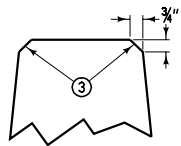
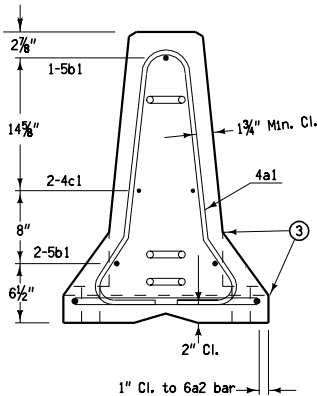


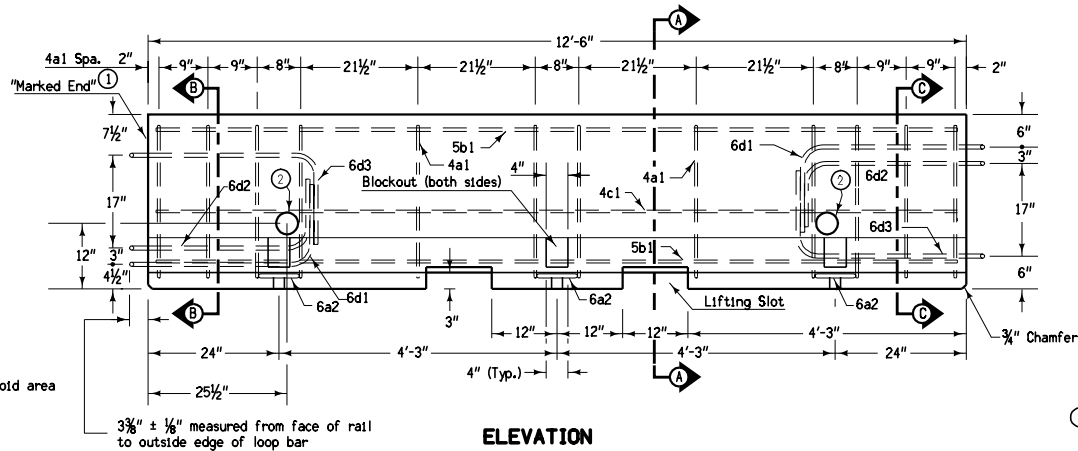
SECTION A-A
Lifting Slot



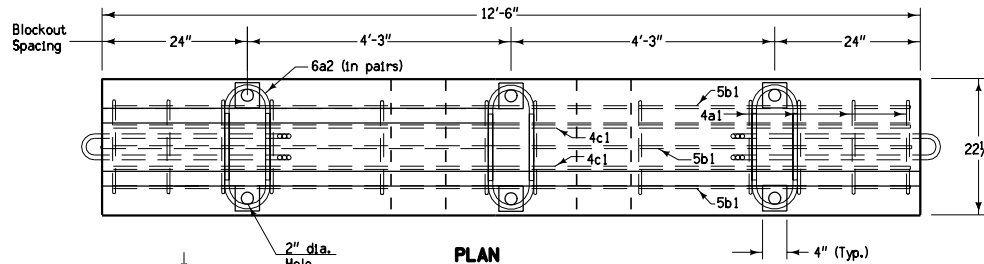
CHAMFER DETAIL



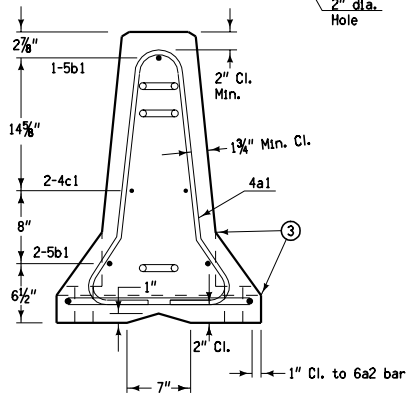
"Marked End" ①
SECTION B-B
Stirrup Placement



