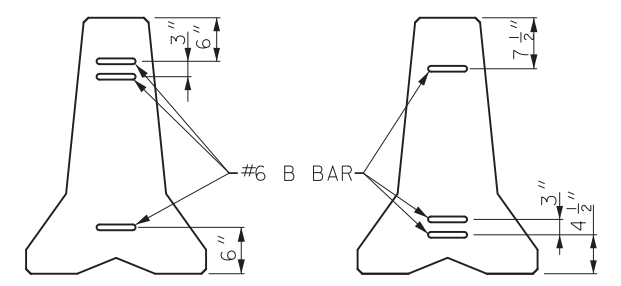
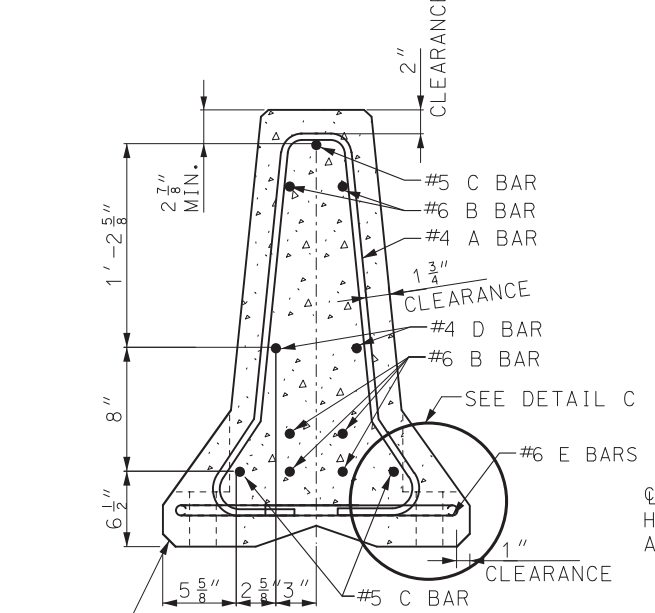


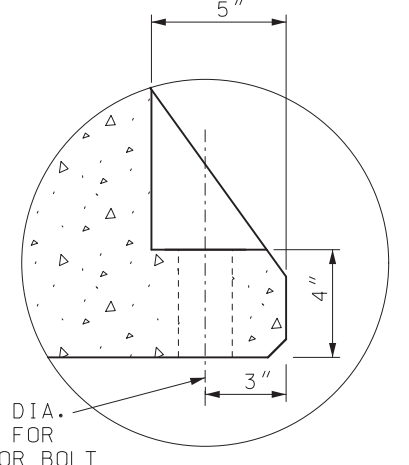
**PART SECTION C-C
LIFTING SLOT DETAIL**
* RADIUS EDGER TO PREVENT SPALLING



**ALTERNATING END VIEWS FOR
BARRIER LOOP CONNECTION**

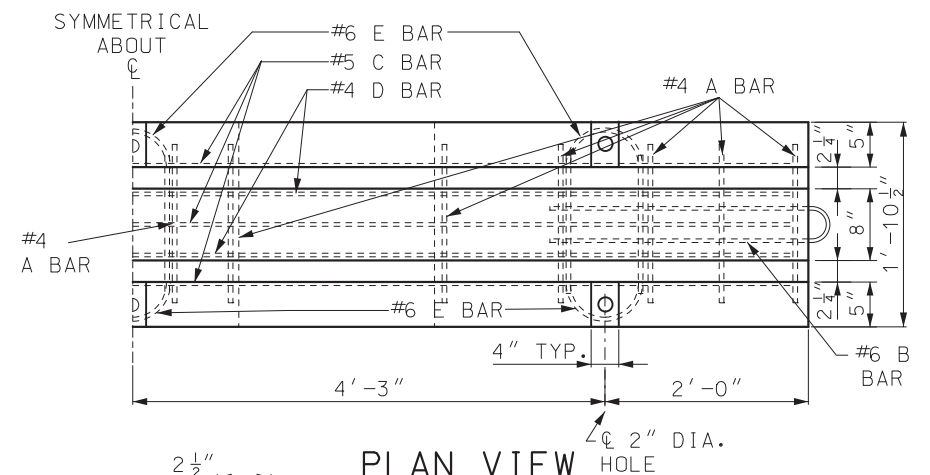


**SECTION A-A
STIRRUP PLACEMENT
WITH BAR REINFORCEMENT**
3/4\"/>

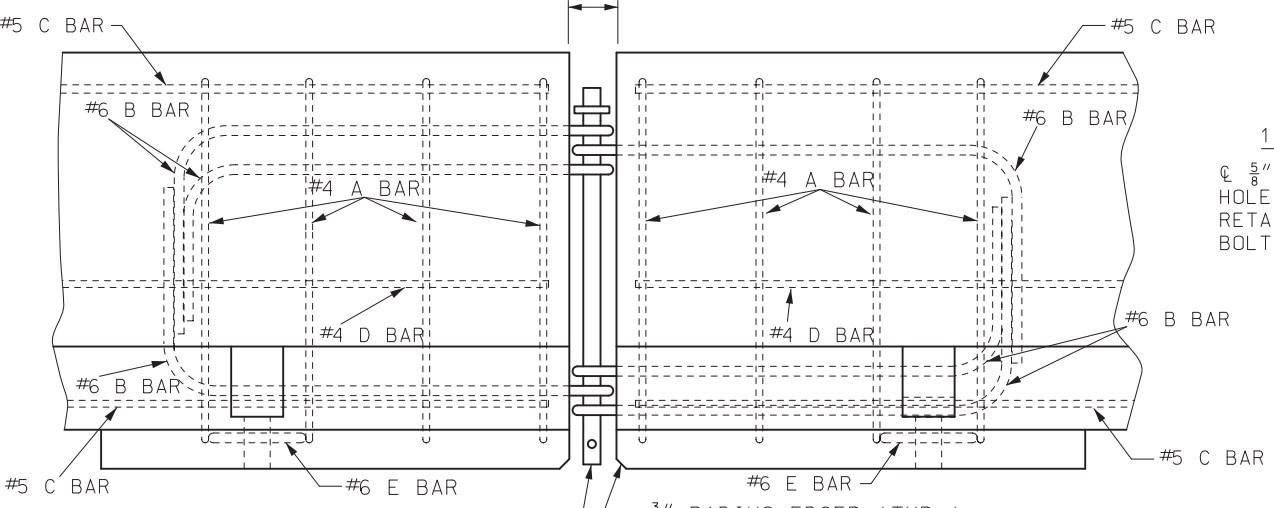


DETAIL C

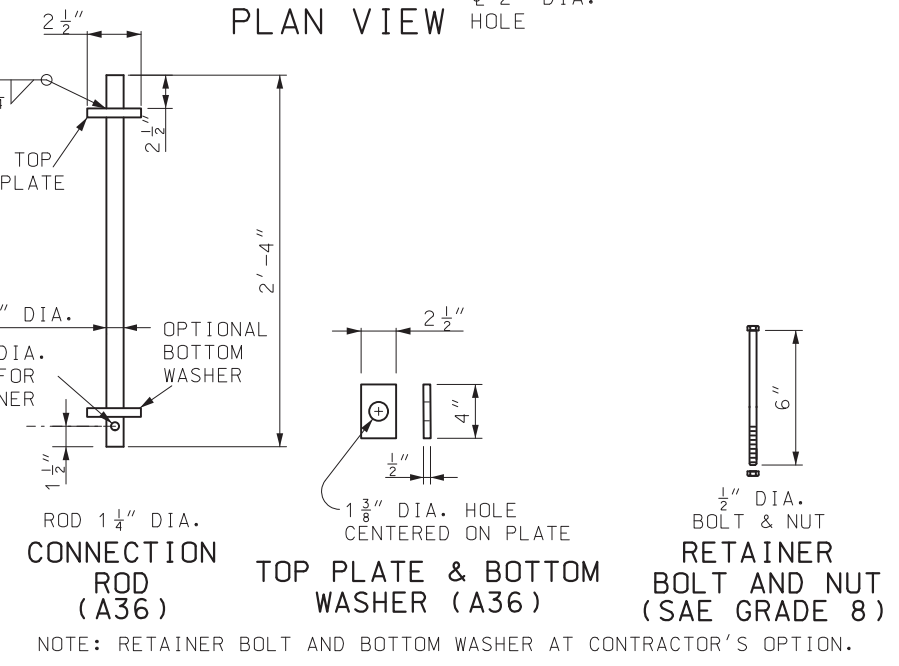
ELEVATION VIEW



PLAN VIEW



**SEE DETAIL A
DETAILS OF BARRIER CONNECTION**



**DETAIL A
CONNECTION ROD ASSEMBLY**

GENERAL NOTES:

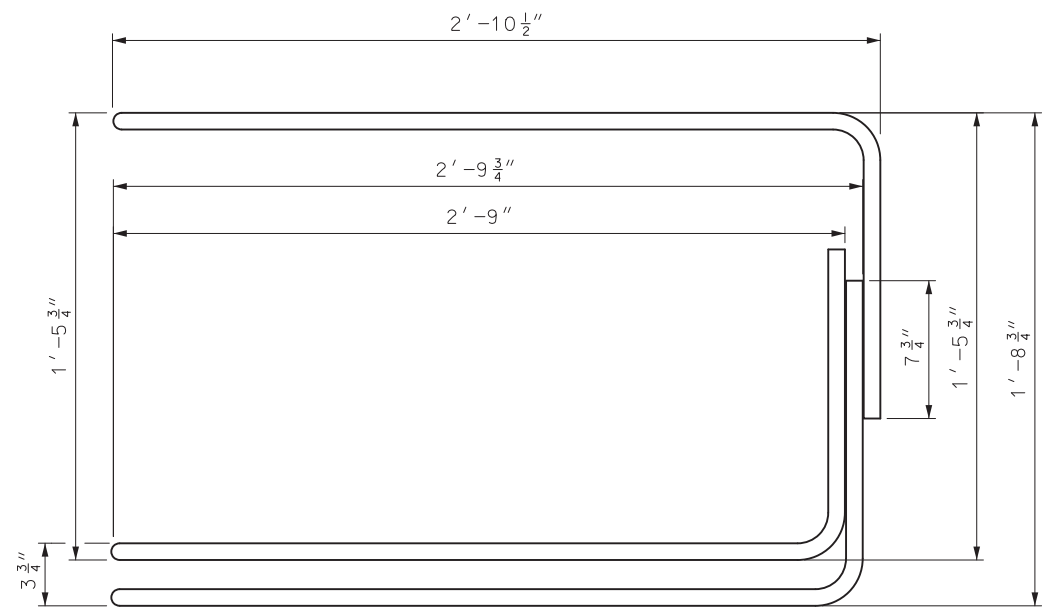
ALL REINFORCING SHALL MEET REQUIREMENTS OF CRSI EXCEPT WHERE SHOWN ON PLANS.

REINFORCING STEEL CLEARANCE TO EDGE OF CONCRETE SHALL BE 1 3/4\"/>

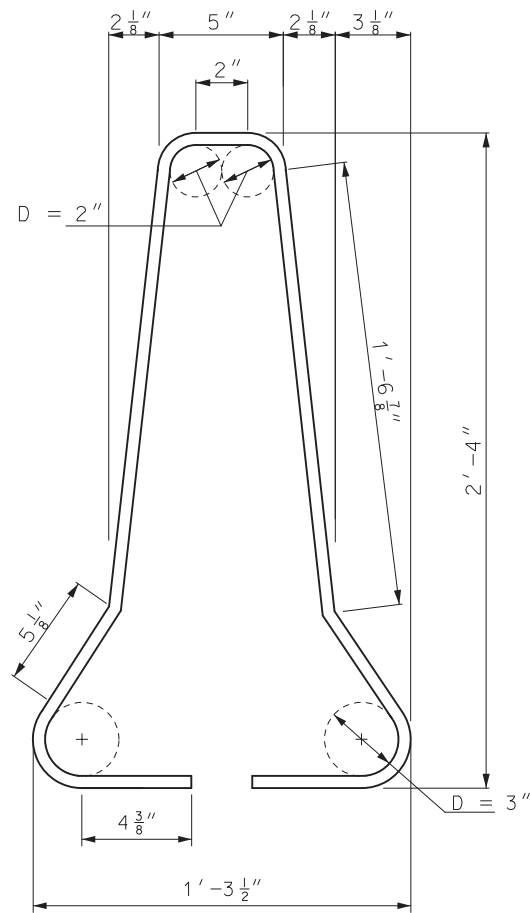
| | |
|---|---|
| <p>MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION</p> <p>105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)</p> | |
| | <p>TEMPORARY CONCRETE TRAFFIC BARRIER TYPE F</p> |
| <p>DATE EFFECTIVE: 01/01/2018 DATE PREPARED: 5/14/2018</p> | <p>617.20E</p> |
| <p>SHEET NO. 1 OF 8</p> | |

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

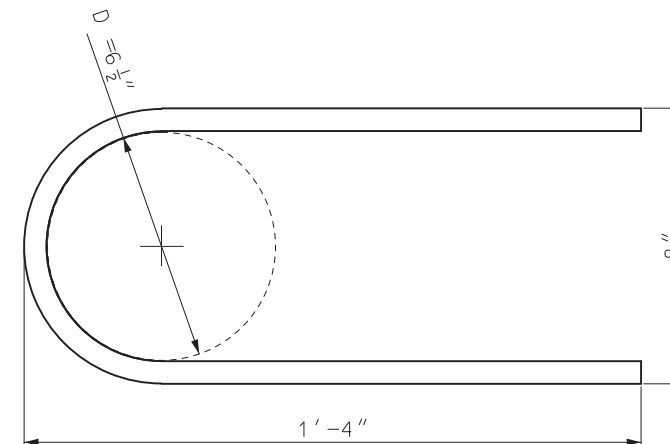
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



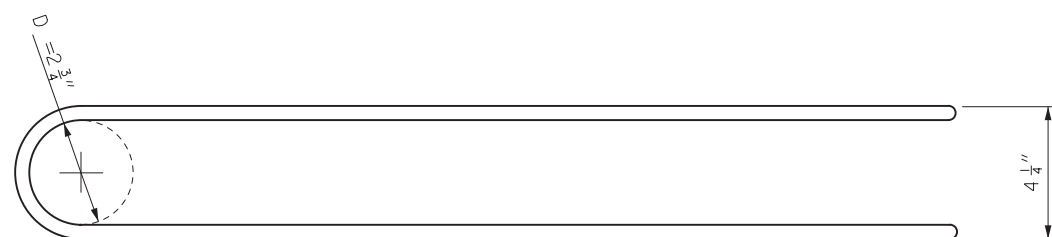
#6 B BAR ELEVATION








#4 A BARS



#6 E BAR



#6 B BAR PLAN

| REINFORCING BARS | | | | | |
|----------------------------|----------|-------------|---|--------------------|----------|
| PER 12'-6" BARRIER SECTION | | | | | |
| MARK | BAR SIZE | NO. OF BARS | SHAPE OF EACH | LENGTH EACH (NOM.) | WEIGHT |
| A | 4 | 14 |  | 6'-5" | 60.8 lbs |
| C | 5 | 3 |  | 12'-2" | 38.1 lbs |
| D | 4 | 2 |  | 12'-2" | 16.3 lbs |
| E | 6 | 6 |  | 2'-11" | 26.3 lbs |
| LOOP ASSEMBLY | | | | | |
| B | 6 | 6 |  | 7'-10" | 70.5 lbs |

CONCRETE VOLUME 1.3 CU YDS APPROXIMATE WEIGHT 5601 LBS.

GENERAL NOTE:

DIMENSIONS ARE OUT TO OUT OF BARS UNLESS OTHERWISE NOTED.

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STATE OF MISSOURI
 ERIC E. SCHROETER
 NUMBER PE-28411
 PROFESSIONAL ENGINEER

