

07-30-2021 LETTING ITEM 072

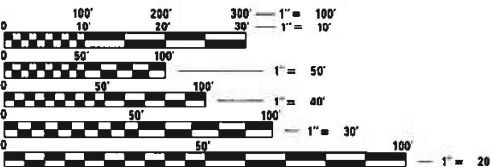
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED
HIGHWAY PLANS

VARIOUS ROUTES
SECTION D5 GR & FENCE REPAIR 2021-1
GUARDRAIL & FENCE REPAIR
VARIOUS COUNTIES

C-95-040-21

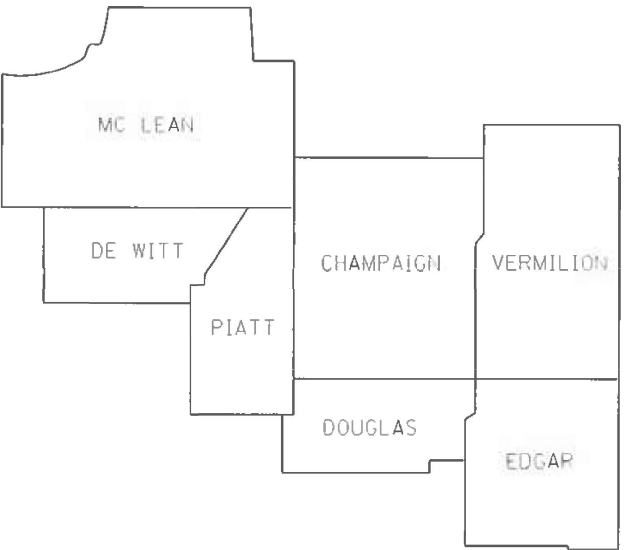
FOR INDEX OF SHEETS, SEE SHEET NO. 2
FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 3-6



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

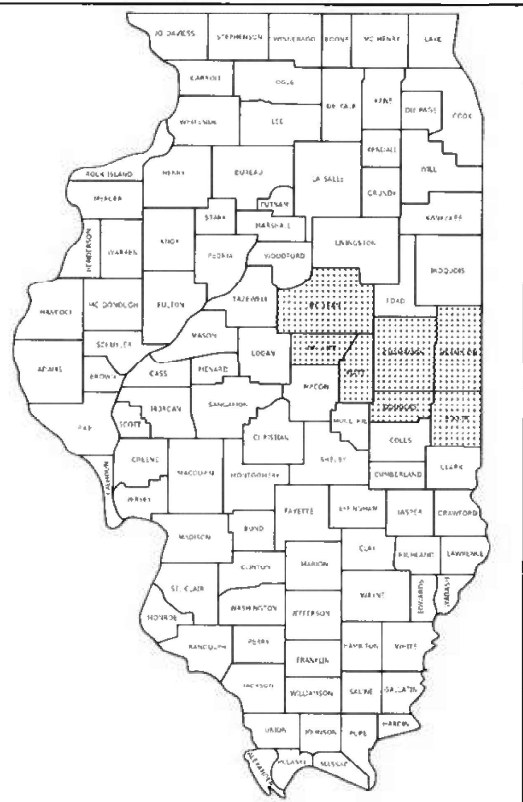
J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

PROJECT ENGINEER: JASON STULTS
PROJECT LEADER: RYAN CARROLL
DESIGNER: AARON FARNHAM
PHONE NUMBER: 217-465-4181
CONTRACT NO. 70F33



F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	*	VARIOUS	10	1
ILLINOIS CONTRACT NO. 70F33				
* D5 GR & FENCE REPAIR 2021-1				

D-95-022-23



LOCATION OF SECTION INDICATED THUS: [shaded box]

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED 6/17/2021
Kensil A. Barnett swp
REGIONAL ENGINEER

June 25, 2021
[Signature]
ENGINEER OF DESIGN AND ENVIRONMENT

June 25, 2021
[Signature]
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

INDEX OF SHEETS

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
1	COVER SHEET
2	INDEX OF SHEETS
2	HIGHWAY STANDARDS
2	GENERAL NOTES
3 TO 6	SUMMARY OF QUANTITIES
7 TO 10	PLAN DETAILS

GENERAL NOTES

G.N.-100A
ELECTRONIC FILES AND/OR ELECTRONIC SURVEY INFORMATION INCLUDING CADD
FILES WILL NOT BE AVAILABLE TO THE CONTRACTOR.