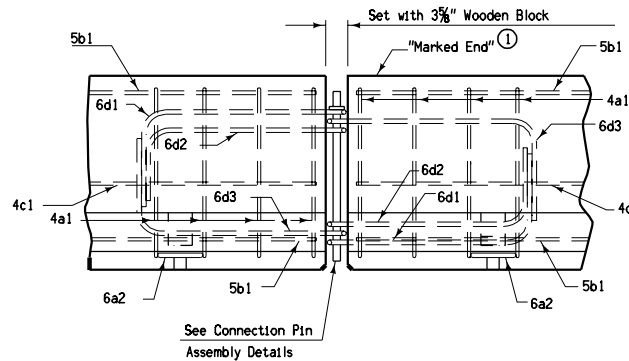
ELEVATION



PLAN



SECTION C-C
Stirrup Placement



BARRIER CONNECTION

All reinforcement shall be Grade 60, ASTM A615, except the loop bars 6d1, 6d2, and 6d3. The loop bars shall be 3/4" smooth steel bars with a minimum yield strength of 60 ksi, a tensile strength of not less than 1.25 times the yield strength but a minimum of 80 ksi, a minimum 14% elongation in 8 inches, and passing a 180 degree bend test using a 3 1/2" pin bend diameter. The loops shall be installed within 1/8" of the plan dimensions.

At no time shall the barriers be lifted or moved by the use of loop bars 6d1, 6d2 or 6d3.

The Contractor shall provide for an approved monitoring schedule with a person on call and available 24 hours a day, each day of the week, to realign barrier which has been struck. Initiation of service shall be within one hour of notification of need.

Unless stated otherwise in the plans, the barrier rail sections shall remain the property of the Contractor and at the completion of the work shall be removed from the site by the Contractor.

① One end of each rail section shall be permanently marked with manufacturing information. The "marked end" shall be that end of the barrier having one loop bar at the top and two loop bars at the bottom. The markings shall include:

- Manufacturer Identification
- Date Manufactured (Month and Year)
- RE-71 Type A

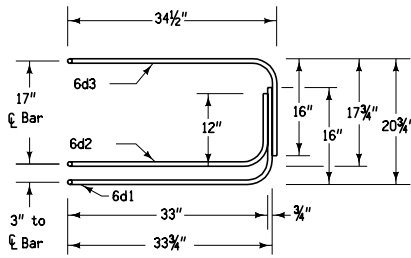
② Lifting hole. 4" diameter PVC Pipe.

③ 1" radius allowed.

Contract Item:
Temporary Barrier Rail, Concrete

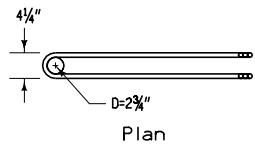
Tabulation: 108-33

 Iowa Department of Transportation	REVISION
	6 | 04-15-08
STANDARD ROAD PLAN	RE-71
REVISIONS: Deleted Type 1 anchorage. Added table A.	SHEET 1 of 4
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TEMPORARY BARRIER RAIL (PRECAST CONCRETE)	



Elevation

(Marked end shown, invert for other end.)

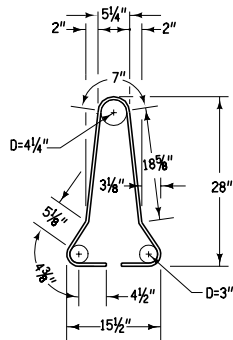


Plan

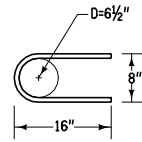
6d1, 6d2, 6d3

BENT BAR DETAILS

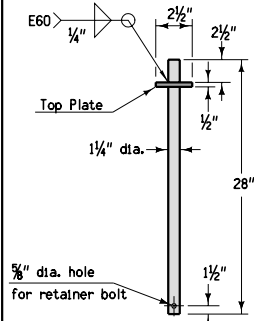
(Dimensions are out to out of bars unless otherwise noted.)



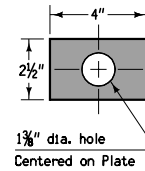
4a1



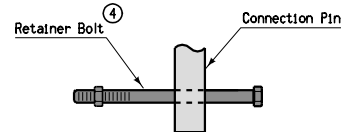
6a2



CONNECTION PIN
(A36 Steel) 10.9 lbs. each



1/2" Top Plate



RETAINER BOLT & NUT ④

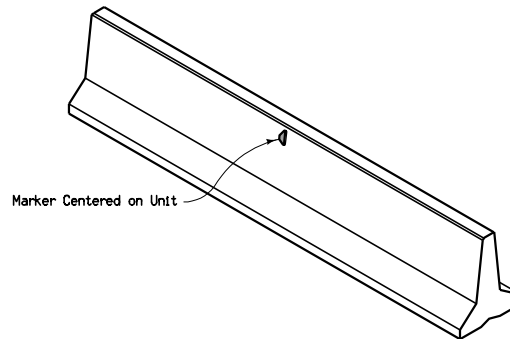
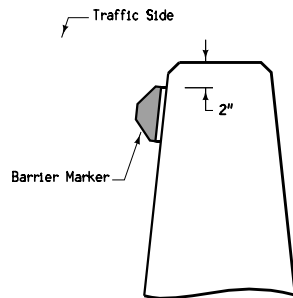
1/2" dia. bolt & nut
(ASTM A490, Grade 8)

