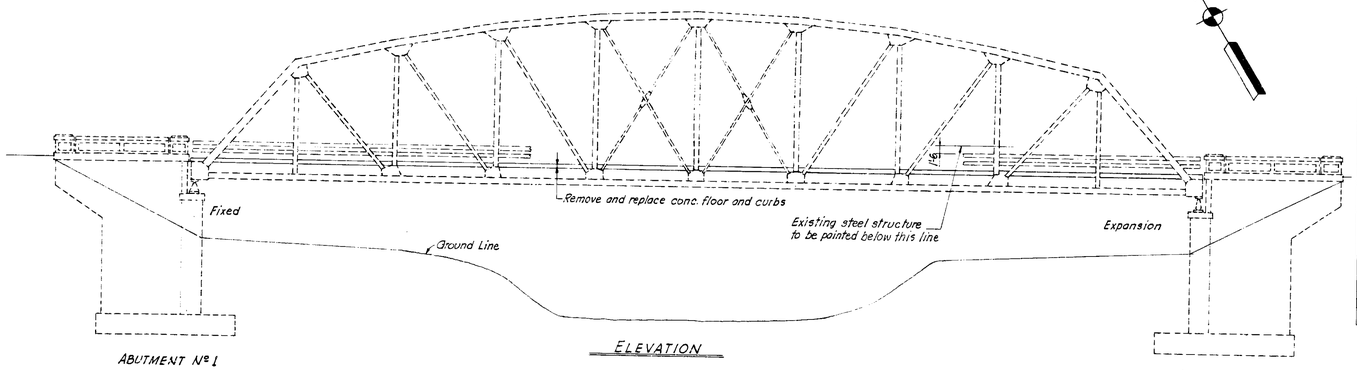
B 9713

STRUCTURE BUILT TO A 350' VERTICAL CURVE

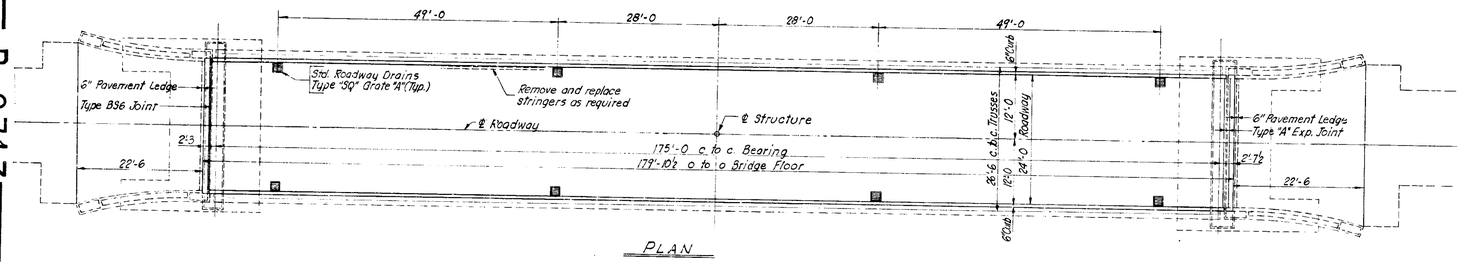
+0.50% -0.50%



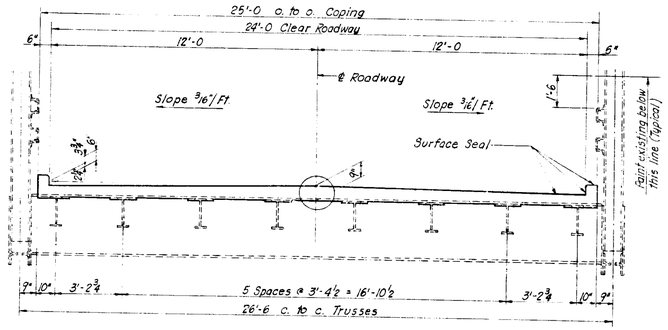

ABUTMENT Nº 1

ELEVATION

ABUTMENT Nº 2



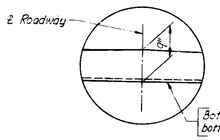

PLAN




TYPICAL SECTION
Scale: ⅜" = 1'-0

CONSTRUCTION PROCEDURE

1. Close structure to traffic and remove existing bridge floor and curbs.
2. Remove mudwalls at each abutment and existing approach pavement as indicated on plans.
3. Remove and replace stringers if so directed by the Engineer, along with installing new diaphragms.
4. Clean and paint existing structural steel.
5. Rebuild abutment mudwalls up to Constr. Jt. Type "A" as shown on Dwgs R2 & R3.
6. Pour concrete bridge floor and portions of mudwalls above Constr. Jt. Type "A". Install expansion joints.
7. Place bituminous approach pavement in areas previously removed.
8. Open structure to traffic. No Posting required




DETAIL "A"
Scale: ¾" = 1'-0

| INDEX | | | | | | |
|---|---|---|---|---|---|---|
| Sheet Nº | Sheet Designation | Structure | Type | Span | Over | Contr. |
| | | 42-67-3172A | Stl Truss | 1@175'-0 | Mill Crk. | B-9713 |
| | | Subject | | | | |
| 1. | R1 | Title Sheet and General Plan | | | | |
| 2. | R2 | Repairs to Abutment Nº 1 | | | | |
| 3. | R3 | Repairs to Abutment Nº 2 | | | | |
| 4. | R4 | Steel Truss Repairs | | | | |
| 5. | R5 | Floor Slab Details | | | | |
| 6. | R6 | Type "A" Expansion Joint Details | | | | |
| 7. | R7 | Approach Details | | | | |
| 8. | One Sheet | Summary | | | | |
| 9. | One Sheet | Estimate of Quantities | | | | |
| 10. | Br. Std C1 | Miscellaneous Details (R6-1-72) | | | | |
| 11. | Br. Std C3 | Miscellaneous Details (R5-1-72) | | | | |
| 12. | Br. Std D | Casting Details, Roadway Drains (R1-1-72) | | | | |
| 13. | Sheet 1 Detours | Standard Detour Signs (R 4-2-73) | | | | |
| 14. | Sheet 2 Detours | Standard Detour Signs (R 1-2-74) | | | | |
| 15. | Sheet 3 Detours | Standard Detour Signs (R 4-2-73) | | | | |
| 16. | Sheet 4 Detours | Standard Detour Signs (R 4-2-73) | | | | |
| 17. | Sheet 5 Detours | Standard Detour Signs (R 4-2-73) | | | | |
| 18. | Detour Sheet | Special Signs (R-2-1-73) | | | | |

BRIDGES OVER 20' SPAN

| FED. ROAD REG. NO. | STATE | PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 5 | IND. | 57-94B | 1974 | 1 | 18 |

GENERAL NOTES

Reinforcing steel covering shall be 2½ inches in top and 1 inch min. in bottom of floor slabs, and 2 inches in all other parts unless noted.

Concrete in Abutments Nº 1 & Nº 2 to be Class "A."

Continuous concrete pours shall be required between construction joints as shown on detail plans.

Bevel forms 4" under copings and chamfer exposed edges 1 inch unless noted.

Eight (8) standard roadway drains Type "S9", Grate "A" to be placed as shown on this drawing.

Where new work is to be fitted to old work, the Contractor shall check all dimensions and conditions in the field and report any errors or discrepancies to the Engineer and assume responsibility for their correctness and fit of new part to old.

Plans of the existing structure are on file in the Central Office as Bridge File 42-F-3172 and will be made available upon request.

The top of caps and front face of mudwall at Abut. Nº 1 & Nº 2 shall be sealed in accordance with Art. 702.20 of the Specifications.

Concrete in superstructure to be Class "C".

See special provisions for items included in this contract.

BENCH MARK

Top of Bridge Seat at South end of existing Abutment Nº 1. U.S.C. & G. Survey. S.H.C. B.M. Putnam C-1 Bronze Disc. El. 736.114

Estimated weight of existing structural steel to be painted 100 Tons

DESIGN DATA

Floor slab designed for H 520-44 loading in accordance with 1973 A.A.S.H.O. Specifications.

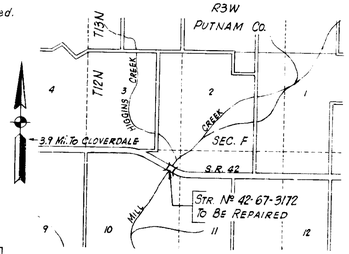
STANDARD DRAWINGS

| Bridge Std. | Road Std | Description |
|---|---|---|
| C1 | | Reinforcing Bar Notes |
| D | | Roadway Drains, Type "S9" Grate "A" |
| C3 | | Construction Joint, Type "A" |
| | Sht 1,2,3,4,5 | Standard Detour Signs |
| | Sht 1 | Special Signs |

PLANS PREPARED BY:
R. DUANE MONICAL AND ASSOCIATES
CONSULTING ENGINEERS
INDIANAPOLIS, INDIANA

CERTIFIED: December 19, 1973
Ralph L. Mullinnix

Approved: 2-11-74
J K Hallock
Chief Highway Engineer 2nd. State Highway Comm.




