



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER
05800322

PAGE
1

ADDRESS CORRESPONDENCE TO ATTENTION OF
MICHAEL AUSTIN
304-558-2402

VENDOR

RFQ COPY
 TYPE NAME/ADDRESS HERE

SHIP TO

DIVISION OF HIGHWAYS
 JOBSITE
 SEE SPECIFICATIONS

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
01/22/2008				

BID OPENING DATE: **02/13/2008** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	SF		210-16		
PRESTRESSED CONCRETE BOX BEAMS CONTRACT TO PROVIDE PRESTRESSED CONCRETE BOX BEAMS FOR THE BISMARCK ROAD BRIDGE PROJECT #S312-50/3-4.14 LOCATED ON CO. RT. 50/3, 0.7 MI. SOUTH OF US 50 IN GRANT CO. PER THE ATTACHED VENDOR PREFERENCE CERTIFICATE CERTIFICATION AND APPLICATION* IS HEREBY MADE FOR PREFERENCE IN ACCORDANCE WITH WEST VIRGINIA CODE, 5A-3-37 (DOES NOT APPLY TO CONSTRUCTION CONTRACTS). A. APPLICATION IS MADE FOR 2.5% PREFERENCE FOR THE REASON CHECKED: <input type="checkbox"/> BIDDER IS AN INDIVIDUAL RESIDENT VENDOR AND HAS RESIDED CONTINUOUSLY IN WEST VIRGINIA FOR FOUR (4) YEARS IMMEDIATELY PRECEDING THE DATE OF THIS CERTIFICATION; OR <input type="checkbox"/> BIDDER IS A PARTNERSHIP, ASSOCIATION OR CORPORATION RESIDENT VENDOR AND HAS MAINTAINED ITS HEAD-QUARTERS OR PRINCIPAL PLACE OF BUSINESS CONTINUOUSLY IN WEST VIRGINIA FOR FOUR (4) YEARS IMMEDIATELY PRECEDING THE DATE OF THIS CERTIFICATION; OR 80% OF THE OWNERSHIP INTEREST OF BIDDER IS HELD BY ANOTHER INDIVIDUAL, PARTNERSHIP, ASSOCIATION OR CORPORATION RESIDENT VENDOR WHO HAS MAINTAINED ITS HEADQUARTERS OR PRINCIPAL PLACE OF BUSINESS CONTINUOUSLY IN WEST VIRGINIA FOR FOUR (4) YEARS IMMEDIATELY PRECEDING THE DATE OF THIS						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

**GENERAL TERMS & CONDITIONS
REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)**

1. Awards will be made in the best interest of the State of West Virginia.
2. The State may accept or reject in part, or in whole, any bid.
3. All quotations are governed by the *West Virginia Code* and the *Legislative Rules* of the Purchasing Division.
4. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required \$125.00 registration fee.
5. All services performed or goods delivered under State Purchase Orders/Contracts are to be continued for the term of the Purchase Order/Contract, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods, this Purchase Order/Contract becomes void and of no effect after June 30.
6. Payment may only be made after the delivery and acceptance of goods or services.
7. Interest may be paid for late payment in accordance with the *West Virginia Code*.
8. Vendor preference will be granted upon written request in accordance with the *West Virginia Code*.
9. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
10. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.
11. The laws of the State of West Virginia and the *Legislative Rules* of the Purchasing Division shall govern all rights and duties under the Contract, including without limitation the validity of this Purchase Order/Contract.
12. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.
13. **BANKRUPTCY:** In the event the vendor/contractor files for bankruptcy protection, this Contract may be deemed null and void, and terminated without further order.
14. **HIPAA Business Associate Addendum -** The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, and available online at the Purchasing Division's web site (<http://www.state.wv.us/admin/purchase/vrc/hipaa.htm>) is hereby made part of the agreement. Provided that, the Agency meets the definition of a Covered Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.

INSTRUCTIONS TO BIDDERS

1. Use the quotation forms provided by the Purchasing Division.
2. **SPECIFICATIONS:** Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as **EQUAL** to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.
3. Complete all sections of the quotation form.
4. Unit prices shall prevail in cases of discrepancy.
5. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.
6. **BID SUBMISSION:** All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications.

SIGNED BID TO:

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



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER
05800322

PAGE
2

ADDRESS CORRESPONDENCE TO ATTENTION OF
MICHAEL AUSTIN
304-558-2402

VENDOR

RFQ COPY
 TYPE NAME/ADDRESS HERE

SHIP TO

DIVISION OF HIGHWAYS
 JOBSITE
 SEE SPECIFICATIONS

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
01/22/2008				

BID OPENING DATE: **02/13/2008** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
<p>CERTIFICATION; OR</p> <p>() BIDDER IS A CORPORATION NONRESIDENT VENDOR WHICH HAS AN AFFILIATE OR SUBSIDIARY WHICH EMPLOYS A MINIMUM OF ONE HUNDRED STATE RESIDENTS AND WHICH HAS MAINTAINED ITS HEADQUARTERS OR PRINCIPAL PLACE OF BUSINESS WITHIN WEST VIRGINIA CONTINUOUSLY FOR THE FOUR (4) YEARS IMMEDIATELY PRECEDING THE DATE OF THIS CERTIFICATION.</p> <p>B. APPLICATION IS MADE FOR 2.5% PREFERENCE FOR THE REASON CHECKED:</p> <p>() BIDDER IS A RESIDENT VENDOR WHO CERTIFIES THAT, DURING THE LIFE OF THE CONTRACT, ON AVERAGE AT LEAST 75% OF THE EMPLOYEES WORKING ON THE PROJECT BEING BID ARE RESIDENTS OF WEST VIRGINIA WHO HAVE RESIDED IN THE STATE CONTINUOUSLY FOR THE TWO YEARS IMMEDIATELY PRECEDING SUBMISSION OF THIS BID;</p> <p>OR</p> <p>() BIDDER IS A NONRESIDENT VENDOR EMPLOYING A MINIMUM OF ONE HUNDRED STATE RESIDENTS OR IS A NONRESIDENT VENDOR WITH AN AFFILIATE OR SUBSIDIARY WHICH MAINTAINS ITS HEADQUARTERS OR PRINCIPAL PLACE OF BUSINESS WITHIN WEST VIRGINIA EMPLOYING A MINIMUM OF ONE HUNDRED STATE RESIDENTS WHO CERTIFIES THAT, DURING THE LIFE OF THE CONTRACT, ON AVERAGE AT LEAST 75% OF THE EMPLOYEES OR BIDDERS' AFFILIATE'S OR SUBSIDIARY'S EMPLOYEES ARE RESIDENTS OF WEST VIRGINIA WHO HAVE RESIDED IN THE STATE CONTINUOUSLY FOR THE TWO YEARS IMMEDIATELY PRECEDING SUBMISSION OF THIS BID.</p> <p>BIDDER UNDERSTANDS IF THE SECRETARY OF TAX & REVENUE DETERMINES THAT A BIDDER RECEIVING PREFERENCE HAS FAILED TO CONTINUE TO MEET THE REQUIREMENTS FOR SUCH PREFERENCE, THE SECRETARY MAY ORDER THE DIRECTOR OF</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER
 05800322

PAGE
 3

ADDRESS CORRESPONDENCE TO ATTENTION OF:
 MICHAEL AUSTIN
 304-558-2402

RFQ COPY
 TYPE NAME/ADDRESS HERE

V
E
N
D
O
R

S
H
I
P
T
O

DIVISION OF HIGHWAYS
 JOBSITE
 SEE SPECIFICATIONS

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
01/22/2008				

BID OPENING DATE: 02/13/2008 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
<p>PURCHASING TO: (A) RESCIND THE CONTRACT OR PURCHASE ORDER ISSUED; OR (B) ASSESS A PENALTY AGAINST SUCH BIDDER IN AN AMOUNT NOT TO EXCEED 5% OF THE BID AMOUNT AND THAT SUCH PENALTY WILL BE PAID TO THE CONTRACTING AGENCY OR DEDUCTED FROM ANY UNPAID BALANCE ON THE CONTRACT OR PURCHASE ORDER.</p> <p>BY SUBMISSION OF THIS CERTIFICATE, BIDDER AGREES TO DISCLOSE ANY REASONABLY REQUESTED INFORMATION TO THE PURCHASING DIVISION AND AUTHORIZES THE DEPARTMENT OF TAX AND REVENUE TO DISCLOSE TO THE DIRECTOR OF PURCHASING APPROPRIATE INFORMATION VERIFYING THAT BIDDER HAS PAID THE REQUIRED BUSINESS TAXES, PROVIDED THAT SUCH INFORMATION DOES NOT CONTAIN THE AMOUNTS OF TAXES PAID NOR ANY OTHER INFORMATION DEEMED BY THE TAX COMMISSIONER TO BE CONFIDENTIAL.</p> <p>UNDER PENALTY OF LAW FOR FALSE SWEARING (WEST VIRGINIA CODE 61-5-3), BIDDER HEREBY CERTIFIES THAT THIS CERTIFICATE IS TRUE AND ACCURATE IN ALL RESPECTS; AND THAT IF A CONTRACT IS ISSUED TO BIDDER AND IF ANYTHING CONTAINED WITHIN THIS CERTIFICATE CHANGES DURING THE TERM OF THE CONTRACT, BIDDER WILL NOTIFY THE PURCHASING DIVISION IN WRITING IMMEDIATELY.</p> <p>BIDDER: -----</p> <p>DATE: -----</p> <p>SIGNED: -----</p> <p>TITLE: -----</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER
05800322

PAGE
4

ADDRESS CORRESPONDENCE TO ATTENTION OF
MICHAEL AUSTIN
304-558-2402

VENDOR

RFQ COPY
 TYPE NAME/ADDRESS HERE

SHIP TO

DIVISION OF HIGHWAYS
 JOBSITE
 SEE SPECIFICATIONS

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
01/22/2008				

BID OPENING DATE: **02/13/2008** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
<p>* CHECK ANY COMBINATION OF PREFERENCE CONSIDERATION(S) IN EITHER "A" OR "B", OR BOTH "A" AND "B" WHICH YOU ARE ENTITLED TO RECEIVE. YOU MAY REQUEST UP TO THE MAXIMUM 5% PREFERENCE FOR BOTH "A" AND "B". (REV. 12/00)</p> <p style="text-align: center;">NOTICE</p> <p>A SIGNED BID MUST BE SUBMITTED TO:</p> <p style="text-align: center;">DEPARTMENT OF ADMINISTRATION PURCHASING DIVISION BUILDING 15 2019 WASHINGTON STREET, EAST CHARLESTON, WV 25305-0130</p> <p>THE BID SHOULD CONTAIN THIS INFORMATION ON THE FACE OF THE ENVELOPE OR THE BID MAY NOT BE CONSIDERED:</p> <p>SEALED BID</p> <p>BUYER: 33</p> <p>RFQ NO.: 05800322</p> <p>BID OPENING DATE: 02/13/2008</p> <p>BID OPENING TIME: 1:30 PM</p> <p>PLEASE PROVIDE A FAX NUMBER IN CASE IT IS NECESSARY TO CONTACT YOU REGARDING YOUR BID:</p> <p style="text-align: center;">-----</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE		TELEPHONE	DATE
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE	