CONNECTION PIN ASSEMBLY

Per 12'-6" Barrier Section

REINFORCING A615 Gr. 60					
Bar	Bar Size	Shape	No. of Bars	Length Ft.	Weight Lbs.
4a1	4	∧	12	6'-0"	48.1
6a2	6	⊔	6	35"	26.3
5b1	5	—	3	12'-2"	38.1
4c1	4	—	2	12'-2"	16.3
LOOP ASSEMBLY					
6d1	6	⊔	2	8'-5"	25.3
6d2	6	⊔	2	7'-7"	22.8
6d3	6	⊔	2	8'-6"	25.5

- ④ Retainer bolt & nut are required for connections with 2-loop barriers (previous designs) or in conjunction with Strap Anchorage.
- ⑤ Barrier Markers shall be furnished and installed by the Contractor. Markers shall be placed as shown on this sheet and attached to the barrier in a manner approved by the manufacturer. Marker shall face oncoming traffic and the color shall match the adjacent edge line. The Contractor shall maintain the markers and promptly repair or replace any damaged or missing units. All costs for furnishing, installing and maintaining markers shall be included in the price bid for "Temporary Barrier Rail, Concrete."

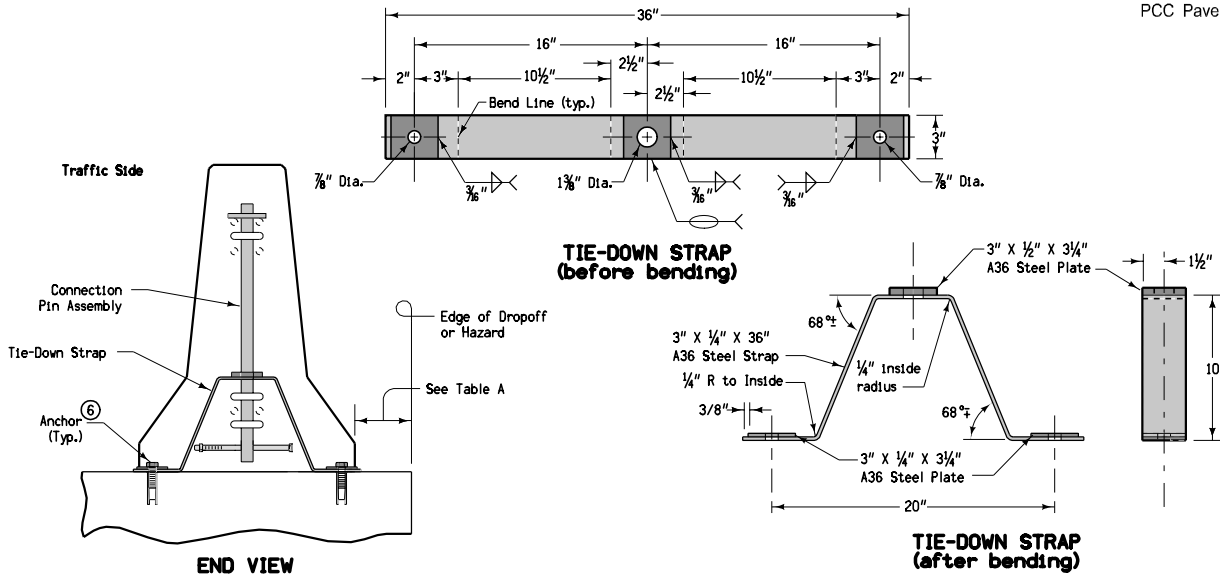


BARRIER MARKER PLACEMENT ⑤

<p>Iowa Department of Transportation</p>	REVISION
	6 | 04-15-08
STANDARD ROAD PLAN	RE-71
REVISIONS: Deleted Type 1 anchorage. Added table A.	SHEET 2 of 4
<p>APPROVED BY DESIGN METHODS ENGINEER</p>	
<p>TEMPORARY BARRIER RAIL (PRECAST CONCRETE)</p>	

STRAP ANCHORAGE

For use on:
Bridge Decks
PCC Pavement



**TABLE A
ANCHORAGE REQUIREMENTS**

Hazard	Dropoff	Min. offset where IBR is Unanchored	Min. offset where IBR is Anchored
Dropoff from pavement	≤ 24"	24"	6"
	> 24"	45"	6"
Dropoff from bridge	≤ 3"	1"	N/A
	> 3"	45"	6"
Fixed vertical object	N/A	24"	6"

