

**TOWN OF RIDGEFIELD  
Office of the Town Engineer**

**RIDGEFIELD, CONNECTICUT**

***Rehabilitation of Portland Avenue Bridge***

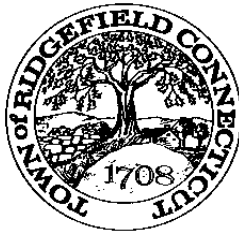
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***Portland Avenue***

September, 2011

**DETAILED SPECIFICATIONS:**

BIDDING REQUIREMENTS  
CONDITIONS OF AGREEMENT  
CONSTRUCTION SPECIFICATIONS  
PLANS



RUDY MARCONI  
FIRST SELECTMAN

CHARLES R. FISHER, P.E., L.S.  
TOWN ENGINEER

# LEGAL NOTICE

## INVITATION to BID

The **Town of Ridgefield** invites all interested parties to submit sealed bids on the following :

**BID DUE DATE:** October 21, 2011  
**BID DUE TIME:** 11:00 AM  
**BID ITEM:** Rehabilitation of Portland Avenue Bridge,  
Portland Avenue  
**BID NUMBER:** 2012-19

Terms and conditions as well as the description of items being bid are stated in the specifications. **Specifications may be obtained at the following address:**

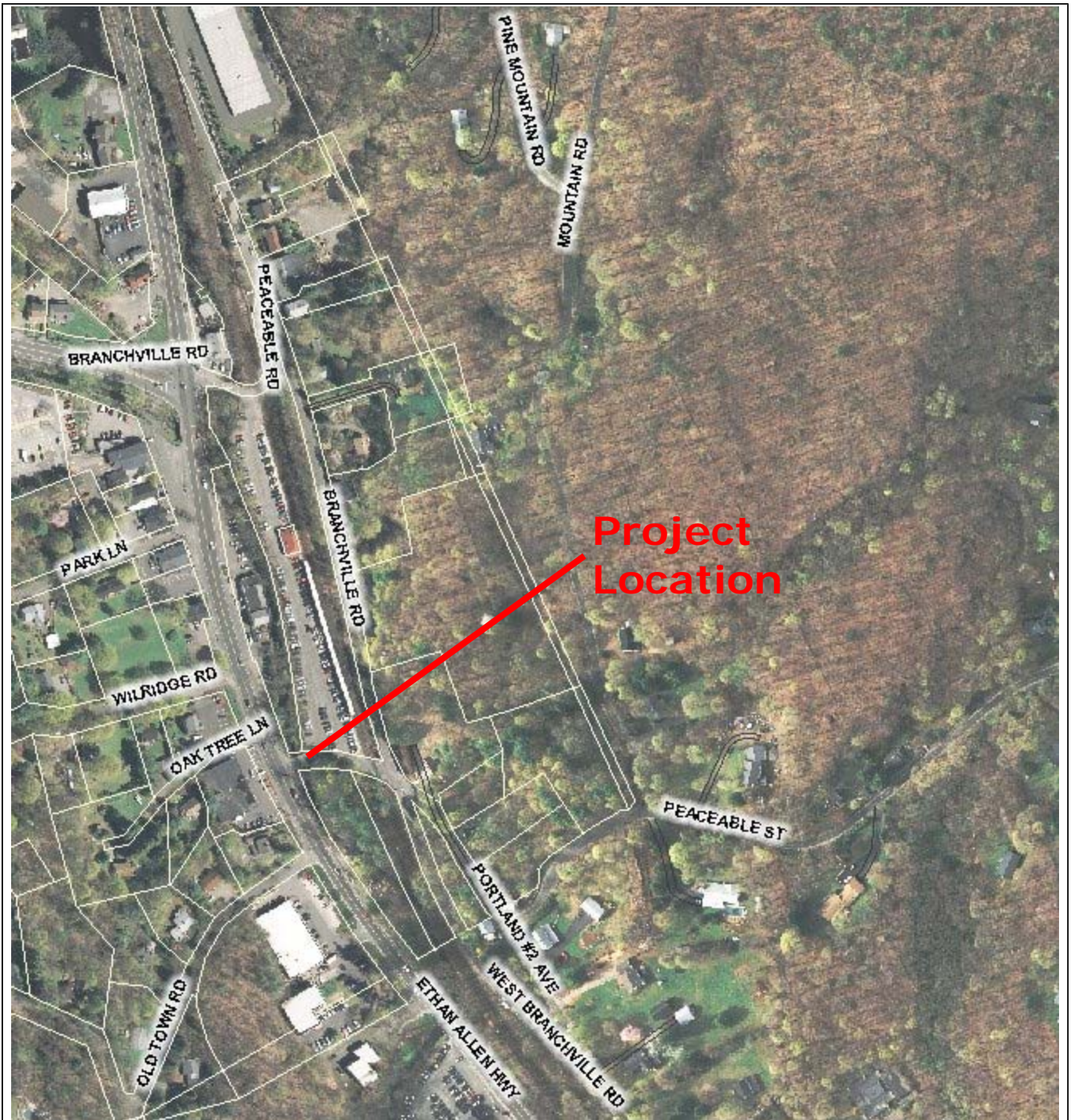
**Town Of Ridgefield  
Jerry Gay  
400 Main Street  
Ridgefield, CT. 06877  
203 - 431 – 2720**

The return bid envelope must be marked and addressed to the following:

**TOWN OF RIDGEFIELD  
DIRECTOR OF PURCHASING  
BID NUMBER: 2012-19  
400 MAIN STREET  
RIDGEFIELD, CT. 06877**

Bids must be received no later than the date and time stated above at the Purchasing Director's office on the second floor. **For further information,** please call **Jerry Gay at (203) 431-2720** or E-Mail at **[purchasing@ridgefieldct.org](mailto:purchasing@ridgefieldct.org)**

**Bid results may be viewed at [www.ridgefieldct.org](http://www.ridgefieldct.org) in the Purchasing Section**



**Interactive Map**



Scale: 1"=315' (1:3782)



Date:  
9/22/11

# TOWN OF RIDGEFIELD CONNECTICUT

## BOARD OF SELECTMEN

### INSTRUCTIONS TO BIDDERS

1. Submit proposals in a sealed envelope plainly marked with bid number to identify this particular proposal.
2. Withdrawals of or amendments to bids received later than the time and date specified for bid opening will not be considered.
3. The Board of Selectmen of the Town of Ridgefield reserves the right to accept or reject any or all options, bids or proposals; to waive any technicality in any bid or part thereof, and to accept any bid deemed to be in the best interest of the Town of Ridgefield, Connecticut.
4. Bidders may be present at the opening of bids.
5. Bids may be held by the Town of Ridgefield for a period not to exceed sixty (60) days from the opening of bids for the purpose of reviewing the bids and investigating the qualifications of bidders prior to the awarding of the contract.
6. Insurance requirements, if any, must be submitted with the bid. This includes any Hold Harmless requirements as well as Certificates of Insurance for the full amounts specified. **Unauthorized changes** to these forms, i.e. adding, striking out and/or changing any words, language or limits **will cause the bidder to be disqualified.**

**Please Note:** Certificates of Insurance, if required, MUST name the Town of Ridgefield as **Additional Insured**. Failure to do so will mean disqualification from the Bid. There will no exceptions.

7. **Permits:** It is the Contractor's responsibility to obtain any necessary permits prior to the start of construction. All work shall be completed in compliance with the latest edition of the prevailing fire prevention and building codes in effect in the State of Connecticut, the latest edition of the State of Connecticut Department of Transportation standard Specifications for Roads, Bridges and Incidental Construction, Town of Ridgefield Road Construction Standards, or as set forth in these specifications.

8. **Emergency Work:** The Contractor shall file with the Engineer a telephone number of a person authorized by him who may be contacted regarding emergency work at the job site that may be required during non-working hours for reasons of public safety. The person shall be readily available and have full authority to deal with any emergency that may occur.
9. **Sales Tax:** In accordance with the provisions of Special Act No. 77-98, as amended, and Section 12-412(a) of the Connecticut General Statutes, sales of tangible personal property and services to the Town are not subject to the Connecticut Sales and Use Tax, and such tax shall not be included as part of the bid.
12. **Contractor's Reference Statement:** The Contractor's Reference Statement must be filled out as part of the bid package and the experience and references listed therein will be one to the determining factors in the awarding of the bid.
13. **Hold Harmless Agreement:** In order for the bid to be considered valid, the Contractor **must** sign the enclosed hold harmless agreement. Bids submitted without the signed hold harmless agreement will be rejected.
14. **Prevailing Wage Rates:** This project is **not** subject to the State of Connecticut's prevailing wage rates.
15. **Time of Completion:** All work must be completed within **90 days** from receipt of the notice to proceed.
16. **Bonds:** A Payment and Performance bond in the full amount of the Proposal will be required of the successful bidder. The bond may be in the form of a certified check, cash, or a surety bond of a type satisfactory to the Town of Ridgefield. All sureties must be listed on the most recent IRS Circular 570. The bond shall be delivered to the Office of the Town Engineer before commencing the work.
17. **Bid Bond:** A Bid Bond in the amount of 5% of the Bidder's submission will be required to be submitted as part of the bid package. The bond may be in the form of a certified check, cash, or a surety bond of a type satisfactory to the Town of Ridgefield. All sureties must be listed on the most recent IRS Circular 570.
18. **Bid Submissions:** The following items shall be submitted for a bid to be considered complete:
  - (a) Executed proposal sheets, P-1 to P-9
  - (b) Executed Hold Harmless Agreement
  - (c) Certificates of Insurance in conformance to Item 6 above
  - (d) Contractor's List of Subcontractor's (if none, state none)

- (e) References
- (f) Bid Bond in the amount of 5% of the bidder's submission

**HOLD HARMLESS AGREEMENT**

The undersigned covenants and agrees to and shall at all times indemnify, protect and save harmless the Town of Ridgefield from and against all costs or expenses resulting from any and all losses, damages, detriments, claims, demands, cost and charges including attorneys fees the Town of Ridgefield may directly or indirectly suffer, sustain or be subjected to by reason or on account of the work to be performed pursuant to this Contract or any activities in connection with said Contract whether such losses and damages be suffered or sustained by the Town of Ridgefield directly or by its employees, licenses or invitees or be suffered or sustained by other persons or corporations who may seek to hold the Town of Ridgefield liable therefore.

The Contractor shall comply with the Provisions of the Immigration Reform and Control Act of 1986 effective and enforceable as of June 6, 1987 which Act makes unlawful the hiring for employment or subcontracting individuals failing to provide documentation of legal eligibility to work in the United States. The Contractor shall hold the Town of Ridgefield harmless for the failure of the Contractor to comply with the provisions of said Act.

IN WITNESS WHEREOF, the parties hereto have set their hand and seal this on the \_\_\_\_\_ day of \_\_\_\_\_

Signed, Seated and Delivered in the  
Presence of:

Signed:

\_\_\_\_\_  
Notary Public

\_\_\_\_\_

## **APPENDIX - INSURANCE REQUIREMENTS**

Each bidder shall carry and maintain the following insurance coverage during the period of the contract : The Certificate of Insurance for the Limits of Liability stated below should be submitted with your bid to the Purchasing Department at Town Hall. **Bidders may not perform any work until all insurance requirements are met.**

1. **Comprehensive General Liability Insurance** as will protect him, the Town, and any subcontractor performing work covered by this Contract, from claims for damages for personal injury, including accidental or wrongful death, as well as claims for property damages, which may arise from operations under this Contract whether such operations be by himself or by any subcontractor or by anyone directly or indirectly employed by either of them. Liability insurance shall include premises and operations, products, contractual, owners, and contractors protective. The minimum amounts of such insurance shall be as follows:
  - Bodily Injury Liability and Property Damage Liability:  
**\$1,000,000 each occurrence.**
  - **The Town shall be named as an Additional Insured**  
This **MUST** be stated explicitly on the Certificate or you will be **disqualified**
2. **Worker's Compensation Insurance and Employer's Liability** for all of his employees, employed at the site and in case any work is sublet, the Contractor shall require the subcontractor similarly to provide Workmen's Compensation Insurance for all employees of the later unless such employees are covered by the protection afforded by the Contractor.
  - Worker's Compensation and Employer Liability:  
Statutory Limits
3. **Comprehensive Auto Liability Insurance:**
  - **Bodily Injury Insurance and Property Damage Insurance** covering the operation of all Motor Vehicles owned, hired and/or non-owned by the Contractor, or used by the Contractor in the Prosecution of the work under the Contract, shall be in the minimum of **\$1,000,000 each occurrence.**



All policies relating to this Contract shall be so written so that the Town shall be notified of cancellation or change at least thirty (30) days prior to the effective date for each policy and type of coverage except for nonpayment which shall be ten (10 ) days prior to the cancellation. Renewal certificate covering the renewal of all policies expiring during the life of the Contract shall be filed with the Town not less than ten (10) days before the expiration of such policies. Failure to do so will result in work stoppage and possible contract cancellation.

References

List below references for similar projects, including all information requested. This page must be completed and submitted with the bid.

1. Client: \_\_\_\_\_  
Project Address: \_\_\_\_\_  
Approximate Value: \_\_\_\_\_ Date: Started \_\_\_\_\_ Completed \_\_\_\_\_  
Contact: Name \_\_\_\_\_ Telephone \_\_\_\_\_

2. Client: \_\_\_\_\_  
Project Address: \_\_\_\_\_  
Approximate Value: \_\_\_\_\_ Date: Started \_\_\_\_\_ Completed \_\_\_\_\_  
Contact: Name \_\_\_\_\_ Telephone \_\_\_\_\_

3. Client: \_\_\_\_\_  
Project Address: \_\_\_\_\_  
Approximate Value: \_\_\_\_\_ Date: Started \_\_\_\_\_ Completed \_\_\_\_\_  
Contact: Name \_\_\_\_\_ Telephone \_\_\_\_\_

4. Client: \_\_\_\_\_  
Project Address: \_\_\_\_\_  
Approximate Value: \_\_\_\_\_ Date: Started \_\_\_\_\_ Completed \_\_\_\_\_  
Contact: Name \_\_\_\_\_ Telephone \_\_\_\_\_

Company: \_\_\_\_\_ Bid Title: \_\_\_\_\_  
Street: \_\_\_\_\_ Bid No.: \_\_\_\_\_  
City, State: \_\_\_\_\_ Telephone No.: \_\_\_\_\_

**CONTRACTOR'S LIST OF SUBCONTRACTORS**

List below the subcontractors intended to be utilized for this project. This page must be completed and submitted with the bid.

1. Firm: \_\_\_\_\_

Firm's Address: \_\_\_\_\_

Contact: Name \_\_\_\_\_ Telephone \_\_\_\_\_

Type of Work to be Performed: \_\_\_\_\_

2. Firm: \_\_\_\_\_

Firm's Address: \_\_\_\_\_

Contact: Name \_\_\_\_\_ Telephone \_\_\_\_\_

Type of Work to be Performed: \_\_\_\_\_

3. Firm: \_\_\_\_\_

Firm's Address: \_\_\_\_\_

Contact: Name \_\_\_\_\_ Telephone \_\_\_\_\_

Type of Work to be Performed: \_\_\_\_\_

4. Firm: \_\_\_\_\_

Firm's Address: \_\_\_\_\_

Contact: Name \_\_\_\_\_ Telephone \_\_\_\_\_

Type of Work to be Performed: \_\_\_\_\_

Company: \_\_\_\_\_

Bid Title: \_\_\_\_\_

Street: \_\_\_\_\_

Bid No.: \_\_\_\_\_

City, State: \_\_\_\_\_

Telephone No.: \_\_\_\_\_

Town of Ridgefield  
Office of the Town Engineer  
Facilities Management and Energy Conservation

Rehabilitation of Portland Avenue Bridge  
Ridgefield, Connecticut

**PROPOSAL**

Proposal of: \_\_\_\_\_  
to furnish and deliver all materials and to do and perform all works in accordance with the Contract Documents for the **Rehabilitation of Portland Avenue Bridge**, the plans and specifications prepared by Charles R. Fisher, P.E.,L.S., Town Engineer and WMC Consulting Engineers, the works being situated within the Town of Ridgefield, Connecticut.

The undersigned bidder has carefully examined the Contract Documents referred to in the "Information for Bidders", and also the site of the work, and will provide all necessary labor, machinery, tools, apparatus, and other means of construction, and do all the work and furnish all material called for by the Contract Documents in the manner prescribed therein and in said Contract, and in accordance with the requirements of the Engineer under them for the following sums:

**Estimated Quantities**

**(Item Numbers Reference State of Connecticut Specifications)**

<b><u>Item</u></b>	<b><u>Estimated Quantity</u></b>	<b><u>Computed Total</u></b>
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**Item 0201001: Clearing and Grubbing**

the lump sum price of:

\_\_\_\_\_dollars

and \_\_\_\_\_cents

(\$ \_\_\_\_\_ ) LS    LS

\$ \_\_\_\_\_

**Item 0202529: Cut Bituminous Concrete Pavement**

the unit price of:

\_\_\_\_\_dollars

and \_\_\_\_\_cents

(\$ \_\_\_\_\_) per LF    170 LF

\$ \_\_\_\_\_

**Item 0219001: Sedimentation Control System**

the unit price of:

\_\_\_\_\_dollars

and \_\_\_\_\_cents

(\$ \_\_\_\_\_) per LF    140 LF

\$ \_\_\_\_\_

**Item 0406017: Bituminous Concrete, Class 2**

the unit price of:

\_\_\_\_\_dollars

and \_\_\_\_\_cents

(\$ \_\_\_\_\_) per Ton    20 Tons

\$ \_\_\_\_\_

<u>Item</u>	<u>Estimated Quantity</u>	<u>Computed Total</u>
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**Item 0406237: Material For Tack Coat**

the unit price of:

\_\_\_\_\_dollars

and \_\_\_\_\_cents

(\$_____ ) per Gal	10 Gals	\$_____
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**Item 0822001A: Temporary Precast Concrete Barrier Curb**

the unit price of:

\_\_\_\_\_dollars

and \_\_\_\_\_cents

(\$_____ ) per LF	80 LF	\$_____
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**Item 0822005A: Temporary Precast Concrete Barrier Curb, Structure**

the unit price of:

\_\_\_\_\_dollars

and \_\_\_\_\_cents

(\$_____ ) per LF	80 LF	\$_____
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**Item 0821202A: Precast Concrete Barrier Curb, Structure**

the unit price of:

\_\_\_\_\_dollars

and \_\_\_\_\_cents

(\$_____ ) per LF	56 LF	\$_____
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**Item**

**Estimated  
Quantity**

**Computed Total**

**Item 0904487A: Metal Bridge Rail, Handrail**

the unit price of:

\_\_\_\_\_dollars

and \_\_\_\_\_cents

(\$ \_\_\_\_\_ ) per LF      56 LF      \$ \_\_\_\_\_

**Item 0910023: R-B End Terminal Section**

the unit price of:

\_\_\_\_\_dollars

and \_\_\_\_\_cents

(\$ \_\_\_\_\_ ) Each      1 EA      \$ \_\_\_\_\_

**Item 0910170A: Metal Beam Rail – (Type R-B 350)**

the unit price of:

\_\_\_\_\_dollars

and \_\_\_\_\_cents

(\$ \_\_\_\_\_ ) per LF      120 LF      \$ \_\_\_\_\_

**Item 0910174: R-B 350 Bridge Attachment – Jersey Shaped Parapet**

the unit price of:

\_\_\_\_\_dollars

and \_\_\_\_\_cents

(\$ \_\_\_\_\_ ) Each      4 EA      \$ \_\_\_\_\_

**Item**

**Estimated  
Quantity**

**Computed Total**

**Item 0910370A: Temporary Metal Beam Rail**

the unit price of:

\_\_\_\_\_dollars

and \_\_\_\_\_cents

(\$ \_\_\_\_\_ ) per LF      30 LF

\$ \_\_\_\_\_

**Item 0911921: R-B End Anchorage Type II**

the unit price of:

\_\_\_\_\_dollars

and \_\_\_\_\_cents

(\$ \_\_\_\_\_ ) Each      2 EA

\$ \_\_\_\_\_

**Item 0912501: Reset Cable Guide Rail**

the unit price of:

\_\_\_\_\_dollars

and \_\_\_\_\_cents

(\$ \_\_\_\_\_ ) per LF      30 LF

\$ \_\_\_\_\_

**Item 0912502: Reset Rail Anchorages**

the unit price of:

\_\_\_\_\_dollars

and \_\_\_\_\_cents

(\$ \_\_\_\_\_ ) Each      1 EA

\$ \_\_\_\_\_



**Item**

**Estimated  
Quantity**

**Computed Total**

**Item 0912503: Remove Metal Beam Rail**

the unit price of:

\_\_\_\_\_dollars

and \_\_\_\_\_cents

(\$ \_\_\_\_\_ ) per LF      30 LF      \$ \_\_\_\_\_

**Item 0944002: Furnishing and Placing Topsoil**

the unit price of:

\_\_\_\_\_dollars

and \_\_\_\_\_cents

(\$ \_\_\_\_\_ ) per SY      150 SY      \$ \_\_\_\_\_

**Item 0950005: Turf Establishment**

the unit price of:

\_\_\_\_\_dollars

and \_\_\_\_\_cents

(\$ \_\_\_\_\_ ) per SY      150 SY      \$ \_\_\_\_\_

**Item 0971001: Maintenance and Protection of Traffic**

the Lump Sum price of:

\_\_\_\_\_dollars

and \_\_\_\_\_cents

(\$ \_\_\_\_\_ ) LS      LS      \$ \_\_\_\_\_

**Item**

**Estimated  
Quantity**

**Computed Total**

**Item 0974001A: Removal of Existing Masonry**

the unit price of:

\_\_\_\_\_dollars

and \_\_\_\_\_cents

(\$ \_\_\_\_\_ ) per CY      2 CY

\$ \_\_\_\_\_

**Item 0975002: Mobilization**

the Lump Sum price of:

\_\_\_\_\_dollars

and \_\_\_\_\_cents

(\$ \_\_\_\_\_ ) LS      LS

\$ \_\_\_\_\_

**Item 0980001: Construction Staking**

The lump sum price of:

\_\_\_\_\_dollars

and \_\_\_\_\_cents

(\$ \_\_\_\_\_ ) LS      LS

\$ \_\_\_\_\_

**Item 1220011: Construction Signs - Type III Reflective Sheeting**

the unit price of:

\_\_\_\_\_dollars

and \_\_\_\_\_cents

(\$ \_\_\_\_\_ ) per SF      30 SF

\$ \_\_\_\_\_

**Computed Grand Total, Item 0201001 through Item 1220011 Inclusive:**

\$ \_\_\_\_\_

For purposed of comparison, the Computed Grand Total Item 0201001 through Item 1220011 will serve as the basis of comparison of all bids. The computed total is not an official part of this proposal.

The Town reserves the right to eliminate any item or portion of the work that it deems to be in the best interest of the Town.

All costs of excavation of unsuitable material as shown on the plans or specified in the field are to be carried under each specific item.

Any inconsistencies between the plans and specifications shall be reported to the Town Engineer. The Town Engineer shall make the final decision on any inconsistencies and their intent.

**The Undersigned Also Agrees As Follows:**

**First:** To do any extra work not covered by the above schedule of prices, which may be ordered by the Engineer and to accept as full compensation therefor such prices as may be agreed upon in writing by the Engineer and the Contractor in accordance with Article 5, "General Conditions".

**Second:** Within **seven (7)** days from the date of the "Notice To Proceed", to execute the Contract and to furnish to the Owner a satisfactory performance and payment bond in the sum of the full amount of the contract.

Dated: \_\_\_\_\_

Signature of Bidder: \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

Business Address: \_\_\_\_\_

# THE AMERICAN INSTITUTE OF ARCHITECTS



AIA Document A310

## Bid Bond

KNOW ALL MEN BY THESE PRESENTS, that we

(Here insert full name and address or legal title of Contractor)

as Principal, hereinafter called the Principal, and

(Here insert full name and address or legal title of Surety)

a corporation duly organized under the laws of the State of  
as Surety, hereinafter called, the Surety, are held and firmly bound unto

(Here insert full name and address or legal title of Owner)

as Obligee, hereinafter called the Obligee, in the sum of

Dollars (\$ \_\_\_\_\_),

for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid for

(Here insert full name, address and description of project)

NOW, THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a Contract with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents, with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Obligee may in good faith contract with another party to perform the Work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect.

Signed and sealed this \_\_\_\_\_

day of \_\_\_\_\_

19\_\_\_\_

_____	}	_____	(Seal)
(Witness)		(Principal)	
_____	}	_____	(Seal)
(Witness)		(Surety)	
		_____	(Seal)
		(Title)	

# THE AMERICAN INSTITUTE OF ARCHITECTS



AIA Document A312

## Performance Bond

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

CONTRACTOR (Name and Address):

SURETY (Name and Principal Place of Business):

OWNER (Name and Address):

### CONSTRUCTION CONTRACT

Date:

Amount:

Description (Name and Location):

### BOND

Date (Not earlier than Construction Contract Date):

Amount:

Modifications to this Bond:

None

See Page 3

CONTRACTOR AS PRINCIPAL

Company:

(Corporate Seal)

SURETY

Company:

(Corporate Seal)

Signature: \_\_\_\_\_

Name and Title:

Signature: \_\_\_\_\_

Name and Title:

(Any additional signatures appear on page 3)

(FOR INFORMATION ONLY—Name, Address and Telephone)

AGENT or BROKER:

OWNER'S REPRESENTATIVE (Architect, Engineer or other party):

1 The Contractor and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except to participate in conferences as provided in Subparagraph 3.1.

3 If there is no Owner Default, the Surety's obligation under this Bond shall arise after:

3.1 The Owner has notified the Contractor and the Surety at its address described in Paragraph 10 below that the Owner is considering declaring a Contractor Default and has requested and attempted to arrange a conference with the Contractor and the Surety to be held not later than fifteen days after receipt of such notice to discuss methods of performing the Construction Contract. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default; and

3.2 The Owner has declared a Contractor Default and formally terminated the Contractor's right to complete the contract. Such Contractor Default shall not be declared earlier than twenty days after the Contractor and the Surety have received notice as provided in Subparagraph 3.1; and

3.3 The Owner has agreed to pay the Balance of the Contract Price to the Surety in accordance with the terms of the Construction Contract or to a contractor selected to perform the Construction Contract in accordance with the terms of the contract with the Owner.

4 When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

4.1 Arrange for the Contractor, with consent of the Owner, to perform and complete the Construction Contract; or

4.2 Undertake to perform and complete the Construction Contract itself, through its agents or through independent contractors; or

4.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and the contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 6 in excess of the Balance of the Contract Price incurred by the Owner resulting from the Contractor's default; or

4.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

.1 After investigation, determine the amount for

which it may be liable to the Owner and, as soon as practicable after the amount is determined, tender payment therefor to the Owner; or

.2 Deny liability in whole or in part and notify the Owner citing reasons therefor.

5 If the Surety does not proceed as provided in Paragraph 4 with reasonable promptness, the Surety shall be deemed to be in default on this Bond fifteen days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Subparagraph 4.4, and the Owner refuses the payment tendered or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

6 After the Owner has terminated the Contractor's right to complete the Construction Contract, and if the Surety elects to act under Subparagraph 4.1, 4.2, or 4.3 above, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. To the limit of the amount of this Bond, but subject to commitment by the Owner of the Balance of the Contract Price to mitigation of costs and damages on the Construction Contract, the Surety is obligated without duplication for:

6.1 The responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

6.2 Additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 4; and

6.3 Liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

7 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators or successors.

8 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

9 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation avail-

able to sureties as a defense in the jurisdiction of the suit shall be applicable.

10 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the signature page.

11 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

12 DEFINITIONS

12.1 Balance of the Contract Price: The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Con-

tractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

12.2 Construction Contract: The agreement between the Owner and the Contractor identified on the signature page, including all Contract Documents and changes thereto.

12.3 Contractor Default: Failure of the Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Construction Contract.

12.4 Owner Default: Failure of the Owner, which has neither been remedied nor waived, to pay the Contractor as required by the Construction Contract or to perform and complete or comply with the other terms thereof.

MODIFICATIONS TO THIS BOND ARE AS FOLLOWS:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL  
Company: \_\_\_\_\_ (Corporate Seal)

SURETY  
Company: \_\_\_\_\_ (Corporate Seal)

Signature: \_\_\_\_\_  
Name and Title:  
Address:

Signature: \_\_\_\_\_  
Name and Title:  
Address:



THE AMERICAN INSTITUTE OF ARCHITECTS



AIA Document A312

# Payment Bond

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

CONTRACTOR (Name and Address):

SURETY (Name and Principal Place of Business):

OWNER (Name and Address):

**CONSTRUCTION CONTRACT**

Date:

Amount:

Description (Name and Location):

**BOND**

Date (Not earlier than Construction Contract Date):

Amount:

Modifications to this Bond:

None

See Page 6

CONTRACTOR AS PRINCIPAL

Company:

(Corporate Seal)

SURETY

Company:

(Corporate Seal)

Signature: \_\_\_\_\_

Name and Title:

Signature: \_\_\_\_\_

Name and Title:

(Any additional signatures appear on page 6)

(FOR INFORMATION ONLY—Name, Address and Telephone)

AGENT or BROKER:

OWNER'S REPRESENTATIVE (Architect, Engineer or other party):

1 The Contractor and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference.

2 With respect to the Owner, this obligation shall be null and void if the Contractor:

2.1 Promptly makes payment, directly or indirectly, for all sums due Claimants, and

2.2 Defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity whose claim, demand, lien or suit is for the payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, provided the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 12) of any claims, demands, liens or suits and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety, and provided there is no Owner Default.

3 With respect to Claimants, this obligation shall be null and void if the Contractor promptly makes payment, directly or indirectly, for all sums due.

4 The Surety shall have no obligation to Claimants under this Bond until:

4.1 Claimants who are employed by or have a direct contract with the Contractor have given notice to the Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to the Owner, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.

4.2 Claimants who do not have a direct contract with the Contractor:

- .1 Have furnished written notice to the Contractor and sent a copy, or notice thereof, to the Owner, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials were furnished or supplied or for whom the labor was done or performed; and
- .2 Have either received a rejection in whole or in part from the Contractor, or not received within 30 days of furnishing the above notice any communication from the Contractor by which the Contractor has indicated the claim will be paid directly or indirectly; and
- .3 Not having been paid within the above 30 days, have sent a written notice to the Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to the Owner, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to the Contractor.

5 If a notice required by Paragraph 4 is given by the Owner to the Contractor or to the Surety, that is sufficient compliance.

6 When the Claimant has satisfied the conditions of Paragraph 4, the Surety shall promptly and at the Surety's expense take the following actions:

6.1 Send an answer to the Claimant, with a copy to the Owner, within 45 days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.

6.2 Pay or arrange for payment of any undisputed amounts.

7 The Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

8 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any Construction Performance Bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and the Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

9 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.

10 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

11 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the work or part of the work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by Subparagraph 4.1 or Clause 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the signature page. Actual receipt of notice by Surety, the Owner or the Contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this

Bond shall be construed as a statutory bond and not as a common law bond.

14 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor shall promptly furnish a copy of this Bond or shall permit a copy to be made.

15 DEFINITIONS

15.1 Claimant: An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the

Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

15.2 Construction Contract: The agreement between the Owner and the Contractor identified on the signature page, including all Contract Documents and changes thereto.

15.3 Owner Default: Failure of the Owner, which has neither been remedied nor waived, to pay the Contractor as required by the Construction Contract or to perform and complete or comply with the other terms thereof.

MODIFICATIONS TO THIS BOND ARE AS FOLLOWS:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL  
Company: \_\_\_\_\_ (Corporate Seal)

SURETY  
Company: \_\_\_\_\_ (Corporate Seal)

Signature: \_\_\_\_\_  
Name and Title:  
Address:

Signature: \_\_\_\_\_  
Name and Title:  
Address:

Town of Ridgefield  
Office of the Town Engineer

Rehabilitation of Portland Avenue Bridge

**GENERAL CONDITIONS**

**1. CONTRACTOR'S UNDERSTANDING:**

It is understood and agreed that the Contractor has, by careful examination, satisfied himself as to the nature and location of the work, the conformation of the ground, the character quality and quantity of materials to be encountered, the character of equipment and facilities needed preliminary to and during the prosecution of the work, the general and local conditions, and all other matters which can in any way affect the work under this Contract. No verbal agreement or conversation with any officer, agent or employee of the Owner, either before or after the execution of this contract, shall affect or modify any of the terms or obligations herein contained.

**2. DEFINITIONS:**

OWNER: The word "Owner" when it appears in the Contract Documents shall mean The Town of Ridgefield, Connecticut.

ENGINEER: The word "Engineer" when it appears in the contract Documents shall mean: Charles R. Fisher, P.E.,L.S. Town Engineer, or his specifically designated Agent.

CONTRACTOR: The word "Contractor" when it appears in the Contract Documents shall mean the party to whom the Contract has been awarded.

**3. MATERIALS, APPLIANCES AND EMPLOYEES:**

Unless otherwise stipulated, the Contractor shall provide and pay for all materials, labor, water, tools, equipment, light, power, transportation and other facilities necessary for the execution and completion of the work. Unless otherwise specified, all materials shall be new and both workmanship and materials shall be of good quality. The Contractor shall, if required, furnish satisfactory evidence as to the kind and quality of materials.

The Contractor shall at all times endorse strict discipline and good order among his employees, and shall not employ on the work any unfit person or any one not skilled in the work assigned to him.

#### **4. PROTECTION OF WORK AND PROPERTY:**

The Contractor shall continuously maintain adequate protection of all his work from damage and shall protect the Owner's property from injury or loss arising in connection with this Contract. He shall make good any such damage, injury or loss, except such as may be directly due to errors in the Contract Documents or caused by agents or employees of the Owner. He shall adequately protect adjacent property as provided by law and the Contract Documents. He shall provide and maintain all passageways, guard fences, lights and other facilities for protection required by public authority or local conditions.

In an emergency affecting the safety of life or of the work or of adjoining property, the Contractor, without special instruction or authorization from the Engineer, is hereby permitted to act at his discretion, to prevent such threatened loss or injury, and he shall so act, without appeal, if so instructed or authorized. Any compensation claimed by the Contractor on account of emergency work, shall be determined by agreement or arbitration.

#### **5. CHANGES IN THE WORK:**

The Owner, without invalidating the Contract, may order extra work or make changes by altering, adding to or deducting from the work, the Contract Sum being adjusted accordingly. All such work shall be executed under the conditions of the original Contract except that any claim for extension of time caused thereby shall be adjusted at the time of ordering such change.

In giving instructions, the Engineer shall have authority to make minor changes in the work, not involving extra cost, and not inconsistent with the purposes of the work, but otherwise, except in an emergency, endangering life or property, no extra work or change shall be made unless in pursuance of a written order by the Engineer, and no claim for an addition to the Contract Sum shall be valid unless so ordered.

The value of any such extra work or change shall be determined in one or more of the following ways:

- (a) By estimate and acceptance in a lump sum.
- (b) By unit prices named in the Contract subsequently agreed upon.
- (c) By cost and percentage or by cost and a fixed fee.

If none of the above methods is agreed upon, the Contractor, provided he receives an order as above, shall proceed with the work. In such case, and also under case (c), he shall keep and present in such form as the Engineer may direct, a correct account of the net cost of labor and materials, together with vouchers. In any case, the Engineer shall certify to the amount, including reasonable allowance for overhead and profit, due to the Contractor. Pending final determination of value, payments on account of changes shall be made on the Engineer's estimate.

**6. CLAIMS FOR EXTRA COST:**

If the Contractor claims that any instructions by drawings or otherwise involve extra cost under this Contract, he shall give the Engineer written notice thereof within a reasonable time after the receipt of such instructions and in any event before proceeding to execute the work, except in emergency endangering life or property, and the procedure shall then be as provided for changes in the work. No such claim shall be valid unless so made.

**7. SUSPENSION OF WORK:**

The Owner may at any time suspend the work, or any part thereof by giving 24 hours notice to the Contractor in writing. The work shall be resumed by the Contractor within ten (10) days after the date fixed in the written notice from the owner to the Contractor to do so. The Owner shall reimburse the Contractor for expense incurred by the Contractor in connection with the work under this contract as a result of such suspension.

**8. THE OWNER'S RIGHT TO DO WORK:**

If the Contractor should neglect to prosecute the work properly or fail to perform any provision of this Contract, the Owner, after three days written notice to the Contractor may, without prejudice to any other remedy he may have, make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due the Contractor.

**9. PAYMENTS WITHHELD:**

The Owner may withhold or, on account of subsequently discovered evidence, nullify the whole or part of any certificate to such extent as may be necessary to protect him from loss on account of the following:

- (a) Defective work not remedied.
- (b) Claims filed or reasonable evidence indicating probable filing of claims.
- (c) Failure of the Contractor to make payments properly to subcontractors or for material or labor.
- (d) A reasonable doubt that the Contract can be completed for the balance then unpaid.
- (e) Damage to another Contractor.

When the above grounds are removed, payment shall be made for amount withheld because of them.

**10. CONTRACTOR'S LIABILITY INSURANCE:**

The Contractor shall maintain such insurance as will protect him from claims under workmen's compensation acts and from any other claims for damages for personal injury, including death, which may arise from operations under this Contract, whether such operations be by himself or by any subcontractor or anyone directly or indirectly employed by either of them. Certificates of such insurance shall be filed with the engineer, if he so requires and shall be subject to his approval for adequacy of protection.

**11. INDEMNITY:**

The Contractor shall indemnify and save harmless the Owner from and against all losses and all claims, demands, payments, suits, actions, recoveries and judgments of every nature and description brought or recovered against him, by reason of any act or omission of the said Contractor, his agents or employees, in the execution of the work or in the guarding of it.

The Contractor shall, and is hereby authorized to maintain and pay for such insurance, issued in the name of the Owner, as will protect the Owner from his contingent liability under this Contract, and the Owner's right to force against the Contractor any provision of this article shall be contingent upon the full compliance by the Owner with the terms of such insurance policy or policies, a copy of which shall be deposited with the Owner.

**12. DAMAGES:**

Any claim for damage arising under this Contract shall be made in writing to the party liable within a reasonable time of the first observance of such damage and not later than the time of final payment, except as expressly stipulated otherwise in the case of faulty work or materials, and shall be adjusted by agreement or arbitration.

**13. ASSIGNMENT:**

Neither party to the Contract shall assign the Contract or sublet it as a whole without the written consent of the other, nor shall the Contractor assign any moneys due to or to become due to him hereunder, without the previous written consent of the Engineer.

**14. ENGINEER'S STATUS:**

The Engineer shall have general supervision and direction of the work. He has authority to stop the work whenever such stoppage may be necessary to insure the proper execution of the Contract. He shall also have authority to reject all work and materials which do not conform to the Contract, to direct the application of forces to any portion of the work, as in his

judgment is required, and to order the force increased or diminished, and to decide questions which arise in the execution of the work.

**15. METHOD OF PAYMENT:**

At the end of each calendar month, the Contractor shall submit to the Engineer a requisition for payment which requisition shall be based upon the actual amount of the work performed during the previous month. The requisition may include materials stored on the site but not installed. The Engineer shall, within ten (10) days, check the requisition against his review of the work which has been done and submit it to the Owner, a written statement as to the validity of the requisition. The Owner shall then pay to the Contractor **ninety-five (95%)** of the amount stated in the Engineer's report. **No payment shall be made until the Contractor has satisfied all prevailing wage reporting requirements if prevailing wages are a part of this contract.**

**16. FINAL PAYMENT:**

When the Contract has been completed, the Contractor shall notify the Engineer in writing. Upon receipt of this notification, the Engineer shall proceed to make final measurements of the work done under the provisions of this Contract. The Engineer shall then submit to the Owner a written statement setting forth these final measurements and the amount due the Contractor consistent with the unit prices and lump sum bid in the Proposal. The Owner shall within sixty (60) days pay to the Contractor this sum except that he may deduct any moneys which are to be retained under the terms of the Contract for repairs or otherwise.

**17. ORDER OF THE WORK:**

The order of the work shall be subject to the approval of the Engineer in all cases. The Contractor may be required to submit a work schedule in writing to the Engineer for his approval.

**18. (OMITTED)**

**19. PROTECTION TO PUBLIC:**

The Contractor shall conduct the work in such a manner as to offer minimum disturbance to the traveling public. He shall not close off traffic without specific permission of the Engineer and shall provide flagmen if such becomes necessary, in the opinion of the Engineer. Proper barricades, lights, and other protective devices shall be supplied at the Contractor's expense and properly maintained during the entire course of the work.

**20. GUARANTEE:**

The Contractor guarantees that the work to be done under this Contract and the materials furnished by him and used in the construction of the



project are free from defects or flaws. The guarantee is for a term of one (1) year from and after the date upon which the final estimate of the Engineer is formally approved by the party of the first part. It is hereby agreed and understood that this guarantee shall not include any repairs made necessary by any cause or causes other than defective materials furnished by or defective work done by the Contractor.

**21. RATE OF PROGRESS AND TIME OF COMPLETION:**

The Contractor shall commence work within seven (7) days after receipt of the Notice to Proceed and, unless an extension of time shall be made in the manner herein provided, shall progress therewith to final completion within *ninety (90) consecutive calendar days* after receipt of the Notice to Proceed.

**22. EXTENSION OF TIME:**

The Contractor expressly covenants and agrees that, in undertaking to complete the work within the time specified, he has taken into consideration and made allowance for all of the ordinary delays and hindrances incident to such work, whether growing out of delays in securing materials, workmen, or otherwise. Should the Contractor, however, be substantially delayed in the prosecution and completion of the work by any changes, additions, or omissions therein ordered in writing by the engineer, or by fire, lightning, earthquake, tornado, cyclone, riot, insurrection of war, or by the abandonment of the work by the workmen engaged therein, through no fault of the Contractor, or by the discharge of all or any material number of workmen in consequence of difficulties arising between the Contractor and such workmen, or by the neglect, delay, or default of any other contractor of the town, then the Contractor may, within five (5) days after the occurrence of the delay for which he claims allowance, notify the Engineer in writing, and thereupon, and otherwise, the Contractor shall be allowed such additional time for the completion of the work, as the Engineer in his discretion shall award in writing, and his decision shall be final and conclusive upon the parties. Such additional time shall be the sole and exclusive remedy for any delay claimed by the Contractor.

**23. SALES TAX:**

In accordance with the provisions of Special Act No. 77-98, as amended, and Section 12-412(a) of the Connecticut General Statutes, sales of tangible personal property and services to the Town are not subject to the Connecticut Sales and Use Tax, and such tax shall not be included as part of the bid.

**24. Termination of the Contract:**

If the Owner fails to make payment thereon for a period of 30 days, the Contractor may, upon seven additional days written notice to the Owner, terminate the Contract and recover from the Owner payment for work executed and for proven loss with respect to materials, equipment tools, and construction

equipment and machinery, including reasonable overhead, profit and damages applicable to the project.

If the contractor defaults or persistently fails or neglects to carry out the work in accordance with the Contract Documents or fails to perform a provision of the Contract, the Owner, after seven days written notice to the Contractor and without prejudice to any other remedy the Owner may have, may make good such deficiencies and may deduct the cost thereof, including compensation for the Engineer's services and expenses made necessary thereby, from the payment then or thereafter due the Contractor. Alternatively, at the Owner's option, and upon certification by the Engineer that sufficient cause exists to justify such action, the Owner may terminate the Contract and take possession of the site and of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor and may finish the Work by whatever method the Owner may deem expedient. If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Engineer's services and expenses made necessary thereby, such excess shall be paid to the Contractor, but if such costs exceed such unpaid balance, the Contractor shall pay the difference to the Owner.