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER
05800322

PAGE
5

ADDRESS CORRESPONDENCE TO ATTENTION OF:
MICHAEL AUSTIN
304-558-2402

VENDOR

RFQ COPY
 TYPE NAME/ADDRESS HERE

SHIP TO

DIVISION OF HIGHWAYS
 JOBSITE
 SEE SPECIFICATIONS

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
01/22/2008				

BID OPENING DATE: **02/13/2008** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
CONTACT PERSON (PLEASE PRINT CLEARLY):						

***** THIS IS THE END OF RFQ 05800322 ***** TOTAL: _____						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

FOB: STATE PROJECT NO S312-50/3-414
BISMARCK ROAD BRIDGE

			Unit Price	Cost
01.	2	EA - EXTERIOR BEAMS 21" DEPTH X 36 WIDTH X 35'-6" OVERALL LENGTH (34'-0" C-C BEARING ANCHOR BOLT HOLES). WITH ALL GUARDRAIL & HARDWARE ATTACHED.	_____	_____
02.	6	EA - INTERIOR BEAMS, 21" DEPTH X 36" WIDTH X 35'-6" OVERALL LENGTH (34'-0" C-C BEARING ANCHOR BOLT HOLES).	_____	_____
03.	16	EA - ELASTOMERIC BEARING PADS (3/4" THICK X 5" X 24")	_____	_____
04.	16	EA - NO. 8 DEFORMED ANCHOR BOLT (GRADE 60) BAR 1" DIAMETER X 2'-0" LENGTH	_____	_____
05.	50	LF - PREFORMED JOINT FILLER (1" THICK X 21").	_____	_____
06.	3	EA - POST TENSIONING BARS (1" DIAMETER, THREADED, FULL LENGTH BARS, WITH ALL PLATES, HEX NUTS AND OTHER HARDWARE AS REQUIRED)	_____	_____
		TOTAL		\$ _____

EXTERIOR BEAMS ARE TO BE SHIPPED COMPLETE WITH ALL GUARDRAIL, INSERTS, GUARDRAIL POSTS, AND GUARDRAIL ATTACHED

ALL BEAMS AND OTHER ITEMS ARE TO BE IN ACCORDANCE WITH THE ATTACHED PLANS AND SPECIFICATIONS FOR THIS PROJECT.

SPECIFICATIONS

The following sections of the West Virginia Department of Transportation, Division of Highways Standard Specifications Road and Bridges, adopted 2000 as modified by the January 1, 2003 Supplemental Specifications shall apply to the administration of this requisition: Sections 101, 102.4, 102.5, 105.1, 105.3, 105.4, 105.10, 105.11, 105.12, 105.13, 106.3, 106.4, 106.5, 106.6, 106.7, 106.9, 107.1, 107.2, 107.3, 107.14, 107.19, 107.20, 108.8, 108.9, 109.1, 109.2 and 109.20.

All items supplied under this requisition shall meet the requirements of the "West Virginia Department of Transportation, Division of Highways Standard Specifications Road and Bridges, adopted 2000, as modified by the January 1, 2003 Supplemental Specifications.

All Prestressed Concrete Box Shaped Beams shall be manufactured in accordance with West Virginia Department of Transportation, Division of Highways Standard Bridge Plan Sheets as follows:

<u>Item Description</u>	<u>Standard Sheet No</u>	<u>Revision Date</u>
21" Box Beam	BR-B21A & BR-B21B	9/96
Beam Details	BR-B100, BR-B101, BR-B102 & BR-B104	9/96
Post-Tensioning Details	BR-B103	9/96

Alternates to the above Division of Highways standards will be permitted if approved by the District Five Bridge Engineer. Alternate designs must be submitted for approval on the Design Data Charts provided as a part of the quotation sheets for this requisition and must be approved prior to award of this requisition purchase order. In addition to the design criteria contained on the Division of Highways Standard Bride Plan Sheets referenced above, all alternate designs must be based on the following criteria:

- A. Two lane bridge with a deck width of 24'-0" out to out and roadway width of 23'-0" rail to rail.
- B. Guardrail superimposed dead load of 30 pounds per linear foot assumed to be applied equally to all beams.
- C. Future wearing surface superimposed dead load of 50 psf applied equally to all beams.

D. Live loading of 1.25X HS20-44 (HS25).

The terms "Contractor" and "Vendor" used in the above specifications or this requisition are interchangeable. Contractor shall mean Vendor and Vendor shall mean Contractor.

West Virginia Department of Transportation, Division of Highways Standard Specifications Road and Bridges, adopted 2000 and Supplemental Specifications dated January 1, 2003 may be obtained from:

WEST VIRGINIA DIVISION OF HIGHWAYS
CONTRACT ADMINISTRATION DIVISION
1900 KANAWHA BLVD, EAST
BLDG. 5, ROOM A-729
CHARLESTON, WV 25305
PHONE (304) 558-2871

West Virginia Department of Transportation, Division of Highways Standard Bridge Plan Sheets may be obtained from:

WEST VIRGINIA DIVISION OF HIGHWAYS
DISTRICT FIVE HEADQUARTERS, BRIDGE DEPT.
P.O. BOX 99
BURLINGTON, WV 26710-0099
PHONE (304) 289-2220

ACCEPTANCE

Cracks developing in a beam may be cause for rejection of the beam. Cracks that are not detrimental to the structural integrity of the beam, as determined by the Division of Highways, may be accepted under the following conditions:

- 1) Cracks of 0.004 inch or less shall be treated with a second coat of a Division of Highways approved concrete sealer.
- 2) Cracks of greater than 0.004 inch shall be treated by a Division of Highways approved epoxy injection methods.

All concrete sealer and epoxy injection required for acceptance shall be preformed at no additional cost to the Division of Highways.

DELIVERY

Upon receipt of a State Purchase Order the Vendor shall submit shop drawings to the District Five Bridge Engineer within twenty (20) calendar days. Shop drawings must be approved the Division of Highways prior to the manufacture of any beam sections.

All beam sections and accessories shall be available for delivery to the specified delivery site within (60) calendar days after Vendor's receipt of approved shop drawings.

The Division of Highways requires that all beam sections be delivered to the designated job site in a single calendar day.

Should the Vendor fail to meet the above delivery schedule, liquidated damages will be assessed in accordance with Section 108.7 of the current Division of Highways Standard Specifications Road and Bridges.

Prior to delivery, all Beams, Accessories, and Optional Items shall be inspected for acceptance in accordance with Section 603 of the Division of Highways Standard Specifications Road and Bridges adopted 2000 as modified by the January 1, 2003 Supplemental Specifications.

VENDOR INVOICE

Vendors invoices must be submitted in original and one copy and contain the following:

- a. Division of Highways Requisition Purchase Order number.
- b. Total quantity and unit price with the total cost of each Item.

NOTE: Under no circumstance will the West Virginia Division of Highways, accept or pay for quantities of material in excess of the quantity stated on the Requisition Purchase Order.

PARTIAL PAYMENT OF APPROVED BEAMS

Upon completion of manufacture and approval by the Division of Highways of all Beams, specified on the Requisition Purchase Order, the vendor may invoice and the Division will pay for the cost of manufacturing the beams, not to exceed 65% of the total cost of the delivered Beams. Partial payment for Beams shall be subject to the following conditions:

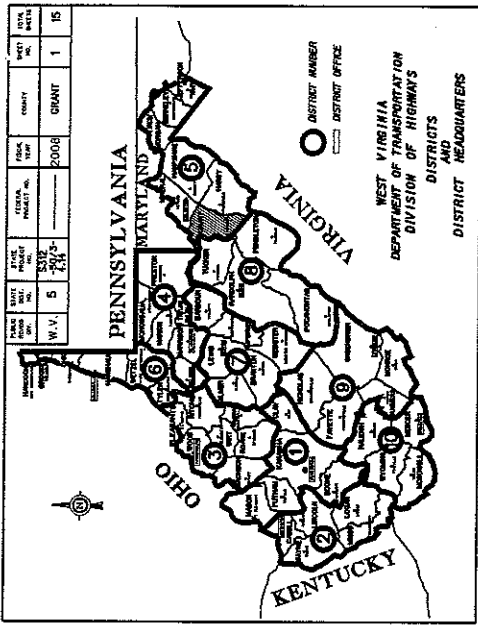
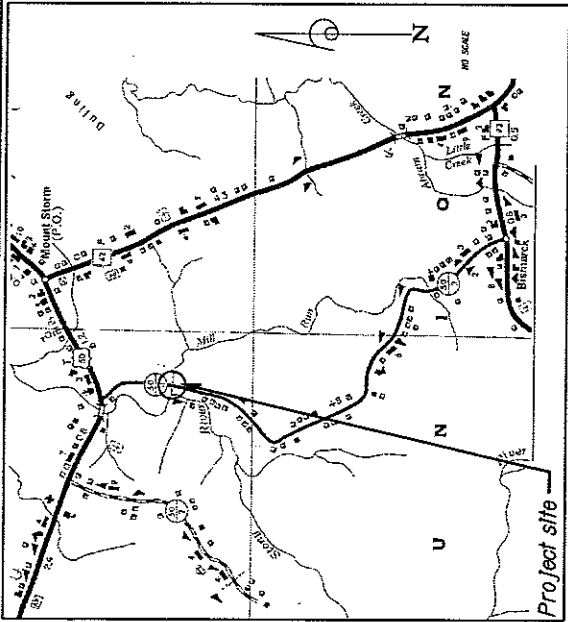
- a. The vendor must request partial payment and furnish an official invoice for the manufactured and approved beams.

- b. The partial payment invoice shall be accompanied by a surety bond equal to the invoiced amount guaranteeing delivery of all items specified on the Requisition Purchase Order.
- c. The vendor shall furnish a statement of approved beam condition and exact storage locations.
- d. The vendor shall furnish a legal right-of-entry onto the storage site to Division of Highways' employees and/or agents for the purpose of inspecting, sampling, testing and removing any or all Beams.
- e. The vendor shall certify that the stored beams are suitably marked and identified as property of the Division of Highways and will not be used for any purpose not designed by the Division.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

PLANS FOR CONSTRUCTION OF BISMARCK ROAD BRIDGE

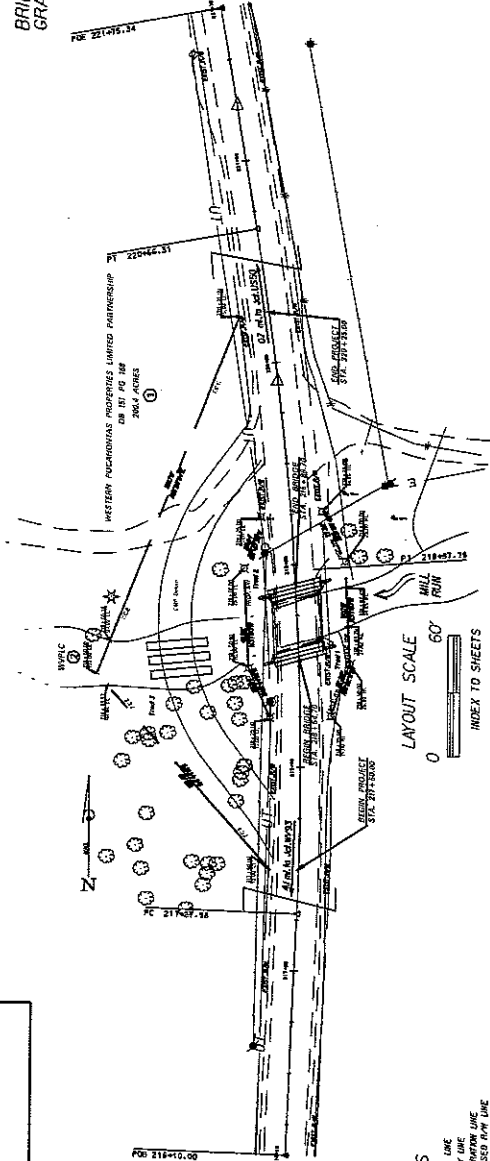
STATE PROJECT NO. S312-50/3-4/4
ROUTE NO. CO. 50/3 (SLS)
UNION DISTRICT
GRANT COUNTY



TYPE OF CONSTRUCTION
BRIDGE NO. 12-50/3-4/4
GRADE, DRAIN & PAVE

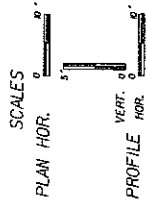
PROJECT LENGTH
BEGIN PROJECT CR 50/3 STATION 217-50.00
END PROJECT CR 50/3 STATION 220-25.00
TOTAL PROJECT LENGTH - 275.00 FT. - 0.05 MI.

