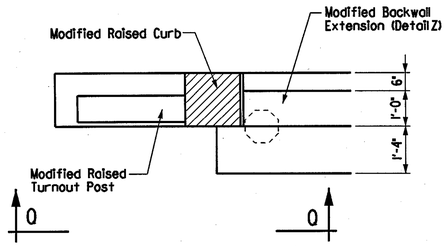
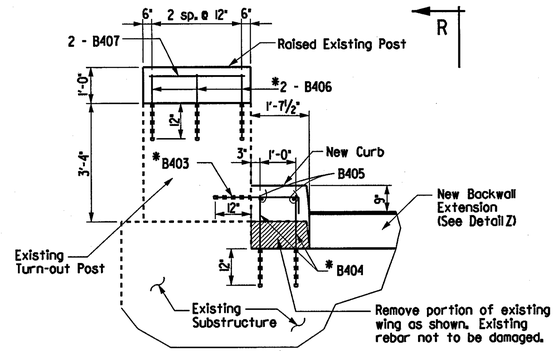
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| 4-6-2001 | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | B60106 | 50 | 86 |
| | | | | ① 03708 | | Remodeling Dtls. | | 42233 |




## PARTIAL-PLAN OF END BENT

N.T.S.

Note: Remodel opposite wing as shown.




*Note: No. 4 bars shall be drilled & grouted 12" into existing concrete using 1" ø holes and OPL approved non-shrink grout. Drilling and grouting of No. 4 dowels to be considered subsidiary to the item "Modification of Existing Bridge Structure."

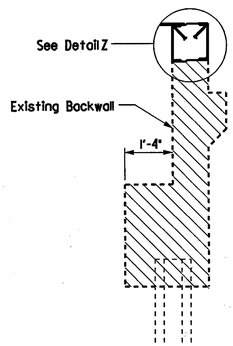
R

## VIEW Q-Q

N.T.S.

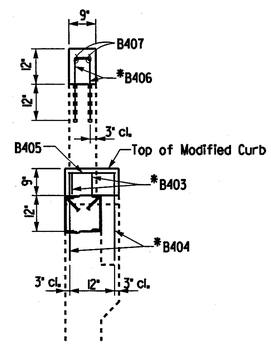
## BAR LIST ( ONE END BENT )

| Mark | No. Req'd. | Length | Pin Dia. | Bending Diagrams (Dimensions are out to out of bars.) |
|---|---|---|---|---|
| B401 | 28 | 1'-10" | STR. | B403: 5" / 2'-5½"; B406: 5" / 1'-10" |
| B402 | 2 | 27'-8" | STR. | |
| B403 | 4 | 3 1½" | 3" | |
| B404 | 8 | 2'-7" | STR. | |
| B405 | 4 | 1'-2" | STR. | |
| B406 | 12 | 2'-2" | 3" | |
| B407 | 4 | 2'-8" | STR. | |




## TYP. EXISTING END BENT SECTION

N.T.S.




## SECTION R-R

N.T.S.

### GENERAL NOTES

Governing specifications are the Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, (1996 edition), with applicable supplemental specifications and special provisions.

All structural steel shall be AASHTO designation M270, Gr. 50W unless otherwise noted and shall be paid for at the unit price per pound bid for "Structural Steel (M270, Gr. 50W)." M270, Gr. 50W steel shall not be painted. All exposed surfaces to be cleaned in accordance with subsection 807.84(e) of the Standard Specifications.

All welding to be performed by a certified welder approved by the Engineer. All welding shall conform to the current AASHTO/AWS D1.5 Welding Code.

⚠ ~~New backwall channels shall be beveled 3/16" at base of the web to facilitate a bevel weld between the channel and the existing embedded wall angle.~~

Structural steel pedestals shall be seated in accordance with subsection 807.66 of the Standard Construction Specifications.

Contractor shall provide new high strength bolts, washers, and nuts to connect existing shoes to new build ups.

Anchor bolt extension shall be ASTM A36 and galvanized. Repair damaged galvanized surfaces in accordance with Subsection 807.88.

Bearing pads shall conform to the requirements of subsection 807.15(b).

The Contractor shall field verify anchor bolt locations and plate dimensions prior to fabrication.

All concrete shall have a minimum 28 day compressive strength f'c = 3500 psi. Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted. The concrete in the backwall should be a rapid set mix design to facilitate traffic handling, see SP JOB B60106 "FAST SETTING CEMENT".

Concrete in the backwall shall obtain a minimum compressive strength of 1200 psi before traffic is allowed on it.

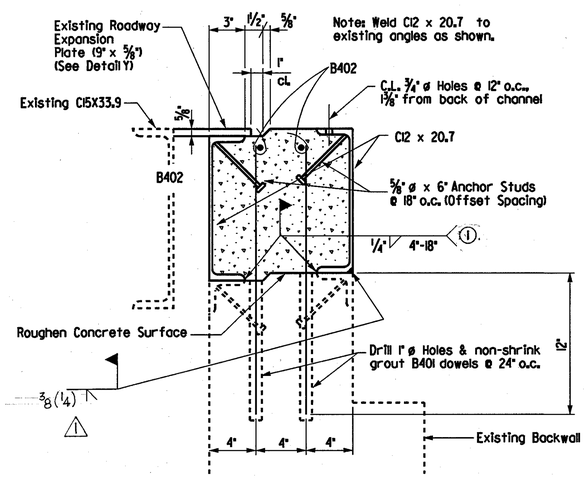
All reinforcing steel shall conform to AASHTO M31 or M53, Grade 60 (yield strength = 60,000 psi.)

Loads to determine jack capacities can be found on the following sheets:

Bridge (3708) - 42238 thru 42242

Sheets from the existing bridge plans have been included for information purposes only. All information required to complete the work should be field verified by the Contractor.

⚠ Revised Weld, Removed Note CPB 4-6-2001




## DETAIL Z

N.T.S.

① *Clip channel flange 3/8" x 5" minimum at each weld (Channel on approach gutter side of backwall only)*

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9132
3-19-01
EDWARD BACH

BRIDGE ENGINEER

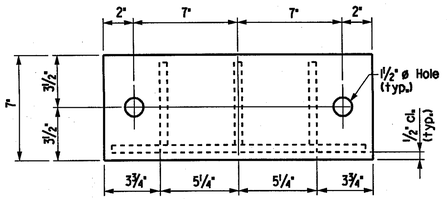
SHEET 1 OF 2
REMODELING DETAILS FOR BRIDGE NO. 3708
CARLISLE - EAST(F)
LONOKE & PRAIRIE COUNTIES
ROUTE I-40 SEC. 41 & 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

| | | | | | |
|---|---|---|---|---|---|
| DRAWN BY: | TAR | DATE: | JAN. 01 | FILENAME: | bb60106.bl |
| CHECKED BY: | EMB | DATE: | JAN. 01 | SCALE: | N.T.S. |
| DESIGNED BY: | BCG | DATE: | JAN. 01 | | |

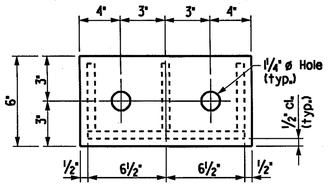
BRIDGE NO. 03708 DRAWING NO. 42233

19-MAR-2001

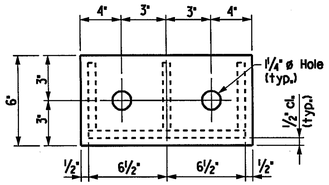
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| 4-6-2001 | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | B60106 | 51 | 86 |
| | | | | 03708 | | Remodeling Dtls. | | 42234 |



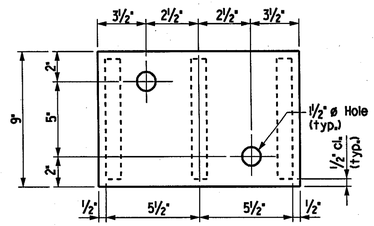

SECTION A-A



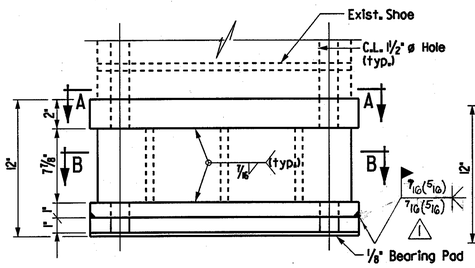

SECTION C-C




SECTION E-E

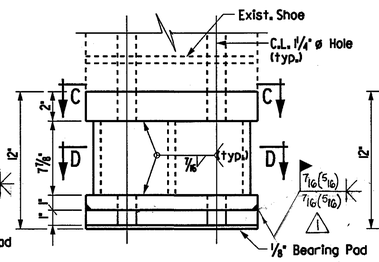



SECTION G-G



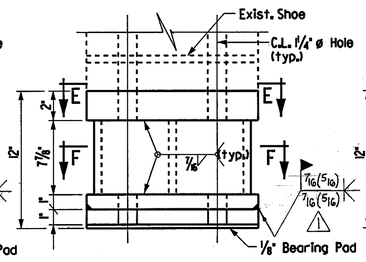

ELEVATION OF BUILD-UP FOR EXP. SHOES AT BENT 3

(10 PER BRIDGE)



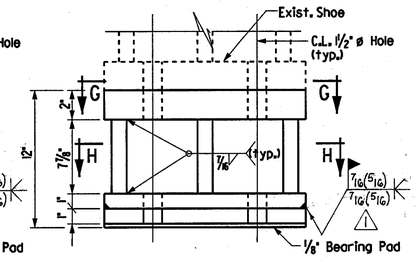

ELEVATION OF BUILD-UP FOR FIXED SHOES AT BENTS 1 AND 5

(10 PER BRIDGE)



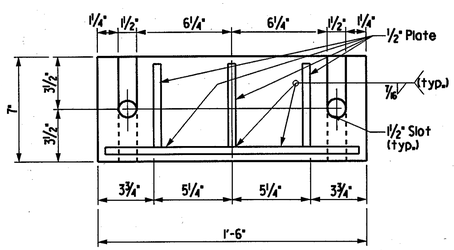

ELEVATION OF BUILD-UP FOR EXP. SHOES AT BENTS 2 & 4

(10 PER BRIDGE)

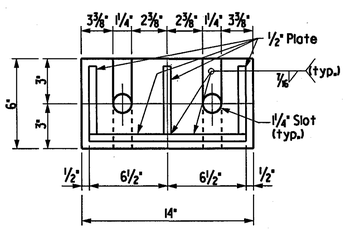



ELEVATION OF BUILD-UP FOR FIXED SHOES AT BENTS 2 AND 4

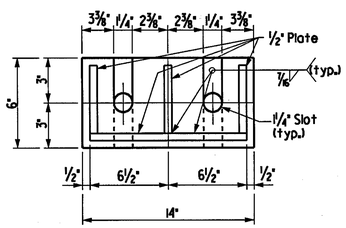
(10 PER BRIDGE)



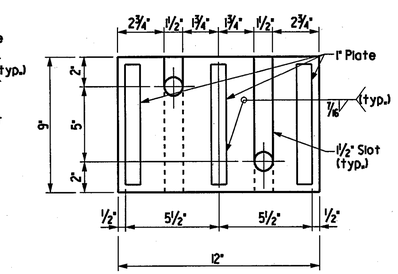

SECTION B-B




SECTION D-D

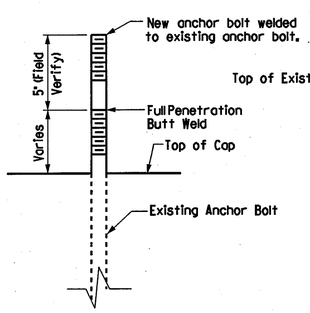



SECTION F-F



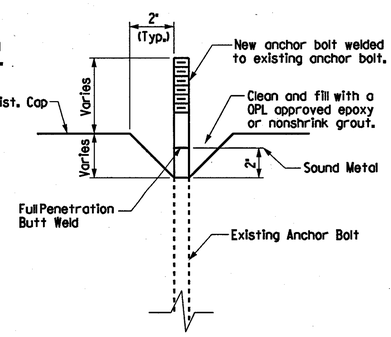

SECTION H-H

⚠ Revised Weld CPB 4-6-2001




Note: For additional information, see S.P. Job B60106 "Modification of Existing Bridge Structure".

ANCHOR BOLT DETAIL




Note: For additional information, see S.P. Job B60106 "Modification of Existing Bridge Structure".

ALTERNATE ANCHOR BOLT DETAIL

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APR 05 2001

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9132
3-19-01
EDWARD BACH

BRIDGE ENGINEER

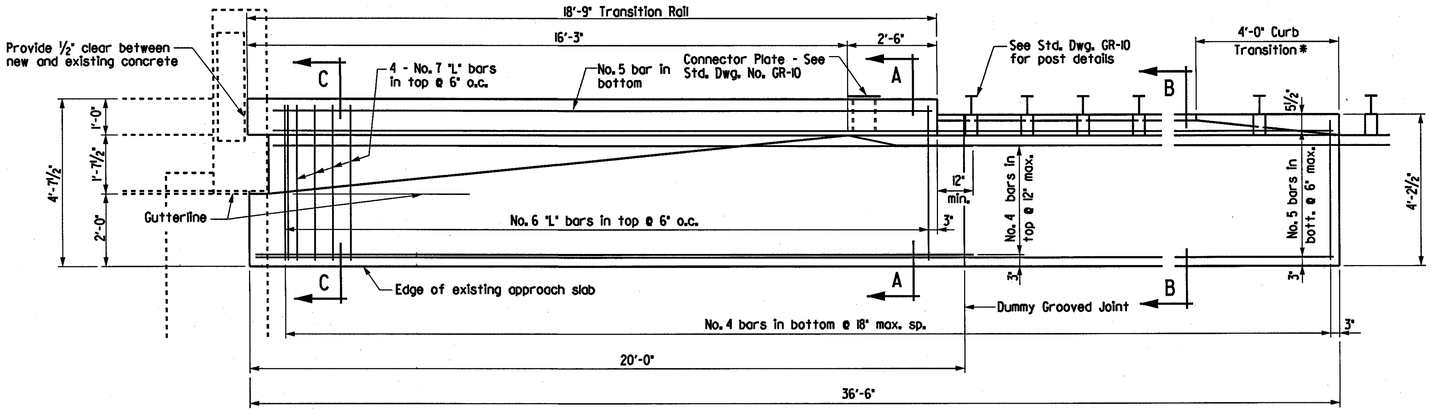
SHEET 2 OF 2
REMODELING DETAILS FOR BRIDGE NO. 3708
CARLISLE - EAST(F)
LONOKE & PRAIRIE COUNTIES
ROUTE I-40 SEC. 41 & 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

| | | | | | |
|---|---|---|---|---|---|
| DRAWN BY: | TAR | DATE: | JAN. 01 | FILENAME: | bb60106.b2 |
| CHECKED BY: | EMB | DATE: | JAN. 01 | SCALE: | N.T.S. |
| DESIGNED BY: | BCG | DATE: | JAN. 01 | | |

BRIDGE NO. 03708 DRAWING NO. 42234

19-MAR-2001

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | B60106 | 52 | 86 |
| | | | | 1 | 03708 | Special Gutter | | 42235 |




## PLAN - SQUARE BRIDGES

Scale: ½" = 1'-0"

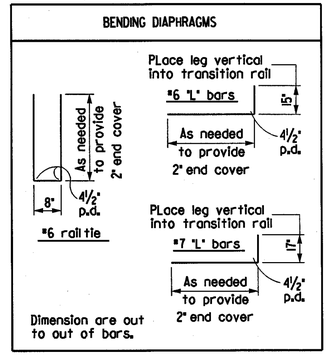
GENERAL NOTES

Concrete shall be Class S or S(AE) or mixture used for Portland Cement Concrete Pavement.

Reinforcing steel shall conform to AASHTO M31 or M53, Grade 60 (fy = 60,000 psi.) Fabricate bar lengths to provide 2" minimum cover at each end.

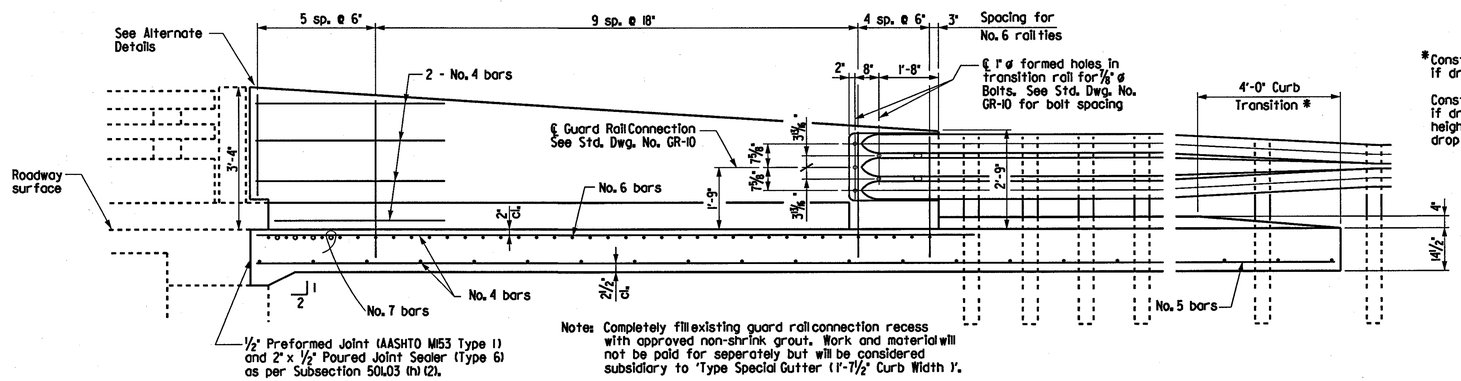
Approach gutters will be measured and paid for in accordance with Section 504 of the Standard Specifications.

BENDING DIAPHRAGMS




## QUANTITIES FOR ONE SQUARE APPROACH GUTTER

| Concrete | Reinforcing Steel |
|---|---|
| C.Y. | LBS. |
| 9.83 | 856 |



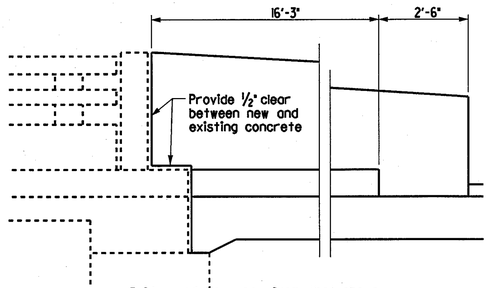

Note: Completely fill existing guard rail connection recess with approved non-shrink grout. Work and material will not be paid for seperately but will be considered subsidiary to 'Type Special Gutter (1'-7½" Curb Width)'.

## LONGITUDINAL SECTION THRU GUTTER

Scale: ½" = 1'-0"

*Construct curb with height-transition as shown if drop inlet is not used at end of gutter.

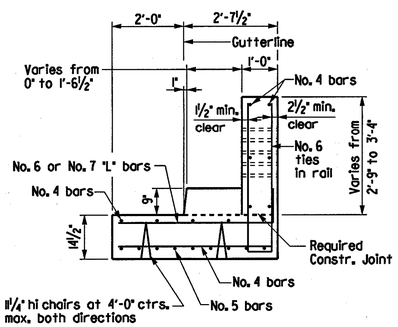
Construct curb full height (no height-transition) if drop inlet is used at end of gutter. Curb height transition placed on drop inlet. See drop inlet details.




Bridge end may vary from that shown. Adjust gutter details as required to provide similar railing transition.

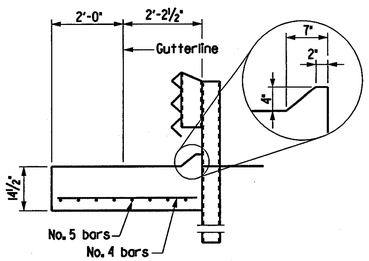
## ALTERNATE DETAILS

No Scale



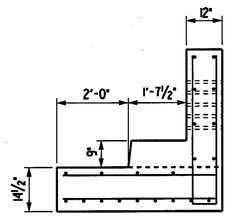

## SECTION A-A

Scale: ½" = 1'-0"




## SECTION B-B

Scale: ½" = 1'-0"




## SECTION C-C

At end of Transition Rail
Scale: ½" = 1'-0"

NOTE: The contractor shall make check measurments and make any adjustments necessary to fit the new work to the existing bridge location.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9132 3-19-01 EDWARD BACH

BRIDGE ENGINEER

# DETAILS OF APPROACH GUTTERS TYPE SPECIAL (1'-7½" CURB WIDTH)

ROUTE I-40 SEC. 41 & 42

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

| | | | | | |
|---|---|---|---|---|---|
| DRAWN BY: | TAR | DATE: | JAN. 01 | FILENAME: | bb60106.agl |
| CHECKED BY: | EMB | DATE: | JAN. 01 | SCALE: | N.T.S. |
| DESIGNED BY: | BCG | DATE: | JAN. 01 | | |

BRIDGE NO. 03708 DRAWING NO. 42235

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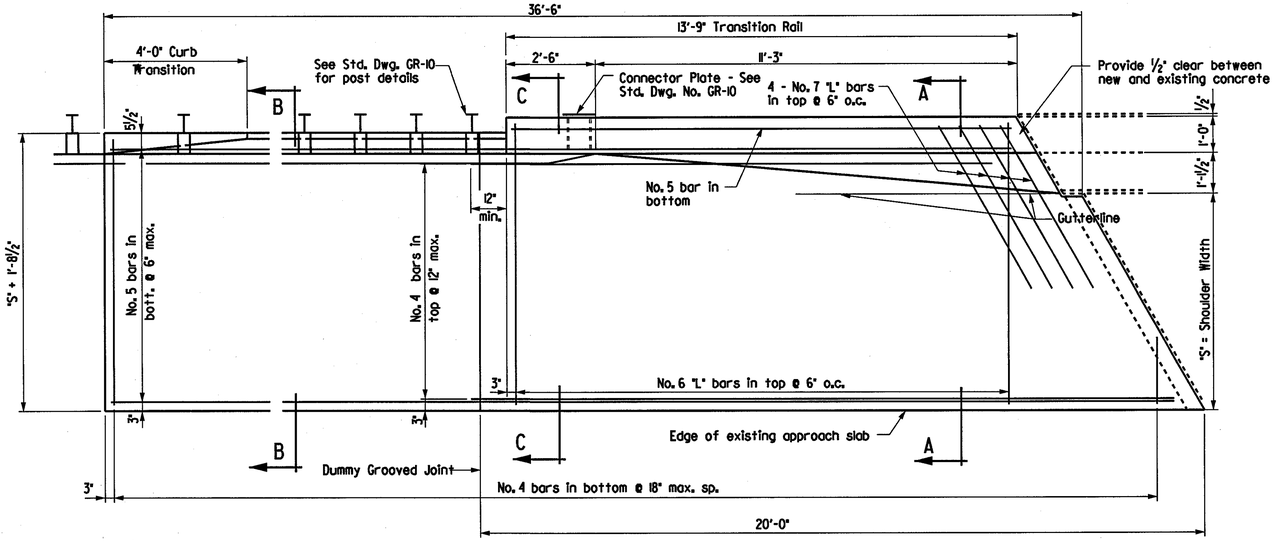
19-MAR-2001

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | B60106 | 53 | 86 |
| 1 03709 | Special Gutter | | | 42236 |




## PLAN

Scale: 1/2" = 1'-0"

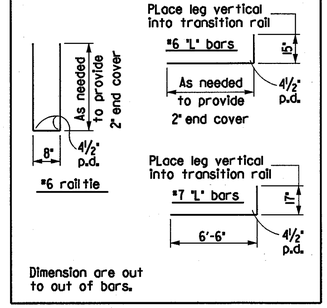
GENERAL NOTES

Concrete shall be Class S or S(AE) or mixture used for Portland Cement Concrete Pavement.

