



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

August 15, 2012

ADDENDUM #1

To: Plan Holders

From: Wanda H. Austin, PE *Wanda H Austin*
Proposals Engineer

RE:

Contract ID: DN00053
County: Haywood
Letting Date: October 9, 2012

The question of where the weathered surface is required has been asked. The weathered surface is required on the rail units only. The end units will be painted to match the color scheme of the weathered steel rails. The contractor will have three options for the posts; weathered steel, painted galvanized or treated timber. The project special provisions titled "Weathered Steel Beam Guardrail (painted laps)" and "Guardrail Anchor Units, Type 350" have been replaced by the enclosed project special provisions. The bid sheet has also been revised to correctly reflect these modifications. Expedite Bid files are available online.

Please insert this letter into the proposal and sign the verification below. Thank you for your attention to this matter.

I, _____ representing _____
(SIGNATURE)

Acknowledge receipt of Addendum #1.

Enclosure: Project Special Provisions
Bid Sheet

WEATHERING STEEL BEAM GUARDRAIL

12-18-09(8-28-12)

SPI 8-33

Description

Install steel beam guardrail (weathering steel) at locations shown on the plans in accordance with Section 862 of the *Standard Specifications*.

Materials

Guardrail posts shall be galvanized steel painted in accordance with the provisions shown elsewhere in this contract. At the Contractor's option and at no additional expense to the Department, treated timber posts or weathered steel posts will be allowed in lieu of painted steel posts. Weathered steel posts should be galvanized on any surface that will be in contact with the soil or rock and weathered on any surface that will be above ground.

Material used in the steel beam guardrail shall meet the corrosion requirements of Unpainted Structural Steel ASTM A242 and the rail and terminal sections shall meet the requirements of AASHTO M180.

Submit Type 1 Certified Mill Test Report in accordance with Section 106-3 of the *Standard Specifications*. The Engineer reserves the right to sample the materials.

Construction Methods

Install guardrail with a uniform color appearance on the outside surfaces on the roadway face of the guardrail. A brush-off blast cleaning or brushing in the field may be required after erection, if weathering of the sections has not been consistent.

Use reflectorized washers on curve areas where nighttime visibility is required.

Measurement and Payment

Weathering Steel Beam Guardrail will be measured and paid for in linear feet of guardrail that has been satisfactorily completed and accepted exclusive of that length of guardrail that is within the pay limits of guardrail anchors. Measurement will be made from center to center of the outermost post in the length of guardrail being measured.

Weathering Steel Beam Guardrail, Shop Curved will be measured and paid for in linear feet of guardrail that has been satisfactorily completed and accepted exclusive of that length of guardrail that is within the pay limits of guardrail anchors. Measurement will be made from center to center of the outermost post in the length of guardrail being measured.

Such price and payment will be full compensation for all work covered by this provision including but not limited to furnishing and erecting painted posts (or optional treated timber

posts or weathered steel posts), offset blocks, rail, miscellaneous hardware and all other materials and all incidentals necessary to complete the work satisfactorily.

Payment will be made under:

Pay Item	Pay Unit
Weathering Steel Beam Guardrail	Linear Foot
Weathering Steel Beam Guardrail, Shop Curved	Linear Foot

PAINTED GALVANIZED STEEL BEAM GUARDRAIL

(9-19-06) (Rev 4-19-11)

SPI

Description

Install painted galvanized steel beam guardrail, posts and anchor units at locations shown on the plans.

Materials

Material	Section
Galvanizing	1076
Reflective sheeting	1088-3

Guardrail materials shall meet the requirements of Section 1046 of the 2006 *Standard Specifications* except that guardrail materials shall not be water quenched or treated with chromate conversion coatings.

For painted Guardrail Anchor Units, Type 350, the Contractor may at his option, furnish any one of the guardrail anchor units as specified elsewhere in this contract.

No modifications shall be made to the guardrail anchor unit without the express written permission from the manufacturer.

Painting shall be performed in accordance with the requirements of Section 1080 and Section 442 of the 2006 *Standard Specifications* using System 4 as modified herein.

**System 4 (Modified)
Acrylic Primer and Top Coats**

Coat	Material	Mils Dry/Wet Film Thickness	Mils Dry/Wet Film Thickness
		Minimum	Maximum
Primer	1080-12 White	3.0 DFT	5.0 DFT
Stripe	1080-12 Brown	4.0 WFT	7.0 WFT
Topcoat	1080-12 Brown	2.0 DFT	4.0 DFT
Total		5.0 DFT	9.0 DFT

Construction Methods

- (A) *Preparation of galvanized beams, posts and hardware for painting:* Perform surface smoothing by removing or cleaning all zinc high spots, such as metal drip line, by hand or power tools in accordance with SSPC SP 2 or 3. Level zinc material flush with the surrounding plane without removing the base coating.

Abrasive sweep blasting shall be performed in accordance with Section 5.4.1 of ASTM D 6386. This section also provides a description of the abrasive blast material to be used. The material and technique used will provide a stripping action to remove corrosion products and to provide a rough surface profile while leaving base zinc layers intact.

All surfaces of the blasted beams and hardware shall be blown down with clean compressed air to provide a clean, dry surface for additional coating to be applied.

All surfaces shall be free of visible zinc oxides or zinc hydroxides.

- (B) (1) *Certification:* Only SSPC QP-3 certified contractor shall shop paint guardrail material.
- (2) *Shop Paint:* Galvanized guardrail beams, both front and back, posts, anchor units and hardware shall be shop painted within 8 hours after surface preparation except paint bolt heads after installation.

