

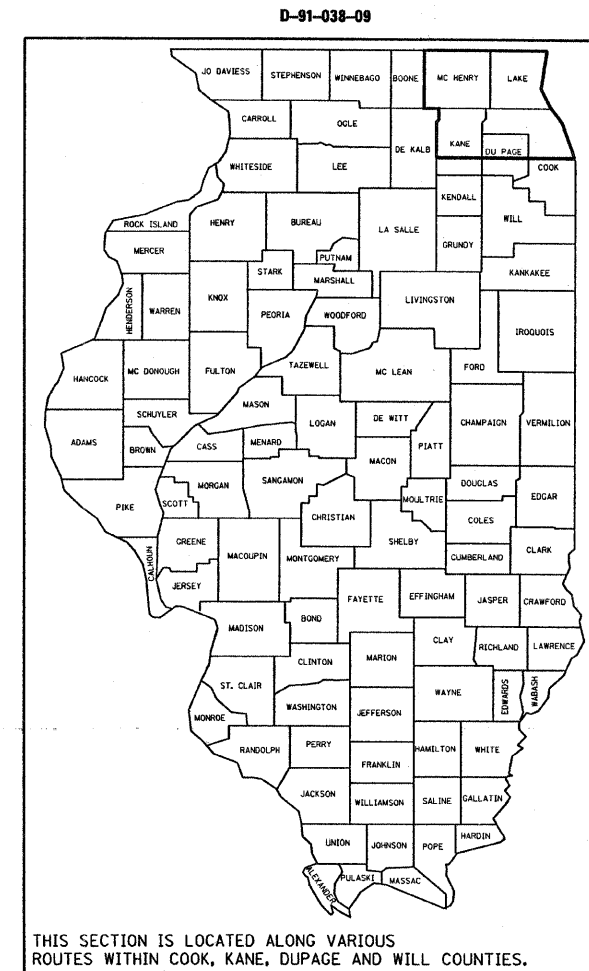
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

**PROPOSED
 HIGHWAY PLANS**

**ROUTE: VARIOUS EXPRESSWAYS AND ARTERIAL
 HIGHWAYS – NORTHERN PART, DISTRICT ONE
 GUARDRAIL REPAIR
 SECTION: 2008-057 GRR
 COUNTY: VARIOUS
 C-91-038-09**

| F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------|--------------|----------|--------------------|-----------|
| VAR | 2008-057 GRR | VARIOUS | 22 | 1 |
| FED. ROAD DIST. NO. | | ILLINOIS | CONTRACT NO. 60F15 | |

FOR INDEX OF SHEETS, SEE SHEET NO. 2



**SEE LOCATION MAPS
 SHEETS 4 THRU 8**

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: ROBERT BORO (847) 705-4178
 PROJECT MANAGER: KEN ENG

CONTRACT NO. 60F15

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

SUBMITTED August 25, 2008

Diana M. O'Keefe DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

October 3, 2008

Eric E. Harrel INTERIM ENGINEER OF DESIGN AND ENVIRONMENT

October 3, 2008

Christine M. Reed DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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

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- 19-21. T6 TERMINAL FOR USE WITH 21" HIGH SPBGR
22. TRAFFIC CONTROL DETAIL FOR SHOULDER CLOSURE AND PARTIAL RAMP CLOSURES

LIST OF STATE STANDARDS

- | | |
|-----------|---|
| 630001-07 | STEEL PLATE BEAM GUARDRAIL |
| 630301-04 | SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS |
| 631006-05 | TRAFFIC BARRIER TERMINAL, TYPE 1B |
| 631011-04 | TRAFFIC BARRIER TERMINAL, TYPE 2 |
| 631026-04 | TRAFFIC BARRIER TERMINAL, TYPE 5 |
| 631031-06 | TRAFFIC BARRIER TERMINAL, TYPE 6 |
| 631036-04 | TRAFFIC BARRIER TERMINAL, TYPE 8 |
| 635006-02 | REFLECTOR AND TERMINAL MARKER PLACEMENT |
| 635011-01 | REFLECTOR MARKER AND MOUNTING DETAILS |
| 701006-02 | OFF-RD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE |
| 701011-01 | OFF-RD MOVING OPERATIONS, 2L, 2W, DAY ONLY |
| 701101-01 | OFF-RD OPERATIONS, MULTILANE, 15' TO 24" FROM PAVEMENT EDGE |
| 701201-02 | LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS ≥ 45 MPH |
| 701301-02 | LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS |
| 701400-02 | APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY |
| 701401-04 | LANE CLOSURE, FREEWAY/EXPRESSWAY |
| 701406-04 | LANE CLOSURE, FREEWAY/EXPRESSWAY, DAY OPERATIONS ONLY |
| 701411-04 | LANE CLOSURE, MULTILANE, AT ENTRANCE OR EXIT RAMP, FOR SPEED ≥ 45 MPH |
| 701501-04 | URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED |
| 701606-05 | URBAN LANE CLOSURE, MULTILANE, 2W WITH MOUNTABLE MEDIUM |
| 701701-05 | URBAN LANE CLOSURE, MULTILANE INTERSECTION |
| 701801-03 | LANE CLOSURE MULTILANE 1W OR 2W CROSSWALK OR SIDEWALK CLOSURE |
| 701901 | TRAFFIC CONTROL DEVICES |
| 720011 | METAL POSTS FOR SIGNS, MARKERS & DELINEATORS |

GENERAL NOTES

BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "JULIE" AT (800) 892-0123 OR 811 OR "CUAN" 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 (SEE COVER SHEET).

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.

| | | | | | | | | | | | | | |
|--|------------------------------|------------|-----------|---|---|--|--|--|---|--------------|---------|-----------------|--------------|
| FILE NAME = c:\projects\m186188\main_t.bb.dgn | USER NAME = midyjo | DESIGNED - | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | INDEX OF SHEETS, STATE STANDARDS AND GENERAL NOTES | | | | F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | PLOT SCALE = 49.9999 ' / IN. | DRAWN - | REVISED - | | | | | | VAR | 2008-057 GRR | VARIOUS | 22 | 2 |
| | PLOT DATE = 8/27/2008 | CHECKED - | REVISED - | | SCALE: SHEET NO. OF SHEETS STA. TO STA. | | | | FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT | | | | |
| | | DATE - | REVISED - | | | | | | CONTRACT NO. 60F15 | | | | |

| | | | | |
|-----------------------|--------------|----------|-----------------|-----------|
| F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| VAR | 2008-057 GRR | VARIOUS | 22 | 3 |
| FED. ROAD DIST. NO. 1 | | ILLINOIS | HIGHWAY PROJECT | |

CONTRACT NO. 60F15

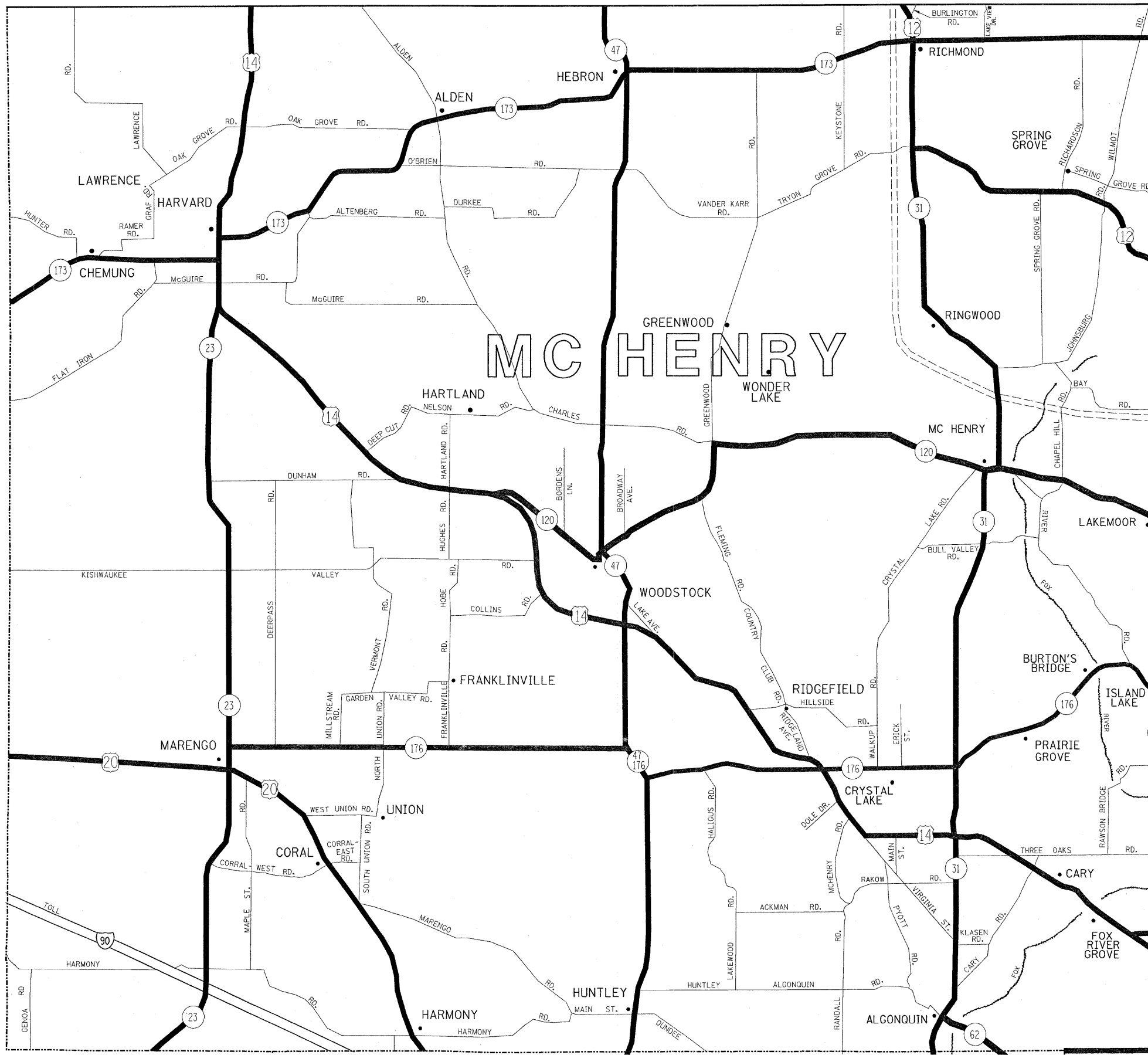
| SUMMARY OF QUANTITIES | | | CONSTRUCTION TYPE CODE: SFTY-3J | | | | | |
|-----------------------|---|------|---------------------------------|---------------------------------|-----------------|--|--|--|
| CODE NO | ITEM | UNIT | URBAN TOTAL QUANTITIES | CONTRACT MAINTENANCE 100% STATE | MCHD 100% STATE | | | |
| 44002300 | CURB REMOVAL (PARTIAL) | FOOT | 100 | 80 | 20 | | | |
| 50900200 | STEEL RAILING, TYPE 2399 | FOOT | 25 | 20 | 5 | | | |
| 63000000 | STEEL PLATE BEAM GUARD RAIL, TYPE A | FOOT | 400 | 320 | 80 | | | |
| 63001105 | FURNISHING AND INSTALLING GUARD RAIL BLOCKS | EACH | 1000 | 800 | 200 | | | |
| 63001205 | FURNISHING AND INSTALLING GUARD RAIL CHANNEL | EACH | 30 | 24 | 6 | | | |
| 63001305 | FURNISHING AND INSTALLING RAIL ELEMENT PLATES | EACH | 1300 | 1040 | 260 | | | |
| 63100045 | TRAFFIC BARRIER TERMINAL, TYPE 2 | EACH | 2 | 1 | 1 | | | |
| 63100167 | TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT | EACH | 2 | 1 | 1 | | | |
| 63300800 | GUARD RAIL POST VERTICAL ADJUSTMENT | EACH | 12 | 10 | 2 | | | |
| 78200405 | GUARDRAIL MARKERS | EACH | 285 | 245 | 40 | | | |
| 78201000 | TERMINAL MARKER - DIRECT APPLIED | EACH | 20 | 18 | 2 | | | |
| X0300501 | FURNISHING AND INSTALLING TRAFFIC BARRIER TERMINAL, TYPE 1 - NOSE | EACH | 7 | 6 | 1 | | | |
| X0301763 | FURNISHING AND INSTALLING TRAFFIC BARRIER TERMINAL, TYPE 1B | EACH | 2 | 1 | 1 | | | |
| X0301849 | FURNISHING AND INSTALLING TRAFFIC BARRIER TERMINAL, TYPE 1, SPECIAL (TANGENT) | EACH | 42 | 34 | 8 | | | |
| X0301850 | FURNISHING AND INSTALLING TRAFFIC BARRIER TERMINAL, TYPE 1, SPECIAL (FLARED) | EACH | 5 | 4 | 1 | | | |
| X0320619 | FURNISHING AND INSTALLING THRIE BEAM GUARD RAIL ELEMENT PLATES | EACH | 5 | 4 | 1 | | | |
| X0321152 | FURNISHING AND INSTALLING RADIUS RAIL ELEMENT PLATES | EACH | 52 | 42 | 10 | | | |
| X0321562 | FURNISHING AND INSTALLING TRAFFIC BARRIER TERMINAL, TYPE 3 SPECIAL | EACH | 2 | 1 | 1 | | | |
| X0321563 | REPAIR TRAFFIC BARRIER TERMINAL TYPE 1 SPECIAL | EACH | 186 | 149 | 37 | | | |
| X0324559 | REPAIR TRAFFIC BARRIER TERMINAL TYPE 3 SPECIAL | EACH | 4 | 3 | 1 | | | |
| X0322240 | FURNISHING AND SETTING THRIE-BEAM POSTS | EACH | 5 | 4 | 1 | | | |
| X0322241 | FURNISHING AND INSTALLING THRIE BEAM RADIUS ELEMENT PLATES | EACH | 2 | 1 | 1 | | | |
| X0322242 | FURNISHING AND SETTING THRIE-BEAM MODIFIED BLOCKS | EACH | 5 | 4 | 1 | | | |

| SUMMARY OF QUANTITIES | | | CONSTRUCTION TYPE CODE: SFTY-3J | | | | | |
|-----------------------|--|------|---------------------------------|---------------------------------|-----------------|--|--|--|
| CODE NO | ITEM | UNIT | URBAN TOTAL QUANTITIES | CONTRACT MAINTENANCE 100% STATE | MCHD 100% STATE | | | |
| X0322451 | REPAIR TRAFFIC BARRIER TERMINAL TYPE 1 SPECIAL - POST | EACH | 210 | 168 | 42 | | | |
| X0322452 | REPAIR TRAFFIC BARRIER TERMINAL TYPE 1 SPECIAL - RAIL ELEMENT PLATE | EACH | 60 | 48 | 12 | | | |
| X0322603 | FURNISHING AND INSTALLING TRAFFIC BARRIER TERMINAL, TYPE 3 SPECIAL, NOSE | EACH | 2 | 1 | 1 | | | |
| XZ190500 | FURNISHING AND INSTALLING TRAFFIC BARRIER TERMINAL, TYPE 5 | EACH | 2 | 1 | 1 | | | |
| XZ190600 | FURNISHING AND INSTALLING TRAFFIC BARRIER TERMINAL, TYPE 6 | EACH | 4 | 3 | 1 | | | |
| Z0025200 | FURNISHING AND INSTALLING CONNECTING END SECTION | EACH | 2 | 1 | 1 | | | |
| Z0025600 | FURNISHING AND INSTALLING RETURN END SECTION | EACH | 3 | 2 | 1 | | | |
| Z0025800 | FURNISHING AND INSTALLING SINGLE END SECTION | EACH | 14 | 12 | 2 | | | |
| Z0026200 | FURNISHING AND INSTALLING TRAFFIC BARRIER TERMINAL, TYPE 2 | EACH | 5 | 4 | 1 | | | |
| Z0026700 | FURNISHING AND SETTING STEEL POSTS | EACH | 710 | 568 | 142 | | | |
| Z0026800 | FURNISHING AND SETTING STEEL POSTS (MODIFIED) | EACH | 22 | 18 | 4 | | | |
| Z0026900 | FURNISHING AND SETTING STEEL POSTS (SPECIAL) | EACH | 9 | 7 | 2 | | | |
| Z0051400 | REMOVING AND RESETING POSTS | EACH | 50 | 40 | 10 | | | |
| Z0052100 | REPAIR STEEL PLATE BEAM GUARD RAIL, TYPE B | FOOT | 100 | 80 | 20 | | | |
| Z0052200 | REPAIR STEEL PLATE BEAM GUARD RAIL, TYPE C | FOOT | 50 | 40 | 10 | | | |
| Z0052400 | REPAIR TRAFFIC BARRIER TERMINAL, TYPE 1 | EACH | 9 | 7 | 2 | | | |
| Z0052550 | REPAIR TRAFFIC BARRIER TERMINAL, TYPE 1B | EACH | 2 | 1 | 1 | | | |
| Z0052600 | REPAIR TRAFFIC BARRIER TERMINAL, TYPE 2 | EACH | 17 | 15 | 2 | | | |
| Z0052900 | REPAIR TRAFFIC BARRIER TERMINAL, TYPE 4 | EACH | 2 | 1 | 1 | | | |
| Z0053000 | REPAIR TRAFFIC BARRIER TERMINAL, TYPE 5 | EACH | 2 | 1 | 1 | | | |
| Z0053200 | REPAIR TRAFFIC BARRIER TERMINAL, TYPE 6 | EACH | 3 | 2 | 1 | | | |
| Z0053400 | REPAIR TRAFFIC BARRIER TERMINAL, TYPE 8 | EACH | 2 | 1 | 1 | | | |

| REVISIONS | |
|-----------|------|
| NAME | DATE |
| | |
| | |
| | |

ILLINOIS DEPARTMENT OF TRANSPORTATION
SUMMARY OF QUANTITIES

8/27/2008 8:00:00 AM C:\projects\60F15\60F15.dgn



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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 DATE -

