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15-17	EXISTING CABLE MEDIAN BARRIER (CABLE ROAD GUARD)
18	EXISTING GIBRALTAR CABLE BARRIER DETAIL
19	EXISTING TRAFFIC BARRIER TERMINAL TYPE 8
20	EXISTING TRAFFIC BARRIER TERMINAL TYPE 9
21-23	EXISTING TUBULAR THRIE BEAM RETROFIT RAIL FOR BRIDGES
24-27	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6.75 FOOT POSTS STANDARD 630011-D4

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FA RTE	SECTION	COUNTY	TOTAL SHEETS	SHEE T NO.
VAR	D4 GUARDRAIL REPAIRS 2026	VARIOUS	27	1
	ILLINOIS	CONTRACT NO. 68K91		

D-94-006-26

PROPOSED HIGHWAY PLANS

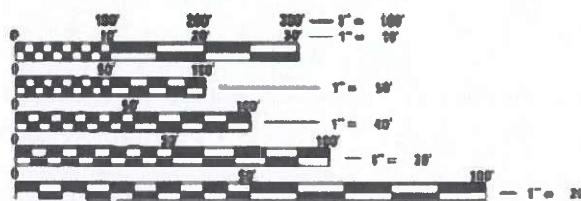
**VARIOUS ROUTES
D4 GUARDRAIL REPAIRS 2026 – MCHD
VARIOUS COUNTIES
C-94-007-26**

HIGHWAY STANDARDS:

631001-13	631046-04	701201-05	701456-05
631011-11	635001-02	701301-04	701601-09
631031-09	664001-02	701400-12	701606-10
631006-08	665001-02	701406-13	701701-10
631011-10	701006-05	701411-09	701901-11
631026-06	701011-04	701425-01	ELR-23-04
631031-18	701101-05		

DISTRICT STANDARDS:

630001-D4



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

**J.U.L.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-602-5123
OR 211**

**PROJECT ENGINEER BEN TELLEFSON (309) 671-3333
PROJECT MANAGER BEN TELLEFSON (309) 671-3333
CATALOG NO. 036732-00D
CONTRACT NO. 68K91**

GROSS LENGTH = MA



**DESCRIPTION:
GUARDRAIL AND CABLE RAIL REPAIRS AT
VARIOUS LOCATIONS IN DISTRICT 4**

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

COMMITMENTS

NO COMMITMENTS HAVE BEEN MADE FOR THIS PROJECT.

TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL:

ANY TYPE 1, 1A, OR 1B TERMINAL REQUIRING REPLACEMENT
UNDER THIS CONTRACT SHALL BE REPLACED BY A TYPE 1 (SPECIAL)
TERMINAL AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL NOTIFY THE RESIDENT
ENGINEER FORTY-EIGHT (48) HOURS PRIOR TO
PERFORMING WORK.

USER NAME = \$USER\$	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	JOB SPECIFIC NOTES AND COMMITMENTS			FA. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	DRAWN -	REVISED -		VAR	D4 GUARDRAIL REPAIRS 2026	VARIOUS	27	2			
PLOT SCALE = 1:100	CHECKED -	REVISED -				ILLINOIS	CONTRACT NO. 68K91				
PLOT DATE = 10/21/2022	DATE -	REVISED -		SCALE:	1 SHEET	1 OF 1 SHEETS	STA.	TO STA.			

ITEM NO.	DESCRIPTION	UNIT	TOTAL QUANTITY	VARIOUS
				COUNTIES
				100% STATE
				MCHD
				21
63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	1750	1750
63000003	STEEL PLATE BEAM GUADRAIL, TYPE A, 9 FOOT POSTS	FOOT	475	475
63100045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	26	26
63100070	TRAFFIC BARRIER TERMINAL, TYPE 5	EACH	5	5
63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	3	3
63100101	TRAFFIC BARRIER TERMINAL, TYPE 9	EACH	5	5
63100105	TRAFFIC BARRIER TERMINAL, TYPE 10	EACH	5	5
63100115	TRAFFIC BARRIER TERMINAL, TYPE 12	EACH	5	5
63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	30	30
63100169	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) FLARED	EACH	13	13
63200310	GUARDRAIL REMOVAL	FOOT	3500	3500
63400105	GUARD POSTS	EACH	50	50
64300260	IMPACT ATTENUATORS (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2	2
64300320	IMPACT ATTENUATORS (FULLY REDIRECTIVE, RESETTABLE), TEST LEVEL 3	EACH	2	2
64300370	IMPACT ATTENUATORS (FULLY REDIRECTIVE, WIDE), TEST LEVEL 3	EACH	1	1

ITEM NO.	DESCRIPTION	UNIT	TOTAL QUANTITY	VARIOUS
				COUNTIES
64300450	IMPACT ATTENUATORS (NON-REDIRECTIVE), TEST LEVEL 3	EACH	4	100% STATE
				MCHD
				21
64300770	IMPACT ATTENUATORS (SEVERE USE, NARROW), TEST LEVEL 3	EACH	1	1
66400105	CHAIN LINK FENCE, 4'	FOOT	120	120
66400305	CHAIN LINK FENCE, 6'	FOOT	500	500
66500105	WOVEN WIRE FENCE, 4'	FOOT	500	500
72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	37	37
78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	32	32
X0301372	REPAIR/UPGRADE EXISTING VAT TO CAT	EACH	5	5
X5091765	PIPE HANDRAIL (SPECIAL)	FOOT	100	100
X6300210	GUARDRAIL BLOCKS	EACH	50	50
X6300215	RAIL ELEMENT PLATES	EACH	80	80
X6300230	STEEL POSTS	EACH	135	135
X6300239	STEEL POSTS 9'	EACH	30	30
X6310302	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL (TANGENT)	EACH	14	14
X6310304	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL (FLARED)	EACH	5	5

USER NAME = \$USER\$	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES	FA RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
	DRAWN -	REVISED -			VAR	D4 GUARDRAIL REPAIRS 2026	VARIOUS	27	4
PLOT SCALE = 1:100	CHECKED -	REVISED -					ILLINOIS	CONTRACT NO. 68K91	
PLOT DATE = 10/21/2022	DATE -	REVISED -			SCALE:	1 SHEET 1 OF 4 SHEETS STA. TO STA.			

ITEM NO.	DESCRIPTION	UNIT	TOTAL QUANTITY	VARIOUS
				COUNTIES
				100% STATE
				MCHD
				21
X6310316	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	6	6
X6310318	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 3	EACH	4	4
X6310324	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 4	EACH	4	4
X6310326	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 5	EACH	4	4
X6310330	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4	4
X6310336	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 8	EACH	4	4
X6310338	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 9	EACH	4	4
X6330900	VERTICAL ADJUSTMENT OF GUARDRAIL	FOOT	320	320
X6331101	TUBULAR THRIE BEAM	FOOT	200	200
X6360123	REPAIR CABLE ROAD GUARD, THREE STRANDS	FOOT	45	45
X6432213	REPAIR IMPACT ATTENUATORS (FULLY REDIRECTIVE, WIDE), TEST LEVEL 3	EACH	1	1
X6432223	REPAIR IMPACT ATTENUATORS (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	3	3
X6432233	REPAIR IMPACT ATTENUATORS (SEVERE USE, NARROW) TEST LEVEL 3	EACH	1	1
X6440130	REPAIR HIGH TENSION CABLE (GIBRALTAR)	FOOT	500	500
X6440131	REPAIR HIGH TENSION BARRIER TERMINAL (GIBRALTAR)	EACH	10	10

FILE NAME: pw_bentley.com:PWIDOT\Documents\IDOT\Offices\District 4\Projects\04_68E42\CADData\CADSheets\0468E42-shr-cover.cgn	USER NAME = \$USER\$	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES			FA RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
		DRAWN -	REVISED -		VAR	D4 GUARDRAIL REPAIRS 2026	VARIOUS	27	5			
	PLOT SCALE = 1:100	CHECKED -	REVISED -			ILLINOIS	CONTRACT NO. 68K91					
	PLOT DATE = 10/21/2022	DATE -	REVISED -		SCALE: 1	2	OF 4	SHEETS	STA.	TO STA.		

ILLINOIS DEPT OF TRANSPORTATION - DIST 4 - WORK ORDER

TO: _____

D/A: _____

MOTORIST-CAUSED DAMAGE REPAIR

FY

JOB NUM:

CONTRACT NUM:

CLAIM NUM: _____

ROAD: _____

LOCATION: _____

COUNTY: _____

CODE NUMITEMUNITQTYUNIT PRICEAMOUNT

TOTAL CHARGES (This Work Order)\$

SPECIAL INSTRUCTIONS:

WORK ORDER ISSUED: _____ BY: _____ ACCEPTED: _____ BY: _____

WORK ORDER COMPLETED: _____ DATE: _____

I/WE CERTIFY WORK HAS BEEN PERFORMED ACCORDING TO THE CONTRACT AND HEREBY REQUEST

PAYMENT: _____ BY: _____ ACCEPTED: _____ BY: _____

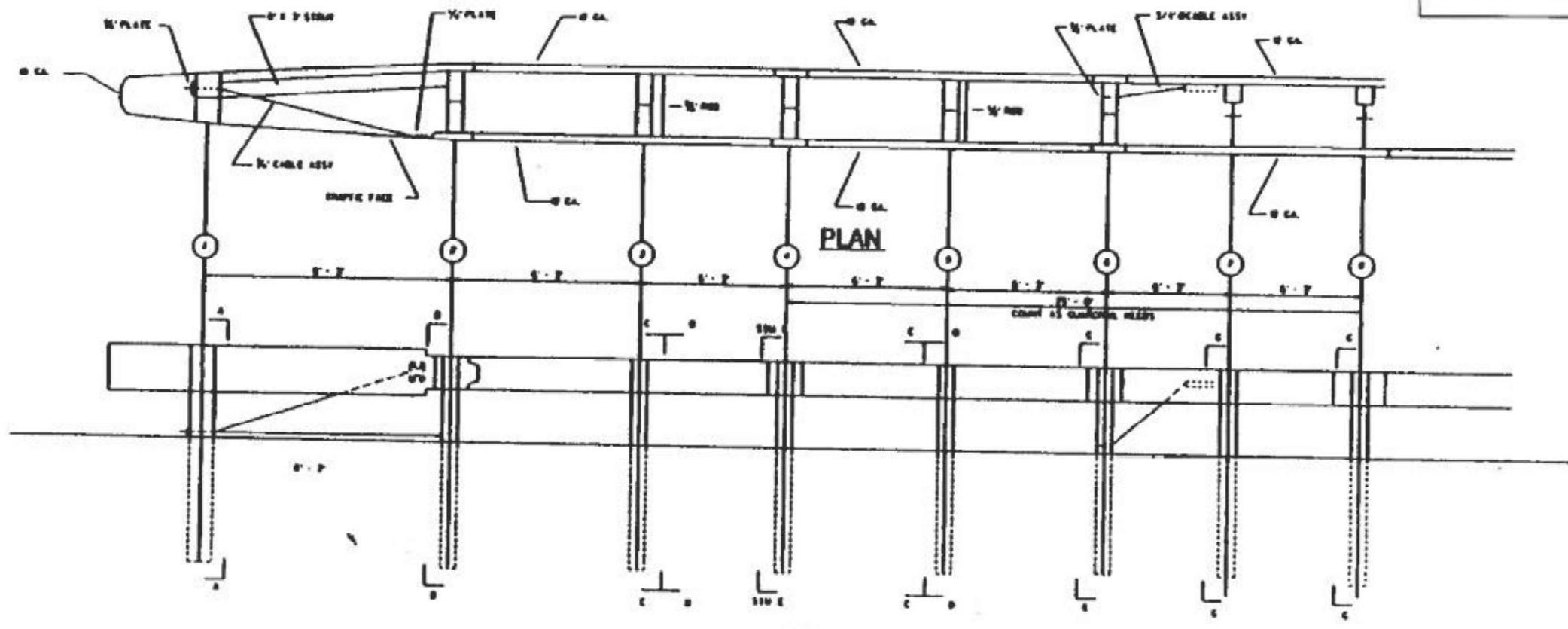
VERIFICATION OF WORK ORDER COMPLETED: _____ BY: _____

APPROVED FOR PAYMENT

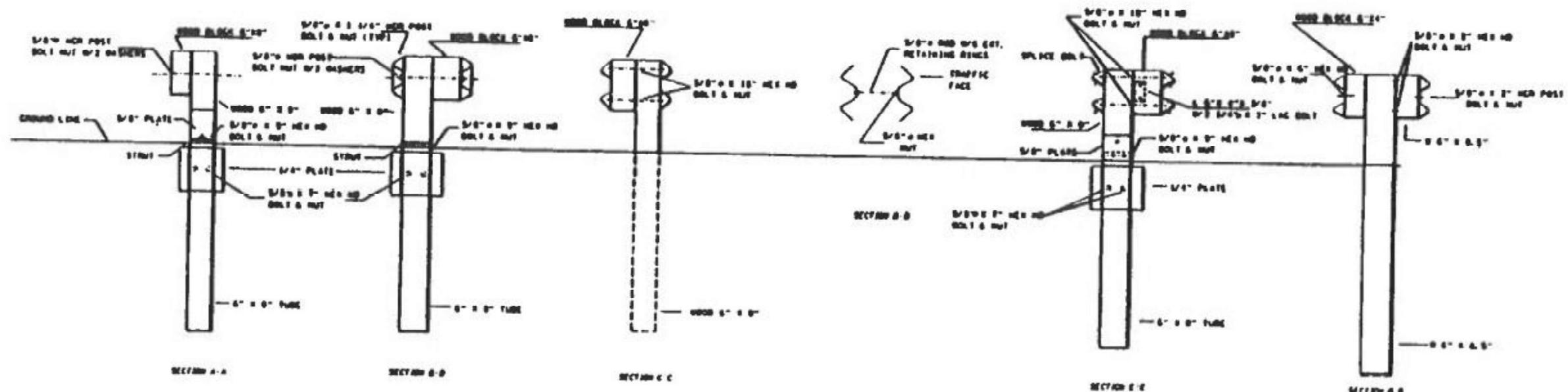
DATE

USER NAME = \$USER\$	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DISTRICT 4 - SAMPLE WORK ORDER		F.A. RTE. VAR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
DRAWN -		REVISED -				D4 GUARDRAIL REPAIRS 2025	VARIOUS	27	7	
CHECKED -		REVISED -					ILLINOIS	CONTRACT NO. 68J37		
PLOT SCALE = 1:100		REVISED -		SCALE:	1 SHEET	1 OF 1	SHEETS	STA.	TO STA.	
PLOT DATE = 10/21/2022	DATE -	REVISED -								

**DETAIL INCLUDED
FOR REPAIR ONLY**

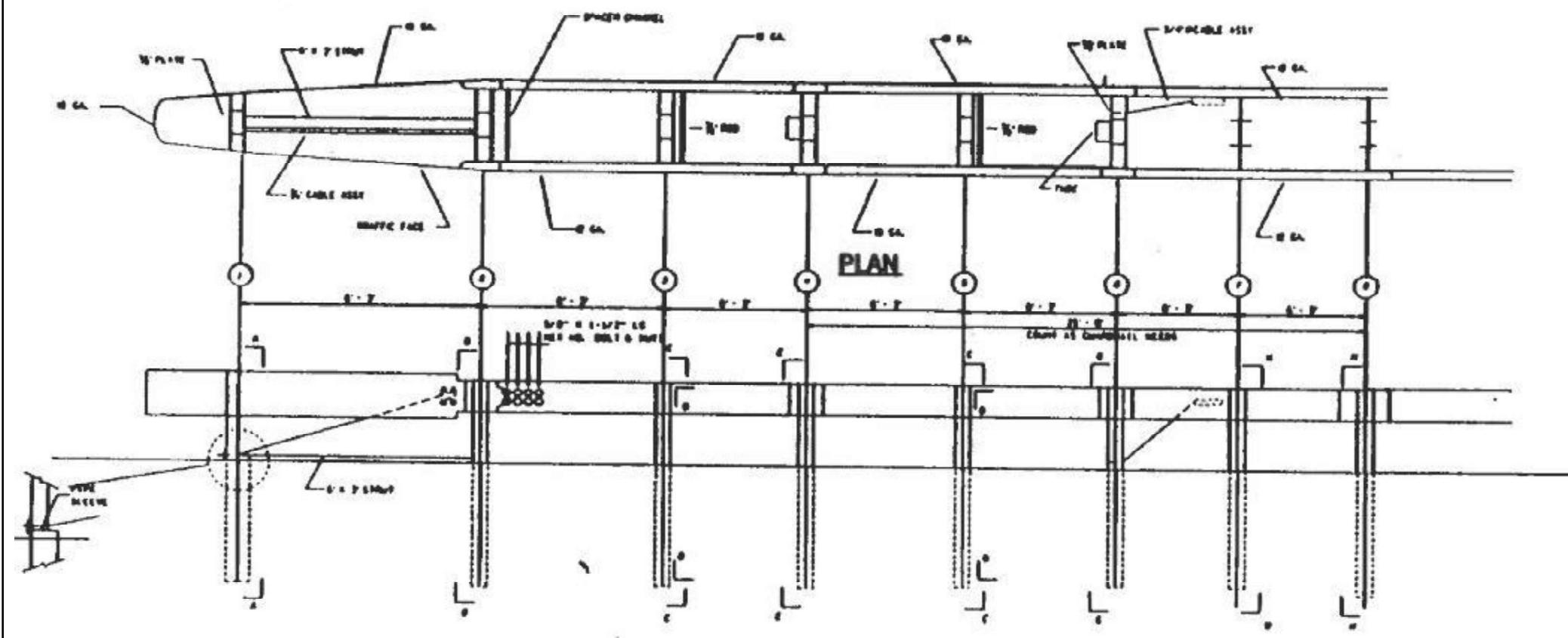


ELEVATION

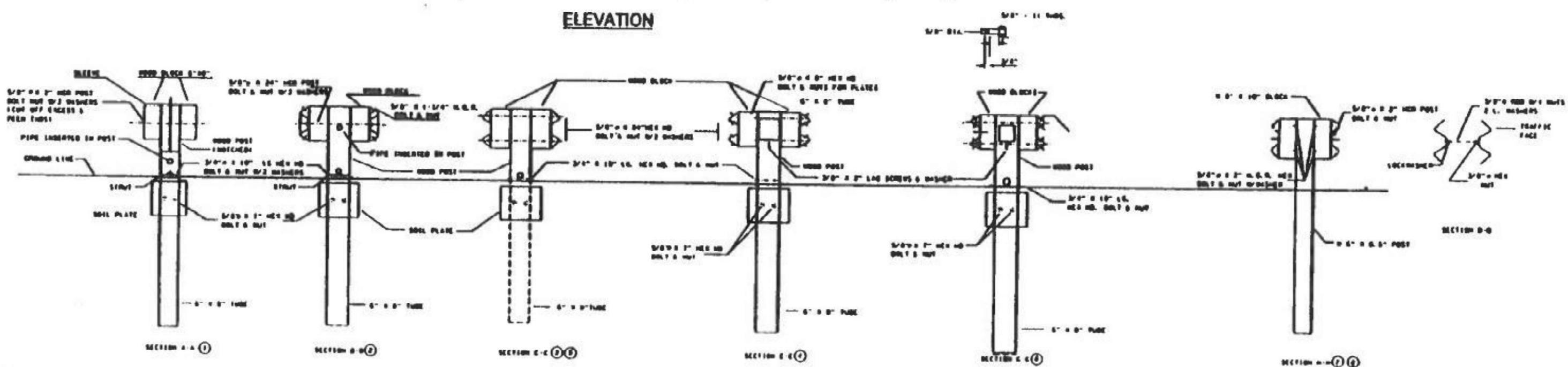


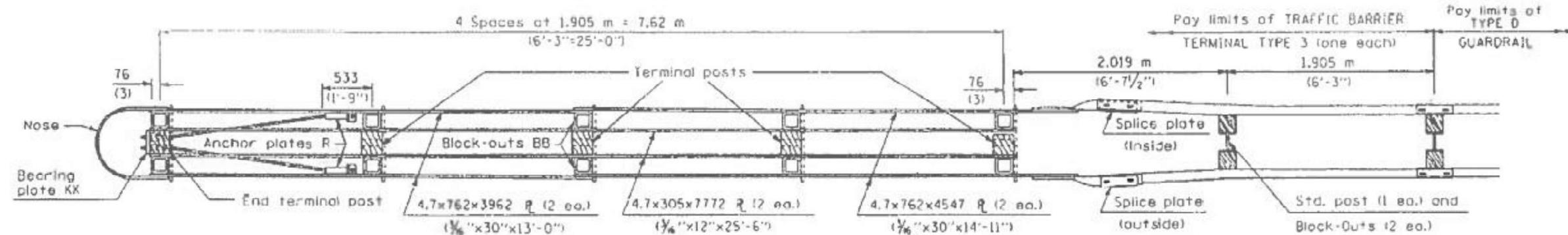
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USER NAME = \$USER\$	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING V.A.T. SYSTEM			F.A. RATE	SECTION	COUNTY	TOTAL SHEETS	SHEE NO.
DRAWN -	REVISED -	VAR		D4 GUARDRAIL REPAIRS 2026			VARIOUS	27	8		
PLOT SCALE = 1:100	CHECKED -	REVISED -					ILLINOIS	CONTRACT NO. 68K91			
PLOT DATE = 10/21/2022	DATE -	REVISED -		SCALE:	SHEET 1 OF 1	SHEETS!	STA.	TO STA.			

