

CONTRACT NO. B-17433

| INDEX | | | | | |
|--------------------------|------------|--|---------------------|----------------|---------|
| PROJECT | STRUCTURE | TYPE | SPAN | OVER | STATION |
| RS-3446(3) RS-4475(1) | 8-46-3214A | DECK RECONSTRUCTION AND OVERLAY | 73'-7, 74'-2, 73'-7 | KANKAKEE RIVER | 34+55 |

| SHEET NO. | SHEET DESIGNATION | SUBJECT | F.H.W.A. APPROVAL |
|-----------|-----------------------|---|-------------------|
| 1 | TITLE SHEET AND INDEX | | |
| 2 | TRAFFIC MAINTENANCE | | |
| 3 | R1 | LAYOUT | |
| 4 | R2 | GENERAL PLAN | |
| 5 | R3 | DETAILS | |
| 6 | R4 | DECK RECONSTRUCTION DETAILS | |
| 7 | R5 | END BENTS DETAILS - RECONSTRUCTED WINGS | |
| 8 | R6 | BARRIER RAIL DETAILS | |
| 9 | R7 | R.C. BRIDGE APPROACH DETAILS | |
| 10 | | BRIDGE ESTIMATE OF QUANTITIES | |

| TRAFFIC DATA | | |
|-----------------------|--------|-------------|
| A.D.T. (1985) | | 1600 V.P.D. |
| A.D.T. (19 PROJECTED) | | V.P.D. |
| D.H.V. (19 PROJECTED) | | V.P.D. |
| TRUCKS | D.H.V. | % A.D.T. % |
| DESIGN SPEED | | M.P.H. |
| ACCESS CONTROL | | |

PLANS PREPARED BY
FLOYD E. BURROUGHS & ASSOCIATES, INC.
 CONSULTING ENGINEERS

INDIANAPOLIS, INDIANA

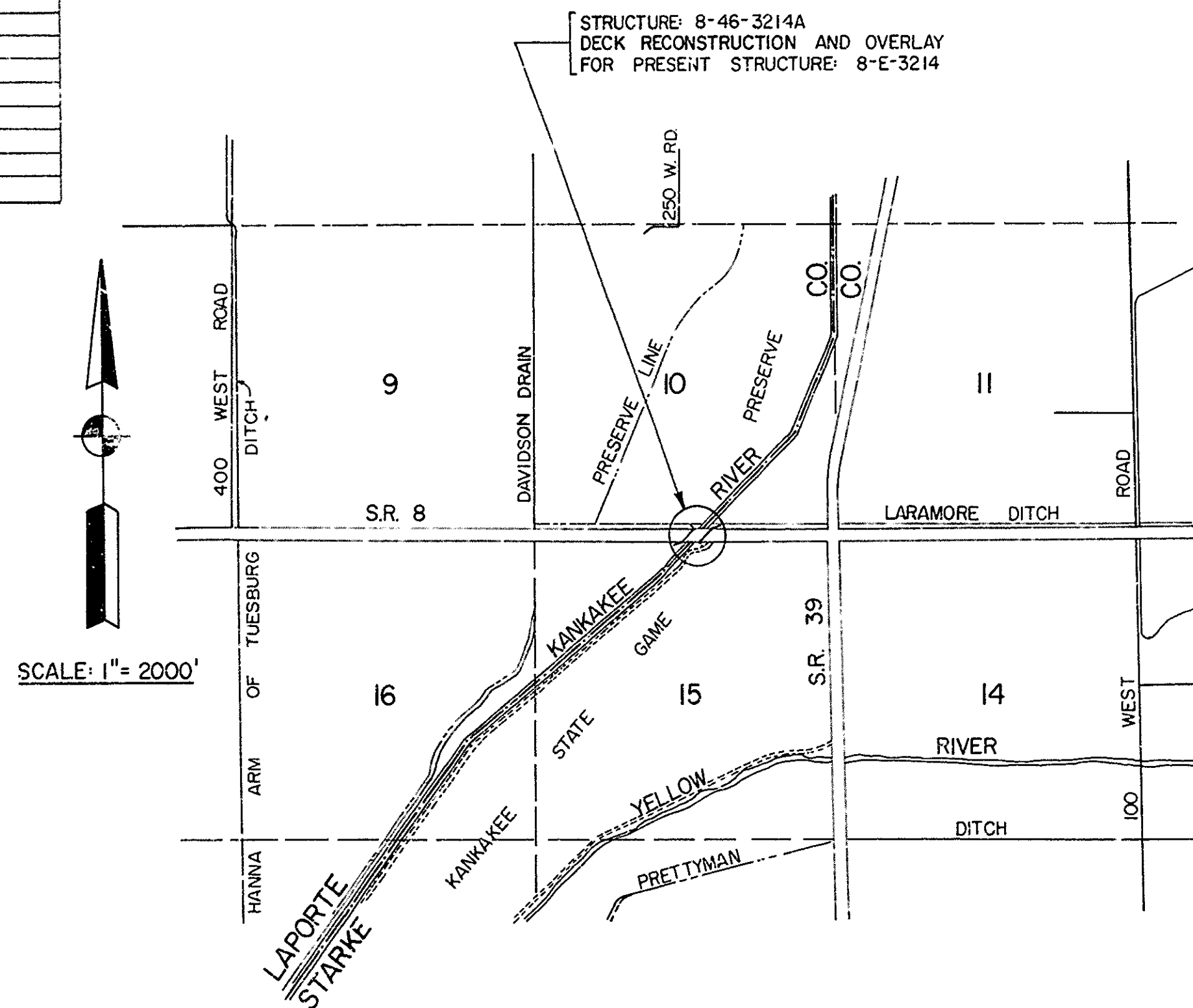
CERTIFIED Stephen J. Christian DATE MARCH 17, 1988

INDIANA
 DEPARTMENT OF
 HIGHWAYS

BRIDGE PLANS
 FOR SPANS OVER 20 FEET
 ON
 STATE ROAD NO. 8
 PROJECT NO. RS-3446(3)
 RS-4475(1)

DECK RECONSTRUCTION AND OVERLAY FOR BRIDGE ON SR 8 OVER KANKAKEE RIVER, APPROXIMATELY 0.5 MILES WEST OF SR 39 LOG MILE 9.62, ALL IN SECTIONS 10 & 15, T-13-N, R-3-W, LAPORTE AND STARKE COUNTIES.

NOTE:-
 WHENEVER RS-4475(1) APPEARS
 IN THESE PLANS OR CONTRACT
 DOCUMENTS IT SHALL BE
 INTERPRETED AS RS-3446(3)
 RS-4475(1)



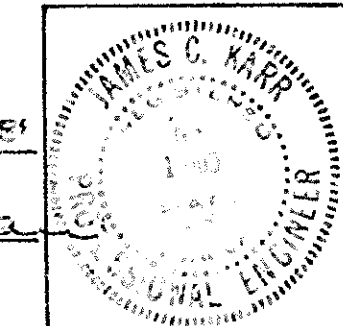
| BRIDGES OVER 20' SPAN | | | | | |
|-----------------------|-------|-------------|-------------|-----------|--------------|
| FEDERAL REGION NO. | STATE | PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
| 5 | IND. | | 1987 | 1 | 31 |

| INDEX CONTINUED STANDARD DRAWINGS | | | | | |
|--------------------------------------|----------------------------|---|-------------------|------------------|------|
| SHEET NO. | SHEET DESIGNATION | SUBJECT | F.H.W.A. APPROVAL | ADOPTED REVISION | DATE |
| | BRIDGE STD. BR1 | ALUMINUM BRIDGE RAILING | | | |
| | BRIDGE STD. BR2 | ALUMINUM BRIDGE RAILING DETAILS | | | |
| | BRIDGE STD. BR3 | STEEL BRIDGE RAILING | | | |
| 11 | BR11-2 STD. BR5 | STEEL BRIDGE RAILING DETAILS | 1-22-87 | R 12-01-86 | |
| | BRIDGE STD. BR5 | RAILING CONNECTION DETAILS | | | |
| 12 | BRIDGE STD. C1 | MISCELLANEOUS DETAILS | 2-3-87 | P 2-02-87 | |
| | BRIDGE STD. C2 | MISCELLANEOUS DETAILS | | | |
| 13 | BRIDGE STD. C3 | MISCELLANEOUS DETAILS | 1-26-88 | R 11-02-87 | |
| | BRIDGE STD. C4 | MISCELLANEOUS DETAILS | | | |
| 14 | BRIDGE STD. D | CASTING DETAILS ROADWAY DRAINS | 1-22-87 | P 12-01-86 | |
| | BRIDGE STD. D1 | ADJUSTING FRAME DETAILS FOR ROADWAY DRAINS | | | |
| | BRIDGE STD. PB | PRESTRESSED CONCRETE TYPE I-BEAMS | | | |
| | BRIDGE STD. PB | PRESTRESSED CONCRETE TYPE I-BEAMS | | | |
| | BRIDGE STD. PB6 | PRESTRESSED BOX BEAMS | | | |
| | BRIDGE STD. PB | PRESTRESSED COMPOSITE BOX BEAMS WIDE | | | |
| | BRIDGE STD. PB | PRESTRESSED COMPOSITE BOX BEAMS WIDE | | | |
| | BRIDGE STD. PB10 | TOLERANCES FOR FABRICATION OF PRESTRESSED BEAMS | | | |
| | BRIDGE STD. PB11 | ELASTOMERIC BEARING PAD DETAILS | | | |
| | BRIDGE STD. R2A | BRIDGE LIGHTING DETAILS | | | |
| | BRIDGE STD. R2B | BRIDGE LIGHTING DETAILS | | | |
| | BRIDGE STD. S1 | MISCELLANEOUS DETAILS | | | |
| | BRIDGE STD. SH1 | STEEL SHOE DETAILS | | | |
| | BRIDGE STD. T SHEET A | STANDARD TEMPORARY BRIDGE | | | |
| | BRIDGE STD. T SHEET B | STANDARD TEMPORARY BRIDGE | | | |
| | BRIDGE STD. | | | | |
| | BRIDGE STD. | | | | |
| | BRIDGE STD. | | | | |
| | BRIDGE STD. | | | | |
| 15 | ROAD STD. SHEET A | STANDARD PAVEMENT JOINTS | * | R 4-4-88 | |
| | ROAD STD. SHEET B | STANDARD PAVEMENT JOINTS | | | |
| | ROAD STD. SHEET | MISCELLANEOUS STANDARDS | | | |
| | ROAD STD. SHEET | MISCELLANEOUS STANDARDS | | | |
| 16 | ROAD STD. SHEET MA | MISCELLANEOUS STANDARDS | 10-23-87 | P 6-3-87 | |
| | ROAD STD. SHEET | MISCELLANEOUS STANDARDS | | | |
| | ROAD STD. SHEET | MISCELLANEOUS STANDARDS | | | |
| | ROAD STD. SHEET | MISCELLANEOUS STANDARDS | | | |
| | ROAD STD. SHEET | MISCELLANEOUS STANDARDS | | | |
| | ROAD STD. SHEET | MISCELLANEOUS STANDARDS | | | |
| 17 | ROAD STD. SHEET ME | MISCELLANEOUS STANDARDS | * | R 4-4-88 | |
| 18 | ROAD STD. SHEET ME2 | MISCELLANEOUS STANDARDS | 6-27-85 | R 9-4-84 | |
| | ROAD STD. SHEET | MISCELLANEOUS STANDARDS | | | |
| 19 | ROAD STD. SHEET MN | MISCELLANEOUS STANDARDS | 9-24-85 | R 6-3-85 | |
| 20 | ROAD STD. SHEET MP | MISCELLANEOUS STANDARDS | 9-24-85 | R 6-3-85 | |
| | ROAD STD. SHEET | MISCELLANEOUS STANDARDS | | | |
| 21 | ROAD STD. SHEET MT3 | MISCELLANEOUS STANDARDS | 8-30-82 | A JUL 82 | |
| 21a | ROAD STD. SHEET MT19 | MISCELLANEOUS STANDARDS | | A NOV 87 | |
| | ROAD STD. SHEET | MISCELLANEOUS STANDARDS | | | |
| | ROAD STD. SHEET | MISCELLANEOUS STANDARDS | | | |
| | ROAD STD. SHEET | MISCELLANEOUS STANDARDS | | | |
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| | ROAD STD. SHEET | MISCELLANEOUS STANDARDS | | | |
| | ROAD STD. SHEET | MISCELLANEOUS STANDARDS | | | |
| | ROAD STD. SHEET | MISCELLANEOUS STANDARDS | | | |
| 22 | ROAD STD. SHEET CR 2 | GUARD RAIL CLASS BS, HS | * | R 4-2-84 | |
| | ROAD STD. SHEET GR | GUARD RAIL CLASS | | | |
| | ROAD STD. SHEET GR | GUARD RAIL CLASS | | | |
| 23 | ROAD STD. SHEET GR 4A | GUARD RAIL CLASS HS | * | R 4-2-84 | |
| | ROAD STD. SHEET GR5 | ALUMINUM GUARD RAIL DETAILS | | | |
| | ROAD STD. SHEET GR6 | STEEL TUBE GUARD RAIL DETAILS | | | |
| 24 | ROAD STD. SHEET GR7 | GUARD RAIL PIER CONNECTION DETAILS | * | R 4-1-82 | |
| | ROAD STD. SHEET GR8 | STEEL BEAM GUARD RAIL | | | |
| | ROAD STD. SHEET GR9 | ALUMINUM BEAM GUARD RAIL | | | |
| 25 | ROAD STD. SHEET GR10 | GUARD RAIL BURIED ENDS | * | R 4-1-82 | |
| | ROAD STD. SHEET GR10A | GUARD RAIL BREAKAWAY CABLE TERM. | | | |
| | ROAD STD. | | | | |
| 26 | ROAD STD. SHEET CR2 | TEMPORARY CONCRETE BARRIER | 2-3-87 | A FEB 87 | |
| | ROAD STD. SHEET 1 DETOURS | STANDARD DETOUR SIGNS | | | |
| | ROAD STD. SHEET 1A DETOURS | STANDARD DETOUR SIGNS | | | |
| | ROAD STD. SHEET 1B DETOURS | STANDARD DETOUR SIGNS | | | |
| | ROAD STD. SHEET 2 DETOURS | STANDARD DETOUR SIGNS | | | |
| 27 | ROAD STD. SHEET 2A DETOURS | STANDARD DETOUR SIGNS | * | R 2-1-86 | |
| 28 | ROAD STD. SHEET 3 DETOURS | STANDARD DETOUR SIGNS | 4-10-84 | P 2-1-84 | |
| 29 | ROAD STD. SHEET 3A DETOURS | STANDARD DETOUR SIGNS | 12-8-83 | R 10-3-83 | |
| 30 | ROAD STD. SHEET 4 DETOURS | STANDARD DETOUR SIGNS | 12-8-83 | R 10-3-83 | |
| 31 | ROAD STD. SHEET 5 DETOURS | STANDARD DETOUR SIGNS | 4-10-84 | P 2-1-84 | |
| | ROAD STD. SHEET 5A DETOURS | STANDARD DETOUR SIGNS | | | |

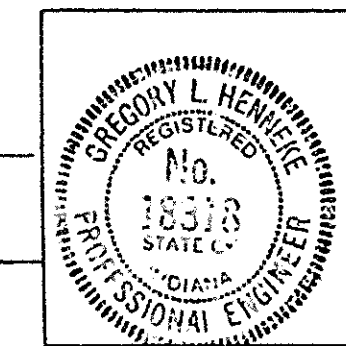
* FHWA APPROVAL PENDING

RECOMMENDED FOR APPROVAL 4-14-88

BRIDGE ENGINEER James C. Ka...