LOCATION PLAN

DESIGNED R.D.M. CK'D R.D.M.
DRAWN E.S.M.MER CK'D R.D.M.
TRACED CK'D

Rev. 3-11-74 Sheet 1, 2, 3, 5, 6, 7 & 14 BS6 Jts. & Std. Drwgs.

Indiana State Highway Commission Standard Specifications Dated 1974 To Be Used With These Plans

# TITLE SHEET AND GENERAL PLAN

REPAIRS TO STEEL TRUSS BRIDGE
1 SPAN AT 175'-0 SQUARE 24'-0 ROWY. 6" CURBS
OVER MILL CREEK ON STATE RD. 42

## INDIANA STATE HIGHWAY COMMISSION

PUTNAM COUNTY

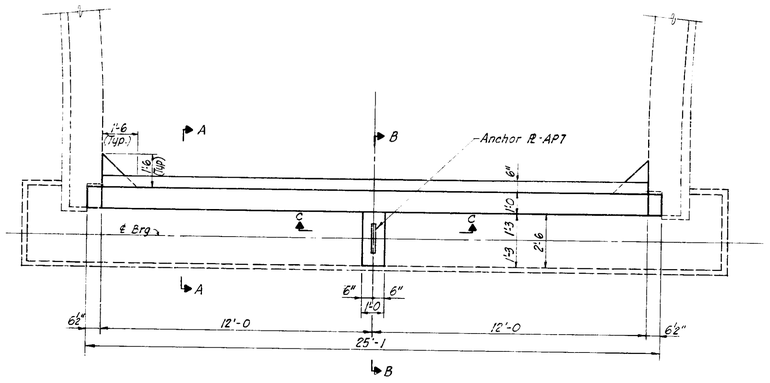
SCALE:- 3/32" = 1'-0 Unless Noted DATE:- December 19, 1973

RECOMMENDED FOR APPROVAL: E. W. Walters
ENGINEER OF BRIDGE DESIGN

DRAWING:- R1 OF 7
PROJECT:- 57-94B
CONTRACT NO. B-9713
BRIDGE FILE:- 42-67-3172A

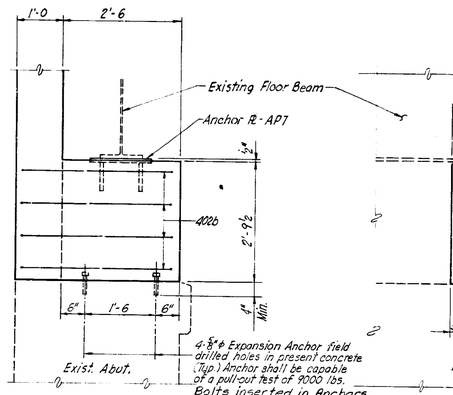
E. W. WALTERS INDIANA 7059 STATE OF REGISTERED PROFESSIONAL ENGINEER

| BRIDGES OVER 20' SPAN | | | | | |
|---|---|---|---|---|---|
| FED. ROAD REQ. NO. | STATE | PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
| 5 | IND. | ST-94B | 1974 | 2 | 18 |



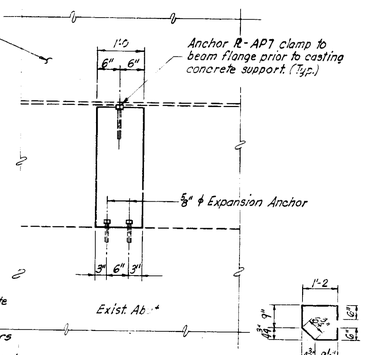

PLAN

Scale: $\frac{3}{8}$" = 1'-0




SECTION B-B

Scale: $\frac{3}{4}$" = 1'-0

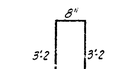



SECTION C-C

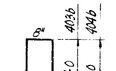
Scale: $\frac{3}{4}$" = 1'-0




401b x 4'-3



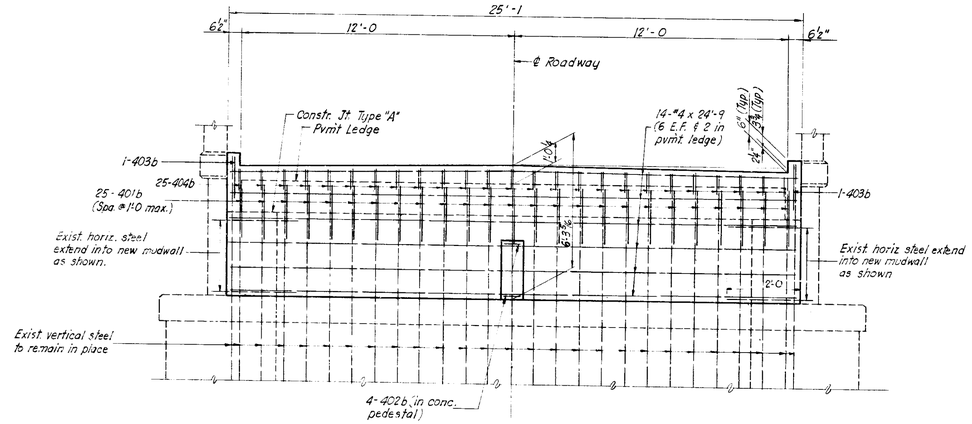

402b x 8'-0




403b x 4'-8
404b x 2'-8

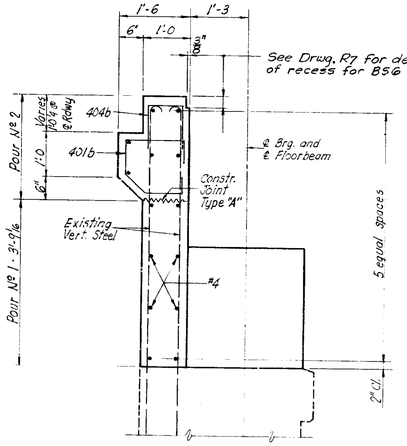
## BILL OF MATERIALS
### ABUTMENT Nº 1

| REINFORCING STEEL | | | |
|---|---|---|---|
| Size or Mark | Nº of Bars | Length | Weight (lbs.) |
| 401b | 25 | 4'-3 | |
| 402b | 4 | 8'-0 | |
| 403b | 2 | 4'-8 | |
| 404b | 25 | 2'-8 | |
| #4 | 14 | 24'-9 | |
| Total Reinforcing Steel | | | 373 |
| CONCRETE | | | |
| Class "A" in Substructure | | | |
| Pour Nº 1 | | | 4.1 cys. |
| Pour Nº 2 | | | 2.9 cys. |
| Total Class "A" | | | 7.0 cys. |
| MISCELLANEOUS | | | |
| ⅝" ϕ Expansion Anchors | | | 4 each |
| Anchor Plate AP7 | | | 1 each |



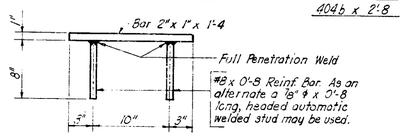

ELEVATION OF ABUTMENT Nº 1

Scale: $\frac{3}{8}$" = 1'-0




SECTION A-A

Scale: $\frac{3}{4}$" = 1'-0




DETAIL OF ANCHOR PLATE AP7

Scale: 1½" = 1'-0

Notes:

See Bridge Standard C1 for Reinforcing Bar notes.

Concrete in Pour Nº 2 shall be poured after the new floor slab has been completed.

Existing vertical and horizontal reinforcing steel that is to be left in place, shall be stripped and cleaned.

After the floor has been removed and before the new floor is poured, floor beam support pedestals shall be constructed under end floor beams as shown on Section "B" and Section "A". The Anchor Plates AP7 shall be temporarily attached to the floor-beam until the pedestal is poured and the concrete has set, after which it shall be immediately released. Care shall be exercised to keep the top of the concrete pedestal ½" below the bottom of Floorbeam and to keep the Anchor Plate in contact with bottom of the floor beam until the concrete has set.

