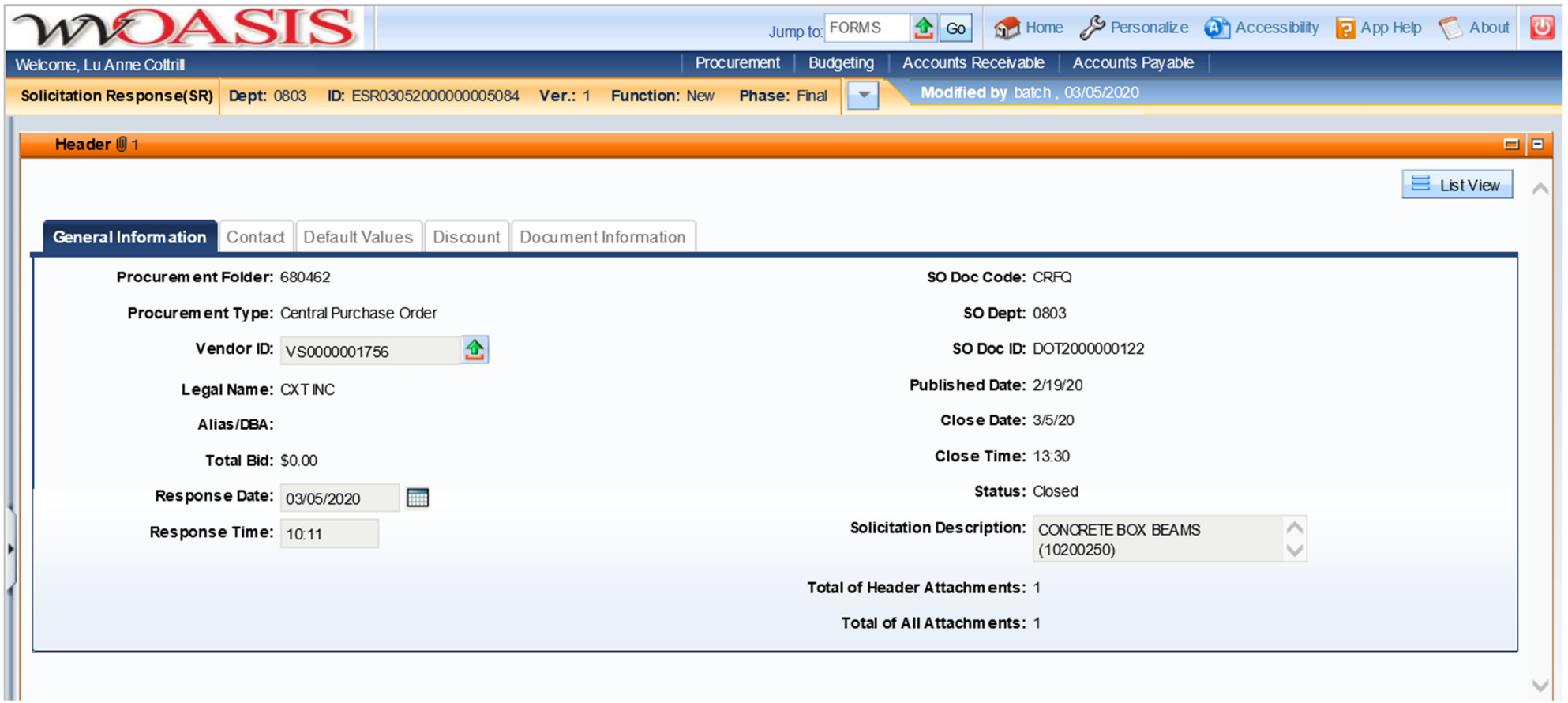
The following documentation is an electronically-submitted vendor response to an advertised solicitation from the *West Virginia Purchasing Bulletin* within the Vendor Self-Service portal at ***wvOASIS.gov***. As part of the State of West Virginia's procurement process, and to maintain the transparency of the bid-opening process, this documentation submitted online is publicly posted by the West Virginia Purchasing Division at ***WVPurchasing.gov*** with any other vendor responses to this solicitation submitted to the Purchasing Division in hard copy format.


WVOASIS
Jump to: FORMS Go
Home
Personalize
Accessibility
App Help
About
Welcome, Lu Anne Cottrill
Procurement
Budgeting
Accounts Receivable
Accounts Payable
Solicitation Response(SR) Dept: 0803 ID: ESR03052000000005084 Ver.: 1 Function: New Phase: Final
Modified by batch , 03/05/2020
Header 1
List View
General Information
Contact
Default Values
Discount
Document Information
Procurement Folder: 680462
Procurement Type: Central Purchase Order
Vendor ID: VS0000001756
Legal Name: CXT INC
Alias/DBA:
Total Bid: $0.00
Response Date: 03/05/2020
Response Time: 10:11
SO Doc Code: CRFQ
SO Dept: 0803
SO Doc ID: DOT2000000122
Published Date: 2/19/20
Close Date: 3/5/20
Close Time: 13:30
Status: Closed
Solicitation Description: CONCRETE BOX BEAMS (10200250)
Total of Header Attachments: 1
Total of All Attachments: 1

Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Solicitation Response

Proc Folder : 680462

Solicitation Description : CONCRETE BOX BEAMS (10200250)

Proc Type : Central Purchase Order

Date issued	Solicitation Closes	Solicitation Response	Version
	2020-03-05 13:30:00	SR 0803 ESR03052000000005084	1

VENDOR

VS0000001756

CXT INC

Solicitation Number: CRFQ 0803 DOT2000000122

Total Bid : $0.00 **Response Date:** 2020-03-05 **Response Time:** 10:11:33

Comments:

FOR INFORMATION CONTACT THE BUYER

Crystal G Hustead

(304) 558-2402
crystal.g.hustead@wv.gov

Signature on File **FEIN #** **DATE**

All offers subject to all terms and conditions contained in this solicitation

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	PRE-STRESSED CONCRETE BOX BEAMS	0.00000	EA	$107,305.000000	$0.00

Comm Code	Manufacturer	Specification	Model #
30101717			

Extended Description : PRICING TO BE INCLUDED ON ATTACHED EXHIBIT A

Purchasing Divison
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Request for Quotation
19 — Highways

Proc Folder: 680462
Doc Description: CONCRETE BOX BEAMS (10200250)
Proc Type: Central Purchase Order

Date Issued	Solicitation Closes	Solicitation No	Version
2020-02-19	2020-03-05 13:30:00	CRFQ 0803 DOT2000000122	1

BID RECEIVING LOCATION

BID CLERK
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON ST E
CHARLESTON WV 25305
US

VENDOR

Vendor Name, Address and Telephone Number:

CARR CONCRETE, A DIVISION OF CXT, INC.
P.O. BOX 265, WAVERLY WV 26184
304-464-4441

TOTAL: $107,305.00

FOR INFORMATION CONTACT THE BUYER

Crystal G Hustead
(304) 558-2402
crystal.g.hustead@wv.gov

Signature X [signature] **FEIN #** 91-1498605 **DATE** 03/05/20

All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL INFORMATION:

THE STATE OF WEST VIRGINIA PURCHASING DIVISION FOR THE AGENCY, WEST VIRGINIA DIVISION OF HIGHWAYS, IS SOLICITING BIDS TO ESTABLISH A CONTRACT FOR THE ONE-TIME PURCHASE OF 33" (INCH) PRE-STRESSED CONCRETE BOX BEAMS PER THE ATTACHED DOCUMENTS.

QUESTIONS REGARDING THE SOLICITATION MUST BE SUBMITTED IN WRITING TO CRYSTAL.G.HUSTEAD@WV.GOV PRIOR TO THE QUESTION PERIOD DEADLINE CONTAINED IN THE INSTRUCTIONS TO VENDORS SUBMITTING BIDS

INVOICE TO	SHIP TO
DIVISION OF HIGHWAYS DISTRICT TEN 270 HARDWOOD LN PRINCETON WV24740 US	DIVISION OF HIGHWAYS DISTRICT TEN 270 HARDWOOD LN PRINCETON WV 24740 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	PRE-STRESSED CONCRETE BOX BEAMS	0.00000	EA		$107,305.00

Comm Code	Manufacturer	Specification	Model #
30101717			

Extended Description :

PRICING TO BE INCLUDED ON ATTACHED EXHIBIT A

SCHEDULE OF EVENTS

Line	Event	Event Date
1	VENDOR QUESTION DEADLINE	2020-02-26

ADDITIONAL TERMS AND CONDITIONS

See attached document(s) for additional Terms and Conditions

Purchasing Divison
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Request for Quotation
19 — Highways

Proc Folder: 680462
Doc Description: CONCRETE BOX BEAMS (10200250)
Proc Type: Central Purchase Order

Date Issued	Solicitation Closes	Solicitation No	Version
2020-02-19	2020-03-05 13:30:00	CRFQ 0803 DOT2000000122	1

BID RECEIVING LOCATION

BID CLERK
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON ST E
CHARLESTON WV 25305
US

VENDOR

Vendor Name, Address and Telephone Number:

TOTAL $107,305.00

FOR INFORMATION CONTACT THE BUYER

Crystal G Hustead
(304) 558-2402
crystal.g.hustead@wv.gov

Signature X [signature] **FEIN #** 91-1498605 **DATE** 03/05/20

All offers subject to all terms and conditions contained in this solicitation

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INVOICE TO	SHIP TO
DIVISION OF HIGHWAYS DISTRICT TEN 270 HARDWOOD LN PRINCETON WV24740 US	DIVISION OF HIGHWAYS DISTRICT TEN 270 HARDWOOD LN PRINCETON WV 24740 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	PRE-STRESSED CONCRETE BOX BEAMS	0.00000	EA		$107,305.00

Comm Code	Manufacturer	Specification	Model #
30101717			

Extended Description :
PRICING TO BE INCLUDED ON ATTACHED EXHIBIT A

SCHEDULE OF EVENTS

Line	Event	Event Date
1	VENDOR QUESTION DEADLINE	2020-02-26

DESIGNATED CONTACT: Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

JASON NORMAN, COMMERCIAL OPERATIONS MANAGER
(Name, Title)
JASON NORMAN, COMMERCIAL OPERATIONS MANAGER
(Printed Name and Title)
P.O. BOX 265, WAVERLY WV 26184
(Address)
304-464-4441 / 304-464-4013
(Phone Number) / (Fax Number)
jnorman@lbfoster.com
(email address)

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

CARR CONCRETE, A DIVISION OF CXT, INC.
(Company)


(Authorized Signature) (Representative Name, Title)

JASON NORMAN, COMMERCIAL OPERATIONS MANAGER
(Printed Name and Title of Authorized Representative)

03/05/20
(Date)

304-464-4441 / 304-464-4013
(Phone Number) (Fax Number)

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: CRFQ DOT2000000122

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:
(Check the box next to each addendum received)

☐ Addendum No. 1	☐ Addendum No. 6
☐ Addendum No. 2	☐ Addendum No. 7
☐ Addendum No. 3	☐ Addendum No. 8
☐ Addendum No. 4	☐ Addendum No. 9
☐ Addendum No. 5	☐ Addendum No. 10

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

CARR CONCRETE, A DIVISION OF CXT, INC.
Company

Authorized Signature

03-05-20
Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.

REQUEST FOR QUOTATION
CRFQ DOT2000000122
Pre-Stressed Concrete Box Beams Steeles Bridge (10200250)

SPECIFICATIONS

1. **PURPOSE AND SCOPE:** The West Virginia Purchasing Division is soliciting bids on behalf of West Virginia Division of Highways to establish a contract for the one-time purchase of 33" (inch) Pre-Stressed Concrete Box Beams.

2. **DEFINITIONS:** The terms listed below shall have the meanings assigned to them below. Additional definitions can be found in section 2 of the General Terms and Conditions.

   2.1 "Contract Item" means 33" (inch) Pre-Stressed Concrete Box Beams as more fully described by these specifications.

   2.2 "Pricing Page" means the pages, contained in WVOASIS or attached as Exhibit A, upon which Vendor should list its proposed price for the Contract Items.

   2.3 "Solicitation" means the official notice of an opportunity to supply the State with goods or services that is published by the Purchasing Division.

3. **GENERAL REQUIREMENTS:**

   3.1 Mandatory Contract Item Requirements: Contract Item must meet or exceed the mandatory requirements listed below.

      3.1.1 33" (inch) Pre-Stressed Concrete Box Beams for Steeles Bridge over Little Huff Creek.

         3.1.1.1 Bridge Beams are to be manufactured according to the attached plan sheets 11 thru 19 entitled Steeles Bridge over Little Huff Creek, State Project Number (S355-8-1.90 00). See the attached plans Bridge Number (3829.1).

4. **CONTRACT AWARD:**

   4.1 Contract Award: The Contract is intended to provide Agencies with a purchase price for the Contract Items. The Contract shall be awarded to the Vendor that provides the Contract Items meeting the required specifications for the lowest overall total cost as shown on the Pricing Pages.

4.2 Pricing Page: Vendor should complete the Exhibit A Pricing Page by inputting the Unit Price for each Item Number and multiply by the Quantities to calculate the Total Cost for each. The Total Cost for each Item Number will be added together to calculate the Total Bid Amount. Vendor should complete the Pricing Page in full as failure to complete the Pricing Page in its entirety may result in Vendor's bid being disqualified.

Vendor should type or electronically enter the information into the Pricing Page to prevent errors in the evaluation.

