

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR. D9 GUARDRAIL REPAIR FY19-1		VARIOUS	20	1
		ILLINOIS	CONTRACT NO. 78654	

06-15-2018 LETTING ITEM 146

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

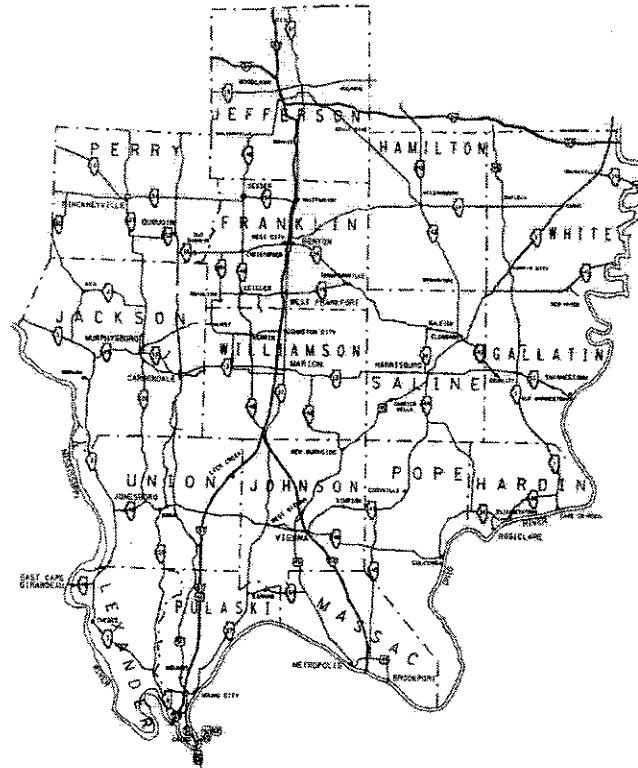
**PROPOSED
HIGHWAY PLANS**

VARIOUS ROUTES
SECTION D9 GUARDRAIL REPAIR FY19-1

GUARDRAIL REPAIR
VARIOUS COUNTIES

C-99-073-18

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 : KYLE MARKEL

CONTRACT NO. 78654

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

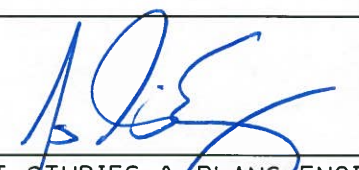
SUBMITTED March 21 2018.


Jeffrey Z. Keenan
REGION FIVE ENGINEER


May 11 2018
[Signature]
ENGINEER OF DESIGN AND ENVIRONMENT

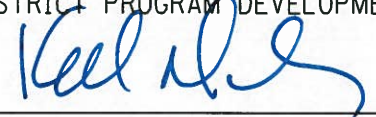
May 11 2018
[Signature]
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION


PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS


Prepared By: 
DISTRICT STUDIES & PLANS ENGINEER


Examined By: 
DISTRICT LAND ACQUISITION ENGINEER

Examined By: 
DISTRICT PROGRAM DEVELOPMENT ENGINEER

Examined By: 
DISTRICT OPERATIONS ENGINEER

Examined By: 
DISTRICT PROJECT IMPLEMENTATION ENGINEER

Examined By: 
DISTRICT CONSTRUCTION ENGINEER

Examined By: 
DISTRICT MATERIALS ENGINEER

FILE NAME =	USER NAME = markelp	DESIGNED - _____	REVISED - _____
p:\11084EBJINTEG\illinois.gov\PI\DOT\Documents\IDOT Offices\District 9\Projects\Geo	DRAWN Data\Geometrics\quardrail.dgn	CHECKED - _____	REVISED - _____
Default	PLOT SCALE = 100.0000' / in.	DATE - _____	REVISED - _____
	PLOT DATE = 3/14/2018		

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SIGNATURE SHEET

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR. D9 GUARDRAIL REPAIR FY19-1	VARIOUS	VARIOUS	20	2
			CONTRACT NO. 78654	
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

000001-06	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
630301-08	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631011-10	TRAFFIC BARRIER TERMINAL, TYPE 2
631031-15	TRAFFIC BARRIER TERMINAL, TYPE 6
631032-09	TRAFFIC BARRIER TERMINAL, TYPE 6A
631033-07	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
701101-05	OFF ROAD OPERATIONS, MULTILANE, 15' TO 24" FROM PAVEMENT EDGE
701106-02	OFF ROAD OPERATIONS, MULTILANE, MORE THAN 15' AWAY
701201-04	LANE CLOSURE, 2L, 2W, DAY ONLY FOR SPEEDS GREATER OR EQUAL TO 45 MPH
701301-04	LANE CLOSURE, 2L, 2W, SHORT TERM OPERATIONS
701400-09	APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
701406-11	LANE CLOSURE, FREEWAY/EXPRESSWAY, DAY OPERATIONS ONLY
701421-08	LANE CLOSURE, MULTILANE, DAY OPERATIONS ONLY FOR SPEEDS GREATER OR EQUAL TO 45 MPH TO 55 MPH
701428-01	TRAFFIC CONTROL SETUP AND REMOVAL FREEWAY/EXPRESSWAY
701456-05	PARTIAL EXIT RAMP CLOSURE FREEWAY/EXPRESSWAY
701501-06	URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED
701502-08	URBAN LANE CLOSURE, 2L, 2W, WITH BIDIRECTIONAL LEFT TURN LANE
701601-09	URBAN LANE CLOSURE, MULTILANE, 1W OR 2W WITH NONTRAVERSABLE MEDIAN
701701-10	URBAN LANE CLOSURE, MULTILANE INTERSECTION
701901-07	TRAFFIC CONTROL DEVICES
725001-01	OBJECT AND TERMINAL MARKERS
782006	GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS

FILE NAME =	USER NAME = markelp	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INDEX OF SHEETS & LIST OF STANDARDS			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
p:\11\084EBIDINTEG.illinois.gov\PIDOT\Documents\IDOT Offices\District 9\Projects\Geometric\Drawings\Geometrics\guardrail.dgn	DRAWN	CHECKED -	REVISED -					VAR.	D9 GUARDRAIL REPAIR FY19-1	VARIOUS	20	3
Default	PLOT SCALE = 100.0000' / 1in.	DATE -	REVISED -		CONTRACT NO. 78654			ILLINOIS FED. AID PROJECT				
	PLOT DATE = 3/15/2018	DATE -	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.	

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 AND 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.

GUARDRAIL MARKERS SHALL BE ATTACHED TO TERMINAL SECTIONS. ALL OTHER MARKERS SHALL BE PLACED AT THE DISCRETION OF THE ENGINEER.

ILLINOIS STATE LAW REQUIRES 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.

NO OVERNIGHT LANE CLOSURES WILL BE ALLOWED.

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 = markelp	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL NOTES & COMMITMENTS			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
p:\11\084EBIDINTEG.illinois.gov\PIDOT\Documents\DOT Offices\District 9\Projects\Geometric\Drawings\guardrail.dgn		CHECKED -	REVISED -					VAR.	D9 GUARDRAIL REPAIR FY19-1	VARIOUS	20	4
Default	PLOT SCALE = 100.0000' / 1in.	DATE -	REVISED -		SCALE: SHEET OF SHEETS STA. TO STA.			CONTRACT NO. 78654				
	PLOT DATE = 3/15/2018				ILLINOIS FED. AID PROJECT							

SUMMARY OF QUANTITIES - CONT

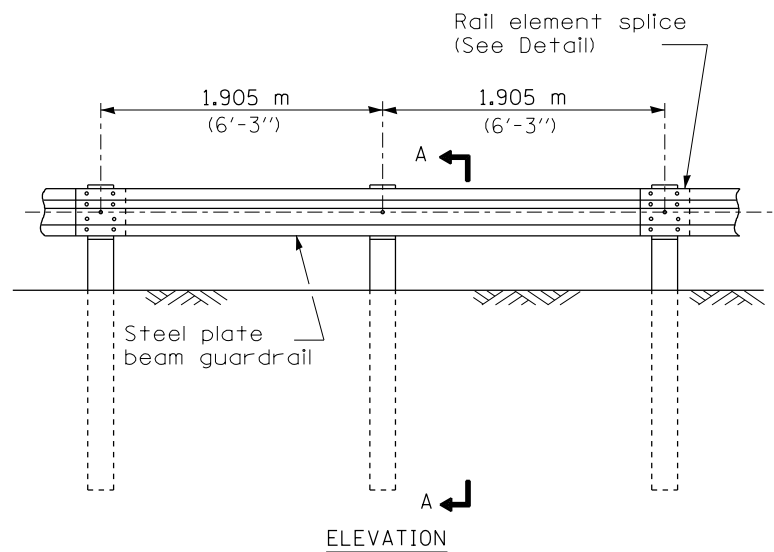
COUNTY:	COUNTY:	VARIOUS	VARIOUS	VARIOUS
ROUTE:	ROUTE:	VARIOUS	VARIOUS	VARIOUS
FUNDING:	FUNDING:	100% STATE	100% STATE	100% STATE
LOCATION:	LOCATION:	RURAL	RURAL	RURAL
		MCHD	HIT AND RUN	HIGH TENSION CABLE GUARDRAIL
		0021	0021	0021

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	MCHD	HIT AND RUN	HIGH TENSION CABLE GUARDRAIL
				0021	0021	0021
X6300215	RAIL ELEMENT PLATES	EACH	230	225	5	
X6300217	RAIL ELEMENT PLATES (RADIUS)	EACH	9	8	1	
X6300220	EXTRUDER HEAD	EACH	4	3	1	
X6300230	STEEL POSTS	EACH	231	225	6	
X6300231	STEEL POST, ATTACHED TO STRUCTURES	EACH	2	2		
X6300235	WOOD POSTS	EACH	21	15	6	
X6310088	TRAFFIC BARRIER TERMINAL TYPE 6A (SPECIAL)	EACH	3	3		
X6310176	TRAFFIC BARRIER TERMINAL, TYPE 2 (SPECIAL)	EACH	3	2	1	
X6310214	TRAFFIC BARRIER TERMINAL, TYPE 6 (SPECIAL)	EACH	4	4		
X6311215	TRAFFIC BARRIER TERMINAL (C-A-T)	EACH	4	3	1	
X6311217	TRAFFIC BARRIER TERMINAL, TYPE 6B (SPECIAL)	EACH	4	4		
X6331110	STEEL POSTS, SPECIAL	EACH	2	2		
X6430210	REMOVE AND REINSTALL IMPACT ATTENUATORS	EACH	32	30	2	

SUMMARY OF QUANTITIES - CONT

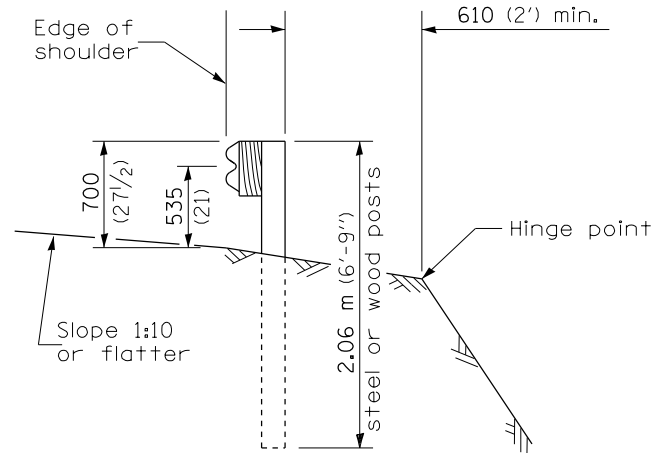
COUNTY:	COUNTY:	VARIOUS	VARIOUS	VARIOUS
ROUTE:	ROUTE:	VARIOUS	VARIOUS	VARIOUS
FUNDING:	FUNDING:	100% STATE	100% STATE	100% STATE
LOCATION:	LOCATION:	RURAL	RURAL	RURAL
		MCHD	HIT AND	HIGH TENSION CABLE GUARDRAIL
		0021	RUN 0021	0021

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	MCHD	HIT AND	HIGH TENSION CABLE GUARDRAIL
				0021	RUN 0021	0021
X6640298	CHAIN LINK FENCE (SPECIAL)	FOOT	125	100	25	
X6650208	WOVEN WIRE FENCE REMOVAL AND REPLACEMENT	FOOT	100	100		
X7011834	TRAFFIC CONTROL AND PROTECTION, CALL OUT WORK	EACH	40	30	10	
X7011836	TRAFFIC CONTROL AND PROTECTION, FREEWAY/EXPRESSWAY, CALL OUT WORK	EACH	44	30	11	3
Z0052410	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL (TANGENT)	EACH	16	10	6	
Z0052415	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL (FLARED)	EACH	3	3		
Z0053200	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4	4		
Z0053210	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	4	4		
Z0053220	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 6B	EACH	4	4		