RECOMMENDED FOR APPROVAL 4-15-88
Gregory L. Hennrich
 DESIGN CONSULTANT SERVICES MANAGER



APPROVED 4-15-88

Gregory L. Hennrich
 CHIEF, DIVISION OF DESIGN

FEDERAL HIGHWAY ADMINISTRATION
 DEPARTMENT OF TRANSPORTATION

APPROVED:

DIVISION ADMINISTRATOR

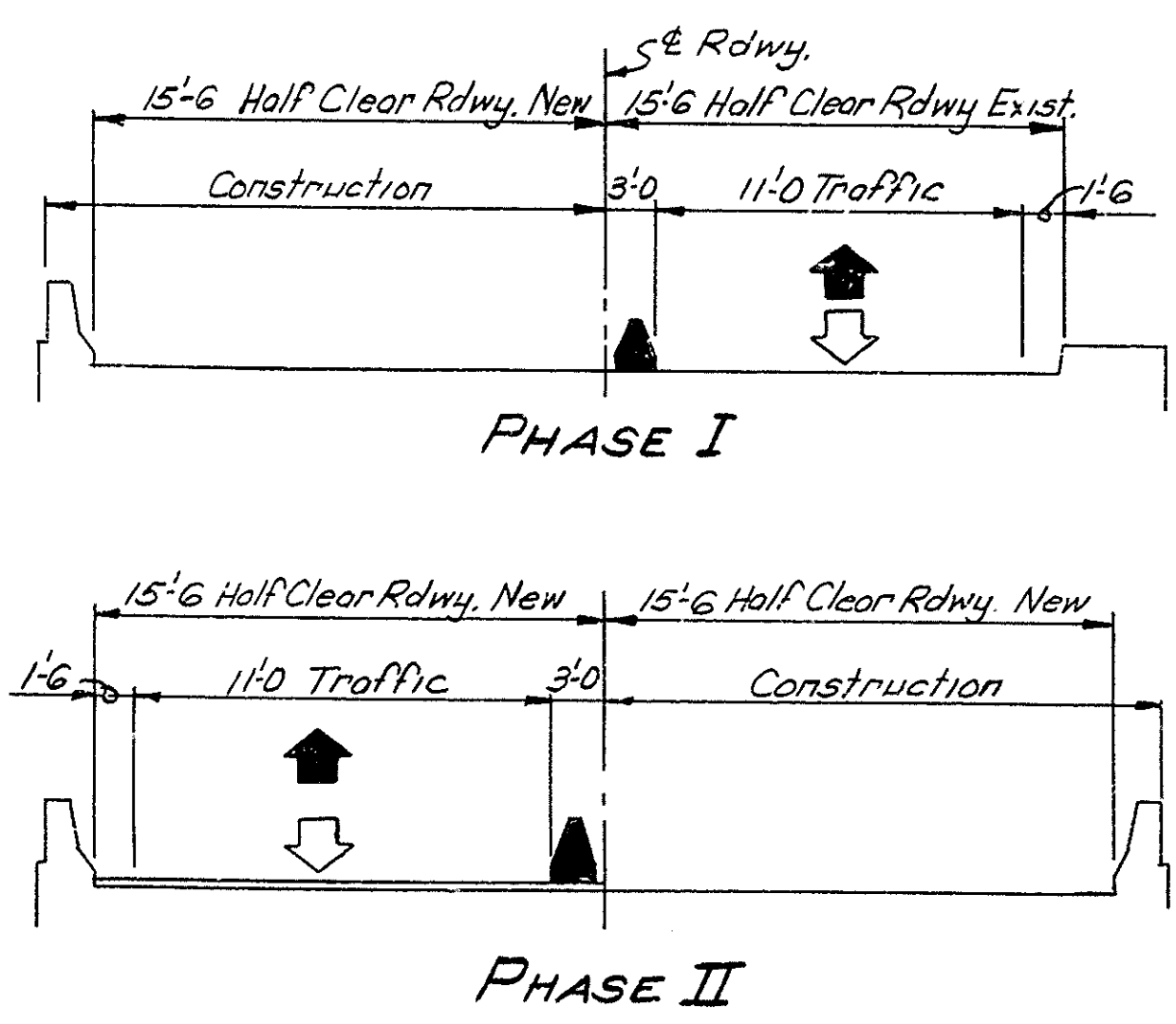
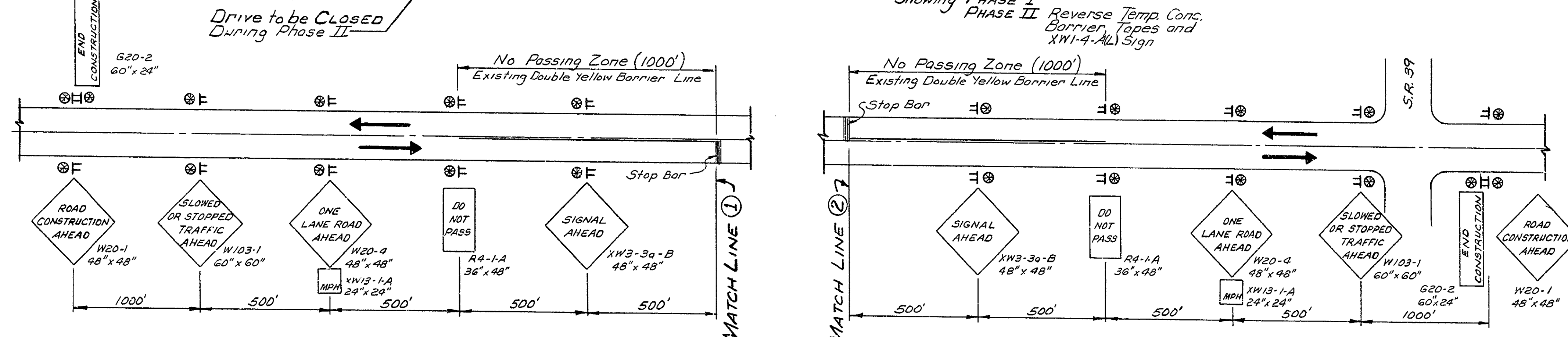
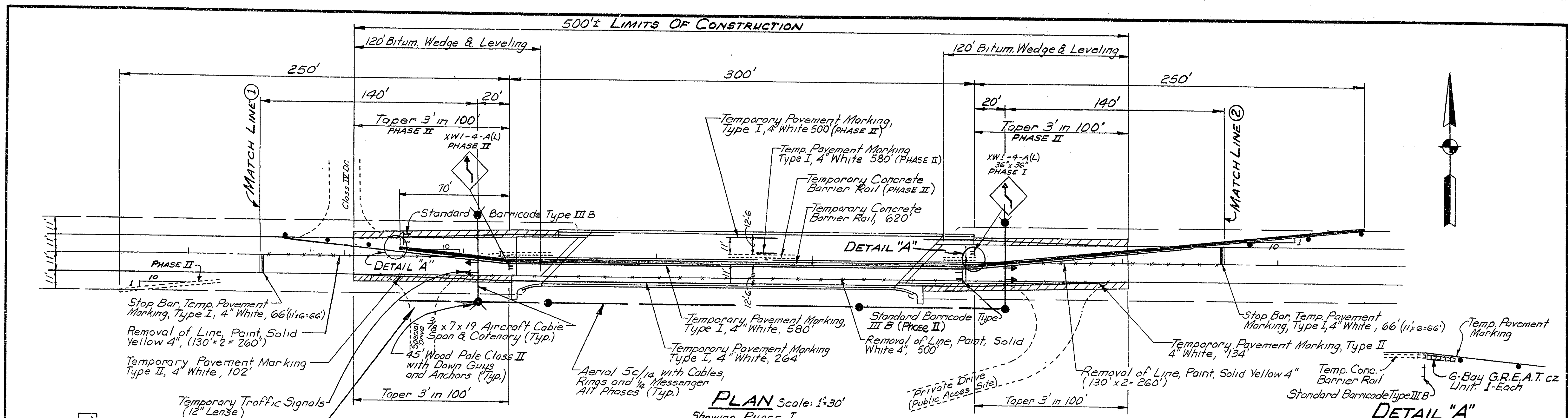
DATE

BRIDGE FILE: 8-46-3214A

| REVISIONS | |
|-----------|----------------|
| DATE | SHEET NO. |
| 5-4-88 | 1, 3, 4, 5, 10 |

| REVISIONS | |
|-----------|-----------|
| DATE | SHEET NO. |
| | |

B
 17433



- LEGEND**
- Drums or Type II Barricades with Type "C" Steady Burning Light
 - ⦿ Low Intensity Flashing Yellow Light
 - ▨ 4'-0" Bituminous Widening
 - ① Includes Standard Drums or Type II Barricades
 - ② Included in the pay item "Bituminous Mixture for Approaches."

| ESTIMATED | | QUANTITIES | |
|---|------|------------|--|
| ITEM | UNIT | QUANTITY | |
| ① Maintaining Traffic | LS | 1 | |
| Temporary Traffic Signals | LS | 1 | |
| Temporary Concrete Barrier | LF | 620 | |
| Construction Signs, Type A | EA | 23 | |
| Construction Signs, Type B (1/2 x 4) | EA | 2 | |
| Standard Barricade, Type III B | EA | 1 | |
| G-Boy G.R.E.A.T. cz Unit | EA | 1 | |
| Temp. Pvmf. Marking, Type I, 4" White | LF | 2056 | |
| Temp. Pvmf. Marking, Type II, 4" White | LF | 236 | |
| Line, Paint, Solid, White, 4" | LF | 1000 | |
| Line, Paint, Solid, Yellow, 4" | LF | 2565 | |
| Line, Paint, Broken, Yellow, 4" | LF | 149 | |
| Removal of Line, Paint, Solid, White, 4" | LF | 500 | |
| Removal of Line, Paint, Solid, Yellow, 4" | LF | 520 | |
| ② Bituminous Widening | Ton | 103 | |

CONTROLLER AND SERVICE

The Contractor shall furnish sufficient poles @ 200' Max. Spa. to reach service point from controller. Location of controller may be changed if other service points are more accessible.

SIGNAL CABLE may be extended across structure through steel or plastic con. ut attached to underside of coping. Steel conduit shall be used if installation is to be in service over the winter months. Type and spacing of clamps will be subject to approval by the Engineer.

Cost of materials, equipment and labor (including poles, cable, 2" conduit, signal equipment and hardware) needed to install, operate and remove the traffic signal system shall be included in the pay item "TEMPORARY TRAFFIC SIGNAL, Lump Sum."

NOTES

Signal equipment may be new or used. If signal equipment is used, it must be in proper operating condition and meet the approval of the Engineer.

All signal equipment is to remain the property of the Contractor.

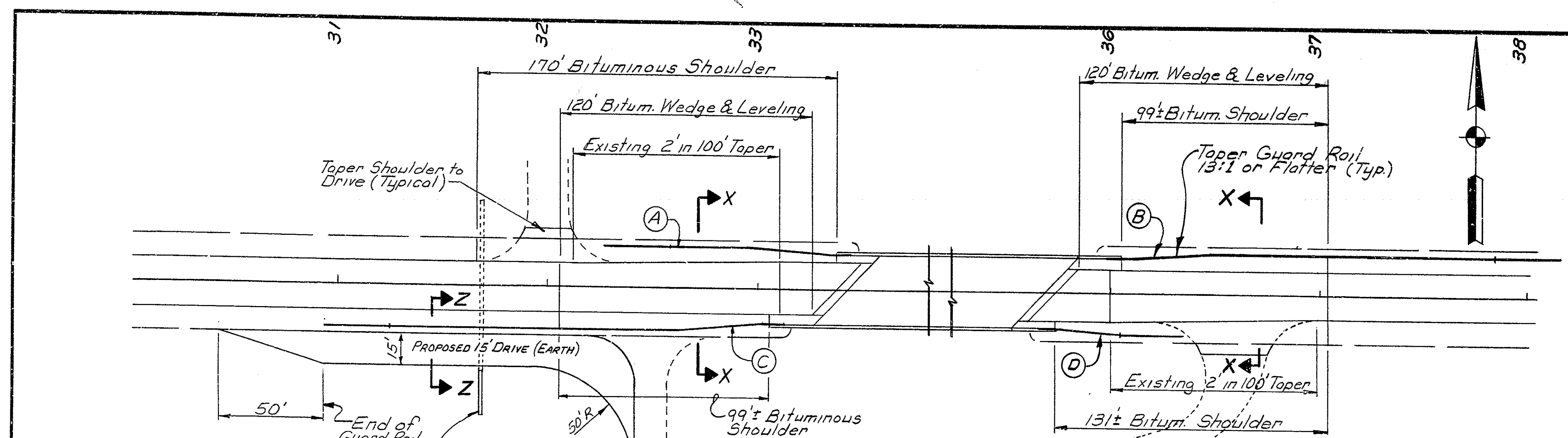
Temporary wood poles should be placed as far as possible from the edge of pavement within Right-of-Way.

The Contractor shall provide flagmen as necessary to direct traffic during the time the bituminous wedge and leveling is being constructed.