5. PAYMENT:

5.1 Payment: Vendor shall accept payment in accordance with the payment procedures of the State of West Virginia.

6. DELIVERY AND RETURN:

6.1 Shipment and Delivery: Vendor shall ship the Contract Items immediately after being awarded this Contract and receiving a purchase order or notice to proceed. Vendor shall deliver the Contract Items within (40) working days after receiving a purchase order or notice to proceed. Contract Items must be delivered to Agency at State Project S55-8-1.90 00 Steeles Bridge located in Wyoming County, 1.90 miles in a south easterly direction, from the intersection of US 52 and Wyoming County Route 8. GPS: 37.535703, -81.771999

6.2 Late Delivery: The Agency placing the order under this Contract must be notified in writing if the shipment of the Contract Items will be delayed for any reason. Any delay in delivery that could cause harm to an Agency will be grounds for cancellation of the Contract, and/or obtaining the Contract Items from a third party.

Any Agency seeking to obtain the Contract Items from a third party under this provision must first obtain approval of the Purchasing Division.

6.3 Delivery Payment/Risk of Loss: Vendor shall deliver the Contract Items F.O.B. destination to the Agency's location.

6.4 Return of Unacceptable Items: If the Agency deems the Contract Items to be unacceptable, the Contract Items shall be returned to Vendor at Vendor's expense and with no restocking charge. Vendor shall either make arrangements for the return within five (5) days of being notified that items are unacceptable or permit the Agency to arrange for the return and reimburse Agency for delivery expenses. If the

original packaging cannot be utilized for the return, Vendor will supply the Agency with appropriate return packaging upon request. All returns of unacceptable items shall be F.O.B. the Agency's location. The returned product shall either be replaced, or the Agency shall receive a full credit or refund for the purchase price, at the Agency's discretion.

6.5 **Return Due to Agency Error:** Items ordered in error by the Agency will be returned for credit within 30 days of receipt, F.O.B. Vendor's location. Vendor shall not charge a restocking fee if returned products are in a resalable condition. Items shall be deemed to be in a resalable condition if they are unused and in the original packaging. Any restocking fee for items not in a resalable condition shall be the lower of the Vendor's customary restocking fee or 5% of the total invoiced value of the returned items.

7 VENDOR DEFAULT:

7.1 The following shall be considered a vendor default under this Contract.

7.1.1 Failure to provide Contract Items in accordance with the requirements contained herein.

7.1.2 Failure to comply with other specifications and requirements contained herein.

7.1.3 Failure to comply with any laws, rules, and ordinances applicable to the Contract Services provided under this Contract.

7.1.4 Failure to remedy deficient performance upon request.

7.2 The following remedies shall be available to Agency upon default.

7.2.1 Immediate cancellation of the Contract.

7.2.2 Immediate cancellation of one or more release orders issued under this Contract.

7.2.3 Any other remedies available in law or equity.

STATE PROJECT NUMBER	FEDERAL PROJECT NUMBER	SHEET DIST. NO.	COUNTY	SHEET NO.	TOTAL SHEETS
[illegible]	N/A	10	[illegible]	11	19

GOVERNING SPECIFICATIONS

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, ADOPTED 2017 AS AMENDED BY THE CURRENT SUPPLEMENTAL SPECIFICATIONS. THE CONTRACT PLANS AND CONTRACT SPECIAL PROVISIONS ARE THE GOVERNING PROVISIONS APPLICABLE TO THIS PROJECT.

ALL BEAMS ARE DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, DATED 1998 AS AMENDED BY THE 2003 INTERIM SPECIFICATIONS.

DESIGN NOTES

ALL STANDARD ADJACENT PRESTRESSED CONCRETE BRIDGE BEAMS ARE DESIGNED TO MEET THE FOLLOWING CRITERIA:

1. DESIGN LOADS:
   HL-93 LIVE LOAD IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

   FUTURE WEARING SURFACE OF 50 PSF OF ROADWAY.

   TYPE F PARAPET WEIGHING 321 PLF.

   DIAPHRAGM DEAD LOAD, NUMBER REQUIRED BASED ON 15'-0" MAX. SPACING.

2. TWO LANE BRIDGE WITH AN OVERALL WIDTH OF 24'-5" (INCL. ¾" GAP BETWEEN ADJ. BEAMS), A CURB-TO-CURB WIDTH OF 22'-1", TRANSVERSE POST-TENSIONING, AND ZERO SKEW.

3. DESIGN STRENGTH AND UNIT STRESSES:

MINIMUM CONCRETE STRENGTH @ STRAND RELEASE	6000 PSI
MINIMUM CONCRETE STRENGTH @ 28 DAYS	8000 PSI
TEMPORARY STRESS LIMITS IN CONCRETE BEFORE LOSSES:	
COMPRESSION STRESS LIMIT @ STRAND RELEASE	3600 PSI
TENSION STRESS LIMIT @ STRAND RELEASE	-200 PSI
COMPRESSIVE STRESS LIMITS IN CONCRETE @ SERVICE I AFTER LOSSES:	
@ FINAL 1 (PS+DL+LL)	4800 PSI
@ FINAL 2 (PS+DL)	3600 PSI
@ FINAL 3 (.5(PS+DL)+LL)	3200 PSI
TENSILE STRESS LIMIT IN CONCRETE @ SERVICE III AFTER LOSSES:	
@ FINAL 1 (PS+DL+LL)	-270 PSI
TENDON STRESS LIMIT PRIOR TO TRANSFER	202.5 KSI
TENDON STRESS LIMIT AFTER ALL LOSSES:	194.4 KSI

4. DEBONDING OR SHIELDING OF STRANDS TO REDUCE TEMPORARY TENSILE STRESSES IS PERMITTED, HOWEVER DEBONDING IS LIMITED TO 40% PER ROW AND 25% TOTAL. IN NO INSTANCES SHALL OUTER STRANDS BE DEBONDED. DEBONDED STRANDS SHALL BE SEPARATED BY AT LEAST ONE FULLY BONDED STRAND AND SHALL BE SYMMETRICAL ABOUT THE ℄ OF THE BEAM.
   SHIELDING OF STRANDS SHALL BE ACCOMPLISHED BY TAPING OR TIGHT FITTING PLASTIC TUBES TAPED AT EACH END.
5. THE ELASTOMERIC BEARING PADS PROVIDED IN THE STANDARD DESIGNS ARE BASED ON ZERO GRADE AND ARE LIMITED TO A MAXIMUM OF 5% GRADE. IN INSTANCES OF GRADES EXCEEDING THIS LIMIT, PADS SHALL BE SPECIFICALLY DESIGNED. INDIVIDUAL PAD DESIGNS SHALL BE IN ACCORDANCE WITH SECTION 14, AASHTO LRFD BEVELED SOLE PLATES ARE PERMITTED.
6. MAXIMUM BEAM SKEW SHALL BE 30 DEGREES.
7. WHEN ALTERNATE DESIGNS OR SITE SPECIFIC DESIGNS ARE PROVIDED, CRITERIA SET FORTH IN THESE STANDARDS SHALL APPLY.
8. NEGATIVE DESIGN CAMBER AFTER ALL LOSSES IS NOT PERMITTED.
9. EACH BEAM PROVIDED IN THESE STANDARD DESIGNS HAS BEEN LOAD RATED IN ACCORDANCE WITH SECTION 315 OF THE WEST VIRGINIA DIVISION OF HIGHWAYS BRIDGE DESIGN MANUAL, 2004. ADDITIONALLY, LOAD RATING PROCEDURES ARE IN ACCORDANCE WITH THE AASHTO MANUAL FOR CONDITION EVALUATION AND LOAD AND RESISTANCE FACTOR RATING OF HIGHWAY BRIDGES, 2003.

LAP SPLICE TABLE				
BAR SIZE	NO. 3	NO. 4	NO. 5	NO. 6
SPLICE LEN.	21"	28"	34"	41"

THIS SHEET SHALL BE USED IN CONJUNCTION WITH STANDARD SHEETS BR-B1A & B THRU BR-B12A & B, BR-B20, BR-B22A & B, BR-B23, BR-B24, BR-B25A & B AND BR-B26 AS APPLICABLE.

MATERIALS & FABRICATION NOTES

- THE PRESTRESSED CONCRETE BEAMS SHALL CONFORM TO ALL APPLICABLE PROVISIONS OF SECTION 603 OF THE STANDARD SPECIFICATIONS.

MILD REINFORCEMENT:

- ALL MILD REINFORCING STEEL SHALL BE GRADE 60, DEFORMED BILLET STEEL AND SHALL BE EPOXY COATED EXCEPT WHERE NOTED. ALL UNCOATED REINFORCING SHALL MEET THE REQUIREMENTS OF AASHTO M31. ALL EPOXY COATED REINFORCING SHALL MEET THE REQUIREMENTS OF AASHTO M284, EXCEPT WHERE AMENDED BY SECTION 709.1 OF THE STANDARD SPECIFICATIONS.
- ALL TENSION LAP SPLICES SHALL BE A CLASS B, CONTACT TYPE. MINIMUM LAP SPLICE LENGTHS SHALL BE AS GIVEN IN THE "LAP SPLICE TABLE", THIS SHEET. ADDITIONALLY, IF LAP SPLICING OF E1, L1, AND B1 BARS IS USED, TERMINATION OF THE SPLICE SHALL BE NO CLOSER TO THE END OF THE BEAM THAN 1/10 OF THE SPAN LENGTH.
- MINIMUM BAR BENDING DIAMETER SHALL BE 6 BAR DIAMETERS, EXCEPT THAT NO. 4 AB BARS MAY HAVE A MINIMUM BEND DIAMETER OF 4 BAR DIAMETERS.
- MINIMUM CONCRETE COVER SHALL BE AS SPECIFIED IN SECTION 603.5 OF THE STANDARD SPECIFICATIONS, EXCEPT WHERE NOTED ON THE PLANS.

PRESTRESSING STRAND:

- ALL PRESTRESSING STEEL SHALL BE ½" ø, GRADE 270, 7 WIRE UNCOATED, LOW-RELAXATION STRAND MEETING THE REQUIREMENTS OF AASHTO M203, SUPPLEMENT S1.
- ALL BEAMS DESIGNED IN THESE STANDARDS UTILIZE STRANDS WITH A NOMINAL AREA OF 0.167 SQ. IN. STRANDS WITH A NOMINAL AREA OF 0.153 SQ. IN. IS PERMITTED FOR INDIVIDUAL OR ALTERNATE DESIGNS, HOWEVER THE DESIGNER IS ENCOURAGED TO USE THE LARGER STRAND FOR UNIFORMITY REASONS. IN NO CASES WILL STRESS-RELIEVED STRAND BE PERMITTED.
- ALL STRANDS SHALL BE ENCLOSED INSIDE THE STIRRUP CAGE FOR THE FULL LENGTH OF THE BEAM.
- ALL EXPOSED PRESTRESSING STRAND AT EACH BEAM END SHALL BE SHOP COATED WITH A LIQUID COLD-APPLIED BITUMINOUS ELASTOMERIC WATERPROOFING MEMBRANE. MATERIAL SHALL MEET ASTM C836-84.

CONCRETE:

- ALL CONCRETE USED IN MANUFACTURING PRESTRESSED CONCRETE BEAMS SHALL MEET THE REQUIREMENTS OF SECTION 603.6 OF THE STANDARD SPECIFICATIONS. DESIGN STRENGTHS SHALL MEET OR EXCEED THE MINIMUM VALUES SET FORTH IN THESE PLANS.
- ALL CONCRETE USED IN PARAPETS AND CURBS SHALL BE CLASS K CONCRETE.

ELASTOMERIC BEARING PADS:

- ALL BEARING PADS SHALL MEET THE APPLICABLE REQUIREMENTS AS SET FORTH IN SECTION 18.2 OF THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS, 1998 EDITION WITH CURRENT INTERIMS. ALL BEARINGS SHALL BE STEEL REINFORCED LAMINATED BEARINGS.
- THE ELASTOMER MATERIAL SHALL BE 60 DUROMETERS WITH A MINIMUM LOW TEMPERATURE GRADE OF 3 (ZONE C).
- ALL STEEL REINFORCING SHALL MEET THE REQUIREMENTS OF AASHTO M270, GRADE 36.

GUARDRAIL, GUARDRAIL POSTS, TUBING & INSERTS:

- ALL W-BEAM GUARDRAIL AND ATTACHMENT HARDWARE SHALL BE IN ACCORDANCE WITH SECTION 712.4 OF THE STANDARD SPECIFICATIONS. GUARDRAIL POSTS, STRUCTURAL TUBING, POST ATTACHMENT INSERTS, AND HARDWARE SHALL MEET THE LISTED MATERIAL AND COATING SPECIFICATIONS:

ITEM		DESCRIPTION	MATERIAL SPEC.	COATING SPEC.
POST		W6x25	AASHTO M270, GR 36	AASHTO M111
PLATE		½" x 7"	AASHTO M270, GR 36	AASHTO M111
TUBING		TS 8x4x3/16	ASTM A500, GR B	AASHTO M111
CHANNEL		C7x9.8	AASHTO M270, GR 36	AASHTO M111
FERRULE	TYPE 2A ANCHOR	1¼" ø x 2½" MIN LEN.	ASTM A108 (1117 STEEL)	AASHTO M232
WIRE	TYPE 2A ANCHOR	½" ø	ASTM A510 (1018 STEEL)	AASHTO M232
STUDS	TYPE 2A ANCHOR	1¼" ø x 8" LONG	ASTM A108 (1045 C.D. STEEL)	AASHTO M232
NUTS	TYPE 2A ANCHOR	1¼" ø	AASHTO M291, CLASS C	AASHTO M232
COUPLERS	TYPE 1A ANCHOR	1½" ø x 5" LONG	ASTM A108 (12L14 STEEL)	AASHTO M232
BOLTS	TYPE 1A ANCHOR	1½" ø x 12" LONG	AASHTO M164 (TYPE 1, HH)	AASHTO M232
BOLTS		½" ø x ALL LEN.	AASHTO M164 (TYPE 1, HH)	AASHTO M232
NUTS		½" ø	AASHTO M291, CLASS C	AASHTO M232
WASHERS		ALL	AASHTO M293	AASHTO M232

WELDING:

- TACK WELDING OF REINFORCEMENT IS NOT PERMITTED. REINFORCING CAGES AND LONGITUDINAL STEEL SHALL BE ADEQUATELY TIED WITH APPROVED MEANS TO PREVENT RACKING AND MISALIGNMENT.
- ALL WELDING OF FABRICATED ITEMS, AS SHOWN IN THESE PLANS SHALL BE IN ACCORDANCE WITH ALL APPLICABLE PROVISIONS OF AASHTO/AWS D1.5, 2002.

