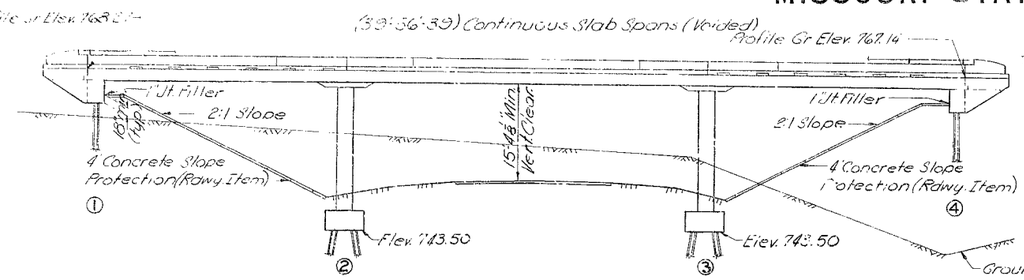
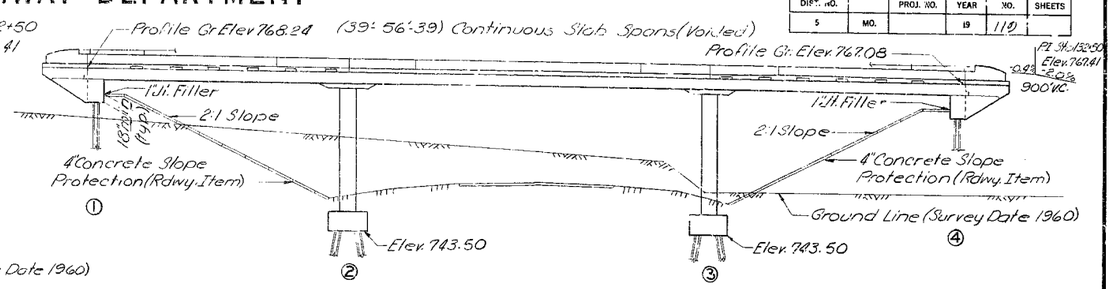
# MISSOURI STATE HIGHWAY DEPARTMENT

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 5 | MO. | | 19 | 1 1 9 | |




GENERAL ELEVATION
LEFT LANE




GENERAL ELEVATION
RIGHT LANE

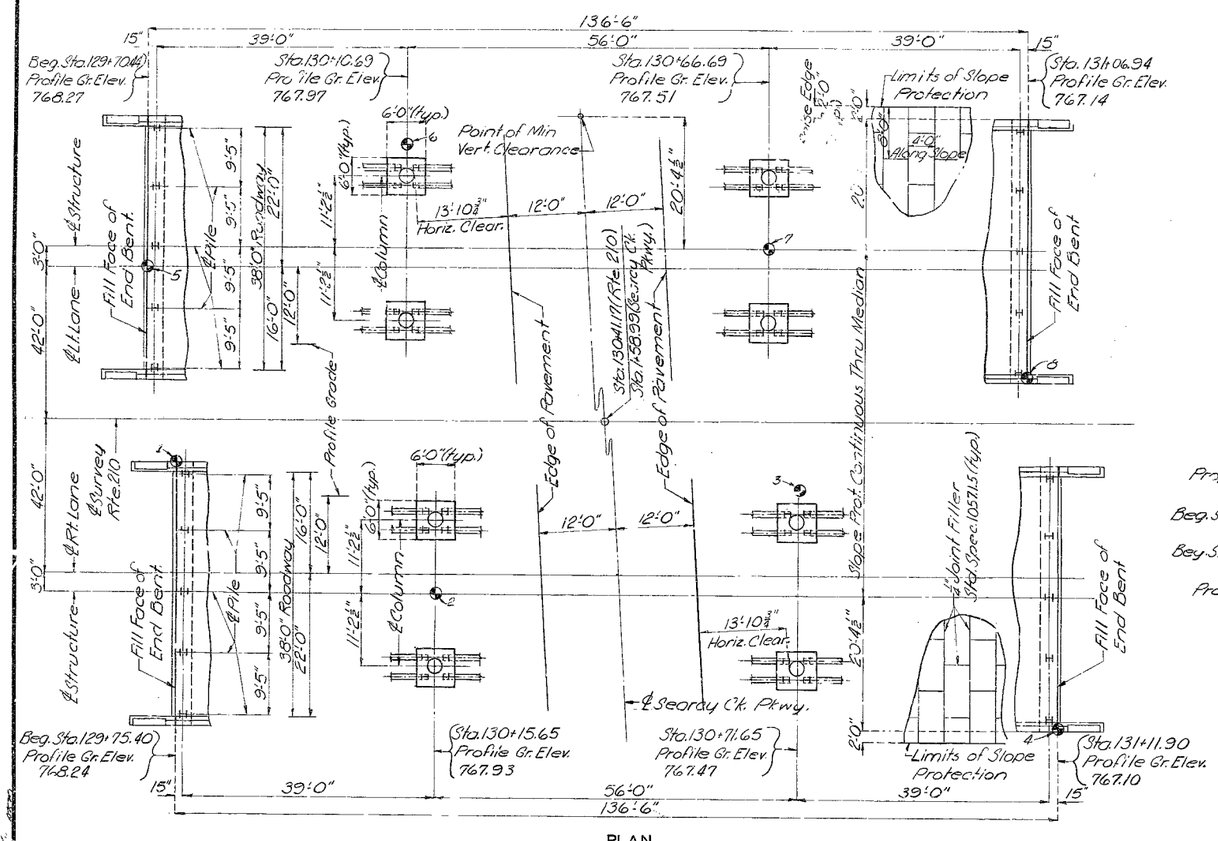
Note: Compacted roadway fill (full width of roadway) shall be placed up to elevation of bottom of concrete beam in front of and not less than 25'-0" in back of End Bents No. 1 & 4 both lanes before piles are driven.

GENERAL NOTES:
Design Specifications: A.A.S.H.T.O. - 1965
Design Loading:
H S 20-44 15#/sq. ft. Future Wearing Surface
Earth 120# Equivalent Fluid Pressure 30#.
Design Unit Stresses:

Class B1 Concrete (superstructure) fc = 1,600 psi
Reinforcing Steel fs = 20,000 psi
Steel Pile fb = 9,000 psi
Protective Coating for vertical surface of Rdwy. Slab, See Special Provisions

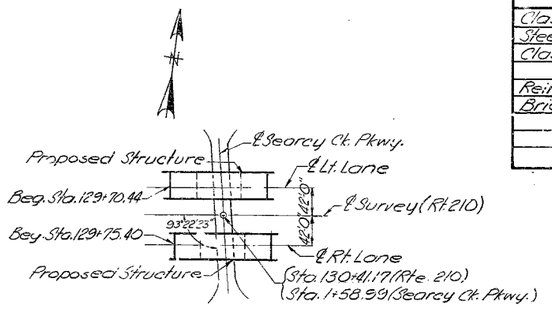
| PILE DATA | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| BENT NO. | | Left Lane | | | | Right Lane | | | |
| | | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Pile Type and Size | | 10BP42 | 10BP42 | 10BP42 | 10BP42 | 10BP42 | 10BP42 | 10BP42 | 10BP42 |
| Number | | 5 | 8 | 8 | 5 | 5 | 8 | 8 | 5 |
| Approximate Length | Ft. | 47' | 48' | 35' | 60' | 46' | 32' | 36' | 62' |
| Design Bearing | Tons | 37 | 55 | 55 | 37 | 37 | 55 | 55 | 37 |
| Hammer Energy required | Ft. Lbs. | 8,300 | 13,200 | 13,200 | 8,300 | 8,300 | 13,200 | 13,200 | 8,300 |

Minimum energy requirement of hammer based on plan length and design bearing value of piles. Increase by the factor (W+w)/2W when the weight of the ram (W) is less than the weight of the pile (w).
All piles shall be driven to practical refusal.




PLAN

Note: For Boring Data see sheet No. 2 of 8.
"⊕" Indicates location of boring.




LOCATION SKETCH

| ESTIMATED QUANTITIES | | | | |
|---|---|---|---|---|
| ITEM | | SUBSTR. | SUPERSTR. | TOTAL |
| Class 1 Excavation for Structures | Cu. Yd. | 120 | | 120 |
| Steel Piles in Place (10") | Lin. Ft. | 2123 | | 2123 |
| Class B1 Concrete | Cu. Yd. | | 790.8 | 790.8 |
| Reinforcing Steel | Lbs. | | 190170 | 190170 |
| Bridge Rail (One Tube Type) | Lin. Ft. | | 556 | 556 |

B.M. "B" Elev. 780.06 ▫ on S.W. Cor. W. Bridge Abutment 130' Rt. Sta. 115+95.

**BRIDGE** OVER SEARCY CREEK PARKWAY

**STATE ROAD:** ROUTE 210

IN KANSAS CITY

129+70.44 - LEFT LANE
**PROJECT NO.** C024-210(1)U (RTE. 210) STA. 129+75.40 - RIGHT LANE

**CLAY** **COUNTY**

SUBMITTED BY W. A. Causey BRIDGE ENGINEER DATE 3-5-69

APPROVED BY M. G. Snider CHIEF ENGINEER DATE 3-5-69

STD. 706.30
A-2181

DESIGNED MAY 1968 BY MIZANI
DETAILED NOV. 1968 BY BYRNE
CHECKED Jan 1969 BY Johnson

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 1 of 8.

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**FOR INFORMATION ONLY** **A21813 & A21814, Sht. 2**

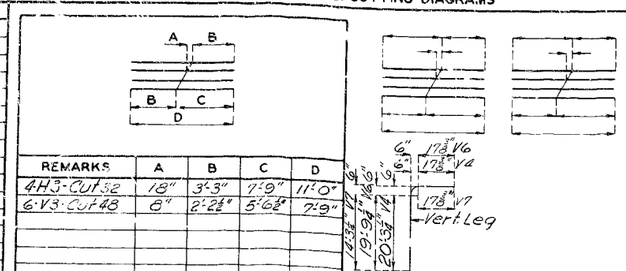
# MISSOURI STATE HIGHWAY DEPARTMENT

| FED ROAD DIST NO | STATE | FED AID PROJ NO | FISCAL YEAR | SHEET NO | TOTAL SHEETS |
|---|---|---|---|---|---|
| 5 | MO | | 19 | 120 | |

## COMPLETE BILL OF REINFORCING STEEL

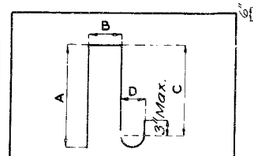
| NO. | SIZE | LENGTH | MARK | LOCATION |
|---|---|---|---|---|
| *Superstructure* | | | | |
| 548 | #5 | 3'-6" | C1 | Curb |
| 16 | #6 | 40'-0" | C2 | " |
| 16 | #5 | 28'-6" | C3 | " |
| 56 | #5 | 3'-3" | C4 | " |
| 16 | #6 | 6'-9" | C5 | " |
| 16 | #5 | 4'-9" | R1 | End Post |
| 8 | #5 | 5'-6" | R2 | " |
| 8 | #5 | 6'-0" | R3 | " |
| 8 | #5 | 6'-3" | R4 | " |
| 8 | #5 | 6'-6" | R5 | " |
| 8 | #5 | 6'-6" | R6 | " |
| 8 | #5 | 6'-9" | R7 | " |
| 8 | #5 | 6'-9" | R8 | " |
| 16 | #5 | 7'-0" | R9 | " |
| 32 | #5 | 3'-0" | R10 | Parapet |
| 564 | #5 | 5'-3" | R11 | " |
| 48 | #5 | 4'-3" | R12 | " |
| 32 | #5 | 29'-0" | R13 | " |
| 32 | #5 | 10'-9" | R14 | " |
| 32 | #5 | 10'-3" | R15 | " |
| 16 | #5 | 34'-9" | R16 | " |
| 32 | #5 | 10'-0" | R17 | End Post |
| 112 | #10 | 31'-0" | S1 | Slab |
| 108 | #10 | 25'-0" | S2 | " |
| 104 | #10 | 17'-3" | S3 | " |
| 216 | #5 | 22'-6" | S4 | " |
| 138 | #5 | 29'-6" | S5 | " |
| 112 | #9 | 42'-3" | S6 | " |
| 108 | #9 | 30'-3" | S7 | " |
| 104 | #9 | 21'-3" | S8 | " |
| 56 | #9 | 56'-0" | S9 | " |
| 54 | #10 | 36'-0" | S10 | " |
| 52 | #10 | 26'-0" | S11 | " |
| 628 | #5 | 40'-6" | S12 | " |
| *Superstr. End Bt #1 (Both Lanes)* | | | | |
| 24 | #6 | 40'-6" | H1 | Beam |
| 8 | #6 | 6'-9" | H2 | Wing |
| 16 | #6 | 11'-0" | H3 | " |
| 4 | #4 | 20'-9" | S13 | Appr. Hnch. |
| 100 | #4 | 2'-0" | S14 | " |
| 8 | #6 | 11'-0" | T1 | Wing |
| 160 | #5 | 8'-3" | U1 | Beam |
| 108 | #6 | 7'-0" | V1 | Slab |
| 8 | #4 | 5'-9" | V2 | Wing |
| 24 | #4 | 7'-9" | V3 | " |
| *Superst. Int Bt #2 (Both Lanes)* | | | | |
| 32 | #11 | 18'-9" | G1 | Beam |
| 16 | #11 | 43'-0" | G2 | " |
| 24 | #11 | 40'-0" | G3 | " |
| 76 | #3 | 8'-0" | P1 | Column |
| 32 | #10 | 22'-6" | V4 | Column |
| 32 | #10 | 16'-6" | V7 | " |
| 244 | #5 | 9'-0" | U2 | Beg. n |

## BENDING SKETCHES & CUTTING DIAGRAMS

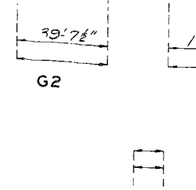


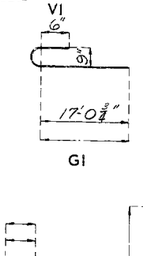

| REMARKS | A | B | C | D |
|---|---|---|---|---|
| 4H3-Cut 52 | 18" | 3'-3" | 1'-9" | 11'-0" |
| 6-V3-Cut 48 | 6" | 2'-2½" | 5'-6½" | 7'-9" |