UTILITIES ENCOUNTERED
VERIZON
ALLEGHENY POWER
MOUNTAIN TOP PSD



CONVENTIONAL SIGNS

- STATE LINE
- PROPERTY LINE
- PROPOSED R/W LINE
- PROPOSED FENCE
- EDGE OF STREAM
- EXISTING DRAIN LINE
- PROPOSED DRAIN PAV
- EXISTING DRAIN PAV
- WATER LINE
- TELEPHONE LINE
- ELECTRIC LINE
- TELEPHONE POLE
- COMBINED POWER AND TELEPHONE POLE
- TREE
- SHRUB
- RIGHT OF WAY MARKER



DESIGN DESIGNATION	DATE
A.D.T. (LEB20) - 300	
A.D.T. (LEB) - 1	
D.H.V.	
D.	
T.	
V.	

NO.	DESCRIPTION
1	TITLE SHEET
2	ESTIMATE OF QUANTITIES
3	PROFILES
4	MAINTENANCE OF TRAFFIC
5	PLAN SHEET
6	PROFILE SHEET & TYPICAL SECTION
7-15	BRIDGE PLANS

NO.	DATE	BY	REVISIONS

RECOMMENDED DISTRICT ENGINEER

APPROVED DISTRICT ENGINEER

PROJECT NO. S312-50/3-4/4

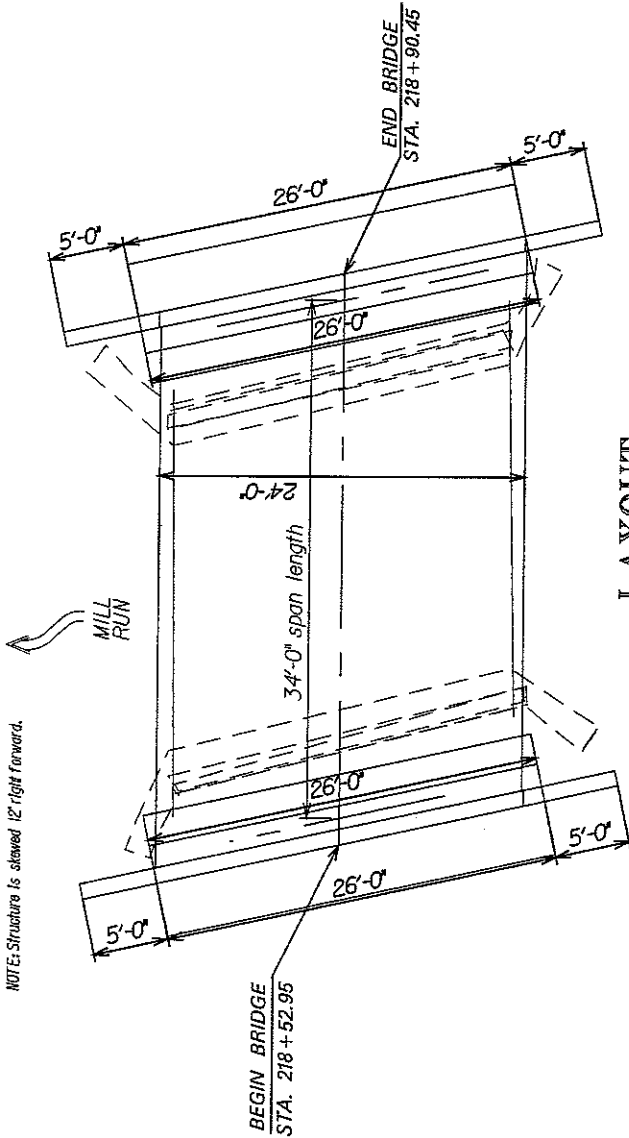
STATE PROJECT NUMBER 8312-50/3-4.14	FEDERAL AID DISTRICT NUMBER 5	COUNTY GRANT	SHEET NO. 7	TOTAL SHEETS 19
--	----------------------------------	-----------------	----------------	--------------------

HYDRAULIC DATA

DRAINAGE AREA - 3,005 ACRES
 Q 25 (USGS METHOD) - 874 CFS
 NEW OPENING - 203 S.F.
 EXISTING OPENING - 160 S.F.
 ELEVATION BOTTOM OF SUPER-STRUCTURE (NEW) - 2558.34
 ELEVATION BOTTOM OF SUPER-STRUCTURE (EXISTING) - 2557.50

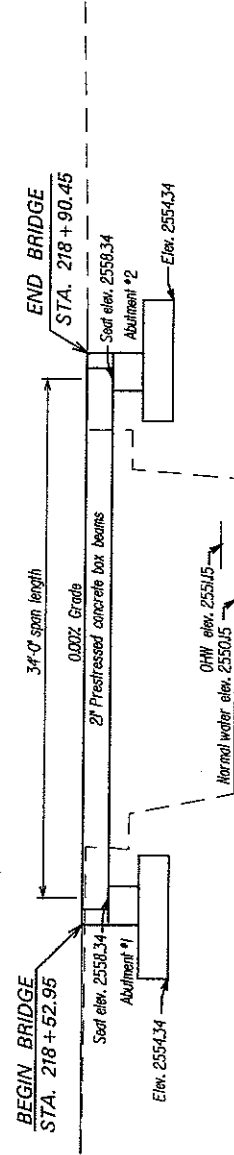
Backwater elevations for the proposed bridge are less than backwater elevations for the existing structure at the design flow rate.

NOTE: Structure is skewed 12° right forward.



LAYOUT

SCALE: 1/8" = 1'-0"



ELEVATION VIEW @ ROADWAY

SCALE: 1/8" = 1'-0"

W. VA. DEPARTMENT OF HIGHWAYS STRUCTURES DIVISION	BISMARCK ROAD BRIDGE OVER MILL RUN IN GRANT COUNTY	SHEET 7 OF 19 BRIDGE 12-50/3-4.14
LAYOUT & ELEVATION		

DESIGNED BY TJW	DATE 7-97
CHECKED BY GJM	DATE 7-97
CREATED	

STATE	PROJECT NUMBER	COUNTY	SHEET	TOTAL
VA.	511-603-4.14	GRANT	8	16

CONTROL ELEVATIONS

CODE	ABUTMENT	ABUTMENT 2
1*	2580.40	2580.40
2	2588.34	2588.34

CONTROL ELEVATIONS ESTABLISHED FROM SURVEY

CONTROL STATIONING

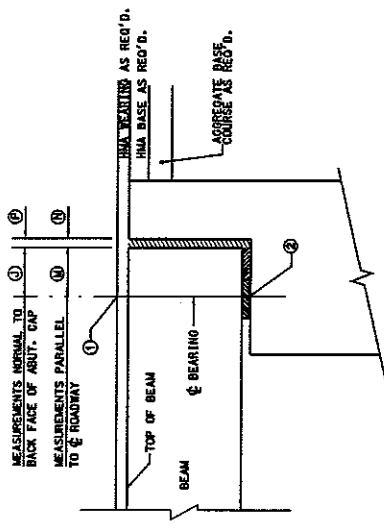
CODE	LOCATION	STATION VALUE	ABUTMENT
3	ROADWAY AT	218+04.70	---
4	ROADWAY AT	---	218+04.70

CONTROL STATIONING ESTABLISHED FROM SURVEY

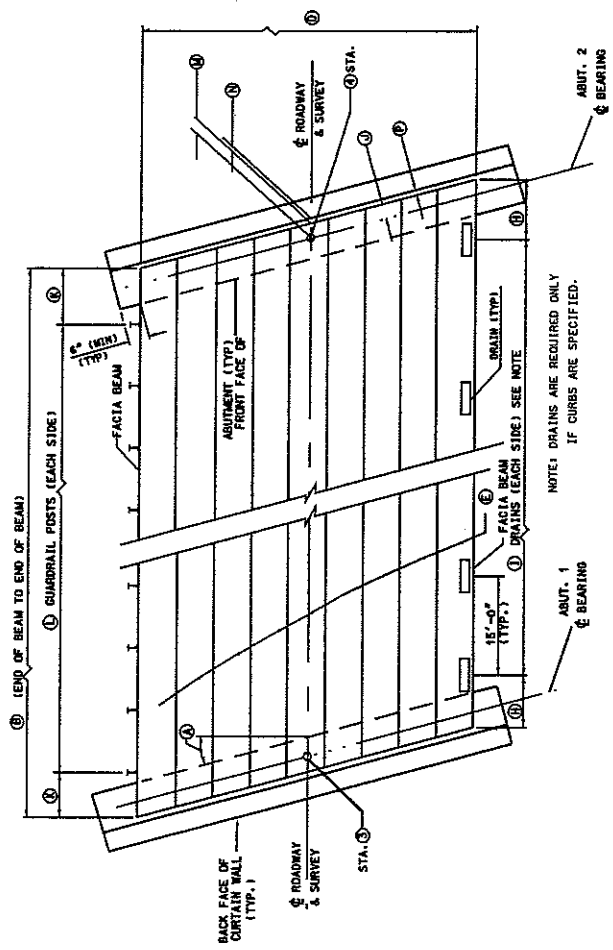
CONTROL DIMENSIONS

DIMENSION	CODE	VALUE
BEARED CROSSING	A	12" 0"
LENGTH OF BEAMS, OUT-TO-OUT	B	35'-4"
DECK WIDTH, OUT-TO-OUT	D	54'-0"
WIDTH OF BEAM	E	8"
BEAM LENGTH, ϕ BEARING TO ϕ BEARING	F	34'-0"
DISTANCE FROM END OF BEAM TO ϕ OF BEAM	H	N/A
NUMBER OF DRAINS, EACH SIDE	I	N/A
PERPENDICULAR DISTANCE FROM ϕ BEARING TO END OF BEAM	J	8"
DISTANCE FROM END OF BEAM TO FIRST GUARDRAIL POST	K	1'-9"
SPACE OF GUARDRAIL POSTS	L	18'
CLEARANCE FROM ϕ BEARING TO END OF BEAM PARALLEL TO ϕ ROAD	M	9"
WIDTH OF EXPANSION OPENING PARALLEL TO ϕ OF ROADWAY	N	1'-0"
PERPENDICULAR WIDTH OF EXPANSION OPENING	P	1'-0"
GRADE %	R	0.00%

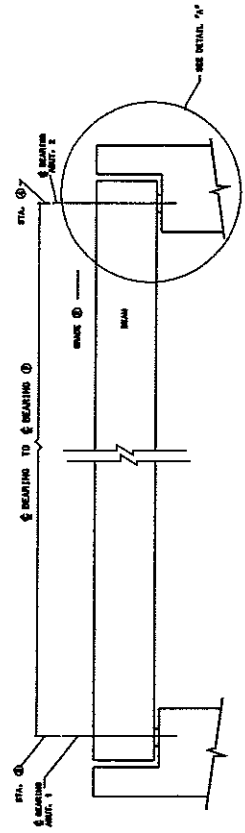
* IF BEARING SURFACE IS OBTAINED, AFFECTED ELEVATIONS SHALL BE TAKEN FROM THE TOP SURFACE OF THE BEAM.



