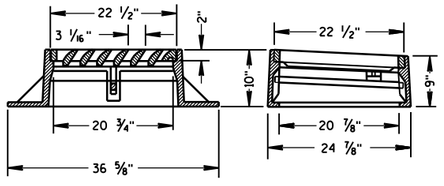
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE



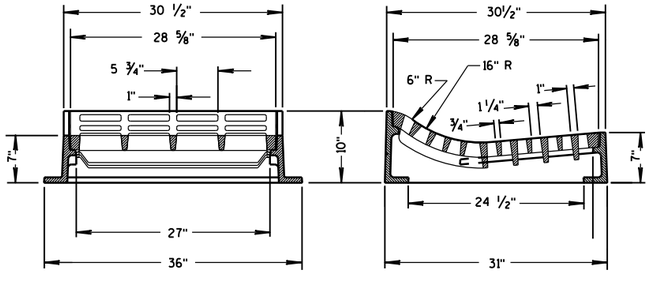


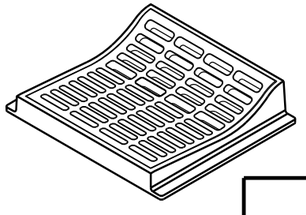
TYPE "S"





TYPE "V"





TYPE "T"

USE WITH TYPES R & T CONCRETE CURB & GUTTER, 36 INCH.

INLET COVERS
TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

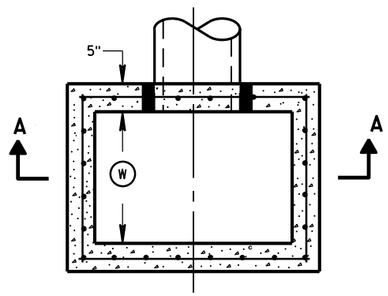
APPROVED
11/27/2013
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

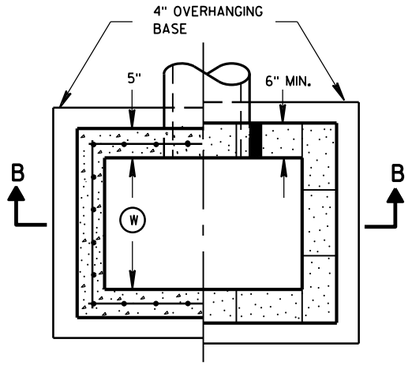
FHWA

6

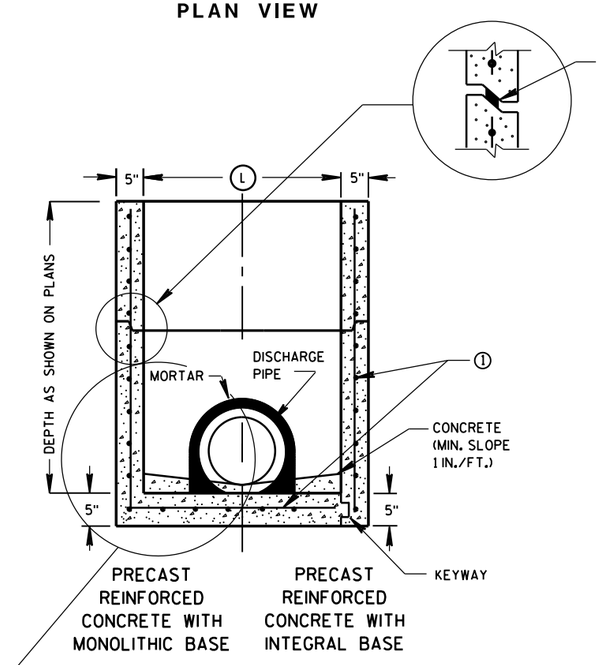
S.D.D. 8 A 5-19c



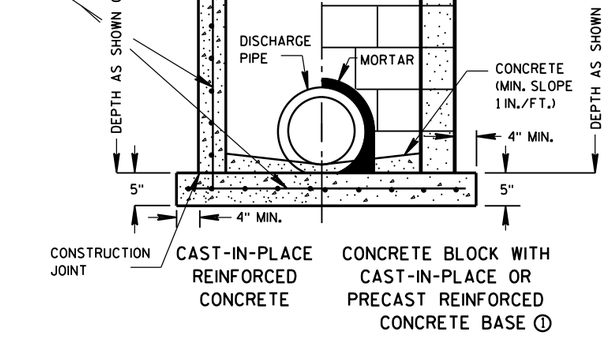
PLAN VIEW



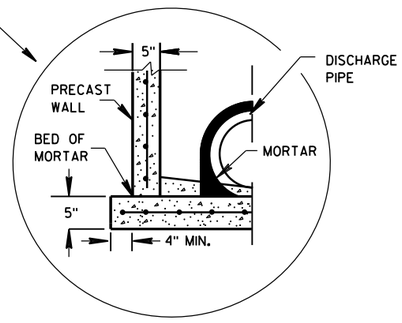
PLAN VIEW



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

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.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

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

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS.
4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED.
OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3 INCH CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

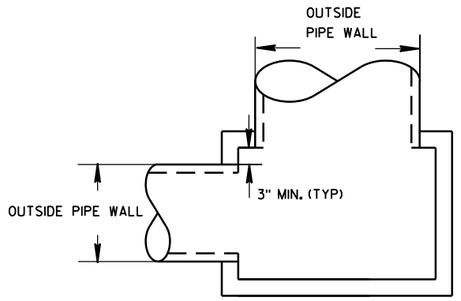
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH (W) (FT)	LENGTH (L) (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24



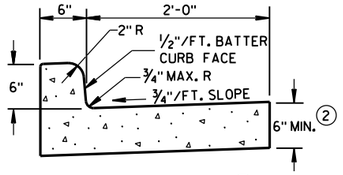
DETAIL "A"

INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

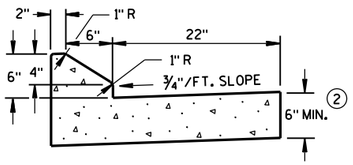
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D IT
UNIT SUPERVIS
FHWA

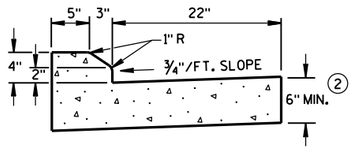
6
S.D.D. 8 C 7-2



TYPES A & D ①

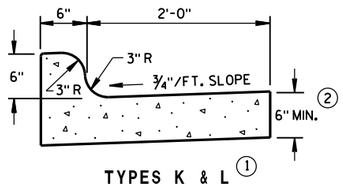


6" SLOPED CURB TYPES G & J ①

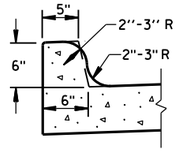


4" SLOPED CURB TYPES G & J ①

CONCRETE CURB & GUTTER 30"

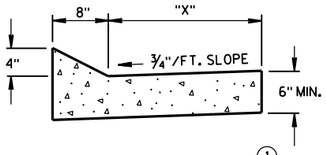


TYPES K & L ①



OPTIONAL CURB SHAPE FOR TYPES K & L ①

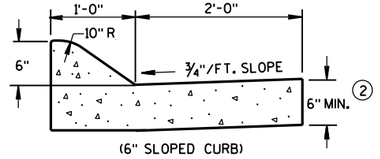
CONCRETE CURB & GUTTER 30"



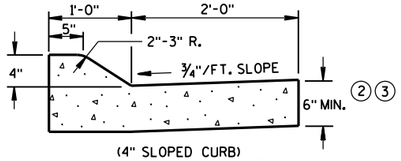
TYPES TBT & TBTT ①

CONCRETE CURB & GUTTER

TBT & TBTT	"X"
30"	22"
36"	28"

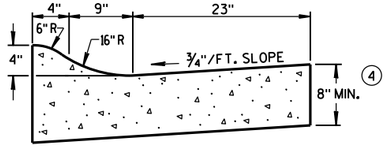


(6" SLOPED CURB)



(4" SLOPED CURB)

TYPES A & D ①



4" SLOPED CURB TYPES R & T ①⑤

CONCRETE CURB & GUTTER 36"

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.

① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.

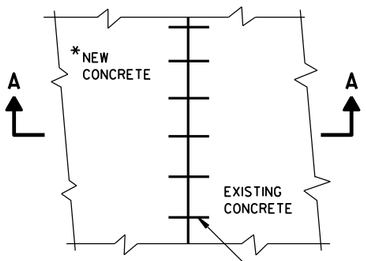
② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.

④ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

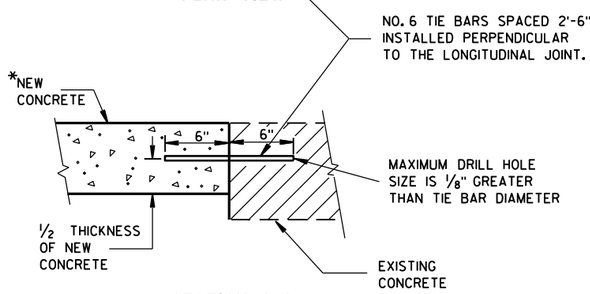
⑤ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.



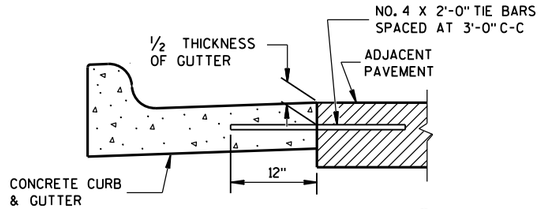
PLAN VIEW

*NEW CURB & GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.

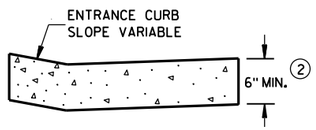


SECTION A-A

TIE BARS DRILLED INTO EXISTING PAVEMENT

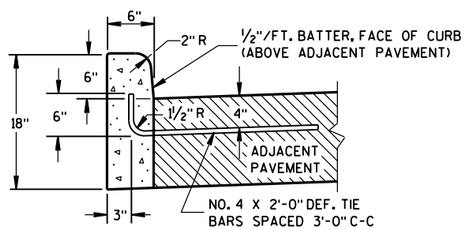


TYPICAL TIE BAR LOCATION ①

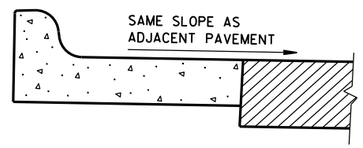


DRIVEWAY ENTRANCE CURB

(WHEN DIRECTED BY THE ENGINEER)

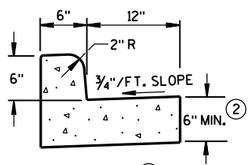


① TYPES A & D



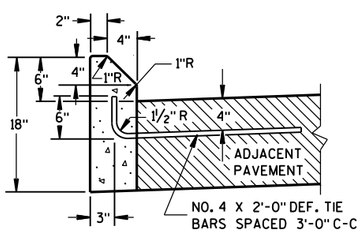
⑥ REVERSE SLOPE GUTTER

(TYPICAL FOR ALL CURB & GUTTER TYPES)



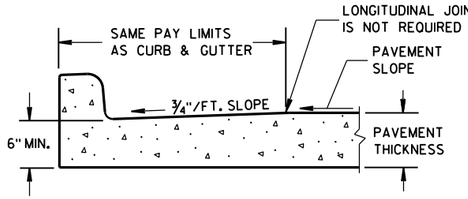
① TYPES A & D

CONCRETE CURB & GUTTER 18"

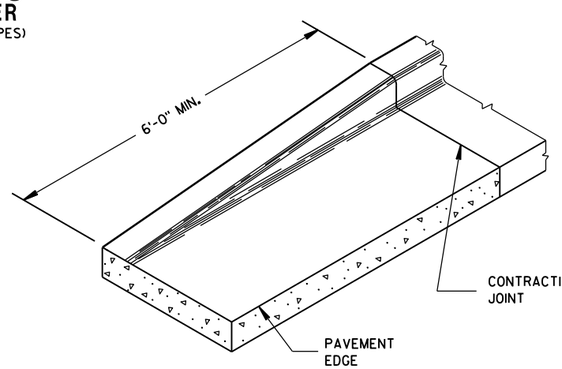


① TYPES G & J

CONCRETE CURB



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



END SECTION CURB & GUTTER

CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

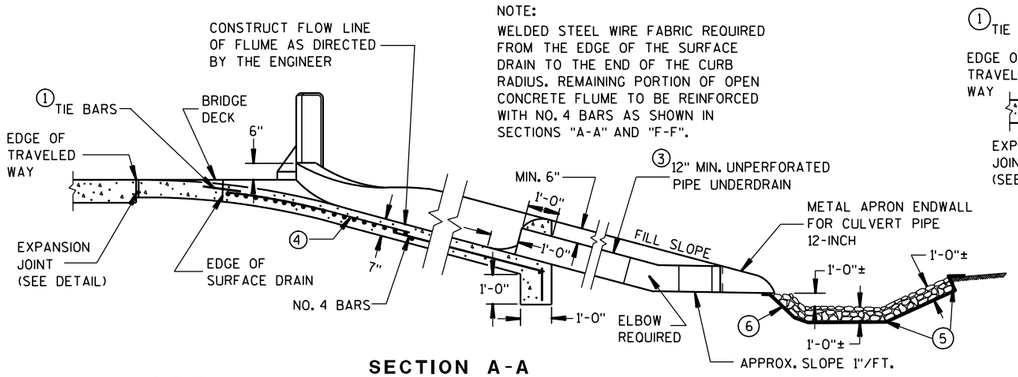
June, 2016 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER

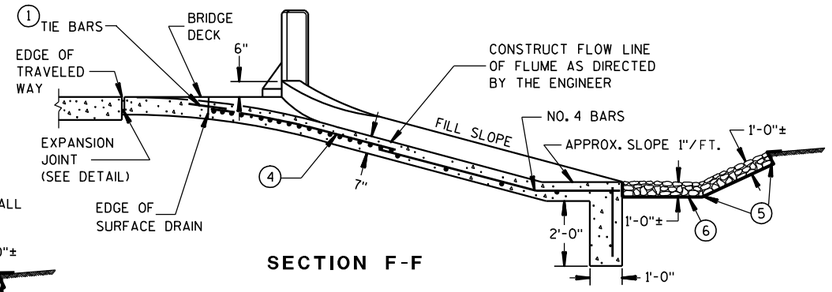
FHWA

6

S.D.D. 8 D 1-19



SECTION A-A



SECTION F-F

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.

ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

(1) NO. 4 X 2'-0" TIE BARS SPACED AT 3'-0" CENTERS TO BE USED ONLY WHEN ADJACENT TO P.C. CONCRETE.

(2) NO. 4 X 2'-0" TIE BARS SPACED AT 12" CENTERS TO BE PLACED BY BRIDGE CONTRACTOR, OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) PIPE UNDERDRAIN MAY BE ANY OF THE MATERIALS LISTED IN SECTION 612.2 OF THE STANDARD SPECIFICATIONS EXCEPT DRAIN TILE.

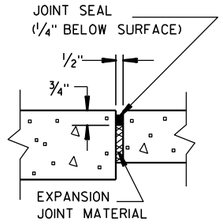
(4) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.

(5) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.

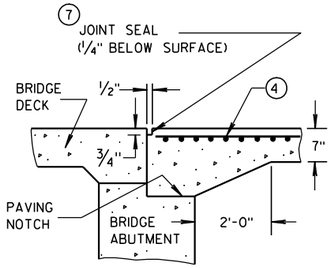
(6) GEOTEXTILE FABRIC, TYPE 'R"

(7) HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.

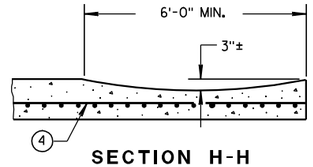
(8) THIS DIMENSION MAY VARY DEPENDING ON THE SPACING OF POSTS FOR THE STEEL PLATE BEAM GUARD. THE TYPICAL LOCATION FOR THE SURFACE DRAIN IS WHERE THE POST SPACING WIDENS TO 3'-1½".



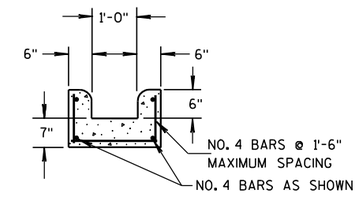
EXPANSION JOINT DETAIL



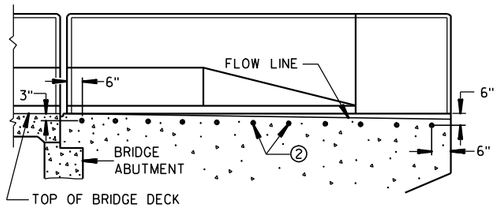
SECTION D-D



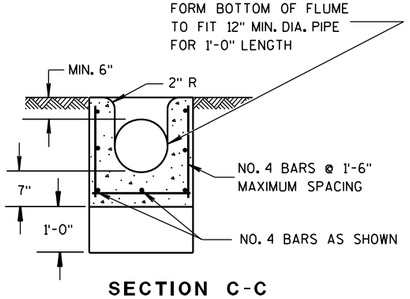
SECTION H-H



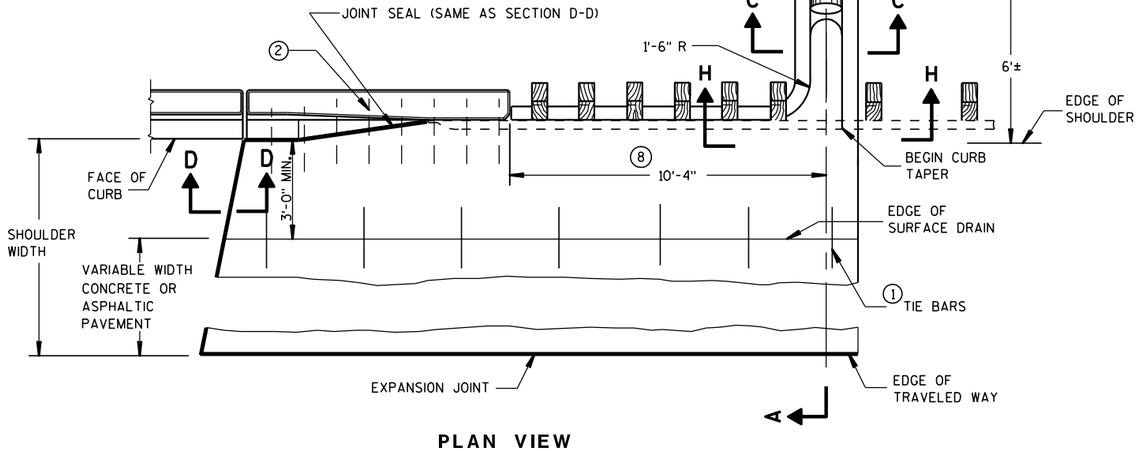
SECTION E-E



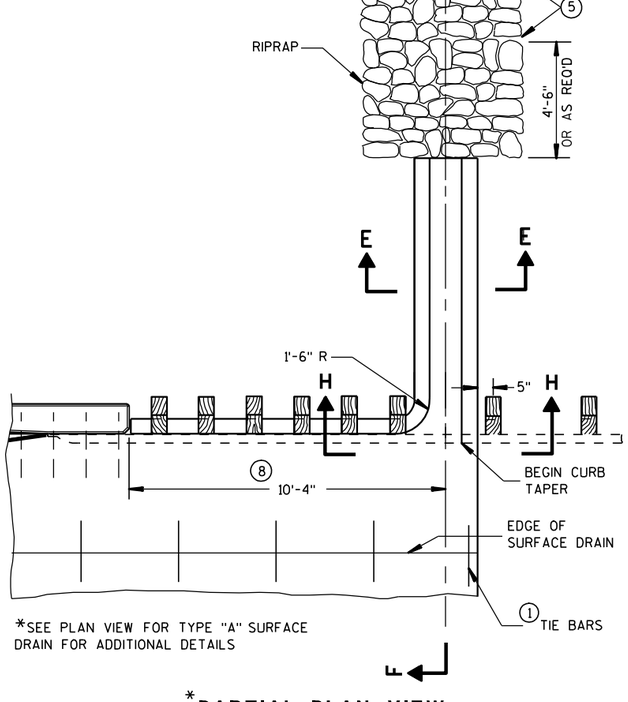
LOCATION OF TIE BARS IN WINGWALL



SECTION C-C



PLAN VIEW
SURFACE DRAIN WITH PIPE
TYPE "A"



*SEE PLAN VIEW FOR TYPE "A" SURFACE DRAIN FOR ADDITIONAL DETAILS

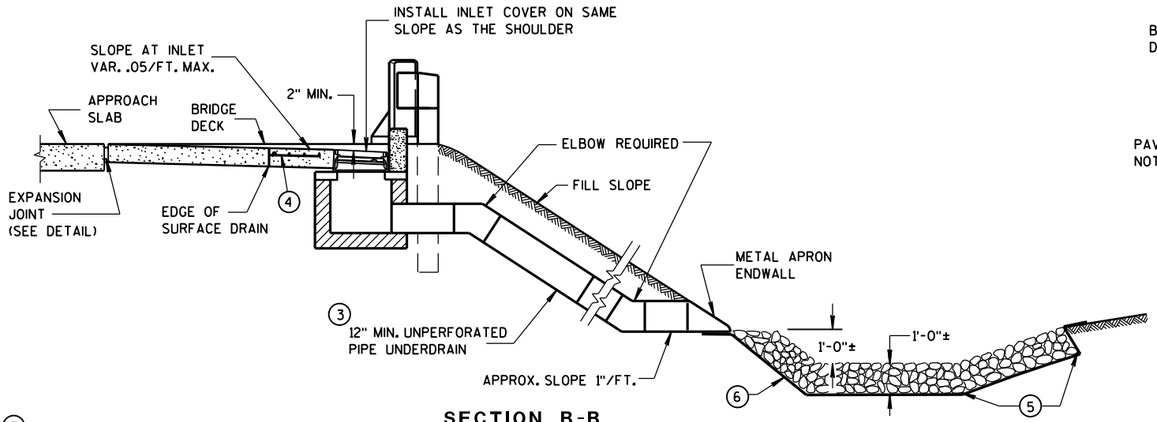
*PARTIAL PLAN VIEW
SURFACE DRAIN WITHOUT PIPE
TYPE "B"

CONCRETE SURFACE DRAINS
FLUME TYPE
AT STRUCTURES

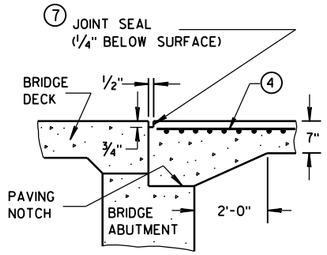
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/4/08
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA

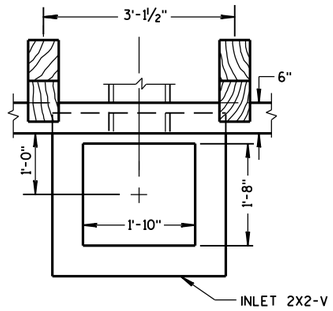
6
S.D.D. 8 D 2-6



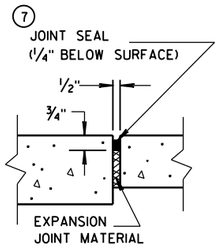
SECTION B-B



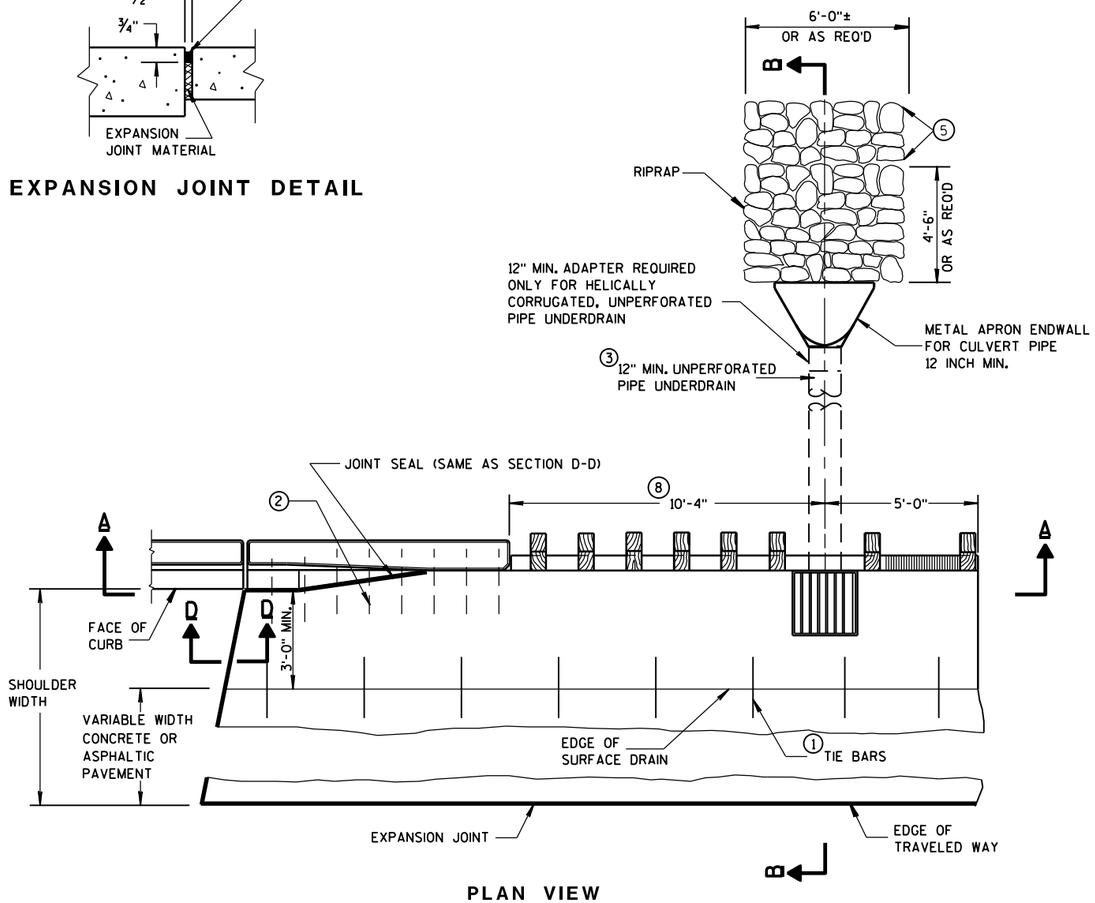
SECTION D-D



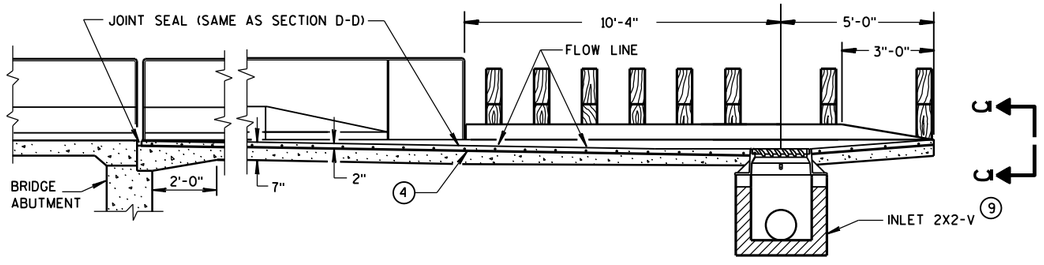
PLAN VIEW



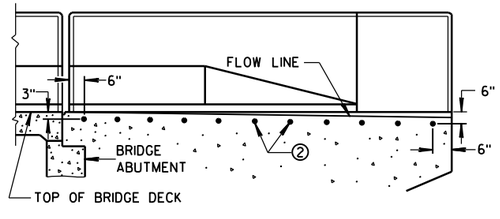
EXPANSION JOINT DETAIL



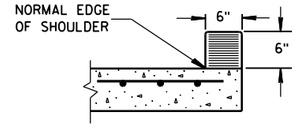
PLAN VIEW



SECTION A-A



LOCATION OF TIE BARS IN WINGWALL



SECTION C-C

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.

ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

(1) NO. 4 X 2'-0" TIE BARS SPACED AT 3'-0" CENTERS TO BE USED ONLY WHEN ADJACENT TO P.C. CONCRETE.

(2) NO. 4 X 2'-0" TIE BARS SPACED AT 12" CENTERS TO BE PLACED BY BRIDGE CONTRACTOR, OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) THE PIPE UNDERDRAIN MAY BE ANY ONE OF THE SIX MATERIALS LISTED IN THE STANDARD SPECIFICATIONS SECTION 612.2 EXCEPT DRAIN TILE.

(4) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.

(5) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.

(6) GEOTEXTILE FABRIC, TYPE 'R'

(7) HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.

(8) THIS DIMENSION MAY VARY DEPENDING ON THE SPACING OF POSTS FOR THE STEEL PLATE BEAM GUARD. THE TYPICAL LOCATION FOR THE SURFACE DRAIN IS WHERE THE POST SPACING WIDENS TO 3'-1½".

(9) SEE CURRENT STANDARD DETAIL DRAWINGS 8A5 AND 8C7 FOR DETAILS.

CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

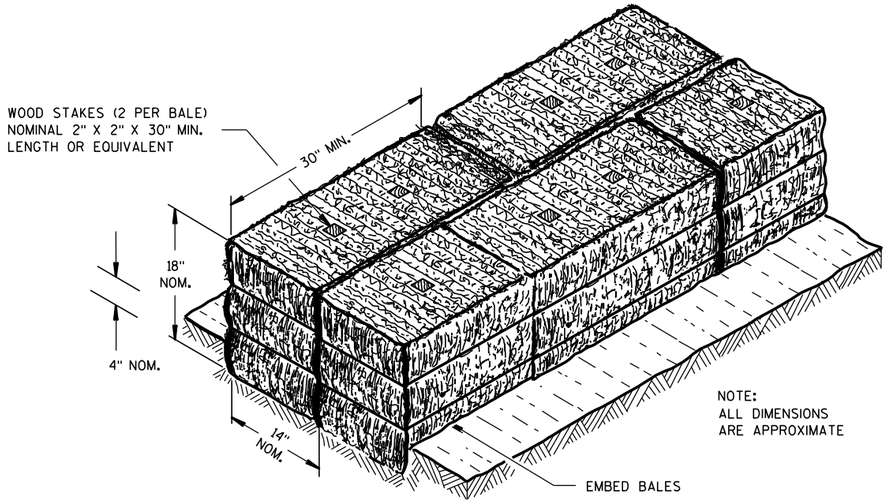
9/4/08 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER

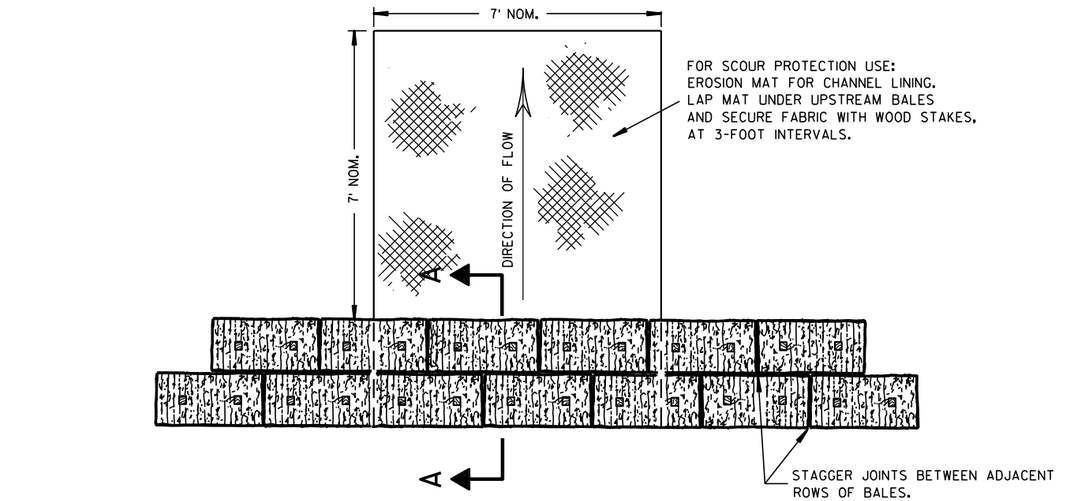
FHWA

6

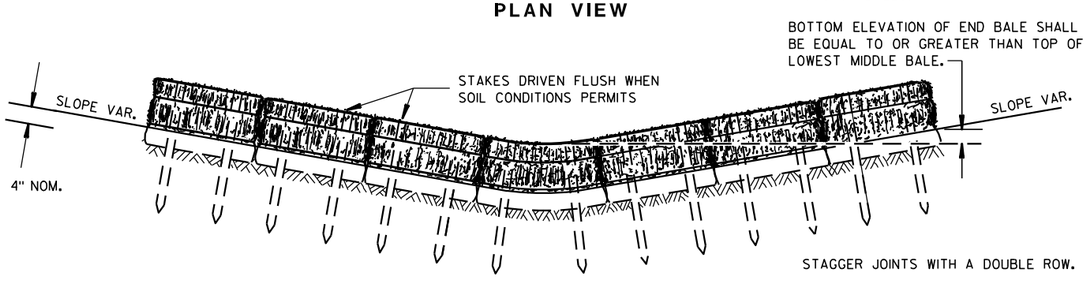
S.D.D. 8 D 3-6



SECTION A-A



PLAN VIEW



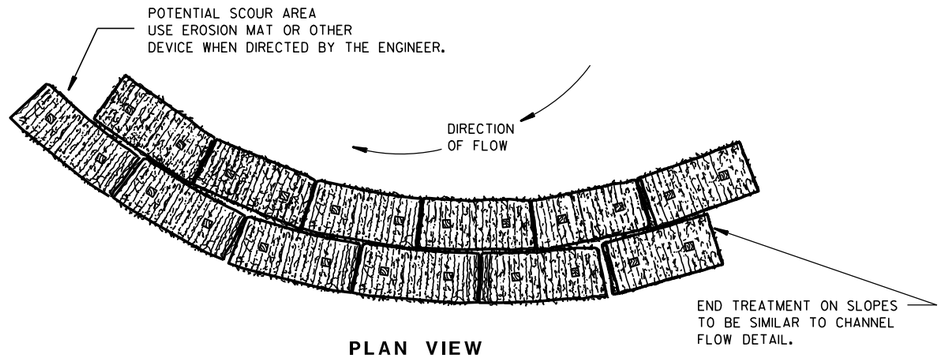
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

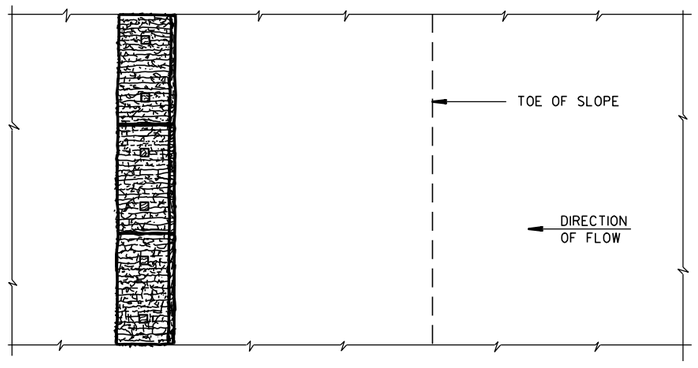
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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.

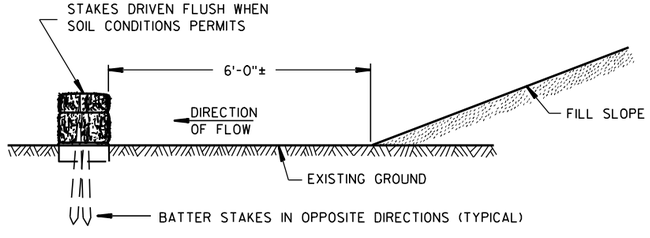


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

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

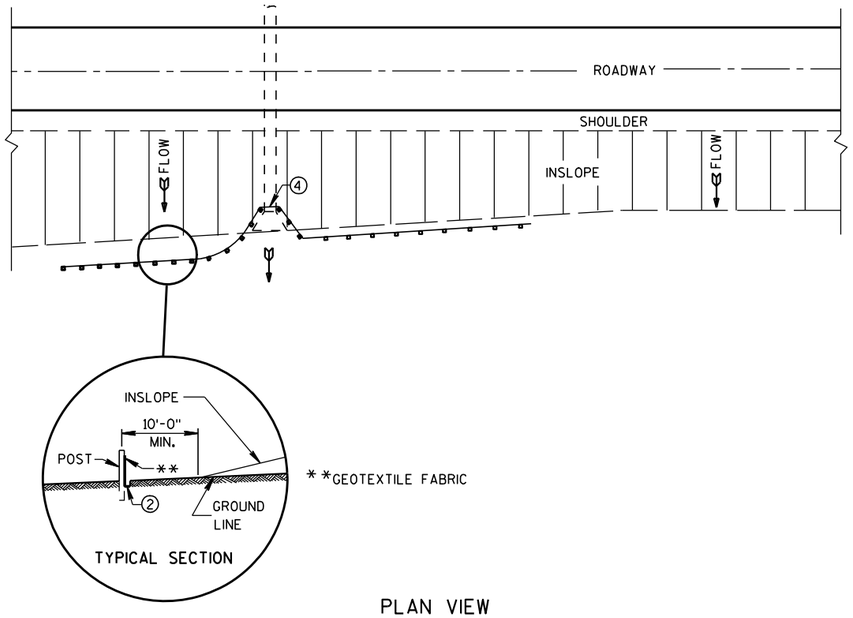
FHWA

6

S.D.D. 8 E 8-3

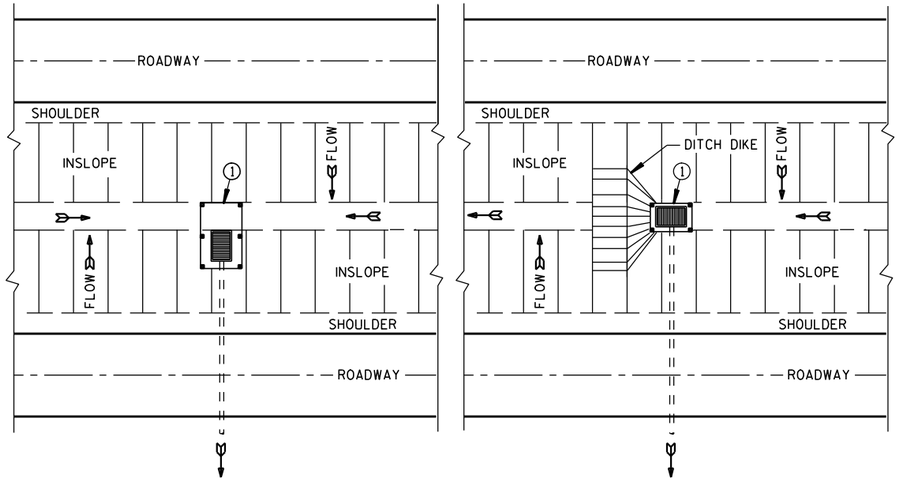
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



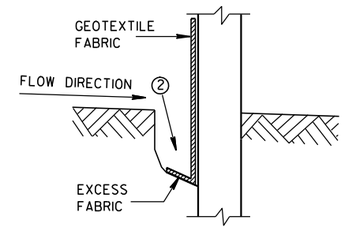
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

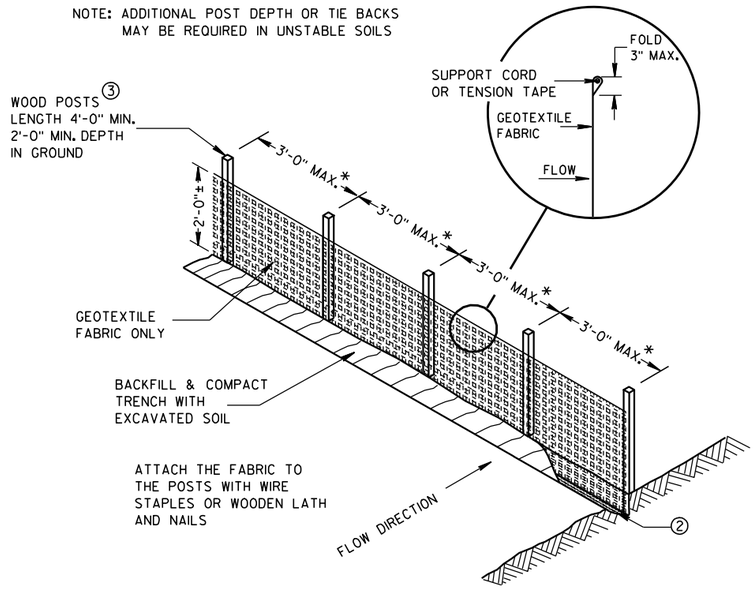
GENERAL NOTES

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

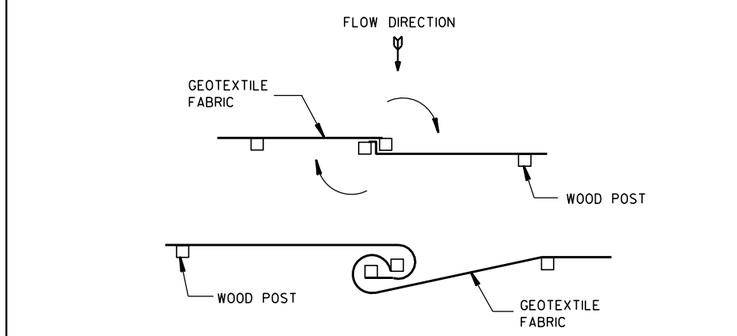
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



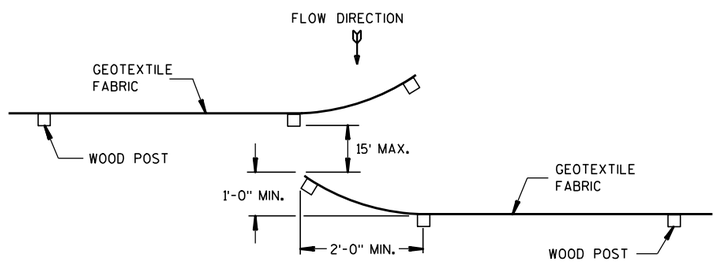
TRENCH DETAIL



SILT FENCE

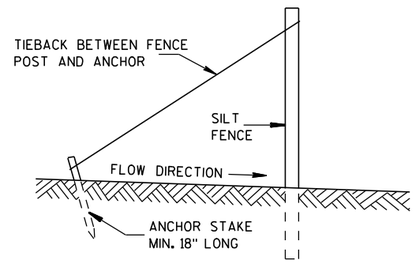


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



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

6

S.D.D. 8 E 9-6

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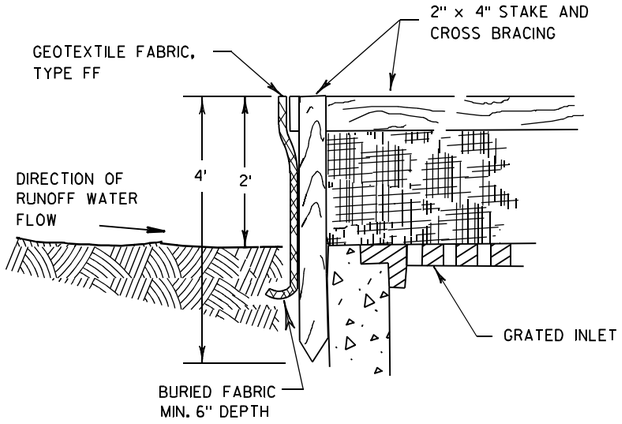
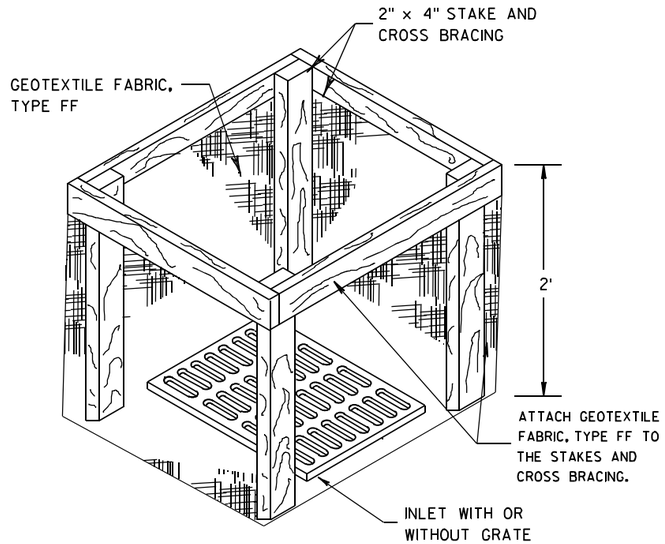
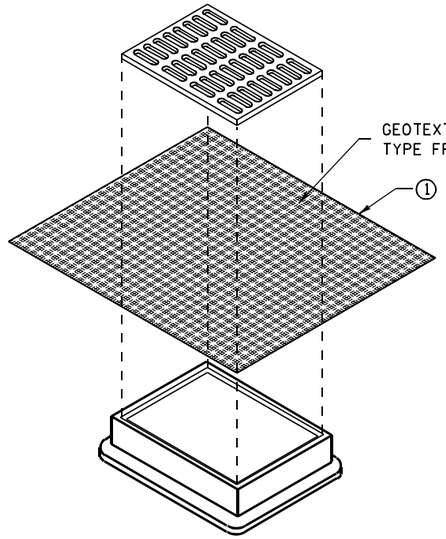
S.D.D. 8 E 9-6



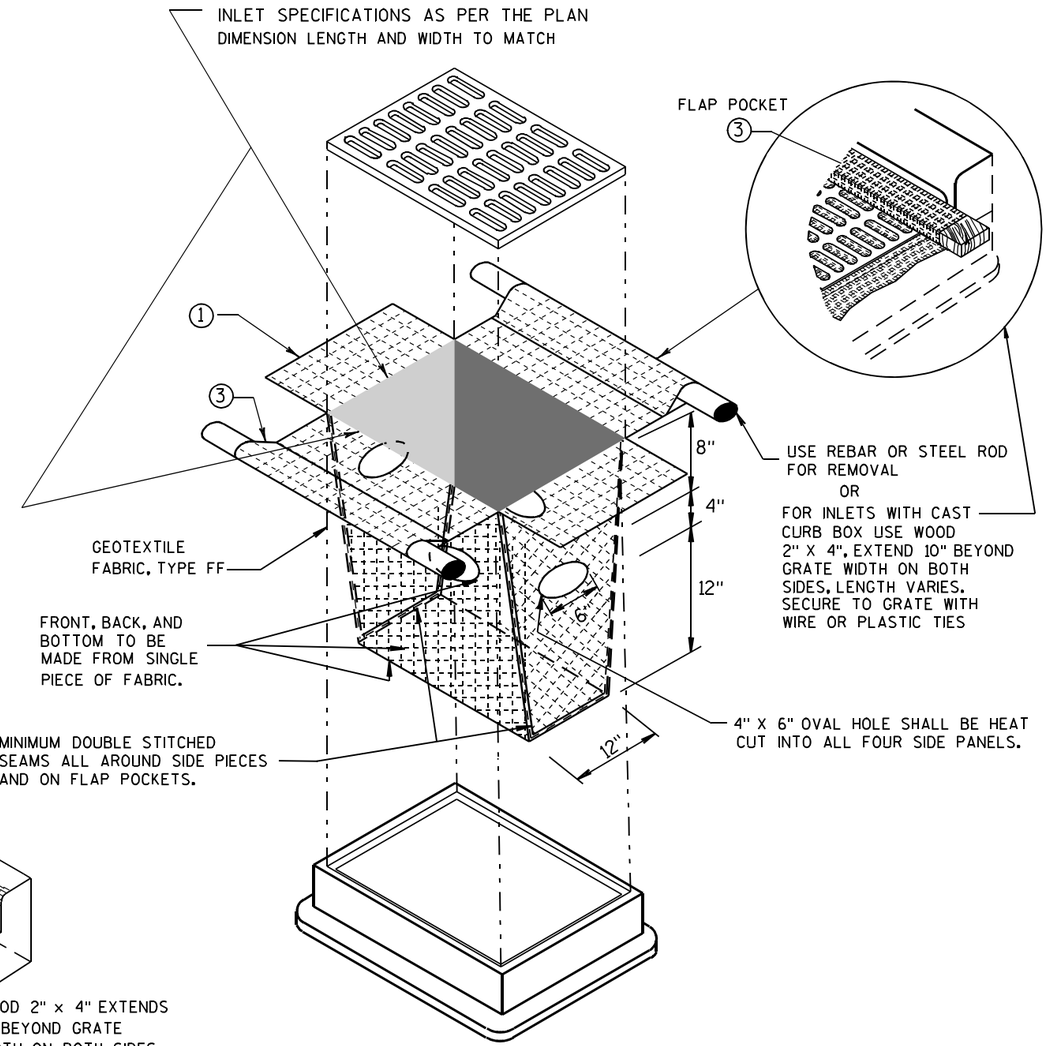


INLET PROTECTION, TYPE A



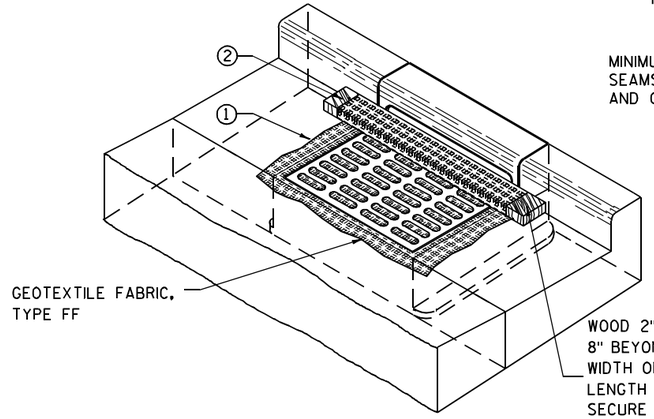
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH
OR WITHOUT A CURB BOX AS PER NOTE ②)



INLET PROTECTION, TYPE C (WITH CURB BOX)

GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

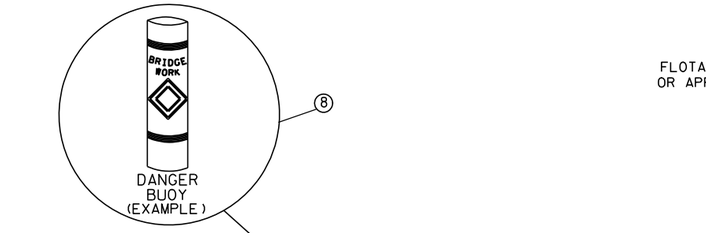
APPROVED

10/16/02
DATE

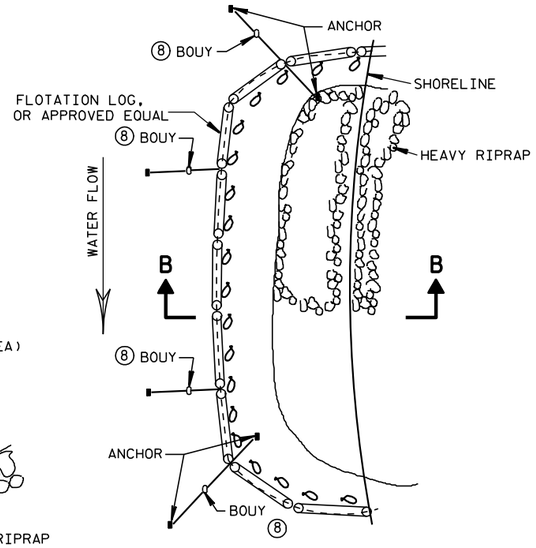
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

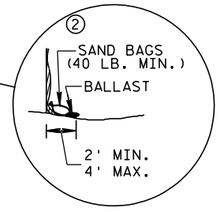
FHWA

6
S.D.D. 8 E 10-2

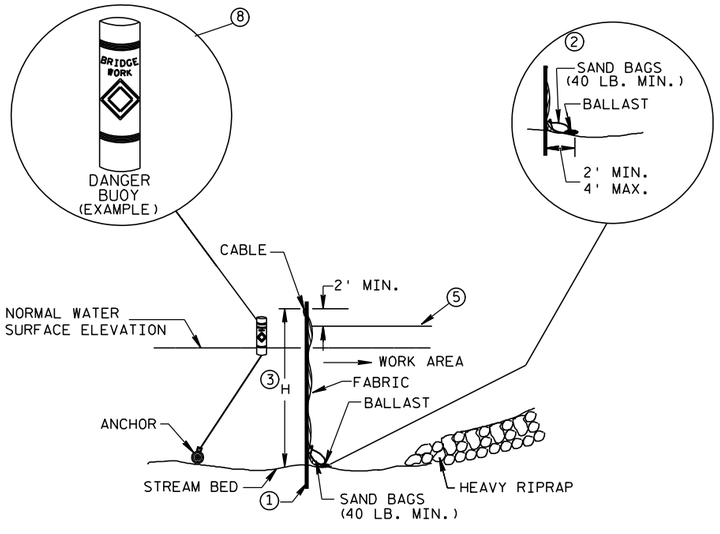


SECTION B-B

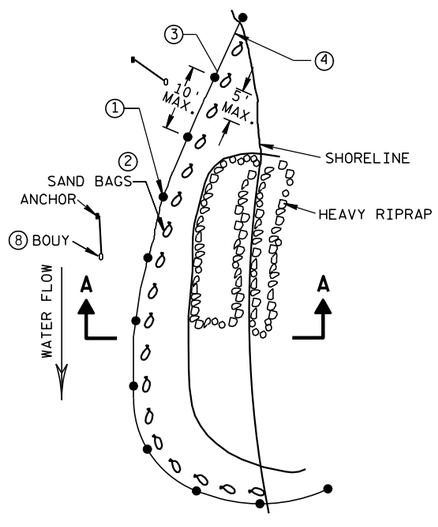




TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



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.