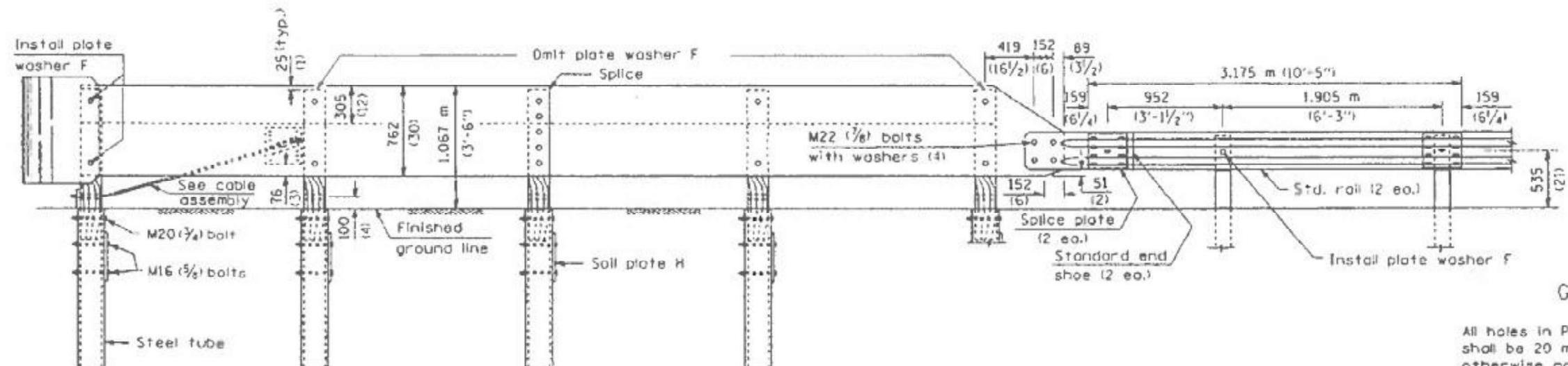


ELEVATION





PLAN - TRAFFIC BARRIER TERMINAL TYPE 3



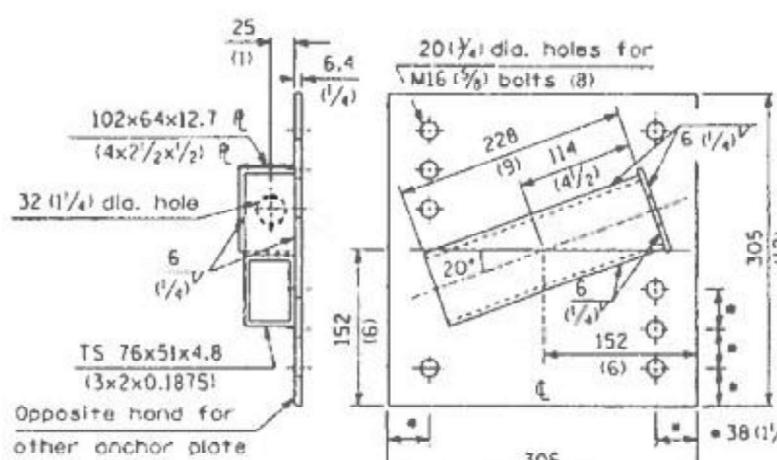
GENERAL NOTES

All holes in Posts, Block-Outs and Plates shall be 20 mm (7/8") diameter unless otherwise noted.

See Standard 63001 for details of Guardrail elements not shown.

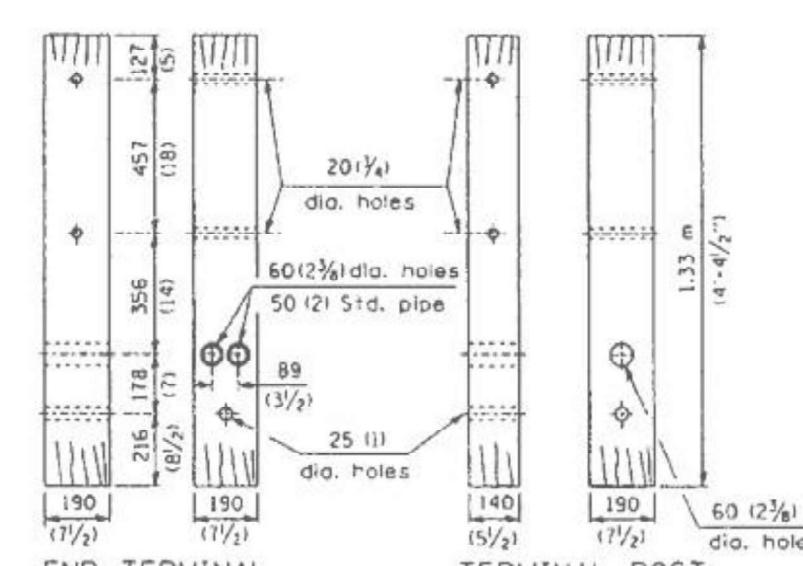
Unless otherwise shown all bolts and nuts shall be Standard Post and Splice Bolts and Nuts (See Standard 63001).

Block-Out AA shall be used at all locations unless otherwise noted.



ANCHOR PLATE R

(1 ea. It. hd. & 1 ea. rt. hd.)

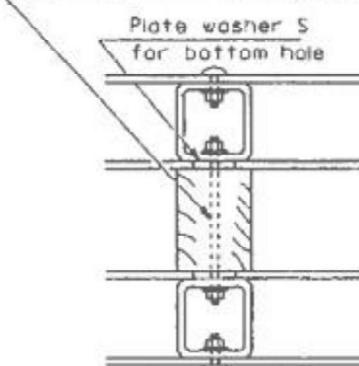


END TERMINAL POST

TERMINAL POST

(4 ea. Type 3);
(5 ea. Type 3A)

M16 (5/8) x 280 (11) threaded rod with nuts and washers
110 ea. Type 3; (12 ea. Type 3A)



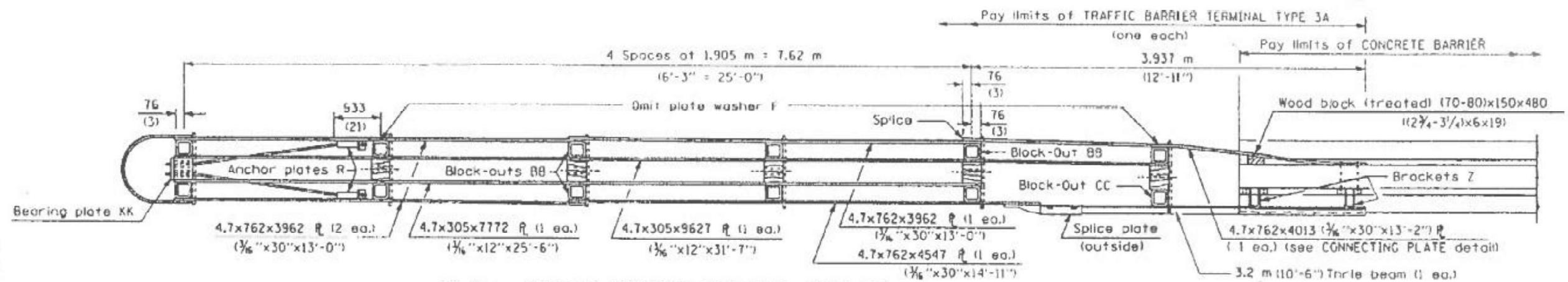
TYPICAL BLOCK-OUT/POST

ATTACHMENT

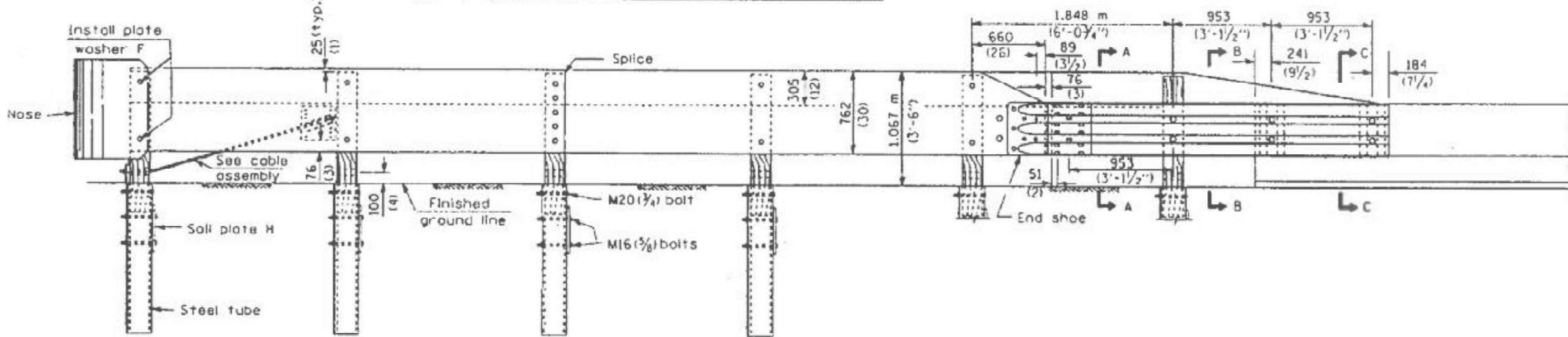
**DETAIL INCLUDED
FOR REPAIR ONLY**

All dimensions are in millimeters (inches) unless otherwise shown.

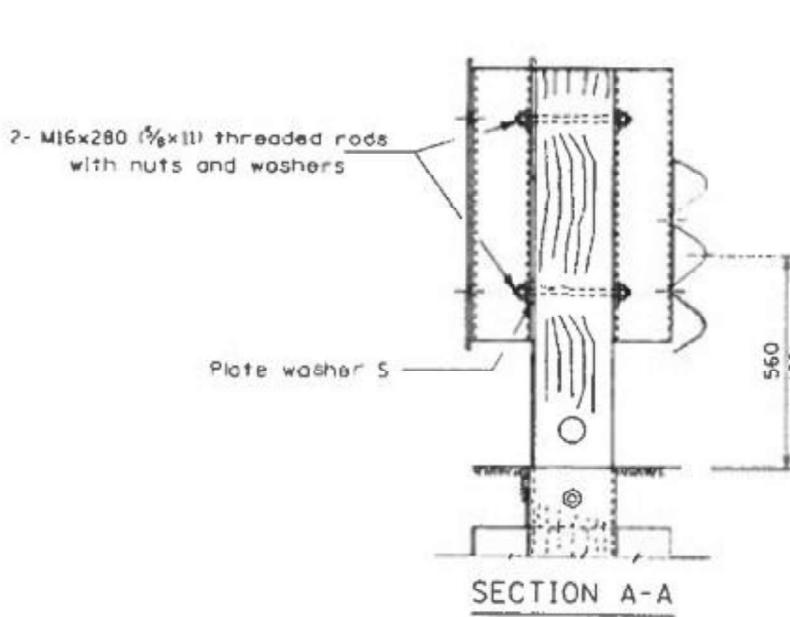
FA. RTE. VAR	SECTION		COUNTY ILLINOIS	TOTAL SHEETS 27	SHEET NO. 10
	D4 GUARDRAIL REPAIRS 2026	VARIOUS			
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING TRAFFIC BARRIER TERMINAL TYPE 3 & TYPE 3A	SCALE: 1:100	1 SHEET 1 OF 3 SHEETS STA. TO STA.		



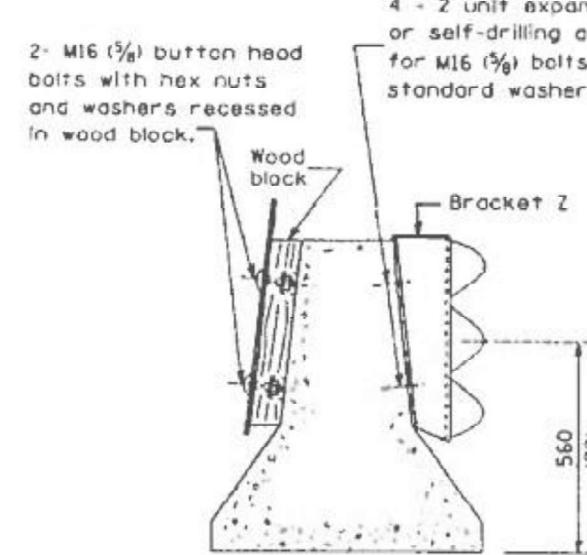
PLAN - TRAFFIC BARRIER TERMINAL TYPE 3A



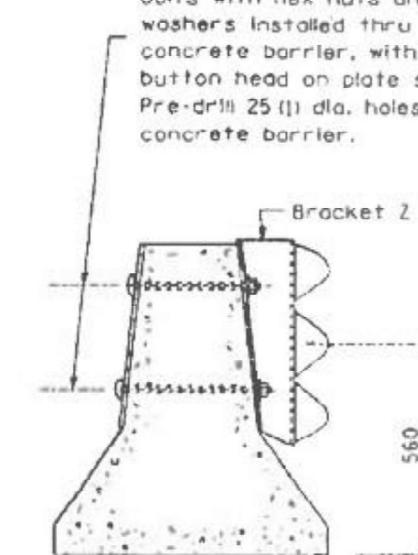
ELEVATION



SECTION A-A



SECTION B-B



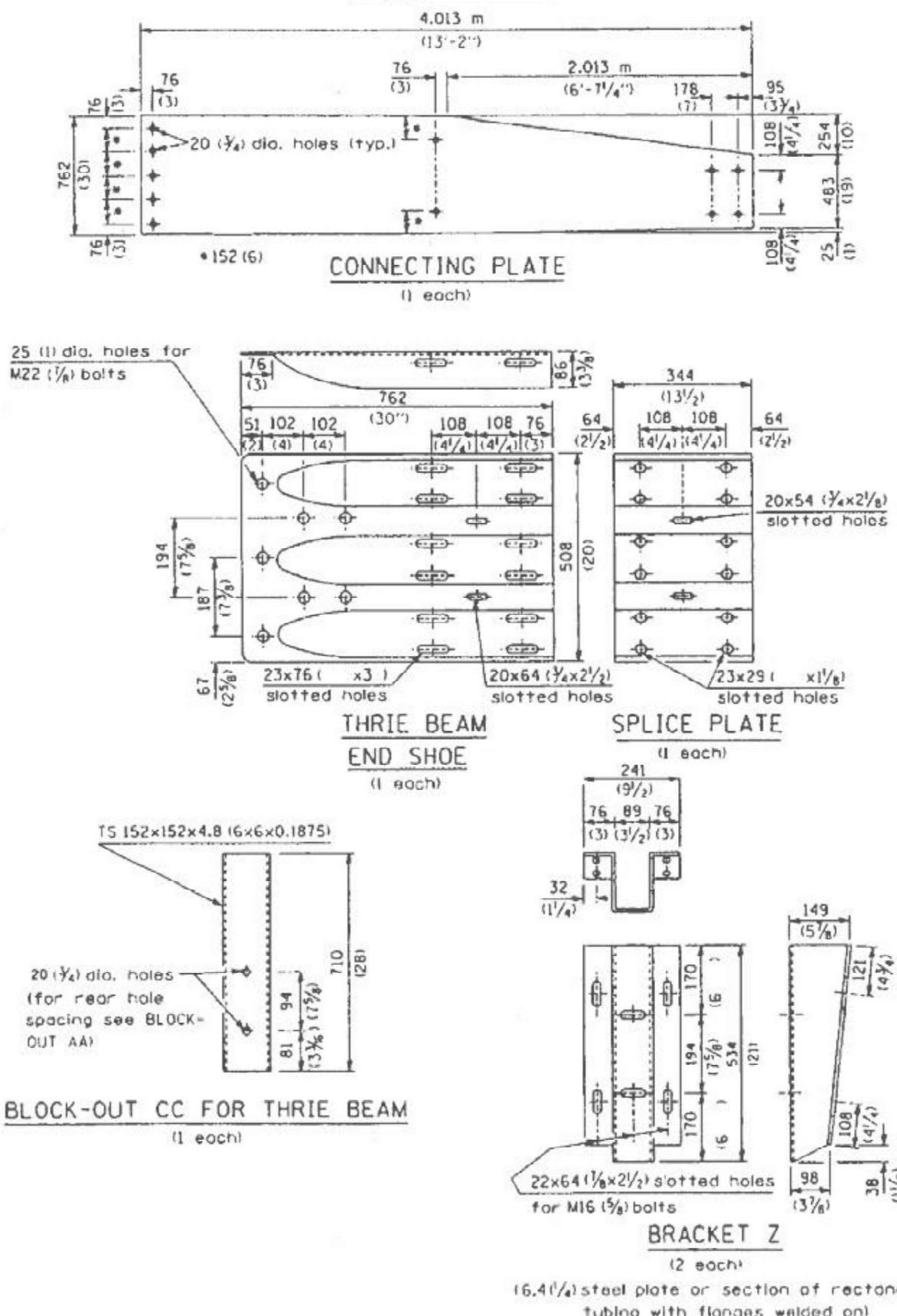
SECTION C-C

4- M16 (5/8) button head bolts with hex nuts and washers installed thru concrete barrier, with button head on plate side. Pre-drill 25 (1) dia. holes in concrete barrier.

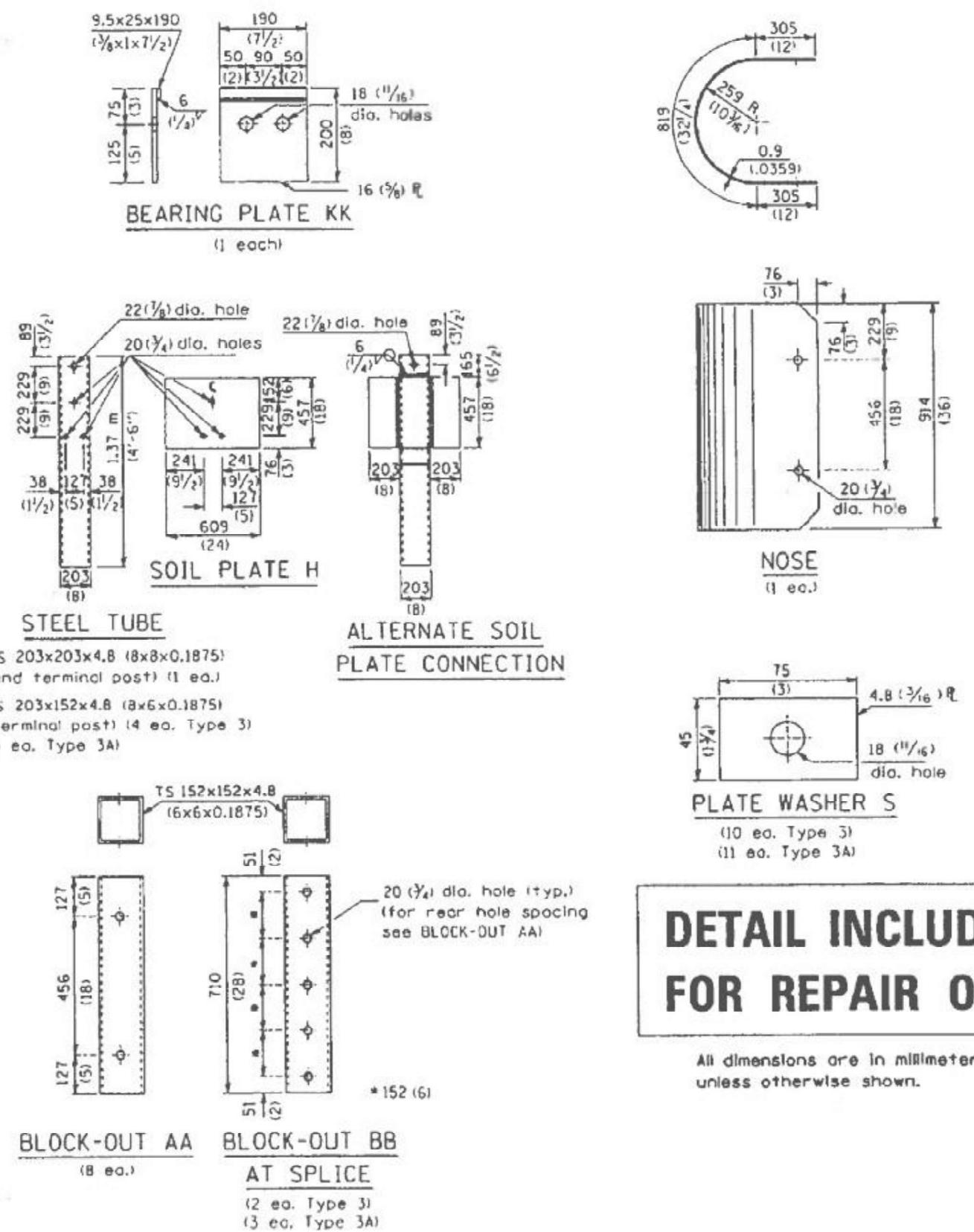
**DETAIL INCLUDED
FOR REPAIR ONLY**

All dimensions are in millimeters (inches) unless otherwise shown.

