FAX TRANSMISSION

O.D.O.T.
650 EASTERN AVE.
CHILLICOTHE, OHIO 45601
(614) 773-2691
FAX: (614) 773-2702

To:	Jeff Honefanger, Manager Special Hauling Permits	**Date:**	December 31, 1997
Fax #:	1-614-777-0335	**Pages:**	2, including this cover sheet.
From:	Emerson L. Richmond		
Subject:	Bridge Posting		

COMMENTS:

Bridge ADA-348-0703 (SFN 0104264) has had a major rehab. replacing the entire superstructure. Request the legal loads to be raised back up to 150%.

DISTRICT 9
ROADWAY
SERVICES

OHIO DEPARTMENT OF TRANSPORTATION
INTER-OFFICE COMMUNICATION

DATE: Dec. 31, 1997

TO: **Jeff Honefanger, Manager**
Special Hauling Permits

FROM: **J. Darrel Armstrong, Roadway Services Manager**

BY: **Emerson Richmond, District 9 Bridge Specialist**

SUBJECT: **Bridge Posting**

****

1. **COUNTY: Adams**

2. **CURRENT BRIDGE NUMBER: ADA-348-0703**

3. **STRUCTURE FILE NUMBER: 0104264**

4. **FEATURE INTERSECTED: Cedar Run**

5. **PRESENT REDUCTION: 100%**

6. **REQUESTED WEIGHT LIMIT 150%:**

7. **EFFECTIVE DATE CURRENT POSTING:**

8. **DATE OF DIRECTOR'S JOURNAL ENTRY:**

9. **EFFECTIVE DATE OF RESCINDING: Immediately**

10. **REASON: New Superstructure**

JDA:ELR:tlw
cc: J. Hagen
D. Armstrong
Job file
File

inter-office communication

To: James A. Watkins, District 9 Deputy Director **Date**:October 29, 1996
From: B.W. Fagrell, Administrator Office of Structural Engineering
By: J.C. Randall, Structural Steel Engineer . 614-466-4082 /614-752-4824 fax

Subject: Shop Drawing Approval per CMS 501.05

Attn: V.E. Wilson - Highway Management Administrator

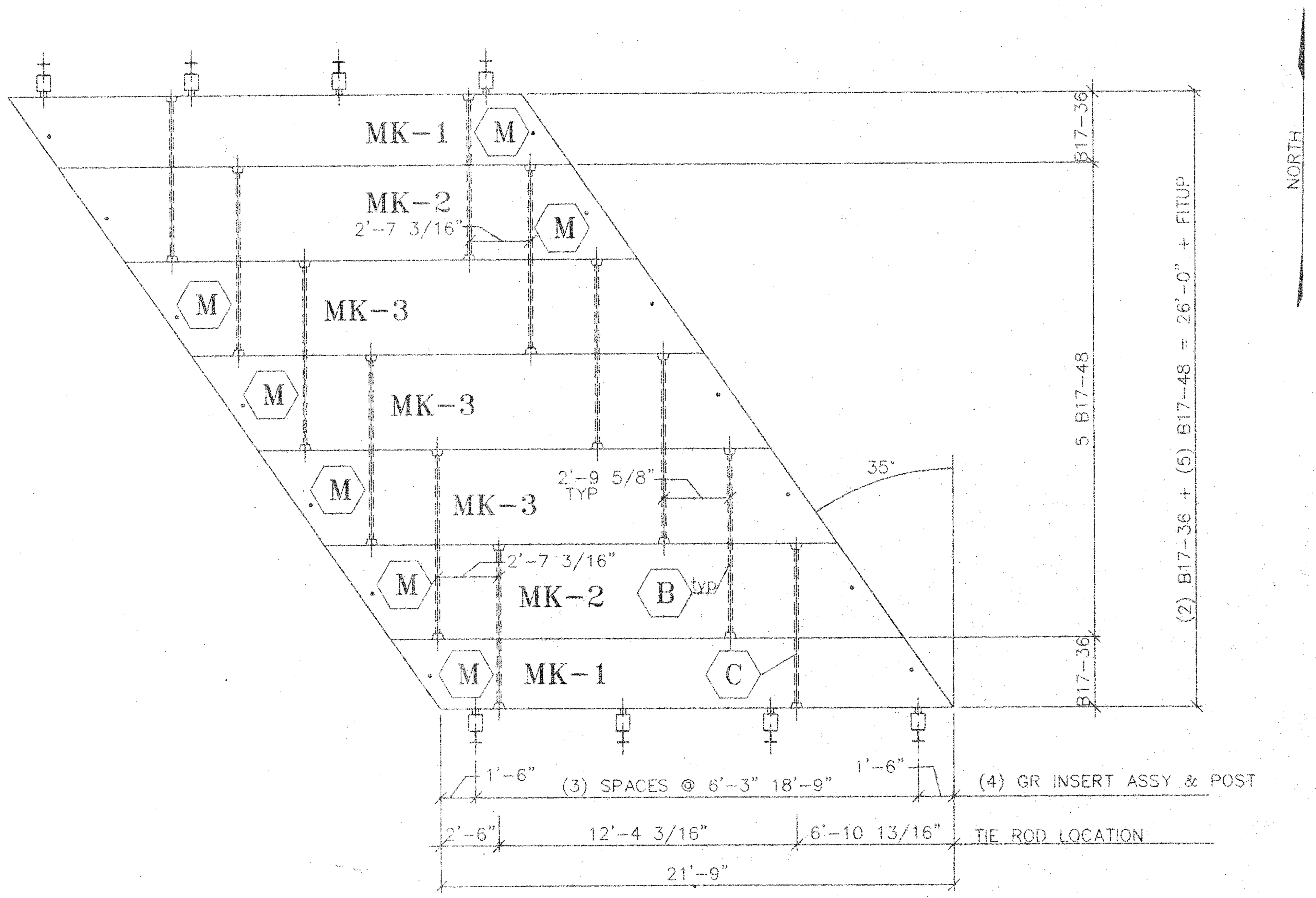
County: Adams
Project: Invitation to Bid No. 529-95

We are forwarding two (2) prints each of Marietta Structures' approved prestressed concrete box beam shop drawing nos. 1 to 4, showing details of Item 515, Prestressed Concrete Bridge Members. One (1) set is intended for your file and one (1) set is for the Project Engineer.

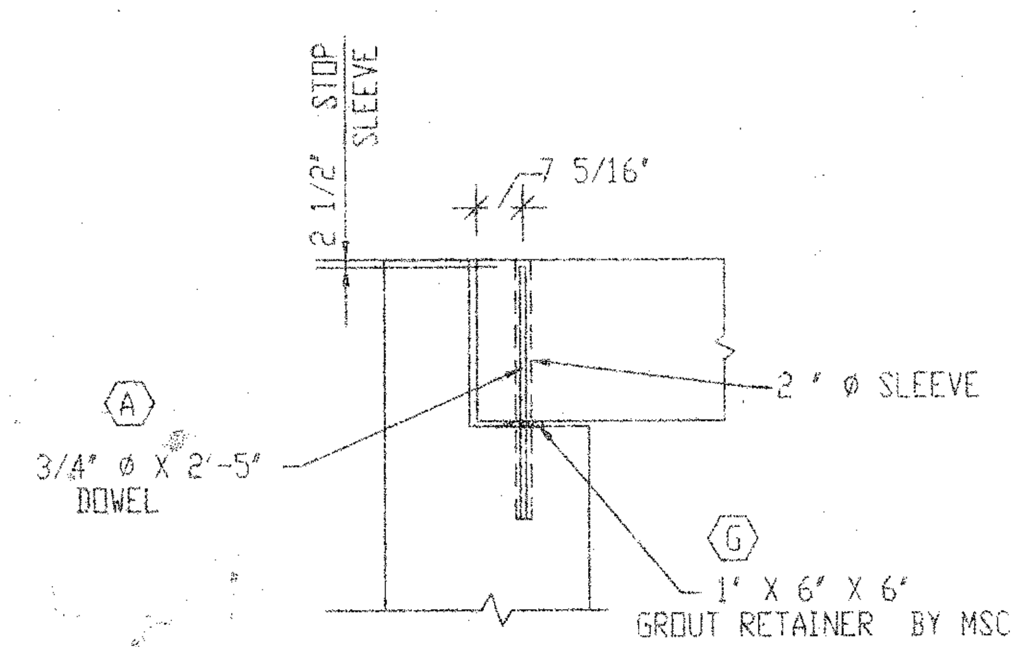
BWF:JCR:VJF:0529invd.wpd

Enclosure

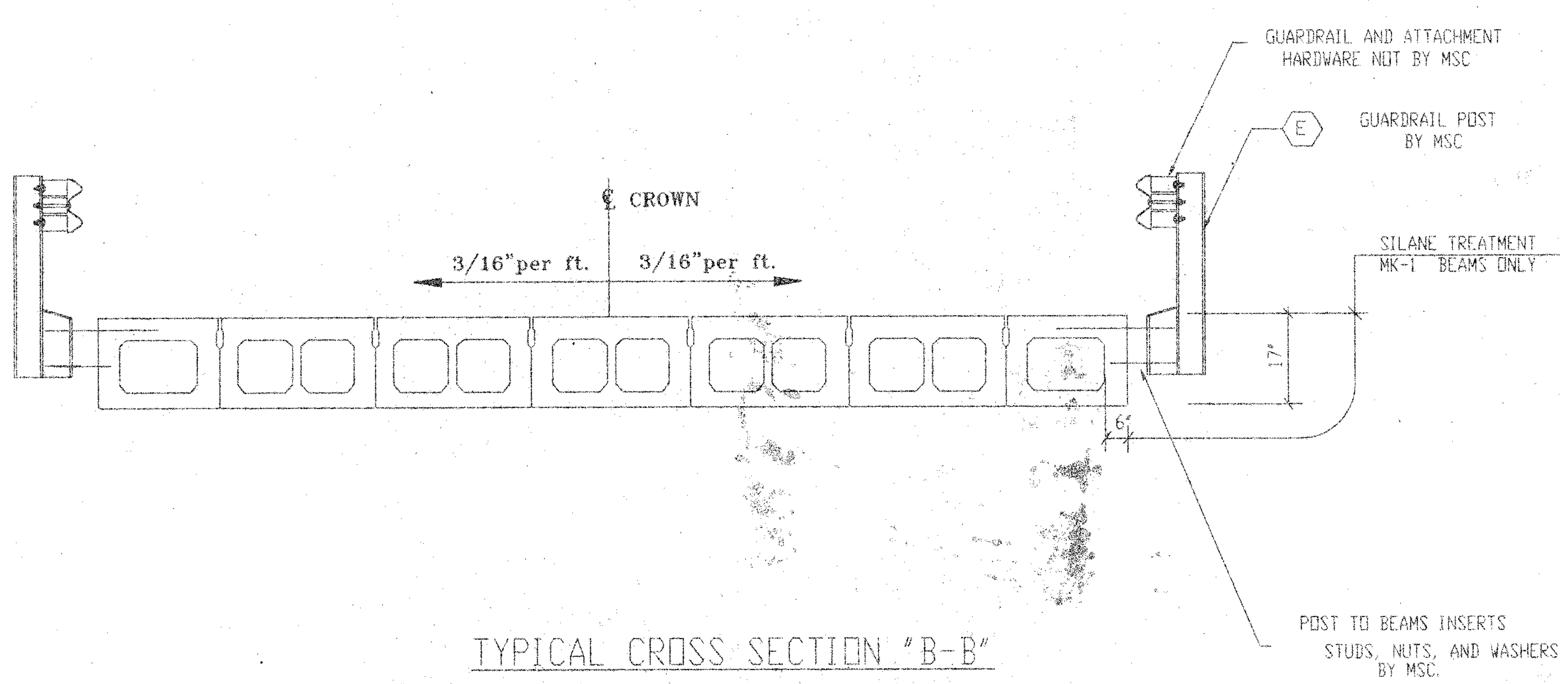
c: Marietta Structures
Bryan Struble
Inspector
SSfile



TYPICAL PLAN



SECTION "A-A"
END BEARING DETAIL



TYPICAL CROSS SECTION "B-B"

BRIDGE BEAM FABRICATION NOTES

COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS (f'c) SHALL NOT BE LESS THAN 5500 psi

COMPRESSIVE STRENGTH OF CONCRETE AT TIME OF DETENSIONING (f'ci) SHALL NOT BE LESS THAN 4000 psi.

PRESTRESSING STEEL SHALL BE SEVEN_WIRE UNCOATED STRESS RELIEVED STRAND IN ACCORDANCE WITH ASTM A416 GRADE 270, 1/2" DIAMETER.

ALL PRESTRESSING STRANDS SHALL BE STRESSED TO AN INITIAL TENSIONING FORCE PER STRAND EQUAL TO 3,000 lbs. ALL PRESTRESSING STRANDS SHALL BE STRESSED TO A FINAL TENSIONING FORCE PER STRAND EQUAL TO 28,900 lbs. (BEFORE LOSSES).

ALL REINFORCING BARS SHALL CONFIRM TO ASTM A615, A616, OR A617 GRADE GRADE 60 BLACK STEEL, UNLESS OTHERWISE NOTED.

ALL ANCHOR BOLTS, NUTS AND STUDS SHALL CONFORM TO THE PHYSICAL PROPERTIES OF ASTM-A325 EXCEPT THAT THE MINIMUM ELONGATION SHALL BE 10%.

ALL GUARDRAIL EMBEDDED ACCESSORIES AND TRANSVERSE TIE RODS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123 OR ASTM A153, AND CMS 711.02.

KEY WAYS TO BE SANDBLASTED PRIOR TO SHIPPING (WITHIN(4) DAYS OF SHIPMENT).

TOP OF BEAM FINISH TO BE TRANSVERSE BROOMED.

DETENTION STRANDS SYMMETRICALLY ABOUT CENTERLINE OF BEAM IN ACCORDANCE WITH STANDARD RECOGNIZED PRACTICES.

TRANSVERSE TIE RODS SHALL BE 1" DIAMETER STEEL ROD OF GRADE A311 G1018 STEEL.