Reinforcing steel shall conform to AASHTO M31 or M53, Grade 60 (fy = 60,000 psi.) Fabricate bar lengths to provide 2" minimum cover at each end.

Approach gutters will be measured and paid for in accordance with Section 504 of the Standard Specifications.

BENDING DIAPHRAGMS

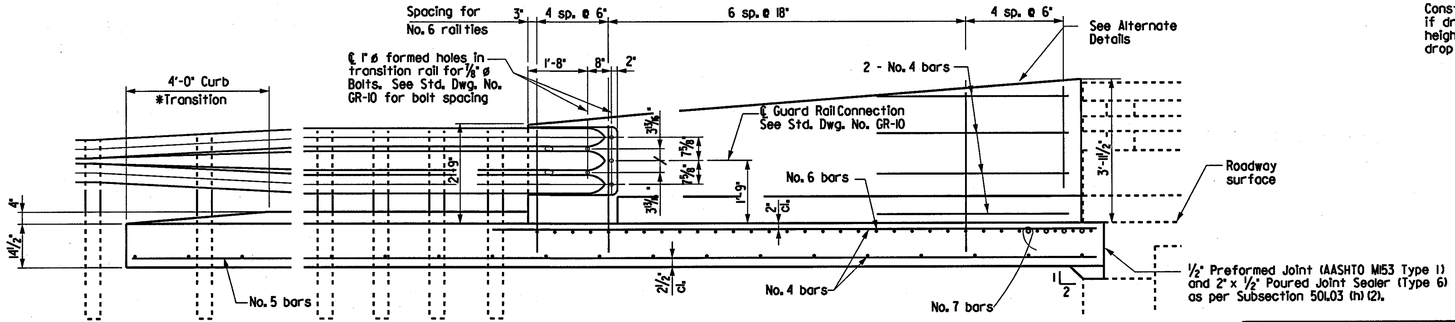



QUANTITIES FOR ONE GUTTER

| "S" Shoulder Width (Ft.) | Reinforcing Steel (Lbs.) | Concrete C.Y. |
|---|---|---|
| 6 | 1473 | 15.44 |
| 10 | 2114 | 22.66 |

*Construct curb with height-transition as shown if drop inlet is not used at end of gutter.

Construct curb full height (no height-transition) if drop inlet is used at end of gutter. Curb height transition placed on drop inlet. See drop inlet details.

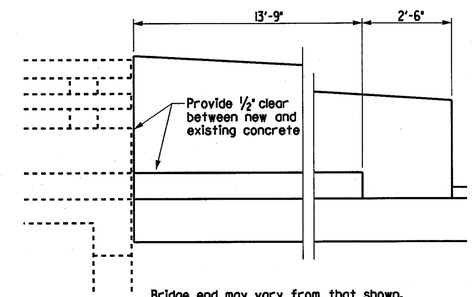



Note: Completely fill existing guard rail connection recess with approved non-shrink grout. Work and material will not be paid for seperately but will be considered subsidiary to 'Type Special Gutter (1'-1 1/2" Curb Width )'.

## LONGITUDINAL SECTION THRU GUTTER

Scale: 1/2" = 1'-0"

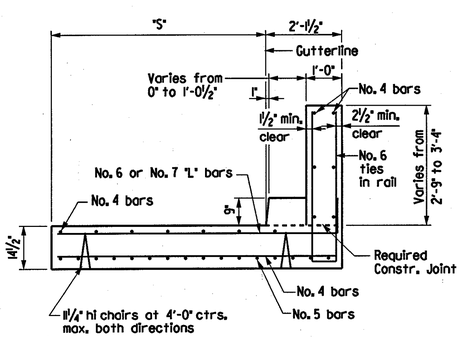
NOTE: The contractor shall make check measurments and make any adjustments necessary to fit the new work to the existing bridge location.




Bridge end may vary from that shown. Adjust gutter details as required to provide similar railing transition.

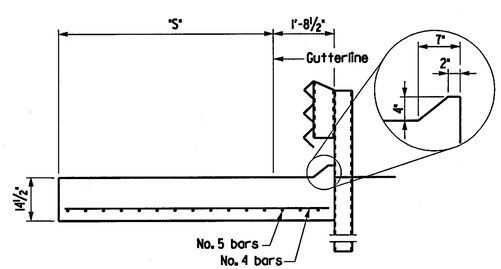
## ALTERNATE DETAILS

No Scale



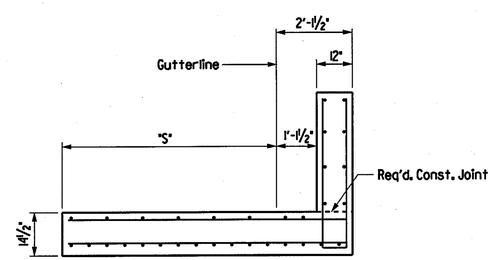

## SECTION A-A

Scale: 1/2" = 1'-0"




## SECTION B-B

Scale: 1/2" = 1'-0"




## SECTION C-C

At end of Transition Rail
Scale: 1/2" = 1'-0"

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9132 EDWARD BACH

BRIDGE ENGINEER

# DETAILS OF APPROACH GUTTERS TYPE SPECIAL (1'-1 1/2" CURB WIDTH)

ROUTE I-40 SEC. 41 & 42

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

| | | | | | |
|---|---|---|---|---|---|
| DRAWN BY: TAR | DATE: Jan. 01 | FILENAME: bb60106.og2 | | | |
| CHECKED BY: EMB | DATE: Jan. 01 | SCALE: N.T.S. | | | |
| DESIGNED BY: BCG | DATE: Jan. 01 | | | | |

BRIDGE NO. 03709 DRAWING NO. 42236

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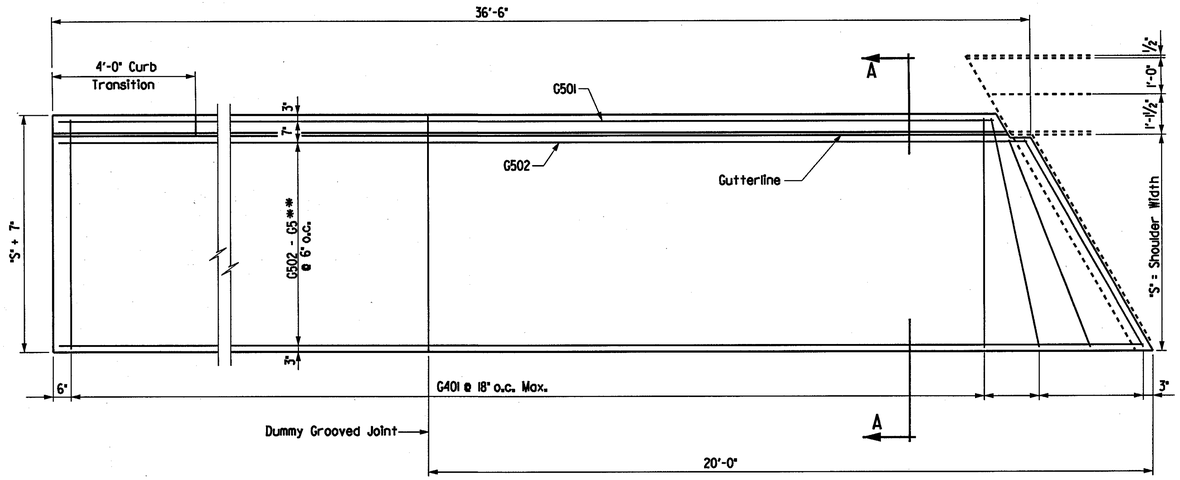
19-MAR-2001

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | B60106 | 54 | 86 |
| | | | | 1 | 03709 | Special Gutter | | 42237 |




PLAN

Scale: 1/2" = 1'-0"

| Mark | No. Req'd. Shoulder Width, "S" 6'-0" | 10'-0" | Length |
|---|---|---|---|
| G401 | 24 | 24 | "S" + 3" |
| G402-G4 ** | 1 Each | 1 Each | Varies |
| G501 | 1 | 1 | |
| G502-G5*** | 1 Each | 1 Each | Varies |

** G404 For S = 6'-0"
G406 For S = 10'-0"

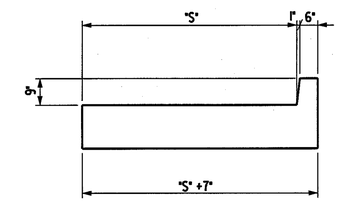
*** G513 For S = 6'-0"
G521 For S = 10'-0"

GENERAL NOTES

Concrete shall be Class S or S(AE) or mixture used for Portland Cement Concrete Pavement.

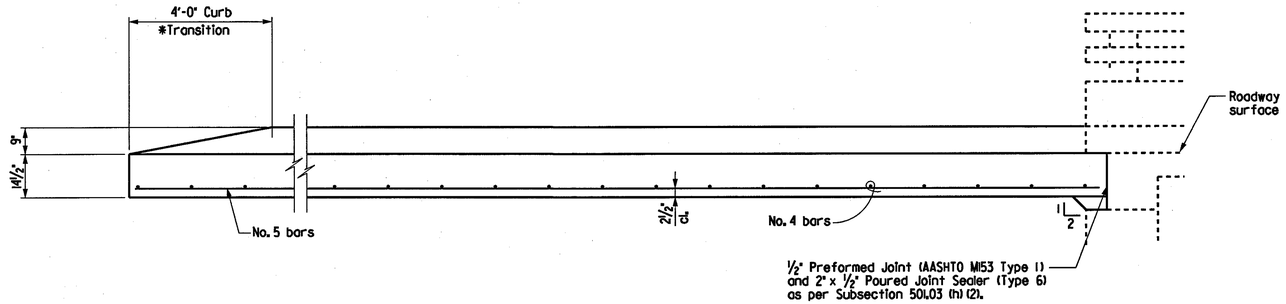
Reinforcing steel shall conform to AASHTO M31 or M53, Grade 60 (fy = 60,000 psi.) Fabricate bar lengths to provide 2" minimum cover at each end.

Approach gutters will be measured and paid for in accordance with Section 504 of the Standard Specifications.




SECTION A-A

N.T.S.




LONGITUDINAL SECTION THRU GUTTER

Scale: 1/2" = 1'-0"

* Construct curb with height-transition as shown if drop inlet is not used at end of gutter.

Construct curb full height (no height-transition) if drop inlet is used at end of gutter. Curb height transition placed on drop inlet. See drop inlet details.

NOTE: The contractor shall make check measurments and make any adjustments necessary to fit the new work to the existing bridge location.

QUANTITIES FOR ONE GUTTER

| Shoulder Width (Ft.) | Reinforcing Steel (Lbs.) | Concrete (C.Y.) |
|---|---|---|
| 6 | 527 | 11.72 |
| 10 | 891 | 19.13 |

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9132
3-19-01
EDWARD BACH

BRIDGE ENGINEER

DETAILS OF APPROACH GUTTERS
TYPE SPECIAL
( 6" CURB WIDTH )

ROUTE I-40 SEC. 41 & 42

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: TAR DATE: Jan. 01 FILENAME: bb60106.og3
CHECKED BY: EWB DATE: Jan. 01 SCALE: N.T.S.
DESIGNED BY: BCG DATE: Jan. 01

BRIDGE NO. 03709 DRAWING NO. 42237

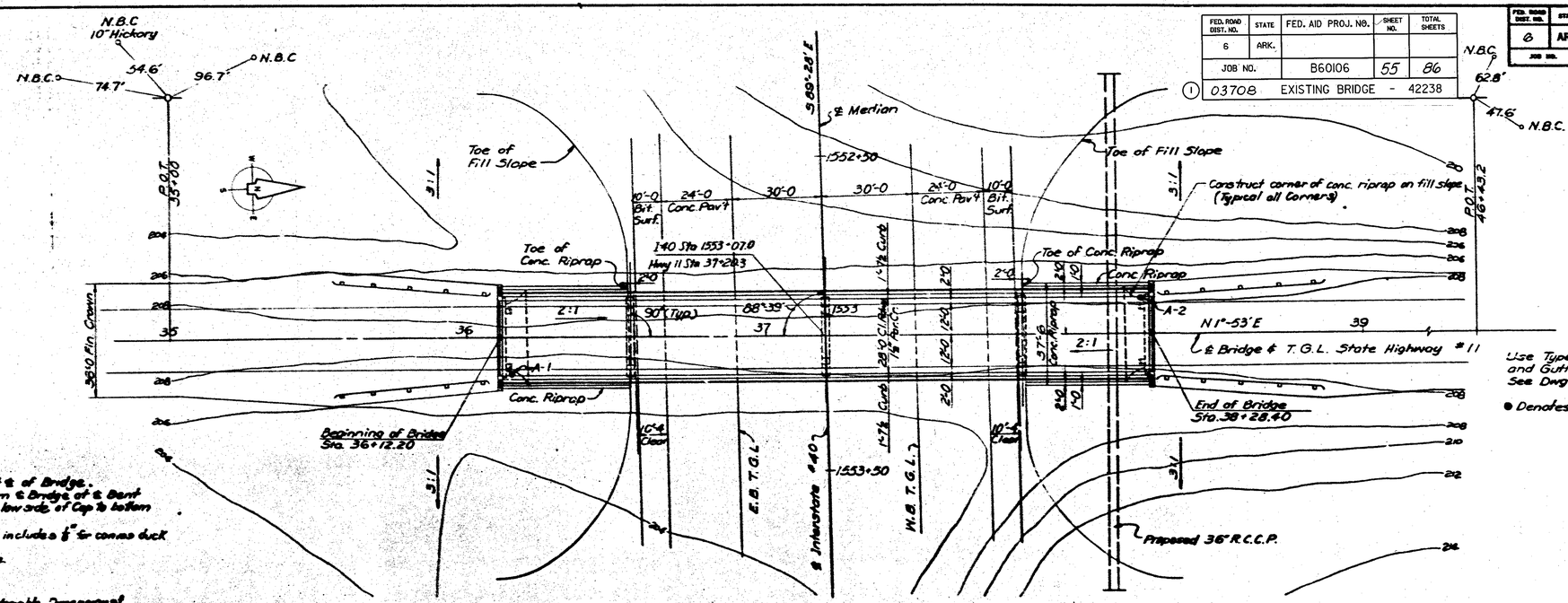
19-MAR-2001

i:\00049\dwg\06\jacking.dgn

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | B60106 | 55 | 86 |
| (1) 03708 | EXISTING BRIDGE - 42238 | | | |

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOT'L SHEETS |
|---|---|---|---|---|---|
| 6 | ARK. | ~~F-40-6 (29)193~~ | | 33 | ~~70~~ |
| JOB NO. ~~6717~~ | | | | | |

ADT (1975) = 800 VPD




Use Type B Approach Slab and Gutters For Details See Dwg. No. 1898

● Denotes Boring Location

**Notes:**

1. Roadway Elevations shown are at ℄ of Bridge.
2. Vertical Dimensions are: (1) from ℄ Bridge of ℄ Bent to low side of Cap and (2) from low side of Cap to bottom of Footing.
3. Vertical Dimension (1) [See Note 2] includes 1/8" for canvas duck & red lead.
4. No Drains to be used on this Bridge.

**Table of Variable Dimensions***

| Span | Beams Ext. | Beams Int. | Cover Plates Ext. | Cover Plates Int. | Rail Rail Spacing a | b | c | Strut Spacing Nb Qb d | Dim e | D.L. Deflections Ext. | Int. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 66'-0" | 33WF130 | 33WF130 | 1" x 1'-3" | 1" x 1'-3" x 3'-0" | 7'-8" | 8'-2" | 6" | 4 @ 16'-6" | 3'-2 1/4" | 1 1/8" | 1 1/8" |

*The above table is to be used with Std. Dwg. 15030. Use shear connector spacing for 65'-0" span, except use i=11 instead of 9, and use K=6 instead of 8. & use p=10" instead of 0".

Bar List for 66' Span*

| Mark | $S_1$ | $S_2$ | $S_3$ | $S_{3a}$ | $S_4$ | $S_5$ | $S_6$ |
|---|---|---|---|---|---|---|---|
| Δ No | 198 | 52 | 216 | 12 | 186 | 184 | 186 |

*Revisions to Bar Lists shown on Dwg. #15030.

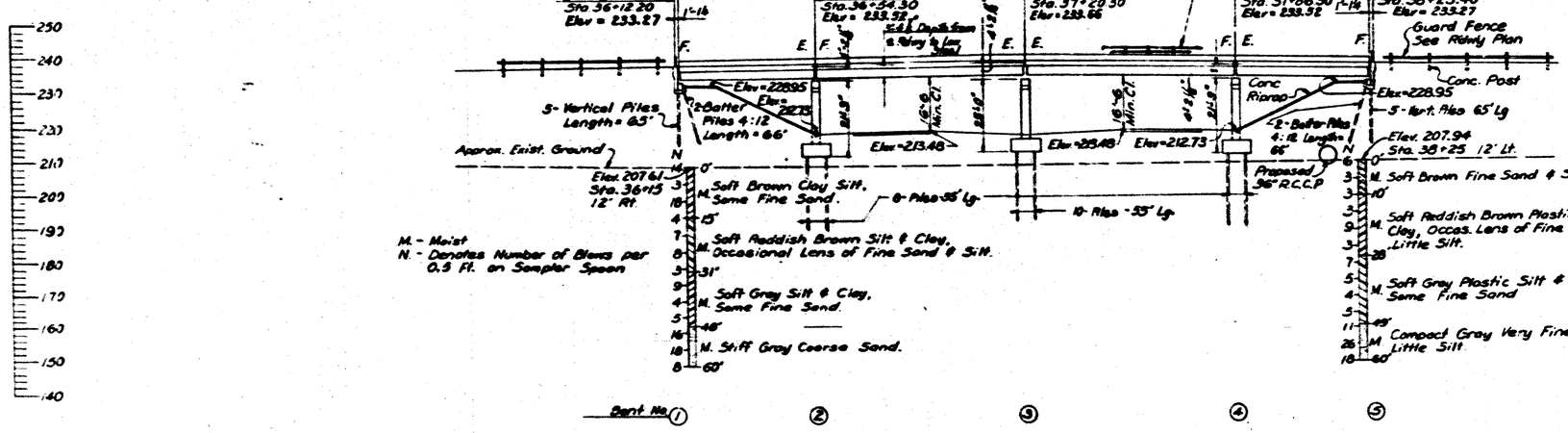
## PLAN

+3.00% -3.00%

P.V.I
Sta 37+20.3
Elev. 240.41
V.C. = 900'

Aluminum Bridge Railing - Alternate #1
Metal (Steel) Bridge Railing - Alternate #2

Total Length of Bridge = 216'-2½




## ELEVATION

FOR INFORMATION ONLY

## GENERAL NOTES

Specifications:
Arkansas State Highway Commission Standard Specifications for Highway Construction adopted Dec. 9, 1959

Design Loading: H20-S16 AASHO 1961

Stresses:

| | |
|---|---|
| Class A Concrete (n=15) | 840 #/□" |
| Class S Concrete (n=10) | 1,200 #/□" |
| Reinforcing Steel | 20,000 #/□" |
| Structural Steel (A-36) | 20,000 #/□" |

All Piles to be 16" Concrete filled Metal Shells or 16" Octagonal Precast Piles.
Piles in End Bents 1 & 5 to be driven after the Embankment is in Place.
Lengths of Piling shown are for Estimating Purposes only. Actual Lengths to be determined in the field. Drive one 60' Test Pile in Bents No. 2 and No. 4.
All Piles to be driven to a minimum Bearing of 36 ton/pile.

## REFERENCES

For Superstructure Details see Drawing No. 15030, Drawing No. 14990 & Table of Variable Dimensions, this sheet.
For Substructure Details see Drawing No. 15030A & Drawing No. STI-2.
For Precast Concrete Pile Details see Drawing No. 2382.
For Concrete Filled Metal Shell Piles see Drawing No. 2381A.
For Concrete Riprap Details see "Summary of Bridge Quantities" sheet.

Δ Revised & Corrected 6-30-64 JWG

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK ARKANSAS

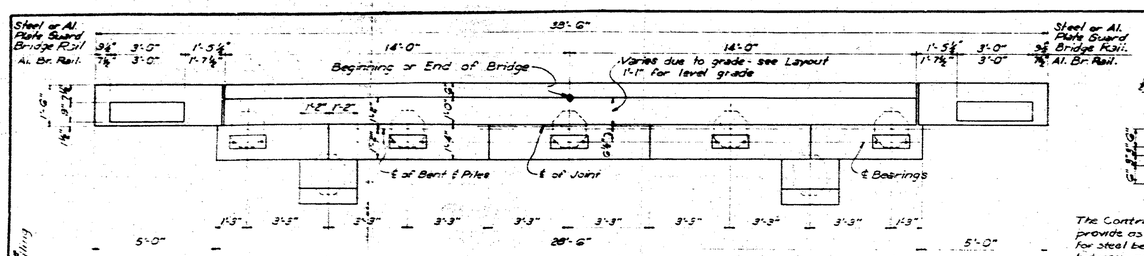
INTERSTATE ROUTE 40 SECTION

LAYOUT
STATE HIGHWAY 11 UNDERPASS

BRIDGE NO. 3708 | SCALE 1" = 20'-0" | BLAUVELT ENGINEERING CO. CONSULTING ENGINEERS

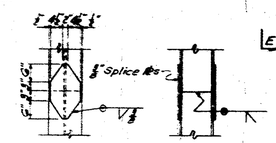
DRAWING NO. STI-1 | DATE | DRAWING NO. 42238

In Charge of C. M.C.
Made By J. J. H.
Traced By C. M.C.
Checked By C. M.C.




Plan of End Bent

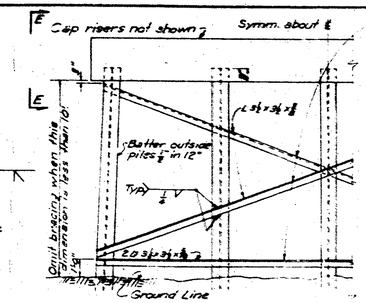
Sloped or Crowned Roadway




The Contractor at his own expense may provide as many as three splices per pile for steel bearing piling. Minimum spacing between splices shall be 5 feet.