TYPE 3A ONLY



TYPE 3 & 3A

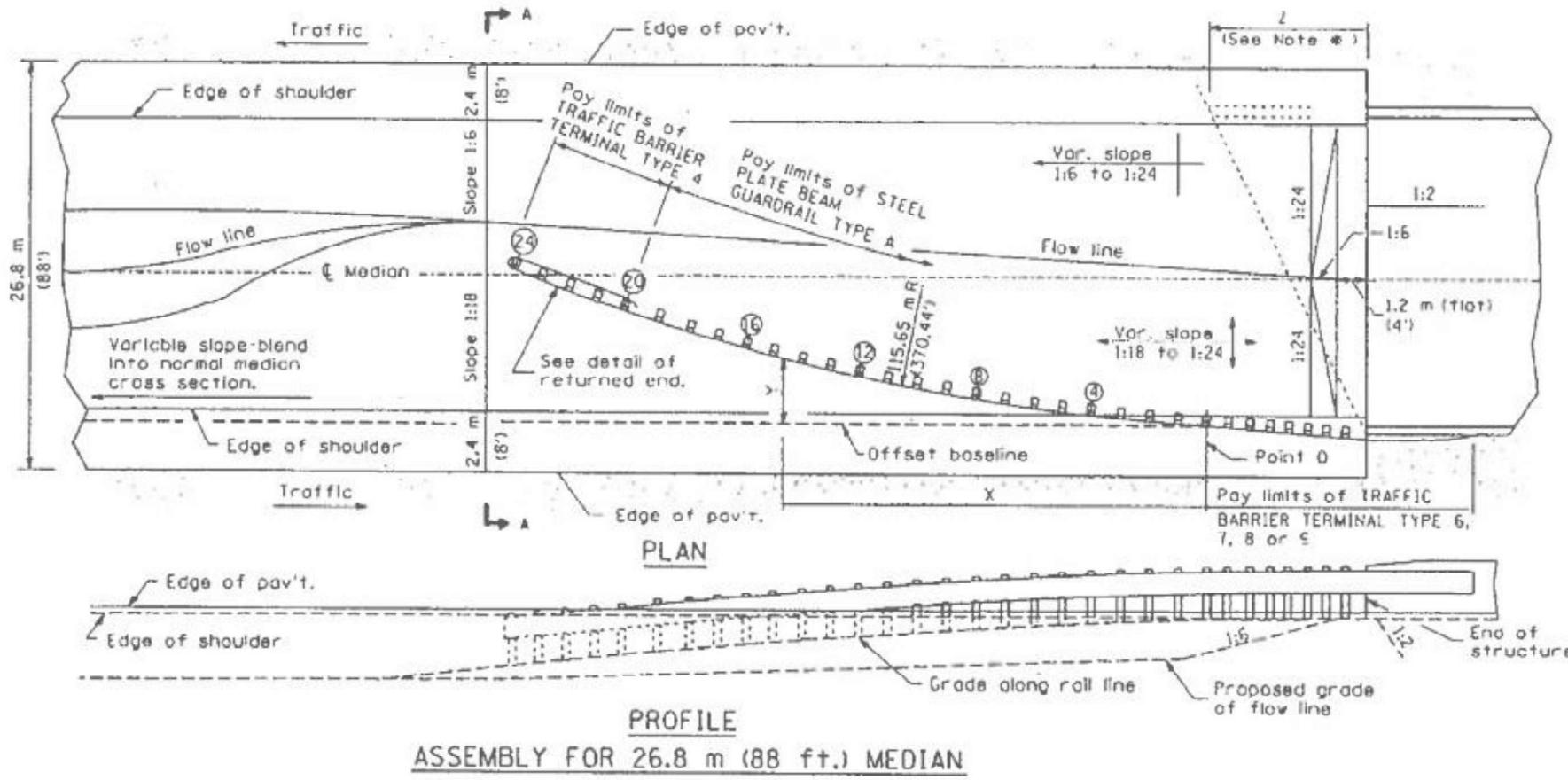


**DETAIL INCLUDED
FOR REPAIR ONLY**

All dimensions are in millimeters (inches) unless otherwise shown.

USER NAME = \$USERS	DESIGNED -	REVISED -
DRAWN -	REVISED -	
PLOT SCALE = 1:100	CHECKED -	REVISED -
PLOT DATE = 10/21/2022	DATE -	REVISED -

FA. RTE. VAR	SECTION D4 GUARDRAIL REPAIRS 2026	COUNTY VARIOUS	TOTAL SHEETS 27	HEET NO. 12
		ILLINOIS	CONTRACT NO. 68K91	



OFFSETS TO FACE OF RAIL			
POST	DISTANCE m X (ft.)	OFFSET m Y (ft.)	
POINT 0	0 (0)	0 (0)	
④	7.60 (24.93)	0.56 (1.83)	
⑧	15.14 (49.68)	1.60 (5.28)	
⑫	22.60 (74.16)	3.16 (10.37)	
⑯	29.94 (98.23)	5.20 (17.05)	
⑳	37.13 (121.83)	7.71 (25.3)	
㉔	44.14 (144.83)	10.70 (35.09)	

Offsets (Y) are measured between the face of rail and the offset baseline, which is parallel to the pavement edge and passes through point 0.

The location of point O will vary, being dependent on structure details and the type of traffic barrier terminal utilized.

GENERAL NOTES

See Standard 630001 for details of guard-roll not shown.

* For dual structures skewed right forward, the nose of the Type 4 terminal shall be positioned longitudinally away from the structure for a distance equal to dimension Z. Appropriate adjustments to the length of the Type A guardroll and its offsets (Y_1) shall be calculated and used. All additional lengths of guardroll shall be in increments of 3.87 m (12'-6").

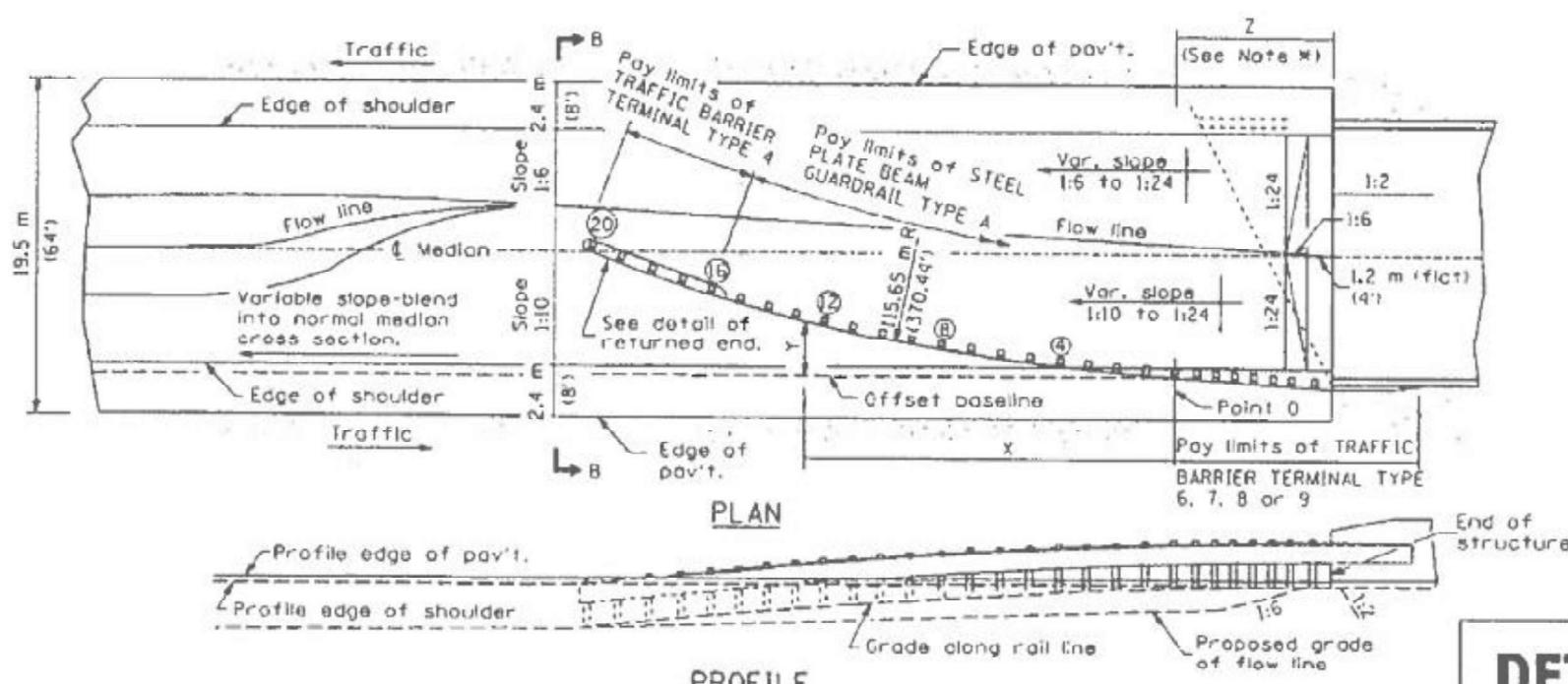
For dual structures that are 90°, or skewed left forward, the length of guardrail is appropriate.

The bearing plate K shall be held in position by (2) two eight penny nails driven into the post and bent over the top of the plate.

All slopes are expressed as units of vertical displacement to units of horizontal displacement ($V:H$).

All dimensions are in millimeters (inches) unless otherwise shown.

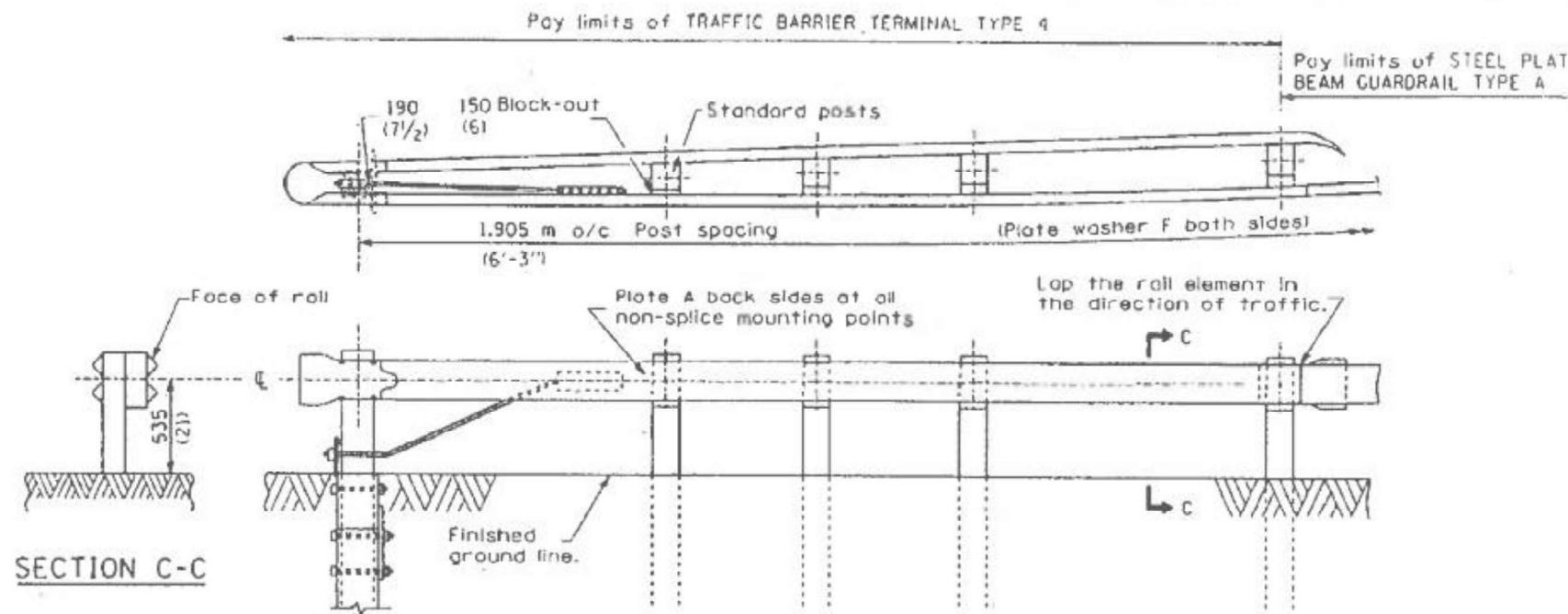
All dimensions are in millimeters (inches) unless otherwise shown.



ASSEMBLY FOR 19.5 m (64 ft.) MEDIAN

DETAIL INCLUDED FOR REPAIR ONLY

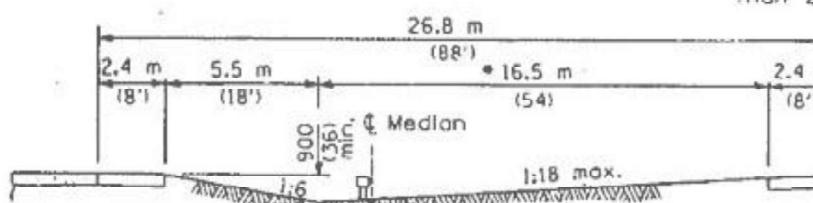
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	DRAWN -	REVISED -	VAR			D4 GUARDRAIL REPAIRS 2026	VARIOUS	27	13	
	PLOT SCALE = 1:100	CHECKED -	REVISED -					ILLINOIS	CONTRACT NO. 68K91	
	PLOT DATE = 10/21/2022	DATE -	REVISED -			SCALE:	1	OF 2	SHEETS!	STA. TO STA.



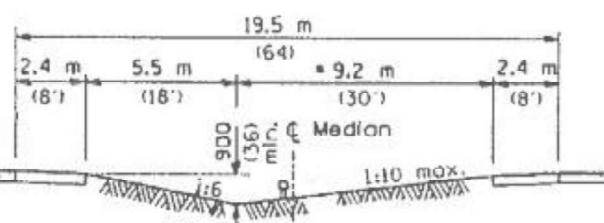
SECTION C-C

RETURNED END DETAIL

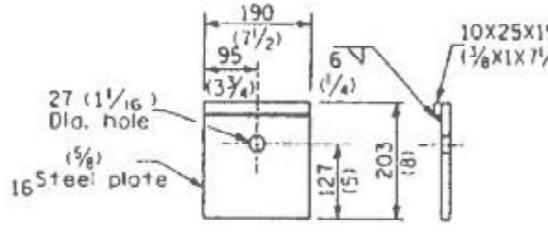
* Adjust this dimension when the width of the shoulders is other than 2.4 m (8').



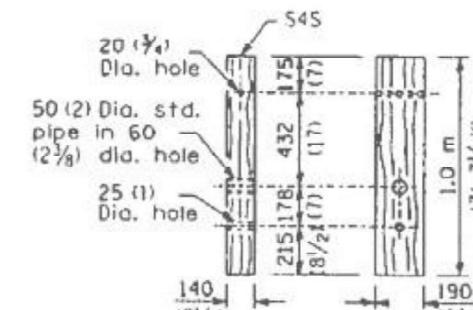
SECTION A-A



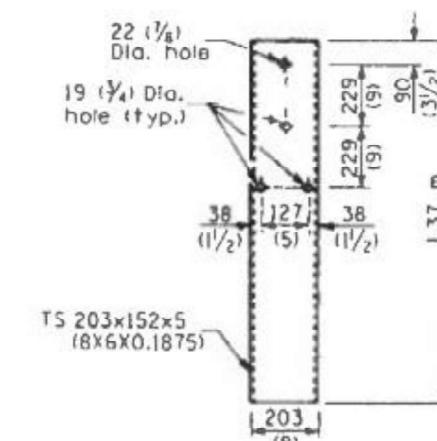
SECTION B-B



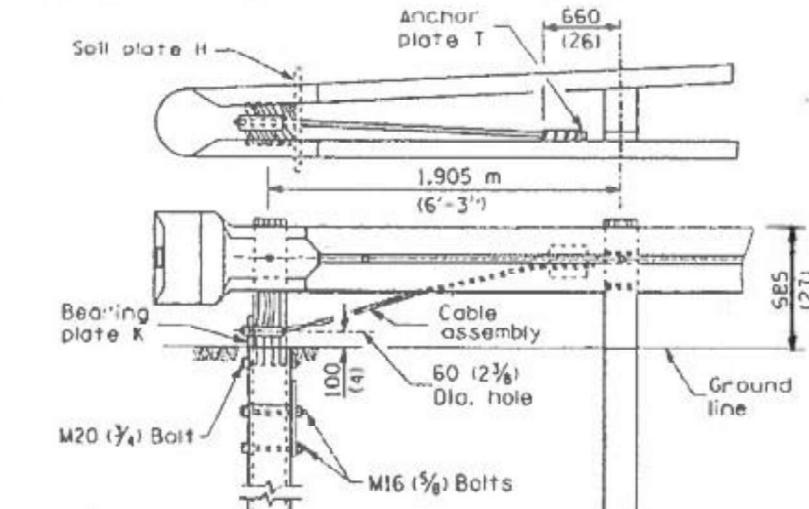
BEARING PLATE K



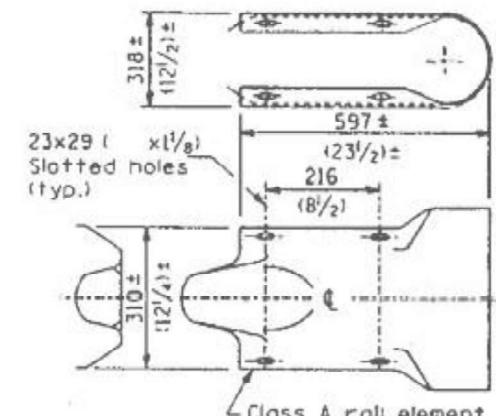
WOOD BREAKAWAY POST



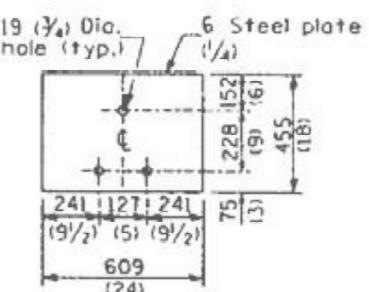
STEEL TUBE



WOOD POST TUBULAR STEEL FOUNDATION



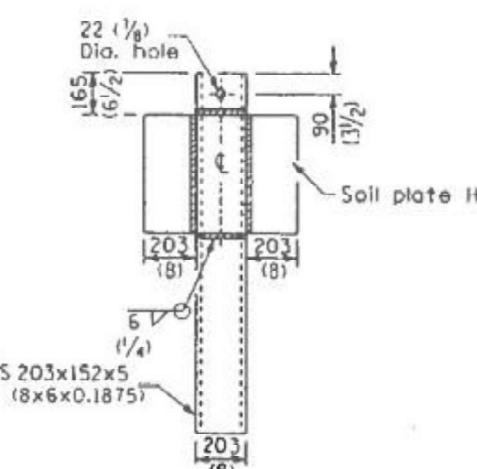
RETURN END SECTION



SOIL PLATE H

**DETAIL INCLUDED
FOR REPAIR ONLY**

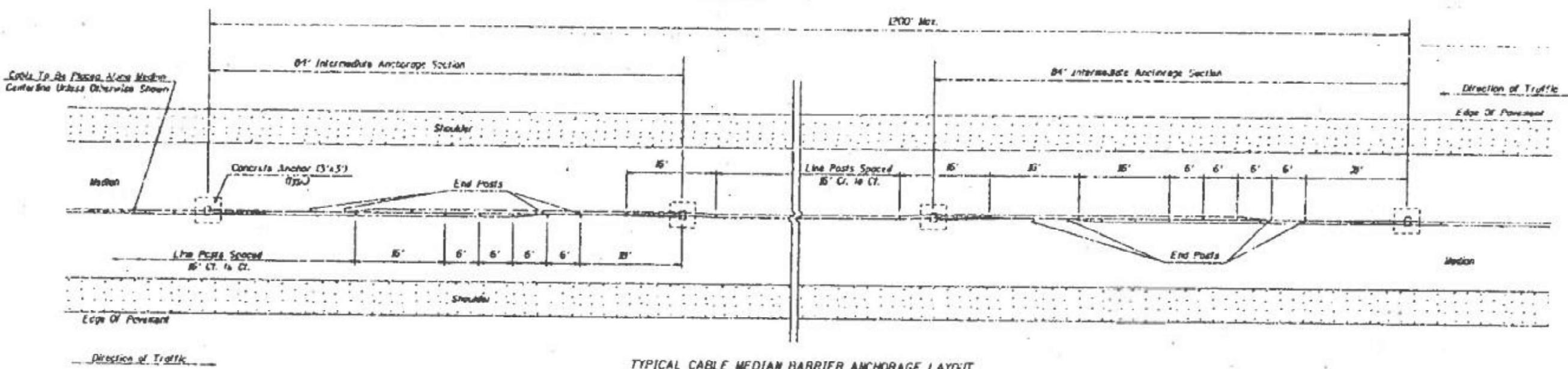
All dimensions are in millimeters (inches) unless otherwise shown.