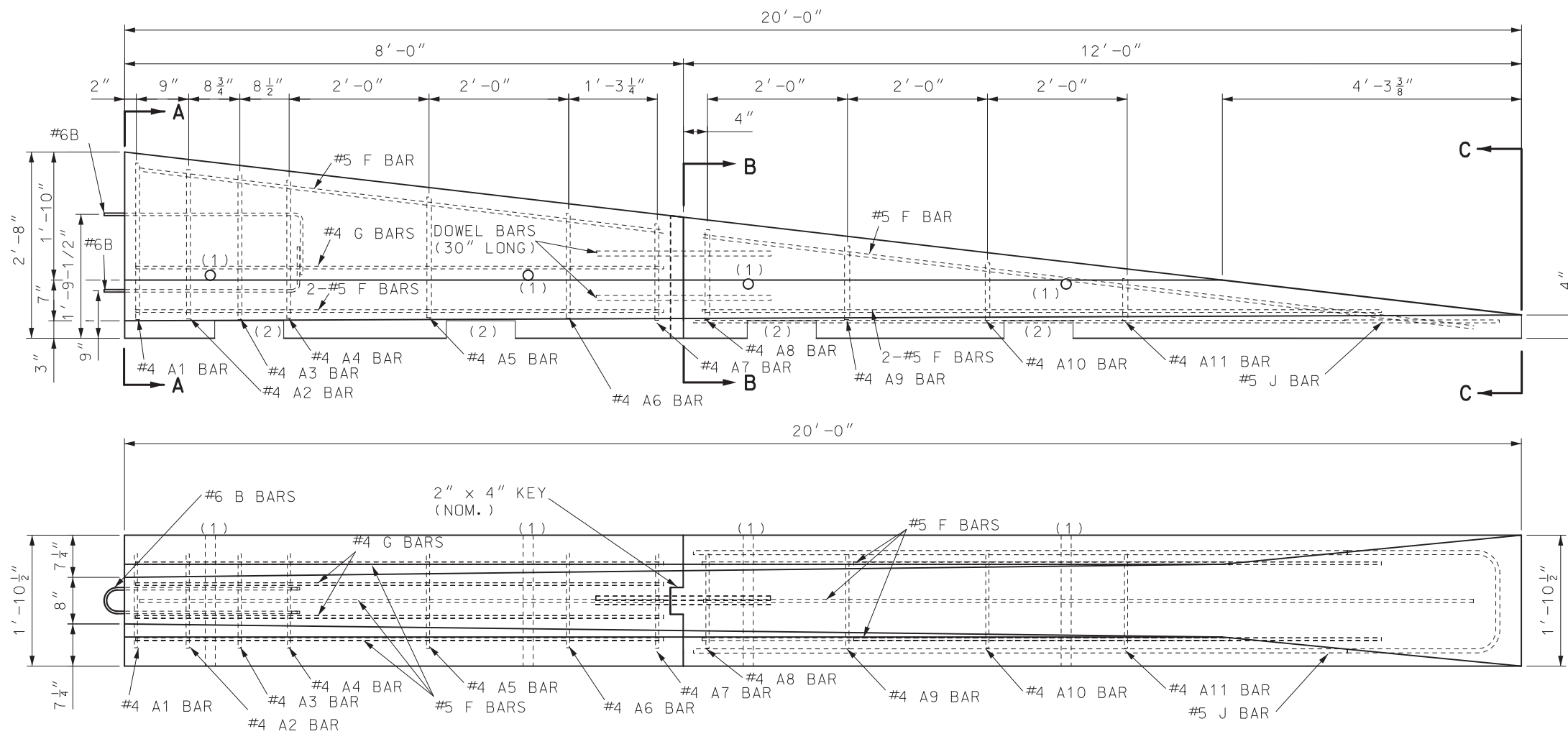
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

TEMPORARY CONCRETE TRAFFIC BARRIER
 TYPE F

DATE EFFECTIVE: 10/01/2015
 DATE PREPARED: 5/14/2018

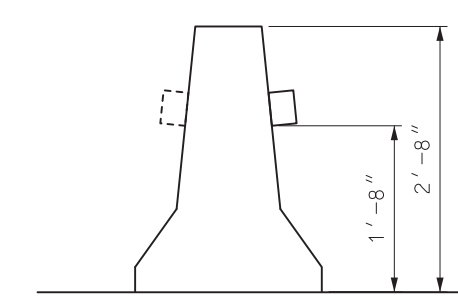
617.20E

SHEET NO.
 2 OF 8

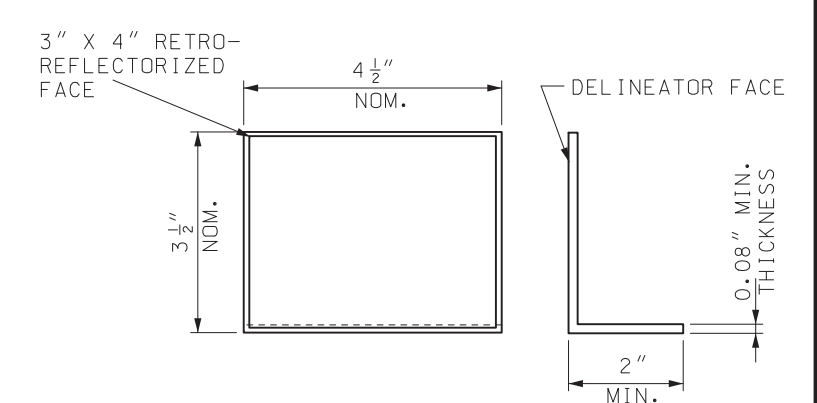


**PRECAST BARRIER HEIGHT TRANSITION
(TEMPORARY INSTALLATIONS ONLY)**

- (1) OPTIONAL 4 INCH DIAMETER, 11 GAUGE STEEL ROUND MECHANICAL TUBING SLEEVE FOR LIFT HOLE ALLOWED. THE LOCATION OF THE HOLE MAY VARY TO ACCOMMODATE THE DIFFERING WEIGHT DISTRIBUTIONS OF TRANSITION SECTIONS.
- (2) 3" X 1'-0" SLOTS FOR LIFTING - TWO PER SECTION. LOCATION TO BE DETERMINED BY CONTRACTOR.



TRAFFIC BARRIER DELINEATORS



DELINEATOR

GENERAL NOTES:

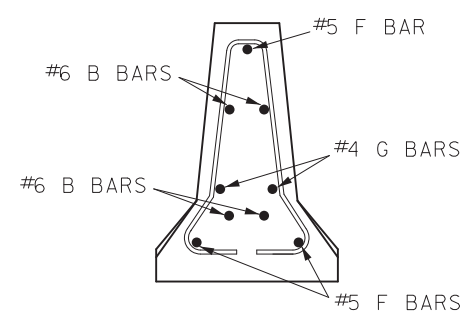
REINFORCING STEEL CLEARANCE TO EDGE OF CONCRETE SHALL BE 1 3/4" UNLESS OTHERWISE SHOWN.

HEIGHT TRANSITIONS SHALL NOT BE USED ON INTERSTATE ROUTES OR IN LOCATIONS WHERE THE POSTED SPEED PRIOR TO CONSTRUCTION IS GREATER THAN 35 MPH.

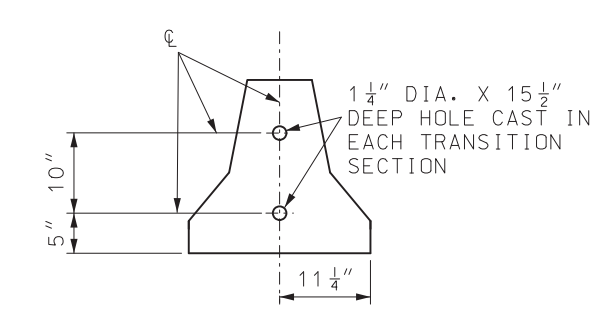
AT NO TIME SHALL THE BARRIERS BE LIFTED OR MOVED BY USE OF THE LOOP BARS.

RETAINER BOLT AND NUT MUST BE USED WITH TRANSITION BARRIER.

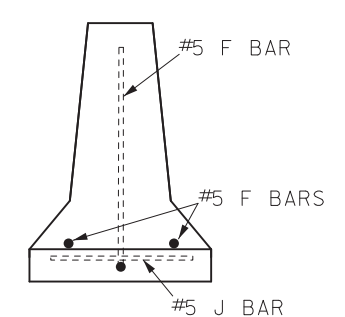
AT THE OPTION OF THE CONTRACTOR, HEIGHT TRANSITIONS MAY BE MANUFACTURED IN ONE SECTION. THE PLANS FOR REINFORCEMENT ACROSS JOINT SHALL BE APPROVED BY THE ENGINEER PRIOR TO MANUFACTURE.



SECTION A-A



SECTION B-B



SECTION C-C

NOTE: SECTIONS TO BE CONNECTED WITH TWO- 1" DIA. BARS OR #8 REINFORCING BARS 30" LONG IN 1 1/4" DIA. HOLES AS SHOWN.

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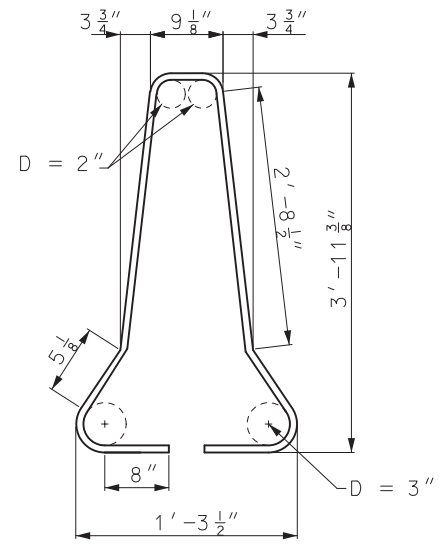
STATE OF MISSOURI
 ERIC E. SCHROETER
 NUMBER PE-28411
 PROFESSIONAL ENGINEER
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**TEMPORARY CONCRETE TRAFFIC BARRIER
TYPE F HEIGHT TRANSITIONS**

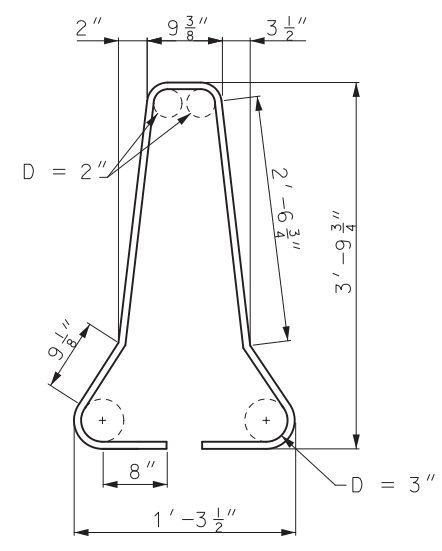
| | | |
|----------------------------|----------------|------------------|
| DATE EFFECTIVE: 10/01/2015 | 617.20E | SHEET NO. 3 OF 8 |
| DATE PREPARED: 5/14/2018 | | |