REPAIRS TO ABUTMENT Nº 1

# INDIANA STATE HIGHWAY COMMISSION

SCALE:- As Shown DATE:- December 24, 1973

SUBMITTED FOR APPROVAL Ralph E. Mullinnix

DRAWING- R2 OF 7

PROJECT:- ST-94B

CONTRACT NO. B-9713

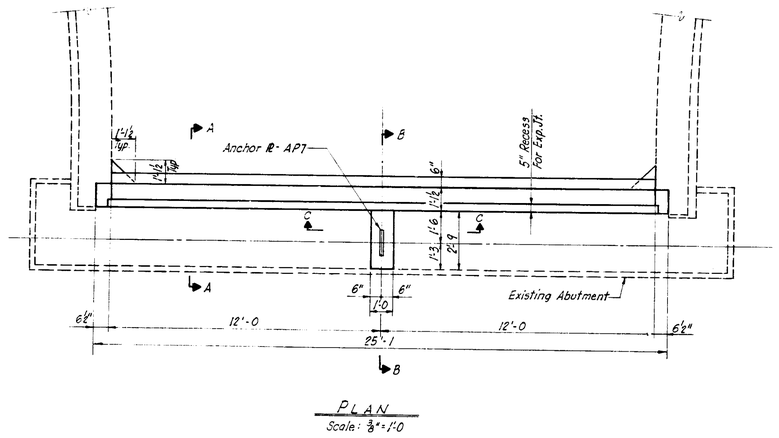
BRIDGE FILE:- 42-67-3172A

| | | | |
|---|---|---|---|
| DESIGNED | R.C.M. | C'K'D | R.C.M. |
| DRAWN | M.E.B. | C'K'D | R.C.M. |
| TRACED | | C'K'D | |

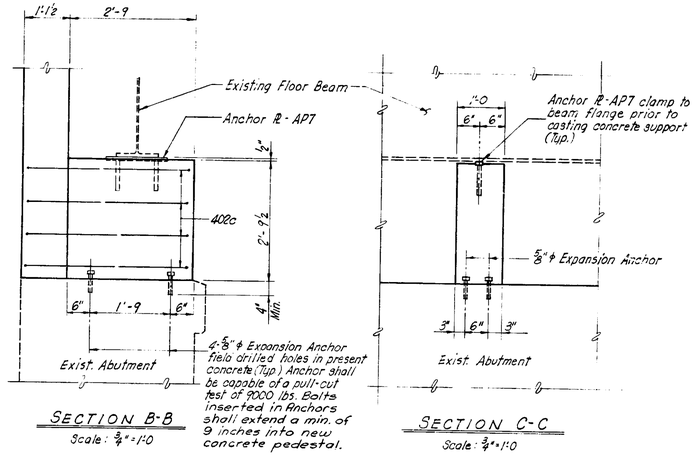
Rev. 3-11-74 B56 Exp. Jt. Recess Dimensions, Section B-B

BRIDGES OVER 20' SPAN

| FED. ROAD REG. NO. | STATE | PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 5 | IND. | ST-948 | 1974 | 3 | 18 |




PLAN
Scale: ¾" = 1'-0



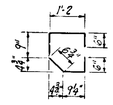

SECTION B-B
Scale: ¾" = 1'-0




SECTION C-C
Scale: ¾" = 1'-0

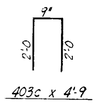
## BILL OF MATERIALS
ABUTMENT Nº 2

| REINFORCING STEEL | | | |
|---|---|---|---|
| Size or Mark | Nº of Bars | Length | Weight (lbs.) |
| 401c | 25 | 4'-3 | |
| 402c | 4 | 8'-8 | |
| 403c | 2 | 4'-8 | |
| 404c | 23 | 6'-1 | |
| #4 | 14 | 24'-9 | |
| Total Reinforcing Steel | | | 425 |
| CONCRETE | | | |
| Class "A" in Substructure | | | |
| Pour Nº 1 | | | 4.4 cys. |
| Pour Nº 2 | | | 3.1 cys. |
| Total Class "A" | | | 7.5 cys. |
| MISCELLANEOUS | | | |
| ⅝" ϕ Expansion Anchors | | | 4 each |
| Anchor Plate AP1 | | | 1 each |

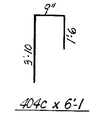



401c x 4'-3


402c x 8'-8

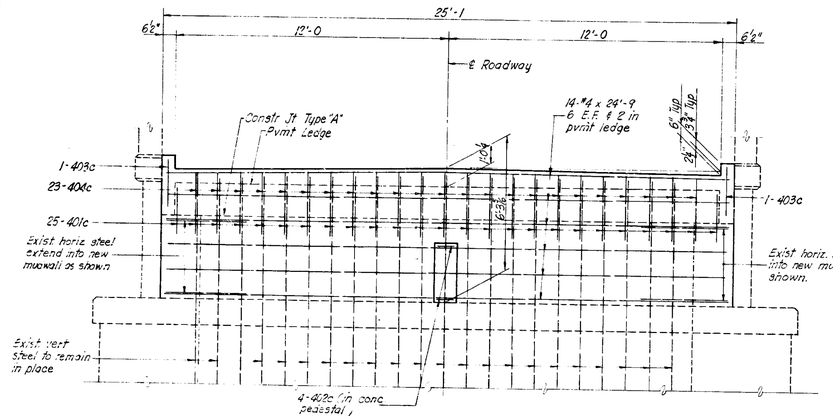



403c x 4'-9

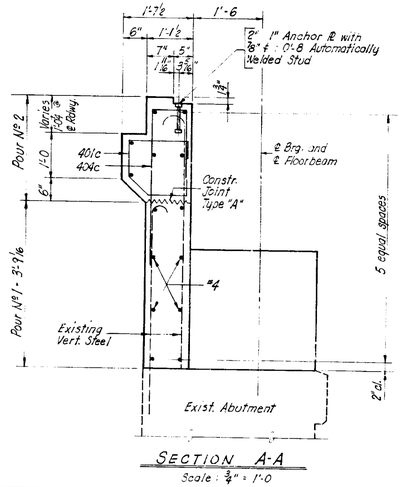



404c x 6'-1

Notes:
See Dwg. Nº R2 for Anchor Plate-AP7 details.
See Bridge Standard C1 for Reinforcing Bar Notes.
For details of Expansion Joint Anchor Plates see Dwg. R6.
Cost of Anchor Plates to be included in cost of Expansion Joints.
Concrete in Pour Nº 2 shall be poured after the new floor slab has been completed.
Existing vertical and horizontal reinforcing steel that is to be left in place, shall be stripped and cleaned.
After the floor has been removed and before the new floor is poured, floor beam support pedestals shall be constructed under end floor beams as shown on Section "B" and Section "C". The Anchor Plates AP7 shall be temporarily attached to the floor-beam until the pedestal is poured and the concrete has set after which it shall be immediately released. Care shall be exercised to keep the top of the concrete pedestal 2" below the bottom of floorbeam and to keep the Anchor Plate in contact with bottom of the floorbeam until the concrete has set.




ELEVATION OF ABUTMENT Nº 2
Scale: ⅜" = 1'-0




SECTION A-A
Scale: ¾" = 1'-0

REPAIRS TO ABUTMENT Nº 2

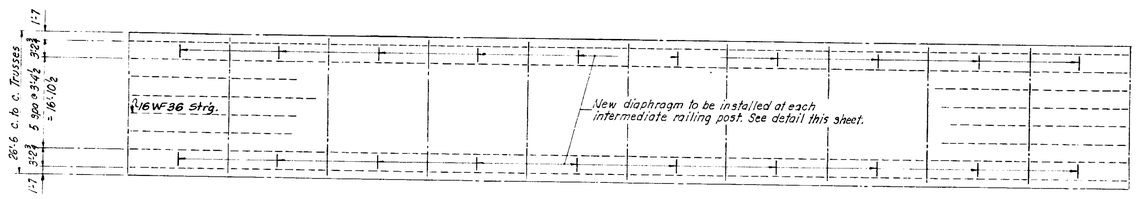
# INDIANA STATE HIGHWAY COMMISSION

SCALE:- As Shown
DATE:- December 9, 1975
SUBMITTED FOR APPROVAL
Ralph E. Mullinnix
DRAWING:-R3 OF 7
PROJECT:- ST-948
CONTRACT NO. B-97/3
BRIDGE FILE:- 42-67-3/72A

DESIGNED R.C.M. CK'D R.C.M.
DRAWN M.E.B. CK'D R.C.M.
TRACED CK'D

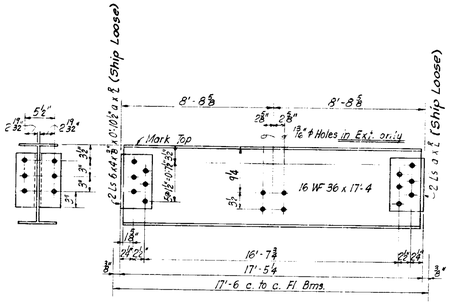
Rev. 3-11-74 Section B-B

| BRIDGES OVER 20' SPAN | | | | | |
|---|---|---|---|---|---|
| FED. ROAD REQ. NO. | STATE | PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
| 5 | IND. | ST-94 B | 1974 | 4 | 18 |



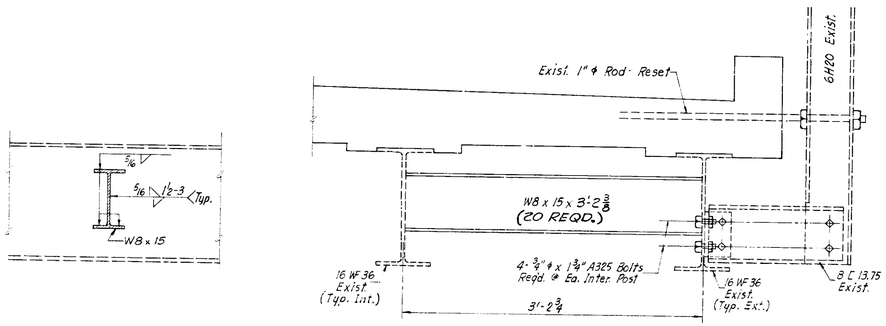

Note:
Remove and replace stringers as directed by the Engineer

FRAMING PLAN
Scale: 3/32" = 1'-0




STRINGERS - INT. & EXT.

