

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	D9 GUARDRAIL REPAIR FY23-1	VARIOUS	20	1
		ILLINOIS	CONTRACT NO. 78892	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

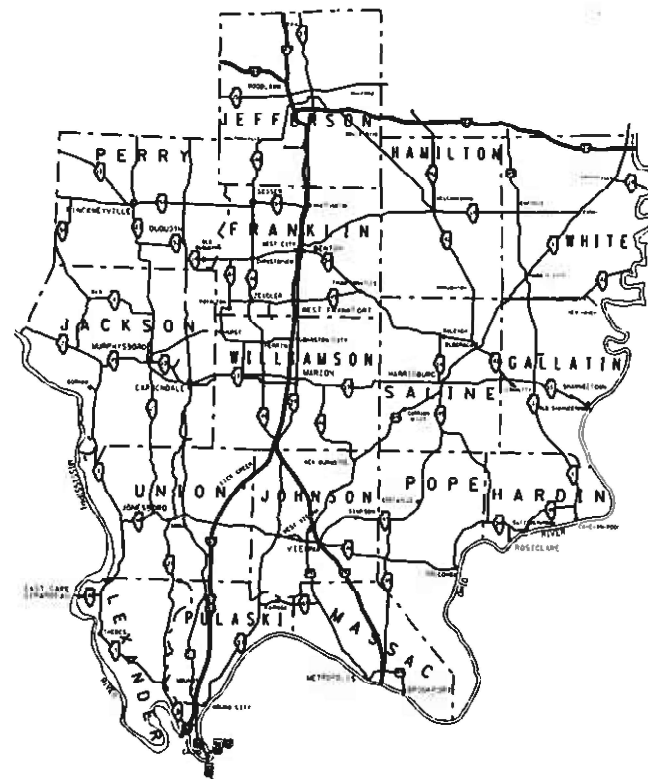
**PROPOSED
HIGHWAY PLANS**

VARIOUS ROUTES
SECTION D9 GUARDRAIL REPAIR FY23-1

GUARDRAIL REPAIR
VARIOUS COUNTIES

C-99-091-21

D-99-069-21



FOR INDEX OF SHEETS, SEE SHEET NO. 3
FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 5

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

PROJECT ENGINEER : SUSAN POE
PROJECT DESIGNER : JOHN BROWN

CONTRACT NO. 78892

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED May 16 20 22
Kirk H. Brown
REGION FIVE ENGINEER

July 1, 2022 [Signature]
ENGINEER OF DESIGN AND ENVIRONMENT

July 1, 2022 [Signature]
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

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DISTRICT PROGRAM DEVELOPMENT ENGINEER

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DISTRICT PROJECT IMPLEMENTATION ENGINEER

Examined By: Daryl J. [Signature]
DISTRICT CONSTRUCTION ENGINEER

Examined By: R. [Signature]
DISTRICT MATERIALS ENGINEER

FILE NAME *	USER NAME * #USERS	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SIGNATURE SHEET		F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
#FILE#		DRAWN -	REVISED -		SCALE:	SHEET OF SHEETS	STA. TO STA.	VAR.	09 GUARDRAIL REPAIR FY23-1	VARIOUS	20	2
#MODELNAME#		CHECKED -	REVISED -									CONTRACT NO. 78892
		DATE -	REVISED -								ILLINOIS FED. AID PROJECT	

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	SIGNATURE SHEET
3	INDEX OF SHEETS, STANDARDS
4	GENERAL NOTES
5 - 7	SUMMARY OF QUANTITIES
8 - 11	STEEL PLATE BEAM GUARDRAIL STANDARD INSTALLED PRIOR TO JANUARY 1, 2007
12 - 14	TRAFFIC BARRIER TERMINAL, TYPE 6 STANDARD INSTALLED PRIOR TO JANUARY 1, 2007
15 -17	TRAFFIC BARRIER TERMINAL, TYPE 6A STANDARD INSTALLED PRIOR TO JANUARY 1, 2007
18 - 19	TRAFFIC BARRIER TERMINAL, TYPE 6B STANDARD INSTALLED PRIOR TO JANUARY 1, 2007
20	CRASH-CUSHION ATTENUATING TERMINAL (C-A-T)

LIST OF STANDARDS

000001-08	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001006	DECIMAL OF AN INCH AND A FOOT
630001-12	STEEL PLATE BEAM GUARDRAIL
630006	NON-BLOCKED STEEL PLATE BEAM GUARDRAIL
630116	BACK SIDE PROTECTION OF GUARDRAIL
630101-10	STRONG POST GUARDRAIL ATTACHED TO CULVERT
630301-09	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631011-10	TRAFFIC BARRIER TERMINAL, TYPE 2
631026-06	TRAFFIC BARRIER TERMINAL, TYPE 5
631031-17	TRAFFIC BARRIER TERMINAL, TYPE 6
631032-09	TRAFFIC BARRIER TERMINAL, TYPE 6A
631033-08	TRAFFIC BARRIER TERMINAL, TYPE 6B
635001-02	DELINEATORS
636001-02	CABLE ROAD GUARD SINGLE STRAND
643001-02	SAND MODULE IMPACT ATTENUATORS
664001-02	CHAIN LINK FENCE
665001-02	WOVEN WIRE FENCE
701001-02	OFF ROAD OPERATIONS, 2L, 2W, MORE THAN 15' AWAY
701006-05	OFF ROAD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
701011-04	OFF ROAD OPERATIONS, 2L, 2W, DAY ONLY

LIST OF STANDARDS

701101-05	OFF ROAD OPERATIONS, MULTILANE, 15' TO 24" FROM PAVEMENT EDGE
701106-02	OFF ROAD OPERATIONS, MULTILANE, MORE THAN 15' AWAY
701201-05	LANE CLOSURE, 2L, 2W, DAY ONLY FOR SPEEDS GREATER OR EQUAL TO 45 MPH
701301-04	LANE CLOSURE, 2L, 2W, SHORT TERM OPERATIONS
701400-11	APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
701401-13	LANE CLOSURE, FREEWAY/EXPRESSWAY
701406-13	LANE CLOSURE, FREEWAY/EXPRESSWAY, DAY OPERATIONS ONLY
701421-08	LANE CLOSURE, MULTILANE, DAY OPERATIONS ONLY FOR SPEEDS GREATER OR EQUAL TO 45 MPH
701422-10	LANE CLOSURE, MULTILANE, FOR SPEEDS GREATER THAN OR EQUAL TO 45 MPH TO 55 MPH
701428-01	TRAFFIC CONTROL SETUP AND REMOVAL FREEWAY/EXPRESSWAY
701451-05	RAMP CLOSURE FREEWAY EXP
701456-05	PARTIAL EXIT RAMP CLOSURE FREEWAY/EXPRESSWAY
701501-06	URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED
701502-09	URBAN LANE CLOSURE, 2L, 2W, WITH BIDIRECTIONAL LEFT TURN LANE
701601-09	URBAN LANE CLOSURE, MULTILANE, 1W AND 2W WITH NONTRAVERSABLE MEDIAN
701602-10	URBAN LANE CLOSURE, MULTILANE, 2W WITH BIDIRECTIONAL LEFT TURN LANE
701606-10	URBAN SINGLE LANE CLOSURE, MULTILANE, 2W WITH MOUNTABLE MEDIAN
701701-10	URBAN LANE CLOSURE, MULTILANE INTERSECTION
701901-08	TRAFFIC CONTROL DEVICE
725001-01	OBJECT AND TERMINAL MARKERS
782006-01	GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS

FILE NAME =	USER NAME = #USER#	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INDEX OF SHEETS & LIST OF STANDARDS			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
#FILEL#		DRAWN -	REVISED -					VAR.	D9 GUARDRAIL REPAIR FY23-1	VARIOUS	20	3
#MODELNAME#		CHECKED -	REVISED -		SCALE: SHEET OF SHEETS STA. TO STA.			ILLINOIS FED. AID PROJECT				
		DATE -	REVISED -		CONTRACT NO. 78892							

GENERAL NOTES

BEFORE ORDERING THE IMPACT ATTENUATORS, THE CONTRACTOR MUST CONTACT THE RESIDENT ENGINEER TO RECEIVE APPROVAL OF THE PROPOSED INSTALLATION.

ALL WORK IS TO BE REPLACED IN KIND OR AS INDICATED ON THE CONTRACT PLANS OR SPECIAL PROVISIONS.

THE LOCATIONS OF THE REPAIR AREAS SHALL BE DETERMINED BY THE ENGINEER.

GUARDRAIL WORK WILL INCLUDE ALIGNMENT AS NECESSARY TO RESTORE THE RAIL TO THE ORIGINAL CONDITIONS.

REMOVAL OF DAMAGED MATERIALS WILL INCLUDE DISMANTLING, LOADING, HAULING AND DISPOSAL. THE WORK SITE WILL BE LEFT IN A SAFE AND ORDERLY CONDITION.

THE LIMITS OF THE DAMAGED GUARDRAIL WILL BE MARKED WITH PAINT. THE REPLACEMENT PARTS AND THE QUANTITIES INDICATED ARE WITHIN THESE LIMITS AS MARKED.

REMOVED GUARDRAIL THAT IS NOT REPLACED ON THE SAME DAY MUST BE DELINEATED WITH LIGHTED BARRICADES. NO LOCATIONS WILL BE LEFT WITHOUT EITHER LIGHTED BARRICADES OR RESTORED GUARDRAIL AT ANY TIME.

ILLINOIS STATE LAW ENFORCES A 48-HOUR NOTICE TO BE GIVEN TO UTILITIES BEFORE DIGGING. FIELD MARKING OF FACILITIES MAY BE OBTAINED BY CONTACTING J.U.L.I.E. (PHONE: 800 892-0123) OR FOR NON-MEMBER, THE UTILITY COMPANY DIRECTLY.

THE CONTRACTOR SHALL BE ADVISED THAT THE GUARDRAIL PAY ITEMS INCLUDED IN THE PLANS MAY BE USED TO REPLACE/REPAIR SPBGR AND TRAFFIC BARRIER TERMINALS FOR THE NEW MIDWEST STANDARD AS SHOWN ON THE HIGHWAY STANDARDS AS WELL AS SPBGR AND TRAFFIC BARRIER TERMINAL INSTALLED PRIOR TO JAN. 1, 2007 AS SHOWN IN THE PLAN DETAILS. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR UTILIZING THE CURRENT MIDWEST STANDARDS.

COMMITMENTS

NONE

FILE NAME =	USER NAME = \$USER\$	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL NOTES & COMMITMENTS			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
\$FILEL\$		DRAWN -	REVISED -					VAR.	D9 GUARDRAIL REPAIR FY23-1	VARIOUS	20	4
\$MODELNAME\$		CHECKED -	REVISED -		CONTRACT NO. 78892			ILLINOIS FED. AID PROJECT				
		DATE -	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.	

SUMMARY OF QUANTITIES

CODE NUMBER	ITEM DESCRIPTION	UNIT	COUNTY:	COUNTY:	VARIOUS	VARIOUS	VARIOUS
			ROUTE:	ROUTE:	VARIOUS	VARIOUS	VARIOUS
			FUNDING:	FUNDING:	100% STATE	100% STATE	100% STATE
			LOCATION:	LOCATION:	RURAL	RURAL	RURAL
			TOTAL QUANTITY	MCHD 0021	HIT AND RUN 0021	HIGH TENSION CABLE 0021	
25000100	SEEDING, CLASS 1	ACRE	11	5	4	2	
63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	70	50	20		
63100169	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) FLARED	EACH	12	8	4		
64300260	IMPACT ATTENUATORS (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	7	4	3		
64401300	HIGH TENSION CABLE MEDIAN BARRIER TERMINALS	EACH	15	6	6	3	
67100100	MOBILIZATION	L SUM	1	1			
X0325899	REPAIR HIGH TENSION CABLE (GIBRALTAR)	FOOT	440	191	139	110	
X0325900	REPAIR HIGH TENSION BARRIER TERMINAL (GIBRALTAR)	EACH	15	7	4	4	
X0325902	REMOVE AND REPLACE POSTS (GIBRALTAR)	EACH	116	41	30	45	
X0326201	REPAIR HIGH TENSION CABLE (TRINITY)	FOOT	429	191	138	100	
X0326202	REPAIR POSTS (TRINITY)	EACH	75	35	27	13	
X0326203	REPAIR HIGH TENSION CABLE SYSTEM END SECTION (TRINITY)	EACH	13	6	3	4	
X6300210	GUARDRAIL BLOCKS	EACH	440	326	114		

REV. - MS

FILE NAME =	USER NAME = \$USER\$	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.				
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		CHECKED -	REVISED -								CONTRACT NO. 78892					
MODELNAME		DATE -	REVISED -								ILLINOIS FED. AID PROJECT					

SUMMARY OF QUANTITIES - CONT

CODE NUMBER	ITEM DESCRIPTION	UNIT	COUNTY:	COUNTY:	VARIOUS	VARIOUS	VARIOUS
			ROUTE:	ROUTE:	VARIOUS	VARIOUS	VARIOUS
			FUNDING:	FUNDING:	100% STATE	100% STATE	100% STATE
			LOCATION:	LOCATION:	RURAL	RURAL	RURAL
			TOTAL QUANTITY	MCHD 0021	HIT AND RUN 0021	HIGH TENSION CABLE 0021	
X6300215	RAIL ELEMENT PLATES	EACH	201	180	21		
X6300217	RAIL ELEMENT PLATES (RADIUS)	EACH	13	9	4		
X6300220	EXTRUDER HEAD	EACH	8	5	3		
X6300230	STEEL POSTS	EACH	202	180	22		
X6300231	STEEL POST, ATTACHED TO STRUCTURES	EACH	4	4			
X6300235	WOOD POSTS	EACH	34	18	16		
X6310088	TRAFFIC BARRIER TERMINAL TYPE 6A (SPECIAL)	EACH	6	6			
X6310176	TRAFFIC BARRIER TERMINAL, TYPE 2 (SPECIAL)	EACH	7	7			
X6310214	TRAFFIC BARRIER TERMINAL, TYPE 6 (SPECIAL)	EACH	7	7			
X6311215	TRAFFIC BARRIER TERMINAL (C-A-T)	EACH	9	6	3		
X6311217	TRAFFIC BARRIER TERMINAL, TYPE 6B (SPECIAL)	EACH	7	7			
X6331110	STEEL POSTS, SPECIAL	EACH	4	4			
X6430210	REMOVE AND REINSTALL IMPACT ATTENUATORS	EACH	31	25	6		
X6640298	CHAIN LINK FENCE (SPECIAL)	FOOT	179	111	68		