ALTERNATE SOIL
PLATE CONNECTION

USER NAME = \$USER\$	DESIGNED -	REVISED -
DRAWN -	REVISED -	
PLOT SCALE = 1:100	CHECKED -	REVISED -
PLOT DATE = 10/21/2022	DATE -	REVISED -

FA. RTE. VAR	SECTION D4 GUARDRAIL REPAIRS 2026	COUNTY VARIOUS	TOTAL SHEETS 27	HEET NO. 14
				ILLINOIS CONTRACT NO. 68K91



TYPICAL CABLE MEDIAN BARRIER ANCHORAGE LAYOUT
PLAN VIEW

GENERAL NOTE

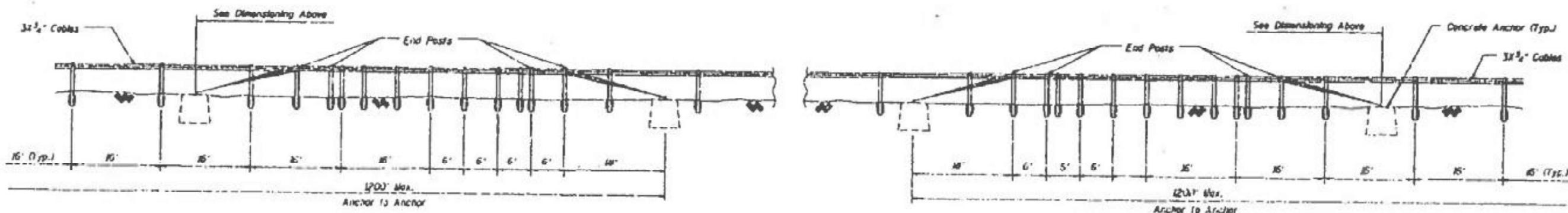
DELINERATORS: Two reflectors, placed back to back, shall be required for each delineator post.

NOTE: This work shall be done in accordance with Section 6 and no additional compensation will be allowed for the single reflector units placed back to back.

The dimension shall be installed adjacent to a cable raceway and not at 80 foot centers.

Notes:

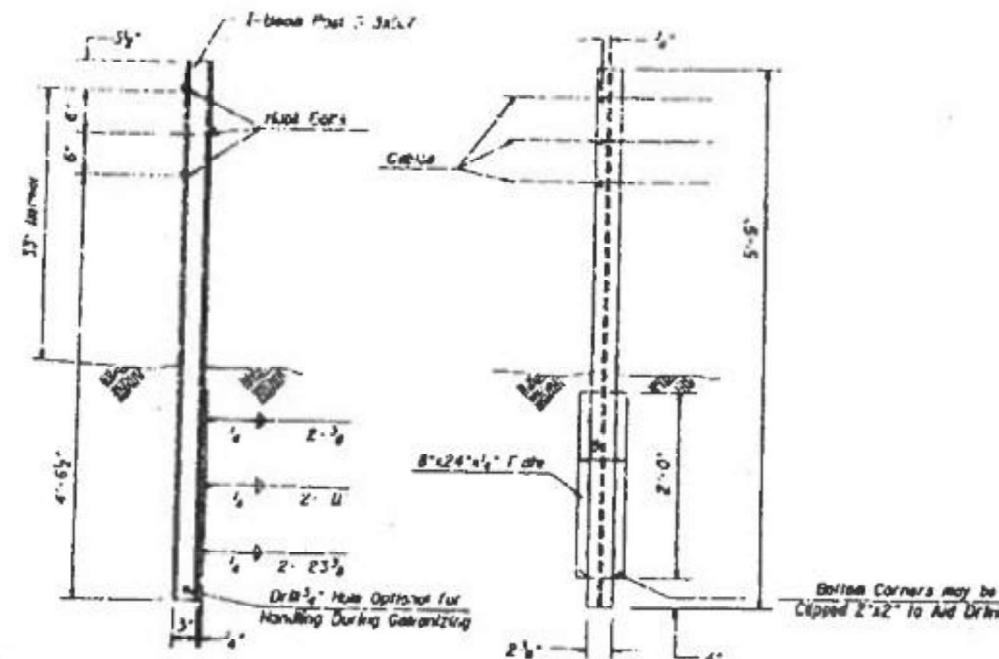
- All posts are thin posts unless otherwise specified.
- See detail sheets for Post, Concrete Anchor and Assembly Parts specifications.



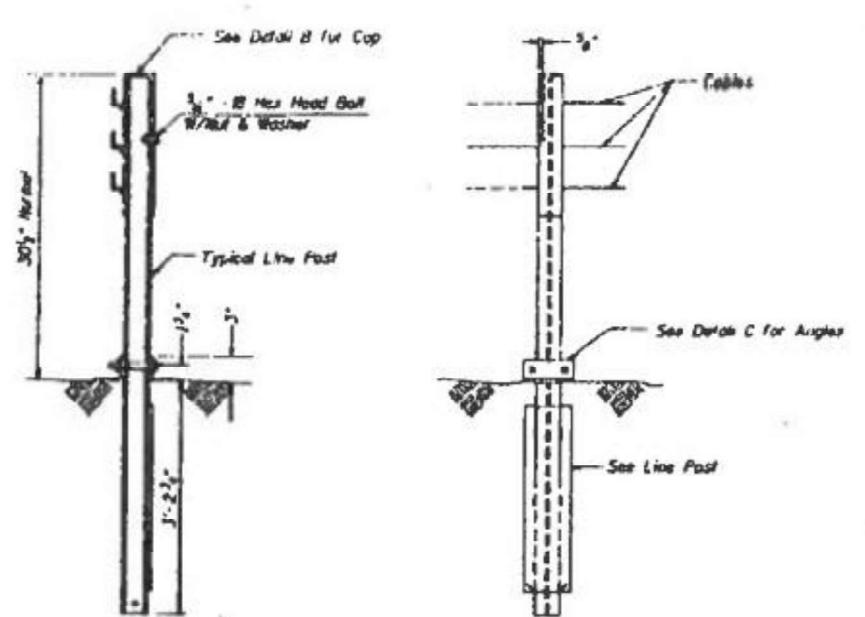
TYPICAL CABLE MEDIAN HARRIER ANCHORAGE LAYOUT
ELEVATION VIEW

**DETAIL INCLUDED
FOR REPAIR ONLY**

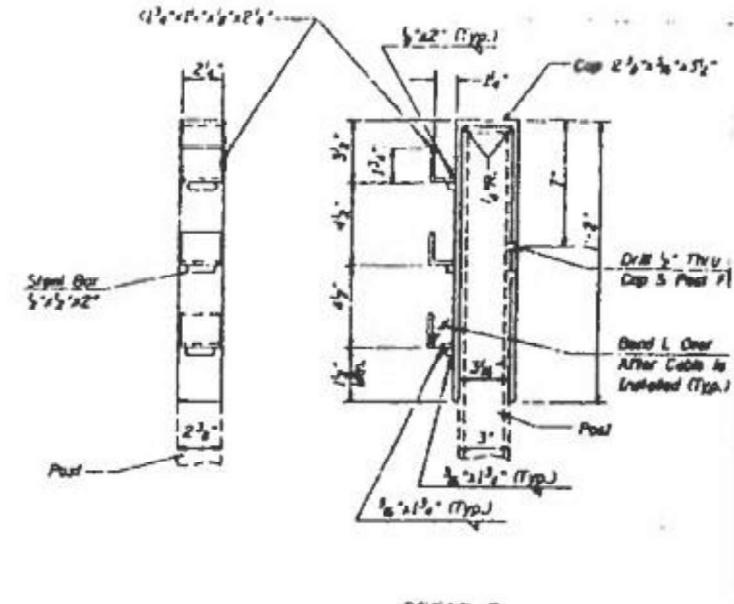
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	DRAWN	-	REVISED	-			VAR	D4 GUARDRAIL REPAIRS 2026	VARIOUS	27	15
	PLOT SCALE	= 1:100	CHECKED	-				ILLINOIS	CONTRACT NO.	68K91	
	PLOT DATE	= 10/21/2022	DATE	-			SCALE:	1	OF 3	SHEETS!	STA. TO STA.



LINE POST DETAILS



END POST DETAIL

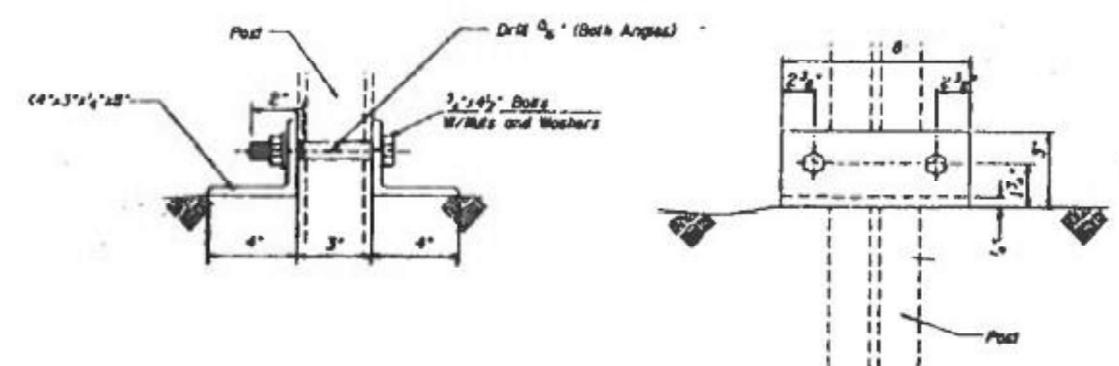


DETAIL B

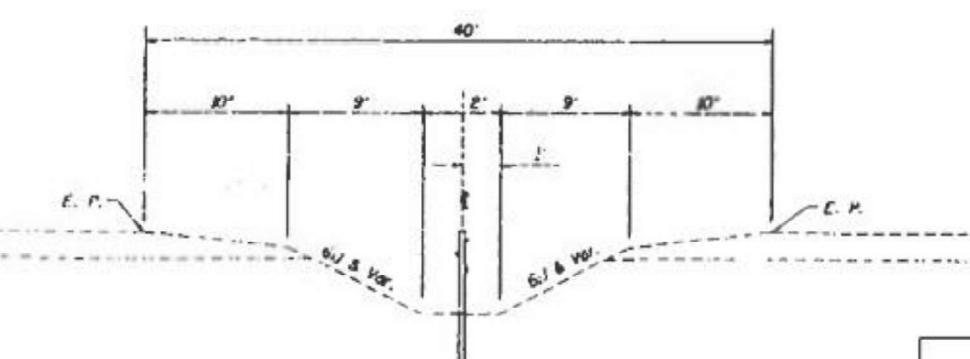
NOTE

- At all locations where the cable is connected to a cable sncket with a wedge type connection, one wire of the wire rope shall be crimped over the base of the wedge to hold it firmly in place.
- Compensating devices shall have spring constants of 450 Pounds Per Inch, plus or minus 50 Pounds Per Inch, and permit a travel of 5 inches, plus or minus 1 inch.
- Socket bushings shall be designed for use with the wedge detailed in these Standards.
- Alternate hardware designs will be considered for approval provided their connection details, for the purpose of maintenance substitutions, are compatible with the details of these standards and their operating characteristics are similar to those of the hardware shown.
- Threads of externally threaded parts shall be UNC, Class 2A tolerance (A.N.S.I. B1.1).
- Internally threaded parts shall meet the dimensional requirements of ASTM A 563.
- All fittings (including splices) shall be so designed to use the wedge shown in the wedge design and shall be of such section as to develop the full strength of the "A" round cable (25,000 lbs.).
- For arrangement of spring cable and assemblies (compensating devices and turnbuckle cable and assemblies), the following criteria shall apply:
 - For 1000': Use compensating cable and assembly on one end, and turnbuckle cable and 250' cable on the other end of each individual cable.
 - Over 1000' to 3700': Use compensating cable and assembly on both end of each individual cable.
- All assembly parts and parts are to be galvanized and no punching, cutting or welding will be permitted after galvanizing.
- Dimensional tolerances not shown or implied are intended to be those consistent with the proper functioning of the part, including its appearance, and accepted manufacturing practices.
- Prior to final acceptance by the State the following procedures shall be used to function test turnbuckles, depending on the temperature of the hub of turnbuckles:

Temperature	120°	90°	70°	50°	30°	10°	1°
10°	10	10	10	10	10	10	10
100°	100°	60°	40°	20°	10°	20°	10°
- Spring compensation for alternate turnbuckles in each series



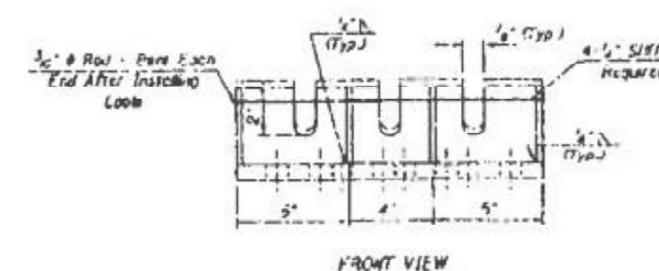
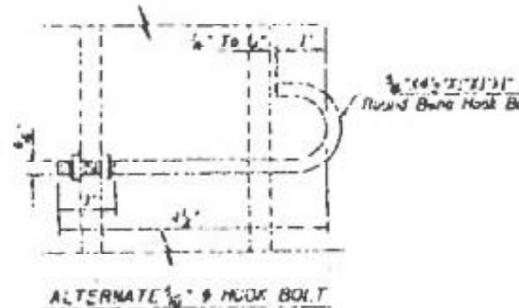
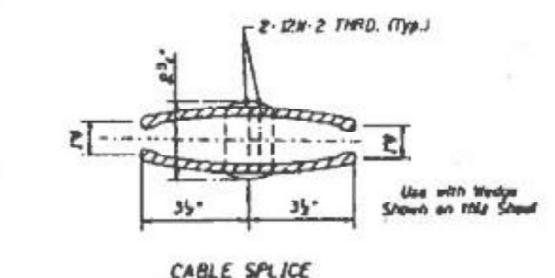
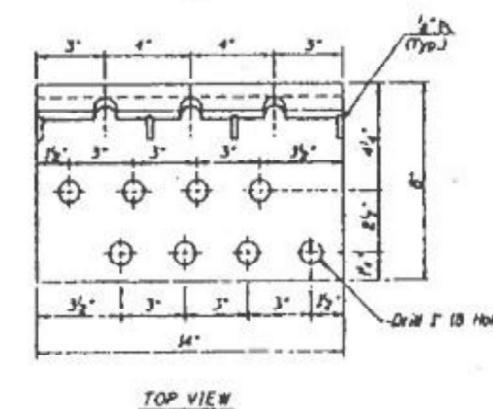
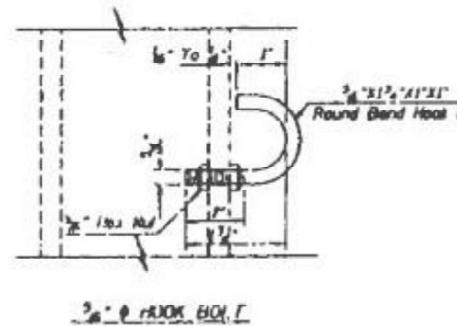
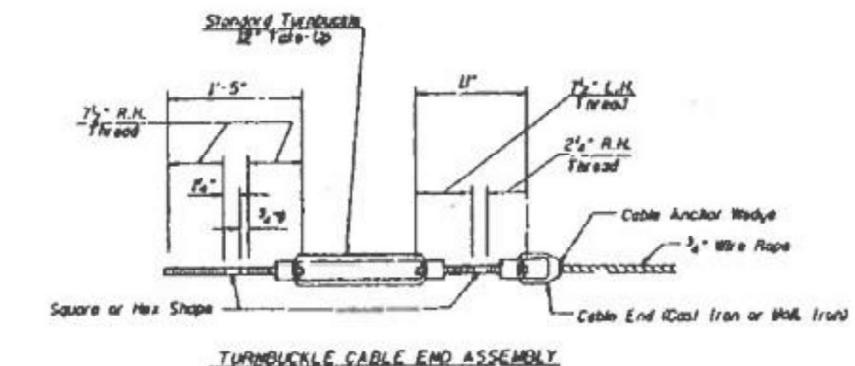
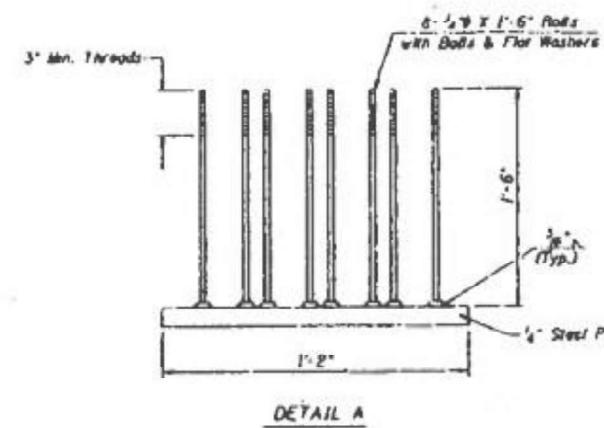
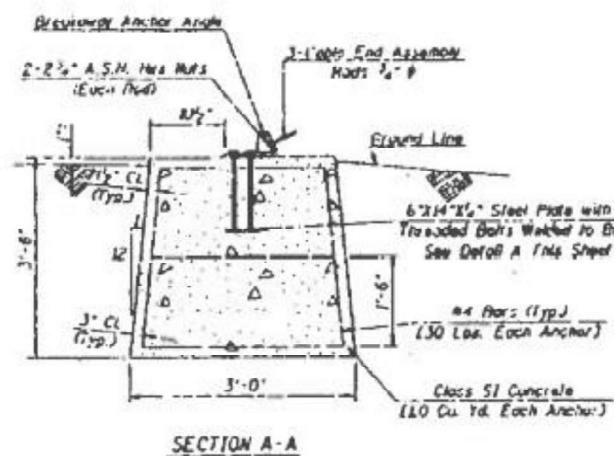
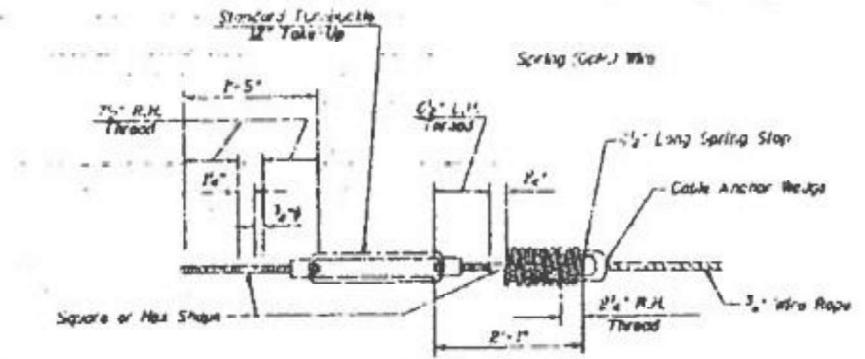
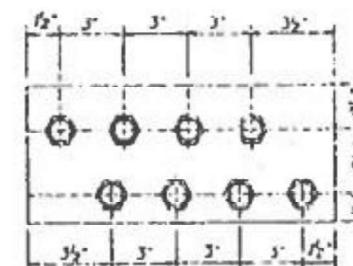
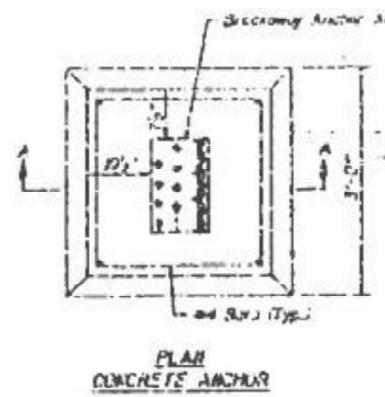
DETAIL C



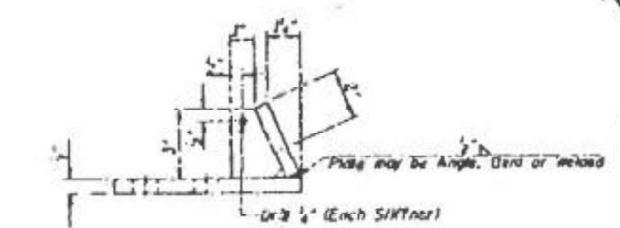
CALLE MEDIAN BARRIER
TYPICAL SECTION

**DETAIL INCLUDED
FOR REPAIR ONLY**

USER NAME = \$USER\$	DESIGNED	-	REV(SED)	-	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING CABLE MEDIAN BARRIER (CABLE ROAD GUARD)	F.A. RATE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	DRAWN	-	REV(SED)	-			VAR	D4 GUARDRAIL REPAIRS 2026	VARIOUS	27	16
	PLOT SCALE	= 1:100	CHECKED	-				ILLINOIS	CONTRACT NO. 68K91		
	PLOT DATE	= 10/21/2022	DATE	-			SCALE:	1	SHEET 2 OF 3 SHEETS!, STA.	TO STA.	