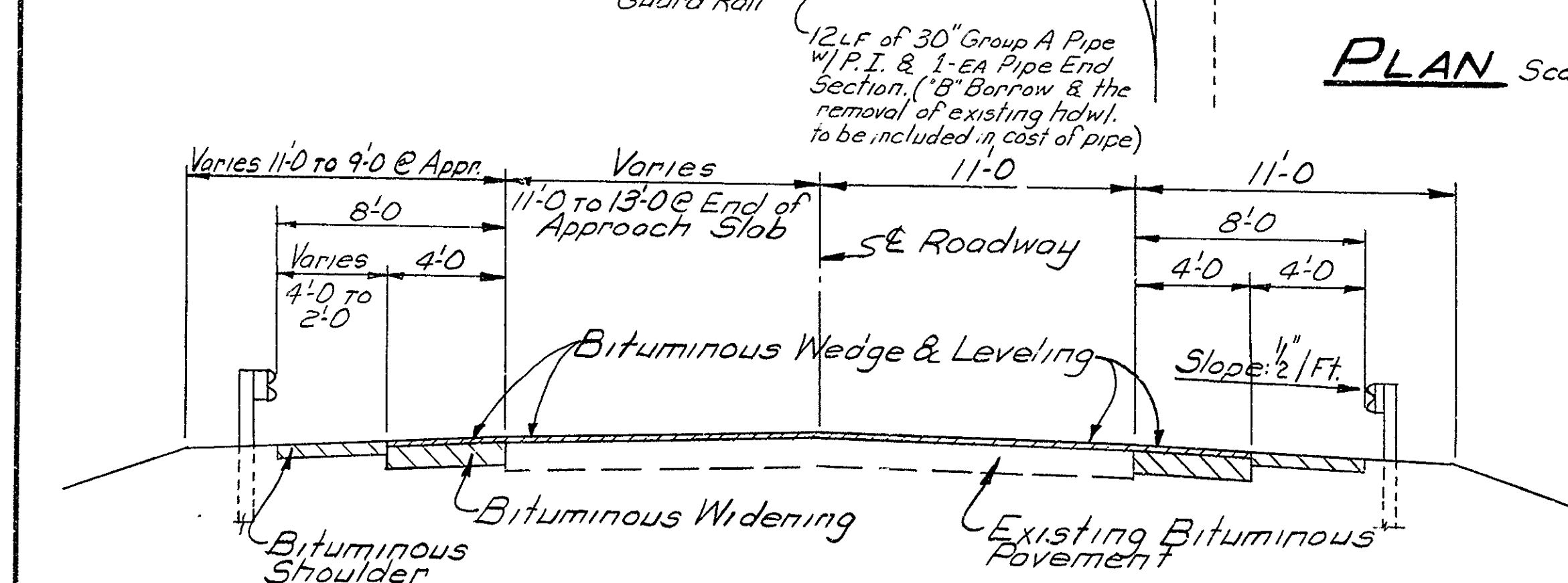
TRAFFIC MAINTENANCE
INDIANA DEPARTMENT OF HIGHWAYS

SCALE: - As NOTED DATE: MARCH 17, 1988
Stephen J. Christian

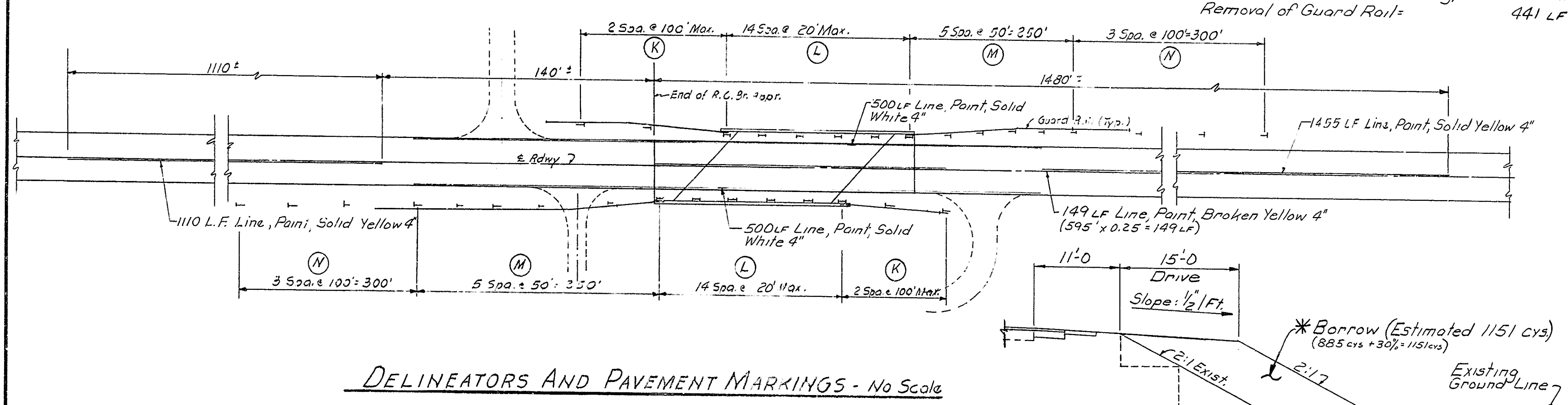
DRAWING: - OF - SHEET: 2 OF 31
 PROJECT: - RS-4475 (1)
 BRIDGE CONTRACT NO. B-17433
 BRIDGE FILE: - 8-46-3214 A



PLAN Scale: 1"=30'-0"



SECTION X-X Scale: 1/4"=1'-0"



DELINEATORS AND PAVEMENT MARKINGS - No Scale

- 2x (K) 2 EA Delineator w/ Post, Type D-3 (White) 3" Diameter
- 2x (L) 15 EA Wide Angle Reflectors
- 2x (M) 5 EA Delineator w/ Post, Type D-3 (White) 3" Diameter
- 2x (N) 3 EA Delineator w/ Post, Type D-1 (White) 3" Diameter

| | |
|----------|--------|
| DESIGNED | C.K.D. |
| DRAWN | C.K.D. |
| TRACED | C.K.D. |

SF-22317

Rev. 5-4-88 Const. Procedure

- LEGEND**
- (A) 87.5 LF Guard Rail, Class Hs
1 EA Guard Rail End Treatment Type I
144 LF Removal of Guard Rail
 - (B) 100 LF Guard Rail, Class Hs
87.5 LF Guard Rail, Class Bs
1 EA Guard Rail End Treatment Type I
132 LF Removal of Guard Rail
 - (C) 100 LF Guard Rail, Class Hs
87.5 LF Guard Rail, Class Bs
1 EA Guard Rail End Treatment Type I
71 LF Removal of Guard Rail
 - (D) 37.5 LF Guard Rail, Class Hs
1 EA Guard Rail End Treatment Type I
94 LF Removal of Guard Rail

GUARD RAIL SUMMARY

| | |
|---------------------------------|--------|
| Guard Rail Class Hs | 325 LF |
| Guard Rail Class Bs | 175 LF |
| Guard Rail End Treatment Type I | 4 EA |
| Removal of Guard Rail | 441 LF |

SECTION Z-Z Scale: 1/8"=1'-0"

* Borrow to include any excavation and benching reqd. prior to placement of fill, and mulched seeding of disturbed areas with seed mixture "Grass".

UTILITIES
None Apparent

- TRAFFIC PROCEDURE**
1. Construct bituminous widening and erect construction signs and automatic traffic signals.
 2. Close one lane and maintain alternate one lane traffic with automatic traffic signals.
- PHASE I**
- A. Maintain Traffic on South part of Bridge.
 - B. Complete Construction on North part of Bridge and Approaches.
- PHASE II**
- A. Maintain Traffic on North part of Bridge.
 - B. Complete Construction on South part of Bridge and Approaches.

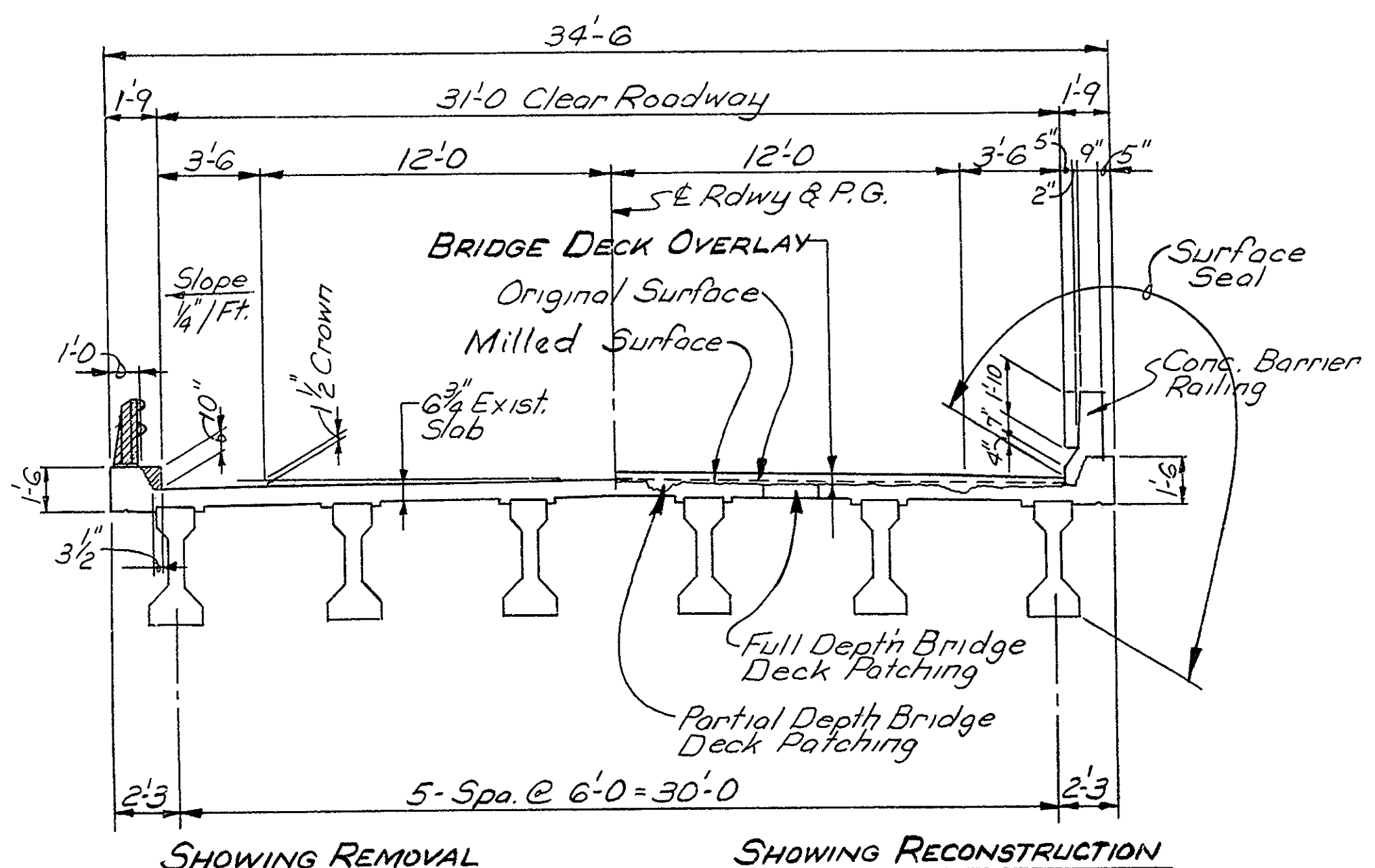
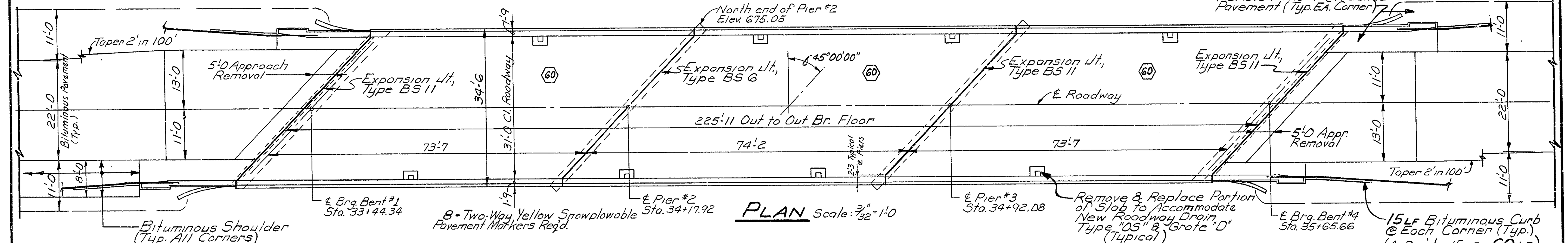
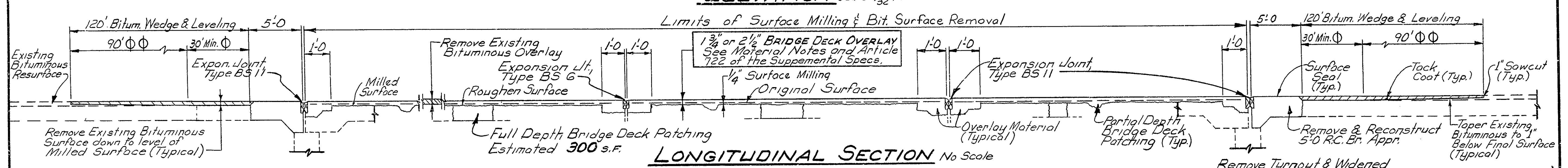
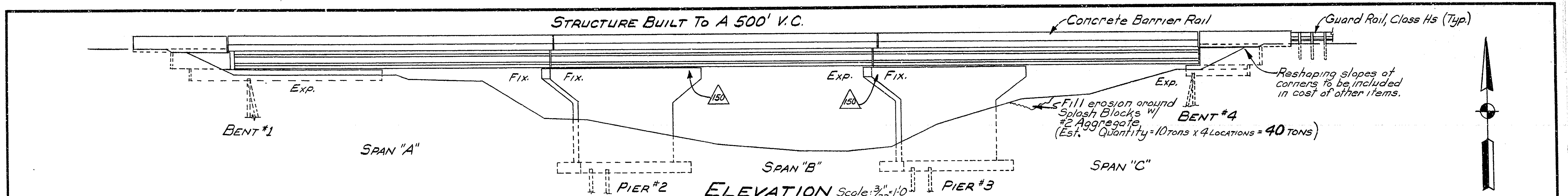
- CONSTRUCTION PROCEDURE**
1. Mill the bridge floor 1/4 inch as noted on General Plan. Remove milled material and dust.
 2. Remove the slab full depth and concrete for BS Joint installation as shown on details.
 3. Remove all existing deck patches and all deteriorated concrete around reinforcing and along curbs inaccessible to milling equipment by handchipping and cleaning in accordance with the Special Provisions.
 4. Repair the full depth deck patches to level of milling as shown on the plans.
 5. Blast and clean all repoured deck areas and all removal and milled areas.
 6. Place the bridge deck patching and bridge deck overlay as shown on the plans and in accordance with the Supplemental Specs. Install Expansion Joints.
 7. All surface seal to be paid for as a Lump Sum. Clean and seal all concrete area from gutter to bottom of girder (includes concrete raising and capping) as shown on the plans. Clean and seal bridge seats, caps, exposed face of wingwalls and new portion of R.C. Bridge Approach Pavements. Estimated Quantity of Surface Seal = 8,150 Sq. Ft.
 8. Construct Concrete Barrier Rail.
 9. Construct bituminous wedges and all other work shown on the plans, including the removal and installation of the guard rails.
- The numbers do not necessarily indicate the sequence of operations. Existing reinforcing to remain in place and extend into repoured concrete shall be cleaned and straightened.

