

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2014-086GRR	VARIOUS	22	1
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO. 62A33		

FOR INDEX OF SHEETS, SEE SHEET NO. 2

PROPOSED HIGHWAY PLANS

**ROUTE: VARIOUS EXPRESSWAYS AND ARTERIAL
HIGHWAYS – SOUTHERN PART, DISTRICT ONE**

GUARDRAIL REPAIR

SECTION: 2014-086GRR

COUNTY: VARIOUS

C-91-142-15



**SEE LOCATION MAPS
SHEETS 4 THRU 7**

C.U.A.N.
CHICAGO UTILITY ALERT NETWORK
1-312-744-7000

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

PROJECT ENGINEER: J. ALAIN MIDY (847) 221-3056
PROJECT MANAGER: ISSAM RAYYAN (847)705-4178

CONTRACT NO. 62A33

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED *October 23, 2014*

John Fortman
DEPUTY DIRECTOR OF HIGHWAYS, REGIONAL ENGINEER

Jan 30, 2015
John D. Baranzelle, P.E.
ENGINEER OF DESIGN AND ENVIRONMENT

Jan 30, 2015
Omer Osman, P.E.
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

**PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS**

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RAMP CLOSURE (TC-17)

LIST OF STATE STANDARDS

- | | |
|-----------|--|
| 630001-10 | STEEL PLATE BEAM GUARDRAIL |
| 630301-06 | SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS |
| 631006-08 | TRAFFIC BARRIER TERMINAL, TYPE 1B |
| 631011-09 | TRAFFIC BARRIER TERMINAL, TYPE 2 |
| 631026-06 | TRAFFIC BARRIER TERMINAL, TYPE 5 |
| 631031-13 | TRAFFIC BARRIER TERMINAL, TYPE 6 |
| 631036 | TRAFFIC BARRIER TERMINAL, TYPE 8 |
| 635006-03 | REFLECTOR AND TERMINAL MARKER PLACEMENT |
| 635011-02 | REFLECTOR MARKER AND MOUNTING DETAILS |
| 701006-05 | OFF-RD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE |
| 701011-04 | OFF-RD MOVING OPERATIONS, 2L, 2W, DAY ONLY |
| 701101-04 | OFF-RD OPERATIONS, MULTILANE, 15' TO 24" FROM PAVEMENT EDGE |
| 701201-04 | LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS \geq 45 MPH |
| 701301-04 | LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS |
| 701400-08 | APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY |
| 701401-09 | LANE CLOSURE, FREEWAY/EXPRESSWAY |
| 701406-09 | LANE CLOSURE, FREEWAY/EXPRESSWAY, DAY OPERATIONS ONLY |
| 701411-09 | LANE CLOSURE, MULTILANE, AT ENTRANCE OR EXIT RAMP, FOR SPEED \geq 45 MPH |
| 701501-06 | URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED |
| 701606-10 | URBAN LANE CLOSURE, MULTILANE, 2W WITH MOUNTABLE MEDIAN |
| 701701-09 | URBAN LANE CLOSURE, MULTILANE INTERSECTION |
| 701801-05 | LANE CLOSURE MULTILANE 1W OR 2W CROSSWALK OR SIDEWALK CLOSURE |
| 701901-04 | TRAFFIC CONTROL DEVICES |
| 720011-01 | METAL POSTS FOR SIGNS, MARKERS & DELINEATORS |

GENERAL NOTES

BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "J.U.L.I.E." AT (800) 892-0123 OR 811 OR "C.U.A.N." AT (312) 744-700 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE AND GAS UTILITIES. 48 HOUR NOTIFICATION IS REQUIRED

ALL WORK IS TO BE REPLACED IN KIND OR AS INDICATED ON THE CONTRACT QUANTITY SHEET.

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.

NO MATERIAL SHOULD BE LEFT ON OR NEAR THE ROADWAY DURING NON-WORKING HOURS.

ANY NECESSARY TRAFFIC CONTROL WILL BE PROVIDED BY THE CONTRACTOR; APPROPRIATE STANDARDS ARE HEREWITH ATTACHED.

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

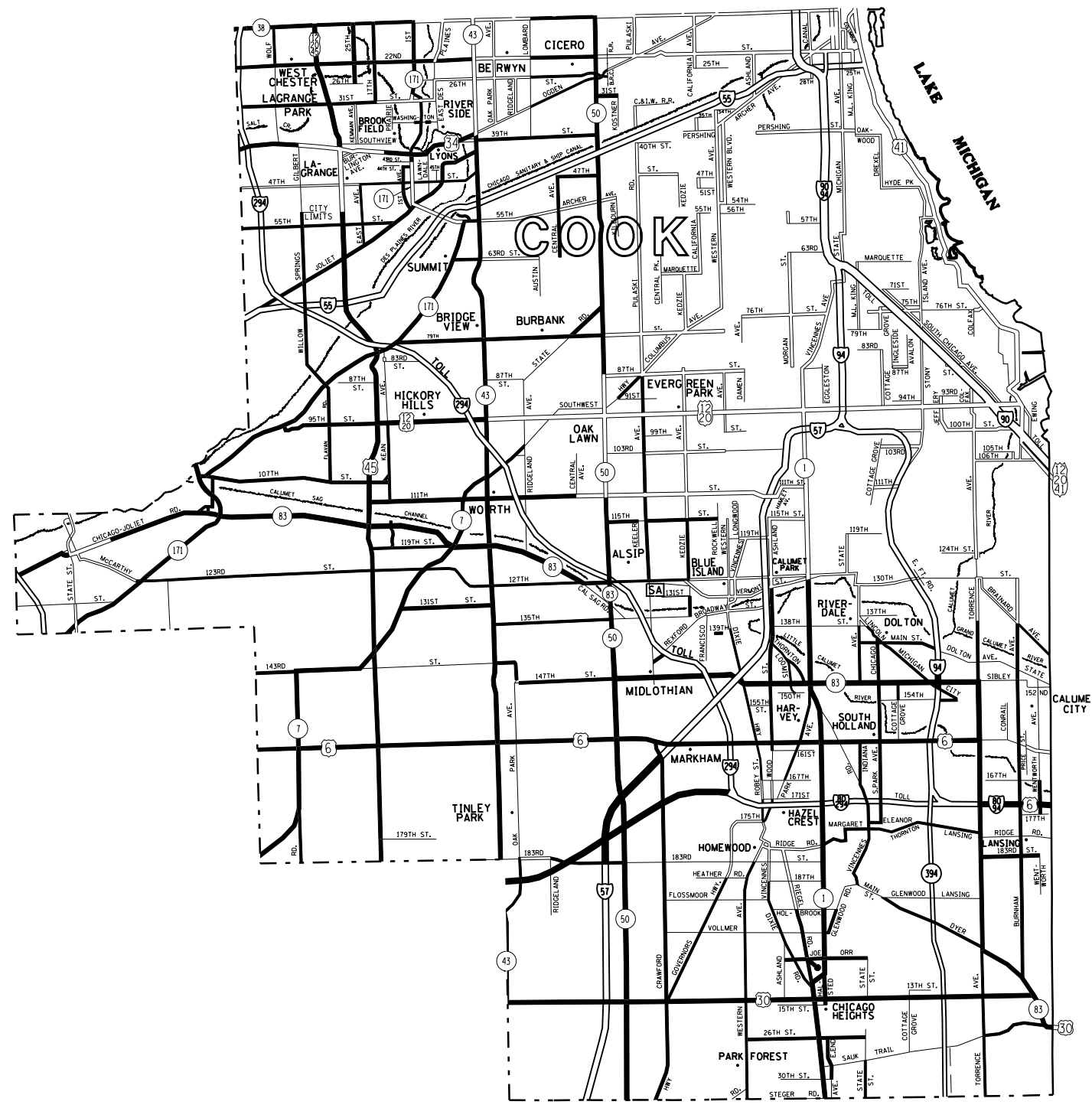
REMOVED GUARDRAIL THAT IS NOT REPLACED ON THE SAME DAY MUST BE DELINEATED WITH LIGHTED BARRICADES. NO LOCATIONS WILL BE LEFT WITHOUT EITHER LIGHTED BARRICADES OR RESTORED GUARDRAIL AT ANY TIME.




GUARDRAIL MARKERS SHALL NOT BE ATTACHED TO TERMINAL SECTIONS.

THE CONTRACTOR SHALL TELEPHONE THE IDOT BUREAU OF TRAFFIC OPERATIONS, ELECTRICAL MAINTENANCE SECTION AT 708-524-2145 TO REQUEST THE LOCATE FOR UNDERGROUND ELECTRICAL AND/OR FIBER CABLE PRIOR TO ANY DIGGING AS PER THE CONTRACT.

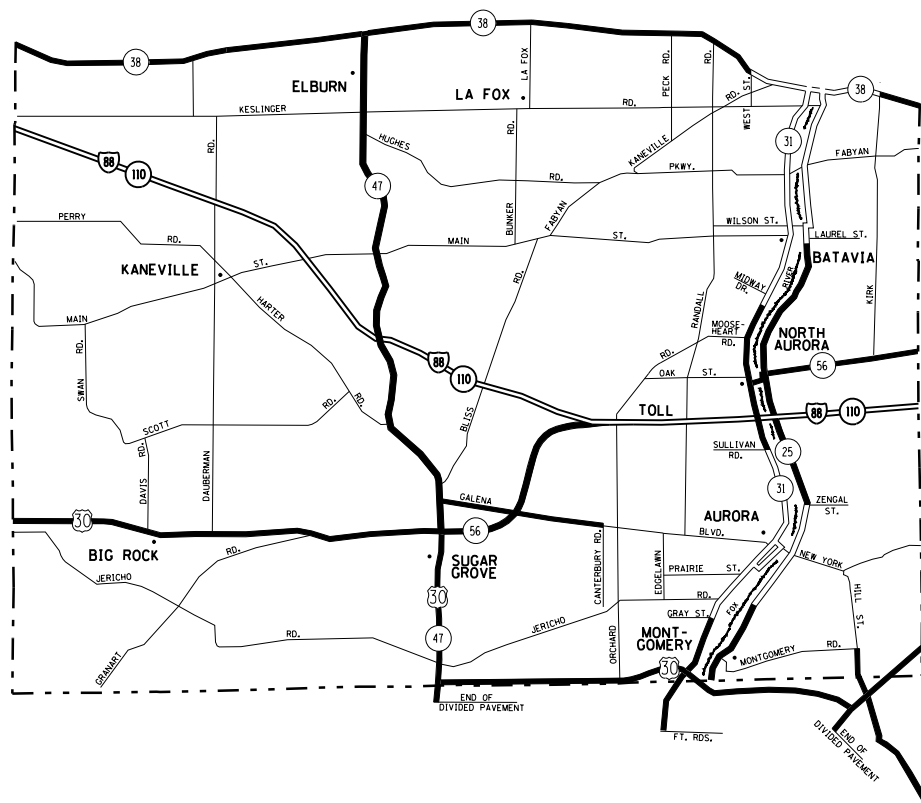
REMOVAL OF EXISTING TERMINAL SECTIONS INCLUDED IN COST OF NEW TERMINAL SECTIONS

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	PLOT DATE * 10/28/2014	DATE -	REVISED -			ILLINOIS FED. AID PROJECT					
					SCALE:	SHEET NO. OF SHEETS		STA. TO STA.			






- DISTRICT NO. 1**
-  STATE HIGHWAYS & EXPRESSWAYS WITHIN STATE JURISDICTION, (EXCEPT TOLLWAYS) AND CITY MAINTENANCE AGREEMENTS UNDER STATE JURISDICTION
 -  FUTURE HIGHWAYS
 -  VARIOUS AGENCIES HIGHWAYS

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		CHECKED -	REVISED -						CONTRACT NO. 62A33					
		DATE -	REVISED -						FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					



DISTRICT NO. 1

-  STATE HIGHWAYS & EXPRESSWAYS WITHIN STATE JURISDICTION. (EXCEPT TOLLWAYS) AND CITY MAINTENANCE AGREEMENTS UNDER STATE JURISDICTION
-  FUTURE HIGHWAYS
-  VARIOUS AGENCIES HIGHWAYS

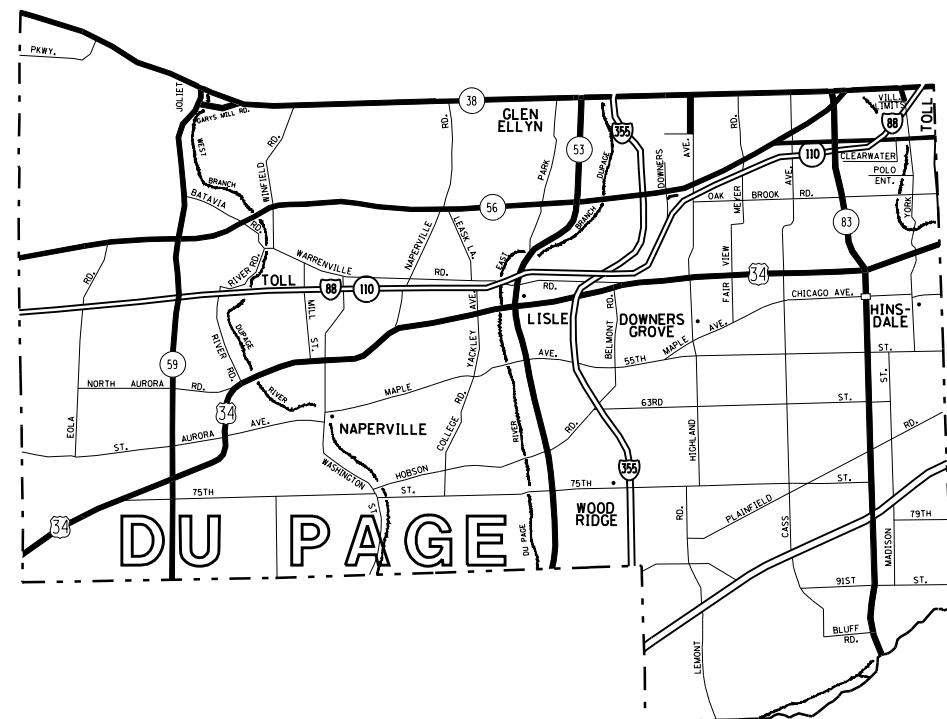
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	PLOT DATE = 10/28/2014	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GUARDRAIL REPAIR LOCATION MAP KANE COUNTY
SOUTH OF IL RTE 38**

SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2014-086GRR	VARIOUS	22	6
CONTRACT NO. 62A33				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



DISTRICT NO. 1

- STATE HIGHWAYS & EXPRESSWAYS WITHIN STATE JURISDICTION. (EXCEPT TOLLWAYS) AND CITY MAINTENANCE AGREEMENTS UNDER STATE JURISDICTION
- FUTURE HIGHWAYS
- VARIOUS AGENCIES HIGHWAYS

