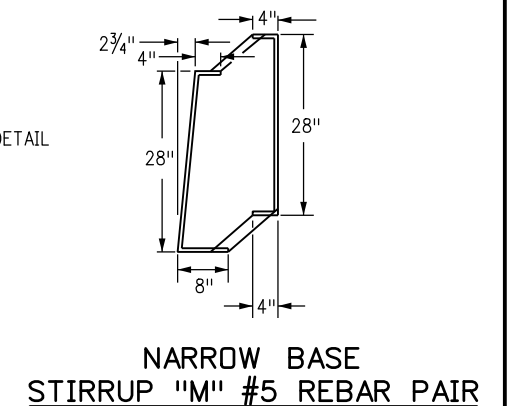
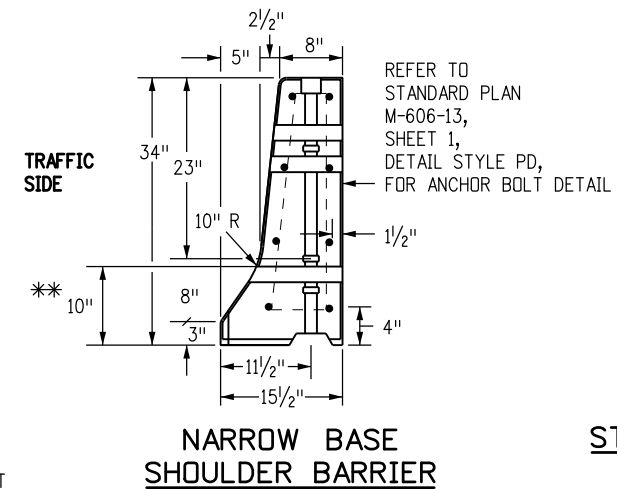
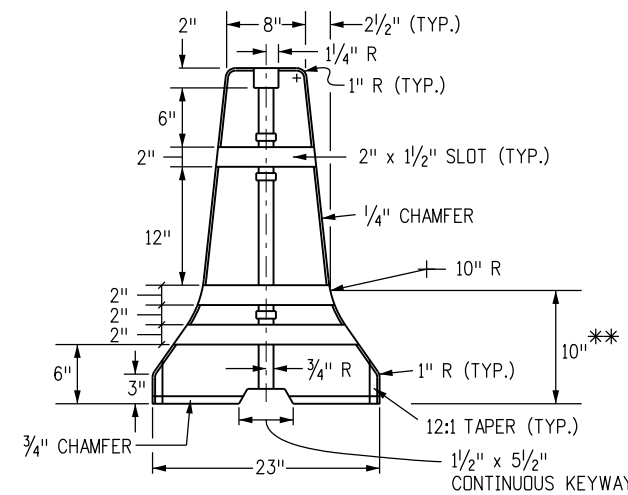
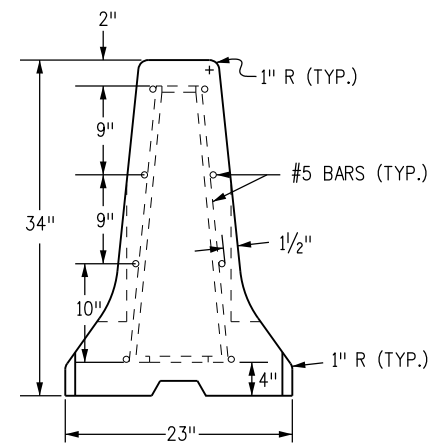
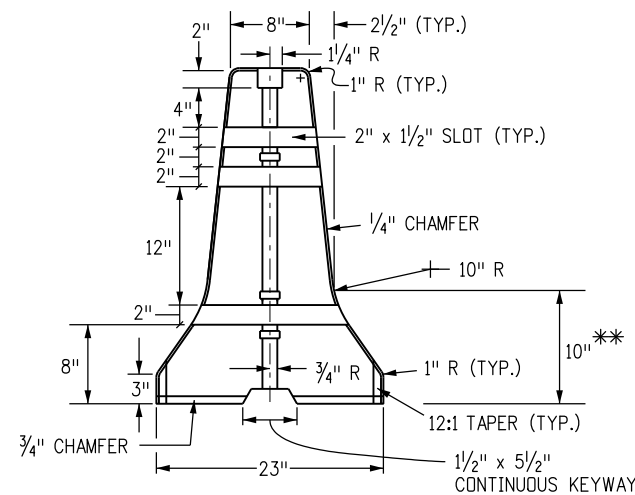