LAYOUT
INDIANA DEPARTMENT OF HIGHWAYS

SCALE: - As NOTED DATE: MARCH 17, 1988

Stephen J. Christian

DRAWING: R1 OF 7 SHEET: 3 OF 31
PROJECT: RS-4475(1)
BRIDGE CONTRACT NO. B-17433
BRIDGE FILE: B-46-3214 A



GENERAL NOTES

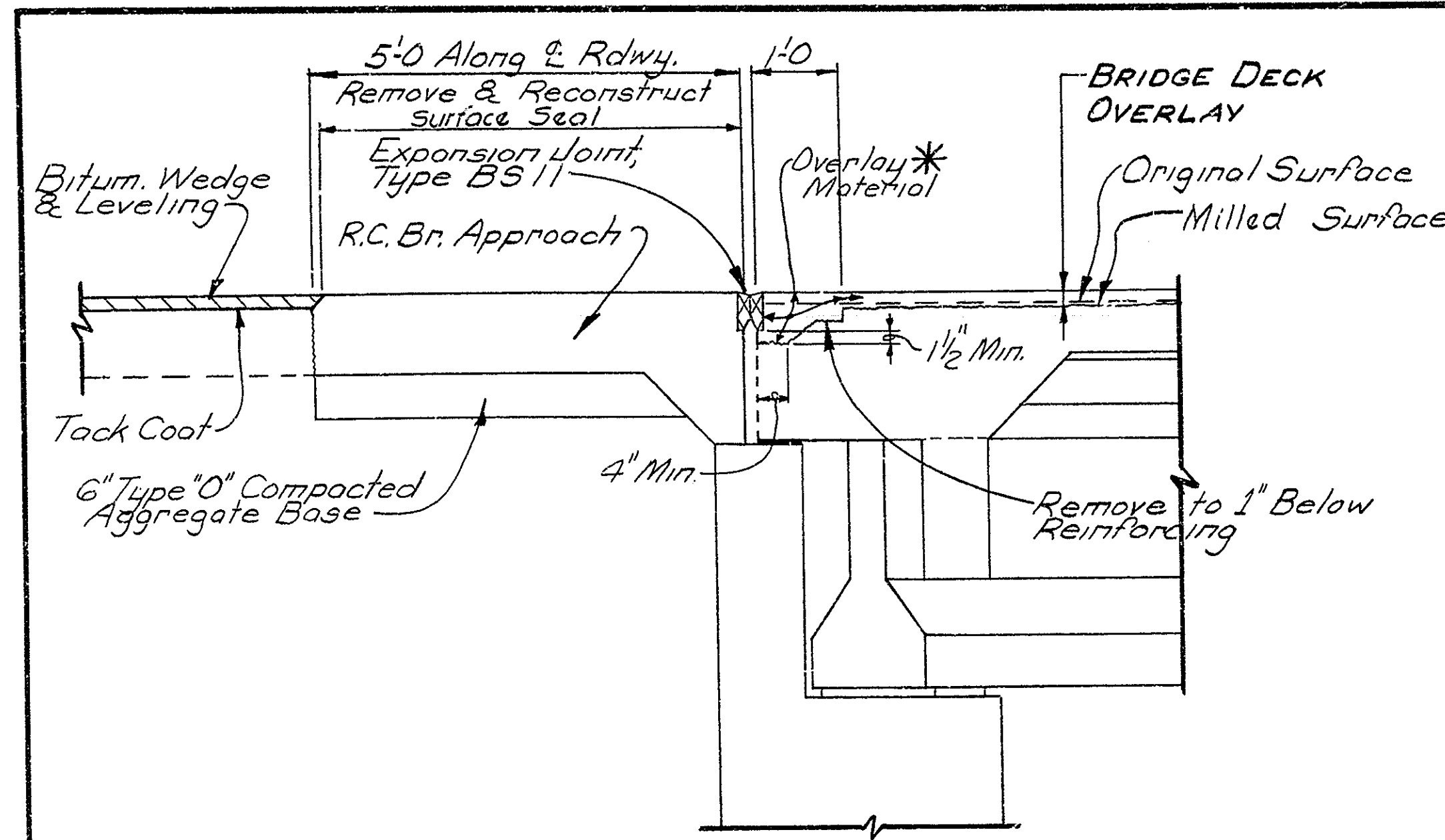
- 1, Plans for the existing structure are on file in the Central Office as Bridge File 8-E-3214 and are available on request.
- 2, Where new work is to be fitted to old work, the Contractor shall check all dimensions and conditions in the field and report any errors or discrepancies to the Engineer and assume responsibility for their correctness and the fit of the new part to the old.
- 3, The handchipping and cleaning of deteriorated deck areas shall be as directed by the Engineer. It is the intent of these plans that all such deteriorated concrete be removed and should there be any doubt as to the quality of the concrete, removal shall continue until PERFECTLY SOUND CONCRETE is exposed. All existing non-full depth patches are to be removed.
- 4, The boundaries of full depth removal areas shall be saw cut. All saw cuts for full depth removals shall be made to a minimum depth of 1 inch below the original surface or to the top of reinforcing if cover is less than 1 inch.
- 5, Concrete in patches for deteriorated deck areas below milled depth to be Mod. P.C. Concrete or Bridge Deck Patching Concrete.
- 6, Concrete in full depth removal areas to be Class A.
- 7, Concrete in Barrier Rail to be Class C.
- 8, Chamfer exposed edges 1" unless noted.
- 9, Reinforcing steel cover shall be 2" unless noted.
- 10, All bituminous material required in this contract to be included in the pay item "Bituminous Mixture for Approaches" except Tack Coat will be paid separately.
- 11, The length and quantity of bituminous wedging shown on the plans is based on the thickness of the Mod. P.C. Overlay.
- 12, Seal all joints and cracks in the approach pavement with hot poured joint sealer before placing the bituminous wedge. The cost of sealing is to be included in the cost of other items in the contract.

LEGEND

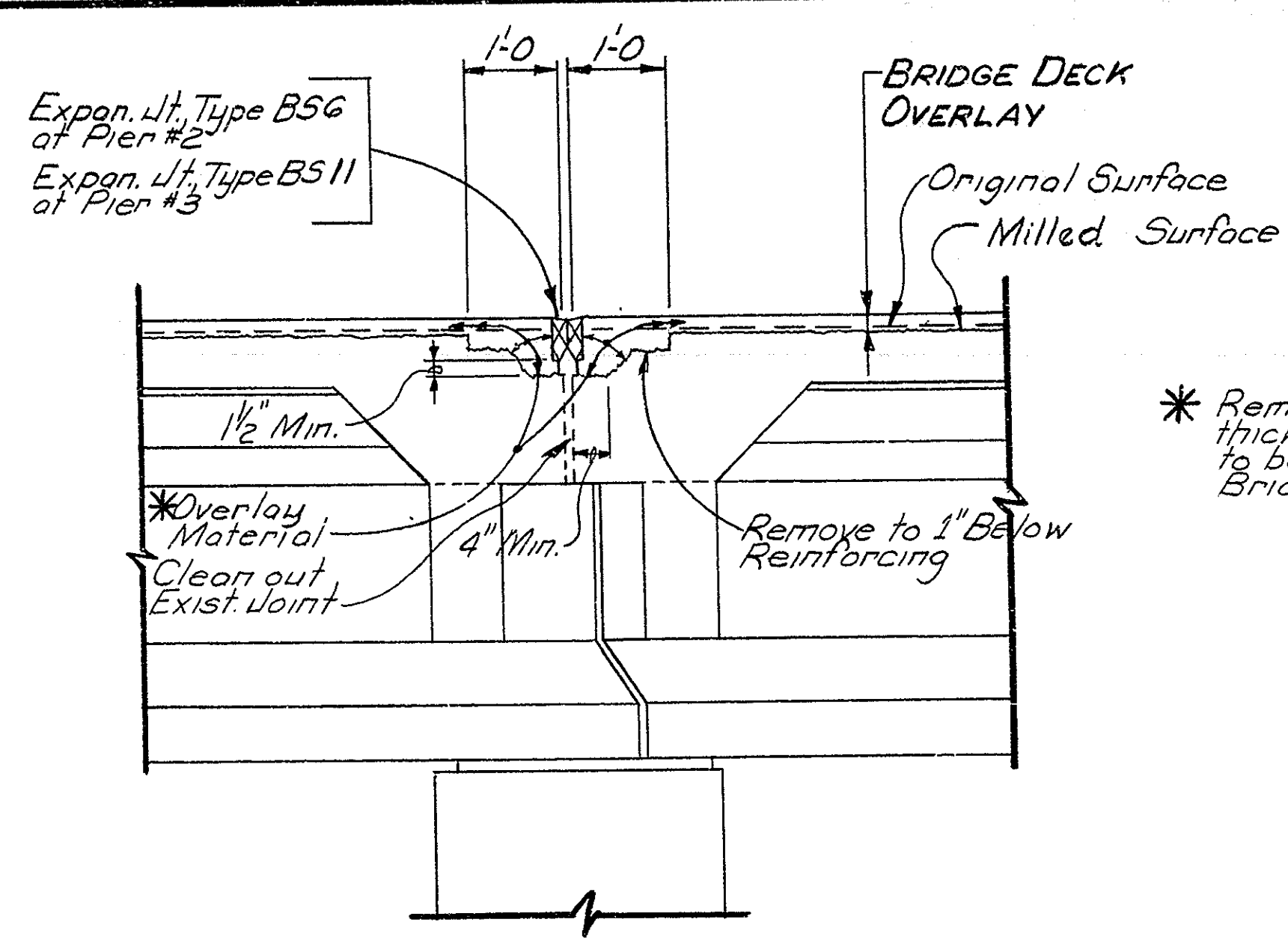
- △ SF Repointing Masonry In Structure.
- ⬡ Estimated % of Partial Depth Bridge Deck Patching in Span.
- ⊕ Wedge to be a continuation of Bridge Deck Overlay.
- ⊕⊕ Taper Wedge uniformly to meet existing Roadway.

DATUM
North Corner of Pier #2
Elev. 675.05

GENERAL PLAN
DECK RECONSTRUCTION AND OVERLAY
PRESTRESSED REINF. CONCRETE I-BEAM BRIDGE
3-SPANS: 73'-7, 74'-2, 73'-7 SKEW: 45° RT. 31'-0 CL. ROWY.
OVER KANKAKEE RIVER ON S.R. 8
INDIANA DEPARTMENT OF HIGHWAYS
LAPORTE & STARKE COUNTIES
SCALE: - As Noted DATE: MARCH 17, 1988
Stephen J. Christian



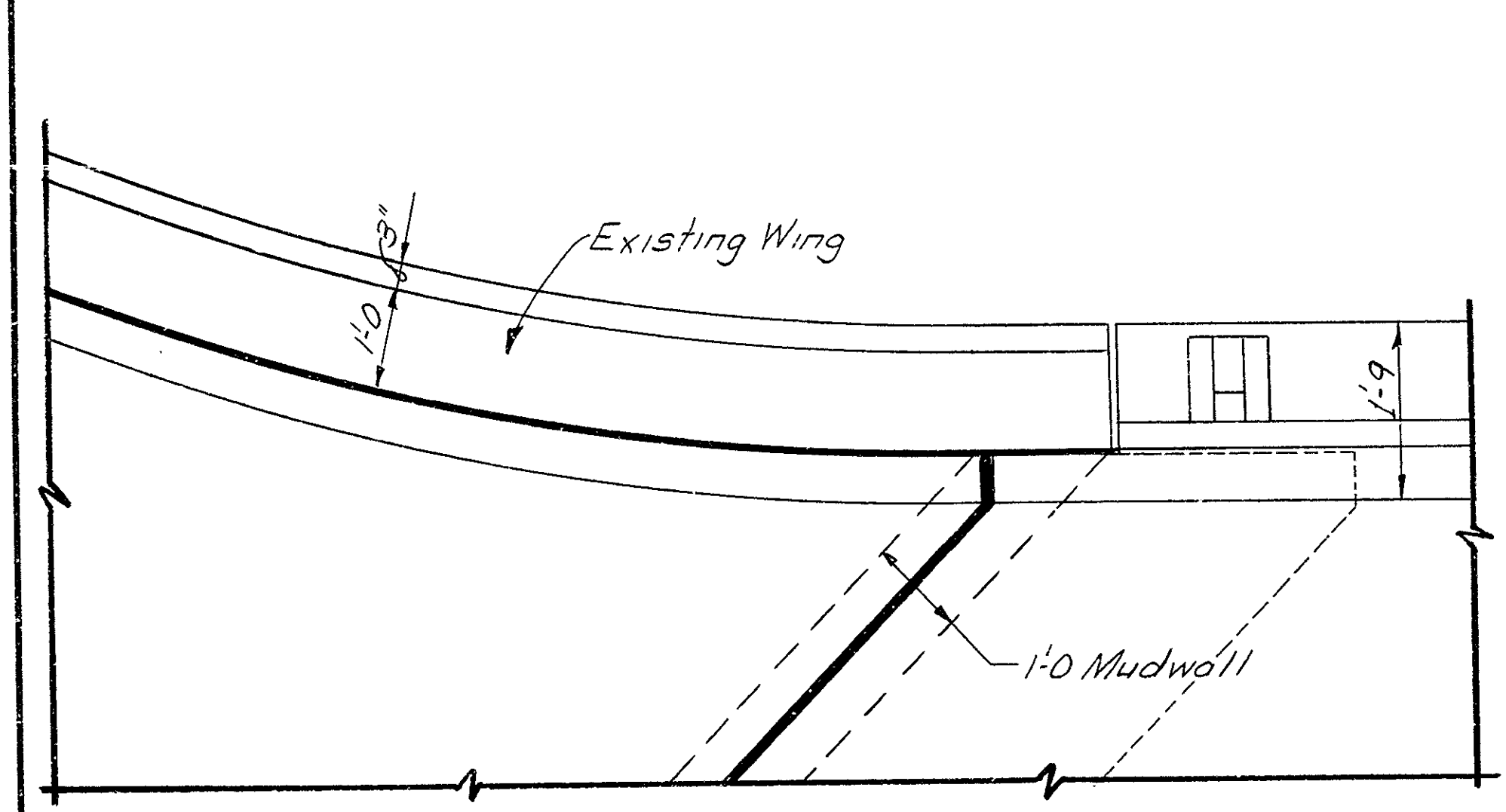
BENT No. 1 & No. 4 Scale: $\frac{3}{4}'' = 1'-0''$



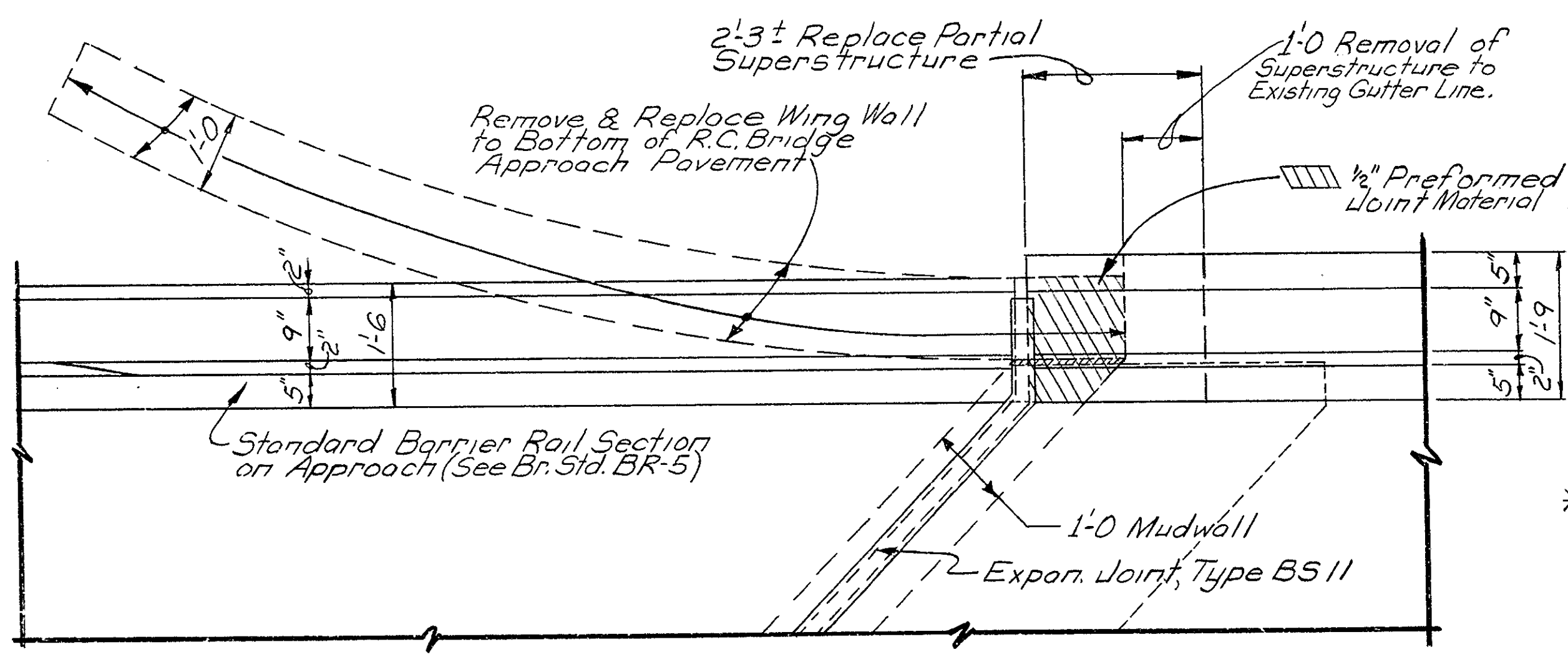
PIER No. 2 & No. 3 Scale: $\frac{3}{4}'' = 1'-0''$

| STANDARD DRAWINGS | | |
|-------------------|------|--|
| BRIDGE | ROAD | PURPOSE |
| BR5 | | Railing Connection Details |
| C1 | | Reinforcing Bar Notes |
| C3 | | Exp. Joint, Type BS, Constr. Joint, Type A |
| D | | Roadway Drain Details |
| A | | Longitudinal Joint |
| MA | | R.C. Bridge Appr. Details |
| ME | | Bituminous Gurb |
| ME2 | | Pipe End Section |
| MIN | | "C" Bedding, Method "B" |
| MP | | Group A Pipe |
| MT3 | | Sign Schedule |
| MT19 | | 2-Way Snow Flowable Raised Pavement Marker |
| GR2 | | Guard Rail, Class Bs & Hs |
| GR4A | | Guard Rail, Class Hs |
| GR7 | | Steel Offset Bracket |
| GR10 | | Guard Rail End Treatment Type I |
| CB2 | | Temporary Concrete Barrier |
| Sht. 2A | | Signs |
| Sht. 3 | | Signs |
| Sht. 3A | | Signs |
| Sht. 4 | | Signs |
| Sht. 5 | | Signs |