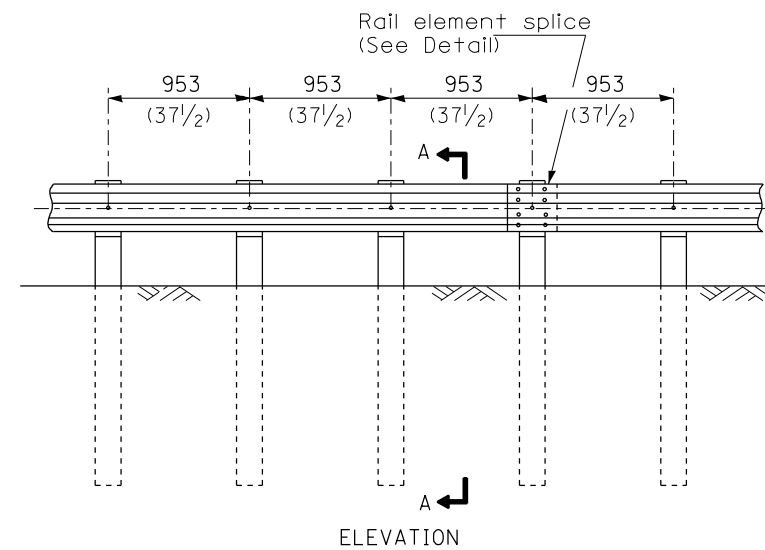


TYPE A

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

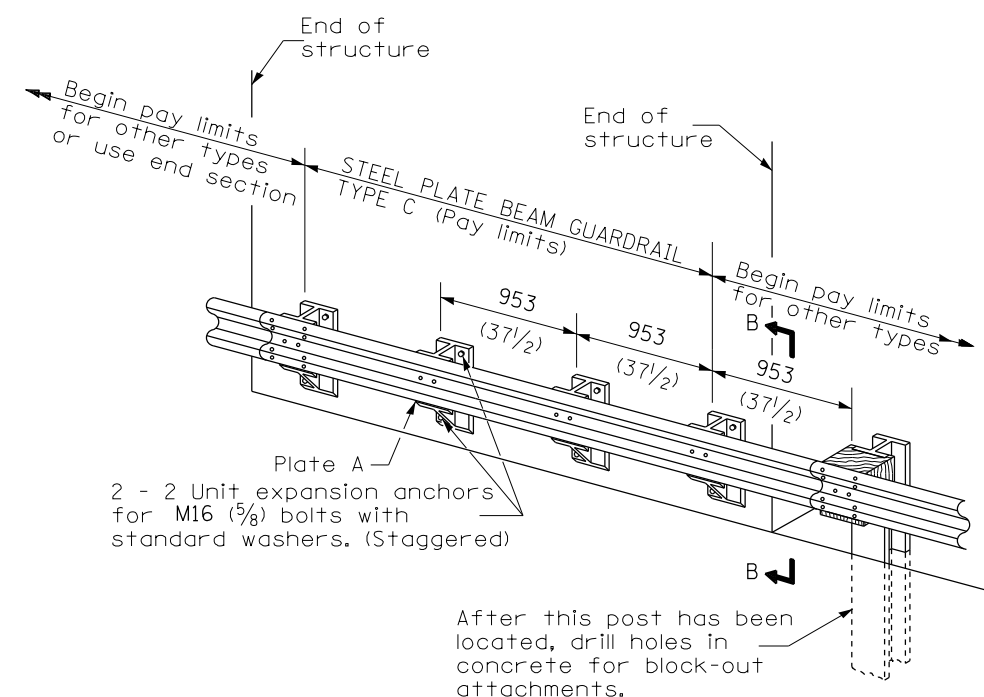


SECTION A-A



TYPE B

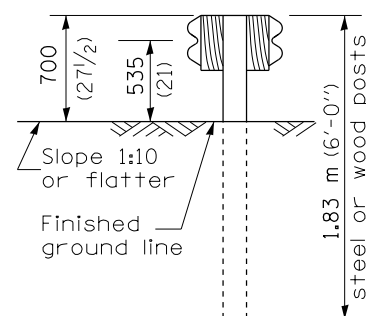
953 (37 1/2) Closed post spacing



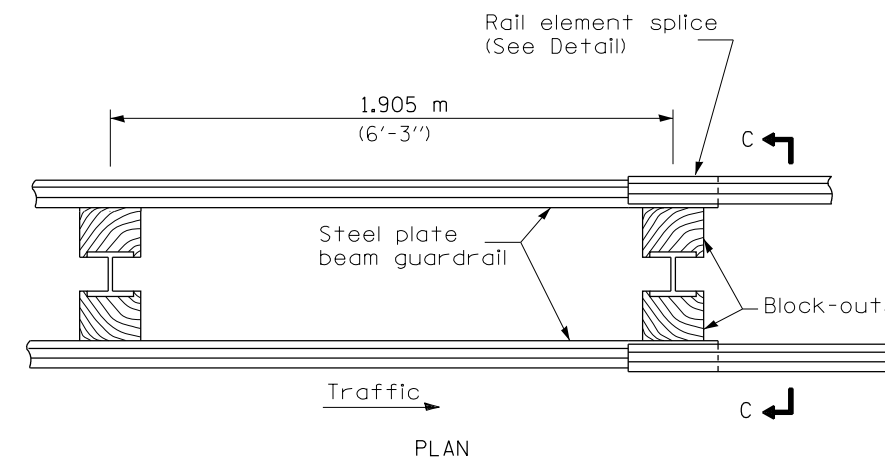
TYPE C

953 (37 1/2) Block-out spacing

After this post has been located, drill holes in concrete for block-out attachments.

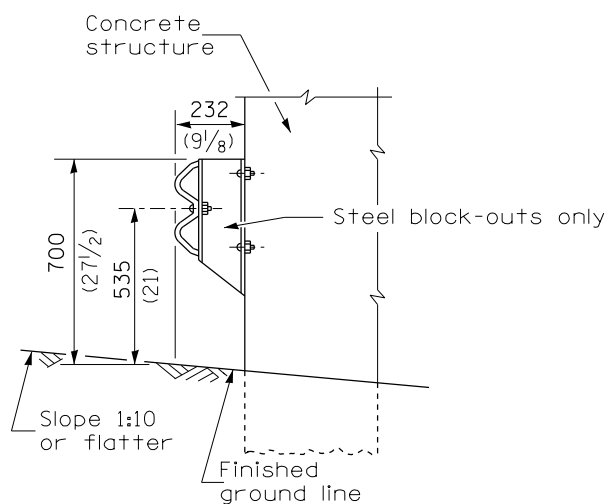


SECTION C-C



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

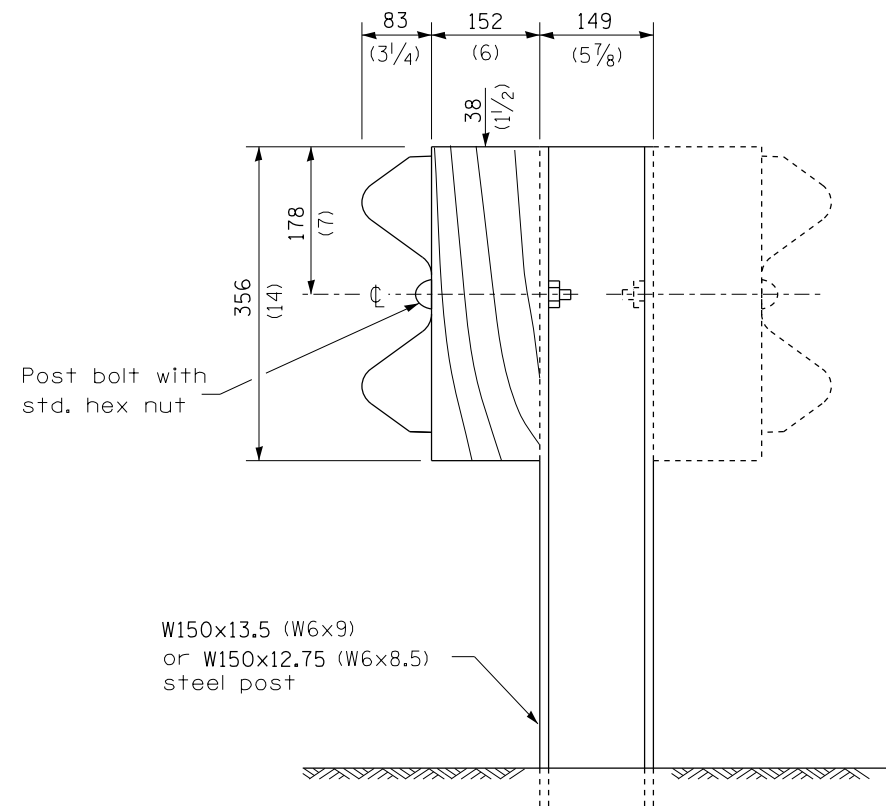
FILE NAME =	USER NAME = marklcp	DESIGNED -	REVISED -
p:\11\084EBID\INTEG\Illinois.gov\PI\DOT\Documents\DOT Offices\District 9\Projects\Geometric\Drawings\guardrail.dgn		REVISIONS -	REVISIONS -
Default	PLOT SCALE = 26.0000' / in.	CHECKED -	REVISIONS -
	PLOT DATE = 3/15/2018	DATE -	REVISIONS -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

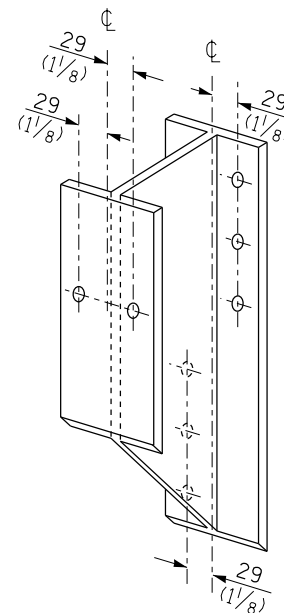
**STEEL PLATE BEAM GUARDRAIL STANDARD
INSTALLED PRIOR TO JANUARY 1, 2007**

SCALE: SHEET OF SHEETS STA. TO STA.

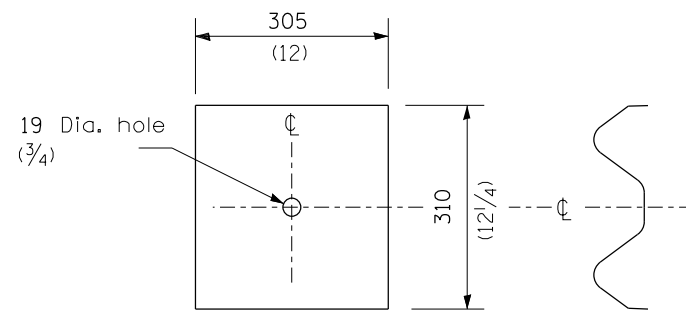
F.A. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	D9 GUARDRAIL REPAIR FY19-1	VARIOUS	20	8
CONTRACT NO. 78654				
ILLINOIS FED. AID PROJECT				



STEEL POST CONSTRUCTION



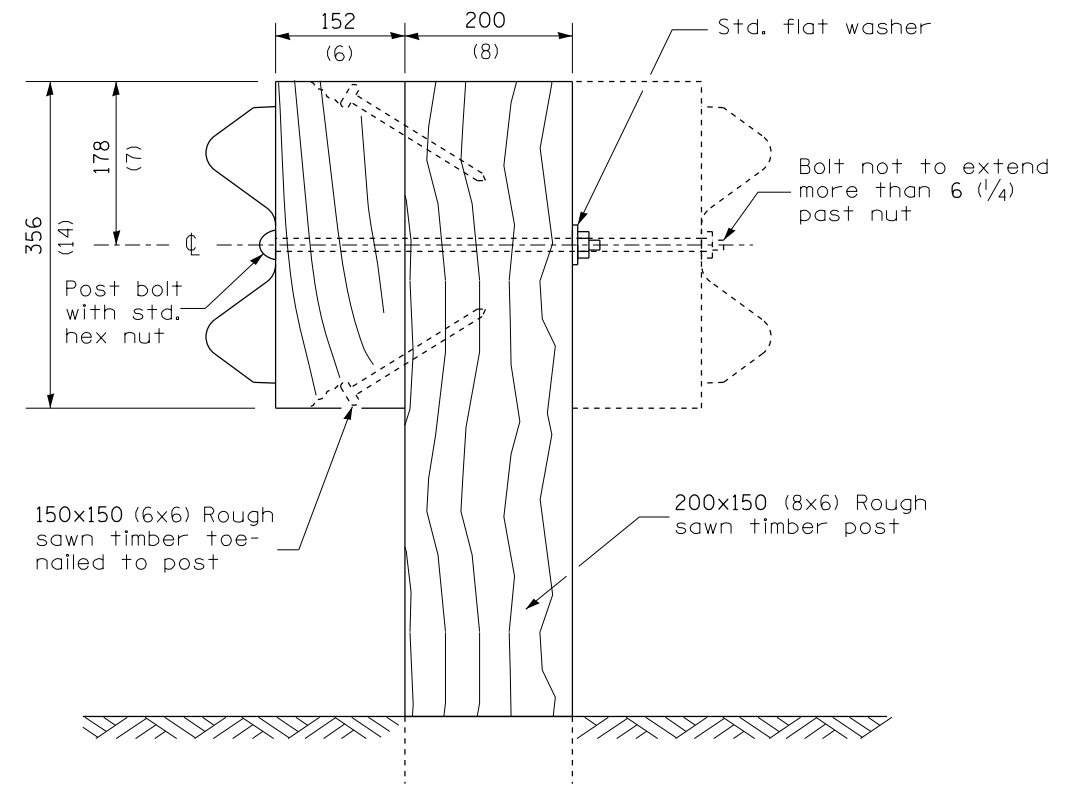
STEEL BLOCK-OUT DETAIL



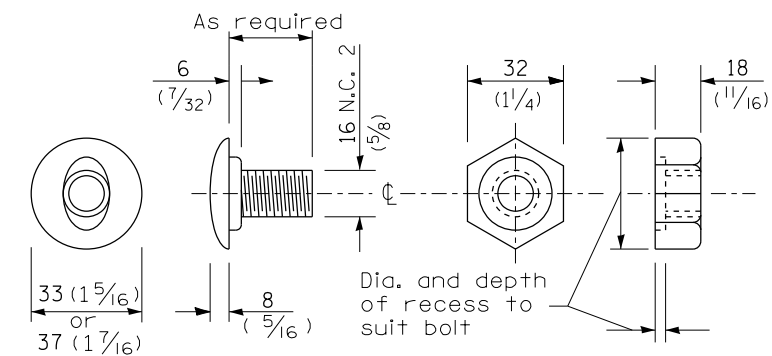
NOTE

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



WOOD POST CONSTRUCTION



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

FILE NAME =	USER NAME = markelp	DESIGNED -	REVISED -
pw:\IL\084EBIDINTEG.illinois.gov\PWIDOT\Documents\DOT Offices\District 9\Projects\Geometric Data\Geometrics\guardrail.dgn		DRAWN -	REVISED -
Default	PLOT SCALE = 26.0000' / in.	CHECKED -	REVISED -
	PLOT DATE = 3/15/2018	DATE -	REVISED -