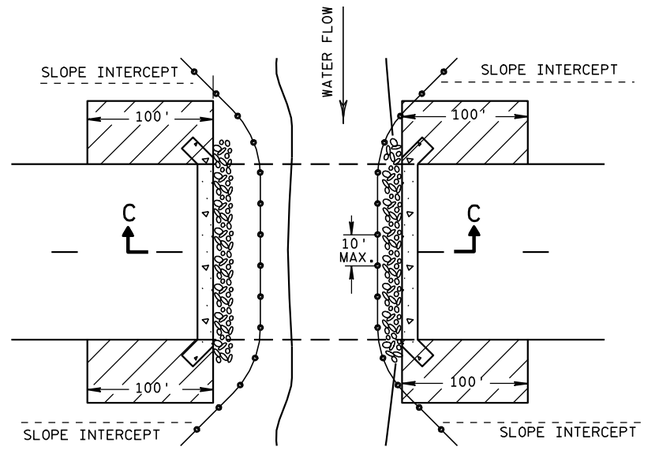
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

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.

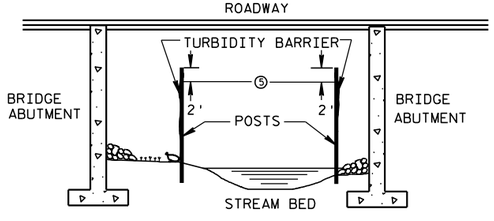
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

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	

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S.D.D. 8 E 11-2

METAL APRON ENDWALLS

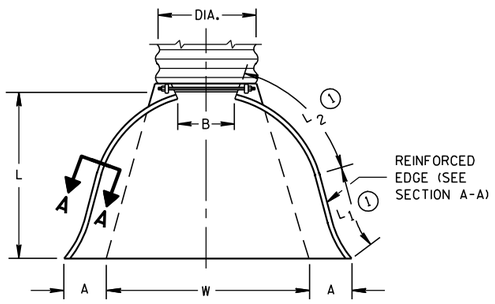
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109×	.105×	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

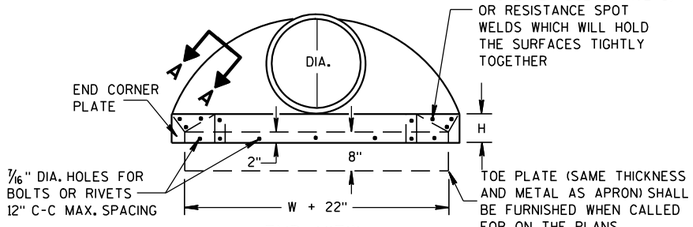
REINFORCED CONCRETE APRON ENDWALLS

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

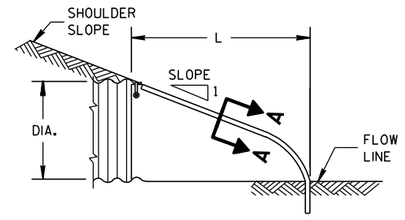
*MINIMUM
**MAXIMUM



PLAN VIEW

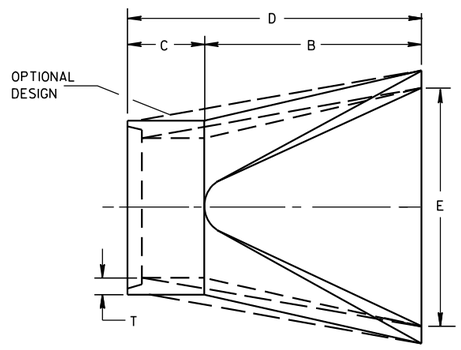


END VIEW

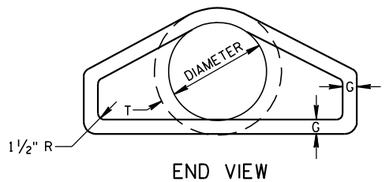


SIDE ELEVATION

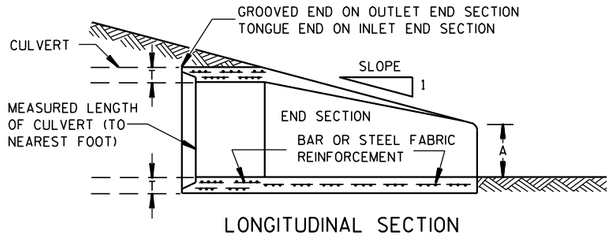
METAL ENDWALLS



PLAN

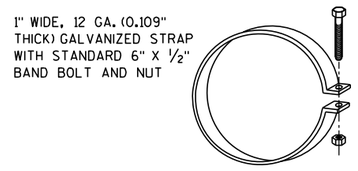


END VIEW



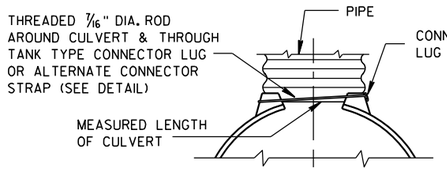
LONGITUDINAL SECTION

CONCRETE ENDWALLS

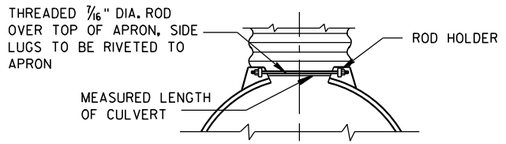


ALTERNATE FOR TYPE 1 CONNECTION

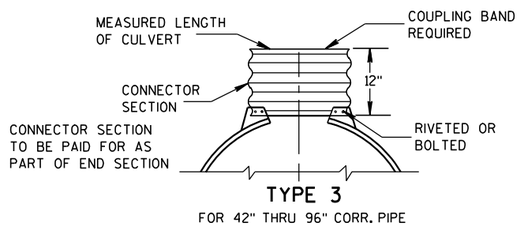
END SECTION CONNECTOR STRAP



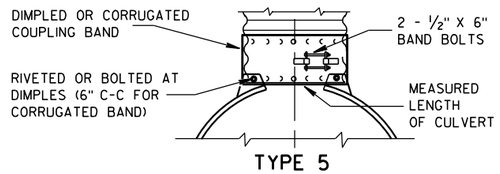
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

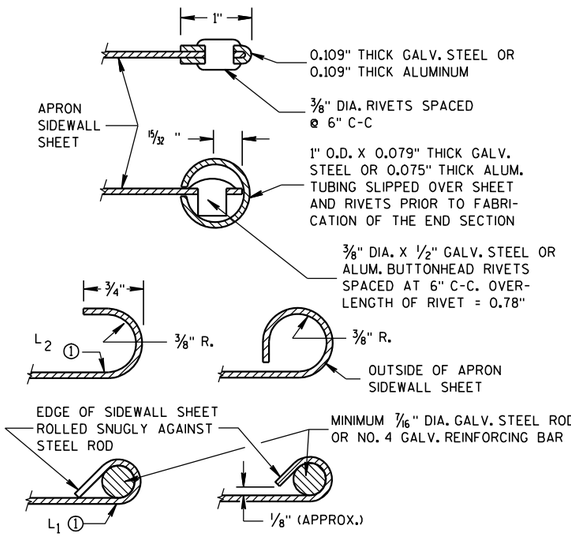
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

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

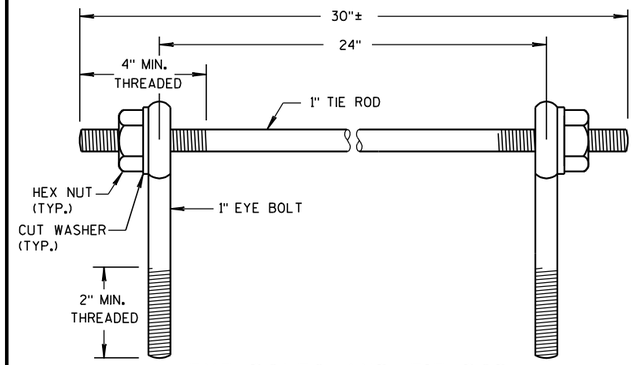
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

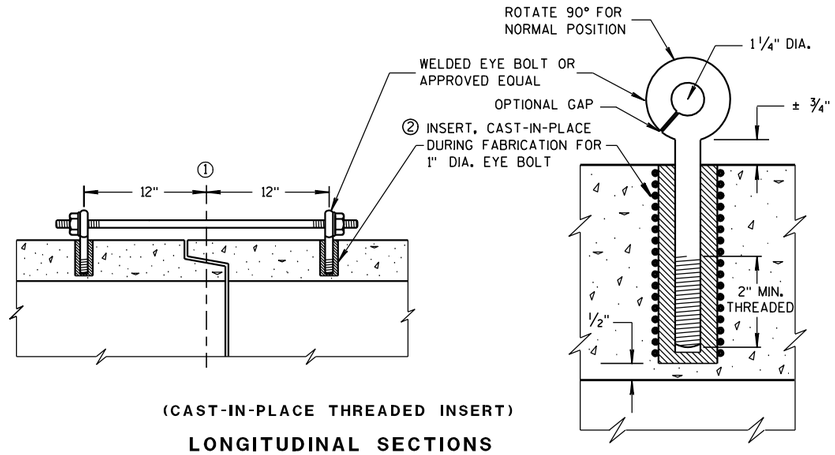
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
S.D.D. 8 F 1-11



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)

GENERAL NOTES

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

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

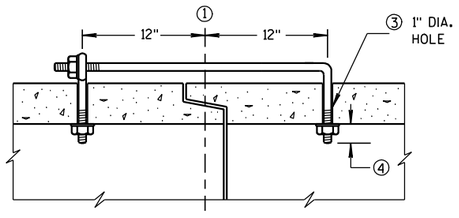
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ℄ OF TONGUE AND GROOVE.

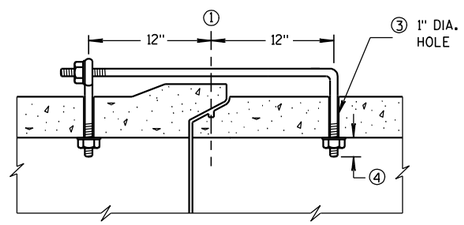
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)

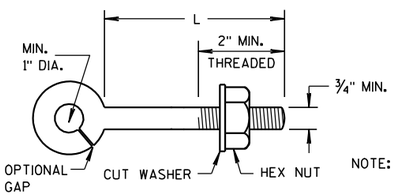


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

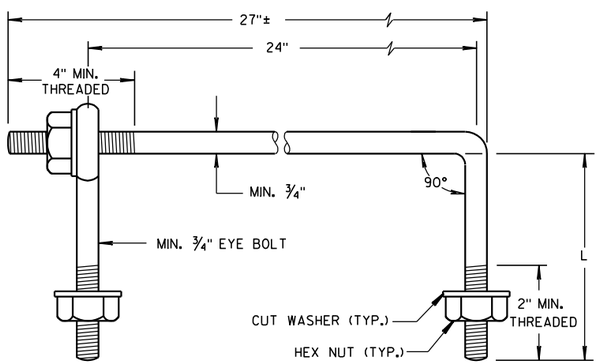
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD

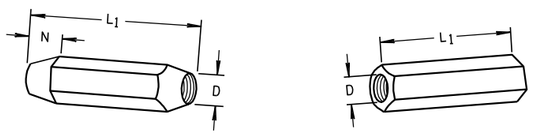
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 1/16

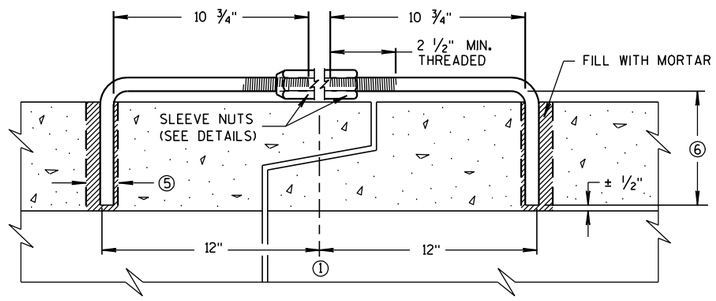
DIMENSIONS SHOWN ARE IN INCHES



TAPERED PLAIN

RIGHT AND LEFT THREADS

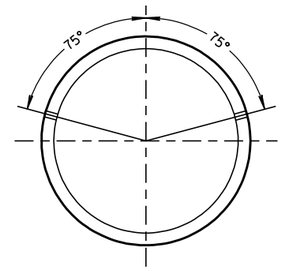
SLEEVE NUTS



LONGITUDINAL SECTION

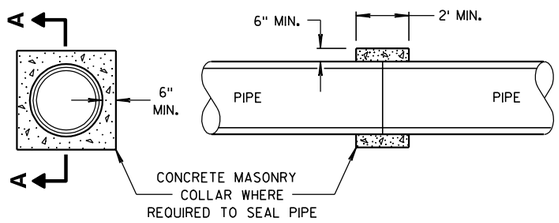
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
50
FHWA

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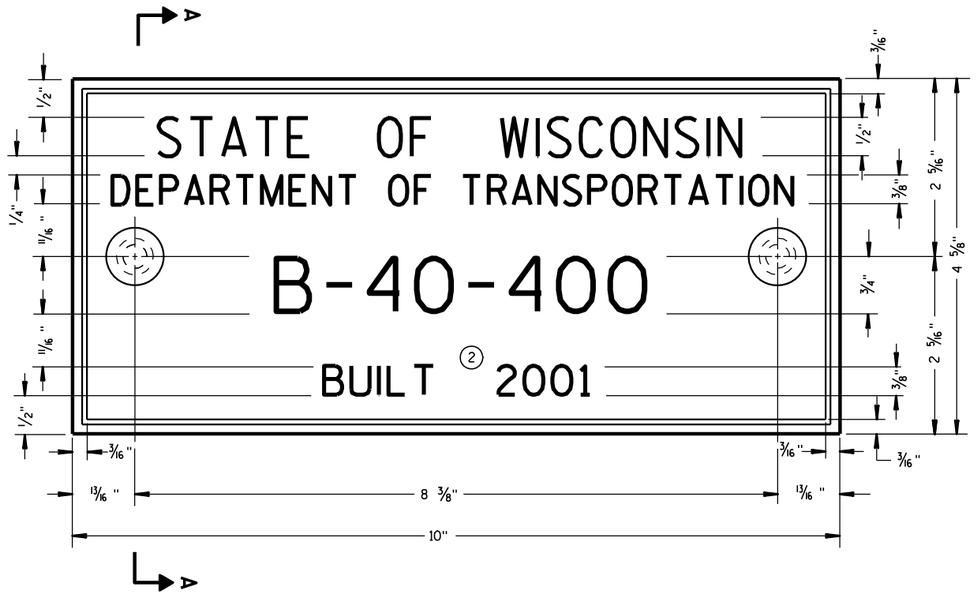
S.D.D. 8 F 4-7



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

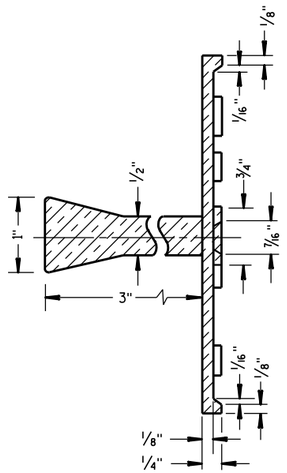
GENERAL NOTES

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.

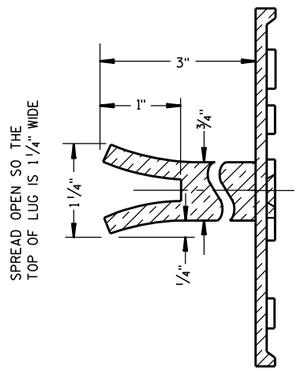
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(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

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

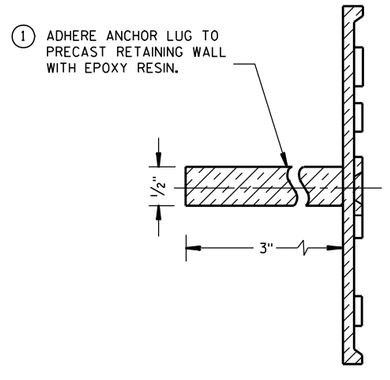
COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES



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 DEVELOPMENT ENGINEER

FHWA

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S.D.D. 12 A 3-10

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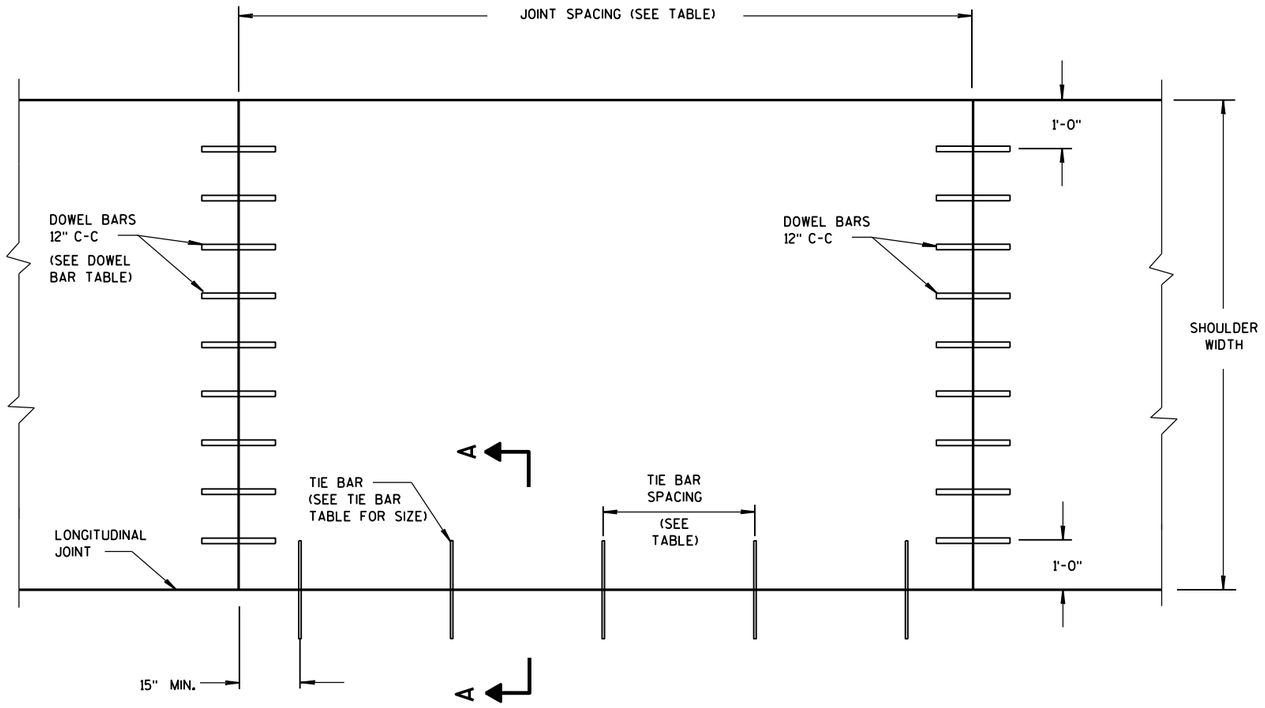
S.D.D. 12 A 3-10



PLAN VIEW

CONCRETE PAVEMENT SHOULDER

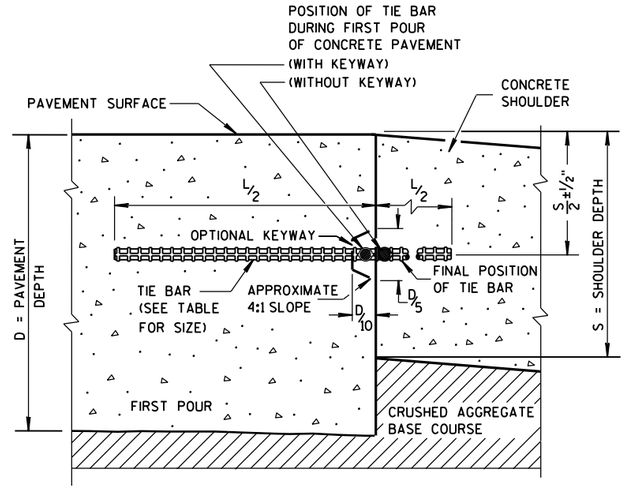
GENERAL NOTES

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.

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

FINISH THE SHOULDER PAVEMENT CONFORMING TO SUBSECTION 415.3.8 OF THE STANDARD SPECIFICATIONS.

TIE BARS SHALL CONFORM TO SUBSECTION 505.2.4 OF THE STANDARD SPECIFICATIONS.



SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4*	30"	24"**

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER***	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'

*** FOR DOWELED CONCRETE SHOULDERS WITH TRAPEZOIDAL CROSS SECTIONS, CHOSE THE APPROPRIATE DOWEL BAR DIAMETER BASED ON THE SMALLER PAVEMENT DEPTH (LIKELY THE OUTSIDE EDGE OF THE SHOULDER). IF USING BASKETS, USE BASKETS FOR THE AVERAGE THICKNESS OF THE CROSS SECTION.

CONCRETE PAVEMENT SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPERV
FHWA

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S.D.D. 13 A 3-6

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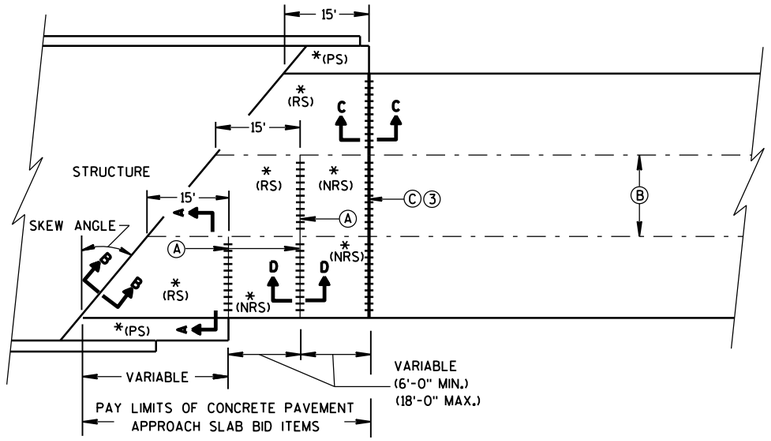
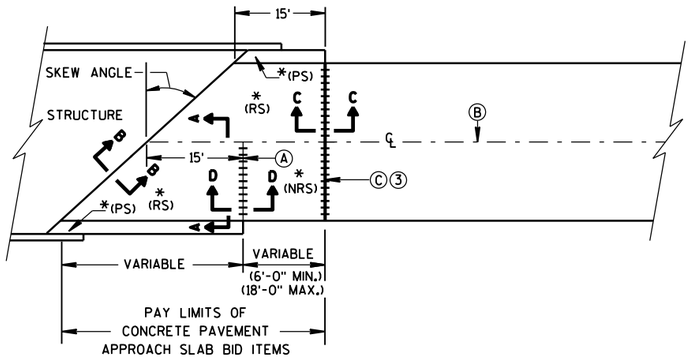
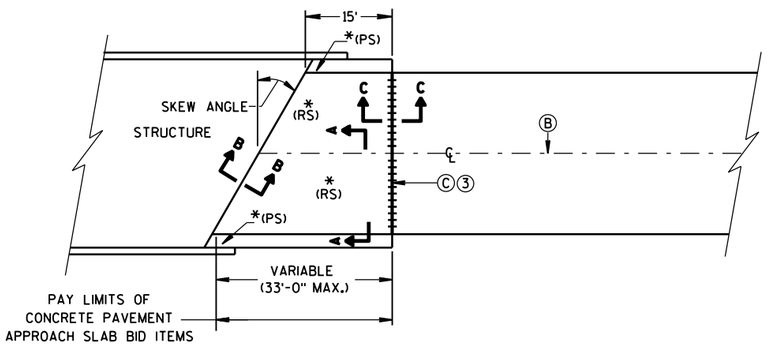
S.D.D. 13 A 3-6



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >20°
(PAVEMENT WIDTH ≤30')



SKEWS ≤20°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

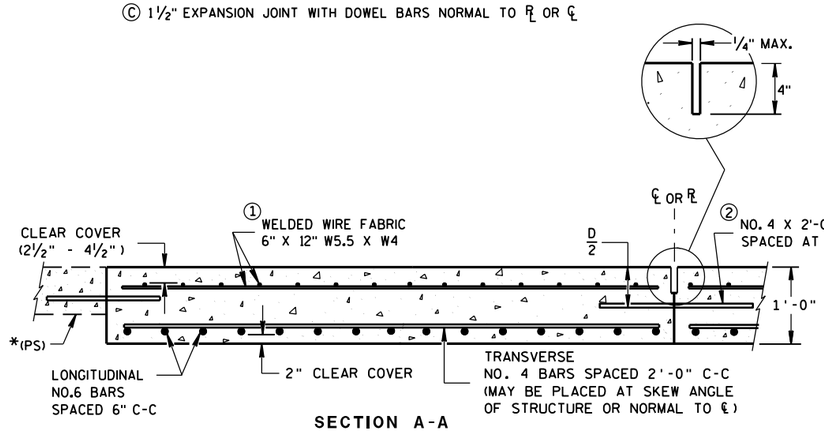
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

***STANDARD DOWEL BAR DIAMETER
(SEE SDD 13C11, & SDD 13C13)

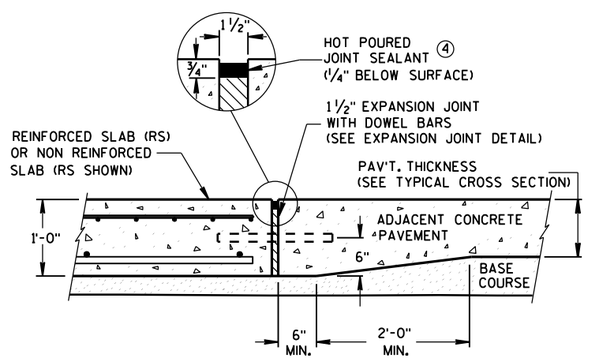
Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄

Ⓑ STANDARD LONGITUDINAL JOINT WITH TIE BARS.

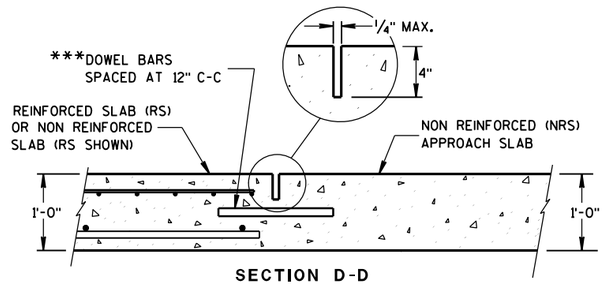
Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

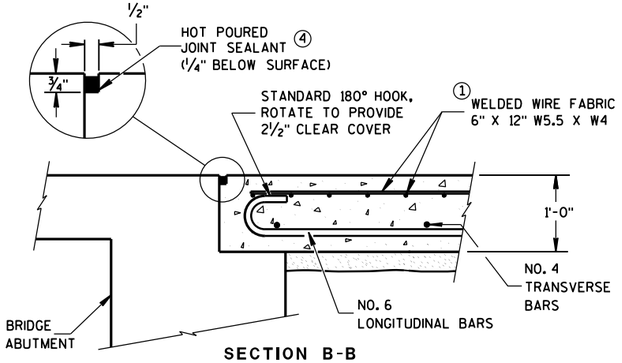
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

② THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.

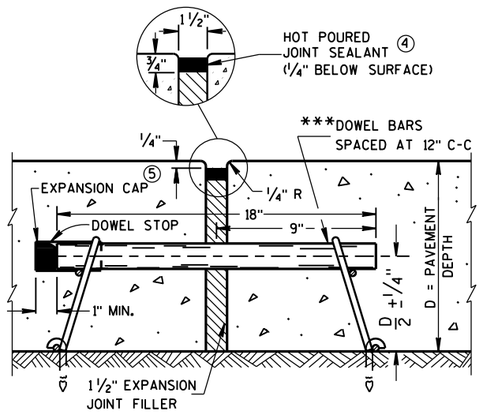
③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

④ USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.

⑤ PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE
/S/ Peter Kemp, P.E.
PAVEMENT SUPER
FHWA

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S.D.D. 13 B 2-8a

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S.D.D. 13 B 2-8a

GENERAL NOTES

(1) WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

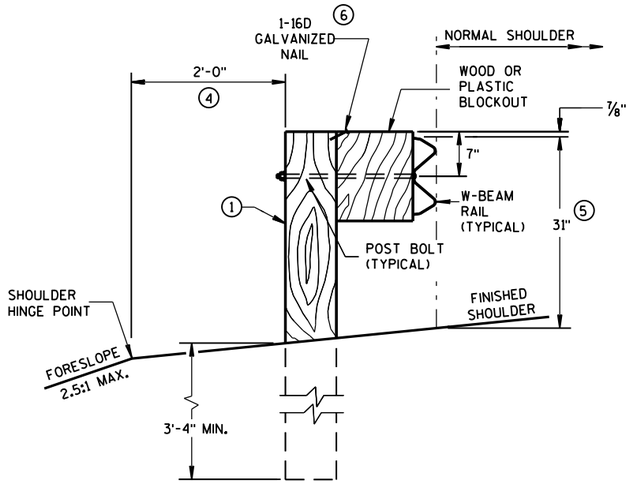
(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½ INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

(4) WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

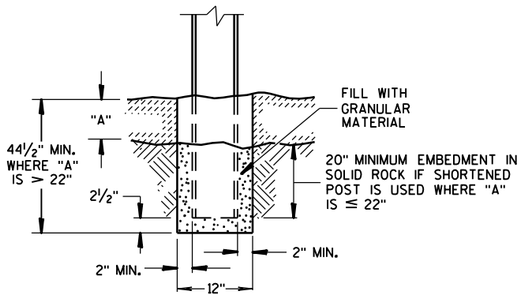
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

(6) WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



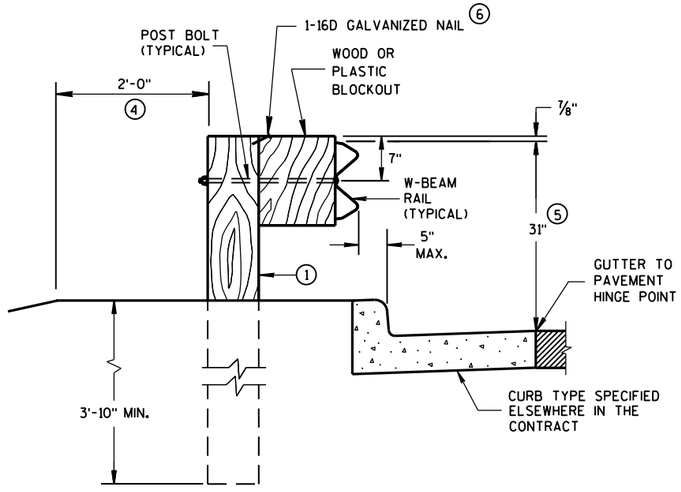
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



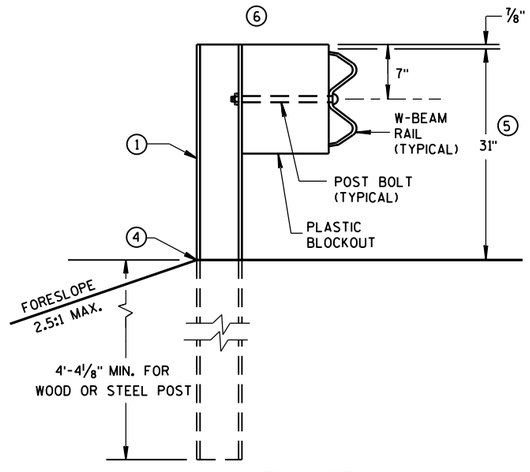
END VIEW

SETTING STEEL OR WOOD POST IN ROCK (3)



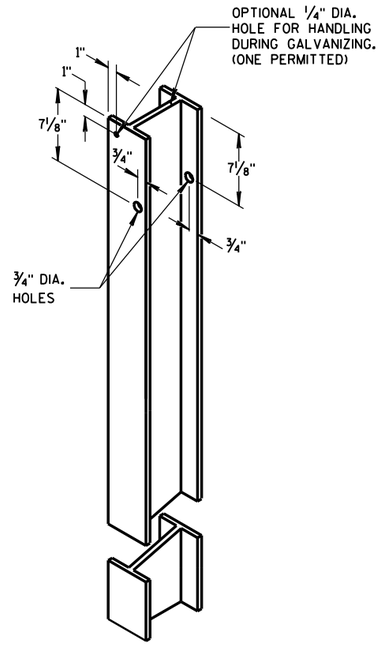
END VIEW

LOCATED ALONG A CURBED ROADWAY

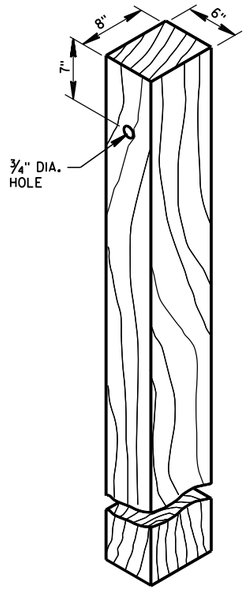


END VIEW

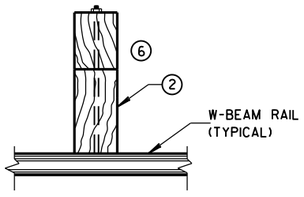
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



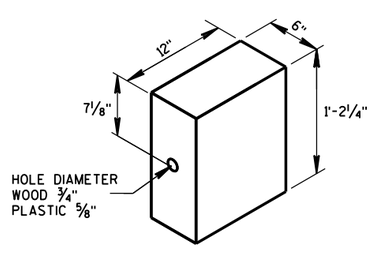
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) (1)



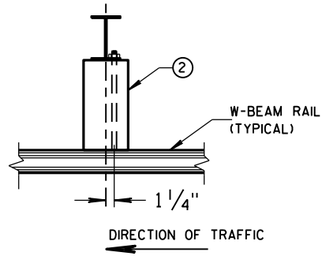
WOOD POST
(6" X 8") NOMINAL (1)



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT (2)



PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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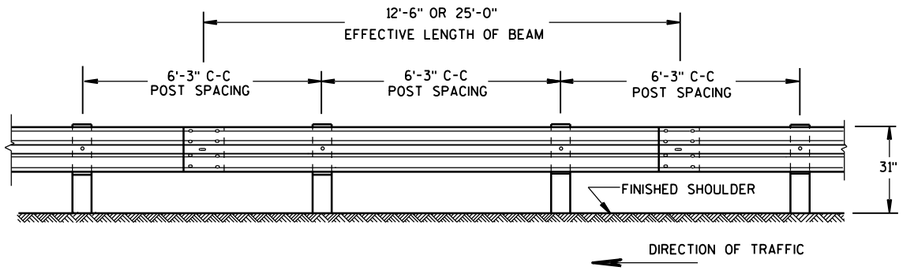
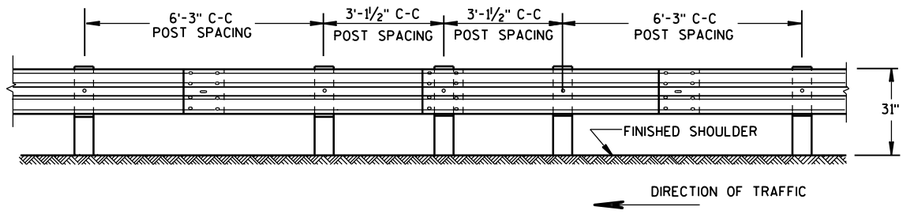
S.D.D. 14 B 42-3a



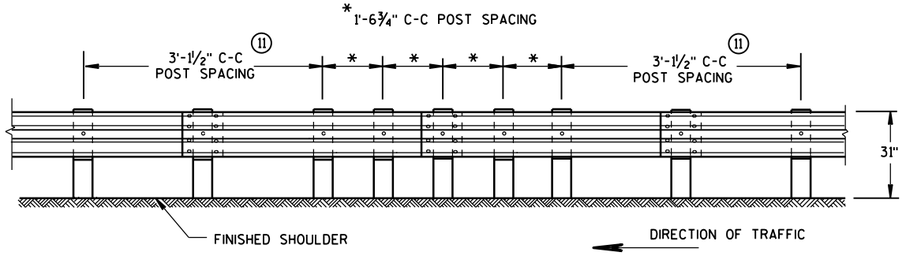
FRONT VIEW

POST SPACING STANDARD INSTALLATION



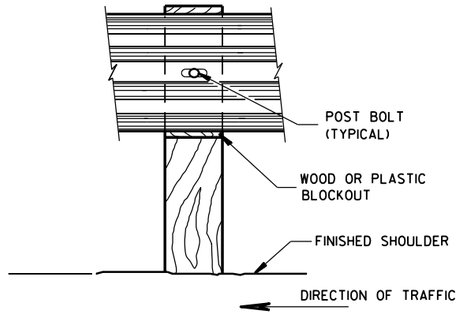
FRONT VIEW

HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)

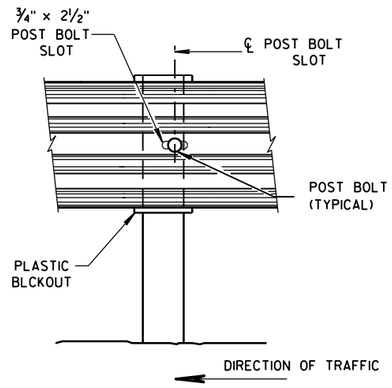


FRONT VIEW

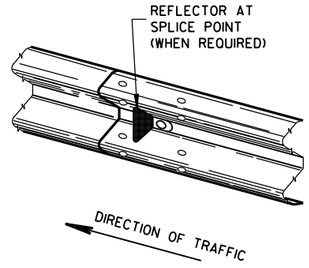
QUARTER POST SPACING (QS)

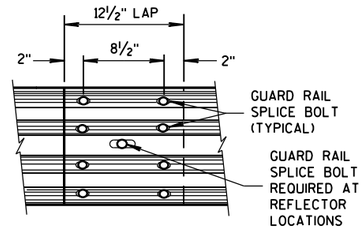


FRONT VIEW AT WOOD POST



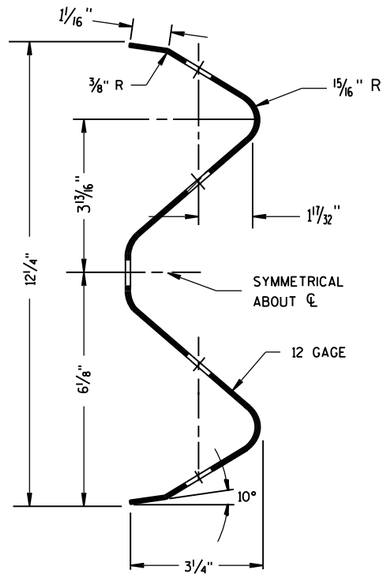
FRONT VIEW AT STEEL POST



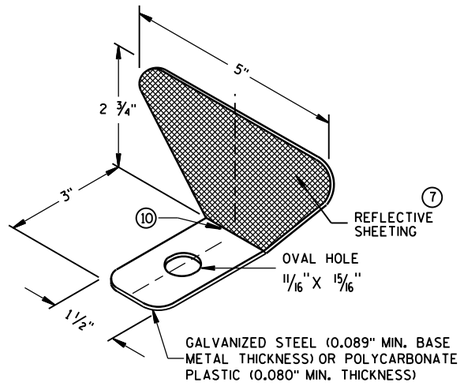


FRONT VIEW

MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



GENERAL NOTES

⑦ PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.