DRIVEWAY CENTER ANGLE



SIDE VIEW

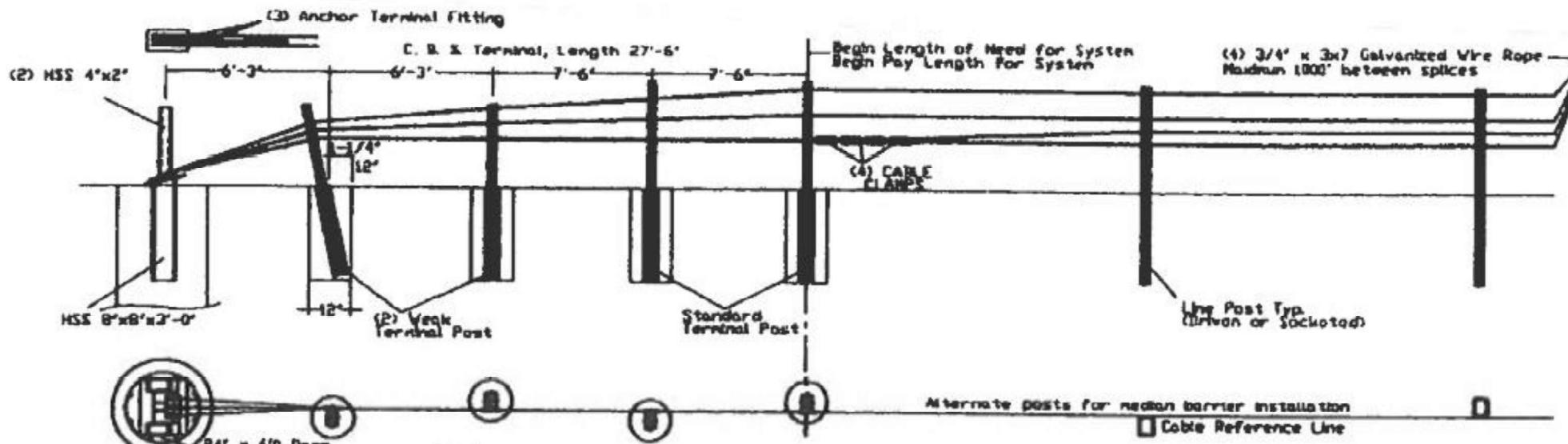
**DETAIL INCLUDED
FOR REPAIR ONLY**

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

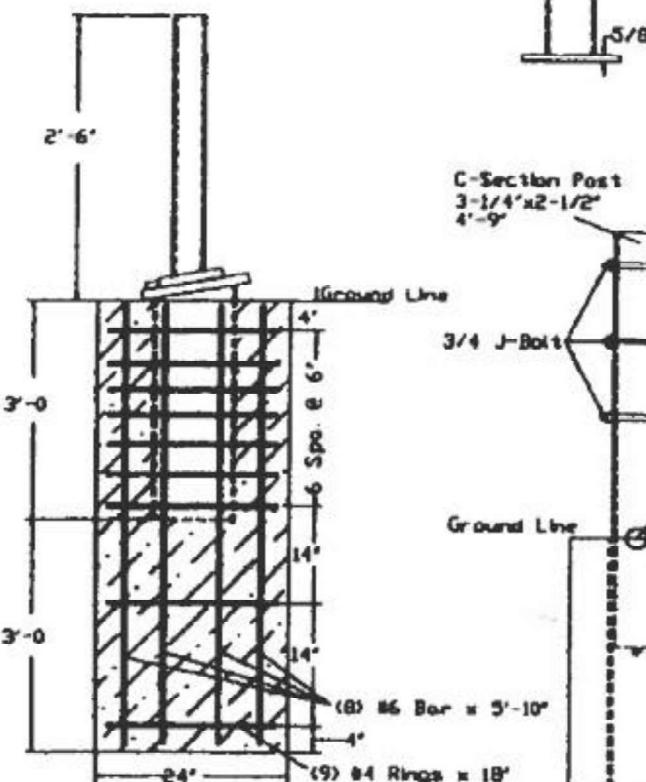
EXISTING CABLE MEDIAN BARRIER (CABLE ROAD GUARD)

FA. RTE. VAR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D4 GUARDRAIL REPAIRS 2026		VARIOUS	27	17
		ILLINOIS	CONTRACT NO. 68K91	

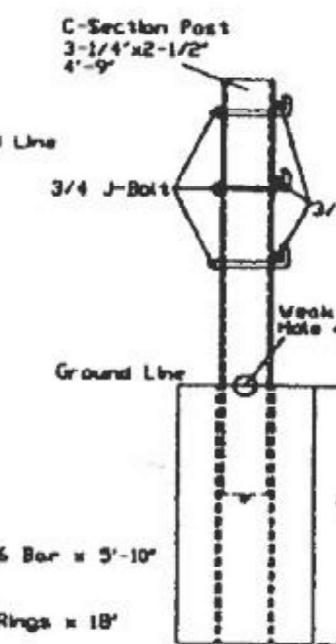
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DRAWN -	REVISED -	
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PLOT DATE = 10/21/2022	DATE -	REVISED -



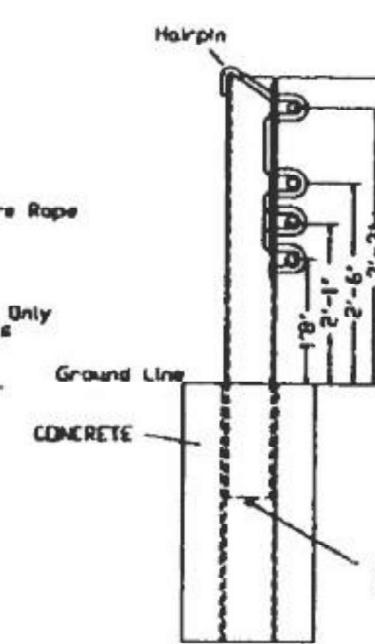
BASE-PLATED POST
For Use On Concrete
5/8" Mechanical Anchor
Min. Pullout Strength 10,000 lbs.



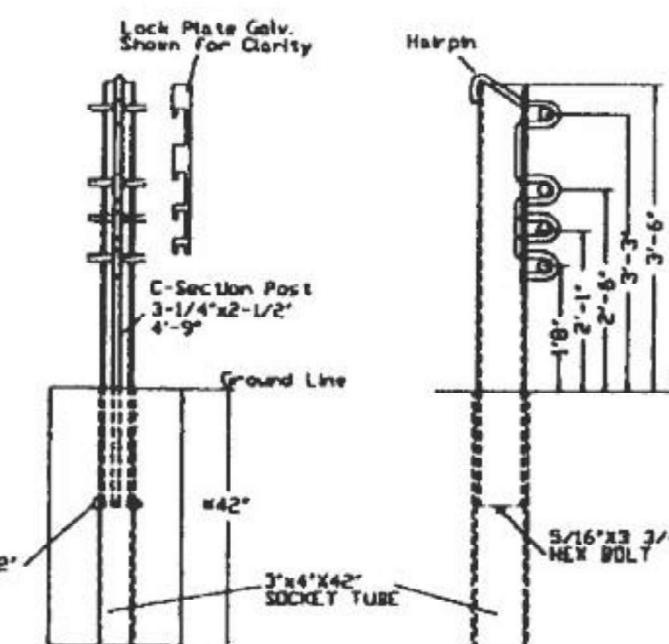
Cable Release
Anchor Post



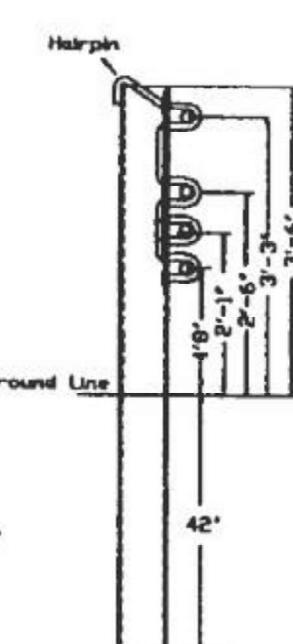
Terminal Post



Line Post (Socketed)



Socketed Line Post (Driven)



Line Post (Driven)

*30" DIA Deep concrete foundation with Min. 18" wide Max Strip
*42"x12" DIA Deep w/o Max Strip

GENERAL NOTES

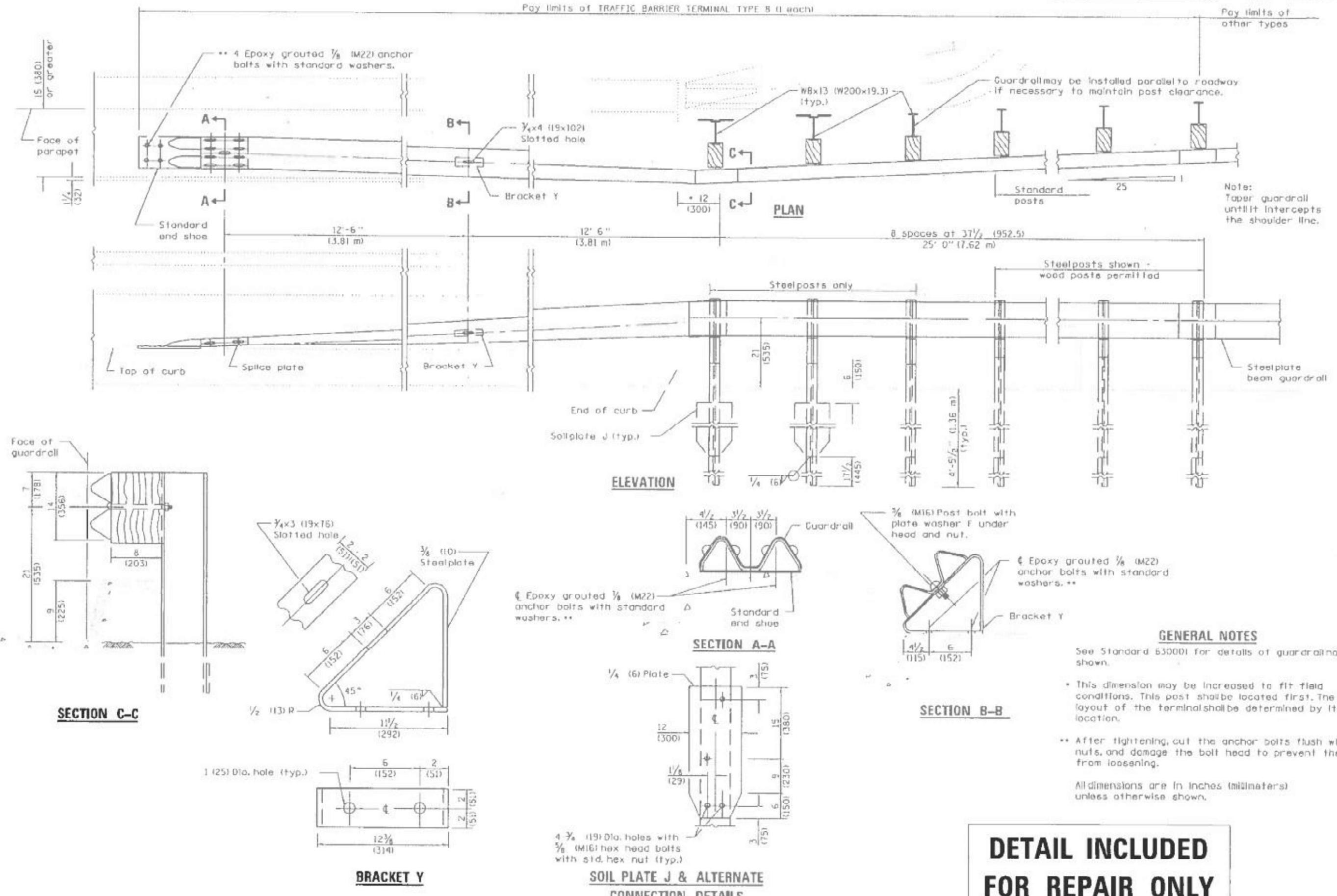
- For additional information contact Gibraltar, Inc. at 1-800-493-8937, or see the manufacturer's product manual.
- All concrete shall be minimum 2500 PSI.
- Alternate Post for bi-directional traffic flow. If installed for traffic in one direction install cables on traffic side of posts.
- The Cable Barrier System shall be installed on median shoulders or on depressed medians with slopes of 6:1 or flatter.
- The Cable Barrier System is accepted by the FHWA Test Level = 4
- See the MUTCD for proper "Barrier" delineation
- Rock Clause: Where solid rock is encountered
 - For socketed post, continue digging 12" diameter, 15' deep into rock or the required plan depth, whichever cones first.
 - For driven post, core drill a 4" diameter hole 18' deep into rock or the required plan depth, whichever cones first.
 - For Anchor post, continue digging 24" diameter, 30' deep into rock or the required plan depth, whichever cones first.
- Every component to be galvanized.

Cable Tension	
-10F	8000
0	7600
10	7200
20	6800
30	6400
40	6000
50	5600
60	5200
70	4800
80	4400
90	4000
100	3600
110	3200

Allowable Deviation
from Chart +/- 200
lbs/force

Deflection	Post Spacing
9'3"	30.FT
9'	28.FT
8'	20.FT
7'	12.FT
6'8"	10.FT

**DETAIL INCLUDED
FOR REPAIR ONLY**



**DETAIL INCLUDED
FOR REPAIR ONLY**

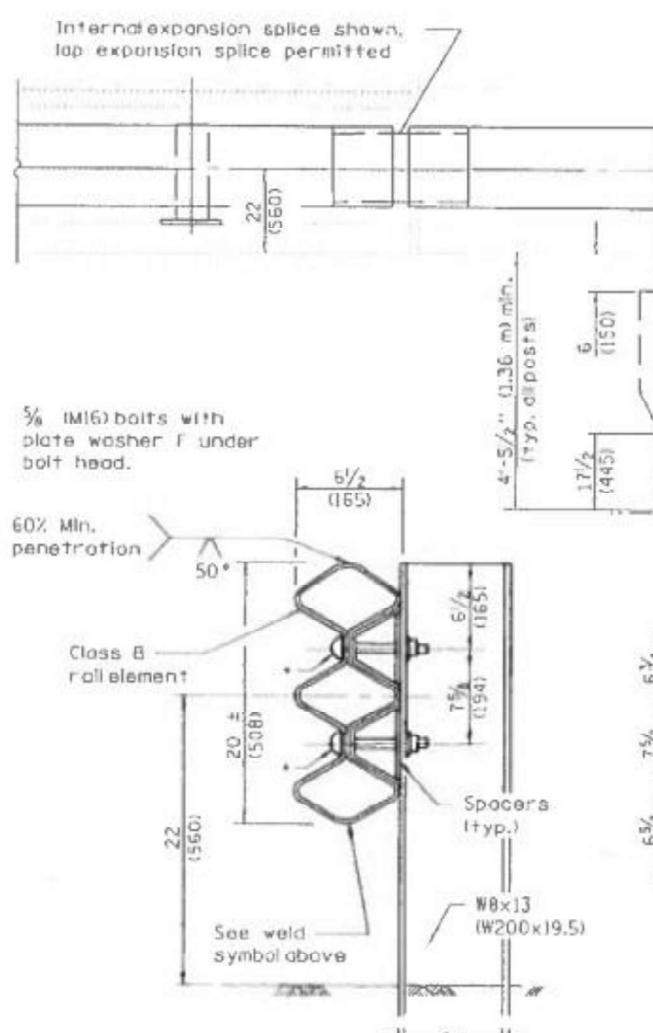
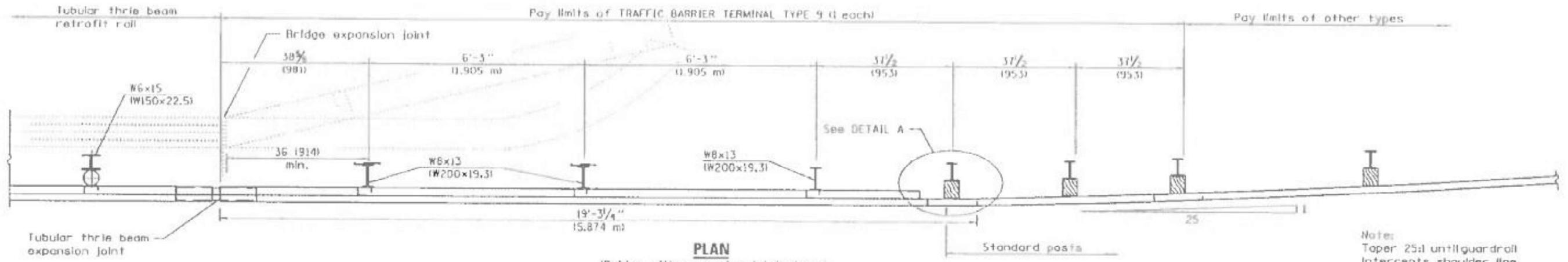
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DRAWN -	REVISED -	
PLOT SCALE = 1:100	CHECKED -	REVISED -
PLOT DATE = 10/21/2022	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING TRAFFIC BARRIER TERMINAL TYPE 8
(STANDARD 631036)

FA. RTE. VAR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D4 GUARDRAIL REPAIRS 2026	VARIOUS	ILLINOIS	27	19

SCALE: 1 SHEET 1 OF 1 SHEETS STA. TO STA.



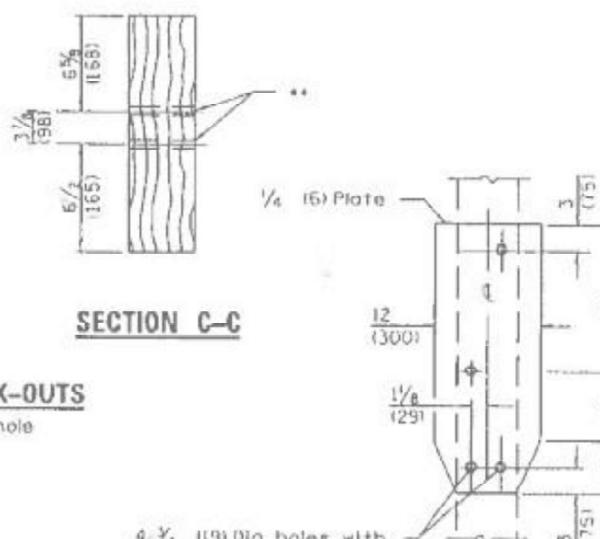
SECTION A-A

DETAILS of BLOCK-OUTS

• 4 7/8" (198) dia. hole

SECTION B-B

ELEVATION



SECTION C-C

SOIL PLATE J & ALTERNATE CONNECTION DETAILS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

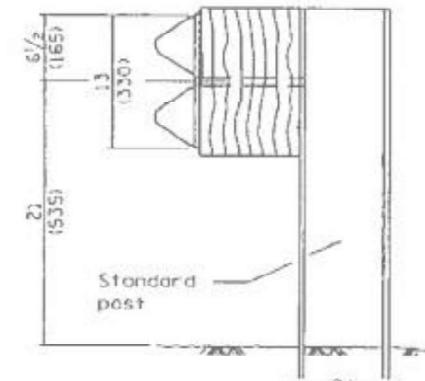
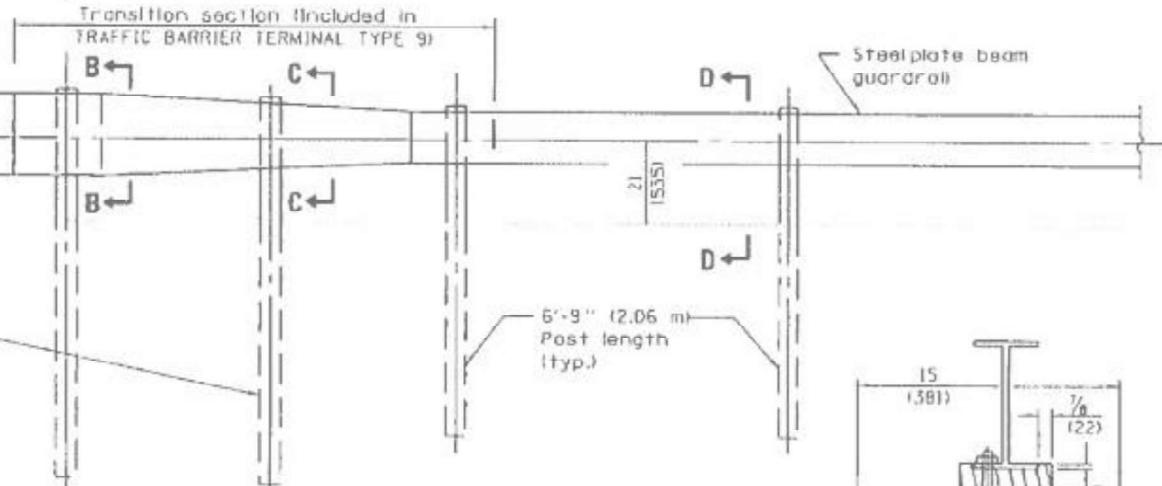
EXISTING TRAFFIC BARRIER TERMINAL TYPE 9
(STANDARD 631041)

SCALE: 1 SHEET 1 OF 1 SHEETS STA. TO STA.