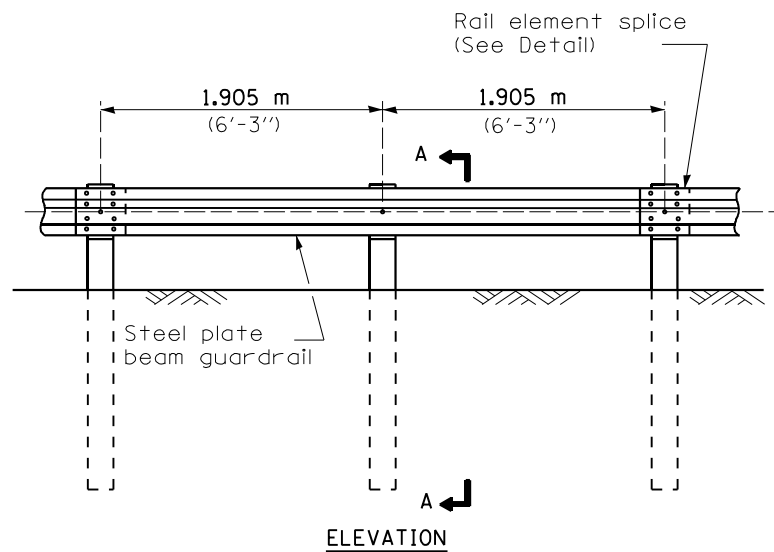
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MODELNAME		DATE -	REVISED -		ILLINOIS FED. AID PROJECT											

SUMMARY OF QUANTITIES - CONT

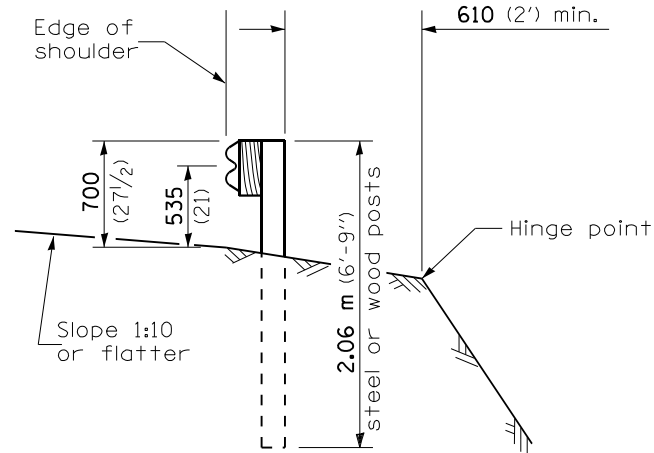
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		ROUTE:	ROUTE:	VARIOUS	VARIOUS	VARIOUS
		FUNDING:	FUNDING:	100% STATE	100% STATE	100% STATE
		LOCATION:	LOCATION:	RURAL	RURAL	RURAL
CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	MCHD 0021	HIT AND RUN 0021	HIGH TENSION CABLE 0021
X6650208	WOVEN WIRE FENCE REMOVAL AND REPLACEMENT	FOOT	111	111		
X7010102	NIGHTTIME WORK ZONE LIGHTING	EACH	45	25	20	
X7011834	TRAFFIC CONTROL AND PROTECTION, CALL OUT WORK	EACH	49	29	20	
X7011836	TRAFFIC CONTROL AND PROTECTION, FREEWAY/EXPRESSWAY, CALL OUT WORK	EACH	48	24	22	2
Z0052410	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL (TANGENT)	EACH	24	15	9	
Z0052415	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL (FLARED)	EACH	9	6	3	
Z0053200	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	8	5	3	
Z0053210	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	6	6		
Z0053220	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 6B	EACH	6	6		

REV. - MS

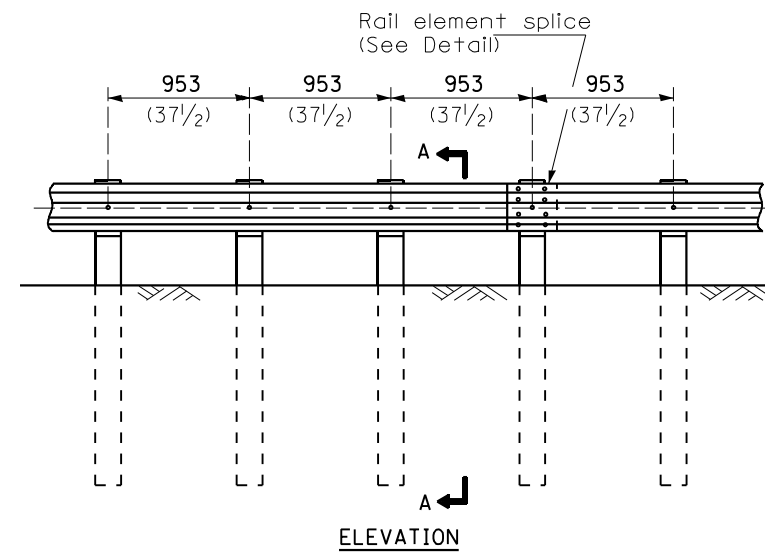


TYPE A

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

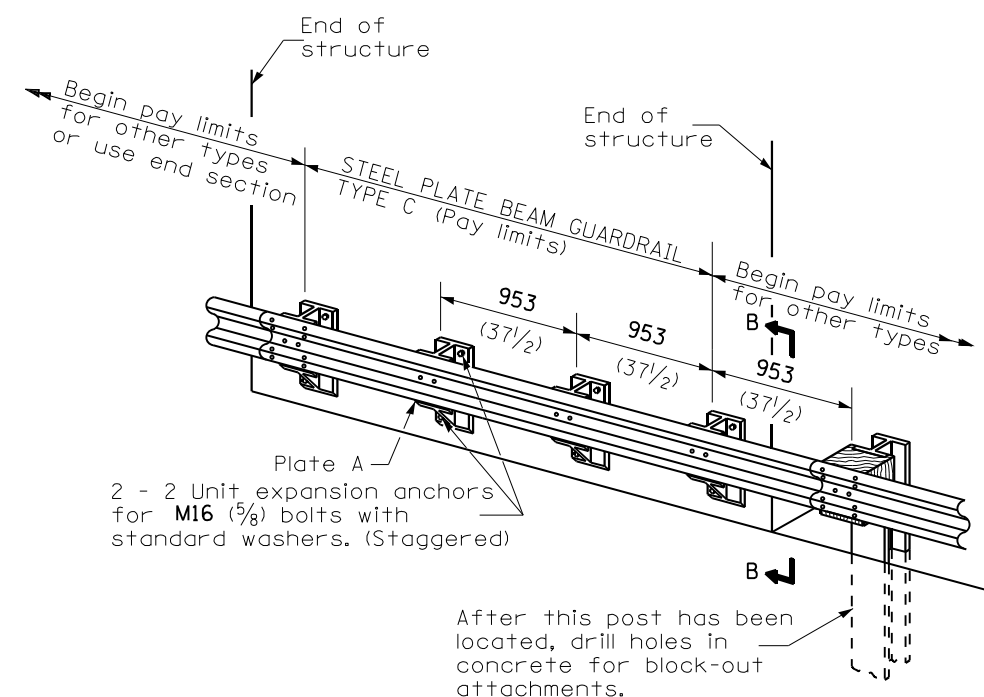


SECTION A-A



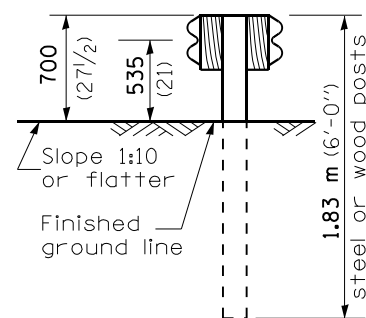
TYPE B

953 (37 1/2) Closed post spacing

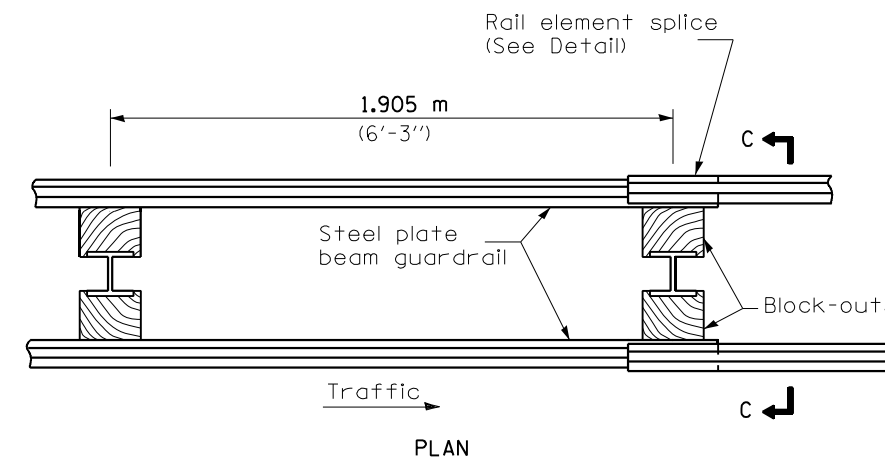


TYPE C

953 (37 1/2) Block-out spacing

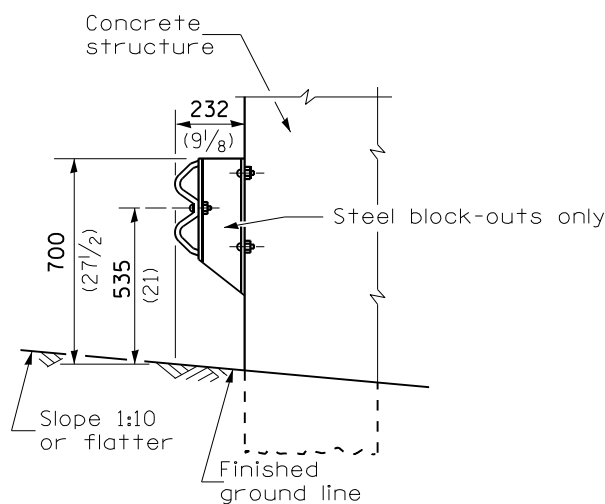


SECTION C-C



TYPE D

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



SECTION B-B

THIS DETAIL IS APPLICABLE TO THE GUARDRAIL
INSTALLED PRIOR TO JANUARY 1, 2007.

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.

DATE	REVISIONS
4-1-06	Deleted plate washer F.
1-1-05	Rev. post in impervious material on sheet 4.

STEEL PLATE BEAM GUARDRAIL

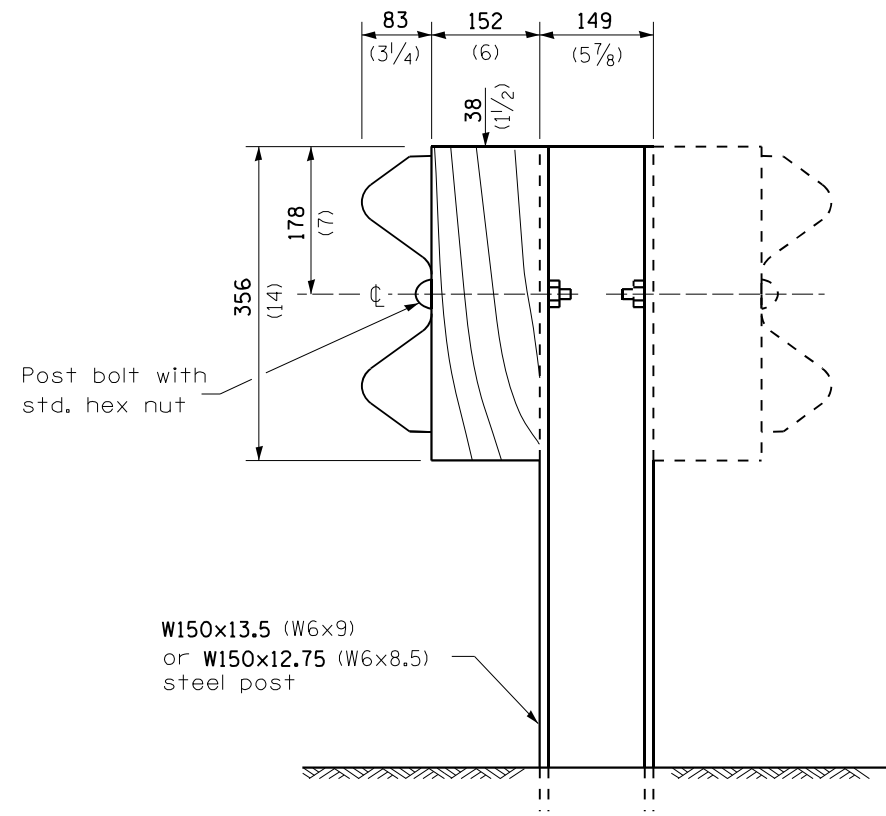
(Sheet 1 of 4)

STANDARD 630001-06

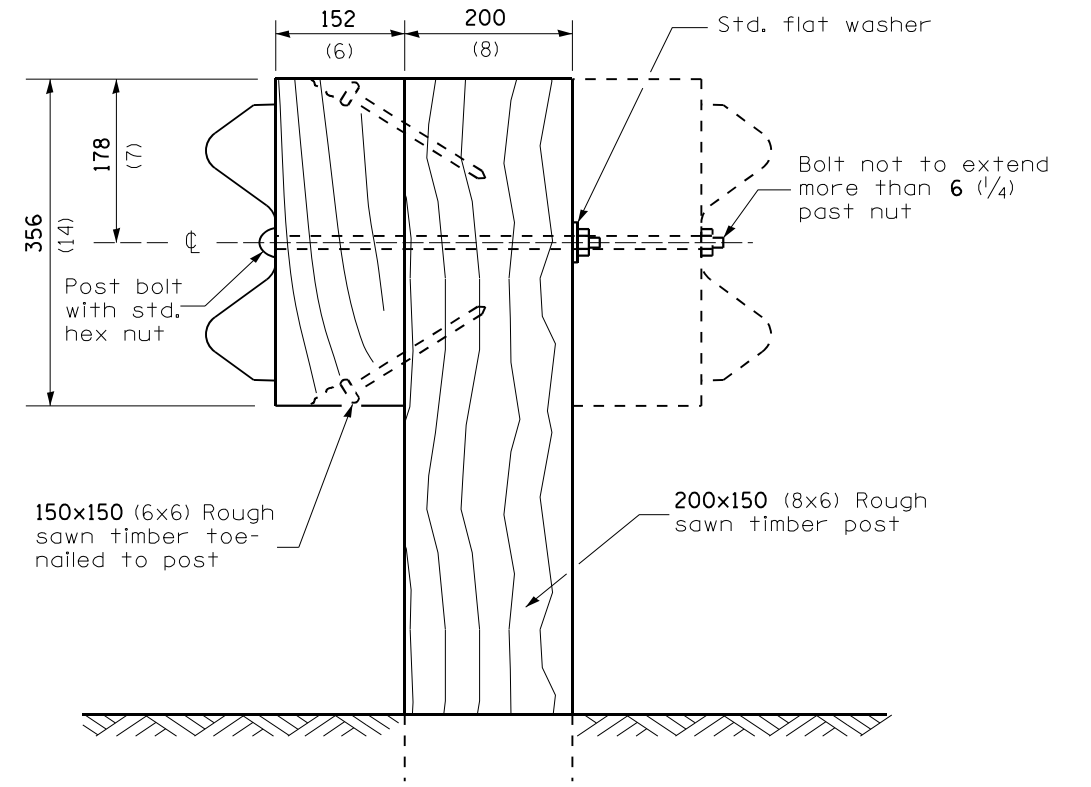
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SCALE: SHEET OF SHEETS STA. TO STA.