CONTROL ELEVATIONS & BEARING DIMENSIONS ALONG ϕ ROADWAY
DETAIL "A"



SUPERSTRUCTURE LAYOUT PLAN



SUPERSTRUCTURE ELEVATION ALONG ϕ ROADWAY

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS - STRUCTURES

BISMARCK ROAD BRIDGE
OVER
MILL, RUN
IN
GRANT COUNTY

PROJECT NUMBER: 12-50/3-4.14
BRIDGE SIGN NO. 63

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS - STRUCTURES

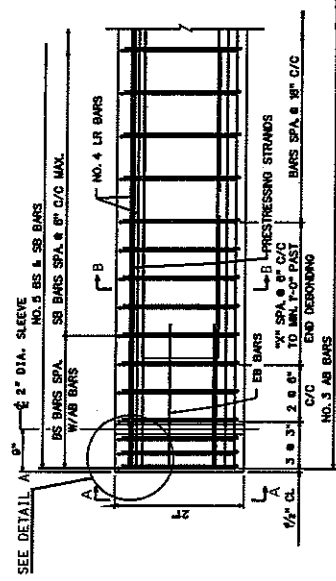
DESIGNED BY: []
CHECKED BY: []
DATE: 12-07
SCALE: []
PROJECT NO.: []
SHEET NO.: []

SUPERSTRUCTURE PLAN - NORTH ELEVATION DATA

SHEET BR-1A

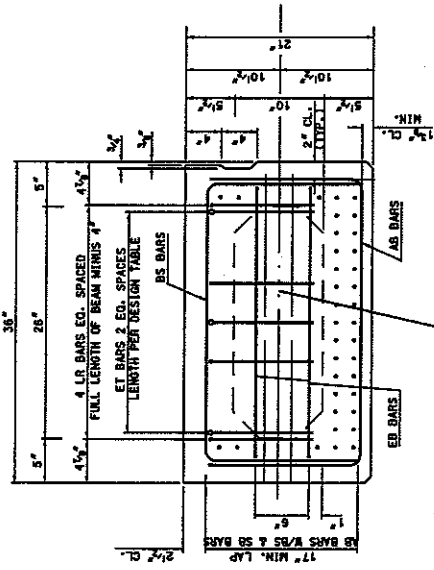
PUBLIC WORKS DIV.	STATE DIST.	PROJECT NUMBER	COUNTY	SHEET TOTAL
WVA	6	631P-807-1-14	GRANT	19 18

- NOTES**
1. ALL NON-PRESTRESSING REINFORCING BARS SHALL BE GRADE 60.
 2. ALL LAP SPICE LENGTHS, EXCEPT WHERE SHOWN, SHALL BE AS IN TABLE ON SHEET BR-501.
 3. ALL REINFORCING STEEL BARS SHALL BE EPOXY COATED.
 4. ALL STRANDS SHALL BE ENCLOSED INSIDE THE PERIMETER OF BEAM.
 5. THIS SHEET IS DESIGNED FOR BEAM SIZES BR-101, BR-111, BR-121, BR-131, BR-141, BR-151, BR-161, BR-171, BR-181, BR-191, BR-201, BR-211, BR-221, BR-231, BR-241, BR-251, BR-261, BR-271, BR-281, BR-291, BR-301, BR-311, BR-321, BR-331, BR-341, BR-351, BR-361, BR-371, BR-381, BR-391, BR-401, BR-411, BR-421, BR-431, BR-441, BR-451, BR-461, BR-471, BR-481, BR-491, BR-501, BR-511, BR-521, BR-531, BR-541, BR-551, BR-561, BR-571, BR-581, BR-591, BR-601.
 6. WHEN STRAND NO'S. 20 AND 30 ARE USED, SEE SHEET BR-601 FOR DETAIL OF 2" DIA. ANCHOR SLEEVE.

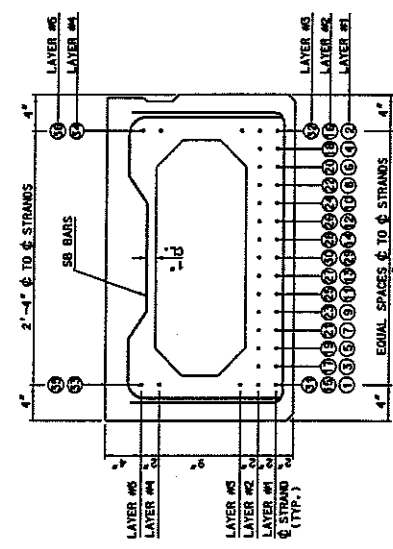


NOTE: SEE SHEET BR-601 FOR REINFORCING BAR DETAILS AND FOR REINFORCEMENT LAYOUT DETAILS FOR SWEET BEAMS.

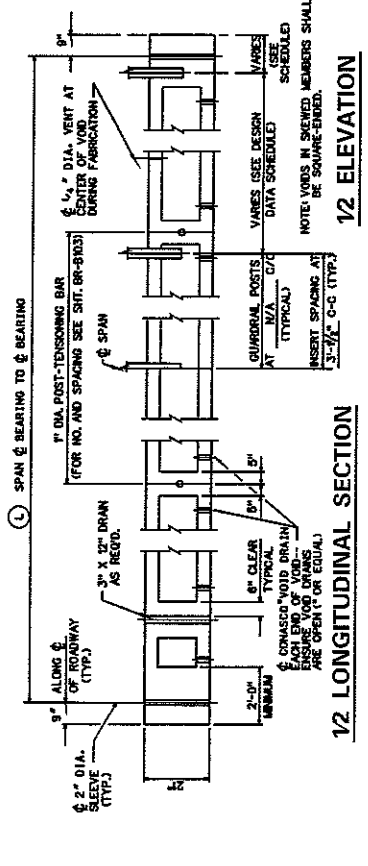
REINFORCING STEEL ELEV. VIEW



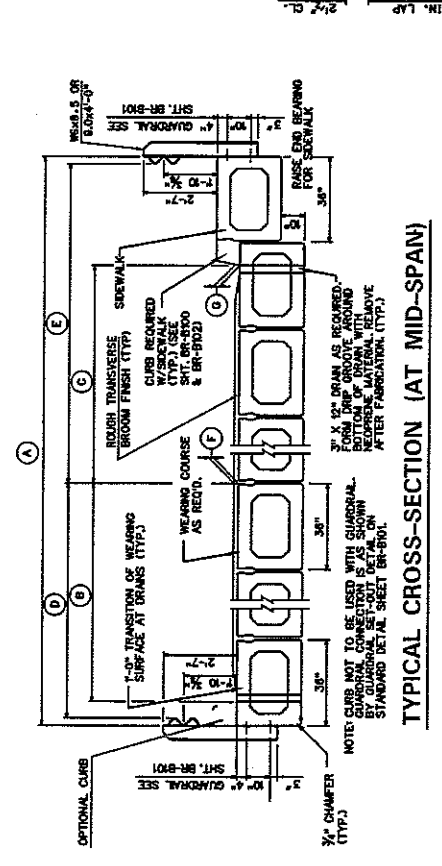
SECTION A-A TYPICAL BEAM REINFORCEMENT



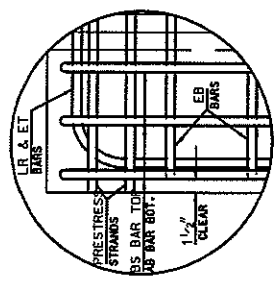
SECTION B-B TYPICAL BEAM PRESTRESSING



12 LONGITUDINAL SECTION



TYPICAL CROSS-SECTION (AT MID-SPAN)



DETAIL A

CODE	DESCRIPTION	VALUE	DESCRIPTION	VALUE
A	DECK WIDTH, OUT TO OUT	24'-0"	HOT-LAD BITUMINOUS CONCRETE REQUIRED (YES OR NO)	YES
B	DISTANCE FROM ϕ ROADWAY TO FACE OF CURB (NO SIDEWALK)	N/A	GUARDRAIL REQUIRED (YES OR NO)	YES
C	DISTANCE FROM ϕ ROADWAY TO FACE OF CURB (WITH SIDEWALK)	N/A	DRAWNS REQUIRED (YES OR NO)	NO
D	DISTANCE FROM ϕ ROADWAY TO FACE OF GUARDRAIL (NO SIDEWALK)	11'-6"	CURTAIN WALL REQUIRED (YES OR NO)	YES
E	DISTANCE FROM ϕ ROADWAY TO FACE OF GUARDRAIL (WITH SIDEWALK)	N/A	GUARDRAIL SETOUT REQUIRED (YES OR NO)	YES
F	THICKNESS OF WEARING COURSE AT ϕ ROADWAY	3"	GUARDRAIL BLOCKOUT REQUIRED (YES OR NO)	YES
G	THICKNESS OF WEARING COURSE AT FACE OF CURB	3"		
L	SPAN LENGTH, ϕ BEARING TO ϕ BEARING	34'		
OPTIONAL 10" CURB TO BE INCLUDED (YES OR NO)				
OPTIONAL PARAPET TO BE INCLUDED (YES OR NO) (REQUIRES SPECIAL DESIGN)				
TOE PLATE REQUIRED (YES OR NO)				

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS-STRUCTURES

BISMARCK ROAD BRIDGE
OVER
MILL RUN
IN
GRANT COUNTY

21" PRESTRESSED BOX BEAM
DESIGN & ASSEMBLY DETAILS

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS-STRUCTURES
21" PRESTRESSED CONCRETE
BOX BEAMS
DESIGN & ASSEMBLY DETAILS
SHEET BR-021A

DATE: 11-02
DRAWN BY: [blank]
CHECKED BY: [blank]
APPROVED BY: [blank]

PROJECT NO.	DATE	BY	CHKD
PROJECT NO.	DATE	BY	CHKD

STATE	PROJECT NUMBER	COUNTY	SHEET TOTAL
VA.	5312-2073-4-14	GRANT	NO. SKETS
NO.			11 18

MIN. CONCRETE STRENGTH @ DEFLECTION = 4,000 PSI.
 MIN. CONCRETE STRENGTH @ 28 DAYS = 5,000 PSI.
 JACKING FORCE / LOW TACK STRAND = 30,500 LBS.