POST-TENSIONING BARS:

- POST - TENSIONING THREAD BARS SHALL BE ONE INCH DIAMETER, 150 KSI STEEL, AND SHALL CONFORM TO AASHTO M275, TYPE II. STEEL THREAD BARS SHALL BE DESIGNED TO ALLOW THE USE OF HEAVY HEX NUTS AND COUPLERS THAT THREAD ONTO THE END OF THE DEFORMATIONS. HEAVY HEX NUTS AND COUPLERS SHALL BE OF A DESIGN AND MATERIAL RECOMMENDED BY THE BAR MANUFACTURER TO DEVELOP THE FULL TENSILE STRENGTH OF THE BAR. PROPERLY DOCUMENTED CERTIFIED MILL TEST REPORTS SHALL BE PROVIDED FOR EACH HEAT OF STEEL THREAD BARS.
- ALL POST-TENSIONING THREAD BARS, NUTS, BEARING PLATES, COUPLERS, AND ANCILLARY HARDWARE SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH AASHTO M111. THE GALVANIZING PLANT SHALL ADMINISTER ADEQUATE QUALITY CONTROL MEASURES TO SAFEGUARD AGAINST HYDROGEN EMBRITTLEMENT. QUALITY CONTROL MEASURES SHALL COMPLY WITH ASTM A-143. CERTIFICATION FOR HOT-DIP GALVANIZING SHALL BE PROVIDED BY THE GALVANIZING PLANT.
- ALL POST-TENSIONING BEARING PLATES SHALL CONFORM TO AASHTO M270, GRADE 36.

SHEAR KEY GROUT:

- SHEAR KEY GROUT SHALL BE A GROUT THAT IS RECOMMENDED BY THE MANUFACTURER FOR A POURABLE GROUT APPLICATION AND THAT BASED ON THE MANUFACTURER'S TEST DATA WILL ATTAIN A MINIMUM OF 4500 PSI COMPRESSIVE STRENGTH IN 3 DAYS UNDER CONDITIONS REPRESENTATIVE OF THE CONDITIONS TO BE EXPERIENCED AT THE SITE. THE GROUT MUST BE LISTED ON THE APPROVED LIST OF GROUTS PUBLISHED BY THE WEST VIRGINIA DIVISION OF HIGHWAYS, MATERIALS CONTROL, SOIL AND TESTING DIVISION. THE CONTRACTOR SHALL PRE-TEST THE PROPOSED GROUT FOR COMPRESSIVE STRENGTH AT 3 AND 7 DAYS AND SUBMIT THE RESULTS TO THE BRIDGE PROJECT MANAGER FOR APPROVAL PRIOR TO INSTALLATION OF THE GROUT IN THE STRUCTURE. THE TESTS WILL BE BASED ON A POURABLE CONSISTENCY WITH THE SAME WATER/GROUT MIXTURE RATIO TO BE USED IN THE STRUCTURE.
- THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT FOR EACH PROJECT, THE GROUT PRE-TEST RESULTS OBTAINED IN THE NOTE ABOVE. THE CONTRACTOR SHALL BE REQUIRED TO PERFORM A NEW PRE-TEST AND SUBMISSION FOR APPROVAL UNDER ANY OF THE FOLLOWING CONDITIONS:
  - A PERIOD OF 18 MONTHS HAS ELAPSED SINCE LAST PRE-APPROVAL TESTING.
  - GROUT MANUFACTURER HAS REVISED OR CHANGED THE GROUT SPECIFICATIONS.
  - THE CONTRACTOR ALTERS THE WATER/GROUT MIXTURE RATIO.
  - THE CONTRACTOR CHANGES GROUT MANUFACTURER
  - THE CONTRACTOR IS REQUIRED TO COMPLETE THE GROUT STRENGTH TABLE ON BR-B103.
- TEST PROCEDURE FOR DETERMINING THE COMPRESSIVE STRENGTH OF GROUT SHALL USE CUBE SPECIMENS IN ACCORDANCE WITH ASTM C109, AS MODIFIED BY ASTM C1107. GROUT TESTING IN ACCORDANCE WITH AASHTO T23 (STANDARD CYLINDER TEST) IS NOT ACCEPTABLE.

PROTECTIVE SURFACE TREATMENT:

- EACH PRESTRESSED CONCRETE BEAM SHALL BE TREATED BY THE MANUFACTURER AT THE FABRICATION PLANT WITH AN APPROVED CONCRETE SEALER (SILANE). AN APPROVED LIST OF CONCRETE SEALERS ARE ON FILE AT THE WEST VIRGINIA DIVISION OF HIGHWAYS, MATERIALS CONTROL, SOIL AND TESTING DIVISION. COVERAGE SHALL INCLUDE TOP AND BOTTOM OF INTERIOR BEAMS, AND TOP, BOTTOM AND EXTERIOR SIDE OF EXTERIOR BEAM. APPLICATION RATE SHALL BE PER TREATMENT MANUFACTURER'S RECOMMENDATION.
- *AFTER COMPLETION OF THE SILANE TREATMENT OF FABRICATOR AND A MINIMUM OF FIVE WORKING DAYS PRIOR TO SHIPMENT OF THE BEAMS, THE FABRICATOR SHALL BE RESPONSIBLE FOR ABRASIVE BLAST CLEANING TO CLEAN WHITE CONCRETE THE INTERIOR SIDES OF BEAMS FOR THE FULL LENGTH. CLEAN WHITE CONCRETE SHALL MEAN REMOVAL OF ALL DIRT, GREASE, OIL, AND LOOSE CONCRETE LAITANCE AND PROVIDE A ROUGHENED CONCRETE SURFACE. BLASTING MEDIUM SHALL BE APPROVED BY THE DIVISION OF HIGHWAYS.*

SHOP DRAWINGS:

THE FABRICATOR SHALL BE RESPONSIBLE FOR THE PREPARATION OF SHOP DRAWINGS IN ACCORDANCE WITH THE WEST VIRGINIA DIVISION OF HIGHWAYS DOCUMENTS, SDH02 AND THE STANDARD SPECIFICATIONS. ADDITIONAL INFORMATION IS PROVIDED IN SECTION 7 OF THE BRIDGE DESIGN MANUAL. SHOP DRAWINGS SHALL INCLUDE THE FABRICATOR'S DETENSIONING PLAN.

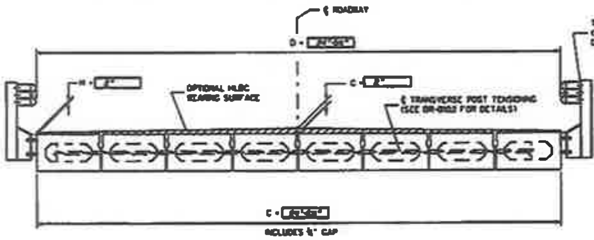
WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
ENGINEERING DIVISION

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS ENGINEERING DIVISION	07-02-07
PRESTRESSED CONCRETE BEAM DESIGN & ASSEMBLY NOTES	
STANDARD SHEET BR-B100	

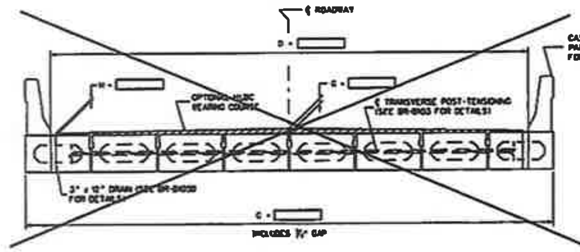
STEELES BRIDGE
OVER
LITTLE HUFF CREEK

PRESTRESSED CONCRETE BEAM
DESIGN & ASSEMBLY NOTES

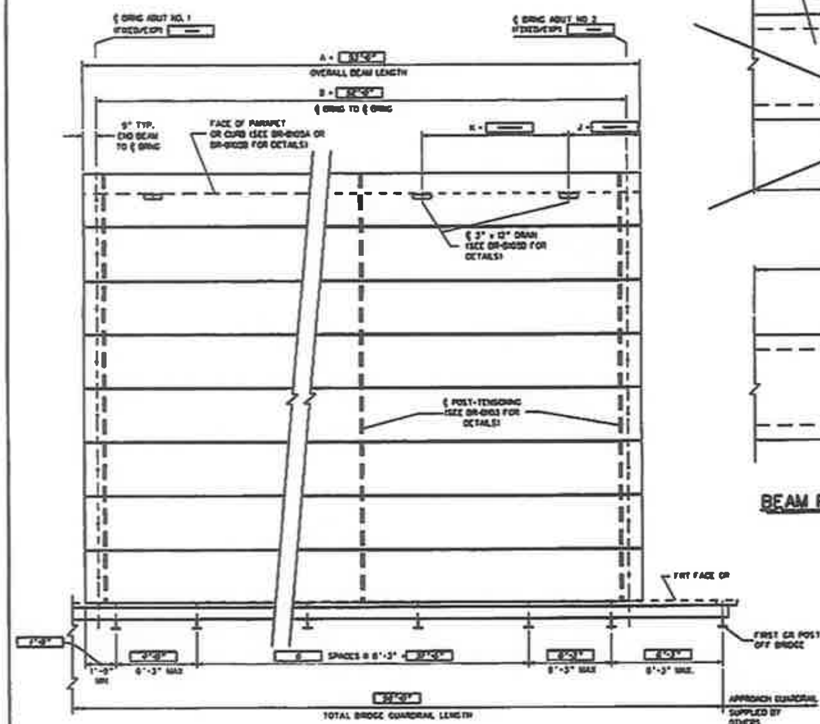
DESIGNED BY	
DRAWN BY	
CHECKED BY	
REVIEWED BY	
DATE:	
SCALE:	
SHEET NO. 11 OF 19	
PROJECT NUMBER	3829.1



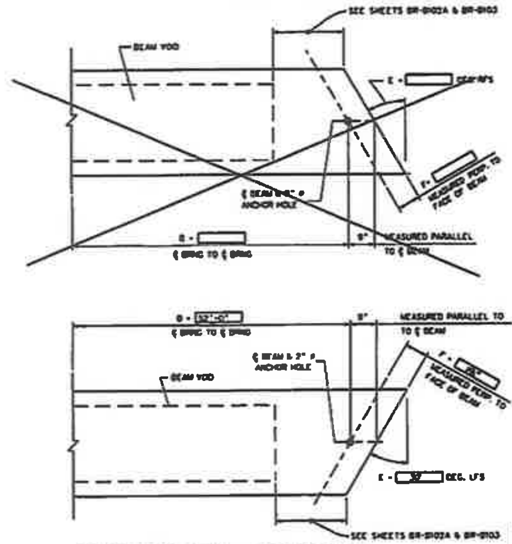
TYPICAL CROSS-SECTION WITH GUARDRAIL



TYPICAL CROSS-SECTION WITH PARAPET OR CURB



DECK PLAN VIEW



BEAM PLAN VIEW - SKEWED ENDS

STATE PROJECT NUMBER	FEDERAL PROJECT NUMBER	STATE DIST. NO.	COUNTY	SHEET NO.	TOTAL SHEETS
[illegible]	N/A	10	WYOMING	12	18

CONTROL DIMENSIONS		
DESCRIPTION	CODE	VALUE
OVERALL BEAM LENGTH	A	53'-0"
SPAN LENGTH, ℄ BEARING TO ℄ BEARING	B	52'-0"
SUPERSTRUCTURE WIDTH - OUT TO OUT	C	24'-0¼"
ROADWAY WIDTH - FACE GR/PARAPET TO FACE GR/PARAPET	D	24'-3/4"
NUMBER OF BEAMS REQUIRED	—	8
BEAM SIZE (DEPTH x WIDTH)	—	33" x 36"
SKEW ANGLE (NORMAL, DEG. RFS OR DEG. LFS)	E	30° LFS
PERPENDICULAR DISTANCE FROM FACE OF BEAM TO ℄ BEARING	F	7 9/16"
HLBC BEARING COURSE REQUIRED (YES/NO)	—	YES
THICKNESS OF BEARING COURSE @ ℄ OF DECK OR ROADWAY	G	2"
THICKNESS OF BEARING COURSE @ EDGE OF DECK OR PARAPET	H	2"
TL-2 BRIDGE GUARDRAIL SYSTEM REQUIRED (YES/NO)	—	YES
FABRICATOR TO SUPPLY TL-2 BRIDGE GUARDRAIL (YES/NO)	—	YES
FABRICATOR TO INSTALL BRIDGE GUARDRAIL PRIOR TO SHIPMENT (YES/NO) (IF NO, FABRICATOR TO SHIP LOOSE)	—	YES
NUMBER OF GUARDRAIL POST INSERTS REQUIRED PER SIDE	—	9
TYPE F PARAPET REQUIRED (YES/NO)	—	NO
DRAINS REQUIRED (YES/NO)	—	NO
NUMBER OF DRAINS REQUIRED PER SIDE	—	—
10" CURB REQUIRED (YES/NO)	—	NO

ESTIMATE OF QUANTITIES

ITEM NO.	DESCRIPTION	UNITS	QUANTITY
603018-024	33x36 Inch PRESTRESSED CONCRETE BOX BEAM	LF	428

NOTES:

1. WHEN BRIDGE GUARDRAIL IS TO BE SUPPLIED BY THE BEAM FABRICATOR, COST OF ALL BRIDGE GUARDRAIL ITEMS TO INCLUDE POSTS, RAIL ELEMENTS, ATTACHMENT HARDWARE, AND MISCELLANEOUS ITEMS NEEDED TO COMPLETELY INSTALL BRIDGE GUARDRAIL SHALL BE INCLUDED IN ITEM 603018 "PRESTRESSED CONCRETE BOX BEAM."