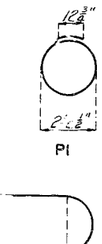


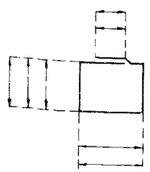




| MARK | A | B | C | D |
|---|---|---|---|---|
| R2 | 2'-1⅝" | 9" | 22⅞" | 4⅝" |
| R3 | 2'-3⅜" | 9" | 2'-1⅜" | 4½" |
| R4 | 2'-5⅛" | 9" | 2'-3⅛" | 4½" |
| R5 | 2'-7" | 9" | 2'-4⅝" | 4½" |
| R6 | 2'-7⅞" | 9" | 2'-5" | 4⅝" |
| R7 | 2'-8⅝" | 9" | 2'-6⅜" | 4⅝" |
| R8 | 2'-8⅝" | 9" | 2'-6⅜" | 4⅝" |
| R9 | 2'-9⅜" | 9" | 2'-7⅛" | 4⅝" |
| R11 | 2'-5½" | 7⅛" | 2'-4⅝" | 6" |

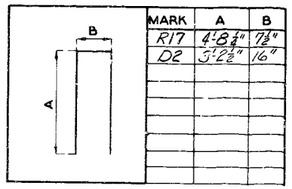


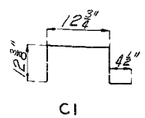



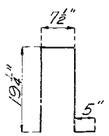



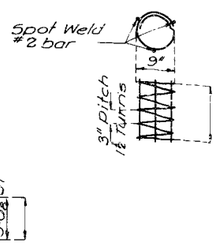



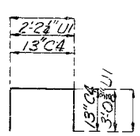

| MARK | A | B |
|---|---|---|
| R17 | 4'-8¼" | 7⅛" |
| D2 | 5'-2⅝" | 16" |

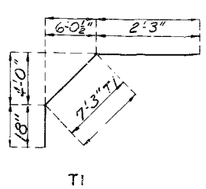


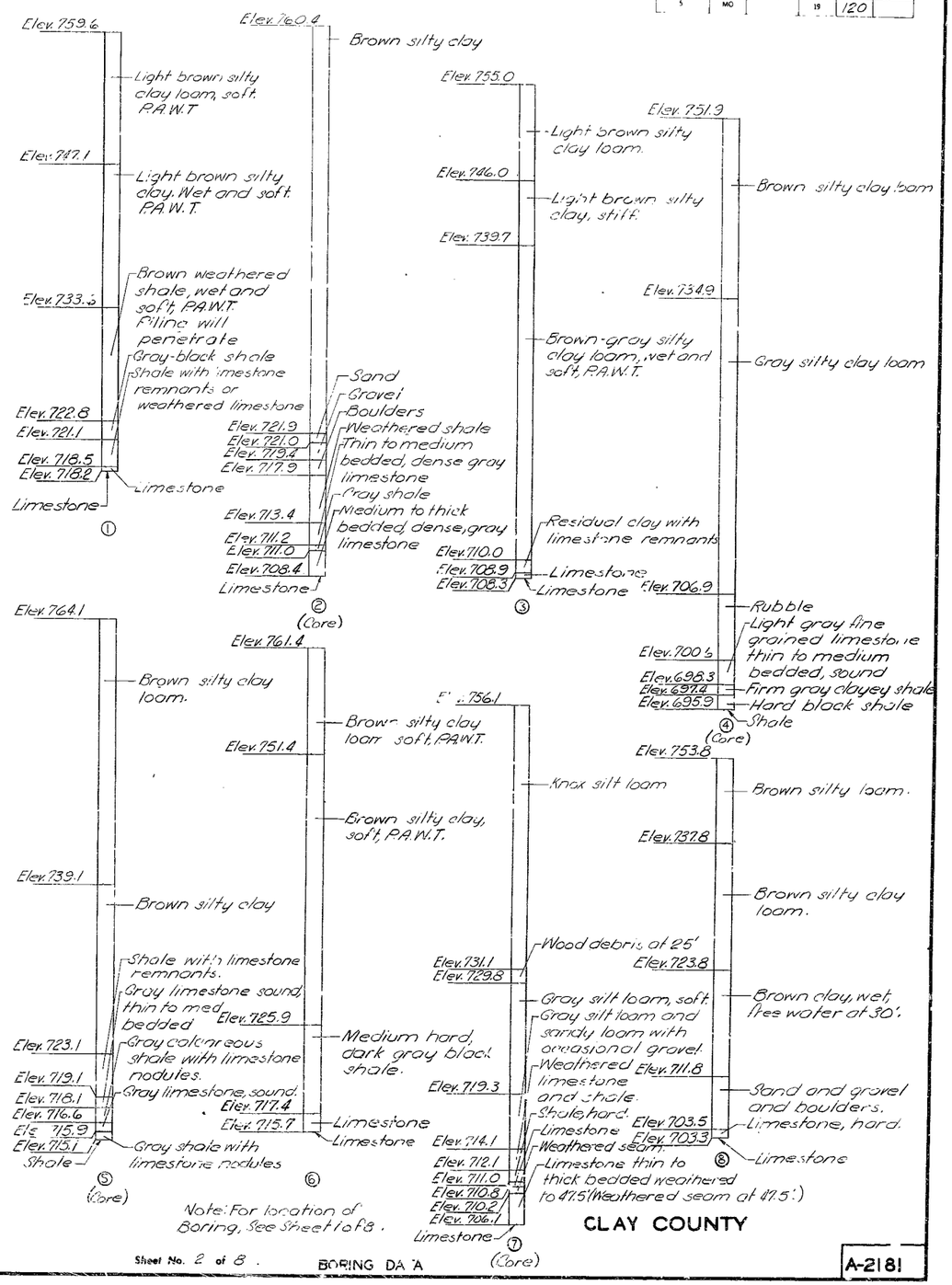




| NO. | SIZE | LENGTH | MARK | LOCATION |
|---|---|---|---|---|
| *Superst. Int Bt #3 (Both Lanes)* | | | | |
| 32 | #11 | 18'-9" | G1 | Beam |
| 16 | #11 | 43'-0" | G2 | " |
| 24 | #11 | 40'-0" | G3 | " |
| 76 | #3 | 8'-0" | P1 | Column |
| 32 | #10 | 22'-0" | V6 | Column |
| 32 | #10 | 16'-6" | V7 | " |
| 244 | #5 | 9'-0" | U1 | Beam |
| *Superst. End Bt #4 (Both Lanes)* | | | | |
| 24 | #6 | 40'-6" | H1 | Beam |
| 8 | #6 | 6'-9" | H2 | Wing |
| 16 | #6 | 11'-0" | H3 | " |
| 4 | #4 | 20'-9" | S13 | Appr. Hnch. |
| 100 | #4 | 2'-0" | S14 | " |
| 8 | #6 | 11'-0" | T1 | Wing |
| 160 | #5 | 8'-3" | U1 | Beam |
| 108 | #6 | 7'-0" | V1 | Slab |
| 8 | #4 | 5'-9" | V2 | Wing |
| 24 | #4 | 7'-9" | V3 | " |
| *Substructure* | | | | |
| 64 | #5 | 2'-6" | D1 | Footing |
| 64 | #6 | 7'-9" | D2 | " |




CLAY COUNTY

BORING DATA

Sheet No. 2 of 8.

A-2181

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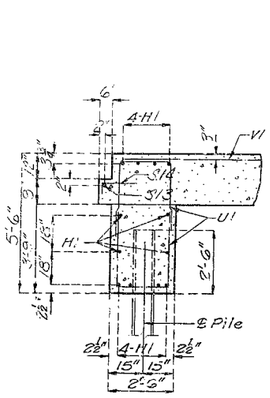
| REVISED | NOV. 1967 |
|---|---|
| STD 30.2 | JUNE 1961 |

DETAILED Nov 1968 BY Payne
CHECKED Jan 1969 BY Johnson

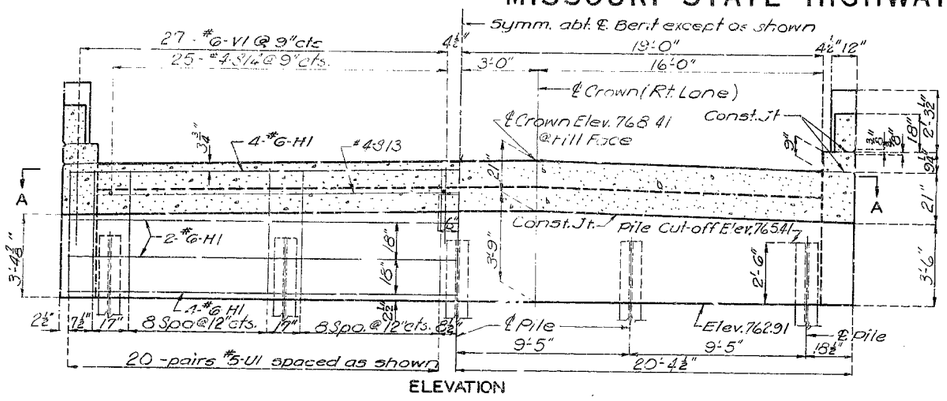
Note: This drawing is not to scale. Follow dimensions.

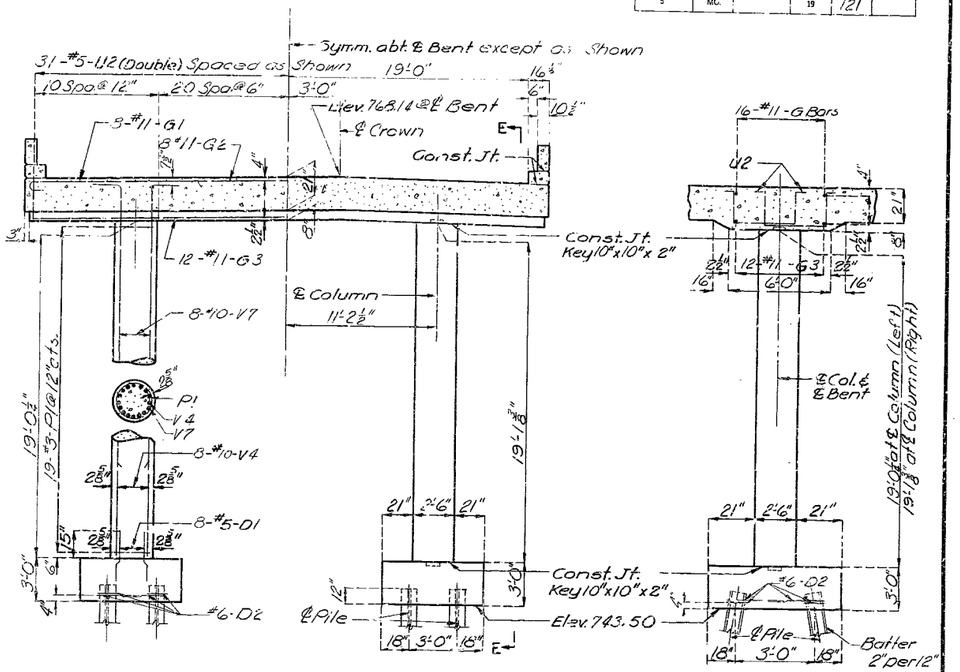
# MISSOURI STATE HIGHWAY DEPARTMENT

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 5 | MO. | | 19 | 121 | |

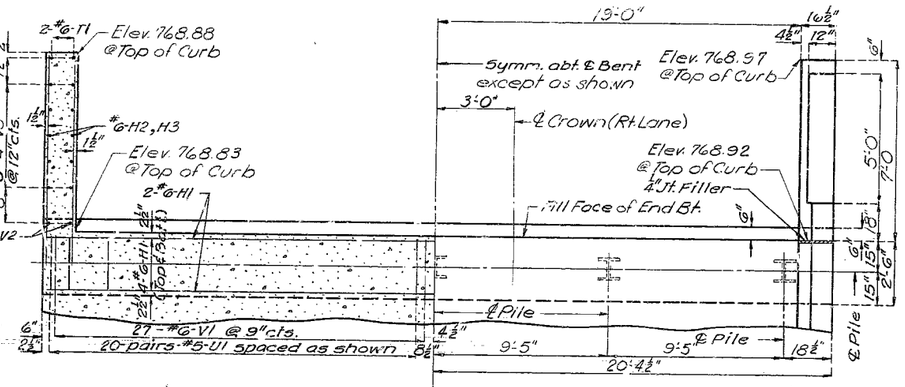



SECTION AT ℄



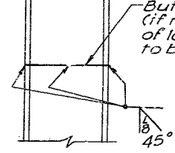




Note: Fill at End Bent No. 1 shall not be carried above bottom of beam and wings until adjacent superstructure span is in place.

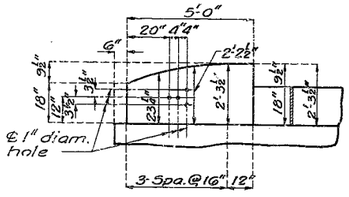



HALF SECTION A-A

HALF PLAN

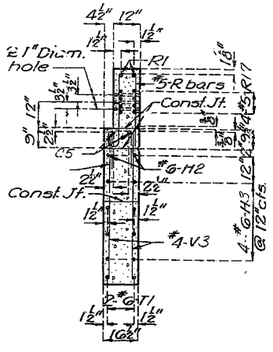



DETAIL OF STEEL PILE SPLICE

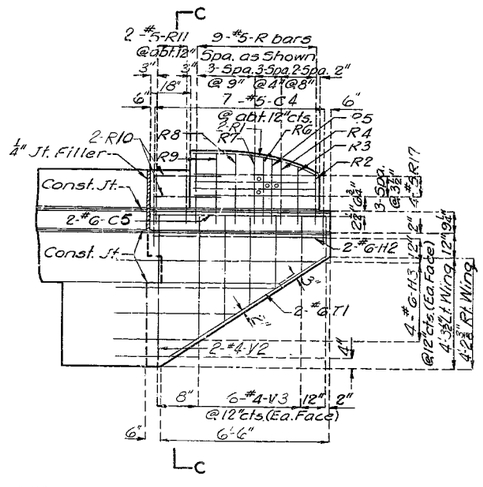



SECTION AT END POST

Note: Concrete End Post to be vertical.