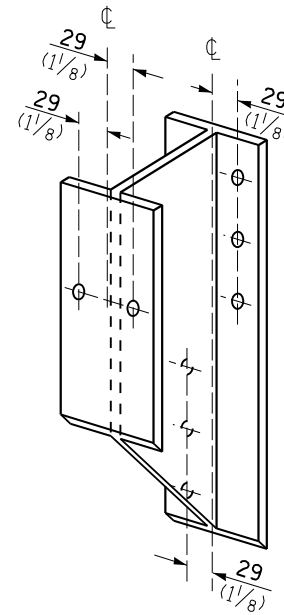
ILLINOIS FED. AID PROJECT



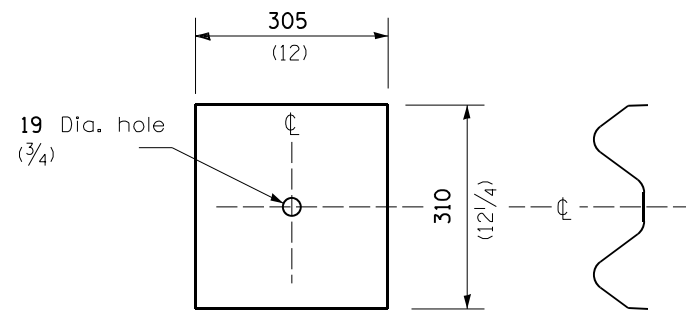
STEEL POST CONSTRUCTION



WOOD POST CONSTRUCTION



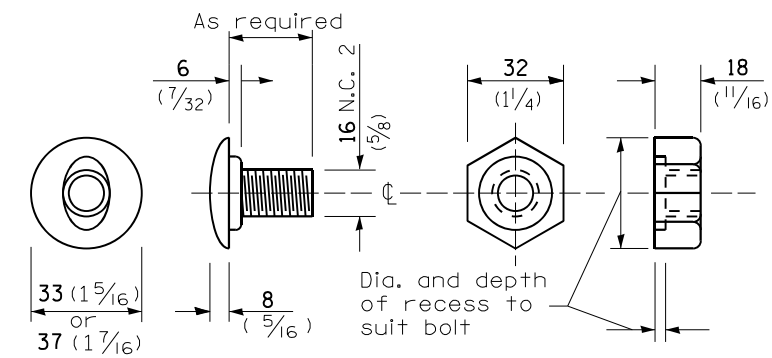
STEEL BLOCK-OUT DETAIL



NOTE

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

PLATE A



POST OR SPLICE BOLT & NUT

THIS DETAIL IS APPLICABLE TO THE GUARDRAIL INSTALLED PRIOR TO JANUARY 1, 2007.

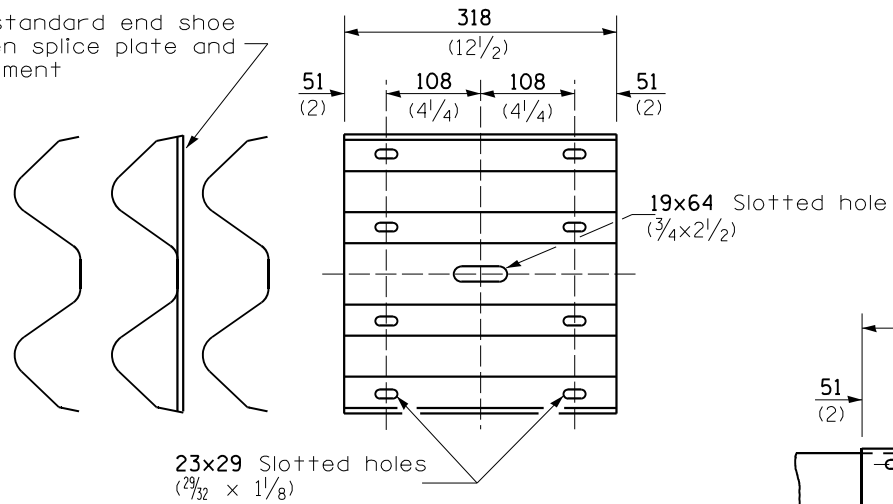
STEEL PLATE BEAM GUARDRAIL

(Sheet 2 of 4)

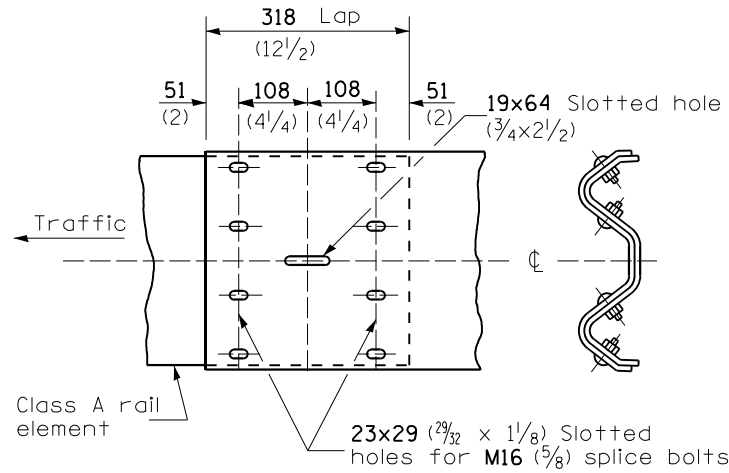
STANDARD 630001-06

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MODELNAME	PLOT SCALE = #SCALE*	CHECKED -	REVISED -			CONTRACT NO. 78892					
	PLOT DATE = #DATE*	DATE -	REVISED -			ILLINOIS FED. AID PROJECT					
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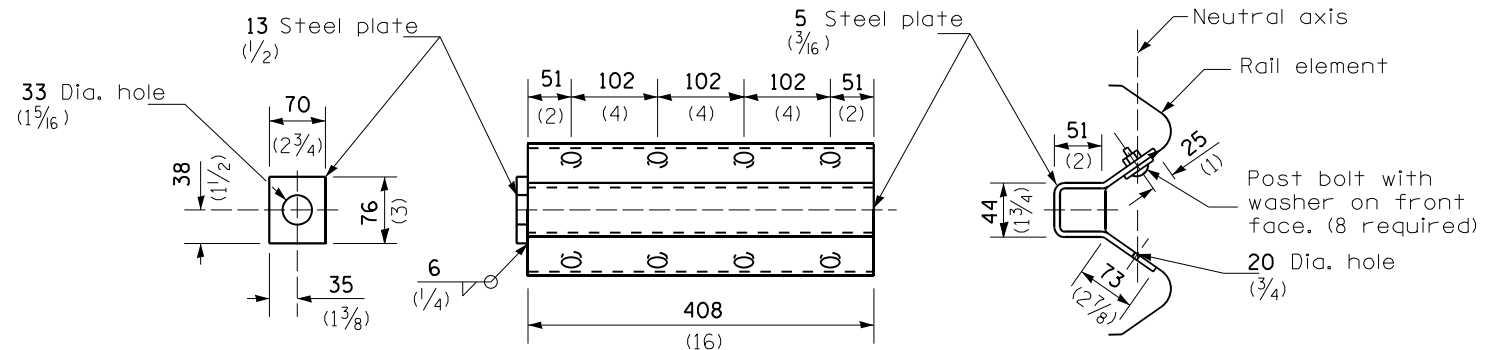
Place standard end shoe between splice plate and rail element



SPLICE PLATE

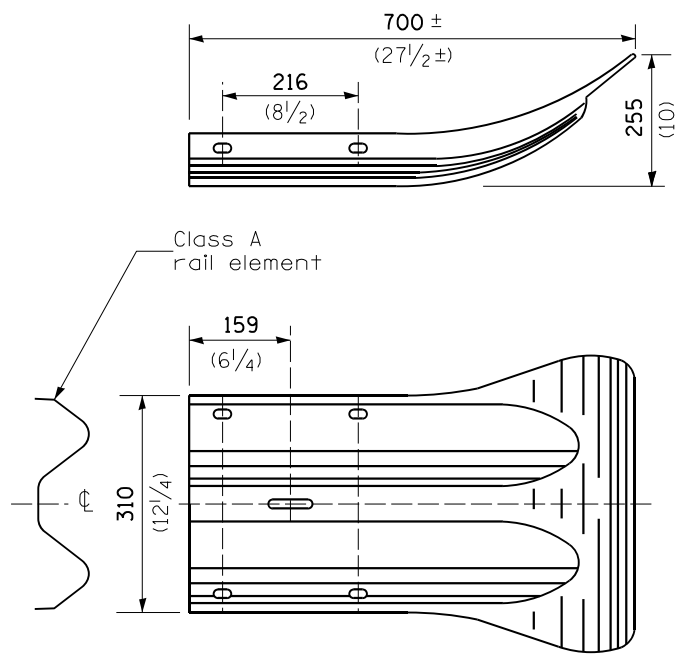


RAIL ELEMENT SPLICE

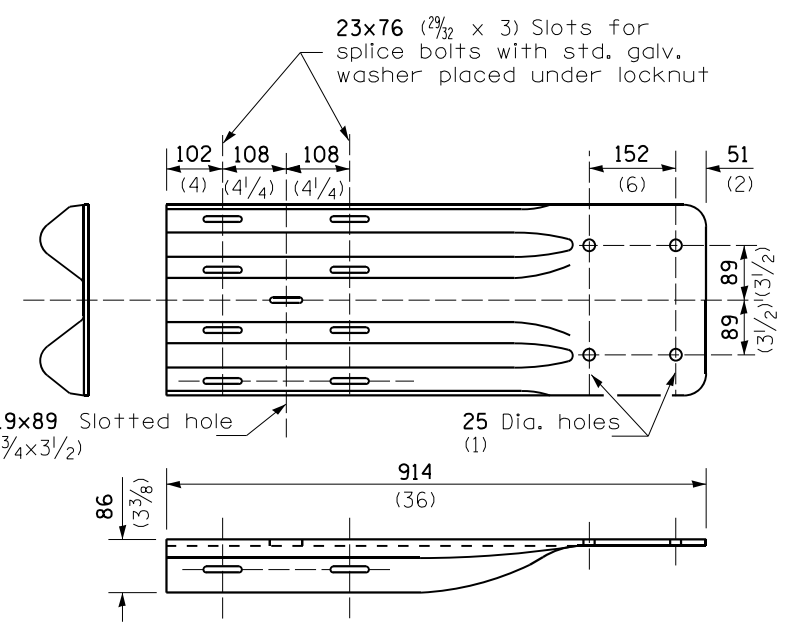


NOTE
Anchor plate T shall be used to attach cable assembly to guardrail when required on traffic barrier terminals.

ANCHOR PLATE T DETAILS



END SECTION



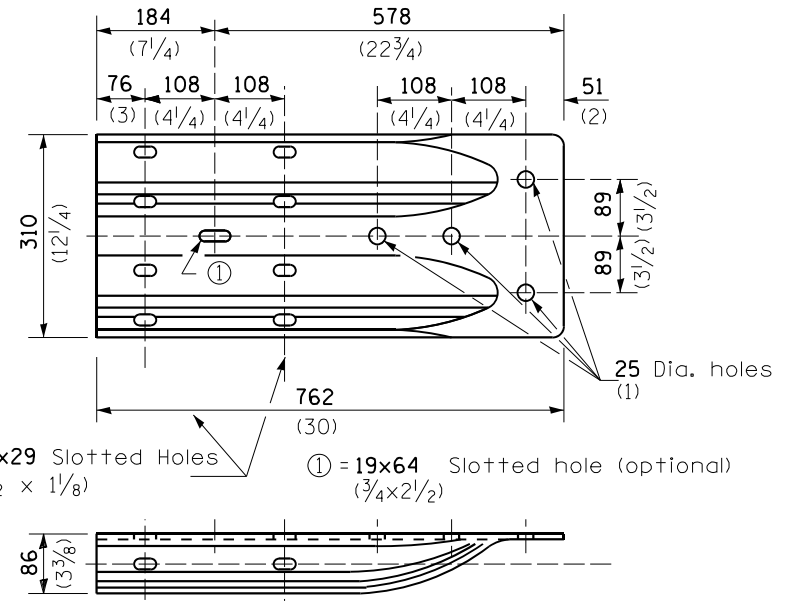
NOTE

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

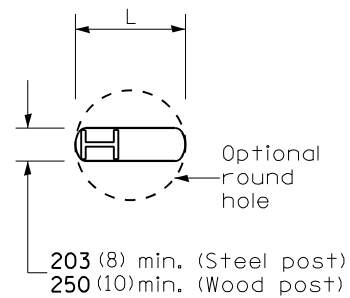


ALTERNATE END SHOE

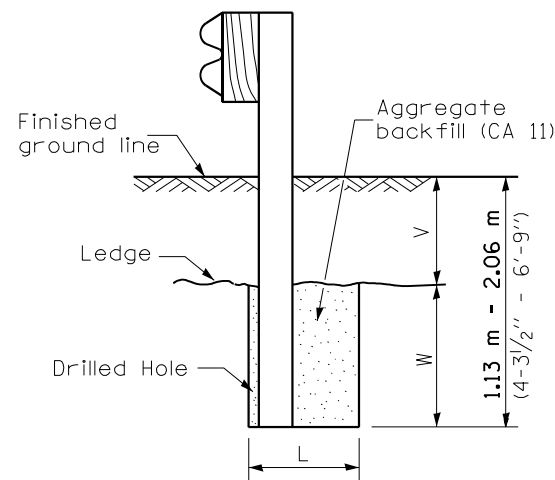
THIS DETAIL IS APPLICABLE TO THE GUARDRAIL INSTALLED PRIOR TO JANUARY 1, 2007.

