

STATE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ILLINOIS	D4 GUARDRAIL REPAIRS 2025	VARIOUS	27	1
CONTRACT NO. 68J37				

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- 2 JOB SPECIFIC NOTES & COMMITMENTS
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- 13-14 EXISTING TYPE 4 TERMINAL
- 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 THREE 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**

**PROPOSED
HIGHWAY PLANS**

VARIOUS ROUTES
D4 GUARDRAIL REPAIRS 2025 – MCHD
VARIOUS COUNTIES
C-94-089-24

D-94-061-24



HIGHWAY STANDARDS:

630001-13	631046-04	701201-05	701456-05
630001-11	635001-02	701301-04	701601-09
630101-09	664001-02	701400-12	701606-10
631006-08	675001-02	701408-13	701701-10
631011-10	701006-05	701411-09	701901-10
631026-06	701011-04	701423-01	BLR-23-04
631031-18	701101-05		

DISTRICT STANDARDS:

630011-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.

UUAJE
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-983-0123
OR 811

PROJECT ENGINEER BEN TELLEFSON (309) 671-3333
PROJECT MANAGER BEN TELLEFSON (309) 671-3333
CATALOG NO. 036541-00D
CONTRACT NO. 68J37

GROSS LENGTH = NA
NET LENGTH = NA

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

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED October 22 2024
Kenneth S. Darneth
REGIONAL ENGINEER

December 6, 2024
Scott A. Elk
ENGINEER OF DESIGN AND ENVIRONMENT

December 6, 2024
James J. [Signature]
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

**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.

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

JOB SPECIFIC NOTES AND COMMITMENTS

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

P.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D4 GUARDRAIL REPAIRS 2025	VARIOUS	27	2
		ILLINOIS	CONTRACT NO. 68J37	

ITEM NO.	DESCRIPTION	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE	
				VARIOUS COUNTIES	VARIOUS COUNTIES
				100% STATE	100% STATE
				MCHD	
				0021	0021
63000001	SPBGR TY A 6FT POSTS	FOOT	1750	1400	350
63000003	SPBGR TY A 9FT POSTS	FOOT	475	375	100
63100045	TRAF BAR TERM T2	EACH	26	25	1
63100070	TRAF BAR TERM T5	EACH	5	4	1
63100085	TRAF BAR TERM T6	EACH	3	2	1
63100101	TRAF BAR TERM T9	EACH	5	4	1
63100105	TRAF BAR TERM T10	EACH	5	4	1
63100115	TRAF BAR TERM T12	EACH	5	4	1
63100167	TR BAR TRM T1 SPL TAN	EACH	30	20	10
63100169	TR BAR TRM T1 SPL FLR	EACH	13	4	9
63200310	GUARDRAIL REMOVAL	FOOT	3500	2325	1175
63400105	GUARD POSTS	EACH	50	48	2
64300260	IMP ATTEN FRD NAR TL3	EACH	2	1	1
64300320	IMP ATTEN FRD RES TL3	EACH	2	1	1
64300370	IMP ATTEN FRD WID TL3	EACH	1	0	1

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES

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

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D4 GUARDRAIL REPAIRS 2025	VARIOUS	27	3
ILLINOIS CONTRACT NO. 68J37			

ITEM NO.	DESCRIPTION	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE	
				VARIOUS COUNTIES	VARIOUS COUNTIES
				100% STATE	100% STATE
				MCHD	
				0021	0021
64300450	IMP ATTEN NRD TL3	EACH	4	3	1
64300770	IMP ATTEN SU NAR TL3	EACH	1	0	1
66400105	CH LK FENCE 4	FOOT	120	20	100
66400305	CH LK FENCE 6	FOOT	500	400	100
66500105	WOV W FENCE 4	FOOT	500	0	500
72501000	TERMINAL MARKER - DA	EACH	37	27	10
78200005	GRDRAIL REF TYPE A	EACH	32	13	19
X0301372	REPR/UPGR EX VAT-CAT	EACH	5	4	1
X6300210	GUARDRAIL BLOCKS	EACH	50	50	0
X6300215	RAIL ELEMENT PLATES	EACH	80	67	13
X6300230	STEEL POSTS	EACH	135	95	40
X6330900	VERT ADJ OF GUARDRAIL	FOOT	320	200	120
X6331101	TUBULAR THRIE BEAM	FOOT	200	140	60
X6300239	STEEL POSTS 9'	EACH	30	28	2
X6360123	REP CABLE RD GUARD 3S	FOOT	45	0	45

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES

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

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D4 GUARDRAIL REPAIRS 2025	VARIOUS	27	4
ILLINOIS CONTRACT NO. 68J37			

ITEM NO.	DESCRIPTION	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE	
				VARIOUS COUNTIES	VARIOUS COUNTIES
				100% STATE	100% STATE
				MCHD	
				0021	0021
X6432213	REPR IMP ATTN FRW TL3	EACH	1	1	0
X6432223	RP IMP ATT FRN TL3	EACH	3	1	2
X6432233	REPR IMP ATTN SUN TL3	EACH	1	0	1
X6440130	REP HTC (GIBALTAR)	FOOT	500	0	500
X6440131	R HT TERM (GIBALTAR)	EACH	10	0	10
X6440134	R&R POSTS (GIBALTAR)	EACH	36	0	36
X6440135	REP LK PL (GIBALTAR)	EACH	90	0	90
X6440136	REP HAIRP (GIBALTAR)	EACH	45	0	45
X6640502	CHAIN LINK FENCE POST	EACH	9	5	4
X7010216	TRAF CONT & PROT SPL	L SUM	1	0.65	0.35
Z0008760	EMER WORK CALL OUT	EACH	14	13	1
Z0020210	PULL POST ARRANGEMENT	EACH	6	4	2
Z0051400	REM & RESET POSTS	EACH	93	63	30
X6310302	REPAIR TRBT T1 SP TAN	EACH	14	13	1
X6310304	REPAIR TRBT T1 SP FLR	EACH	5	4	1

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES

SCALE: SHEET 2 OF 4 SHEETS, STA. TO STA.

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D4 GUARDRAIL REPAIRS 2025	VARIOUS	27	5
ILLINOIS CONTRACT NO. 68J37			

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 NUM	ITEM	UNIT	QTY	UNIT PRICE	AMOUNT
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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

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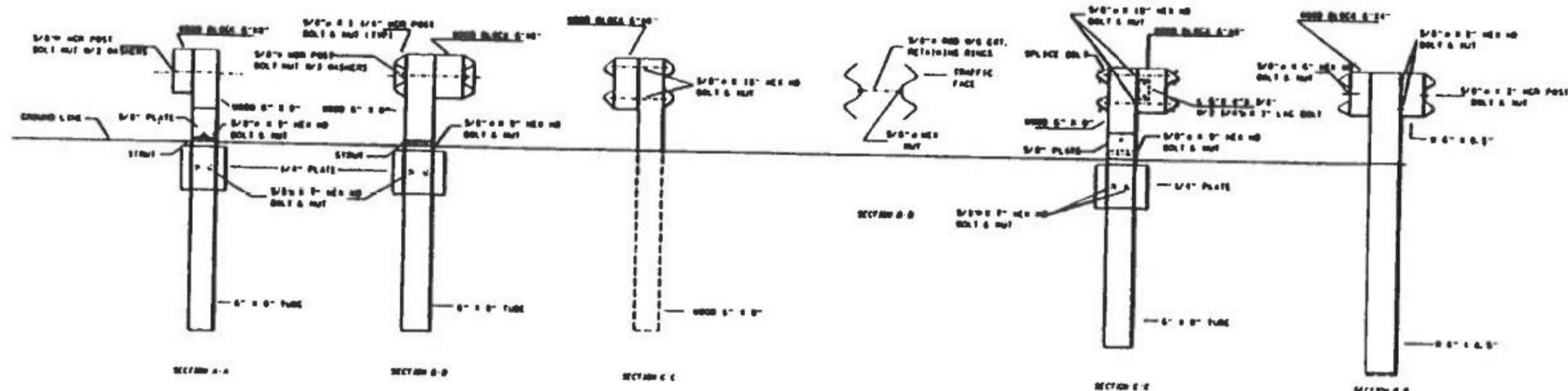
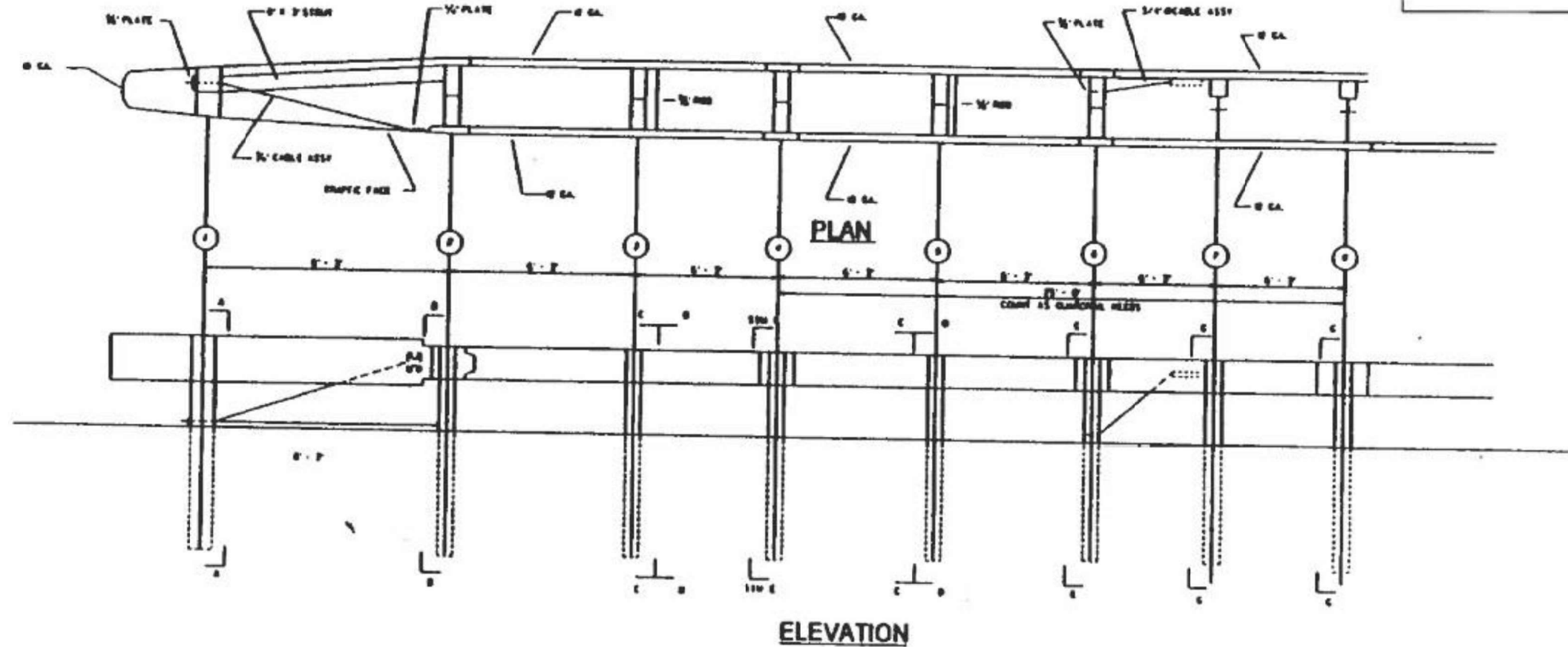
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT 4 - SAMPLE WORK ORDER

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

PA RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D4 GUARDRAIL REPAIRS 2025	VARIOUS	27	7
ILLINOIS			CONTRACT NO. 68J37	

**DETAIL INCLUDED
FOR REPAIR ONLY**



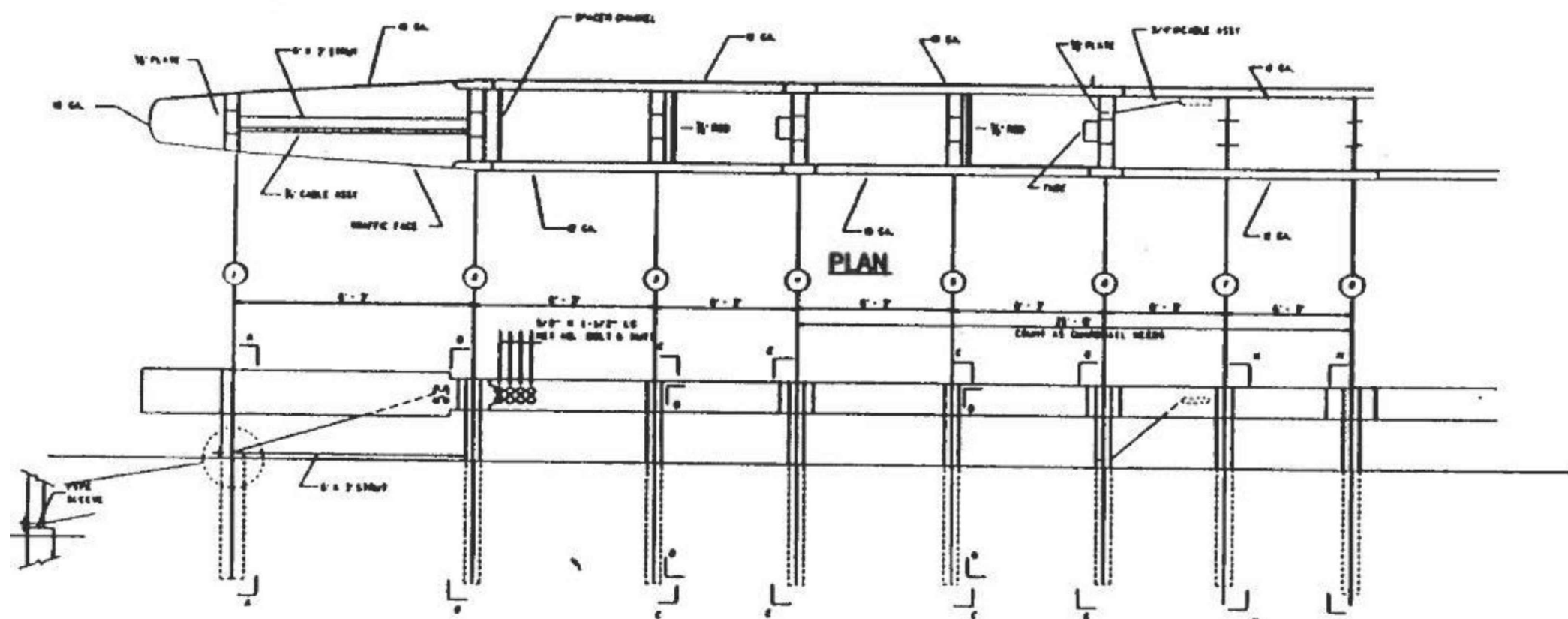
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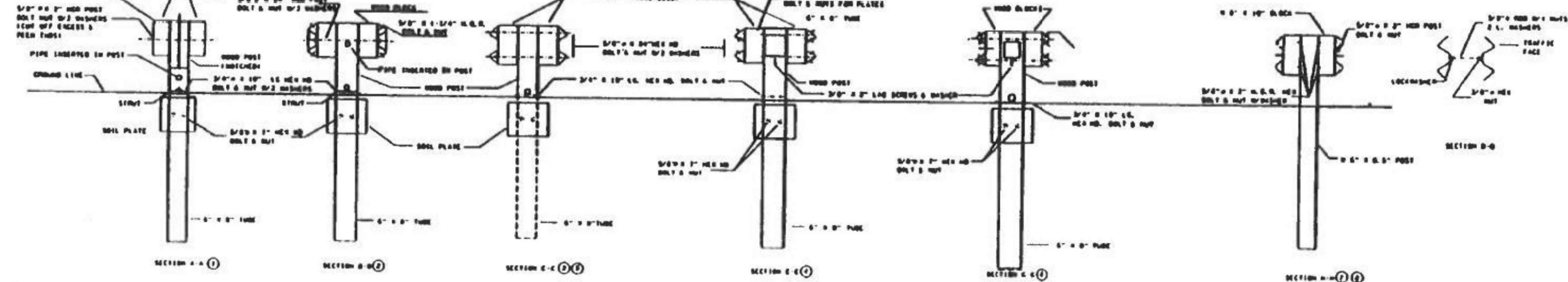
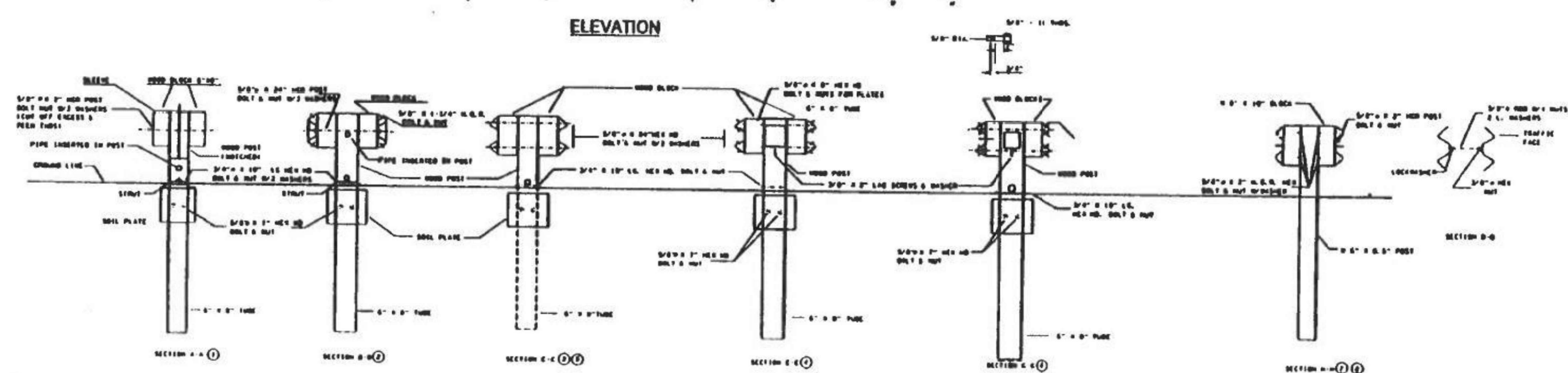
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EXISTING V.A.T. SYSTEM
SCALE: SHEET 1 OF 1 SHEETS, STA. TO STA.