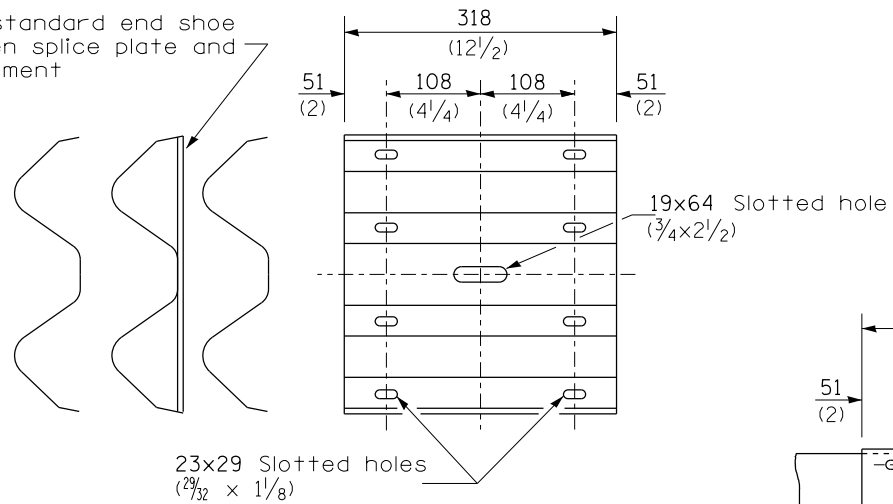
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STEEL PLATE BEAM GUARDRAIL STANDARD
INSTALLED PRIOR TO JANUARY 1, 2007**

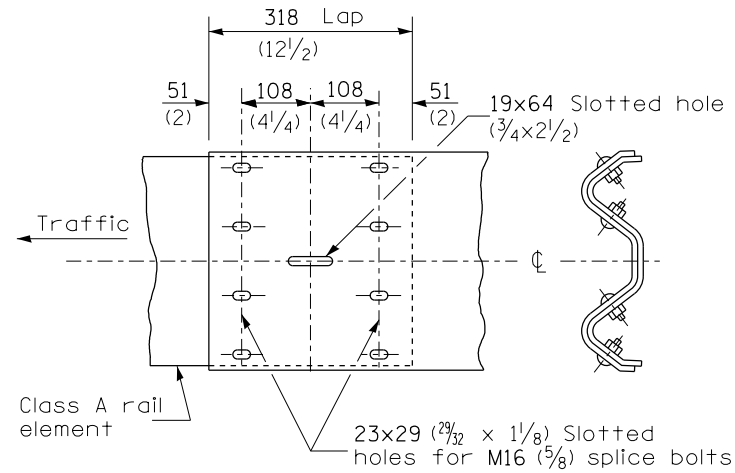
SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	D9 GUARDRAIL REPAIR FY19-1	VARIOUS	20	9
CONTRACT NO. 78654				
ILLINOIS FED. AID PROJECT				

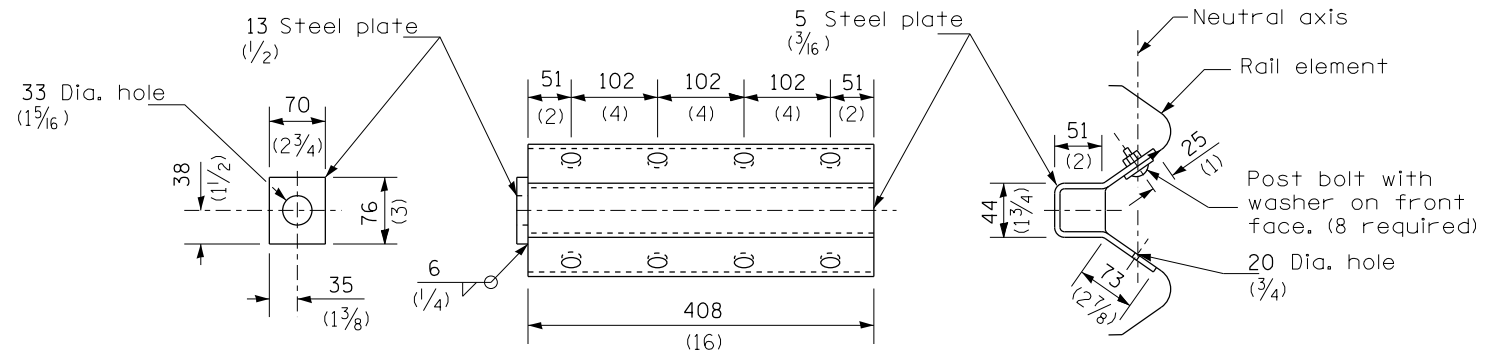
Place standard end shoe between splice plate and rail element



SPLICE PLATE

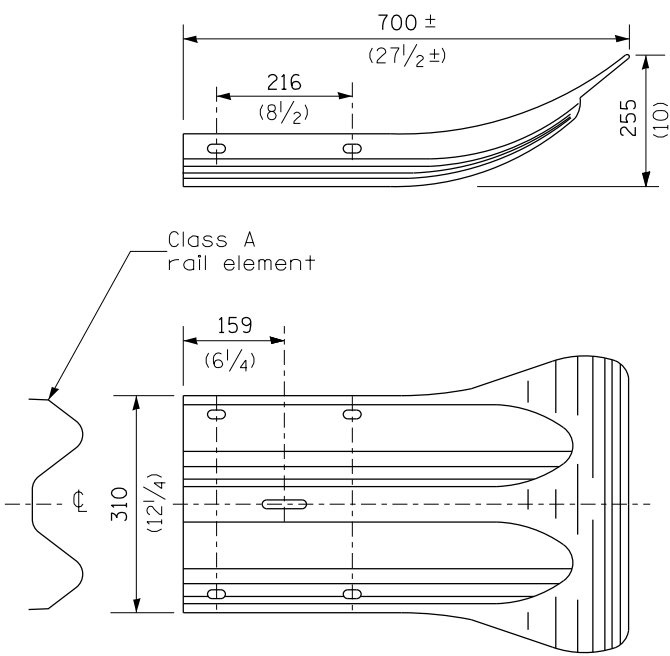


RAIL ELEMENT SPLICE

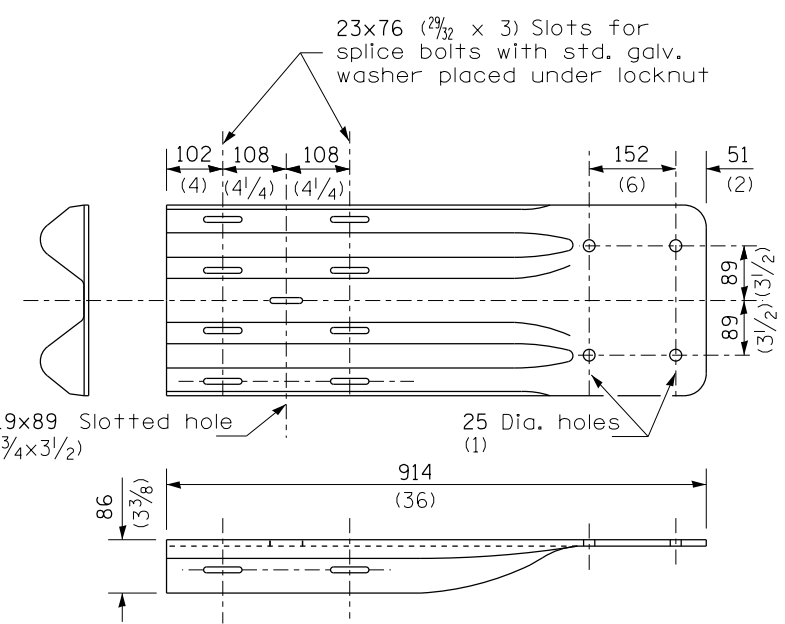


NOTE
Anchor plate T shall be used to attach cable assembly to guardrail when required on traffic barrier terminals.

ANCHOR PLATE T DETAILS



END SECTION

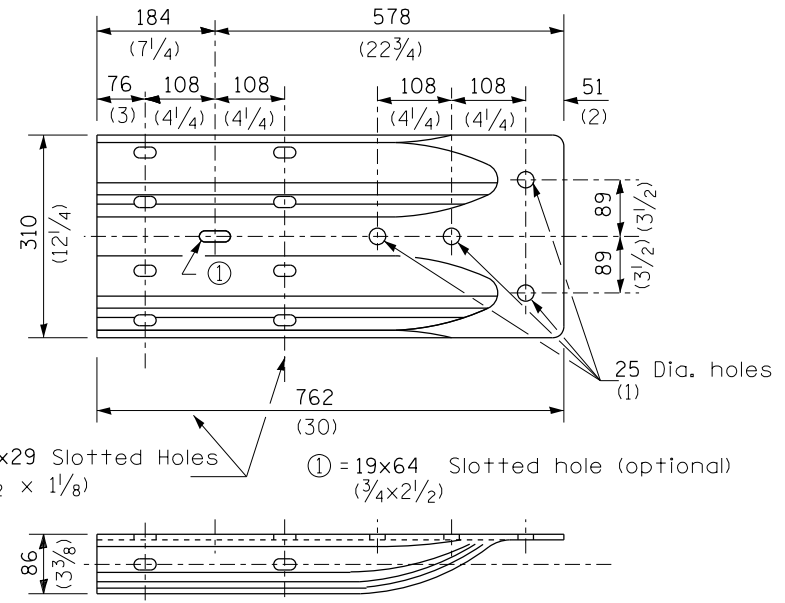


NOTE
When end shoe is attached to a bridge parapet which has an expansion joint, the bolts shall be provided with a locknut or double nut and shall be tightened only to a point that will allow guardrail movement.

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

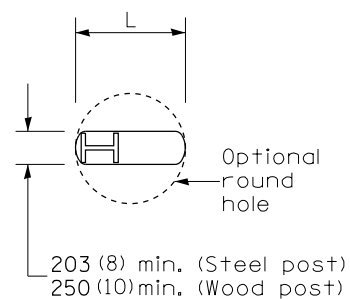
THIS DETAIL IS APPLICABLE TO THE GUARDRAIL INSTALLED PRIOR TO JANUARY 1, 2007.