STEEL PLATE BEAM GUARDRAIL
(Sheet 3 of 4)
STANDARD 630001-06

FILE NAME =	USER NAME = #USER*	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STEEL PLATE BEAM GUARDRAIL STANDARD INSTALLED PRIOR TO JANUARY 1, 2007	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
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#MODELNAME#		CHECKED -	REVISED -			CONTRACT NO. 78892					
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					



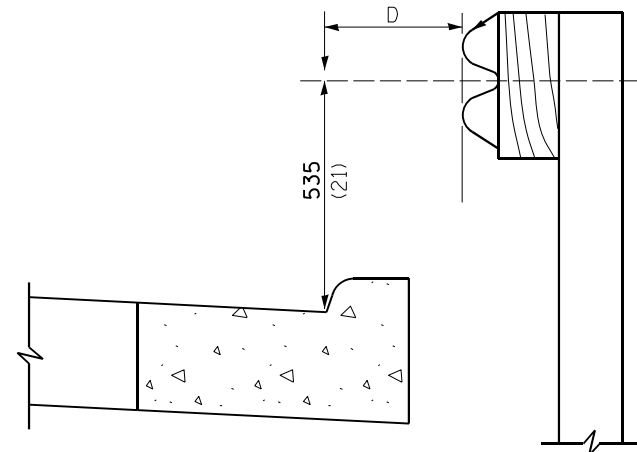
PLAN



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

ELEVATION

FOOTING FOR POST WHEN IMPERVIOUS MATERIAL IS ENCOUNTERED

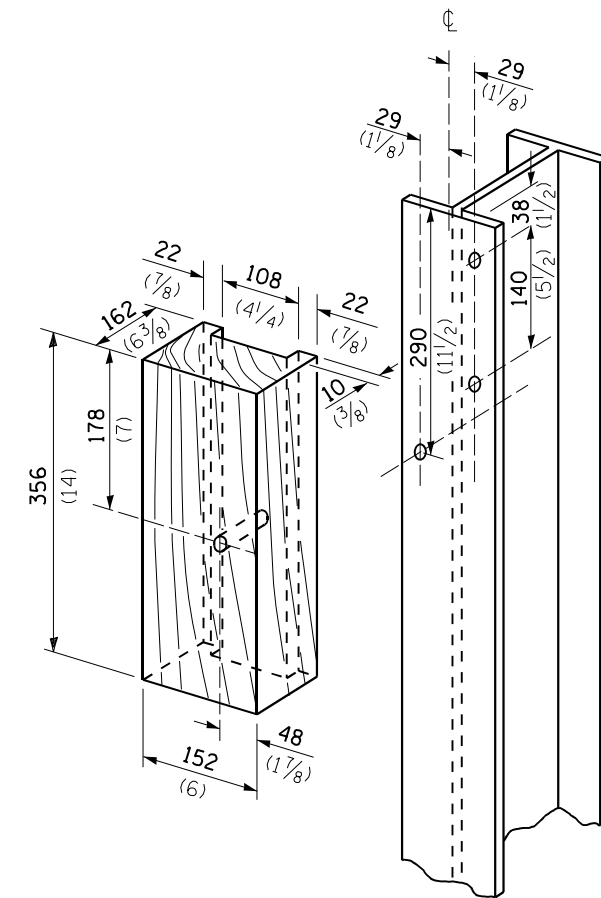


Note:

If it is necessary for D to be more than 300 (12) and less than 3.0 m (10'-0") type M-5 (M-2) curb and gutter (Std. 606001) shall be used in front of and in advance of the guardrail.

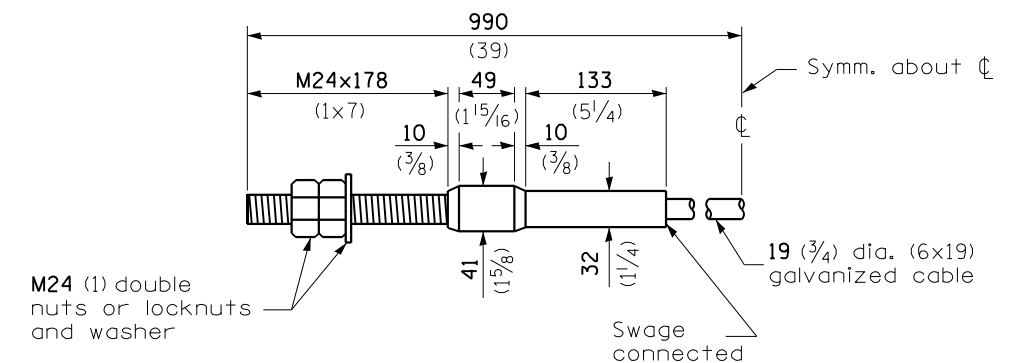
GUARDRAIL PLACED BEHIND CURB

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



WOOD BLOCK-OUT AND STEEL POST DETAILS

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



CABLE ASSEMBLY

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

STEEL PLATE BEAM GUARDRAIL

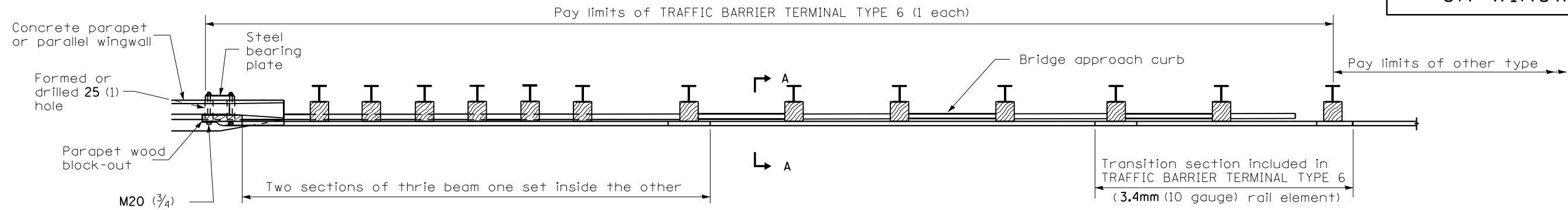
(Sheet 4 of 4)

STANDARD 630001-06

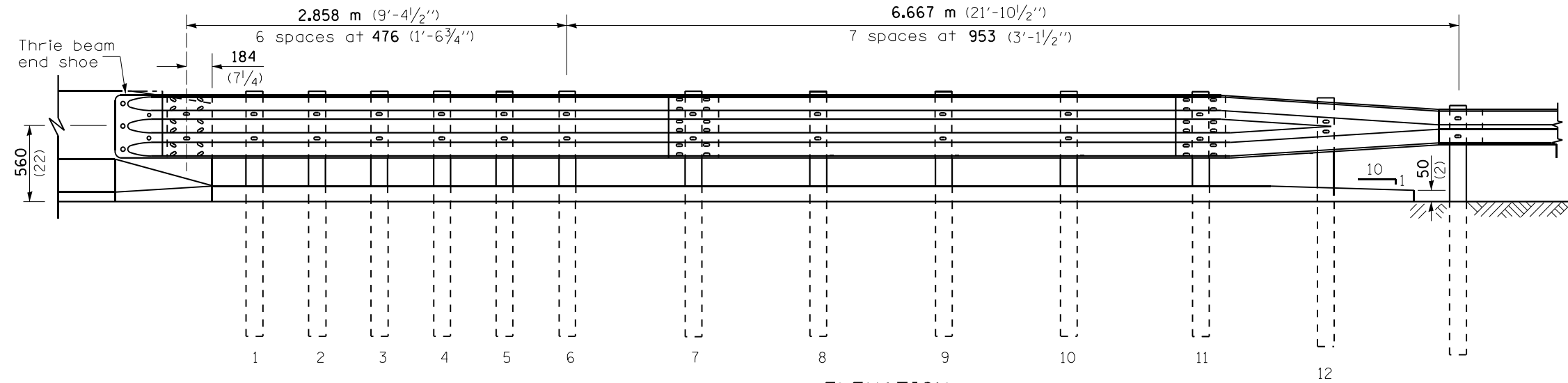
THIS DETAIL IS APPLICABLE TO THE GUARDRAIL
INSTALLED PRIOR TO JANUARY 1, 2007.

FILE NAME =	USER NAME = #USER*	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STEEL PLATE BEAM GUARDRAIL STANDARD INSTALLED PRIOR TO JANUARY 1, 2007	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
#FILE#		DRAWN -	REVISED -			VAR.	D9 GUARDRAIL REPAIR FY23-1	VARIOUS	20	11	
#MODELNAME#		CHECKED -	REVISED -			CONTRACT NO. 78892					
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					
		PLOT SCALE = #SCALE*		SCALE:							
		PLOT DATE = #DATE*		SHEET OF SHEETS STA. TO STA.							

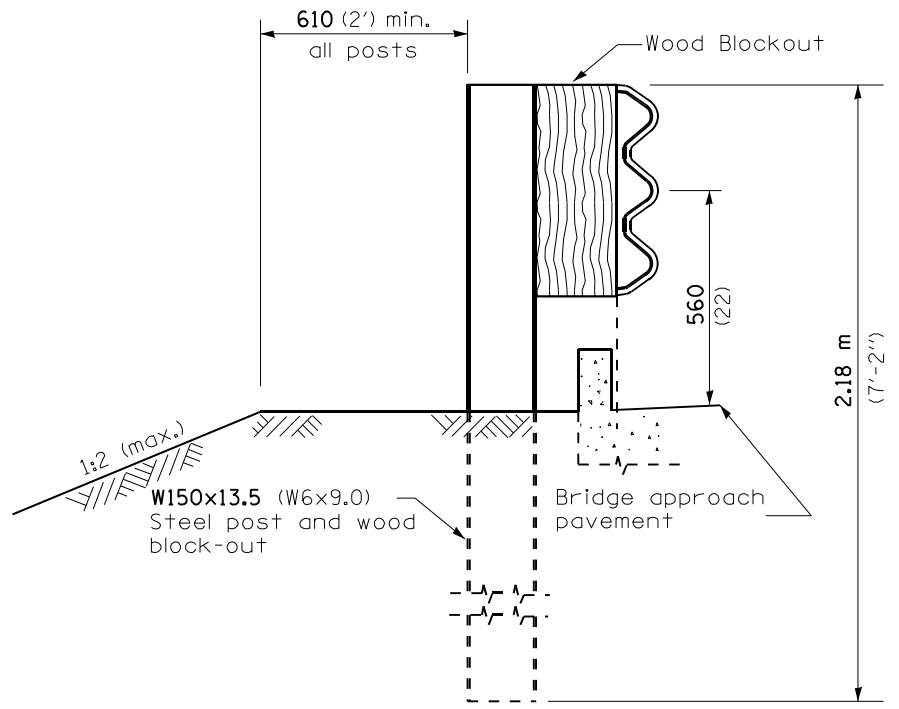
PARAPET
OR WINGWALL



PLAN



ELEVATION



SECTION A-A

GENERAL NOTES

- See Standard 630001 for details of guardrail not shown.
- Thrie beam rail shall be bolted to block-out at all posts.
- See Standard 420401 for details of bridge approach pavement.
- 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.

THIS DETAIL IS APPLICABLE TO THE GUARDRAIL
INSTALLED PRIOR TO JANUARY 1, 2007.

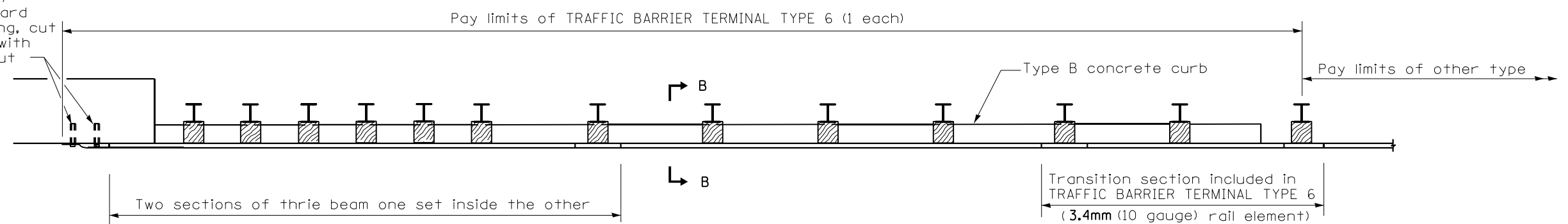
TRAFFIC BARRIER
TERMINAL, TYPE 6

Sheet 1 of 3

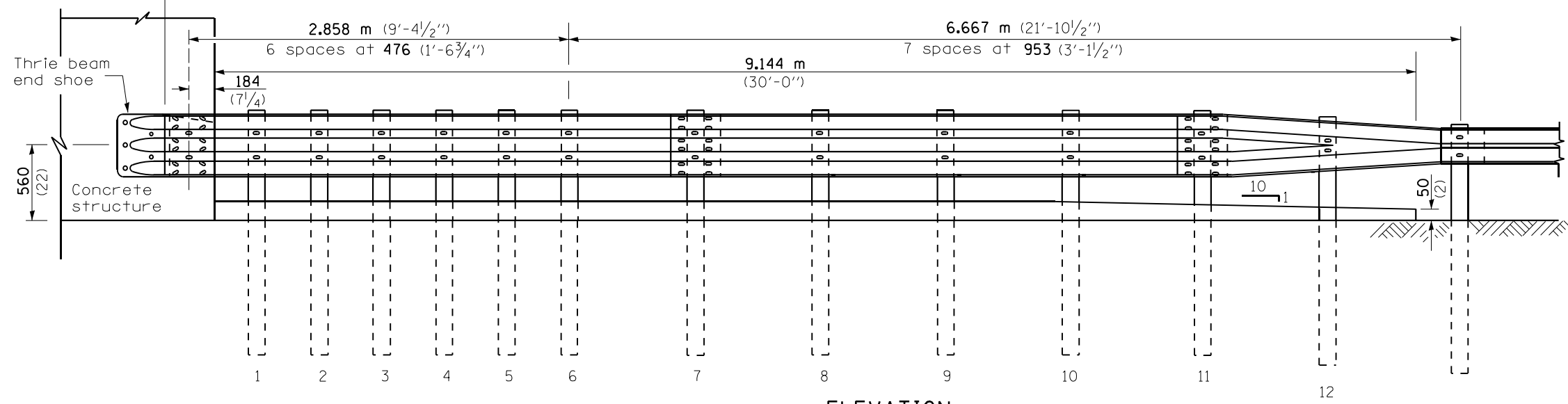
STANDARD 631031-05

FILE NAME = *FILEL*	USER NAME = *USER*	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC BARRIER TERMINAL, TYPE 6 STANDARD INSTALLED PRIOR TO JANUARY 1, 2007	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		DRAWN -	REVISED -			VAR.	D9 GUARDRAIL REPAIR FY23-1	VARIOUS	20	12	
		CHECKED -	REVISED -			CONTRACT NO. 78892					
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					
MODELNAME	PLOT DATE = *DATE*			SCALE:	SHEET OF SHEETS	STA. TO STA.					