CALCIUM NITRITE CORROSION INHIBITOR ADMIXTURE TO BE ADDED TO CONCRETE MIX AT THE RATE OF 4.0 GALLONS PER CUBIC YARD OF CONCRETE. W.R.GRACE D.C.I.

FURNISHED BY MARIETTA STRUCTURES

A	(14)	3/4" ø X 2'-5" SMOOTH DOWEL
B	(8)	1"ø X 7'-11" TIE RODS W/(2) NUTS AND (2) 1/2" X 4" X 4" R
C	(4)	1"ø X 6'-11" TIE RODS W/(2) NUTS AND (2) 1/2" X 4" X 4" R
D	(14)	6" X 6" X 1" PREFORMED JOINT FILLER
E	(28)	9" X 12" X 1" BEARING PADS
F	(8)	GALVANIZED GR POST TYPE 2
	(44LF)	STAINLESS STEEL DRIP STRIP
	(8)	STAINLESS STEEL DRIP STRIP X 12" LG

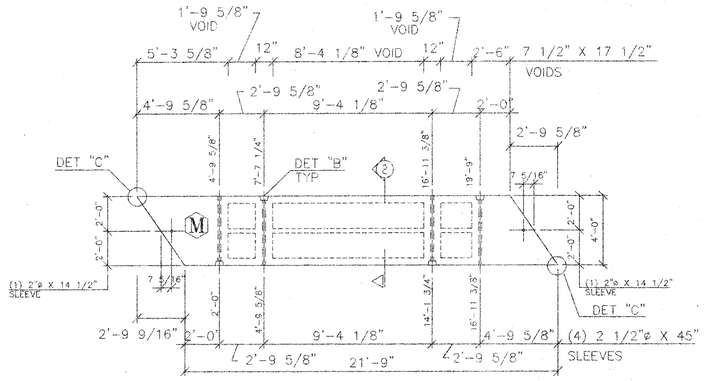
APPROVED OCT 2 3 '96

DATE	ISSUED TO	NO	DATE	ISSUED TO	NO	NO	DATE	DESCRIPTION OF REVISION	BY	NO	DATE	DESCRIPTION OF REVISION	BY

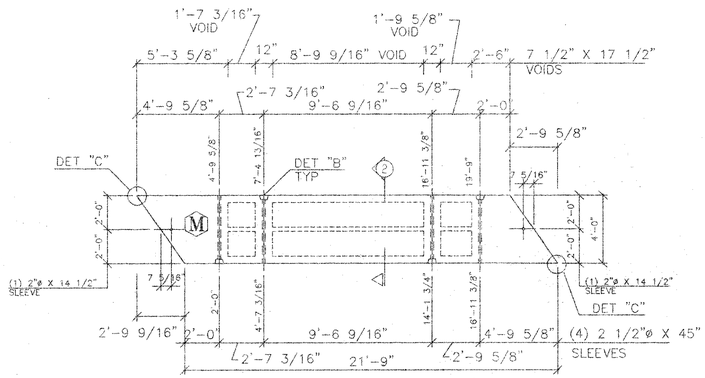
MARIETTA STRUCTURES

MARIETTA STRUCTURES CORP.
P.O.BOX 653, MARIETTA, OHIO 45750
PHONE 614/373-2400

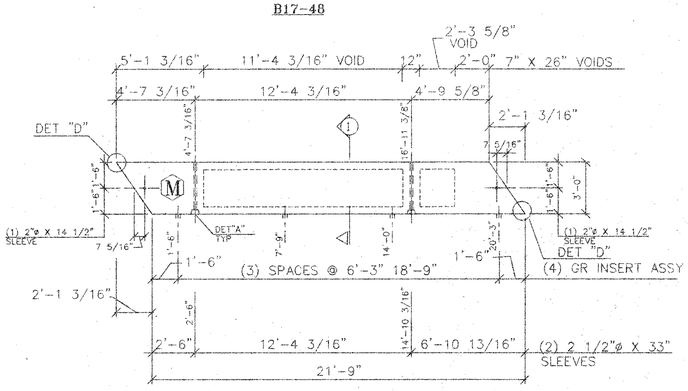
JOB:	ODOT 529-95 BRIDGE # ADA-348-0714	DRAWN BY:	DATE: 9/12/96
LOCATION:	ADAMS COUNTY OH	CHECKED BY: JS	DATE: 9/12/96
ARCHITECT:	ODOT DISTRICT #9	JOB:	824
CONTRACTOR:	ODOT DISTRICT #9	DWG NO:	REV
SHEET TITLE:	BRIDGE PLAN AND DETAILS	1 of 4	



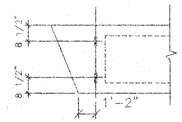
MK-3 VOL 3.8 cy
3 REQ'D WT 7.7 tons
B17-48



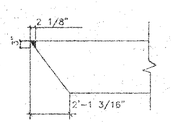
MK-2 VOL 3.8 cy
2 REQ'D WT 7.7 tons
B17-48



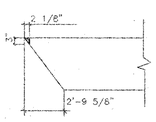
MK-1 VOL 2.8 cy
2 REQ'D WT 5.67 tons
B17-36



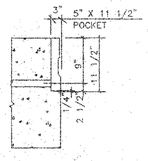
LIFTING DETAIL



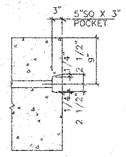
TYPICAL END NOTCH
DETAIL (D)
B17-36



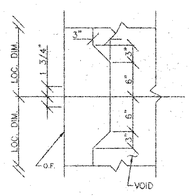
TYPICAL END NOTCH
DETAIL (C)
B17-48



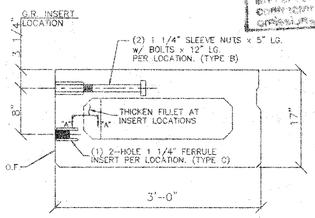
DETAIL "B"



DETAIL "A"



PLAN VIEW
VIEW "A-A"



SECTION (1)
B17-36

NOTE:
THE REMAINDER OF SECT (1) NOT DETAILED IS IDENTICAL TO SECT (2)

BILL OF MATERIALS

QUAN. PER PC.	MK-NO.	DESCRIPTION	TOTAL QUANTITY
		MK-1 (3) BEAMS	
1		7' X 26' VOID X 11'-4 3/16'	2
1		7' X 26' VOID X 2'-3 5/8'	2
4		5' VOID DRAINS	8
2		2" ø X 14 1/2" SLEEVES	4
2		2 1/2"' ø X 33" SLEEVES	4
8		TYPE 'B' GUARDRAIL INSERTS	16
4		TYPE 'C' GUARDRAIL INSERTS	8
		MK-2 (2) BEAMS	
2		7 1/2' X 17 1/2' VOID X 8'-9 3/16'	4
2		7 1/2' X 17 1/2' VOID X 1'-9 5/8'	4
2		7 1/2' X 17 1/2' VOID X 1'-7 3/16'	4
12		4 1/2' VOID DRAINS	24
2		2" ø X 14 1/2' SLEEVES	4
4		2 1/2"' ø X 45' SLEEVES	8
		MK-3 (3) BEAMS	
2		7 1/2' X 17 1/2' VOID X 8'-4 1/8'	6
4		7 1/2' X 17 1/2' VOID X 1'-9 5/8'	12
12		4 1/2' VOID DRAINS	36
2		2" ø X 14 1/2' SLEEVES	6
4		2 1/2"' ø X 45' SLEEVES	12

APPROVED OCT 29 '96 ODOT

DATE	ISSUED TO	NO	DATE	ISSUED TO	NO	NO	DATE	DESCRIPTION OF REVISION	BY	NO	DATE	DESCRIPTION OF REVISION	BY

MARIETTA STRUCTURES

MARIETTA STRUCTURES CORP.
P.O.BOX 653, MARIETTA, OHIO 45750
PHONE 614/373-2400

JOB:	ODOT 529-95 BRIDGE # ADA-348-0714	DRAWN BY:	GFM
LOCATION:	ADAMS COUNTY OH	DATE:	9/13/96
		CHECKED BY:	JS
ARCHITECT:	ODOT DISTRICT #9	DATE:	9/13/96
CONTRACTOR:	ODOT DISTRICT #9	JOB:	824
SHEET TITLE:	BRIDGE PLAN AND DETAILS	DWG NO: 2 of 4	REV

M&R-511
Rev. 1-78

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

PLAN FOR STRUCTURES

County Adams
S.R. 348
Section 00.00
Structure No. ADA-348-0714
Over Cedar Run

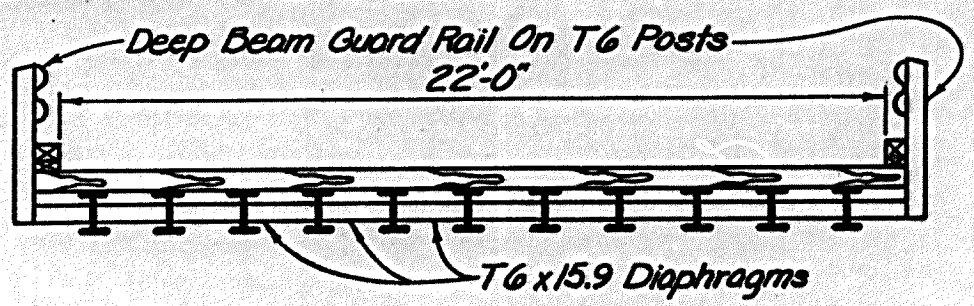
DESCRIPTION OF WORK REQUIRED

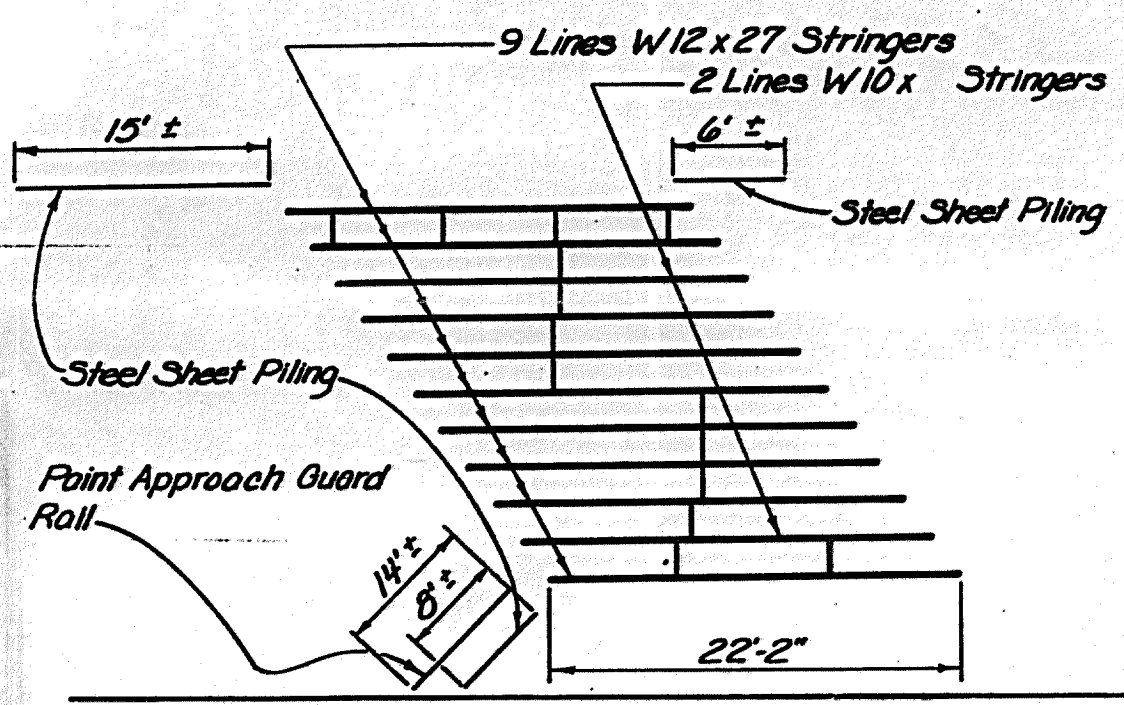
Details per Std. Dr. No.

Part 3

STRUCTURE DATA:

TYPE: Steel Beam Simple
LENGTH: 22'-2"
WIDTH: 22'-0"
RAIL: Deep Beam On T 6 Posts
[redacted] 6'-0" Grade To Stream Bed





ESTIMATED QUANTITIES

ITEM	UNIT	DESCRIPTION
514	Lump Sum	Field painting of existing steel - Surface preparation
514	Lump Sum	Field painting of existing steel - Full prime - System A
514	Lump Sum	Field painting of existing steel - Complete coat finish - System A

7/23

PLAN NO. BP- 3-86

MICROFILMED
FEB 28 1991

SFN 0104264

ADA-348-0714

11" 8.5" 8.5" 11"

REV. 8-1-79

DISTRICT 09

BRIDGE PAINTING
LOCATION AND GENERAL SUMMARY

PLAN NO. BP-3-86 (22/23)

LOCATION				GENERAL SUMMARY				
				ITEM 514 FIELD PAINTING OF EXISTING STEEL				
PART	COUNTY, ROUTE & BRIDGE NO.	CITY	VILLAGE	SURFACE PREPARATION	SPOT PRIME	SYSTEM A/SYSTEM B COMPLETE COAT PRIME	SYSTEM A/SYSTEM B COMPLETE COAT FINISH	REMARKS
1	ADA-348-0489			Lump Sum		Lump Sum	Lump Sum	
2	ADA-348-0502			Lump Sum		Lump Sum	Lump Sum	
3	ADA-348-0714			Lump Sum		Lump Sum	Lump Sum	
4	BRO-131-0328			Lump Sum	Lump Sum		Lump Sum	
5	BRO-353-0126			Lump Sum		Lump Sum	Lump Sum	
6	BRO-353-0278			Lump Sum		Lump Sum	Lump Sum	
7	BRO-763-0423			Lump Sum		Lump Sum	Lump Sum	
8	HIG-62-1739			Lump Sum		Lump Sum	Lump Sum	As Per Plan
9	HIG-321-0620			Lump Sum	Lump Sum		Lump Sum	
10	PIK-23-0618 R			Lump Sum	Lump Sum		Lump Sum	
11	PIK-23-1034 R			Lump Sum		Lump Sum	Lump Sum	
12	PIK-32-1774			Lump Sum		Lump Sum	Lump Sum	
13	PIK-124-0747			Lump Sum	Lump Sum		Lump Sum	
14	PIK-772-1025			Lump Sum		Lump Sum	Lump Sum	