STEEL PLATE BEAM GUARDRAIL

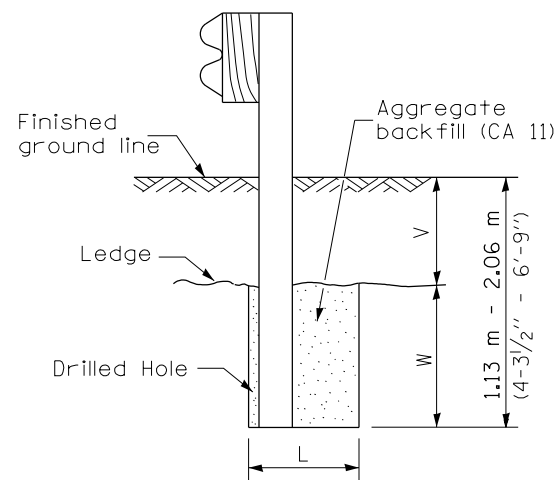
(Sheet 3 of 4)

STANDARD 630001-06

FILE NAME =	USER NAME = markkjp	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.
pw:\IL\084EBIDINTEG\Illinois.gov\PIWIDOT\Documents\DOT Offices\District 9\Projects\Geometric\Drawings\guardrail.dgn		CHECKED -	REVISED -			VAR.	D9 GUARDRAIL REPAIR FY19-1	VARIOUS	20	10
PLOT SCALE = 26.0000' / in.		DATE -	REVISED -			CONTRACT NO. 78654				
Default						ILLINOIS FED. AID PROJECT				



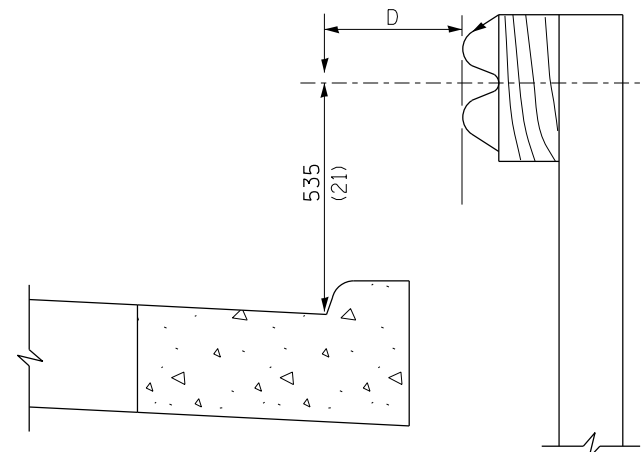
PLAN



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

ELEVATION

FOOTING FOR POST WHEN IMPERVIOUS MATERIAL IS ENCOUNTERED



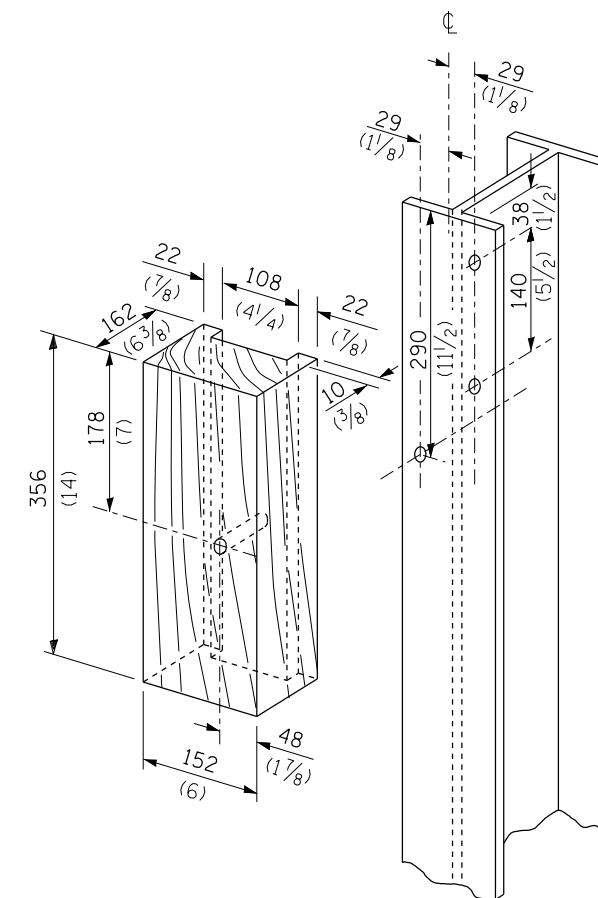
Note:

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.

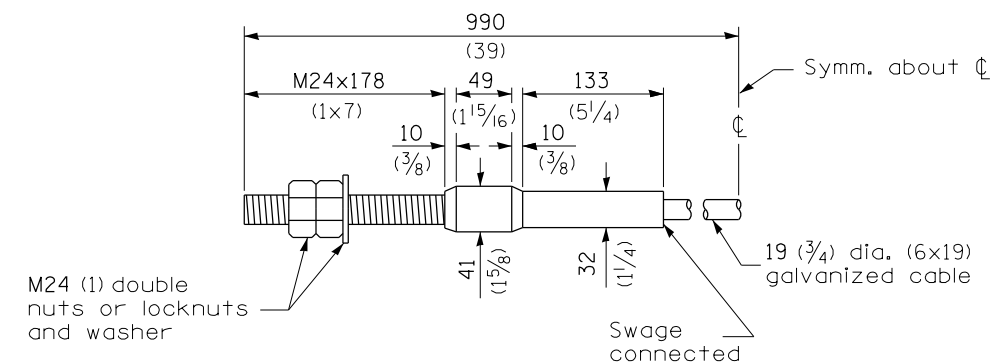
GUARDRAIL PLACED BEHIND CURB

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

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)



WOOD BLOCK-OUT AND STEEL POST DETAILS



CABLE ASSEMBLY

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

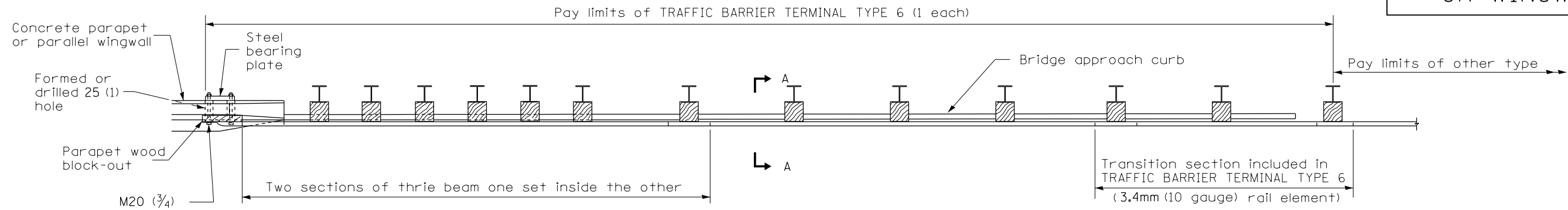
STEEL PLATE BEAM GUARDRAIL

(Sheet 4 of 4)

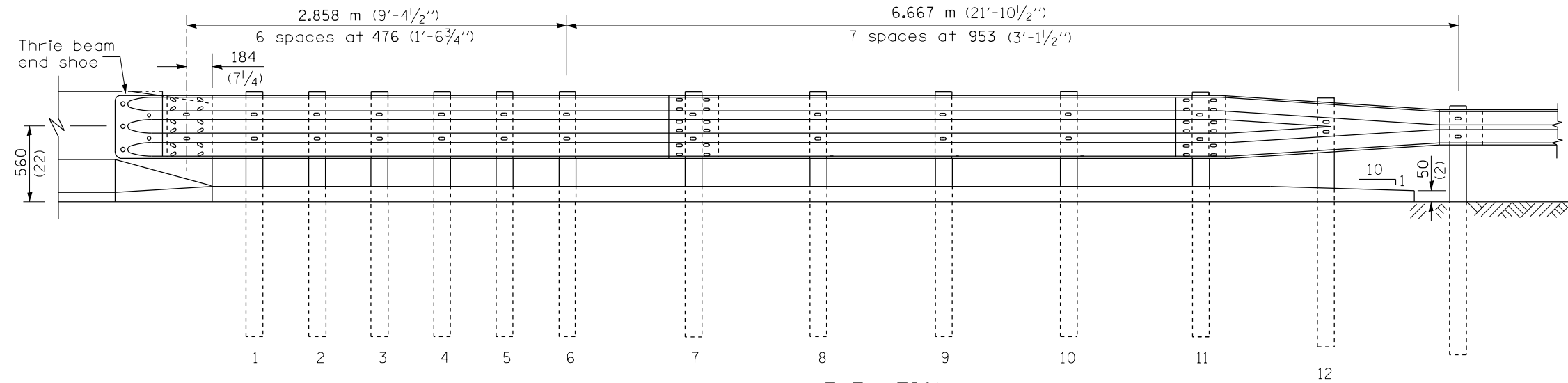
STANDARD 630001-06

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

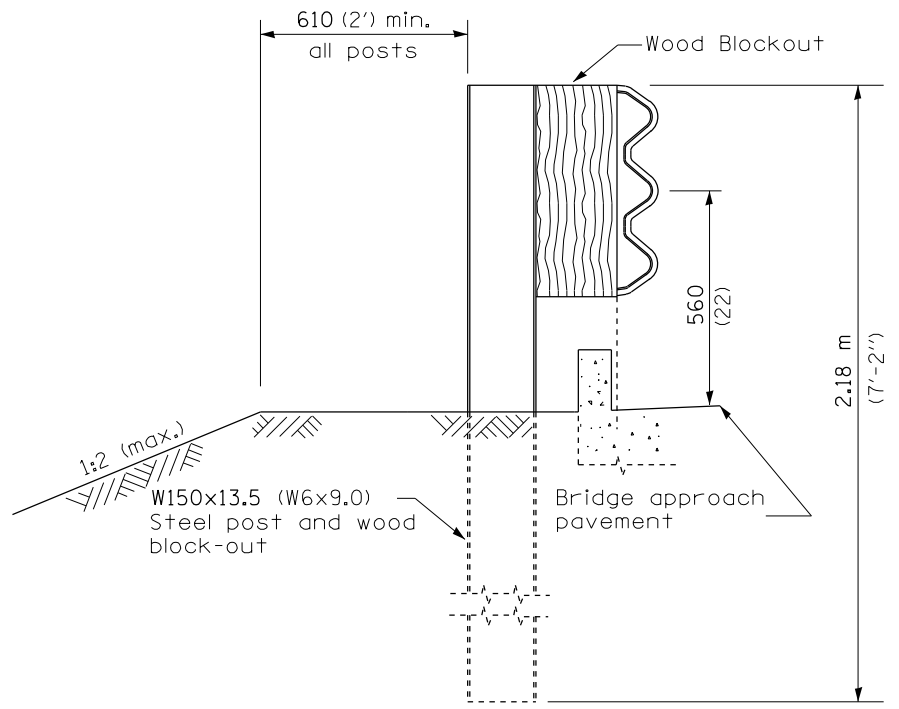
PARAPET
OR WINGWALL



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.

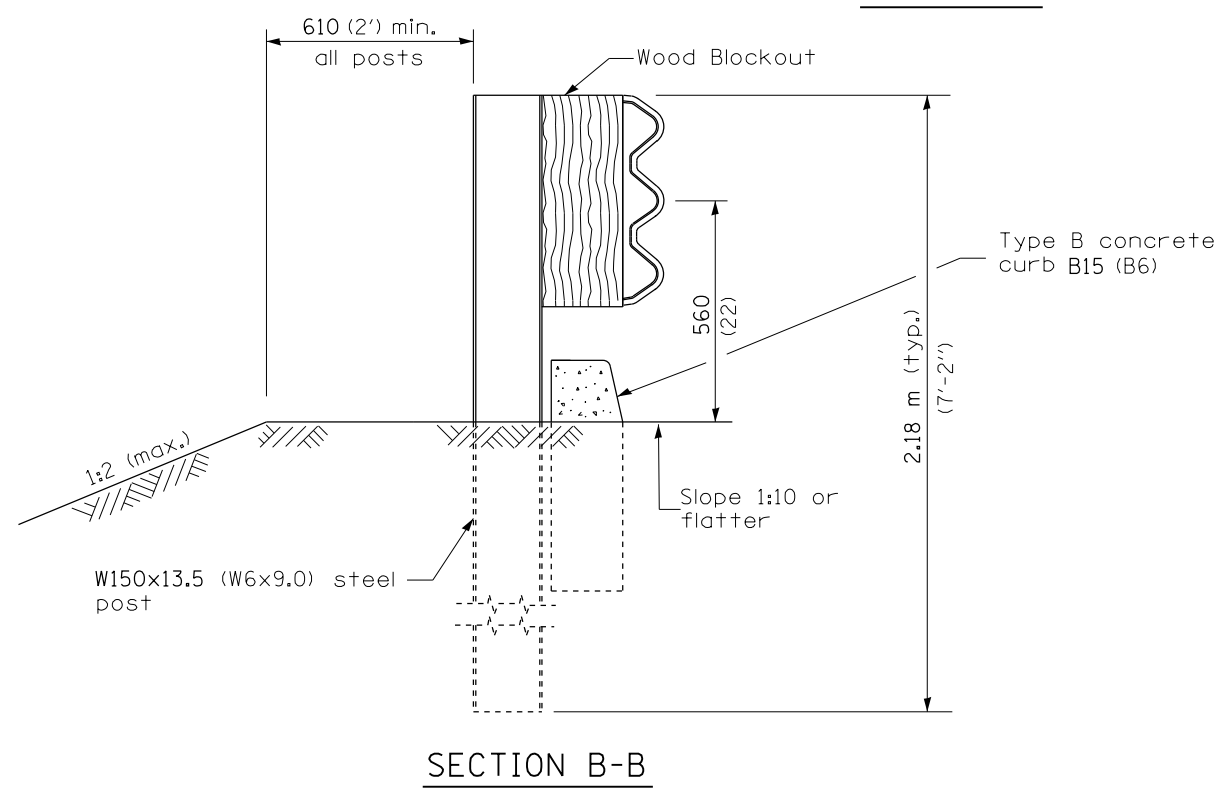
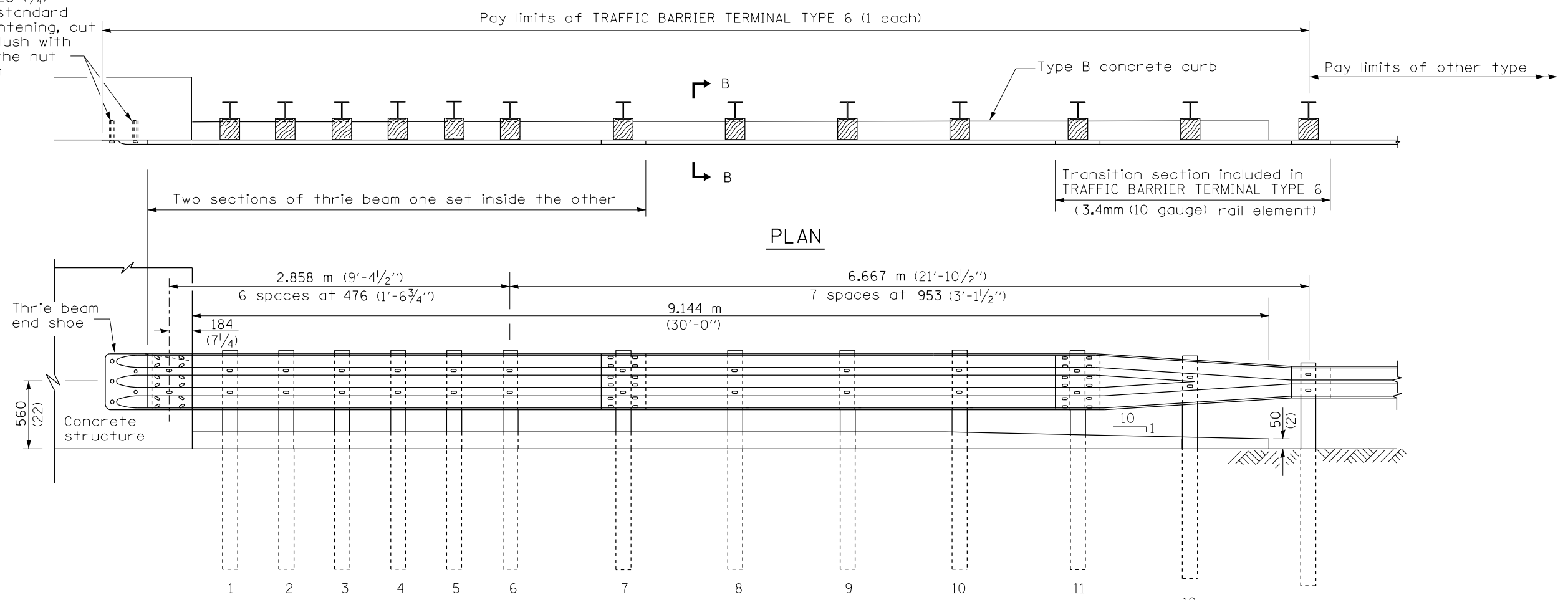
TRAFFIC BARRIER
TERMINAL, TYPE 6