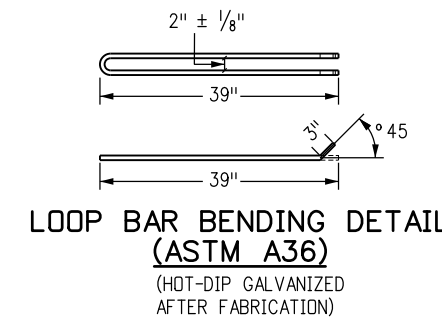
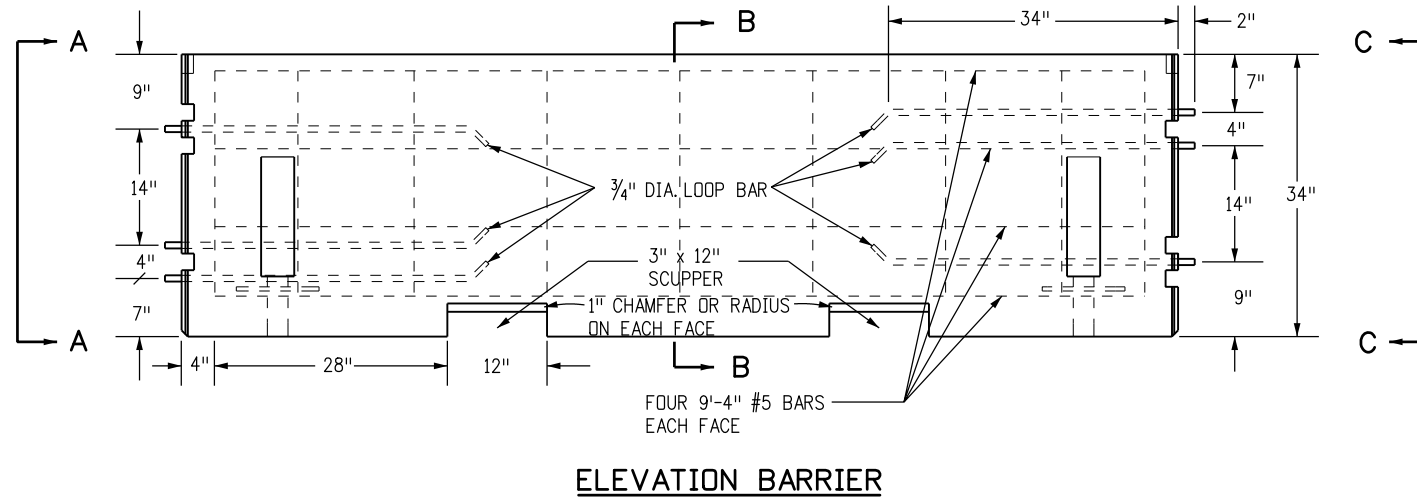
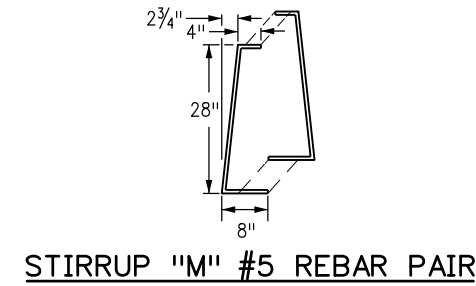
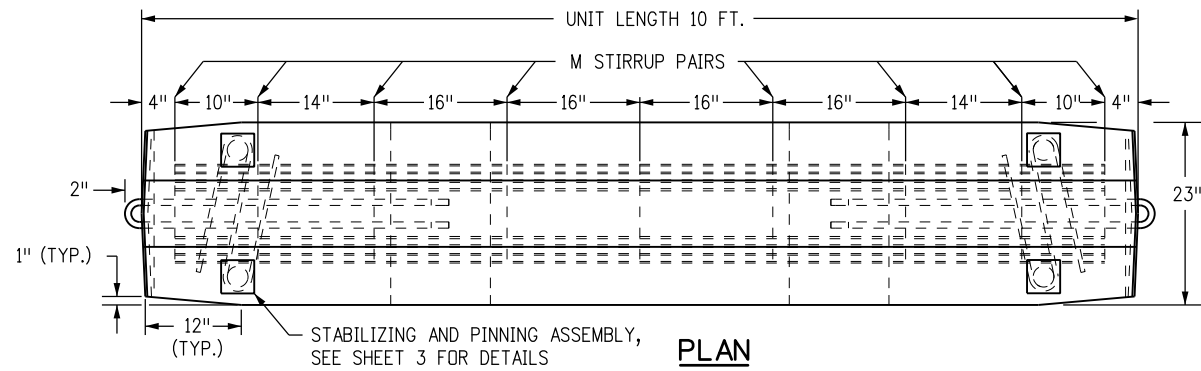