DESIGN DATA FOR 21" DEPTH BOX BEAM

L	SPAN LENGTH @ TO BEARING	30'	32'	34'	35'	36'	38'	40'	42'	44'	46'	48'	(4)	(4)	(4)	(4)
	OVERALL LENGTH ALONG @ ROADWAY	31'-6"	33'-6"	35'-6"	37'-6"	39'-6"	41'-6"	43'-6"	45'-6"	47'-6"	49'-6"					
	NO. OF GRABE 270, 1 1/2 DIA. LOW-RELAX. STRANDS, AREA/STRAND = 0.153 SQ. IN.	8	10	10	12	12	12	14	14	15	16	17				
	STRAND POSITION NUMBER	1,2,5,6, 9,10,13,14, 35 & 36	1,2,5,6, 9,10,13,14, 35 & 36	1,2,5,6, 9,10,13,14, 35 & 36	1,2, 5 thru 10, 13,14, 35 & 36	1,2, 5 thru 10, 13,14, 35 & 36	1 thru 12, 35 & 36	1 thru 12, 35 & 36	1 thru 12, 35 & 36	1 thru 12, 35 & 36	1 thru 12, 15,16, 29, 35 & 36	1 thru 12, 15,16,29, 35 & 36				
	PRESTRESSING FORCE AT DEFLECTION (KIPS/BEAM)	241	299	299	356	357	413	413	441	470	488					
	FINAL PRESTRESSING FORCE (KIPS/BEAM)	223	273	274	321	323	368	370	393	417	440					
	ULTIMATE DESIGN MOMENT (FT-KIPS/BEAM)	349	397	444	493	542	592	643	695	746	797					
	ULTIMATE RESISTING MOMENT (FT-KIPS/BEAM)	315	481	481	563	603	679	679	725	757	801					
	TOTAL NUMBER OF DEBONDED STRANDS	-	-	-	-	-	-	-	-	-	-	1				
	LAYER 1-DEBONDED STRAND POSITION NUMBER AND LENGTH FROM EACH END	-	-	-	-	-	-	-	-	29 @ 3'-0"	-	29 @ 3'-0"				
	LAYER 2-DEBONDED STRAND POSITION NUMBER AND LENGTH FROM EACH END	-	-	-	-	-	-	-	-	-	-	-				
	END TENSION STEEL EACH END (SIZE & LENGTH)	3-#4 X 6'-6"	3-#4 X 7'-0"	3-#4 X 7'-6"	3-#4 X 8'-0"	3-#4 X 8'-6"	3-#4 X 9'-0"	3-#4 X 9'-6"	3-#4 X 10'-0"	3-#4 X 10'-6"	3-#4 X 11'-0"	3-#4 X 11'-6"				
	DEFLECTION, INCHES UPWARD (in)	0.08	0.16	0.16	0.30	0.31	0.46	0.46	0.65	0.65	0.71					
	CAMBER (in)	0.11	0.27	0.26	0.47	0.46	0.70	0.69	0.82	0.82	1.02					
	FINAL, INCHES UPWARD (in)	0.09	0.28	0.24	0.48	0.43	0.72	0.66	0.78	0.79	0.91					
	WEIGHT OF TYPICAL BEAM INCLUDING DIAPHRAGM (TONS) (0.12)	9.1	9.6	10.1	10.6	11.2	11.7	12.2	12.7	13.4	13.9					
	NO. OF INSERTS	10	11	12	12	13	14	14	15	16	16					
	END OF BEAM TO END OF FIRST INSERT	1'-9"	1'-9"	1'-9"	1'-9"	1'-9"	1'-9"	1'-9"	1'-9"	1'-9"	1'-9"					
	END OF BEAM TO END OF SECOND INSERT	3'-0 3/4"	2'-6"	1'-10 1/4"	2'-10 1/4"	2'-4 1/2"	1'-8 1/4"	2'-0 3/4"	2'-3 3/4"	1'-8 1/4"	2'-8 1/4"					

- NOTES:
1. BEAM WEIGHTS LISTED IN DESIGN TABLES ARE APPROXIMATE AND ARE BASED ON ZERO SKEW AND DIAPHRAGMS SPA. & 15'-0" C-C MAX. ADDITION OF SKEW AND EXTRA DIAPHRAGMS WILL INCREASE WEIGHT.
 2. FOR STANDARD CURB, ADD 93 LBS. 10.05 TONS PER CURB PER FOOT OF BEAM.
 3. CAMBER VALUES LISTED IN DESIGN TABLE ARE APPROXIMATE AND ARE FOR COMPARISON PURPOSES ONLY. THE DESIGNER SHALL VERIFY THE DIRECTION OF STRUCK CURB FOR INSPECTION PURPOSES UNLESS PERMITTED BY THE CONTRACTOR.
 4. DATA LISTED IN THE DESIGN TABLE MAY NOT BE VALID FOR SPAN LENGTHS THAT FALL BETWEEN THE SPAN LENGTHS LISTED. IF DIFFERENCES ARE ENCOUNTERED, CALCULATE AND ENTER SPECIFIC DATA FOR BEAM LENGTH REQUIRED IN THIS COLUMN.
 5. THE BEAM SHALL BE USED WITH STANDARD SHEET NUMBERS BR-1 OR BR-1A, BR-21A, BR-21B, BR-21C, BR-21D, BR-21E, BR-21F, BR-21G, BR-21H, BR-21I, BR-21J, BR-21K, BR-21L, BR-21M, BR-21N, BR-21O, BR-21P, BR-21Q, BR-21R, BR-21S, BR-21T, BR-21U, BR-21V, BR-21W, BR-21X, BR-21Y, BR-21Z.
 6. MAXIMUM BEAM SKEW SHALL BE 30 DEGREES.
 7. DESIGNER, FABRICATOR AND ERECTOR SHALL BE AWARE THAT SKEWED BEAM ENDS MAY TWIST OR WARP CAUSING UNEVEN BEAM SEATING AT THE BEARINGS. CONTRACTOR IS REQUIRED TO CORRECT THE BEAM ENDS BEFORE BEAMS ARE SECURED IN PLACE. METHOD OF CORRECTION SHALL PROVIDE EVEN, UNIFORM CONTACT OF BEAMS ON THE PAGES AND A LEVEL TOP BEAM SURFACE. METHOD SHALL BE PRE-APPROVED BY THE DESIGNER OR STRUCTURES DIVISION.
 8. BEAM FABRICATOR SHALL NOTIFY CONTRACTOR THAT BEAM ENDS ARE TWISTED PRIOR TO SHIPPING OF BEAMS.

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS-STRUCTURES

BISMARCK ROAD BRIDGE
 OVER
MILL RUN
 IN
GRANT COUNTY

DESIGNED BY: ANK/
 CHECKED BY: DRY
 DATE: 4-11-95
 SCALE: 10:00
 SHEET NO.: 11 OF 18
 BRIDGE NUMBER: 12-5043-4-14

DESIGN TABLE FOR 21" PRESTRESSED BOX BEAM

STANDARD SHEET BR-821B

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS-STRUCTURES

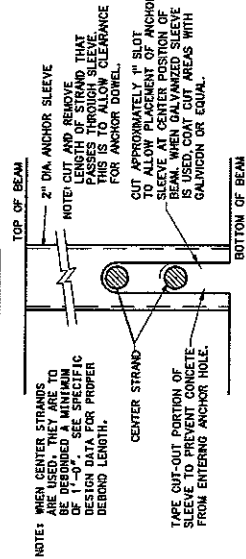
DESIGN TABLE FOR 21" PRESTRESSED BOX BEAM

STANDARD SHEET BR-821B

PUBLIC WORKS DIST.	STATE	PROJECT NUMBER	COUNTY	SHEET TOTAL
5	VA.	5312-800-4-14	GRANT	NO. 13
DATE	NO.			SHEETS
				15

TO ACCOMMODATE THE 2" DIAMETER ANCHOR SLEEVES WHEN CENTER STRANDS ARE USED, THE REINFORCING BARS MUST BE DESIGNED TO REMAIN SYMMETRICAL ABOUT THE CENTERLINE PATTERN. WHEN NECESSARY TO MOVE STRANDS VERTICALLY, THE ENGINEER SHALL CHECK DESIGN OF NEW PATTERN AND COMPLETE DESIGN TABLE WITH NEW DATA.

SECTION 10.1



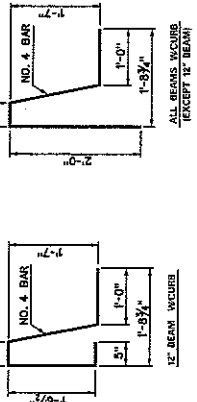
NOTE: WHEN CENTER STRANDS ARE USED, THE ANCHOR SLEEVES SHOULD BE DESIGNED TO BE 1'-0" LONG. THE SLEEVES SHOULD PASS THROUGH THE SLEEVES TO ALLOW CLEARANCE FOR ANCHOR BOWEL.

CUT APPROXIMATELY 1" SLOT IN ANCHOR SLEEVE AT CENTER POSITION OF BEAM. WHEN GALVANIZED SLEEVE IS USED, COAT CUT AREAS WITH GALVANOID OR EQUAL.

TAPE CUT-OUT PORTION OF SLEEVE TO PREVENT CONCRETE FROM ENTERING ANCHOR HOLE.

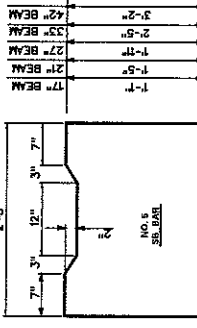
ANCHOR SLEEVE DETAILS

USE WHEN CENTER STRAND IS SPECIFIED



LENGTH PER DESIGN TABLE

GRADE	BAR NO.	NO. 3	NO. 4	NO. 5	NO. 6	NO. 7
12" BEAM	0-7"	0-7"	1-1"	1-5"	1-9"	1-13"
17" BEAM	0-7"	0-7"	1-1"	1-5"	1-9"	1-13"
21" BEAM	0-7"	0-7"	1-1"	1-5"	1-9"	1-13"
27" BEAM	0-7"	0-7"	1-1"	1-5"	1-9"	1-13"
33" BEAM	0-7"	0-7"	1-1"	1-5"	1-9"	1-13"
42" BEAM	0-7"	0-7"	1-1"	1-5"	1-9"	1-13"

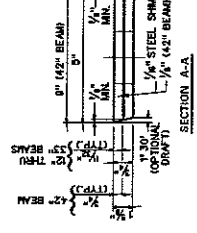


GRADE	BAR NO.	NO. 3	NO. 4	NO. 5	NO. 6	NO. 7
12" BEAM	0-7"	0-7"	1-1"	1-5"	1-9"	1-13"
17" BEAM	0-7"	0-7"	1-1"	1-5"	1-9"	1-13"
21" BEAM	0-7"	0-7"	1-1"	1-5"	1-9"	1-13"
27" BEAM	0-7"	0-7"	1-1"	1-5"	1-9"	1-13"
33" BEAM	0-7"	0-7"	1-1"	1-5"	1-9"	1-13"
42" BEAM	0-7"	0-7"	1-1"	1-5"	1-9"	1-13"

REINFORCING BAR DETAIL

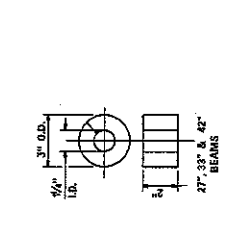
IF OPTIONAL SPLICING OF LR AND ET BARS IS USED, TERMINATION OF LAP SHOULD BE AT THE END OF THE BEAM. MINIMUM BAR BENDING DIAMETER SHALL BE 4 BAR DIAMETERS. ALL DIMENSIONS ARE OUT TO OUT.