Sheet 1 of 3

STANDARD 631031-05

FILE NAME =	USER NAME = markelp	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.
p:\11\084EBIDINTEG.illinois.gov\PWIDOT\Documents\DOT Offices\District 9\Projects\Geometric\Drawings\guardrail.dgn		CHECKED -	REVISED -			VAR.	D9 GUARDRAIL REPAIR FY19-1	VARIOUS	20	12
PLOT SCALE = 26.0000' / in.		DATE -	REVISED -			CONTRACT NO. 78654				
Default						ILLINOIS FED. AID PROJECT				

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.



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

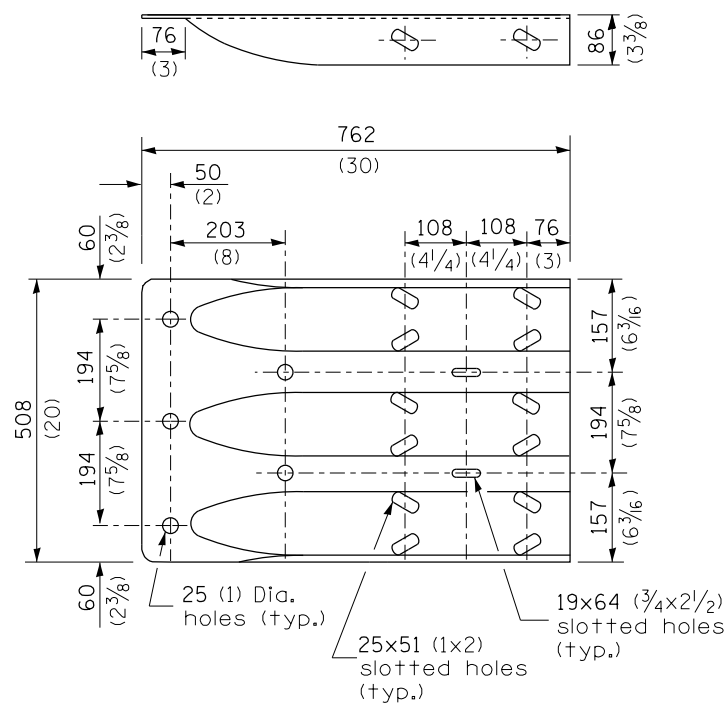
FILE NAME =	USER NAME = markelp	DESIGNED -	REVISED -
p:\11\084EBIDINTEG.illinois.gov\PIWIDOT\Documents\DOT Offices\District 9\Projects\Geometric\Drawings\guardrail.dgn		DRWN -	REVISED -
Default	PLOT SCALE = 26.0000' / in.	CHECKED -	REVISED -
	PLOT DATE = 3/15/2018	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

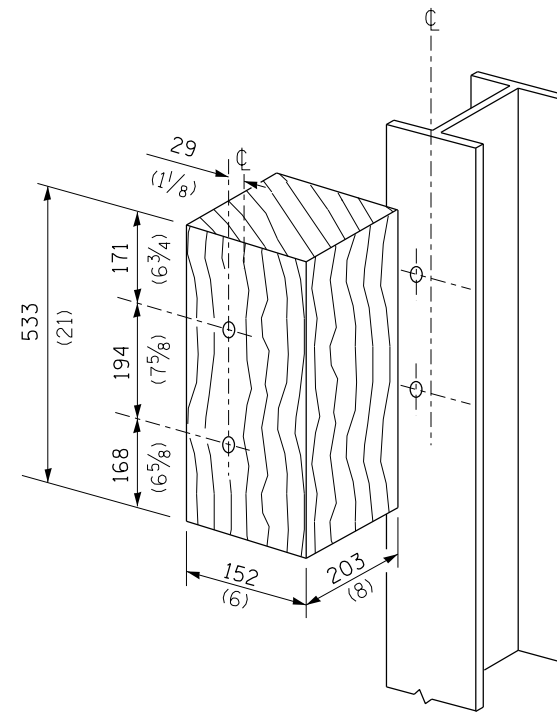
**TRAFFIC BARRIER TERMINAL, TYPE 6 STANDARD
INSTALLED PRIOR TO JANUARY 1, 2007**

SCALE: SHEET OF SHEETS STA. TO STA.

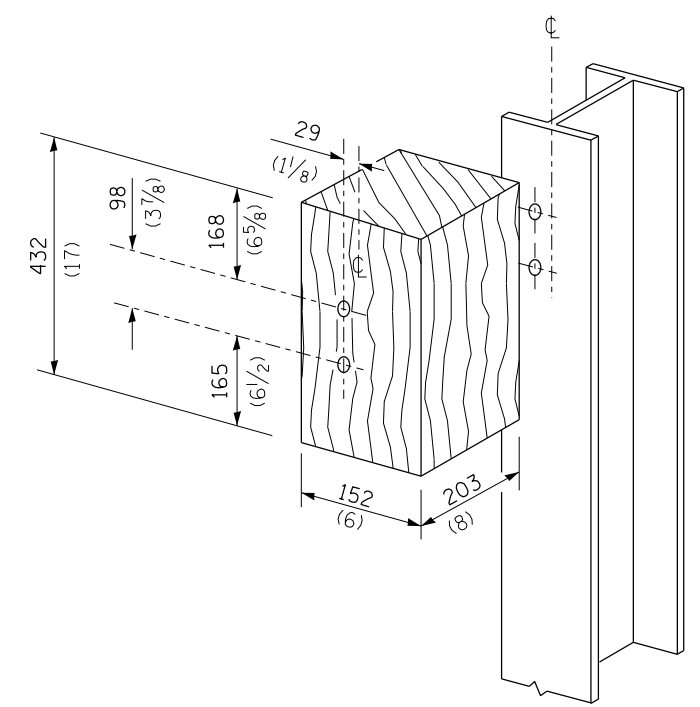
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	D9 GUARDRAIL REPAIR FY19-1	VARIOUS	20	13
CONTRACT NO. 78654				
ILLINOIS FED. AID PROJECT				



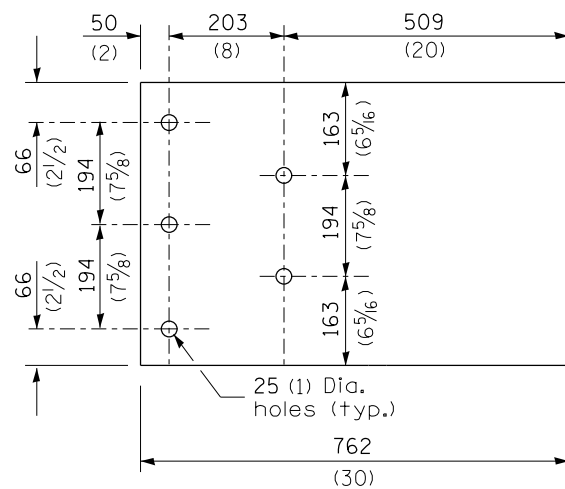
THRIE BEAM END SHOE DETAIL



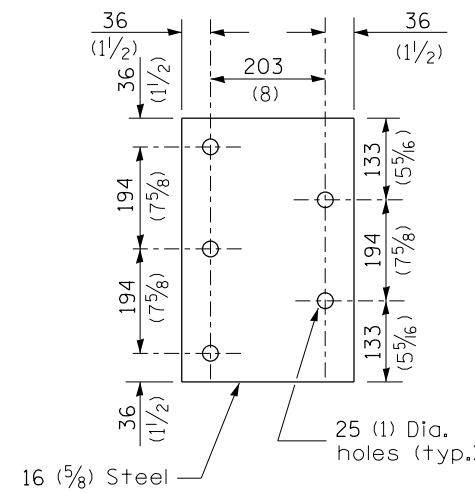
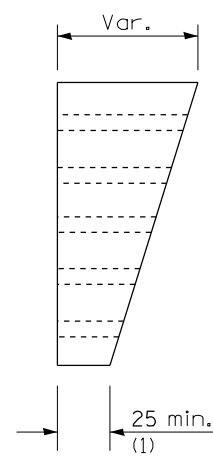
POSTS 1-11 WOOD BLOCKOUT DETAIL



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

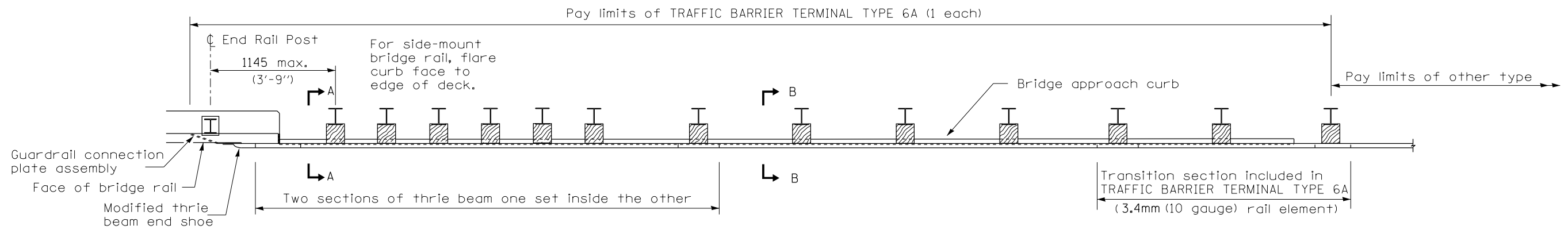
FILE NAME =	USER NAME = markkjp	DESIGNED -	REVISED -
p:\11\084EBIDINTEG.illinois.gov\PWIDOT\Documents\DOT Offices\District 9\Projects\Geometric\Drawings\guardrail.dgn		CHECKED -	REVISED -
Default	PLOT DATE = 3/15/2018	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

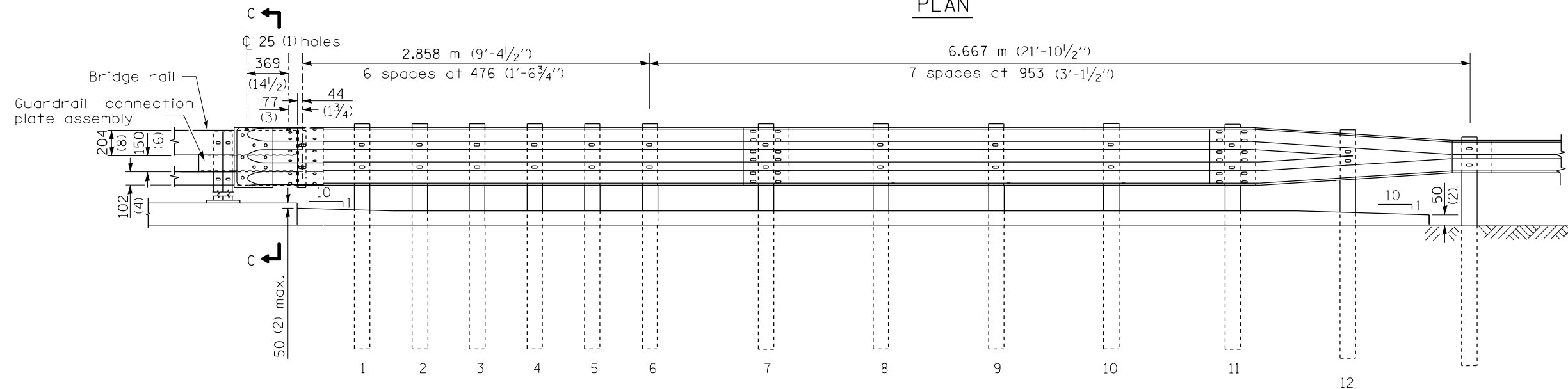
**TRAFFIC BARRIER TERMINAL, TYPE 6 STANDARD
INSTALLED PRIOR TO JANUARY 1, 2007**

SCALE: SHEET OF SHEETS STA. TO STA.