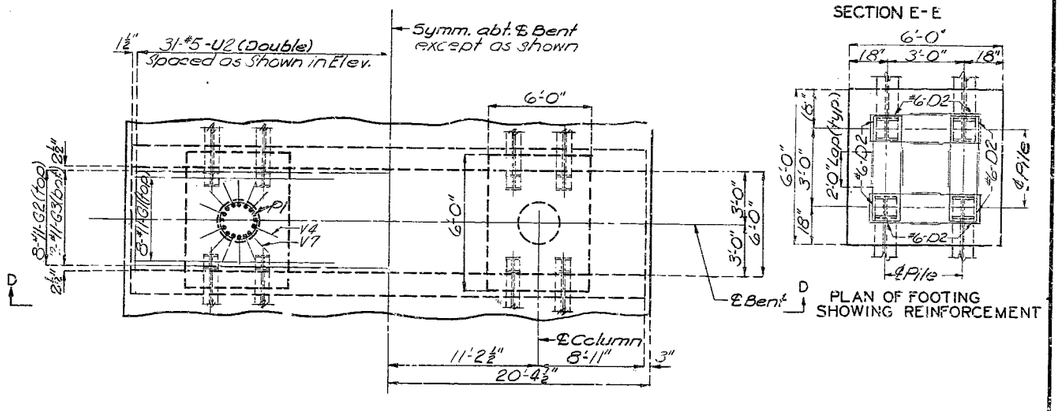



SECTION C-C




ELEVATION OF WING

SECTION D-D




SECTION E-E




PLAN OF FOOTING SHOWING REINFORCEMENT

PLAN

DETAILS OF INT. BENT NO. 2 LEFT LANE

DETAILS OF END BENT NO. 1 RIGHT LANE

CLAY COUNTY

216

SPS

REVISED

STD.

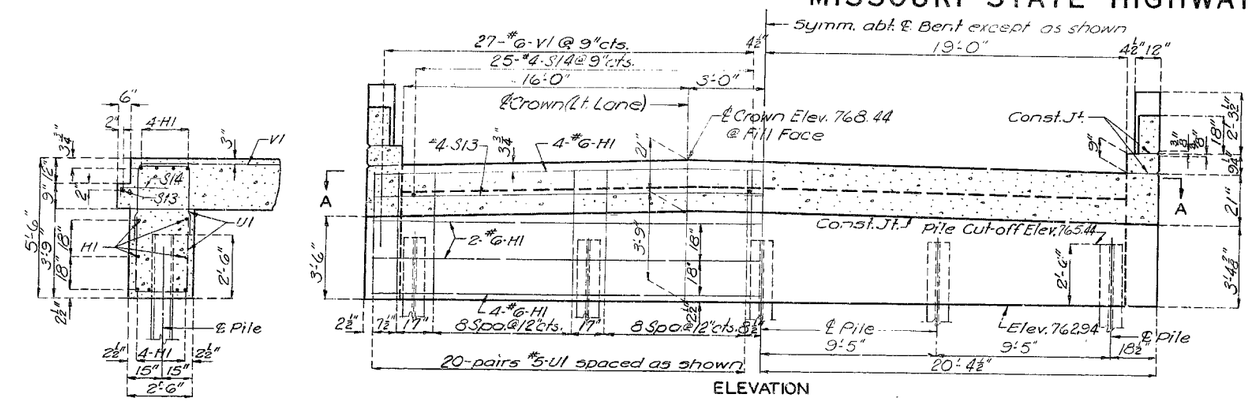
DETAILED Nov 1968 BY Payne

CHECKED Jan 1969 BY Johnson

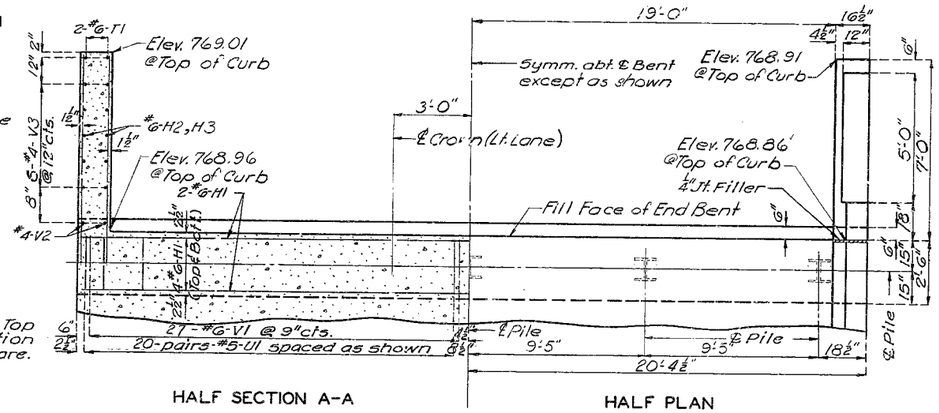
Note: This drawing is not to scale. Follow dimensions.

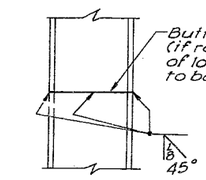
# MISSOURI STATE HIGHWAY DEPARTMENT

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 5 | MO. | | 19 | 122 | |

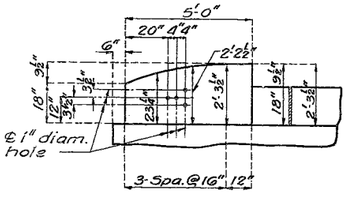



Note: Fill at End Bent No. 1 shall not be carried above bottom of beam and wings until adjacent superstructure span is in place.

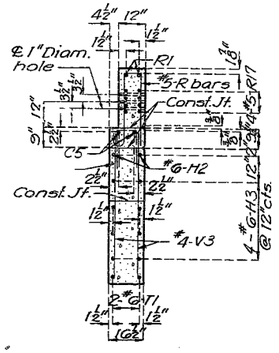


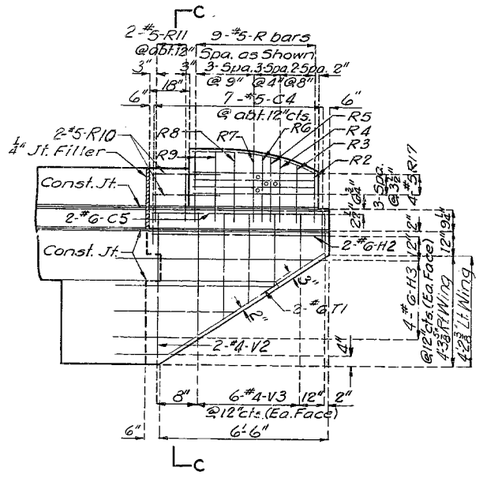

DETAIL OF STEEL PILE SPLICE




SECTION AT END POST
Note: Concrete End Post to be vertical.

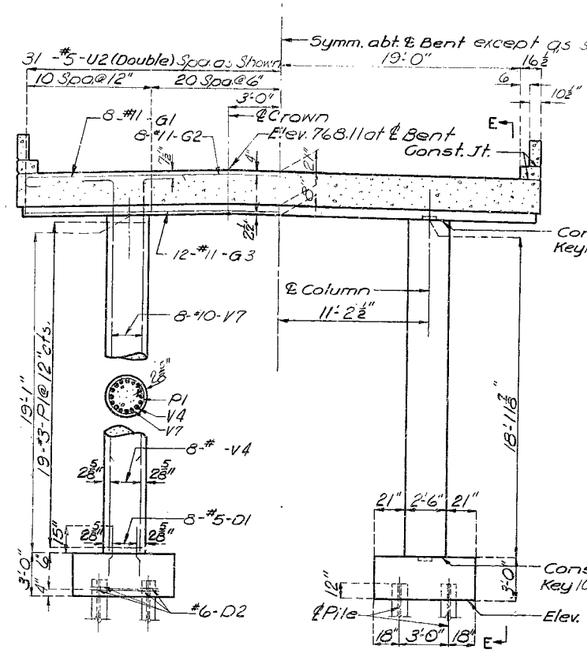


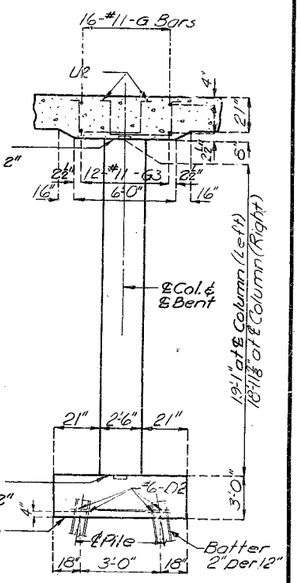

SECTION C-C




ELEVATION OF WING

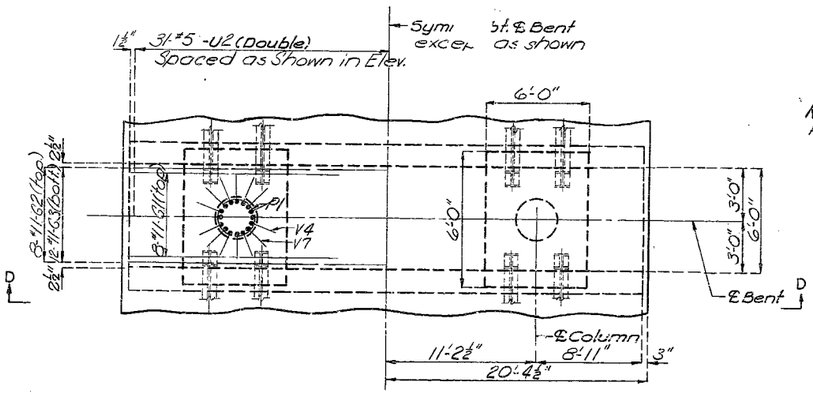
DETAILS OF END BENT NO. 1 LEFT LANE




SECTION E-E

SECTION D-D




Note: For plan of footing, see sheet 5 of 8.

PLAN

DETAILS OF INT. BENT NO. 2 RIGHT LANE

CLAY COUNTY

217

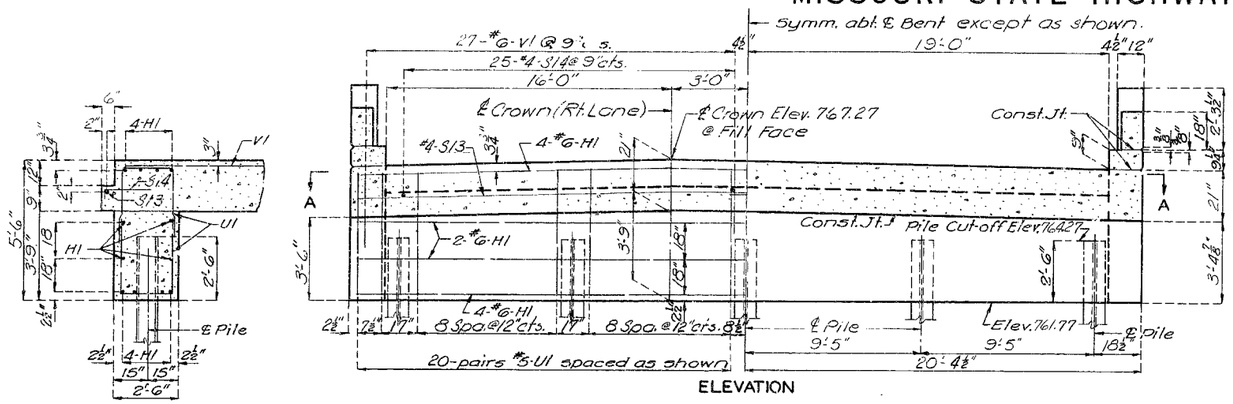
| SPS | | |
|---|---|---|
| | REVISED | |
| STD. | | |

DETAILED Nov. 1968 BY Payne
CHECKED Jan 1969 BY Johnson

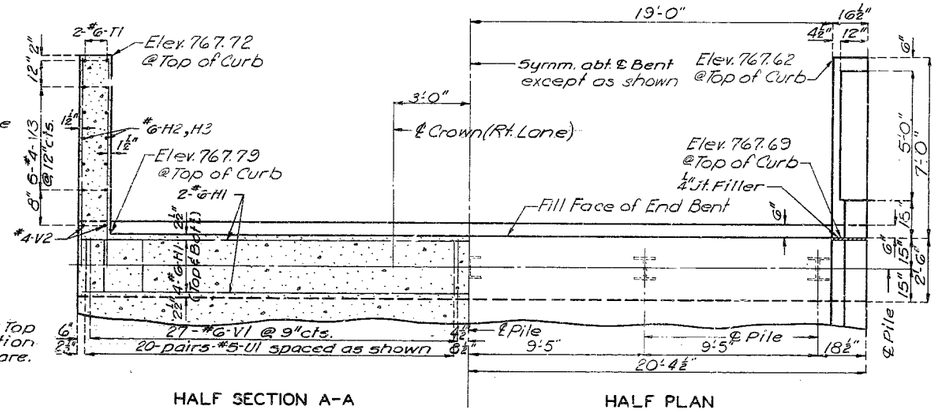
Note: This drawing is not to scale. Follow dimensions.

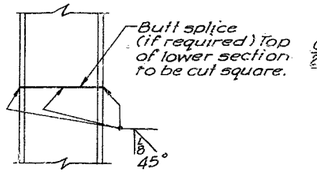
# MISSOURI STATE HIGHWAY DEPARTMENT

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 5 | MO. | | 19 | 123 | |

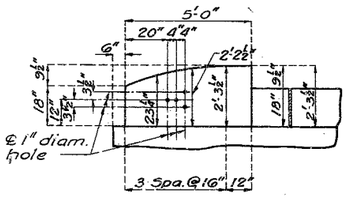



Note: Fill at End Bent No. 4 shall not be carried above bottom of beam and wings until adjacent superstructure span is in place.