NOTE: SHEET TO BE USED WITH STANDARD SHEET BR-1 OR BR-2, BR-3, BR-4, BR-5, BR-6, BR-7, BR-8, BR-9, BR-10, BR-11, BR-12, BR-13, BR-14, BR-15, BR-16, BR-17, BR-18, BR-19, BR-20, BR-21, BR-22, BR-23, BR-24, BR-25, BR-26, BR-27, BR-28, BR-29, BR-30, BR-31, BR-32, BR-33, BR-34, BR-35, BR-36, BR-37, BR-38, BR-39, BR-40, BR-41, BR-42, BR-43, BR-44, BR-45, BR-46, BR-47, BR-48, BR-49, BR-50, BR-51, BR-52, BR-53, BR-54, BR-55, BR-56, BR-57, BR-58, BR-59, BR-60, BR-61, BR-62, BR-63, BR-64, BR-65, BR-66, BR-67, BR-68, BR-69, BR-70, BR-71, BR-72, BR-73, BR-74, BR-75, BR-76, BR-77, BR-78, BR-79, BR-80, BR-81, BR-82, BR-83, BR-84, BR-85, BR-86, BR-87, BR-88, BR-89, BR-90, BR-91, BR-92, BR-93, BR-94, BR-95, BR-96, BR-97, BR-98, BR-99, BR-100.



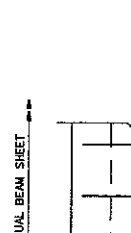
LIFT LOOP BLOCKOUT DETAILS

NOTE: THE LIFT LOOPS SHALL BE LOCATED AT THE CENTER OF THE BEAM. THE LIFT LOOPS SHALL BE LOCATED IN A LINE TRANSVERSE TO THE CENTERLINE OF BEAM.



ELASTOMERIC BEARING PAD DETAIL

NOTES: THE BEARING PAD SHALL CONFORM TO ASHTO SPECIFICATIONS FOR HIGHWAY BRIDGES, SECTION 10, DIVISION II, WITH A DURETOMETER HARDNESS OF 60.



SHEAR REINFORCEMENT DETAIL SKEWED BEAMS

NOTE: THE SHEAR REINFORCEMENT SHALL BE LOCATED AT THE CENTER OF THE BEAM. THE SHEAR REINFORCEMENT SHALL BE LOCATED IN A LINE TRANSVERSE TO THE CENTERLINE OF BEAM.



BLOCKOUT DETAIL

NOTES: 1) FABRICATOR SHALL PROVIDE BLOCKOUT OF ACUTE CORNERS ON ALL BEAMS WITH SKEWS OF 10 DEGREES OR GREATER. 2) AFTER ERECTION, ALL INTERIOR BLOCKOUT Voids SHALL BE FILLED WITH GROUT IN ACCORDANCE WITH SUBSECTION 715.5 OF THE STANDARD SPECIFICATIONS.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS-STRUCTURES

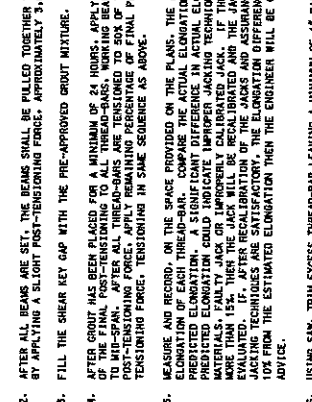
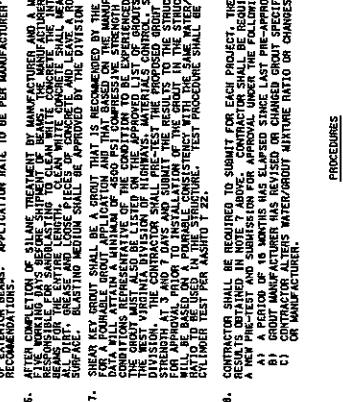
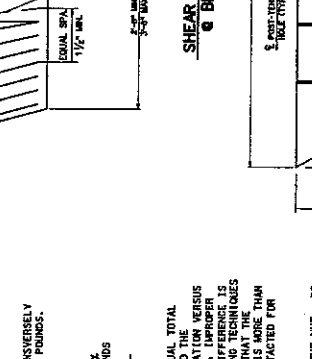
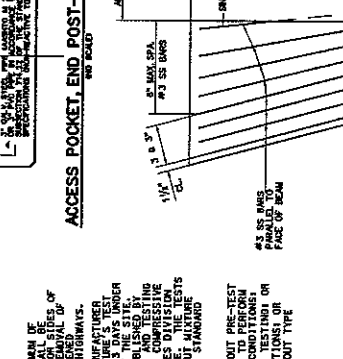
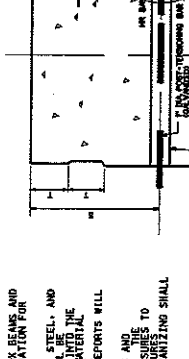
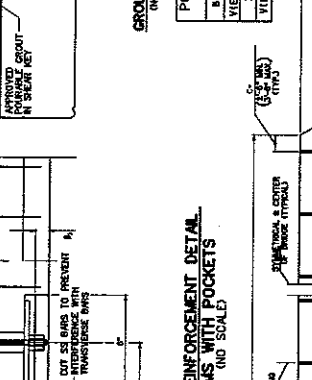
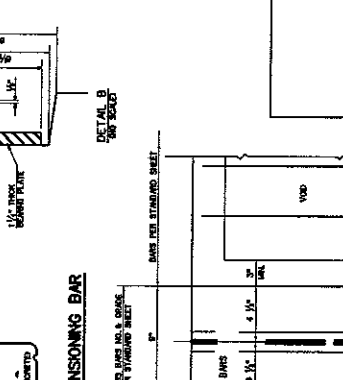
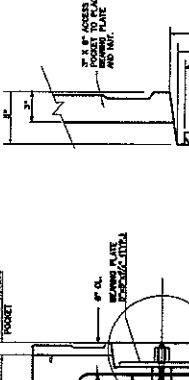
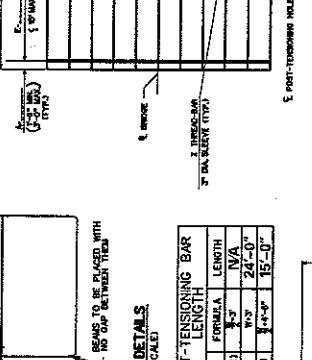
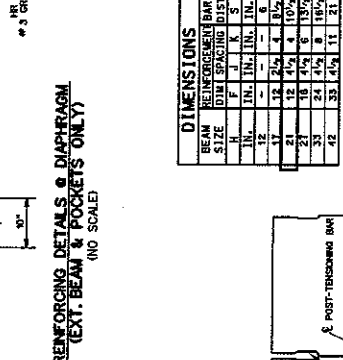
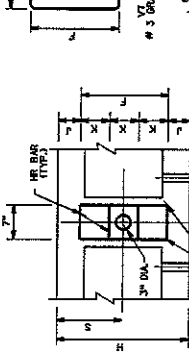
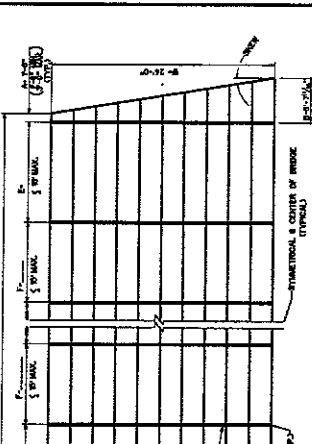
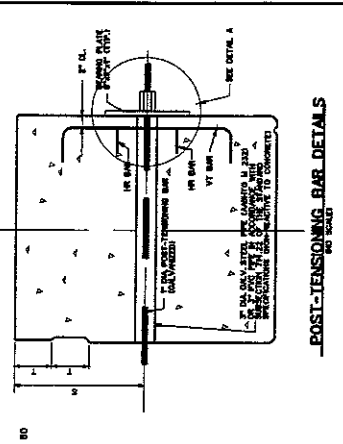
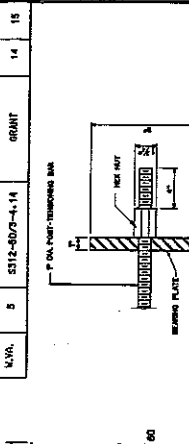
BISMARCK ROAD BRIDGE
OVER
MILL RUN
IN
GRANT COUNTY

PRESTRESSED CONCRETE BEAM
DESIGN & ASSEMBLY DETAILS

STANDARD SHEET BR-B101

GRADE	BAR NO.	NO. 3	NO. 4	NO. 5	NO. 6	NO. 7
20"	0-7"	0-7"	1-1"	1-5"	1-9"	1-13"
26"	0-7"	0-7"	1-1"	1-5"	1-9"	1-13"
33"	0-7"	0-7"	1-1"	1-5"	1-9"	1-13"
39"	0-7"	0-7"	1-1"	1-5"	1-9"	1-13"
45"	0-7"	0-7"	1-1"	1-5"	1-9"	1-13"

SHEET NO.	TOTAL SHEETS	PROJECT NUMBER	COUNTY
14	15	5312-80/3-4-14	GRANT
STATE	ROUTE	BRIDGE NUMBER	BRIDGE NUMBER
V.A.	5	12-5063-4-14	12-5063-4-14



REINFORCEMENT BAR SIZE	BAR SPACING DIST.
1/2"	12"
3/8"	18"
1/4"	24"
3/16"	30"
1/8"	36"
1/16"	42"

REINFORCEMENT BAR SIZE	BAR SPACING DIST.
1/2"	12"
3/8"	18"
1/4"	24"
3/16"	30"
1/8"	36"
1/16"	42"

REINFORCEMENT BAR SIZE	BAR SPACING DIST.
1/2"	12"
3/8"	18"
1/4"	24"
3/16"	30"
1/8"	36"
1/16"	42"

REINFORCEMENT BAR SIZE	BAR SPACING DIST.
1/2"	12"
3/8"	18"
1/4"	24"
3/16"	30"
1/8"	36"
1/16"	42"

REINFORCEMENT BAR SIZE	BAR SPACING DIST.
1/2"	12"
3/8"	18"
1/4"	24"
3/16"	30"
1/8"	36"
1/16"	42"

REINFORCEMENT BAR SIZE	BAR SPACING DIST.
1/2"	12"
3/8"	18"
1/4"	24"
3/16"	30"
1/8"	36"
1/16"	42"

PLAN VIEW-20° SKEW OR LESS
POST-TENSIONING BAR SPACING
(NO SCALE)

