

TO:  <b>SUPERSEDED BY EB 02-019</b> <b>EFFECTIVE 9/12/02</b>	<h1 style="margin: 0;">ENGINEERING INSTRUCTION</h1> <p style="margin: 0;">NEW YORK STATE DEPARTMENT OF TRANSPORTATION</p>						
<b>SUBJECT: SHOP CURVED GUIDE RAILING</b> <b>MALL BARRIER AND MEDIAN BARRIER</b>							
Subject Code: 7.27-1-606; 7.27-2-606							
Distribution: <table style="margin-left: 20px; border: none;"> <tr> <td style="padding: 0 10px;">30</td> <td style="padding: 0 10px;">Main Office</td> <td style="padding: 0 10px;">32</td> <td style="padding: 0 10px;">Regions</td> <td style="padding: 0 10px;">34</td> <td style="padding: 0 10px;">Special</td> </tr> </table>	30	Main Office	32	Regions	34	Special	Code: <u>EI 88-29</u> Date: <u>5-26-88</u> Supersedes:
30	Main Office	32	Regions	34	Special		
APPROVED: <i>J M Yourno</i> <hr style="width: 100%;"/> J. M. YOURNO, Acting Deputy Chief Engr., Fac. Design Div.							

Box beam guide rail and median barriers require shop working to attain curvatures equal to or shorter than 720' radius and 1525', respectively. Similarly, corrugated beam type railings also require shop curving whenever their radius becomes equal to or shorter than 150'. While there have been separate pay items to cover the shop curvature of box beam and median barriers, there have not been any items to cover the shop curving of corrugated barriers.

The purposes of this EI are to:

1. Establish the requirement that corrugated barriers be shop curved whenever their radius is 150' or shorter.
2. Distribute some pay items for this.
3. Establish a requirement that shop curved guide rail beams be stamped at the ends with their radius.

The attached three page proposal insert note changes the Standard Specifications and Standard Sheets to accomplish the above. The designer should refer to page 2 of it for the new pay items to use for corrugated barrier systems installed at 150' radius or shorter. The note and this EI became effective with the letting of December 8, 1988.

Prel.	Final	
Design	Landscape	
Mapping	R. H. Burke	
<b>RECEIVED</b> Facilities Engineering Division		
<b>JUL 15 1988</b>		
Circ.	File	

SHOP CURVED  
GUIDE RAILING, MALL BARRIER, OR MEDIAN BARRIER

Make the following changes to the Standard Specifications of January 2, 1985:

Page 6-12

Under subsection 606-3.01, add the following below the last sentence beginning with the words "All posts shall be aligned...".  
"Curved box beam and corrugated beam guide railing and median barrier shall require shop curving in accordance with the following table:

SHOP CURVED GUIDE RAILING, MALL BARRIER, & MEDIAN BARRIER	
Barrier Type	Radius Requiring Shop Curving
Box Beam Guide Railing	Equal to or less than 720 ft.
Box Beam Median Barrier	Equal to or less than 1525 ft.
Corrugated Beam Guide Railing	Equal to or less than 150 ft.
Corrugated Beam Mall Barrier	Equal to or less than 150 ft.
Heavy Post Blocked-Out	
Corrugated Beam Guide Railing	Equal to or less than 150 ft.
Heavy Post Blocked-Out	
Corrugated Beam Median Barrier	Equal to or less than 150 ft.

When shop curving is required the rail element shall be shop worked to the radius that the barrier will be installed on."

Page 6-16

Under §606-4.01 delete the second sentence in the first paragraph beginning with the words "If shop curved guide railing..." and replace with the following:

"The quantity of shop curved guide railing or median barrier shall be the number of linear feet measured along the axis of the curved railing. Shop curved guide railing or median barrier is defined as that which will require shop working in accordance with the requirements of these specifications and not that curvature which may be attained by springing or bending in the field.

Also under §606-4.01 delete the second paragraph which begins "Where curved corrugated..." and ends "...bending in the field."