~~814 MAINTAINING TRAFFIC ... LUMP SUM~~

~~824 MOBILIZATION ... LUMP SUM~~

STATE OF OHIO - DEPT. OF HIGHWAYS
BUREAU OF BRIDGES

STEEL BEAM AND GIRDER BRIDGES

DATE 6-6-61

OHIO-BR. ACME 1-799-8

TYPE OF BRIDGE: Steel Beam (8026) 8/58 | NO. OF SPANS: 1 | ENCASED OR GUNITED: | DATE BUILT: Superst. 1960 M&R

APPROX. SAFE LOAD CAPACITY OF STRUCTURE: S-16.2 (16t 6%) 4" W.S. | OF FLOOR SYSTEM:

CLEAR SPAN	LENGTH OUT TO OUT OF FLOOR	WIDTH BETWEEN CURBS OR FELLOE GUARDS	WIDTH OUT TO OUT OF SUPERSTRUCTURE	WIDTH OF SIDEWALKS	HEIGHT OF FLOOR ABOVE BRIDGE SEAT	PROVISION FOR EXPANSION: ROLLER NEST	ROCKERS	SLIDING
18'-8 3/8"	22'-2 1/2"	22'-0 5/8"	23'-4 7/8"	—	1'-7"			✓

TYPE AND SIZE OF RAILING OR HUB GUARD: Steel Beam Deep on 6" T Post | TYPE AND SIZE OF CURB OR FELLOE GUARD: 8"x6" Creo. on 4"x8" Risers

DESCRIPTION OF FLOOR DRAINAGE: —

ALIGNMENT AND SKEW OF STRUCTURE: Tan 35° R.F. | APPROACH SLABS: | LENGTH:

STREAM: Cedar Run | HEIGHT FROM GRADE TO STREAM BED: 6.2' | HEIGHT FROM GRADE TO HIGH WATER:

CHANNEL CHARACTERISTICS: APPROX. WIDTH BETWEEN BANKS: 20' | CHANNEL DEPTH: 4' | NATURE OF BOTTOM: Gravel & Mud

CONDITION OF BANKS: Brushy | ALIGNMENT OF STREAM ABOVE AND BELOW STRUCTURE: 80° F. Above, 60° R. Below

SKEW OF NORMAL FLOW: Same | SKEW OF FLOOD FLOW: 30° F. Above, 30° R. Below

BEAM SPANS

STD. DRAWING NO.

LENGTH C. TO C. OF END BEARINGS	20'-6"	SHAPE AND SIZE OF INSIDE BEAMS	9 - 12"x6 1/2" WF @ 27#
LENGTH OVER ALL	22'-2 3/8"	SHAPE AND SIZE OF OUTSIDE BEAMS	2 - 12"x6 1/2" WF @ 27#
SPACING OF BEAMS	2'-0"		

PLATE GIRDER

STD. DRAWING NO.

LENGTH C. TO C. OF END PINS OR BEARINGS		FLANGE SECTION AT CENTER: TOP	
LENGTH OVER ALL		FLANGE SECTION AT CENTER: BOTTOM	
HEIGHT BACK TO BACK OF ANGLES		SIZE AND SPACING OF RIVETS IN BOTTOM FLANGE AT CENTER	
WEB THICKNESS			

INTERMEDIATE FLOOR BEAMS

NO. AND SPACING:

SECTION:

CONNECTIONS: NO. & SIZE RIVETS F.B. TO CONN.:

CONNECTIONS: NO. & SIZE RIVETS CONN. TO GIRDER:

END FLOOR BEAMS

FLOOR ~~JOISTS~~ Diaphragms

KIND	NO. LINES	SIZE	WIDTH OF FLANGE	THICKNESS OF WEB	SPACING
I BEAMS	Inside	8 - 6" T @ 15.9#			6'-6" ±
CHANNELS	Outside	8 - 6" T @ 15.9# 4 ea. side			6'-6" ±
WOOD		SIZE, TREATMENT, SPECIES			

DO JOISTS REST ON TOP OF FLOOR BEAMS? | HOW FRAMED TO FLOOR BEAMS?

ARE SHELF ANGLES USED? | END JOISTS - LENGTH | SUPPORTS

FLOOR

REINFORCED CONCRETE SLAB: | INCHES THICK | CONCRETE | INCHES THICK ON CORRUGATED ARCHES OR BUCKLE PLATES

WEARING SURFACE TYPE: Bituminous | THICKNESS: 2" | PLANK SIZE, TREATMENT, SPECIES

STRIP SIZE, TREATMENT, SPECIES: 6" Creo. Pine (1960) | HOW FASTENED TO JOISTS: Steel Floor Clips

SUB-STRUCTURE

STD. DRAWING NO.

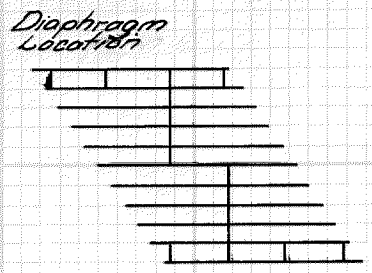
ABUTMENTS AND PIERS	MATERIAL	TYPE	HEIGHT FOOTER TO BRIDGE SEAT	WIDTH OF BRIDGE SEAT	LENGTH OF BRIDGE SEAT	FOUNDATIONS (PILING)	WINGS (LENGTHS, ANGLES ETC.)
REAR	Conc.	Gravity		1'-5"	32'		1'-9" @ 0°, 4'-0" @ 0°
FORWARD	Conc.	"		1'-5"	32'		1'-9" @ 0°, 3'-3" @ 0° & 15'-10" @ 45°
PIER							
PIER							

BRIDGE NO.	COUNTY	ROUTE NO.	S. H. NO.	SECTION	STRENGTH: H10	H12	H15	H20	ROADWAY: 15-18	19-22	23 +	CLEARANCE: 12	12-14	14 +	OPEN	TYPE: A	B	G	S	T
ADA 348-0709	Adams	348					■				■				■		2			

ADA-348 0703 | Adams | 348 | | | | | | | | 2

COUNTY | ROUTE NO. | S. R. NO. | SECTION | STRENGTH | ROADWAY | CLEARANCE | TYPE

SKETCH OF STRUCTURE SHOWING DIMENSIONS

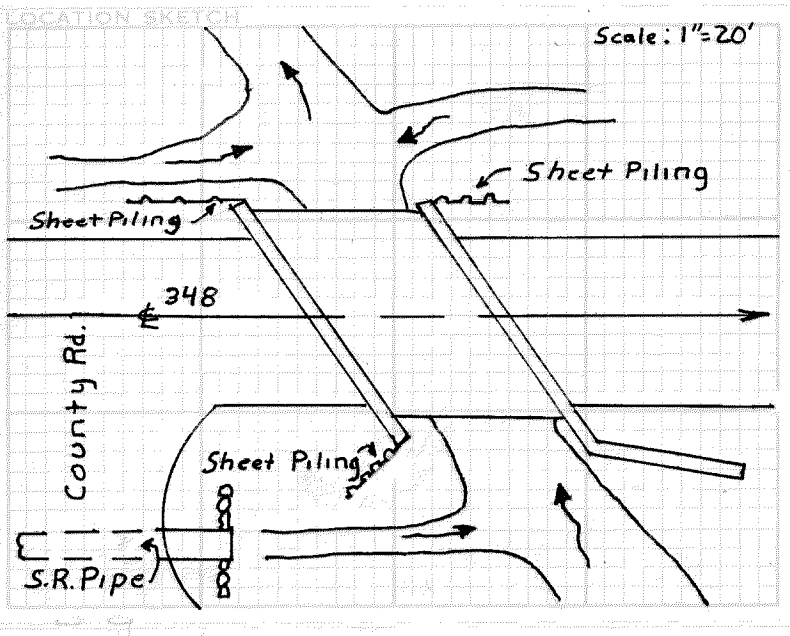


RESPONSIBILITY--AUTHORITY

INSPECTION - - State of Ohio - Sec. 5501.23RC.

MAINTENANCE - State of Ohio - Sec. 5501.02RC.

LOCATION SKETCH



REMARKS:

NEW SUPERSTRUCTURE BY M&E FORCES 1960

4.7 TON EST. WT.

PAINTED 1964 WT. 4.7 PROJ. 230

Painted 1978 Proj. 404 (20)
Painted 1981 Proj 381 (81) Carbomastic 15.

Painted 1986 Proj # 314-86 System A
Contractor - Atlantic Painting

DRAINAGE AREA = 949.52 Acres Q_{25} = 723 cfs Q_{100} = 1046 cfs

9-17-90 GREG BAIRD

STATE OF OHIO - DEPT. OF HIGHWAYS
BUREAU OF BRIDGES

STEEL BEAM AND GIRDER BRIDGES

DATE 6-6-61

SR. ACMS 15799-8

TYPE OF BRIDGE: Steel Beam (80% 8/58) | NO. OF SPANS: 1 | ENCASED OR GUNITED: | DATE BUILT: Superst. 1960 M&R

APPROX. SAFE LOAD CAPACITY OF STRUCTURE: S-16.2 (~~H-20~~) 4" W.S. | OF FLOOR SYSTEM:

CLEAR SPAN	LENGTH OUT TO OUT OF FLOOR	WIDTH BETWEEN ~~CURBS~~ OR FELLOE GUARDS	WIDTH OUT TO OUT OF SUPERSTRUCTURE	WIDTH OF SIDEWALKS	HEIGHT OF FLOOR ABOVE BRIDGE SEAT	PROVISION FOR EXPANSION: ROLLER NEST / ROCKERS / SLIDING
18'-8 3/8"	22'-2 1/2"	22'-0 5/8"	23'-4 7/8"	—	1'-7"	✓

TYPE AND SIZE OF RAILING OR HUB GUARD: Steel Beam Deep on 6" T Post | TYPE AND SIZE OF CURB OR FELLOE GUARD: 8"x6" Creo. on 4"x8" Risers

DESCRIPTION OF FLOOR DRAINAGE: —

ALIGNMENT AND SKEW OF STRUCTURE: Tan 35° R.F. | APPROACH SLABS | LENGTH

STREAM: Cedar Run | HEIGHT FROM GRADE TO STREAM BED: 6.2' | HEIGHT FROM GRADE TO HIGH WATER

CHANNEL CHARACTERISTICS | APPROX. WIDTH BETWEEN BANKS: 20' | CHANNEL DEPTH: 4' | NATURE OF BOTTOM: Gravel & Mud

CONDITION OF BANKS: Brushy | ALIGNMENT OF STREAM ABOVE AND BELOW STRUCTURE: 80° F. Above, 60° R. Below

SKEW OF NORMAL FLOW: Same | SKEW OF FLOOD FLOW: 30° F. Above, 30° R. Below

BEAM SPANS

STD. DRAWING NO.

LENGTH C. TO C. OF END BEARINGS	20'-6"	SHAPE AND SIZE OF INSIDE BEAMS	9 - 12"x6 1/2" WF @ 27#
LENGTH OVER ALL	22'-2 3/8"	SHAPE AND SIZE OF OUTSIDE BEAMS	2 - 12"x6 1/2" WF @ 27#
SPACING OF BEAMS	2'-0"		

PLATE GIRDER

STD. DRAWING NO.

LENGTH C. TO C. OF END PINS OR BEARINGS		FLANGE SECTION AT CENTER — TOP	
LENGTH OVER ALL		FLANGE SECTION AT CENTER — BOTTOM	
HEIGHT BACK TO BACK OF ANGLES		SIZE AND SPACING OF RIVETS IN BOTTOM FLANGE AT CENTER	
WEB THICKNESS			

INTERMEDIATE FLOOR BEAMS

END FLOOR BEAMS

NO. AND SPACING

SECTION

CONNECTIONS: NO. & SIZE RIVETS F.B. TO CONN. | NO. & SIZE RIVETS CONN. TO GIRDER

FLOOR ~~JOISTS~~ Diaphragms

KIND	NO. LINES	SIZE	WIDTH OF FLANGE	THICKNESS OF WEB	SPACING
~~I-BEAMS~~	Inside	8 - 6" T @ 15.9#			6'-6" ±
CHANNELS	Outside	8 - 6" T @ 15.9# 4 ea. side			6'-6" ±
WOOD		SIZE, TREATMENT, SPECIES			

DO JOISTS REST ON TOP OF FLOOR BEAMS? | HOW FRAMED TO FLOOR BEAMS?

ARE SHELF ANGLES USED? | END JOISTS - LENGTH | SUPPORTS

FLOOR

REINFORCED CONCRETE SLAB | INCHES THICK | CONCRETE | INCHES THICK ON CORRUGATED ARCHES OR BUCKLE PLATES

WEARING SURFACE TYPE: Bituminous | THICKNESS: 2" | PLANK SIZE, TREATMENT, SPECIES

STRIP SIZE, TREATMENT, SPECIES: 6" Creo. Pine (1960) | HOW FASTENED TO JOISTS: Steel Floor Clips

SUB-STRUCTURE

STD. DRAWING NO.