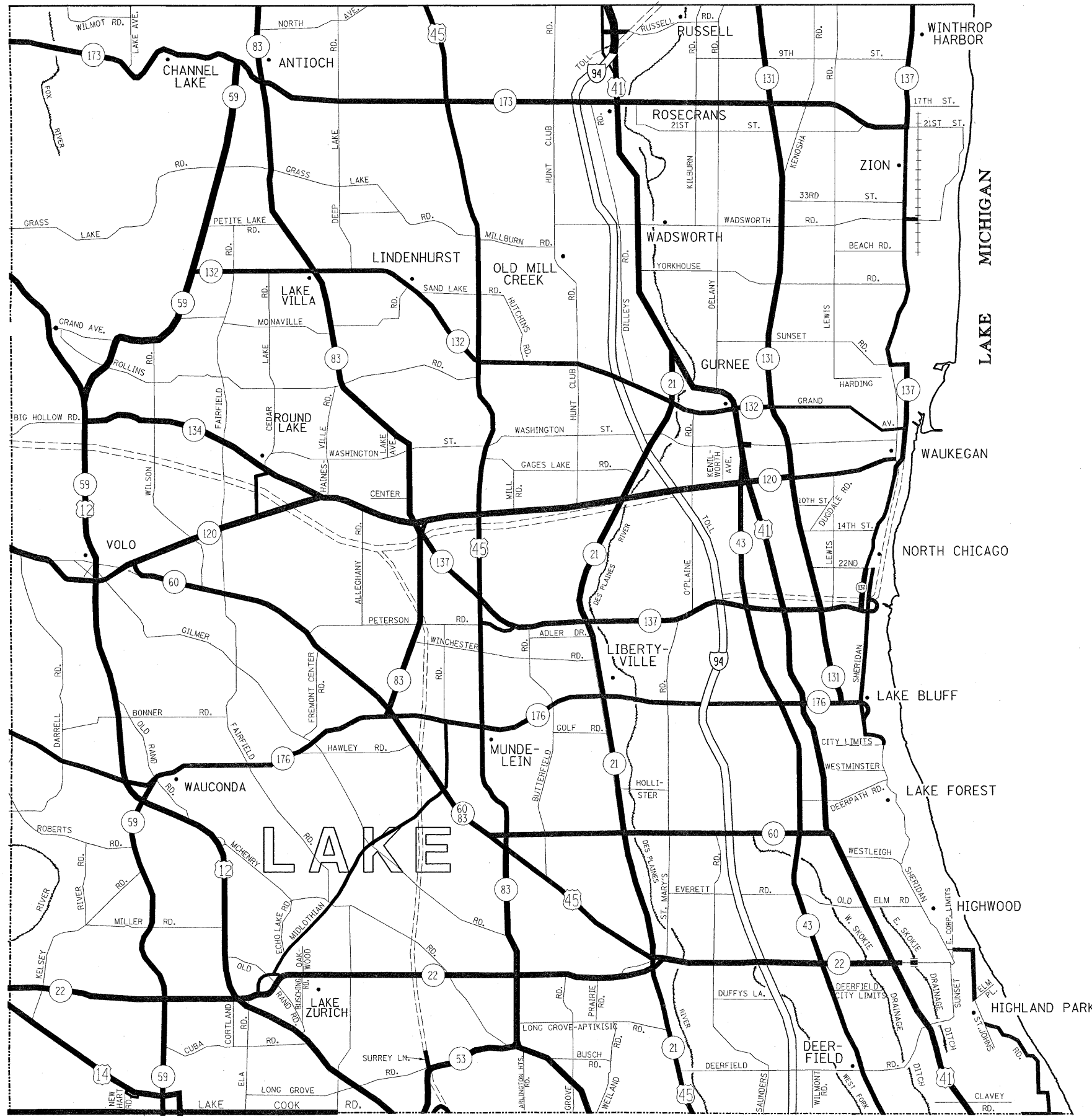
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**GUARDRAIL REPAIR LOCATION MAP
 McHENRY COUNTY**

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

| | | | | |
|---------------------|--------------|---------|---------------------------|-----------|
| F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| VAR | 2008-057 GRR | VARIOUS | 22 | 4 |
| FED. ROAD DIST. NO. | | | ILLINOIS FED. AID PROJECT | |
| CONTRACT NO. 60F15 | | | | |



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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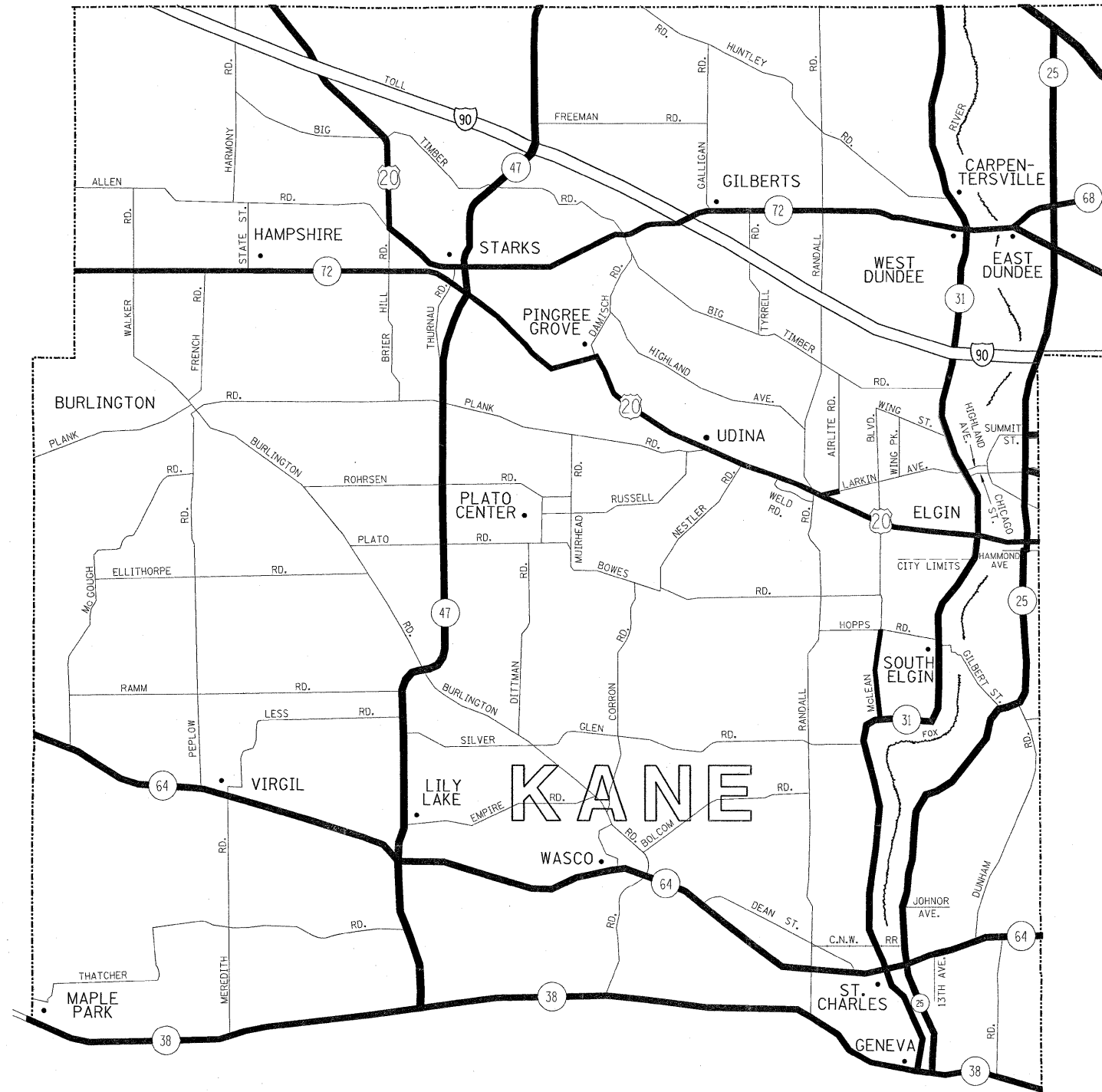
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GUARDRAIL REPAIR LOCATION MAP
LAKE COUNTY**

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

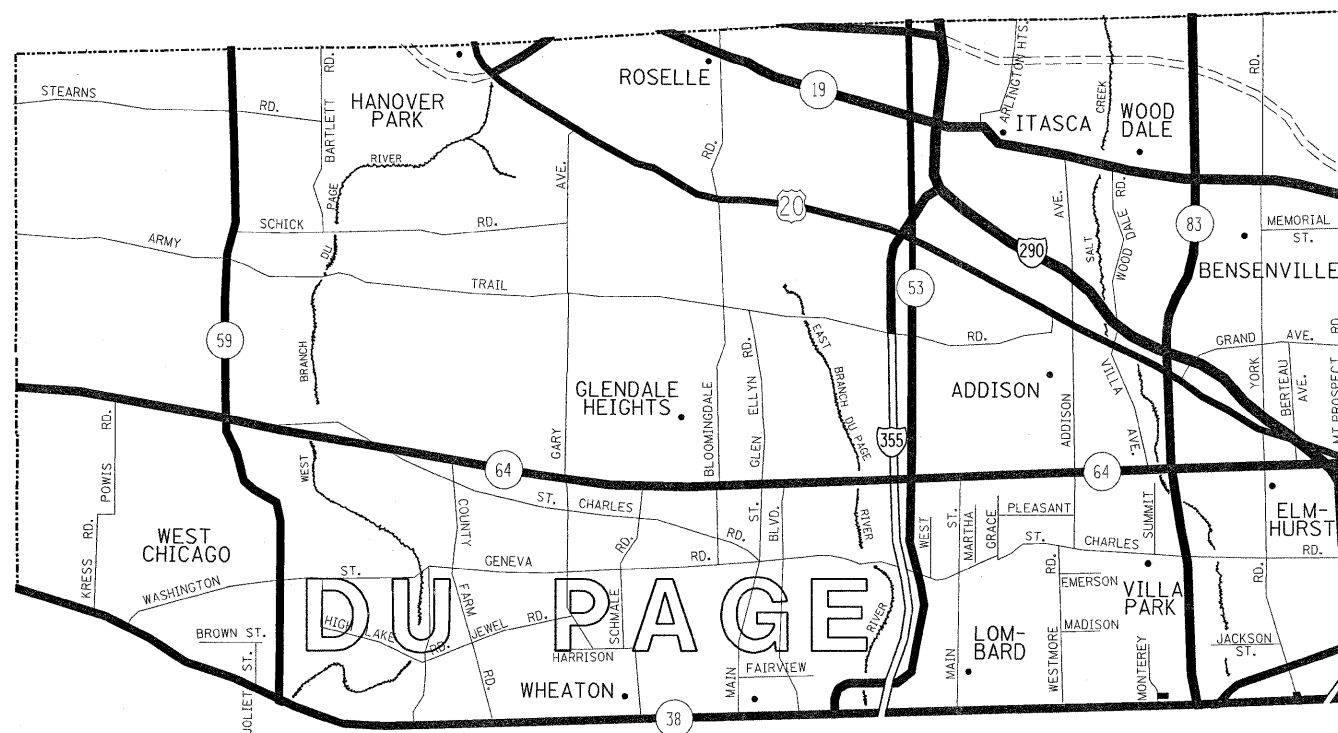
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| F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| VAR | 2008-057 GRR | VARIOUS | 22 | 5 |
| CONTRACT NO. 60F15 | | | | |
| FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT | | | | |



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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| | | DRAWN - | REVISED - | | | VAR | 2008-057 GRR | VARIOUS | 22 | 6 | |
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| | PLOT DATE = 8/27/2008 | DATE - | REVISED - | | | SCALE: | SHEET NO. OF SHEETS | STA. TO STA. | 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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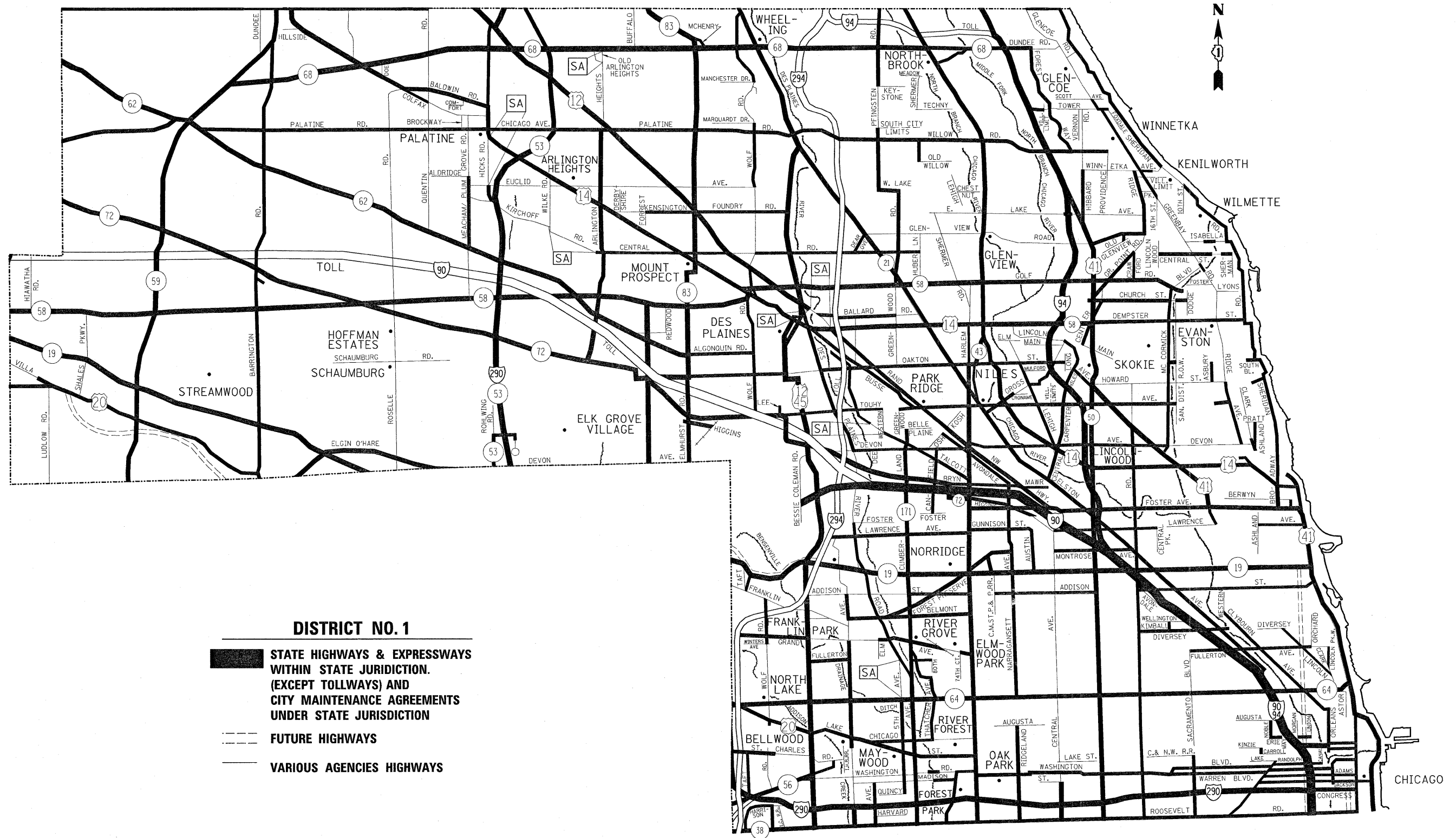
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GUARDRAIL REPAIR LOCATION MAP DuPAGE COUNTY
NORTH OF AND INCLUDING IL RTE 38**