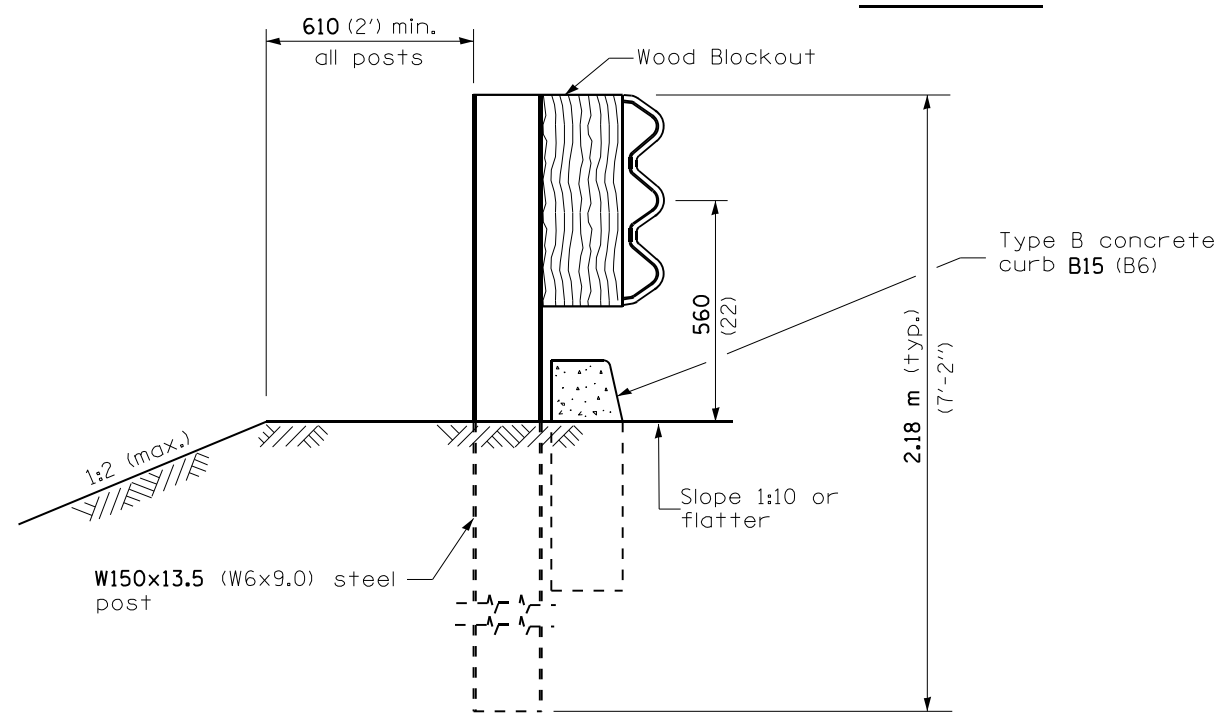
5 Epoxy grouted M20 (¾) anchor bolts with standard washers. After tightening, cut the anchor bolts flush with nuts, and damage the nut to prevent it from loosening.



PLAN



ELEVATION



SECTION B-B

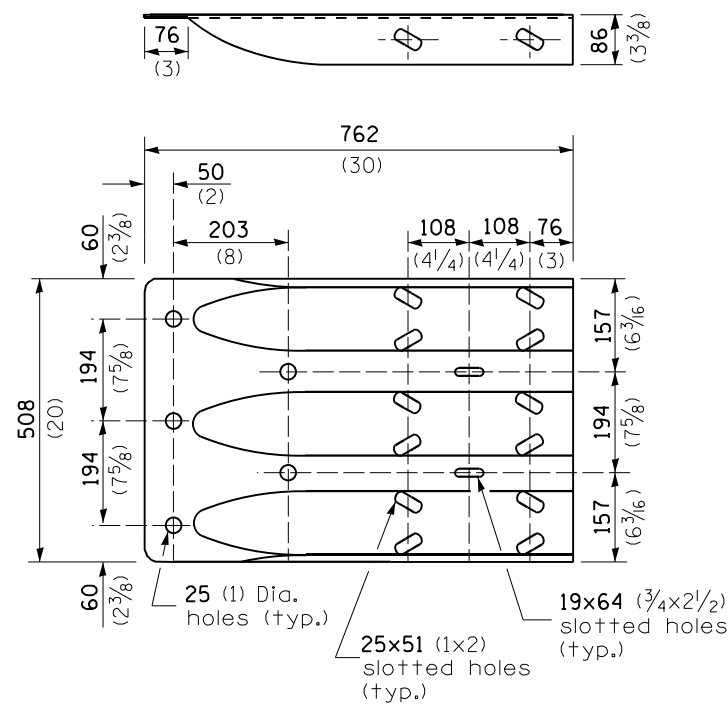
THIS DETAIL IS APPLICABLE TO THE GUARDRAIL INSTALLED PRIOR TO JANUARY 1, 2007.

TRAFFIC BARRIER TERMINAL, TYPE 6

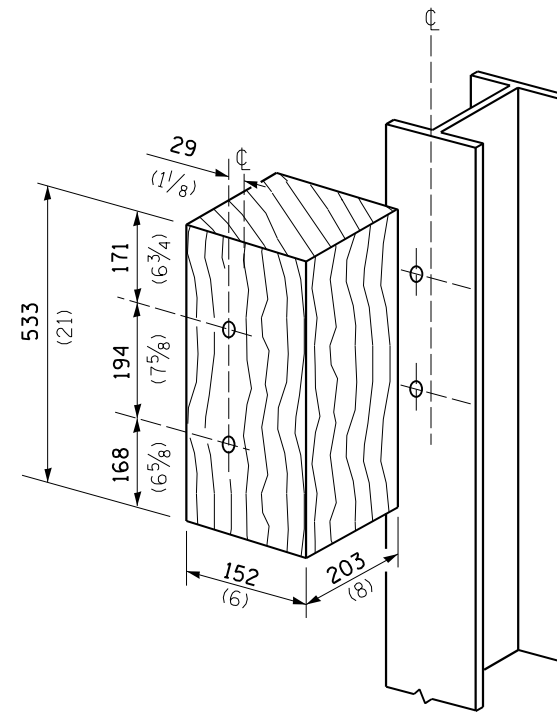
Sheet 2 of 3

STANDARD 631031-05

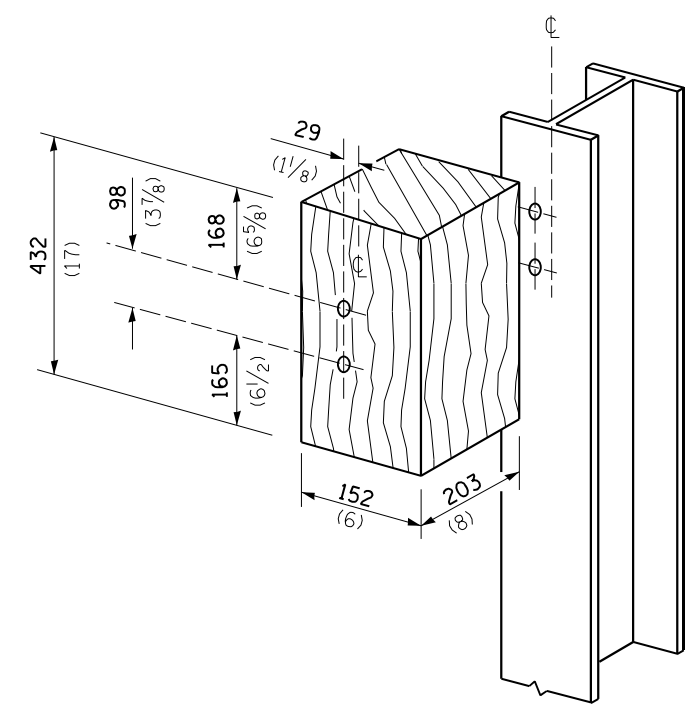
FILE NAME =	USER NAME = *USER*	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC BARRIER TERMINAL, TYPE 6 STANDARD INSTALLED PRIOR TO JANUARY 1, 2007	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
FILEL		DRAWN -	REVISED -			VAR.	D9 GUARDRAIL REPAIR FY23-1	VARIOUS	20	13	
MODELNAME		CHECKED -	REVISED -			CONTRACT NO. 78892					
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					
					SCALE:	SHEET	OF	SHEETS	STA.	TO STA.	



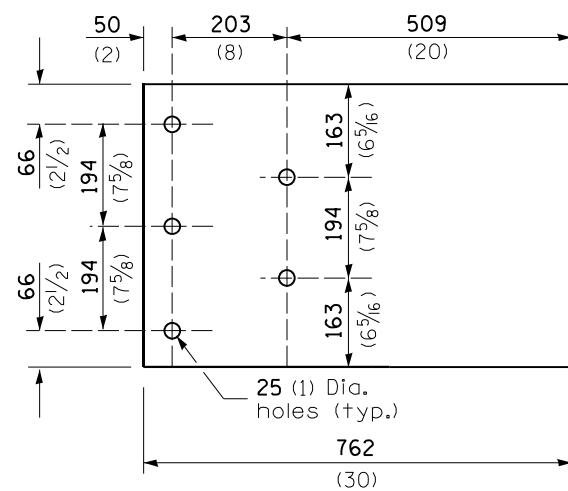
THRIE BEAM END SHOE DETAIL



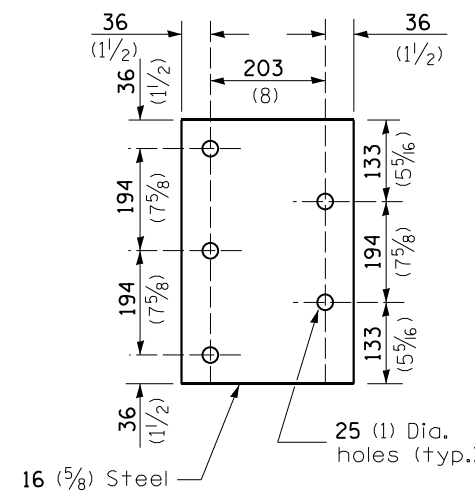
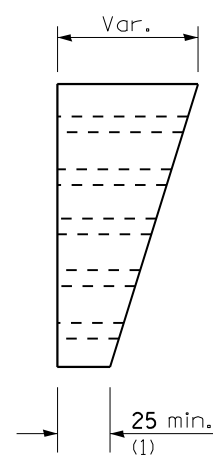
POSTS 1-11 WOOD BLOCKOUT DETAIL



POST 12 WOOD BLOCKOUT DETAIL



PARAPET WOOD BLOCK-OUT DETAIL



PARAPET STEEL BEARING PLATE DETAIL

(5 each individual 125x125x16 (5x5x5/8) steel plates with centered 25 (1) holes may be substituted for the plate shown.)

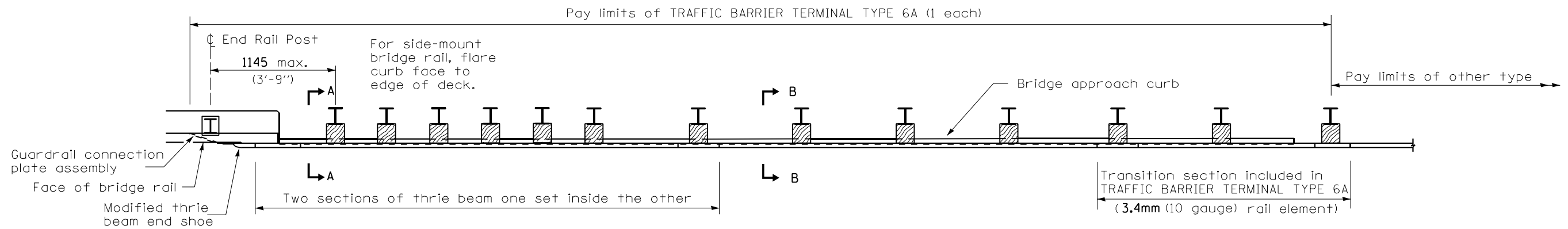
THIS DETAIL IS APPLICABLE TO THE GUARDRAIL
INSTALLED PRIOR TO JANUARY 1, 2007.