Page 6-17

Under §606-5.01 Guide Railing and Median Barrier Types, delete the list starting "A. Box Beam Guide Railing..." and ending "...J. Concrete Median Barrier." and replace with the following:

- "A. Box Beam Guide Railing
- B. Box Beam Guide Railing (Shop Curved)
- C. Box Beam Median Barrier
- D. Box Beam Median Barrier (Shop Curved)
- E. Corrugated Beam Guide Railing

- F. Corrugated Beam Guide Railing (Shop Curved)
- G. Heavy Post Blocked-Out Corrugated Beam Guide Railing)
- H. Heavy Post Blocked-Out Corrugated Beam Guide Railing (Shop Curved)
- I. Corrugated Beam Mall Barrier
- J. Corrugated Beam Mall Barrier (Shop Curved)
- K. Heavy Post Blocked-Out Corrugated Beam Median Barrier
- L. Heavy Post Blocked-Out Corrugated Beam Median Barrier (Shop Curved)
- M. Cable Guide Railing
- N. Concrete Median Barrier"

Page 6-18

Under Payment with be made under add the following to the list of pay items:

<u>Item No.</u>	<u>Item</u>	<u>Pay Unit</u>
"606.2001	Corrugated Beam Guide Railing (Shop Curved)	Linear Foot
606.2051	Corrugated Beam Guide Railing (Shop Curved) (Rustic)	Linear Foot
606.2101	Corrugated Beam Mall Barrier (Shop Curved)	Linear Foot
606.2151	Corrugated Beam Mall Barrier (Shop Curved) (Rustic)	Linear Foot
606.3201	Heavy Post Blocked-Out Corrugated Beam Guide Railing (Shop Curved)	Linear Foot
606.3251	Heavy Post Blocked-Out Corrugated Beam Guide Railing (Shop Curved) (Rustic)	Linear Foot
606.3301	Heavy Post Blocked-Out Corrugated Beam Median Barrier (Shop Curved)	Linear Foot
606.3351	Heavy Post Blocked-Out Corrugated Beam Median Barrier (Shop Curved) (Rustic)	Linear Foot"

Page 7-88

Under Section 710-20 "CORRUGATED BEAM GUIDE RAILING AND MALL BARRIER", add the following as the last two sentences of the first paragraph of Beams, Terminal Sections and Hardware under the MATERIAL AND FABRICATION REQUIREMENTS: "When shop curving of corrugated beams is required the radius of curvature shall be stamped into the base metal of the beam. The stamping shall be on the back, at or near both ends of the beam, and in a location where it will be visible to a worker after erection."

Page 7-89

Under the MATERIAL REQUIREMENTS of SECTION 710-21 "BOX BEAM GUIDE RAILING AND MEDIAN BARRIER", add the following as the sixth paragraph: "When shop curving of box beams is required the radius of curvature shall be stamped into the base metal of the beam. The stamping shall be on the vertical faces, at or near both ends of the beam, and in a location where it will be visible to a worker after erection."

SHOP CURVED CORRUGATED BEAM GUIDE  
RAILING, MEDIAN BARRIER, OR MEDIAN BARRIER

STANDARD SHEETS

606-6R2 CORRUGATED BEAM TYPE GUIDE RAILING  
606-7R1 CORRUGATED BEAM TYPE MALL BARRIER  
606-8R1 HEAVY POST BLOCKED-OUT CORRUGATED BEAM GUIDE RAILING  
606-10R1 HEAVY POST BLOCKED-OUT CORRUGATED BEAM MEDIAN BARRIER

Add the following note to each of these sheets:

"Beams to be erected on a radius of 150 feet or less shall be shop worked to the required curvature, and payment for such curved lengths will be made under the appropriate item.

SHOP CURVED BOX BEAM GUIDE RAILING OR MEDIAN BARRIER

Standard Sheet

606-3R3 Box Beam Guide Rail

Revise Note 6 to read "Curved guide rail-Curved box beam guide rail with a radius of 720 ft. or less shall be shop worked to the required curvature. Payment for such curved lengths will be made under the appropriate item."

Standard Sheet

606-4R1 Box Beam Median Barrier

Revise Note 4 to read "Curved median barrier-Curved median barrier erected with a radius of 1525 feet or less shall be shop worked to the required curvature. Payment for such curved lengths will be made under the appropriate item."