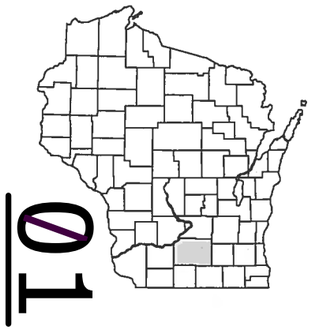
MAD JULY 2013

PROJECT ID: 1001-06-73

COUNTY: DANE

ORDER OF SHEETS

TOTAL SHEETS = 114



N

DESIGN DESIGNATION

A.A.D.T.	2014	= N/A
A.A.D.T.	2034	= N/A
D.H.V.	2034	= N/A
D.D.		=
T.		=
DESIGN SPEED		= 70 MPH
ESALS		= N/A

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

PLAN OF PROPOSED IMPROVEMENT

JANESVILLE - MADISON

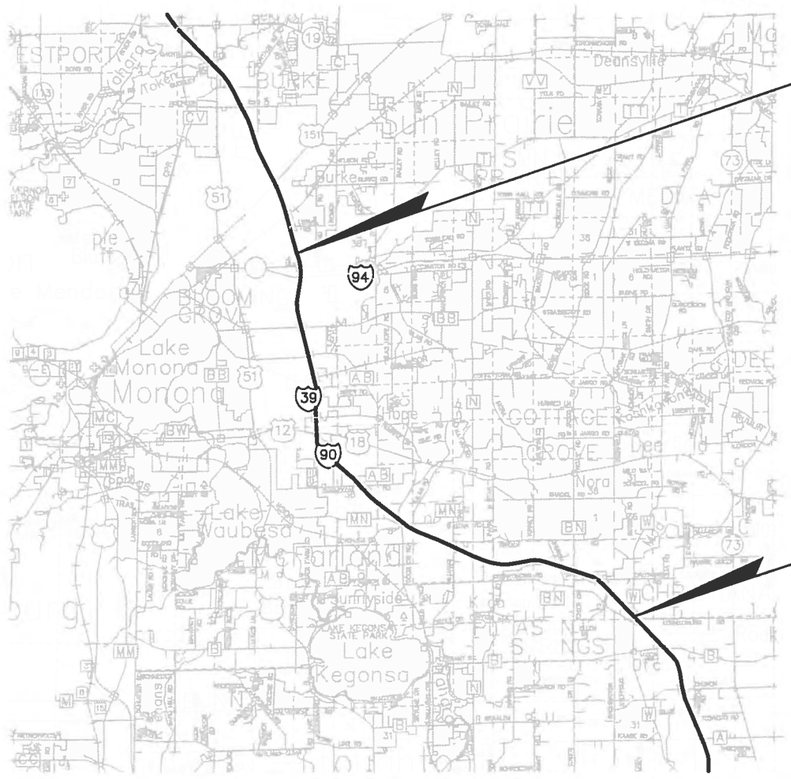
(CTH B TO LIEN ROAD)

IH 39/90

DANE COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1001-06-73	WISC 2013328	1

STATE PROJECT NUMBER
1001-06-73



LAYOUT
SCALE 0 2.0 MI.

TOTAL NET LENGTH OF CENTERLINE = 00 MI.

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

ORIGINAL PLANS PREPARED BY

Mead & Hunt

Mead & Hunt, Inc.
6501 Watts Road
Madison, WI 53719
608.273.6380
fax: 608.273.6391
www.meadhunt.com

WISCONSIN
KEITH E. KOSBAU
E-28476
MILWAUKEE, WI
PROFESSIONAL ENGINEER

Keith Kosbau 1-17-13

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	MEAD & HUNT, INC.
Designer	MEAD & HUNT, INC.
Project Manager	MAHESH SHRESTHA
Regional Examiner	
Regional Supervisor	SCOTT LAWRY
C.O. Examiner	

APPROVED FOR THE DEPARTMENT

DATE: 1-17-13 (Signature)

E

STANDARD ABBREVIATIONS

AGG	AGGREGATE
ASPH	ASPHALTIC
AVG	AVERAGE
AADT	ANNUAL AVERAGE DAILY TRAFFIC
BR	BRIDGE
CTH	COUNTY TRUNK HIGHWAY
CY	CUBIC YARD
D	DEGREE OF CURVE
DHV	DESIGN HOUR VOLUME
DIA	DIAMETER
EAT	ENERGY ABSORBING TERMINAL
E	EAST
X	EAST GRID COORDINATE
EB	EASTBOUND
ELEC	ELECTRIC (AL)
EL	ELEVATION
ESALS	EQUIVALENT SINGLE AXLE LOADS
EXC	EXCAVATION
EBS	EXCAVATION BELOW SUBGRADE
G	GAS
LS	LUMP SUM
MGS	MIDWEST GUARD RAIL SYSTEM
N	N
Y	NORTH GRID COORDINATE
NB	NORTHBOUND
OH	OVERHEAD
PIPL	PIPELINE
REINF	REINFORCING OR REINFORCEMENT
REQD	REQUIRED
RT	RIGHT
R/W	RIGHT-OF-WAY
RD	ROAD
RDWY	ROADWAY
SALV	SALVAGED
SSS	SANITARY AND STORM SEWER
SAN S	SANITARY SEWER
SEC	SECTION
SB	SOUTHBOUND
SDD	STANDARD DETAIL DRAWINGS
STA	STATION
TEL	TELEPHONE
TEMP	TEMPORARY
T or TN	TOWN
T	TRUCKS (PERCENT OF)
TYP	TYPICAL
UG	UNDERGROUND
VOL	VOLUME
WB	WESTBOUND

UTILITY CONTACTS

* ALLIANT ENERGY
GAS, ELECTRIC
ATTN: MARK SCHOEN
4902 N. BITTMORE LANE, SUITE 1000
MADISON, WI 53718
TELEPHONE: 608-877-1648
E-MAIL: MARKSCHOEN@ALLIANTENERGY.COM

ANR PIPELINE COMPANY
GAS
ATTN: ERIC WILLE
6827 CONSOLIDATED ROAD
JANESVILLE, WI 53545
TELEPHONE: 608-373-6941
E-MAIL: ERIC WILLE@TRANSCANADA.COM

ATC MANAGEMENT INC.
ELECTRIC
ATTN: MIKE OLSEN
801 O'KEEFE ROAD
DEPERE, WI 54115
TELEPHONE: 920-660-2390 / 920-660-2390 MOBILE
E-MAIL: MOLSEN@ATCLC.COM

* AT&T LEGACY
COMMUNICATION
ATTN: CARL DONAHUE
866 ROCK CREEK ROAD
PLANO, IL 60545
TELEPHONE: 847-420-9115
E-MAIL: CD8729@ATT.COM

* AT&T WISCONSIN
COMMUNICATION
ATTN: CAROL ANDERSON
316 WEST WASHINGTON AVENUE
MADISON, WI 53703
TELEPHONE: 608-252-2385
E-MAIL: CA24@ATT.COM

CITY OF MADISON WATER UTILITY
WATER & SEWER
ATTN: DENNIS CRAWLEY
119 EAST OLIN AVENUE
MADISON, WI 53713
TELEPHONE: 608-266-4651
E-MAIL: D.CRAWLEY@CITYOFMADISON.COM

* FRONTIER COMMUNICATIONS OF WI, LLC
COMMUNICATION
ATTN: DANA GILLETT
100 COMMUNICATIONS DRIVE
SUN PRAIRIE, WI 53590
TELEPHONE: 608-837-1605 / 608-512-2389 MOBILE
E-MAIL: DANA.GILLETTE@FTR.COM

* KOCHS PIPELINE LP
GAS
ATTN: DREW SUYDAM
N4240 HWY 26
WAUPUN, WI 53963
TELEPHONE: 920-948-4665
E-MAIL: DREW.SUYDAM@KOCHPIPELINE.COM

* MADISON GAS & ELECTRIC
GAS AND ELECTRIC
ATTN: TIM STATZ
PO BOX 1231
MADISON, WI 53701-1231
TELEPHONE: 608-252-4727
E-MAIL: TSTATZ@MGE.COM

MADISON METROPOLITAN SEWERAGE DISTRICT
SEWER
ATTN: ROB PHILLIPS
210 MARTIN LUTHER KING JR. BLVD.
MADISON, WI 53703
TELEPHONE: 608-266-4751
E-MAIL: RPHILLIPS@CITY OF MADISON.COM

McLEOD USA TELECOMMUNICATIONS SERVICES, INC.
COMMUNICATION
ATTN: JOHN LOUIS
1858 WRIGHT STREET
MADISON, WI 53704
TELEPHONE: 262-792-7218
E-MAIL: JOHN.LOUIS@WINDSTREAM.COM

WISCONSIN DEPT. OF TRANSPORTATION
COMMUNICATIONS
ATTN: JEFFERY MADSON
433 WEST ST. PAUL AVENUE, SUITE 300
MILWAUKEE, WI 53203
TELEPHONE: 414-225-3723
E-MAIL: JEFFREY.MADSON@DOT.WI.GOV

* DENOTES DIGGERS HOTLINE MEMBER

DIGGERS HOTLINE

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

CONSULTANT CONTACT
MEAD & HUNT, INC.
6501 WATTS ROAD
MADISON, WI 53719-2700

ATTN: MR. KEITH KOSBAU, P.E.
TELEPHONE: 608-273-6380
E-MAIL: KEITH.KOSBAU@MEADHUNT.COM

DNR LIAISON
DEPARTMENT OF NATURAL RESOURCES
SOUTH CENTRAL DISTRICT
3911 SOUTH FISH HATCHERY ROAD
FITCHBURG, WI 53711

ATTN: MS. AMANDA CUSHMAN
TELEPHONE: 608-275-3485
E-MAIL: AMANDA.CUSHMAN@WISCONSIN.GOV

GENERAL NOTES:

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE SEEDED AND FERTILIZED AS DIRECTED BY THE ENGINEER.

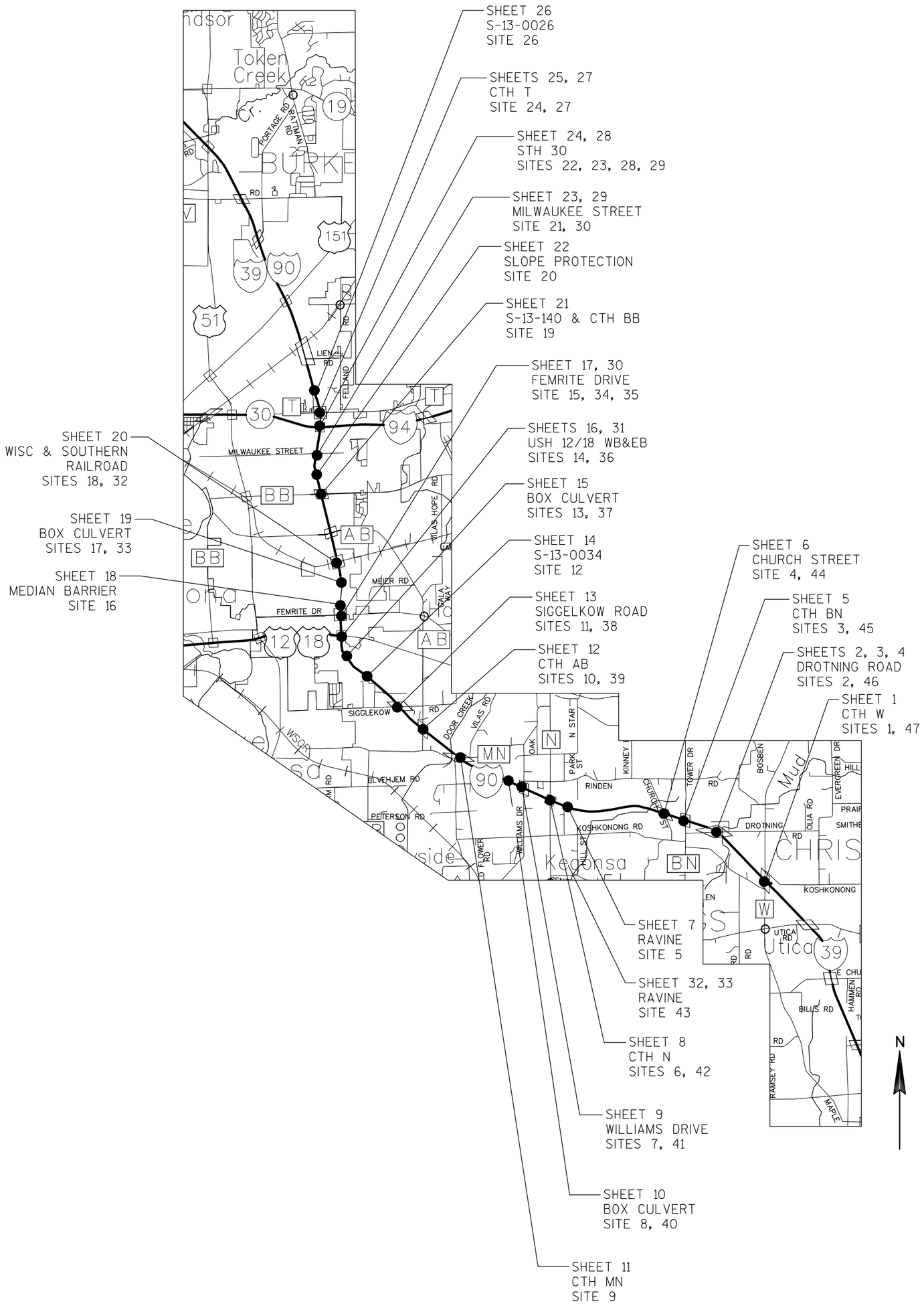
THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

EROSION CONTROL IS SHOWN ON THE CONSTRUCTION DETAIL AND IN THE SUMMARY OF MISCELLANEOUS QUANTITIES.

BACKFILL ALL HOLES REMAINING DUE TO GUARDRAIL POST REMOVAL WITH BASE AGGREGATE DENSE 3/4-INCH.

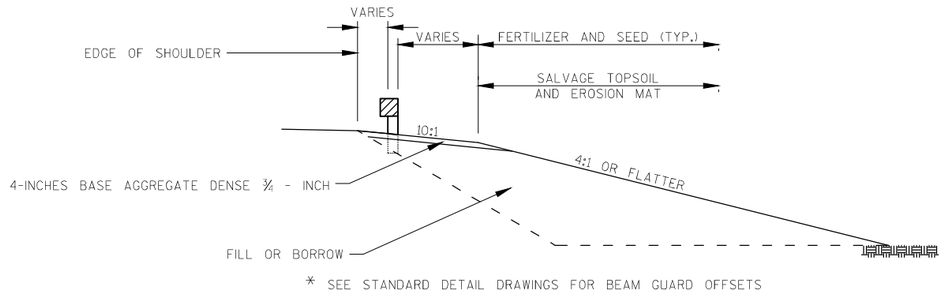
ALL NECESSARY GRADING INCLUDED IN THE BID ITEM "BARRIER SYSTEM GRADING SHAPING FINISHING".

GUARDRAIL POST LOCATIONS SHOWN IN THE PLANS ARE FOR ILLUSTRATIVE PURPOSES ONLY.
FOR ACTUAL INSTALLATION LOCATIONS AND CONSTRUCTION DETAILS SEE THE STANDARD DETAIL DRAWINGS.

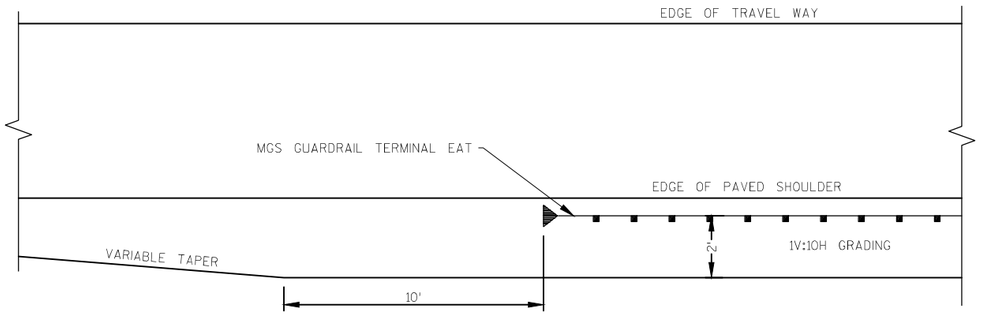


SITE NO.	SHEET	LOG MILE	LOCATION DESCRIPTION	STRUCTURE	COUNTER MEASURE
1	1	152	NB LT, OVER CTH W-APPROACH	B-13-0149	MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
			NB RT, OVER CTH W-APPROACH		MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
2	2, 3, 4	150.7	NB LT, OVER DROTNING ROAD-APPROACH	B-13-0147	MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
			NB RT, OVER DROTNING ROAD-APPROACH		MGS GUARDRAIL TERMINAL EAT
3	5	150	NB RT, UNDER CTH BN-APPROACH	B-13-0145	REMOVE BARRIER TAPER, MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
			MEDIAN, UNDER CTH BN-PIERS		STEEL THRIE BEAM, STEEL THRIE BEAM BULLNOSE TERMINAL
4	6	149.6	NB RT, UNDER CHURCH ST-APPROACH	B-13-0144	REMOVE BARRIER TAPER, MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
			MEDIAN, UNDER CHURCH ST-PIERS		STEEL THRIE BEAM, STEEL THRIE BEAM BULLNOSE TERMINAL
5	7	149.2	NB LT RAVINE SLOPE PROTECTION	N/A	MGS GUARDRAIL TERMINAL EAT, ADJUSTING STEEL PLATE BEAMGUARD
6	8	147.4	NB RT, UNDER CTH N-APPROACH	B-13-0143	REMOVE BARRIER TAPER, MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
			MEDIAN, UNDER CTH N-PIERS		STEEL THRIE BEAM, STEEL THRIE BEAM BULLNOSE TERMINAL
7	9	146.9	NB RT, UNDER WILLIAMS DRIVE-APPROACH	B-13-0142	REMOVE BARRIER TAPER, MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
			MEDIAN, UNDER WILLIAMS DRIVE-PIERS		STEEL THRIE BEAM, STEEL THRIE BEAM BULLNOSE TERMINAL
8	10	146.5	NB RT, BOX CULVERT N OF B-13-0142-APPROACH	N/A	MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
9	11	146.5	NB LT, OVER CTH MN-APPROACH	B-13-0141	MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
			NB RT, OVER CTH MN-APPROACH		MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
10	12	144.6	MEDIAN, UNDER CTH AB-PIERS	B-13-0139	STEEL THRIE BEAM, STEEL THRIE BEAM BULLNOSE TERMINAL
			NB RT, UNDER CTH AB-APPROACH		REMOVE BARRIER TAPER, MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
11	13	144.3	NB LT, OVER SIGGELKOW ROAD-APPROACH	B-13-0138	MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
			NB RT, OVER SIGGELKOW ROAD-APPROACH		MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
12	14	143.7	NB LT, EXIT 142A&B AWSB-APPROACH	S-13-0034	MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
			NB RT, EXIT 142A&B AWSB-APPROACH		MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
13	15	143	NB RT, BOX CULVERT S OF MP 143-APPROACH	N/A	MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
14	16	142.5	NB LT, EXIT 142A&B SIGN BRIDGE-APPROACH	S-13-0010	MGS GUARDRAIL TERMINAL EAT, ADJUSTING STEEL PLATE BEAMGUARD
			NB RT, EXIT 142A&B SIGN BRIDGE-APPROACH		MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
			NB LT, OVER USH 12/18 EB-APPROACH	B-13-0467	ADJUSTING STEEL PLATE BEAMGUARD
			NB RT, OVER USH 12/18 EB-APPROACH		MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
15	17	142.1	NB LT, OVER FEMRITE DRIVE-APPROACH	B-13-0463	MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
			NB RT, OVER FEMRITE DRIVE-APPROACH		MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
16	18	141.9	NB LT, MEDIAN BARRIER WALL-APPROACH	N/A	MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
17	19	141.5	NB RT, BOX CULVERT-APPROACH	N/A	MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
18	20	141.1	NB RT, OVER WS RAILROAD-APPROACH	B-13-0459	MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
19	21	139.8	NB RT, UNDER CTH BB-APPROACH	B-13-0112	INTEGRAL WALL, MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
20	22	139.5	NB RT, SLOPE PROTECTION-APPROACH	N/A	MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
21	23	138.8	NB LT, UNDER MILWUAKEE STREET-APPROACH	B-13-0131	MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
			NB RT, UNDER MILWUAKEE STREET-APPROACH		MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
22	24	138.5	NB LT, OVER STH 30 EB-APPROACH	B-13-0309	MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
			NB RT, OVER STH 30 EB-APPROACH		MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
23	24	140	NB LT, OVER STH 30 WB-APPROACH	B-13-0308	MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT & PERMANENT CRASH CUSHION
			NB RT, OVER STH 30 WB-APPROACH		MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
24	25	138.1	NB RT, ENTRANCE RAMP FROM IH 94 OVER CTH T-APPROACH	B-39-0289	MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
26	26	137.9	SB RT, SIGN BRIDGE-APPROACH EXIT 138A	S-13-0026	MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
			SB LT, SIGN BRIDGE-APPROACH EXIT 138A		MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
27	27	138.1	SB RT, IH 39 OVER CTH T	B-13-0448	MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
			SB LT, IH 39 OVER CTH T		MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
29	28	138.5	SB RT, IH-39 OVER STH 30 EB	B-13-0334	MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
			SB LT, IH-39 OVER STH 30 EB		MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
28	28	140	SB RT, IH-39 OVER STH 30 WB	B-13-0307	MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
			SB LT, IH-39 OVER STH 30 WB		MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
30	29	138.7	SB RT, MILWAUKEE ST OVER IH-39	B-13-0477	INTEGRAL WALL, MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
			SB LT, MILWAUKEE ST OVER IH-39		INTEGRAL WALL, MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
32	20	141.1	SB RT, OVER WS RAILROAD-APPROACH	B-13-0458	MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
33	19	141.5	SB RT, BOX CULVERT-APPROACH	N/A	MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
35	30	142	SB LT, OVER IH 90 RAMP TO 12/18 WB-APPROACH	B-13-0461	MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
			SB RT, OVER IH 90 RAMP TO 12/18 WB-APPROACH		MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
34	30	142.1	SB LT, OVER FEMRITE DRIVE-APPROACH	B-13-0462	MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
			SB RT, OVER FEMRITE DRIVE-APPROACH		MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
36	31	142.5	SB LT, OVER USH 12/18 WB-APPROACH	B-13-0464	MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
			SB RT, OVER USH 12/18 WB-APPROACH		MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
			SB LT, OVER USH 12/18 EB-APPROACH	B-13-0466	MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3
37	15	143	SB RT, BOX CULVERT S OF MP 143-APPROACH	N/A	MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT

SITE NO.	SHEET	LOG MILE	LOCATION DESCRIPTION	STRUCTURE	COUNTER MEASURE
38	13	144.2	SB LT, OVER SIGGELKOW ROAD-APPROACH	B-13-0137	MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
			SB RT, OVER SIGGELKOW ROAD-APPROACH		MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
39	12	144.7	SB RT, UNDER CTH AB-APPROACH	B-13-0139	REMOVE BARRIER TAPER, MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
40	10	146.5	SB RT, BOX CULVERT N OF B-13-0142-APPROACH	N/A	MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
41	9	146.9	SB RT, UNDER WILLIAMS DRIVE-APPROACH	B-13-0142	REMOVE BARRIER TAPER, MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
42	8	147.4	SB RT, UNDER CTH N-APPROACH	B-13-0143	REMOVE BARRIER TAPER, MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
43	32, 33	149.2	SB RT RAVINE SLOPE PROTECTION	N/A	MGS GUARDRAIL TERMINAL EAT
			SB LT RAVINE SLOPE PROTECTION		MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
44	6	149.6	SB RT, UNDER CHURCH ST-APPROACH	B-13-0144	REMOVE BARRIER TAPER, MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
45	5	150	SB RT, UNDER CTH BN-APPROACH	B-13-0145	REMOVE BARRIER TAPER, MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
46	2, 3, 4	150.7	SB LT, OVER DROTNING ROAD-APPROACH	B-13-0146	MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
			SB RT, OVER DROTNING ROAD-APPROACH		MGS GUARDRAIL TERMINAL EAT
47	1	152	SB LT, OVER CTH W-APPROACH	B-13-0148	MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT
			SB RT, OVER CTH W-APPROACH		MGS THRIE BEAM TRANSITION, MGS BEAMGUARD 3, MGS GUARDRAIL TERMINAL EAT

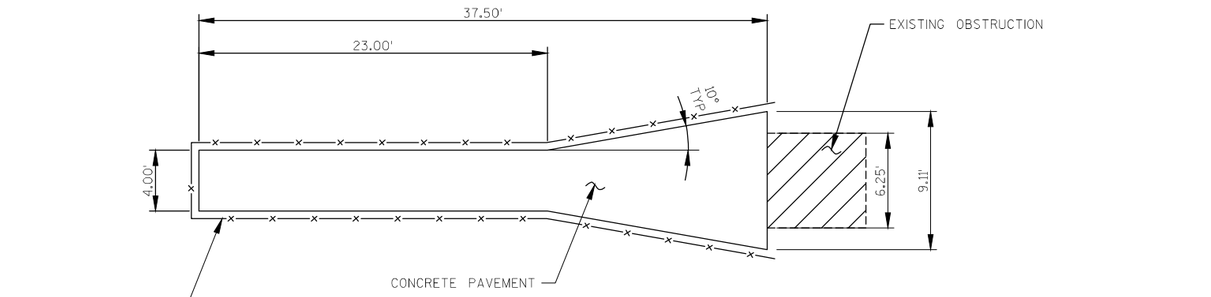


TYPICAL WIDENING AT END TREATMENTS



ALTERNATIVE GRADING FOR NON-FLARED GUARDRAIL END TREATMENT

SITE - 34
SITE - 35, 36
SITE - 11

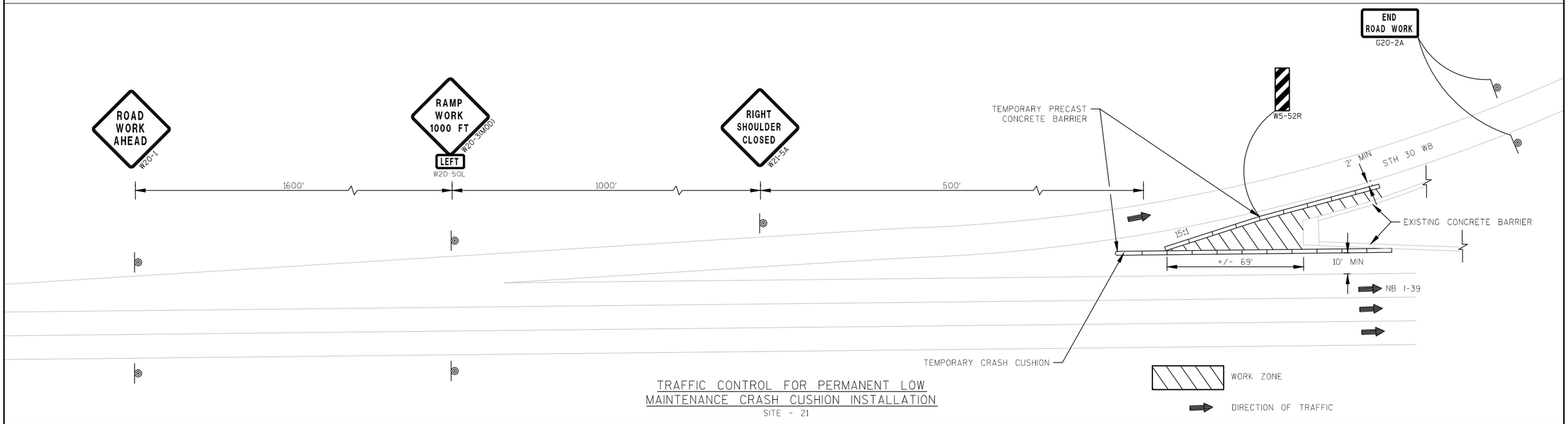


NOTE: PAVEMENT PAD SHALL CONFORM TO MANUFACTURERS REQUIREMENTS. CONCRETE PAVEMENT ILLUSTRATED IN THIS DETAIL IS FOR SCI 100 GM SMART CUSHION IMPACT ATTENUATOR AND IS FOR QUNTITY ESTIMATING PURPOSES ONLY.

(PLAN VIEW)

CONCRETE PAVEMENT FOR PERMANENT LOW MAINTENANCE CRASH CUSHION INSTALLATION

SITE - 21

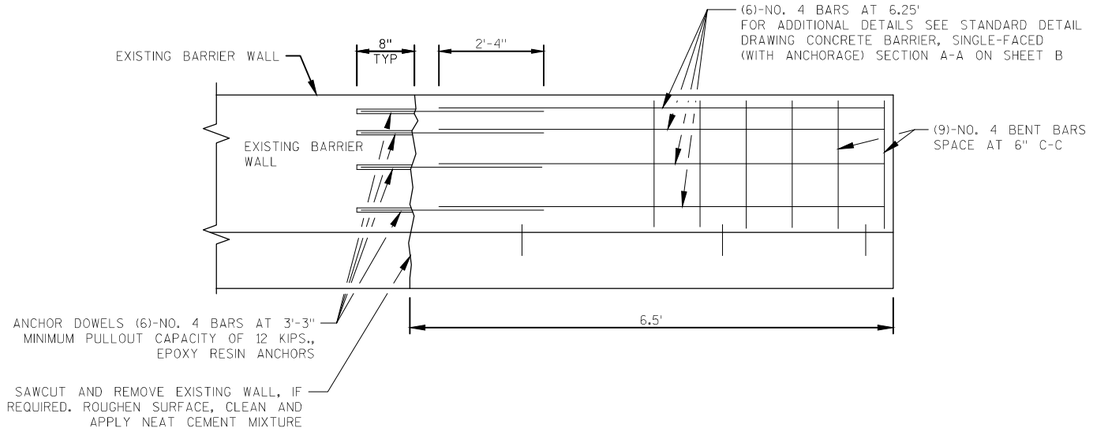


TRAFFIC CONTROL FOR PERMANENT LOW MAINTENANCE CRASH CUSHION INSTALLATION

SITE - 21

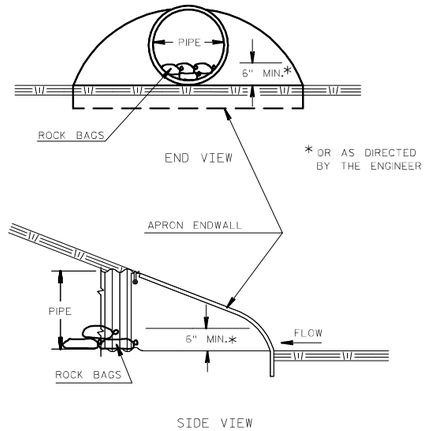
PROJECT NO: 1001-06-73	HWY: IH 39/90	COUNTY: DANE	PLAN: TRAFFIC CONTROL DETAILS	SHEET 6	E

NOTE:
FOR OTHER DETAILS NOT SHOWN ON THIS DRAWING SEE STANDARD DETAIL DRAWING - "CONCRETE BARRIER, SINGLE-FACED (WITH ANCHORAGE)"

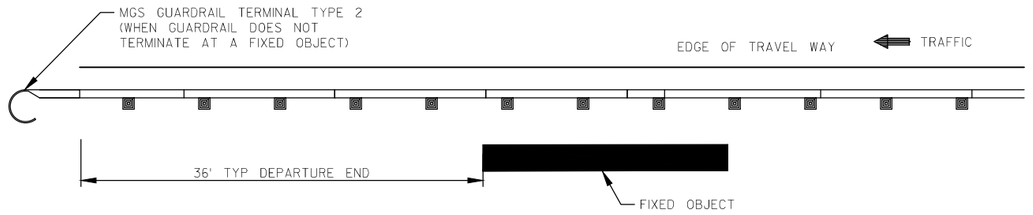


CONCRETE BARRIER TRANSITION SECTION 32-INCH

SITE - 3, 45
SITE - 4, 44
SITE - 6, 42
SITE - 7, 41
SITE - 10, 39

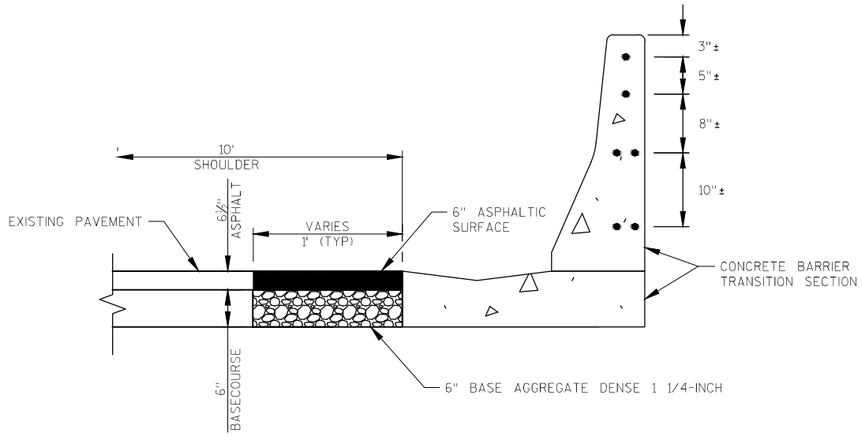


CULVERT PIPE CHECKS



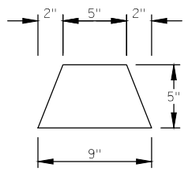
BEAM GUARD AT EXIT END

SITE - 8, 40
SITE - 12
SITE - 13, 37
SITE - 14
SITE - 17, 33
SITE - 20
SITE - 21
SITE - 26
SITE - 32
SITE - 43



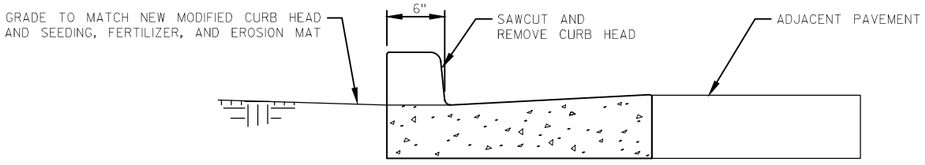
PAVEMENT RESTORATION AT CONCRETE BARRIER TRANSITION SECTION 32-INCH

SITE - 3, 45
SITE - 4, 44
SITE - 6, 42
SITE - 7, 41
SITE - 10, 39



ASPHALTIC CONCRETE CURB

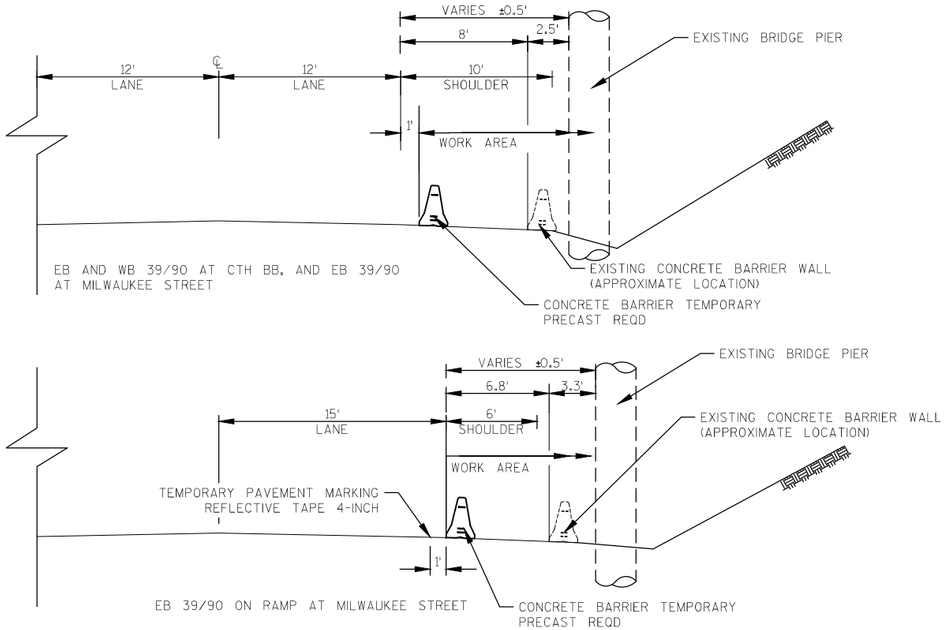
USE AT UNDISTURBED LOCATIONS AS DIRECTED BY THE ENGINEER, WHERE THE EXISTING ASPHALTIC CURB IS MISSING OR UNABLE TO BE SALVAGED



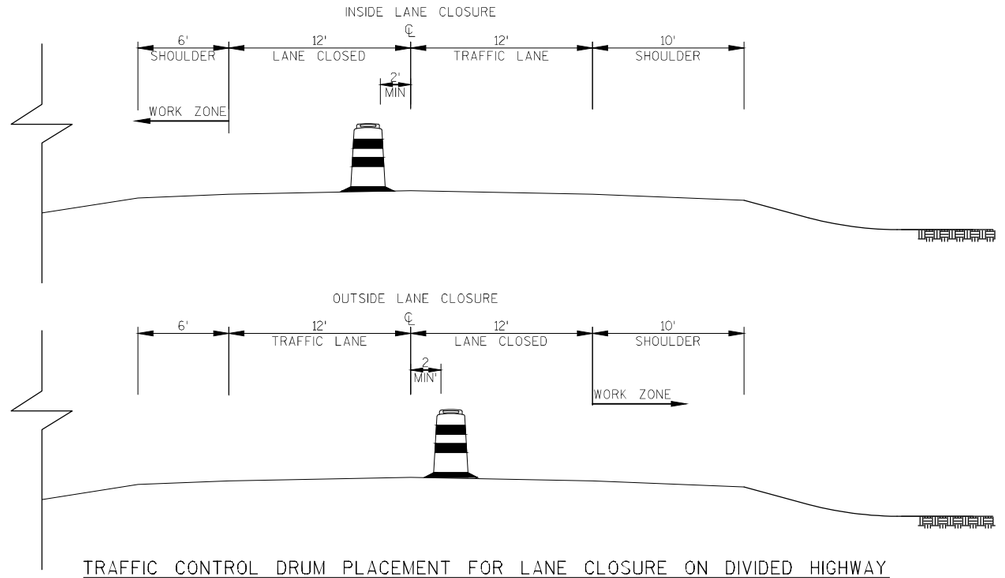
PROFILE CURB CUT

SITE - 36

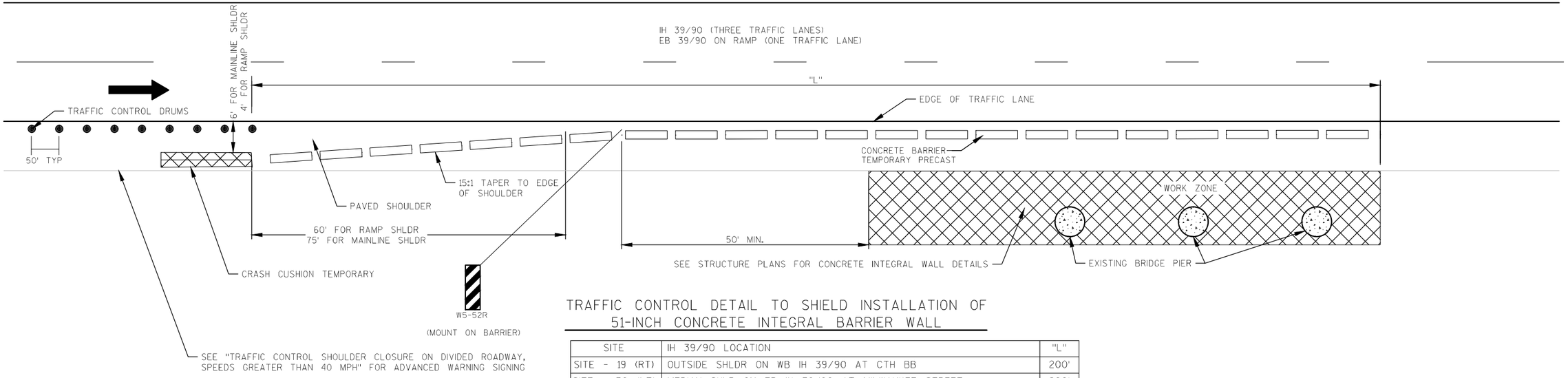
PROJECT NO: 1001-06-73	HWY: IH 39/90	COUNTY: DANE	PLAN: CONSTRUCTION DETAILS	SHEET 7	E



CONCRETE BARRIER TEMPORARY PRECAST PLACEMENT

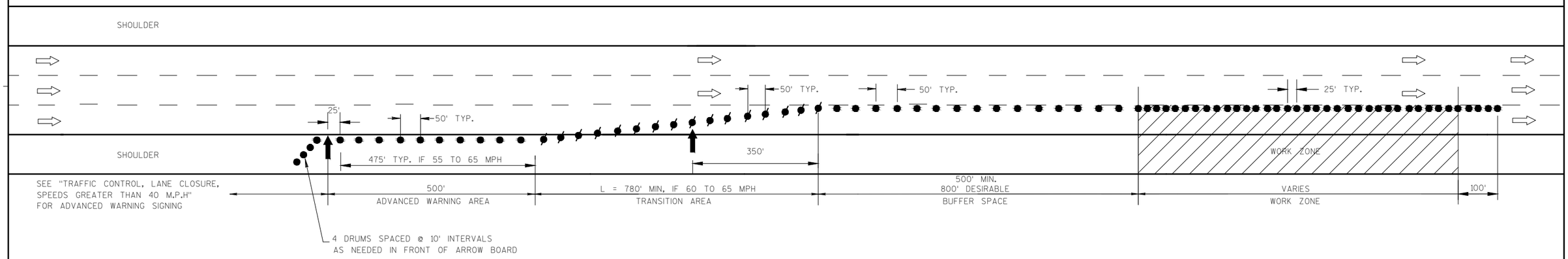


TRAFFIC CONTROL DRUM PLACEMENT FOR LANE CLOSURE ON DIVIDED HIGHWAY



TRAFFIC CONTROL DETAIL TO SHIELD INSTALLATION OF 51-INCH CONCRETE INTEGRAL BARRIER WALL

SITE	IH 39/90 LOCATION	"L"
SITE - 19 (RT)	OUTSIDE SHLDR ON WB IH 39/90 AT CTH BB	200'
SITE - 30 (LT)	MEDIAN SHLR ON EB IH 39/90 AT MILWAUKEE STREET	200'
SITE - 30 (RT)	OUTSIDE SHLDR ON RAMP TO EB IH 39/90 AT MILWAUKEE STREET	175'



GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT LANE. FOR CLOSING THE LEFT LANE, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

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.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

TYPICAL DRUM PLACEMENT IS 2' OFFSET FROM THE "ACTIVE" PAVEMENT MARKING

BARRICADES IN A CLOSED LANE 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.

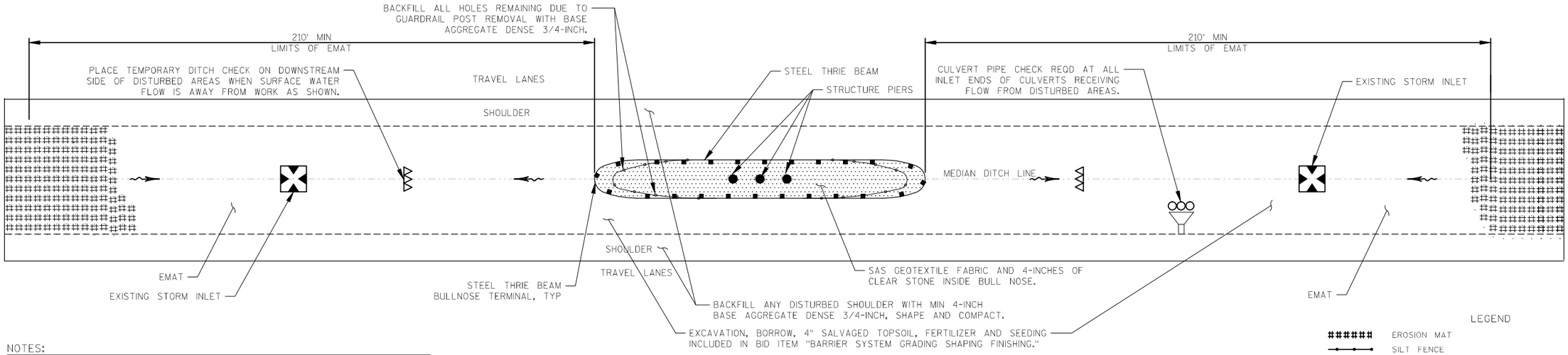
FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- WORK ZONE
- ARROW BOARD
- DIRECTION OF TRAFFIC

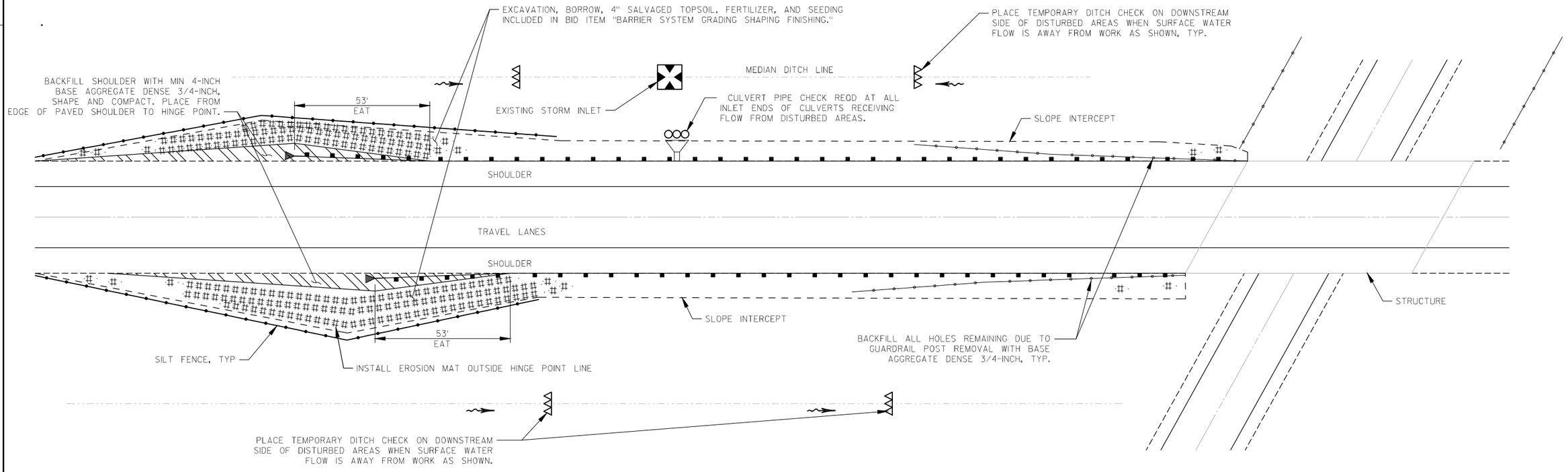
PROJECT NO: 1001-06-73	HWY: IH 39/90	COUNTY: DANE	TRAFFIC CONTROL LANE CLOSURE DETAILS	SHEET 9	E



NOTES:

TYPICAL EROSION CONTROL DEVICE INSTALLATION. SEE MISCELLANEOUS QUANTITIES FOR QUANTITIES PER LOCATION. EROSION CONTROL REQUIRED AT EACH SITE WILL VARY.

EROSION CONTROL AND RESTORATION AT STEEL THRIE BEAM BULLNOSE TERMINAL INSTALLATION DETAIL



EROSION CONTROL AND RESTORATION AT STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL INSTALLATION DETAIL

PROJECT NO: 1001-06-73	HWY: IH 39/90	COUNTY: DANE	PLAN: CONSTRUCTION DETAILS	SHEET 10	E

DATE 10MAY13 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1001-06-73 QUANTITY
0010	204.0110	REMOVING ASPHALTIC SURFACE	SY	220.000	220.000
0020	204.0157	REMOVING CONCRETE BARRIER	LF	875.000	875.000
0030	204.9060.S	REMOVING (ITEM DESCRIPTION) 01. BURIED BEAM GUARD TERMINALS	EACH	22.000	22.000
0040	213.0100	FINISHING ROADWAY (PROJECT) 01. 1001-06-73	EACH	1.000	1.000
0050	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	1,210.000	1,210.000
0060	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	594.000	594.000
0070	312.0110	SELECT CRUSHED MATERIAL	TON	80.000	80.000
0080	465.0105	ASPHALTIC SURFACE	TON	100.000	100.000
0090	465.0310	ASPHALTIC CURB	LF	300.000	300.000
0100	465.0315	ASPHALTIC FLUMES	SY	60.000	60.000
0110	520.8000	CONCRETE COLLARS FOR PIPE	EACH	1.000	1.000
0120	522.0118	CULVERT PIPE REINFORCED CONCRETE CLASS III 18-INCH	LF	15.000	15.000
0130	603.8000	CONCRETE BARRIER TEMPORARY PRECAST DELIVERED	LF	1,075.000	1,075.000
0140	603.8125	CONCRETE BARRIER TEMPORARY PRECAST INSTALLED	LF	1,075.000	1,075.000
0150	611.0430	RECONSTRUCTING INLETS	EACH	1.000	1.000
0160	611.0642	INLET COVERS TYPE MS	EACH	1.000	1.000
0170	611.3901	INLETS MEDIAN 1 GRATE	EACH	1.000	1.000
0180	614.0010	BARRIER SYSTEM GRADING SHAPING FINISHING	EACH	78.000	78.000
0190	614.0200	STEEL THRIE BEAM STRUCTURE APPROACH	LF	43.200	43.200
0200	614.0220	STEEL THRIE BEAM BULLNOSE TERMINAL	EACH	10.000	10.000
0210	614.0230	STEEL THRIE BEAM	LF	650.000	650.000
0220	614.0370	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL	EACH	4.000	4.000
0230	614.0400	ADJUSTING STEEL PLATE BEAM GUARD	LF	7,650.000	7,650.000
0240	614.0805	CRASH CUSHIONS PERMANENT LOW MAINTENANCE	EACH	1.000	1.000
0250	614.0905	CRASH CUSHIONS TEMPORARY	EACH	14.000	14.000
0260	614.0920	SALVAGED RAIL	LF	19,815.000	19,815.000
0270	614.0925	SALVAGED GUARDRAIL END TREATMENTS	EACH	55.000	55.000
0280	614.0935	SALVAGED SAND BARRELS	EACH	39.000	39.000
0290	614.2300	MGS GUARDRAIL 3	LF	15,255.500	15,255.500
0300	614.2310	MGS GUARDRAIL 3 HS	LF	200.000	200.000
0310	614.2320	MGS GUARDRAIL 3 QS	LF	50.000	50.000
0320	614.2500	MGS THRIE BEAM TRANSITION	LF	2,009.400	2,009.400
0330	614.2610	MGS GUARDRAIL TERMINAL EAT	EACH	65.000	65.000
0340	614.2620	MGS GUARDRAIL TERMINAL TYPE 2	EACH	16.000	16.000
0350	619.1000	MOBILIZATION	EACH	1.000	1.000
0360	628.1504	SILT FENCE	LF	1,400.000	1,400.000
0370	628.1520	SILT FENCE MAINTENANCE	LF	1,400.000	1,400.000
0380	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	3.000	3.000
0390	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	3.000	3.000
0400	628.2004	EROSION MAT CLASS I TYPE B	SY	30,640.000	30,640.000
0410	628.7010	INLET PROTECTION TYPE B	EACH	4.000	4.000
0420	628.7504	TEMPORARY DITCH CHECKS	LF	180.000	180.000
0430	628.7555	CULVERT PIPE CHECKS	EACH	7.000	7.000
0440	633.0500	DELINEATOR REFLECTORS	EACH	9.000	9.000
0450	633.1000	DELINEATOR BRACKETS	EACH	9.000	9.000
0460	638.2102	MOVING SIGNS TYPE II	EACH	2.000	2.000
0470	642.5001	FIELD OFFICE TYPE B	EACH	1.000	1.000
0480	643.0100	TRAFFIC CONTROL (PROJECT) 01. 1001-06-73	EACH	1.000	1.000
0490	643.0300	TRAFFIC CONTROL DRUMS	DAY	15,544.000	15,544.000

3

DATE 10MAY13 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1001-06-73 QUANTITY
0500	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	3,722.000	3,722.000
0510	643.0800	TRAFFIC CONTROL ARROW BOARDS	DAY	462.000	462.000
0520	643.0900	TRAFFIC CONTROL SIGNS	DAY	2,173.000	2,173.000
0530	643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	444.000	444.000
0540	645.0140	GEOTEXTILE FABRIC TYPE SAS	SY	1,310.000	1,310.000
0550	649.0300	TEMPORARY PAVEMENT MARKING REFLECTIVE TAPE 4-INCH	LF	600.000	600.000
0560	690.0150	SAWING ASPHALT	LF	1,020.000	1,020.000
0570	ASP.1T0A	ON-THE-JOB TRAINING APPRENTICE AT $5. 00/HR	HRS	200.000	200.000
0580	ASP.1T0G	ON-THE-JOB TRAINING GRADUATE AT $5.00/HR	HRS	300.000	300.000
0590	SPV.0060	SPECIAL 01. CONCRETE BARRIER TRANSITION SECTION 32-INCH	EACH	10.000	10.000
0600	SPV.0090	SPECIAL 01. 51-INCH CONCRETE INTEGRAL BARRIER	LF	178.000	178.000
0610	SPV.0090	SPECIAL 02. PROFILE CURB CUT	LF	115.000	115.000
0620	SPV.0195	SPECIAL 01. CLEAR STONE	TON	305.000	305.000

3

REMOVALS

LOCATION		204.0110 REMOVING ASPHALTIC SURFACE (SY)	204.0157 REMOVING CONCRETE BARRIER (LF)
SITE 3 (RT)	OUTSIDE APPROACH	20	65
SITE 4 (RT)	OUTSIDE APPROACH	20	65
SITE 6 (RT)	OUTSIDE APPROACH	20	65
SITE 7 (RT)	OUTSIDE APPROACH	20	65
SITE 10 (RT)	OUTSIDE APPROACH	20	65
SITE 19 (RT)	OUTSIDE APPROACH		119
SITE 21	GORE	20	
SITE 30 (RT)	OUTSIDE APPROACH		53
SITE 30 (LT)	MEDIAN APPROACH		53
SITE 39 (RT)	OUTSIDE APPROACH	20	65
SITE 41 (RT)	OUTSIDE APPROACH	20	65
SITE 42 (RT)	OUTSIDE APPROACH	20	65
SITE 44 (RT)	OUTSIDE APPROACH	20	65
SITE 45 (RT)	OUTSIDE APPROACH	20	65
TOTAL		220	875

FINISHING ROADWAY

LOCATION	213.0100 FINISHING ROADWAY (EACH)
PROJECT 1001-06-73	1
TOTAL	1

ASPHALTIC FLUMES

LOCATION	465.0315 ASPHALTIC FLUMES (SY)
UNDISTRIBUTED	60
TOTAL	60

BASE AGGREGATE

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)	SPV.0195.01 CLEAR STONE (TON)
SITE 1 (LT)	MEDIAN APPROACH	18			
SITE 1 (RT)	OUTSIDE APPROACH	17			
SITE 2 (LT)	MEDIAN APPROACH	18			
SITE 2 (RT)	OUTSIDE APPROACH	12			
SITE 3 (LT)	MEDIAN APPROACH	9			60
SITE 3 (RT)	OUTSIDE APPROACH	12	48		
SITE 4 (LT)	MEDIAN APPROACH	9			60
SITE 4 (RT)	OUTSIDE APPROACH	12	48		
SITE 5 (LT)	MEDIAN APPROACH	24			
SITE 6 (LT)	MEDIAN APPROACH	7			67
SITE 6 (RT)	OUTSIDE APPROACH	12	48		
SITE 7 (LT)	MEDIAN APPROACH	9			60
SITE 7 (RT)	OUTSIDE APPROACH	12	48		
SITE 8 (RT)	OUTSIDE APPROACH	18			
SITE 9 (LT)	MEDIAN APPROACH	18			
SITE 9 (RT)	OUTSIDE APPROACH	15			
SITE 10 (LT)	MEDIAN APPROACH	9			58
SITE 10 (RT)	OUTSIDE APPROACH	12	48		
SITE 11 (LT)	MEDIAN APPROACH	18			
SITE 11 (RT)	OUTSIDE APPROACH	15			
SITE 12 (LT)	MEDIAN APPROACH	16			
SITE 12 (RT)	OUTSIDE APPROACH	16			
SITE 13 (RT)	OUTSIDE APPROACH	17			
SITE 14 (LT)	MEDIAN APPROACH	29			
SITE 14 (RT)	OUTSIDE APPROACH	12			
SITE 14 (RT)	OUTSIDE APPROACH	18			
SITE 15 (LT)	MEDIAN APPROACH	13			
SITE 15 (RT)	OUTSIDE APPROACH	18			
SITE 16 (LT)	MEDIAN APPROACH	13			
SITE 17 (RT)	OUTSIDE APPROACH	18			
SITE 18 (RT)	OUTSIDE APPROACH	27			
SITE 19 (RT)	OUTSIDE APPROACH	21	72	30	
SITE 20 (RT)	OUTSIDE APPROACH	28			
SITE 21 (LT)	MEDIAN APPROACH	23			
SITE 21 (RT)	OUTSIDE APPROACH	21			
SITE 22 (LT)	MEDIAN APPROACH	18			
SITE 22 (RT)	OUTSIDE APPROACH	18			
SITE 23 (LT)	MEDIAN APPROACH	18			
SITE 23 (RT)	OUTSIDE APPROACH	18			
SITE 24 (RT)	OUTSIDE APPROACH	26			
SITE 26 (LT)	MEDIAN APPROACH	14			
SITE 26 (RT)	OUTSIDE APPROACH	14			
SITE 27 (LT)	MEDIAN APPROACH	18			
SITE 27 (RT)	OUTSIDE APPROACH	18			
SITE 28 (LT)	MEDIAN APPROACH	18			
SITE 28 (RT)	OUTSIDE APPROACH	18			
SITE 29 (LT)	MEDIAN APPROACH	18			
SITE 29 (RT)	OUTSIDE APPROACH	18			
SITE 30 (LT)	MEDIAN APPROACH	15	21	25	
SITE 30 (RT)	OUTSIDE APPROACH	17	21	25	
SITE 32 (RT)	OUTSIDE APPROACH	18			
SITE 33 (RT)	OUTSIDE APPROACH	18			
SITE 34 (LT)	MEDIAN APPROACH	12			
SITE 34 (RT)	OUTSIDE APPROACH	18			

BASE AGGREGATE (CONTINUED)

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)	SPV.0195.01 CLEAR STONE (TON)
SITE 35 (LT)	MEDIAN APPROACH	13			
SITE 35 (RT)	OUTSIDE APPROACH	18			
SITE 36 (LT)	MEDIAN APPROACH	13			
SITE 36 (RT)	OUTSIDE APPROACH	13			
SITE 36 (LT)	MEDIAN BETWEEN BR.	1			
SITE 37 (RT)	OUTSIDE APPROACH	17			
SITE 38 (LT)	MEDIAN APPROACH	18			
SITE 38 (RT)	OUTSIDE APPROACH	15			
SITE 39 (RT)	OUTSIDE APPROACH	12	48		
SITE 40 (RT)	OUTSIDE APPROACH	18			
SITE 41 (RT)	OUTSIDE APPROACH	12	48		
SITE 42 (RT)	OUTSIDE APPROACH	12	48		
SITE 43 (RT)	OUTSIDE APPROACH	13			
SITE 43 (LT)	MEDIAN APPROACH	16			
SITE 44 (RT)	OUTSIDE APPROACH	12	48		
SITE 45 (RT)	OUTSIDE APPROACH	12	48		
SITE 46 (LT)	MEDIAN APPROACH	18			
SITE 46 (RT)	OUTSIDE APPROACH	40			
SITE 47 (LT)	MEDIAN APPROACH	18			
SITE 47 (RT)	OUTSIDE APPROACH	21			
TOTAL		1210	594	80	305

NOTE: BASE AGGREGATE DENSE 1 1/4-INCH INCLUDES MATERIAL TO RESTORE THE GRADE IN THE AREAS OF REMOVED CONCRETE BARRIER. BASE AGGREGATE DENSE 3/4-INCH INCLUDES MATERIAL TO BACK FILL THE REMOVED POST HOLES.