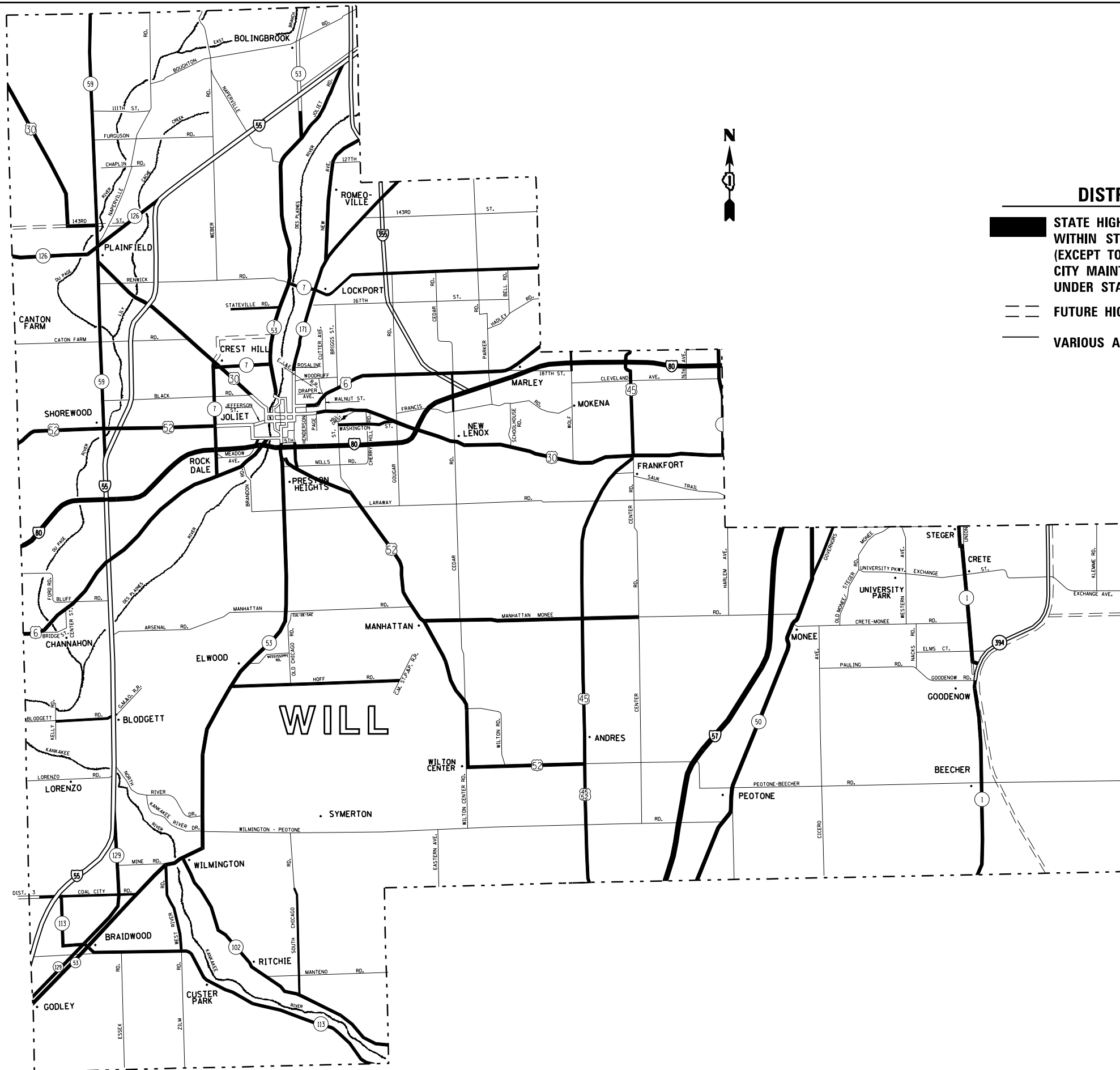
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	PLOT SCALE = 99.9998 ' / in.	CHECKED -	REVISED -
	PLOT DATE = 10/28/2014	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GUARDRAIL REPAIR LOCATION MAP DuPAGE COUNTY
SOUTH OF IL RTE 38**

SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2014-086GRR	VARIOUS	22	7
CONTRACT NO. 62A33				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



DISTRICT NO. 1

- STATE HIGHWAYS & EXPRESSWAYS WITHIN STATE JURISDICTION. (EXCEPT TOLLWAYS) AND CITY MAINTENANCE AGREEMENTS UNDER STATE JURISDICTION**
- FUTURE HIGHWAYS**
- VARIOUS AGENCIES HIGHWAYS**

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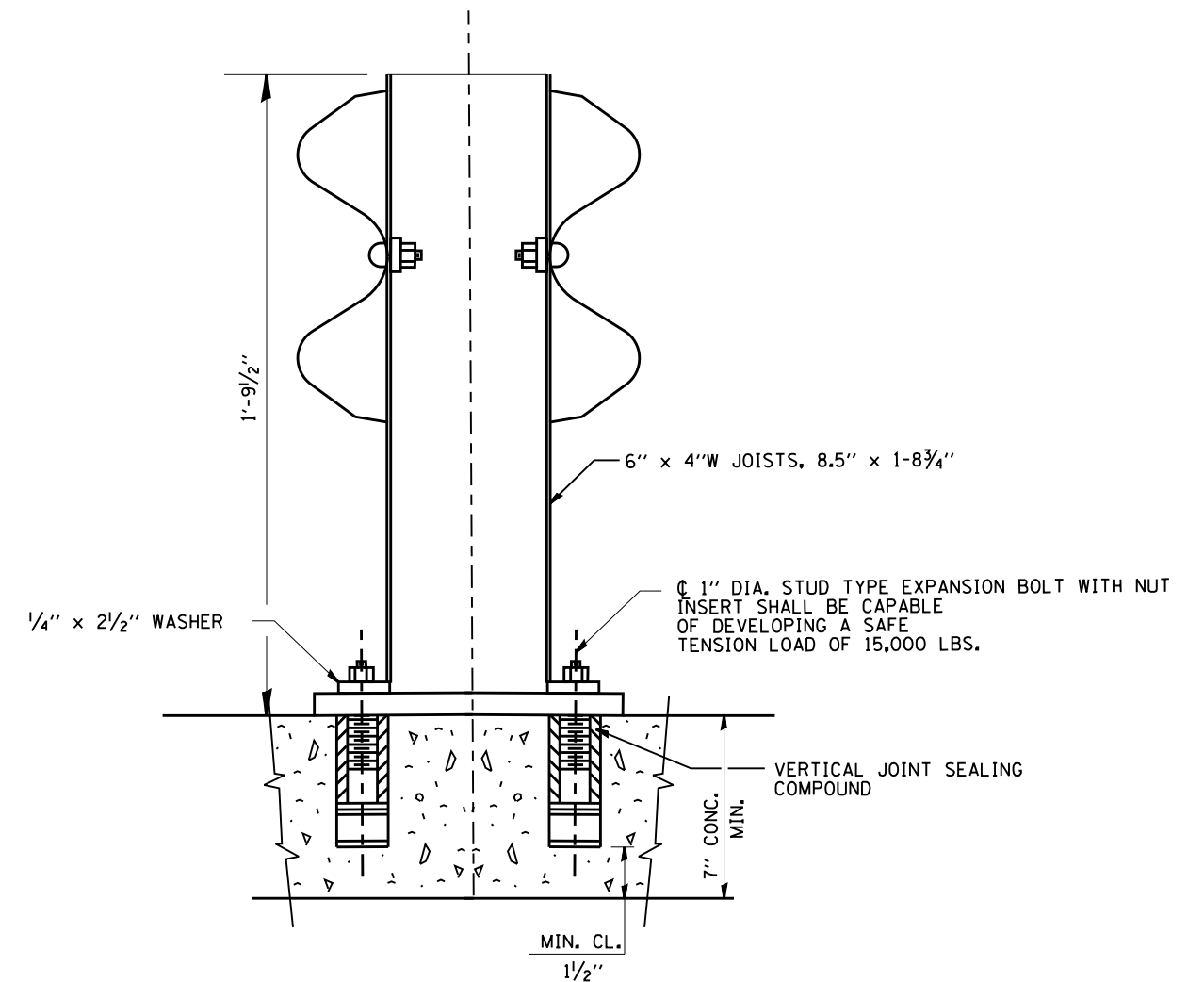
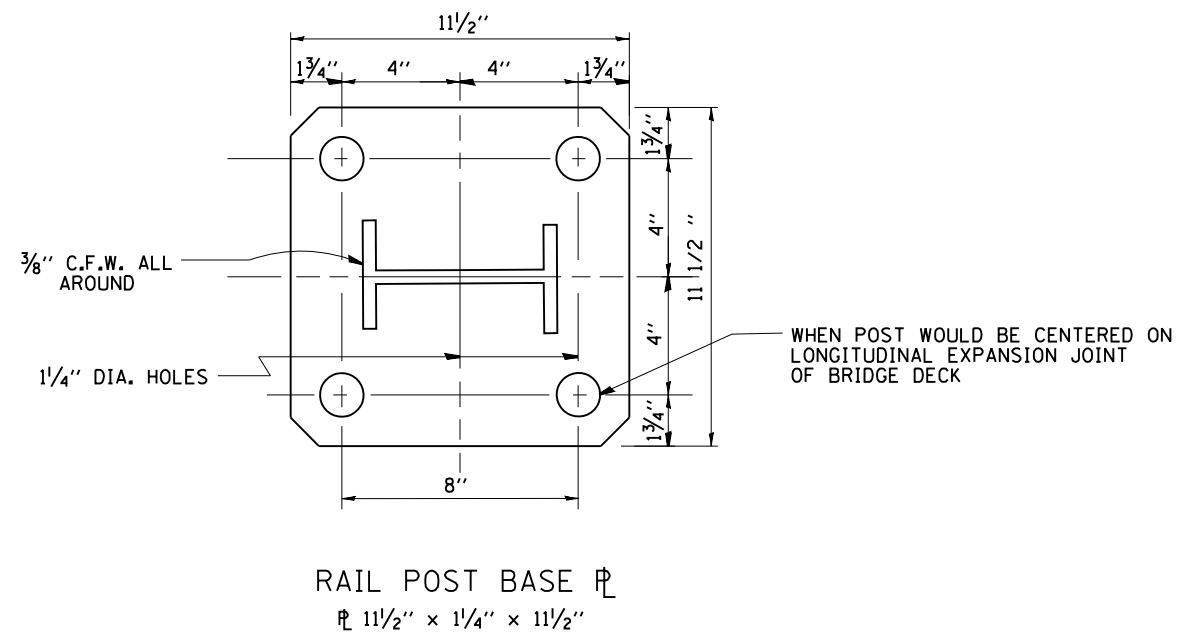
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**GUARDRAIL REPAIR LOCATION MAP
 WILL COUNTY**

SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2014-086GRR	VARIOUS	22	8
CONTRACT NO. 62A33				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

NOTE:
 FOR DETAILS OF RAIL ELEMENTS, RAIL SPLICING, NUT, BOLT AND SIDE VIEW OF RAIL, SEE STANDARD 2230-2.
 ALL WELDS SHALL BE GROUND SMOOTH
 POSTS SHALL BE CUT AND WELDED TO THE BASE PLATE SO THAT THE POST WILL BE PLUMB WHEN ERECTED.
 TWO PERCENT (2%) OF ALL ANCHOR BOLTS SHALL BE TEST LOADED IN PLACE, MINIMUM TEST LOAD=8 KIPS. IF ONE ANCHOR BOLT FAILS DURING THE TEST, TWO OTHER ANCHOR BOLTS SHALL BE TESTED. TESTING EQUIPMENT SHALL BE BOLT COMPANIES.
 PROVIDE 1/8" AND 2/16" GALVANIZED SHIMS FOR 25% OF THE POSTS.



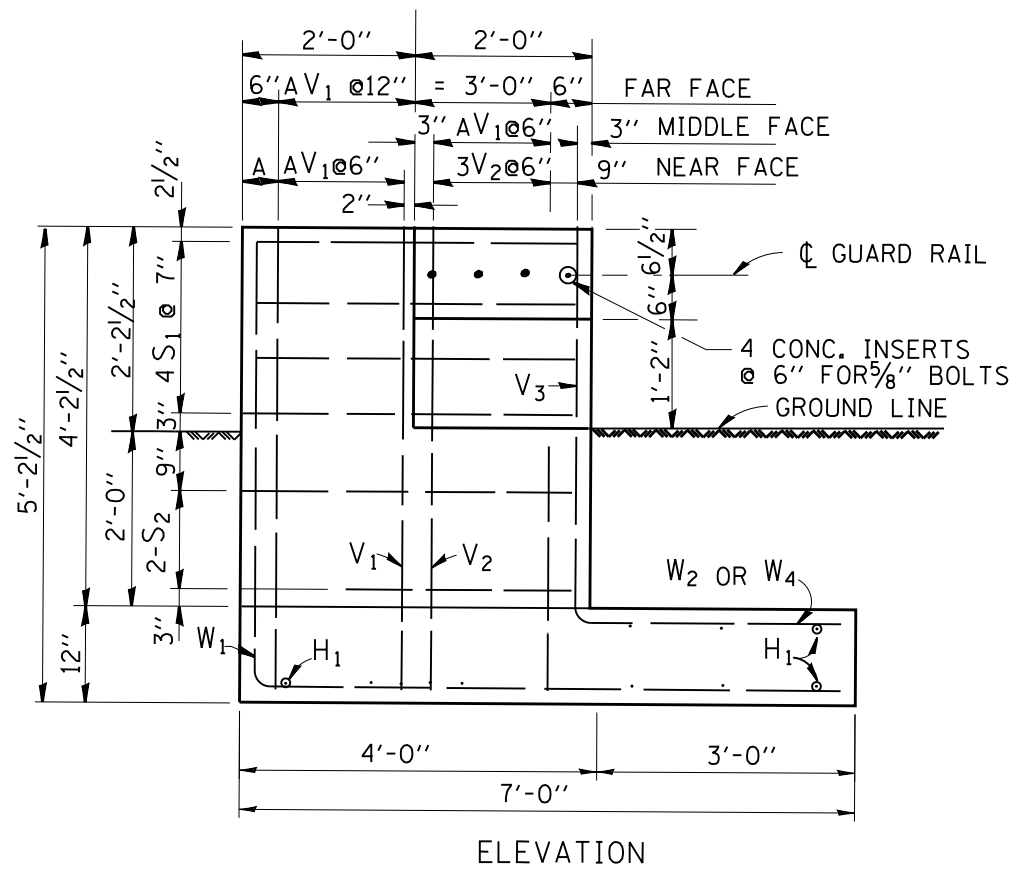
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	PLOT DATE = 10/28/2014	DATE - 10-31-88	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

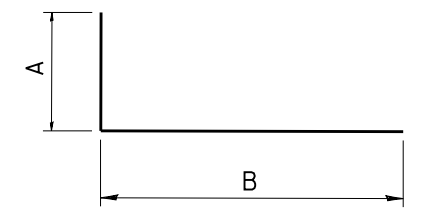
ANCHOR DETAIL FOR STEEL PLATE BEAM
 GUARDRAIL ON CONCRETE

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

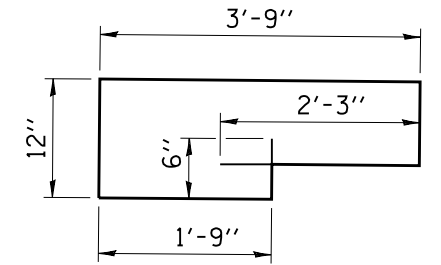
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BM-02		CONTRACT NO. 62A33		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