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

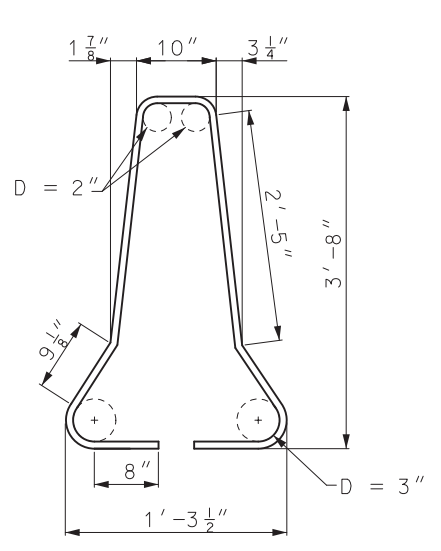
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



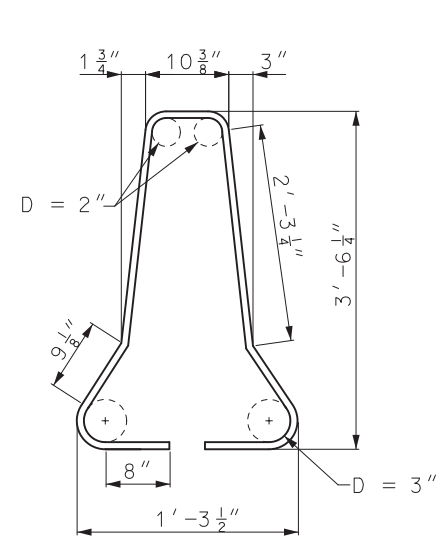
#4 A1 BAR



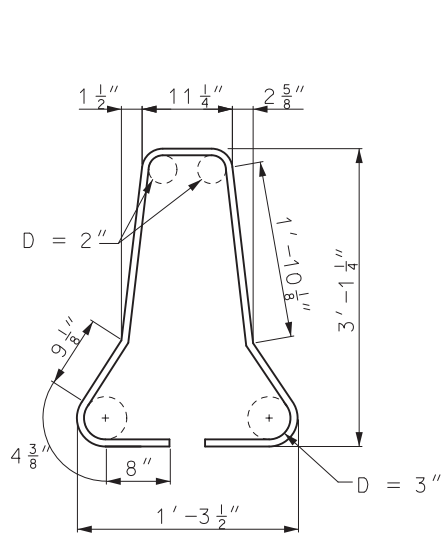
#4 A2 BAR



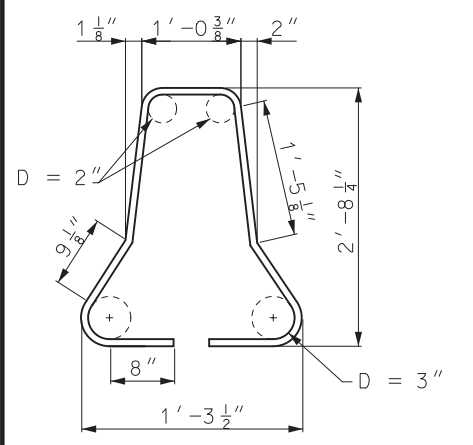
#4 A3 BAR



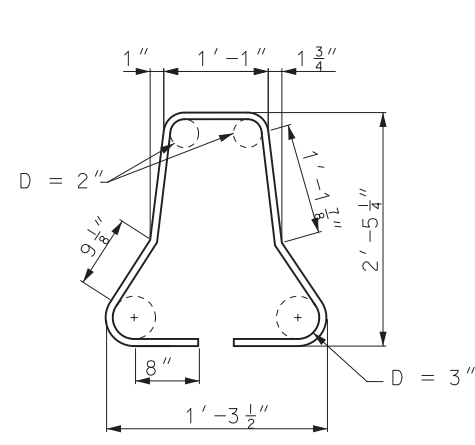
#4 A4 BAR



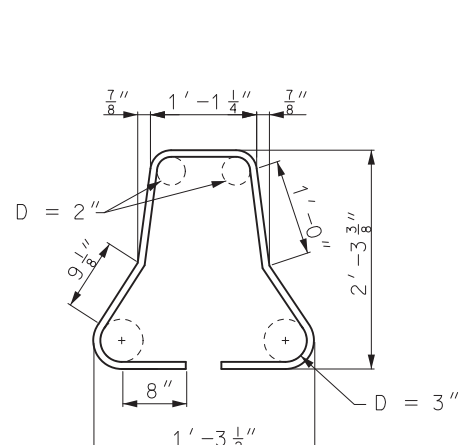
#4 A5 BAR



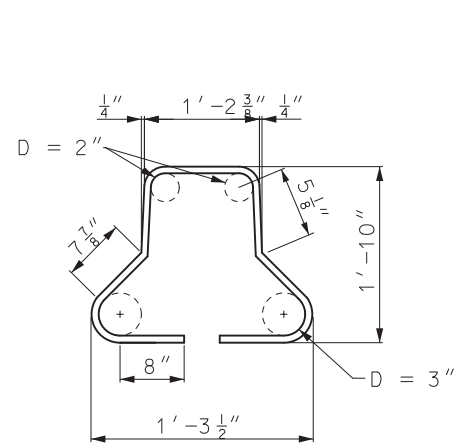
#4 A6 BAR



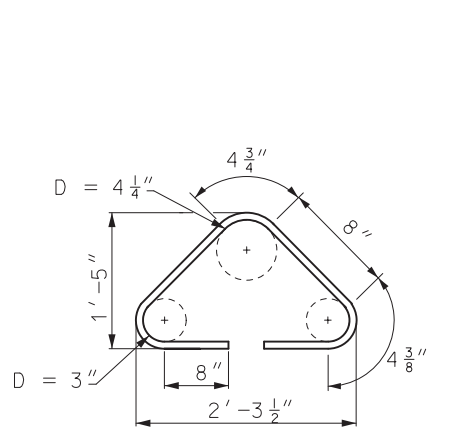
#4 A7 BAR



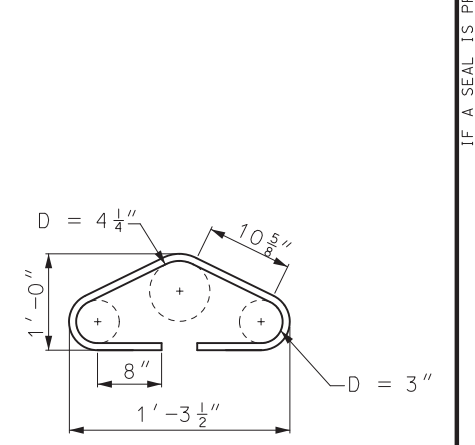
#4 A8 BAR



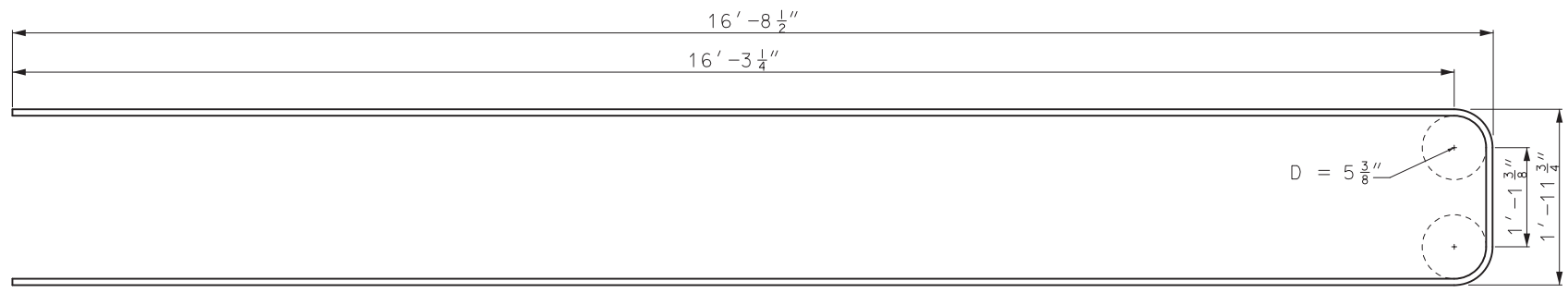
#4 A9 BAR



#4 A10 BAR



#4 A11 BAR



#5 J BAR

NOTE: FOR DETAILS OF B BARS, SEE SHEET 2 OF 6.