⑨ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

⑩ PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

⑪ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

REFLECTOR SPACING ⑧

	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 ⑨	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2 ⑩	

ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION ⑦

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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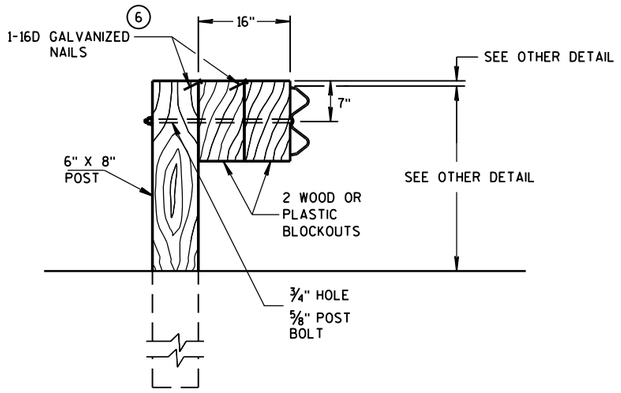
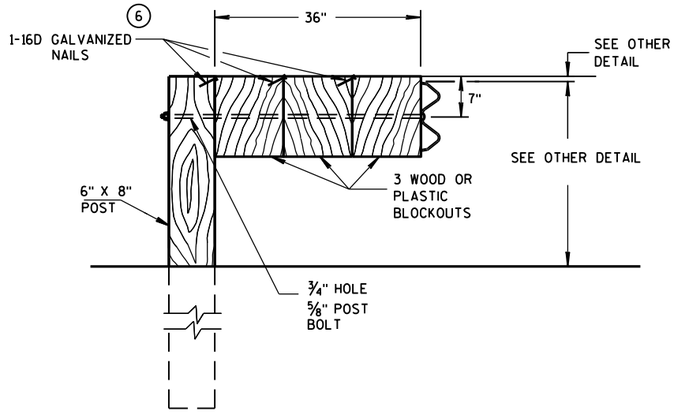
S.D.D. 14 B 42-3b



DETAIL FOR 16" BLOCKOUT DEPTH

IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

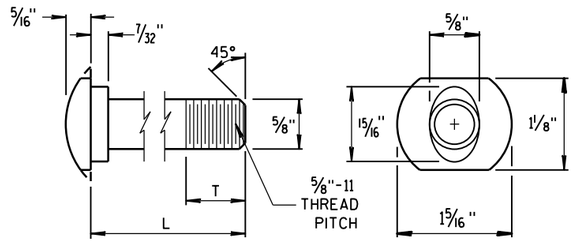


DETAIL FOR 36" BLOCKOUT DEPTH

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

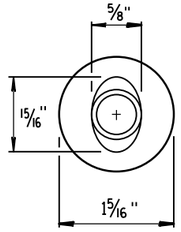
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

NOTE: 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 1/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

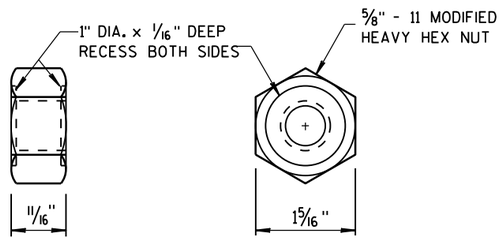


POST BOLT TABLE

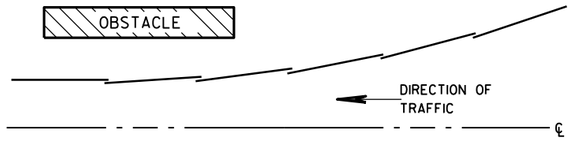
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

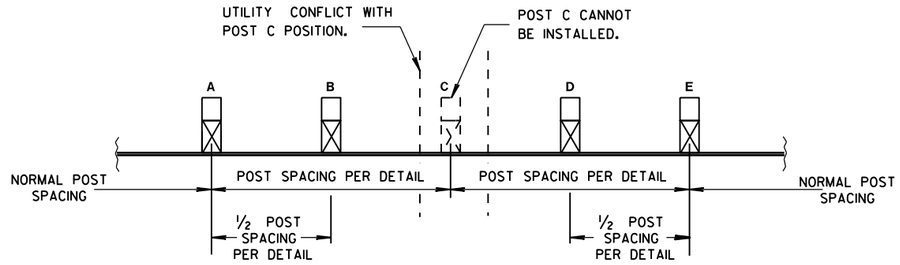


POST BOLT AND RECESS NUT

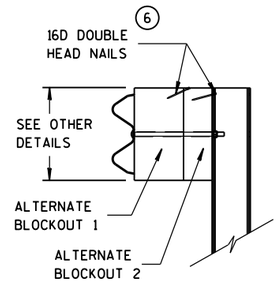


PLAN VIEW

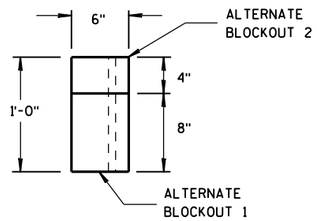
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

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S.D.D. 14 B 42-3c

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL), AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.

(C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.

(D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

(F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER.

(G) ½" DIAMETER X 3" LONG LAG BOLT AND WASHER.

(H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.

(I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

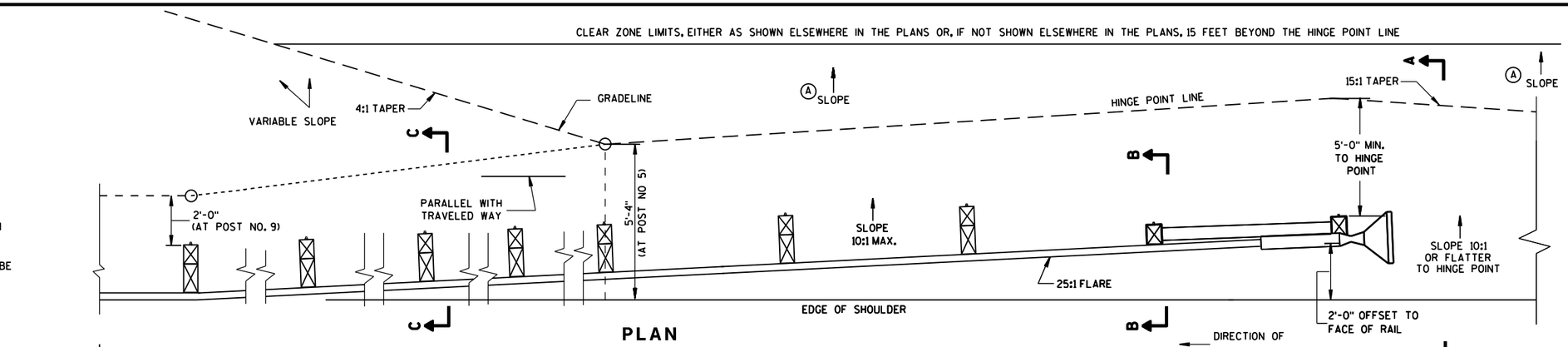
SEE SDD 14B42 FOR MORE INFORMATION.

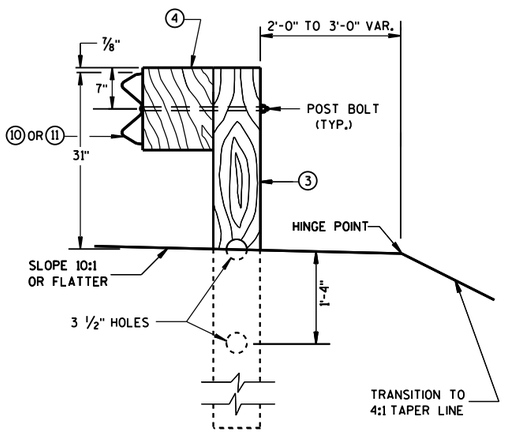
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

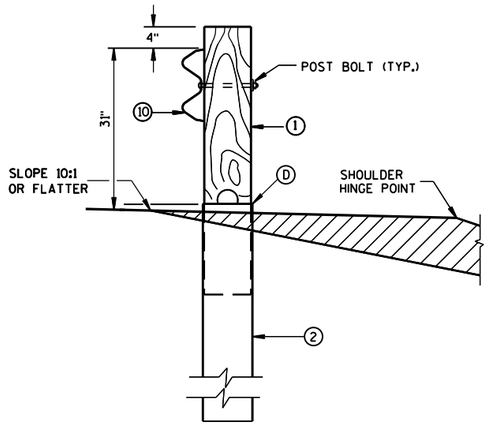
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE.

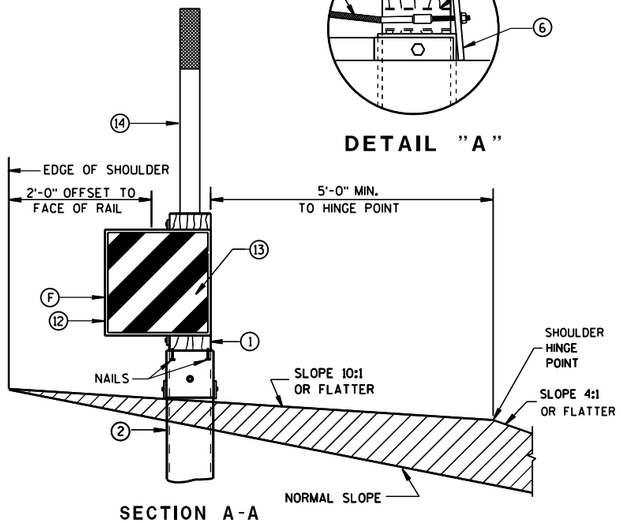




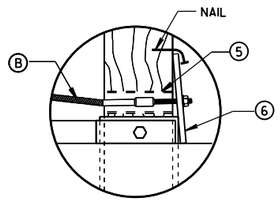
SECTION C-C
TYPICAL AT POST NOS. 3-9



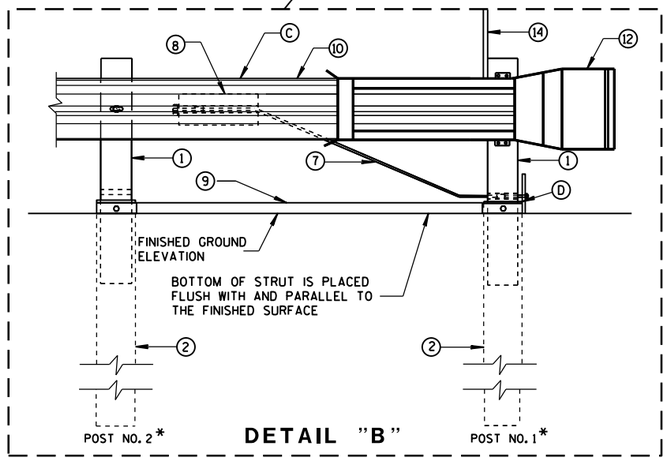
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
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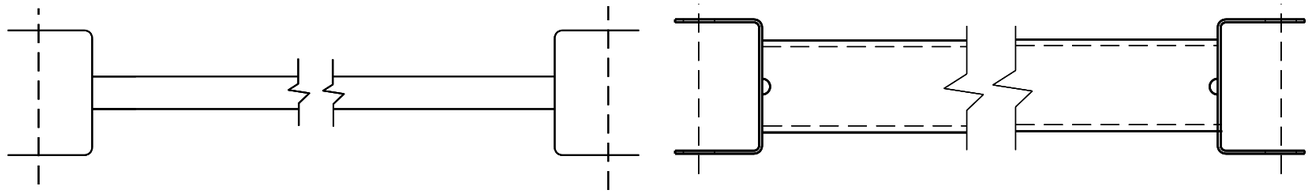
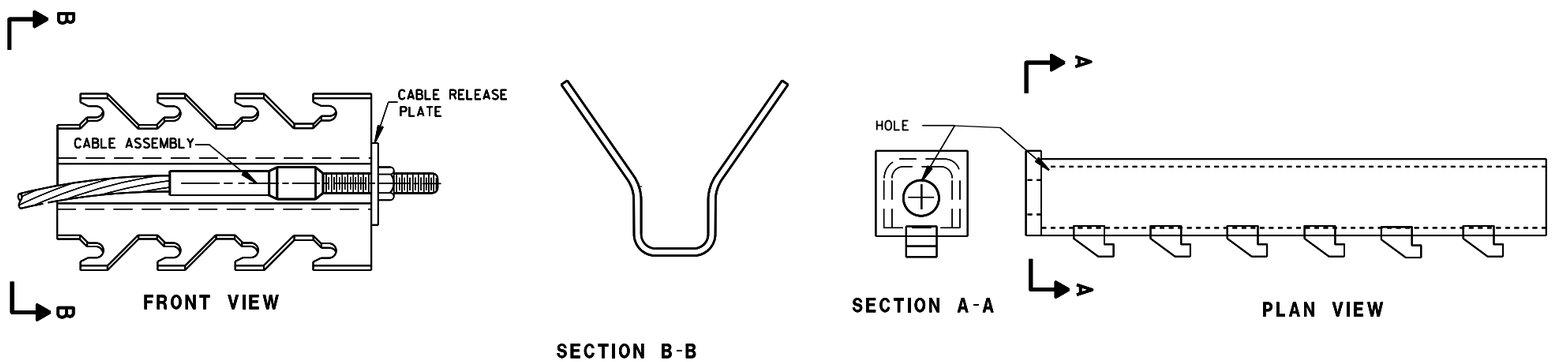


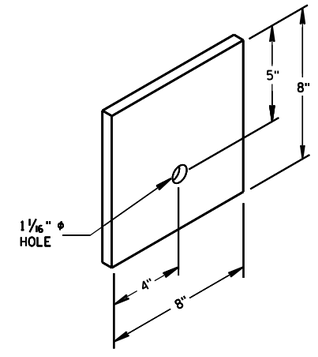
GENERIC GROUND STRUT (9) (H)

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
(1)	WOOD BREAKAWAY POST
(2)	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
(3)	WOOD CRT
(4)	WOOD BLOCKOUT
(5)	PIPE SLEEVE
(6)	BEARING PLATE
(7)	BCT CABLE ASSEMBLY
(8)	ANCHOR CABLE BOX
(9)	GROUND STRUT
(10)	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
(11)	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
(12)	END SECTION EAT
(13)	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
(14)	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



GENERIC ANCHOR CABLE BOX (8) (H)



BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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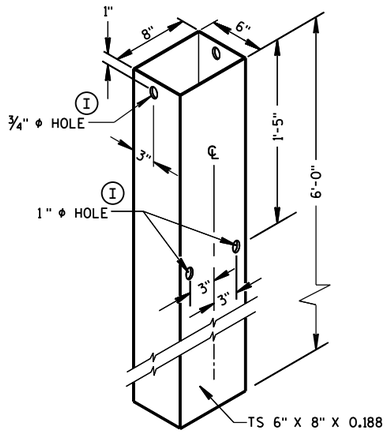
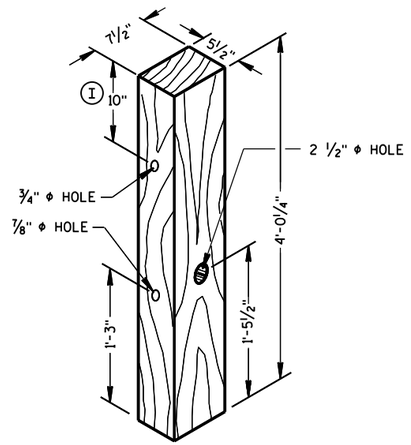
S.D.D. 14 B 44-2b

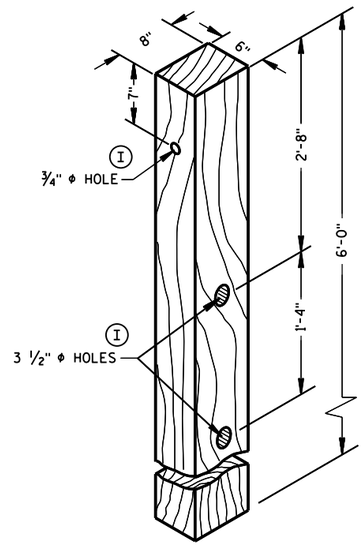


FOUNDATION TUBE (2)



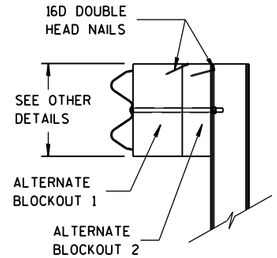
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

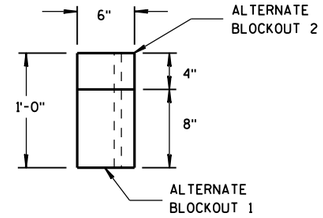


POSTS NUMBER 3-9

WOOD CRT POST (3)

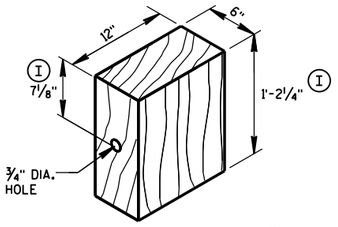


SIDE VIEW



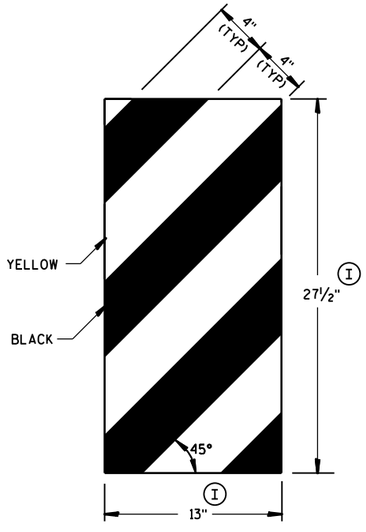
TOP VIEW

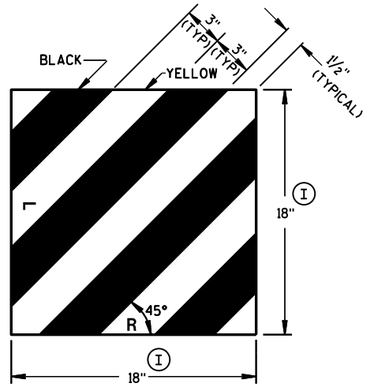
ALTERNATE WOOD BLOCKOUT DETAIL



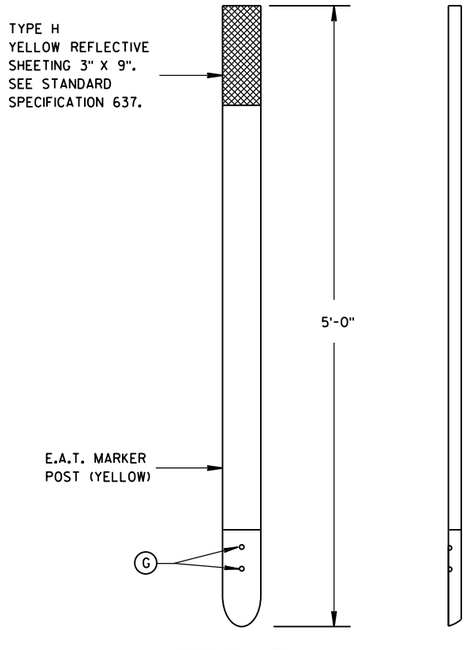
WOOD BLOCKOUT (4)

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2





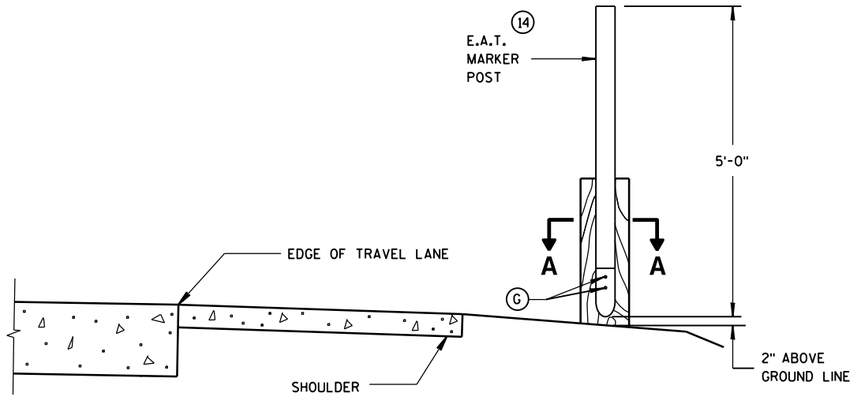
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

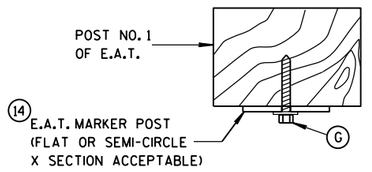
SIDE VIEW

E.A.T. MARKER POST (14)



TYPICAL INSTALLATION OF E.A.T. MARKER POST BACKSIDE OF POST NO. 1

(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER

FHWA

6

S.D.D. 14 B 44-2c

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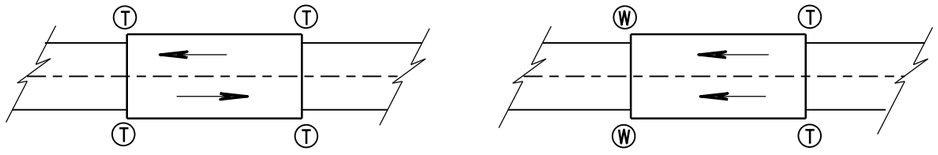
S.D.D. 14 B 44-2c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

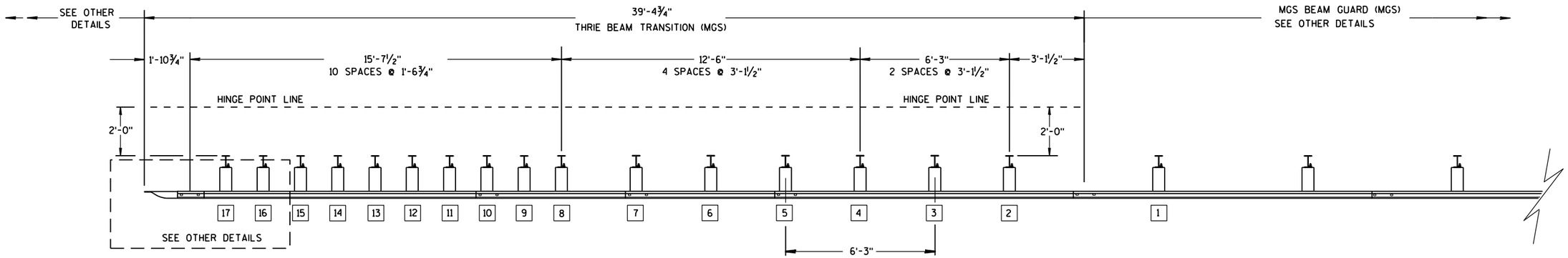
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

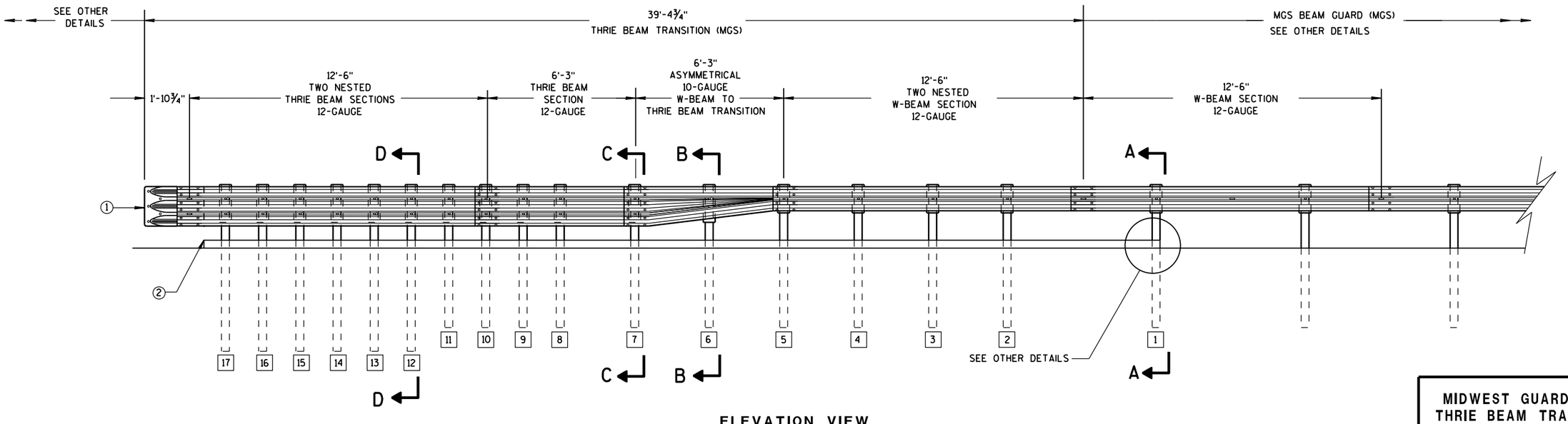
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 45-4a

6

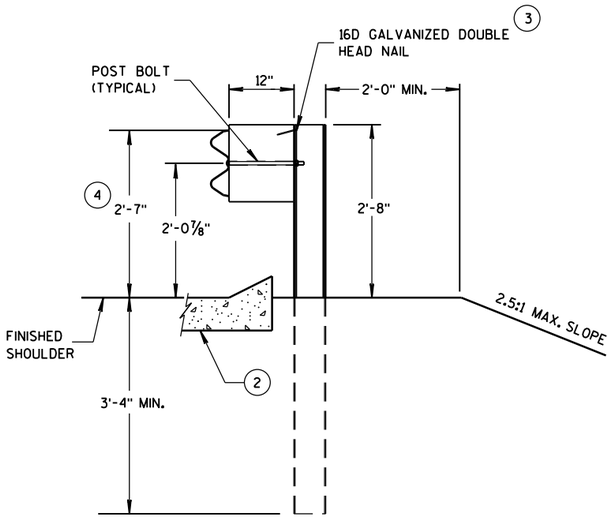
S.D.D. 14 B 45-4a

GENERAL NOTES

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE_FEATURE SEE PLAN FOR INFORMATION.

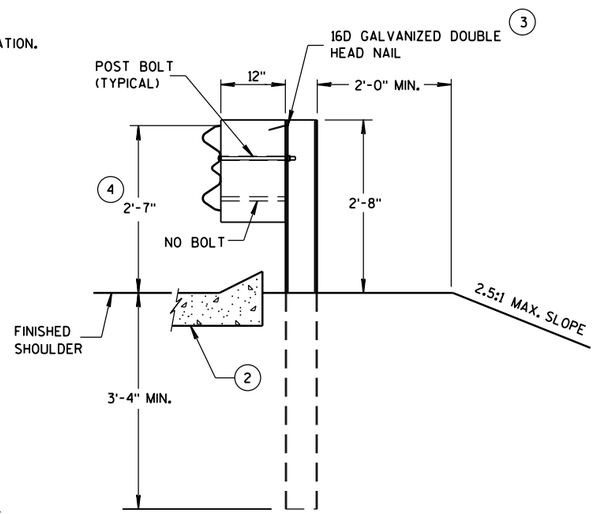
(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



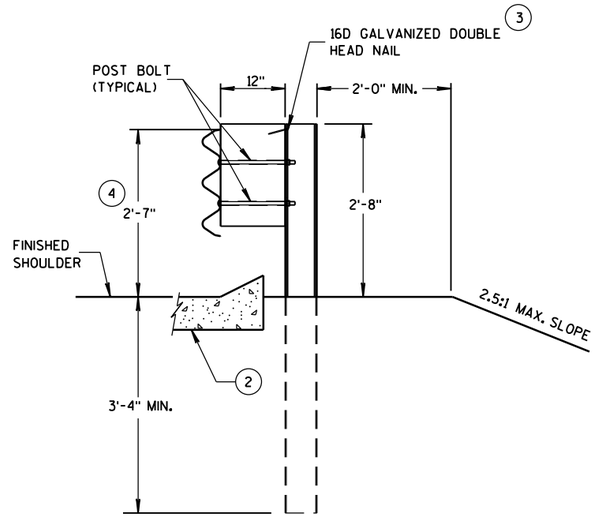
SECTION A-A

POSTS 1-5



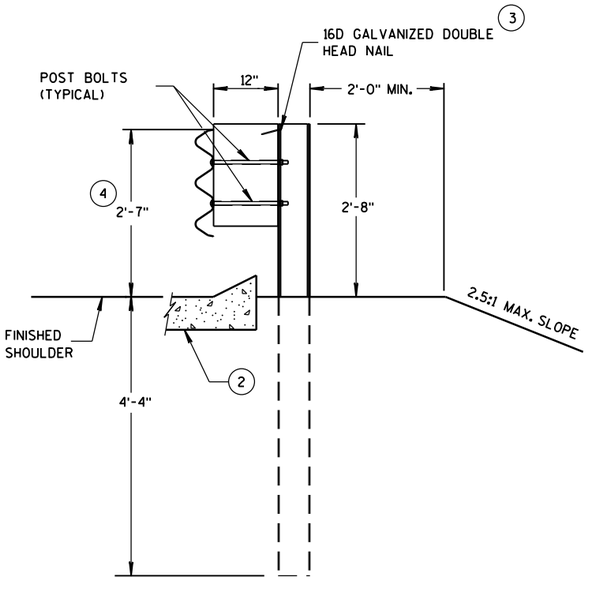
SECTION B-B

POST 6



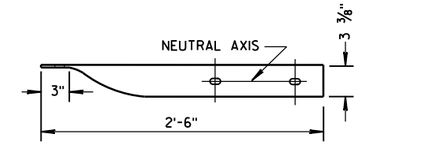
SECTION C-C

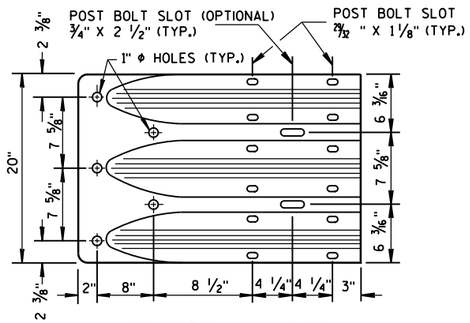
POSTS 7-11



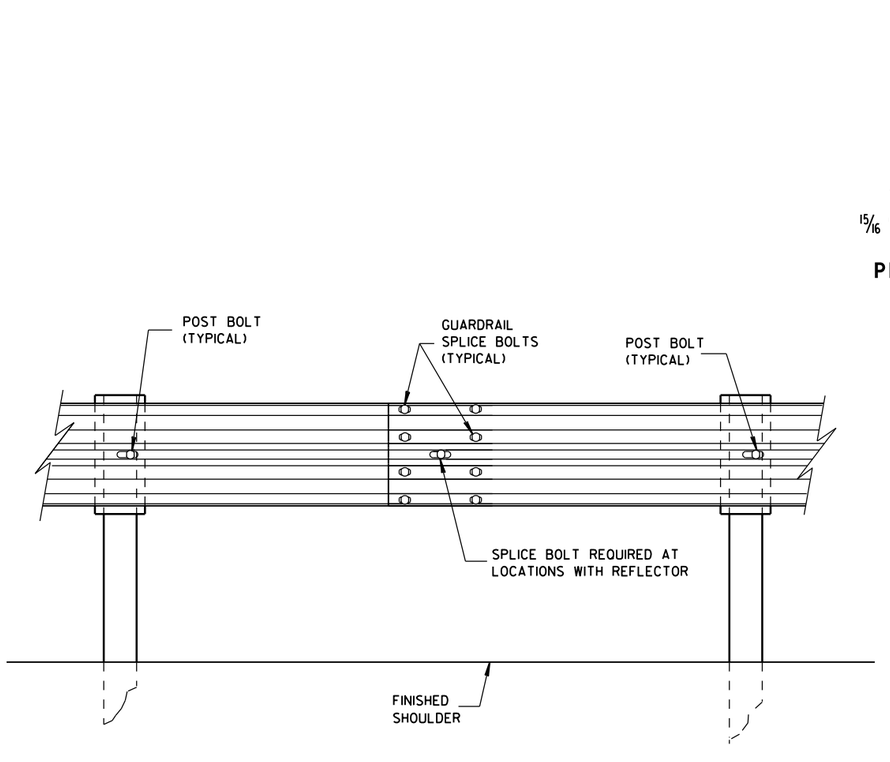
SECTION D-D

POSTS 12-17





THRIE BEAM TERMINAL CONNECTOR



SPLICE DETAIL

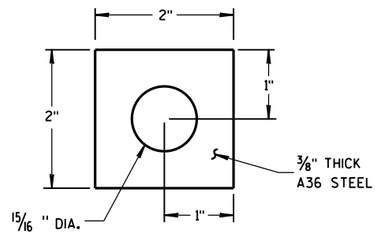
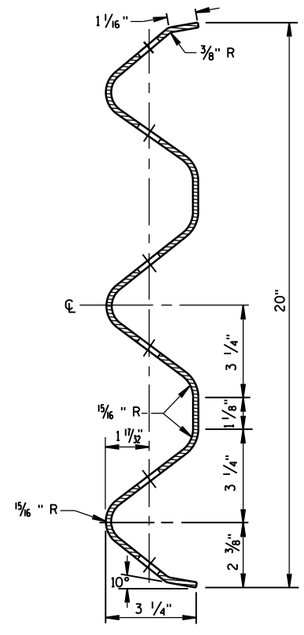


PLATE WASHER DETAIL



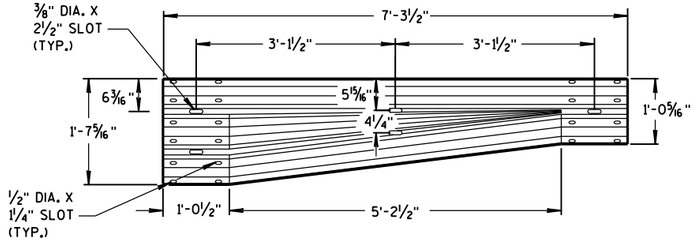
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

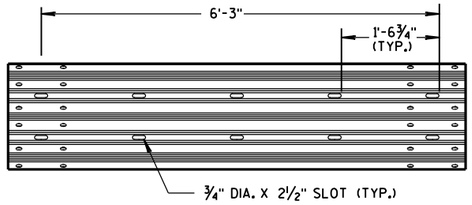
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

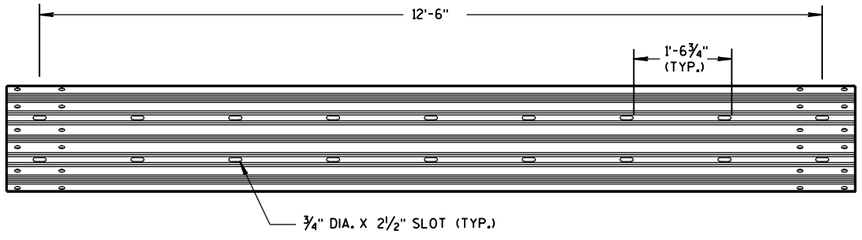
S.D.D. 14 B 45-4b



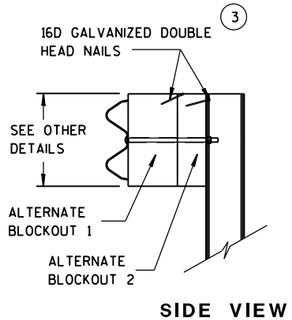
W-BEAM TO THRIE BEAM TRANSITION SECTION



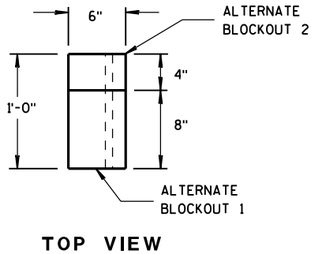
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

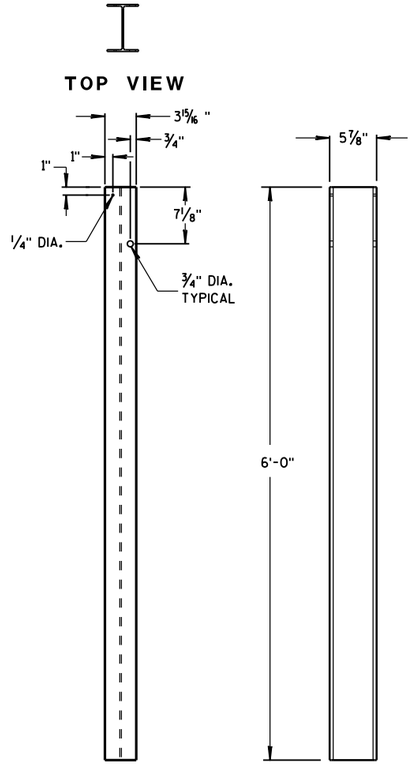


SIDE VIEW



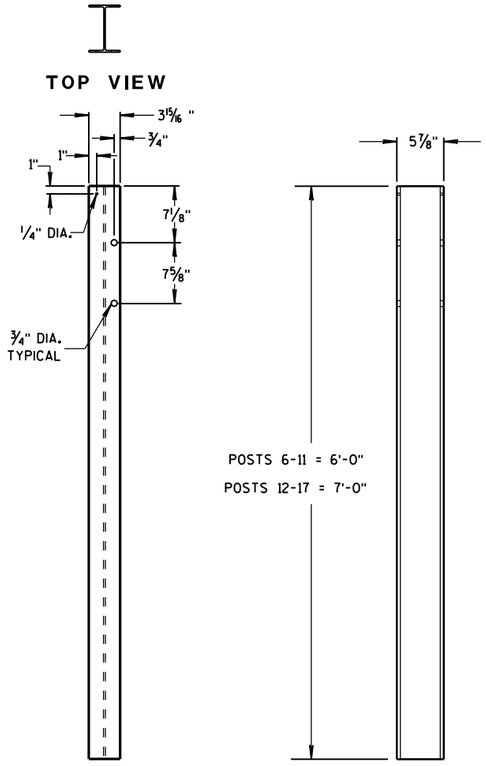
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



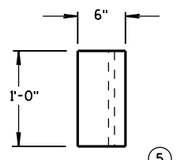
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5

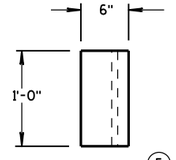


FRONT VIEW SIDE VIEW

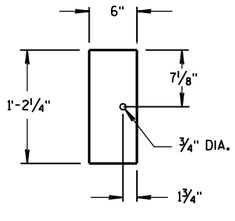
STEEL POSTS 6-17



TOP VIEW (5)

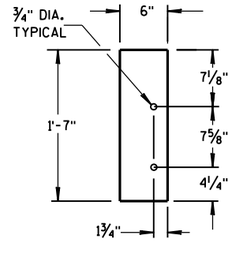


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

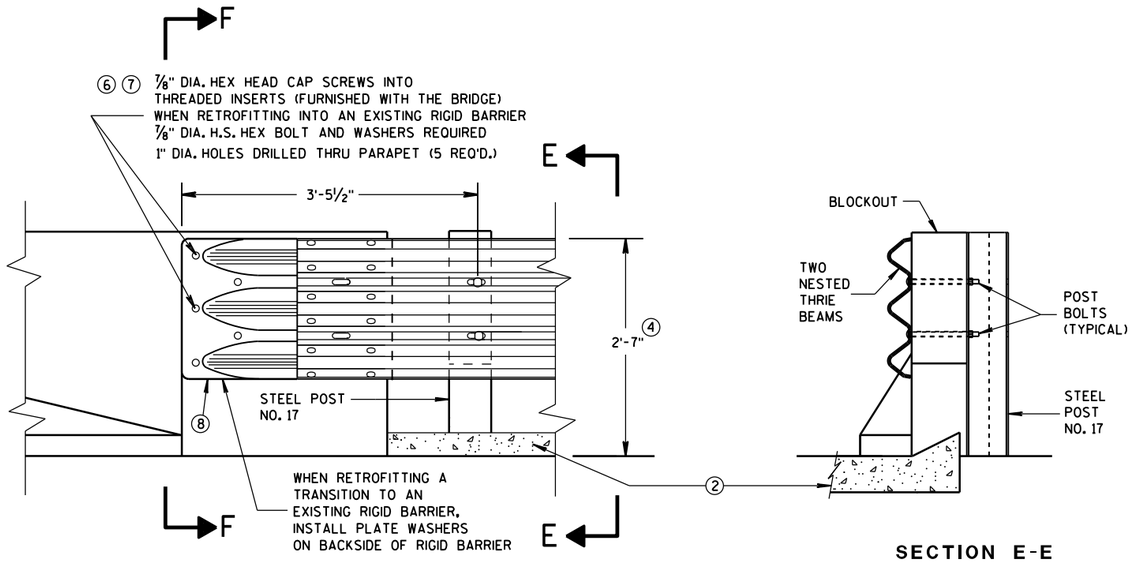
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 45-4c



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

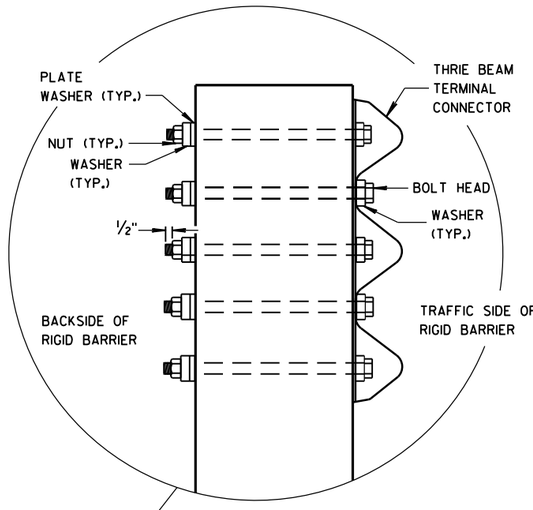
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

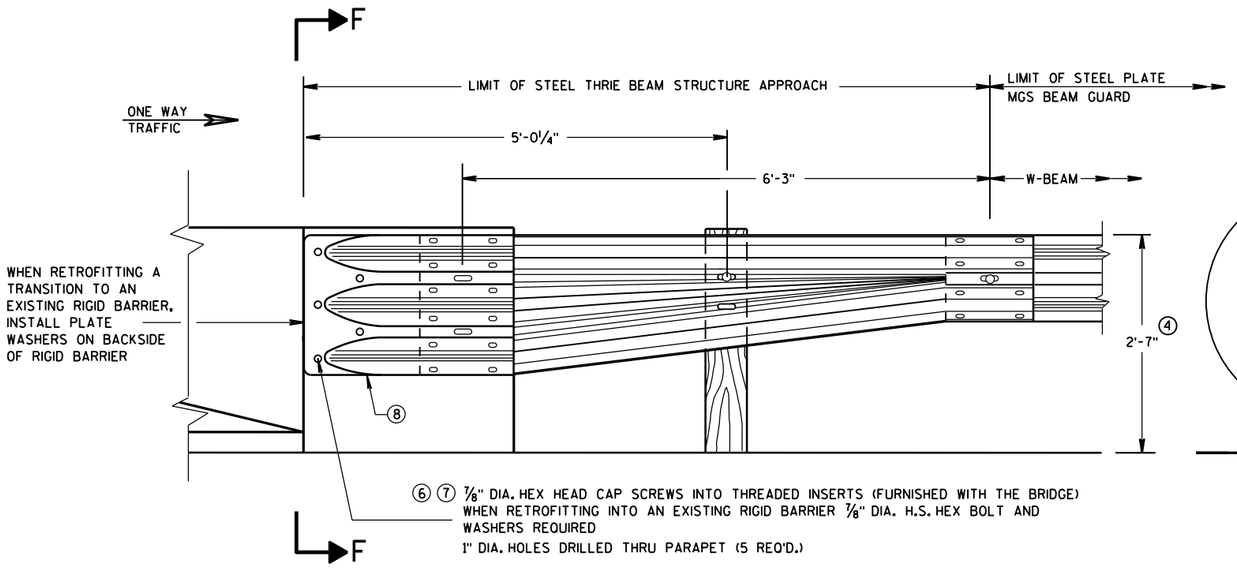
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

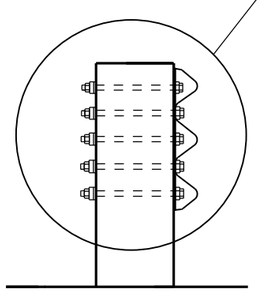
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

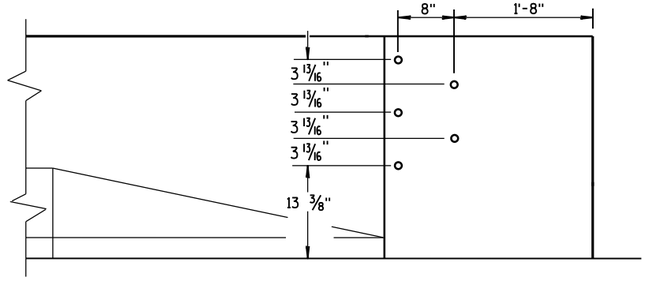




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

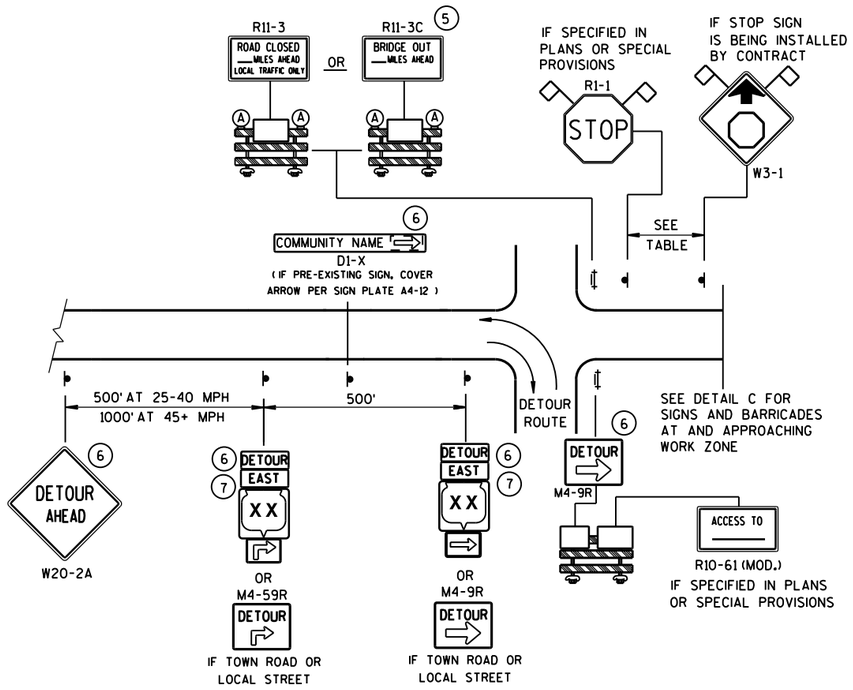
APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 14 B 45-4d

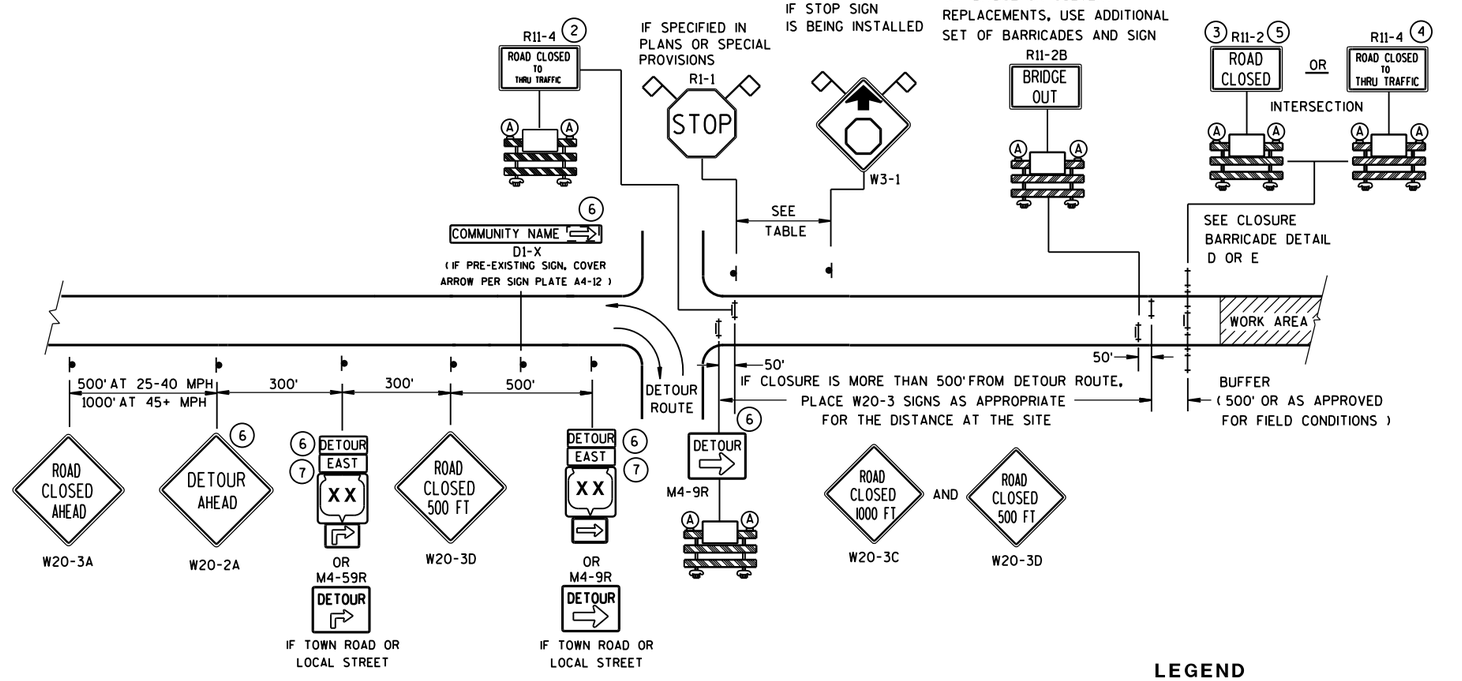
6

S.D.D. 14 B 45-4d



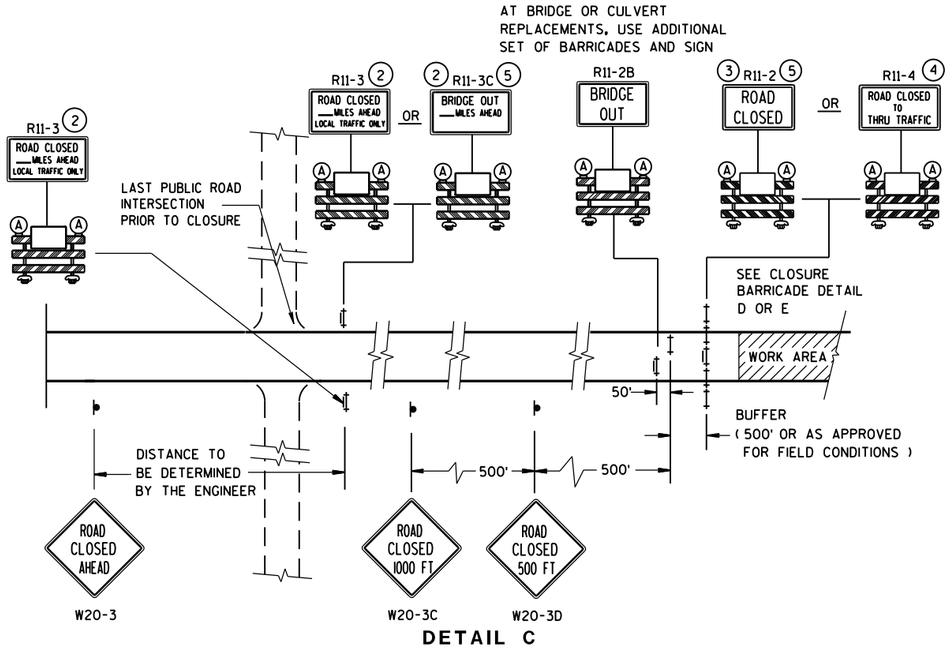
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS 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-SHEET "**b**" FOR GENERAL NOTES AND FOOTNOTES (1) THROUGH (7)

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1 OR M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

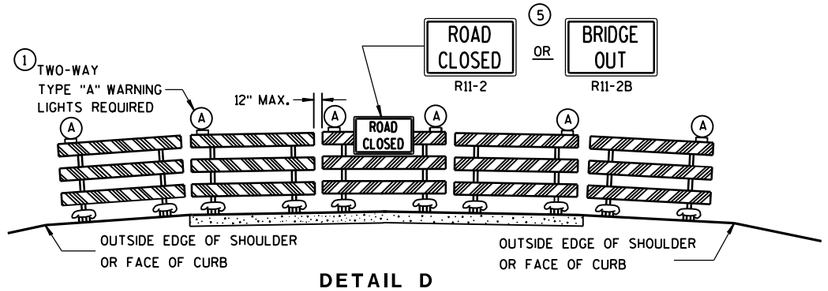
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA

6

S.D.D. 15 C 2-6a

6

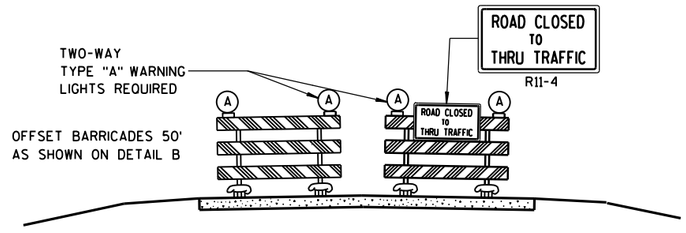
S.D.D. 15 C 2-6a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-SHEET "**a**" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL D FOR FULL ROAD CLOSURES.