PA	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D4 GUARDRAIL REPAIRS 2025	VARIOUS	27	8
		ILLINOIS	CONTRACT NO. 68J37	



**DETAIL INCLUDED
FOR REPAIR ONLY**



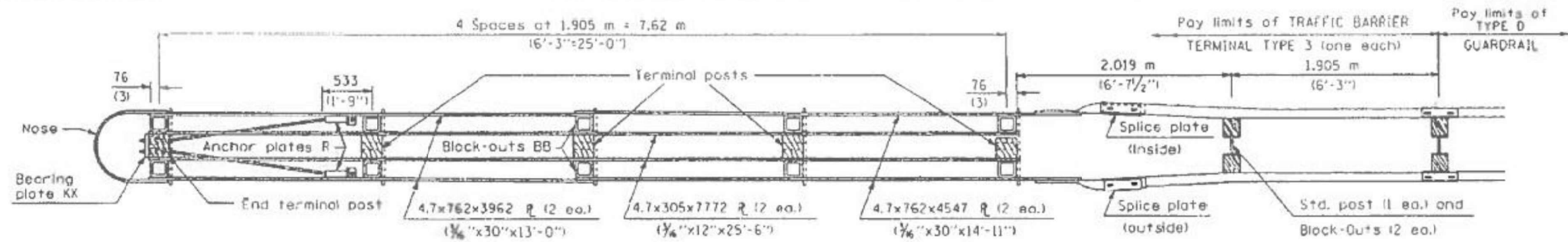
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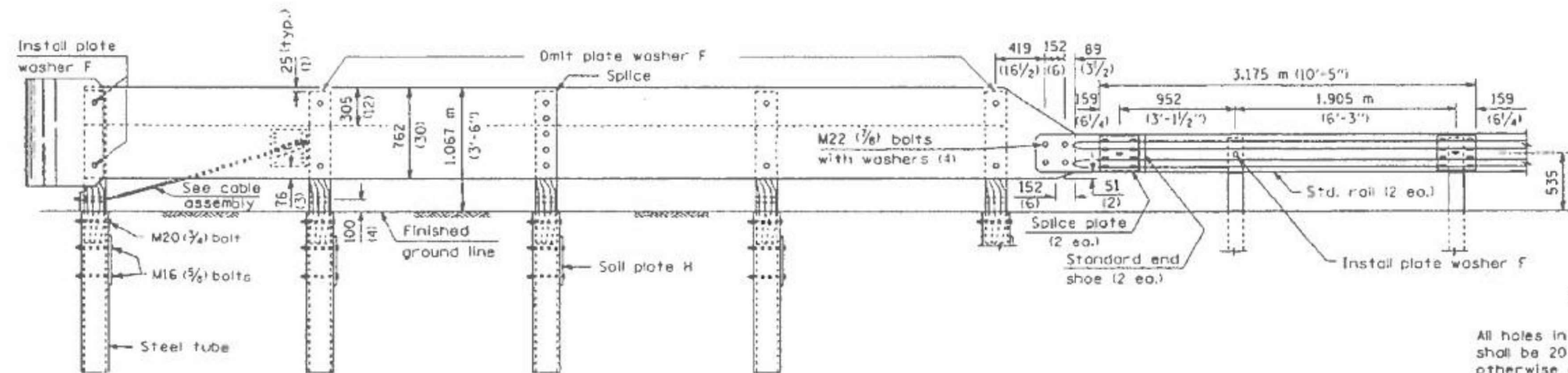
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING C.A.T. SYSTEM
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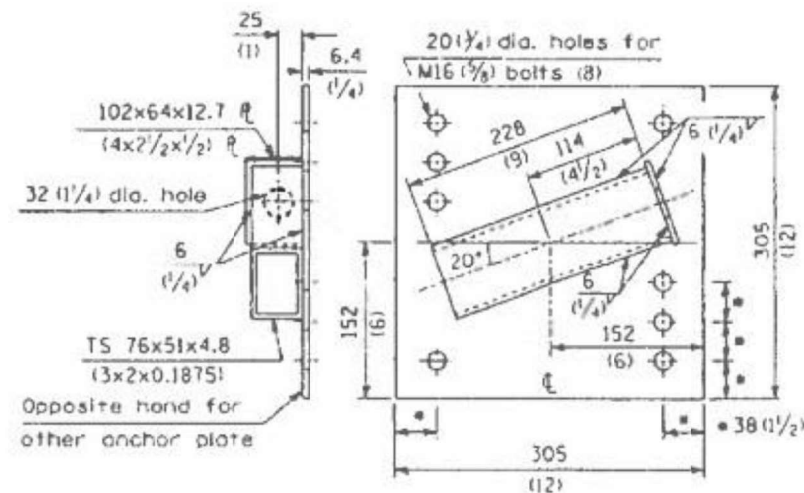
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		CONTRACT NO. 68J37		



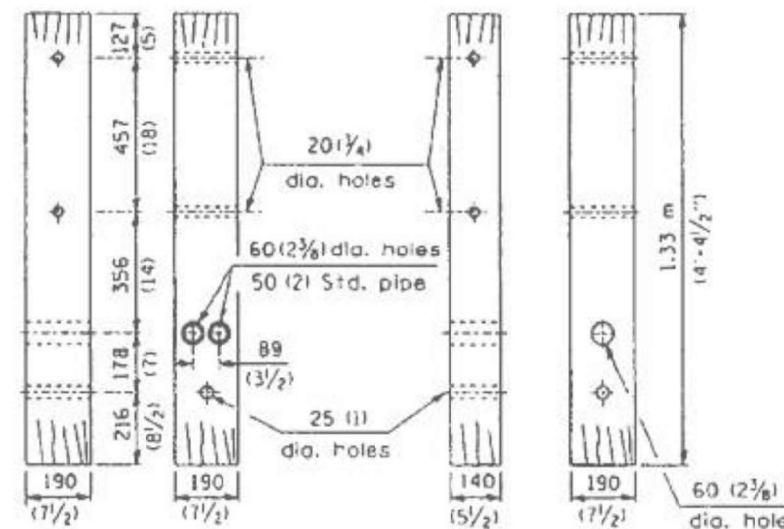
PLAN - TRAFFIC BARRIER TERMINAL TYPE 3



ELEVATION

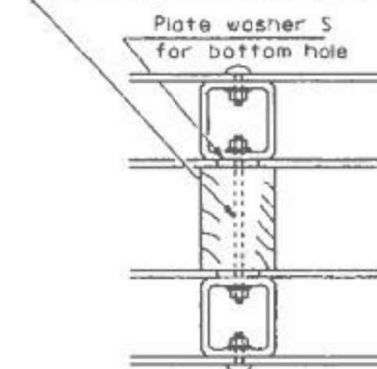


ANCHOR PLATE R
(1 ea. lt. hd. & 1 ea. rt. hd.)



END TERMINAL POST (1 ea.)
TERMINAL POST (4 ea. Type 3) (5 ea. Type 3A)

M16 (5/8) x 280 (11) threaded rod with nuts and washers (10 ea. Type 3) (12 ea. Type 3A)



TYPICAL BLOCK-OUT/POST ATTACHMENT

GENERAL NOTES

All holes in Posts, Block-Outs and Plates shall be 20 mm (3/4") diameter unless otherwise noted.

See Standard 630001 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 630001).

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

DETAIL INCLUDED FOR REPAIR ONLY

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

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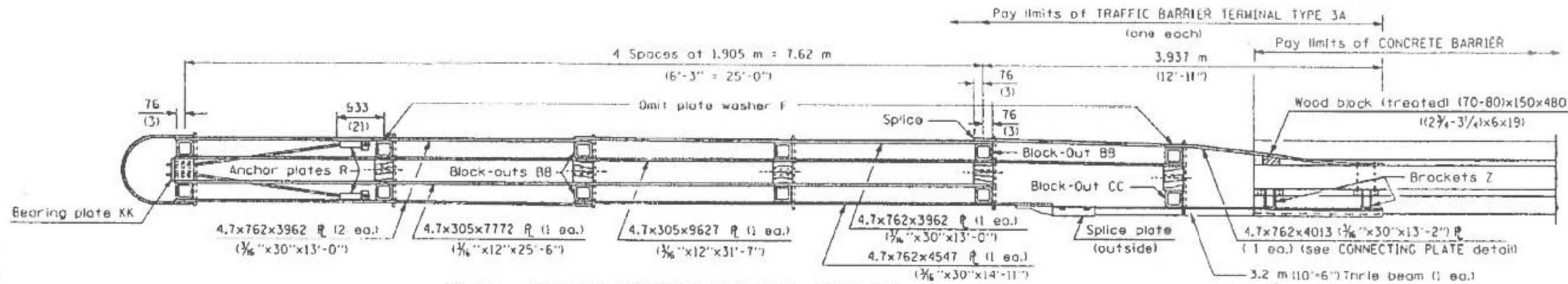
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

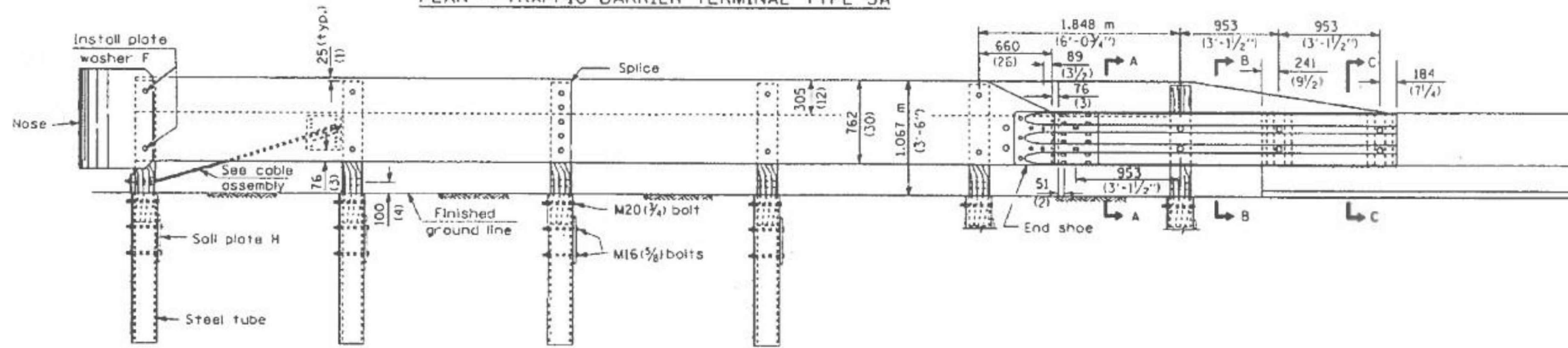
EXISTING TRAFFIC BARRIER TERMINAL
TYPE 3 & TYPE 3A

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

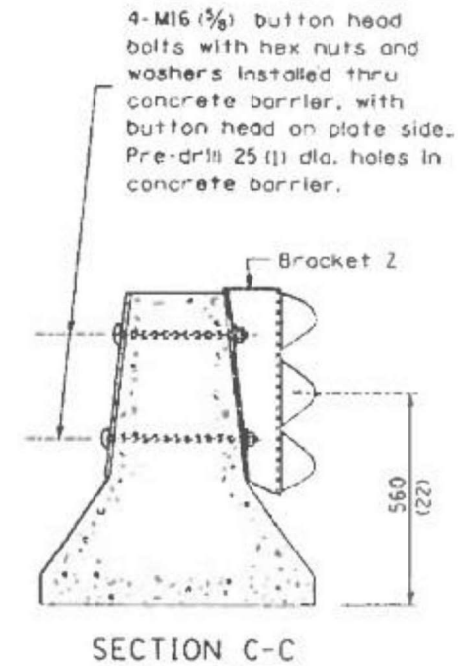
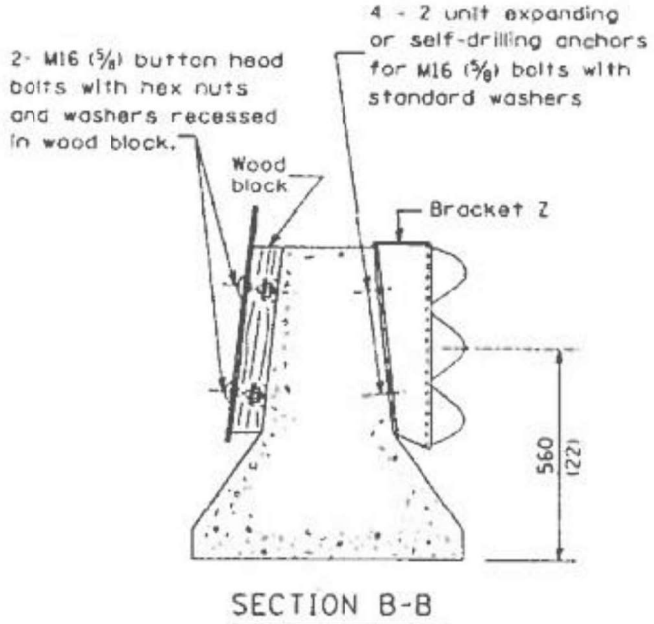
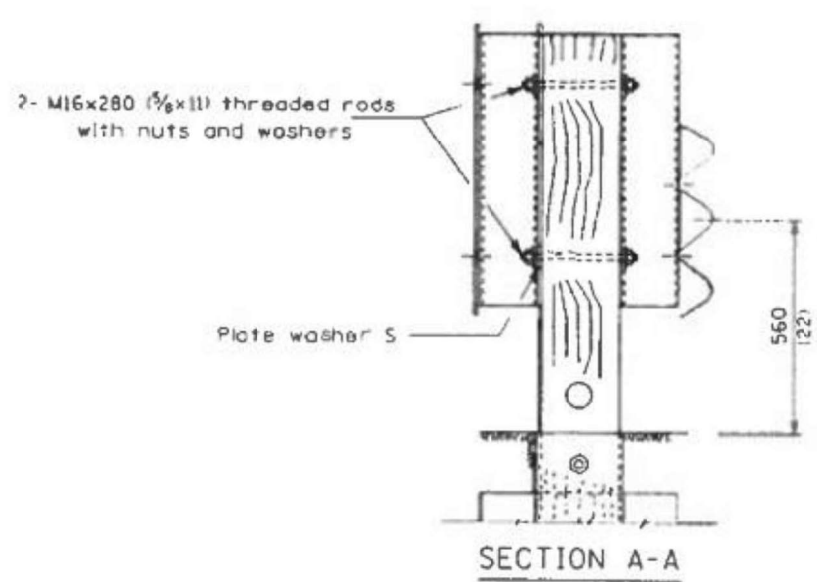
PA RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D4 GUARDRAIL REPAIRS 2025	VARIOUS	27	10
		ILLINOIS	CONTRACT NO. 68J37	



PLAN - TRAFFIC BARRIER TERMINAL TYPE 3A



ELEVATION



DETAIL INCLUDED FOR REPAIR ONLY

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

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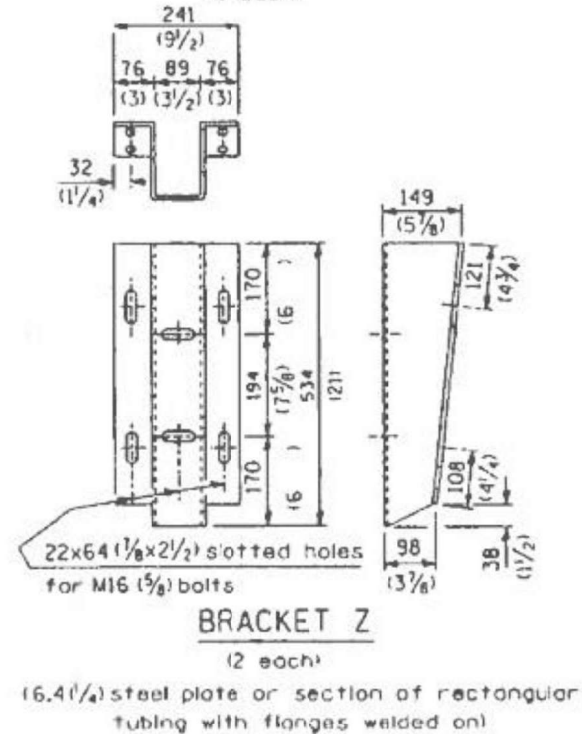
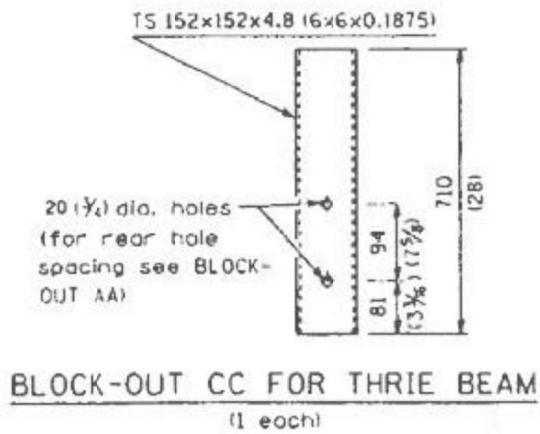
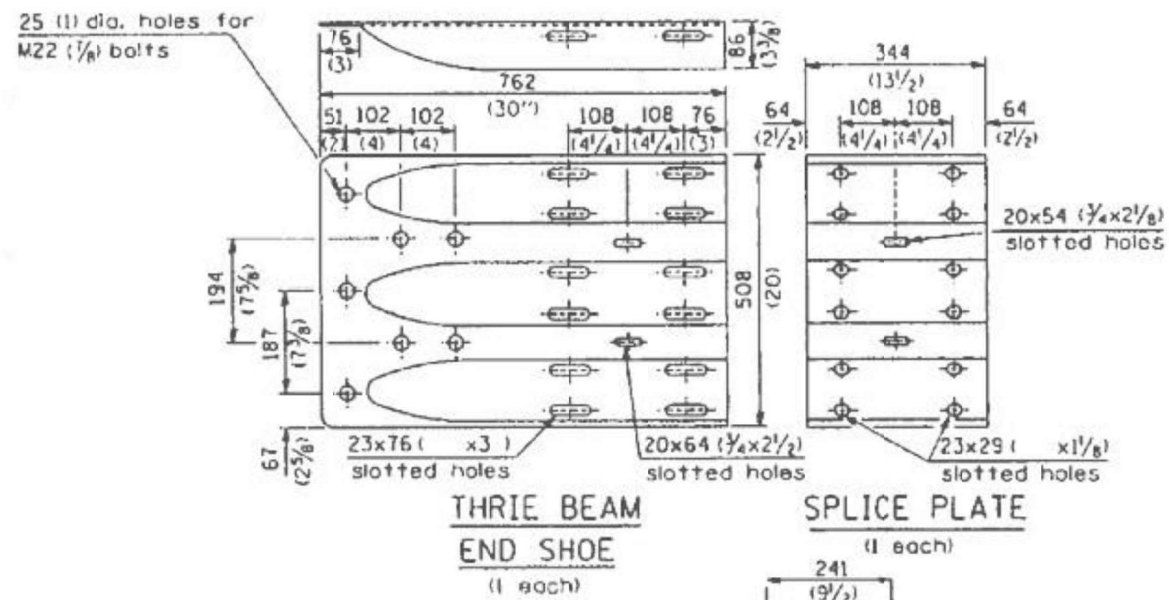
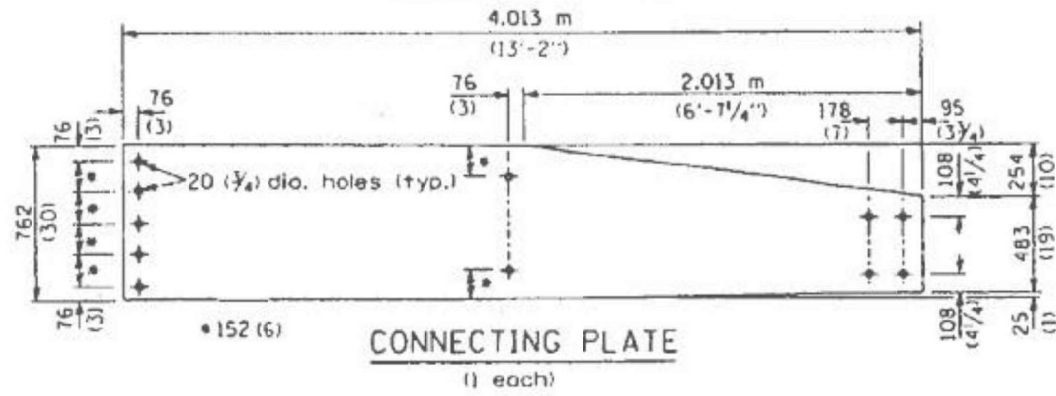
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING TRAFFIC BARRIER TERMINAL
TYPE 3 & TYPE 3A