HIGHWAY STANDARDS

<u>STANDARD NO.</u>	<u>DESCRIPTION</u>
000001-08	STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
001006	DECIMAL OF AN INCH AND OF A FOOT
630001-12	STEEL PLATE BEAM GUARDRAIL
630101-10	STRONG POST GUARDRAIL ATTACHED TO CULVERT
630106-02	LONG-SPAN GUARDRAIL OVER CULVERT
630111-01	WEAK POST GUARDRAIL ATTACHED TO CULVERT
630201-07	PCC/HMA STABILIZATION AT STEEL PLATE BEAM GUARDRAIL
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
631046-04	TRAFFIC BARRIER TERMINAL, TYPE 10
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' (4.5M) AWAY
701006-05	OFF-ROAD OPERATIONS, 2L, 2W, 15' (4.5M) TO 24" (600MM) FROM PAVEMENT EDGE
701101-05	OFF-ROAD OPERATIONS, MULTILANE, 15' (4.5M) TO 24" (600MM) FROM PAVEMENT EDGE
701106-02	OFF-ROAD OPERATIONS, MULTILANE, MORE THAN 15' (4.5M) AWAY
701201-05	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS \geq 45 MPH
701206-05	LANE CLOSURE, 2L, 2W, NIGHT ONLY, FOR SPEEDS \geq 45 MPH
701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701400-10	APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
701401-12	LANE CLOSURE, FREEWAY/EXPRESSWAY
701406-12	LANE CLOSURE, FREEWAY/EXPRESSWAY, DAY OPERATIONS ONLY
701411-09	LANE CLOSURE, MULTILANE, AT ENTRANCE OR EXIT RAMP, FOR SPEEDS \geq 45 MPH
701421-08	LANE CLOSURE, MULTILANE, DAY OPERATIONS ONLY, FOR SPEEDS \geq MPH TO 55 MPH
701422-10	LANE CLOSURE, MULTILANE, FOR SPEEDS \geq 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
701502-09	URBAN LANE CLOSURE, 2L, 2W, WITH BIDIRECTIONAL LEFT TURN LANE
701601-09	URBAN LANE CLOSURE, MULTILANE, 1W OR 2W WITH NONTRAVERSABLE MEDIAN
701602-10	URBAN LANE CLOSURE, MULTILANE, 2W WITH BIDIRECTIONAL LEFT TURN LANE
701606-10	URBAN LANE CLOSURE, MULTILANE, 2W WITH MOUNTABLE MEDIAN
701701-10	URBAN LANE CLOSURE, MULTILANE INTERSECTION
701901-08	TRAFFIC CONTROL DEVICES

COMMITMENTS

THERE ARE NO COMMITMENTS FOR THIS CONTRACT

USER NAME = farnhamba	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 6/17/2021	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

INDEX OF SHEETS, HIGHWAY STANDARDS & GENERAL NOTES

SCALE: N/A	SHEET 1	OF 1	SHEETS	STA.	TO STA.
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	*	VARIOUS	10	2
		CONTRACT NO. 70F33		
		ILLINOIS FED. AID PROJECT		

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SUMMARY OF QUANTITIES

LOCATION: VARIOUS ROUTES VARIOUS ROUTES VARIOUS ROUTES

COUNTY: VARIOUS VARIOUS VARIOUS
FUNDING BREAKOUT: 100% STATE 100% STATE 100% STATE
CONSTRUCTION CODE: 0021 0021 0021
TOTAL QUANTITY MCHD CONTRACT MAINT HTCB

CODE NO.	DESCRIPTION	UNIT	TOTAL QUANTITY	MCHD	CONTRACT MAINT	HTCB
63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	100.0	75.0	25.0	
63100045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	4.0	2.0	2.0	
63100070	TRAFFIC BARRIER TERMINAL, TYPE 5	EACH	1.0	1.0		
63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	1.0	1.0		
63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	1.0	1.0		
63100089	TRAFFIC BARRIER TERMINAL, TYPE 6B	EACH	1.0	1.0		
63100105	TRAFFIC BARRIER TERMINAL, TYPE 10	EACH	1.0	1.0		
63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	18.0	11.0	7.0	
63400105	GUARD POSTS	EACH	10.0	10.0		
64300260	IMPACT ATTENUATORS (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	1.0	1.0		
64300370	IMPACT ATTENUATORS (FULLY REDIRECTIVE, WIDE), TEST LEVEL 3	EACH	1.0	1.0		
66400105	CHAIN LINK FENCE, 4'	FOOT	300.0	200.0	100.0	
66400305	CHAIN LINK FENCE, 6'	FOOT	450.0	250.0	200.0	
66500105	WOVEN WIRE FENCE, 4'	FOOT	1,500.0	1,250.0	250.0	

*SPECIALTY ITEM

* D5 GR & FENCE REPAIR 2021-1

	USER NAME = farnhamba	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -					VAR	*	VARIOUS	10	3
	PLOT SCALE = 40,0000 * / in.	CHECKED -	REVISED -					CONTRACT NO. 70F33				
	PLOT DATE = 6/14/2021	DATE -	REVISED -		SCALE: N/A	SHEET 1	OF 4 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT		