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

| | | | | |
|---------------------|--------------|---------|---------------------------|-----------|
| F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| VAR | 2008-057 GRR | VARIOUS | 22 | 7 |
| FED. ROAD DIST. NO. | | | ILLINOIS FED. AID PROJECT | |
| | | | CONTRACT NO. 60F15 | |



DISTRICT NO. 1

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

FUTURE HIGHWAYS

VARIOUS AGENCIES HIGHWAYS

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

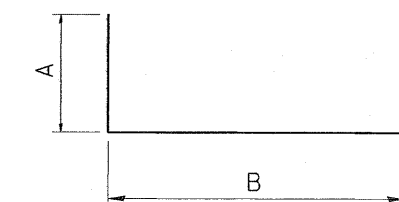
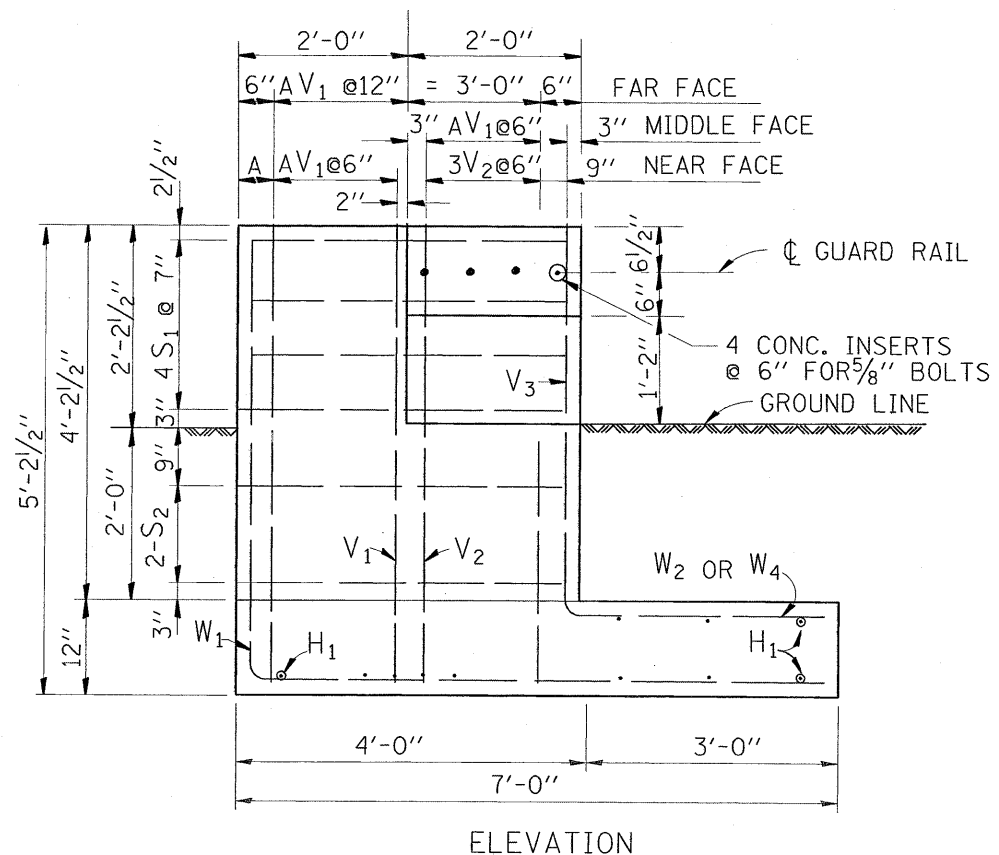
**GUARDRAIL REPAIR LOCATION MAP COOK COUNTY
NORTH OF AND INCLUDING IL. RTE 38**

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

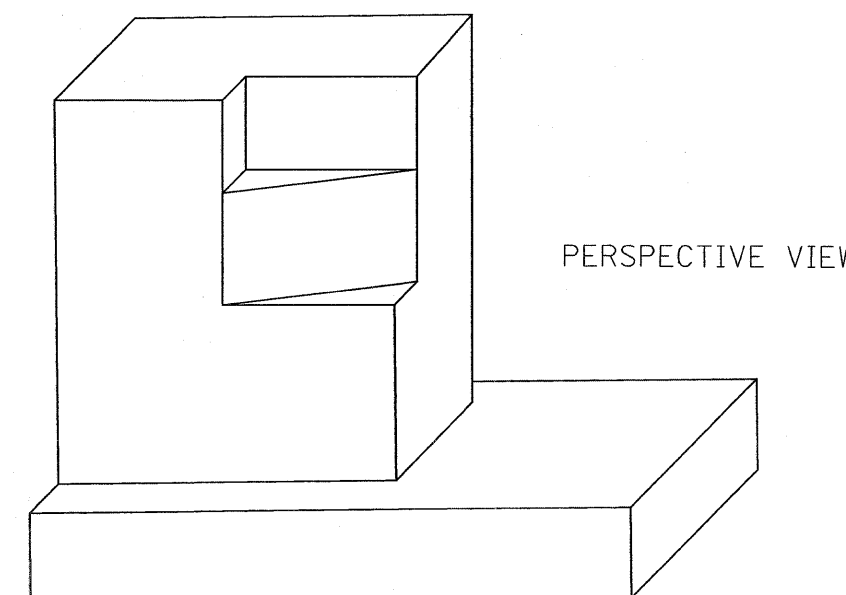
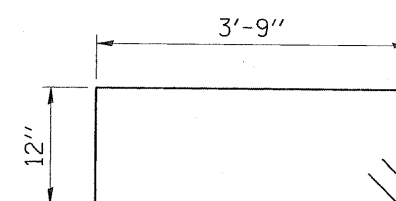
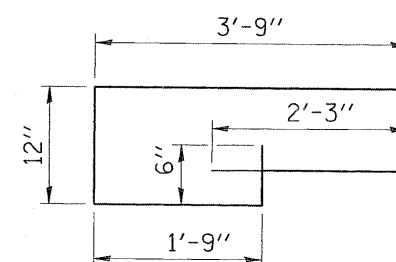
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| F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| VAR | 2008-057 GRR | VARIOUS | 22 | 8 |
| FED. ROAD DIST. NO. | | ILLINOIS FED. AID PROJECT | | CONTRACT NO. 60F15 |

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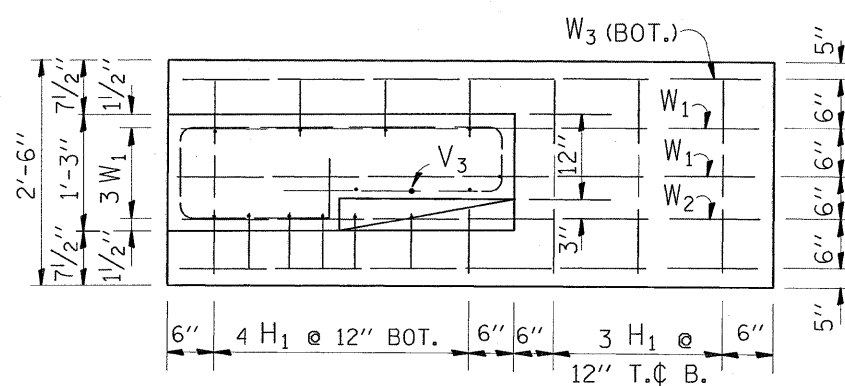
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PLOT DATE = 8/27/2008



| 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" |



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



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" |

THIS SHEET IS FOR INFORMATION ONLY

NOTE:

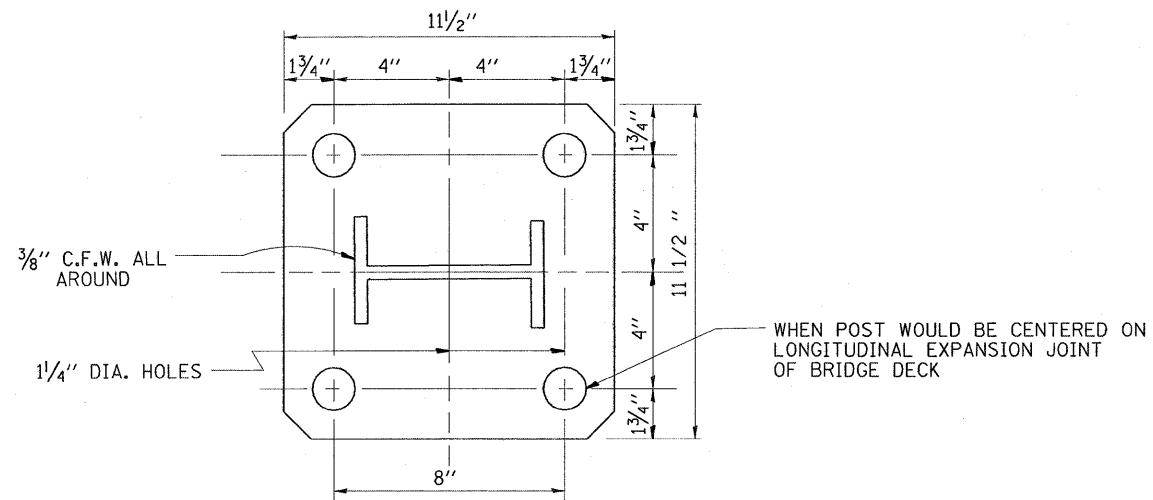
FOR DETAILS OF RAIL ELEMENTS, RAIL SPLICING, NUT, BOLT AND SIDE VIEW OF RAIL, SEE STANDARD 2230-2.

ALL WELDS SHALL BE GROUND SMOOTH

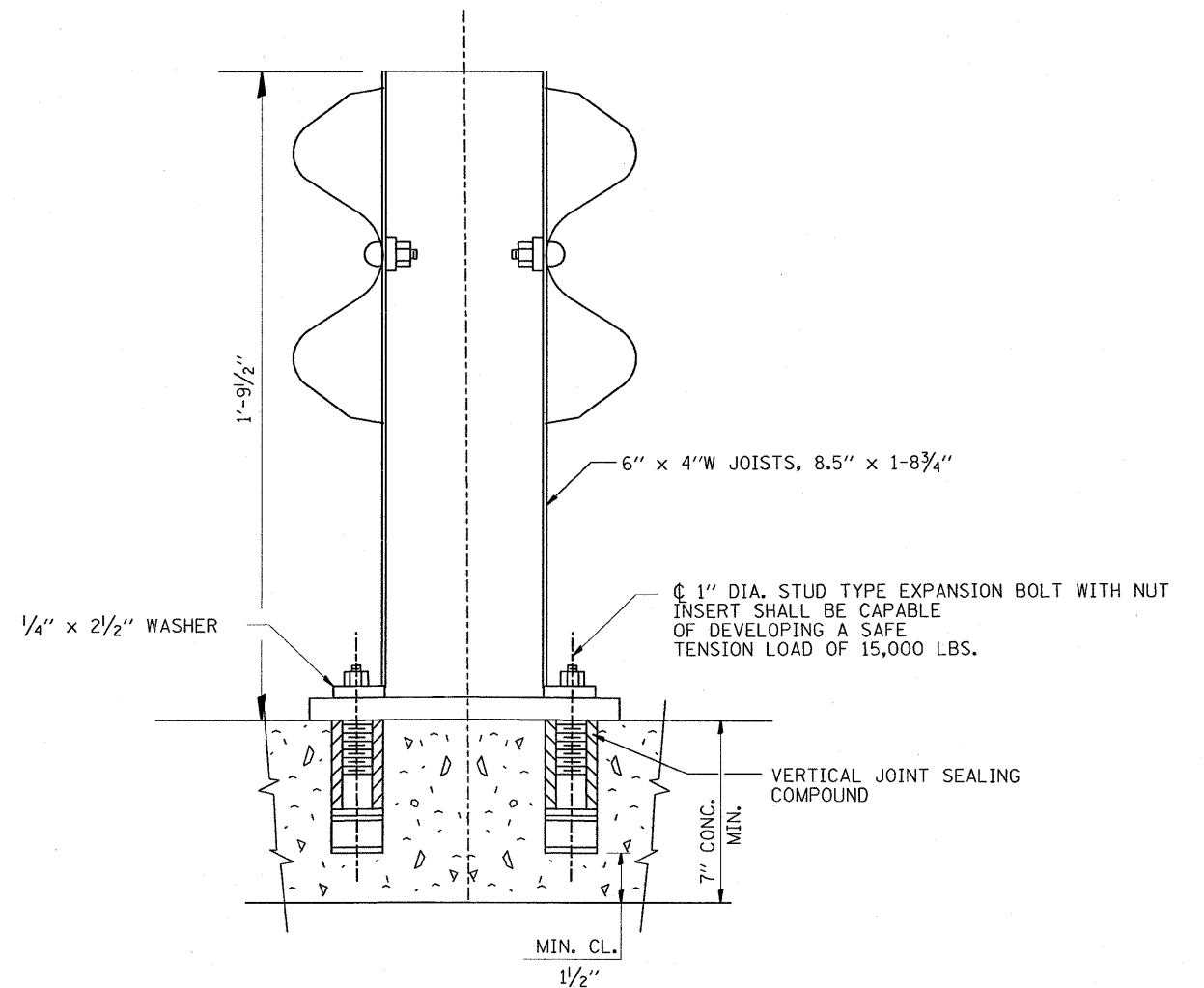
POSTS SHALL BE CUT AND WELDED TO THE BASE PLATE SO THAT THE POST WILL BE PLUMB WHEN ERECTED.

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.