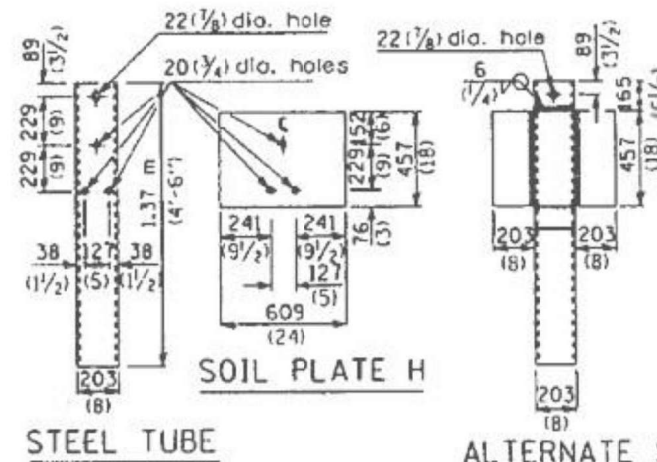
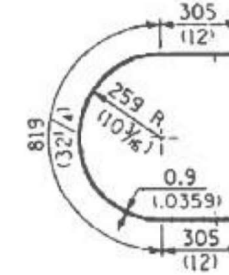
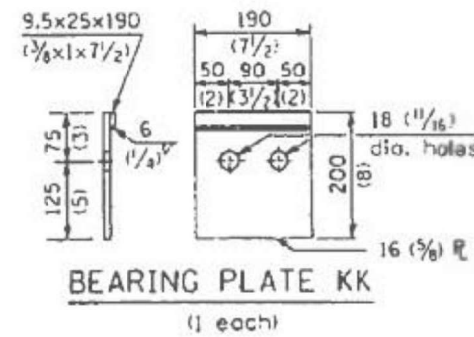
SCALE: SHEET 2 OF 3 SHEETS, STA. TO STA.

PA	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D4 GUARDRAIL REPAIRS 2025	VARIOUS	27	11
		ILLINOIS	CONTRACT NO. 68J37	

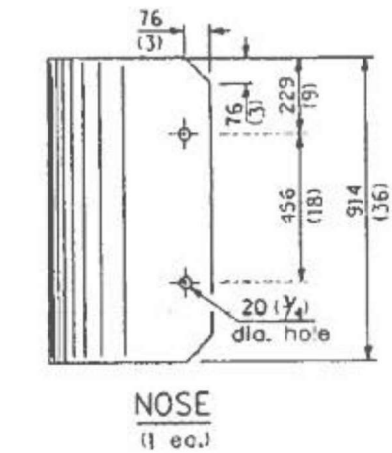
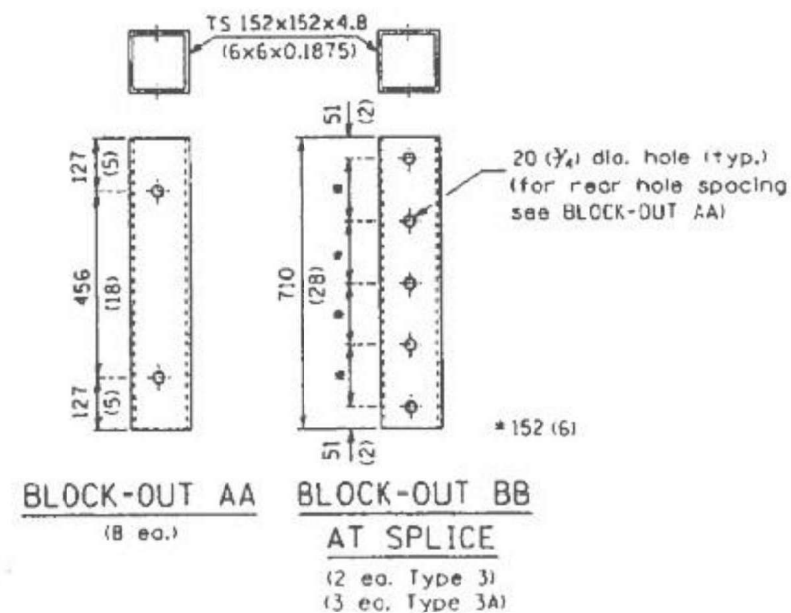
TYPE 3A ONLY



TYPE 3 & 3A

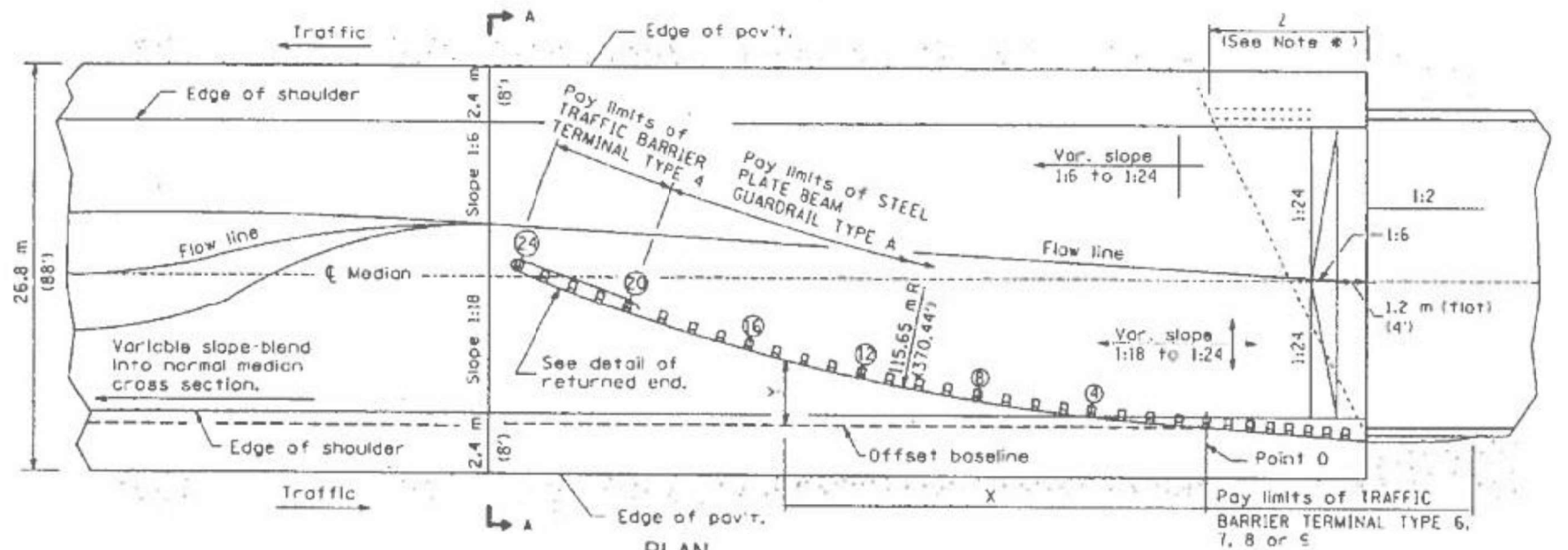


STEEL TUBE
TS 203x203x4.8 (8x8x0.1875) (end terminal post) (1 ea.)
TS 203x152x4.8 (8x6x0.1875) (terminal post) (4 ea. Type 3) (5 ea. Type 3A)

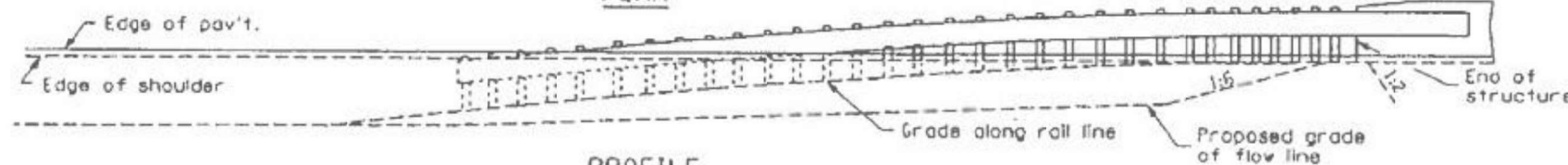


DETAIL INCLUDED FOR REPAIR ONLY

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



PLAN



PROFILE
ASSEMBLY FOR 26.8 m (88 ft.) MEDIAN

OFFSETS TO FACE OF RAIL		
POST	DISTANCE X (m) (ft.)	OFFSET Y (m) (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 0 will vary, being dependent on structure details and the type of traffic barrier terminal utilized.

GENERAL NOTES

See Standard 630001 for details of guard-rail 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 guardrail and its offsets (Y) shall be calculated and used. An additional lengths of guardrail shall be in increments of 3.87 m (12'-6").

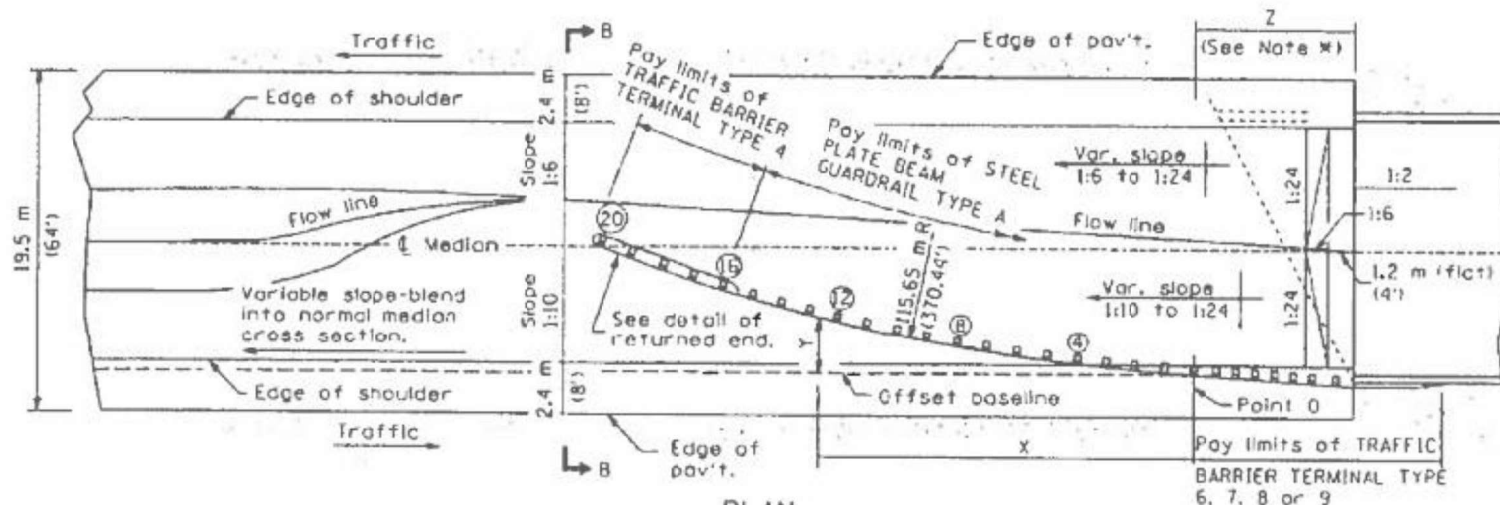
For dual structures that are 90° or skewed left forward, the length of guardrail is appropriate.

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.

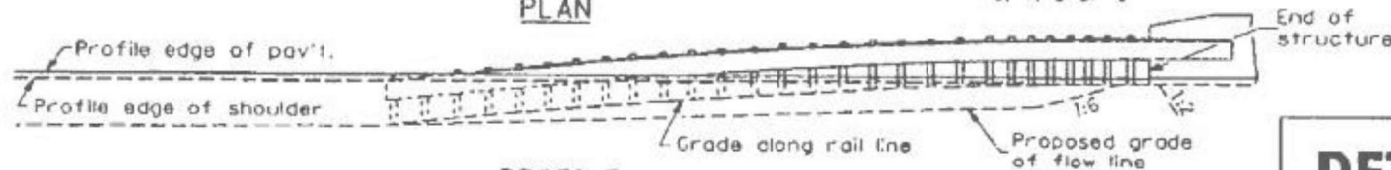
All slopes are expressed as units of vertical displacement to units of horizontal displacement (V:H).

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

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PLAN



PROFILE
ASSEMBLY FOR 19.5 m (64 ft.) MEDIAN

DETAIL INCLUDED FOR REPAIR ONLY

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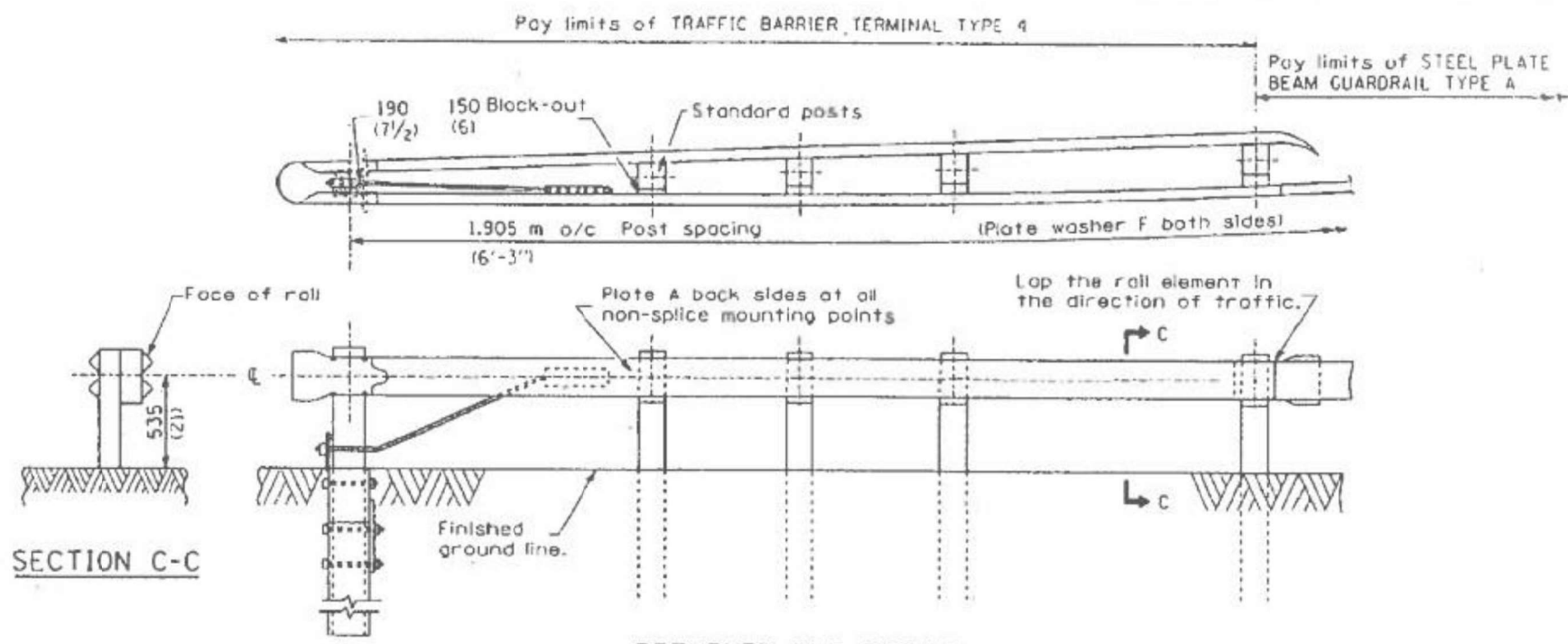
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PLOT DATE = 10/21/2022		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING TYPE 4 TERMINAL

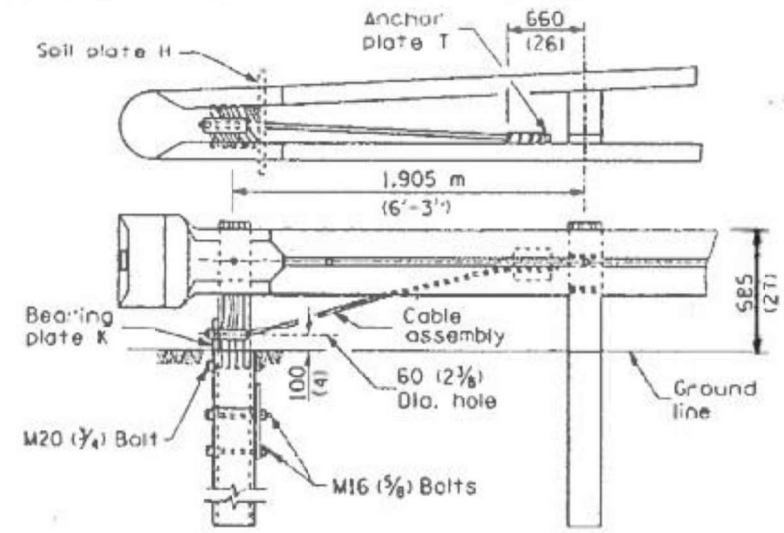
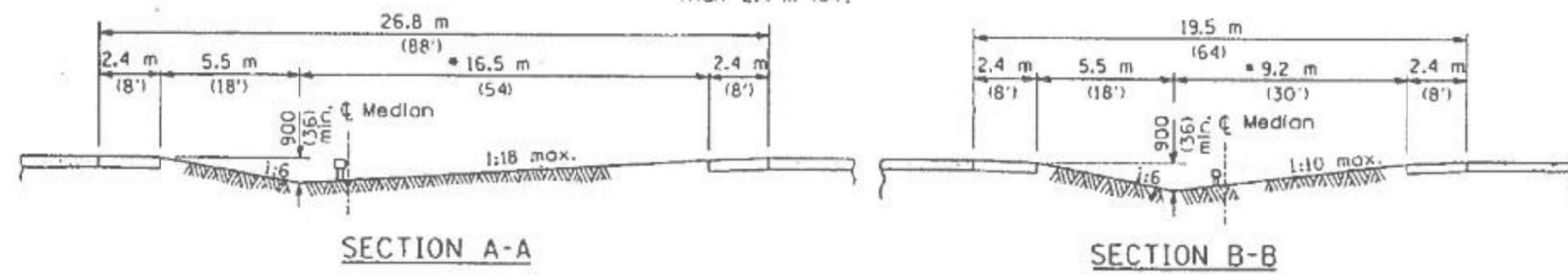
SCALE: SHEET 1 OF 2 SHEETS, STA. TO STA.