Rehabilitation of Portland Avenue Bridge

**SPECIAL CONDITIONS**

**1. Contract Documents and Working Drawings:**

The work is shown on the attached appendices, if any, or the accompanying Contract Drawings. Such additional working drawings as are required because of changes or to provide greater detail will be provided by the Engineer.

**2. Planimeter:**

The use of the planimeter shall be considered satisfactory for estimating quantities where geometric and analytic methods would be comparatively laborious.

**3. Soil and Groundwater Conditions:**

The Town assumes no responsibility whatsoever with respect to ascertaining for the Contractor such facts concerning physical characteristics at the site of the project. The Contractor agrees that he will make no claim for and has no right to additional payment or extension of time for completion of the work, or any other concession because of any interpretations or misunderstanding on his part of this Contract, or because of any failure on his part to fully acquaint himself with all conditions relating to the work.

**4. Existing Structures:**

All known surface structures immediately adjacent to the work, are shown on the Plans. This information is shown for the convenience of the contractor in accordance with the best information available, but is not guaranteed to be correct or complete. Underground structures in the path of the project are **not** shown. The Contractor shall explore the route ahead of trenching and shall uncover all known obstructing pipes sufficiently to determine their location. Necessary changes in location may be made by the Engineer to avoid unanticipated obstruction.

The Contractor shall, at his own expense, sustain in their places and protect from direct or indirect injury all utilities, pipes, poles, conduits, walls, buildings, and other structures, utilities, and property in the vicinity of his work. Such sustaining and protecting shall be done carefully by the Contractor and as required by the party owning or controlling the structure. Before proceeding with such work, the Contractor shall satisfy the Engineer that the methods and procedures to be used have been approved by the party owning said structure. The Contractor shall take all risks attending the presence or proximity of pipes, poles, conduits, walls, buildings, wires, or other structures, utilities, and property in the vicinity of his work, and he shall be responsible for all damage and assume all expense for direct or indirect

injury caused by his work to any of them or to any person or property by reason of injury to them.

**The Contractor must notify “Call Before You Dig” at 1-800-922-4455 prior to start of construction.**

**5. Dust Control:**

The Contractor shall take all necessary precautions to prevent and abate nuisance caused by dust arising from his operation, by the application of water spray.

**6. Sedimentation and Erosion Control:**

The Contractor shall control sedimentation and erosion in accordance with the publication entitled, “2002 Connecticut Guidelines for Soil Erosion and Sediment Control, DEP Bulletin 34” dated may, 2002, or the latest revision.

**7. Payment for Miscellaneous Work:**

No direct or separate payment will be made for furnishing and providing miscellaneous temporary works, plant and services, including Contractor's office, sanitary requirements, water supply, power, tools, equipment, lighting, telephone systems, store houses, store yards, safety devices, and watchmen, or other items specified under these special conditions. Compensation for all such services and materials shall be considered as having been included in the prices stipulated for the Items of the Contract.

**8. Clean-up of Site:**

During the progress of the work, the Contractor shall keep the site in a generally neat condition. Lunch papers, bottles, lumber cut-offs, drinking cups, and like rubbish shall be removed from the site daily. The work shall be cleaned up as the various portions of the project are completed.

Upon completion of the work and before acceptance and final payment will be made, the Contractor shall, except as otherwise expressly directed or permitted in writing, clean and remove from the site all surplus and discarded materials, rubbish, and temporary structures. He shall restore in an acceptable manner all property, both public and private, which has been damaged during the prosecution of the work, and leave the whole in a neat and presentable condition. He shall also remove all plant, surplus, and waste materials from the site.

**9. Emergency Work:**

The Contractor shall file with the Engineer a telephone number of a person authorized by him who may be contacted regarding emergency work at the job site that may be required during non-working hours for reasons of public

safety. The person shall be readily available and have full authority to deal with any emergency that may occur.

**10. Work in Bad Weather:**

During freezing, stormy, or inclement weather, no work shall be done except that which can be done satisfactorily and in a manner as to secure first-class construction throughout.

**11. Night, Saturday, and Sunday Work:**

Unless otherwise permitted or stipulated under a State or Town encroachment permit, no work shall be done between the hours of 6:00 p.m. and 7:00 am , nor on Saturday or Sunday, except as necessary for the proper care and protection of the work already performed. If it shall become absolutely necessary to perform work at night or on Saturday or Sunday, the Engineer shall be informed at least twenty-four (24) hours in advance of the beginning of performance or such work. Only such work shall be done at night as can be done satisfactorily and in a first-class manner. Good light and other necessary facilities for performing and inspecting the work shall be provided and maintained at all points where such work is being done.

**12. Explosives and Blasting:**

Explosives for blasting shall be stored, handled, and used in accordance with the laws, ordinances, and regulations of the State of Connecticut, all local regulations, and with such additional regulations as the Engineer may require. Blasting shall be conducted so as not to endanger persons or property and, unless otherwise permitted, shall be covered or otherwise satisfactorily confined. The Contractor shall be responsible and shall make good any damage of whatever nature caused by blasting or accidental explosions. It shall be the Contractor's responsibility to obtain all required permits for blasting.

**13. Traffic Control:**

The Contractor shall maintain traffic during the progress of the work. Barricades, flagmen, or any other type of traffic control necessary to ensure the safety of the public shall be utilized by the Contractor. All methods of traffic control are subject to the approval of the Chief of Police who may direct other methods to be employed. Unless a payment item specifically appears within these specifications for traffic control, no direct payment for traffic control will be made other than payment for traffic controls specified or paid for under the various Items and subdivisions in these specifications.

Uniformed police officers will be paid for **at cost only** when specifically directed by the Chief of Police and approved by the Engineer or as required as a condition of approval by the State or Town encroachment permit. It is the Contractor's responsibility to schedule all uniformed police officers as may be required. Payment for all traffic control other than uniformed police officers shall be covered under the various items of these specifications.

**14. Material Disposal:**

The Contractor shall be responsible for the disposal of all construction debris generated by the project. The Town cannot accept the disposal of any material at this time.

**15. Wage Rates:**

**This project is NOT subject to prevailing wage rates.**

**16. Permits:**

It is the Contractor's responsibility to obtain all necessary building or construction permits, including those that may be required from either the Town of Ridgefield or the State of Connecticut, prior to the start of construction. All work shall be completed in compliance with the latest edition of the prevailing fire prevention and building codes in effect in the State of Connecticut or the State of Connecticut department of Transportation Standard Specifications, latest edition, as applicable.

**17. Concrete Testing:**

Concrete testing **is** required where indicated under the various Items and subdivisions of these specifications..

**18. Materials:**

Materials normally delivered labeled shall be received with manufacturer's original label and instruction, or else shall be subject to rejection. Materials shall be stored under adequately clean and dry condition, and all work shall be performed according to the best practice of the trades. Manufacturer's specifications and instructions for products specified herein or approved equals, become part of these specifications and all such instructions are to be followed accordingly.

**19. Lines and Grades:**

It is the intent of these plans and specifications to illustrate the approximate location of the proposed work. It is the Contractor's responsibility to locate in the field the work's location according to the constraints as shown on the plans or listed under these specifications.

**20. Accommodation of Traffic**

During the progress of the work, all roads shall be kept open for the passage of traffic and pedestrians and shall not be unnecessarily obstructed unless authorized by the authority having jurisdiction over same. Driveways, sidewalks

and crossings shall be closed as short a time as possible while pipe is being placed, and passage shall be restored as soon as possible thereafter by properly placed backfill or approved bridging. The Contractor shall take such measures at his own expense as may be necessary to keep the roads open for traffic, and shall give advance notice to the Department of Transportation (D.O.T.), town public works department, local police and state police as required.

Warning signs shall be provided along all roads where work is in progress. The Contractor shall notify and make all arrangements with the D.O.T., town public works department, local police and state police for direction of traffic past the equipment, machinery, or construction operations. Barricades and lights shall be provided to protect traffic. Where trenches have been cut in road shoulders on which traffic may pass at times, warning signs shall be placed at frequent intervals and maintained until the shoulder is safe for travel. All such work and operations shall be in accordance with the requirements of the D.O.T., public works department, local police and state police.

Should the Contractor or his employees neglect to set out and maintain barricades or lights, as required in these Specifications, the Engineer may immediately and without notice, arrange for furnishing, installing and maintaining barricades or lights, and any other precaution deemed necessary. The cost thereof shall be borne by the Contractor and may be deducted from any amount due or to become due to the Contractor under this Contract.

The Contractor shall be held responsible for any damages that may have to be paid as a consequence of the Contractor's failure to protect the public.

Town of Ridgefield  
Office of the Town Engineer  
Rehabilitation of Portland Avenue Bridge

Technical Specifications

For the purposes of this project, reference is made to the following specifications except as revised herein and found in the “State of Connecticut Department of Transportation “Standard Specifications for Roads, Bridges, and Incidental Construction, Form 816”, latest edition.

Section 2.01 Clearing and Grubbing

Section 2.02 Roadway Excavation, Formation of Embankment and Disposal of Surplus Material

Section 2.19 Sedimentation Control System

Section 4.06 Bituminous Concrete

Section 8.21 Precast Concrete Barrier Curb

Section 8.22 Temporary Precast Concrete Barrier Curb

Section 9.04 Metal Bridge Rail

Section 9.10 Metal Beam Rail

Section 9.11 Metal Beam Rail Anchorages

Section 9.12 Remove and Reset Posts, Rail, and Rail Anchorages

Section 9.44 Topsoil

Section 9.50 Turf Establishment

Section 9.71 Maintenance and Protection of Traffic

Section 9.74 Removal of Existing Masonry

Section 9.75 Mobilization

Section 9.80 Construction Staking.

Section 12.10 Construction Signs, Type III Reflective Sheeting



## **ITEM #0821202A - PRECAST CONCRETE BARRIER CURB (STRUCTURE)**

Work under this item shall conform to the requirements of Section 8.21 of the State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction Form 816 amended as follows:

**8.21.01-Description:** This section is deleted in its entirety and replaced with the following:

Under this item, the Contractor shall furnish and install precast concrete barrier curb (structure) in the locations shown on the plans, or as directed by the Engineer. This work shall also include the furnishing and placing a layer of grout as shown on the plans, which will match the thickness of the bituminous concrete overlay on the existing bridge deck and will provide a level surface for the precast barrier to bear on.

**8.21.02-Materials:** This section is amended and added to as follows:

7. Replace “Precast concrete barrier curb” with “Precast concrete barrier curb (structure)”.
8. Dowels shall be mechanically galvanized in accordance with the requirements of ASTM B695.
9. The preset anchorage system for the metal bridge rail (handrail) shall be cast in the precast concrete barrier curb (structure) as shown on the plans and shall conform to the requirements of the Special Provision “Metal Bridge Rail (Handrail)” contained elsewhere in these Specifications.
10. Steel plate washers shall conform to the requirements of ASTM A36. The steel plate washers shall be hot-dip galvanized in accordance with the requirements of ASTM A123.
11. Anchor bolts, inserts, nuts and washers shall conform to the requirements of ASTM A325 and be mechanically galvanized in accordance with the requirements of ASTM B695.
12. The grout used to provide a level surface for the precast barrier to bear on and to match the thickness of the bituminous concrete overlay on the existing bridge deck shall be non-shrink grout and shall conform to Article M.03.01-12.
13. The delineators shall be fabricated of aluminum, steel, plastic or of a material approved by the Engineer. The reflective sheeting shall be encapsulated lens sheeting conforming to M.18.09. Delineator fastening hardware or adhesive shall be suitable for the purpose intended.

**8.21.03-Construction Methods:** This section is deleted in its entirety and replaced with the following:

1. **Precast Units:** Concrete barrier units shall be precast in an approved plant in conformance with the applicable requirements of Subarticles 5.14.03-4,6,7,8 and 15 supplemented as follows:

Forms for precast concrete barrier units shall be of substantial construction, lined so as to produce a smooth dense surface with a uniform appearance. Form oil shall be a nonstaining type. Pockets for anchor bolts shall be formed as shown on the plans. Air holes on exposed surfaces shall be filled immediately after removal of the forms to the satisfaction of the Engineer.

2. **Furnish and Placement of Grout Layer:** Before installing the precast concrete barrier curbs (structure), the Contractor shall furnish and place a layer of grout as shown on the plans, which will match the thickness of the bituminous concrete overlay on the existing bridge deck and will provide a level surface for the precast barrier to bear on. The grout shall be mixed and placed as shown on the plans and in strict accordance with the manufacturer's direction. Allow grout to cure for a minimum of 24 hours before placing the precast concrete barrier curb (structure) on top of the grout.
3. **Installation of Precast Units:** Precast concrete barrier curb (structure) units shall be placed as shown on the plans or as directed by the Engineer, on a firm even grout surface as to produce a smooth continuous barrier curb.

The precast concrete barriers curbs (structure) on the existing bridge shall be attached to the existing deck by a 1" diameter bolt, where called for on the plans. The bolts shall pass through the deck and be anchored to the underside of the deck as shown on the plans. The drilled hole for the bolt shall be a maximum of 1-1/2" diameter and the bolt shall have sufficient length to provide a 1" projection after the top steel plate, bottom steel plate, washer and nut are in place. The minimum size of the top steel plate shall be 3" x 3" x 1/4" thick with a 1-3/16" diameter hole in the center. The minimum size of the bottom steel plate shall be 3" x 3" x 1/4" thick with a 1-3/16" hole in the center.

Anchor bolts shall be installed in properly drilled holes of the size and depth shown on the plans in strict accordance with the manufacturer's directions. Care shall be taken not to drill holes into or through existing structural steel. The barrier anchors must be installed on the side of the barrier exposed to traffic.

Adjacent sections of precast concrete barrier curb (structure) shall be interconnected as shown on the plans.

Drilling methods shall not cause damage to the existing concrete deck. Those areas damaged by the Contractor shall be repaired by him in a manner suitable to the Engineer and at Contractor's expense.

The Contractor shall take necessary precautions to prevent any materials from falling into the water below.

4. Delineator: The delineator shall be installed in the center on top of the barrier at the locations designated on the plans. They may be fastened by hardware or adhesive.

DE-7 delineators shall be used when the barriers are on the right side of traffic or dividing traffic in the same direction. DE-7A delineators shall be used when the barriers are on the left side of traffic. DE-7B delineators shall be used when the barriers divide opposing traffic lanes. DE-7C delineators shall be used with the yellow side on the left side of traffic when traffic is alternated.

**8.21.04-Method of Measurement:** This section is deleted in its entirety and replaced with the following:

This work will be measured for payment along the centerline of the top of the precast concrete barrier curb (structure) and will be the actual number of linear feet of precast concrete barrier curb (structure) furnished, installed and accepted.

Delineators shall not be measured separately for payment, but shall be included in “Precast Concrete Barrier Curb (Structure)”.

The layer of grout furnished and placed as shown on the plans, which will match the thickness of the bituminous concrete overlay on the existing bridge deck and will provide a level surface for the precast barrier to bear on, shall not be measured separately for payment, but shall be included in “Precast Concrete Barrier Curb (Structure)”.

**8.21.05-Basis of Payment:** This section is deleted in its entirety and replaced with the following:

This work will be paid for at the contract unit price per linear foot for “Precast Concrete Barrier Curb (Structure)”, complete in place, which price shall include all furnishing, transportation, drilling holes in the existing deck, installation including attaching the precast concrete barrier curb to the bridge deck, storage, materials, including concrete, reinforcing steel, dowel bars, anchor bolts, and also including hardware and incidental materials, equipment, tools, and labor incidental thereto.

Delineators shall not be paid separately, but shall be included in the cost of “Precast Concrete Barrier Curb (Structure)”.

Furnishing and placing the layer of grout as shown on the plans shall not be paid separately, but shall be included in the cost of “Precast Concrete Barrier Curb (Structure)”.

## **ITEM #0822001A - TEMPORARY PRECAST CONCRETE BARRIER CURB**

Work under this item shall conform to the requirements of Section 8.22 of the State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction Form 816 amended as follows:

**8.22.01-Description:** This section is amended to add the following:

This item shall be amended to include the provision, installation, and maintenance in good working order throughout the construction period, of one high-intensity flashing barricade warning light on each concrete barrier curb. This item is also amended to include the relocation, adjustment and removal of precast concrete barrier curbs throughout the duration of construction.

**8.22.02-Materials:** This section is amended to add the following:

High intensity barricade warning lights shall be in accordance with Section 09.76.02 of the Standard Specifications.

**8.22.04-Method of Measurement:** This section is amended and added to as follows:

Delineators shall not be measured separately for payment, but shall be included in “Temporary Precast Concrete Barrier Curb”.

Barricade warning lights shall not be measured separately for payment, but shall be included in “Temporary Precast Concrete Barrier Curb”.

Relocation, adjustment or removal of temporary precast concrete barrier curbs throughout the duration of construction shall not be measured separately, but shall be included in “Temporary Precast Concrete Barrier Curb”.

**8.22.05-Basis of Payment:** This section is amended and added to as follows:

Delineators shall not be paid separately, but shall be included in the cost of “Temporary Precast Concrete Barrier Curb”.

Barricade warning lights shall not be paid separately, but shall be included in the cost of “Temporary Precast Concrete Barrier Curb”.

Relocation, adjustment or removal of temporary precast concrete barrier curbs throughout the duration of construction shall not be paid separately, but shall be included in the cost of “Temporary Precast Concrete Barrier Curb”.

**ITEM #0822005A - TEMPORARY PRECAST CONCRETE BARRIER CURB  
(STRUCTURE)**

**Description:** Work under this item shall consist of furnishing, installing, relocating, adjusting, and removing temporary precast concrete barrier curb (structure) as shown on the plans or as directed by the Engineer. This work shall include the drilling, placing and later removal of anchor bolts, and the cleaning and subsequent grouting and sealing of anchor bolt holes after the barrier is removed. This item will also include the provision, installation, and maintenance in good working order throughout the construction period, of one high-intensity flashing barricade warning light on each concrete barrier curb (structure).

**Materials:**

1. Concrete shall conform to the requirements of Article M.14.01 amended as follows:
  - A. Concrete shall have minimum 28 days strength (f'c) of 4,000 psi.
  - B. Coarse Aggregate shall conform to the requirements of M.03.01-1 and to the grading requirements of Class "F" Concrete.
  - C. Fine aggregate shall be light in color and shall conform in color and type to the samples on file at the Laboratory of the Department of Transportation located in Rocky Hill, Connecticut.
  - D. Cement for light concrete shall be Type III or Type IIIA Portland cement of light colored cement approved by the Engineer.
  - E. The entrained air content shall not be less than 5% nor more than 7%.
  - F. Manufacturer identification and casting date shall be permanently marked on the barrier curb by means of a non-corrosive metal or plastic tag as approved by the Engineer and in the location shown on the plans.
2. Reinforcing steel shall conform to the requirements of Article M.06.01.
3. Lifting hooks, keys, threaded inserts, bolts, devises and attachments shall be of the size indicated on the plans or of a design satisfactory for the purpose intended as approved by the Engineer.
4. Dowels shall conform to the requirements of ASTM A36.
5. Steel plates shall conform to the requirements of ASTM A36.

6. Removable anchor bolts shall conform to “KELIBOND/KELIBOND ANCHORS coated with KELISLIP” as manufactured by Kelken-Gold, Inc., 3005 Hadley Road, South Plainfield, New Jersey, 07080, approved equal. Anchor bolts, inserts, nuts and washers shall conform to the requirements of ASTM A325.
7. Galvanizing shall conform to the requirements of ASTM A 123.
8. The grout used in patching the remaining holes in the concrete deck after the removal of the temporary barrier shall be non-shrink grout (Sika Grout 212 or approved equal) and shall conform to Article M.03.01-12.
9. The pourable sealant used in patching the remaining holes in the overlay after the removal of the temporary barrier shall be a cold-applied bituminous sealer conforming to the requirements of Article M.08.01-18.
10. The delineators shall be fabricated of aluminum, steel, plastic or of a material approved by the Engineer. The reflective sheeting shall be encapsulated lens sheeting conforming to M.18.09. Delineator fastening hardware or adhesive shall be suitable for the purpose intended.
11. High intensity barricade warning lights shall be in accordance with Section 09.76.02 of the Standard Specifications.

**Construction Methods:**

1. Precast Units: Concrete barrier units shall be precast in an approved plant in conformance with the applicable requirements of Subarticles 5.14.03-4,6,7,8 and 15 supplemented as follows:

Forms for precast concrete barrier units shall be of substantial construction, line so as to produce a smooth dense surface with a uniform appearance. Form oil shall be a nonstaining type. Pockets for anchor bolts shall be formed as shown on the plans. Air holes on exposed surfaces shall be filled immediately after removal of the forms to the satisfaction of the Engineer.

2. Installation: Temporary precast concrete barrier units shall be placed as shown on the plans or as directed by the Engineer, on a firm even surface as to produce a smooth continuous barrier curb.

The temporary precast concrete barriers on the existing bridge shall be attached to the existing deck by a 1” diameter bolt, where called for on the plans. The bolts shall pass through the deck and be anchored to the underside of the deck as shown on the plans. The drilled hole for the bolt shall be a maximum of 1-1/2” diameter and the bolt shall have sufficient length to provide a 1” projection after the top steel plate, bottom steel plate, washer and nut are in place. The minimum size of the top steel plate shall be 3” x 3” x 1/4” thick

with a 1-3/16" diameter hole in the center. The minimum size of the bottom steel plate shall be 3" x 3" x 1/4" thick with a 1-3/16" hole in the center.

Anchor bolts shall be installed in properly drilled holes of the size and depth shown on the plans in strict accordance with the manufacturer's directions. Care shall be taken not to drill holes into or through existing structural steel. The barrier anchors must be installed on the side of the barrier exposed to traffic.

Anchorage in the new structure shall utilize cast-in-place inserts. The anchorage bolts into the temporary precast barrier on the new bridge shall be a 1-1/2" diameter bolts. The minimum size of the top steel plate shall be 3" x 3" x 1/4" thick with a 1-3/16" diameter hole in the center. After the bolts are removed from the inserts in the new structure, the inserts shall be filled with a non-shrink grout.

All adjacent sections of temporary precast barrier, both on or off the structure, shall be interconnected.

The Contractor shall submit the following to the Engineer for approval: type of drill, diameter of bit, and method of cleaning holes. Specifications and recommendations for the aforementioned may be obtained from the manufacturer of the inserts. The weight of the drill shall not exceed 20 pounds.

Drilling methods shall not cause damage to existing corrugated metal decking. Those areas damaged by the Contractor shall be repaired by him in a manner suitable to the Engineer and at Contractor's expense.

The Contractor shall take necessary precautions to prevent any materials from falling into the water below.

The temporary concrete barrier shall be maintained by the Contractor during all stages of construction. Any damaged material shall be removed and replaced by the Contractor at his expense.

When the temporary barrier is no longer required, it shall be removed from the work site and become the property of the Contractor.

3. Patching Holes: After removal of the concrete barriers, the holes in the new concrete deck shall be blown clean with an air jet. The grout shall then be mixed and placed as shown on the plans and in strict accordance with the manufacturer's direction. Allow grout to cure for a minimum of 24 hours before placing the pourable sealant in the remaining hole in the bituminous wearing surface.
4. Delineator: The delineator shall be installed in the center on top of the barrier at the locations designated on the plans. They may be fastened by hardware or adhesive and must be maintained in good condition at all times.

DE-7 delineators shall be used when the barriers are on the right side of traffic or dividing traffic in the same direction. DE-7A delineators shall be used when the barriers are on the left side of traffic. DE-7B delineators shall be used when the barriers divide opposing traffic lanes. DE-7C delineators shall be used with the yellow side on the left side of traffic when traffic is alternated.

**Method of Measurement:** This work will be measured for payment along the centerline of the top of the concrete barrier and will be the actual number of linear feet of temporary concrete barrier furnished, installed and accepted.

Delineators shall not be measured separately for payment, but shall be included in “Temporary Precast Concrete Barrier Curb (Structure)”.

Barricade warning lights shall not be measured separately for payment, but shall be included in “Temporary Precast Concrete Barrier Curb (Structure)”.

Relocation, adjustment or removal of temporary precast concrete barrier curbs throughout the duration of construction shall not be measured separately, but shall be included in “Temporary Precast Concrete Barrier Curb (Structure)”.

**Basis of Payment:** This work will be paid for at the contract unit price per linear foot for “Temporary Precast Concrete Barrier Curb (Structure)”, complete in place, which price shall include all furnishing, transportation, drilling holes in the existing deck, initial installation including attaching the temporary precast concrete barrier curb to the bridge deck, final removal, filling the bolt inserts in the deck with non-shrink grout, storage, materials, including concrete, reinforcing steel, connecting rods, removable anchor bolts conforming to the “KELIBOND/KELIBOND ANCHORS coated with KELISLIP” or approved equal, and also including hardware and incidental materials, equipment, tools, and labor incidental thereto. Any temporary barriers that become lost, damaged or defaced shall be replaced by the Contractor at his cost.

Delineators shall not be paid separately, but shall be included in the cost of “Temporary Precast Concrete Barrier Curb (Structure)”.

Barricade warning lights shall not be paid separately, but shall be included in the cost of “Temporary Precast Concrete Barrier Curb (Structure)”.

Relocation, adjustment or removal of temporary precast concrete barrier curbs throughout the duration of construction shall not be paid separately, but shall be included in the cost of “Temporary Precast Concrete Barrier Curb (Structure)”.



## **ITEM #0904487A – METAL BRIDGE RAIL (HANDRAIL)**

**Description:** Work under this item shall consist of fabricating and installing a metal bridge rail (handrail), consisting of steel structural tees cut from wide flange shapes for posts and steel rectangular tube shapes for rails connected to preset anchorages, as shown on the plans, as directed by the Engineer and in accordance with this specification.

**Materials:** Materials for this work shall conform to the following requirements:

The steel rails shall be fabricated from structural steel tubing meeting the requirements of ASTM A588 weathering steel.

Posts, plates and other shapes shall be fabricated from steel meeting the requirements of ASTM A588 weathering steel.

Round head bolts shall conform to the requirements set forth for ASTM A325, type 3 (atmospheric - corrosion resistant bolts).

Heavy hex nuts and washers shall conform to the requirements of ASTM A307 Grade A specification.

Round head bolts, nuts and washers for connecting rails to posts shall conform to the requirements set forth for ASTM A588.

The preset anchorage system may be selected at the option of the Contractor and shall be fabricated as detailed on the contract plans. Wire struts shall conform to the requirements of ASTM A510, Grade 1030 and shall have a minimum tensile strength of 100,000 psi. These wire struts shall be securely welded to the ferrules with the welds capable of developing the tensile strength of the struts. Materials for ferrules shall conform to the requirements of ASTM A108, Grade 12 L 14. A plastic cap shall be provided for sealing the bottom of each ferrule before placing concrete. Removable plastic washers of the same diameter as the ferrule and approximately 3/32" in thickness shall be provided for the top of each ferrule and shall be left in place until the temporary supporting bolts are removed. Removable plastic caps shall be provided for sealing the top of each ferrule until the erection of railing posts. A sample anchorage system shall be submitted to the Engineer for approval prior to incorporation into the project.

The anchorage systems shall be fabricated for installation and cast within the precast concrete barrier curbs (structure) perpendicular to the top of the barrier curb.

Bolts for the preset anchorage system shall be stainless steel and conform to the requirements of ASTM A193, class 1 or 2, grade B8 (AISI type 304) with a minimum tensile strength of 75,000 psi. The stainless steel washers for the preset anchorage system shall conform to ASTM A167, type 302 - 305.

Molded pads shall be manufactured from new unvulcanized elastomer and unused synthetic fibers, with a weight proportion of fiber content equal to approximately one-half of the total weight of the pad. The pads shall be formed into single sheets of 1/8-inch minimum thickness, with a tolerance of plus or minus 10 percent. Pads shall have a Shore "A" Durometer hardness within the range of 70 to 90, and shall have a minimum compressive breakdown of 7,000 psi.

The Contractor shall furnish a Materials Certificate in conformance with the requirements of Article 1.06.07 for the following materials: rail posts, rails, post connections devices, preset anchorages, bolts, washers and molded pads.

**Construction Methods:** Before fabricating any materials, the Contractor shall submit shop drawings to the Engineer for approval in accordance with Article 1.05.02(b). These drawings shall include but not be limited to the following information: The layout plan showing all railing post spacings, expansion joint locations, and material designations.

Lengths of rails shall be continuous with no splices.

See the contract drawings for rail post layout and spacing. Holes may be field drilled in rails.

All welding shall be in accordance with the American Welding Society "Structural Welding Code", ANSI/AWS D1.5.

Steel tubular railings shall be carefully adjusted prior to fixing in place to insure correct alignment and curvature throughout their length. After installation, all rails and posts shall be free of burrs, sharp edges and irregularities.

The anchorage assemblies shall be installed and cast perpendicular to the grade of the top of the precast concrete barrier curb (structure). The anchorages shall be firmly and accurately held in position prior to and during the placing of concrete for the precast concrete barrier curb (structure). The posts shall be fabricated and installed plumb. The rails and their holes in the posts shall be constructed parallel to the top of the barrier curb.

**Method of Measurement:** This work will be measured for payment by the actual number of feet of "Metal Bridge Rail (Handrail)" completed and accepted, measured along the rail.

**Basis of Payment:** This work will be paid for at the contract unit price per linear foot for "Metal Bridge Rail (Handrail)" complete and accepted in place, which price shall include all materials, equipment, tools, labor and work incidental thereto.

## **ITEM #0910170A - METAL BEAM RAIL (TYPE R-B 350)**

Work under this item shall conform to the following specifications, which replaces the requirements as outlined in Section 9.10 of the State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction Form 816.

**Description:** This item shall include all metal beam railing consisting of a single or double line of rail elements fastened to steel posts with or without rub rail as shown on the plans. It shall be erected in the locations sited and fabricated in conformity with the designations, dimensions, and details shown on the plans or as ordered by the Engineer.

### **Materials:**

1. The materials for metal beam rail (including posts) and anchorages shall conform to the requirements of Article M.10.02.
2. Rail elements and terminal sections shown on the plans, as weathering steel shall meet the requirements of AASHTO M180 Class A (nominal thickness of 0.105 inches) Type IV.
3. All steel posts, welded-soil plates, brackets, back-up rails and channel rubrails shall conform to Subarticle M.06.02-1(b) and be manufactured from ASTM A588 weathering steel.
4. Metal beam rail delineators shall conform to the requirements of Article M.18.09.02 Reflective Sheeting; Bright Wide Angle Retroreflective and M.18.13 Sign Face - Sheet Aluminum.
5. Metal beam rail block outs shall be made with a minimum of 80% recyclable polyethylene plastic comprised of low density and high density polyethylene with a specific gravity less than or equal to 1.0 in accordance with ASTM D-792 and have a minimum compressive stress of 450 psi. in accordance with ASTM D-695. Each block out shall be stamped from the factory with the Manufacture's identification and lot numbers and conforms to the dimensions indicated on the plans. Block outs must also have approval from FHWA per NCHRP Report - 350 Test Level - 3 requirements and are recyclable after impact. The Contractor shall furnish to the Engineer prior to construction a certified test report and a material certificate for the block outs in conformance with Section 1.06.07.

**Construction Methods:** The steel posts shall be driven. The Contractor shall use suitable caps and equipment to prevent damage to the posts during driving. Where rock or boulders are encountered in driving the posts, this material shall be removed so as to make a hole of sufficient size to permit the setting of the post. The hole shall then be backfilled and thoroughly compacted before the driving of the posts.

The Contractor is cautioned that within the limits of any project, buried cables for illumination or utilities, which may be energized, may be present.

The posts shall be located as shown on the plans, set plumb and in alignment with the rail or rail treatments. The block outs, rub rails, and rail elements shall then be erected to produce a smooth continuous rail as shown on the plans. The rub rails and rail elements shall be lapped in the direction of traffic.

Whenever rail or rail treatments are being constructed adjacent to roadways open to traffic, the Contractor shall complete the installation to and including the designated terminal treatment at the close of each day's work.

On long runs or other locations where it is not practical to complete the installation to and including the designed terminal treatment by the end of each day's work, the Contractor shall use temporary methods for terminating the beam rail so as to minimize any hazard caused by leaving the end of the beam rail exposed to traffic. Temporary methods for terminating the beam rail shall include lowering the rail end to the ground and providing adequate anchorage of the rail end by bolting, securing, burying, etc.

The Contractor shall submit to the Engineer for approval details of his proposed methods for temporary terminating the end section. No work shall be performed adjacent to the areas open to traffic until approval is given.

The Contractor shall be required to furnish extra length posts where field conditions warrant. These posts shall be of such length that the minimum depth in the ground, as shown on the plans, is maintained.

Before final erection, all galvanized elements which have been cut or worked so as to destroy the zinc coating and cause the base metal to be exposed shall have the exposed base metal thoroughly cleaned and brush coated with zinc rich touch up material.

**Method of Measurement:** The length of beam rail measured for payment will be the number of linear feet of accepted rail of "Metal Beam Rail (Type R-B 350)" installed, measured along the top of rail between centers of end posts in each continuous section as shown on the plans.

**Basis of Payment:** Metal beam rail will be paid for at the contract unit price per linear feet for "Metal Beam Rail (Type R-B 350)" indicated on the plans or ordered by the Engineer, complete in place. The price shall include all backfilling, materials, and fittings, rub rail, block outs, posts, metal beam rail delineators, equipment, tools, removal and disposal of surplus material, and labor incidental to the installation of the rail.

Drilling in or removal of rock or boulders and backfilling with suitable material when required for the installation of posts will be paid for as "Extra Work" according to the provisions of Article 1.04.05 and 1.09.04, unless an item for the removal of rock appears in the proposal.

## **ITEM #910370A – TEMPORARY METAL BEAM RAIL**

**Description:** Work under this item shall consist of furnishing, installing, adjusting, and later removing all temporary metal beam rail attachments to the temporary precast concrete barrier curbs (structure) including all lengths of temporary metal beam railing consisting of a single or double line of rail elements fastened to steel posts with or without rub rail, as shown on the plans. It shall be erected in the locations sited and fabricated in conformity with the designations, dimensions, and details shown on the plans or as ordered by the Engineer.

### **Materials:**

1. The materials for the temporary metal beam rail shall conform to the requirements of Article M.10.02.
2. Metal beam rail delineators shall conform to the requirements of Article M.18.09.02 Reflective Sheeting; Bright Wide Angle Retroreflective and M.18.13 Sign Face - Sheet Aluminum.
3. Metal beam rail block outs shall be made with a minimum of 80% recyclable polyethylene plastic comprised of low density and high density polyethylene with a specific gravity less than or equal to 1.0 in accordance with ASTM D-792 and have a minimum compressive stress of 450 psi. in accordance with ASTM D-695. Each block out shall be stamped from the factory with the Manufacturer's identification and lot numbers and conforms to the dimensions indicated on the plans. Block outs must also have approval from FHWA per NCHRP Report - 350 Test Level - 3 requirements and are recyclable after impact. The Contractor shall furnish to the Engineer prior to construction a certified test report and a material certificate for the block outs in conformance with Section 1.06.07.

**Construction Methods:** The steel posts shall be driven. The Contractor shall use suitable caps and equipment to prevent damage to the posts during driving. Where rock or boulders are encountered in driving the posts, this material shall be removed so as to make a hole of sufficient size to permit the setting of the post. The hole shall then be backfilled and thoroughly compacted before the driving of the posts.

The Contractor is cautioned that within the limits of any project, buried cables for illumination or utilities, which may be energized, may be present.

The posts shall be located as shown on the plans, set plumb and in alignment with the rail or rail treatments. The block outs, rub rails, and rail elements shall then be erected to produce a smooth continuous rail as shown on the plans. The rub rails and rail elements shall be lapped in the direction of traffic.

Whenever rail or rail treatments are being constructed adjacent to roadways open to traffic, the Contractor shall complete the installation to and including the designated terminal treatment at the close of each day's work.

On long runs or other locations where it is not practical to complete the installation to and including the designed terminal treatment by the end of each day's work, the Contractor shall use temporary methods for terminating the beam rail so as to minimize any hazard caused by leaving the end of the beam rail exposed to traffic. Temporary methods for terminating the beam rail shall include lowering the rail end to the ground and providing adequate anchorage of the rail end by bolting, securing, burying, etc.

The Contractor shall submit to the Engineer for approval details of his proposed methods for temporary terminating the end section. No work shall be performed adjacent to the areas open to traffic until approval is given.

The Contractor shall be required to furnish extra length posts where field conditions warrant. These posts shall be of such length that the minimum depth in the ground, as shown on the plans, is maintained.

Before final erection, all galvanized elements which have been cut or worked so as to destroy the zinc coating and cause the base metal to be exposed shall have the exposed base metal thoroughly cleaned and brush coated with zinc rich touch up material.

**Method of Measurement:** The length of "Temporary Metal Beam Rail" measured for payment will be the number of linear feet of accepted rail installed, measured along the top of rail between centers of end posts in each continuous section, plus the temporary bridge attachment length of rail at the temporary precast concrete barrier curbs (structure) as shown on the plans.

**Basis of Payment:** The Temporary Metal Beam Rail will be paid for at the contract unit price per linear feet for "Temporary Metal Beam Rail" indicated on the plans or ordered by the Engineer, complete in place. The price shall include all backfilling, materials, fittings, posts, block outs, rubrails, anchor bolts, anchor plates, washers, drilling and grouting, terminal connector, equipment, tools, and the removal of the temporary metal beam rail and temporary attachment, and labor incidental to the installation of the temporary attachment to the temporary precast concrete barrier curb (structure).

Drilling in or removal of rock or boulders and backfilling with suitable material when required for the installation of posts will be paid for as "Extra Work" according to the provisions of Article 1.04.05 and 1.09.04, unless an item for the removal of rock appears in the proposal.

## **#0974001A - REMOVAL OF EXISTING MASONRY**

Work under this item shall conform to the requirements of Section 9.74 of the State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction Form 816 amended as follows:

**9.74.01 - Description:** Delete in its entirety and replace with the following:

Work under this item shall consist of the sawcutting, removal and satisfactory disposal of the existing concrete bridge parapets/curbs, as indicated on the plans, required by these specifications, and as directed by the Engineer.

**9.74.03 - Construction Methods:** Delete in its entirety and replace with the following:

The Contractor's attention is drawn to the environmental sensitivity of the river/stream and surrounding wetlands. This area is designated as a no-drop zone. The Contractor shall provide full shielding below the structure by the use of canvas, netting, falsework or other approved means as required to prevent debris, tools, and/or other materials from entering into or dropping to the area below the structure.

Adequate measures shall also be taken by the Contractor to prevent work generated debris, tools and/or materials from entering the roadway lanes of Route 7 and Portland Avenue.

All debris shall be promptly swept up and removed from the site by the Contractor. Extreme care shall be taken by the Contractor to control dust adjacent to the roadway and provide adequate measures to protect adjacent vehicles and pedestrians during the removal of the existing bridge parapets/curbs.

The removal shall not result in damage to any permanent construction (new or existing), adjacent properties or river area. If damage does occur, it shall be repaired by the Contractor to the satisfaction of the Engineer at no additional expense to the Town.

All work shall proceed as directed by and to the satisfaction of the Engineer, in accordance with details shown on the plans and the requirements of Maintenance and Protection of Traffic.

The concrete shall be removed to the limits shown on the plans. The concrete shall be sawcut to delineate the removal limits. Pneumatic hammers or any other method approved by the Engineer may be used to remove the concrete. Maximum 30 lb. hammers shall be used for removal of the concrete.

Prior to initiating work, the Contractor shall submit for approval, plans and written documentation describing his methods of removal and for constructing falsework and shielding as required for the protection of traffic, adjacent property, and streambeds and other environmentally sensitive areas. Approval of the Contractor's plans shall not be considered as relieving the Contractor of any of his responsibility. Working drawings and

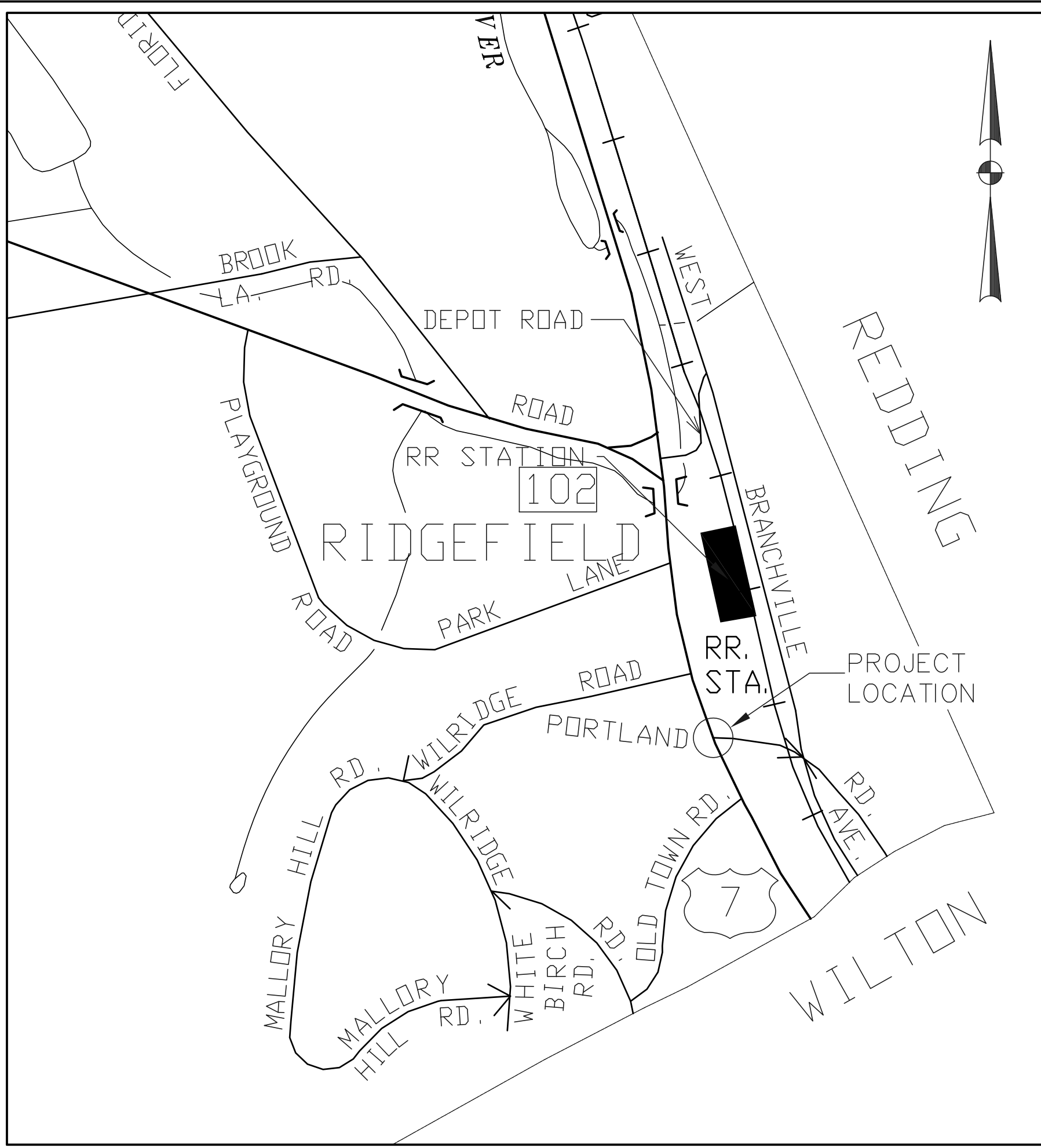
design computations showing the Contractor's means for temporary shielding shall be submitted to the Engineer in accordance with Section 1.05.02(2) of the State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction Form 816.