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SUMMARY OF QUANTITIES

				LOCATION:	VARIOUS ROUTES		VARIOUS ROUTES		VARIOUS ROUTES	
				COUNTY:	VARIOUS 100% STATE		VARIOUS 100% STATE		VARIOUS 100% STATE	
				FUNDING BREAKOUT:	100% STATE		100% STATE		100% STATE	
				CONSTRUCTION CODE:	0021		0021		0021	
CODE NO.	DESCRIPTION	UNIT	TOTAL QUANTITY	MCHD	CONTRACT MAINT		HTCB			
66501200	WOVEN WIRE GATES, 4' X 8' DOUBLE	EACH	1.0	1.0						
72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	28.0	14.0	14.0					
78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	14.0	8.0	6.0					
X0325256	REPAIR HIGH TENSION CABLE (BRIFEN)	FOOT	240.0	40.0					200.0	
X0325258	REPAIR HIGH TENSION CABLE SYSTEM END SECTION (BRIFEN)	EACH	16.0	1.0					15.0	
X0325260	REPAIR POSTS (BRIFEN)	EACH	36.0	6.0					30.0	
X0325264	REPAIR IMPACT ATTENUATORS (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	1.0	1.0						
X0325899	REPAIR HIGH TENSION CABLE (GIBALTAR)	FOOT	1,000.0	450.0					550.0	
X0325901	REPAIR POSTS (GIBALTAR)	EACH	420.0	290.0					130.0	
X0325975	REPAIR HIGH TENSION CABLE SYSTEM END SECTION (GIBALTAR)	EACH	30.0	10.0					20.0	
X0326201	REPAIR HIGH TENSION CABLE (TRINITY)	FOOT	550.0	150.0					400.0	
X0326202	REPAIR POSTS (TRINITY)	EACH	100.0	70.0					30.0	
X0326203	REPAIR HIGH TENSION CABLE SYSTEM END SECTION (TRINITY)	EACH	15.0	2.0					13.0	
X2300003	SPLICING HIGH TENSION CABLE (BRIFEN)	EACH	4.0	1.0					3.0	

*SPECIALTY ITEM

* D5 GR & FENCE REPAIR 2021-1

	USER NAME = farnhamba	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	PLOT DATE = 6/14/2021	DATE -	REVISED -		SCALE: N/A	SHEET 2	OF 4	SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT		

SUMMARY OF QUANTITIES

LOCATION:	VARIOUS	VARIOUS	VARIOUS
	ROUTES	ROUTES	ROUTES

COUNTY:	VARIOUS	VARIOUS	VARIOUS
FUNDING BREAKOUT:	100% STATE	100% STATE	100% STATE
CONSTRUCTION CODE:	0021	0021	0021

CODE NO.	DESCRIPTION	UNIT	TOTAL QUANTITY	MCHD	CONTRACT MAINT	HTCB
X2300004	SPLICING HIGH TENSION CABLE (GIBRALTAR)	EACH	8.0	3.0		5.0
X2300005	SPLICING HIGH TENSION CABLE (TRINITY)	EACH	5.0	2.0		3.0
X6330725	STEEL PLATE BEAM GUARDRAIL (SHORT RADIUS)	FOOT	50.0	25.0	25.0	
X6331110	STEEL POSTS, SPECIAL	EACH	2.0	2.0		
X6340205	GUARD POSTS REMOVAL	EACH	10.0	10.0		
X6432110	REPLACE IMPACT ATTENUATORS (NON-REDIRECTIVE), TEST LEVEL 3	EACH	60.0	48.0	8.0	4.0
X6640594	CHAIN LINK FENCE POST 4'	EACH	24.0	15.0	9.0	
X6640601	CHAIN LINK FENCE POST 6'	EACH	24.0	15.0	9.0	
Z0008760	EMERGENCY WORK CALL OUT	EACH	37.0	23.0	14.0	
Z0012752	CONCRETE STRUCTURE REPAIR	CU FT	11.0	8.0	3.0	
Z0020210	PULL POST ARRANGEMENT	EACH	28.0	20.0	8.0	
Z0052000	REPAIR STEEL PLATE BEAM GUARDRAIL, TYPE A	FOOT	2,000.0	1,285.0	715.0	
Z0052100	REPAIR STEEL PLATE BEAM GUARDRAIL, TYPE B	FOOT	25.0	25.0		
Z0052410	REPAIR TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL (TANGENT)	EACH	10.0	7.0	3.0	

*SPECIALTY ITEM

* D5 GR & FENCE REPAIR 2021-1

FILE NAME - DWG	USER NAME = farnhamba	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES					F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	PLOT DATE = 6/14/2021	DATE -	REVISED -		SCALE: N/A	SHEET 3	OF 4 SHEETS	STA.	TO STA.		ILLINOIS FED. AID PROJECT			

SUMMARY OF QUANTITIES

LOCATION:

VARIOUS ROUTES

VARIOUS ROUTES

VARIOUS ROUTES

COUNTY:

VARIOUS
100% STATE

VARIOUS
100% STATE

VARIOUS
100% STATE

FUNDING BREAKOUT:

0021

0021

0021

CONSTRUCTION CODE:

MCHD

CONTRACT MAINT

HTCB

CODE NO.