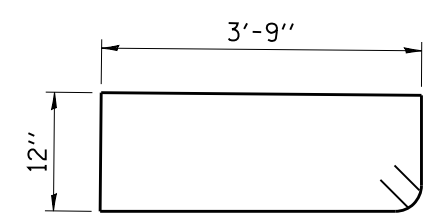
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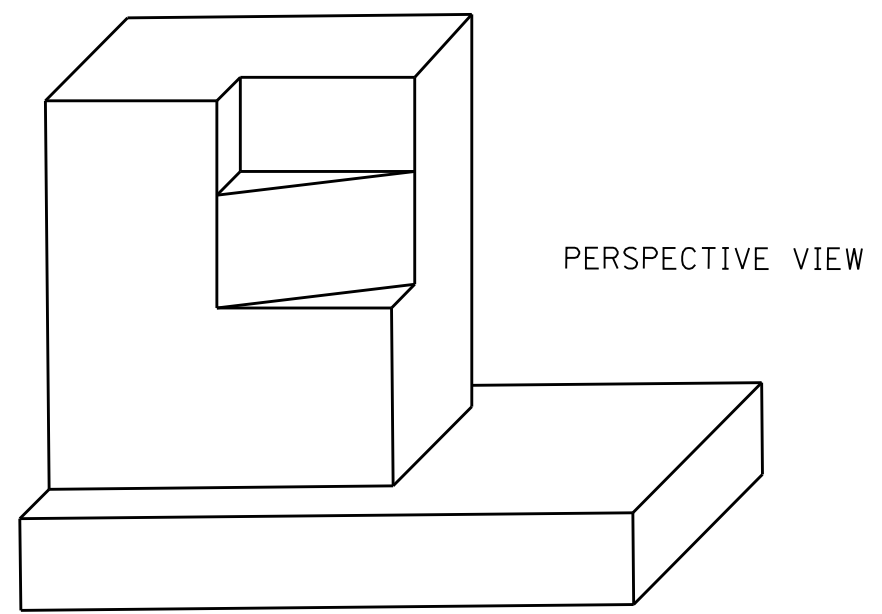
BAR	A	B	A+B
V ₁	4'-8"	6"	5'-2"
V ₂	2'-6"	6"	3'-0"
W ₁	4'-8"	6'-6"	11'-2"
W ₂	2'-0"	3'-0"	5'-0"
W ₄	4'-2"	3'-0"	7'-2"



S₁ BAR

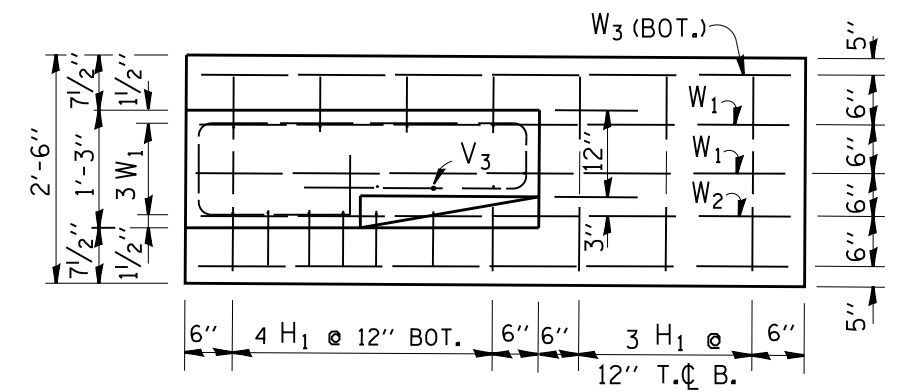


S₂ BAR



PERSPECTIVE VIEW

NOTES: CLASS X CONCRETE SHALL BE USED THROUGHOUT REINFORCEMENT TO BE SIZE #4 UNLESS OTHERWISE NOTED

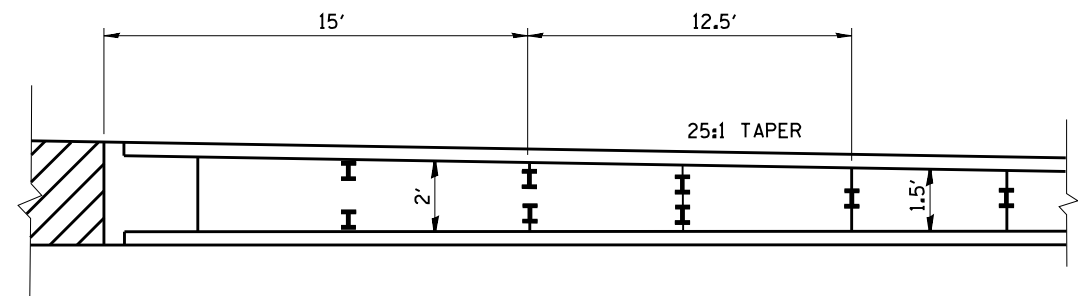
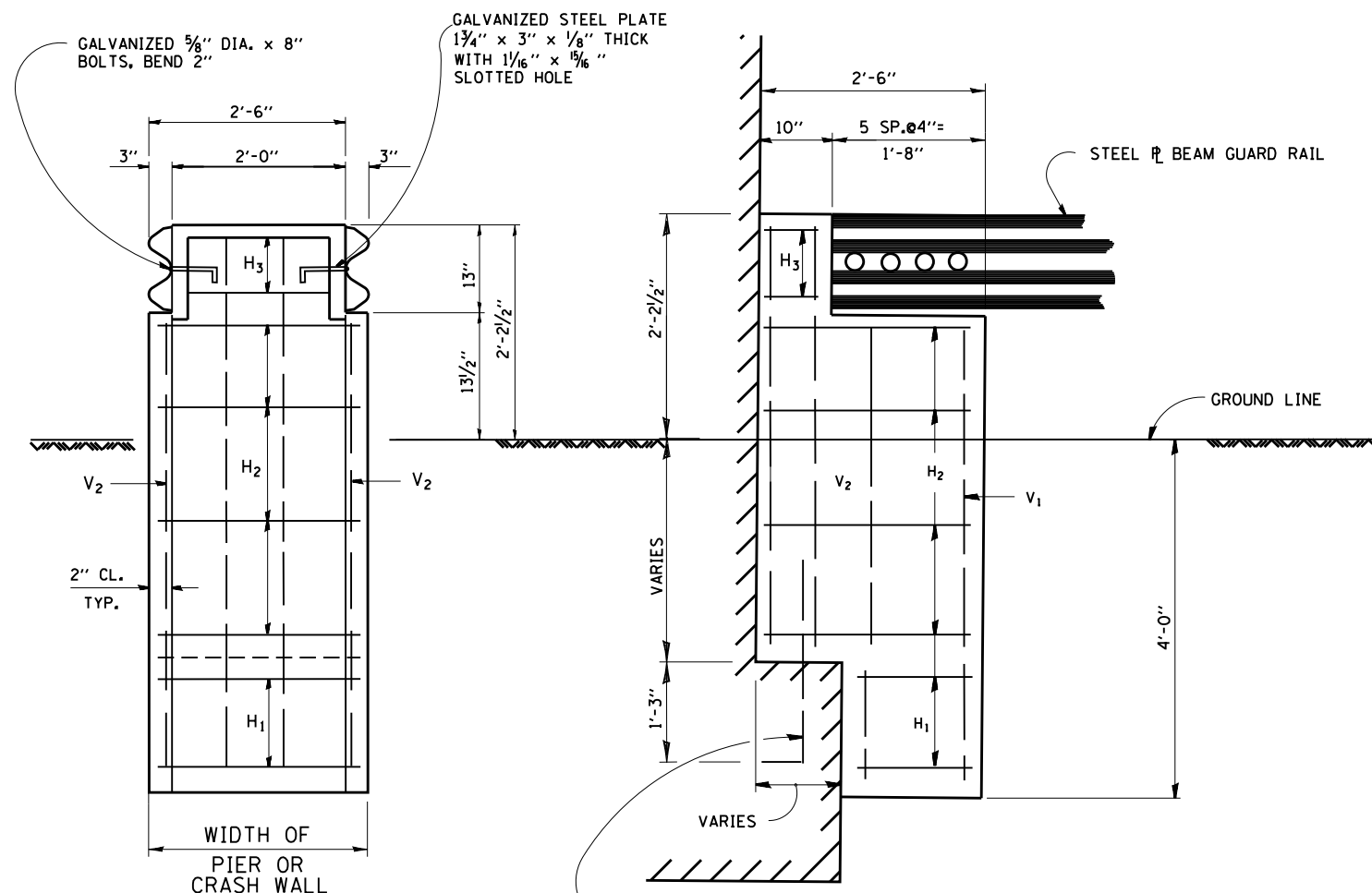


FOOTING PLAN

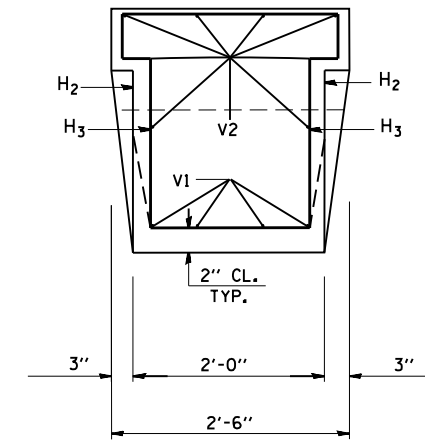
BAR SCHEDULE

BAR	NO.	LENGTH
V ₁	8	5'-2"
V ₂	3	3'-0"
V ₃	4	3'-0"
W ₁	3	11'-2"
W ₂	1	5'-0"
W ₃	2	6'-6"
W ₄	2	7'-2"
S ₁	4	10'-0"
S ₂	2	10'-0"
H ₁	1	2'-3"

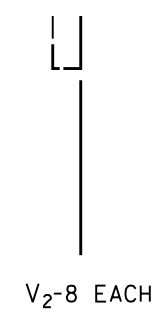
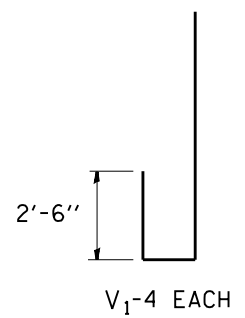
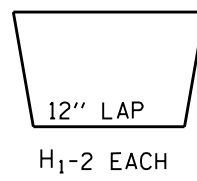
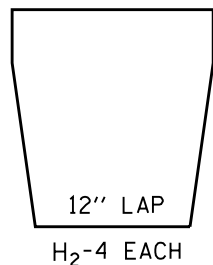
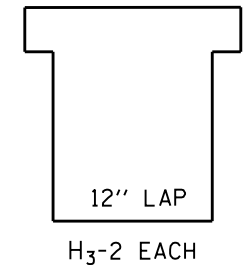
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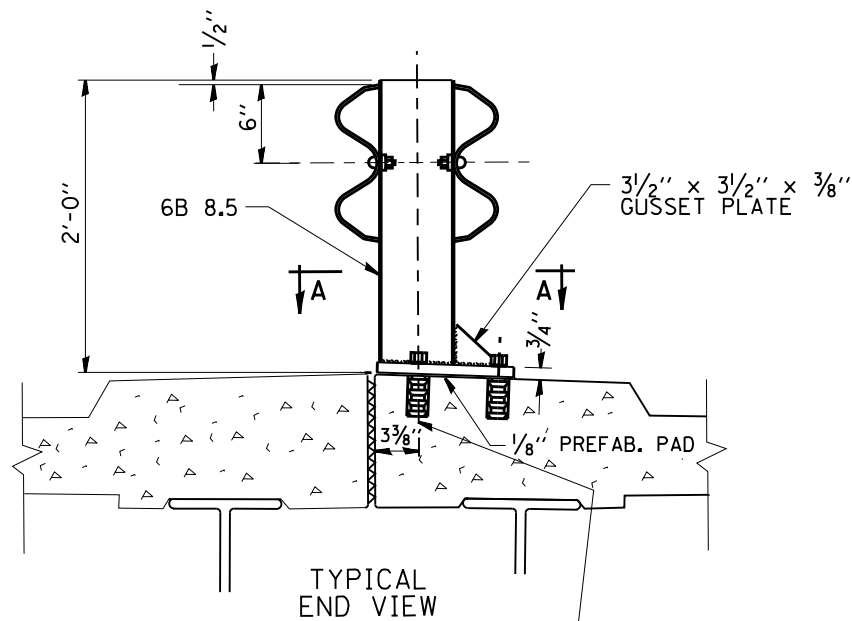
NOTES: CLASS X CONCRETE SHALL BE USED THROUGHOUT
REINFORCEMENT TO BE SIZE #4 UNLESS OTHERWISE
NOTED



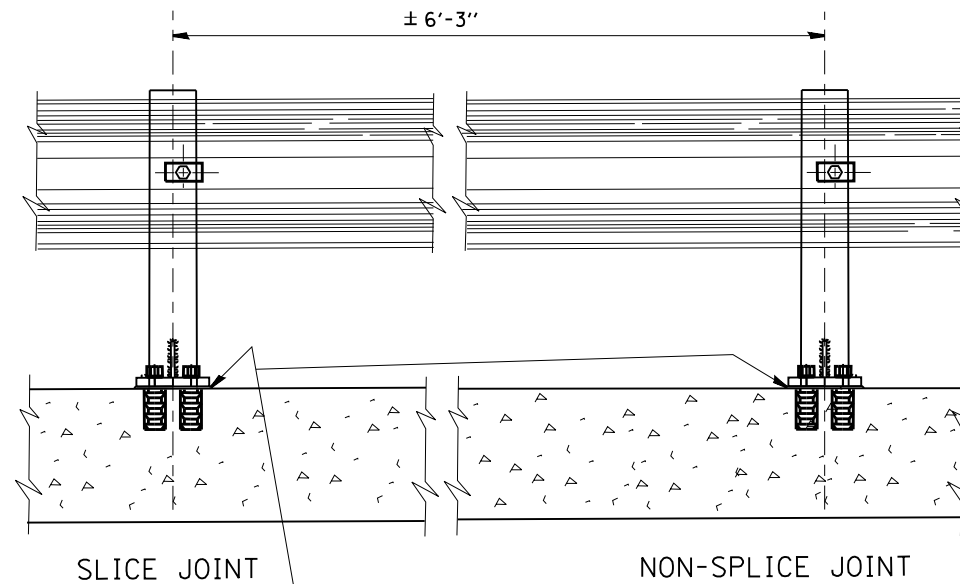
*#6 DOWEL BARS
DRILL AND GROUT ON ROW OF THREE BARS



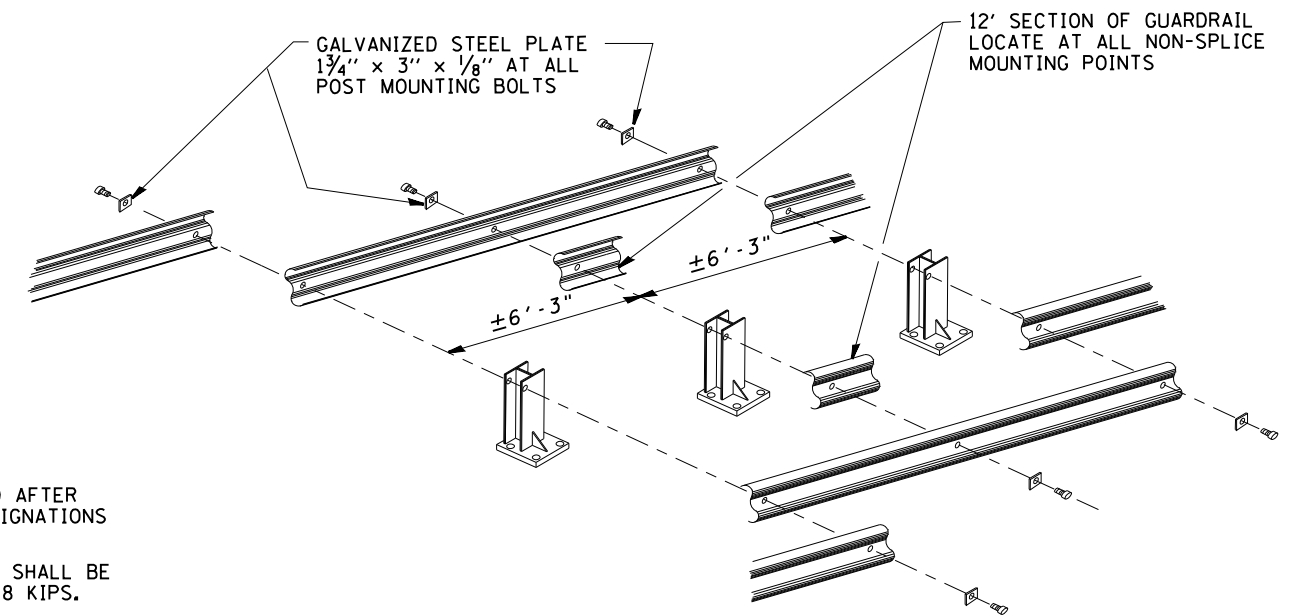
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	PLOT SCALE = 99.9998 / in.	CHECKED -	REVISED -							BM-04			
	PLOT DATE = 10/28/2014	DATE - 10-31-88	REVISED -										
								CONTRACT NO. 62A33					
								FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					