FA. RTE. VAR	SECTION	COUNTY	TOTAL SHEETS	HEET NO.
D4 GUARDRAIL REPAIRS 2026	VARIOUS	ILLINOIS	27	20

Steelposts shown - wood posts permitted

Transition section included in TRAFFIC BARRIER TERMINAL TYPE 9



SECTION D-D

DETAIL A

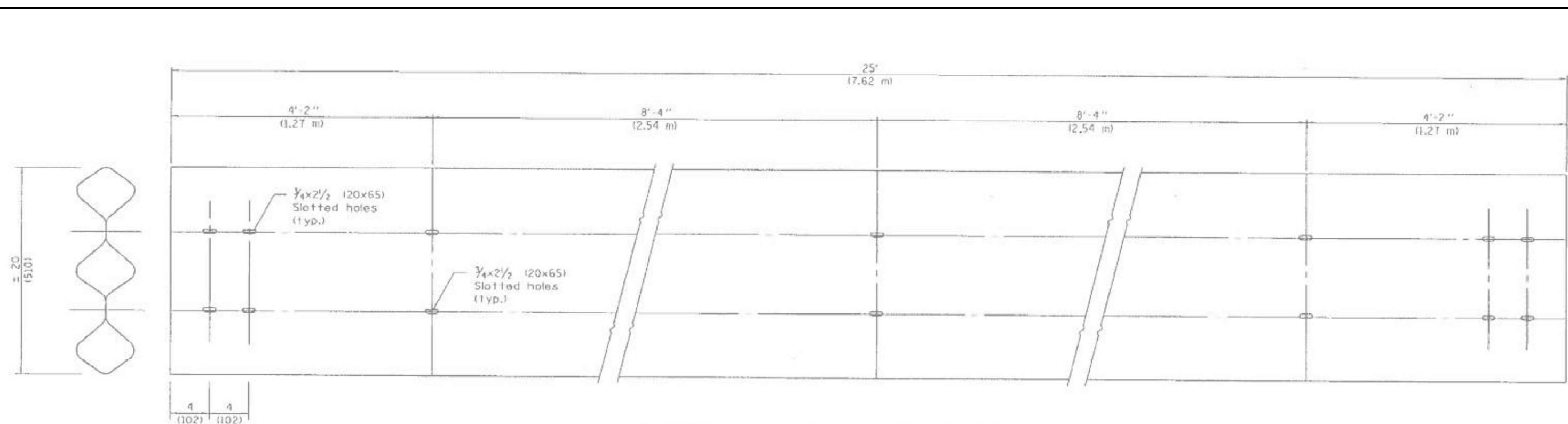
GENERAL NOTES

See Standards 509001 and 630001 for details of guardrail elements not shown.

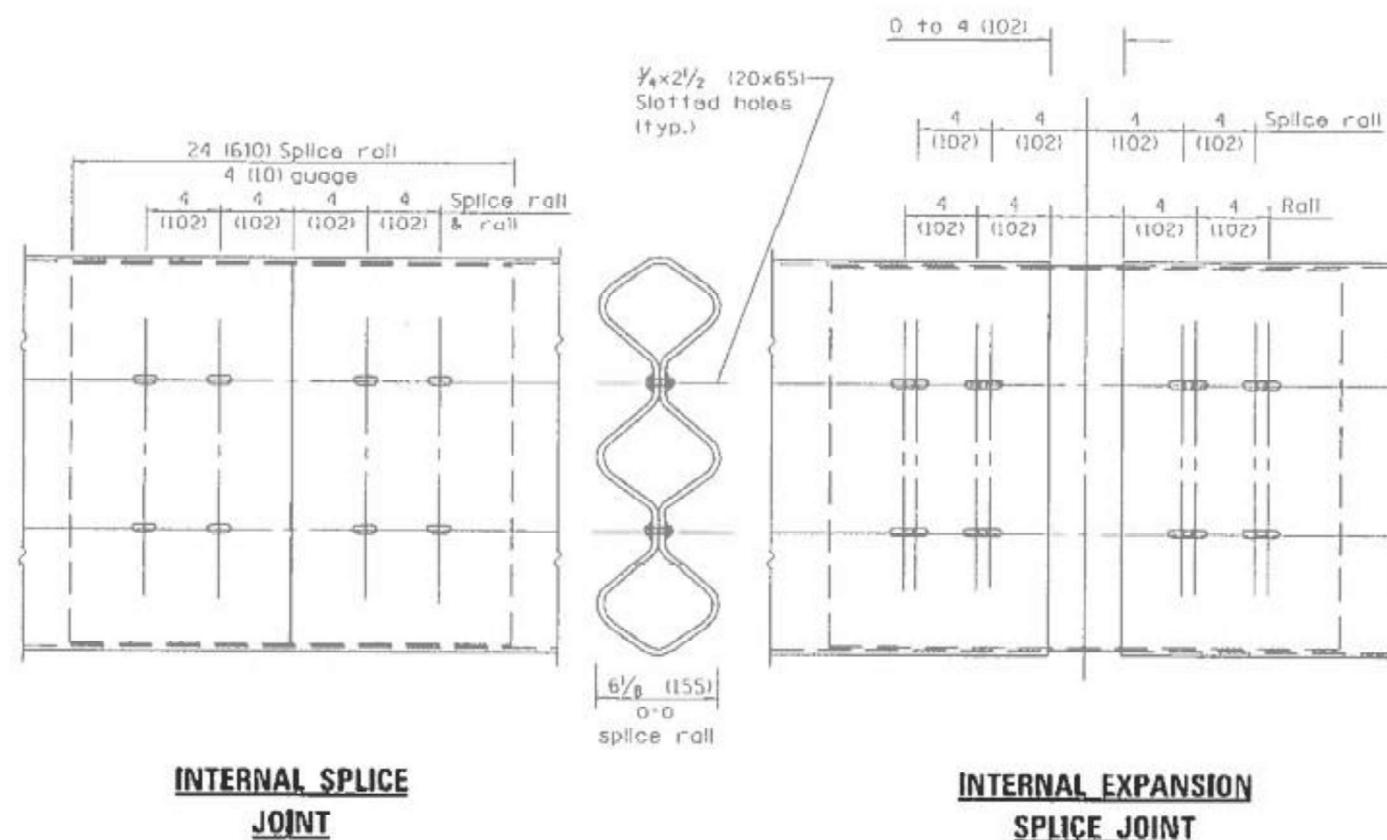
The Type 9 terminal shall be installed after the posts for the bridge retrofit rail have been located as shown on Standard 509001.

All dimensions are in inches (millimeters) unless otherwise shown.

DETAIL INCLUDED
FOR REPAIR ONLY

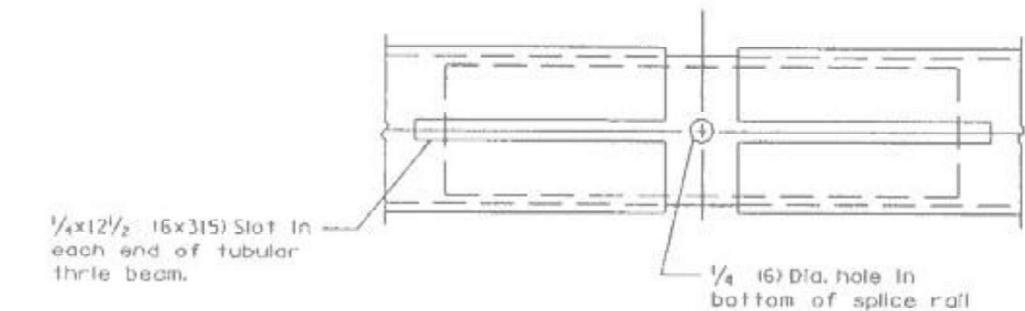


TUBULAR THRIE BEAM FOR INTERNAL SPLICE JOINT



**INTERNAL SPLICE
JOINT**

**INTERNAL EXPANSION
SPLICE JOINT**



**BOTTOM VIEW OF INTERNAL
EXPANSION SPLICE JOINT**

GENERAL NOTES

Plate Washers B are to be placed under both heads and nuts of splicing bolts for internal splice and internal expansion splice joint.

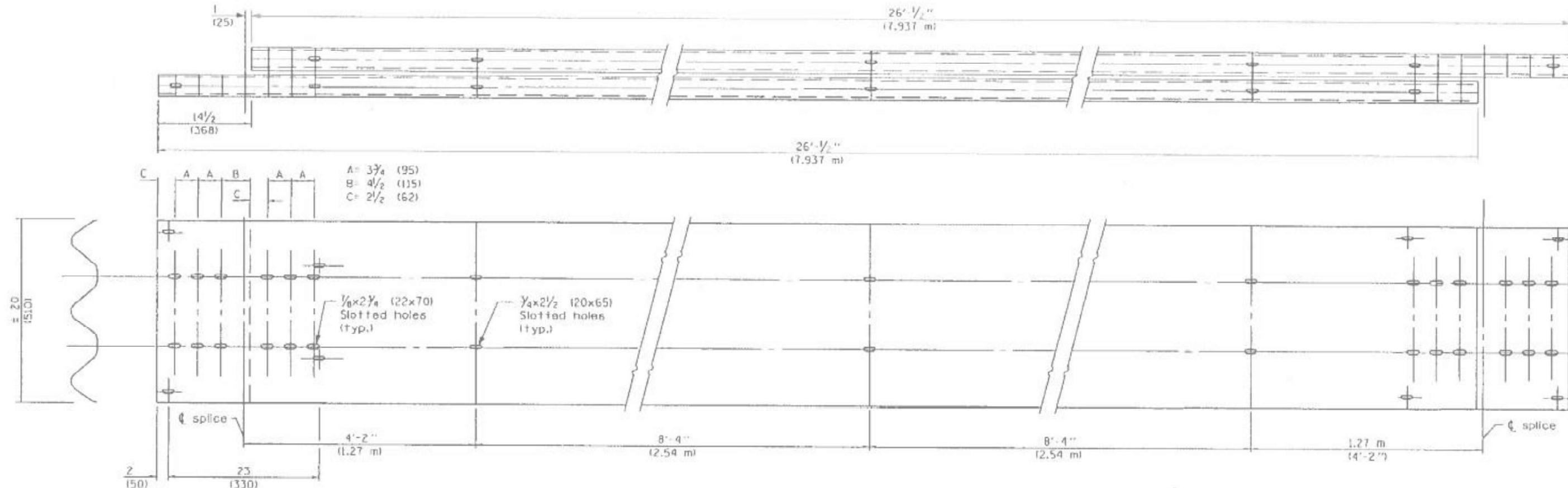
Plate Washers C are to be placed under both heads and nuts of splicing bolts for lap expansion and internal lap splice joint.

See Standard 630001 for details of guardrail not shown.

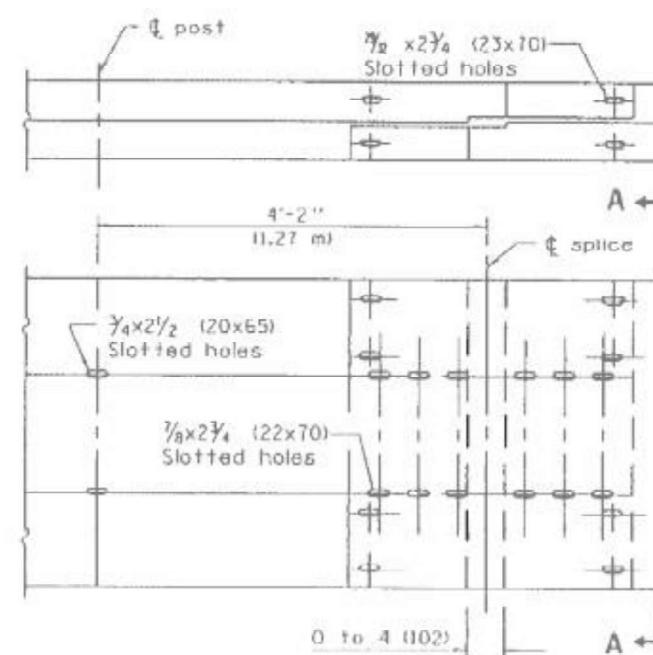
All dimensions are in inches (millimeters) unless otherwise shown.

**DETAIL INCLUDED
FOR REPAIR ONLY**

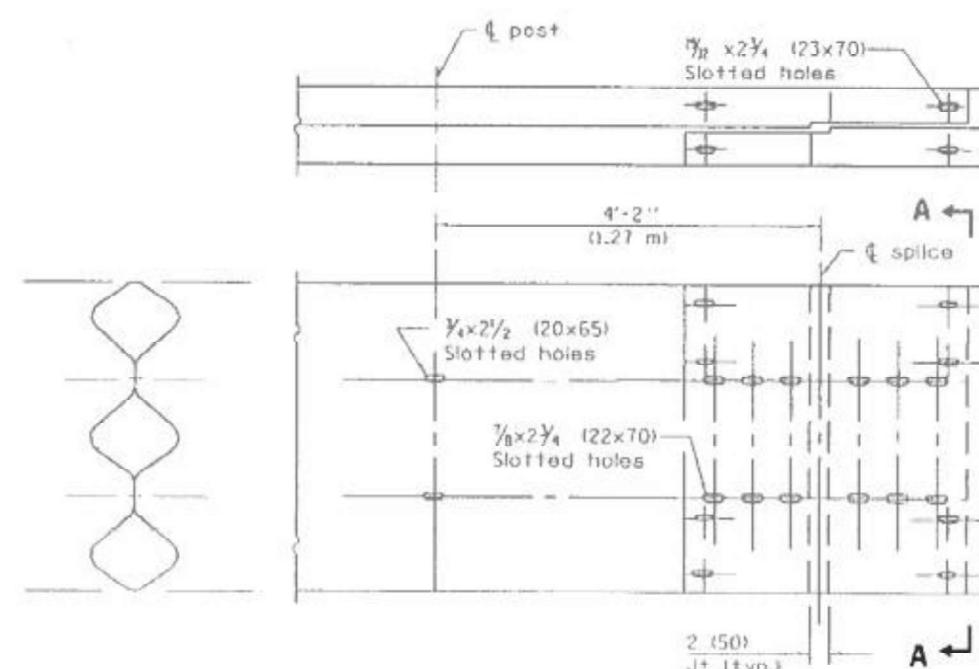
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DRAWN -	REVISED -			SCALE: 1	1	OF 3	SHEETS	1 STA.	TO STA.	21
CHECKED -	REVISED -								ILLINOIS	CONTRACT NO. 68K91
PLOT DATE = 10/21/2022	DATE -	REVISED -								



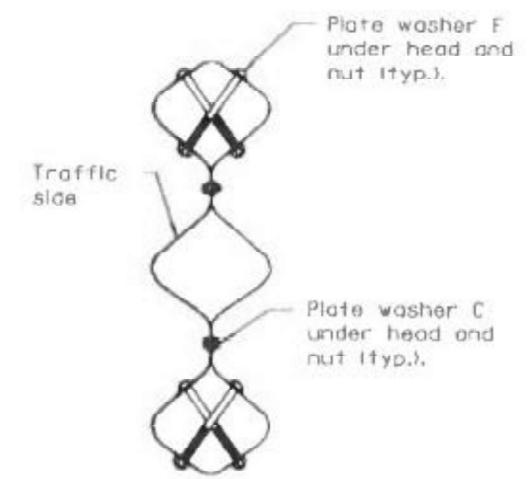
TUBULAR THRIE BEAM FOR LAP SPLICE JOINT



LAP EXPANSION SPLICE JOINT



LAP SPLICE JOINT



SECTION A-A

**DETAIL INCLUDED
FOR REPAIR ONLY**

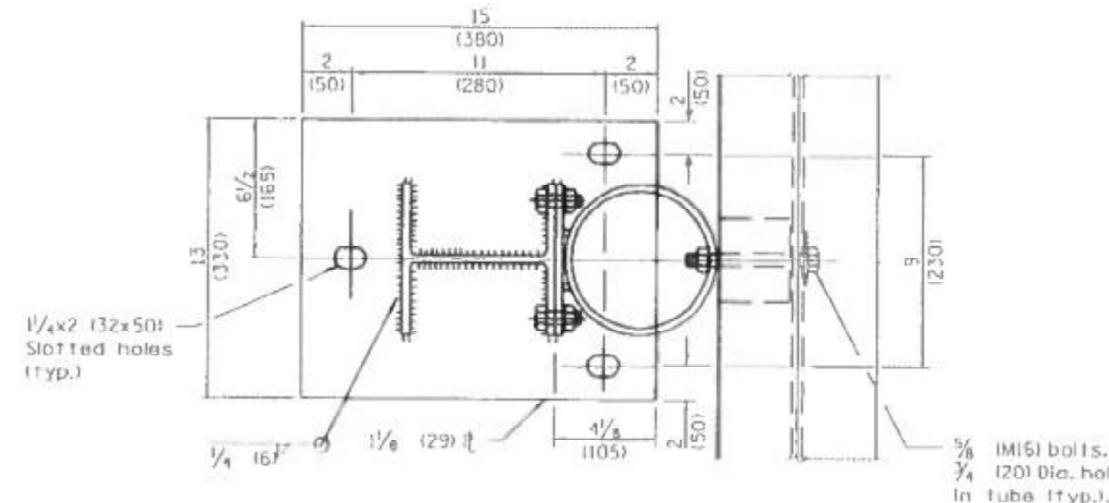
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PLOT DATE = 10/21/2022	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

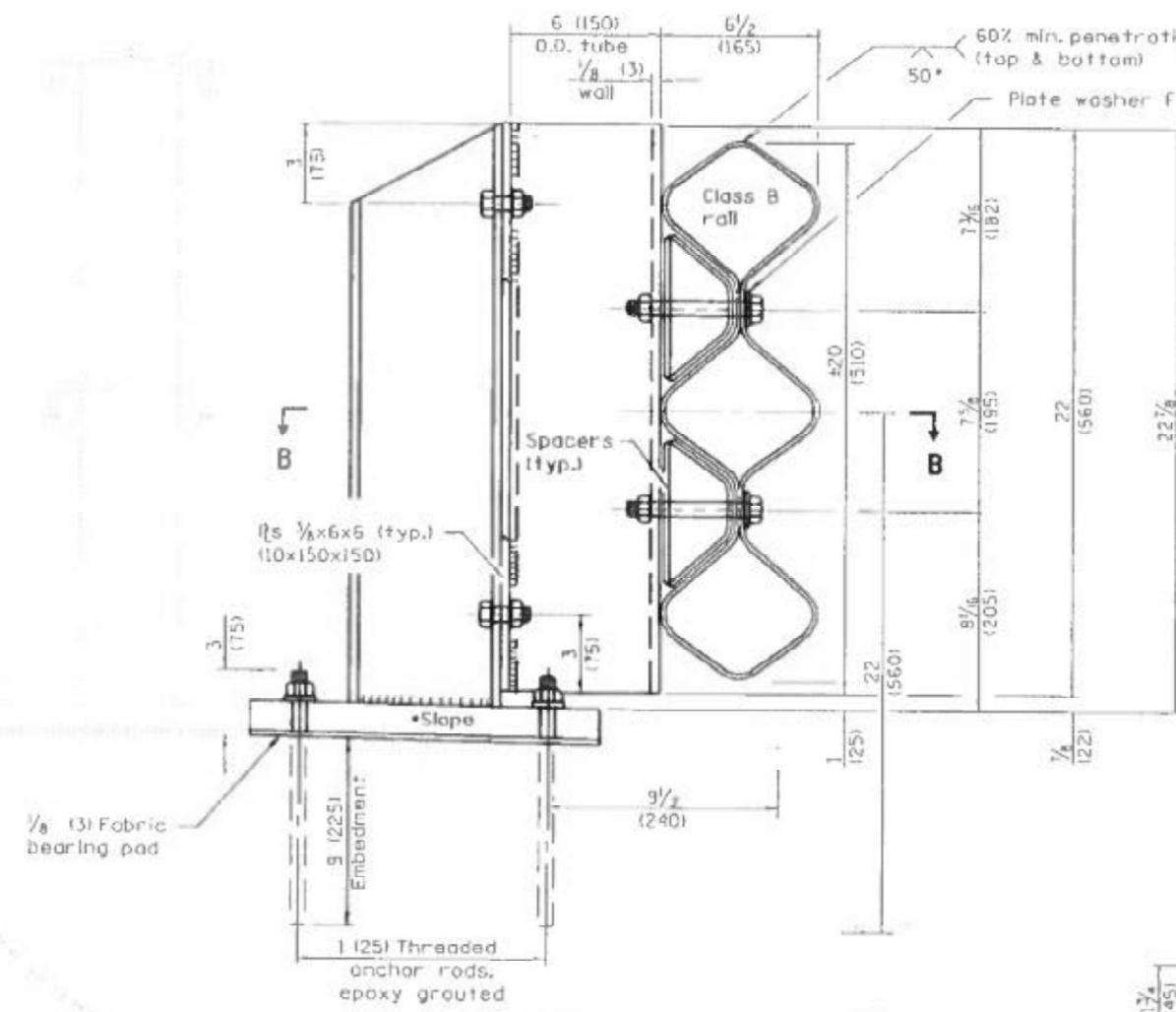
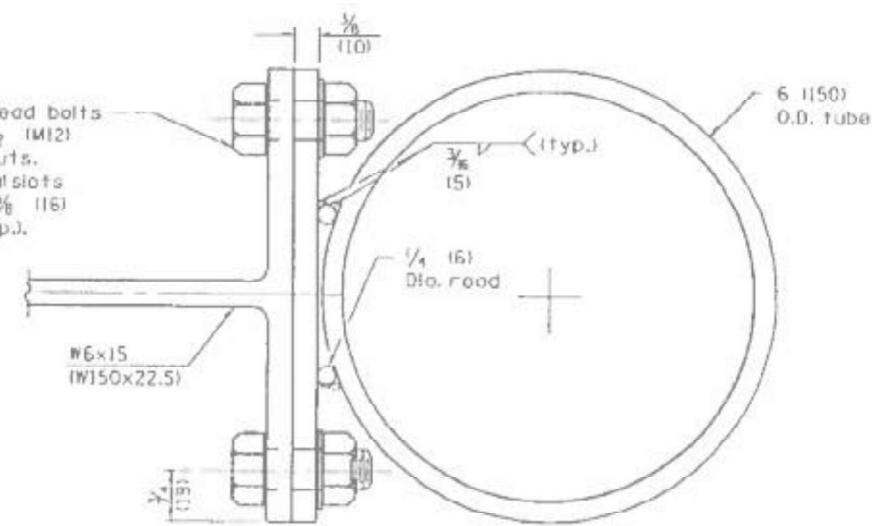
EXISTING TUBULAR THRIE BEAM RETROFIT RAIL FOR BRIDGES
(STANDARD 509001)

SCALE: 1 SHEET 2 OF 3 SHEETS, STA. TO STA.