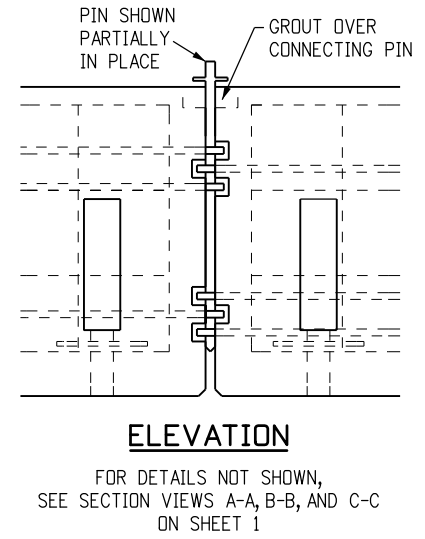
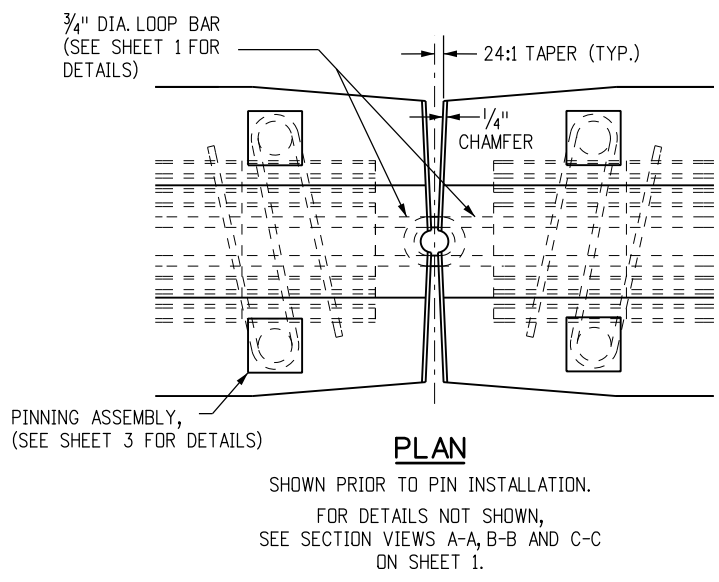
**GENERAL NOTES**