**9.74.05 - Basis of Payment:** Delete in its entirety and replace with the following:

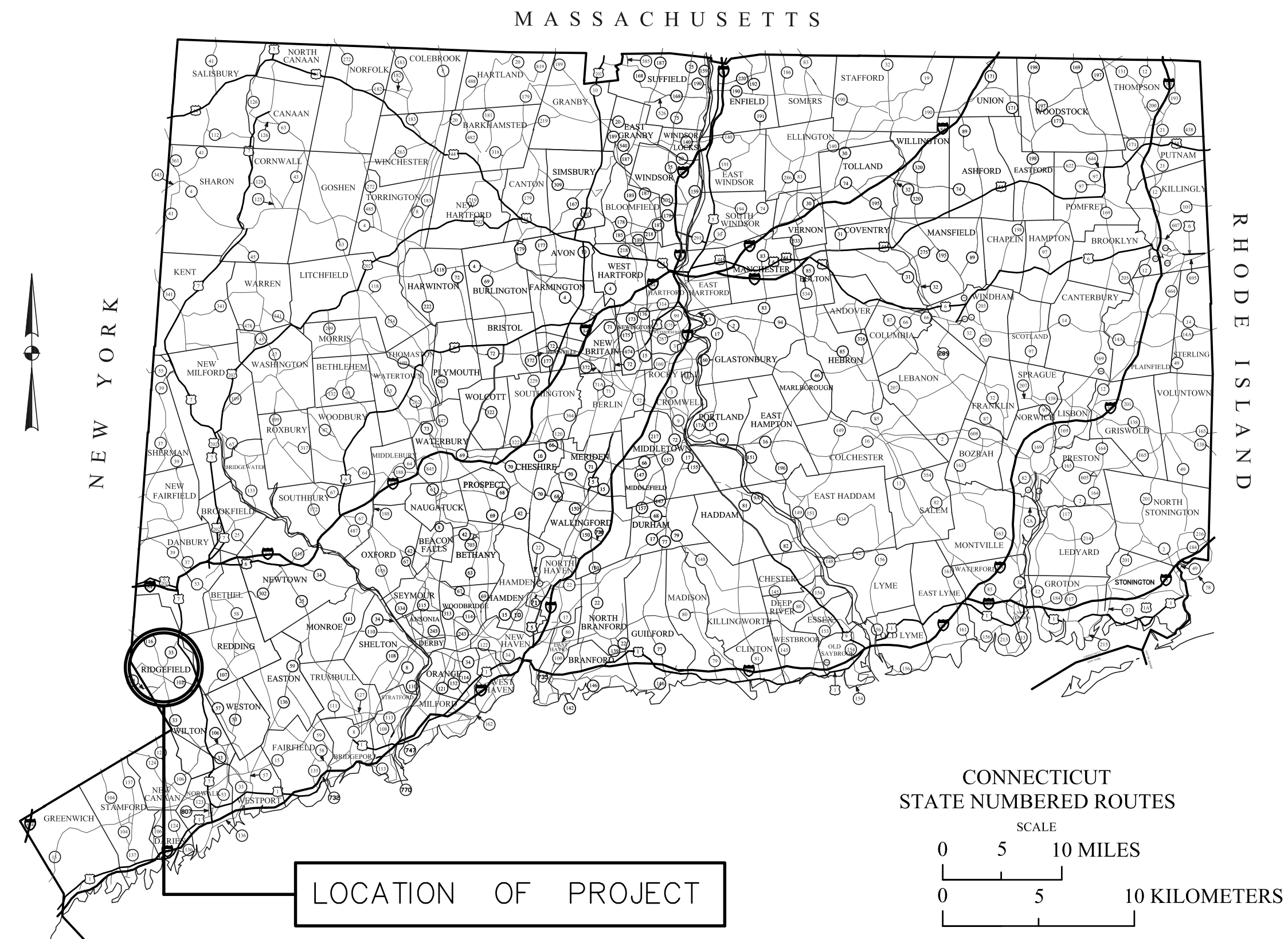
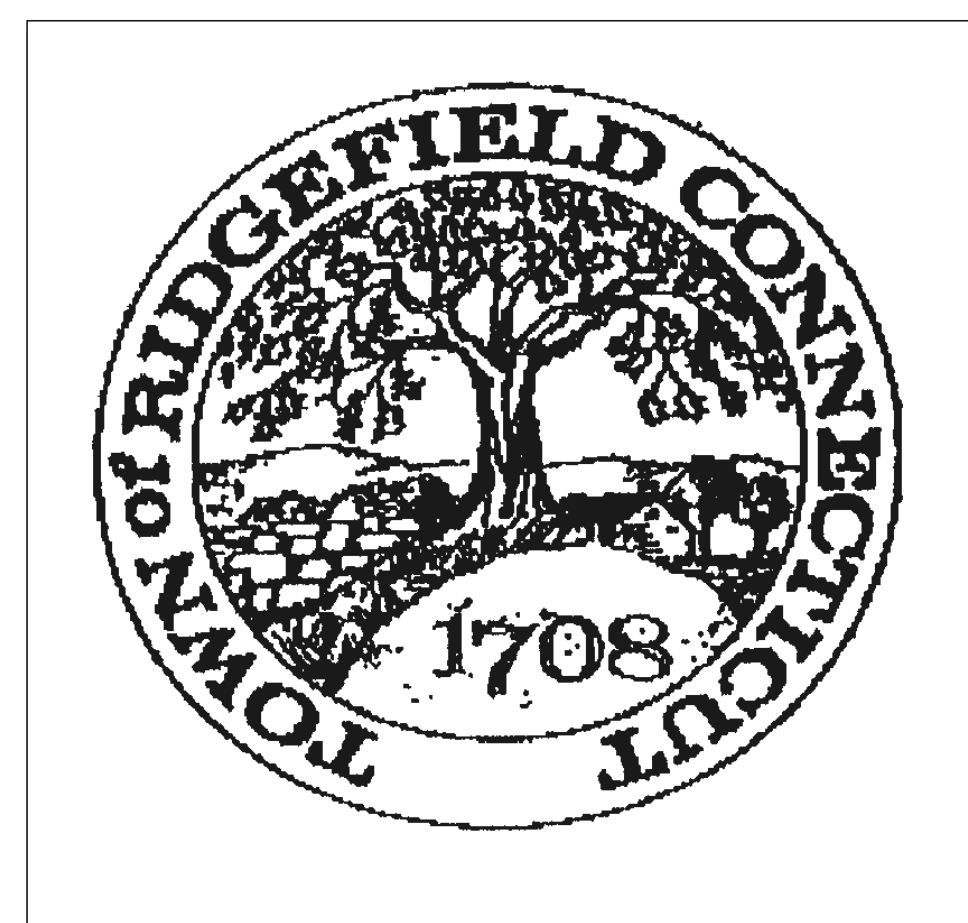
The removal and satisfactory disposal of the existing reinforced concrete bridge parapets/curbs shall be paid for at the contract unit price per cubic yard for "Removal of Existing Masonry", which price shall include all materials, equipment, tools, labor, and all work incidental to the removal of the existing bridge parapets/curbs including furnishing, erecting and removing the temporary shielding or falsework.



# TOWN OF RIDGEFIELD, CONNECTICUT PLAN FOR REHABILITATION OF PORTLAND AVENUE BRIDGE OVER NORWALK RIVER



**LOCATION MAP**  
N.T.S.



**CONNECTICUT  
STATE NUMBERED ROUTES**  
SCALE  
0 5 10 MILES  
0 5 10 KILOMETERS

TECHNICAL SPECIFICATIONS: STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS, BRIDGES AND INCIDENTAL CONSTRUCTION (FORM 816) AND ALL LATEST SUPPLEMENTAL SPECIFICATIONS THERETO, AS WELL AS ANY SPECIAL PROVISIONS BY THE TOWN OF RIDGEFIELD.

CONNECTICUT DEPARTMENT OF TRANSPORTATION OR TOWN OF RIDGEFIELD BIDDING AND OTHER INFORMATION AND DOCUMENTS WHICH ARE OBTAINED THROUGH THE INTERNET, WORLD WIDE WEB SITES OR OTHER SOURCES ARE NOT TO BE CONSTRUED TO BE OFFICIAL INFORMATION FOR THE PURPOSES OF BIDDING OR CONDUCTING OTHER BUSINESS WITH THE TOWN OF RIDGEFIELD.

IT IS THE RESPONSIBILITY OF EACH BIDDER AND ALL OTHER INTERESTED PARTIES TO OBTAIN ALL BIDDING RELATED INFORMATION AND DOCUMENTS FROM OFFICIAL SOURCES WITHIN THE TOWN OF RIDGEFIELD.

PERSONS AND/OR ENTITIES WHICH REPRODUCE AND/OR MAKE SUCH INFORMATION AVAILABLE BY ANY MEANS ARE NOT AUTHORIZED BY THE TOWN OF RIDGEFIELD TO DO SO AND MAY BE LIABLE FOR CLAIMS RESULTING FROM THE DISSEMINATION OF UNOFFICIAL, INCOMPLETE AND/OR INACCURATE INFORMATION.

LIST OF DRAWING REVISIONS			
SHEET NO.	DESCRIPTION	DATE	BY

LIST OF DRAWINGS		STANDARD DRAWINGS		F.H.W.A. APPROVAL DATE
SHEET NO.	TITLE	DWG. NO.	TITLE	
1	TITLE SHEET			
2	CONSTRUCTION PLAN			
3	CONSTRUCTION STAGING			
4	TEMPORARY PRECAST CONCRETE BARRIER CURB (STRUCTURE)			
5	EROSION AND SEDIMENTATION DETAILS			
6	METAL BEAM RAIL TYPE R-B 350 MISC. DETAILS I			
7	METAL BEAM RAIL TYPE R-B 350 MISC. DETAILS II			
8	METAL BEAM RAIL TYPE R-B 350 END ANCHORAGE			
9	METAL BEAM RAIL TYPE R-B 350 JERSEY SHAPED PARAPET ATTACHMENT			
10	PARAPET DETAILS			
11	PRECAST BARRIER CURB (STRUCTURE)			

**STANDARD CONVENTIONS**

North Arrow W/No. Coord.      Grid Arrow

Edge Of Road  
Concrete Pavement  
Dirt Road  
B.C.L.C.  
Concrete Curb  
Guide Rail  
Concrete Median Barrier  
Bit. Walk  
Conc. Sidewalk  
Railroad Tracks  
Chain Link Fence  
Rustic Fence  
Pipe Fence  
Board Fence  
Water Edge  
Stream  
Ditch  
TOWN LINE  
Boring Location

Limit Of Marsh  
Stone Wall  
Ledge Outcrop  
Inland Wetland Limits  
STATE LINE  
Power Line  
Swamp  
Building  
Transmission Tower  
Riprap  
Hedge Row  
Tree Line  
Shrub  
Evergreen Tree  
Deciduous Tree  
Retaining Wall  
Highway Line  
Street Line  
Property Line  
Lot Line  
Easement Line

**LEGEND:**

○ Iron Pin (Found)  
□ Monument (Found)  
▲ Sign  
⊙ Manhole  
▣ "C" Catch Basin  
▤ "C-L" Catch Basin  
○ Utility Pole  
☆ Light Pole  
○ Metal Post  
⊙ Guy Anchor  
⊙ Water Gate  
⊙ Gas Valve  
⊙ Gas Meter  
⊙ Mail Box  
----- Underground Piping (San., Stm.)  
----- E ----- U/G Elec. Line  
----- W ----- Water Line  
----- OHW ----- Overhead Utilities  
----- T ----- U/G Tele. Line

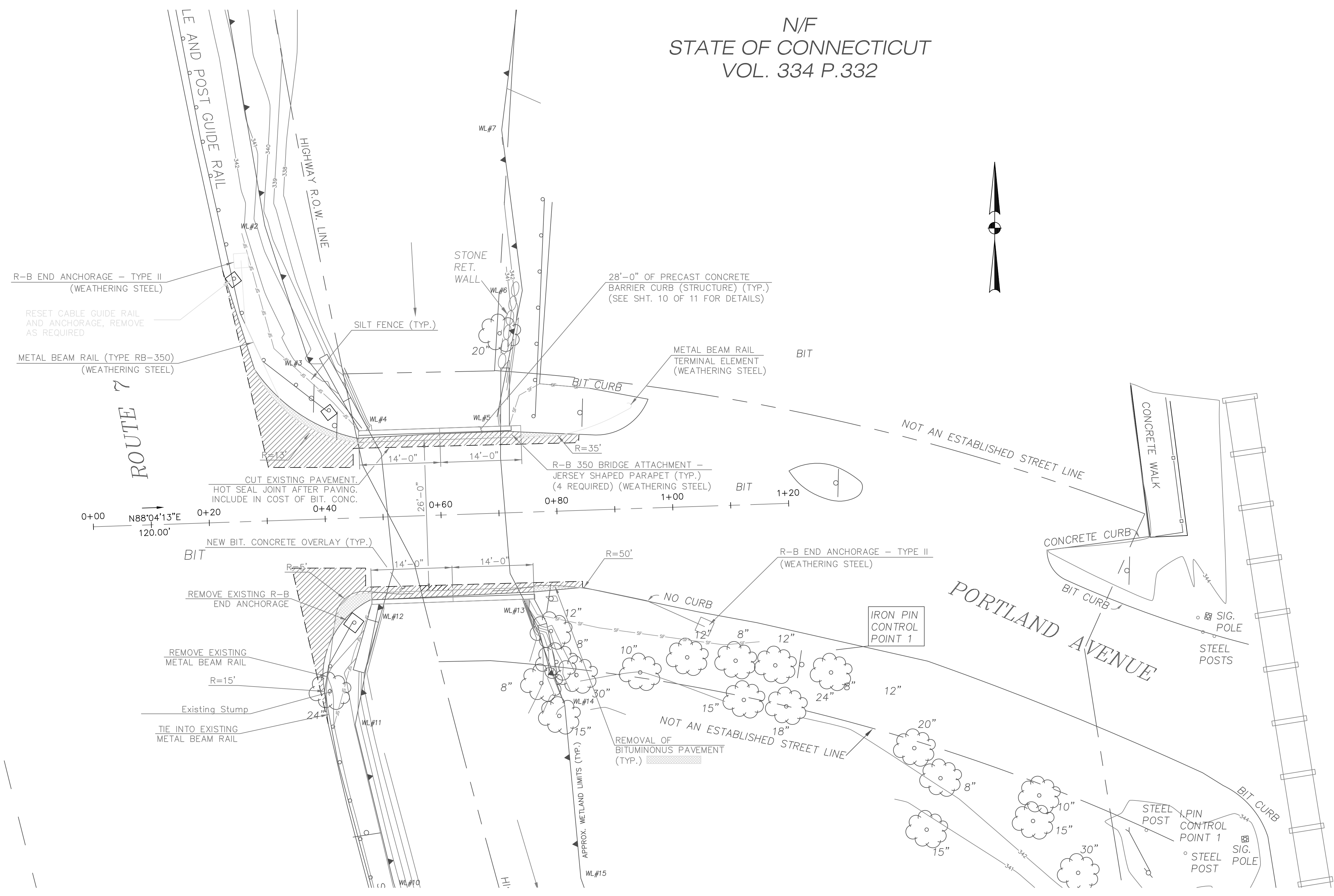
DESIGNED BY WMC CONSULTING ENGINEERS

SUBMITTED BY \_\_\_\_\_ DATE \_\_\_\_\_

TOWN ENGINEER - TOWN OF RIDGEFIELD

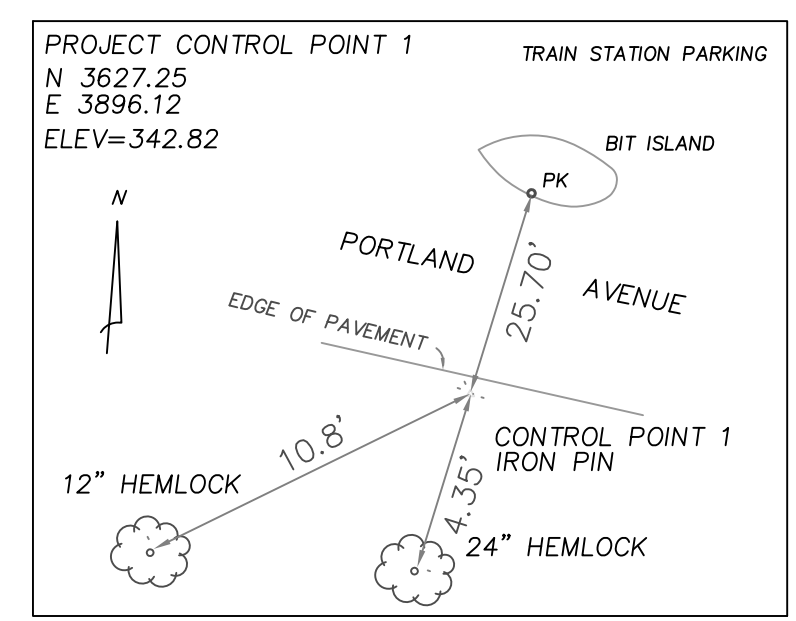
\_\_\_\_\_  
CHARLES FISHER, P.E.      DATE \_\_\_\_\_

N/F  
STATE OF CONNECTICUT  
VOL. 334 P.332

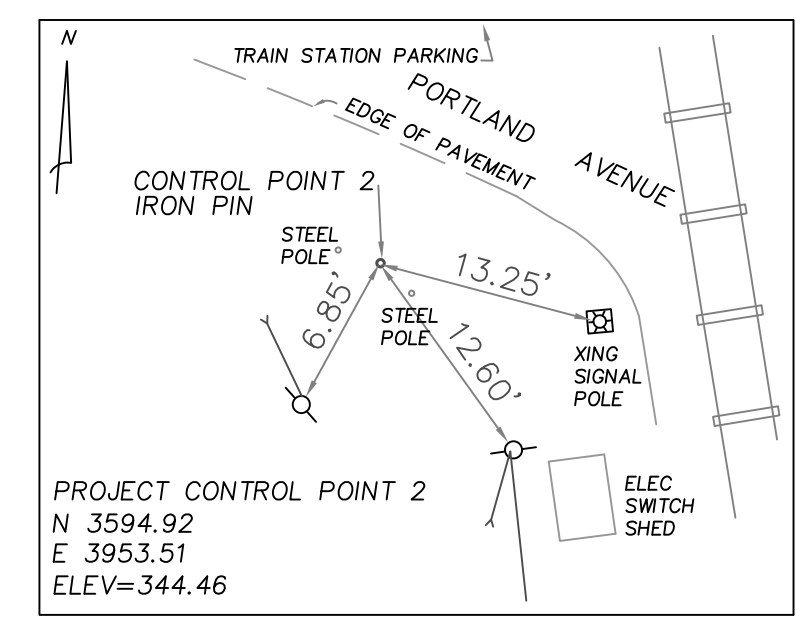


CONSTRUCTION NOTES:

1. ALL APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES SHOULD BE ESTABLISHED PRIOR TO AND MAINTAINED THROUGHOUT ALL CONSTRUCTION PHASES.
2. DURING ALL PHASES OF CONSTRUCTION ACTIVITIES, ACCESS FOR THE PROPERTY OWNERS AS WELL AS ALL SERVICE VEHICLES SUCH AS MAIL, TRASH COLLECTION, FUEL DELIVERIES, ETC. SHALL BE MAINTAINED BY THE CONTRACTOR TO ADJUTING PROPERTIES WITHIN THE LIMITS OF THE WORK.
3. THE TOWN OF RIDGEFIELD SHALL RETAIN ALL SALVAGE RIGHTS TO ANY MATERIALS REMOVED AS PART OF THIS PROJECT. MATERIAL REQUESTED FOR SALVAGE BY THE TOWN SHALL BE DELIVERED TO A LOCATION WITHIN THE TOWN LIMITS AS DESIGNATED BY THE TOWN. THE COST OF DELIVERY, LOADING AND UNLOADING SHALL BE INCLUDED IN THE GENERAL COST OF THE PROJECT.
4. LIMIT OF INLAND WETLANDS FLAGGED BY SOIL SCIENCE AND ENVIRONMENTAL SERVICES, INC., DATED: 10/28/05.
5. SURVEY INCLUDING WETLAND FLAG LOCATIONS, PERFORMED BY WILLIAM HERN, L.S. ON 10/28/05 THROUGH 12/09/05.



HORIZONTAL DATUM ASSUMED  
VERTICAL DATUM FROM BENCH MARK BM 1100 (1927 NGVD 1929)



HORIZONTAL DATUM ASSUMED  
VERTICAL DATUM FROM BENCH MARK BM 1100 (1927 NGVD 1929)

	SUPV.	J.A.C.
	DESIGN	D.A.G.
	DRAWN	J.A.W.
	CHECKED	J.A.C.
NO.	DATE	DESCRIPTION
		REVISIONS
	DATE	04/05/06

SCALE  
1" = 10'

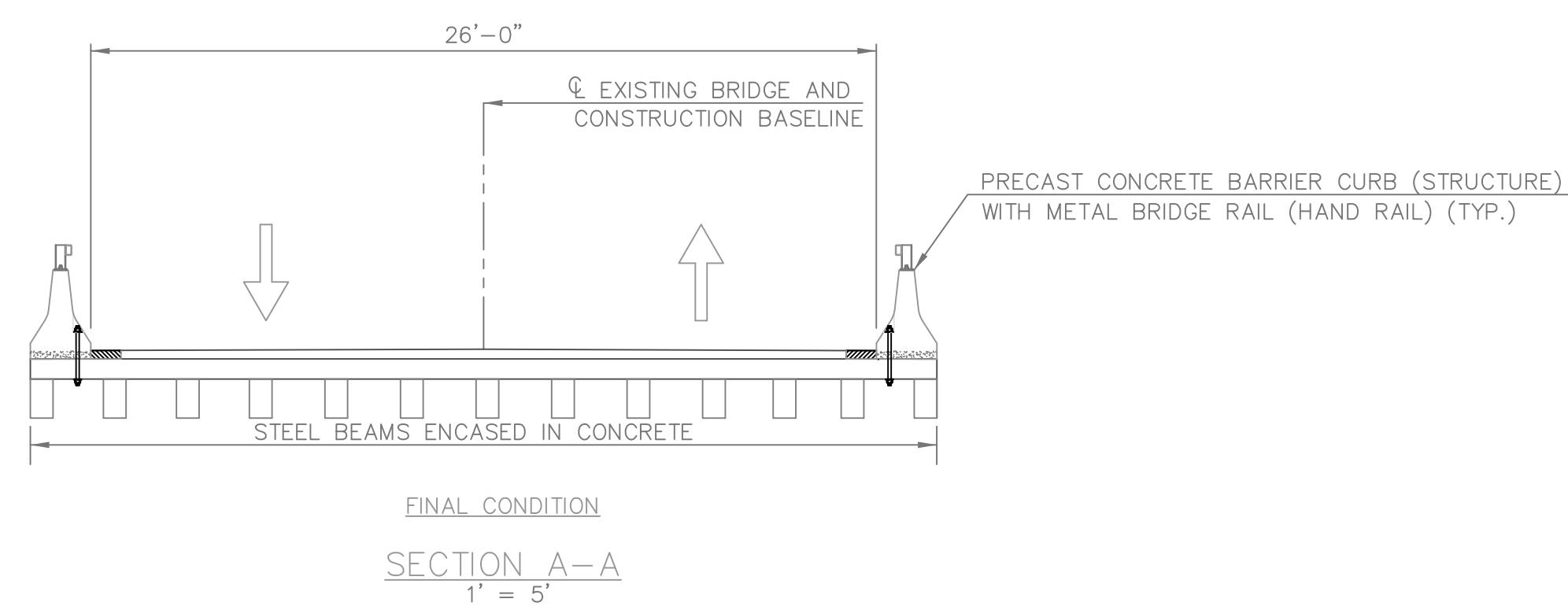
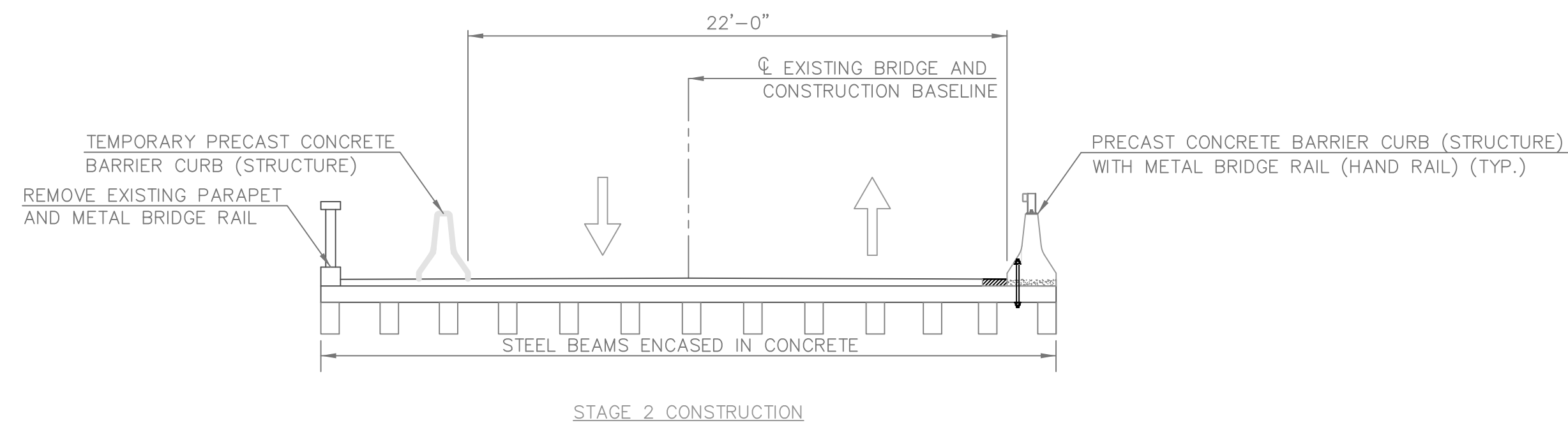
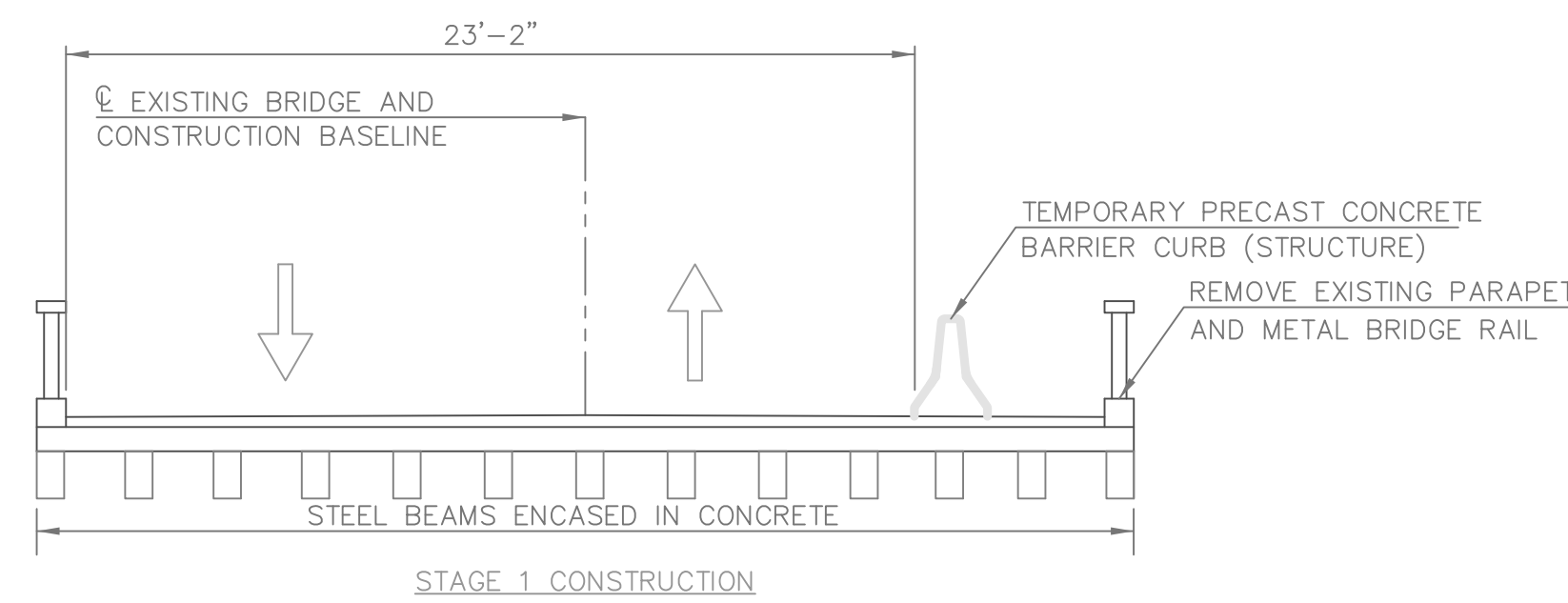
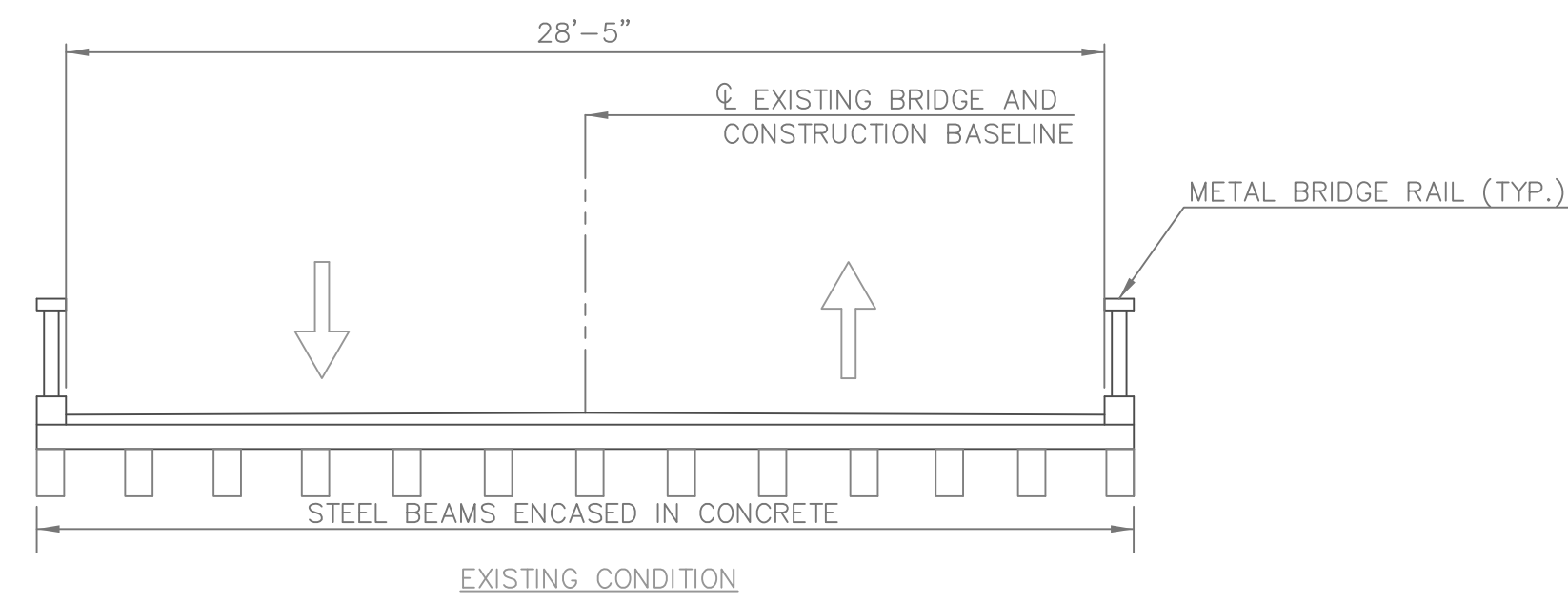


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87 HOLMES ROAD  
NEWINGTON, CT 06111  
(860) 667-9624

PREPARED FOR  
TOWN OF RIDGEFIELD  
66 PROSPECT STREET  
RIDGEFIELD, CT  
06877

PORTLAND AVE. BRIDGE REHABILITATION  
CONSTRUCTION PLAN

PORTLAND AVE BRIDGE	05064.10	SHEET	2
SIZE PROJECT	FILE NAME NUMBER	REV.	OF
			11



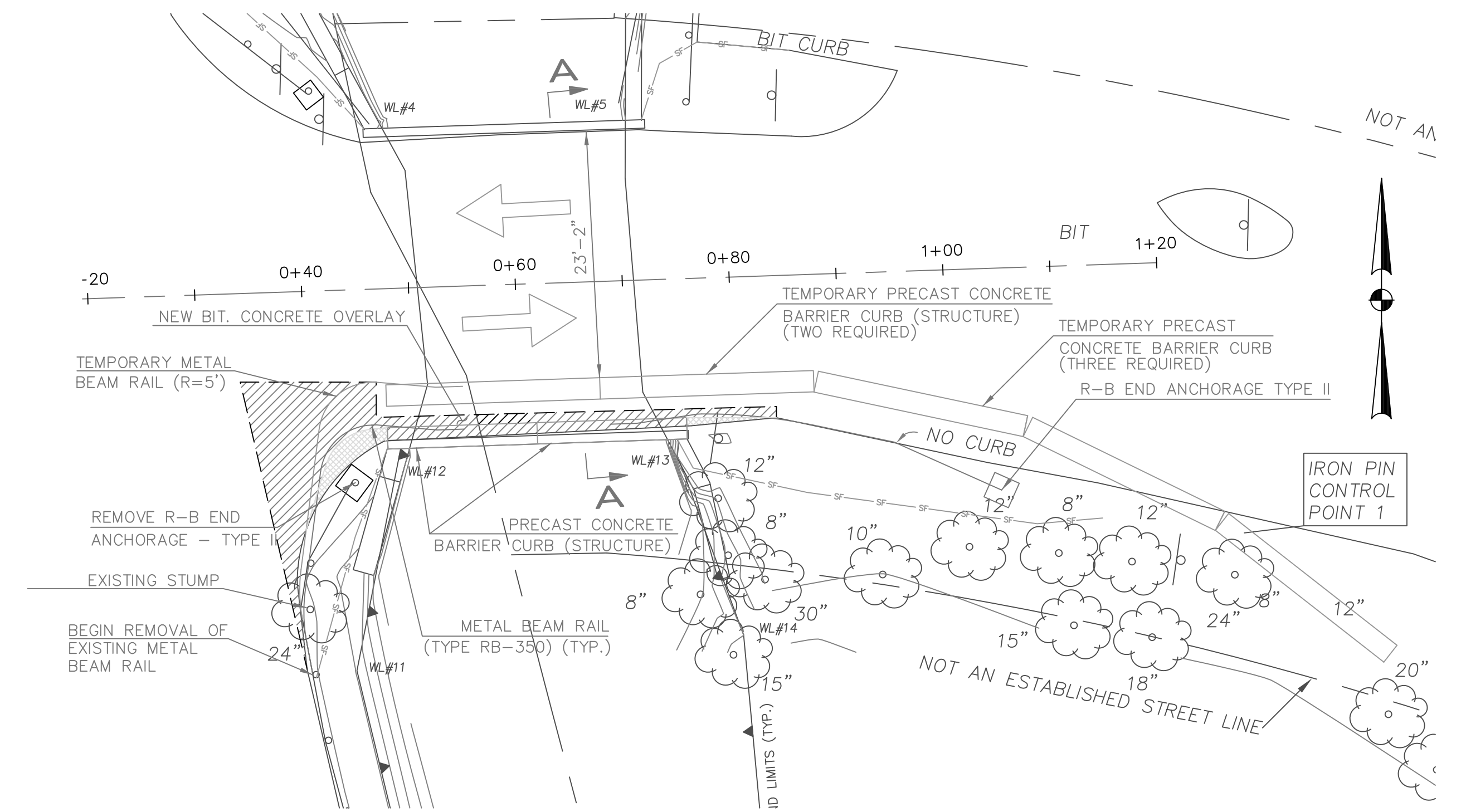
**CONSTRUCTION STAGING NOTES:**

**STAGE 1:**

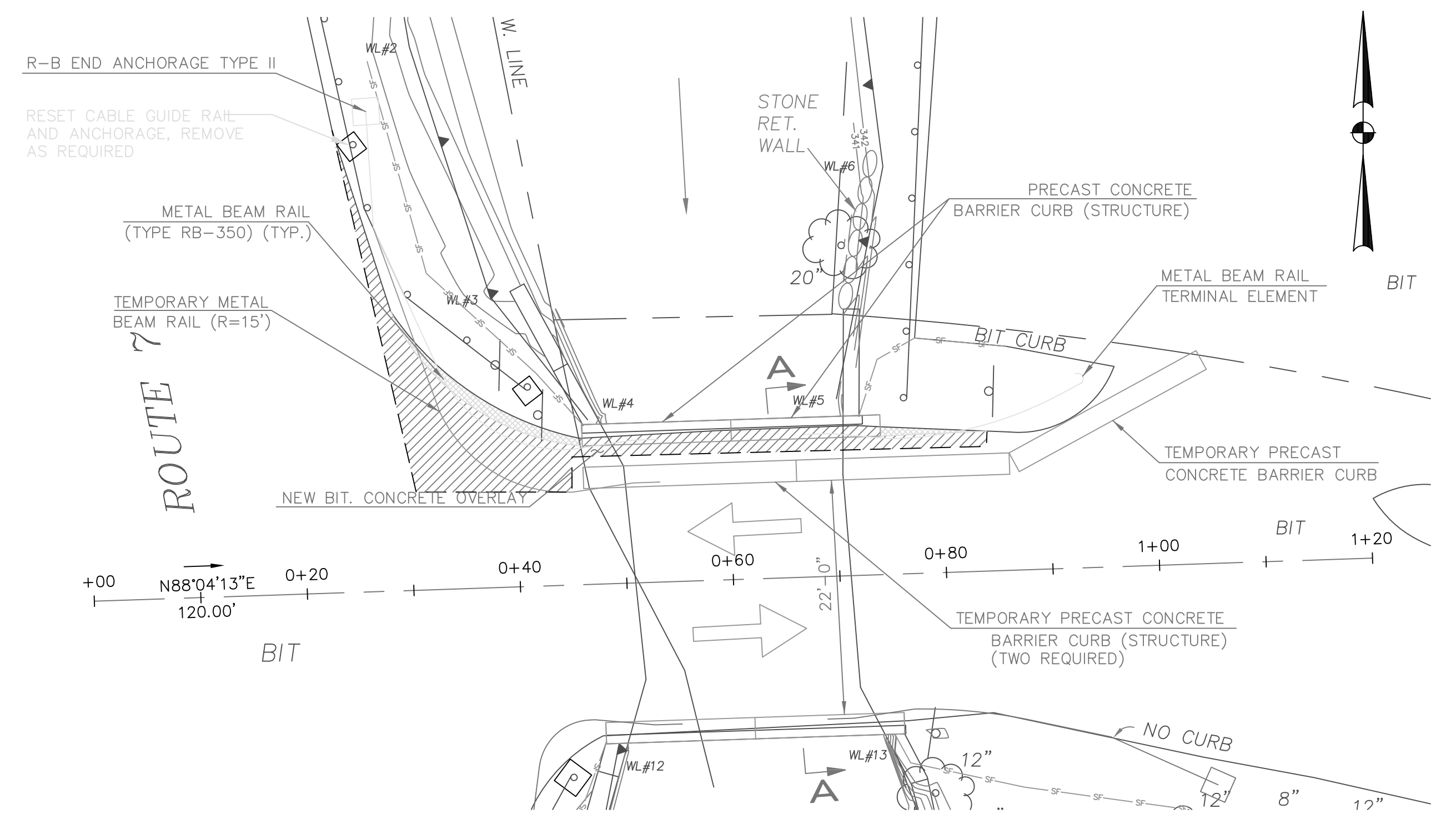
1. INSTALL SEDIMENTATION CONTROL SYSTEM AS REQUIRED.
2. PLACE TEMPORARY PRECAST CONCRETE BARRIER CURB (T.P.C.B.C.) AS SHOWN TO MAINTAIN TWO LANES OF TRAFFIC ACROSS NORTH PORTION OF THE BRIDGE AS SHOWN.
3. REMOVE EXISTING TREE, EXISTING METAL BEAM RAIL AND EXISTING R-B END ANCHORAGE AS SHOWN.
4. INSTALL TEMPORARY METAL BEAM RAIL AND CONNECT TO T.P.C.B.C. AS SHOWN.
5. INSTALL SHEILDING / PROTECTION UNDER SUPERSTRUCTURE AS REQUIRED.
6. REMOVE EXISTING METAL BRIDGE RAIL AND EXISTING CONCRETE ON SOUTH SIDE OF BRIDGE.
7. INSTALL NEW PRECAST CONCRETE BARRIER CURB (STRUCTURE) AND NEW METAL BRIDGE RAIL (HAND RAIL) ON SOUTH SIDE OF BRIDGE.
8. REMOVE TEMPORARY METAL BRIDGE RAIL AND INSTALL NEW METAL BEAM RAIL (TYPE R-B 350) AND ATTACH TO NEW BARRIER AS SHOWN.
9. REMOVE AND RECONSTRUCT BITUMINOUS CONCRETE PAVEMENT AS REQUIRED.

**STAGE 2:**

1. INSTALL SEDIMENTATION CONTROL SYSTEM AS REQUIRED.
2. RELOCATE TEMPORARY PRECAST CONCRETE BARRIER CURB (T.P.C.B.C.) AS SHOWN TO SHIFT AND MAINTAIN TWO LANES OF TRAFFIC ACROSS SOUTH PORTION OF THE BRIDGE AS SHOWN.
3. INSTALL TEMPORARY METAL BEAM RAIL AND CONNECT TO T.P.C.B.C. AS SHOWN.
4. REMOVE EXISTING METAL BRIDGE RAIL AND EXISTING CONCRETE ON NORTH SIDE OF BRIDGE.
5. INSTALL NEW PRECAST CONCRETE BARRIER CURB (STRUCTURE) AND NEW METAL BRIDGE RAIL (HAND RAIL) ON NORTH SIDE OF BRIDGE.
6. REMOVE TEMPORARY METAL BRIDGE RAIL AND INSTALL NEW METAL BEAM RAIL (TYPE R-B 350) AND ATTACH TO NEW BARRIER AS SHOWN.
7. REMOVE T.P.C.B.C. AND SHEILDING / PROTECTION UNDER SUPERSTRUCTURE.
8. REMOVE AND RECONSTRUCT BITUMINOUS CONCRETE PAVEMENT AS REQUIRED.
9. ESTABLISH TURF AND FURNISH AND INSTALL TOP SOIL.
10. REMOVE SEDIMENTATION CONTROL SYSTEM.