2. THIS SHEET SHALL BE USED IN CONJUNCTION WITH STANDARD SHEETS BR-B17A & B THRU BR-B42A & B, BR-B100, BR-B102A & B, BR-B103, BR-B104, BR-B105A & B AND BR-B106.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
ENGINEERING DIVISION
PRESTRESSED CONCRETE BEAM
DESIGN AND ASSEMBLY NOTES
STANDARD SHEET BR-B101
PREPARED: 07-02-07

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
ENGINEERING DIVISION

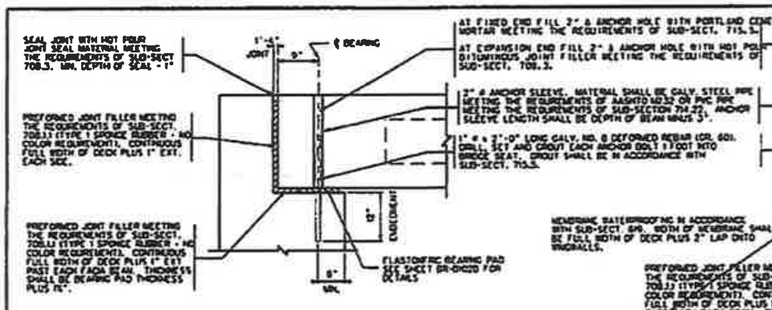
STEELES BRIDGE
OVER
LITTLE HUFF CREEK

PRESTRESSED CONCRETE BEAM
DESIGN & ASSEMBLY NOTES

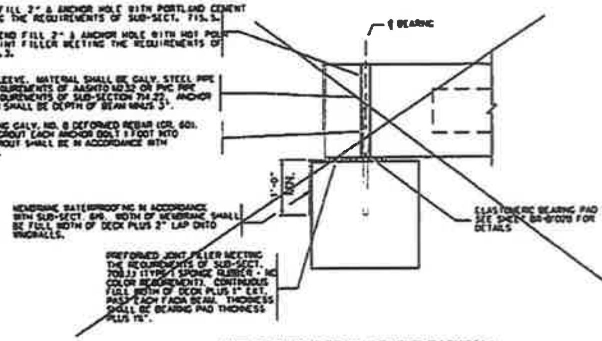
DESIGNED BY:
DRAWN BY:
CHECKED BY:
REVIEWED BY:
DATE:
SCALE:
SHEET NO 12 OF 18

3829.1

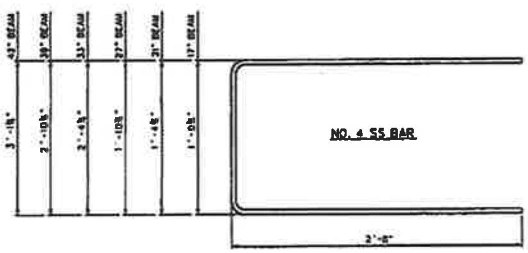
STATE PROJECT NUMBER	FEDERAL PROJECT NUMBER	STATE DIST. NO.	COUNTY	SHEET NO.	TOTAL SHEETS
[illegible]	N/A	10	WYOMING	13	19

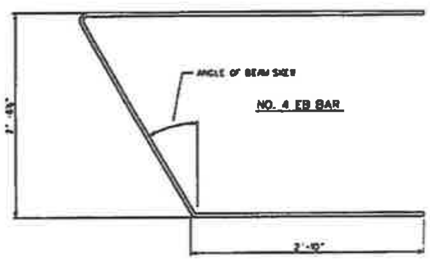


END BEARING DETAIL WITH BACKWALL



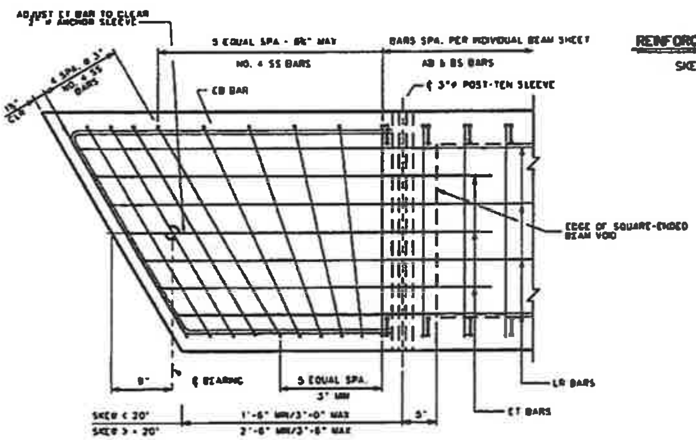
END BEARING DETAIL WITHOUT BACKWALL





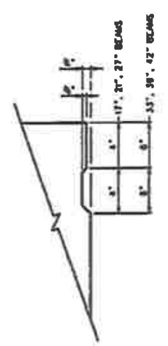
REINFORCING BAR DETAIL

SKEWED BEAMS



END BLOCK DETAIL - SKEWED BEAMS

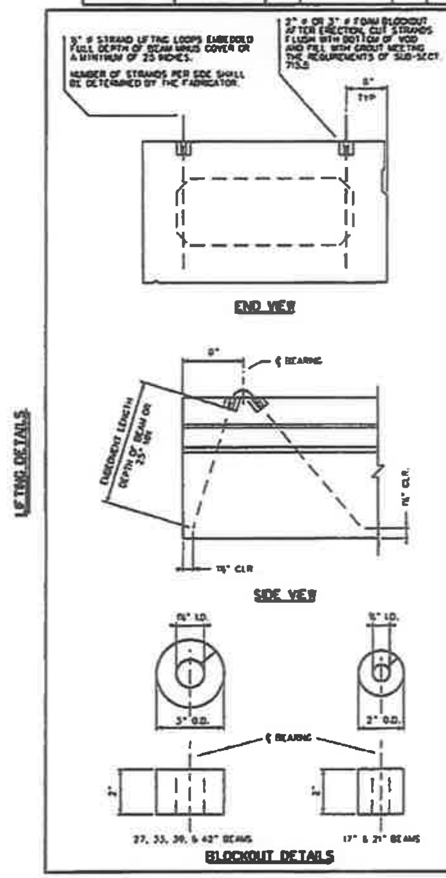
WO/POST-TEN. ACCESS POCKET



SHEAR KEY DETAIL

THIS SHEET SHALL BE USED IN CONJUNCTION WITH STANDARD SHEETS BR-B17A & B THRU BR-B42A & B, BR-B100, BR-B101, BR-B102D, BR-B103, BR-B104, BR-B105A & B AND BR-B106 AS APPROPRIATE.

LIFTING DETAILS



APPROVED: [signature] DIRECTOR, ENGINEERING DIVISION DATE: 02-5-07

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
ENGINEERING DIVISION

PREPARED: 07-02-07

PRESTRESSED CONCRETE BEAM
SKEWED END REINFORCING
MISC.DESIGN AND ASSEMBLY DETAILS

STANDARD SHEET BR-B102A

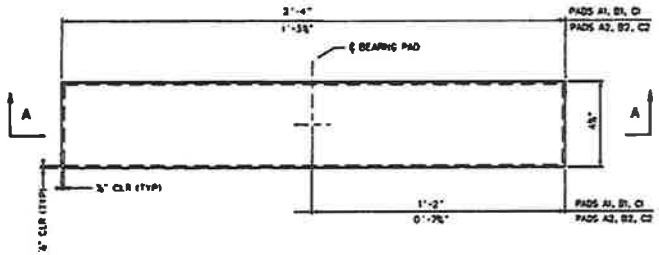
WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

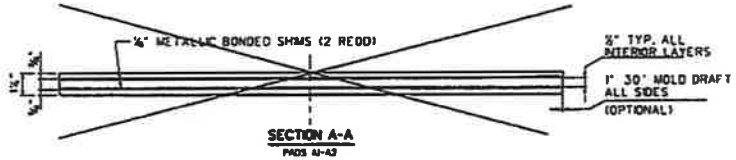
DIVISION OF HIGHWAYS
ENGINEERING DIVISION

STEELES BRIDGE
OVER
LITTLE HUFF CREEK

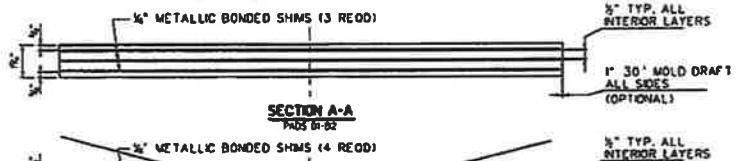
PRESTRESSED CONCRETE BEAM
SKEWED END REINFORCING
MISC.DESIGN AND ASSEMBLY DETAILS

DESIGNED BY: THS/
DRAWN BY: THS/
CHECKED BY: TW/
REVIEWED BY: TW/
DATE:
SCALE:
SHEET 13 OF 19
BRIDGE NO. 3829.1

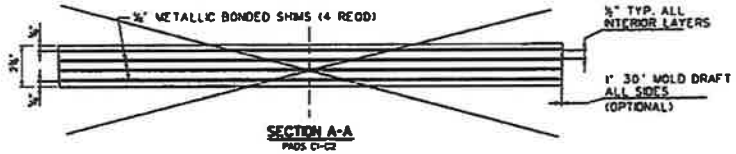




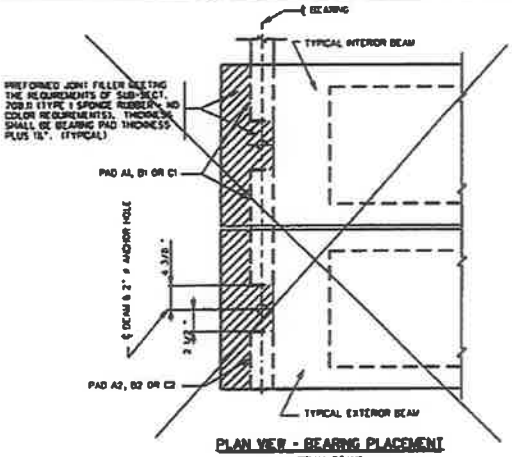
SECTION A-A
PADS A1-A2



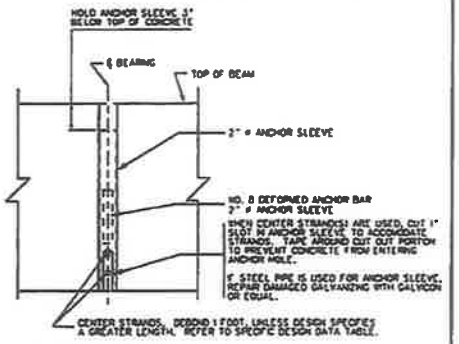
SECTION A-A
PADS B1-B2



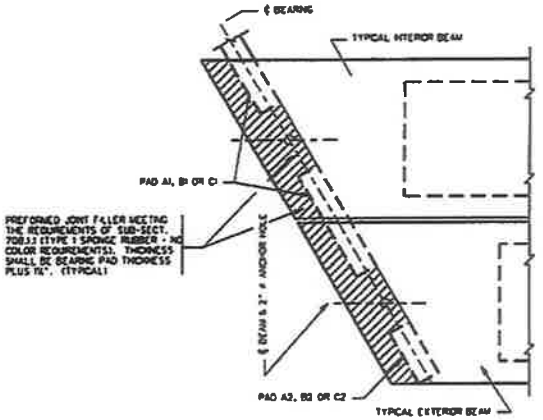
SECTION A-A
PADS C1-C2



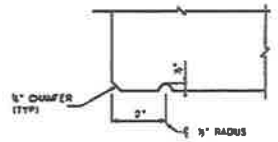
PLAN VIEW - BEARING PLACEMENT
NORMAL BEAMS



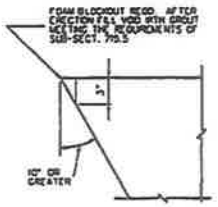
ANCHOR SLEEVE DETAIL



PLAN VIEW - BEARING PLACEMENT



DRIP GROOVE DETAIL
EXTERIOR BEAMS



SKEW BLOCKOUT DETAIL

BOX BEAM BEARING PAD CONTROL DIMENSIONS

PAD	LENGTH	WIDTH	HEIGHT	NO. SHIMS	SHIM SIZE	SPAN RANGES	MAXIMUM REACTION	MAXIMUM MOVEMENT (NC DIRECTION
B1	4½"	28"	1⅞"	3	⅛" x 4½" x 28"	40' - 78'	75 KIPS	0.00"
B2	4½"	15½"	1⅞"	3	⅛" x 4½" x 15½"	40' - 78'	38 KIPS	0.00"

NOTES:

1. ELASTOMERIC BEARING PADS ARE DESIGNED IN ACCORDANCE WITH DESIGN METHOD B CONTAINED IN SECTION 14 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. FABRICATION SHALL BE IN ACCORDANCE WITH SECTION 18 OF THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS.
2. ALL BEARINGS ARE DESIGNED FOR A LOW TEMPERATURE ZONE C AND SHALL HAVE A DUROMETER HARDNESS OF 60. METALLIC REINFORCEMENT SHALL HAVE A MINIMUM YIELD STRENGTH OF 36 KSI.
3. BEARING PADS ARE DESIGNED FOR ZERO BRIDGE GRADE. FOR BRIDGE GRADES GREATER THAN 2 %, PADS SHALL BE SPECIFICALLY DESIGNED FOR THE GRADE. AS AN ALTERNATE, CAST-IN-PLACE BEVELED SOLE PLATES MAY BE USED.
4. DESIGNER, FABRICATOR AND ERECTOR SHALL BE AWARE THAT SKEWED END BEAMS MAY TWIST OR RAISE, CAUSING UNEVEN BEAM SEATING AT THE BEARINGS. THE CONTRACTOR IS REQUIRED TO CORRECT AT THE TIME OF ERECTION, BEFORE THE BEAMS ARE SECURED IN PLACE, METHOD OF CORRECTION SHALL PROVIDE AN EVEN, TOTAL BEARING AND A LEVEL TOP BEAM SURFACE. TOLERANCE AFTER CORRECTION SHALL BE ± ½ INCH. THE FABRICATOR SHALL NOTIFY THE CONTRACTOR AND DESIGNER IF CORRECTIONS ARE REQUIRED PRIOR TO SHIPMENT.
5. FOR BEAMS WITH STEPPED ENDS USE PADS A2, B2, OR C2 ON BOTH SIDES OF EACH BEAM.
6. ELASTOMERIC BEARING PADS SHALL BE INCLUDED IN THE PRICE OF THE BEAMS.
7. THIS SHEET SHALL BE USED IN CONJUNCTION WITH STANDARD SHEETS BR-817A & B THRU BR-842A & B, BR-8100, BR-8101, BR-8107A, BR-8103, BR-8104, BR-8105A & B AND BR-106 AS APPROPRIATE.