PA RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D4 GUARDRAIL REPAIRS 2025	VARIOUS	27	13
		ILLINOIS	CONTRACT NO. 68J37	

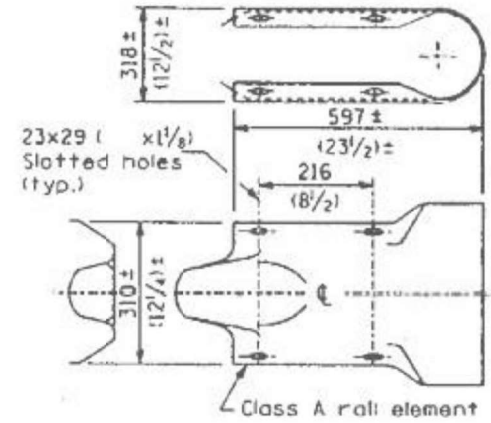


RETURNED END DETAIL

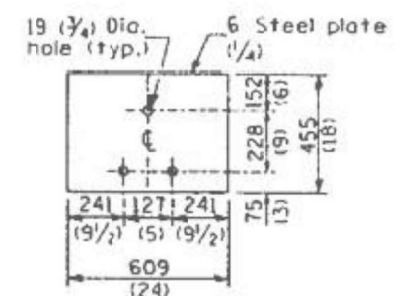
Adjust this dimension when the width of the shoulders is other than 2.4 m (8').



WOOD POST TUBULAR STEEL FOUNDATION



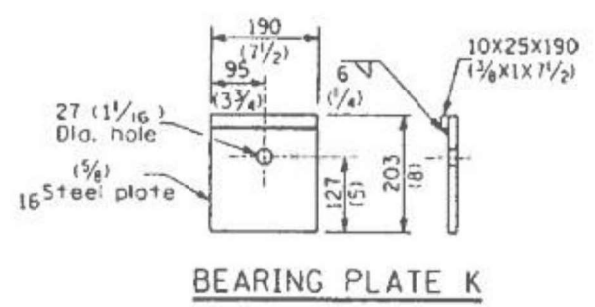
RETURN END SECTION



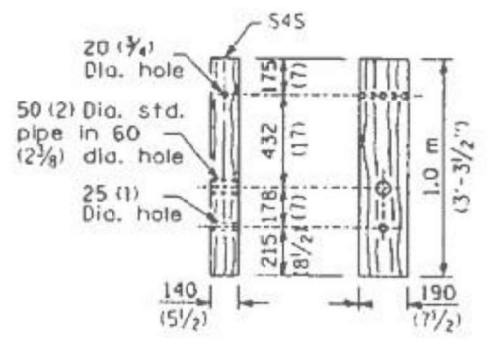
SOIL PLATE H

DETAIL INCLUDED FOR REPAIR ONLY

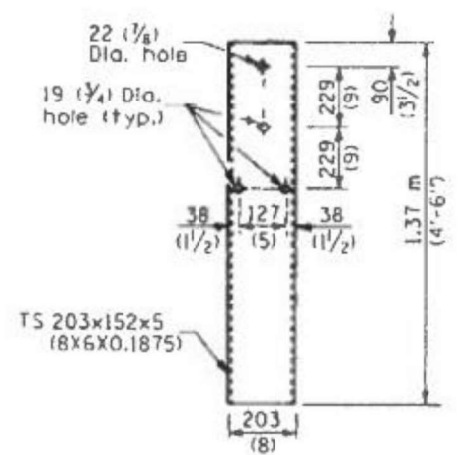
All dimensions are in millimeters (inches) unless otherwise shown.



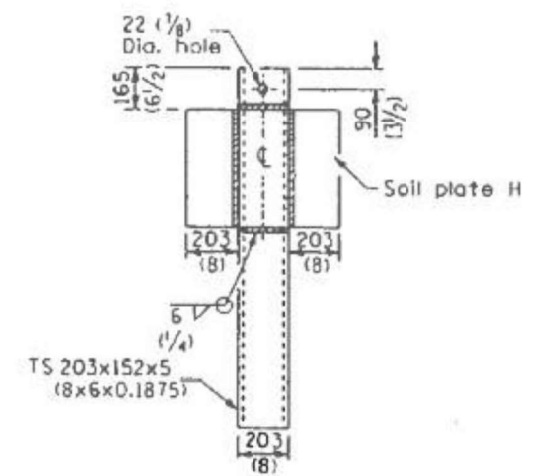
BEARING PLATE K



WOOD BREAKAWAY POST



STEEL TUBE



ALTERNATE SOIL PLATE CONNECTION

MODEL: D:\draft\... FILE NAME: p:\... PROJECT: D:\... OFFICE: D:\... SHEET: 27 OF 14

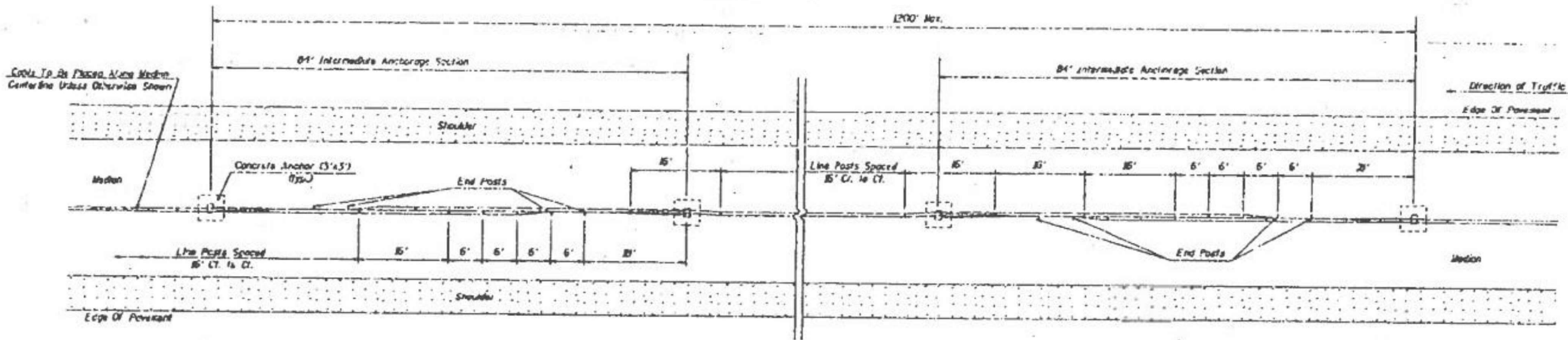
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DRAWN -	REVISOR -	
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING TYPE 4 TERMINAL

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

PA. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D4 GUARDRAIL REPAIRS 2025	VARIOUS	27	14
		ILLINOIS	CONTRACT NO. 68J37	



TYPICAL CABLE MEDIAN BARRIER ANCHORAGE LAYOUT
 PLAN VIEW
 Not to Scale

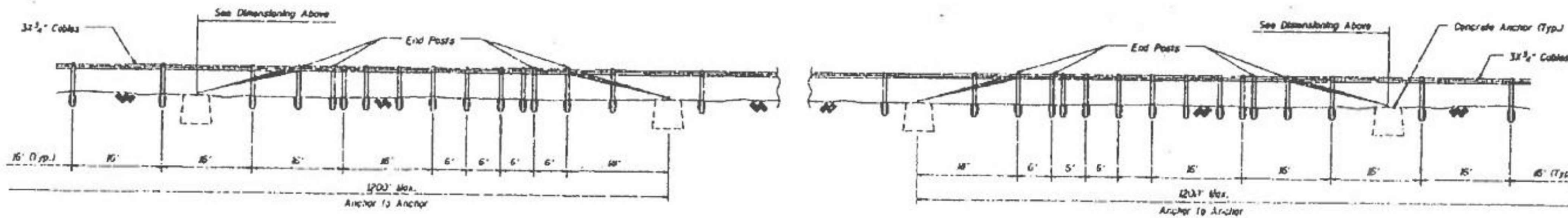
GENERAL NOTE

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

NOTE: This work shall be done in accordance with Section 835 and no additional compensation will be allowed for two single reflector units placed back to back.

The delineator shall be installed adjacent to a cable road guard post at 80 foot centers.

Notes:
 1. All posts are the posts unless otherwise specified.
 2. See detail sheets for Post, Concrete Anchor and Assembly Parts specifications.



TYPICAL CABLE MEDIAN BARRIER ANCHORAGE LAYOUT
 ELEVATION VIEW
 Not to Scale

**DETAIL INCLUDED
 FOR REPAIR ONLY**

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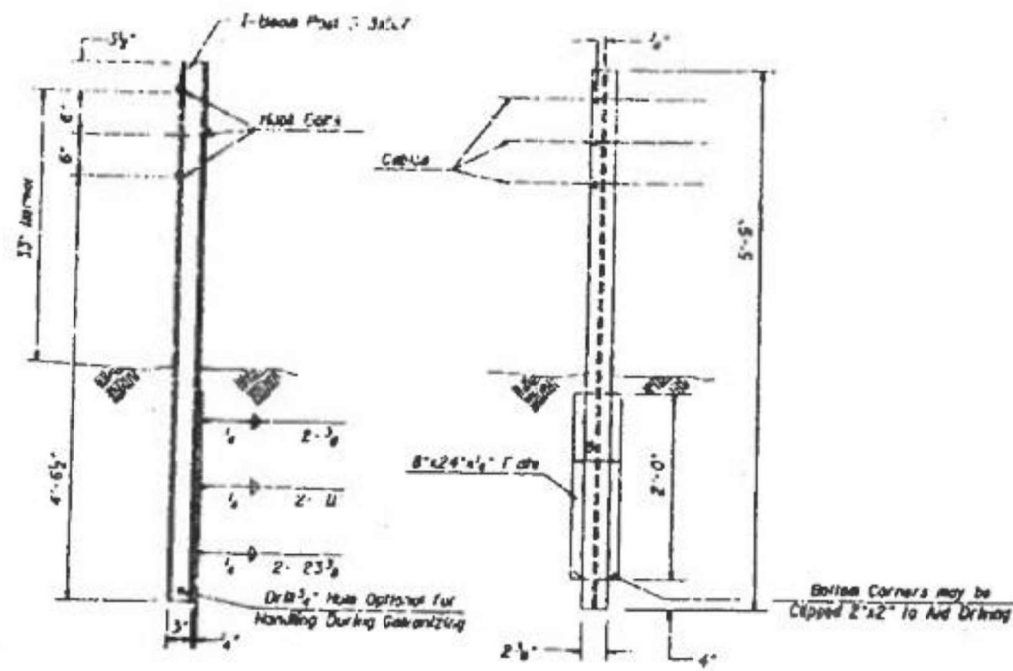
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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

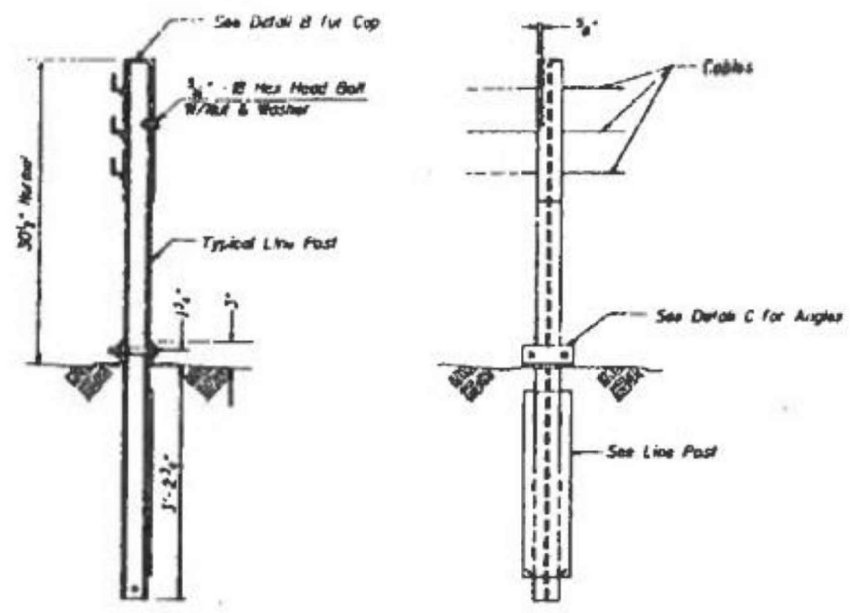
EXISTING CABLE MEDIAN BARRIER (CABLE ROAD GUARD)

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

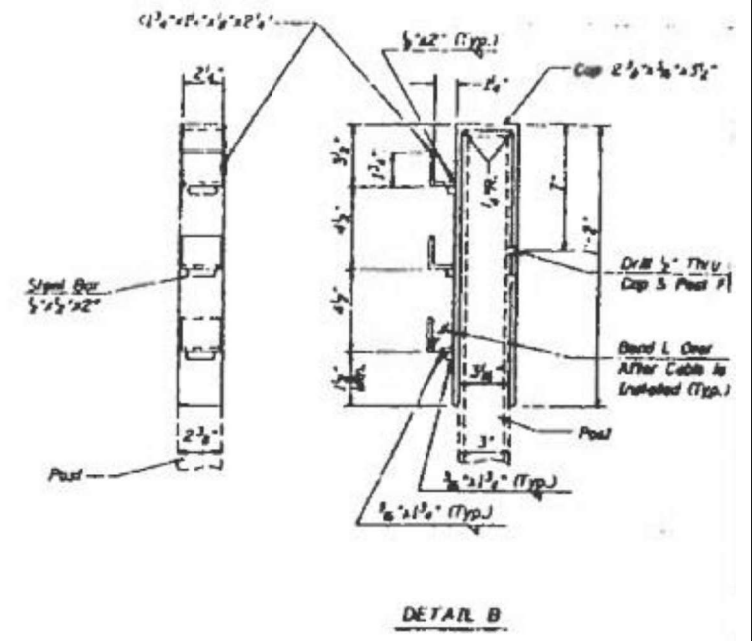
PA	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D4 GUARDRAIL REPAIRS 2025	VARIOUS	27	15
		ILLINOIS	CONTRACT NO. 68J37	



LINE POST DETAIL



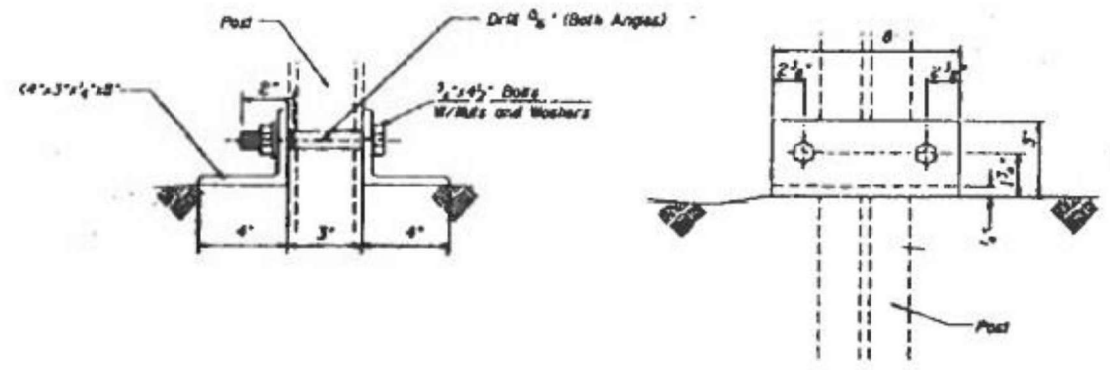
END POST DETAIL



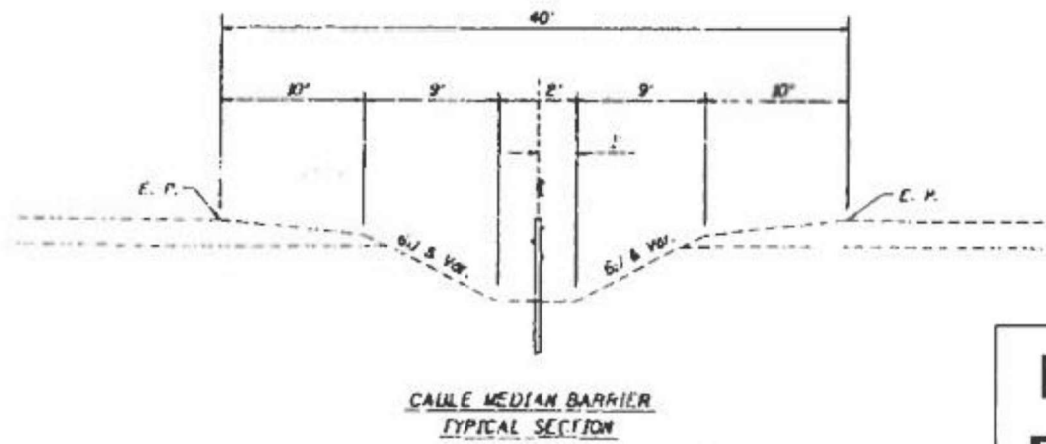
DETAIL B

NOTES

- At all locations where the cable is connected to a cable socket 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 baskets 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. D1.1). 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 detail and shall be of such section as to develop the full strength of the 3/4" round cable (25,000 lbs.).
- For arrangement of spring cable and assemblies (compensating devices and turnbuckle cable end assemblies, the following criteria shall apply:
 Length of Cable Runs:
 To 1000' - Use compensating cable and assembly on one end, and turnbuckle cable end assembly on the other end of each individual cable.
 Over 1000' to 5000' - Use compensating cable and assembly on each 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 procedure shall be used to adjust the turnbuckle, depending on the temperature at the time of adjustment in accordance with the following table:
 Temperature
 120° 99° 79° 59° 39° 19° 1°
 10 10 10 10 10 10 10
 100° 80° 60° 40° 20° 1° -20°
 Spring Compression
 from unloaded position
 in each spring
 1 1 1/2 2 2 1/2 3 3 1/2 4



DETAIL C



CABLE MEDIAN BARRIER TYPICAL SECTION

DETAIL INCLUDED FOR REPAIR ONLY

MODEL: Default FILE NAME: p:\w\sect-pw-bentley.com\PROJECTS\DOT OFFICES\DISTRICT 4\PROJECTS\DA_6862\CAD\BARRIERS\CABLE\BARRIERS\SHC\CVR.CGM