Stringers shall not be ordered until after the Engineer has inspected the condition of the existing stringers. (See Special Provs.) The estimated weight of structural steel includes a total of 10 stringers (6865 lbs.) This numbers of stringers is an estimate only and additional stringers may be added or deleted as directed. Payment adjustment for any increase or reduction in the number of stringers will be pro-rated on structural steel lump-sum bid.




DIAPHRAGM DETAIL
Scale: 1½" = 1'-0

Notes:

High strength bolts ⅞" ϕ unless noted. Open holes 15/16" ϕ unless noted.

All paint shall be in accordance with current State Highway Specifications: shop paint, field paint, basic lead silico chromate.

All structural steel shall conform to A.S.T.M. A36 unless otherwise noted.

Rivets shall not be used in the assembly of structural steel.

The weight of high strength bolts is not included in the weight of structural steel. The cost of these bolts shall be included in the cost of structural steel.

If the fabricator uses these drawings for shop plans, he shall check the same and assume full responsibility for the accuracy of the details.

Estimated weight of structural steel = 7865 lbs.
Rivets removed = 102 each

STEEL TRUSS REPAIRS

# INDIANA STATE HIGHWAY COMMISSION

SCALE:- As Noted DATE:- December 19, 1973

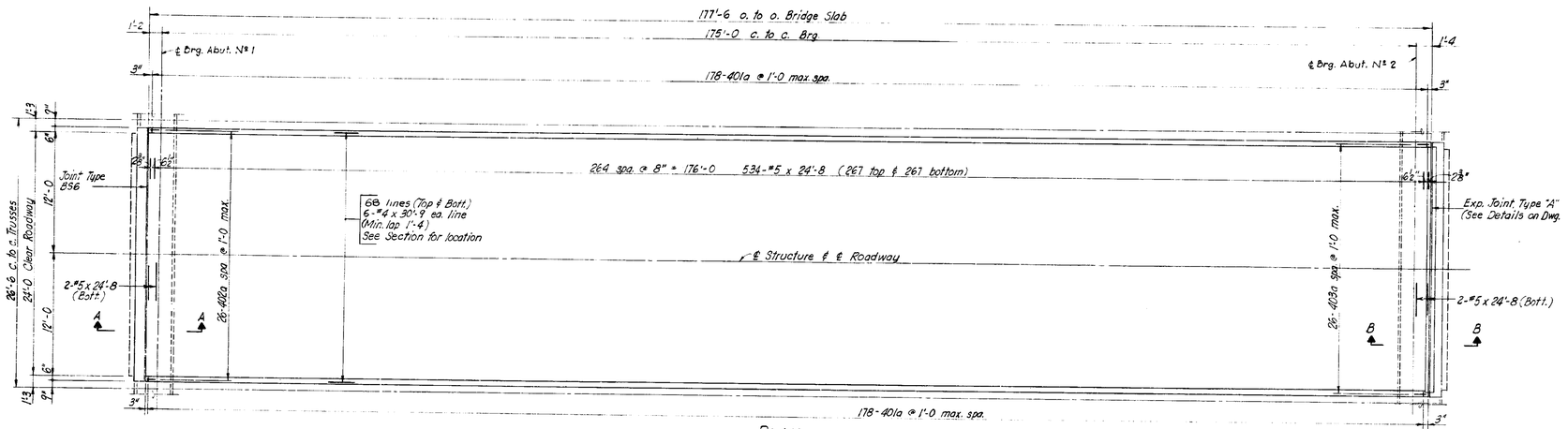
SUBMITTED FOR APPROVAL Ralph E. Mullinnix

DRAWING- R4 OF 7
PROJECT:- 37-948
CONTRACT NO. B-9713
BRIDGE FILE:- 42-67-3172A

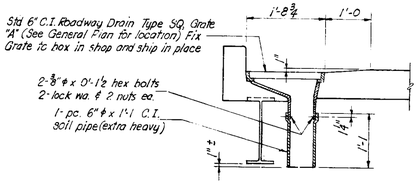
| | | | |
|---|---|---|---|
| DESIGNED | R.C.M. | C'K'D | J.C.V. |
| DRAWN | M.E.B. | C'K'D | R.C.M. |
| TRACED | | C'K'D | |

BRIDGES OVER 20' SPAN

| FED. ROAD REQ. NO. | STATE | PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| S | IND. | 37-94B | 1974 | 5 | 18 |

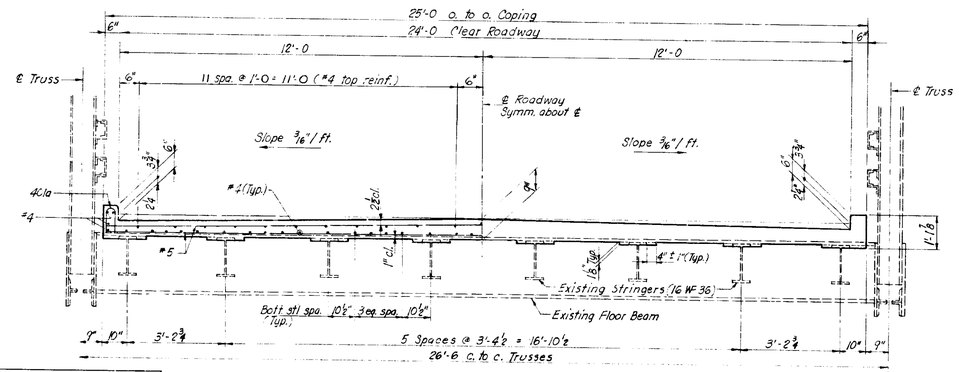



PLAN
Not to scale

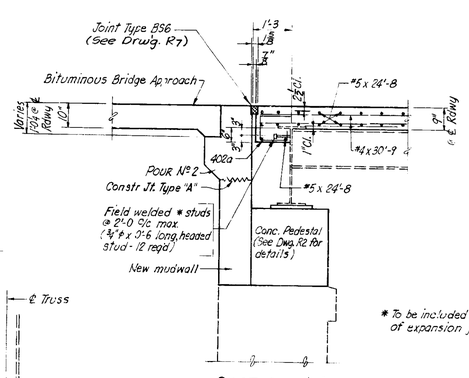



ROADWAY DRAIN DETAIL
Scale: ¾" = 1'-0

Note:
The top of bridge floor and inside face and top of curbs shall be sealed. "Surface Seal" area = 4615 Sq. Ft.

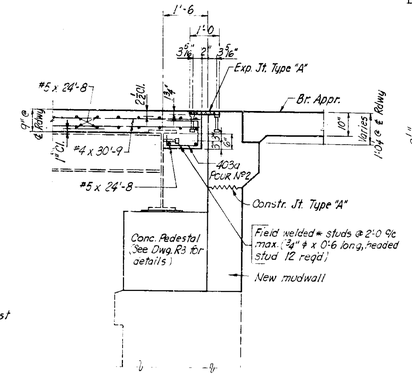



TYPICAL SECTION
Scale: ½" = 1'-0

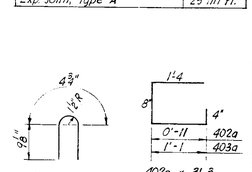



SECTION A-A
Scale ½" = 1'-0

* To be included in cost of expansion joint




SECTION B-B
Scale: ½" = 1'-0




BAR BENDING DETAILS
Not to scale

NOTES

See Bridge Standard C1 for reinforcing bar notes.
Anchor plates to be preset in concrete.
The costs of anchor plates and field welded studs are to be included in the cost of the expansion joint.

Top of new mudwalls (Pour N° 2) shall be poured after the floor slab is poured. For Details see Dwgs. R2 and R3.
The top reinforcing in the deck shall be securely tied down to the deck forms and/or the stringers to prevent lifting during concrete placement.