7/8" GALVANIZED ANCHOR BOLTS AND SELF DRILLING EXPANSION SHELLS OR MULTI UNIT TYPE ANCHORS
1/8" HOLES THRU BASE PLATE

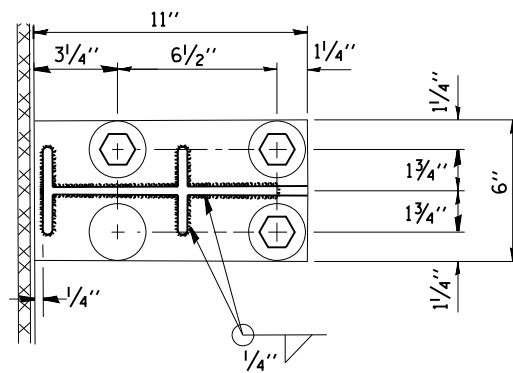


SEAL PERIMETER OF BASE OF POST TO MEDIAN WITH TWO COMPONENT NON-STAINING GRAY SEALING COMPOUND WITH POLYSULFIDE LIQUID POLYMERS - GUN GRADE WITH PRIMER



NOTE:

DIAMOND TIPPED DRILL SHALL BE USED TO DRILL THRU REINFORCEMENT BARS



SEC. A-A

NOTE:

POSTS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM DESIGNATIONS A-123 AND A-385.

TWO PERCENT (2%) OF ALL ANCHOR BOLTS SHALL BE TEST LOADED IN PLACE. MIN. TEST LOAD = 8 KIPS.

ALL BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION A-153.

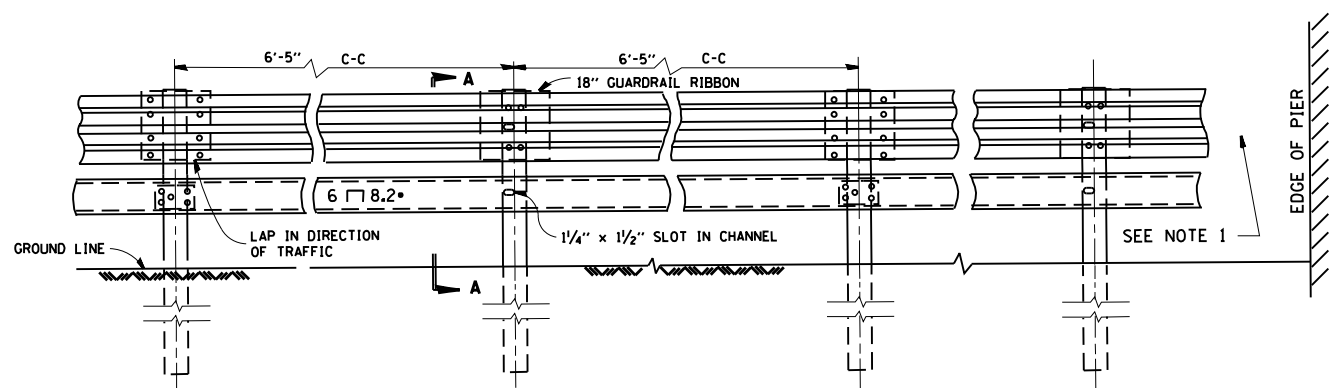
FOR MATERIAL COMPOSITION OF PREFABRICATED PAD, SEE ARTICLE 54.9(F), (BEARING AND ANCHORAGE), OF THE STANDARD SPECIFICATIONS.

PROVIDE 1-1/8" AND 2-1/16" GALVANIZED STEEL SHIMS FOR 25% OF THE POSTS.

IF ONE ANCHOR BOLT FAILS DURING TEST, TWO OTHER ANCHOR BOLTS SHALL BE TESTED. TESTING EQUIPMENT CAN BE OBTAINED FROM BOLT COMPANIES.

THIS SHEET IS FOR INFORMATION ONLY

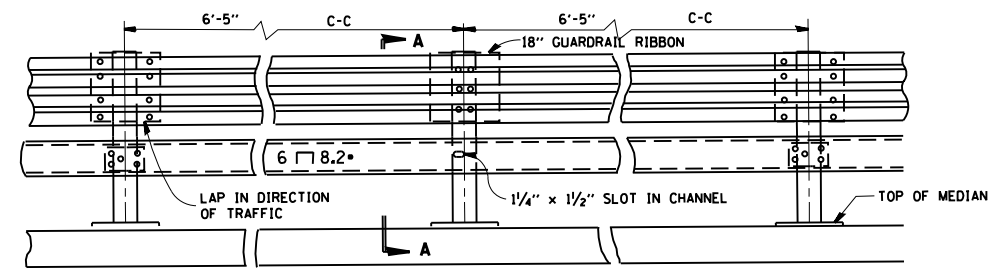
FILE NAME =	USER NAME = osbornnp	DESIGNED -	REVISED - R. RITCHIE 05-02-00	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TYPICAL DETAIL FOR CENTER LONGITUDINAL JOINT GUARDRAIL JOINT			F.A. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
et:\pw\work\p\idot\osbornnp\d0417906\DI	4215-sht-cover.dgn	DRAWN - RFL	REVISED -		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	VAR.	2014-08GRRR	VARIOUS	22	12
	PLOT SCALE = 99.9998 ' / in.	CHECKED -	REVISED -							BM-05			
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								FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					



ELEVATION

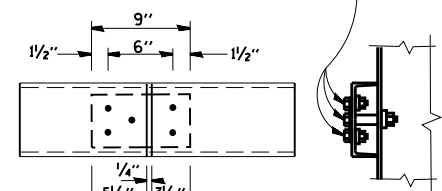
DETAIL OF END SECTION

NOTE 1:
FOR DETAILS OF GUARDRAIL END ANCHORAGE
AT PIERS, SEE SHEET NO. _____

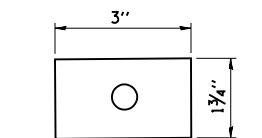


ELEVATION

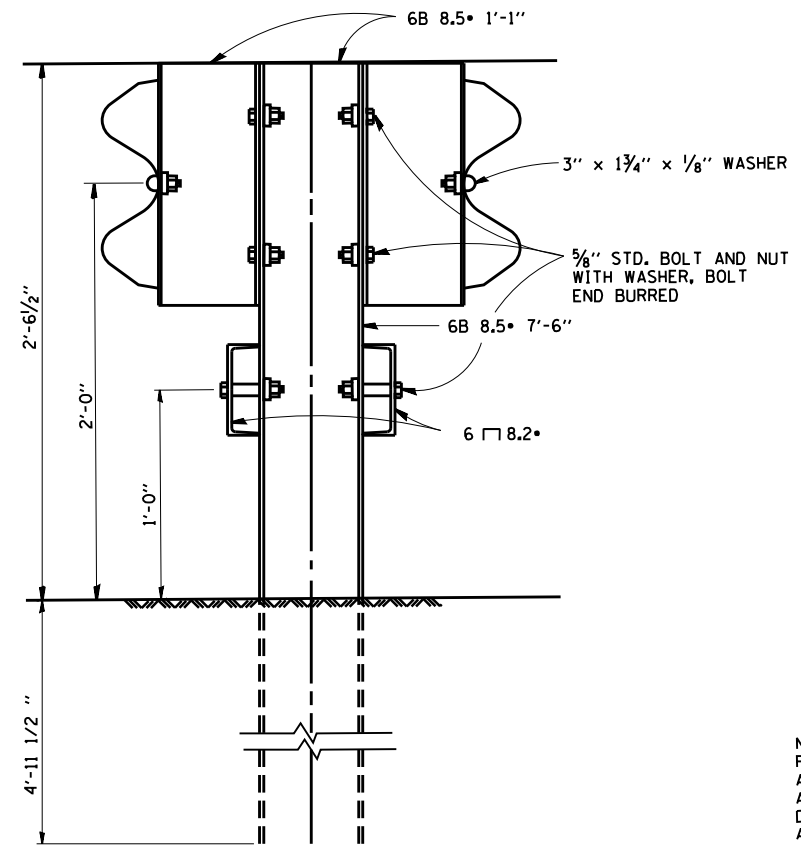
5/8" STD. BOLT AND NUT
WITH WASHER, BOLT
END BURRED



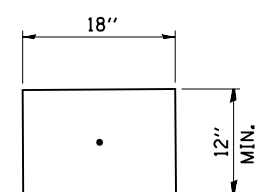
CHANNEL SPLICE
PLATE 8 3/4" x 4 1/2" x 1/4"



WASHER
PLATE 3" x 1 3/4" x 1/8"

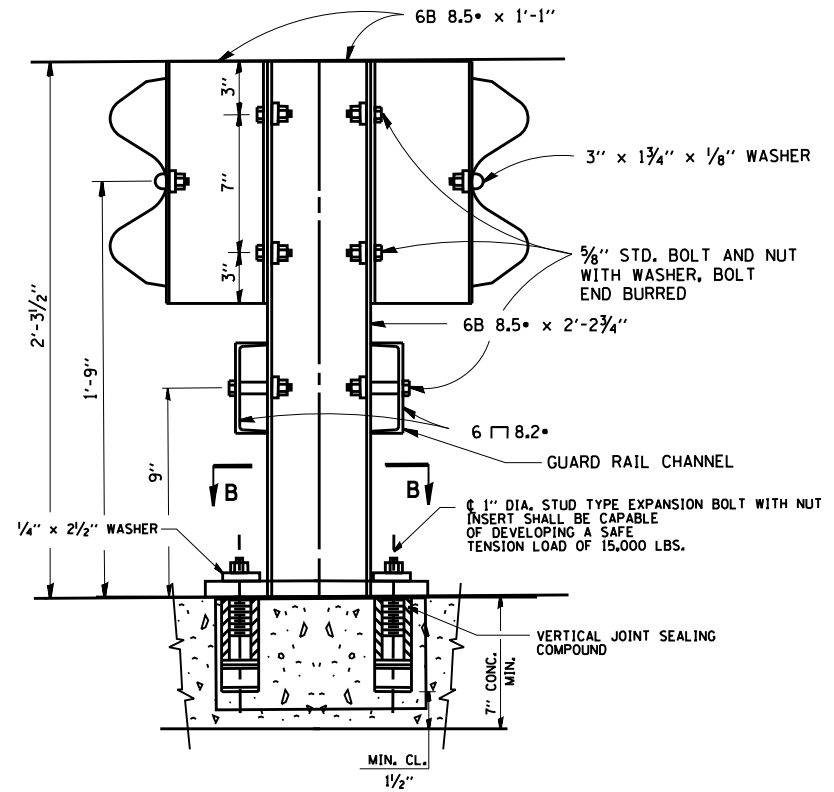


SECTION A-A



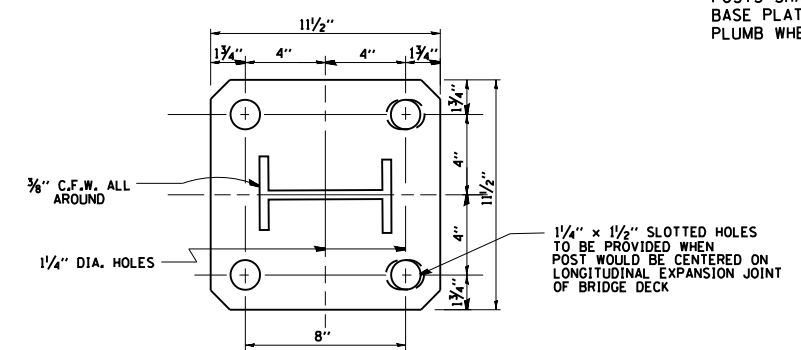
18" GUARDRAIL ELEMENT SPLICE

NOTE:
FOR DETAIL OF RAIL ELEMENT, RAIL SPLICING, BOLT,
AND NUT, SEE STATE STANDARD 2230.
A 1 3/8" x 3" x 1/8" STEEL PLATE WASHER AS SHOWN ON THIS
DRAWING SHALL BE PLACED BETWEEN THE BOLT HEAD
AND THE GUARDRAIL RIBBON AT ALL MOUNTING POINTS.
AN 18" PIECE OF GUARDRAIL RIBBON SHALL BE INSERTED
BETWEEN THE CONTINUOUS RIBBON AND THE POST AT
NON-SLICE MOUNTING POINTS.
RAIL, CHANNELS, POSTS, BASE PLATES, FASTENINGS,
AND ALL OTHER EXPOSED ACCESSORIES SHALL BE
GALVANIZED.



SECTION A-A
ANCHORAGE DETAIL

NOTE:
ALL WELDS SHALL BE GROUND SMOOTH.
POSTS SHALL BE CUT AND WELDED TO THE
BASE PLATE SO THAT THE POSTS WILL BE
PLUMB WHEN ERECTED.