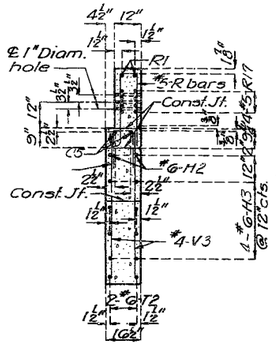




DETAIL OF STEEL PILE SPLICE

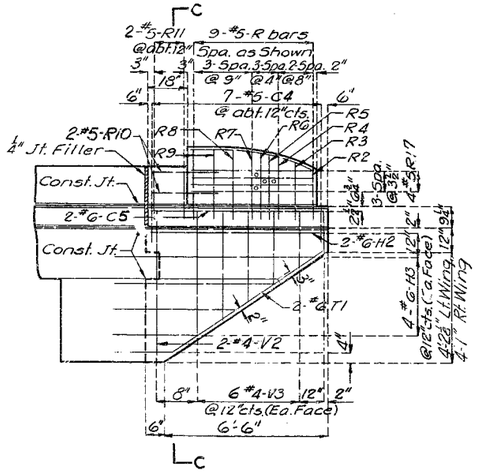



SECTION AT END POST

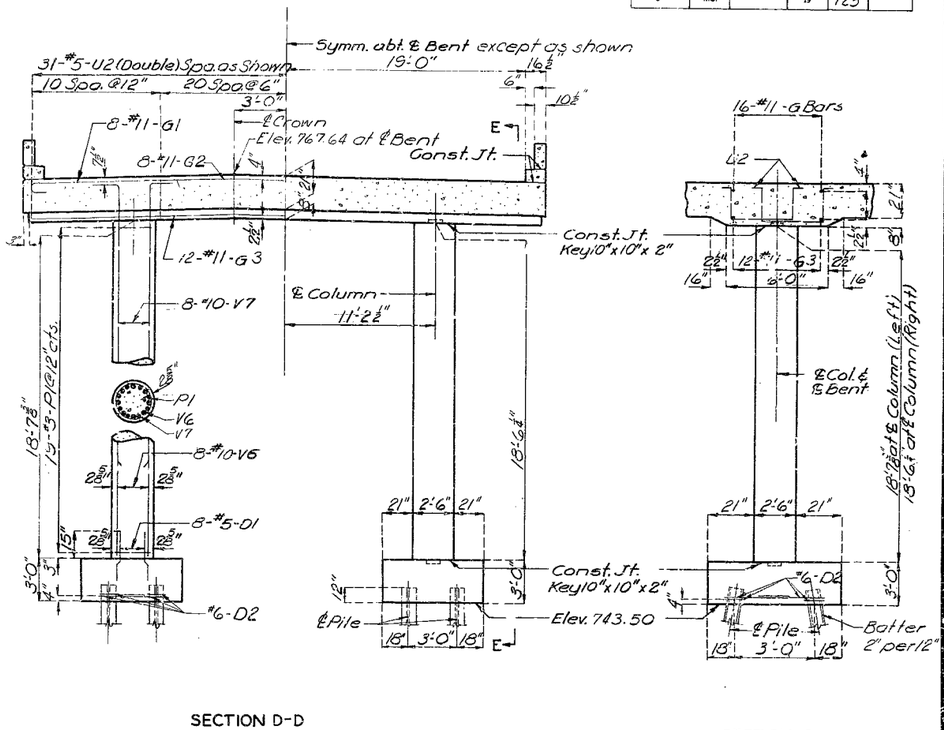
Note: Concrete End Post to be vertical.




SECTION C-C

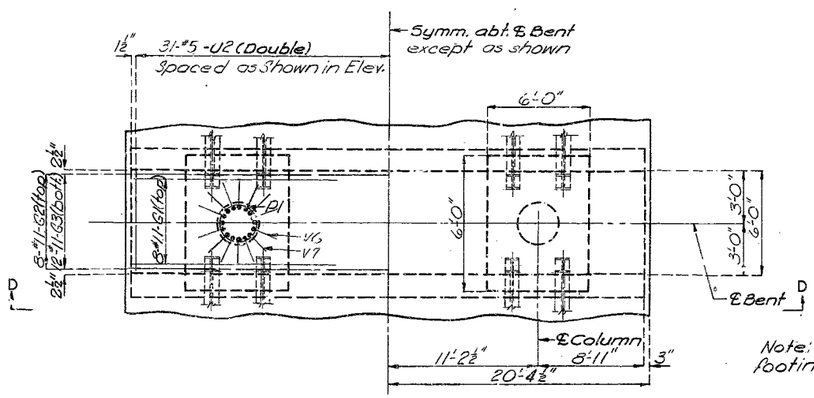



ELEVATION OF WING




SECTION D-D

SECTION E-E




PLAN

DETAILS OF INT. BENT NO. 3 RIGHT LANE

DETAILS OF END BENT NO. 4 RIGHT LANE

CLAY COUNTY

| STD. | REVISED | SPS |
|---|---|---|
| | | |

DETAILED Nov 1968 BY Payne

CHECKED Jan 1969 BY Johnson

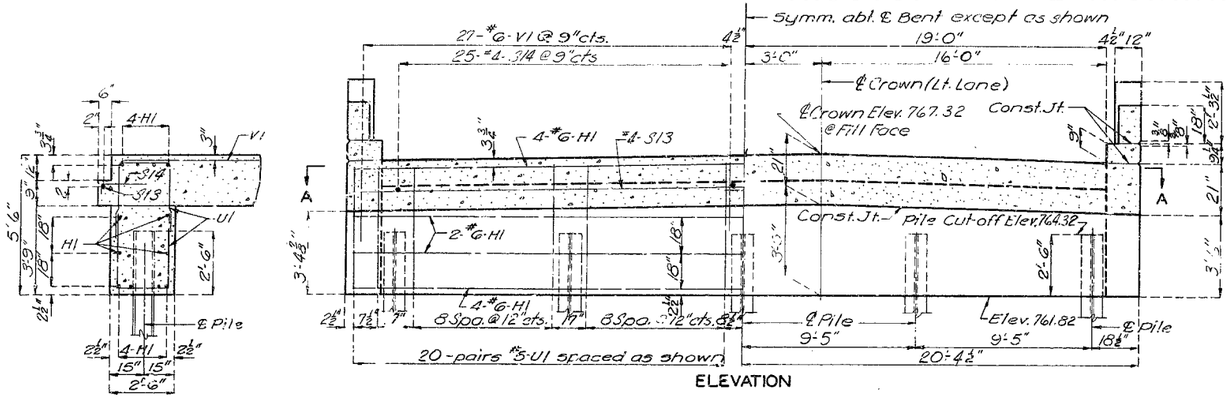
Note: This drawing is not to scale. Follow dimensions.



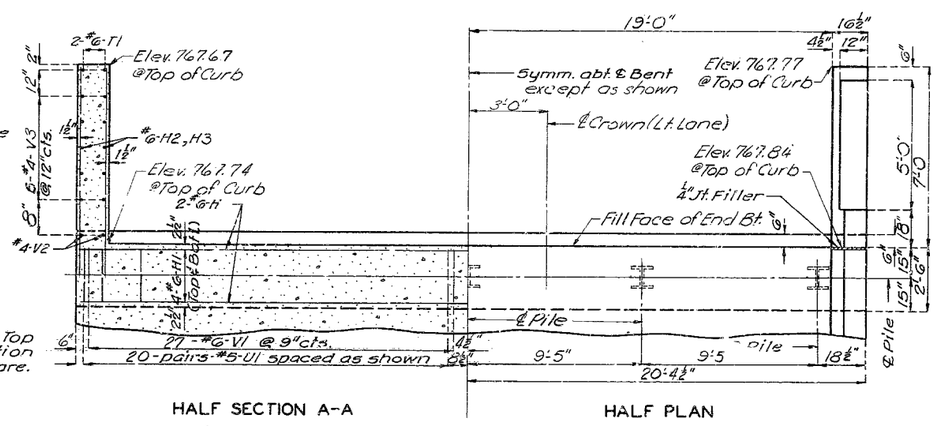
218

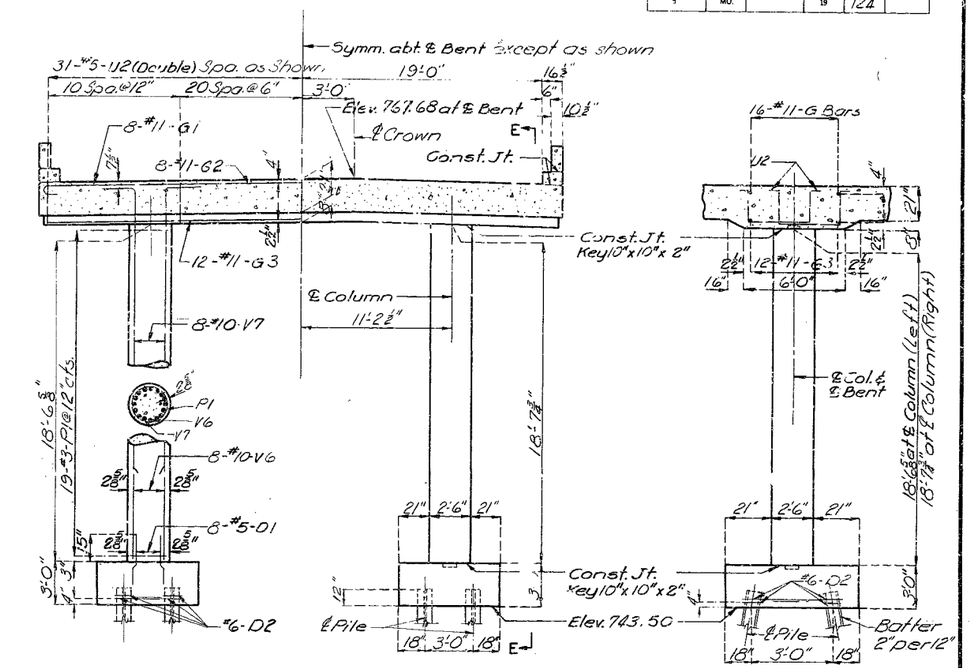
# MISSOURI STATE HIGHWAY DEPARTMENT

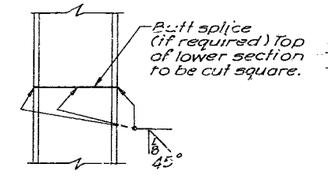
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 5 | MO. | | 19 | 124 | |



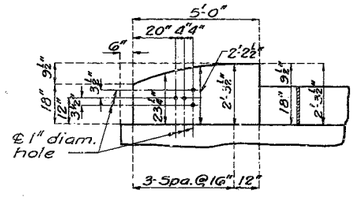

Note: Fill at End Bent No. 4 shall not be carried above bottom of beam and wings until adjacent superstructure span is in place.



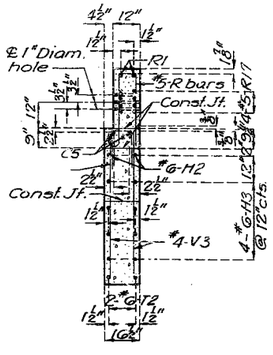




DETAIL OF STEEL PILE SPLICE

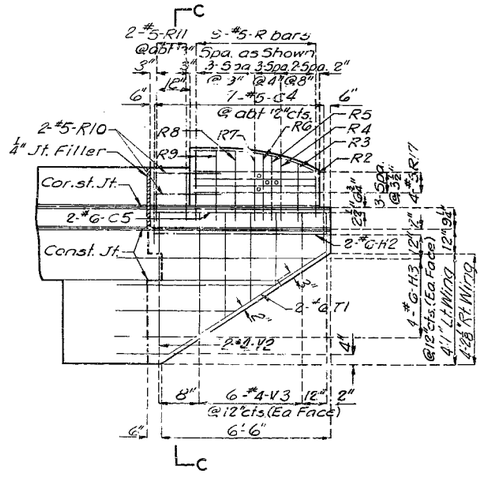



SECTION END POST

Note: Concrete End Post to be vertical.

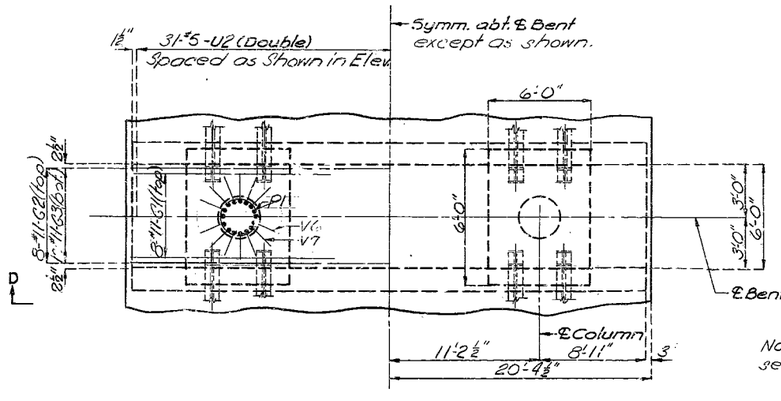



SECTION C-C




ELEVATION OF WING

SECTION D-D




SECTION E-E

Note: For plan of footing see sheet 3 of 8.

PLAN

DETAILS OF INT. BENT NO. 3 LEFT LANE

DETAILS OF END BENT NO. 4 LEFT LANE

CLAY COUNTY

219

SPS

REVISED

STD.

DETAILED Nov. 1968 BY Payne

CHECKED Jan. 1969 BY Johnson

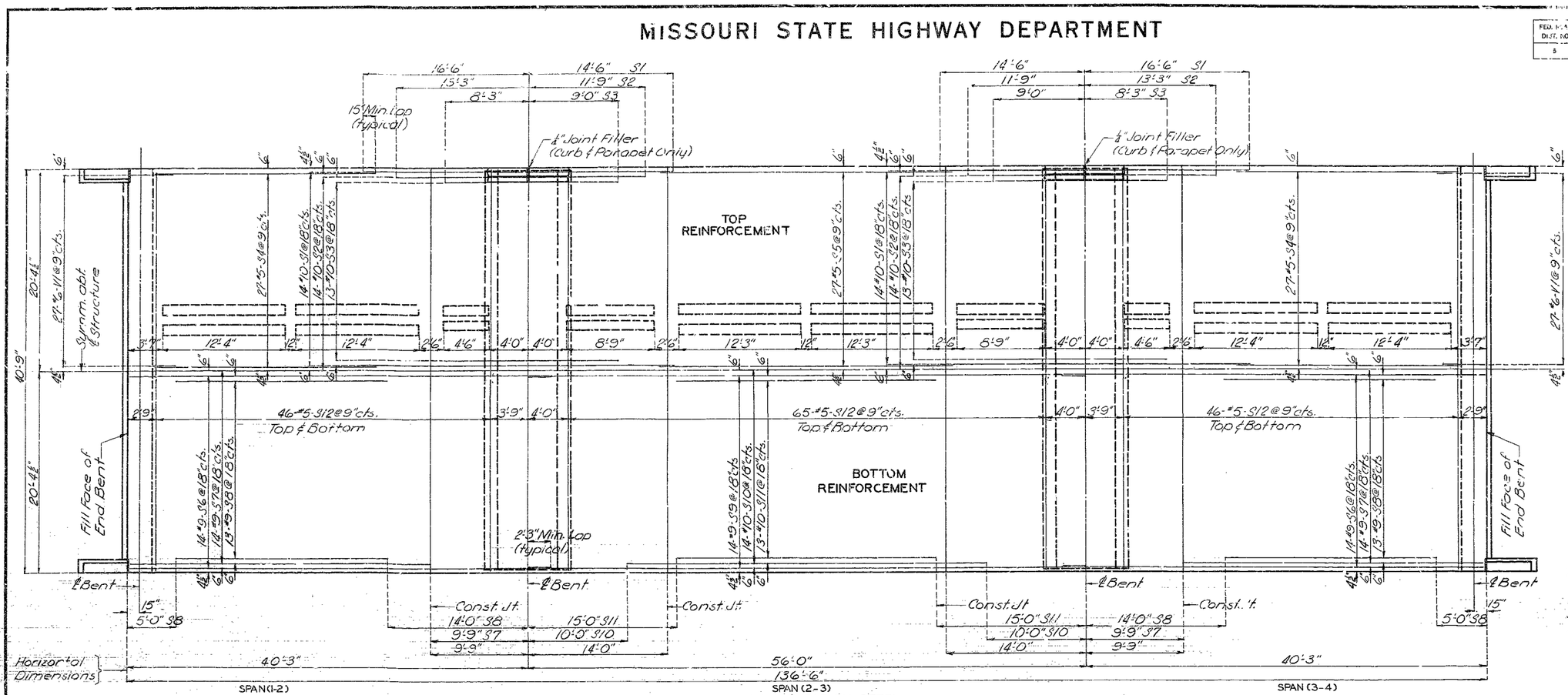
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 6 of 8.