DESCRIPTION

UNIT

TOTAL QUANTITY

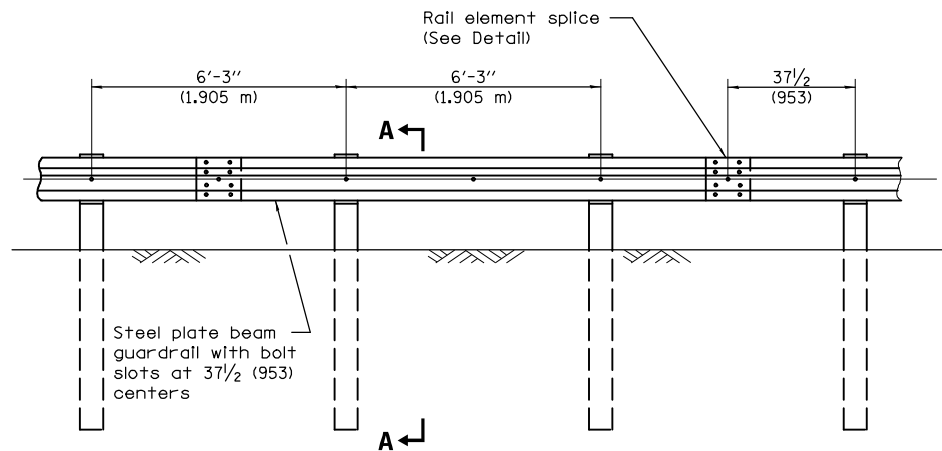
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*SPECIALTY ITEM

* D5 GR & FENCE REPAIR 2021-1

FILE NAME - DWG	USER NAME = farnhamba	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	PLOT DATE = 6/14/2021	DATE -	REVISED -		SCALE: N/A	SHEET 4	OF 4 SHEETS	STA.	TO STA.				
									ILLINOIS FED. AID PROJECT				

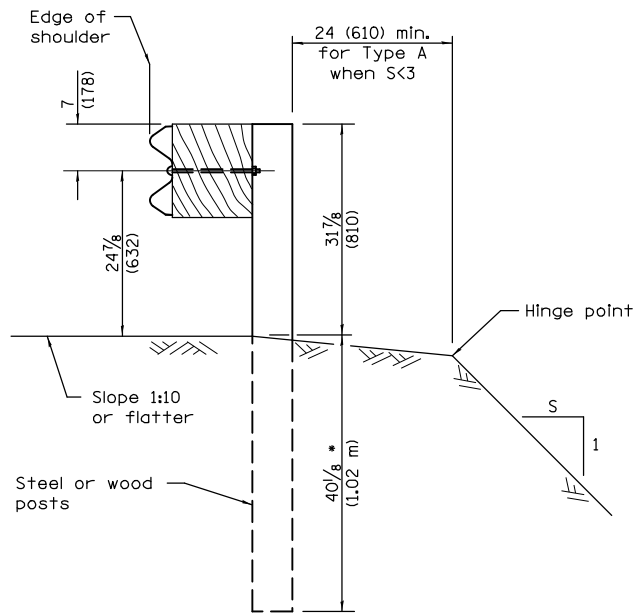
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ELEVATION