ABUTMENTS AND PIERS	MATERIAL	TYPE	HEIGHT FOOTER TO BRIDGE SEAT	WIDTH OF BRIDGE SEAT	LENGTH OF BRIDGE SEAT	FOUNDATIONS (PILING)	WINGS (LENGTHS, ANGLES ETC.)
REAR	Conc.	Gravity		1'-5"	32'		1'-9" @ 0°, 4'-0" @ 0°
FORWARD	Conc.	"		1'-5"	32'		1'-9" @ 0°, 3'-3" @ 0° & 15'-10" @ 45°
PIER							
PIER							

BRIDGE NO.	COUNTY	ROUTE NO.	S. H. NO.	SECTION	STRENGTH H10 / H12 / H15 / H20	ROADWAY 18-18 / 19-22 / 23+	CLEARANCE 12 / 12-14 / 14+ / OPEN	TYPE A / B / G / S / T
ADA-348-0714	Adams	348			H15	19-22	OPEN	B: 2

Project Location: Adams 348-07.14

The Road will be closed

Scheduled date: 16 thru 27 June 97
Number of days: 10 days Employees hours: 70

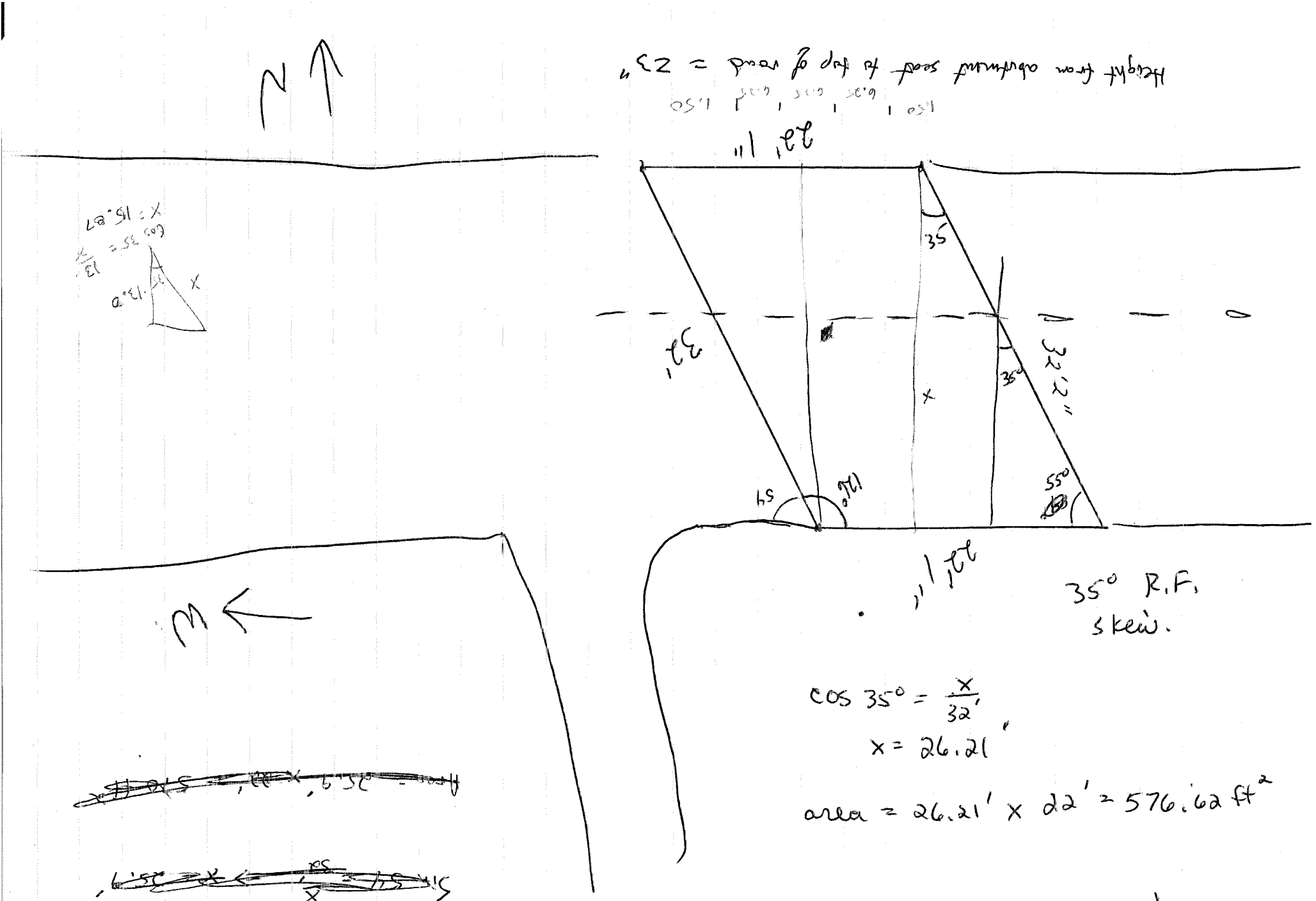
Description: Rehab this bridge structure by replacing the superstructure with concrete beams.

Actual start date:
Actual finish date:

Equipment needs:	Scheduled? Yes/no
Trackhoe	yes Koe. T-hoe
Crane	yes by vendor (to set beams)
Torches	yes @ county garage
Tool Truck	yes @ county garage
Lowboy to haul steel beams away	
Dumptrucks to haul waste asphalt,etc.	yes @ county garage
Concrete saw	

Qty	Material Needs	Status	Special Instruct.
1	concrete beams, 21' 9" x 26'	stored@plant	setup delivery
1	waterproof material	P.O. in system	LU M Materials
20	set 45	district	grout
180 ft	guardrail	district	
72 ft	tubular guardrail	district	
15 ton	asphalt	county P.O.	wearing surface
52 ft	Joint material/blackboard	district	
	grass seed		county
	straw		county

This job is complete 6/24/97
the rail will be finished by contract



ADA 348 - 0714

Proposed Dimensions

OHIO DEPARTMENT OF TRANSPORTATION

PURCHASE ORDER

DOC TYPE: ☐ COM ☐ POR ☐ CNT ☒ ORD
ACTION CODE: ☒ ENTER ☐ CANCEL ☐ MODIFY
TYPE CODE: 02

P.O. NO DATE: 078706 06/17/96
REQUISITION NO: 083466

CONTRACT/BID/CIH	EXPIRATION DATE	GDC #	CONTROL BD. NO.	RELEASE/PERMIT NO.
DOT52996	06/29/96			

VENDOR NO.	ADD CD	JOURNAL ENTRY - VOL. PG.	+/-	TOTAL AMOUNT
311133140	01			26,700.00

VENDOR NAME AND ADDRESS:
MARIETTA STRUCTURE CORP
PO BOX 653
MARIETTA OH
45750
614-373-2400 MBE= N

Jeff Ekern

VENDOR CONTACT PERSON/PHONE NO.: TROY HUFF, ABE

DELIVERY REQUIRED (DATE/ARO): 8/12/96
PRE-APPROVAL ID:
COUNTY: ADA
TERMS: 30 DAYS

BILL TO:
ODOT, DISTRICT 9
C/O NEIL COUNTRYMAN, AUDITOR
P.O. BOX 467
CHILLICOTHE, OHIO 45601

SHIP TO:
F.O.B. DEST. ADA-348-0714, LOCATED 7.14 MILES EAST OF S.R. 125.

INVOICES MUST INCLUDE "SHIP TO" - NAME AND ROOM NUMBER.

LINE	FUND	YEAR	ARC	SAC	SRC	RCAT	ACTY	OBJECT	SUB OBJECT	CODE	LINE AMOUNT	JOB NUMBER
01	002	96	1773	4312	0009	0061		262			26,700.00	
LINE	FUND	YEAR	ARC	SAC	SRC	RCAT	ACTY	OBJECT	SUB OBJECT	CODE	LINE AMOUNT	JOB NUMBER

ITEM	QUANTITY	UNIT	CLASS, ITEM, SPECIFICATION NUMBER AND DESCRIPTION	UNIT PRICE	AMOUNT
01	1	LUMP	210 16 00 0000 PRESTRESSED CONCRETE BOX BEAMS CONCRETE BEAMS, PRESTRESSED, B17-48 AND B17-36, 21'-9" O/O SPAN BY 26'-0" O/O ROADWAY WIDTH, 35 DEGREE R.F. SKEW, AND RELATED HARDWARE AS PER THE ATTACHED SPECIFICATIONS AND DRAWINGS. VENDOR WILL BE REQUIRED TO FABRICATE, DELIVER, AND SET BEAMS WITH CRANE ON ODOT PREPARED ABUTMENTS. BEAMS SHALL BE FABRICATED, TESTED AND READY FOR DELIVERY BY SEPTEMBER 15, 1996. TESTING REQUIREMENTS: TE-24 FOR CONCRETE BEAMS AND STAINLESS STEEEL DRIP STRIP. ELASTOMERIC BEARING PADS AS PER "CMS" 711.23. TYPE 2 POST AS PROPOSAL NOTE 540.	26,700.00	26,700.

I HEREBY CERTIFY THAT THERE IS A BALANCE IN THE APPROPRIATION NOT OTHERWISE OBLIGATED TO PAY PRECEDENT OBLIGATIONS, PURSUANT TO WHICH THE OBLIGATION DETAILED ABOVE IS TO BE PAID

R. GREGORY BROWNING
DIRECTOR OF OFFICE OF BUDGET AND MANAGEMENT

THE DEPARTMENT OF ADMINISTRATIVE SERVICES, STATE PURCHASING, HEREBY AUTHORIZE USE OF THE ABOVE CONTRACT FOR THE PURCHASE.

STEPHEN A. HUNTER
ADMINISTRATOR OF STATE PURCHASING

WE HEREBY CERTIFY THAT THE GOODS OR SERVICES SPECIFIED ABOVE ARE NECESSARY FOR OUR USE.

DIRECTOR, OHIO DEPARTMENT OF TRANSPORTATION

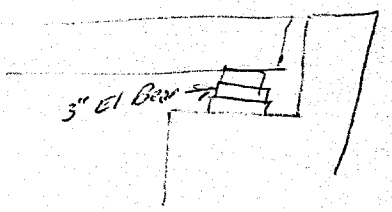
NOTICE TO SUPPLIER
1. PURCHASE ORDER NUMBER MUST BE PLAINLY MARKED ON ALL PACKAGES AND PAPERS.
2. SUBMIT SEPARATE INVOICE IN QUADRUPLICATE TO CONSIGNEE FOR EACH ORDER, PROMPTLY AFTER EACH SHIPMENT.
3. PRICES QUOTED ARE FIRM. OTHER THAN AS PROVIDED IN THE INVITATION TO BID, INCREASES ARE NOT AUTHORIZED AND WILL NOT BE PAID.
4. REJECTED GOODS SHALL REMAIN VENDORS PROPERTY.

DISTRIBUTION:
ORIGINAL - VENDOR
COPY - ACCOUNTING
COPY - PURCHASING

Material Quantities

Vendor shall be required to fabricate and supply the following items which will be included in the lump sum bid price:

5 each - Prestressed concrete box beam, B17-48, non-composite.
2 each - Prestressed concrete box beam, B17-36, non-composite.
14 each - 3/4" diam. by 34" long dowel bar.
14 each - Preformed expansion joint filler (PEJF), 6"x6"x 1" thick.
28 each - Elastomeric bearing pad, 9"x12"x 1" thick, as per "CMS" 516.
8 each - Galvanized steel bridge post, Type 2, as per "CMS" 517.03.
8 each - Stainless steel drip strip, 12" long.
16 linear feet - Stainless steel drip strip.



Lump sum price bid shall also include delivery of beams, crane and labor to set beams, and all other hardware and incidentals to complete the work as specified.

Delivery

Beams and all other incidentals shall be fabricated, tested and ready for delivery by September 15, 1996.

Vendor shall set beams in one day. Delivery shall be coordinated with ODOT contact.

Delivery location for beams shall be Ada-348-07.14, located in Adams County, 7.14 miles north of S.R. 125.

General

All questions involving design and delivery of beams shall be directed to the following designee:

ODOT contact: Troy Huff, P.E. (614) 773-2691 Ext. 276

JTH
(c348l0714.wpd)
1996

Additional specification reference: ODOT "Construction and Material Specification" (CMS) date 1995.

Concrete Beam Design Data:

Design Loading: HS 20-44 and Alternate Military Loading

Concrete Class "C": Compressive Strength: 4000 P.S.I. (Substructure)

Concrete Class "S": Minimum compressive strength = 4500 P.S.I. (Superstructure)

Reinforcing Steel: ASTM A615, A616, or A617-Grade 60, minimum yield strength 60,000 P.S.I.. Grade 40, maximum yield strength 40,000 P.S.I. may be used in box beams.

Concrete for Prestressed Beams: Unit Stress 2200 P.S.I. Compression, 445 P.S.I. Tension

Prestressing Strand: ASTM A416 - 1/2" diameter, seven wire, uncoated, stress-relieved strand. F's = 270,000 P.S.I., Initial stress = 0.70 F's

The key on the outside of the two facia beams shall be omitted.

The end of each beam shall have a 2" diameter hole the full depth of beam for anchor dowels. This hole shall be located 6" from end of beam and centered on centerline of beam.

Anchors shall be provided in the facia beams as per standard drawing DBR-2-73 for deep beam railing with steel tubular backup. Type 2 post shall be fabricated so that the distance from center of rail to top of asphalt concrete will be 1'-9". Slotted holes should be provided in post to allow for adjustment.

Steel Drip Strip: Drip strip shall be 22 gauge stainless steel. ASTM A167, type 304.

Elastomeric Bearings: shall comply with 516 and Articles 182.5 through 182.8 of section, Bearing Devices. Division II Construction of the AASHTO Standard Specifications for Highway Bridges. Bearings shall be Grade 3, 50 Durometer, Elastomer, and shall be subjected to the load testing requirements corresponding to design method. Testing shall be included in the lump sum bid price.

Quality Assurance

Vendor shall submit 2 sets of shop drawing of the prestressed concrete beams to the ODOT designee for approval before fabrication. Drawings shall include locations of guardrail anchor locations.

Vendor shall supply TE-24 documents for the concrete beams, stainless steel drip strips, and all other necessary hardware.

Testing data for elastomeric bearing pads shall be as per "CMS" 711.23.

Testing requirements for the Type 2 post shall be as per the attached Proposal Note 540.

ADA-348-0714
Concrete Beam Specifications

This work shall consist of fabricating, delivering, and setting a non-composite prestressed concrete beam superstructure as specified below and per the attached detail sheets.

Scope of Work

Vendor shall fabricate five each B17-48 and two each B17-36 non-composite prestressed concrete beams as per the attached Standard Drawing PSBD-1-81. Beams shall be provided with anchors, bolts and nuts for galvanized steel bridge post, Type 2 and with 2" diam. holes for anchor dowels. Vendor will be required to deliver and set beams on existing ODOT prepared abutments. Vendor shall supply elastomeric bearing pads to set beams on. ODOT field crews will erect drip strips and Type 2 guardrail post.