* Removal for additional overlay thickness of expansion joints to be paid for as Partial Depth Bridge Deck Patching (SF)



EXISTING



RECONSTRUCTED

MATERIAL NOTES

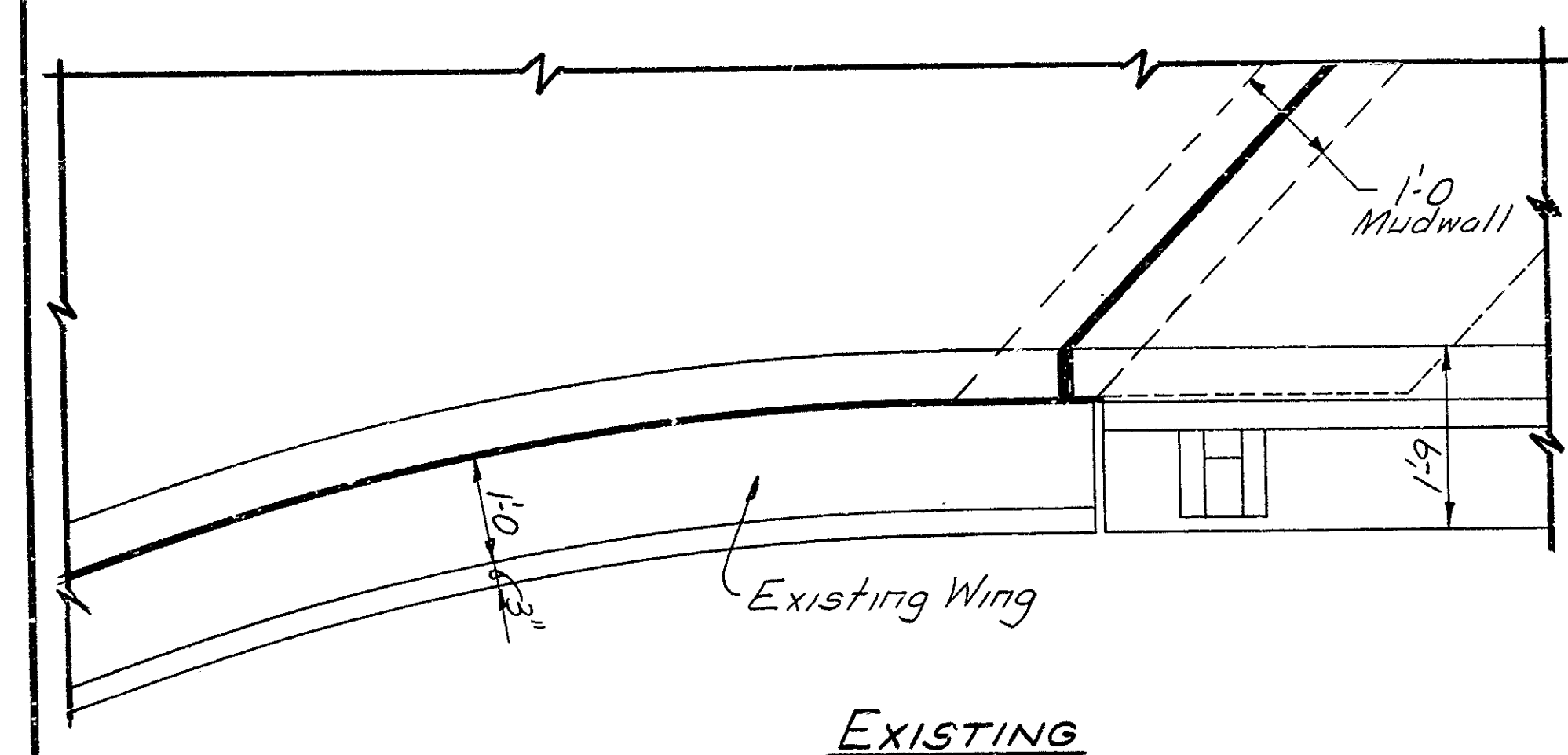
BRIDGE DECK OVERLAY
 1 3/4" Modified Portland Cement Concrete Overlay
 OR
 2 1/4" Dense Portland Cement Concrete Overlay
 Includes 1/4" Milling (See the Supplemental Specs.)

BITUMINOUS WEDGE AND LEVELING
 110#/SY H.A.C. Surface Type II, LV
 Variable depth Bituminous Binder or Base LV

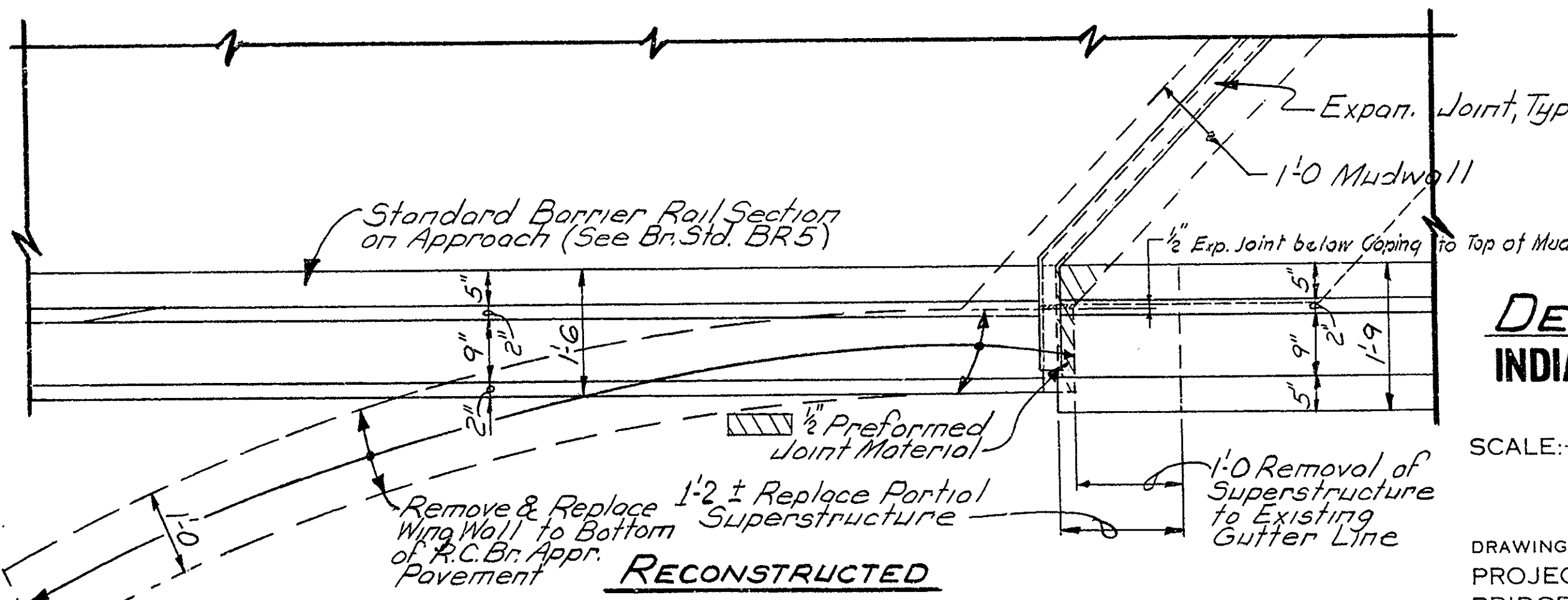
BITUMINOUS SHOULDER
 660#/SY Bituminous Base Type 5D

BITUMINOUS WIDENING
 990#/SY Bituminous Base Type 5D

** The maximum depth of HAC Surface Type II shall not exceed 1 1/2".
 At all locations, where total wedge thickness will exceed 1 1/2", bituminous binder or base shall be placed as a first course to within one inch of finished grade.



EXISTING



RECONSTRUCTED

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

DETAILS
INDIANA DEPARTMENT OF HIGHWAYS

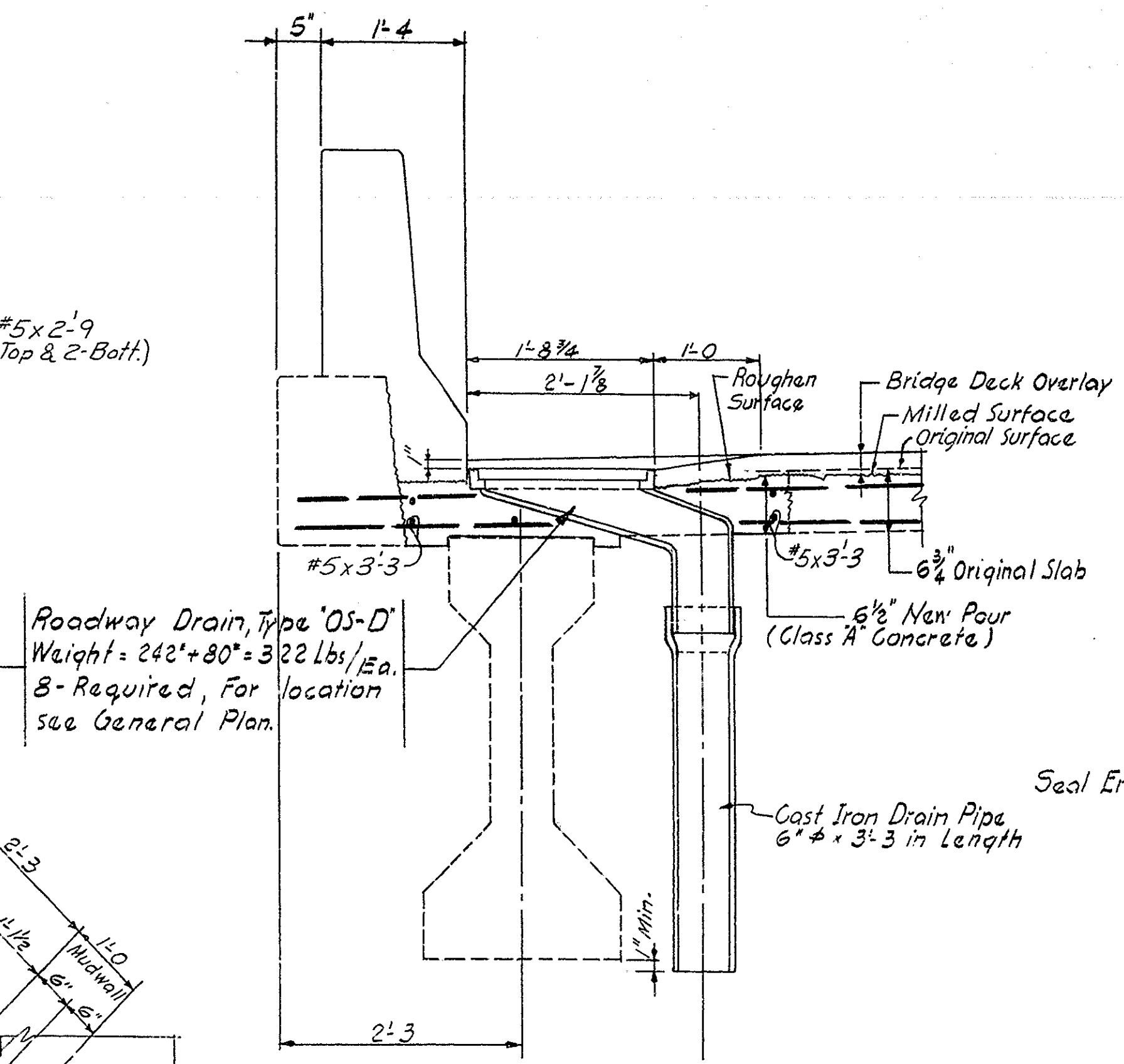
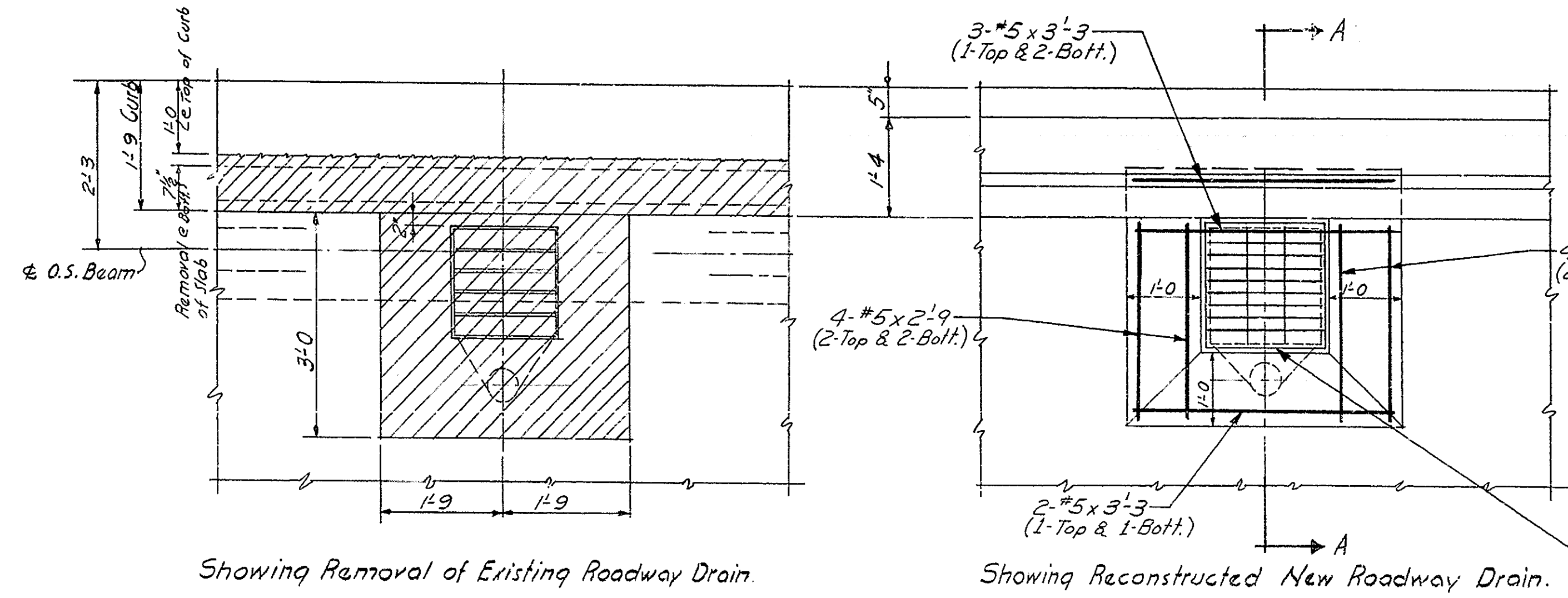
SCALE: - As NOTED DATE: - MARCH 17, 1988