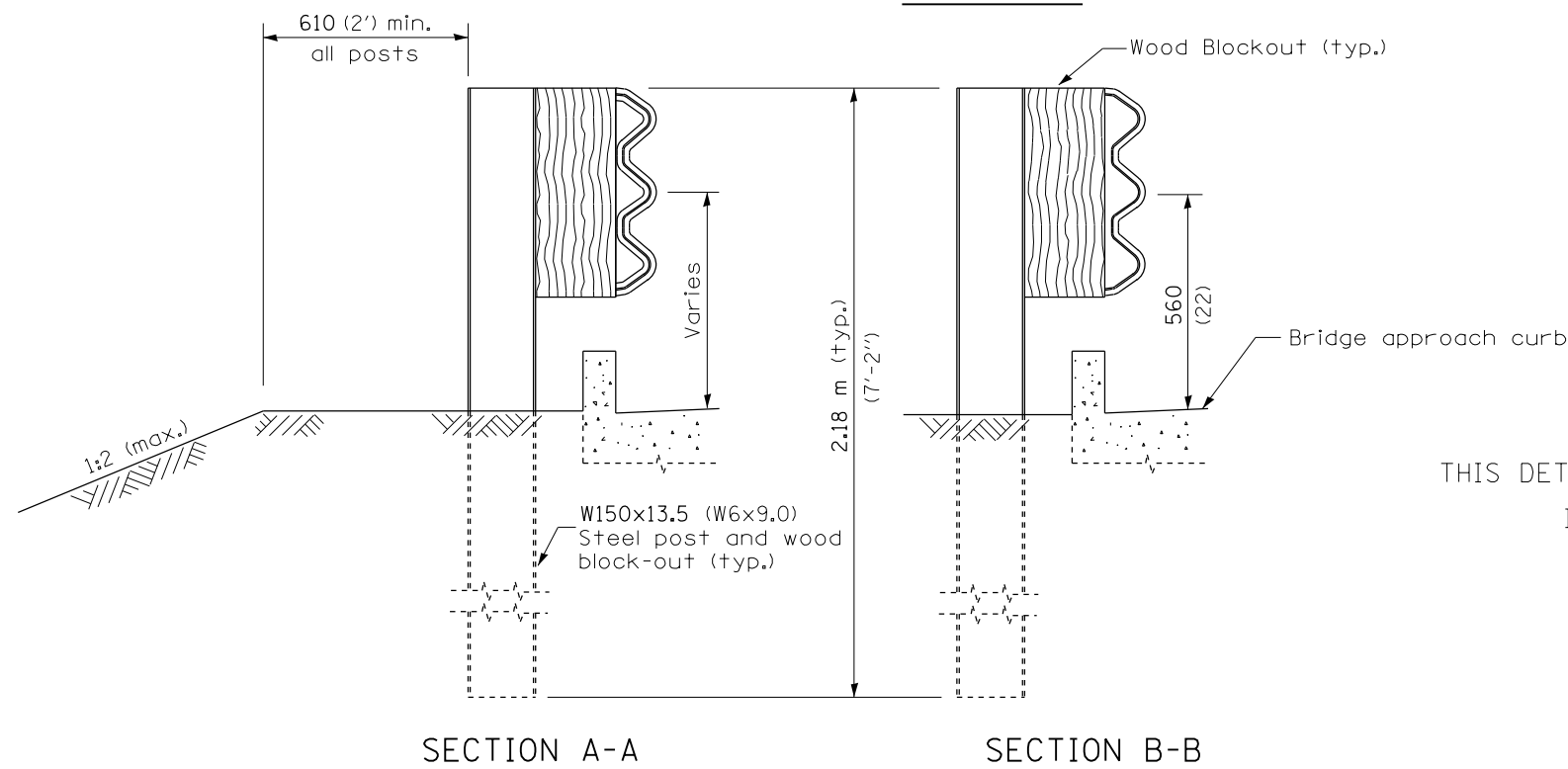
F.A. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	D9 GUARDRAIL REPAIR FY19-1	VARIOUS	20	14
CONTRACT NO. 78654				
ILLINOIS FED. AID PROJECT				



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

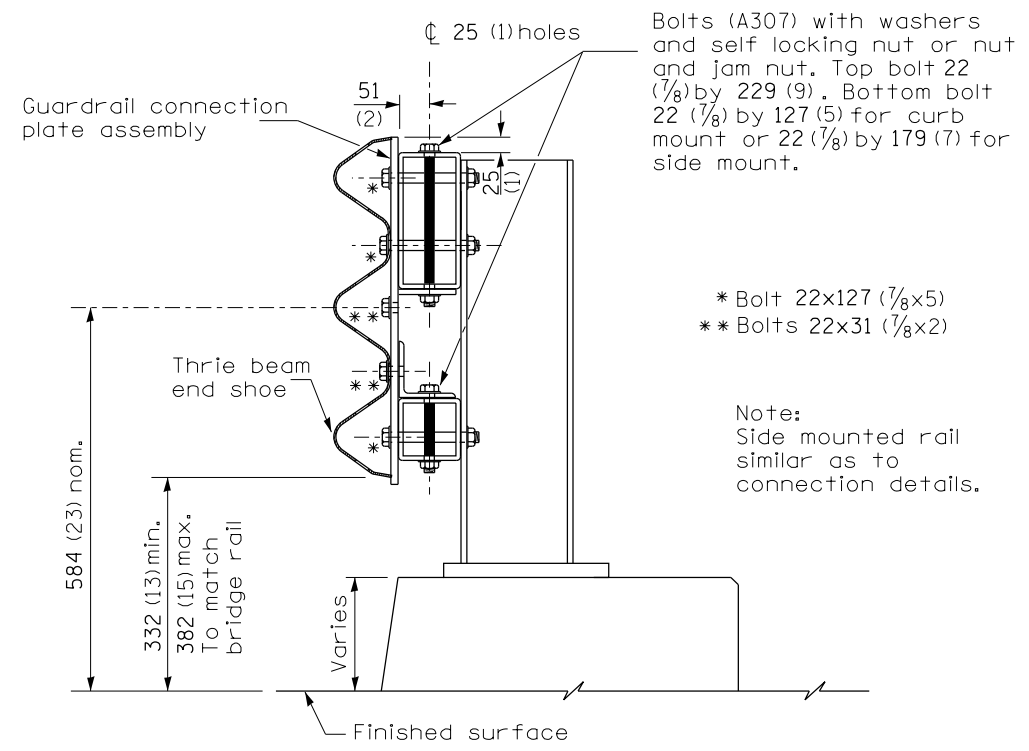
FILE NAME =	USER NAME = marklcp	DESIGNED -	REVISED -
p:\1\084EBIDINTEG\illinois.gov\PIWIDOT\Documents\DOT Offices\District 9\Projects\Geometrics\guardrail.dgn		DRAWN -	REVISED -
Default	PLOT SCALE = 26.0000' / in.	CHECKED -	REVISED -
	PLOT DATE = 3/15/2018	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

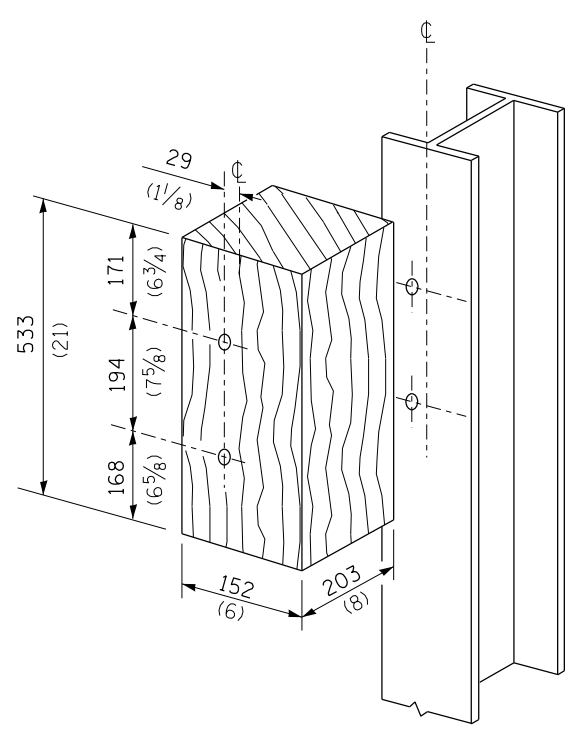
TRAFFIC BARRIER TERMINAL, TYPE 6A STANDARD
INSTALLED PRIOR TO JANUARY 1, 2007

SCALE: SHEET OF SHEETS STA. TO STA.

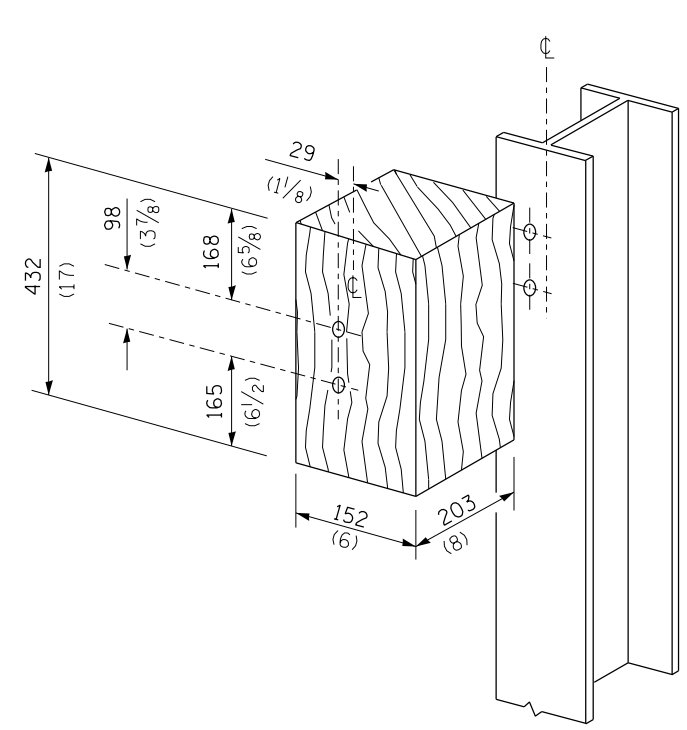
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	D9 GUARDRAIL REPAIR FY19-1	VARIOUS	20	15
CONTRACT NO. 78654				
ILLINOIS FED. AID PROJECT				



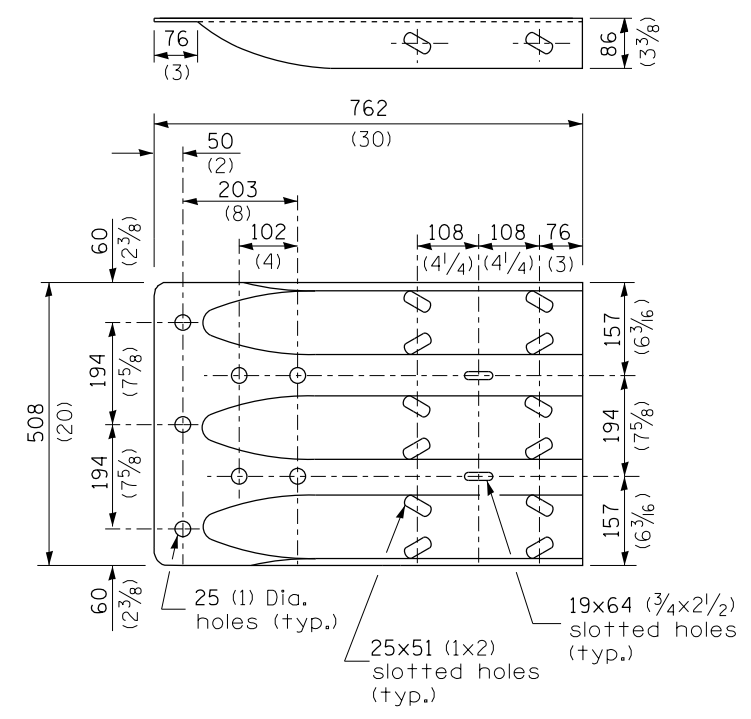
SECTION C-C



POSTS 1-11 WOOD BLOCKOUT DETAIL



POST 12 WOOD BLOCKOUT DETAIL



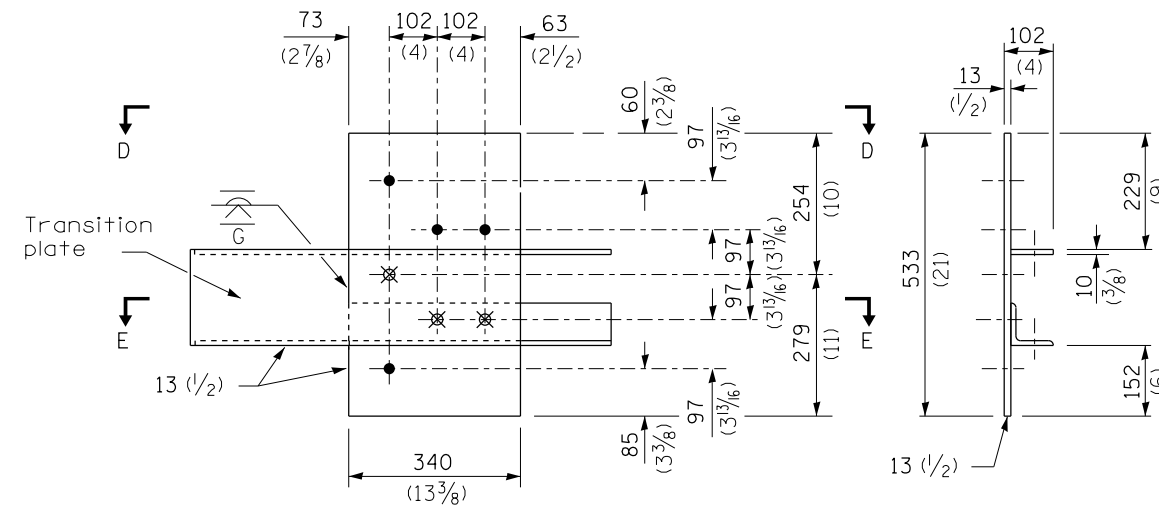
MODIFIED THRIE BEAM END SHOE DETAIL

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 =	USER NAME = markelp	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.	
pw:\IL\084EBIDINTEG.illinois.gov\PWIDOT\Documents\IDOT Offices\District 9\Projects\Geometric Data\Geometrics\guardrail.dgn		CHECKED -	REVISED -			VAR.	D9 GUARDRAIL REPAIR FY19-1	VARIOUS	20	16	
Default	PLOT SCALE = 26.0000' / in.	DATE -	REVISED -			CONTRACT NO. 78654					
	PLOT DATE = 3/15/2018					ILLINOIS FED. AID PROJECT					