TRAFFIC BARRIER
TERMINAL, TYPE 6

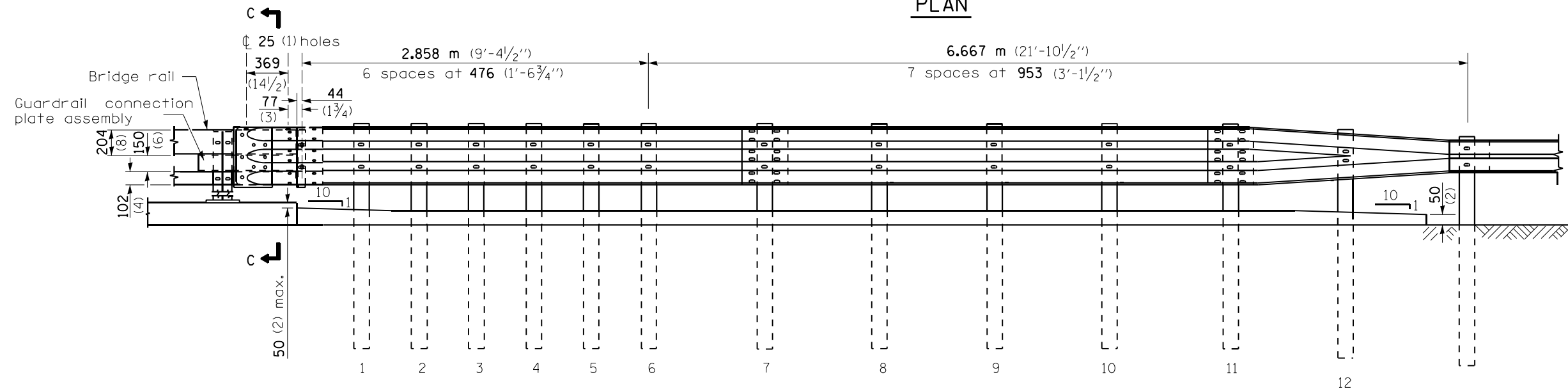
Sheet 3 of 3

STANDARD 631031-05

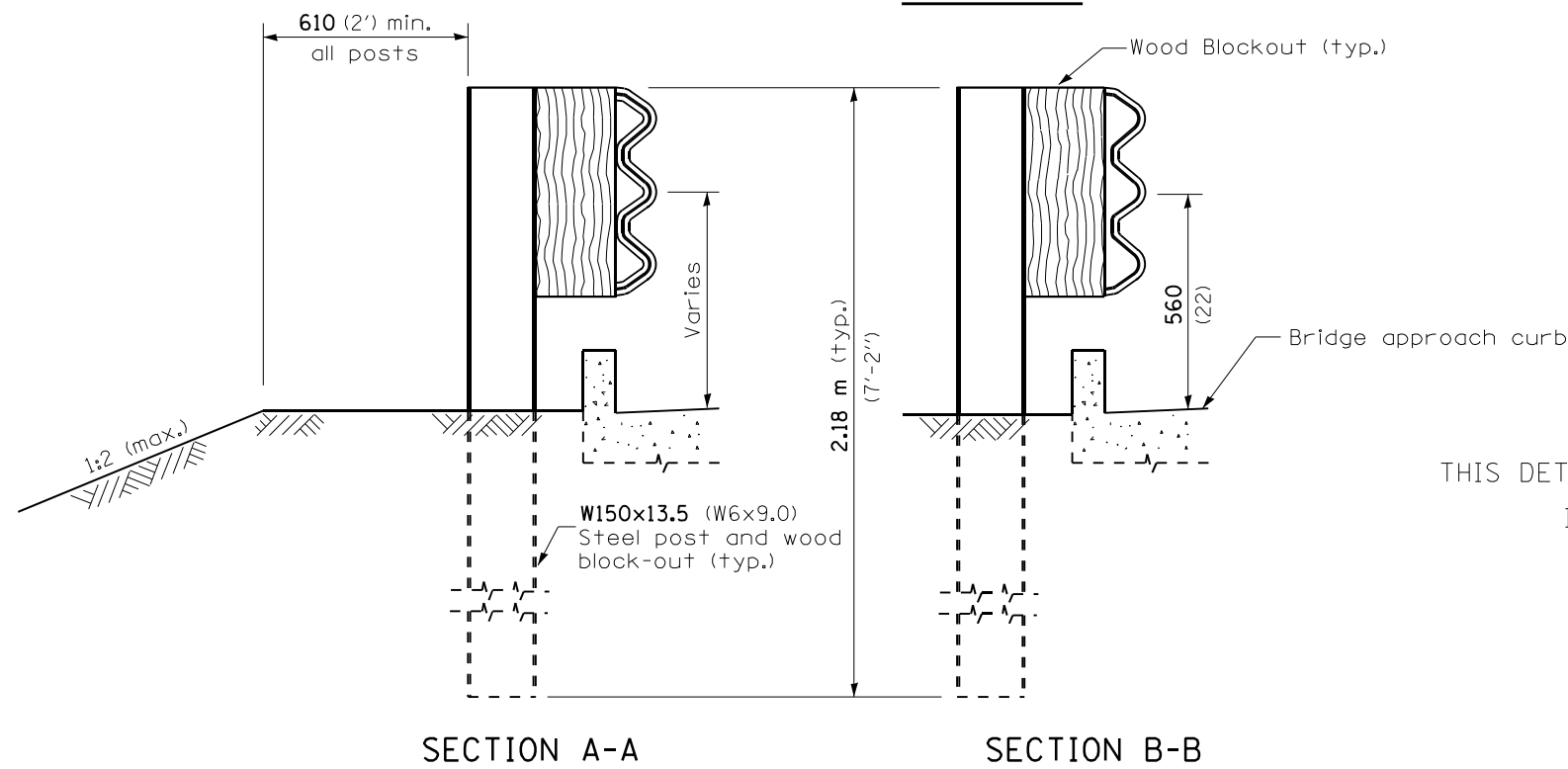
FILE NAME =	USER NAME = #USER*	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC BARRIER TERMINAL, TYPE 6 STANDARD INSTALLED PRIOR TO JANUARY 1, 2007	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
#FILE#		DRAWN -	REVISED -			VAR.	D9 GUARDRAIL REPAIR FY23-1	VARIOUS	20	14	
#MODELNAME#		CHECKED -	REVISED -			CONTRACT NO. 78892					
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					



PLAN



ELEVATION



SECTION A-A

SECTION B-B

GENERAL NOTES

This standard shows attachment to curb mounted bridge rail. Attachment to side mounted bridge rail is similar.

See Standard 630001 for details of guardrail not shown.

Thrie beam rail shall be bolted to block-out at all posts.

See Standard 420401 for details of bridge approach pavement.

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.

THIS DETAIL IS APPLICABLE TO THE GUARDRAIL INSTALLED PRIOR TO JANUARY 1, 2007.

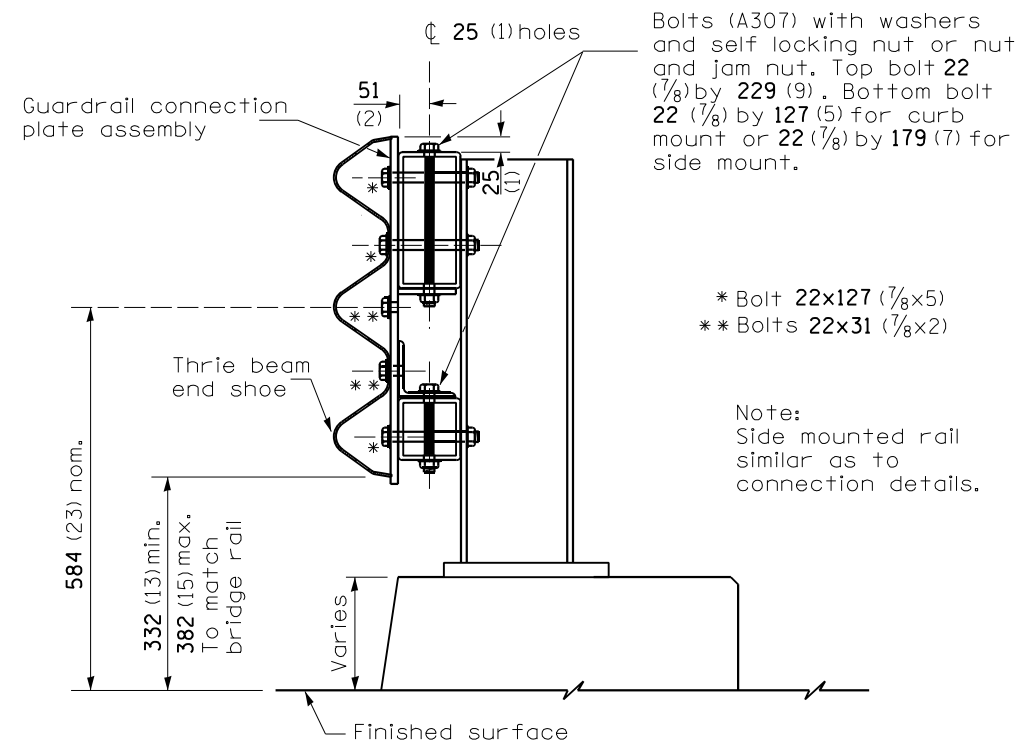
DATE	REVISIONS
4-1-06	Added a General Note.
1-1-04	Revised bolts and bolt spacing in connection plate & wood blockouts.

TRAFFIC BARRIER TERMINAL, TYPE 6A

Sheet 1 of 3

STANDARD 631032-02

FILE NAME =	USER NAME = #USER*	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC BARRIER TERMINAL, TYPE 6A STANDARD INSTALLED PRIOR TO JANUARY 1, 2007	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
#FILEL#		DRAWN -	REVISED -			VAR.	D9 GUARDRAIL REPAIR FY23-1	VARIOUS	20	15	
#MODELNAME#		CHECKED -	REVISED -			CONTRACT NO. 78892					
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					

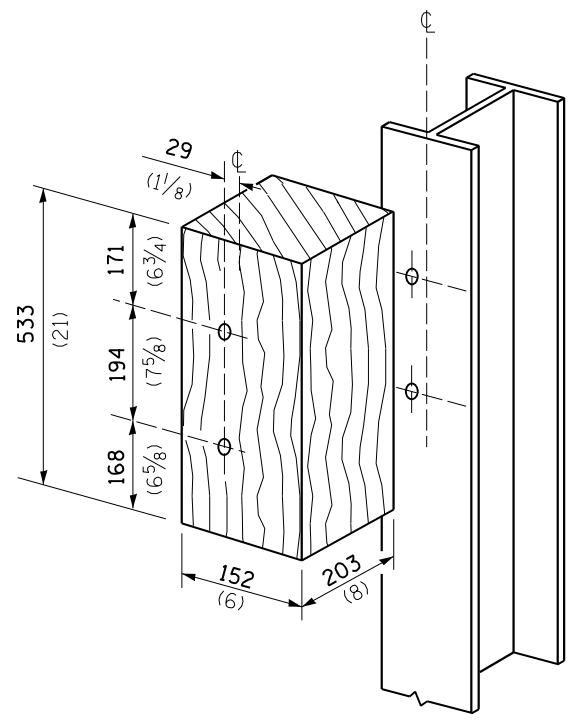


SECTION C-C

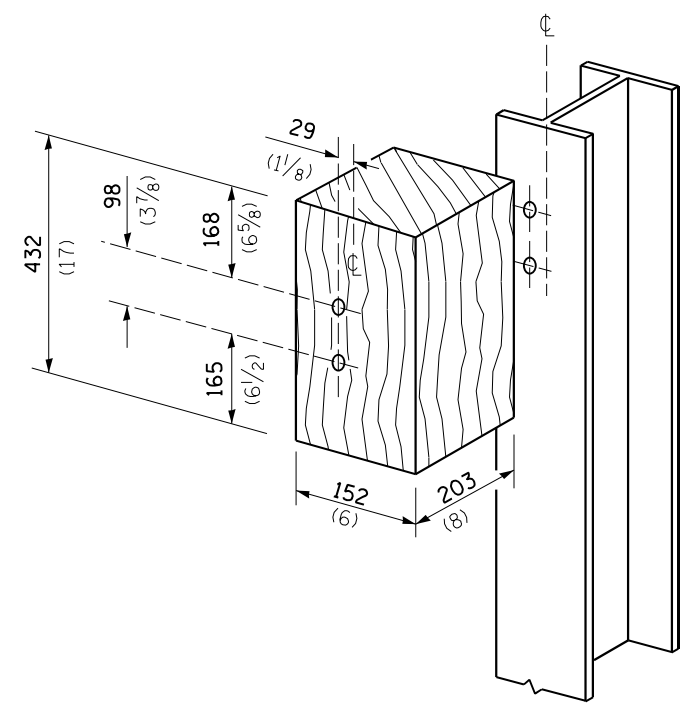
Bolts (A307) with washers and self locking nut or nut and jam nut. Top bolt 22 (7/8) by 229 (9). Bottom bolt 22 (7/8) by 127 (5) for curb mount or 22 (7/8) by 179 (7) for side mount.

- * Bolt 22x127 (7/8x5)
- ** Bolts 22x31 (7/8x2)

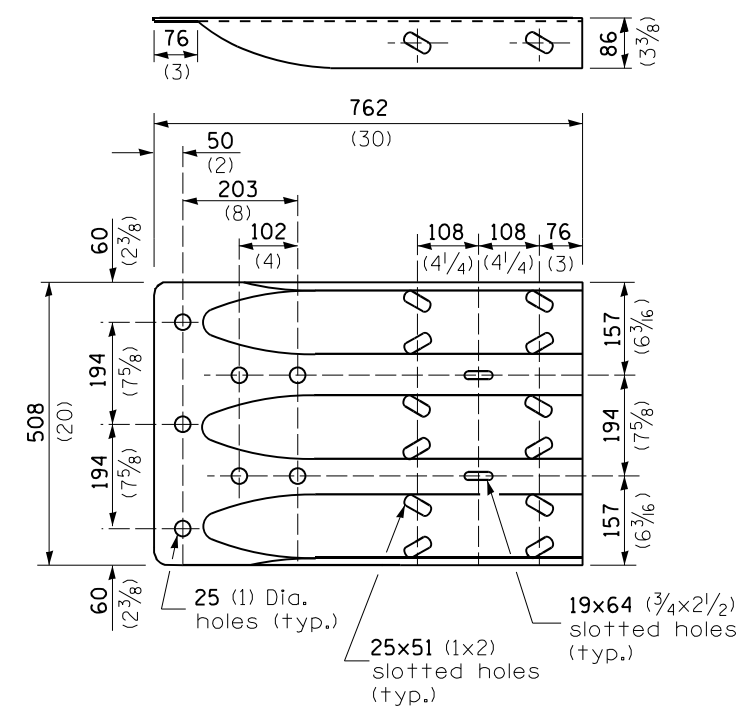
Note:
Side mounted rail similar as to connection details.



POSTS 1-11 WOOD BLOCKOUT DETAIL



POST 12 WOOD BLOCKOUT DETAIL



MODIFIED THRIE BEAM END SHOE DETAIL

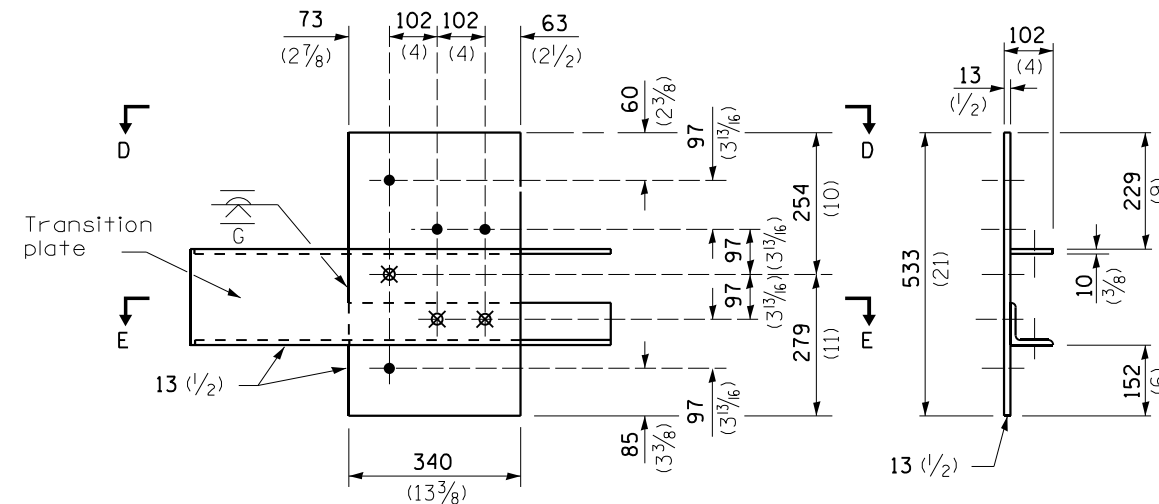
THIS DETAIL IS APPLICABLE TO THE GUARDRAIL INSTALLED PRIOR TO JANUARY 1, 2007.