STAGE 1 CONSTRUCTION PLAN  
1" = 10'



STAGE 2 CONSTRUCTION PLAN  
1" = 10'

SUPV.	J.A.C.	
DESIGN	D.A.G.	
DRAWN	J.A.W.	
CHECKED	J.A.C.	
DATE	04/05/06	
NO.	DATE	DESCRIPTION
REVISIONS		

SCALE  
AS SHOWN



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RIDGEFIELD, CT  
06877

PORTLAND AVE. BRIDGE REHABILITATION  
CONSTRUCTION STAGING

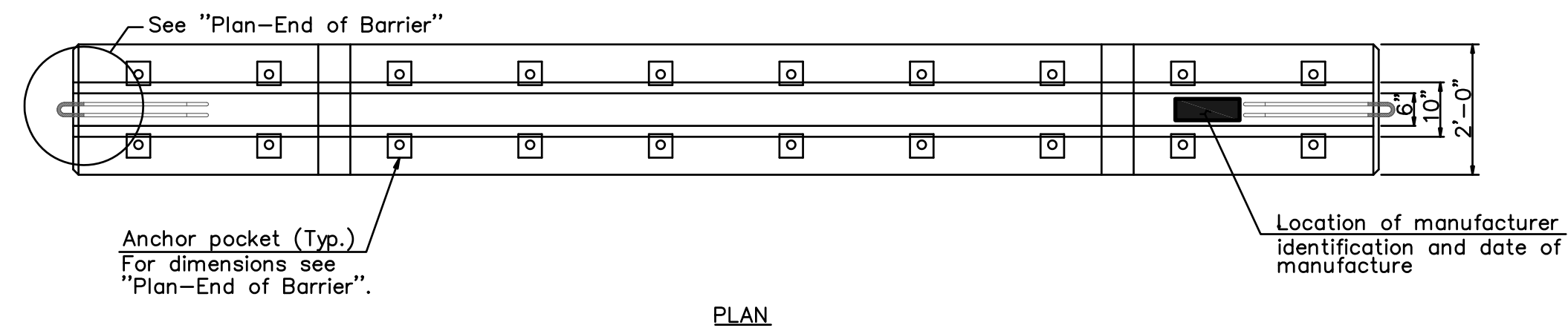
PORTLAND AVE BRIDGE	05064.10	SHEET	3
SIZE PROJECT	FILE NAME	NUMBER	REV. OF
			11

**NOTES**

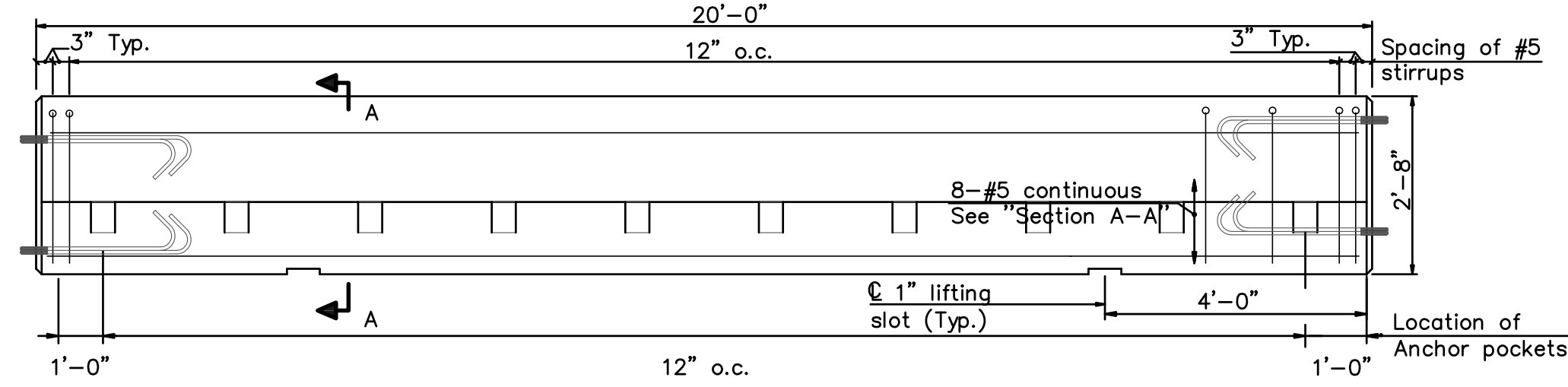
- The temporary barrier shown on this sheet shall be anchored onto bridge decks (see "Temporary Anchorage System") when it is used to protect a vertical drop-off. The temporary anchorage system shall conform to the following:
  - Prestressed Deck Units: Threaded inserts shall be used for securing temporary barrier (structure) to prestressed deck units. The threaded inserts shall be cast into the deck units during fabrication and shall be located as required to accommodate the stage construction. See special provisions for additional information.
  - Chemical Anchoring: This consists of drilling holes in new or existing concrete, placing threaded anchors in the holes, and securing the anchors with a pre-approved chemical anchor material which conforms to M.03.01-15 of the Standard Specifications. Hole diameter shall be determined by the manufacturer of the chemical anchoring material.
  - Through-Bolting: This consists of drilling through deck slabs and securing removable anchors on the underside with plate washers and nuts. Through-bolting is not permitted on new construction or prestressed concrete. Maximum hole size in slab = 1 1/2".
- Number of Anchors: On the traffic side of a typical barrier, anchors shall be installed in all pockets. At barrier units which straddle bridge expansion joints the anchor and connection details shall conform to Table "A".
- The work done on this sheet, with the exception of the delineators, shall be paid for under the item "Temporary Precast Concrete Barrier Curb (Structure)".

**NOTES FOR CONNECTION ROD DETAILS**  
(SEE "ELEVATION-BARRIER CONNECTION DETAILS")

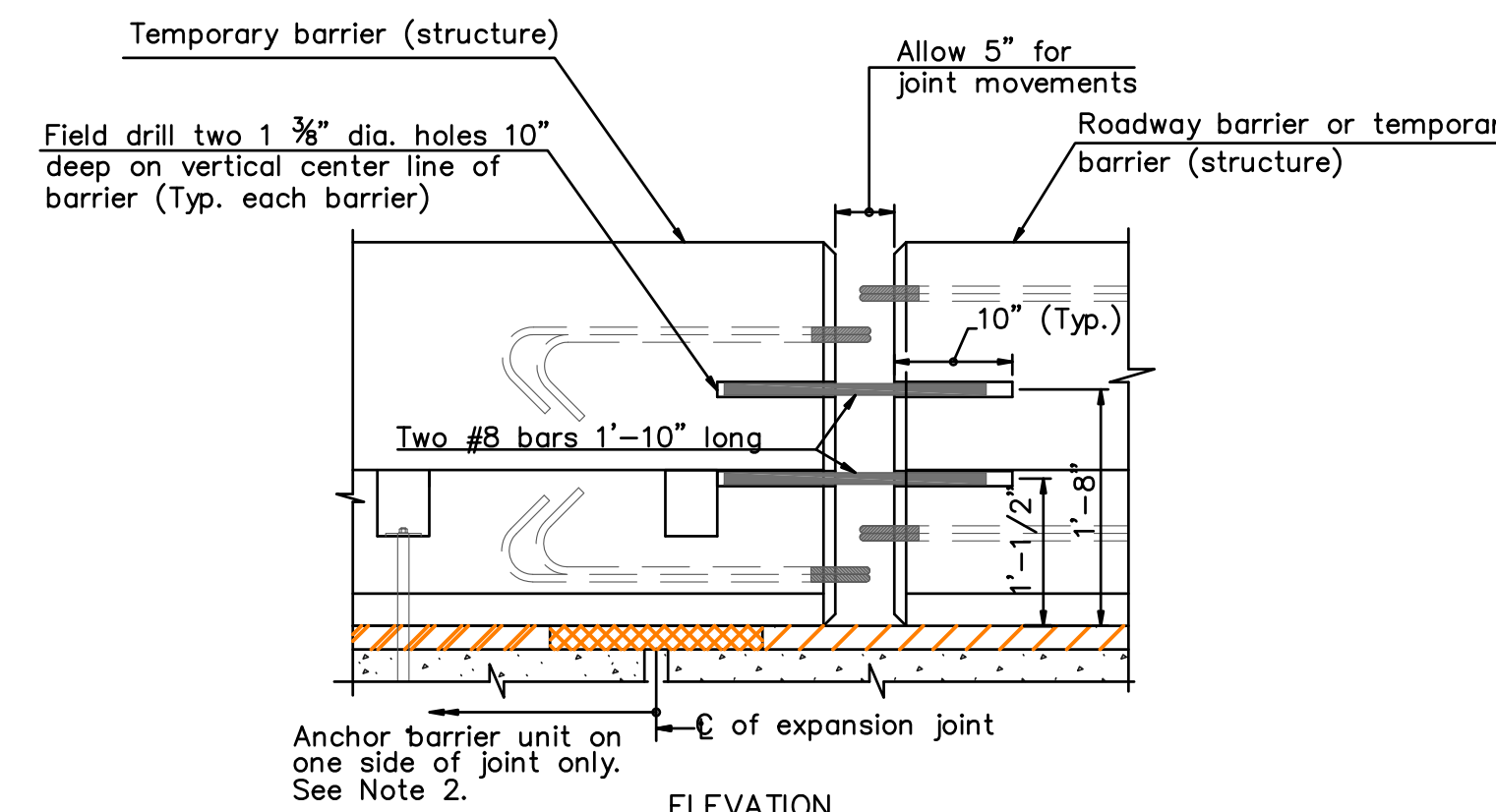
- Plain circular steel washers shall be manufactured with the following dimensions:  
Outside diameter = 2 3/4" (+ 1/4", - 0)  
Inside diameter = 1 3/8" (± 1/16")  
Thickness = 3/16"
- The nuts on the connection rod shall be turned until the bottom washer is drawn up against the loop bar. The loop bars shall not be bent due to the tightening process.
- For ease of removal the threads on the connection rods and nuts shall be waxed.



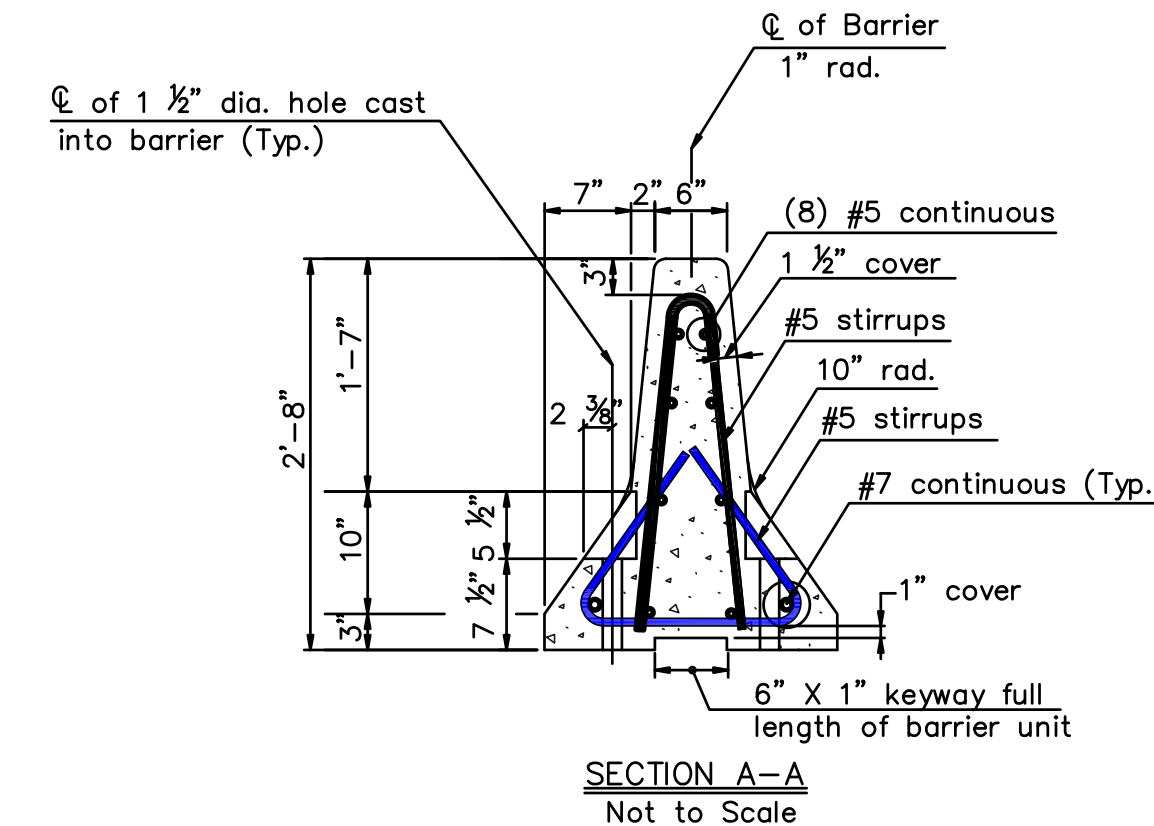
PLAN



**ELEVATION PRECAST BARRIER UNIT (STRUCTURE)**  
Not to Scale

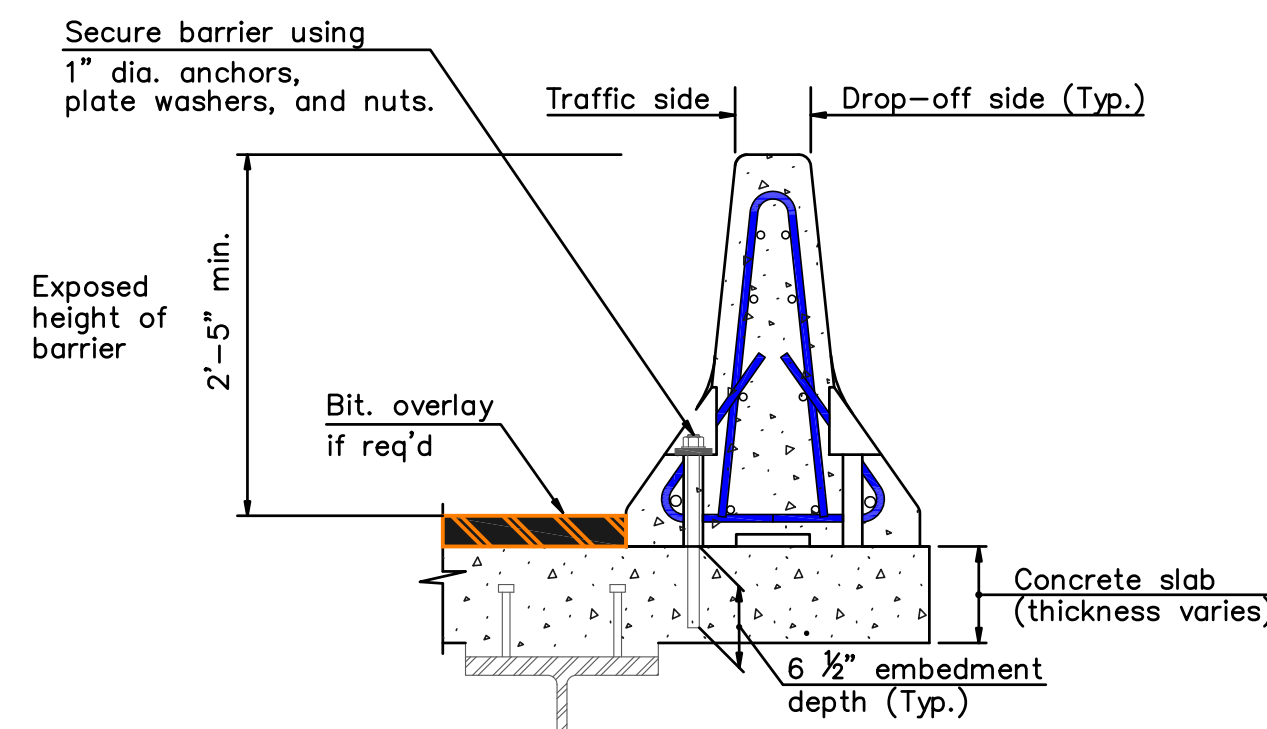


**BARRIER CONNECTION DETAILS AT EXPANSION JOINTS (CASE II SHOWN)**  
Not to Scale

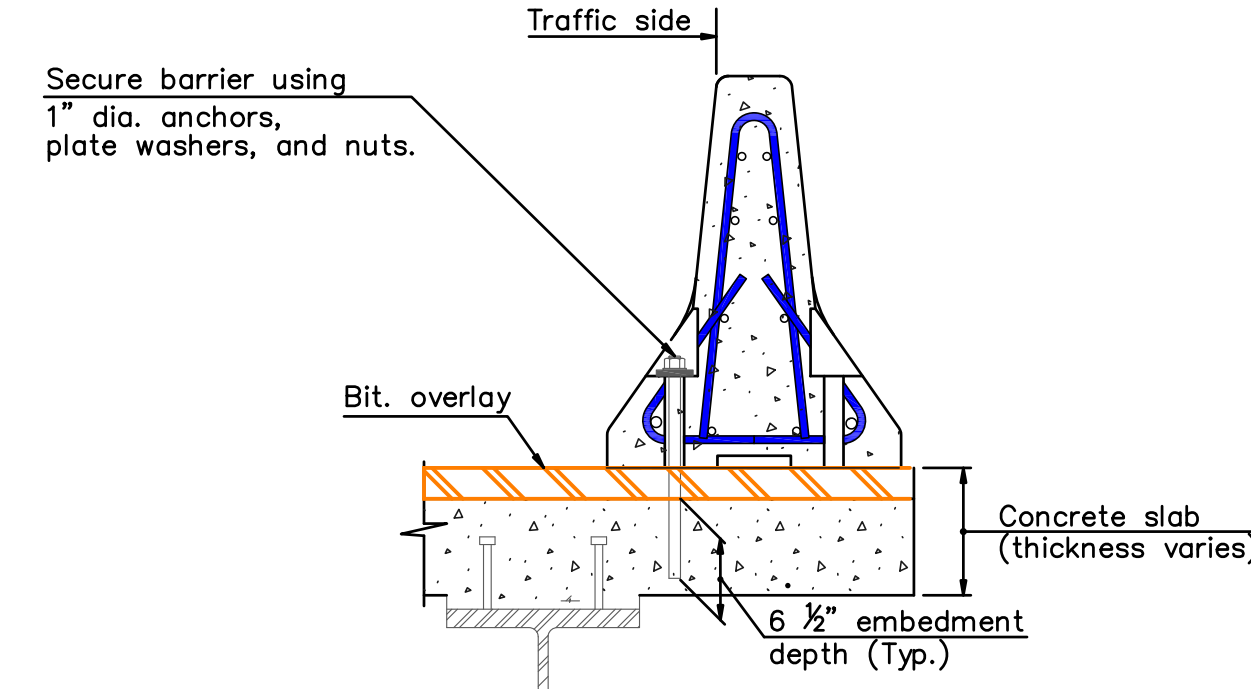


**SECTION A-A**  
Not to Scale

TABLE "A": BARRIER UNITS AT EXP. JOINTS			
Case	Span Length Contributing to Movement at the Expansion Joint.	Method of End Connection to Abutting Barrier Unit. (Where movement will occur)	Anchor Requirements for the Barrier Unit which Straddles the Bridge Joint
I.	Up to 100 feet	Use 1 3/8" connection rod but do not over tighten the nuts and allow room for expansion around the rod and loops.	On one side of the joint only, install as many anchors as possible on the traffic side of the barrier. On the other side of the joint do not install anchors.
II.	100 to 425 feet	Field drill holes in ends of both units and connect with 2-#8 bars. For details see "Barrier Connection Details".	On one side of the joint only, install a total of 10 anchors. Fill the pockets on the traffic side before filling the pockets on the drop-off side. If this cannot be achieved see III below.
III.	Over 425 feet and barrier layouts which do not satisfy II.	To be designed by Contractor and reviewed by Engineer. Cost of designing and furnishing special barrier units or attachments paid for under "TPCBC (Structure)".	To be designed by Contractor and reviewed by Engineer. Cost of designing and furnishing special barrier units or attachments paid for under "TPCBC (Structure)".



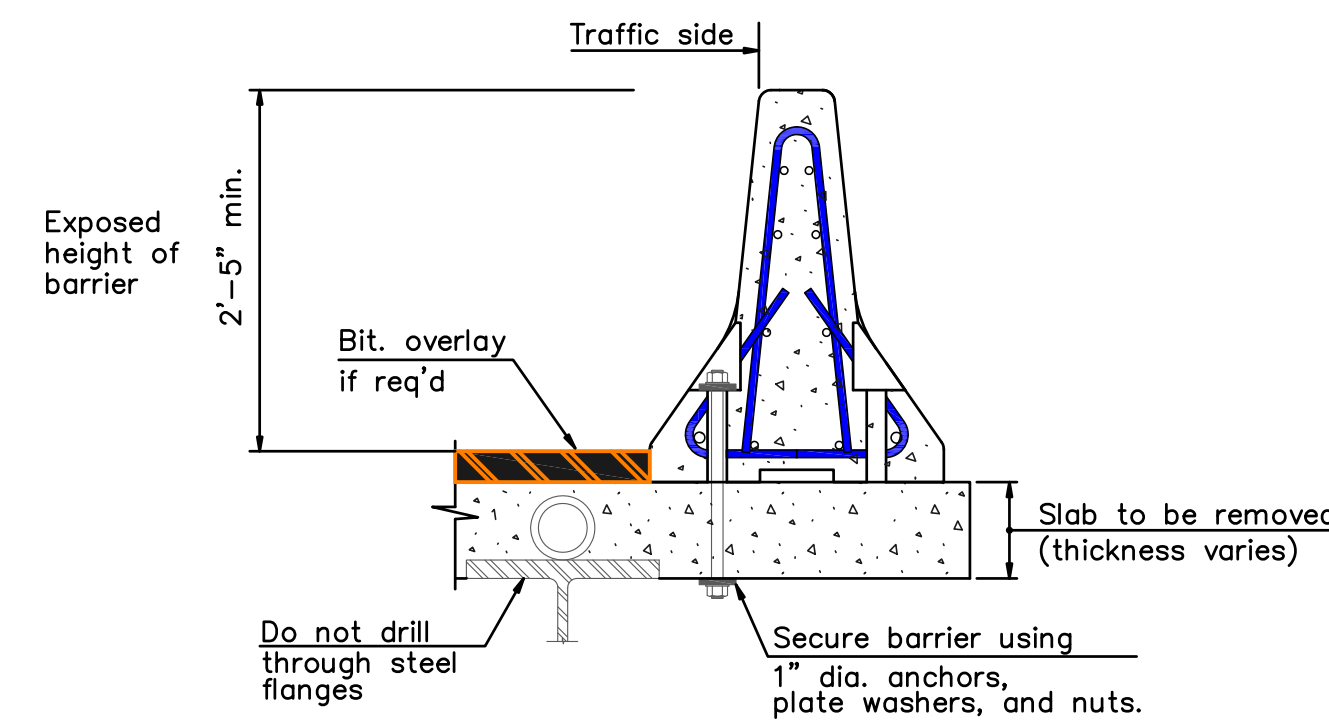
**BARRIER ON CONCRETE**



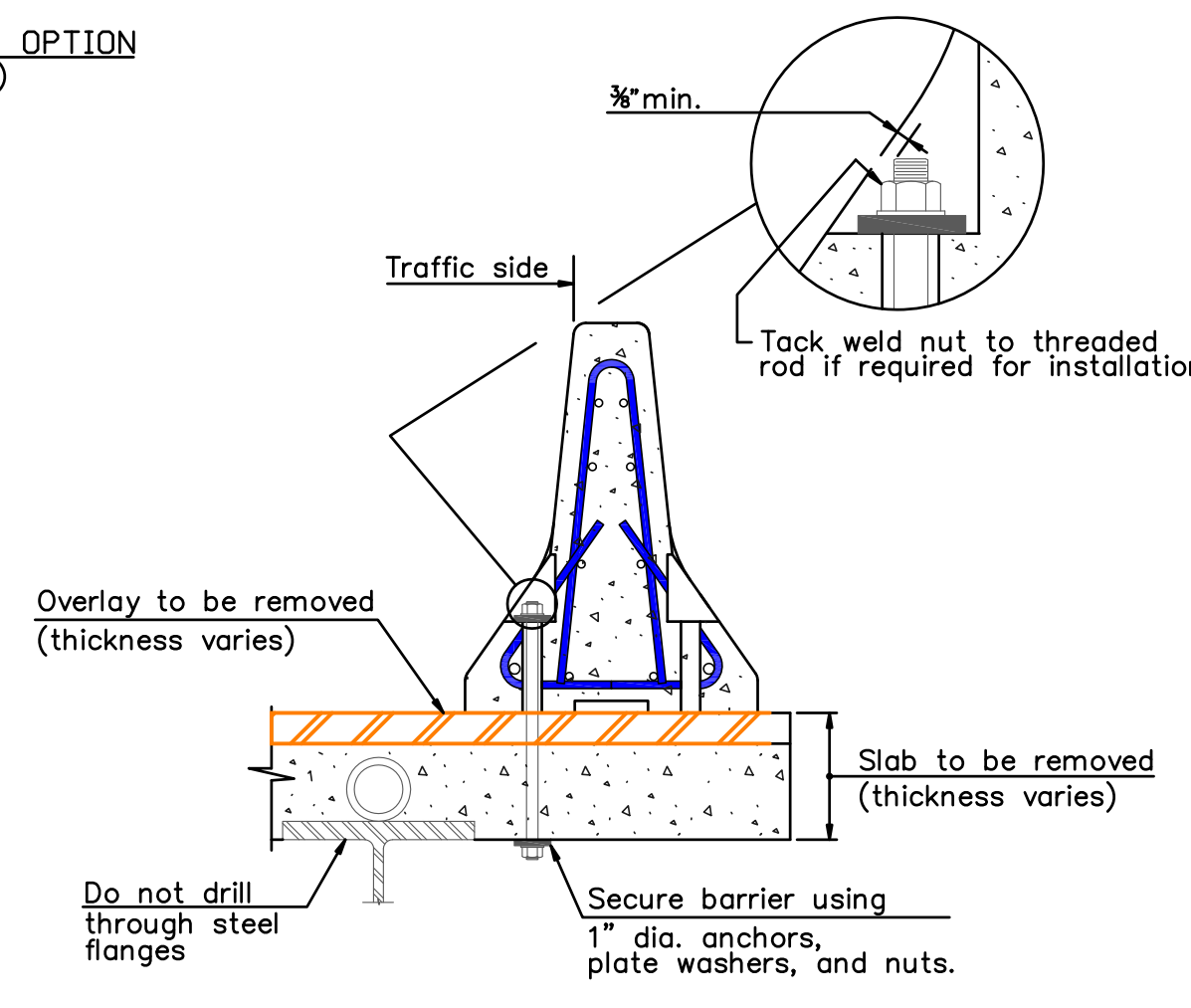
**BARRIER ON BIT OVERLAY**

- Notes:  
1) For anchoring into deck units see Note 1a.  
2) Existing reinforcing bars in slab not drawn for clarity. Avoid damaging the reinforcing bars in all newly constructed slabs.

**CHEMICAL ANCHORING OPTION**  
(See Note 1b)



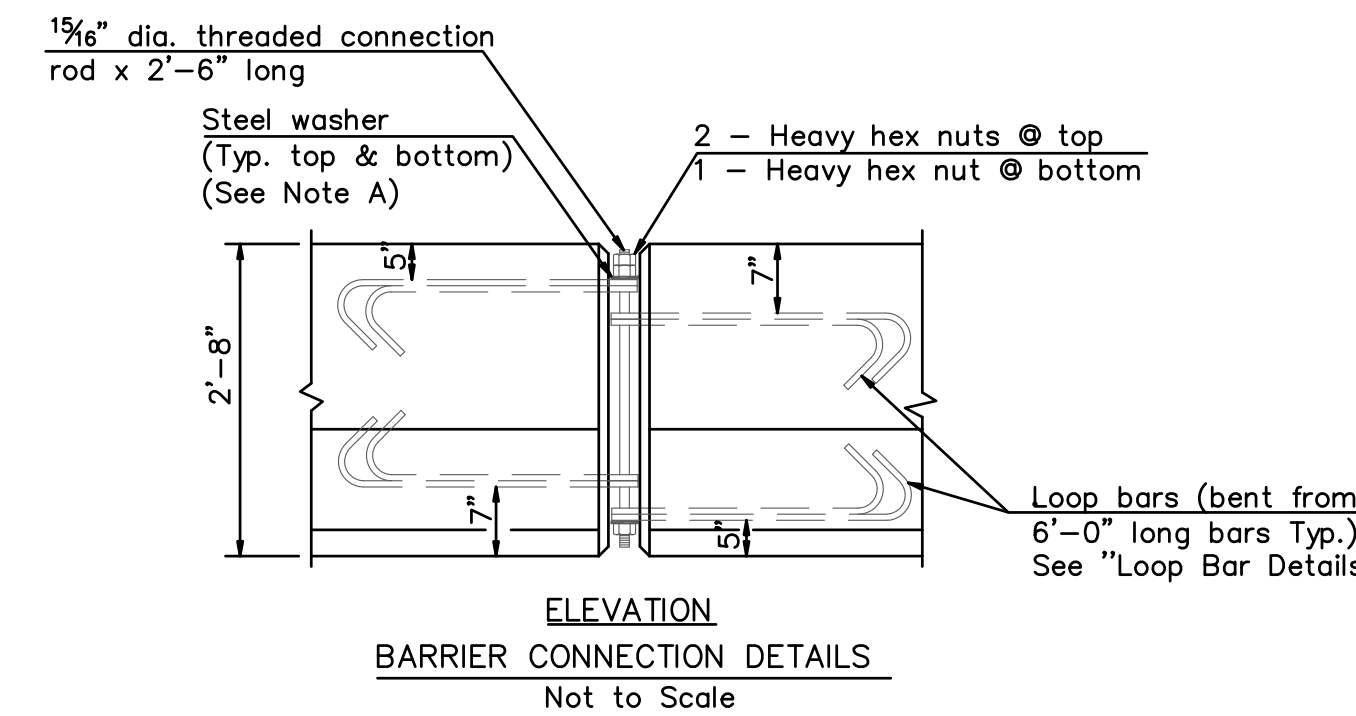
**BARRIER ON CONCRETE**



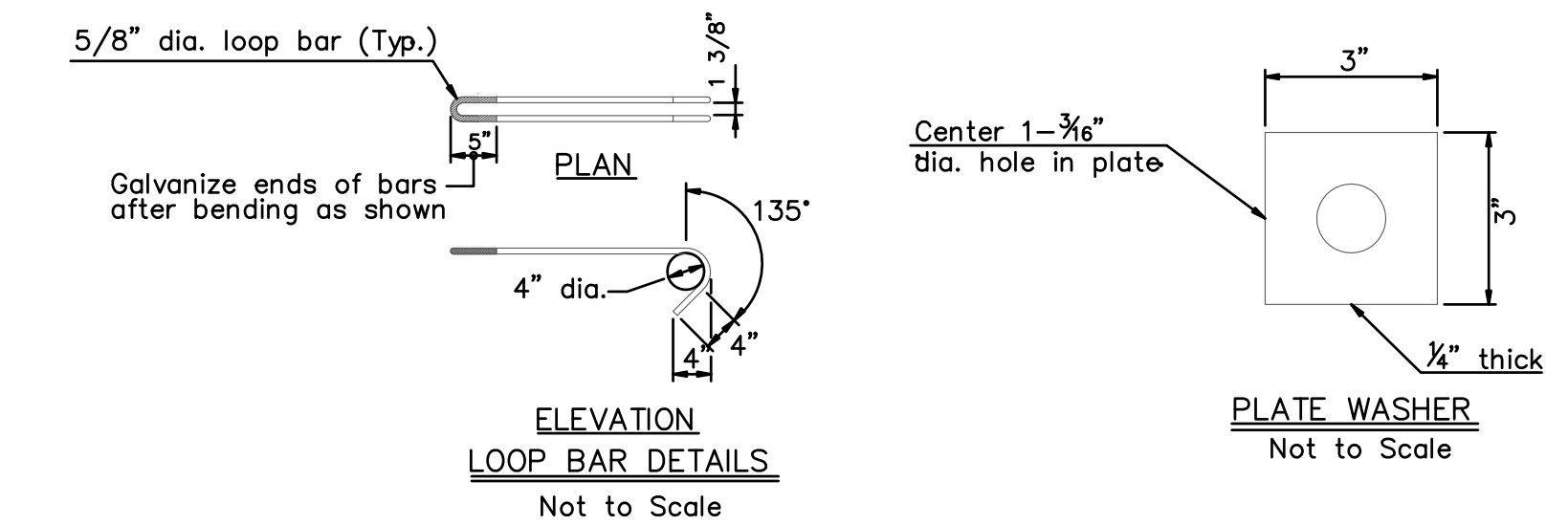
**BARRIER ON BIT OVERLAY**

**THRU-BOLTING OPTION**  
(See Note 1c)

**TEMPORARY ANCHORAGE SYSTEM**  
Not to Scale



**ELEVATION BARRIER CONNECTION DETAILS**  
Not to Scale



Encapsulated lens reflective sheeting to conform to Article M18.09

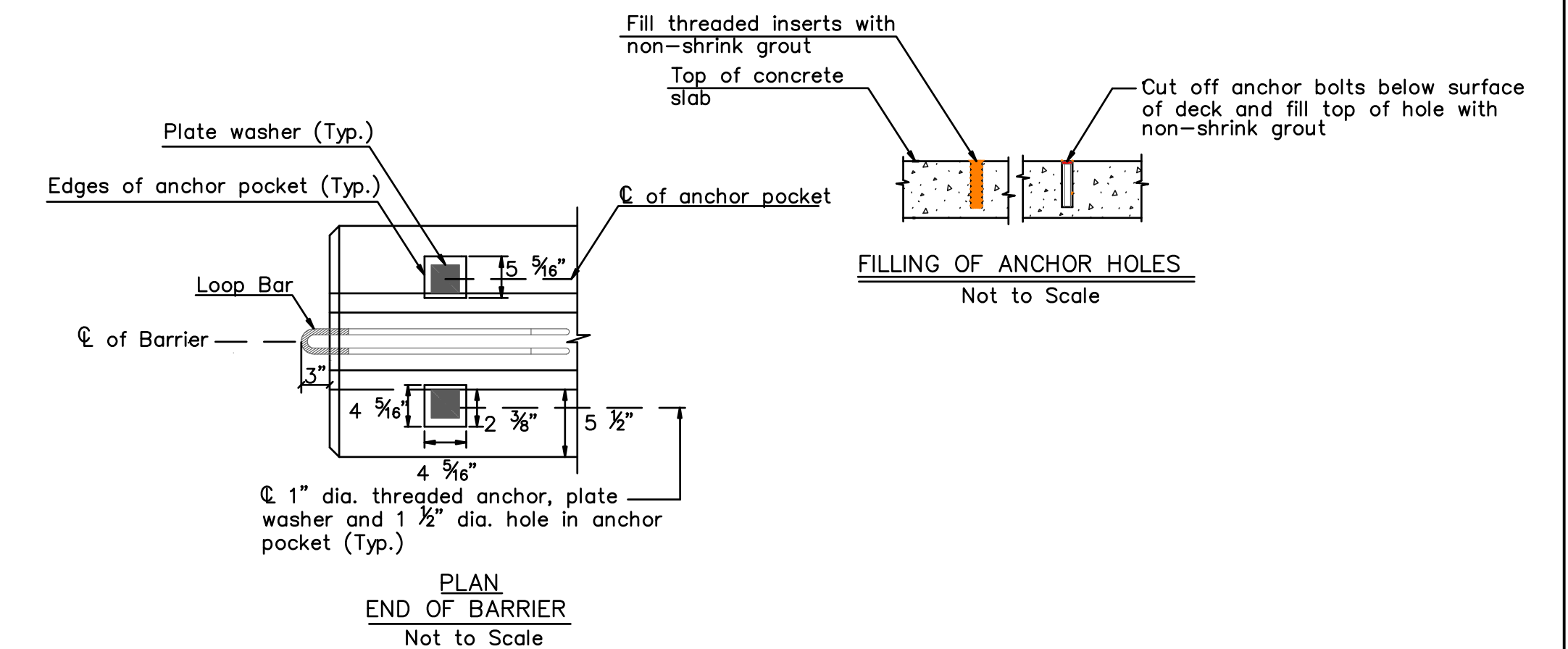
**COLOR APPLICATION**  
Left side of all roadways and ramps - YELLOW  
Right side of all roadways and ramps - SILVER

**COLOR OF DELINEATORS**  
DE-7A One Way Yellow  
DE-7 One Way Silver  
DE-7B Two Way Yellow  
DE-7C Silver/Yellow Back to Back

Delineators shall be mounted in the center of temporary barriers as required.

**SPACING OF DELINEATORS**  
On leading tapered sections - every unit (20 ft.).  
On the first 100 ft. of parallel sections - every unit (20 ft.).  
On the remaining length - every fifth (5th) unit (100 ft.).  
Minimum of 2 if less than 100 ft.  
Alternating one way traffic - every unit (20 ft.).  
All other roadways shall be delineated in accordance with M.U.T.C.D. Paid for under Item "Delineators"

**DELINEATORS**  
Not to Scale



**PLAN END OF BARRIER**  
Not to Scale

SUPV.	J.A.C.
DESIGN	D.A.G.
DRAWN	J.A.W.
CHECKED	J.A.C.
NO. DATE DESCRIPTION	DATE
REVISIONS	04/05/06

SCALE AS NOTED

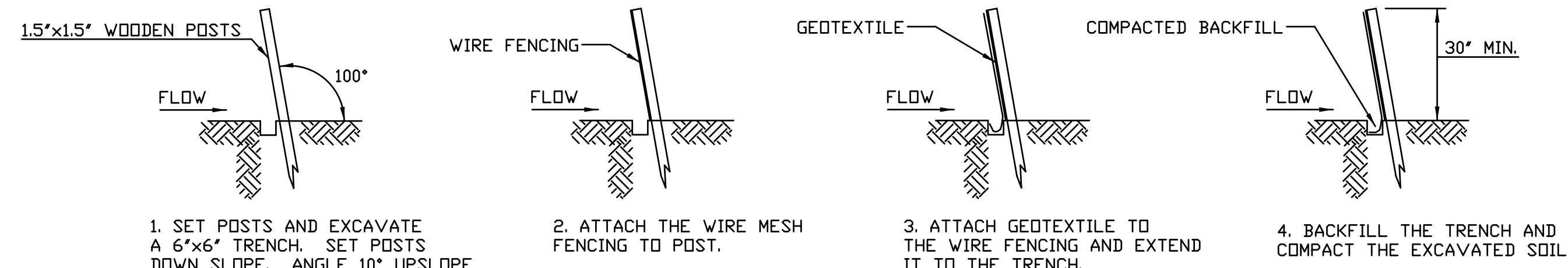


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RIDGEFIELD, CT  
06877

PORTLAND AVENUE BRIDGE REHABILITATION  
TEMPORARY PRECAST CONCRETE  
BARRIER CURB (STRUCTURE)

PORTLAND AVE BRIDGE	05064.10	SHEET 4
PROJECT FILE NAME	NUMBER	REV. OF
D -		11



1. SET POSTS AND EXCAVATE A 6"x6" TRENCH. SET POSTS DOWN SLOPE, ANGLE 10° UPSLOPE FOR STABILITY AND SELF CLEANING.

2. ATTACH THE WIRE MESH FENCING TO POST.

3. ATTACH GEOTEXTILE TO THE WIRE FENCING AND EXTEND IT TO THE TRENCH.

4. BACKFILL THE TRENCH AND COMPACT THE EXCAVATED SOIL.

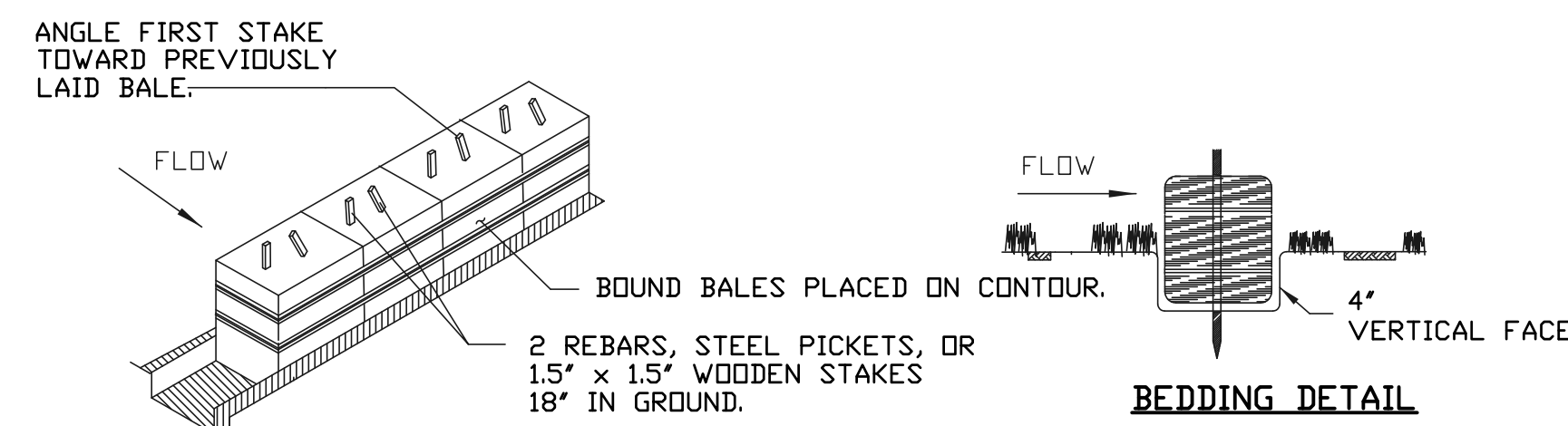
\* WHEN INSTALLATION OF TRENCH IS IMPRACTICAL, ALTERNATE INSTALLATION SHALL BE TO LAY 6" FLAP HORIZONTALLY ON GROUND AND BURY FLAP BY RAMP SOIL OR STONE UP TO CONTROL FENCE. DEPTH OF RAMP SHALL BE AS REQUIRED TO HOLD DOWN FLAP WITHOUT LEAKAGE UNDER CONTROL FENCE WHILE MAINTAINING MINIMUM HEIGHT.

**GEOTEXTILE FENCE SYSTEM**

REFER TO PAGE 5-11-35 "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL" AND PAGE 55 "ON-SITE MITIGATION FOR CONSTRUCTION ACTIVITIES".

**SEDIMENTATION CONTROL SYSTEM INSTALLATION**

N.T.S.