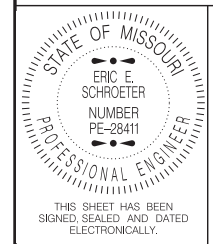
GENERAL NOTES:

DIMENSIONS ARE OUT TO OUT OF BARS UNLESS OTHERWISE NOTED.



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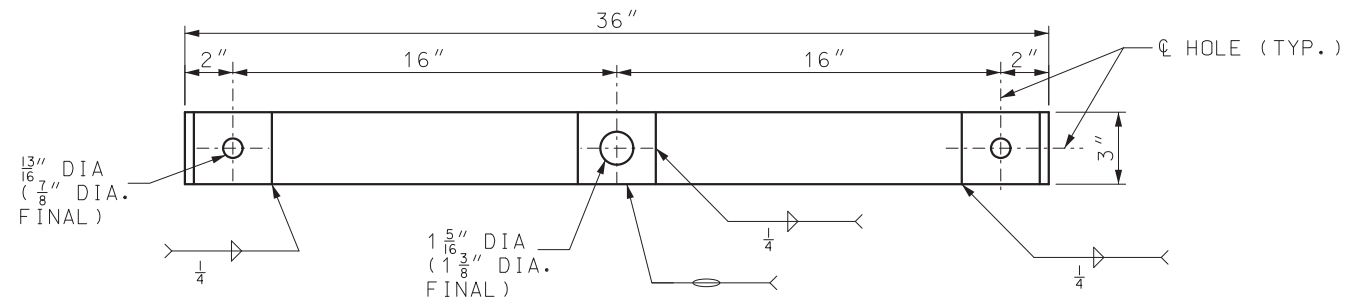
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TEMPORARY CONCRETE TRAFFIC BARRIER
TYPE F HEIGHT TRANSITIONS

DATE EFFECTIVE: 10/01/2015
DATE PREPARED: 5/14/2018

617.20E

SHEET NO.
4 OF 8



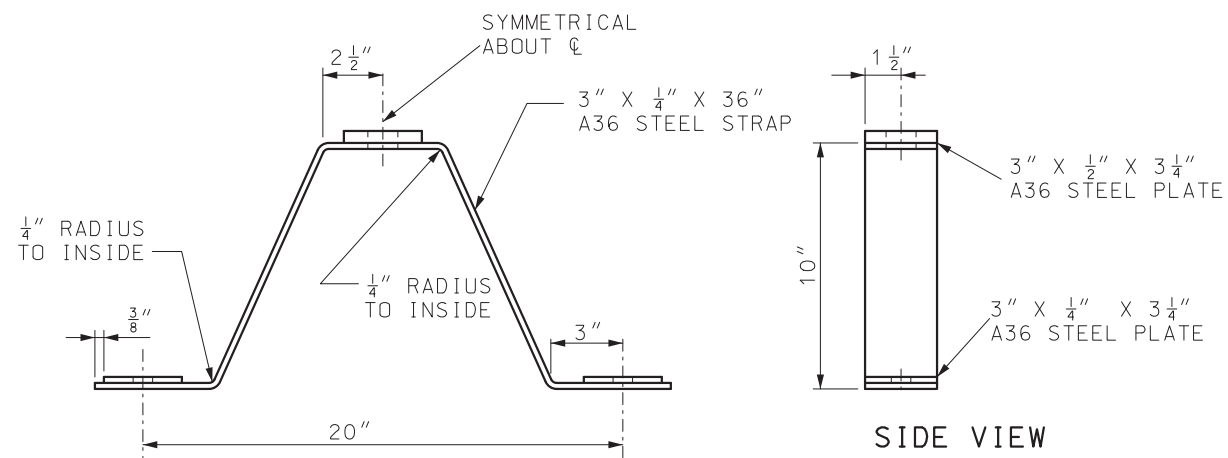
PLAN OF TIE-DOWN STRAP

(1) TIE-DOWN STRAP ANCHOR SHALL BE ONE OF THE FOLLOWING:

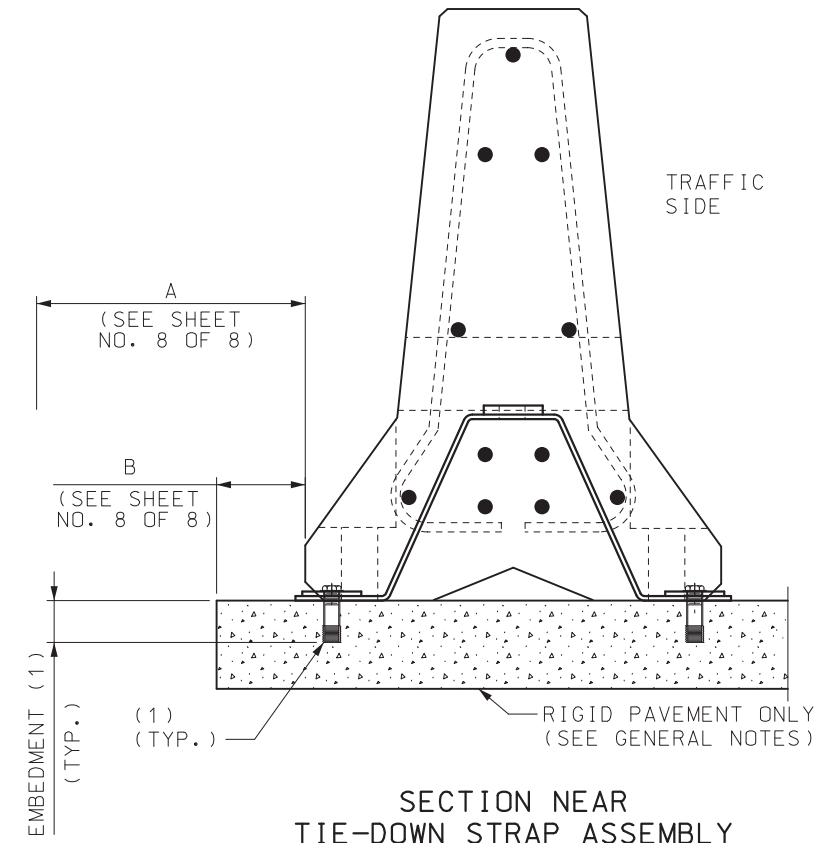
3/4" DROP IN ANCHOR WITH A 3 1/4" EMBEDMENT AND 3/4" DIA. X 1 3/4" LONG GRADE 5 BOLT.

RED HEAD LARGE DIAMETER TAPCON (LDT) 3/4" X 4 1/2" LONG WITH A 4" EMBEDMENT.

SIMPSON TITEN HD 3/4" DIA. X 5" LONG WITH A 4 1/2" EMBEDMENT.