STATE PROJECT NUMBER	FEDERAL PROJECT NUMBER	STATE DIST. NO.	COUNTY	SHEET NO.	TOTAL SHEETS
0336-0-1.00 00	N/A	10	[illegible]	14	19

APPROVED: [signature] DATE: 6-29-07
STATE BRIDGE ENGINEER

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
ENGINEERING DIVISION

PRESTRESSED CONCRETE BEAM
ELASTOMERIC BEARING PAD DETAILS
MISC. DESIGN AND ASSEMBLY DETAILS

STANDARD SHEET BR-B102D

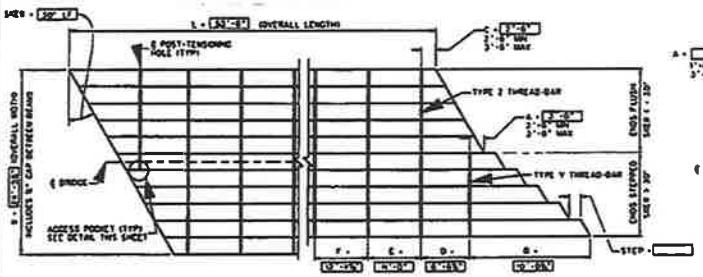
REVISED 07-02-07

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
ENGINEERING DIVISION

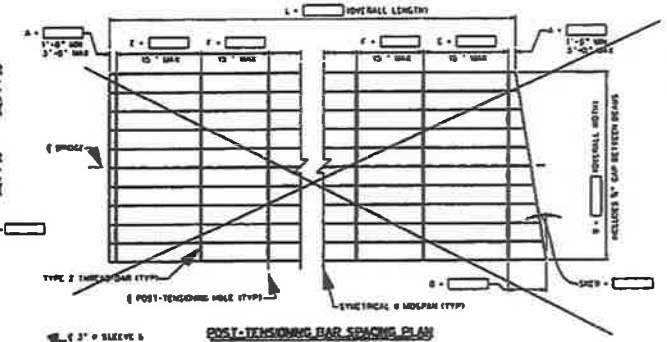
STEELES BRIDGE
OVER
LITTLE HUFF CREEK

PRESTRESSED CONCRETE BEAM
ELASTOMERIC BEARING PAD DETAILS
MISC. DESIGN AND ASSEMBLY DETAILS

DESIGNED BY: THSF
DRAWN BY: THSF
CHECKED BY: THSF
REVIEWED BY: THSF
DATE:
SCALE:
SHEET 14 OF 19
BRIDGE NO. 3829.1

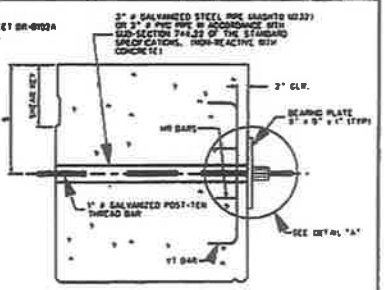


POST-TENSIONING BAR SPACING PLAN
SKEW > 20°

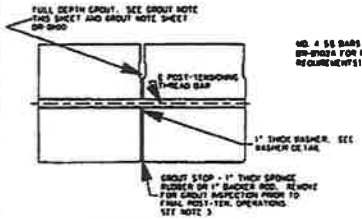


POST-TENSIONING BAR SPACING PLAN
NORMAL OR SKEW < 20°

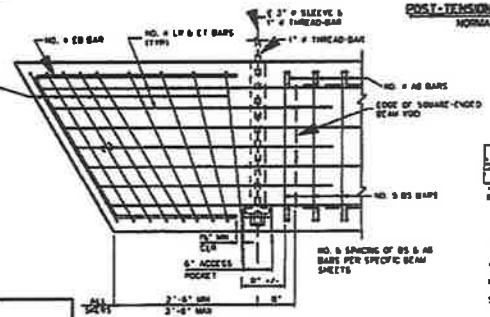
REFER TO STANDARD SHEET BR-810 2A FOR SHEAR KEY DETAILS.



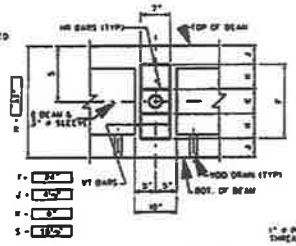
POST-TENSIONING BAR DETAILS



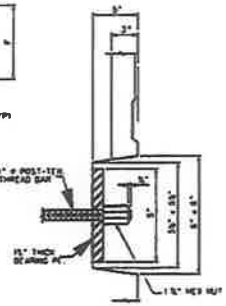
GROUT DETAILS



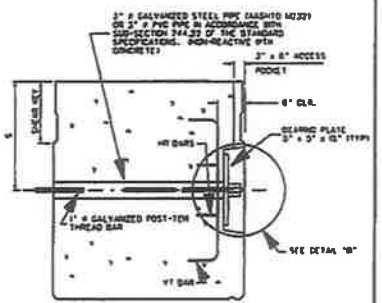
SHEAR REINFORCEMENT DETAIL
BEAMS WITH ACCESS POCKETS



REINFORCING DETAILS @ DIAPHRAGM
EXTERIOR BEAM @ POCKETS ONLY

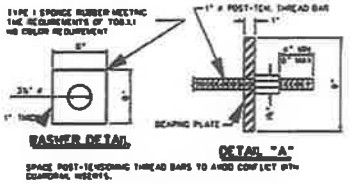


DETAIL "B"



ACCESS POCKET, END POST-TENSIONING BAR

REINFORCING BAR DETAIL
ALL BARS GR 60 - EPOXY COATED



WASHER DETAIL

DETAIL "A"

SPACE POST-TENSIONING THREAD BARS TO AVOID CONFLICT WITH DIAPHRAGM REBARS.

THIS SHEET SHALL BE USED IN CONJUNCTION WITH STANDARD SHEETS BR-810A & B THRU BR-810D, BR-810F, BR-810ZA & B, BR-810H, BR-810ZA & B AND BR-810K.

PROCEDURE NOTES

1. INSTALL ONE INCH THICK BASHER AND GROUT STOP BY GLUING TO ONE SIDE, FOR THE ENTIRE LENGTH OF EACH BEAM PRIOR TO SETTING BEAMS. GLUE SHALL BE AN APPROVED CONSTRUCTION TYPE GLUE OR EPOXY ADHESIVE. GROUT STOP MAY BE INSTALLED AFTER BEAMS ARE SET.

2. GLUE A 3" x 3" x 8" PIECE OF PRESSURE TREATED PLYWOOD AT EACH THREAD-BAR LOCATION TO INSURE THAT A ½" GAP IS OBTAINED. PLYWOOD SPACERS TO BE OFFSET APPROXIMATELY 3 FEET FROM THE THREAD-BAR HOLE AND CENTERED ON THE HOLE DEPTH. PLYWOOD SPACERS ARE REQUIRED ON ONLY ONE BEAM EDGE FACE OF ABUTTING BEAMS. AFTER THE BEAMS ARE SET AND THE THREAD-BARS INSTALLED, PULL THE ENTIRE SUPERSTRUCTURE TOGETHER BY APPLYING A POST-TENSIONING FORCE OF APPROXIMATELY 2000 POUNDS. AT THIS STAGE THE GAP BETWEEN BEAMS SHALL BE A UNIFORM ½" WITH ALL SHEAR REMOVED. RECORD THE ACTUAL FORCE APPLIED.

3. FILL THE GAP BETWEEN BEAMS AND SHEAR KEY FULL DEPTH WITH THE PRE-APPROVED, PRE-TESTED GROUT MIXTURE. FROM EACH BATCH, PREPARE JOB CONTROL GROUT CUBES FOR THREE AND SEVEN DAY TESTS. THESE JOB CONTROL SAMPLES WILL BE USED TO DETERMINE WHEN THE GROUT HAS ATTAINED A MINIMUM COMPRESSIVE STRENGTH OF 4500 PSI. A MINIMUM OF THREE SPECIMENS PER TEST SHALL BE OBTAINED, AND THE AVERAGE OF THE TEST RESULTS USED. ACCEPTANCE SAMPLING AND TESTING OF THE GROUT IS THE RESPONSIBILITY OF THE CONTRACTOR, HOWEVER, A REPRESENTATIVE OF THE DIVISION SHALL WITNESS ALL OF THE ACCEPTANCE SAMPLING AND TESTING.

   TEST PROCEDURE SHALL BE ASTM C109 AS MODIFIED BY ASTM C937. IN NO INSTANCE SHALL THE CONTRACTOR PROCEED WITH POST-TENSIONING OR OTHER BEAM ERECTION PROCEDURES UNTIL THE REQUIRED MINIMUM GROUT STRENGTH IS ATTAINED AND VERIFIED BY THE ENGINEER. IN THE EVENT THAT THE MINIMUM GROUT STRENGTH IS NOT ATTAINED, THE ENGINEER SHALL BE NOTIFIED AND CORRECTIVE ACTION TAKEN AT THE DIRECTION OF THE ENGINEER. SEE SHEAR KEY GROUT NOTE, SHEET BR-810D FOR ADDITIONAL REQUIREMENTS.

   AFTER THE GROUT HAS REACHED AN INITIAL SET CONDITION AND PRIOR TO ANY FINAL POST-TENSIONING PROCEDURES, THE CONTRACTOR SHALL REMOVE THE GROUT STOP AND INSPECT THE GROUT FOR VOIDS OR OTHER IRREGULARITIES. ANY VOIDS DEEPER THAN 2" FROM THE BOTTOM SHALL BE RECTIFIED IN A MANNER ACCEPTABLE TO THE ENGINEER.

4. AFTER GROUT AS BEEN PLACED AND REACHED IT'S MINIMUM COMPRESSIVE STRENGTH OF 4500 PSI AND HAS CURED A MINIMUM OF 3 DAYS, APPLY 50% OF THE FINAL POST-TENSIONING FORCE TO ALL THREAD-BARS, BEGINNING BEAM ENDS TO MIDSPAN. AFTER ALL THREAD-BARS HAVE BEEN TENSIONED TO 50%, APPLY THE REMAINING PERCENTAGE OF FINAL POST-TENSIONING FORCE, WORKING IN THE SAME SEQUENCE AS THE FIRST STAGE OF FINAL TENSIONING.

5. MEASURE AND RECORD, IN THE ELONGATION TABLE, THIS SHEET, THE ACTUAL TOTAL ELONGATION OF EACH THREAD-BAR. COMPARE THE MEASURED ELONGATION TO THE CALCULATED ELONGATION. A SIGNIFICANT DIFFERENCE BETWEEN MEASURED AND CALCULATED ELONGATIONS COULD INDICATE IMPROPER JACKING TECHNIQUES, FAULTY MATERIALS, FAULTY JACKS, OR IMPROPERLY CALIBRATED JACKS. IF THE DIFFERENCE IS GREATER THAN 10%, THEN THE JACK SHALL BE RE-CALIBRATED AND THE JACKING TECHNIQUES EVALUATED. IF, AFTER THE ABOVE STEPS ARE TAKEN, THE PERCENTAGE DIFFERENCE IS GREATER THAN 10%, THEN THE ENGINEER SHALL BE NOTIFIED AND CORRECTIVE ACTION TAKEN AT THE DIRECTION OF THE ENGINEER. ALL COSTS INVOLVED IN CORRECTION SHALL BE AT THE CONTRACTORS EXPENSE.

6. USING BAR, TRIM EXCESS THREAD-BAR LEAVING ¼" TO ⅜" PAST THE NUT. DO NOT TRIM THREAD-BARS BY TORCH CUTTING. TOUCH-UP TRIMMED ENDS WITH GALVICON OR EQUAL.

7. INSTALL ANCHOR COUPLERS AS DETAILED ON STANDARD SHEETS BR-810H AND BR-810ZA.

FINAL POST-TENSIONING FORCE
TYPE Z BARS = 80 KIPS
TYPE V BARS = 40 KIPS

POST-TENSIONING BAR LAYOUT SCHEDULE

SPAN	32'-0"	
SKEW	30° LF	
L	33'-8"	
W	24'-0⅛"	
a	3'-0"	
B	10'-0⅝"	
C	3'-6"	
D	6'-6⅝"	
E	11'-0"	
F	12'-4⅜"	
STEP	.....	