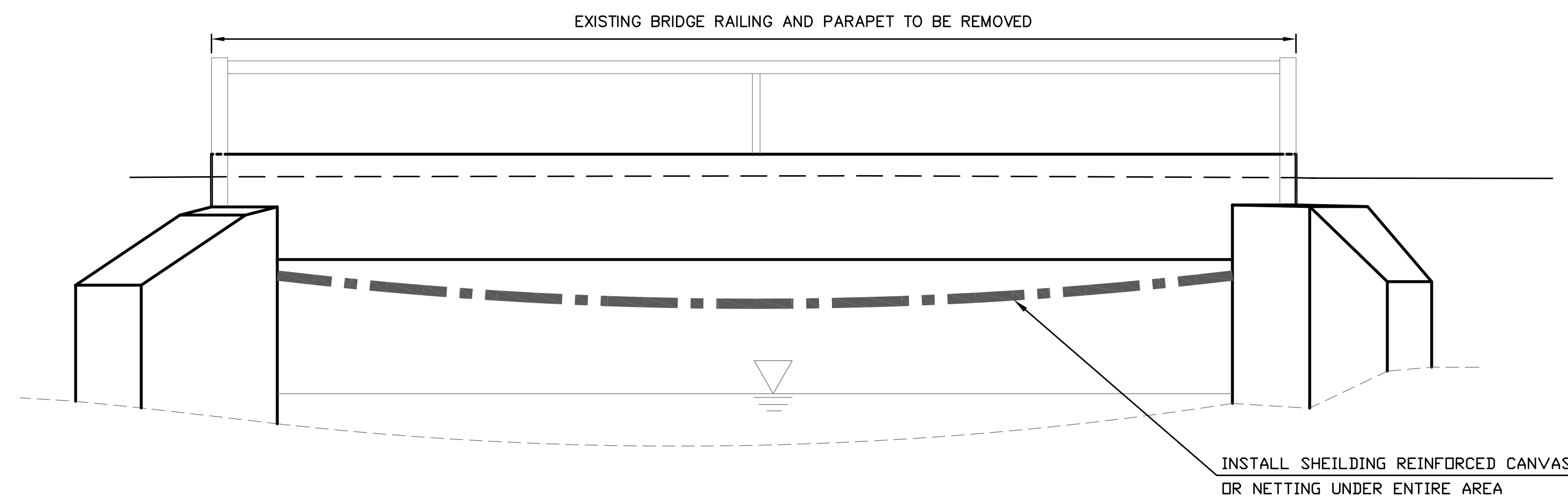
**HAY BALE CONSTRUCTION SPECIFICATIONS:**

- HAY BALES SHALL BE PLACED AROUND NEWLY INSTALLED CATCH BASINS IN SAGS AND DROP INLETS TO PREVENT SEDIMENTATION AND OTHER DEBRIS FROM ACCUMULATING ON THE GRATE OR IN THE SUMP. HAY BALES SHOULD BE KEPT CLEAN AND FREE OF DEBRIS TO FACILITATE FLOW.
- EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4", AND PLACED SO THE BINDINGS ARE HORIZONTAL.
- BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR REBARS DRIVEN THROUGH THE BALE. THE FIRST STAKE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
- INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
- BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

REFER TO PAGE 5-11-30 "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL" AND PAGE 53 "ON-SITE MITIGATION FOR CONSTRUCTION ACTIVITIES".

**HAY BALE DETAIL**

N.T.S.



**ELEVATION VIEW  
SHIELDING/PROTECTION DETAIL**

N.T.S.

NOTE: THE COST OF FURNISHING AND INSTALLING THE SHIELDING/PROTECTION WILL BE INCLUDED IN THE COST OF "REMOVAL OF EXISTING MASONRY".

**GENERAL**

THIS PLAN PROPOSES EROSION CONTROL MEASURES TO HELP CONTROL ACCELERATED EROSION AND SEDIMENTATION AND REDUCE THE DANGER FROM STORM WATER RUNOFF AT THE SITE. THE RUNOFF SHALL BE CONTROLLED BY THE INTERCEPTION, DIVERSION, AND SAFE DISPOSAL OF PRECIPITATION. RUNOFF SHALL ALSO BE CONTROLLED BY STAGING CONSTRUCTION ACTIVITY AND PRESERVING NATURAL VEGETATION WHENEVER POSSIBLE. EXISTING VEGETATION SHALL BE PROTECTED AND ONLY THAT CLEARING AND GRUBBING ABSOLUTELY NECESSARY FOR THE PROPOSED CONSTRUCTION SHALL BE PERFORMED. ALL DISTURBED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND CONTOUR, UNLESS OTHERWISE INDICATED ON THE PLANS. THE CONTRACTOR SHALL TAKE SPECIAL CARE WITH HIS CONSTRUCTION METHODS AND SHALL COMPLY WITH THE FOLLOWING GUIDELINES. REFERENCE IS MADE TO THE "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL" (2002), AS AMENDED. THE GUIDELINES ARE OBTAINABLE FROM THE CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION, 79 ELM STREET, HARTFORD, CONNECTICUT 06106, AND SHOULD BE USED AS A REFERENCE IN CONSTRUCTING THE EROSION AND SEDIMENTATION CONTROLS INDICATED ON THESE PLANS. AN ADDITIONAL REFERENCE IS THE 1994 CONNDOT PUBLICATION "ON-SITE MITIGATION FOR CONSTRUCTION ACTIVITIES".

**EROSION CONTROL**

ALL AREAS SHALL BE PROTECTED FROM EROSION DURING AND AFTER CONSTRUCTION, PARTICULARLY THE STORAGE OF EXCAVATED OR STOCKPILED MATERIAL. THE CONTRACTOR SHALL CAREFULLY STRIP ALL TOPSOIL, LOAM, OR ORGANIC MATTER PRIOR TO TRENCHING OR OTHER OPERATIONS AND SHALL STORE THEM SEPARATELY FROM ALL OTHER MATERIALS DURING EXCAVATION. EACH STOCKPILE MUST BE ADEQUATELY RINGED WITH SEDIMENTATION CONTROL SYSTEM (I.E. HAY BALES AND/OR GEOTEXTILE FENCE). DEBRIS AND OTHER WASTE RESULTING FROM EQUIPMENT MAINTENANCE AND CONSTRUCTION WILL NOT BE DISCARDED ON SITE. STABILIZING OF SLOPES SHALL BE DONE IMMEDIATELY AFTER CONSTRUCTION OF SLOPES. SLOPES STEEPER THAN 4:1 SHALL BE PROTECTED WITH EROSION CONTROL MATTING. THIS MATTING IS MANUFACTURED COMBINATIONS OF MULCH AND NETTING AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ALL OTHER AREAS SHALL BE MULCHED WITH HAY OR STRAW AT A RATE OF 2 TO 3 TONS PER ACRE. STRAW OR HAY MULCH MUST BE ANCHORED IMMEDIATELY AFTER SPREADING TO PREVENT WINDBLOWING. THE METHODS RECOMMENDED BY THE "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL" SHALL BE USED FOR THE ANCHORING OF MULCH OR NETTING.

**EROSION AND SEDIMENTATION CONTROL PLAN**

AN EROSION AND SEDIMENTATION CONTROL PLAN MUST BE SUBMITTED IN WRITING TO THE ENGINEER AND APPROVED BY THE ENGINEER PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. SEDIMENTATION CONTROL SYSTEM - THE SEDIMENTATION CONTROL SYSTEM SHALL CONSIST OF A GEOTEXTILE BARRIER FENCE. THE SEDIMENTATION CONTROL SYSTEM SHALL BE INSTALLED IMMEDIATELY AFTER A CUT SLOPE HAS BEEN GRADED, BEFORE A FILL SLOPE HAS BEEN CREATED AND AS INDICATED ON THE PLANS. THE SYSTEM IS DESIGNED TO INTERCEPT SILT AND SEDIMENT BEFORE IT REACHES THE WETLANDS OR WATERCOURSES. DEPOSITS OF SEDIMENT AND SILT ARE TO BE PERIODICALLY REMOVED FROM THE UPSTREAM SIDE OF THE FENCE. THIS MATERIAL IS TO BE SPREAD AND STABILIZED IN AREAS NOT SUBJECT TO EROSION, OR IN AREAS WHICH ARE NOT TO BE PAVED OR BUILT ON. THE SEDIMENTATION CONTROL SYSTEM IS TO BE REPLACED AS NECESSARY TO PROVIDE PROPER FILTERING ACTION. THE SYSTEM IS TO REMAIN IN PLACE AND BE MAINTAINED TO INSURE EFFICIENT SILTATION CONTROL UNTIL ALL AREAS ABOVE THE FENCE ARE STABILIZED AND VEGETATION HAS BEEN ESTABLISHED.

STACKED HAY BALES - HAY OR STRAW BALES USED FOR EROSION CONTROL SHALL BE STACKED AT CATCH BASINS WHERE SEDIMENT MAY ENTER THE CATCH BASIN OR AS DIRECTED BY THE RESIDENT ENGINEER. DEPOSITS OF SEDIMENT AND SILT ARE TO BE PERIODICALLY REMOVED FROM THE UPSTREAM SIDE OF THE EROSION CHECKS. THIS MATERIAL IS TO BE SPREAD AND STABILIZED IN AREAS NOT SUBJECT TO EROSION, OR IN AREAS WHICH ARE NOT TO BE PAVED OR BUILT ON. HAY OR STRAW BALES ARE TO BE REPLACED AS NECESSARY TO PROVIDE PROPER FILTERING ACTION. THE SYSTEM IS TO REMAIN IN PLACE AND BE MAINTAINED TO INSURE EFFICIENT SILTATION CONTROL UNTIL ALL AREAS ABOVE THE EROSION CHECKS ARE STABILIZED AND VEGETATION HAS BEEN ESTABLISHED.

IN ALL AREAS, REMOVAL OF TREES, BUSHES, AND OTHER VEGETATION, AND DISTURBANCE OF THE SOIL, IS TO BE KEPT TO AN ABSOLUTE MINIMUM WHILE ALLOWING PROPER DEVELOPMENT OF THE SITE.

DURING CONSTRUCTION, AS SMALL AN AREA OF SOIL AS POSSIBLE SHOULD BE EXPOSED FOR AS SHORT A TIME AS POSSIBLE. AFTER CONSTRUCTION, GRADE, RESPREAD TOPSOIL, AND STABILIZE SOIL BY SEEDING AND MULCHING AS TO PREVENT EROSION.

**EROSION AND SEDIMENTATION CONTROL MAINTENANCE PROCEDURES**

ALL EROSION AND SEDIMENTATION CONTROL DEVICES SHALL BE INSPECTED DURING CONSTRUCTION ON A DAILY BASIS AND FOLLOWING ALL STORMS BY THE RESIDENT ENGINEER. THE CONTRACTOR SHALL MAINTAIN AND MAKE REPAIRS AND REMOVE SEDIMENT AS REQUESTED BY THE RESIDENT ENGINEER. THIS WORK SHALL BE PERFORMED WITHIN 24 HOURS OF THE REQUEST AND THERE SHALL BE NO SEPARATE PAYMENT FOR THIS WORK.

THE CONTRACTOR SHALL CLEAN SEDIMENT AND DEBRIS FROM ALL DRAINAGE STRUCTURES, AND PIPES AT THE COMPLETION OF CONSTRUCTION, AND AS REQUESTED BY THE RESIDENT INSPECTOR TO KEEP THE SYSTEM FUNCTIONING PROPERLY DURING CONSTRUCTION.

FOLLOWING COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL REPAIR ALL ERODED AREAS AND ENSURE A GOOD STAND OF TURF IS ESTABLISHED THROUGHOUT. THE CONTRACTOR SHALL REPAIR ALL ERODED OR DISPLACED RIPRAP, AND CLEAN SEDIMENT COVERED STONES.

ALL APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES SHOULD BE ESTABLISHED PRIOR TO AND BE MAINTAINED THROUGH ALL CONSTRUCTION PHASES.

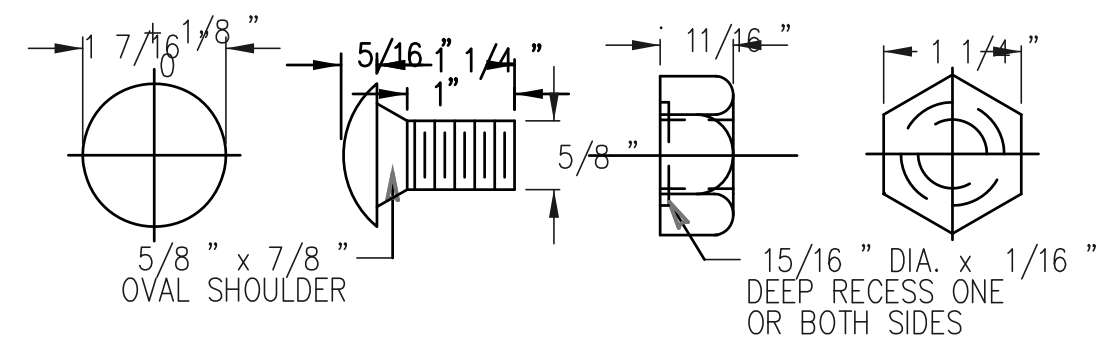
SUPV.	J.A.C.
DESIGN	D.A.G.
DRAWN	J.A.W.
CHECKED	J.A.C.
DATE	04/05/06
<b>REVISIONS</b>	
NO.	DATE
	DESCRIPTION

SCALE	AS NOTED
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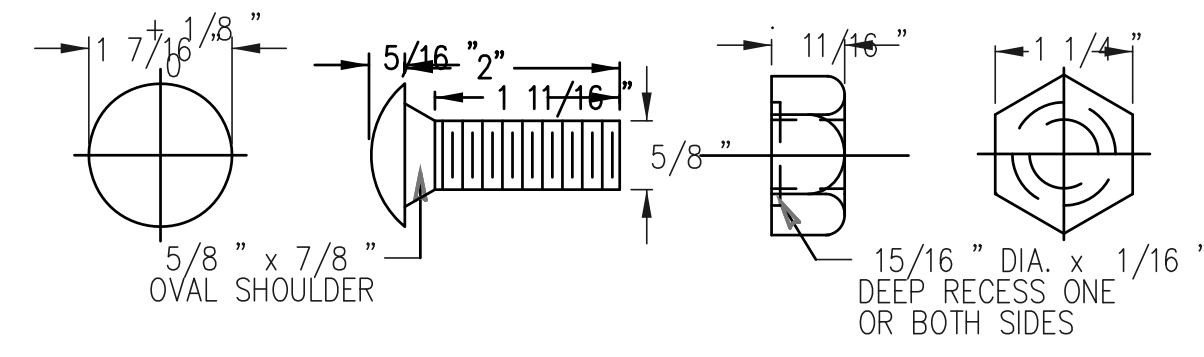
PORTLAND AVENUE BRIDGE REHABILITATION EROSION & SEDIMENTATION DETAILS			
D	-WOOSTER STREET-	05064.10	SHEET 5
SIZE	PROJECT	FILE NAME	NUMBER REV. OF
			11



BUTTONHEAD BOLT      HEX NUT

NOTE: AFTER GALVANIZING, THE NUT SHALL BE FREE RUNNING ON THE BOLT.

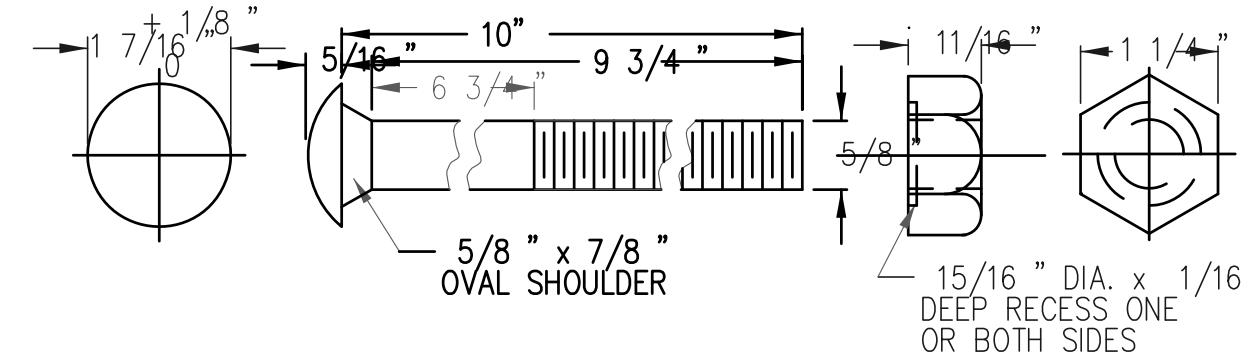
W-BEAM SPLICE BOLT AND NUT DETAIL



BUTTONHEAD BOLT      HEX NUT

NOTE: AFTER GALVANIZING, THE NUT SHALL BE FREE RUNNING ON THE BOLT.

POST BOLT AND NUT DETAIL FOR R-B 350 SYSTEM 6 RUBRAIL



BUTTONHEAD BOLT      HEX NUT

NOTE: AFTER GALVANIZING, THE NUT SHALL BE FREE RUNNING ON THE BOLT. UNTHREADED PORTION NOT TO EXCEED 6 1/2".

POST BOLT AND NUT DETAIL FOR R-B 350 & MD-B 350 GUIDERAIL

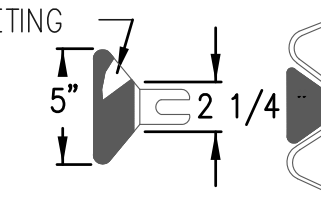
DELINEATOR NOTES:

1. DELINEATORS SHALL BE FORMED OF .080 POLY-CARBONATE OR .080 SHEET ALUMINUM IN CONFORMANCE WITH M.18.13.
2. REFLECTIVE SHEETING SHALL CONFORM TO M.18.09.02 REFLECTIVE BRIGHT WIDE ANGLE RETROREFLECTIVE SHEETING.
3. DELINEATORS SHALL BE INSTALLED ON THE POST CLOSEST TO THE DESIGNATED SPACING.
4. REFLECTIVE SHEETING SHALL BE WHITE EXCEPT ON THE LEFT SIDE OF DIVIDED STREETS, HIGHWAYS, RAMPS, AND ONE WAY ROADS IN THE DIRECTION OF TRAVEL WHEN IT SHALL BE YELLOW.
5. ONLY REFLECTORIZE RAIL THAT IS PARALLEL TO AND NOT GREATER THAN 6 FEET FROM THE EDGE OF THE ROADWAY. A MINIMUM OF THREE DELINEATORS MUST BE INSTALLED ON ANY RUN OF RAIL.

DELINEATOR SPACING:

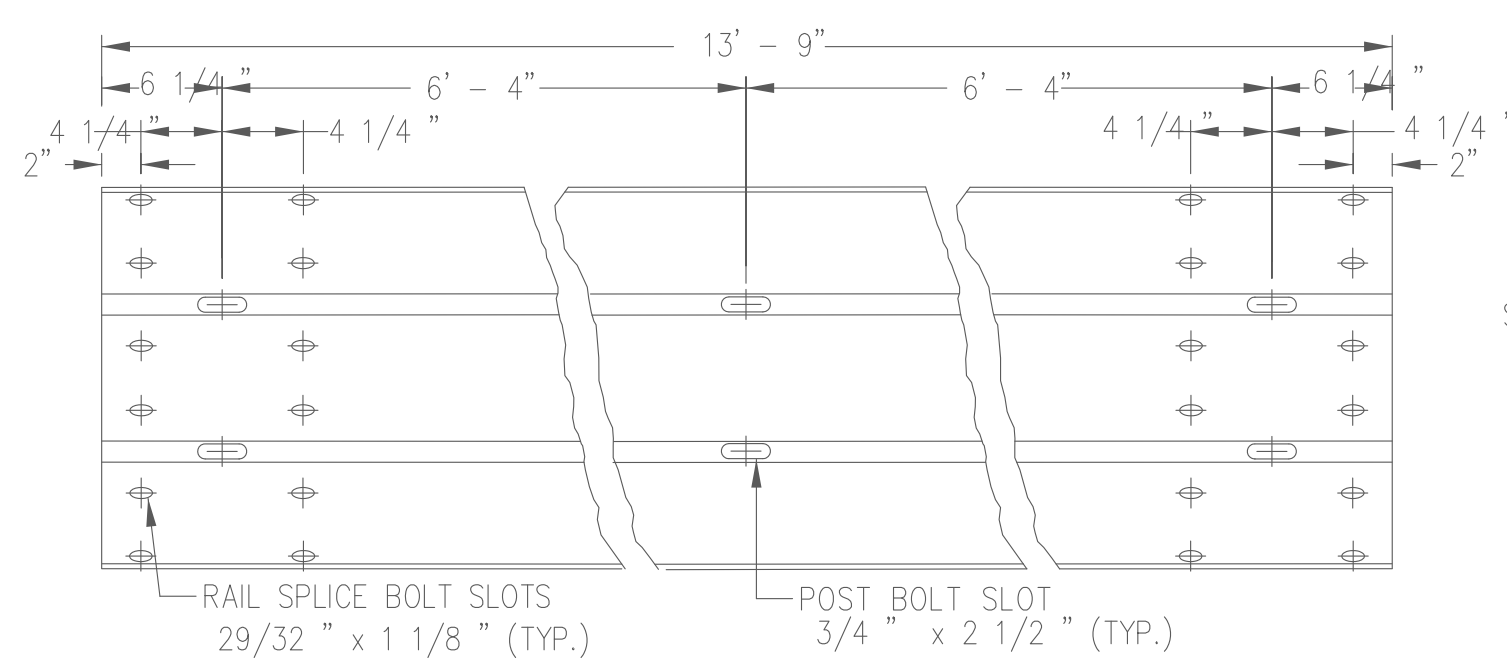
RADIUS > 300 ft - SPACE EVERY 50 ft  
RADIUS < 300 ft - SPACE EVERY 25 ft

DELINEATOR DETAIL

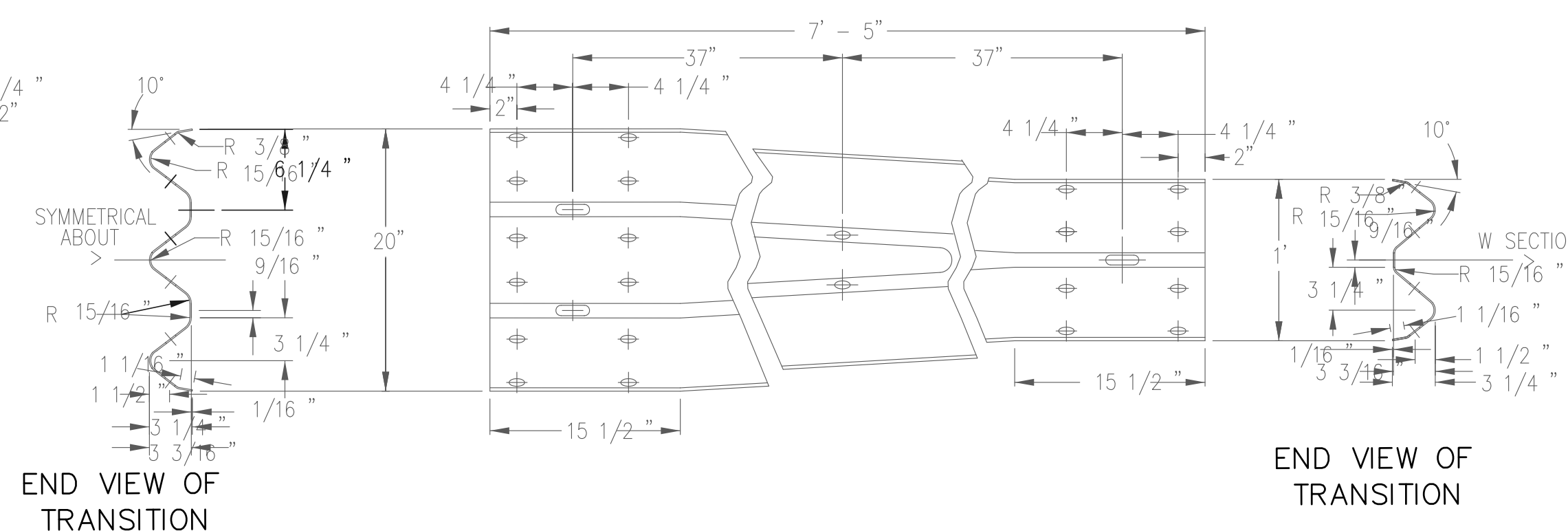


GENERAL NOTE:

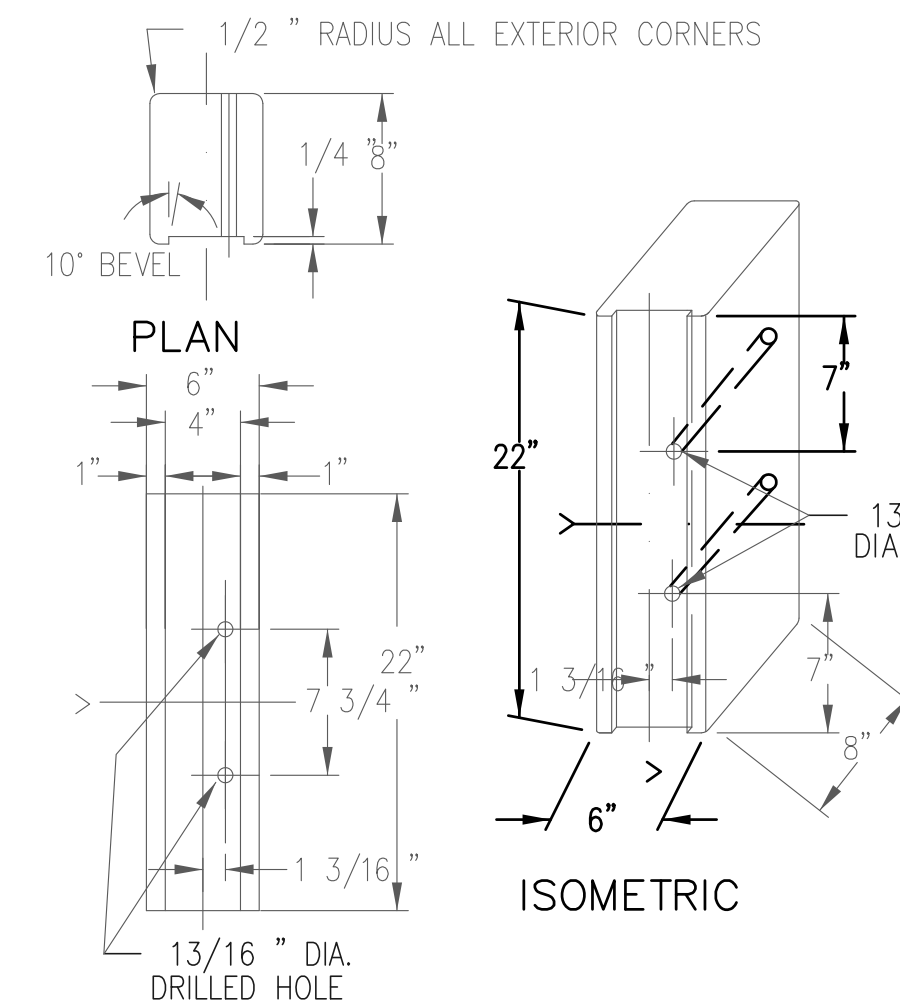
1. NEW R-B 350 GUIDERAIL INCLUDING SYSTEMS ANCHORS AND TRANSITIONS INSTALLED ON LIMITED ACCESS HIGHWAYS AND RAMPS SHALL USE CLASS B TYPE II (10 GAUGE) W-BEAM RAIL ELEMENTS.
2. WHEN CORE 10 POSTS ARE SPECIFIED, 4 FEET SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-123. THE GALVANIZED COATING SHALL REMAIN EXPOSED A MINIMUM OF 1" AFTER INSTALLATION.



TYPICAL THREE-BEAM RAIL ELEMENT CLASS B, TYPE II

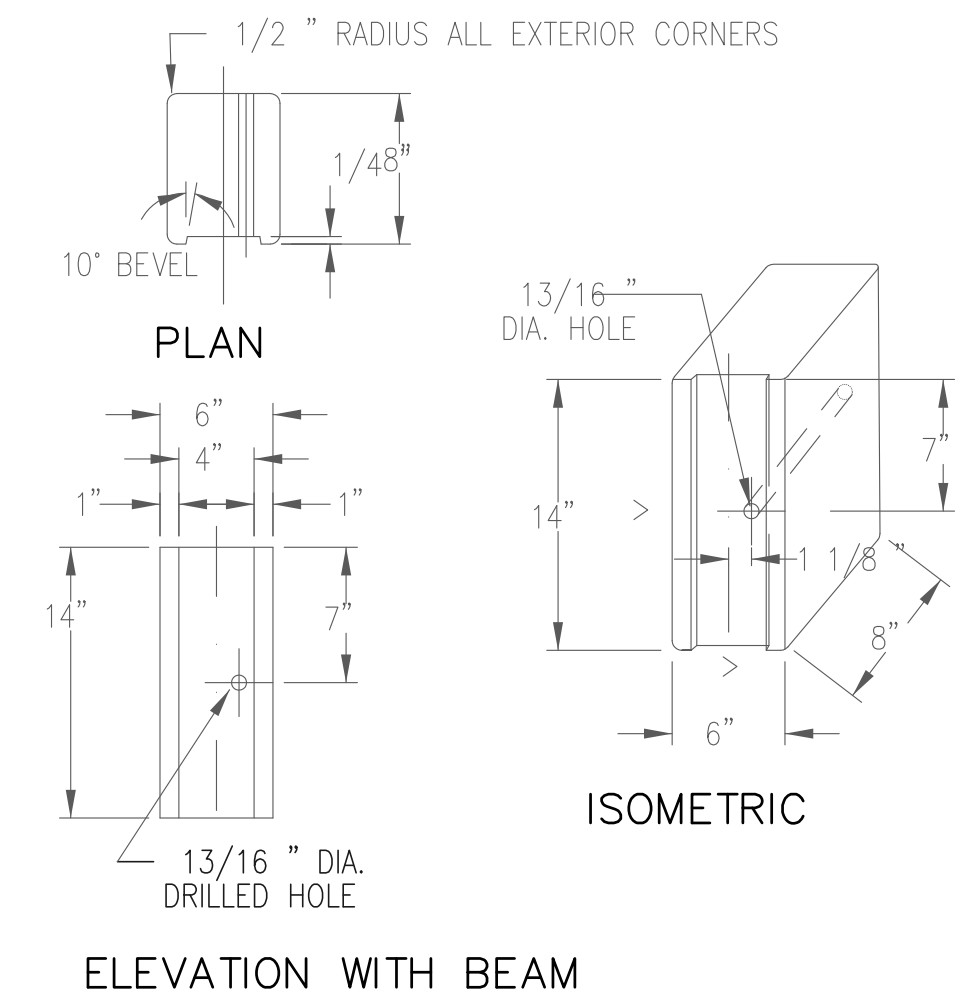


TYPICAL THREE-BEAM TRANSITION ELEMENT CLASS B, TYPE II



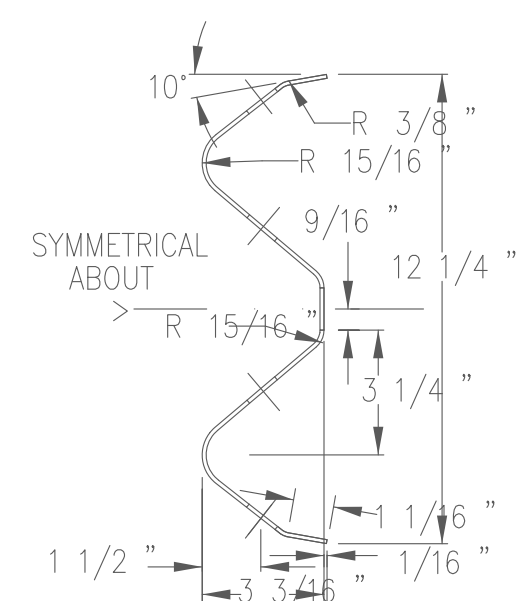
ELEVATION

THREE-BEAM POLYETHYLENE BLOCKOUT DETAIL



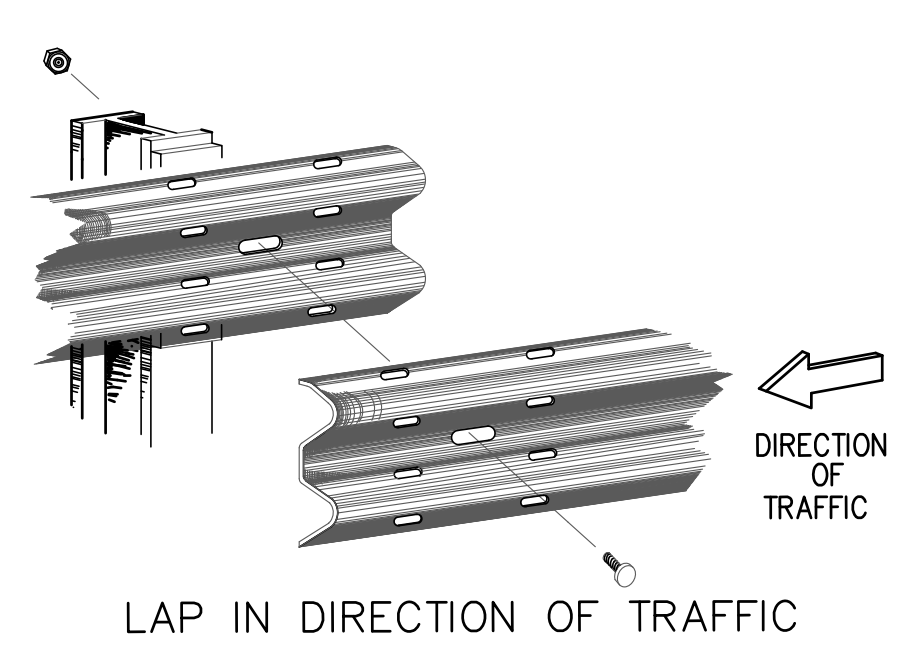
ELEVATION WITH BEAM

R - B 350 POLYETHYLENE BLOCKOUT DETAIL

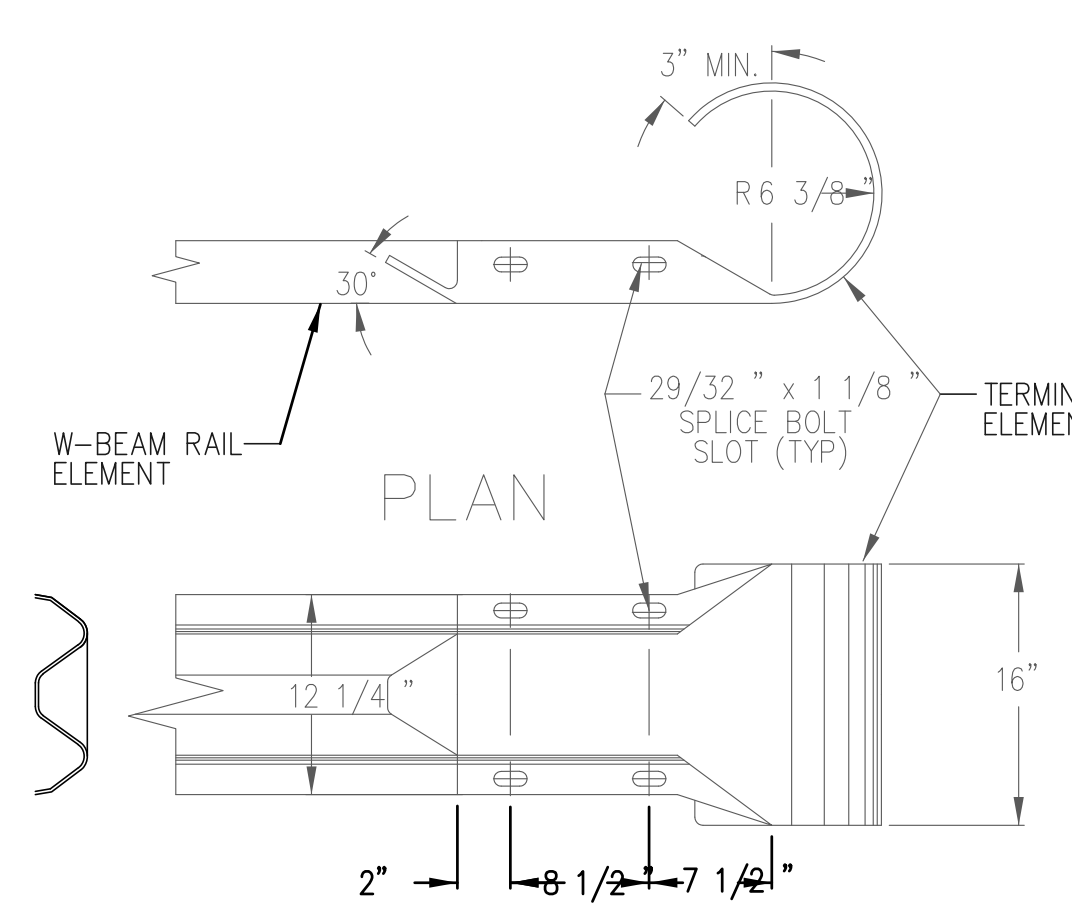


SECTION THRU RAIL ELEMENT DETAIL

NOTE: ALL DIMENSIONS SUBJECT TO MANUFACTURING TOLERANCES



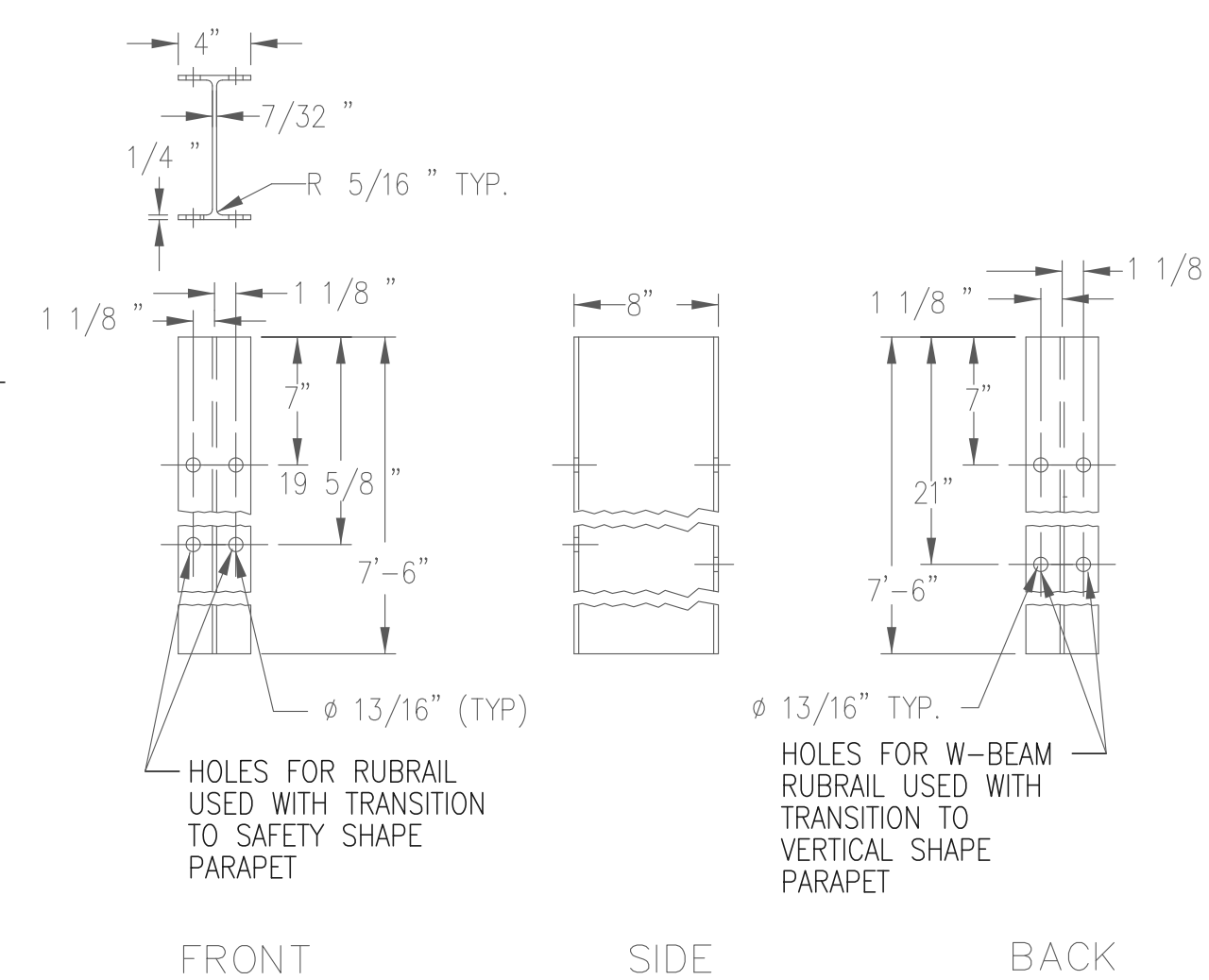
LAP IN DIRECTION OF TRAFFIC



ELEVATION

R-B TERMINAL SECTION CLASS A TYPE II

NOTE: THIS END SECTION IS NOT CRASH WORTHY. IT IS INTENDED FOR USE PRIMARILY ON LOW SPEED ROADWAYS, DRIVEWAY ENTRANCES, OR PARKING LOTS WHERE IT CAN NOT BE HIT.

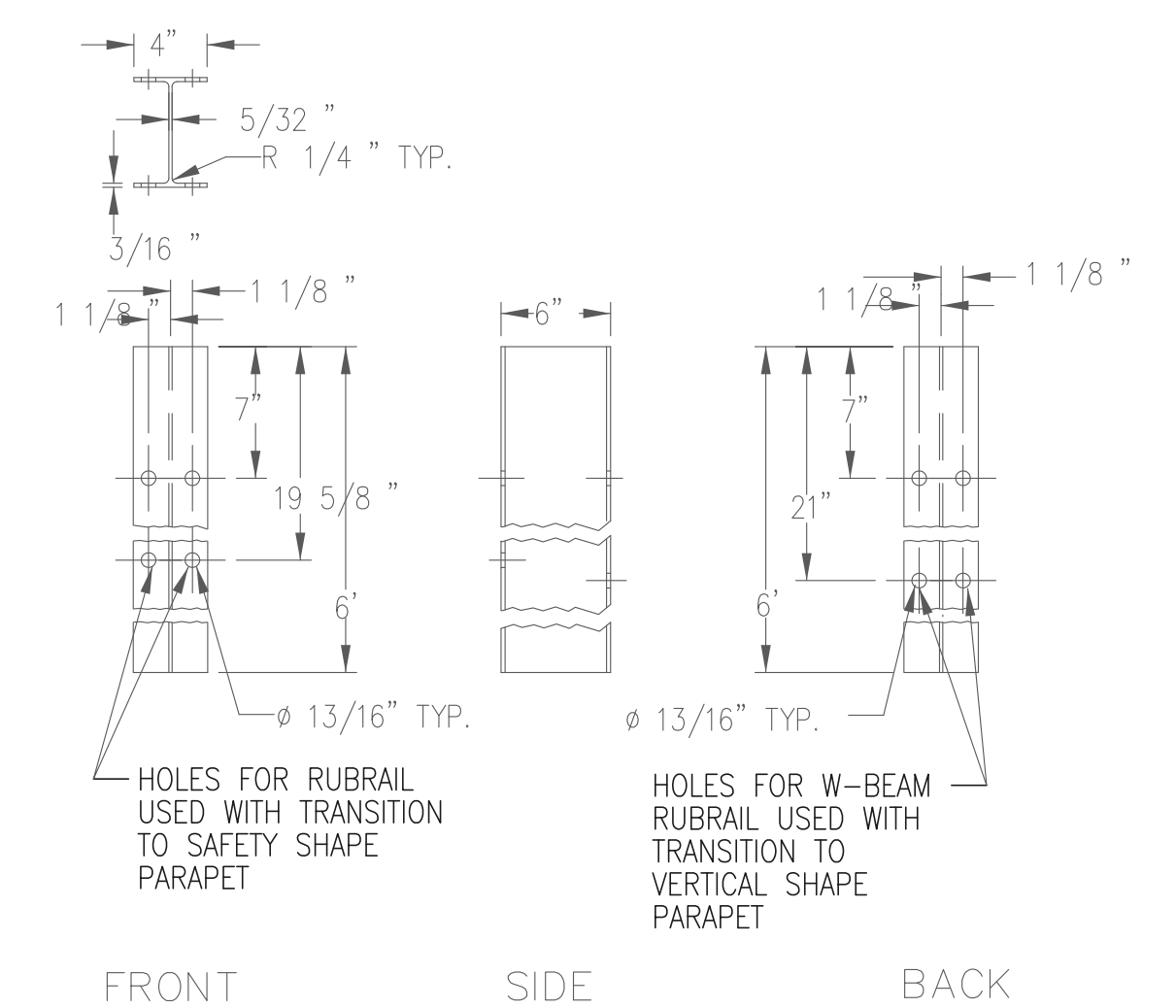


FRONT

SIDE

BACK

BOLT HOLE SPACING DETAIL FOR W8 x13 UNIFORM POST (SEE NOTE 2 FOR CORE 10 APPLICATION.)