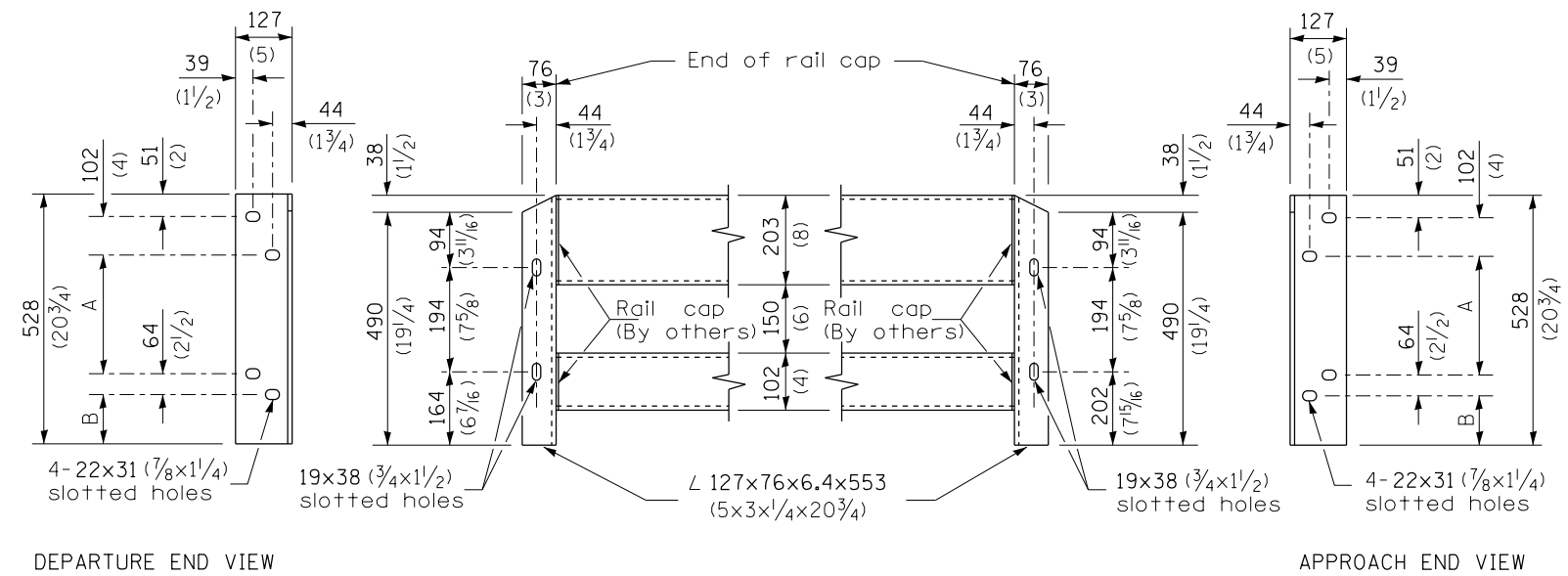
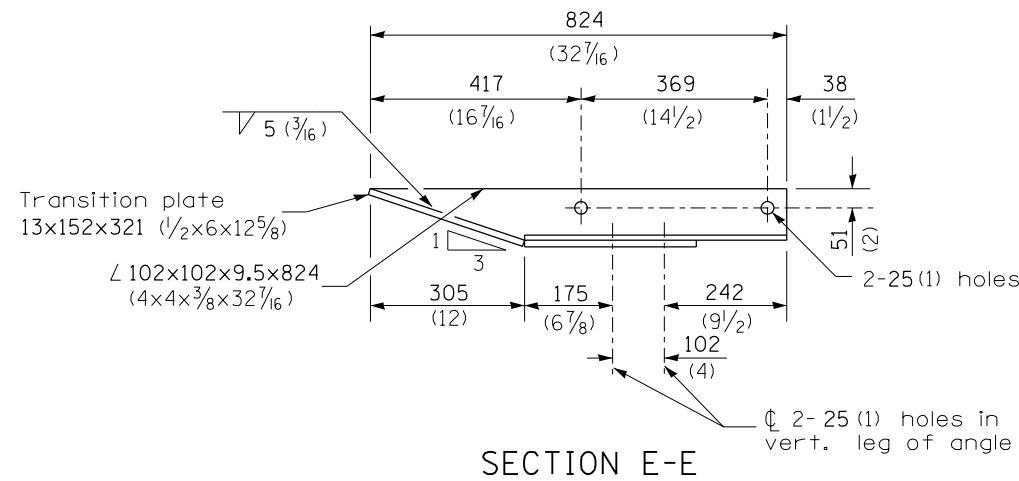
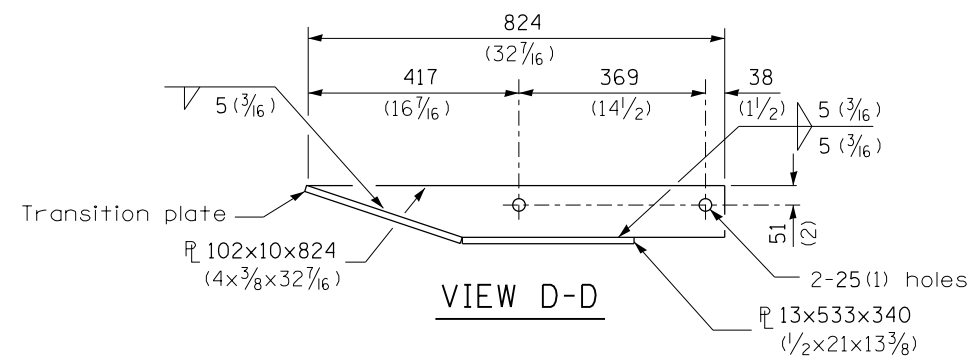


- ϕ 4-25 (1) holes for 22 ($7/8$) H.S. bolts and nuts
- ⊗ Drill and tap 3 holes for 22 ($7/8$) H.S. bolts.

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

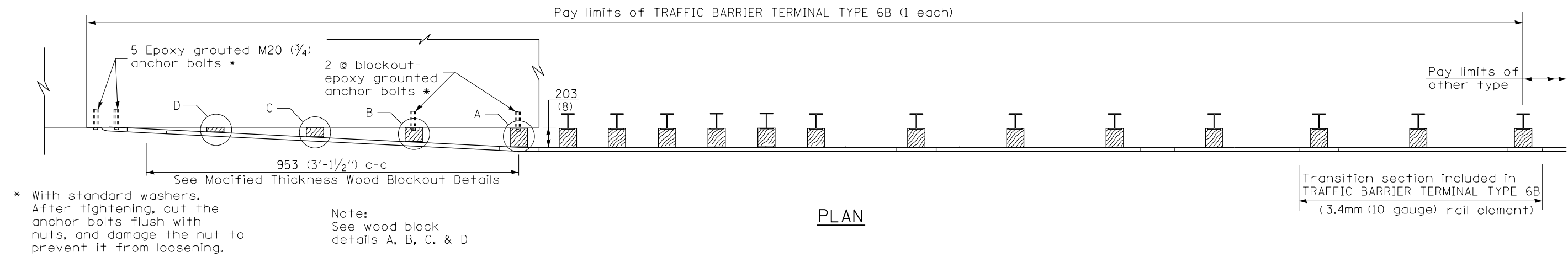
FILE NAME =	USER NAME = markelkp	DESIGNED -	REVISED -
p:\work\084EBIDINTEG\illinois.gov\PI\DOT\Documents\DOT Offices\District 9\Projects\Geometric\Drawings\guardrail.dgn		DRWN -	REVISED -
Default	PLOT SCALE = 26.0000 / in.	CHECKED -	REVISED -
	PLOT DATE = 3/15/2018	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC BARRIER TERMINAL, TYPE 6A STANDARD
INSTALLED PRIOR TO JANUARY 1, 2007**

SCALE: SHEET OF SHEETS STA. TO STA.

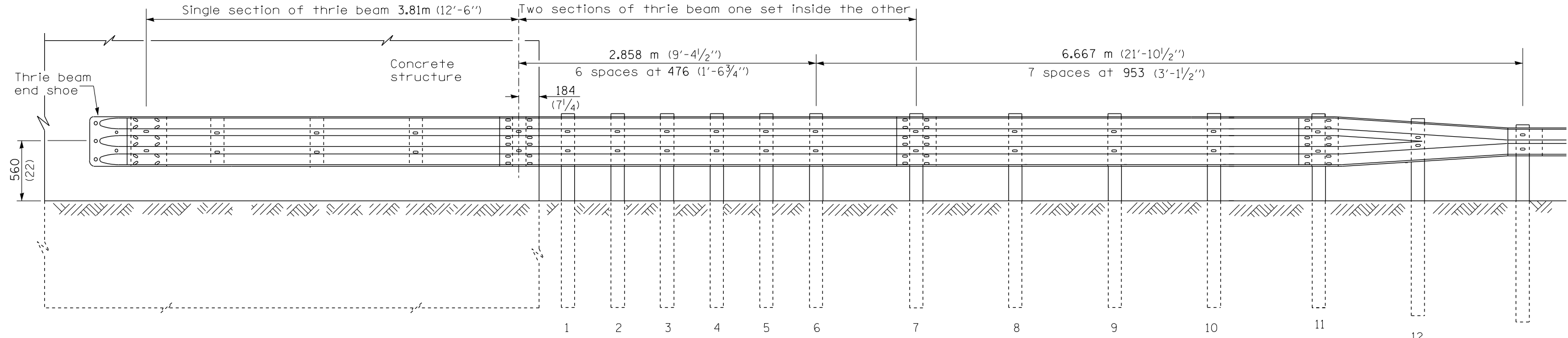
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	D9 GUARDRAIL REPAIR FY19-1	VARIOUS	20	17
CONTRACT NO. 78654				
ILLINOIS FED. AID PROJECT				



* With standard washers. After tightening, cut the anchor bolts flush with nuts, and damage the nut to prevent it from loosening.