POST-TENSIONING BAR
SPACING SCHEDULE

POST-TENSIONING BAR
SPACING SCHEDULE

POST-TENSIONING BAR
SPACING SCHEDULE

POST-TENSIONING BAR
SPACING SCHEDULE

POST-TENSIONING BAR
SPACING SCHEDULE

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS-STRUCTURES

BISMARCK ROAD BRIDGE
OVER
MILL RUN
IN
GRANT COUNTY

TRANSVERSE POST-TENSIONING DETAILS
PRESTRESSED CONCRETE BEAMS

BRIDGE NUMBER
12-5063-4-14

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS-STRUCTURES

TRANSVERSE
POST-TENSIONING DETAILS

SHEET BR-8103

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS-STRUCTURES

TRANSVERSE
POST-TENSIONING DETAILS

SHEET BR-8103

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS-STRUCTURES

TRANSVERSE
POST-TENSIONING DETAILS

SHEET BR-8103

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS-STRUCTURES

TRANSVERSE
POST-TENSIONING DETAILS

SHEET BR-8103

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS-STRUCTURES

TRANSVERSE
POST-TENSIONING DETAILS

SHEET BR-8103

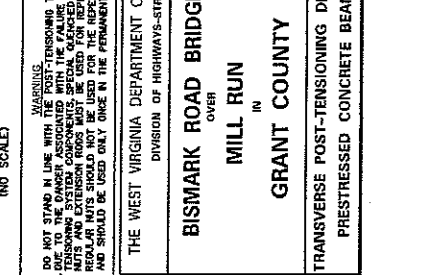
GENERAL NOTES

- POST-TENSIONING THREAD-BARS SHALL BE STRESSED AS FOLLOWS:
a. BEAMS TO BE STRESSED AFTER FINAL INSTALLATION OF BOX BEAMS AND GROUTING OF JOINTS AND BETWEEN THE FINAL INSTALLATION OF BOX BEAMS AND THE INSTALLATION OF THE FINAL POST-TENSIONING ELONGATION FOR Z-BARS IS 3/8" INCHES AND FOR V-BAR IS 1/2" INCHES.
- POST-TENSIONING THREAD-BARS SHALL BE ONE INCH DIAMETER, 150 KSI STEEL, AND SHALL BE STRESSED TO A MINIMUM OF 60% OF TENSILE STRENGTH. THE STRESSING DEVIATION SHALL NOT EXCEED 5% OF THE TENSILE STRENGTH. THE STRESSING DEVIATION SHALL BE DETERMINED BY MEANS OF A TENSILE TEST. THE STRESSING DEVIATION SHALL BE PROVIDED FOR EACH HEAT OF STEEL THREAD-BARS.
- ALL POST-TENSIONING THREAD-BARS, NUTS, BEARING PLATES, COUPLERS AND GALVANIZING PLANT SHALL BE STRESSED TO AN APPROPRIATE QUALITY CONTROL MEASURES TO BE PROVIDED BY THE GALVANIZING PLANT.
- ALL REINFORCING STEEL SHALL BE GRADE 60 AND EPOXY COATED.
- EACH PRESTRESSED CONCRETE BEAM SHALL BE TREATED BY MANUFACTURER AT A MINIMUM OF 10% OF TENSILE STRENGTH. THE TREATMENT SHALL BE APPROVED BY THE DIVISION OF HIGHWAYS-STRUCTURES. MATERIALS CONTROL, SOILS AND TESTING DIVISION, CONTRACTOR SHALL BE RESPONSIBLE FOR THE TREATMENT OF THE BEAMS. THE TREATMENT SHALL BE APPROVED BY THE DIVISION OF HIGHWAYS-STRUCTURES.
- FILE COMPLETION OF STEEL TREATMENT BY MANUFACTURER AND A MAXIMUM OF 10% OF TENSILE STRENGTH SHALL BE APPROVED BY THE DIVISION OF HIGHWAYS-STRUCTURES. MATERIALS CONTROL, SOILS AND TESTING DIVISION, CONTRACTOR SHALL BE RESPONSIBLE FOR THE TREATMENT OF THE BEAMS. THE TREATMENT SHALL BE APPROVED BY THE DIVISION OF HIGHWAYS-STRUCTURES.
- SHEAR KEY GROUT SHALL BE A GROUT THAT IS RECOMMENDED BY THE MANUFACTURER. THE GROUT SHALL BE A MINIMUM OF 4500 PSI COMPRESSIVE STRENGTH IN 3 DAYS UNDER STANDARD CURE CONDITIONS. THE GROUT SHALL BE PLACED IN THE SHEAR KEY AND THE GROUT SHALL BE CURED FOR A MINIMUM OF 7 DAYS. THE GROUT SHALL BE TESTED FOR COMPRESSIVE STRENGTH AT 7 AND 28 DAYS AND THE TEST RESULTS SHALL BE SUBMITTED TO THE DIVISION OF HIGHWAYS-STRUCTURES FOR APPROVAL PRIOR TO INSTALLATION OF THE GROUT IN THE STRUCTURE. THE TESTS SHALL BE CONDUCTED IN THE STRUCTURE. THE TEST PROCEDURE SHALL BE THE STANDARD CYLINDER TEST PER ASTM C 39.
- CONTRACTOR SHALL BE REQUIRED TO SUBMIT FOR EACH PROJECT, THE GROUT PRE-TEST RESULTS OBTAINED IN NOTE 7 ABOVE. CONTRACTOR SHALL BE REQUIRED TO PERFORM A GROUT PRE-TEST AT 18 MONTHS HAS BEEN REVISED OR CHANGED GREAT SPECIFICATIONS OR ON C) CONTRACTOR ALTERS WATER/REDUCTANT MIXTURE RATIO OR CHANGES GROUT TYPE ON MANUFACTURER.

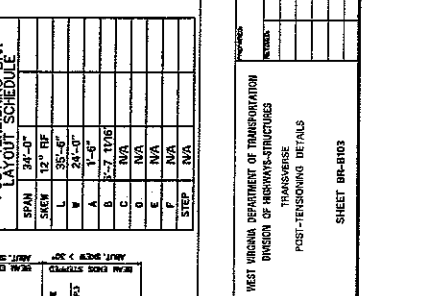
PROCEDURES

- BEAMS ARE TO BE SET WITH NO GAP BETWEEN THEM.
- AFTER ALL BEAMS ARE SET, THE BEAMS SHALL BE PULLED TOGETHER TRANSVERSELY BY APPLYING A SLOTTED POST-TENSIONING FORCE, APPROXIMATELY 3,000 POUNDS.
- FILL THE SHEAR KEY GAP WITH THE PRE-APPROVED GROUT MIXTURE.
- AFTER GROUT HAS BEEN PLACED FOR A MINIMUM OF 24 HOURS, APPLY 50% OF THE FINAL POST-TENSIONING TO ALL THREAD-BARS, WORKING FROM EACH END OF THE BEAM. ALL POST-TENSIONING SHALL BE TENSIONED TO 50% OF THE POST-TENSIONING FORCE. APPLY THE POST-TENSIONING FORCE IN THE SAME SEQUENCE AS ABOVE.
- MEASURE AND RECORD, ON THE SPACE PROVIDED ON THE PLANS, THE ACTUAL TOTAL ELONGATION OF EACH THREAD-BAR. COMPARE THE ACTUAL ELONGATION TO THE ELONGATION INDICATED ON THE PLANS. THE ACTUAL ELONGATION SHOULD BE WITHIN 10% OF THE ELONGATION INDICATED ON THE PLANS. IF THE DIFFERENCE IS MORE THAN 10%, THEN THE JACK WILL BE RECALIBRATED AND THE JACKING TECHNIQUES SHOULD BE REEVALUATED. THE ELONGATION RECORDANCE SHALL BE MORE THAN 10% FROM THE ESTIMATED ELONGATION THEN THE ENGINEER WILL BE CONTACTED FOR ADVICE.
- USING SAW, TRIM EXCESS THREAD-BAR LEAVING A MINIMUM OF 4" PAST THE NUT, DO NOT CUT THROUGH THE THREAD-BAR WITH TORCH CUTTING. TOUCH UP TRIMMED ENDS WITH GALVADIP OR ENGLIC.
- INSTALL ANCHOR DOWELS AT EACH END.

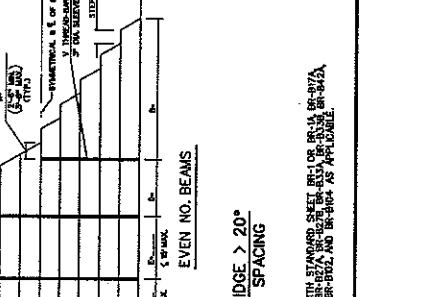
**REINFORCING DETAILS & DIAPHRAGM
(TEXT, BEAM & POCKETS ONLY)
(NO SCALE)**



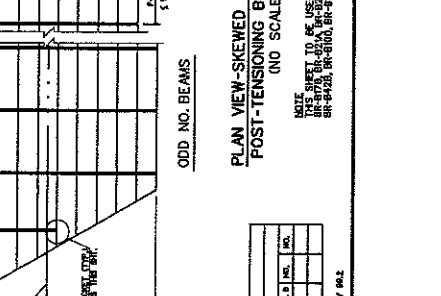
**ACCESS POCKET, END, POST-TENSIONING BAR
(NO SCALE)**



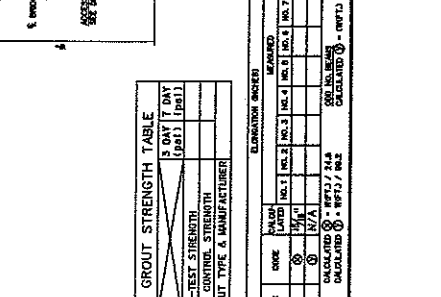
**POST-TENSIONING BAR SPACING
(NO SCALE)**



**SHEAR REINFORCEMENT DETAIL
& BEAMS WITH POCKETS
(NO SCALE)**



**PLAN VIEW-SKEWED BRIDGE > 20°
POST-TENSIONING BAR SPACING
(NO SCALE)**



GROUT STRENGTH TABLE

DATE	DOCK	ELEVATION (INCHES)			
		1	2	3	4
		100.0	100.0	100.0	100.0
		100.0	100.0	100.0	100.0
		100.0	100.0	100.0	100.0
		100.0	100.0	100.0	100.0
		100.0	100.0	100.0	100.0
		100.0	100.0	100.0	100.0
		100.0	100.0	100.0	100.0
		100.0	100.0	100.0	100.0
		100.0	100.0	100.0	100.0

DESIGNED BY: [NAME]
CHECKED BY: [NAME]
DATE: [DATE]

THIS SHEET TO BE USED WITH STANDARD SHEET BR-104 BR-917A BR-927A BR-933A BR-945A BR-948A BR-950A BR-952A AND BR-954A AS APPLICABLE.

THIS SHEET TO BE USED WITH STANDARD SHEET BR-104 BR-917A BR-927A BR-933A BR-945A BR-948A BR-950A BR-952A AND BR-954A AS APPLICABLE.

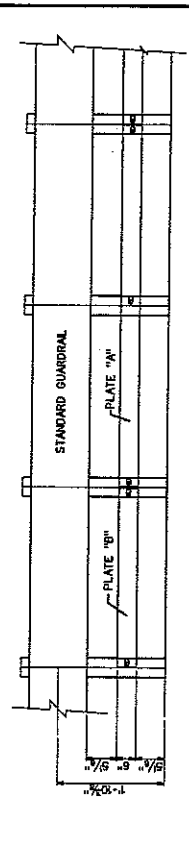
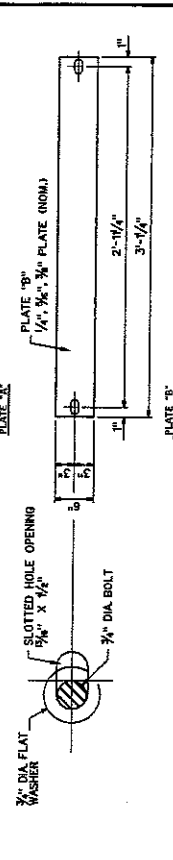
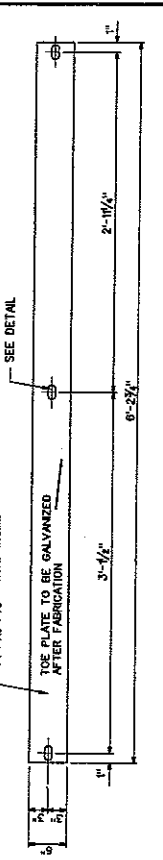
THIS SHEET TO BE USED WITH STANDARD SHEET BR-104 BR-917A BR-927A BR-933A BR-945A BR-948A BR-950A BR-952A AND BR-954A AS APPLICABLE.