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

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

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

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

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO SAFETY ENGI

FHWA

FIC

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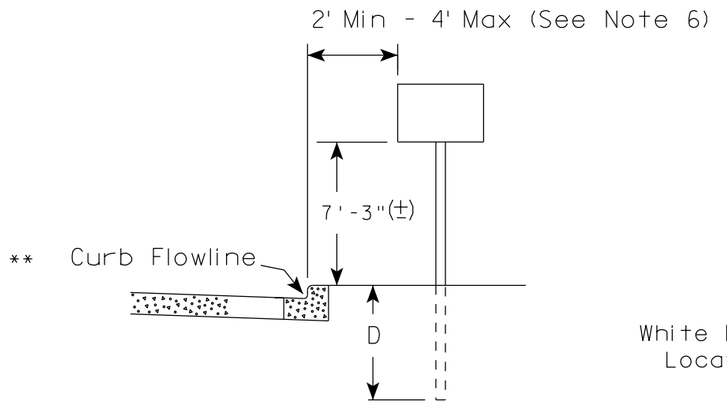
S.D.D. 15 C 2-6b

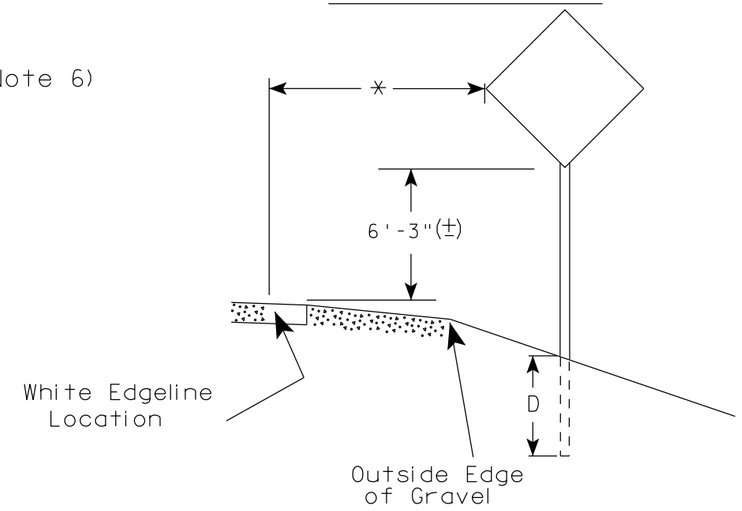
6

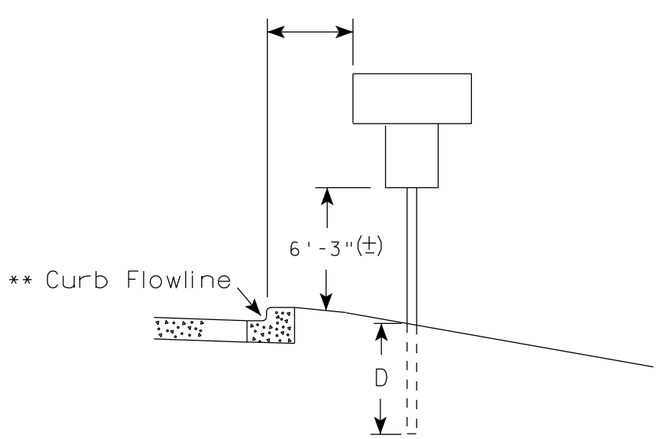
S.D.D. 15 C 2-6b

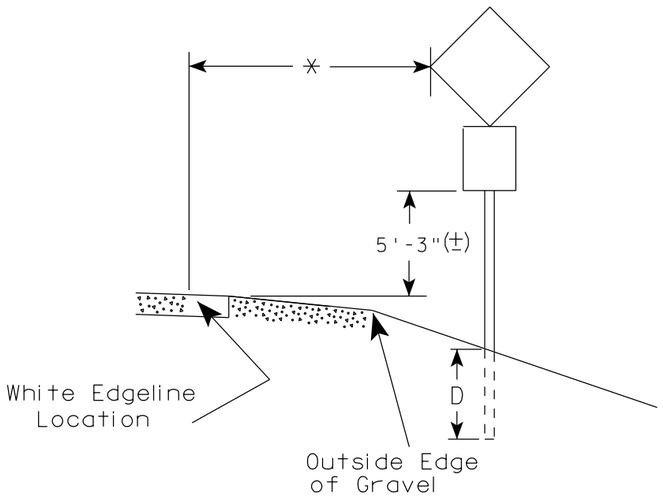
URBAN AREA



RURAL AREA (See Note 2)







GENERAL NOTES

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

POST EMBEDMENT DEPTH

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

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

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

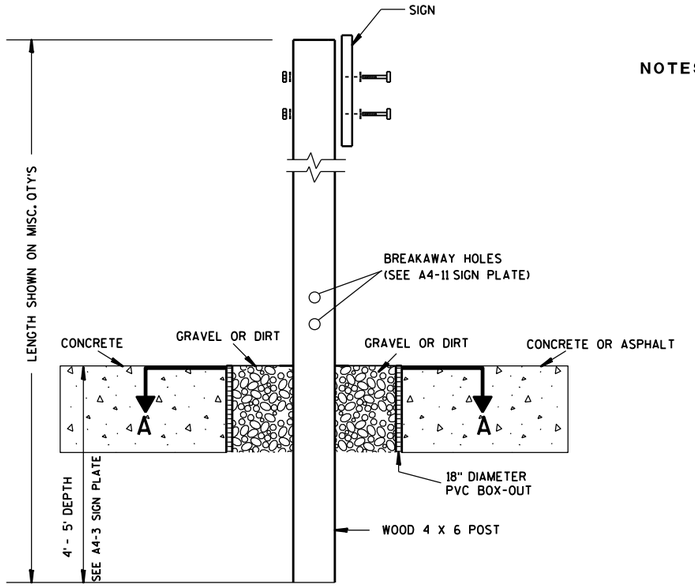
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

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

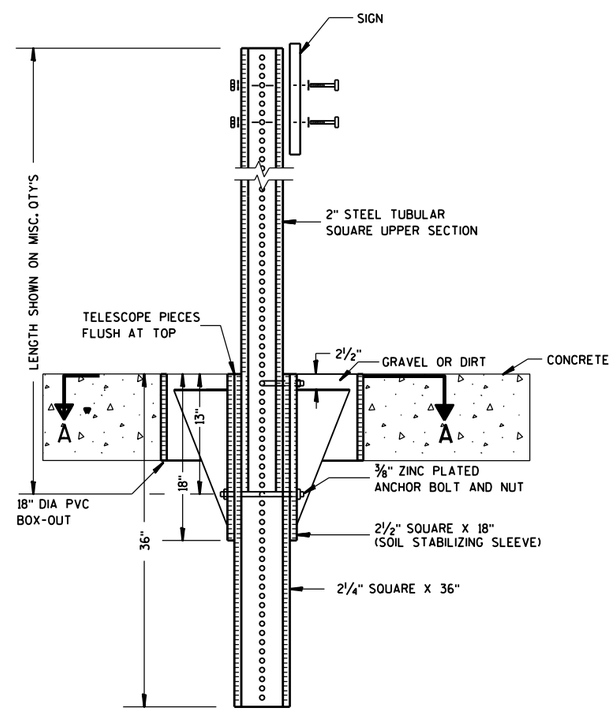
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



ELEVATION VIEW

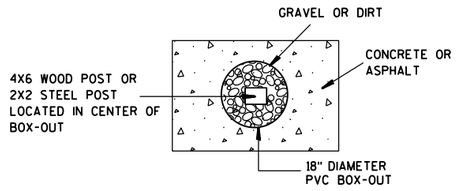
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

NOTES:
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

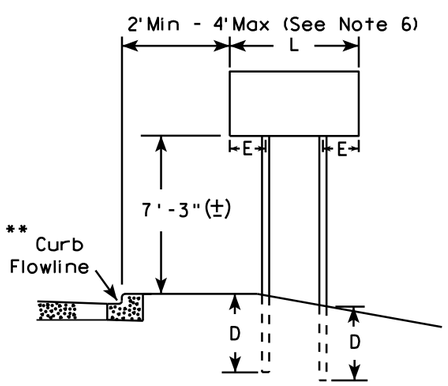
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

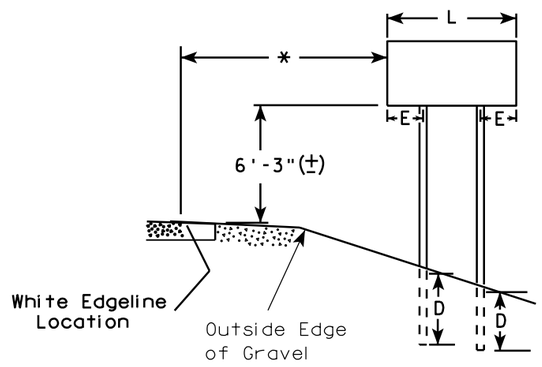
DATE 1/27/14 PLATE NO. A4-3B.1

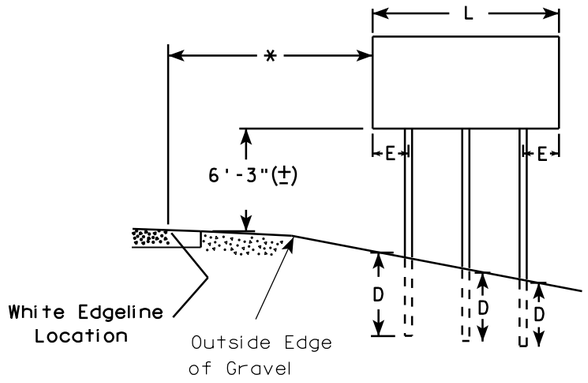
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

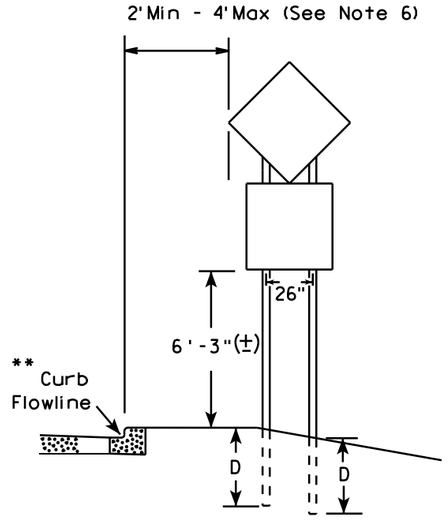
URBAN AREA



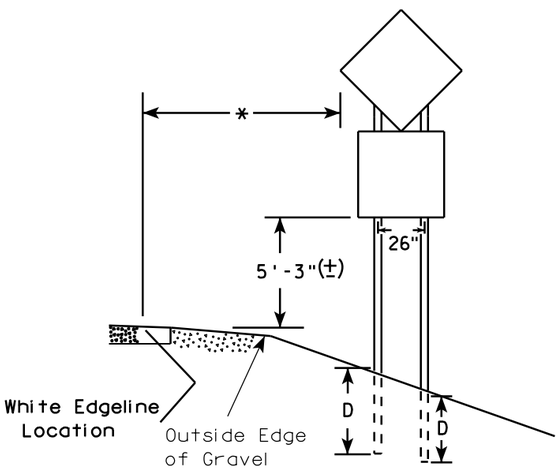
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. 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), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±).

* 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.

** 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.

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

***

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

POST EMBEDMENT DEPTH

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

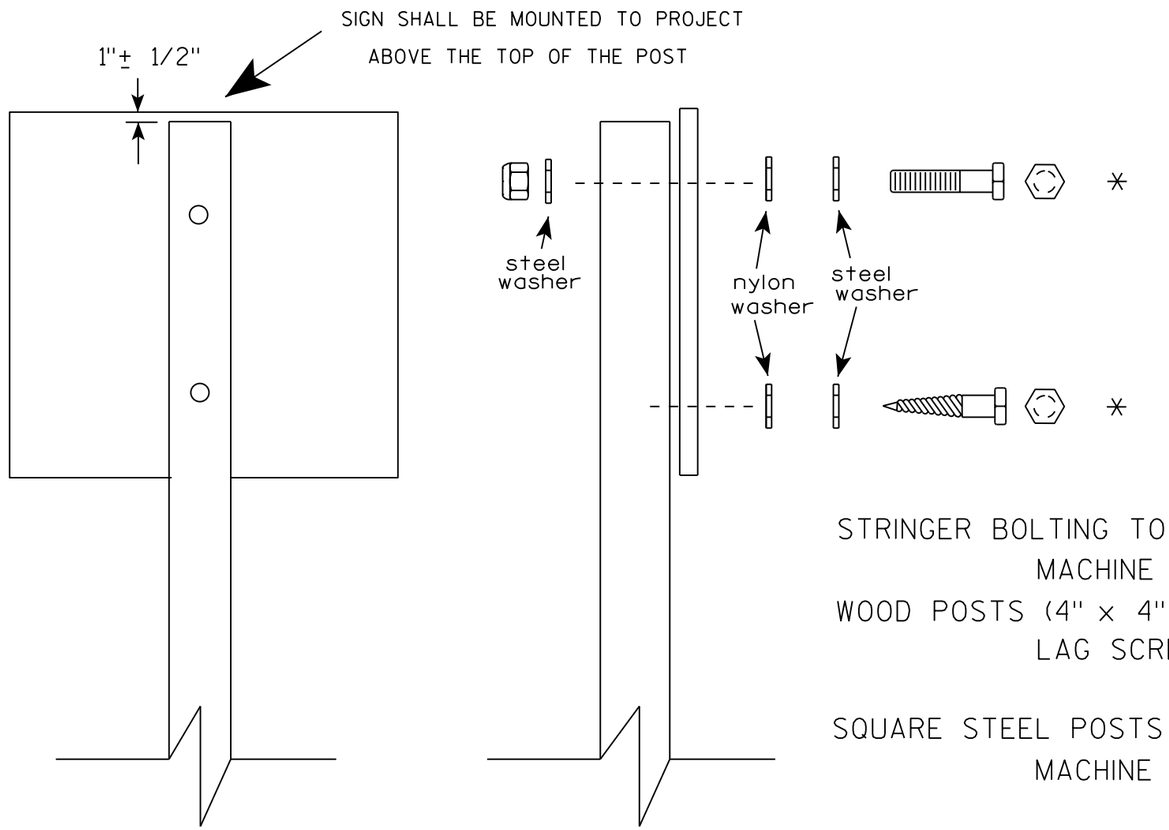
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-4 68 14

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	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.

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts
WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)
SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
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

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

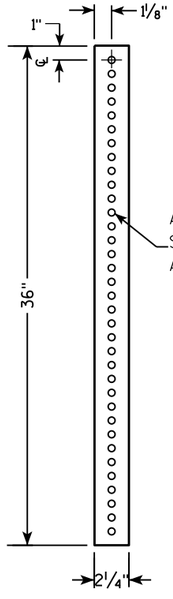
APPROVED Matthew R Rauch
For State Traffic Engineer

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

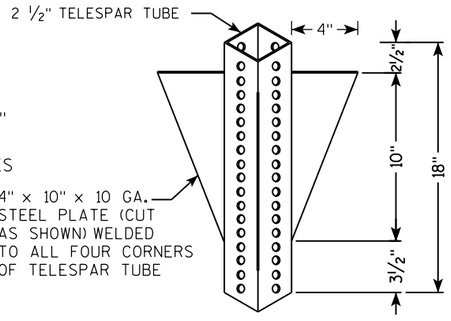
PROJECT NO: SHEET NO: E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

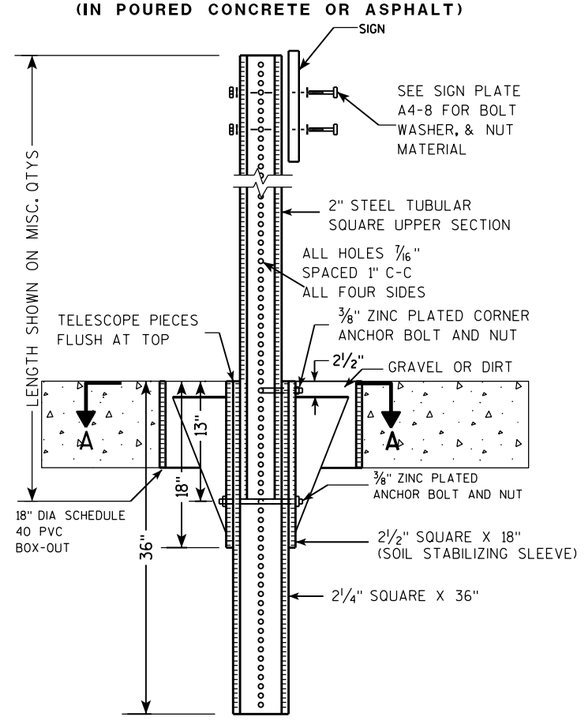
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



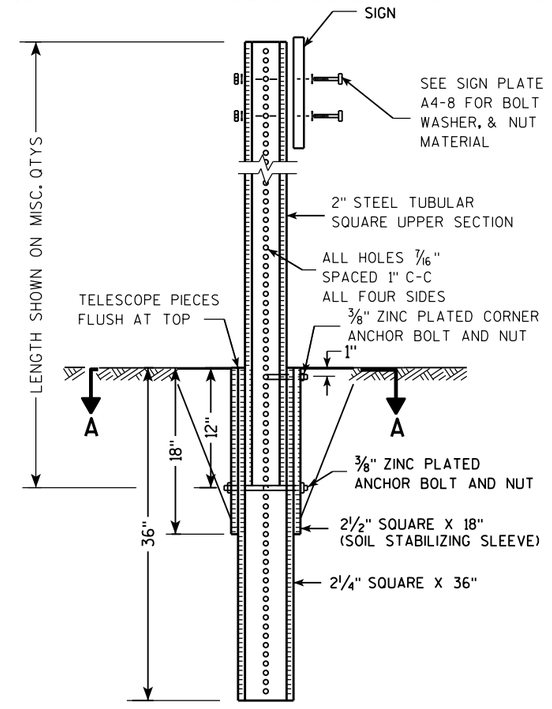
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

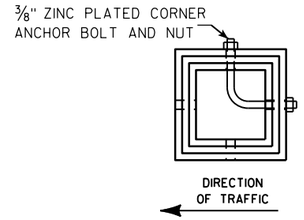


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)





SECTION A-A

Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

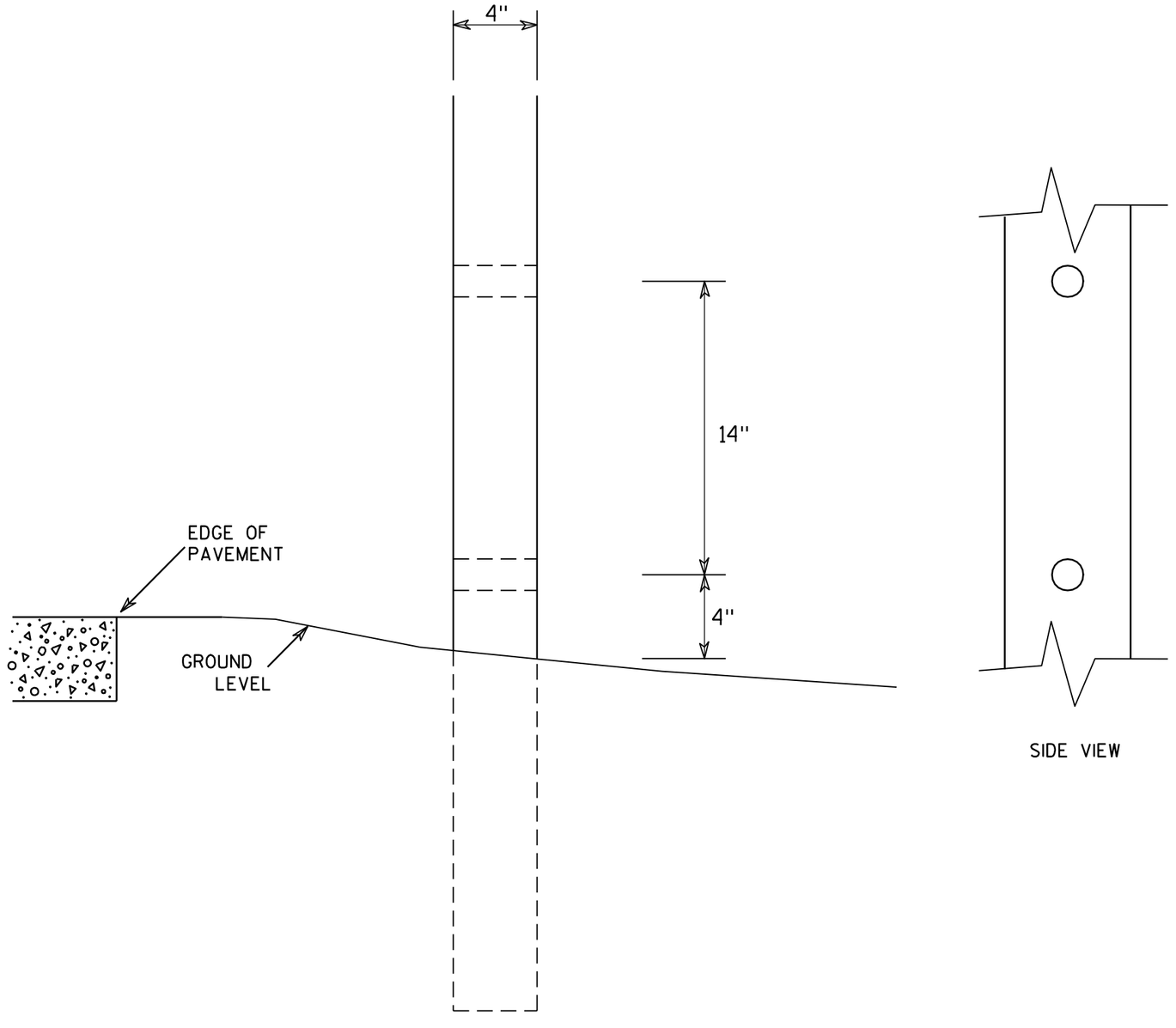
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 70 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	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.

7

7

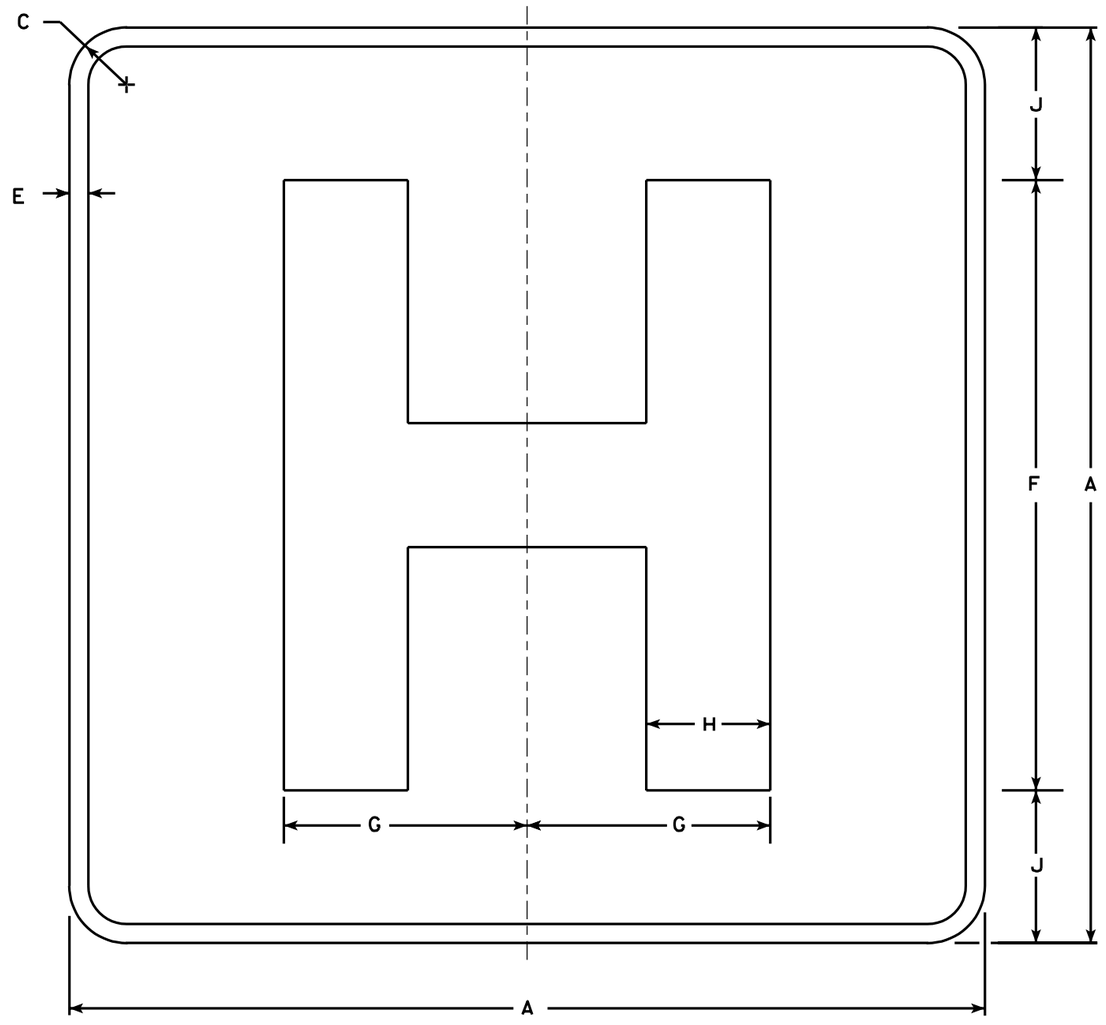
4 X 6 WOOD POST MODIFICATIONS

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: 71	E



D9-2

NOTES

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

Metric equivalent for this sign is:

SIZE	
1	450 mmX 450 mm
2	600 mmX 600 mm
3	900 mmX 900 mm
4	X
5	X

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	18		1 1/8		1/2	12	4 3/4	2 3/8		3																	4.0
2	24		1 1/2		1/2	16	6 3/8	3 1/4		4																	4.0
3	36		2 1/4		3/4	24	9 1/2	4 7/8		6																	9.0
4																											
5																											

STANDARD SIGN
D9-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spong for State Traffic Engineer

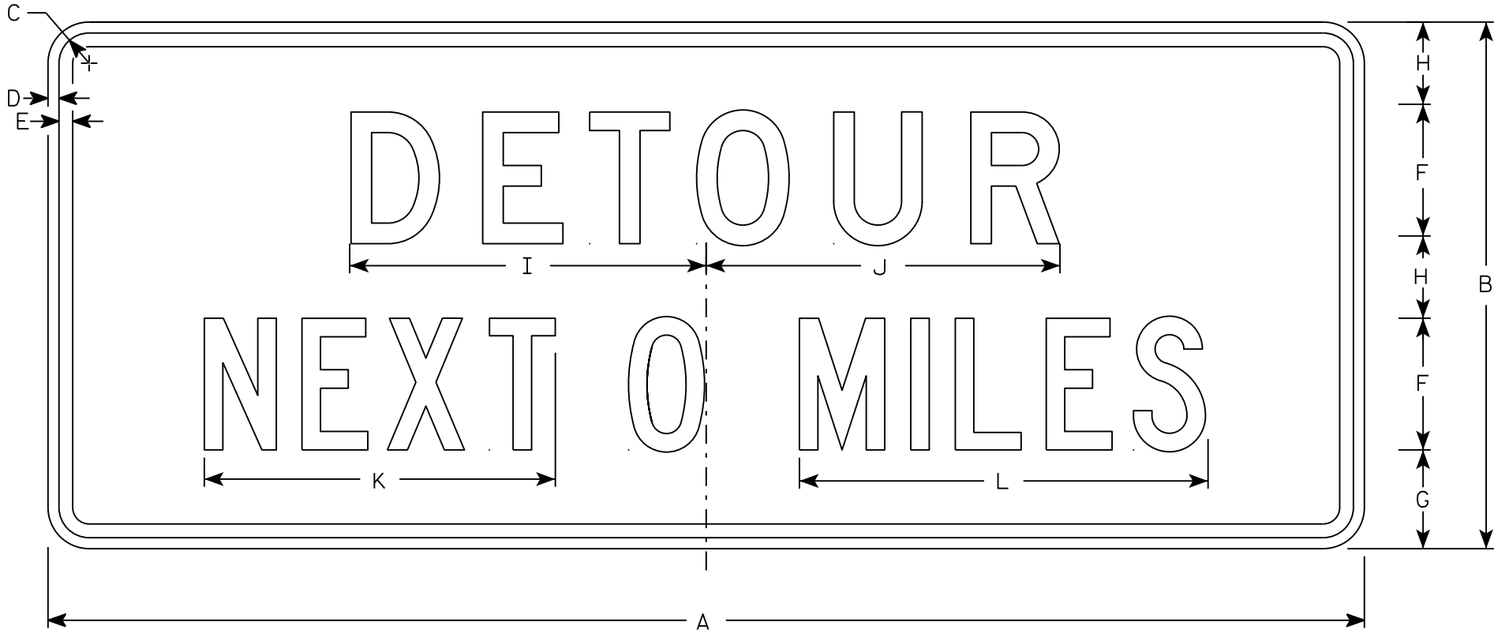
DATE 1/15/02 PLATE NO. D9-2.4

PROJECT NO:

SHEET NO: 72 E

FILE NAME : C:\Users\Projects\tr_stdplate\D92.DGN PLOT DATE : 21-OCT-2005 10:28 PLOT BY : DOTSJA

WISDOT/CADDS SHEET 42



G20-51

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - Line 1 is D and Line 2 is 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. Round distance to nearest whole Mile and substitute appropriate numerals and optically adjust spacing to achieve proper balance

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																											
2	60	24	1 3/8	1/2	5/8	6	4 1/2	3 3/4	16 1/4	16 1/8	16	18 5/8															10
3																											
4	60	24	1 3/8	1/2	5/8	6	4 1/2	3 3/4	16 1/4	16 1/8	16	18 5/8															10
5																											

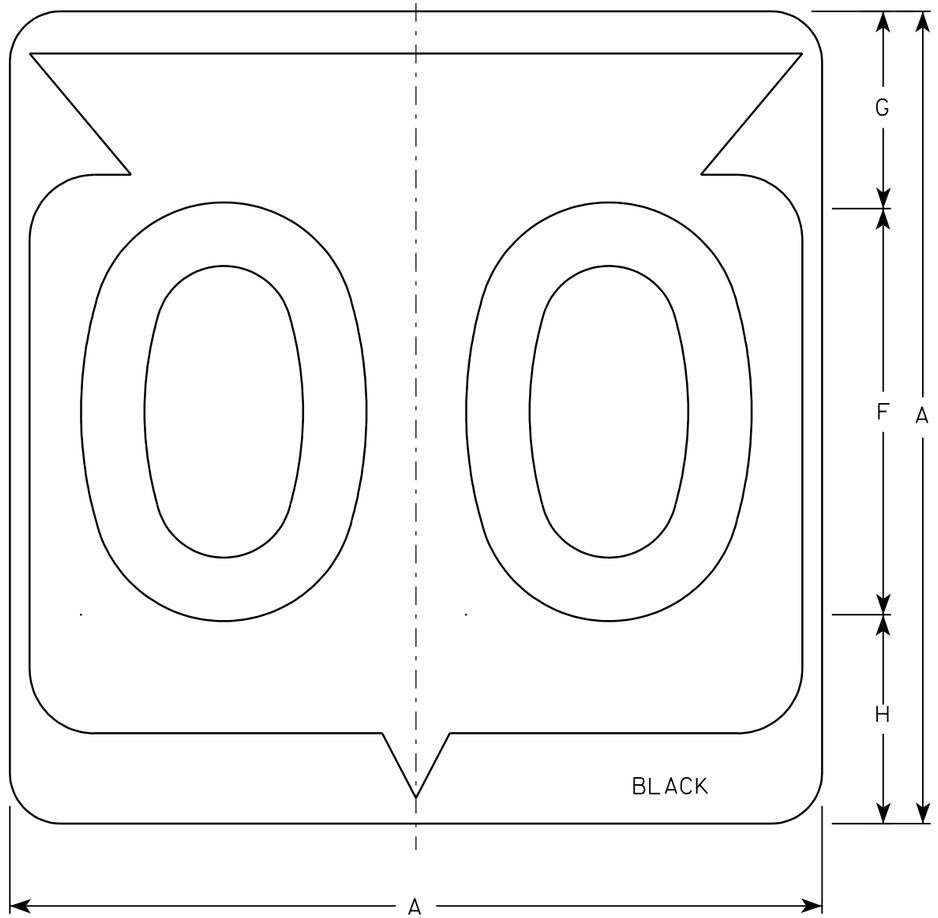
STANDARD SIGN
G20-51

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/14/17 PLATE NO. G20-51.2

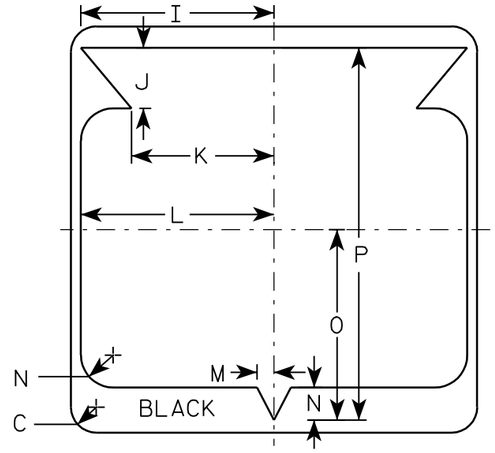
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 73	E



M1-6

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 6
   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. Substitute appropriate Series numerals and adjust spacing as per plate A10-1.
6. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective



Metric equivalent for this sign is:

SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 mm

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.	Area m2
1																												
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0	.36
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81

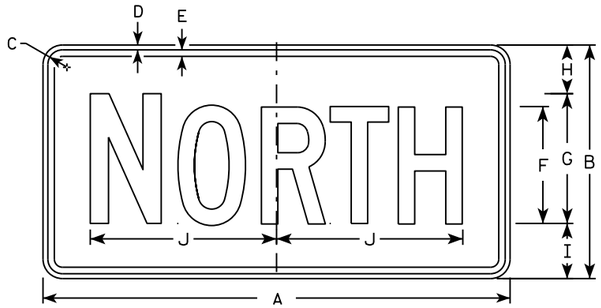
STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

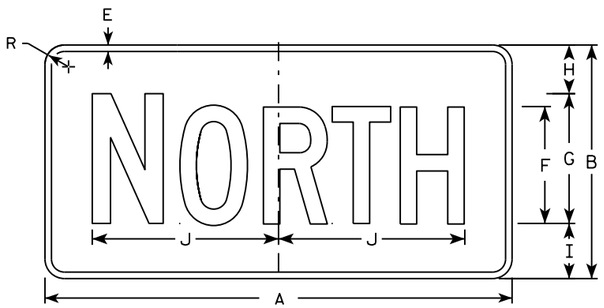
APPROVED Chester J Spang for State Traffic Engineer

DATE 3/20/02 PLATE NO. M1-6.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 74	E



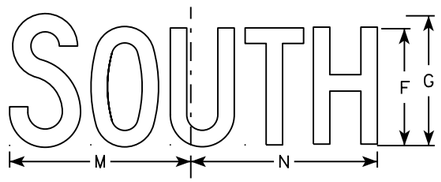
M3-1
MM3-1
MP3-1



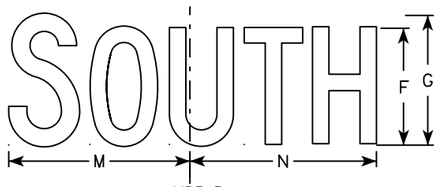
MB3-1
MK3-1
MN3-1

M3-2
MM3-2
MP3-2

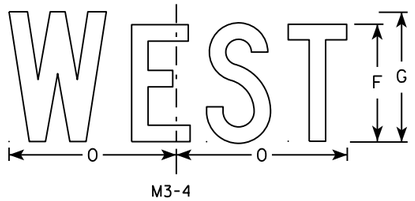
MB3-2
MK3-2
MN3-2



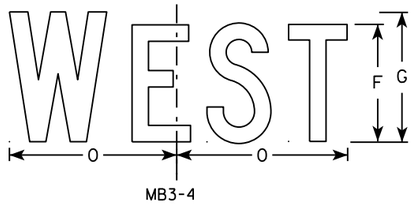
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

1. All Signs Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
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. M3-1 thru M3-4 Background - White
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White
   MK3-1 thru MK3-4 Background - Green
   Message - White
   MM3-1 thru MM3-4 Background - White
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White
   MP3-1 thru MP3-4 Background - White
   Message - Blue
6. Note the first letter of each direction is larger than the remainder of the message.

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																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

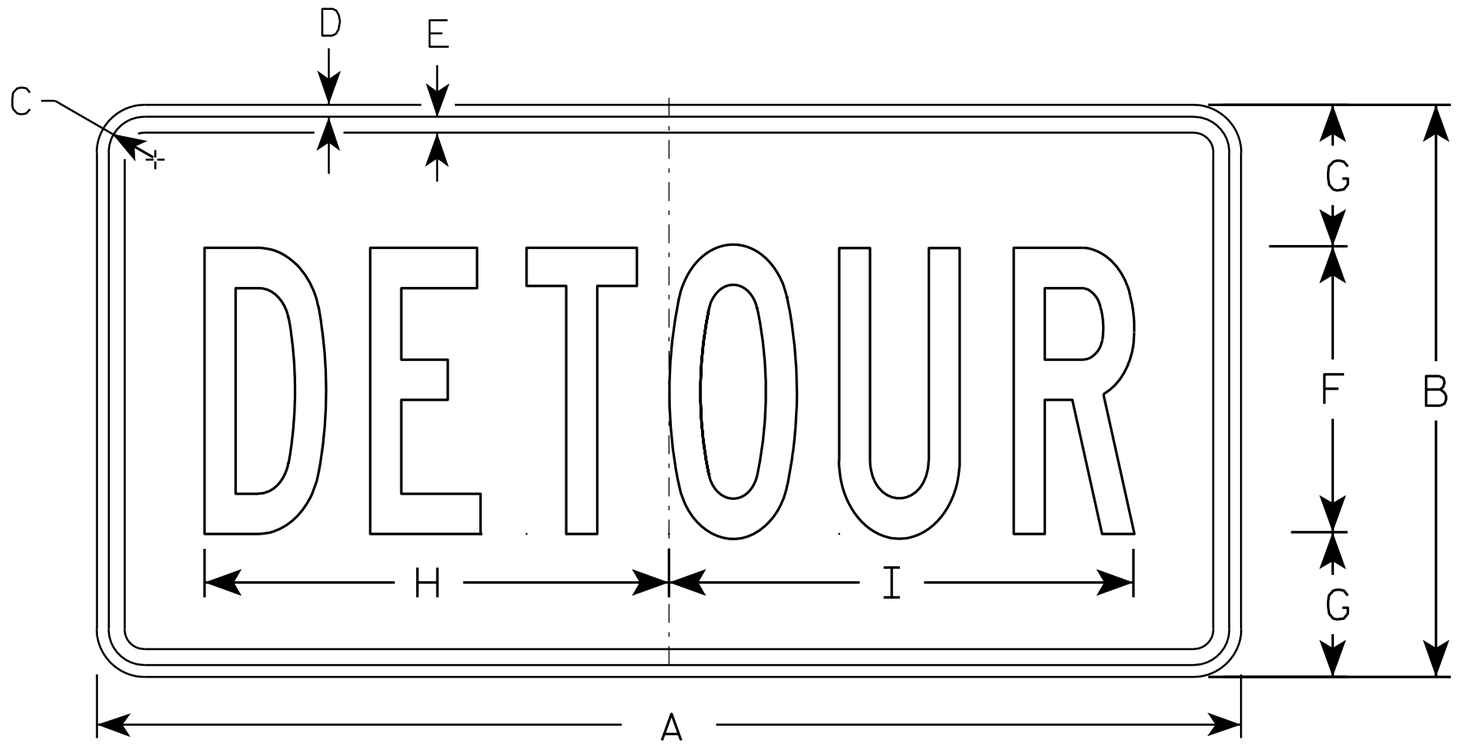
STANDARD SIGNS
M3-1 thur M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew P Rauch for State Traffic Engineer

DATE 10/15/15 PLATE NO M3-1.14

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



M4-8

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 - B
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																											
2	24	12	1 1/8	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/8	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4																											
5																											

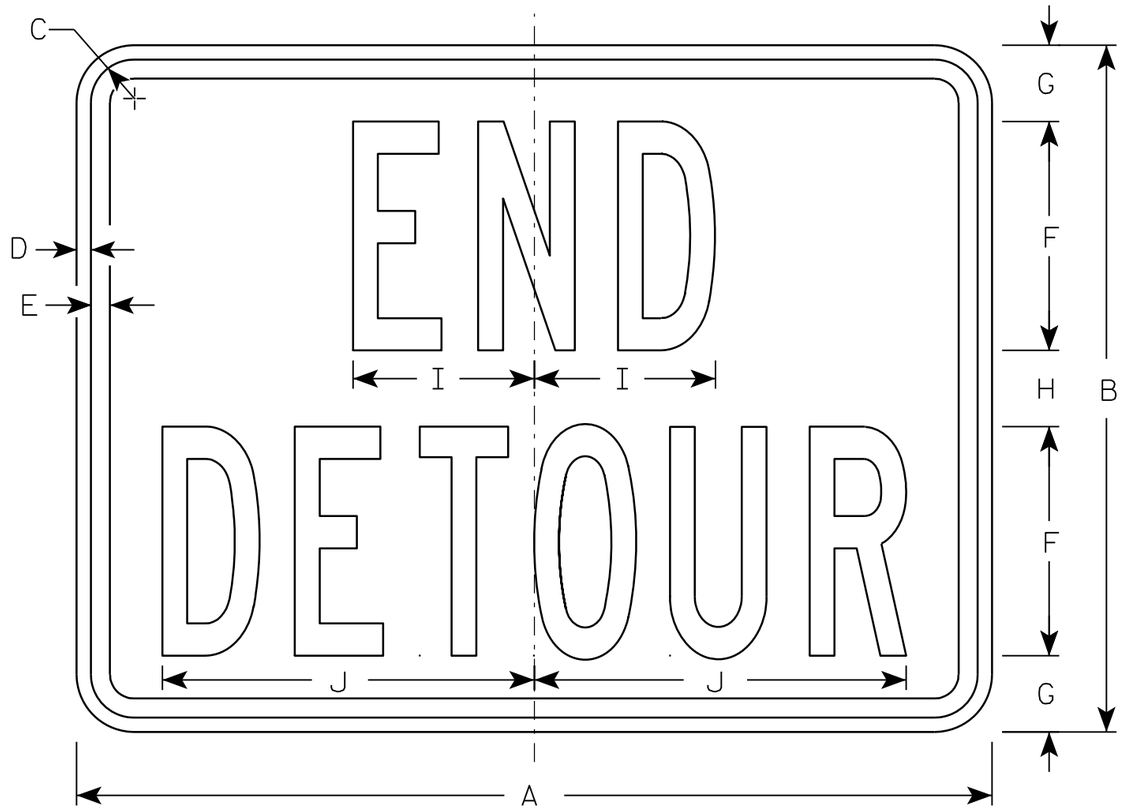
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 76	E



M4-8A

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 - B
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																											
2	24	18	1 1/8	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/8	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4																											
5																											

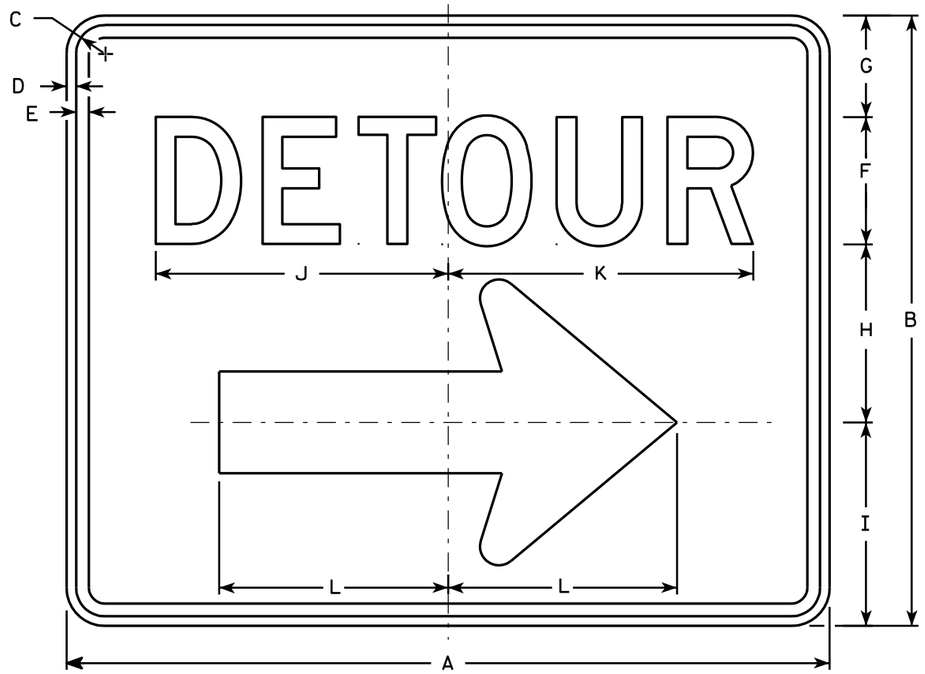
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-8A.2

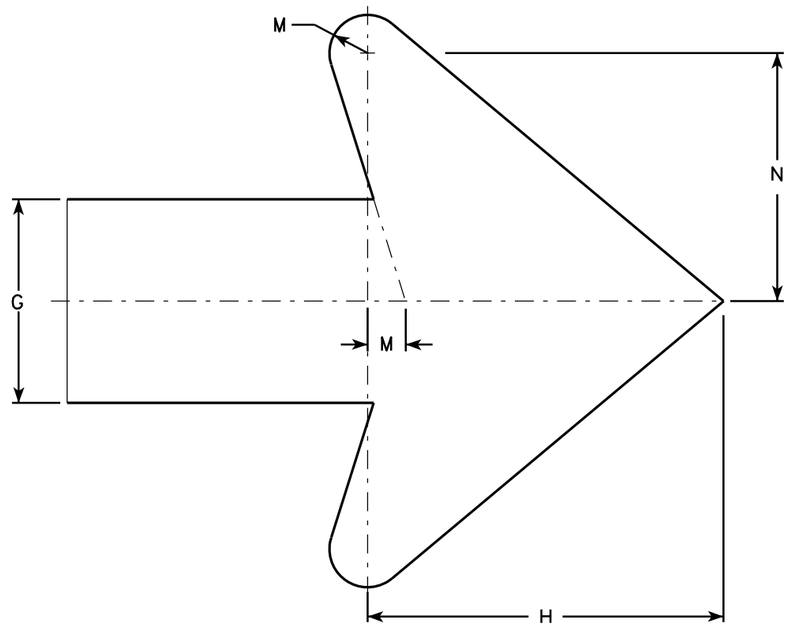
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 77	E



M4-9R

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 - 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. M4-9L is the same as M4-9R except the arrow is reversed.