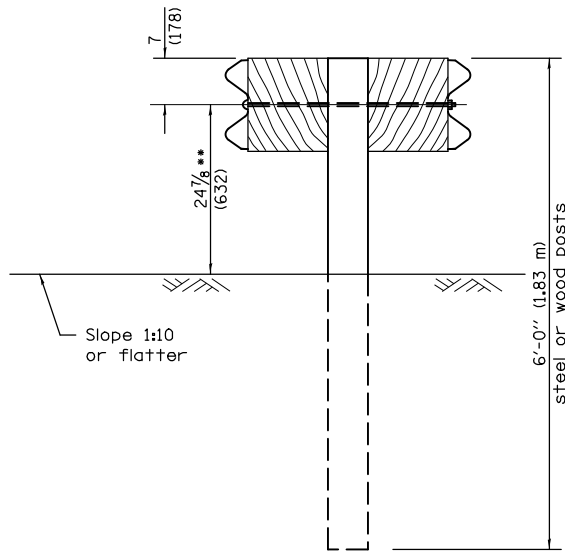
TYPE A

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



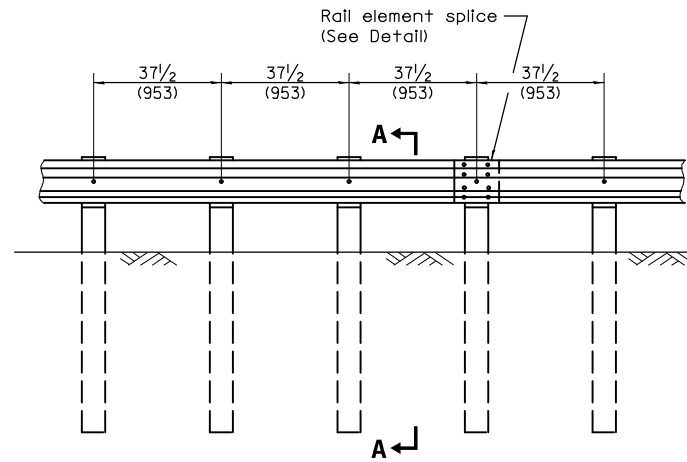
SECTION A-A

* When "S" is less than 3 and the distance from the back of post is less than 24 (610), the post shall be steel and the embedment shall be 76 7/8 (1934).



SECTION B-B

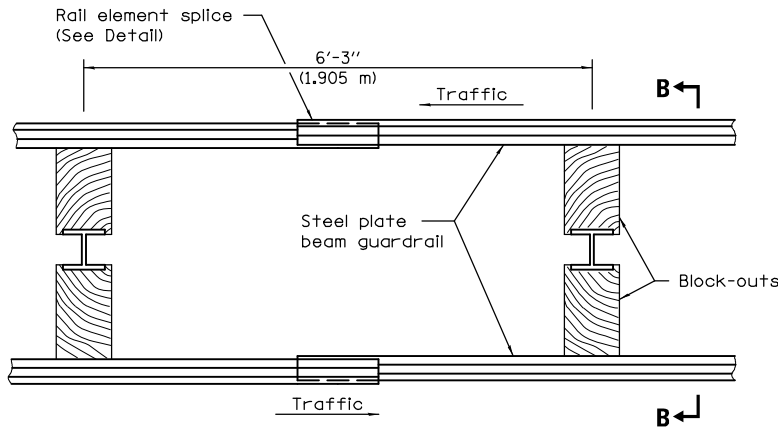
** When connecting Type D guardrail to an impact attenuator, adjust this dimension to 21 7/8 (556) over a distance of 25'-0" (7.62 m) from point of connection.



ELEVATION

TYPE B

37 1/2 (953) Closed post spacing



PLAN

TYPE D

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

GENERAL NOTES

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

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

STEEL PLATE BEAM
GUARDRAIL

(Sheet 1 of 4)

STANDARD 630001-10

* D5 GR & FENCE REPAIR 2021-1

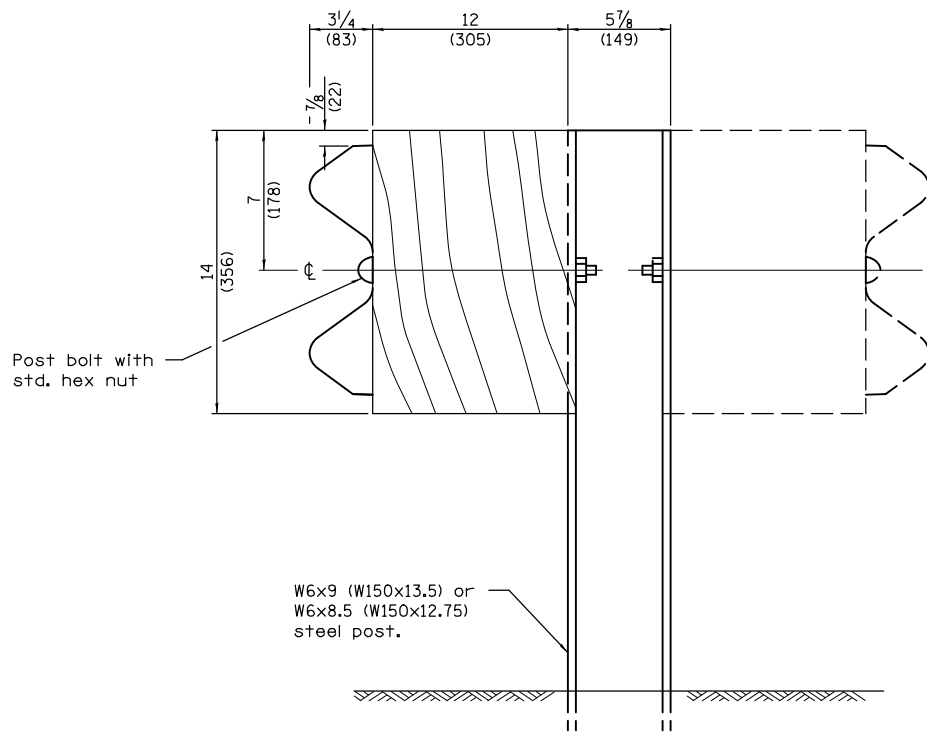
USER NAME = farnhamba	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 40,0000 * / in.	CHECKED -	REVISED -
PLOT DATE = 6/17/2021	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