Proposed Structure Data

Type:	Prestressed B17-48 and B17-36 non-composite concrete box beam on existing concrete substructure.
Span:	21'-9" out-to-out Brg.
Roadway:	26'-0" out-to-out Deck.
Loading:	HS 20-44 and the alternate military loading.
Skew:	35 degrees R.F.
Wearing Surface:	2 1/2" (min.) Asphalt concrete
Alignment:	Tangent.
Crown:	n/a

General Notes

Reference shall be made to Standard Drawings:

Drawing No.	Sheet	Date
DBR-2-73	1	04-10-73
PSBD-1-81	1,2,3, &4	06-20-89

Design Specifications: This structure conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway and Transportation Officials, 1992, and the Ohio "Supplement" to these specifications.

It will be the fabricator's responsibility to design the beams for required strength and camber.

4-29-96

Suggested Bidders For

PRESTRESSED BOX BEAMS

Prestressed Services Inc.
P.O. Box 111
Decatur, IN 46733
(219) 724-7117

Top Roc Precast Corp.
2210 Manchester Road
Erie, PA 16506
(814) 838-2011

United Precast Inc.
Round House Lane
P.O. Box 991
Mt. Vernon, OH 43050
(614) 393-1121

Marietta Structures Corp.
P.O. Box 653
Marietta, OH 45750
(614) 373-2400

Sidley Precast
6900 Madison Rd.
P.O. Box 70
Thompson, OH 44086
(216) 298-3232

American Precast Concrete Inc.
1030 South Kitley Ave.
Indianapolis, IN 46203
(317) 353-2118

Post-It™ brand fax transmittal memo 7671 | # of pages ▸

To Terry Huff	From Jim Lambert
Co.	Co.
Dept. D-9	Phone # C.O.
Fax #	Fax #

Proposal Note 540

**516,517 AND 518 - FABRICATED MEMBERS - 01/04/93

Unless specifically waived by a plan note, all 516, 517, or 518 items shall meet the requirements of their specific section of the Construction and Material Specifications with the following modifications:

The Contractor shall submit a letter of request for fabricator approval directly to:

Office of Structural Engineering
Structural Steel Engineer
Ohio Department of Transportation
25 South Front Street
Columbus, Ohio 43215

The Structural Steel Engineer shall be responsible for approval of the fabricator based on specification requirements. Copies of the letter of approval shall be forwarded to the Project Engineer, District Construction Engineer, Central Office Construction Engineer and the Contractor.

Submittal, checking, review and approval of the fabricator's shop drawings are not required prior to fabrication. Fabrication of the steel commences anytime after approval of the fabricator.

518 items do not require inspection at the approved fabricator's shop. The approved fabricator of any 516 and 517 items shall notify the Structural Steel Engineer when fabrication is complete and ready for inspection. The Structural Steel Engineer will schedule the inspection and notify the fabricator based on the following criteria:

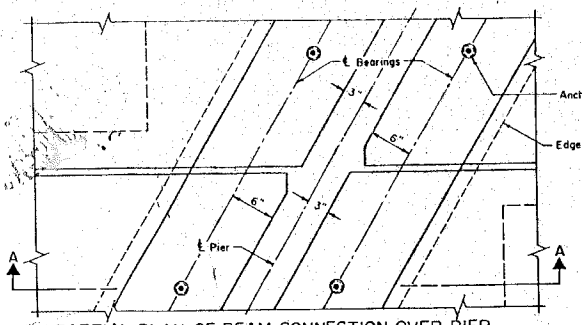
Fabricator's physical distance from Columbus, Ohio	**Number of Work Days until inspections**
0-240 @ (O - 150 miles)	0 to 3 days
240-480 km (1 50 - 300 miles)	0 to 4 days
480+ km (300 + miles)	0 to 5 days

ODOT inspection will be performed based on two (2) sets of the fabricator's shop drawing, supplied to the inspector.

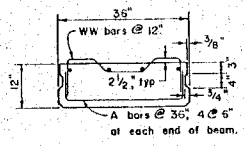
Fabricated material shipped to the jobsite shall be accompanied by a complete set of shop drawings and a letter of certification, in a format approved by ODOT, stating all materials conform to contract requirements. For all fabricated steel, test data, mill shipping notices and invoices, as per 501.07, complete traceability to the producing mill and proof of domestic origin, as per ORC 153.01 1, shall be retained by the fabricator, per project, for a period of three (3) years to support the letter of certification.

Final acceptance of all fabricated materials under this proposal will be based on the Engineer's approval that the fabricated items both conform to the shop drawings and can be property incorporated into the work.

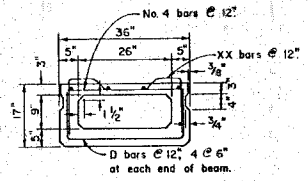
After completion of the fabrication and approval process the Contractor is responsible for submittal of microfilmed 'as built' shop drawings as per 501.05.



PARTIAL PLAN OF BEAM CONNECTION OVER PIER

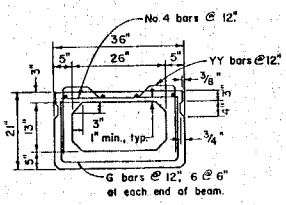


CB 12-36

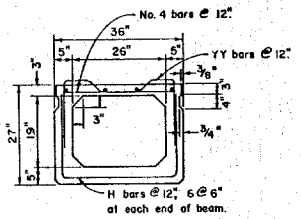


CB17-36

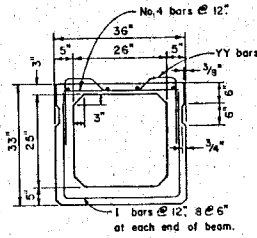
NOTE:
Reinforcing bar data and notes are shown on Sheet 3 of 4.



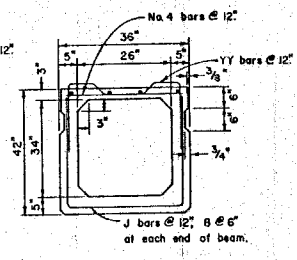
CB 21-36



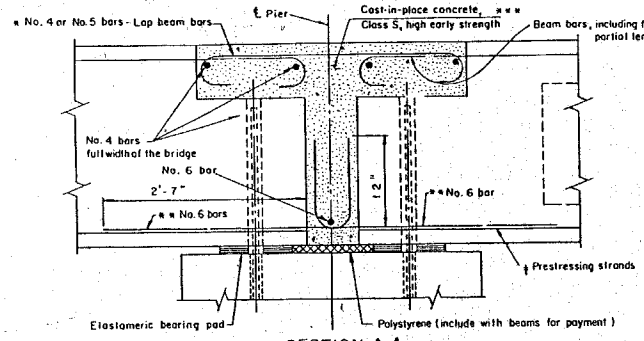
CB 27-36



CB 33-36



CB 42-36



SECTION A-A

* Lap bars same size and number as beam bars. Hooks may be rotated from the vertical position to provide the required clearance.

** Provide 6 No. 6 bars each beam end in 48" wide beams and 4 No. 6 bars each beam end in 36" wide beams. No. 6 bars shall be located on top of stirrups and shall be uniformly spaced across the beam.

† At the fabricator's option, strands may be extended and bent up in lieu of No. 6 bars. 48" wide beams with a total of 12 or more strands shall have a minimum of 6 strands bent up. 48" wide beams with less than 12 strands total shall have approximately one half of the total number of strands bent up. 36" wide beams with a total of 8 or more strands shall have a minimum of 4 strands bent up. 36" wide beams with less than 8 strands total shall have approximately one half of the total number of strands bent up.

*** The high early strength requirement for the Class S concrete may be waived at the option of the Contractor.

Note: The No. 6 bars or prestressing strands which are bent up shall be staggered in abutting beam ends to avoid interference.

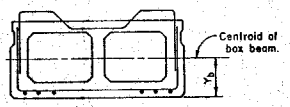
SECTION PROPERTIES
48" WIDE COMPOSITE BOX BEAM

		CB12-48	CB17-48	CB21-48	CB27-48	CB33-48	CB42-48
Beam Only	A_b	567.8	484.3	536.3	583.8	638.5	728.5
	I_b	6,850	16,778	29,287	55,803	92,599	169,500
	Y_b	5.97	7.92	9.75	12.16	14.84	18.99
	Z_t	1,136	1,848	2,603	3,760	5,099	7,366
	Z_b	1,147	2,118	3,004	4,589	6,240	8,926
Composite Section	I_c	15,657	32,702	52,549	93,991	148,318	257,446
	Y_t	7.85	10.84	12.99	16.02	19.15	23.80
	Z_t	3,773	5,313	6,561	8,560	10,709	14,149
	Z_b	1,994	3,015	4,045	5,867	7,745	10,815

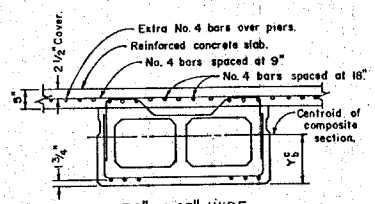
SECTION PROPERTIES
36" WIDE COMPOSITE BOX BEAM

		CB12-36	CB17-36	CB21-36	CB27-36	CB33-36	CB42-36
Beam Only	A_b	423.9	374.3	427.9	487.9	542.6	632.6
	I_b	5,104	12,554	22,526	43,593	73,194	136,197
	Y_b	5.97	7.81	9.65	12.39	15.12	19.36
	Z_t	846	1,370	1,985	2,984	4,094	6,016
	Z_b	855	1,613	2,334	3,518	4,841	7,035
Composite Section	I_c	11,677	24,830	40,430	72,014	114,697	201,661
	Y_t	7.85	10.68	12.75	15.88	18.96	23.55
	Z_t	2,814	3,931	4,901	6,476	8,169	10,930
	Z_b	1,487	2,325	3,171	4,535	6,049	8,563

36" WIDE COMPOSITE BEAMS



36" or 48" WIDE COMPOSITE BEAM



36" or 48" WIDE COMPOSITE BEAM WITH SLAB

Section properties for composite sections are computed with a slab thickness of 4". Total thickness of slab is 5" which includes 1" monolithic wearing surface

Slab concrete is Class S concrete: f'_c = 4500 psi
Minimum beam concrete strength at 28 days: f'_c = 5500 psi

$\frac{E_{slab}}{E_{beam}}$ = 0.90

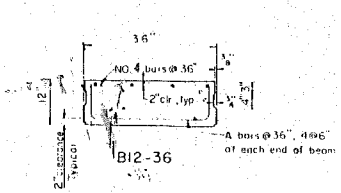
REVISIONS
5-1-89
6-20-89

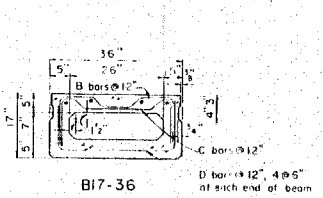
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

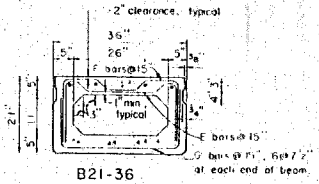
STANDARD

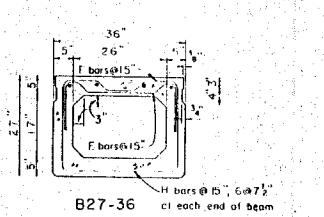
PRESTRESSED CONCRETE BOX BEAM BRIDGE DETAILS

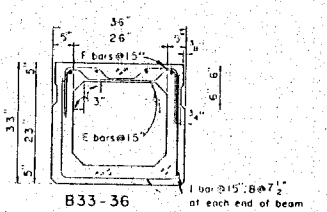
APPROVED:				DRAWING NO.
DATE	ENGINEER OF BRIDGES			PSBD-1-8
PREPARED	TRACED	CHECKED	REVIEWED	SHEET NO. 4 OF 4 SHEETS
MRG	G.F.J. MJB		WJJ	

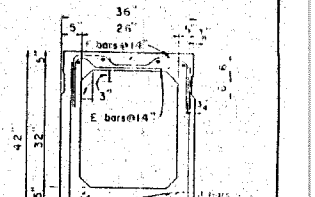






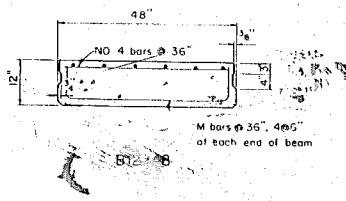


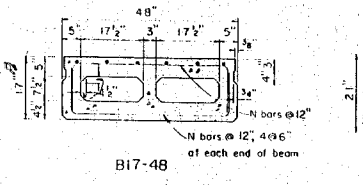


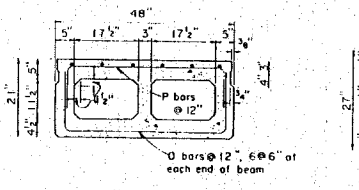


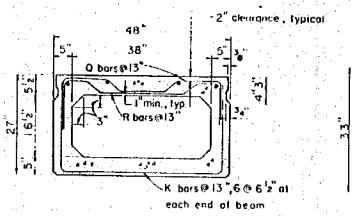
NOTE: Place all bottom stirrups on top of bottom layer of strands.