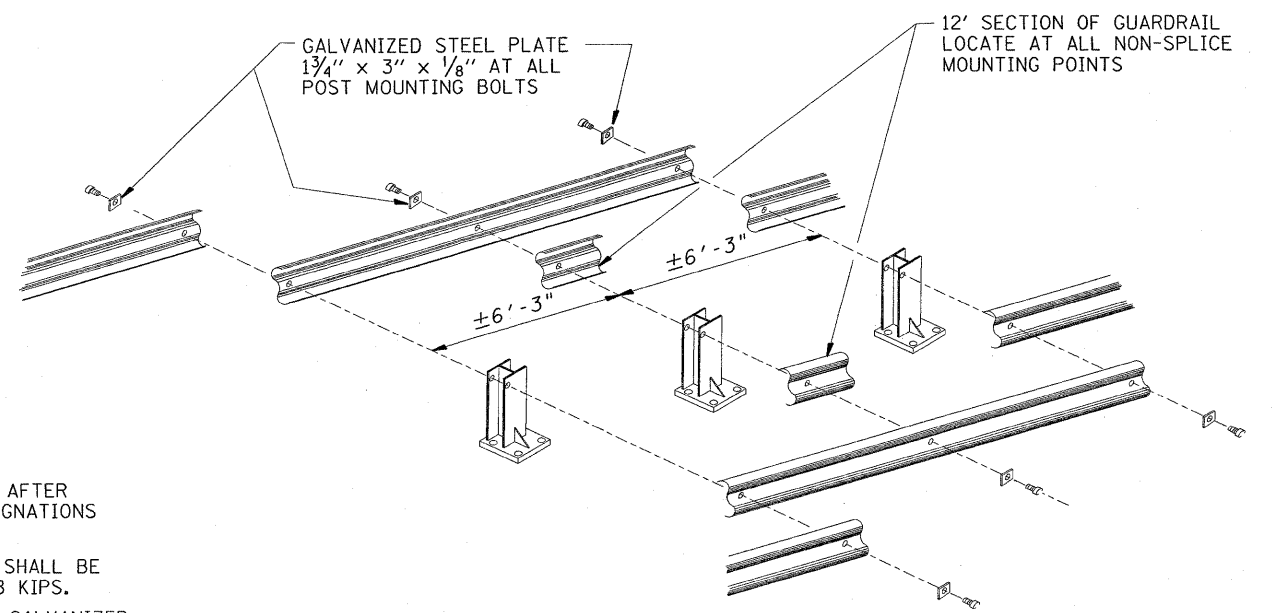
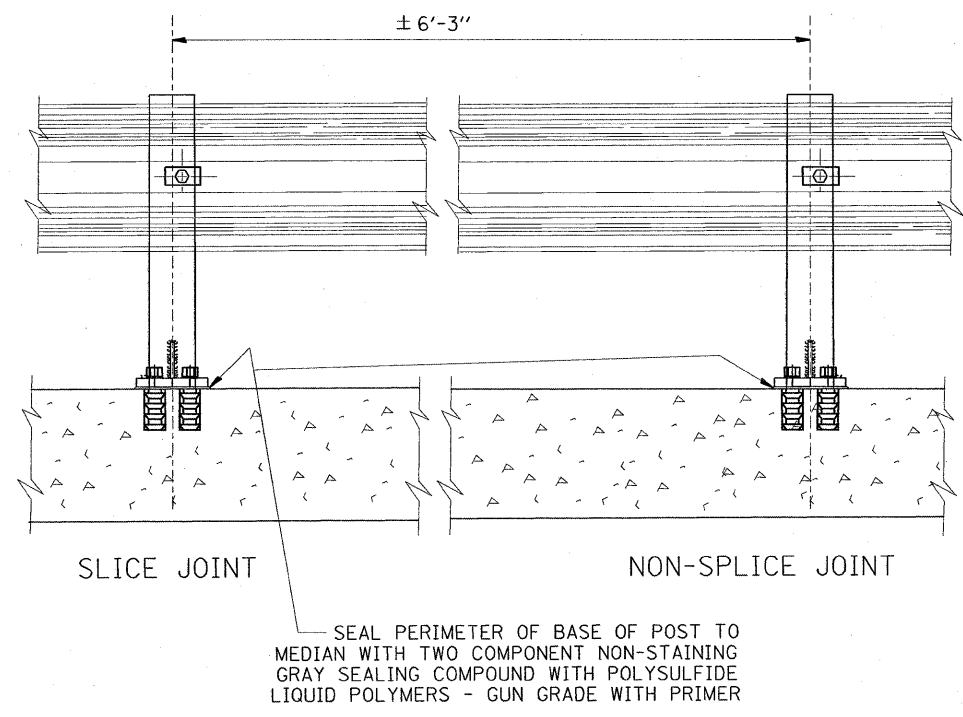
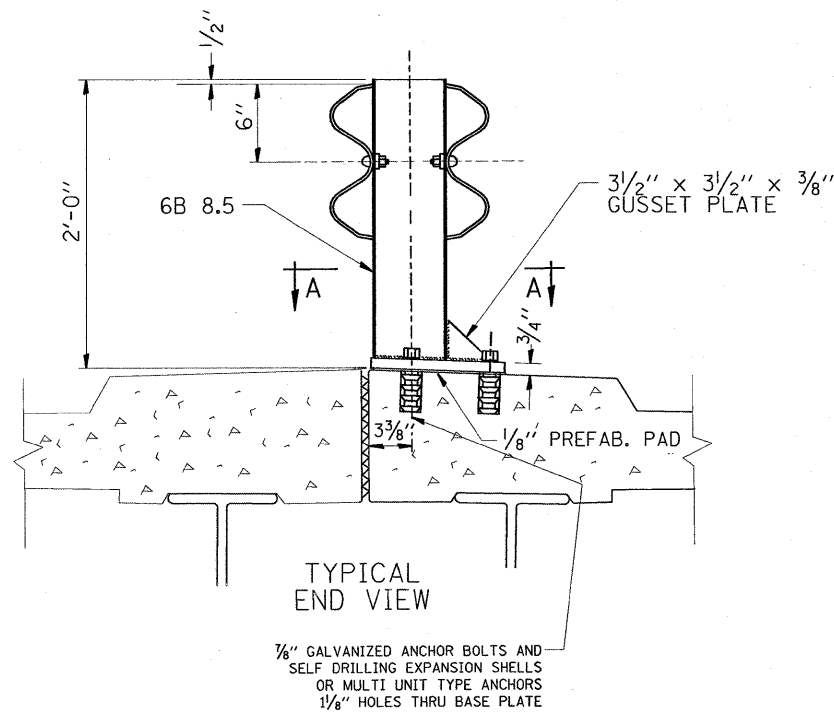
PROVIDE 1/8" AND 2/16" GALVANIZED SHIMS FOR 25% OF THE POSTS.



RAIL POST BASE \square
 \square 11 1/2" x 1 1/4" x 11 1/2"

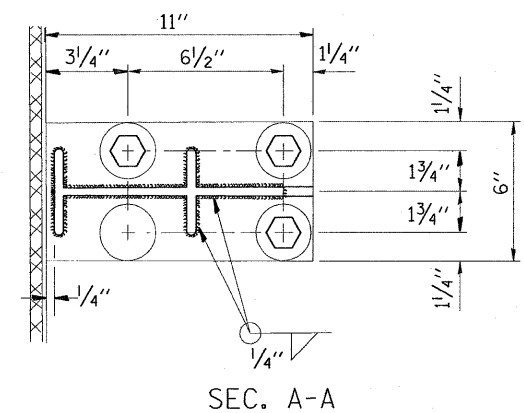


| | | | | | | | | | | | | | | | |
|--|--------------------|-----------------------|-------------------------------|---|---|-------------|------|--------|---------|---------|-------|-----------------------|---------------------------|----|----|
| FILE NAME = W:\diststd\22x34\bm02.dgn | USER NAME = midjja | DESIGNED - | REVISED - R. RITCHIE 05-02-00 | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | ANCHOR DETAIL FOR STEEL PLATE BEAM GUARDRAIL ON CONCRETE | | | F.A. - | SECTION | COUNTY | TOTAL | SHEET | | | |
| | | DRAWN - RFL | REVISED - | | SCALE: NONE | SHEET NO. 1 | OF 1 | SHEETS | STA. | TO STA. | VAR. | 2008-057 GRR | VARIOUS | 22 | 11 |
| | | CHECKED - | REVISED - | | | | | | | | | BM-02 | CONTRACT NO. 60F15 | | |
| | | PLOT DATE = 8/27/2008 | DATE = 10-31-88 | | | | | | | | | FED. ROAD DIST. NO. 1 | ILLINOIS FED. AID PROJECT | | |



NOTE:

DIAMOND TIPPED DRILL SHALL BE USED TO DRILL THRU REINFORCEMENT BARS



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.

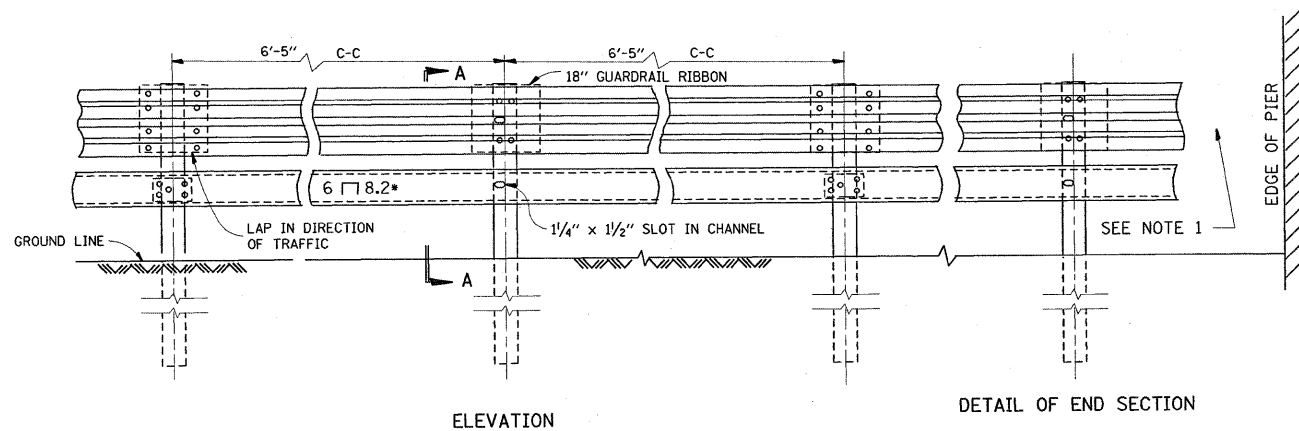
FOR MATERIAL COMPOSITION OF PREFABRICATED PAD, SEE ARTICLE 54.9(F), (BEARING AND ANCHORAGE), OF THE STANDARD SPECIFICATIONS.

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

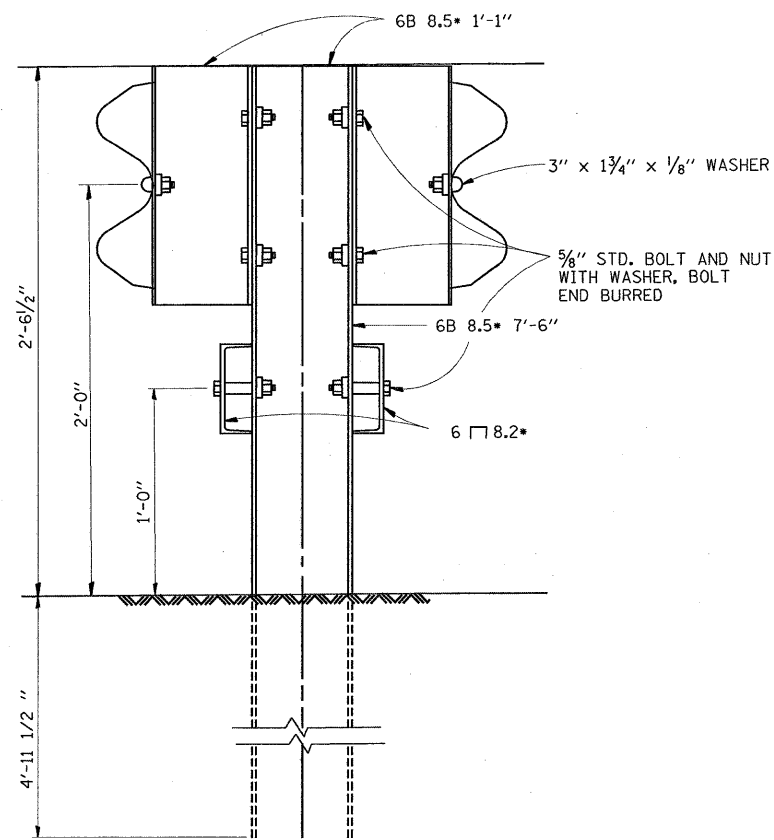
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|--|----------------------------|---------------------------|-------------------------------|---|---|-------------------------|------|-------------------|-------------------------|-------------------|--------------------|-----------------|
| FILE NAME = W:\diststd\22x34\bm05.dgn | USER NAME = mrdyje | DESIGNED - DRAWN - RFL | REVISED - R. RITCHIE 05-02-00 | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | TYPICAL DETAIL FOR CENTER LONGITUDINAL JOINT GUARDRAIL JOINT | | | F.A. RTE. VAR. | SECTION 2008-057 GRR | COUNTY VARIOUS | TOTAL SHEETS 22 | SHEET NO. 12 |
| | PLOT SCALE = 50,000' / IN. | CHECKED - | REVISED - | | SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA. | BM-05 | | CONTRACT NO. 60F15 | |
| | PLOT DATE = 8/27/2008 | DATE = 10-31-88 | REVISED - | | FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT | | | | | | | |
| | | | | | | | | | | | | |



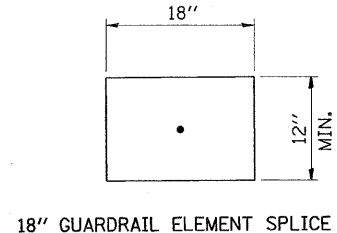
ELEVATION

DETAIL OF END SECTION

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

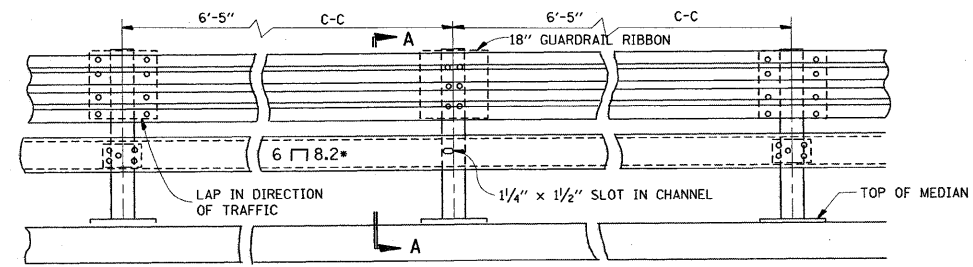


SECTION A-A

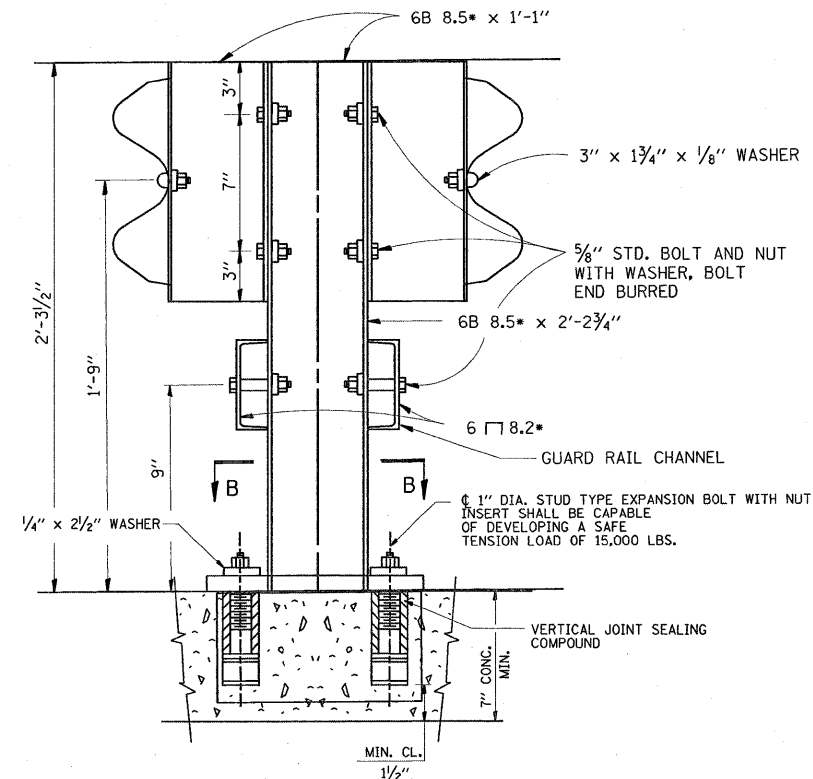


18" GUARDRAIL ELEMENT SPLICE

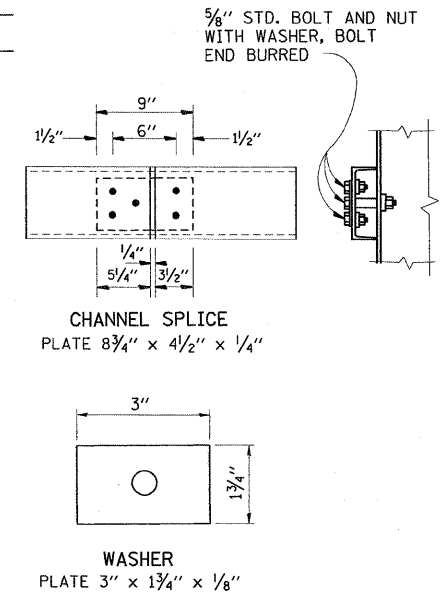
NOTE:
FOR DETAIL OF RAIL ELEMENT, RAIL SPlicing, BOLT,
AND NUT, SEE STATE STANDARD 2230.
A 1 3/8" x 3" x 1/8" STEEL PLATE WASHER AS SHOWN ON THIS
DRAWING SHALL BE PLACED BETWEEN THE BOLT HEAD
AND THE GUARDRAIL RIBBON AT ALL MOUNTING POINTS.
AN 18" PIECE OF GUARDRAIL RIBBON SHALL BE INSERTED
BETWEEN THE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



ELEVATION



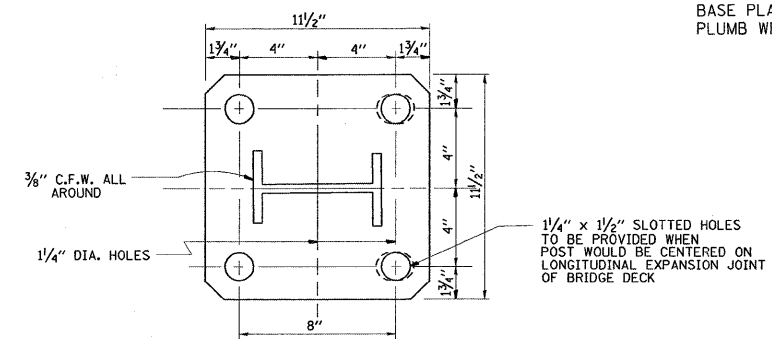
SECTION A-A
ANCHORAGE DETAIL



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

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

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.