## BILL OF MATERIALS

SUPERSTRUCTURE

REINFORCING STEEL

| Mark or Size | No. of Bars | Length | Weight (lbs.) |
|---|---|---|---|
| #5 | 538 | 24'-8 | |
| | Total #5 | | 13841 |
| 401a | 356 | 1'-11 | |
| 402a | 26 | 3'-3 | |
| 403a | 26 | 3'-5 | |
| #4 | 408 | 30'-9 | |
| | Total #4 | | 8952 |
| Total Reinforcing Steel | | | 22793 |

CONCRETE

| | |
|---|---|
| Total Class "C" | 112.1 |

MISCELLANEOUS

| | |
|---|---|
| 8 pcs. 6" ϕ x 1'-1 C.I. Soil Pipe (Extra Heavy) 8'-8 x 18 #/Ft. = | 156 lbs |
| 8 Hubs x 5 # | 40 |
| Total Weight | 196 lbs. |
| 8 Std C.I. Roadway Drains Type SQ, Grate A | 1536 lbs. |
| Joint Type BS6 | 26 lin Ft. |
| Exp. Joint, Type A | 25 lin Ft. |

Rev. 3-11-74 Exp. Jt. BS & Details.

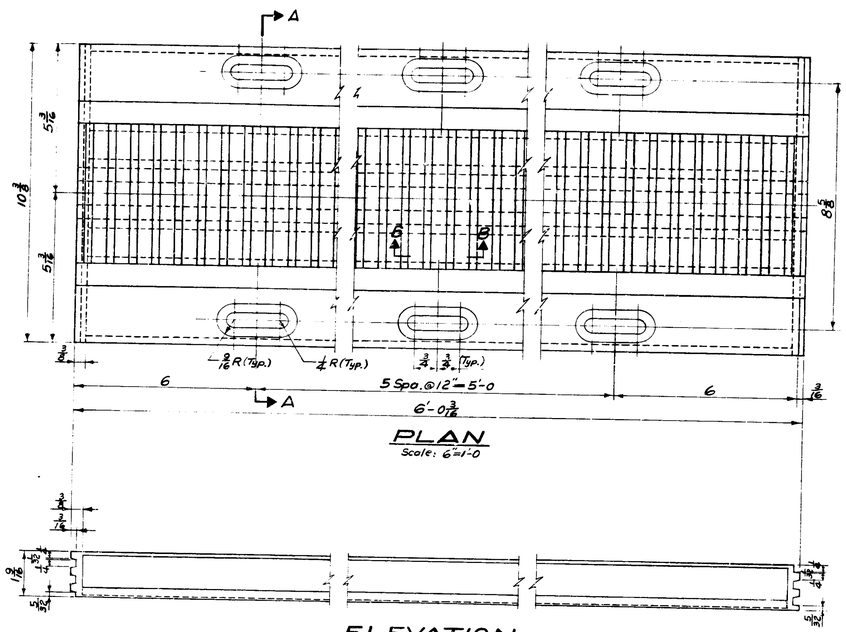
FLOOR SLAB DETAILS

# INDIANA STATE HIGHWAY COMMISSION

| | | | |
|---|---|---|---|
| DESIGNED | K.H. | CK'D | R.C.M. |
| DRAWN | M.E.B. | CK'D | R.C.M. |
| TRACED | | CK'D | |

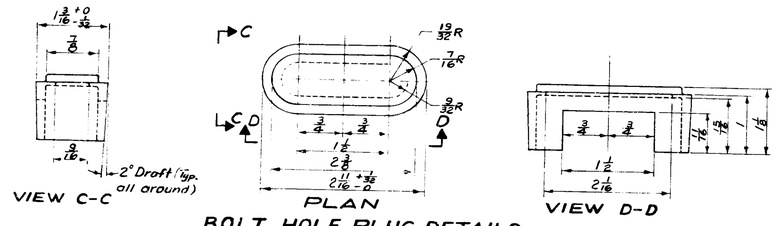
SCALE:- As Noted
DATE:- December 19, 1973
SUBMITTED FOR APPROVAL Ralph R. Mullinnix
DRAWING:- R5 OF 7
PROJECT:- 37-94B
CONTRACT NO B-971B
BRIDGE FILE:- 42-67-3172A

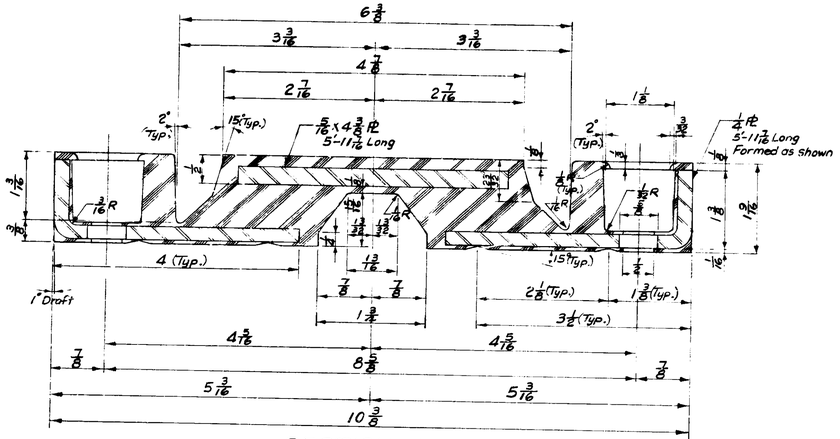
| BRIDGES OVER 20' SPAN | | | | | |
|---|---|---|---|---|---|
| FED. ROAD REG. NO. | STATE | PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
| 4 | IND | ST-948 | 1974 | 6 | 18 |

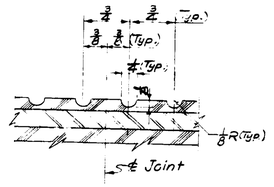


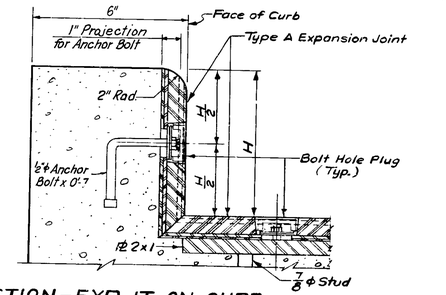


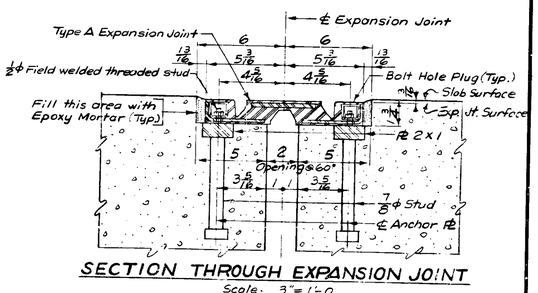


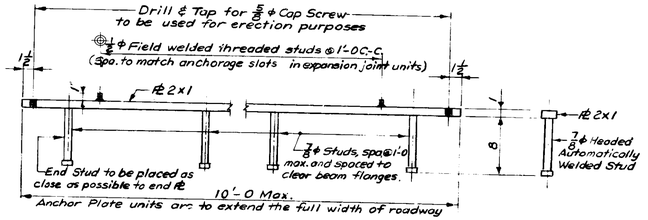



As an alternate, field drill and tap anchor plate for ¾ϕ bolts. Bolts must extend a minimum of ¾" into anchor plate.

Note:
The ped for the joint shall be formed as near to a true plane as possible. The ped shall then be smoothed to a true plane @ with a neat portland cement grout which shall be cured before the joint is set. The manufactures recommendations for joint installation, proper bolt torque, sealant application, bolt protection etc. shall be followed.
@ Flush with top of anchor plate when used.

NOTES

Refer to Special Provisions for physical properties of materials and construction methods.

The cost of the Anchor Plates, Threaded Studs, Concrete Anchors, Bolt Hole Plugs and all materials needed to erect the expansion joint shall be included in the cost of the pay item "Type A Expansion Joint".

Tighten nuts on ½ϕ threaded studs to 45 ft-lbs torque.

Welded threaded studs and nuts or bolts extending into tapped holes in anchor plate shall be stainless steel conforming to ASTM A 276 (Type 304)

# TYPE A
# EXPANSION JOINT DETAILS
# INDIANA STATE HIGHWAY COMMISSION

SCALE:- AS NOTED DATE:- December 19, 1973

SUBMITTED FOR APPROVAL: Ralph L. Mullinnix

DRAWING:- R6 OF 7

PROJECT:- ST-94B

CONTRACT NO. B-9718

BRIDGE FILE:- 42-67-3.72A

DESIGNED CK'D

DRAWN TCC 11-26-69 CK'D

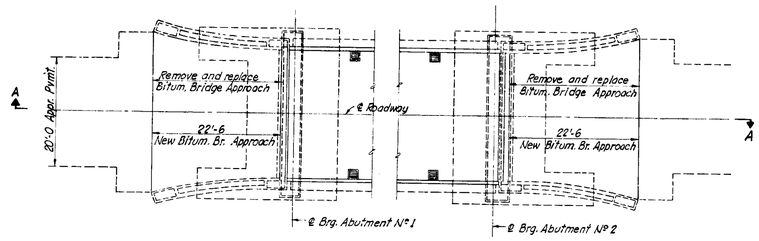
TRACED CK'D

Rev. 3-11-74 Alternate Stud anchorage system deleted.