1. ALL STEEL REINFORCING SHALL BE 2 IN. CLEAR OF THE NEAREST SURFACE OF CONCRETE UNLESS OTHERWISE SHOWN. REINFORCING STEEL SHALL BE GRADE 40 MINIMUM.
2. CONCRETE SHALL BE CLASS D.
3. ALL PERMANENT PRECAST BARRIERS USED TO REPLACE OTHER CONCRETE BARRIERS, SHALL BE IN NEW CONDITION, UNDAMAGED, AND WITH NO REPAIRS.
4. FOR TEMPORARY INSTALLATIONS, INSTALL WITH A MINIMUM 4 FT. DISTANCE FROM THE CENTERLINE OF THE CONCRETE BARRIER TO ANY OBSTRUCTIONS BEHIND IT. FOR TEMPORARY INSTALLATIONS WITH LESS THAN A 4 FT. MINIMUM DISTANCE, STABILIZATION PINS SHALL BE USED ON EACH BARRIER UNIT ADJACENT TO, AND WITHIN 10 FT. OF BOTH SIDES OF THE OBSTRUCTION. SEE SHEET 3 FOR STABILIZATION PINNING DETAILS.
5. THE FLARE RATE FOR TEMPORARY INSTALLATIONS SHALL BE 10:1 OR FLATTER UNLESS OTHERWISE APPROVED BY THE ENGINEER FOR PERMANENT INSTALLATIONS. SEE THE FLARE RATES TABLE ON STANDARD M-606-13, SHEET 3.
6. STABILIZATION PINS SHALL BE USED TO ANCHOR EACH 10 FT. UNIT IN ALL PERMANENT INSTALLATIONS. SEE SHEET 3 FOR STABILIZATION PINNING DETAILS.
7. FOR ALL PERMANENT INSTALLATIONS THAT REQUIRE END ANCHORAGES. SEE STANDARD PLAN M-606-13, SHEET 1, FOR ANCHORAGE DETAILS.
8. THE MONTH AND YEAR THE PRECAST TYPE 7 CONCRETE BARRIER WAS MANUFACTURED SHALL BE MOLDED INTO ONE END OF EACH 10 FT. BARRIER UNIT.
9. APPROVED NON-SHRINK GROUT SHALL BE USED FOR GROUTING OVER ALL PINS AND GROUTING OF SCUPPERS.
10. WHEN HYDRAULIC ANALYSIS ALLOWS, SCUPPERS MAY NOT BE NEEDED ON:
  - A. MEDIAN INSTALLATION WITH INLET DRAINAGE.
  - B. SHOULDER BARRIER ON HIGH EDGE OF A SUPERELEVATED SHOULDER.
  - C. MEDIAN BARRIER ON A CREST VERTICAL CURVE.
  - D. PERMANENT BARRIER, IF SPECIFIED ON PLANS.
11. ALL INCIDENTAL WORK AND MATERIALS SUCH AS CONNECTING PINS, ANCHORS BOLTS, GROUT, AND EXCAVATION FOR END ANCHORAGE, WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF THE WORK.
12. ONE IN. DIAMETER THREADED INSERTS MAY BE CAST-IN-PLACE TO FACILITATE LIFTING FOR TEMPORARY BARRIER APPLICATIONS ONLY.
13. RETROREFLECTORIZATION IS REQUIRED ON BARRIERS. SEE BARRIER RETROREFLECTOR NOTES ON STANDARD PLAN S-612-1.