Arrow Detail

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																											
2	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
4	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0
5	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0

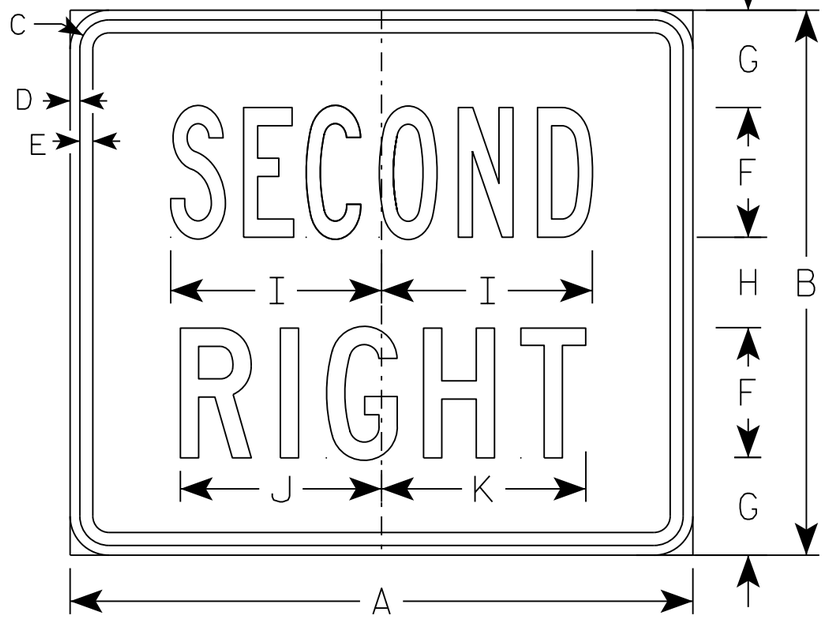
STANDARD SIGN
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

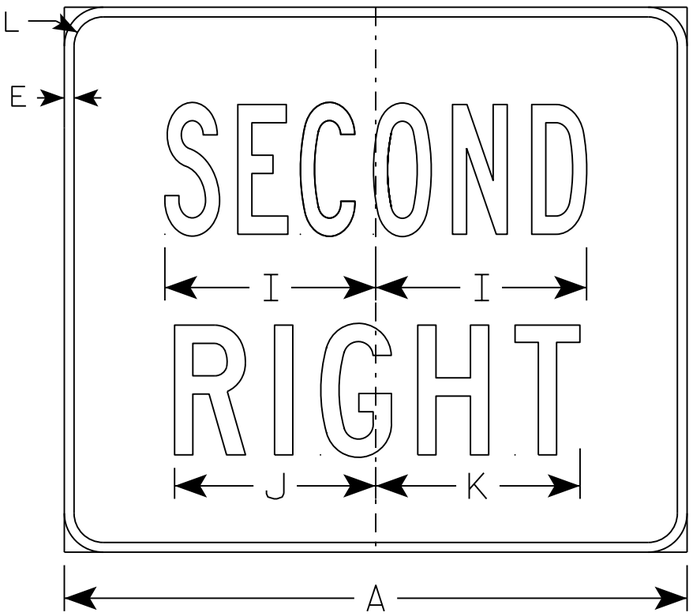
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-9R.4

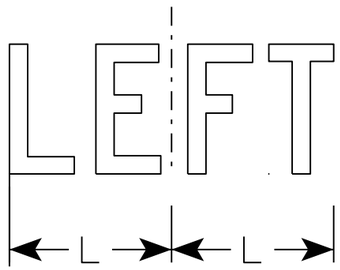
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 78 | E



M4-22R
MM4-22R
M04-22R
MP4-22R



MB4-22R
MK4-22R
MN4-22R
MR4-22R



M4-22L
MB4-22L
MK4-22L
MM4-22L
MN4-22L
M04-22L
MP4-22L
MR4-22L

NOTES

1. Sign is Type II - Type H except as Shown
2. Color:
   Background - See note 5
   Message - See note 5
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. M4-22 Background - White
   Message - Black
   MB4-22 Background - Blue
   Message - White
   MK4-22 Background - Green
   Message - White
   MM4-22 Background - White
   Message - Green
   MN4-22 Background - Brown
   Message - White
   M04-22 Background - Orange - Type F Reflective
   Message - Black
   MP4-22 Background - White
   Message - Blue
   MR4-22 Background - Brown
   Message - Yellow

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																											
2	24	21	1 1/8	3/8	1/2	5	3 3/4	3 1/2	8 1/8	7 3/4	7 7/8	1 1/2															3.5
3	36	30	1 5/8	5/8	3/4	8	4 3/4	4 1/2	13 1/8	12 5/8	12 1/2	1 7/8															7.5
4																											
5																											

STANDARD SIGN
M4-22

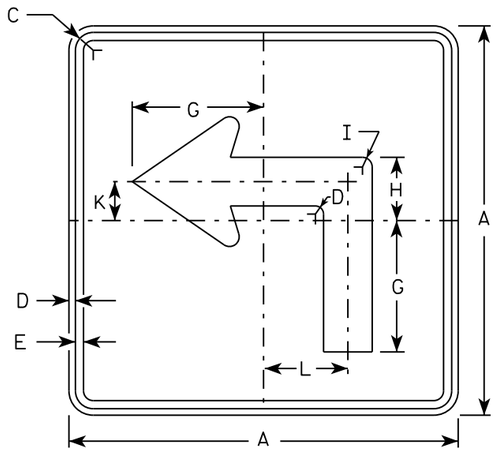
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

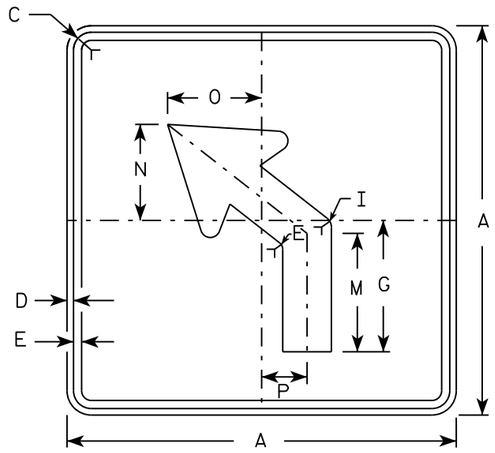
DATE 10/15/15 PLATE NO 14-22.4

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

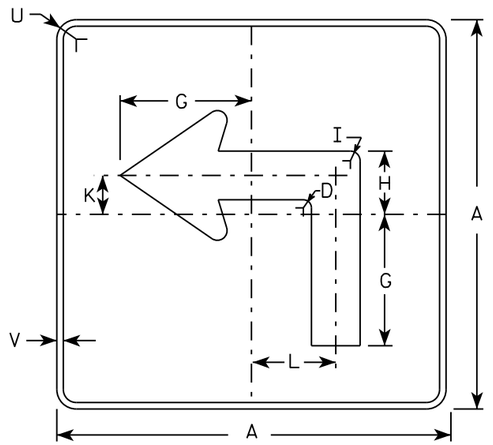
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M422.DGN PLOT DATE : 01-DEC-2015 18:04 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 5.837526:1.000000



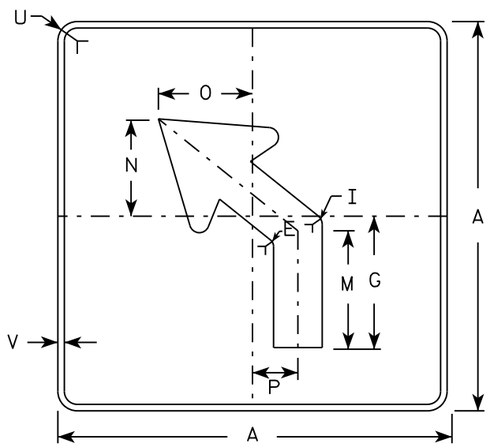
M5-1L
MM5-1L
MO5-1L
MP5-1L



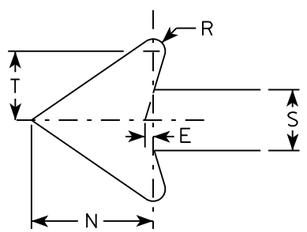
M5-2L
MM5-2L
MO5-2L
MP5-2L



MB5-1L
MK5-1L
MN5-1L
MR5-1L



MB5-2L
MK5-2L
MN5-2L
MR5-2L



NOTES

1. Signs are Type II - Type H reflective except as shown
2. Color:
   Background - See note 4
   Message - See note 4
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. M5-1 and M5-2 Background - White
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White
   MK5-1 and MK5-2 Background - Green
   Message - White
   MM5-1 and MM5-2 Background - White
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White - Type H Reflective
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

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																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

STANDARD SIGN
M5-1 & M5-2

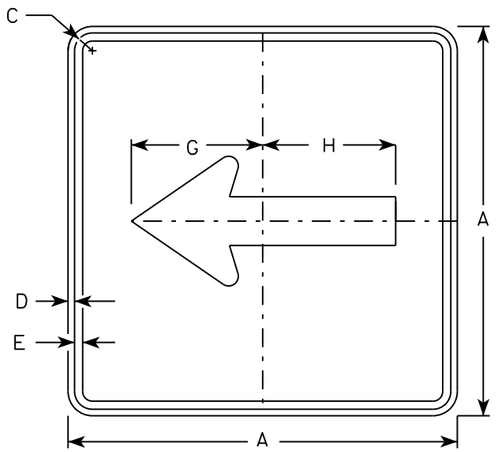
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

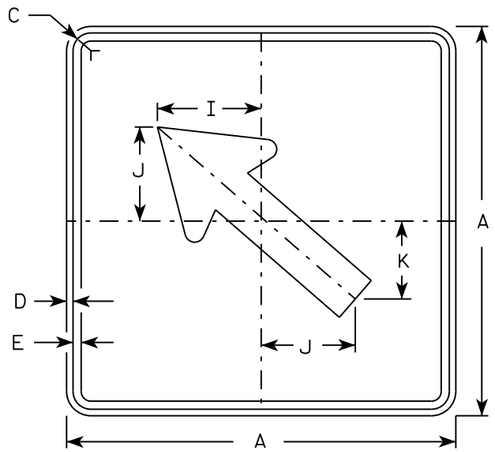
DATE 10/15/15 PLATE NO. M5-1.13

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M51.DGN PLOT DATE : 01-DEC-2015 18:07 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



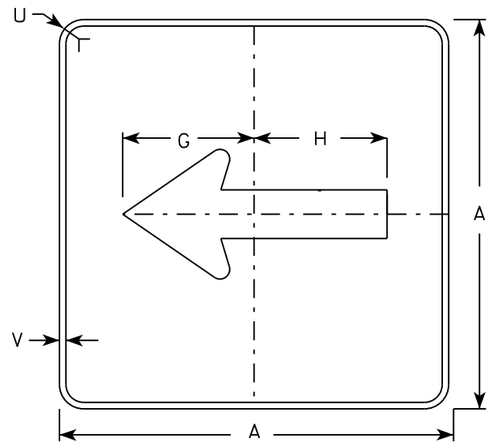
M6-1
MM6-1
MO6-1
MP6-1



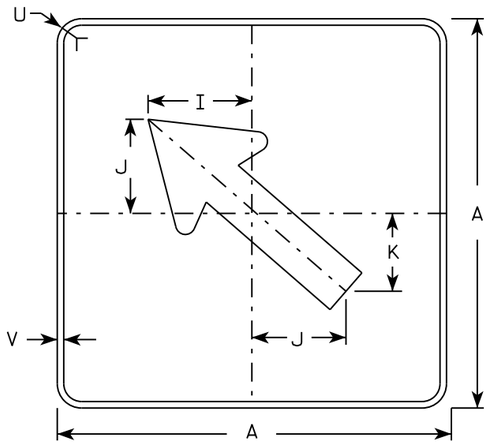
M6-2
MM6-2
MO6-2
MP6-2

NOTES

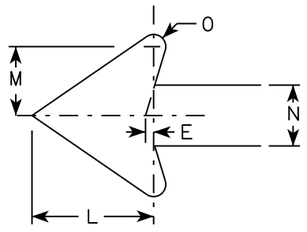
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MK6-1 and MK6-2 Background - Green
   Message - White
   MM6-1 and MM6-2 Background - White
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White
   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black
   MP6-1 and MP6-2 Background - White
   Message - Blue
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow



MB6-1
MK6-1
MN6-1
MR6-1



MB6-2
MK6-2
MN6-2
MR6-2



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																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2						3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25

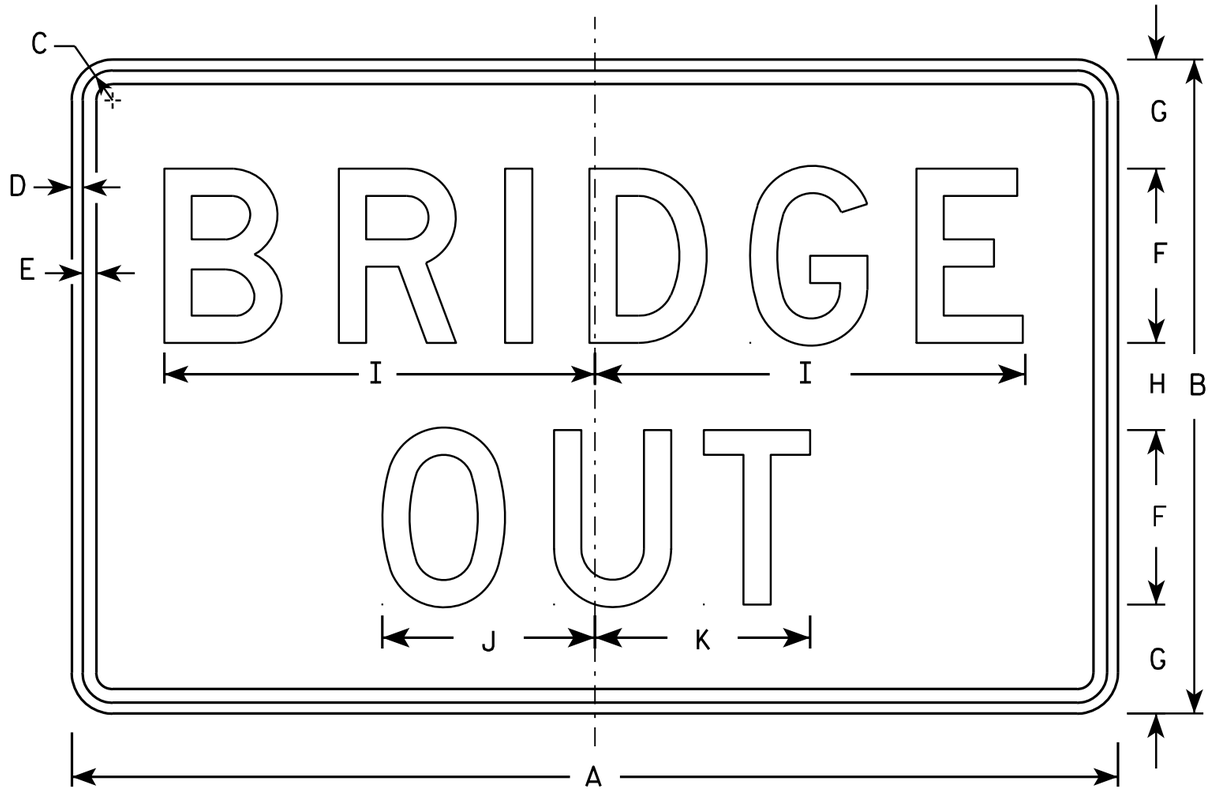
STANDARD SIGN
M6-1 & M6-2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 81 M6-1.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	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

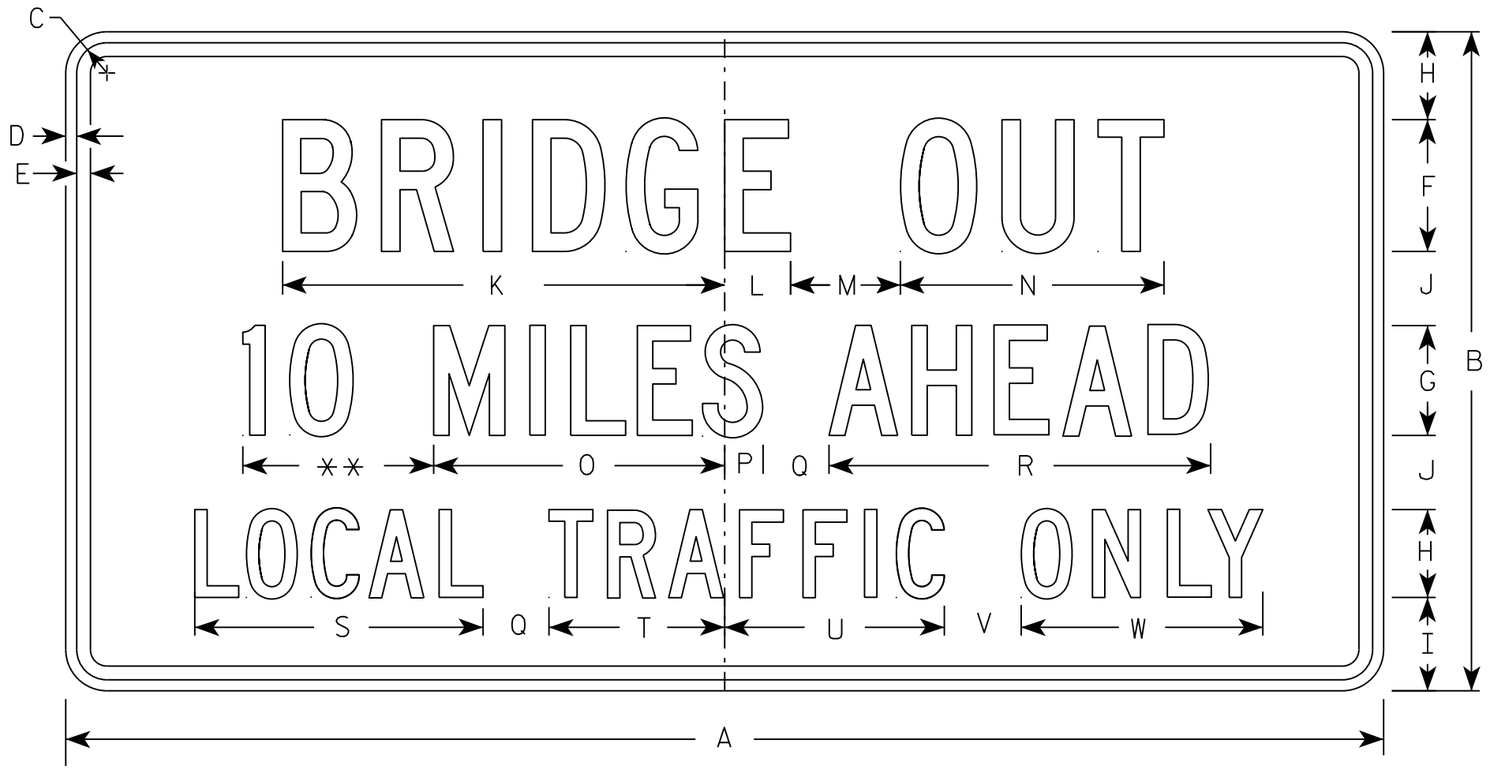
DATE 4/1/11 PLATE NO. R11-2B.2

PROJECT NO:

SHEET NO: 82 E

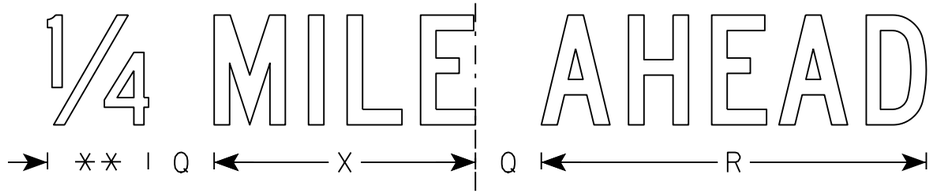
FILE NAME : C:\Users\PROJECTS\tr_stdplate\R112B.DGN PLOT DATE : 01-APR-2011 14:23 PLOT BY : mscj9h

WISDOT/CADDS SHEET 42



R11-3B

** See Note 5



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 to nearest quarter mile and optically adjust spacing to achieve proper balance.

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	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4	8 3/8	4 3/4	6 1/2	2	6 3/4	7 1/8			4.5
2S	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8			12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8			12.5
3																											
4																											
5																											

STANDARD SIGN
R11-3B

WISCONSIN DEPT OF TRANSPORTATION

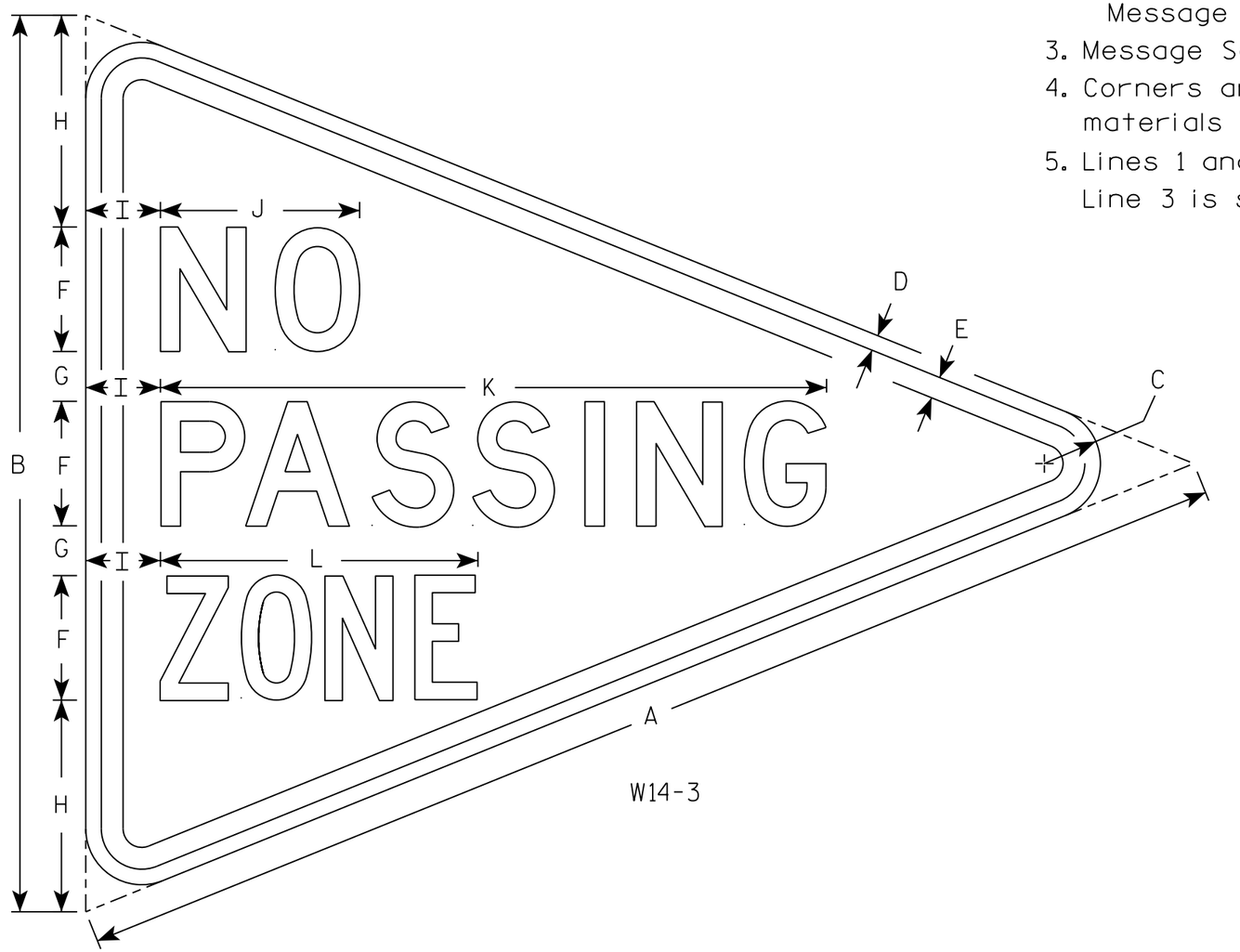
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/15/17 PLATE NO. R11-3B.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 83 | E

NOTES

1. Sign is Type II- Type F Reflective
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - See note 5
4. Corners and borders shall be rounded on all base materials for this sign.
5. Lines 1 and 2 are Series D.
   Line 3 is series C.



W14-3

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	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															5.56
2M																											
3																											
4																											
5																											

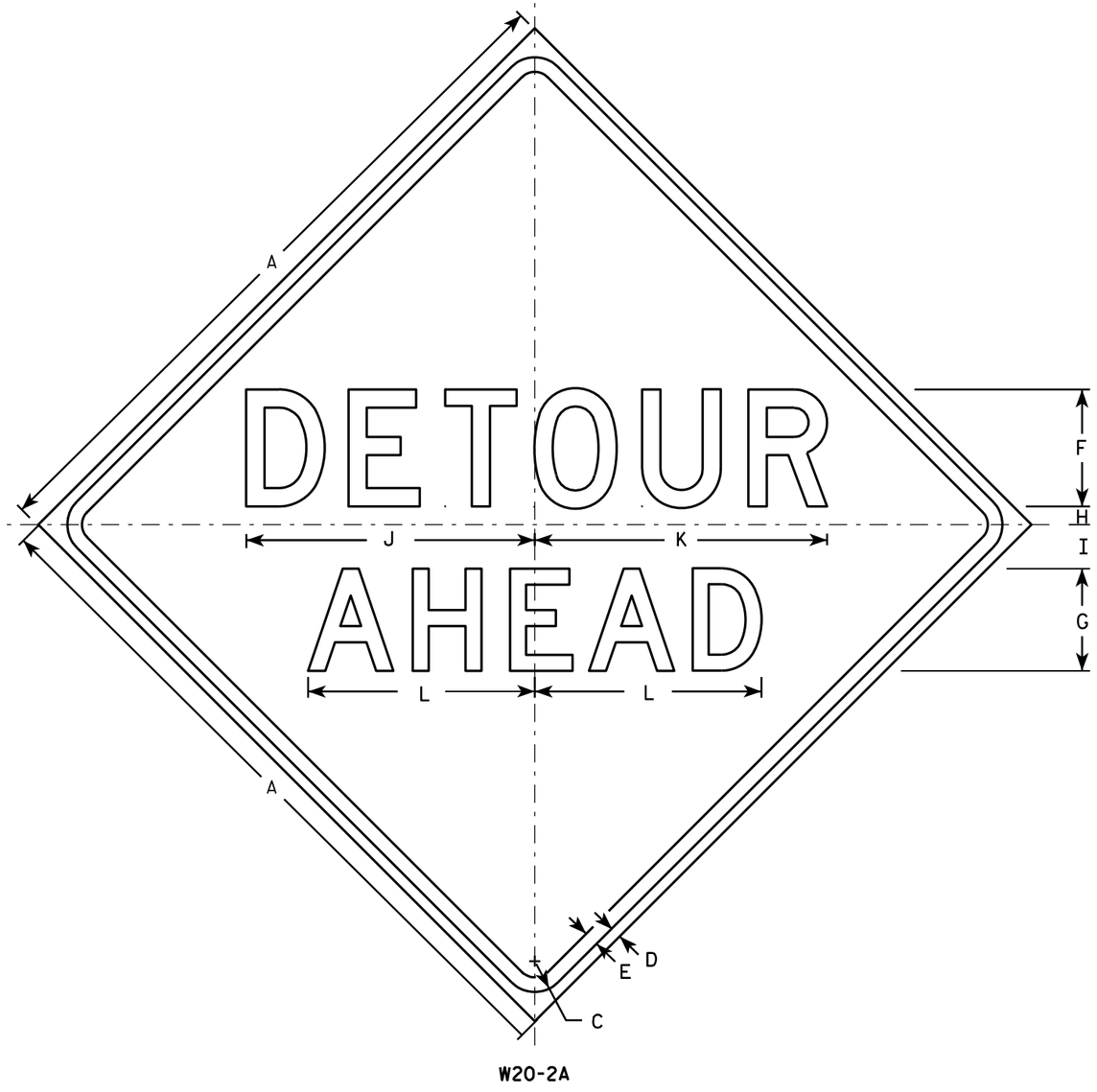
STANDARD SIGN
W14-3

WISCONSIN DEPT OF TRANSPORTATION

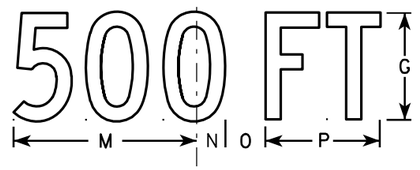
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/23/17 PLATE NO. W14-3.10

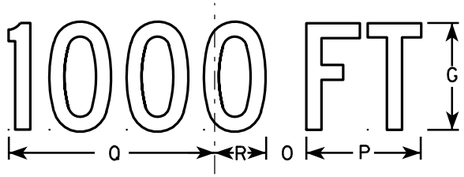
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 84	E



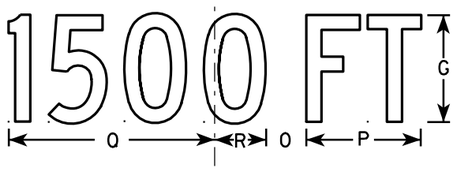
W20-2A



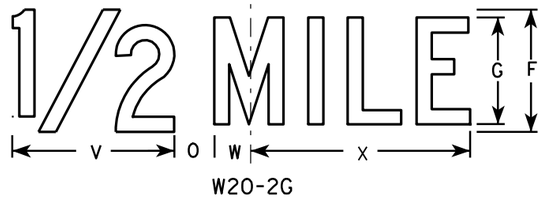
W20-2D



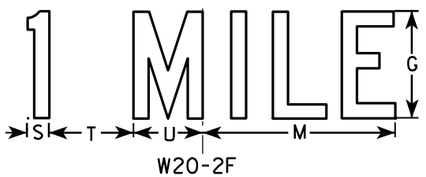
W20-2C



W20-2B



W20-2G



W20-2F

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. Line 1 is Series D.
   Line 2 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	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

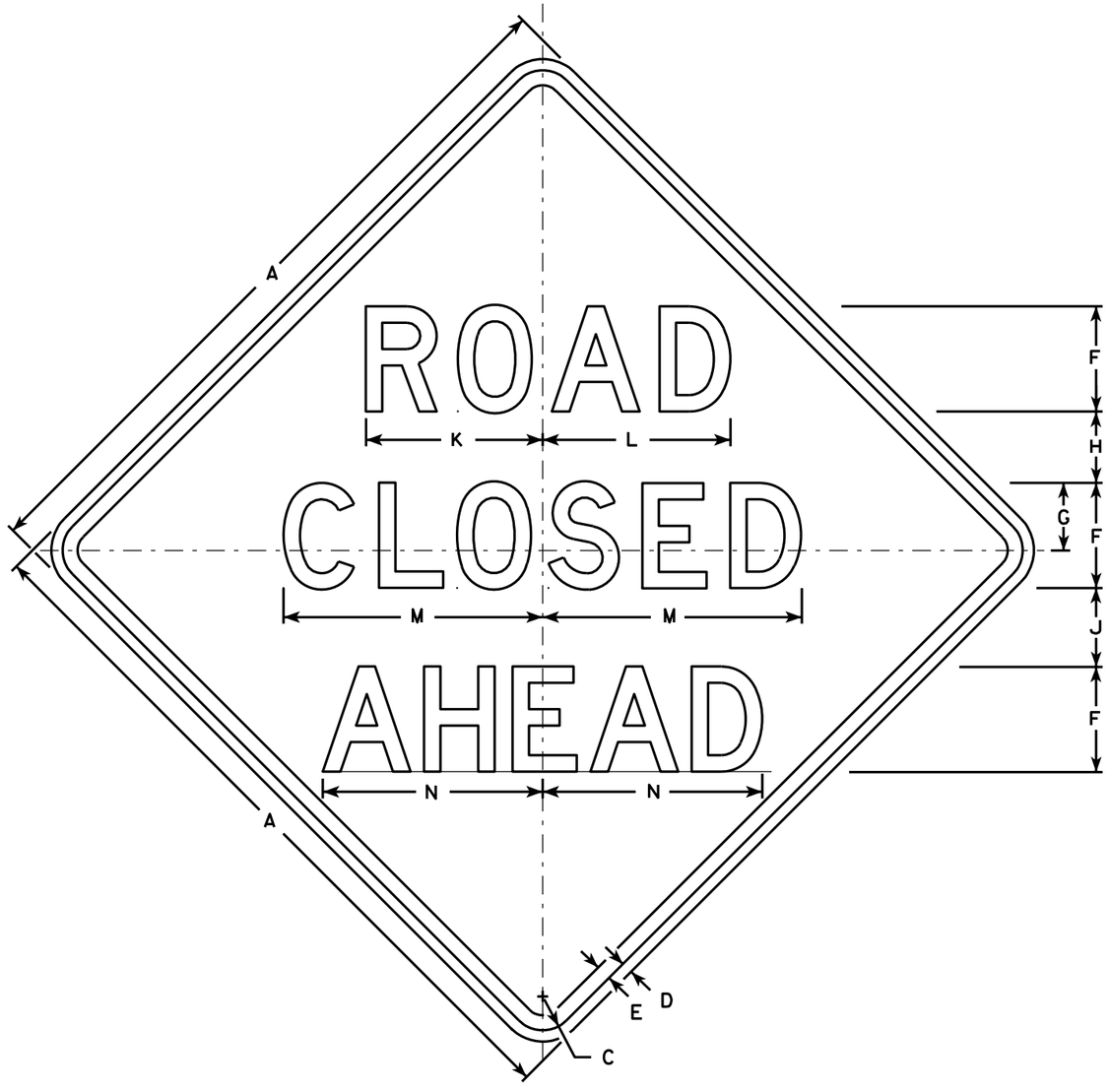
STANDARD SIGN
W20-2A,B,C,D,F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-2.6

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 85	E



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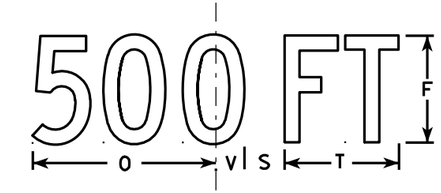

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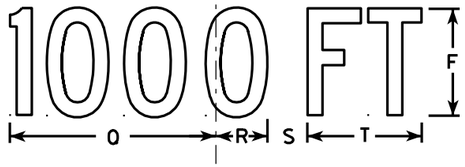

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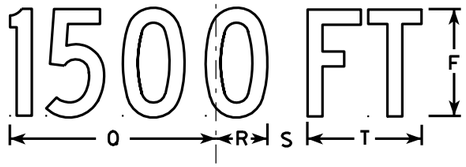

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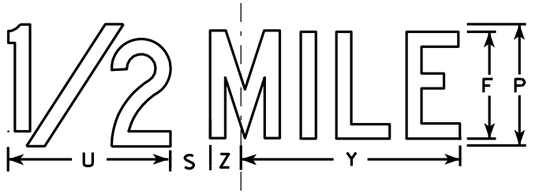

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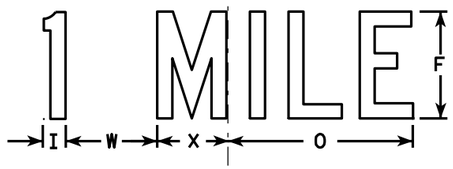

W20-3F

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
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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: 86 | 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

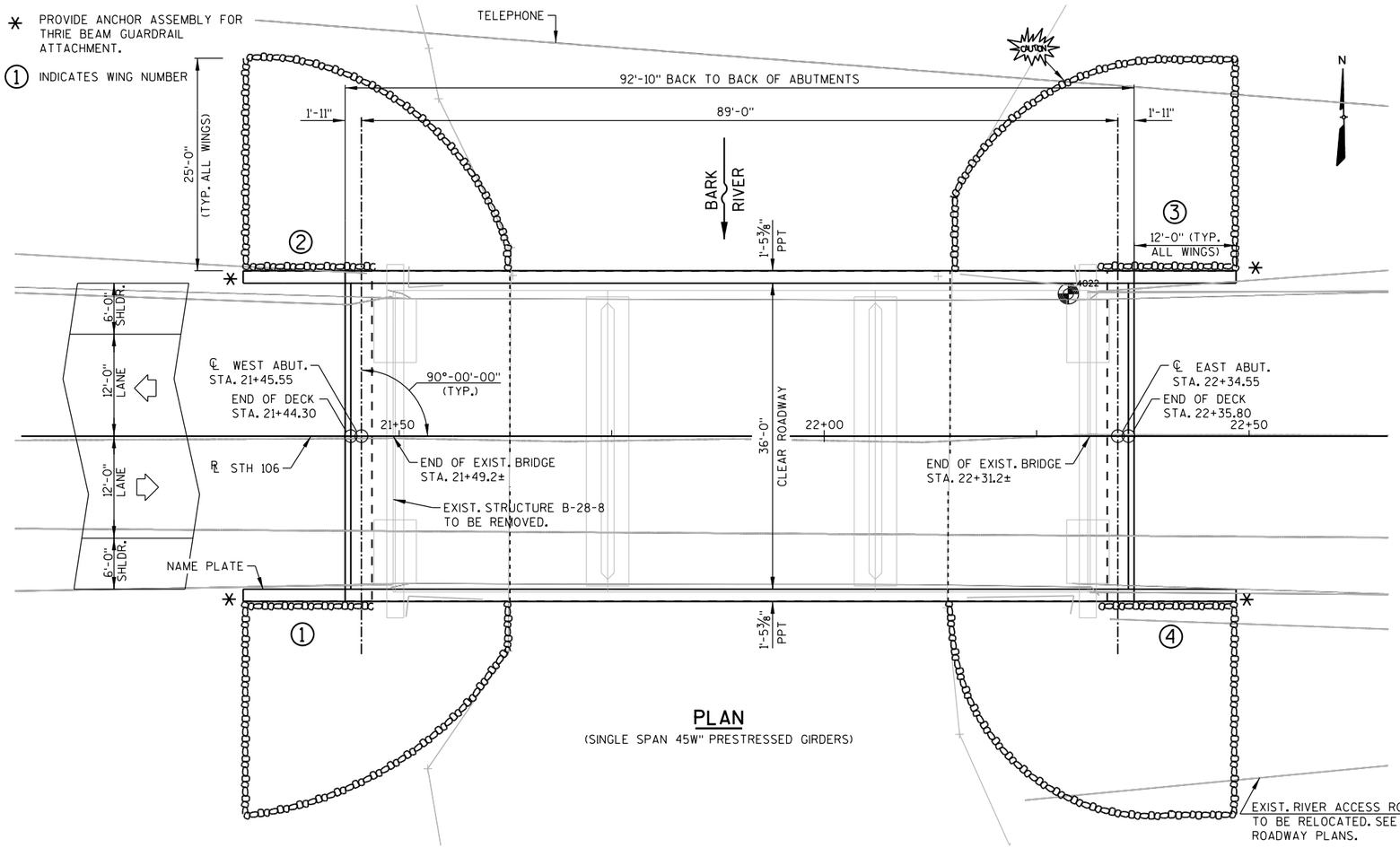
WISDOT/CADDS SHEET 42

7

7

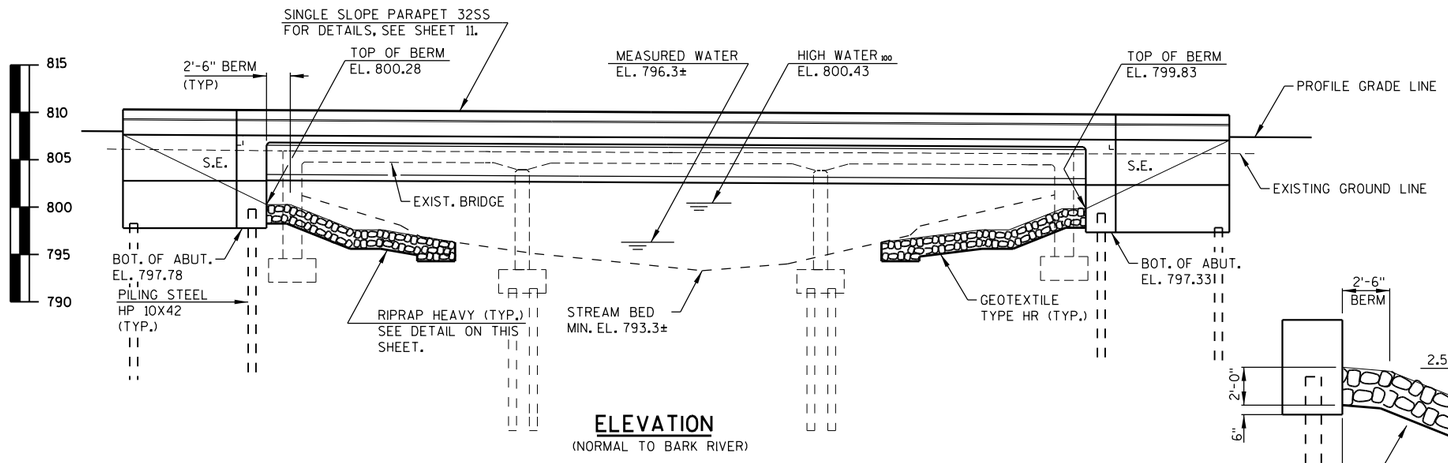
* PROVIDE ANCHOR ASSEMBLY FOR THRIE BEAM GUARDRAIL ATTACHMENT.

① INDICATES WING NUMBER



PLAN

(SINGLE SPAN 45W" PRESTRESSED GIRDERS)



ELEVATION

(NORMAL TO BARK RIVER)

BENCH MARK TABLE

NO.	STATION	DESCRIPTION	ELEVATION
4022	22+28.72, 16.7' LT.	CH SQ. AT NE CORNER OF BRIDGE	805.47

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR = 1.21
OPERATIONAL RATING FACTOR = 1.85
WISCONSIN STANDARD PERMIT VEHICLE: 250 KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 PSF.

MATERIAL PROPERTIES:

CONCRETE MASONRY -
- DECK, PARAPET, DIAPHRAGMS — f'c = 4,000 P.S.I.
- ALL OTHER — f'c = 3,500 P.S.I.

BAR STEEL REINFORCEMENT, GRADE 60 — fy = 60,000 P.S.I.

45W" PRESTRESSED GIRDER -
- CONCRETE MASONRY — f'c = 8,000 P.S.I.
- STRANDS - 0.6" DIA WITH ULTIMATE TENSILE STRENGTH OF — 270,000 P.S.I.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP10x42. PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 45'-0" LONG AT EACH ABUTMENT.

** 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 THE MODIFIED GATE DYNAMIC FORMULA TO DETERMINE DRIVEN PILE CAPACITY.