FRONT

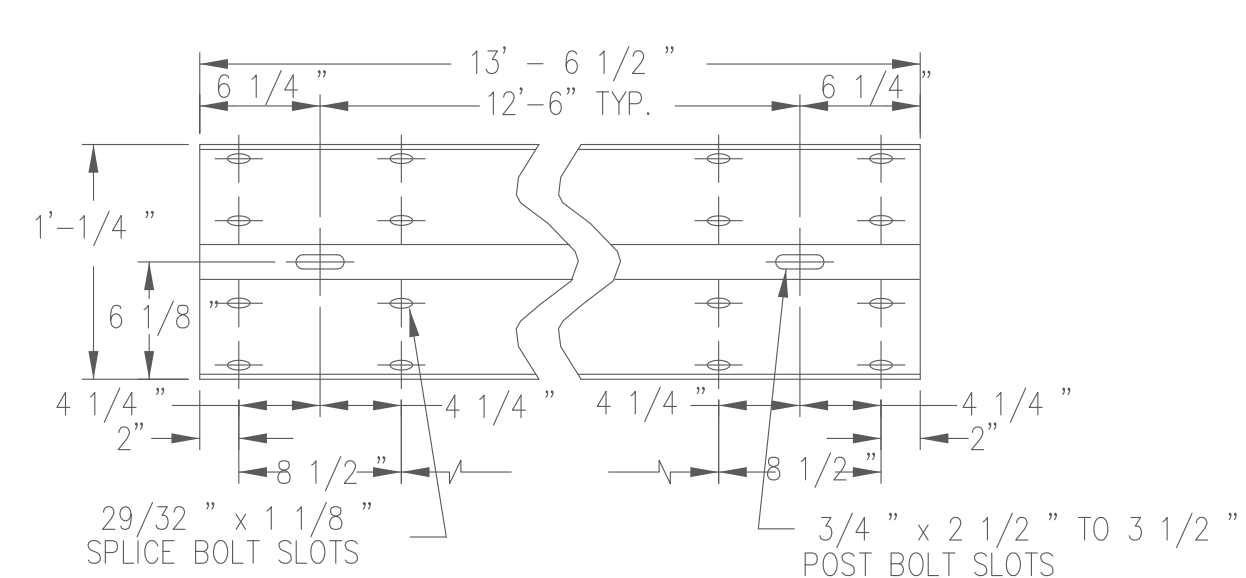
SIDE

BACK

NOTE: W6 x 9 POSTS MAY BE USED IN PLACE OF W6 x 8.5 POSTS.

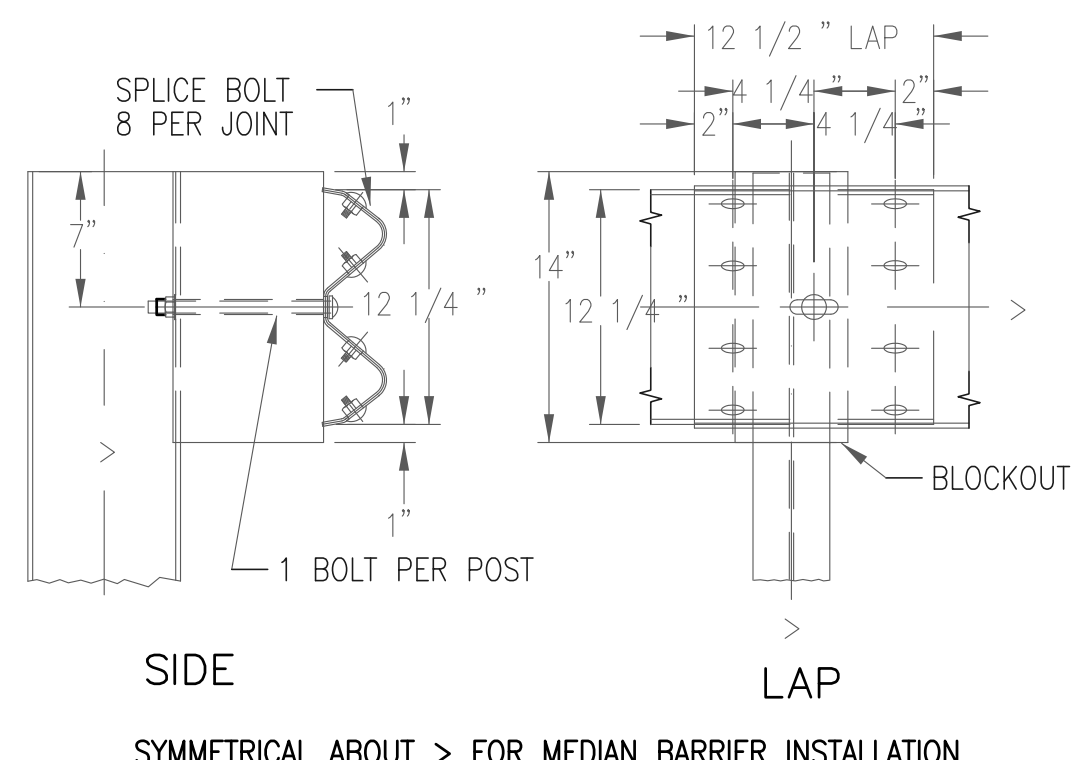
THIS POST IS FOR USE WITH STANDARD R-B 350 OR MD-B 350 AND POSTS 3 THRU 8 OR 9 IN TRANSITIONS TO SAFETY OR VERTICAL SHAPE PARAPETS. INSTALL POST USING THE FRONT OR THE BACK DEPENDING ON NEED.

BOLT HOLE SPACING DETAIL FOR W6 x 8.5 UNIFORM POST (SEE NOTE 2 FOR CORE 10 APPLICATION.)



TYPICAL W-BEAM RAIL ELEMENT CLASS A, TYPE II

(SEE NOTE 1 FOR 10 GAUGE APPLICATION.)



SIDE

LAP

LAP DETAIL

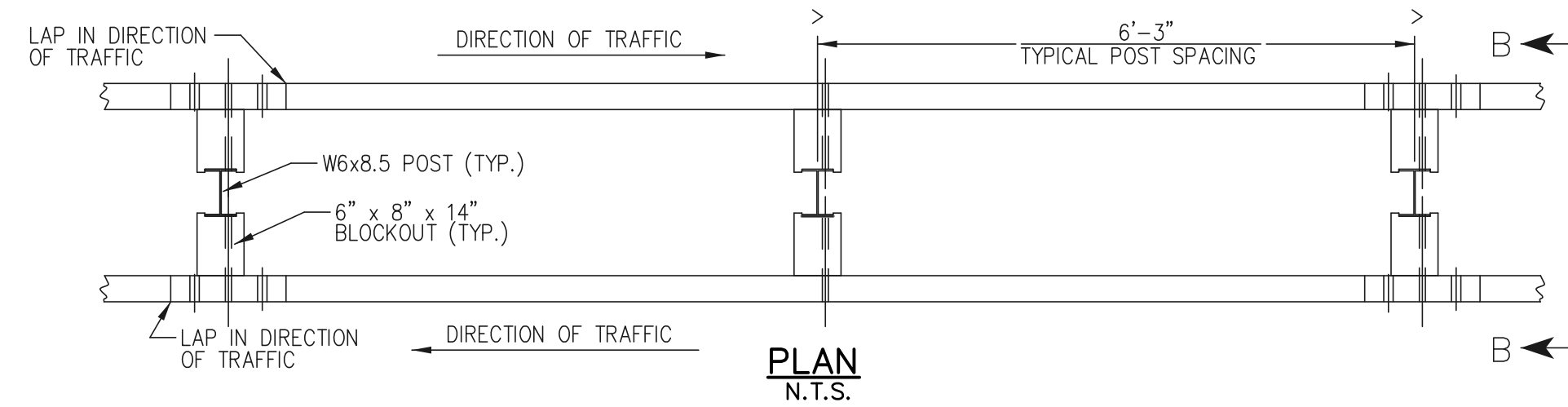
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DESIGN	D.A.G.	
DRAWN	P.W.S.	
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DATE	04/05/06	
NO.	DATE	DESCRIPTION
REVISIONS		

SCALE AS NOTED

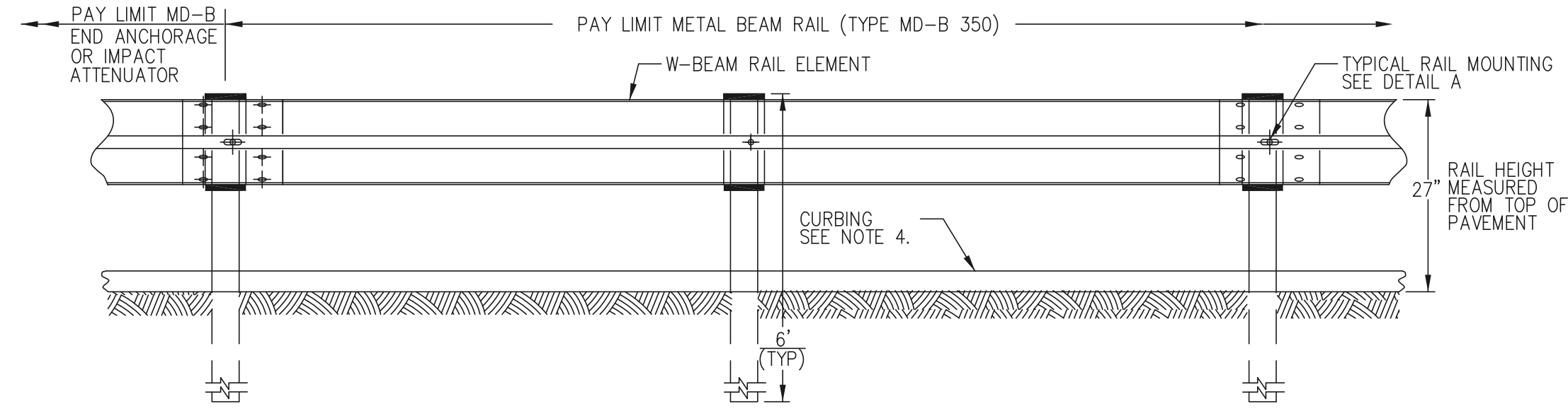
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PORTLAND AVENUE BRIDGE REHABILITATION					SHEET 6
METAL BEAM RAIL TYPE R-B 350					
MISCELLANEOUS DETAILS I					
PORTLAND AVE BRIDGE	PROJECT	05064.10	FILE NAME	NUMBER	REV.
D	SIZE				OF 11

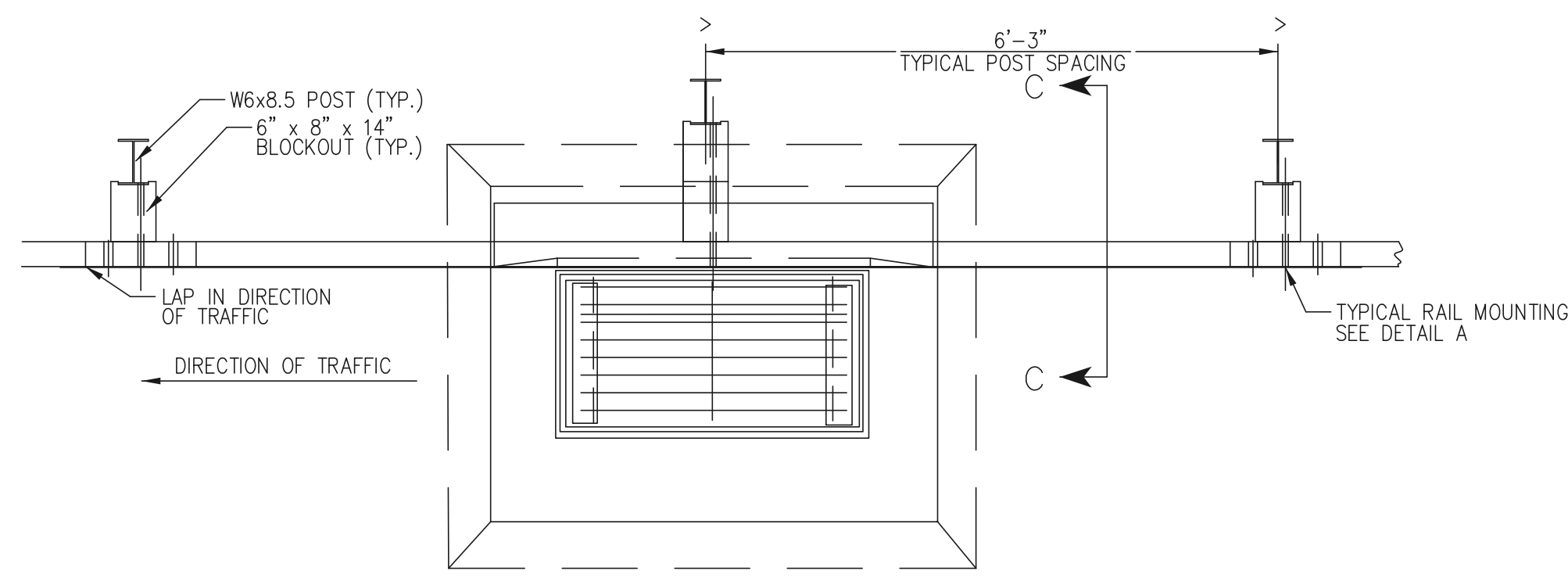


PLAN  
N.T.S.



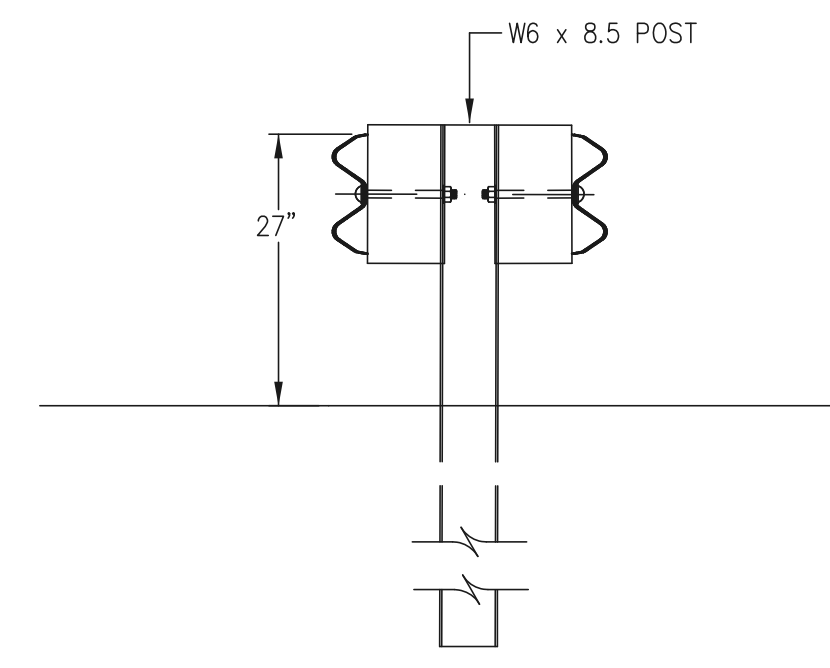
ELEVATION  
N.T.S.

METAL BEAM RAIL DETAIL (TYPE MD-B 350)



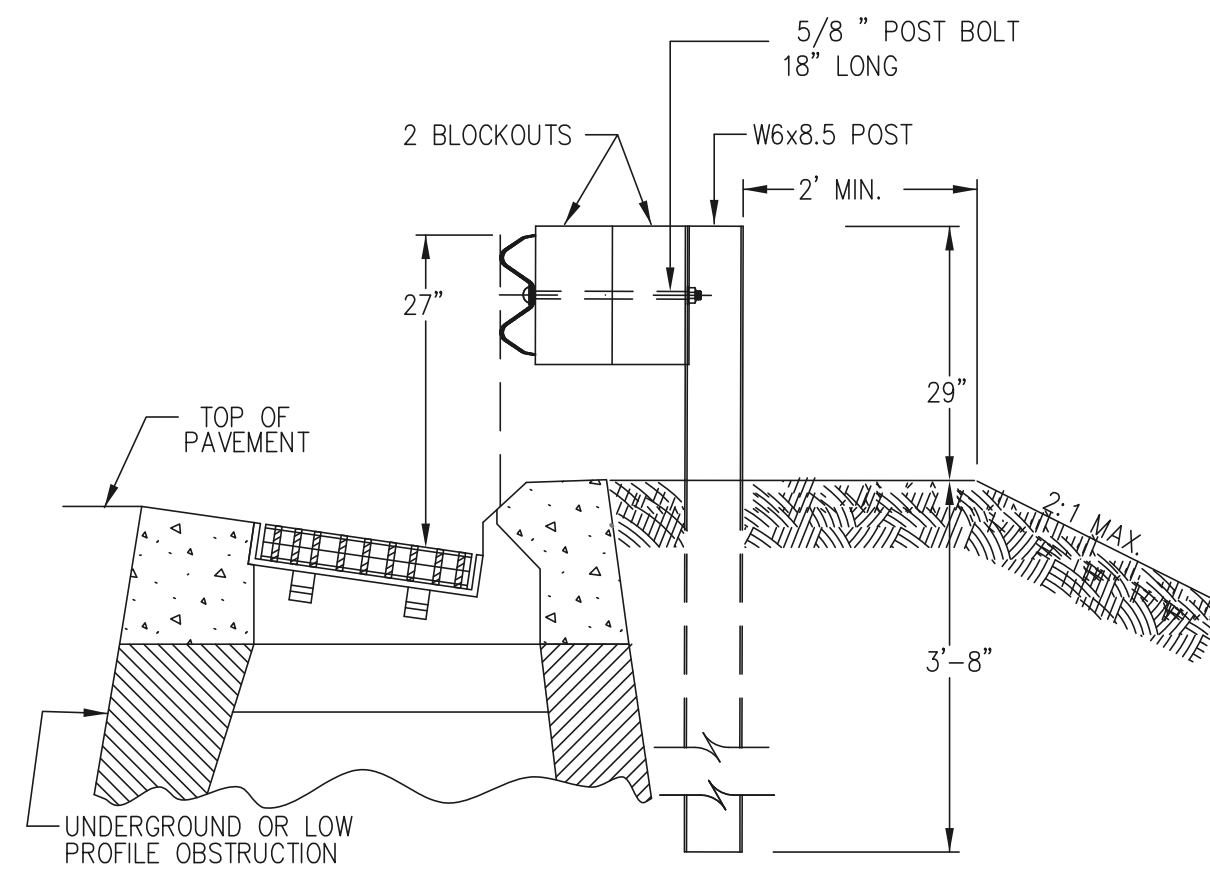
PLAN  
N.T.S.

METAL BEAM RAIL WITH MULTIPLE BLOCKOUTS  
TO AVOID UNDERGROUND OR LOW PROFILE OBSTRUCTION



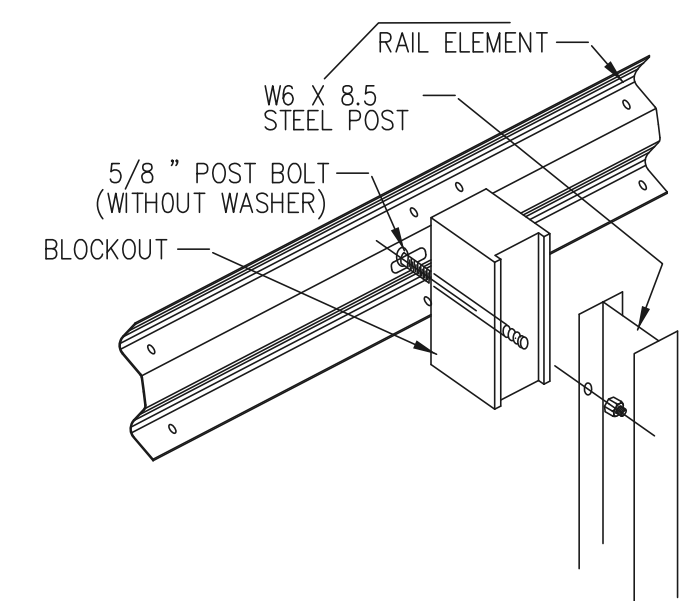
SECTION B-B  
N.T.S.

NOTE: REFER TO DESIGN PLANS FOR PROPOSED  
PLACEMENT OF GUIDERAIL IN THE MEDIAN.



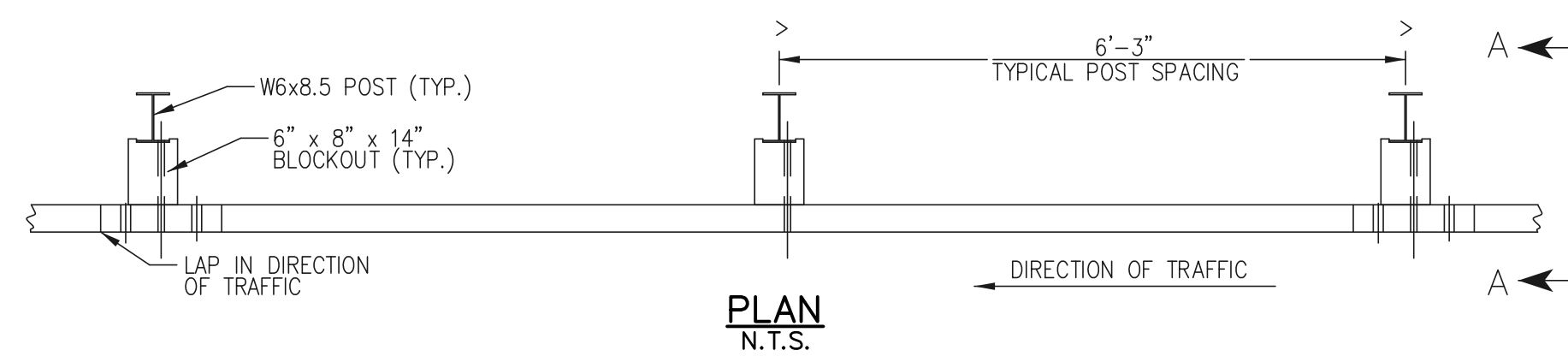
SECTION C-C  
N.T.S.

MULTIPLE BLOCKOUTS MAY BE USED TO AVOID  
UNDERGROUND OR LOW PROFILE OBSTRUCTION  
SEE NOTES 5 AND 6

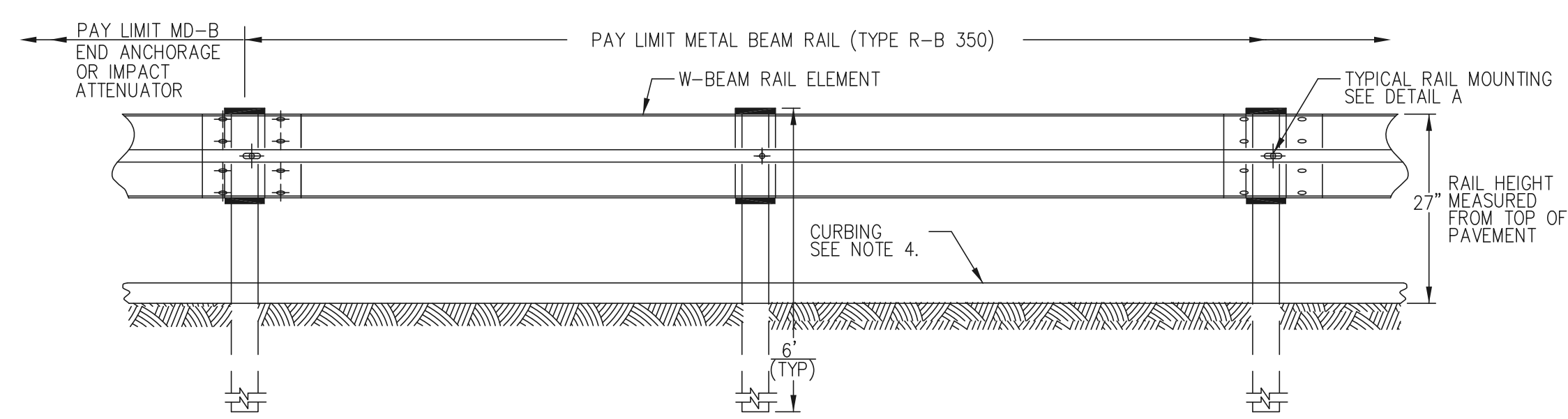


DETAIL A  
N.T.S.

RAIL MOUNTING

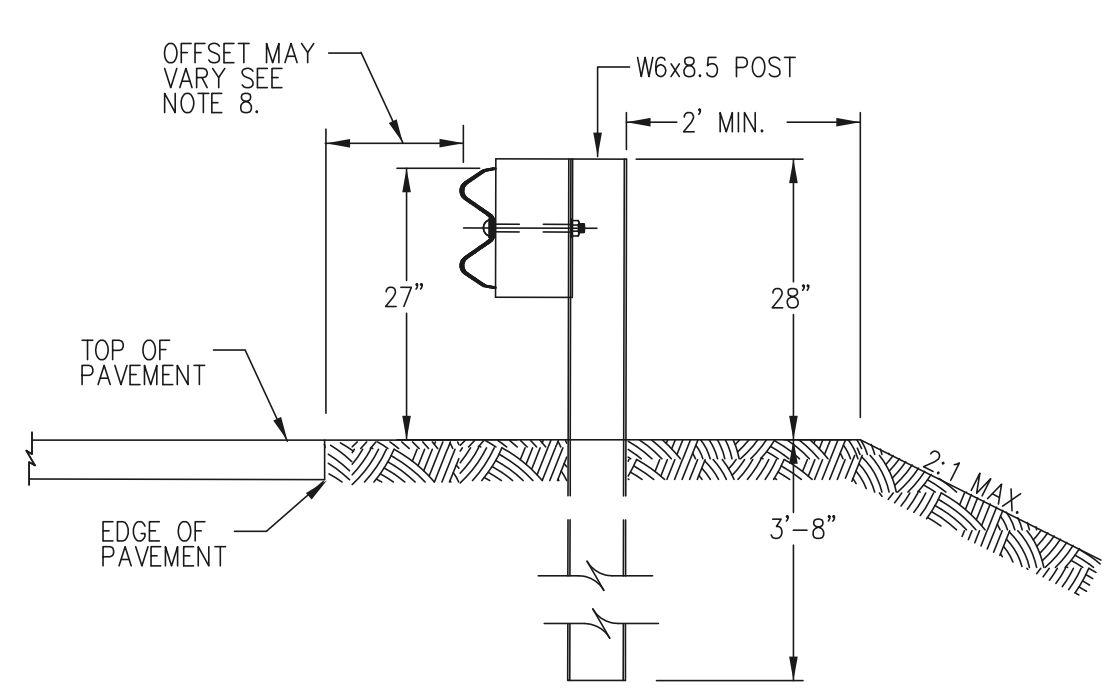


PLAN  
N.T.S.



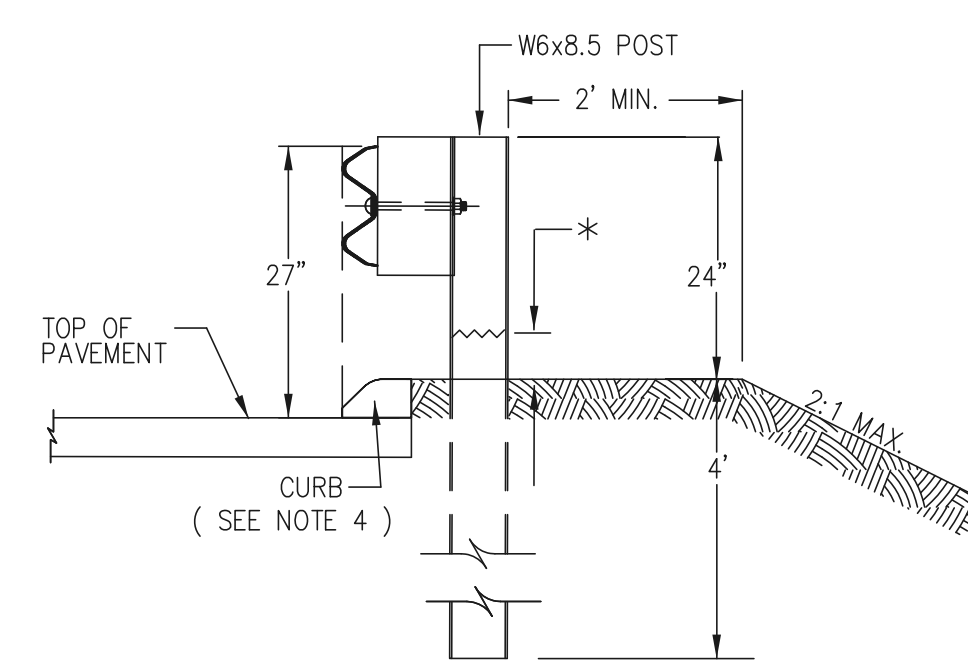
ELEVATION  
N.T.S.

METAL BEAM RAIL DETAIL (TYPE R-B 350)



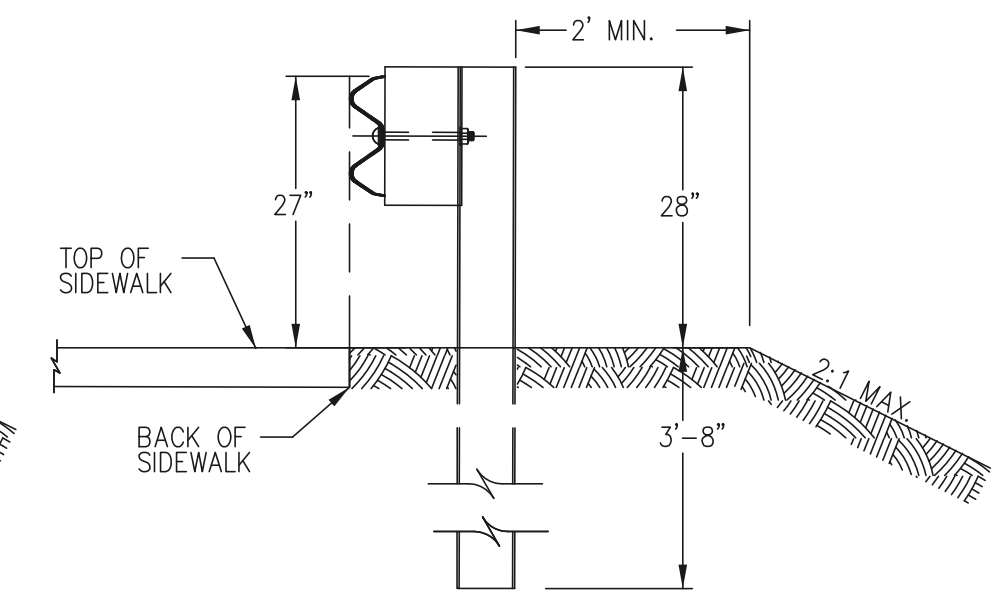
SECTION A-A  
N.T.S.

WITHOUT CURBING



SECTION A-A  
N.T.S.

WITH CURBING  
SEE NOTE 4.



SECTION A-A  
N.T.S.

SIDEWALK APPLICATION

\* 1" MIN. EXPOSED GALVANIZED COATING  
REQUIRED FOR WEATHERING STEEL POSTS.  
SEE NOTE 7.

MISCELLANEOUS CONNECTICUT DETAIL  
METAL BEAM RAIL  
(TYPE R-B 350) & (TYPE MD-B 350)

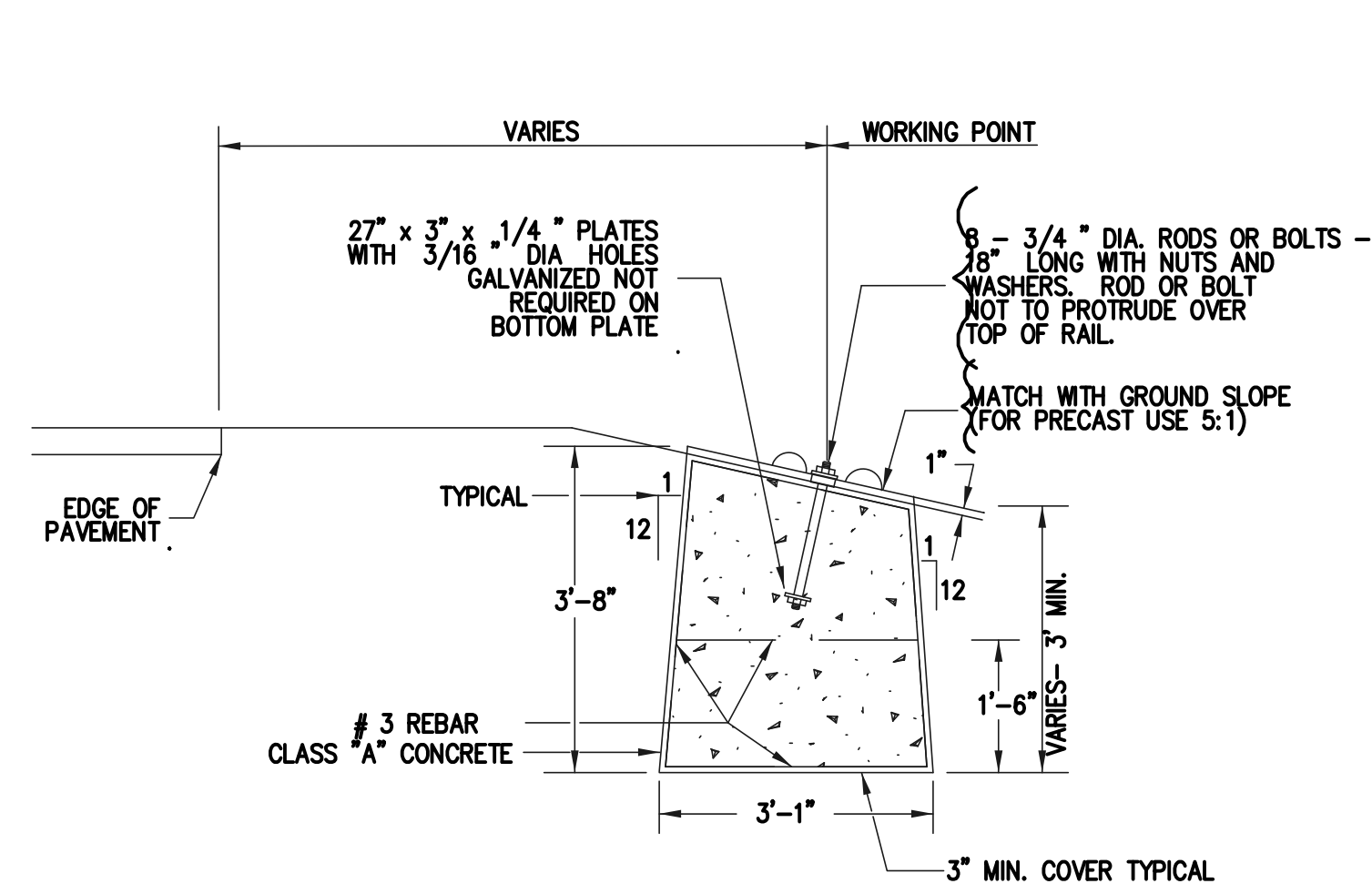
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NO.	DATE	DESCRIPTION
	04/05/06	REVISIONS

SCALE  
AS NOTED

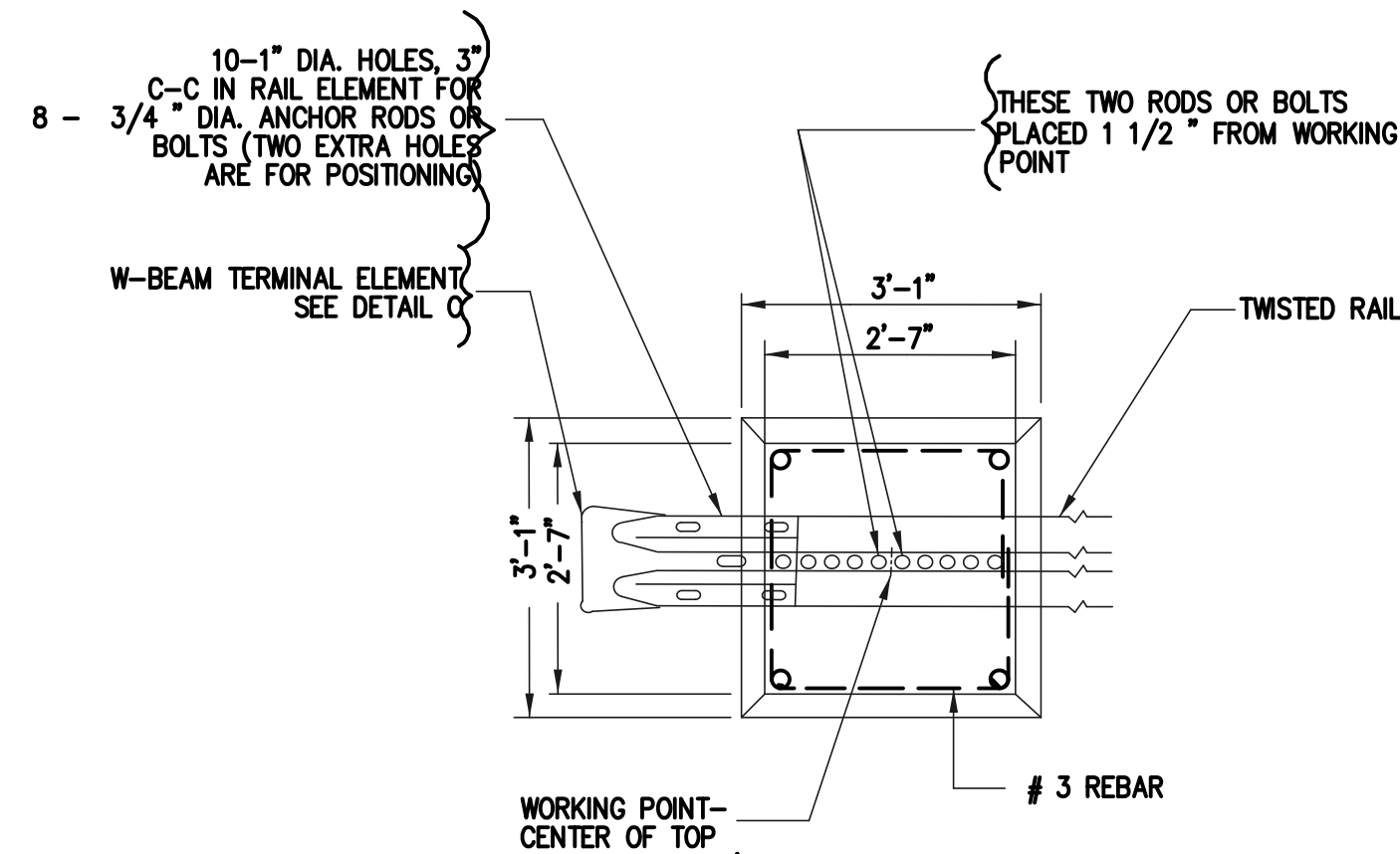
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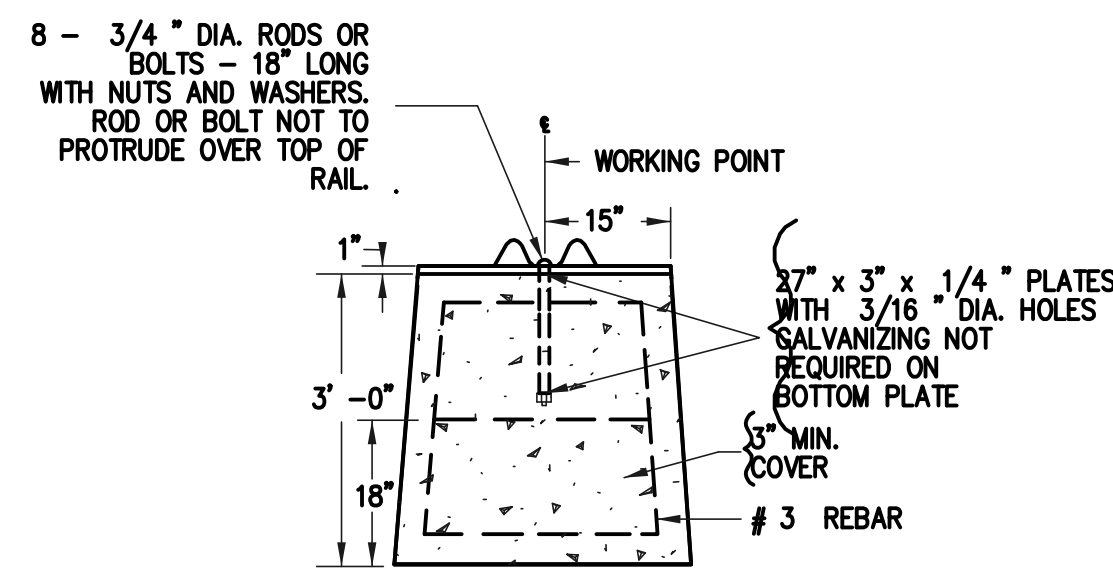
PORTLAND AVENUE BRIDGE REHABILITATION METAL BEAM RAIL TYPE R-B 350 MISCELLANEOUS DETAILS II				SHEET	7
D -	PORTLAND AVE	05064.10		REV.	OF
SIZE	PROJECT	FILE NAME	NUMBER		



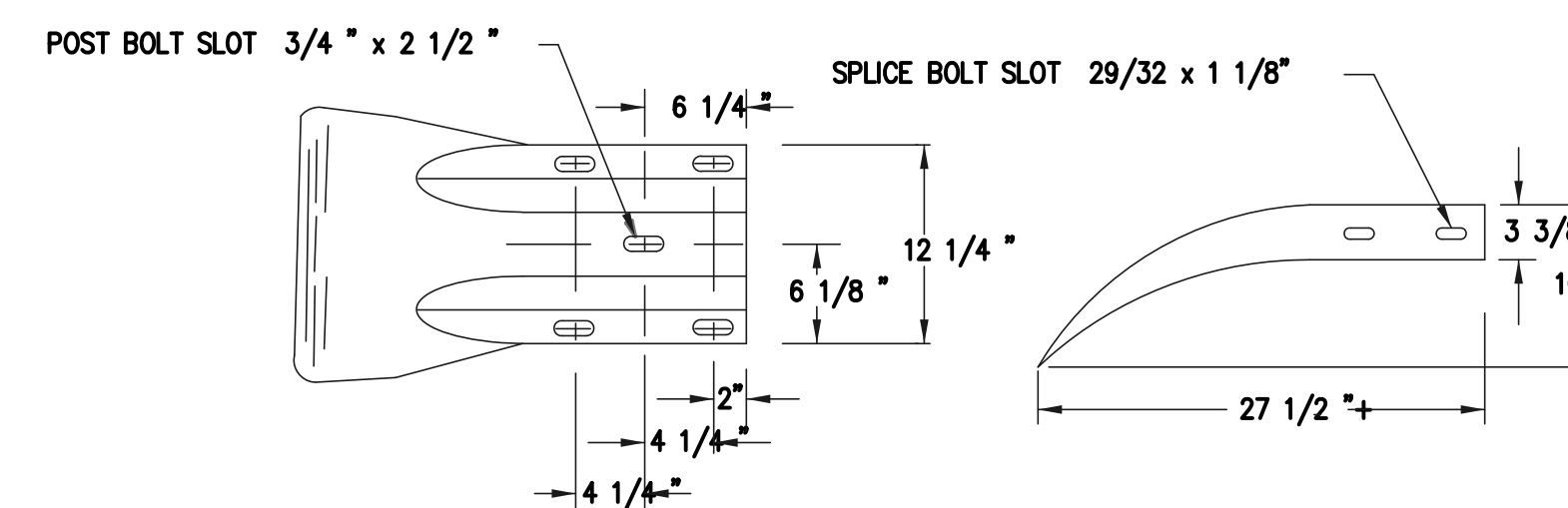
DETAIL A  
N.T.S.