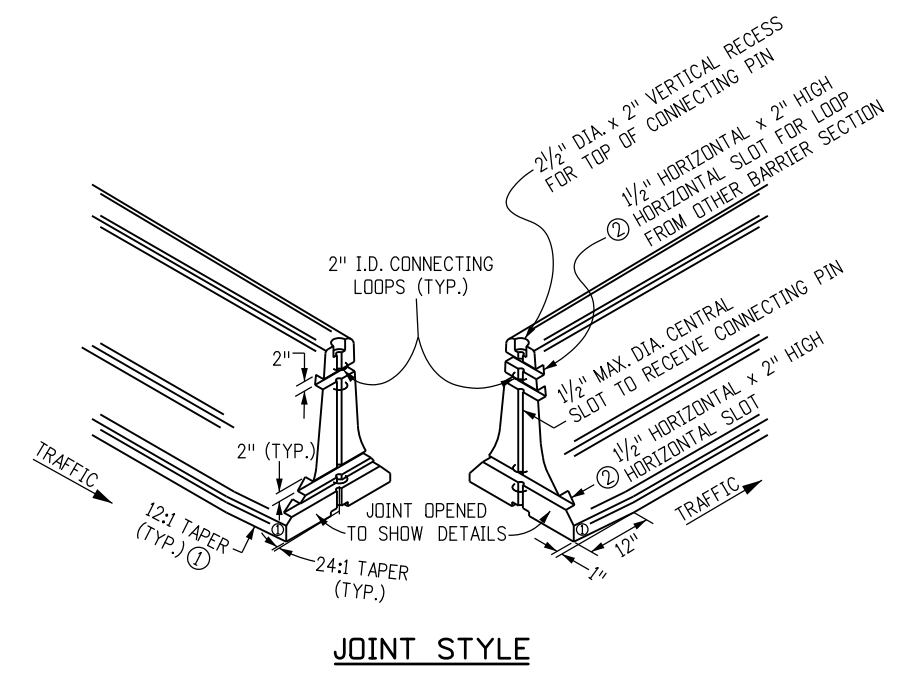
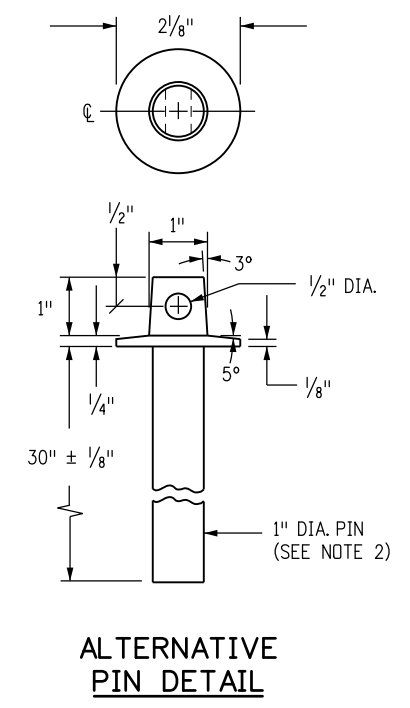
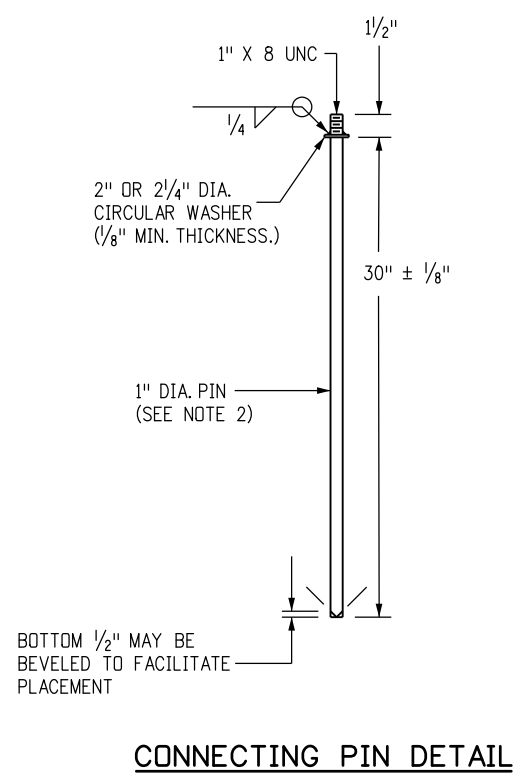
\*\* DIMENSIONS MARKED ARE TO THE INTERSECTION POINT OF THE BARRIER SLOPES. CONSTRUCT THE 10 IN. RADIUS TO PROVIDE A SMOOTH TRANSITION BETWEEN THE SLOPES.