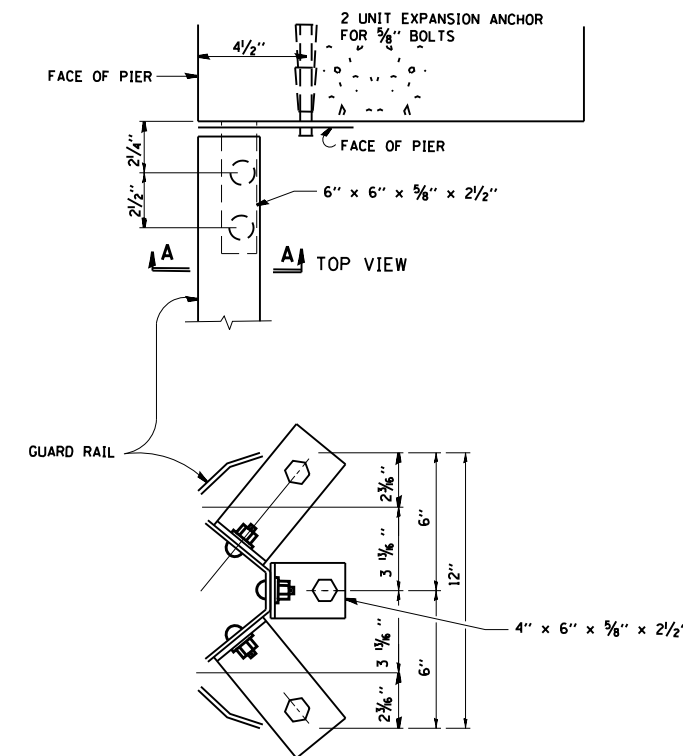
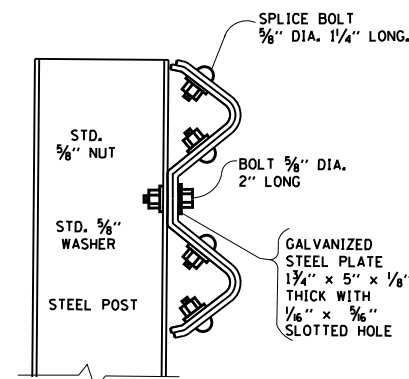
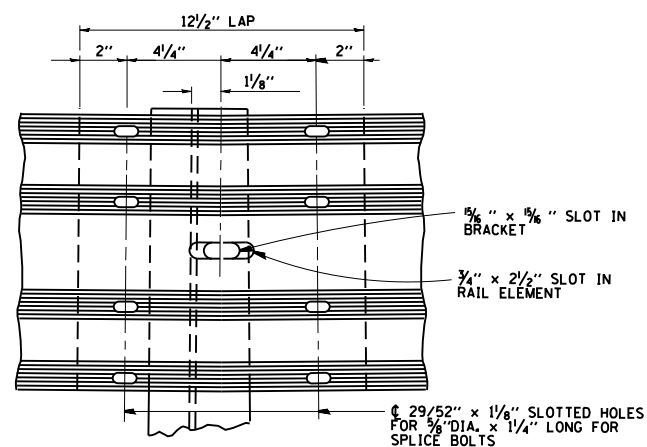
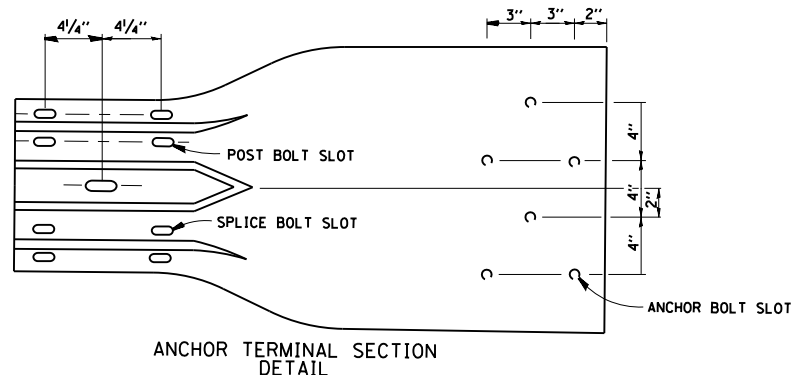
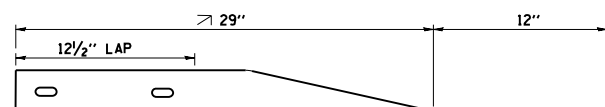


RAIL POST BASE PLATE
R 1 1/2" x 1 1/4" x 1 1/2"

SECTION B-B

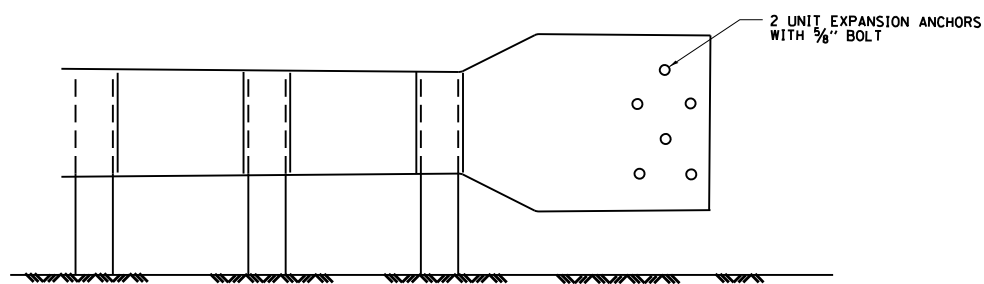
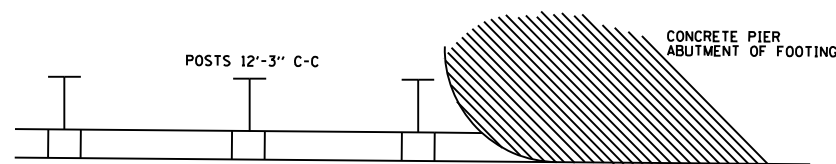
THIS SHEET IS FOR INFORMATION ONLY

FILE NAME =	USER NAME = osbornnp	DESIGNED -	REVISED - R. RITCHIE 05-02-00	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STEEL PLATE BEAM GUARDRAIL SPECIAL			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
et:\pwork\pwork\osbornnp\d0417906\DI4215-sht-cover.dgn		DRAWN - RFL	REVISED -		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	VAR.	2014-086GRR	VARIOUS	22	13
		CHECKED -	REVISED -							BM-06			
		DATE -	REVISED -										
	PLOT SCALE = 99.9998 ' / in.												
	PLOT DATE = 10/28/2014												
								CONTRACT NO. 62A33					
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT													



SECTION A-A
SCALE 4" = 1'

DETAIL OF CONNECTION OF GUARDRAIL TO SQUARE BRIDGE PIER OR FOUNDATION.



TYPICAL INSTALLATION
DETAIL OF CONNECTION OF GUARDRAIL TO ROUNDED BRIDGE PIER OR FOUNDATION

THIS SHEET IS FOR INFORMATION ONLY

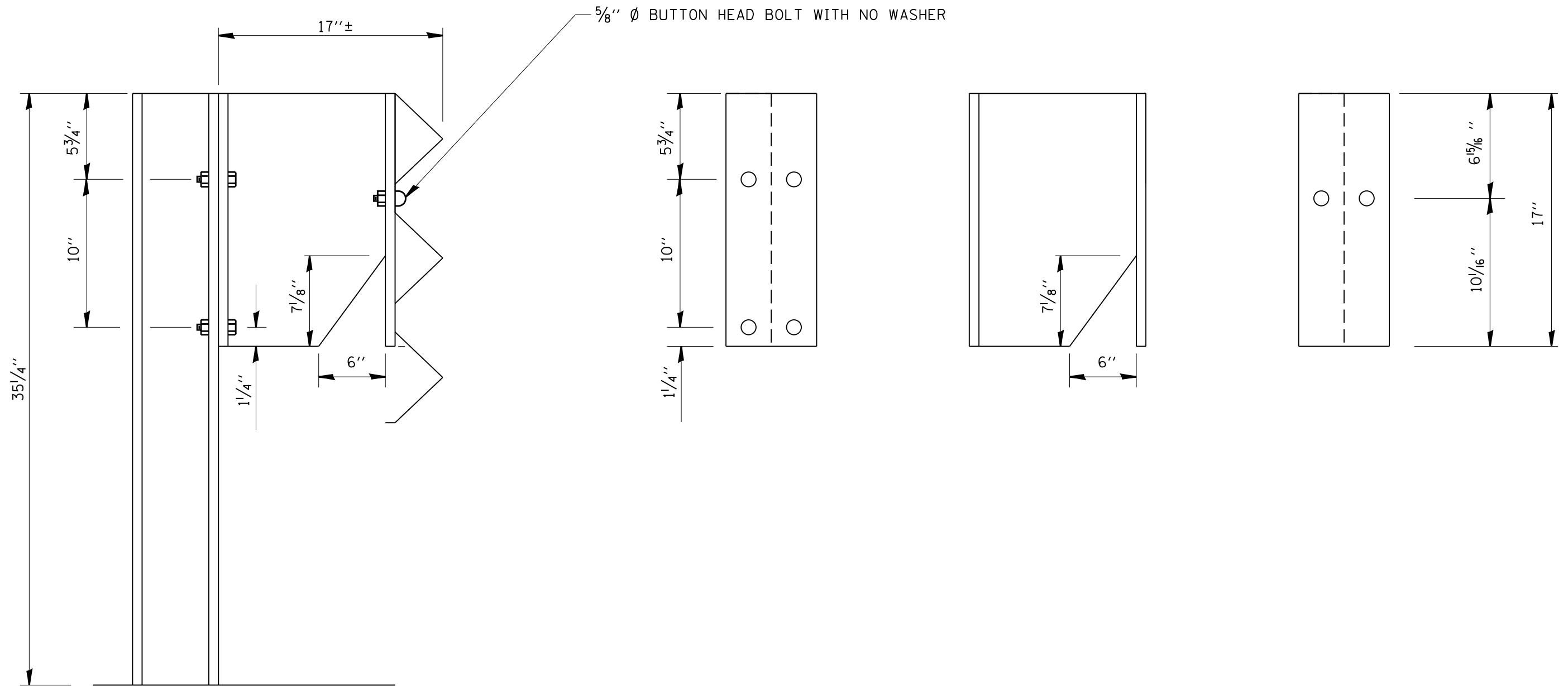
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et:\pw\work\p\dot\osbornnp\d0417906\DI4215-sht-cover.dgn		DRAWN - RFL	REVISED -
	PLOT SCALE = 99.9998' / in.	CHECKED -	REVISED -
	PLOT DATE = 10/28/2014	DATE - 10-31-88	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETAIL OF GUARDRAIL SUPPORT
AND END ANCHORAGE

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2014-08GRR	VARIOUS	22	14
	BM-07		CONTRACT NO. 62A33	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

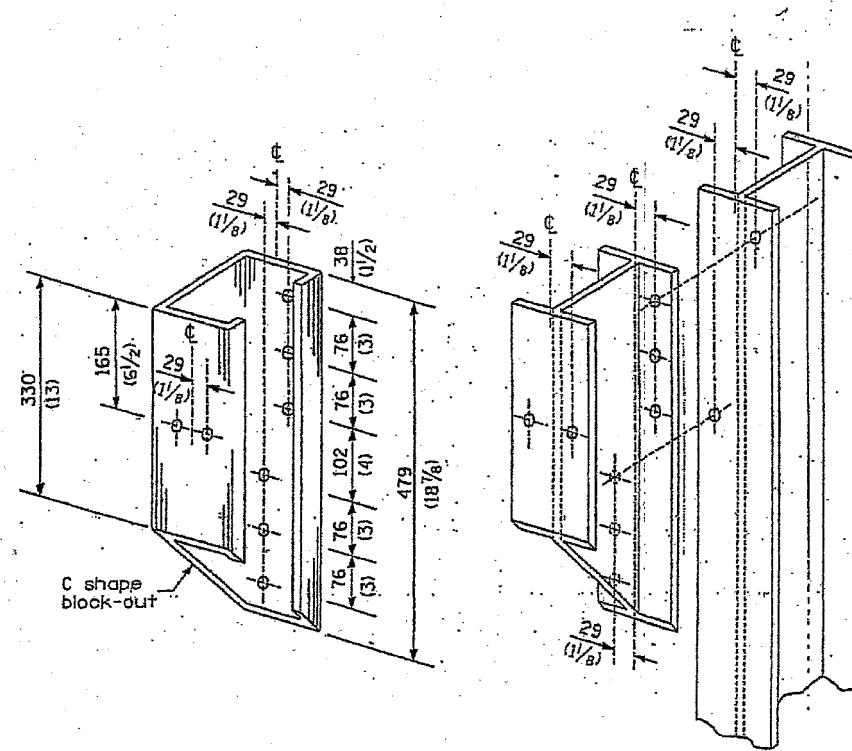


FILE NAME =	USER NAME = osbornnp	DESIGNED -	REVISED -
ct:\pw\work\p\dot\osbornnp\d0417906\014215-sht-cover.dgn		DRAWN -	REVISED -
	PLOT SCALE = 99.9998 ' / in.	CHECKED -	REVISED -
	PLOT DATE = 10/28/2014	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

DETAIL THRIE BEAM GUARDRAIL WITH MODIFIED OFFSET BLOCK			
SCALE:	SHEET NO.	OF SHEETS	STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2014-086RRR	VARIOUS	22	15
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 62A33	



STEEL BLOCK-OUT AND
STEEL POST DETAILS

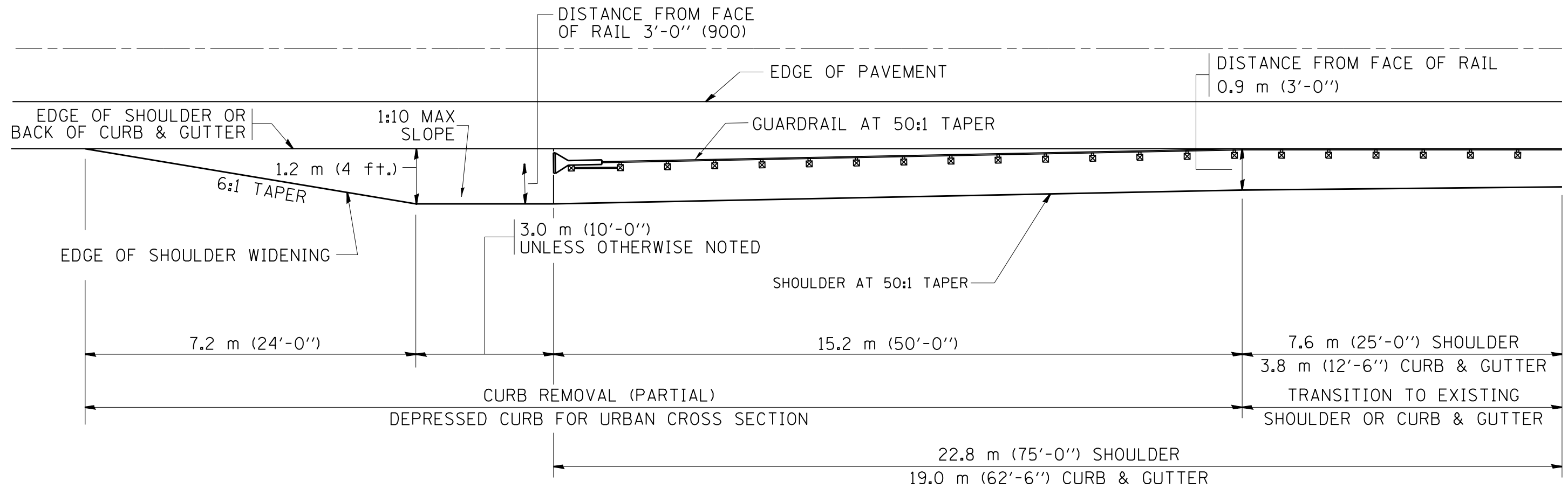
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Default	PLOT SCALE = 99.9998 ' / in.	CHECKED -	REVISED -
	PLOT DATE = 10/28/2014	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STEEL PLATE BEAM GUARDRAIL
STEEL BLOCK-OUT DETAIL**

SCALE: SHEET OF SHEETS STA. TO STA.