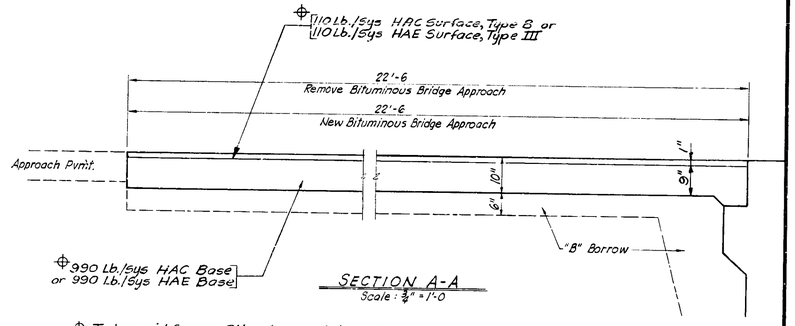
| BRIDGES OVER 20' SPAN | | | | | |
|---|---|---|---|---|---|
| FED. ROAD REG. NO. | STATE | PROJECT NO. | FISCAL YEAR | SHEET NO | TOTAL SHEETS |
| 5 | IND. | ST-94B | 1974 | 7 | 18 |

## BILL OF MATERIALS

| MISCELLANEOUS | |
|---|---|
| Common Excavation | 57 cys. |
| Bitum. Mixture for Approaches | 71 tons |
| "B" Borrow | 32 cys. |

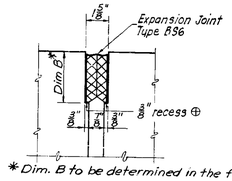



PLAN
Scale: 3/32" = 1'-0




SECTION A-A
Scale: 3/4" = 1'-0

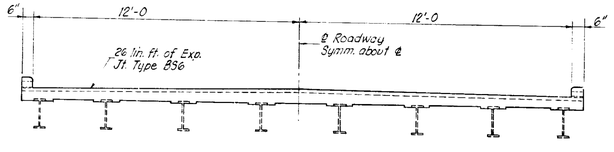
⊕ To be paid for as Bituminous Mixture for Approaches.



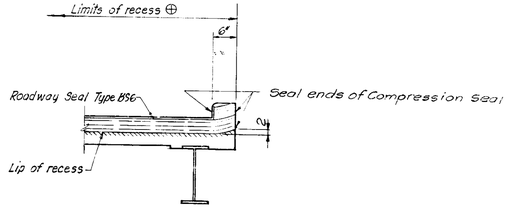

⊕ Recess may be sawcut or formed

* Dim. B to be determined in the field. See Special Provisions.

DETAIL OF EXPANSION JOINT BS6
Not to scale




SKETCH SHOWING LIMITS OF EXPANSION JT. TYPE BS6
Not to scale




TYP. BS6 JOINT INSTALLATION AT CURBS
Not to scale

APPROACH DETAILS

# INDIANA STATE HIGHWAY COMMISSION

PUTNAM COUNTY

SCALE:- As Noted DATE:- December 19, 1973

SUBMITTED FOR APPROVAL Ralph A. Mullinnix

DRAWING:- 7 OF 7
PROJECT:- ST-94B
CONTRACT NO. B-9713
BRIDGE FILE:- 42-67-3.72A

| | | | |
|---|---|---|---|
| DESIGNED | R.C.M. | C'K'D | R.D.M. |
| DRAWN | M.E.B. | C'K'D | R.C.M. |
| TRACED | | C'K'D | |

Rev. 3-11-74 BS6 Exp. Jt. details, Bit. Matl. for Apprs. listed.

BRIDGE FILE

## STRUCTURE QUANTITIES

| ITEM | CONCRETE CL. "C" SUPERSTR CU. YDS. | CONCRETE CL. "A" SUBSTR CU. YDS. | CONCRETE CLASS ABOVE FTG CU. YDS. | CONCRETE CLASS IN FTG. LIN. FT. | RIVETS REMOVED EACH | REINF. STEEL TOTAL LBS. | STRUCT. STEEL *** LBS. | ANCHOR RODS MK-AR EACH | ANCHOR PLATES MK-AP7 EACH | PILES UNTREATED TIMBER NO. | PILES UNTREATED TIMBER LIN. FT. | PILES TREATED TIMBER NO. | PILES TREATED TIMBER LIN. FT. | PILES STEEL ENCASED CONC. NO. | PILES STEEL ENCASED CONC. LIN. FT. | PILES STEEL H BEARING NO. | PILES STEEL H BEARING LIN. FT. | CAST IRON DRAIN PIPE LBS. | CAST IRON GRATES, BASINS, & FITTINGS LBS. | SURFACE SEAL LIN. FT. | EXP. JT. TYPE "BS6" LIN. FT. | 5/8" ϕ EXP. ANCHOR EACH | EXP. JT. TYPE "A" LIN. FT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| REPAIRS TO ABUTMENT NO. 1 | | 7.0 | | | | 373 | | | 1 | | | | | | | | | | | | | | 4 | |
| REPAIRS TO ABUTMENT NO. 2 | | 7.5 | | | | 425 | | | 1 | | | | | | | | | | | | | | 4 | |
| STEEL TRUSS REPAIRS | | | | | | | 7825 | | | | | | | | | | | | | | | | | |
| FLOOR SLAB | 112.1 | | | | 102 | 22793 | | | | | | | | | | | | 196 | 1536 | 4615 | 26 | | | 25 |
| Reinf. Steel for Approach Structures | | | | | | | | | | | | | | | | | | | | | | | | |
| Reinf. Steel for R.C. Bridge Approaches | | | | | | | | | | | | | | | | | | | | | | | | |
| Reinf. Steel for Lip Gutter, Pvmt., Tapers, etc. | | | | | | | | | | | | | | | | | | | | | | | | |
| TOTALS | 112.1 | 14.5 | | | 102 | 23591 | 7825 | | 2 | | | | | | | | | 196 | 1536 | 4615 | 26 | 8 | | 25 |

| FED.ROAD REG. NO. | STATE | PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 5 | IND. | ST-94B | 1974 | 8 | 18 |

## APPROACH TABLE

| LOCATION LT/RT | LOCATION STATION | DESCRIPTION | WIDTH FT. | RADII FT. | GRADE % | LENGTH FT. | DIST. BEYOND R/W FT. | EXCAVATION(CYS) CUT | EXCAVATION(CYS) FILL | BITUM. SURFACE #/SQ.YD. | BITUM. SURFACE TONS | BITUM. BASE #/SQ.YD. | BITUM. BASE TONS | COMP. AGG. BASE Depth (in) | COMP. AGG. BASE TONS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |

## PAVED SIDE DITCH & SODDING SUMMARY

| LT. OR RT. | STATION TO STATION | PAVED SIDE DITCH (LIN. FT.) TYPE | PAY LENGTH | NO. OF LUGS | PAY LENGTH | CUT OFF WALLS | PAY LENGTH | TOTAL PAY LENGTH | SODDING (SQ.YD.) FOR PSD | FOR DITCHES | SHOULDERS | OTHER | TOTAL SOD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | |

BRIDGE FILE

## APPROACH STRUCTURES

| STRUCT. NO. | LOCATION | DESCRIPTION SIZE | DESCRIPTION KIND | LENGTH LIN. FT. | CONCR. CL. A IN STRS. CU. YDS. | REINF. STEEL LBS. | PIPE END SEC. EACH | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| | | | | TOTALS | | | | | Total of Reinforcing Steel Carried to "Structure Quantities" |

DECEMBER 1, 1971

| | | | |
|---|---|---|---|
| CONSTRUCTION IDENTIFICATION SIGNS | EACH | * | Signs XM-6 |
| | | * | Signs XM-7 |
| | | * | Signs XM-8 |

* Not a pay item. Place as directed by the engineer.

NOTES:
Weight of Spirals includes weight of 1½ extra turns top and bottom.
Spacers and 1½ turns at laps included in cost of Spiral.
*** The weight of structural steel is approximate only, and it shall be the Contractor's responsibility to determine the weight on which he bases his bid.
For Test Bar Samples See Bridge Standard C1.