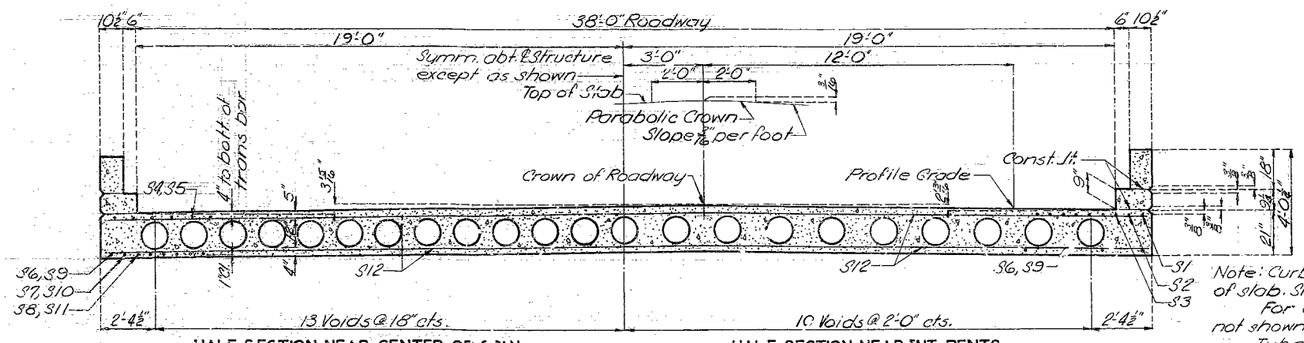
A-2181

# MISSOURI STATE HIGHWAY DEPARTMENT

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 5 | MO. | | 15 | 125 | |



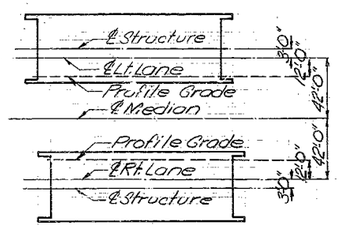

PLAN OF SLAB SHOWING REINFORCING STEEL



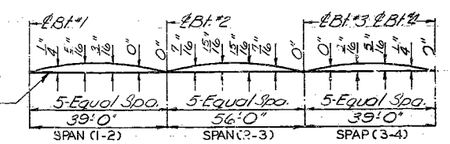

HALF SECTION NEAR CENTER OF SPAN

HALF SECTION NEAR INT. BENTS

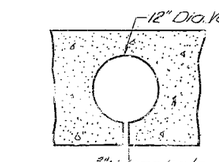
HALF SECTION THRU LEFT LANE
RIGHT LANE OPP HAND (LATERALLY)




PLAN OF SLABS
LEFT AND RIGHT LANES

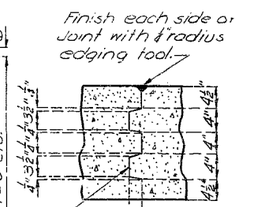



CAMBER DIAGRAM




DETAIL OF WEEPHOLE IN VOIDS

Note: One 2" ø weephole shall be provided near each end of each void. Weepholes shall be placed in straight lines parallel to bents.




DETAIL OF SLAB CONSTRUCTION JOINT KEY

Note: Curbs and parapets to be cast independently of slab. Slab to be built to a uniform depth of 21".

For details curbs, parapets, and handrails not shown see sheet 8 of 8.

Tubes for producing voids shall have an outside diameter of 12.0" and shall be anchored at not more than 4'-0" centers.

Fiber tubes shall have a wall thickness of not less than .225"

Note: The contractor shall pour and satisfactorily finish the roadway slab at a rate of not less than 53 cubic yards per hour. He shall observe the transverse construction joints shown on plans unless he can demonstrate to the satisfaction of the engineer that he is equipped to pour and satisfactorily finish the roadway slab at a rate which will permit a continuous pouring through some or all of these joints.

CLAY COUNTY

220

DETAILED Nov. 1946 BY Payne
CHECKED Jan 1949 BY Johnson

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 7 of 8.

A-2181

# MISSOURI STATE HIGHWAY DEPARTMENT

| FED ROAD DIST NO | STATE | FED AID PROJ NO | FISCAL YEAR | SHEET NO | TOTAL SHEETS |
|---|---|---|---|---|---|
| 5 | MO | | 19 | 126 | |

GENERAL HANDRAIL NOTES:

All handrail posts shall be set normal to grade.

Aluminum tube handrail shall be bent to conform to vertical and horizontal alignment of parapet.

Aluminum washer shims between top of parapet and post base may be used for adjusting handrail alignment. Maximum thickness of shims to be 1/8". Where more tilting of post is required for proper alignment, concrete bearing areas shall be ground down.

All parts of handrail, except anchor bolts, nuts, washers, and set screws are to be of aluminum material.

The contract unit price per linear foot of "Bridge Rail" shall include furnishing and erecting the handrail complete with anchor bolts, shims and insulating compound.

All fillets 1/4" except as noted.

All drafts 3° except as noted.

Pipe rail to be fabricated in a minimum of 2 panel lengths.

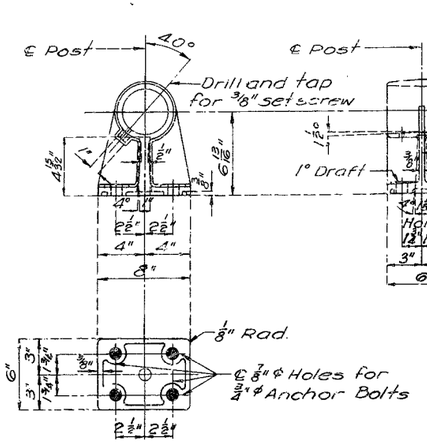
Omit set screw in side of rail posts adjacent to filled joints in curb and parapet at rail expansion points. Omit set screw in each side of rail post on end bents except where a gap is shown in rail over an expansion device.

Top of curbs and parapets to be built parallel to grade with curb and parapet joints (except at end bents) normal to grade.

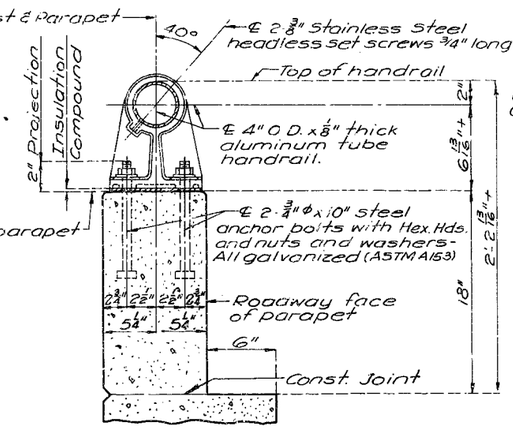
Concrete end posts to be vertical.

All exposed edges of end posts shall have 1/2" bevel. All exposed edges of curbs and parapets shall have 1/2" radius or 3/8" bevel unless otherwise noted.

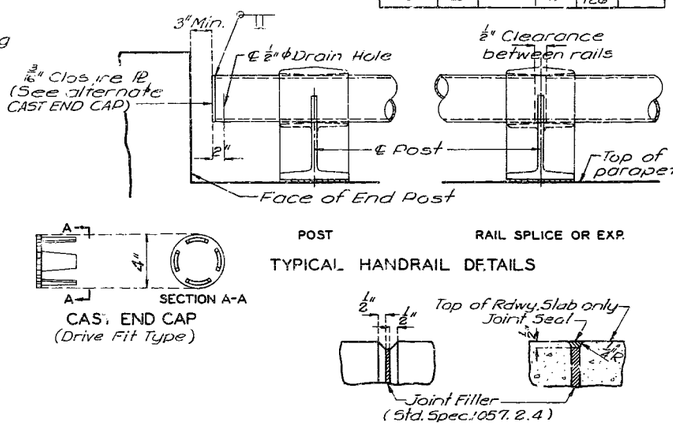
If the contractor desires, he may use drive fit cast aluminum end caps in lieu of welded aluminum closure plates.




POST DETAILS




SECTION THRU HANDRAIL

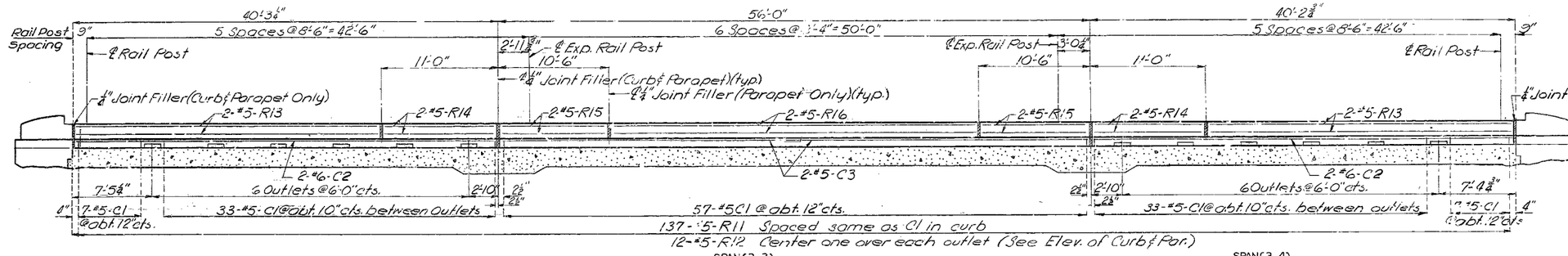



ONE TUBE ALUMINUM RAILING

TYPICAL HANDRAIL DETAILS




FILLED JOINT DETAILS

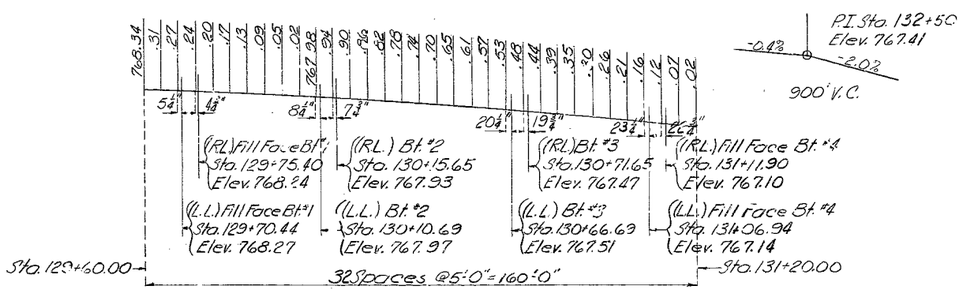



SPAN (1-2) SPAN (2-3) SPAN (3-4)

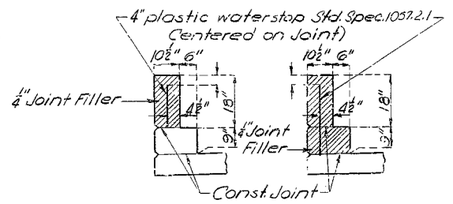
SECTION NEAR LEFT CURB AND PARAPET

Note: Longitudinal dimensions shown are taken along top of parapet parallel to grade.

For end post ordinates, details and reinforcement see sheets 3, 4, 5 & 6 of 8.



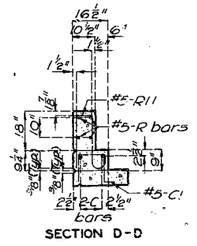

PROFILE GRADE ELEVATIONS



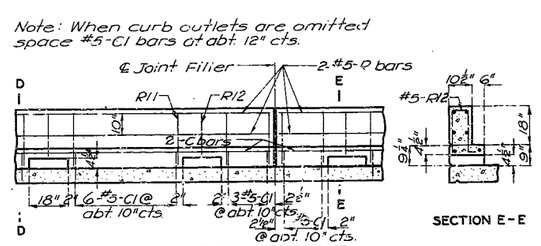

Note: Plastic waterstop shall be placed in all parapet and curb filled joints.

Cost of plastic waterstop complete in place to be included in unit price bid for concrete.

DETAILS OF PLASTIC WATERSTOP




Note: When curb outlets are omitted space #5-C1 bars at abt. 12" cts.




ELEVATION OF CURB & PARAPET

Note: For horizontal curb and parapet bars use a minimum lap of 15" for #5 and 18" for #6

CLAY COUNTY

| STD. 1.5.2 | REVISED |
|---|---|
| MAR. 1964 | SEPT. 1968 |

DETAILED Nov. 1965 BY Payne

CHECKED Jan 1967 BY Johnson

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 8 of 8.