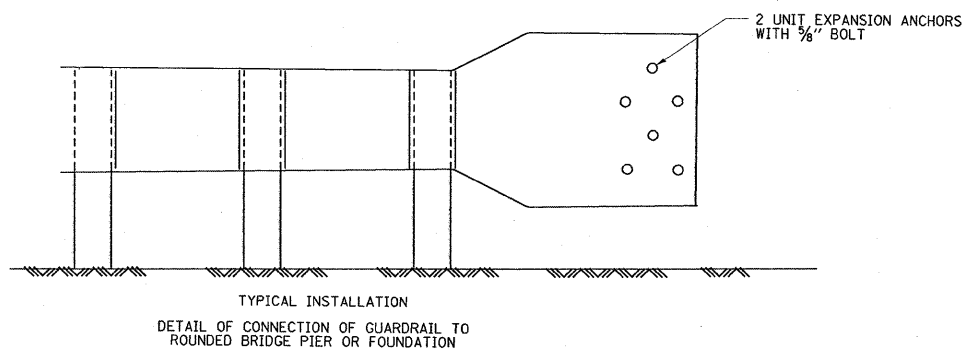
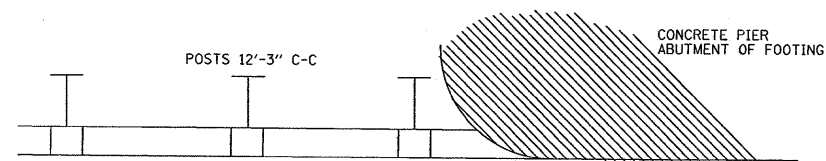
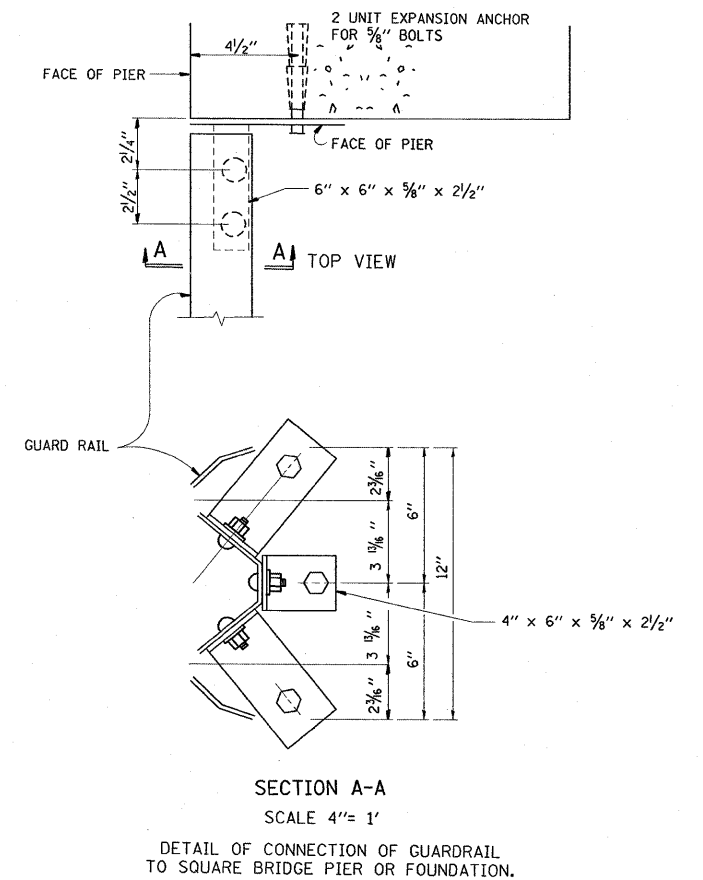
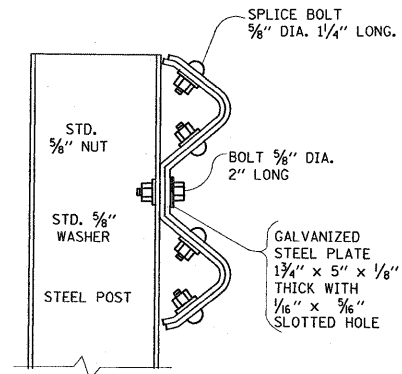
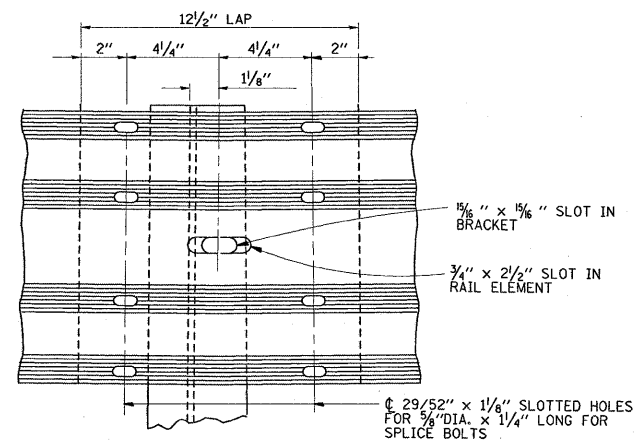
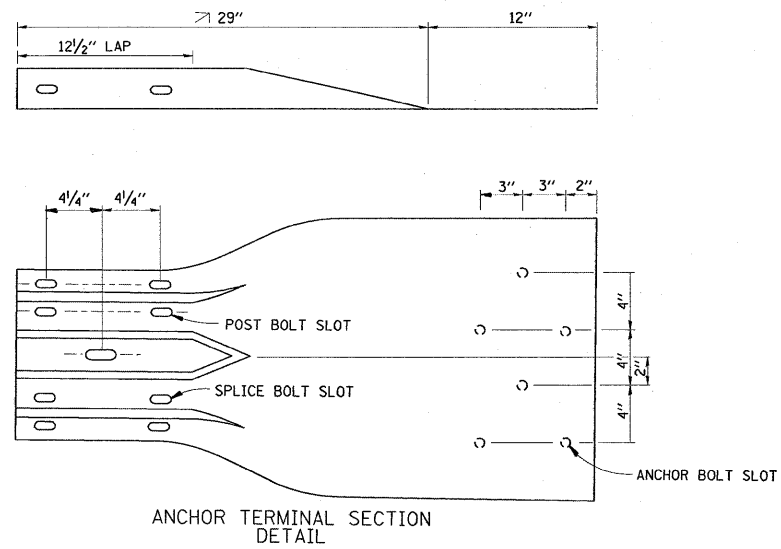


RAIL POST BASE PLATE
R 11 1/2" x 1/4" x 11 1/2"

SECTION B-B

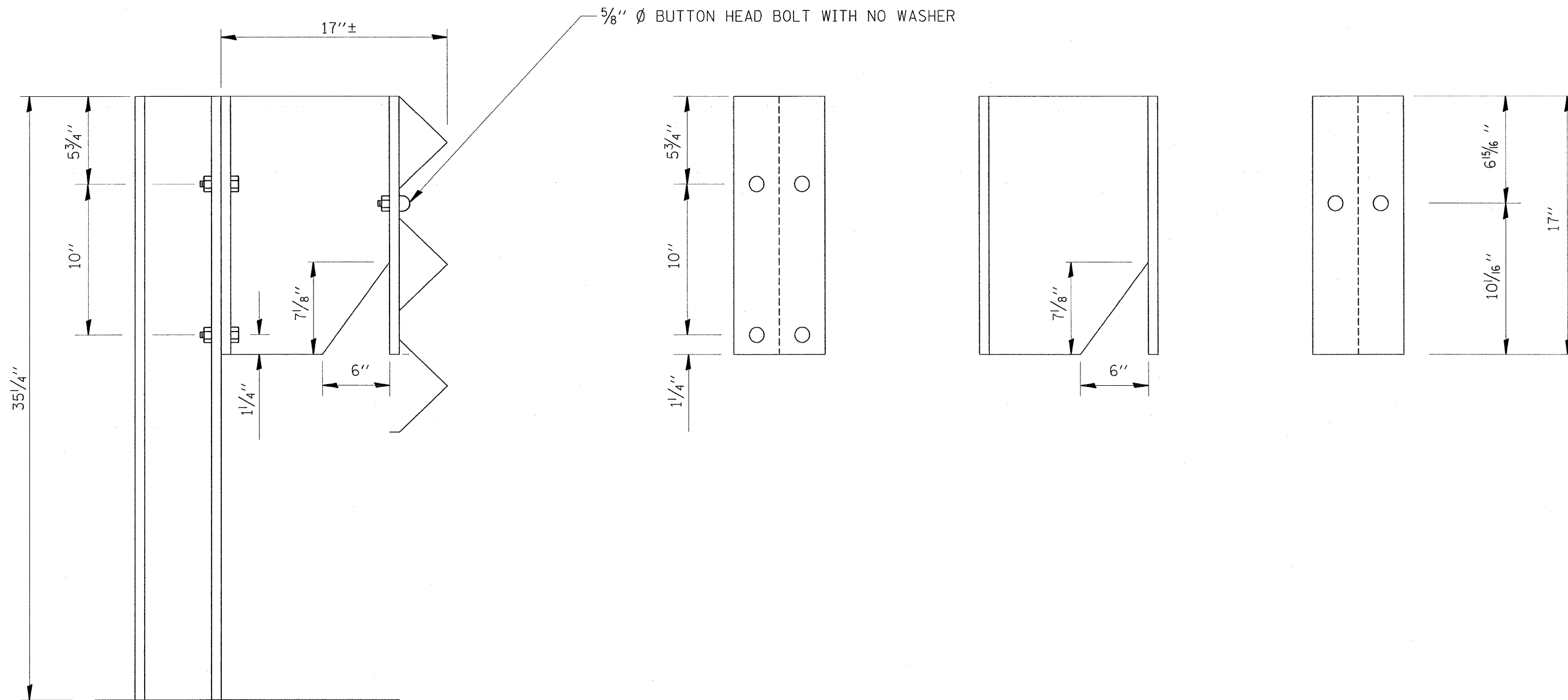
THIS SHEET IS FOR INFORMATION ONLY

| | | | | | | | | | | | | |
|---|-----------------------|---------------------------|-------------------------------|---|---|-------------------------|------|----------------|---|--------------|-----------------|--------------|
| FILE NAME = W:\distsd\22x34\bm06.dgn | USER NAME = mcdyjo | DESIGNED - DRAWN - RFL | 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. |
| PLOT SCALE = 50,000 ' / IN. | CHECKED - | REVISED - | REVISED - | | SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA. | 2008-057 GRR | VARIOUS | 22 | 13 |
| PLOT DATE = 8/27/2008 | DATE - | REVISED - | REVISED - | | | | | | BM-06 | CONTRACT NO. | 60F15 | |
| | | | | | | | | | FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT | | | |



THIS SHEET IS FOR INFORMATION ONLY

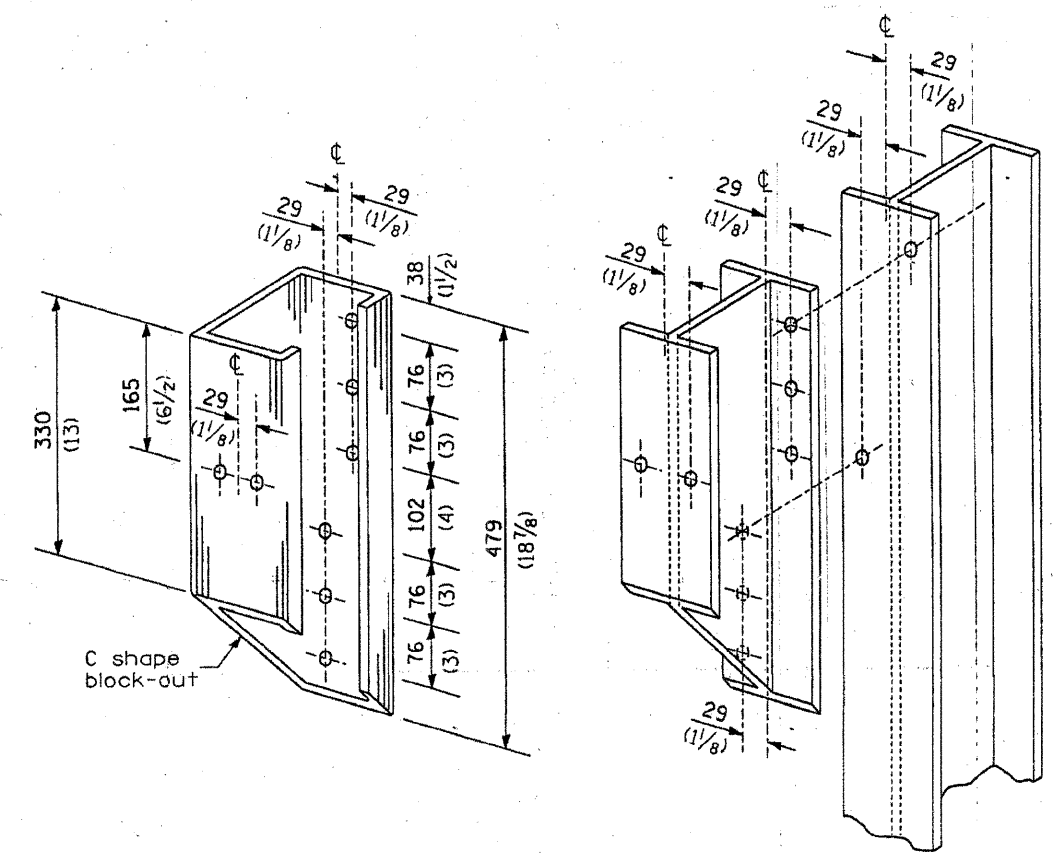
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|--|--------------------|---------------------------|-------------------------------|---|--|-------------------------|------|----------------|-------------------|--------------------|--------------|-----------|
| FILE NAME = W:\diststd\22x34\bm07.dgn | USER NAME = mcdjja | DESIGNED - DRAWN - RFL | REVISED - R. RITCHIE 05-02-00 | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | DETAIL OF GUARDRAIL SUPPORT AND END ANCHORAGE | | | F.A. - RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| PLOT SCALE = 50.000 / IN. | CHECKED - | REVISED - | REVISED - | | SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA. | VAR. 2008-057 GRR | VARIOUS | 22 | 14 |
| PLOT DATE = 8/27/2008 | DATE - 10-31-88 | REVISED - | REVISED - | | | | | BM-07 | | CONTRACT NO. 60F15 | | |
| | | | | | FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT | | | | | | | |



| | | | | | | | | | | | | |
|--|-----------------------------|------------|-----------|---|---|----|--------|-----------|--------------|---------------------|--------------|------------------|
| FILE NAME = c:\projects\ml186188\maint.bb.dgn | USER NAME = midjja | DESIGNED - | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | DETAIL THREE BEAM GUARDRAIL WITH MODIFIED OFFSET BLOCK | | | F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | PLOT SCALE = 49.9999' / IN. | DRAWN - | REVISED - | | | | | VAR | 2008-057 GRR | VARIOUS | 22 | 15 |
| | PLOT DATE = 8/28/2008 | CHECKED - | REVISED - | | CONTRACT NO. 60F15 | | | | | | | |
| | DATE - | REVISED - | SCALE: | | SHEET NO. | OF | SHEETS | STA. | TO STA. | FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT |

| | | | | |
|---------------------|----------|-----------------|--------------|-----------|
| F. P. DIST. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| VAR | 08-057GR | VAC | 22 | 16 |
| STA. | TO STA. | | | |
| FED. ROAD DIST NO 7 | ILLINOIS | FED AID PROJECT | | |