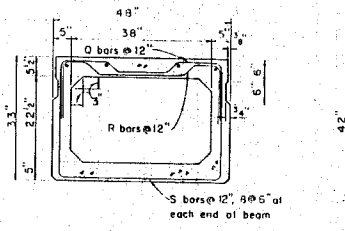
36" WIDE NON-COMPOSITE BEAMS

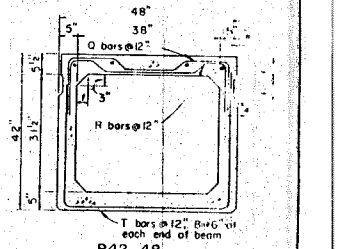




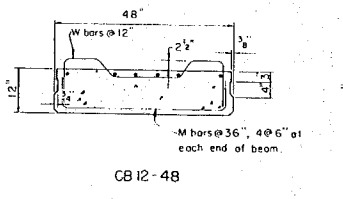


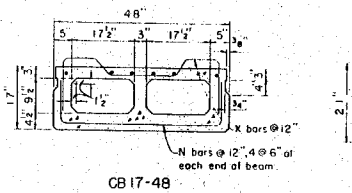


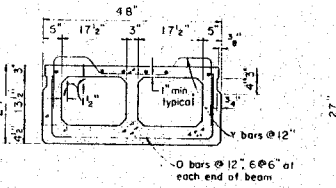


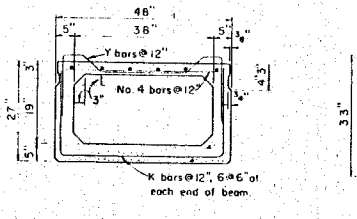


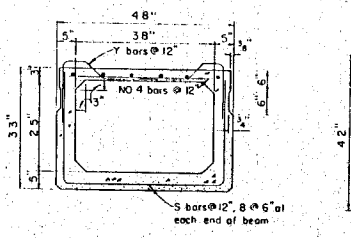
48" WIDE NON-COMPOSITE BEAMS

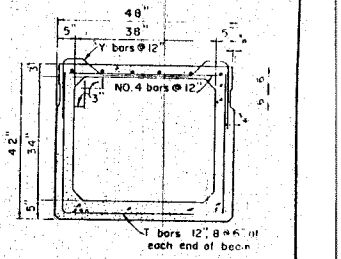










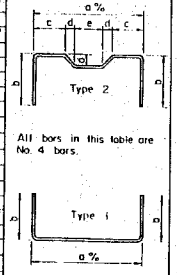


48" WIDE COMPOSITE BEAMS

Bent Reinforcing Bars

Mark	Type	a	b	c	d	e
A	1	31"	8"			
B	2	31"	13"	10"	1½"	8"
C	2	31"	13"	4"	1½"	20"
D	1	31"	13"			
E	2	31"	14"	4"	1½"	20"
F	2	31"	14"	10"	1½"	8"
G	1	31"	17"			
H	1	31"	23"			
I	1	31"	29"			
J	1	31"	38"			
K	1	43"	23"			
M	1	43"	8"			
N	1	43"	13"			
O	1	43"	17"			
P	1	43"	14"			
Q	2	43"	14"	13"	2"	13"
R	2	43"	14"	7"	2"	25"
S	1	43"	29"			
T	1	43"	38"			
W	2	43"	12"	9"	4"	17"
X	2	43"	17"	9"	4"	17"
Y	2	43"	18"	9"	4"	17"
WW	2	31"	12"	6"	4"	11"
XX	2	31"	17"	6"	4"	11"
YY	2	31"	18"	6"	4"	11"

Bending Diagrams



36" WIDE COMPOSITE BEAMS are shown on Sheet 4 of 4

MINIMUM LONGITUDINAL REINFORCING STEEL

36" wide non-composite & composite beams: 4 - No.5 bars

48" wide non-composite beams:

B12 thru B21, 6 - No.4 bars

B27 thru B42, 4 - No.5 bars

48" wide composite beams: 6 - No.4 bars

See project plans for any additional longitudinal reinforcing steel bars required.

FABRICATOR'S SHOP DRAWINGS shall show complete details of beam reinforcing.

REVISION
5-1-89
6-20-89

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

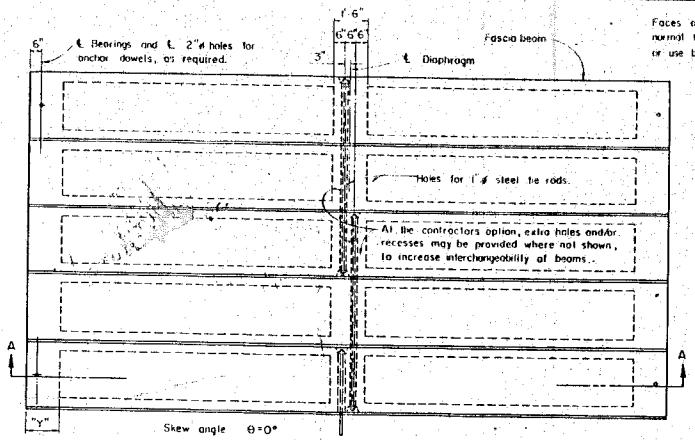
STANDARD

PRESTRESSED CONCRETE BOX BEAM BRIDGE DETAILS

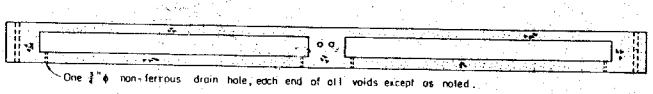
APPROVED Robert A. Shapiro
DATE 2-10-81 ENGINEER OF BRIDGES

PS80-1-81

CHECKED	REVIEWED	SHEET NO.
PFE	WJJ	OF 4 SHEETS

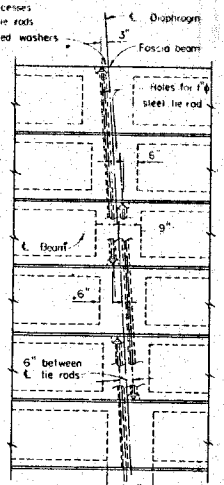


This tie rod arrangement may also be used on bridges with slight skew and limited width. Beams will not be identical in this case.



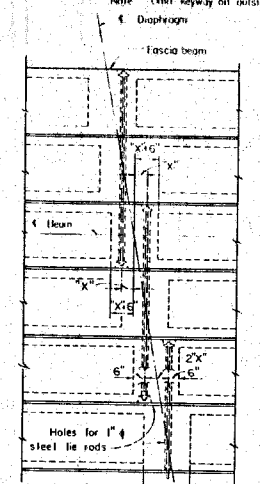
SECTION A-A

Faces of recesses normal to tie rods or use beveled washers

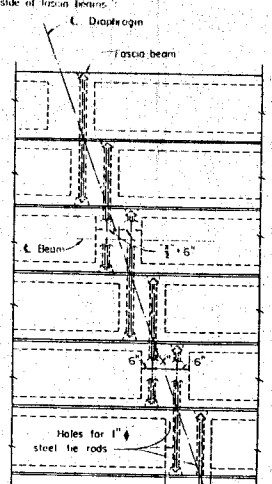


Θ = 0° to 5° for 3' wide beams *
Θ = 0° to 4° for 4' wide beams *

Note: Omit keyway on outside of fascia beams



Θ over 5° to 18° for 3' wide beams *
Θ over 4° to 14° for 4' wide beams *



Θ over 18° to 33° for 3' wide beams
Θ over 14° to 26° for 4' wide beams

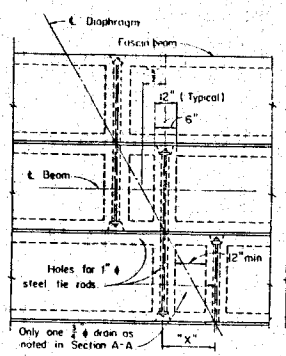
* As an option the fabricator may make provision for greater interchangeability of interior beams by furnishing double tie rod holes in the diaphragms and permitting one tie rod to tie two beams together.

"Y": See sheet 1 of 4 for Details of beam ends.

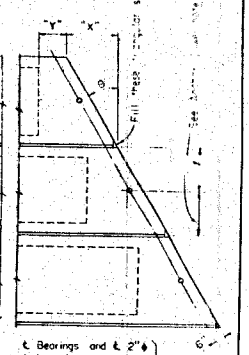
"X" = Beam Width times tan Θ

See Project Plans for the number and location of diaphragms.

Voids shall be vented to prevent heaving of the top flange during curing.

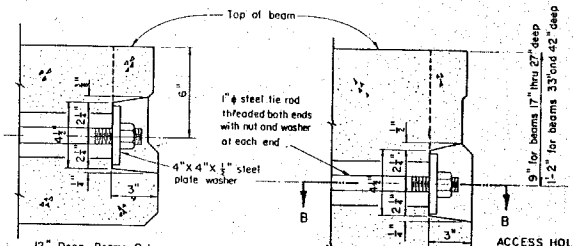


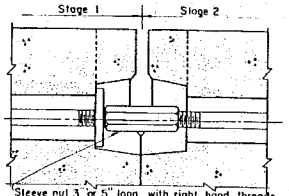
Θ over 33° for 3' wide beams
Θ over 26° for 4' wide beams



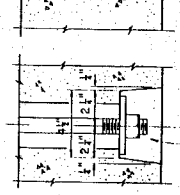
℄ Bearings and ℄ 2"ϕ holes for anchor dowel as required

TYPICAL PLANS OF DIAPHRAGMS AND TRANSVERSE TIE RODS





FOR STAGE CONSTRUCTION

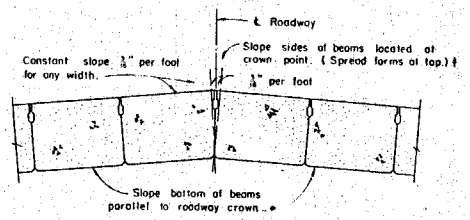


SECTION B-B (ALL BEAMS)

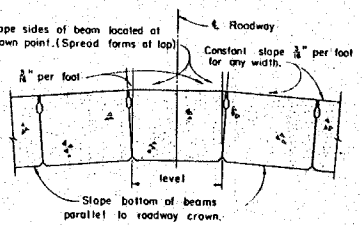
ACCESS HOLES shall be provided as required to permit placement of washers and nuts unless the contractor elects to thread beams over rods projecting from beams previously placed. When used, holes shall be the same shape as the recesses shown in Section B-B.

After tie rods are tightened fill recesses in fascia beam flush with face of beam with non-shrinking mortar.

END DETAILS OF TRANSVERSE TIE ROD ANCHORAGE



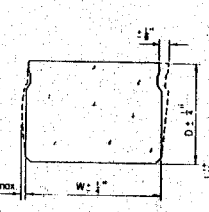
JOINT AT ℄ ROADWAY



JOINT OFFSET FROM ℄ ROADWAY

‡ Optional unless specifically required by project plans.

NORMAL CROWN TREATMENT AT ℄ ROADWAY



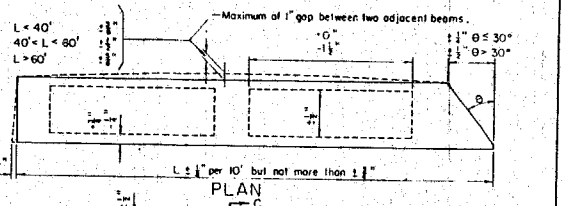
SECTION C-C

Additional Tolerances

Position of holes for anchor dowels and tie rods ± ½"
Position of guardrail anchors ± ½"
Position of lifting inserts ± 6"
Center of gravity of strand group ± ½"
Center of gravity of draped strand group of end of beam ± ½"
Position of stirrup bars ± 1"
Longitudinal scupper location ± 6"

Holes in beams for transverse tie rods shall be not less than 2"ϕ and not more than 3"ϕ

Dimensions of recesses in fascia beams and shear keys and vertical location of transverse tie rods may vary from the dimensions shown hereon, subject to approval by the Director.



ELEVATION

Dimensional variation in excess of the tolerances shown may be cause for rejection of the member. Generally the dimensions should be well within the tolerance limit.

BEAM DIMENSIONAL TOLERANCES

REVISIONS
5-1-89
6-20-89

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

STANDARD

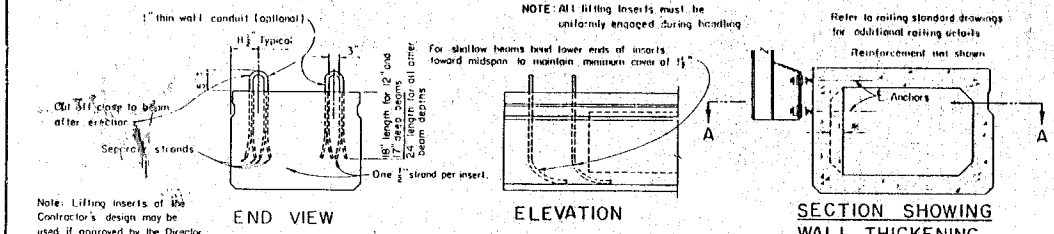
PRESTRESSED CONCRETE BOX BEAM BRIDGE DETAILS

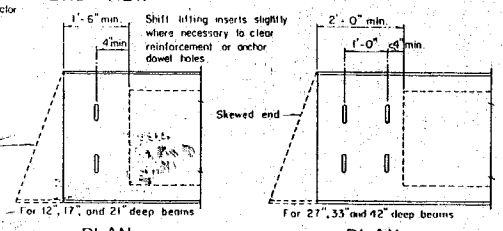
APPROVED: Robert J. Keller
DATE 9-19-91 ENGINEER OF BRIDGES

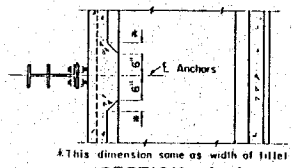
DRAWING NO. PSBD-1-91

PREPARED	TRACED	CHECKED	REVIEWED
MRS	BFJ SEC	PFE	WJJ

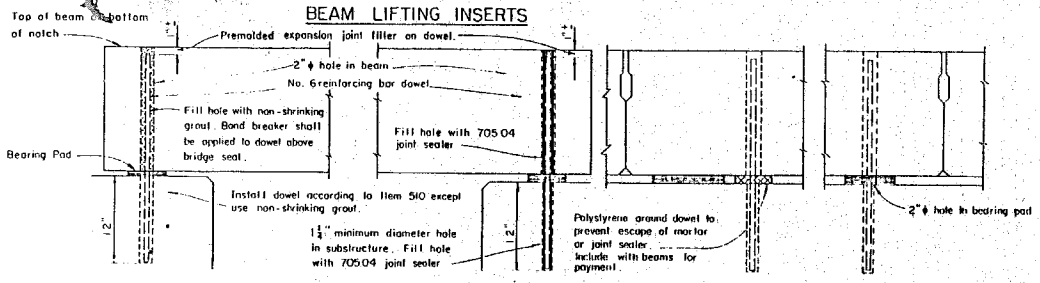
SHEET NO. 2 OF 4 SHEETS



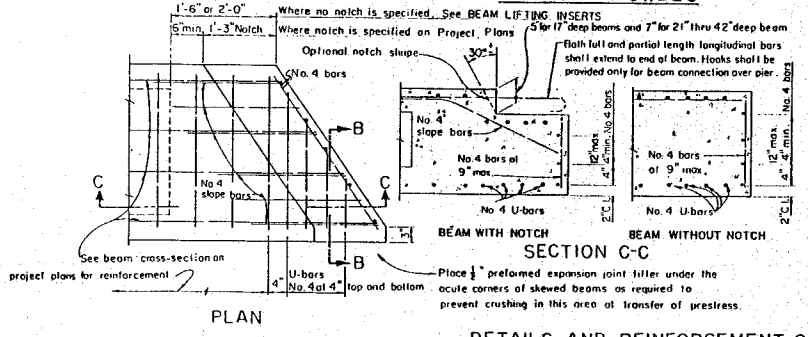


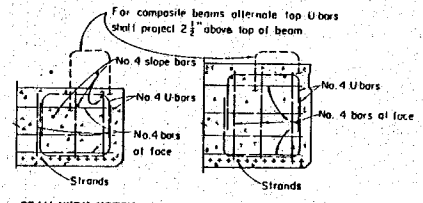


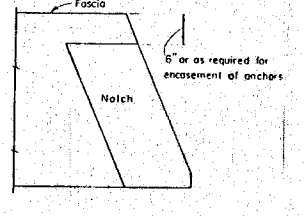
BEAM LIFTING INSERTS



ANCHOR DOWELS







NOTE: The Fabricator's shop drawings shall show complete details of the beam reinforcing.