|  |                     |                        |           |   |  |                          |  |
|--|---------------------|------------------------|-----------|---|--|--------------------------|--|
| <b>Computer File Information</b>                       |                     | <b>Sheet Revisions</b> |           | Colorado Department of Transportation<br>4201 East Arkansas Avenue<br>Denver, Colorado 80222<br>Phone: (303) 757-9083<br>Fax: (303) 757-9820<br>Project Development Branch DD/LTA | <b>PRECAST TYPE 7<br/>CONCRETE BARRIER</b><br>Issued By: Project Development Branch July 4, 2012 | <b>STANDARD PLAN NO.</b> |  |
| Creation Date: 07/04/12                                | Initials: DD        | Date:                  | Comments: |   |  | M-606-14                 |  |
| Last Modification Date: 07/04/12                       | Initials: LTA       |                        |           |   |  | Sheet No. 1 of 3         |  |
| Full Path: www.coloradodot.info/business/designsupport | (R-X)               |                        |           |   |  |                          |  |
| Drawing File Name: 6060140103.dgn                      | (R-X)               |                        |           |   |  |                          |  |
| CAD Ver.: MicroStation V8                              | Scale: Not to Scale | Units: English         | (R-X)     |   |  |                          |  |



**NOTES**

1. WASHERS SHALL BE FORGED AS AN INTEGRAL PART OF THE PIN, OR SHALL BE WELDED AS SHOWN.
2. PINS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.
3. IF AN ALTERNATIVE TOP CONFIGURATION IS USED FOR LIFTING, THE LIFTING PIN SHALL BE PROVIDED. PINS SHALL CONFORM TO CRITICAL DIMENSIONS (PIN LENGTH DIAMETER).
4. PINS SHALL CONFORM TO ASTM A449.
5. APPROVED NON-SHRINK GROUT SHALL BE USED FOR GROUTING OVER ALL PINS, AND GROUTING OF SCUPPERS.
6. BOTH ENDS OF THE BARRIER SHALL HAVE A 24:1 TAPER IN EACH DIRECTION FROM THE CENTER PIN RECESS TO ITS OUTER EDGE TO FACILITATE PLACEMENT ON CURVES.
7. JOINTS BETWEEN CAST-IN-PLACE GUARDRAIL TYPE 7 AND PERMANENT INSTALLATION PRECAST TYPE 7 CONCRETE BARRIER SHALL INCLUDE ALL REGRESSES AND LOOPS IN THE CAST-IN-PLACE END, ALONG WITH THE PIN TO COMPLETE THE TYPICAL PRECAST TYPE 7 CONCRETE BARRIER JOINT.



- ① A 1 IN. BY 12 IN. TAPER IS REQUIRED AT THE BOTTOM OF ALL FOUR CORNERS OF THE BARRIER SECTIONS TO ELIMINATE SNAGGING OF SNOW PLOW BLADES. THE TAPER IS OPTIONAL ON PERMANENT INSTALLATIONS.
- ② THE HORIZONTAL SLOTS SHALL BE 1/2 IN. IN DEPTH AT THE CENTER OF THE BARRIER AND MAY DECREASE IN DEPTH AT THE EDGE OF THE BARRIER DUE TO THE (24:1) TAPER.

**DETAILS FOR PIN AND LOOP CONNECTION**

| Computer File Information                                    |               |
|--|---------------|
| Creation Date: 07/04/12                                      | Initials: DD  |
| Last Modification Date: 07/04/12                             | Initials: LTA |
| Full Path: www.coloradodot.info/business/designsupport       |               |
| Drawing File Name: 6060140203.dgn                            |               |
| CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English |               |

| Sheet Revisions |          |
|-----------------|----------|
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| (R-X)           |          |
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| (R-X)           |          |

Colorado Department of Transportation  
 4201 East Arkansas Avenue  
 Denver, Colorado 80222  
 Phone: (303) 757-9083  
 Fax: (303) 757-9820