Contract 60F15



STEEL BLOCK-OUT AND
STEEL POST DETAILS

| REVISIONS | |
|-----------|------|
| NAME | DATE |
| | |
| | |
| | |
| | |

ILLINOIS DEPARTMENT OF TRANSPORTATION

STEEL PLATE BEAM GUARDRAIL
STEEL BLOCK-OUT DETAIL

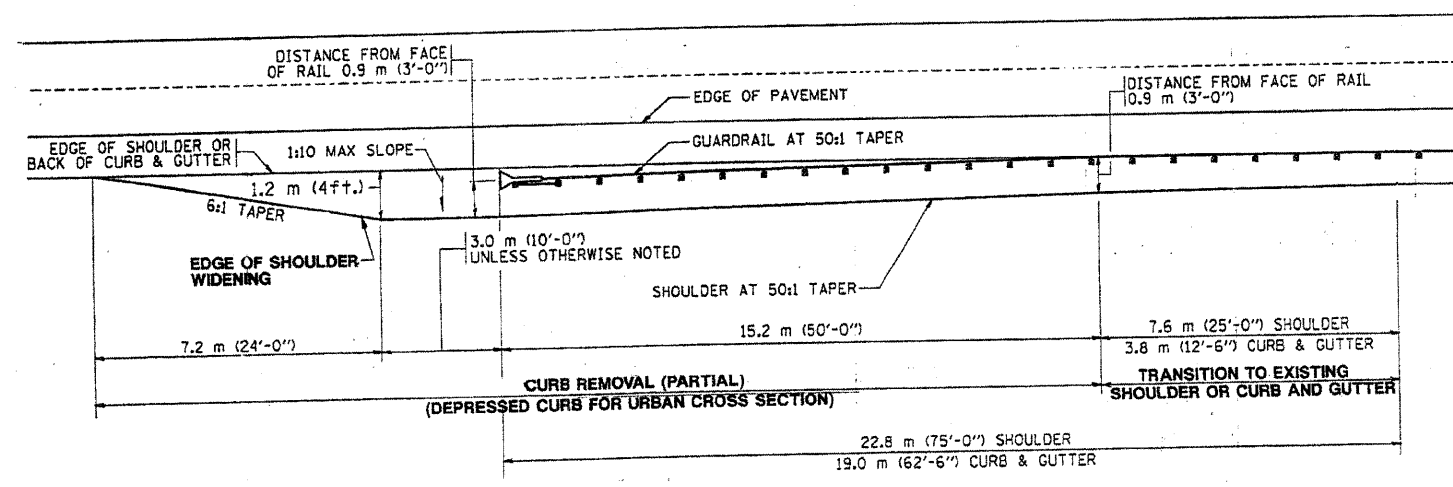
SCALE: VERT.
HORIZ.

DATE

DRAWN BY
DESIGNED BY
CHECKED BY

| | | | | |
|-----------------------|--------------|------------------|--------------|-----------|
| STATE | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| VAR | 2008-057 GRR | VARIOUS | 22 | 17 |
| STA. | TO STA. | | | |
| FED. ROAD DIST. NO. 7 | ILLINOIS | FED. AID PROJECT | | |

Contract 60F15



NOTE: SHOULDER WIDENING SHALL BE IN ACCORDANCE WITH STATE STANDARD 630301

| REVISIONS | |
|-----------|------|
| NAME | DATE |
| | |
| | |
| | |
| | |

ILLINOIS DEPARTMENT OF TRANSPORTATION

CURB REMOVAL (PARTIAL) FOR TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL

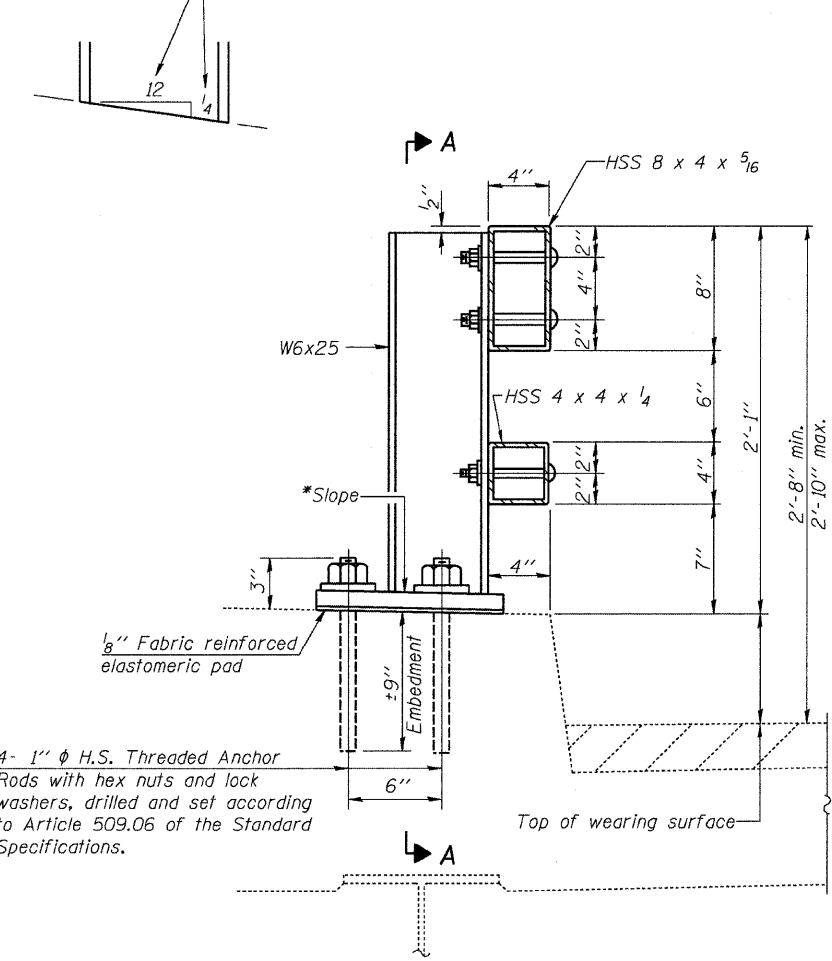
SCALE: VERT. _____
HORIZ. _____

DATE _____

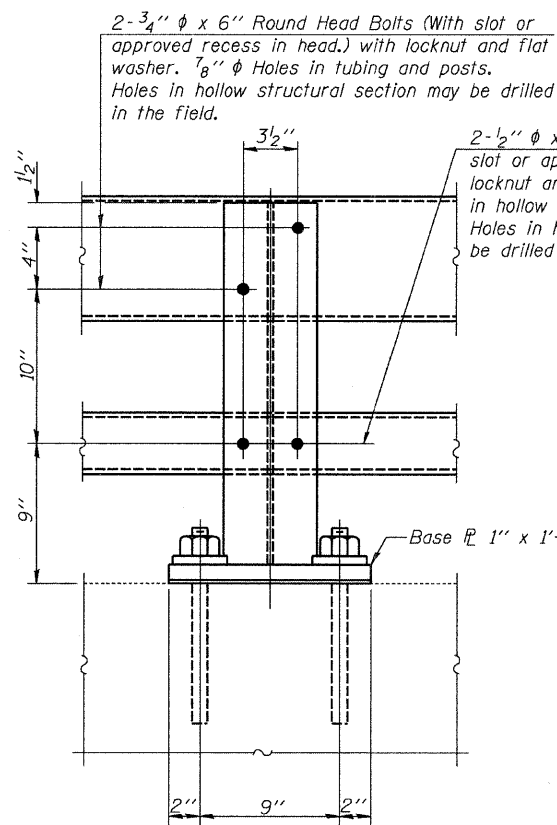
DRAWN BY _____
DESIGNED BY _____
CHECKED BY _____

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

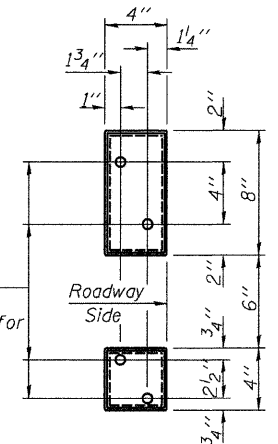
*Cut bottom end of post to curb slope.



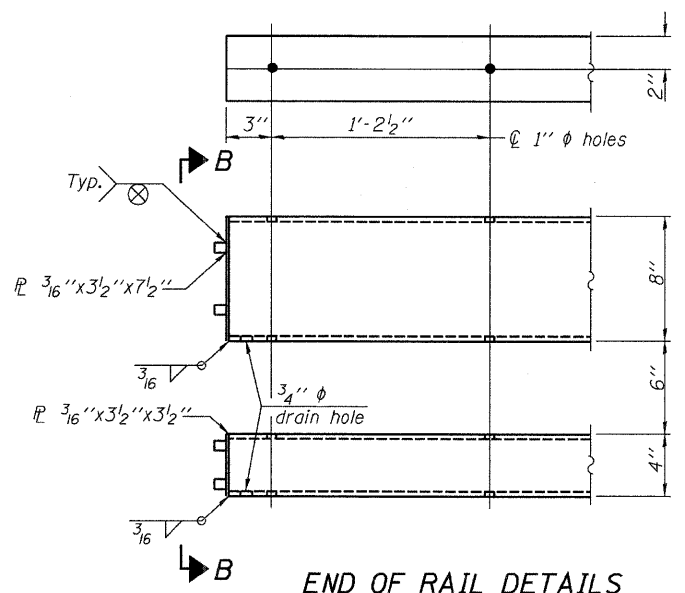
SECTION AT RAIL POST



SECTION A-A



VIEW B-B



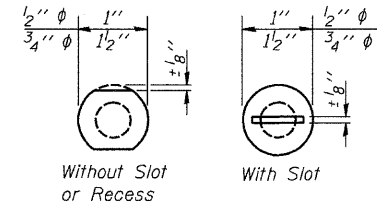
END OF RAIL DETAILS

4- 1" ϕ H.S. Threaded Anchor Rods with hex nuts and lock washers, drilled and set according to Article 509.06 of the Standard Specifications.

2- 3/4" ϕ x 6" Round Head Bolts (With slot or approved recess in head.) with locknut and flat washer. 7/8" ϕ Holes in tubing and posts. Holes in hollow structural section may be drilled in the field.

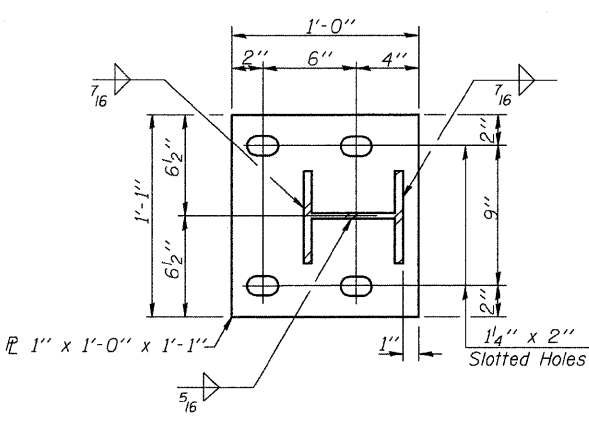
2- 1/2" ϕ x 6" Round Head Bolts (With slot or approved recess in head.) with locknut and flat washer. 5/8" ϕ Holes in hollow structural section and post. Holes in hollow structural section may be drilled in the field.

4- 5/8" reduced base welded studs. Provide 4- 5/8" washers and self-locking nuts or nuts and jam nuts for guardrail connection shown on Std. 631032.

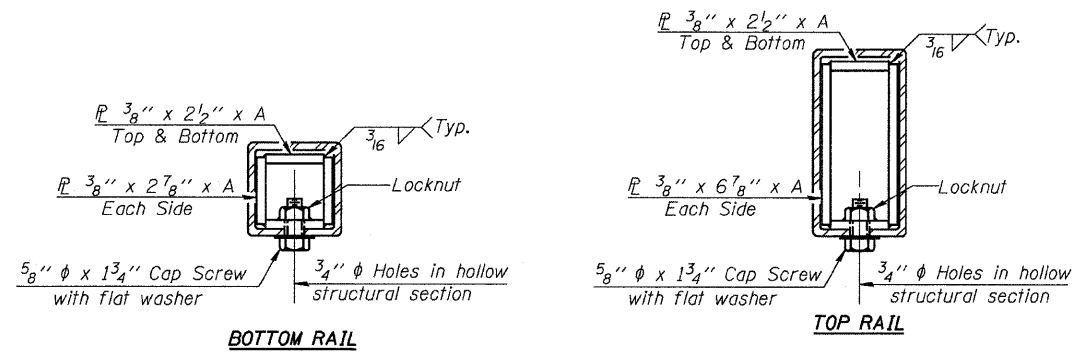


VIEW C-C

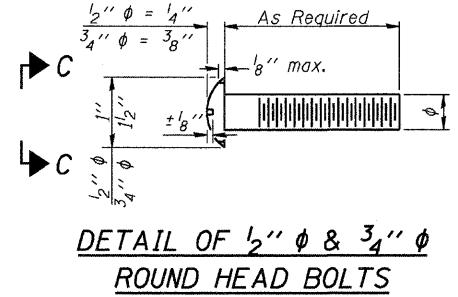
Notes:
All field drilled holes shall be coated with an approved zinc rich paint before erection.
Posts shall not be located closer than 1'-3" to an existing bridge expansion joint or end of bridge.
Steel Bridge Rail expansion joint shall be provided between any two (2) posts which span a bridge expansion joint. Bolts located at expansion joint shall be provided with locknuts and shall be tightened to a point that will allow railing movement.
Provide one 1/8" and two 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.



BASE PLATE DETAIL



SECTIONS AT RAIL SPLICE

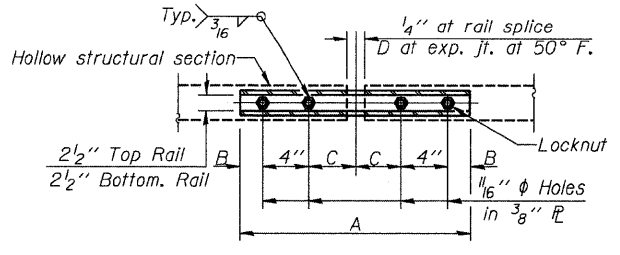


DETAIL OF 1/2" ϕ & 3/4" ϕ ROUND HEAD BOLTS

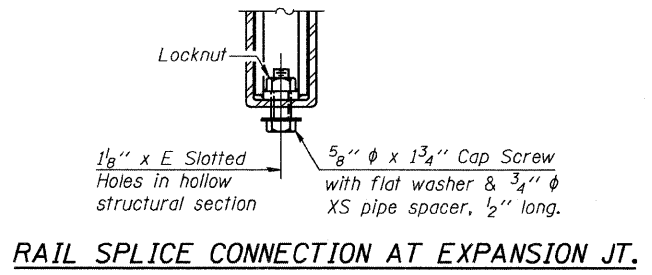
SPLICE DIMENSIONS

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

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



PLAN-BOTTOM. SPLICE TYPICAL



RAIL SPLICE CONNECTION AT EXPANSION JT.