DESIGNED: CKD
 DRAWN: CKD
 TRACED: CKD

PROJECT: - RS-4475(1)
 BRIDGE CONTRACT NO. B-17433
 BRIDGE FILE: - 8-46-3214A

STEPHEN J. CHRISTIAN

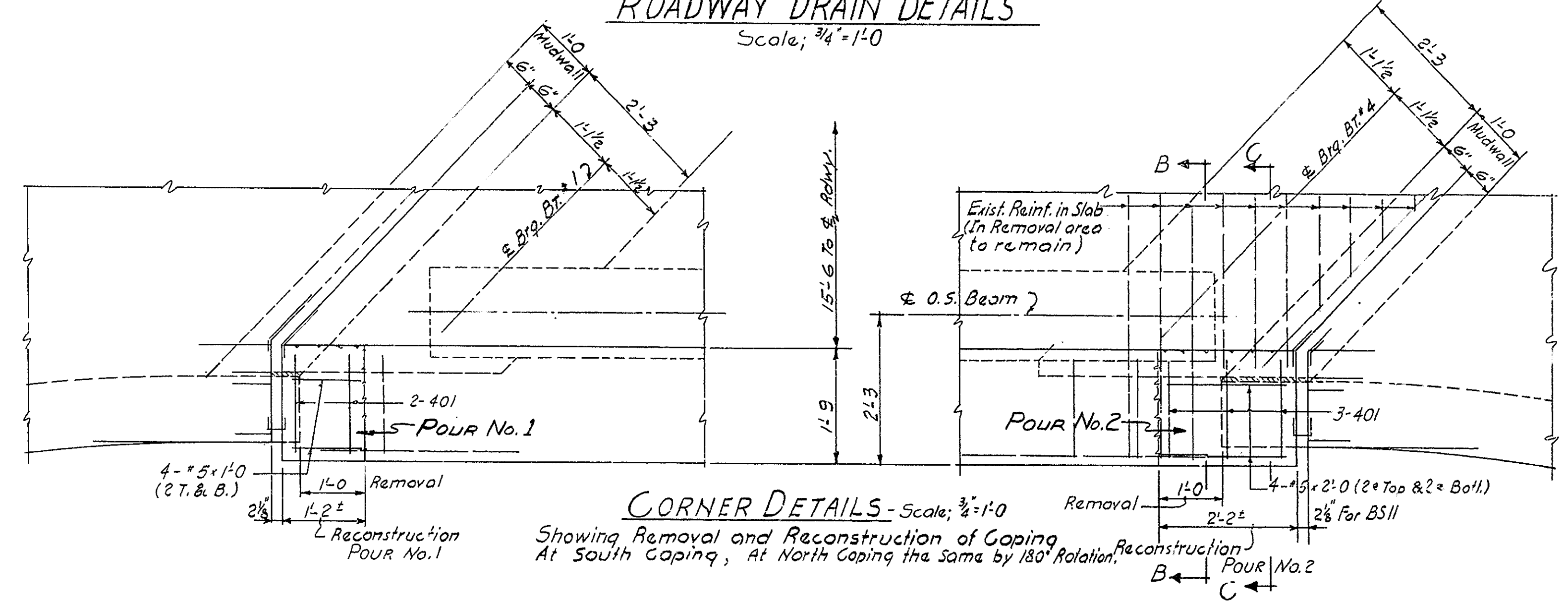
DRAWING: - R3 OF 7 SHEET: 5 OF 31



BILL OF MATERIALS AT ROADWAY DRAINS

| REINFORCING STEEL | | | |
|--|----------------|--------------|---------------|
| Size or Mark | Number of Bars | Length (Ft.) | Weight (Lbs.) |
| #5 | 40 | 3'-3" | |
| #5 | 64 | 2'-9" | |
| TOTAL REINFORCING STEEL | | | 319 |
| CONCRETE | | | |
| Concrete Class "A" In Superstructure (0.2 cys x 8) | | | 1.6 cys |

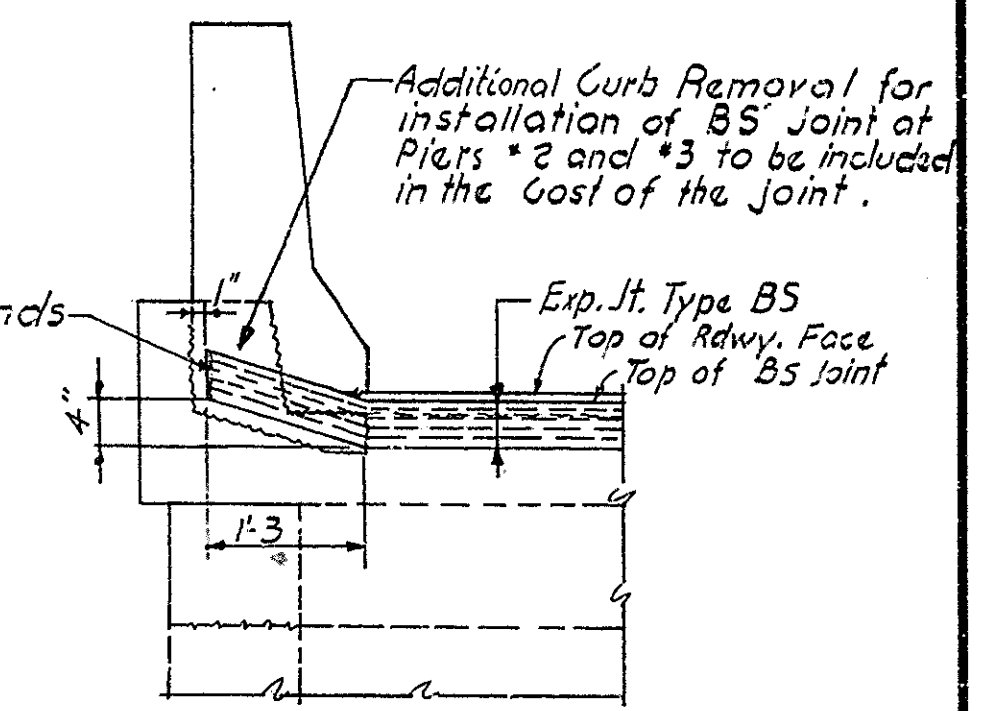
ROADWAY DRAIN DETAILS
Scale: 3/4" = 1'-0"



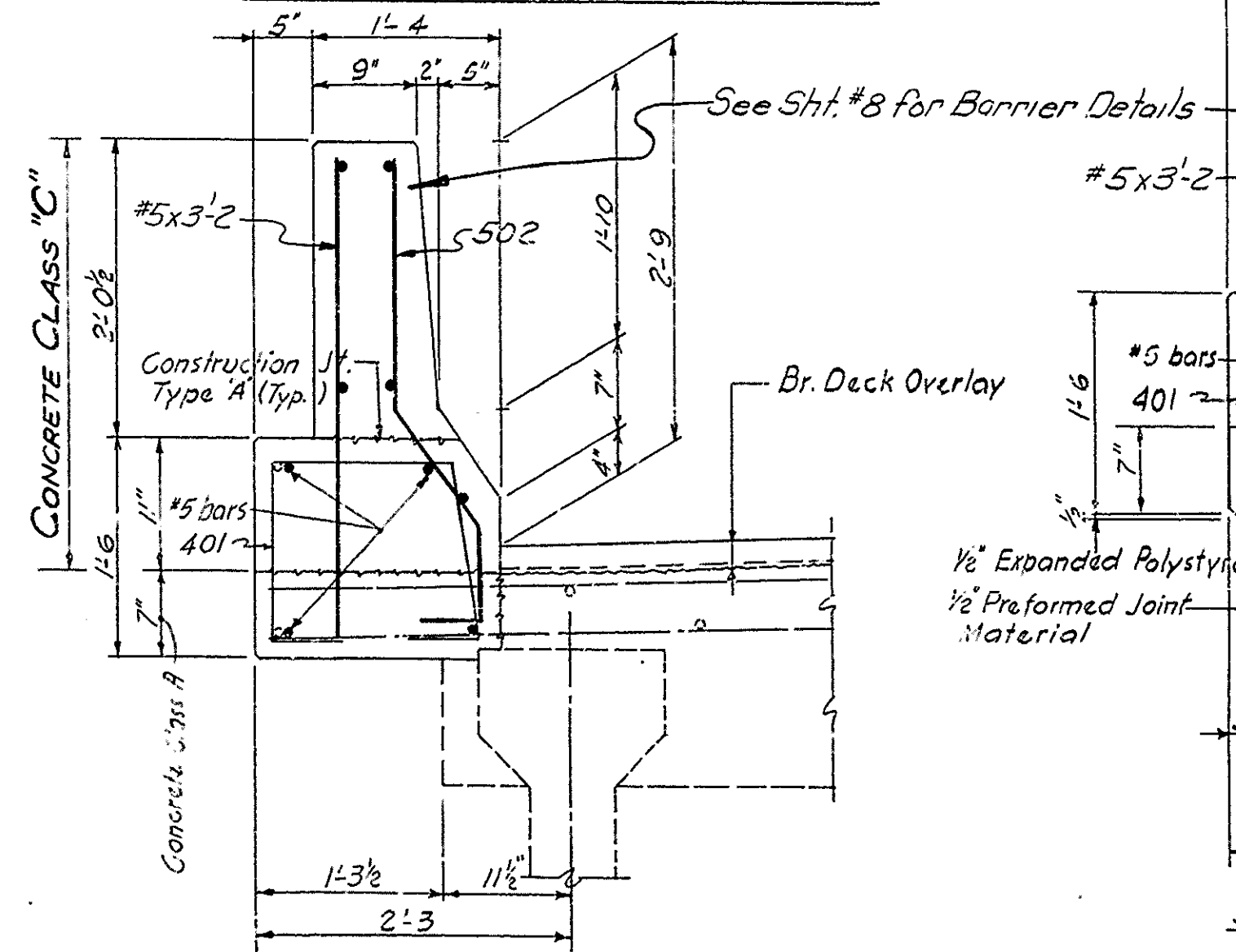
BILL OF MATERIALS FOR CORNER RECONSTRUCTION

| REINFORCING STEEL | | | |
|--|----------------|--------------|---------------|
| Size or Mark | Number of Bars | Length (Ft.) | Weight (Lbs.) |
| #401 | 10 | 4'-9" | |
| Total No. 4 | | | 32 |
| #5 | 8 | 2'-0" | |
| #5 | 8 | 1'-0" | |
| Total No. 5 | | | 25 |
| TOTAL REINFORCING STEEL | | | 57 |
| CONCRETE | | | |
| Pour No. 1 (2 x 0.05 cys) | | | 0.1 cys |
| Pour No. 2 (2 x 0.10 cys) | | | 0.2 cys |
| TOTAL CONCRETE CLASS "A" IN SUPERSTRUCTURE | | | 0.3 cys |

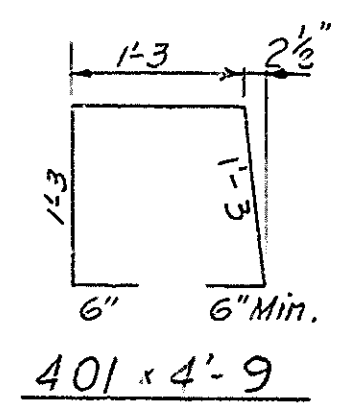
BS JOINT INSTALLATION AT CONG. RAIL
Scale: 3/4" = 1'-0"



SECTION A-A - Scale: 1" = 1'-0"

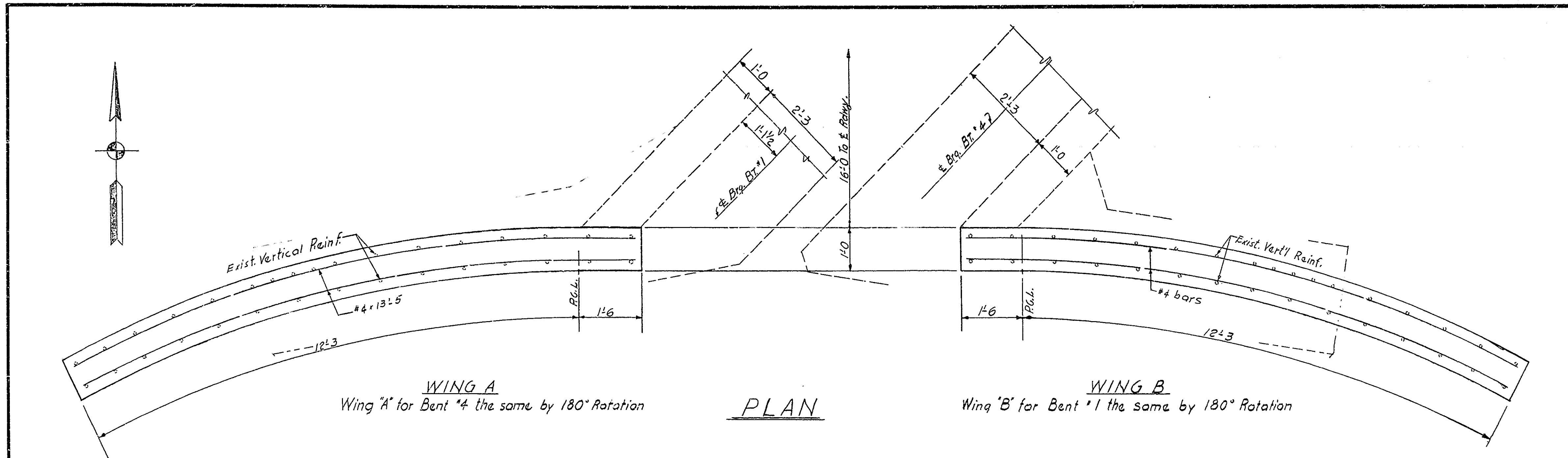


SECTION B-B - Scale: 1" = 1'-0"



DECK RECONSTRUCTION DETAILS INDIANA DEPARTMENT OF HIGHWAYS

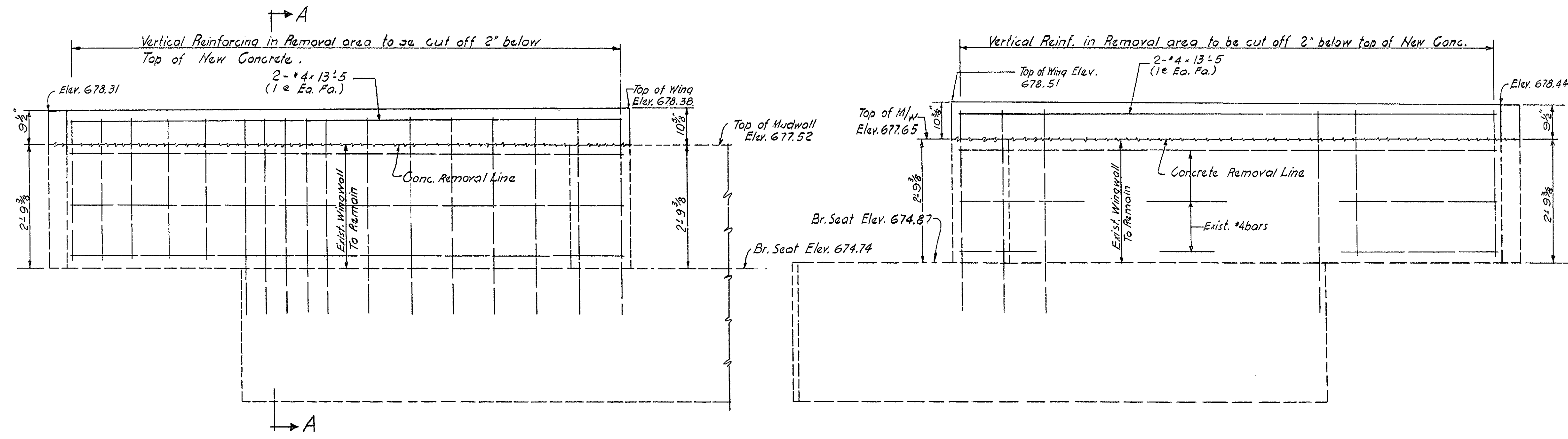
SCALE: - As Noted DATE: MARCH 17, 1988
 DRAWING: R4 OF 7 SHEET: 6 OF 31
 PROJECT: RS-4475(1)
 BRIDGE CONTRACT NO. B-17433
 BRIDGE FILE: 8-46-3214 A