**TRAFFIC BARRIER
TERMINAL, TYPE 6A**

Sheet 2 of 3

STANDARD 631032-02

FILE NAME = *FILEL*	USER NAME = *USER*	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC BARRIER TERMINAL, TYPE 6A STANDARD INSTALLED PRIOR TO JANUARY 1, 2007	F.A. RTE. =	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		DRAWN -	REVISED -			VAR. 09 GUARDRAIL REPAIR FY23-1	VARIOUS	20	16	CONTRACT NO. 78892	
		CHECKED -	REVISED -			ILLINOIS FED. AID PROJECT					
		DATE -	REVISED -			SCALE:	SHEET	OF	SHEETS	STA.	TO

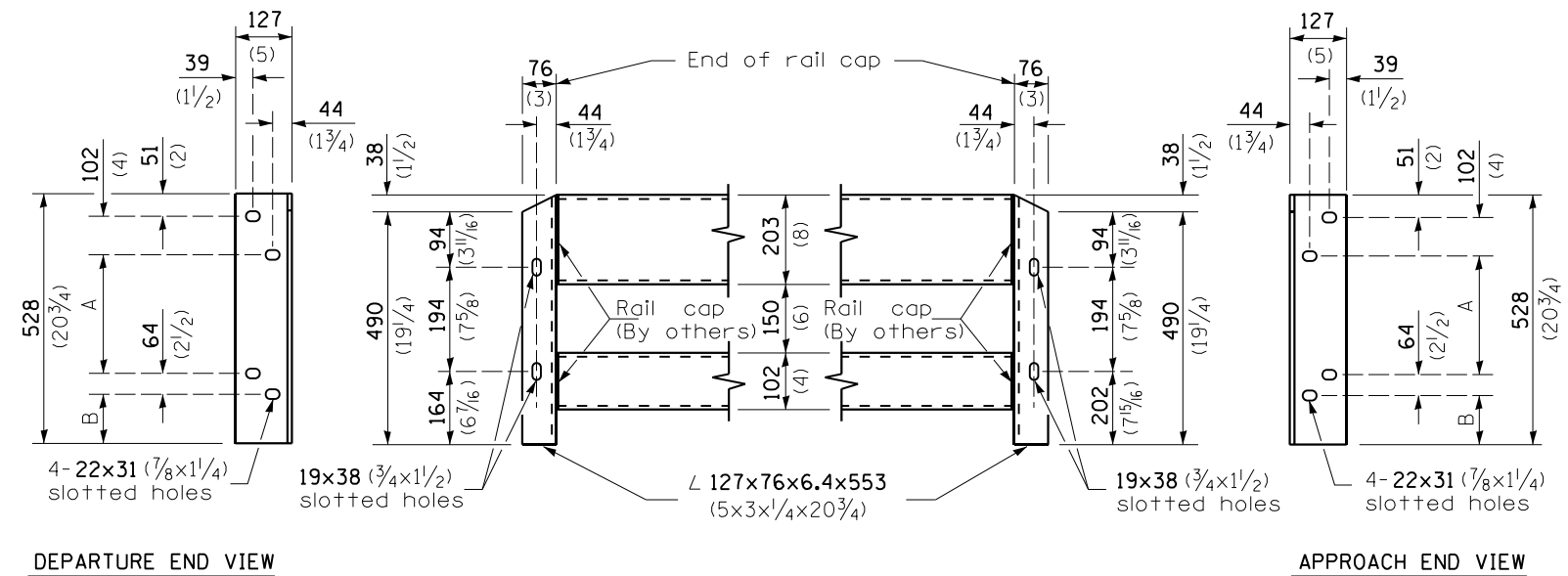
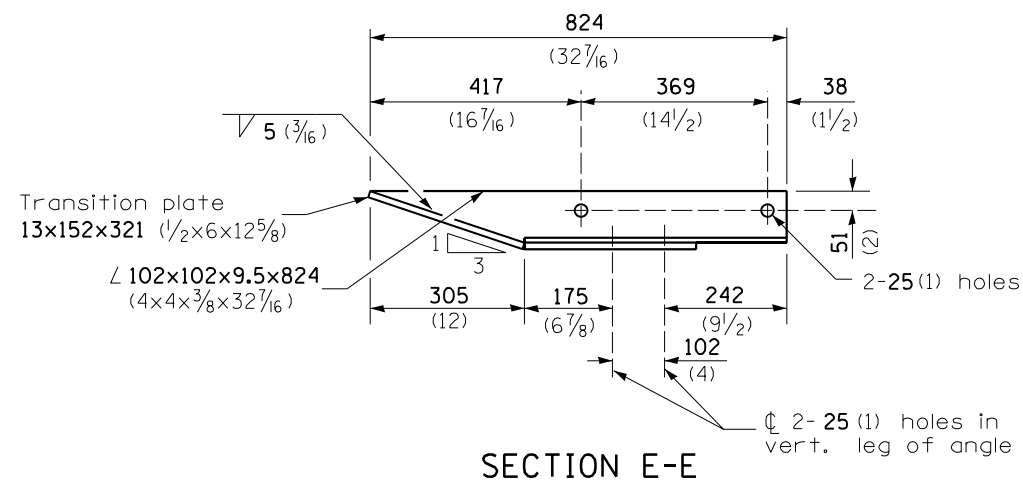
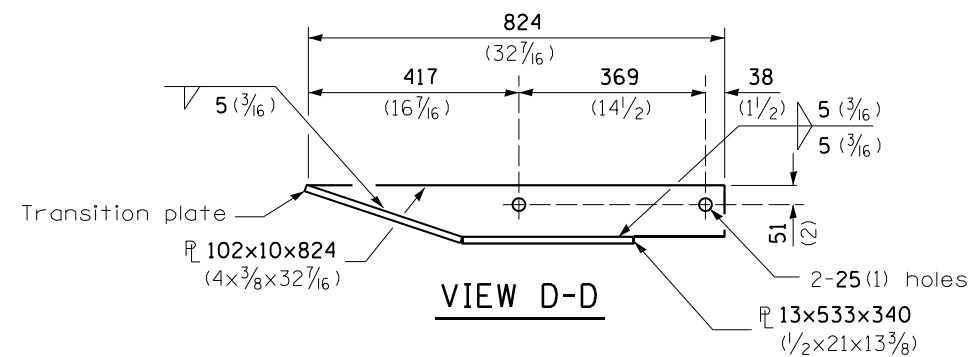


- \varnothing 4-25 (1) holes for 22 (7/8) H.S. bolts and nuts
- ⊗ Drill and tap 3 holes for 22 (7/8) H.S. bolts.

LEGEND

Dimensions	A	B
For Curb Mounted Rail	222 (8 3/4)	89 (3 1/2)
For Side Mounted Rail	247 (9 3/4)	64 (2 1/2)

GUARDRAIL CONNECTION PLATE ASSEMBLY DETAILS
(Mirror for opposite end)



CONNECTION ANGLES

(Install angles to rail caps using 19 (5/8) washers and self-locking nuts or nuts and jam nuts, to be provided by others)

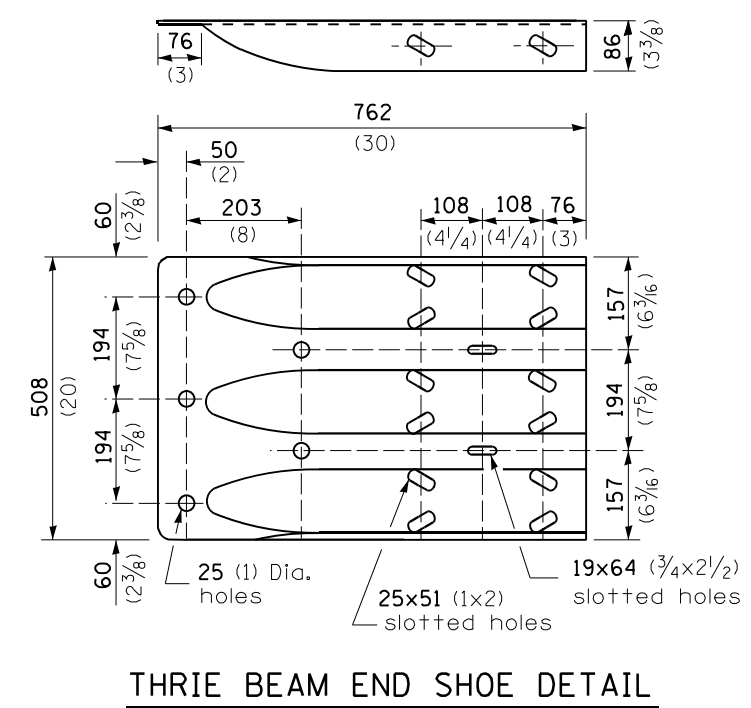
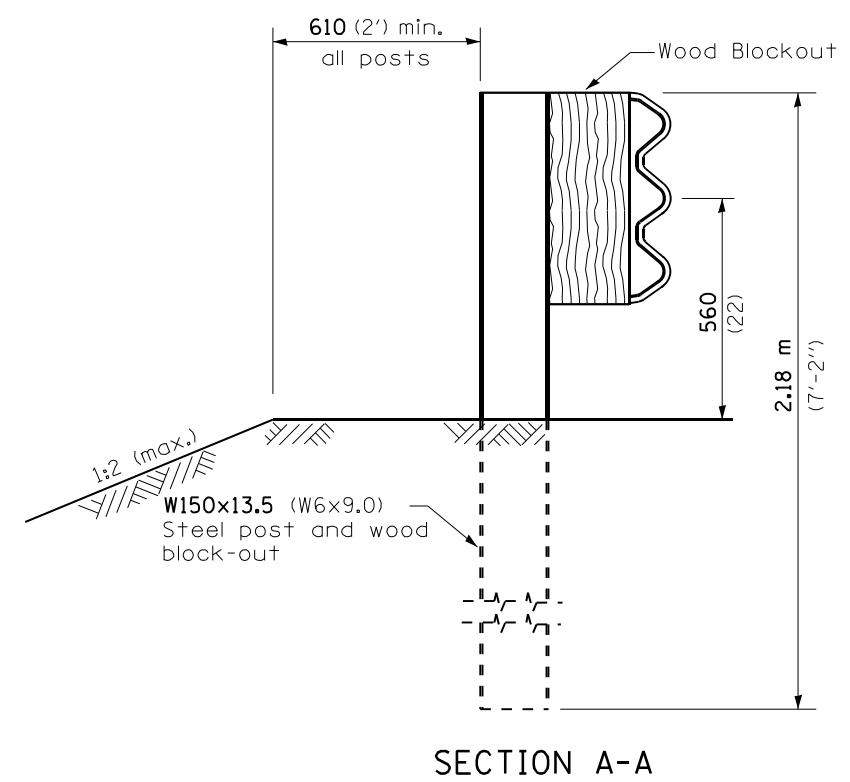
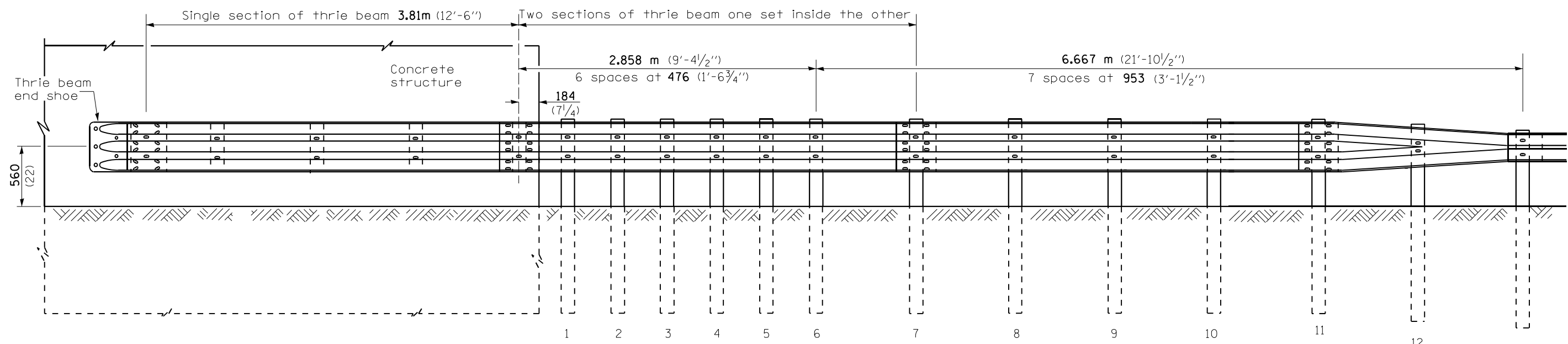
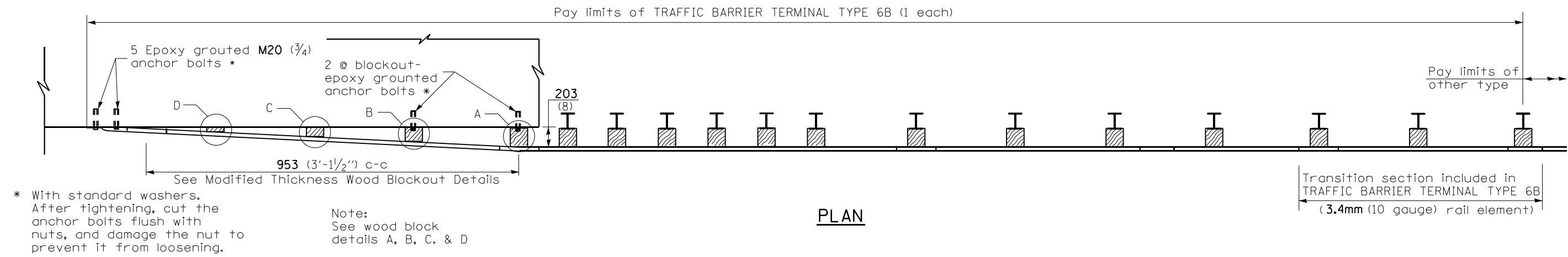
THIS DETAIL IS APPLICABLE TO THE GUARDRAIL INSTALLED PRIOR TO JANUARY 1, 2007.

TRAFFIC BARRIER TERMINAL, TYPE 6A

Sheet 3 of 3

STANDARD 631032-02

FILE NAME =	USER NAME = #USER*	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC BARRIER TERMINAL, TYPE 6A STANDARD INSTALLED PRIOR TO JANUARY 1, 2007	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
FILEL		DRAWN -	REVISED -			VAR.	D9 GUARDRAIL REPAIR FY23-1	VARIOUS	20	17	
MODELNAME		CHECKED -	REVISED -			CONTRACT NO. 78892					
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					
		PLOT SCALE = #SCALE*		SCALE:							
		PLOT DATE = #DATE*		SHEET OF SHEETS STA. TO STA.							



THIS DETAIL IS APPLICABLE TO THE GUARDRAIL INSTALLED PRIOR TO JANUARY 1, 2007.