FA. RTE. VAR	SECTION	COUNTY	TOTAL SHEETS	HEET NO.
D4 GUARDRAIL REPAIRS 2026	VARIOUS	ILLINOIS	27	22



SECTION B-B



POST

* Cut bottom of post to slope

12 1/4

TUBE TO POST ATTACHMENT

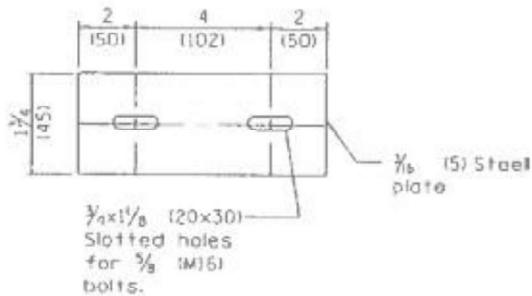
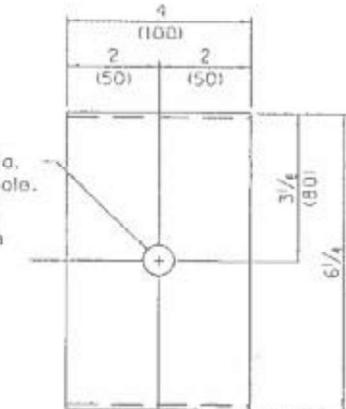


PLATE WASHER B

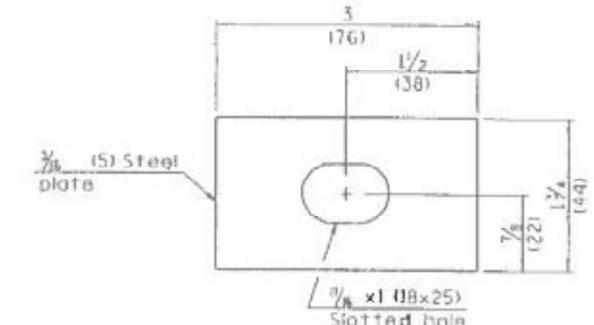


PLATE WASHER C

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING TUBULAR THREE BEAM RETROFIT RAIL FOR BRIDGES
(STANDARD 509001)

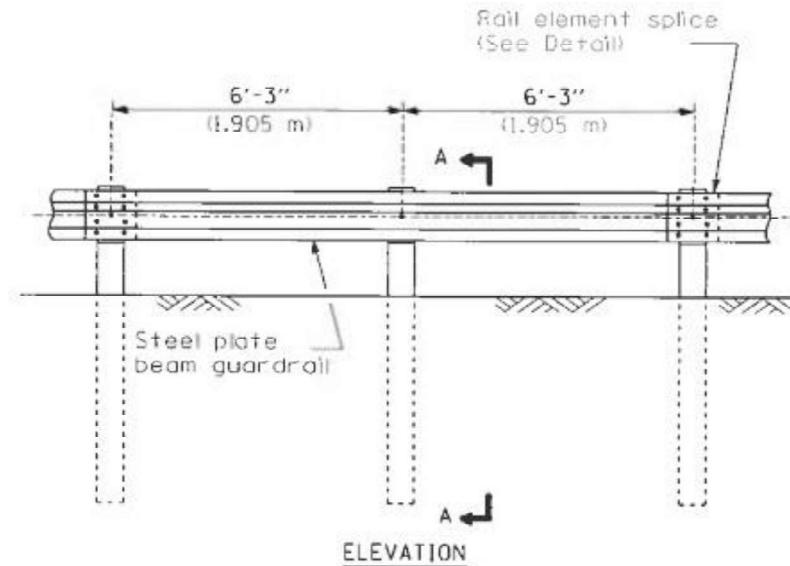
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DRAWN -	REVISED -	
PLOT SCALE = 1:100	CHECKED -	REVISED -
PLOT DATE = 10/21/2022	DATE -	REVISED -

USER NAME = \$USER\$	DESIGNED -	REVISED -
DRAWN -	REVISED -	
PLOT SCALE = 1:100	CHECKED -	REVISED -
PLOT DATE = 10/21/2022	DATE -	REVISED -

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING TUBULAR THREE BEAM RETROFIT RAIL FOR BRIDGES (STANDARD 509001)
SCALE: 1/250	SECTION 3 OF 3 SHEETS, STA. 0 TO STA. 27

F.A. RTE. VAR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D4 GUARDRAIL REPAIRS 2026	VARIOUS	ILLINOIS	27	23
				CONTRACT NO. 68K91

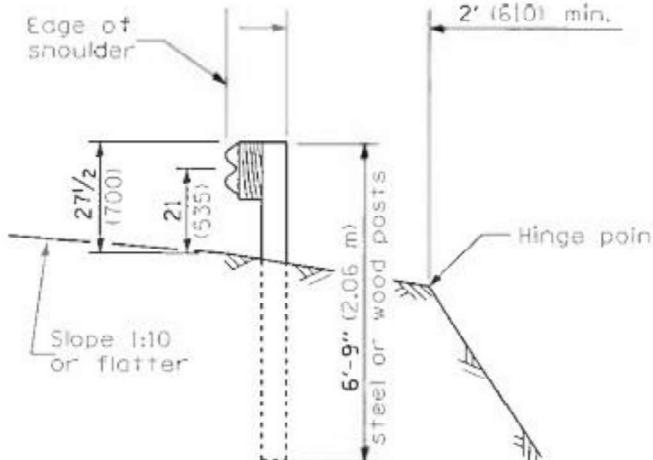
**DETAIL INCLUDED
FOR REPAIR ONLY**



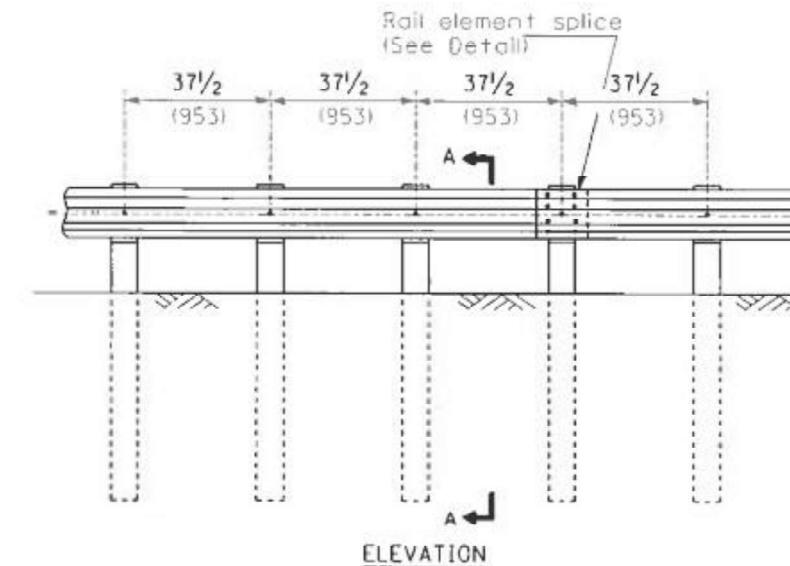
ELEVATION

TYPE A

6'-3" (1.905 m) Typical post spacing



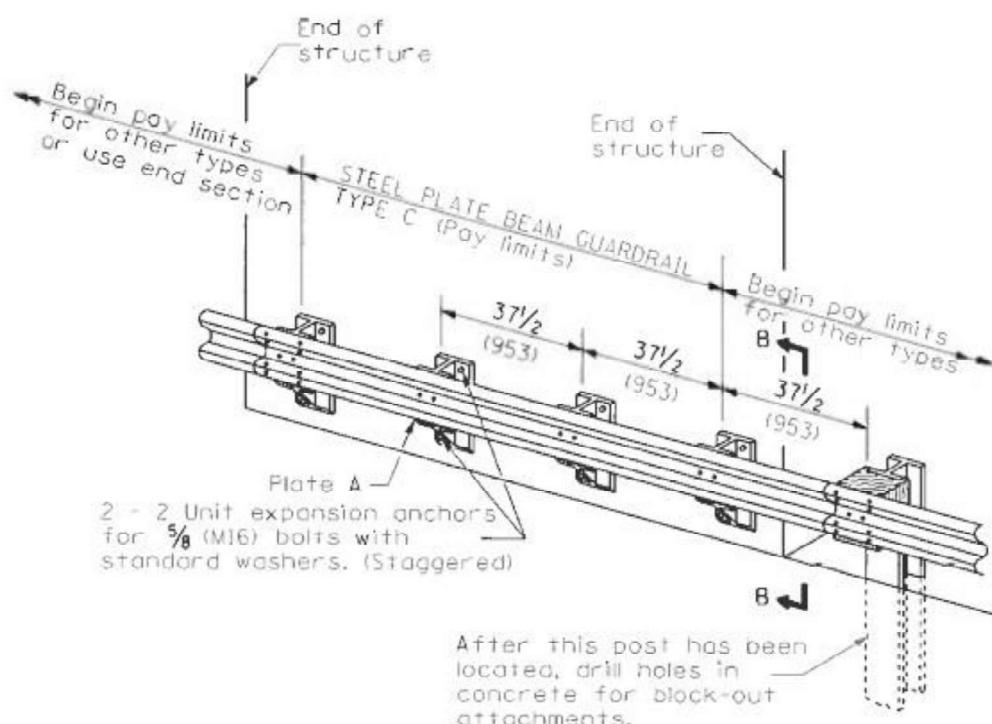
SECTION A-A



ELEVATION

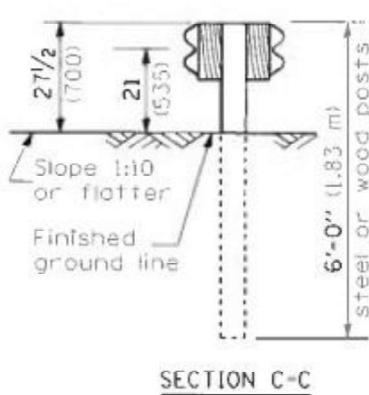
TYPE B

37 1/2 (953) Closed post spacing

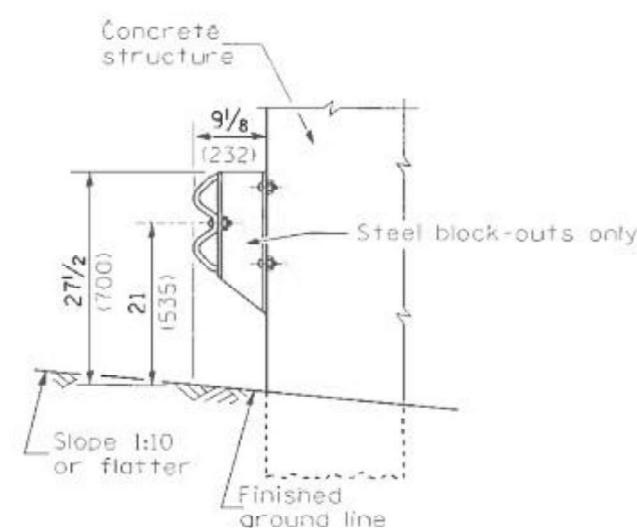


TYPE C

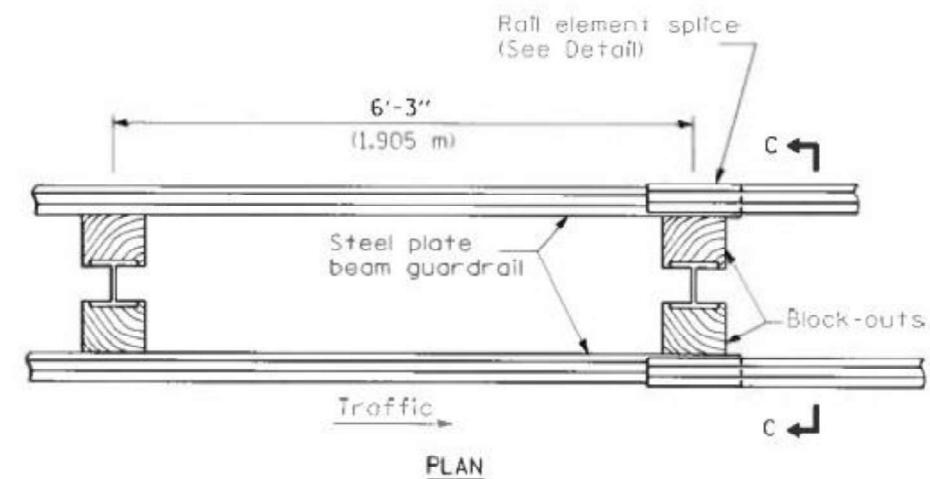
37 1/2 (953) Block-out spacing



SECTION C-C



SECTION B-B



PLAN

TYPE D

Double steel plate beam guardrail
6'-3" (1.905 m) typical post spacing

GENERAL NOTES

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

All dimensions are in millimeters (inches) unless otherwise shown.

The existing steel posts may be drilled to match the bolt pattern shown herein for the wood block-out, or a new steel post shall be provided.

This detail is applicable to the guardrail system used prior to January 1, 2007. For details on the Midwest Guardrail System, see Standard 630001.

All dimensions are in inches (millimeters) unless otherwise noted.

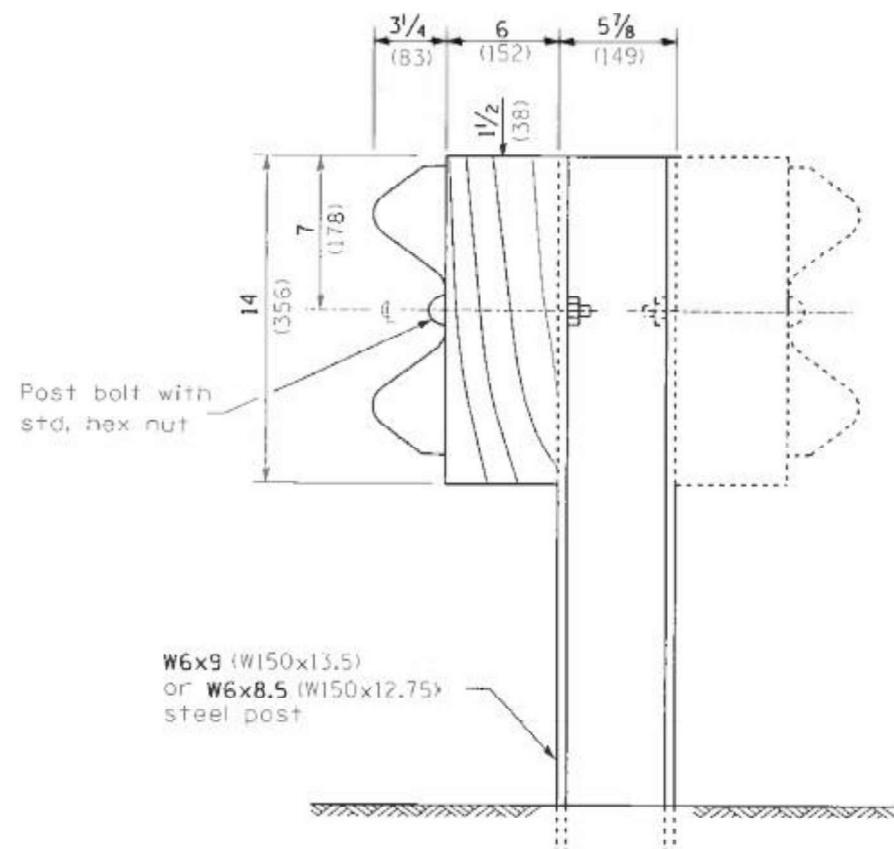
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DRAWN -	REVISED -	
PLOT SCALE = 1:100	CHECKED -	REVISED -
PLOT DATE = 10/21/2022	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

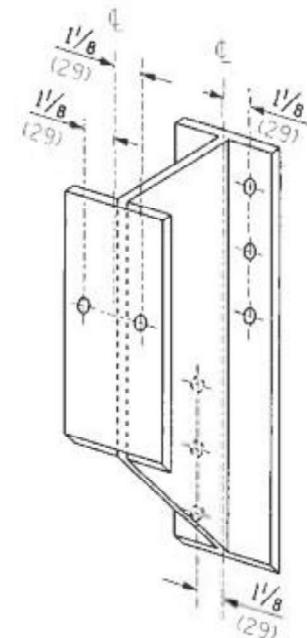
STEEL PLATE BEAM GUARDRAIL, TYPE A,
6.75 FOOT POSTS

SCALE: 1 SHEET 1 OF 4 SHEETS STA. TO STA.