DIMENSIONS

BEAM SIZE	REINFORCEMENT BAR DIM	SPACING	DIST	
H	F	J	E	S
IN.	IN.	IN.	IN.	IN.
17	12	2½	4	8½
21	13	4½	4	10½
27	18	4½	8	13½
33	24	4½	8	16½
36	30	4½	10	19½
42	33	4½	11	21

GROUT STRENGTH TABLE

	3 DAY PSI	7 DAY PSI
PRE-TEST STRENGTH		
JOB CONTROL STRENGTH		
GROUT TYPE & MANUFACTURER		

POST-TENSIONING BAR LENGTH

BAR	FORMULA	LENGTH
V(EVEN NO)	S-2'	15'-2¼"
Z	S+1'	27'-6½"
V(ODD)	S+4'-6"	------

ELONGATION (INCHES)

BAR	SIZE	CALC.	MEASURED NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6	NO. 7	NO. 8	NO.	NO.
Z	①	0.985										
V	②	0.328										

CALCULATED ① = (WFT.) / 24.3
CALCULATED ② = (WFT.) / 99.2

ODD NO. BEAMS
CALCULATED ① = (WFT.) - 21 / 99.2

ERECTION NOTES

1. DO NOT STAND IN LINE WITH THE POST-TENSIONING BAR DURING TENSIONING PROCEDURES.
2. NUTS, COUPLERS AND EXTENSION RODS USED IN THE POST-TENSIONING WORK SHALL BE THE MATERIAL APPROVED BY THE MANUFACTURER OF THE HIGH STRENGTH POST-TENSIONING RODS. IN NO CASE SHALL THE CONTRACTOR USE NON-APPROVED MATERIAL OR MATERIAL FROM TWO DIFFERENT SOURCES.

STATE PROJECT NUMBER	FEDERAL PROJECT NUMBER	STATE DIST. NO.	COUNTY	SHEET NO.	TOTAL SHEETS
S329-0-1.00 00	N/A	10	WYOMING	10	10

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
ENGINEERING DIVISION

STEELES BRIDGE
OVER
LITTLE HUFF CREEK

PRESTRESSED CONCRETE BEAM
TRANSVERSE POST-TENSIONING DETAILS

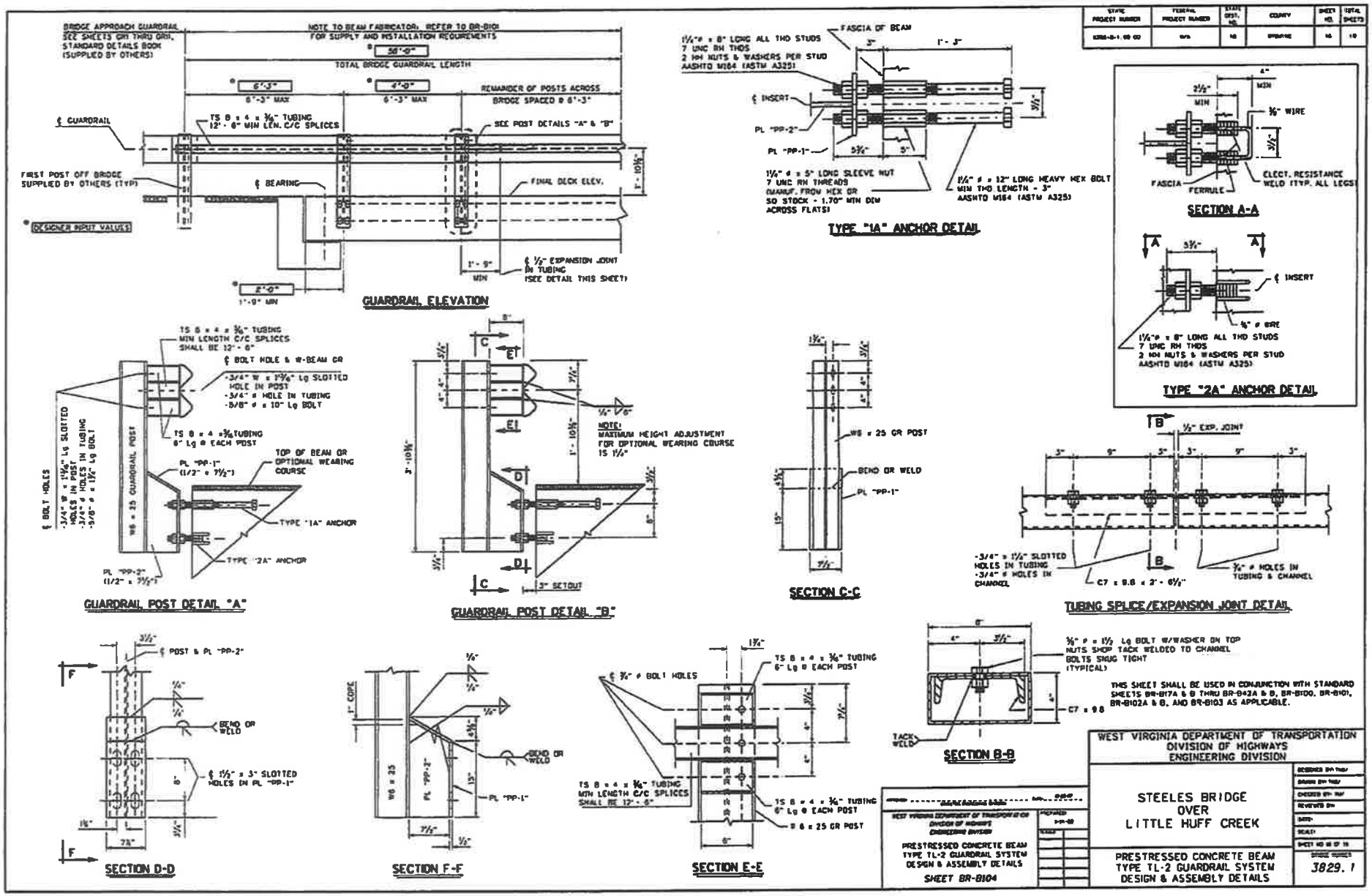
3829. 1

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
ENGINEERING DIVISION

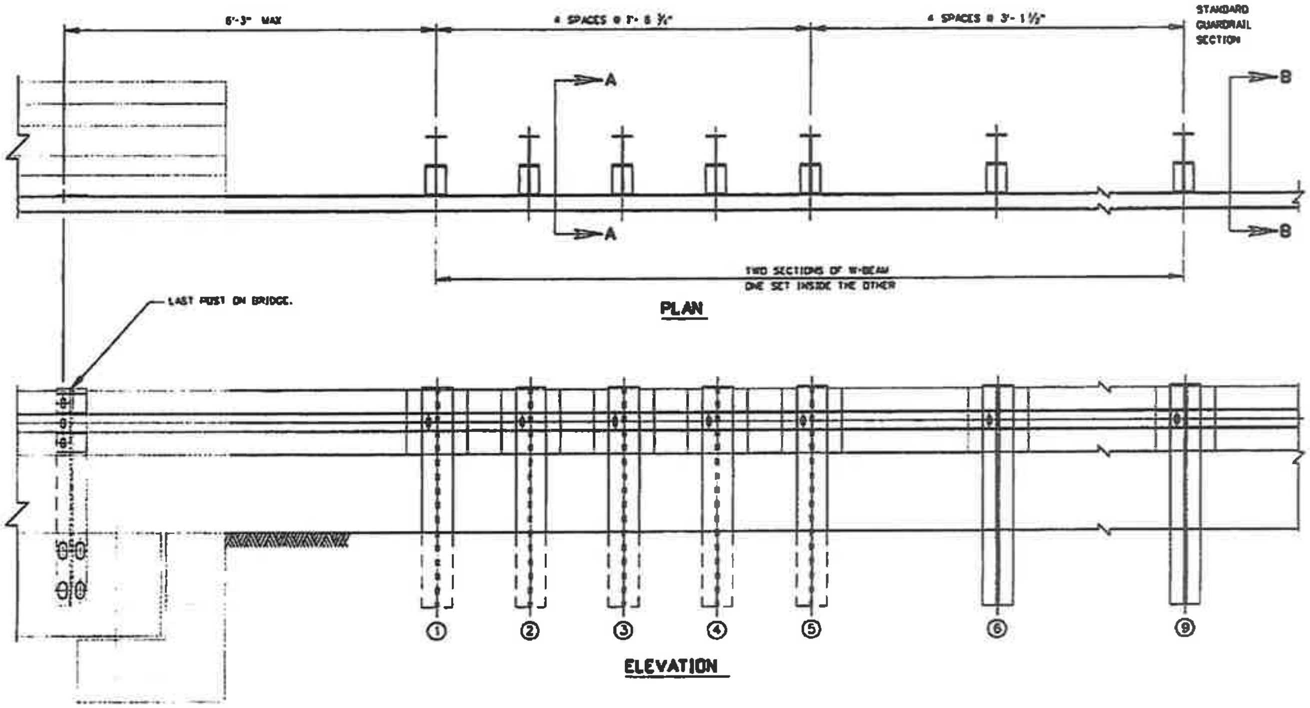
PRESTRESSED CONCRETE BEAM
TRANSVERSE POST-TENSIONING DETAILS

STANDARD SHEET BR-810J

APPROVED 07/02/07

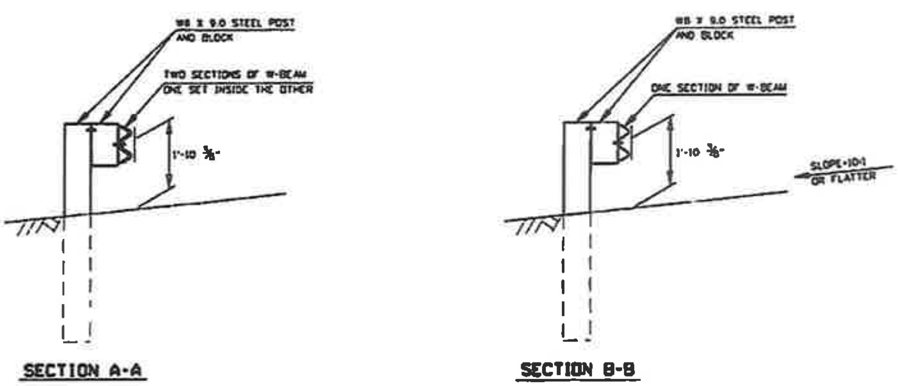

BRIDGE APPROACH GUARDRAIL SEE SHEETS GR1 THRU GR11, STANDARD DETAILS BOOK (SUPPLIED BY OTHERS)
NOTE TO BEAM FABRICATOR, REFER TO BR-810I FOR SUPPLY AND INSTALLATION REQUIREMENTS
TOTAL BRIDGE GUARDRAIL LENGTH
6'-3" MAX
4'-0"
REMAINDER OF POSTS ACROSS BRIDGE SPACED @ 6'-3"
℄ GUARDRAIL
TS 8 x 4 x 3/16" TUBING 12'-6" MIN LEN. C/C SPLICES
SEE POST DETAILS "A" & "B"
FIRST POST OFF BRIDGE SUPPLIED BY OTHERS (TYP)
℄ BEARING
FINAL DECK ELEV.
DESIGNER INPUT VALUES
1'-9" MIN
℄ 1/2" EXPANSION JOINT IN TUBING (SEE DETAIL THIS SHEET)
2'-0" 1'-9" MIN
GUARDRAIL ELEVATION
FASCIA OF BEAM
1 1/4"ø x 8" LONG ALL THD STUDS 7 UNC RH THDS 2 HH NUTS & WASHERS PER STUD AASHTO M164 (ASTM A325)
℄ INSERT
PL "PP-2"
PL "PP-1"
1 1/4" ø x 5" LONG SLEEVE NUT 7 UNC RH THREADS (MANUF. FROM HEX OR SQ STOCK - 1.70" MIN DIM ACROSS FLATS)
1 1/4" ø x 12" LONG HEAVY HEX BOLT MIN THD LENGTH - 3" AASHTO M164 (ASTM A325)
TYPE "1A" ANCHOR DETAIL
SECTION A-A
1/8" WIRE
FASCIA
FERRULE
ELECT. RESISTANCE WELD (TYP. ALL LEGS)
℄ INSERT
1 1/4"ø x 8" LONG ALL THD STUDS 7 UNC RH THDS 2 HH NUTS & WASHERS PER STUD AASHTO M164 (ASTM A325)
TYPE "2A" ANCHOR DETAIL
TS 8 x 4 x 3/16" TUBING MIN LENGTH C/C SPLICES SHALL BE 12'-6"
℄ BOLT HOLE & W-BEAM GR
-3/4" W x 1 3/16" Lg SLOTTED HOLE IN POST
-3/4" ø HOLE IN TUBING
-5/8" ø x 10" Lg BOLT
TS 8 x 4 x 3/16" TUBING 6" Lg @ EACH POST
TOP OF BEAM OR OPTIONAL WEARING COURSE
PL "PP-1" (1/2" x 7 1/2")
TYPE "1A" ANCHOR
TYPE "2A" ANCHOR
PL "PP-2" (1/2" x 7 1/2")
℄ BOLT HOLES
-3/4" W x 1 1/16" Lg SLOTTED HOLES IN POST
-3/4" ø HOLES IN TUBING
-3/8" ø x 1 1/4" Lg BOLT
W8 x 25 GUARDRAIL POST
GUARDRAIL POST DETAIL "A"
NOTE: MAXIMUM HEIGHT ADJUSTMENT FOR OPTIONAL WEARING COURSE IS 1 1/2"
3" SETOUT
GUARDRAIL POST DETAIL "B"
W8 x 25 GR POST
BEND OR WELD
PL "PP-1"
SECTION C-C
B
1/2" EXP. JOINT
-3/4" x 1 1/16" SLOTTED HOLES IN TUBING
-3/4" ø HOLES IN CHANNEL
C7 x 9.8 x 2'-6 1/2"
1/2" ø HOLES IN TUBING & CHANNEL
TUBING SPLICE/EXPANSION JOINT DETAIL
℄ POST & PL "PP-2"
BEND OR WELD
℄ 1 1/2" x 3" SLOTTED HOLES IN PL "PP-1"
SECTION D-D
1" COPE
W8 x 25
PL "PP-2"
PL "PP-1"
SECTION F-F
℄ 3/4" ø BOLT HOLES
TS 8 x 4 x 3/16" TUBING 6" Lg @ EACH POST
TS 8 x 4 x 3/16" TUBING MIN LENGTH C/C SPLICES SHALL BE 12'-6"
W 8 x 25 GR POST
SECTION E-E
1/2" ø x 1 1/2 Lg BOLT W/WASHER ON TOP NUTS SNUG TACK WELDED TO CHANNEL BOLTS SNUG TIGHT (TYPICAL)
C7 x 9.8
TACK WELD
SECTION B-B
THIS SHEET SHALL BE USED IN CONJUNCTION WITH STANDARD SHEETS BR-817A & B THRU BR-842A & B, BR-8100, BR-8101, BR-8102A & B, AND BR-8103 AS APPLICABLE.
WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
ENGINEERING DIVISION
STEELES BRIDGE
OVER
LITTLE HUFF CREEK
PRESTRESSED CONCRETE BEAM TYPE TL-2 GUARDRAIL SYSTEM DESIGN & ASSEMBLY DETAILS
SHEET BR-8104
PRESTRESSED CONCRETE BEAM TYPE TL-2 GUARDRAIL SYSTEM DESIGN & ASSEMBLY DETAILS
3829.1