PLAN  
N.T.S.

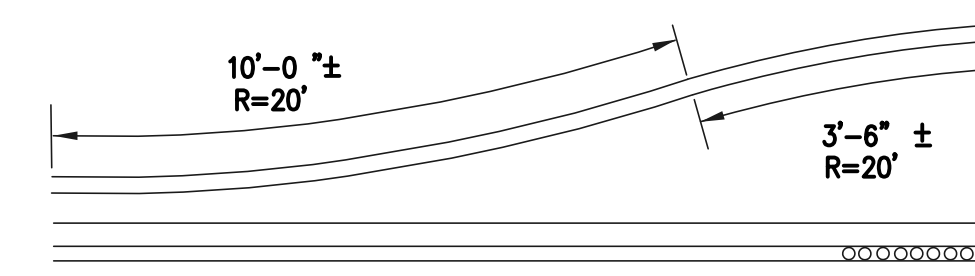


DETAIL B  
N.T.S.



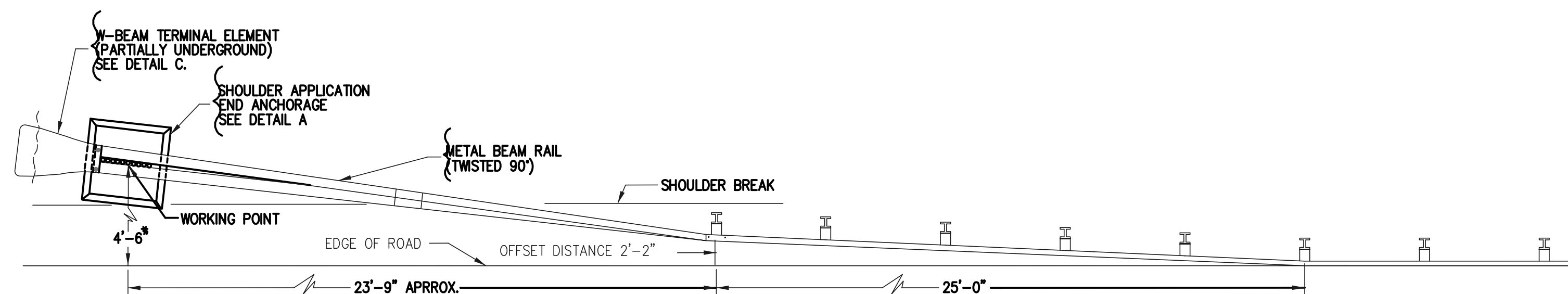
DETAIL C  
W-BEAM TERMINAL ELEMENT  
N.T.S.

SEE NOTE 3



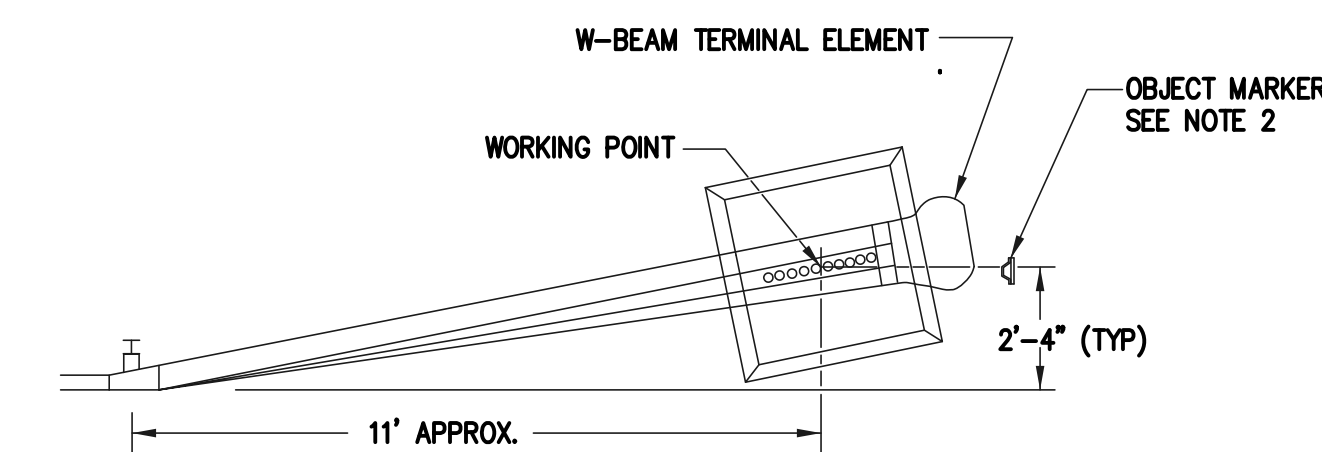
DETAIL D  
SHOP CURVED RAIL  
N.T.S.

SEE NOTE 4

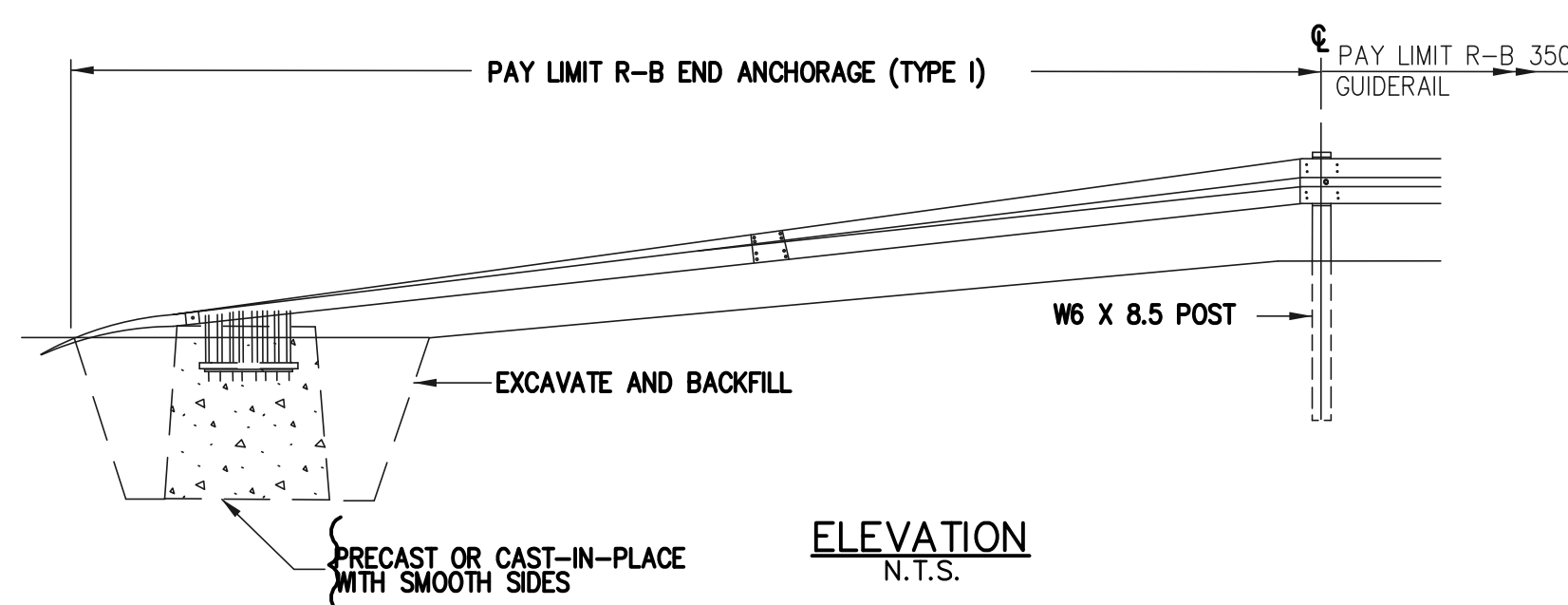


\* OFFSET DIMENSIONS AS SHOWN FOR R-B 350 TRAILING END ANCHORAGE ONLY. LEADING END ANCHORAGE SHALL BE PLACED OUTSIDE THE CLEAR ZONE AS DIRECTED BY THE ENGINEER. REFER TO 1996 AASHTO ROADSIDE DESIGN GUIDE FOR CLEAR ZONE APPLICATIONS.

PLAN  
N.T.S.

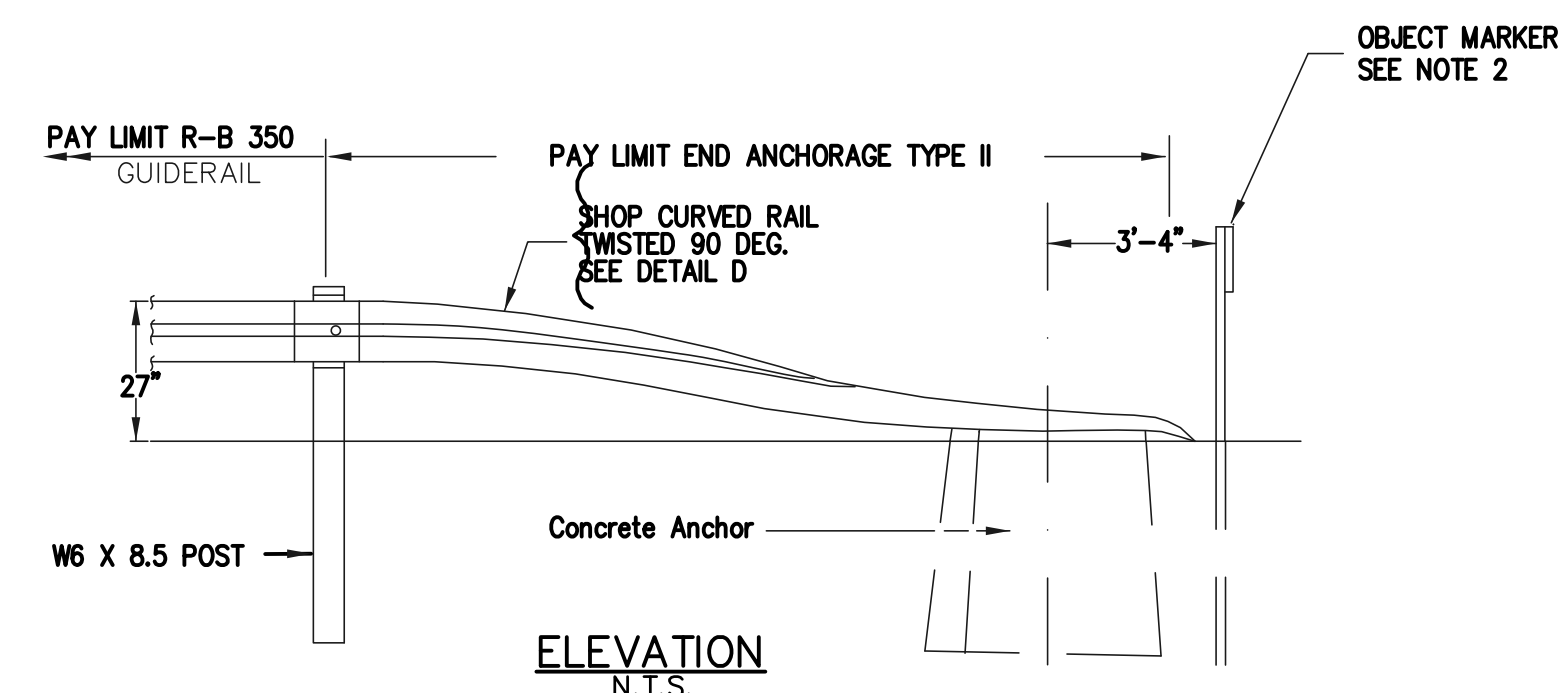


PLAN  
N.T.S.



ELEVATION  
N.T.S.

R-B END ANCHORAGE TYPE I  
(SHOULDER APPLICATION)



ELEVATION  
N.T.S.

R-B END ANCHORAGE TYPE II  
SEE NOTE 4

GENERAL NOTES:

- SEE STANDARD SHEET 1205-A FOR OBJECT MARKER DETAILS.
- TYPE II END ANCHORS SHALL USE A 12 GAUGE TERMINAL ELEMENT. R-B END ANCHORAGE TYPE I INSTALLED ON LIMITED ACCESS HIGHWAYS AND RAMPS SHALL USE 10 GAUGE TERMINAL AND W-BEAM RAIL ELEMENTS. ALL OTHER END ANCHORAGE TYPE I SHALL USE 12 GAUGE TERMINAL AND W-BEAM RAIL ELEMENTS.
- END ANCHORAGE TYPE II MAY ONLY BE USED WHEN THE RAIL IS TURNED AND EXTENDED INTO A DRIVEWAY, ON ROADS WITH DESIGN SPEEDS OF 40 MPH OR LESS, OR AS DIRECTED BY THE ENGINEER IN A LOCATION WHERE IT CAN NOT BE HIT. ALL OTHER R-B OR MD-B END ANCHORAGES SHALL BE TYPE I. WHERE DEEMED APPROPRIATE, PROPRIETARY CRASH-WORTHY END TREATMENTS MAY BE USED.
- OTHER RADII WHICH CAN BE DEMONSTRATED TO PROVIDE THE INSTALLATIONS SHOWN FOR END ANCHORAGE TYPE II MAY BE APPROVED.

MISCELLANEOUS CONNECTICUT DETAIL  
R-B END ANCHORAGE TYPE I & II

SUPV.	J.A.C.	
DESIGN	D.A.G.	
DRAWN	P.W.S.	
CHECKED	J.A.C.	
NO.	DATE	DESCRIPTION
	04/05/06	REVISIONS

SCALE  
AS NOTED



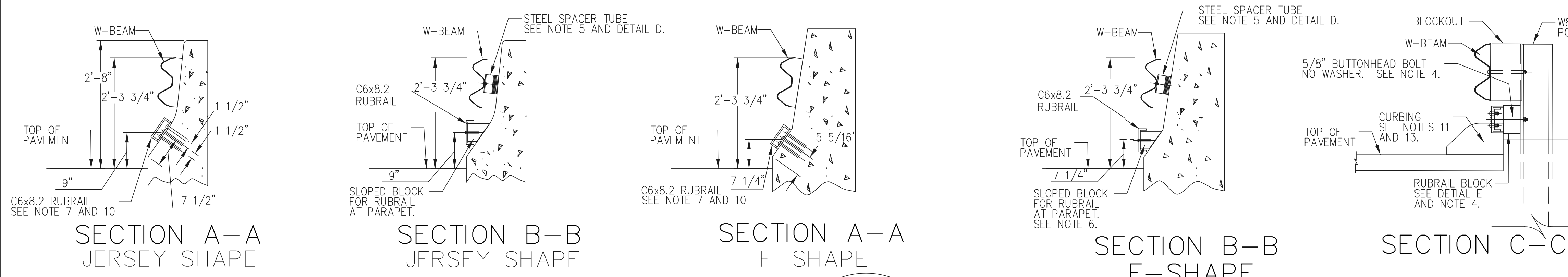
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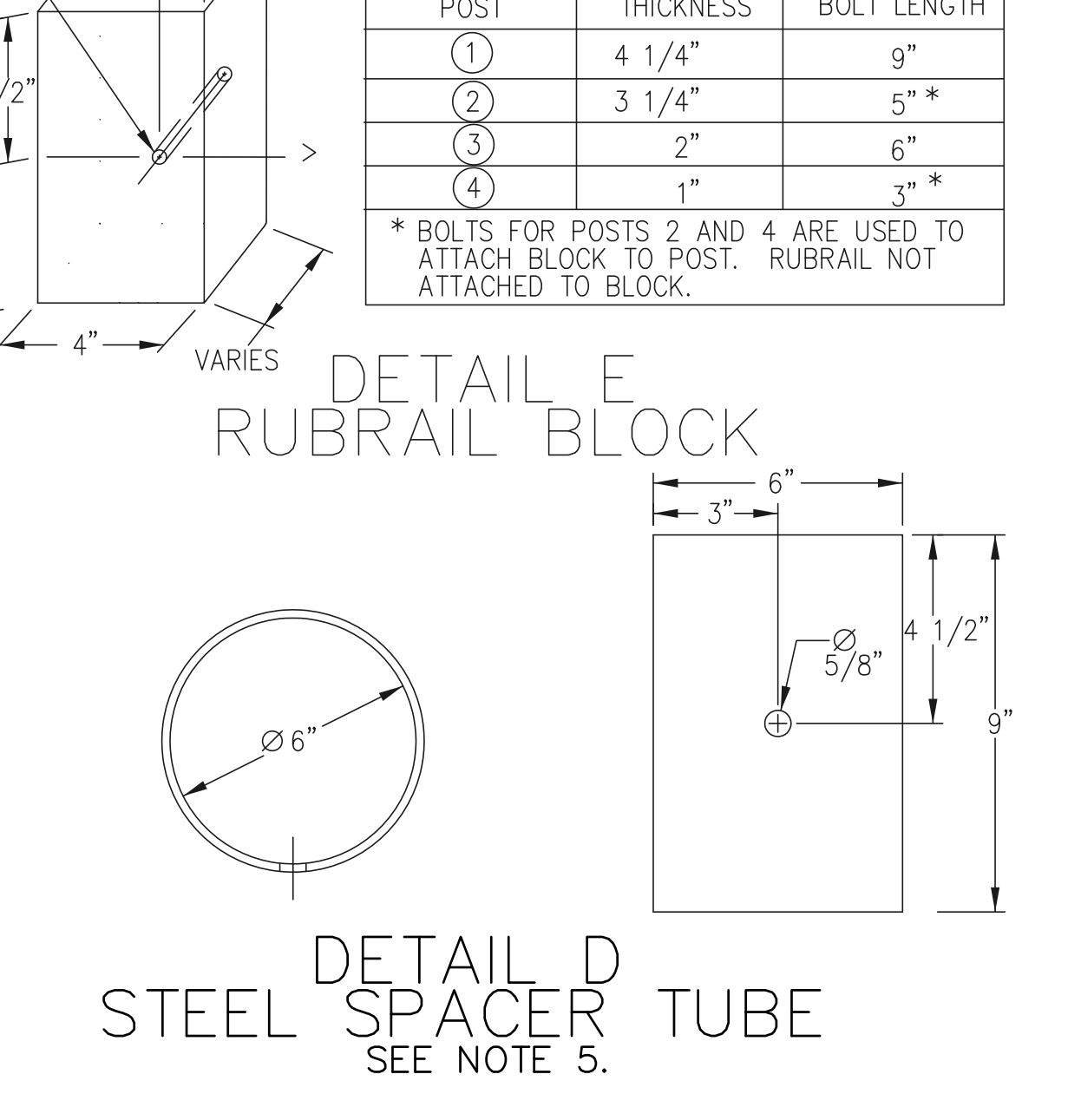
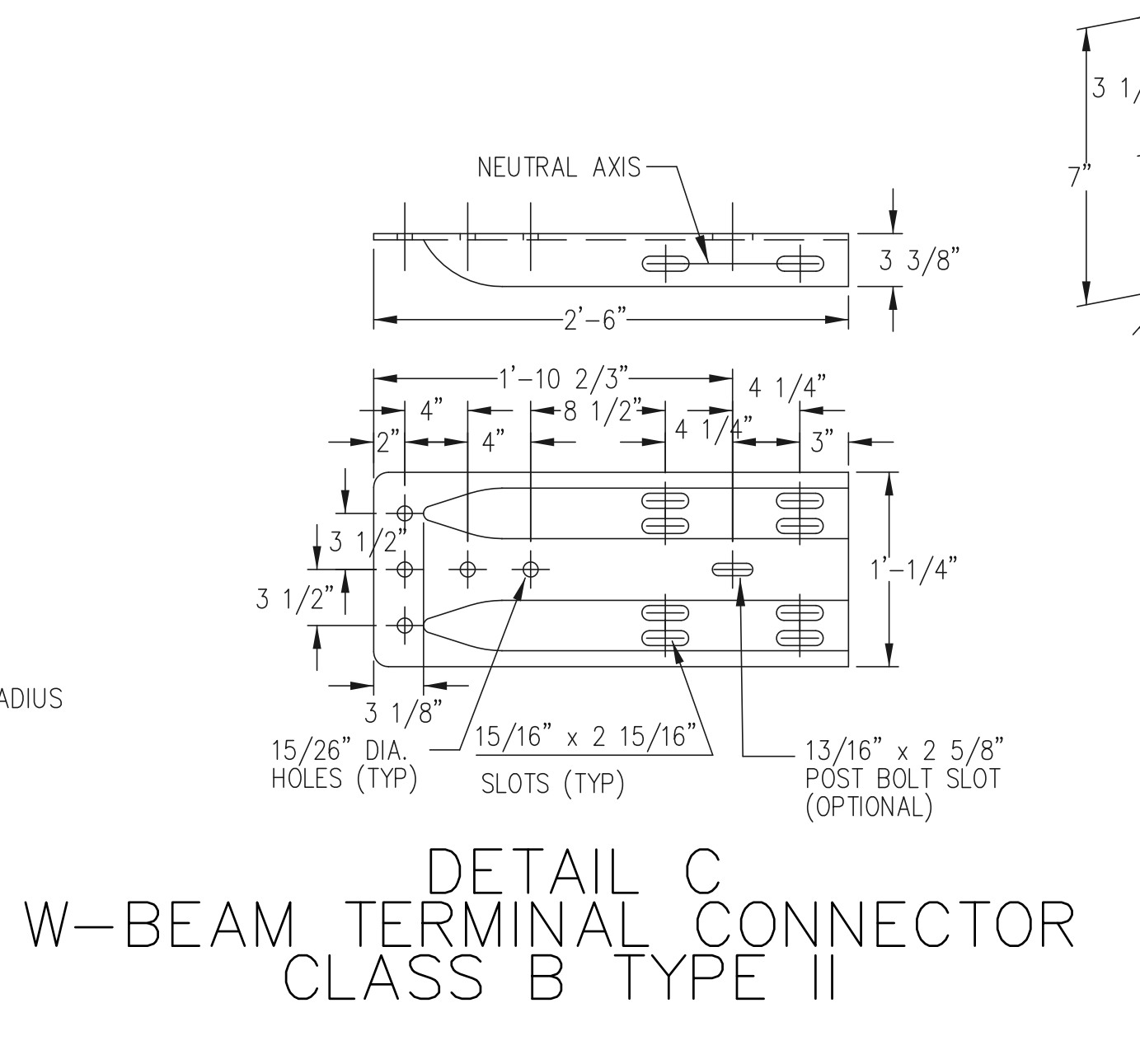
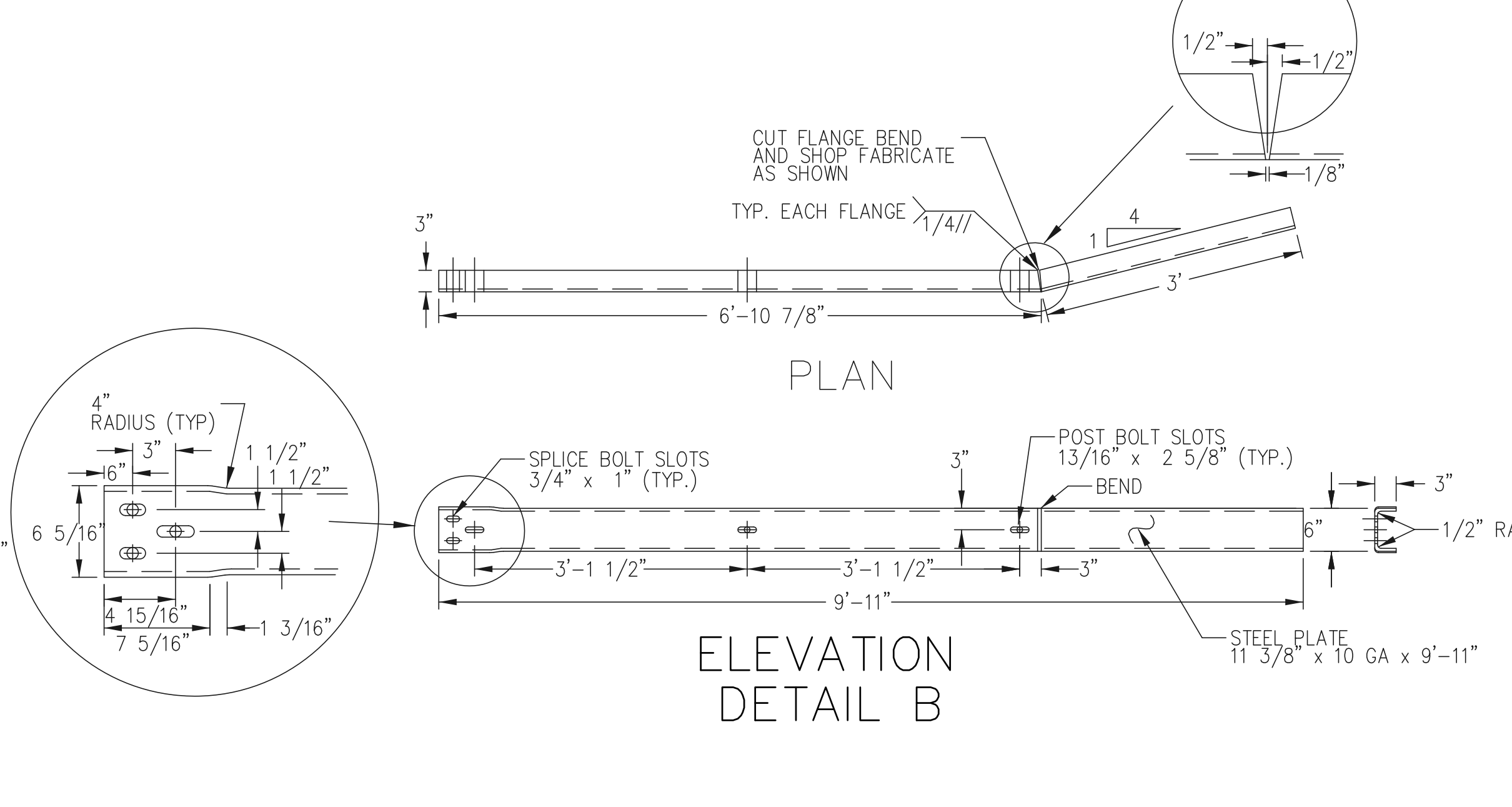
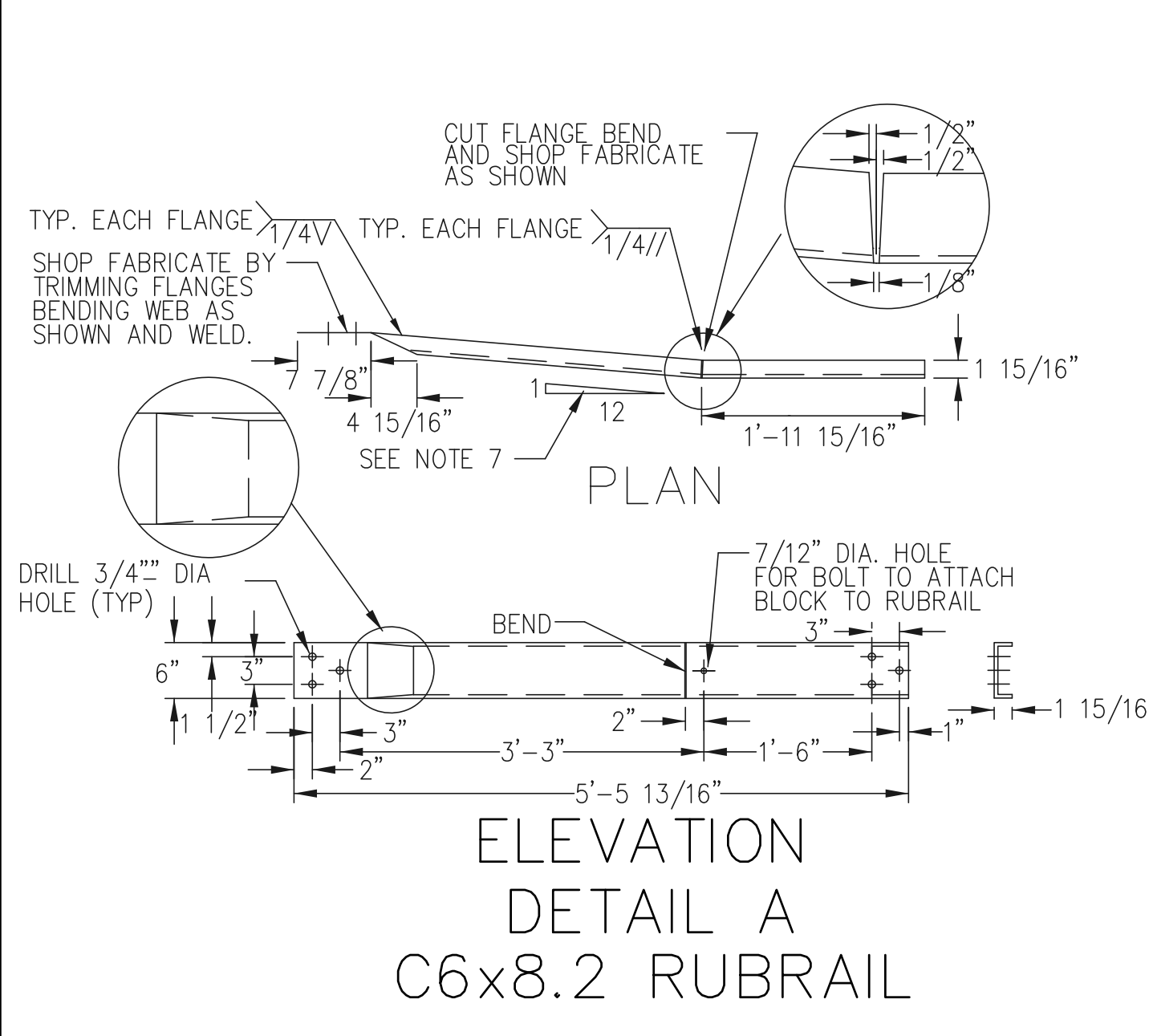
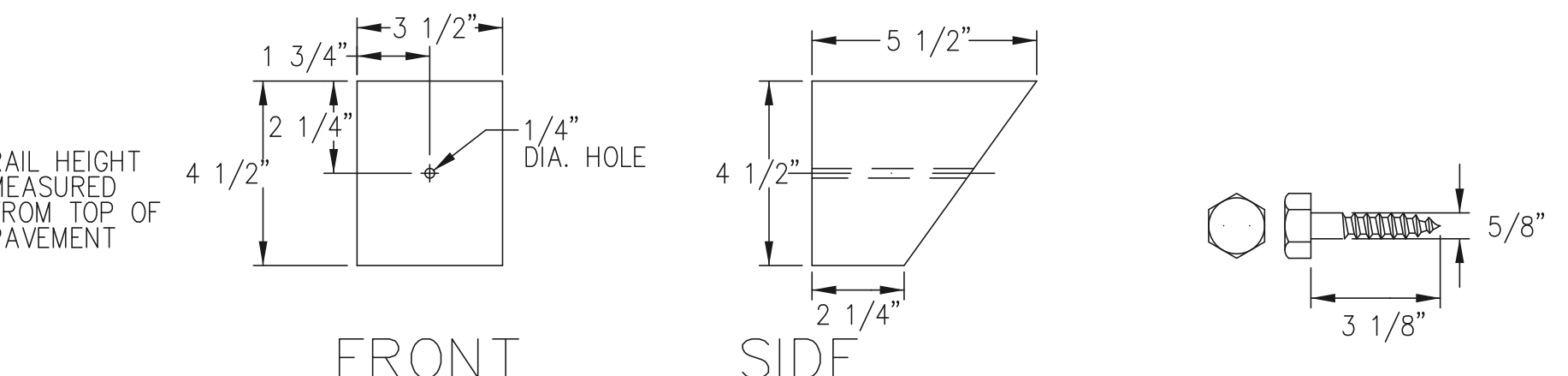
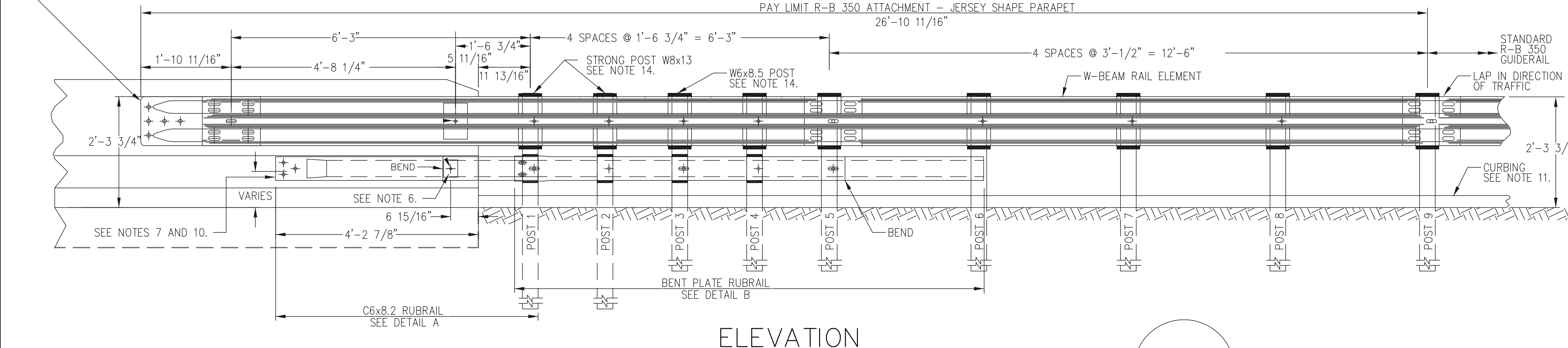
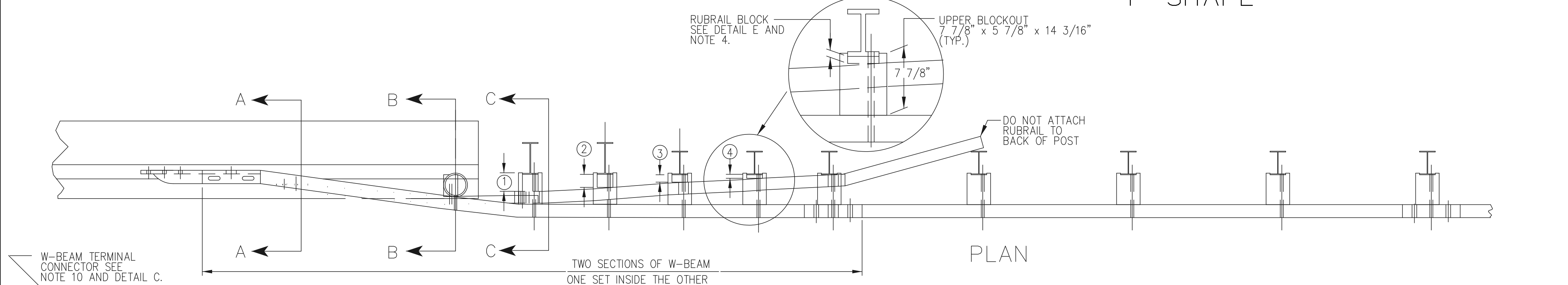
PORTLAND AVENUE BRIDGE REHABILITATION  
METAL BEAM RAIL R-B 350  
END ANCHORAGE

PORTLAND AVE BRIDGE	05064.10	SHEET 8
SIZE PROJECT	FILE NAME NUMBER	REV. OF 11





- GENERAL NOTES:**  
 1) DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE SPECIFIED.  
 2) THIS R-B 350 GUIDERAIL TRANSITION IS APPROPRIATE FOR CONNECTION AT THE FOLLOWING LOCATIONS:  
 (a) JERSEY SHAPE OR F-SHAPE PARAPET OR BARRIER WITH NO ELECTRICAL JUNCTION BOX WITHIN THE LIMITS OF THE ATTACHMENT (APPROXIMATELY 8 FEET).  
 (b) BRIDGE PARAPETS RETROFITTED FROM SAFETY WALK TO MODIFIED SAFETY SHAPED PARAPET WITH NO ELECTRICAL JUNCTION BOX WITHIN THE LIMITS OF THE ATTACHMENT (APPROXIMATELY 8 FEET).  
 (c) TRAILING ENDS FOR DUAL DIRECTION ROADWAYS.  
 3) POSTS 1 THROUGH 5 REQUIRE AN ADDITIONAL HOLE TO ATTACH LOWER BLOCKS AND/OR RUBRAIL.  
 4) RUBRAIL BLOCKS LOCATED ON POSTS 1 THROUGH 4 ARE OFFSET DRILLED AND SECURED WITH 5/8" BUTTONEAD BOLTS (SEE CHART FOR BOLT LENGTHS). SECURE BLOCKS ONLY TO POSTS 2 AND 4. SECURE RUBRAIL AND BLOCKS TO POSTS 1 AND 3. RUBRAIL IS SECURED TO POST 5 WITH A 5/8" x 4 1/2" BUTTONEAD BOLT. RUBRAIL IS FLARED TO BACK OF POST 6 AND NOT SECURED.  
 5) STEEL SPACER TUBE IS A SCHEDULE 40 GALVANIZED PIPE 6" INSIDE DIAMETER x 9" LONG. ATTACH TUBE TO RAIL ELEMENT ONLY WITH 5/8" x 1 1/4" LONG BUTTONEAD BOLT AND RECTANGULAR PLATE WASHER. TUBE IS NOT ATTACHED TO PARAPET.  
 6) SEE DETAIL F FOR SLOPED RUBRAIL BLOCK. BLOCK IS ATTACHED TO RAIL ELEMENT ONLY. USE 3/8" x 3 1/8" LAG BOLT WITH FLAT WASHER.  
 7) SHOP FABRICATE THE C6x8.2 RUBRAIL END TO BE CONSISTENT WITH THE SLOPE OF THE JERSEY SHAPE OR F-SHAPE AND ATTACH FLUSH WITH THE SLOPED TOE OF THE PARAPET OR BARRIER.  
 8) SEE MISCELLANEOUS CONNECTICUT DETAIL FOR METAL BEAM RAIL HARDWARE ELEMENTS. USE CLASS B TYPE II W-BEAM RAIL ELEMENTS FOR INSTALLATIONS ON LIMITED ACCESS HIGHWAYS AND RAMPS.  
 9) THIS DETAIL WAS DEVELOPED FROM FHWA TECHNICAL ADVISORY 5040.34 DATED JUNE 8, 1993.  
 10) ANCHORAGE:  
 (a) AT EXISTING PARAPETS OR BARRIERS, RUBRAIL SHALL BE ANCHORED USING THREE 3/8" x 6" CHEMICALLY ANCHORED BOLTS WITH WASHERS. MAXIMUM PROJECTION FOR BOLTS SHALL BE 1/2".  
 (b) AT EXISTING PARAPETS OR BARRIERS, THE W-BEAM TERMINAL CONNECTOR SHALL BE ANCHORED USING FIVE 7/8" x 12" CHEMICALLY ANCHORED BOLTS WITH WASHERS. MAXIMUM PROJECTION FOR BOLT SHALL BE 1/2". THE W-BEAM TERMINAL CONNECTOR SHALL BE INSTALLED BEHIND THE NESTED W-BEAM ELEMENTS.  
 (c) AT TEMPORARY OR NEW PRECAST CONCRETE BARRIERS, THE W-BEAM TERMINAL CONNECTOR AND RUBRAIL SHALL BE ANCHORED AS SPECIFIED WITHIN NOTES (a) & (b) ABOVE.  
 11) WHEN CURBING IS USED, RAIL HEIGHT MUST BE MEASURED FROM TOP OF PAVEMENT TO TOP OF RAIL.  
 12) ANTICIPATED DESIGN DEFLECTION FOR R-B 350 WITH A POST SPACING OF 3'-1 1/2" IS 2.64". DEFLECTION REQUIREMENT IS MEASURED FROM THE BACK OF POST TO THE FACE OF OBSTRUCTION.  
 13) FOR NEW CONSTRUCTION WHERE CURBING IS NEEDED, USE EITHER 4" BITUMINOUS CONCRETE PARK CURBING OR PRECAST CONCRETE TRANSITION CURBING SET WITH A 4" REVEAL. IF EXISTING CURBING IS GRANITE STONE TRANSITION CURBING, RESET IT TO A 4" REVEAL.  
 14) POSTS 1 AND 2 ARE W8x13. ALL OTHER POSTS IN TRANSITION ARE W6x8.5.