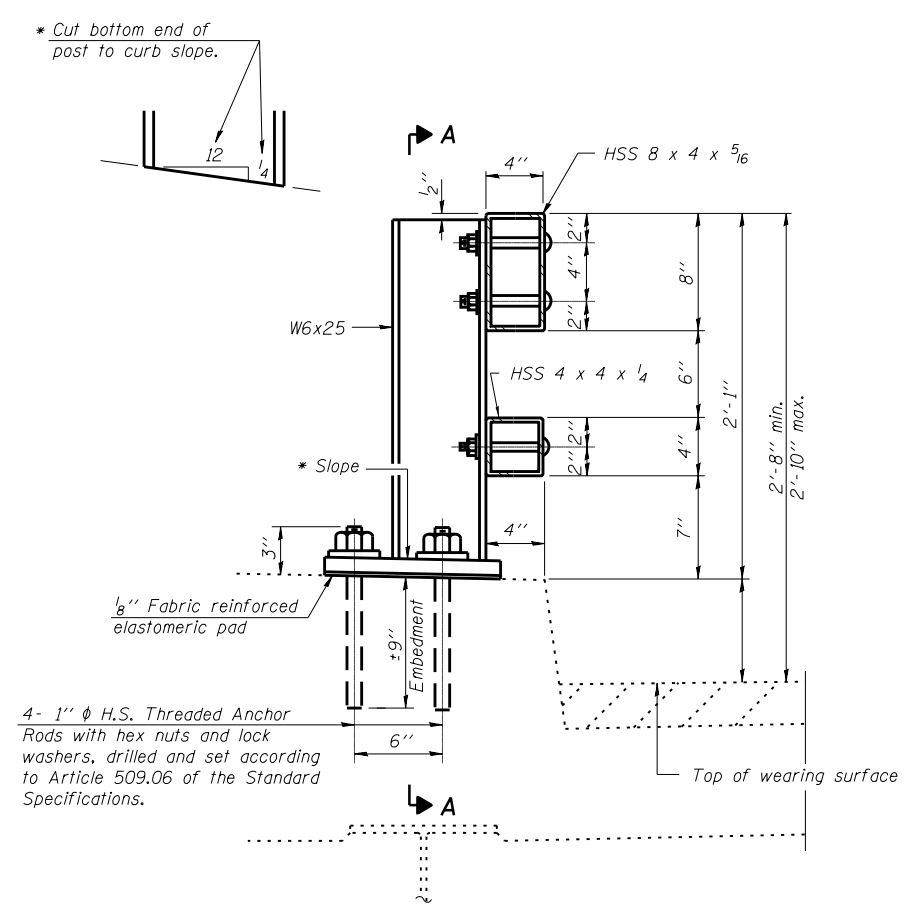
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2014-086GRR	VARIOUS	22	16
			CONTRACT NO. 62A33	
ILLINOIS FED. AID PROJECT				



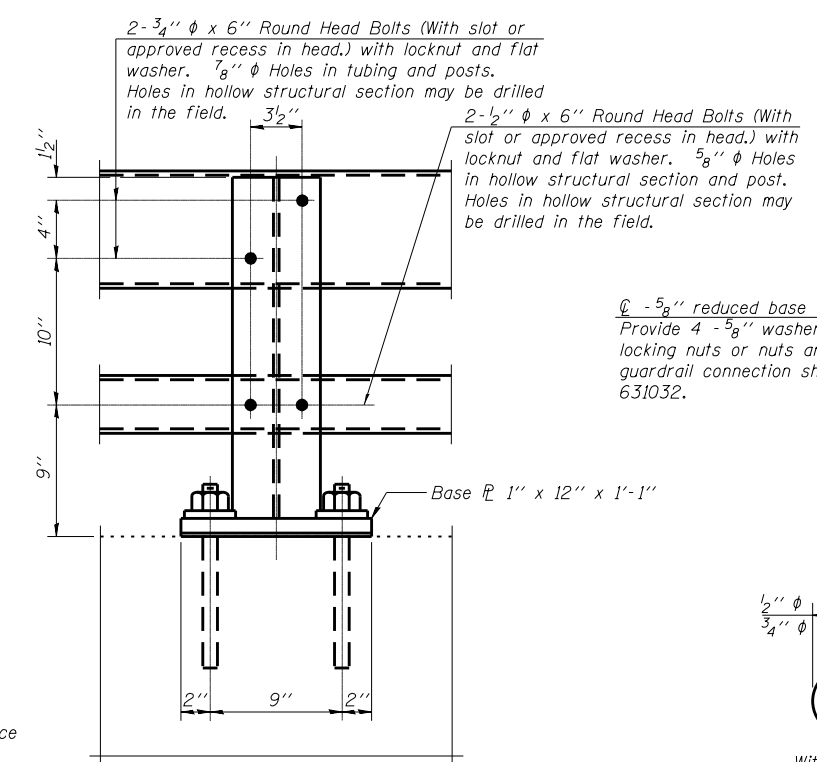
NOTES: THE CONTRACTOR SHALL VERIFY THE TYPE/HEIGHT OF GUARDRAIL IN-PLACE BEFORE ORDERING THE NEW TERMINAL SECTION. COST INCLUDED WITH THE COST OF THE TERMINAL. THE TERMINAL SECTION HEIGHT TO BE PLACED MUST MATCH THE HEIGHT OF THE IN-PLACE GUARDRAIL.

SHOULDER WIDENING SHALL BE IN ACCORDANCE WITH STATE STANDARD 630301

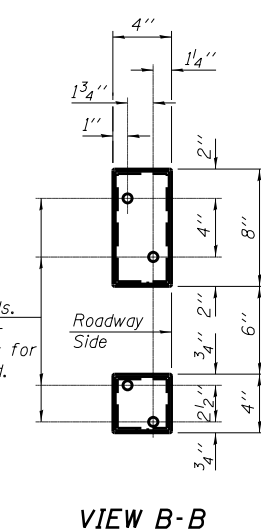
FILE NAME =	USER NAME = osbornnp	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CURB REMOVAL (PARTIAL) FOR TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL				F.A. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
Default	et:\pwork\pwork\osbornnp\d0417906\DI4215-sht-cover.dgn	DRAWN -	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.	TO STA.	VAR.	2014-086GRR	VARIOUS	22	17
	PLOT SCALE = 99.9998' / in.	CHECKED -	REVISED -						CONTRACT NO. 62A33						
	PLOT DATE = 10/28/2014	DATE -	REVISED -						ILLINOIS FED. AID PROJECT						



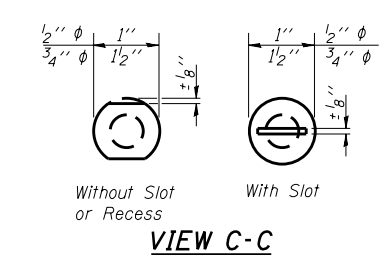
SECTION AT RAIL POST



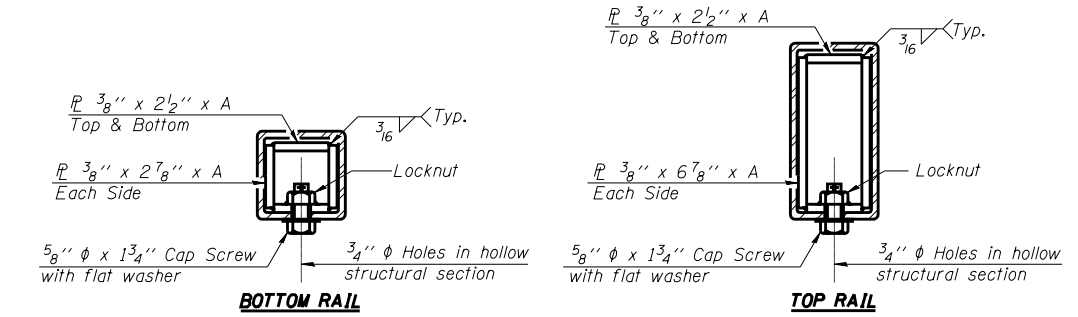
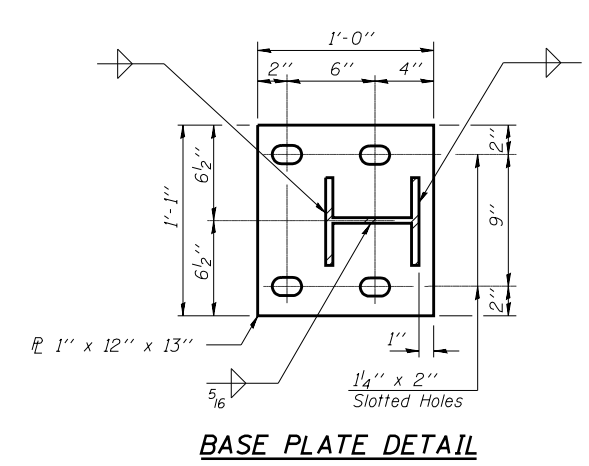
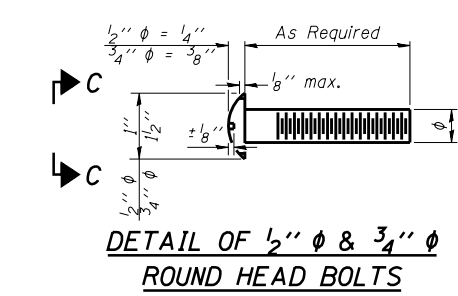
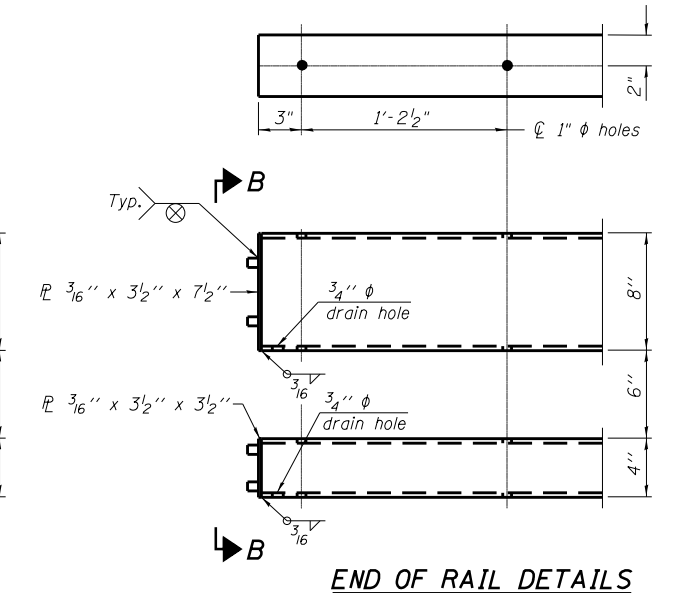
SECTION A-A



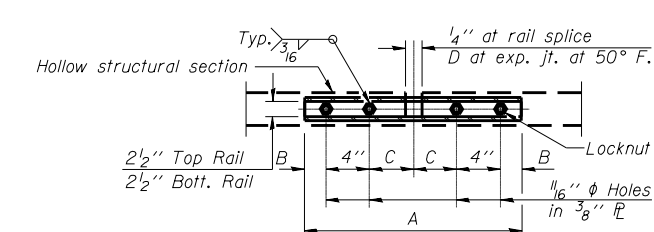
VIEW B-B



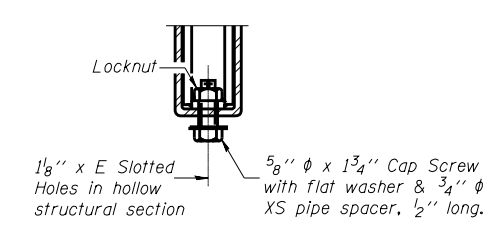
VIEW C-C



SECTIONS AT RAIL SPLICE



PLAN-BOTT. SPLICE TYPICAL



RAIL SPLICE CONNECTION AT EXPANSION JT.

Notes:

All field drilled holes shall be coated with an approved zinc rich paint before erection.

Posts shall not be located closer than 1'-3" to an existing bridge expansion joint or end of bridge.

Steel Bridge Rail expansion joint shall be provided between any two (2) posts which span a bridge expansion joint. Bolts located at expansion joint shall be provided with locknuts and shall be tightened only to a point that will allow railing movement.

Provide one $\frac{1}{8}$ " and two $\frac{1}{16}$ " steel shims for 25% of the posts. Shims shall be similar to base plates in size and holes.

All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

SPLICE DIMENSIONS

T	D	A	B	C	E
≤4"	2 $\frac{1}{2}$ "	1'-8"	2"	4"	2 $\frac{1}{2}$ "
>4" ≤6 $\frac{1}{2}$ "	3 $\frac{3}{4}$ "	2'-0"	2 $\frac{1}{2}$ "	5 $\frac{1}{2}$ "	3 $\frac{1}{2}$ "
>6 $\frac{1}{2}$ " ≤9"	5"	2'-4"	3 $\frac{1}{2}$ "	6 $\frac{1}{2}$ "	9"
>9" ≤13"	7"	2'-10"	4 $\frac{1}{2}$ "	8 $\frac{1}{2}$ "	11"
Rail Splice	1 $\frac{1}{4}$ "	1'-8"	2"	4"	—

T = Total movement at expansion joint as shown on the design plans.

R-31

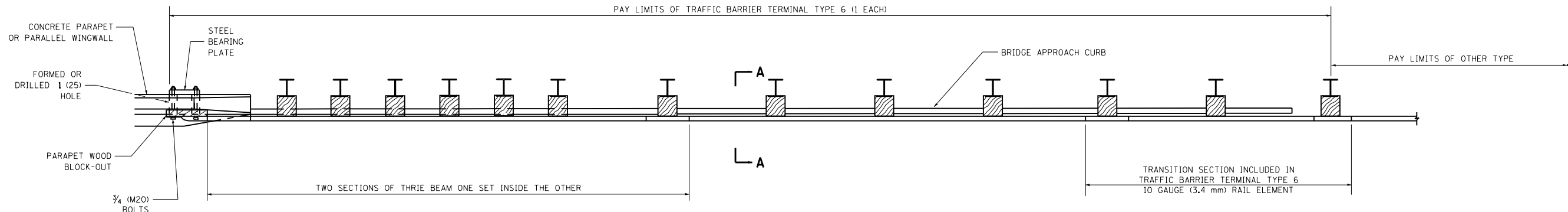
7-1-10

(6'-3" Maximum Post Spacing)

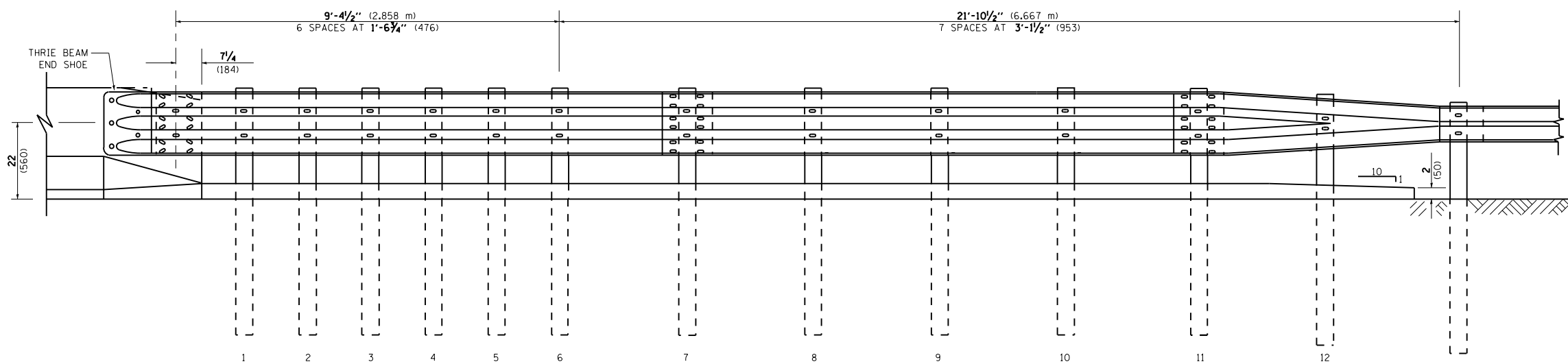
STEEL RAILING, TYPE 2399
STRUCTURE NO.