GENERAL NOTES

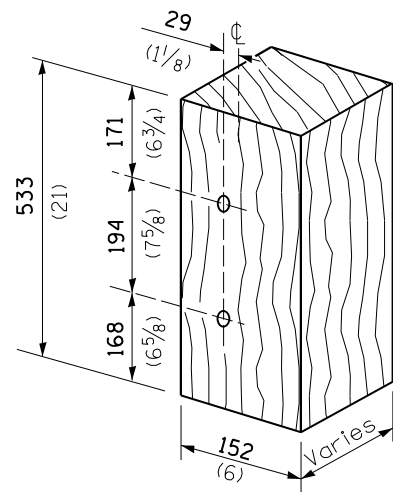
- See Standard 630001 for details of guardrail not shown.
- Thrie beam rail shall be bolted to block-out at all posts.
- All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).
- All dimensions are in millimeters (inches) unless otherwise shown.

TRAFFIC BARRIER TERMINAL, TYPE 6B

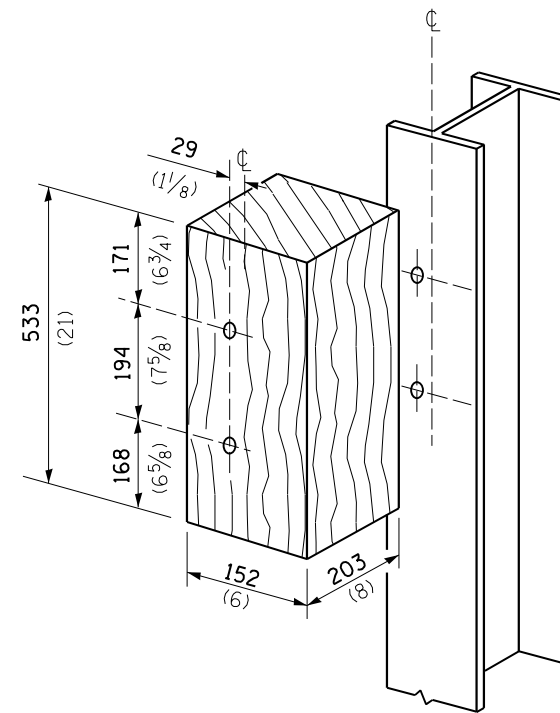
Sheet 1 of 2

STANDARD 631033-01

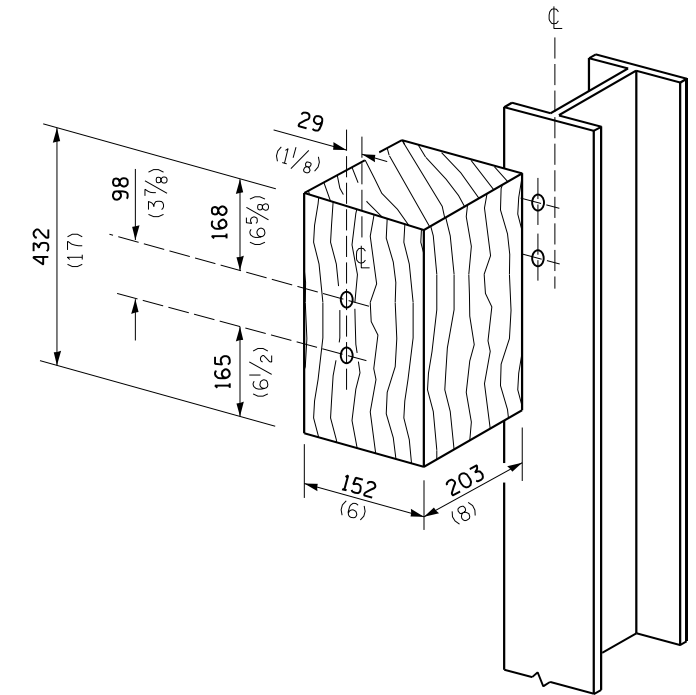
FILE NAME = *FILEL*	USER NAME = *USER*	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC BARRIER TERMINAL, TYPE 6B STANDARD INSTALLED PRIOR TO JANUARY 1, 2007	F.A. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		DRAWN -	REVISED -			VAR.	D9 GUARDRAIL REPAIR FY23-1	VARIOUS	20	18	
		CHECKED -	REVISED -			CONTRACT NO. 78892					
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					
					SCALE:	SHEET OF SHEETS		STA.	TO STA.		



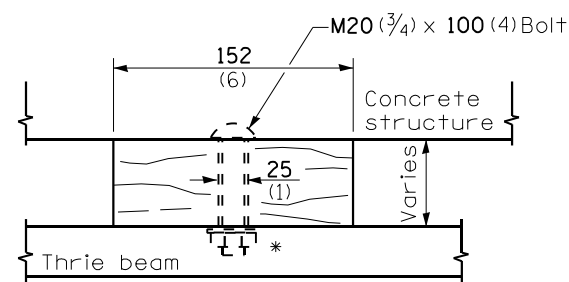
MODIFIED THICKNESS WOOD BLOCKOUT DETAIL



POSTS 1-11 WOOD BLOCKOUT DETAIL

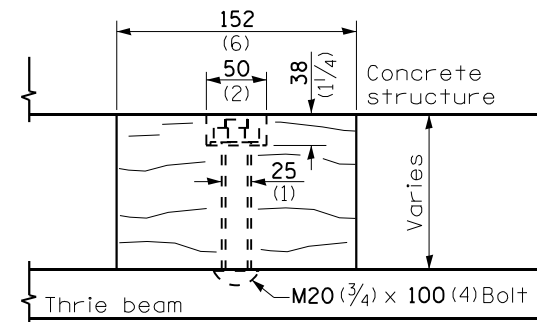


POST 12 WOOD BLOCKOUT DETAIL

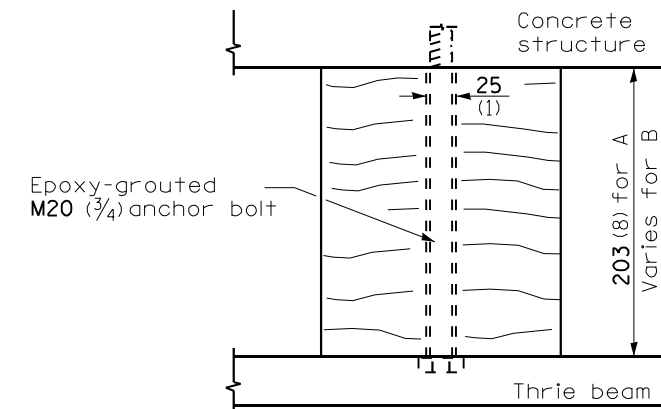


WOOD BLOCKOUT D

Bolt to thrie beam with M20 (3/4) by 100 (4) bolt, washer & nut. Reverse direction of insertion. *



WOOD BLOCKOUT C



WOOD BLOCKOUT A & B

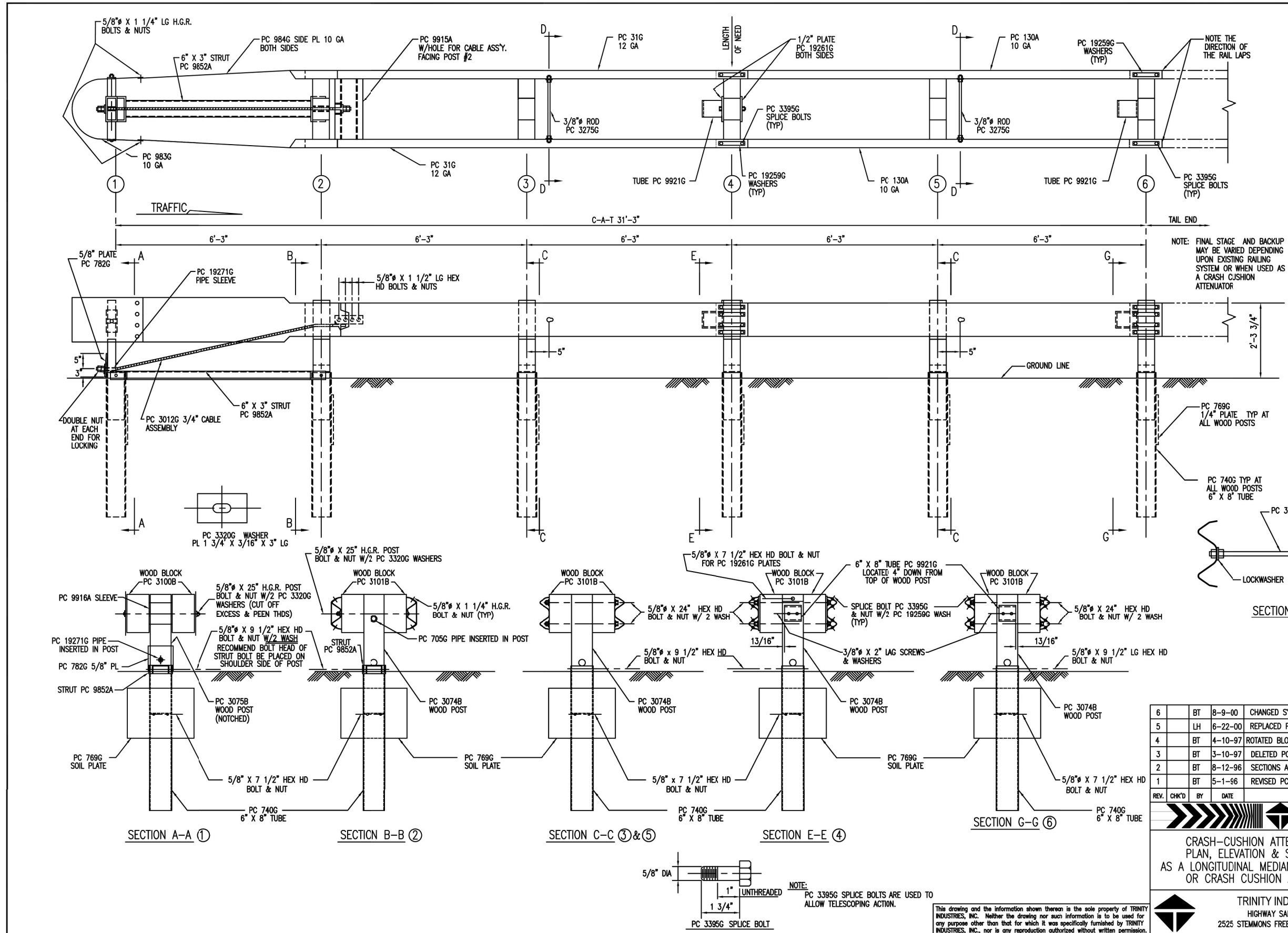
THIS DETAIL IS APPLICABLE TO THE GUARDRAIL
INSTALLED PRIOR TO JANUARY 1, 2007.

TRAFFIC BARRIER
TERMINAL, TYPE 6B

Sheet 2 of 2

STANDARD 631033-01

FILE NAME =	USER NAME = #USER*	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC BARRIER TERMINAL, TYPE 6B STANDARD INSTALLED PRIOR TO JANUARY 1, 2007	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
FILEL		DRAWN -	REVISED -			VAR.	D9 GUARDRAIL REPAIR FY23-1	VARIOUS	20	19	
MODELNAME	PLOT SCALE = #SCALE*	CHECKED -	REVISED -			CONTRACT NO. 78892					
	PLOT DATE = #DATE*	DATE -	REVISED -			ILLINOIS FED. AID PROJECT					
					SCALE:	SHEET	OF	SHEETS	STA.	TO STA.	



C-A-T BILL OF MATERIAL		
PRODUCT CODE	QTY	DESCRIPTION
31G	2	12/12 6/0 CAT (GUARDRAIL)
130A	2	10/12 6/5 10 8/8 SP CAT (GUARDRAIL)
705G	1	2" x 5 1/2" PIPE
740G	6	4" 6 TUBE SLEEVE
769G	6	1/4 x 18 x 24 SOIL PLATE
782G	1	5/8" x 8" x 8" BEARING PLATE
983G	1	10/NOSE PLATE/CAT/ROLLED
984G	2	10/SIDE PLATE CAT
3012G	1	CABLE 3/4 x 8'0/DBL SWG
3074B	5	WD 3"6 POST #2, 3, 4, 5, 6 CAT
3075B	1	WD 3"6 POST #1 CAT
3100B	2	WD BLOCK 1'2 #1 CAT
3101B	10	WD BLOCK 1'2 #2-6 CAT
3255G	4	3/8" FLAT WASHER
3263G	4	3/8" x 2" LAG SCREW
3275G	2	3/8" x 24 1/2" RESTRAINT ROD
3300G	20	5/8" FLAT WASHER
3320G	4	3/16" x 1 3/4" x 3" RECT WASHER
3340G	85	5/8" G.R. NUT
3360G	16	5/8" x 1 1/4" G.R. BOLT
3380G	8	5/8" x 1 1/2" HEX BOLT
3395G	32	5/8" x 1 3/4" HEX BOLT CAT
3478G	13	5/8" x 7 1/2" HEX BOLT
3497G	6	5/8" x 9 1/2" HEX BOLT
3650G	2	5/8" x 25" G.R. BOLT
3900G	2	1" FLAT WASHER
3910G	4	1" HEX NUT
4252G	8	3/8" HEX NUT
4258G	4	3/8" LOCK WASHER
4640G	8	5/8" x 24" HEX BOLT
9852A	1	CHANNEL STRUT x 6'-6"
9915A	1	SPACER CHANNEL CAT
9916A	1	10/BENT PLATE SLEEVE
9921G	2	6" SLEEVE 6 x 8
19259G	32	3/16" x 2" x 10" PLATE WASHER
19261G	2	1/2 x 3 x 7 POST PLATE
19271G	1	1" x 2 1/2" PIPE SLEEVE CAT

REV.	CHK'D	BY	DATE	REMARKS
6	BT		8-9-00	CHANGED SYSTEM HEIGHT, WAS 2'-3"
5	LH		6-22-00	REPLACED PC 766 WITH PC 769, CHANGED TITLE BLOCK
4	BT		4-10-97	ROTATED BLOCK PC 9921 90° AT POST 4 & 6
3	BT		3-10-97	DELETED PC 3072, 3073, 4470, CHG QTY 3074 & 3478
2	BT		8-12-96	SECTIONS A-A & B-B, CORRECTED PIPE SLEEVE PC No
1	BT		5-1-96	REVISED PC No 31G & 130A

C-A-T

CRASH-CUSHION ATTENUATING TERMINAL
PLAN, ELEVATION & SECTIONS FOR USE
AS A LONGITUDINAL MEDIAN BARRIER TERMINAL
OR CRASH CUSHION ATTENUATOR

DRAWN	BT
CHECKED	EN
SCALE	N.T.S.
DATE	7-15-94
ENG. FILE #	SS245-01E
SHT. No.	E1 OF 1
DRAWING NO.	SS-245
REV.	6

TRINITY INDUSTRIES, INC.
HIGHWAY SAFETY PRODUCTS
2525 STEMMONS FREEWAY, DALLAS, TX 75207