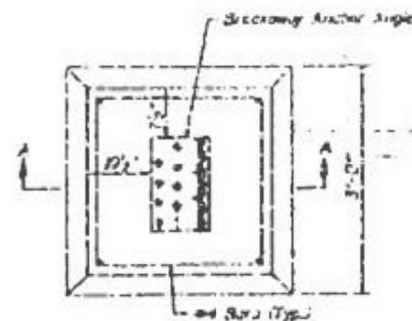
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	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

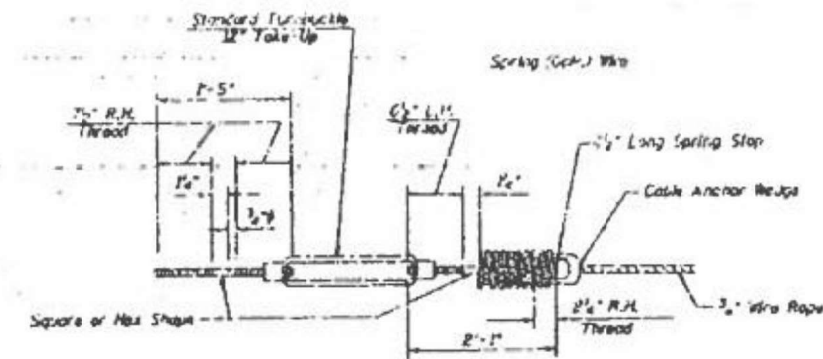
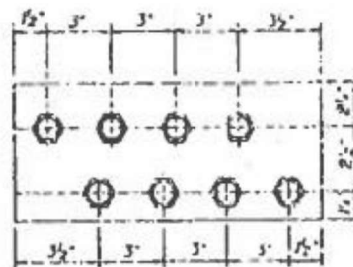
EXISTING CABLE MEDIAN BARRIER (CABLE ROAD GUARD)

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

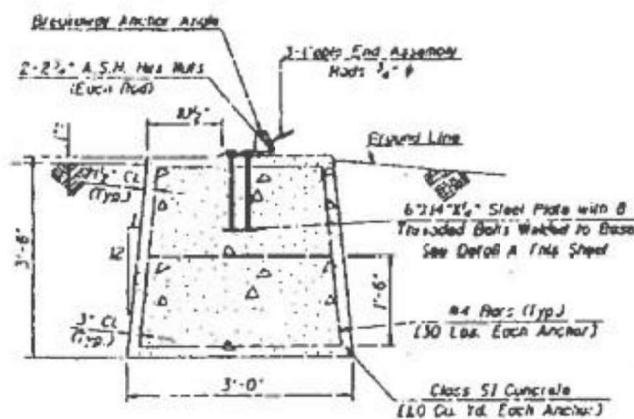
SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D4 GUARDRAIL REPAIRS 2025	VARIOUS	27	16
ILLINOIS CONTRACT NO. 68J37			



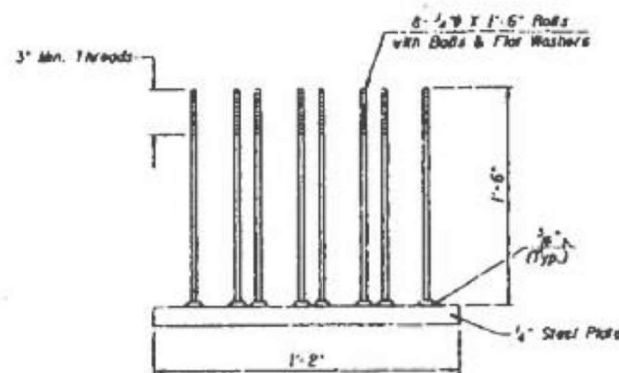
PLAN
CONCRETE ANCHOR



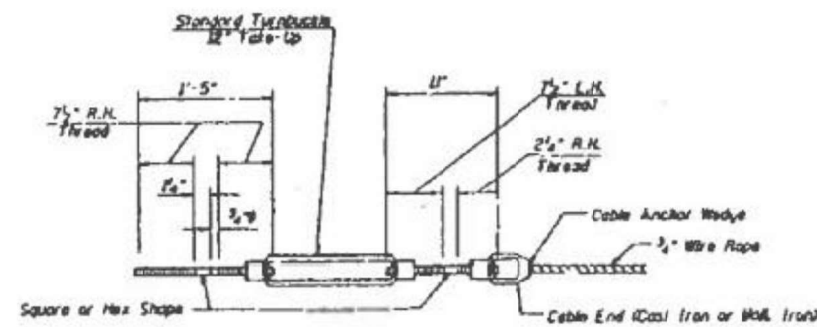
COMPENSATING CABLE END ASSEMBLY



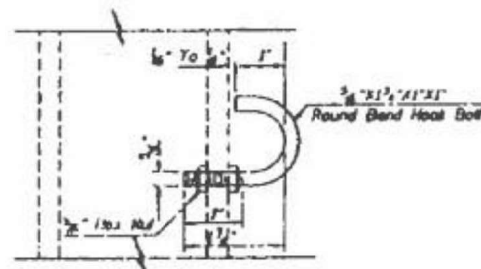
SECTION A-A



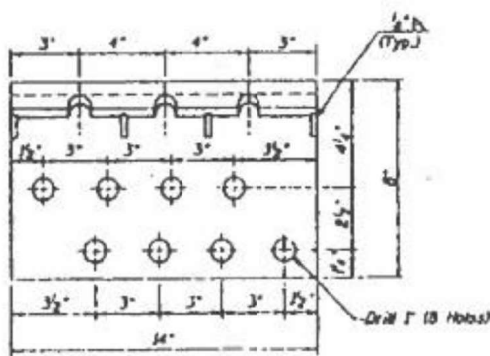
DETAIL A



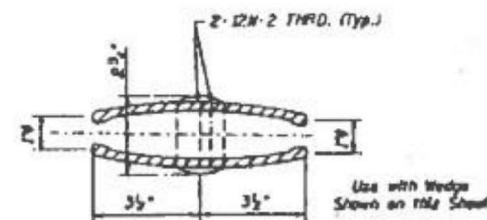
TURNBUCKLE CABLE END ASSEMBLY



3/8" ϕ HOOK BOLT



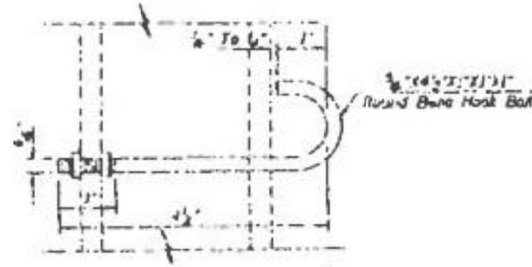
TOP VIEW



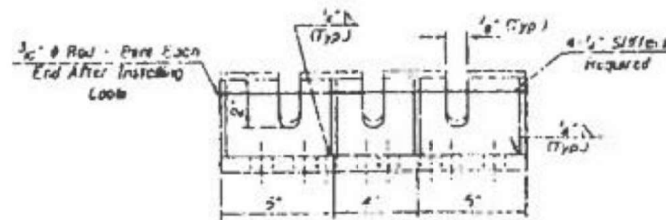
CABLE SPLICE



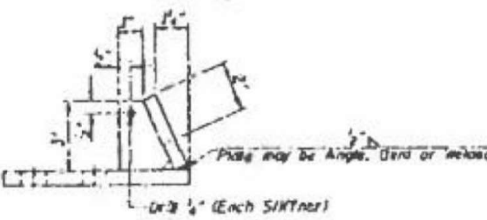
3/4" 3X7 WIRE ROPE



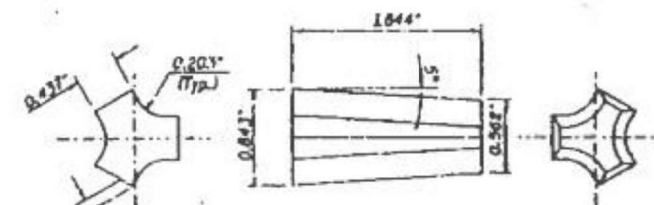
ALTERNATE 3/8" ϕ HOOK BOLT



FRONT VIEW



SIDE VIEW



WEDGE DETAIL

**DETAIL INCLUDED
FOR REPAIR ONLY**

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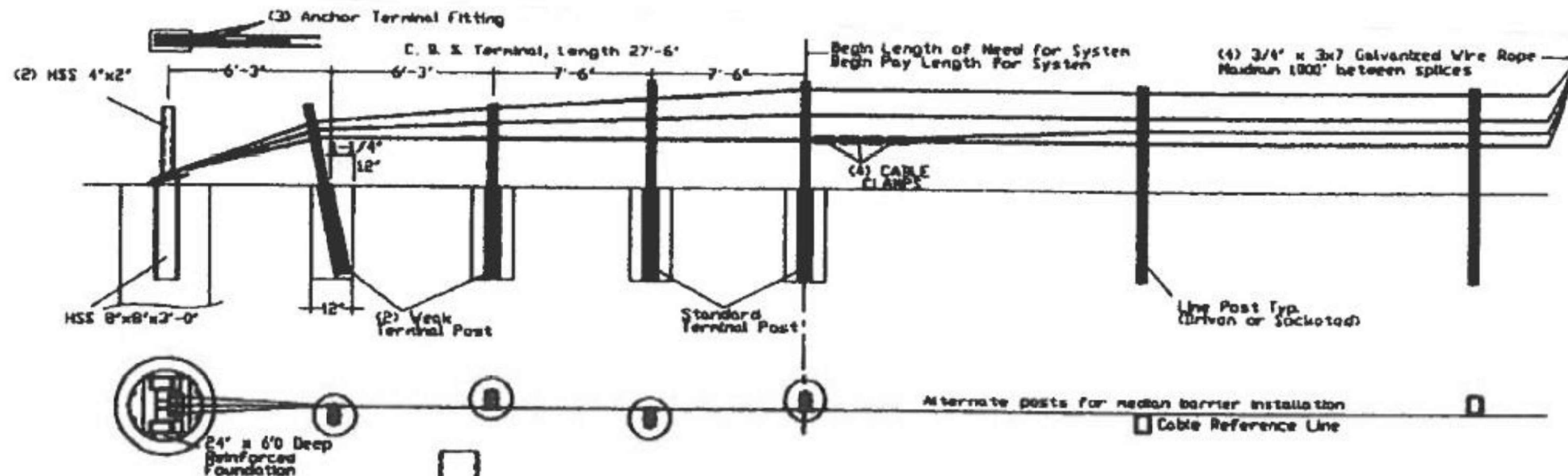
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING CABLE MEDIAN BARRIER (CABLE ROAD GUARD)

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

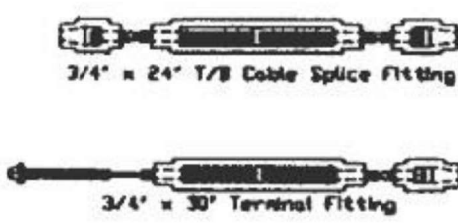
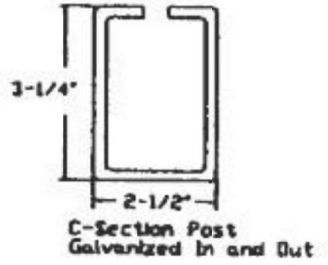
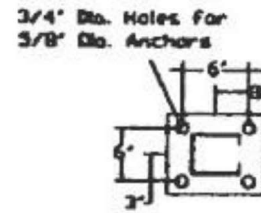
PA	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D4 GUARDRAIL REPAIRS 2025	VARIOUS	27	17
		ILLINOIS	CONTRACT NO. 68J37	



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 comes first.
 - For driven post, core drill a 4' diameter hole 18" deep into rock or the required plan depth, whichever comes first.
 - For Anchor post, continue digging 24" diameter, 30' deep into rock or the required plan depth, whichever comes first.
- Every component to be galvanized.

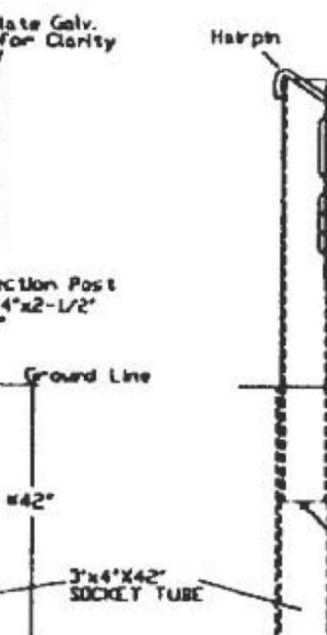
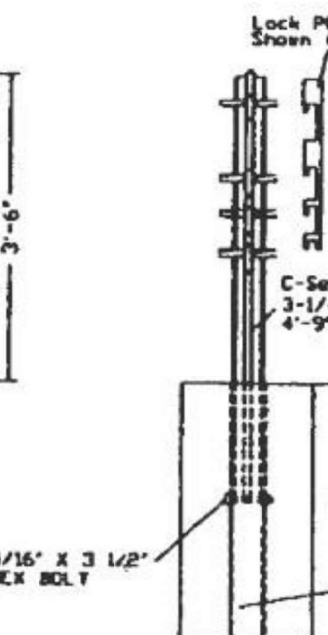
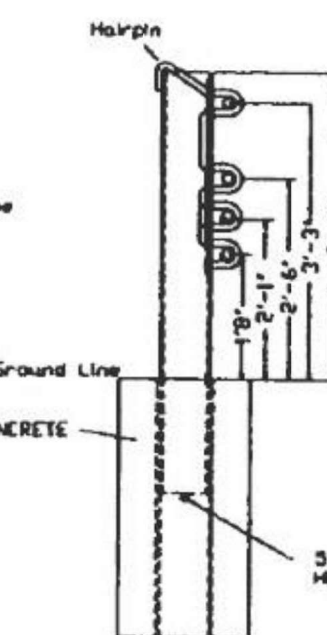
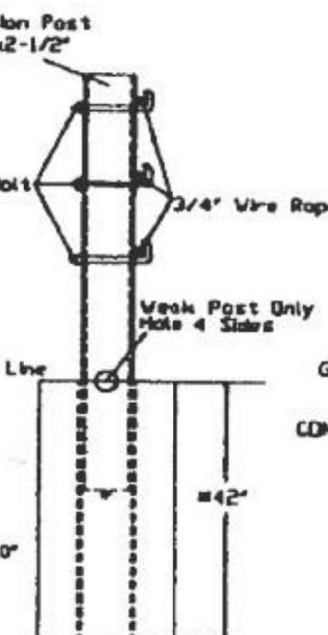
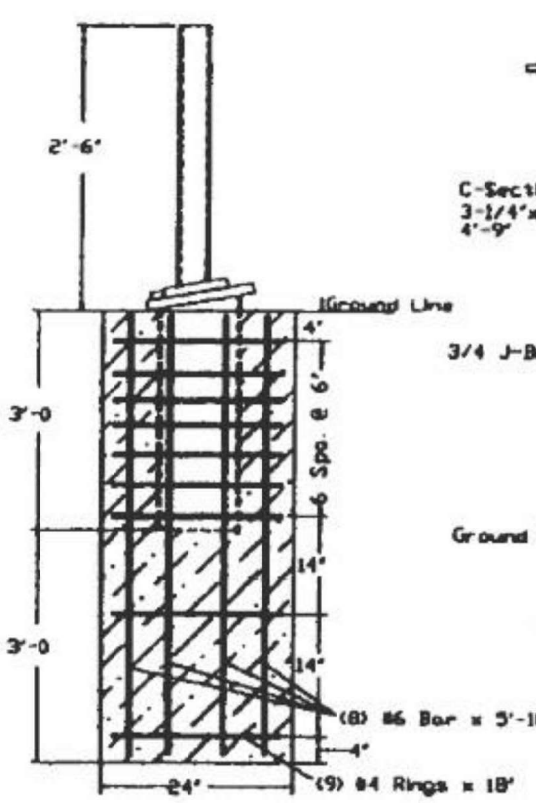
BASE-PLATED POST
 For Use On Concrete
 5/8" Mechanical Anchor
 Min. Pullout Strength 10,000 lbs.



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



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

**DETAIL INCLUDED
 FOR REPAIR ONLY**

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DRAWN -	REVISOR -	
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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

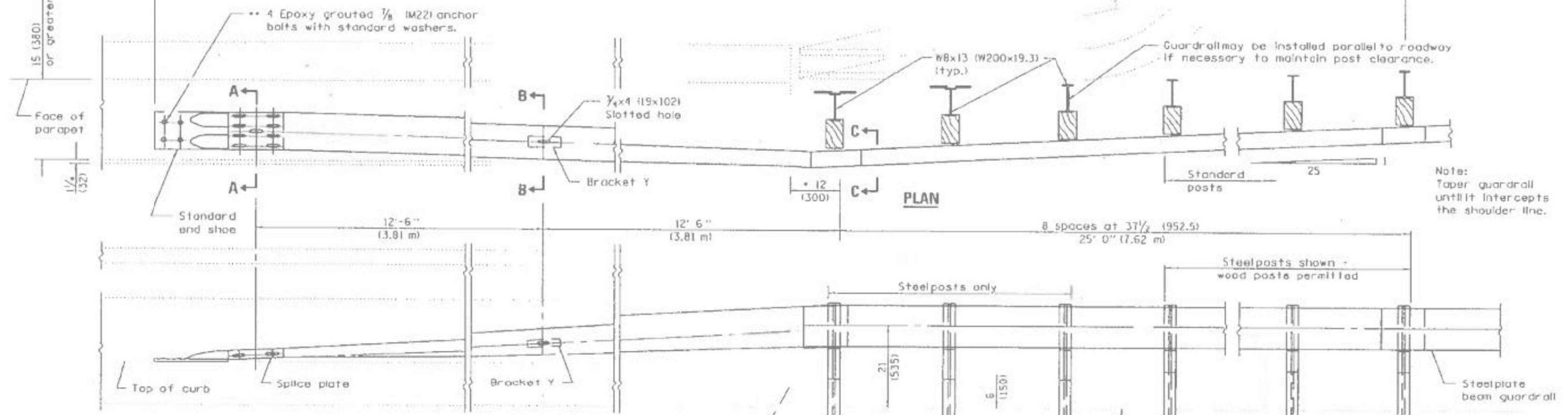
EXISTING GIBLARTAR CABLE BARRIER DETAIL

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

PA	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D4 GUARDRAIL REPAIRS 2025	VARIOUS	27	18
		ILLINOIS	CONTRACT NO. 68J37	

Pay limits of TRAFFIC BARRIER TERMINAL TYPE B (1 each)

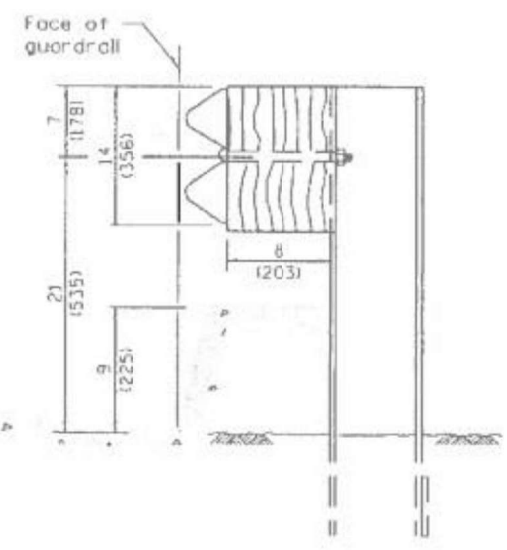
Pay limits of other types



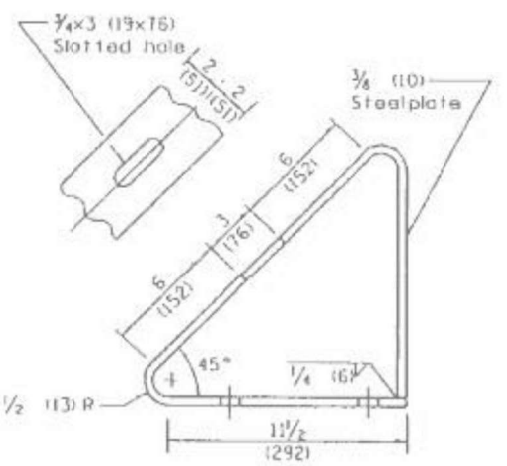
Note: Taper guardrail until it intercepts the shoulder line.