STAKE ANCHORAGE

For use on:
HMA Pavement (min. 2" thickness)
Composite Pavement (6)
PCC Pavement (8)

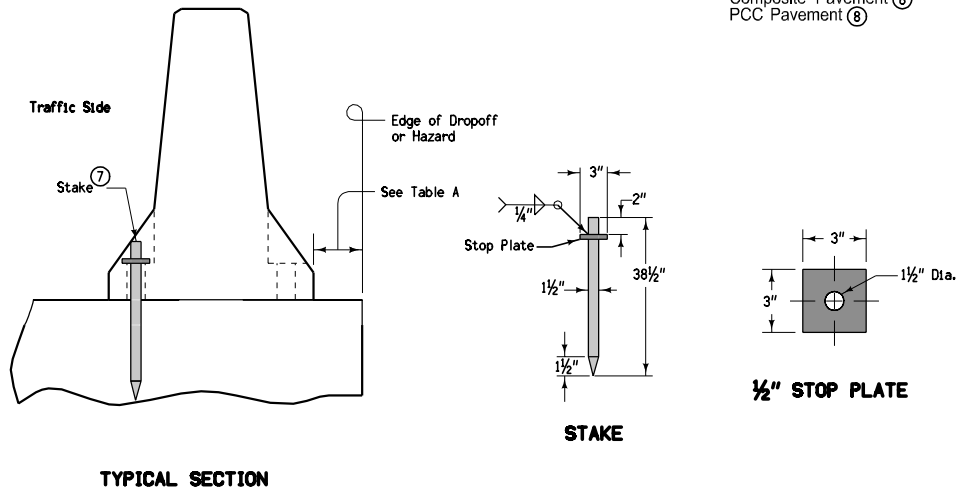
Following removal of anchorage, fill all holes with an approved non-shrink grout.

The cost of anchorage, when required, shall be included in the price bid for "Temporary Barrier Rail, Concrete".

(6) 3/4" Red Head Multi-Set II drop-in anchor with 3/4" dia. x 1-3/4" long ASTM A325 structural bolt OR Red Head Large Diameter Tapcon (3/4" dia. x 4-1/2" min.) OR Simpson Titen HD Wedge Bolt (3/4" dia. x 5" min.).

(7) 3 stakes required per rail section.

(8) Pre-drill holes for stakes with 1-5/8" core bit.

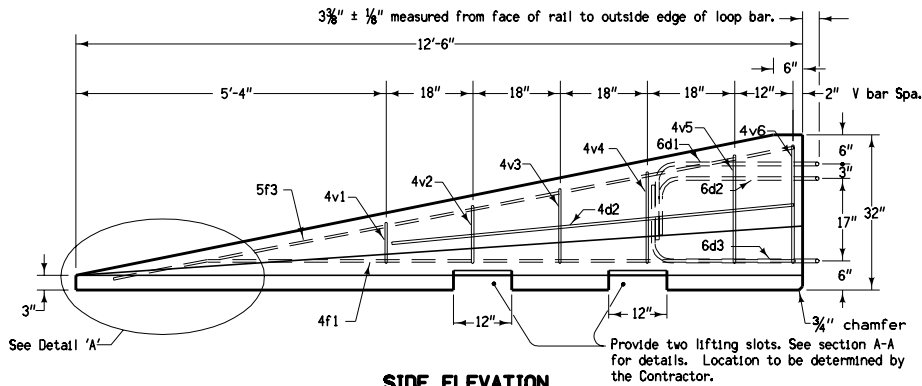


 Iowa Department of Transportation	REVISION
	6 | 04-15-08
STANDARD ROAD PLAN	RE-71
SHEET 3 of 4	

REVISIONS: Deleted Type 1 anchorage. Added table A.
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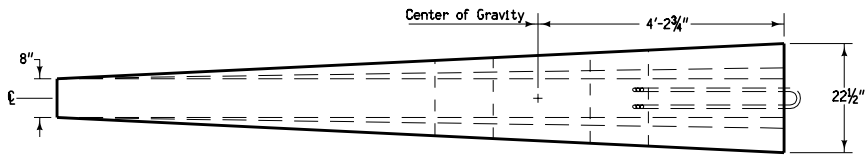
**TEMPORARY BARRIER RAIL
(PRECAST CONCRETE)**