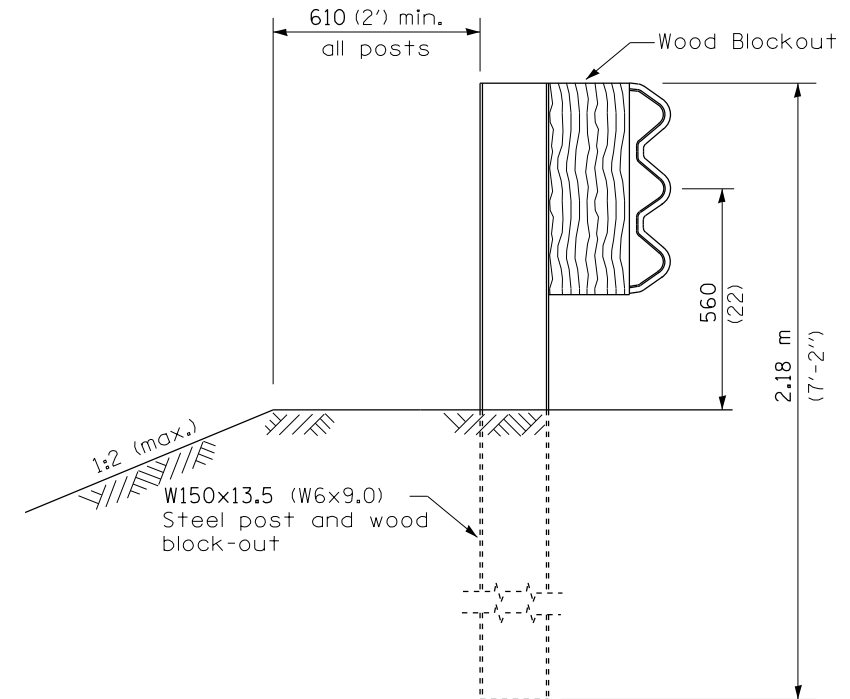
Note: See wood block details A, B, C, & D

PLAN

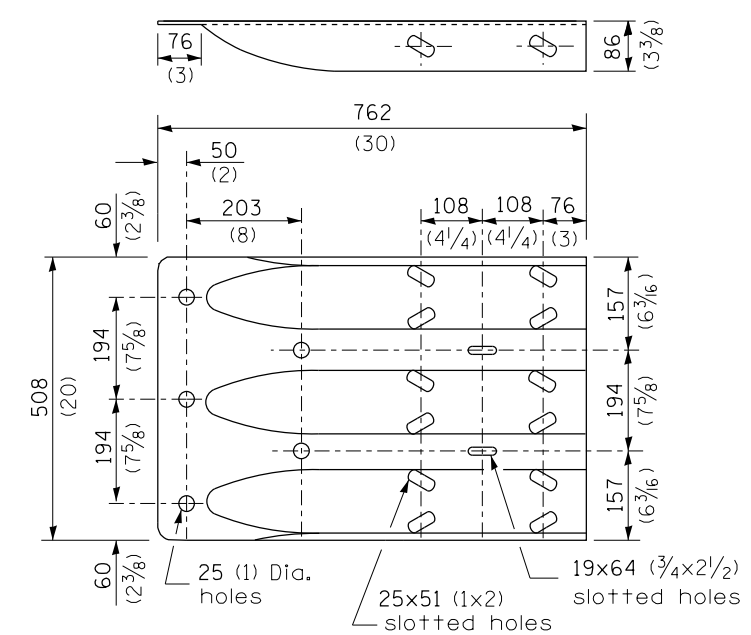


ELEVATION

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



SECTION A-A



THRIE BEAM END SHOE DETAIL

GENERAL NOTES

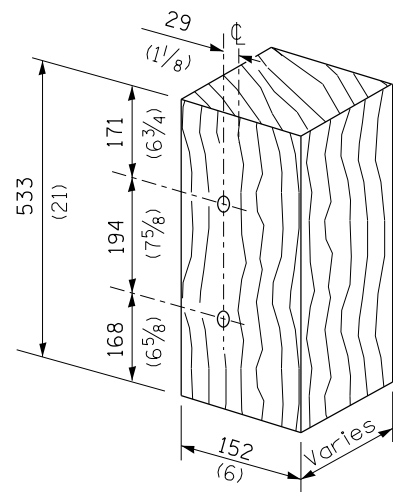
- See Standard 630001 for details of guardrail not shown.
- Thrie beam rail shall be bolted to block-out at all posts.
- All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).
- All dimensions are in millimeters (inches) unless otherwise shown.

TRAFFIC BARRIER TERMINAL, TYPE 6B

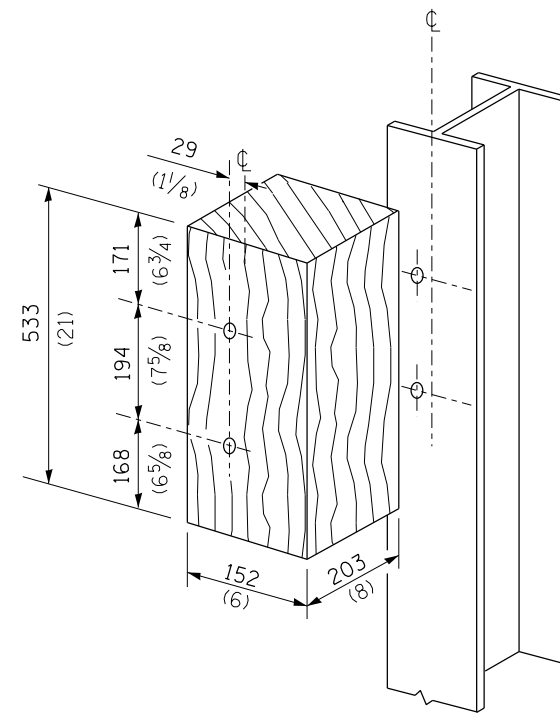
Sheet 1 of 2

STANDARD 631033-01

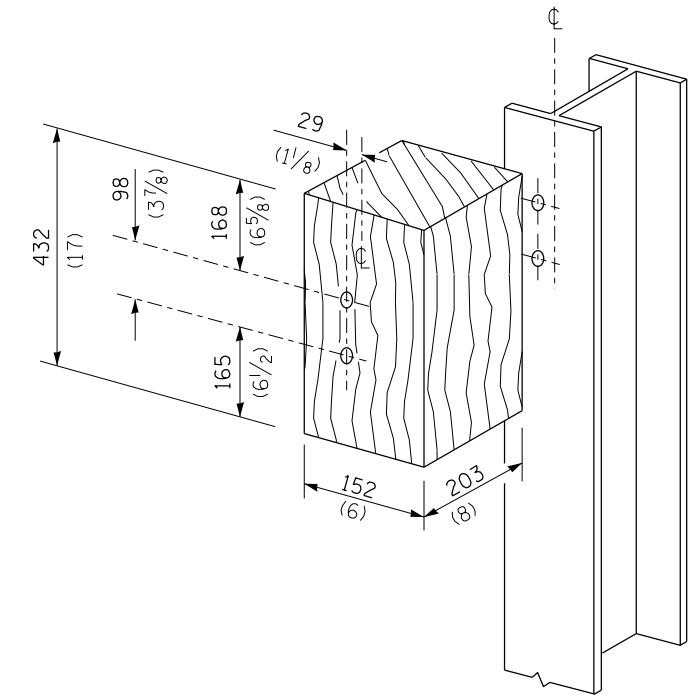
FILE NAME =	USER NAME = marklcp	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC BARRIER TERMINAL, TYPE 6B STANDARD INSTALLED PRIOR TO JANUARY 1, 2007	F.A. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
pw:\IL\084EBIDINTEG\illinois.gov\PI\DOT\Documents\DOT Offices\District 9\Projects\Geometric\Drawings\guardrail.dgn		REVISIONS	REVISIONS			VAR.	D9 GUARDRAIL REPAIR FY19-1	VARIOUS	20	18	
Default	PLOT SCALE = 26.0000' / in.	CHECKED -	REVISIONS			CONTRACT NO. 78654					
	PLOT DATE = 3/15/2018	DATE -	REVISIONS			ILLINOIS FED. AID PROJECT					



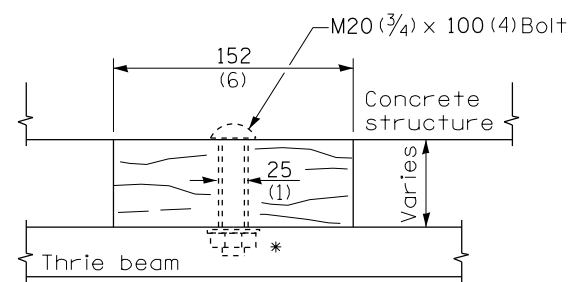
MODIFIED THICKNESS WOOD BLOCKOUT DETAIL



POSTS 1-11 WOOD BLOCKOUT DETAIL

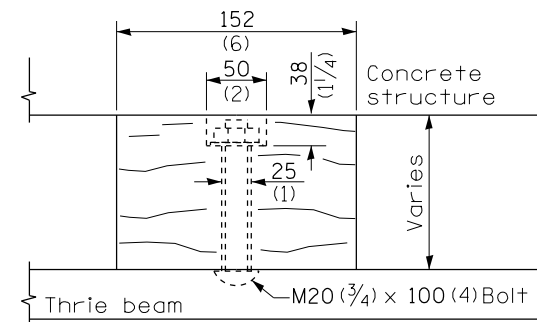


POST 12 WOOD BLOCKOUT DETAIL

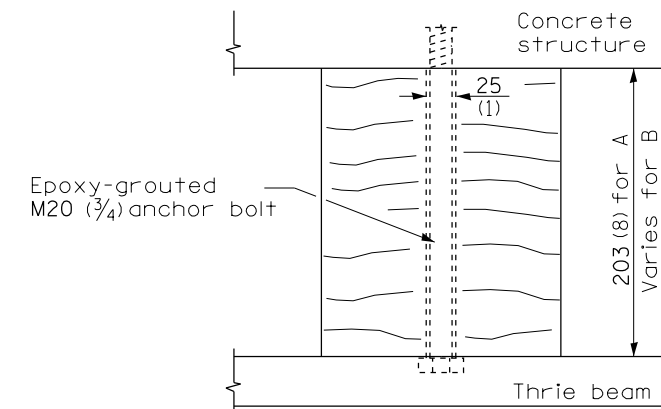


WOOD BLOCKOUT D

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

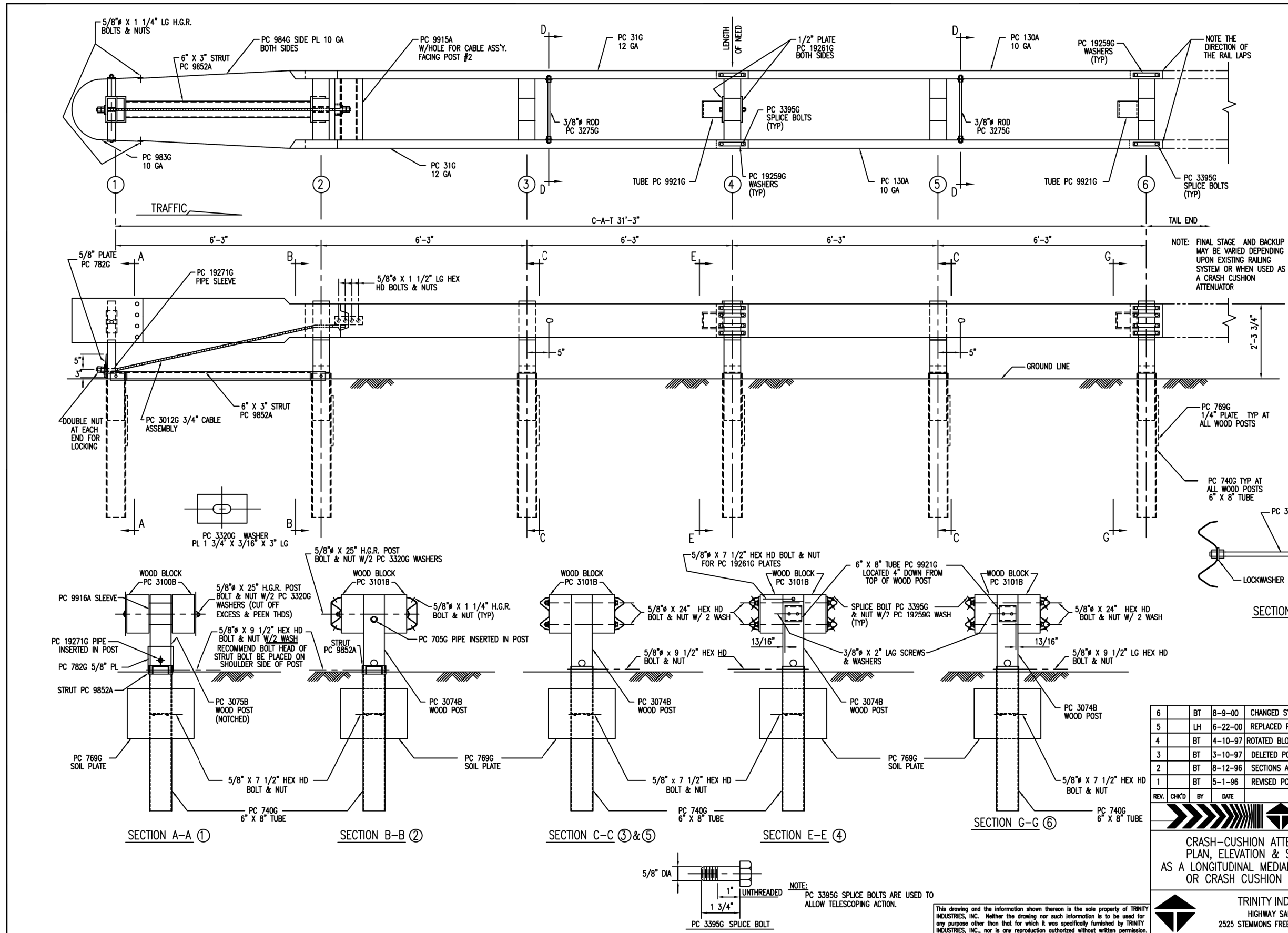
FILE NAME =	USER NAME = markelp	DESIGNED -	REVISED -
p:\11\084EBIDINTEG.illinois.gov\PIWIDOT\Documents\DOT Offices\District 9\Projects\Geometrics\guardrail.dgn		DRAWN -	REVISED -
Default	PLOT SCALE = 26.0000' / in.	CHECKED -	REVISED -
	PLOT DATE = 3/15/2018	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC BARRIER TERMINAL, TYPE 6B STANDARD
INSTALLED PRIOR TO JANUARY 1, 2007

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	D9 GUARDRAIL REPAIR FY19-1	VARIOUS	20	19
CONTRACT NO. 78654				
ILLINOIS FED. AID PROJECT				



C-A-T BILL OF MATERIAL		
PRODUCT CODE	QTY	DESCRIPTION
31G	2	12/12/6/0 CAT (GUARDRAIL)
130A	2	10/12/6/5/10/6/8/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" REST 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