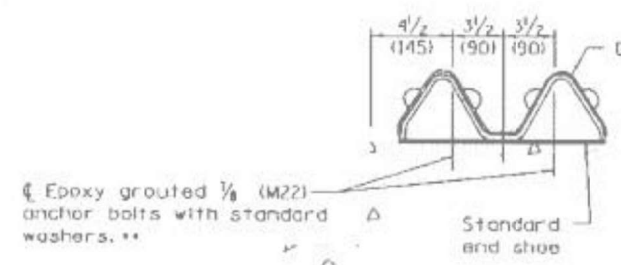
ELEVATION



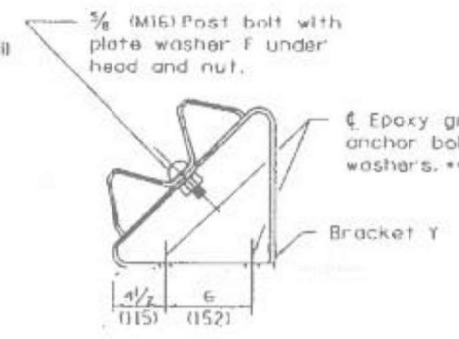
SECTION C-C



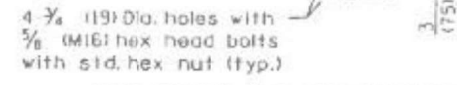
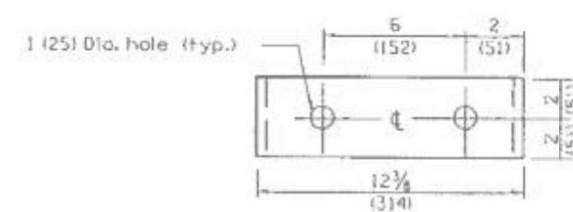
BRACKET Y



SECTION A-A



SECTION B-B



SOIL PLATE J & ALTERNATE CONNECTION DETAILS

GENERAL NOTES

- See Standard 630001 for details of guardrail not shown.
 - This dimension may be increased to fit field conditions. This post shall be located first. The layout of the terminal shall be determined by its location.
 - ** After tightening, cut the anchor bolts flush with nuts, and damage the bolt head to prevent them from loosening.
- All dimensions are in inches (millimeters) unless otherwise shown.

DETAIL INCLUDED FOR REPAIR ONLY

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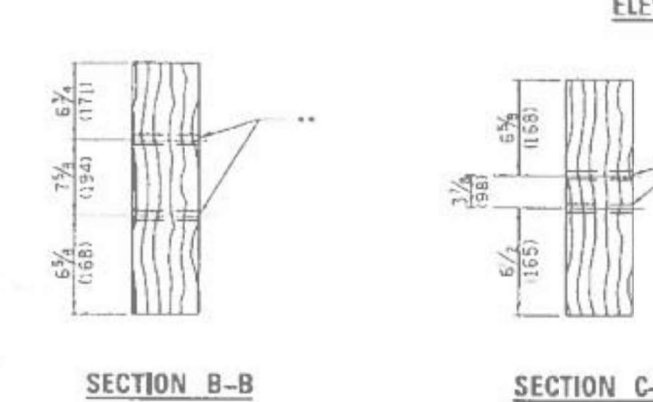
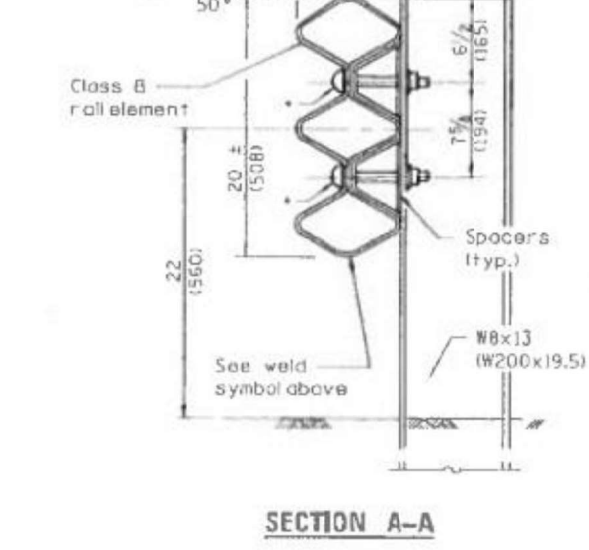
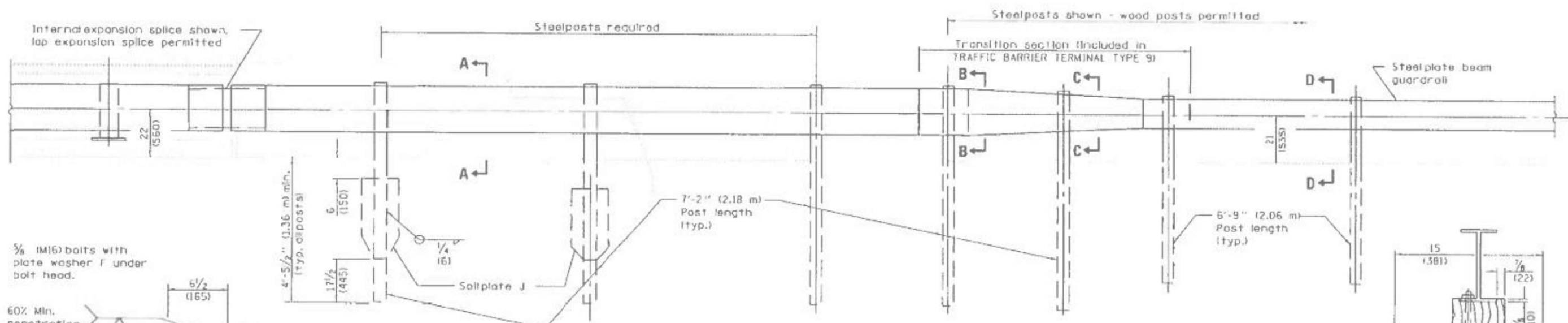
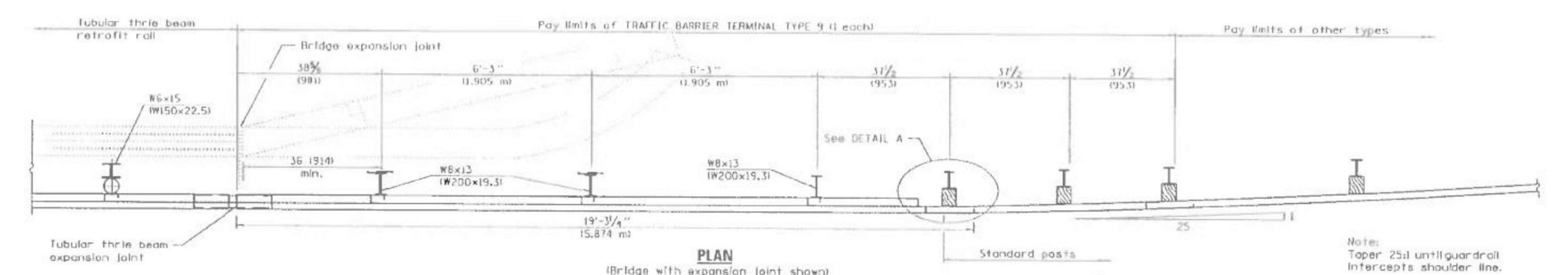
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

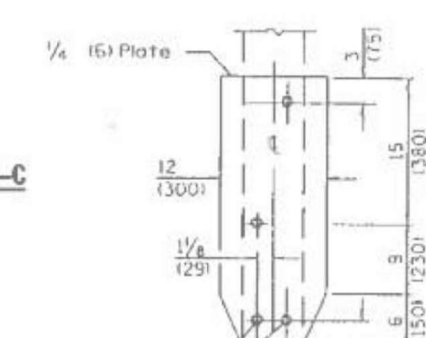
EXISTING TRAFFIC BARRIER TERMINAL TYPE 8
(STANDARD 631036)

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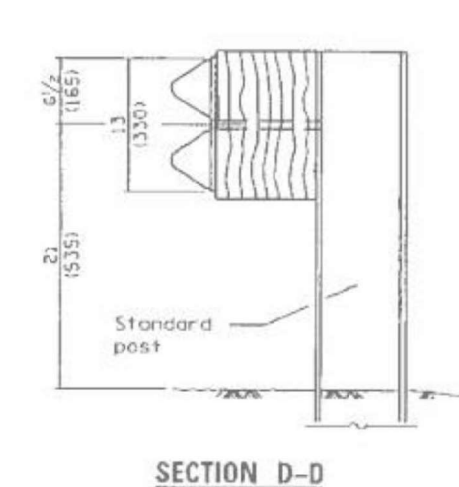
PA	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D4 GUARDRAIL REPAIRS 2025	VARIOUS	27	19
ILLINOIS			CONTRACT NO. 68J37	



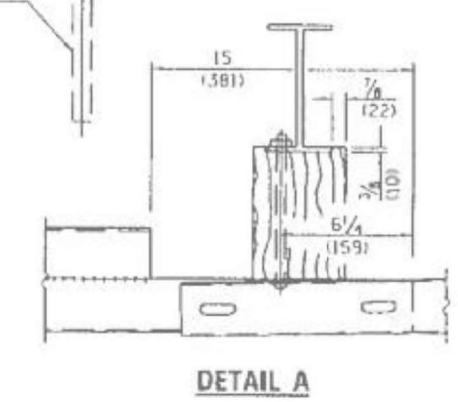
DETAILS of BLOCK-OUTS
 ⌀ 3/4 (19) Dia. hole



SOIL PLATE J & ALTERNATE CONNECTION DETAILS



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 in Standard 509001.
 All dimensions are in inches (millimeters) unless otherwise shown.

DETAIL INCLUDED FOR REPAIR ONLY

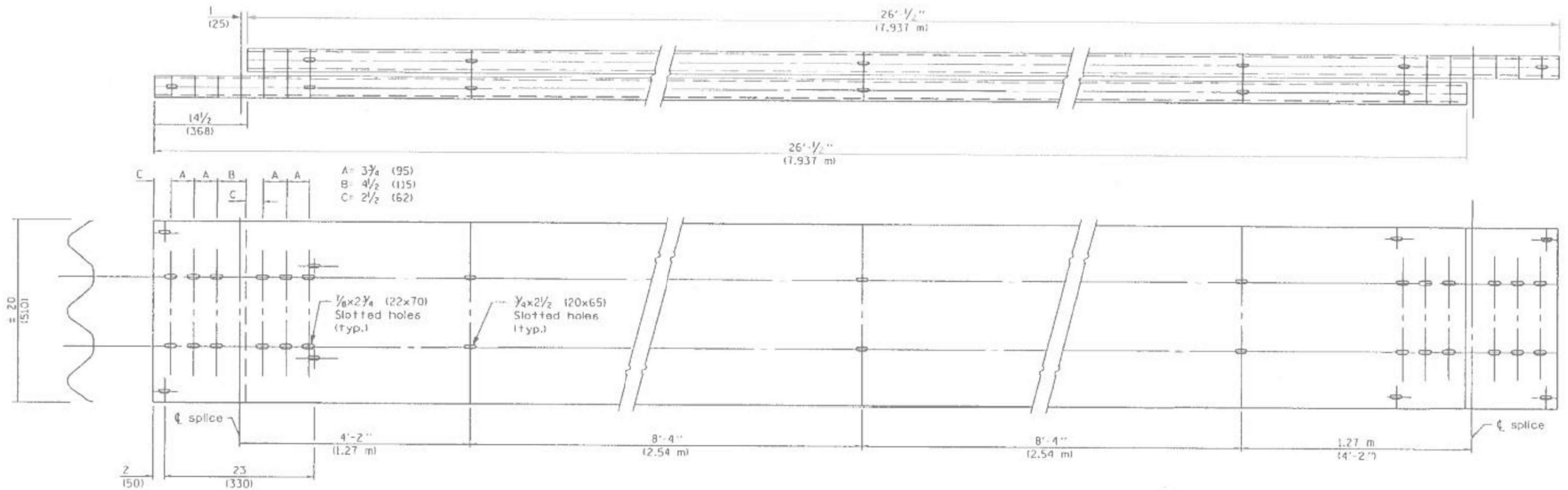
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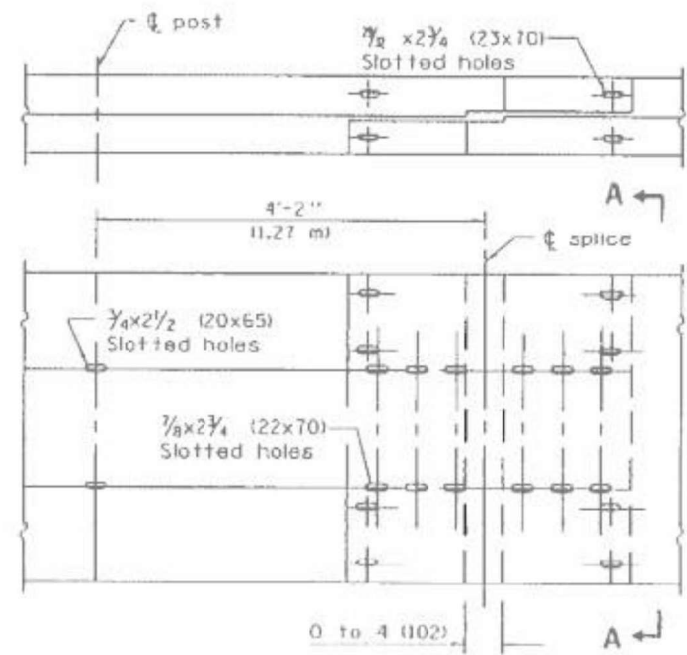
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**EXISTING TRAFFIC BARRIER TERMINAL TYPE 9
 (STANDARD 631041)**
 SCALE: SHEET 1 OF 1 SHEETS, STA. TO STA.

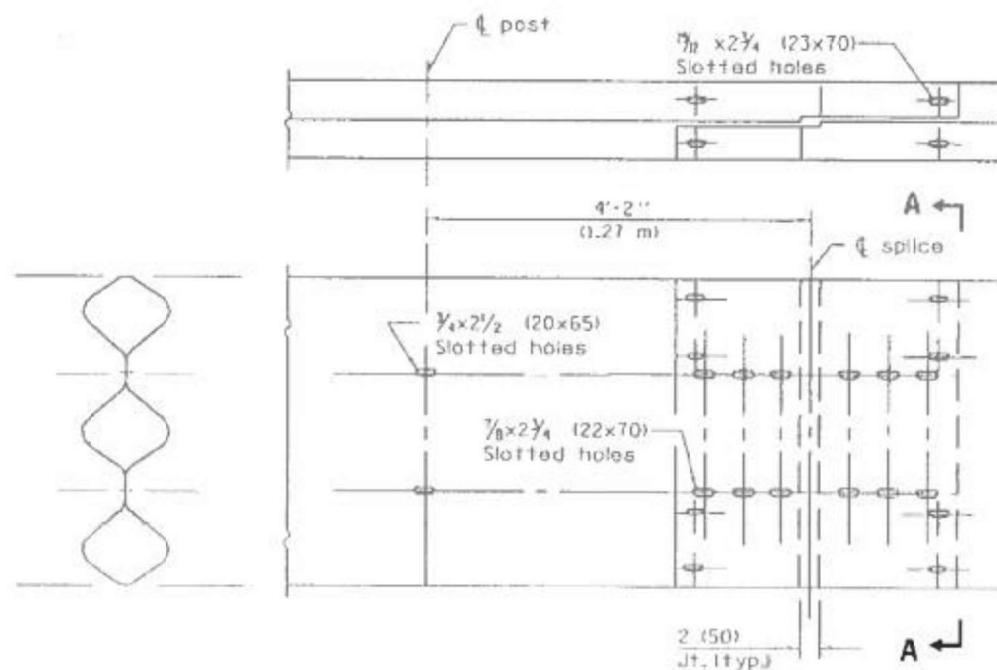
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VAR	D4 GUARDRAIL REPAIRS 2025	VARIOUS	27	20
		ILLINOIS	CONTRACT NO. 68J37	