**Project Development Branch**      **DD/LTA**

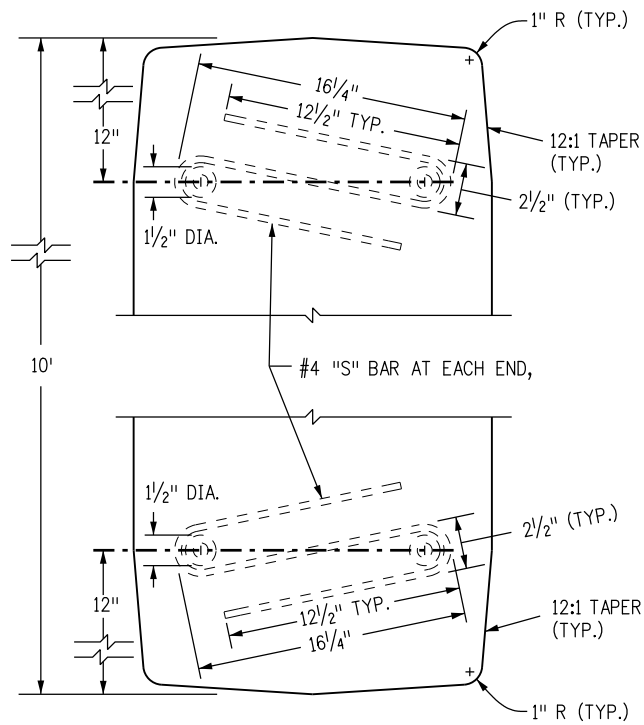
**PRECAST TYPE 7  
CONCRETE BARRIER**

Issued By: Project Development Branch July 4, 2012

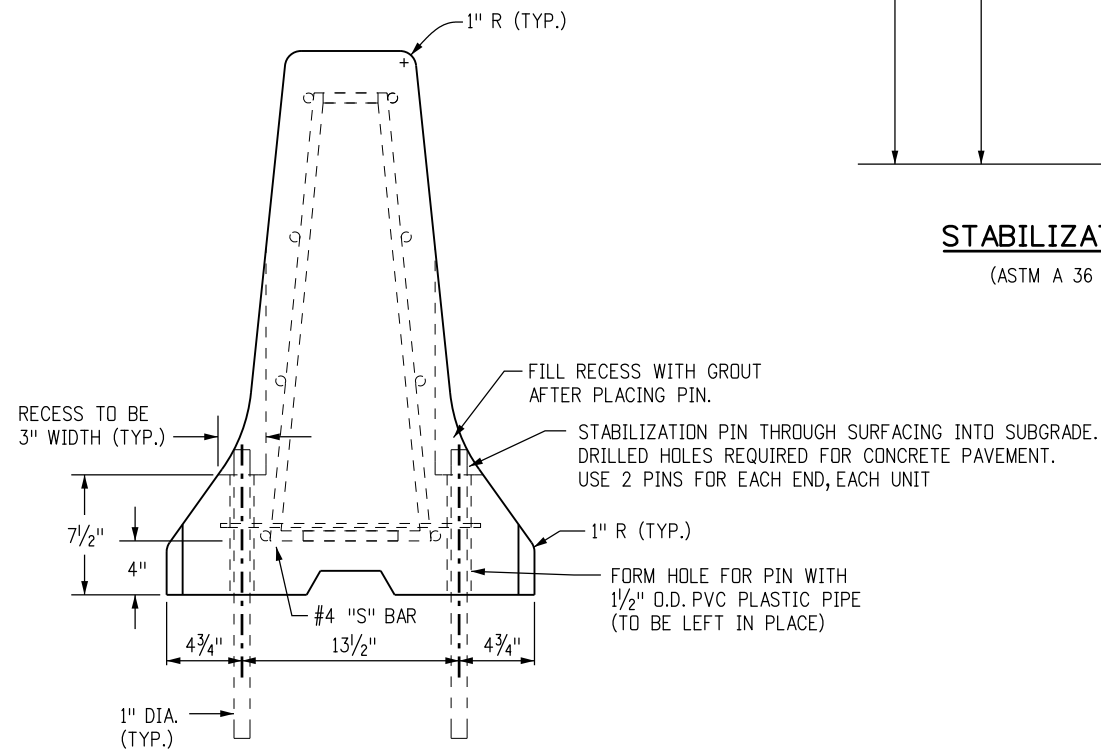
**STANDARD PLAN NO.**

M-606-14

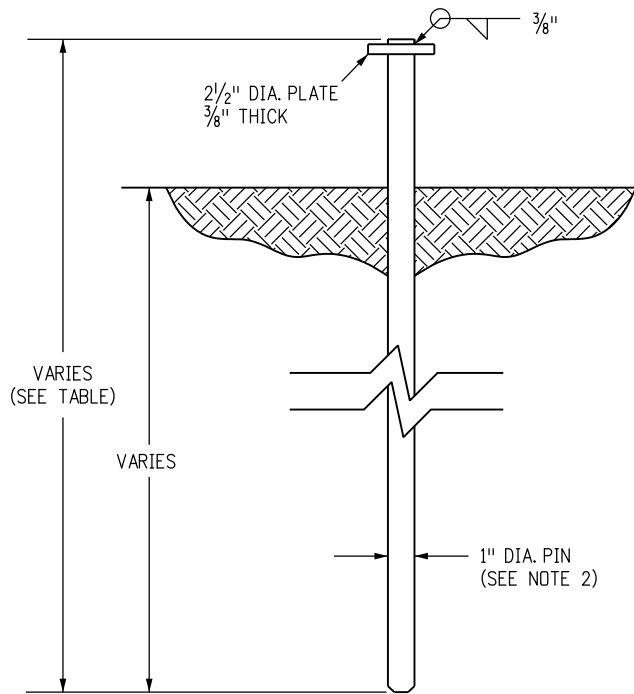
Sheet No. 2 of 3



PLAN VIEW OF S BAR ENDS

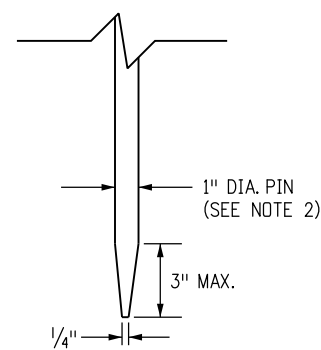


ELEVATION VIEW WITH PINS



STABILIZATION PIN

(ASTM A 36 STEEL)



OPTIONAL TAPERED END PIN

(SEE NOTE 4)

NOTES

1. SEE SHEET 1 FOR REINFORCEMENT AND OTHER DETAILS NOT SHOWN HERE.
2. PINS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION
3. FOR TERMINAL ANCHORING OF THE PERMANENT INSTALLATION OF PRECAST TYPE 7 CONCRETE BARRIER, SEE THE END ANCHORAGE DETAIL ON STANDARD PLAN M-606-13, SHEET 1.
4. AN OPTIONAL 3 IN. MAXIMUM TAPERED END POINT MAY BE PROVIDED ON THE STABILIZATION PIN TO FACILITATE DRIVING.

| ROAD SURFACE | PIN LENGTH  |
|--------------|-------------|
| CONCRETE     | 2 FT.-6 IN. |
| HMA          | 3 FT.       |
| SOIL         | 3 FT.-6 IN. |

TABLE OF STABILIZATION PIN LENGTHS

DETAILS FOR STABILIZATION OF PERMANENT OR TEMPORARY PINNED PRECAST TYPE 7 CONCRETE BARRIER

| Computer File Information                                    |               | Sheet Revisions |           | Colorado Department of Transportation<br>4201 East Arkansas Avenue<br>Denver, Colorado 80222<br>Phone: (303) 757-9083<br>Fax: (303) 757-9820 | PRECAST TYPE 7<br>CONCRETE BARRIER | STANDARD PLAN NO.                                  |
|--|---------------|-----------------|-----------|--|------------------------------------|--|
| Creation Date: 07/04/12                                      | Initials: DD  | Date:           | Comments: |  |                                    | M-606-14   |
| Last Modification Date: 07/04/12                             | Initials: LTA |                 |           |  |                                    | Sheet No. 3 of 3                                   |
| Full Path: www.coloradodot.info/business/designsupport       |               |                 |           | Project Development Branch   | DD/LTA                             | Issued By: Project Development Branch July 4, 2012 |
| Drawing File Name: 6060140303.dgn                            |               |                 |           |  |                                    |  |
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