- (C) *Repair of Damaged Coating:*

Repair damage occurring to the galvanized portion of the coating during shipment or installation in accordance with Articles 1076-6 and 1080-9 of the *Standard Specifications*. Repair damage occurring to the painted portion of the coating during shipment or installation by applying 4.0 to 7.0 wet mils of topcoat with a brush or roller and feather or taper this to be level with the surrounding areas.

- (D) *Guardrail Installation:* Install guardrail in accordance with Section 862, details in the plans, and details and assembling instructions furnished by the manufacturer. Guardrail end delineation shall be applied to the entire end section of all approach and trailing end sections.

- (E) Guardrail end delineation is required on all approach and trailing end sections for both temporary and permanent installations. Guardrail end delineation consists of yellow reflective sheeting applied to the entire end section of the guardrail in accordance with Article 1088-3 of the *2006 Standard Specifications* and is incidental to the cost of the guardrail anchor unit.

Measurement and Payment

Painted Steel Beam Guardrail and Painted Steel Beam Guardrail, Shop Curved will be measured and paid for in accordance with the applicable requirements of Article 862-6 of the *Standard Specifications*.

Painted Guardrail Anchor Units, Type _____ will be measured and paid for in accordance with the applicable requirements of Article 862-6 of the *Standard Specifications*.

Painted Steel Beam Guardrail Terminal Sections and Painted Additional Guardrail Posts will be measured and paid for in accordance with the applicable requirements of Article 862-6 of the *Standard Specifications*.

Such price and payment includes, but is not limited to furnishing and erecting posts, offset blocks, rail, terminal sections, miscellaneous hardware, and all other materials, field curving and shop curving of the rail; excavation; furnishing and installing additional guardrail posts and additional offset blocks; backfilling; fabrication; welding; painting, galvanizing; furnishing and installing guardrail delineators and end delineation.

Payment will be made under:

Pay Item	Pay Unit
Painted Galvanized Steel Beam Guardrail	Linear Foot
Painted Galvanized Steel Beam Guardrail, Shop Curved	Linear Foot
Painted Galvanized Guardrail Anchor Units, Type _____	Each
Painted Galvanized Guardrail Terminal Section	Each
Painted Galvanized Additional Guardrail Posts	Each

GUARDRAIL ANCHOR UNITS, TYPE 350:

(4-20-04) (Rev. 8-16-11)

862

SP8 R65

Description

Furnish and install guardrail anchor units in accordance with the details in the plans, the applicable requirements of Section 862 of the *2012 Standard Specifications*, and at locations shown in the plans.

Materials

The Contractor may at his option, furnish any one of the guardrail anchor units or approved equal.

Guardrail anchor unit (ET-Plus) as manufactured by:

Trinity Industries, Inc.
2525 N. Stemmons Freeway
Dallas, Texas 75207
Telephone: 800-644-7976

The guardrail anchor unit (SKT 350) as manufactured by:

Road Systems, Inc.
3616 Old Howard County Airport
Big Spring, Texas 79720
Telephone: 915-263-2435

Prior to installation the Contractor shall submit to the Engineer:

- (A) FHWA acceptance letter for each guardrail anchor unit certifying it meets the requirements of NCHRP Report 350, Test Level 3, in accordance with Article 106-2 of the *2012 Standard Specifications*.
- (B) Certified working drawings and assembling instructions from the manufacturer for each guardrail anchor unit in accordance with Article 105-2 of the *2012 Standard Specifications*.

No modifications shall be made to the guardrail anchor unit without the express written permission from the manufacturer. Perform installation in accordance with the details in the plans, and details and assembling instructions furnished by the manufacturer.

Construction Methods

Guardrail end delineation is required on all approach and trailing end sections for both temporary and permanent installations. Guardrail end delineation consists of yellow reflective sheeting applied to the entire end section of the guardrail in accordance with Article 1088-3 of the *2012 Standard Specifications* and is incidental to the cost of the guardrail anchor unit.

Measurement and Payment

Measurement and payment will be made in accordance with Article 862-6 of the *2012 Standard Specifications*.

Payment will be made under:

Pay Item	Pay Unit
Guardrail Anchor Units, Type 350	Each

County : Haywood

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
ROADWAY ITEMS						
0001	0000100000-N	800	MOBILIZATION	Lump Sum	L.S.	
0002	3421000000-E	862	GENERIC GUARDRAIL ITEM WEATHERING STEEL BM GRAIL SHOP CURVED	100 LF		
0003	3360000000-E	863	REMOVE EXISTING GUARDRAIL	100 LF		
0004	3421000000-E	862	GENERIC GUARDRAIL ITEM GUARDRAIL POST EXTRA LENGTH	2,025 LF		
0005	3421000000-E	862	GENERIC GUARDRAIL ITEM WEATHERING STEEL BM GRAIL	27,650 LF		
0006	3436000000-N	862	GENERIC GUARDRAIL ITEM PAINTED GALVANIZED GUARDRAIL A NCHOR UNIT, TYPE 350	92 EA		
0007	3436000000-N	862	GENERIC GUARDRAIL ITEM WEATHERING STEEL TRANSITION SE CTION	1 EA		
0008	4589000000-N	SP	GENERIC TRAFFIC CONTROL ITEM TRAFFIC CONTROL	Lump Sum	L.S.	

1053/Aug15/Q29970.0/D25084100000/E8

Total Amount Of Bid For Entire Project :