TRAFFIC VOLUME

STH 106
A.D.T. (2018) = 1,900
A.D.T. (2038) = 2,300
DESIGN SPEED = 60 MPH

HYDRAULIC DATA

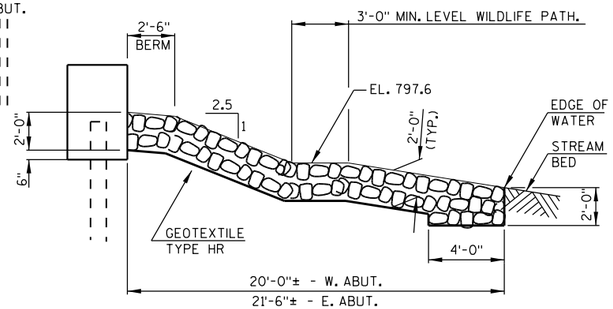
100 YEAR FREQUENCY

Q100	1,560 CFS
VELOCITY	4.5 FPS
HIGH WATER ELEVATION	800.43
WATERWAY AREA	344 SQ. FT.
DRAINAGE AREA	139.9 SQ. MI.
ROAD OVERTOPPING	N/A
SCOUR CRITICAL CODE	5

2 YEAR FREQUENCY

Q2	280 CFS
HIGH WATER Q2 ELEVATION	797.10
VELOCITY	2.3 FPS

LIST OF DRAWINGS



RIPRAP DETAIL

(WEST ABUTMENT SHOWN, EAST ABUTMENT SIMILAR)

STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:
BILL DREHER (608) 266-8489

CONSULTANT:
CAROLYN BRUGMAN (715) 342-3075

NO.	DATE	REVISION	BY

AECOM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 02/20/17
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-28-183

STH 106 OVER BARK RIVER

COUNTY JEFFERSON | TOWN ~~CITY/VILLAGE~~ HEBRON

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	CAB	DESIGN CK'D.	MSK	DRAWN BY	TAW	PLANS CK'D.	CAB

GENERAL PLAN

SHEET 1 OF 11
87

STATE PROJECT NUMBER
3576-02-81

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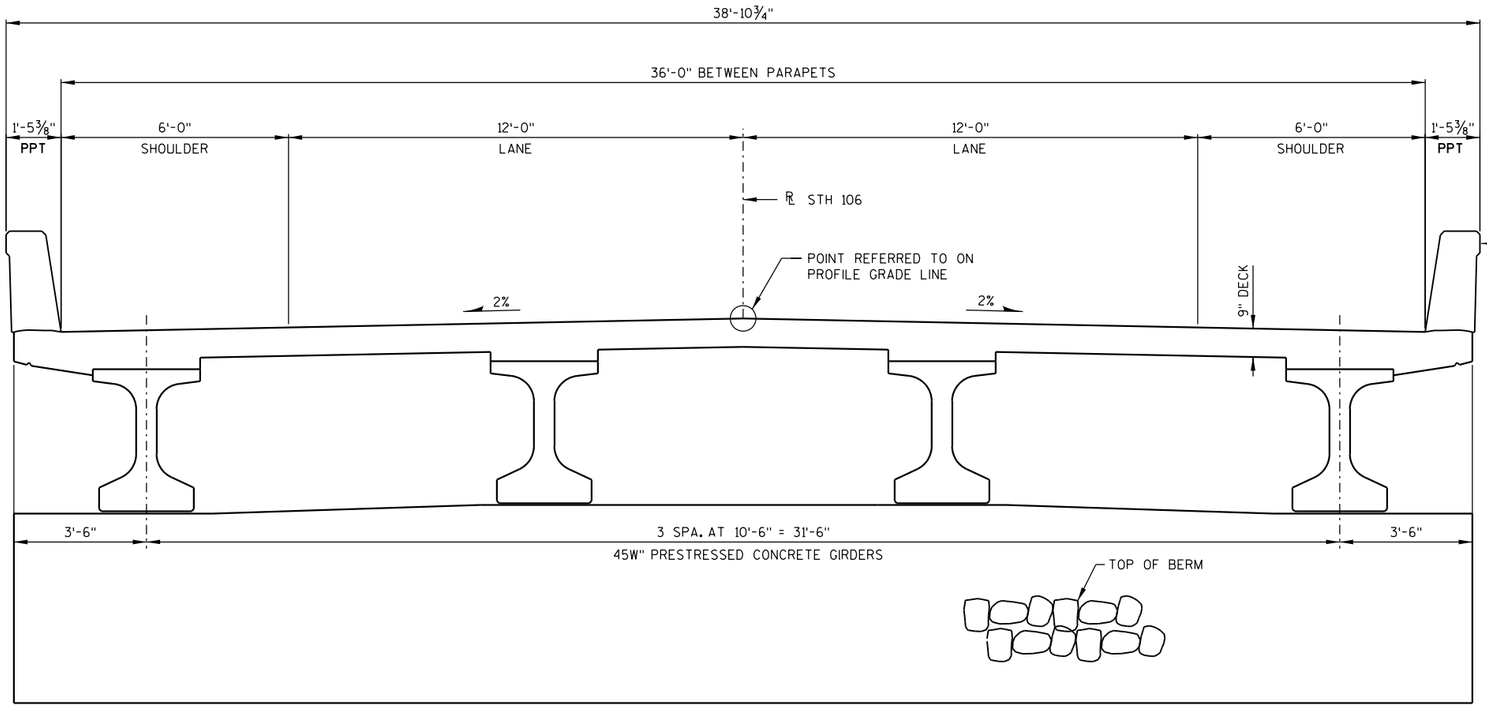
BATCH PRINT SHEET 2 OF 11



CROSS SECTION THRU ROADWAY AT ABUTMENT

(LOOKING EAST)

GENERAL NOTES

ALL STATIONS AND ELEVATIONS ARE IN FEET.

DRAWINGS SHALL NOT BE SCALED. BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

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.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-28-183" SHALL BE THE EXISTING GROUND LINE.

AT THE BACKFACE OF ABUTMENT, ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TYPE A.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE PRESTRESSED GIRDER DETAILS SHEET.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

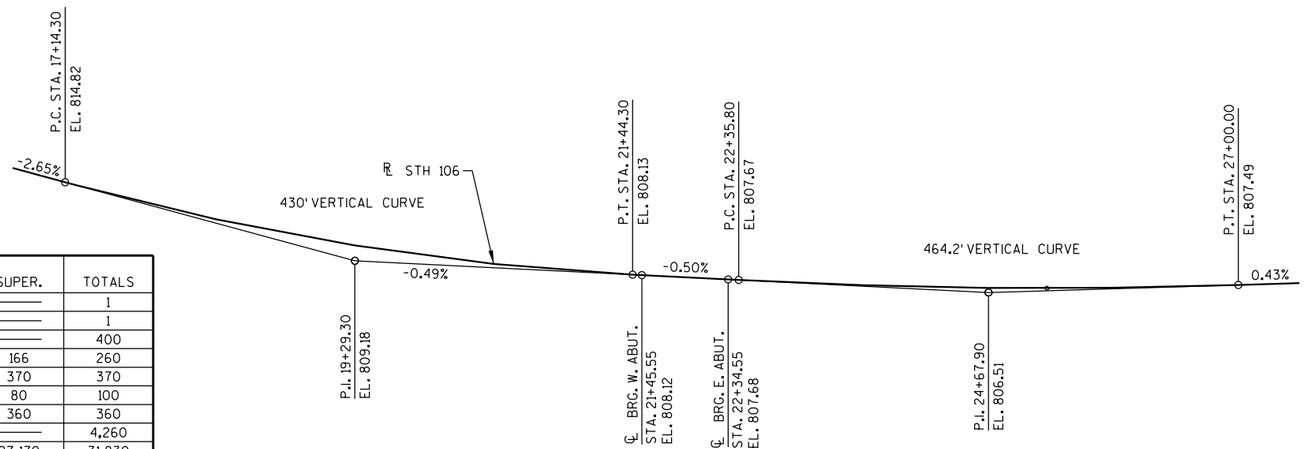
THE QUANTITY OF BACKFILL STRUCTURE TYPE A, BID ITEM 210.1500, IS CALCULATED BASED ON STANDARD 9.01 IN THE WISCONSIN DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL STANDARD DETAILS. SEE "BACKFILL STRUCTURE LIMITS" DETAIL ON SHEET 4.

THE EXISTING BRIDGE, B-28-8, IS A THREE-SPAN CONCRETE HAUNCHED SLAB BRIDGE, 82' LONG AND 35.5' WIDE AND IS TO BE REMOVED.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK. PIGMENTED SURFACE SEALER TO BE APPLIED TO THE INSIDE FACE AND TOP OF PARAPETS, INCLUDING PARAPETS ON WING WALLS.

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEM	UNIT	WEST ABUTMENT	EAST ABUTMENT	SUPER.	TOTALS
203.0600.S	REMOVING OLD STRUCUTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 21+90	LS	———	———	———	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-28-183	LS	———	———	———	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	200	200	———	400
502.0100	CONCRETE MASONRY BRIDGES	CY	47	47	166	260
502.3200	PROTECTIVE SURFACE TREATMENT	SY	———	———	370	370
502.3210	PIGMENTED SURFACE SEALER	SY	10	10	80	100
503.0146	PRESTRESSED GIRDER TYPE I 45W-INCH	LF	———	———	360	360
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2,130	2,130	———	4,260
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	2,330	2,330	27,170	31,830
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	4	4	———	8
506.4000	STEEL DIAPHRAGMS B-28-183	EACH	———	———	6	6
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	12	12	———	24
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	450	450	———	900
606.0300	RIPRAP HEAVY	CY	160	170	———	330
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	80	80	———	160
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2	2	———	4
645.0120	GEOTEXTILE TYPE HR	SY	300	320	———	620
	NON-BID ITEMS					
	FILLER	SIZE				1/2" & 3/4"



PROFILE GRADE LINE, STH 106

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-183

DRAWN BY TAW | PLANS CK'D. CAB

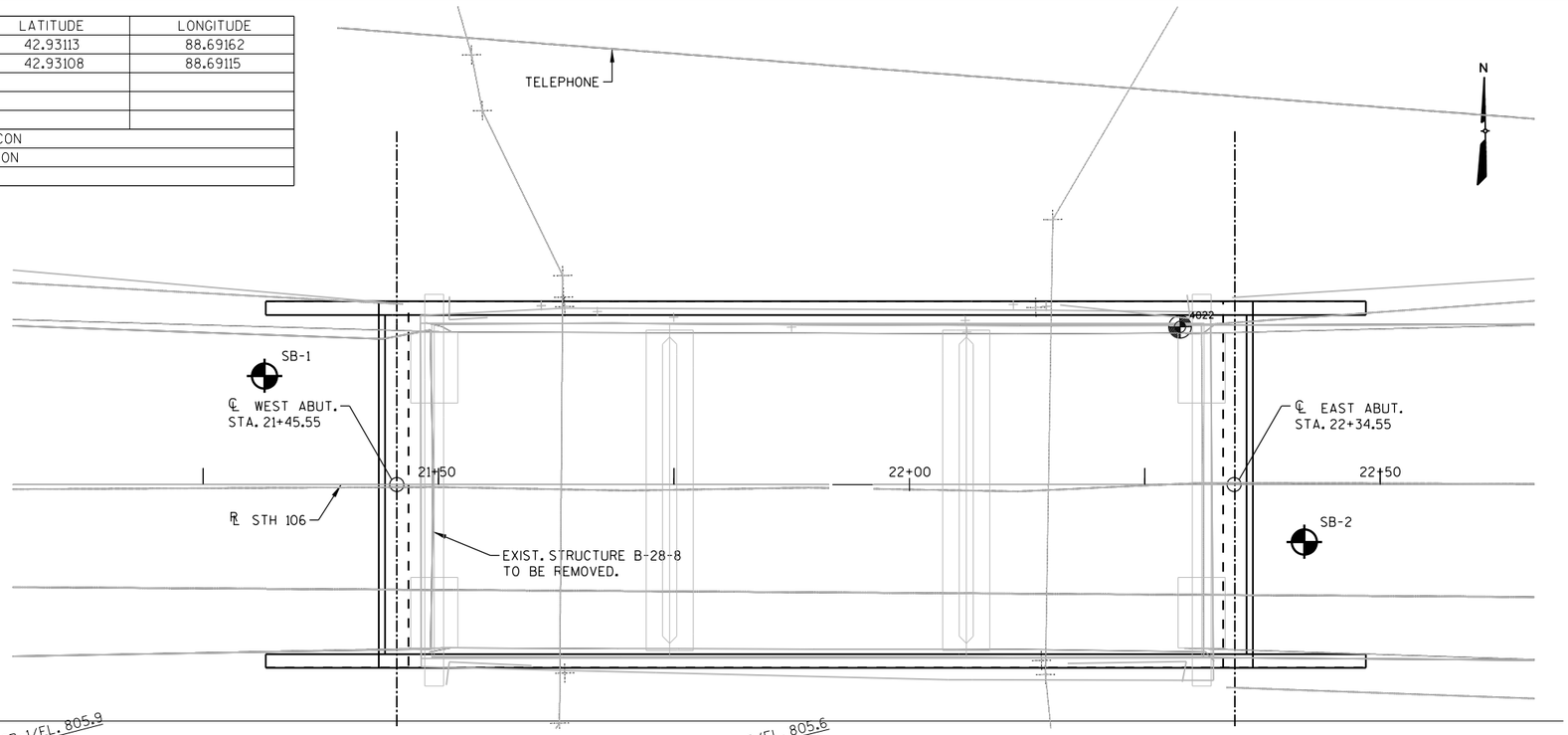
CROSS SECTION & QUANTITIES

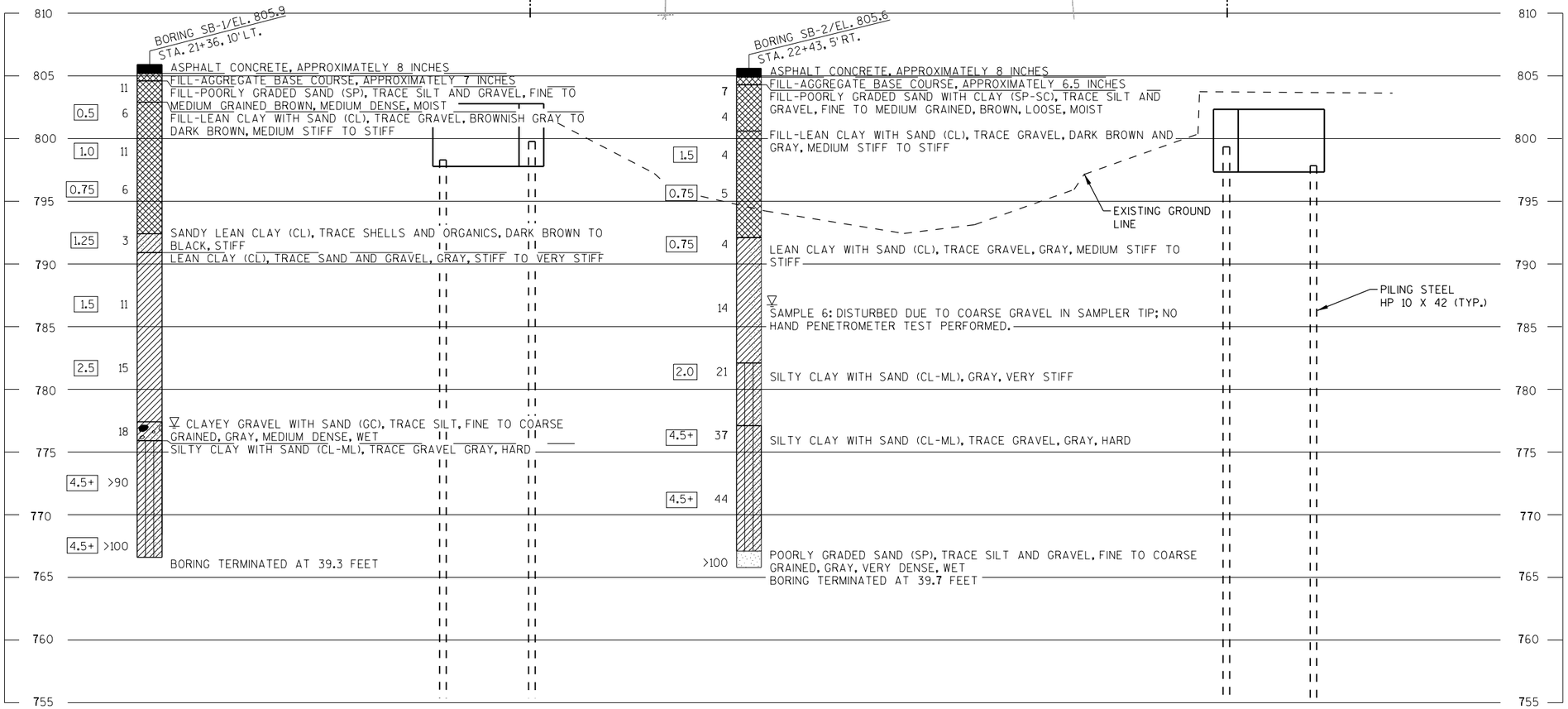
SHEET 2 OF 11
88

8

8

BORING #	DATE COMPLETED	LATITUDE	LONGITUDE
SB-1	9/30/2015	42.93113	88.69162
SB-2	10/1/2015	42.93108	88.69115
BORINGS COMPLETED BY: TERRACON			
REPORT COMPLETED BY: TERRACON			





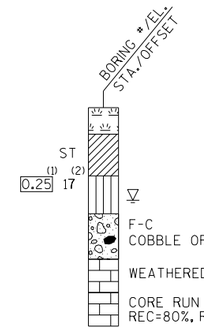
STATE PROJECT NUMBER

3576-02-81

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 B-28-183

DRAWN BY TAW | PLANS CK'D. CAB

SUBSURFACE EXPLORATION

SHEET 3 OF 11
89

8

8

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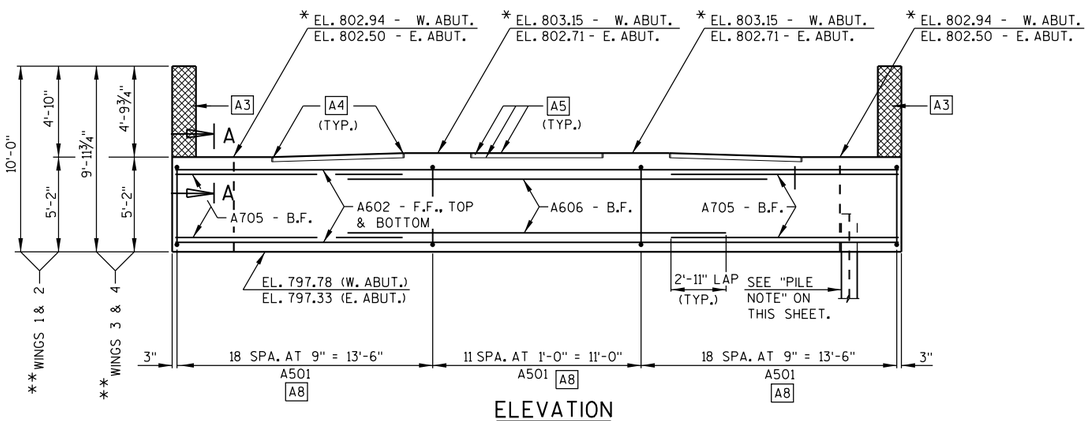
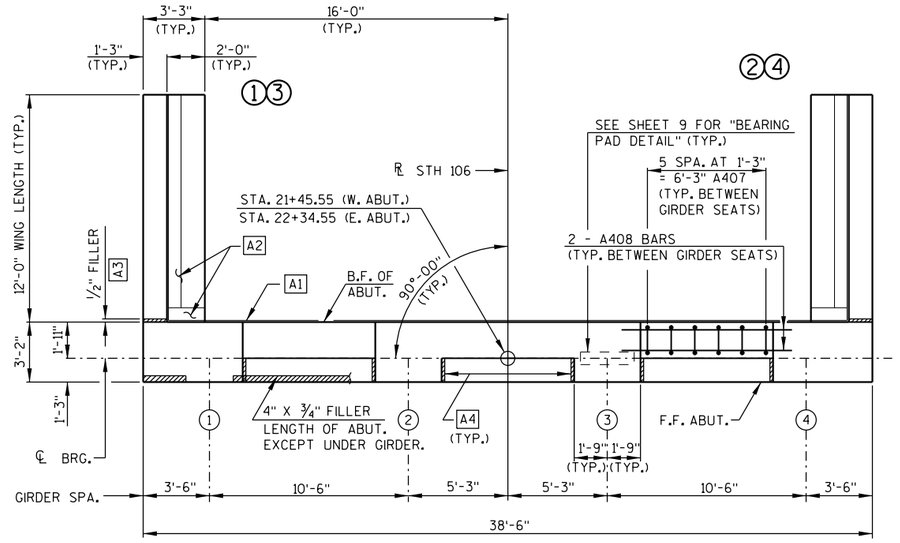
STATE PROJECT NUMBER
3576-02-81

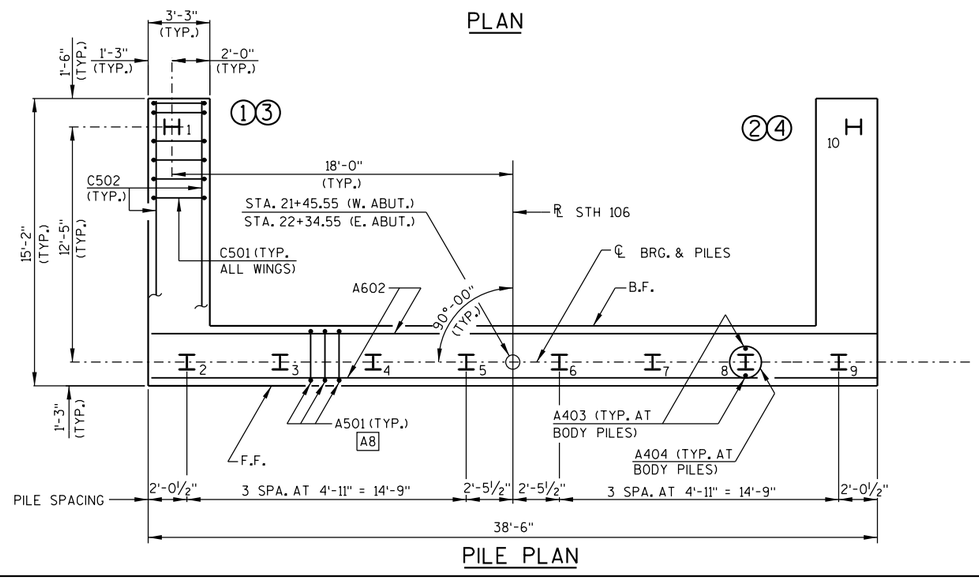


ELEVATION

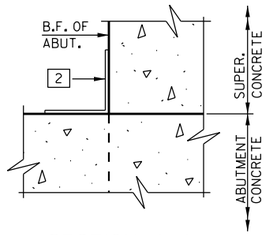
(LOOKING WEST AT WEST ABUTMENT
OR LOOKING EAST AT EAST ABUTMENT)



PLAN



PILE PLAN



SECTION A-A

LEGEND

* ELEVATIONS ARE GIVEN AT THE TOP OF CONCRETE AT THE ℄ OF BEARING.

** DIMENSIONS ARE GIVEN AT THE B.F. OF ABUTMENT. FOR WING DETAILS AND ELEVATIONS, SEE SHEET 5.

(X) INDICATES WING NUMBER.

(X) INDICATES GIRDER NUMBER.

A1 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

A2 PLACE BOTTOM HALF OF RUBBERIZED MEMBRANE WATERPROOFING HORIZONTAL IN THIS AREA. SEE SECTION A-A ON THIS SHEET.

A3 ½" FILLER-TO EXTEND FROM BRIDGE SEAT TO TOP OF CONCRETE PARAPET. FILLER INCLUDED IN WING LENGTH. SEALL 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).

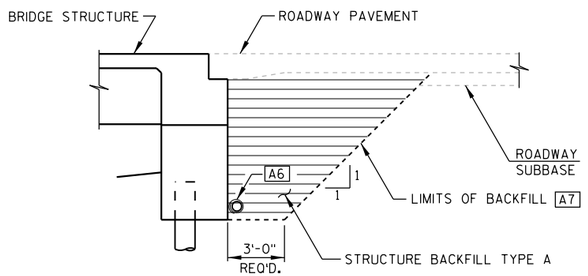
A4 ¾" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

A5 STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND/OR SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

A6 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE "RODENT SHIELD DETAIL" ON THIS SHEET.

A7 BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

A8 SPACE A501 BARS TO MISS PILES.

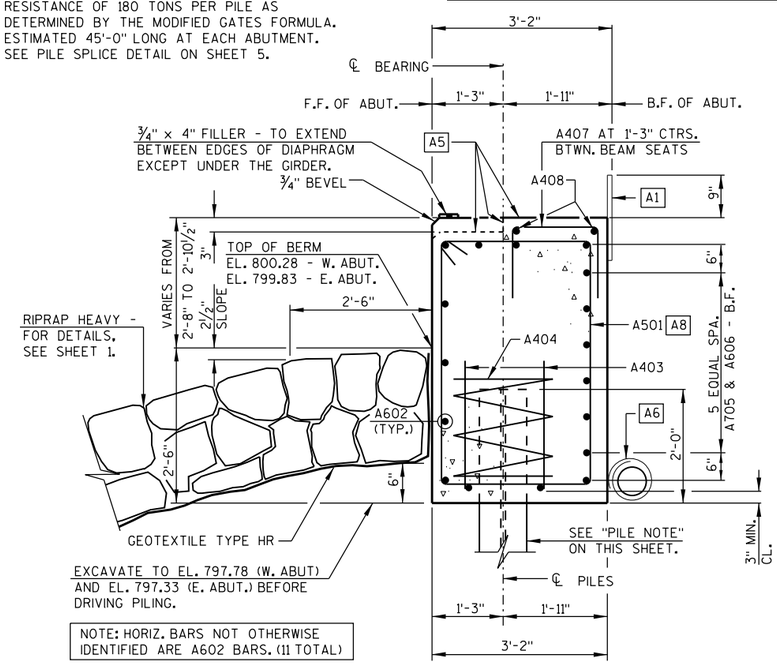


BACKFILL STRUCTURE LIMITS

(TYP. AT W. & E. ABUTMENTS)

PILE NOTE

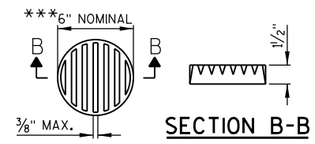
ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 10 x 42 DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES FORMULA. ESTIMATED 45'-0" LONG AT EACH ABUTMENT. SEE PILE SPLICE DETAIL ON SHEET 5.



NOTE: HORIZ. BARS NOT OTHERWISE IDENTIFIED ARE A602 BARS. (11 TOTAL)

TYPICAL SECTION THRU BODY

(LOOKING NORTH THRU EAST ABUTMENT. WEST ABUTMENT SIMILAR)



SECTION B-B

RODENT SHIELD DETAIL

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

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

THE RODENT SHIELD SHALL BE 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 EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

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STRUCTURE B-28-183

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ABUTMENTS

SHEET 4 OF 11
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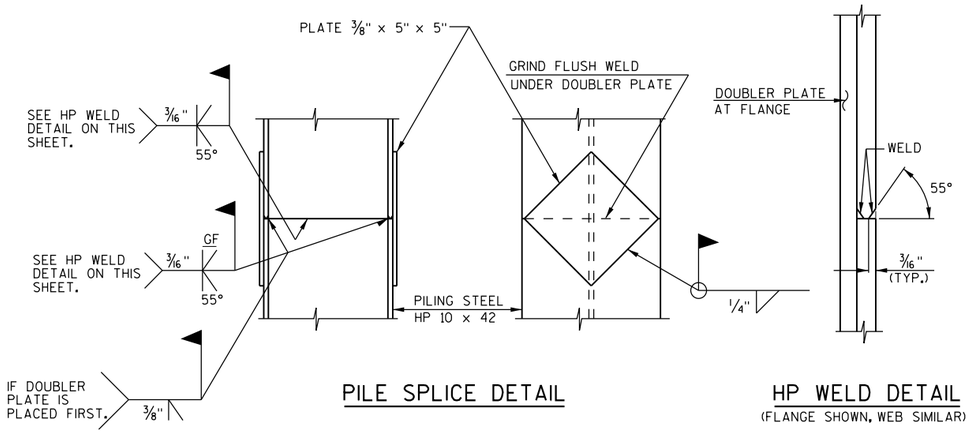
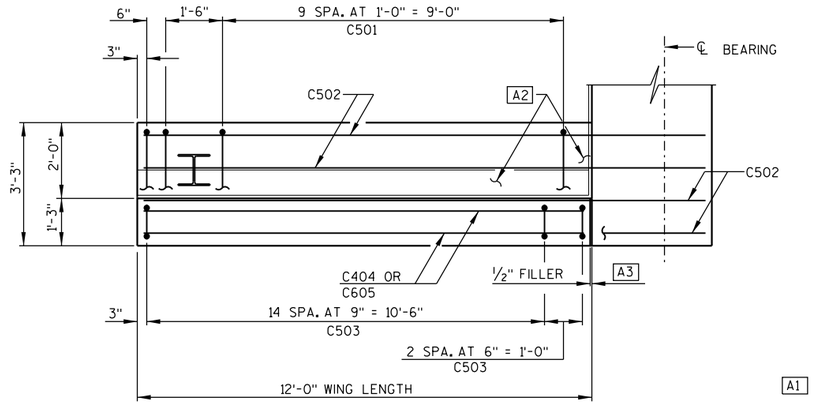
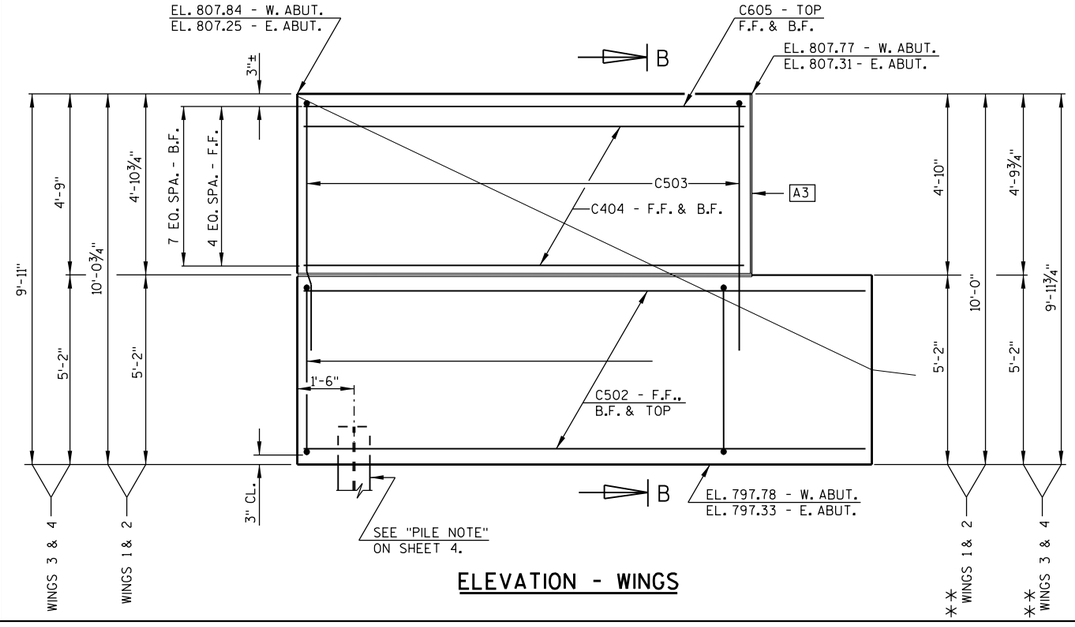


PILE SPLICE DETAIL

HP WELD DETAIL
(FLANGE SHOWN, WEB SIMILAR)



PLAN - WINGS



ELEVATION - WINGS

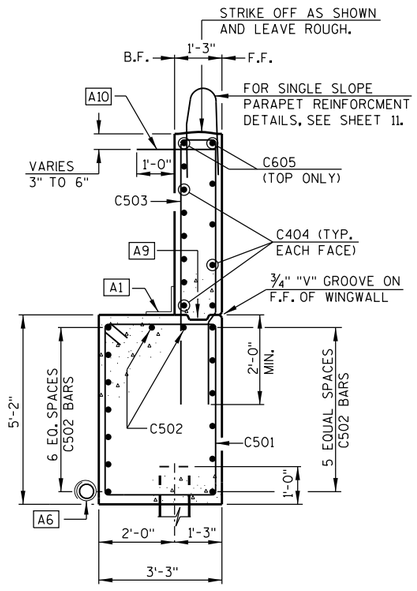
LEGEND

** DIMENSIONS AND ELEVATIONS ARE GIVEN AT THE B.F. OF ABUTMENT.

A9 OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2" x 6" KEYWAY WITH RUBBERIZED MEMBRANE WATERPROOFING ON BACKFACE. ("V" GROOVE NOT REQUIRED IF CONST. JOINT IS NOT USED.)

A10 C406 BARS SPACED AT 1'-0" CTRS. ALONG ENTIRE WING LENGTH. PLACE IN WINGS ADJACENT TO SURFACE DRAIN APRON ONLY - WINGS 3 & 4.

A1 A2 A3 A6 FOR SYMBOL DESCRIPTIONS, SEE SHEET 4.

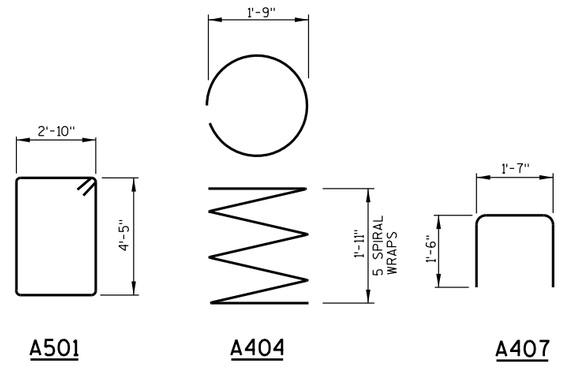


SECTION B-B

BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
BOTH ABUTMENTS ARE INCLUDED IN THIS BILL OF BARS.

MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION	
NON-COATED BARS					TOTAL WEIGHT = 4,260 LBS	
A501	96	15-2	X		ABUTMENT BODY - STIRRUPS	VERT.
A602	22	38-2			ABUTMENT BODY - F.F., TOP & BOTTOM	HORIZ.
A403	32	2-3			ABUTMENT BODY - 2 PER PILE	VERT.
A404	16	28-0	X		ABUTMENT BODY - 1 SPIRAL WRAP PER PILE	VERT.
A705	24	12-0			ABUTMENT BODY - B.F.	HORIZ.
A606	12	20-0			ABUTMENT BODY - B.F.	HORIZ.
A407	36	4-5	X		ABUTMENT BODY - TOP - BETWEEN GIRDER SEAT	VERT.
A408	12	9-0			ABUTMENT BODY - TOP - BETWEEN GIRDER SEAT	HORIZ.
COATED BARS					TOTAL WEIGHT = 3,250 LBS	
C501	48	16-0	X		WING BODY - STIRRUPS	VERT.
C502	60	14-10			WING BODY - F.F., B.F. & TOP	HORIZ.
C503	68	14-2	X		WING - F.F. & B.F.	VERT.
C404	44	11-8			WING - F.F. & B.F.	HORIZ.
C605	8	11-8			WING - F.F. & B.F. - TOP	HORIZ.
C406	24	2-0			WINGS 3 & 4 - TOP - DOWELS	HORIZ.



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STRUCTURE B-28-183

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ABUTMENT DETAILS

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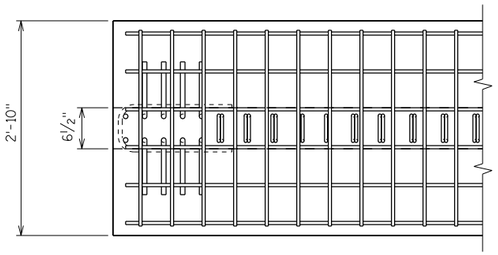
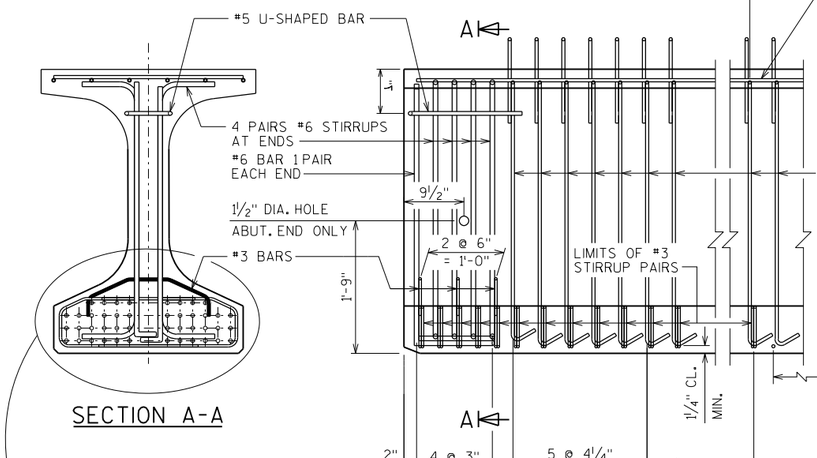
STATE PROJECT NUMBER

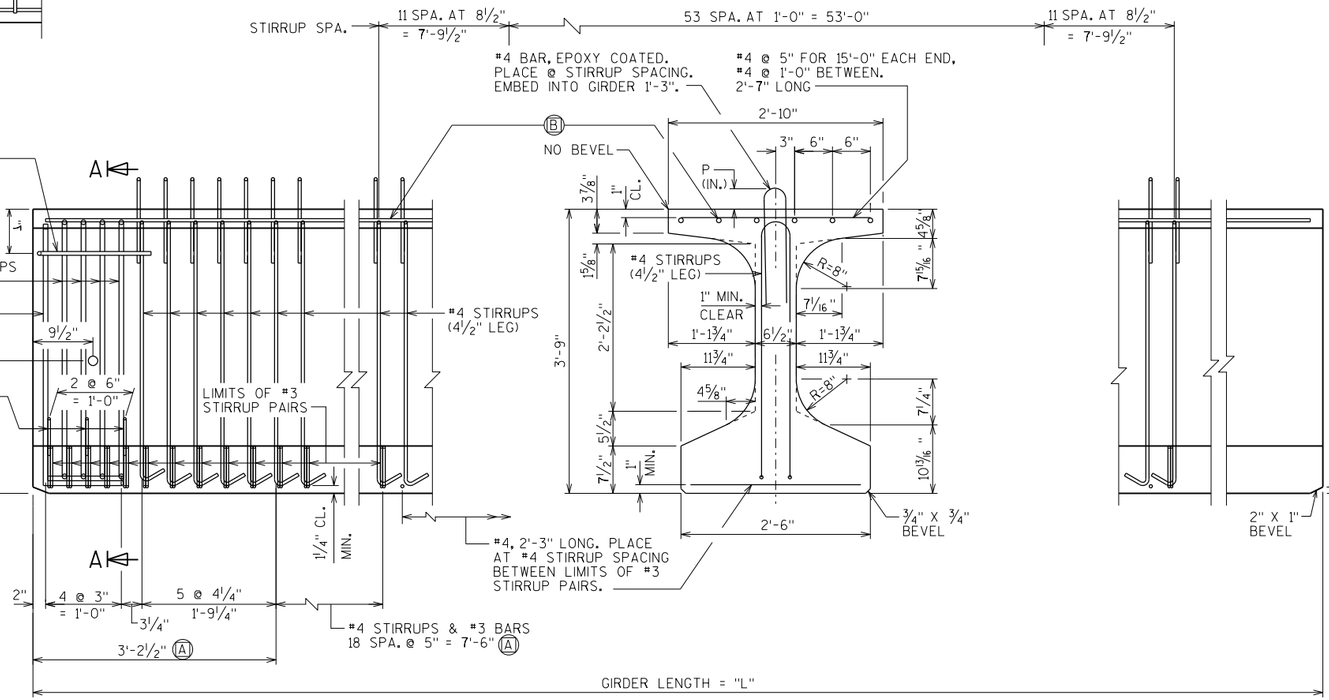
3576-02-81



TOP FLANGE



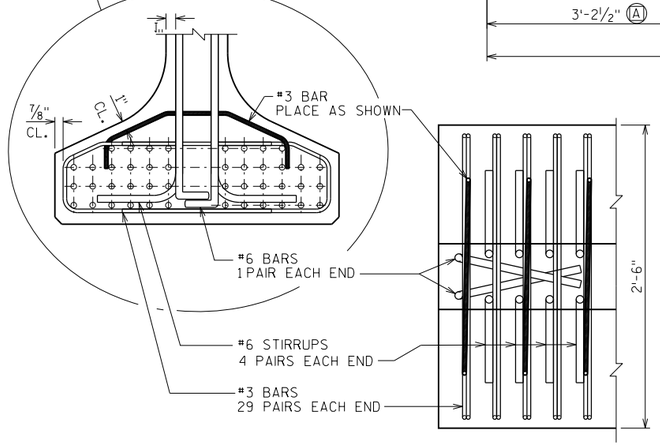
SECTION A-A



SIDE VIEW & TYPICAL SECTION IN SPAN

Ⓐ DETAIL TYP. AT EACH END

Ⓑ 6 #4 BARS, FULL LENGTH, MIN. LAP = 2'-4"



BOTTOM FLANGE

NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER OR EPOXY TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS. SEE SECT. 503.3.3 OF STANDARD SPECIFICATIONS FOR GUIDANCE.

STRANDS SHALL BE FLUSH WITH END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, END OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO THE APPLICATION OF THE SEALER.

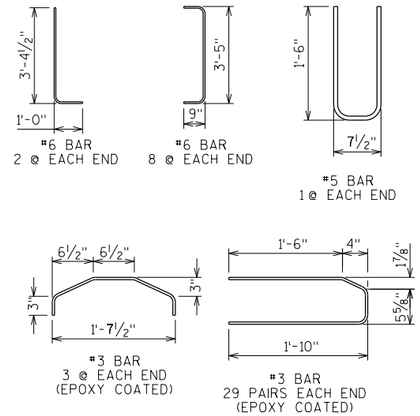
ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

PRESTRESSING STRANDS SHALL BE (0.6" DIA.)-7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.



✳ MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (p.s.i.)	"P" 1ST 1/3 OF GIRDER	"P" MID 1/3 OF GIRDER	"P" END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) ✳	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) ✳
1	1-4	90'-0"	0.51	1.00	1.38	1.63	1.71	1.63	1.38	1.00	0.51	8,000	8"	7"	8"	0.6	34	6,800	40	13.75	16.75	5		

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STRUCTURE B-28-183

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45W" PRESTRESSED GIRDER DETAILS

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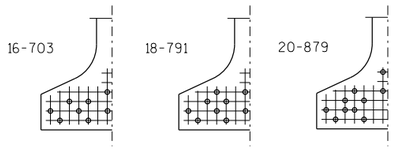
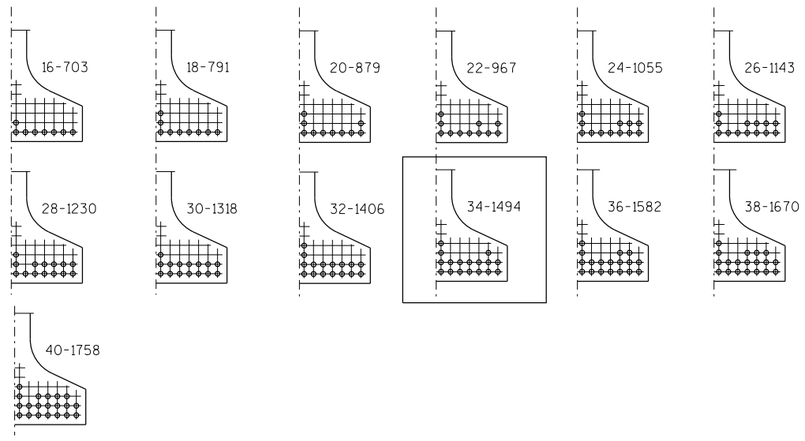


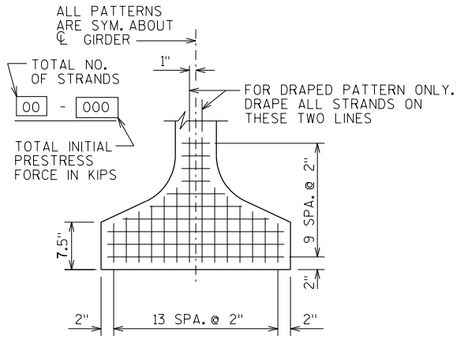
STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY TO AVOID DRAPING OF STRANDS

0.6"ϕ STRANDS

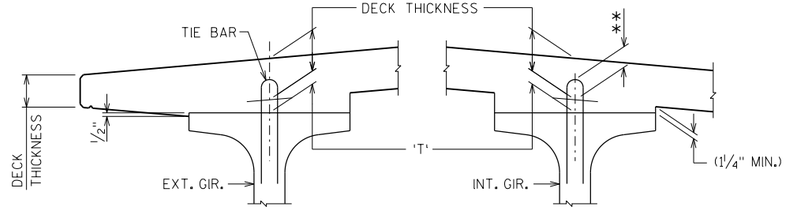


ARRANGEMENT AT ℄ SPAN - FOR GIRDERS WITH DRAPED STRANDS

0.6"ϕ STRANDS



TYP. STRAND PATTERN



DECK HAUNCH DETAIL

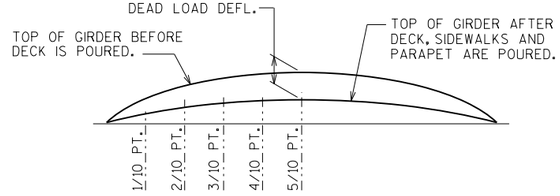
IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

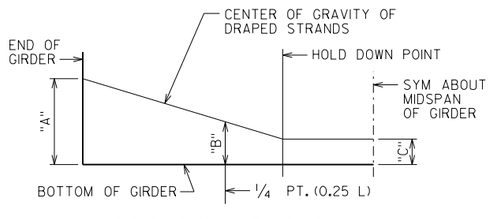
TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- DECK THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



DEAD LOAD DEFLECTION DIAGRAM



DRAPED STRAND PROFILE

*THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.) *
1	3.23

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T'. USE ACTUAL GIRDER SHOTS.

THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

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STRUCTURE B-28-183

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45W" PRESTRESSED GIRDER DETAILS

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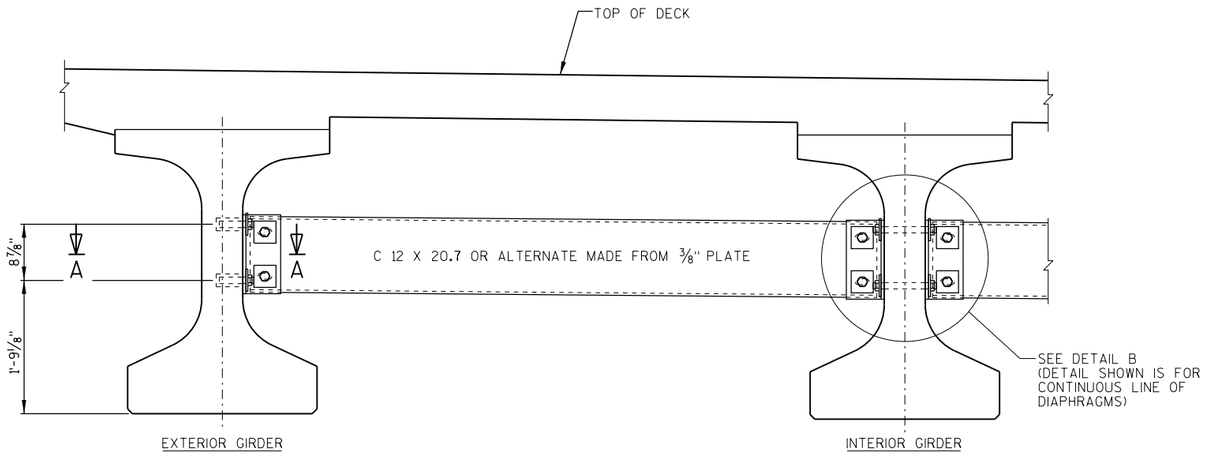


PART TRANSVERSE SECTION AT DIAPHRAGM

NOTES

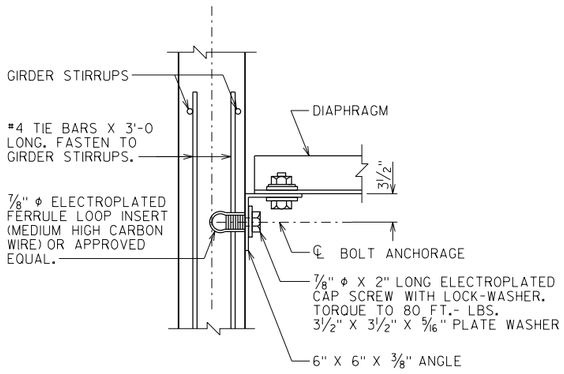
ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-28-183", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

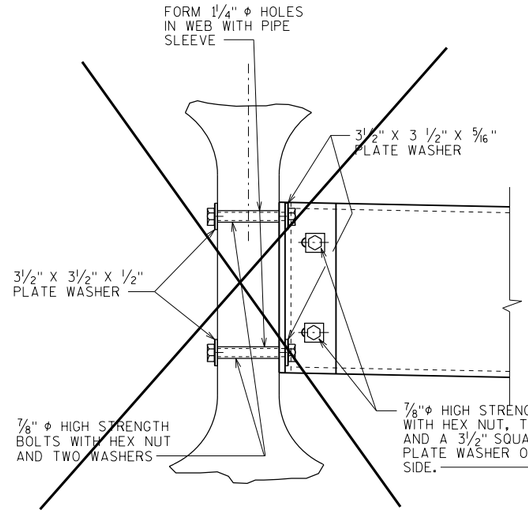
ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

ALL DIAPHRAGM MATERIAL INCLUDING BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION.

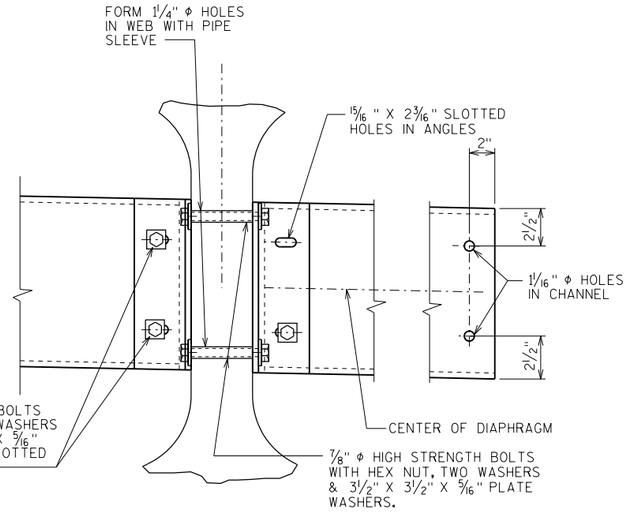
STEEL DIAPHRAGM TO CONCRETE WEB CONNECTION SHALL BE SNUG-TIGHT PLUS ¼ TURN, UNLESS NOTED OTHERWISE. HIGH STRENGTH BOLTS FOR WEB CONNECTION SHALL MEET THE REQUIREMENTS FOR ASTM 325 OR ASTM A449.



SECTION A-A
(FOR EXTERIOR ATTACHMENT)

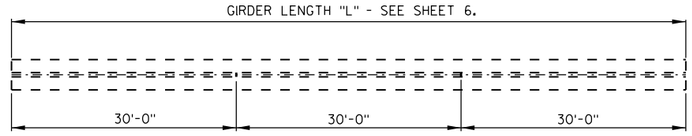


(FOR STAGGERED DIAPHRAGM)



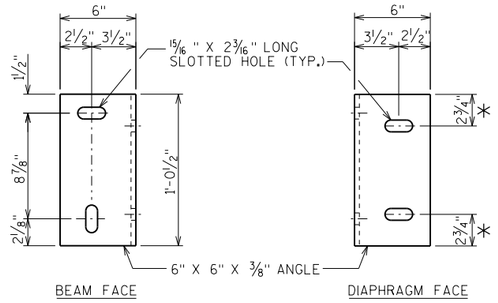
(FOR CONTINUOUS LINE OF DIAPHRAGMS)

DETAIL B

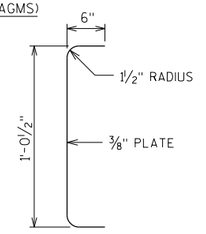


ALL GIRDERS

DIAPHRAGM CONNECTION SPACING



DIAPHRAGM SUPPORT
* 2½" FOR ALTERNATE PLATE DIAPHRAGM



SECTION THRU ALTERNATE DIAPHRAGM

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STEEL DIAPHRAGM

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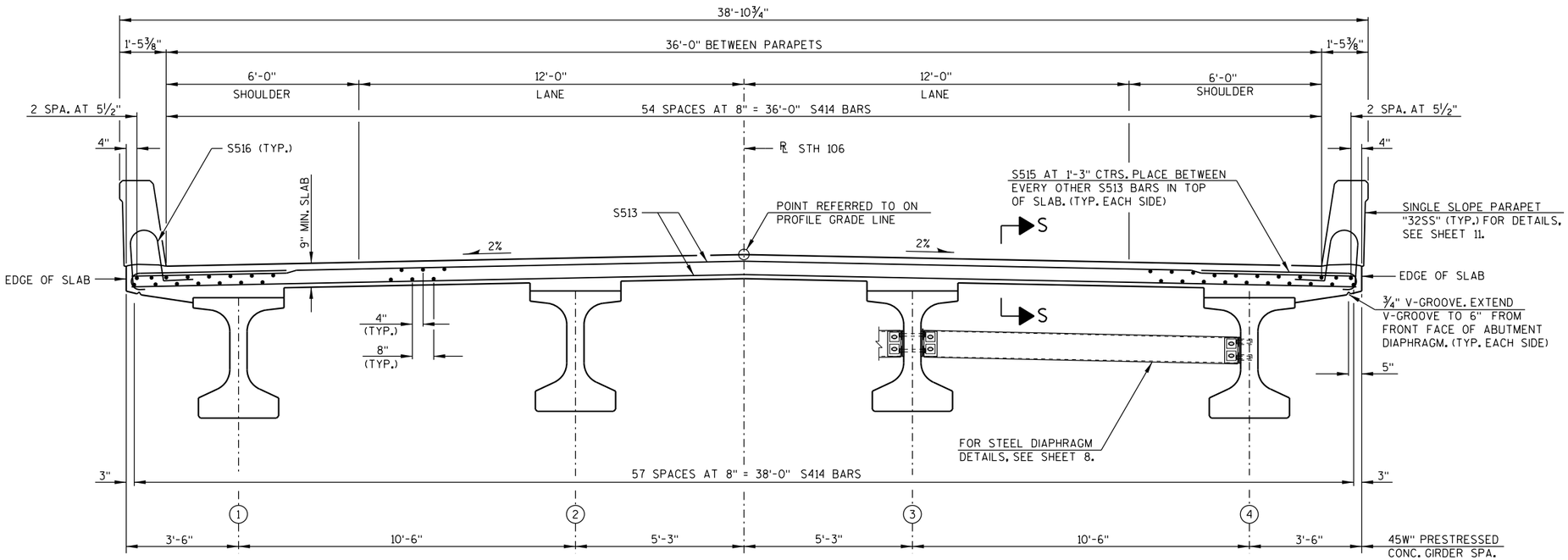
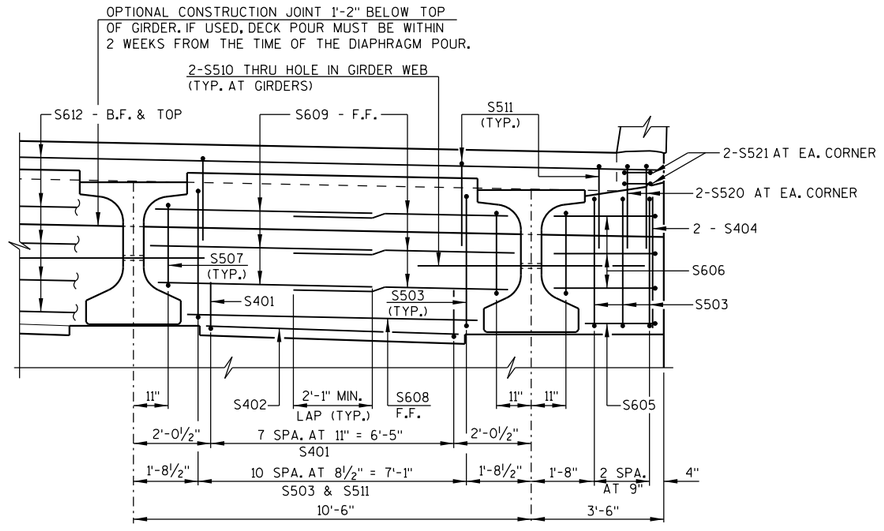
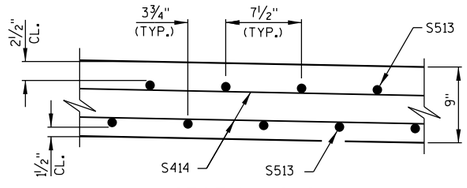


CROSS SECTION THRU ROADWAY
(LOOKING EAST)



ABUTMENT DIAPHRAGM DETAILS
(LOOKING EAST AT EAST ABUTMENT, WEST ABUTMENT SIMILAR)



SECTION S-S

BEARING PAD DETAIL

TOP OF DECK ELEVATIONS

	C.L. BRG. W. ABUT.	0.10 PT.	0.20 PT.	0.30 PT.	0.40 PT.	0.50 PT.	0.60 PT.	0.70 PT.	0.80 PT.	0.90 PT.	C.L. BRG. E. ABUT.
N. EOD	807.74	807.69	807.65	807.61	807.56	807.52	807.47	807.43	807.38	807.34	807.29
GIRDER 1	807.81	807.76	807.72	807.68	807.63	807.59	807.54	807.50	807.45	807.41	807.36
GIRDER 2	808.02	807.97	807.93	807.89	807.84	807.80	807.75	807.71	807.66	807.62	807.57
GIRDER 3	808.02	807.97	807.93	807.89	807.84	807.80	807.75	807.71	807.66	807.62	807.57
GIRDER 4	807.81	807.76	807.72	807.68	807.63	807.59	807.54	807.50	807.45	807.41	807.36
S. EOD	807.74	807.69	807.65	807.61	807.56	807.52	807.47	807.43	807.38	807.34	807.29

NOTE: EDGE OF DECK (EOD) ELEVATIONS ARE CALCULATED ASSUMING CROSS SLOPE CONTINUES TO EDGE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-28-183

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SUPERSTRUCTURE

SHEET 9 OF 11
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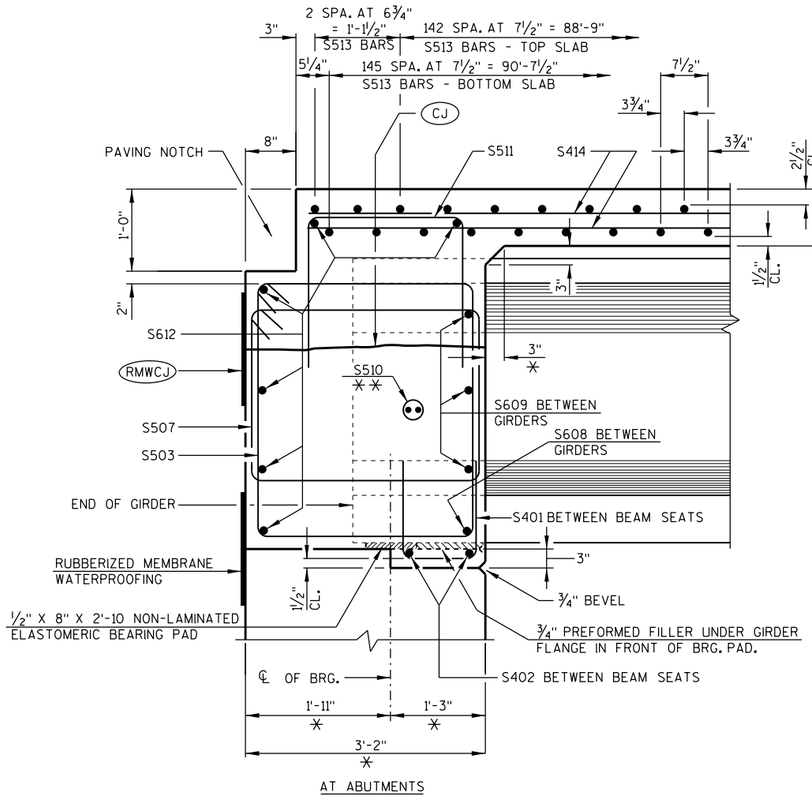
STATE PROJECT NUMBER

3576-02-81



LEGEND

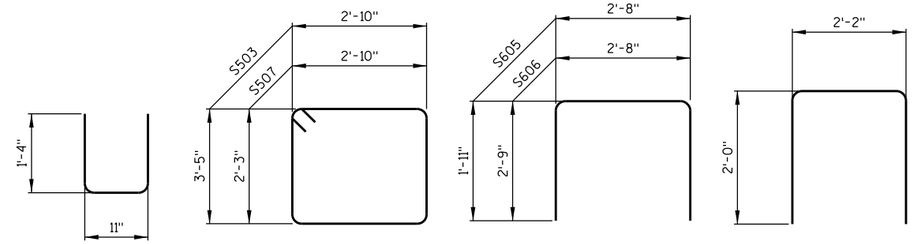
- ✳ DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.
- ✳✳ 1½" DIA. HOLE IN WEB FOR S510 BARS. PLACE TWO S510 BARS SYMMETRICAL ABOUT ℄ OF GIRDER. SEE "SIDE VIEW" ON SHEET 6 FOR DETAILS.
- (CJ) OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW, TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.
- (RMWCJ) RUBBERIZED MEMBRANE WATERPROOFING IF CONSTRUCTION JOINT IS USED. (COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES").

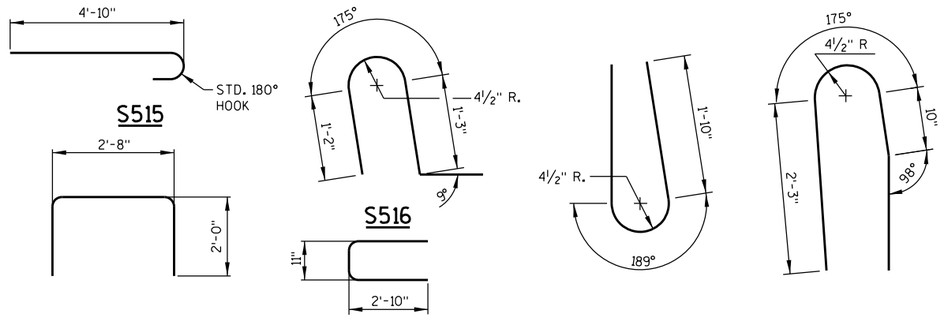
NOTE: ALL VERTICAL BAR STEEL REINFORCEMENT IN CONCRETE DIAPHRAGMS SHALL BE SPACED AND PLACED PARALLEL TO GIRDERS.

BILL OF BARS

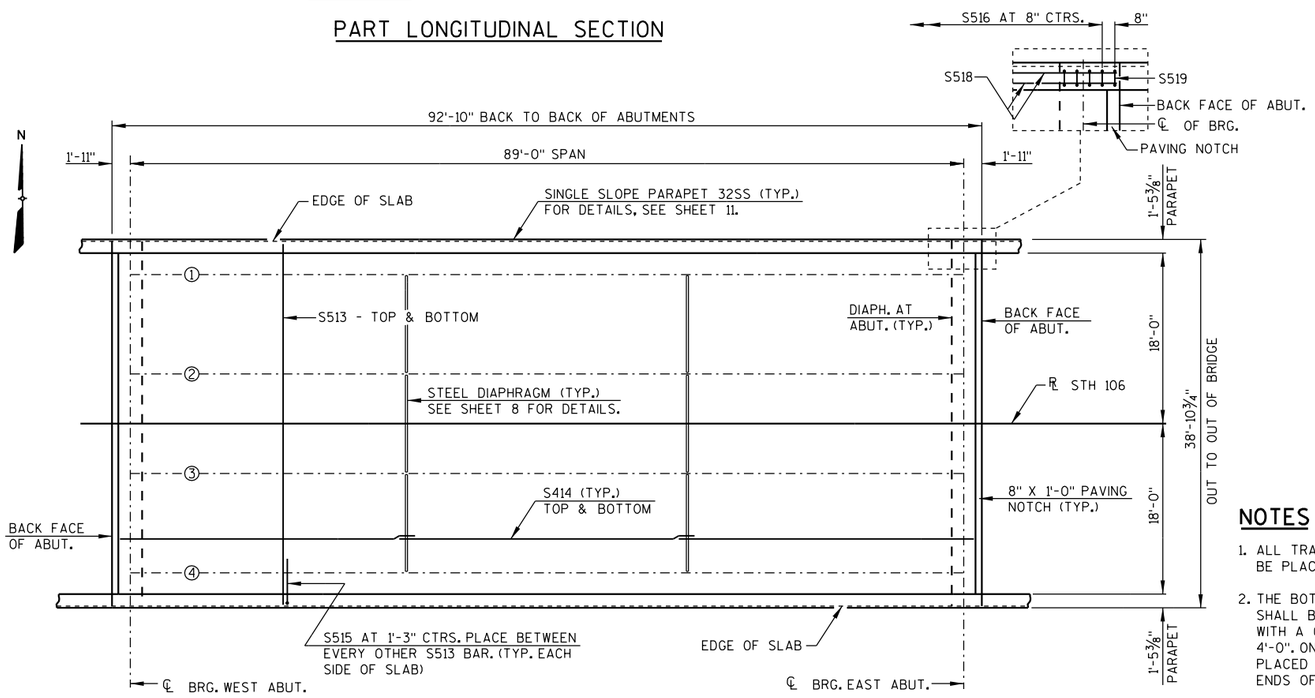
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
COATED BARS					TOTAL WEIGHT = 27,170 LBS
S401	48	3 - 5	X		DIAPHRAGM AT ABUTMENT - F.F. VERT.
S402	12	6 - 8			DIAPHRAGM AT ABUTMENT - F.F. HORIZ.
S503	78	13 - 2	X		DIAPHRAGM AT ABUTMENT - STIRRUPS VERT.
S404	8	3 - 5			DIAPHRAGM AT ABUTMENT - ENDS VERT.
S605	4	6 - 2	X		DIAPHRAGM AT ABUTMENT - ENDS HORIZ.
S606	12	7 - 10	X		DIAPHRAGM AT ABUTMENT - ENDS HORIZ.
S507	16	10 - 10	X		DIAPHRAGM AT ABUTMENT - STIRRUPS VERT.
S608	6	7 - 8			DIAPHRAGM AT ABUTMENT - F.F. HORIZ.
S609	36	5 - 11			DIAPHRAGM AT ABUTMENT - F.F. HORIZ.
S510	16	6 - 0			DIAPHRAGM AT ABUTMENT - 2 THRU HOLE IN GIRDER HORIZ.
S511	70	5 - 11	X		DIAPHRAGM AT ABUTMENT - TOP VERT.
S612	12	38 - 2			DIAPHRAGM AT ABUTMENT - B.F. & TOP HORIZ.
S513	293	38 - 2			SLAB - TOP & BOTTOM TRANS.
S414	351	31 - 6			SLAB - TOP & BOTTOM LONGIT.
S515	148	5 - 5	X		SLAB - AT EDGES TRANS.
S516	276	4 - 5	X		PARAPET VERT.
S517	280	5 - 0	X		PARAPET VERT.
S518	36	32 - 0			PARAPET HORIZ.
S519	4	5 - 10	X		PARAPET VERT.
S520	8	6 - 5	X		DIAPHRAGM AT ABUTMENT - ENDS - TOP VERT.
S521	8	6 - 4	X		DIAPHRAGM AT ABUTMENT - ENDS - TOP HORIZ.





PART LONGITUDINAL SECTION



PLAN

NOTES

1. ALL TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE PLACED PERPENDICULAR TO ℄ STH 106.
2. THE BOTTOM TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS WITH A CENTER TO CENTER SPACING NOT TO EXCEED 4'-0". ONE LINE OF CONTINUOUS BAR CHAIRS SHALL BE PLACED NEAR EACH EDGE OF SLAB TO SUPPORT THE ENDS OF THE BOTTOM TRANSVERSE BAR STEEL.
3. THE TOP LONGITUDINAL BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS IN TRANSVERSE DIRECTION ON 4'-0" CENTERS.
4. LAP LONGITUDINAL S414 BARS IN DECK 1'-8" MIN.
5. LAP LONGITUDINAL S518 BARS IN SINGLE SLOPE PARAPET 32SS 1'-9" MIN.
6. FOR LOCATIONS OF DIAPHRAGM CONNECTION INSERTS/HOLES IN GIRDERS, SEE SHEET 8.

NO.	DATE	REVISION	BY

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STRUCTURE B-28-183

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SUPERSTRUCTURE DETAILS

SHEET 10 OF 11
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BATCH PRINT SHEET 11 OF 11

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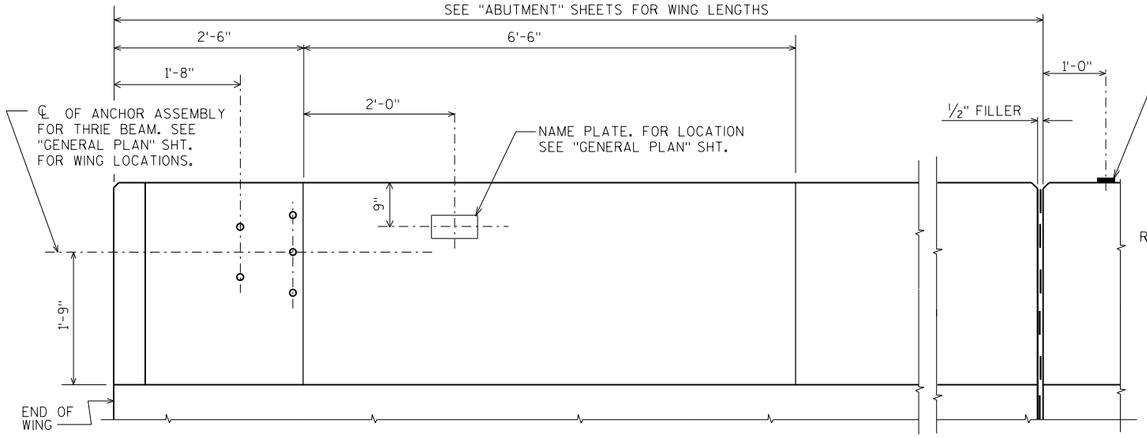

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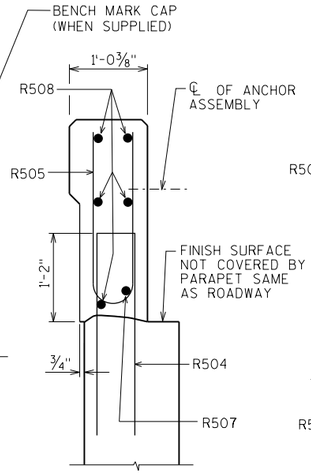

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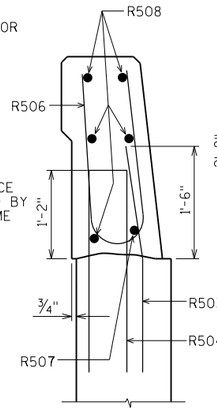

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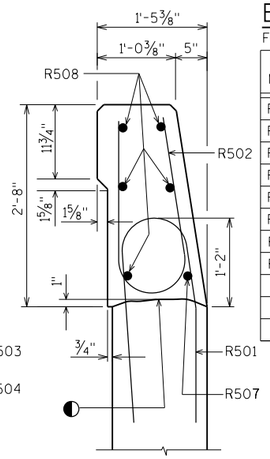


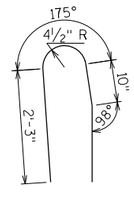
SECTION C

BILL OF BARS

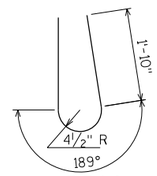
FOR ABUTMENT PARAPETS

WT. = 1,410 LBS.

BAR MARK	COAT	WEST ABUT.	EAST ABUT.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	10	10	5-10	X		PARAPET VERT.
R502	X	10	10	5-0	X		PARAPET VERT.
R503	X	24	24	3-0	X		PARAPET VERT.
R504	X	34	34	5-7	X		PARAPET VERT.
R505	X	22	22	4-9	X		PARAPET VERT.
R506	X	12	12	4-10	X		PARAPET VERT.
R507	X	2	2	11-7	X		PARAPET HORIZ.
R508	X	10	10	11-7			PARAPET HORIZ.



R501



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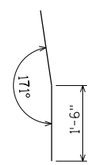

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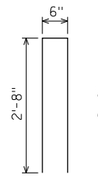

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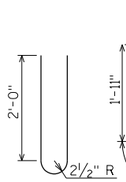

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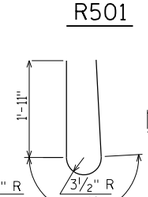

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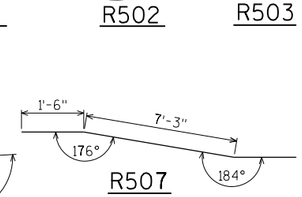

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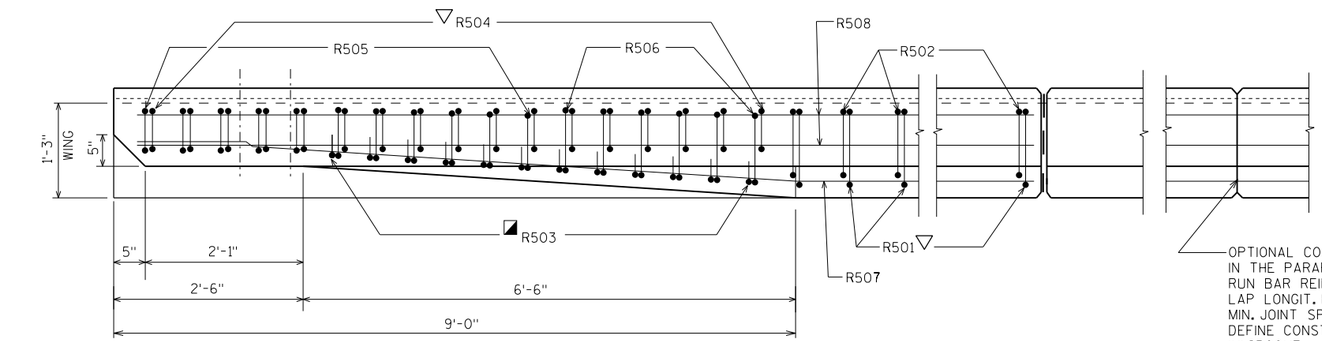
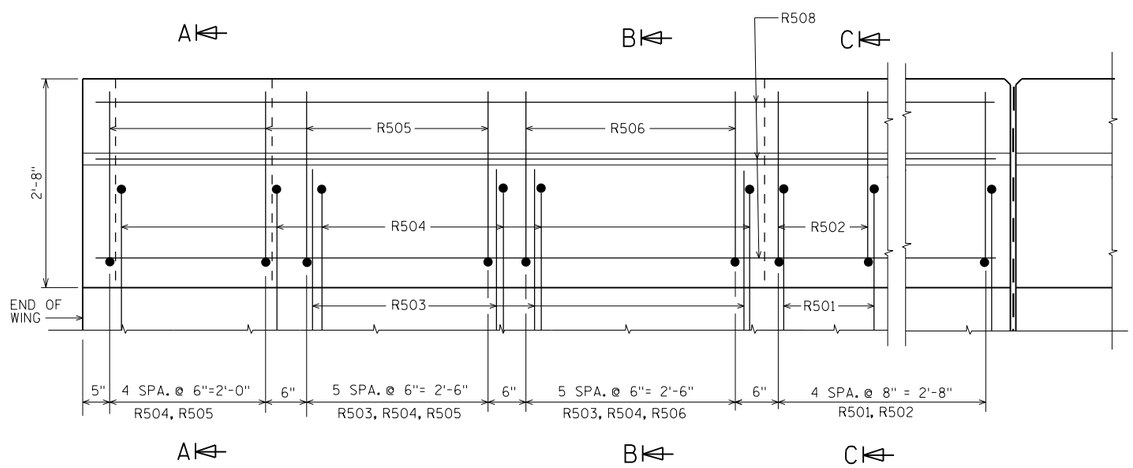


PLAN

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾" - 'V' GROOVE.



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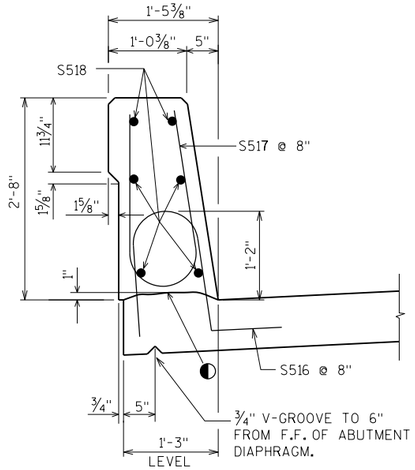
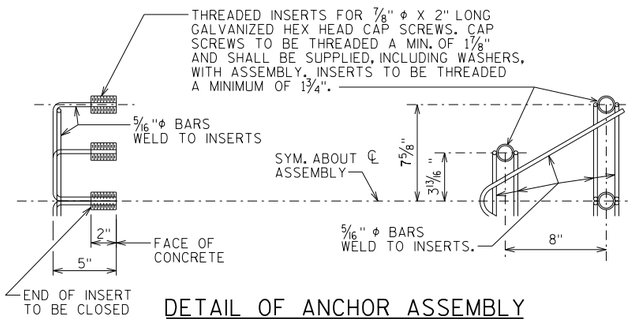


SECTION THRU PARAPET ON BRIDGE



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

◪ R503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

▽ R501 AND R504 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

NO.	DATE	REVISION	BY

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STRUCTURE B-28-183

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SINGLE SLOPE PARAPET 32SS

SHEET 11 OF 11

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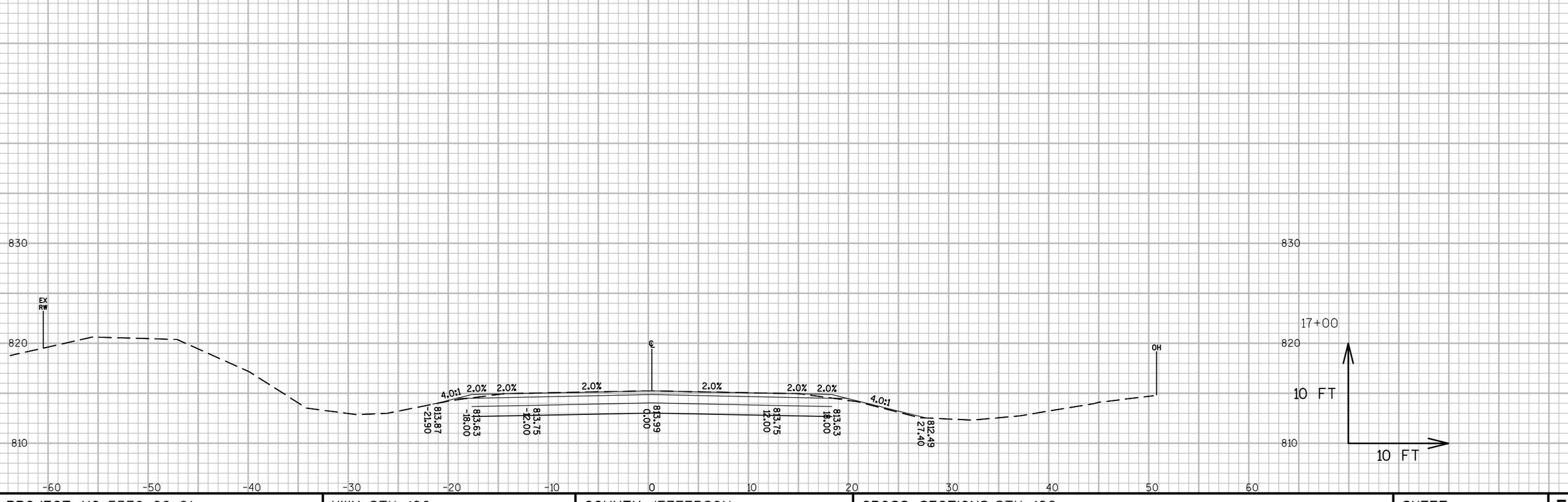

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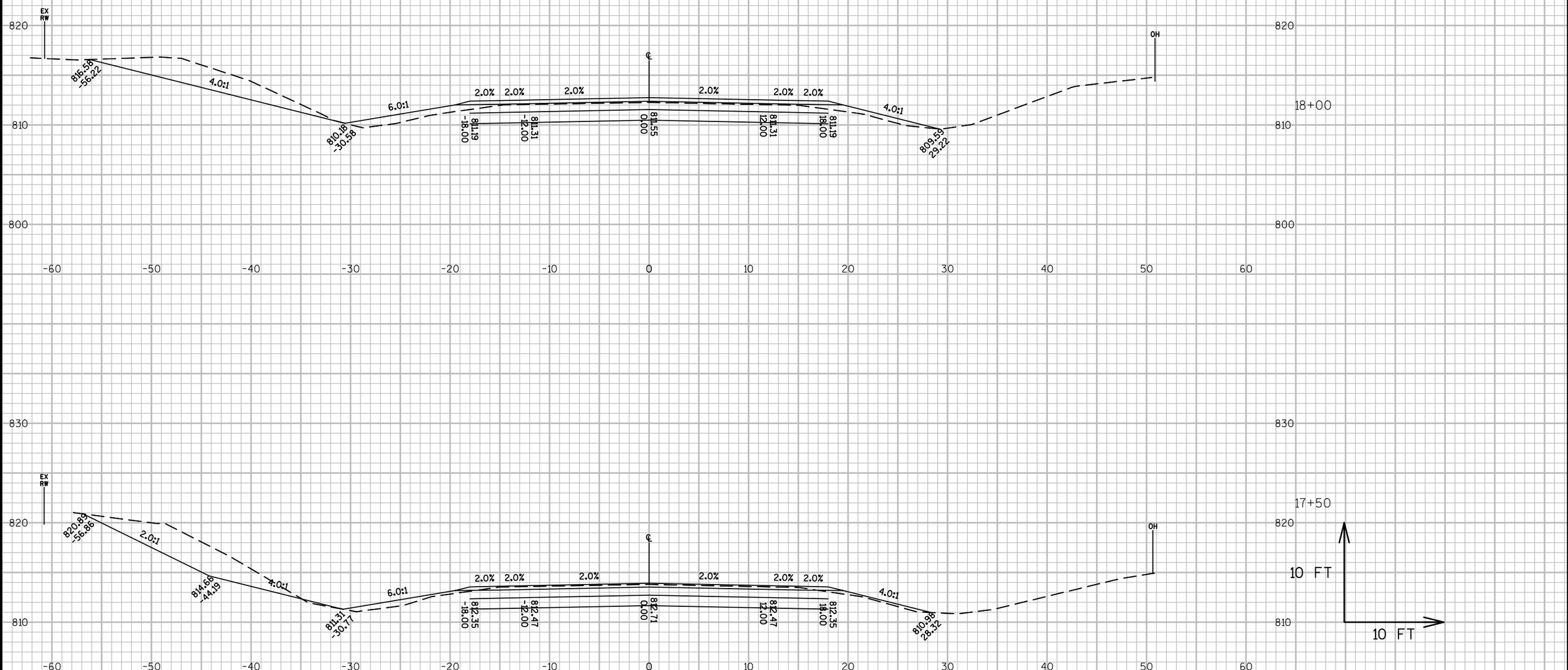

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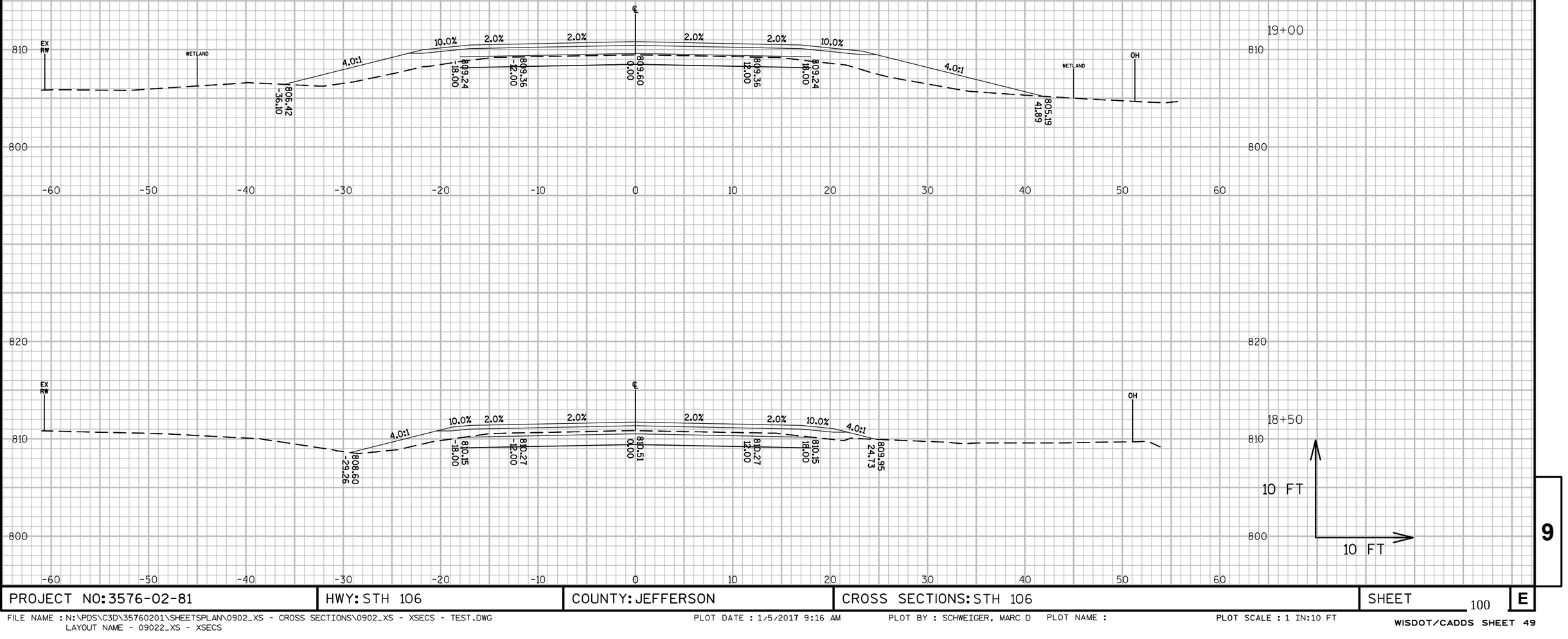

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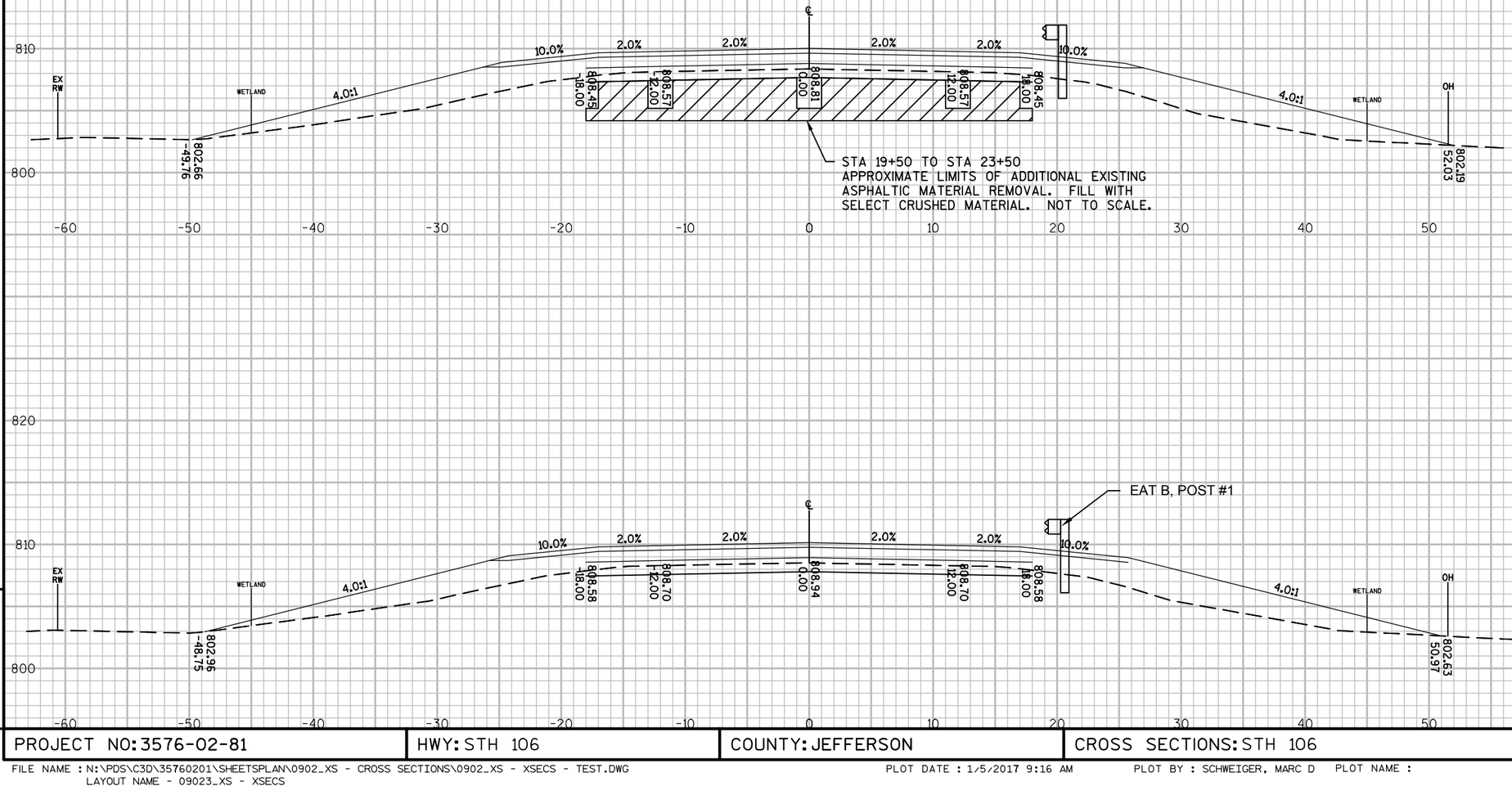

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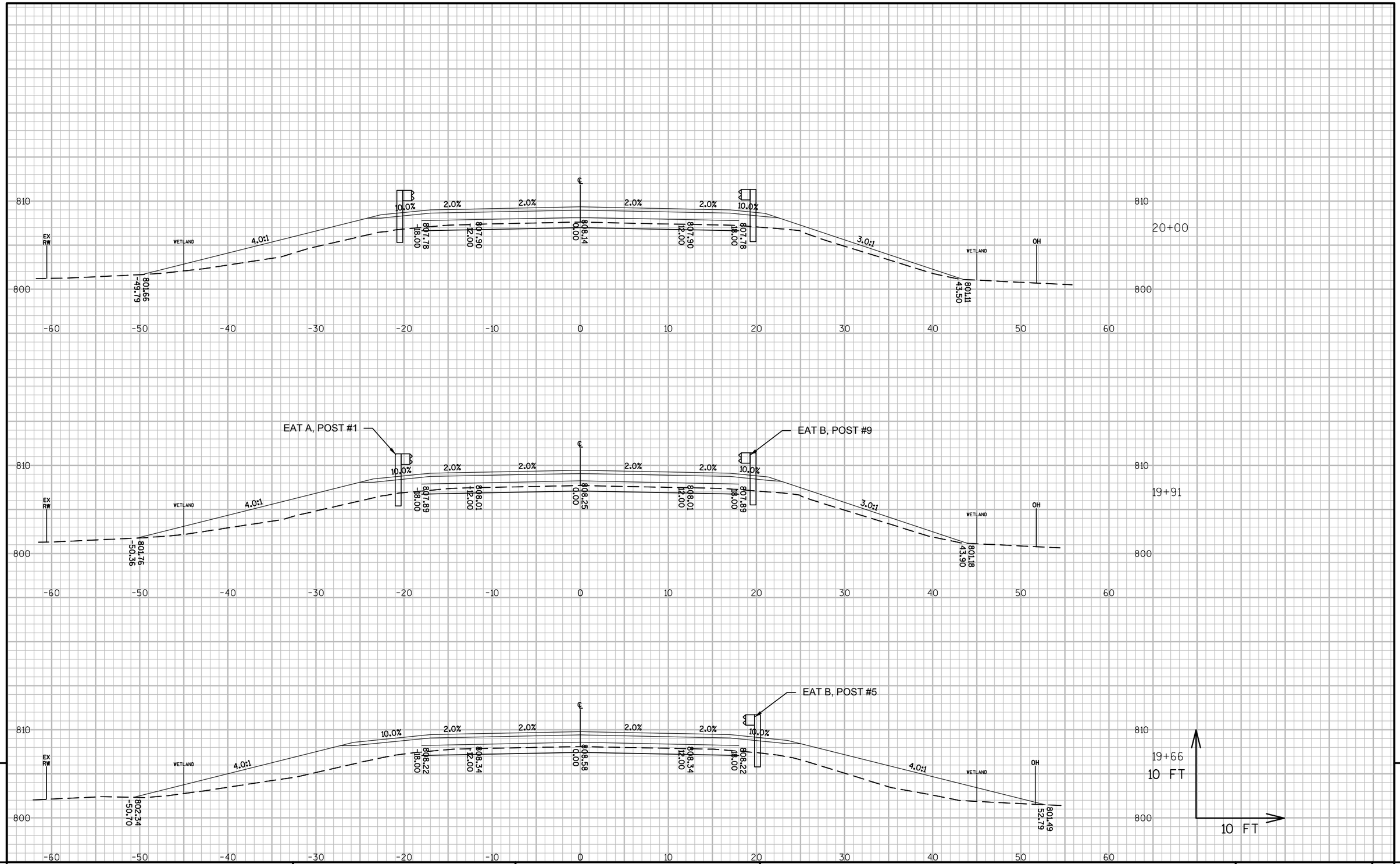