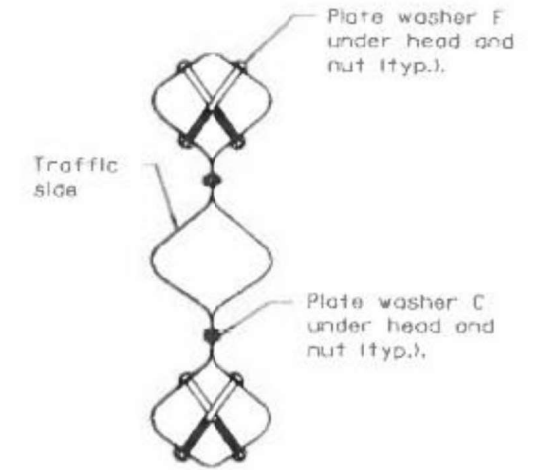
TUBULAR THRIE BEAM FOR LAP SPICE JOINT



LAP EXPANSION SPICE JOINT



LAP SPICE JOINT



SECTION A-A

DETAIL INCLUDED FOR REPAIR ONLY

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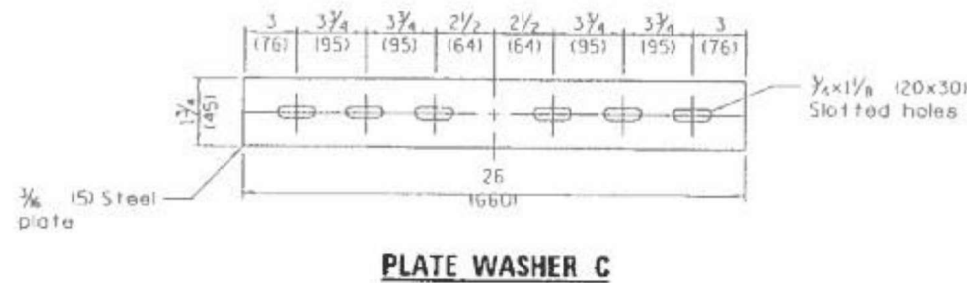
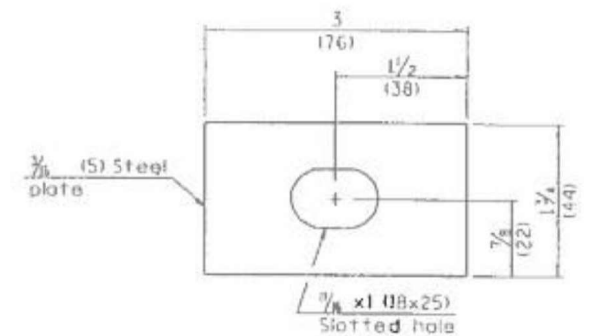
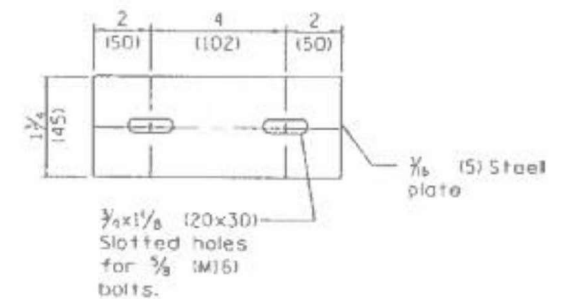
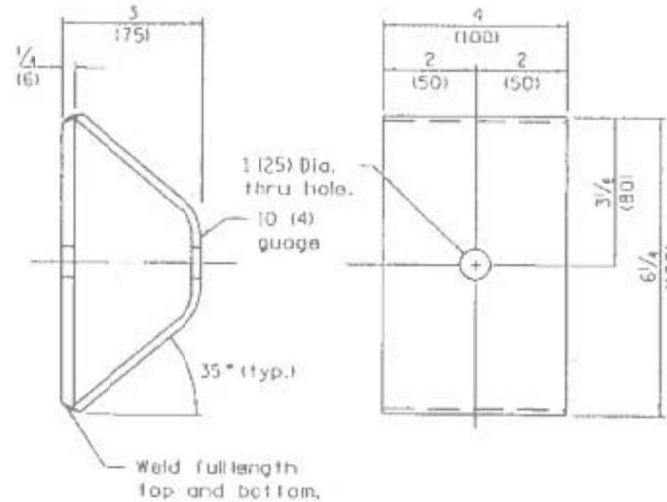
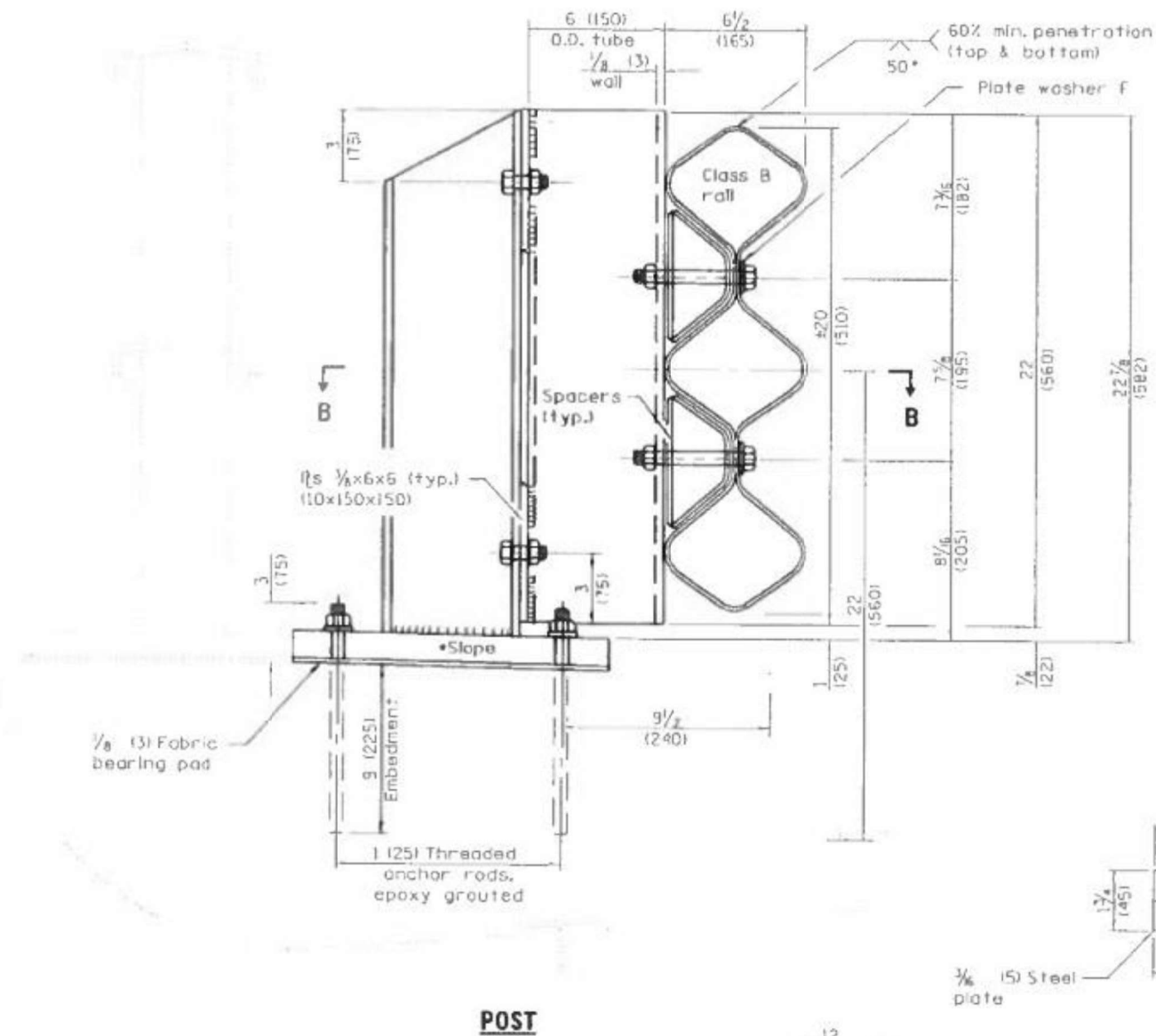
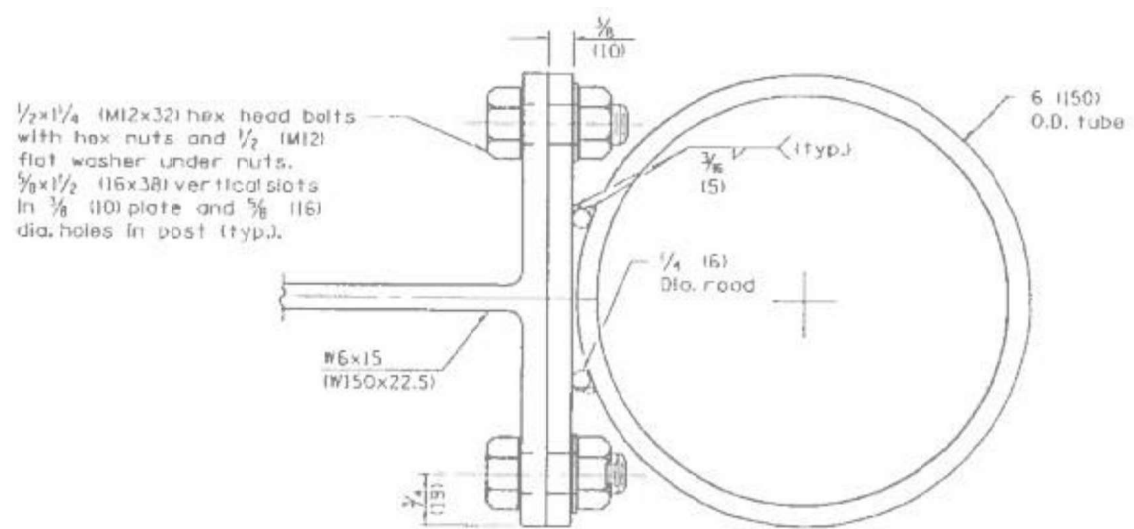
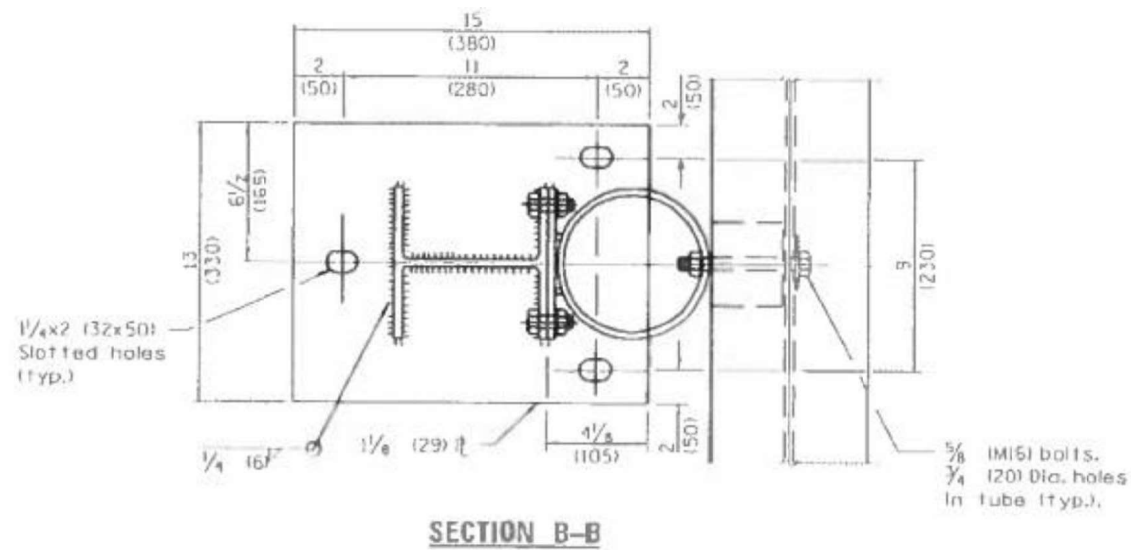
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	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

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

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

PA	SECTION	COUNTY	TOTAL	SHEET
VAR	D4 GUARDRAIL REPAIRS 2025	VARIOUS	27	22
		ILLINOIS	CONTRACT NO. 68J37	



DETAIL INCLUDED FOR REPAIR ONLY

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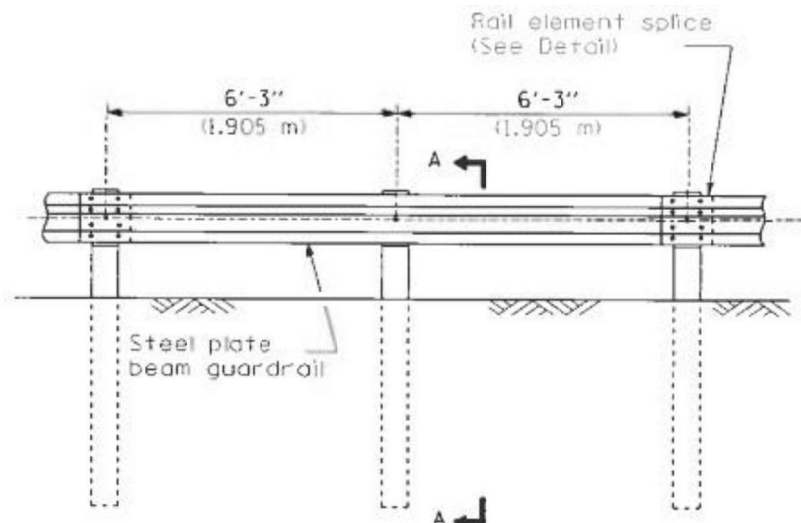
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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

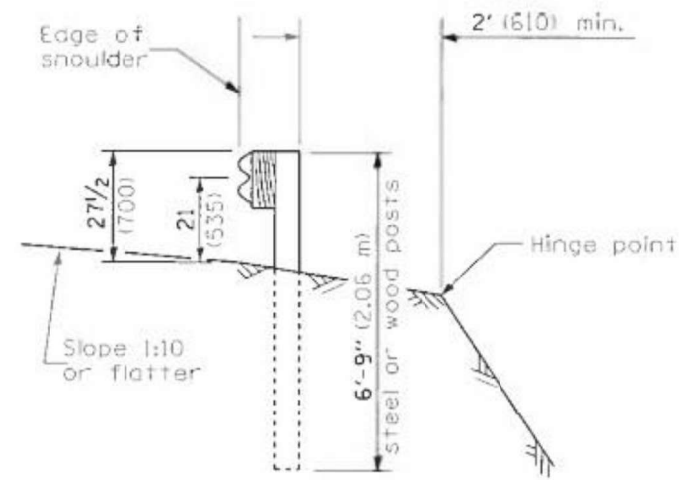
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VAR	D4 GUARDRAIL REPAIRS 2025	VARIOUS	27	23
		ILLINOIS	CONTRACT NO. 68J37	