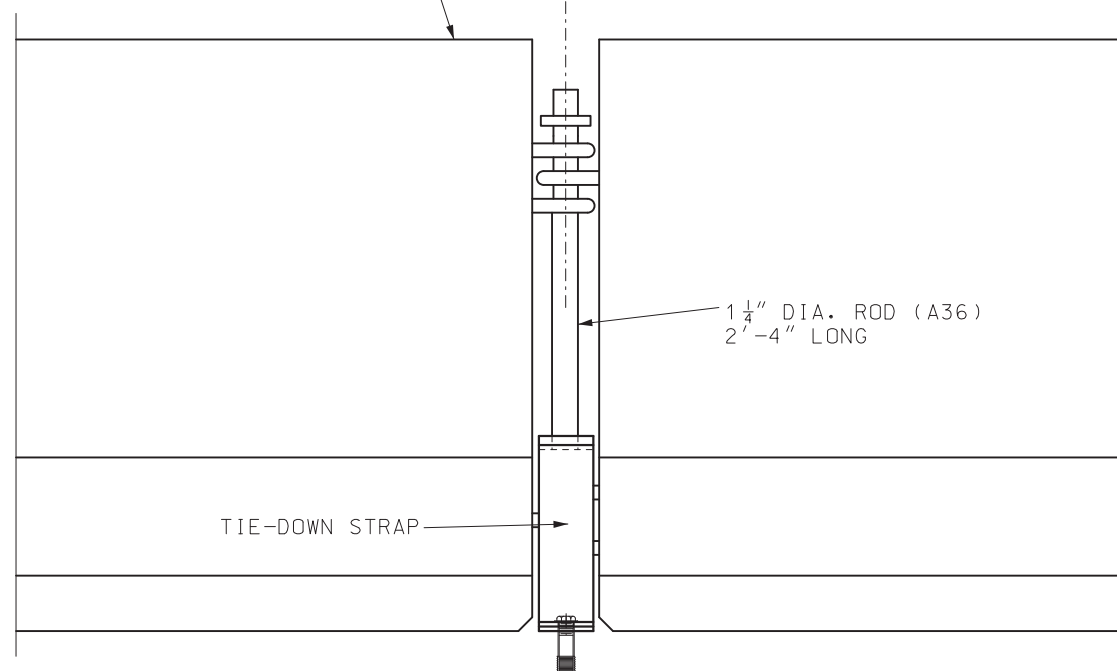


DETAILS OF TYPE F TEMPORARY BARRIER TIE-DOWN STRAP

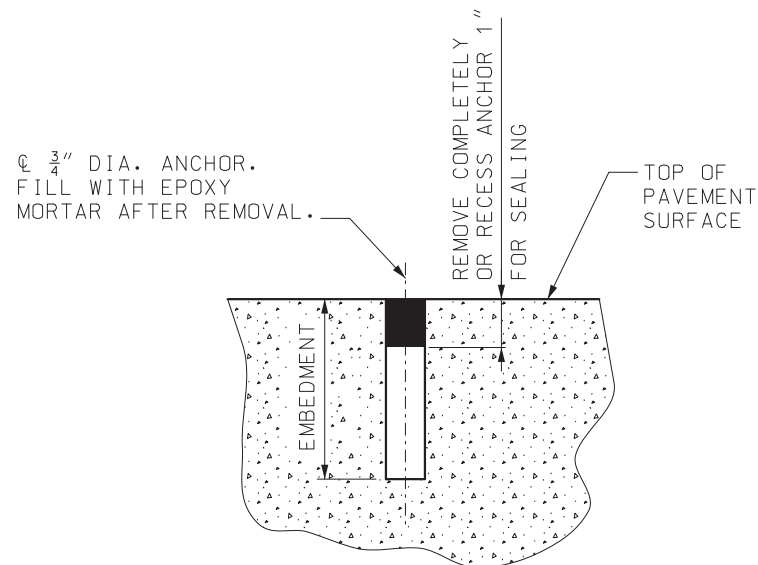


SECTION NEAR TIE-DOWN STRAP ASSEMBLY

TYPE F BARRIER (TYP.) CONNECTION ROD ASSEMBLY



PART ELEVATION OF BARRIER



DETAIL SHOWING SEALING OF HOLES AFTER REMOVAL OF TIE-DOWN BOLTS

GENERAL NOTES:

TIE-DOWN STRAP SYSTEMS ARE ONLY APPLICABLE ON RIGID PAVEMENTS.

CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN FIELD BEFORE ORDERING NEW MATERIAL.

SEE OTHER SHEETS FOR DETAILS NOT SHOWN.

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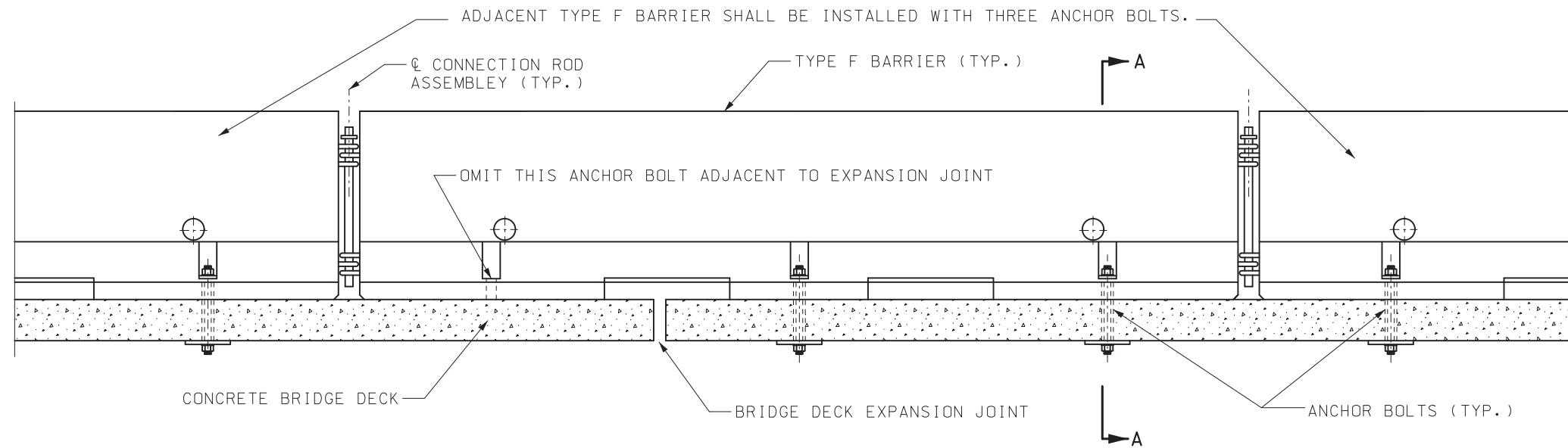
STATE OF MISSOURI
 ERIC E. SCHROETER
 NUMBER PE-28411
 PROFESSIONAL ENGINEER
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TEMPORARY CONCRETE TRAFFIC BARRIER
 ANCHORED (TIE-DOWN STRAP SYSTEM)

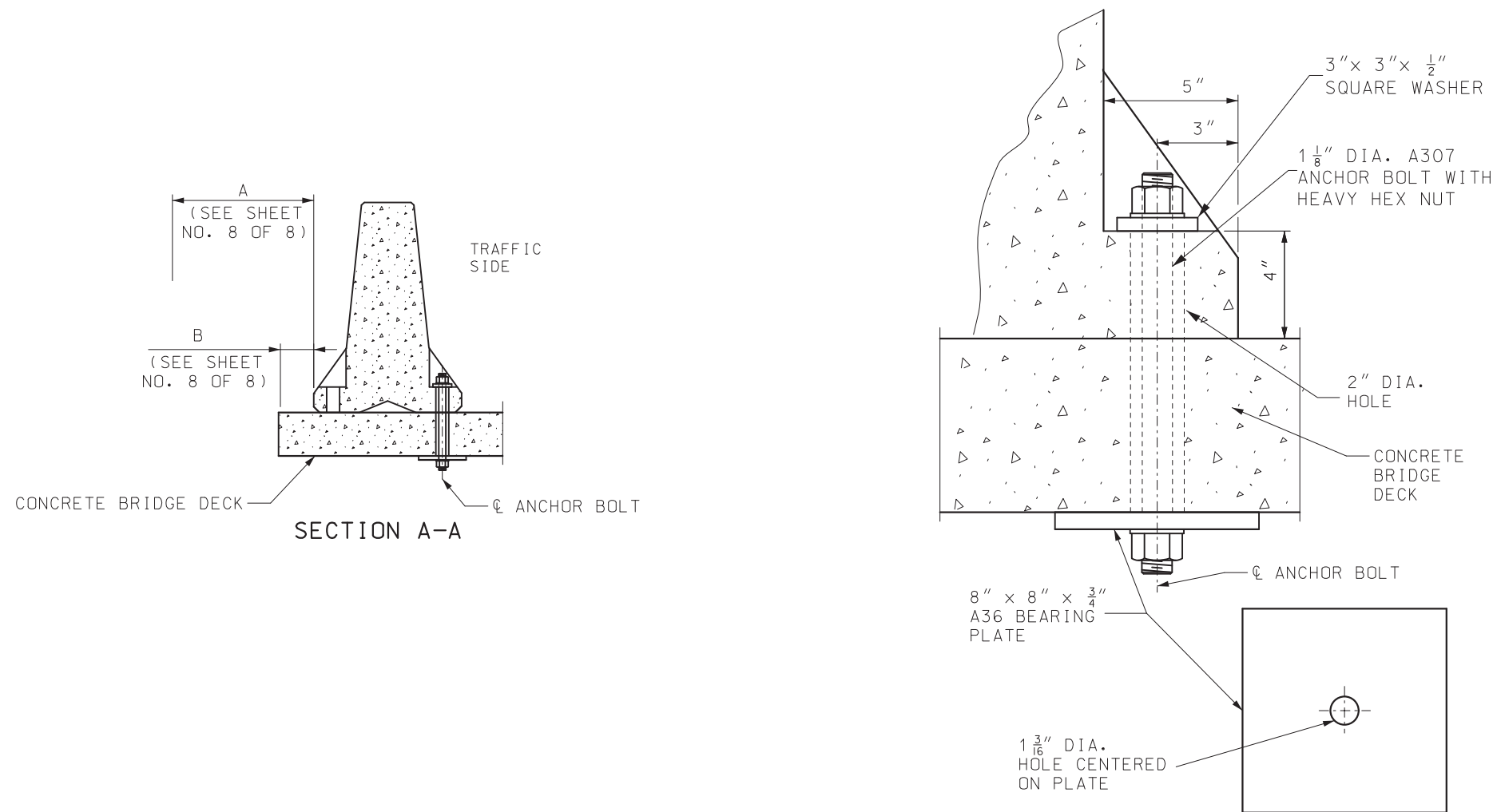
DATE EFFECTIVE: 07/01/2018
 DATE PREPARED: 5/3/2018

617.20E

SHEET NO. 5 OF 8



BOLT THROUGH DECK AT THERMAL EXPANSION JOINTS



BOLT THROUGH DECK DETAIL

GENERAL NOTES:

ANCHOR BOLT SYSTEMS ARE ONLY APPLICABLE ON BRIDGE DECKS AND RIGID PAVEMENTS.

CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN FIELD BEFORE ORDERING NEW MATERIAL.

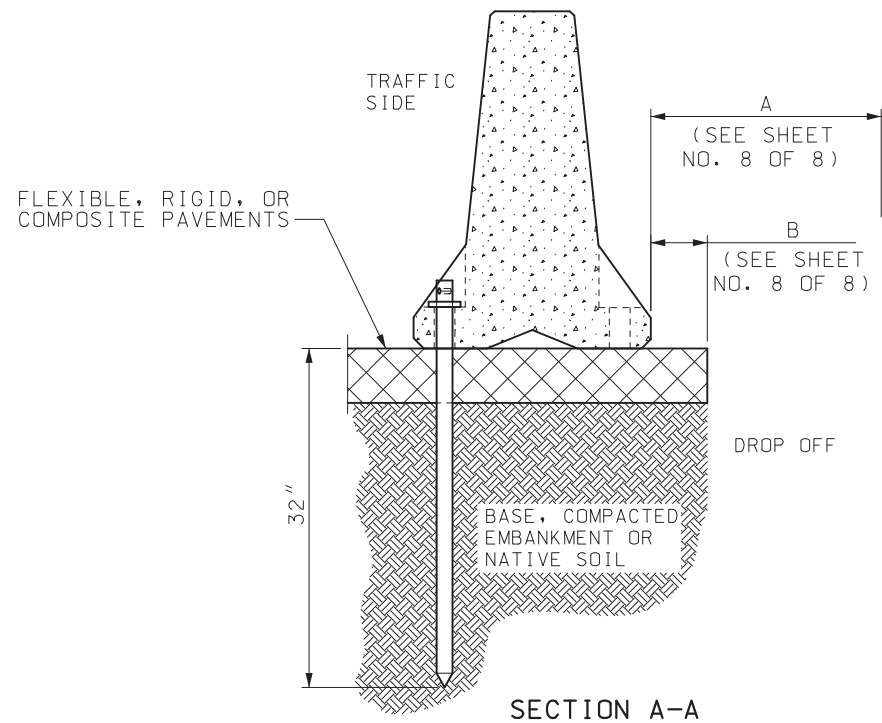
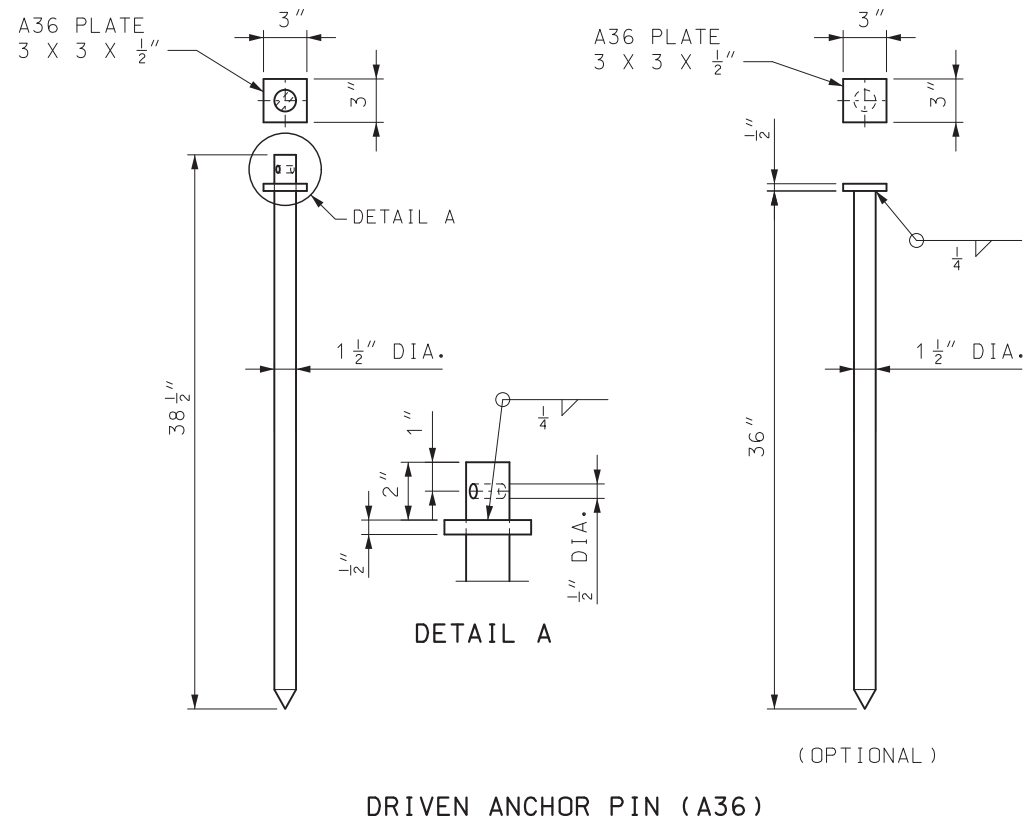
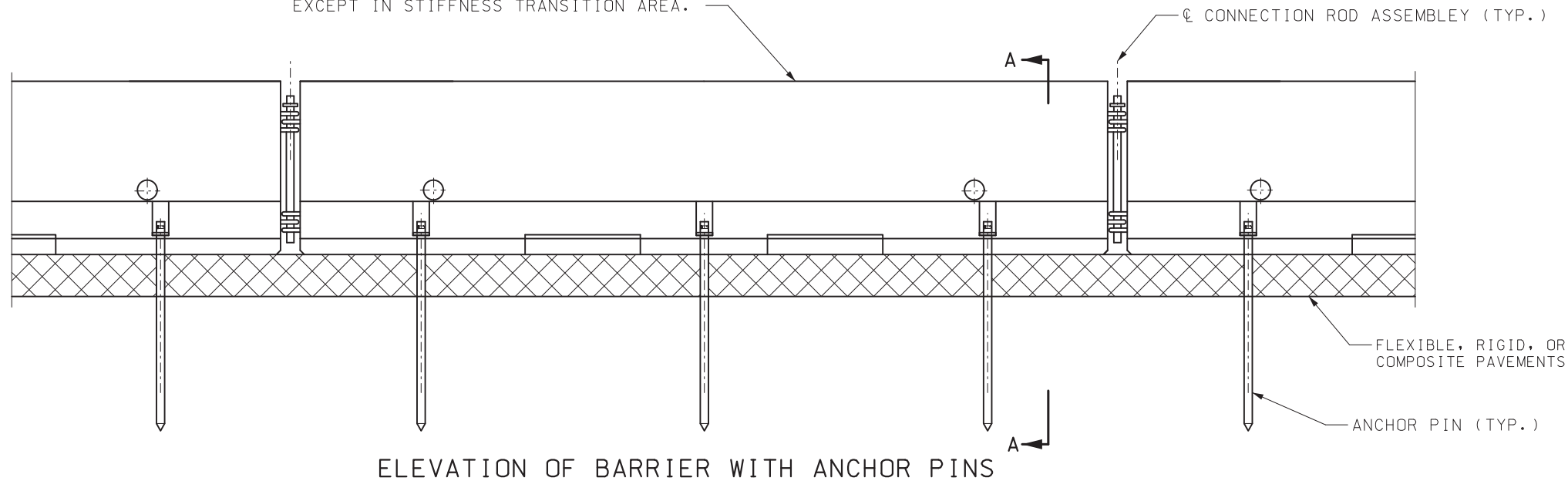
SEE OTHER SHEETS FOR DETAILS NOT SHOWN.

AFTER REMOVAL OF ANCHOR BOLTS HOLES SHALL BE FILLED WITH QUALIFIED SPECIAL MORTAR IN ACCORDANCE WITH SEC 704.

| | | |
|--|--|---|
| | MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636) | |
| | | <p>TEMPORARY CONCRETE TRAFFIC BARRIER ANCHORED (BOLT SYSTEM)</p> |
| DATE EFFECTIVE: 10/01/2015 DATE PREPARED: 5/14/2018 | <p>617.20E</p> | SHEET NO. 6 OF 8 |

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

TYPE F BARRIER SHALL BE INSTALLED WITH THREE DRIVEN ANCHOR PINS (TYP.), EXCEPT IN STIFFNESS TRANSITION AREA.



GENERAL NOTES:

CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN FIELD BEFORE ORDERING NEW MATERIAL.

WHERE EXISTING FLEXIBLE PAVEMENT OR RIGID PAVEMENT IS NOT PRESENT A 2" THICK X 30" WIDE MINIMUM ASPHALT PAD SHALL BE CONSTRUCTED.