PARAPET OR WINGWALL

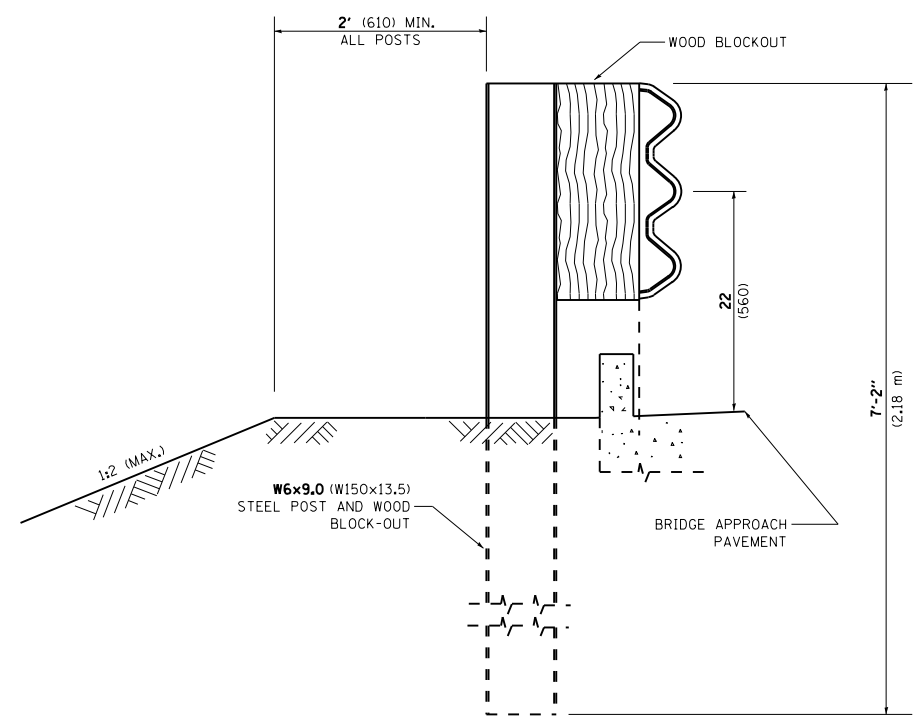
PAY LIMITS OF TRAFFIC BARRIER TERMINAL TYPE 6 (1 EACH)



PLAN



ELEVATION



SECTION A-A

GENERAL NOTES

- TO BE USED WHEN CONNECTING TO EXISTING GUARD RAILING PRIOR TO THE MIDWEST GUARDRAIL SYSTEM.
- 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 INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

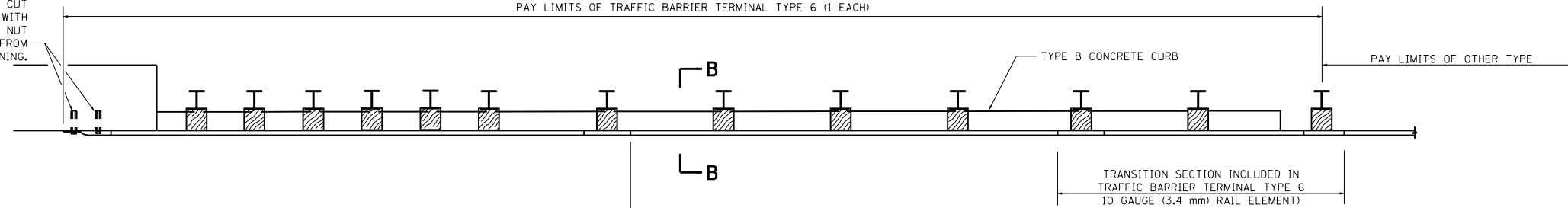
FILE NAME =	USER NAME = osbornnp	DESIGNED -	REVISED - STATE STANDARD;	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TYPE 6 TERMINAL FOR USE WITH 21" HIGH SPBGR			F.A. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
et:\pw_work\p\idot\osbornnp\d0417906\014215-sht-cover.dgn		DRAWN -	631031-05 - 02/19/2008		SCALE: NONE	SHEET NO. 1 OF 3 SHEETS	STA.	TO STA.	VAR.	2014-086GRR	VARIOUS	22	19
		CHECKED -	REVISED -							BM 22			
		DATE -	REVISED -							CONTRACT NO. 62A33			

FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT

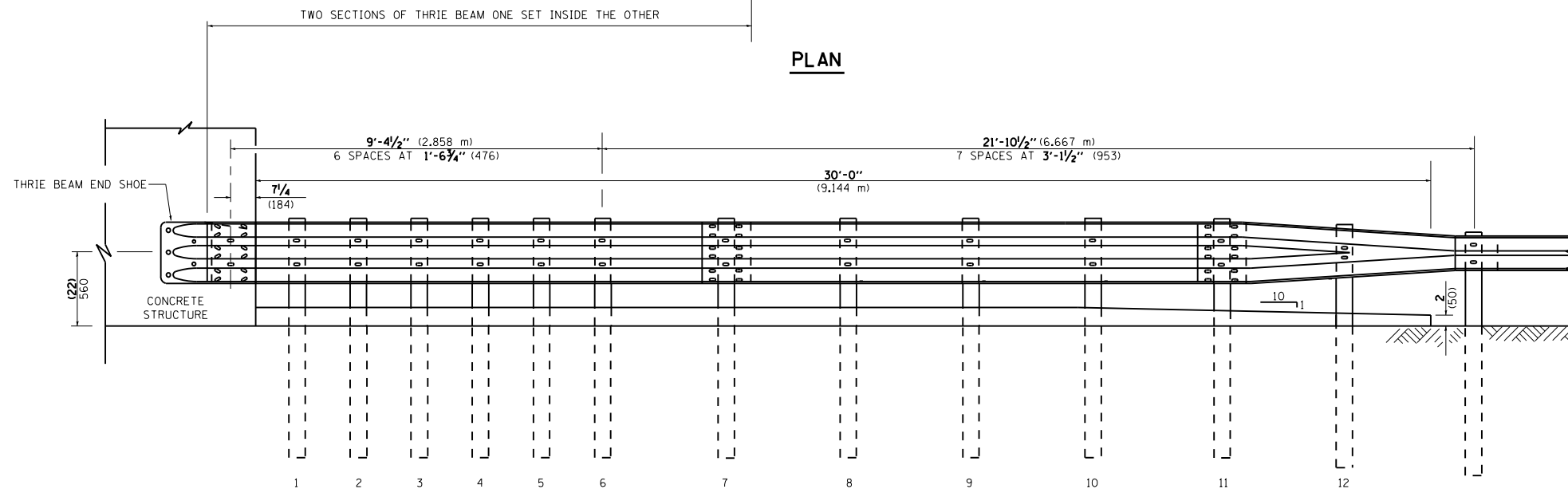
OTHER CONCRETE STRUCTURE

5 EPOXY GROUTED 3/4" (M20) ANCHOR BOLTS WITH STANDARD WASHERS. AFTER TIGHTENING, CUT THE ANCHOR BOLTS FLUSH WITH NUTS, AND DAMAGE THE NUT TO PREVENT IT FROM LOOSENING.

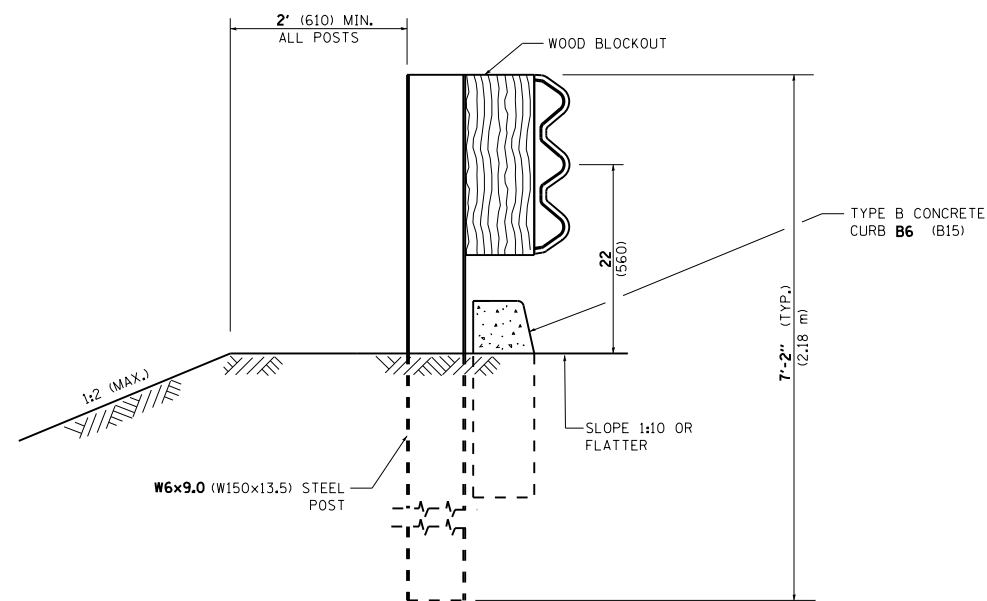
PAY LIMITS OF TRAFFIC BARRIER TERMINAL TYPE 6 (1 EACH)



PLAN



ELEVATION



SECTION B-B

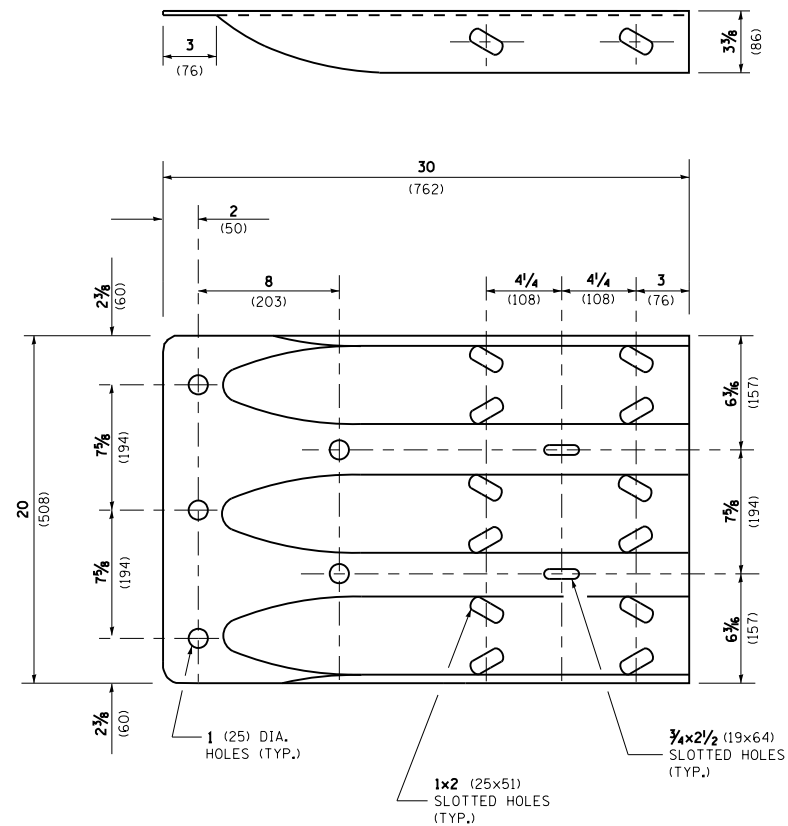
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ct:\pwork\pwork\osbornnp\d0417906\014215-sht-cover.dgn		DRAWN -	631031-05 - 02/19/2008
	PLOT SCALE = 99.9998' / in.	CHECKED -	REVISED -
	PLOT DATE = 10/28/2014	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

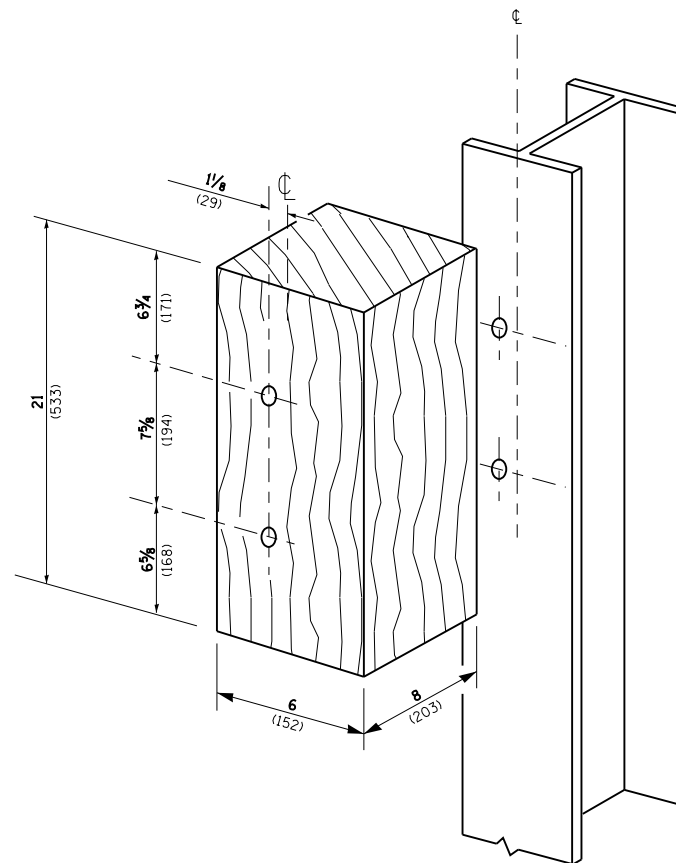
**TYPE 6 TERMINAL
FOR USE WITH 21" HIGH SPBGR**

SCALE: NONE SHEET NO. 2 OF 3 SHEETS STA. TO STA.