DETAILS AND REINFORCEMENT OF BEAM ENDS

GENERAL: The project plans shall specify the details on this standard drawing which are to apply.

TRANSVERSE TIE RODS shall be 1" diameter steel rods of A36 steel, threaded both ends, and with nut and washer at each end. Threads may be cut or rolled. If rolled threads are used, minimum diameter of rod at root of threads shall be 0.838". Tension shall be applied by a torque of approximately 250 foot-pounds. After the tie rods are tightened the recesses in the facia beams shall be filled with non-shrinking mortar of the same color as the beam. One transverse tie rod will be permitted to tie a maximum of three beams together.

PRESTRESSING STRANDS: The project plans shall specify the number, location, size, and strength of prestressing strands, the required prestressing force and deflected or de-banded strand data.

GALVANIZING: All anchor bolts, studs, inserts, tie rods, nuts and washers shall be galvanized per 711.

ANCHOR DOWELS: The beam ends to be anchored shall be indicated on the project plans. Anchor dowel holes and prestressing strands shall be located to avoid mutual interference. The lateral spacing of the holes in the beam shall be such that the anchor dowels either clear the elastomeric bearing pads or pass thru 2" ϕ holes in the pads. Holes in pads shall have 1" minimum clearance from edges of pads.

After tensioning of the transverse tie rods the dowel holes shall be drilled into the abutment or pier seat and dowels installed. Cost of anchor dowels and installation shall be included with item 515 for payment.

BEARING PADS: Size, hardness, and location of elastomeric bearing pads shall be shown on the project plans.

NOTCHES shall be provided in beam ends where shown on the project plans to eliminate an open joint over piers (see sheet 4 of 4) or to accommodate anchorage for end dams or expansion joints.

END OF BEAMS, against which concrete is not to be placed, shall be coated with a bituminous material.

DRIP GROOVES: on the underside of the fascia beam shall not be permitted.

MORTARING OF SHEAR KEYS: After the transverse tie rods have been tightened shear keys shall be filled with non-shrinking mortar. Before mortaring, the keyway surfaces shall be wetted, but no free water shall be allowed to remain in the keyways. Mortar shall be placed into the keyways in a manner that insures complete and solid filling. Mortar and labor to place mortar are included with item 515 for payment.

COMPOSITE BRIDGES: The following notes apply to composite bridges only:

CLEANING PRIOR TO PLACEMENT OF COMPOSITE SLAB: Before placement of the slab concrete, the tops of all beams shall be thoroughly cleaned of all dirt, dust and other foreign matter. The surface shall be flushed with clear water and shall be wet, without free water, when the concrete is placed.

SLAB PLACEMENT: On multi-span bridges with slab continuous over piers, construction joints perpendicular to the centerline of roadway may be placed near the center of a span. However, composite slab pours shall be as long as practicable. On multi-span bridges with joints at piers, composite slabs shall be placed between joints without additional construction joints.

NON-SHRINKING MORTAR: Mortar or grout for keyways between prestressed concrete box beams, for tie rod recesses and for anchor dowel holes shall be a non-shrinking non-metallic mortar having a minimum compressive strength at 28 days of 5000 p.s.i. according to the Corps of Engineers Specification CRD-C621-83 when prepared to a moderate fluidity (124-145% flow table flow). The mortar or grout shall also meet all other requirements of Specification CRD-C621-83. The mortar shall be prepared, placed and cured in accordance with the manufacturer's recommendations, against surfaces as specified below.

PREPARATION OF CONCRETE SURFACES IN CONTACT WITH NON-SHRINKING MORTAR: The keyway surfaces shall be given a medium sandblast at the plant within four days before the beams leave the plant. Before mortaring, the keyways shall be thoroughly cleaned of all dirt, dust and other foreign matter. The keyway surfaces shall be wetted, but no free water shall be allowed to remain in the keyways.

PROJECT PLANS: The project plans for each structure will include the following:

A beam layout plan showing span length, beam length, skew angle, fixed and expansion ends of beams, location of anchor dowels, size and location of elastomeric bearing pads, location of diaphram centerlines and locations of railing posts.

A transverse cross-section thru the deck.

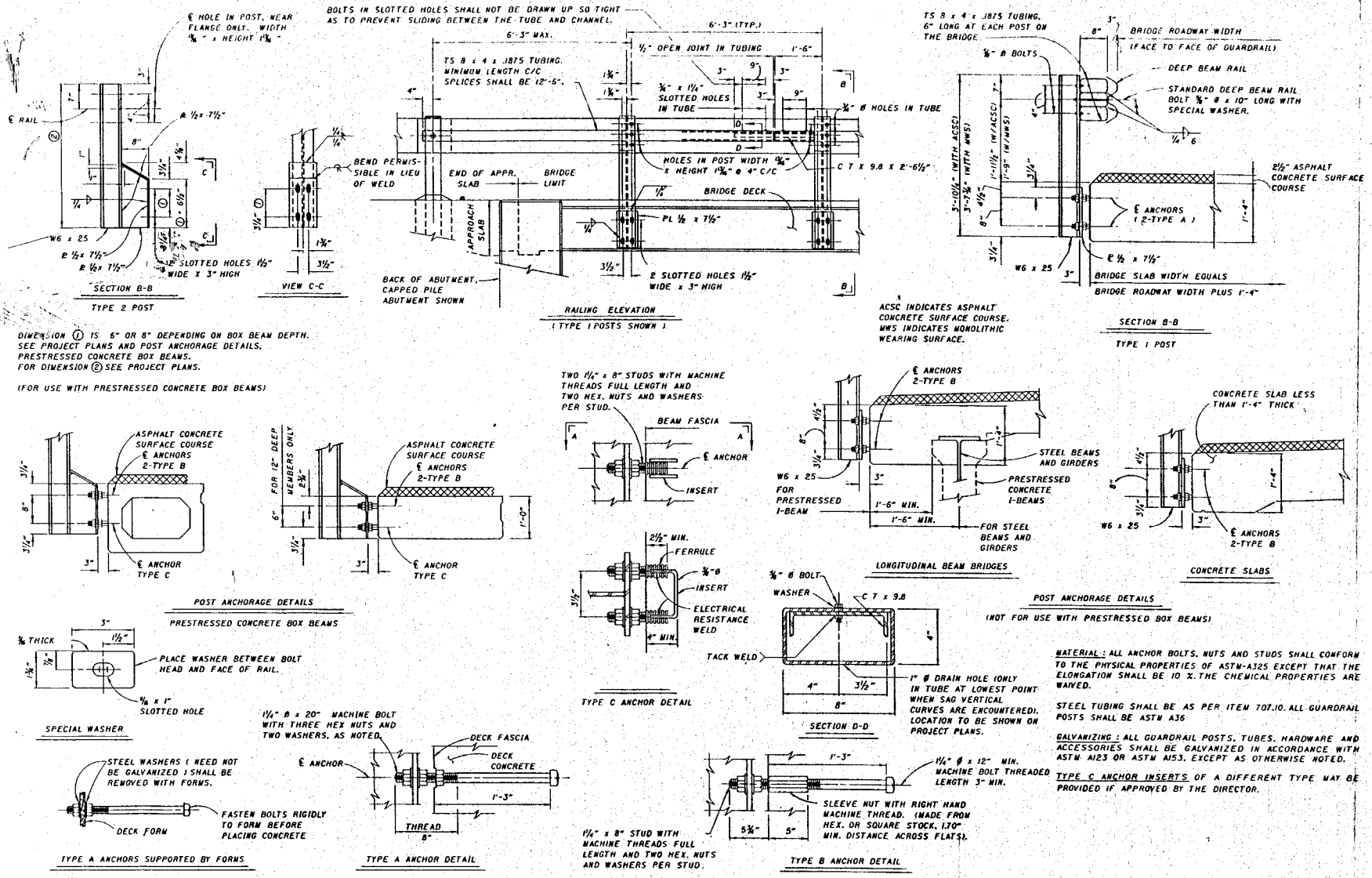
A cross-section of the beam showing beam size, number and location of strands, debonded strands and longitudinal reinforcing steel.

Details of abutments and piers.

All other necessary details and information.

It is not intended that details shown on this standard drawing be repeated on the project plans except as may be required for clarity.

REVISIONS	STATE OF OHIO DEPARTMENT OF TRANSPORTATION BUREAU OF BRIDGES AND STRUCTURAL DESIGN	
5-1-89	STANDARD	
6-20-89	PRESTRESSED CONCRETE BOX BEAM BRIDGE DETAILS	
APPROVED DATE 9-10-81	Robert B. Chaffee ENGINEER OF BRIDGES	DRAWING NO. PSBD-1-81
PREPARED MRB	TRACED BY TEC	CHECKED PPE
REVIEWED WJJ	SHEET NO. 1 OF 4 SHEETS	


℄ HOLE IN POST, NEAR FLANGE ONLY. WIDTH ⅞" x HEIGHT 1⅛"
℄ RAIL
℄ ½" x 7½"
W6 x 25
℄ ½" x 7½"
℄ ½" x 7½"
2 SLOTTED HOLES 1½" WIDE x 3" HIGH
SECTION B-B
TYPE 2 POST
BOLTS IN SLOTTED HOLES SHALL NOT BE DRAWN UP SO TIGHT AS TO PREVENT SLIDING BETWEEN THE TUBE AND CHANNEL.
6'-3" MAX.
6'-3" (TYP.)
½" OPEN JOINT IN TUBING
1'-6"
TS 8 x 4 x .1875 TUBING. MINIMUM LENGTH C/C SPLICES SHALL BE 12'-6".
¾" x 1¼" SLOTTED HOLES IN TUBE
¾" Ø HOLES IN TUBE
HOLES IN POST WIDTH ⅞" x HEIGHT 1⅜" @ 4" C/C
C 7 x 9.8 x 2'-6½"
BEND PERMISSIBLE IN LIEU OF WELD
END OF APPR. SLAB
BRIDGE LIMIT
BRIDGE DECK
APPROACH SLAB
PL ½" x 7½"
BACK OF ABUTMENT. CAPPED PILE ABUTMENT SHOWN
2 SLOTTED HOLES 1½" WIDE x 3" HIGH
VIEW C-C
RAILING ELEVATION
(TYPE 1 POSTS SHOWN)
TS 8 x 4 x .1875 TUBING. 6" LONG AT EACH POST ON THE BRIDGE
⅝" Ø BOLTS
BRIDGE ROADWAY WIDTH (FACE TO FACE OF GUARDRAIL)
DEEP BEAM RAIL
STANDARD DEEP BEAM RAIL BOLT ⅝" Ø x 10" LONG WITH SPECIAL WASHER.
2½" ASPHALT CONCRETE SURFACE COURSE
℄ ANCHORS (2-TYPE A)
℄ ½" x 7½"
W6 x 25
BRIDGE SLAB WIDTH EQUALS BRIDGE ROADWAY WIDTH PLUS 1'-4"
SECTION B-B
TYPE 1 POST
ACSC INDICATES ASPHALT CONCRETE SURFACE COURSE. MWS INDICATES MONOLITHIC WEARING SURFACE.
DIMENSION (1) IS 6" OR 8" DEPENDING ON BOX BEAM DEPTH. SEE PROJECT PLANS AND POST ANCHORAGE DETAILS. PRESTRESSED CONCRETE BOX BEAMS.
FOR DIMENSION (2) SEE PROJECT PLANS.
(FOR USE WITH PRESTRESSED CONCRETE BOX BEAMS)
ASPHALT CONCRETE SURFACE COURSE
℄ ANCHORS 2-TYPE B
℄ ANCHOR TYPE C
FOR 12" DEEP MEMBERS ONLY
POST ANCHORAGE DETAILS
PRESTRESSED CONCRETE BOX BEAMS
⅜" THICK
PLACE WASHER BETWEEN BOLT HEAD AND FACE OF RAIL.
⅛" x 1" SLOTTED HOLE
SPECIAL WASHER
STEEL WASHERS (NEED NOT BE GALVANIZED) SHALL BE REMOVED WITH FORMS.
DECK FORM
FASTEN BOLTS RIGIDLY TO FORM BEFORE PLACING CONCRETE
TYPE A ANCHORS SUPPORTED BY FORMS
1¼" Ø x 20" MACHINE BOLT WITH THREE HEX NUTS AND TWO WASHERS, AS NOTED.
℄ ANCHOR
DECK FASCIA
DECK CONCRETE
1'-3"
THREAD
8"
TYPE A ANCHOR DETAIL
TYPE A ANCHORS SHOULD ONLY BE USED ON PROJECTS WHERE THE ORIGINAL ANCHORS WERE TYPE A AND ALL ANCHORS ON ANY SINGLE STRUCTURE ARE NOT BEING REMOVED OR REPLACED
TWO 1¼" x 8" STUDS WITH MACHINE THREADS FULL LENGTH AND TWO HEX. NUTS AND WASHERS PER STUD.
BEAM FASCIA
℄ ANCHOR
INSERT
2½" MIN.
FERRULE
⅜" Ø
INSERT
ELECTRICAL RESISTANCE WELD
4" MIN.
TYPE C ANCHOR DETAIL
1¼" x 8" STUD WITH MACHINE THREADS FULL LENGTH AND TWO HEX. NUTS AND WASHERS PER STUD.
1'-3"
1¼" Ø x 12" MIN. MACHINE BOLT THREADED LENGTH 3" MIN.
SLEEVE NUT WITH RIGHT HAND MACHINE THREAD. (MADE FROM HEX. OR SQUARE STOCK. 1.70" MIN. DISTANCE ACROSS FLATS).
5¾"
5"
TYPE B ANCHOR DETAIL
℄ ANCHORS 2-TYPE B
STEEL BEAMS AND GIRDERS
W6 x 25 FOR PRESTRESSED I-BEAM
PRESTRESSED CONCRETE I-BEAMS
1'-6" MIN.
1'-6" MIN.
FOR STEEL BEAMS AND GIRDERS
LONGITUDINAL BEAM BRIDGES
⅝" Ø BOLT
WASHER
C 7 x 9.8
TACK WELD
1" Ø DRAIN HOLE (ONLY IN TUBE AT LOWEST POINT WHEN SAG VERTICAL CURVES ARE ENCOUNTERED). LOCATION TO BE SHOWN ON PROJECT PLANS.
SECTION D-D
POST ANCHORAGE DETAILS
(NOT FOR USE WITH PRESTRESSED BOX BEAMS)
MATERIAL: ALL ANCHOR BOLTS, NUTS AND STUDS SHALL CONFORM TO THE PHYSICAL PROPERTIES OF ASTM-A325 EXCEPT THAT THE ELONGATION SHALL BE 10 %. THE CHEMICAL PROPERTIES ARE WAIVED.
STEEL TUBING SHALL BE AS PER ITEM 707.10. ALL GUARDRAIL POSTS SHALL BE ASTM A36
GALVANIZING: ALL GUARDRAIL POSTS, TUBES, HARDWARE AND ACCESSORIES SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123 OR ASTM A153, EXCEPT AS OTHERWISE NOTED.
TYPE C ANCHOR INSERTS OF A DIFFERENT TYPE MAY BE PROVIDED IF APPROVED BY THE DIRECTOR.
CONCRETE SLAB LESS THAN 1'-4" THICK
W6 x 25
℄ ANCHORS 2-TYPE B
CONCRETE SLABS
STATE OF OHIO DEPARTMENT OF TRANSPORTATION
BUREAU OF BRIDGES AND STRUCTURAL DESIGN
4-10-75
DATE
ENGINEER OF BRIDGES
DESIGNED JFF
DRAWN REF
CHECKED JAM
EXTENDED LWW
DBR-2-73
REVISIONS 9-15-94
STANDARD DEEP BEAM BRIDGE GUARDRAIL
1 / 1