THIS SHEET TO BE USED WITH STANDARD SHEET BR-104 BR-917A BR-927A BR-933A BR-945A BR-948A BR-950A BR-952A AND BR-954A AS APPLICABLE.

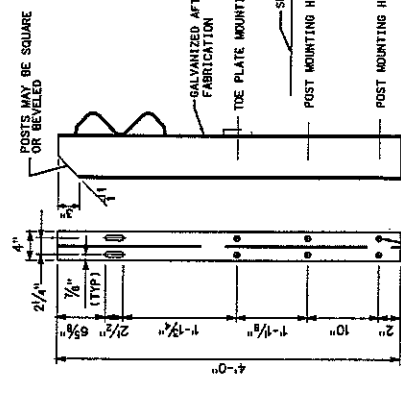
THIS SHEET TO BE USED WITH STANDARD SHEET BR-104 BR-917A BR-927A BR-933A BR-945A BR-948A BR-950A BR-952A AND BR-954A AS APPLICABLE.

THIS SHEET TO BE USED WITH STANDARD SHEET BR-104 BR-917A BR-927A BR-933A BR-945A BR-948A BR-950A BR-952A AND BR-954A AS APPLICABLE.

PUBLIC STATE	PROJECT NUMBER	COUNTY	SHEET TOTAL
OKLAHOMA	5312-0073-4-14	GRANT	NO. SHOTS
DATE	5		1-
			15



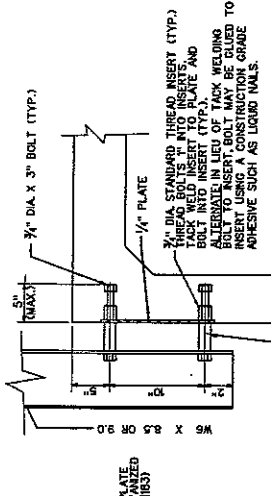
TOE PLATE DETAILS
FOR USE ON STRUCTURES WITH NO CURB



POSTS MAY BE SQUARE OR BEVELED

OPEN HOLES 1/4\"/>

OPEN HOLES 1/4\"/>



3/4\"/>

3/4\"/>

3/4\"/>

GUARDRAIL SET-OUT DETAIL

1/4\"/>

1/4\"/>

1/4\"/>

1/4\"/>

1/4\"/>

1/4\"/>

1/4\"/>

1/4\"/>

1/4\"/>

1/4\"/>

1/4\"/>

1/4\"/>

1/4\"/>

1/4\"/>

1/4\"/>

1/4\"/>

1/4\"/>

1/4\"/>

1/4\"/>

1/4\"/>

1/4\"/>

1/4\"/>

1/4\"/>

1/4\"/>

1/4\"/>

1/4\"/>

1/4\"/>



1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

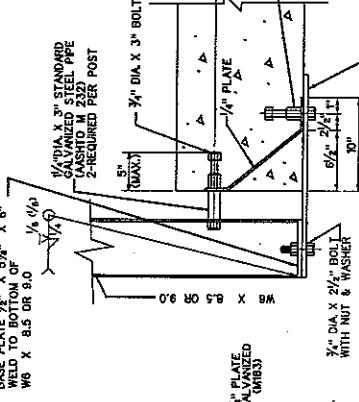
1\"/>

1\"/>

1\"/>

- NOTES:
- ENTIRE ASSEMBLY IS TO BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH AASHTO M 232 FOR PROPER FIT. GALVANIZED ANCHOR BOLTS AND INSERT BOLTS SHALL BE ELECTRO-DEPOSITED ZINC COATED TYPE 2, CLASSIFICATION NO. 23.
 - ANY DAMAGE TO GALVANIZED AREAS SHALL BE TOUCHED UP WITH GALVICON, OR EQUAL.
 - WHEN THE GUARDRAIL POST IS LOCATED OVER THE BRIDGE DECK, THE GUARDRAIL ANCHOR PLATE AND FOUR ANCHOR BOLTS SHALL BE OMITTED. INSTALL AND DETAIL THE "GUARDRAIL ANCHOR OVER BRIDGE SEAT" DETAIL THIS SHEET.

ANCHOR DETAIL



BASE PLATE 1/2\"/>

1/4\"/>

1/4\"/>

1/4\"/>

1/4\"/>

1/4\"/>

1/4\"/>

1/4\"/>

1/4\"/>

1/4\"/>

GUARDRAIL INSERT DETAIL (FOR 12\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

GUARDRAIL SET-OUT DETAIL (FOR 12\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

GUARDRAIL ANCHOR OVER BRIDGE SEAT (FOR 12\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

1\"/>

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS-STRUCTURES

BISMARCK ROAD BRIDGE
OVER
MILL RUN
IN
GRANT COUNTY

PRESTRESSED CONCRETE BEAM
DESIGN & ASSEMBLY DETAILS

DATE: 12-20-05

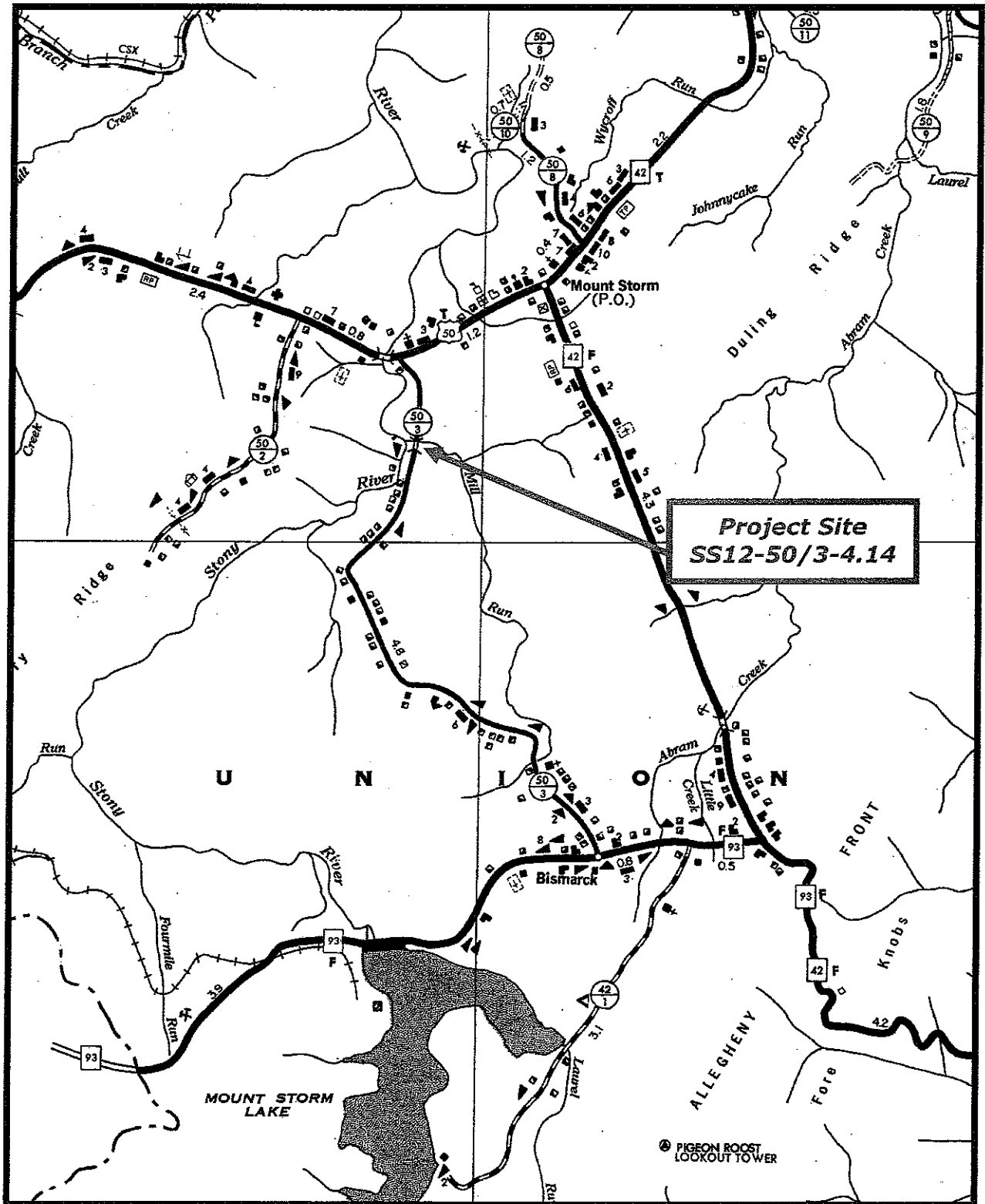
DESIGNED BY: [Signature]
CHECKED BY: [Signature]
APPROVED BY: [Signature]

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS-STRUCTURES
DESIGN & ASSEMBLY DETAILS

STANDARD SHEET BR-B04

WORK NO.	04H
PROJECT NO.	07P
DATE	12/20/05
SCALE	AS SHOWN
SHEET NO.	14
TOTAL SHEETS	14

NOTE: THIS SHEET TO BE USED WITH STANDARD SHEET BR-1 OR BR-1A, BR-S1A, BR-S2B, BR-B17A, BR-B17B, BR-B21A, BR-B21B, BR-B27A, BR-B27B, BR-B33A, BR-B33B, BR-B42A, BR-B42B, BR-B100, BR-B101, BR-B102, AND BR-B103 AS APPLICABLE.



STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

West Virginia Code §5A-3-10a states: 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 the debt owed is an amount greater than one thousand dollars in the aggregate

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.

"Debtor" means any individual, corporation, partnership, association, limited liability company or any other form or business association owing a debt to the state or any of its political subdivisions. "Political subdivision" means any county commission; municipality; county board of education; any instrumentality established by a county or municipality; any separate corporation or instrumentality established by one or more counties or municipalities, as permitted by law; or any public body charged by law with the performance of a government function or whose jurisdiction is coextensive with one or more counties or municipalities. "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.

EXCEPTION: The prohibition of this section does not apply where a vendor has contested any tax administered pursuant to chapter eleven of this 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.

LICENSING: Vendors must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, West Virginia Insurance Commission, or any other state agencies or political subdivision. Furthermore, the vendor must provide all necessary releases to obtain information to enable the Director or spending unit to verify that the vendor is licensed and in good standing with the above entities.

CONFIDENTIALITY: The vendor agrees that he or she will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the agency's policies, procedures and rules. Vendors should visit www.state.wv.us/admin/purchase/privacy for the Notice of Agency Confidentiality Policies.

Under penalty of law for false swearing (West Virginia Code, §61-5-3), it is hereby certified that the vendor acknowledges the information in this said affidavit and are in compliance with the requirements as stated.

Vendor's Name: _____

Authorized Signature: _____ Date: _____