PROJECT NUMBERS STATE	PROJECT NUMBERS FEDERAL	DISTRICT	COUNTY	SHEET NO.	TOTAL
[illegible]	N/A	[illegible]	[illegible]	17	19



NOTES

1. THIS GUARDRAIL TRANSITION IS APPROPRIATE FOR CONNECTION TO GUARDRAIL ON BRIDGE.
2. W-BEAM IS NOT BOLTED TO POSTS AT POSTS 2 THROUGH 4 AND POST 6.
3. SEE STANDARD SHEET BR-B104 FOR ANCHOR DETAILS.
4. THERE IS NO SEPARATE PAY ITEM FOR THIS CONNECTION AND ALL COMPONENTS AS DETAILED HEREIN SHALL BE INCLUDED IN THE CONTRACT PRICE FOR GUARDRAIL.



THIS SHEET SHALL BE USED IN CONJUNCTION WITH STANDARD SHEETS BR-817A & B THRU BR-842A & B, BR-B100, BR-B101, BR-B102A & B, BR-B103 AND BR-B104 AS APPLICABLE.

APPROVED ....Gregory Bailey.......... DATE ..9/1/07....

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
ENGINEERING DIVISION

PRESTRESSED CONCRETE BEAM
TYPE TL-2 GUARDRAIL SYSTEMS
DESIGN & ASSEMBLY DETAILS

STANDARD SHEET BR-B106

PREPARED: 07-02-07

REVISED

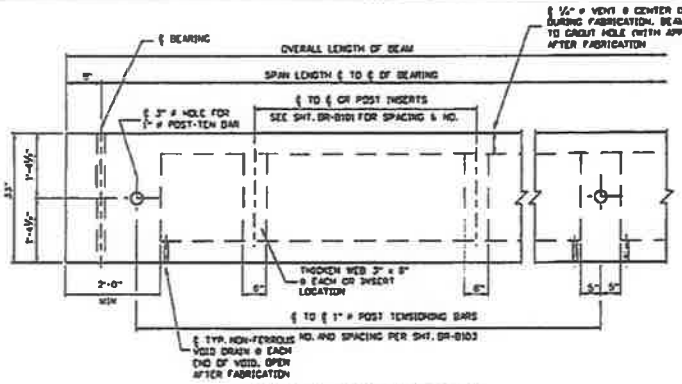
WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
ENGINEERING DIVISION

STEELES BRIDGE
OVER
LITTLE HUFF CREEK

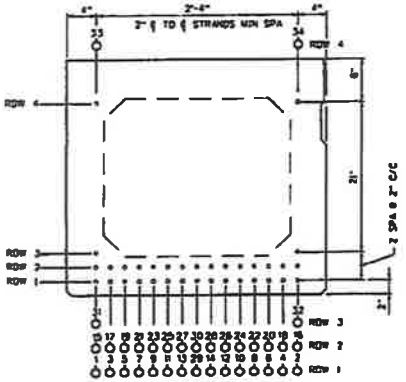
TYPE TL-2 GUARDRAIL TRANSITION

DESIGNED BY: TW/
DRAWN BY: GW
CHECKED BY: TW/
REVIEWED BY: THD/
DATE:
SCALE:
SHEET 17 OF 19
BRIDGE NO. 3829.1

PROJECT NUMBERS		DISTRICT	COUNTY	SHEET NO.	TOTAL
STATE	FEDERAL				
WV	NA	10	Wyoming	18	19

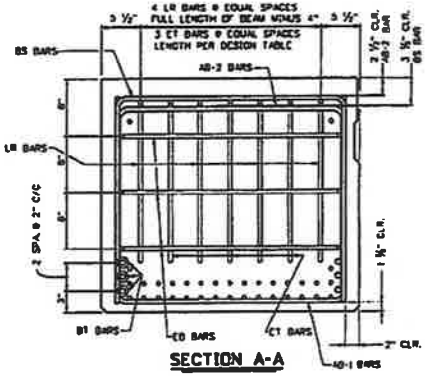


GENERAL ELEVATION VIEW

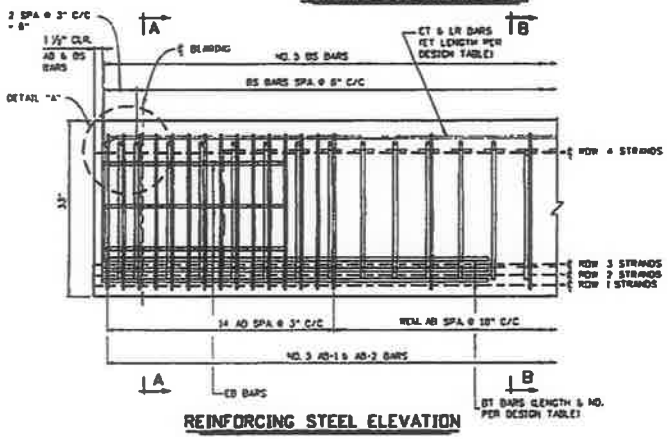


BEAM PRESTRESSING

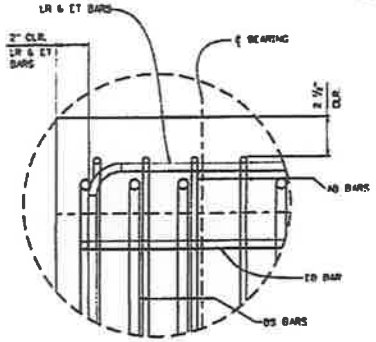
TYPICAL @ BEAM END & MIDSPAN



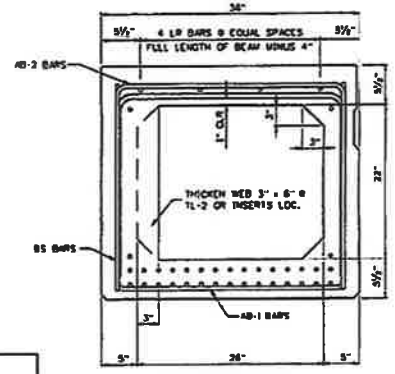
SECTION A-A



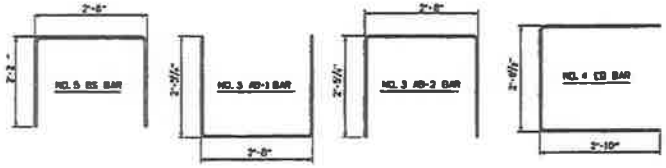
REINFORCING STEEL ELEVATION

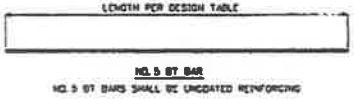


DETAIL "A"



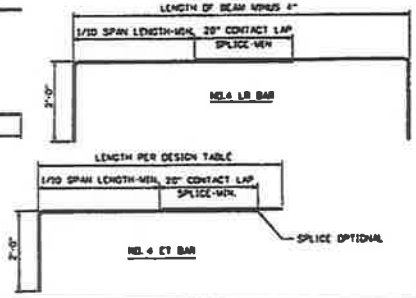
SECTION B-B





NO. 5 BT BARS SHALL BE UNCOATED REINFORCING

REINFORCING BAR DETAIL



NOTES:

1. REFER TO SHEET BR-0102A FOR SHEAR KEY DETAILS.
2. DESIGNER SHALL USE THE FOLLOWING KEY TO INDICATE STRAND AND DEBONDING PATTERN ON "BEAM PRESTRESSING VIEW", THIS SHEET.
   - ○ — ACTIVE STRAND
   - ▽ — DEBOND STRAND: LENGTH FROM END OF BEAM ——
   - △ — DEBOND STRAND: LENGTH FROM END OF BEAM ——
   - □ — DEBOND STRAND: LENGTH FROM END OF BEAM ——
3. THIS SHEET SHALL BE USED IN CONJUNCTION WITH STANDARD SHEETS BR-0330, BR-0100, BR-0101, BR-0102A & B, BR-0103, BR-0104, BR-0105A & B AND BR-0308 AS APPLICABLE.

WHEN A POST-TEN ACCESS POCKET IS USED AS DETAILED ON SHEET BR-103 STRANDS IN ROWS 3 AND 4 SHALL BE ELIMINATED. THE BEAM SHALL BE REDESIGNED AS NECESSARY.

APPROVED ..... DATE: 03-07

DEVELOPMENT DIVISION

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
ENGINEERING DIVISION

PREPARED 07-02-07

33" PRESTRESSED CONCRETE BOX BEAMS
DESIGN AND ASSEMBLY DETAILS

STANDARD SHEET BR-833A

STEELES BRIDGE
OVER
LITTLE HUFF CREEK

DESIGNED BY:
DRAWN BY:
CHECKED BY:
REVIEWED BY:
DATE:
SCALE:

SHEET 18 OF 19

33" PRESTRESSED BOX BEAM
DESIGN AND ASSEMBLY DETAILS

BRIDGE NO. 3829.1

STATE PROJECT NUMBER	FEDERAL PROJECT NUMBER	STATE DIST. NO.	COUNTY	SHEET NO.	TOTAL SHEETS
WV	N/A	10	Wyoming	19	19

DESIGN DATA FOR 33" DEPTH ADJACENT BOX BEAM

SPAN LENGTH ℄ TO ℄ BEARING		50'-0"	52'-0"	54'-0"	56'-0"	58'-0"	60'-0"	62'-0"	64'-0"	66'-0"	68'-0"	70'-0"			
OVERALL LENGTH OF BEAM		51'-0"	53'-0"	55'-0"	57'-0"	59'-0"	61'-0"	63'-0"	65'-0"	67'-0"	69'-0"	71'-0"			
NO. OF 270 KSI, ½" ø LOW-RELAXATION STRANDS, AREA/STRAND = 0.167 SQ. IN.		12	12	12	14	14	14	15	16	16	18	18			
STRAND POSITION NUMBER	ROW 1	1,2,7,8,13,14	1,2,7,8,13,14	1,2,7,8,13,14	1,2,7,8,13,14	1,2,7,8,13,14	1,2,7,8,13,14	1,2,7,8,9,10, 13,14	1,2,7,8,9,10, 13,14	1,2,5,6,9,10, 13,14	1,2,7,8,9,10, 13,14	1,2,5,6,9,10, 13,14			
	ROW 2	15,16,27,28	15,16,27,28	15,16,27,28	15,16,21,22, 27,28	15,16,21,22, 27,28	15,16,21,22, 27,28	15,16,21,22, 27,28	15,16,21,22, 27,28	15,16,19,20, 23,24,27,28	15,16,19,20, 25,26,27,28	15,16,19,20, 23,24,27,28			
	ROW 3	—	—	—	—	—	—	—	—	—	—	—			
	ROW 4	33,34	33,34	33,34	33,34	33,34	33,34	33,34	33,34	33,34	33,34	33,34			
PRESTRESSING FORCE IMMEDIATELY AFTER STRAND RELEASE, P_{pi} (KIPS/BEAM)		384	384	384	457	458	458	521	521	583	584	585			
EFFECTIVE PRESTRESSING FORCE AFTER ALL LOSSES, P_{pe} (KIPS/BEAM)		359	360	361	414	416	417	468	470	527	522	524			
REQUIRED FACTORED MOMENT @ STRENGTH I, M_u (FT-KIPS/BEAM)		868	918	970	1042	1107	1173	1244	1312	1383	1454	1529			
FACTORED FLEXURAL RESISTANCE, M_r (FT-KIPS/BEAM)		1094	1092	1092	1280	1280	1280	1478	1478	1856	1856	1856			
TOTAL NO. DEBONDED STRANDS		—	—	—	—	—	—	—	—	—	—	—			
DEBONDED STRAND POSITION NUMBER & SHIELDING LENGTH FROM EACH END	ROW 1	—	—	—	—	—	—	—	—	—	—	—			
	ROW 2	—	—	—	—	—	—	—	—	—	—	—			
NUMBER & LENGTH #4 ET TOP TENSION BARS @ EACH END		3 - #4 x 6'-6"	3 - #4 x 6'-6"	3 - #4 x 7'-0"	3 - #4 x 7'-0"	3 - #4 x 7'-0"	3 - #4 x 7'-6"	3 - #4 x 7'-6"	3 - #4 x 8'-0"	3 - #4 x 8'-0"	3 - #4 x 8'-0"	3 - #4 x 8'-6"			
NUMBER & LENGTH #5 BT BOTTOM TENSION BARS @ EACH END		6 - #5 x 7'-0"	6 - #5 x 8'-0"	6 - #5 x 7'-0"	6 - #5 x 8'-0"	6 - #5 x 8'-0"	6 - #5 x 8'-0"	6 - #5 x 8'-0"	6 - #5 x 8'-0"	4 - #5 x 9'-0"	4 - #5 x 9'-0"	6 - #5 x 9'-0"			
DESIGN CAMBER + = POSITIVE (UP) (INCHES)	@ RELEASE	0.19	0.18	0.17	0.27	0.26	0.26	0.39	0.38	0.51	0.50	0.66			
	@ ERECTION	0.25	0.22	0.19	0.35	0.32	0.27	0.49	0.44	0.66	0.58	0.52			
	@ FINAL	0.17	0.10	0.03	0.21	0.12	0.01	0.27	0.24	0.38	0.23	0.06			
NUMBER & SPACING OF TL-2 GUARDRAIL INSERTS SEE NOTE 6	NO OF INSERTS REQD.														
	END OF BEAM TO ℄ OF FIRST INSERT EA. END														
	℄ OF 1st INSERT TO ℄ 2nd INSERT EA. END														
WEIGHT OF TYPICAL BEAM INCLUDING DIAPHRAGM (TONS)		19.9	20.6	21.3	22.0	22.7	23.4	24.4	25.1	25.8	26.8	27.2			