A-2181

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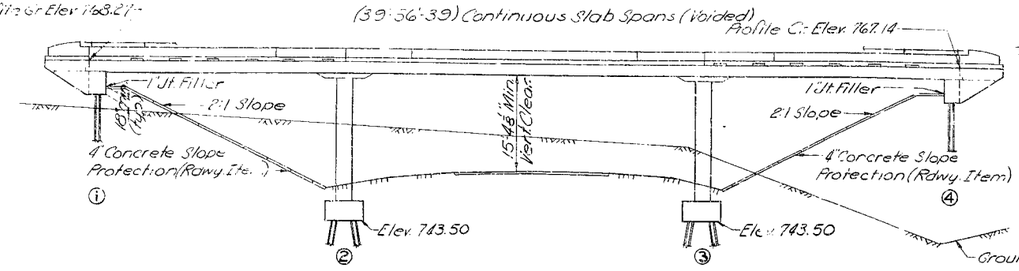
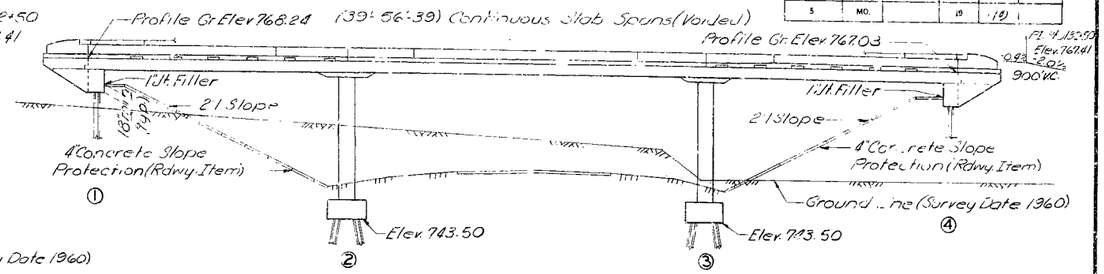
# MISSOURI STATE HIGHWAY DEPARTMENT

FINAL PLANS

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 5 | MO. | | 19 | 19 | |




GENERAL ELEVATION
LEFT LANE




GENERAL ELEVATION
RIGHT LANE

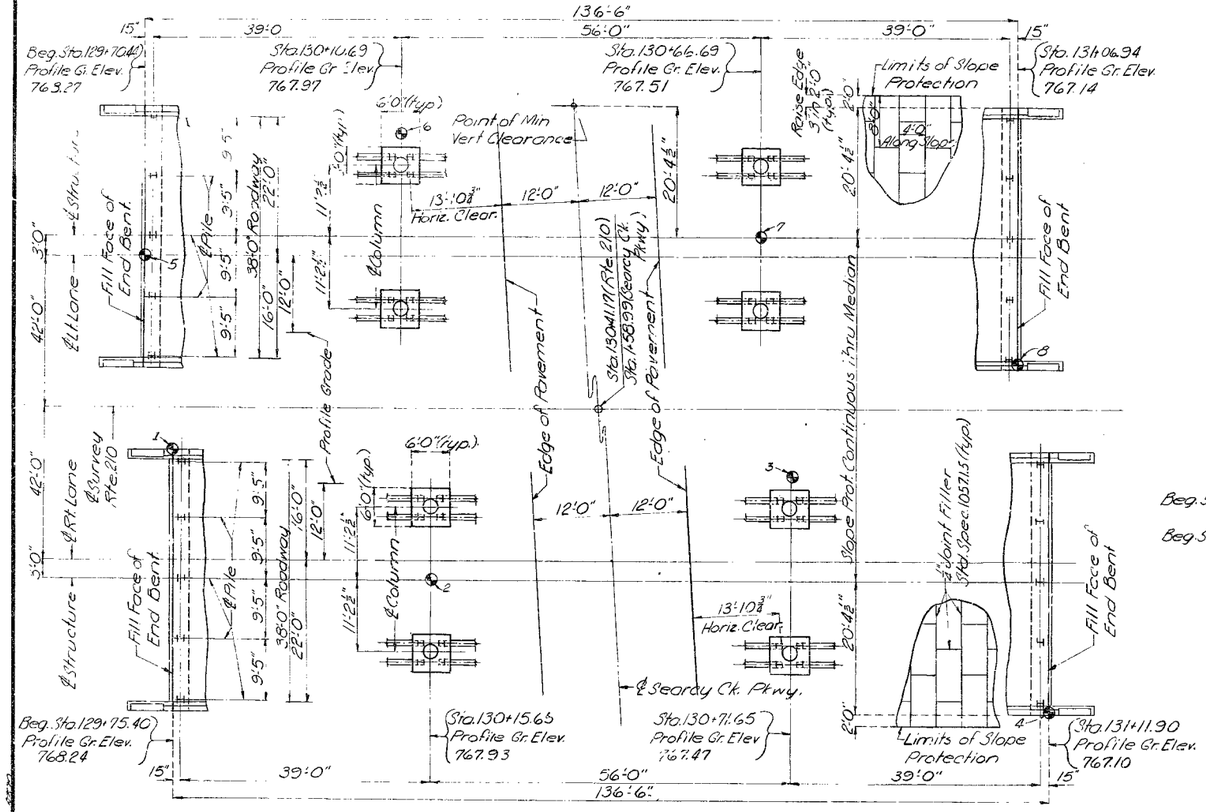
Note: Compacted roadway fill (full width of roadway) placed upto elevation of bottom of concrete beam in front of end Bents No. 1 & 4 both lanes before piles are driven.

GENERAL NOTES:
Design Specifications: A.A.S.H.O. - 1965
Design Loading:
H.S. 20-44 15#/sq.ft. Future Wearing Surface
Earth 120# Equivalent Fluid Pressure 30#.
Design Unit Stresses:

Class B1 Concrete (superstructure) fc = 1,600 p.s.i
Reinforcing Steel fs = 20,000 psi
Steel Pile fb = 9,000 psi
Protective Coating for vertical surface of Rdwy. Slab. See "Special Provisions"

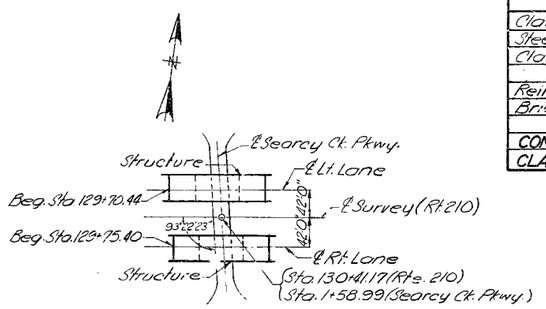
| PILE DATA | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| BENT NO. | | Left Lane | | | | Right Lane | | | | |
| | | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Pile Type and Size | | 10BP42 | 10BP42 | 10BP42 | 10BP42 | 10BP42 | 10BP42 | 10BP42 | 10BP42 |
| Number | | 5 | 8 | 8 | 5 | 5 | 8 | 8 | 5 |
| Approximate Length | Ft. | 47 | 27 | 35-36 | 60-61 | 47 | 30-36 | 36-38 | 63-64 |
| Design Bearing | Tons | 37 | 55 | 55 | 37 | 37 | 55 | 55 | 37 |
| Hammer Energy required | Ft. Lbs | 8,300 | 13,200 | 13,200 | 8,300 | 8,300 | 13,200 | 13,200 | 8,300 |

Minimum energy requirement of hammer based on plan length and design bearing value of piles. Increase by the factor (W+w)/2W when the weight of the ram (W) is less than the weight of the pile (w).
All pile driven to practical refusal.




PLAN

Note: For Boring Data see sheet No. 2 of 8.
"B" Indicates location of boring.




LOCATION SKETCH

| FINAL QUANTITIES | | | | |
|---|---|---|---|---|
| ITEM | | SUBSTR. | SUPERSTR. | TOTAL |
| Class I Excavation for Structures | Cu. Yd. | 111.5 | | 111.5 |
| Steel Piles in Place (10") | Ft. | 2,147 | | 2,147 |
| Class B1 Concrete | Yd | | 782.8 | 782.8 |
| Reinforcing Steel | Lbs. | | 190,170 | 190,170 |
| Bridge Rail (One Tube Type) | Lin. Ft. | | 556 | 556 |
| CONTINGENT ITEM | | | | |
| CLASS B CONCRETE | CU. YD. | 8.0 | | 8.0 |

B.M. #9 Elev. 746.44 ▯ ON N.E. COR. MANHOLE COVER RT. SO. R/W AT STA 128+50±

**BRIDGE** OVER SEARCY CREEK PARKWAY

STATE ROAD: ROUTE 210

IN KANSAS CITY

PROJECT NO. C024 210(1)U (RTE. 210) STA. 129+70.44 - LEFT LANE, 129+75.40 - RIGHT LANE

CLAY COUNTY

SUBMITTED BY _____ BRIDGE ENGINEER DATE _____

APPROVED BY _____ CHIEF ENGINEER DATE _____

STD. 706.30
A-2181

DESIGNED MAY 1968 BY MIZANI
DETAILED NOV. 1968 BY PAYNE
CHECKED Jan 1969 BY Johnson

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 1A of 3.

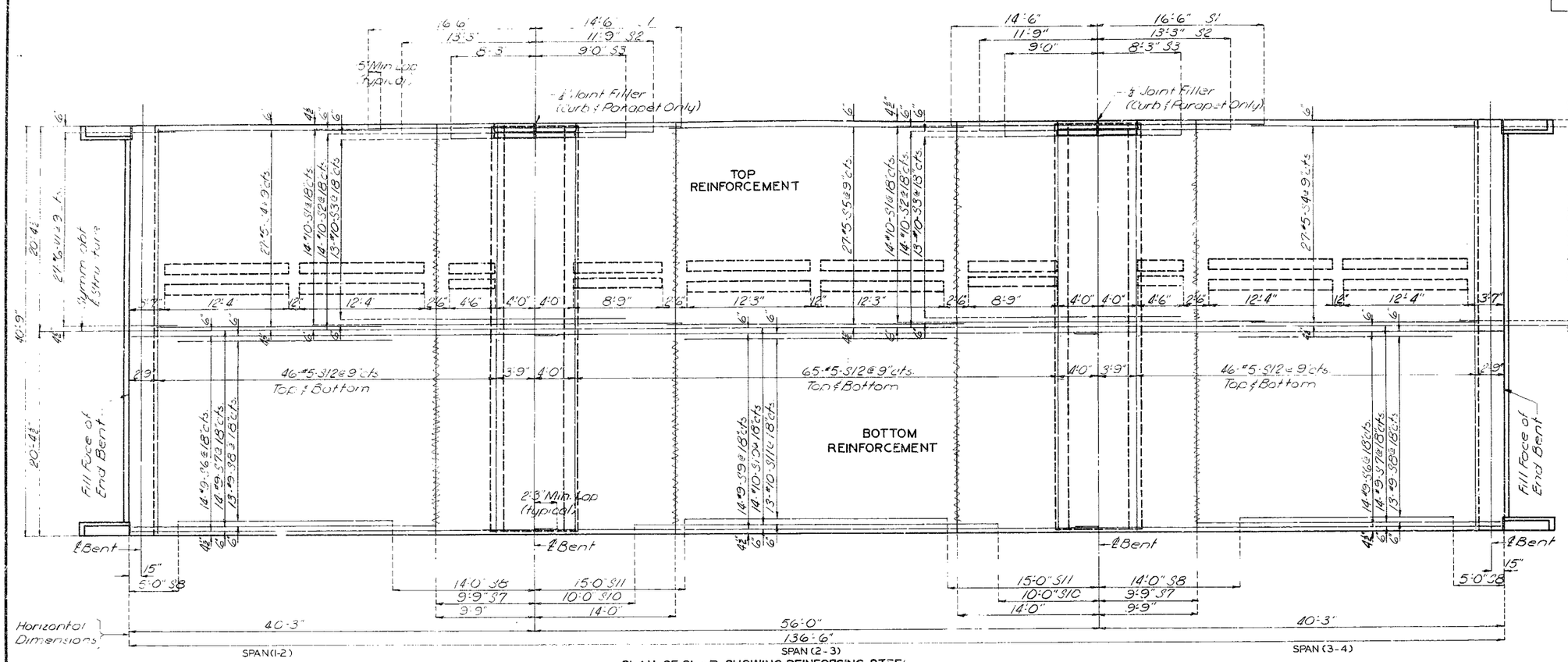
FINAL PLANS

222

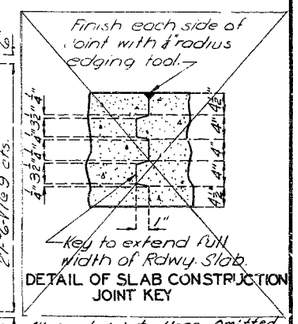
MISSOURI STATE HIGHWAY DEPARTMENT

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 5 | MO. | | 19 | 125 | |

FINAL PLANS

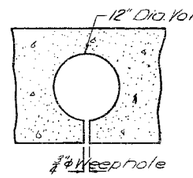



PLAN OF SLAB SHOWING REINFORCING STEEL



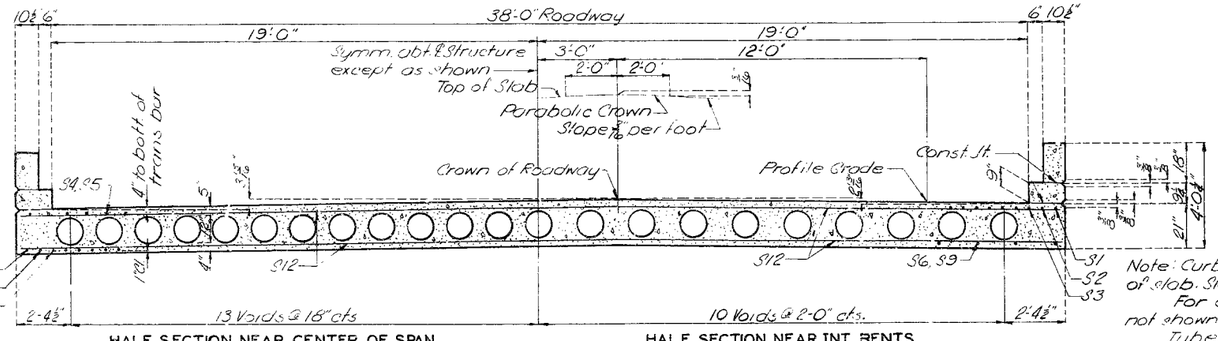

DETAIL OF SLAB CONSTRUCTION JOINT KEY

All Const. joints were omitted




DETAIL OF WEEPHOLE IN VOIDS

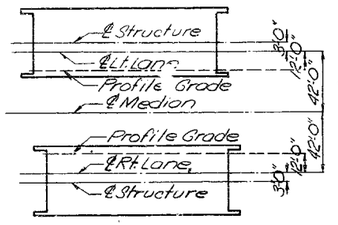
Note: One ¾" ø weephole shall be provided near each end of each void. Weepholes shall be placed in straight lines parallel to bents.




HALF SECTION NEAR CENTER OF SPAN

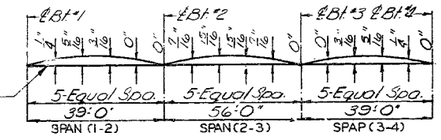
HALF SECTION NEAR INT. BENTS

HALF SECTION THRU LEFT LANE
RIGHT LANE OPP HAND (LATERALLY)




PLAN OF SLABS
LEFT AND RIGHT LANES

Line Parallel to Grade




CAMBER DIAGRAM

Note: The contractor shall pour and satisfactorily finish the roadway slab at a rate of not less than 53 cubic yards per hour. He shall observe the transverse construction joints shown on plans unless he can demonstrate to the satisfaction of the engineer that he is equipped to pour and satisfactorily finish the roadway slab at a rate which will permit a continuous pouring through some or all of these joints.
ALL CONSTRUCTION JOINTS WERE OMITTED.