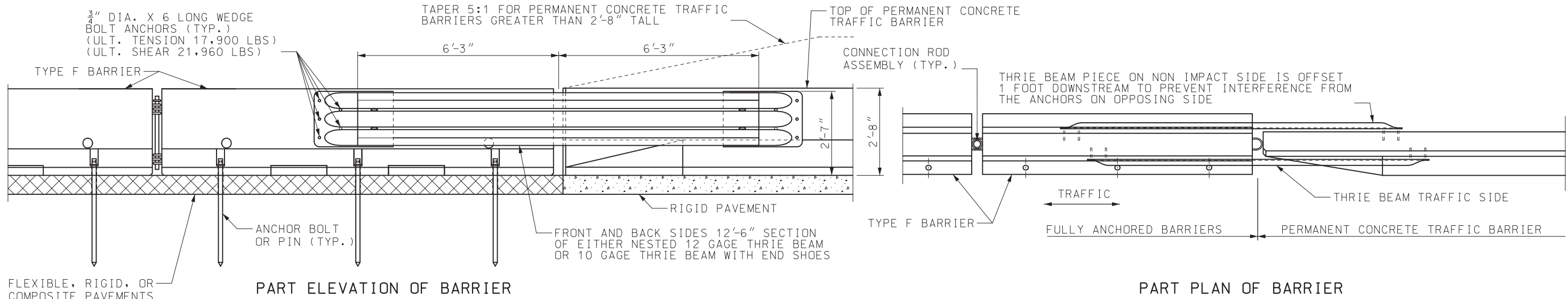
COST OF FURNISHING AND INSTALLING THE ASPHALT PAD COMPLETE-IN-PLACE WILL BE CONSIDERED INCIDENTAL TO OTHER PAY ITEMS.

SEE OTHER SHEETS FOR DETAILS NOT SHOWN.

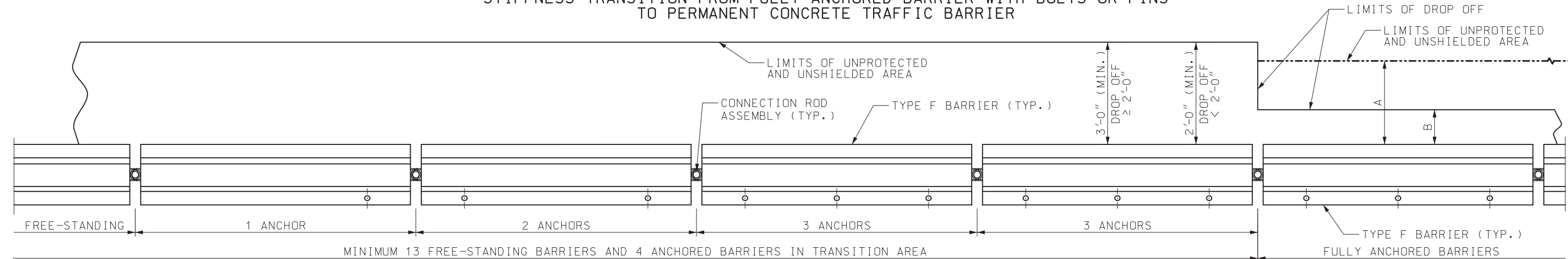
AFTER REMOVAL OF ANCHOR PINS HOLES SHALL BE FILLED WITH QUALIFIED SPECIAL MORTAR IN ACCORDANCE WITH SEC 704.

| | |
|---|---|
| <p>MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION</p> <p>105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)</p> | |
| | <p>TEMPORARY CONCRETE TRAFFIC BARRIER</p> <p>ANCHORED (PIN SYSTEM)</p> |
| <p>DATE EFFECTIVE: 07/01/2018</p> <p>DATE PREPARED: 5/3/2018</p> | <p>617.20E</p> <p>SHEET NO. 7 OF 8</p> |

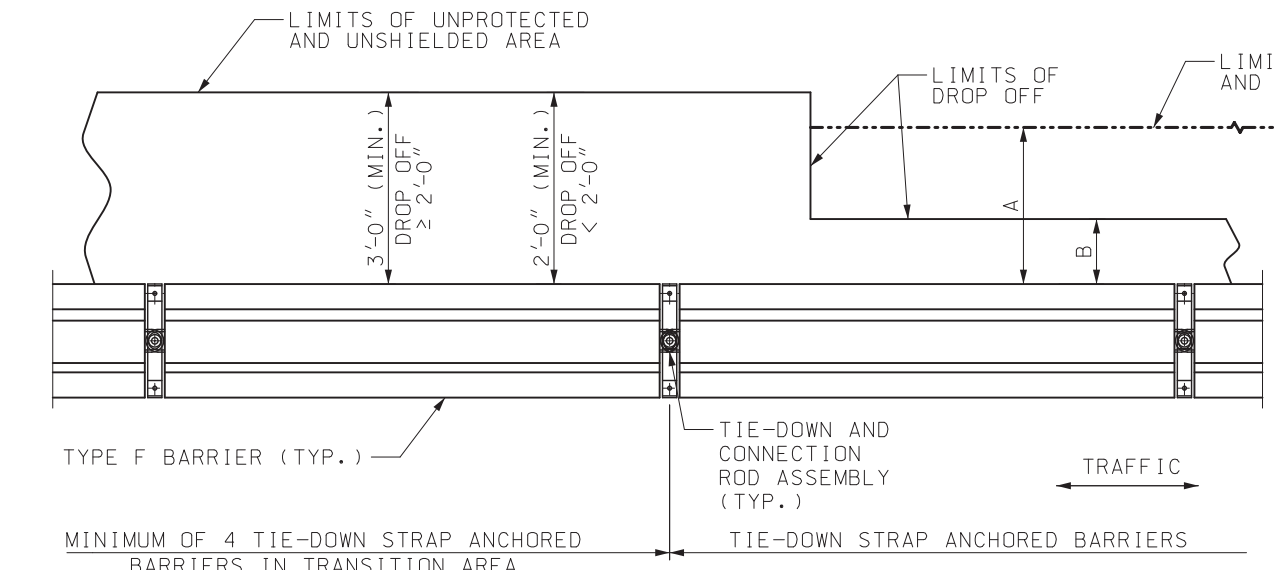
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STIFFNESS TRANSITION FROM FULLY ANCHORED BARRIER WITH BOLTS OR PINS TO PERMANENT CONCRETE TRAFFIC BARRIER



PLAN OF STIFFNESS TRANSITION FROM FREE-STANDING BARRIERS TO FULLY ANCHORED BARRIER WITH BOLTS OR PINS



STIFFNESS TRANSITION FOR BARRIER ANCHORED WITH TIE-DOWN STRAPS (13 FREE-STANDING BARRIERS NOT REQUIRED)

| LIMITS OF UNPROTECTED AND UNSHIELDED AREA | |
|---|---|
| $6'' \leq A < 2'$ | ANCHOR EACH BARRIER WITH 3 ANCHOR BOLTS OR PINS |
| $2' \leq A < 3'$ | ANCHOR WITH BOLTS, PINS, OR TIE-DOWN STRAPS |
| $A \geq 3'$ | NO ANCHORAGE REQUIRED UNLESS SHOWN ON PLANS |

| EDGE OF DROP OFF | |
|--------------------|---|
| $1'' \leq B < 6''$ | ANCHOR EACH BARRIER WITH 3 ANCHOR BOLTS OR PINS |
| $6'' \leq B < 2'$ | ANCHOR WITH BOLTS, PINS, OR TIE-DOWN STRAPS |
| $B \geq 2'$ | NO ANCHORAGE REQUIRED UNLESS SHOWN ON PLANS |

NOTE: TEMPORARY CONCRETE TRAFFIC BARRIER MUST MEET BOTH A AND B DIMENSIONS, UNLESS OTHERWISE SHOWN ON PLANS.

GENERAL NOTES:
 CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN FIELD BEFORE ORDERING NEW MATERIAL.
 COST OF FURNISHING AND INSTALLING THE ANCHOR BOLT SYSTEM, ANCHOR PINS SYSTEM, TIE-DOWN STRAP SYSTEM AND THRIE BEAM COMPLETE-IN-PLACE WILL BE CONSIDERED INCIDENTAL TO OTHER PAY ITEMS.

ALL TYPE F BARRIERS SHALL BE CONNECTED TO ADJACENT TYPE F BARRIERS WITH CONNECTION ROD ASSEMBLY, AND PULLED TIGHT DURING INSTALLATION TO REMOVE SLACK TO PROVIDE LONGITUDINAL TENSION DURING IMPACT.

AFTER REMOVAL OF ANCHORS HOLES SHALL BE FILLED WITH QUALIFIED SPECIAL MORTAR IN ACCORDANCE WITH SEC 704.

SEE OTHER SHEETS FOR DETAILS NOT SHOWN.

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STATE OF MISSOURI
 ERIC E. SCHROETER
 NUMBER PE-28411
 PROFESSIONAL ENGINEER
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TEMPORARY CONCRETE TRAFFIC BARRIER STIFFNESS TRANSITION

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