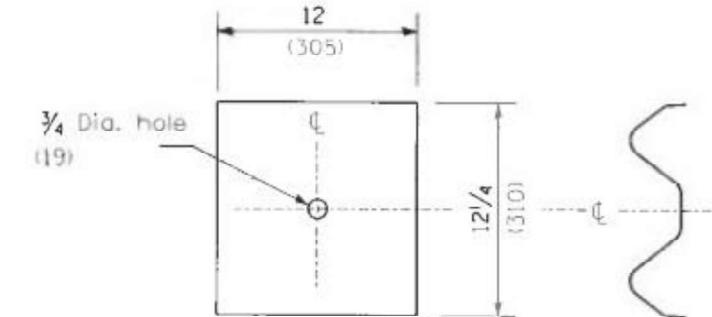
FA. RTE. VAR	SECTION D4 GUARDRAIL REPAIRS 2026	COUNTY VARIOUS	TOTAL SHEETS 27	HEET NO. 24
			ILLINOIS	CONTRACT NO. 68K91



STEEL POST CONSTRUCTION



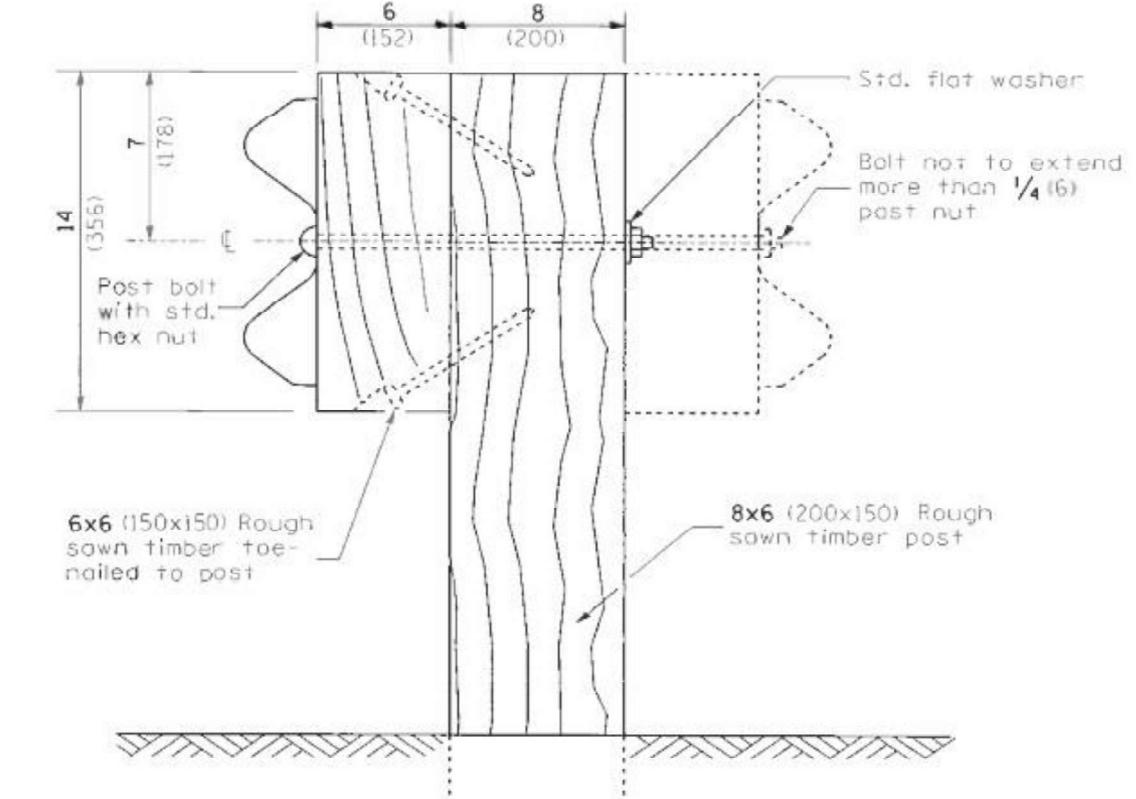
STEEL BLOCK-OUT DETAIL



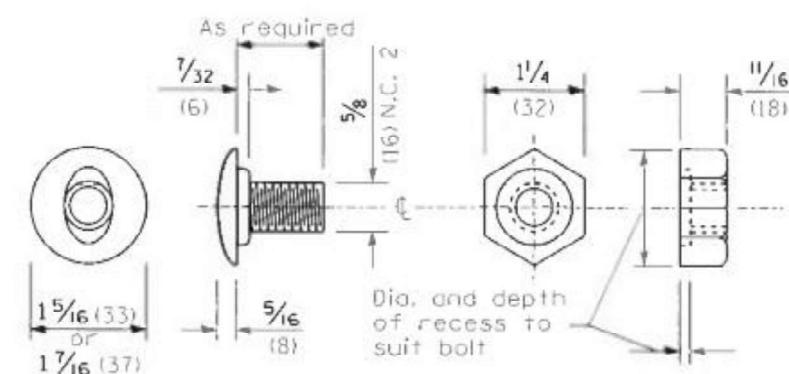
NOTE

Plate A shall be placed between roll element and block-out at nonsplice mounting points only when steel block-outs are used.

PLATE A



WOOD POST CONSTRUCTION

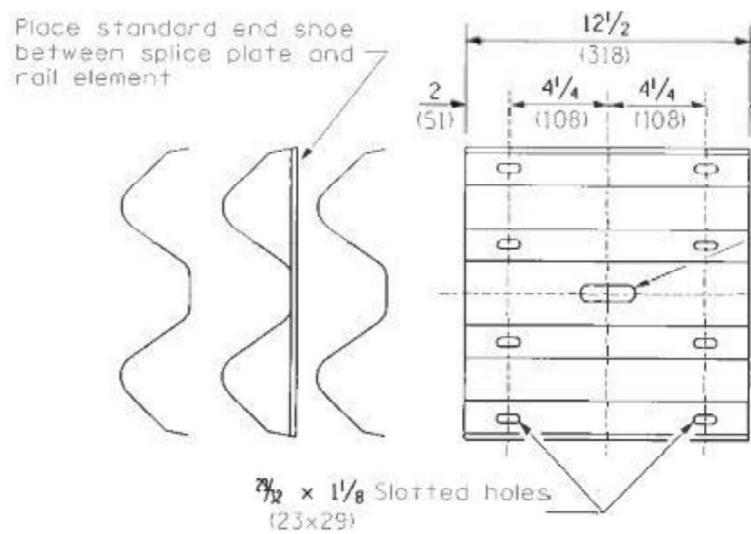


POST OR SPLICE BOLT & NUT

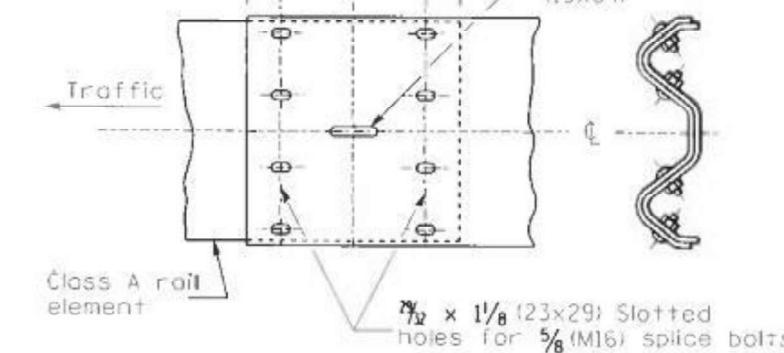
All dimensions are in inches (millimeters) unless otherwise noted.

USER NAME = \$USER\$	DESIGNED -	REVISED -
DRAWN -	REVISED -	
PLOT SCALE = 1:100	CHECKED -	REVISED -
PLOT DATE = 10/21/2022	DATE -	REVISED -

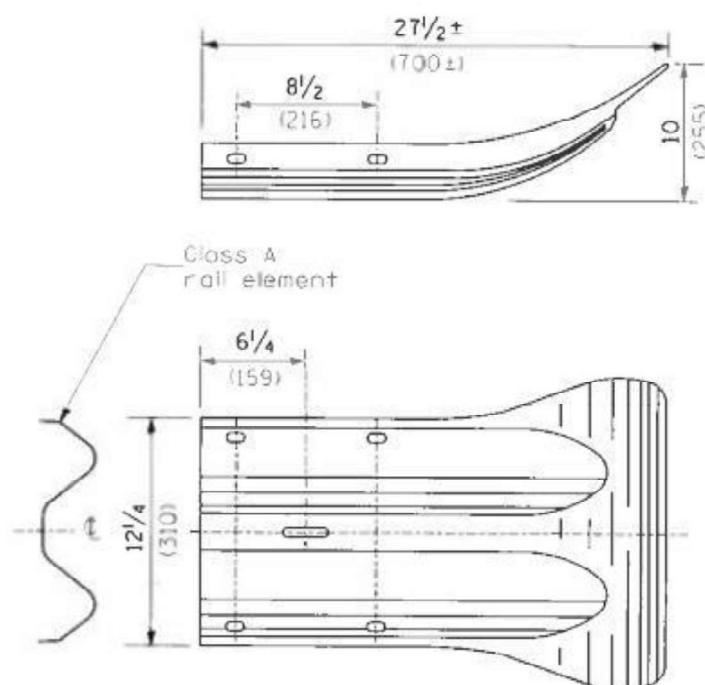
FA. RTE. VAR	SECTION D4 GUARDRAIL REPAIRS 2026	COUNTY VARIOUS	TOTAL SHEETS 27	HEET NO. 25
		ILLINOIS	CONTRACT NO. 68K91	



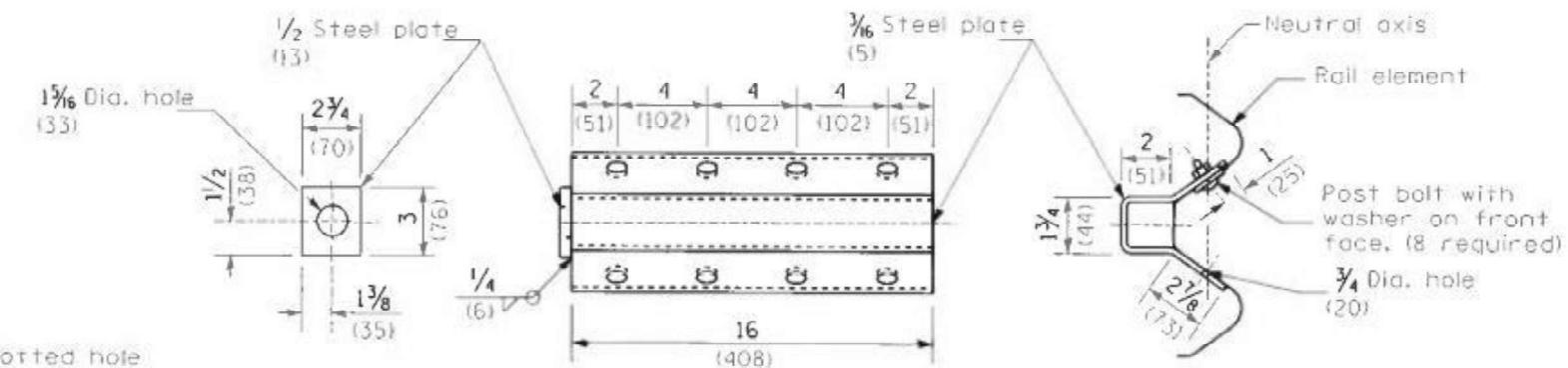
SPICE PLATE



RAIL ELEMENT SPICE



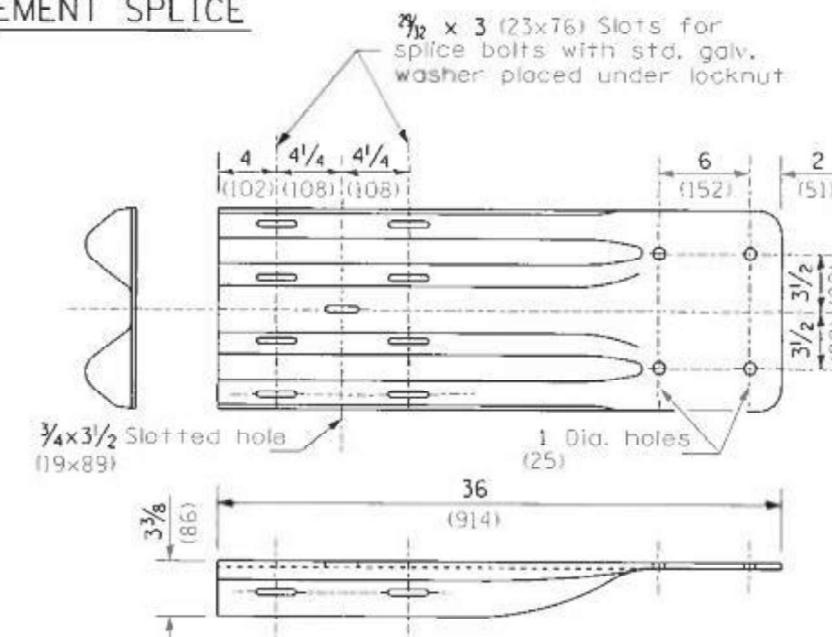
END SECTION



NOTE

Anchor plate T shall be used to attach cable assembly to guardrail when required on traffic barrier terminals.

ANCHOR PLATE T DETAILS

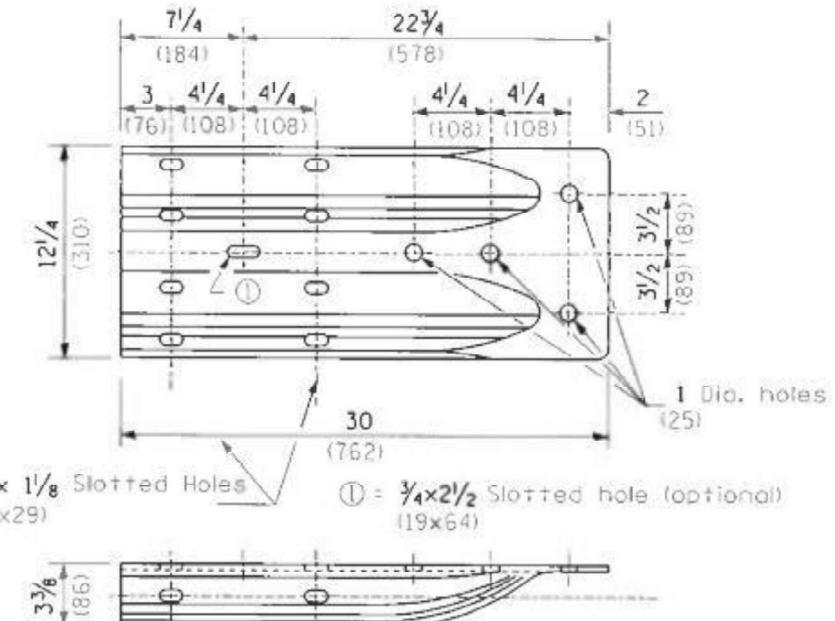


When end shoe is attached to a bridge parapet which has an expansion joint, the bolts shall be provided with a locknut or double nut and shall be tightened only to a point that will allow guardrail movement.

The standard end shoe shall be attached to the concrete with pre-drilled or self-drilling anchor bolts. The anchor cone shall be set flush with the surface of the concrete.

Externally threaded studs protruding from the surface of the concrete will not be permitted.

END SHOE



ALTERNATE END SHOE

All dimensions are in inches (millimeters) unless otherwise noted.

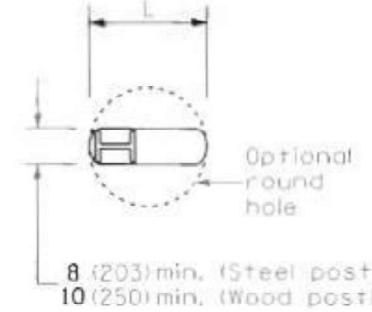
USER NAME = \$USER\$	DESIGNED -	REVISED -
DRAWN -	REVISED -	
PLOT SCALE = 1:100	CHECKED -	REVISED -
PLOT DATE = 10/21/2022	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

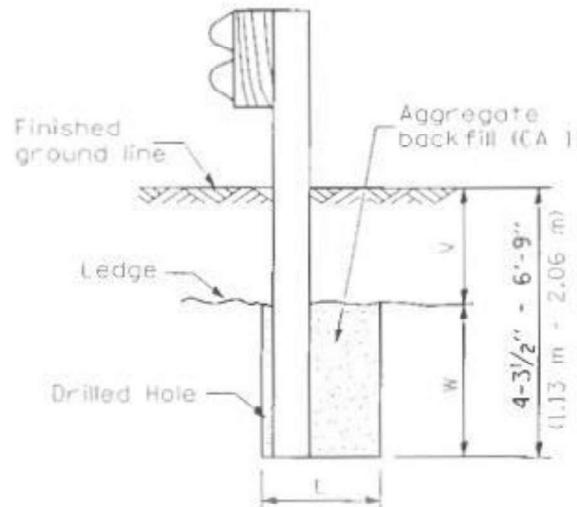
STEEL PLATE BEAM GUARDRAIL, TYPE A,
6.75 FOOT POSTS

SCALE: 1 SHEET 3 OF 4 SHEETS STA. TO STA.

FA. RTE. VAR	SECTION	COUNTY	TOTAL SHEETS	HEET NO.
D4 GUARDRAIL REPAIRS 2026	VARIOUS	27	26	
	ILLINOIS	CONTRACT NO. 68K91		



PLAN

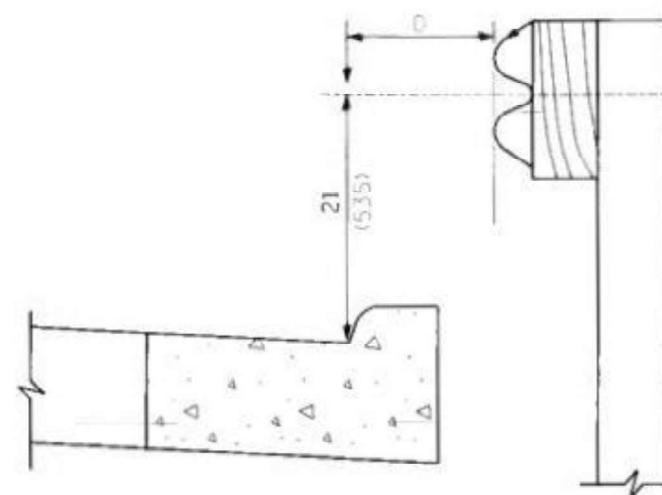


ELEVATION

FOOTING FOR POST WHEN IMPERVIOUS MATERIAL IS ENCOUNTERED

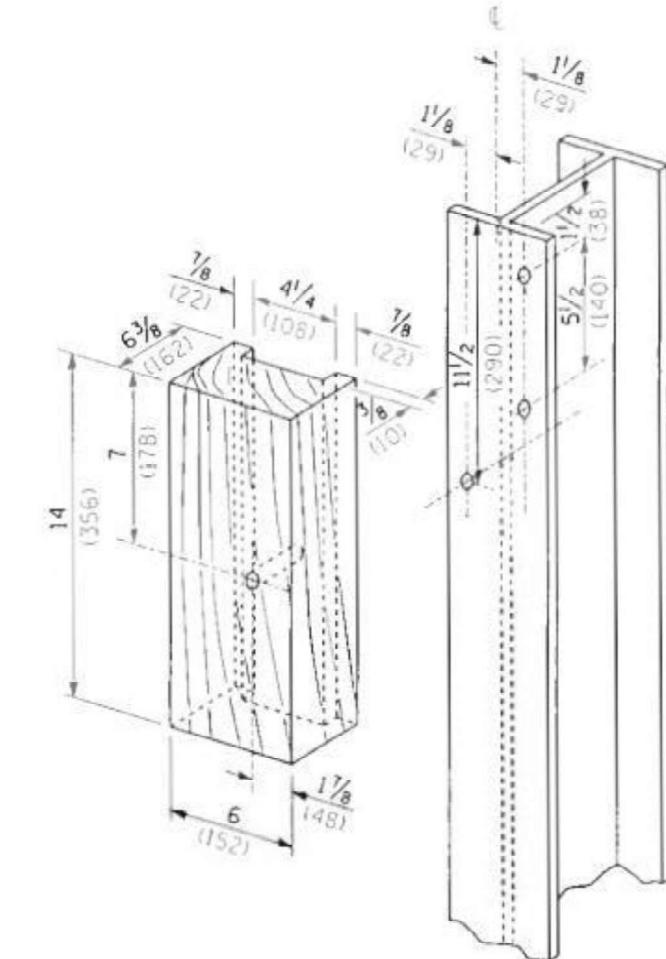
V	W	L	
		Steel Post	Wood Post
0 - 18 (0 - 460)	24 (610)	21 (530)	23 (580)
>18 - 41.5 (460 - 825)	12 (305)	8 (203)	10 (250)
>41.5 - 53.5 (825 - 1.13 m)	12 - 0 (305 - 0)	8 (203)	10 (250)

GUARDRAIL PLACED BEHIND CURB
(D = 0 desirable to 12 (300) maximum)

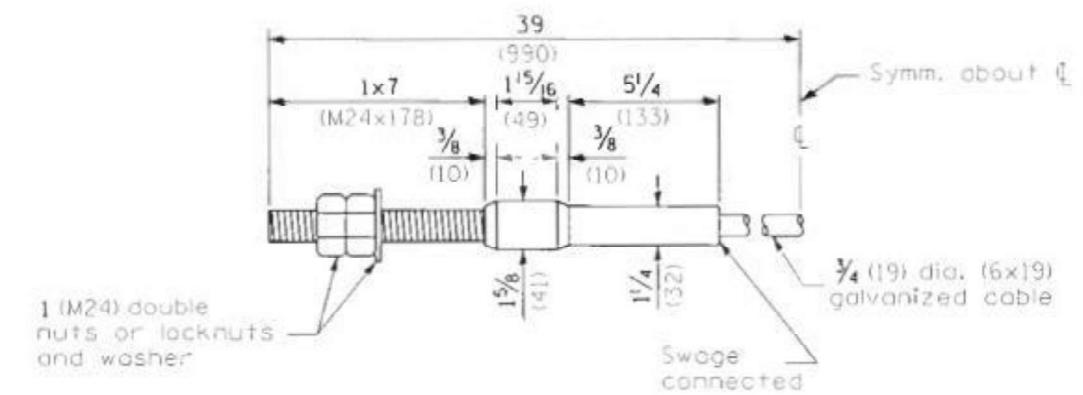


Note:

If it is necessary for D to be more than 12 (300) and less than 10'-0" (3.0 m) type M-2 (M-5) curb and gutter (Std. 60600) shall be used in front of and in advance of the guardrail.



WOOD BLOCK-OUT AND STEEL POST DETAILS



CABLE ASSEMBLY

(18,100 kg (40,000 lbs.) min. breaking strength)
Tighten to full tension.

All dimensions are in inches (millimeters) unless otherwise noted.

USER NAME = \$USER\$	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 1:100	CHECKED -	REVISED -
PLOT DATE = 10/21/2022	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STEEL PLATE BEAM GUARDRAIL, TYPE A,
6.75 FOOT POSTS

FA. RTE. VAR	SECTION D4 GUARDRAIL REPAIRS 2026	COUNTY VARIOUS	TOTAL SHEETS 27	SHEET NO. 27
				ILLINOIS CONTRACT NO. 68K91