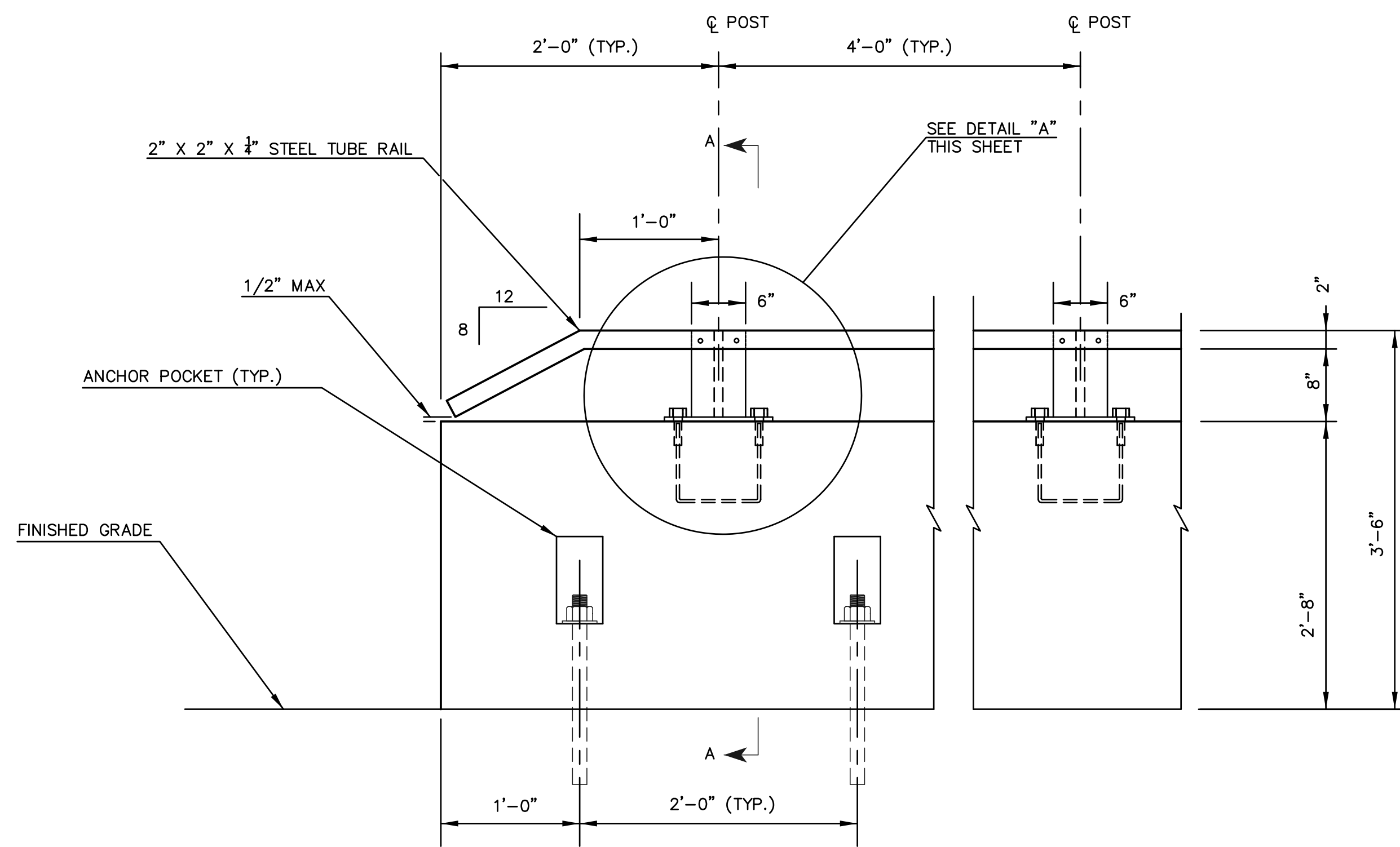
SUPV.	J.A.C.	
DESIGN	D.A.G.	
DRAWN	P.W.S.	
CHECKED	J.A.C.	
DATE	04/05/06	
NO.	DATE	DESCRIPTION
REVISIONS		

SCALE	AS NOTED
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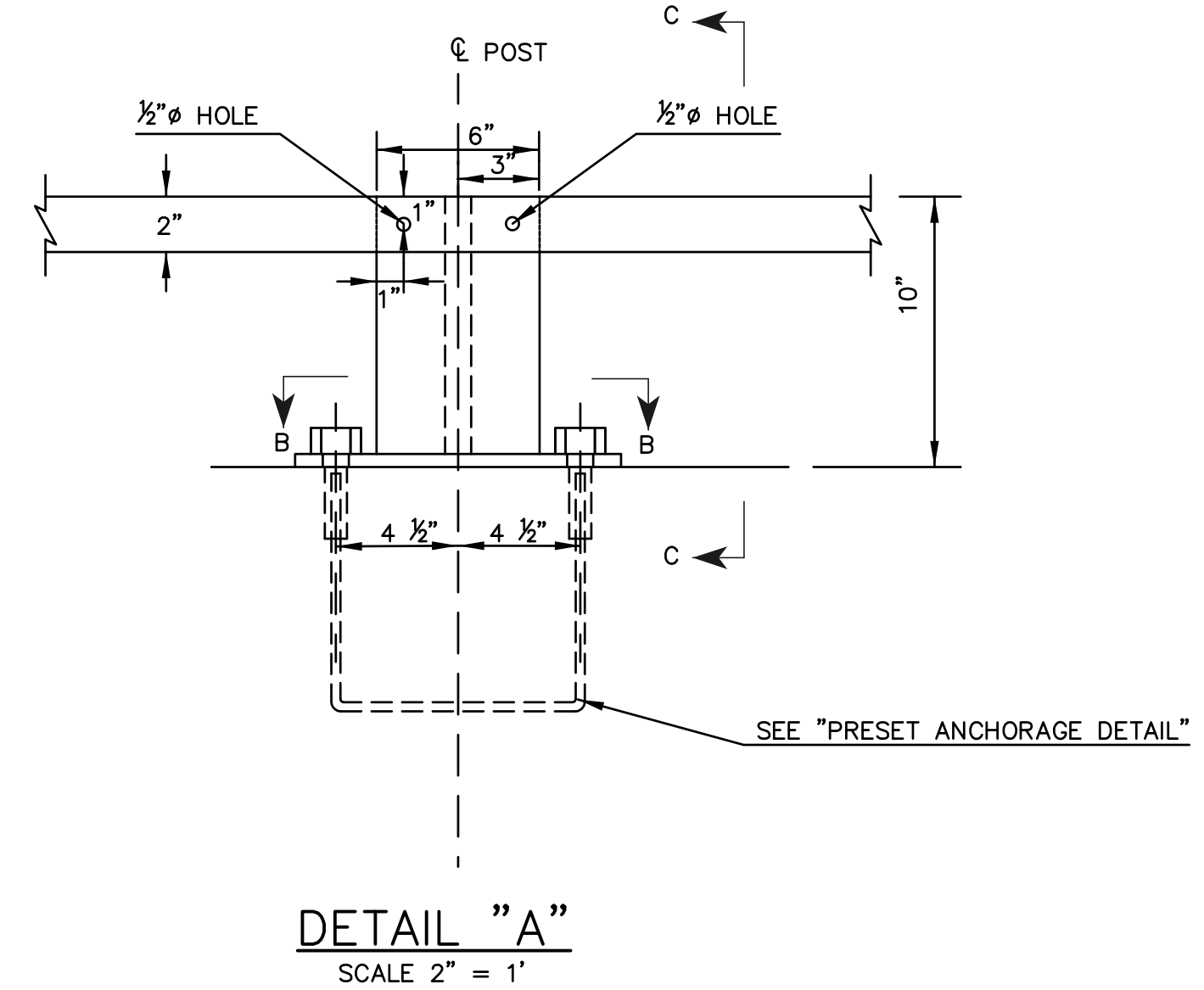
**WMC**  
 CONSULTING ENGINEERS  
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 87 HOLMES ROAD  
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 TOWN OF RIDGEFIELD  
 66 PROSPECT STREET  
 RIDGEFIELD, CT  
 06877

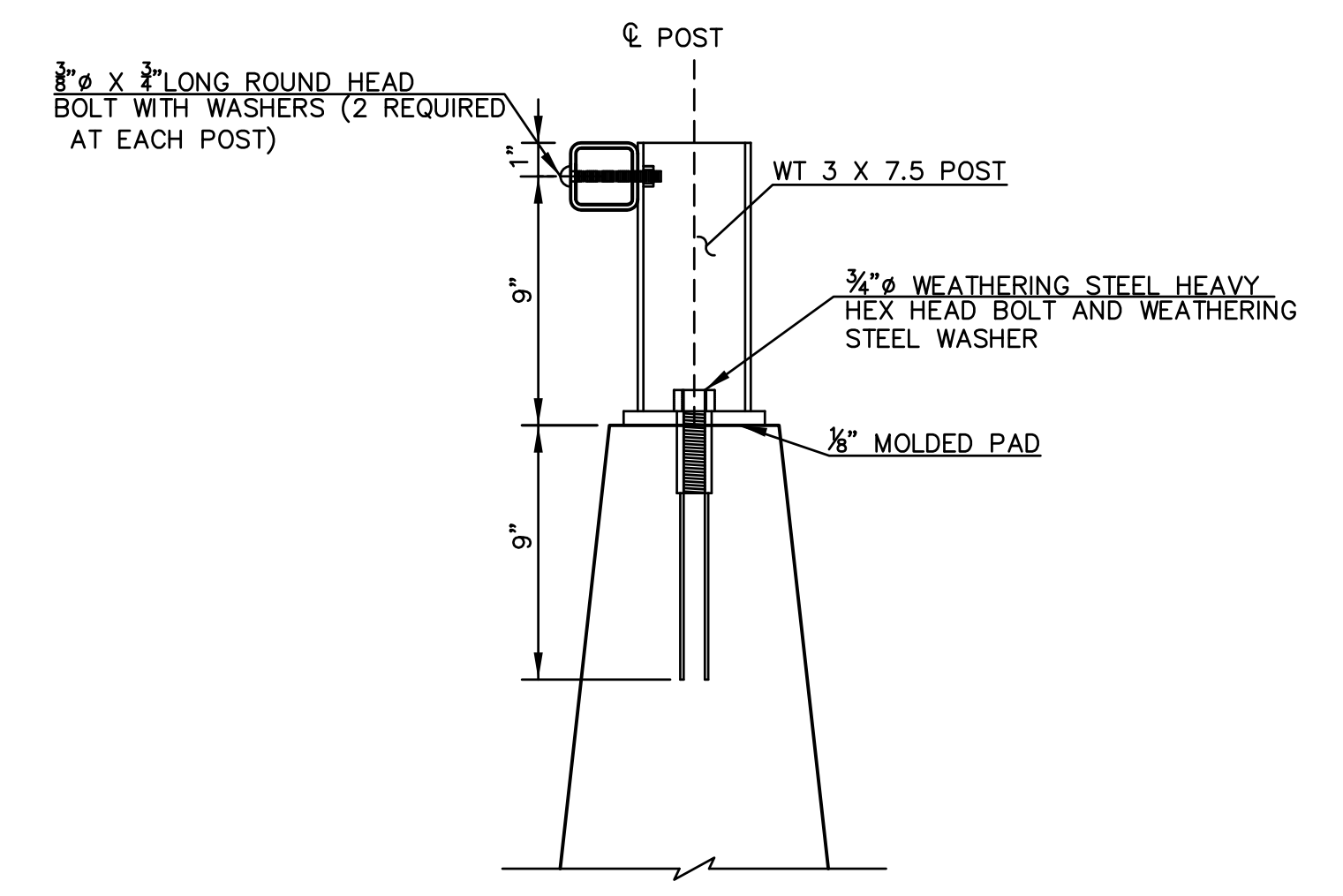
PORTLAND AVENUE BRIDGE REHABILITATION			
METAL BEAM RAIL R-B 350			
JERSEY SHAPED PARAPET ATTACHMENT			
PORTLAND AVE BRIDGE	05064.10	SHEET	9
SIZE PROJECT	FILE NAME NUMBER	REV.	OF
			11



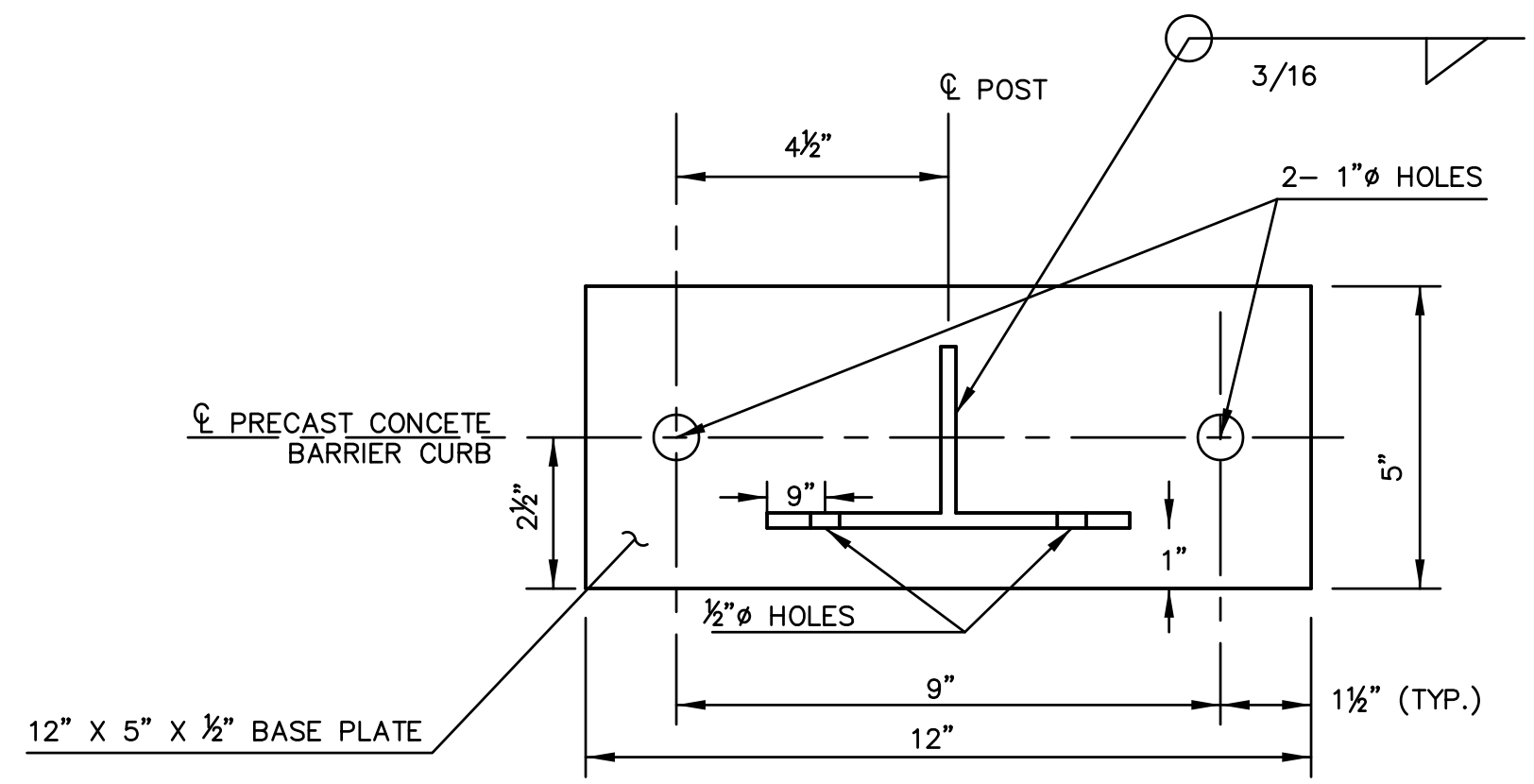
**ELEVATION**  
SCALE 1" = 1'



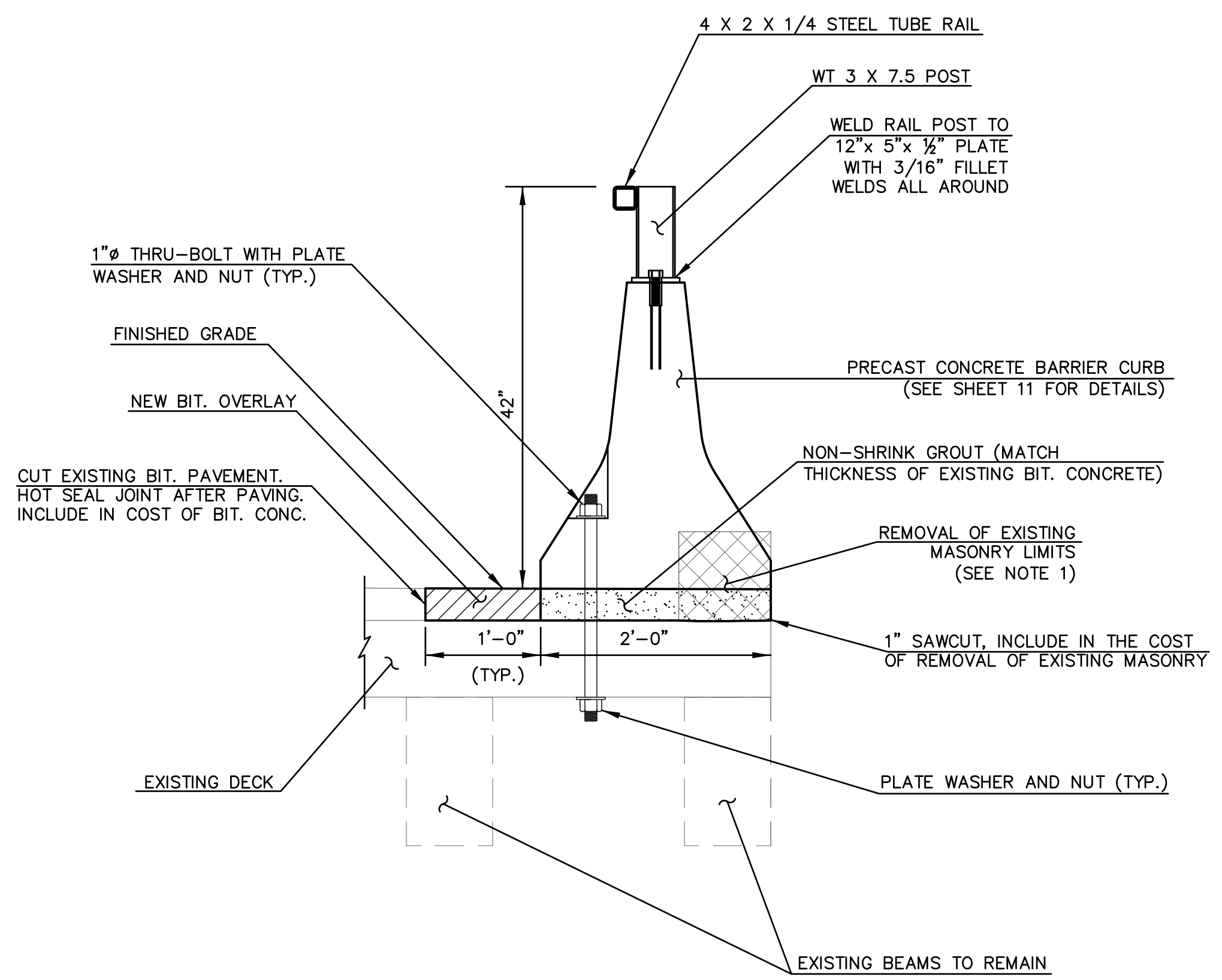
**DETAIL "A"**  
SCALE 2" = 1'



**SECTION C-C**  
SCALE 2" = 1'

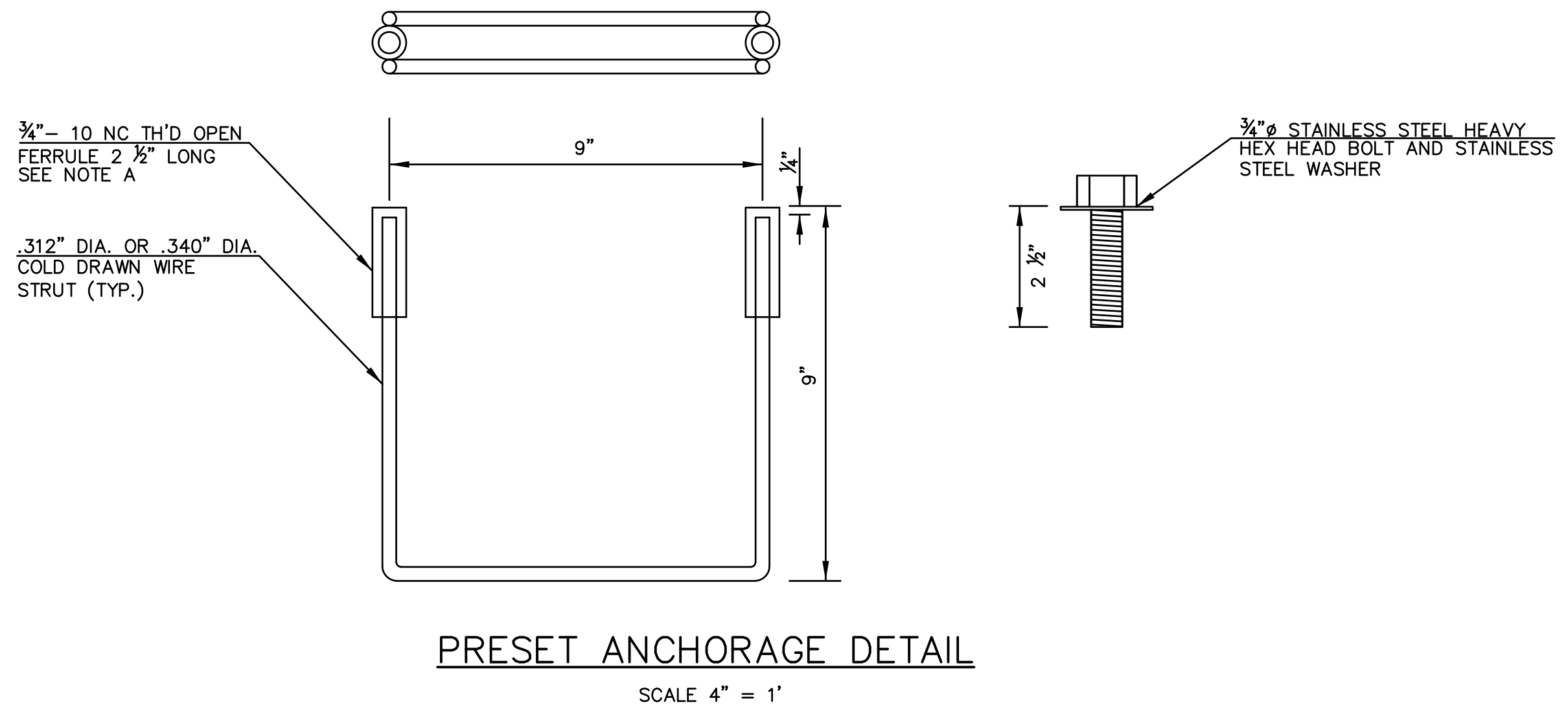


**SECTION B-B**  
SCALE 4" = 1'



**SECTION A-A**  
SCALE 1" = 1'

NOTE:  
1. SAWCUT EXISTING PARAPET AS CLOSE TO TOP OF EXISTING DECK AS POSSIBLE AND REMOVE EXISTING PARAPET INCLUDING REINFORCEMENT TO LIMITS SHOWN.



**PRESET ANCHORAGE DETAIL**  
SCALE 4" = 1'

- METAL BRIDGE RAIL NOTES:**
1. THE STEEL RAILS SHALL BE FABRICATED IN CONFORMANCE WITH ASTM A588 WEATHERING STEEL.
  2. THE RAILS, POSTS AND BASE PLATES SHALL BE FABRICATED FROM STEEL MEETING THE REQUIREMENTS OF AASHTO M270, GRADE 50W.
  3. ALL POSTS, BASE PLATES, AND RAILS AND OTHER SHAPES SHALL BE FABRICATED IN CONFORMANCE WITH ASTM A588 WEATHERING STEEL.
  4. ROUND HEAD BOLTS, NUTS AND WASHERS FOR CONNECTING RAILS TO POSTS SHALL CONFORM TO THE REQUIREMENTS SET FORTH FOR ASTM A325, TYPE 3.
  5. ALL PRESET ANCHORAGES SHALL BE FABRICATED AND CAST WITHIN THE PRECAST CONCRETE BARRIER CURBS (STRUCTURE). PRESET ANCHORAGES SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A153.
  6. BOLTS FOR PRESET ANCHORAGES SHALL BE STAINLESS STEEL AND CONFORM TO THE REQUIREMENTS OF ASTM A193, CLASS 1 OR 2, GRADE B8 (AISI TYPE 304). THE STAINLESS STEEL WASHERS SHALL CONFORM TO ASTM A167, TYPE 302-305.
  7. LENGTHS OF RAIL ELEMENTS SHALL BE CONTINUOUS WITH NO SPLICES.
  8. ALL RAILS AND POSTS SHALL BE FREE OF BURRS, IRREGULARITIES AND SHARP EDGES.

SUPV.	J.A.C.	
DESIGN	D.A.G.	
DRAWN	P.W.S.	
CHECKED	J.A.C.	
DATE	04/05/06	
NO.	DATE	DESCRIPTION
REVISIONS		

SCALE  
N.T.S.

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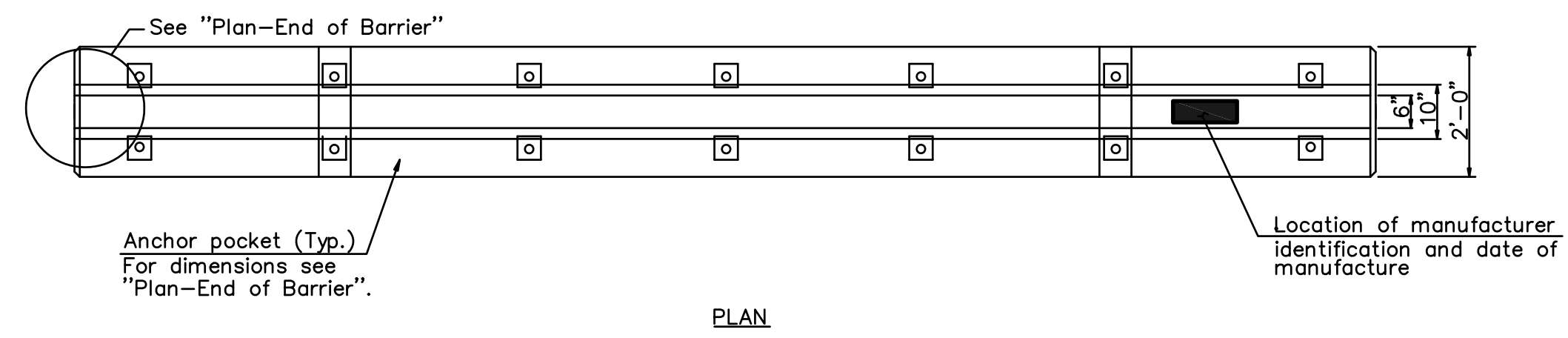
PREPARED FOR  
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RIDGEFIELD, CT  
06877

PORTLAND AVE. BRIDGE REHABILITATION  
PARAPET DETAILS

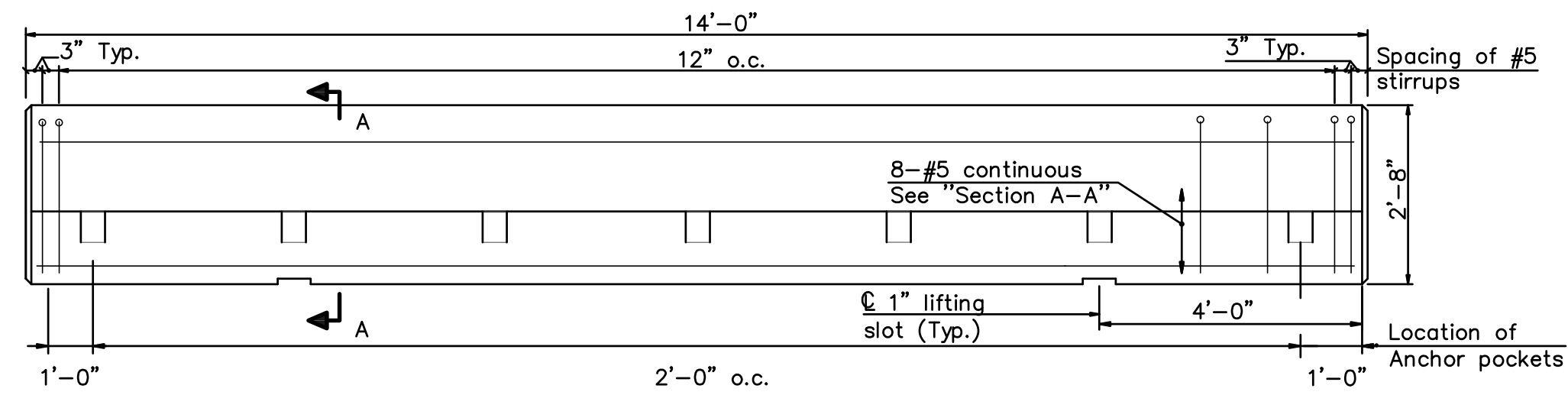
PORTLAND AVE BRIDGE	05064.10	SHEET	10
PROJECT	FILE NAME	NUMBER	REV.
SIZE	OF	11	

**NOTES**

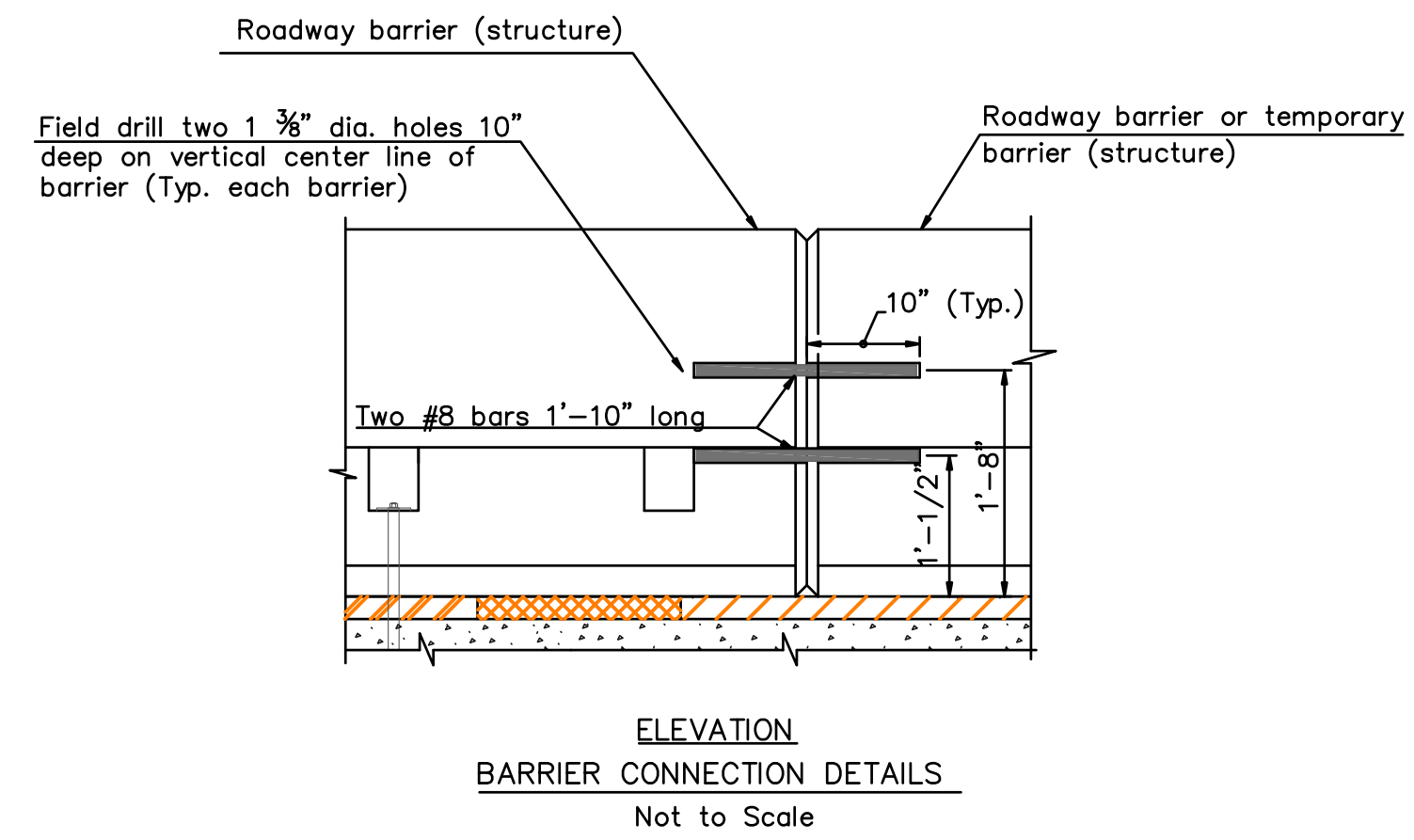
1. The barrier shown on this sheet shall be anchored by through-bolting to the existing bridge deck. This consists of drilling through deck slabs and securing removable anchors on the underside with plate washers and nuts.
2. Number of anchors: On traffic side of a typical barrier, anchors shall be installed in all pockets.
3. The work done on this sheet, with the exception of the delineators, shall be paid for under the item "Precast Concrete Barrier Curb (Structure)".



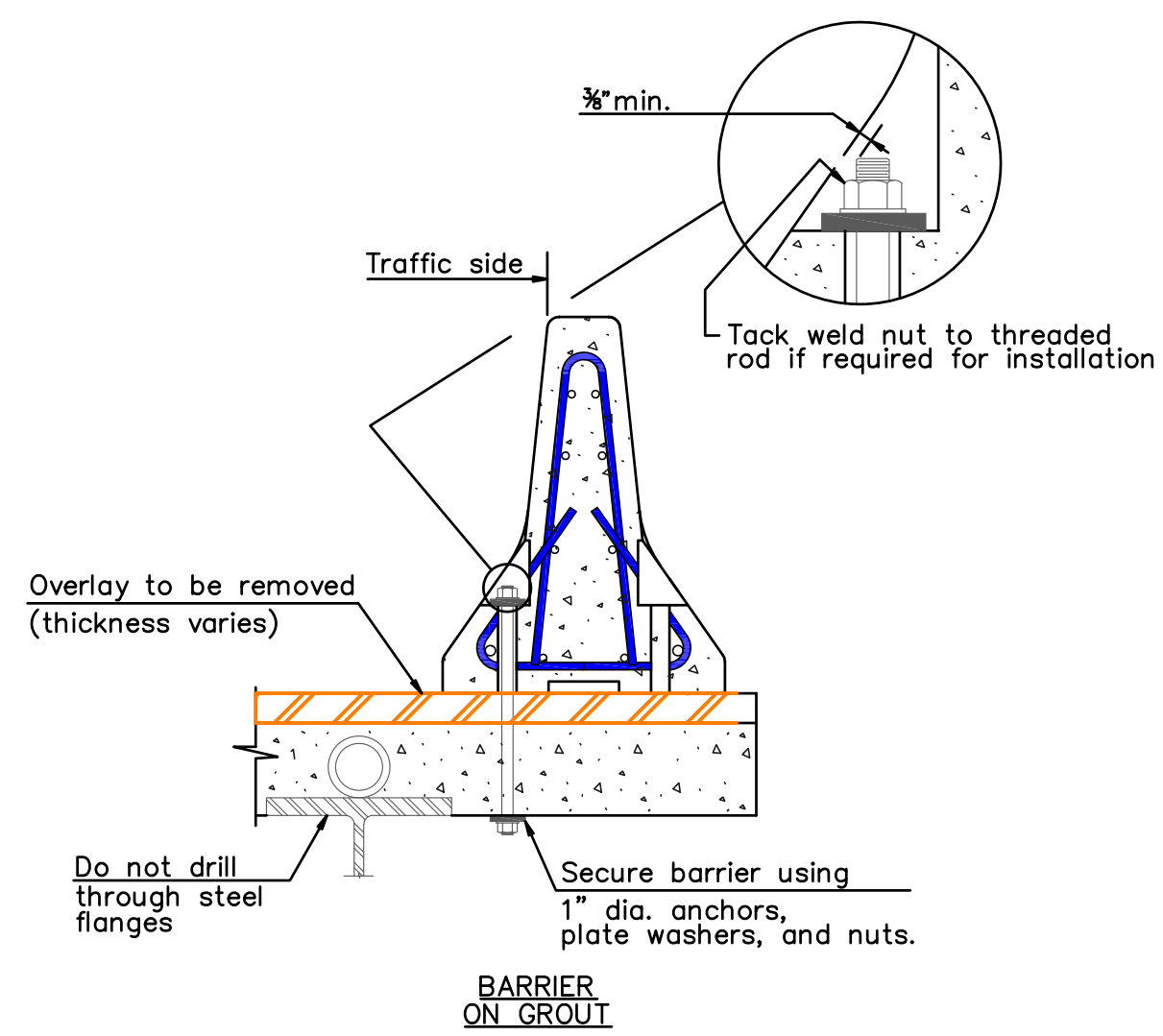
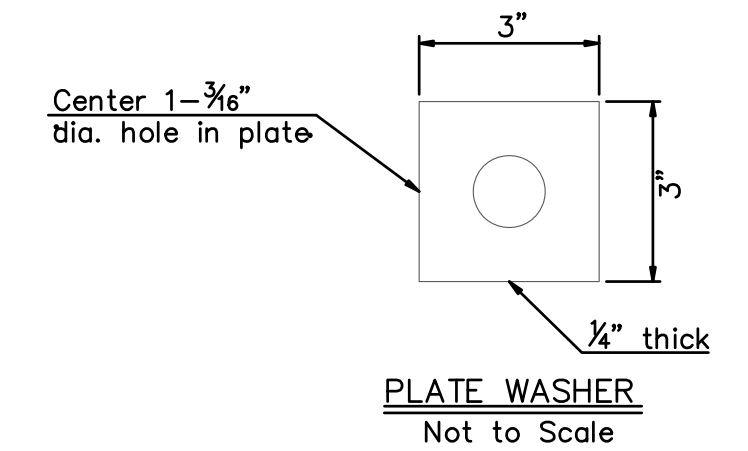
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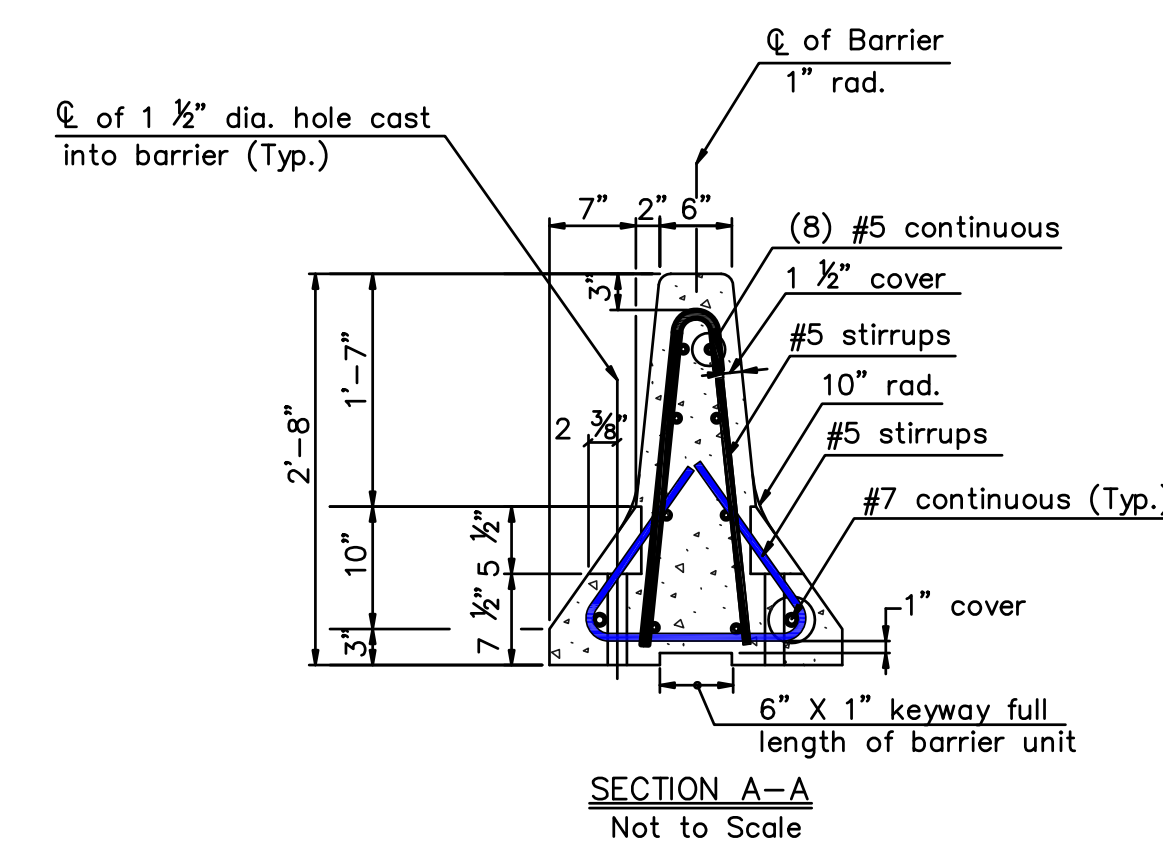
ELEVATION  
PRECAST BARRIER UNIT (STRUCTURE)  
Not to Scale



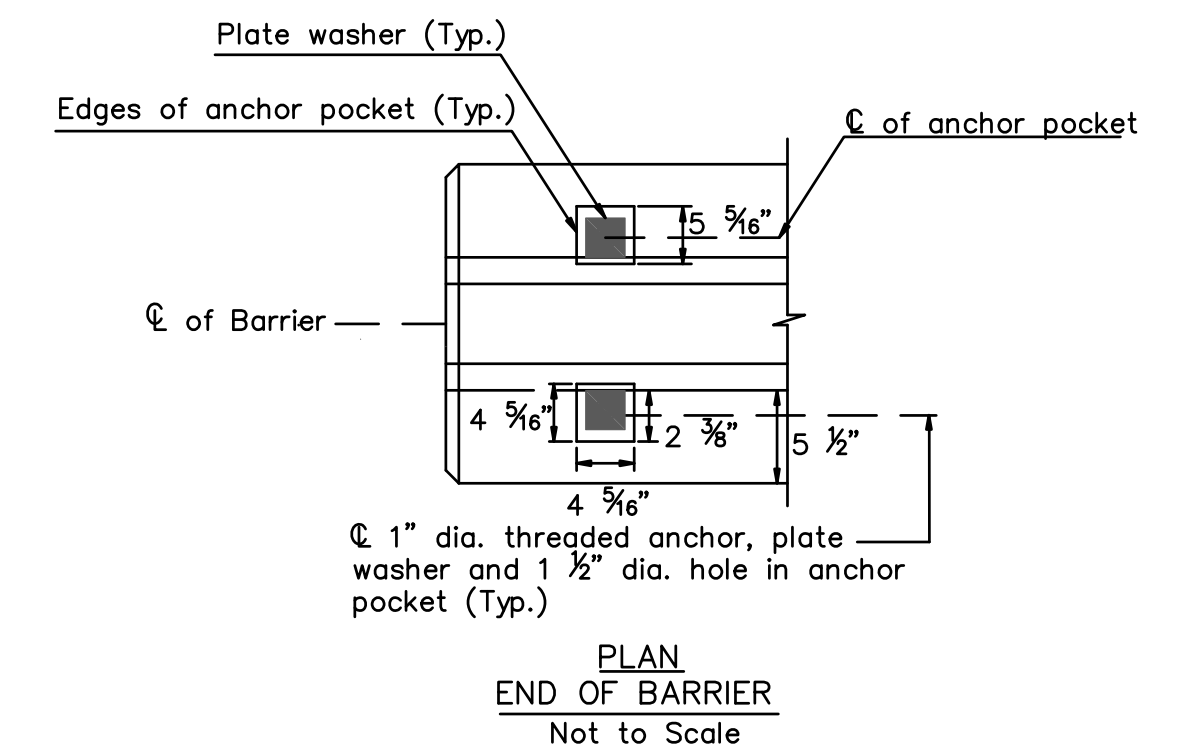
ELEVATION  
BARRIER CONNECTION DETAILS  
Not to Scale



Note:  
Existing reinforcing bars in slab not drawn for clarity. Existing locations unknown, but damaging the reinforcing bars in the existing concrete should be avoided.



SECTION A-A  
Not to Scale



- Encapsulated lens reflective sheeting to conform to Article M18.09
- COLOR APPLICATION**  
Left side of all roadways and ramps - YELLOW  
Right side of all roadways and ramps - SILVER
- COLOR OF DELINEATORS**  
DE-7A One Way Yellow  
DE-7 One Way Silver  
DE-7B Two Way Yellow  
DE-7C Silver/Yellow Back to Back
- Delineators shall be mounted in the center of temporary barriers as required.
- SPACING OF DELINEATORS**  
On leading tapered sections - every unit (20 ft.).  
On the first 100 ft. of parallel sections - every unit (20 ft.).  
On the remaining length - every fifth (5th) unit (100 ft.).  
Minimum of 2 if less than 100 ft.  
Alternating one way traffic - every unit (20 ft.).  
All other roadways shall be delineated in accordance with M.U.T.C.D.  
Paid for under Item "Delineators"

DELINEATORS  
Not to Scale

SUPV.	J.A.C.
DESIGN	D.A.G.
DRAWN	J.A.W.
CHECKED	J.A.C.
NO. DATE	DESCRIPTION
04/05/06	REVISIONS

SCALE  
AS NOTED



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RIDGEFIELD, CT  
06877

PORTLAND AVENUE BRIDGE REHABILITATION PRECAST CONCRETE BARRIER CURB (STRUCTURE)				SHEET	11
D -	PORTLAND AVE	BRIDGE	05064.10	REV.	OF
SIZE	PROJECT	FILE NAME	NUMBER	REV.	OF
					11