REQUISITION HEADER SCREEN AARQ0002
REQ NO: 083466 UPDATE MODE DATE: 05/13/96

DOC TYPE: ORDE TYPE CODE: 02 DIV/DIST: 09 Y CMNTS ADDED
Y BID PROJ NO:
CON/BID: GDC: CNTL BD: RLSE/PRMT:
N JOURNAL ENTRY VOL NO: PAGE NO: TOTAL AMT: 19,000.00
N CONFIRMING CONTACT PRSN: TROY HUFF, ABE

VENDOR NO: ADDRESS CD: MBE:
NAME: DELIVERY REQ:
ADDRESS 1: PRE APPRVL NO:
2: COUNTY:
CITY, ST: ZIP: TERMS:

BILL TO	SHIP TO
ODOT, DISTRICT 9	ADA-348-0714, LOCATED 7.14
C/O NEIL COUNTRYMAN, AUDITOR	MILES EAST OF S.R. 125.
P.O. BOX 467	
CHILLICOTHE, OHIO 45601	

PF14-ACCNT PF15-PURCH PF16-DESC PF17-CMMNTS PF18-APPVRS PA1/PA2-EXIT

REQUISITION ACCOUNTING INFORMATION AARQ0003
REQ NO: 083466 PAGE: 1

LN	FNC	FND	YEAR	ARC	SAC	SPND RC	RCAT	ACT	OBJECT	STATE JOB NO	AMOUNT
1		002	96	1773	4312	0009	0061		262		19,000.00
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											

FUNCTIONS: A-ADD LINE D-DEL LINE PF7-P.BACK PF8-P.FORWARD
PF13-HEADER PF15-PURCH PF16-DESC PF17-CMNNTS PF18-APPVRS PA1/PA2-EXIT

REQ NO: 083466 REQUISITION PURCHASING INFORMATION AARQ0004

FUNCTION:

LN	QUANTITY	UM	-COMMODITY CODE- CLS IM GP DETL	SPEC NUMBER	UNIT PRICE	LINE AMOUNT
01	1	EA	210 16 00 0000		19,000.0000	19,000.00

CONCRETE AND METAL CULVERTS, PILINGS, SEPTIC TANKS, ACCESSORIES AND SUPPLIES
CONCRETE BEAMS, PRESTRESSED, B17-48 AND B17-36, 21'-9" O/O SPAN BY 26'-0" O/O ROADWAY WIDTH, 35 DEGREE R.F. SKEW, AND RELATED HARDWARE AS PER THE ATTACHED SPECIFICATIONS AND DRAWINGS. VENDOR WILL BE REQUIRED TO FABRICATE, DELIVER, AND SET BEAMS WITH CRANE ON ODOT PREPARED ABUTMENTS.

BEAMS SHALL BE FABRICATED, TESTED AND READY FOR DELIVERY BY SEPTEMBER 15, 1996.

FUNCTIONS: A-ADD D-DEL PF7-BACK PF8-FORWRD PF9-BRWS LNS PF10-BRWS CC
PF13-HEADER PF14-ACCNT PF16-DESC PF17-CMMNTS PF18-APPVRS PA1/PA2-EXIT

REQ NO: 083466 REQUISITION DESCRIPTION AARQ0005
DESCRIPTION WILL BE PRINTED ON P.O. PAGE: 1

FUNCTION:

TESTING REQUIREMENTS:
TE-24 FOR CONCRETE BEAMS AND STAINLESS STEEEL DRIP STRIP.
ELASTOMERIC BEARING PADS AS PER "CMS" 711.23.
TYPE 2 POST AS PROPOSAL NOTE 540.

FUNCTIONS: A-ADD DESC PF7-P.BACK PF8-P.FORWARD
PF13-HEADER PF14-ACCNT PF15-PURCH PF17-CMMNTS PF18-APPRVS PA1/PA2-EXIT

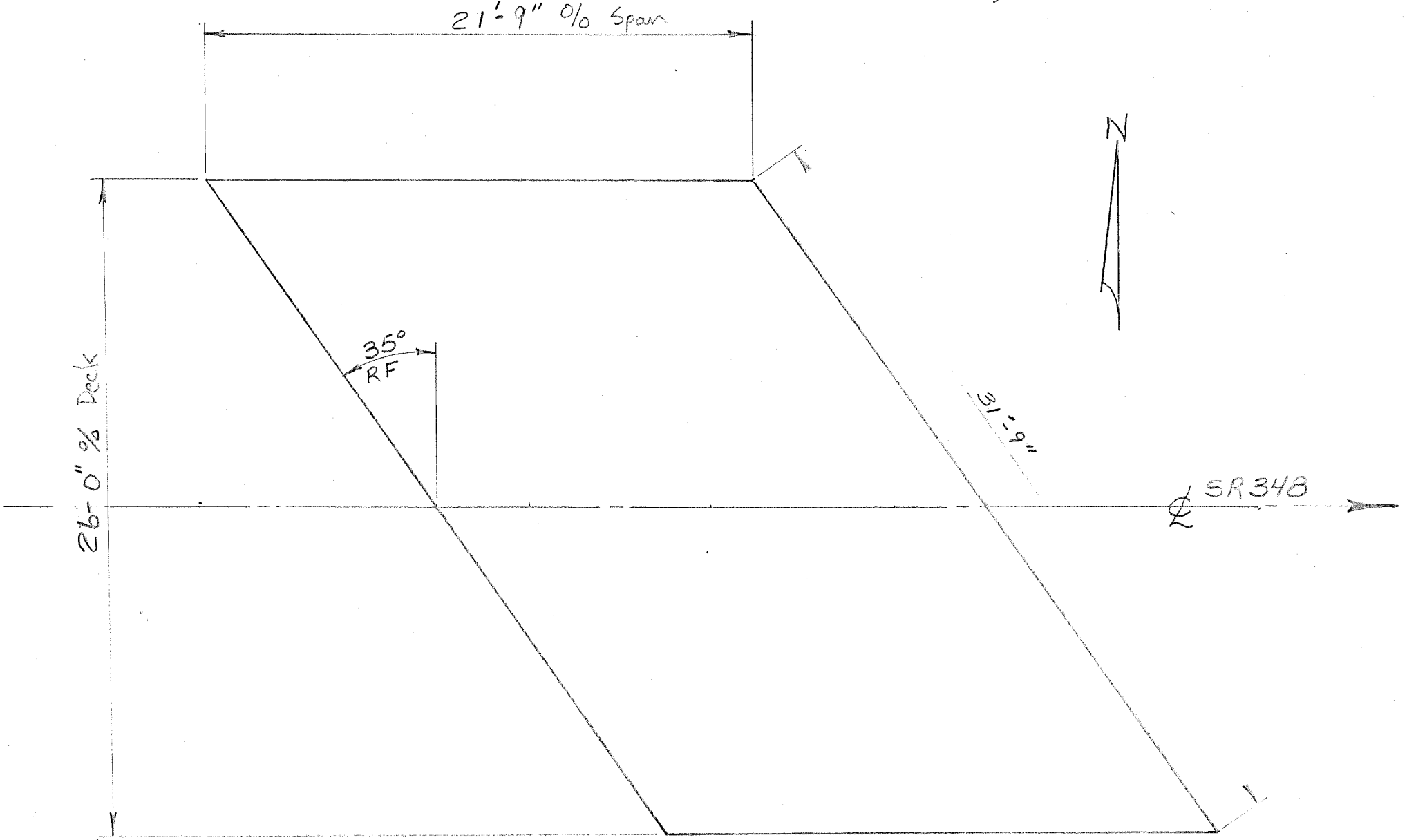
REQ NO: 083466 REQUISITION COMMENTS AARQ0006
PAGE: 1

FUNCTION:

ADDED BY: D09TH1 05/13/96 - HUFF, TROY
COPY OF HEADER SCREEN, SPECIFICATION, DRAWINGS, AND SUGGESTED BIDDER LIST
LIST SENT TO BRUCE RAYBOURNE.

FUNCTIONS: A-ADD COMMENT PF7-P.BACK PF8-P.FRWD
PF13-HEADER PF14-ACCNT PF15-PURCH PF16-DESC PF18-APPVRS PA1/PA2-EXIT

Bridge ADA-348-0714



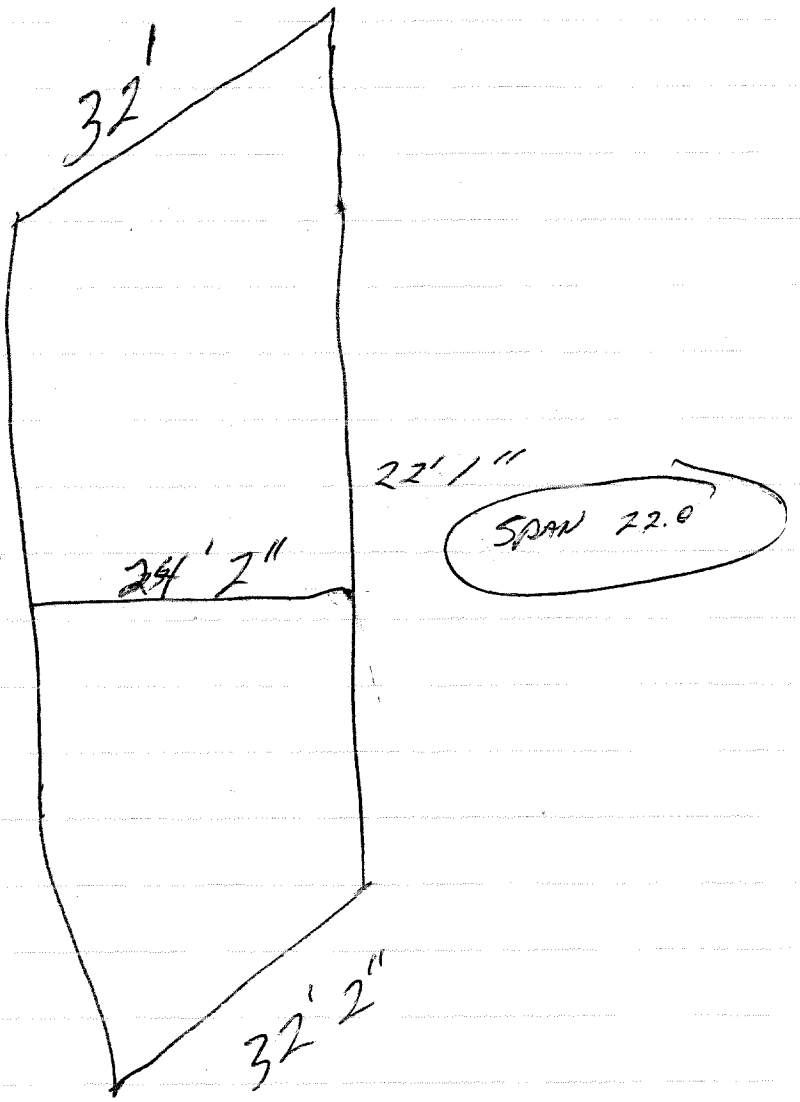
3/16 Scale, 3/15/96

ADA348-0714 Existing Dimensions.

22'1" West side

22'1" East side

234°10'



23'5"
33"
38

calc. 36°

35° Given

234°10'
180
54
36

22.0' width present