SUMMARIZED MEB CK'D LKH
TRACED CK'D

# BRIDGE SUMMARY
## INDIANA STATE HIGHWAY COMMISSION

DATE December 19, 1973

SUBMITTED FOR APPROVAL Ralph C. Mullinnix

SHEET 8 OF 18

PROJECT: ST-94B
CONTRACT NO: B-9713
BRIDGE FILE: 42-67-3172A

RALPH C. MULLINNIX REGISTERED 7942 ENGINEER

# ESTIMATE OF QUANTITIES

| FED ROAD REG. NO. | STATE | PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 5 | IND. | ST-94B | 1974 | 9 | 18 |

## STRUCTURE PAY ITEMS

| CODE NO. | DESCRIPTION | UNIT | STRUCTURE | | TOTAL QUANTITY |
|---|---|---|---|---|---|
| 51001 | CONCRETE, CLASS "C" IN SUPERSTRUCTURE | CYS. | | | 118.1 |
| 51005 | CONCRETE, CLASS A IN SUPERSTRUCTURE | CYS. | | | 14.5 |
| 51010 | CONCRETE, CLASS B ABOVE FOOTINGS | CYS. | | | |
| 51015 | CONCRETE, CLASS B IN FOOTINGS | CYS. | | | |
| 51045 | CONCRETE STRUCTURAL MEMBERS | LSUM | | | |
| 51030 | REINFORCING STEEL | LBS. | | | 23591 |
| 51035 | STRUCTURAL STEEL | LBS. | | | |
| 51038 | STRUCTURAL STEEL | LSUM | | | 1 |
| 51090 | BRONZE PLATES | LBS. | | | |
| 51050 | ANCHOR RODS (MK-AR 1) | EACH | | | |
| 51055 | ANCHOR RODS (MK-AR 2) | EACH | | | |
| 51060 | ANCHOR RODS (MK-AR 3) | EACH | | | |
| 51065 | ANCHOR RODS (MK-AR 4) | EACH | | | |
| 51070 | ANCHOR PLATES (MK-AP 1) | EACH | | | |
| 51075 | ANCHOR PLATES (MK-AP 2) | EACH | | | |
| 51080 | ANCHOR PLATES (MK-AP 3) | EACH | | | |
| 51085 | ANCHOR PLATES (MK-AP 7) | EACH | | | 2 |
| 51112 | ANCHOR BOLTS | EACH | | | |
| 51068 | TIE DOWN ASSEMBLY MK-UA | EACH | | | |
| 51025 | CAST IRON, DRAIN PIPE, 4 INCH | LBS. | | | |
| 51100 | CAST IRON, DRAIN PIPE, 6 INCH | LBS. | | | 196 |
| 51105 | CAST IRON, DRAIN PIPE, 8 INCH | LBS. | | | |
| 51110 | CAST IRON, GRATES, BASINS AND FITTINGS | LBS. | | | 1536 |
| 51132 | RAILING RESET | LFT. | | | |
| 51115 | RAILING (TYPE 5 OR C) | LFT. | | | |
| 51120 | RAILING (TYPE 5A OR C1) | LFT. | | | |
| 51125 | RAILING (TYPE 6 OR D) | LFT. | | | |
| 51130 | RAILING (TYPE 7 OR E) | LFT. | | | |
| 51020 | CONCRETE RAILING | CYS. | | | |
| 51025 | CONCRETE RAILING | LFT. | | | |
| 51215 | CLASS. EXCAVATION | CYS. | | | |
| 51220 | WET " CAVATION | CYS. | | | |
| 51223 | WATERWAY EXCAVATION | CYS. | | | |
| 51224 | WATERWAY EXCAVATION | LSUM | | | |
| 51225 | DRY EXCAVATION | CYS. | | | |
| 51230 | FOUNDATION EXCAVATION (UNCLASSIFIED) | CYS. | | | |
| 51231 | FOUNDATION EXCAVATION (UNCLASSIFIED) | LSUM | | | |
| 51810 | PNEUMATICALLY PLACED MORTAR | SFT. | | | |
| 51806 | REPOINTING MASONRY IN STR'S. | SFT. | | | |
| 51816 | WELDED STEEL WIRE FABRIC | SFT. | | | |
| 51850 | PAINTING OLD STEEL BRIDGE | LSUM | | | 1 |
| | EXP JOINT TYPE "A" | LFT. | | | 25 |
| | EXP JOINT TYPE "BS6" | LFT. | | | 20 |
| | 5/8" ϕ EXPANSION ANCHORS | EA | | | 8 |
| | RIVETS REMOVED | EA | | | 102 |

## STRUCTURE PAY ITEMS

| CODE NO. | DESCRIPTION | UNIT | STRUCTURE | | TOTAL QUANTITY |
|---|---|---|---|---|---|
| 51135 | TIMBER PILES FURNISHED, UNTREATED | LFT. | | | |
| 51140 | TIMBER PILES DRIVEN, UNTREATED | LFT. | | | |
| 51145 | TIMBER PILES FURNISHED, TREATED | LFT. | | | |
| 51150 | TIMBER PILES DRIVEN, TREATED | LFT. | | | |
| 51155 | PILE SHELLS FURNISHED AND DRIVEN (12 INCH) | LFT. | | | |
| 51160 | PILE SHELLS FURNISHED AND DRIVEN (16 INCH) | LFT. | | | |
| 51185 | STEEL H PILES FURNISHED AND DRIVEN (8 BP 36) | LFT. | | | |
| 51190 | STEEL H PILES FURNISHED AND DRIVEN (10 BP 42) | LFT. | | | |
| 51195 | STEEL H PILES FURNISHED AND DRIVEN (12 BP 53) | LFT. | | | |
| 51210 | PILE ENCASEMENT (CONCRETE) | LFT. | | | |
| 51328 | REMOVAL OF PRESENT STRUCTURE (PORTIONS) | LSUM | | | 1 |
| 51330 | REMOVAL OF PRESENT STRUCTURE | LSUM | | | |
| 51335 | TEMPORARY BRIDGE AND APPROACHES | LSUM | | | |
| 51366 | CONCRETE SLOPEWALL 5 INCH | SYS. | | | |
| 51365 | SLOPEWALL | SYS. | | | |
| 51370 | RIPRAP | SYS. | | | |
| 51375 | REVETMENT RIPRAP | TON | | | |
| 51371 | HANDLAID RIPRAP 12 INCH | SYS. | | | |
| 51272 | DUMPED RIPRAP | TON | | | |
| 51395 | STEEL DRAIN PIPE (6 INCH) | LSUM | | | |
| 51400 | STEEL DRAIN PIPE (8 INCH) | LSUM | | | |
| 51092 | STEEL PIPE CONDUIT (2 INCH) | LFT. | | | |
| 51826 | SURFACE SEAL | SFT. | | | 4615 |
| 51827 | COAL TAR INTERLAYER PROTECTIVE COAT | LSUM | | | |