MIN. CONCRETE STRENGTH @ RELEASE	- 5500 PSI
MIN. CONCRETE STRENGTH @ 28 DAYS	- 8000 PSI
INITIAL PULL/STRAND	- 33,820 LBS
CROSS-SECTION AREA/STRAND	- 0.167 SQ. IN.

NOTES

1. BEAM WEIGHTS LISTED IN THE DESIGN TABLE ARE BASED ON ZERO SKEW, 2 FT. LONG ENDBLOCK AND DIAPHRAGMS SPACED @ 15 FT C/C. WEIGHTS FOR SKEWED BEAMS, LONGER ENDBLOCKS AND ADDITIONAL DIAPHRAGMS SHOULD BE ADJUSTED ACCORDINGLY.
   FOR ADDITIONAL DIAPHRAGMS, ADD 497 LBS/DIAPHRAGM.
   FOR SKEW ADD 33 LBS/DEGREE OF SKEW/END.
   FOR LONGER ENDBLOCK, ADD 586 LBS/LF/END.
2. DESIGNERS SHOULD NOTE THAT DATA IN STANDARD TABLE IS BASED ON EVEN SPAN LENGTHS, A TWO LANE STRUCTURE & BEAMS WIDE AND ZERO SKEW. SUPERIMPOSED DEAD LOADS INCLUDE TYPE F PARAPET (321 PLF) AND A FWS OF 50 PSF. FOR NON-STANDARD BRIDGES DATA SHOULD BE VERIFIED AND IF REQUIRED NEW DESIGN DATA ENTERED INTO BLANK COLUMNS. IN NO CASE SHALL THE STANDARD DESIGN TABLE BE ALTERED.
3. PREDICTED DESIGN CAMBER VALUES LISTED IN THE TABLE ARE BASED ON EMPIRICAL FORMULAS AND AS SUCH ARE APPROXIMATE. FOR MEMBERS WITH SPAN-TO-DEPTH RATIOS AT OR EXCEEDING 25, THE TOLERANCE VALUES LISTED IN APPENDIX B OF PCI MANUAL FOR QUALITY CONTROL, MNL-116, MAY NOT APPLY.
   MEASUREMENT OF CAMBER FOR COMPARISON TO PREDICTED DESIGN VALUES SHOULD BE COMPLETED WITHIN 72 HOURS OF RELEASE. ADDITIONALLY, CAMBER SHOULD BE EVALUATED UNDER CONDITIONS THAT MINIMIZE THE EFFECT OF TEMPERATURE VARIATION.
4. DESIGNER, FABRICATOR, AND ERECTOR SHALL BE AWARE THAT SKEWED END BEAMS MAY TWIST OR WARP, CAUSING UNEVEN BEAM SEATING AT THE BEARINGS. THE CONTRACTOR IS REQUIRED TO CORRECT AT THE TIME OF ERECTION, BEFORE THE BEAMS ARE SECURED IN PLACE, METHOD OF CORRECTION SHALL PROVIDE AN EVEN, TOTAL BEARING AND A LEVEL TOP BEAM SURFACE. TOLERANCE, AFTER CORRECTION, SHALL BE +-/- 1/8 INCH. THE FABRICATOR SHALL NOTIFY THE CONTRACTOR AND DESIGNER IF CORRECTIONS ARE REQUIRED PRIOR TO SHIPMENT.
5. MAXIMUM BEAM SKEW SHALL BE 30 DEGREES.
6. DESIGNER INPUT VALUES OF NUMBER OF INSERTS, DISTANCE FROM END OF BEAM TO ℄ FIRST INSERT, AND ℄ FIRST INSERT TO ℄ SECOND INSERT. ABOVE VALUES SHALL BE BASED ON THE REQUIRED 6'-3" GUARDRAIL POST SPACING ACROSS THE BRIDGE.
7. THIS SHEET SHALL BE USED IN CONJUNCTION WITH STANDARD SHEETS BR-B33A, BR-B100, BR-B101, BR-B102A & B, BR-B103, BR-B104, BR-B105A & B AND BR-B108 AS APPLICABLE.

10-15-07

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
ENGINEERING DIVISION

STEELES BRIDGE
OVER
LITTLE HUFF CREEK

DESIGN TABLE FOR 33"
PRESTRESSED BOX BEAM

3829.1

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
ENGINEERING DIVISION

DESIGN TABLE FOR 33"
PRESTRESSED BOX BEAM

STANDARD SHEET BR-B33B

07-02-07

Exhibit A

CRFQ DOT2000000122					
Item Number	**Quantity**	**Unit of Measure**	**Description**	**Unit Price**	**Total Cost**
1	963	Square Feet	33 Inch Box Beams (Interior) 6 pieces - 3 Feet x 53 Feet-6 Inches	$ 75.00	$ 72,225.00
2	321	Square Feet	33 Inch Box Beams (Exterior) 2 pieces - 3 Feet x 53 Feet-6 Inches	$ 86.00	$ 27,606.00
3	16	Each	Skewed End 33 Inch Box Beam	$ 50.00	$ 800.00
4	4	Each	Elastomeric laminated bearing pads (B-2) 1 13/16 Inch x 4 ¾ Inch x 15 ½ Inch	$ 175.00	$ 700.00
5	14	Each	Elastomeric laminated bearing pads (B-1) 1 13/16 Inch x 4 ¾ Inch x 28 Inch	$ 175.00	$ 2,450.00
6	16	Each	Swedged anchor bolt or #8 deformed rebar 1 Inch x 1 Foot-6 Inch	$ 6.00	$ 96.00
7	27.2	Square Feet	2 1/16 Inch thick sponge rubber preformed joint filler 5 7/16 Inch x 60 Feet	$ 5.00	$ 136.00
8	4	Each	2 1/16 Inch thick sponge rubber preformed joint filler 11 1/8 Inch x 4 ¾ Inch	$ 24.00	$ 96.00
9	14	Each	2 1/16 Inch thick sponge rubber preformed joint filler 14 7/16 Inch x 4 ¾ Inch	$ 24.00	$ 336.00
10	165	Square Feet	1 Inch thick sponge rubber preformed joint filler 2 Foot-9 Inch x 60 Foot	$ 5.00	$ 825.00
11	34	Each	Sponge rubber washer with 3 ½ Inch hole 8 Inch x 8 Inch x 1 Inch thick	$ 7.00	$ 238.00
12	2	Each	Post tension bearing plate (access pockets) 5 Inch x 5 Inch x 1 1/4 Inch thick	$ 21.00	$ 42.00
13	10	Each	Post tension bearing plate 9 Inch x 9 Inch x 1 Inch thick	$ 35.00	$ 350.00
14	110	Linear Feet	1 Inch Diameter post tension bar with nuts 4 each at 27'-6"	$ 10.00	$ 1,100.00
15	30.5	Linear Feet	1 Inch Diameter post tension bar with nuts 2 each at 15'-3"	$ 10.00	$ 305.00
Total Bid Amount					$ 107,305.00

West Virginia Ethics Commission

Disclosure of Interested Parties to Contracts

Pursuant to *W. Va. Code* § 6D-1-2, a state agency may not enter into a contract, or a series of related contracts, that has/have an actual or estimated value of $1 million or more until the business entity submits to the contracting state agency a Disclosure of Interested Parties to the applicable contract. In addition, the business entity awarded a contract is obligated to submit a supplemental Disclosure of Interested Parties reflecting any new or differing interested parties to the contract within 30 days following the completion or termination of the applicable contract.

For purposes of complying with these requirements, the following definitions apply:

"Business entity" means any entity recognized by law through which business is conducted, including a sole proprietorship, partnership or corporation, but does not include publicly traded companies listed on a national or international stock exchange.

"Interested party" or *"Interested parties"* means:

(1) A business entity performing work or service pursuant to, or in furtherance of, the applicable contract, including specifically sub-contractors;
(2) the person(s) who have an ownership interest equal to or greater than 25% in the business entity performing work or service pursuant to, or in furtherance of, the applicable contract. (This subdivision does not apply to a publicly traded company); and
(3) the person or business entity, if any, that served as a compensated broker or intermediary to actively facilitate the applicable contract or negotiated the terms of the applicable contract with the state agency. (This subdivision does not apply to persons or business entities performing legal services related to the negotiation or drafting of the applicable contract.)

"State agency" means a board, commission, office, department or other agency in the executive, judicial or legislative branch of state government, including publicly funded institutions of higher education: Provided, that for purposes of W. Va. Code § 6D-1-2, the West Virginia Investment Management Board shall not be deemed a state agency nor subject to the requirements of that provision.

The contracting business entity must complete this form and submit it to the contracting state agency prior to contract award and to complete another form within 30 days of contract completion or termination.

This form was created by the State of West Virginia Ethics Commission, 210 Brooks Street, Suite 300, Charleston, WV 25301-1804. Telephone: (304)558-0664; fax: (304)558-2169; e-mail: ethics@wv.gov; website: www.ethics.wv.gov.

Revised June 8, 2018

West Virginia Ethics Commission

Disclosure of Interested Parties to Contracts

(Required by *W. Va. Code* § 6D-1-2)

Name of Contracting Business Entity: CARR CONCRETE, A DIVISION OF CXT, INC. **Address:** P.O. BOX 265 WAVERLY WV 26184

Name of Authorized Agent: JASON NORMAN **Address:** _____

Contract Number: VENDOR CODE: VS0000001756 **Contract Description:** _____

Governmental agency awarding contract: _____

☐ **Check here if this is a Supplemental Disclosure**

List the Names of Interested Parties to the contract which are known or reasonably anticipated by the contracting business entity for each category below *(attach additional pages if necessary)*:

1. **Subcontractors or other entities performing work or service under the Contract**
   ☐ Check here if none, otherwise list entity/individual names below.

2. **Any person or entity who owns 25% or more of contracting entity (not applicable to publicly traded entities)**
   ☐ Check here if none, otherwise list entity/individual names below.

3. **Any person or entity that facilitated, or negotiated the terms of, the applicable contract (excluding legal services related to the negotiation or drafting of the applicable contract)**
   ☐ Check here if none, otherwise list entity/individual names below.

Signature: _____ **Date Signed:** 03/05/20

Notary Verification

State of WEST VIRGINIA, **County of** WOOD:

I, JASON NORMAN, **the authorized agent of the contracting business entity listed above, being duly sworn, acknowledge that the Disclosure herein is being made under oath and under the penalty of perjury.**

Taken, sworn to and subscribed before me this 05 **day of** MARCH, 2020.

Windi Kapraun
Notary Public's Signature

To be completed by State Agency:
Date Received by State Agency: _____
Date submitted to Ethics Commission: _____
Governmental agency submitting Disclosure: _____

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
Windi Kapraun
Carr Concrete, A Division of CXT, Inc.
PO Box 265
Waverly, WV 26184
My Commission Expires February 08, 2025

Revised June 8, 2018

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

CONSTRUCTION CONTRACTS: Under W. Va. Code § 5-22-1(i), the contracting public entity shall not award a construction contract to any bidder that is known to be in default on any monetary obligation owed to the state or a political subdivision of the state, including, but not limited to, obligations related to payroll taxes, property taxes, sales and use taxes, fire service fees, or other fines or fees.

ALL CONTRACTS: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (*W. Va. Code* §61-5-3) that: (1) for construction contracts, the vendor is not in default on any monetary obligation owed to the state or a political subdivision of the state, and (2) for all other contracts, that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: CARR CONCRETE A DIVISION OF CXT, INC.

Authorized Signature: _____ Date: 03/05/2020

State of WEST VIRGINIA

County of WOOD, to-wit:

Taken, subscribed, and sworn to before me this 05 day of MARCH, 2020.

My Commission expires 2/8, 2025

AFFIX SEAL HERE

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
Windi Kapraun
Carr Concrete a division of CXT, Inc.
PO Box 265
Waverly, WV 26184
My Commission Expires February 08, 2025

NOTARY PUBLIC Windi Kapraun