Pile Splice Detail

Scale: 1/2" = 1'-0"




Typical Bracing

Intermediate H Pile Bent

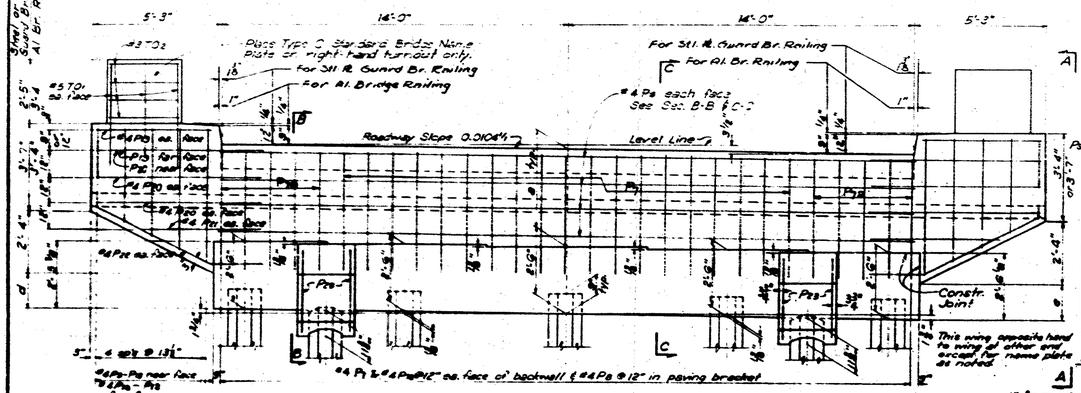
Scale: 1/2" = 1'-0"

The lengths of bracing members shall be determined in the field. Each member shall be one continuous angle and shall be welded to the steel bearing piles as shown. Angle bracing shall be measured and paid for as "Structural Steel in Beam Spans"

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | B60106 | | 56 | 86 |
| 03708 | EXISTING BRIDGE - 42239 | | | |

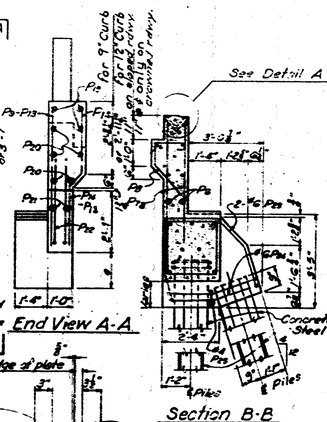
VARIABLES

| Span | Beams Interior | Beams Exterior | Sloped Roadway a | b | c | d | e | f | g | Crowned Roadway a | h | j | k | m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 35'-36' | 21WF62 | 21WF62 | 8-5 1/2 | – | – | 1 | | – | – | 8-5 1/2 | – | 0 1/2 | – | – |
| | | 24WF68 | | 3 1/2 | 2" | 3 1/2 | | 2-8 1/2 | 2" | | 3 1/2 | 3 1/2 | 2'-10 1/2 | 4" |
| | | 27WF84 | | 6 1/2 | 4 1/2 | 6 1/2 | | 2-11 1/2 | 5" | | 6 1/2 | 6 1/2 | 3'-8 1/2 | 7" |
| | | 30WF99 | | 9 1/2 | 7 1/2 | 9 1/2 | | 3-2 1/2 | 8" | | 9 1/2 | 9 1/2 | 4'-5 1/2 | 10" |
| | | 33WF118 | | 12 1/2 | 10 1/2 | 12 1/2 | | 3-5 1/2 | 11" | | 12 1/2 | 12 1/2 | 5'-1 1/2 | 13" |
| 35'-36' | 21WF62 | 36WF135 | 8-5 1/2 | 15 1/2 | 13 1/2 | 15 1/2 | | 3-8 1/2 | 13" | 8-5 1/2 | 15 1/2 | 15 1/2 | 5'-9 1/2 | 15" |
| 37'-43' | 24WF68 | 24WF68 | 8-6 1/2 | – | – | 3 1/2 | | – | – | 8-6 1/2 | – | 3 1/2 | – | – |
| | | 27WF84 | | 3 1/2 | 2 1/2 | 3 1/2 | | 2-8 1/2 | 2" | | 3 1/2 | 3 1/2 | 2'-10 1/2 | 4" |
| | | 30WF99 | | 6 1/2 | 4 1/2 | 6 1/2 | | 2-11 1/2 | 5" | | 6 1/2 | 6 1/2 | 3'-8 1/2 | 7" |
| | | 33WF118 | | 9 1/2 | 8 1/2 | 12 1/2 | | 3-2 1/2 | 8" | | 9 1/2 | 12 1/2 | 5'-1 1/2 | 10" |
| 37'-43' | 24WF68 | 36WF135 | 8-6 1/2 | 12 1/2 | 10 1/2 | 15 1/2 | | 3-5 1/2 | 11" | 8-6 1/2 | 12 1/2 | 15 1/2 | 5'-9 1/2 | 13" |
| 44'-51' | 27WF84 | 27WF84 | 8-11 1/2 | – | – | 6 1/2 | | – | – | 8-11 1/2 | – | 6 1/2 | – | – |
| | | 30WF99 | | 3 1/2 | 2 | 3 1/2 | | 2-11 1/2 | 2" | | 3 1/2 | 3 1/2 | 2'-10 1/2 | 4" |
| | | 33WF118 | | 6 1/2 | 5 1/2 | 12 1/2 | | 3-0 1/2 | 5" | | 7 | 12 1/2 | 3'-8 1/2 | 7" |
| 44'-51' | 27WF84 | 36WF135 | 8-11 1/2 | 9 1/2 | 7 1/2 | 15 1/2 | | 3-2 1/2 | 8" | 8-11 1/2 | 9 1/2 | 15 1/2 | 5'-3 1/2 | 10" |
| 52'-55 | 30WF99 | 30WF99 | 9-2 1/2 | – | – | 3 1/2 | | – | – | 9-2 1/2 | – | 3 1/2 | – | – |
| | | 33WF118 | | 4 1/2 | 2 1/2 | 12 1/2 | | 2-11 1/2 | 2" | | 4 1/2 | 12 1/2 | 2'-10 1/2 | 4" |
| 52'-55' | 30WF99 | 36WF135 | 9-2 1/2 | 6 1/2 | 4 1/2 | 15 1/2 | | 3-2 1/2 | 5" | 9-2 1/2 | 6 1/2 | 15 1/2 | 3'-8 1/2 | 7" |
| 56'-57' | 30WF116 | 30WF116 | 9-2 1/2 | – | – | 3 1/2 | | – | – | 9-2 1/2 | – | 3 1/2 | – | – |
| | | 33WF118 | | 4 1/2 | 2 1/2 | 12 1/2 | | 2-11 1/2 | 2" | | 4 1/2 | 12 1/2 | 2'-10 1/2 | 4" |
| 56'-57' | 30WF116 | 36WF135 | 9-2 1/2 | 6 1/2 | 4 1/2 | 15 1/2 | | 3-2 1/2 | 5" | 9-2 1/2 | 6 1/2 | 15 1/2 | 3'-8 1/2 | 7" |
| 58'-60' | 33WF118 | 33WF118 | 9-5 1/2 | – | – | 12 1/2 | | – | – | 9-5 1/2 | – | 12 1/2 | – | – |
| 58'-60' | 33WF118 | 36WF135 | 9-5 1/2 | 3 1/2 | 1 1/2 | 15 1/2 | | 2-8 1/2 | 2" | 9-5 1/2 | 3 1/2 | 15 1/2 | 2'-10 1/2 | 3" |
| 65' | 33WF130 | 33WF130 | 9-5 1/2 | – | – | 12 1/2 | | – | – | 9-5 1/2 | – | 12 1/2 | – | – |
| 65' | 33WF130 | 36WF135 | 9-5 1/2 | 3 1/2 | 1 1/2 | 15 1/2 | | 2-8 1/2 | 2" | 9-5 1/2 | 3 1/2 | 15 1/2 | 2'-10 1/2 | 3" |
| 70' | 36WF135 | 36WF135 | 9-8 1/2 | – | – | 15 1/2 | | – | – | 9-8 1/2 | – | 15 1/2 | – | – |



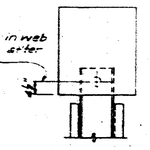

Front Elevation of End Bent - Sloped Roadway

Cap W shown with batter piles. Batter piles occur at end bents only




End View A-A

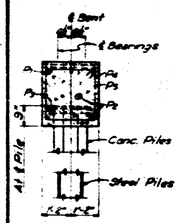
Section B-B




End View E-E

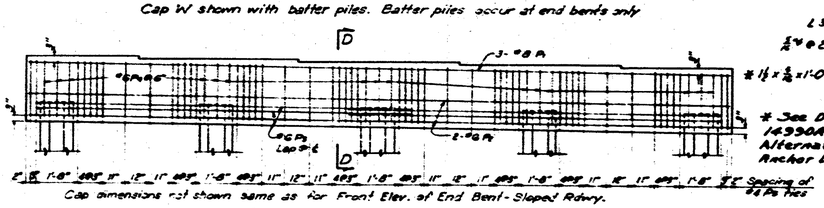
Scale: 1/2" = 1'-0"

Section C-C




Section D-D

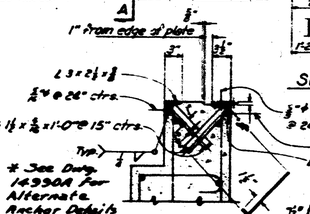
At Intermediate Bent



Cap dimensions not shown same as for Front Elev. of End Bent - Sloped Rdwy.

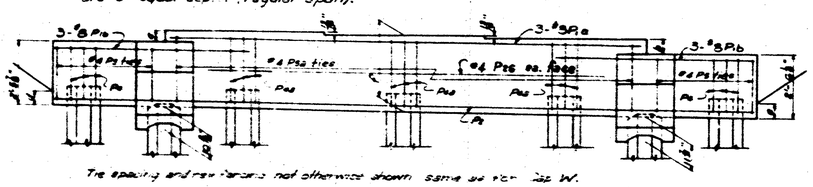
Elevation of Cap W - Sloped Roadway

Use this cap for intermediate bent or for end bent when end span beams are of equal depth (regular span).




Detail A

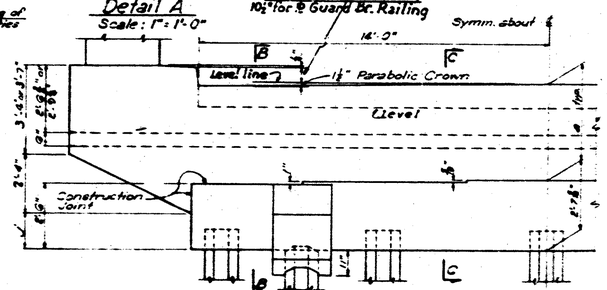
Scale: 1" = 1'-0"



Tie spacing and reinforcing not otherwise shown same as for Cap W.

Elevation of Cap X - Sloped Roadway

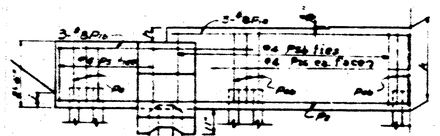
Use this cap for end bent when end span interior beams are of less depth than exterior beams (modified span).




For details not shown see Elev. End Bent - Sloped Roadway.

Half Front Elevation of End Bent - Crowned Roadway

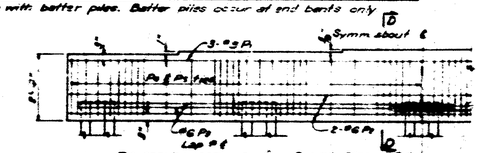
Cap Y shown with batter piles. Batter piles occur at end bents only



Tie spacing and reinforcing not otherwise shown same as for Cap Y.

Half Elevation of Cap Z - Crowned Roadway

Use this cap for end bent when end span interior beams are of less depth than exterior beams (modified span).




Tie spacing same as for Cap W - Sloped Rdwy.

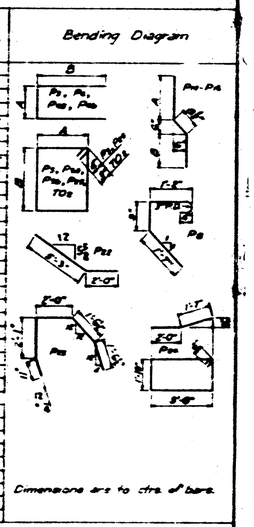
Half Elevation of Cap Y - Crowned Roadway

Use this cap for intermediate bent or for end bent when end span beams are of equal depth (regular span).

— BAR LIST —

| Mark | Size | Number Per Bent: Sloped Rdwy. End Cap W | Sloped Rdwy. End Cap X | Sloped Rdwy. Int. Cap W | Sloped Rdwy. Int. Cap Y | Crowned Rdwy. End Cap Y | Crowned Rdwy. End Cap Z | Crowned Rdwy. Int. Cap Y | Length | A | B | Pin Dia. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $P_1$ | #8 | 3 | – | 3 | 3 | – | 3 | – | 28'-8" | | | Str. |
| $P_{1a}$ | | – | 3 | – | – | 3 | – | – | 18'-2" | | | |
| $P_{1b}$ | #8 | – | 6 | – | – | 6 | – | – | 8'-0" | | | |
| $P_2$ | #6 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 28'-8" | | | Str. |
| $P_3$ | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 31'-8" | 1'-7" | 15'-0" | 2 1/2 |
| $P_4$ | | 15 | 5 | 15 | 15 | 5 | 15 | 5 | 6'-1" | 1'-11 1/2" | 2'-9 1/2" | |
| $P_{4a}$* | | – | 9 | | | 9 | | – | 6'-7"+2'-7" | | 2'-9 1/2" | |
| $P_{4b}$* | #6 | – | – | – | – | 9 | – | – | 6'-7"+2'-7" | | 2'-9 1/2" | 1 1/2" |
| $P_5$ | #4 | 52 | 16 | 52 | 52 | 16 | 52 | 16 | 9'-3" | | 2'-11" | 1 1/2" |
| $P_{5a}$* | | – | 36 | – | – | – | – | – | 6'-9"+2'-3" | | 2'-9 1/2" | |
| $P_{5b}$* | | – | – | – | – | 36 | – | – | 6'-9"+2'-3" | 1'-11 1/2" | 2'-9 1/2" | 1 1/2" |
| $P_6$ | | 8 | 8 | | 8 | 8 | – | 8 | 28'-0" | | | Str. |
| $P_7$ | | 38 | 38 | – | 38 | 38 | – | 38 | 8'-1 1/2" | | | Str. |
| $P_{7a}$* | | 20 | 20 | – | 20 | 20 | – | 20 | 9'+1'+inner 9" | | | Str. |
| $P_8$ | | 29 | 29 | – | 29 | 29 | – | 29 | 4'-0" | | | 1 |
| $P_9$* | | 2 | 2 | – | 2 | 2 | – | – | 3'-0" | | | Str. |
| $P_{10}$* | | 2 | 2 | – | 2 | 2 | – | – | 3'-6" | | | |
| $P_{11}$* | | 2 | 2 | – | 2 | 2 | – | – | 4'-0" | | | |
| $P_{12}$* | | 2 | 2 | – | 2 | 2 | – | – | 4'-6" | | | |
| $P_{13}$* | | 2 | 2 | – | 2 | 2 | – | – | 5'-0" | | | Str. |
| $P_{14}$* | | 2 | 2 | – | 2 | 2 | – | – | 3'-3" | 2'-4" | 0'-11 1/2" | 1 |
| $P_{15}$* | | 2 | 2 | – | 2 | 2 | – | – | 3'-3" | | 8'-8" | |
| $P_{16}$* | | 2 | 2 | – | 2 | 2 | – | – | 6'-3" | | 13'-6" | |
| $P_{17}$* | | 2 | 2 | – | 2 | 2 | – | – | 4'-3" | | 1'-8" | |
| $P_{18}$* | | 2 | 2 | – | 2 | 2 | – | – | 5'-3" | 2'-6 | 2'-11 | 1 |
| $P_{19}$ | | 6 | 6 | | 6 | 6 | | | 4'-11" | | | Str. |
| $P_{20}$ | | 10 | 10 | – | 10 | 10 | – | – | 2'-0" | | | |
| $P_{21}$ | | 4 | 4 | – | 4 | 4 | – | – | 5'-0" | | | Str. |
| $P_{22}$ | #4 | 4 | 4 | – | 4 | 4 | – | – | 7'-3" | | | 1 |
| $P_{23}$ | #6 | 4 | 4 | – | 4 | 4 | – | – | 8'-6" | | | 2 1/2 |
| $P_{24}$ | #6 | 4 | 4 | – | 4 | 4 | – | – | 11'-8" | | | 2 1/2 |
| $P_{25}$ | #4 | 2 | 2 | – | 2 | 2 | – | – | 5'-4" | 0'-6" | 1'-11 1/2" | 1 |
| $P_{26}$ | #4 | – | 2 | – | – | 2 | – | – | 16'-0" | – | – | Str. |
| $TO_1$ | #5 | 12 | 12 | – | 12 | 12 | – | – | 5'-2" | | | Str. |
| $TO_2$ | #3 | 8 | 8 | – | 8 | 8 | – | – | 6'-11" | 2'-6" | 2'-9" | 1 |

Bending Diagram




● For Steel or Aluminum Plate Guard Bridge Railing add 3" to lengths of bars $P_5$ - $P_{18}$. Increase dimension A 3" for bars $P_{14}$ to $P_{18}$.

△ For values of "g" and "m" see table of variable dimensions

FOR INFORMATION ONLY

**DETAILS OF STANDARD PILE BENTS FOR 35' TO 70' COMPOSITE I-BEAM SPANS 28' CLEAR ROADWAY 1'-6" OR 1'-7 1/2" CURBS**

Roadway: 1 1/2" Parabolic Crown or 0.0104 ft/ft Slope

ROUTE SEC.

**ARKANSAS STATE HIGHWAY COMMISSION**

R.E. - DRAWN BY: E.A.N. DATE: 2-8-62 UTILITIES ENGR. APPR.

TRACED BY: DATE:

R.E. - CHECKED BY: DATE:

SCALE: 1/8" = 1'-0" and as noted

BRIDGE NO. DRAWING NO. 42239

DRAWING NO. 15030A

△ Piling Revision 8-18-62 [illegible]

◊ Rev. 12-23-63 F.E.

△ Rev. 2-26-66 F.E.B. Bar Pos

[illegible]

Notes

All concrete to be Class S. All exposed corners to have 3/4" chamfer unless otherwise noted.

▲ All piling shall be driven to a minimum capacity of 36 tons per pile. Piling shall be either 12 BP 53, 16" octagonal precast concrete piles, or concrete filled metal shell piles, as shown on the layout.

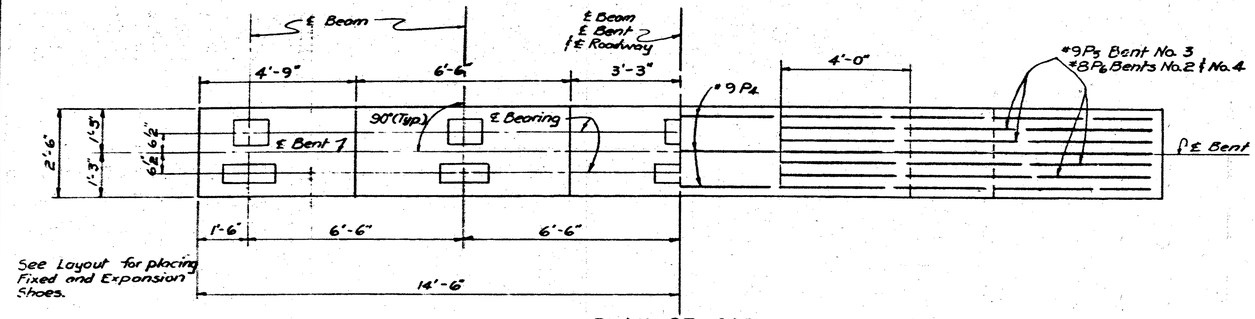
Intermediate bents not to be used for spans over 45'.

All Structural Steel except steel piles shall be ASTM A-36 Steel.

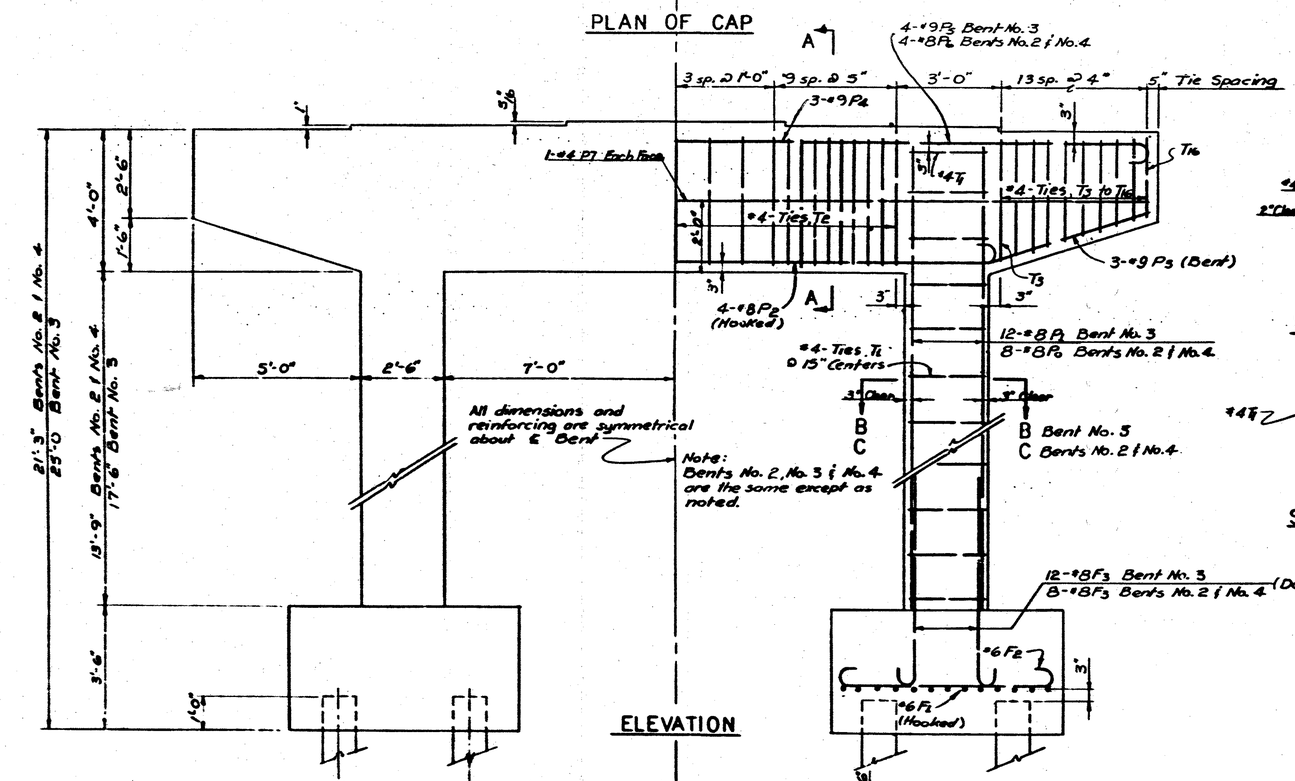
This Drawing is a modification of Dwg 5477A.