Note: Curbs and parapets to be cast independently of slab. Slab to be built to a uniform depth of 21".
For details curbs, parapets, and handrails not shown see sheet 8 of 8.
Tubes for producing voids shall have an outside diameter of 12.0" and shall be anchored at not more than 4'-0" centers.
Fiber tubes shall have a wall thickness of not less than .265"

CLAY COUNTY

A-2181

DETAILED Nov 1968 BY Payne
CHECKED Jan 19-- BY Johnson

Note: This drawing is not to scale. Follow dimensions.



FINAL PLANS

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# MISSOURI STATE HIGHWAY DEPARTMENT

| FED ROAD DIST NO | STATE | FED AID PROJ NO | FISCAL YEAR | SHEET NO | TOTAL SHEETS |
|---|---|---|---|---|---|
| 5 | MO | | 19 | 126 | |

FINAL PLANS

GENERAL HANDRAIL NOTES:

All handrail posts shall be set normal to grade.

Aluminum tube handrail shall be bent to conform to vertical and horizontal alignment of parapet.

Aluminum washer shims between top of parapet and post base may be used for adjusting handrail alignment. Maximum thickness of shims to be 1/8". Where more tilting of post is required for proper alignment, concrete bearing areas shall be grounded down.

All parts of handrail, except anchor bolts, nuts, washers, and set screws are to be of aluminum material.

The contract unit price per linear foot of "Bridge Rail" shall include furnishing and erecting the handrail complete with anchor bolts, shims and insulating compound.

All fillets 1/4" except as noted.

All drafts 3° except as noted.

Pipe rail to be fabricated in a minimum of 2 panel lengths.

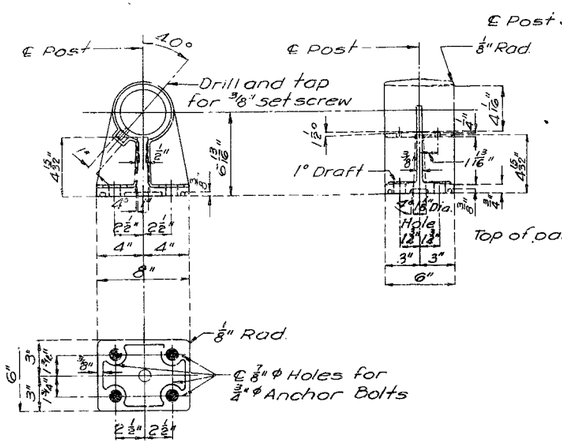
Omit set screw in side of rail posts adjacent to filled joints in curb and parapet at rail expansion points. Omit set screw in each side of rail post on end bents except where a gap is shown in rail over an expansion device.

Top of curbs and parapets to be built parallel to grade with curb and parapet joints (except at end bents) normal to grade.

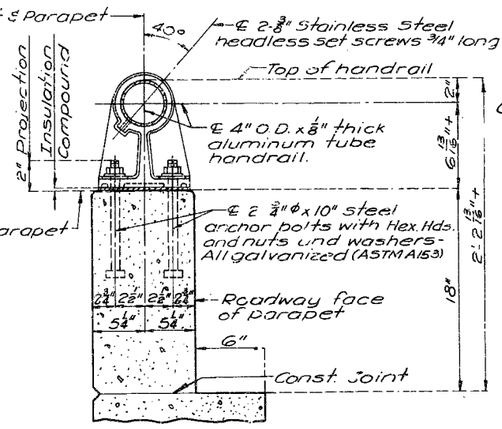
Concrete end posts to be vertical.

All exposed edges of end posts shall have 1/2" bevel. All exposed edges of curbs and parapets shall have 1/2" radius or 3/8" bevel unless otherwise noted.

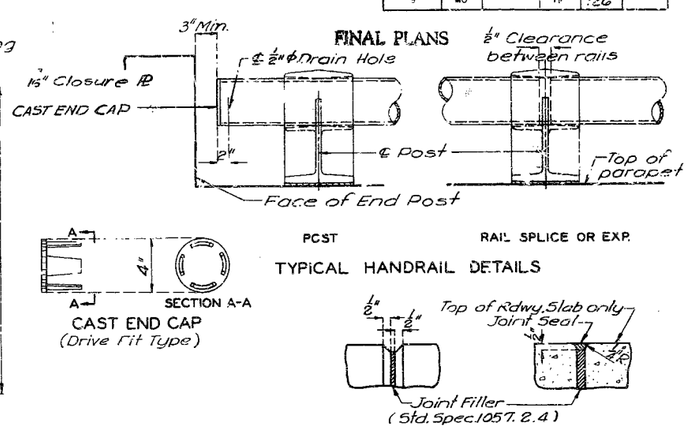
If the contractor desires, he may use drive fit cast aluminum end caps in lieu of welded aluminum closure plates.




POST DETAILS

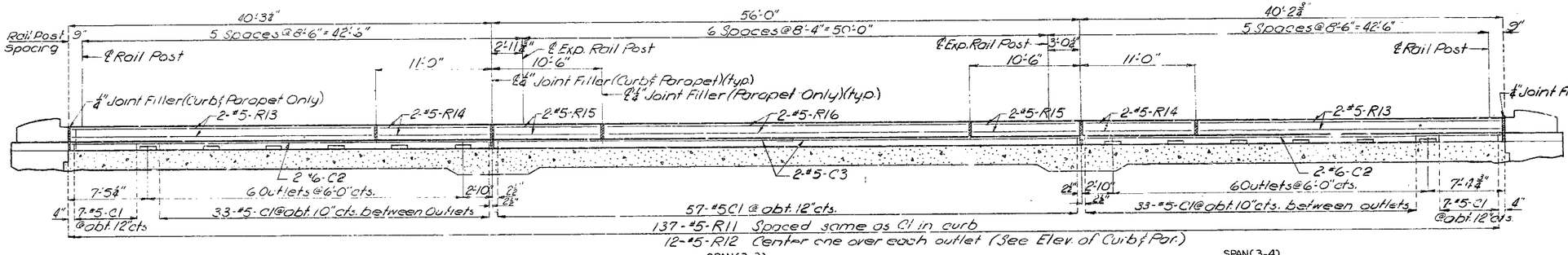



SECTION THRU HANDRAIL



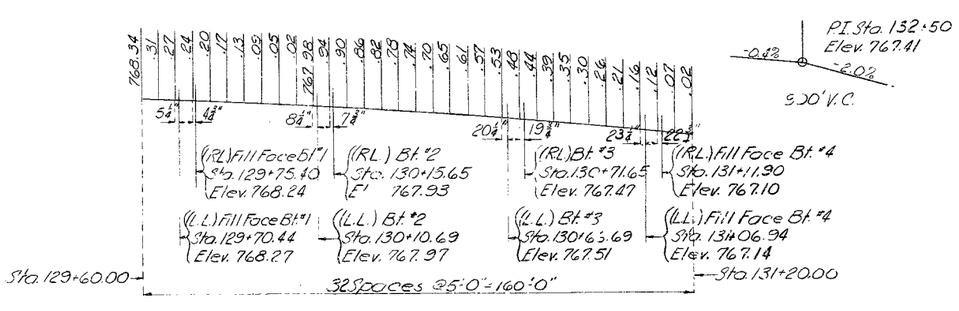

FILLED JOINT DETAILS

## ONE TUBE ALUMINUM RAILING

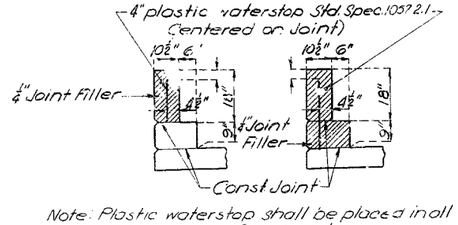



SECTION NEAR LEFT CURB AND PARAPET

Note: Longitudinal dimensions shown are taken along top of parapet parallel to grade. For end post ordinates, details and reinforcement see sheets 3, 4, 5 & 6 of 8.



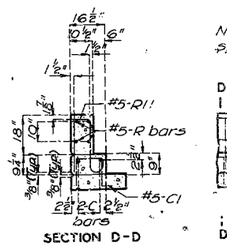

PROFILE GRADE ELEVATIONS




Note: Plastic waterstop shall be placed in all parapet and curb filled joints.

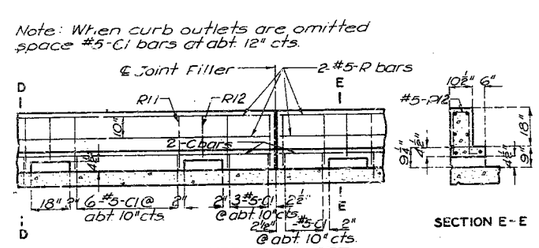
Cost of plastic waterstop complete in place to be included in unit price bid for concrete.

DETAILS OF PLASTIC WATERSTOP




SECTION D-D

Note: When curb outlets are omitted space #5-C1 bars at abt. 12" cts.




SECTION E-E

ELEVATION OF CURB & PARAPET

Note: For horizontal curb and parapet bars use a minimum lap of 15" for #5 and 18" for #6

CLAY COUNTY

A-2181

224

| STD. 1.5.2 | REVISED |
|---|---|
| MAR. 1964 | SEPT. 1968 |

DETAILED Nov. 1968 BY Payne

CHECKED Jan 1969 BY Johnson

Note: This drawing is not to scale. Follow dimensions.

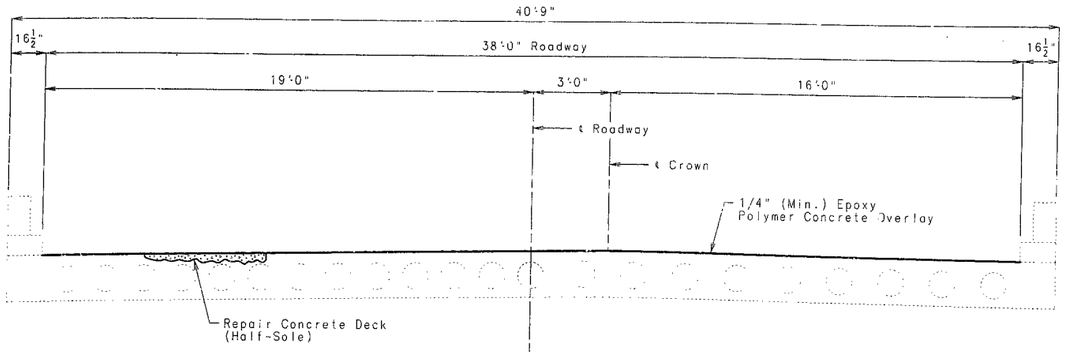
Sheet No. 8A of 3.

FINAL PLANS

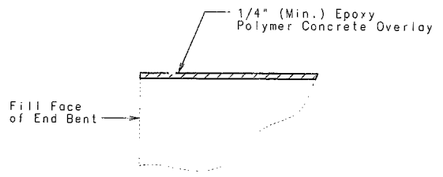
MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

| STATE | PROJ. NO. | SHEET NO. |
|---|---|---|
| MO. | ACSTP-304(18) | 77 |
| SEC./SUR. 8 | TWP. 50N | RGE. 32W |

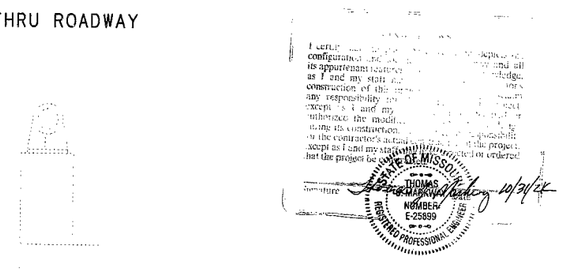
*980130-04-01A

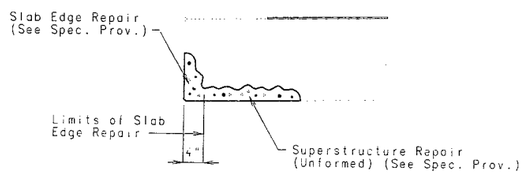



SECTION THRU ROADWAY




TYPICAL PART SECTION NEAR END BENTS

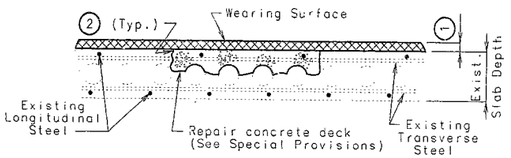



CONCRETE EDGE REPAIR

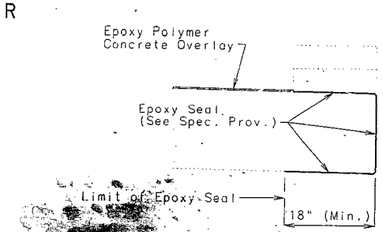
DECK REPAIR

TYP. SECTION THRU SLAB




HALF-SOLED AREA

1. 1/4" (Min.) Polymer Concrete Overlay
2. Saw cut or chip vertically first 1/2" of all deck repair (Hydroblasting allowed by Special Provisions)




TYPICAL SECTION OF EXISTING CURB SHOWING OUTLET

GENERAL NOTES:

**Existing Work:**
Outline of old work is indicated by light dashed lines, heavy lines indicate new work.

**Traffic Maintained:**
See roadway plans for traffic control during construction

**Approaches:**
Roadway surfacing adjacent to bridge ends to match bridge overlay. (See Rdwy. Plans)

**Maintain Grade:**
In order to maintain grade and a minimum thickness of overlay as shown on plans it may be necessary to use additional quantities of overlay at various locations throughout the structure. No payment will be allowed for additional labor, materials or equipment for variations in thickness of overlay.

**Overlay:**
The contractor shall exercise care to ensure spillage over joint edges is prevented and that a neat line is obtained along any termination edge of the epoxy polymer concrete.

FINAL QUANTITIES

| ITEM | | TOTAL |
|---|---|---|
| Superstructure Repair (Unformed) | Sq. Ft. | 151.1 |
| Repairing Concrete Deck (Half-Soling) | Sq. Ft. | 175.7 |
| Slab Edge Repair (Bridges) | Lin. Ft. | 148.0 |
| Epoxy Polymer Concrete Overlay | Sq. Yd. | 576.0 |
| | | |
| | | |
| | | |
| | | |

STATE OF MISSOURI
GREGORY G. SUNDE
NUMBER E-24263
REGISTERED PROFESSIONAL ENGINEER
DATE 8-5-97

REPAIRS TO BRIDGE OVER SEARCY CREEK PARKWAY

STATE ROAD FROM RTE. I-435 TO RTE. 269
IN KANSAS CITY
PROJECT NO.
JOB NO. J4U1241

STA. 129+75.40 (MATCH EXIST.)
RTE. 210 E.B.L.

CLAY COUNTY

DATE 8/5/97

| STD. |
|---|
| STD. |
| A21811 |

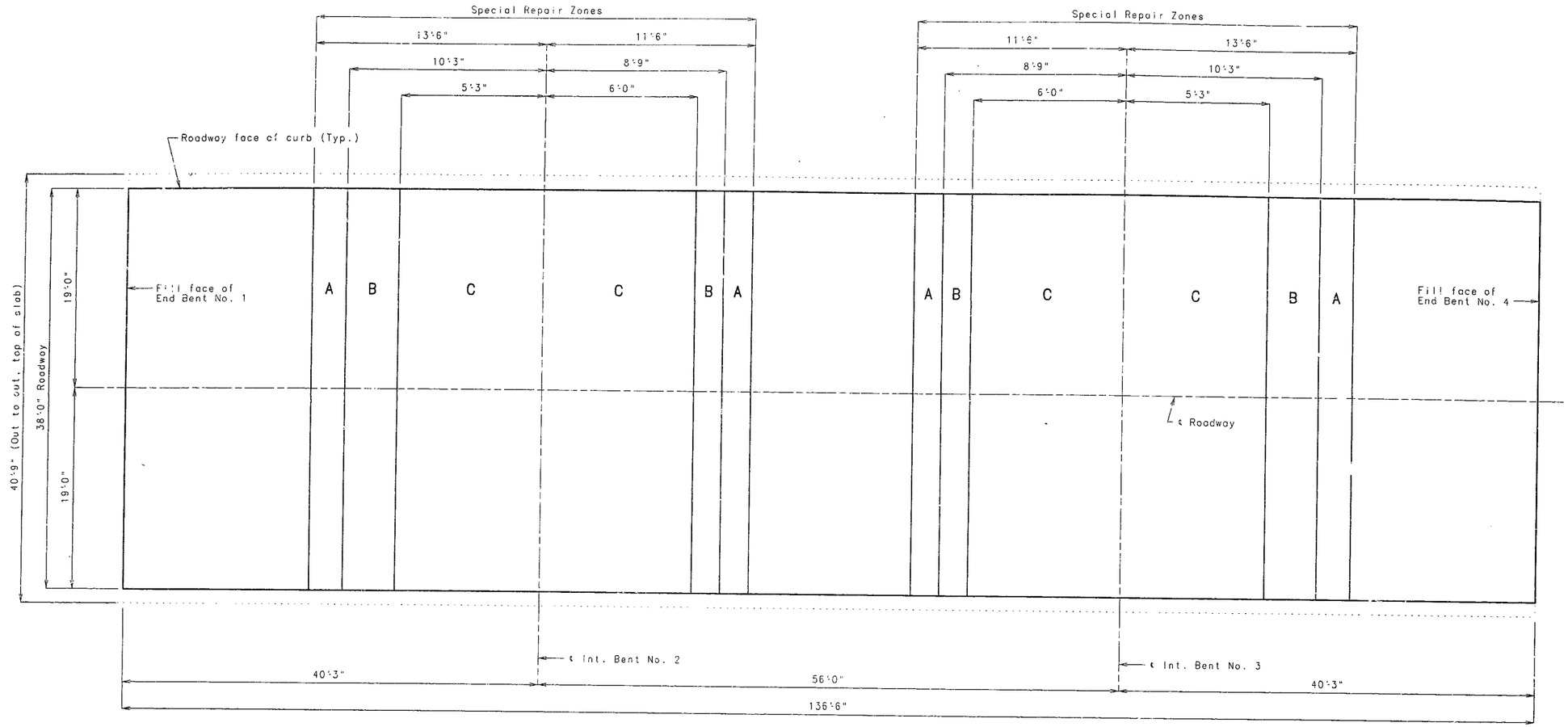
DETAILED DEC. 1996
CHECKED JULY 1997

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 1 OF 2

[redacted] 24 to 1

78




PART PLAN OF SLAB SHOWING SPECIAL REPAIR ZONES

NOTES:

Any repair in the remainder of the bridge that is within 3'-0" of zone A shall be completed before removing old concrete in zone A.

Zones with the same letter designation may be repaired at the same time.

Zone A to be repaired before Zone B. Zone B to be repaired before Zone C.

DETAILED DEC. 1996
CHECKED JULY 1997

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

DATE 8-20-97

SHEET NO. 2 OF 2 CLAY COUNTY A21811

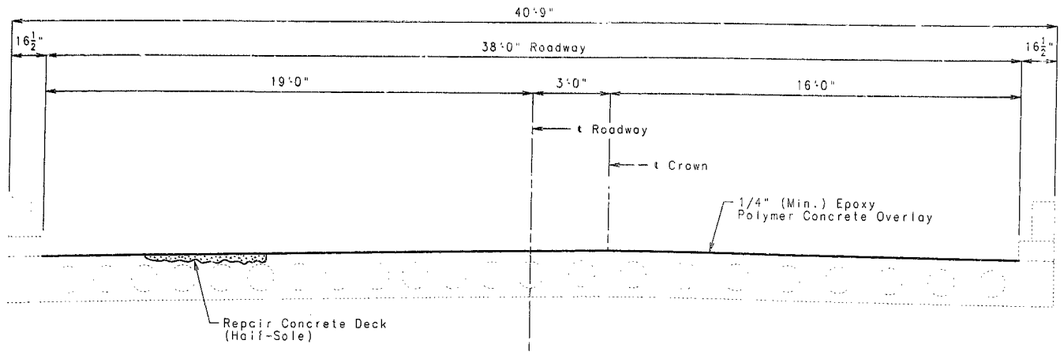
352

24 to 1

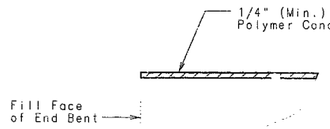
MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

| STATE | PROJ. NO. | SHEET NO. |
|---|---|---|
| MO. | ACSTP-304(18) | 75 |
| SEC./SUR. 8 | TWP. 50N | RGE. 32W |

#980/30-04.0TA



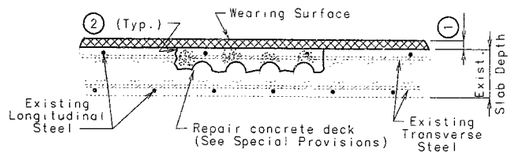

SECTION THRU ROADWAY




TYPICAL PART SECTION NEAR END BENTS

DECK REPAIR

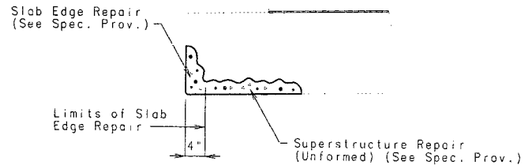
TYP. SECTION THRU SLAB




HALF-SOLED AREA

(1) 1/4" (Min.) Polymer Concrete Overlay

(2) Saw cut or chip vertically first 1/2" of a' deck repair (Hydroblasting allowed by Special Provisions)



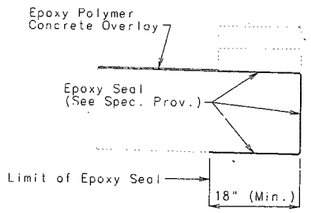

CONCRETE EDGE REPAIR

FINAL PLANS

I certify that this plan sheet accurately depicts the configuration and location o. the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or observed that the project be constructed.

STATE OF MISSOURI THOMAS HARRISON NUMBER E-25899 REGISTERED PROFESSIONAL ENGINEER

10/31/96




TYPICAL SECTION OF EXISTING CURB SHOWING OUTLET

GENERAL NOTES:

**Existing Work:**
Outline of old work is indicated by light dashed lines, heavy lines indicate new work.

**Traffic Maintained:**
See roadway plans for traffic control during construction

**Approaches:**
Roadway surfacing adjacent to bridge ends to match bridge overlay. (See Rdwy. Plans)

**Maintain Grade:**
In order to maintain grade and a minimum thickness of overlay as shown on plans it may be necessary to use additional quantities of overlay at various locations throughout the structure. No payment will be allowed for additional labor, materials or equipment for variations in thickness of overlay.

**Overlay:**
The contractor shall exercise care to ensure spillage over joint edges is prevented and that a neat line is obtained along any termination edge of the epoxy polymer concrete.

FINAL QUANTITIES

| ITEM | | TOTAL |
|---|---|---|
| Superstructure Repair (Unformed) | Sq. Ft. | 180.0 |
| Repairing Concrete Deck (Half-Soling) | Sq. Ft. | 58.3 |
| Slab Edge Repair (Bridges) | Lin. Ft. | 159.0 |
| Epoxy Polymer Concrete Overlay | Sq. Yd. | 576.0 |
| | | |
| | | |
| | | |
| | | |

STATE OF MISSOURI GREGORY G. SUMME NUMBER E-24283 REGISTERED PROFESSIONAL ENGINEER

DATE 8-30-97

# REPAIRS TO BRIDGE OVER SEARCY CREEK PARKWAY

STATE ROAD FROM RTE. I-435 TO RTE. 269
IN KANSAS CITY
PROJECT NO.
JOB NO. J4U1241

STA. 129+70.44 (MATCH EXIST.)
RTE. 210 W.B.L.

CLAY COUNTY

DATE 8/15/97

| STD. |
|---|
| STD. |
| A21812 |

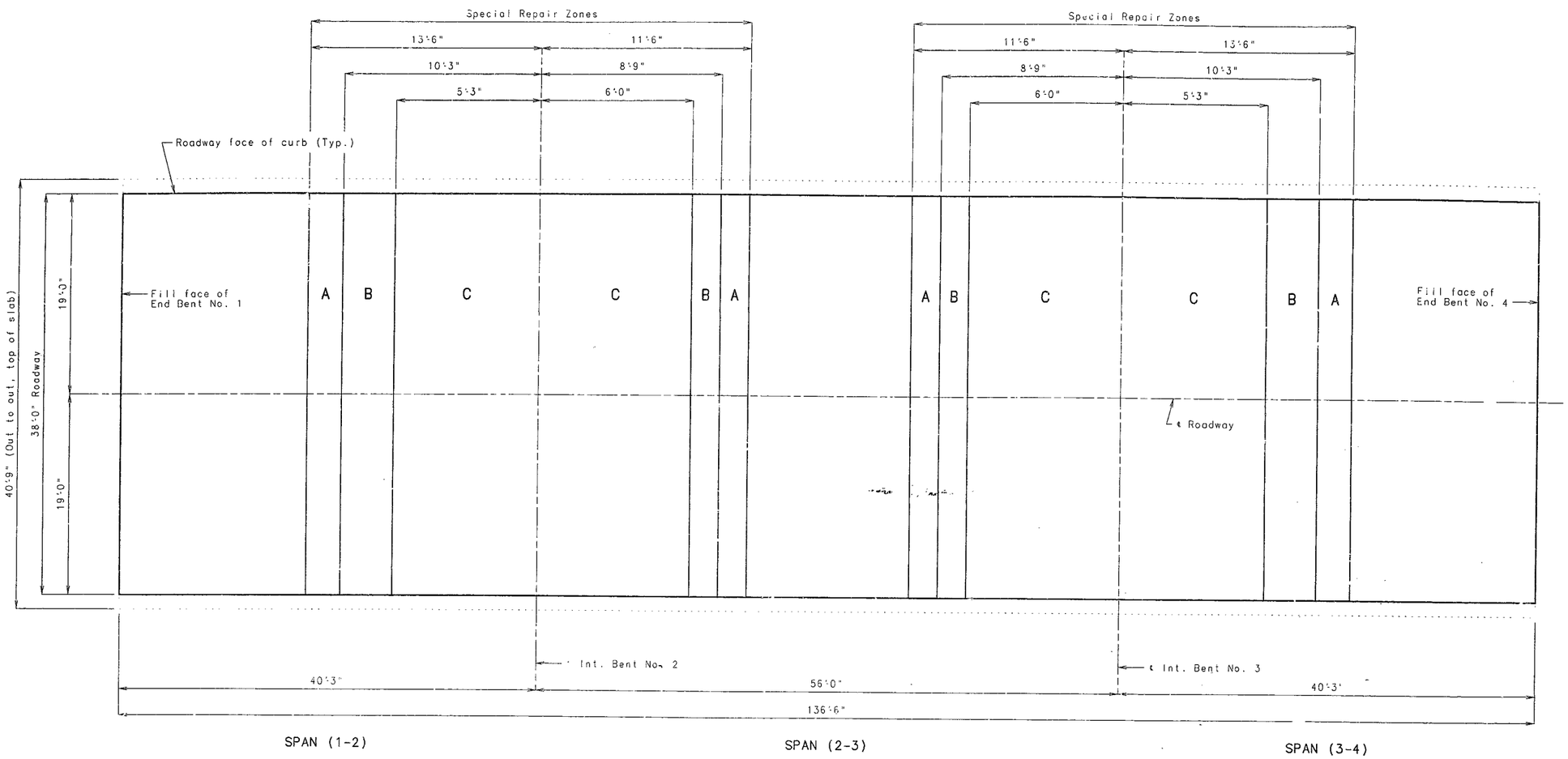
DETAILED DEC. 1996
CHECKED JULY 1997

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 1 OF 2

349

16




PART PLAN OF SLAB SHOWING SPECIAL REPAIR ZONES

FINAL PLANS

I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of this project, except as I and my staff may have directed or ordered that construction.

[redacted]

STATE OF MISSOURI THOMAS MARKWAY NUMBER E-25899 REGISTERED PROFESSIONAL ENGINEER

10/31/97

NOTES:

Any repair in the remainder of the bridge that is within 3'-0" of zone A shall be completed before removing old concrete in zones A.

Zones with the same letter designation may be repaired at the same time.

Zone A to be repaired before Zone B. Zone B to be repaired before Zone C.

STATE OF MISSOURI GREGORY G. SUKDE HUMLER NUMBER E-24263 REGISTERED PROFESSIONAL ENGINEER

DATE 8-30-97

DETAILED DEC. 1996
CHECKED JULY 1997

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 2 OF 2

CLAY COUNTY

A21812

350

[redacted] 24 to 1