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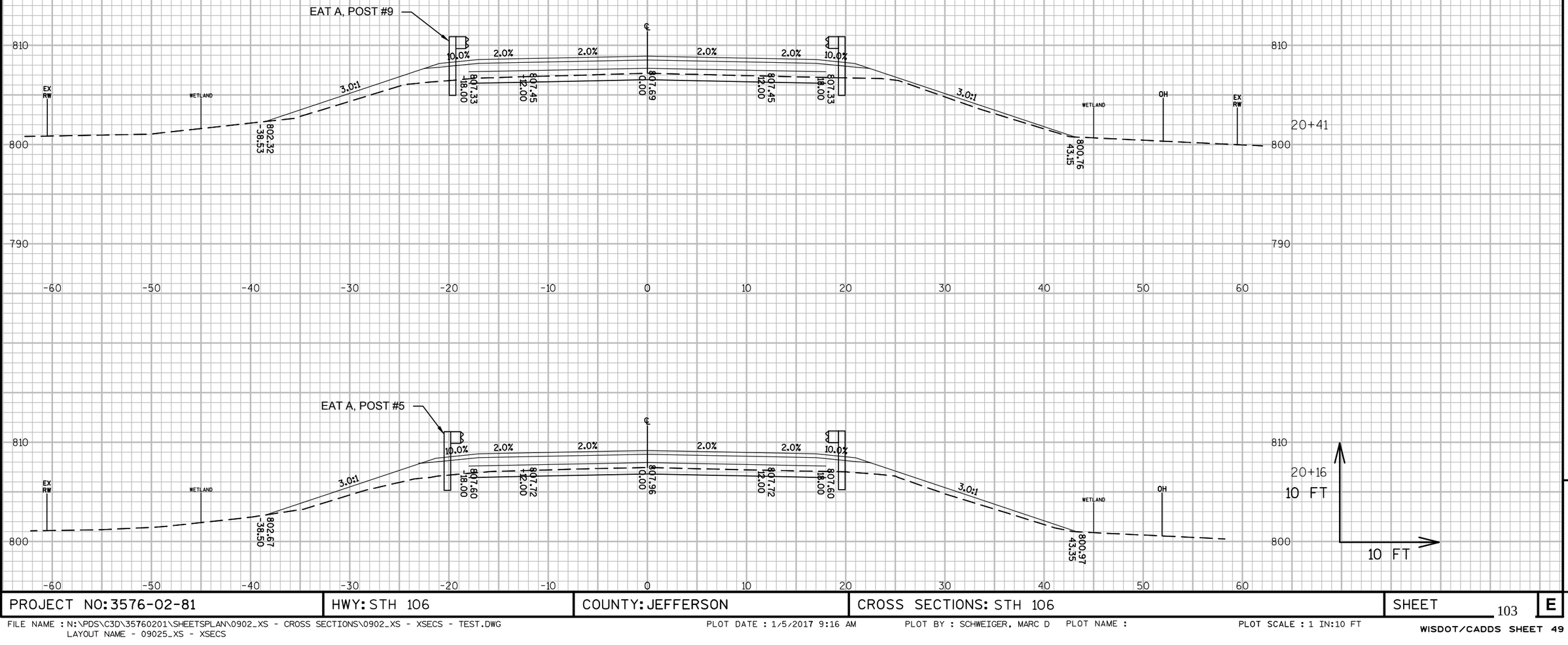

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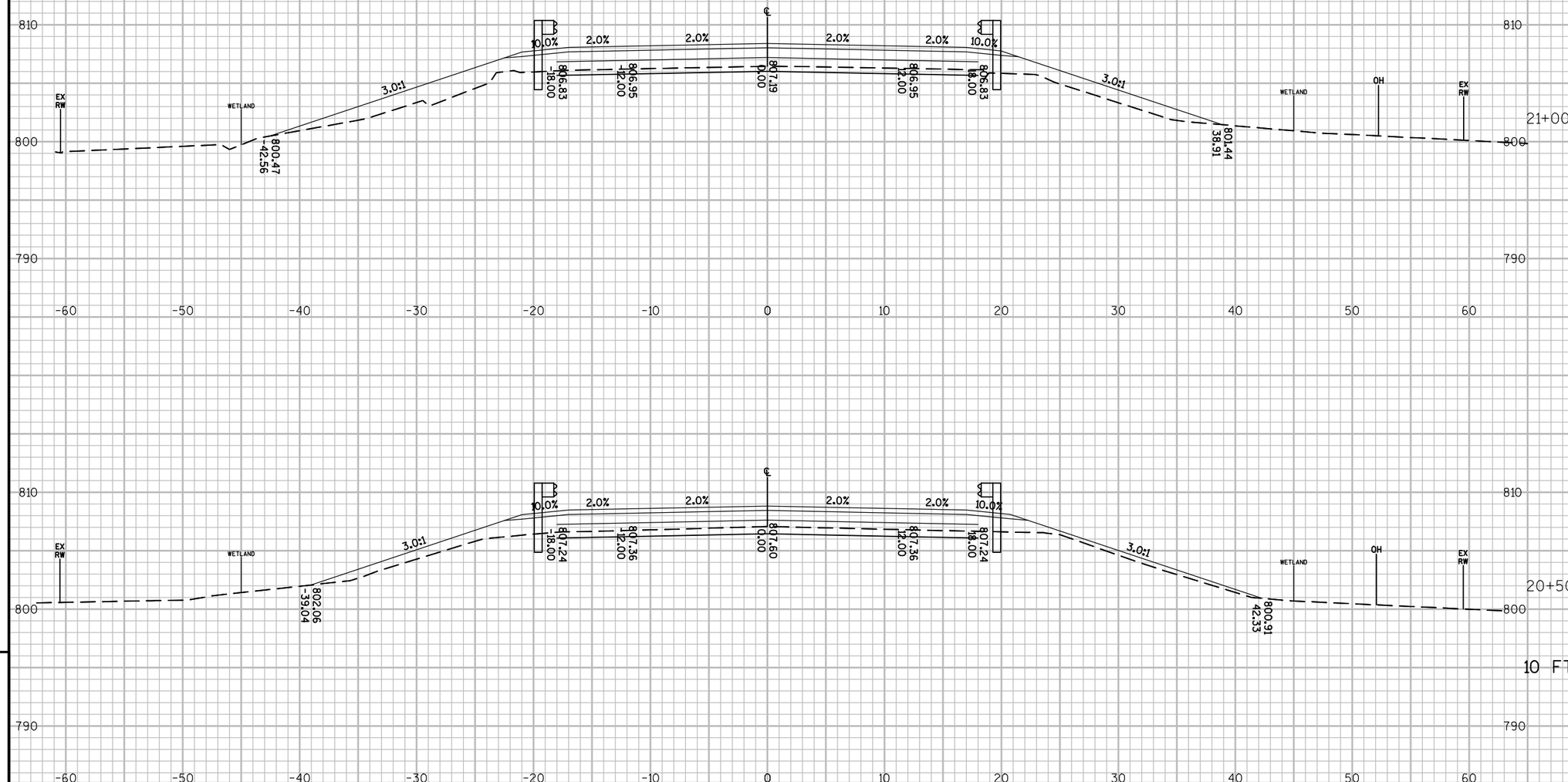

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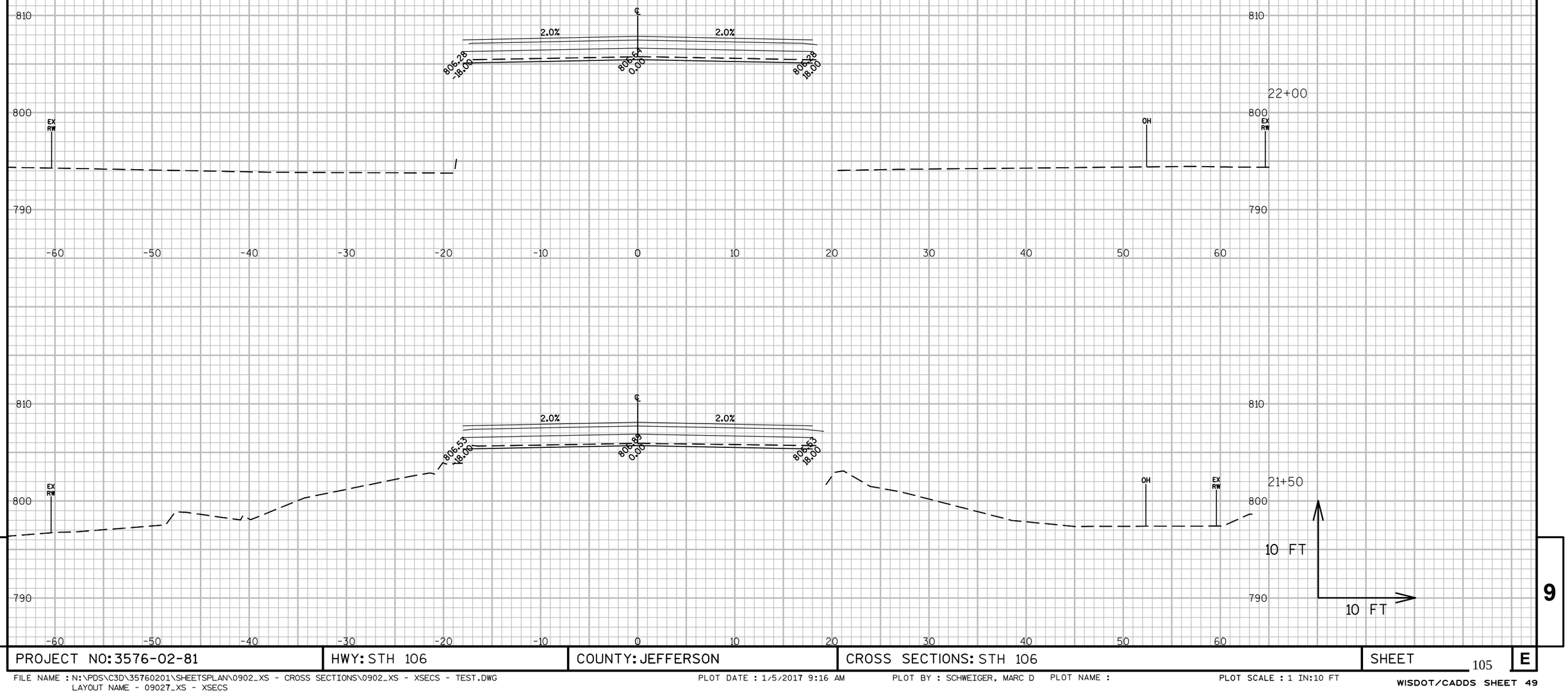

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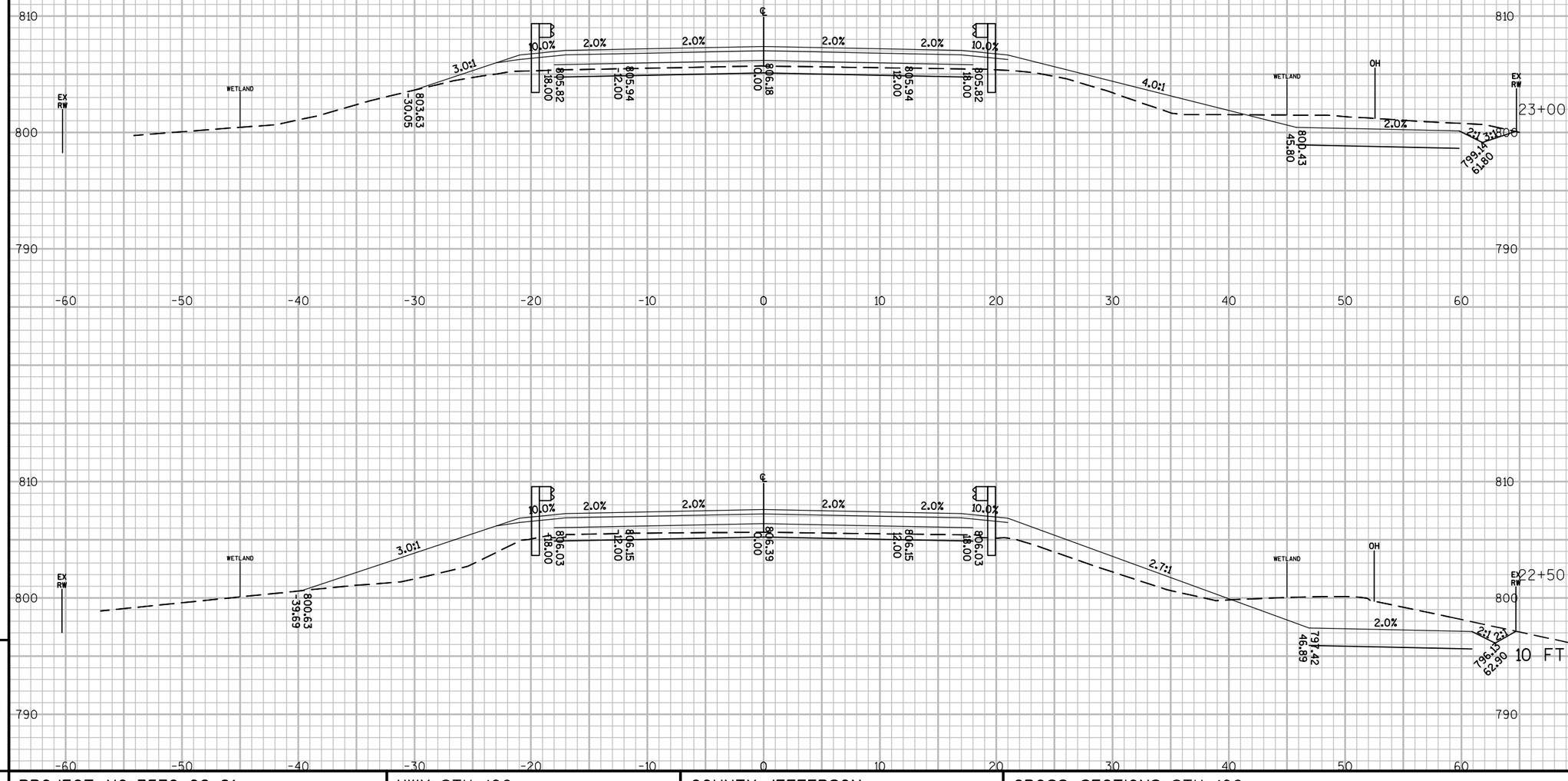

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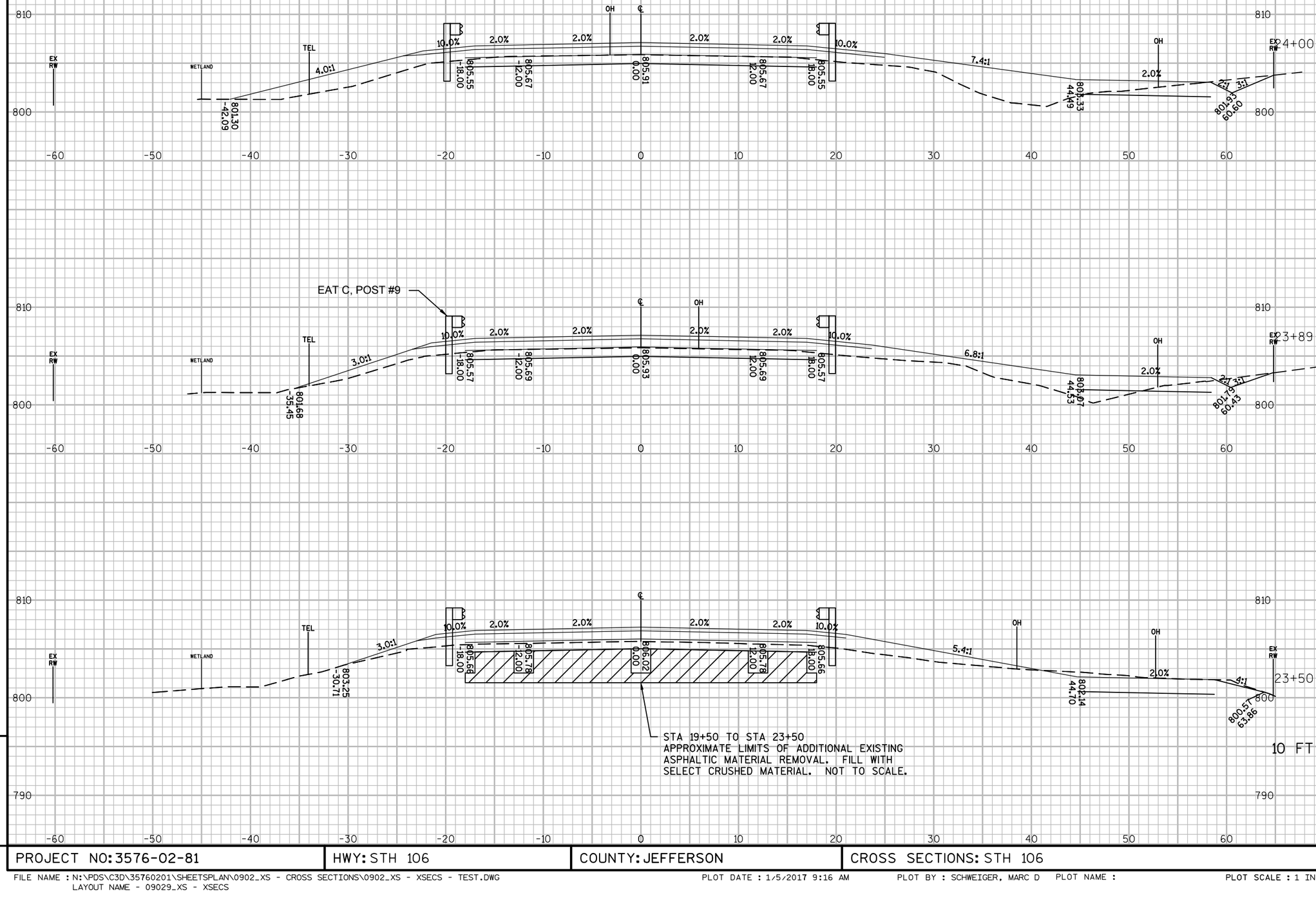

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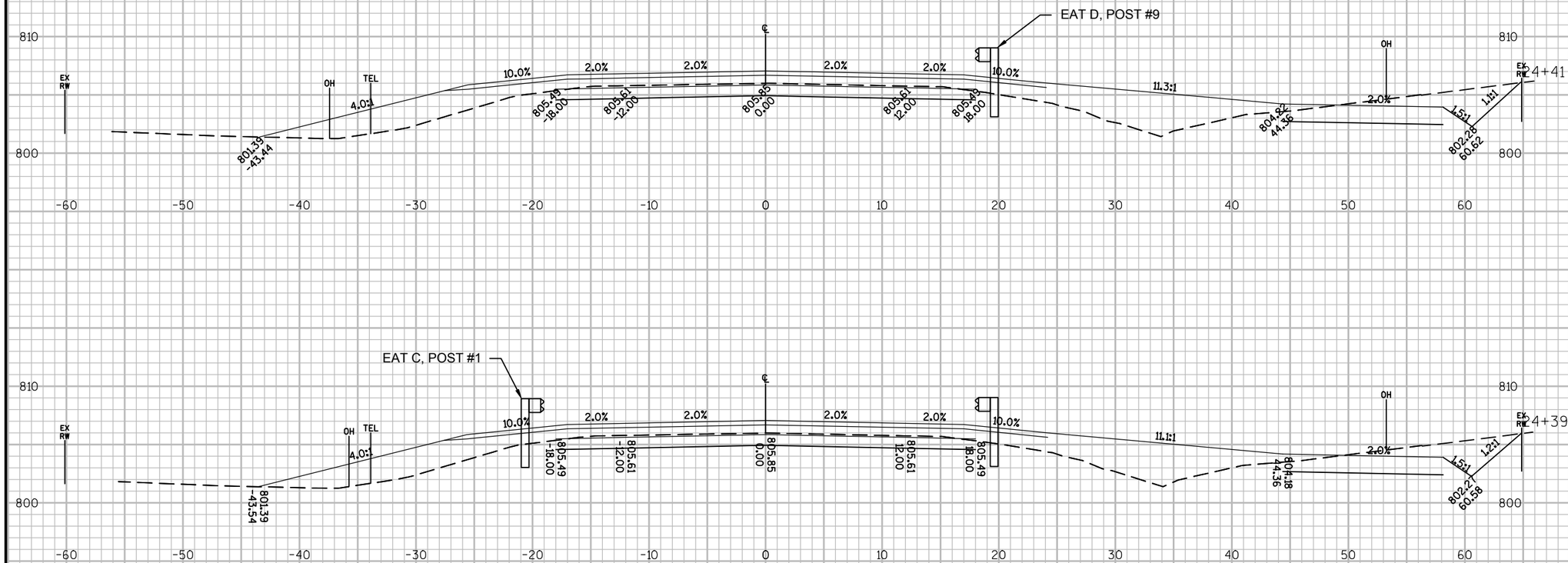

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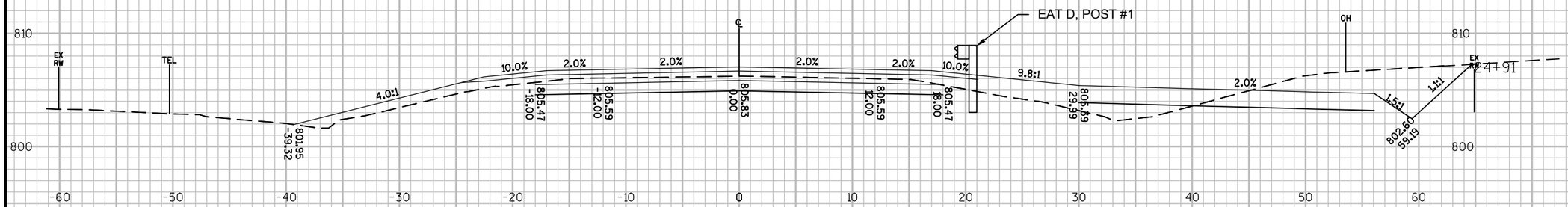
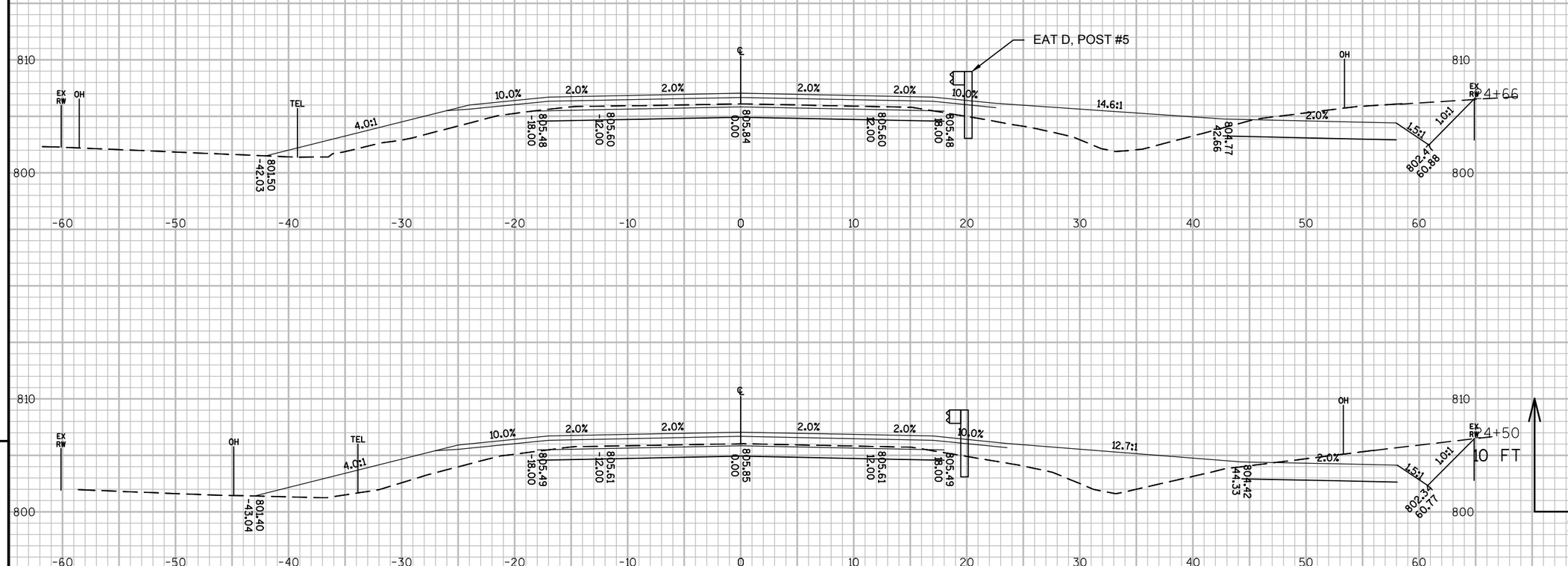
PROJECT NO: 3576-02-81	HWY: STH 106	COUNTY: JEFFERSON	CROSS SECTIONS: STH 106	SHEET 108	E

FILE NAME : N:\PDS\C3D\35760201\SHEETSPLAN\0902_XS - CROSS SECTIONS\0902_XS - XSECS - TEST.DWG
LAYOUT NAME - 090210_XS - XSECS

PLOT DATE : 1/5/2017 9:16 AM PLOT BY : SCHWEIGER, MARC D PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49





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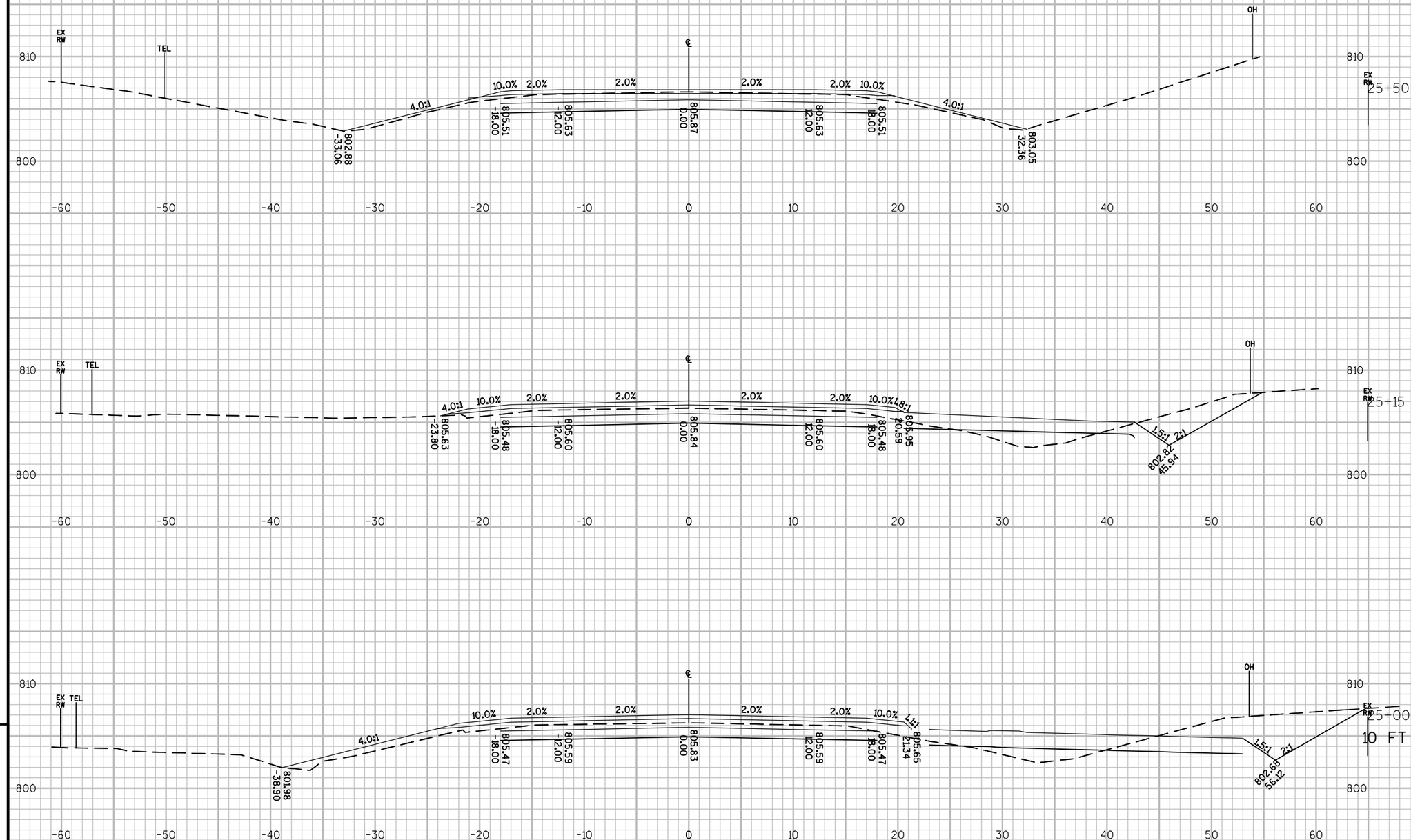
PROJECT NO: 3576-02-81	HWY: STH 106	COUNTY: JEFFERSON	CROSS SECTIONS: STH 106	SHEET 109	E

FILE NAME : N:\PDS\C3D\35760201\SHEETSPLAN\0902_XS - CROSS SECTIONS\0902_XS - XSECS - TEST.DWG
LAYOUT NAME - 090211_XS - XSECS

PLOT DATE : 1/5/2017 9:16 AM PLOT BY : SCHWEIGER, MARC D PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

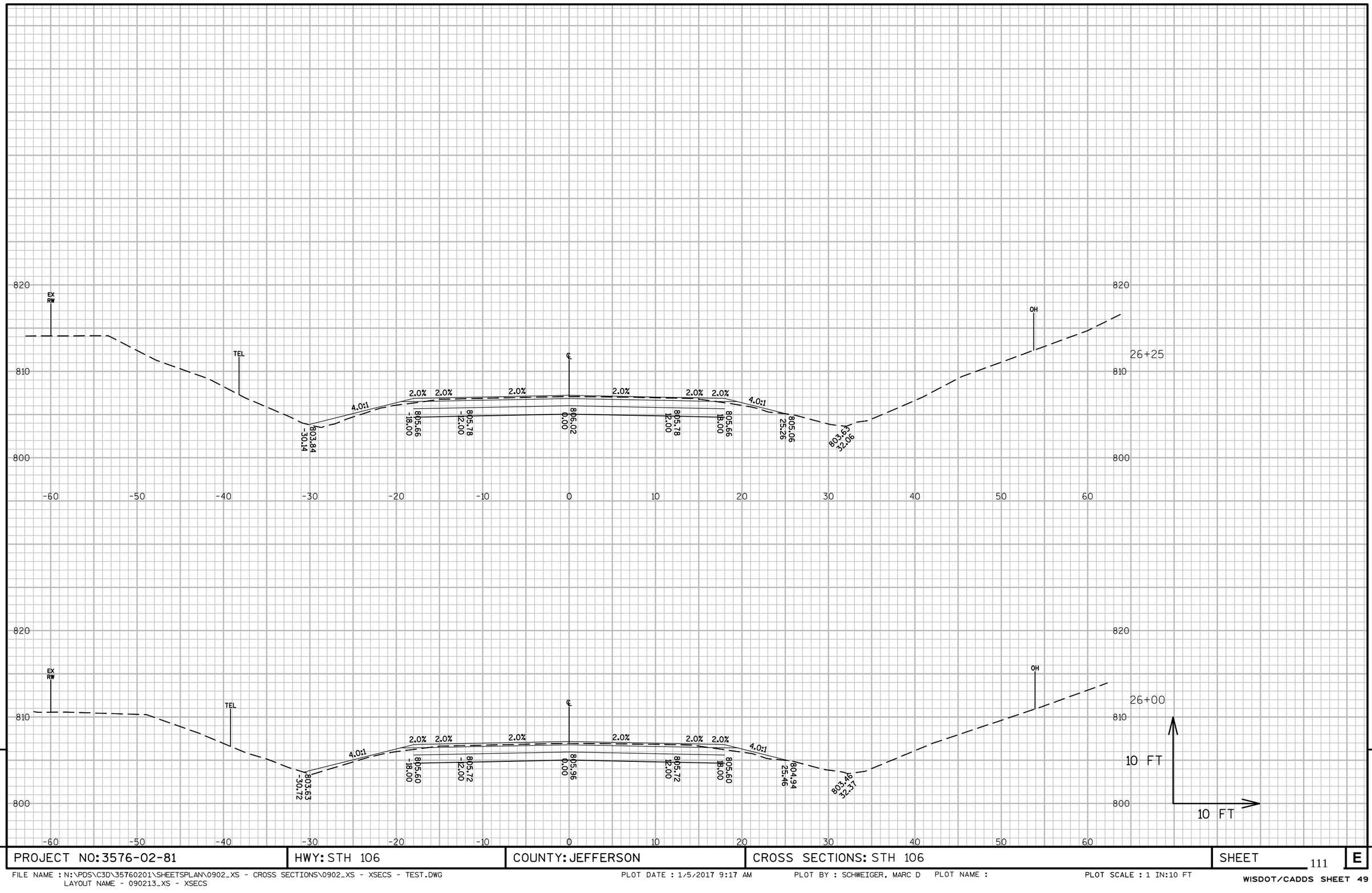


PROJECT NO: 3576-02-81	HWY: STH 106	COUNTY: JEFFERSON	CROSS SECTIONS: STH 106	SHEET 110	E

FILE NAME : N:\PDS\C3D\35760201\SHEETSPLAN\0902_XS - CROSS SECTIONS\0902_XS - XSECS - TEST.DWG
LAYOUT NAME - 090212_XS - XSECS

PLOT DATE : 1/5/2017 9:16 AM PLOT BY : SCHWEIGER, MARC D PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



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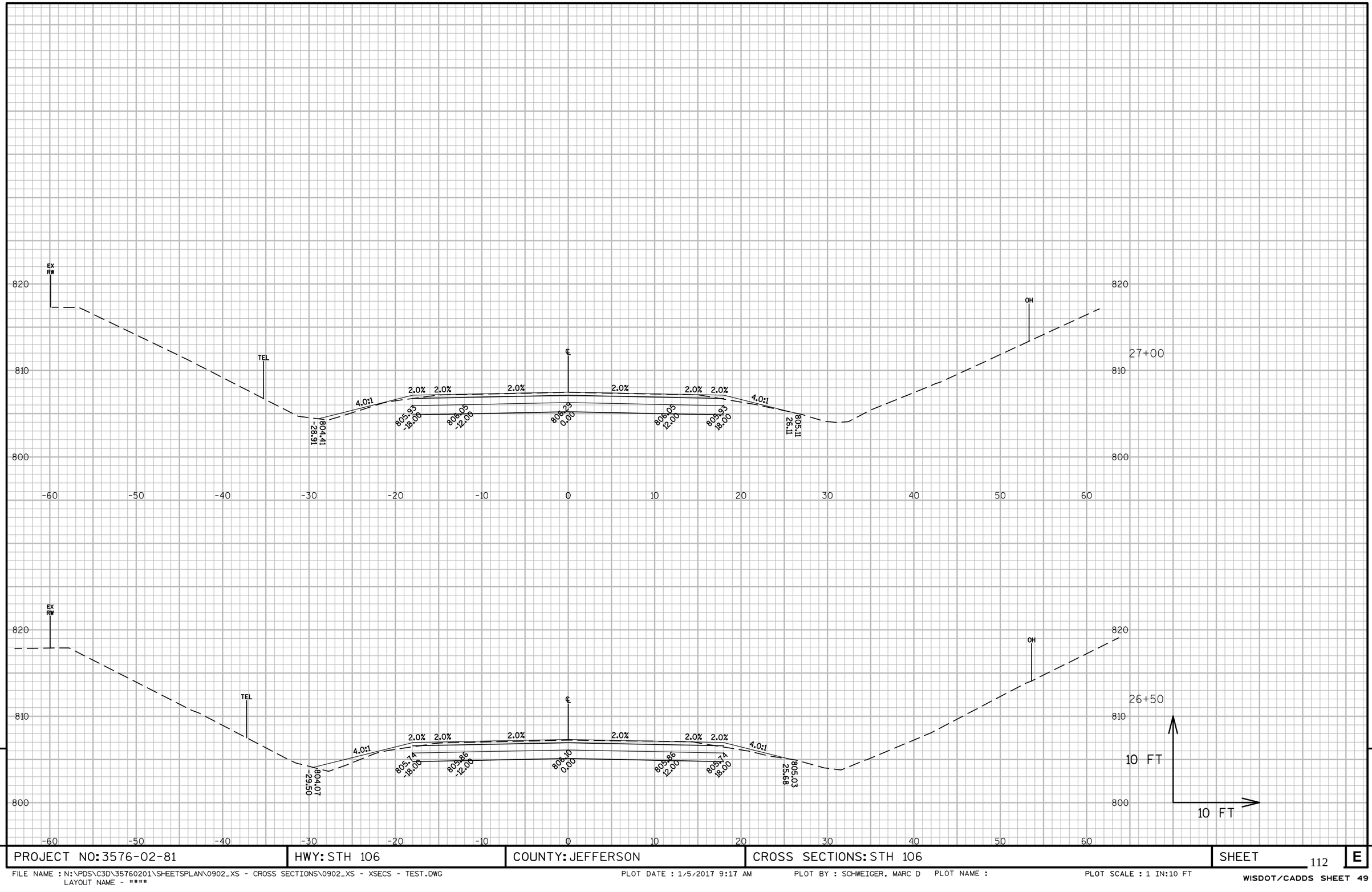
PROJECT NO: 3576-02-81	HWY: STH 106	COUNTY: JEFFERSON	CROSS SECTIONS: STH 106	SHEET 111	E

FILE NAME : N:\PDS\C3D\35760201\SHEETSPLAN\0902_XS - CROSS SECTIONS\0902_XS - XSECS - TEST.DWG
LAYOUT NAME - 090213_XS - XSECS

PLOT DATE : 1/5/2017 9:17 AM PLOT BY : SCHWEIGER, MARC D PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



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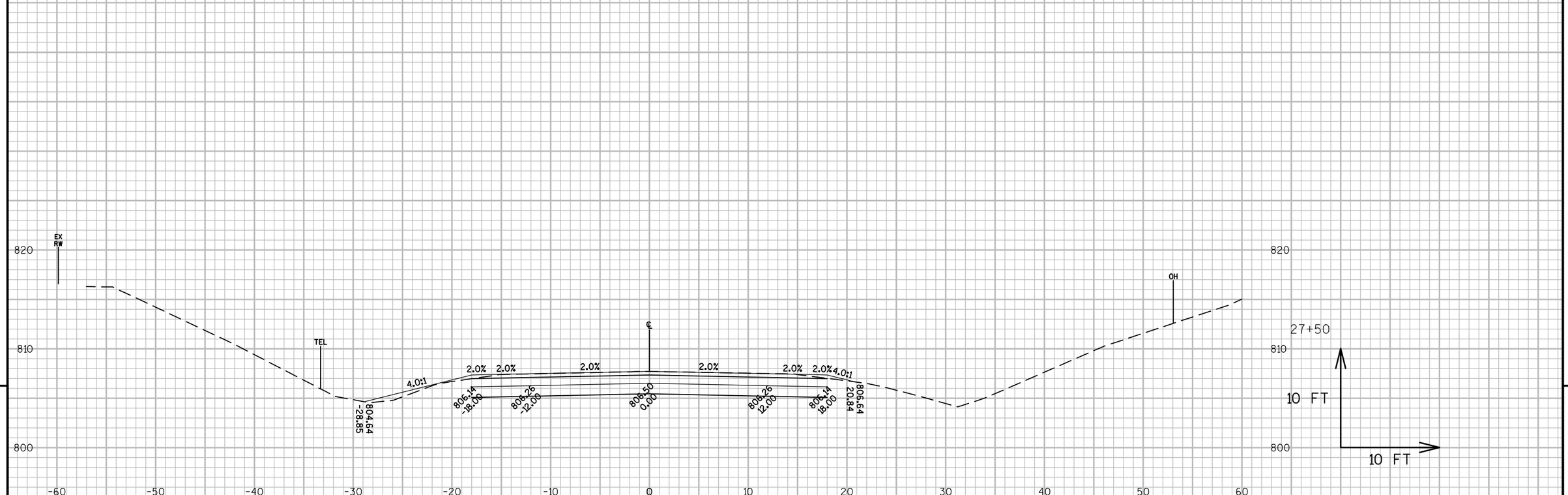
PROJECT NO: 3576-02-81	HWY: STH 106	COUNTY: JEFFERSON	CROSS SECTIONS: STH 106	SHEET 112	E

FILE NAME : N:\PDS\C3D\35760201\SHEETSPLAN\0902_XS - CROSS SECTIONS\0902_XS - XSECS - TEST.DWG
LAYOUT NAME - ****

PLOT DATE : 1/5/2017 9:17 AM PLOT BY : SCHWEIGER, MARC D PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



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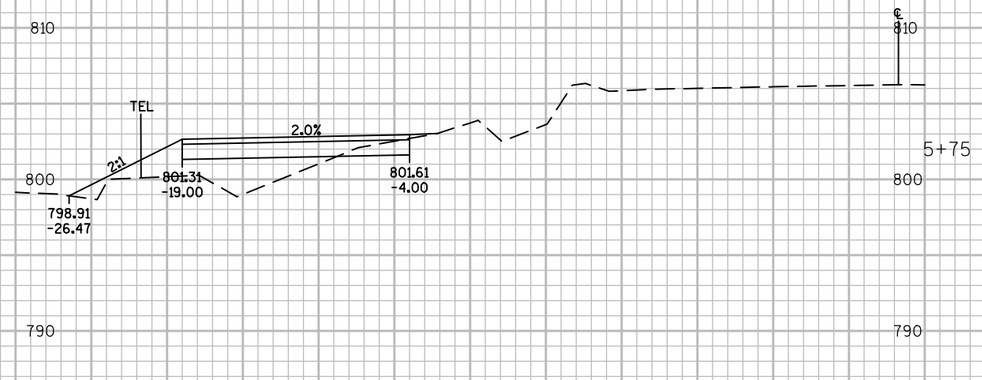
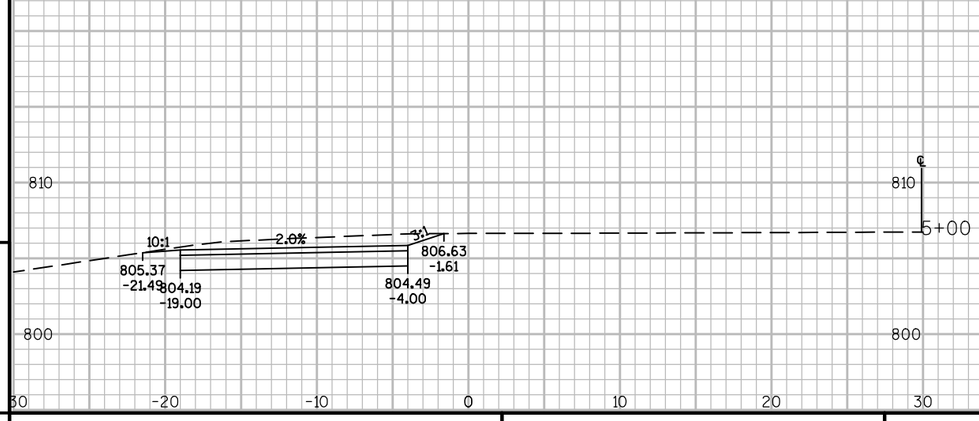
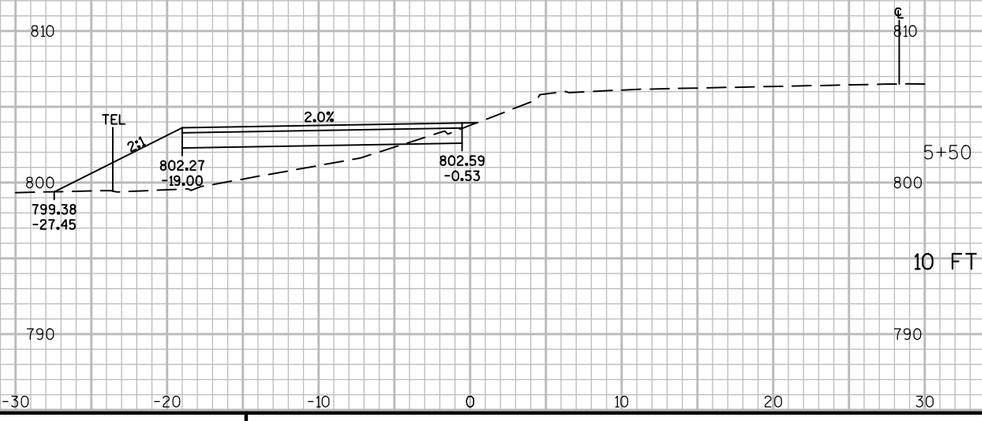
PROJECT NO: 3576-02-81	HWY: STH 106	COUNTY: JEFFERSON	CROSS SECTIONS: STH 106	SHEET 113	E

FILE NAME : N:\PDS\C3D\35760201\SHEETSPLAN\0902_XS - CROSS SECTIONS\0902_XS - XSECS - TEST.DWG
LAYOUT NAME - ****

PLOT DATE : 1/5/2017 9:17 AM PLOT BY : SCHWEIGER, MARC D PLOT NAME : PLOT SCALE : 1 IN:10 FT







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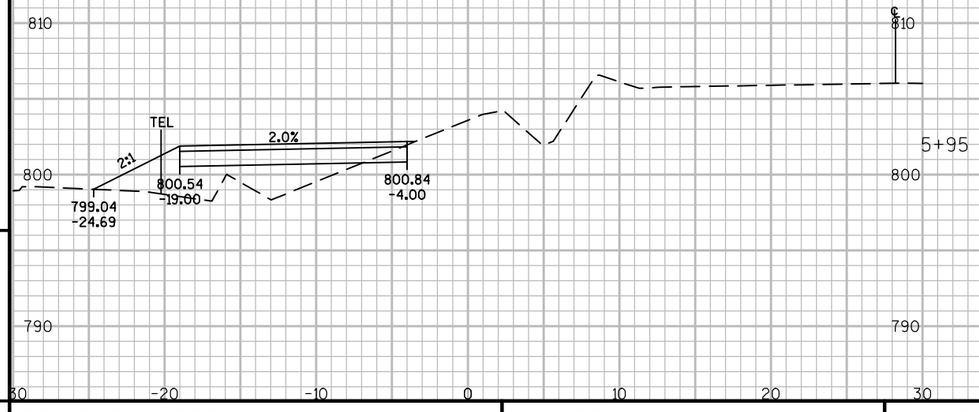
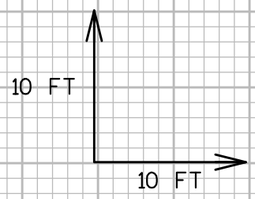
PROJECT NO: 3576-02-81	HWY: STH 106	COUNTY: JEFFERSON	CROSS SECTIONS: TEMPORARY RIVER ACCESS DRIVEWAY	SHEET 114	E





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PROJECT NO: 3576-02-81	HWY: STH 106	COUNTY: JEFFERSON	CROSS SECTIONS: TEMPORARY RIVER ACCESS DRIVEWAY	SHEET 115	E

FILE NAME : N:\PDS\C3D\35760201\DESIGN\CORRIDORS\PAVEMENTCORRIDORS\CORRIDOR-STH106-TEMPORARY ACCESS.DWG
LAYOUT NAME - ****

PLOT DATE : 11/10/2016 2:25 PM PLOT BY : SCHWEIGER, MARC D PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

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