TAPERED END SECTION

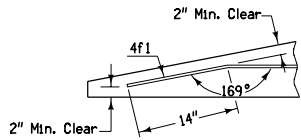


SIDE ELEVATION

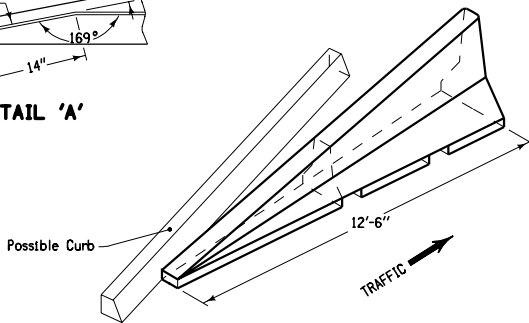
(For connection to "marked end" of barrier.
Invert loop bars for other end.)



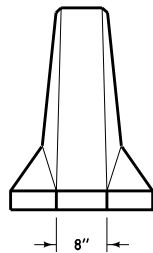
PLAN VIEW



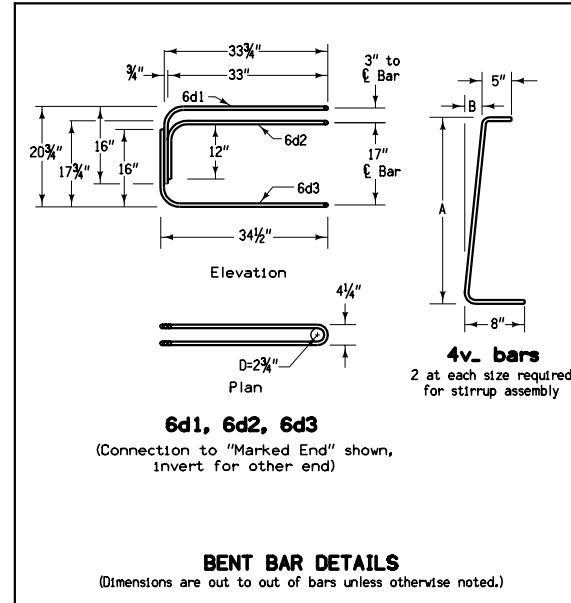
DETAIL 'A'



PERSPECTIVE VIEW



FRONT ELEVATION



BENT BAR DETAILS

(Dimensions are out to out of bars unless otherwise noted.)

Per 12'-6" Barrier Taper Section

REINFORCING A615 Gr. 60					
Bar	Bar Size	Shape	No. of Bars	Length ft.	Weight lbs.
4v1	4	[	2	23"	2.6
4v2	4	[	2	26"	2.9
4v3	4	[	2	30"	3.3
4v4	4	[	2	33"	3.7
4v5	4	[	2	3'-2"	4.2
4v6	4	[	2	3'-4"	4.5
4f1	4	—	2	12'-0"	16.0
4f2	4	—	2	7'-6"	10.0
5f3	5	—	1	11'-9"	12.3

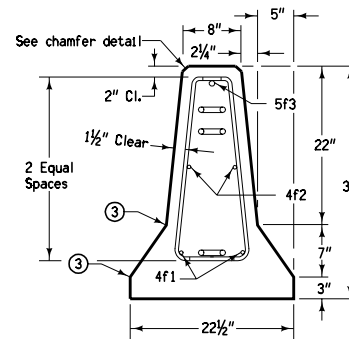
LOOP ASSEMBLY					
Bar	Bar Size	Shape	No. of Bars	Length ft.	Weight lbs.
6d1	6	[	1	8'-5"	12.6
6d2	6	[	1	7'-7"	11.4
6d3	6	[	1	8'-6"	12.8

Bar	A	B
4v1	10"	1"
4v2	13"	1 1/4"
4v3	17"	1 3/8"
4v4	20"	1 1/2"
4v5	24 1/2"	2 3/8"
4v6	27"	2 3/4"

Tapered end section is not designed for use within 30 feet of traffic on facilities with speed limits 55 mph or greater, nor within 10 feet of traffic on facilities with speed limits 40 mph to 50 mph.

Estimated quantity of concrete for one taper section is 0.6 cubic yards.

③ 1" radius allowed.



END SECTION

 Iowa Department of Transportation	REVISION
	6 | 04-15-08
STANDARD ROAD PLAN	RE-71
SHEET 4 of 4	

REVISIONS: Deleted Type 1 anchorage. Added table A.

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**TEMPORARY BARRIER RAIL
(PRECAST CONCRETE)**