## APPROACH PAY ITEMS

| CODE NO. | DESCRIPTION | UNIT | STRUCTURE | | TOTAL QUANTITY |
|---|---|---|---|---|---|
| 02020 | UNCLASSIFIED EXCAVATION | CYS. | | | |
| 52240 | CORDON EXCAVATION | CYS. | | | 57 |
| 52245 | BORROW | CYS. | | | |
| 52250 | B BORROW | CYS. | | | 32 |
| 52302 | REMOVAL OF PAVEMENT | SYS. | | | |
| 02232 | DELAKING PAVEMENT | SYS. | | | |
| 52490 | TERMINAL JOINT | LFT. | | | |
| 52493 | CONTRACTION JOINT, TYPE D-1 | LFT. | | | |
| 52280 | CONCRETE PAVEMENT REINFORCED (7 INCH) | SYS. | | | |
| 52285 | CONCRETE PAVEMENT REINFORCED (8 INCH) | SYS. | | | |
| 52290 | CONCRETE PAVEMENT REINFORCED (10 INCH) | SYS. | | | |
| 52300 | CONCRETE PAVEMENT REINFORCED (10 INCH) | SYS. | | | |
| 06070 | CONCRETE SIDEWALK | SYS. | | | |
| 52305 | TYPE B COMPACTED AGGREGATE FOR BASE (SIZE NO. 53) | TON | | | |
| 52600 | COVER AGGREGATE | TON | | | |
| 52605 | AGGREGATE FOR SHOULDER DRAINS | TON | | | |
| 52610 | AGGREGATE FOR UNDER DRAINS | CYS. | | | |
| 52308 | TYPE C COMPACTED AGGREGATE FOR BASE (SIZE NO. 53) | TON | | | |
| 52310 | SUBBASE | CYS. | | | |
| 52315 | BITUMINOUS STABILIZED SUBBASE TYPE I, II, OR III | TON | | | |
| 52320 | BITUMINOUS STABILIZED SUBBASE | TON | | | |
| 52445 | BITUMINOUS BASE | TON | | | |
| 52450 | BITUMINOUS SURFACE | TON | | | |
| 52455 | BITUMINOUS MATERIAL FOR TACK COAT | TON | | | |
| 52460 | BITUMINOUS MATERIAL FOR PRIME COAT | TON | | | |
| 52465 | BITUMINOUS MATERIAL FOR SEAL COAT | TON | | | |
| 52470 | BITUMINOUS MIXTURE FOR APPROACHES | TON | | | 71 |
| 52475 | BITUMINOUS MIXTURE FOR SHOULDER | TON | | | |
| 52480 | BITUMINOUS MATERIAL, APPLIED | TON | | | |
| 52500 | GUARD RAIL, TYPE A | LFT. | | | |
| 52505 | GUARD RAIL, TYPE B | LFT. | | | |
| 52510 | GUARD RAIL, TYPE C | LFT. | | | |
| 52515 | GUARD RAIL, TYPE D | LFT. | | | |
| 52520 | GUARD RAIL, TYPE E | LFT. | | | |
| 52525 | GUARD RAIL, TYPE F | LFT. | | | |
| 52530 | GUARD RAIL, TYPE G | LFT. | | | |
| 06035 | RESET GUARD RAIL | LFT. | | | |
| 52535 | REMOVAL OF GUARD RAIL | LFT. | | | |
| 52380 | SODDING | SYS. | | | |
| 52385 | MULCHED SEEDING | SYS. | | | |
| 52390 | SEED MIXTURES | LBS. | | | |
| 52395 | TEMPORARY SEED MIXTURES | LBS. | | | |
| 1. 52400 | MULCHING MATERIAL | TON | | | |
| 2. 52405 | FERTILIZER | TON | | | |
| 52410 | WATER | M.G. | | | |
| 3. 52415 | AGRICULTURAL LIMESTONE | TON | | | |
| 06360 | CROWN VETCH SEEDING | LBS. | | | |
| 52401 | MULCHING MATERIAL (WOOD CELLULOSE FIBER) | TON | | | |
| 52640 | MAINTAINING TRAFFIC | LSUM | | | |
| 52370 | CLEARING RIGHT-OF-WAY | LSUM | | | |

1. INCLUDES _____ TONS FOR TEMPORARY SEEDING
2. INCLUDES _____ TONS FOR TEMPORARY SEEDING
3. INCLUDES _____ TONS FOR TEMPORARY SEEDING

## APPROACH PAY ITEMS

| CODE NO. | DESCRIPTION | UNIT | STRUCTURE | | TOTAL QUANTITY |
|---|---|---|---|---|---|
| 07025 | PIPE: GR. A (16 Ga. FBCCS) 12" | LFT. | | | |
| 07025 | PIPE: GR. A (16 Ga. FBCCS) 15" | LFT. | | | |
| 07123 | PIPE: GR. A (16 G.. FBCCS) 18" | LFT. | | | |
| 07175 | PIPE: GR. A (16 Ga. FBCCS) 24" | LFT. | | | |
| 07225 | PIPE: GR. A (16 Ga. FBCCS) 30" | LFT. | | | |
| 07275 | PIPE: GR. A (16 Ga. FBCCS) 36" | LFT. | | | |
| 07325 | PIPE: GR. A (16 Ga. FBCCS) 42" | LFT. | | | |
| 10000 | PIPE: GR. D (16 Ga. CS) 12" | LFT. | | | |
| 10025 | PIPE: GR. D (16 Ga. CS) 15" | LFT. | | | |
| 10050 | PIPE: GR. D (16 Ga. CS) 18" | LFT. | | | |
| 10075 | PIPE: GR. D (16 Ga. CS) 24" | LFT. | | | |
| 10100 | PIPE: GR. D (16 Ga. CS) 30" | LFT. | | | |
| 10125 | PIPE: GR. D (16 Ga. CS) 36" | LFT. | | | |
| 10150 | PIPE: GR. D (16 Ga. CS) 42" | LFT. | | | |
| 34000 | PIPE: 18 Ga. FBC PERF. CS 6" | LFT. | | | |
| 52375 | CONCRETE CLASS A IN STRUCTURE | CYS. | | | |
| 46000 | PIPE END SECTION 12" | EACH | | | |
| 46002 | PIPE END SECTION 15" | EACH | | | |
| 46010 | PIPE END SECTION 18" | EACH | | | |
| 46013 | PIPE END SECTION 21" | EACH | | | |
| 46020 | PIPE END SECTION 24" | EACH | | | |
| 46023 | PIPE END SECTION 27" | EACH | | | |
| 46030 | PIPE END SECTION 30" | EACH | | | |
| 46035 | PIPE END SECTION 33" | EACH | | | |
| 46040 | PIPE END SECTION 36" | EACH | | | |
| 45000 | INLET, TYPE A-1 | EACH | | | |
| 45025 | INLET, TYPE D-6 | EACH | | | |
| 45030 | INLET, TYPE E-7 | EACH | | | |
| 4507C | INLET, TYPE F-12A | EACH | | | |
| 06335 | PAVED SIDE DITCH TYPE A | LFT. | | | |
| 06340 | PAVED SIDE DITCH TYPE B | LFT. | | | |
| 06345 | PAVED SIDE DITCH TYPE C | LFT. | | | |
| 06350 | PAVED SIDE DITCH TYPE D | LFT. | | | |
| 06355 | PAVED SIDE DITCH TYPE E | LFT. | | | |
| 06360 | PAVED SIDE DITCH TYPE F | LFT. | | | |
| 06365 | PAVED SIDE DITCH TYPE G | LFT. | | | |

**INCLUDES _____ LFT. FOR YELLOW BARRIER LINE

## APPROACH PAY ITEMS

| CODE NO. | DESCRIPTION | UNIT | STRUCTURE | | TOTAL QUANTITY |
|---|---|---|---|---|---|
| 06040 | 42" FENCE, F. FIELD | LFT. | | | |
| 06045 | 48" FENCE, CHAIN LINK | LFT. | | | |
| 52340 | CONSTRUCTION SIGNS (TYPE A) | EACH | | | 12 |
| 52345 | CONSTRUCTION SIGNS (TYPE B) | EACH | | | 12 |
| 52350 | STANDARD BARRICADES (TYPE III) | EACH | | | 2 |
| 06650 | STOP SIGN, TYPE R-1A | EACH | | | |
| 06652 | DO NOT PASS SIGN, TYPE R-11-A | EACH | | | |
| 06655 | YIELD SIGN, TYPE R-301 | EACH | | | |
| 06652 | PASS WITH CARE SIGN, TYPE R-12A | EACH | | | |
| 06660 | CURVE SIGN, TYPE W-2AR | EACH | | | |
| 06665 | CURVE SIGN, TYPE W-2AL | EACH | | | |
| 06670 | REVERSE CURVE SIGN, TYPE W-4AR | EACH | | | |
| 06675 | REVERSE CURVE SIGN, TYPE W-4AL | EACH | | | |
| 06680 | LARGE ARROW SIGN, TYPE W-11A | EACH | | | |
| 06685 | STOP AHEAD SIGN, TYPE W-13A | EACH | | | |
| 06725 | DELINEATOR WITH POST, TYPE D-1 3 INCH | EACH | | | |
| 06740 | DELINEATOR WITH POST, TYPE D-2 3 INCH | EACH | | | |
| 06755 | DELINEATOR WITH POST, TYPE D-3 3 INCH | EACH | | | |
| 06770 | DELINEATOR POST | EACH | | | |
| 06720 | TEMPORARY PAVEMENT MARKING TAPE | LFT. | | | |
| 06715 | TEMPORARY PAVEMENT MARKING PAINT | LFT. | | | |
| 52360 | RIGHT-OF-WAY MARKERS | EACH | | | |
| 52365 | PAINTED LINE ** | LFT. | | | |
| 06500 | MONUMENT, TYPE A | EACH | | | |
| 06505 | MONUMENT, TYPE B | EACH | | | |
| 06510 | MONUMENT, TYPE C | EACH | | | |
| 06515 | MONUMENT, TYPE D | EACH | | | |

SUMMARIZED M.E.B. C'K'D L.K.H.

TRACED _____ C'K'D _____

SEPTEMBER 1972

## REVISIONS

| DATE | ITEM |
|---|---|
| | |

# BRIDGE ESTIMATE OF QUANTITIES
## INDIANA STATE HIGHWAY COMMISSION

DATE December 19, 1973

SUBMITTED FOR APPROVAL Ralph L. Mullinnix

SHEET 9 OF 18

PROJECT: ST-94B
CONTRACT NO: B-9713
BRIDGE FILE: 42-67-3172A

NELSON C. MULLINNIX REGISTERED 7942 STATE ENGINEER