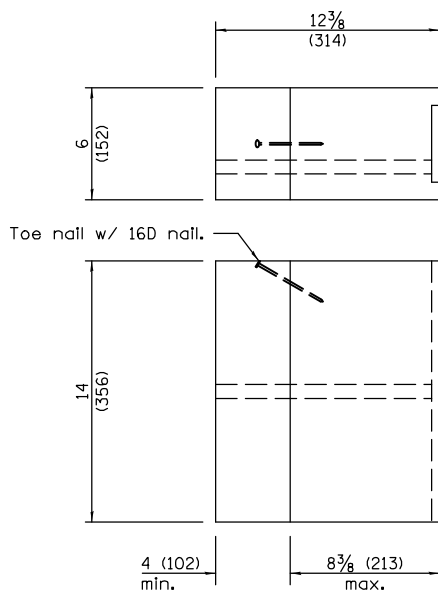
DETAIL OF 27 1/2" STEEL PLATE BEAM GUARDRAIL

SCALE: N/A SHEET 1 OF 4 SHEETS STA. TO STA.

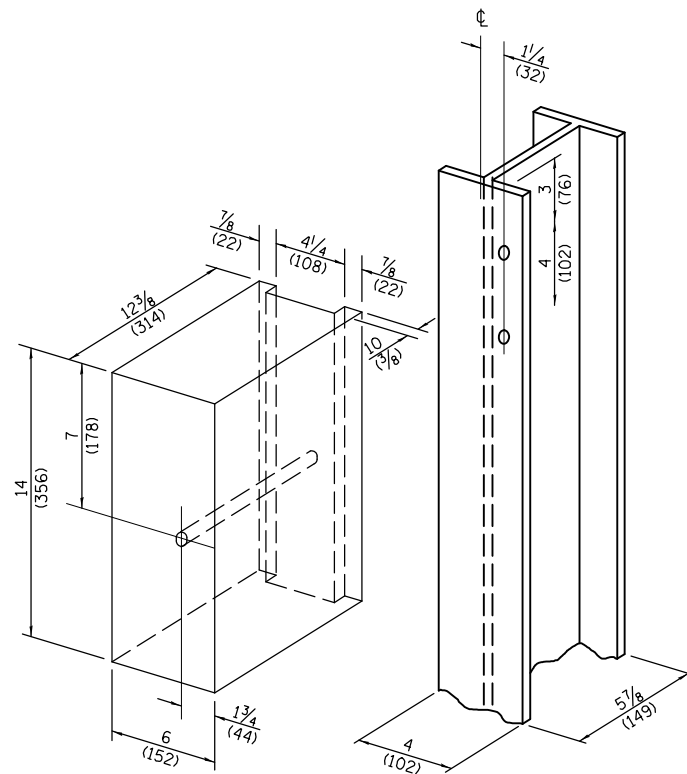
RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	*	VARIOUS	10	7
CONTRACT NO. 70F33				
ILLINOIS FED. AID PROJECT				