WING A
Wing 'A' for Bent #4 the same by 180° Rotation

WING B
Wing 'B' for Bent #1 the same by 180° Rotation

PLAN

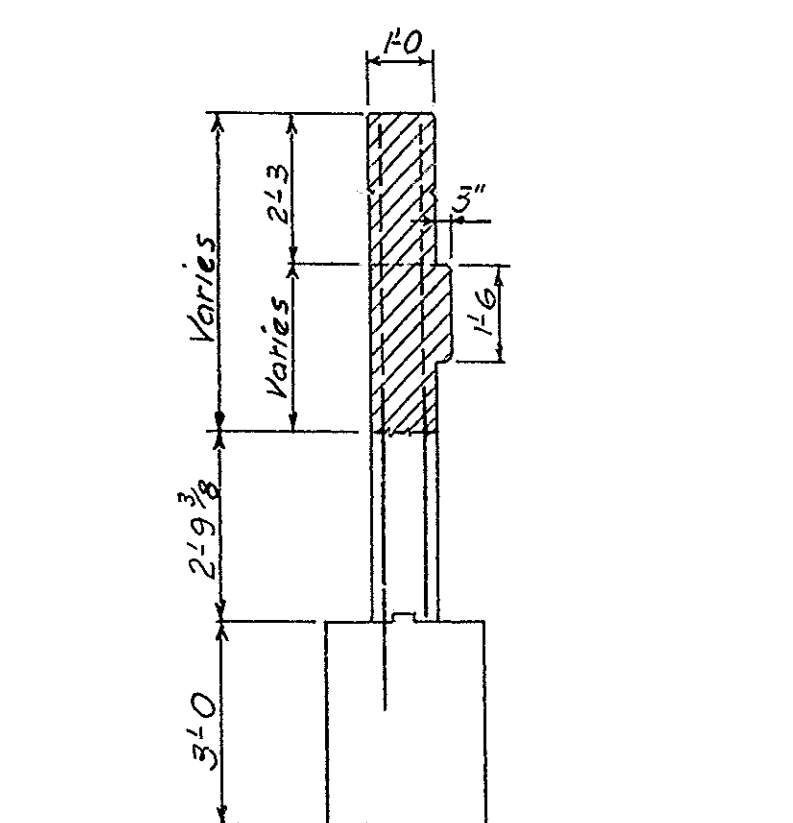


ELEVATION

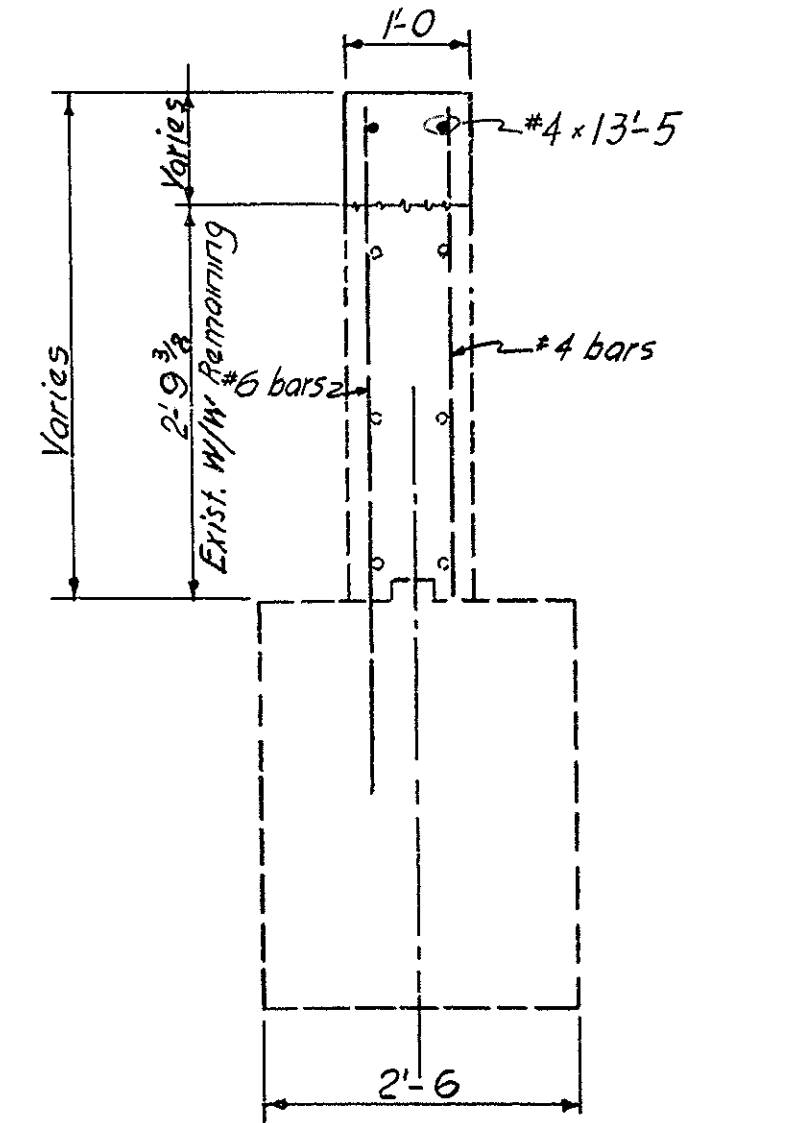
BILL OF MATERIALS
FOR BT #1, BT #4 THE SAME

| REINFORCING STEEL | | | |
|--------------------|-------------|---------------|---------------|
| Mark or Size | No. of Bars | Length in Ft. | Weight in Lb. |
| #4 | 4 | 13'-5" | |
| TOTAL NO. 4 | | | 36 |
| TOTAL REINF. STEEL | | | 36 |

| CONCRETE CLASS A IN SUBSTR. | |
|-----------------------------|---------|
| Wing A | 0.4 Cy. |
| Wing B | 0.4 Cy. |
| TOTAL CLASS A IN SUBSTR. | 0.8 Cy. |



SECTION A-A - Scale: 3/8" = 1'-0"
Showing Removal



SECTION A-A

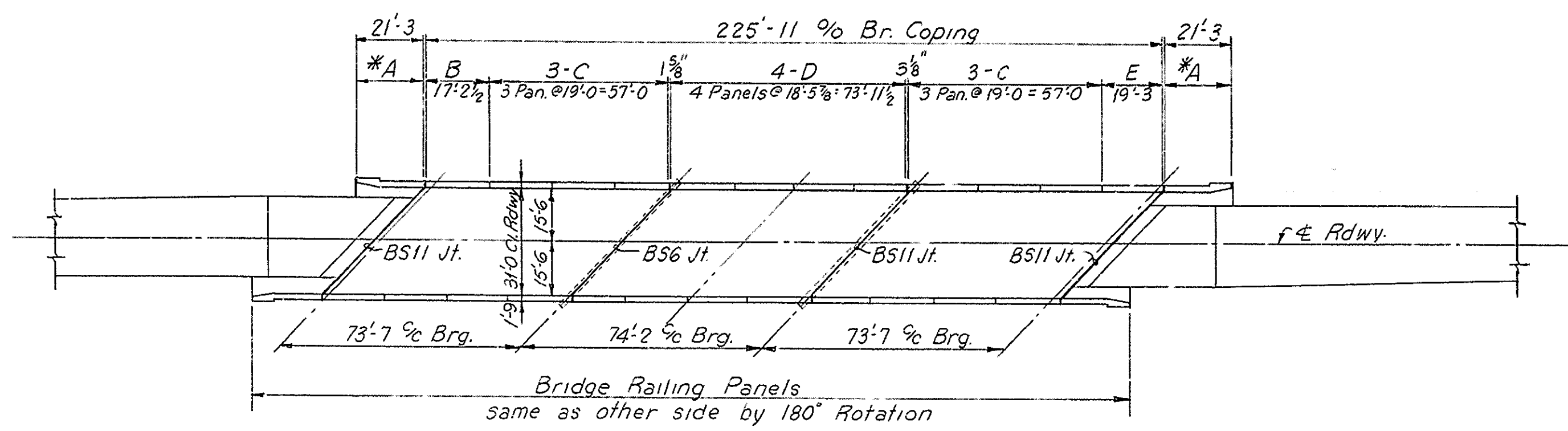
END BENTS DETAILS - RECONSTRUCTED WINGS
INDIANA DEPARTMENT OF HIGHWAYS

SCALE: - 3/4" = 1'-0" DATE: - MARCH 17, 1928

Stephen J. Christian

DRAWING: R5 OF 7 SHEET: 7 OF 31
PROJECT: - RS-4475 (1)
BRIDGE CONTRACT NO. B-17433
BRIDGE FILE: - 8-46-3214 A

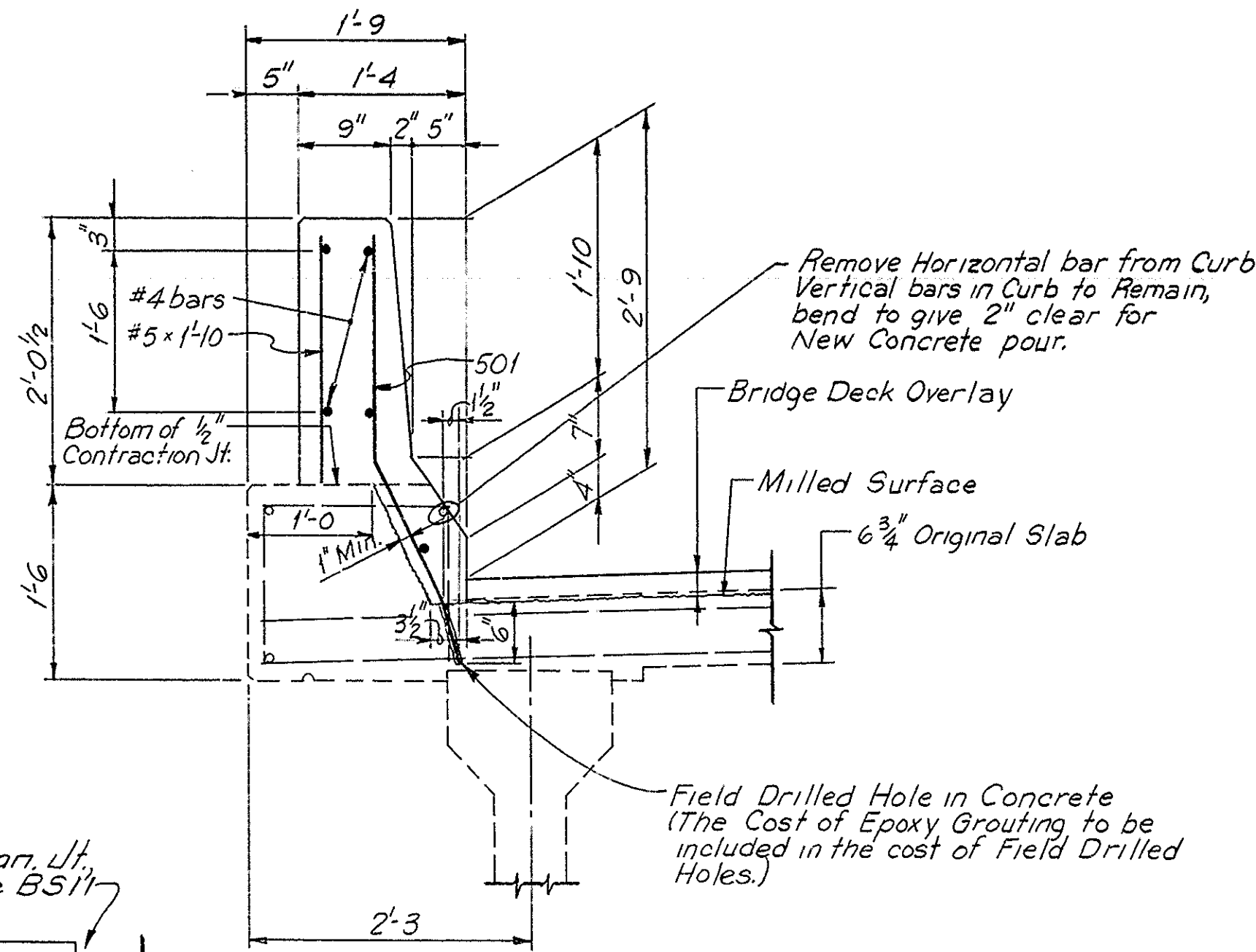
DESIGNED: C.K.D.
DRAWN: C.K.D.
TRACED: C.K.D.
SF-22317



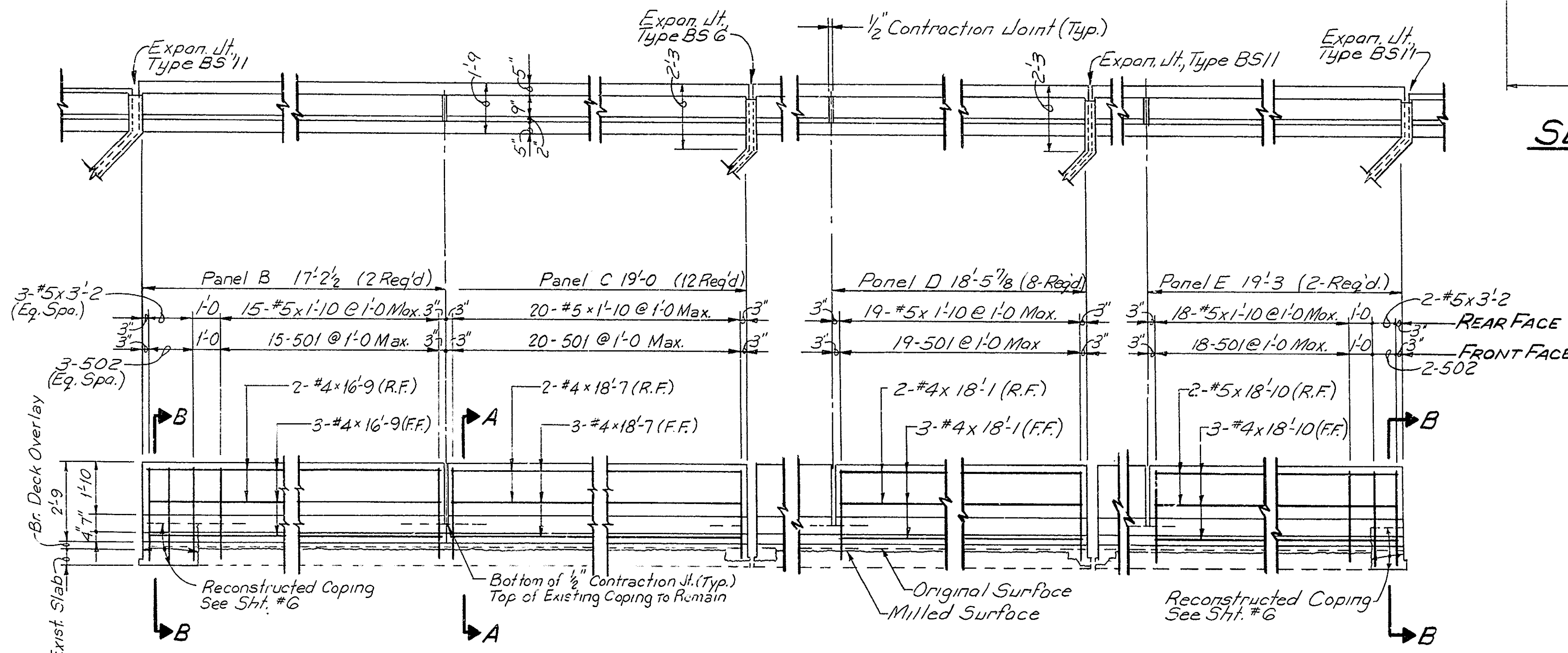
CONCRETE RAILING PLAN

Scale: 1"=30'

* See 3r. Std. BR5 for Panel "A" (Railing Transition) Details.