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | B60106 | 57 | 86 |
| (1) 03708 | EXISTING BRIDGE - 42240 | | | |

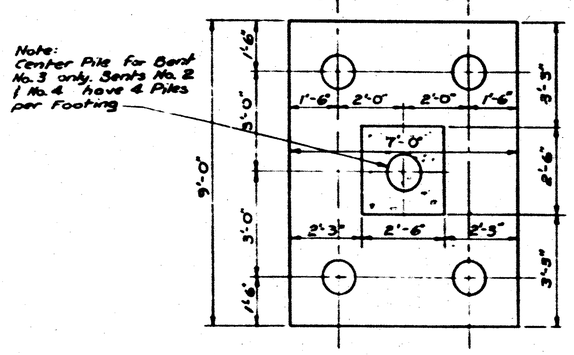
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 6 | ARK. | I-40-4 (3)193 | | | |
| JOB NO. 6717 | | | | 34 | 230 |



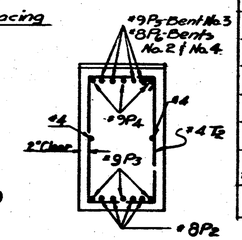

PLAN OF CAP



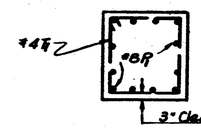

ELEVATION



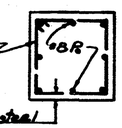

FOOTING PLAN




SECTION A-A




SECTION B-B

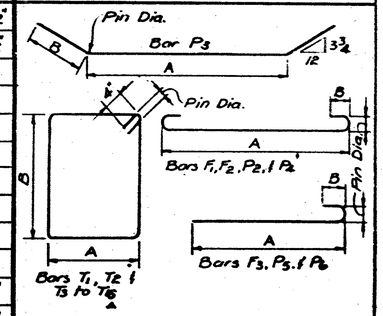



SECTION C-C

## BAR LIST FOR BENTS NO. 2, NO. 3, & NO. 4

| Mark | Size | No. per Bent | Length | A | B | Pin Dia. |
|---|---|---|---|---|---|---|
| F1 | #6 | 26 | 9'-11" | 8'-6" | 0'-6" | 4½" |
| F2 | #6 | 34 | 7'-11" | 6'-6" | 0'-6" | 4½" |
| F3 | #8 | 24-Bent 3 16-Bent 2 & 4 | 6'-7" | 5'-6" | 0'-9" | 8" |
| P0 | #8 | 16 ‡ | 17'-7" | Straight | | |
| P1 | #8 | 24 * | 21'-4" | Straight | | |
| P2 | #8 | 4 | 21'-3" | 19'-0" | 0'-9" | 8" |
| P3 | #9 | 3 | 28'-11" | 18'-11" | 5'-0" | 9" |
| P4 | #9 | 3 | 31'-0" | 28'-6" | 0'-10" | 9" |
| P5 | #9 | 8 * | 12'-6" | 11'-3" | 0'-10" | 9" |
| P6 | #8 | 8 † | 12'-4" | 11'-3" | 0'-9" | 8" |
| T1 | #4 | 36-Bent 3 30-Bent 2 & 4 | 8'-9" | 2'-0½" | 2'-0½" | 1½" |
| T2 | #4 | 25 | 12'-1" | 2'-1½" | 3'-7½" | 1½" |
| T3 to T16 | #4 | 2 Ea. | 11'-11" to 9'-4" | 2'-1½" | 3'-6½" to 2'-3" | 1½" |
| P7 | #4 | 2 | 28'-9" | Straight | | |

* Bent #3 only
† Bents No 2 & No 4 only




Note: Dimensions are to centers of bars.

Notes:
All Concrete in Caps to be Class S. Concrete in Columns and Footings to be Class A.
All exposed corners to have 3/4" chamfer.

References:
For Layout see Dwg. ST1-1.
For Superstructure details see Dwgs. 15030, 14990 & ST1-1.

△ Revised & Corrected 6-30-64 JWG cats & mtl

FOR INFORMATION ONLY

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK ARKANSAS

INTERSTATE ROUTE 40 SECTION

DETAILS OF INTERMEDIATE BENTS
HIGHWAY NO. 11 UNDERPASS

BRIDGE NO. 3708 | SCALE 1/2" = 1'-0" | DATE | BLAUVELT ENGINEERING CO. CONSULTING ENGINEERS

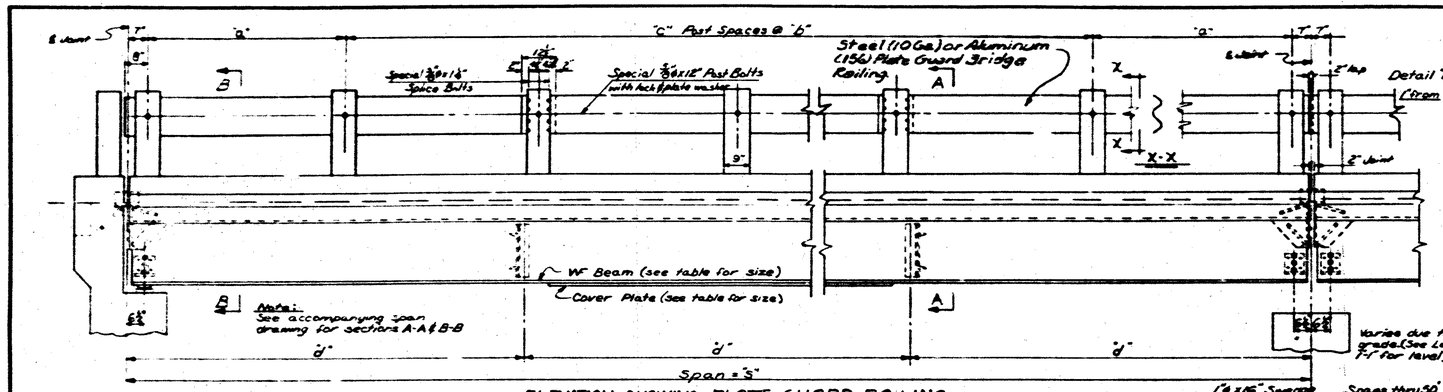
DRAWING NO. ST1-2 | DRAWING NO. 42240

In Charge of C.M.C.
Made By I.A.P.
Traced By
Checked By C.M.C.

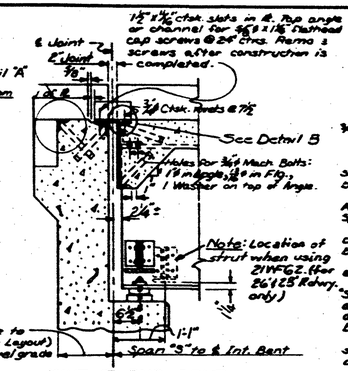
~~A.H.D. Drawings No. 12736~~

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | B60106 | 58 | 86 |

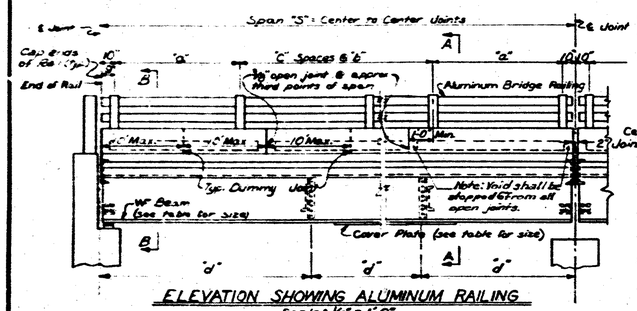
03708 EXISTING BRIDGE - 42241



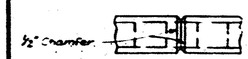

ELEVATION SHOWING PLATE GUARD RAILING
Scale: ½" = 1'-0"




JOINT AT END BENT
Scale: ¾" = 1'-0"

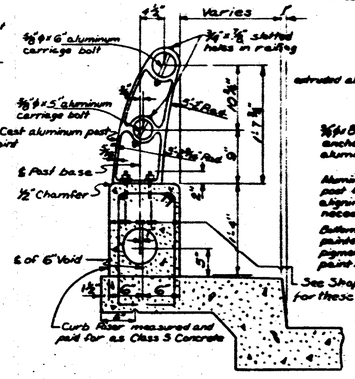



ELEVATION SHOWING ALUMINUM RAILING
Scale: ¼" = 1'-0"

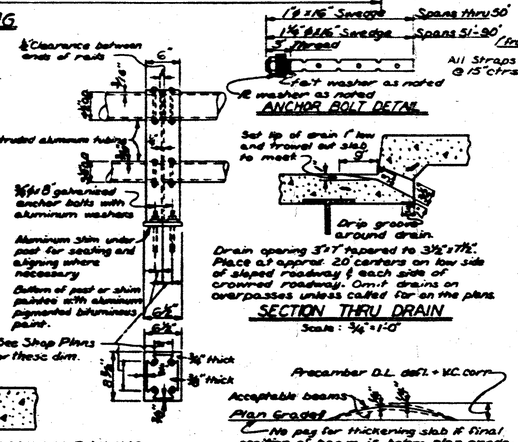


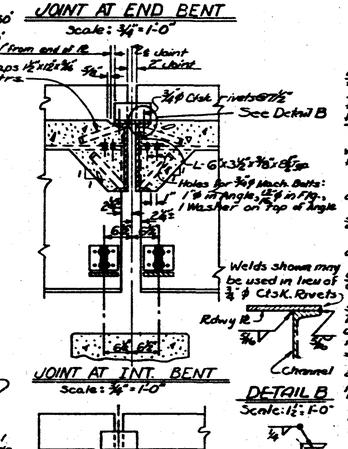

PLAN OF DUMMY JOINT


PLAN OF OPEN JOINT

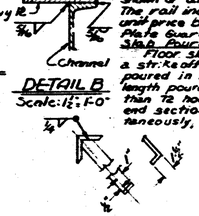



DETAILS OF ALUMINUM RAILING
Scale: 1½" = 1'-0"




JOINT AT INT. BENT
Scale: ¾" = 1'-0"



DETAIL B
Scale: 1½" = 1'-0"



DETAIL "A" (Typical)
Scale: 1½" = 1'-0"

## GENERAL NOTES

All concrete to be Class S. All exposed corners to be chamfered ¾" unless otherwise noted.

Field connections to be riveted or bolted with high strength bolts. Rivets = 3/8"ø, Jam holes 3/16"ø except where noted otherwise.

Structural shapes of equal or greater strength may be substituted for shapes shown, but payment will be made on the basis of shapes shown or those actually used, whichever is less.

All welded connections to be 3/16" fillet shop welds except as noted.

All welding shall conform to the American Welding Society Standard Specifications for Welded Highway and Railway Bridges, current edition.

Shop Paint: All structural steel except surfaces in contact with concrete shall be given one coat of red lead and raw linseed oil before shipment.

Field Paint: First coat - red lead tinted with lamp black. Second coat aluminum paint.

All metal bearing and roadway expansion devices to be paid for as "Structural Steel in Beam Spans". Bearings shall be finally seated in a manner set forth in the Specifications. This work and material are to be considered as subsidiary to the item "Structural Steel in Beam Spans" and will not be paid for directly.

This drawing shows general features of design only. Shopdrawings shall be made in accordance with the Specifications, submitted and approval secured before fabrication is begun.

All Steel shall be ASTM A-36 unless otherwise noted.

Reinforcing steel to be deformed bars of intermediate or hard grade. The reinforcing steel is to be accurately located in the forms and firmly held in place by steel wire supports, sufficient in number and size to prevent displacement during the course of construction. The wire supports will not be paid for directly but will be considered subsidiary to the item of "Reinforcing Steel."

Shop lists and bending diagrams of reinforcing steel, including wire supports, shall be submitted and approval secured before fabrication is begun.

All chamfers on concrete riser for rail are to be ½".

Shop drawings showing details of railing shall be submitted and approval secured before fabrication is begun.

The aluminum bridge railing, including posts and fasteners, shall be paid for at the unit price bid per linear foot for "Aluminum Bridge Railing".

A rail connection utilizing set screws is an acceptable alternate and may be supplied at the Contractor's option.

Outside surfaces of flanges of cast aluminum posts shall be given a No. 220 grit belt finish after which all exposed surfaces of posts shall receive one coat of clear lacquer.

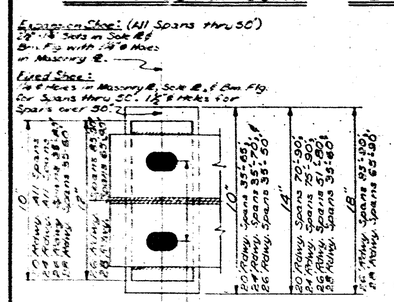
If Steel or Aluminum Plate Guard Bridge Railing is used it shall be the type shown or an equivalent rigid type as approved by the Engineer. The rail including posts and fastenings shall be paid for at the unit price bid per linear foot for "Steel or Aluminum Plate Guard Bridge Railing".

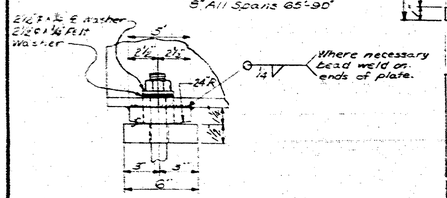
Slab Pouring Note:

Floor slabs may be poured in one continuous operation with a strip off extending over the whole span length, or may be poured in increments with the center one-third to one-half span length poured first. After the center section is poured not less than 72 hours shall elapse before pouring the end sections and sections may be poured simultaneously. If not poured simultaneously, 48 hours shall elapse between end section pours.

SPECIFICATIONS:
Arkansas State Highway Commission Standard Specifications for Highway Construction Edition of 1959.

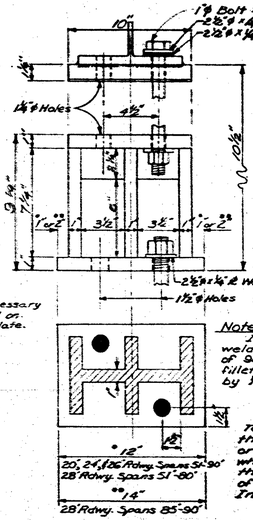
This Drawing is a modification of Dwg. No. 5462.




TYPE "B" FIXED or EXPANSION SHOE

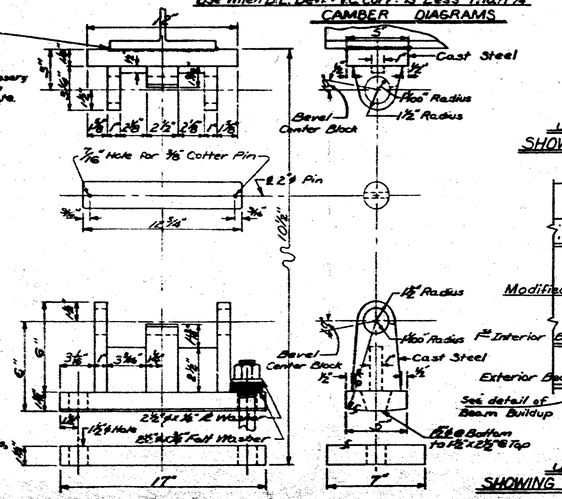
Use for end bents - all spans.
Use for int. bents - 35'-50' spans, unless otherwise shown.



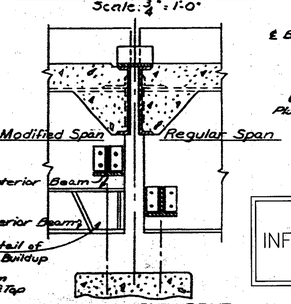

Note:
If fixed shoe is made from welded plates all intersecting surfaces of 90° shall be joined by 1/16 inch fillet welds, all others shall be joined by 1/4 inch bead welds.

To adjust for grade, increase the thickness of Fixed Bearing sole plate or Expansion Bearing masonry plate, which ever is on the upgrade side of the Intermediate Bent. See table of Plate Thickness on Layout or Intermediate Bent Drawing.

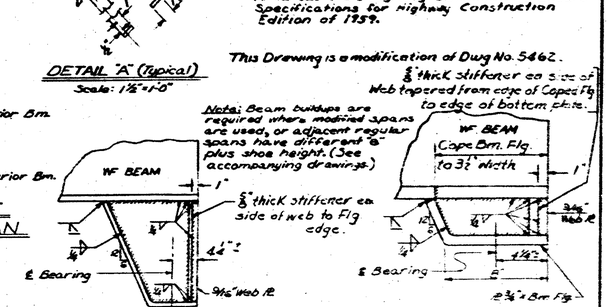
TYPE "A" FIXED SHOE




TYPE "A" EXPANSION SHOE




JOINT AT INT. BENT SHOWING MODIFIED AND REGULAR SPAN
Scale: ¾" = 1'-0"




DETAILS OF BEAM BUILDUP
No Scale

FOR INFORMATION ONLY

# DETAILS COMMON TO STANDARD 35'-90' COMPOSITE I-BEAM SPANS 20', 24', 26', AND 28' ROADWAYS

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

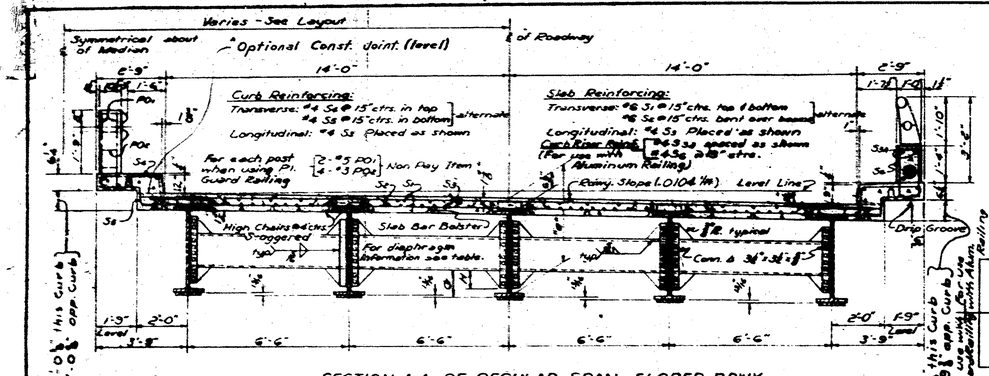
RE-DRAWN BY: GTM DATE: 8 MAR 62
TRACED BY: DATE:
RE-CHECKED BY: L.K. DATE: 3-9-62

SCALE: As Shown

DRAWING NO. 42241

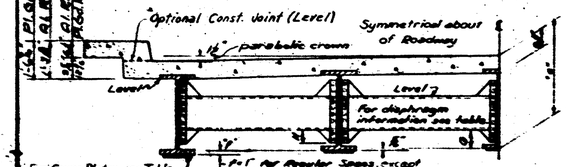
BRIDGE NO.

DRAWING NO. ~~14990~~




SECTION A-A OF REGULAR SPAN - SLOPED RDWY.
(Regular Spans Have All Beams of Equal Depth)

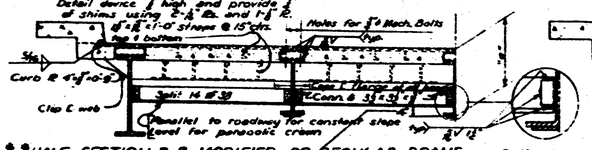
Note: Typical welds shown for Conn. B may be used in lieu of rivets.




*HALF SECTION A-A MODIFIED OR REGULAR SPAN PARABOLIC CROWN

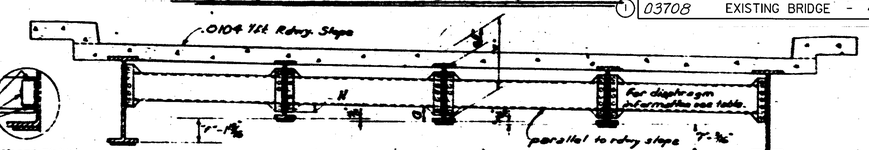
Notes:
See Drawing No. 14990A for location of Section A-A and Section B-B and Variables a, b, c, and d.

• Interior [illegible] for Cover plates for Modified Spans shall be the same as for Regular Spans as shown in table.




**HALF SECTION B-B MODIFIED OR REGULAR SPANS

Except when using BWF62 see Dwg. No. 14990A

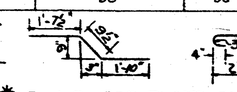



**SECTION A-A OF MODIFIED SPAN SLOPED RDWY.

**Interior Beams are same as in Regular Spans. Exterior Beams are the lightest section of same nominal depth as beams for longest span shown on Bridge Layout.

Note: These dimensions are for interior beams. For exterior beams these dimensions shall be shortened by 1".

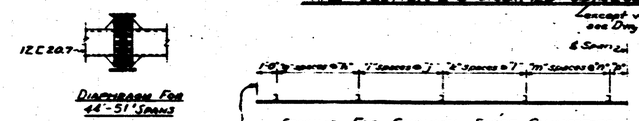
For Cover Plates, see Table

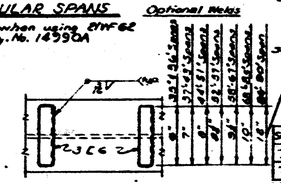



*4 x 4'-3" S3

*4 x 5'-5" S4

* S3 & S3 FOR PLATE GUARD BRIDGE RAILING




Details of Shear Connectors
Scale 1" = 1'-0"

Variables of Shear Connector Spacing

| Span | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 65 | 70 | 75 | 80 | 85 | 90 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| "a" | 12 | 14 | 9 | 10 | 8 | 9 | 10 | 10 | 12 | 8 | 8 | 8 | 9 | 8 | 8 | 15 | 12 | 11 | 10 | 10 | 14 | 13 | 12 | 7 | 7 | 9 | 10 | 10 | 12 | 11 | 12 | 7 |
| "b" | 4" | 4" | 5" | 5" | 5" | 5" | 5" | 5" | 5" | 7" | 7" | 7" | 6" | 6" | 6" | 7" | 6" | 7" | 7" | 7" | 7" | 7" | 7" | 8" | 8" | 8" | 8" | 10" | 10" | 11" | 11" | 11" |
| "c" | 12 | 8 | 8 | 11 | 13 | 13 | 12 | 13 | 10 | 7 | 9 | 8 | 7 | 8 | 8 | 8 | 11 | 10 | 9 | 9 | 10 | 11 | 11 | 9 | 7 | 7 | 8 | 9 | 11 | 10 | 8 | 8 |
| "d" | 5" | 5 | 6" | 6" | 6" | 6" | 6" | 6" | 6" | 8" | 8" | 8" | 7" | 8" | 7" | 8" | 7" | 8" | 9" | 9" | 8" | 8" | 8" | 11" | 11" | 11" | 12" | 12" | 13" | 13" | 13" | 13" |
| "e" | 10 | 10 | 7 | 7 | 8 | 5 | 6 | 6 | 7 | 8 | 7 | 8 | 10 | 9 | 10 | 6 | 13 | 9 | 9 | 7 | 8 | 8 | 8 | 6 | 8 | 9 | 8 | 7 | 6 | 7 | 9 | 6 |
| "f" | 7" | 6 | 8" | 8" | 8" | 7" | 7" | 7" | 7" | 10" | 10" | 9" | 9" | 9" | 9" | 12" | 9" | 11" | 11" | 11" | 10" | 10" | 11" | 16" | 14" | 14" | 13" | 13" | 16" | 16" | 14" | 11" |
| "g" | 2 | 4 | 5 | 4 | 4 | 7 | 7 | 7 | 7 | 5 | 5 | 6 | 7 | 7 | 8 | 3 | 2 | 2 | 4 | 6 | 5 | 5 | 5 | 5 | 5 | 4 | 5 | 5 | 5 | 5 | 8 | 8 |
| "h" | 10" | 8 | 11" | 11" | 10" | 10" | 10" | 10" | 9 | 12" | 12" | 12" | 11" | 11" | 11" | 18" | 14" | 17" | 14" | 14" | 12 | 13" | 14" | 16" | 16" | 16" | 17" | 19" | 16" | 21" | 27" | 22" |
| "p" | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Note: Stud shear connectors, granular flux filled, solid fluxed, or equal may be used in place of the channels shown at the following ratios: ⅞" diameter stud in place of 1.82 inches of channel, ¾" diameter stud in place of 6.52 inches of channel. The studs shall be 4" long and automatically and welded to the beam flanges in accordance with recommendations of the manufacturer. Channel sections will be used as basis for measurement of structural steel in shear connectors.