STEEL POST CONSTRUCTION

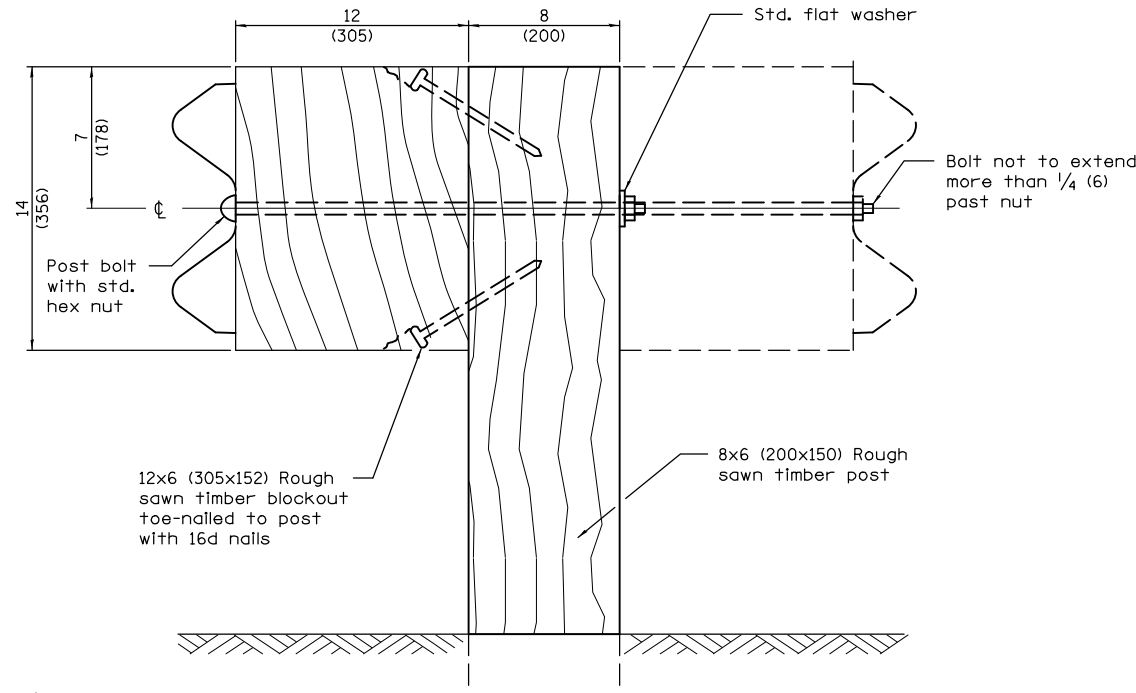


TWO-PIECE WOOD BLOCKOUT OPTION

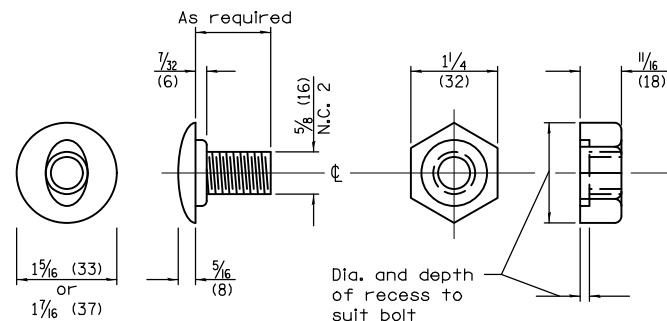


Note:
All holes 3/4 (20) dia.

WOOD BLOCK-OUT AND STEEL POST DETAILS



WOOD POST CONSTRUCTION



POST OR SPLICE BOLT & NUT

STEEL PLATE BEAM GUARDRAIL

(Sheet 2 of 4)

STANDARD 630001-10

MODEL: 430001-10
FILE: 430001-10.dwg
PROJECT: 0570733
OFFICE: District 5
DATE: 6/17/2021

USER NAME = farnhamba	DESIGNED -	REVISED -
PLOT SCALE = 40,0000 * / in.	DRAWN -	REVISED -
PLOT DATE = 6/17/2021	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

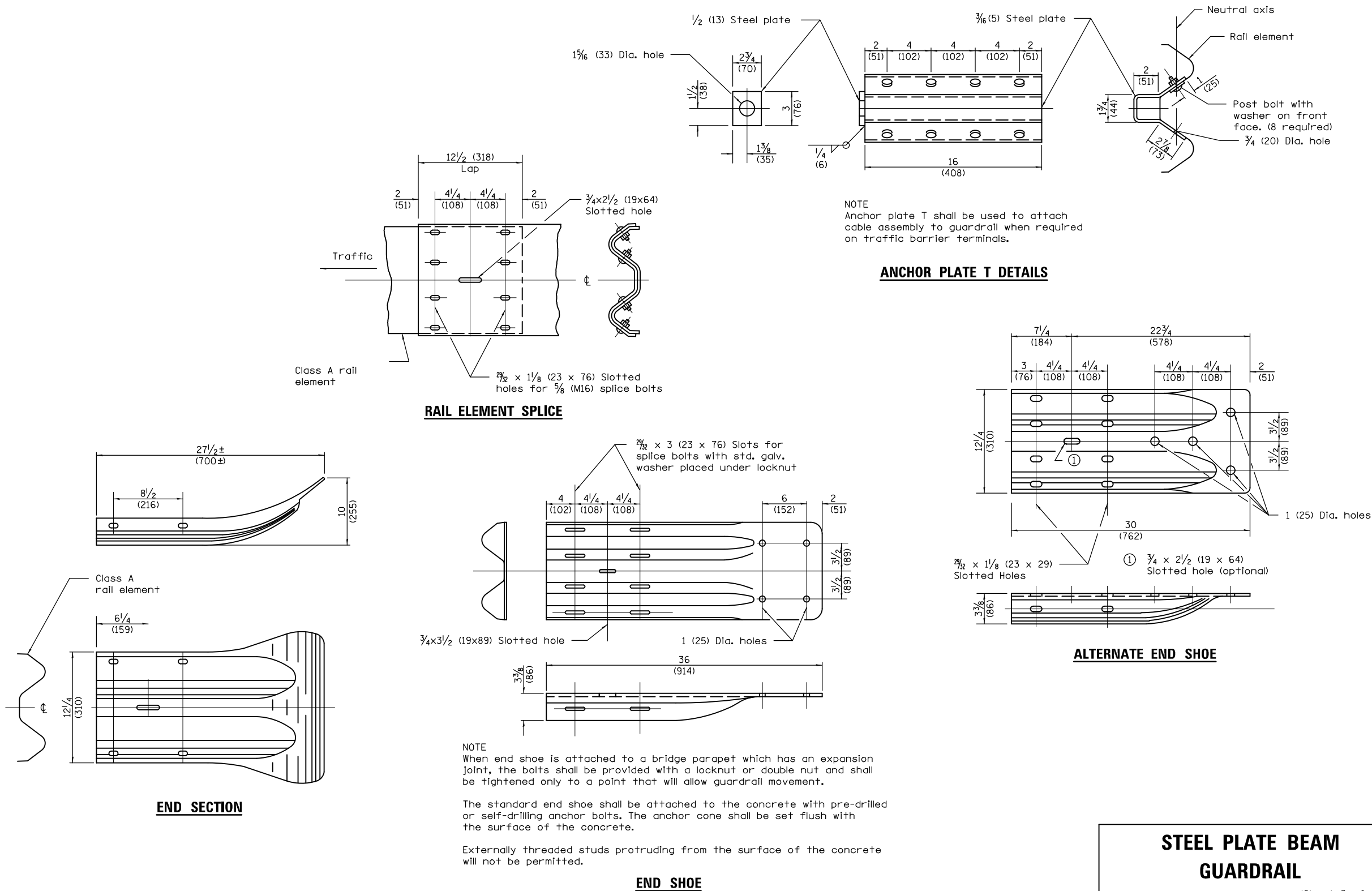
DETAIL OF 27 1/2" STEEL PLATE BEAM GUARDRAIL