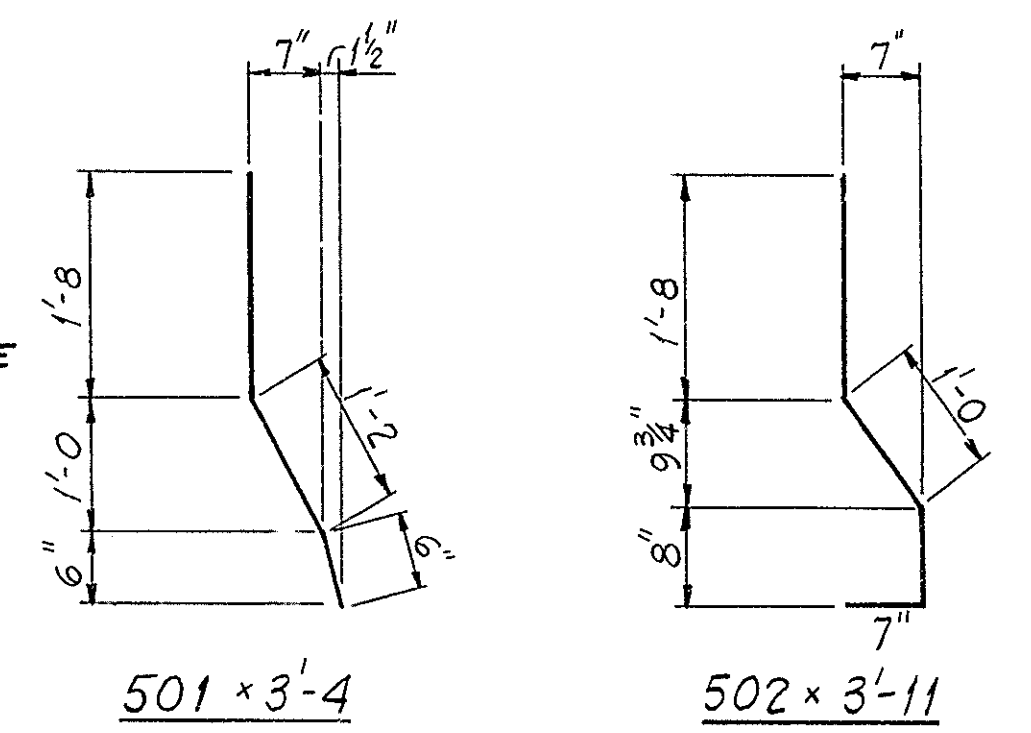


SECTION A-A Scale: 1"=1'-0"



PLAN AND ELEVATION OF CONCRETE BARRIER RAIL

Scale: 3/8"=1'-0"



BILL OF MATERIALS

| EPOXY COATED REINF. STEEL | | | |
|--|----------------|--------------|--------------|
| Size or Mark | Number of Bars | Length (Ft.) | Weight (Lbs) |
| 501 | 458 | 3'-4 | |
| 502 | 10 | 3'-11 | |
| #5 | 458 | 1'-10 | |
| #5 | 10 | 3'-2 | |
| Total #5 | | | 2542 |
| #4 | 10 | 18'-10 | |
| #4 | 60 | 18'-7 | |
| #4 | 40 | 18'-1 | |
| #4 | 10 | 16'-9 | |
| Total #4 | | | 1406 |
| Reinforcing for Transition from Br. Std. BR5 (328x4) | | | 1312 |
| TOTAL EPOXY CTD. REINF. STL | | | 5320 |
| CLASS "C" CONCRETE RAILING (43.8 CYS) | | | 534 LF |
| FIELD DRILLED HOLES IN CONCRETE | | | 458 Ea. |

NOTE: See Sht. #6 for Section B-B.

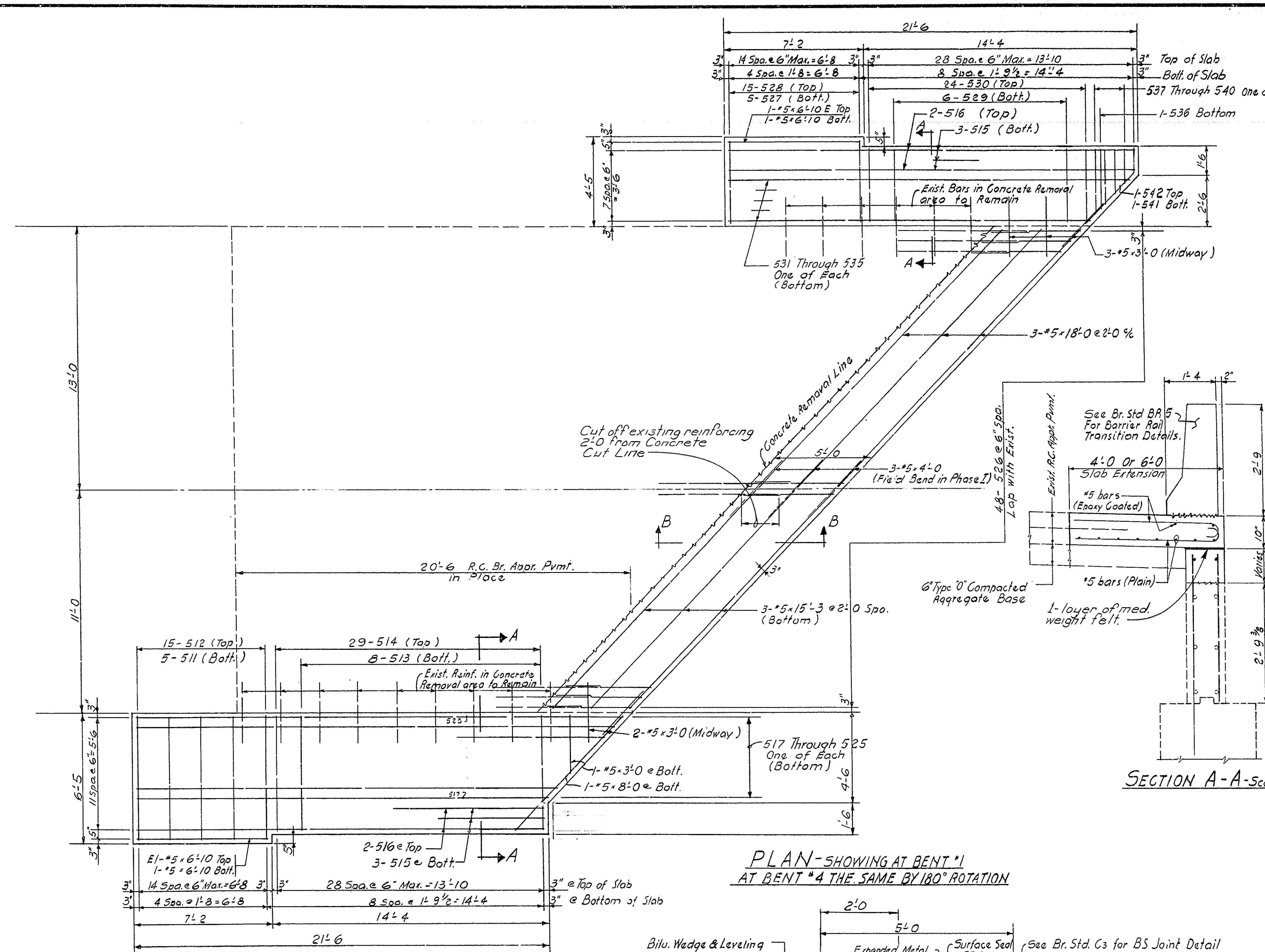
BARRIER RAIL DETAILS
INDIANA DEPARTMENT OF HIGHWAYS

SCALE: - As NOTED DATE: MARCH 17, 1988

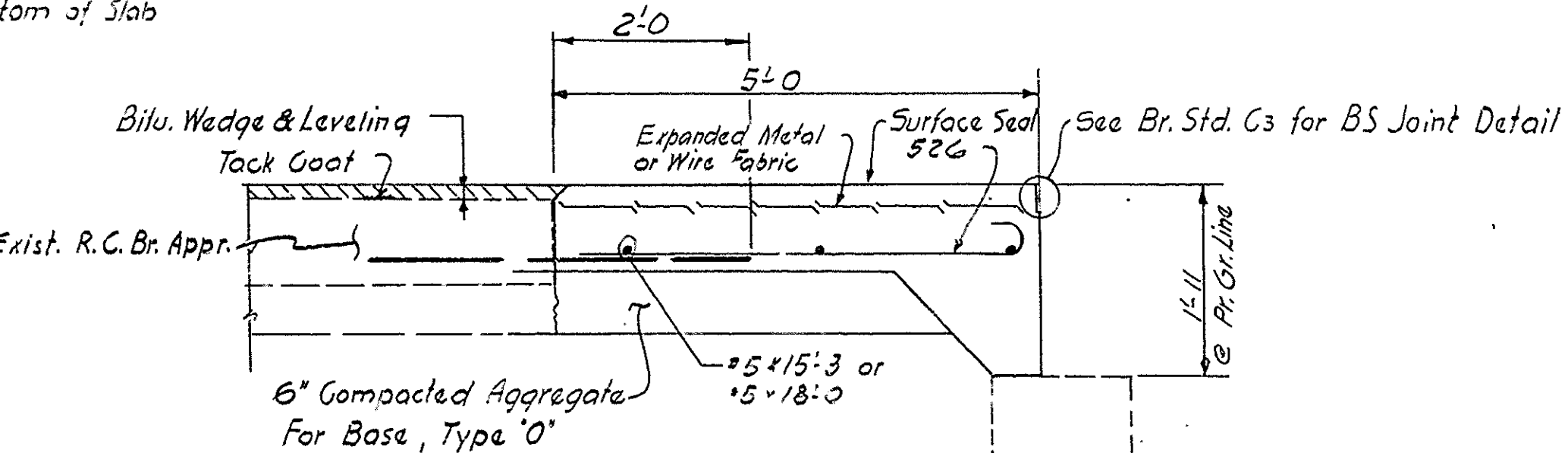
Stephen J. Christian

DRAWING: R6 OF 7 SHEET: 8 OF 31
PROJECT: R3-4475(1)
BRIDGE CONTRACT NO. B-17433
BRIDGE FILE: B-46-3214A

DESIGNED: C.K.D.
DRAWN: C.K.D.
TRACED: C.K.D.
SF-22317



PLAN-SHOWING AT BENT #1
AT BENT #4 THE SAME BY 180° ROTATION



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

Hook 7"

EPOXY COATED REINF.

| Mark | L | T.Length |
|------|-------|----------|
| 512 | 6'-1 | 6'-8 |
| 514 | 5'-8 | 6'-3 |
| 516 | 21'-2 | 21'-9 |
| 528 | 4'-1 | 4'-8 |
| 530 | 3'-8 | 4'-3 |
| 537 | 3'-4 | 3'-11 |
| 538 | 2'-10 | 3'-5 |
| 539 | 2'-4 | 2'-11 |
| 540 | 1'-10 | 2'-5 |

PLAIN REINFORCING

| Mark | L | T.Length |
|------|--------|----------|
| 511 | 6'-1 | 6'-8 |
| 513 | 5'-8 | 6'-3 |
| 515 | 21'-2 | 21'-9 |
| 517 | 21'-4 | 21'-11 |
| 518 | 21'-10 | 22'-5 |
| 519 | 22'-4 | 22'-11 |
| 520 | 22'-10 | 23'-5 |
| 521 | 23'-4 | 23'-11 |
| 522 | 23'-10 | 24'-5 |
| 523 | 24'-4 | 24'-11 |
| 524 | 24'-10 | 25'-5 |
| 525 | 25'-4 | 25'-11 |
| 526 | 4'-8 | 5'-3 |
| 527 | 4'-1 | 4'-8 |
| 529 | 3'-8 | 4'-3 |
| 531 | 20'-10 | 21'-5 |
| 532 | 20'-4 | 20'-11 |
| 533 | 19'-10 | 20'-5 |
| 534 | 19'-4 | 19'-11 |
| 535 | 18'-10 | 19'-5 |
| 536 | 3'-1 | 3'-8 |

BILL OF MATERIALS FOR ONE APPROACH-2 REQ'D

EPOXY COATED REINFORCING

| Mark or Size | No. of Bars | Length in Ft. | Weight in Lb. |
|--------------|-------------|---------------|---------------|
| 512 | 15 | 6'-8 | |
| 514 | 29 | 6'-3 | |
| 516 | 4 | 21'-9 | |
| 528 | 15 | 4'-8 | |
| 530 | 24 | 4'-3 | |
| 537 | 1 | 3'-11 | |
| 538 | 1 | 3'-5 | |
| 539 | 1 | 2'-11 | |
| 540 | 1 | 2'-5 | |
| 542 | 1 | 5'-3 | |
| #5 | 2 | 6'-10 | |

TOTAL EPOXY COATED REINFORCING STEEL 596

PLAIN REINFORCING

| Mark/size | No. of Bars | Length in Ft. | Weight in Lb. |
|-----------|-------------|---------------|---------------|
| 511 | 5 | 6'-8 | |
| 513 | 8 | 6'-3 | |
| 515 | 6 | 21'-9 | |
| 517 | 1 | 21'-11 | |
| 518 | 1 | 22'-5 | |
| 519 | 1 | 22'-11 | |
| 520 | 1 | 23'-5 | |
| 521 | 1 | 23'-11 | |
| 522 | 1 | 24'-5 | |
| 523 | 1 | 24'-11 | |
| 524 | 1 | 25'-5 | |
| 525 | 1 | 25'-11 | |
| 526 | 48 | 5'-3 | |
| 527 | 5 | 4'-8 | |
| 529 | 6 | 4'-3 | |
| 531 | 1 | 21'-5 | |
| 532 | 1 | 20'-11 | |
| 533 | 1 | 20'-5 | |
| 534 | 1 | 19'-11 | |
| 535 | 1 | 19'-5 | |
| 536 | 1 | 3'-8 | |
| 541 | 1 | 5'-3 | |
| #5 | 3 | 18'-0 | |
| 1 | 3 | 15'-3 | |
| 1 | 1 | 8'-0 | |
| 1 | 2 | 6'-10 | |
| #5 | 3 | 4'-0 | |
| #5 | 6 | 3'-0 | |

TOTAL PLAIN REINF. STEEL 1035

CONCRETE

| | |
|---|---------------|
| Reinforced Concrete Pavement (10") Phase I | 17 Sy. |
| Reinforced Concrete Pavement (10") Phase II | 22 Sy. |
| TOTAL REINFORCED CONCRETE PAVEMENT | 39 Sy. |

MISCELLANEOUS

| | |
|-------------------------------|---------|
| Type 'O' Compacted Aggr. Base | 13 Ton |
| Removal of Pavement | *47 Sy. |

* Includes 4 Sy. For Removal of Special Integral Concrete Curb.

R.C. BRIDGE APPROACH DETAILS
INDIANA DEPARTMENT OF HIGHWAYS

SCALE: - 3/8" = 1'-0" Unless Noted DATE: MARCH 17, 1988

Stephen J. Christian

DRAWING: R7 OF 7 SHEET: 9 OF 31

PROJECT: RS-4475 (1)

BRIDGE CONTRACT NO. B-17433

BRIDGE FILE: B-46-3214 A