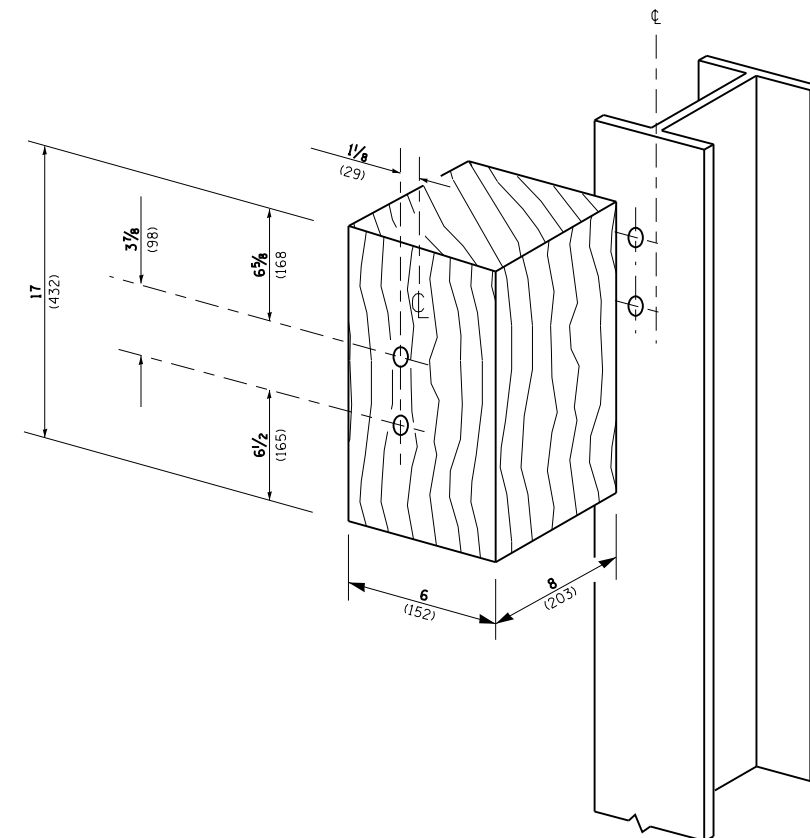
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2014-086GRR	VARIOUS	22	20
BM 22		CONTRACT NO. 62A33		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



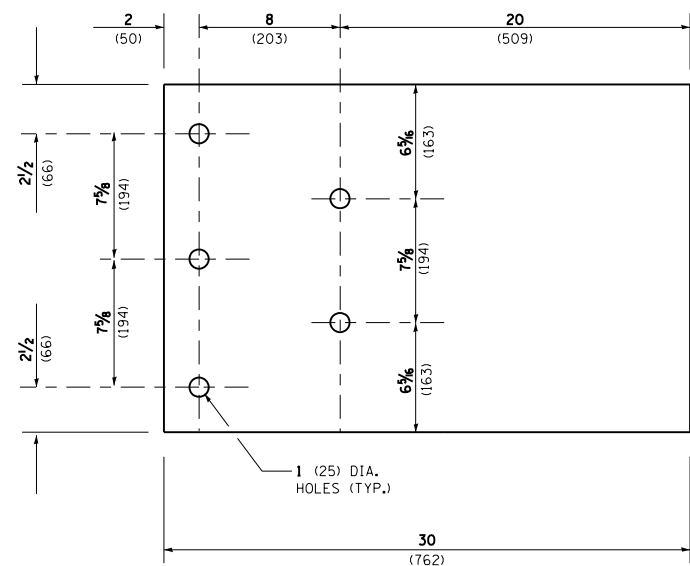
THRIE BEAM END SHOE DETAIL



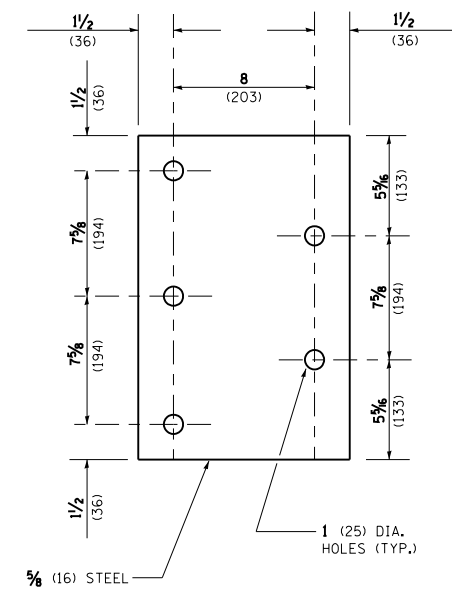
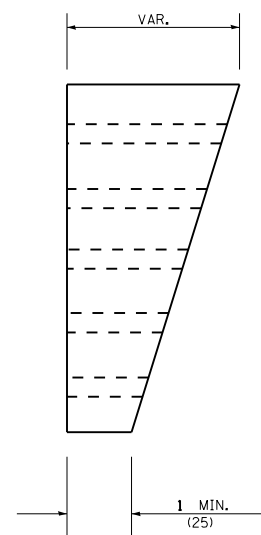
POSTS 1-11 WOOD BLOCKOUT DETAIL



POST 12 WOOD BLOCKOUT DETAIL



PARAPET WOOD BLOCK-OUT DETAIL



PARAPET STEEL BEARING PLATE DETAIL

(5 EACH INDIVIDUAL 5x5x 1/2 (125x125x16) STEEL PLATES WITH CENTERED 1 (25) HOLES MAY BE SUBSTITUTED FOR THE PLATE SHOWN.)

FILE NAME =	USER NAME = osbornnp	DESIGNED -	REVISED - STATE STANDARD;
et:\pw_work\p\dot\osbornnp\d0417906\DI4215-sht-cover.dgn		DRAWN -	631031-05 - 02/19/2008
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	PLOT DATE = 10/28/2014	DATE -	REVISED -

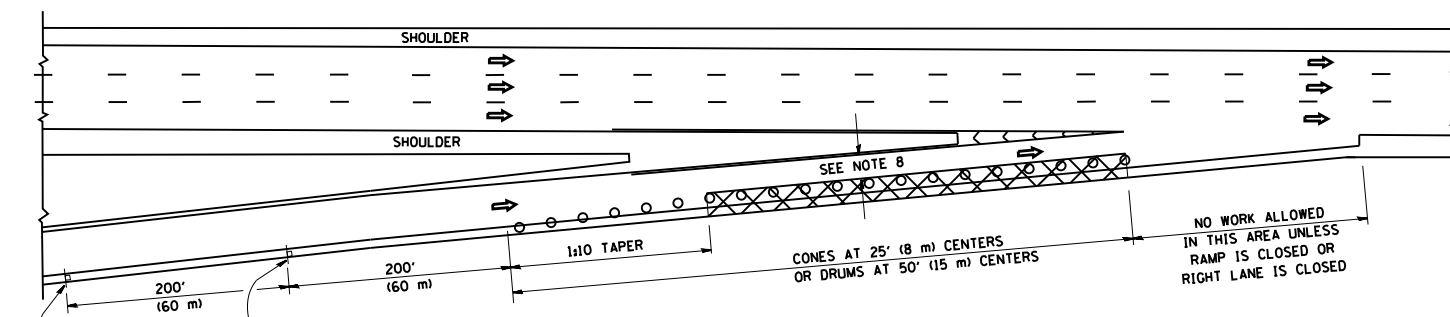
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TYPE 6 TERMINAL
FOR USE WITH 21" HIGH SPBGR**

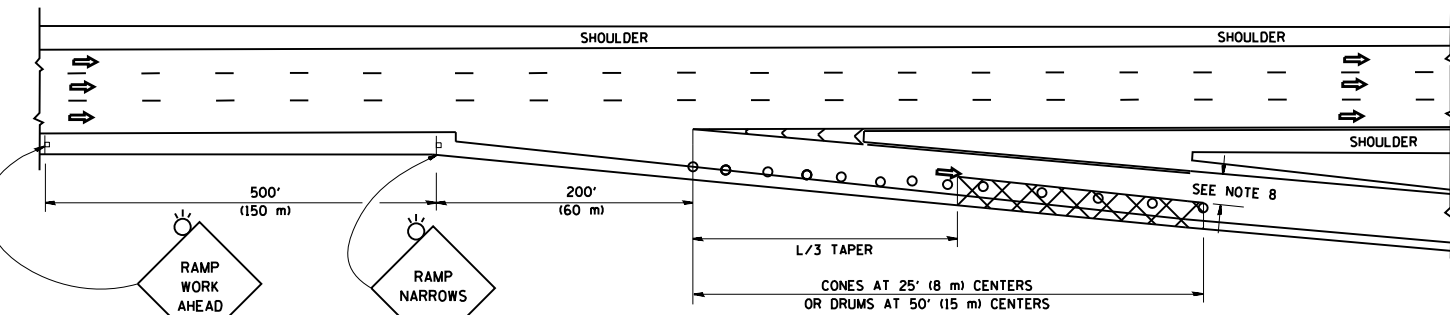
SCALE: NONE SHEET NO. 3 OF 3 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2014-086GRR	VARIOUS	22	21
BM 22		CONTRACT NO. 62A33		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

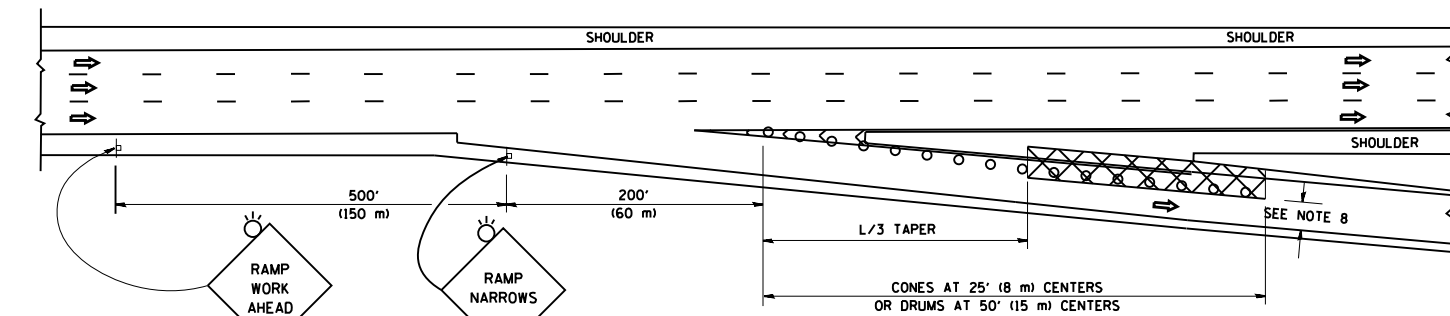
PARTIAL RAMP CLOSURE DETAILS



TYPICAL ENTRANCE RAMP



TYPICAL EXIT RAMP



TYPICAL EXIT RAMP

SYMBOLS

- ACTIVE WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH CONTROL SIGN
- TYPE II BARRICADE OR DRUM WITH STEADY BURN MONO-DIRECTIONAL LIGHT
- CONE, DRUM OR BARRICADE
- IMPACT ATTENUATOR OF TYPE AND TEST LEVEL SPECIFIED

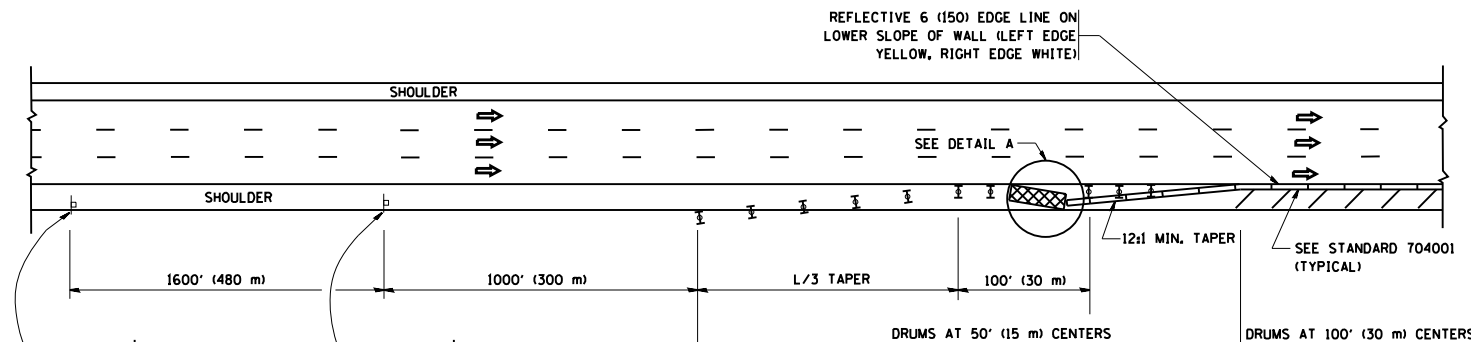
GENERAL NOTES

1. THE "L" DISTANCE EQUALS:

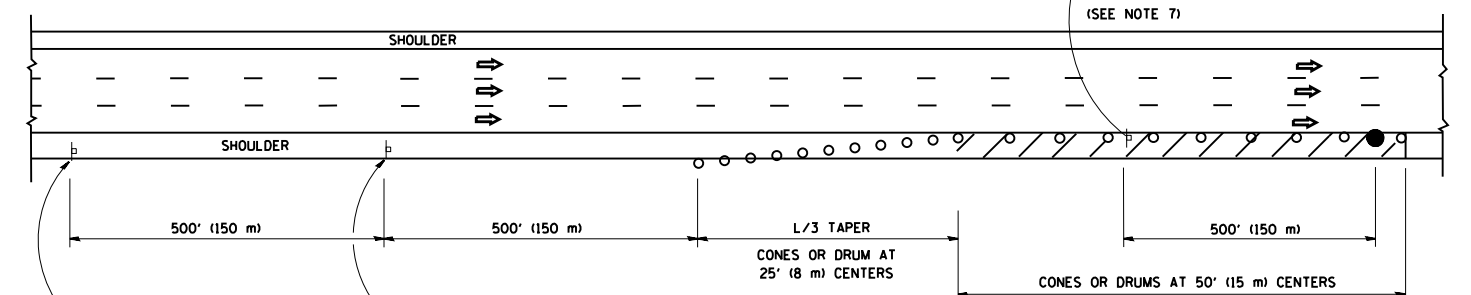
SPEED LIMIT	FORMULAS
45 mph (80 km/h) OR GREATER:	METRIC ENGLISH
	$L=0.65(WXS)$ $L=(WXS)$

W = WIDTH OF OFFSET IN FEET (METERS)
S = NORMAL POSTED SPEED MPH (KM/H)
2. PLASTIC DRUMS WITH HIGH PERFORMANCE REFLECTIVE SHEETING AND STEADY BURNING LIGHTS ARE REQUIRED FOR ALL NIGHTIME CLOSURES.
3. ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
4. FLASHING LIGHTS SHALL BE USED DURING THE HOURS OF DARKNESS AND SHALL BE INSTALLED ABOVE THE FIRST TWO SETS OF SIGNS.

SHOULDER CLOSURE DETAILS

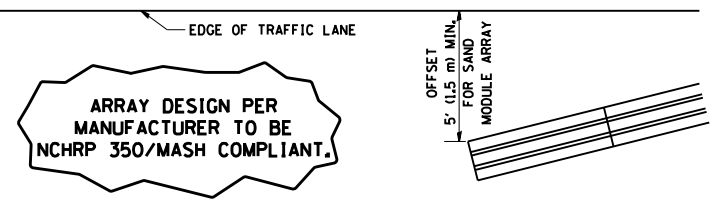


PERMANENT SHOULDER CLOSURE



DAYTIME SHOULDER CLOSURE

THIS DETAIL IS USED WHERE:
1. VEHICLES, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCR OACH IN AN AREA CLOSER THAN 15' (4.5 m) TO THE EDGE OF PAVEMENT FOR A PERIOD IN EXCESS OF 15 MINUTES.



**DETAIL "A"
IMPACT ATTENUATOR, TEMPORARY
(SEE NOTE 5)**

5. THE IMPACT ATTENUATOR, TEMPORARY IS NOT REQUIRED WHEN THE TEMPORARY CONCRETE BARRIER WALL IS PROTECTED BY OR IS TIED INTO THE EXISTING GUARDRAIL. IF OFFSET IS LESS THAN 5 FEET USE NARROW USE TYPE DEVICE TO MEET NCHRP350/MASH.
6. AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL FREEWAY CLOSURES.
7. THE FLAGGER AND FLAGGER SIGN ARE REQUIRED AT THE ABOVE WORK SITES WHEN:
 - a. FOUR OR MORE WORK VEHICLES ENTER THE TRAFFIC LANES IN A ONE HOUR PERIOD.
 - b. THE WORK AVTIVITY REQUIRES FREQUENT ENCR OACHMENT INTO THE LANE OPEN TO TRAFFIC.
 THE FLAGGER SHALL BE STATIONED APPROXIMATELY 100' (30 m) TO 200' (60 m) IN ADVANCE OF THE WORKERS.
8. 12' MIN. WIDTH TANGENT SECTION
16' MIN. WIDTH CURVE SECTION.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME =	USER NAME = osbornnp	DESIGNED -	REVISED - J.A.F. 12-06	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC CONTROL DETAILS FOR FREEWAY SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES			F.A. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
et:\pw_work\p1dot\osbornnp\d0417906\DI4215-sht-cover.dgn	4215-sht-cover.dgn	DRAWN - D.W.S.	REVISED - S.P.B. 01-07		VAR.	2014-086GRR	VARIOUS	22	22			
PLOT SCALE = 99.9998' / in.		CHECKED -	REVISED - S.P.B. 12-09		TC-17							CONTRACT NO. 62A33
PLOT DATE = 10/28/2014		DATE - 11-96	REVISED - M.D. 06-13		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			