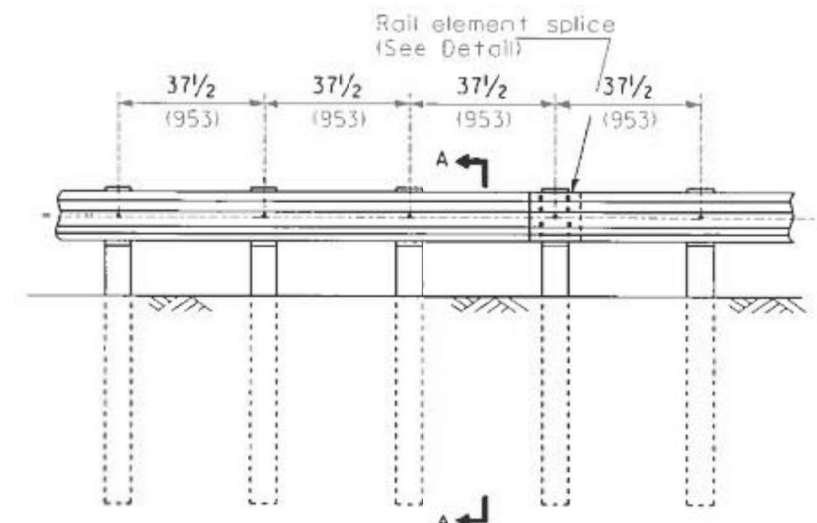


TYPE A

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

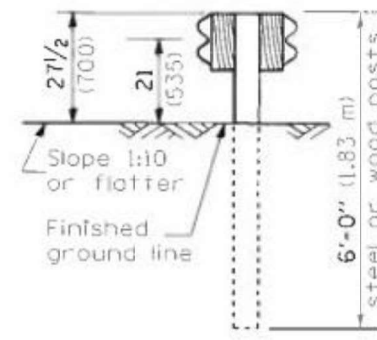


SECTION A-A

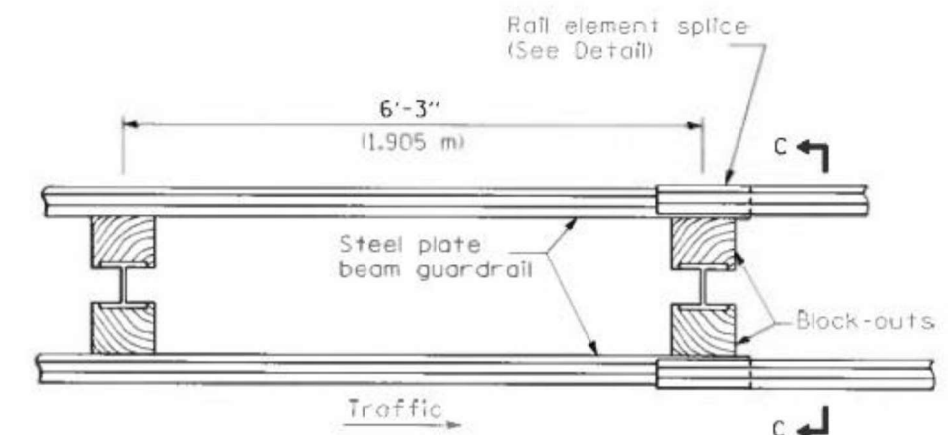


TYPE B

37 1/2 (953) Closed post spacing

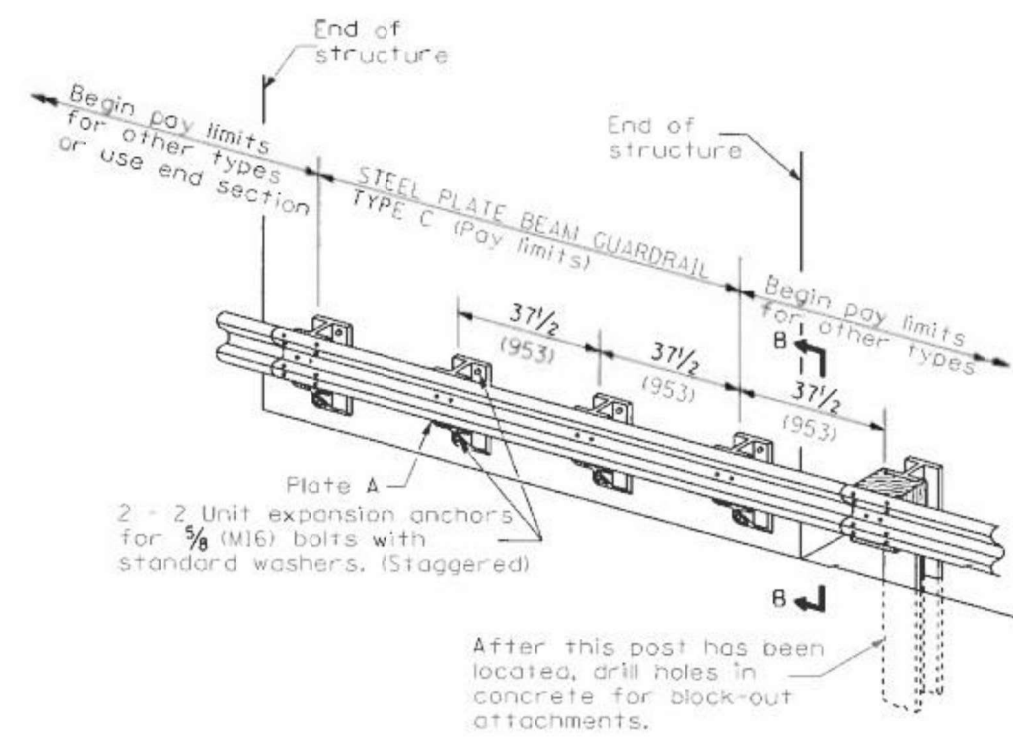


SECTION C-C



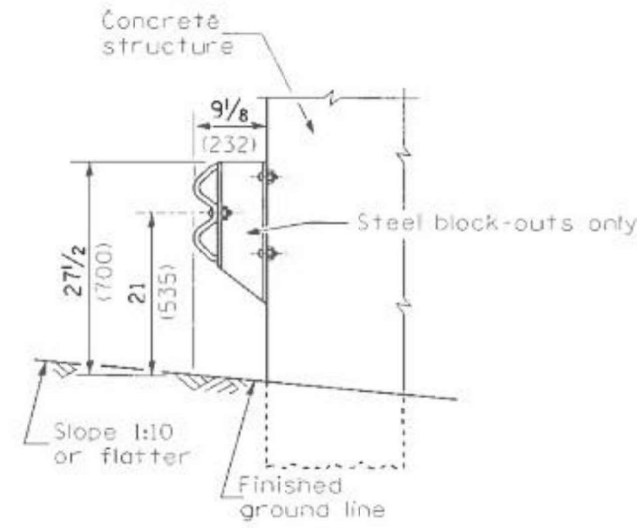
TYPE D

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



TYPE C

37 1/2 (953) Block-out spacing



SECTION B-B

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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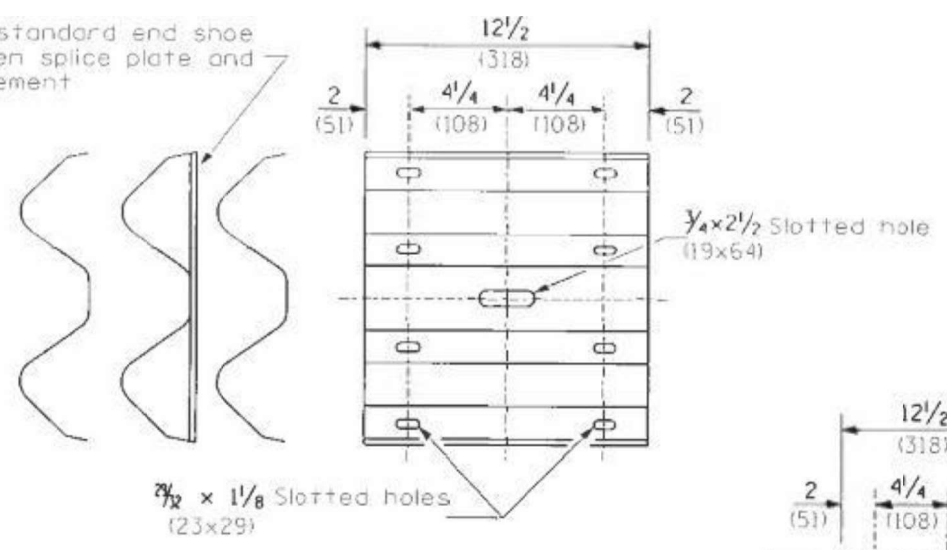
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STEEL PLATE BEAM GUARDRAIL, TYPE A,
6.75 FOOT POSTS**

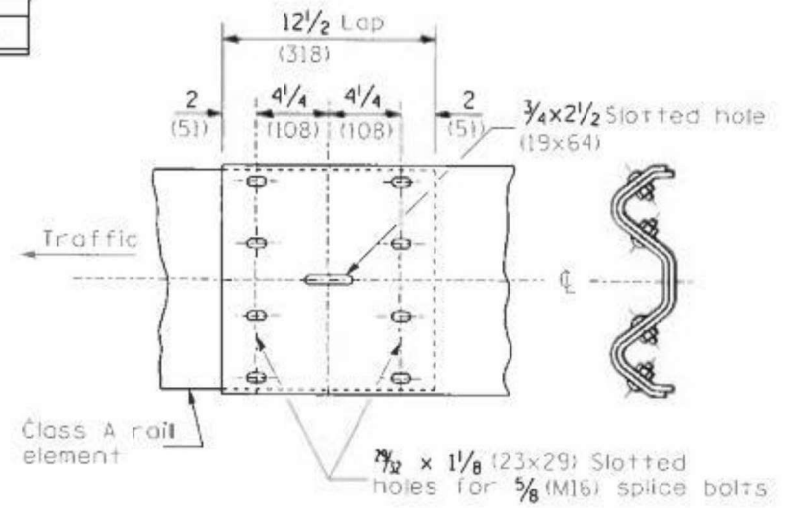
SCALE: SHEET 1 OF 4 SHEETS, STA. TO STA.

PA	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D4 GUARDRAIL REPAIRS 2025	VARIOUS	27	24
		ILLINOIS	CONTRACT NO. 68J37	

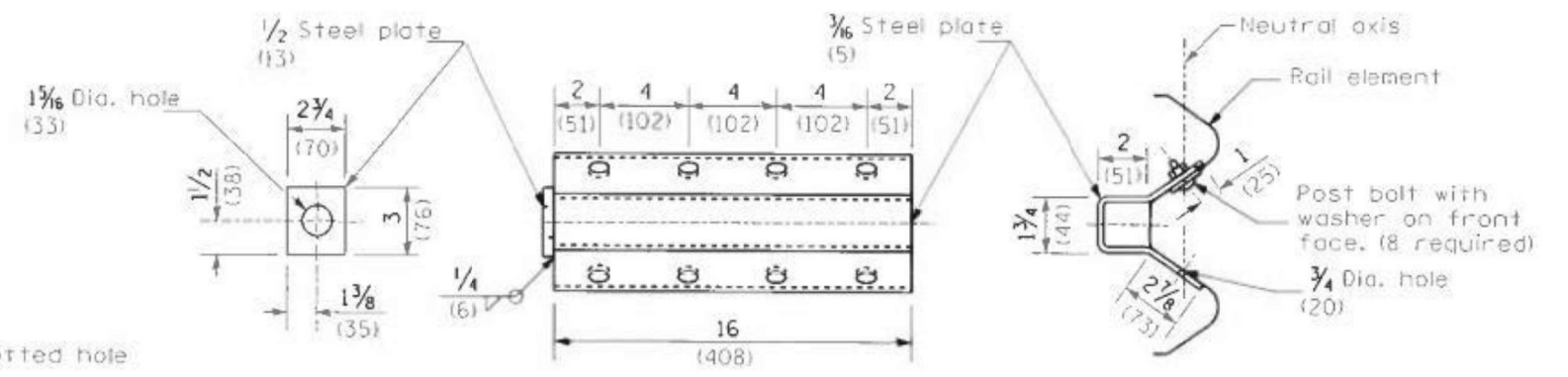
Place standard end shoe between splice plate and rail element



SPLICE PLATE

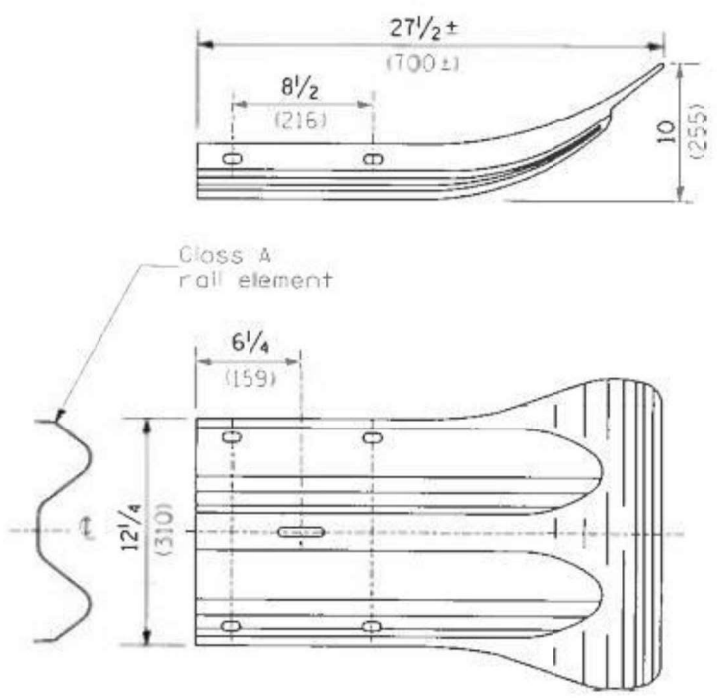


RAIL ELEMENT SPLICE

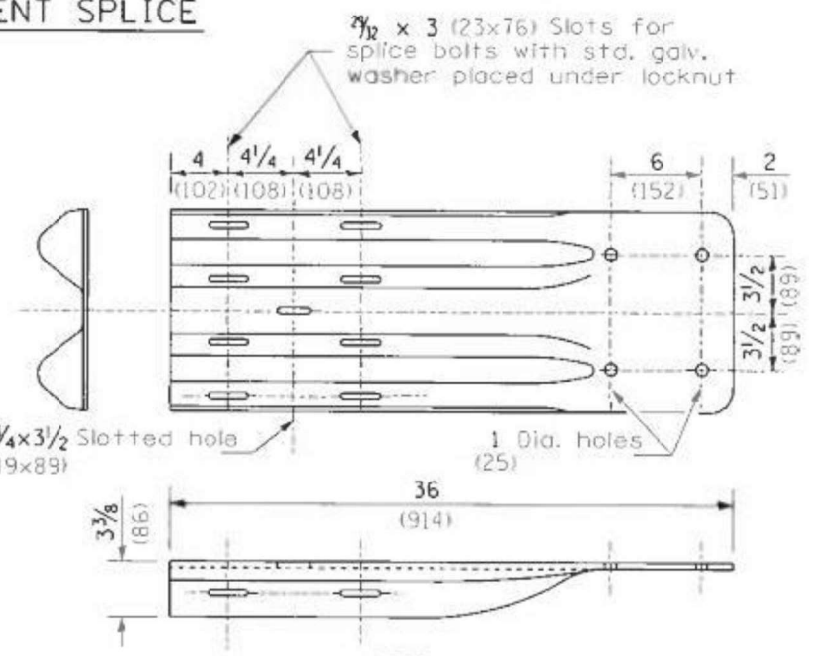


NOTE
Anchor plate T shall be used to attach cable assembly to guardrail when required on traffic barrier terminals.

ANCHOR PLATE T DETAILS



END SECTION

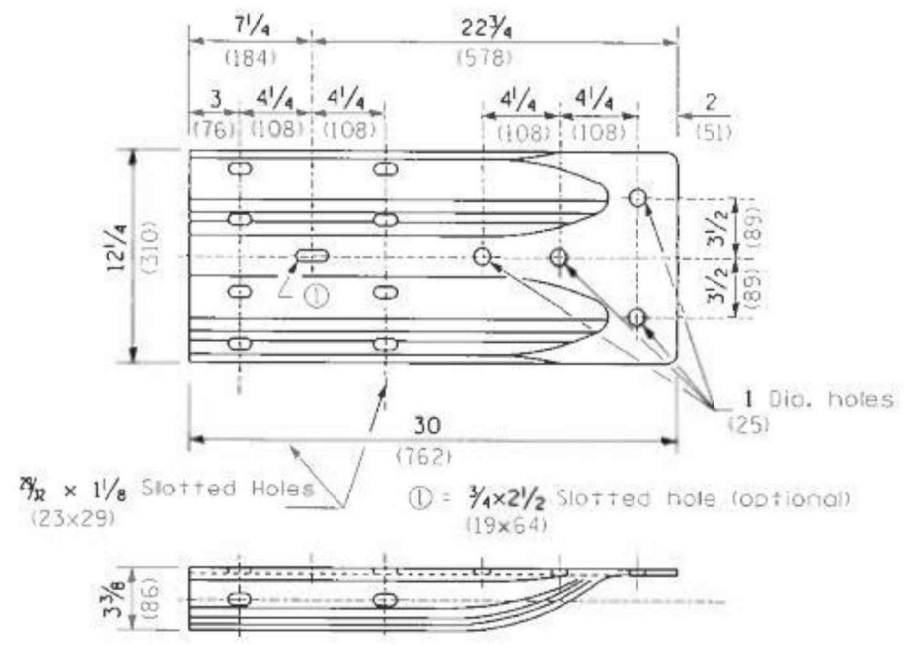


When end shoe is attached to a bridge parapet which has an expansion joint, the bolts shall be provided with a locknut or double nut and shall be tightened only to a point that will allow guardrail movement.

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

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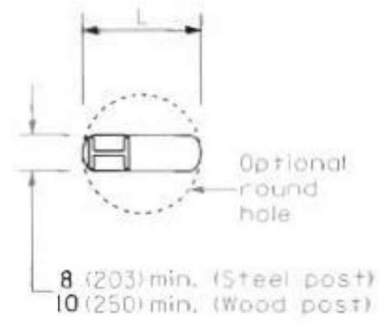
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STEEL PLATE BEAM GUARDRAIL, TYPE A,
6.75 FOOT POSTS**

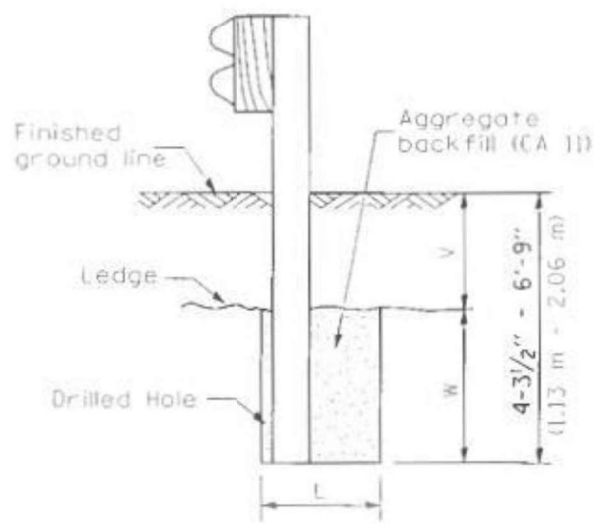
SCALE: SHEET 3 OF 4 SHEETS, STA. TO STA.

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

PA	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D4 GUARDRAIL REPAIRS 2025	VARIOUS	27	26
		ILLINOIS	CONTRACT NO. 68J37	



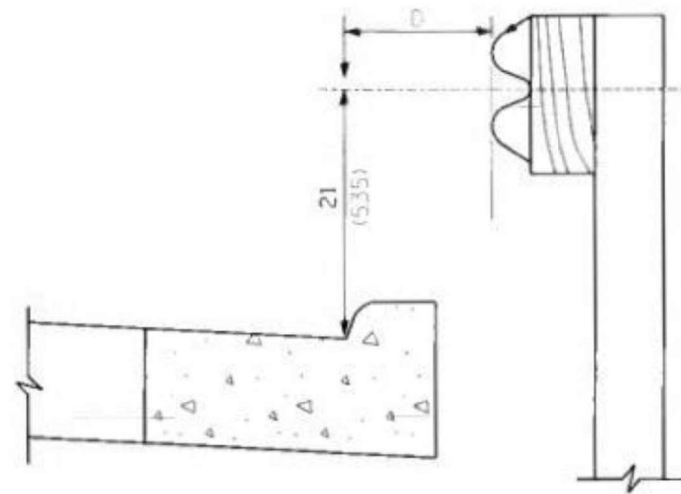
PLAN



Note:
Ledge line is top of rock ledge or hard slag fill.

ELEVATION

FOOTING FOR POST WHEN IMPERVIOUS MATERIAL IS ENCOUNTERED



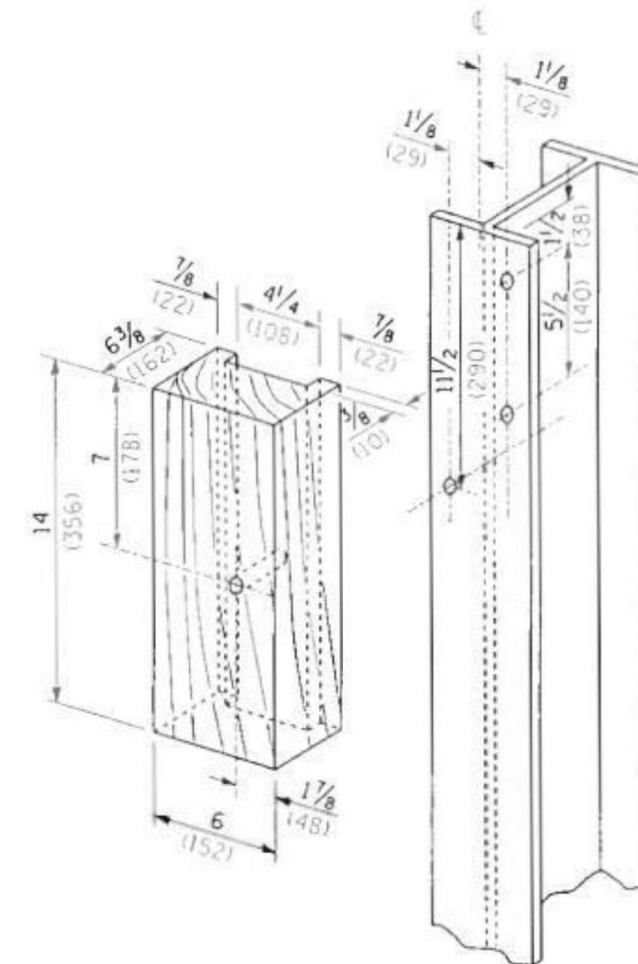
Note:

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.

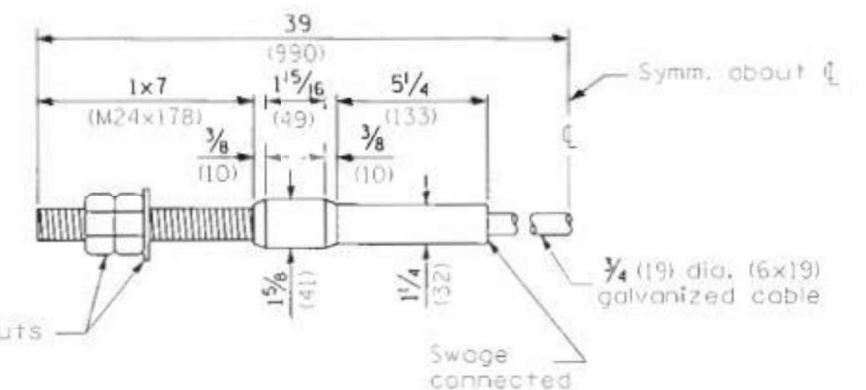
GUARDRAIL PLACED BEHIND CURB

(D = 0 desirable to 12 (300) maximum)

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)



WOOD BLOCK-OUT AND STEEL POST DETAILS



CABLE ASSEMBLY

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

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

MODEL: Default
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PLOT DATE = 10/21/2022	CHECKED -	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STEEL PLATE BEAM GUARDRAIL, TYPE A,
6.75 FOOT POSTS

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

PA	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D4 GUARDRAIL REPAIRS 2025	VARIOUS	27	27
		ILLINOIS	CONTRACT NO. 68J37	