SCALE: N/A SHEET 2 OF 4 SHEETS STA. TO STA.

* D5 GR & FENCE REPAIR 2021-1

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	*	VARIOUS	10	8
CONTRACT NO. 70F33				
ILLINOIS FED. AID PROJECT				

MODEL: s:\MODEL NAMES
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PROJECT: 0570F33-CA00Data\Design\0570F33-std-Details.dgn
OFFICE: District 5



* D5 GR & FENCE REPAIR 2021-1

USER NAME = farnhamba	DESIGNED -	REVISED -
DRAWN -	REVISED -	
PLOT SCALE = 40,0000 * / in.	CHECKED -	REVISED -
PLOT DATE = 6/17/2021	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

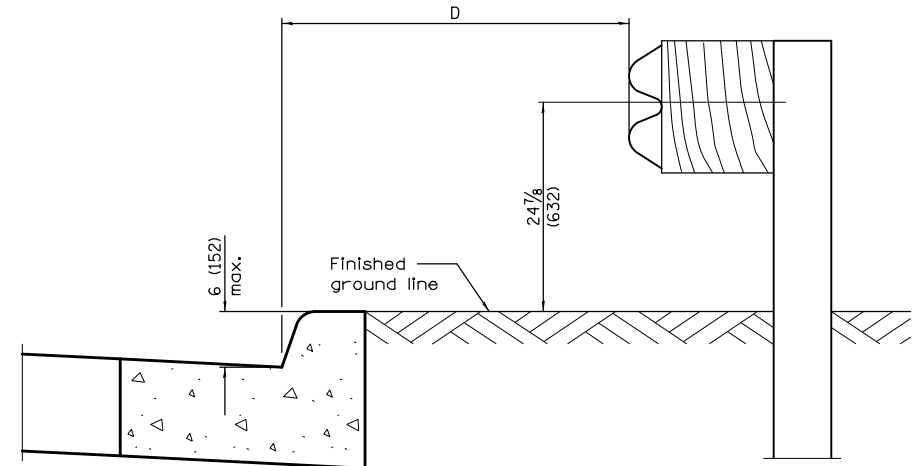
DETAIL OF 27¹/₂" STEEL PLATE BEAM GUARDRAIL

SCALE: N/A SHEET 3 OF 4 SHEETS STA. TO STA.

RT.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	*	VARIOUS	10	9
CONTRACT NO. 70F33				
ILLINOIS FED. AID PROJECT				



$0 \leq D < 4'-0'' (1.2 \text{ m})$


$$\underline{4'-0'' (1.2 \text{ m}) \leq D \leq 12'-0'' (3.7 \text{ m})}$$


Technical drawing of a Cable Assembly. The drawing shows a side view of the assembly with the following dimensions and components:

- Overall length: 39 (990)
- Distance from left end to center of cable: 15 (381)
- Distance from center of cable to right end: 5 1/4 (133)
- Left end components: 1 (M24) double nuts or locknuts and 1/8 (3) washer
- Center of cable: 1/2 (38)
- Right end components: 3/4 (19) dia. (6x19) galvanized cable
- Standard Swage Fitting and Stud (stud threaded entire length)
- Symm. about center line (indicated by a vertical line and the symbol ϕ)

CABLE ASSEMBLY

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

(Sheet 4 of 4)

STANDARD 630001-10

USER NAME = farnhamba	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 40,0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 6/17/2021	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

DETAIL OF 27 $\frac{1}{2}$ " STEEL PLATE BEAM GUARDRAIL

SCALE: N/A	SHEET 4	OF 4	SHEETS	STA.	TO STA.
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RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	*	VARIOUS	10	10
		CONTRACT NO. 70F33		
		ILLINOIS	FED. AID PROJECT	