BILL OF MATERIAL

| Item | Unit | Quantity |
|--------------------------|------|----------|
| Steel Railing, Type 2399 | Foot | |

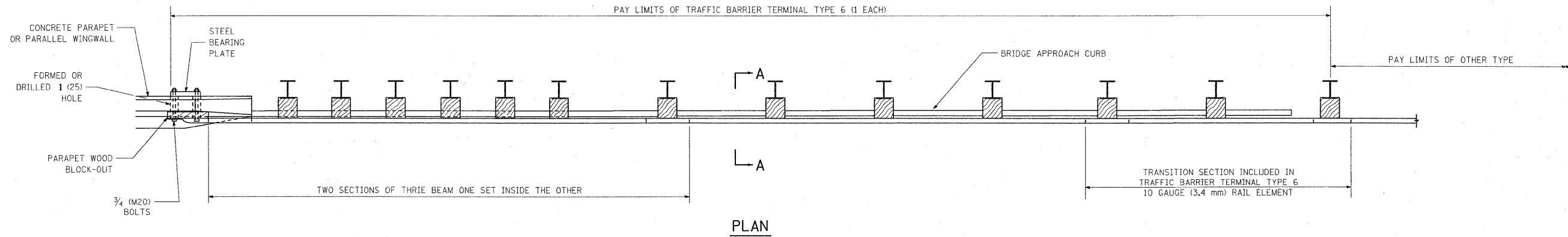
**STEEL RAILING, TYPE 2399
STRUCTURE NO.**

| | |
|----------|------------------------------------|
| DESIGNED | 200 |
| CHECKED | EXAMINED |
| DRAWN | PASSED |
| CHECKED | ENGINEER OF BRIDGE DESIGN |
| | ENGINEER OF BRIDGES AND STRUCTURES |

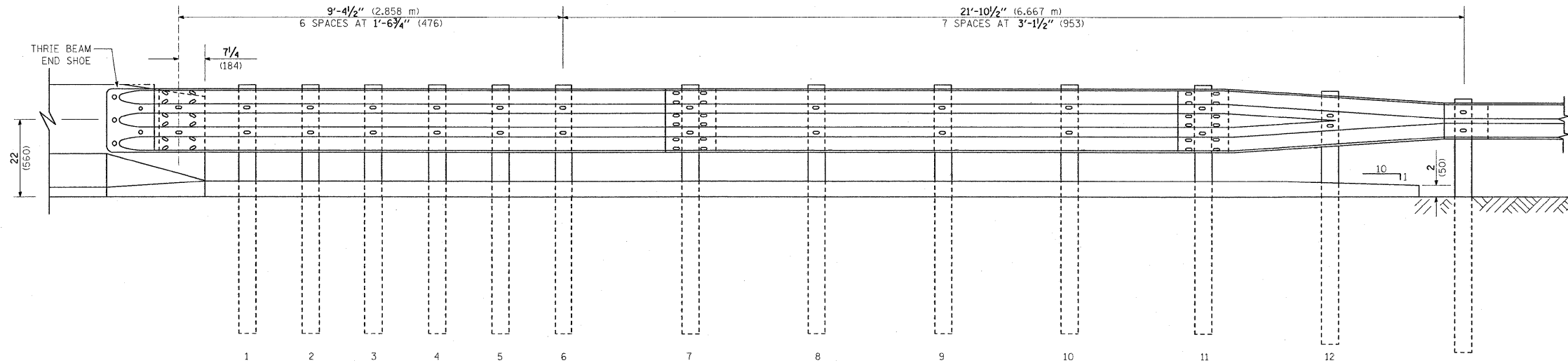
R-31 5-16-08 (6'-3" Maximum Post Spacing)

| SHEET NO. | F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------|-----------|---------------------------|--------------------|--------------|-----------|
| | VAR | 2008-057 GRR | VARIOUS | 22 | 18 |
| SHEETS | | | CONTRACT NO. 60F15 | | |
| FED. ROAD DIST. NO. | | ILLINOIS FED. AID PROJECT | | | |

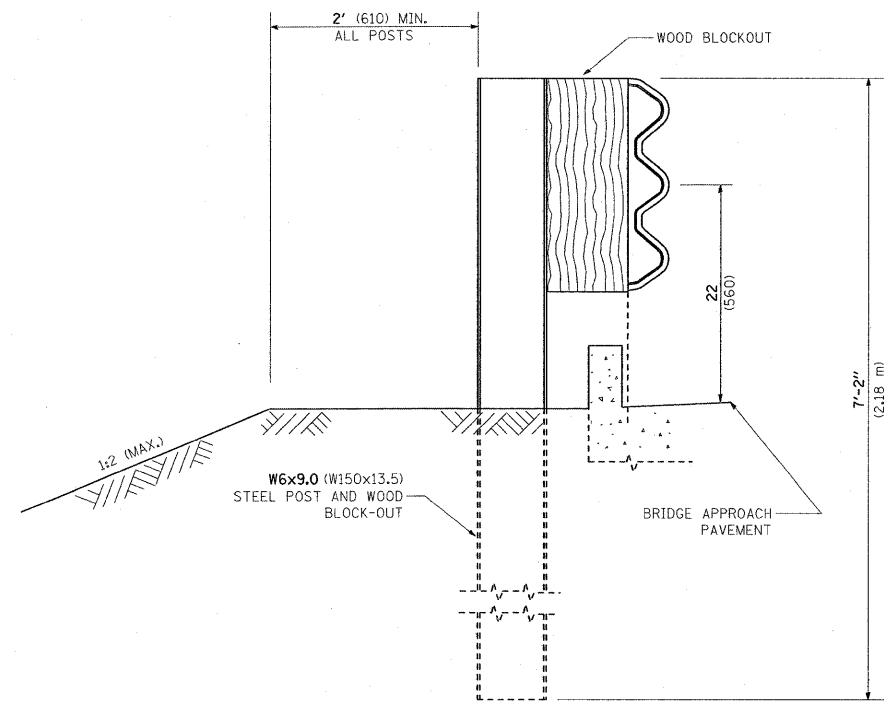
PARAPET OR WINGWALL



PLAN



ELEVATION

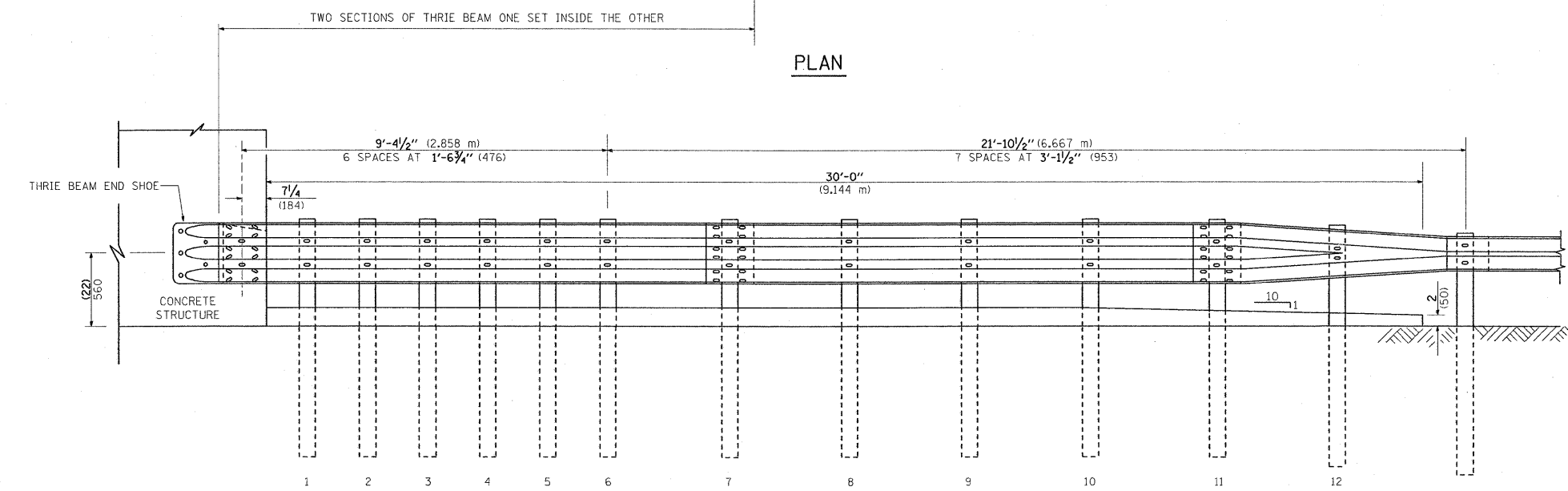
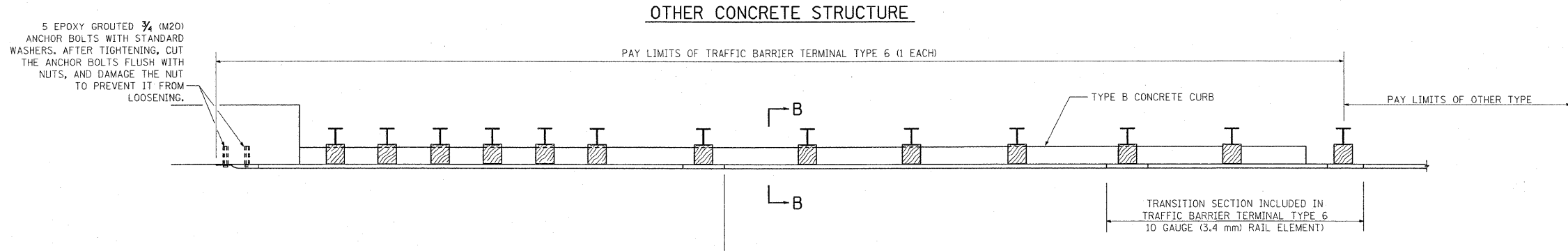


SECTION A-A

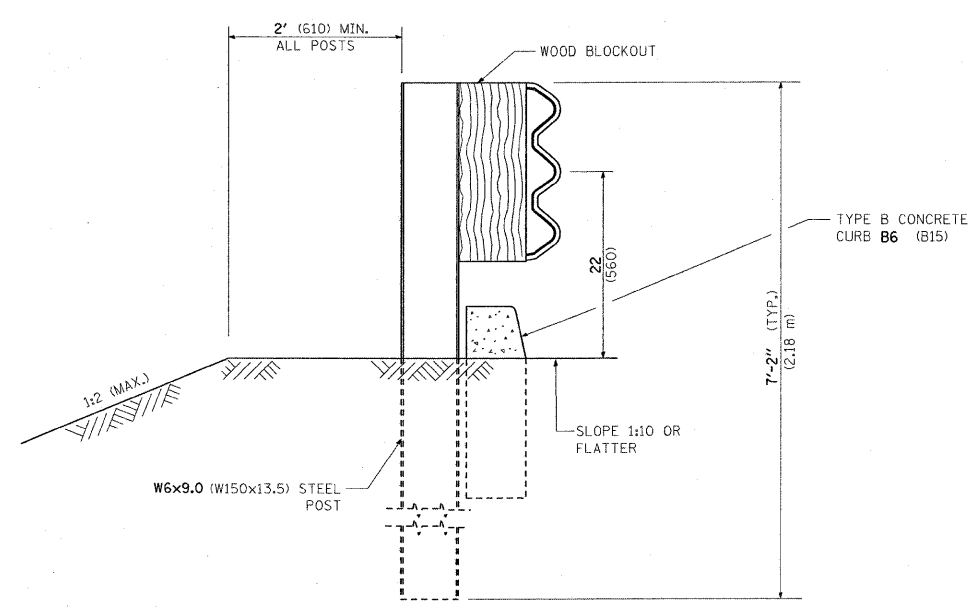
GENERAL NOTES

- 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 = W:\dststd\22x34\bm22.dgn | USER NAME = msdjja | DESIGNED - | REVISED - STATE STANDARD: | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | TYPE 6 TERMINAL FOR USE WITH 21" HIGH SPBGR | | | F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | | DRAWN - | 631031-05 - 02/19/2008 | | SCALE: NONE | SHEET NO. 1 OF 3 SHEETS | STA. | TO STA. | VAR. 2008-057 GRR | VARIOUS | 22 | 19 |
| | | CHECKED - | REVISED - | | | | | | BM 22 | | | |
| | | DATE - | REVISED - | | | | | | CONTRACT NO. 60F15 | | | |
| | | | | | | | | FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT | | | | |



ELEVATION



SECTION B-B

FILE NAME =
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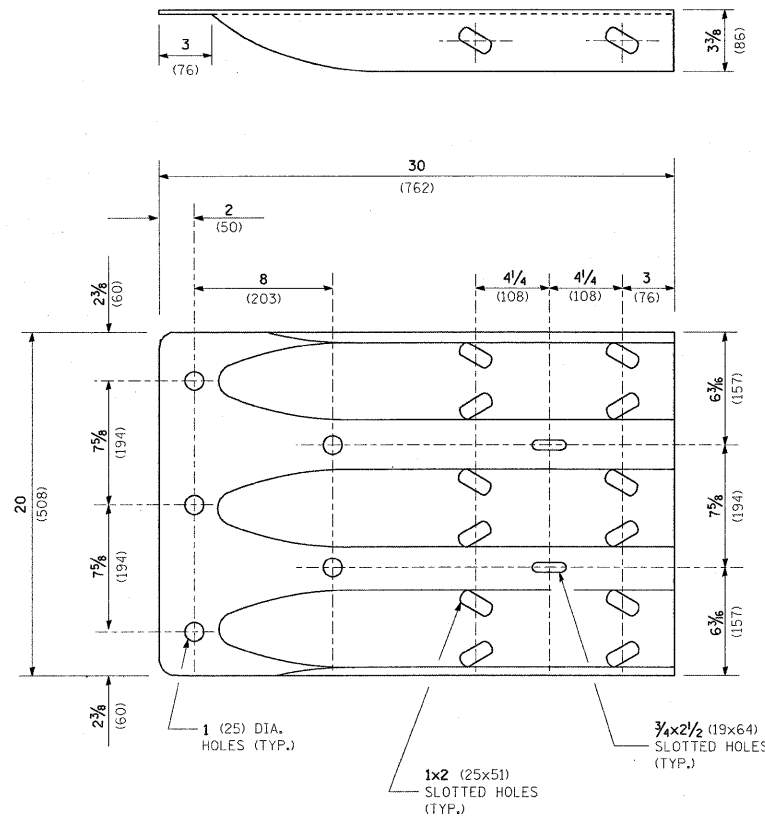
USER NAME = mcdjje
DESIGNED -
DRAWN -
PLOT SCALE = 50,0000 ' / IN.
CHECKED -
PLOT DATE = 8/27/2008
DATE -

REVISED - STATE STANDARD:
631031-05 - 02/19/2008
REVISED -
REVISED -

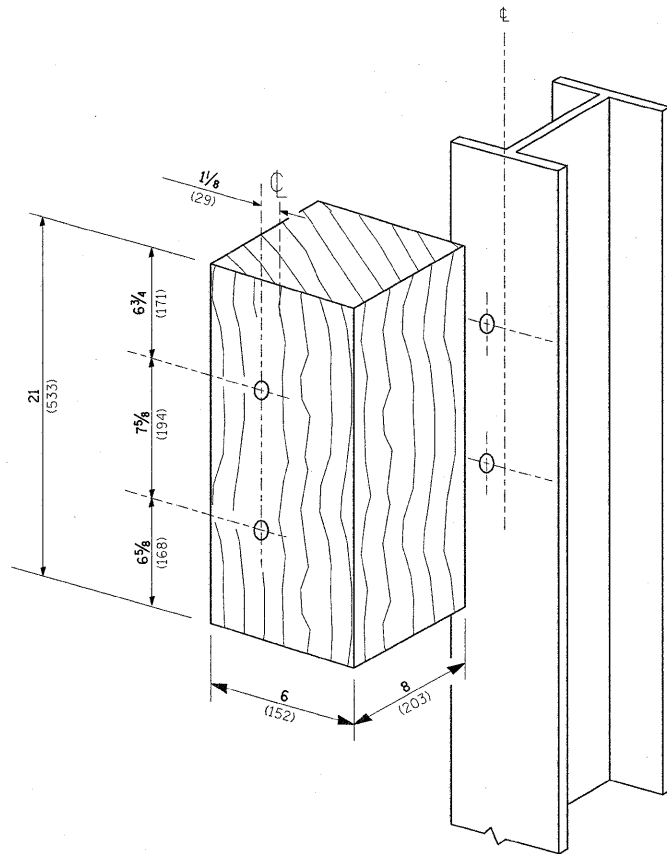
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TYPE 6 TERMINAL
FOR USE WITH 21" HIGH SPBGR**
SCALE: NONE SHEET NO. 2 OF 3 SHEETS STA. TO STA.