Max. thickness of part, under ½" to ¾"

Omit shear connectors on outside beams of modified spans when using beams shown to right of heavy line.

Details of Cover Plates
Scale: ½" = 1'-0"

Deflection of exterior beam is for regular spans only.

| Span | Regular Span Beam | Regular Span Cover Plate Interior | Regular Span Cover Plate Exterior | Post Spacing for Aluminum a | b | c | Modified Span Exterior Beams Requiring Cover B Beam | Cover B | Post Spacing for B Guard Railing a | b | c | "e" | Dead Load Deflection Int. | Ext. | Strut Spacing No. @ d" | Values of "f" and Dead Load Defl. for outside beams of modified spans 24'-0"/76 | 27'-0"/81 | 30'-0"/90 | 33'-0"/99 | 35'-0"/105 | 38'-0"/115 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 35 | 21WF62 | 6½"x½"x22'-0" | 5½"x½"x19'-0" | 8'-6" | 8'-6" | 6 | 24WF68 | 4½"x½"x12'-0" | 5'-7" | 5'-8" | 4 | 2'-2¾" | ½" | ¼" | 2@17'-6" | | | | | | |
| 36 | 21WF62 | 7½"x½"x23'-0" | 6½"x½"x20'-0" | 6'-8" | 7'-0" | 3 | 24WF68 | 4½"x½"x15'-0" | 5'-7" | 5'-11" | 4 | 2'-2¾ | ½" | ¼" | 2@18'-0" | | | | | | |
| 37 | 24WF68 | 5½"x½"x21'-0" | 6½"x½"x18'-0" | 7'-2" | 7'-0" | 3 | | | 6'-1" | 5'-8" | 4 | 2'-5¾ | ½" | ¼" | 2@18'-6" | | | | | | |
| 38 | 24WF68 | 6½"x½"x23'-0" | 6½"x½"x20'-0" | 7'-2" | 7'-6" | 3 | | | 6'-1" | 6'-2" | 4 | | ½" | ¼" | 2@19'-0" | | | | | | |
| 39 | 24WF68 | 7½"x½"x26'-0" | 6½"x½"x21'-0" | 7'-8" | 7'-8" | 3 | | | 5'-7" | 5'-4" | 5 | | ½" | ¼" | 2@19'-6" | | | | | | |
| 40 | 24WF76 | 6½"x½"x23'-0" | 5½"x½"x20'-0" | 7'-8" | 7'-8" | 3 | 27WF84 | 4½"x½"x12'-0" | 5'-8" | 5'-6" | 5 | | ½" | ¼" | 2@20'-0" | | | | | | |
| 41 | 24WF76 | 6½"x½"x25'-0" | 6½"x½"x22'-0" | 7'-8" | 8'-0" | 3 | | 4½"x½"x14'-0" | 5'-9" | 5'-8" | 5 | | ½" | ¼" | 3@13'-8" | | | | | | |
| 42 | 24WF76 | 7½"x½"x26'-0" | 6½"x½"x24'-0" | 8'-2" | 8'-0" | 3 | | 5½"x½"x17'-0" | 5'-10" | 5'-10" | 5 | | ½" | ¼" | 3@14'-0" | | | | | | |
| 43 | 24WF76 | 7½"x½"x28'-0" | 7½"x½"x26'-0" | 8'-8" | 8'-8" | 3 | 27WF84 | 6½"x½"x20'-0" | 5'-11" | 6'-0" | 5 | 2'-5¾" | ½" | ¼" | 3@14'-8" | | | | | | |
| 44 | 27WF84 | 7½"x½"x26'-0" | 6½"x½"x22'-0" | 8'-5" | 8'-6" | 3 | | | 6'-0" | 6'-1" | 5 | 2'-8¾ | ½" | ¼" | 3@15'-8" | | | | | | |
| 45 | 27WF84 | 7½"x½"x26'-0" | 7½"x½"x24'-0" | 7'-6" | 7'-7" | 4 | 30WF99 | 4½"x½"x13'-0" | 5'-5" | 5'-6" | 6 | | ½" | ¼" | 3@15'-0" | | | | | | |
| 46 | 27WF84 | 7½"x½"x28'-0" | 7½"x½"x26'-0" | 7'-6" | 7'-6" | 4 | 30WF99 | 4½"x½"x15'-0" | 5'-8" | 5'-7" | 6 | | ½" | ¼" | 3@15'-4" | | | | | | |
| 47 | 27WF84 | 9½"x½"x28'-0" | 8½"x½"x26'-0" | 7'-6" | 7'-7" | 4 | 30WF99 | 5½"x½"x18'-0" | 5'-8" | 5'-9" | 6 | | ½" | ¼" | 3@15'-9" | | | | | | |
| 48 | 27WF94 | 8½"x½"x27'-0" | 6½"x½"x26'-0" | 7'-8" | 7'-9" | 4 | 30WF99 | 6½"x½"x21'-0" | 5'-11" | 5'-10" | 6 | | ½" | ¼" | 3@16'-0" | | | | | | |
| 49 | 27WF94 | 8½"x½"x29'-0" | 8½"x½"x27'-0" | 7'-8" | 8'-0" | 4 | 30WF99 | 7½"x½"x26'-0" | 5'-11" | 6'-0" | 6 | | ½" | ¼" | 3@16'-4" | | | | | | |
| 50 | 27WF94 | 9½"x½"x30'-0" | 8½"x½"x29'-0" | 7'-10" | 8'-2" | 4 | 30WF99 | 7½"x½"x26'-0" | 5'-11" | 6'-2" | 6 | | ½" | ¼" | 3@16'-8" | | | | | | |
| 51 | 27WF94 | 9½"x½"x32'-0" | 8½"x½"x31'-0" | 8'-0" | 8'-4" | 4 | 30WF99 | 8½"x½"x28'-0" | 6'-2" | 6'-4" | 6 | 2'-8¾ | ½" | ¼" | 3@17'-0" | | | | | | |
| 52 | 30WF99 | 9½"x½"x30'-0" | 8½"x½"x29'-0" | 8'-2" | 8'-0" | 4 | 33WF118 | 4½"x½"x14'-0" | 5'-7" | 5'-8" | 7 | 2'-11¾ | ½" | ¼" | 3@17'-4" | | | | | | |
| 53 | 30WF99 | 8½"x½"x32'-0" | 8½"x½"x31'-0" | 7'-4" | 7'-6" | 5 | 33WF118 | 4½"x½"x15'-0" | 5'-8" | 5'-8" | 7 | 2'-11¾ | ½" | 1" | 3@17'-8" | | | | | | |
| 54 | 30WF99 | 8½"x½"x33'-0" | 9½"x½"x31'-0" | 7'-5" | 7'-6" | 5 | 33WF118 | 5½"x½"x21'-0" | 6'-0" | 5'-10" | 7 | 2'-11¾ | ½" | 1¼" | 3@18'-0" | | | | | | |
| 55 | 30WF99 | 9½"x½"x35'-0" | 9½"x½"x34'-0" | 7'-6" | 7'-9" | 5 | 33WF118 | 7½"x½"x26'-0" | 5'-10" | 6'-0" | 7 | 2'-11¾ | ½" | 1¼" | 3@18'-4" | | | | | | |
| 56 | 30WF108 | 8½"x½"x33'-0" | 8½"x½"x34'-0" | 7'-7" | 7'-10" | 5 | 33WF118 | 7½"x½"x26'-0" | 5'-10" | 6'-2" | 7 | 2'-11¾ | ½" | 1¼" | 3@18'-8" | | | | | | |
| 57 | 30WF108 | 9½"x½"x35'-0" | 9½"x½"x34'-0" | 7'-9" | 8'-0" | 5 | 33WF118 | 8½"x½"x31'-0" | 6'-0" | 6'-3" | 7 | 2'-11¾ | ½" | 1¼" | 3@19'-0" | | | | | | |
| 58 | 33WF118 | 9½"x½"x30'-0" | 9½"x½"x30'-0" | 7'-9" | 8'-4" | 5 | 36WF135 | 4½"x½"x17'-0" | 5'-9" | 5'-8" | 8 | 3'-2¾ | ½" | 1¼" | 3@19'-4" | | | | | | |
| 59 | 33WF118 | 9½"x½"x33'-0" | 9½"x½"x33'-0" | 7'-10" | 8'-4" | 5 | 36WF135 | 5½"x½"x21'-0" | 5'-10" | 5'-8" | 8 | 3'-2¾ | ½" | 1¼" | 3@19'-8" | | | | | | |
| 60 | 33WF118 | 9½"x½"x33'-0" | 9½"x½"x33'-0" | 7'-11" | 8'-6" | 5 | 36WF135 | 6½"x½"x24'-0" | 5'-11" | 5'-10" | 8 | 3'-2¾ | ½" | 1¼" | 3@20'-0" | | | | | | |
| 65 | 33WF150 | 9½"x½"x37'-0" | 8½"x½"x37'-0" | 7'-8" | 8'-0" | 6 | 36WF135 | 9½"x½"x34'-0" | 5'-9" | 5'-10" | 9 | 3'-6¾ | ½" | 1¼" | 4@16'-9" | | | | | | |
| 70 | 36WF150 | 10½"x½"x41'-0" | 10½"x½"x40'-0" | 7'-11" | 8'-3" | 6 | | | 5'-8" | 5'-9" | 10 | 3'-9¾ | ½" | 1¼" | 4@17'-6" | | | | | | |
| 75 | 36WF150 | 9½"x½"x43'-0" | 10½"x½"x45'-0" | 7'-9" | 8'-5" | 7 | | | 6'-1" | 6'-2" | 10 | 3'-9¾ | ½" | 1¼" | 4@18'-9" | | | | | | |
| 80 | 36WF170 | 10½"x½"x46'-0" | 11½"x½"x46'-0" | 8'-5" | 8'-10" | 7 | | | 5'-11" | 6'-1" | 11 | 3'-9¾ | ½" | 1¼" | 4@20'-0" | | | | | | |
| 85 | 36WF230 | | 8½"x½"x36'-0" | 8'-0" | 8'-5" | 8 | | | 5'-11" | 6'-0" | 12 | | ½" | 2¼" | 5@17'-0" | | | | | | |
| | 36WF230 | 10½"x½"x47'-0" | | 8'-0" | 8'-5" | 8 | | | 5'-11" | 6'-0" | 12 | 3'-8¾ | ½" | 2¼" | 5@17'-0" | | | | | | |
| 90 | 36WF230 | 10½"x½"x47'-0" | 11½"x½"x47'-0" | 8'-6" | 8'-11" | 8 | | | 5'-11" | 5'-11" | 12 | 3'-8¾ | 2¼" | 2¼" | 5@18'-0" | | | | | | |

LOADING: H20-S16 (A.A.S.H.O. 1961) and Special Interstate Loading

| | Interior Beam | Exterior Beam |
|---|---|---|
| 1. Dead Load: | | |
| a. To Bare Beam - | 526% + 1.1 (wt/ft dW) | 763% + 1.1 (wt/ft dW) |
| b. To Composite Beam: | | |
| (1) Plate Guard Br. Railing | 90% | 90% |
| (2) Aluminum Br. Railing - | 142% | 142% |
| 2. Live Load: | | |
| a. To each Comp. Beam - | 1.182 wheels + Impact | 1.156 wheels + Impact |

2-24,000# axles spaced @ 4'-0 centers

UNIT STRESSES

| | |
|---|---|
| Class S Concrete (n=10) | 1,200 psi |
| Structural Steel (A-36) | 20,000 psi |
| Reinforcing Steel | 20,000 psi |

DIAPHRAGM TABLE

| Span Lengths | Channel Size | Regular Span Ext. Bm. No. Rivets | Regular Span Int. Bm. No. Rivets | Modified Span Ext. Bm. No. Rivets | Modified Span Int. Bm. No. Rivets | G | H |
|---|---|---|---|---|---|---|---|
| 35'-43' | 12 C 20.7 | 5 | 5 | 5 | 5 | 3½" | 2¼" |
| 44'-51' | 12 C 20.7 | 7 | 7 | 7 | 7 | 7" | 5" |
| 52'-79' | 15 C 33.9 | 8 | 8 | 8 | 8 | 7" | 5" |
| 80'-90' | 15 C 33.9 | 8 | 8 | 8 | 8 | 8" | 5" |

Revision:
Modified Span notes 3, 7, 11, 14
* Added optional const. joint in Curb (8-10-65 AES).

NOTE

This drawing is to be used with drawing No. 14990A. For General notes see drawing No. 14990A.

This drawing is a modification of Drawing S477.

All steel in Composite I-Beam Spans shall be ASTM A-36 Steel unless otherwise noted.

FOR INFORMATION ONLY

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | B60106 | 59 | 86 |
| 03708 | EXISTING BRIDGE - 42242 | | | |

DETAILS OF STANDARD
35'-90' COMPOSITE I-BEAM SPANS
28' CLEAR ROADWAY 1'-6" & 1'-7½" CURBS
ROADWAY: 1½" Parabolic Crown 0.0104 ft/ft SLOPE

ARKANSAS STATE HIGHWAY COMMISSION

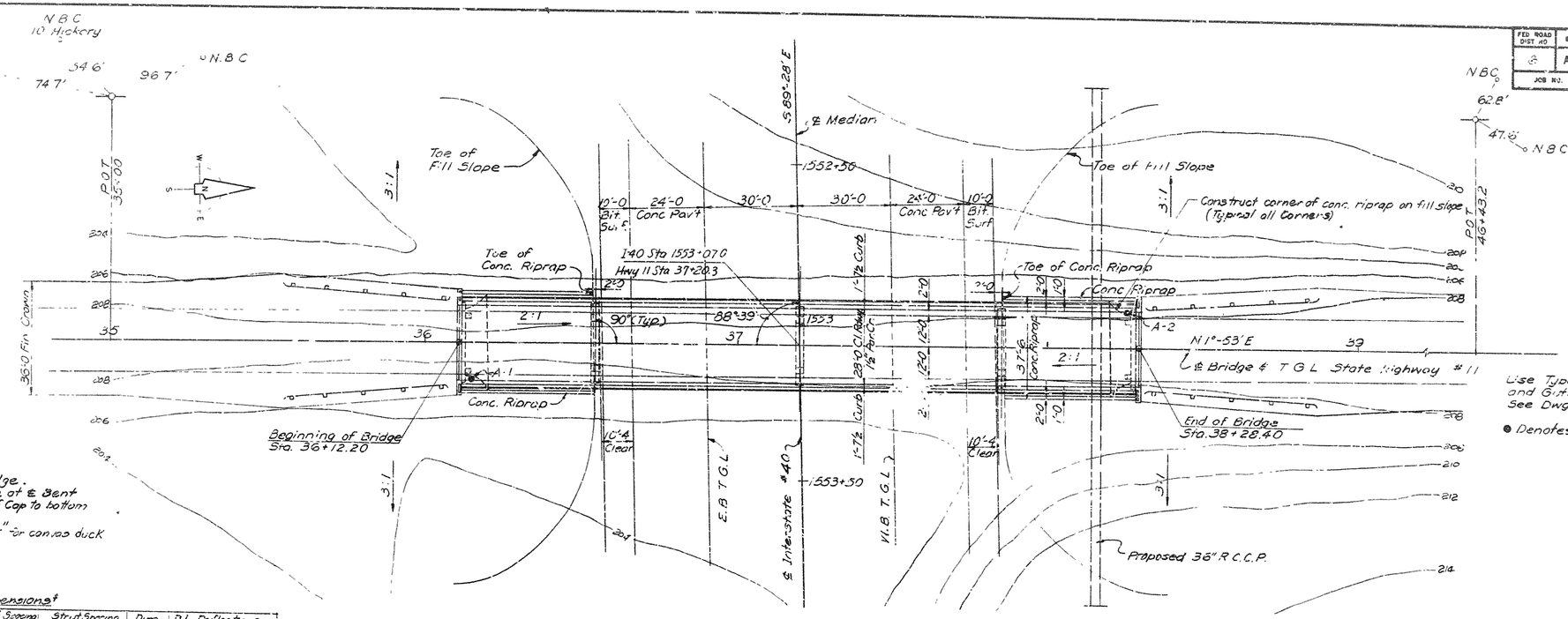
LITTLE ROCK, ARK.
Designed by GW Date 3-10-61
Checked by Date
Recommended by Date 10-31-61
Scale 1" = 1'-0" or As Shown
DRAWING NO. 42242

BRIDGE NO.

DRAWING NO. 15030

| FED ROAD DIST NO | STATE | FED AID PROJ NO | FISCAL YEAR | SHEET NO | TOTAL SHEETS |
|---|---|---|---|---|---|
| 8 | ARK. | I-40-4 (9) 193 | | 33 | 35 |
| JOB NO. 6717 | | | | | |

ADT (1975) = 800 VPD




PLAN

Notes:
1. Roadway Elevations shown are at ℄ of Bridge.
2. Vertical Dimensions are: (1) from ℄ Bridge at ℄ Bent to low side of Cap and (2) from low side of Cap to bottom of Footing.
3. Vertical Dimension (1) [See Note 2] includes ⅛" for canvas duck & red lead.
4. No Drains to be used on this Bridge

Table of Variable Dimensions*

| Span | Beams Ext. | Beams Int. | Cover Plates Ext. | Cover Plates Int. | Rail Post Spacing a | Rail Post Spacing b | Rail Post Spacing c | Strut Spacing No @ d | Strut Spacing e | Dim | D.L. Deflections Ext. | D.L. Deflections Int. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 66'-0" | 33 WF 130 | 33 WF 130 | 9" x 13/16" x 38' | 9" x 3/4" x 38' | 7'-8" | 8'-2" | 6" | 4 @ 16'-6" | 3'-2 3/4" | | 1 1/2" | 1 1/2" |

* The above table is to be used with Std. Dwg. 15030.
Use shear connector spacing for 65'-0" span, except use i=11 instead of 9, and use K=6 instead of 8. & use p=10" instead of 0"

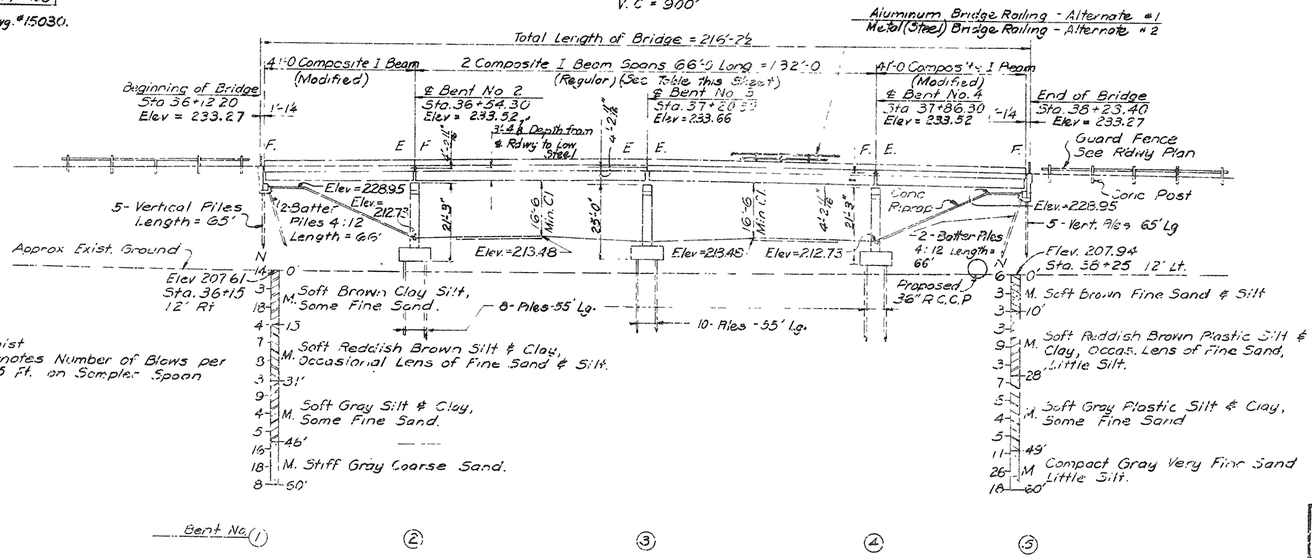
Bar List for 66' Span*

| | Mark | $S_1$ | $S_2$ | $S_3$ | $S_{3A}$ | $S_4$ | $S_5$ | $S_6$ |
|---|---|---|---|---|---|---|---|---|
| Δ | No. | 108 | 52 | 216 | 12 | 106 | 104 | 106 |

* Revisions to Bar Lists shown on Dwg. #15030.

+3.00% -3.00%

P.V.I. Sta 37+20.3 Elev. 2404.1 V.C. = 900'




ELEVATION

## GENERAL NOTES

Specifications:
Arkansas State Highway Commission Standard Specifications for Highway Construction adopted Dec. 9, 1959
Design Loading: H20-S16 AASHO 1961
Stresses:

| | |
|---|---|
| Class A Concrete (n=15) | 840 #/□" |
| Class S Concrete (n=10) | 1,200 #/□" |
| Reinforcing Steel | 20,000 #/□" |
| Structural Steel (A-36) | 20,000 #/□" |

All Piles to be 16" Concrete filled Metal Shells or 16" Octagonal Precast Piles
Piles in End Bents 1 & 5 to be driven after the Embankment is in Place
Lengths of Piling shown are for Estimating Purposes only. Actual Lengths to be determined in the Field. Drive one 60' Test Pile in Bents No. 2 and No. 4.
All Piles to be driven to a minimum Bearing of 35 ton/Pile

## REFERENCES

For Superstructure Details see Drawing No. 15030, Drawing No. 14990 & Table of Variable Dimensions, this sheet
For Substructure Details see Drawing No. 15030A & Drawing No. ST1-2
For Precast Concrete Pile Details see Drawing No. 2382.
For Concrete Filled Metal Shell Piles see Drawing No. 2381A.
For Concrete Riprap Details see "Summary of Bridge Quantities" sheet.

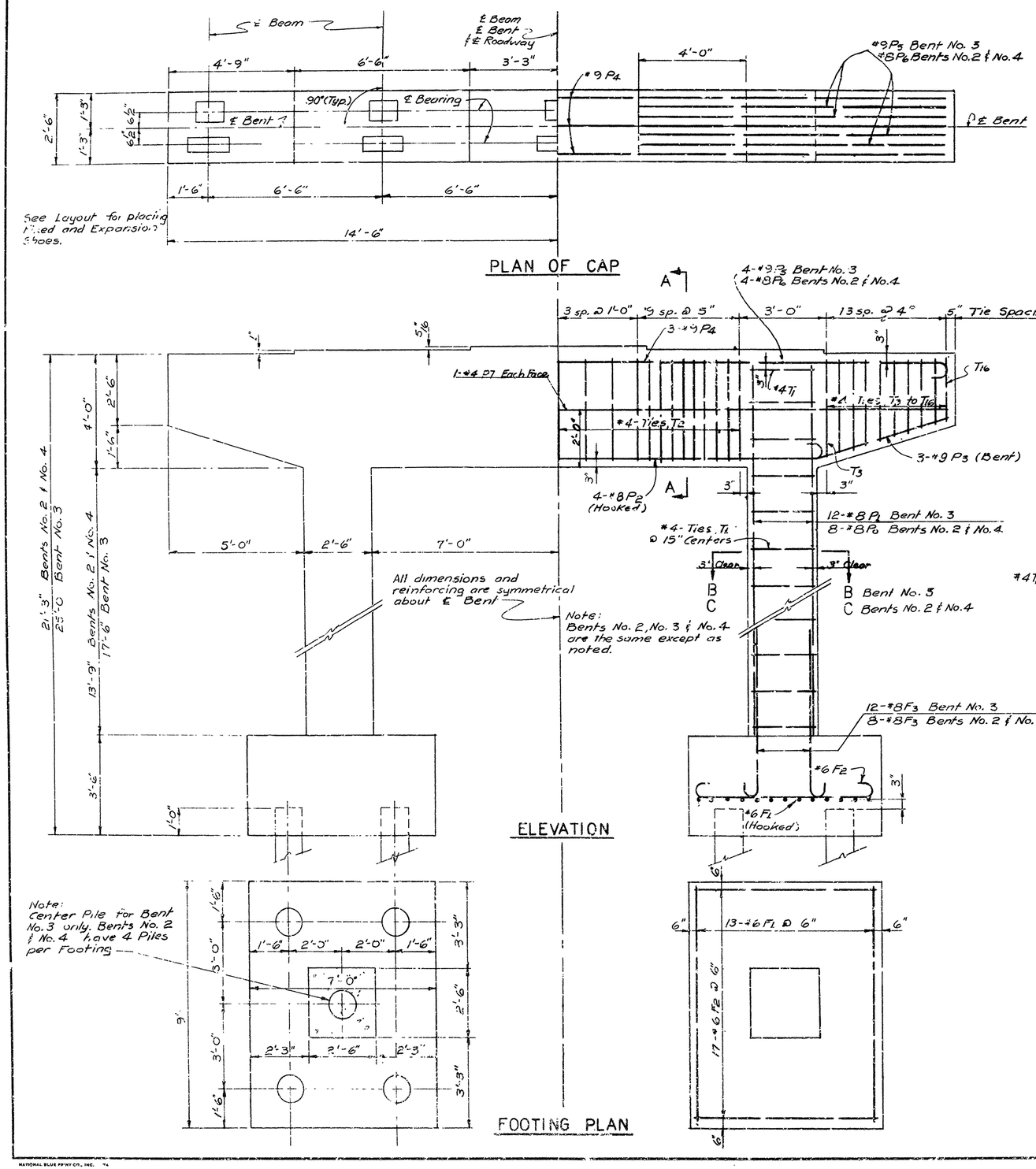
Δ Revised & Corrected 6-30-64 JWG CHKD JMH

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
INTERSTATE ROUTE 40 SECTION
LAYOUT
STATE HIGHWAY 11 UNDERPASS
BRIDGE NO. 3708
SCALE 1" = 20'-0"
DATE
BLAUVELT ENGINEERING CO.
CONSULTING ENGINEERS
DRAWING NO. ST1-1

A.H.D. DRAWING No. 12735

190

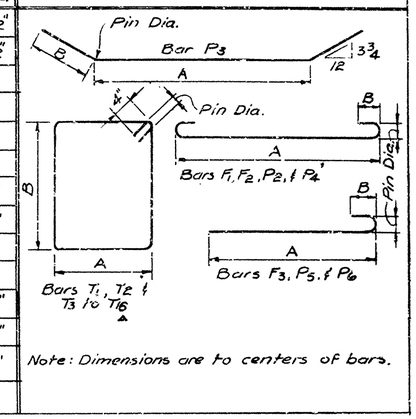
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 6 | ARK. | I-40-4 (9)193 | | 34 | 230 |
| JOB NO. 6717 | | | | | |




## BAR LIST FOR BENTS NO. 2, NO. 3, & NO. 4

| Mark | Size | No. per Bent | Length | A | B | Pin Dia. |
|---|---|---|---|---|---|---|
| F1 | #6 | 26 | 9'-11" | 8'-6" | 0'-6" | 4½" |
| F2 | #6 | 34 | 7'-11" | 6'-6" | 0'-6" | 4½" |
| F3 | #8 | 24-Bent 3 16-Bent 2 & 4 | 6'-7" | 5'-6" | 0'-9" | 8" |
| P0 | #8 | 16 ‡ | 17'-7" | Straight | | |
| P1 | #8 | 24 * △ | 21'-4" | Straight | | |
| P2 | #8 | 4 | 21'-3" | [illegible] | 0'-9" △ | 8" |
| P3 | #9 | 3 | 28'-11" | 18'-11" | 5'-0" | 9" |
| P4 | #9 | 3 | 31'-0" | 28'-6" | 0'-10" | 9" |
| P5 | #9 | 8 * | 12'-6" | 11'-3" | 0'-10" | 9" |
| P6 | #8 | 8 ‡ | 12'-4" | 11'-3" | 0'-9" | 8" |
| T1 | #4 | 36-Bent 3 30-Bent 2 & 4 | 8'-9" | 2'-0½" | 2'-0½" | 1½" |
| T2 | #4 | 25 | 12'-1" | 2'-1½" | 3'-7½" | 1½" |
| T3 to T16 | #4 | 2 Ea. | 11'-11" to 9'-4" △ | 2'-1½" | 3'-6½" to 2'-3" △ | 1½" |
| P7 | #4 | 2 | 28'-8" | Straight | | |

* Bent #3 only
‡ Bents No 2 & No 4 only




Note: Dimensions are to centers of bars.

Notes:
All Concrete in Caps to be Class [illegible] Concrete in Columns and Footings to be Class A.
All exposed corners to have ¾" chamfer.

References:
For Layout see Dwg. ST1-1.
For Superstructure details see Dwgs. 15030, 14990 & ST1-1.

△ Revised & Corrected 6-30-64 JWG CHKD gmH

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK ARKANSAS

INTERSTATE ROUTE 40 SECTION

DETAILS OF INTERMEDIATE BENTS
HIGHWAY NO. 11 UNDERPASS

BRIDGE NO. 3708 | SCALE ½"=1'-0" | BLAUVELT ENGINEERING CO. CONSULTING ENGINEERS

DRAWING NO. ST1-2

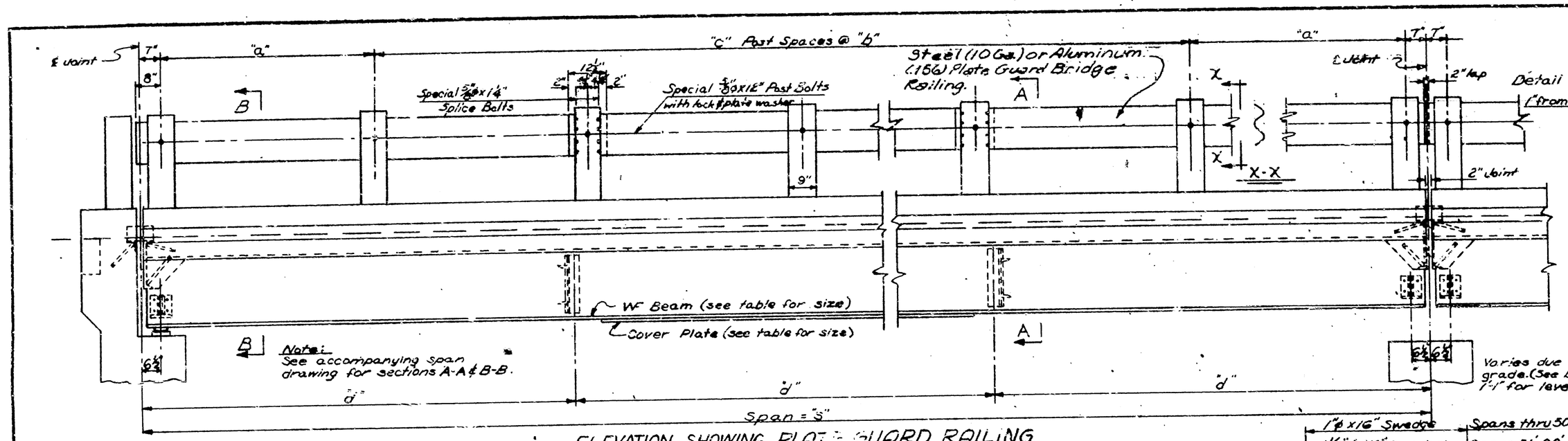
A.H.D. DRAWING No. 12736

In Charge of C.M.C.
Made By J.A.R.
Traced By
Checked By C.M.C.

NATIONAL BLUE PRINT CO., INC. '74

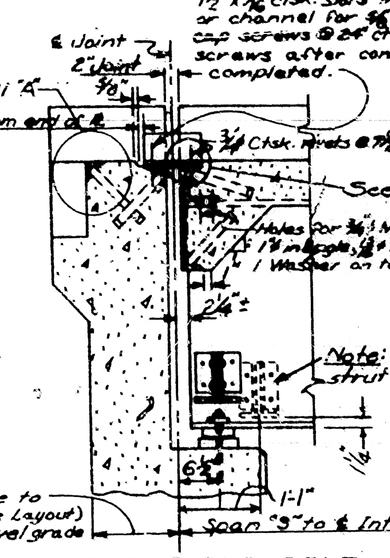
288

| FED. ROAD No. | STATE | FED. AID PROJ. No. | FISCAL YEAR | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 6 | | | | | |
| JOB NO. | | | | | |

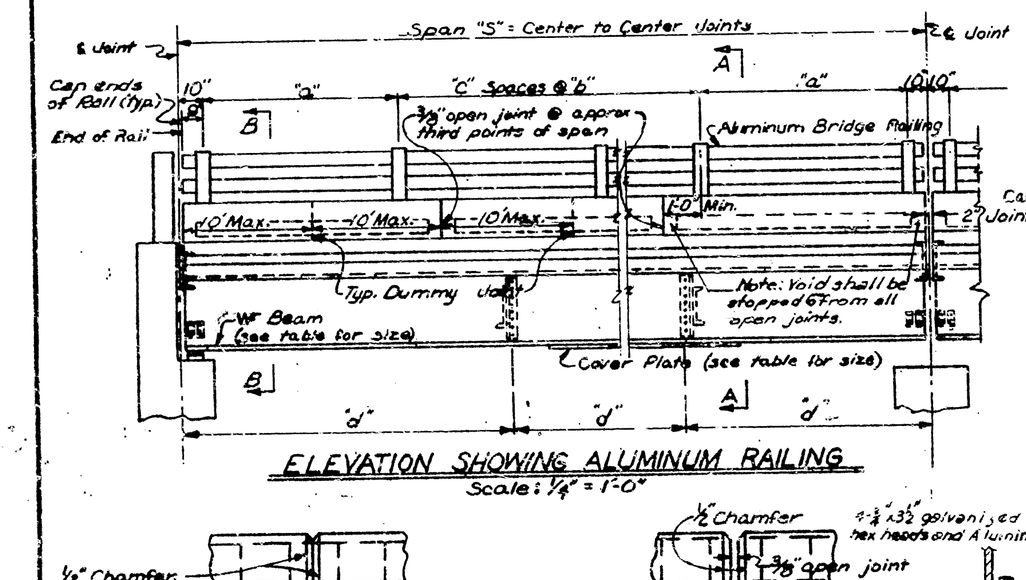



ELEVATION SHOWING PLATE GUARD RAILING
Scale: 1/2" = 1'-0"

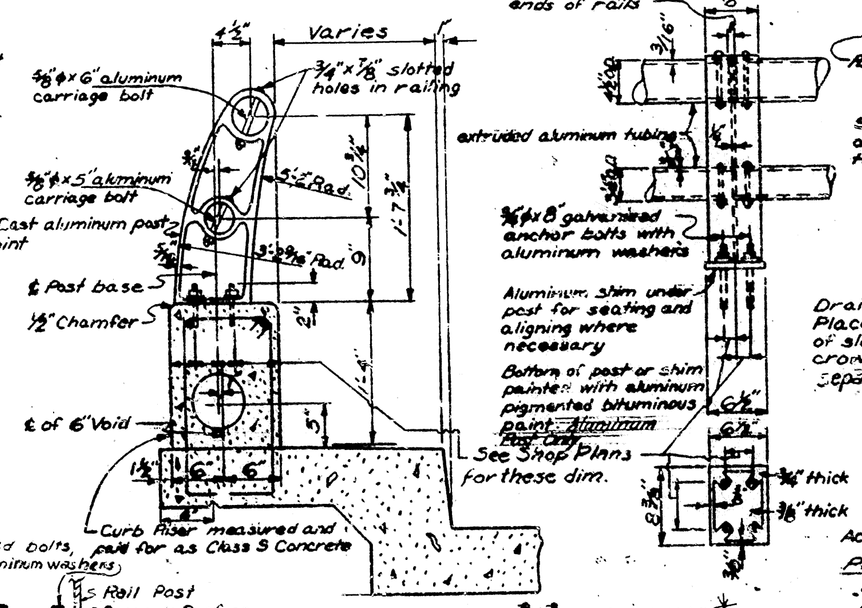
Notes: See accompanying span drawing for sections A-A & B-B.




JOINT AT END BENT
Scale: 3/4" = 1'-0"

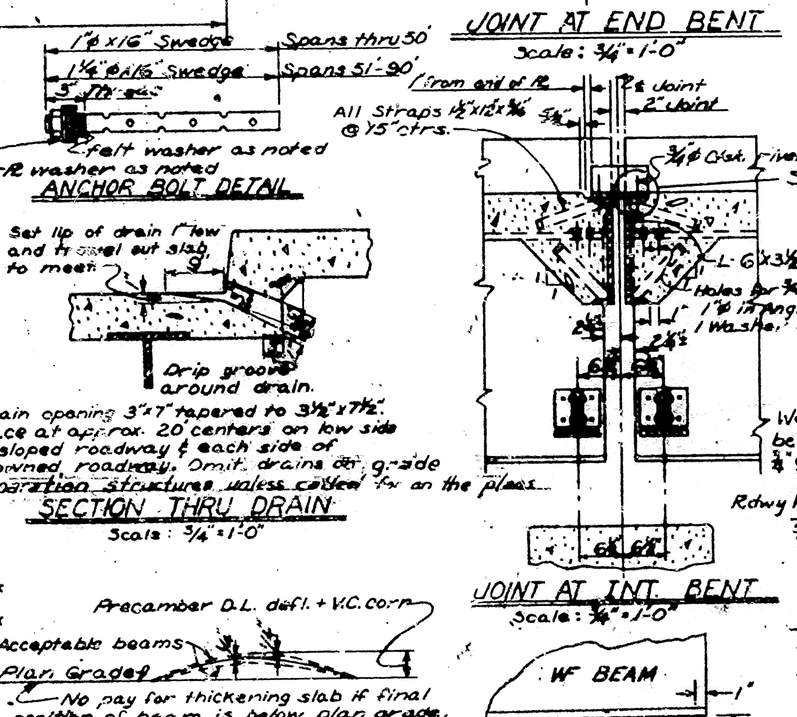


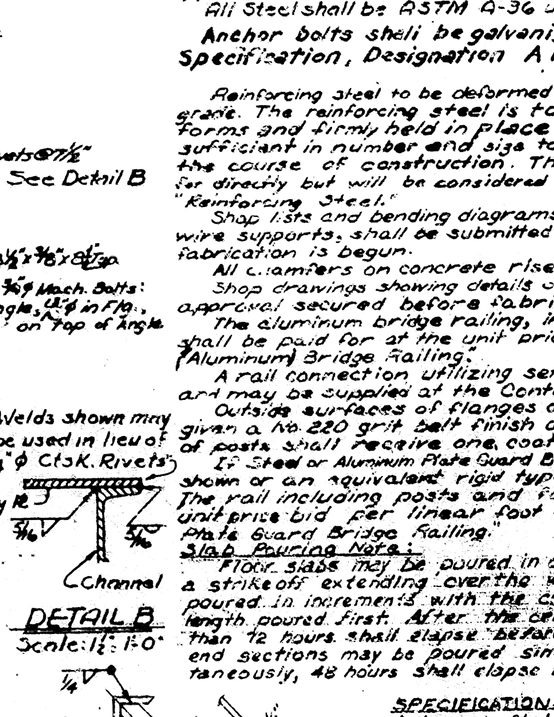

ELEVATION SHOWING ALUMINUM RAILING
Scale: 1/4" = 1'-0"




DETAILS OF ALUMINUM RAILING
Scale: 1"=1'-0"

*NOTE: As an alternate, when included in the proposal, steel pipe conforming to ASTM A36 or ASTM A53 Grade B, cast steel posts and steel accessories shall be substituted for Aluminum in the railing design as shown. Bolts shall be galvanized in accordance with ASTM specification A153, all other parts shall be galvanized in accordance with ASTM specification A123.




JOINT AT INT. BENT
Scale: 3/4" = 1'-0"

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



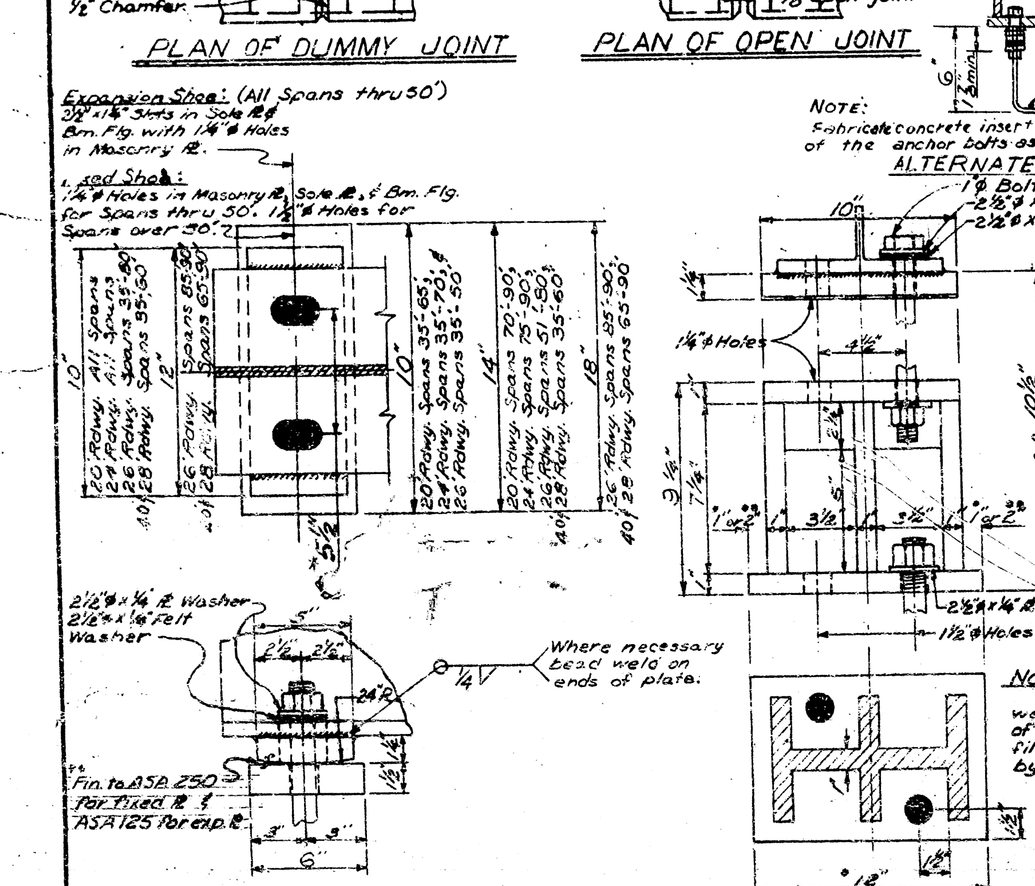

PLAN OF DUMMY JOINT

PLAN OF OPEN JOINT

ALTERNATE RAIL POST ANCHOR

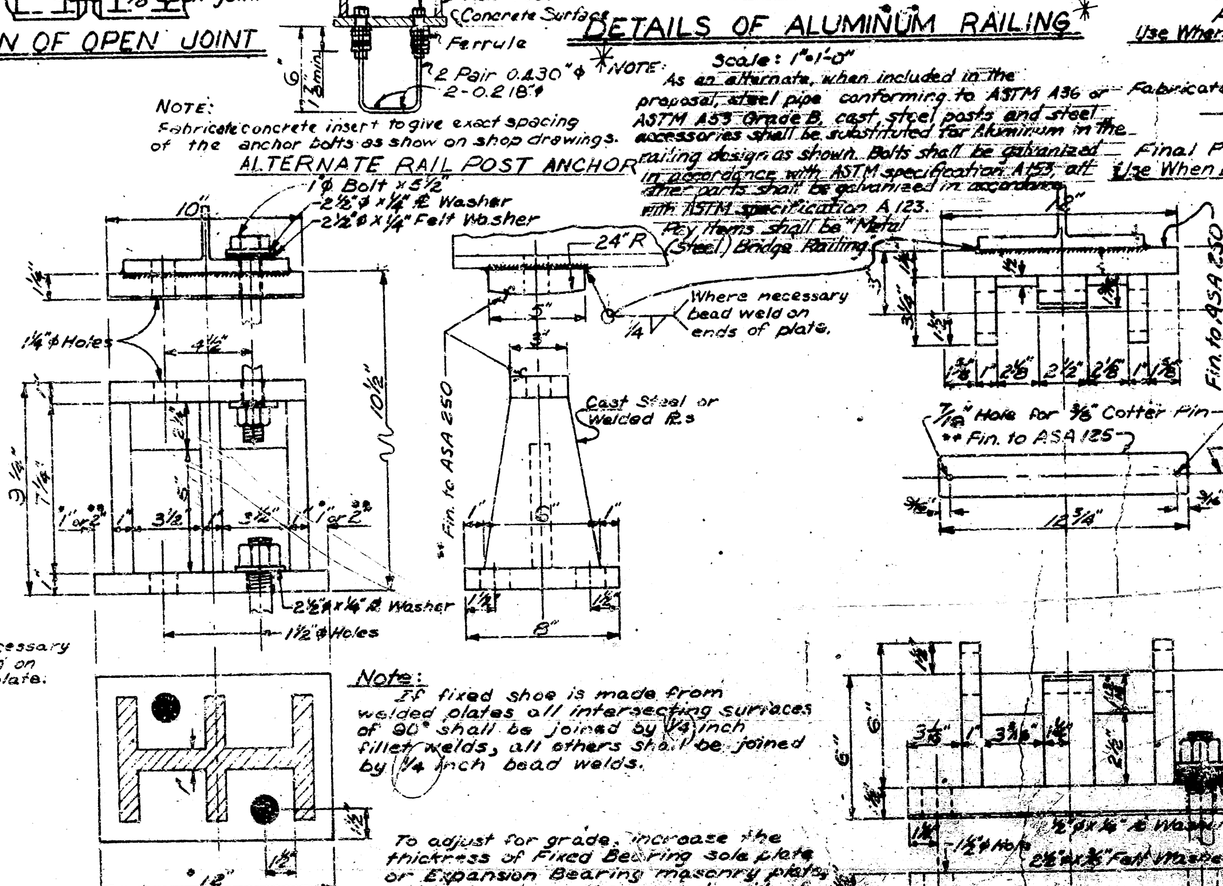



DETAIL "A" (Typical)
Scale: 1 1/2" = 1'-0"



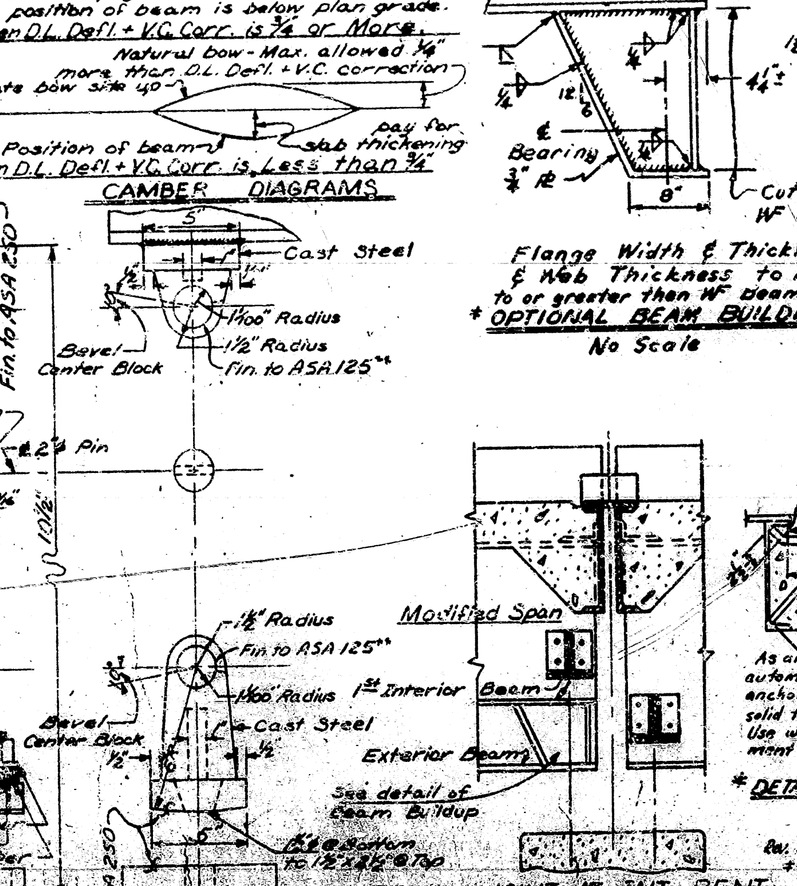

TYPE "B" FIXED or EXPANSION SHOE

Use for end bents - all spans.
Use for int. bents - 35'-50' spans, unless otherwise shown.



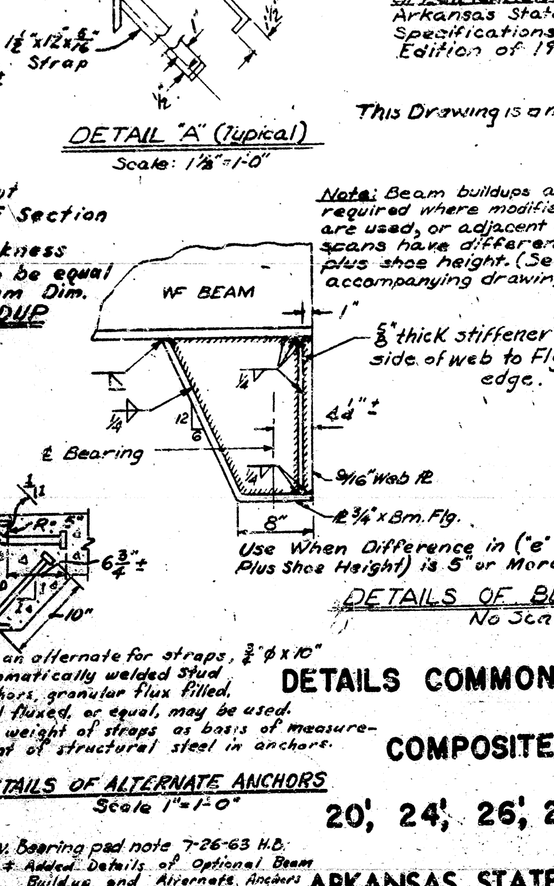

TYPE "A" FIXED SHOE

TYPE "A" EXPANSION SHOE




JOINT AT INT. BENT SHOWING MODIFIED AND REGULAR SPAN
Scale: 3/4" = 1'-0"

Note: Anchor Bolt Spacing ERB 10-62




DETAILS OF BEAM BUILDUP
No Scale

As an alternate for straps, 3/8"ϕx10" automatically welded stud anchors, granular flux filled, solid fluxed, or equal, may be used. Use weight of straps as basis of measurement of structural steel in anchors.

* DETAILS OF ALTERNATE ANCHORS
Scale 1" = 1'-0"

Rev. Bearing pad note 7-26-63 H.B.
* Added Details of Optional Beam Buildup and Alternate Anchors 1-29-64 DV

## GENERAL NOTES

All concrete to be Class S. All exposed corners to be chamfered 3/4" unless otherwise noted.

Field connections to be riveted or bolted with high strength bolts. Rivets: 3/4"ϕ, Open holes 13/16"ϕ except where noted otherwise.

Structural shapes of equal or greater strength may be substituted for shapes shown, but payment will be made on the basis of shapes shown or those actually used, whichever is less.

All welded connections to be 5/16" fillet shop welds except as noted. All welding shall conform to the American Welding Society Standard Specifications for Welded Highway and Railway Bridges, current edition.

Shop Paint: All structural steel except surfaces in contact with concrete shall be given one coat of red lead and raw linseed oil before shipment.

Field Paint: First coat - red lead tinted with lamp black. Second coat aluminum paint.

All metal bearing and roadway expansion devices to be paid for as "Structural Steel in Beam Spans." Bearings shall be finally seated in accordance with Sec. 806.5a, including alternate, of the Std. Spcs. This work and material are to be considered as subsidiary to the item "Structural Steel in Beam Spans" and will not be paid for directly.

This drawing shows general features of design only. Shop drawings shall be made in accordance with the Specifications, submitted and approval secured before fabrication is begun.

All Steel shall be ASTM A-36 unless otherwise noted.

**Anchor bolts shall be galvanized to conform to ASTM Specification, Designation A 153.**

Reinforcing steel to be deformed bars of intermediate or hard grade. The reinforcing steel is to be accurately located in the forms and firmly held in place by steel wire supports, sufficient in number and size to prevent displacement during the course of construction. The wire supports will not be paid for directly but will be considered subsidiary to the item of "Reinforcing Steel."

Shop lists and bending diagrams of reinforcing steel, including wire supports, shall be submitted and approval secured before fabrication is begun.

All chamfers on concrete riser for rail are to be 1/2".

Shop drawings showing details of railing shall be submitted and approval secured before fabrication is begun.

The aluminum bridge railing, including posts and fastenings, shall be paid for at the unit price bid per linear foot for "Metal (Aluminum) Bridge Railing."

A rail connection utilizing set screws is an acceptable alternate and may be supplied at the Contractor's option.

Outside surfaces of flanges of cast aluminum posts shall be given a No. 220 grit belt finish after which all exposed surfaces of posts shall receive one coat of clear lacquer.

If Steel or Aluminum Plate Guard Bridge Railing is used it shall be the one shown or an equivalent rigid type as approved by the Engineer. The rail including posts and fastenings shall be paid for at the unit price bid per linear foot for "Steel Plate Guard Bridge Railing."

Slab Pouring Notes:

Floor slabs may be poured in one continuous operation with a strike-off extending over the whole span. If not, they may be poured in increments with the center section poured first. The length poured first after the center section shall be not less than 72 hours shall elapse before pouring the end sections. The end sections may be poured simultaneously. If not poured simultaneously, 48 hours shall elapse between end section pours.

SPECIFICATIONS: Arkansas State Highway Commission Standard Specifications for Highway Construction Edition of 1959.

This Drawing is a modification of Dwg. No. 5462.

3/8" thick stiffener on side of Web tapered from edge of Coped Flg. to edge of bottom plate.

Note: Beam buildups are required where modified spans are used, or adjacent regular spans have different "e" plus shoe height. (See accompanying drawings.)

**DETAILS COMMON TO STANDARD 35'-90'**

**COMPOSITE I-BEAM SPANS**

**20', 24', 26', 28', & 40' ROADWAYS**

**ARKANSAS STATE HIGHWAY COMMISSION**

LITTLE ROCK, ARK.

RE-DRAWN BY: GM DATE: 8 MAR 62
TRACED BY: DATE:
RE-CHECKED BY: L.K. DATE: 3-9-62

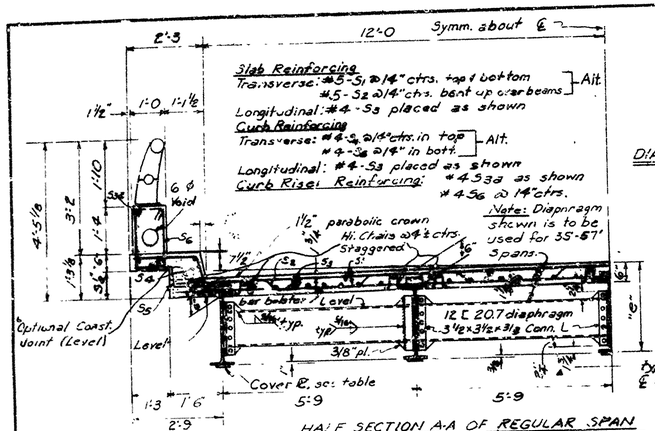
SCALE: As Shown

BRIDGE NO.

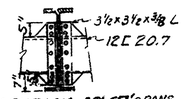
DRAWING NO. 14990

DO NOT USE 10/25/67

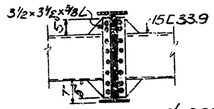
| FED ROAD NO. | STATE | FED AID PROJECT | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | | | | | |



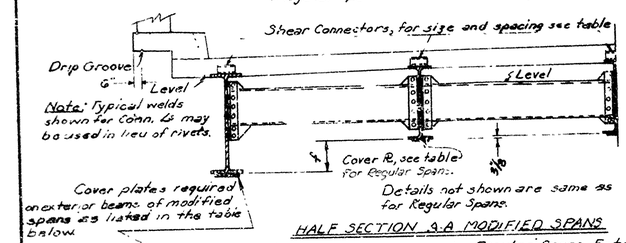

HALF SECTION A-A OF REGULAR SPAN
(Regular spans have all beams of equal depth)




DIAPHRAGM 35'-67' SPANS




DIAPHRAGM 68'-90' SPANS




HALF SECTION A-A MODIFIED SPANS

Interior beams are same as in Regular Spans. Exterior beams are the lightest section of same nominal depth as beams for longest span shown on Bridge Layout.

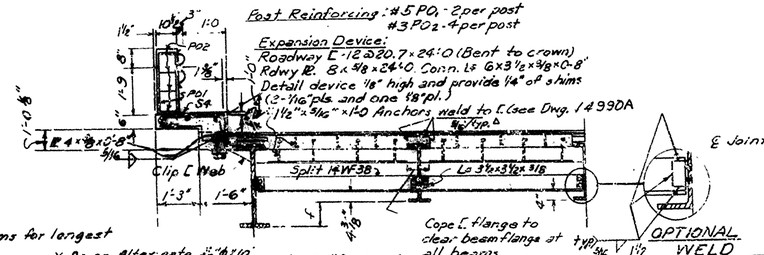
Note: For location of section A-A, B-B and variables & etc. see Dwg. No. 14990A

Parapet Type Railing

Plate Guard Br. Railing Non-pay Items

Post Reinforcing: #5 $PO_1$ - 2 per post
#3 $PO_2$ - 4 per post

Expansion Device:
Roadway E: 12 @ 20.7 x 24'-0 (Bent to crown)
Rdwy R: 8 x ⅜ x 24'-0, Conn. Ls 6x3½x⅜x0'-8"
Detail device ⅛" high and provide ¼" of shims (2-11/16" ⌀ holes and one ⅛" pl.)
1½" x 5/16" x 1'-0 Anchors weld to [ (See Dwg. 14990A)




* As an Alternate ⅝" ø x 10" Anchors @ 15" ctrs. may be used - for Details see Dwg. 14990A

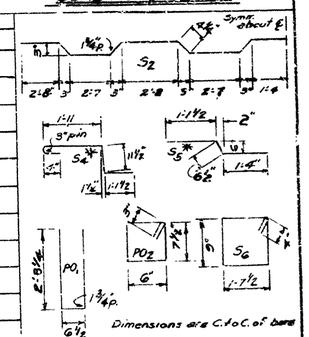
HALF SECTION B-B FOR MODIFIED OR REG. SPANS

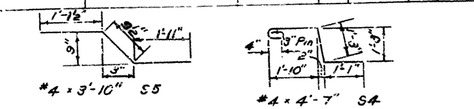
BAR LIST - ONE SPAN

Number Required Each Span

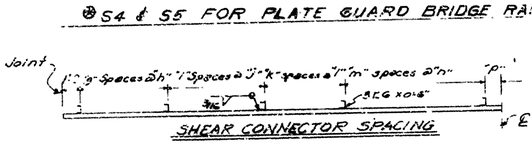
| MK | SIZE | LENGTH | DIA | 35 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 65 | 70 | 75 | 80 | 85 | 90 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $S_1$ | 5 | 25'-8 | Str. | 62 | 62 | 64 | 66 | 68 | 70 | 72 | 74 | 74 | 76 | 78 | 80 | 82 | 84 | 86 | 86 | 88 | 90 | 92 | 94 | 96 | 98 | 98 | 100 | 102 | 104 | 112 | 120 | 130 | 138 | 146 | 154 |
| $S_2$ | 5 | 26'-4 | 1¾ | 30 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 48 | 49 | 50 | 51 | 55 | 59 | 64 | 68 | 72 | 76 |
| $S_3$ | 4 | 5'-6 | Str. | 60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| $S_3$ | 4 | 5'-12+7" | Str. | 120 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| $S_3$ | 4 | 5'-8+1'-0 | Str. | 180 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⊕ $S_4$ | 4 | 4'-6 | 1½ | 62 | 62 | 64 | 66 | 68 | 70 | 72 | 74 | 74 | 76 | 78 | 80 | 82 | 84 | 86 | 86 | 88 | 90 | 92 | 94 | 96 | 98 | 98 | 100 | 102 | 104 | 112 | 120 | 130 | 138 | 146 | 154 |
| ⊕ $S_5$ | 4 | 3'-0 | 1½ | 60 | 60 | 62 | 64 | 66 | 68 | 70 | 72 | 72 | 74 | 76 | 78 | 80 | 82 | 84 | 84 | 86 | 88 | 90 | 92 | 94 | 96 | 96 | 98 | 100 | 102 | 110 | 118 | 128 | 136 | 144 | 152 |
| $S_6$ | 4 | 5'-4 | 1½ | 62 | 62 | 64 | 66 | 68 | 70 | 72 | 74 | 74 | 76 | 78 | 80 | 82 | 84 | 86 | 86 | 88 | 90 | 92 | 94 | 96 | 98 | 98 | 100 | 102 | 104 | 112 | 120 | 130 | 138 | 146 | 154 |
| $S_{3A}$ | 4 | 5'-(1'-8")/3 | Str. | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| $PO_1$ | 5 | 5'-10 | ¾ | 28 | | | 32 | | | | 36 | | | | | | | 40 | | | | | | | 44 | | | 48 | 52 | | 56 | 60 | 64 | |
| $PO_2$ | 3 | 2'-8 | 1¼ | 56 | | | 64 | | | | 72 | | | | | | | 80 | | | | | | | 88 | | | 96 | 104 | | 112 | 120 | 128 | |

BENDING DIAGRAM

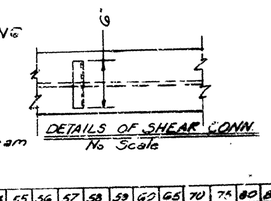



⊕ S4 & S5 FOR PLATE GUARD BRIDGE RAILING




SHEAR CONNECTOR SPACING



DETAILS OF SHEAR CONN.
No Scale

| SPAN | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 62 | 65 | 70 | 75 | 80 | 85 | 90 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| "g" | 6 | 6 | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 10 | 10 | 10 | 10 | 10 | 11 | 12 | 12 |
| "h" | 8" | 8" | 8" | 8" | 8" | 8" | 8" | 8" | 8" | 8" | 8" | 8" | 8" | 8" | 9" | 9" | 9" | 9" | 9" | 9" | 9" | 8" | 9" | 9" | 9" | 9" | 9" | 10" | 11" | 11" | 11" | 12" |
| "i" | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 9 |
| "j" | 10" | 10" | 10" | 10" | 10" | 10" | 10" | 10" | 10" | 10" | 10" | 10" | 10" | 10" | 11" | 11" | 11" | 11" | 11" | 11" | 11" | 11" | 11" | 11" | 11" | 11" | 12" | 13" | 14" | 14" | 14" | 15" |
| "k" | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 5 | 5 | 6 | 7 | 7 | 7 | 7 | 7 | 7 |
| "l" | 12" | 12" | 12" | 12" | 12" | 12" | 12" | 12" | 12" | 12" | 12" | 12" | 12" | 12" | 13" | 13" | 13" | 13" | 13" | 13" | 13" | 13" | 13" | 13" | 14" | 14" | 14" | 15" | 16" | 17" | 17" | 18" |
| "m" | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 |
| "n" | 15" | 16" | 15" | 17" | 15" | 15" | 16" | 15" | 17" | 16" | 18" | 20" | 18" | 20" | 19" | 21" | 19" | 21" | 20" | 22" | 20" | 22" | 20" | 19" | 21" | 19" | 19" | 20" | 22" | 21" | 22" | 22" |
| "p" | 7" | 10" | 11" | 11" | 11" | 7" | 10" | 11" | 11" | 10" | 10" | 10" | 10" | 10" | 11" | 11" | 11" | 10" | 10" | 10" | 10" | 11" | 11" | 10" | 12" | 10" | 10" | 11" | 12" | 9" | 11" | 11" | 13" |

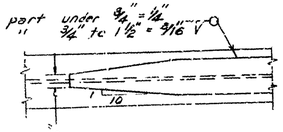
Note: Stud shear connectors, granular flux filled, solid flux, or equal may be used in place of the channels shown at the following ratio: 3/4" diameter stud in place of 1.82 inches of channel, 7/8" diameter stud in place of 2.52 inches of channel. The studs shall be 4" long and automatically end welded to the beam flanges in accordance with recommendations of the manufacturer. Channel sections will be used as basis for measurement of structural steel in shear connectors.

Detlection of exterior beam is for Regular Spans only.

| SPAN | Regular Spans: Beam | Cover Plate: Interior | Cover Plate: Exterior | Only Spacing for Aluminum Railing: a | b | c | Modified Span Exterior Beam Requires Cover R: Beam | Cover R | Post Spacing for I.G. Railing: a | b | c | e | Dead Load Deflection: Int. | Ext. | Strut Spacing No. @d' | Values of "f" and Dead Load Deflection for Outside Beams of Modified Spans: 24WF68 f | Δ | 27WF84 f | Δ | 30WF99 f | Δ | 33WF118 f | Δ | 36WF135 f | Δ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 35 | 21WF55 | 4"x⅜x15'-0 | — | 8'-4 | 8'-4 | 2 | | | 5'-7 | 5'-8 | 4 | 2'-2⅝ | ⅜ | 9/16 | 2@17'-6 | 3⅝ | ⅜ | ⅝ | ⅛ | 5⅝ | 9/16 | 12⅝ | ⅛ | 15⅝ | 1/16 |
| 36 | | 5"x⅜x16'-0 | — | 6'-8 | 7'-0 | 3 | | | 5'-7 | 5'-11 | 4 | | 7/16 | ⅝ | 2@18'-0 | | | ½ | | ⅝ | | | | | |
| 37 | | 6"x½x17'-0 | 4"x⅜x18'-0 | 7'-2 | 7'-0 | 3 | | | 6'-1 | 5'-11 | 4 | | ½ | ⅝ | 2@18'-6 | | | ½ | | ⅝ | | | | | |
| 38 | | 6"x⅜x18'-0 | 4"x⅜x16'-0 | 7'-2 | 7'-4 | 3 | | | 6'-1 | 6'-2 | 4 | | 9/16 | ¾ | 2@19'-0 | | | ½ | | ⅝ | | | | | |
| 39 | | 4"x7/16x20'-0 | 4"x⅜x17'-0 | 7'-8 | 7'-4 | 3 | | | 5'-7 | 5'-4 | 5 | | ⅝ | 13/16 | 2@19'-6 | | | ⅝ | | ¾ | | | | | |
| 40 | | 5"x7/16x22'-0 | 4"x7/16x18'-0 | 7'-8 | 7'-8 | 3 | | | 5'-8 | 5'-6 | 5 | | ⅝ | ⅞ | 2@20'-0 | | | ⅝ | | ¾ | | | | | |
| 41 | | 5"x½x23'-0 | 5"x⅜x19'-0 | 7'-8 | 8'-0 | 3 | | | 5'-9 | 5'-8 | 5 | | 11/16" | 15/16 | 3@13'-8" | | | ⅞ | | 1 | | | | | |
| 42 | | 6"x½x25'-0 | 6"x½x21'-0 | 8'-2 | 8'-0 | 3 | | | 5'-10 | 5'-10 | 5 | | ¾ | 1" | 3@14'-0" | | | 15/16 | | 1 1/16 | | | | | |
| 43 | | 7"x½x27'-0 | 6"x½x24'-0 | 8'-2 | 8'-4 | 3 | 24WF68 | 4"x⅜x17'-0 | 5'-11 | 6'-0 | 5 | | 13/16" | 1 1/16" | 3@14'-4" | | | 1 1/16 | | 1 1/16 | | | | | |
| 44 | 21WF55 | 7"x½x28'-0 | 7"x7/16x24'-0 | 8'-5 | 8'-6 | 3 | | 4"x⅜x18'-0 | 6'-6⅛ | 6'-1 | 5 | 2'-2⅝ | ⅞ | 1 3/16 | 3@14'-8" | 3⅝ | ⅞ | ⅝ | ⅞ | ⅝ | ⅞ | 12⅝ | ⅞ | 15⅝ | 1¼ |
| 45 | 21WF62 | 8"x½x26'-0 | 6"x7/16x23'-0 | 7'-6 | 7'-1 | 4 | | 4"x⅜x18'-0 | 5'-5 | 5'-6 | 6 | 2'-2⅝ | ⅞ | 1 3/16 | 3@15'-0" | 3⅝ | ⅞ | 5⅝ | 1 1/16 | ⅝ | ⅞ | ½ | 1 1/16 | ⅝ | 1¼ |
| 46 | | 7"x½x28'-0 | 7"x7/16x25'-0 | 7'-6 | 7'-4 | 4 | | 4"x⅜x19'-0 | 5'-8 | 5'-7 | 6 | | 15/16 | 1 1/16 | 3@15'-4" | | 1 | | 1 1/16 | | ⅞ | | 1 1/16 | | 1 1/16 |
| 47 | | 7"x7/16x29'-0 | 7"x½x26'-0 | 7'-6 | 7'-7 | 4 | | 5"x⅜x21'-0 | 5'-8 | 5'-9 | 6 | | 1" | 1 3/16 | 3@15'-8" | | | | 1 3/16 | | ⅞ | | 1 1/16 | | 1 1/16 |
| 48 | 21WF62 | 7"x⅝x31'-0 | 7"x7/16x28'-0 | 7'-8 | 7'-9 | 4 | 24WF68 | 5"x½x23'-0 | 5'-11 | 5'-10 | 6 | 2'-2⅝ | 1 1/16 | 1 5/16 | 3@16'-0" | 3⅝ | ⅞ | 1⅛ | ⅞ | 1⅛ | ⅞ | 12⅝ | 1 1/16 | 15⅝ | 1⅜ |
| 49 | 24WF68 | 5"x9/16x26'-0 | 5"x⅝x25'-0 | 7'-8 | 8'-0 | 4 | | | 5'-11 | 6'-0 | 6 | 2'-5⅝ | 1 1/16 | 1 ⅜ | 3@16'-4" | | | 3⅝ | 1 | 1⅛ | 1 1/16 | | 1 1/16 | | 1 1/16 |
| 50 | | 7"x9/16x28'-0 | 6"x½x25'-0 | 7'-10 | 8'-2 | 4 | | | 5'-11 | 6'-2 | 6 | | 1 | 1 5/16 | 3@16'-8" | | | | ½ | | ⅞ | | ⅞ | | 1 1/16 |
| 51 | | 7"x½x30'-0 | 6"x⅝x27'-0 | 8'-0 | 8'-4 | 4 | 27WF84 | 4"x⅜x19'-0 | 6'-2 | 6'-3 | 6 | | 1⅛ | 1 7/16 | 3@17'-0 | | | | ½ | | ⅞ | | ⅞ | | 1½ |
| 52 | | 7"x⅝x31'-0 | 7"x⅝x29'-0 | 8'-2 | 8'-6 | 4 | | 4"x⅜x19'-0 | 5'-7 | 5'-8 | 7 | | 1⅜ | 1½ | 3@17'-4 | | | | ½ | | 1 | | 11/16 | | 1½ |
| 53 | 24WF68 | 7"x⅝x33'-0 | 7"x⅝x31'-0 | 7'-4 | 7'-4 | 5 | | 4"x⅜x20'-0 | 5'-9⅝ | 5'-3 | 7 | | 1¼ | 1 9/16 | 3@17'-8 | | | | ½ | | 1 | | 11/16 | | 1½ |
| 54 | 24WF76 | 5"x⅝x30'-0 | 6"x⅝x28'-0 | 7'-5 | 7'-6 | 5 | | 4"x½x22'-0 | 6'-0 | 5'-10 | 7 | | 1½ | 1 9/16 | 3@18'-0 | | | | ½ | | 1 1/16 | | ⅞ | | 9/16 |
| 55 | | 8"x⅝x32'-0 | 7"x[illegible] | 7'-6 | 7'-8 | 5 | | 5"x7/16x23'-0 | 5'-11 | 6'-0 | 7 | | 1⅝ | 1 9/16 | 3@18'-4 | | | | ½ | | 1 1/16 | | ⅞ | | 11/16 |
| 56 | | 7"x7/16x35'-0 | 7"x[illegible] | 7'-7 | 7'-10 | 5 | | 5"x½x25'-0 | 5'-10 | 6'-2 | 7 | | 1⅝ | 1 9/16 | 3@18'-8 | | | | ½ | | 1 1/16 | | ⅞ | | 11/16 |
| 57 | 24WF76 | 8"x⅝x33'-0 | 7"x[illegible] | 7'-8 | 8'-0 | 5 | 27WF84 | 6"x½x27'-0 | 6'-0½ | 6'-3 | 7 | 2'-5⅝ | 1⅜ | 1 ⅞ | 3@19'-0 | 3⅝ | ⅞ | 1⅛ | ⅞ | 1⅛ | ⅞ | 12⅝ | 1 1/16 | 15⅝ | 1 1/16 |
| 58 | 27WF84 | 7"x9/16x30'-0 | 7"x⅝x30'-0 | 7'-9 | 8'-2 | 5 | 30WF99 | 4"x⅜x20'-0 | 5'-9 | 5'-8 | 8 | 2'-8⅝ | 1⅝ | 1 9/16 | 3@19'-4 | | | | 1 | | 1 1/16 | | 1 1/16 | | 9/16 |
| 59 | | 7"x½x32'-0 | 7"x⅝x31'-0 | 7'-10 | 8'-4 | 5 | | 4"x⅜x21'-0 | 5'-11 | 5'-9 | 8 | | 1⅞ | 1 11/16 | 3@19'-8 | | | | | | 1 1/16 | | 1 1/16 | | 9/16 |
| 60 | 27WF84 | 7"x¾x33'-0 | 7"x⅝x33'-0 | 7'-11 | 8'-6 | 5 | | 6"x7/16x22'-0 | 5'-11 | 5'-10½ | 8 | | 1⅞ | 1 ¾ | 3@20'-0 | | | | | | 1 1/16 | | 1 1/16 | | 9/16 |
| 65 | 27WF94 | 8"x⅝x36'-0 | 8"x⅝x37'-0 | 7'-8 | 8'-0 | 6 | 30WF99 | 6"x11/16x33'-0 | 5'-8 | 5'-10 | 9 | 2'-8⅝ | 1⅞ | 2⅝ | 4@16'-3 | | | | 5⅝ | 1⅛ | 7 | 1 | 9⅝ | 1⅛ | 9/16 |
| 70 | 30WF99 | 8"x¾x38'-0 | 8"x⅝x42'-0 | 7'-11 | 8'-9 | 6 | 33WF118 | 8"x7/16x28'-0 | 5'-8 | 5'-9 | 10 | 2'-10⅝ | 1⅞ | 2⅝ | 4@16'-9" | | | | | | | | 9⅝ | 1⅛ | 9/16 |
| 75 | 33WF118 | 8"x¾x37'-0 | 7"x⅝x39'-0 | 7'-9⅝ | 8'-3 | 7 | 36WF135 | 8"x½x26'-0 | 6'-1 | 6'-2 | 10 | 3'-2⅝ | 1⅞ | 2 9/16 | 4@16'-9" | | | | | | | | 9⅝ | 1⅛ | 9/16 |
| 80 | 33WF130 | 8"x¾x41'-0 | 9"x7/16x43'-0 | 8'-3 | 8'-10 | 7 | 36WF135 | 8"x⅝x30'-0 | 5'-11½ | 6'-1 | 11 | 3'-2 | 2 | 2⅝ | 4@20'-0 | | | | | | | | 9⅝ | 2⅛ | 9/16 |
| 85 | 33WF130 | 9"x¾x50'-0 | 9"x⅝x51'-0 | 8'-5 | 9'-0 | 8 | 36WF135 | 9"x⅝x40'-0 | 5'-11 | 6'-0 | 12 | 3'-2⅝ | 2 | 3⅛ | 5@18'-0" | | | | | | | | 9⅝ | 2⅛ | 9/16 |
| 90 | 36WF150 | 10"x¾x47'-0 | 9"x⅝x50'-0 | 8'-[illegible] | [illegible] | 8 | | | 5'-11 | 5'-11 | 15 | 3'-1⅝ | 2 | 3 1/16 | 5@18'-0" | | | | | | | | | | |

Omit shear connectors on outside beams of modified spans when using beams shown to right of heavy line.

Max. thickness of part under ⅜" = ¼"
" " " ¾" to 1½" = 5/16"



DETAILS OF COVER PLATE
Scale: 3¼" = 1'-0

LOADING - H-15 A.A.S.H.O. 1961

| Dead Load | Interior Bm. | Exterior Bm. |
|---|---|---|
| to WF Beam | 432#/l + .1 (Wt. of WF) | 577#/l + .1 (Wt. of WF) |
| to Comp. Beam | | |
| (1) Steel Rail - | 80#/l | 80#/l |
| (2) Alum. Rail - | 132#/l | 132#/l |

Live Load
to each composite beam 1.045 wheels + impact or 0.522 lanes + impact

Unit Stresses
Class "C" Conc. (n=10) 1200 psi
Structural Steel (A-36) 20,000 psi
Reinforcing Steel 20,000 psi

Note: This drawing to be used with Dwg. No. 14990A

Note: Adapted from Drawing 5460.
1) Revised 12-23-63 JAS
Revised: Added Optional Const. Joint in Curb (10-10-63) JAS / FRB (4-10-63)

L. P. Carlson

DETAILS OF STANDARD
35'-90' COMPOSITE I-BEAM SPANS
24'-0" CLEAR RDWY. 1'-0" & 1'-1½" CURBS

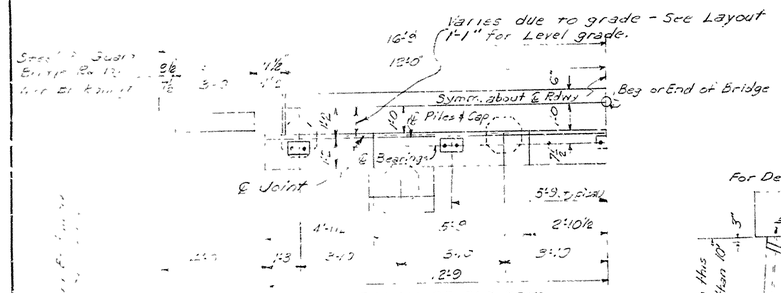
ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

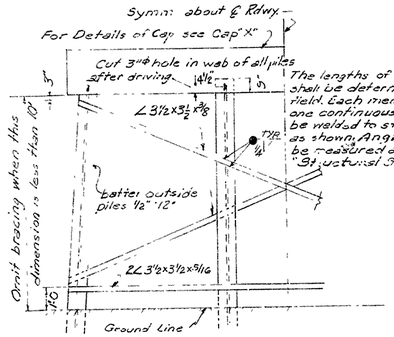
DRAWN BY: JAS DATE: 4-16-62
TRACED BY: DATE:
CHECKED BY: FMH DATE: 4-19-62
SCALE: ½" = 1'-0

BRIDGE NO.

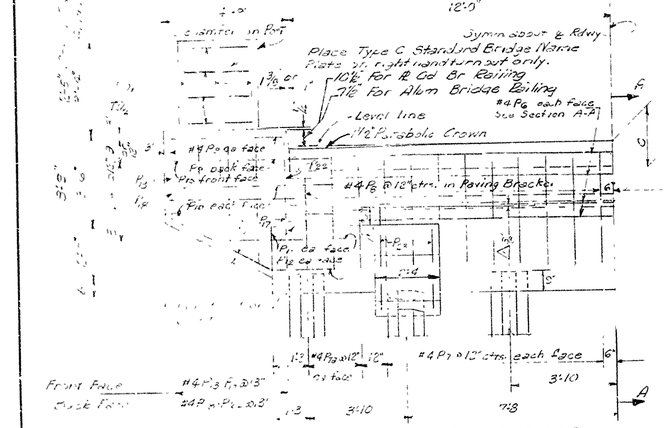
DRAWING NO. 15010 REV.



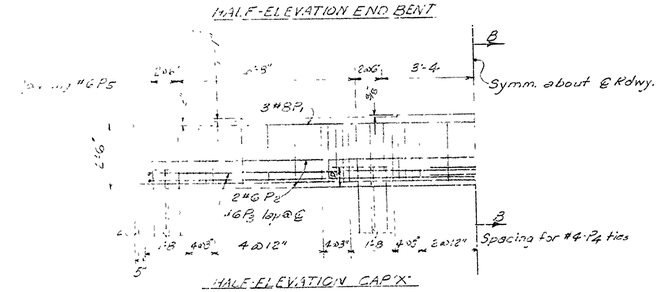

HALF PLAN OF END BENT



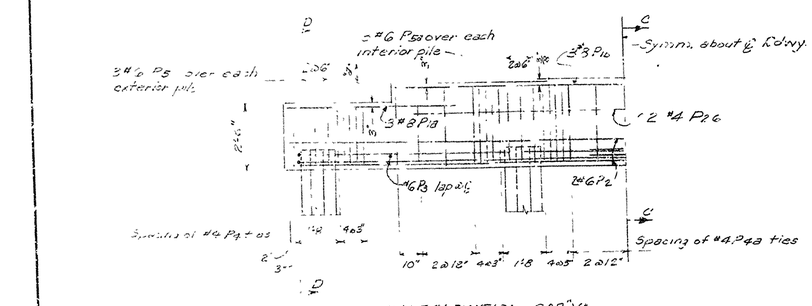

TYPICAL BRACING INTERMEDIATE
H PILE BENT
Scale: 1/4" = 1'-0



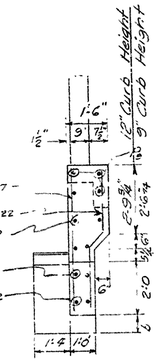

HALF-ELEVATION END BENT



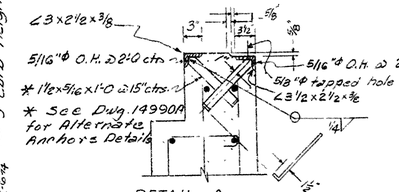

HALF ELEVATION CAP "X"




HALF ELEVATION CAP "Y"

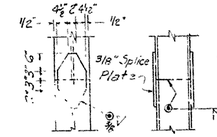



END VIEW

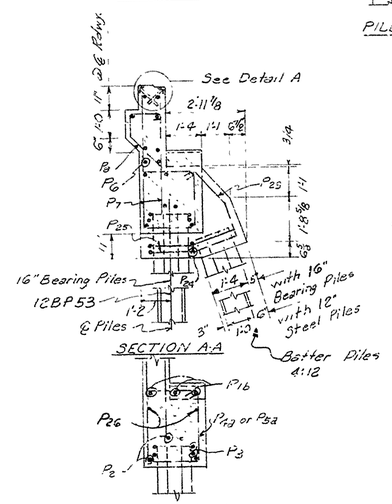



DETAIL A
Scale: 1" = 1'-0

The contractor may for his convenience and at his own expense provide as many as three splices per pile for steel bearing piling. Minimum spacing between splices shall be 5 feet.

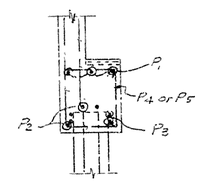



PILE SPLICE DETAIL
Scale: 1/2" = 1'-0

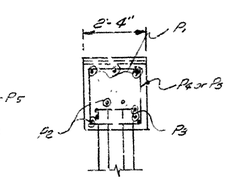



SECTION A-A

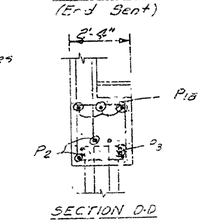
SECTION C-C




SECTION B-B
(End Bent)




SECTION B-B
(Int. Bent)




SECTION D-D

VARIABLE DIMENSIONS FOR END BENTS

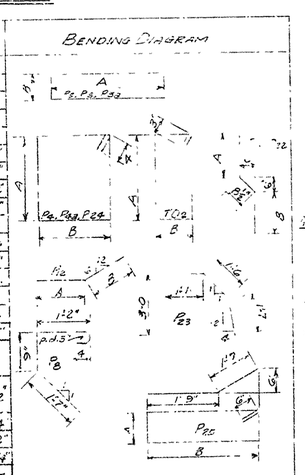
| SPAN LENGTH | END SPAN BEAMS INTERIOR | END SPAN BEAMS EXTERIOR | VARIABLES a | b | c | d | CAP USED |
|---|---|---|---|---|---|---|---|
| 35'-44' | 21WF55 | 21WF55 | 1" | 2 1/4 | 2'-5 7/8 | - | X |
| | | 24WF68 | 3 15/16 | 5 7/16 | | 4" | Y |
| | | 27WF84 | 6 7/8 | 8 1/8 | | 7" | Y |
| | | 30WF99 | 9 11/16 | 10 15/16 | | 10" | Y |
| | | 33WF118 | 12 7/8 | 14 1/8 | | 13" | Y |
| | | 36WF135 | 15 11/16 | 16 11/16 | 2'-5 1/8" | 15" | Y |
| 45'-49' | 21WF62 | 21WF62 | 1" | 2 3/8" | 2'-5 1/4" | - | X |
| | | 24WF68 | 3 15/16 | 5 7/16 | | 4" | Y |
| | | 27WF84 | 6 3/4 | 8 1/8 | | 7" | Y |
| | | 30WF99 | 9 9/16 | 10 15/16 | | 10" | Y |
| | | 33WF118 | 12 3/4 | 14 1/8 | | 13" | Y |
| | | 36WF135 | 15 7/16 | 16 11/16 | 2'-5 1/4" | 15" | Y |
| 49'-55' | 24WF68 | 24WF68 | 1" | 5 3/16 | 2'-3 11/16 | - | X |
| | | 27WF84 | 3 15/16 | 8 1/8 | | 4" | Y |
| | | 30WF99 | 6 3/4 | 10 15/16 | | 7" | Y |
| | | 33WF118 | 9 9/16 | 14 1/8 | | 10" | Y |
| | | 36WF135 | 12 1/8 | 16 11/16 | 2'-8 1/4" | 13" | Y |
| 54'-57' | 24WF76 | 24WF76 | 1" | 5 9/16 | | - | X |
| | | 27WF84 | 3 7/16 | 8 1/8 | | 4" | Y |
| | | 30WF99 | 6 3/4 | 10 15/16 | | 7" | Y |
| | | 33WF118 | 9 9/16 | 14 1/8 | | 10" | Y |
| | | 36WF135 | 12 1/8 | 16 11/16 | 2'-8 1/4" | 13" | Y |
| 55'-60' | 27WF84 | 27WF84 | 1" | 8 1/8" | 2'-11" | - | X |
| | | 30WF99 | 3 15/16 | 10 15/16 | | 4" | Y |
| | | 33WF118 | 7" | 14 1/8 | | 7" | Y |
| | | 36WF135 | 9 9/16 | 16 11/16 | | 10" | Y |
| 65' | 27WF84 | 27WF84 | 1" | 8 1/8" | | - | X |
| | | 30WF99 | 3 15/16 | 10 15/16 | | 4" | Y |
| | | 33WF118 | 7" | 14 1/8 | | 7" | Y |
| | | 36WF135 | 9 9/16 | 16 11/16 | 2'-11" | 10" | Y |
| 70' | 30WF99 | 30WF99 | 1" | 10 15/16 | 3'-1 9/16" | - | X |
| | | 33WF118 | 4 3/16 | 14 1/8 | | 4" | Y |
| | | 36WF135 | 6 9/16 | 16 11/16 | 3'-1 9/16" | 7" | Y |
| 75' | 33WF118 | 33WF118 | 1" | 14 1/8" | 3'-5" | - | X |
| | | 36WF135 | 3 9/16 | 16 11/16 | 3'-5" | 4" | Y |

Use Cap "X" for all Intermediate Bents

NOTE
All Concrete to be Class S. All exposed corners to have 3/4" chamfer unless otherwise noted.
All piling shall be driven to a minimum capacity of 36 tons per pile. Piling shall be either 12BP53, 16" Octagonal Precast Concrete Piles, or Concrete Filled Metal Shell Piles as shown on Layout.
All Structural Steel except Steel Piles shall be ASTM A-36 Steel.
This drawing is a modification of drawing 5460A.

BAR LIST - PER BENT

| MK | Size (#) | No. Req'd. 1 Span Bent | Cap "X" | Cap "Y" | Length | A | B | Pin Dia | Bending Diagram |
|---|---|---|---|---|---|---|---|---|---|
| P1 | 8 | 3 | 3 | - | 25'-2 | -- | — | Str. | |
| P1B | 8 | — | — | 6 | 7'-4 | — | — | Str. | |
| P1b | 8 | -- | — | 3 | 16'-11 | — | — | Str. | |
| P2 | 6 | 4 | 4 | 4 | 25'-2 | — | — | Str. | |
| P3 | 6 | 4 | 4 | 4 | 28'-4 | 13'-6 | 1'-5 | 2 1/4 | |
| P4 | 4 | 43 | 43 | 14 | 8'-9 | 2'-11 1/2 | 1'-11 1/2 | 1 1/2" | |
| P4a | 4 | — | — | 29 | 8'-9 1/2 @ | 2'-11 1/2 @ | 1'-11 1/2 | 1 1/2" | |
| P5 | 6 | 12 | 12 | 6 | 6'-1 | 2'-11 1/2 | 1'-11 1/2 | 2 1/4" | |
| P5B | 6 | -- | - | 6 | 6'-1" @ | 2'-11 1/2 @ | 1'-11 1/2 | 2 1/4" | |
| P6 | 4 | — | 8 | 8 | 24'-0 | — | — | Str. | |
| P7 | 4 | — | 36 | 36 | 4'-0 | — | — | Str. | |
| P8 | 4 | — | 24 | 24 | 4'-0 | — | — | 1 1/2" | |
| P9 | 4 | — | 6 | 6 | 4'-5 | — | — | Str. | |
| P10 | 4 | - | 10 | 10 | 6'-3 | — | - | Str. | |
| P11 | 4 | -- | 4 | 4 | 3'-6 | -- | — | Str. | |
| P12 | 4 | — | 4 | 4 | 5'-10 | 1'-5 | 4'-2 | 1 1/2" | |
| • P13 to P17 | 4 | - | 2 ea | 2 ea | Varies 5'-3 to 5'-5 | -- | — | Str. | |
| • P18 to P22 | 4 | — | 2 ea | 2 ea | Var. 3'-5 to 5'-7 | 2'-4 | Var 0'-5 to 2'-7 | 1 1/2" | |
| P23 | 4 | - | 4 | 4 | 7'-10 | — | — | 2 1/4 | |
| P24 | 4 | — | 2 | 2 | 4'-11 | 1'-9 | 0'-5" | 1 1/2" | |
| P25 | 6 | — | 4 | 4 | 10'-10 | 1'-8 | 3'-3" | 2 1/4" | |
| P26 | 4 | — | 12 | 12 | 4'-0 rd | — | -- | Str. | |
| TO1 | 5 | — | 12 | 12 | 5'-2 | — | — | Str. | |
| TO1A | 3 | — | 8 | 8 | 6'-11 | 2'-9 | 0'-6" | 1 1/4" | |
| P | - | - | - | 2 | 15'-4" | - | - | Str | |




For values of "a" see table of variables. Dimensions are C. to C. of bars.

Rev. Step Dimensions
℄ Construction Joint
2-27-62 J.A.S.

Rev: Added P16 bar 6-11-62 M.G.
*Rev. 12-23-63 F.E.S.

• For Plate Guard Bridge Railing add 3" to lengths of P13-P22 increasing dimension A of P18-P22.

# DETAILS OF STANDARD PILE BENTS FOR COMPOSITE I-BEAM SPANS

INT. SPANS 35'-50'
END SPANS 35'-75'

24' CLEAR ROADWAY 1'-0" OR 1'-1 1/2" CURBS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: D.E.L. DATE: 9-13-62
TRACED BY: DATE:
CHECKED BY: J.A.S. DATE: 9-13-62
SCALE: 1/8" = 1'-0 for noted

L. V. Pickens
BRIDGE ENGINEER

BRIDGE NO.

DRAWING NO. 15010A