ASPHALTIC ITEMS

LOCATION		465.0105 ASPHALTIC SURFACE (TON)	465.0310 ASPHALTIC CURB (LF)
SITE 3 (RT)	OUTSIDE APPROACH	3	
SITE 4 (RT)	OUTSIDE APPROACH	3	
SITE 6 (RT)	OUTSIDE APPROACH	3	
SITE 7 (RT)	OUTSIDE APPROACH	3	
SITE 10 (RT)	OUTSIDE APPROACH	3	
SITE 19 (RT)	OUTSIDE APPROACH	26	
SITE 30 (LT)	MEDIAN APPROACH	22	
SITE 30 (RT)	OUTSIDE APPROACH	22	
SITE 39 (RT)	OUTSIDE APPROACH	3	
SITE 41 (RT)	OUTSIDE APPROACH	3	
SITE 42 (RT)	OUTSIDE APPROACH	3	
SITE 44 (RT)	OUTSIDE APPROACH	3	
SITE 45 (RT)	OUTSIDE APPROACH	3	
	UNDISTRIBUTED		300
TOTAL		100	300

INLETS AND PIPES

LOCATION		520.8000 CONCRETE COLLARS FOR PIPE (EACH)	522.0118 CULVERT PIPE REINFORCED CONCRETE CLASS III 18-INCH (LF)	611.0642 INLET COVERS TYPE MS (EACH)	611.3901 INLETS MEDIAN 1 GRATE (EACH)	611.0430 RECONSTRUCTING INLETS (EACH)
SITE 3 (LT)	MEDIAN APPROACH					1
SITE 10 (LT)	MEDIAN APPROACH	1	15	1	1	
TOTAL		1	15	1	1	1

BARRIER SYSTEM GRADING SHAPING FINISHING

LOCATION	SITE CAT.	614.0010 BARRIER SYSTEM GRADING SHAPING FINISHING (EACH)	FOR INFORMATIONAL PURPOSES ONLY: BORROW (CY)	SALVAGED TOPSOIL (SY)	FERTILIZER TYPE B (CWT)	SEEDING MIXTURE NO. 70 (LB)	SEEDING TEMPORARY (LB)
SITE 1 (LT) MEDIAN APPROACH		1	0	150	0.1	1	4
SITE 1 (RT) OUTSIDE APPROACH		1	72	163	0.1	1	4
SITE 2 (LT) MEDIAN APPROACH		1	134	237	0.2	1	7
SITE 2 (RT) OUTSIDE APPROACH		1	140	375	0.3	2	10
SITE 3 (LT) MEDIAN APPROACH		2	40	2700	1.7	10	73
SITE 3 (RT) OUTSIDE APPROACH		1	0	150	0.1	1	4
SITE 4 (LT) MEDIAN APPROACH		2	29	2340	1.5	9	63
SITE 4 (RT) OUTSIDE APPROACH		1	3	150	0.1	1	4
SITE 5 (LT) MEDIAN APPROACH		1	1289	1087	0.7	4	29
SITE 6 (LT) MEDIAN APPROACH		1	38	2910	1.9	11	79
SITE 6 (RT) OUTSIDE APPROACH		1	0	150	0.1	1	4
SITE 7 (LT) MEDIAN APPROACH		2	13	2790	1.8	10	75
SITE 7 (RT) OUTSIDE APPROACH		1	0	150	0.1	1	4
SITE 8 (RT) OUTSIDE APPROACH		1	50	186	0.1	1	5
SITE 9 (LT) MEDIAN APPROACH		1	0	150	0.1	1	4
SITE 9 (RT) OUTSIDE APPROACH		1	211	492	0.3	2	13
SITE 10 (LT) MEDIAN APPROACH		2	231	2775	1.8	10	75
SITE 10 (RT) OUTSIDE APPROACH		1	217	492	0.3	2	13
SITE 11 (LT) MEDIAN APPROACH		1	0	150	0.1	1	4
SITE 11 (RT) OUTSIDE APPROACH		1	0	150	0.1	1	4
SITE 12 (LT) MEDIAN APPROACH		1	8	150	0.1	1	4
SITE 12 (RT) OUTSIDE APPROACH		1	9	150	0.1	1	4
SITE 13 (RT) OUTSIDE APPROACH		1	0	150	0.1	1	4
SITE 14 (LT) MEDIAN APPROACH		1	0	150	0.1	1	4
SITE 14 (RT) OUTSIDE APPROACH		1	6	152	0.1	1	4
SITE 14 (RT) OUTSIDE APPROACH		1	182	459	0.3	2	12
SITE 15 (LT) MEDIAN APPROACH		1	2	150	0.1	1	4
*SITE 15 (RT) OUTSIDE APPROACH	MF	1	200	500	0.3	2	14
SITE 16 (LT) MEDIAN APPROACH		1	0	150	0.1	1	4
SITE 17 (RT) OUTSIDE APPROACH		1	0	150	0.1	1	4
SITE 18 (RT) OUTSIDE APPROACH		1	0	150	0.1	1	4
*SITE 19 (RT) OUTSIDE APPROACH	MF	1	200	500	0.3	2	14
*SITE 20 (RT) OUTSIDE APPROACH	SF	1	100	175	0.1	1	5
*SITE 21 (LT) MEDIAN APPROACH	SF	1	100	175	0.1	1	5
*SITE 21 (RT) OUTSIDE APPROACH	SF	1	100	175	0.1	1	5
*SITE 22 (LT) MEDIAN APPROACH	SF	1	100	175	0.1	1	5
*SITE 22 (RT) OUTSIDE APPROACH	MF	1	200	500	0.3	2	14
*SITE 23 (LT) MEDIAN APPROACH	SF	1	100	175	0.1	1	5
*SITE 23 (RT) OUTSIDE APPROACH	SF	1	100	175	0.1	1	5
*SITE 24 (RT) OUTSIDE APPROACH	MF	1	200	500	0.3	2	14
*SITE 26 (LT) MEDIAN APPROACH	SF	1	100	175	0.1	1	5
*SITE 26 (RT) OUTSIDE APPROACH	SF	1	100	175	0.1	1	5
*SITE 27 (LT) MEDIAN APPROACH	SF	1	100	175	0.1	1	5
*SITE 27 (RT) OUTSIDE APPROACH	MF	1	200	500	0.3	2	14
*SITE 28 (LT) MEDIAN APPROACH	SF	1	100	175	0.1	1	5
*SITE 28 (RT) OUTSIDE APPROACH	SF	1	100	175	0.1	1	5
*SITE 29 (LT) MEDIAN APPROACH	SF	1	100	175	0.1	1	5
*SITE 29 (RT) OUTSIDE APPROACH	SF	1	100	175	0.1	1	5
*SITE 30 (LT) MEDIAN APPROACH	SF	1	50	150	0.1	1	4
*SITE 30 (RT) OUTSIDE APPROACH	SF	1	100	175	0.1	1	5
SITE 32 (RT) OUTSIDE APPROACH		1	28	177	0.1	1	5
SITE 33 (RT) OUTSIDE APPROACH		1	1	150	0.1	1	4
SITE 34 (LT) MEDIAN APPROACH		1	0	150	0.1	1	4
SITE 34 (RT) OUTSIDE APPROACH		1	1	150	0.1	1	4
SITE 35 (LT) MEDIAN APPROACH		1	0	150	0.1	1	4

BARRIER SYSTEM GRADING SHAPING FINISHING (CONTINUED)

LOCATION	SITE CAT.	614.0010 BARRIER SYSTEM GRADING SHAPING FINISHING (EACH)	FOR INFORMATIONAL PURPOSES ONLY: BORROW (CY)	SALVAGED TOPSOIL (SY)	FERTILIZER TYPE B (CWT)	SEEDING MIXTURE NO. 70 (LB)	SEEDING TEMPORARY (LB)
SITE 35 (RT) OUTSIDE APPROACH		1	418	775	0.5	3	21
*SITE 36 (LT) MEDIAN APPROACH	LF	1	0	150	0.1	1	4
*SITE 36 (RT) OUTSIDE APPROACH	LF	1	0	150	0.1	1	4
*SITE 36 (RT) PROFILE CURB CUT	LF	1	0	50	0.1	1	21
SITE 37 (RT) OUTSIDE APPROACH		1	1	150	0.1	1	1
SITE 38 (LT) MEDIAN APPROACH		1	0	150	0.1	1	4
SITE 38 (RT) OUTSIDE APPROACH		1	267	568	0.4	2	15
SITE 39 (RT) OUTSIDE APPROACH		1	59	205	0.1	1	6
SITE 40 (RT) OUTSIDE APPROACH		1	70	239	0.2	1	6
SITE 41 (RT) OUTSIDE APPROACH		1	33	204	0.1	1	6
SITE 42 (RT) OUTSIDE APPROACH		1	44	308	0.2	1	8
SITE 43 (LT) MEDIAN APPROACH		1	96	175	0.1	1	4
SITE 43 (RT) OUTSIDE APPROACH		1	271	515	0.3	2	14
SITE 44 (RT) OUTSIDE APPROACH		1	0	150	0.1	1	4
SITE 45 (RT) OUTSIDE APPROACH		1	10	150	0.1	1	4
SITE 46 (LT) MEDIAN APPROACH		1	4	150	0.1	1	4
SITE 46 (RT) OUTSIDE APPROACH		1	383	762	0.5	3	21
SITE 47 (LT) MEDIAN APPROACH		1	100	163	0.1	1	4
SITE 47 (RT) OUTSIDE APPROACH		1	204	496	0.3	2	13
TOTAL		78	7114	30945	19.8	138	855

* NOTE: NO SURFACE INFORMATION WAS AVAILABLE FOR THESE LOCATIONS. QUANTITIES FOR GRADING, SHAPING AND FINISHING ITEMS WERE ESTIMATED BY COMPARING THIS SITE TO A SIMILAR SITE WHERE SURFACE INFORMATION WAS AVAILABLE. SITES WERE CATEGORIZED AS FOLLOWS:

NF: NO FILL (0 CY)
SF: SMALL FILL (<150 CY)
MF: MEDIUM FILL (<300 CY)
LF: LARGE FILL (>300 CY)

BEAM GUARD SUMMARY

LOCATION		204.9060.S REMOVING BURIED BEAM GUARD TERMINALS (EACH)	614.0200 STEEL THRIE BEAM STRUCTURE APPROACH (LF)	614.0220 STEEL THRIE BEAM BULLNOSE TERMINAL (EACH)	614.0230 STEEL THRIE BEAM (LF)	614.0370 STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL (EACH)	614.0400 ADJUSTING STEEL PLATE BEAM GUARD (LF)	614.0920 SALVAGED RAIL (LF)	614.0925 SALVAGED GUARDRAIL END TREATMENTS (EACH)	614.0935 SALVAGED SAND BARRELS (EACH)	614.2300 MGS GUARDRAIL 3 (LF)	614.2310 MGS GUARDRAIL 3 HS (LF)	614.2320 MGS GUARDRAIL 3 QS (LF)	614.2500 MGS THRIE BEAM TRANSITION (LF)	614.2610 MGS GUARDRAIL TERMINAL EAT (EACH)	614.2620 MGS GUARDRAIL TERMINAL TYPE 2 (EACH)	SPV.0060.01 CONCRETE BARRIER TRANSITION SECTION 32-INCH (EACH)
SITE 1 (LT)	MEDIAN APPROACH	1						375			250			39.4	1		
SITE 1 (RT)	OUTSIDE APPROACH	1						300			200			39.4	1		
SITE 2 (LT)	MEDIAN APPROACH							350	1		250			39.4	1		
SITE 2 (RT)	OUTSIDE APPROACH		21.6			1	975	50	1								
SITE 2 (RT)	OUTSIDE DEPARTURE						1875										
SITE 3 (LT)	MEDIAN APPROACH	2		2	125			525									
SITE 3 (RT)	OUTSIDE APPROACH										25			39.4	1		1
SITE 4 (LT)	MEDIAN APPROACH	2		2	125			525									
SITE 4 (RT)	OUTSIDE APPROACH										50			39.4	1		1
SITE 5 (LT)	MEDIAN APPROACH	1				1	700	50									
SITE 6 (LT)	MEDIAN APPROACH			2	150			425									
SITE 6 (RT)	OUTSIDE APPROACH										25			39.4	1		1
SITE 7 (LT)	MEDIAN APPROACH	2		2	125			525									
SITE 7 (RT)	OUTSIDE APPROACH										25			39.4	1		1
SITE 8 (RT)	OUTSIDE APPROACH	1						350	1		375				1	1	
SITE 9 (LT)	MEDIAN APPROACH	1						350			250			39.4	1		
SITE 9 (RT)	OUTSIDE APPROACH	1						175			200			39.4	1		
SITE 10 (LT)	MEDIAN APPROACH	2		2	125			525									
SITE 10 (RT)	OUTSIDE APPROACH										25			39.4	1		1
SITE 11 (LT)	MEDIAN APPROACH	1						350			200			39.4	1		
SITE 11 (RT)	OUTSIDE APPROACH	1						175			200			39.4	1		
SITE 12 (LT)	MEDIAN APPROACH							250			250				1	1	
SITE 12 (RT)	OUTSIDE APPROACH							250			200				1	1	
SITE 13 (RT)	OUTSIDE APPROACH							275	2		250				1	1	
SITE 14 (LT)	MEDIAN APPROACH								2		112.5	50	12.5		1	1	
SITE 14 (RT)	OUTSIDE APPROACH								2		275				1	1	
SITE 14 (RT)	OUTSIDE APPROACH							325	1		425			39.4	1		
SITE 15 (LT)	MEDIAN APPROACH							75	1		12.5			39.4	1		
SITE 15 (RT)	OUTSIDE APPROACH							325	1		237.5			39.4	1		
SITE 16 (LT)	MEDIAN APPROACH							75	1		12.5			39.4	1		
SITE 17 (RT)	OUTSIDE APPROACH							325	2		237.5				1	1	
SITE 18 (RT)	OUTSIDE APPROACH							850	1		775			39.4	1		
SITE 19 (RT)	OUTSIDE APPROACH							550			550			39.4	1		
SITE 20 (RT)	OUTSIDE APPROACH							950	2		887.5				1	1	
SITE 21 (LT)	MEDIAN APPROACH							650	2	39	462.5	50	12.5		1	1	
SITE 21 (RT)	OUTSIDE APPROACH							500	1		350			39.4	1		
SITE 22 (LT)	MEDIAN APPROACH							375	1		287.5			39.4	1		
SITE 22 (RT)	OUTSIDE APPROACH							325	1		237.5			39.4	1		
SITE 23 (LT)	MEDIAN APPROACH							375	1		287.5			39.4	1		
SITE 23 (RT)	OUTSIDE APPROACH							325	1		237.5			39.4	1		
SITE 24 (RT)	OUTSIDE APPROACH							825	1		725			39.4	1		
SITE 26 (LT)	MEDIAN APPROACH							125	2		225				1	1	
SITE 26 (RT)	OUTSIDE APPROACH							125	2		225				1	1	
SITE 27 (LT)	MEDIAN APPROACH							375	1		225	50	12.5	39.4	1		
SITE 27 (RT)	OUTSIDE APPROACH							375	1		225	50	12.5	39.4	1		
SITE 28 (LT)	MEDIAN APPROACH							375	1		287.5			39.4	1		
SITE 28 (RT)	OUTSIDE APPROACH							325	1		237.5			39.4	1		
SITE 29 (LT)	MEDIAN APPROACH							325	1		237.5			39.4	1		
SITE 29 (RT)	OUTSIDE APPROACH							325	1		237.5			39.4	1		

BEAM GUARD SUMMARY (CONTINUED)

LOCATION	204.9060.S REMOVING BURIED BEAM GUARD TERMINALS (EACH)	614.0200 STEEL THRIE BEAM STRUCTURE APPROACH (LF)	614.0220 STEEL THRIE BEAM BULLNOSE TERMINAL (EACH)	614.0230 STEEL THRIE BEAM (LF)	614.0370 STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL (EACH)	614.0400 ADJUSTING STEEL PLATE BEAM GUARD (LF)	614.0920 SALVAGED RAIL (LF)	614.0925 SALVAGED GUARDRAIL END TREATMENTS (EACH)	614.0935 SALVAGED SAND BARRELS (EACH)	614.2300 MGS GUARDRAIL 3 (LF)	614.2310 MGS GUARDRAIL 3 HS (LF)	614.2320 MGS GUARDRAIL 3 QS (LF)	614.2500 MGS THRIE BEAM TRANSITION (LF)	614.2610 MGS GUARDRAIL TERMINAL EAT (EACH)	614.2620 MGS GUARDRAIL TERMINAL TYPE 2 (EACH)	SPV.0060.01 CONCRETE BARRIER TRANSITION SECTION 32-INCH (EACH)
SITE 30 (LT) MEDIAN APPROACH							150	1		175			39.4	1		
SITE 30 (RT) OUTSIDE APPROACH							275	1		100			39.4	1		
SITE 32 (RT) OUTSIDE APPROACH							325	1		237.5			39.4	1		
SITE 32 (RT) OUTSIDE DEPARTURE								1							1	
SITE 33 (RT) OUTSIDE APPROACH							375	2		287.5				1	1	
SITE 34 (LT) MEDIAN APPROACH								1		200			39.4	1		
SITE 34 (RT) OUTSIDE APPROACH							325	1		250			39.4	1		
SITE 34 (LT) MEDIAN DEPARTURE						75										
SITE 34 (RT) OUTSIDE DEPARTURE						75										
SITE 35 (LT) MEDIAN APPROACH							75	1		200			39.4	1		
SITE 35 (RT) OUTSIDE APPROACH							325	1		200			39.4	1		
SITE 36 (LT) MEDIAN APPROACH							70	1		200			39.4	1		
SITE 36 (RT) OUTSIDE APPROACH							70	1		50			39.4	1		
SITE 36 (LT) MEDIAN BETWEEN BR.							75	1		243			78.8			
SITE 37 (RT) OUTSIDE APPROACH							275	2		250				1	1	
SITE 38 (LT) MEDIAN APPROACH	1						350			200			39.4	1		
SITE 38 (RT) OUTSIDE APPROACH	1						175			200			39.4	1		
SITE 39 (RT) OUTSIDE APPROACH										25			39.4	1		1
SITE 40 (RT) OUTSIDE APPROACH	1						350	1		450				1	1	
SITE 41 (RT) OUTSIDE APPROACH										25			39.4	1		1
SITE 42 (RT) OUTSIDE APPROACH										25			39.4	1		1
SITE 43 (RT) OUTSIDE APPROACH	1				1	3950	50									
SITE 43 (LT) MEDIAN APPROACH							225	1		175				1	1	
SITE 44 (RT) OUTSIDE APPROACH										25			39.4	1		1
SITE 45 (RT) OUTSIDE APPROACH										25			39.4	1		1
SITE 46 (LT) MEDIAN APPROACH	1						350			250			39.4	1		
SITE 46 (RT) OUTSIDE APPROACH	1	21.6			1		50							1		
SITE 47 (LT) MEDIAN APPROACH							375	1		250			39.4	1		
SITE 47 (RT) OUTSIDE APPROACH							525	1		425			39.4	1		
TOTAL	22	43.2	10	650	4	7650	19815	55	39	15255.5	200	50	2009.4	65	16	10

CRASH CUSHIONS

LOCATION		614.0805 CRASH CUSHIONS PERMANENT LOW MAINTENANCE (EA)	614.0905 CRASH CUSHIONS TEMPORARY (EA)
SITE 3 (RT)	OUTSIDE APPROACH		1
SITE 4 (RT)	OUTSIDE APPROACH		1
SITE 6 (RT)	OUTSIDE APPROACH		1
SITE 7 (RT)	OUTSIDE APPROACH		1
SITE 10 (RT)	MEDIAN APPROACH		1
SITE 19 (RT)	OUTSIDE APPROACH		1
*SITE 21 (LT)	GORE	1	1
SITE 30 (RT)	OUTSIDE APPROACH		1
SITE 30 (LT)	MEDIAN APPROACH		1
SITE 39 (RT)	OUTSIDE APPROACH		1
SITE 41 (RT)	OUTSIDE APPROACH		1
SITE 42 (RT)	OUTSIDE APPROACH		1
SITE 44 (RT)	OUTSIDE APPROACH		1
SITE 45 (RT)	OUTSIDE APPROACH		1
TOTAL		1	14

*NOTE: FOR GORE INSTALLATION USE OBJECT MARKING PATTERN OM-3C.
CRASH TEST CONDITION TL-3.
WIDTH REQUIREMENTS, DESIRABLE AND (MINIMUM) SHOWN IN PARENTHSIS;
N = 12' (6'), L = 55' (28'), F = 4' (2')

EROSION CONTROL ITEMS

LOCATION		628.1504 SILT FENCE (LF)	628.1520 SILT FENCE MAINTENANCE (LF)	628.1905 MOBILIZATIONS EROSION CONTROL (EACH)	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL (EACH)	628.2004 EROSION MAT CLASS I TYPE B (SY)	628.7010 INLET PROTECTION TYPE B (EACH)	628.7504 TEMPORARY DITCH CHECKS (LF)	628.7555 CULVERT PIPE CHECKS (EACH)	645.0140 GEOTEXTILE FABRIC TYPE SAS (SY)
SITE 1 (LT)	MEDIAN APPROACH	200	200			150				
SITE 1 (RT)	OUTSIDE APPROACH	200	200			163				
SITE 2 (LT)	MEDIAN APPROACH	200	200			237				
SITE 2 (RT)	OUTSIDE APPROACH	200	200			375				
SITE 3 (LT)	MEDIAN APPROACH					2445	1	30	1	260
SITE 3 (RT)	OUTSIDE APPROACH	200	200			150				
SITE 4 (LT)	MEDIAN APPROACH					2084		30	2	260
SITE 4 (RT)	OUTSIDE APPROACH	200	200			150				
SITE 5 (LT)	MEDIAN APPROACH	200	200			1087				
SITE 6 (LT)	MEDIAN APPROACH					2635	1	30		280
SITE 6 (RT)	OUTSIDE APPROACH	200	200			150				
SITE 7 (LT)	MEDIAN APPROACH					2525		30	1	260
SITE 7 (RT)	OUTSIDE APPROACH	200	200			150				
SITE 8 (RT)	OUTSIDE APPROACH	200	200			186				
SITE 9 (LT)	MEDIAN APPROACH	200	200			150				
SITE 9 (RT)	OUTSIDE APPROACH	200	200			492				
SITE 10 (LT)	MEDIAN APPROACH					2521	1	30	2	250
SITE 10 (RT)	OUTSIDE APPROACH	200	200			492				
SITE 11 (LT)	MEDIAN APPROACH	200	200			150				
SITE 11 (RT)	OUTSIDE APPROACH	200	200							
SITE 12 (LT)	MEDIAN APPROACH	200	200			150				
SITE 12 (RT)	OUTSIDE APPROACH	200	200			150				
SITE 13 (RT)	OUTSIDE APPROACH	200	200			150				
SITE 14 (LT)	MEDIAN APPROACH	200	200			150				
SITE 14 (RT)	OUTSIDE APPROACH	200	200			152				
SITE 14 (RT)	OUTSIDE APPROACH	200	200			459				
SITE 15 (LT)	MEDIAN APPROACH	200	200			150				
SITE 15 (RT)	OUTSIDE APPROACH	200	200			500				
SITE 16 (LT)	MEDIAN APPROACH	200	200			150	1	30		
SITE 17 (RT)	OUTSIDE APPROACH	200	200			150				
SITE 18 (RT)	OUTSIDE APPROACH	200	200			150				
SITE 19 (RT)	OUTSIDE APPROACH	200	200			500				
SITE 20 (RT)	OUTSIDE APPROACH	200	200			175				
SITE 21 (LT)	MEDIAN APPROACH	200	200			175				
SITE 21 (RT)	OUTSIDE APPROACH	200	200			175				
SITE 22 (LT)	MEDIAN APPROACH	200	200			175				
SITE 22 (RT)	OUTSIDE APPROACH	200	200			500				
SITE 23 (LT)	MEDIAN APPROACH	200	200			175				
SITE 23 (RT)	OUTSIDE APPROACH	200	200			175				
SITE 24 (RT)	OUTSIDE APPROACH	200	200			500				
SITE 26 (LT)	MEDIAN APPROACH	200	200			175				
SITE 26 (RT)	OUTSIDE APPROACH	200	200			175				
SITE 27 (LT)	MEDIAN APPROACH	200	200			175				
SITE 27 (RT)	OUTSIDE APPROACH	200	200			500				
SITE 28 (LT)	MEDIAN APPROACH	200	200			175				
SITE 28 (RT)	OUTSIDE APPROACH	200	200			175				
SITE 29 (LT)	MEDIAN APPROACH	200	200			175				
SITE 29 (RT)	OUTSIDE APPROACH	200	200			175				
SITE 30 (LT)	MEDIAN APPROACH	200	200			150				
SITE 30 (RT)	OUTSIDE APPROACH	200	200			175				
SITE 32 (RT)	OUTSIDE APPROACH	200	200			177				
SITE 33 (RT)	OUTSIDE APPROACH	200	200			150				
SITE 34 (LT)	MEDIAN APPROACH	400	400			150				
SITE 34 (RT)	OUTSIDE APPROACH	200	200			150				

EROSION CONTROL ITEMS (CONTINUED)

LOCATION		628.1504 SILT FENCE (LF)	628.1520 SILT FENCE MAINTENANCE (LF)	628.1905 MOBILIZATIONS EROSION CONTROL (EACH)	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL (EACH)	628.2004 EROSION MAT CLASS I TYPE B (SY)	628.7010 INLET PROTECTION TYPE B (EACH)	628.7504 TEMPORARY DITCH CHECKS (LF)	628.7555 CULVERT PIPE CHECKS (EACH)	645.0140 GEOTEXTILE FABRIC TYPE SAS (SY)
SITE 35 (LT)	MEDIAN APPROACH	400	400			150				
SITE 35 (RT)	OUTSIDE APPROACH	200	200			775				
SITE 36 (LT)	MEDIAN APPROACH	200	200			750				
SITE 36 (RT)	OUTSIDE APPROACH	200	200			750				
SITE 37 (RT)	OUTSIDE APPROACH	200	200			150				
SITE 38 (LT)	MEDIAN APPROACH	200	200			150				
SITE 38 (RT)	OUTSIDE APPROACH	200	200			568				
SITE 39 (RT)	OUTSIDE APPROACH	200	200			205				
SITE 40 (RT)	OUTSIDE APPROACH	200	200			239				
SITE 41 (RT)	OUTSIDE APPROACH	200	200			204				
SITE 42 (RT)	OUTSIDE APPROACH	200	200			308				
SITE 43 (LT)	MEDIAN APPROACH	200	200			175			1	
SITE 43 (RT)	OUTSIDE APPROACH	200	200			515				
SITE 44 (RT)	OUTSIDE APPROACH	200	200			150				
SITE 45 (RT)	OUTSIDE APPROACH	200	200			150				
SITE 46 (LT)	MEDIAN APPROACH	200	200			150				
SITE 46 (RT)	OUTSIDE APPROACH	200	200			762				
SITE 47 (LT)	MEDIAN APPROACH	200	200			163				
SITE 47 (RT)	OUTSIDE APPROACH	200	200			496				
	UNDISTRIBUTED			3	3					
TOTAL		14000	14000	3	3	30640	4	180	7	1310

MOVING SIGNS

LOCATION		SIGN DESCRIPTION	638.2102 MOVING SIGNS TYPE II (EACH)
SITE 3 (LT)	MEDIAN APPROACH	R1-03 - NO U TURN	1
SITE 10 (LT)	MEDIAN APPROACH	R1-03 - NO U TURN	1
TOTAL			2

TRAFFIC CONTROL

LOCATION	STAGE DURATION CALENDAR DAYS	643.0100 TRAFFIC CONTROL (PROJECT) (EACH)	643.0300 DRUMS PAY QUANTITY (DAYS)	643.0715 WARNING LIGHTS TYPE C PAY QUANTITY (DAYS)	643.0800 ARROW BOARDS PAY QUANTITY (DAYS)	643.0900 SIGNS PAY QUANTITY (DAYS)	643.1050 SIGNS PCMS PAY QUANTITY (DAYS)
SITE 1 (LT) MEDIAN APPROACH	1		70	16	2	8	
SITE 1 (RT) OUTSIDE APPROACH	1		66	16	2	8	
SITE 2 (LT) MEDIAN APPROACH	3		210	48	6	24	
SITE 2 (RT) OUTSIDE APPROACH/DEPARTURE	3		522	48	6	24	
SITE 3 (LT) MEDIAN APPROACH	3		306	96	12	48	
SITE 3 (RT) OUTSIDE APPROACH	10		580	160	20	80	
SITE 4 (LT) MEDIAN APPROACH	3		282	96	12	48	
SITE 4 (RT) OUTSIDE APPROACH	10		620	160	20	80	
SITE 5 (LT) MEDIAN APPROACH	1		82	16	2	8	
SITE 6 (LT) MEDIAN APPROACH	3		306	96	12	48	
SITE 6 (RT) OUTSIDE APPROACH	10		580	160	20	80	
SITE 7 (LT) MEDIAN APPROACH	3		306	48	6	24	
SITE 7 (RT) OUTSIDE APPROACH	10		580	160	20	80	
SITE 8 (RT) OUTSIDE APPROACH	1		74	16	2	8	
SITE 9 (LT) MEDIAN APPROACH	1		70	16	2	8	
SITE 9 (RT) OUTSIDE APPROACH	1		66	16	2	8	
SITE 10 (LT) MEDIAN APPROACH	3		306	96	12	48	
SITE 10 (RT) OUTSIDE APPROACH	10		580	160	20	80	
SITE 11 (LT) MEDIAN APPROACH	1		66	16	2	8	
SITE 11 (RT) OUTSIDE APPROACH	1		66	16	2	8	
SITE 12 (LT) MEDIAN APPROACH	1		66	16	2	8	
SITE 12 (RT) OUTSIDE APPROACH	1		66	16	2	8	
SITE 13 (RT) OUTSIDE APPROACH	1		70	16	2	8	
SITE 14 (LT) MEDIAN APPROACH	1		94	16	2	8	
SITE 14 (RT) OUTSIDE APPROACH	1		66	21	2	9	
SITE 14 (RT) OUTSIDE APPROACH	1		126	21	2	9	
SITE 15 (LT) MEDIAN APPROACH	1		58	16	2	8	
SITE 15 (RT) OUTSIDE APPROACH	1		66	16	2	8	
SITE 16 (LT) MEDIAN APPROACH	1		58	16	2	8	
SITE 17 (RT) OUTSIDE APPROACH	1		70	16	2	8	
SITE 18 (RT) OUTSIDE APPROACH	3		270	48	6	24	
SITE 19 (RT) OUTSIDE APPROACH	15		1230	240	30	135	
SITE 20 (RT) OUTSIDE APPROACH	3		282	48	6	24	
SITE 21 (LT) MEDIAN APPROACH	1		86	21	2	8	
SITE 21 (RT) OUTSIDE APPROACH	10		740	210	20	80	
SITE 21 GORE	10					90	
SITE 22 (LT) MEDIAN APPROACH	1		70	16	2	8	
SITE 22 (RT) OUTSIDE APPROACH	1		86	21	2	9	
SITE 23 (LT) MEDIAN APPROACH	1		40	5	1	6	
SITE 23 (RT) OUTSIDE APPROACH	1		66	16	2	8	
SITE 24 (RT) OUTSIDE APPROACH	3		258	48	6	24	
SITE 26 (LT) MEDIAN APPROACH	1		66	16	2	8	
SITE 26 (RT) OUTSIDE APPROACH	1		66	16	2	8	
SITE 27 (LT) MEDIAN APPROACH	1		70	16	2	9	
SITE 27 (RT) OUTSIDE APPROACH	1		122	21	2	9	
SITE 28 (LT) MEDIAN APPROACH	1		70	16	2	8	
SITE 28 (RT) OUTSIDE APPROACH	1		70	16	2	8	
SITE 29 (LT) MEDIAN APPROACH	1		35	5	1	6	
SITE 29 (RT) OUTSIDE APPROACH	1		70	16	2	8	
SITE 30 (LT) MEDIAN APPROACH	15		690	240	30	135	
SITE 30 (RT) OUTSIDE APPROACH	15		525	75	15	105	
SITE 32 (RT) OUTSIDE APPROACH	1		70	16	2	8	
SITE 33 (RT) OUTSIDE APPROACH	1		70	16	2	8	
SITE 34 (LT) MEDIAN APPROACH	1		62	16	2	8	

PAVEMENT MARKING

LOCATION	649.0300 TEMPORARY PAVEMENT MARKING REFLECTIVE TAPE 4-INCH WHITE (LF)
SITE 30 (RT) OUTSIDE APPROACH	200
TOTAL	200

CONCRETE BARRIER TEMPORARY PRECAST

LOCATION	603.8000 DELIVERED (LF)	603.8125 INSTALLED (LF)
SITE 3 (RT) OUTSIDE APPROACH	25	25
SITE 4 (RT) OUTSIDE APPROACH	25	25
SITE 6 (RT) OUTSIDE APPROACH	25	25
SITE 7 (RT) OUTSIDE APPROACH	25	25
SITE 10 (RT) OUTSIDE APPROACH	25	25
SITE 19 (RT) OUTSIDE APPROACH	200	200
SITE 21 (LT) GORE	250	250
SITE 30 (LT) MEDIAN APPROACH	200	200
SITE 30 (RT) OUTSIDE APPROACH	175	175
SITE 39 (RT) OUTSIDE APPROACH	25	25
SITE 41 (RT) OUTSIDE APPROACH	25	25
SITE 42 (RT) OUTSIDE APPROACH	25	25
SITE 44 (RT) OUTSIDE APPROACH	25	25
SITE 45 (RT) OUTSIDE APPROACH	25	25
TOTAL	1075	1075

TRAFFIC CONTROL (CONTINUED)

LOCATION	STAGE DURATION CALENDAR DAYS	643.0100 TRAFFIC CONTROL (PROJECT) (EACH)	643.0300 DRUMS PAY QUANTITY (DAYS)	643.0715 WARNING LIGHTS TYPE C PAY QUANTITY (DAYS)	643.0800 ARROW BOARDS PAY QUANTITY (DAYS)	643.0900 SIGNS PAY QUANTITY (DAYS)	643.1050 SIGNS PCMS PAY QUANTITY (DAYS)
SITE 34 (RT) OUTSIDE APPROACH	1		70	16	2	8	
SITE 35 (LT) MEDIAN APPROACH	1		62	16	2	8	
SITE 35 (RT) OUTSIDE APPROACH	1		66	21	2	9	
SITE 36 (LT) MEDIAN APPROACH	1		62	16	2	8	
SITE 36 (LT) MEDIAN APPROACH	1		62	16	2	8	
SITE 36 (RT) OUTSIDE APPROACH	1		28	5	1	6	
SITE 37 (RT) OUTSIDE APPROACH	1		70	16	2	8	
SITE 38 (LT) MEDIAN APPROACH	1		70	16	2	8	
SITE 38 (RT) OUTSIDE APPROACH	1		66	16	2	8	
SITE 39 (RT) OUTSIDE APPROACH	10		580	160	20	80	
SITE 40 (RT) OUTSIDE APPROACH	1		74	16	2	8	
SITE 41 (RT) OUTSIDE APPROACH	1		58	16	2	8	
SITE 42 (RT) OUTSIDE APPROACH	10		580	160	20	80	
SITE 43 (LT) MEDIAN APPROACH	1		66	16	2	8	
SITE 43 (RT) OUTSIDE APPROACH	3		618	48	6	24	
SITE 44 (RT) OUTSIDE APPROACH	10		580	160	20	80	
SITE 45 (RT) OUTSIDE APPROACH	10		580	160	20	80	
SITE 46 (LT) MEDIAN APPROACH	1		58	16	2	8	
SITE 46 (RT) OUTSIDE APPROACH	1		58	16	2	8	
SITE 47 (LT) MEDIAN APPROACH	1		70	16	2	8	
SITE 47 (RT) OUTSIDE APPROACH	1		74	16	2	8	
PROJECT	74	1				148	444
TOTAL		1	15544	3722	462	2173	444

SAWING ASPHALT

LOCATION		690.0150 SAWING ASPHALT (LF)
SITE 3 (RT)	OUTSIDE APPROACH	70
SITE 4 (RT)	OUTSIDE APPROACH	70
SITE 6 (RT)	OUTSIDE APPROACH	70
SITE 7 (RT)	OUTSIDE APPROACH	70
SITE 10 (RT)	OUTSIDE APPROACH	70
SITE 19 (RT)	OUTSIDE APPROACH	120
SITE 21	GORE	90
SITE 30 (RT)	OUTSIDE APPROACH	55
SITE 30 (LT)	MEDIAN APPROACH	55
SITE 39 (RT)	OUTSIDE APPROACH	70
SITE 41 (RT)	OUTSIDE APPROACH	70
SITE 42 (RT)	OUTSIDE APPROACH	70
SITE 44 (RT)	OUTSIDE APPROACH	70
SITE 45 (RT)	OUTSIDE APPROACH	70
TOTAL		1020

INTERGRAL CONCRETE BARRIER

LOCATION		SPV.0090.01 51-INCH INTEGRAL CONCRETE BARRIER (LF)	633.0500 DELINEATOR REFLECTORS YELLOW (EACH)	633.0500 DELINEATOR REFLECTORS WHITE (EACH)	633.1000 DELINEATOR BRACKETS (EACH)
SITE 19 (RT)	OUTSIDE APPROACH	66		3	3
SITE 30 (LT)	MEDIAN APPROACH	56	3		3
SITE 30 (RT)	OUTSIDE APPROACH	56		3	3
SUBTOTAL		178	3	6	9
TOTAL		178	9		9

PROFILE CURB CUT

LOCATION		SPV.0090.02 PROFILE CURB CUT (LF)
SITE 36 (RT)	OUTSIDE APPROACH	115
TOTAL		115

NOTES:

PERFORM THE GRADING AS SHOWN ON THE PERTINENT SDD "STEEL THRIE BEAM BULLNOSE TERMINAL" OR SDD "STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL" ALSO PERFORM GRADING REQUIRED TO MAINTAIN DRAINAGE FLOW OR SPECIAL GRADING REQUIREMENTS AS SHOWN ON THIS DRAWING.

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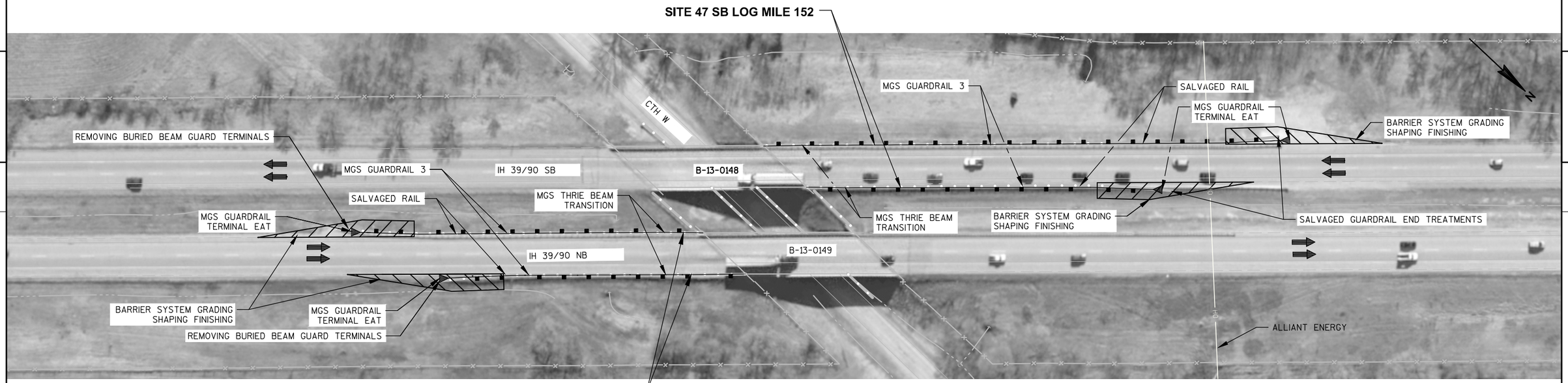

BID ITEM	SITE 1				SITE 47			
	APPROACH MEDIAN, LT		APPROACH OUTSIDE, RT		APPROACH MEDIAN, LT		APPROACH OUTSIDE, RT	
	(LF)	(EACH)	(LF)	(EACH)	(LF)	(EACH)	(LF)	(EACH)
MGS THRIE BEAM TRANSITION	39.4	---	39.4	---	39.4	---	39.4	---
MGS GUARDRAIL 3	250	---	200	---	250	---	425	---
MGS GUARDRAIL TERMINAL EAT	---	1	---	1	---	1	---	1
BARRIER SYSTEM GRADING SHAPING FINISHING	---	1	---	1	---	1	---	1
REMOVING BURIED BEAM GUARD TERMINALS	---	1	---	1	---	---	---	---
SALVAGED RAIL	375	---	300	---	375	---	525	---
SALVAGED GUARDRAIL END TREATMENTS	---	---	---	---	---	1	---	1

SCALE, FEET 0 50 100

PROJECT NO:1001-06-73	HWY: IH 39/90	COUNTY: DANE	PLAN : BEAM GUARD LOCATIONS SHEET 1 OF 33	SHEET 21	E

NOTES:

PERFORM THE GRADING AS SHOWN ON THE PERTINENT SDD "STEEL THRIE BEAM BULLNOSE TERMINAL" OR SDD "STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL" ALSO PERFORM GRADING REQUIRED TO MAINTAIN DRAINAGE FLOW OR SPECIAL GRADING REQUIREMENTS AS SHOWN ON THIS DRAWING.

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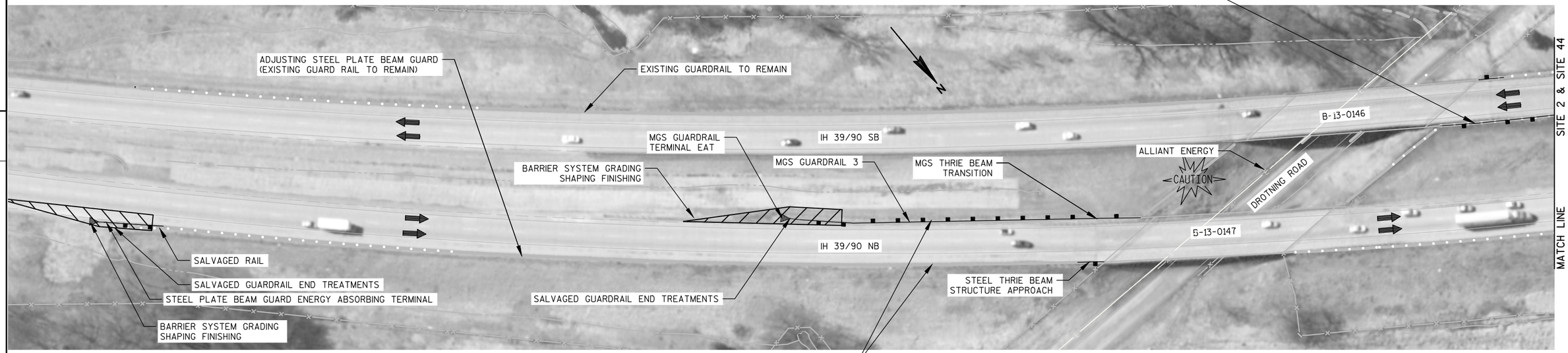

BID ITEM	SITE 2						SITE 46			
	APPROACH MEDIAN, LT		APPROACH OUTSIDE, RT		DEPARTURE OUTSIDE, RT		APPROACH MEDIAN, LT		APPROACH OUTSIDE, RT	
	(LF)	(EACH)	(LF)	(EACH)	(LF)	(EACH)	(LF)	(EACH)	(LF)	(EACH)
STEEL THRIE BEAM STRUCTURE APPROACH	---	---	---	21.6	---	---	---	---	21.6	---
MGS THRIE BEAM TRANSITION	39.4	---	---	---	---	---	---	39.4	---	---
MGS GUARDRAIL 3	250	---	---	---	---	---	250	---	---	---
STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL	---	---	---	1	---	---	---	---	---	1
MGS GUARDRAIL TERMINAL EAT	---	1	---	---	---	---	---	1	---	---
BARRIER SYSTEM GRADING SHAPING FINISHING	---	1	---	1	---	---	---	1	---	1
ADJUSTING STEEL PLATE BEAM GUARD	---	---	975	---	1,875	---	---	---	---	---
SALVAGED RAIL	350	---	50	---	---	---	350	---	50	---
SALVAGED GUARDRAIL END TREATMENTS	---	1	---	1	---	---	---	---	---	---
REMOVING BURIED BEAM GUARD TERMINALS	---	---	---	---	---	---	---	1	---	1

SCALE, FEET 0 50 100

PROJECT NO: 1001-06-73	HWY: IH 39/90	COUNTY: DANE	PLAN : BEAM GUARD LOCATIONS	SHEET 2 OF 33	SHEET 22	E

NOTES:

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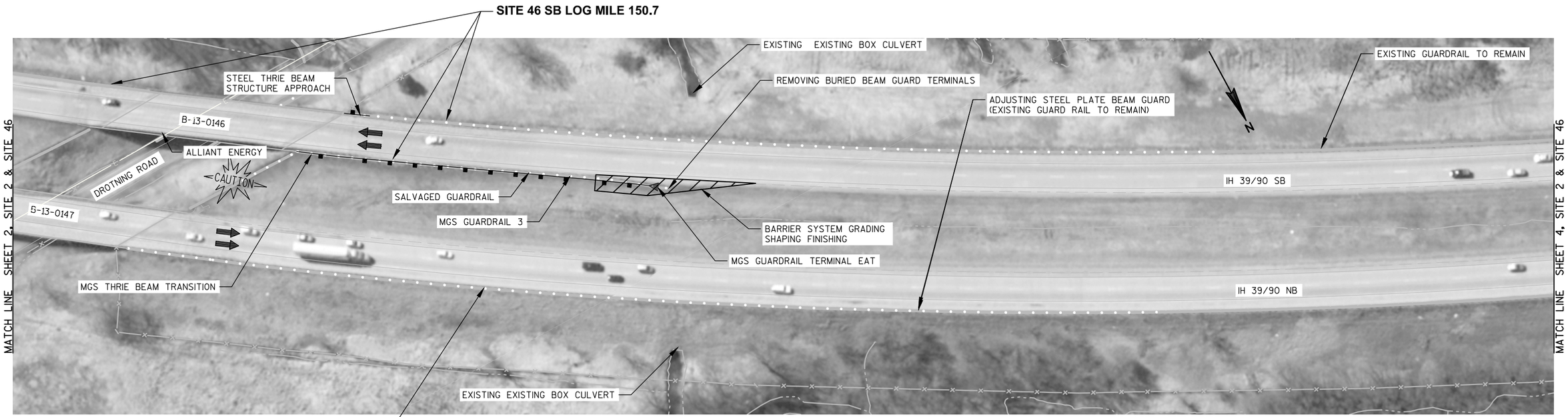

BID ITEM	SITE 2						SITE 46			
	APPROACH MEDIAN, LT		APPROACH OUTSIDE, RT		DEPARTURE OUTSIDE, RT		APPROACH MEDIAN, LT		APPROACH OUTSIDE, RT	
	(LF)	(EACH)	(LF)	(EACH)	(LF)	(EACH)	(LF)	(EACH)	(LF)	(EACH)
STEEL THRIE BEAM STRUCTURE APPROACH	---	---	---	21.6	---	---	---	---	21.6	---
MGS THRIE BEAM TRANSITION	39.4	---	---	---	---	---	---	39.4	---	---
MGS GUARDRAIL 3	250	---	---	---	---	---	250	---	---	---
STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL	---	---	---	1	---	---	---	---	---	1
MGS GUARDRAIL TERMINAL EAT	---	1	---	---	---	---	---	1	---	---
BARRIER SYSTEM GRADING SHAPING FINISHING	---	1	---	1	---	---	---	1	---	1
ADJUSTING STEEL PLATE BEAM GUARD	---	---	975	---	1,875	---	---	---	---	---
SALVAGED RAIL	350	---	50	---	---	---	350	---	50	---
SALVAGED GUARDRAIL END TREATMENTS	---	1	---	1	---	---	---	---	---	---
REMOVING BURIED BEAM GUARD TERMINALS	---	---	---	---	---	---	---	1	---	1

SCALE, FEET 0 50 100

NOTES:

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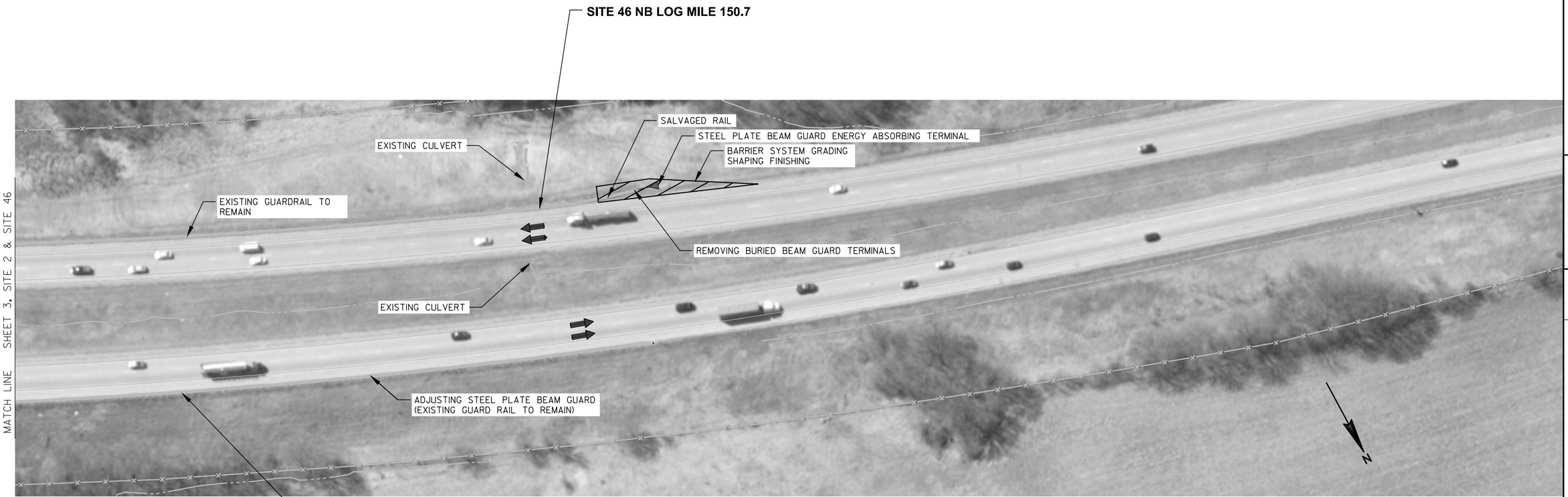

BID ITEM	SITE 2						SITE 46			
	APPROACH MEDIAN, LT		APPROACH OUTSIDE, RT		DEPARTURE OUTSIDE, RT		APPROACH MEDIAN, LT		APPROACH OUTSIDE, RT	
	(LF)	(EACH)	(LF)	(EACH)	(LF)	(EACH)	(LF)	(EACH)	(LF)	(EACH)
STEEL THRIE BEAM STRUCTURE APPROACH	---	---	---	21.6	---	---	---	---	21.6	---
MGS THRIE BEAM TRANSITION	39.4	---	---	---	---	---	---	39.4	---	---
MGS GUARDRAIL 3	250	---	---	---	---	---	250	---	---	---
STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL	---	---	---	1	---	---	---	---	---	1
MGS GUARDRAIL TERMINAL EAT	---	1	---	---	---	---	---	1	---	---
BARRIER SYSTEM GRADING SHAPING FINISHING	---	1	---	1	---	---	---	1	---	1
ADJUSTING STEEL PLATE BEAM GUARD	---	---	975	---	1,875	---	---	---	---	---
SALVAGED RAIL	350	---	50	---	---	---	350	---	50	---
SALVAGED GUARDRAIL END TREATMENTS	---	1	---	1	---	---	---	---	---	---
REMOVING BURIED BEAM GUARD TERMINALS	---	---	---	---	---	---	---	1	---	1

SCALE, FEET 0 50 100

NOTES:

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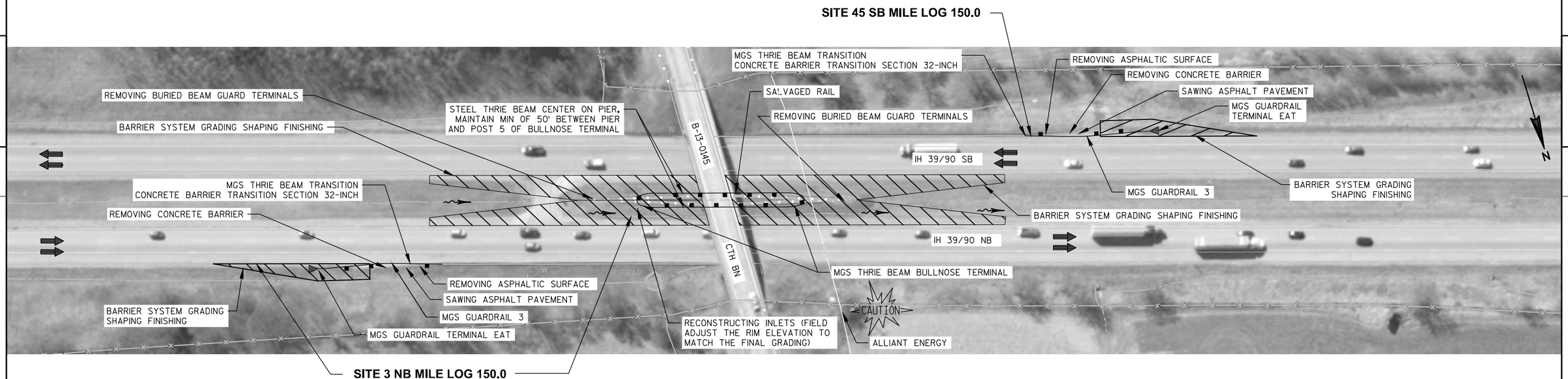

BID ITEM	SITE 3					SITE 45		
	APPROACH MEDIAN PIER, LT		APPROACH OUTSIDE, RT			APPROACH OUTSIDE, RT		
	(LF)	(EACH)	(LF)	(EACH)	SY	(LF)	(EACH)	SY
MGS THRIE BEAM TRANSITION	---	---	39.4	---	---	39.4	---	---
MGS GUARDRAIL 3	---	---	25	---	---	25	---	---
MGS THRIE BEAM BULLNOSE TERMINAL	---	2	---	---	---	---	---	---
MGS GUARDRAIL TERMINAL EAT	---	---	---	1	---	---	1	---
BARRIER SYSTEM GRADING SHAPING AND FINISHING	---	2	---	1	---	---	1	---
CONCRETE BARRIER TRANSITION SECTION 32-INCH	---	---	---	1	---	---	1	---
STEEL THRIE BEAM	125	---	---	---	---	---	---	---
SAWING ASPHALT	---	---	70	---	---	70	---	---
REMOVING ASPHALTIC SURFACE	---	---	---	---	20	---	---	20
SALVAGED RAIL	525	---	---	---	---	---	---	---
REMOVING BURIED BEAM GUARD TERMINALS	---	2	---	---	---	---	---	---
REMOVING CONCRETE BARRIER	---	---	65	---	---	65	---	---
RECONSTRUCTNG INLETS	---	1	---	---	---	---	---	---

SCALE, FEET 0 50 100

PROJECT NO: 1001-06-73	HWY: IH 39/90	COUNTY: DANE	PLAN : BEAM GUARD LOCATIONS	SHEET 5 OF 33	SHEET 25	E

NOTES:

PERFORM THE GRADING AS SHOWN ON THE PERTINENT SDD "STEEL THRIE BEAM BULLNOSE TERMINAL" OR SDD "STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL" ALSO PERFORM GRADING REQUIRED TO MAINTAIN DRAINAGE FLOW OR SPECIAL GRADING REQUIREMENTS AS SHOWN ON THIS DRAWING.

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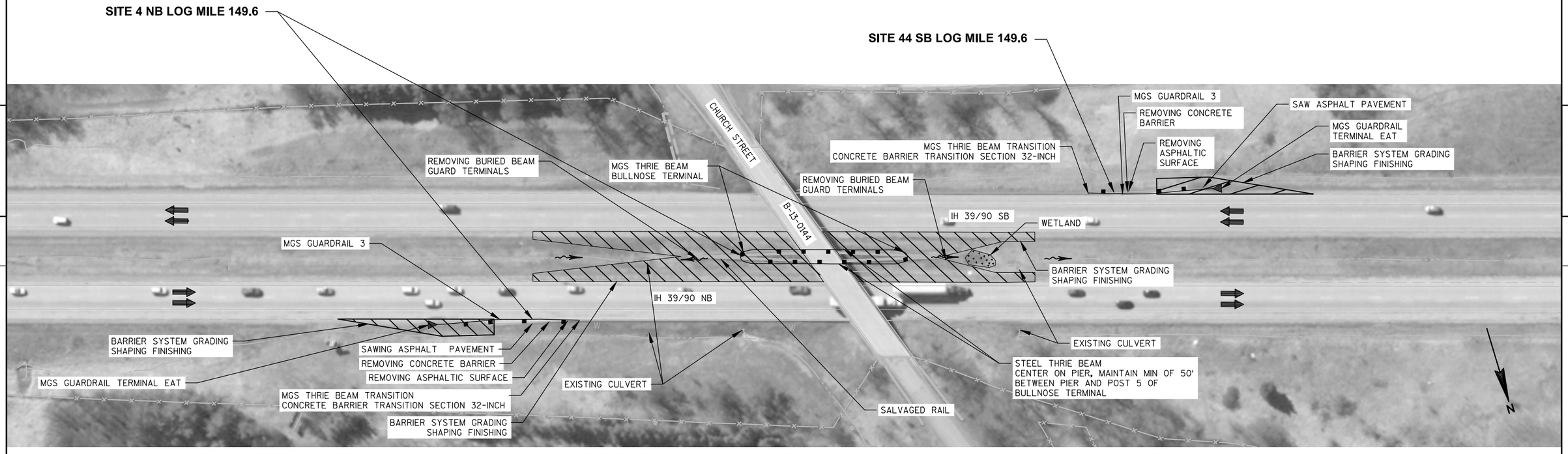

BID ITEM	SITE 4					SITE 44		
	APPROACH OUTSIDE, RT			APPROACH MEDIAN PIER, LT		APPROACH OUTSIDE, RT		
	(LF)	(EACH)	SY	(LF)	EACH	SY	(LF)	(EACH)
MGS THRIE BEAM TRANSITION	39.4	---	---	---	---	---	39.4	---
MGS GUARDRAIL 3	50	---	---	---	---	---	25	---
MGS GUARDRAIL TERMINAL EAT	---	1	---	---	---	---	---	1
BARRIER SYSTEM GRADING SHAPING FINISHING	---	1	---	---	2	---	---	1
MGS THRIE BEAM BULLNOSE TERMINAL	---	---	---	---	2	---	---	---
CONCRETE BARRIER TRANSITION SECTION 32-INCH	---	1	---	---	---	---	---	1
REMOVING ASPHALTIC SURFACE	---	---	20	---	---	20	---	---
SAWING ASPHALT	70	---	---	---	---	---	70	---
STEEL THRIE BEAM	---	---	---	125	---	---	---	---
SALVAGED RAIL	---	---	---	525	---	---	---	---
REMOVING BURIED BEAM GUARD TERMINALS	---	---	---	---	2	---	---	---
REMOVING CONCRETE BARRIER	65	---	---	---	---	---	65	---

SCALE, FEET 0 50 100

PROJECT NO: 1001-06-73	HWY: IH 39/90	COUNTY: DANE	PLAN : BEAM GUARD LOCATIONS	SHEET 6 OF 33	SHEET	E

FILE NAME = X:\3230900\130136_01\TECH\CAD\10010603\SHEETSPLAN\050101_RD.DWG PLOT DATE = 1/28/2013 3:57 PM PLOT BY = LUKE SENZ PLOT NAME = **** PLOT SCALE = 1'= 100'

NOTES:

PERFORM THE GRADING AS SHOWN ON THE PERTINENT SDD "STEEL THRIE BEAM BULLNOSE TERMINAL" OR SDD "STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL" ALSO PERFORM GRADING REQUIRED TO MAINTAIN DRAINAGE FLOW OR SPECIAL GRADING REQUIREMENTS AS SHOWN ON THIS DRAWING.

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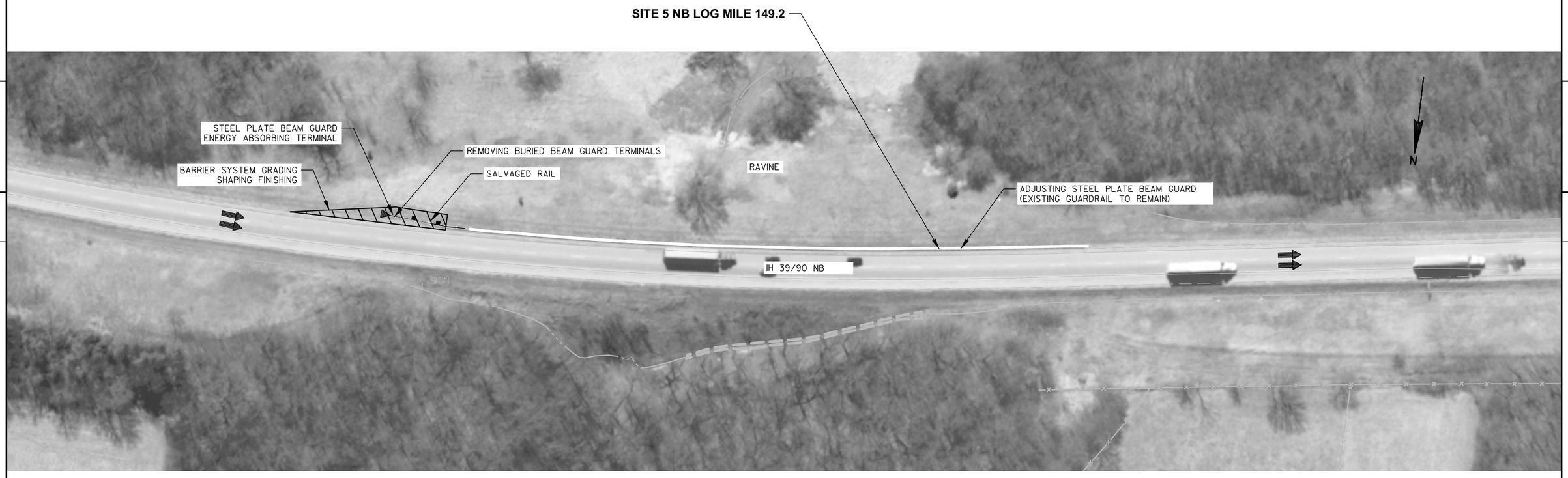
5

5



BID ITEM	SITE 5 APPROACH MEDIAN, LT	
	(LF)	(EACH)
STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL	---	1
BARRIER SYSTEM GRADING SHAPING FINISHING	---	1
REMOVING BURIED BEAM GUARD TERMINALS	---	1
ADJUSTING STEEL PLATE BEAM GUARD	700	---
SALVAGED RAIL	50	---

SCALE, FEET 0 50 100

PROJECT NO: 1001-06-73	HWY: IH 39/90	COUNTY: DANE	PLAN : BEAM GUARD LOCATIONS	SHEET 7 OF 33	SHEET 27	E

FILE NAME = X:\3230900\120136_01\TECH\CAD\10010603\SHEETSPLAN\050101_RD.DWG PLOT DATE = 1/29/2013 3:58 PM PLOT BY = LUKE SENZ PLOT NAME = **** PLOT SCALE = 1'' = 100'

NOTES:

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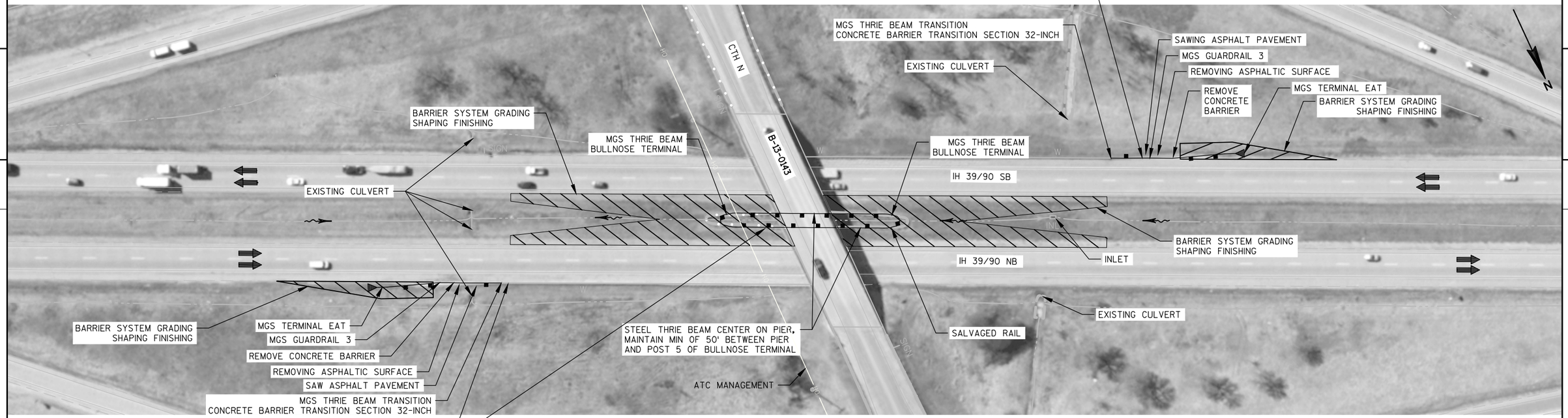

BID ITEM	SITE 6					SITE 42		
	APPROACH OUTSIDE, RT			APPROACH MEDIAN PIER, LT		APPROACH OUTSIDE, RT		
	(LF)	(EACH)	SY	(LF)	(EACH)	SY	(LF)	(EACH)
MGS THRIE BEAM TRANSITION	39.4	---	---	---	---	---	39.4	---
MGS GUARDRAIL 3	25	---	---	---	---	---	25	---
MGS GUARDRAIL TERMINAL EAT	---	1	---	---	---	---	---	1
STEEL THRIE BEAM	---	---	---	150	---	---	---	---
BARRIER SYSTEM GRADING SHAPING FINISHING	---	1	---	---	1	---	---	1
MGS THRIE BEAM BULLNOSE TERMINAL	---	---	---	---	2	---	---	---
CONCRETE BARRIER TRANSITION SECTION 32-INCH	---	1	---	---	---	---	---	1
REMOVING ASPHALTIC SURFACE	---	---	20	---	---	20	---	---
SAWING ASPHALT	70	---	---	---	---	---	70	---
SALVAGED RAIL	---	---	---	425	---	---	---	---
REMOVE CONCRETE BARRIER	65	---	---	---	---	---	65	---

SCALE, FEET 0 50 100

PROJECT NO: 1001-06-73	HWY: IH 39/90	COUNTY: DANE	PLAN : BEAM GUARD LOCATIONS	SHEET 8 OF 33	SHEET 28	E

NOTES:

PERFORM THE GRADING AS SHOWN ON THE PERTINENT SDD "STEEL THRIE BEAM BULLNOSE TERMINAL" OR SDD "STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL" ALSO PERFORM GRADING REQUIRED TO MAINTAIN DRAINAGE FLOW OR SPECIAL GRADING REQUIREMENTS AS SHOWN ON THIS DRAWING.

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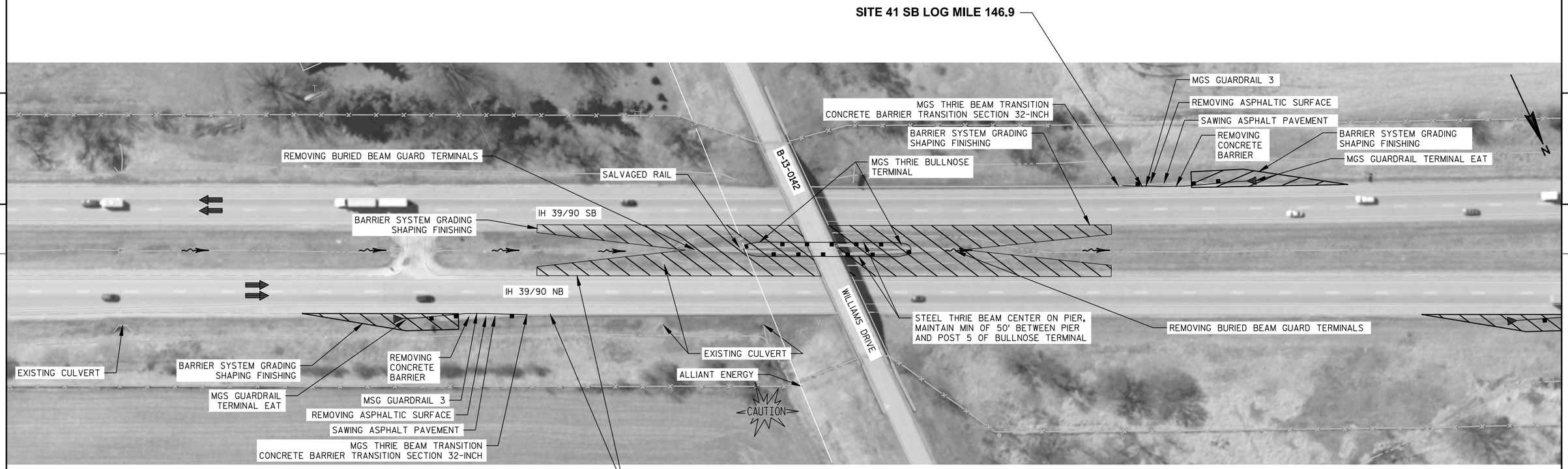

BID ITEM	SITE 7					SITE 41		
	APPROACH OUTSIDE, RT			APPROACH MEDIAN PIER, LT		APPROACH OUTSIDE, RT		
	(LF)	(EACH)	SY	(LF)	(EACH)	(LF)	(EACH)	SY
MGS THRIE BEAM TRANSITION	39.4	---	---	---	---	39.4	---	---
MGS GUARDRAIL 3	25	---	---	---	---	25	---	---
MGS GUARDRAIL TERMINAL EAT	---	1	---	---	---	---	1	---
STEEL THRIE BEAM	---	---	---	125	---	---	---	---
BARRIER SYSTEM GRADING SHAPING FINISHING	---	1	---	---	2	---	1	---
MGS THRIE BEAM BULLNOSE TERMINAL	---	---	---	---	2	---	---	---
CONCRETE BARRIER TRANSITION SECTION 32-INCH	---	1	---	---	---	---	1	---
REMOVING ASPHALTIC SURFACE	---	---	20	---	---	---	---	20
SAWING ASPHALT PAVEMENT	70	---	---	---	---	70	---	---
SALVAGED RAIL	---	---	---	525	---	---	---	---
REMOVING BURIED BEAM GUARD TERMINALS	---	---	---	---	2	---	---	---
REMOVING CONCRETE BARRIER	65	---	---	---	---	65	---	---

SCALE, FEET 0 50 100

NOTES:

PERFORM THE GRADING AS SHOWN ON THE PERTINENT SDD "STEEL THRIE BEAM BULLNOSE TERMINAL" OR SDD "STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL" ALSO PERFORM GRADING REQUIRED TO MAINTAIN DRAINAGE FLOW OR SPECIAL GRADING REQUIREMENTS AS SHOWN ON THIS DRAWING.

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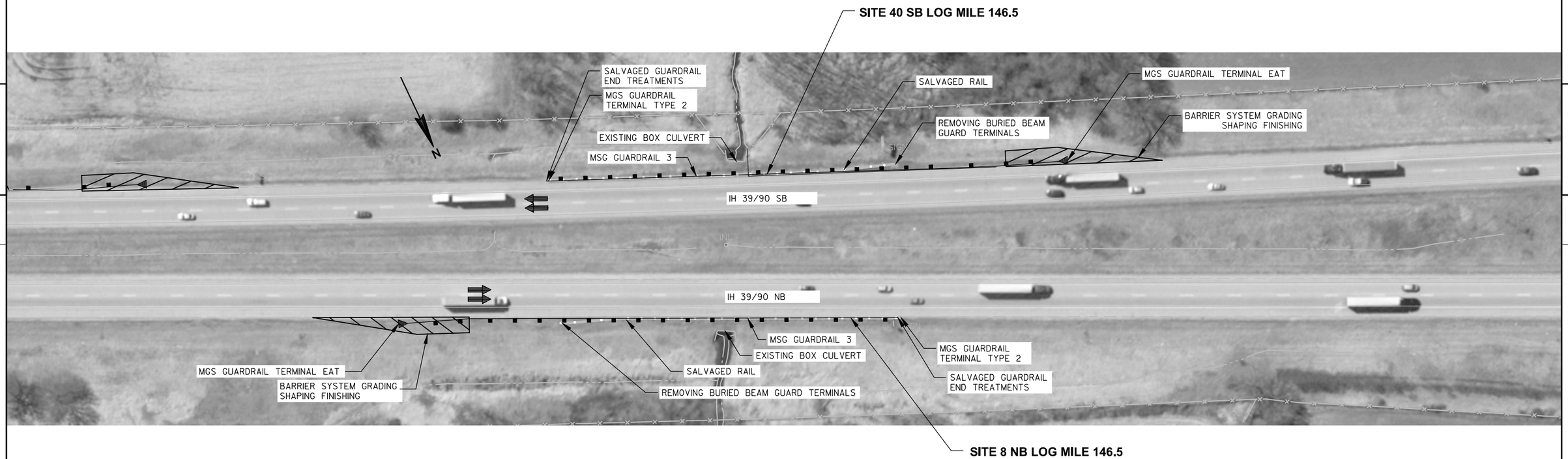

BID ITEM	SITE 8 APPROACH OUTSIDE, RT		SITE 40 APPROACH OUTSIDE, RT	
	(LF)	(EACH)	(LF)	(EACH)
MGS GUARDRAIL 3	375	---	450	---
MGS GUARDRAIL TERMINAL EAT	---	1	---	1
MGS GUARDRAIL TERMINAL TYPE 2	---	1	---	1
BARRIER SYSTEM GRADING SHAPING FINISHING	---	1	---	1
REMOVING BURIED BEAM GUARD TERMINALS	---	1	---	1
SALVAGED RAIL	350	---	350	---
SALVAGED GUARDRAIL END TREATMENTS	---	1	---	1

SCALE, FEET 0 50 100

FILE NAME = X:\3230900\130136_01\TECH\CAD\10010603\SHEETSPLAN\050101_RD.DWG PLOT DATE = 1/29/2013 3:58 PM PLOT BY = LUKE SENZ PLOT NAME = **** PLOT SCALE = 1'= 100'

NOTES:

PERFORM THE GRADING AS SHOWN ON THE PERTINENT SDD "STEEL THRIE BEAM BULLNOSE TERMINAL" OR SDD "STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL" ALSO PERFORM GRADING REQUIRED TO MAINTAIN DRAINAGE FLOW OR SPECIAL GRADING REQUIREMENTS AS SHOWN ON THIS DRAWING.

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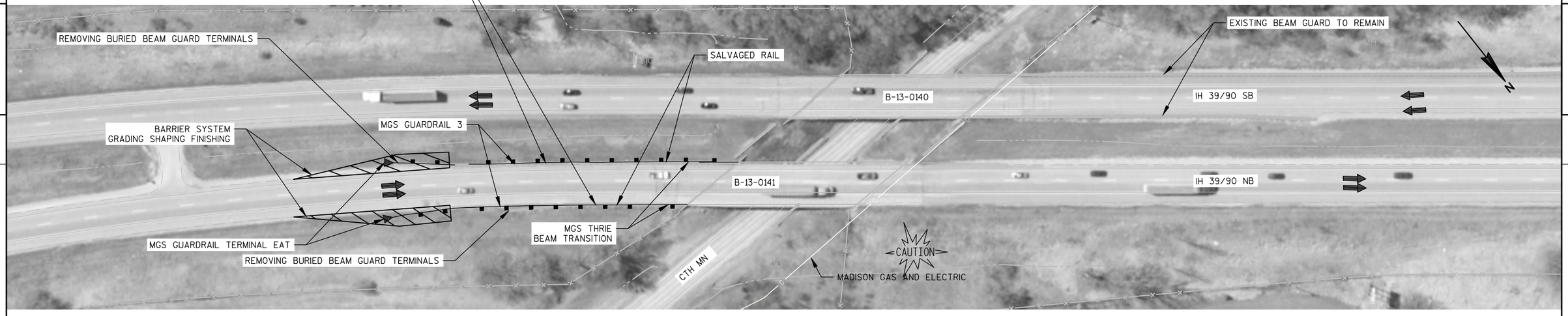
SITE 9 NB LOG MILE 145.6



BID ITEM	SITE 9			
	APPROACH MEDIAN, LT		APPROACH OUTSIDE, RT	
	(LF)	(EACH)	(LF)	(EACH)
MGS THRIE BEAM TRANSITION	39.4	---	39.4	---
MGS GUARDRAIL 3	250	---	200	---
MGS GUARDRAIL TERMINAL EAT	---	1	---	1
BARRIER SYSTEM GRADING SHAPING FINISHING	---	1	---	1
REMOVING BURIED BEAM GUARD TERMINALS	---	1	---	1
SALVAGED RAIL	350	---	175	---

SCALE, FEET 0 50 100

NOTES:

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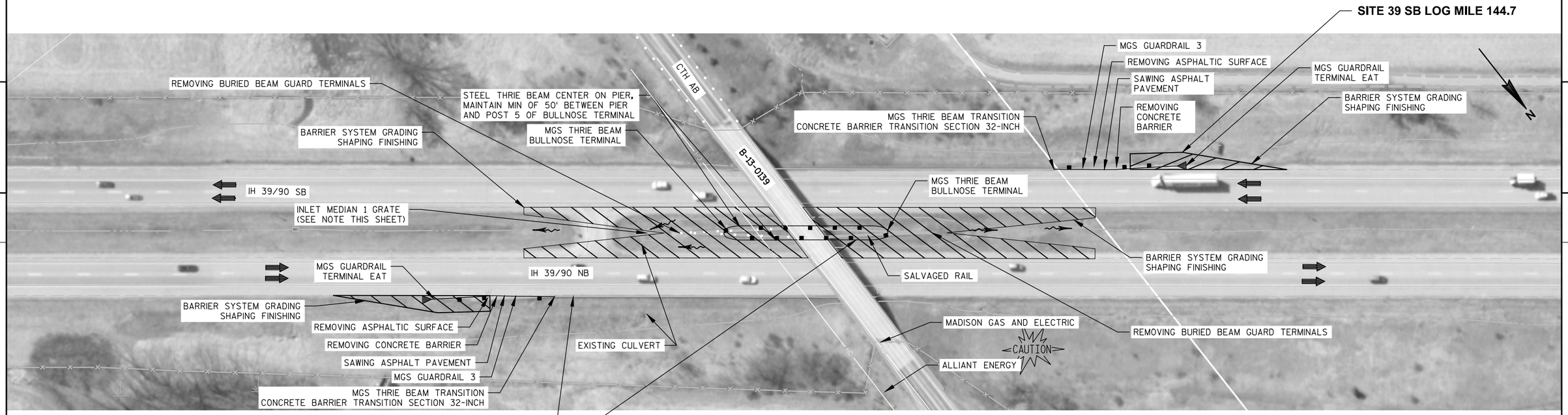

BID ITEM	SITE 10					SITE 39		
	APPROACH MEDIAN, LT		APPROACH OUTSIDE, RT			APPROACH OUTSIDE, RT		
	(LF)	(EACH)	(LF)	(EACH)	SQ.YD.	(LF)	(EACH)	SQ.YD.
MGS THRIE BEAM TRANSITION	---	---	39.4	---	---	39.4	---	---
MGS GUARDRAIL 3	---	---	25	---	---	25	---	---
MGS GUARDRAIL TERMINAL EAT	---	---	---	1	---	---	1	---
STEEL THRIE BEAM	125	---	---	---	---	---	---	---
BARRIER SYSTEM GRADING SHAPING FINISHING	---	2	---	1	---	---	1	---
MGS THRIE BEAM BULLNOSE TERMINAL	---	2	---	---	---	---	---	---
CONCRETE BARRIER TRANSITION SECTION 32-INCH	---	---	---	1	---	---	1	---
REMOVING ASPHALTIC SURFACE	---	---	---	---	20	---	---	20
SAWING ASPHALT	---	---	70	---	---	70	---	---
REMOVING CONCRETE BARRIER	---	---	65	---	---	65	---	---
SALVAGED RAIL	525	---	---	---	---	---	---	---
REMOVING BURIED BEAM GUARD TERMINALS	---	2	---	---	---	---	---	---
CONCRETE COLLARS FOR PIPE	---	1	---	---	---	---	---	---
CULVERT PIPE REINFORCED CONCRETE CLASS III 18-INCH	15	---	---	---	---	---	---	---
INLET COVERS TYPE MS	---	1	---	---	---	---	---	---
INLETS MEDIAN 1 GRATE	---	1	---	---	---	---	---	---

NOTE:
LOCATE THE INLET NEAR THE CENTER OF THE MEDIAN WHERE 20:1 SLOPES BEGINNING AT THE ADJACENT SHOULDER HINGE POINTS INTERSECT. EXTEND THE EXISTING 18-INCH CONCRETE CULVERT AND CONNECT IT TO THE INLET. THE TOTAL INLET DEPTH IS APPROXIMATELY 3 FEET.

SCALE, FEET 0 50 100

NOTES:

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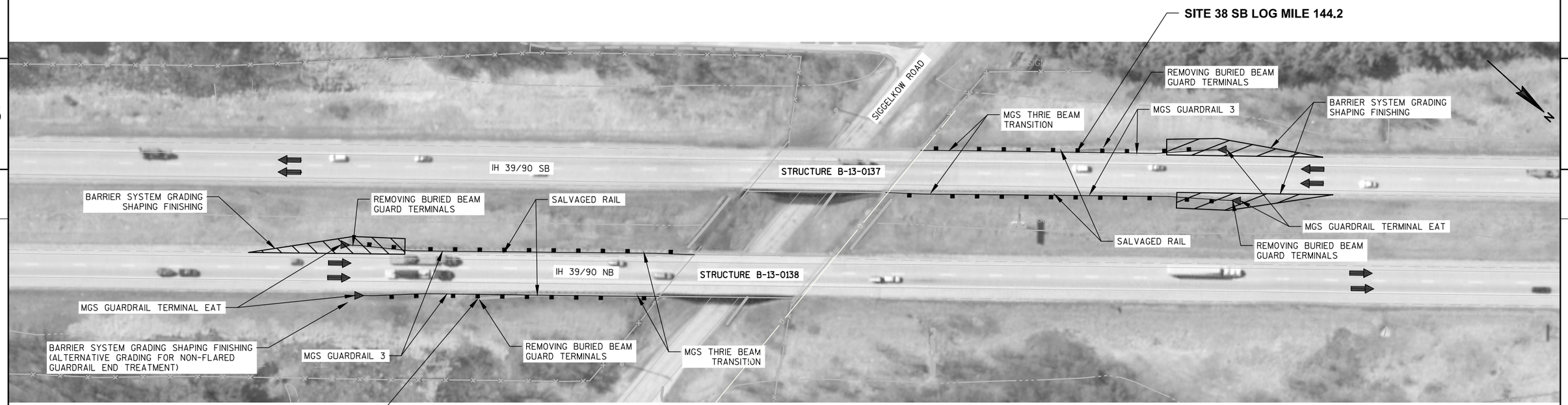

BID ITEM	SITE 11				SITE 38			
	APPROACH MEDIAN, LT		APPROACH OUTSIDE, RT		APPROACH MEDIAN, LT		APPROACH OUTSIDE, RT	
	(LF)	(EACH)	(LF)	(EACH)	(LF)	(EACH)	(LF)	(EACH)
MGS THRIE BEAM TRANSITION	39.4	---	39.4	---	39.4	---	39.4	---
MGS GUARDRAIL 3	200	---	200	---	200	---	200	---
MGS GUARDRAIL TERMINAL EAT	---	1	---	1	---	1	---	1
BARRIER SYSTEM GRADING SHAPING FINISHING	---	1	---	1	---	1	---	1
SALVAGED RAIL	350	---	175	---	350	---	175	---
REMOVING BURIED BEAM GUARD TERMINALS	---	1	---	1	---	1	---	1

SCALE, FEET 0 50 100

PROJECT NO: 1001-06-73	HWY: IH 39/90	COUNTY: DANE	PLAN : BEAM GUARD LOCATIONS	SHEET 13 OF 33	SHEET 33	E

FILE NAME = X:\3230900\130136_01\TECH\CAD\10010603\SHEETSPLAN\050101_RD.DWG PLOT DATE = 1/29/2013 4:04 PM PLOT BY = LUKE SENZ PLOT NAME = **** PLOT SCALE = 1'= 100'

NOTES:

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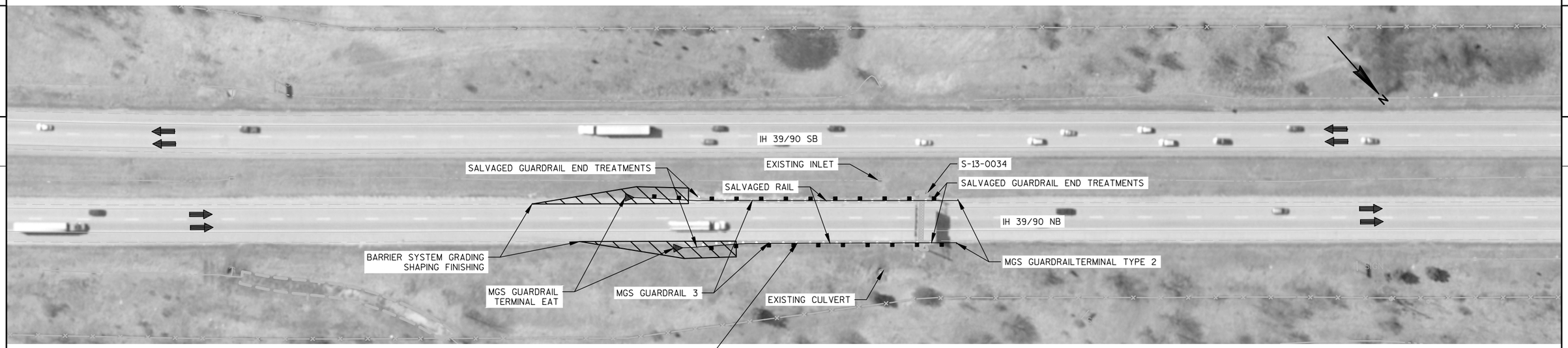

BID ITEM	SITE 12			
	APPROACH MEDIAN, LT		APPROACH OUTSIDE, RT	
	(LF)	(EACH)	(LF)	(EACH)
MGS GUARDRAIL 3	250	---	200	---
MGS GUARDRAIL TERMINAL EAT	---	1	---	1
MGS GUARDRAIL TERMINAL TYPE 2	---	1	---	1
BARRIER SYSTEM GRADING SHAPING FINISHING	---	1	---	1
SALVAGED RAIL	250	---	250	---
SALVAGED GUARDRAIL END TREATMENTS	---	2	---	2

SCALE, FEET 0 50 100

NOTES:

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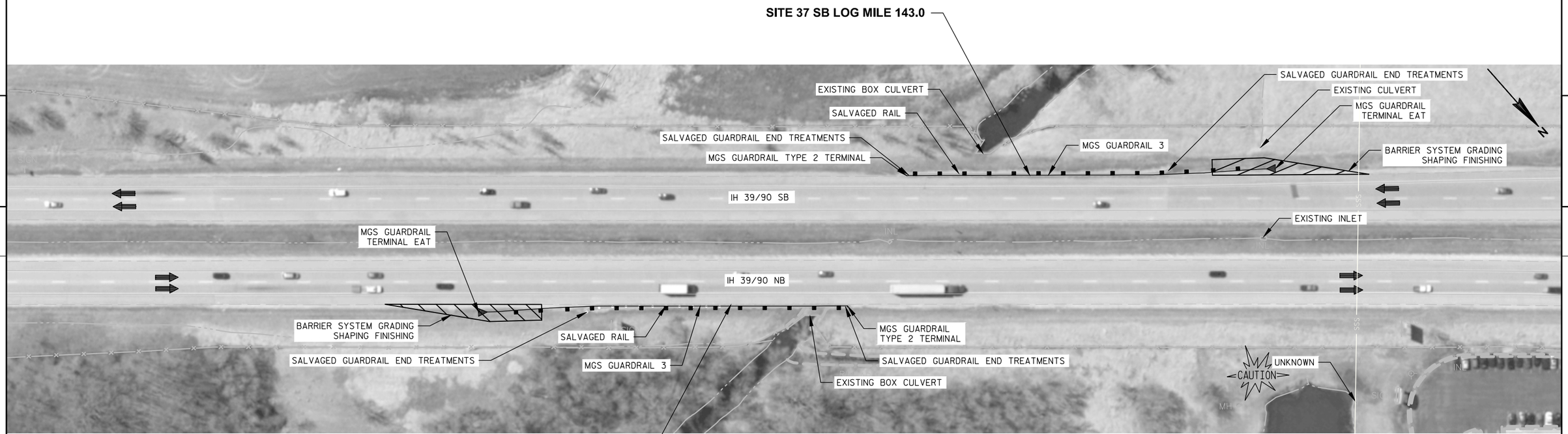

BID ITEM	SITE 13 APPROACH OUTSIDE, RT		SITE 37 APPROACH OUTSIDE, RT	
	(LF)	(EACH)	(LF)	(EACH)
MGS GUARDRAIL 3	250	---	250	---
MGS GUARDRAIL TERMINAL EAT	---	1	---	1
MGS GUARDRAIL TERMINAL TYPE 2	---	1	---	1
BARRIER SYSTEM GRADING SHAPING FINISHING	---	1	---	1
SALVAGED RAIL	275	---	275	---
SALVAGED GUARDRAIL END TREATMENTS	---	2	---	2

SCALE, FEET 0 50 100

PROJECT NO: 1001-06-73	HWY: IH 39/90	COUNTY: DANE	PLAN : BEAM GUARD LOCATIONS	SHEET 15 OF 33	SHEET 35	E

NOTES:

PERFORM THE GRADING AS SHOWN ON THE PERTINENT SDD "STEEL THRIE BEAM BULLNOSE TERMINAL" OR SDD "STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL" ALSO PERFORM GRADING REQUIRED TO MAINTAIN DRAINAGE FLOW OR SPECIAL GRADING REQUIREMENTS AS SHOWN ON THIS DRAWING.

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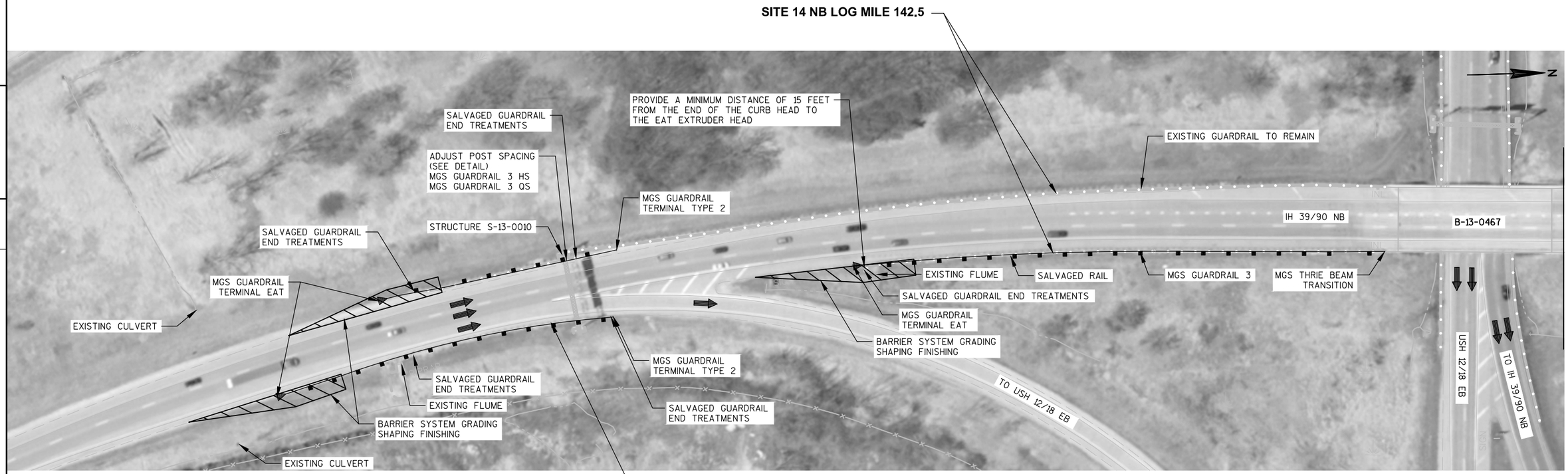
EXISTING ASPHALTIC CURB LOCATIONS ARE APPROXIMATE, CONTRACTOR SHALL FIELD VERIFY. REMOVE DAMAGED ASPHALTIC CURB AND REPLACE TO THE LIMITS AS DIRECTED BY THE ENGINEER.

EXISTING LOCATIONS OF FLUMES ARE APPROXIMATE CONTRACTOR SHALL FIELD VERIFY, EXISTING FLUMES MAY REQUIRE RELOCATION TO AVOID BEAM GUARD POST SPACING. ALTERNATIVE POST SPACING MAY BE USED IF APPROVED BY THE ENGINEER.



BID ITEM	SITE 14					
	APPROACH MEDIAN, LT		APPROACH OUTSIDE, RT		APPROACH OUTSIDE, RT	
	(LF)	(EACH)	(LF)	(EACH)	(LF)	(EACH)
MGS THRIE BEAM TRANSITION	---	---	---	---	39.4	---
MGS GUARDRAIL 3	112.5	---	275	---	425	---
MGS GUARDRAIL 3 HS	50	---	---	---	---	---
MGS GUARDRAIL 3 QS	12.5	---	---	---	---	---
MGS GUARDRAIL TERMINAL EAT	---	1	---	1	---	1
MGS GUARDRAIL TERMINAL TYPE 2	---	1	---	1	---	---
BARRIER SYSTEM GRADING SHAPING FINISHING	---	1	---	1	---	1
SALVAGED RAIL	---	---	---	---	325	---
SALVAGED GUARDRAIL END TREATMENTS	---	2	---	2	---	1

SCALE, FEET 0 50 100

PROJECT NO: 1001-06-73	HWY: IH 39/90	COUNTY: DANE	PLAN : BEAM GUARD LOCATIONS	SHEET 16 OF 33	SHEET 36	E

NOTES:

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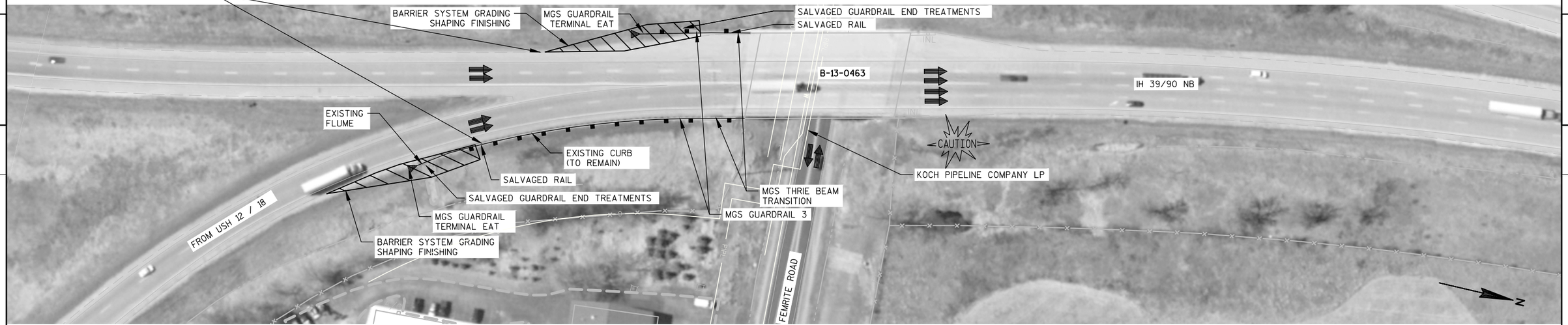

BID ITEM	SITE 15			
	APPROACH MEDIAN, LT		APPROACH OUTSIDE, RT	
	(LF)	(EACH)	(LF)	(EACH)
MGS THRIE BEAM TRANSITION	39.4	---	39.4	---
MGS GUARDRAIL 3	12.5	---	237.5	---
MGS GUARDRAIL TERMINAL EAT	---	1	---	1
BARRIER SYSTEM GRADING SHAPING FINISHING	---	1	---	1
SALVAGED RAIL	75	---	325	---
SALVAGED GUARDRAIL END TREATMENTS	---	1	---	1

SCALE, FEET 0 50 100

FILE NAME = X:\3230900\130136_01\TECH\CAD\10010603\SHEETSPLAN\050101_RD.DWG PLOT DATE = 1/29/2013 4:08 PM PLOT BY = LUKE SENZ PLOT NAME = **** PLOT SCALE = 1'= 100'

NOTES:

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BID ITEM	SITE 16 APPROACH MEDIAN, LT	
	(LF)	(EACH)
MGS THRIE BEAM TRANSITION	39.4	---
MGS GUARDRAIL 3	12.5	---
MGS GUARDRAIL TERMINAL EAT	---	1
BARRIER SYSTEM GRADING SHAPING FINISHING	---	1
SALVAGED RAIL	75	---
SALVAGED GUARDRAIL END TREATMENTS	---	1

SCALE, FEET 0 50 100

PROJECT NO: 1001-06-73	HWY: IH 39/90	COUNTY: DANE	PLAN : BEAM GUARD LOCATIONS	SHEET 18 OF 33	SHEET 38	E

FILE NAME = X:\3230900\130136_01\TECH\CAD\10010603\SHEETSPLAN\050101_RD.DWG PLOT DATE = 1/29/2013 4:08 PM PLOT BY = LUKE SENZ PLOT NAME = **** PLOT SCALE = *********

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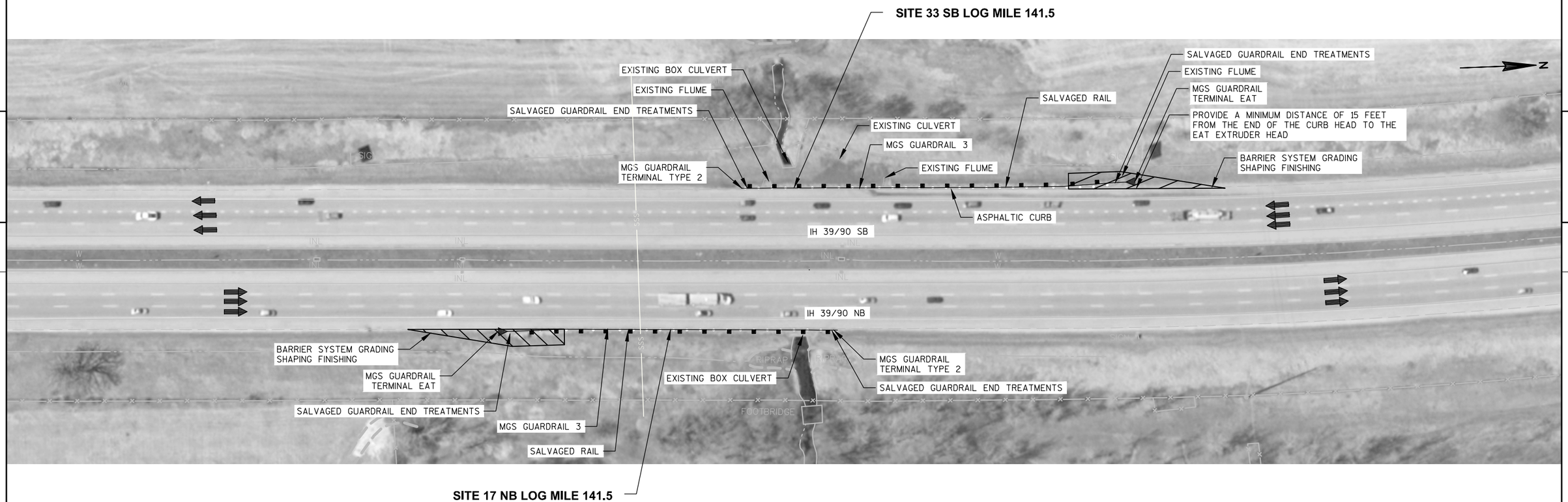

BID ITEM	SITE 17 APPROACH OUTSIDE, RT		SITE 33 APPROACH OUTSIDE, RT	
	(LF)	(EACH)	(LF)	(EACH)
MGS GUARDRAIL 3	237.5	---	287.5	---
MGS GUARDRAIL TERMINAL EAT	---	1	---	1
MGS GUARDRAIL TERMINAL TYPE 2	---	1	---	1
BARRIER SYSTEM GRADING SHAPING FINISHING	---	1	---	1
SALVAGED RAIL	325	---	375	---
SALVAGED GUARDRAIL END TREATMENTS	---	2	---	2

SCALE, FEET 0 50 100

PROJECT NO: 1001-06-73	HWY: IH 39/90	COUNTY: DANE	PLAN : BEAM GUARD LOCATIONS	SHEET 19 OF 33	SHEET 39	E

NOTES:

PERFORM THE GRADING AS SHOWN ON THE PERTINENT SDD "STEEL THRIE BEAM BULLNOSE TERMINAL" OR SDD "STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL" ALSO PERFORM GRADING REQUIRED TO MAINTAIN DRAINAGE FLOW OR SPECIAL GRADING REQUIREMENTS AS SHOWN ON THIS DRAWING.

DETAILS OF STEEL THRIE BEAM BULLNOSE TERMINAL OR STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL NOT SHOWN ON THIS DRAWING SHALL CONFORM TO PERTINENT REQUIREMENTS IN SDD "STEEL THRIE BEAM BULLNOSE TERMINAL" OR SDD "STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL"

EXISTING ASPHALTIC CURB LOCATIONS ARE APPROXIMATE, CONTRACTOR SHALL FIELD VERIFY. REMOVE DAMAGED ASPHALTIC CURB AND REPLACE TO THE LIMITS AS DIRECTED BY THE ENGINEER.

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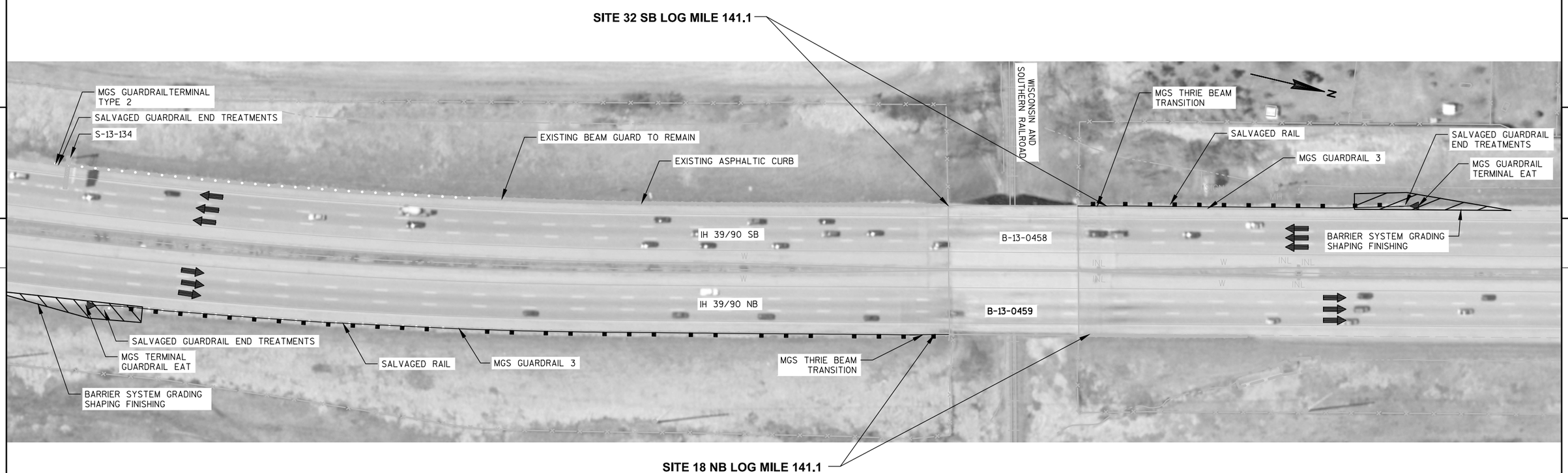

BID ITEM	SITE 18 APPROACH OUTSIDE, RT		SITE 32 APPROACH OUTSIDE, RT		SITE 32 DEPARTURE OUTSIDE, RT	
	(LF)	(EACH)	(LF)	(EACH)	(LF)	(EACH)
MGS THRIE BEAM TRANSITION	39.4	---	39.4	---	---	---
MGS GUARDRAIL 3	775	---	237.5	---	---	---
MGS GUARDRAIL TERMINAL EAT	---	1	---	1	---	---
MGS GUARDRAIL TERMINAL TYPE 2	---	---	---	---	---	1
BARRIER SYSTEM GRADING SHAPING FINISHING	---	1	---	1	---	---
SALVAGED RAIL	850	---	325	---	---	---
SALVAGED GUARDRAIL END TREATMENTS	---	1	---	1	---	1

SCALE, FEET 0 50 100

NOTES:

PERFORM THE GRADING AS SHOWN ON THE PERTINENT SDD "STEEL THRIE BEAM BULLNOSE TERMINAL" OR SDD "STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL" ALSO PERFORM GRADING REQUIRED TO MAINTAIN DRAINAGE FLOW OR SPECIAL GRADING REQUIREMENTS AS SHOWN ON THIS DRAWING.

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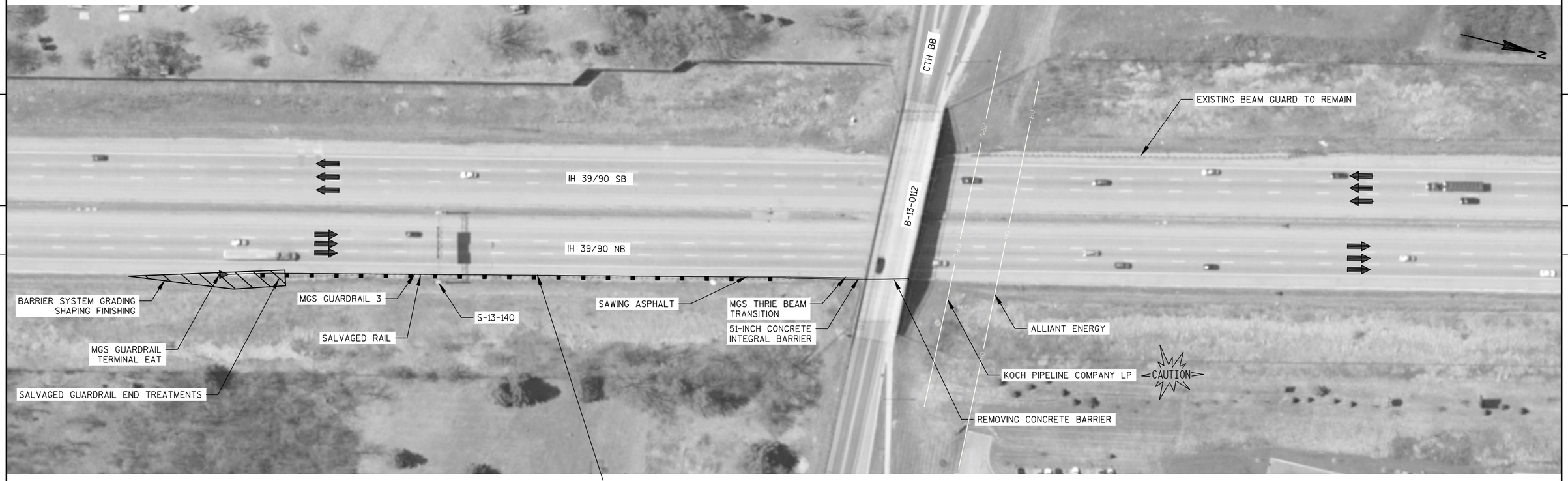

BID ITEM	SITE 19 APPROACH OUTSIDE, RT	
	(LF)	(EACH)
MGS THRIE BEAM TRANSITION	39.4	---
MGS GUARDRAIL 3	550	---
MGS GUARDRAIL TERMINAL EAT	---	1
BARRIER SYSTEM GRADING SHAPING FINISHING	---	1
51-INCH CONCRETE INTEGRAL BARRIER	66	---
SAWING ASPHALT	120	---
SALVAGED RAIL	550	---
SALVAGED GUARDRAIL END TREATMENTS	---	1
REMOVING CONCRETE BARRIER	119	---

SCALE, FEET 0 50 100

FILE NAME = X:\3230900\130136_01\TECHCAD\10010603\SHEETSPLAN\050101_PD.DWG PLOT DATE = 1/29/2013 4:16 PM PLOT BY = LUKE SENZ PLOT NAME = **** PLOT SCALE = 1'= 100'

NOTES:

PERFORM THE GRADING AS SHOWN ON THE PERTINENT SDD "STEEL THRIE BEAM BULLNOSE TERMINAL" OR SDD "STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL" ALSO PERFORM GRADING REQUIRED TO MAINTAIN DRAINAGE FLOW OR SPECIAL GRADING REQUIREMENTS AS SHOWN ON THIS DRAWING.

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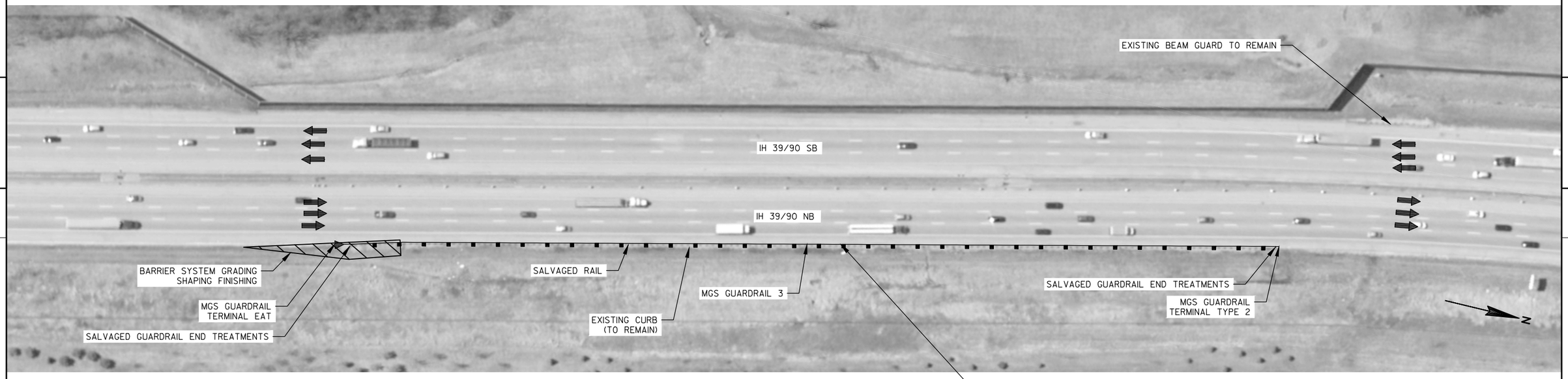

BID ITEM	SITE 20 APPROACH OUTSIDE, RT	
	(LF)	(EACH)
MGS GUARDRAIL 3	887.5	---
MGS GUARDRAIL TERMINAL EAT	---	1
MGS GUARDRAIL TERMINAL TYPE 2	---	1
BARRIER SYSTEM GRADING SHAPING FINISHING	---	1
SALVAGED RAIL	950	---
SALVAGED GUARDRAIL END TREATMENTS	---	2

SCALE, FEET 0 50 100

PROJECT NO:1001-06-73	HWY: IH 39/90	COUNTY:DANE	PLAN : BEAM GUARD LOCATIONS	SHEET 22 OF 33	SHEET 42	E

NOTES:

PERFORM THE GRADING AS SHOWN ON THE PERTINENT SDD "STEEL THRIE BEAM BULLNOSE TERMINAL" OR SDD "STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL" ALSO PERFORM GRADING REQUIRED TO MAINTAIN DRAINAGE FLOW OR SPECIAL GRADING REQUIREMENTS AS SHOWN ON THIS DRAWING.

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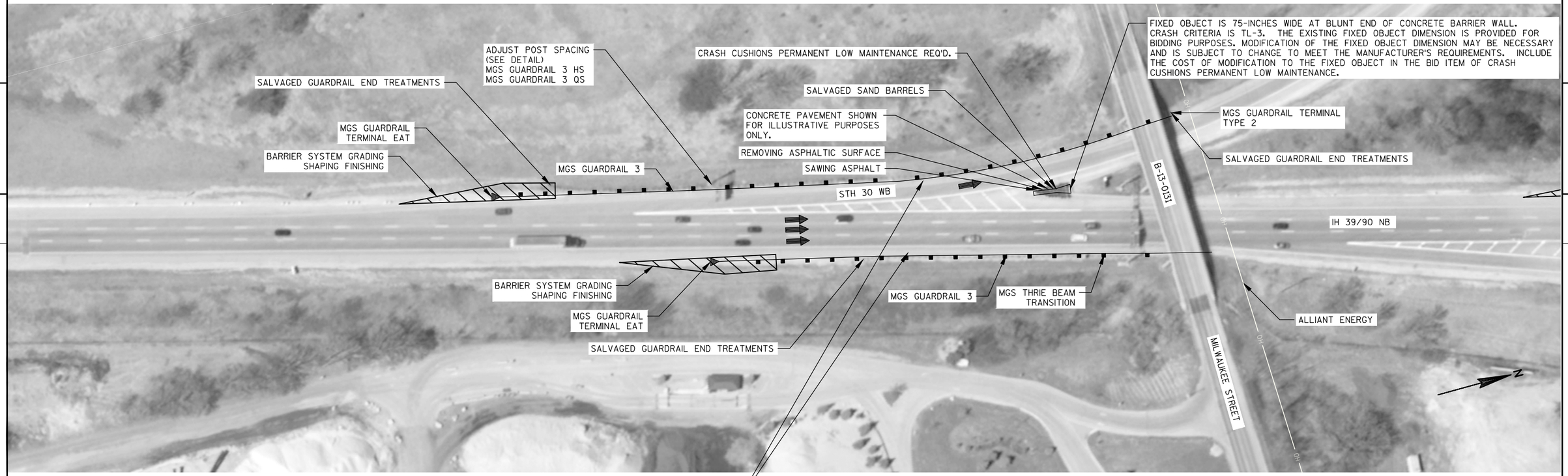

BID ITEM	SITE 21				
	APPROACH MEDIAN, LT			APPROACH OUTSIDE, RT	
	(LF)	(EACH)	(SY)	(LF)	(EACH)
MGS THRIE BEAM TRANSITION	---	---	---	39.4	---
MGS GUARDRAIL 3	462.5	---	---	350	---
MGS GUARDRAIL 3 HS	50	---	---	---	---
MGS GUARDRAIL 3 QS	12.5	---	---	---	---
MGS GUARDRAIL TERMINAL EAT	---	1	---	---	1
MGS GUARDRAIL TERMINAL TYPE 2	---	1	---	---	---
REMOVING ASPHALTIC SURFACE	---	---	20	---	---
BARRIER SYSTEM GRADING SHAPING FINISHING	---	1	---	---	1
SALVAGED RAIL	650	---	---	500	---
SALVAGED GUARDRAIL END TREATMENTS	---	2	---	---	1
SALVAGED SAND BARRELS	---	39	---	---	---

SCALE, FEET 0 50 100

NOTES:

PERFORM THE GRADING AS SHOWN ON THE PERTINENT SDD "STEEL THRIE BEAM BULLNOSE TERMINAL" OR SDD "STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL" ALSO PERFORM GRADING REQUIRED TO MAINTAIN DRAINAGE FLOW OR SPECIAL GRADING REQUIREMENTS AS SHOWN ON THIS DRAWING.

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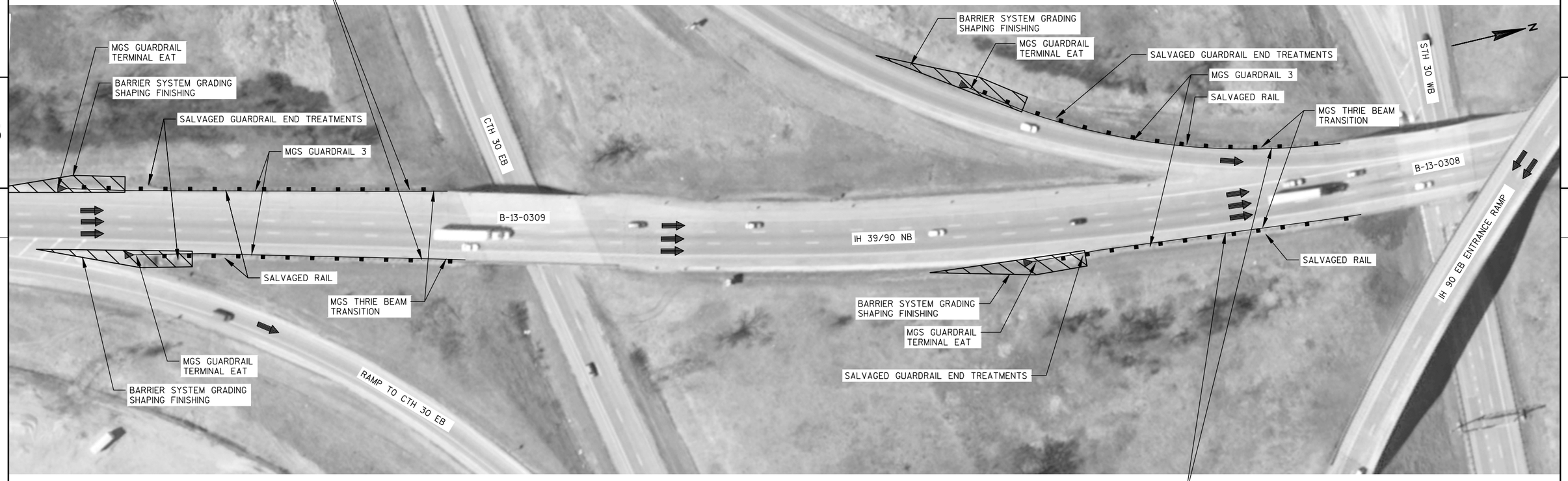
SITE 22 NB LOG MILE 138.5



SITE 23 NB LOG MILE 140

BID ITEM	SITE 22				SITE 23			
	APPROACH MEDIAN, LT		APPROACH OUTSIDE, RT		APPROACH MEDIAN, LT		APPROACH OUTSIDE, RT	
	(LF)	(EACH)	(LF)	(EACH)	(LF)	(EACH)	(LF)	(EACH)
MGS THRIE BEAM TRANSITION	39.4	---	39.4	---	39.4	---	39.4	---
MGS GUARDRAIL 3	287.5	---	237.5	---	287.5	---	237.5	---
MGS GUARDRAIL TERMINAL EAT	---	1	---	1	---	1	---	1
BARRIER SYSTEM GRADING SHAPING FINISHING	---	1	---	1	---	1	---	1
SALVAGED RAIL	375	---	325	---	375	---	325	---
SALVAGED GUARDRAIL END TREATMENTS	---	1	---	1	---	1	---	1

SCALE, FEET 0 50 100

PROJECT NO: 1001-06-73	HWY: IH 39/90	COUNTY: DANE	PLAN : BEAM GUARD LOCATIONS	SHEET 24 OF 33	SHEET 44	E

FILE NAME : X:\3239000\120136_01\TECH\CAD\10010603\SHEETSPLAN\050101_RD.DWG PLOT DATE : 1/28/2013 4:16 PM PLOT BY : LUKE SENZ PLOT NAME : **** PLOT SCALE : 1" = 100'

NOTES:

PERFORM THE GRADING AS SHOWN ON THE PERTINENT SDD "STEEL THRIE BEAM BULLNOSE TERMINAL" OR SDD "STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL" ALSO PERFORM GRADING REQUIRED TO MAINTAIN DRAINAGE FLOW OR SPECIAL GRADING REQUIREMENTS AS SHOWN ON THIS DRAWING.

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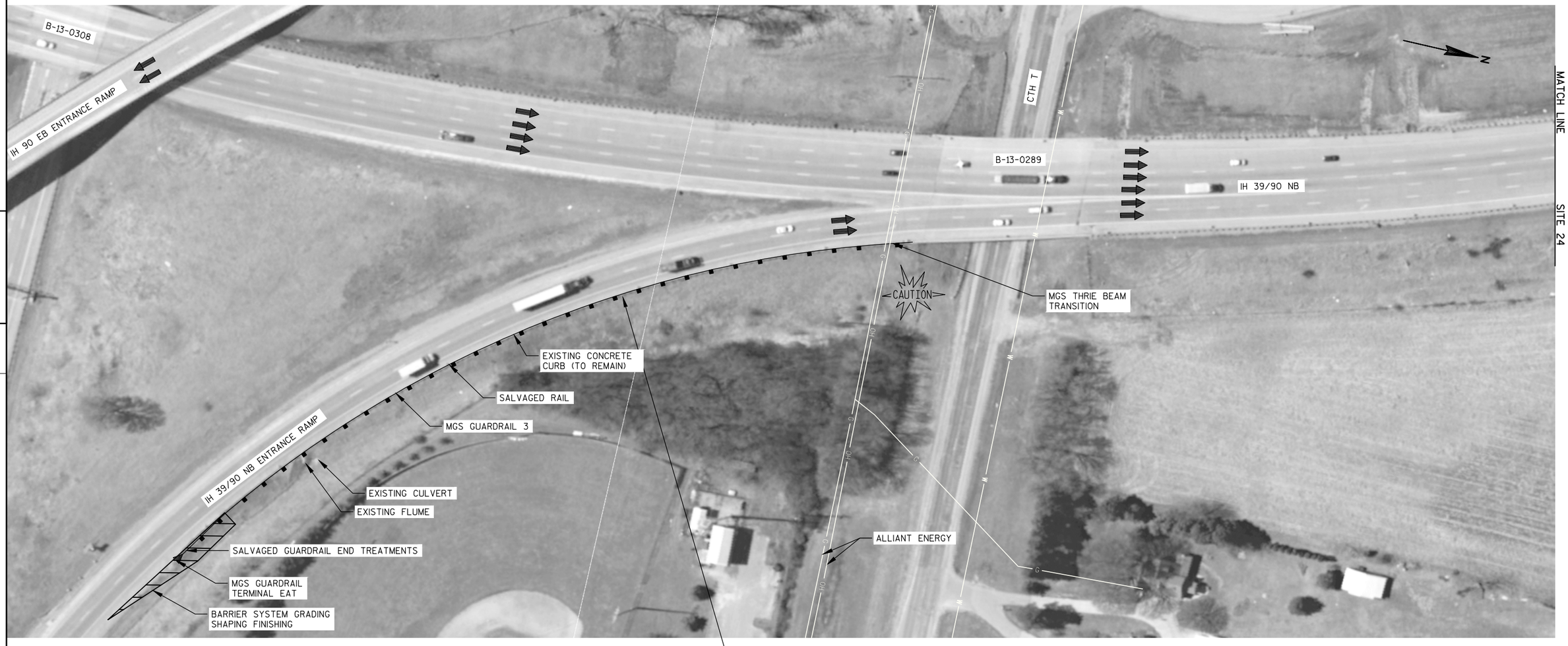

BID ITEM	SITE 24 APPROACH OUTSIDE, RT	
	(LF)	(EACH)
MGS THRIE BEAM TRANSITION	39.4	---
MGS GUARDRAIL 3	725	---
MGS GUARDRAIL TERMINAL EAT	---	1
BARRIER SYSTEM GRADING SHAPING FINISHING	---	1
SALVAGED RAIL	825	---
SALVAGED GUARDRAIL END TREATMENTS	---	1

SCALE, FEET 0 50 100

NOTES:

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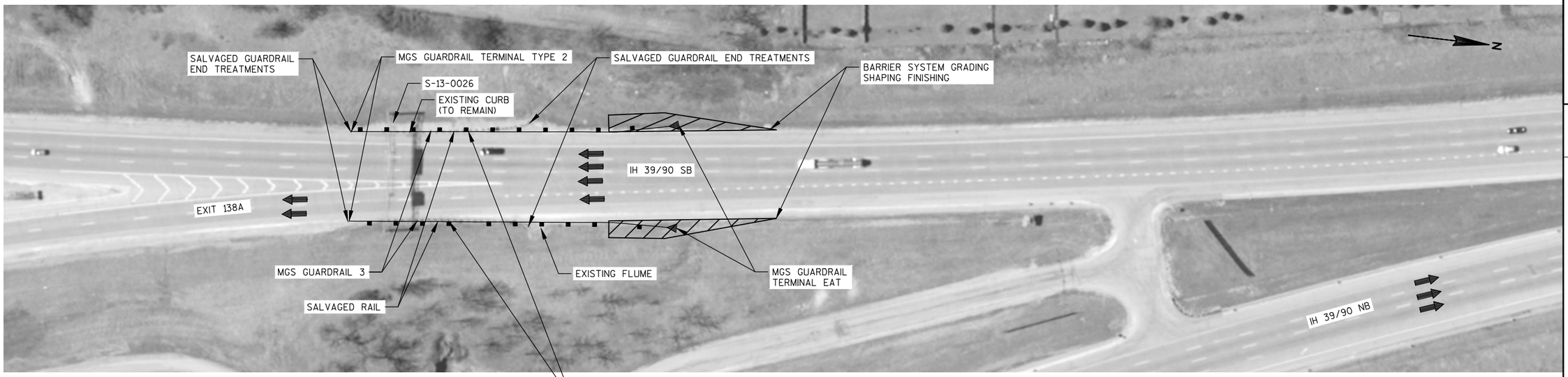

SITE 26 SB LOG MILE 137.9

BID ITEM	SITE 26			
	APPROACH MEDIAN, LT		APPROACH OUTSIDE, RT	
	(LF)	(EACH)	(LF)	(EACH)
MGS GUARDRAIL 3	225	---	225	---
MGS GUARDRAIL TERMINAL EAT	---	1	---	1
MGS GUARDRAIL TERMINAL TYPE 2	---	1	---	1
BARRIER SYSTEM GRADING SHAPING FINISHING	---	1	---	1
MGS THRIE BEAM BULLNOSE TERMINAL	---	---	---	---
SALVAGED RAIL	125	---	125	---
SALVAGED GUARDRAIL END TREATMENTS	---	2	---	2

SCALE, FEET 0 50 100

NOTES:

PERFORM THE GRADING AS SHOWN ON THE PERTINENT SDD "STEEL THRIE BEAM BULLNOSE TERMINAL" OR SDD "STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL" ALSO PERFORM GRADING REQUIRED TO MAINTAIN DRAINAGE FLOW OR SPECIAL GRADING REQUIREMENTS AS SHOWN ON THIS DRAWING.

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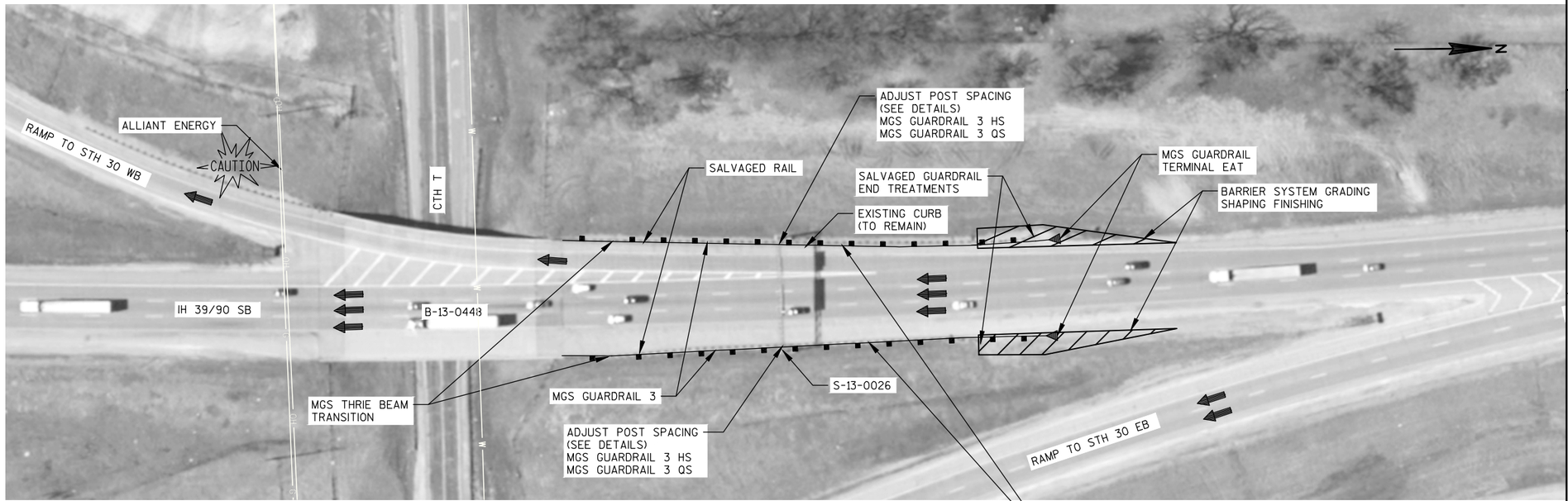

BID ITEM	SITE 27			
	APPROACH MEDIAN, LT		APPROACH OUTSIDE, RT	
	(LF)	(EACH)	(LF)	(EACH)
MGS THRIE BEAM TRANSITION	39.4	---	39.4	---
MGS GUARDRAIL 3	225	---	225	---
MGS GUARDRAIL 3 HS	50	---	50	---
MGS GUARDRAIL 3 QS	12.5	---	12.5	---
MGS GUARDRAIL TERMINAL EAT	---	1	---	1
BARRIER SYSTEM GRADING SHAPING FINISHING	---	1	---	1
SALVAGED RAIL	375	---	375	---
SALVAGED GUARDRAIL END TREATMENTS	---	1	---	1

SCALE, FEET 0 50 100

PROJECT NO: 1001-06-73	HWY: IH 39/90	COUNTY: DANE	PLAN : BEAM GUARD LOCATIONS	SHEET 27 OF 33	SHEET 47	E

NOTES:

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SITE 28 SB LOG MILE 140

SITE 29 SB LOG MILE 138.5

BID ITEM	SITE 28				SITE 29			
	APPROACH MEDIAN, LT		APPROACH OUTSIDE, RT		APPROACH MEDIAN, LT		APPROACH OUTSIDE, RT	
	(LF)	(EACH)	(LF)	(EACH)	(LF)	(EACH)	(LF)	(EACH)
MGS THRIE BEAM TRANSITION	39.4	---	39.4	---	39.4	---	39.4	---
MGS GUARDRAIL 3	287.5	---	237.5	---	237.5	---	237.5	---
MGS GUARDRAIL TERMINAL EAT	---	1	---	1	---	1	---	1
BARRIER SYSTEM GRADING SHAPING FINISHING	---	1	---	1	---	1	---	1
SALVAGED RAIL	375	---	325	---	325	---	325	---
SALVAGED GUARDRAIL END TREATMENTS	---	1	---	1	---	1	---	1

SCALE, FEET 0 50 100

PROJECT NO: 1001-06-73	HWY: IH 39/90	COUNTY: DANE	PLAN : BEAM GUARD LOCATIONS	SHEET 28 OF 33	SHEET 48	E

NOTES:

PERFORM THE GRADING AS SHOWN ON THE PERTINENT SDD "STEEL THRIE BEAM BULLNOSE TERMINAL" OR SDD "STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL" ALSO PERFORM GRADING REQUIRED TO MAINTAIN DRAINAGE FLOW OR SPECIAL GRADING REQUIREMENTS AS SHOWN ON THIS DRAWING.

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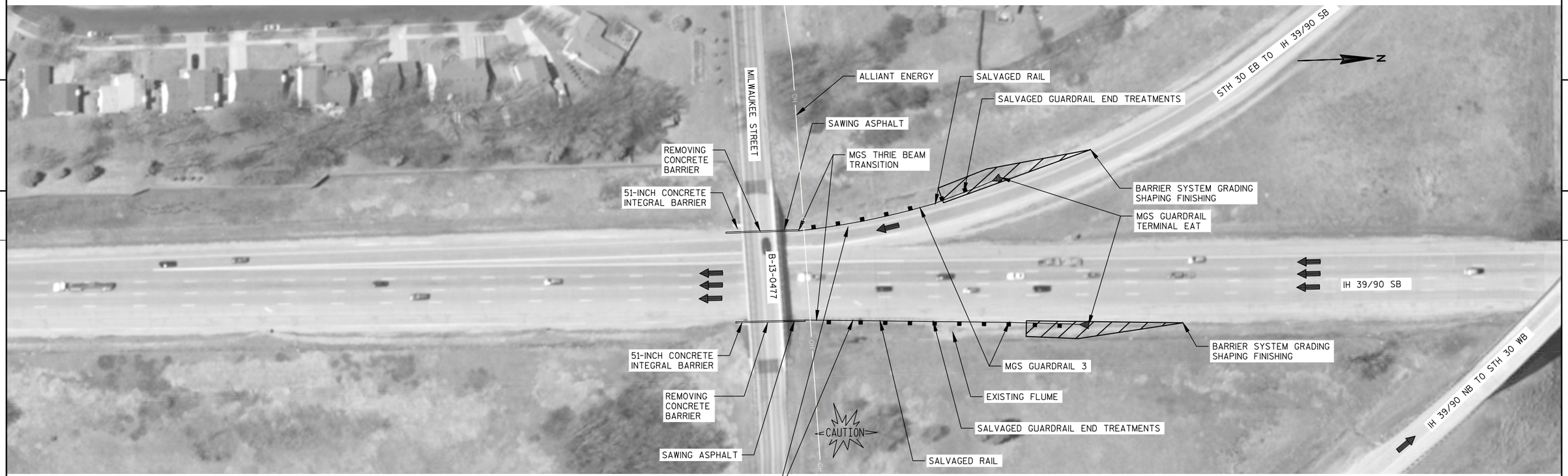

SITE 30 SB MILE LOG 138.7

BID ITEM	SITE 30			
	APPROACH MEDIAN, LT		APPROACH OUTSIDE, RT	
	(LF)	(EACH)	(LF)	(EACH)
MGS THRIE BEAM TRANSITION	39.4	---	39.4	---
MGS GUARDRAIL 3	175	---	100	---
MGS GUARDRAIL TERMINAL EAT	---	1	---	1
BARRIER SYSTEM GRADING SHAPING FINISHING	---	1	---	1
51-INCH CONCRETE INTEGRAL BARRIER	56	---	56	---
SAWING ASPHALT	55	---	55	---
SALVAGED RAIL	150	---	275	---
SALVAGED GUARDRAIL END TREATMENTS	---	1	---	1
REMOVING CONCRETE BARRIER	53	---	53	---

SCALE, FEET 0 50 100

PROJECT NO: 1001-06-73	HWY: IH 39/90	COUNTY: DANE	PLAN : BEAM GUARD LOCATIONS	SHEET 29 OF 33	SHEET 49	E

NOTES:

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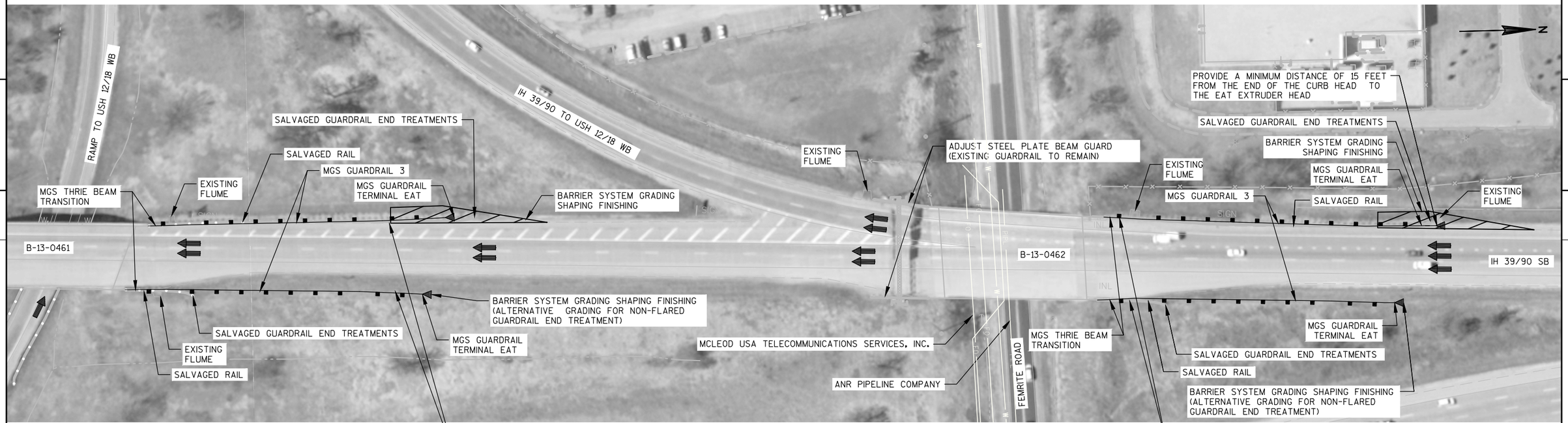


BID ITEM	SITE 34								SITE 35			
	APPROACH MEDIAN, LT		APPROACH OUTSIDE, RT		DEPARTURE MEDIAN, LT		DEPARTURE OUTSIDE, RT		APPROACH MEDIAN, LT		APPROACH OUTSIDE, RT	
	(LF)	(EACH)	(LF)	(EACH)	(LF)	(EACH)	(LF)	(EACH)	(LF)	(EACH)	(LF)	(EACH)
MGS THRIE BEAM TRANSITION	39.4	---	39.4	---	---	---	---	---	39.4	---	39.4	---
MGS GUARDRAIL 3	200	---	250	---	---	---	---	---	200	---	200	---
MGS GUARDRAIL TERMINAL EAT	---	1	---	1	---	---	---	---	---	1	---	1
BARRIER SYSTEM GRADING SHAPING FINISHING	---	1	---	1	---	---	---	---	---	1	---	1
SALVAGED RAIL	---	---	325	---	---	---	---	---	75	---	325	---
SALVAGED GUARDRAIL END TREATMENTS	---	1	---	1	---	---	---	---	---	1	---	1
ADJUSTING STEEL PLATE BEAM GUARD	---	---	---	---	75	---	75	---	---	---	---	---

SCALE, FEET 0 50 100

PROJECT NO: 1001-06-73	HWY: IH 39/90	COUNTY: DANE	PLAN : BEAM GUARD LOCATIONS	SHEET 30 OF 33	SHEET 50	E

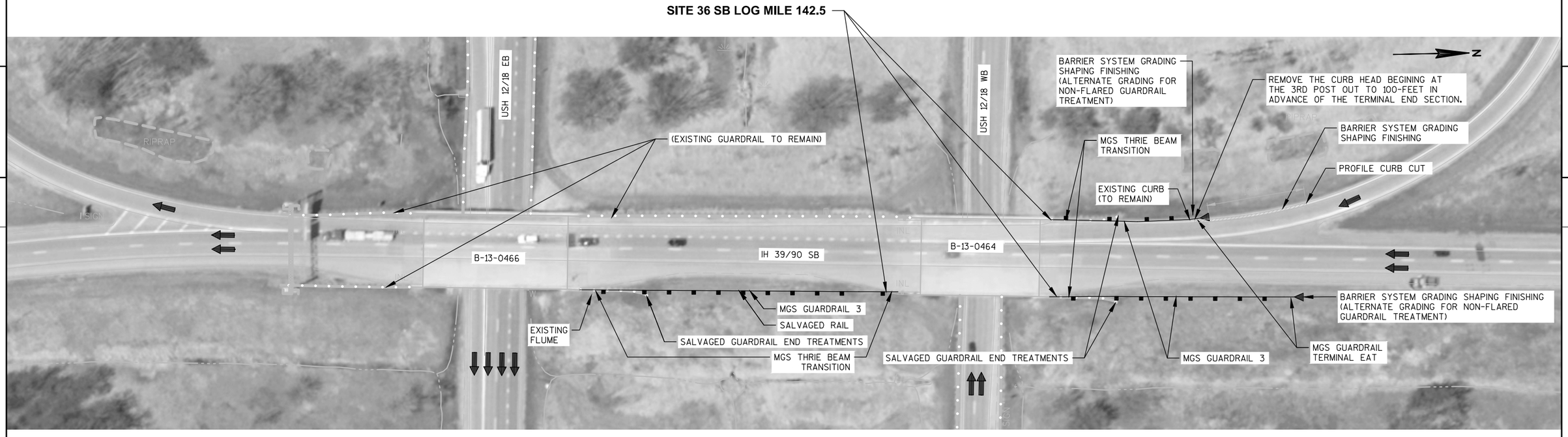
NOTES:

PERFORM THE GRADING AS SHOWN ON THE PERTINENT SDD "STEEL THRIE BEAM BULLNOSE TERMINAL" OR SDD "STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL" ALSO PERFORM GRADING REQUIRED TO MAINTAIN DRAINAGE FLOW OR SPECIAL GRADING REQUIREMENTS AS SHOWN ON THIS DRAWING.

DETAILS OF STEEL THRIE BEAM BULLNOSE TERMINAL OR STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL NOT SHOWN ON THIS DRAWING SHALL CONFORM TO PERTINENT REQUIREMENTS IN SDD "STEEL THRIE BEAM BULLNOSE TERMINAL" OR SDD "STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL"

EXISTING ASPHALTIC CURB LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY. REMOVE DAMAGED ASPHALTIC CURB AND REPLACE TO THE LIMITS AS DIRECTED BY THE ENGINEER.

EXISTING LOCATIONS OF FLUMES ARE APPROXIMATE CONTRACTOR SHALL FIELD VERIFY. EXISTING FLUMES MAY REQUIRE RELOCATION TO AVOID BEAM GUARD POST SPACING. ALTERNATIVE POST SPACING MAY BE USED IF APPROVED BY THE ENGINEER.



BID ITEM	SITE 36					
	APPROACH MEDIAN, LT		APPROACH OUTSIDE, RT		BETWEEN BR. MEDIAN, LT	
	(LF)	(EACH)	(LF)	(EACH)	(LF)	(EACH)
MGS THRIE BEAM TRANSITION	39.4	---	39.4	---	78.8	---
MGS GUARDRAIL 3	200	---	50	---	243	---
MGS GUARDRAIL TERMINAL EAT	---	1	---	1	---	---
BARRIER SYSTEM GRADING SHAPING FINISHING	---	1	---	2	---	---
SALVAGED RAIL	70	---	70	---	75	---
SALVAGED GUARDRAIL END TREATMENTS	---	1	---	1	---	1
PROFILE CURB CUT	---	---	115	---	---	---

SCALE, FEET 0 50 100

PROJECT NO: 1001-06-73	HWY: IH 39/90	COUNTY: DANE	PLAN : BEAM GUARD LOCATIONS	SHEET 31 OF 33	SHEET 51	E

NOTES:

PERFORM THE GRADING AS SHOWN ON THE PERTINENT SDD "STEEL THRIE BEAM BULLNOSE TERMINAL" OR SDD "STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL" ALSO PERFORM GRADING REQUIRED TO MAINTAIN DRAINAGE FLOW OR SPECIAL GRADING REQUIREMENTS AS SHOWN ON THIS DRAWING.

DETAILS OF STEEL THRIE BEAM BULLNOSE TERMINAL OR STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL NOT SHOWN ON THIS DRAWING SHALL CONFORM TO PERTINENT REQUIREMENTS IN SDD "STEEL THRIE BEAM BULLNOSE TERMINAL" OR SDD "STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL"

EXISTING ASPHALTIC CURB LOCATIONS ARE APPROXIMATE, CONTRACTOR SHALL FIELD VERIFY. REMOVE DAMAGED ASPHALTIC CURB AND REPLACE TO THE LIMITS AS DIRECTED BY THE ENGINEER.

EXISTING LOCATIONS OF FLUMES ARE APPROXIMATE CONTRACTOR SHALL FIELD VERIFY, EXISTING FLUMES MAY REQUIRE RELOCATION TO AVOID BEAM GUARD POST SPACING. ALTERNATIVE POST SPACING MAY BE USED IF APPROVED BY THE ENGINEER.

BID ITEM	SITE 43			
	APPROACH OUTSIDE, RT		APPROACH MEDIAN, LT	
	(LF)	(EACH)	(LF)	(EACH)
ADJUSTING STEEL PLATE BEAM GUARD	3,950	---	---	---
STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL	---	1	---	---
MGS GUARDRAIL TERMINAL EAT	---	---	---	1
BARRIER SYSTEM GRADING SHAPING FINISHING	---	1	---	1
SALVAGED RAIL	50	---	225	---
SALVAGED GUARDRAIL END TREATMENTS	---	---	---	1
REMOVING BURIED BEAM GUARD TERMINALS	---	1	---	---
MGS GUARDRAIL 3	---	---	175	---
MGS GUARDRAIL TERMINAL TYPE 2	---	---	---	1

SCALE, FEET 0 50 100

PROJECT NO: 1001-06-73	HWY: IH 39/90	COUNTY: DANE	PLAN : BEAM GUARD LOCATIONS	SHEET 32 OF 33	SHEET 52	E

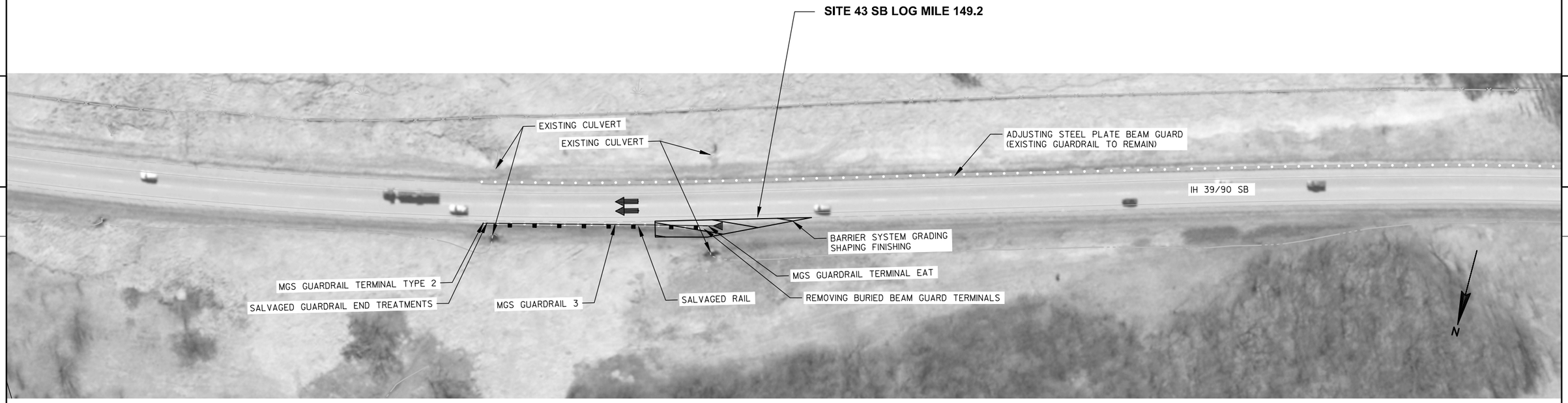
NOTES:

PERFORM THE GRADING AS SHOWN ON THE PERTINENT SDD "STEEL THRIE BEAM BULLNOSE TERMINAL" OR SDD "STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL" ALSO PERFORM GRADING REQUIRED TO MAINTAIN DRAINAGE FLOW OR SPECIAL GRADING REQUIREMENTS AS SHOWN ON THIS DRAWING.

DETAILS OF STEEL THRIE BEAM BULLNOSE TERMINAL OR STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL NOT SHOWN ON THIS DRAWING SHALL CONFORM TO PERTINENT REQUIREMENTS IN SDD "STEEL THRIE BEAM BULLNOSE TERMINAL" OR SDD "STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL"

EXISTING ASPHALTIC CURB LOCATIONS ARE APPROXIMATE, CONTRACTOR SHALL FIELD VERIFY. REMOVE DAMAGED ASPHALTIC CURB AND REPLACE TO THE LIMITS AS DIRECTED BY THE ENGINEER.

EXISTING LOCATIONS OF FLUMES ARE APPROXIMATE CONTRACTOR SHALL FIELD VERIFY, EXISTING FLUMES MAY REQUIRE RELOCATION TO AVOID BEAM GUARD POST SPACING. ALTERNATIVE POST SPACING MAY BE USED IF APPROVED BY THE ENGINEER.



BID ITEM	SITE 43			
	APPROACH OUTSIDE, RT		APPROACH MEDIAN, LT	
	(LF)	(EACH)	(LF)	(EACH)
ADJUSTING STEEL PLATE BEAM GUARD	3,950	---	---	---
STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL	---	1	---	---
MGS GUARDRAIL TERMINAL EAT	---	---	---	1
BARRIER SYSTEM GRADING SHAPING FINISHING	---	1	---	1
SALVAGED RAIL	50	---	225	---
SALVAGED GUARDRAIL END TREATMENTS	---	---	---	1
REMOVING BURIED BEAM GUARD TERMINALS	---	1	---	---
MGS GUARDRAIL 3	---	---	175	---
MGS GUARDRAIL TERMINAL TYPE 2	---	---	---	1

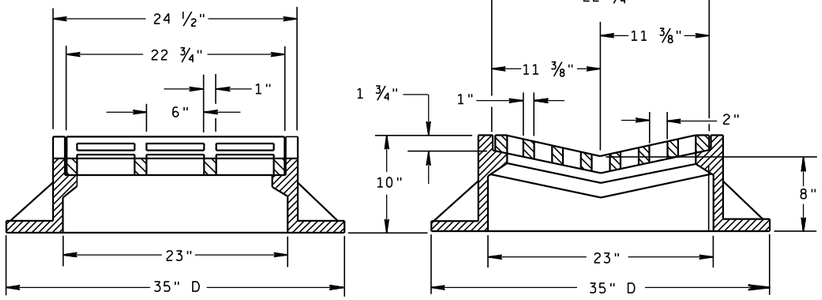
SCALE, FEET 0 50 100

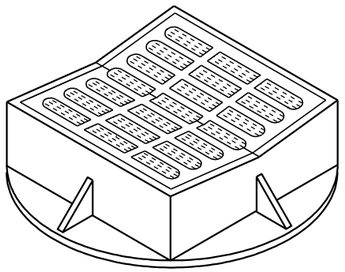
PROJECT NO: 1001-06-73	HWY: IH 39/90	COUNTY: DANE	PLAN : BEAM GUARD LOCATIONS	SHEET 33 OF 33	SHEET 53	E

Standard Detail Drawing List

08A05-18B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08C08-01	INLETS MEDIAN 1 AND 2 GRATE
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
14B07-13A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B15-07A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-07B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-07C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B18-06A	STEEL PLATE BEAM GUARD, CLASS "A" (AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS)
14B18-06B	STEEL PLATE BEAM GUARD, CLASS "A" AT MEDIAN APPROACH TO BRIDGES
14B20-11A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-11D	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS
14B20-11G	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTOR PLATE DETAIL
14B20-11H	STEEL THRIE BEAM STRUCTURE APPROACH, SINGLE SLOPE ATTACHMENT
14B22-05A	CONCRETE BARRIER, SINGLE-FACED (WITH ANCHORAGE)
14B22-05B	CONCRETE BARRIER, SINGLE-FACED (WITH ANCHORAGE)
14B24-07A	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-07B	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-07C	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B26-02A	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-02B	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-02C	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-02D	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-02E	STEEL THRIE BEAM BULLNOSE TERMINAL
14B42-02A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B43-02B	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
14B43-02C	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
14B44-01A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-03A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B47-01A	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-01B	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-01C	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
15A02-07	DELINEATOR POST, DELINEATOR BRACKET AND DELINEATOR
15D12-02	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H.
15D27-01	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

6

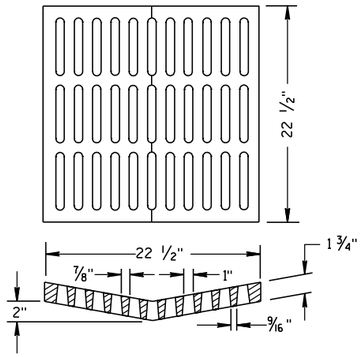




TYPE "B"

(APPROXIMATE WEIGHT 405 LBS.)

FRAME..... 294 LBS.
GRATE..... 111 LBS.

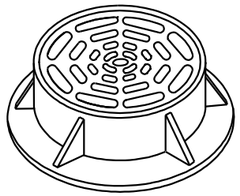


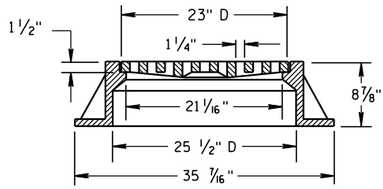
ALTERNATIVE GRATE FOR TYPE "B" COVER

(APPROXIMATE GRATE WEIGHT 134 LBS.)

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.

NOTED AS TYPE B-A ON THE DRAINAGE TABLE





TYPE "C"

(APPROXIMATE WEIGHT 259 LBS.)

FRAME..... 152 LBS.
GRATE..... 107 LBS.

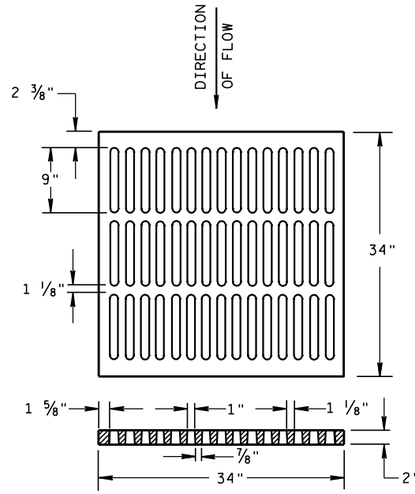
GENERAL NOTES

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 CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

THE ACTUAL WEIGHT OF COVERS MAY VARY WITHIN 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.

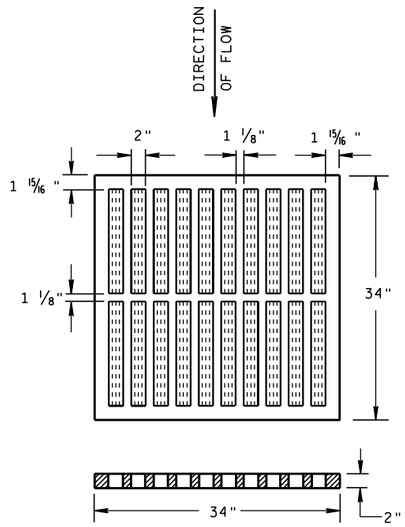


ALTERNATIVE TYPE "MS"

(APPROXIMATE GRATE WEIGHT 329 LBS.)

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED

NOTED AS TYPE MS-A ON THE DRAINAGE TABLE

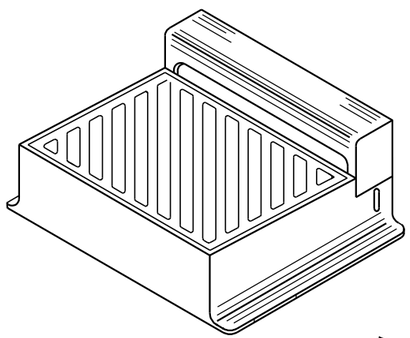


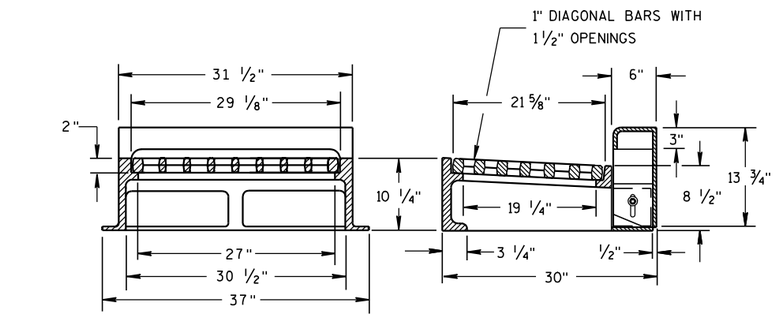
TYPE "MS"

(APPROXIMATE GRATE WEIGHT 268 LBS.)

USE ON FREEWAYS AND EXPRESSWAYS

NOTED AS TYPE MS ON DRAINAGE TABLE





NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

DIRECTION OF FLOW

DIAGONAL SLOTS, SHALL BE ORIENTED TO THE DIRECTION OF FLOW AS ILLUSTRATED. GRATES ARE MANUFACTURED TO BE REVERSIBLE.

TYPE "WM"

(APPROXIMATE WEIGHT 648 LBS.)

FRAME..... 355 LBS.
GRATE..... 156 LBS.
CURB BOX..... 137 LBS.

INLET COVERS
TYPE B, B-A, C, MS, MS-A, & WM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/5/2012 — DATE

/S/ Jerry H. [illegible] — ROADWAY STANDARDS ENGINEER

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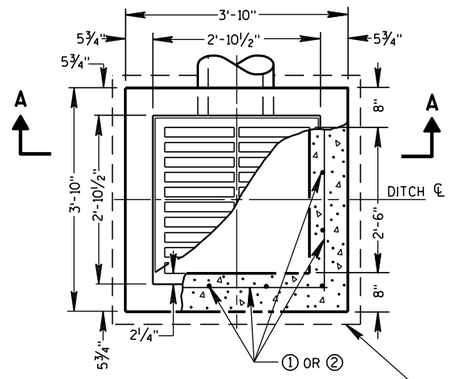
FHWA

6

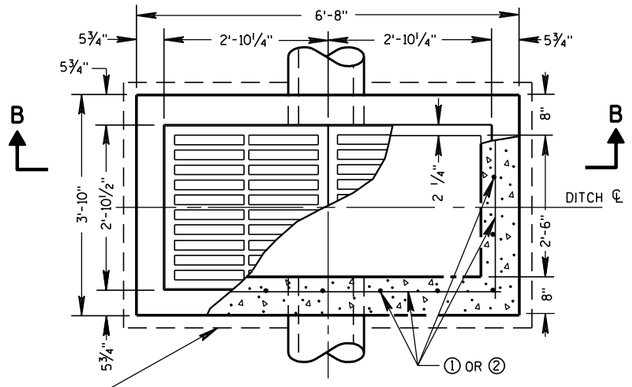
S.D.D. 8 A 5-18b

6

S.D.D. 8 A 5-18b

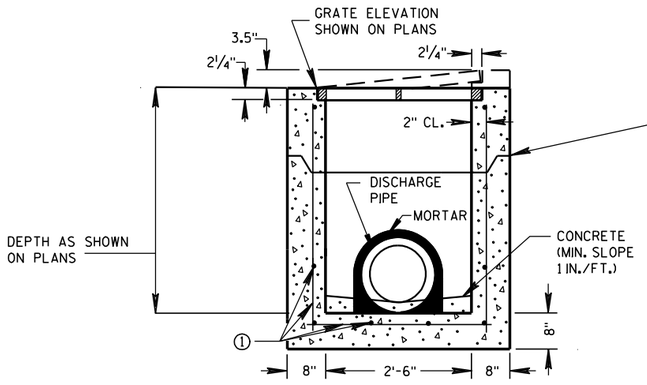


PLAN VIEW

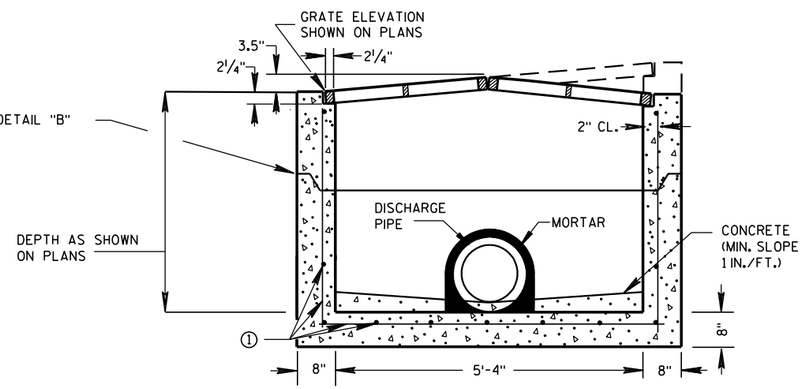


PLAN VIEW

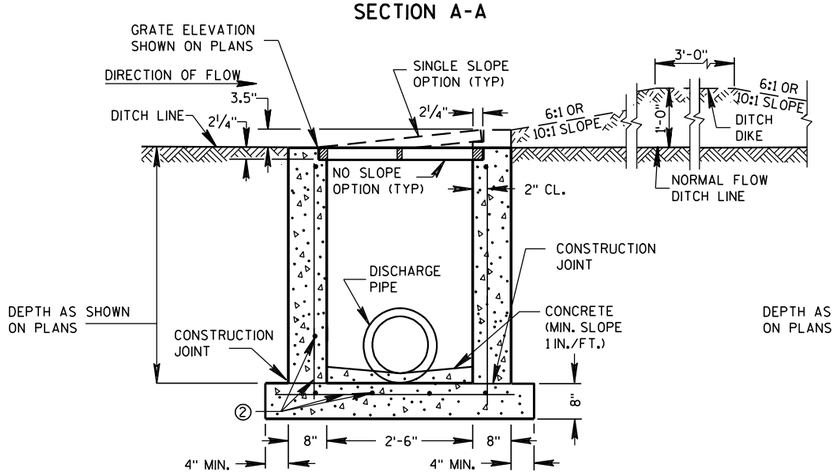
4" OVERHANGING BASE ON REINFORCED CAST-IN-PLACE CONCRETE INLETS



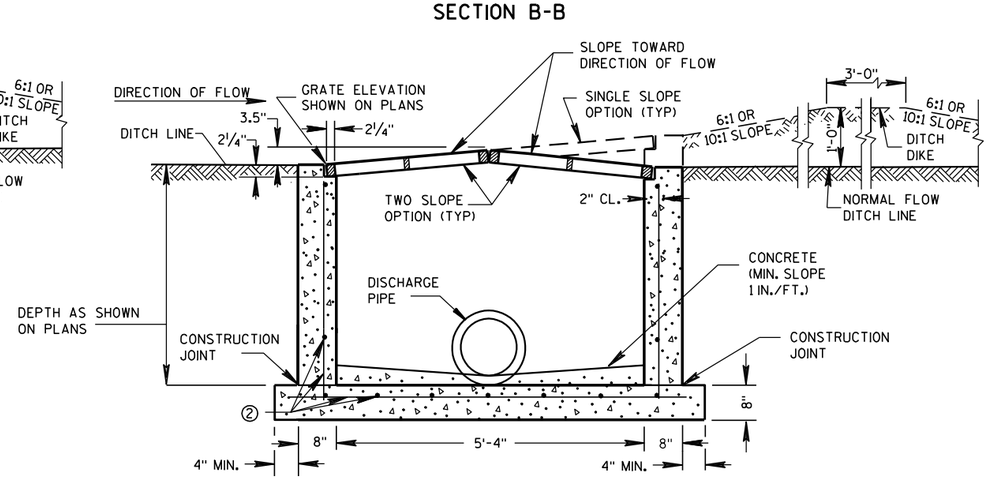
PRECAST REINFORCED CONCRETE SECTION A-A



PRECAST REINFORCED CONCRETE SECTION B-B



REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A



REINFORCED CAST-IN-PLACE CONCRETE SECTION B-B

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 INLETS WHICH MAY INCLUDE PRECAST REINFORCED CONCRETE INLETS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, 1G-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

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.

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

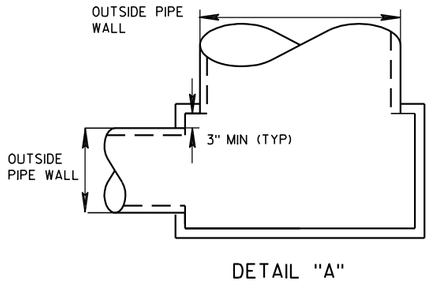
MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

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.

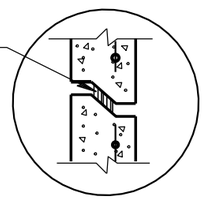
PIPE MATRIX

	MAXIMUM INSIDE PIPE DIAMETER	
INLET SIZE	WIDTH (IN)	LENGTH (IN)
1 GRATE	18	18
2 GRATE	18	42



DETAIL "A"

JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



DETAIL "B"

INLETS MEDIAN 1 GRATE

INLETS MEDIAN 2 GRATE

INLETS MEDIAN 1 AND 2 GRATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

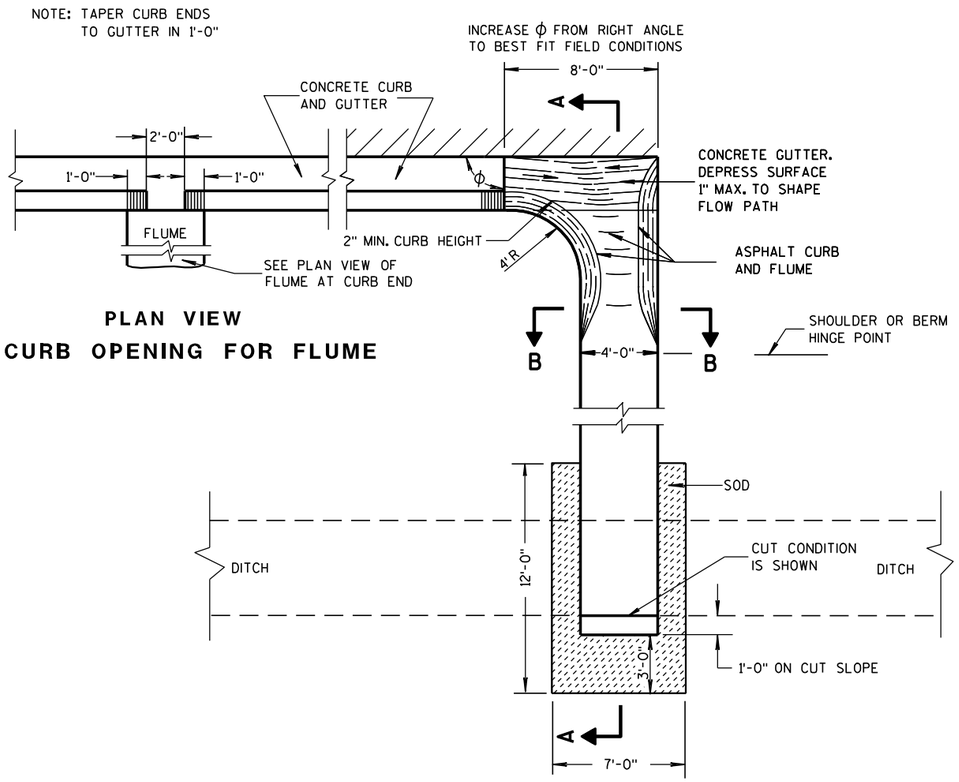
6/5/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

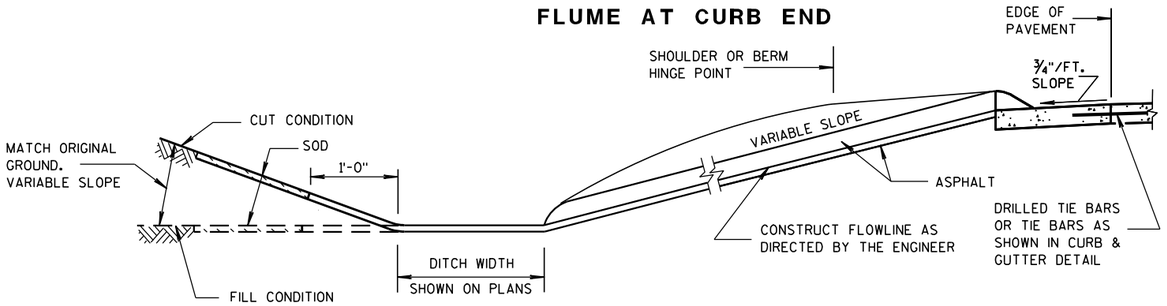
6
S.D.D. 8 C 8-1

ASPHALTIC FLUME

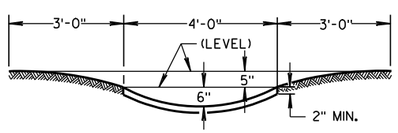


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

GENERAL NOTES

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

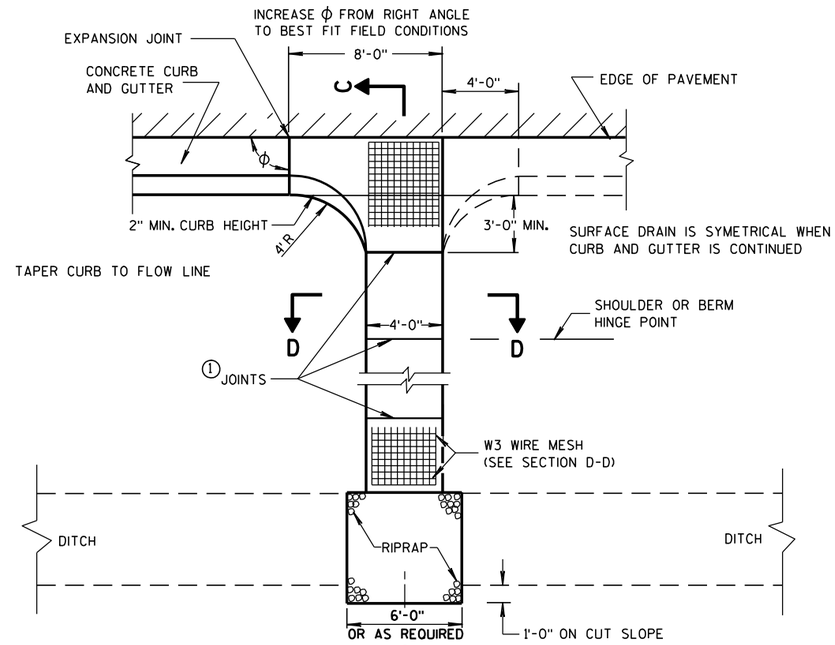
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

① JOINTS SHALL BE $\frac{1}{8}$ TO $\frac{1}{4}$ INCH WIDE BY $1\frac{1}{2}$ INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.

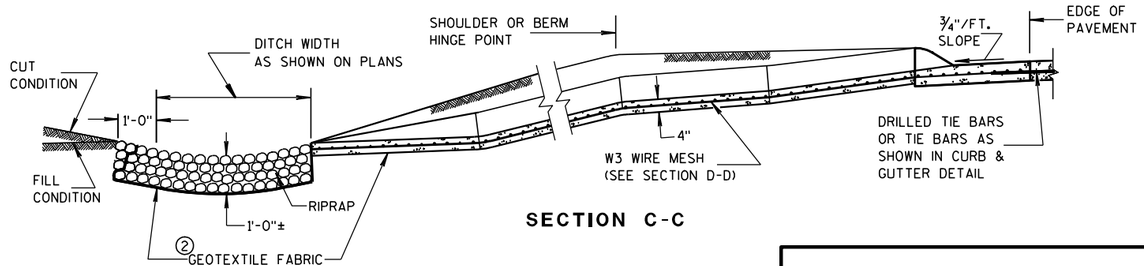
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

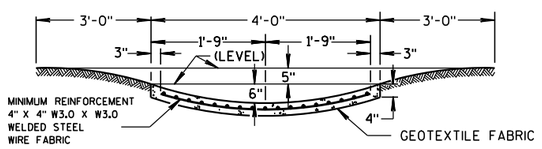
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9-4-08 DATE — /S/ Jerry H. ... ROADWAY STANDARDS ENGINEER — MENT

FHWA

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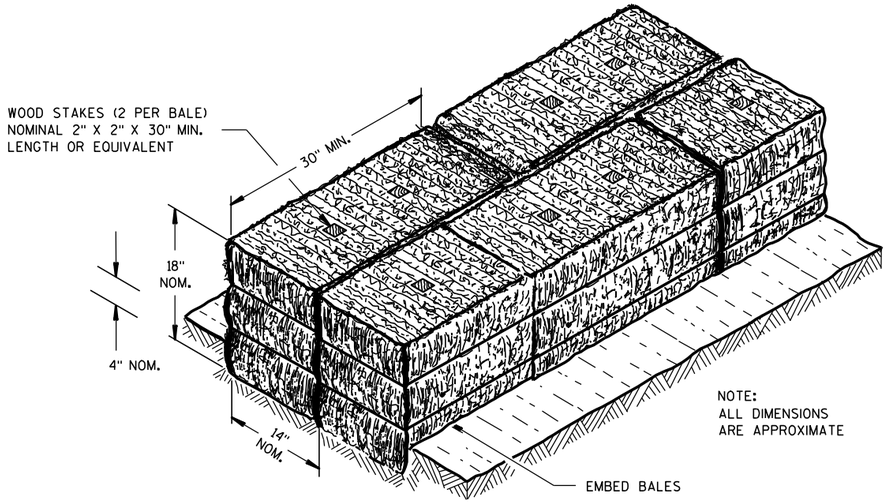
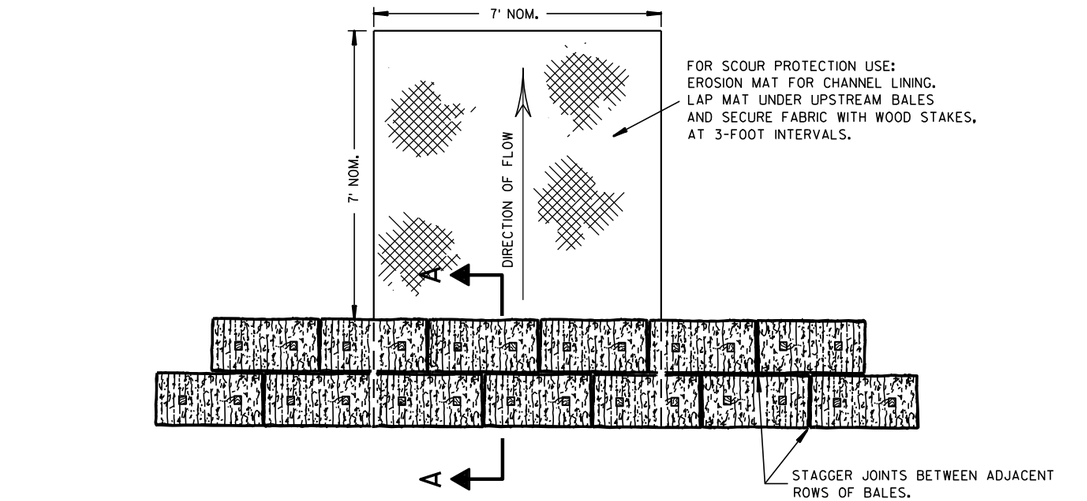
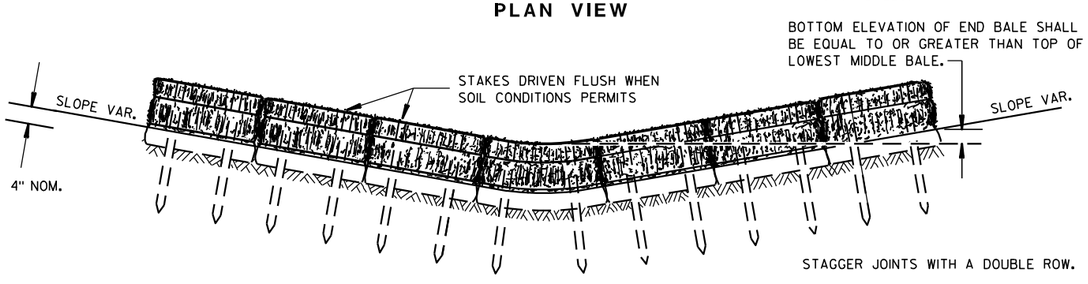


SECTION A-A



PLAN VIEW



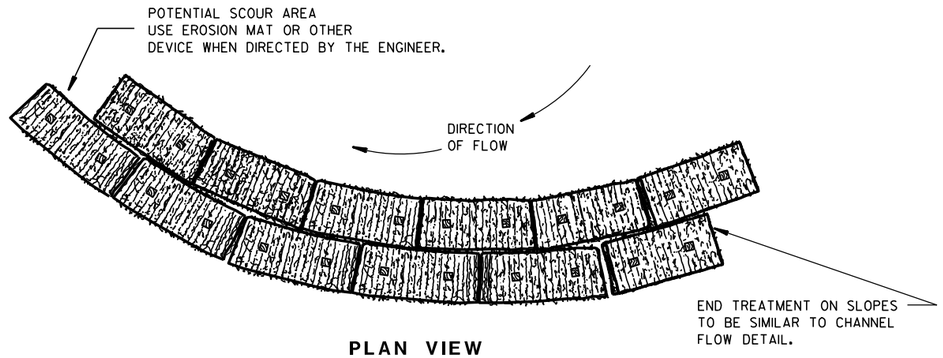
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

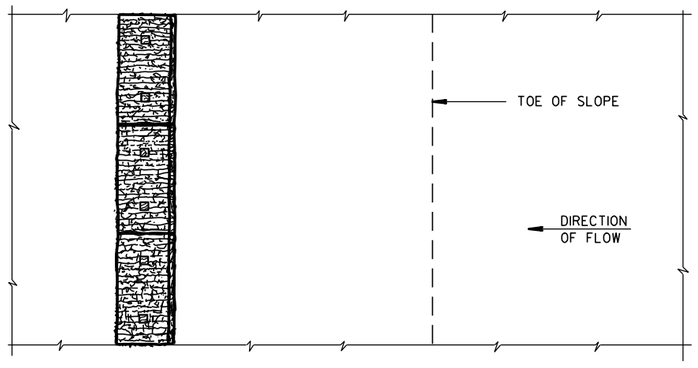
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(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.

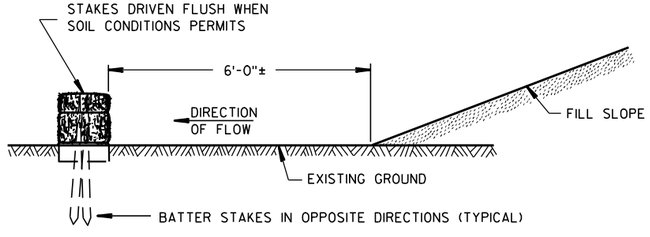


PLAN VIEW

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

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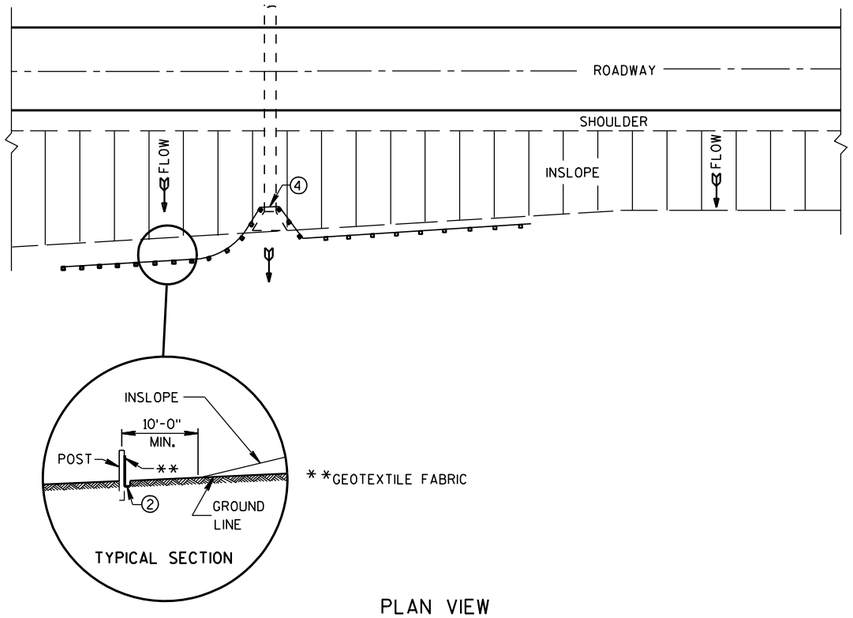
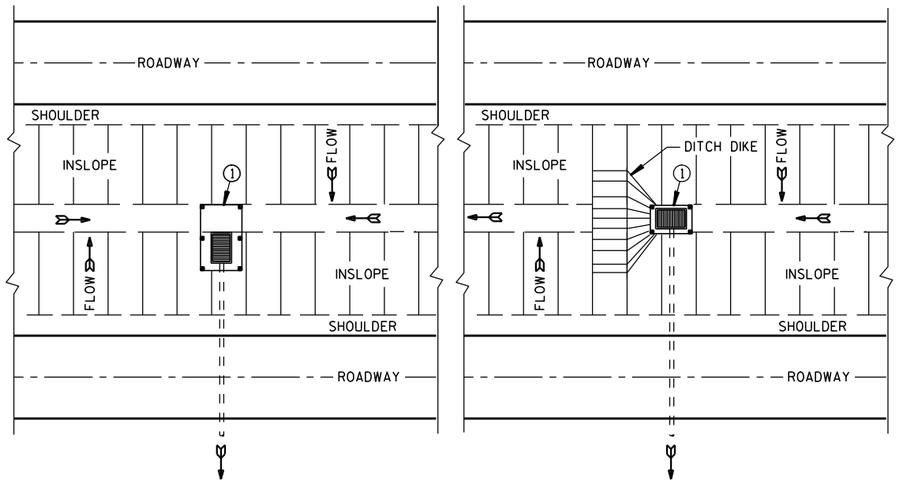


PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



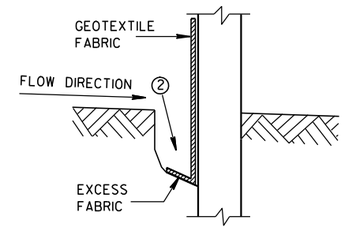
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

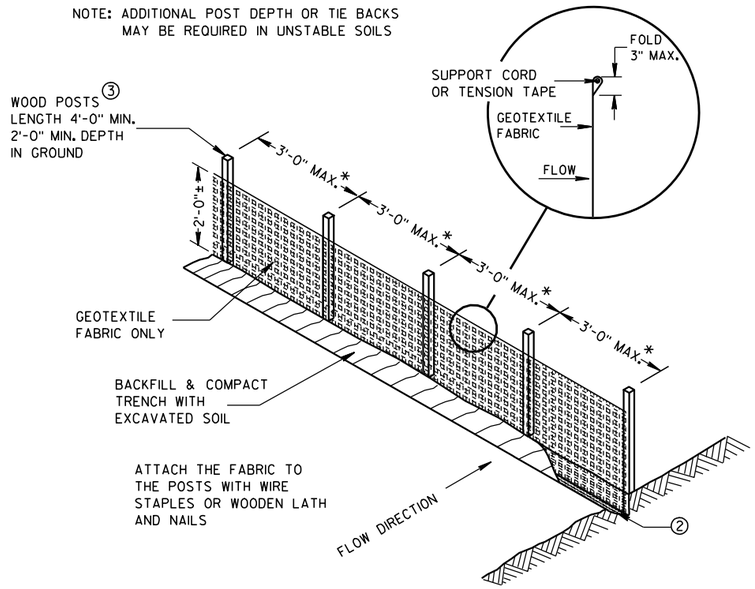
GENERAL NOTES

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

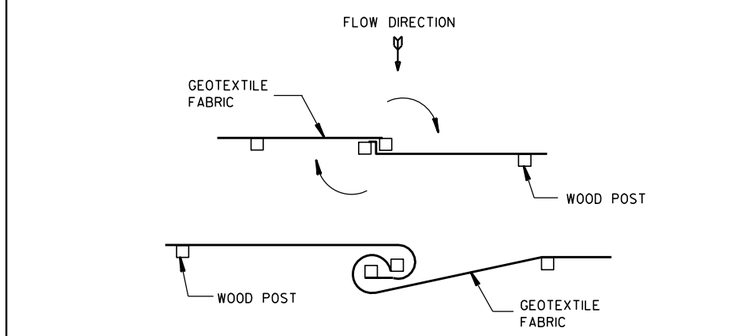
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



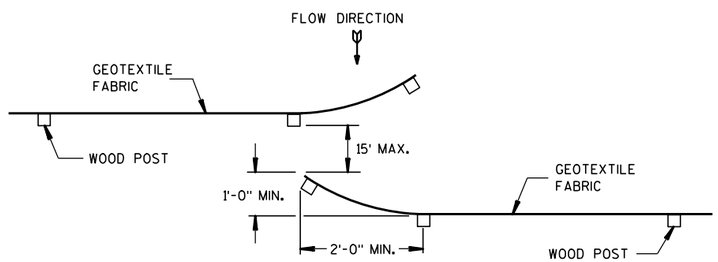
TRENCH DETAIL



SILT FENCE

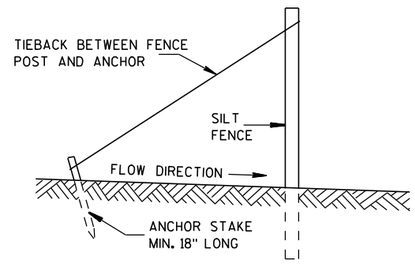


TWIST METHOD



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

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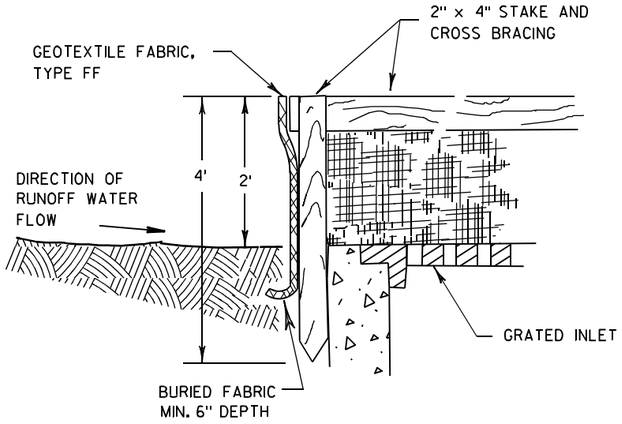
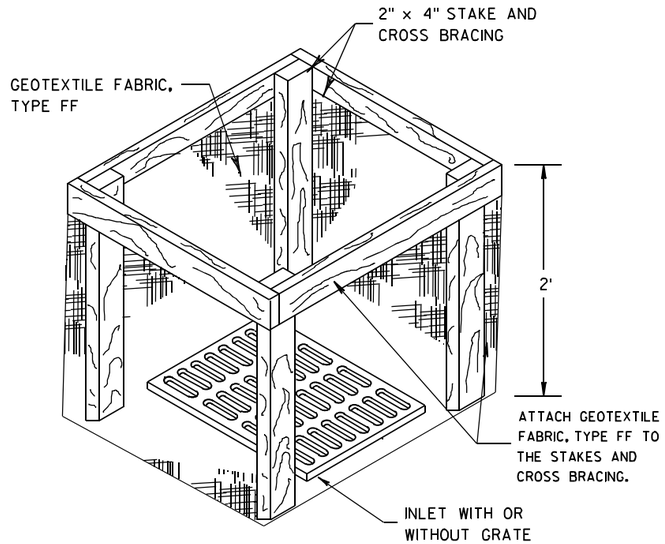
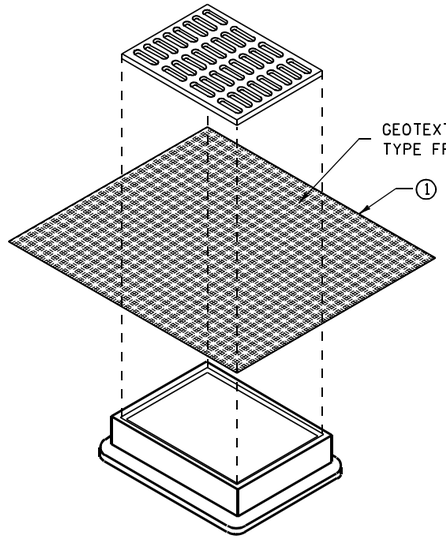


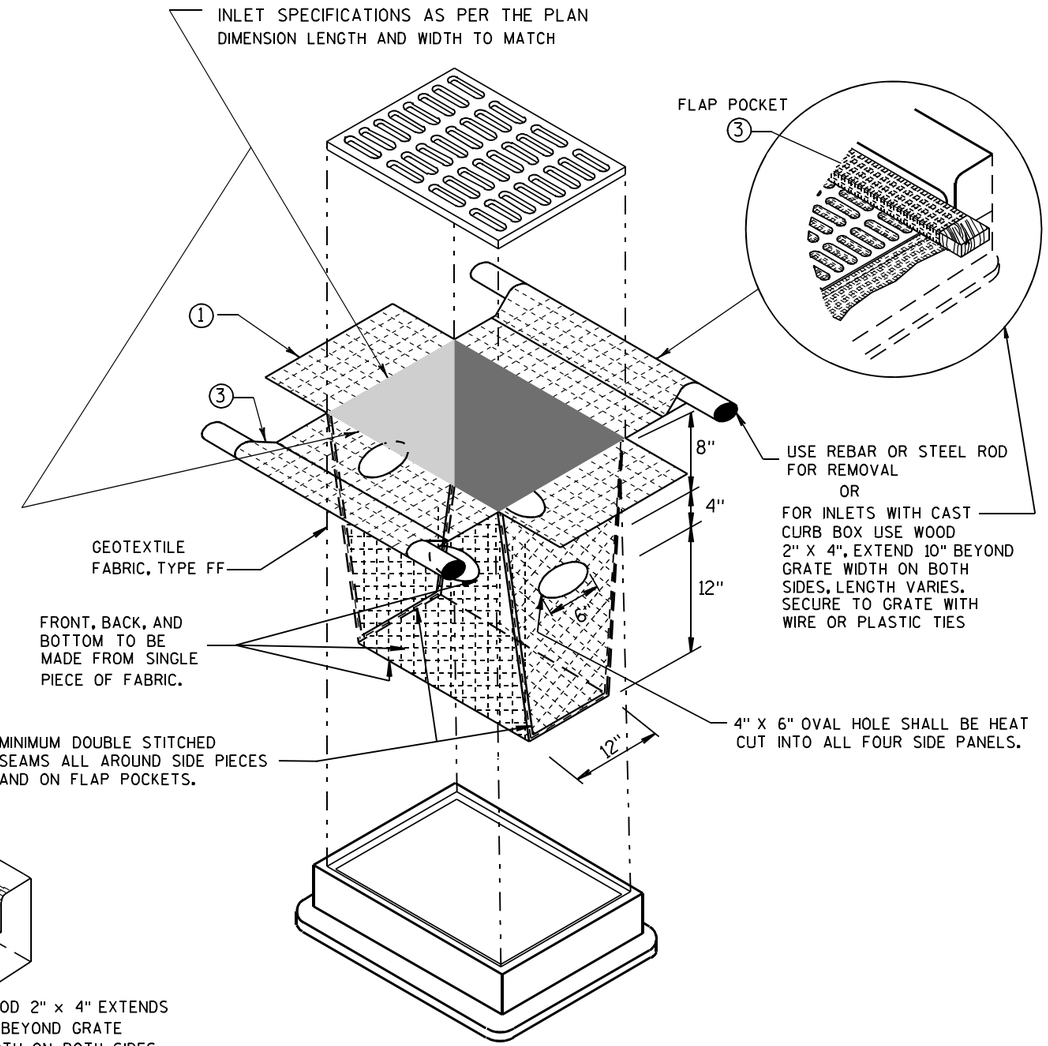


INLET PROTECTION, TYPE A



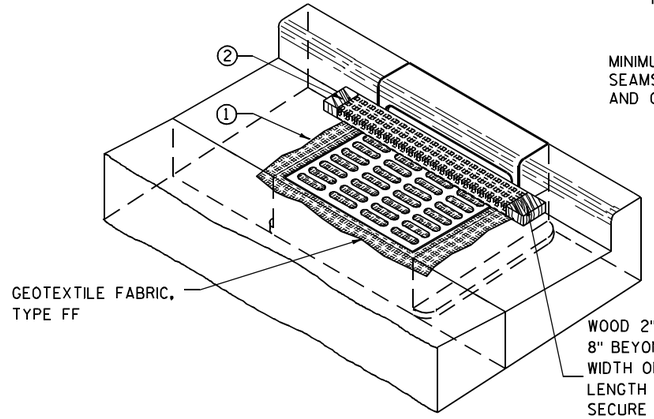
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

(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

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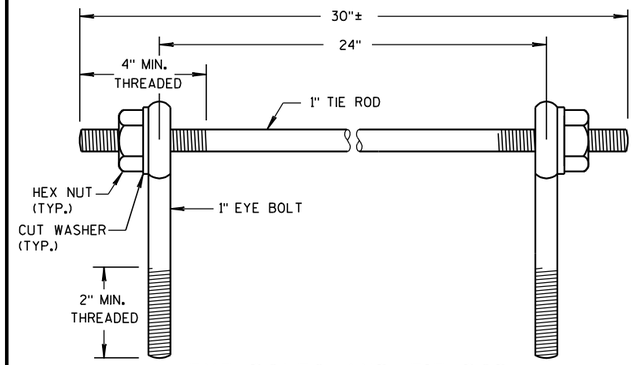
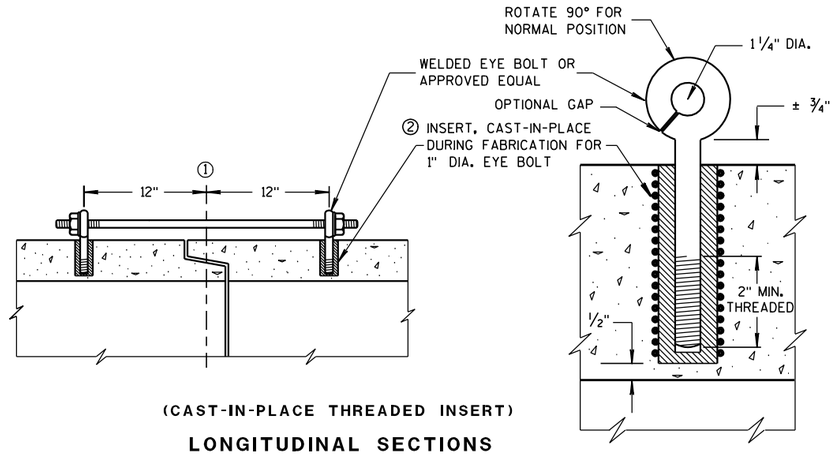


EYE BOLTS AND TIE ROD



(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.

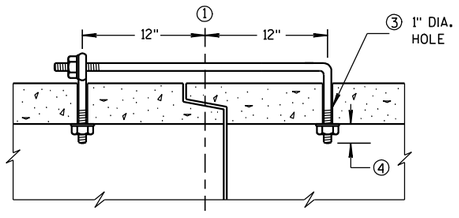
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

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

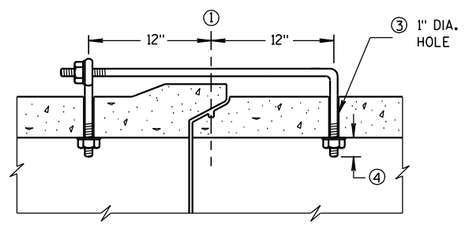
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

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)

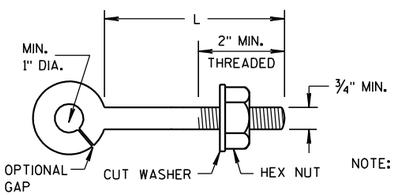


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

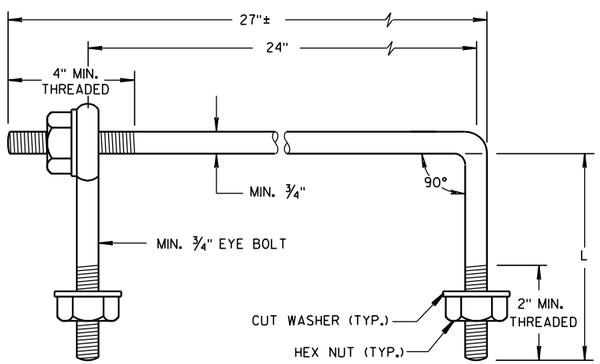
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



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

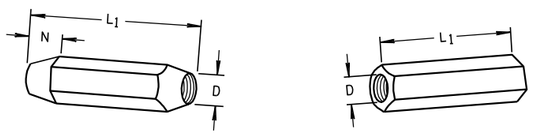
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

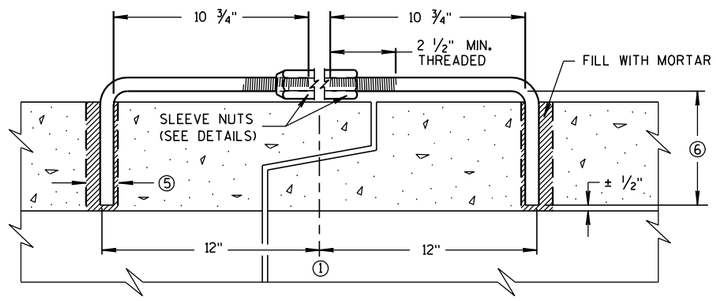
DIMENSIONS SHOWN ARE IN INCHES



TAPERED PLAIN

RIGHT AND LEFT THREADS

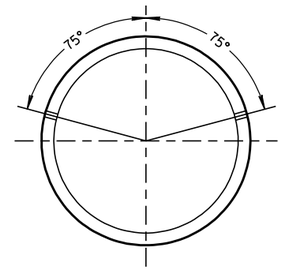
SLEEVE NUTS



LONGITUDINAL SECTION

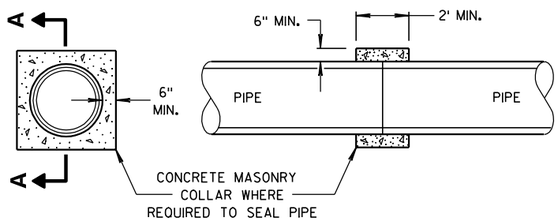
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

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
FHWA

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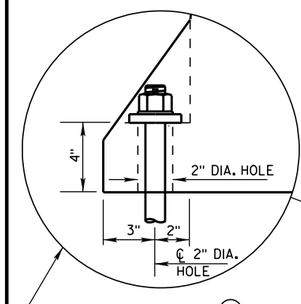
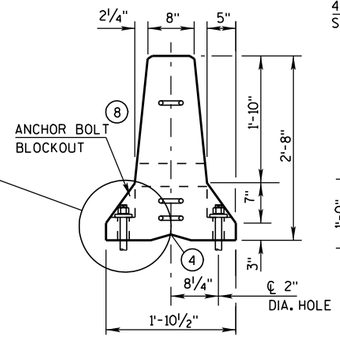
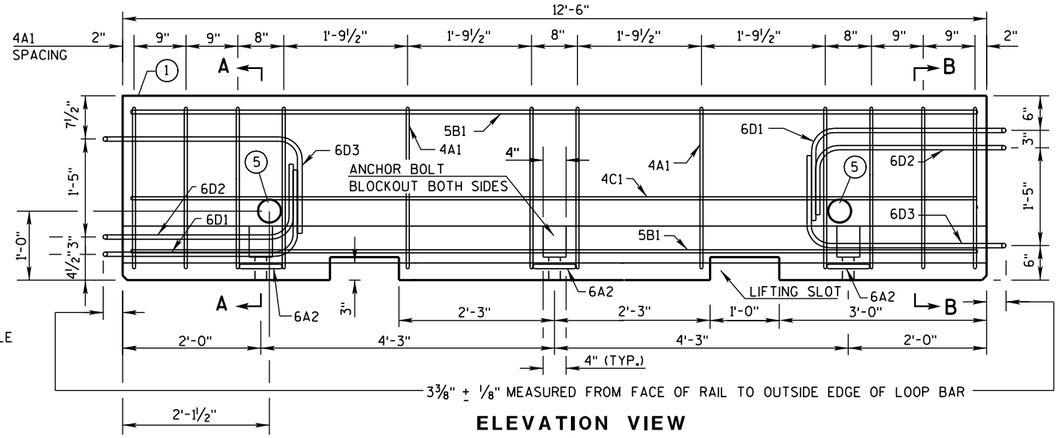


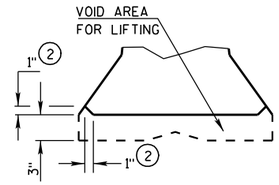
ANCHOR ON TRAFFIC SIDE (8) ONLY WHEN REQUIRED (SEE SHEET D FOR ADDITIONAL ANCHOR DETAIL)



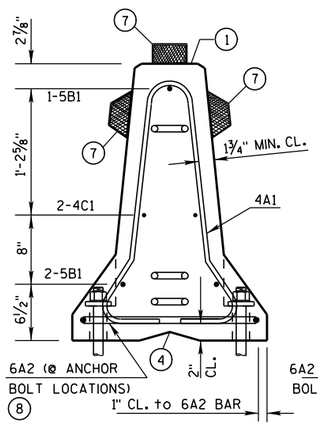
END VIEW



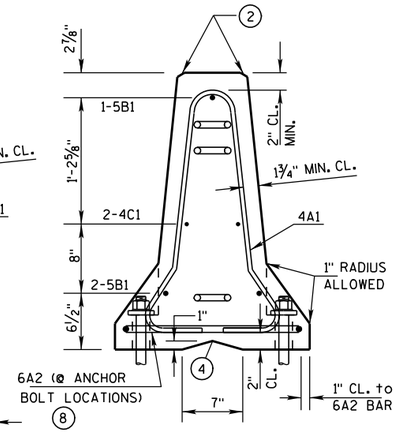
ELEVATION VIEW



DETAIL "B" LIFTING SLOT DETAIL



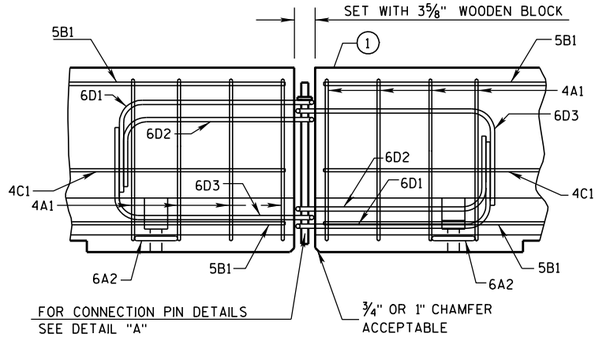
SECTION A-A
(STIRRUP PLACEMENT)



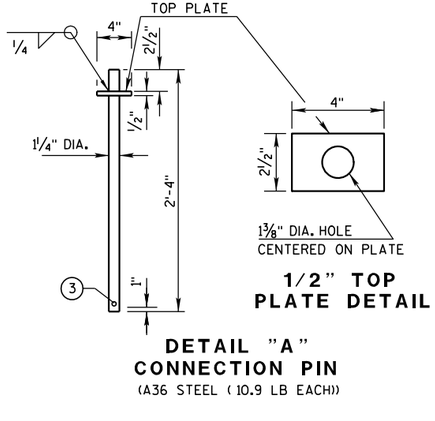
SECTION B-B
(STIRRUP PLACEMENT)

PLAN VIEW

DETAILS OF BARRIER SECTION

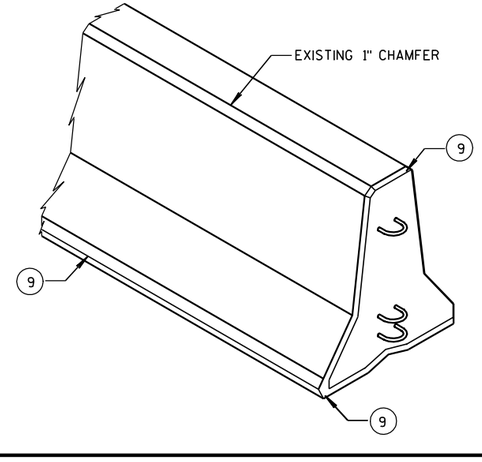


DETAILS OF BARRIER CONNECTION



1/2" TOP PLATE DETAIL

DETAIL "A" CONNECTION PIN
(A36 STEEL (10.9 LB EACH))



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-13(a) THRU 14B7-13(h).

DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRCAST, 12'-6" (CBTP12.5) WITH OTHER TEMPORARY CONCRETE BARRIERS.

USE ASTM A-615, GRADE 60, DEFORMED STEEL BARS FOR BARS 4A1, 6A2, 5B1 AND 4C1 IN THE BARRIER SECTION AND FOR 4V1, 4V2, 4V3, 4V4, 4V5, 4V6, 4F1, 4F2 AND 5F3 IN THE BARRIER TAPER SECTION.

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE ¾" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-½" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN ⅛" OF THE PLAN DIMENSION.

CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

INSTALL MECHANICAL OR EPOXY ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

(1) MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
- a. TYPE: WICBTP
- b. MANUFACTURER
- c. DATE MANUFACTURED (MONTH AND YEAR)

(2) 1" CHAMFER TO PREVENT SPALLING.

(3) A ⅜" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..

(4) "V" NOTCH IS OPTIONAL.

(5) THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).

(6) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

(7) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.

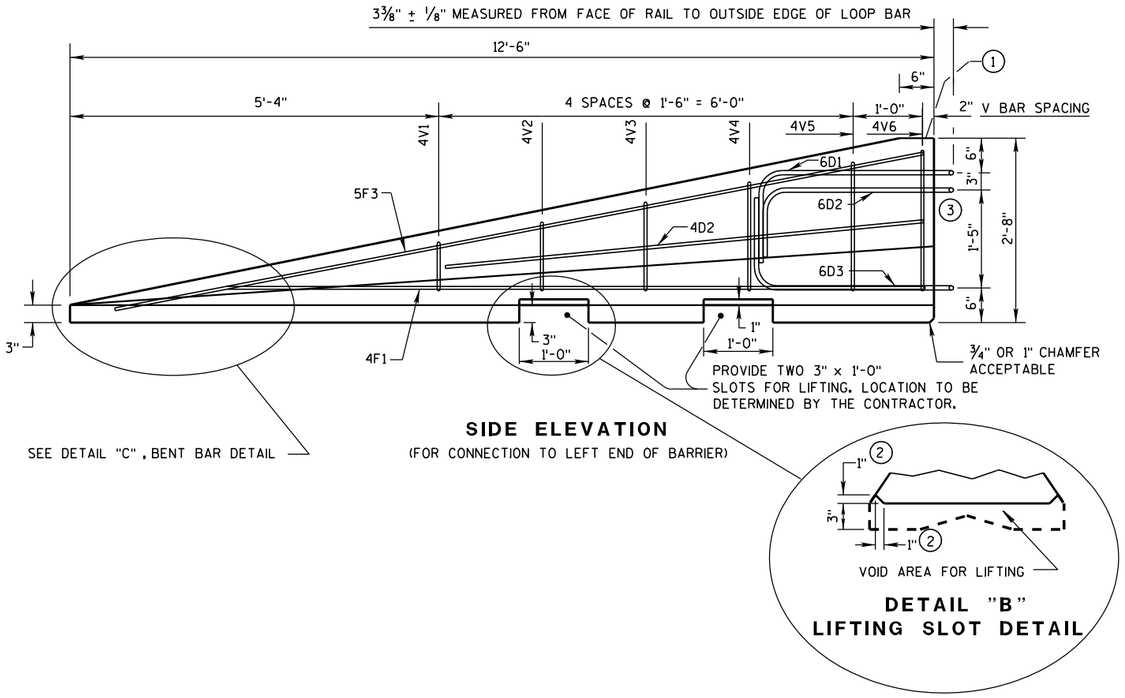
(8) SEE SHEET D FOR ANCHORING CRITERIA.

(9) 1" CHAMFER OPTIONAL.

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO.....

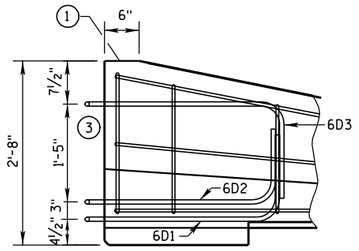
6
S.D.D. 14 B 7-13a



SIDE ELEVATION

(FOR CONNECTION TO LEFT END OF BARRIER)

DETAIL "B"
LIFTING SLOT DETAIL

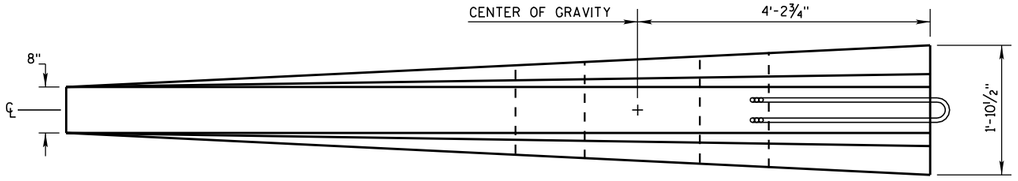


SIDE ELEVATION

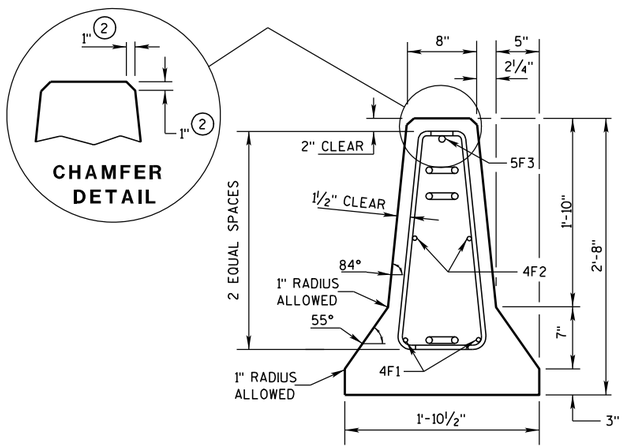
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

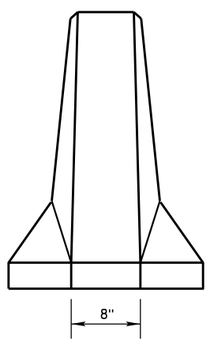
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



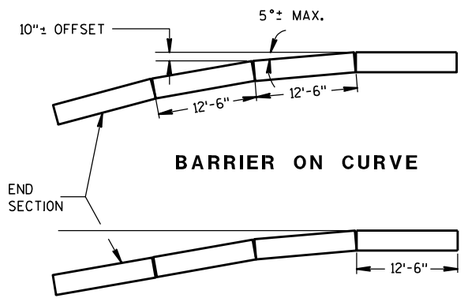
PLAN VIEW



END SECTION



FRONT ELEVATION



BARRIER ON CURVE

FLARE AT BARRIER END

POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

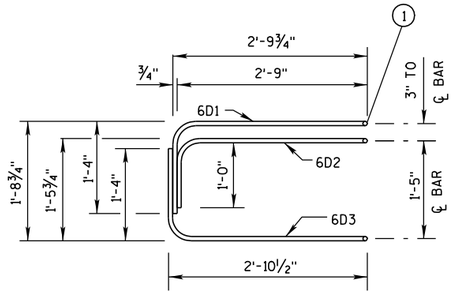
6

S.D.D. 14 B 7-13b

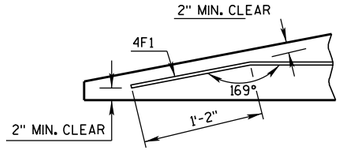
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

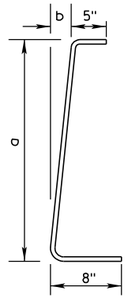
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



BAR	a	b
V1	10"	1"
V2	1'-1"	1¼"
V3	1'-5"	1⅝"
V4	1'-8"	1⅞"
V5	2'-0½"	2⅜"
V6	2'-3"	2¾"

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

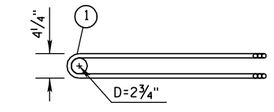
GENERAL NOTES

(1) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

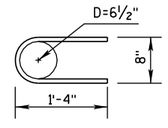
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

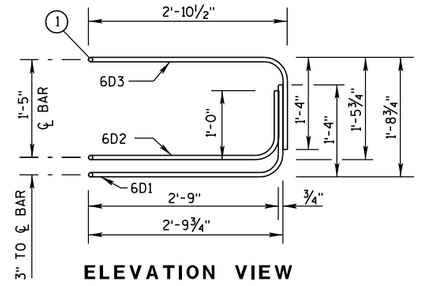
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



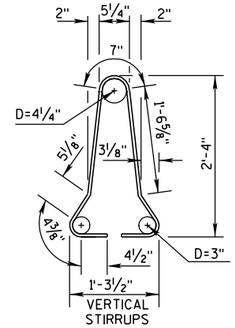
PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)



6A2



ELEVATION VIEW



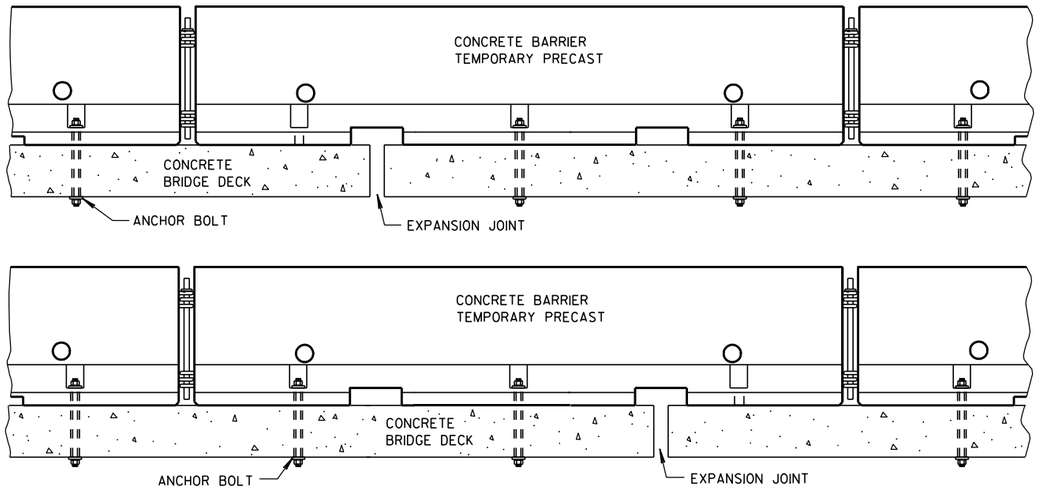
4A1

BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

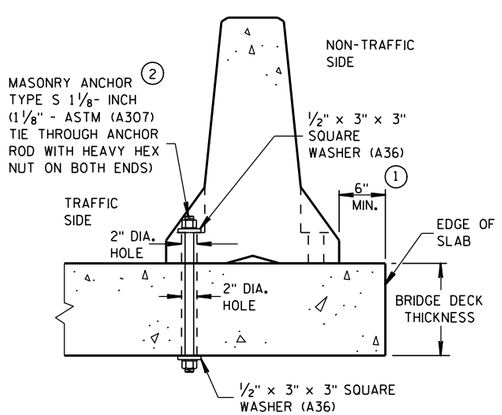
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 7-13c



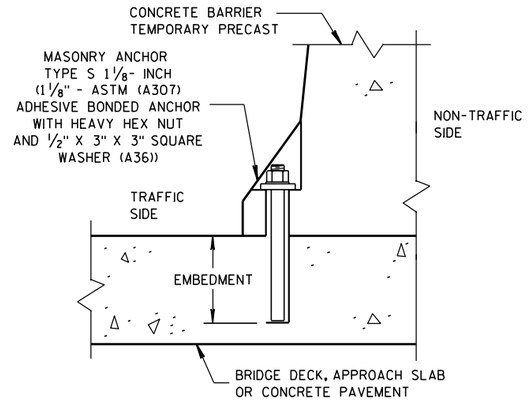
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)



THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



REMOVABLE ADHESIVE BONDED ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

GENERAL NOTES

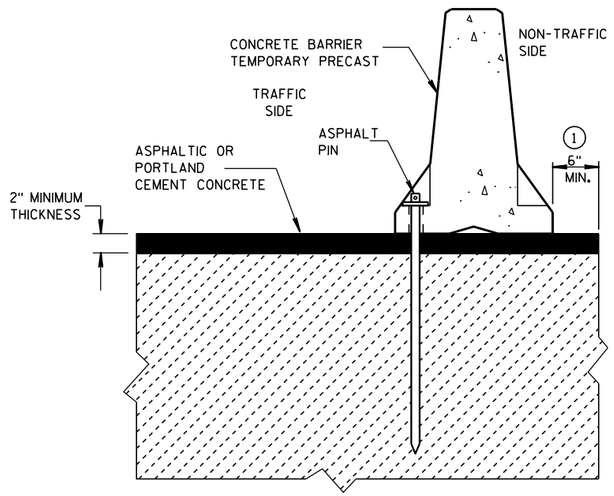
1. CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
   THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 45 MPH OR GREATER, OR

   THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT. IS LESS THAN 2 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 40 MPH OR LESS.

2. ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

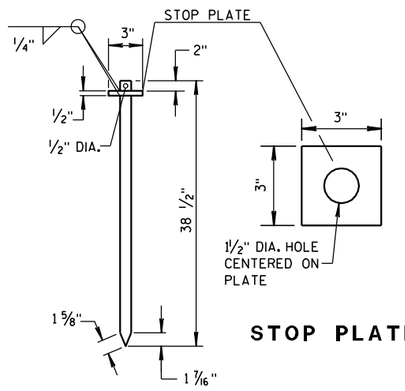
   WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED (EPOXY) ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1⅛-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

   UPON REMOVAL OR RELOCATION OF THE BARRIER UNITS, REMOVE ALLANCHOR BOLTS AND COMPLETELY FILL IN THE REMAINING HOLES IN CONCRETE BRIDGE DECKS, CONCRETE APPROACH SLABS AND CONCRETE PAVEMENTS THAT ARE TO REMAIN, WITH A NON-SHRINK COMMERICAL GROUT OR EPOXY MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.



STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

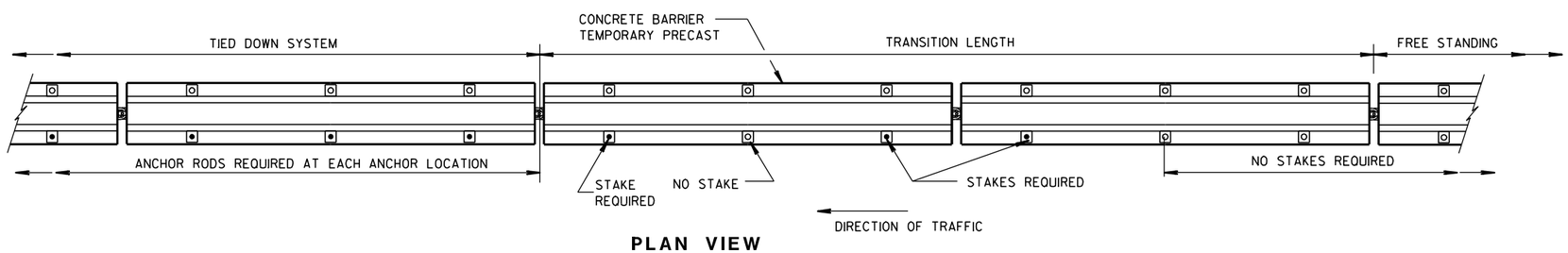
(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



STOP PLATE

ASPHALT PIN

(ASTM A36 STEEL)



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

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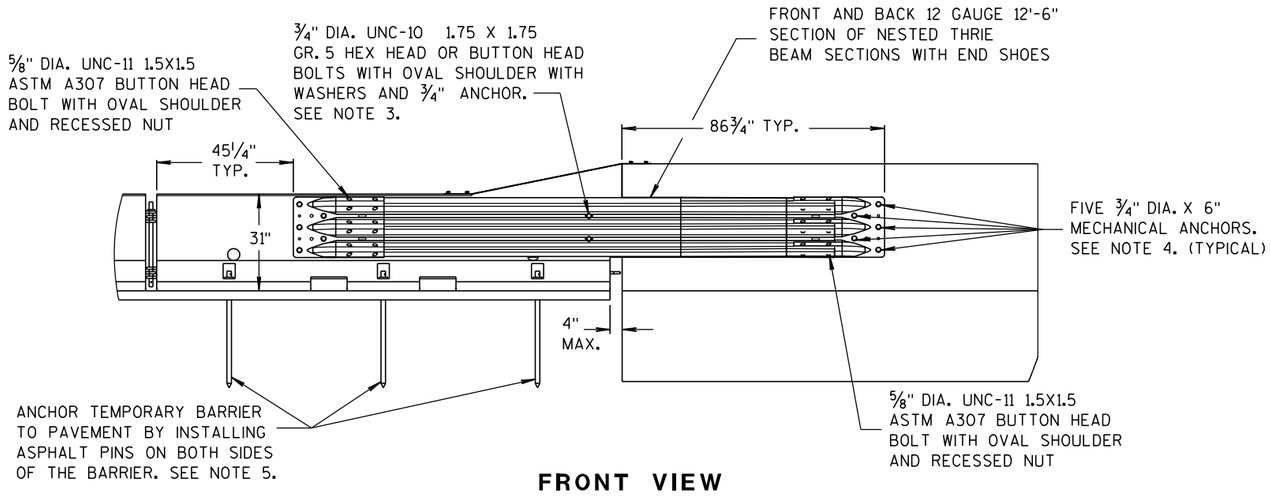
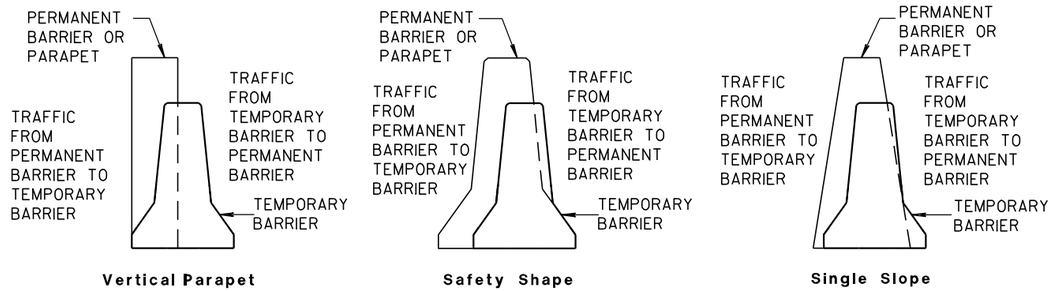
S.D.D. 14 B 7-13d



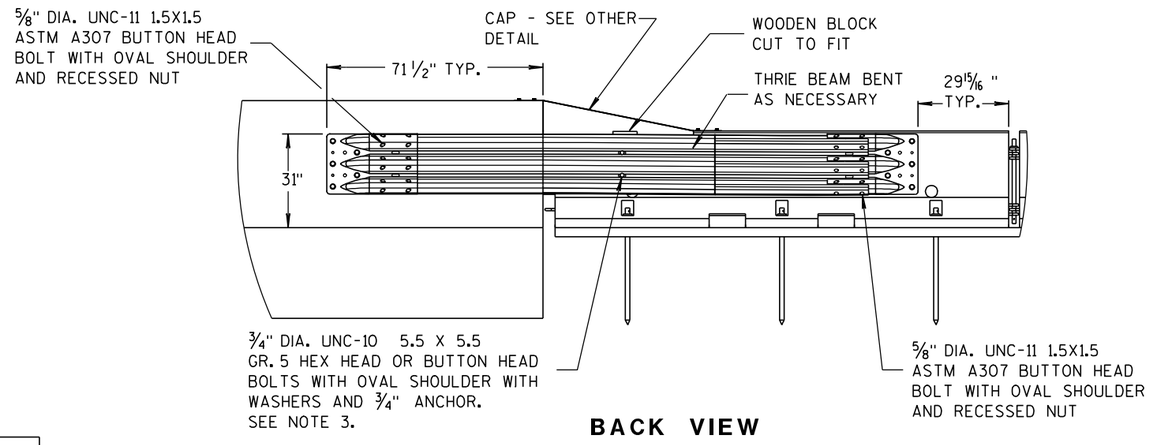
FRONT VIEW

NOTES

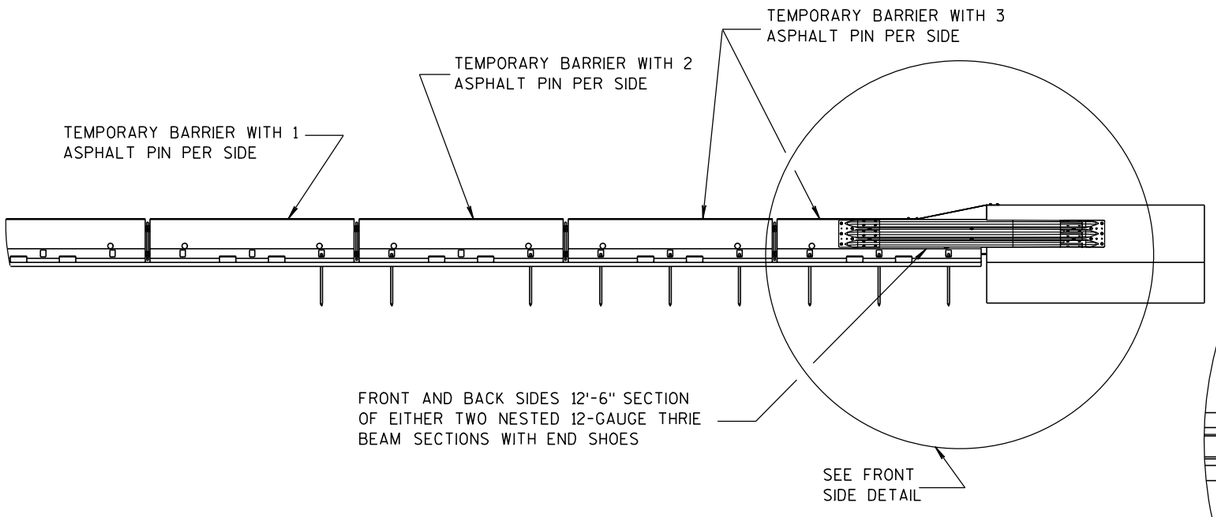
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.
6. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.



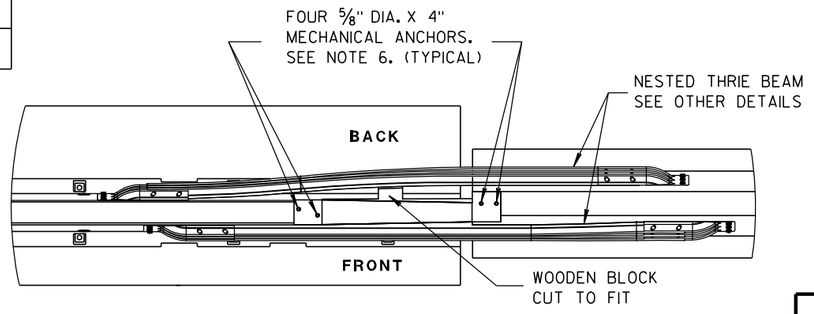
TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM



BACK VIEW



FRONT VIEW



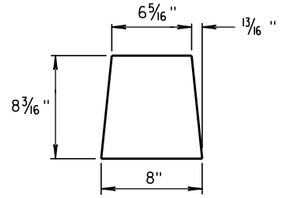
PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

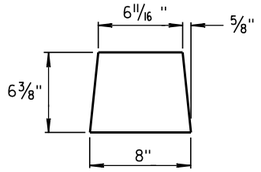
CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

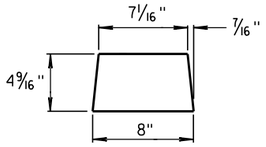
6
S.D.D. 14 B 7-13e



GUSSET 1



GUSSET 2



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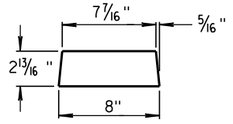
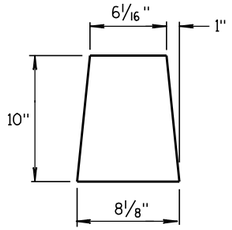
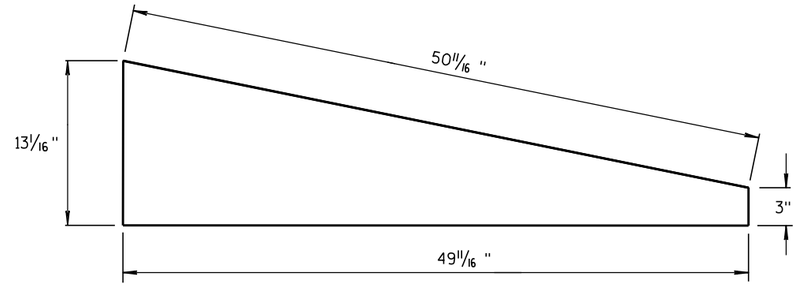


GUSSET 4

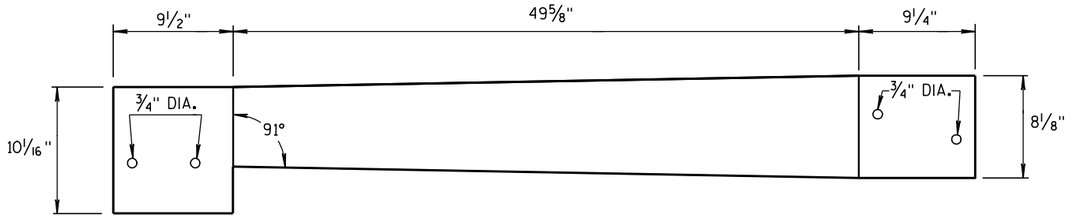
GUSSETS

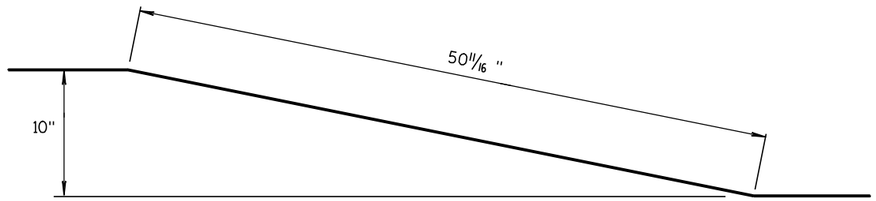


END PLATE

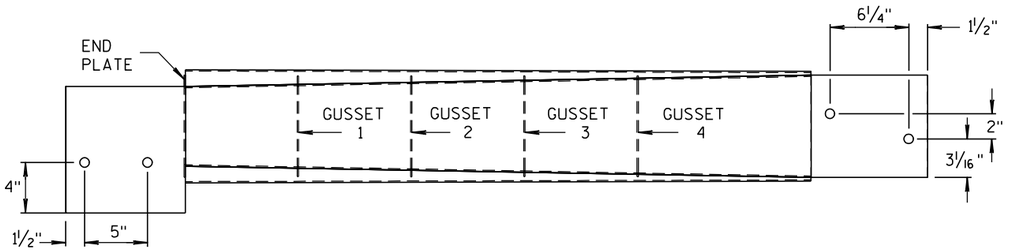


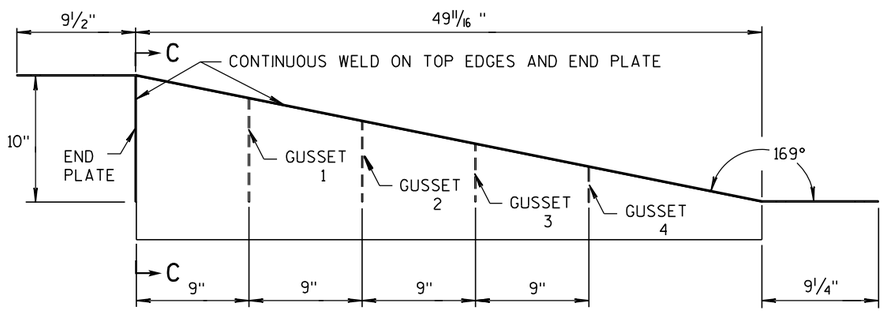
SIDE PLATE

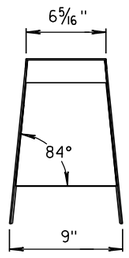




TOP PLATE







SECTION C-C

NOTES

1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

SIDE, TOP AND END PLATES FOR CAP FROM TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

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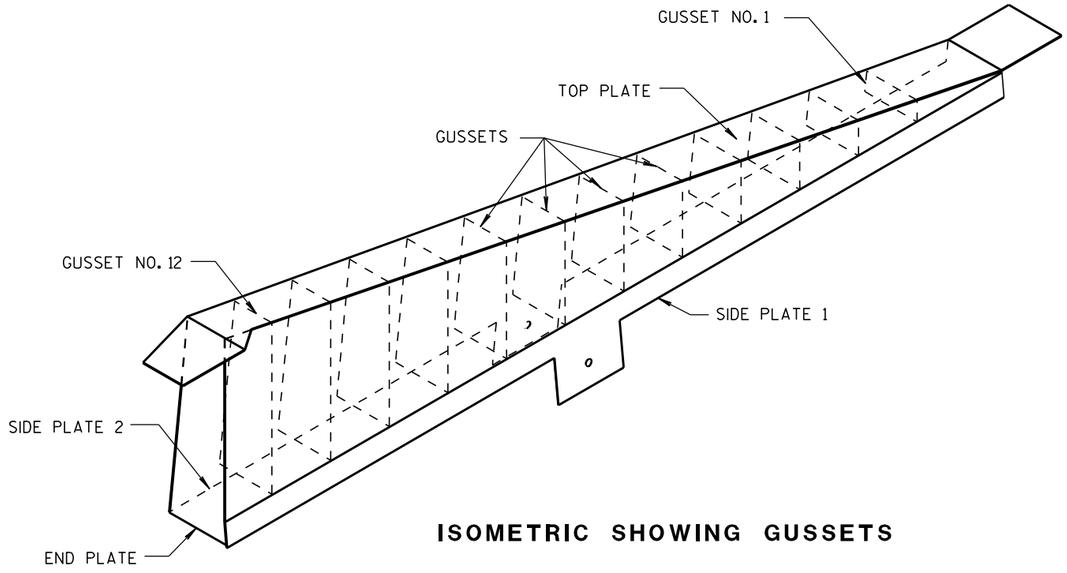
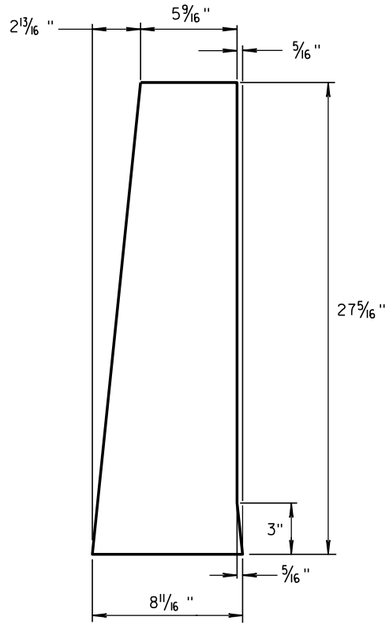
S.D.D. 14 B 7-13f

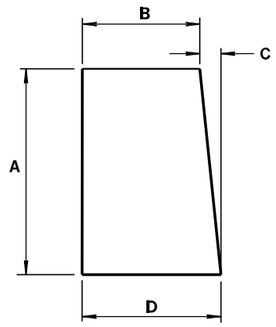


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



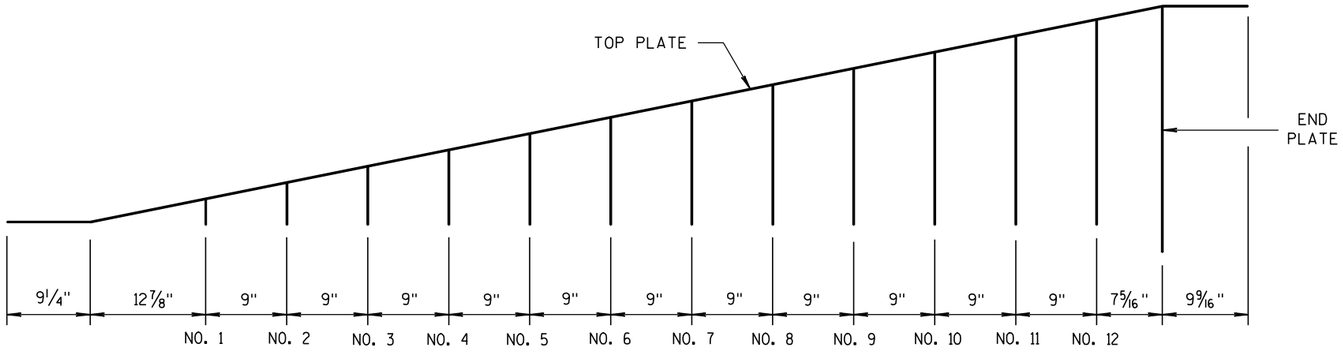
GUSSETS 1 - 12

ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
1	2 7/8"	7 3/4"	1/4"	8
2	4 11/16 "	7 9/16 "	1/2"	8
3	6 1/2"	7 3/8"	11/16 "	8 1/16 "
4	8 5/16 "	7 3/16 "	7/8"	8 1/16 "
5	10 1/8"	7"	1 1/16 "	8 1/16 "
6	11 15/16 "	6 13/16 "	1 1/4"	8 1/16 "
7	13 3/4"	6 5/8"	1 7/16 "	8 1/16 "
8	15 9/16 "	6 7/16 "	1 9/16 "	8 1/16 "
9	17 3/8"	6 1/4"	1 13/16 "	8 1/16 "
10	19 3/16 "	6 1/16 "	1 15/16 "	8 1/16 "
11	21"	5 7/8"	2 3/16 "	8 1/16 "
12	22 13/16 "	5 11/16 "	2 5/16 "	8 1/16 "

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 STEEL AND GALVANIZED.

GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.



GUSSET LOCATION

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO.....T

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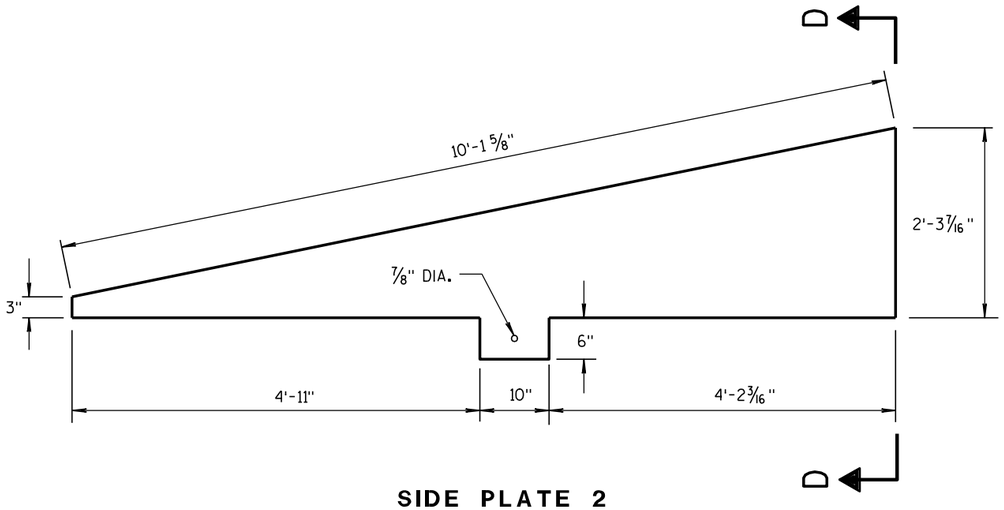
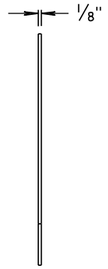
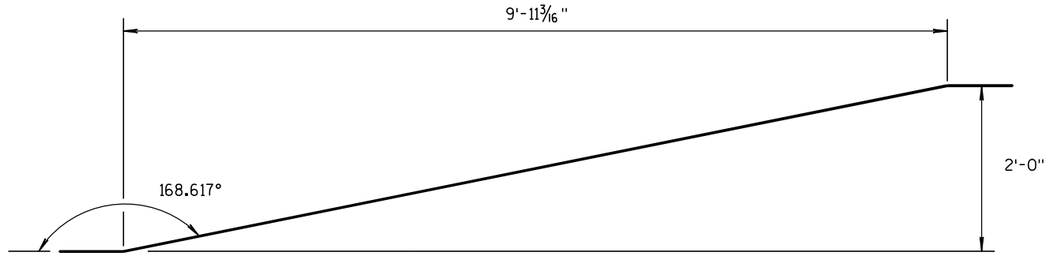


SIDE PLATE 2

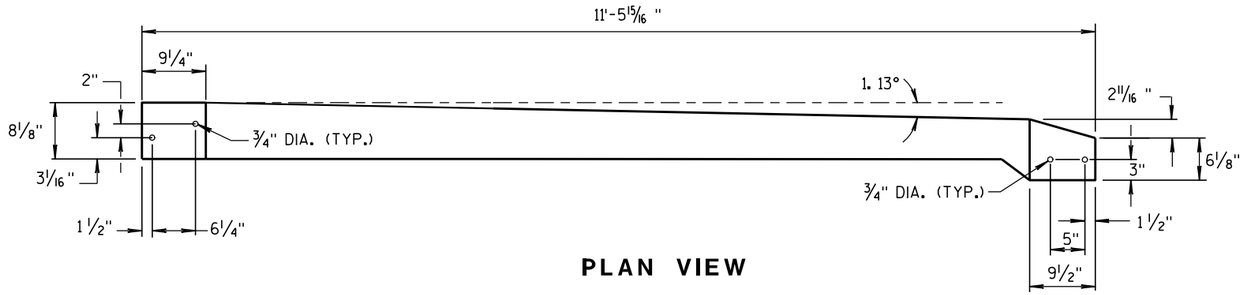


END VIEW



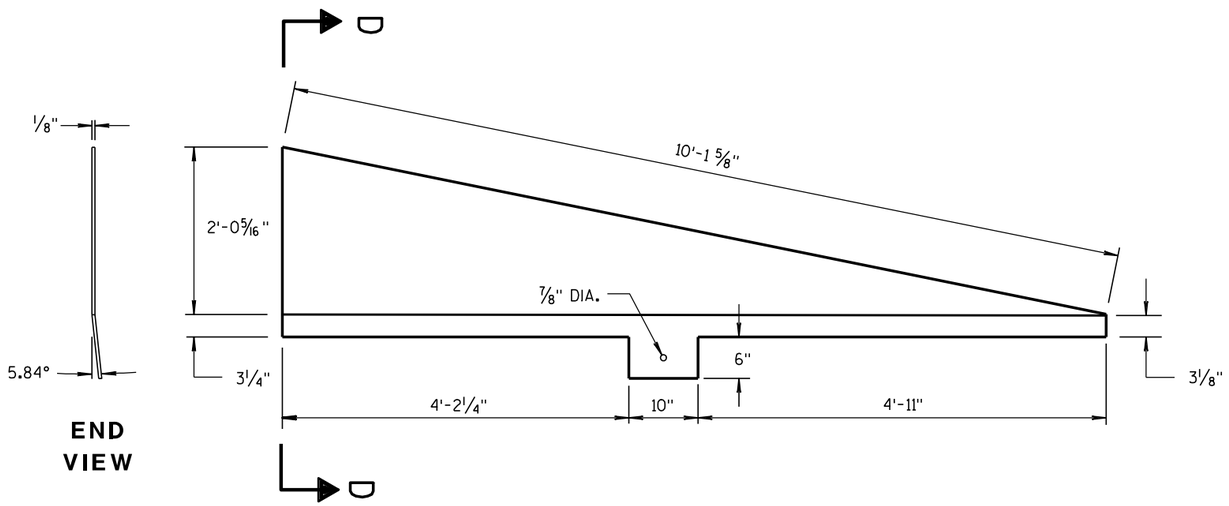
SIDE VIEW

TOP PLATE



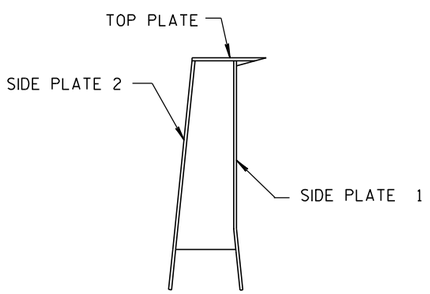
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012 — DATE

/S/ Jerry H. ---- — ROADWAY STANDARDS ENGINEER

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S.D.D. 14 B 7-13h

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) W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS.

DO NOT MIX STEEL POSTS AND WOOD POSTS IN A SINGLE INSTALLATION.

(2) USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111. EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGED SPELTER COATING ON GALVANIZED POSTS.

(3) INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

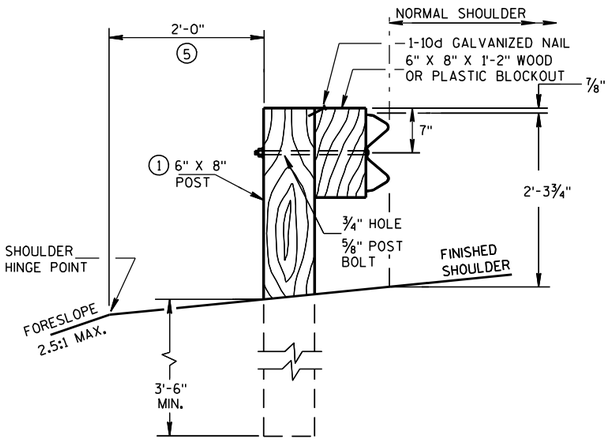
(4) USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.

(5) IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).

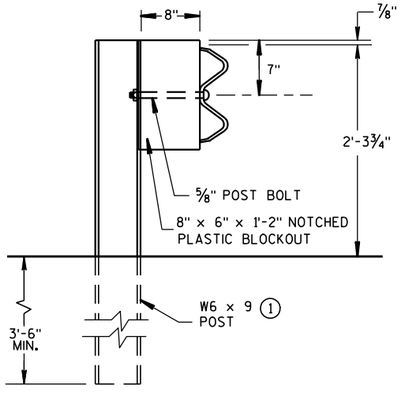
(6) IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCH DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE APPROXIMATELY 2½ INCHES DEEP. CUT THE POSTS TO LENGTH AND PLACE IN YHE HOLE. BACKFILL WITH MATERIAL EXCAVATED FROM THE HOLE AND COMPACT ADEQUATEY.

INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS.

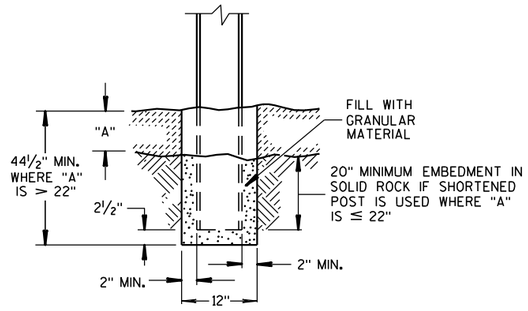
ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



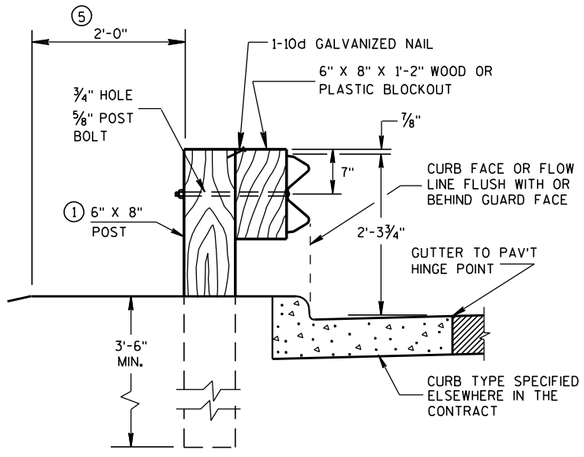
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



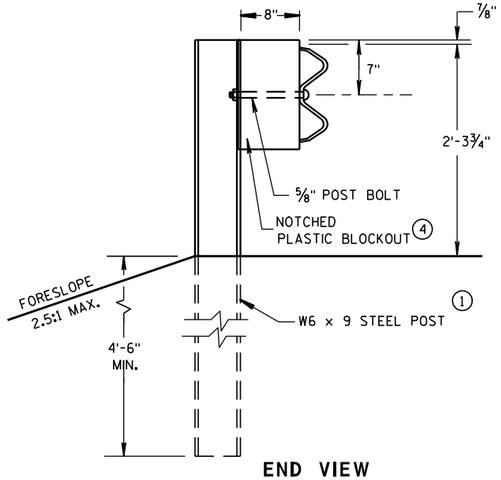
END VIEW
STEEL POST & NOTCHED
PLASTIC BLOCKOUT ALTERNATIVE
STANDARD INSTALLATION



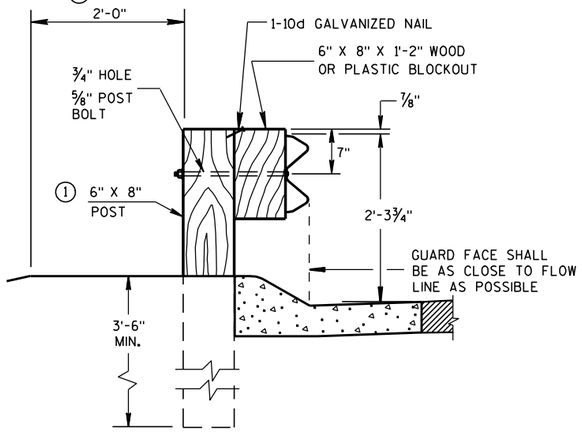
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (6)



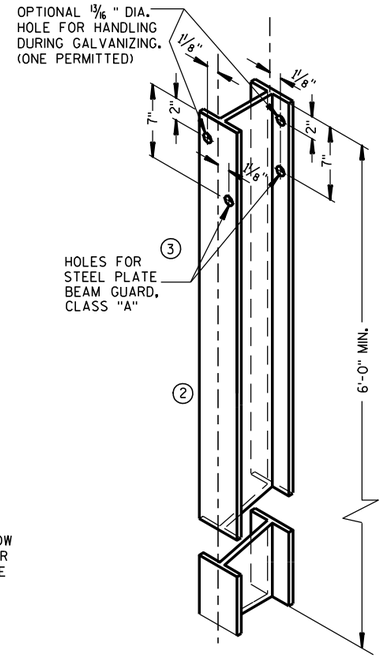
END VIEW
LOCATED ALONG A CURBED ROADWAY



END VIEW
LONGER POST AT HALF
POST SPACING W BEAM
(LHW)

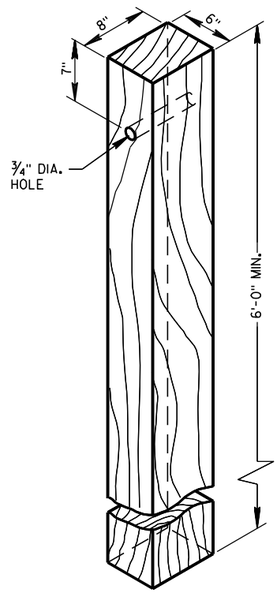


END VIEW
LOCATED ALONG A
MOUNTABLE CURBED ROADWAY

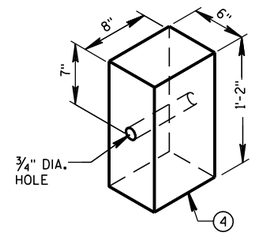


STEEL POST &
HOLE PUNCHING DETAIL
(W6 X 9) (1)

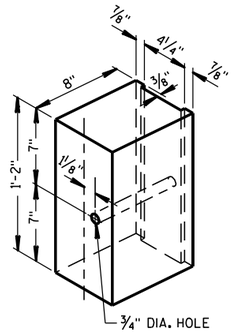
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



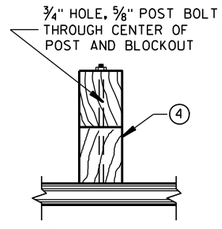
WOOD POST
(6"X8") NOMINAL



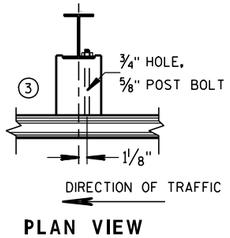
WOOD OR PLASTIC
BLOCKOUT FOR
WOOD POSTS



TYPICAL NOTCHED (1)
PLASTIC BLOCKOUT
FOR STEEL POSTS



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM

STEEL PLATE BEAM GUARD,
CLASS "A"
INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD

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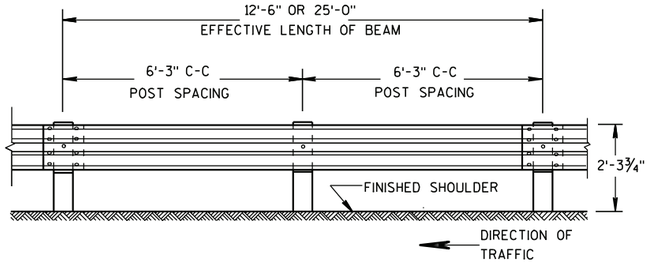
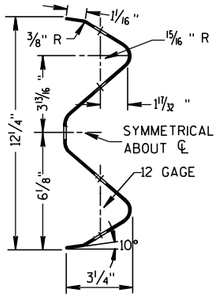
S.D.D. 14 B 15-7a

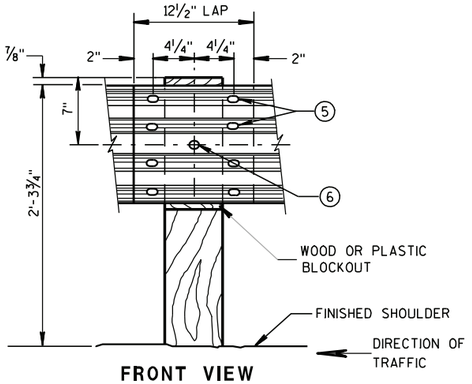


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM

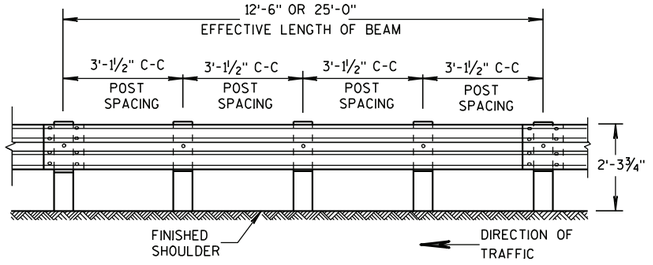


FRONT VIEW

BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

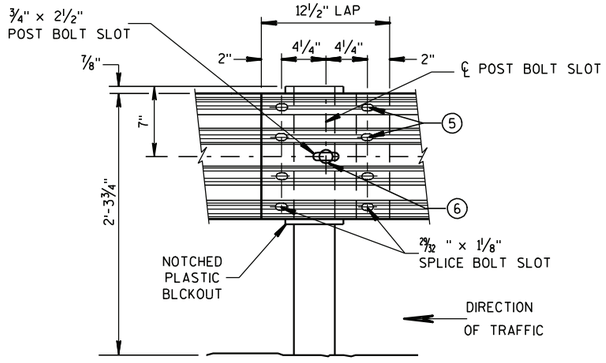
GENERAL NOTES

1. PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.
2. DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
3. REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
4. PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.
5. 8 - 5/8" Φ X 2 " BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.
6. 5/8" Φ X 1'-6" BUTTON HEAD BOLT AND AND RECESS NUT WITH ROUND WASHER UNDER NUT.



FRONT VIEW

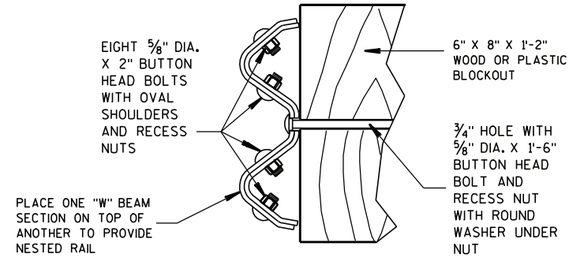
POST SPACING FOR LONGER POST AT HALF POST SPACING W BEAM (LHW)



FRONT VIEW

BEAM SPLICE AT STEEL POST

TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD

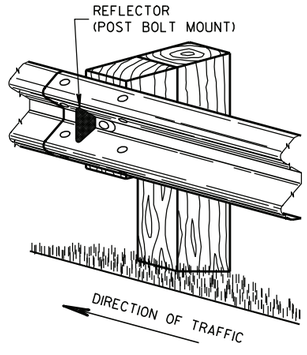


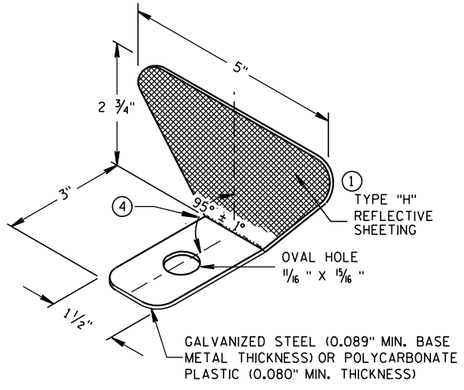
NESTED W BEAM (NW)

USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR CONSTRUCTING NESTED W BEAM (NW)

REFLECTOR SPACING (2)

	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 (3)	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2 (4)	





ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (1)

STEEL PLATE BEAM GUARD,
CLASS "A",
INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

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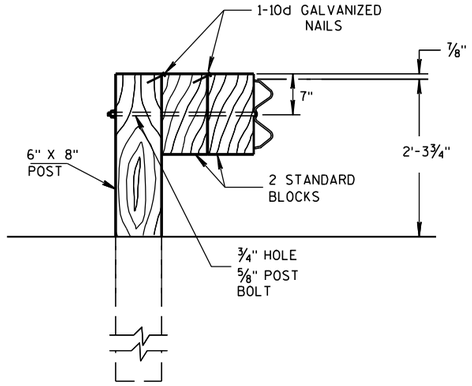
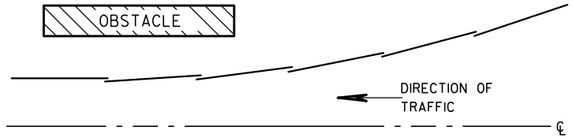
S.D.D. 14 B 15-7b

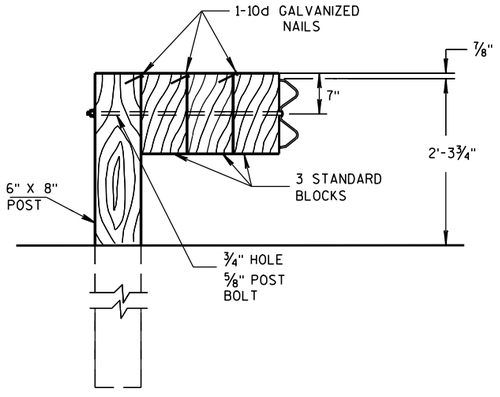


DETAIL FOR DOUBLE BLOCKS

THE NUMBER OF DOUBLE BLOCK POSTS WITHIN A BARRIER RUN IS UNLIMITED

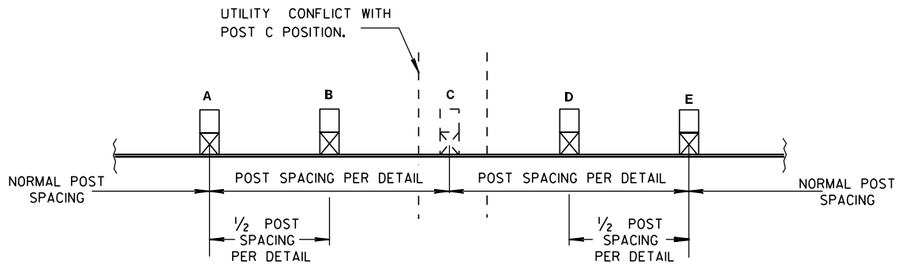


PLAN VIEW
BEAM LAPPING DETAIL



DETAIL FOR TRIPLE BLOCKS

TRIPLE BLOCK DETAIL IS LIMITED TO ONE LOCATION WITHIN A BEAM GUARD RUN.



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

NOTES: USE DOUBLE OR TRIPLE BLOCKS WHEN UNDERGROUND OBSTACLES PREVENT THE POST FROM BEING INSTALLED.

DO NOT USE EXTRA 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.

STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/23/11	/S/ Jerry H. Zogg	
DATE	ROADWAY STANDARDS ENGINEER	ENT

FHWA

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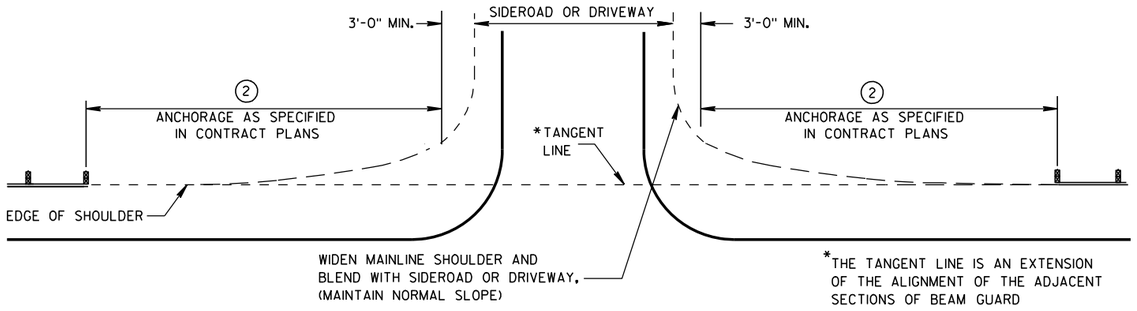
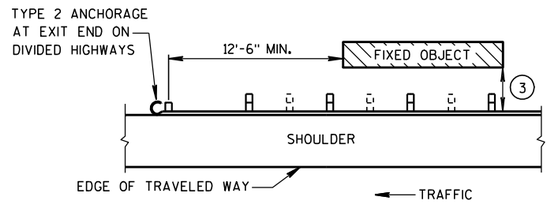
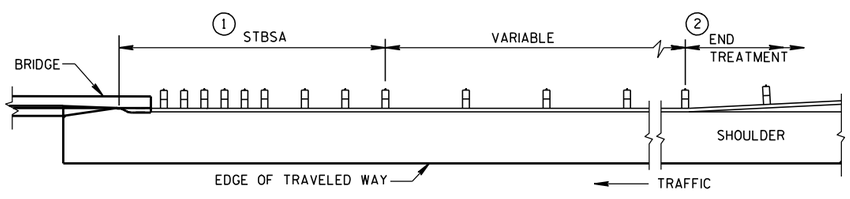
S.D.D. 14 B 15-7c



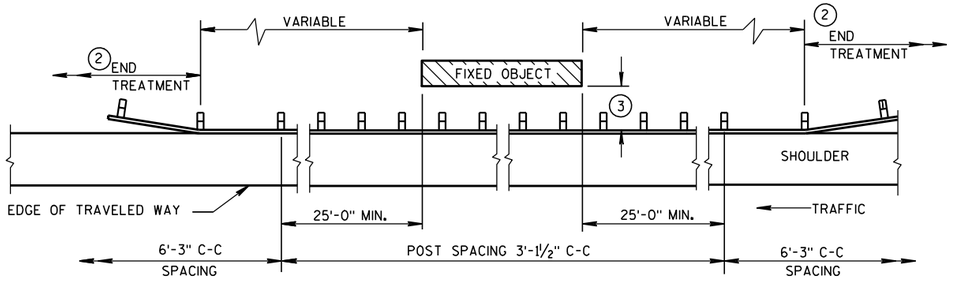
BEAM GUARD AT SIDEROADS OR DRIVEWAYS



BEAM GUARD AT OBSTACLES EXIT END - ONE WAY TRAFFIC

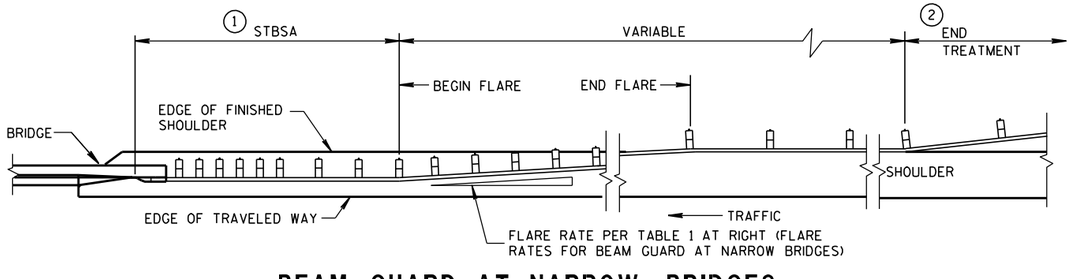


BEAM GUARD AT FULL WIDTH BRIDGES



BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC

(RAIL TO OBSTACLE CLEARANCE 3'-6" TO 4'-6")



BEAM GUARD AT NARROW BRIDGES

(FLARED TO SHOULDER EDGE, THEN PARALLEL TO ROADWAY)

TABLE 1
FLARE RATES FOR BEAM GUARD AT NARROW BRIDGES

POSTED SPEED (MPH)	FLARE RATE
25	13:1
30	15:1
35	16:1
40	18:1
45	21:1
50	24:1
55	26:1
65	30:1

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE PERTINENT STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

W6 X 9 OR W6 X 8.5 STEEL POSTS WITH NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

THE LOCATIONS AND LENGTHS OF BEAM GUARD ARE SHOWN ELSEWHERE IN THE PLAN.

(1) STEEL THRIE BEAM STRUCTURAL APPROACH (STBSA) - SEE CURRENT SDD 14B20.

(2) USE AN APPROVED END TREATMENT FOR THE TRAFFIC APPROACH SIDE OF BRIDGE/OBSTACLES. USE TYPE 2 ANCHORAGE ONLY AT THE DOWNSTREAM ENDS OF BEAM GUARD LOCATED ALONG ROADWAYS WITH ONE WAY TRAFFIC.

(3)

MINIMUM LATERAL DISTANCE FROM FACE OF BEAM GUARD TO FIXED OBJECT	POST SPACING
3'-6"	3' - 1½"
4'-6"	6' - 3"

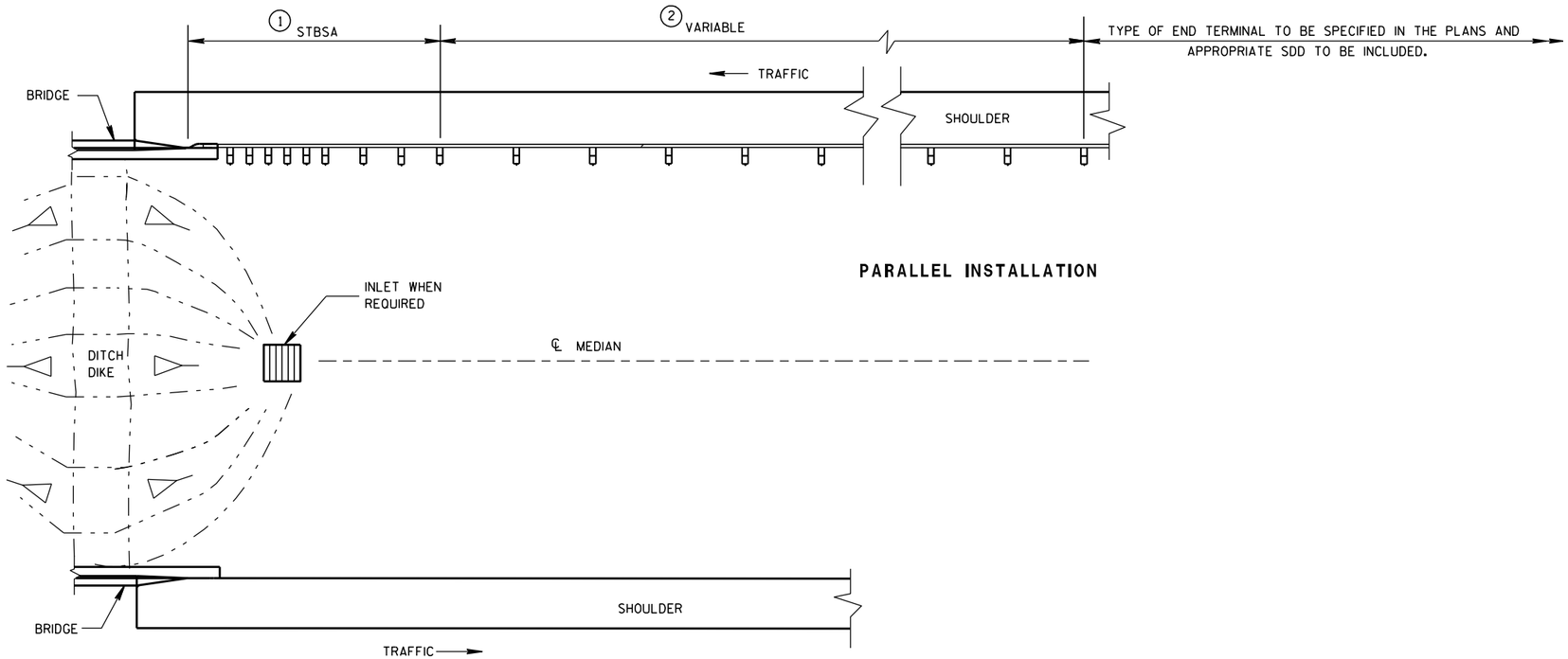
STEEL PLATE BEAM GUARD CLASS "A" AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-21-07 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

GENERAL NOTES

1. STEEL THRIE BEAM STRUCTURAL APPROACH (STBSA) - SEE CURRENT SDD 14B20.
2. LOCATIONS AND LENGTHS OF BEAM GUARD ARE SHOWN ELSEWHERE IN THE PLAN.



PARALLEL INSTALLATION

BEAM GUARD AT MEDIAN APPROACH TO BRIDGES

STEEL PLATE BEAM GUARD CLASS "A" AT MEDIAN APPROACH TO BRIDGES
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 8-21-07 DATE /S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER FHWA

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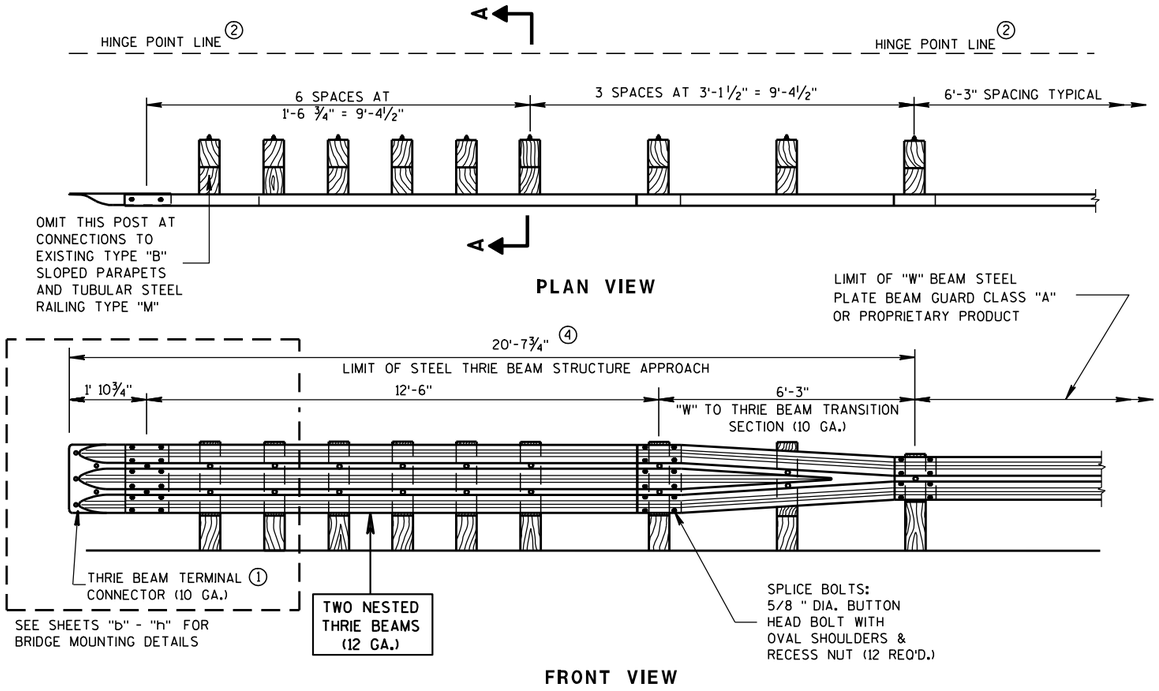
S.D.D. 14 B 18-6b



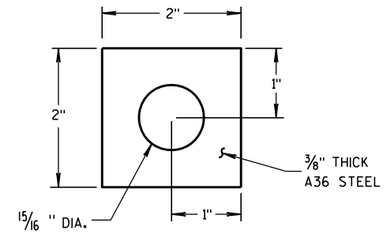


PLATE WASHER DETAIL

GENERAL NOTES

BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3".

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

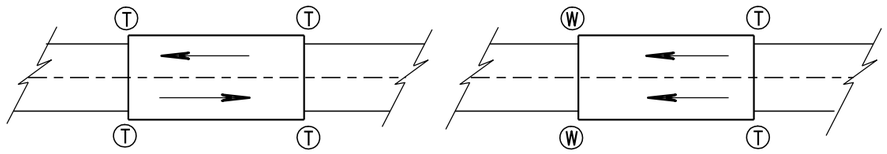
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2" , AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

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

② MINIMUM EMBEDMENT SHALL BE 4'-0". WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK SHOWN ON THE PLAN TYPICAL SECTIONS OR DETAILS, THE ENGINEER MAY ALLOW THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE POINT. OTHERWISE BUILD AS THE PLAN SHOWS OR AS THE ENGINEER DIRECTS. IF THE 2 FOOT DISTANCE TO THE HINGE POINT IS REDUCED OR ELIMINATED, INCREASE THE POST EMBEDMENT DEPTH TO 4'-6" OR MORE.

③ POST BOLTS ARE 5/8" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A 5/8" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.

④ ALL WOOD POSTS MUST BE 6" X 8" AND AT LEAST 7'-0" LONG.



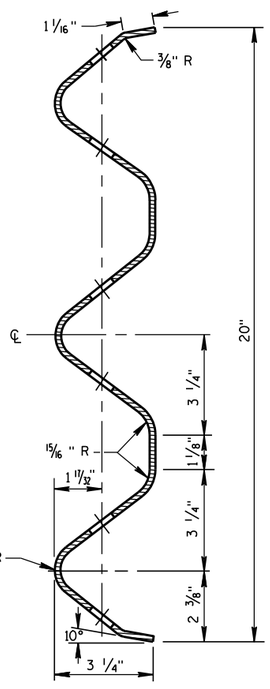
TWO WAY TRAFFIC

ONE WAY TRAFFIC

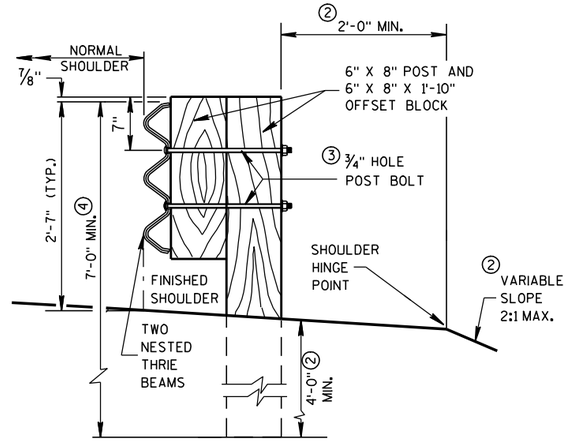
T THRIE BEAM CONNECTION

W W-BEAM CONNECTION WHEN REQUIRED

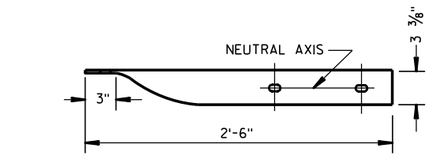
TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

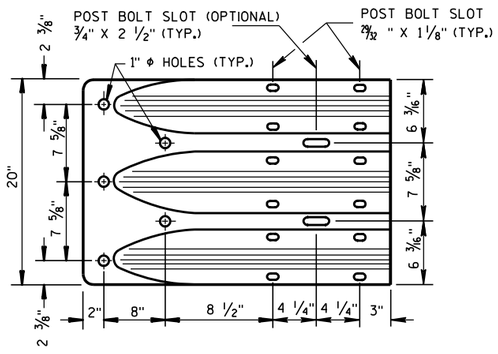


SECTION THRU THRIE BEAM RAIL ELEMENT

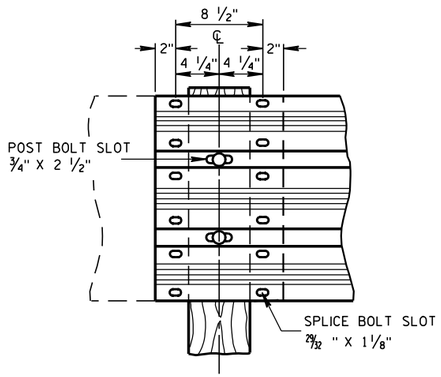


SECTION A-A





THRIE BEAM TERMINAL CONNECTOR



THRIE BEAM SPLICE

STEEL THRIE BEAM STRUCTURE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS 175 ENGINEER

FHWA

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S.D.D. 14 B 20-11a

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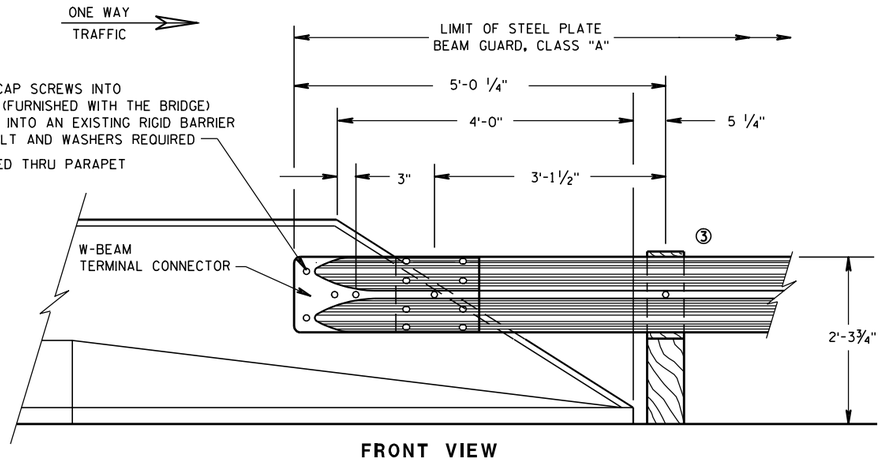
S.D.D. 14 B 20-11a



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

GENERAL NOTES

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

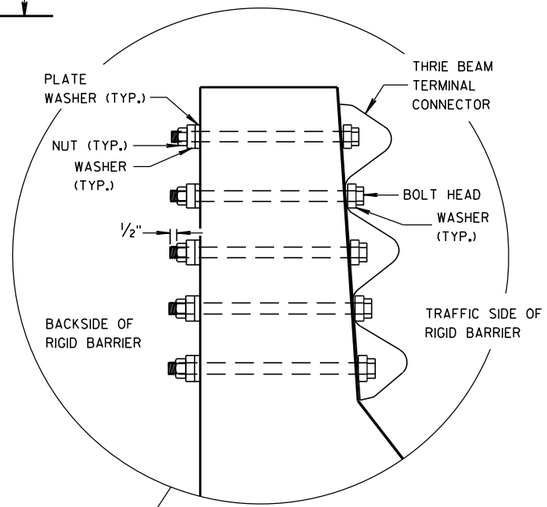
BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

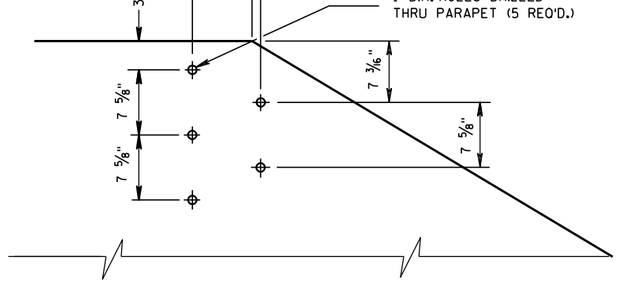
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

② 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 TERMINAL CONNECTOR. 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.

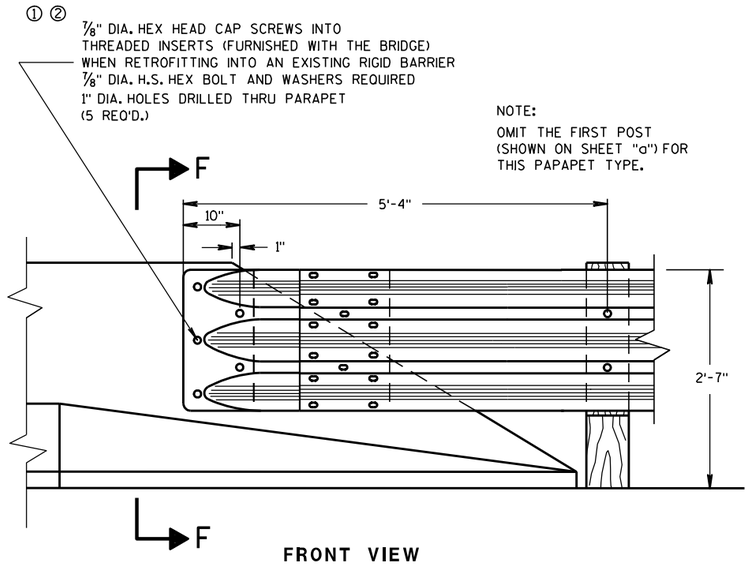
③ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

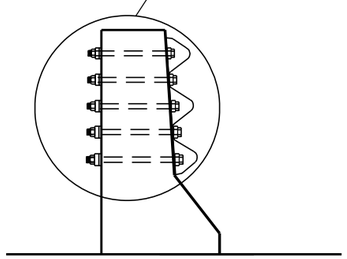




DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION F-F

THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012 — DATE
/S/ Jerry H. [illegible] — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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S.D.D. 14 B 20-11d

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

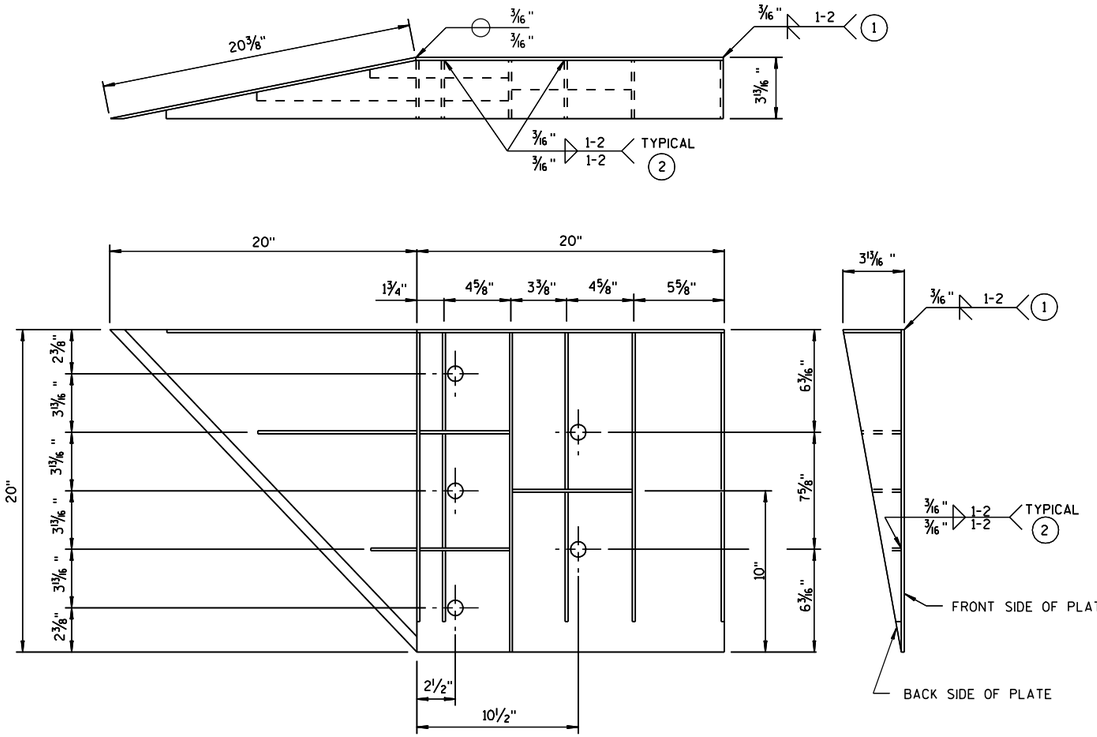
FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(1) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(2) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".



WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

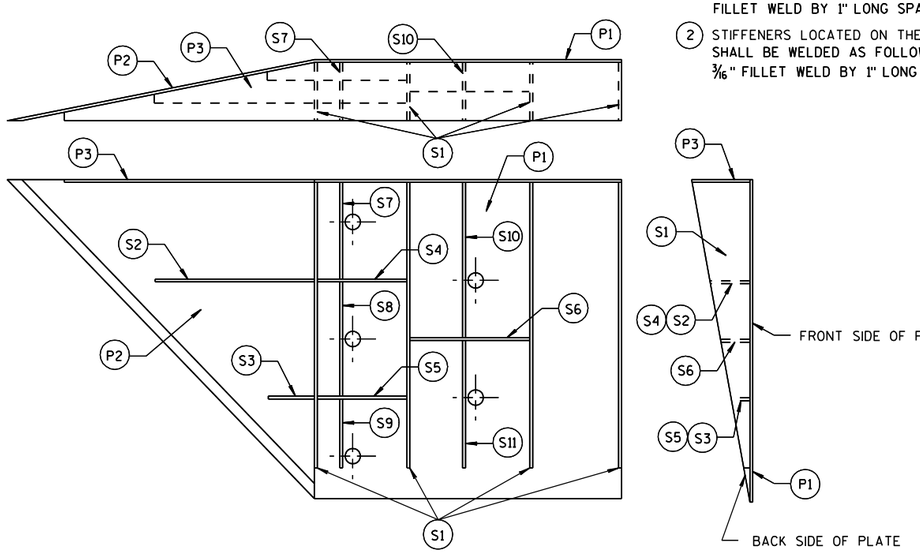


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

STEEL THRIE BEAM STRUCTURE APPROACH

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTOR PLATE DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
77
FHWA

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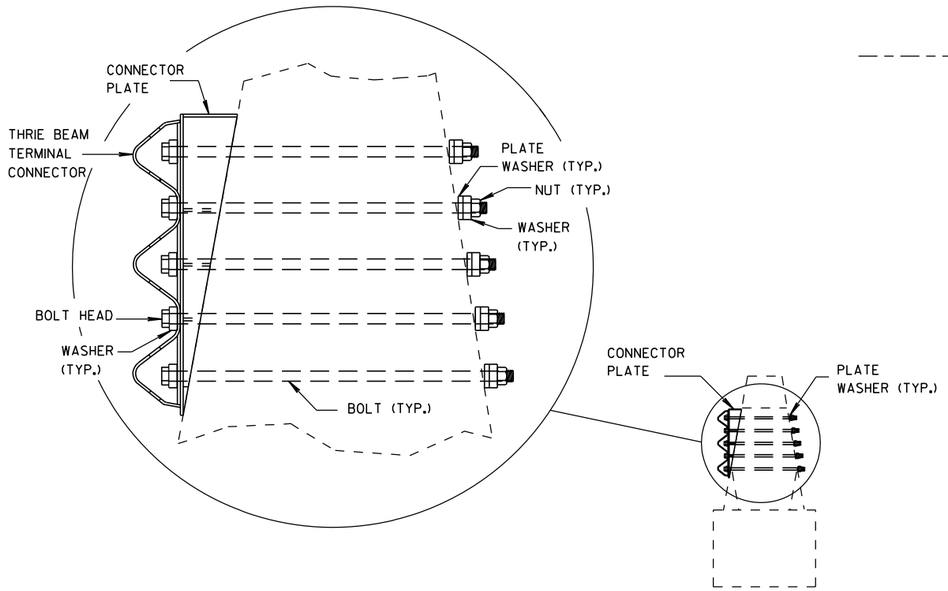
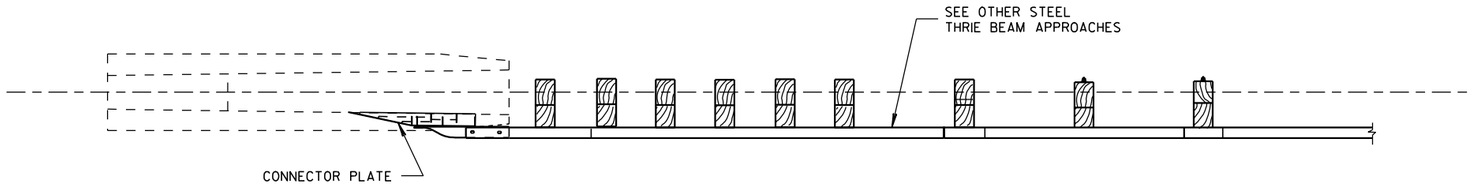
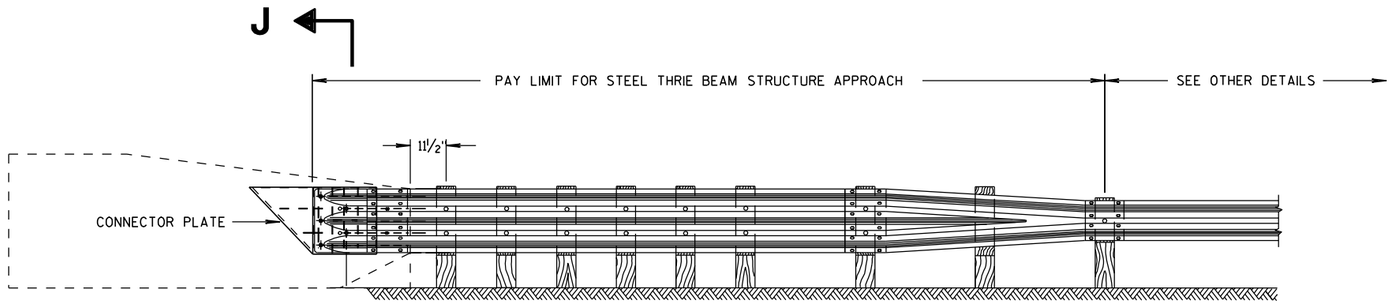


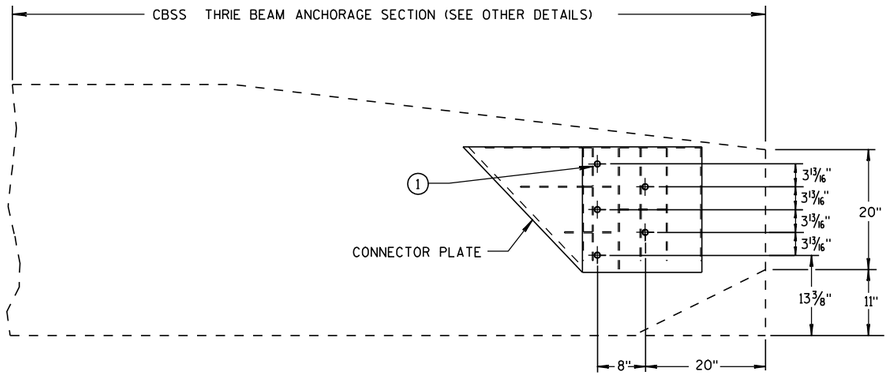
SECTION J-J



PLAN VIEW



FRONT VIEW



CONNECTOR PLATE LOCATION

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 614.

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

(1) 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 TERMINAL CONNECTOR. 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.

STEEL THRIE BEAM STRUCTURE APPROACH

STEEL THRIE BEAM STRUCTURE APPROACH, SINGLE SLOPE ATTACHMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER

FHWA

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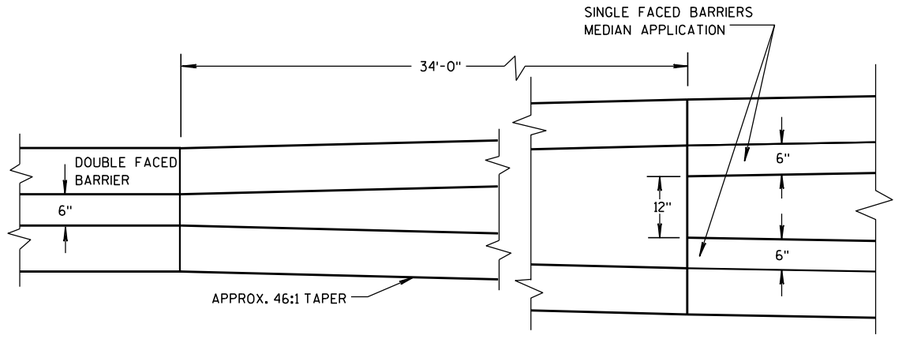
S.D.D. 14 B 20-11h



PLAN VIEW

TRANSITION DETAILS OF DOUBLE FACED TO SINGLE FACED CONCRETE MEDIAN BARRIER

(FOOTINGS ARE NOT SHOWN)

GENERAL NOTES

SPLICES OF LONGITUDINAL BARS SHALL BE MADE WITH BARS LAPPED AT LEAST 18-INCHES AND FIRMLY TIED OR FASTENED TOGETHER.

ALL BAR STEEL REINFORCEMENT SHALL CONFORM TO REQUIREMENTS OF AASHTO M31, GRADE 60.

(1) BARRIER SHALL BE INSTALLED ON A CONCRETE SHOULDER INSTEAD OF THE CONCRETE FOOTING WHEN SPECIFIED OR SHOWN ELSEWHERE IN CONTRACT.

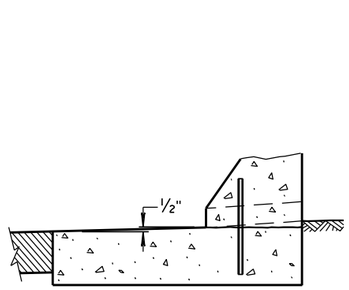
(2) OPENINGS FOR DRAINAGE SHALL BE PLACED AT LOW POINTS OF VERTICAL CURVES OR WHERE DIRECTED BY THE ENGINEER.

(3) ¾-INCH BEVEL OR 1-INCH RADIUS (TYPICAL).

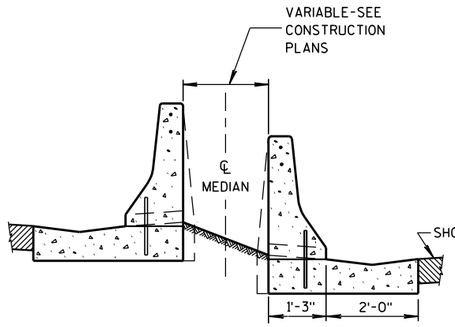
(4) NO. 4 BARS SHALL BE CONTINUED THROUGH CONSTRUCTION JOINTS.

(5) EXPANSION JOINTS SHALL BE PLACED AT EXISTING EXPANSION JOINTS IN THE PAVEMENT AND AT STRUCTURES. SEE REINFORCEMENT AT BARRIER END DETAIL.

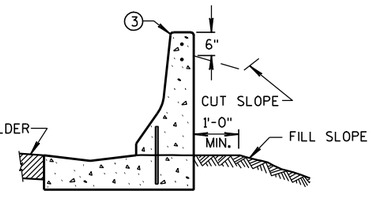
(6) SAWED CONTRACTION JOINTS SHALL BE PROVIDED ACROSS THE FULL WIDTH OF THE BARRIER FOOTING, AND IN FRONT, TOP AND BACK FACE OF THE BARRIER AT EXISTING PAVEMENT JOINTS AND AT UNIFORM INTERVALS BETWEEN WITH A MAXIMUM SPACING OF 25 FEET.



HIGH SIDE
CONCRETE BARRIER DETAIL

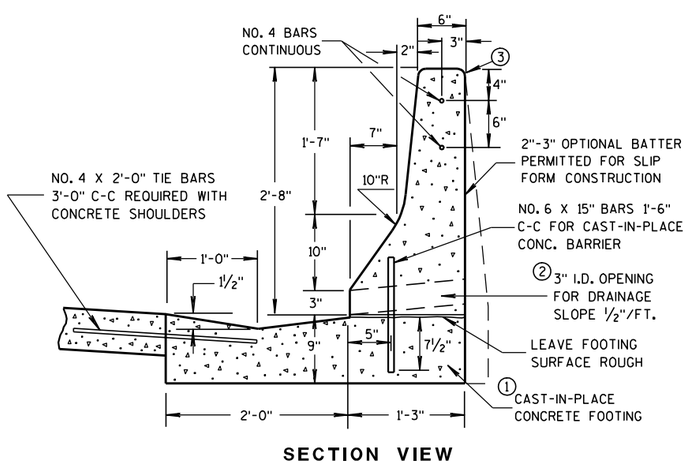


MEDIAN

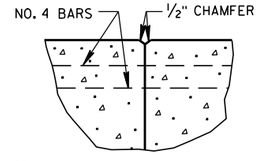


SHOULDER

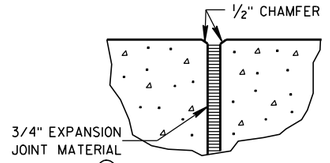
TYPICAL APPLICATIONS



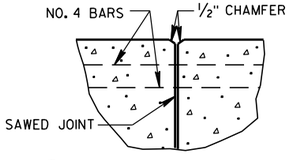
SECTION VIEW



④**CONSTRUCTION JOINT**



⑤**EXPANSION JOINT**

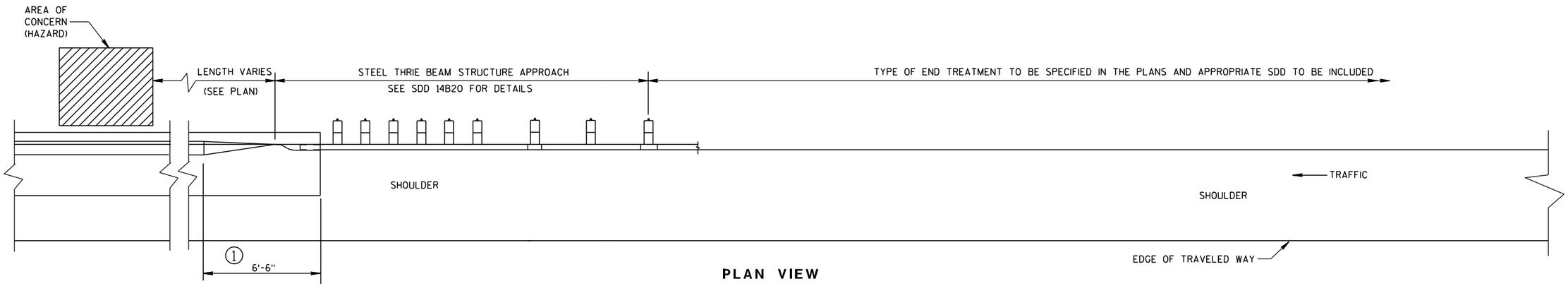


⑥**CONTRACTION JOINT**

JOINT DETAILS

CONCRETE BARRIER
SINGLE-FACED
(WITH ANCHORAGE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



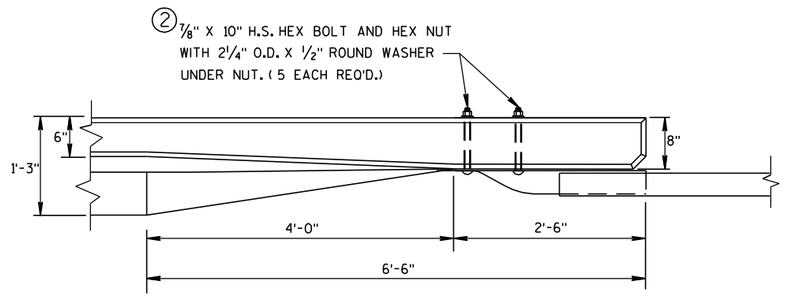
PLAN VIEW

TRANSITION TO STEEL PLATE BEAM GUARD AND END TERMINAL

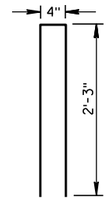
GENERAL NOTES

1. A SPECIAL END IS REQUIRED ON THE CONCRETE BARRIER TO TRANSITION TO A CONNECTION WITH THE STEEL THRIE BEAM STRUCTURE APPROACH. SEE THE DETAILS ON THIS SHEET.
2. HIGH STRENGTH BOLTS SHALL MEET REQUIREMENTS OF ASTM A325.
3. REINFORCEMENT REQUIRED AT EXPANSION JOINTS AND WHERE CONCRETE BARRIER IS TERMINATED.
4. PLACE REINFORCEMENT SUCH THAT IT WILL NOT CONFLICT WITH THE BOLT HOLES IN THE THRIE BEAM TERMINAL CONNECTOR.

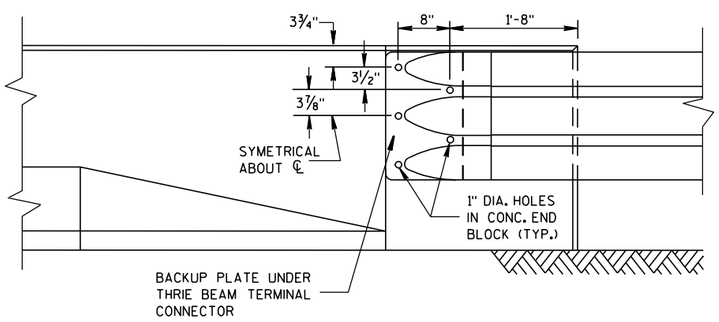
DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.



PLAN VIEW

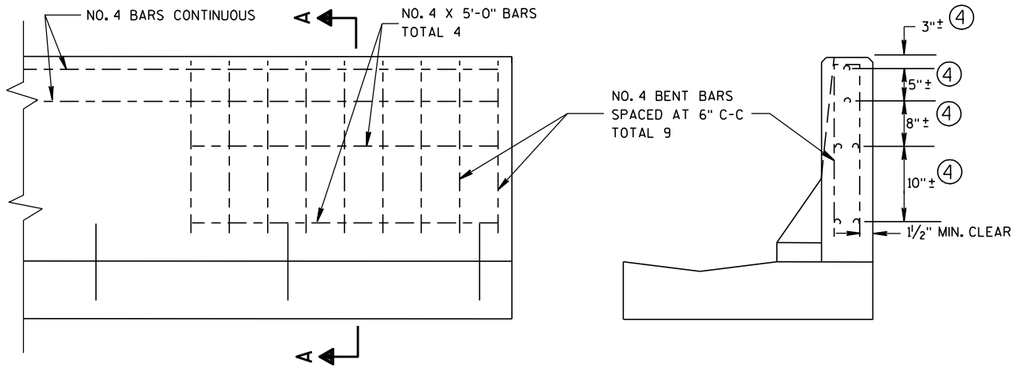


BENT BAR DETAIL



FRONT VIEW

CONCRETE BARRIER TRANSITION TO THRIE BEAM



FRONT VIEW **SECTION A-A**

3 REINFORCEMENT AT BARRIER END

CONCRETE BARRIER, SINGLE-FACED (WITH ANCHORAGE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4/12/10 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER

FHWA

6

S.D.D. 14 B 22-5b

BILL OF MATERIALS

NOTE NO.	QTY.	DESCRIPTION
(1)	4	WOOD BREAKAWAY TERMINAL POST: 5½" X 7½" X 3'-9"
(2)	**	STEEL TUBE: OPTION 1 - QUANITY OF 4 TS 8" X 6" X 0.188", 4'-6" LONG OR OPTION 2 - QUANITY OF 2 TS 8" X 6" X 0.188", 6'-0" AND 2 TS 8" X 6" X 0.188", 4'-6" LONG
(3)	2	SOIL PLATE: 2'-0" X 1'-6" X ¼" **
(4)	4	WOOD BREAKAWAY CRT POST: 6" X 8" X 6'-0"
(5)	6	WOOD OFFSET BLOCKS: 6' X 8" X 1'-2"
(6)	1	PIPE SLEEVE: 2" X 5 ½" STANDARD PIPE
(7)	1	BEARING PLATE
(8)	1	BCT CABLE ASSEMBLY
(9)	1	CABLE ANCHOR BOX
(10)	1	STRUT & YOKE
(11)	1	STEEL PLATE BEAM, END PANEL 12 GA. 13'-6½" LONG FOR SKT-350, ET-2000 AND ET-2000 PLUS
(12)	3	STEEL PLATE BEAM: 12 GA. 13'-6½"
(13)	1	ET-2000/ET-2000 PLUS GUARDRAIL EXTRUDER OR SKT-350 IMPACT HEAD: AS FURNISHED BY MANUFACTURER
(14)	1	REFLECTIVE SHEETING TYPE H: 18" X 18"
(15)	1	E.A.T. MARKER POST

GENERAL NOTES

FOLLOW MANUFACTURE'S BOLTING RECOMMENDATIONS. IF NONE ARE AVAILABLE, INSTALL ⅝" ϕ X 1'-6" BUTTON HEAD BOLTS AT ALL POSTS EXCEPT FOR POST 1.

(A) THE SLOPE IN THE AREA BOUNDED BY THE EXTENDED VEHICLE RUNOUT PATH (EVRP), 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) THE 13 SLOT FIRST RAIL PANEL MAY BE USED IN LIEU OF THE 3 SLOT RAIL PANEL ON SKT-350 ONLY.

(D) THE TOP OF THE STEEL TUBE ON POSTS 1 THROUGH 4 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

(E) THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST 5 THROUGH 8 SHALL BE ¾" ABOVE THE FINISHED GROUND LINE.

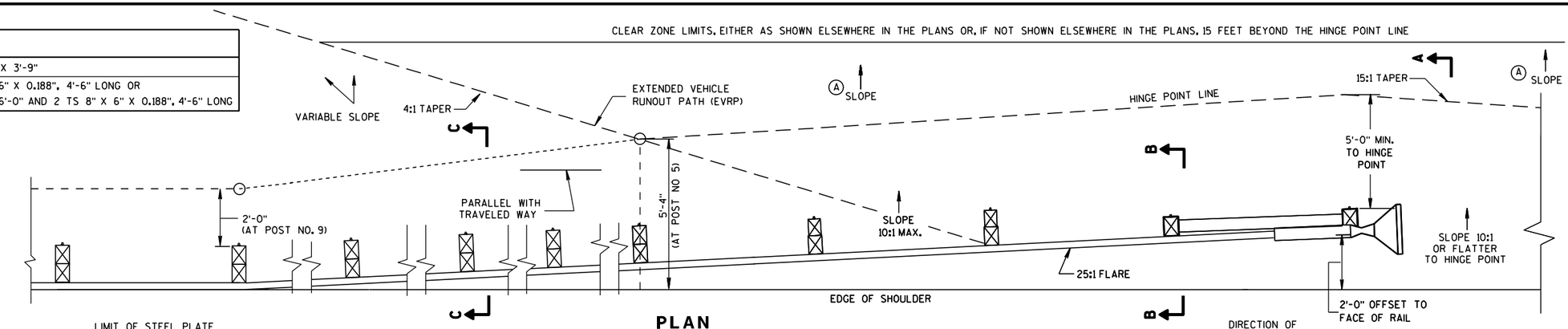
(F) SHEETING IS ATTACHED TO 0.040 ALUMINUM SHEET AND ATTACHED TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER OF E.A.T.

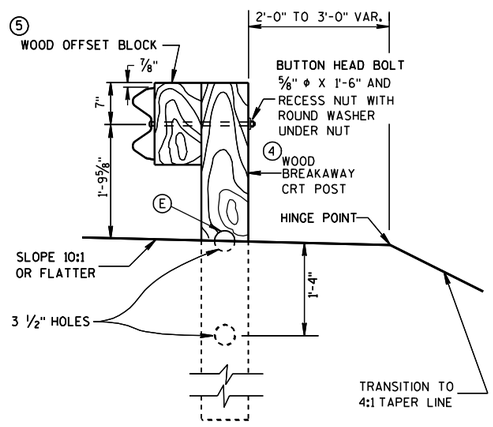
STEEL POSTS SHALL NOT BE ALLOWED FOR USE WITH ENERGY ABSORBING TERMINALS.

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

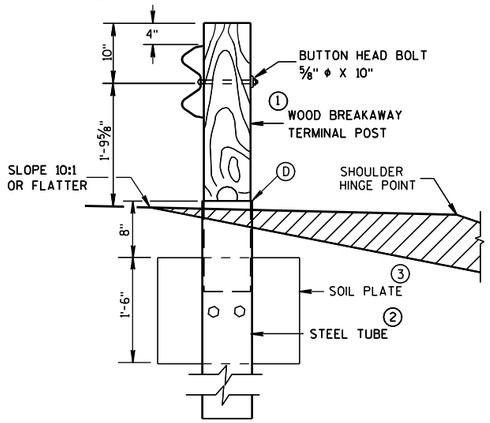
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

** SDD SHOWS 4 - 54 INCH STEEL TUBES WITH SOIL PLATES INSTALLED ON POST 1 AND POST 2. POST 3 AND 4 DO NOT NEED SOIL PLATES. AN ALTERNATIVE INSTALLATION WOULD CONSIST OF 2 - 72 INCH STEEL TUBES ON POST 1 AND POST 2 AND 54 INCH SOIL TUBES ON POSTS 3 AND 4. THE ALTERNATIVE INSTALLATION DOES NOT REQUIRE SOIL PLATES.

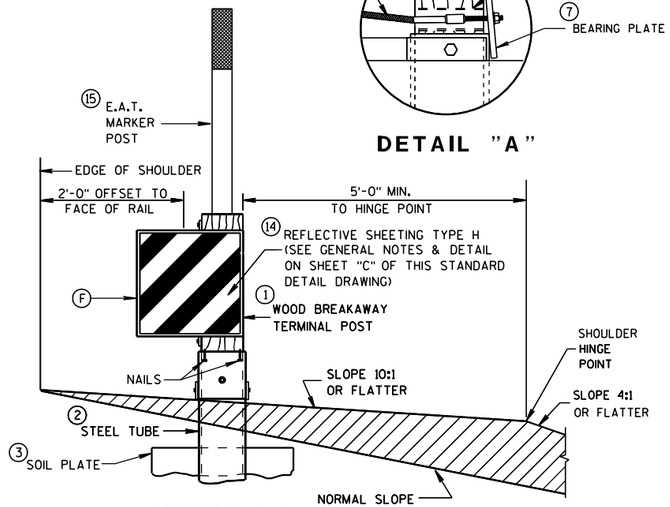




SECTION C-C
TYPICAL AT POST NOS. 6, 8

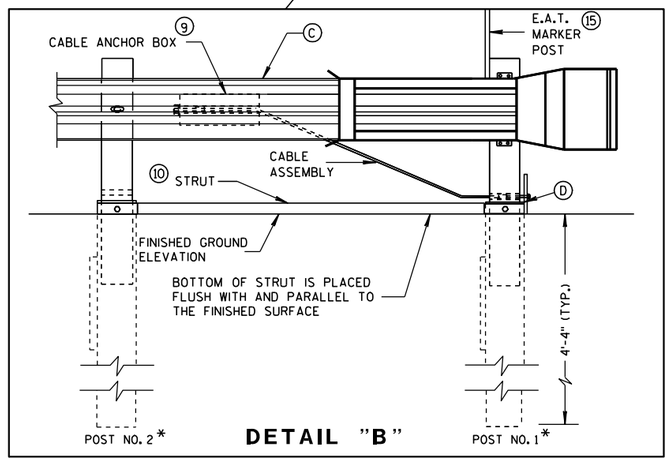


SECTION B-B
TYPICAL AT POST NO. 2*



DETAIL "A"

SECTION A-A
TYPICAL AT POST NO. 1*

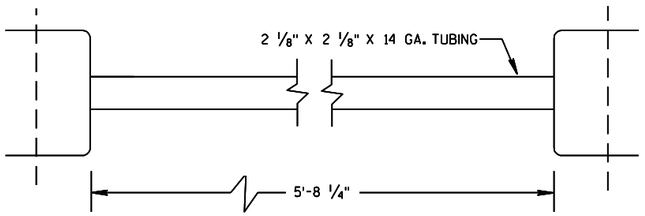


DETAIL "B"

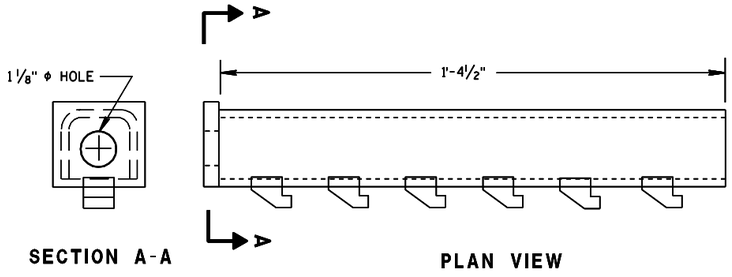
STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

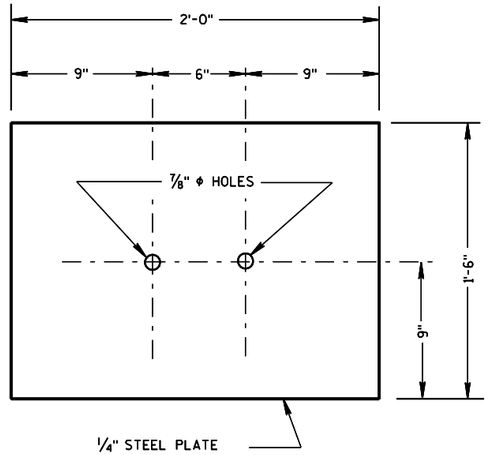
6
S.D.D. 14 B 24-7a



⑩ STRUT DETAIL (SKT-350)

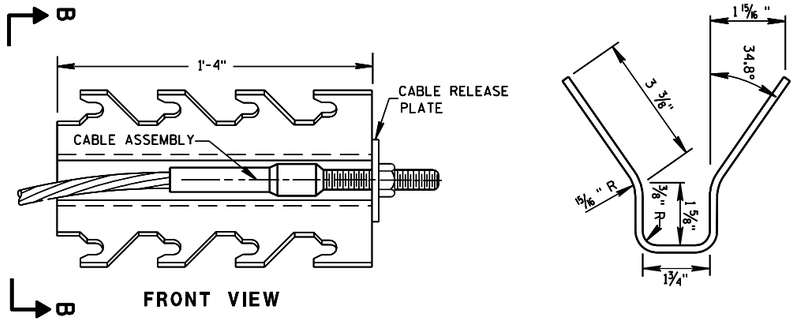


⑨ CABLE ANCHOR BOX (ET-2000/ET-2000 PLUS)



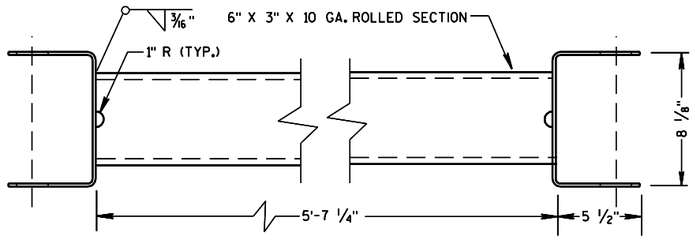
③ SOIL PLATE

(SKT-350, ET-2000/ET-2000 PLUS)



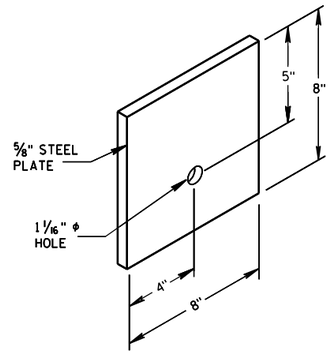
⑨ CABLE ANCHOR BOX (SKT-350)

(SKT-350)



⑩ STRUT DETAIL (ET-2000/ET-2000 PLUS)

(ET-2000/ET-2000 PLUS)



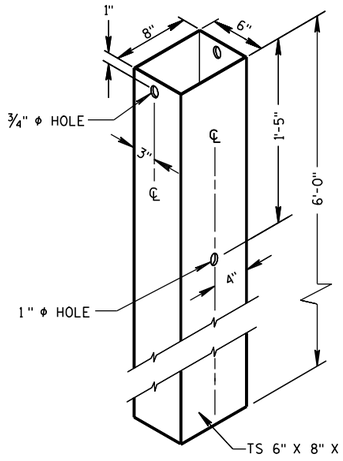
⑦ STEEL BEARING PLATE

(SKT-350, ET-2000/ET-2000 PLUS)

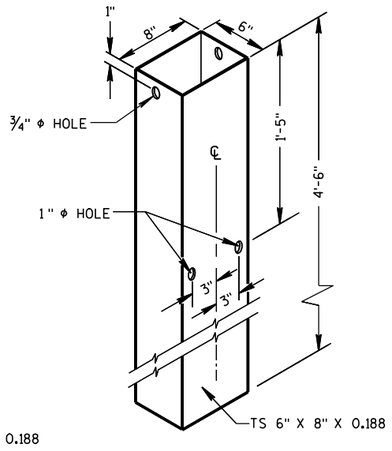
STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

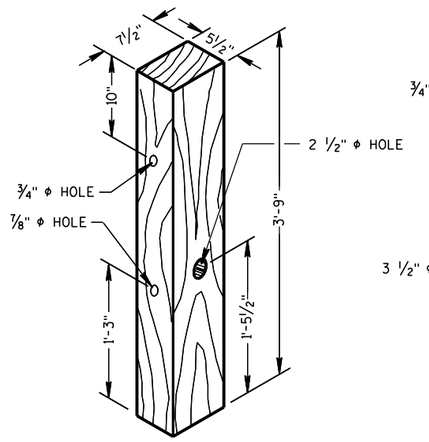
6
S.D.D. 14 B 24-7b



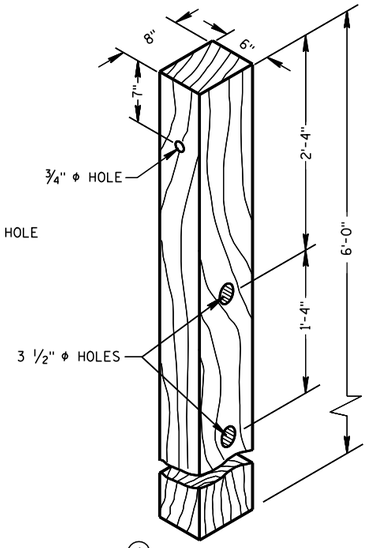
(2) 72" STEEL TUBE
(POSTS NO. 1-4



(2) 54" STEEL TUBE
(POSTS NO. 1-4



(1) TERMINAL POST
(POSTS NO. 1-4



(4) CRT POST
(POSTS NO'S 5-8

WOOD BREAKAWAY POSTS

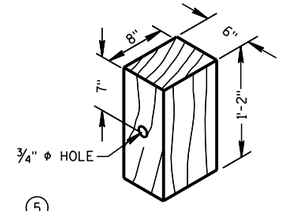
GENERAL NOTES

STEEL PLATE BEAM GUARD, ENERGY ABSORBING TERMINAL SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH, WHICH SHALL INCLUDE HARDWARE, STEEL PLATE BEAM GUARD, POSTS, REFLECTIVE SHEETING AND INSTALLATION AS SHOWN.

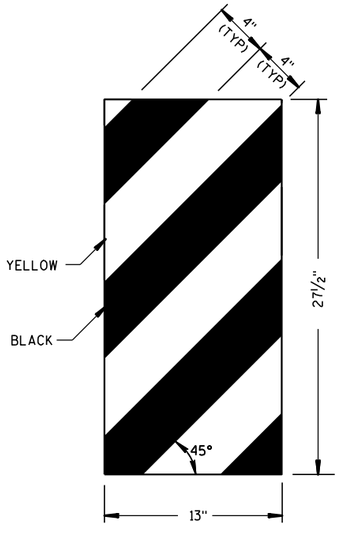
WHEN ROCK IS ENCOUNTERED DURING EXCAVATION, A 12 INCH DIA. POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK MAY BE USED IF APPROVED BY THE ENGINEER. GRANULAR MATERIAL SHALL BE PLACED IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 ½" INCHES DEEP TO PROVIDE DRAINAGE. THE SOIL TUBES SHALL BE FIELD CUT TO LENGTH, PLACED IN THE HOLE AND BACKFILLED WITH ADEQUATELY COMPACTED MATERIAL EXCAVATED FROM THE HOLE.

SEE APPROVED PRODUCTS LIST FOR ACCEPTABLE E. A. T. MARKER POST.

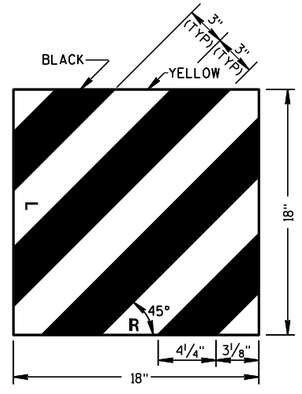
(G) ½" DIA. X 3" LAG BOLT WITH WASHER.



(5) WOOD OFFSET BLOCK
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2

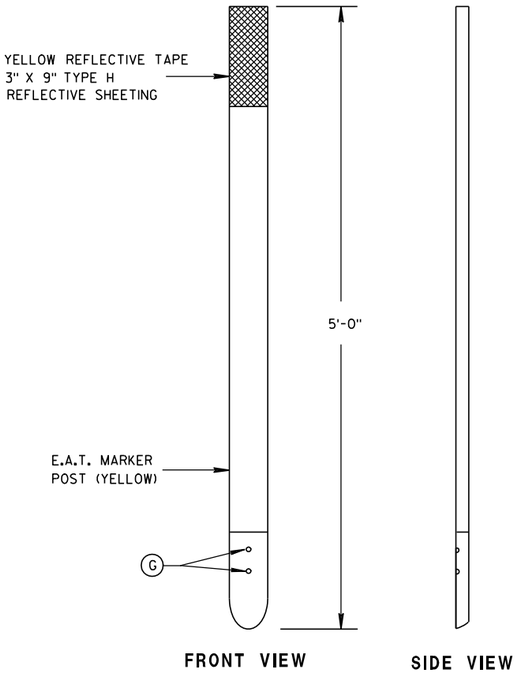


ET-2000 PLUS ONLY



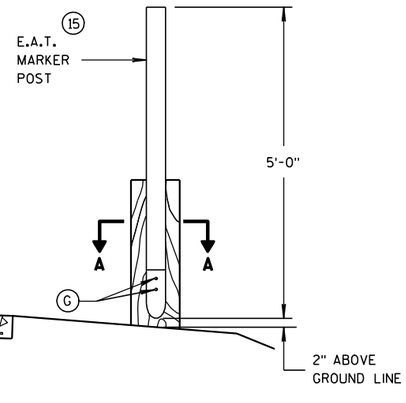
ET-2000 AND SKT-350

(14) REFLECTIVE SHEETING DETAILS

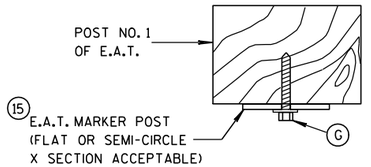


FRONT VIEW SIDE VIEW

(15) E.A.T. MARKER POST



TYPICAL INSTALLATION OF E.A.T.
MARKER POST BACKSIDE OF POST NO. 1
(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

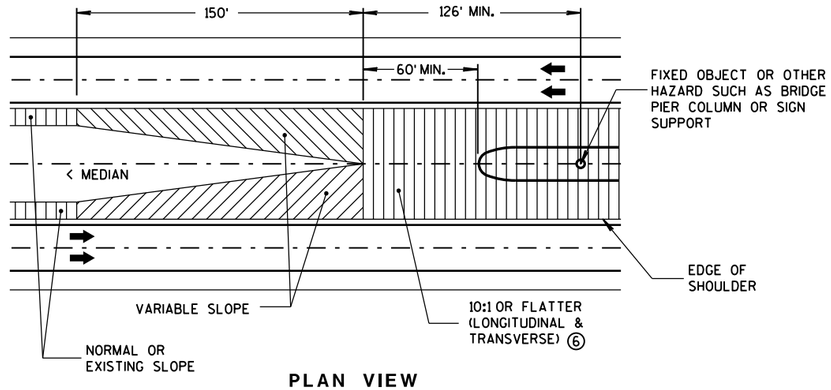
APPROVED
4-12-10 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 14 B 24-7c

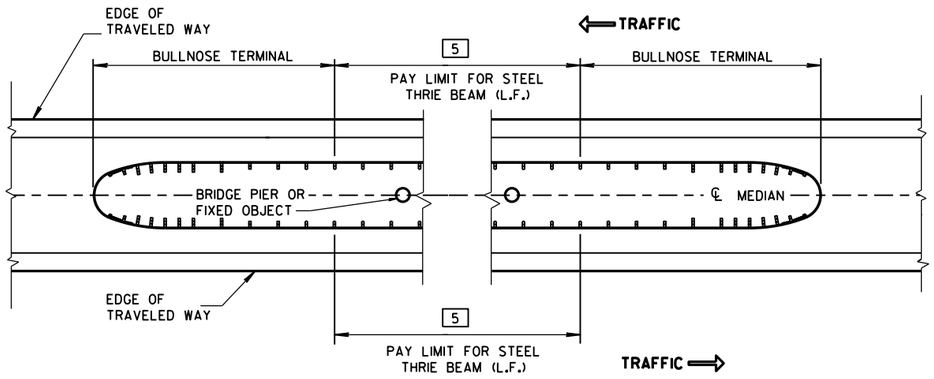
6

S.D.D. 14 B 24-7c

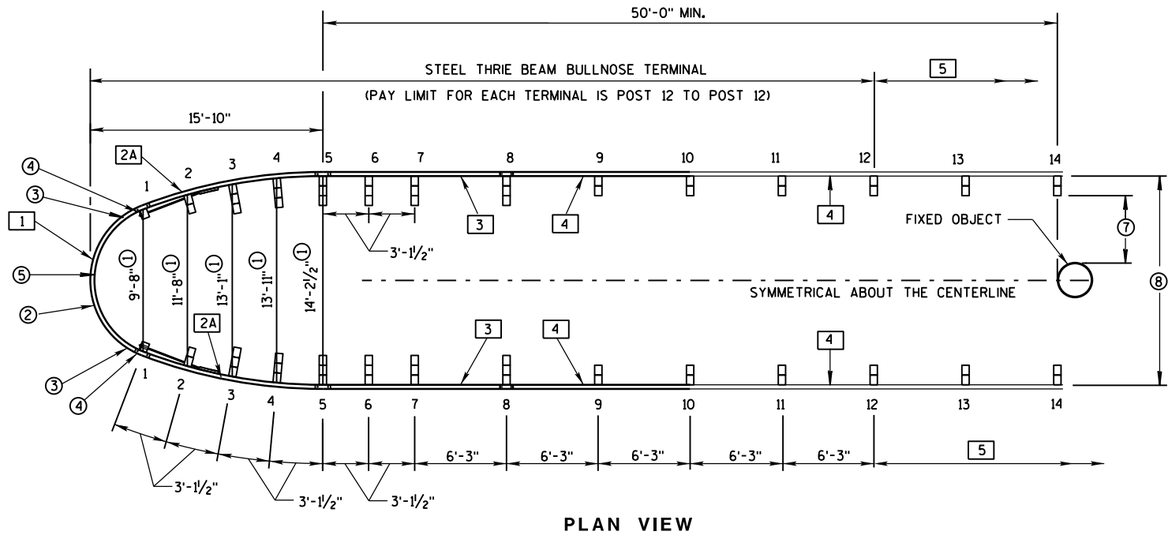


PLAN VIEW

GRADING AT BULLNOSE
(ALL INSTALLATIONS)

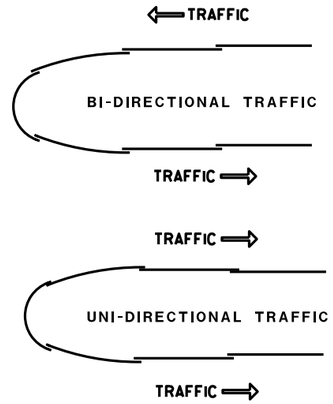


MEDIAN HAZARD PROTECTION PAY LIMITS



PLAN VIEW

TYPICAL BULLNOSE LAYOUT



LAPPING DETAIL
(ALL INSTALLATIONS)

GENERAL NOTES

SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.

PUNCHING, DRILLING, CUTTING OR WELDING IS NOT PERMITTED ON ANY GALVANIZED THRIE BEAM ACCESSORY OR TERMINAL ACCESSORY.

OTHER ANCHOR CABLE ASSEMBLIES HAVING 40,000 LBS. MIN. BREAKING STRENGTH MAY BE USED.

FOR POSTS 2 THROUGH 14, IF POST CANNOT BE INSTALLED AT SPECIFIED LOCATION 1 EXTRA STANDARD WOOD BLOCK MAY BE ADDED.

THE USE OF STEEL POSTS ON THE BULLNOSE IS NOT ALLOWED.

BOLTS AND ALL NECESSARY HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.

ALL THRIE BEAM SHALL BE 12-GAUGE.

[1] SLOTTED THRIE BEAM RAIL NO. 1. (POST 1 TO POST 1)

[2A] SLOTTED THRIE BEAM RAIL NO. 2A. (POST 1 TO POST 5)

[3] SLOTTED THRIE BEAM RAIL NO. 3. (POST 5 TO POST 8)

[4] UNBENT STANDARD THRIE-BEAM RAIL NO.4. (POST 8 TO POST 10 & POST 10 TO POST 12)

[5] BEYOND POST 12: CONSTRUCT STEEL THRIE BEAM - USE UNBENT STANDARD THRIE BEAM RAIL NO. 5.

① DIMENSIONS ARE FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO POST OR BLOCK.

② U-BOLT CABLE CLIPS (3 PER CABLE) SPACED OUT ON NOSE, TO HOLD CABLE TO BACKSIDE OF THE RAIL.

③ NOSE CABLE W/SWAGGED END BUTTONS.

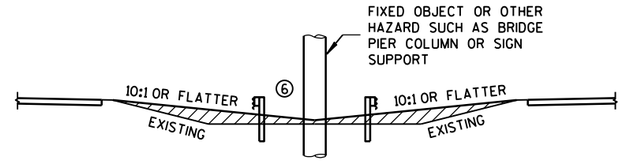
④ NOSE CABLE ANCHOR PLATE (BACKSIDE OF SPLICE).

⑤ THE SLACK IN THE NOSE CABLES SHALL BE EVENLY DISTRIBUTED BETWEEN THE CABLE CLIP FASTENERS AND POST NO. 1 ON EITHER SIDE OF THE NOSE.

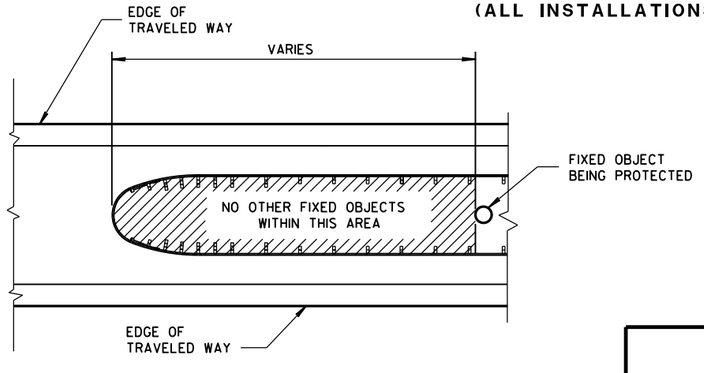
⑥ PROVIDE SUITABLE DRAINAGE WHEN MEDIAN GRADING IMPEDES NORMAL FLOW.

⑦ 2'-6" MINIMUM LATERAL DISTANCE BETWEEN BACK OF POST AND FACE OF FIXED OBJECT.

⑧ MAXIMUM WIDTH OF SYSTEM IS 14'-2½" MEASURED FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO A POST OR BLOCK.



MEDIAN GRADING SECTION
(ALL INSTALLATIONS)



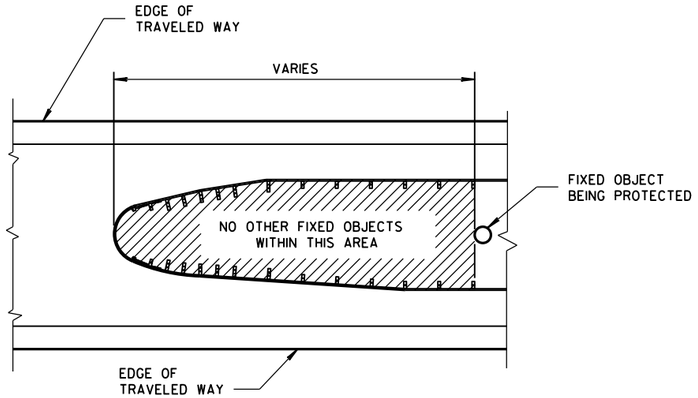
HAZARD FREE AREA INSIDE BULLNOSE

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

S.D.D. 14 B 26-2a



HAZARD FREE
AREA INSIDE BULLNOSE

GENERAL NOTES

SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.

FOR POSTS 2 THROUGH 14, IF POST CANNOT BE INSTALLED AT SPECIFIED LOCATION 1 EXTRA STANDARD WOOD BLOCK MAY BE ADDED.

[1] SLOTTED THRIE BEAM RAIL NO. 1. (POST 1 TO POST 1)

[2A] SLOTTED THRIE BEAM RAIL NO. 2A, (POST 1 TO POST 5)

[2B] SLOTTED THRIE BEAM RAIL NO. 2B, (POST 1 TO POST 5)

[3] SLOTTED THRIE BEAM RAIL NO. 3. (POST 5 TO POST 8)

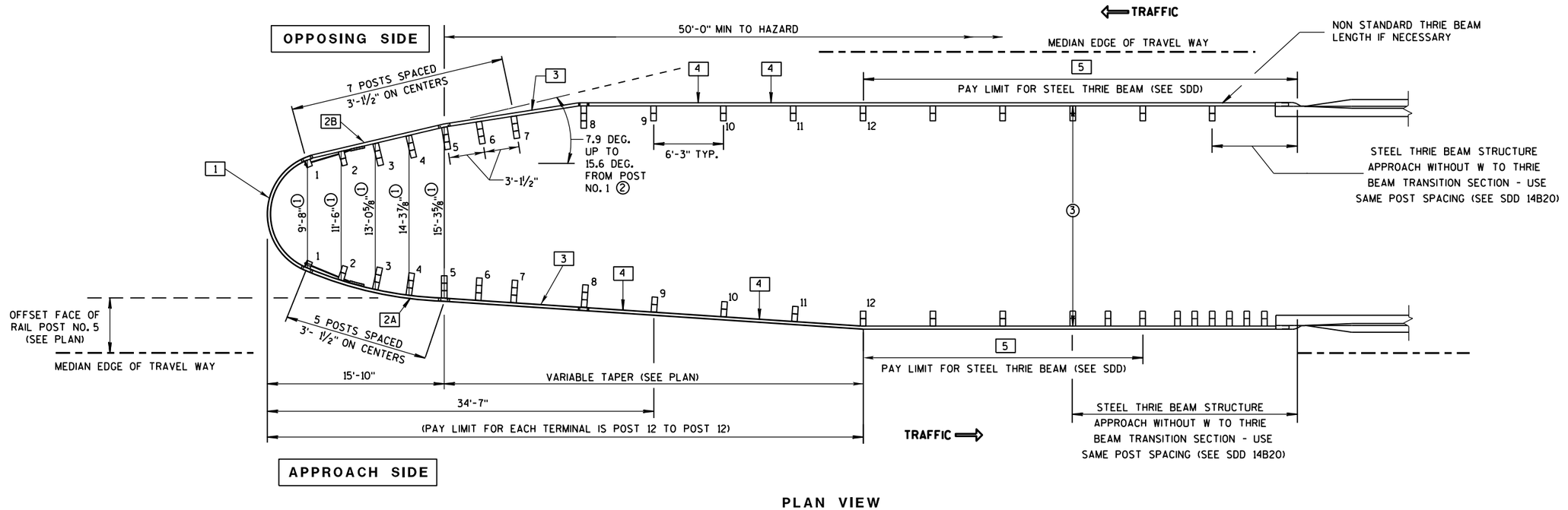
[4] UNBENT STANDARD THRIE-BEAM RAIL NO. 4, (POST 8 TO POST 10 & POST 10 TO POST 12)

[5] BEYOND POST 12: CONSTRUCT STEEL THRIE BEAM - USE UNBENT STANDARD THRIE BEAM RAIL NO. 5.

① DIMENSIONS ARE FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO POST.

② TAPER BEGINNING AT POST NO. 1 MUST CONTINUE TO POST NO. 5. PAST POST NO. 5 TAPER MAY END OR BE EXTENDED UP TO 15.6 DEGREES TO FIT VARIABLE MEDIAN WIDTHS. (SEE PLAN)

③ FOR MEDIANS WIDER THAN 14'-2½" MEASURED FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO A POST OR BLOCK.



PLAN VIEW

WIDENED BULLNOSE DESIGN

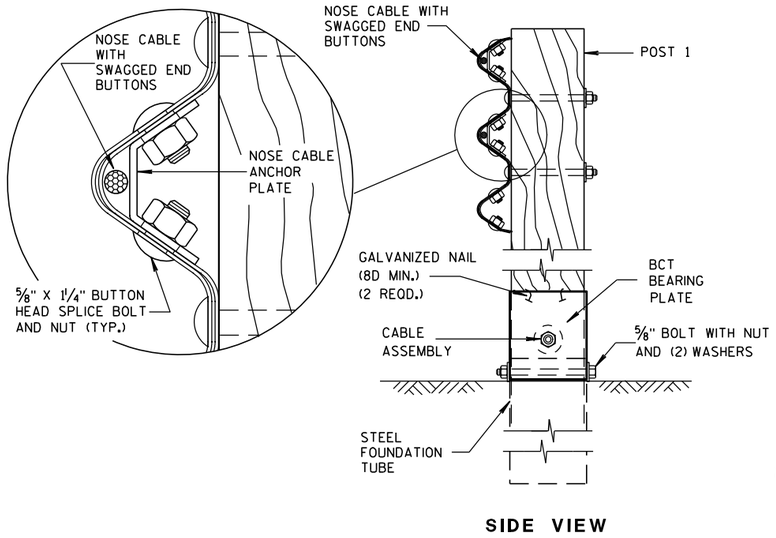
(INSTALLATION AT TWIN BRIDGES WITH BI-DIRECTIONAL TRAFFIC SHOWN)

STEEL THRIE BEAM
BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

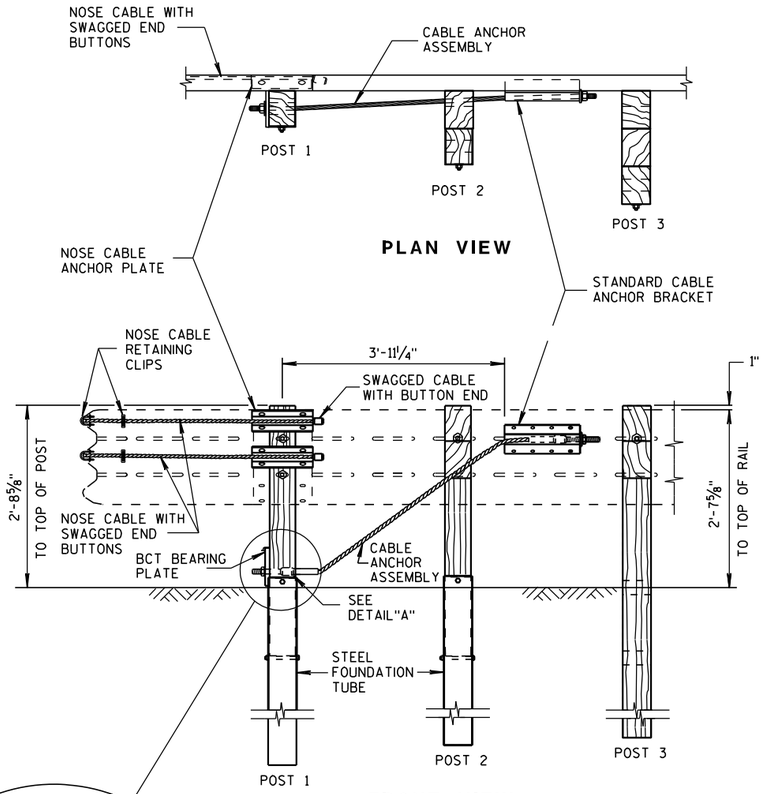
6

S.D.D. 14 B 26-2b



SIDE VIEW

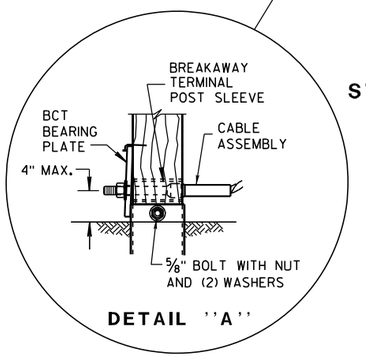
NOSE CABLE ASSEMBLY AT POST NO. 1



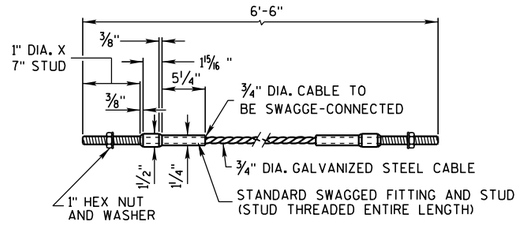
PLAN VIEW

FRONT VIEW

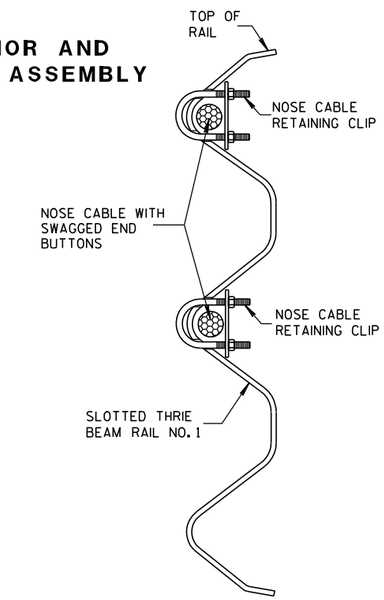
NOSE CABLE ANCHOR AND STANDARD BRACKET ASSEMBLY



DETAIL ''A''



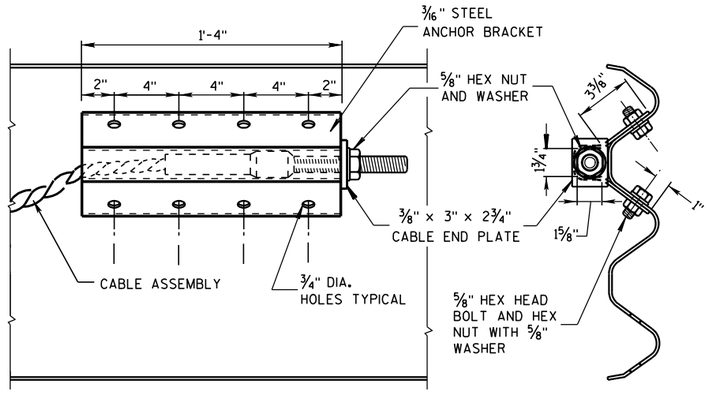
DETAILS OF CABLE ANCHOR ASSEMBLY



PLACEMENT OF NOSE CABLE RETAINING CLIP

GENERAL NOTES

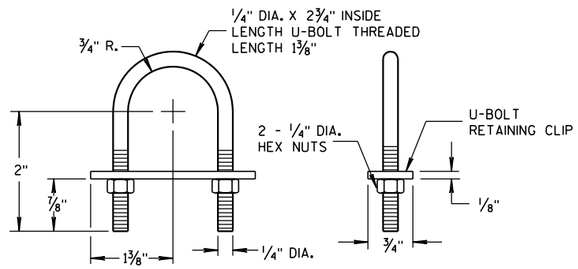
SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.



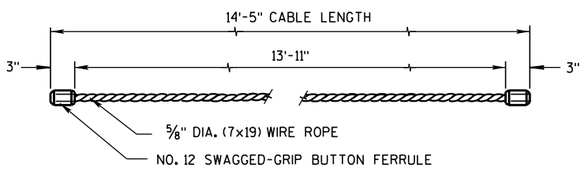
FRONT VIEW

END VIEW

DETAILS OF CABLE ANCHOR BRACKET

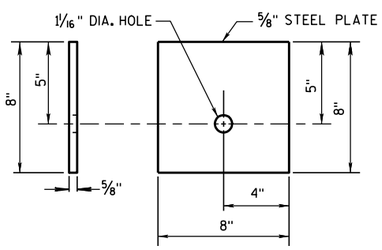


NOSE CABLE RETAINING CLIP

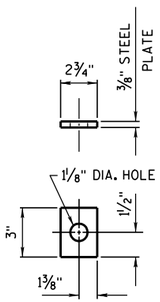


NOSE CABLE WITH SWAGGED END BUTTONS

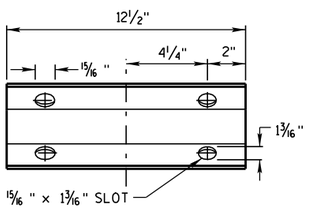
TO PULL OFF SWAGGED GRIP BUTTON FERRULE FROM WIRE ROPE REQUIRES A FORCE EQUAL TO 98% OF THE WIRE ROPE'S BREAKING STRENGHT.



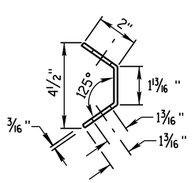
BCT BEARING PLATE



CABLE END PLATE



ELEVATION VIEW



END VIEW

NOSE CABLE ANCHOR PLATE

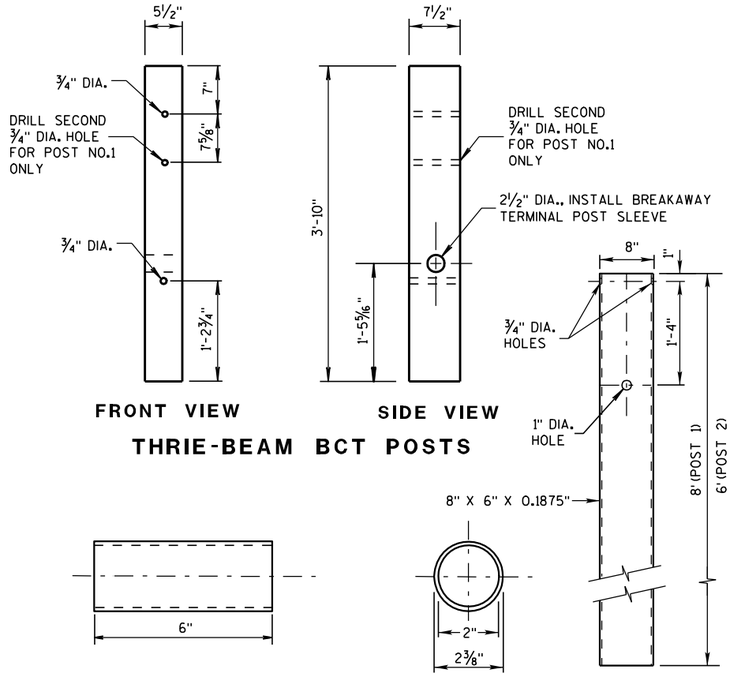
NOTE: 12 1/2" x 5 13/16" x 3/16" STEEL PLATE (A306)

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 26-2c

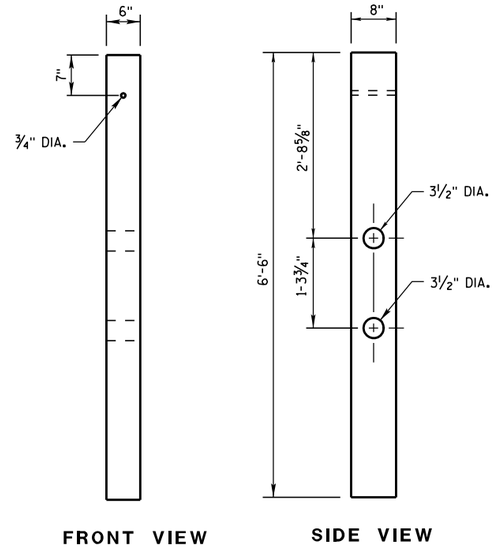


FRONT VIEW SIDE VIEW

THRIE-BEAM BCT POSTS

BREAKAWAY TERMINAL POST SLEEVE

STEEL FOUNDATION TUBE

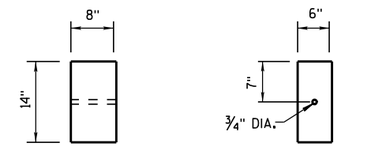


FRONT VIEW SIDE VIEW

THRIE-BEAM CRT WOOD POSTS

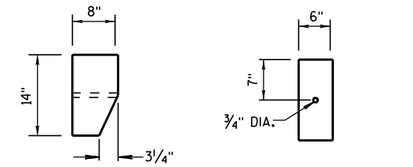
GENERAL NOTES

SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.



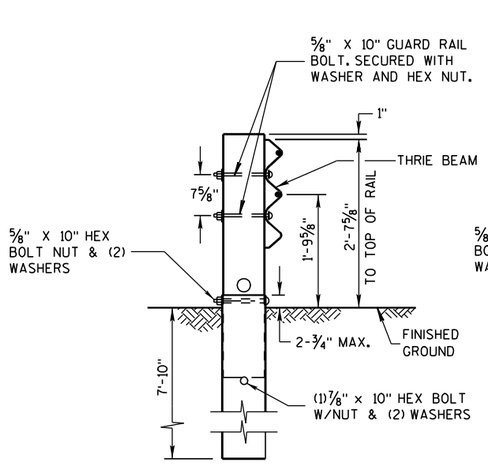
SIDE VIEW FRONT VIEW

STANDARD WOOD BLOCK



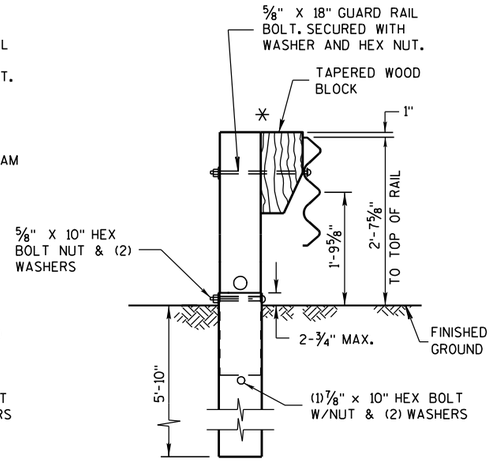
SIDE VIEW FRONT VIEW

TAPERED WOOD BLOCK



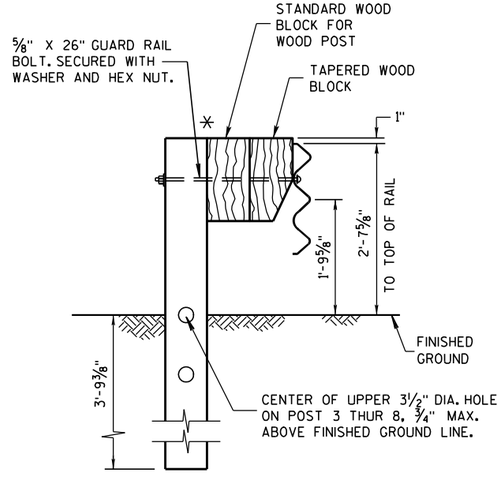
THRIE-BEAM BCT POST
(WITH 8'-0" FOUNDATION TUBE)

POST NO. 1



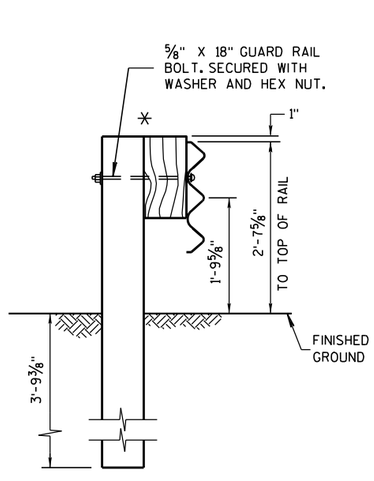
THRIE-BEAM BCT POST
(WITH 6'-0" FOUNDATION TUBE AND 1'-2" TAPERED BLOCK)

POST NO. 2



THRIE-BEAM CRT POST
(6'-6" LONG POST WITH 1'-2" BLOCK AND 1'-2" TAPERED BLOCK)

POST NO. 3,4,5,6,7, & 8



THRIE-BEAM POST
(6'-6" LONG POST WITH 1'-2" BLOCK)

POST NO. 9,10,11,& 12
(ALSO USE FOR STEEL THRIE BEAM BEYOND POST 12)

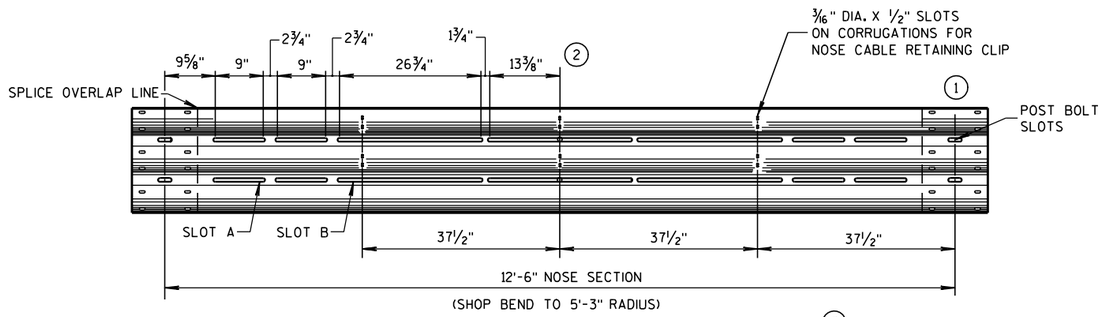
* IF NEEDED DUE TO AN UNDERGROUND OBSTACLE ADD 1 ADDITIONAL STANDARD BLOCKOUT TO POST.

STEEL THRIE BEAM BULLNOSE TERMINAL

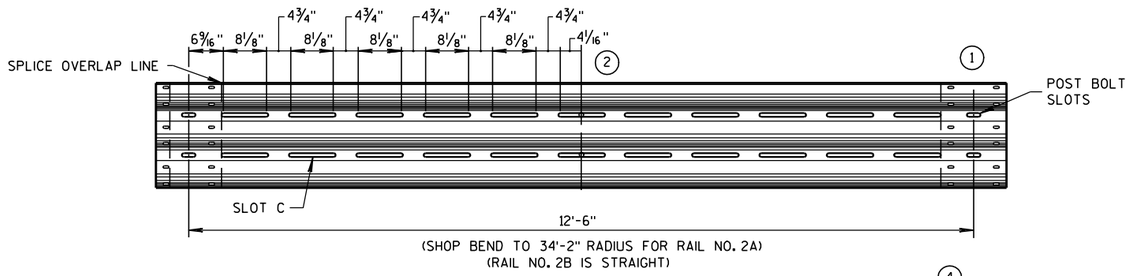
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

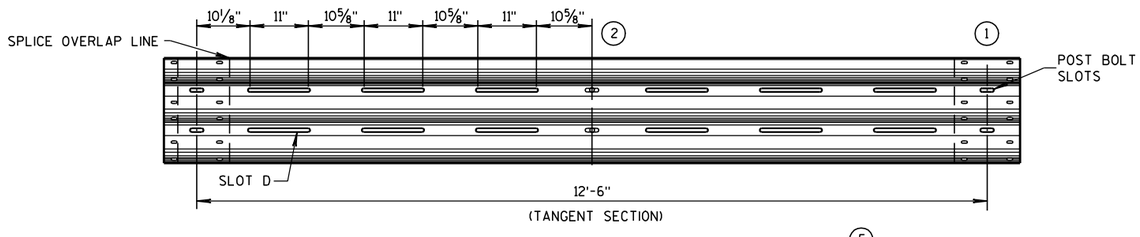
S.D.D. 14 B 26-2d



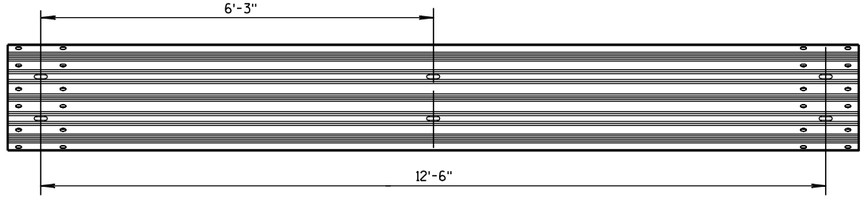
SLOTTED THRIE BEAM RAIL NO. 1 (3)



SLOTTED THRIE BEAM RAILS NO. 2A AND NO. 2B (4)



SLOTTED THRIE BEAM RAIL NO. 3 (5)



UNBENT STANDARD THRIE BEAM RAIL NO. 4 AND NO. 5

GENERAL NOTES

SEE STANADRD DETAIL DRAWINGS 14 B 26a-e.

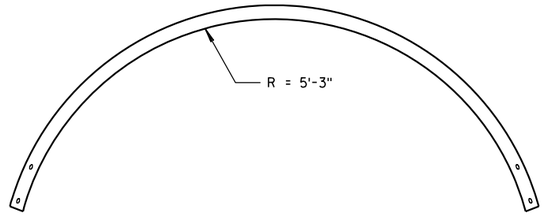
(1) SLOTTED THRIE BEAM RAIL DIMENSIONS SHOWN ARE BEFORE BENDING TO THE RADIUS SHOWN.

(2) SLOT SIZE AND SPACING SYMMETRIC.

(3) SLOTTED THRIE BEAM RAIL NO. 1, 12'-6", SHOP BEND TO R=5'-3".

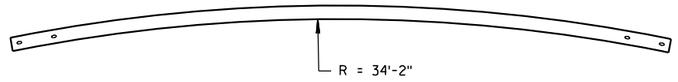
(4) SLOTTED THRIE BEAM RAIL NO. 2A, 12'-6", SHOP BEND TO R=34'-2".
SLOTTED THRIE BEAM RAIL NO. 2B, 12'-6", RAIL IS STRAIGHT.

(5) SLOTTED THRIE BEAM RAIL NO. 3, 12'-6", TANGENT.



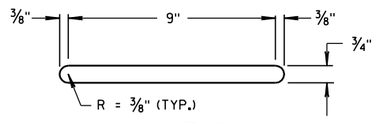
PLAN VIEW

SLOTTED THRIE BEAM RAIL NO. 1

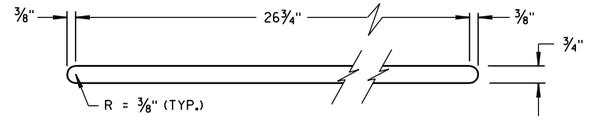


PLAN VIEW

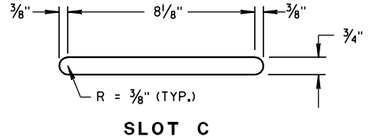
SLOTTED THRIE BEAM RAIL NO. 2A



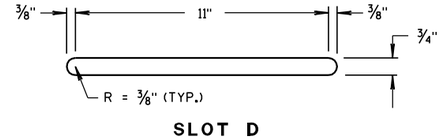
SLOT A



SLOT B



SLOT C



SLOT D

SLOT DETAILS

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9-16-2010 — DATE

/S/ Jerry H. [illegible] — ROADWAY STANDARDS ENGINEER

FHWA

6

S.D.D. 14 B 26-2e

6

S.D.D. 14 B 26-2e

GENERAL NOTES

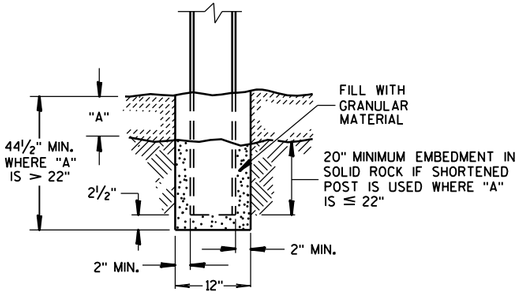
1. WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

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.

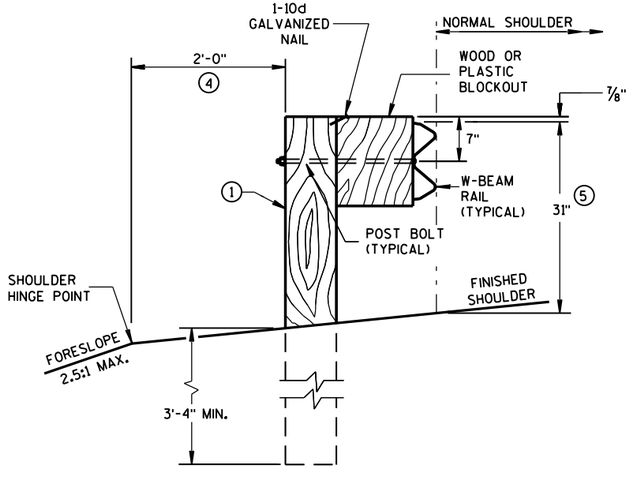
3. IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½ INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO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

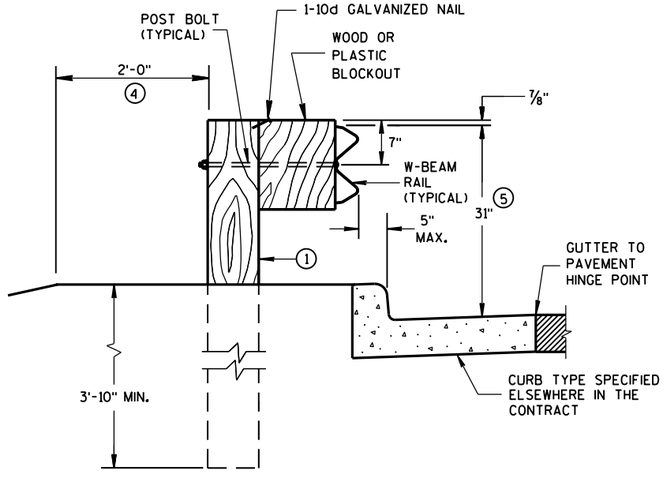
5. FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".



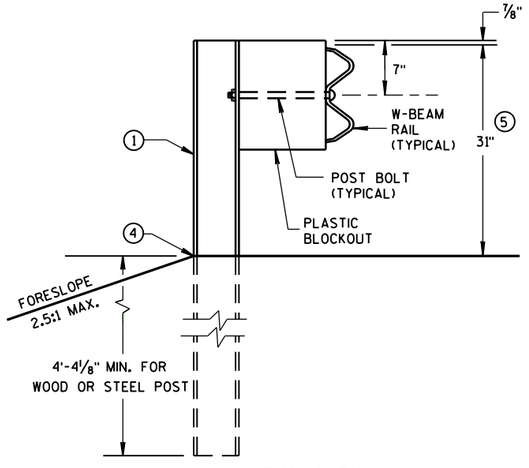
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



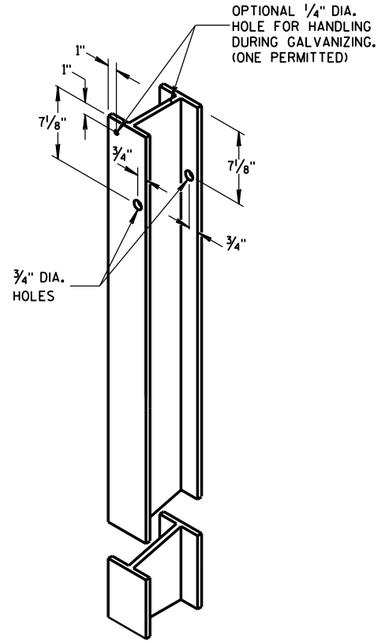
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



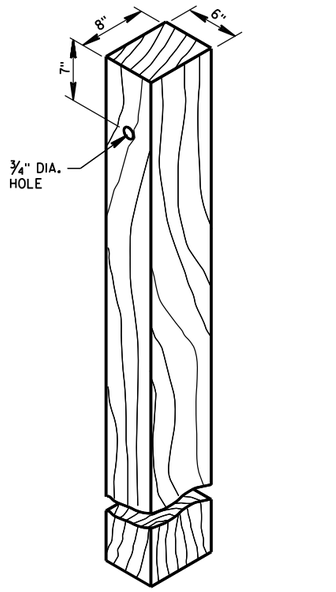
END VIEW
LOCATED ALONG A CURBED ROADWAY



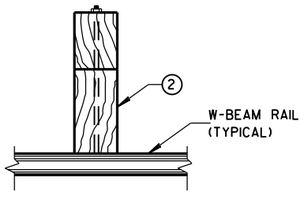
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



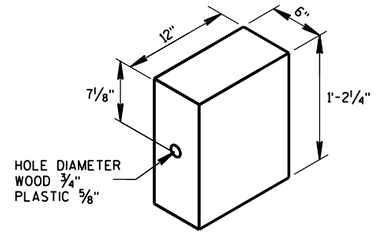
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) (1)



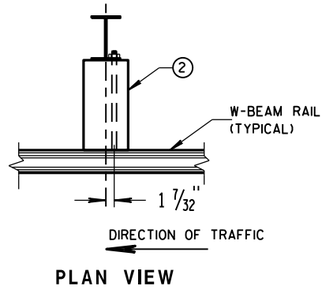
WOOD POST
(6" X 8") NOMINAL (1)



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT (2)

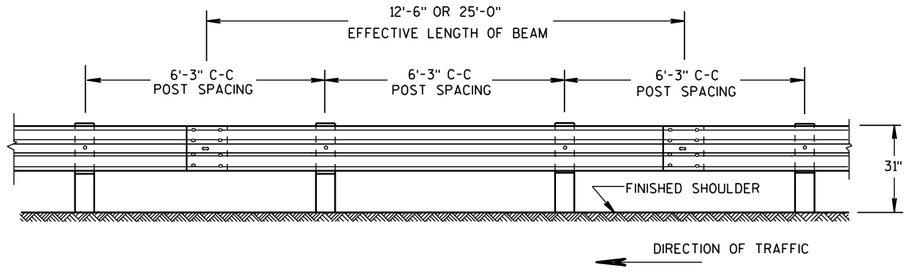


PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

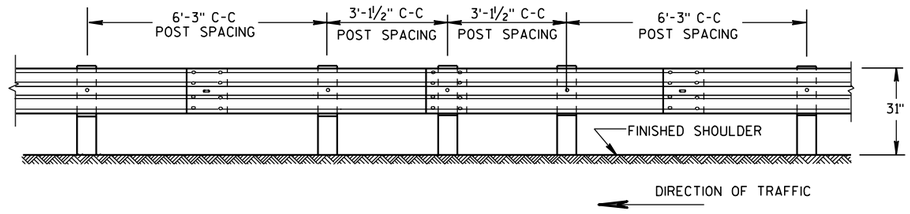
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6
S.D.D. 14 B 42-2a



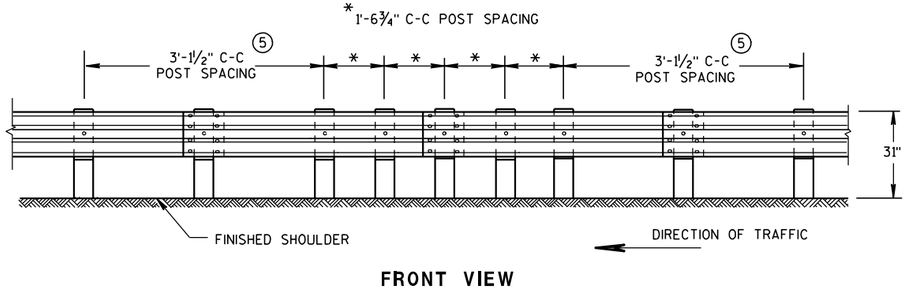
FRONT VIEW

POST SPACING STANDARD INSTALLATION



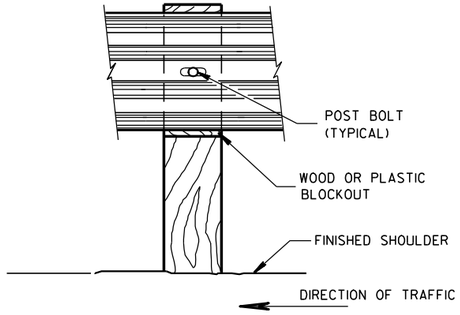
FRONT VIEW

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

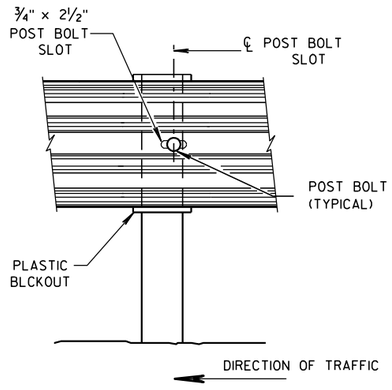


FRONT VIEW

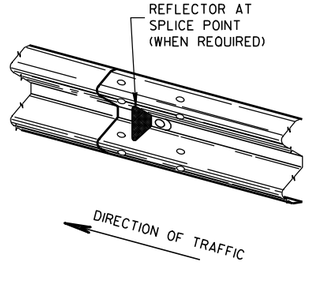
QUARTER POST SPACING (QS)

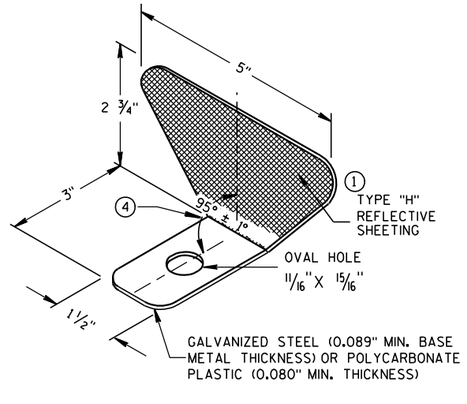


FRONT VIEW AT WOOD POST

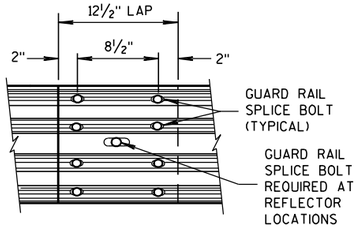


FRONT VIEW AT STEEL POST



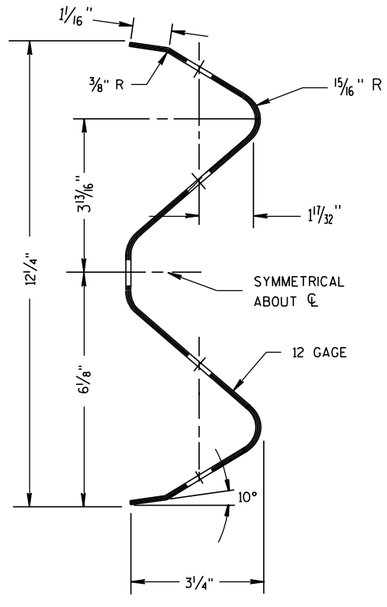


ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION ①



FRONT VIEW

MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL

GENERAL NOTES

① PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.

② 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.

③ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

④ PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

⑤ 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 ②

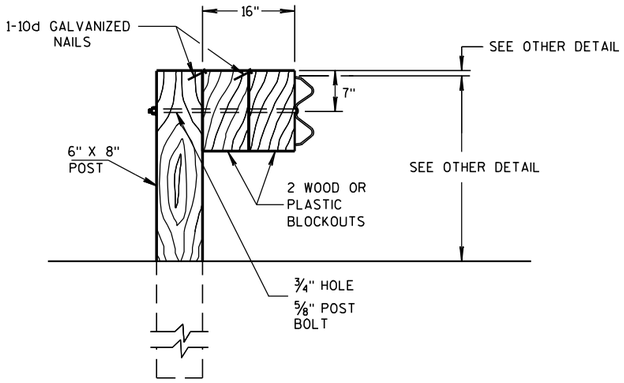
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	1 1	3
TWO WAY TRAFFIC	< 200' > 200'	25' C-C 50' C-C	1 ③ 1	6
TWO WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	2 ④ 2	3

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

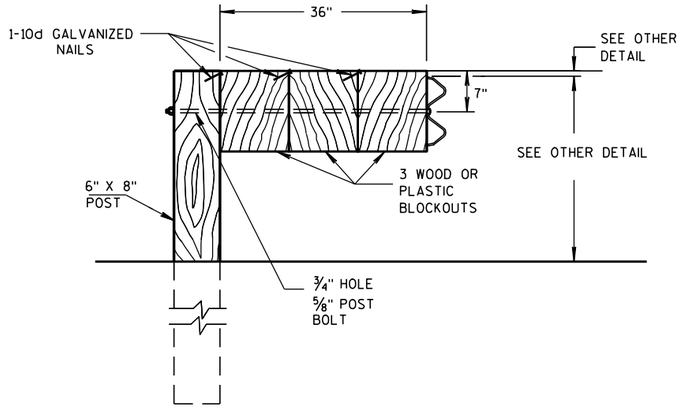
S.D.D. 14 B 42-2b

S.D.D. 14 B 42-2b



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.

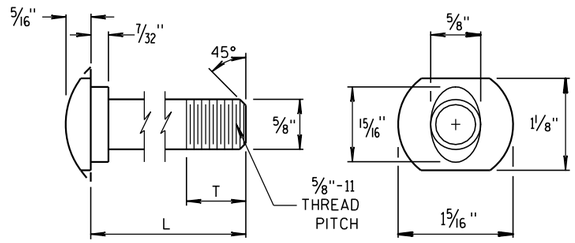


DETAIL FOR 36" BLOCKOUT DEPTH

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.

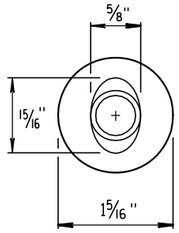
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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.

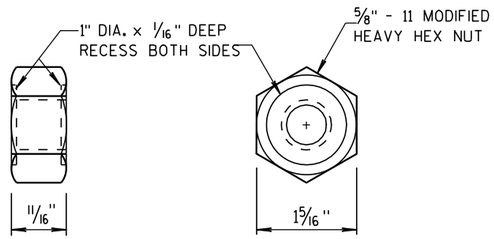


POST BOLT TABLE

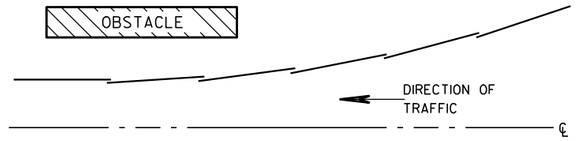
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

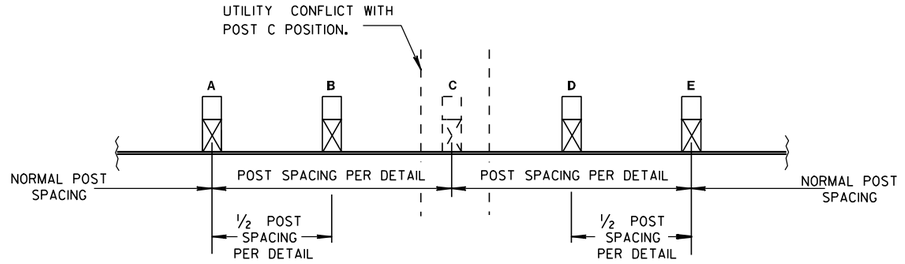


POST BOLT AND RECESS NUT

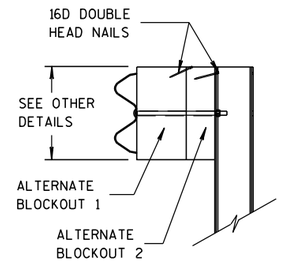


PLAN VIEW

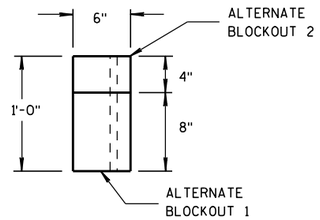
BEAM LAPPING DETAIL



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

11/15/2011
DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

FHWA

ENT

GENERAL NOTES

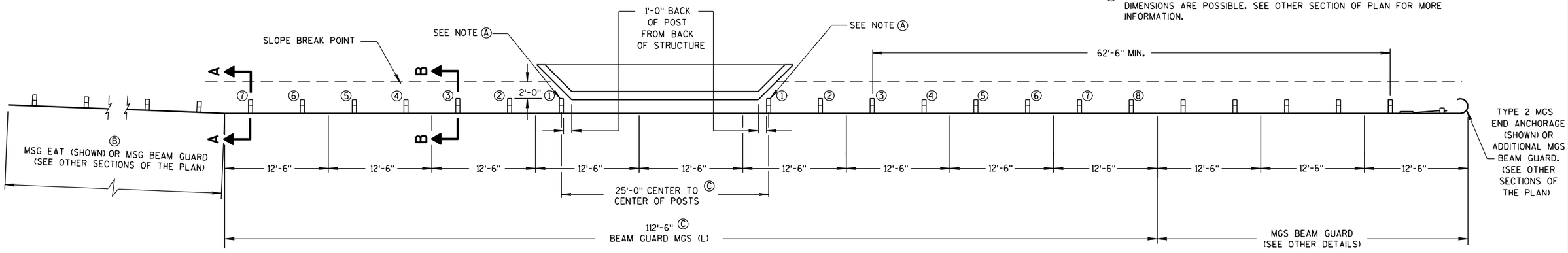
POSTS 1 THROUGH 3 ARE CRT POSTS.
ALL OTHER POSTS SHALL BE WOOD OR STEEL.

SEE SDD 14 B 42 FOR MORE DETAILS.

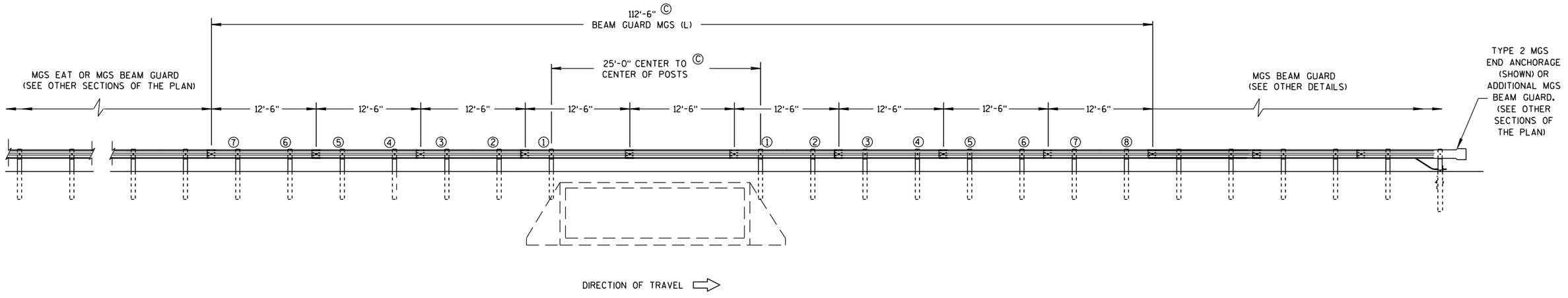
Ⓐ THE MINIMUM OFFSET FROM BACK OF POST TO BACK OF STRUCTURE IS ZERO. LARGER OFFSETS ARE ACCEPTABLE.

Ⓑ FLARE FOR MGS EAT SHOWN. IF INSTALLING MGS NO FLARE NEEDED.

Ⓒ VALUES SHOWN ON DRAWING REPRESENT THE MAXIMUM LENGTH. SHORTER DIMENSIONS ARE POSSIBLE. SEE OTHER SECTION OF PLAN FOR MORE INFORMATION.



PLAN VIEW



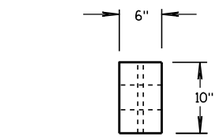
ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) ONE-WAY TRAFFIC

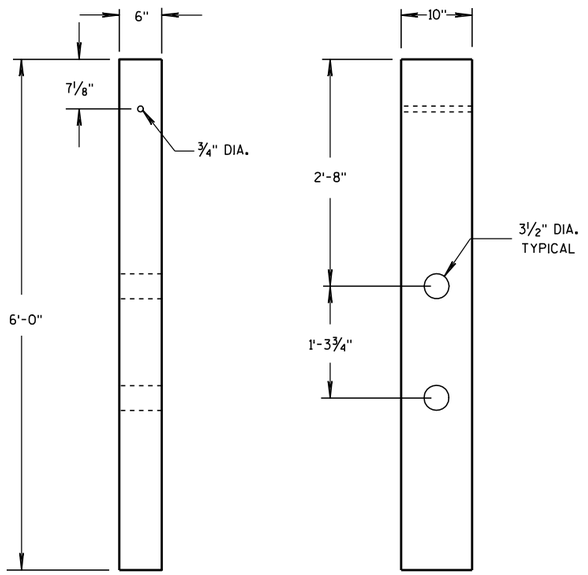
MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	

6

S.D.D. 14 B 43-2b

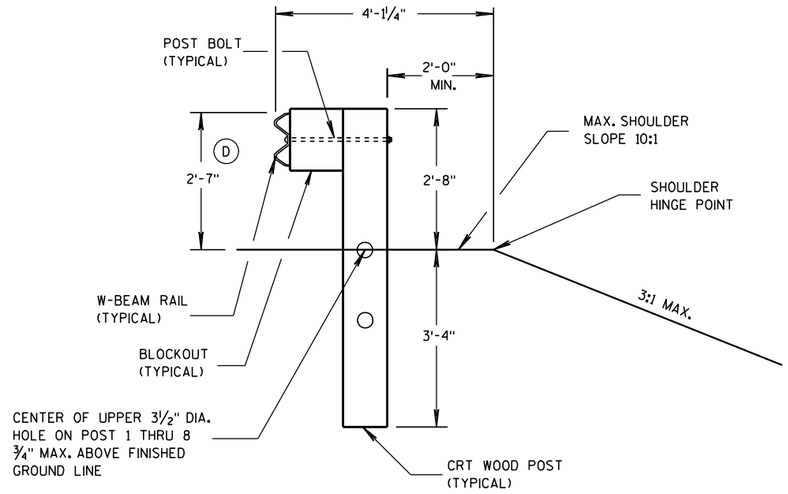


PLAN VIEW



FRONT VIEW SIDE VIEW

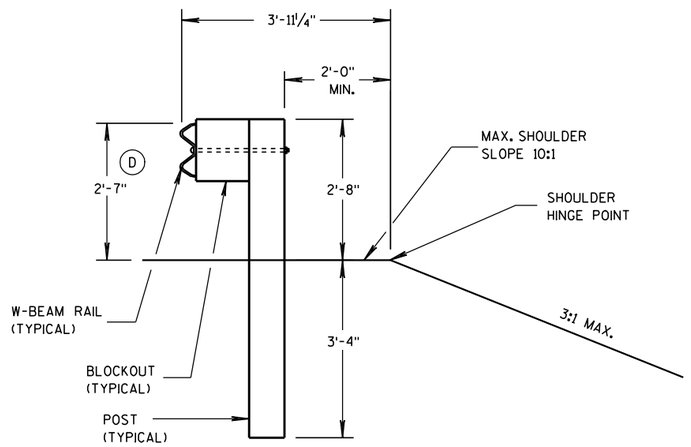
CRT WOOD POST



SECTION B-B

POSTS NO. 1-3

SEE OTHER DETAILS



SECTION A-A

POSTS NO. 4-8

SEE OTHER DETAILS

GENERAL NOTES

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

MIDWEST GUARDRAIL SYSTEM
LONG SPAN MGS (L)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA

ENT

6

S.D.D. 14 B 43-2c

6

S.D.D. 14 B 43-2c

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE EXTENDED VEHICLE RUNOUT PATH (EVRP), 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) SHEETING IS ATTACHED TO 0.040 ALUMINUM SHEET AND ATTACHED TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER OF E.A.T.

(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.

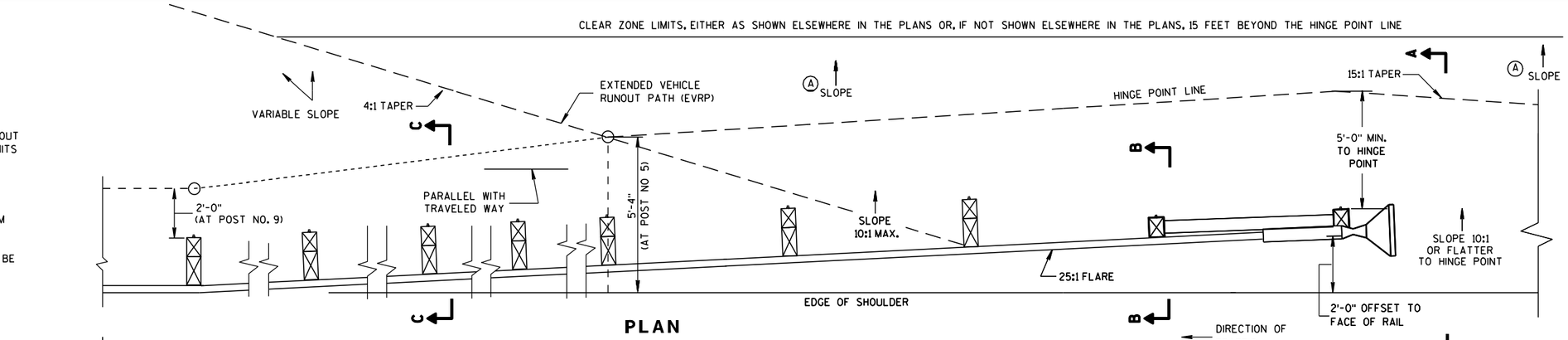
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

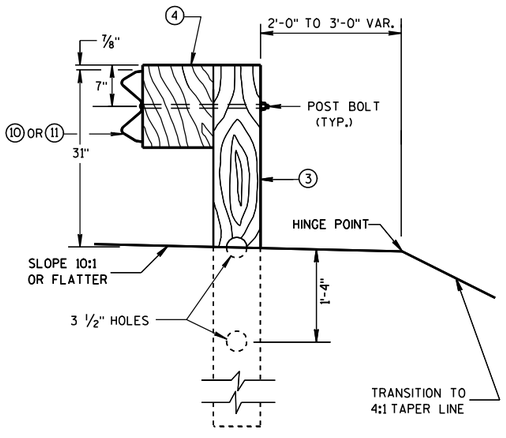
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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.

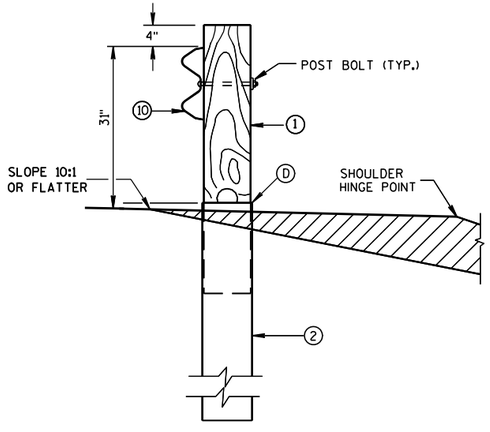
PATTERN AND COLORS ON REFLECTIVE SHEETING TYPE H ARE TO CONFORM TO OM3-L OR OM3-R OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE (± ¾")

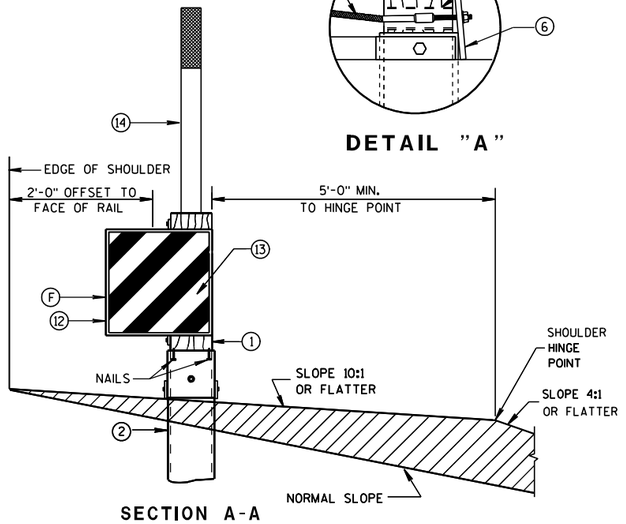




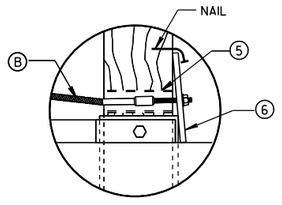
SECTION C-C
TYPICAL AT POST NOS. 3-9



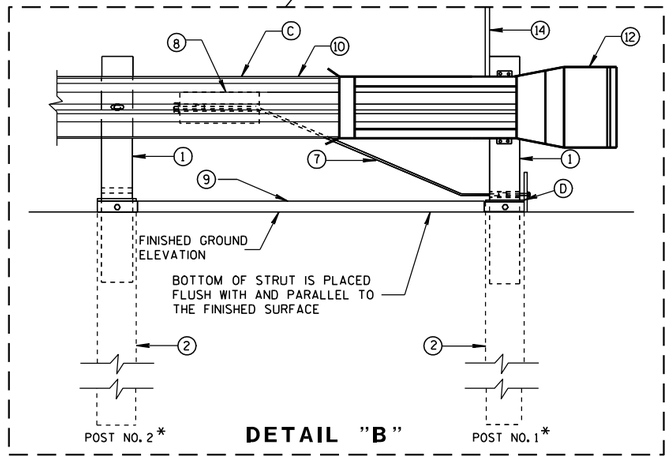
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"

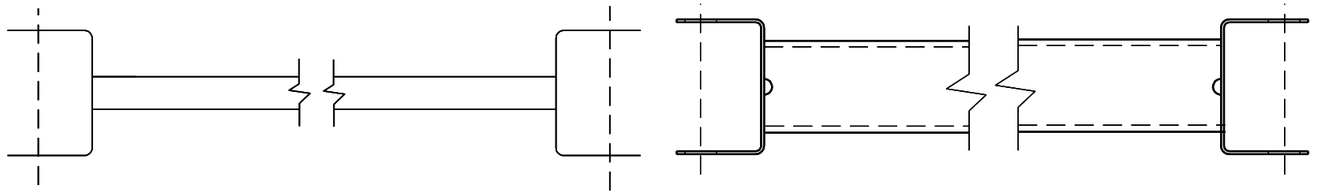


DETAIL "B"

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

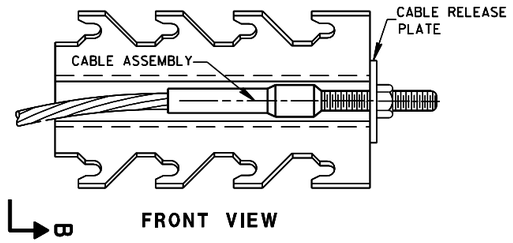
6
S.D.D. 14 B 44-1a



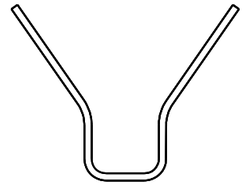
GENERIC GROUND STRUT (9) (H)

BILL OF MATERIALS

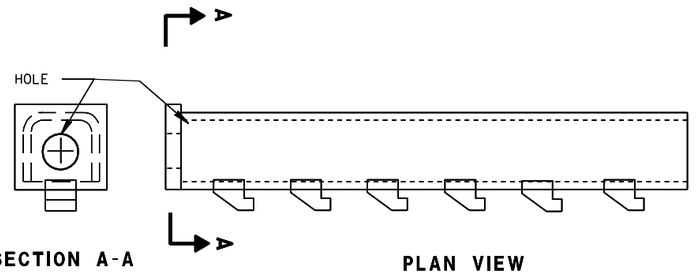
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
(1)	WOOD BREAKAWAY POST
(2)	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
(3)	WOOD CRT
(4)	WOOD BLOCKOUT
(5)	PIPE SLEEVE
(6)	BEARING PLATE
(7)	BCT CABLE ASSEMBLY
(8)	ANCHOR 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 H (ONLY THE SHEETING IS SUPPLIED BY THE MANUFACTURER)
(14)	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



FRONT VIEW



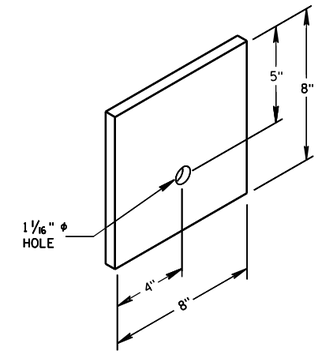
SECTION B-B



SECTION A-A

PLAN VIEW

GENERIC ANCHOR CABLE BOX (8) (H)



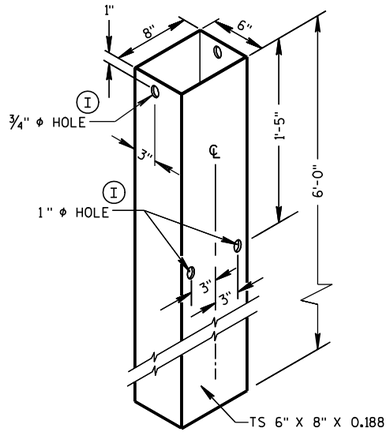
BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

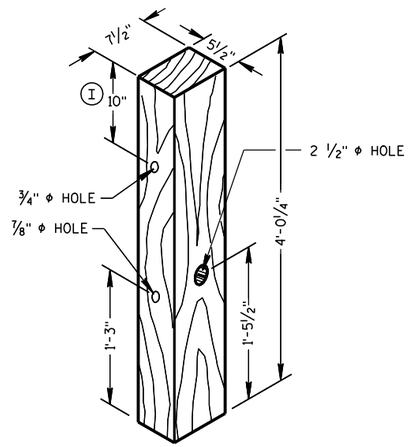
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 44-1b

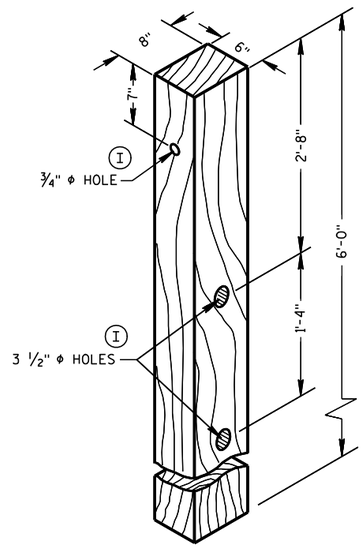


FOUNDATION TUBE (2)



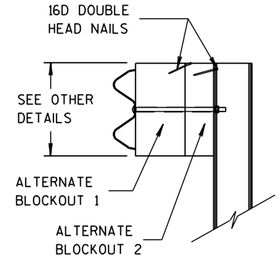
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

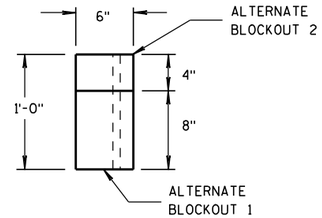


POSTS NUMBER 3-9

WOOD CRT POST (3)

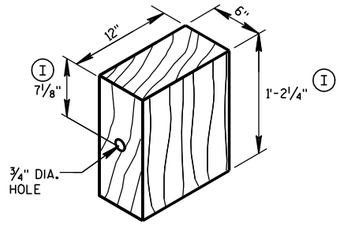


SIDE VIEW



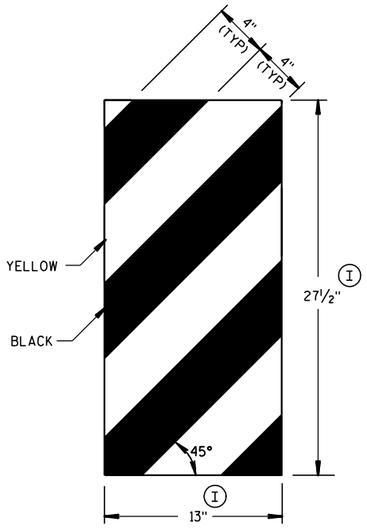
TOP VIEW

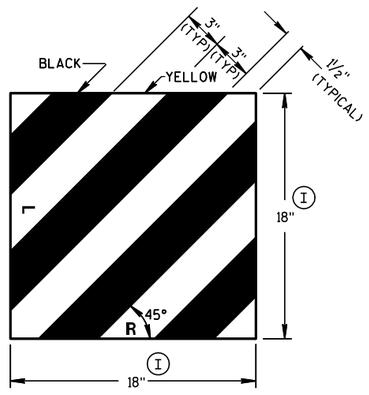
ALTERNATE WOOD BLOCKOUT DETAIL



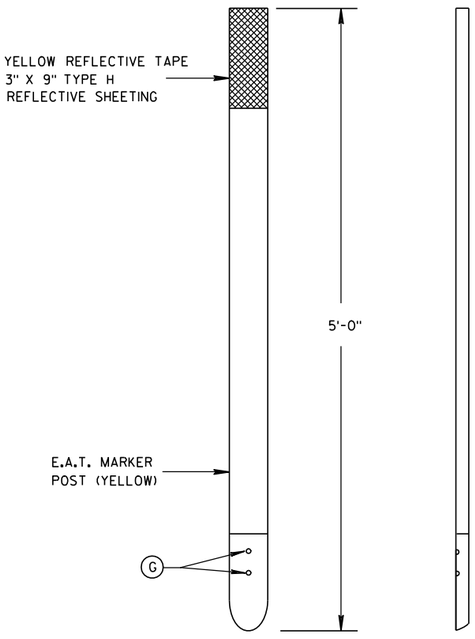
WOOD BLOCKOUT (4)

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



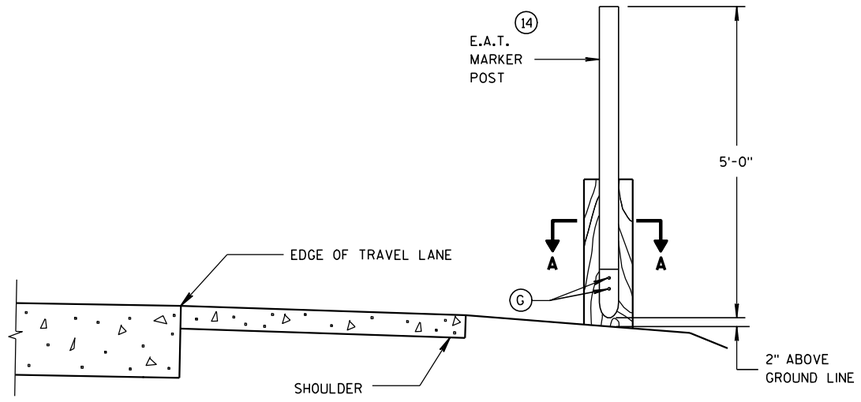


GENERIC REFLECTIVE SHEETING (13) (H)



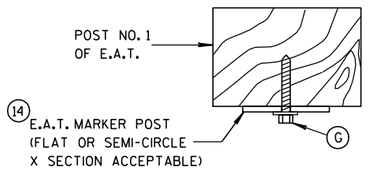
FRONT VIEW SIDE VIEW

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)

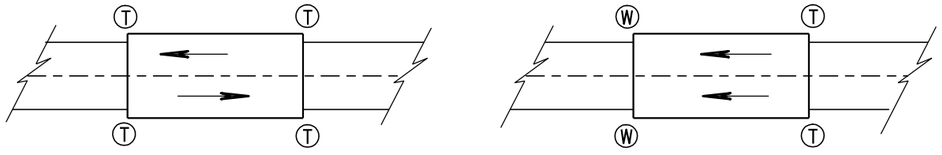


SECTION A-A

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/2011 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER
96
[illegible]ENT
FHWA



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

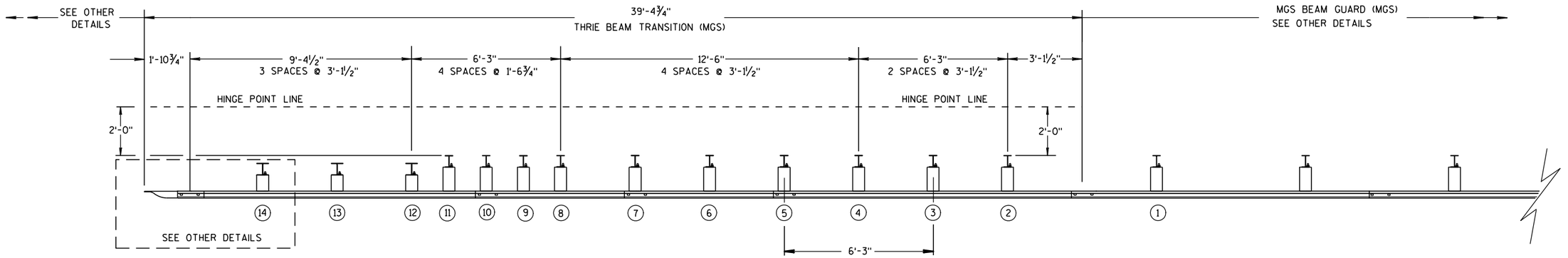
BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3.

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

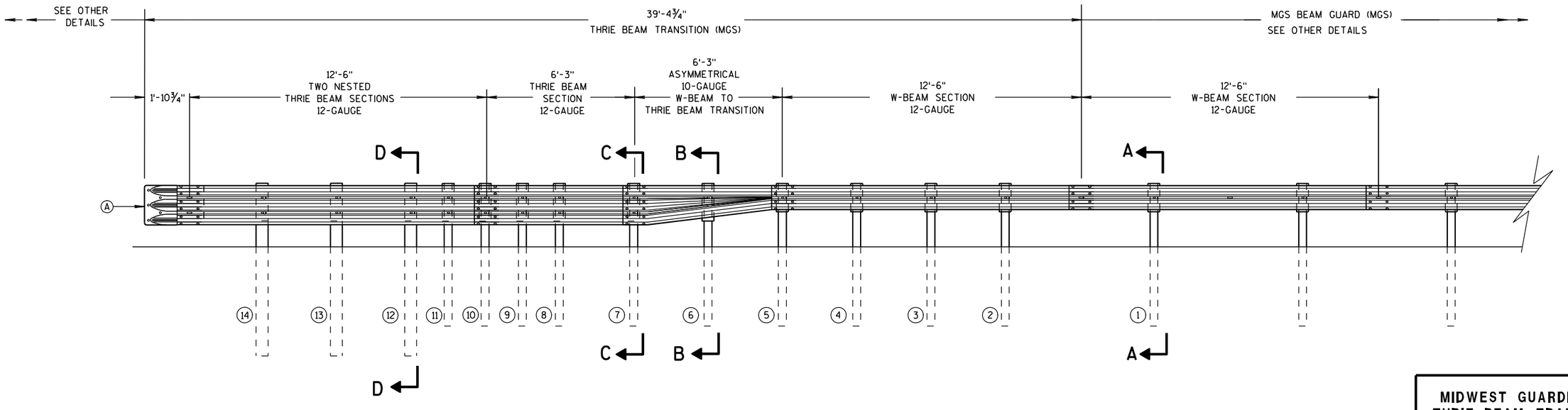
TRANSITION USES STEEL POSTS ONLY.

SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

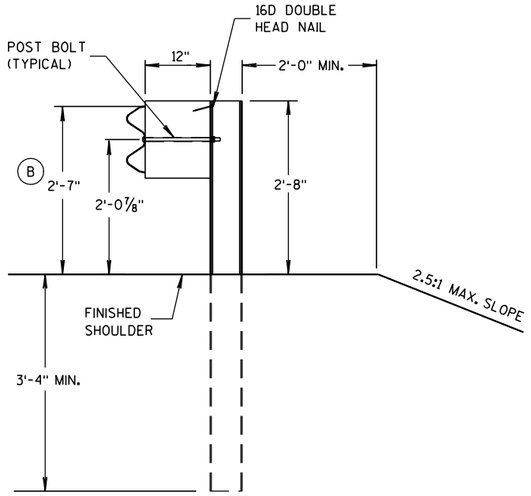
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 45-3a

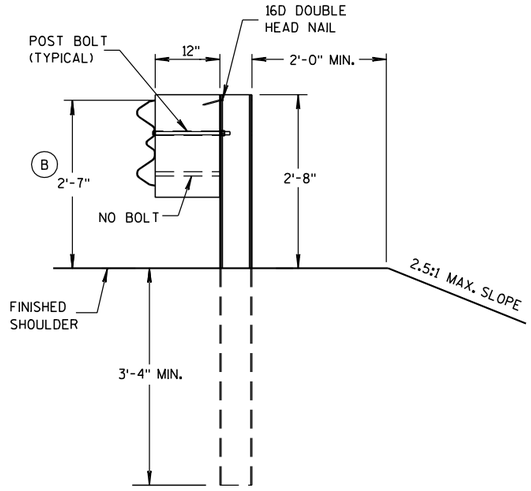
GENERAL NOTES

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



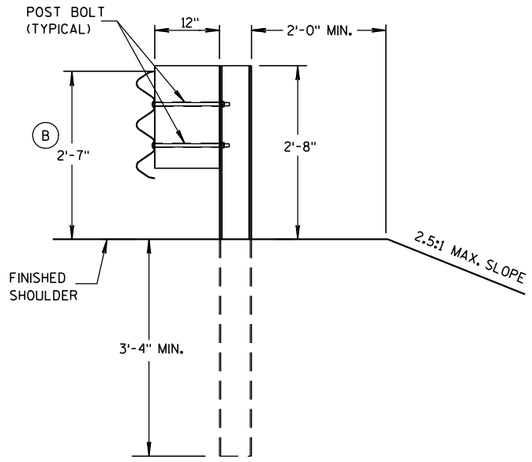
SECTION A-A

POSTS 1-5



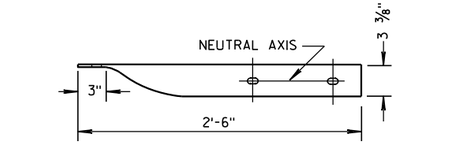
SECTION B-B

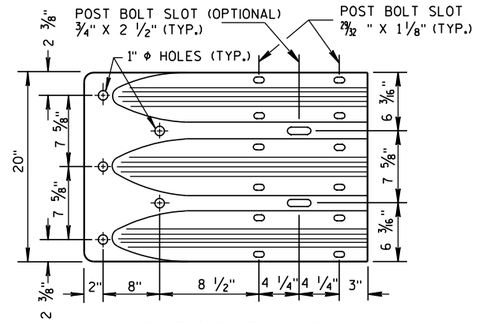
POST 6



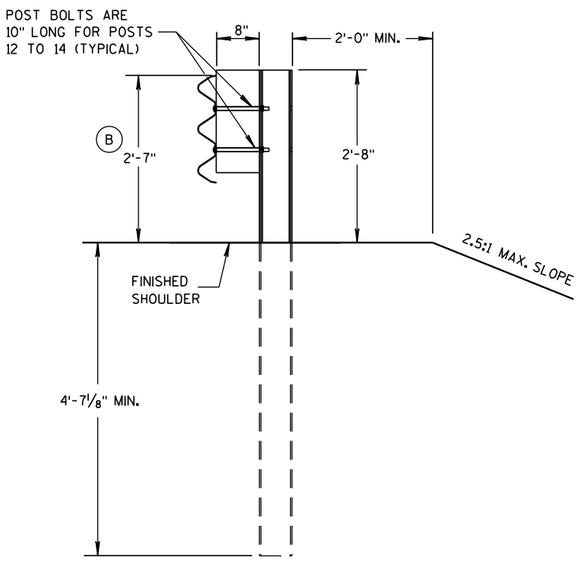
SECTION C-C

POSTS 7-11



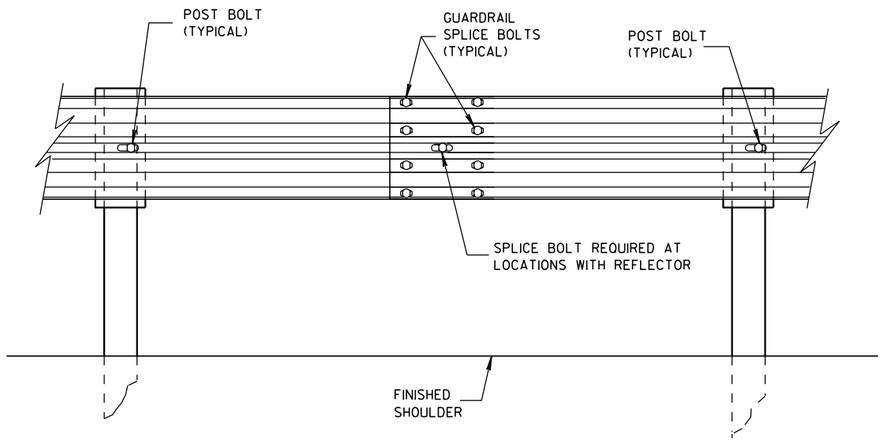


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-14



SPLICE DETAIL

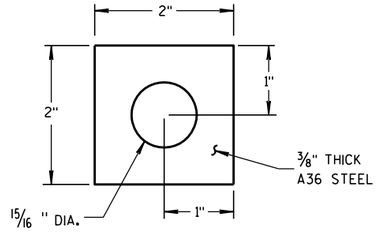
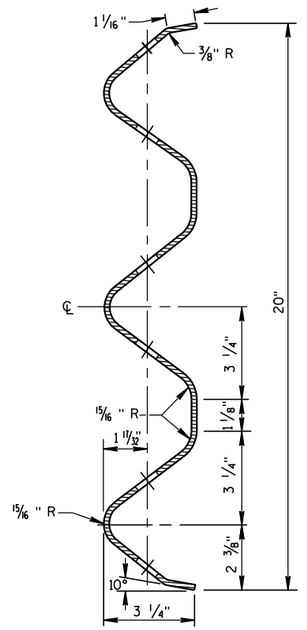


PLATE WASHER DETAIL

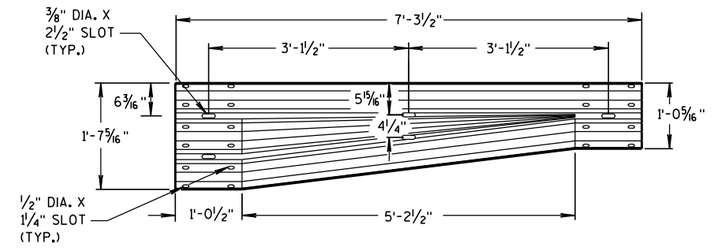


SECTION THRU THRIE BEAM RAIL ELEMENT

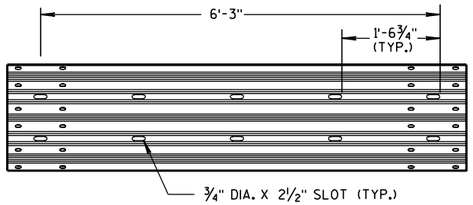
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

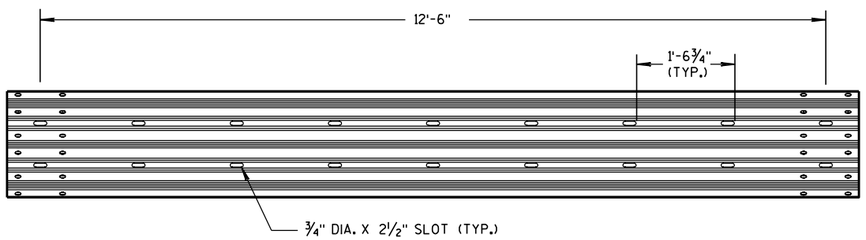
6
S.D.D. 14 B 45-3b



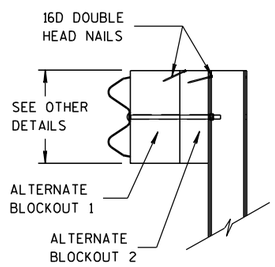
W-BEAM TO THRIE BEAM TRANSITION SECTION



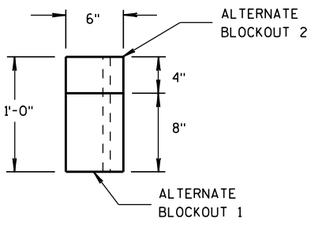
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

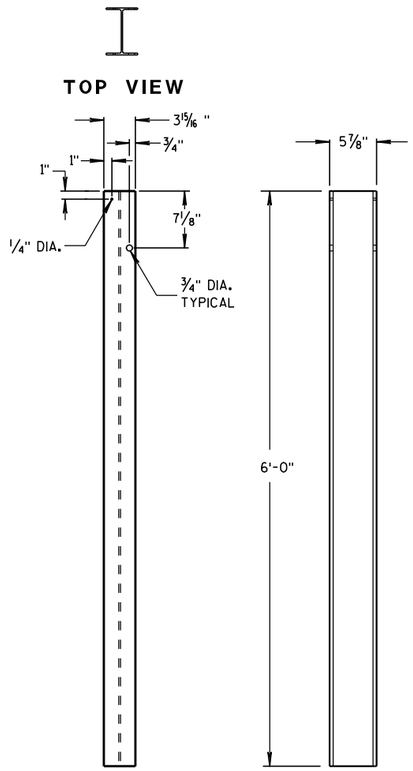


SIDE VIEW

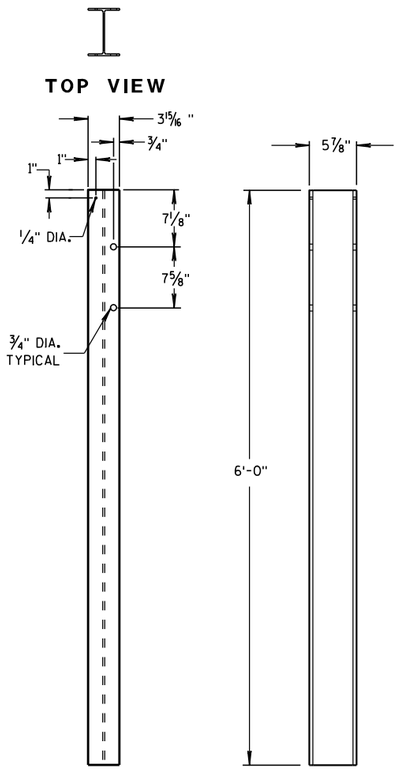


TOP VIEW

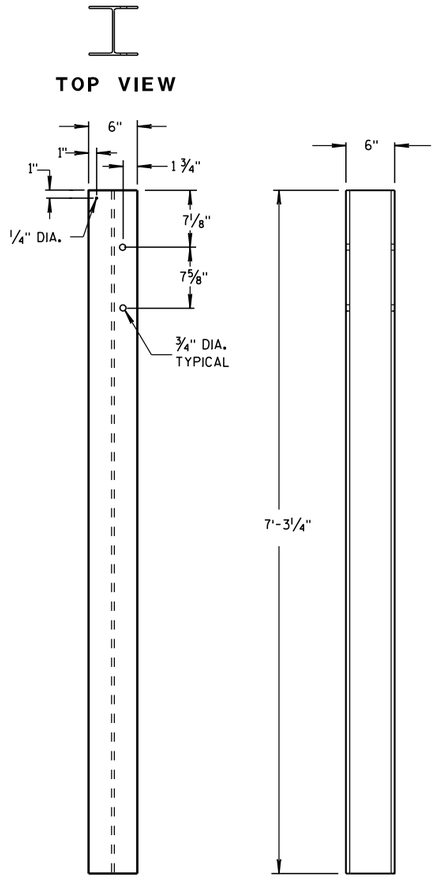
ALTERNATE WOOD BLOCKOUT DETAIL



STEEL POSTS 1-5

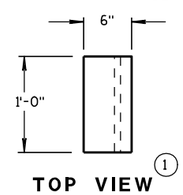


STEEL POSTS 6-11

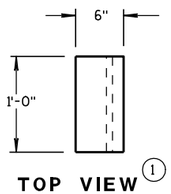


STEEL POSTS 12-14

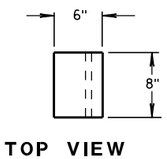
(1) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.



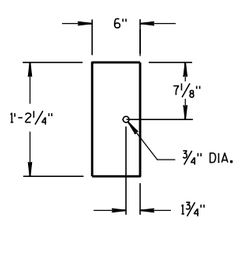
TOP VIEW (1)



TOP VIEW (1)

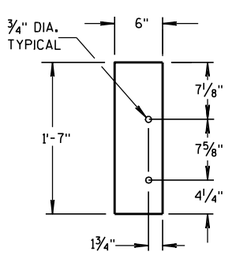


TOP VIEW



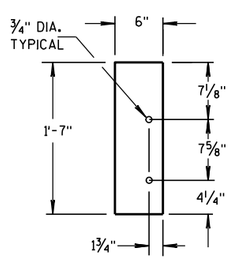
FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-11



FRONT VIEW

BLOCKOUT POSTS 12-14

STEEL POST SIZES

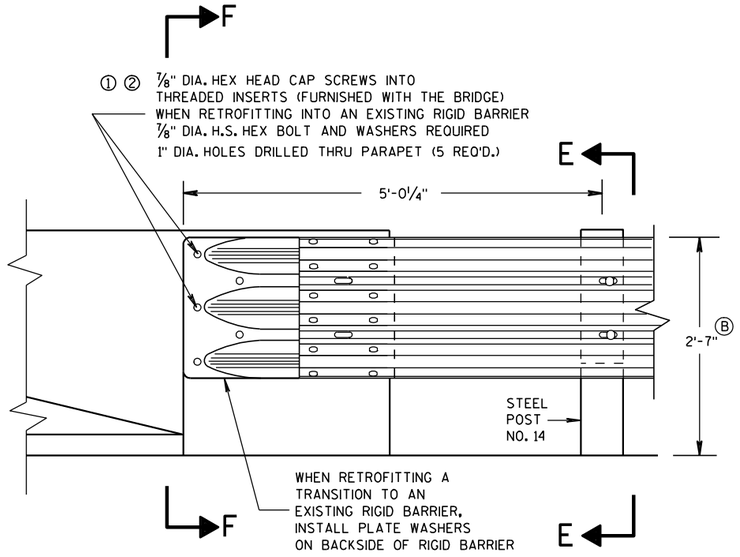
POST NUMBER	SECTION TYPE	LENGTH
(1)	W6x9	72"
(2)	W6x9	72"
(3)	W6x9	72"
(4)	W6x9	72"
(5)	W6x9	72"
(6)	W6x9	72"
(7)	W6x9	72"
(8)	W6x9	72"
(9)	W6x9	72"
(10)	W6x9	72"
(11)	W6x9	72"
(12)	W6x15	87 1/8"
(13)	W6x15	87 1/8"
(14)	W6x15	87 1/8"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

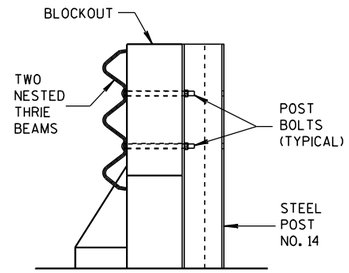
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 45-3c



FRONT VIEW



SECTION E-E

GENERAL NOTES

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

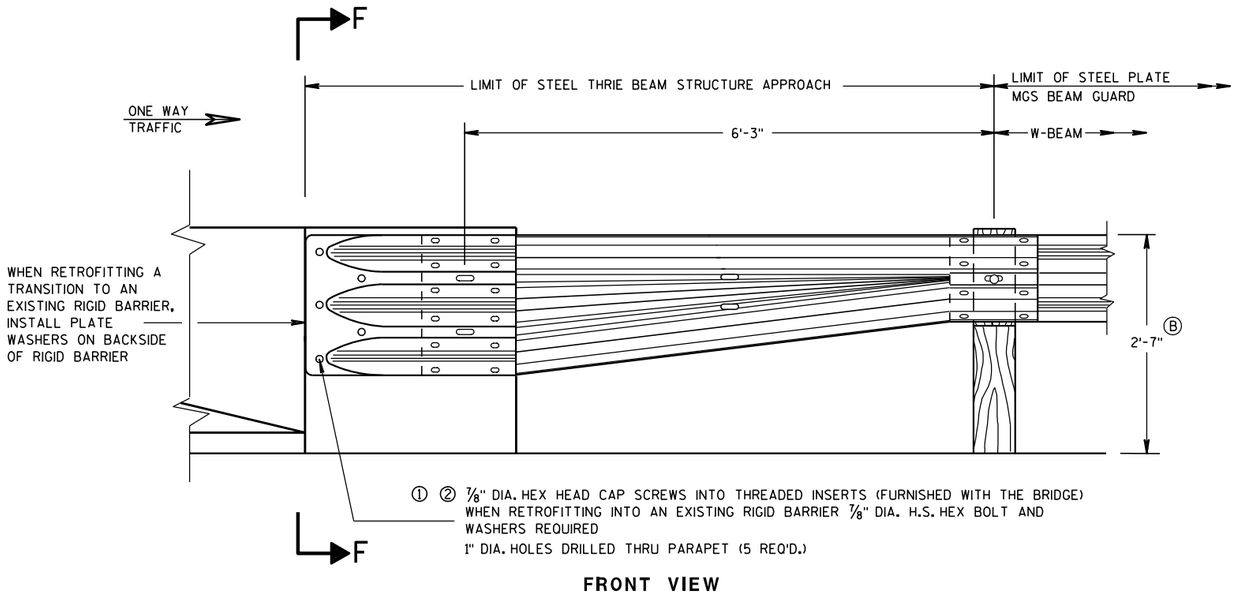
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

② 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.

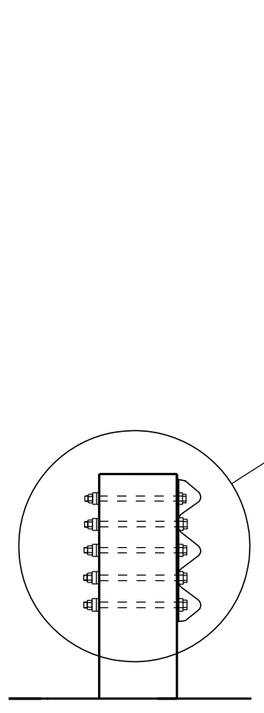
③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".

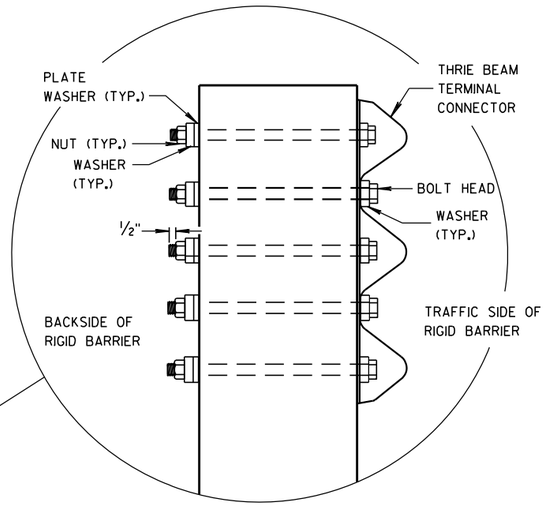
THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS



FRONT VIEW



SECTION F-F



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

8/31/2012 — DATE

/S/ Jerry H. [illegible] — ROADWAY STANDARDS [illegible] ENGINEER

FHWA

6

S.D.D. 14 B 45-3d

6

S.D.D. 14 B 45-3d

GENERAL NOTES

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

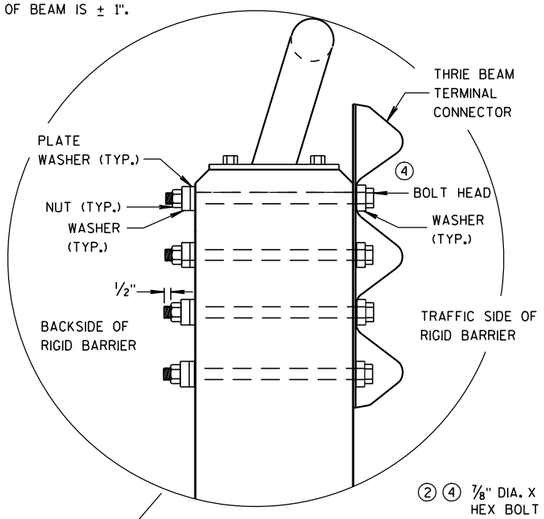
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

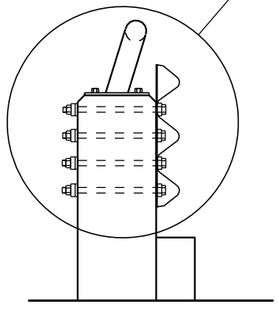
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. 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.

③ 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". BLOCK IS INCIDENTAL TO THE CONTRACT.

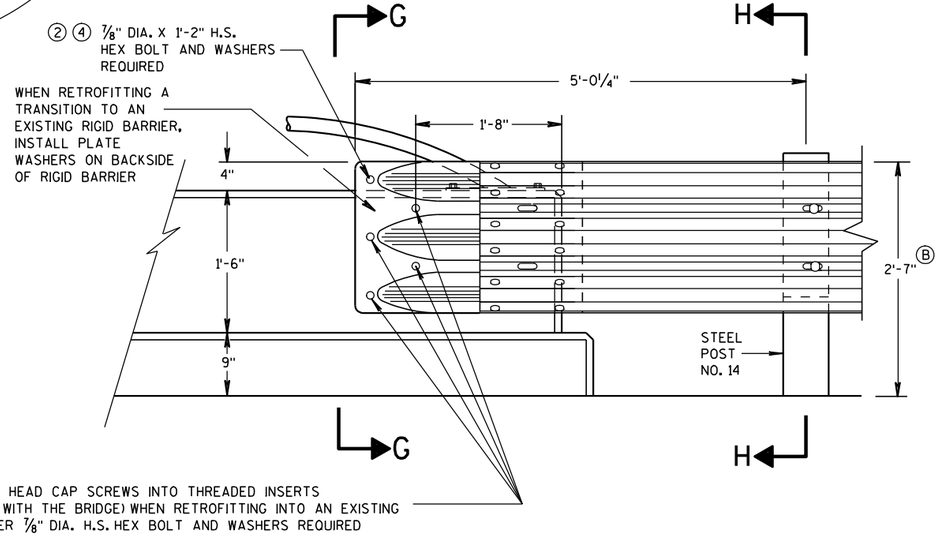
④ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.

Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".

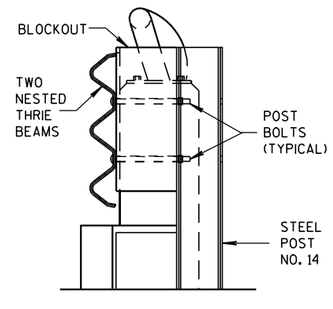




SECTION G-G

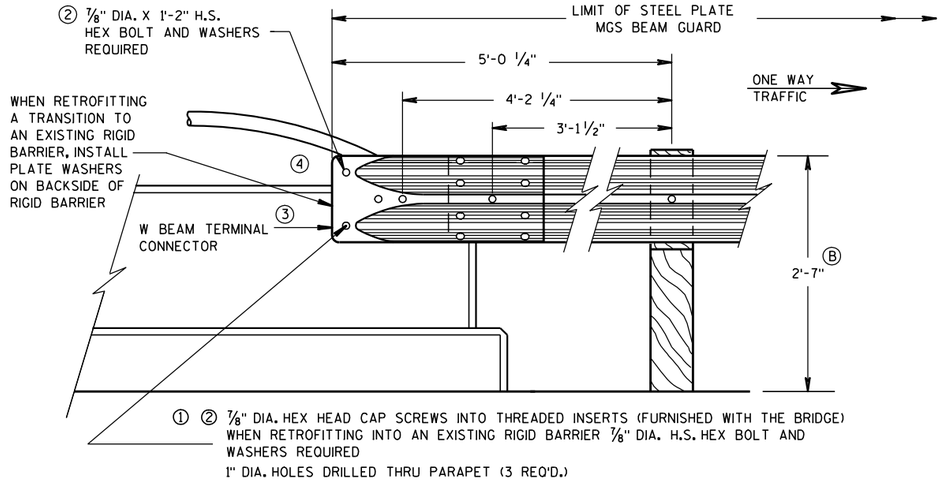


FRONT VIEW



SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

(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

8-31-2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

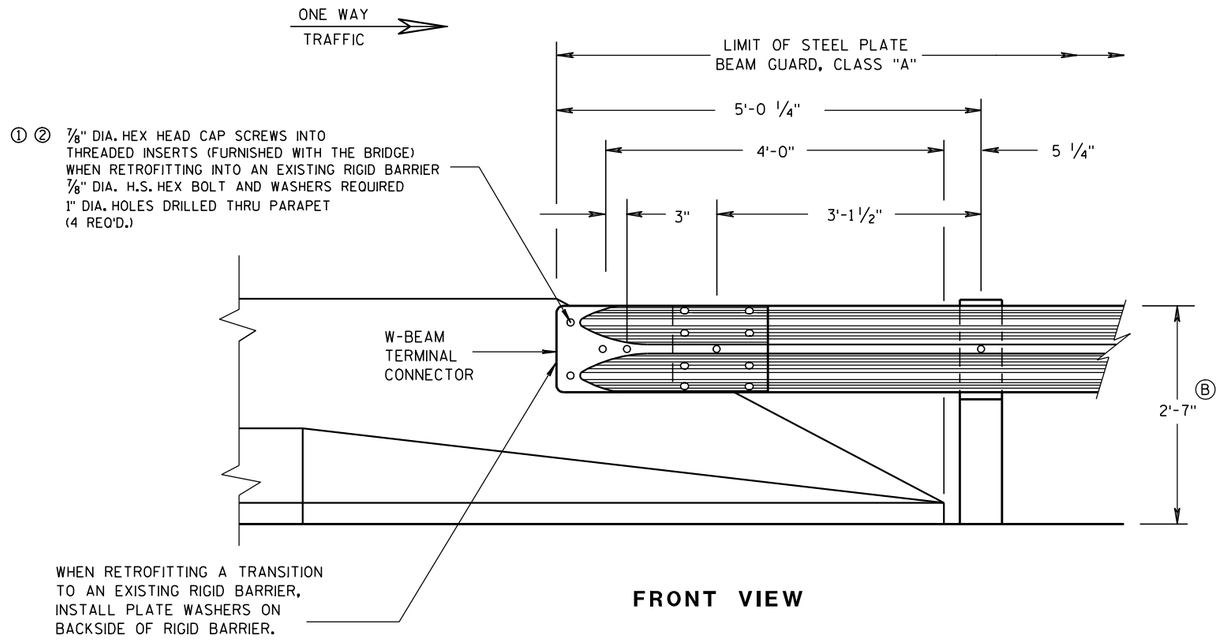
FHWA

6

S.D.D. 14 B 45-3e

6

S.D.D. 14 B 45-3e



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

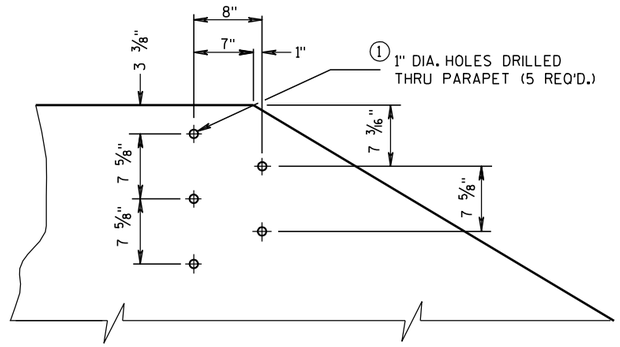
(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

GENERAL NOTES

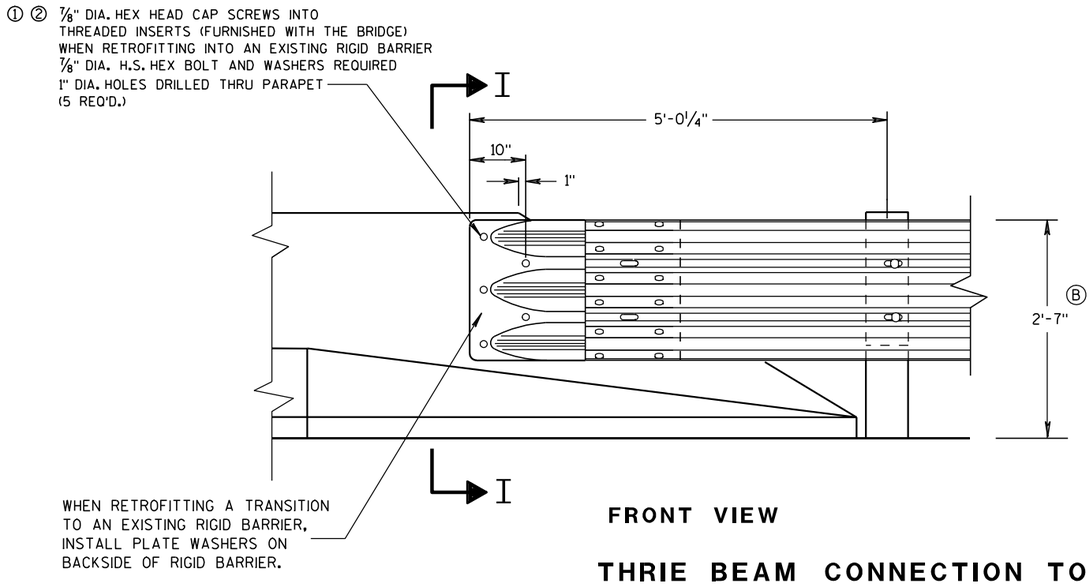
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

② 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.

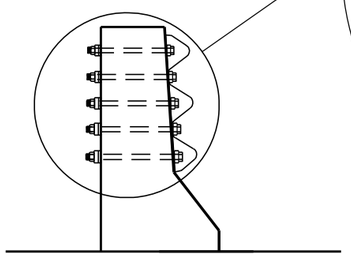
Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".



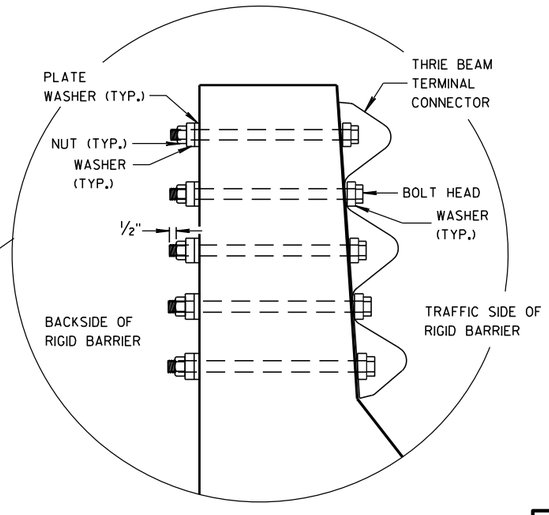
DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER

FHWA

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S.D.D. 14 B 45-3f

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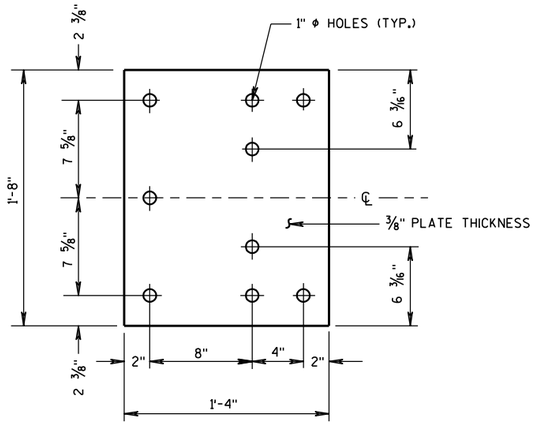
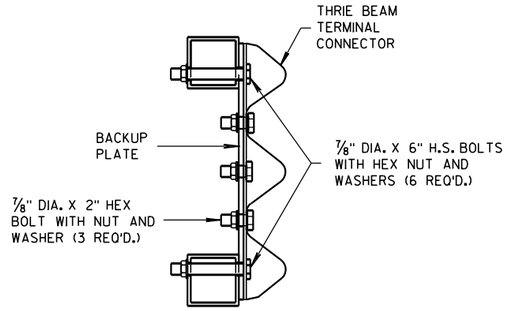


BACK-UP PLATE DETAIL

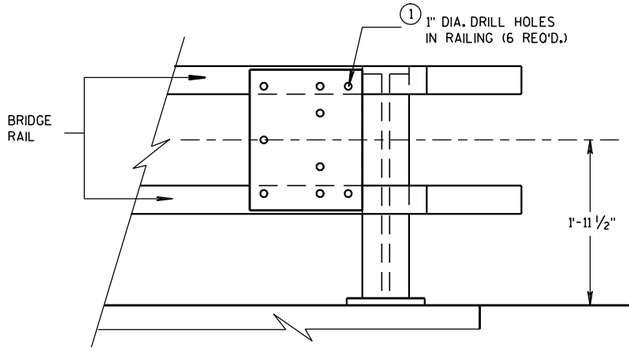


SECTION J-J

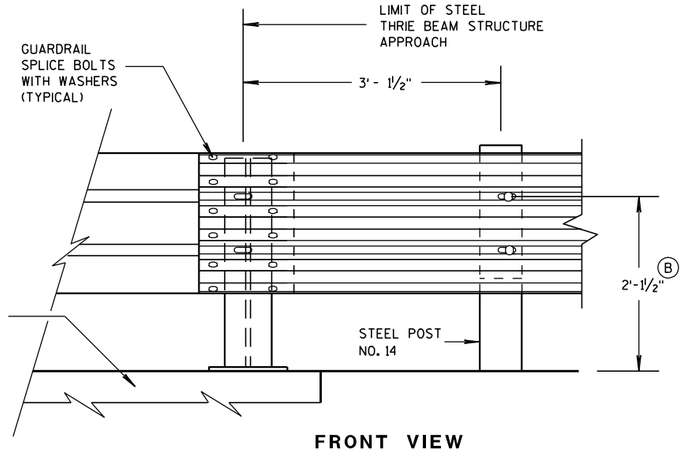
GENERAL NOTES

(1) DRILLING HOLES THROUGH THE PAPRPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(B) TOLERANCE FOR TOP OF BEAM IS ± 1".

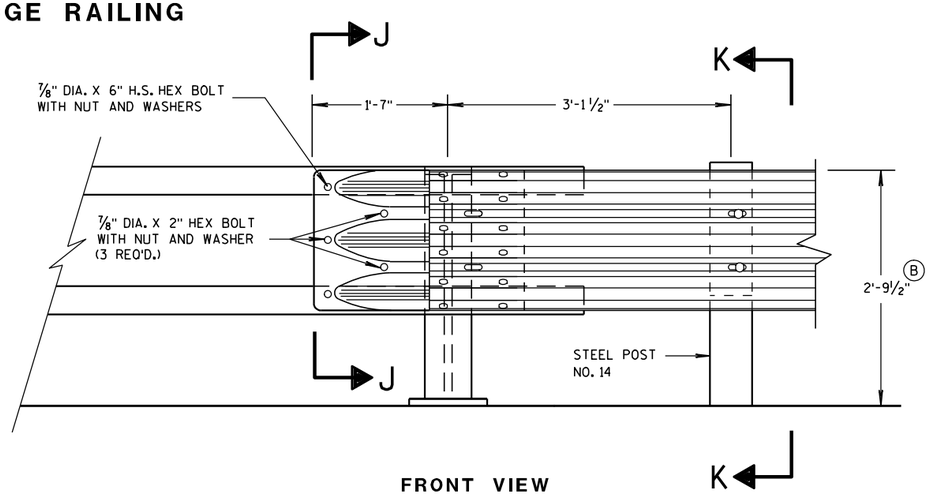


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

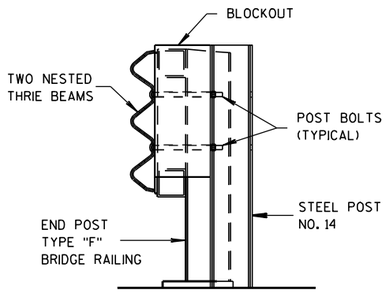


FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW



SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 8/31/2012 DATE /S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER FHWA

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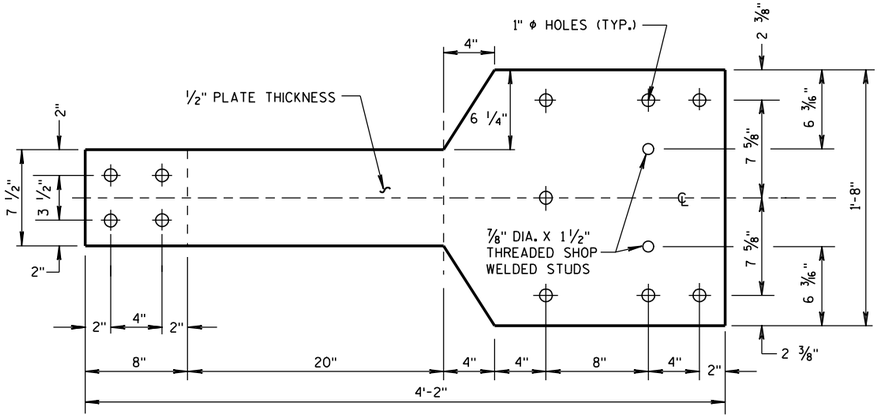
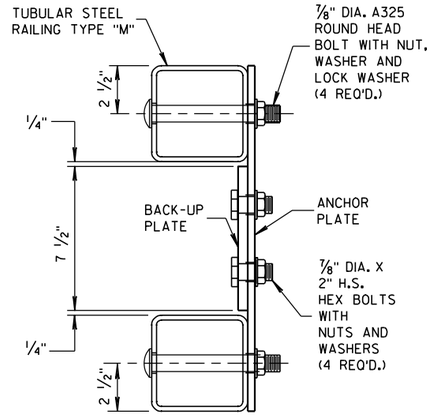
GENERAL NOTES

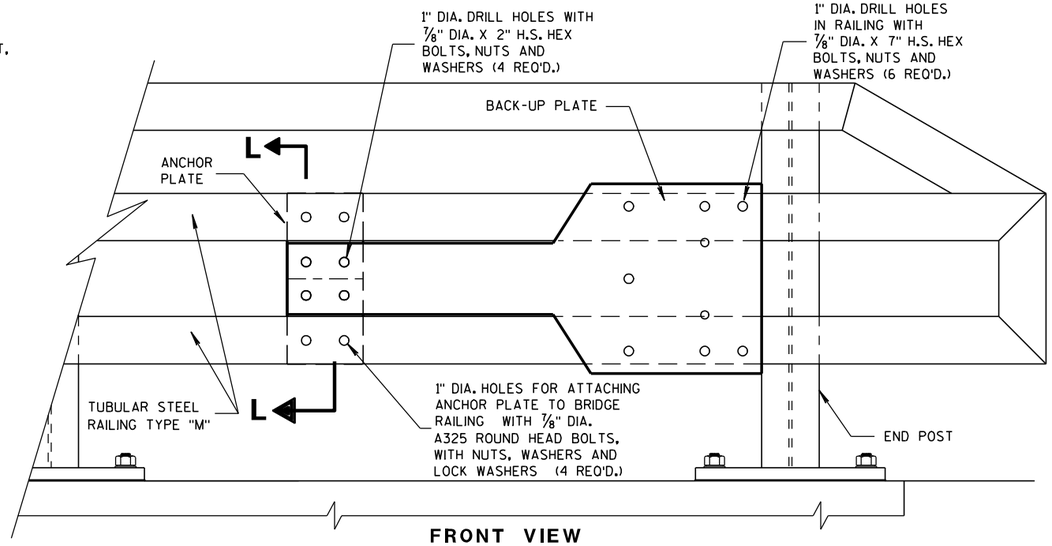
(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



FRONT VIEW

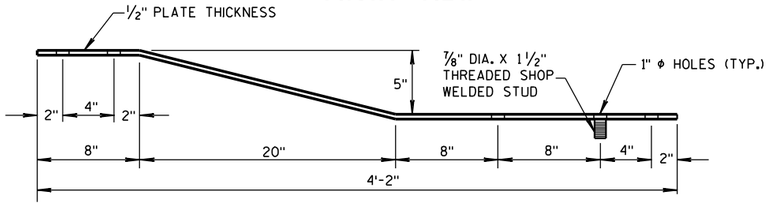


SECTION L-L



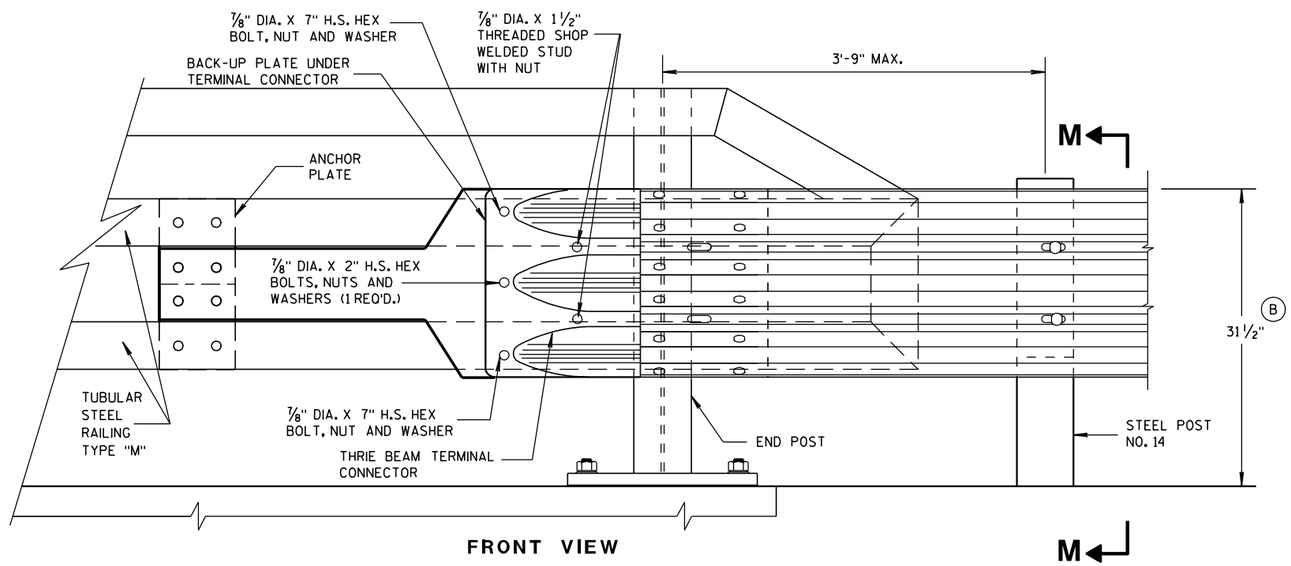
FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"

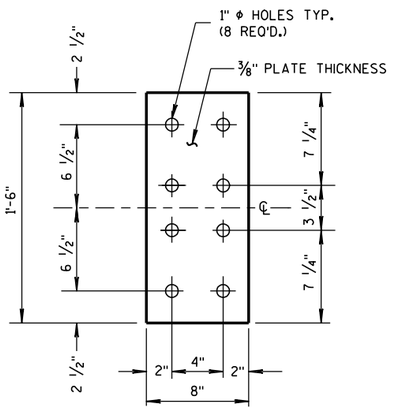


PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

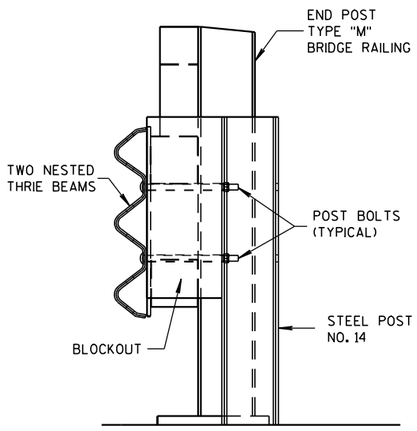


FRONT VIEW

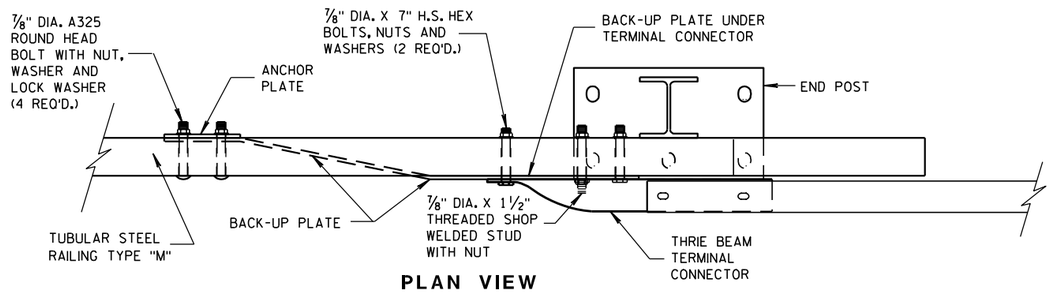


FRONT VIEW

ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
8-31-2012 DATE	/S/ Jerry H. Zogg ROADWAY STANDARDS ENGINEER
FHWA	104 ENT

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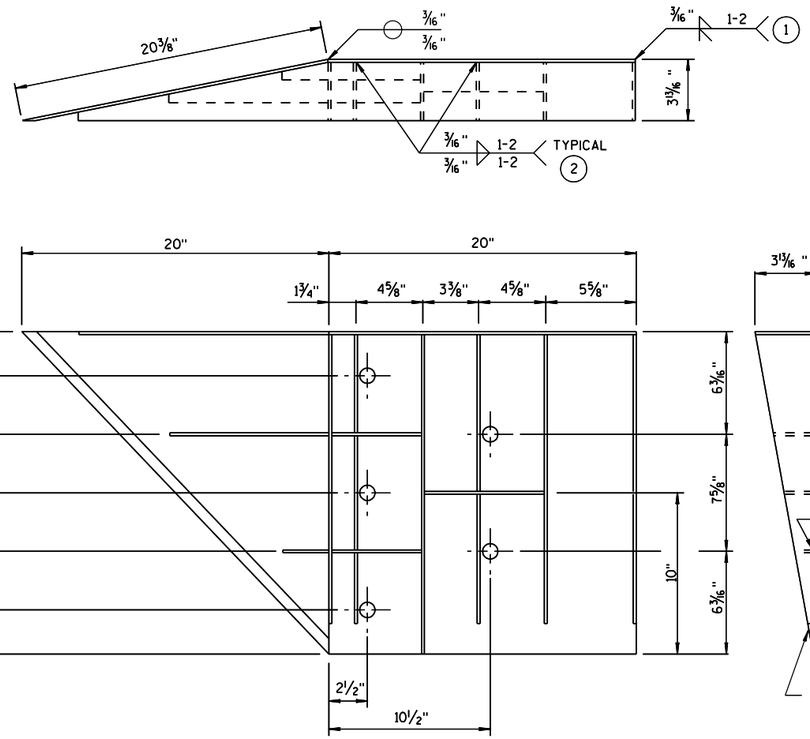

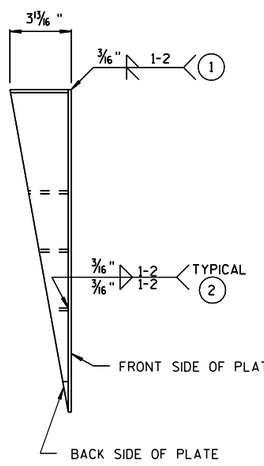

WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

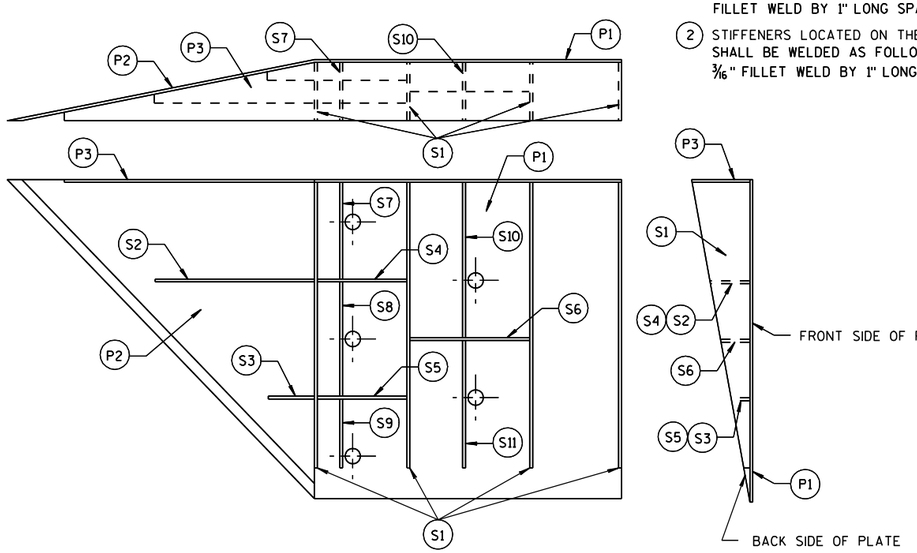

PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(1) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(2) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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8/31/2012
DATE
/S/ Jerry H ...
ROADWAY STANDARDS ENGINEER
FHWA

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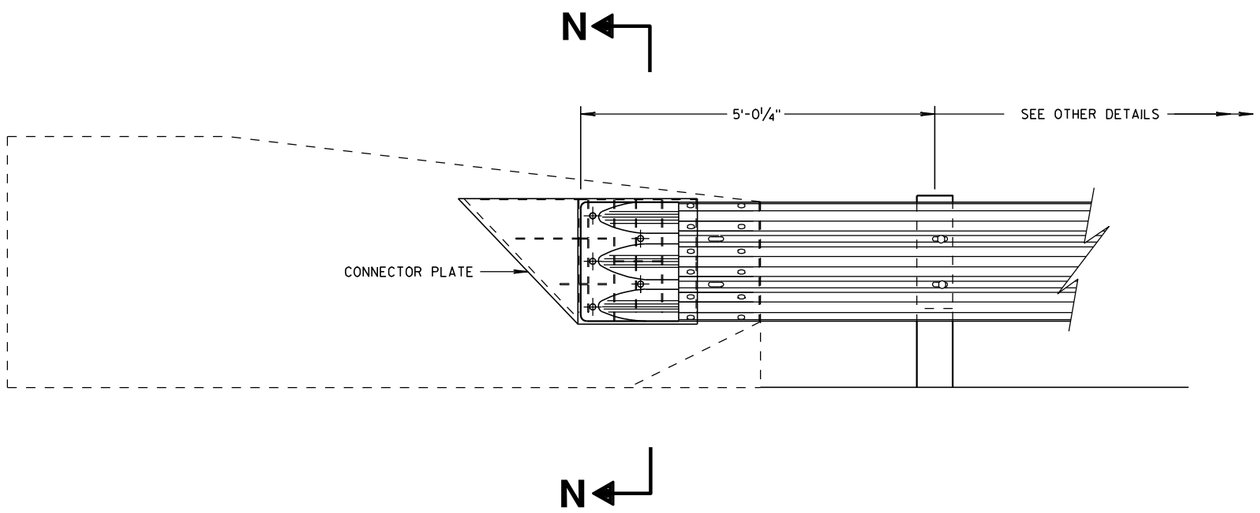
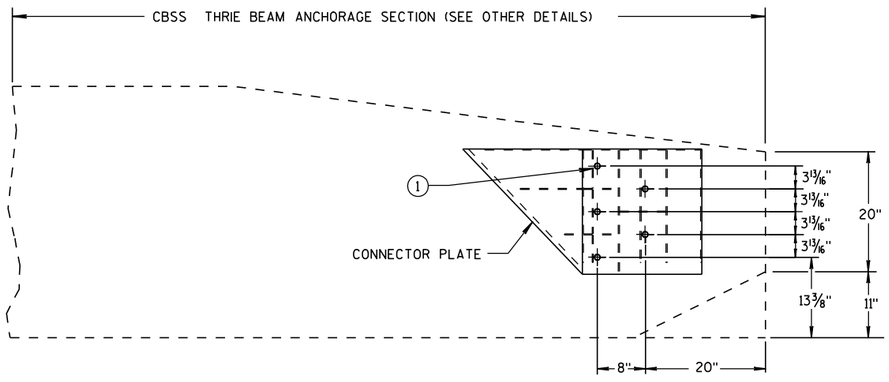
S.D.D. 14 B 45-3i



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER

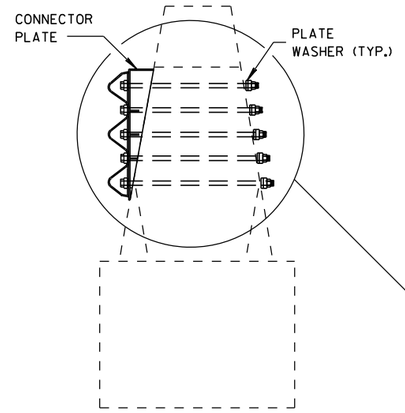


SINGLE SLOPE CONNECTION PLATE PLACEMENT

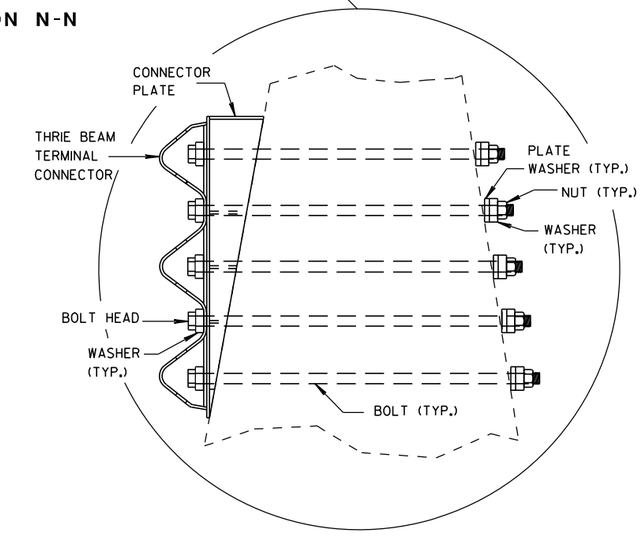
GENERAL NOTES

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

(1) 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.



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS [illegible] ENGINEER

FHWA

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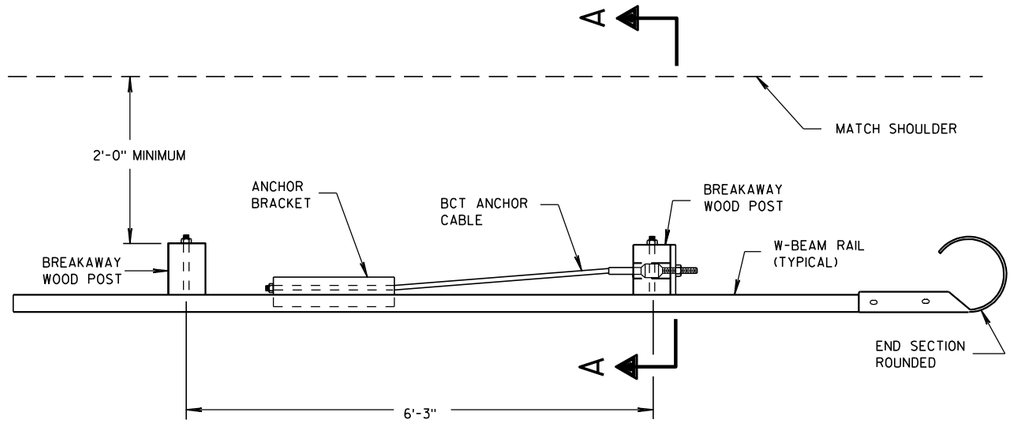
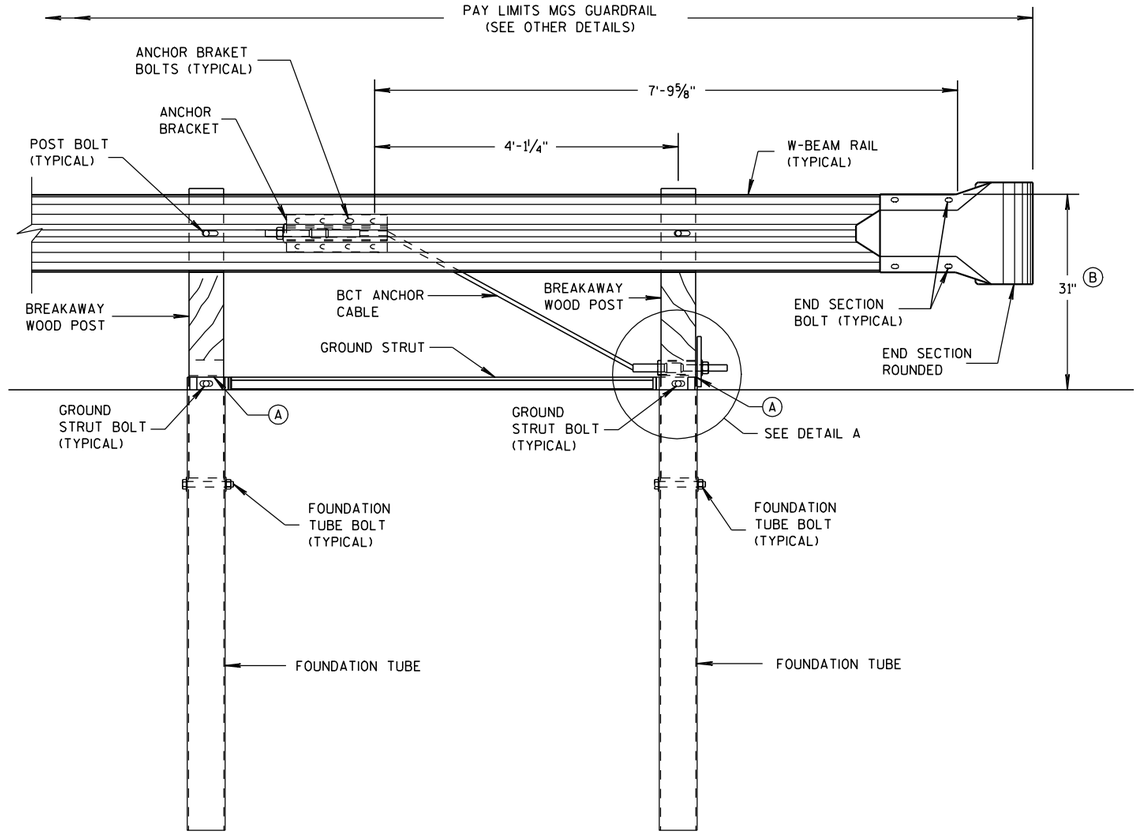
S.D.D. 14 B 45-3j

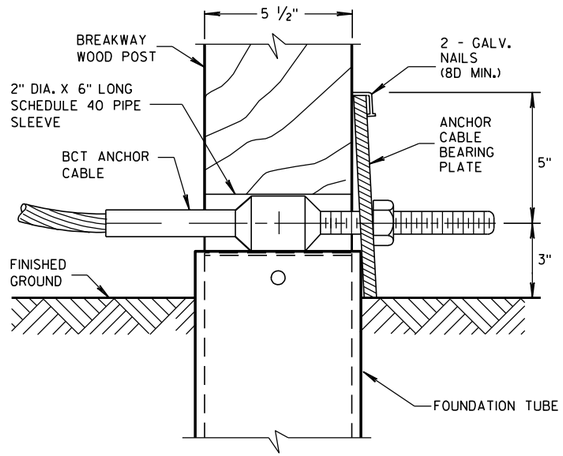


PLAN VIEW



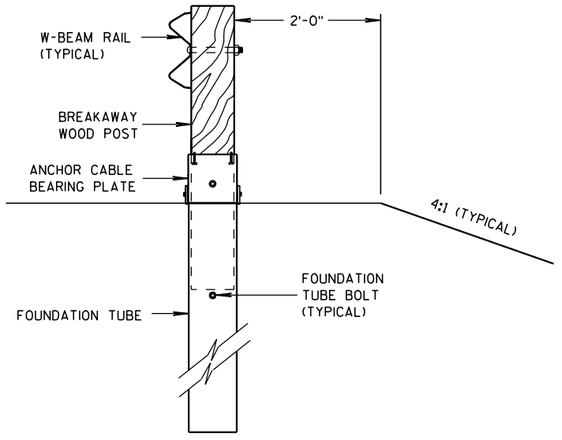
FRONT VIEW

END RAIL DETAIL



DETAIL A

POST NO. 1
GROUNG STRUT NOT SHOWN FOR CLARITY.



SECTION A-A

GENERAL NOTES

SEE SDD 14 B 42 FOR MORE INFORMATION.

POST BOLTS ARE A ⅝" DIAMETER X 10" LONG GUARDRAIL BOLT. A POST BOLT REQUIRES A ⅝" DIAMETER DH MODIFIED (RECESSED) HEAVY HEX NUT AND ⅝" DIAMETER FLAT WASHER.

FOUNDATION TUBE BOLTS ARE A ⅞" DIAMETER X 7½" LONG HEAVY HEX HEAD BOLT. A FOUNDATION TUBE BOLT REQUIRES A ⅞" DIAMETER DH HEAVY HEX NUT AND A ⅝" DIAMETER FLAT WASHER.

GROUND STRUT BOLTS ARE A ⅝" DIAMETER X 10" LONG HEAVY HEX HEAD BOLT. A GROUND STRUT BOLT REQUIRES A ⅝" DIAMETER DH HEAVY HEX NUT AND A ⅝" DIAMETER FLAT WASHER.

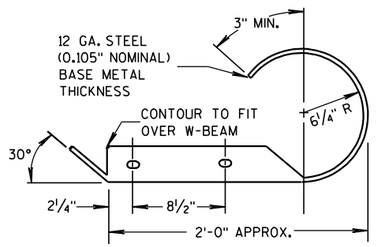
ANCHOR BRAKET BOLTS ARE A ⅝" DIAMETER X 1½" LONG HEAVY HEX HEAD BOLT. AN ANCHOR BRAKET BOLT REQUIRES A ⅝" DIAMETER DH HEAVY HEX NUT AND A FLAT WASHER.

END SECTION BOLTS ARE A ⅝" DIAMETER X 1½" HEAVY HEX HEAD BOLT. AN END SECTION BOLT REQUIRES ⅝" DIAMETER DH HEAVY HEX NUT AND A ⅝" DIAMETER FLAT WASHER.

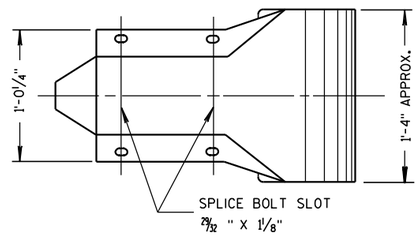
W-BEAM END SECTION ROUNDED HAS THE SAME MATERIAL PROPERTIES AS STANDARD STEEL RAIL.

(A) TOP OF FOUNDATION TUBE SHALL BE NO MORE THAN 3" ABOVE FINISHED GROUND.

(B) FOR NEW CONSTRUCTION TOP OF RAIL IS 31" ± 1".
FOR EXISTING INSTALLATIONS TOP OF RAIL IS BETWEEN 27¾" TO 32" ± 1".



PLAN VIEW



FRONT VIEW

W BEAM END SECTION ROUNDED

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 47-1a

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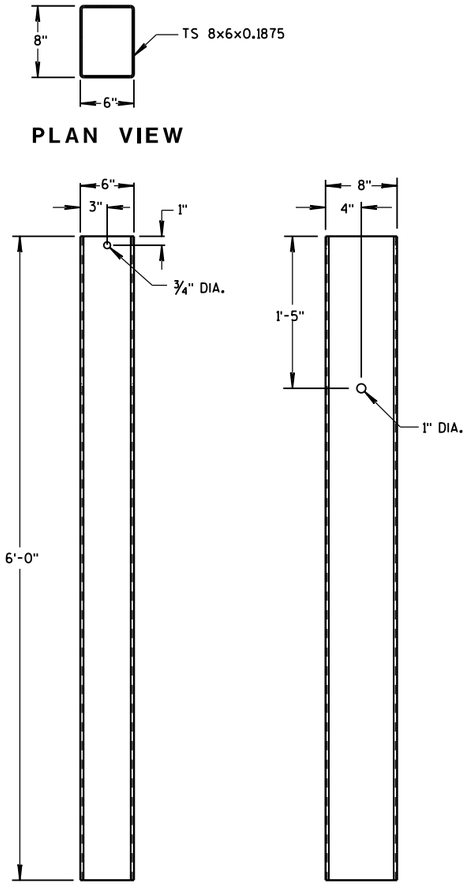
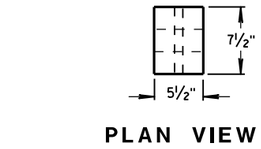
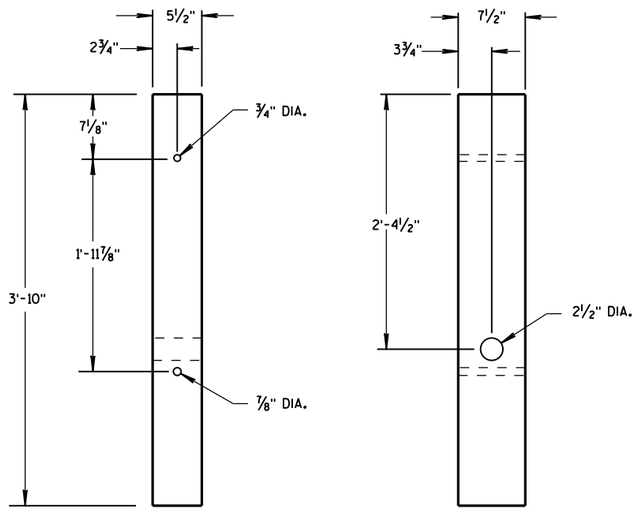
S.D.D. 14 B 47-1a



FOUNDATION TUBE



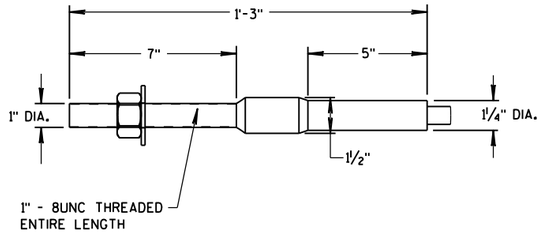


BREAKAWAY WOOD POST

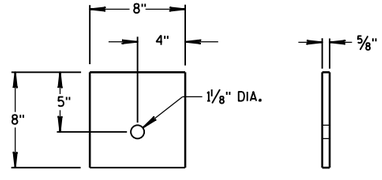
GENERAL NOTES

BCT ANCHOR CABLE IS A ⅜" DIAMETER 6X19 IWRC IPS GALVANIZED WIRE ROPE. THE SWAGED FITTINGS AND STUD ARE REQUIRED. THE END FITTING SHALL BE MACHINED FROM HOT-ROLLED CARBON STEEL CONFORMING TO ASTM A576 GRADE 1035 AND GALVANIZED ACCORDING TO ASTM A123. THE TREADED STUD SHOULD CONFORM TO ASTM A325 OR SAE GRADE 5. MINIMUM BREAKING STRENGTH OF WIRE ROPE IS 43,000 LB. WIRE ROPE IS TO BE TAUT.

BCT ANCHOR CABLE



DETAIL B



ANCHOR CABLE
BEARING PLATE

MIDWEST GUARDRAIL
SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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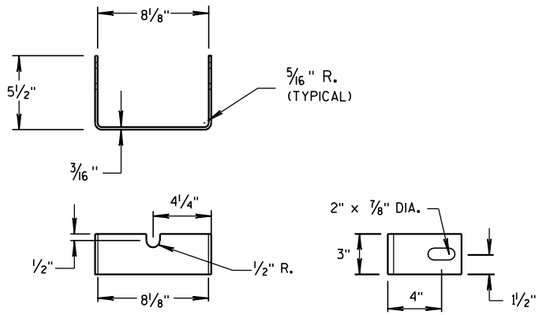
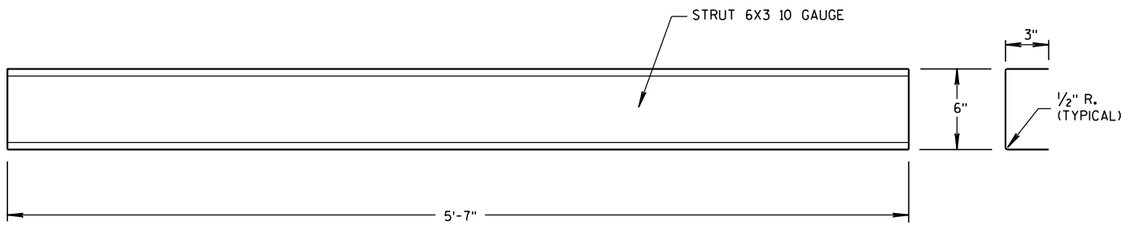
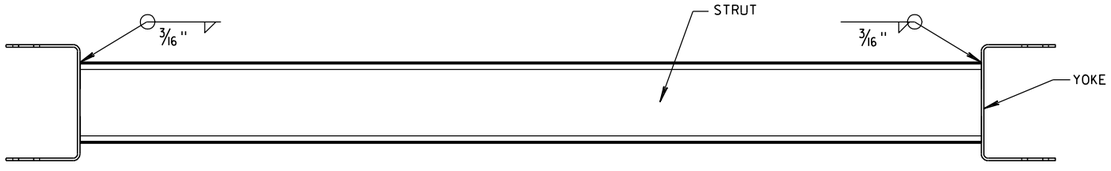


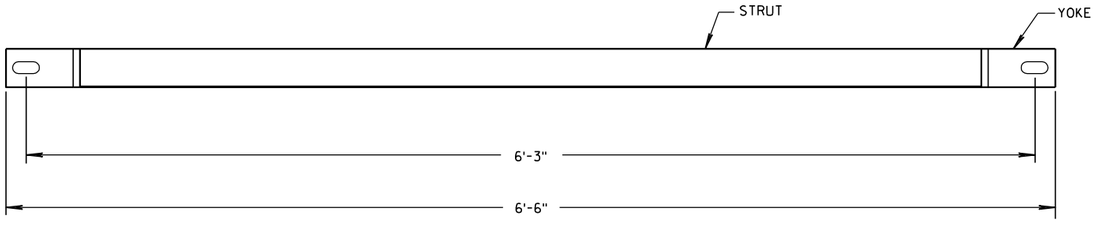
YOKE DETAIL



STRUT DETAIL

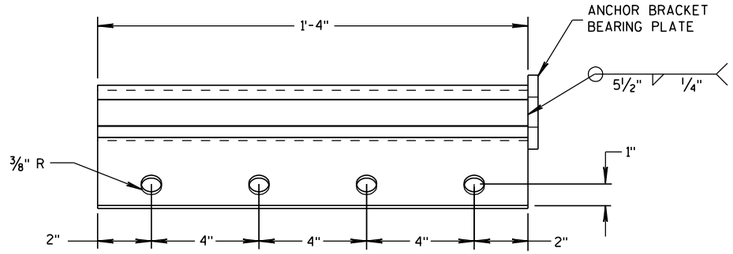


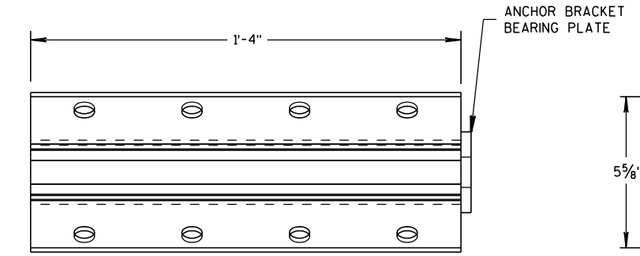
PLAN VIEW

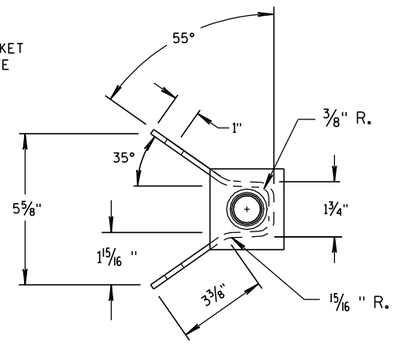


FRONT VIEW

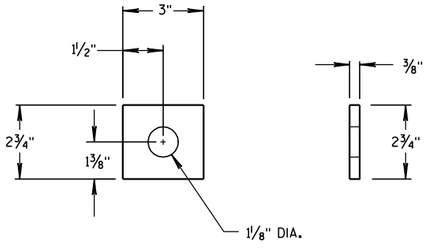
GROUND STRUT DETAIL







ANCHOR BRACKET



ANCHOR BRACKET BEARING PLATE

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

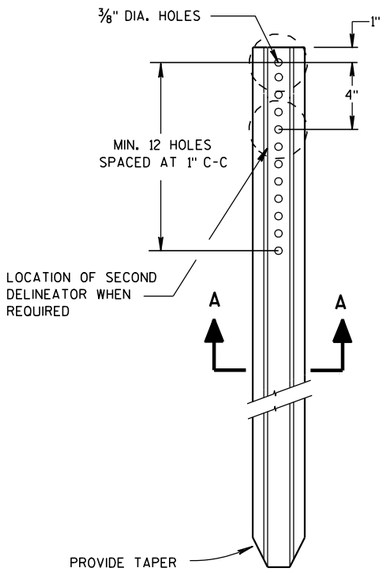
5/23/2011
DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

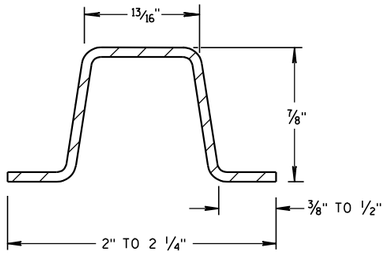
FHWA

6

S.D.D. 14 B 47-1c

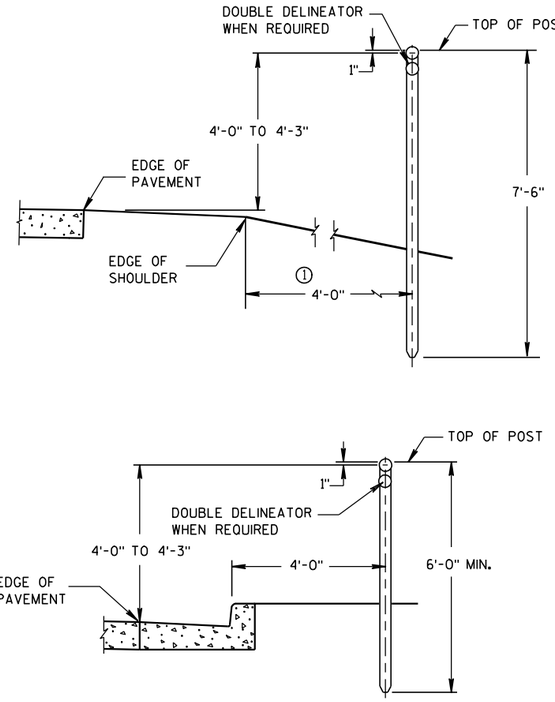


DELINEATOR POST



SECTION A-A

WEIGHT 1.12 LBS PER FT. ± 0.1 LB.

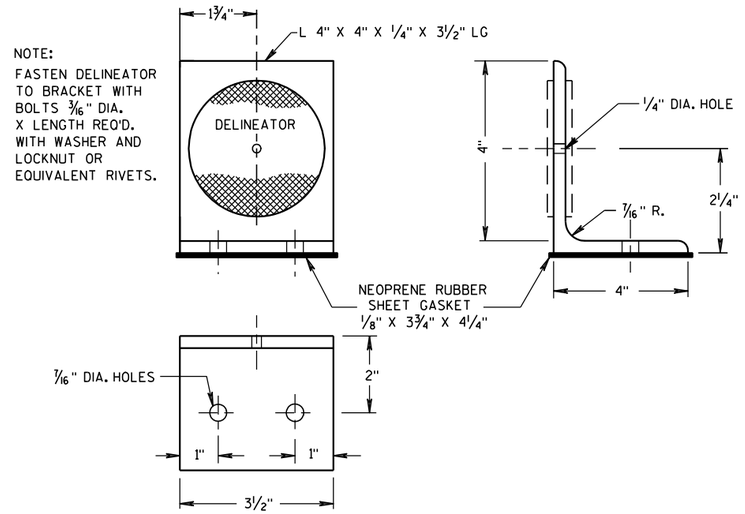


TYPICAL INSTALLATIONS OF DELINEATOR POSTS

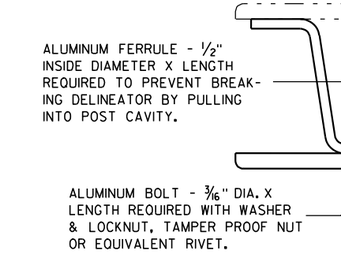
GENERAL NOTES

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

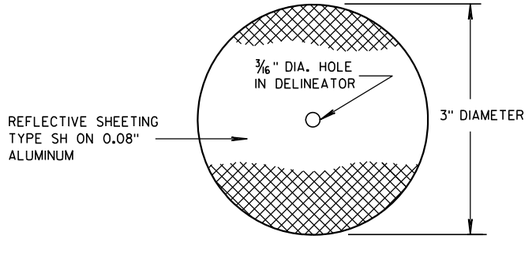
① DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.



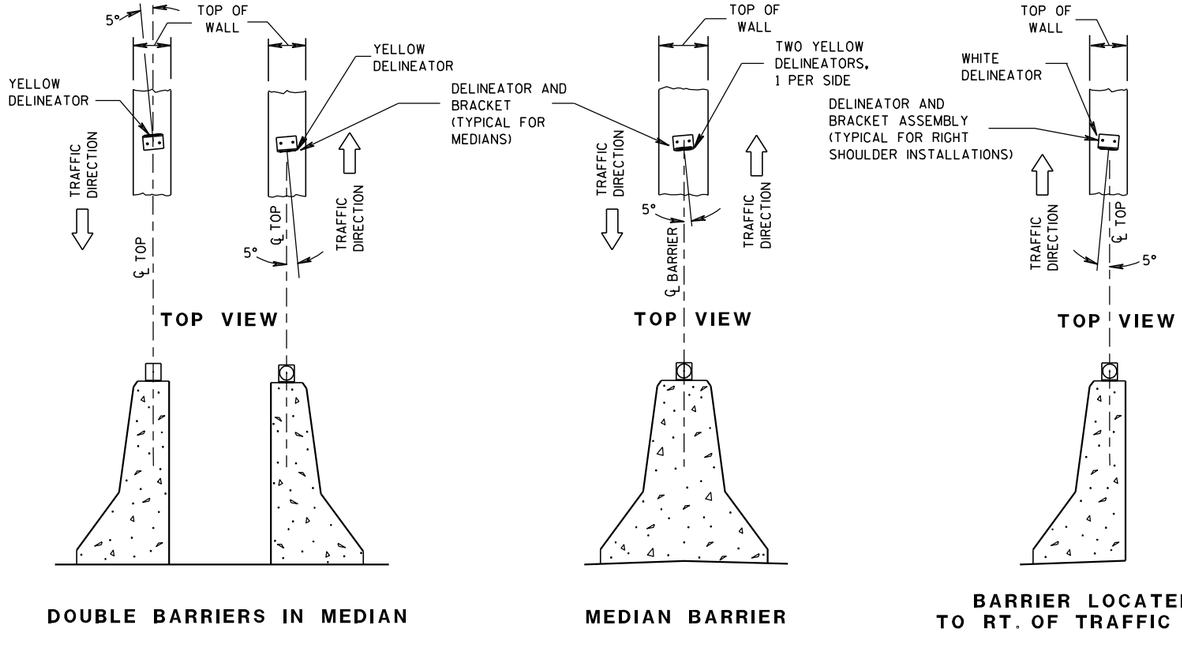
DELINEATOR BRACKET



MOUNTING DETAIL FOR DELINEATOR



DELINEATOR

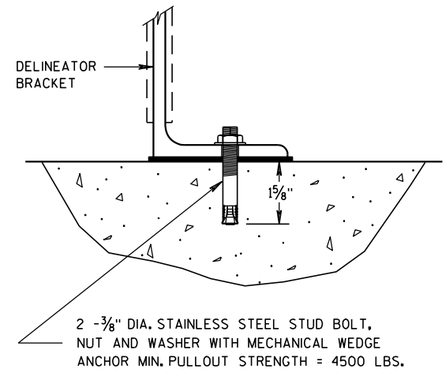


DOUBLE BARRIERS IN MEDIAN

MEDIAN BARRIER

BARRIER LOCATED TO RT. OF TRAFFIC FLOW

LOCATION AND AIMING DETAILS FOR DELINEATORS MOUNTED ON CONCRETE BARRIERS



DELINEATOR BRACKET MOUNTING DETAIL

DELINEATOR POST, DELINEATOR BRACKET AND DELINEATOR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
1/25/2011 — DATE
/S/ Thomas N. Nothdurft — STATE TRAFFIC ENGINEER — DESIGN
FHWA

6

S.D.D. 15 A 2-7

6

S.D.D. 15 A 2-7

LEGEND

- POST WITH ATTACHED SIGN
- POST WITH ATTACHED SIGN IN DRUM
- DRUM WITH WARNING LIGHT (TYPE C)
- DRUM
- ARROW BOARD
- 8' TYPE III BARRICADE
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC

GENERAL NOTES :

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIREABLE) DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

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. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

(1) CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

GENERAL NOTES CONTINUED:

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 7 CONTINUOUS DAYS AND NIGHTS.

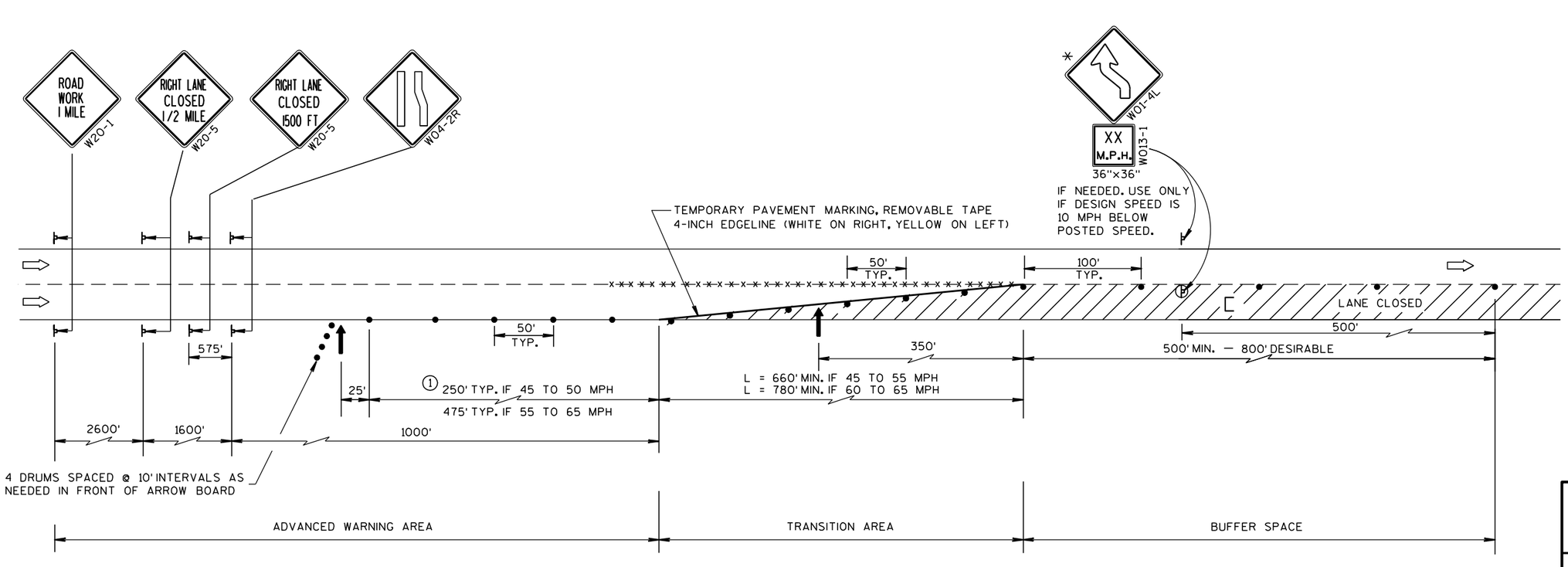
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

IF LANE CLOSURE IS MORE THAN 1 MILE, PLACE A TYPE III BARRICADE APPROXIMATELY EVERY 1/4 MILE ACROSS THE CLOSED LANE TO HELP ENFORCE THE DRUM LINE.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

* THE LEFT REVERSE CURVE SIGN (WO1-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.



TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-7-95 DATE
/S/ Chester J. [illegible]
DIRECTOR, OFFICE O
FHWA

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S.D.D. 15 D 12-2

SYMBOLS

- TRAFFIC CONTROL DRUM
- POST MOUNTED SIGN
- DIRECTION OF TRAFFIC FLOW
- ARROW BOARD IN CAUTION MODE

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

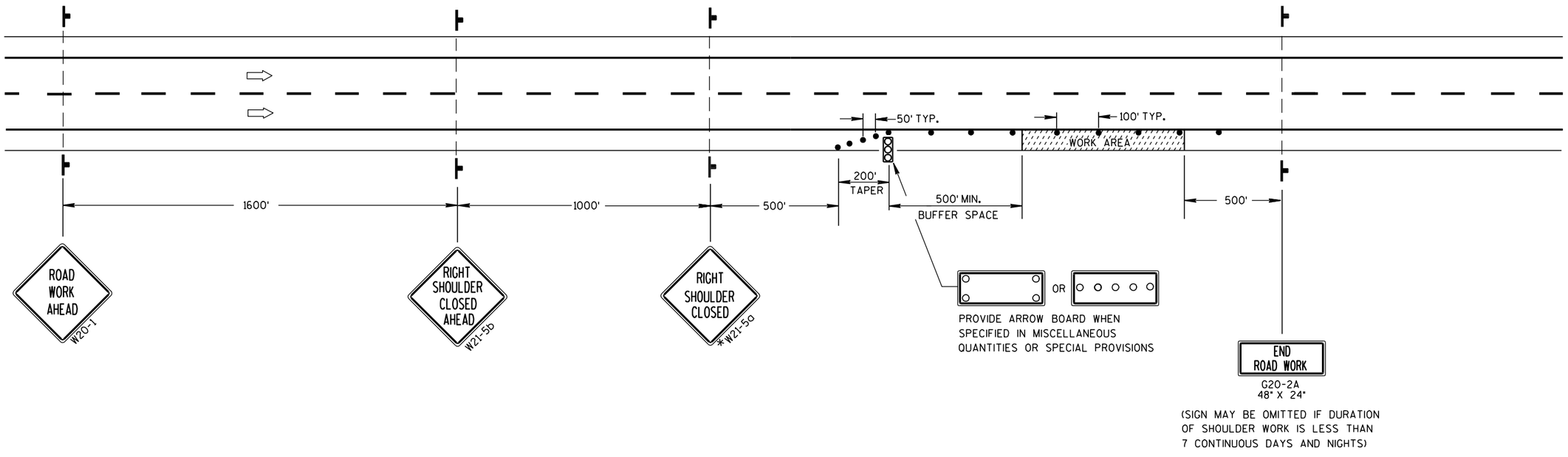
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.

CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/23/00
DATE

/S/ Chester J Spagna
CHIEF SIGNS AND MARKING ENGINEER

FHWA

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S.D.D. 15 D 27-1

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

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