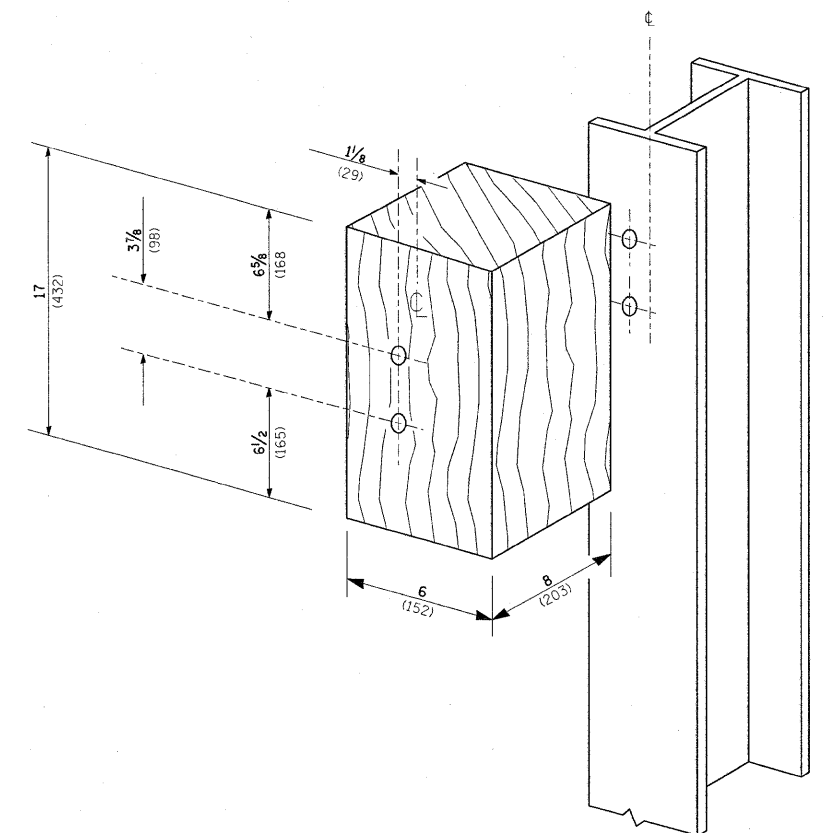
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| F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| VAR. 2008-057 GRR | BM 22 | VARIOUS | 22 | 20 |
| FED. ROAD DIST. NO. 1 | | ILLINOIS FED. AID PROJECT | | |



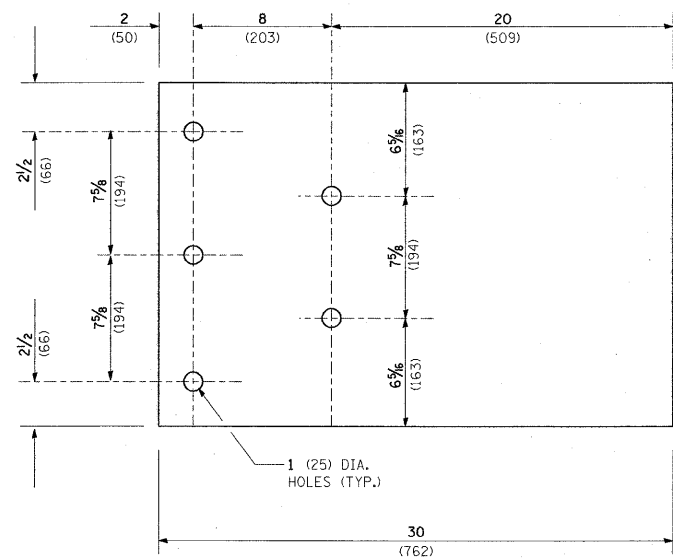
THRIE BEAM END SHOE DETAIL



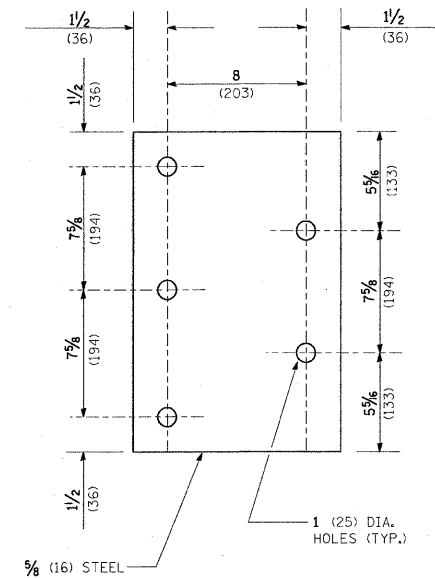
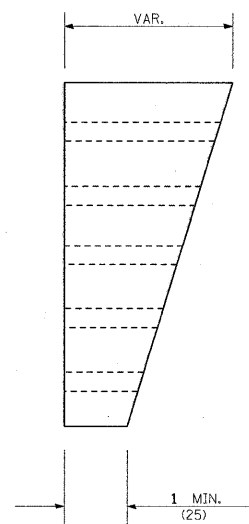
POSTS 1-11 WOOD BLOCKOUT DETAIL



POST 12 WOOD BLOCKOUT DETAIL



PARAPET WOOD BLOCK-OUT DETAIL



PARAPET STEEL BEARING PLATE DETAIL

(5 EACH INDIVIDUAL 5x5x5/8 (125x125x16) STEEL PLATES WITH CENTERED 1 (25) HOLES MAY BE SUBSTITUTED FOR THE PLATE SHOWN.)

FILE NAME =
W:\d\ststd\22x34\bm22.dgn

USER NAME = mxdjja
PLOT SCALE = 50.0000' / 1"
PLOT DATE = 8/27/2008

DESIGNED -
DRAWN -
CHECKED -
DATE -

REVISED - STATE STANDARD:
631031-05 - 02/19/2008
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

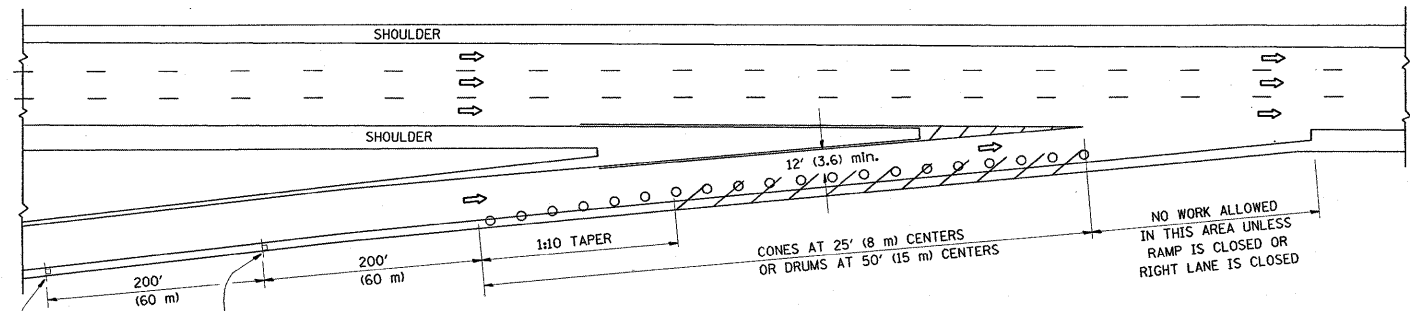
TYPE 6 TERMINAL
FOR USE WITH 21" HIGH SPBGR

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

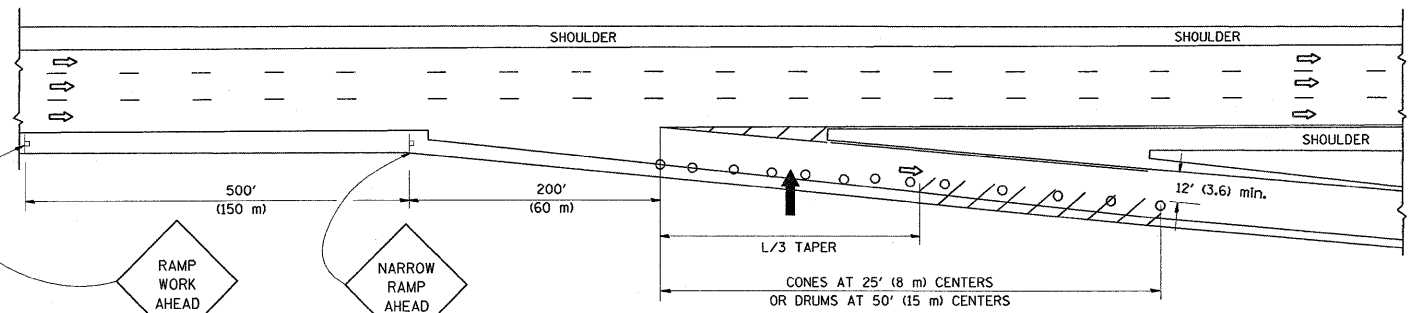
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|---|--------------|---------|--------------------|-----------|
| F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| VAR | 2008-057 GRR | VARIOUS | 22 | 21 |
| BM 22 | | | CONTRACT NO. 60F15 | |
| FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT | | | | |

PARTIAL RAMP CLOSURE DETAILS

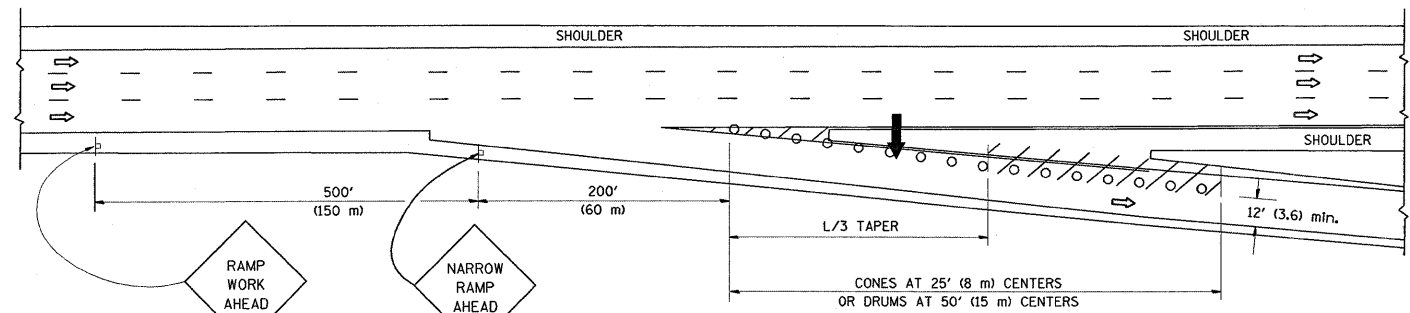
SHOULDER CLOSURE DETAILS



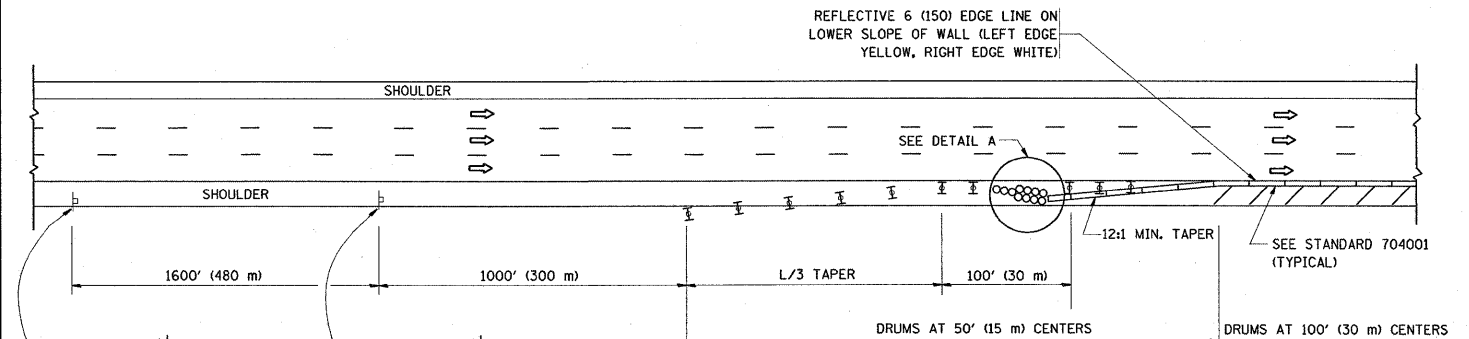
TYPICAL ENTRANCE RAMP



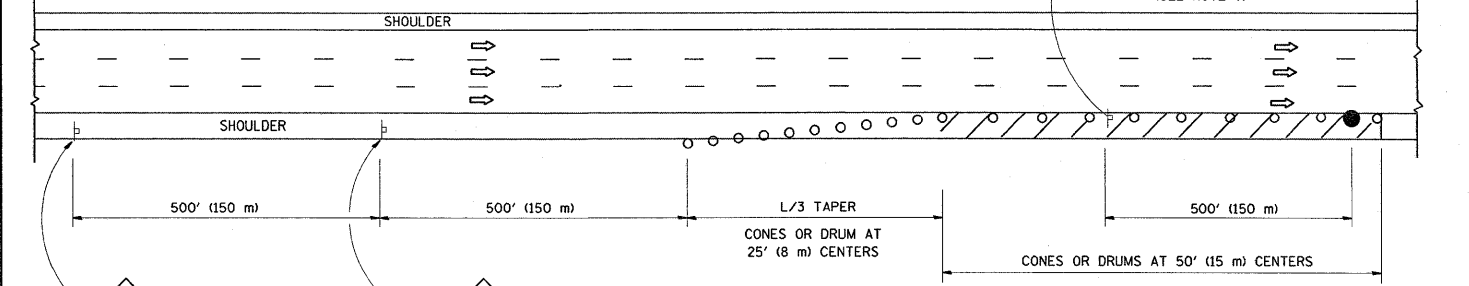
TYPICAL EXIT RAMP



TYPICAL EXIT RAMP



PERMANENT SHOULDER CLOSURE



DAYTIME SHOULDER CLOSURE

SYMBOLS

- ➔ ARROWBOARD
- ▨ WORK AREA
- ⊥ SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH CONTROL SIGN
- ⊥ TYPE II BARRICADE, DRUM OR VERTICAL BARRICADE WITH STEADY BURN MONO-DIRECTIONAL LIGHT
- CONE, DRUM OR BARRICADE

GENERAL NOTES

1. THE "L" DISTANCE EQUALS:

| | |
|------------------|--------------------------------------|
| SPEED LIMIT | FORMULAS |
| 45 mph (80 km/h) | METRIC ENGLISH |
| OR GREATER: | $L=0.65(W)(S)$ $L=(W)(S)$ |
| | 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 NIGHTTIME 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.

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 "TRAFFIC BARRIER TERMINAL, TYPE III, TEMPORARY" DEVICE TO MEET NCHRP350 FOR POSTED SPEED.
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 ENCROACHMENT INTO THE LANE OPEN TO TRAFFIC.
 THE FLAGGER SHALL BE STATIONED APPROXIMATELY 100' (30 m) TO 200' (60 m) IN ADVANCE OF THE WORKERS.

ARRAY DESIGN PER MANUFACTURER TO BE NCHRP 350 COMPLIANT FOR POSTED SPEED.

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

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

| | | | | | | | | | | | |
|--|--------------------|------------------------------|---|---|--|-------------------------|------------------|-------------------------|---|--------------------|-----------------|
| FILE NAME = W:\diststd\22x34\17.dgn | USER NAME = mcdyje | DESIGNED - DRAWN - D.W.S. | REVISED - J.A.F. 12-02 REVISED - 04-03 | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | TRAFFIC CONTROL DETAILS FOR FREEWAY SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES | | F.A. RTE. VAR | SECTION 2008-057 GRR | COUNTY VARIOUS | TOTAL SHEETS 22 | SHEET NO. 22 |
| PLOT SCALE = 5/8" = 1' / IN. | | CHECKED - | REVISED - J.A.F. 12-06 | | SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. TO STA. | TC-17 | | CONTRACT NO. 60F15 | |
| PLOT DATE = 8/28/2008 | | DATE - 11-96 | REVISED - S.P.B. 01-07 | | | | | | FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT | | |